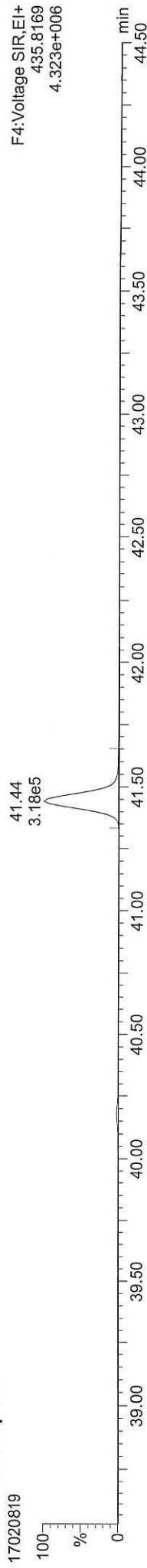


Quantify Sample Report MassLynx MassLynx V4.1 SCN909

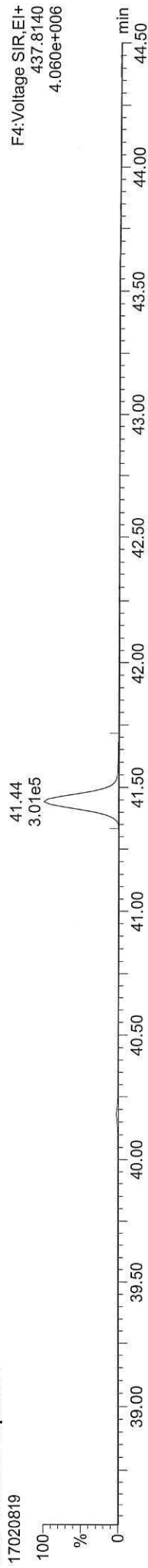
Dataset: C:\MassLynx\Dioxin.pro\170208D.qld
Last Altered: Wednesday, February 22, 2017 13:49:08 Pacific Standard Time
Printed: Wednesday, February 22, 2017 13:51:36 Pacific Standard Time

ID: CS303, Name: 17020819, Date: 09-Feb-2017, Time: 02:41:05, Conditions: AUTOSPEC01, User: PK

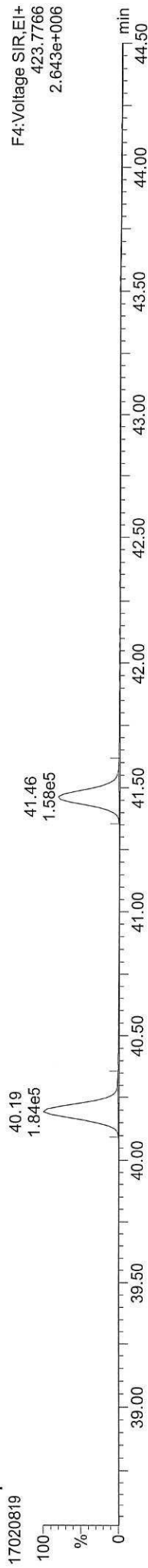
13C-1234678-HpCDD



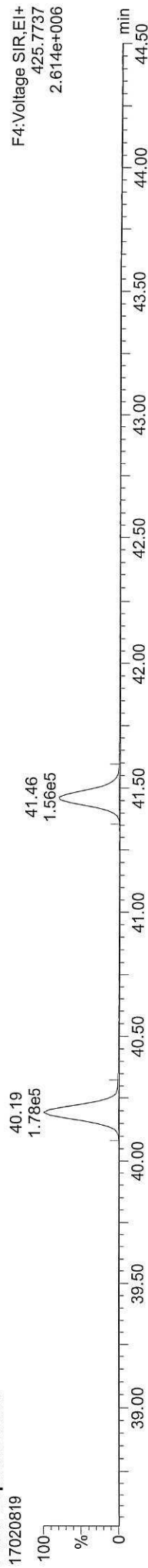
13C-1234678-HpCDD



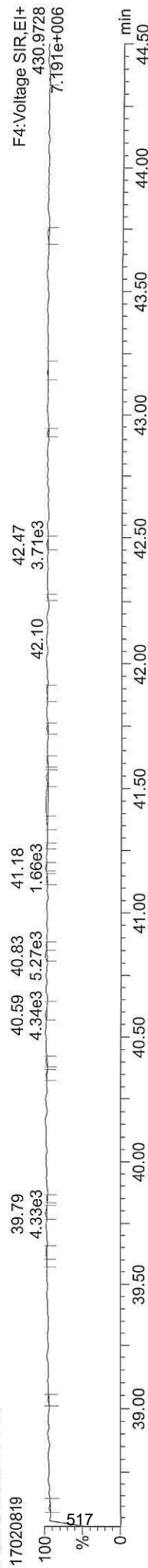
Total-heptadioxins



Total-heptadioxins



FUNCTION4 PFK

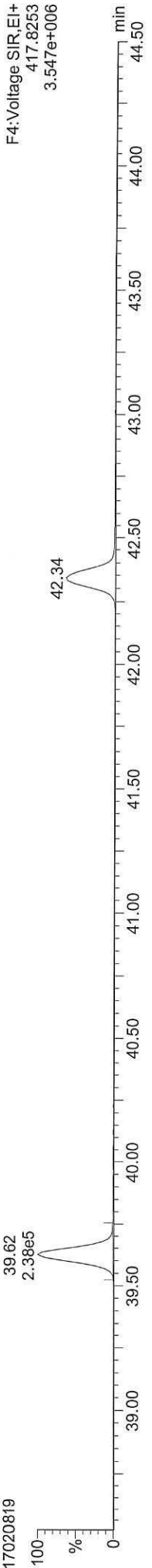


Quantify Sample Report MassLynx MassLynx V4.1 SCN909

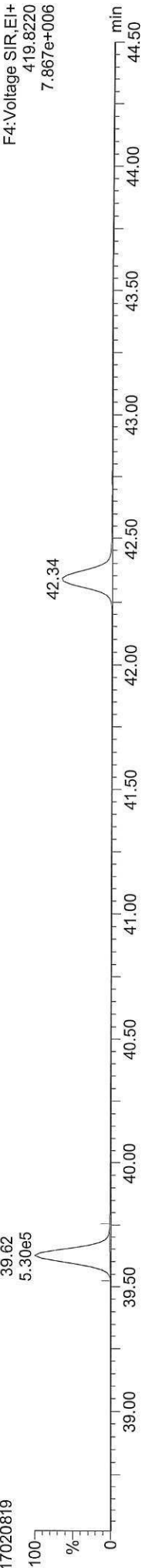
Dataset: C:\MassLynx\Dioxin.pro\170208D.qld
Last Altered: Wednesday, February 22, 2017 13:49:08 Pacific Standard Time
Printed: Wednesday, February 22, 2017 13:51:36 Pacific Standard Time

ID: CS303, Name: 17020819, Date: 09-Feb-2017, Time: 02:41:05, Conditions: AUTOSPEC01, User: PK

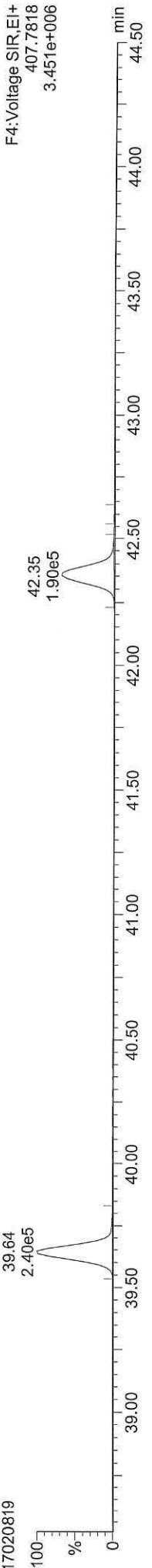
13C-1234678-HpCDF



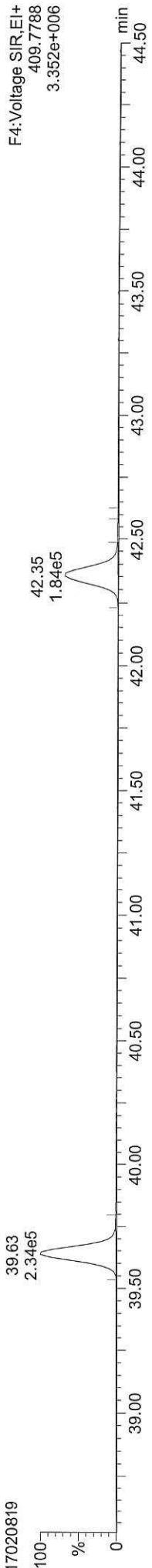
13C-1234678-HpCDF



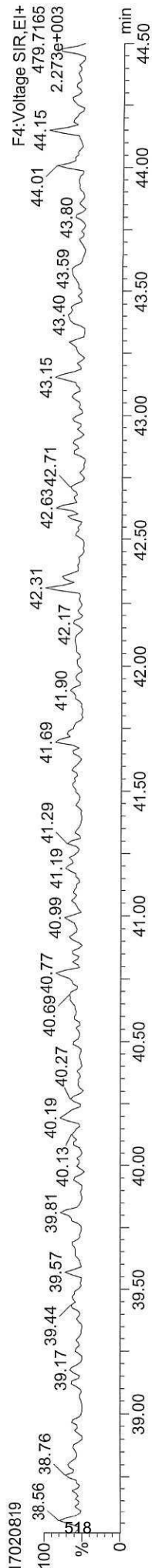
Total-heptafurans



Total-heptafurans



FUNCTION4 NCDPE

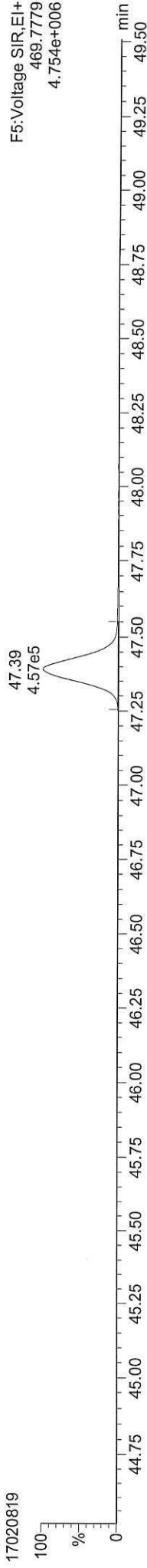


Dataset: C:\MassLynx\Dioxin.pro\170208D.qld
Last Altered: Wednesday, February 22, 2017 13:49:08 Pacific Standard Time
Printed: Wednesday, February 22, 2017 13:51:36 Pacific Standard Time

ID: CS303, Name: 17020819, Date: 09-Feb-2017, Time: 02:41:05, Conditions: AUTOSPEC01, User: PK

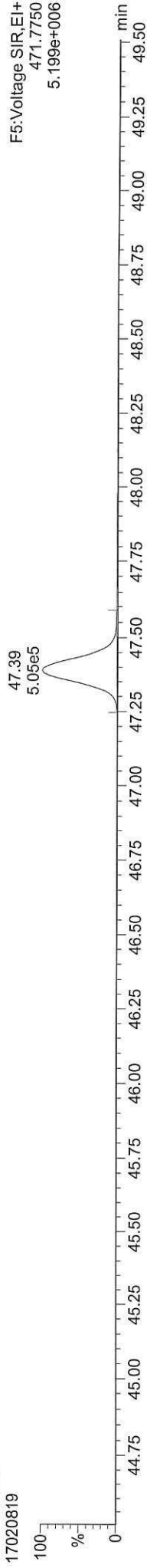
13C-OCDD

17020819



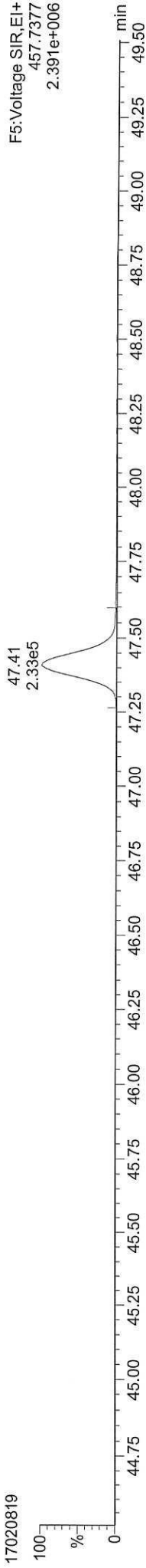
13C-OCDD

17020819



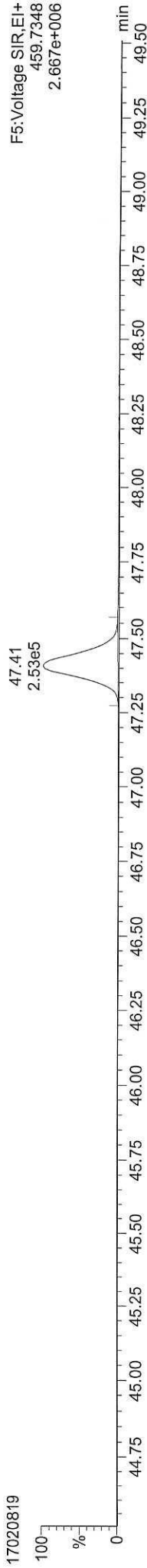
OCDD

17020819



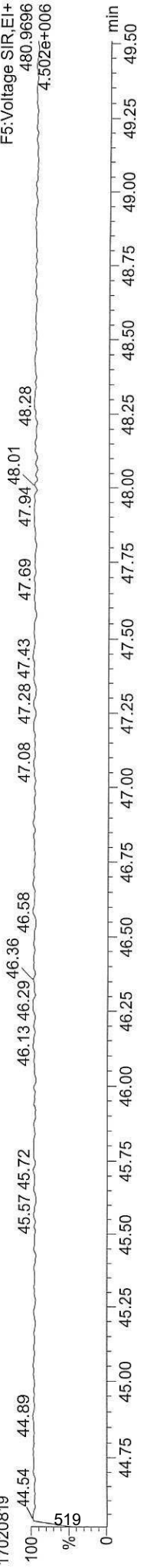
OCDD

17020819



FUNCTION5 PFK

17020819



Quantify Sample Report MassLynx MassLynx V4.1 SCN909

Dataset: C:\MassLynx\Dioxin.pro\170208D.qld
Last Altered: Wednesday, February 22, 2017 13:49:08 Pacific Standard Time
Printed: Wednesday, February 22, 2017 13:51:36 Pacific Standard Time

ID: CS303, Name: 17020819, Date: 09-Feb-2017, Time: 02:41:05, Conditions: AUTOSPEC01, User: PK

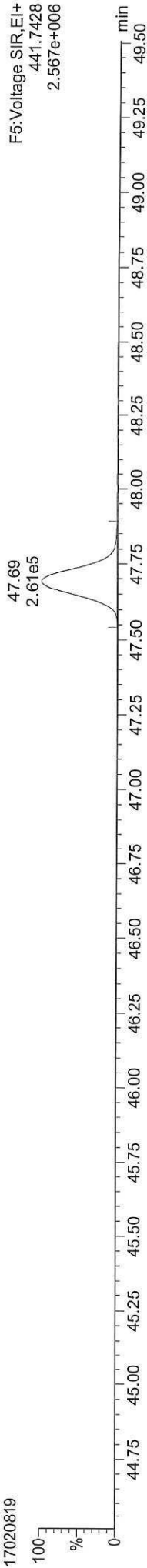
37CL-2378-TCDD

17020819



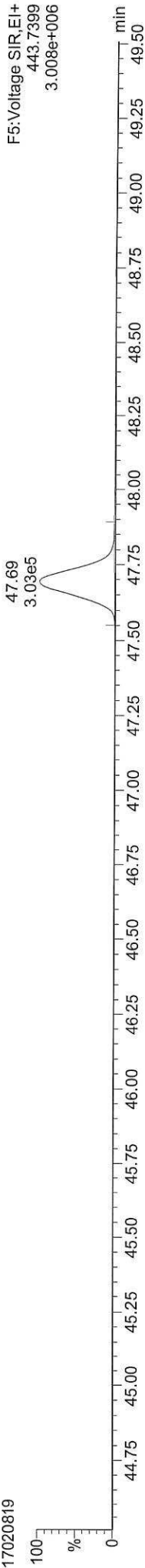
OCDF

17020819



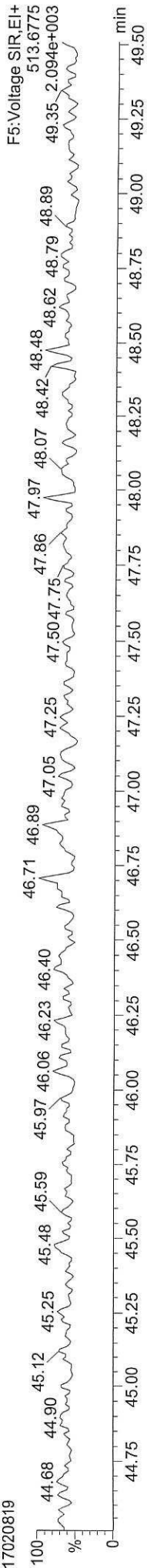
OCDF

17020819

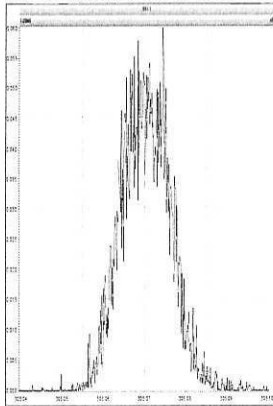


FUNCTION5 DCDPE

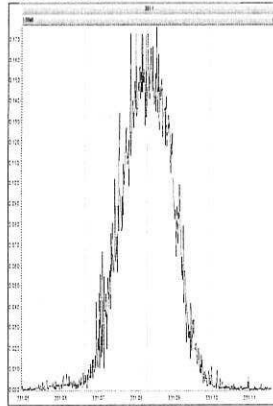
17020819



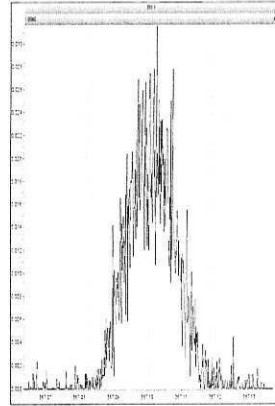
M 304.9824 R 12345



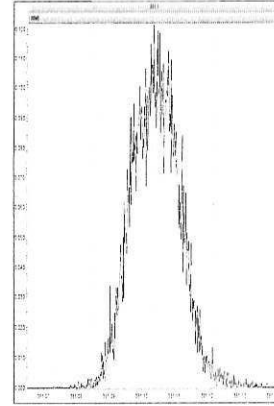
M 330.9792 R 11848



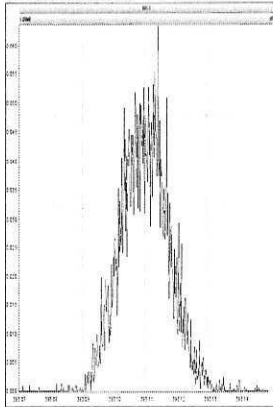
M 366.9792 R 12596



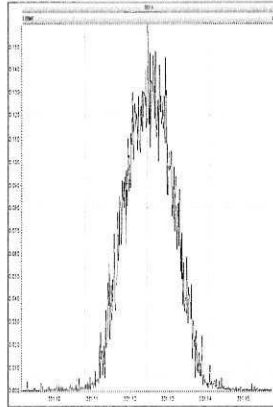
M 380.9760 R 12377



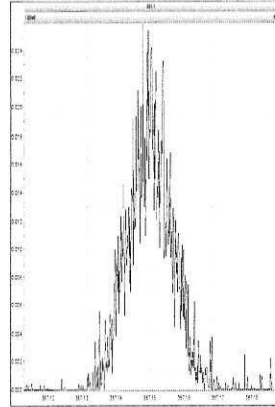
M 392.9760 R 12501



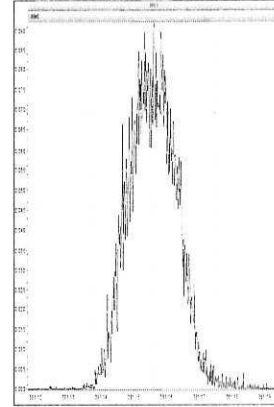
M 330.9792 R 13187



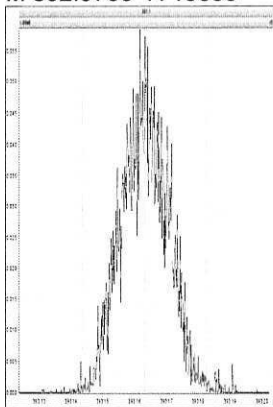
M 366.9792 R 13736



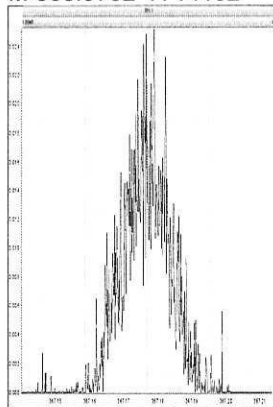
M 380.9760 R 12378



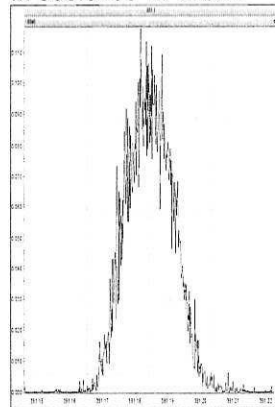
M 392.9760 R 13699



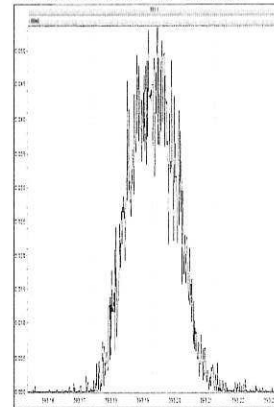
M 366.9792 R 14152



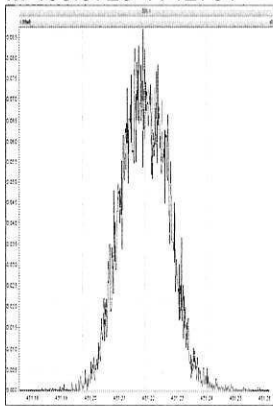
M 380.9760 R 12322



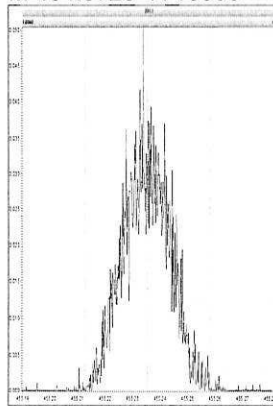
M 392.9760 R 13033



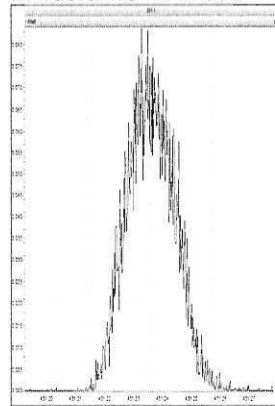
M 430.9728 R 12791



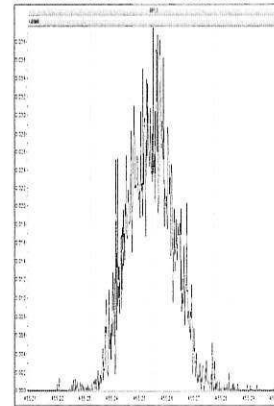
M 454.9728 R 13596



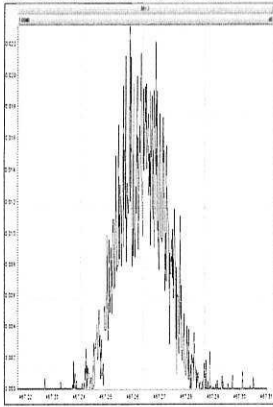
M 430.9728 R 12658



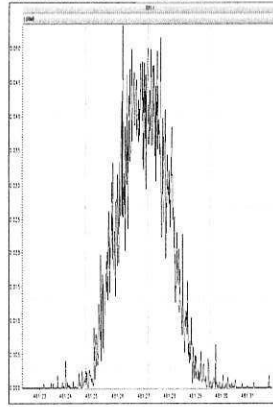
M 454.9728 R 13554



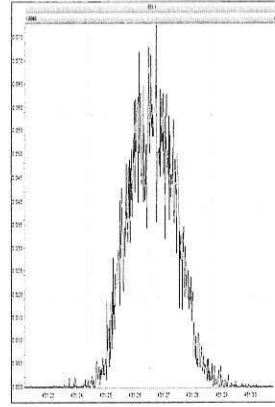
M 466.9728 R 15128



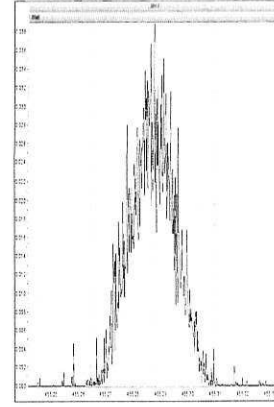
M 480.9696 R 12567



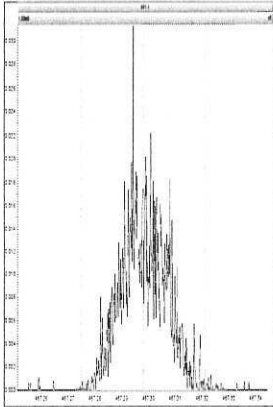
M 430.9728 R 12565



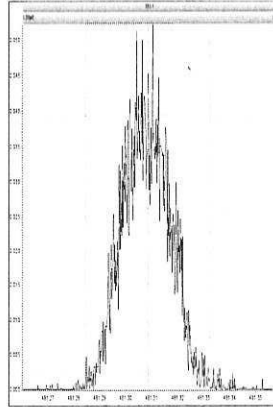
M 454.9728 R 13006



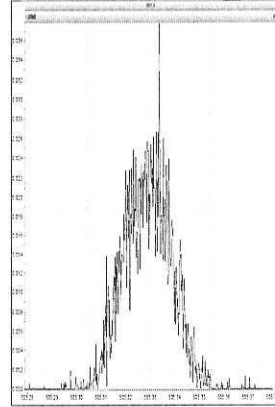
M 466.9728 R 13852



M 480.9696 R 12771

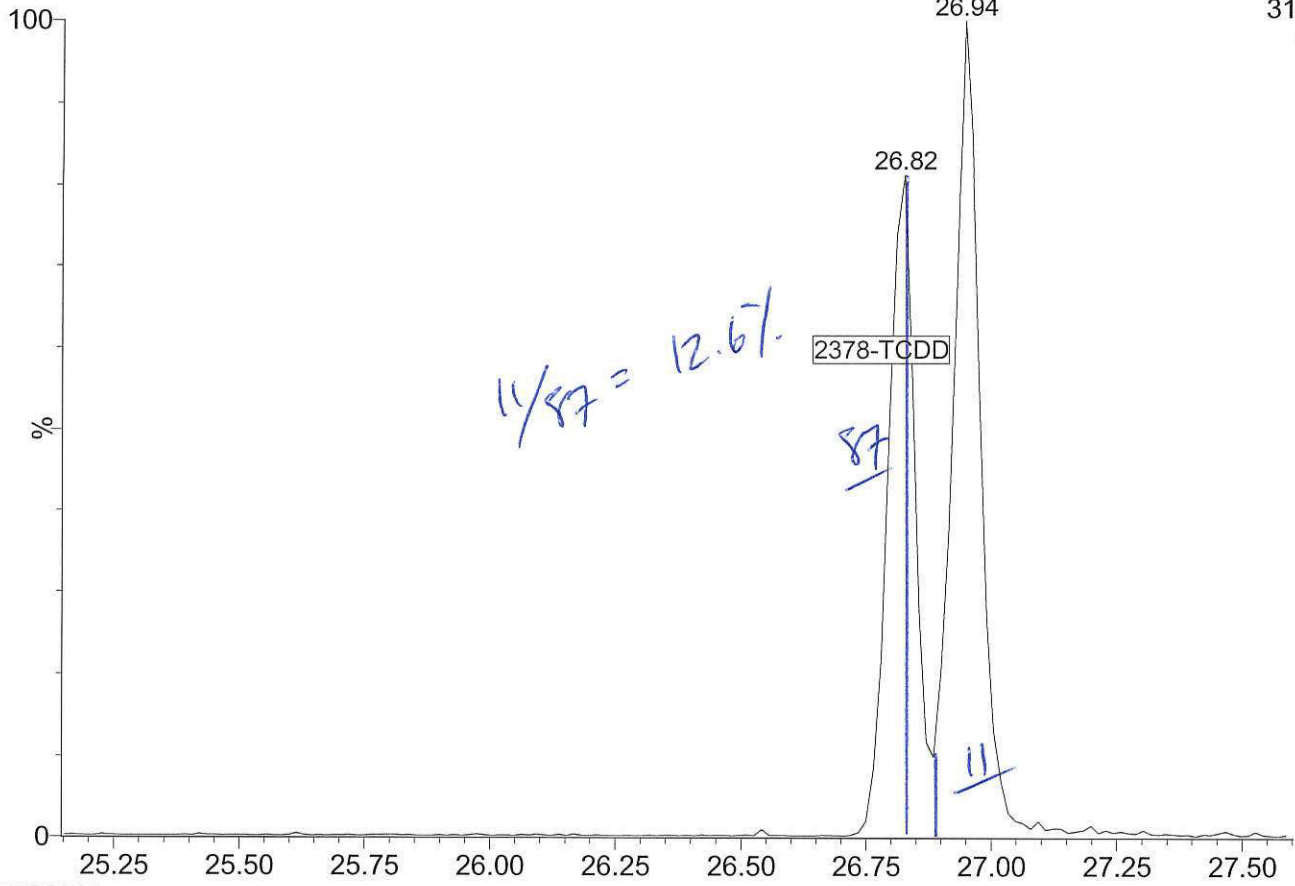


M 504.9696 R 14308



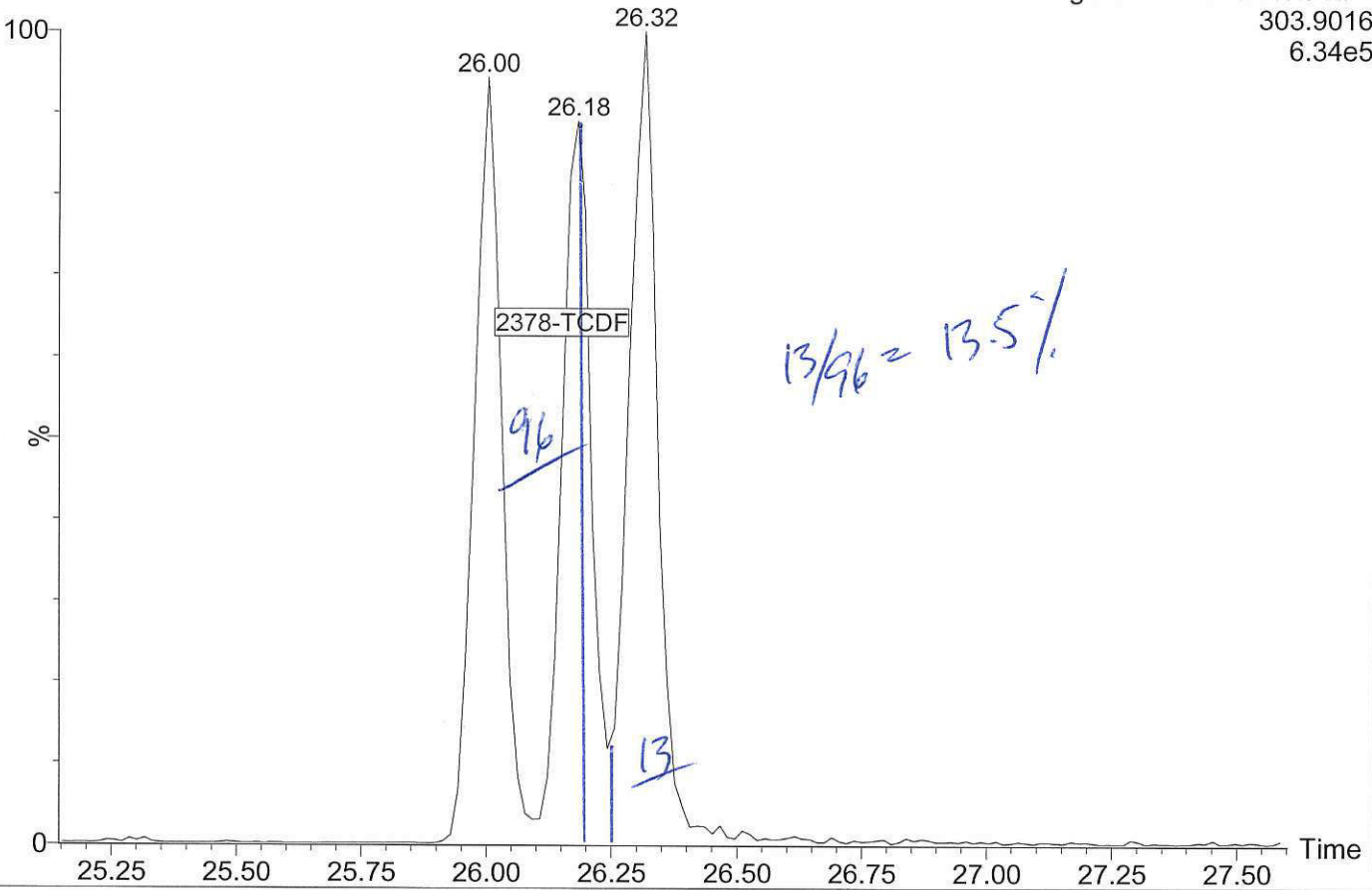
17020820

1: Voltage SIR 15 Channels EI+
319.8965
5.79e5



17020820

1: Voltage SIR 15 Channels EI+
303.9016
6.34e5





CONTINUING CALIBRATION CHECK EPA 1613B

Laboratory: <u>Analytical Resources, Inc.</u>	SDG: <u>17A0053</u>
Client: <u>Anchor QEA, LLC</u>	Project: <u>Port Gamble Shellfish Monitoring</u>
Instrument ID: <u>AUTOSPEC01</u>	Calibration: <u>AA00071</u>
Lab File ID: <u>17022415</u>	Calibration Date: <u>01/25/17 11:42</u>
Sequence: <u>SFB0342</u>	Injection Date: <u>02/25/17</u>
Lab Sample ID: <u>SFB0342-CCV1</u>	Injection Time: <u>01:38</u>
Sequence Name: <u>CS302</u>	

COMPOUND	TYPE	CONC. (ng/mL)		RESPONSE FACTOR			% DRIFT/DIFF	
		STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
2,3,7,8-TCDF	A	10.000	10.0	0.9244412	0.9251365		0.08	16
2,3,7,8-TCDD	A	10.000	9.84	1.1500690	1.1315620		-1.6	22
1,2,3,7,8-PeCDF	A	50.000	48.2	0.9538591	0.9198744		-3.6	18
2,3,4,7,8-PeCDF	A	50.000	51.0	0.9661353	0.9856564		2.0	18
1,2,3,7,8-PeCDD	A	50.000	47.4	1.0171420	0.9632759		-5.3	22
1,2,3,4,7,8-HxCDF	A	50.000	50.5	1.1406820	1.1518430		1.0	10
1,2,3,6,7,8-HxCDF	A	50.000	50.4	1.0892170	1.0981180		0.8	12
2,3,4,6,7,8-HxCDF	A	50.000	49.7	1.1814840	1.1747980		-0.6	12
1,2,3,7,8,9-HxCDF	A	50.000	49.0	1.1099540	1.0866750		-2.1	10
1,2,3,4,7,8-HxCDD	A	50.000	48.6	1.0172780	0.9883908		-2.8	22
1,2,3,6,7,8-HxCDD	A	50.000	51.7	0.9644562	0.9968546		3.4	22
1,2,3,7,8,9-HxCDD	A	50.000	51.2	0.9481378	0.9703843		2.3	18
1,2,3,4,6,7,8-HpCDF	A	50.000	49.1	1.2670090	1.2441470		-1.8	10
1,2,3,4,7,8,9-HpCDF	A	50.000	48.8	1.2951710	1.2640770		-2.4	14
1,2,3,4,6,7,8-HpCDD	A	50.000	49.3	1.0509220	1.0363980		-1.4	14
OCDF	A	100.00	111	1.0671380	1.1875750		11.3	37
OCDD	A	100.00	99.6	1.0297990	1.0259650		-0.4	21
13C12-2,3,7,8-TCDF	A	100.00	100	1.5145410	1.5208201		0.4	29
13C12-2,3,7,8-TCDD	A	100.00	103	0.8721411	0.9007597		3.3	18
13C12-1,2,3,7,8-PeCDF	A	100.00	97.6	1.2760880	1.2450729		-2.4	24
13C12-2,3,4,7,8-PeCDF	A	100.00	101	1.2570200	1.2636988		0.5	23
13C12-1,2,3,7,8-PeCDD	A	100.00	102	0.7543716	0.7728268		2.4	38
13C12-1,2,3,4,7,8-HxCDF	A	100.00	96.0	1.4308690	1.3738642		-4.0	24
13C12-1,2,3,6,7,8-HxCDF	A	100.00	95.3	1.5517170	1.4782235		-4.7	30
13C12-2,3,4,6,7,8-HxCDF	A	100.00	97.1	1.3486910	1.3101783		-2.9	27
13C12-1,2,3,7,8,9-HxCDF	A	100.00	107	1.1112340	1.1852604		6.7	26
13C12-1,2,3,4,7,8-HxCDD	A	100.00	98.1	1.1060120	1.0845996		-1.9	15
13C12-1,2,3,6,7,8-HxCDD	A	100.00	97.1	1.1646380	1.1306015		-2.9	15
13C12-1,2,3,4,6,7,8-HpCDF	A	100.00	97.9	1.1595440	1.1353114		-2.1	22
13C12-1,2,3,4,7,8,9-HpCDF	A	100.00	116	0.7577241	0.8781480		15.9	23
13C12-1,2,3,4,6,7,8-HpCDD	A	100.00	105	0.8721821	0.9133285		4.7	18
13C12-OCDD	A	200.00	229	0.6553896	0.7497113		14.4	52
37C14-2,3,7,8-TCDD	A	10.000	10.2	1.0732750	1.0961251		2.1	

* Values outside of QC limits

Dataset: C:\MassLynx\Dioxin.pro\170224D.qld
 Last Altered: Monday, February 27, 2017 10:34:48 Pacific Standard Time
 Printed: Monday, February 27, 2017 10:37:02 Pacific Standard Time

Method: C:\MassLynx\Dioxin.pro\MethDB\Dioxin170224.mdb 27 Feb 2017 09:30:36
 Calibration: C:\MassLynx\Dioxin.pro\CurveDB\170124\CAL.cdb 25 Jan 2017 09:33:34

ID: CS302, Name: 17022415, Date: 25-Feb-2017, Time: 01:38:17, Conditions: AUTOSPEC01, User: PK

Name	RT	RRT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	Noise 1	Noise 2	Height 1	Height 2	S/N	EMPC?	pg
2378-TCDF	25.540	1.001	1.13e5	1.49e5	0.924	0.761	0.770	1449	2626	1.61e6	2.07e6	1113.0	NO	10.008
12378-PeCDF	29.666	1.001	6.47e5	4.18e5	0.954	1.546	1.550	5260	3263	9.26e6	6.09e6	1759.7	NO	48.219
23478-PeCDF	31.014	1.001	6.97e5	4.62e5	0.966	1.508	1.550	5260	3263	1.02e7	6.66e6	1938.2	NO	51.010
123478-HxCDF	34.675	1.001	5.56e5	4.53e5	1.141	1.226	1.240	3584	3189	8.31e6	6.89e6	2319.6	NO	50.489
234678-HxCDF	35.771	1.000	5.36e5	4.46e5	1.181	1.202	1.240	3584	3189	7.90e6	6.57e6	2203.9	NO	49.717
123678-HxCDF	34.828	1.001	5.75e5	4.61e5	1.089	1.247	1.240	3584	3189	8.37e6	6.60e6	2335.4	NO	50.409
123789-HxCDF	36.911	1.000	4.56e5	3.66e5	1.110	1.245	1.240	3584	3189	6.39e6	5.11e6	1782.7	NO	48.951
1234678-HpCDF	38.971	1.000	4.51e5	4.50e5	1.267	1.001	1.050	3594	2985	6.90e6	6.69e6	1920.1	NO	49.098
1234789-HpCDF	41.591	1.001	3.52e5	3.56e5	1.295	0.989	1.050	3594	2985	4.50e6	4.45e6	1252.5	NO	48.800
OCDF	46.678	1.006	5.37e5	5.98e5	1.067	0.898	0.890	1697	2323	5.48e6	6.00e6	3229.1	NO	111.286
2378-TCDD	26.168	1.001	8.18e4	1.08e5	1.150	0.759	0.770	2059	1710	1.16e6	1.52e6	561.2	NO	9.839
12378-PeCDD	31.266	1.001	4.17e5	2.75e5	1.017	1.515	1.550	2855	2970	6.13e6	4.05e6	2148.6	NO	47.352
123478-HxCDD	35.913	1.001	3.79e5	3.04e5	1.017	1.247	1.240	3170	2711	5.77e6	4.60e6	1820.3	NO	48.580
123678-HxCDD	36.034	1.000	3.96e5	3.23e5	0.964	1.226	1.240	3170	2711	5.70e6	4.56e6	1797.9	NO	51.680
123789-HxCDD	36.461	1.012	3.78e5	3.08e5	0.948	1.227	1.240	3170	2711	5.59e6	4.50e6	1764.4	NO	51.173
1234678-HpCDD	40.736	1.001	3.07e5	2.97e5	1.051	1.033	1.050	3639	2910	4.13e6	4.01e6	1134.5	NO	49.309
OCDD	46.418	1.000	4.63e5	5.18e5	1.030	0.894	0.890	1746	1918	4.77e6	5.34e6	2731.6	NO	99.628
13C-2378-TCDF	25.525	1.007	1.24e6	1.59e6	1.515	0.779	0.770	7342	5261	1.74e7	2.22e7	2367.4	NO	100.415
13C-12378-PeCDF	29.644	1.170	1.42e6	8.92e5	1.276	1.597	1.550	3950	3752	2.14e7	1.32e7	5421.2	NO	97.570
13C-23478-PeCDF	30.992	1.223	1.44e6	9.11e5	1.257	1.581	1.550	3950	3752	2.13e7	1.35e7	5393.6	NO	100.531
13C-123478-HxCDF	34.653	0.951	5.94e5	1.16e6	1.431	0.513	0.510	2892	5337	8.71e6	1.70e7	3011.9	NO	96.016
13C-123678-HxCDF	34.806	0.955	6.49e5	1.24e6	1.552	0.525	0.510	2892	5337	9.33e6	1.79e7	3226.8	NO	95.264
13C-234678-HxCDF	35.760	0.981	5.75e5	1.10e6	1.349	0.524	0.510	2892	5337	8.40e6	1.59e7	2904.0	NO	97.144
13C-123789-HxCDF	36.900	1.012	5.23e5	9.89e5	1.111	0.529	0.510	2892	5337	7.58e6	1.43e7	2622.2	NO	106.662
13C-1234678-HpCDF	38.960	1.069	4.58e5	9.90e5	1.160	0.463	0.440	1925	3040	6.99e6	1.53e7	3633.9	NO	97.910
13C-1234789-HpCDF	41.569	1.140	3.42e5	7.78e5	0.758	0.439	0.440	1925	3040	4.43e6	9.86e6	2303.0	NO	115.893
13C-1234-TCDD	25.346	0.000	8.26e5	1.03e6	1.000	0.798	0.770	2932	1715	1.22e7	1.52e7	4151.7	NO	100.000
13C-2378-TCDD	26.153	1.032	7.46e5	9.29e5	0.872	0.803	0.770	2932	1715	1.07e7	1.35e7	3663.9	NO	103.281
13C-12378-PeCDD	31.244	1.233	8.83e5	5.55e5	0.754	1.593	1.550	2094	1382	1.29e7	8.23e6	6162.4	NO	102.446
13C-123478-HxCDD	35.891	0.985	7.74e5	6.10e5	1.106	1.268	1.240	3039	2447	1.16e7	9.19e6	3809.3	NO	98.064
13C-123678-HxCDD	36.023	0.988	8.12e5	6.30e5	1.165	1.289	1.240	3039	2447	1.15e7	9.17e6	3799.2	NO	97.078
13C-1234678-HpCDD	40.714	1.117	6.00e5	5.65e5	0.872	1.060	1.050	2817	2050	8.12e6	7.68e6	2883.1	NO	104.718
13C-OCDD	46.400	1.273	9.04e5	1.01e6	0.655	0.896	0.890	2320	2120	9.23e6	1.05e7	3981.2	NO	228.784

Quantify Sample Summary Report **MassLynx MassLynx V4.1 SCN909**

Dataset: C:\MassLynx\Dioxin.pro\170224D.qld

Last Altered: Monday, February 27, 2017 10:34:48 Pacific Standard Time

Printed: Monday, February 27, 2017 10:37:02 Pacific Standard Time

ID: CS302, Name: 17022415, Date: 25-Feb-2017, Time: 01:38:17, Conditions: AUTOSPEC01, User: PK

Name	RT	RRT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	Noise 1	Noise 2	Height 1	Height 2	S/N	EMPC?	pg
13C-123789-HxCDD	36.450	0.000	7.08e5	5.68e5	1.000	1.247	1.240	3039	2447	1.02e7	8.18e6	3342.0	NO	100.000
Total-tetrafurans			3.77e5	0.924			1449			5.40e6				33.602
Total-penta1			9.25e5				1339			1.32e7				72.022
Total-pentafurans			2.09e6	0.960			5260			2.99e7				154.713
Total-hexafurans			2.71e6	1.130			3584			3.96e7				254.137
Total-heptafurans			8.04e5	1.281			3594			1.14e7				98.063
Total-Furans			7.44e6	1.100			1449			1.05e8				723.824
Total-tetradiioxins			4.45e5	1.150			2059			5.79e6				52.654
Total-pentadiioxins			1.67e6	1.017			2855			2.07e7				187.659
Total-hexadiioxins			1.58e6	0.977			3170			2.33e7				206.862
Total-heptadiioxins			6.46e5	1.051			3639			9.08e6				104.188
Total-Dioxins			4.80e6	1.025			2059			6.37e7				650.991
Total-TEQ			1.22e7				2059			1.69e8				1374.815
37CL-2378-TCDD	26.168	1.032	2.04e5	1.073			907			2.89e6		3188.7		10.213
FUNCTION1 PFK			3.86e5				639913			7.20e6				
FUNCTION2 PFK			1.20e4				169314			5.28e5				0.000
FUNCTION3 PFK			1.37e6				517153			3.24e7				0.000
FUNCTION4 PFK			2.75e4				344461			1.19e6				
FUNCTION5 PFK			4.24e6				253083			4.51e7				
FUNCTION1 HXCDPE			8.73e1				433			1.66e3				0.000
FUNCTION1 HPCDPE			5.23e2				689			1.16e4				0.000
FUNCTION2 HPCDPE			1.11e3				1167			2.79e4				0.000
FUNCTION3 OCDPE			0.00e0				259			0.00e0				
FUNCTION4 NCDPE			0.00e0				489			0.00e0				
FUNCTION5 DCDPE			0.00e0				309			0.00e0				

Quantify Sample Report MassLynx MassLynx V4.1 SCN909

Dataset: C:\MassLynx\Dioxin.pro\170224D.qld
Last Altered: Monday, February 27, 2017 10:34:48 Pacific Standard Time
Printed: Monday, February 27, 2017 10:37:02 Pacific Standard Time

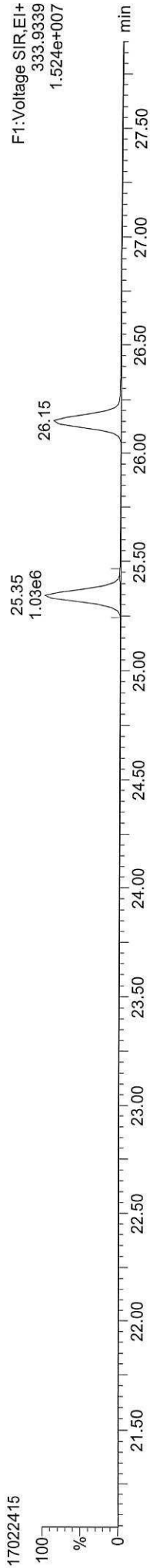
Method: C:\MassLynx\Dioxin.pro\MethDB\Dioxin\170224.mdb 27 Feb 2017 09:30:36
Calibration: C:\MassLynx\Dioxin.pro\CurveDB\170124\CAL.cdb 25 Jan 2017 09:33:34

ID: CS302, Name: 17022415, Date: 25-Feb-2017, Time: 01:38:17, Conditions: AUTOSPEC01, User: PK

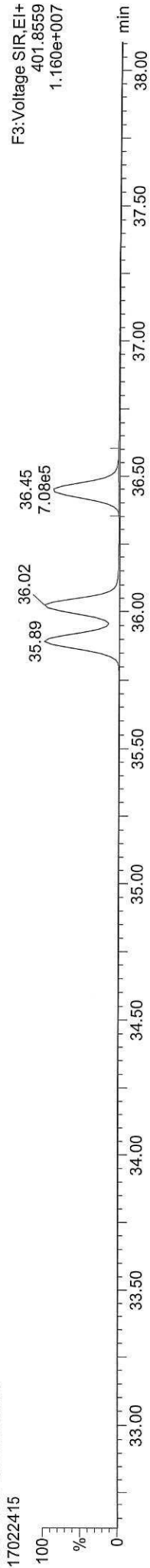
13C-1234-TCDD



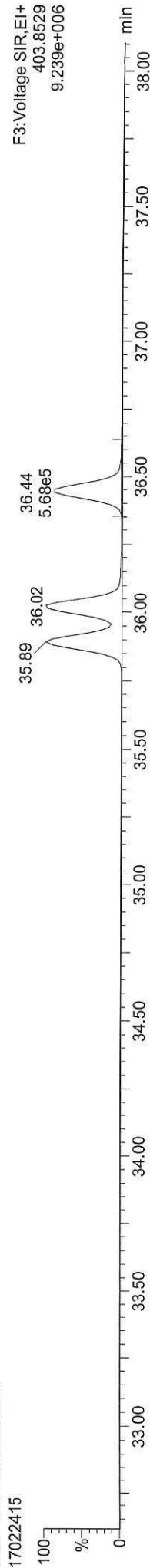
13C-1234-TCDD



13C-123789-HxCDD



13C-123789-HxCDD



Quantify Sample Report MassLynx MassLynx V4.1 SCN909

Dataset: C:\MassLynx\Dioxin.pro\170224D.qld

Last Altered: Monday, February 27, 2017 10:34:48 Pacific Standard Time

Printed: Monday, February 27, 2017 10:37:02 Pacific Standard Time

ID: CS302, Name: 17022415, Date: 25-Feb-2017, Time: 01:38:17, Conditions: AUTOSPEC01, User: PK

13C-2378-TCDD

17022415



13C-2378-TCDD

17022415



Total-tetradioxins

17022415



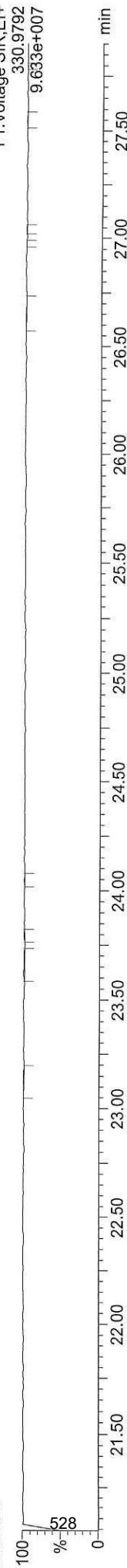
Total-tetradioxins

17022415



FUNCTION1 PFK

17022415



Quantify Sample Report MassLynx MassLynx V4.1 SCN909

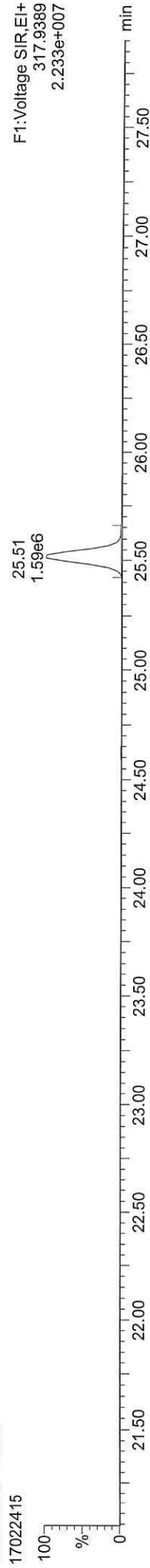
Dataset: C:\MassLynx\Dioxin.pro\170224D.qld
Last Altered: Monday, February 27, 2017 10:34:48 Pacific Standard Time
Printed: Monday, February 27, 2017 10:37:02 Pacific Standard Time

ID: CS302, Name: 17022415, Date: 25-Feb-2017, Time: 01:38:17, Conditions: AUTOSPEC01, User: PK

13C-2378-TCDF



13C-2378-TCDF



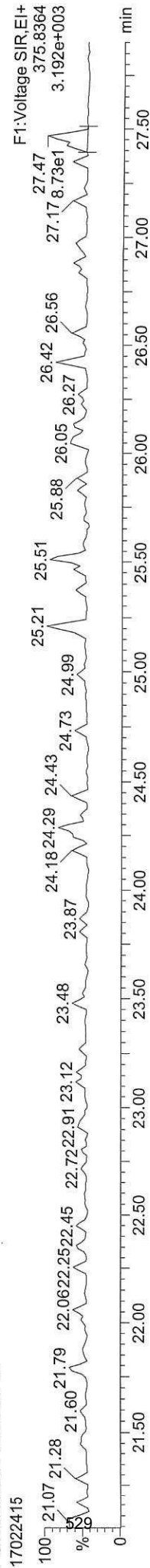
Total-tetrafurans



Total-tetrafurans



FUNCTION1 HXCDPE

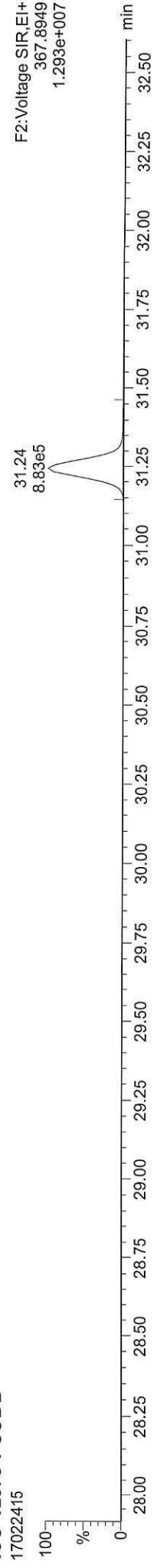


Quantify Sample Report MassLynx MassLynx V4.1 SCN909

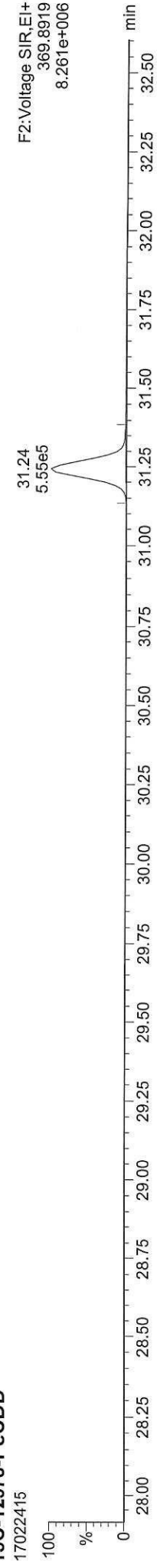
Dataset: C:\MassLynx\Dioxin.pro\170224D.qld
Last Altered: Monday, February 27, 2017 10:34:48 Pacific Standard Time
Printed: Monday, February 27, 2017 10:37:02 Pacific Standard Time

ID: CS302, Name: 17022415, Date: 25-Feb-2017, Time: 01:38:17, Conditions: AUTOSPEC01, User: PK

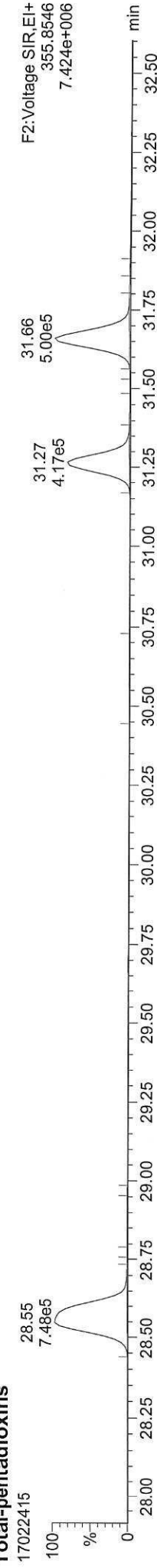
13C-12378-PeCDD



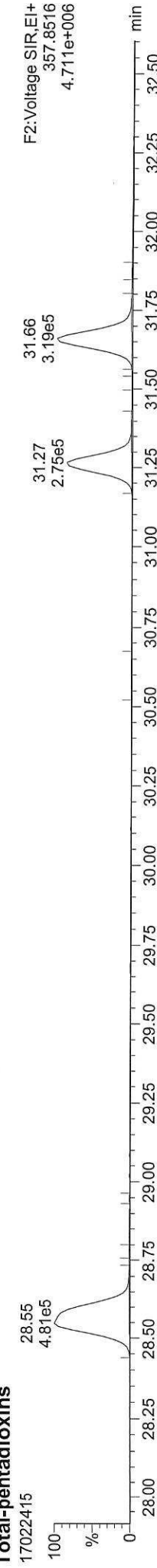
13C-12378-PeCDD



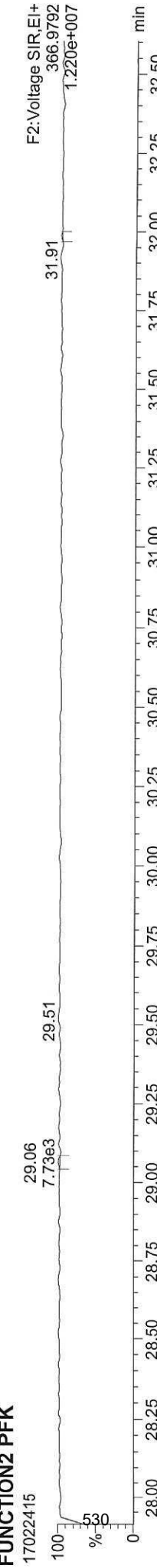
Total-pentadioxins



Total-pentadioxins



FUNCTION2 PFK

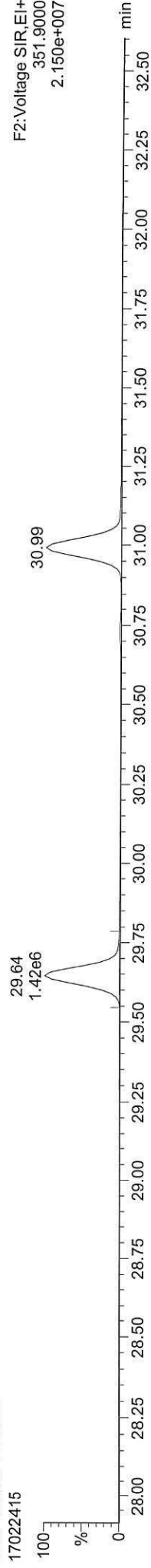


Quantify Sample Report MassLynx V4.1 SCN909

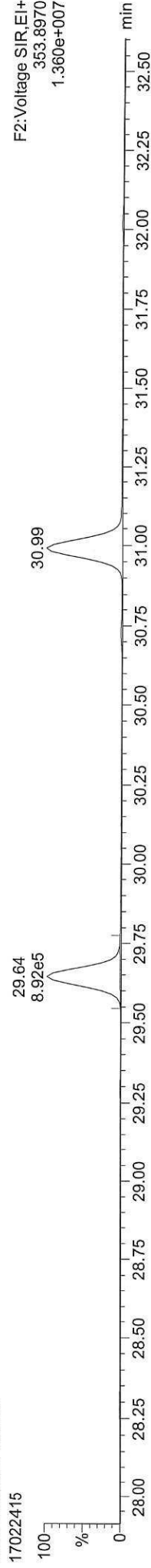
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Last Altered: Monday, February 27, 2017 10:34:48 Pacific Standard Time
Printed: Monday, February 27, 2017 10:37:02 Pacific Standard Time

ID: CS302, Name: 17022415, Date: 25-Feb-2017, Time: 01:38:17, Conditions: AUTOSPEC01, User: PK

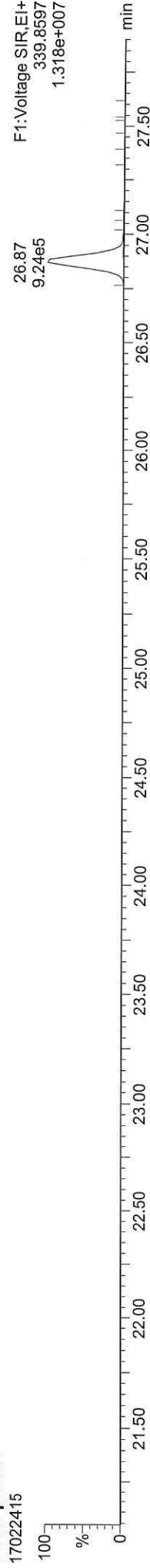
13C-12378-PeCDF



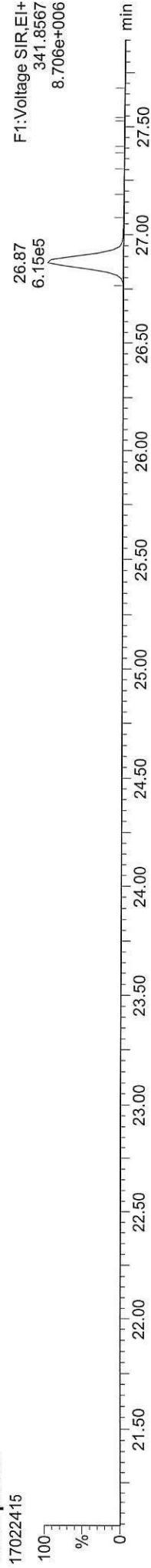
13C-12378-PeCDF



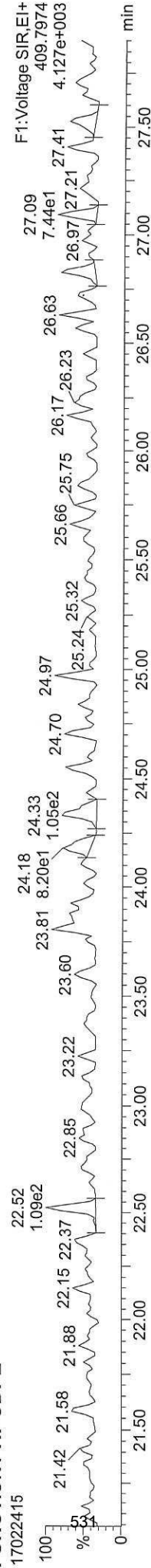
Total-penta1



Total-penta1



FUNCTION1 HPCDPE

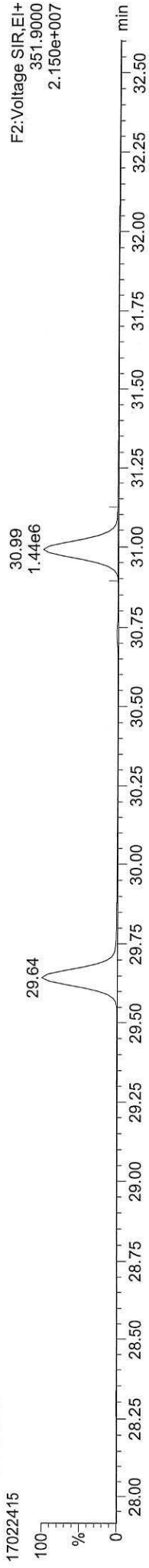


Quantify Sample Report MassLynx MassLynx V4.1 SCN909

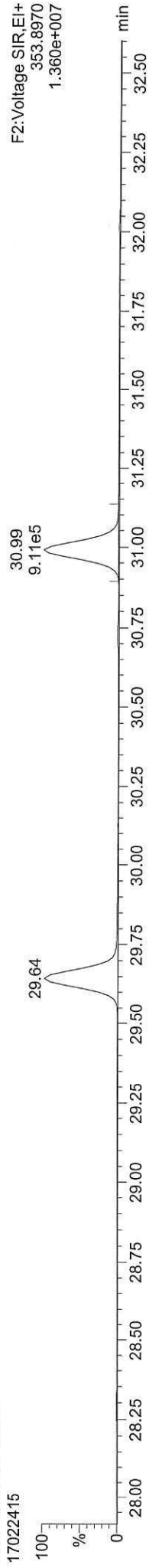
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Last Altered: Monday, February 27, 2017 10:34:48 Pacific Standard Time
Printed: Monday, February 27, 2017 10:37:02 Pacific Standard Time

ID: CS302, Name: 17022415, Date: 25-Feb-2017, Time: 01:38:17, Conditions: AUTOSPEC01, User: PK

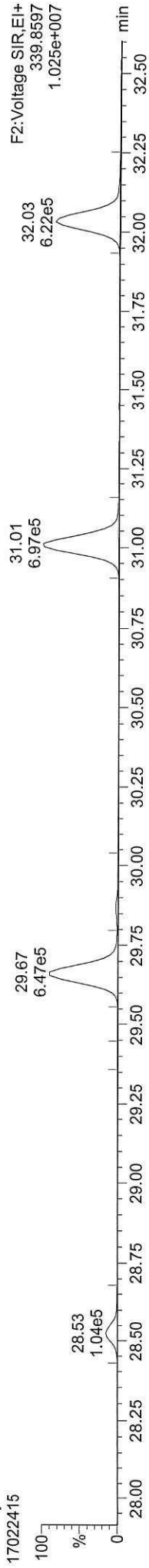
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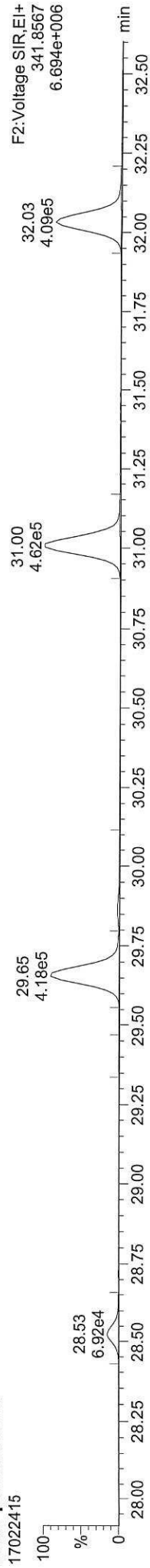
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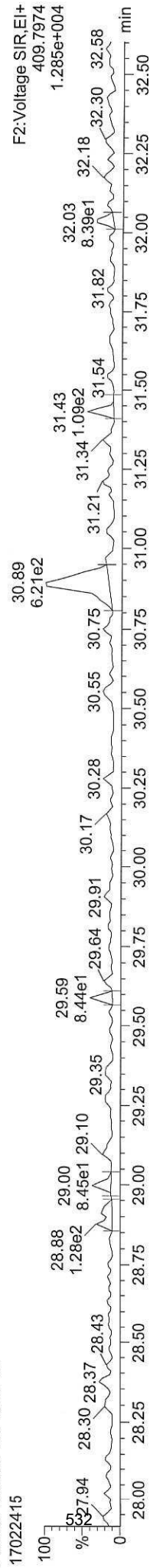
Total-pentafurans



Total-pentafurans



FUNCTION2 HPCDPE

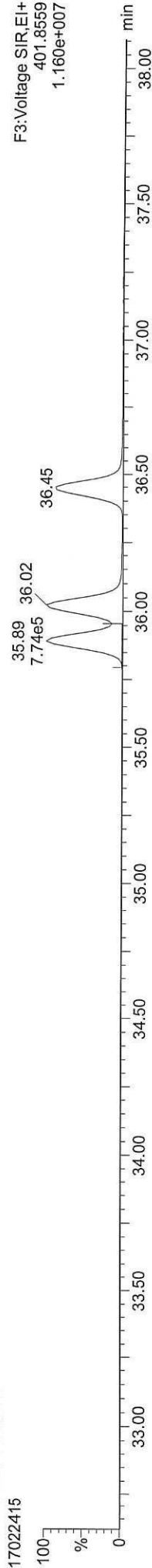


Quantify Sample Report MassLynx MassLynx V4.1 SCN909

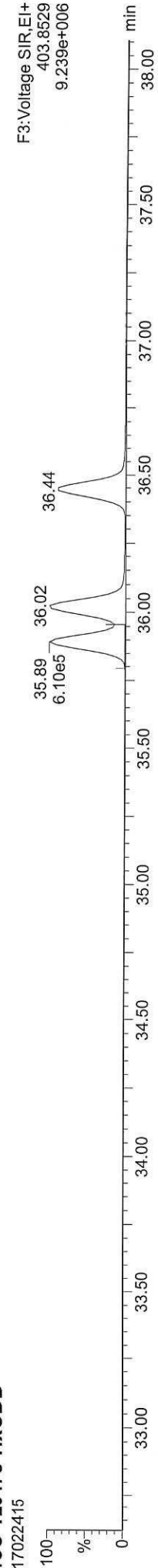
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Last Altered: Monday, February 27, 2017 10:34:48 Pacific Standard Time
Printed: Monday, February 27, 2017 10:37:02 Pacific Standard Time

ID: CS302, Name: 17022415, Date: 25-Feb-2017, Time: 01:38:17, Conditions: AUTOSPEC01, User: PK

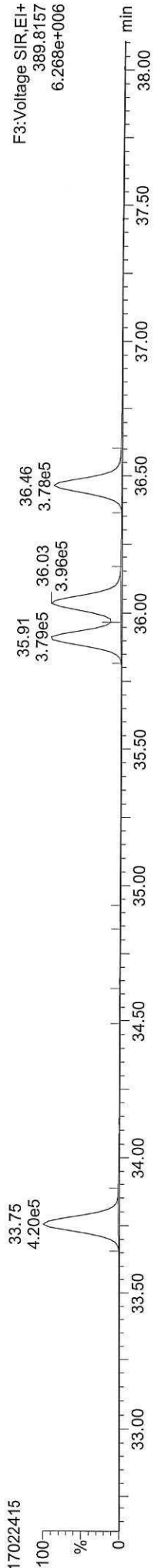
13C-123478-HxCDD



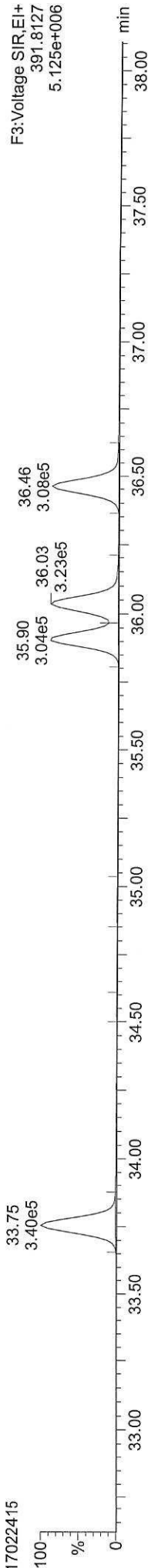
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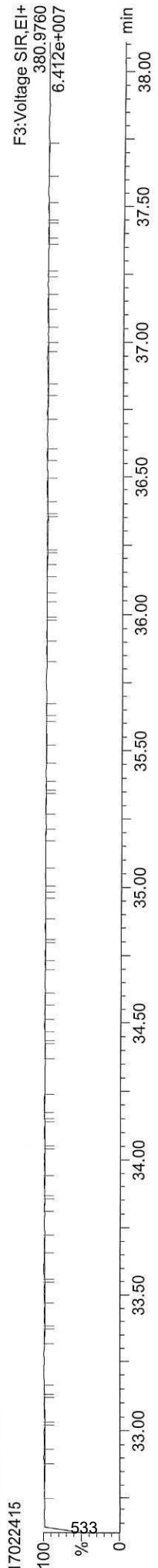
Total-hexadioxins



Total-hexadioxins



FUNCTION3 PFK



Quantify Sample Report MassLynx V4.1 SCN909

Dataset: C:\MassLynx\Dioxin.pro\170224D.qld

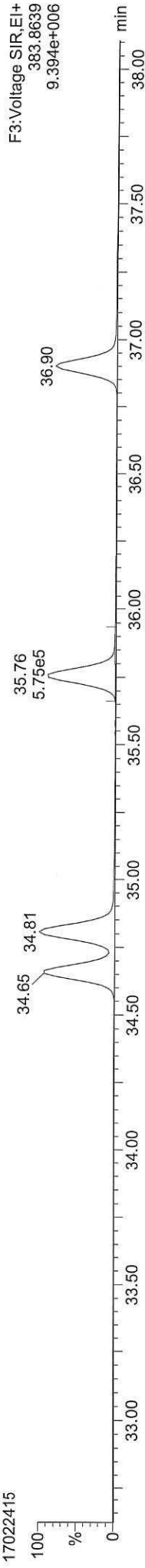
Last Altered: Monday, February 27, 2017 10:34:48 Pacific Standard Time

Printed: Monday, February 27, 2017 10:37:02 Pacific Standard Time

ID: CS302, Name: 17022415, Date: 25-Feb-2017, Time: 01:38:17, Conditions: AUTOSPEC01, User: PK

13C-234678-HxCDF

17022415



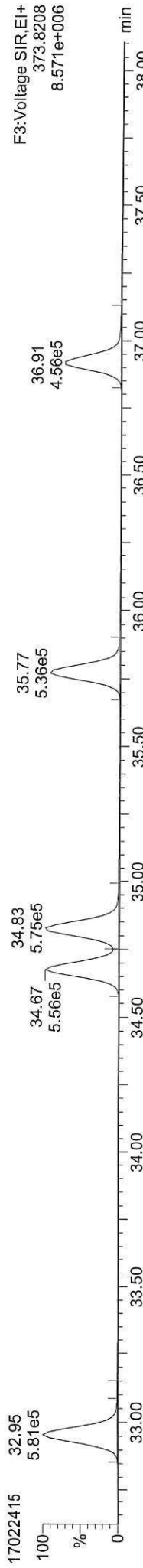
13C-234678-HxCDF

17022415



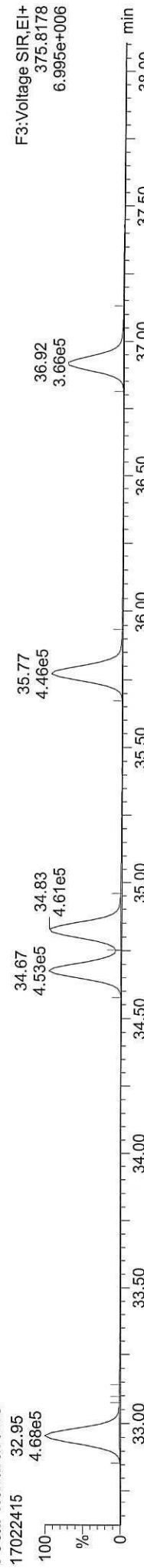
Total-hexafurans

17022415



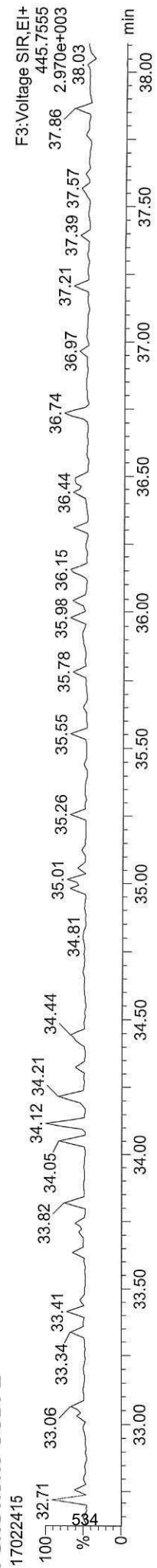
Total-hexafurans

17022415



FUNCTION3 OCDFE

17022415



Quantify Sample Report MassLynx MassLynx V4.1 SCN909

Dataset: C:\MassLynx\Dioxin.pro\170224D.qld
Last Altered: Monday, February 27, 2017 10:34:48 Pacific Standard Time
Printed: Monday, February 27, 2017 10:37:02 Pacific Standard Time

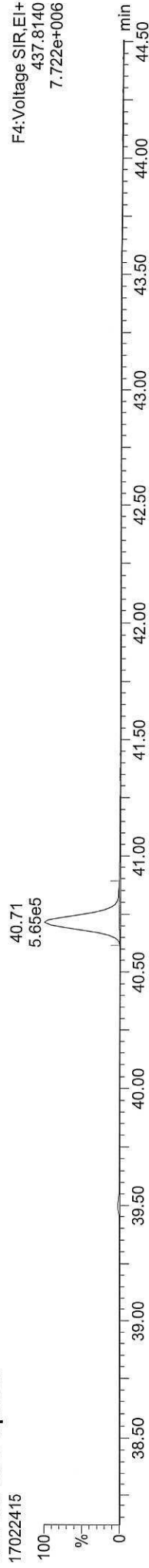
ID: CS302, Name: 17022415, Date: 25-Feb-2017, Time: 01:38:17, Conditions: AUTOSPEC01, User: PK

13C-1234678-HpCDD



F4: Voltage SIR, EI+
435.8169
8.141e+006

13C-1234678-HpCDD



F4: Voltage SIR, EI+
437.8140
7.722e+006

Total-heptadioxins



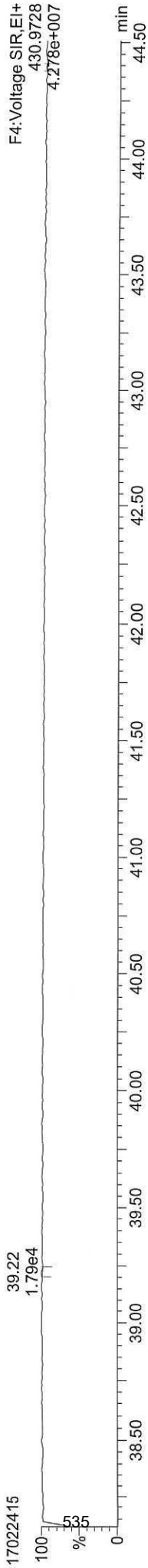
F4: Voltage SIR, EI+
423.7766
4.974e+006

Total-heptadioxins



F4: Voltage SIR, EI+
425.7737
4.967e+006

FUNCTION4 PFK



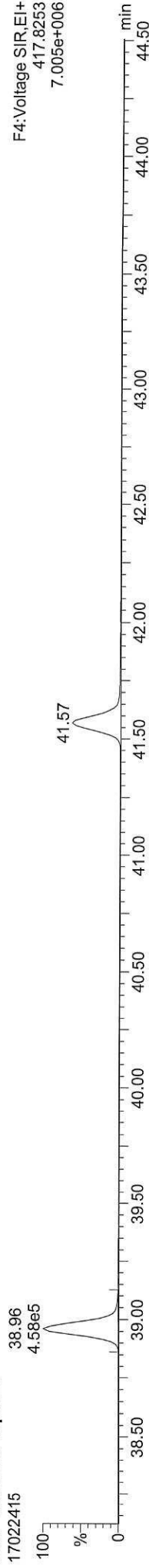
F4: Voltage SIR, EI+
430.9728
4.278e+007

Quantify Sample Report MassLynx MassLynx V4.1 SCN909

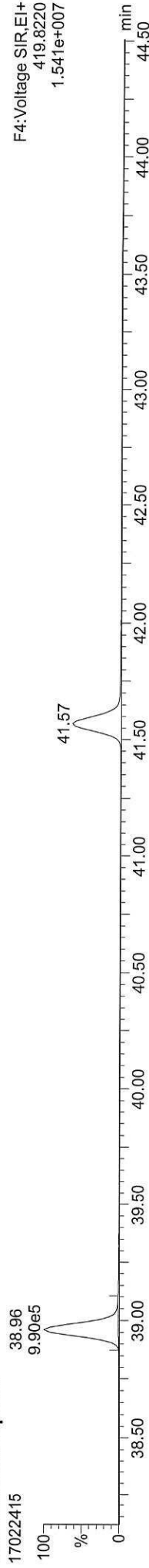
Dataset: C:\MassLynx\Dioxin.pro\170224D.qld
Last Altered: Monday, February 27, 2017 10:34:48 Pacific Standard Time
Printed: Monday, February 27, 2017 10:37:02 Pacific Standard Time

ID: CS302, Name: 17022415, Date: 25-Feb-2017, Time: 01:38:17, Conditions: AUTOSPEC01, User: PK

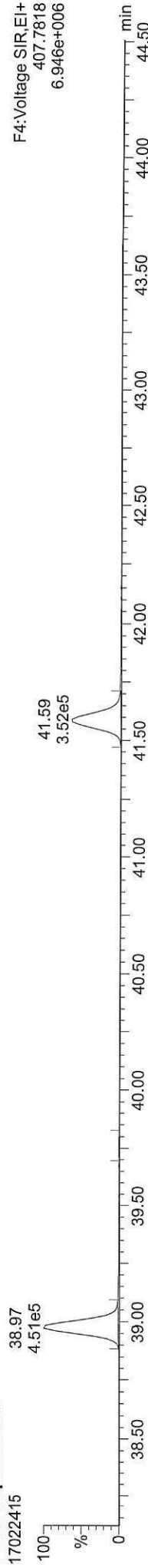
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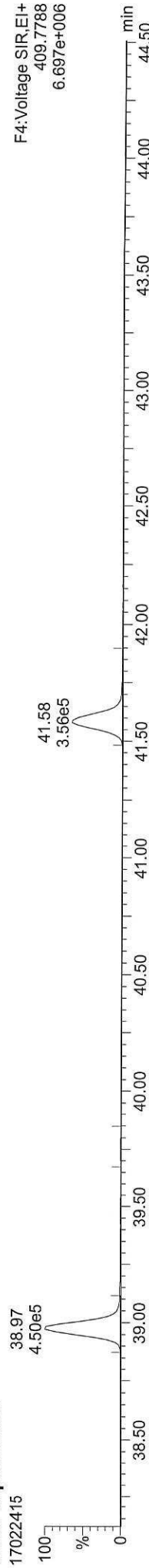
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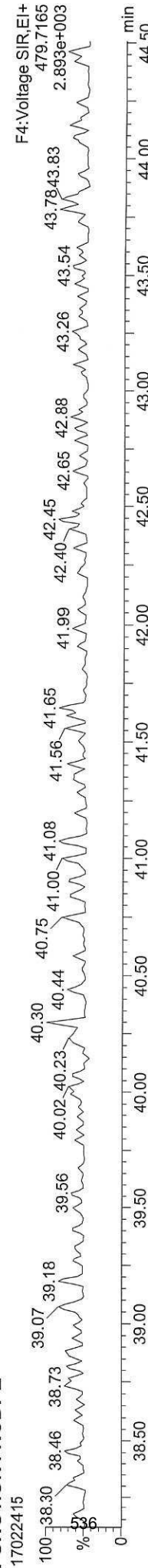
Total-heptafurans



Total-heptafurans



FUNCTION4 NCDPE

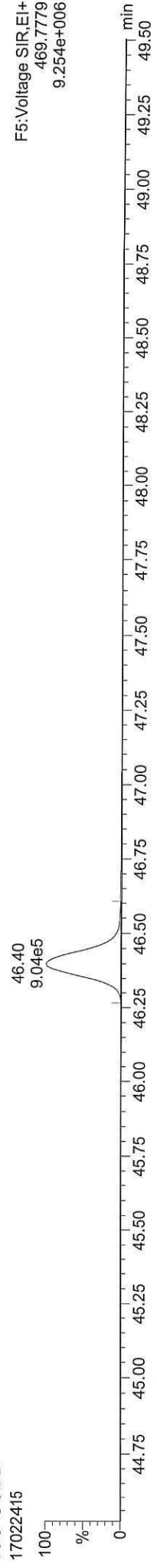


Quantify Sample Report MassLynx V4.1 SCN909

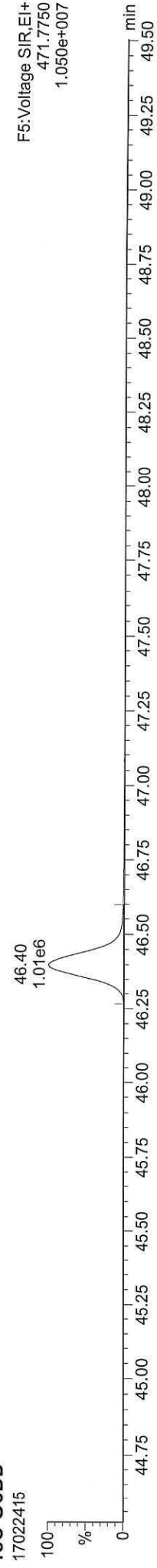
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Last Altered: Monday, February 27, 2017 10:34:48 Pacific Standard Time
Printed: Monday, February 27, 2017 10:37:02 Pacific Standard Time

ID: CS302, Name: 17022415, Date: 25-Feb-2017, Time: 01:38:17, Conditions: AUTOSPEC01, User: PK

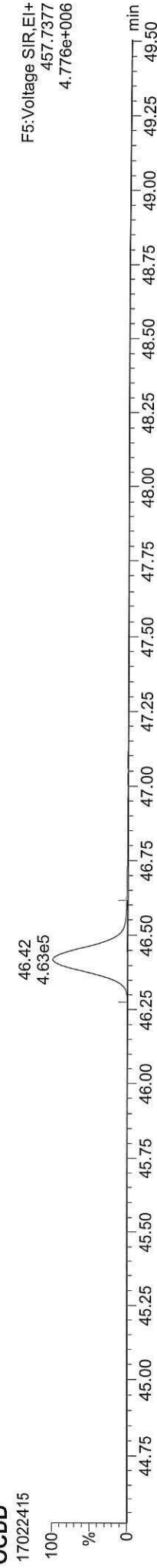
13C-OCDD



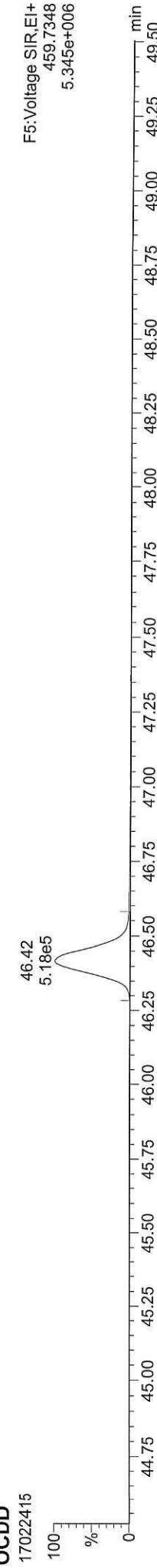
13C-OCDD



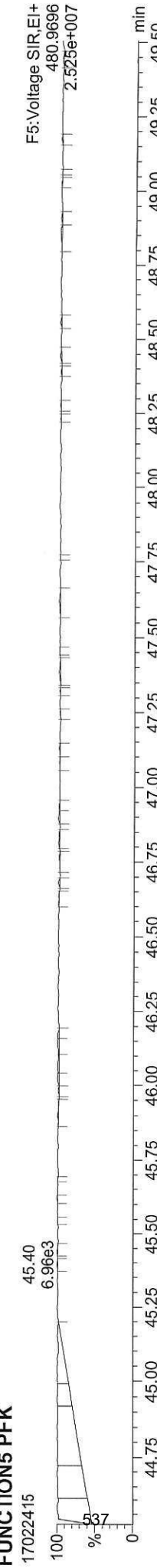
OCDD



OCDD



FUNCTION5 PFK



Quantify Sample Report MassLynx V4.1 SCN909

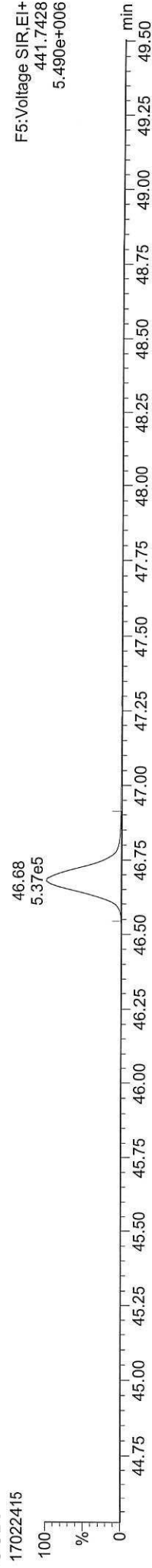
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Last Altered: Monday, February 27, 2017 10:34:48 Pacific Standard Time
Printed: Monday, February 27, 2017 10:37:02 Pacific Standard Time

ID: CS302, Name: 17022415, Date: 25-Feb-2017, Time: 01:38:17, Conditions: AUTOSPEC01, User: PK

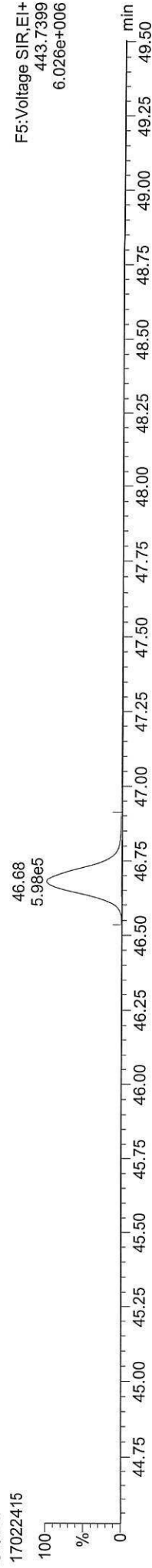
37CL-2378-TCDD



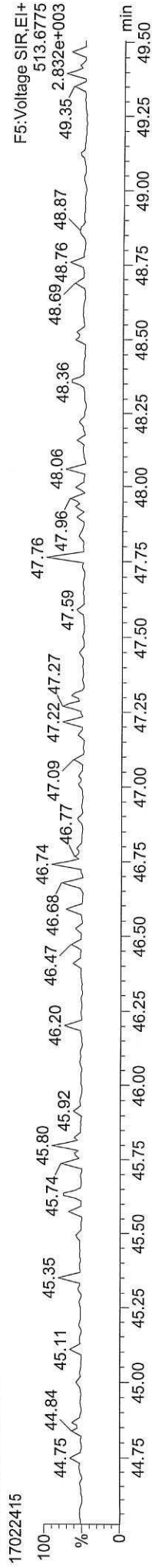
OCDF



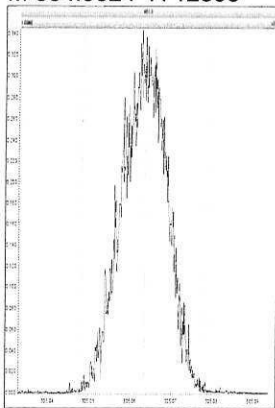
OCDF



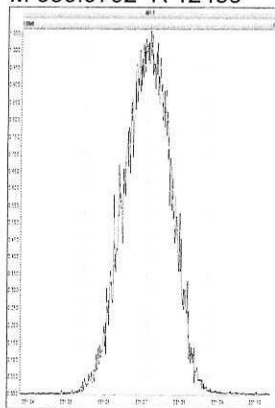
FUNCTION5 DCDPE



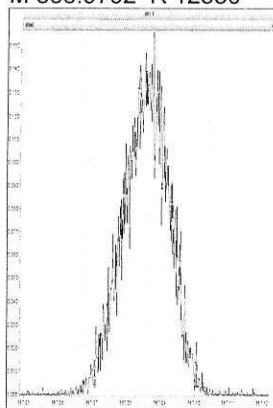
M 304.9824 R 12595



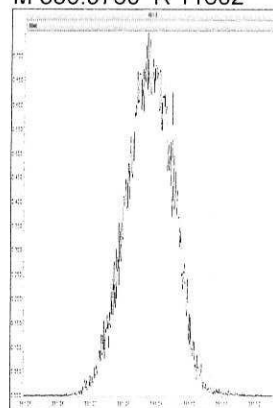
M 330.9792 R 12438



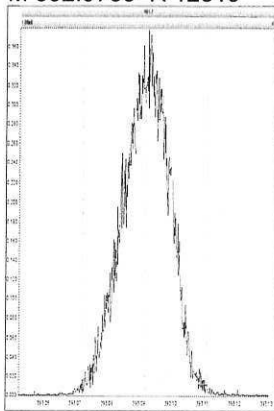
M 366.9792 R 12530



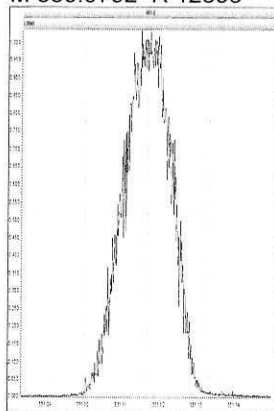
M 380.9760 R 11602



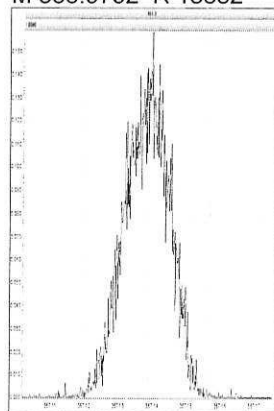
M 392.9760 R 12019



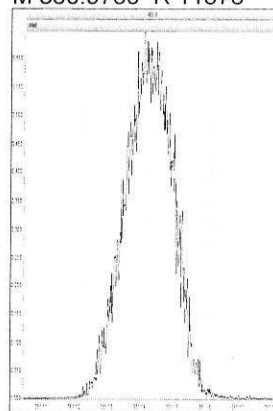
M 330.9792 R 12598



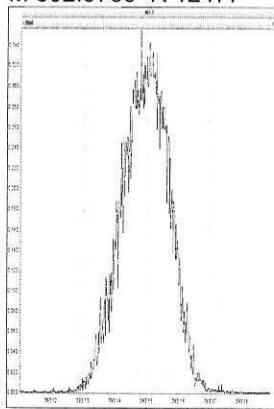
M 366.9792 R 13652



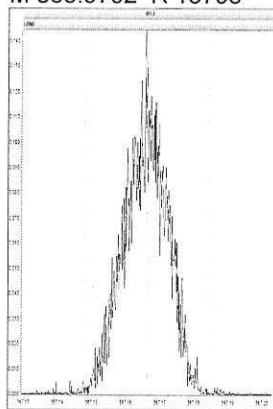
M 380.9760 R 11876



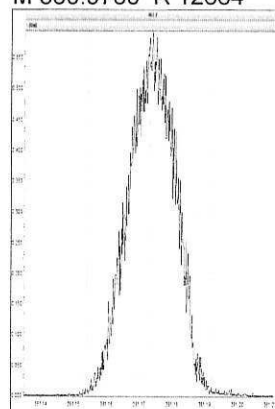
M 392.9760 R 12477



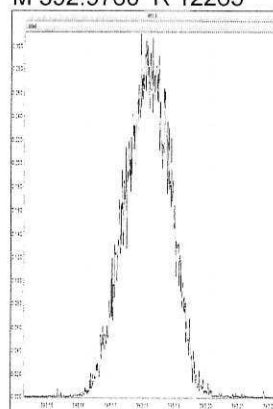
M 366.9792 R 13795



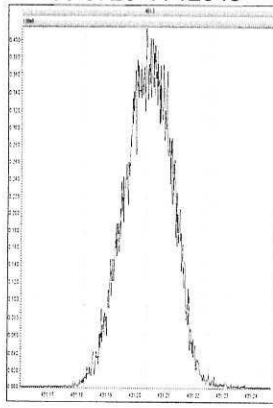
M 380.9760 R 12664



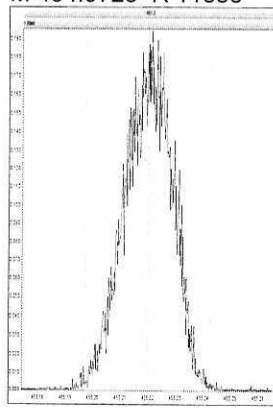
M 392.9760 R 12265



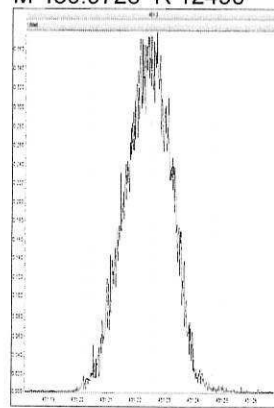
M 430.9728 R 12048



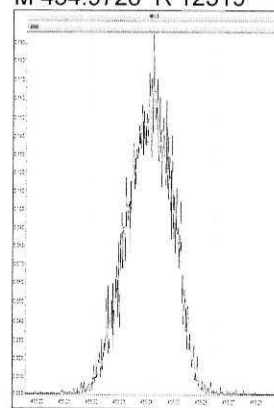
M 454.9728 R 11656



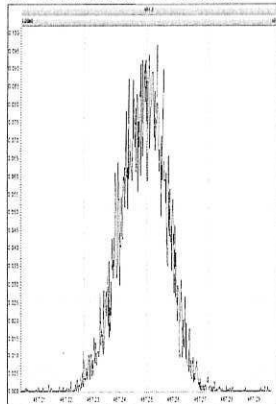
M 430.9728 R 12490



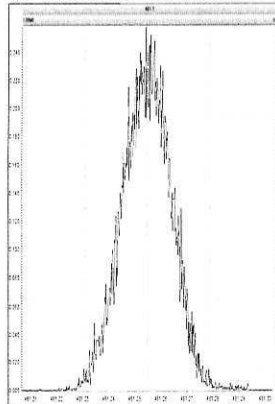
M 454.9728 R 12319



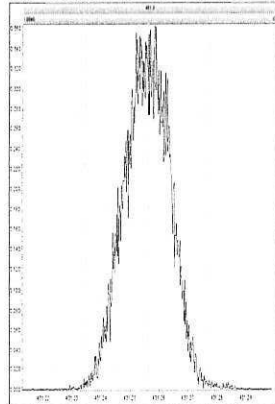
M 466.9728 R 12380



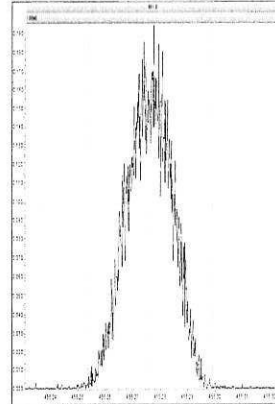
M 480.9696 R 11934



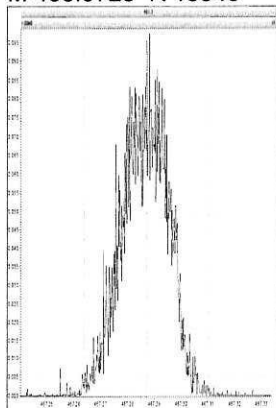
M 430.9728 R 12410



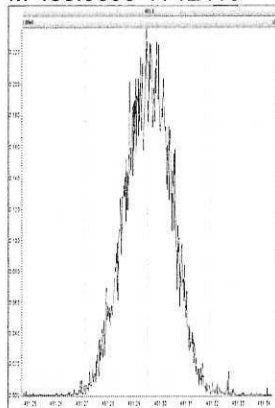
M 454.9728 R 12691



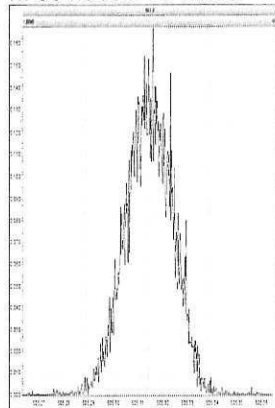
M 466.9728 R 13340



M 480.9696 R 12410

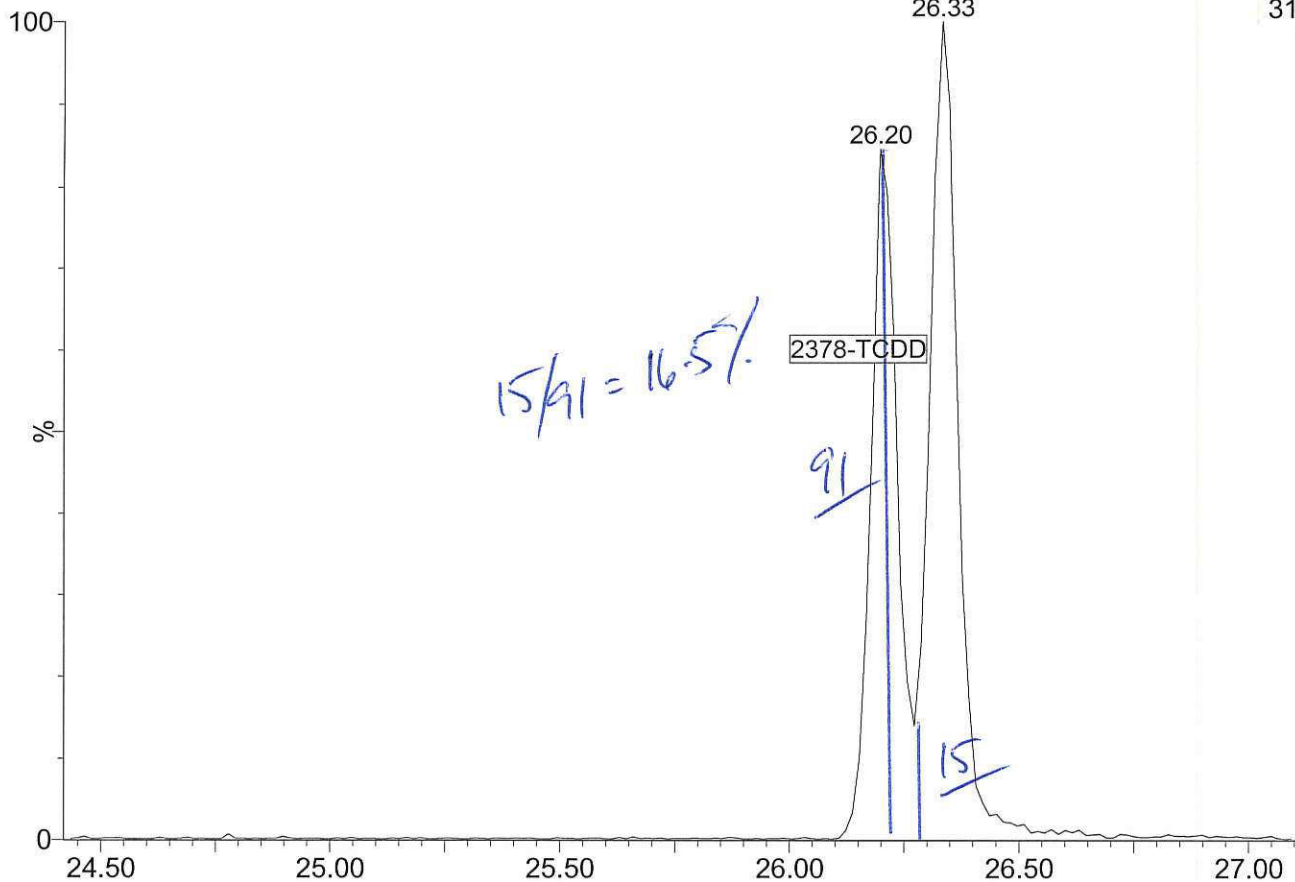


M 504.9696 R 12565



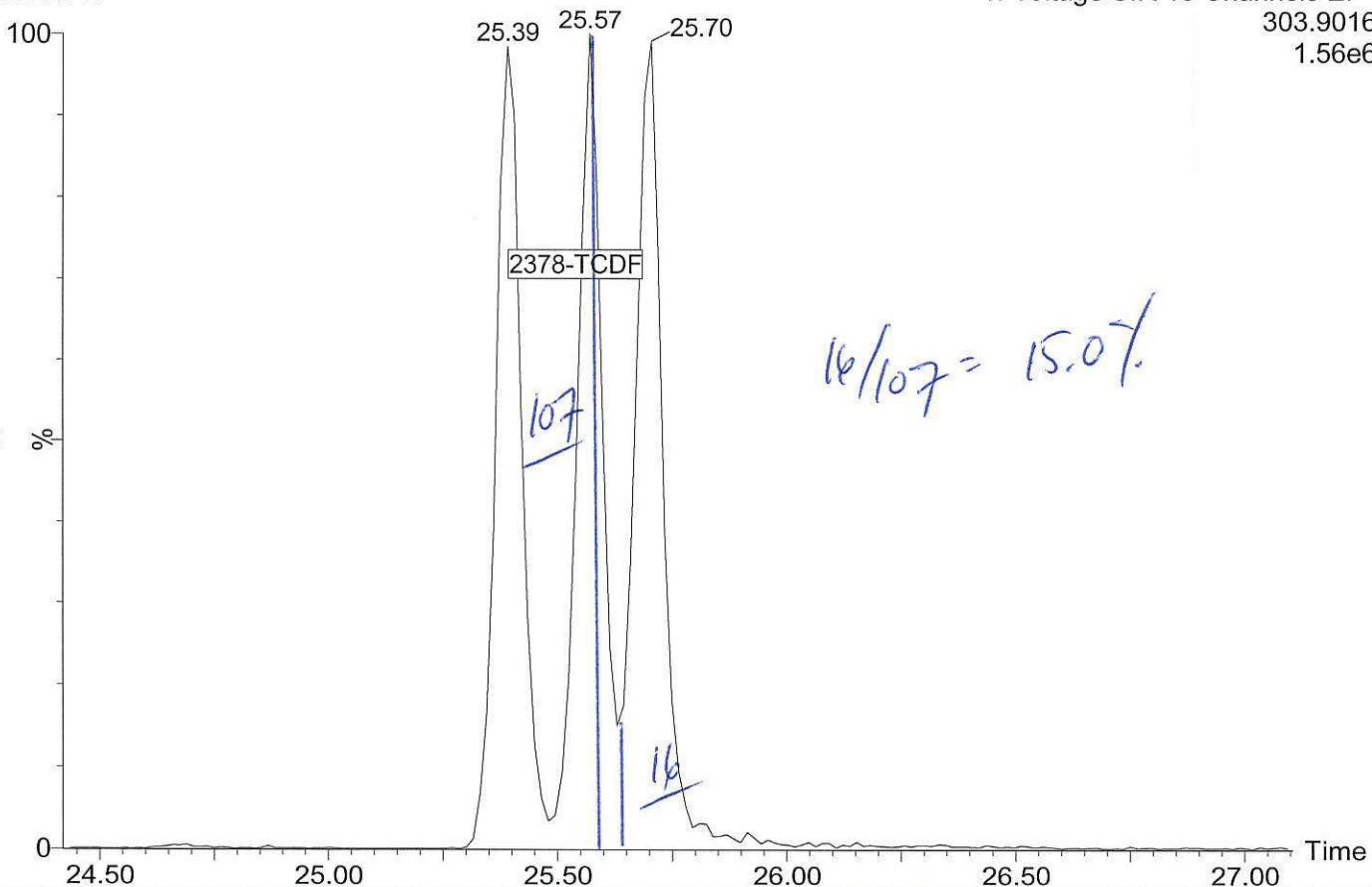
17022416

1: Voltage SIR 15 Channels EI+
319.8965
1.30e6



17022416

1: Voltage SIR 15 Channels EI+
303.9016
1.56e6





**CDD/CDF CHROMATOGRAPHIC
RESOLUTION SUMMARY
EPA 1613B**

Lab Name: Analytical Resources, Inc. SDG: 17A0053
 Instrument .ID: AUTOSPEC01 Lab File ID: 17022416
 Date Analyzed: 02/25/17 Time Analyzed: 02:36
 Lab Sample ID: SFB0342-RES2 Sequence: SFB0342

Percent Valley Determination for Column: RTX-Dioxin2 ID: 0.25 (mm)

1278-TCDD/2378-TCDD: 16.5

3467-TCDF/2378-TCDF: 15

Quality Control (QC) Limits: $\leq 25\%$

Lab Sample ID	Sample Name	Lab File ID	Data Analyzed	Time Analyzed
SFB0342-ICV1	CS301	17022402	02/24/2017	14:07
SFB0342-RES1	ISC01	17022403	02/24/2017	15:01
BFB0538-BLK1	Blank	17022404	02/24/2017	15:52
BFB0538-BS1	LCS	17022405	02/24/2017	16:46
17A0053-01RE1	PG-SMA1-1-MUS-170105	17022407	02/24/2017	18:32
17A0053-04RE1	PG-SMA2-1-MUS-170105	17022408	02/24/2017	19:25
17A0053-05RE1	PG-SMA2-2-MUS-170105	17022409	02/24/2017	20:18
17A0053-06RE1	PG-SMA2-3-MUS-170105	17022410	02/24/2017	21:11
17A0053-07RE1	PG-SMA2-4-MUS-170105	17022411	02/24/2017	22:05
17A0053-08RE1	PG-SMA2-5-MUS-170105	17022412	02/24/2017	22:58
17A0053-09RE1	PG-PJ-1-MUS-170105	17022413	02/24/2017	23:51
17A0053-11RE1	PG-WS-1-MUS-170105	17022414	02/25/2017	00:45
SFB0342-CCV1	CS302	17022415	02/25/2017	01:38
SFB0342-RES2	ISC02	17022416	02/25/2017	02:36



ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 1613B

Laboratory: Analytical Resources, Inc.

SDG: 17A0053

Client: Anchor QEA, LLC

Project: Port Gamble Shellfish Monitoring

Sequence: SFA0265

Instrument: AUTOSPEC01

Calibration: AA00071

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
ISC01	SFA0265-RES1	17012402	Water	01/24/17 14:00
CSL	SFA0265-CAL1	17012405	Water	01/24/17 16:37
CS1	SFA0265-CAL2	17012406	Water	01/24/17 17:31
CS2	SFA0265-CAL3	17012407	Water	01/24/17 18:24
CS3	SFA0265-CAL4	17012408	Water	01/24/17 19:17
CS4	SFA0265-CAL5	17012409	Water	01/24/17 20:11
CS5	SFA0265-CAL6	17012410	Water	01/24/17 21:04
ICV	SFA0265-SCV1	17012411	Water	01/24/17 21:57
ISC02	SFA0265-RES2	17012412	Water	01/24/17 22:50



ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 1613B

Laboratory: Analytical Resources, Inc.

SDG: 17A0053

Client: Anchor QEA, LLC

Project: Port Gamble Shellfish Monitoring

Sequence: SFB0085

Instrument: AUTOSPEC01

Calibration: AA00071

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
CS301	SFB0085-ICV1	17020802	Tissue	02/08/17 11:22
ISC01	SFB0085-RES1	17020803	Tissue	02/08/17 12:14
Blank	BFA0657-BLK1	17020804	Tissue	02/08/17 13:11
LCS	BFA0657-BS1	17020805	Tissue	02/08/17 14:03
PG-GP-1-MUS-170105	17A0053-10	17020816	Tissue	02/09/17 00:01
PG-SMA1-2-3-MUS-170105	17A0053-12	17020818	Tissue	02/09/17 01:47
CS302	SFB0085-CCV1	17020819	Tissue	02/09/17 02:41
ISC02	SFB0085-RES2	17020820	Tissue	02/09/17 03:39

Port Gamble Shellfish Monitoring

17A0053

Analysis
1613B Dioxin

Matrix
Tissue

Method
EPA 1613B

Checklist: DLM02.2 HR-GC/MS Checklist

#	Checklist Item	Response	Analyst Initials	Date
1	Resolution Check > 10,000 ppm	YES	PK	02/22/2017
2	TCDD/TCDF Resolution <= 25%	YES	PK	02/22/2017
3	PCDF markers >= 10 seconds from scan descriptor switch	YES	PK	02/22/2017
4	ICV/CCV meets %D limits	NO	PK	02/22/2017
	Comments: <i>EXCEPTION REPORT REQUIRED</i>			
5	ICV/CCV Ion ratios within limits	YES	PK	02/22/2017
6	ICV/CCV RRT within limits	YES	PK	02/22/2017
7	Manual integrations have been stamped and signed	NO	PK	02/22/2017
	Comments: <i>EXCEPTION REPORT REQUIRED</i>			
8	Signal/Noise >= 3.0 for all detections	YES	PK	02/22/2017
9	AUTOCHECK: Blank checked for exceedance of criteria	NO *	PK	02/22/2017

Comments:
QC Sample BFA0657-BLK1 failed criteria for 1,2,3,4,6,7,8-HpCDD in 1613B Dioxin.
MDL = 0.580 ng/kg
MRL = 5.00 ng/kg
Result = 0.190 ng/kg
Criterion = 0 x RL
- Estimated Maximum Possible Concentration qualifier for HRGCMS Dioxin

QC Sample BFA0657-BLK1 failed criteria for 1,2,3,4,6,7,8-HpCDF in 1613B Dioxin.
MDL = 0.470 ng/kg
MRL = 5.00 ng/kg
Result = 0.0997 ng/kg
Criterion = 0 x RL

QC Sample BFA0657-BLK1 failed criteria for 1,2,3,4,7,8-HxCDF in 1613B Dioxin.
MDL = 0.440 ng/kg
MRL = 5.00 ng/kg
Result = 0.0450 ng/kg
Criterion = 0 x RL
- Estimated Maximum Possible Concentration qualifier for HRGCMS Dioxin

QC Sample BFA0657-BLK1 failed criteria for 1,2,3,7,8,9-HxCDF in 1613B Dioxin.
MDL = 0.490 ng/kg
MRL = 5.00 ng/kg
Result = 0.0754 ng/kg
Criterion = 0 x RL

* = Indicates Automated Response from Element DataSyst

Port Gamble Shellfish Monitoring**17A0053****Analysis**
1613B Dioxin**Matrix**
Tissue**Method**
EPA 1613B**Checklist: DLM02.2 HR-GC/MS Checklist**

#	Checklist Item	Response	Analyst Initials	Date
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QC Sample BFA0657-BLK1 failed criteria for 1,2,3,7,8-PeCDD in 1613B Dioxin.

MDL = 0.490 ng/kg

MRL = 5.00 ng/kg

Result = 0.0363 ng/kg

Criterion = 0 x RL

QC Sample BFA0657-BLK1 failed criteria for 2,3,7,8-TCDF in 1613B Dioxin.

MDL = 0.050 ng/kg

MRL = 1.00 ng/kg

Result = 0.0561 ng/kg

Criterion = 0 x RL

- Estimated Maximum Possible Concentration qualifier for HRGCMS Dioxin

QC Sample BFA0657-BLK1 failed criteria for OCDD in 1613B Dioxin.

MDL = 1.83 ng/kg

MRL = 10.0 ng/kg

Result = 1.82 ng/kg

Criterion = 0 x RL

QC Sample BFA0657-BLK1 failed criteria for OCDF in 1613B Dioxin.

MDL = 0.740 ng/kg

MRL = 10.0 ng/kg

Result = 0.287 ng/kg

Criterion = 0 x RL

- Estimated Maximum Possible Concentration qualifier for HRGCMS Dioxin

QC Sample BFA0657-BLK1 failed criteria for Total HpCDD in 1613B Dioxin.

MRL = 1.00 ng/kg

Result = 0.344 ng/kg

Criterion = 0 x RL

QC Sample BFA0657-BLK1 failed criteria for Total HpCDF in 1613B Dioxin.

MRL = 1.00 ng/kg

Result = 0.0997 ng/kg

Criterion = 0 x RL

QC Sample BFA0657-BLK1 failed criteria for Total HxCDF in 1613B Dioxin.

MRL = 1.00 ng/kg

Result = 0.186 ng/kg

Criterion = 0 x RL

Port Gamble Shellfish Monitoring

17A0053

Analysis
1613B Dioxin

Matrix
Tissue

Method
EPA 1613B

Checklist: DLM02.2 HR-GC/MS Checklist

#	Checklist Item	Response	Analyst Initials	Date
	<p><i>QC Sample BFA0657-BLK1 failed criteria for Total PeCDD in 1613B Dioxin.</i> <i>MRL = 1.00 ng/kg</i> <i>Result = 0.0363 ng/kg</i> <i>Criterion = 0 x RL</i></p> <p><i>QC Sample BFA0657-BLK1 failed criteria for Total TCDF in 1613B Dioxin.</i> <i>MRL = 1.00 ng/kg</i> <i>Result = 0.110 ng/kg</i> <i>Criterion = 0 x RL</i></p>			
10	<p>AUTOCHECK: Check Extraction and Cleanup Surrogate recoveries</p> <p>Comments: <i>Surrogate Recovery for 13C12-1,2,3,4,6,7,8-HpCDD (21.0%) was outside acceptance limits (23-140) in 17A0053-10 for 1613B Dioxin</i></p> <p><i>Surrogate Recovery for 13C12-1,2,3,4,6,7,8-HpCDF (19.5%) was outside acceptance limits (28-143) in 17A0053-10 for 1613B Dioxin</i></p> <p><i>Surrogate Recovery for 13C12-1,2,3,4,7,8,9-HpCDF (22.7%) was outside acceptance limits (26-138) in 17A0053-10 for 1613B Dioxin</i></p> <p><i>Surrogate Recovery for 13C12-1,2,3,4,7,8-HxCDD (19.8%) was outside acceptance limits (32-141) in 17A0053-10 for 1613B Dioxin</i></p> <p><i>Surrogate Recovery for 13C12-1,2,3,4,7,8-HxCDF (19.8%) was outside acceptance limits (26-152) in 17A0053-10 for 1613B Dioxin</i></p> <p><i>Surrogate Recovery for 13C12-1,2,3,6,7,8-HxCDD (19.9%) was outside acceptance limits (28-130) in 17A0053-10 for 1613B Dioxin</i></p> <p><i>Surrogate Recovery for 13C12-1,2,3,6,7,8-HxCDF (19.4%) was outside acceptance limits (26-123) in 17A0053-10 for 1613B Dioxin</i></p> <p><i>Surrogate Recovery for 13C12-1,2,3,7,8,9-HxCDF (22.0%) was outside acceptance limits (29-147) in 17A0053-10 for 1613B Dioxin</i></p> <p><i>Surrogate Recovery for 13C12-1,2,3,7,8-PeCDD (21.9%) was outside acceptance limits (25-181) in 17A0053-10 for 1613B Dioxin</i></p> <p><i>Surrogate Recovery for 13C12-1,2,3,7,8-PeCDF (20.7%) was outside acceptance limits (24-185) in 17A0053-10 for 1613B Dioxin</i></p> <p><i>Surrogate Recovery for 13C12-2,3,4,6,7,8-HxCDF (19.3%) was outside acceptance limits (28-136) in 17A0053-10 for 1613B Dioxin</i></p> <p><i>Surrogate Recovery for 13C12-2,3,7,8-TCDD (21.1%) was outside acceptance limits (25-164) in 17A0053-10 for 1613B Dioxin</i></p>	NO *	PK	02/22/2017

* = Indicates Automated Response from Element DataSyst

Port Gamble Shellfish Monitoring**17A0053**

<u>Analysis</u>	<u>Matrix</u>	<u>Method</u>
1613B Dioxin	Tissue	EPA 1613B

Checklist: DLM02.2 HR-GC/MS Checklist

#	Checklist Item	Response	Analyst Initials	Date
	<i>Surrogate Recovery for 13C12-2,3,7,8-TCDF (20.6%) was outside acceptance limits (24-169) in 17A0053-10 for 1613B Dioxin</i>			
	<i>Surrogate Recovery for 13C12-1,2,3,4,6,7,8-HpCDD (18.2%) was outside acceptance limits (23-140) in 17A0053-12 for 1613B Dioxin</i>			
	<i>Surrogate Recovery for 13C12-1,2,3,4,6,7,8-HpCDF (16.8%) was outside acceptance limits (28-143) in 17A0053-12 for 1613B Dioxin</i>			
	<i>Surrogate Recovery for 13C12-1,2,3,4,7,8,9-HpCDF (19.0%) was outside acceptance limits (26-138) in 17A0053-12 for 1613B Dioxin</i>			
	<i>Surrogate Recovery for 13C12-1,2,3,4,7,8-HxCDD (16.6%) was outside acceptance limits (32-141) in 17A0053-12 for 1613B Dioxin</i>			
	<i>Surrogate Recovery for 13C12-1,2,3,4,7,8-HxCDF (16.1%) was outside acceptance limits (26-152) in 17A0053-12 for 1613B Dioxin</i>			
	<i>Surrogate Recovery for 13C12-1,2,3,6,7,8-HxCDD (15.9%) was outside acceptance limits (28-130) in 17A0053-12 for 1613B Dioxin</i>			
	<i>Surrogate Recovery for 13C12-1,2,3,6,7,8-HxCDF (16.0%) was outside acceptance limits (26-123) in 17A0053-12 for 1613B Dioxin</i>			
	<i>Surrogate Recovery for 13C12-1,2,3,7,8,9-HxCDF (17.9%) was outside acceptance limits (29-147) in 17A0053-12 for 1613B Dioxin</i>			
	<i>Surrogate Recovery for 13C12-1,2,3,7,8-PeCDD (16.0%) was outside acceptance limits (25-181) in 17A0053-12 for 1613B Dioxin</i>			
	<i>Surrogate Recovery for 13C12-1,2,3,7,8-PeCDF (15.5%) was outside acceptance limits (24-185) in 17A0053-12 for 1613B Dioxin</i>			
	<i>Surrogate Recovery for 13C12-2,3,4,6,7,8-HxCDF (15.9%) was outside acceptance limits (28-136) in 17A0053-12 for 1613B Dioxin</i>			
	<i>Surrogate Recovery for 13C12-2,3,4,7,8-PeCDF (15.7%) was outside acceptance limits (21-178) in 17A0053-12 for 1613B Dioxin</i>			
	<i>Surrogate Recovery for 13C12-2,3,7,8-TCDD (16.9%) was outside acceptance limits (25-164) in 17A0053-12 for 1613B Dioxin</i>			
	<i>Surrogate Recovery for 13C12-2,3,7,8-TCDF (16.8%) was outside acceptance limits (24-169) in 17A0053-12 for 1613B Dioxin</i>			
	<i>Surrogate Recovery for 13C12-OCDD (15.2%) was outside acceptance limits (17-157) in 17A0053-12 for 1613B Dioxin</i>			

Port Gamble Shellfish Monitoring**17A0053****Analysis**
1613B Dioxin**Matrix**
Tissue**Method**
EPA 1613B**Checklist: DLM02.2 HR-GC/MS Checklist**

#	Checklist Item	Response	Analyst Initials	Date
	<i>Surrogate Recovery for 13C12-1,2,3,7,8-PeCDD (35.6%) was outside acceptance limits (62-138) in SFB0085-CCV1 for 1613B Dioxin</i>			
11	AUTOCHECK: Check blank spike (OPR) recovery	YES *	PK	02/22/2017
12	Sample values exceeding calibration range Comments: <i>EXCEPTION REPORT REQUIRED</i>	NO	PK	02/22/2017
13	Samples diluted Comments: <i>EXCEPTION REPORT REQUIRED</i>	NO	PK	02/22/2017
14	AUTOCHECK: Check %RPD between sample and sample duplicate	NA *	PK	02/22/2017
15	AUTOCHECK: Check SRM limits for exceedance	NA *	PK	02/22/2017
16	EPA CASE#			12/30/1899
17	Analyst checkkist completed (PEER)			12/30/1899
18	Data is locked and status is analyzed (PEER)			12/30/1899
19	Data file, Batch, and Cleanup .pdf's are attached (PEER)	YES	MW	02/22/2017
20	Color warnings have been addressed and (or) qualified (PEER)	YES	MW	02/22/2017
21	Qualifiers have been correctly added (PEER)	YES	MW	02/22/2017
22	Checklist completed and status is peer reviewed (REVIEWER) Comments: <i>EXCEPTION REPORT REQUIRED</i>	NO	MW	02/22/2017
23	Dilutions are linear (50-200%) and appropriate (REVIEWER)	NA	MW	02/22/2017
24	All requested samples have been reported (REVIEWER) Comments: <i>EXCEPTION REPORT REQUIRED</i>	NO	MW	02/22/2017
25	Color warnings have been addressed, narrated and (or) qualified (REVIEWER)	YES	MW	02/22/2017
26	List of samples in this sequence that will require additional runs-verify reshot created (ANALYST)			12/30/1899
27	List of samples in this sequence that are re-analysis or dilutons of samples (ANALYST)			12/30/1899
28	Additional Notes (ANALYST, PEER, and REVIEWER) Comments: <i>Poor recoveries for all surrogates in all samples. Rextracting all but 2 samples that have no volume left. Those 2 reported.</i>	YES	PK	02/22/2017

PECDD label out low in closing ccal due to PFK dropout. Probably carryover from samples.

* = Indicates Automated Response from Element DataSyst

Analytical Resources Inc.: Organics Instrument Log

AutoSpec01 Serial No.: GC=CN10921030, MS=P764

Date: 2/1/17 Analysis: Dioxins Analyst: ML
 GC Program: 82910D Column No: E4147 Column Type: EXTDIOXIN2
 Inj Vol: 1ul Instrument Tune (IPR): Jan 09 17 1-5 Detector Voltage: 350
 Resolution Check Files: 03:39, 14:30, 23:34, 07:46 Curve Date: 1/24/17

IS/SS	Ical/Ccal	LCS/ICV
<u>B2719</u>	<u>B25891</u>	
	<u>B4448</u>	

#	Acq.Date	Acq.Time	File	ID	Comments
1	09-Feb-17	04:39:26	17020902	CS3H1	
2	09-Feb-17	05:32:38	17020903	ISCH1	
3	09-Feb-17	06:26:02	17020904	DBLK02	SFB 0085
4	09-Feb-17	07:19:12	17020905	DLCS02	
5	09-Feb-17	08:12:29	17020906	DLCS02	
6	09-Feb-17	09:05:47	17020907	PDAA68	Some labels low in
7	09-Feb-17	09:59:04	17020908	PDAA69	3-10. Remainder OK -
8	09-Feb-17	10:52:17	17020909	PDAA70	return 3-10.
9	09-Feb-17	11:45:54	17020910	PDAA79	
10	09-Feb-17	12:39:08	17020911	PDAA80	
11	09-Feb-17	13:32:22	17020912	CS3H2	suspect carry over
12	09-Feb-17	14:30:28	17020913	ISCH2	from tissues in
13	09-Feb-17	15:30:49	17020914	IB01	previous seq.
14	09-Feb-17	16:24:03	17020915	PDAA81	
15	09-Feb-17	17:17:23	17020916	PDAA82	
16	09-Feb-17	18:10:34	17020917	PDAA83	
17	09-Feb-17	19:03:50	17020918	PDAA84	
18	09-Feb-17	19:57:02	17020919	PDAA94	
19	09-Feb-17	20:50:18	17020920	PDAA97	
20	09-Feb-17	21:43:28	17020921	PDAAA6	
21	09-Feb-17	22:36:52	17020922	CS3H3	
22	09-Feb-17	23:34:53	17020923	ISCH3	
23	10-Feb-17	00:35:26	17020924	IB02	
24	10-Feb-17	01:28:40	17020925	PDAAA7	
25	10-Feb-17	02:21:55	17020926	PDAAA8	
26	10-Feb-17	03:15:08	17020927	PDAAA9	
27	10-Feb-17	04:08:30	17020928	PDAAB0	
28	10-Feb-17	05:01:41	17020929	PDAAB1	
29	10-Feb-17	05:54:58	17020930	PDAAC1	
30	10-Feb-17	06:48:16	17020931	CS3H4	
31	10-Feb-17	07:46:20	17020932	ISCH4	

Every line must contain information or be lined out. Make all entries legible.
 Start a new page for each QC period. Document All Maintenance Tasks In Element LIMS

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Patricia Kessler 2/14/17 plc

Event	Details	Sample ID
Process Extract		
Process Integrate		
Process Quantify		
Dataset Created		
Dataset Saved	Saved to 'C:\MassLynx\Dioxin.pro\170209D.qld'	
Pre modification peak	Sample:17020914, Compound:OD, RT:47.409	3
Peak modified	Sample:17020914, Compound:OD, RT:47.409	3
Pre modification peak	Sample:17020914, Compound:OD, RT:47.400	3
Peak modified	Sample:17020914, Compound:OD, RT:47.400	3
Peak deleted	Sample:17020915, Compound:TF, RT:27.781	4
Peak deleted	Sample:17020915, Compound:TF, RT:22.433	4
Pre modification peak	Sample:17020915, Compound:PF, RT:29.143	4
Peak modified	Sample:17020915, Compound:PF, RT:29.143	4
Peak deleted	Sample:17020915, Compound:PF, RT:32.322	4
Peak deleted	Sample:17020915, Compound:PF, RT:32.673	4
Peak deleted	Sample:17020915, Compound:HF, RT:37.660	4
Pre modification peak	Sample:17020915, Compound:PD, RT:29.483	4
Peak modified	Sample:17020915, Compound:PD, RT:29.483	4
Pre modification peak	Sample:17020915, Compound:PD, RT:31.621	4
Peak modified	Sample:17020915, Compound:PD, RT:31.621	4
Pre modification peak	Sample:17020915, Compound:PD, RT:31.215	4
Peak modified	Sample:17020915, Compound:PD, RT:31.215	4
Peak deleted	Sample:17020916, Compound:TF, RT:23.807	5
Peak deleted	Sample:17020916, Compound:TF, RT:24.420	5
Peak deleted	Sample:17020916, Compound:TF, RT:24.599	5
Pre modification peak	Sample:17020916, Compound:TF, RT:26.392	5
Peak modified	Sample:17020916, Compound:TF, RT:26.392	5
Peak deleted	Sample:17020916, Compound:TF, RT:27.124	5
Peak deleted	Sample:17020916, Compound:TF, RT:27.781	5
Pre modification peak	Sample:17020916, Compound:PF, RT:30.525	5
Peak modified	Sample:17020916, Compound:PF, RT:30.525	5
Peak deleted	Sample:17020916, Compound:PF, RT:29.067	5
Peak deleted	Sample:17020916, Compound:PF, RT:31.402	5
Peak deleted	Sample:17020916, Compound:PF, RT:31.182	5
Pre modification peak	Sample:17020916, Compound:HF, RT:35.479	5
Peak modified	Sample:17020916, Compound:HF, RT:35.479	5
Pre modification peak	Sample:17020916, Compound:HF, RT:36.433	5
Peak modified	Sample:17020916, Compound:HF, RT:36.433	5
Pre modification peak	Sample:17020916, Compound:HF, RT:36.455	5
Peak modified	Sample:17020916, Compound:HF, RT:36.455	5
Peak deleted	Sample:17020916, Compound:HF, RT:37.661	5
Pre modification peak	Sample:17020916, Compound:TD, RT:25.137	5
Peak modified	Sample:17020916, Compound:TD, RT:25.137	5
Peak deleted	Sample:17020916, Compound:TD, RT:26.138	5
Pre modification peak	Sample:17020916, Compound:TD, RT:26.885	5
Peak modified	Sample:17020916, Compound:TD, RT:26.885	5
Pre modification peak	Sample:17020916, Compound:PD, RT:29.209	5
Peak modified	Sample:17020916, Compound:PD, RT:29.209	5
Peak deleted	Sample:17020916, Compound:PD, RT:30.108	5
Pre modification peak	Sample:17020916, Compound:PD, RT:30.667	5
Peak modified	Sample:17020916, Compound:PD, RT:30.667	5
Pre modification peak	Sample:17020916, Compound:PD, RT:30.525	5
Peak modified	Sample:17020916, Compound:PD, RT:30.525	5

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Event	Details	Sample ID
Pre modification peak	Sample:17020916, Compound:PD, RT:32.322	5
Peak modified	Sample:17020916, Compound:PD, RT:32.322	5
Peak deleted	Sample:17020917, Compound:TF, RT:23.777	6
Peak deleted	Sample:17020917, Compound:TF, RT:24.509	6
Peak deleted	Sample:17020917, Compound:TF, RT:24.375	6
Peak deleted	Sample:17020917, Compound:TF, RT:25.705	6
Peak deleted	Sample:17020917, Compound:TF, RT:25.660	6
Peak deleted	Sample:17020917, Compound:TF, RT:25.421	6
Peak deleted	Sample:17020917, Compound:TF, RT:25.212	6
Peak deleted	Sample:17020917, Compound:TF, RT:24.749	6
Peak deleted	Sample:17020917, Compound:TF, RT:24.913	6
Peak deleted	Sample:17020917, Compound:TF, RT:25.989	6
Peak deleted	Sample:17020917, Compound:TF, RT:27.542	6
Pre modification peak	Sample:17020917, Compound:PF, RT:30.711	6
Peak modified	Sample:17020917, Compound:PF, RT:30.711	6
Pre modification peak	Sample:17020917, Compound:PF, RT:30.228	6
Peak modified	Sample:17020917, Compound:PF, RT:30.228	6
Peak deleted	Sample:17020917, Compound:PF, RT:29.790	6
Peak deleted	Sample:17020917, Compound:HF, RT:34.350	6
Peak deleted	Sample:17020917, Compound:HF, RT:36.816	6
Peak deleted	Sample:17020917, Compound:HF, RT:37.638	6
Peak deleted	Sample:17020917, Compound:TD, RT:26.780	6
Peak deleted	Sample:17020917, Compound:TD, RT:25.929	6
Pre modification peak	Sample:17020917, Compound:PD, RT:29.165	6
Peak modified	Sample:17020917, Compound:PD, RT:29.165	6
Pre modification peak	Sample:17020917, Compound:PD, RT:30.799	6
Peak modified	Sample:17020917, Compound:PD, RT:30.799	6
Peak deleted	Sample:17020917, Compound:PD, RT:30.086	6
Pre modification peak	Sample:17020918, Compound:PF, RT:29.045	7
Peak modified	Sample:17020918, Compound:PF, RT:29.045	7
Peak deleted	Sample:17020918, Compound:HF, RT:34.010	7
Peak deleted	Sample:17020918, Compound:HF, RT:37.660	7
Pre modification peak	Sample:17020918, Compound:HPF, RT:42.155	7
Peak modified	Sample:17020918, Compound:HPF, RT:42.155	7
Pre modification peak	Sample:17020918, Compound:HPF, RT:42.155	7
Peak modified	Sample:17020918, Compound:HPF, RT:42.155	7
Peak deleted	Sample:17020918, Compound:TD, RT:24.330	7
Peak deleted	Sample:17020918, Compound:TD, RT:25.973	7
Peak deleted	Sample:17020918, Compound:TD, RT:26.915	7
Pre modification peak	Sample:17020918, Compound:PD, RT:30.524	7
Peak modified	Sample:17020918, Compound:PD, RT:30.524	7
Peak deleted	Sample:17020918, Compound:PD, RT:30.108	7
Peak deleted	Sample:17020918, Compound:HD, RT:34.602	7
Peak deleted	Sample:17020918, Compound:HD, RT:37.035	7
Peak deleted	Sample:17020919, Compound:TF, RT:24.494	8
Peak deleted	Sample:17020919, Compound:TF, RT:25.451	8
Peak deleted	Sample:17020919, Compound:TF, RT:25.226	8
Peak deleted	Sample:17020919, Compound:TF, RT:25.854	8
Peak deleted	Sample:17020919, Compound:TF, RT:26.287	8
Pre modification peak	Sample:17020919, Compound:TF, RT:26.003	8
Peak modified	Sample:17020919, Compound:TF, RT:26.003	8
Peak deleted	Sample:17020919, Compound:TF, RT:27.766	8
Pre modification peak	Sample:17020919, Compound:PF, RT:30.502	8

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Event	Details	Sample ID
Peak modified	Sample:17020919, Compound:PF, RT:30.502	8
Peak deleted	Sample:17020919, Compound:PF, RT:29.790	8
Pre modification peak	Sample:17020919, Compound:PF, RT:29.932	8
Peak modified	Sample:17020919, Compound:PF, RT:29.932	8
Peak deleted	Sample:17020919, Compound:PF, RT:31.478	8
Peak deleted	Sample:17020919, Compound:PF, RT:31.368	8
Pre modification peak	Sample:17020919, Compound:PF, RT:31.357	8
Peak modified	Sample:17020919, Compound:PF, RT:31.357	8
Pre modification peak	Sample:17020919, Compound:HF, RT:36.454	8
Peak modified	Sample:17020919, Compound:HF, RT:36.454	8
Peak deleted	Sample:17020919, Compound:HF, RT:34.010	8
Peak deleted	Sample:17020919, Compound:HF, RT:37.649	8
Pre modification peak	Sample:17020919, Compound:HPF, RT:42.099	8
Peak modified	Sample:17020919, Compound:HPF, RT:42.099	8
Peak added	Sample:17020919, Compound:HPF, RT:42.154	8
Peak added	Sample:17020919, Compound:HPF, RT:42.165	8
Peak deleted	Sample:17020919, Compound:TD, RT:25.749	8
Pre modification peak	Sample:17020919, Compound:PD, RT:29.242	8
Peak modified	Sample:17020919, Compound:PD, RT:29.242	8
Pre modification peak	Sample:17020919, Compound:PD, RT:30.579	8
Peak modified	Sample:17020919, Compound:PD, RT:30.579	8
Pre modification peak	Sample:17020919, Compound:PD, RT:30.546	8
Peak modified	Sample:17020919, Compound:PD, RT:30.546	8
Peak deleted	Sample:17020919, Compound:PD, RT:30.086	8
Pre modification peak	Sample:17020919, Compound:PD, RT:32.300	8
Peak modified	Sample:17020919, Compound:PD, RT:32.300	8
Pre modification peak	Sample:17020919, Compound:PD, RT:31.894	8
Peak modified	Sample:17020919, Compound:PD, RT:31.894	8
Pre modification peak	Sample:17020920, Compound:OF, RT:47.687	9
Peak modified	Sample:17020920, Compound:OF, RT:47.687	9
Pre modification peak	Sample:17020920, Compound:OF, RT:47.669	9
Peak modified	Sample:17020920, Compound:OF, RT:47.669	9
Pre modification peak	Sample:17020920, Compound:OF, RT:47.669	9
Peak modified	Sample:17020920, Compound:OF, RT:47.669	9
Peak deleted	Sample:17020920, Compound:TF, RT:22.642	9
Peak deleted	Sample:17020920, Compound:TF, RT:24.166	9
Peak deleted	Sample:17020920, Compound:TF, RT:26.108	9
Peak deleted	Sample:17020920, Compound:PP, RT:27.587	9
Peak deleted	Sample:17020920, Compound:HF, RT:37.539	9
Peak deleted	Sample:17020920, Compound:HF, RT:36.443	9
Peak deleted	Sample:17020920, Compound:HF, RT:35.325	9
Pre modification peak	Sample:17020920, Compound:HPF, RT:40.433	9
Peak modified	Sample:17020920, Compound:HPF, RT:40.433	9
Peak deleted	Sample:17020920, Compound:TD, RT:24.405	9
Peak deleted	Sample:17020920, Compound:TD, RT:23.912	9
Peak deleted	Sample:17020920, Compound:TD, RT:25.958	9
Peak deleted	Sample:17020920, Compound:PD, RT:29.702	9
Pre modification peak	Sample:17020920, Compound:HD, RT:35.588	9
Peak modified	Sample:17020920, Compound:HD, RT:35.588	9
Peak deleted	Sample:17020920, Compound:HD, RT:37.079	9
Peak deleted	Sample:17020920, Compound:HD, RT:36.706	9
Pre modification peak	Sample:17020920, Compound:HD, RT:37.112	9
Peak modified	Sample:17020920, Compound:HD, RT:37.112	9

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Event	Details	Sample ID
Pre modification peak	Sample:17020920, Compound:HD, RT:37.134	9
Peak modified	Sample:17020920, Compound:HD, RT:37.134	9
Pre modification peak	Sample:17020920, Compound:HD, RT:37.134	9
Peak modified	Sample:17020920, Compound:HD, RT:37.134	9
Peak deleted	Sample:17020921, Compound:TF, RT:23.643	10
Pre modification peak	Sample:17020921, Compound:TF, RT:24.898	10
Peak modified	Sample:17020921, Compound:TF, RT:24.898	10
Pre modification peak	Sample:17020921, Compound:TF, RT:24.778	10
Peak modified	Sample:17020921, Compound:TF, RT:24.778	10
Peak deleted	Sample:17020921, Compound:TF, RT:26.272	10
Peak deleted	Sample:17020921, Compound:TF, RT:25.750	10
Peak deleted	Sample:17020921, Compound:TF, RT:25.630	10
Peak deleted	Sample:17020921, Compound:TF, RT:25.466	10
Peak deleted	Sample:17020921, Compound:TF, RT:25.959	10
Peak deleted	Sample:17020921, Compound:TF, RT:27.184	10
Peak deleted	Sample:17020921, Compound:PF, RT:29.352	10
Pre modification peak	Sample:17020921, Compound:PF, RT:29.132	10
Peak modified	Sample:17020921, Compound:PF, RT:29.132	10
Peak deleted	Sample:17020921, Compound:PF, RT:31.380	10
Pre modification peak	Sample:17020921, Compound:HF, RT:36.400	10
Peak modified	Sample:17020921, Compound:HF, RT:36.400	10
Peak deleted	Sample:17020921, Compound:TD, RT:26.751	10
Pre modification peak	Sample:17020921, Compound:PD, RT:29.209	10
Peak modified	Sample:17020921, Compound:PD, RT:29.209	10
Peak deleted	Sample:17020921, Compound:PD, RT:31.873	10
Pre modification peak	Sample:17020921, Compound:HD, RT:35.589	10
Peak modified	Sample:17020921, Compound:HD, RT:35.589	10
Peak deleted	Sample:17020925, Compound:TF, RT:24.569	14
Pre modification peak	Sample:17020925, Compound:TF, RT:24.375	14
Peak modified	Sample:17020925, Compound:TF, RT:24.375	14
Peak deleted	Sample:17020925, Compound:TF, RT:26.511	14
Peak deleted	Sample:17020925, Compound:PP, RT:27.976	14
Pre modification peak	Sample:17020925, Compound:PF, RT:29.209	14
Peak modified	Sample:17020925, Compound:PF, RT:29.209	14
Pre modification peak	Sample:17020925, Compound:PF, RT:28.902	14
Peak modified	Sample:17020925, Compound:PF, RT:28.902	14
Peak deleted	Sample:17020925, Compound:PF, RT:29.352	14
Peak deleted	Sample:17020925, Compound:HF, RT:37.627	14
Peak deleted	Sample:17020925, Compound:TD, RT:26.108	14
Pre modification peak	Sample:17020925, Compound:TD, RT:26.392	14
Peak modified	Sample:17020925, Compound:TD, RT:26.392	14
Peak deleted	Sample:17020925, Compound:TD, RT:25.645	14
Peak deleted	Sample:17020925, Compound:TD, RT:27.378	14
Pre modification peak	Sample:17020925, Compound:PD, RT:30.514	14
Peak modified	Sample:17020925, Compound:PD, RT:30.514	14
Peak deleted	Sample:17020926, Compound:TF, RT:27.766	15
Peak deleted	Sample:17020926, Compound:HF, RT:37.638	15
Pre modification peak	Sample:17020926, Compound:HPF, RT:42.176	15
Peak modified	Sample:17020926, Compound:HPF, RT:42.176	15
Pre modification peak	Sample:17020926, Compound:TD, RT:26.407	15
Peak modified	Sample:17020926, Compound:TD, RT:26.407	15
Peak deleted	Sample:17020926, Compound:PD, RT:31.621	15
Peak deleted	Sample:17020926, Compound:PD, RT:31.478	15

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Event	Details	Sample ID
Peak deleted	Sample:17020926, Compound:PD, RT:32.103	15
Peak deleted	Sample:17020926, Compound:PD, RT:31.982	15
Peak deleted	Sample:17020926, Compound:PD, RT:32.410	15
Peak deleted	Sample:17020926, Compound:HPD, RT:40.346	15
Dataset Saved	Saved to 'C:\MassLynx\Dioxin.pro\170209D.qld'	
Peak deleted	Sample:17020927, Compound:TF, RT:23.867	16
Peak deleted	Sample:17020927, Compound:TF, RT:24.539	16
Peak deleted	Sample:17020927, Compound:TF, RT:27.751	16
Pre modification peak	Sample:17020927, Compound:PF, RT:32.574	16
Peak modified	Sample:17020927, Compound:PF, RT:32.574	16
Peak deleted	Sample:17020927, Compound:HF, RT:37.627	16
Pre modification peak	Sample:17020927, Compound:TD, RT:24.868	16
Peak modified	Sample:17020927, Compound:TD, RT:24.868	16
Peak deleted	Sample:17020927, Compound:TD, RT:25.973	16
Peak deleted	Sample:17020927, Compound:TD, RT:25.719	16
Peak deleted	Sample:17020927, Compound:TD, RT:26.750	16
Peak deleted	Sample:17020927, Compound:TD, RT:26.392	16
Peak deleted	Sample:17020927, Compound:TD, RT:26.123	16
Peak deleted	Sample:17020927, Compound:TD, RT:26.063	16
Pre modification peak	Sample:17020927, Compound:PD, RT:29.231	16
Peak modified	Sample:17020927, Compound:PD, RT:29.231	16
Pre modification peak	Sample:17020927, Compound:PD, RT:30.799	16
Peak modified	Sample:17020927, Compound:PD, RT:30.799	16
Pre modification peak	Sample:17020927, Compound:PD, RT:30.623	16
Peak modified	Sample:17020927, Compound:PD, RT:30.623	16
Pre modification peak	Sample:17020927, Compound:PD, RT:31.171	16
Peak modified	Sample:17020927, Compound:PD, RT:31.171	16
Peak deleted	Sample:17020928, Compound:TF, RT:22.911	17
Peak deleted	Sample:17020928, Compound:TF, RT:22.627	17
Peak deleted	Sample:17020928, Compound:TF, RT:24.270	17
Peak deleted	Sample:17020928, Compound:TF, RT:24.121	17
Peak deleted	Sample:17020928, Compound:TF, RT:23.972	17
Peak deleted	Sample:17020928, Compound:TF, RT:23.658	17
Peak deleted	Sample:17020928, Compound:TF, RT:26.257	17
Peak deleted	Sample:17020928, Compound:TF, RT:26.153	17
Peak deleted	Sample:17020928, Compound:TF, RT:25.944	17
Peak deleted	Sample:17020928, Compound:TF, RT:25.630	17
Peak deleted	Sample:17020928, Compound:TF, RT:25.451	17
Peak deleted	Sample:17020928, Compound:TF, RT:25.226	17
Peak deleted	Sample:17020928, Compound:TF, RT:25.899	17
Peak deleted	Sample:17020928, Compound:TF, RT:27.751	17
Peak deleted	Sample:17020928, Compound:PP, RT:27.647	17
Peak deleted	Sample:17020928, Compound:PF, RT:29.110	17
Pre modification peak	Sample:17020928, Compound:PF, RT:28.880	17
Peak modified	Sample:17020928, Compound:PF, RT:28.880	17
Pre modification peak	Sample:17020928, Compound:PF, RT:30.513	17
Peak modified	Sample:17020928, Compound:PF, RT:30.513	17
Pre modification peak	Sample:17020928, Compound:HF, RT:36.388	17
Peak modified	Sample:17020928, Compound:HF, RT:36.388	17
Peak deleted	Sample:17020928, Compound:HF, RT:36.333	17
Peak deleted	Sample:17020928, Compound:TD, RT:24.375	17
Peak deleted	Sample:17020928, Compound:TD, RT:25.122	17
Pre modification peak	Sample:17020928, Compound:TD, RT:24.883	17

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Event	Details	Sample ID
Peak modified	Sample:17020928, Compound:TD, RT:24.883	17
Peak deleted	Sample:17020928, Compound:TD, RT:26.377	17
Pre modification peak	Sample:17020928, Compound:PD, RT:29.143	17
Peak modified	Sample:17020928, Compound:PD, RT:29.143	17
Peak deleted	Sample:17020928, Compound:PD, RT:31.872	17
Peak deleted	Sample:17020928, Compound:PD, RT:30.283	17
Pre modification peak	Sample:17020928, Compound:HD, RT:36.673	17
Peak modified	Sample:17020928, Compound:HD, RT:36.673	17
Peak deleted	Sample:17020928, Compound:HD, RT:36.520	17
Peak deleted	Sample:17020929, Compound:TF, RT:25.764	18
Peak deleted	Sample:17020929, Compound:TF, RT:26.646	18
Peak deleted	Sample:17020929, Compound:TF, RT:27.751	18
Peak deleted	Sample:17020929, Compound:HF, RT:34.054	18
Peak deleted	Sample:17020929, Compound:HF, RT:37.627	18
Pre modification peak	Sample:17020929, Compound:TD, RT:26.392	18
Peak modified	Sample:17020929, Compound:TD, RT:26.392	18
Peak deleted	Sample:17020929, Compound:PD, RT:30.108	18
Peak deleted	Sample:17020929, Compound:PD, RT:32.377	18
Peak deleted	Sample:17020929, Compound:HD, RT:34.591	18
Pre modification peak	Sample:17020929, Compound:HD, RT:35.074	18
Peak modified	Sample:17020929, Compound:HD, RT:35.074	18
Peak deleted	Sample:17020930, Compound:TF, RT:23.777	19
Pre modification peak	Sample:17020930, Compound:TF, RT:23.956	19
Peak modified	Sample:17020930, Compound:TF, RT:23.956	19
Peak deleted	Sample:17020930, Compound:TF, RT:25.435	19
Peak deleted	Sample:17020930, Compound:TF, RT:25.495	19
Peak deleted	Sample:17020930, Compound:TF, RT:27.766	19
Peak deleted	Sample:17020930, Compound:TF, RT:27.408	19
Peak deleted	Sample:17020930, Compound:TF, RT:27.184	19
Peak deleted	Sample:17020930, Compound:PP, RT:28.244	19
Pre modification peak	Sample:17020930, Compound:PF, RT:28.880	19
Peak modified	Sample:17020930, Compound:PF, RT:28.880	19
Peak deleted	Sample:17020930, Compound:PF, RT:29.001	19
Pre modification peak	Sample:17020930, Compound:PF, RT:29.790	19
Peak modified	Sample:17020930, Compound:PF, RT:29.790	19
Pre modification peak	Sample:17020930, Compound:PF, RT:31.138	19
Peak modified	Sample:17020930, Compound:PF, RT:31.138	19
Pre modification peak	Sample:17020930, Compound:PF, RT:30.656	19
Peak modified	Sample:17020930, Compound:PF, RT:30.656	19
Peak added	Sample:17020930, Compound:PF, RT:30.689	19
Peak added	Sample:17020930, Compound:PF, RT:30.656	19
Peak added	Sample:17020930, Compound:PF, RT:30.689	19
Peak added	Sample:17020930, Compound:PF, RT:30.678	19
Pre modification peak	Sample:17020930, Compound:PF, RT:32.596	19
Peak modified	Sample:17020930, Compound:PF, RT:32.596	19
Peak deleted	Sample:17020930, Compound:HF, RT:34.339	19
Pre modification peak	Sample:17020930, Compound:HF, RT:36.400	19
Peak modified	Sample:17020930, Compound:HF, RT:36.400	19
Peak deleted	Sample:17020930, Compound:HF, RT:37.638	19
Peak deleted	Sample:17020930, Compound:HF, RT:37.013	19
Pre modification peak	Sample:17020930, Compound:HF, RT:37.539	19
Peak modified	Sample:17020930, Compound:HF, RT:37.539	19
Pre modification peak	Sample:17020930, Compound:HPF, RT:42.132	19

Dataset: C:\MassLynx\Dioxin.pro\170209D.qld
 Last Altered: Monday, February 13, 2017 12:57:11 Pacific Standard Time
 Printed: Monday, February 13, 2017 14:13:11 Pacific Standard Time

Event	Details	Sample ID
Peak modified	Sample:17020930, Compound:HPF, RT:42.132	19
Pre modification peak	Sample:17020930, Compound:HPF, RT:42.329	19
Peak modified	Sample:17020930, Compound:HPF, RT:42.329	19
Peak deleted	Sample:17020930, Compound:TD, RT:26.138	19
Peak deleted	Sample:17020930, Compound:TD, RT:25.958	19
Pre modification peak	Sample:17020930, Compound:PD, RT:30.831	19
Peak modified	Sample:17020930, Compound:PD, RT:30.831	19
Pre modification peak	Sample:17020930, Compound:PD, RT:30.294	19
Peak modified	Sample:17020930, Compound:PD, RT:30.294	19
Pre modification peak	Sample:17020930, Compound:PD, RT:30.535	19
Peak modified	Sample:17020930, Compound:PD, RT:30.535	19
Peak deleted	Sample:17020930, Compound:PD, RT:32.267	19
Pre modification peak	Sample:17020930, Compound:PD, RT:32.289	19
Peak modified	Sample:17020930, Compound:PD, RT:32.289	19
Pre modification peak	Sample:17020930, Compound:HD, RT:35.599	19
Peak modified	Sample:17020930, Compound:HD, RT:35.599	19
Dataset Saved	Saved to 'C:\MassLynx\Dioxin.pro\170209D.qld'	

Analytical Resources Inc.: Organics Instrument Log

AutoSpec01 Serial No.: GC=CN10921030, MS=P764

Date: 2/8/17 Analysis: Dioxins Analyst: JK
 GC Program: 8250D Column No: B4147 Column Type: VNTDioxin2
 Inj Vol: 1ul Instrument Tune (IPR): Jan 09 17 1-5 Detector Voltage: 350
 Resolution Check Files: 11:21, 20:20, 03:39 Curve Date: 1/24/17

IS/SS	Ical/Ccal	LCS/ICV
<u>B7719</u>	<u>B3891</u>	
	<u>B4148</u>	

#	Acq.Date	Acq.Time	File	ID	Comments
2	08-Feb-17	11:22:44	17020802	CS301	
3	08-Feb-17	12:14:09	17020803	ISC01	
4	08-Feb-17	13:11:46	17020804	BFA0657-BLK1	<u>SFB0085</u>
5	08-Feb-17	14:03:12	17020805	BFA0657-BS1	
6	08-Feb-17	14:56:28	17020806	16K0124-01	
7	08-Feb-17	15:49:48	17020807	17A0053-01	
8	08-Feb-17	16:43:07	17020808	17A0053-04	
9	08-Feb-17	17:36:23	17020809	17A0053-05	
10	08-Feb-17	18:29:34	17020810	17A0053-06	
11	08-Feb-17	19:22:50	17020811	CS302	
12	08-Feb-17	20:20:51	17020812	ISC02	
13	08-Feb-17	21:21:12	17020813	17A0053-07	
14	08-Feb-17	22:14:21	17020814	17A0053-08	
15	08-Feb-17	23:08:01	17020815	17A0053-09	
16	09-Feb-17	00:01:14	17020816	17A0053-10	
17	09-Feb-17	00:54:30	17020817	17A0053-11	
18	09-Feb-17	01:47:42	17020818	17A0053-12	
19	09-Feb-17	02:41:05	17020819	CS303	
20	09-Feb-17	03:39:06	17020820	ISC03	

JK 2/14/17
Labels very low. Needs rerun/reextract.

Every line must contain information or be lined out. Make all entries legible.
 Start a new page for each QC period. Document All Maintenance Tasks In Element LIMS

Dataset: C:\MassLynx\Dioxin.pro\170208D.qld
 Last Altered: Wednesday, February 22, 2017 13:49:08 Pacific Standard Time
 Printed: Wednesday, February 22, 2017 13:50:53 Pacific Standard Time

Event	Details	Sample ID
Process Quantify		
Process Integrate		
Process Extract		
Pre modification peak	Sample:17020804, Compound:OF, RT:47.678	1
Pre modification peak	Sample:17020804, Compound:OF, RT:47.705	1
Pre modification peak	Sample:17020804, Compound:HF, RT:33.582	1
Pre modification peak	Sample:17020804, Compound:HPF, RT:39.655	1
Pre modification peak	Sample:17020804, Compound:HPF, RT:39.633	1
Pre modification peak	Sample:17020816, Compound:OD, RT:47.416	13
Pre modification peak	Sample:17020816, Compound:OD, RT:47.398	13
Pre modification peak	Sample:17020818, Compound:OF, RT:47.703	15
Pre modification peak	Sample:17020818, Compound:OD, RT:47.417	15
Pre modification peak	Sample:17020818, Compound:OD, RT:47.417	15
Pre modification peak	Sample:17020818, Compound:HPD, RT:40.192	15
Pre modification peak	Sample:17020818, Compound:HPD, RT:41.475	15
Pre modification peak	Sample:17020819, Compound:PF, RT:30.305	16
Peak modified	Sample:17020804, Compound:OF, RT:47.678	1
Peak modified	Sample:17020804, Compound:OF, RT:47.705	1
Peak modified	Sample:17020804, Compound:HF, RT:33.582	1
Peak modified	Sample:17020804, Compound:HPF, RT:39.655	1
Peak modified	Sample:17020804, Compound:HPF, RT:39.633	1
Peak modified	Sample:17020816, Compound:OD, RT:47.416	13
Peak modified	Sample:17020816, Compound:OD, RT:47.398	13
Peak modified	Sample:17020818, Compound:OF, RT:47.703	15
Peak modified	Sample:17020818, Compound:OD, RT:47.417	15
Peak modified	Sample:17020818, Compound:OD, RT:47.417	15
Peak modified	Sample:17020818, Compound:HPD, RT:40.192	15
Peak modified	Sample:17020818, Compound:HPD, RT:41.475	15
Peak modified	Sample:17020819, Compound:PF, RT:30.305	16
Peak deleted	Sample:17020804, Compound:TF, RT:25.839	1
Peak deleted	Sample:17020804, Compound:PP, RT:27.497	1
Peak deleted	Sample:17020804, Compound:PF, RT:30.272	1
Peak deleted	Sample:17020804, Compound:PF, RT:30.338	1
Peak deleted	Sample:17020804, Compound:HF, RT:36.432	1
Peak deleted	Sample:17020804, Compound:HPF, RT:40.455	1
Peak deleted	Sample:17020804, Compound:HPF, RT:39.611	1
Peak deleted	Sample:17020804, Compound:HPF, RT:42.406	1
Peak deleted	Sample:17020804, Compound:TD, RT:26.885	1
Peak deleted	Sample:17020804, Compound:TD, RT:26.765	1
Peak deleted	Sample:17020804, Compound:TD, RT:26.466	1
Peak deleted	Sample:17020804, Compound:PD, RT:31.116	1
Peak deleted	Sample:17020804, Compound:HD, RT:34.416	1
Peak deleted	Sample:17020804, Compound:HD, RT:36.684	1
Peak deleted	Sample:17020805, Compound:PP, RT:27.497	2
Peak deleted	Sample:17020805, Compound:PF, RT:31.906	2
Peak deleted	Sample:17020805, Compound:PF, RT:31.785	2
Peak deleted	Sample:17020805, Compound:PF, RT:31.862	2
Peak deleted	Sample:17020805, Compound:PD, RT:32.278	2
Peak deleted	Sample:17020816, Compound:TF, RT:25.944	13
Peak deleted	Sample:17020816, Compound:TF, RT:25.047	13
Dataset Saved	Saved to 'C:\MassLynx\Dioxin.pro\170208D.qld'	
Dataset Saved	Saved to 'C:\MassLynx\Dioxin.pro\170208D.qld'	
Dataset Created		



ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 1613B

Laboratory: Analytical Resources, Inc.

SDG: 17A0053

Client: Anchor QEA, LLC

Project: Port Gamble Shellfish Monitoring

Sequence: SFB0342

Instrument: AUTOSPEC01

Calibration: AA00071

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
CS301	SFB0342-ICV1	17022402	Tissue	02/24/17 14:07
ISC01	SFB0342-RES1	17022403	Tissue	02/24/17 15:01
Blank	BFB0538-BLK1	17022404	Tissue	02/24/17 15:52
LCS	BFB0538-BS1	17022405	Tissue	02/24/17 16:46
PG-SMA1-1-MUS-170105	17A0053-01RE1	17022407	Tissue	02/24/17 18:32
PG-SMA2-1-MUS-170105	17A0053-04RE1	17022408	Tissue	02/24/17 19:25
PG-SMA2-2-MUS-170105	17A0053-05RE1	17022409	Tissue	02/24/17 20:18
PG-SMA2-3-MUS-170105	17A0053-06RE1	17022410	Tissue	02/24/17 21:11
PG-SMA2-4-MUS-170105	17A0053-07RE1	17022411	Tissue	02/24/17 22:05
PG-SMA2-5-MUS-170105	17A0053-08RE1	17022412	Tissue	02/24/17 22:58
PG-PJ-1-MUS-170105	17A0053-09RE1	17022413	Tissue	02/24/17 23:51
PG-WS-1-MUS-170105	17A0053-11RE1	17022414	Tissue	02/25/17 00:45
CS302	SFB0342-CCV1	17022415	Tissue	02/25/17 01:38
ISC02	SFB0342-RES2	17022416	Tissue	02/25/17 02:36

Port Gamble Shellfish Monitoring

17A0053

Analysis
1613B Dioxin

Matrix
Tissue

Method
EPA 1613B

Checklist: DLM02.2 HR-GC/MS Checklist

#	Checklist Item	Response	Analyst Initials	Date
1	Resolution Check > 10,000 ppm	YES	PK	02/27/2017
2	TCDD/TCDF Resolution <= 25%	YES	PK	02/27/2017
3	PCDF markers >= 10 seconds from scan descriptor switch	YES	PK	02/27/2017
4	ICV/CCV meets %D limits	YES	PK	02/27/2017
5	ICV/CCV Ion ratios within limits	YES	PK	02/27/2017
6	ICV/CCV RRT within limits	YES	PK	02/27/2017
7	Manual integrations have been stamped and signed	NO	PK	02/27/2017
8	Signal/Noise >= 3.0 for all detections	YES	PK	02/27/2017
9	AUTOCHECK: Blank checked for exceedance of criteria	NO *	PK	02/27/2017

Comments:

EXCEPTION REPORT REQUIRED

QC Sample BFB0538-BLK1 failed criteria for 1,2,3,4,6,7,8-HpCDD in 1613B Dioxin.

MDL = 0.580 ng/kg

MRL = 5.00 ng/kg

Result = 0.472 ng/kg

Criterion = 0 x RL

- Estimated Maximum Possible Concentration qualifier for HRGCMS Dioxin

QC Sample BFB0538-BLK1 failed criteria for 1,2,3,4,6,7,8-HpCDF in 1613B Dioxin.

MDL = 0.470 ng/kg

MRL = 5.00 ng/kg

Result = 0.285 ng/kg

Criterion = 0 x RL

QC Sample BFB0538-BLK1 failed criteria for 1,2,3,4,7,8,9-HpCDF in 1613B Dioxin.

MDL = 0.450 ng/kg

MRL = 5.00 ng/kg

Result = 0.0633 ng/kg

Criterion = 0 x RL

- Estimated Maximum Possible Concentration qualifier for HRGCMS Dioxin

QC Sample BFB0538-BLK1 failed criteria for 1,2,3,4,7,8-HxCDF in 1613B Dioxin.

MDL = 0.440 ng/kg

MRL = 5.00 ng/kg

Result = 0.0697 ng/kg

Criterion = 0 x RL

QC Sample BFB0538-BLK1 failed criteria for 1,2,3,6,7,8-HxCDF in 1613B Dioxin.

MDL = 0.390 ng/kg

* = Indicates Automated Response from Element DataSyst

Port Gamble Shellfish Monitoring

17A0053

Analysis
1613B Dioxin

Matrix
Tissue

Method
EPA 1613B

Checklist: DLM02.2 HR-GC/MS Checklist

#	Checklist Item	Response	Analyst Initials	Date
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MRL = 5.00 ng/kg
Result = 0.0326 ng/kg
Criterion = 0 x RL

QC Sample BFB0538-BLK1 failed criteria for 1,2,3,7,8,9-HxCDD in 1613B Dioxin.

MDL = 0.350 ng/kg
MRL = 5.00 ng/kg
Result = 0.179 ng/kg
Criterion = 0 x RL

- Estimated Maximum Possible Concentration qualifier for HRGCMS Dioxin

QC Sample BFB0538-BLK1 failed criteria for 1,2,3,7,8,9-HxCDF in 1613B Dioxin.

MDL = 0.490 ng/kg
MRL = 5.00 ng/kg
Result = 0.116 ng/kg
Criterion = 0 x RL

- Estimated Maximum Possible Concentration qualifier for HRGCMS Dioxin

QC Sample BFB0538-BLK1 failed criteria for 2,3,4,6,7,8-HxCDF in 1613B Dioxin.

MDL = 0.410 ng/kg
MRL = 5.00 ng/kg
Result = 0.0663 ng/kg
Criterion = 0 x RL

- Estimated Maximum Possible Concentration qualifier for HRGCMS Dioxin

QC Sample BFB0538-BLK1 failed criteria for OCDD in 1613B Dioxin.

MDL = 1.83 ng/kg
MRL = 10.0 ng/kg
Result = 4.98 ng/kg
Criterion = 0 x RL

QC Sample BFB0538-BLK1 failed criteria for OCDF in 1613B Dioxin.

MDL = 0.740 ng/kg
MRL = 10.0 ng/kg
Result = 0.745 ng/kg
Criterion = 0 x RL

- Estimated Maximum Possible Concentration qualifier for HRGCMS Dioxin

QC Sample BFB0538-BLK1 failed criteria for Total HpCDD in 1613B Dioxin.

MRL = 1.00 ng/kg
Result = 0.766 ng/kg
Criterion = 0 x RL

Port Gamble Shellfish Monitoring

17A0053

Analysis
1613B Dioxin

Matrix
Tissue

Method
EPA 1613B

Checklist: DLM02.2 HR-GC/MS Checklist

#	Checklist Item	Response	Analyst Initials	Date
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*QC Sample BFB0538-BLK1 failed criteria for Total HpCDF in 1613B Dioxin.
MRL = 1.00 ng/kg
Result = 0.529 ng/kg
Criterion = 0 x RL*

*QC Sample BFB0538-BLK1 failed criteria for Total HxCDD in 1613B Dioxin.
MRL = 1.00 ng/kg
Result = 0.179 ng/kg
Criterion = 0 x RL*

*QC Sample BFB0538-BLK1 failed criteria for Total HxCDF in 1613B Dioxin.
MRL = 1.00 ng/kg
Result = 0.309 ng/kg
Criterion = 0 x RL*

10	AUTOCHECK: Check Extraction and Cleanup Surrogate recoveries	NO *	PK	02/27/2017
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Comments:

Surrogate Recovery for 13C12-1,2,3,4,6,7,8-HpCDF (27.4%) was outside acceptance limits (28-143) in 17A0053-07RE1 for 1613B Dioxin

Surrogate Recovery for 13C12-1,2,3,4,7,8-HxCDD (28.3%) was outside acceptance limits (32-141) in 17A0053-07RE1 for 1613B Dioxin

Surrogate Recovery for 13C12-2,3,4,6,7,8-HxCDF (26.8%) was outside acceptance limits (28-136) in 17A0053-07RE1 for 1613B Dioxin

11	AUTOCHECK: Check blank spike (OPR) recovery	YES *	PK	02/27/2017
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12	Sample values exceeding calibration range	NO	PK	02/27/2017
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Comments:

EXCEPTION REPORT REQUIRED

13	Samples diluted	NO	PK	02/27/2017
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Comments:

EXCEPTION REPORT REQUIRED

14	AUTOCHECK: Check %RPD between sample and sample duplicate	NA *	PK	02/27/2017
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15	AUTOCHECK: Check SRM limits for exceedance	NA *	PK	02/27/2017
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16	EPA CASE#			12/30/1899
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17	Analyst checkist completed (PEER)			12/30/1899
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18	Data is locked and status is analyzed (PEER)			12/30/1899
----	----------------------------------------------	--	--	------------

19	Data file, Batch, and Cleanup .pdf's are attached (PEER)	YES	MW	02/27/2017
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* = Indicates Automated Response from Element DataSyst

Port Gamble Shellfish Monitoring

17A0053

Analysis
1613B Dioxin

Matrix
Tissue

Method
EPA 1613B

Checklist: DLM02.2 HR-GC/MS Checklist

#	Checklist Item	Response	Analyst Initials	Date
20	Color warnings have been addressed and (or) qualified (PEER)	YES	MW	02/27/2017
21	Qualifiers have been correctly added (PEER)	YES	MW	02/27/2017
22	Checklist completed and status is peer reviewed (REVIEWER) Comments: <i>EXCEPTION REPORT REQUIRED</i>	NO	MW	02/27/2017
23	Dilutions are linear (50-200%) and appropriate (REVIEWER)	NA	MW	02/27/2017
24	All requested samples have been reported (REVIEWER)	YES	MW	02/27/2017
25	Color warnings have been addressed, narrated and (or) qualified (REVIEWER)	YES	MW	02/27/2017
26	List of samples in this sequence that will require additional runs-verify reshot created (ANALYST) Comments: <i>EXCEPTION REPORT REQUIRED</i>	NO	MW	02/27/2017
27	List of samples in this sequence that are re-analysis or dilutons of samples (ANALYST)	YES	MW	02/27/2017
28	Additional Notes (ANALYST, PEER, and REVIEWER) Comments: <i>Reextracted tissues due to low surr. 15-40% the first time. 25-60% this time. Most are within limits even if relatively low. QC good. All cleanup stds good. Report this run. Two samples did not have volume for reextract, so reported from first run.</i>	YES	PK	02/27/2017

Dataset: C:\MassLynx\Dioxin.pro\170224D.qld
 Last Altered: Monday, February 27, 2017 10:34:48 Pacific Standard Time
 Printed: Monday, February 27, 2017 10:36:12 Pacific Standard Time

Event	Details	Sample ID
Process Extract		
Process Integrate		
Process Quantify		
Dataset Created		
Pre modification peak	Sample:17022411, Compound:OF, RT:46.671	8
Peak modified	Sample:17022411, Compound:OF, RT:46.671	8
Pre modification peak	Sample:17022411, Compound:OF, RT:46.697	8
Peak modified	Sample:17022411, Compound:OF, RT:46.697	8
Pre modification peak	Sample:17022404, Compound:OF, RT:46.732	1
Peak modified	Sample:17022404, Compound:OF, RT:46.732	1
Pre modification peak	Sample:17022404, Compound:OF, RT:46.768	1
Peak modified	Sample:17022404, Compound:OF, RT:46.768	1
Pre modification peak	Sample:17022404, Compound:OF, RT:46.768	1
Peak modified	Sample:17022404, Compound:OF, RT:46.768	1
Peak deleted	Sample:17022404, Compound:TF, RT:26.766	1
Peak deleted	Sample:17022404, Compound:TF, RT:24.031	1
Peak deleted	Sample:17022404, Compound:PP, RT:26.930	1
Peak deleted	Sample:17022404, Compound:PF, RT:29.699	1
Peak deleted	Sample:17022404, Compound:PF, RT:28.975	1
Peak deleted	Sample:17022404, Compound:PF, RT:32.066	1
Peak deleted	Sample:17022404, Compound:PF, RT:31.069	1
Peak deleted	Sample:17022404, Compound:PF, RT:31.014	1
Pre modification peak	Sample:17022404, Compound:HF, RT:34.708	1
Peak modified	Sample:17022404, Compound:HF, RT:34.708	1
Peak deleted	Sample:17022404, Compound:HF, RT:32.998	1
Pre modification peak	Sample:17022404, Compound:HF, RT:34.697	1
Peak modified	Sample:17022404, Compound:HF, RT:34.697	1
Pre modification peak	Sample:17022404, Compound:HF, RT:36.944	1
Peak modified	Sample:17022404, Compound:HF, RT:36.944	1
Pre modification peak	Sample:17022404, Compound:HPF, RT:41.646	1
Peak modified	Sample:17022404, Compound:HPF, RT:41.646	1
Peak deleted	Sample:17022404, Compound:TD, RT:26.183	1
Peak deleted	Sample:17022404, Compound:PD, RT:31.288	1
Peak deleted	Sample:17022404, Compound:HD, RT:34.697	1
Peak deleted	Sample:17022404, Compound:HD, RT:36.056	1
Peak deleted	Sample:17022404, Compound:HD, RT:35.946	1
Peak deleted	Sample:17022404, Compound:HD, RT:36.100	1
Peak deleted	Sample:17022405, Compound:TF, RT:25.361	2
Peak deleted	Sample:17022405, Compound:PP, RT:26.900	2
Peak deleted	Sample:17022405, Compound:PF, RT:29.403	2
Peak deleted	Sample:17022405, Compound:HF, RT:35.311	2
Peak deleted	Sample:17022405, Compound:HF, RT:35.212	2
Peak deleted	Sample:17022405, Compound:HPF, RT:39.278	2
Peak deleted	Sample:17022405, Compound:PD, RT:29.655	2
Peak deleted	Sample:17022405, Compound:PD, RT:30.630	2
Peak deleted	Sample:17022405, Compound:PD, RT:31.770	2
Peak deleted	Sample:17022405, Compound:PD, RT:31.705	2
Peak deleted	Sample:17022405, Compound:PD, RT:31.650	2
Peak deleted	Sample:17022405, Compound:PD, RT:31.507	2
Peak deleted	Sample:17022405, Compound:HD, RT:36.297	2
Peak deleted	Sample:17022405, Compound:HD, RT:33.776	2
Pre modification peak	Sample:17022406, Compound:OF, RT:46.697	3
Peak modified	Sample:17022406, Compound:OF, RT:46.697	3

Dataset: C:\MassLynx\Dioxin.pro\170224D.qld
 Last Altered: Monday, February 27, 2017 10:34:48 Pacific Standard Time
 Printed: Monday, February 27, 2017 10:36:12 Pacific Standard Time

Event	Details	Sample ID
Peak deleted	Sample:17022406, Compound:TF, RT:23.329	3
Peak deleted	Sample:17022406, Compound:TF, RT:23.210	3
Peak deleted	Sample:17022406, Compound:TF, RT:22.926	3
Peak deleted	Sample:17022406, Compound:TF, RT:24.465	3
Peak deleted	Sample:17022406, Compound:TF, RT:24.240	3
Peak deleted	Sample:17022406, Compound:TF, RT:23.807	3
Peak deleted	Sample:17022406, Compound:TF, RT:25.839	3
Peak deleted	Sample:17022406, Compound:TF, RT:25.570	3
Peak deleted	Sample:17022406, Compound:TF, RT:25.376	3
Peak deleted	Sample:17022406, Compound:TF, RT:26.616	3
Peak deleted	Sample:17022406, Compound:PP, RT:26.945	3
Peak deleted	Sample:17022406, Compound:PP, RT:26.900	3
Peak deleted	Sample:17022406, Compound:PP, RT:26.781	3
Peak deleted	Sample:17022406, Compound:PF, RT:29.710	3
Peak deleted	Sample:17022406, Compound:PF, RT:28.603	3
Peak deleted	Sample:17022406, Compound:PF, RT:28.537	3
Peak deleted	Sample:17022406, Compound:PF, RT:28.635	3
Peak deleted	Sample:17022406, Compound:HF, RT:34.040	3
Peak deleted	Sample:17022406, Compound:HF, RT:33.185	3
Peak deleted	Sample:17022406, Compound:HF, RT:34.829	3
Peak deleted	Sample:17022406, Compound:HF, RT:34.708	3
Pre modification peak	Sample:17022406, Compound:HF, RT:36.923	3
Peak modified	Sample:17022406, Compound:HF, RT:36.923	3
Pre modification peak	Sample:17022406, Compound:HPF, RT:39.016	3
Peak modified	Sample:17022406, Compound:HPF, RT:39.016	3
Peak deleted	Sample:17022406, Compound:HPF, RT:41.603	3
Peak deleted	Sample:17022406, Compound:HPF, RT:39.762	3
Peak deleted	Sample:17022406, Compound:TD, RT:26.198	3
Pre modification peak	Sample:17022406, Compound:HPD, RT:40.759	3
Peak modified	Sample:17022406, Compound:HPD, RT:40.759	3
Pre modification peak	Sample:17022407, Compound:OF, RT:46.695	4
Peak modified	Sample:17022407, Compound:OF, RT:46.695	4
Pre modification peak	Sample:17022407, Compound:OF, RT:46.713	4
Peak modified	Sample:17022407, Compound:OF, RT:46.713	4
Peak deleted	Sample:17022407, Compound:HD, RT:36.472	4
Pre modification peak	Sample:17022407, Compound:TF, RT:22.896	4
Peak modified	Sample:17022407, Compound:TF, RT:22.896	4
Peak deleted	Sample:17022407, Compound:TF, RT:23.299	4
Peak deleted	Sample:17022407, Compound:TF, RT:23.075	4
Peak deleted	Sample:17022407, Compound:TF, RT:23.807	4
Peak deleted	Sample:17022407, Compound:TF, RT:25.779	4
Peak deleted	Sample:17022407, Compound:TF, RT:25.301	4
Peak deleted	Sample:17022407, Compound:PF, RT:29.643	4
Peak deleted	Sample:17022407, Compound:HF, RT:34.028	4
Pre modification peak	Sample:17022407, Compound:HPF, RT:39.015	4
Peak modified	Sample:17022407, Compound:HPF, RT:39.015	4
Pre modification peak	Sample:17022407, Compound:HPF, RT:39.771	4
Peak modified	Sample:17022407, Compound:HPF, RT:39.771	4
Peak deleted	Sample:17022407, Compound:TD, RT:25.794	4
Peak deleted	Sample:17022407, Compound:TD, RT:24.823	4
Peak deleted	Sample:17022407, Compound:HD, RT:34.981	4
Peak deleted	Sample:17022407, Compound:HD, RT:34.894	4
Peak deleted	Sample:17022407, Compound:HD, RT:33.995	4

Dataset: C:\MassLynx\Dioxin.pro\170224D.qld
 Last Altered: Monday, February 27, 2017 10:34:48 Pacific Standard Time
 Printed: Monday, February 27, 2017 10:36:12 Pacific Standard Time

Event	Details	Sample ID
Pre modification peak	Sample:17022408, Compound:OF, RT:46.679	5
Peak modified	Sample:17022408, Compound:OF, RT:46.679	5
Peak deleted	Sample:17022408, Compound:TF, RT:23.225	5
Peak deleted	Sample:17022408, Compound:TF, RT:22.328	5
Peak deleted	Sample:17022408, Compound:TF, RT:23.643	5
Peak deleted	Sample:17022408, Compound:TF, RT:23.314	5
Peak deleted	Sample:17022408, Compound:PP, RT:26.975	5
Peak deleted	Sample:17022408, Compound:PP, RT:26.915	5
Peak deleted	Sample:17022408, Compound:PF, RT:28.613	5
Peak deleted	Sample:17022408, Compound:PF, RT:32.055	5
Peak deleted	Sample:17022408, Compound:PF, RT:31.025	5
Pre modification peak	Sample:17022408, Compound:HF, RT:33.206	5
Peak modified	Sample:17022408, Compound:HF, RT:33.206	5
Pre modification peak	Sample:17022408, Compound:HF, RT:34.872	5
Peak modified	Sample:17022408, Compound:HF, RT:34.872	5
Pre modification peak	Sample:17022408, Compound:HF, RT:36.944	5
Peak modified	Sample:17022408, Compound:HF, RT:36.944	5
Peak added	Sample:17022408, Compound:HF, RT:36.944	5
Peak added	Sample:17022408, Compound:HF, RT:36.955	5
Peak modified	Sample:17022408, Compound:HF, RT:36.955	5
Peak deleted	Sample:17022408, Compound:TD, RT:23.777	5
Peak deleted	Sample:17022408, Compound:TD, RT:23.613	5
Peak deleted	Sample:17022408, Compound:TD, RT:26.183	5
Peak deleted	Sample:17022408, Compound:TD, RT:25.839	5
Peak deleted	Sample:17022408, Compound:PD, RT:29.698	5
Peak deleted	Sample:17022408, Compound:HD, RT:34.598	5
Peak deleted	Sample:17022408, Compound:HD, RT:33.985	5
Pre modification peak	Sample:17022409, Compound:OF, RT:46.715	6
Peak modified	Sample:17022409, Compound:OF, RT:46.715	6
Pre modification peak	Sample:17022409, Compound:OF, RT:46.688	6
Peak modified	Sample:17022409, Compound:OF, RT:46.688	6
Pre modification peak	Sample:17022409, Compound:OD, RT:46.445	6
Peak modified	Sample:17022409, Compound:OD, RT:46.445	6
Pre modification peak	Sample:17022409, Compound:OD, RT:46.436	6
Peak modified	Sample:17022409, Compound:OD, RT:46.436	6
Peak deleted	Sample:17022409, Compound:TF, RT:23.837	6
Peak deleted	Sample:17022409, Compound:TF, RT:23.553	6
Peak deleted	Sample:17022409, Compound:TF, RT:23.389	6
Peak deleted	Sample:17022409, Compound:TF, RT:23.329	6
Peak deleted	Sample:17022409, Compound:TF, RT:22.941	6
Peak deleted	Sample:17022409, Compound:TF, RT:22.089	6
Peak deleted	Sample:17022409, Compound:TF, RT:24.479	6
Peak deleted	Sample:17022409, Compound:TF, RT:24.255	6
Peak deleted	Sample:17022409, Compound:TF, RT:24.435	6
Peak deleted	Sample:17022409, Compound:TF, RT:25.764	6
Peak deleted	Sample:17022409, Compound:TF, RT:25.540	6
Peak deleted	Sample:17022409, Compound:TF, RT:25.376	6
Peak deleted	Sample:17022409, Compound:PF, RT:28.569	6
Peak deleted	Sample:17022409, Compound:PF, RT:28.514	6
Peak deleted	Sample:17022409, Compound:PF, RT:31.014	6
Peak deleted	Sample:17022409, Compound:HF, RT:34.697	6
Pre modification peak	Sample:17022409, Compound:HF, RT:36.922	6
Peak modified	Sample:17022409, Compound:HF, RT:36.922	6

Dataset: C:\MassLynx\Dioxin.pro\170224D.qld
 Last Altered: Monday, February 27, 2017 10:34:48 Pacific Standard Time
 Printed: Monday, February 27, 2017 10:36:12 Pacific Standard Time

Event	Details	Sample ID
Peak deleted	Sample:17022409, Compound:HF, RT:36.966	6
Peak added	Sample:17022409, Compound:HF, RT:36.922	6
Peak deleted	Sample:17022409, Compound:HF, RT:36.922	6
Peak deleted	Sample:17022409, Compound:HF, RT:36.922	6
Pre modification peak	Sample:17022409, Compound:HPF, RT:39.805	6
Peak modified	Sample:17022409, Compound:HPF, RT:39.805	6
Peak deleted	Sample:17022409, Compound:TD, RT:23.583	6
Peak deleted	Sample:17022409, Compound:TD, RT:23.359	6
Peak deleted	Sample:17022409, Compound:TD, RT:26.198	6
Peak deleted	Sample:17022409, Compound:TD, RT:25.854	6
Peak deleted	Sample:17022409, Compound:HD, RT:36.056	6
Peak deleted	Sample:17022409, Compound:HD, RT:33.765	6
Peak deleted	Sample:17022409, Compound:HD, RT:33.798	6
Pre modification peak	Sample:17022410, Compound:OF, RT:46.696	7
Peak modified	Sample:17022410, Compound:OF, RT:46.696	7
Pre modification peak	Sample:17022410, Compound:OF, RT:46.687	7
Peak modified	Sample:17022410, Compound:OF, RT:46.687	7
Peak deleted	Sample:17022410, Compound:TF, RT:23.194	7
Peak deleted	Sample:17022410, Compound:TF, RT:22.313	7
Peak deleted	Sample:17022410, Compound:TF, RT:22.059	7
Peak deleted	Sample:17022410, Compound:TF, RT:23.299	7
Peak deleted	Sample:17022410, Compound:TF, RT:24.629	7
Peak deleted	Sample:17022410, Compound:TF, RT:24.464	7
Peak deleted	Sample:17022410, Compound:TF, RT:23.777	7
Peak deleted	Sample:17022410, Compound:TF, RT:25.256	7
Peak deleted	Sample:17022410, Compound:TF, RT:25.779	7
Peak deleted	Sample:17022410, Compound:PP, RT:26.959	7
Peak deleted	Sample:17022410, Compound:PF, RT:28.745	7
Pre modification peak	Sample:17022410, Compound:HF, RT:34.028	7
Peak modified	Sample:17022410, Compound:HF, RT:34.028	7
Peak deleted	Sample:17022410, Compound:HF, RT:35.771	7
Peak deleted	Sample:17022410, Compound:HF, RT:34.828	7
Pre modification peak	Sample:17022410, Compound:HPF, RT:39.761	7
Peak modified	Sample:17022410, Compound:HPF, RT:39.761	7
Pre modification peak	Sample:17022410, Compound:HPF, RT:41.569	7
Peak modified	Sample:17022410, Compound:HPF, RT:41.569	7
Peak deleted	Sample:17022410, Compound:TD, RT:25.824	7
Peak deleted	Sample:17022410, Compound:TD, RT:24.554	7
Peak deleted	Sample:17022410, Compound:TD, RT:23.598	7
Peak deleted	Sample:17022410, Compound:TD, RT:23.583	7
Peak deleted	Sample:17022410, Compound:TD, RT:23.329	7
Pre modification peak	Sample:17022410, Compound:HD, RT:34.894	7
Peak modified	Sample:17022410, Compound:HD, RT:34.894	7
Peak deleted	Sample:17022410, Compound:HD, RT:35.080	7
Pre modification peak	Sample:17022410, Compound:HD, RT:34.992	7
Peak modified	Sample:17022410, Compound:HD, RT:34.992	7
Peak deleted	Sample:17022410, Compound:HD, RT:36.483	7
Peak deleted	Sample:17022410, Compound:HD, RT:36.045	7
Peak deleted	Sample:17022410, Compound:HD, RT:35.924	7
Peak deleted	Sample:17022411, Compound:TF, RT:22.298	8
Peak deleted	Sample:17022411, Compound:TF, RT:22.044	8
Peak deleted	Sample:17022411, Compound:TF, RT:23.553	8
Peak deleted	Sample:17022411, Compound:TF, RT:24.644	8

Dataset: C:\MassLynx\Dioxin.pro\170224D.qld
 Last Altered: Monday, February 27, 2017 10:34:48 Pacific Standard Time
 Printed: Monday, February 27, 2017 10:36:12 Pacific Standard Time

Event	Details	Sample ID
Peak deleted	Sample:17022411, Compound:TF, RT:25.779	8
Peak deleted	Sample:17022411, Compound:PP, RT:26.989	8
Peak deleted	Sample:17022411, Compound:PF, RT:28.569	8
Peak deleted	Sample:17022411, Compound:PF, RT:28.295	8
Peak deleted	Sample:17022411, Compound:PF, RT:31.036	8
Peak deleted	Sample:17022411, Compound:PF, RT:30.137	8
Pre modification peak	Sample:17022411, Compound:HPF, RT:39.762	8
Peak modified	Sample:17022411, Compound:HPF, RT:39.762	8
Pre modification peak	Sample:17022411, Compound:TD, RT:25.794	8
Peak modified	Sample:17022411, Compound:TD, RT:25.794	8
Peak deleted	Sample:17022411, Compound:PD, RT:31.288	8
Peak deleted	Sample:17022411, Compound:HD, RT:34.938	8
Pre modification peak	Sample:17022411, Compound:HD, RT:35.903	8
Peak modified	Sample:17022411, Compound:HD, RT:35.903	8
Pre modification peak	Sample:17022411, Compound:HD, RT:36.440	8
Peak modified	Sample:17022411, Compound:HD, RT:36.440	8
Pre modification peak	Sample:17022412, Compound:OF, RT:46.687	9
Peak modified	Sample:17022412, Compound:OF, RT:46.687	9
Pre modification peak	Sample:17022412, Compound:OF, RT:46.714	9
Peak modified	Sample:17022412, Compound:OF, RT:46.714	9
Peak deleted	Sample:17022412, Compound:TF, RT:23.299	9
Peak deleted	Sample:17022412, Compound:TF, RT:22.896	9
Peak deleted	Sample:17022412, Compound:TF, RT:24.659	9
Peak deleted	Sample:17022412, Compound:TF, RT:24.449	9
Peak deleted	Sample:17022412, Compound:TF, RT:25.764	9
Peak deleted	Sample:17022412, Compound:TF, RT:25.346	9
Peak deleted	Sample:17022412, Compound:PF, RT:29.655	9
Peak deleted	Sample:17022412, Compound:PF, RT:28.712	9
Peak deleted	Sample:17022412, Compound:PF, RT:31.025	9
Peak deleted	Sample:17022412, Compound:PF, RT:30.981	9
Peak deleted	Sample:17022412, Compound:PF, RT:29.633	9
Peak deleted	Sample:17022412, Compound:HF, RT:33.239	9
Peak deleted	Sample:17022412, Compound:HF, RT:35.782	9
Peak deleted	Sample:17022412, Compound:HF, RT:35.749	9
Pre modification peak	Sample:17022412, Compound:HPF, RT:38.993	9
Peak modified	Sample:17022412, Compound:HPF, RT:38.993	9
Peak deleted	Sample:17022412, Compound:TD, RT:23.598	9
Peak deleted	Sample:17022412, Compound:TD, RT:25.809	9
Peak deleted	Sample:17022412, Compound:TD, RT:24.793	9
Peak deleted	Sample:17022412, Compound:PD, RT:29.688	9
Peak deleted	Sample:17022412, Compound:PD, RT:28.559	9
Peak deleted	Sample:17022412, Compound:HD, RT:34.993	9
Peak deleted	Sample:17022412, Compound:HD, RT:34.565	9
Peak deleted	Sample:17022412, Compound:HD, RT:34.478	9
Peak deleted	Sample:17022412, Compound:HD, RT:36.045	9
Peak deleted	Sample:17022412, Compound:HD, RT:35.935	9
Pre modification peak	Sample:17022413, Compound:OF, RT:46.687	10
Peak modified	Sample:17022413, Compound:OF, RT:46.687	10
Pre modification peak	Sample:17022413, Compound:OF, RT:46.696	10
Peak modified	Sample:17022413, Compound:OF, RT:46.696	10
Peak deleted	Sample:17022413, Compound:TF, RT:22.328	10
Peak deleted	Sample:17022413, Compound:TF, RT:23.553	10
Peak deleted	Sample:17022413, Compound:TF, RT:23.314	10

Dataset: C:\MassLynx\Dioxin.pro\170224D.qld
 Last Altered: Monday, February 27, 2017 10:34:48 Pacific Standard Time
 Printed: Monday, February 27, 2017 10:36:12 Pacific Standard Time

Event	Details	Sample ID
Peak deleted	Sample:17022413, Compound:TF, RT:23.090	10
Peak deleted	Sample:17022413, Compound:TF, RT:25.062	10
Peak deleted	Sample:17022413, Compound:TF, RT:24.659	10
Peak deleted	Sample:17022413, Compound:TF, RT:24.210	10
Pre modification peak	Sample:17022413, Compound:TF, RT:25.540	10
Peak modified	Sample:17022413, Compound:TF, RT:25.540	10
Peak deleted	Sample:17022413, Compound:PF, RT:31.024	10
Peak deleted	Sample:17022413, Compound:HF, RT:33.173	10
Peak deleted	Sample:17022413, Compound:HF, RT:32.976	10
Peak deleted	Sample:17022413, Compound:HF, RT:34.850	10
Pre modification peak	Sample:17022413, Compound:HPF, RT:41.558	10
Peak modified	Sample:17022413, Compound:HPF, RT:41.558	10
Pre modification peak	Sample:17022413, Compound:TD, RT:25.839	10
Peak modified	Sample:17022413, Compound:TD, RT:25.839	10
Peak deleted	Sample:17022413, Compound:PD, RT:28.580	10
Peak deleted	Sample:17022413, Compound:PD, RT:31.254	10
Peak deleted	Sample:17022413, Compound:PD, RT:31.233	10
Pre modification peak	Sample:17022413, Compound:PD, RT:31.277	10
Peak modified	Sample:17022413, Compound:PD, RT:31.277	10
Peak added	Sample:17022413, Compound:PD, RT:31.287	10
Peak added	Sample:17022413, Compound:PD, RT:31.287	10
Peak modified	Sample:17022413, Compound:PD, RT:31.287	10
Pre modification peak	Sample:17022413, Compound:PD, RT:31.287	10
Peak modified	Sample:17022413, Compound:PD, RT:31.287	10
Peak deleted	Sample:17022413, Compound:HD, RT:34.433	10
Pre modification peak	Sample:17022413, Compound:HD, RT:34.927	10
Peak modified	Sample:17022413, Compound:HD, RT:34.927	10
Peak added	Sample:17022413, Compound:HD, RT:34.971	10
Peak added	Sample:17022413, Compound:HD, RT:34.971	10
Pre modification peak	Sample:17022413, Compound:HD, RT:36.045	10
Peak modified	Sample:17022413, Compound:HD, RT:36.045	10
Pre modification peak	Sample:17022413, Compound:HPD, RT:40.747	10
Peak modified	Sample:17022413, Compound:HPD, RT:40.747	10
Pre modification peak	Sample:17022414, Compound:OF, RT:46.643	11
Peak modified	Sample:17022414, Compound:OF, RT:46.643	11
Pre modification peak	Sample:17022414, Compound:OF, RT:46.706	11
Peak modified	Sample:17022414, Compound:OF, RT:46.706	11
Pre modification peak	Sample:17022414, Compound:OF, RT:46.706	11
Peak modified	Sample:17022414, Compound:OF, RT:46.706	11
Peak deleted	Sample:17022414, Compound:TF, RT:23.045	11
Peak deleted	Sample:17022414, Compound:TF, RT:22.074	11
Peak deleted	Sample:17022414, Compound:TF, RT:23.553	11
Peak deleted	Sample:17022414, Compound:TF, RT:23.344	11
Peak deleted	Sample:17022414, Compound:TF, RT:23.299	11
Peak deleted	Sample:17022414, Compound:TF, RT:23.194	11
Peak deleted	Sample:17022414, Compound:TF, RT:25.540	11
Peak deleted	Sample:17022414, Compound:TF, RT:25.346	11
Peak deleted	Sample:17022414, Compound:TF, RT:24.061	11
Peak deleted	Sample:17022414, Compound:PP, RT:27.826	11
Peak deleted	Sample:17022414, Compound:PP, RT:26.945	11
Peak deleted	Sample:17022414, Compound:PF, RT:28.033	11
Peak deleted	Sample:17022414, Compound:PF, RT:28.526	11
Peak deleted	Sample:17022414, Compound:PF, RT:28.307	11

Dataset: C:\MassLynx\Dioxin.pro\170224D.qld
Last Altered: Monday, February 27, 2017 10:34:48 Pacific Standard Time
Printed: Monday, February 27, 2017 10:36:12 Pacific Standard Time

Event	Details	Sample ID
Peak deleted	Sample:17022414, Compound:HF, RT:34.851	11
Peak deleted	Sample:17022414, Compound:HF, RT:34.040	11
Pre modification peak	Sample:17022414, Compound:HPF, RT:39.750	11
Peak modified	Sample:17022414, Compound:HPF, RT:39.750	11
Pre modification peak	Sample:17022414, Compound:HPF, RT:41.570	11
Peak modified	Sample:17022414, Compound:HPF, RT:41.570	11
Peak deleted	Sample:17022414, Compound:HD, RT:36.067	11
Pre modification peak	Sample:17022414, Compound:HPD, RT:40.715	11
Peak modified	Sample:17022414, Compound:HPD, RT:40.715	11
Dataset Saved	Saved to 'C:\MassLynx\Dioxin.pro\170224D.qld'	



SURROGATE RECOVERY AND RT SUMMARY

EPA 1613B

Laboratory: Analytical Resources, Inc.
 Client: Anchor QEA, LLC
 Sequence: SFA0265
 Sample ID: SFA0265-SCV1
 File ID: 17012411

SDG: 17A0053
 Project: Port Gamble Shellfish Monitoring
 Instrument: AUTOSPEC01
 Calibration: AA00071
 Analyzed: 01/24/17 21:57

Surrogate Compound	Spike Level ng/mL	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
13C12-2,3,7,8-TCDF	100.00	98.0	80 - 120	26.4968	26.50148	-0.0047	N/A	
13C12-2,3,7,8-TCDD	100.00	97.7	80 - 120	27.1243	27.14142	-0.0171	N/A	
13C12-1,2,3,7,8-PeCDF	100.00	94.9	80 - 120	30.6562	30.67038	-0.0142	N/A	
13C12-2,3,4,7,8-PeCDF	100.00	94.1	80 - 120	32.0045	32.01677	-0.0123	N/A	
13C12-1,2,3,7,8-PeCDD	100.00	94.0	80 - 120	32.2567	32.2707	-0.0140	N/A	
13C12-1,2,3,4,7,8-HxCDF	100.00	102	80 - 120	35.6985	35.71247	-0.0140	N/A	
13C12-1,2,3,6,7,8-HxCDF	100.00	101	80 - 120	35.852	35.86413	-0.0121	N/A	
13C12-2,3,4,6,7,8-HxCDF	100.00	99.0	80 - 120	36.7947	36.80682	-0.0121	N/A	
13C12-1,2,3,7,8,9-HxCDF	100.00	97.8	80 - 120	37.9128	37.92483	-0.0120	N/A	
13C12-1,2,3,4,7,8-HxCDD	100.00	99.4	80 - 120	36.9262	36.94017	-0.0140	N/A	
13C12-1,2,3,6,7,8-HxCDD	100.00	99.3	80 - 120	37.0577	37.06987	-0.0122	N/A	
13C12-1,2,3,4,6,7,8-HpCDF	100.00	98.6	80 - 120	40.0173	40.03297	-0.0157	N/A	
13C12-1,2,3,4,7,8,9-HpCDF	100.00	96.8	80 - 120	42.8017	42.81338	-0.0117	N/A	
13C12-1,2,3,4,6,7,8-HpCDD	100.00	97.7	80 - 120	41.881	41.8927	-0.0117	N/A	
13C12-OCDD	200.00	96.0	80 - 120	47.9838	48.00368	-0.0199	N/A	
37C14-2,3,7,8-TCDD	10.000	103	80 - 120	27.1542	27.16135	-0.0071	N/A	

* Values outside of QC limits



SURROGATE RECOVERY AND RT SUMMARY

EPA 1613B

Laboratory: Analytical Resources, Inc.
 Client: Anchor QEA, LLC
 Sequence: SFB0085
 Sample ID: SFB0085-ICV1
 File ID: 17020802

SDG: 17A0053
 Project: Port Gamble Shellfish Monitoring
 Instrument: AUTOSPEC01
 Calibration: AA00071
 Analyzed: 02/08/17 11:22

Surrogate Compound	Spike Level ng/mL	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
13C12-2,3,7,8-TCDF	100.00	102	70 - 130	26.1382	26.50148	-0.3633	N/A	
13C12-2,3,7,8-TCDD	100.00	104	70 - 130	26.7658	27.14142	-0.3756	N/A	
13C12-1,2,3,7,8-PeCDF	100.00	104	70 - 130	30.2837	30.67038	-0.3867	N/A	
13C12-2,3,4,7,8-PeCDF	100.00	111	70 - 130	31.632	32.01677	-0.3848	N/A	
13C12-1,2,3,7,8-PeCDD	100.00	110	70 - 130	31.8842	32.2707	-0.3865	N/A	
13C12-1,2,3,4,7,8-HxCDF	100.00	94.8	70 - 130	35.3152	35.71247	-0.3973	N/A	
13C12-1,2,3,6,7,8-HxCDF	100.00	93.7	70 - 130	35.4577	35.86413	-0.4064	N/A	
13C12-2,3,4,6,7,8-HxCDF	100.00	96.1	70 - 130	36.4112	36.80682	-0.3956	N/A	
13C12-1,2,3,7,8,9-HxCDF	100.00	105	70 - 130	37.551	37.92483	-0.3738	N/A	
13C12-1,2,3,4,7,8-HxCDD	100.00	95.5	70 - 130	36.5427	36.94017	-0.3975	N/A	
13C12-1,2,3,6,7,8-HxCDD	100.00	94.5	70 - 130	36.6743	37.06987	-0.3956	N/A	
13C12-1,2,3,4,6,7,8-HpCDF	100.00	96.3	70 - 130	39.6227	40.03297	-0.4103	N/A	
13C12-1,2,3,4,7,8,9-HpCDF	100.00	113	70 - 130	42.3302	42.81338	-0.4832	N/A	
13C12-1,2,3,4,6,7,8-HpCDD	100.00	103	70 - 130	41.4313	41.8927	-0.4614	N/A	
13C12-OCDD	200.00	103	70 - 130	47.3718	48.00368	-0.6319	N/A	
37C14-2,3,7,8-TCDD	10.000	103	0 - 200	26.7957	27.16135	-0.3656	N/A	

* Values outside of QC limits



SURROGATE RECOVERY AND RT SUMMARY

EPA 1613B

Laboratory: Analytical Resources, Inc.
 Client: Anchor QEA, LLC
 Sequence: SFB0085
 Sample ID: BFA0657-BLK1
 File ID: 17020804

SDG: 17A0053
 Project: Port Gamble Shellfish Monitoring
 Instrument: AUTOSPEC01
 Calibration: AA00071
 Analyzed: 02/08/17 13:11

Surrogate Compound	Spike Level ng/kg	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
13C12-2,3,7,8-TCDF	200.00	96.9	24 - 169	26.1228	26.50148	-0.3787	N/A	
13C12-2,3,7,8-TCDD	200.00	103	25 - 164	26.7503	27.14142	-0.3911	N/A	
13C12-1,2,3,7,8-PeCDF	200.00	107	24 - 185	30.272	30.67038	-0.3984	N/A	
13C12-2,3,4,7,8-PeCDF	200.00	110	21 - 178	31.6202	32.01677	-0.3966	N/A	
13C12-1,2,3,7,8-PeCDD	200.00	114	25 - 181	31.8723	32.2707	-0.3984	N/A	
13C12-1,2,3,4,7,8-HxCDF	200.00	86.2	26 - 152	35.3032	35.71247	-0.4093	N/A	
13C12-1,2,3,6,7,8-HxCDF	200.00	88.4	26 - 123	35.4567	35.86413	-0.4074	N/A	
13C12-2,3,4,6,7,8-HxCDF	200.00	90.4	28 - 136	36.3992	36.80682	-0.4076	N/A	
13C12-1,2,3,7,8,9-HxCDF	200.00	96.1	29 - 147	37.5392	37.92483	-0.3856	N/A	
13C12-1,2,3,4,7,8-HxCDD	200.00	95.3	32 - 141	36.5417	36.94017	-0.3985	N/A	
13C12-1,2,3,6,7,8-HxCDD	200.00	92.4	28 - 130	36.6623	37.06987	-0.4076	N/A	
13C12-1,2,3,4,6,7,8-HpCDF	200.00	82.9	28 - 143	39.6218	40.03297	-0.4112	N/A	
13C12-1,2,3,4,7,8,9-HpCDF	200.00	100	26 - 138	42.3512	42.81338	-0.4622	N/A	
13C12-1,2,3,4,6,7,8-HpCDD	200.00	99.8	23 - 140	41.4523	41.8927	-0.4404	N/A	
13C12-OCDD	400.00	98.3	17 - 157	47.3997	48.00368	-0.6040	N/A	
37C14-2,3,7,8-TCDD	80.000	106	35 - 197	26.7802	27.16135	-0.3811	N/A	

* Values outside of QC limits



SURROGATE RECOVERY AND RT SUMMARY

EPA 1613B

Laboratory: Analytical Resources, Inc.
 Client: Anchor QEA, LLC
 Sequence: SFB0085
 Sample ID: BFA0657-BS1
 File ID: 17020805

SDG: 17A0053
 Project: Port Gamble Shellfish Monitoring
 Instrument: AUTOSPEC01
 Calibration: AA00071
 Analyzed: 02/08/17 14:03

Surrogate Compound	Spike Level ng/kg	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
13C12-2,3,7,8-TCDF	200.00	91.4	24 - 169	26.108	26.50148	-0.3935	N/A	
13C12-2,3,7,8-TCDD	200.00	94.8	25 - 164	26.7505	27.14142	-0.3909	N/A	
13C12-1,2,3,7,8-PeCDF	200.00	97.9	24 - 185	30.2723	30.67038	-0.3981	N/A	
13C12-2,3,4,7,8-PeCDF	200.00	102	21 - 178	31.6207	32.01677	-0.3961	N/A	
13C12-1,2,3,7,8-PeCDD	200.00	107	25 - 181	31.8727	32.2707	-0.3980	N/A	
13C12-1,2,3,4,7,8-HxCDF	200.00	79.1	26 - 152	35.3038	35.71247	-0.4087	N/A	
13C12-1,2,3,6,7,8-HxCDF	200.00	79.5	26 - 123	35.4462	35.86413	-0.4179	N/A	
13C12-2,3,4,6,7,8-HxCDF	200.00	83.3	28 - 136	36.3998	36.80682	-0.4070	N/A	
13C12-1,2,3,7,8,9-HxCDF	200.00	90.3	29 - 147	37.5398	37.92483	-0.3850	N/A	
13C12-1,2,3,4,7,8-HxCDD	200.00	86.5	32 - 141	36.5315	36.94017	-0.4087	N/A	
13C12-1,2,3,6,7,8-HxCDD	200.00	85.1	28 - 130	36.663	37.06987	-0.4069	N/A	
13C12-1,2,3,4,6,7,8-HpCDF	200.00	74.0	28 - 143	39.6225	40.03297	-0.4105	N/A	
13C12-1,2,3,4,7,8,9-HpCDF	200.00	95.6	26 - 138	42.341	42.81338	-0.4724	N/A	
13C12-1,2,3,4,6,7,8-HpCDD	200.00	92.6	23 - 140	41.453	41.8927	-0.4397	N/A	
13C12-OCDD	400.00	96.7	17 - 157	47.3895	48.00368	-0.6142	N/A	
37C14-2,3,7,8-TCDD	80.000	99.5	35 - 197	26.7653	27.16135	-0.3960	N/A	

* Values outside of QC limits



SURROGATE RECOVERY AND RT SUMMARY

EPA 1613B

Laboratory: Analytical Resources, Inc.
 Client: Anchor QEA, LLC
 Sequence: SFB0085
 Sample ID: 17A0053-10
 File ID: 17020816

SDG: 17A0053
 Project: Port Gamble Shellfish Monitoring
 Instrument: AUTOSPEC01
 Calibration: AA00071
 Analyzed: 02/09/17 00:01

Surrogate Compound	Spike Level ng/kg	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
13C12-2,3,7,8-TCDF	189.57	20.6	24 - 169	26.138	26.50148	-0.3635	N/A	*
13C12-2,3,7,8-TCDD	189.57	21.1	25 - 164	26.7653	27.14142	-0.3761	N/A	*
13C12-1,2,3,7,8-PeCDF	189.57	20.7	24 - 185	30.2833	30.67038	-0.3871	N/A	*
13C12-2,3,4,7,8-PeCDF	189.57	21.1	21 - 178	31.6315	32.01677	-0.3853	N/A	
13C12-1,2,3,7,8-PeCDD	189.57	21.9	25 - 181	31.8838	32.2707	-0.3869	N/A	*
13C12-1,2,3,4,7,8-HxCDF	189.57	19.8	26 - 152	35.3257	35.71247	-0.3868	N/A	*
13C12-1,2,3,6,7,8-HxCDF	189.57	19.4	26 - 123	35.4682	35.86413	-0.3959	N/A	*
13C12-2,3,4,6,7,8-HxCDF	189.57	19.3	28 - 136	36.4108	36.80682	-0.3960	N/A	*
13C12-1,2,3,7,8,9-HxCDF	189.57	22.0	29 - 147	37.5508	37.92483	-0.3740	N/A	*
13C12-1,2,3,4,7,8-HxCDD	189.57	19.8	32 - 141	36.5533	36.94017	-0.3869	N/A	*
13C12-1,2,3,6,7,8-HxCDD	189.57	19.9	28 - 130	36.674	37.06987	-0.3959	N/A	*
13C12-1,2,3,4,6,7,8-HpCDF	189.57	19.5	28 - 143	39.6335	40.03297	-0.3995	N/A	*
13C12-1,2,3,4,7,8,9-HpCDF	189.57	22.7	26 - 138	42.341	42.81338	-0.4724	N/A	*
13C12-1,2,3,4,6,7,8-HpCDD	189.57	21.0	23 - 140	41.4422	41.8927	-0.4505	N/A	*
13C12-OCDD	379.15	17.0	17 - 157	47.3893	48.00368	-0.6144	N/A	
37C14-2,3,7,8-TCDD	75.829	96.1	35 - 197	26.7953	27.16135	-0.3660	N/A	

* Values outside of QC limits



SURROGATE RECOVERY AND RT SUMMARY

EPA 1613B

Laboratory: Analytical Resources, Inc.
 Client: Anchor QEA, LLC
 Sequence: SFB0085
 Sample ID: 17A0053-12
 File ID: 17020818

SDG: 17A0053
 Project: Port Gamble Shellfish Monitoring
 Instrument: AUTOSPEC01
 Calibration: AA00071
 Analyzed: 02/09/17 01:47

Surrogate Compound	Spike Level ng/kg	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
13C12-2,3,7,8-TCDF	196.08	16.8	24 - 169	26.1378	26.50148	-0.3637	N/A	*
13C12-2,3,7,8-TCDD	196.08	16.9	25 - 164	26.7653	27.14142	-0.3761	N/A	*
13C12-1,2,3,7,8-PeCDF	196.08	15.5	24 - 185	30.2942	30.67038	-0.3762	N/A	*
13C12-2,3,4,7,8-PeCDF	196.08	15.7	21 - 178	31.6425	32.01677	-0.3743	N/A	*
13C12-1,2,3,7,8-PeCDD	196.08	16.0	25 - 181	31.8945	32.2707	-0.3762	N/A	*
13C12-1,2,3,4,7,8-HxCDF	196.08	16.1	26 - 152	35.3255	35.71247	-0.3870	N/A	*
13C12-1,2,3,6,7,8-HxCDF	196.08	16.0	26 - 123	35.468	35.86413	-0.3961	N/A	*
13C12-2,3,4,6,7,8-HxCDF	196.08	15.9	28 - 136	36.4217	36.80682	-0.3851	N/A	*
13C12-1,2,3,7,8,9-HxCDF	196.08	17.9	29 - 147	37.5615	37.92483	-0.3633	N/A	*
13C12-1,2,3,4,7,8-HxCDD	196.08	16.6	32 - 141	36.5532	36.94017	-0.3870	N/A	*
13C12-1,2,3,6,7,8-HxCDD	196.08	15.9	28 - 130	36.6847	37.06987	-0.3852	N/A	*
13C12-1,2,3,4,6,7,8-HpCDF	196.08	16.8	28 - 143	39.6333	40.03297	-0.3997	N/A	*
13C12-1,2,3,4,7,8,9-HpCDF	196.08	19.0	26 - 138	42.352	42.81338	-0.4614	N/A	*
13C12-1,2,3,4,6,7,8-HpCDD	196.08	18.2	23 - 140	41.4532	41.8927	-0.4395	N/A	*
13C12-OCDD	392.16	15.2	17 - 157	47.3985	48.00368	-0.6052	N/A	*
37C14-2,3,7,8-TCDD	78.431	93.0	35 - 197	26.7952	27.16135	-0.3661	N/A	*

* Values outside of QC limits



SURROGATE RECOVERY AND RT SUMMARY

EPA 1613B

Laboratory: Analytical Resources, Inc.
 Client: Anchor QEA, LLC
 Sequence: SFB0342
 Sample ID: SFB0342-ICV1
 File ID: 17022402

SDG: 17A0053
 Project: Port Gamble Shellfish Monitoring
 Instrument: AUTOSPEC01
 Calibration: AA00071
 Analyzed: 02/24/17 14:07

Surrogate Compound	Spike Level ng/mL	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
13C12-2,3,7,8-TCDF	100.00	101	70 - 130	25.5553	26.50148	-0.9462	N/A	
13C12-2,3,7,8-TCDD	100.00	105	70 - 130	26.1828	27.14142	-0.9586	N/A	
13C12-1,2,3,7,8-PeCDF	100.00	101	70 - 130	29.6768	30.67038	-0.9936	N/A	
13C12-2,3,4,7,8-PeCDF	100.00	103	70 - 130	31.0252	32.01677	-0.9916	N/A	
13C12-1,2,3,7,8-PeCDD	100.00	107	70 - 130	31.2772	32.2707	-0.9935	N/A	
13C12-1,2,3,4,7,8-HxCDF	100.00	92.4	70 - 130	34.6863	35.71247	-1.0262	N/A	
13C12-1,2,3,6,7,8-HxCDF	100.00	93.9	70 - 130	34.8398	35.86413	-1.0243	N/A	
13C12-2,3,4,6,7,8-HxCDF	100.00	93.8	70 - 130	35.7825	36.80682	-1.0243	N/A	
13C12-1,2,3,7,8,9-HxCDF	100.00	104	70 - 130	36.9225	37.92483	-1.0023	N/A	
13C12-1,2,3,4,7,8-HxCDD	100.00	94.1	70 - 130	35.925	36.94017	-1.0152	N/A	
13C12-1,2,3,6,7,8-HxCDD	100.00	93.3	70 - 130	36.0457	37.06987	-1.0242	N/A	
13C12-1,2,3,4,6,7,8-HpCDF	100.00	95.6	70 - 130	38.9943	40.03297	-1.0387	N/A	
13C12-1,2,3,4,7,8,9-HpCDF	100.00	117	70 - 130	41.6032	42.81338	-1.2102	N/A	
13C12-1,2,3,4,6,7,8-HpCDD	100.00	103	70 - 130	40.7482	41.8927	-1.1445	N/A	
13C12-OCDD	200.00	121	70 - 130	46.4372	48.00368	-1.5665	N/A	
37C14-2,3,7,8-TCDD	10.000	101	0 - 200	26.1978	27.16135	-0.9635	N/A	

* Values outside of QC limits



SURROGATE RECOVERY AND RT SUMMARY

EPA 1613B

Laboratory: Analytical Resources, Inc.
 Client: Anchor QEA, LLC
 Sequence: SFB0342
 Sample ID: BFB0538-BLK1
 File ID: 17022404

SDG: 17A0053
 Project: Port Gamble Shellfish Monitoring
 Instrument: AUTOSPEC01
 Calibration: AA00071
 Analyzed: 02/24/17 15:52

Surrogate Compound	Spike Level ng/kg	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
13C12-2,3,7,8-TCDF	200.00	90.9	24 - 169	25.5405	26.50148	-0.9610	N/A	
13C12-2,3,7,8-TCDD	200.00	96.4	25 - 164	26.1678	27.14142	-0.9736	N/A	
13C12-1,2,3,7,8-PeCDF	200.00	90.8	24 - 185	29.6767	30.67038	-0.9937	N/A	
13C12-2,3,4,7,8-PeCDF	200.00	94.5	21 - 178	31.025	32.01677	-0.9918	N/A	
13C12-1,2,3,7,8-PeCDD	200.00	98.5	25 - 181	31.2772	32.2707	-0.9935	N/A	
13C12-1,2,3,4,7,8-HxCDF	200.00	82.9	26 - 152	34.6858	35.71247	-1.0267	N/A	
13C12-1,2,3,6,7,8-HxCDF	200.00	85.8	26 - 123	34.8393	35.86413	-1.0248	N/A	
13C12-2,3,4,6,7,8-HxCDF	200.00	86.6	28 - 136	35.782	36.80682	-1.0248	N/A	
13C12-1,2,3,7,8,9-HxCDF	200.00	91.9	29 - 147	36.9328	37.92483	-0.9920	N/A	
13C12-1,2,3,4,7,8-HxCDD	200.00	91.7	32 - 141	35.9245	36.94017	-1.0157	N/A	
13C12-1,2,3,6,7,8-HxCDD	200.00	93.8	28 - 130	36.056	37.06987	-1.0139	N/A	
13C12-1,2,3,4,6,7,8-HpCDF	200.00	83.5	28 - 143	39.0043	40.03297	-1.0287	N/A	
13C12-1,2,3,4,7,8,9-HpCDF	200.00	98.9	26 - 138	41.6132	42.81338	-1.2002	N/A	
13C12-1,2,3,4,6,7,8-HpCDD	200.00	94.6	23 - 140	40.7582	41.8927	-1.1345	N/A	
13C12-OCDD	400.00	90.9	17 - 157	46.4538	48.00368	-1.5499	N/A	
37C14-2,3,7,8-TCDD	80.000	101	35 - 197	26.1978	27.16135	-0.9635	N/A	

* Values outside of QC limits



SURROGATE RECOVERY AND RT SUMMARY

EPA 1613B

Laboratory: Analytical Resources, Inc.
 Client: Anchor QEA, LLC
 Sequence: SFB0342
 Sample ID: BFB0538-BS1
 File ID: 17022405

SDG: 17A0053
 Project: Port Gamble Shellfish Monitoring
 Instrument: AUTOSPEC01
 Calibration: AA00071
 Analyzed: 02/24/17 16:46

Surrogate Compound	Spike Level ng/kg	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
13C12-2,3,7,8-TCDF	200.00	88.0	24 - 169	25.5403	26.50148	-0.9612	N/A	
13C12-2,3,7,8-TCDD	200.00	93.0	25 - 164	26.1678	27.14142	-0.9736	N/A	
13C12-1,2,3,7,8-PeCDF	200.00	91.3	24 - 185	29.6657	30.67038	-1.0047	N/A	
13C12-2,3,4,7,8-PeCDF	200.00	95.3	21 - 178	31.0138	32.01677	-1.0030	N/A	
13C12-1,2,3,7,8-PeCDD	200.00	99.2	25 - 181	31.2658	32.2707	-1.0049	N/A	
13C12-1,2,3,4,7,8-HxCDF	200.00	77.0	26 - 152	34.6858	35.71247	-1.0267	N/A	
13C12-1,2,3,6,7,8-HxCDF	200.00	78.0	26 - 123	34.8283	35.86413	-1.0358	N/A	
13C12-2,3,4,6,7,8-HxCDF	200.00	81.0	28 - 136	35.7818	36.80682	-1.0250	N/A	
13C12-1,2,3,7,8,9-HxCDF	200.00	88.2	29 - 147	36.933	37.92483	-0.9918	N/A	
13C12-1,2,3,4,7,8-HxCDD	200.00	84.8	32 - 141	35.9245	36.94017	-1.0157	N/A	
13C12-1,2,3,6,7,8-HxCDD	200.00	83.0	28 - 130	36.045	37.06987	-1.0249	N/A	
13C12-1,2,3,4,6,7,8-HpCDF	200.00	76.0	28 - 143	38.9935	40.03297	-1.0395	N/A	
13C12-1,2,3,4,7,8,9-HpCDF	200.00	93.9	26 - 138	41.6133	42.81338	-1.2001	N/A	
13C12-1,2,3,4,6,7,8-HpCDD	200.00	90.3	23 - 140	40.7582	41.8927	-1.1345	N/A	
13C12-OCDD	400.00	86.2	17 - 157	46.454	48.00368	-1.5497	N/A	
37C14-2,3,7,8-TCDD	80.000	97.8	35 - 197	26.1977	27.16135	-0.9636	N/A	

* Values outside of QC limits



SURROGATE RECOVERY AND RT SUMMARY

EPA 1613B

Laboratory: Analytical Resources, Inc.
 Client: Anchor QEA, LLC
 Sequence: SFB0342
 Sample ID: 17A0053-01RE1
 File ID: 17022407

SDG: 17A0053
 Project: Port Gamble Shellfish Monitoring
 Instrument: AUTOSPEC01
 Calibration: AA00071
 Analyzed: 02/24/17 18:32

Surrogate Compound	Spike Level ng/kg	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
13C12-2,3,7,8-TCDF	199.40	59.1	24 - 169	25.525	26.50148	-0.9765	N/A	
13C12-2,3,7,8-TCDD	199.40	62.1	25 - 164	26.1527	27.14142	-0.9887	N/A	
13C12-1,2,3,7,8-PeCDF	199.40	59.1	24 - 185	29.6545	30.67038	-1.0159	N/A	
13C12-2,3,4,7,8-PeCDF	199.40	63.0	21 - 178	31.0028	32.01677	-1.0140	N/A	
13C12-1,2,3,7,8-PeCDD	199.40	63.8	25 - 181	31.2548	32.2707	-1.0159	N/A	
13C12-1,2,3,4,7,8-HxCDF	199.40	50.6	26 - 152	34.6745	35.71247	-1.0380	N/A	
13C12-1,2,3,6,7,8-HxCDF	199.40	50.7	26 - 123	34.817	35.86413	-1.0471	N/A	
13C12-2,3,4,6,7,8-HxCDF	199.40	53.1	28 - 136	35.7707	36.80682	-1.0361	N/A	
13C12-1,2,3,7,8,9-HxCDF	199.40	58.8	29 - 147	36.9103	37.92483	-1.0145	N/A	
13C12-1,2,3,4,7,8-HxCDD	199.40	54.8	32 - 141	35.9132	36.94017	-1.0270	N/A	
13C12-1,2,3,6,7,8-HxCDD	199.40	56.9	28 - 130	36.0337	37.06987	-1.0362	N/A	
13C12-1,2,3,4,6,7,8-HpCDF	199.40	52.7	28 - 143	38.982	40.03297	-1.0510	N/A	
13C12-1,2,3,4,7,8,9-HpCDF	199.40	64.3	26 - 138	41.5905	42.81338	-1.2229	N/A	
13C12-1,2,3,4,6,7,8-HpCDD	199.40	59.1	23 - 140	40.7357	41.8927	-1.1570	N/A	
13C12-OCDD	398.80	55.4	17 - 157	46.4262	48.00368	-1.5775	N/A	
37C14-2,3,7,8-TCDD	79.761	102	35 - 197	26.1825	27.16135	-0.9788	N/A	

* Values outside of QC limits



SURROGATE RECOVERY AND RT SUMMARY

EPA 1613B

Laboratory: Analytical Resources, Inc.
 Client: Anchor QEA, LLC
 Sequence: SFB0342
 Sample ID: 17A0053-04RE1
 File ID: 17022408

SDG: 17A0053
 Project: Port Gamble Shellfish Monitoring
 Instrument: AUTOSPEC01
 Calibration: AA00071
 Analyzed: 02/24/17 19:25

Surrogate Compound	Spike Level ng/kg	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
13C12-2,3,7,8-TCDF	199.01	64.9	24 - 169	25.5402	26.50148	-0.9613	N/A	
13C12-2,3,7,8-TCDD	199.01	67.4	25 - 164	26.1678	27.14142	-0.9736	N/A	
13C12-1,2,3,7,8-PeCDF	199.01	64.7	24 - 185	29.6657	30.67038	-1.0047	N/A	
13C12-2,3,4,7,8-PeCDF	199.01	69.6	21 - 178	31.014	32.01677	-1.0028	N/A	
13C12-1,2,3,7,8-PeCDD	199.01	69.3	25 - 181	31.2662	32.2707	-1.0045	N/A	
13C12-1,2,3,4,7,8-HxCDF	199.01	56.6	26 - 152	34.686	35.71247	-1.0265	N/A	
13C12-1,2,3,6,7,8-HxCDF	199.01	57.2	26 - 123	34.8285	35.86413	-1.0356	N/A	
13C12-2,3,4,6,7,8-HxCDF	199.01	57.8	28 - 136	35.7822	36.80682	-1.0246	N/A	
13C12-1,2,3,7,8,9-HxCDF	199.01	63.8	29 - 147	36.933	37.92483	-0.9918	N/A	
13C12-1,2,3,4,7,8-HxCDD	199.01	58.7	32 - 141	35.9247	36.94017	-1.0155	N/A	
13C12-1,2,3,6,7,8-HxCDD	199.01	60.2	28 - 130	36.0452	37.06987	-1.0247	N/A	
13C12-1,2,3,4,6,7,8-HpCDF	199.01	54.8	28 - 143	38.9938	40.03297	-1.0392	N/A	
13C12-1,2,3,4,7,8,9-HpCDF	199.01	67.5	26 - 138	41.6028	42.81338	-1.2106	N/A	
13C12-1,2,3,4,6,7,8-HpCDD	199.01	62.9	23 - 140	40.7478	41.8927	-1.1449	N/A	
13C12-OCDD	398.01	59.7	17 - 157	46.428	48.00368	-1.5757	N/A	
37C14-2,3,7,8-TCDD	79.602	103	35 - 197	26.1827	27.16135	-0.9786	N/A	

* Values outside of QC limits



SURROGATE RECOVERY AND RT SUMMARY

EPA 1613B

Laboratory: Analytical Resources, Inc.
 Client: Anchor QEA, LLC
 Sequence: SFB0342
 Sample ID: 17A0053-05RE1
 File ID: 17022409

SDG: 17A0053
 Project: Port Gamble Shellfish Monitoring
 Instrument: AUTOSPEC01
 Calibration: AA00071
 Analyzed: 02/24/17 20:18

Surrogate Compound	Spike Level ng/kg	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
13C12-2,3,7,8-TCDF	199.40	40.7	24 - 169	25.5402	26.50148	-0.9613	N/A	
13C12-2,3,7,8-TCDD	199.40	42.2	25 - 164	26.1677	27.14142	-0.9737	N/A	
13C12-1,2,3,7,8-PeCDF	199.40	37.8	24 - 185	29.6655	30.67038	-1.0049	N/A	
13C12-2,3,4,7,8-PeCDF	199.40	39.4	21 - 178	31.0138	32.01677	-1.0030	N/A	
13C12-1,2,3,7,8-PeCDD	199.40	40.2	25 - 181	31.2658	32.2707	-1.0049	N/A	
13C12-1,2,3,4,7,8-HxCDF	199.40	37.5	26 - 152	34.6748	35.71247	-1.0377	N/A	
13C12-1,2,3,6,7,8-HxCDF	199.40	37.9	26 - 123	34.8283	35.86413	-1.0358	N/A	
13C12-2,3,4,6,7,8-HxCDF	199.40	37.5	28 - 136	35.7818	36.80682	-1.0250	N/A	
13C12-1,2,3,7,8,9-HxCDF	199.40	40.9	29 - 147	36.922	37.92483	-1.0028	N/A	
13C12-1,2,3,4,7,8-HxCDD	199.40	39.5	32 - 141	35.9133	36.94017	-1.0269	N/A	
13C12-1,2,3,6,7,8-HxCDD	199.40	39.8	28 - 130	36.045	37.06987	-1.0249	N/A	
13C12-1,2,3,4,6,7,8-HpCDF	199.40	35.4	28 - 143	38.9827	40.03297	-1.0503	N/A	
13C12-1,2,3,4,7,8,9-HpCDF	199.40	41.4	26 - 138	41.5913	42.81338	-1.2221	N/A	
13C12-1,2,3,4,6,7,8-HpCDD	199.40	38.8	23 - 140	40.7475	41.8927	-1.1452	N/A	
13C12-OCDD	398.80	33.5	17 - 157	46.4273	48.00368	-1.5764	N/A	
37C14-2,3,7,8-TCDD	79.761	95.8	35 - 197	26.1827	27.16135	-0.9786	N/A	

* Values outside of QC limits



SURROGATE RECOVERY AND RT SUMMARY

EPA 1613B

Laboratory: Analytical Resources, Inc.
 Client: Anchor QEA, LLC
 Sequence: SFB0342
 Sample ID: 17A0053-06RE1
 File ID: 17022410

SDG: 17A0053
 Project: Port Gamble Shellfish Monitoring
 Instrument: AUTOSPEC01
 Calibration: AA00071
 Analyzed: 02/24/17 21:11

Surrogate Compound	Spike Level ng/kg	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
13C12-2,3,7,8-TCDF	199.60	40.2	24 - 169	25.5252	26.50148	-0.9763	N/A	
13C12-2,3,7,8-TCDD	199.60	41.6	25 - 164	26.1527	27.14142	-0.9887	N/A	
13C12-1,2,3,7,8-PeCDF	199.60	38.9	24 - 185	29.6545	30.67038	-1.0159	N/A	
13C12-2,3,4,7,8-PeCDF	199.60	40.3	21 - 178	30.9918	32.01677	-1.0250	N/A	
13C12-1,2,3,7,8-PeCDD	199.60	41.3	25 - 181	31.244	32.2707	-1.0267	N/A	
13C12-1,2,3,4,7,8-HxCDF	199.60	37.5	26 - 152	34.6637	35.71247	-1.0488	N/A	
13C12-1,2,3,6,7,8-HxCDF	199.60	38.2	26 - 123	34.817	35.86413	-1.0471	N/A	
13C12-2,3,4,6,7,8-HxCDF	199.60	37.6	28 - 136	35.7597	36.80682	-1.0471	N/A	
13C12-1,2,3,7,8,9-HxCDF	199.60	40.0	29 - 147	36.9105	37.92483	-1.0143	N/A	
13C12-1,2,3,4,7,8-HxCDD	199.60	39.6	32 - 141	35.9022	36.94017	-1.0380	N/A	
13C12-1,2,3,6,7,8-HxCDD	199.60	39.0	28 - 130	36.0227	37.06987	-1.0472	N/A	
13C12-1,2,3,4,6,7,8-HpCDF	199.60	36.5	28 - 143	38.9712	40.03297	-1.0618	N/A	
13C12-1,2,3,4,7,8,9-HpCDF	199.60	40.6	26 - 138	41.5798	42.81338	-1.2336	N/A	
13C12-1,2,3,4,6,7,8-HpCDD	199.60	38.9	23 - 140	40.7248	41.8927	-1.1679	N/A	
13C12-OCDD	399.20	32.6	17 - 157	46.4087	48.00368	-1.5950	N/A	
37C14-2,3,7,8-TCDD	79.840	98.6	35 - 197	26.1677	27.16135	-0.9936	N/A	

* Values outside of QC limits



SURROGATE RECOVERY AND RT SUMMARY

EPA 1613B

Laboratory: Analytical Resources, Inc.
 Client: Anchor QEA, LLC
 Sequence: SFB0342
 Sample ID: 17A0053-07RE1
 File ID: 17022411

SDG: 17A0053
 Project: Port Gamble Shellfish Monitoring
 Instrument: AUTOSPEC01
 Calibration: AA00071
 Analyzed: 02/24/17 22:05

Surrogate Compound	Spike Level ng/kg	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
13C12-2,3,7,8-TCDF	199.40	31.3	24 - 169	25.5252	26.50148	-0.9763	N/A	
13C12-2,3,7,8-TCDD	199.40	32.2	25 - 164	26.1528	27.14142	-0.9886	N/A	
13C12-1,2,3,7,8-PeCDF	199.40	30.5	24 - 185	29.6437	30.67038	-1.0267	N/A	
13C12-2,3,4,7,8-PeCDF	199.40	30.7	21 - 178	30.992	32.01677	-1.0248	N/A	
13C12-1,2,3,7,8-PeCDD	199.40	32.0	25 - 181	31.2442	32.2707	-1.0265	N/A	
13C12-1,2,3,4,7,8-HxCDF	199.40	26.5	26 - 152	34.6645	35.71247	-1.0480	N/A	
13C12-1,2,3,6,7,8-HxCDF	199.40	26.9	26 - 123	34.807	35.86413	-1.0571	N/A	
13C12-2,3,4,6,7,8-HxCDF	199.40	26.8	28 - 136	35.7607	36.80682	-1.0461	N/A	*
13C12-1,2,3,7,8,9-HxCDF	199.40	31.4	29 - 147	36.9007	37.92483	-1.0241	N/A	
13C12-1,2,3,4,7,8-HxCDD	199.40	28.3	32 - 141	35.8923	36.94017	-1.0479	N/A	*
13C12-1,2,3,6,7,8-HxCDD	199.40	29.2	28 - 130	36.0238	37.06987	-1.0461	N/A	
13C12-1,2,3,4,6,7,8-HpCDF	199.40	27.4	28 - 143	38.9615	40.03297	-1.0715	N/A	*
13C12-1,2,3,4,7,8,9-HpCDF	199.40	32.9	26 - 138	41.5703	42.81338	-1.2431	N/A	
13C12-1,2,3,4,6,7,8-HpCDD	199.40	30.5	23 - 140	40.7153	41.8927	-1.1774	N/A	
13C12-OCDD	398.80	27.6	17 - 157	46.4013	48.00368	-1.6024	N/A	
37C14-2,3,7,8-TCDD	79.761	97.2	35 - 197	26.1677	27.16135	-0.9936	N/A	

* Values outside of QC limits



SURROGATE RECOVERY AND RT SUMMARY

EPA 1613B

Laboratory: Analytical Resources, Inc.
 Client: Anchor QEA, LLC
 Sequence: SFB0342
 Sample ID: 17A0053-08RE1
 File ID: 17022412

SDG: 17A0053
 Project: Port Gamble Shellfish Monitoring
 Instrument: AUTOSPEC01
 Calibration: AA00071
 Analyzed: 02/24/17 22:58

Surrogate Compound	Spike Level ng/kg	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
13C12-2,3,7,8-TCDF	198.81	42.2	24 - 169	25.5253	26.50148	-0.9762	N/A	
13C12-2,3,7,8-TCDD	198.81	44.2	25 - 164	26.1528	27.14142	-0.9886	N/A	
13C12-1,2,3,7,8-PeCDF	198.81	40.4	24 - 185	29.6437	30.67038	-1.0267	N/A	
13C12-2,3,4,7,8-PeCDF	198.81	41.2	21 - 178	30.9918	32.01677	-1.0250	N/A	
13C12-1,2,3,7,8-PeCDD	198.81	42.2	25 - 181	31.244	32.2707	-1.0267	N/A	
13C12-1,2,3,4,7,8-HxCDF	198.81	36.7	26 - 152	34.6638	35.71247	-1.0487	N/A	
13C12-1,2,3,6,7,8-HxCDF	198.81	36.9	26 - 123	34.8063	35.86413	-1.0578	N/A	
13C12-2,3,4,6,7,8-HxCDF	198.81	38.1	28 - 136	35.7598	36.80682	-1.0470	N/A	
13C12-1,2,3,7,8,9-HxCDF	198.81	42.9	29 - 147	36.8998	37.92483	-1.0250	N/A	
13C12-1,2,3,4,7,8-HxCDD	198.81	39.3	32 - 141	35.8915	36.94017	-1.0487	N/A	
13C12-1,2,3,6,7,8-HxCDD	198.81	40.2	28 - 130	36.023	37.06987	-1.0469	N/A	
13C12-1,2,3,4,6,7,8-HpCDF	198.81	36.5	28 - 143	38.9605	40.03297	-1.0725	N/A	
13C12-1,2,3,4,7,8,9-HpCDF	198.81	43.6	26 - 138	41.5692	42.81338	-1.2442	N/A	
13C12-1,2,3,4,6,7,8-HpCDD	198.81	40.6	23 - 140	40.7252	41.8927	-1.1675	N/A	
13C12-OCDD	397.61	37.6	17 - 157	46.3998	48.00368	-1.6039	N/A	
37C14-2,3,7,8-TCDD	79.523	98.8	35 - 197	26.1678	27.16135	-0.9935	N/A	

* Values outside of QC limits



SURROGATE RECOVERY AND RT SUMMARY

EPA 1613B

Laboratory: Analytical Resources, Inc.
 Client: Anchor QEA, LLC
 Sequence: SFB0342
 Sample ID: 17A0053-09RE1
 File ID: 17022413

SDG: 17A0053
 Project: Port Gamble Shellfish Monitoring
 Instrument: AUTOSPEC01
 Calibration: AA00071
 Analyzed: 02/24/17 23:51

Surrogate Compound	Spike Level ng/kg	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
13C12-2,3,7,8-TCDF	199.80	57.7	24 - 169	25.525	26.50148	-0.9765	N/A	
13C12-2,3,7,8-TCDD	199.80	59.4	25 - 164	26.1523	27.14142	-0.9891	N/A	
13C12-1,2,3,7,8-PeCDF	199.80	56.8	24 - 185	29.6542	30.67038	-1.0162	N/A	
13C12-2,3,4,7,8-PeCDF	199.80	62.0	21 - 178	31.0025	32.01677	-1.0143	N/A	
13C12-1,2,3,7,8-PeCDD	199.80	62.7	25 - 181	31.2435	32.2707	-1.0272	N/A	
13C12-1,2,3,4,7,8-HxCDF	199.80	48.4	26 - 152	34.6635	35.71247	-1.0490	N/A	
13C12-1,2,3,6,7,8-HxCDF	199.80	48.7	26 - 123	34.817	35.86413	-1.0471	N/A	
13C12-2,3,4,6,7,8-HxCDF	199.80	51.7	28 - 136	35.7707	36.80682	-1.0361	N/A	
13C12-1,2,3,7,8,9-HxCDF	199.80	57.2	29 - 147	36.9107	37.92483	-1.0141	N/A	
13C12-1,2,3,4,7,8-HxCDD	199.80	52.3	32 - 141	35.9022	36.94017	-1.0380	N/A	
13C12-1,2,3,6,7,8-HxCDD	199.80	52.7	28 - 130	36.0338	37.06987	-1.0361	N/A	
13C12-1,2,3,4,6,7,8-HpCDF	199.80	49.2	28 - 143	38.9713	40.03297	-1.0617	N/A	
13C12-1,2,3,4,7,8,9-HpCDF	199.80	60.2	26 - 138	41.5802	42.81338	-1.2332	N/A	
13C12-1,2,3,4,6,7,8-HpCDD	199.80	54.8	23 - 140	40.7252	41.8927	-1.1675	N/A	
13C12-OCDD	399.60	50.6	17 - 157	46.409	48.00368	-1.5947	N/A	
37C14-2,3,7,8-TCDD	79.920	95.8	35 - 197	26.1673	27.16135	-0.9940	N/A	

* Values outside of QC limits



SURROGATE RECOVERY AND RT SUMMARY

EPA 1613B

Laboratory: Analytical Resources, Inc.
 Client: Anchor QEA, LLC
 Sequence: SFB0342
 Sample ID: 17A0053-11RE1
 File ID: 17022414

SDG: 17A0053
 Project: Port Gamble Shellfish Monitoring
 Instrument: AUTOSPEC01
 Calibration: AA00071
 Analyzed: 02/25/17 00:45

Surrogate Compound	Spike Level ng/kg	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
13C12-2,3,7,8-TCDF	198.41	37.8	24 - 169	25.5255	26.50148	-0.9760	N/A	
13C12-2,3,7,8-TCDD	198.41	38.9	25 - 164	26.153	27.14142	-0.9884	N/A	
13C12-1,2,3,7,8-PeCDF	198.41	35.9	24 - 185	29.644	30.67038	-1.0264	N/A	
13C12-2,3,4,7,8-PeCDF	198.41	35.4	21 - 178	30.9922	32.01677	-1.0246	N/A	
13C12-1,2,3,7,8-PeCDD	198.41	36.3	25 - 181	31.2443	32.2707	-1.0264	N/A	
13C12-1,2,3,4,7,8-HxCDF	198.41	33.7	26 - 152	34.6643	35.71247	-1.0482	N/A	
13C12-1,2,3,6,7,8-HxCDF	198.41	33.6	26 - 123	34.8068	35.86413	-1.0573	N/A	
13C12-2,3,4,6,7,8-HxCDF	198.41	35.1	28 - 136	35.7605	36.80682	-1.0463	N/A	
13C12-1,2,3,7,8,9-HxCDF	198.41	38.0	29 - 147	36.9003	37.92483	-1.0245	N/A	
13C12-1,2,3,4,7,8-HxCDD	198.41	35.6	32 - 141	35.903	36.94017	-1.0372	N/A	
13C12-1,2,3,6,7,8-HxCDD	198.41	36.9	28 - 130	36.0235	37.06987	-1.0464	N/A	
13C12-1,2,3,4,6,7,8-HpCDF	198.41	33.9	28 - 143	38.961	40.03297	-1.0720	N/A	
13C12-1,2,3,4,7,8,9-HpCDF	198.41	39.5	26 - 138	41.5697	42.81338	-1.2437	N/A	
13C12-1,2,3,4,6,7,8-HpCDD	198.41	36.3	23 - 140	40.7148	41.8927	-1.1779	N/A	
13C12-OCDD	396.83	31.1	17 - 157	46.4007	48.00368	-1.6030	N/A	
37C14-2,3,7,8-TCDD	79.365	95.4	35 - 197	26.1678	27.16135	-0.9935	N/A	

* Values outside of QC limits

HOLDING TIME SUMMARY

Analysis: EPA 1613B

Laboratory: Analytical Resources, Inc.

SDG: 17A0053

Client: Anchor QEA, LLC

Project: Port Gamble Shellfish Monitoring

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
PG-SMA1-1-MUS-170105 17A0053-01RE1	01/05/17 10:15	01/06/17 16:03	02/22/17 12:00	48	365	02/24/17 18:32	2	365	
PG-SMA2-1-MUS-170105 17A0053-04RE1	01/05/17 13:02	01/06/17 16:03	02/22/17 12:00	47	365	02/24/17 19:25	2	365	
PG-SMA2-2-MUS-170105 17A0053-05RE1	01/05/17 12:50	01/06/17 16:03	02/22/17 12:00	47	365	02/24/17 20:18	2	365	
PG-SMA2-3-MUS-170105 17A0053-06RE1	01/05/17 12:40	01/06/17 16:03	02/22/17 12:00	47	365	02/24/17 21:11	2	365	
PG-SMA2-4-MUS-170105 17A0053-07RE1	01/05/17 12:30	01/06/17 16:03	02/22/17 12:00	47	365	02/24/17 22:05	2	365	
PG-SMA2-5-MUS-170105 17A0053-08RE1	01/05/17 12:20	01/06/17 16:03	02/22/17 12:00	47	365	02/24/17 22:58	2	365	
PG-PJ-1-MUS-170105 17A0053-09RE1	01/05/17 14:53	01/06/17 16:03	02/22/17 12:00	47	365	02/24/17 23:51	2	365	
PG-GP-1-MUS-170105 17A0053-10	01/05/17 14:43	01/06/17 16:03	01/31/17 14:50	26	365	02/09/17 00:01	8	365	
PG-WS-1-MUS-170105 17A0053-11RE1	01/05/17 14:35	01/06/17 16:03	02/22/17 12:00	47	365	02/25/17 00:45	3	365	
PG-SMA1-2-3-MUS-170105 17A0053-12	01/05/17 00:00	01/06/17 16:03	01/31/17 14:50	26	365	02/09/17 01:47	8	365	

* Indicates hold time exceedance.

METHOD DETECTION AND REPORTING LIMITS

EPA 1613B

Laboratory: Analytical Resources, Inc.

SDG: 17A0053

Client: Anchor QEA, LLC

Project: Port Gamble Shellfish Monitoring

Matrix: Tissue

Instrument: AUTOSPEC01

Analyte	MDL	RL	Units
2,3,7,8-TCDF	0.050	1.00	ng/kg
2,3,7,8-TCDD	0.160	1.00	ng/kg
1,2,3,7,8-PeCDF	0.470	5.00	ng/kg
2,3,4,7,8-PeCDF	0.410	5.00	ng/kg
1,2,3,7,8-PeCDD	0.490	5.00	ng/kg
1,2,3,4,7,8-HxCDF	0.440	5.00	ng/kg
1,2,3,6,7,8-HxCDF	0.390	5.00	ng/kg
2,3,4,6,7,8-HxCDF	0.410	5.00	ng/kg
1,2,3,7,8,9-HxCDF	0.490	5.00	ng/kg
1,2,3,4,7,8-HxCDD	0.480	5.00	ng/kg
1,2,3,6,7,8-HxCDD	0.370	5.00	ng/kg
1,2,3,7,8,9-HxCDD	0.350	5.00	ng/kg
1,2,3,4,6,7,8-HpCDF	0.470	5.00	ng/kg
1,2,3,4,7,8,9-HpCDF	0.450	5.00	ng/kg
1,2,3,4,6,7,8-HpCDD	0.580	5.00	ng/kg
OCDF	0.740	10.0	ng/kg
OCDD	1.83	10.0	ng/kg
Total TCDF		1.00	ng/kg
Total TCDD		1.00	ng/kg
Total PeCDF		1.00	ng/kg
Total PeCDD		1.00	ng/kg
Total HxCDF		1.00	ng/kg
Total HxCDD		1.00	ng/kg
Total HpCDF		1.00	ng/kg
Total HpCDD		1.00	ng/kg

METHOD DETECTION AND REPORTING LIMITS

EPA 1613B

Laboratory: Analytical Resources, Inc.

SDG: 17A0053

Client: Anchor QEA, LLC

Project: Port Gamble Shellfish Monitoring

Matrix: Water

Instrument: AUTOSPEC01

Analyte	MDL	RL	Units
2,3,7,8-TCDF	0.27	10.0	pg/L
2,3,7,8-TCDD	0.31	10.0	pg/L
1,2,3,7,8-PeCDF	1.34	10.0	pg/L
2,3,4,7,8-PeCDF	1.40	10.0	pg/L
1,2,3,7,8-PeCDD	1.41	10.0	pg/L
1,2,3,4,7,8-HxCDF	1.34	10.0	pg/L
1,2,3,6,7,8-HxCDF	1.38	10.0	pg/L
2,3,4,6,7,8-HxCDF	1.45	10.0	pg/L
1,2,3,7,8,9-HxCDF	1.25	10.0	pg/L
1,2,3,4,7,8-HxCDD	1.32	10.0	pg/L
1,2,3,6,7,8-HxCDD	1.43	10.0	pg/L
1,2,3,7,8,9-HxCDD	1.29	10.0	pg/L
1,2,3,4,6,7,8-HpCDF	1.28	10.0	pg/L
1,2,3,4,7,8,9-HpCDF	1.20	10.0	pg/L
1,2,3,4,6,7,8-HpCDD	0.98	10.0	pg/L
OCDF	2.59	20.0	pg/L
OCDD	3.14	20.0	pg/L



Form I
INORGANIC ANALYSIS DATA SHEET

PG-SMA1-1-MUS-170105

EPA 6010C
Total Metals

Laboratory: Analytical Resources, Inc.

Project: Port Gamble Shellfish Monitoring

Client: Anchor QEA, LLC

SDG: 17A0053

Matrix: Tissue

Laboratory ID: 17A0053-01

File ID: I2170207-082

Sampled: 01/05/17 10:15

Prepared: 02/01/17 11:20

Analyzed: 02/07/17 19:08

Solids (wt%): 0.00

Preparation: FRN Tissue Digestion ICP ICP-MS

Initial/Final: 2.552 g / 50 mL

Batch: BFA0668

Sequence: SFB0091

Calibration: AB00022

Instrument: ICP2

CAS NO.	Analyte	Concentration (mg/kg)	Dilution Factor	MDL	MRL	Q
7440-43-9	Cadmium	0.235	1	0.0024	0.0392	



Form I
INORGANIC ANALYSIS DATA SHEET

PG-SMA2-1-MUS-170105

EPA 6010C
Total Metals

Laboratory: Analytical Resources, Inc.

Project: Port Gamble Shellfish Monitoring

Client: Anchor QEA, LLC

SDG: 17A0053

Matrix: Tissue

Laboratory ID: 17A0053-04

File ID: I2170207-083

Sampled: 01/05/17 13:02

Prepared: 02/01/17 11:20

Analyzed: 02/07/17 19:12

Solids (wt%): 0.00

Preparation: FRN Tissue Digestion ICP ICP-MS

Initial/Final: 2.546 g / 50 mL

Batch: BFA0668

Sequence: SFB0091

Calibration: AB00022

Instrument: ICP2

CAS NO.	Analyte	Concentration (mg/kg)	Dilution Factor	MDL	MRL	Q
7440-43-9	Cadmium	0.246	1	0.0024	0.0393	



Form I
INORGANIC ANALYSIS DATA SHEET

PG-SMA2-2-MUS-170105

EPA 6010C
Total Metals

Laboratory: Analytical Resources, Inc.

Project: Port Gamble Shellfish Monitoring

Client: Anchor QEA, LLC

SDG: 17A0053

Matrix: Tissue

Laboratory ID: 17A0053-05

File ID: I2170207-072

Sampled: 01/05/17 12:50

Prepared: 02/01/17 11:20

Analyzed: 02/07/17 18:20

Solids (wt%): 0.00

Preparation: FRN Tissue Digestion ICP ICP-MS

Initial/Final: 2.523 g / 50 mL

Batch: BFA0668

Sequence: SFB0091

Calibration: AB00022

Instrument: ICP2

CAS NO.	Analyte	Concentration (mg/kg)	Dilution Factor	MDL	MRL	Q
7440-43-9	Cadmium	0.227	1	0.0025	0.0396	



Form I
INORGANIC ANALYSIS DATA SHEET

PG-SMA2-3-MUS-170105

EPA 6010C
Total Metals

Laboratory: Analytical Resources, Inc.

Project: Port Gamble Shellfish Monitoring

Client: Anchor QEA, LLC

SDG: 17A0053

Matrix: Tissue

Laboratory ID: 17A0053-06

File ID: I2170207-084

Sampled: 01/05/17 12:40

Prepared: 02/01/17 11:20

Analyzed: 02/07/17 19:17

Solids (wt%): 0.00

Preparation: FRN Tissue Digestion ICP ICP-MS

Initial/Final: 2.528 g / 50 mL

Batch: BFA0668

Sequence: SFB0091

Calibration: AB00022

Instrument: ICP2

CAS NO.	Analyte	Concentration (mg/kg)	Dilution Factor	MDL	MRL	Q
7440-43-9	Cadmium	0.229	1	0.0024	0.0396	



Form I
INORGANIC ANALYSIS DATA SHEET

PG-SMA2-4-MUS-170105

EPA 6010C
Total Metals

Laboratory: Analytical Resources, Inc.

Project: Port Gamble Shellfish Monitoring

Client: Anchor QEA, LLC

SDG: 17A0053

Matrix: Tissue

Laboratory ID: 17A0053-07

File ID: I2170207-085

Sampled: 01/05/17 12:30

Prepared: 02/01/17 11:20

Analyzed: 02/07/17 19:21

Solids (wt%): 0.00

Preparation: FRN Tissue Digestion ICP ICP-MS

Initial/Final: 2.588 g / 50 mL

Batch: BFA0668

Sequence: SFB0091

Calibration: AB00022

Instrument: ICP2

CAS NO.	Analyte	Concentration (mg/kg)	Dilution Factor	MDL	MRL	Q
7440-43-9	Cadmium	0.236	1	0.0024	0.0386	



Form I
INORGANIC ANALYSIS DATA SHEET

PG-SMA2-5-MUS-170105

EPA 6010C
Total Metals

Laboratory: Analytical Resources, Inc.

Project: Port Gamble Shellfish Monitoring

Client: Anchor QEA, LLC

SDG: 17A0053

Matrix: Tissue

Laboratory ID: 17A0053-08

File ID: I2170207-086

Sampled: 01/05/17 12:20

Prepared: 02/01/17 11:20

Analyzed: 02/07/17 19:25

Solids (wt%): 0.00

Preparation: FRN Tissue Digestion ICP ICP-MS

Initial/Final: 2.575 g / 50 mL

Batch: BFA0668

Sequence: SFB0091

Calibration: AB00022

Instrument: ICP2

CAS NO.	Analyte	Concentration (mg/kg)	Dilution Factor	MDL	MRL	Q
7440-43-9	Cadmium	0.226	1	0.0024	0.0388	



Form I
INORGANIC ANALYSIS DATA SHEET

PG-PJ-1-MUS-170105

EPA 6010C
Total Metals

Laboratory: Analytical Resources, Inc.

Project: Port Gamble Shellfish Monitoring

Client: Anchor QEA, LLC

SDG: 17A0053

Matrix: Tissue

Laboratory ID: 17A0053-09

File ID: I2170207-087

Sampled: 01/05/17 14:53

Prepared: 02/01/17 11:20

Analyzed: 02/07/17 19:29

Solids (wt%): 0.00

Preparation: FRN Tissue Digestion ICP ICP-MS

Initial/Final: 2.503 g / 50 mL

Batch: BFA0668

Sequence: SFB0091

Calibration: AB00022

Instrument: ICP2

CAS NO.	Analyte	Concentration (mg/kg)	Dilution Factor	MDL	MRL	Q
7440-43-9	Cadmium	0.231	1	0.0025	0.0400	



Form I
INORGANIC ANALYSIS DATA SHEET

PG-WS-1-MUS-170105

EPA 6010C
Total Metals

Laboratory: Analytical Resources, Inc.

Project: Port Gamble Shellfish Monitoring

Client: Anchor QEA, LLC

SDG: 17A0053

Matrix: Tissue

Laboratory ID: 17A0053-11

File ID: I2170207-088

Sampled: 01/05/17 14:35

Prepared: 02/01/17 11:20

Analyzed: 02/07/17 19:34

Solids (wt%): 0.00

Preparation: FRN Tissue Digestion ICP ICP-MS

Initial/Final: 2.531 g / 50 mL

Batch: BFA0668

Sequence: SFB0091

Calibration: AB00022

Instrument: ICP2

CAS NO.	Analyte	Concentration (mg/kg)	Dilution Factor	MDL	MRL	Q
7440-43-9	Cadmium	0.214	1	0.0024	0.0395	



Form I
INORGANIC ANALYSIS DATA SHEET

PG-SMA1-2-3-MUS-170105

EPA 6010C
Total Metals

Laboratory: Analytical Resources, Inc.

Project: Port Gamble Shellfish Monitoring

Client: Anchor QEA, LLC

SDG: 17A0053

Matrix: Tissue

Laboratory ID: 17A0053-12

File ID: I2170207-089

Sampled: 01/05/17 00:00

Prepared: 02/01/17 11:20

Analyzed: 02/07/17 19:38

Solids (wt%): 0.00

Preparation: FRN Tissue Digestion ICP ICP-MS

Initial/Final: 2.578 g / 50 mL

Batch: BFA0668

Sequence: SFB0091

Calibration: AB00022

Instrument: ICP2

CAS NO.	Analyte	Concentration (mg/kg)	Dilution Factor	MDL	MRL	Q
7440-43-9	Cadmium	0.274	1	0.0024	0.0388	

BFA668



Analytical Resources, Incorporated
Analytical Chemists and Consultants

Digestion Log

Analyst: DP

Date: ~~1/31/17~~ ^{MS} 2/1/17

Time: ~~130~~ 1120 ^{MS 2/1/17}

Matrix: Tissue

Block ID: #1

Block Temp: _____

Thermometer: mp84

ARI Sample ID	Btl #	pH<2	Prep Code: <u>FRW</u>		Prep Code:		Comments
			Initial Wt (g) Vol (mL)	Final Vol (mL)	Initial Wt (g) Vol (mL)	Final Vol (mL)	
16K124-1	B	-	2.509	50.0			
17A53	1	-	2.552				
11	4	-	2.546				
11	5	-	2.523				
11	6	-	2.528				
11	7	-	2.588				
11	8	-	2.575				
11	9	-	2.503				
11	10	-	-				consumed
11	11	-	2.531				
11	12	-	2.578				
BFA668 Dup	-	-	2.520				17A53-5
11	MS1	-	2.520				↓
11	BS1	-	-				
11	Blk	-	-	50.0			
MS 2/1/17							

Chemical/Reagent ID:

HNO₃: _____ HCl: _____ H₂O₂: _____ Tube Lot #: _____



Form I
METHOD BLANK DATA SHEET
EPA 6010C
Total Metals

Blank

Batch: BFA0668

Laboratory ID: BFA0668-BLK1

Prepared: 02/01/17 11:20

Matrix: Tissue

Preparation: FRN Tissue Digestion ICP

Analyzed: 02/07/17 18:12

Sequence: SFB0091

Calibration: AB00022

Instrument: ICP2

CAS NO.	Analyte	Concentration (mg/kg)	Dilution Factor	MDL	MRL	Q
7440-43-9	Cadmium	0.0035	1	0.0025	0.0400	J

DUPLICATES

PG-SMA2-2-MUS-170105

EPA 6010C

Total Metals

Laboratory: Analytical Resources, Inc.

SDG: 17A0053

Client: Anchor QEA, LLC

Project: Port Gamble Shellfish Monitoring

Matrix: Tissue

Laboratory ID: BFA0668-DUP1

Batch: BFA0668

Lab Source ID: 17A0053-05

Preparation: FRN Tissue Digestion ICP ICP-MS

Initial/Final: 2.52 g / 50 mL

Source Sample Name: PG-SMA2-2-MUS-170105

% Solids:

ANALYTE	CONTROL LIMIT	SAMPLE CONCENTRATION (mg/kg)	C	DUPLICATE CONCENTRATION (mg/kg)	C	RPD %	Q
Cadmium		0.227		0.243		6.67	

*: Values outside of QC limits

L: Analyte concentration is <=5 times the reporting limit and the replicate control limit defaults to Dup = +/-RL instead of 20% RPD



INSTRUMENT BLANKS
EPA 6010C

Laboratory: Analytical Resources, Inc.

SDG: 17A0053

Client: Anchor QEA, LLC

Project: Port Gamble Shellfish Monitoring

Instrument ID: ICP2

Calibration: AB00022

Sequence: SFB0091

Date Analyzed: 02/07/17 12:59

Lab Sample ID	Analyte	Found	MDL	MRL	Units	C
SFB0091-ICB1	Cadmium	0.0001	0.0003	0.0020	mg/L	
SFB0091-CCB1	Cadmium	-0.0001	0.0003	0.0020	mg/L	
SFB0091-CCB2	Cadmium	-0.0001	0.0003	0.0020	mg/L	
SFB0091-CCB3	Cadmium	-0.0001	0.0003	0.0020	mg/L	
SFB0091-CCB4	Cadmium	0.0002	0.0003	0.0020	mg/L	
SFB0091-CCB5	Cadmium	0.000004	0.0003	0.0020	mg/L	
SFB0091-CCB6	Cadmium	0.0003	0.0003	0.0020	mg/L	
SFB0091-CCB7	Cadmium	0.0005	0.0003	0.0020	mg/L	
SFB0091-CCB8	Cadmium	0.0005	0.0003	0.0020	mg/L	



LCS / LCS DUPLICATE RECOVERY

EPA 6010C

Total Metals

Laboratory:	<u>Analytical Resources, Inc.</u>	SDG:	<u>17A0053</u>
Client:	<u>Anchor QEA, LLC</u>	Project:	<u>Port Gamble Shellfish Monitoring</u>
Matrix:	<u>Tissue</u>	Analyzed:	<u>02/07/17 18:30</u>
Batch:	<u>BFA0668</u>	Laboratory ID:	<u>BFA0668-BS1</u>
Preparation:	<u>FRN Tissue Digestion ICP ICP-MS</u>	Sequence Name:	<u>LCS</u>
Initial/Final:	<u>2.5 g / 50 mL</u>		

COMPOUND	SPIKE ADDED (mg/kg)	LCS CONCENTRATION (mg/kg)	LCS % REC. #	QC LIMITS REC.
Cadmium	20.0	17.2	85.9	80 - 120

* Values outside of QC limits



MS / MS DUPLICATE RECOVERY
EPA 6010C
Total Metals

Laboratory:	<u>Analytical Resources, Inc.</u>	SDG:	<u>17A0053</u>
Client:	<u>Anchor QEA, LLC</u>	Project:	<u>Port Gamble Shellfish Monitoring</u>
Matrix:	<u>Tissue</u>	Analyzed:	<u>02/07/17 18:24</u>
Batch:	<u>BFA0668</u>	Laboratory ID:	<u>BFA0668-MS1</u>
Preparation:	<u>FRN Tissue Digestion ICP ICP-MS</u>	Sequence Name::	<u>Matrix Spike</u>
Initial/Final:	<u>2.52 g / 50 mL</u>	Source Sample:	<u>PG-SMA2-2-MUS-170105</u>

COMPOUND	SPIKE ADDED (mg/kg)	SAMPLE CONCENTRATION (mg/kg)	MS CONCENTRATION (mg/kg)	MS % REC. #	QC LIMITS REC.
Cadmium	19.8	0.227	18.4	91.7	75 - 125

* Values outside of QC limits



INITIAL CALIBRATION DATA

EPA 6010C

Laboratory: Analytical Resources, Inc.

SDG: 17A0053

Client: Anchor QEA, LLC

Project: Port Gamble Shellfish Monitoring

Calibration: AB00022

Instrument: ICP2

Calibration Date: 02/07/2017 12:41

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
		RF		RF		RF		RF		RF		RF
Cadmium	0	0	10	22009.49	0		0		0			



SFB091

IEC Date: 12/29/16

Analysis Date: 2/7/17

Analyst: er

LR Date: 10/18/16

Page: 1 of 4

All corrections made by analyst unless otherwise noted.

Edit Label	Delete Data	ARI Sample ID	Prep. Code	Dilution	Comments
		SEQ-CALI	F52		
		↓ 2	F1056		
		3	F1057		
		4	F1058		
		5	F1059		
		SEQ-ICVI	E6096		
		↓ ICBI	F52		
		CRLI	F535		
		IFAI	E7731		
		↓ IFBI	E4968		
		DI Check			
		SEQ-CVI	E6096		
		↓ CEBI	F52		
		BFB0101-BLKI	WMN		
		BFB0107-BLKI	LEN	5	Ba↑; TCLP Filter
		↓ Dupl	↓	↓	
		17B0033-01	↓	↓	
		BFB0107 MSI	↓	↓	
		BFB0101-Dupl	WMN		
		17B0027-05	↓		
		BFB0101 MSI	↓		
		17A0311-01	LEN	5	
		17B0021-01	TWC	5	
		SEQ-CV2			



IEC Date: _____ Analysis Date: 2/7/17 Analyst: ee

LR Date: _____ Page: 2 of 4

All corrections made by analyst unless otherwise noted. ee 2/7/17

Edit Label	Delete Data	ARI Sample ID	Prep. Code	Dilution	Comments
		SEQ-CCB2			
		BFB0101-B51	WMN		0.060ml E1986
		17B0029-21			
		↓ 23			
		↓ 24			
		17B0041-01			
		↓ 02			
		↓ 03			
		↓ 04			
		17B0027-06			
		↓ 01	TWC	2	
		SEQ-CCV3			
		↓ CCB3			
		BFB0104-BLK1	WMN		
	✓	↓ Dup1			K↑
	✓	17B0029-20			K↑
		BFB0104-B51			0.060ml E1986
		17A0316-01	SWC	2	
	✓	17A0376-01		2	AlFeK↑
		17B0041-05	WMN		AlFeK↑
		↓ 06			
		↓ 07			
		17B0029-01	WMN		
		SEQ-CCV4			



IEC Date: _____

Analysis Date: 2/7/17

Analyst: ee

LR Date: _____

Page: 3 of 4

All corrections made by analyst unless otherwise noted.

Edit Label	Delete Data	ARI Sample ID	Prep. Code	Dilution	Comments
		SEQ-CB4			
		BFB0104-Dupl	WMN	2	
		17B0029-00			
		BFB0104-MSI			KSTL
		↓ MSI		↓	↓
		17B0029-02			
		03			
		04			
		05			
		06			
		07			
		SEQ-CCV5			
		↓ CCV5			
		17B0029-08	WMN		
		09			
		10			
✓		11			K↑
		12			
		13			
		14			
		15			
		16			
		17A0376-01	SWC	10	
		SEQ-CCV6			



Analytical Resources,
Incorporated
Analytical Chemists and
Consultants

SAMPLE RUN LOG-ICP-OES-02
Perkin Elmer OPTIMA 7300
Serial No. - 077C8121202

IEC Date: _____
LR Date: _____

Analysis Date: 2/7/17

Analyst: eo
Page: 4 of 4

All corrections made by analyst unless otherwise noted.

Edit Label	Delete Data	ARI Sample ID	Prep. Code	Dilution	Comments
		SEQ-CCB6			
		BFA0668-BLK1	FRN		
		↓ DUPI	↓		
		17A0053-05			
		BFA0668-MS1			
		↓ B51			
		16K0124-01	↓		
✓		17B0029-11	WMN	2	RR
		↓ 17	↓		
		↓ 18			
		↓ 19	↓		↓
		SEQ-CCV7			Fe 89.9%
		↓ CCB7			
		17A0053-01	FRN		
		↓ 04			
		↓ 06			
		↓ 07			
		↓ 08			
		↓ 09			
		↓ 11			
		↓ 12	↓		
✓		ICPMS CAL INT	F1106		Fe ↓
		SEQ-CCV8			
		↓ CCB8			

Rmse/DI

End Run on 2/7/17
Revision 000
3/20/09

=====
Analysis Begun

Start Time: 2/7/2017 12:41:04 PM

Plasma On Time: 2/7/2017 10:37:36 AM

Logged In Analyst: metinst

Technique: ICP Continuous

Spectrometer: Optima 7300 DV, S/N 077C8121202

Autosampler: ESI

Sample Information File: C:\pe\metals\Sample Information\0207.sif

Batch ID:

Results Data Set: I2170207

Results Library: C:\Documents and Settings\All Users\PerkinElmer\ICP\Data\Results\Results.mdb

=====
Method Loaded

Method Name: ELMT7300bcESI2FAST

Method Last Saved: 2/7/2017 12:24:32 PM

IEC File: IEC101816D.iec

MSF File:

Method Description: 12Axial Elements

Analyte	Calibration Equation	Processing	View	Internal Standard	IEC
Ag 328.068	Lin Thru 0	Peak Area	Axial	ScA 357.253	Yes
Al 308.215	Lin Thru 0	Peak Area	Radial	ScR 361.383	Yes
As 188.979	Lin Thru 0	Peak Area	Axial	ScA 357.253	Yes
B 249.677	Lin Thru 0	Peak Area	Radial	ScR 361.383	Yes
Ba 233.527	Lin Thru 0	Peak Area	Radial	ScR 361.383	Yes
Be 313.042	Lin Thru 0	Peak Area	Radial	ScR 361.383	Yes
Ca 317.933	Lin Thru 0	Peak Area	Radial	ScR 361.383	Yes
Cd 228.802	Lin Thru 0	Peak Area	Axial	ScA 357.253	Yes
Co 228.616	Lin Thru 0	Peak Area	Axial	ScA 357.253	Yes
Cr 267.716	Lin Thru 0	Peak Area	Radial	ScR 361.383	Yes
Cu 324.752	Lin Thru 0	Peak Area	Axial	ScA 357.253	Yes
Fe 273.955	Lin Thru 0	Peak Area	Radial	ScR 361.383	Yes
K 766.490	Lin Thru 0	Peak Area	Radial	ScR 361.383	No
Mg 279.077	Lin Thru 0	Peak Area	Radial	ScR 361.383	Yes
Mn 257.610	Lin Thru 0	Peak Area	Radial	ScR 361.383	Yes
Mo 202.031	Lin Thru 0	Peak Area	Axial	ScA 357.253	Yes
Na 589.592	Lin Thru 0	Peak Area	Radial	ScR 361.383	No
Na 330.237	Lin Thru 0	Peak Area	Radial	ScR 361.383	Yes
Ni 231.604	Lin Thru 0	Peak Area	Radial	ScR 361.383	Yes
Pb 220.353	Lin Thru 0	Peak Area	Axial	ScA 357.253	Yes
Sb 206.836	Lin Thru 0	Peak Area	Axial	ScA 357.253	Yes
Se 196.026	Lin Thru 0	Peak Area	Axial	ScA 357.253	Yes
Si 288.158	Lin Thru 0	Peak Area	Radial	ScR 361.383	Yes
Sn 189.927	Lin Thru 0	Peak Area	Axial	ScA 357.253	Yes
Sr 421.552	Lin Thru 0	Peak Area	Radial	ScR 361.383	No
Ti 334.903	Lin Thru 0	Peak Area	Radial	ScR 361.383	Yes
Tl 190.801	Lin Thru 0	Peak Area	Axial	ScA 357.253	Yes
V 292.402	Lin Thru 0	Peak Area	Axial	ScA 357.253	Yes
Zn 206.200	Lin Thru 0	Peak Area	Radial	ScR 361.383	Yes
ScA 357.253	Lin, Calc Int	Peak Area	Axial	n/a	n/a
ScR 361.383	Lin, Calc Int	Peak Area	Radial	n/a	n/a

=====
Sequence No.: 1

Autosampler Location: 1

Sample ID: SEQ-CAL1

Date Collected: 2/7/2017 12:41:06 PM

Data Type: Original

=====
Nebulizer Parameters: SEQ-CAL1

Analyte	Back Pressure	Flow
All	153.0 kPa	0.65 L/min

=====
Mean Data: SEQ-CAL1

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Calib Conc. Units
ScA 357.253	1510877.9	4794.94	0.32%	100.0 %
ScR 361.383	151266.4	1917.73	1.27%	100.0 %
Ag 328.068†	-139.8	38.29	27.40%	[0.00] mg/L
Al 308.215†	63.0	14.64	23.22%	[0.00] mg/L
As 188.979†	1.9	1.66	86.78%	[0.00] mg/L
B 249.677†	91.8	8.46	9.21%	[0.00] mg/L
Ba 233.527†	11.2	3.73	33.34%	[0.00] mg/L
Be 313.042†	870.4	17.85	2.05%	[0.00] mg/L

Ca	317.933†	127.7	10.39	8.14%	[0.00]	mg/L
Cd	228.802†	238.0	1.17	0.49%	[0.00]	mg/L
Co	228.616†	-42.8	0.87	2.04%	[0.00]	mg/L
Cr	267.716†	-80.0	3.11	3.89%	[0.00]	mg/L
Cu	324.752†	877.4	15.84	1.81%	[0.00]	mg/L
Fe	273.955†	15.6	3.10	19.93%	[0.00]	mg/L
K	766.490†	467.8	19.47	4.16%	[0.00]	mg/L
Mg	279.077†	111.3	8.46	7.61%	[0.00]	mg/L
Mn	257.610†	146.5	1.07	0.73%	[0.00]	mg/L
Mo	202.031†	26.2	1.14	4.34%	[0.00]	mg/L
Na	589.592†	-154.6	35.99	23.27%	[0.00]	mg/L
Na	330.237†	-229.3	12.02	5.24%	[0.00]	mg/L
Ni	231.604†	-37.2	5.55	14.92%	[0.00]	mg/L
Pb	220.353†	45.9	2.55	5.54%	[0.00]	mg/L
Sb	206.836†	52.9	7.27	13.76%	[0.00]	mg/L
Se	196.026†	-15.5	4.00	25.78%	[0.00]	mg/L
Si	288.158†	56.7	7.90	13.94%	[0.00]	mg/L
Sn	189.927†	-3.3	3.70	111.32%	[0.00]	mg/L
Sr	421.552†	352.6	16.28	4.62%	[0.00]	mg/L
Ti	334.903†	-68.6	27.71	40.41%	[0.00]	mg/L
Tl	190.801†	-16.3	3.91	24.06%	[0.00]	mg/L
V	292.402†	171.5	9.61	5.60%	[0.00]	mg/L
Zn	206.200†	17.1	2.32	13.54%	[0.00]	mg/L

Sequence No.: 2

Sample ID: SEQ-CAL2

Autosampler Location: 2

Date Collected: 2/7/2017 12:45:05 PM

Data Type: Original

Nebulizer Parameters: SEQ-CAL2

Analyte	Back Pressure	Flow
All	156.0 kPa	0.65 L/min

Mean Data: SEQ-CAL2

Analyte	Mean Corrected			Calib
	Intensity	Std.Dev.	RSD	
ScA 357.253	1571049.8	8071.94	0.51%	104.0 %
ScR 361.383	159446.7	832.58	0.52%	105.4 %
Ba 233.527†	35420.9	42.82	0.12%	[10] mg/L
Cd 228.802†	220094.9	1070.68	0.49%	[10] mg/L
Co 228.616†	230727.3	1697.93	0.74%	[10] mg/L
Cr 267.716†	41554.9	200.70	0.48%	[10] mg/L
Cu 324.752†	1575534.0	10718.26	0.68%	[10] mg/L
Mn 257.610†	248633.5	1255.94	0.51%	[10] mg/L
V 292.402†	918741.1	6744.59	0.73%	[10] mg/L

Sequence No.: 3

Sample ID: SEQ-CAL3

Autosampler Location: 3

Date Collected: 2/7/2017 12:46:50 PM

Data Type: Original

Nebulizer Parameters: SEQ-CAL3

Analyte	Back Pressure	Flow
All	155.0 kPa	0.65 L/min

Mean Data: SEQ-CAL3

Analyte	Mean Corrected			Calib
	Intensity	Std.Dev.	RSD	
ScA 357.253	1525085.6	5669.43	0.37%	100.9 %
ScR 361.383	158378.8	993.19	0.63%	104.7 %
Ag 328.068†	111052.8	780.92	0.70%	[1.0] mg/L
As 188.979†	11869.3	56.68	0.48%	[10] mg/L
B 249.677†	49769.8	416.66	0.84%	[10] mg/L
Be 313.042†	1640066.6	758.16	0.05%	[5.0] mg/L
Na 589.592†	354147.1	652.43	0.18%	[50] mg/L
Ni 231.604†	28759.7	186.17	0.65%	[10] mg/L
Pb 220.353†	56853.0	250.78	0.44%	[10] mg/L
Se 196.026†	8742.4	8.31	0.10%	[10] mg/L
Sr 421.552†	2320576.7	5998.40	0.26%	[5] mg/L
Tl 190.801†	13717.6	120.29	0.88%	[10] mg/L

Zn 206.200† 24989.7 157.64 0.63% [10] mg/L

Sequence No.: 4

Autosampler Location: 4

Sample ID: SEQ-CAL4

Date Collected: 2/7/2017 12:49:06 PM

Data Type: Original

Nebulizer Parameters: SEQ-CAL4

Analyte Back Pressure Flow
All 155.0 kPa 0.65 L/min

Mean Data: SEQ-CAL4

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Calib Conc. Units
ScA 357.253	1549966.3	5977.90	0.39%	102.6 %
ScR 361.383	157197.5	950.63	0.60%	103.9 %
Mo 202.031†	137671.6	1553.19	1.13%	[10] mg/L
Sb 206.836†	20826.0	219.01	1.05%	[10] mg/L
Si 288.158†	13883.7	30.42	0.22%	[10] mg/L
Sn 189.927†	26416.2	362.16	1.37%	[10] mg/L
Ti 334.903†	108739.8	287.35	0.26%	[10] mg/L

Sequence No.: 5

Autosampler Location: 5

Sample ID: SEQ-CAL5

Date Collected: 2/7/2017 12:51:19 PM

Data Type: Original

Nebulizer Parameters: SEQ-CAL5

Analyte Back Pressure Flow
All 156.0 kPa 0.65 L/min

Mean Data: SEQ-CAL5

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Calib Conc. Units
ScA 357.253	1461662.3	3061.58	0.21%	96.74 %
ScR 361.383	156566.7	775.72	0.50%	103.5 %
Al 308.215†	33206.7	163.00	0.49%	[30] mg/L
Ca 317.933†	235583.7	723.66	0.31%	[30] mg/L
Fe 273.955†	78997.8	994.83	1.26%	[100] mg/L
K 766.490†	113825.4	345.65	0.30%	[100] mg/L
Mg 279.077†	30401.5	195.55	0.64%	[30] mg/L
Na 330.237†	1534.9	9.54	0.62%	[100] mg/L

Calibration Summary

Analyte	Stds.	Equation	Intercept	Slope	Curvature	Corr. Coef.	Reslope
Ag 328.068	1	Lin Thru 0	0.0	111100	0.00000	1.000000	
Al 308.215	1	Lin Thru 0	0.0	1107	0.00000	1.000000	
As 188.979	1	Lin Thru 0	0.0	1187	0.00000	1.000000	
B 249.677	1	Lin Thru 0	0.0	4977	0.00000	1.000000	
Ba 233.527	1	Lin Thru 0	0.0	3542	0.00000	1.000000	
Be 313.042	1	Lin Thru 0	0.0	328000	0.00000	1.000000	
Ca 317.933	1	Lin Thru 0	0.0	7853	0.00000	1.000000	
Cd 228.802	1	Lin Thru 0	0.0	22010	0.00000	1.000000	
Co 228.616	1	Lin Thru 0	0.0	23070	0.00000	1.000000	
Cr 267.716	1	Lin Thru 0	0.0	4155	0.00000	1.000000	
Cu 324.752	1	Lin Thru 0	0.0	157600	0.00000	1.000000	
Fe 273.955	1	Lin Thru 0	0.0	790.0	0.00000	1.000000	
K 766.490	1	Lin Thru 0	0.0	1138	0.00000	1.000000	
Mg 279.077	1	Lin Thru 0	0.0	1013	0.00000	1.000000	
Mn 257.610	1	Lin Thru 0	0.0	24860	0.00000	1.000000	
Mo 202.031	1	Lin Thru 0	0.0	13770	0.00000	1.000000	
Na 589.592	1	Lin Thru 0	0.0	7083	0.00000	1.000000	
Na 330.237	1	Lin Thru 0	0.0	15.35	0.00000	1.000000	
Ni 231.604	1	Lin Thru 0	0.0	2876	0.00000	1.000000	
Pb 220.353	1	Lin Thru 0	0.0	5685	0.00000	1.000000	
Sb 206.836	1	Lin Thru 0	0.0	2083	0.00000	1.000000	
Se 196.026	1	Lin Thru 0	0.0	874.2	0.00000	1.000000	
Si 288.158	1	Lin Thru 0	0.0	1388	0.00000	1.000000	

Sn 189.927	1	Lin Thru 0	0.0	2642	0.00000	1.000000
Sr 421.552	1	Lin Thru 0	0.0	464100	0.00000	1.000000
Ti 334.903	1	Lin Thru 0	0.0	10870	0.00000	1.000000
Tl 190.801	1	Lin Thru 0	0.0	1372	0.00000	1.000000
V 292.402	1	Lin Thru 0	0.0	91870	0.00000	1.000000
Zn 206.200	1	Lin Thru 0	0.0	2499	0.00000	1.000000

=====
Analysis Begun

Start Time: 2/7/2017 12:55:35 PM

Plasma On Time: 2/7/2017 10:37:36 AM

Logged In Analyst: metinst

Technique: ICP Continuous

Spectrometer: Optima 7300 DV, S/N 077C8121202

Autosampler: ESI

Sample Information File: C:\pe\metals\Sample Information\0207.sif

Batch ID:

Results Data Set: I2170207

Results Library: C:\Documents and Settings\All Users\PerkinElmer\ICP\Data\Results\Results.mdb

=====
Sequence No.: 1

Autosampler Location: 7

Sample ID: SEQ-ICV1

Date Collected: 2/7/2017 12:55:37 PM

Analyst: CC

Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: SEQ-ICV1

Analyte	Back Pressure	Flow
All	154.0 kPa	0.65 L/min

Mean Data: SEQ-ICV1

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	1509050.7	99.88 %	0.942			0.94%
ScR 361.383	151112.6	99.90 %	0.793			0.79%
Ag 328.068†	114094.5	1.028 mg/L	0.0162	1.028 mg/L	0.0162	1.58%
Al 308.215†	2269.0	2.018 mg/L	0.0212	2.018 mg/L	0.0212	1.05%
As 188.979†	2296.7	1.975 mg/L	0.0077	1.975 mg/L	0.0077	0.39%
B 249.677†	5050.2	1.014 mg/L	0.0095	1.014 mg/L	0.0095	0.94%
Ba 233.527†	3539.8	0.9989 mg/L	0.01081	0.9989 mg/L	0.01081	1.08%
Be 313.042†	334443.9	1.019 mg/L	0.0093	1.019 mg/L	0.0093	0.91%
Ca 317.933†	15894.9	2.010 mg/L	0.0144	2.010 mg/L	0.0144	0.72%
Cd 228.802†	22495.5	1.012 mg/L	0.0146	1.012 mg/L	0.0146	1.45%
Co 228.616†	22645.1	0.9795 mg/L	0.01005	0.9795 mg/L	0.01005	1.03%
Cr 267.716†	4202.6	1.011 mg/L	0.0071	1.011 mg/L	0.0071	0.70%
Cu 324.752†	157670.5	1.000 mg/L	0.0117	1.000 mg/L	0.0117	1.17%
Fe 273.955†	1569.5	1.974 mg/L	0.0057	1.974 mg/L	0.0057	0.29%
K 766.490†	23297.2	20.47 mg/L	0.217	20.47 mg/L	0.217	1.06%
Mg 279.077†	2024.9	2.005 mg/L	0.0178	2.005 mg/L	0.0178	0.89%
Mn 257.610†	24719.0	0.9947 mg/L	0.00576	0.9947 mg/L	0.00576	0.58%
Mo 202.031†	13946.7	1.013 mg/L	0.0034	1.013 mg/L	0.0034	0.33%
Na 589.592†	367582.6	51.90 mg/L	0.576	51.90 mg/L	0.576	1.11%
Na 330.237†	786.1	51.04 mg/L	0.334	51.04 mg/L	0.334	0.65%
Ni 231.604†	2871.6	0.9991 mg/L	0.00707	0.9991 mg/L	0.00707	0.71%
Pb 220.353†	11226.5	1.976 mg/L	0.0089	1.976 mg/L	0.0089	0.45%
Sb 206.836†	4312.6	2.071 mg/L	0.0056	2.071 mg/L	0.0056	0.27%
Se 196.026†	1725.4	1.972 mg/L	0.0077	1.972 mg/L	0.0077	0.39%
Si 288.158†	2894.7	2.085 mg/L	0.0212	2.085 mg/L	0.0212	1.02%
Sn 189.927†	2619.5	0.9937 mg/L	0.00683	0.9937 mg/L	0.00683	0.69%
Sr 421.552†	480339.7	1.035 mg/L	0.0107	1.035 mg/L	0.0107	1.03%
Ti 334.903†	10839.6	0.9956 mg/L	0.01157	0.9956 mg/L	0.01157	1.16%
Tl 190.801†	2723.8	1.978 mg/L	0.0078	1.978 mg/L	0.0078	0.40%
V 292.402†	91855.7	1.004 mg/L	0.0153	1.004 mg/L	0.0153	1.52%
Zn 206.200†	2464.2	0.9862 mg/L	0.00644	0.9862 mg/L	0.00644	0.65%

=====
Sequence No.: 2

Autosampler Location: 1

Sample ID: SEQ-ICB1

Date Collected: 2/7/2017 12:59:37 PM

Analyst: CC

Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: SEQ-ICB1

Analyte	Back Pressure	Flow
All	155.0 kPa	0.65 L/min

Mean Data: SEQ-ICB1

Mean Corrected	Calib.	Sample
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Fe 273.955†	39.4	0.04985 mg/L	0.002433	0.04985 mg/L	0.002433	4.88%
K 766.490†	585.8	0.5147 mg/L	0.01037	0.5147 mg/L	0.01037	2.02%
Mg 279.077†	50.1	0.04939 mg/L	0.002077	0.04939 mg/L	0.002077	4.20%
Mn 257.610†	26.0	0.00105 mg/L	0.000117	0.00105 mg/L	0.000117	11.10%
Mo 202.031†	72.7	0.00528 mg/L	0.000262	0.00528 mg/L	0.000262	4.96%
Na 589.592†	3620.9	0.5112 mg/L	0.00477	0.5112 mg/L	0.00477	0.93%
Na 330.237†	23.4	1.520 mg/L	0.7670	1.520 mg/L	0.7670	50.47%
Ni 231.604†	31.8	0.01107 mg/L	0.001577	0.01107 mg/L	0.001577	14.24%
Pb 220.353†	118.7	0.02091 mg/L	0.001039	0.02091 mg/L	0.001039	4.97%
Sb 206.836†	109.1	0.05244 mg/L	0.000921	0.05244 mg/L	0.000921	1.76%
Se 196.026†	44.1	0.05049 mg/L	0.003255	0.05049 mg/L	0.003255	6.45%
Si 288.158†	87.1	0.06271 mg/L	0.002994	0.06271 mg/L	0.002994	4.77%
Sn 189.927†	27.2	0.01033 mg/L	0.000755	0.01033 mg/L	0.000755	7.30%
Sr 421.552†	451.1	0.00097 mg/L	0.000067	0.00097 mg/L	0.000067	6.89%
Ti 334.903†	32.0	0.00293 mg/L	0.001098	0.00293 mg/L	0.001098	37.48%
Tl 190.801†	68.4	0.04987 mg/L	0.001807	0.04987 mg/L	0.001807	3.62%
V 292.402†	284.2	0.00311 mg/L	0.000136	0.00311 mg/L	0.000136	4.36%
Zn 206.200†	25.5	0.01021 mg/L	0.001195	0.01021 mg/L	0.001195	11.70%

Sequence No.: 4
 Sample ID: SEQ-IFA1
 Analyst: CC
 Dilution: 1.000000X

Autosampler Location: 302
 Date Collected: 2/7/2017 1:08:08 PM
 Data Type: Original

Nebulizer Parameters: SEQ-IFA1

Analyte Back Pressure Flow
 All 154.0 kPa 0.65 L/min

Mean Data: SEQ-IFA1

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
ScA 357.253	1476501.9	97.72	%	0.189				0.19%
ScR 361.383	152359.6	100.7	%	0.59				0.58%
Ag 328.068†	-102.5	-0.00092	mg/L	0.000116	-0.00092	mg/L	0.000116	12.57%
Al 308.215†	219254.1	198.1	mg/L	0.22	198.1	mg/L	0.22	0.11%
As 188.979†	31.3	0.01904	mg/L	0.001693	0.01904	mg/L	0.001693	8.89%
B 249.677†	47.6	0.00956	mg/L	0.002131	0.00956	mg/L	0.002131	22.29%
Ba 233.527†	113.3	0.00173	mg/L	0.000300	0.00173	mg/L	0.000300	17.32%
Be 313.042†	77.7	0.00024	mg/L	0.000025	0.00024	mg/L	0.000025	10.78%
Ca 317.933†	776691.5	98.91	mg/L	0.458	98.91	mg/L	0.458	0.46%
Cd 228.802†	11.6	-0.00118	mg/L	0.000297	-0.00118	mg/L	0.000297	25.22%
Co 228.616†	58.9	-0.00005	mg/L	0.000283	-0.00005	mg/L	0.000283	591.63%
Cr 267.716†	18.1	-0.00565	mg/L	0.000625	-0.00565	mg/L	0.000625	11.06%
Cu 324.752†	-1089.6	0.00220	mg/L	0.000109	0.00220	mg/L	0.000109	4.96%
Fe 273.955†	154816.4	196.0	mg/L	0.03	196.0	mg/L	0.03	0.01%
K 766.490†	36.3	0.03192	mg/L	0.036320	0.03192	mg/L	0.036320	113.78%
Mg 279.077†	103108.2	101.6	mg/L	0.43	101.6	mg/L	0.43	0.43%
Mn 257.610†	19.9	0.00003	mg/L	0.000282	0.00003	mg/L	0.000282	>999.9%
Mo 202.031†	50.1	0.00095	mg/L	0.000459	0.00095	mg/L	0.000459	48.26%
Na 589.592†	148.4	0.02096	mg/L	0.002802	0.02096	mg/L	0.002802	13.37%
Na 330.237†	-0.1	-0.00963	mg/L	0.402979	-0.00963	mg/L	0.402979	>999.9%
Ni 231.604†	-1.7	-0.00058	mg/L	0.002784	-0.00058	mg/L	0.002784	483.39%
Pb 220.353†	-204.9	0.02366	mg/L	0.000862	0.02366	mg/L	0.000862	3.64%
Sb 206.836†	49.2	0.02331	mg/L	0.001592	0.02331	mg/L	0.001592	6.83%
Se 196.026†	39.8	0.03342	mg/L	0.010235	0.03342	mg/L	0.010235	30.62%
Si 288.158†	-12.0	0.00352	mg/L	0.000425	0.00352	mg/L	0.000425	12.06%
Sn 189.927†	-79.0	0.00190	mg/L	0.000151	0.00190	mg/L	0.000151	7.95%
Sr 421.552†	3054.2	<u>0.00658</u>	mg/L	0.000001	0.00658	mg/L	0.000001	0.01%
Ti 334.903†	87.3	-0.00011	mg/L	0.000536	-0.00011	mg/L	0.000536	501.27%
Tl 190.801†	-31.7	-0.00964	mg/L	0.007189	-0.00964	mg/L	0.007189	74.55%
V 292.402†	1036.7	0.00461	mg/L	0.000387	0.00461	mg/L	0.000387	8.40%
Zn 206.200†	11.9	0.00474	mg/L	0.000558	0.00474	mg/L	0.000558	11.76%

Cont.

Sequence No.: 5
 Sample ID: SEQ-IFB1
 Analyst: CC
 Dilution: 1.000000X

Autosampler Location: 303
 Date Collected: 2/7/2017 1:12:22 PM
 Data Type: Original

Nebulizer Parameters: SEQ-IFB1

Analyte	Back Pressure	Flow
All	155.0 kPa	0.65 L/min

Mean Data: SEQ-IFB1

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Conc. Units	Sample Std.Dev.	RSD
ScA 357.253	1516953.5	100.4	%	0.39			0.39%
ScR 361.383	155746.6	103.0	%	0.87			0.85%
Ag 328.068†	116342.5	1.048	mg/L	0.0022	1.048 mg/L	0.0022	0.21%
Al 308.215†	223740.3	202.1	mg/L	0.32	202.1 mg/L	0.32	0.16%
As 188.979†	1214.0	1.015	mg/L	0.0079	1.015 mg/L	0.0079	0.78%
B 249.677†	31.7	0.00451	mg/L	0.001699	0.00451 mg/L	0.001699	37.68%
Ba 233.527†	3684.7	1.009	mg/L	0.0038	1.009 mg/L	0.0038	0.38%
Be 313.042†	332027.0	1.012	mg/L	0.0050	1.012 mg/L	0.0050	0.50%
Ca 317.933†	787456.3	100.3	mg/L	0.12	100.3 mg/L	0.12	0.12%
Cd 228.802†	22220.7	1.003	mg/L	0.0015	1.003 mg/L	0.0015	0.15%
Co 228.616†	21546.9	0.9310	mg/L	0.00426	0.9310 mg/L	0.00426	0.46%
Cr 267.716†	4229.2	1.008	mg/L	0.0056	1.008 mg/L	0.0056	0.56%
Cu 324.752†	160606.5	1.029	mg/L	0.0035	1.029 mg/L	0.0035	0.34%
Fe 273.955†	159706.0	202.2	mg/L	1.60	202.2 mg/L	1.60	0.79%
K 766.490†	42.0	0.03686	mg/L	0.009597	0.03686 mg/L	0.009597	26.03%
Mg 279.077†	100801.7	99.31	mg/L	0.065	99.31 mg/L	0.065	0.07%
Mn 257.610†	24814.9	0.9976	mg/L	0.00609	0.9976 mg/L	0.00609	0.61%
Mo 202.031†	41.2	0.00031	mg/L	0.000466	0.00031 mg/L	0.000466	149.97%
Na 589.592†	-9.1	-0.00128	mg/L	0.005282	-0.00128 mg/L	0.005282	413.01%
Na 330.237†	14.9	0.6063	mg/L	0.50240	0.6063 mg/L	0.50240	82.86%
Ni 231.604†	2817.0	0.9799	mg/L	0.00203	0.9799 mg/L	0.00203	0.21%
Pb 220.353†	5239.7	0.9832	mg/L	0.00743	0.9832 mg/L	0.00743	0.76%
Sb 206.836†	2224.8	1.057	mg/L	0.0082	1.057 mg/L	0.0082	0.77%
Se 196.026†	916.8	1.035	mg/L	0.0124	1.035 mg/L	0.0124	1.20%
Si 288.158†	-24.9	-0.00238	mg/L	0.005761	-0.00238 mg/L	0.005761	241.55%
Sn 189.927†	-82.9	0.00145	mg/L	0.001434	0.00145 mg/L	0.001434	98.79%
Sr 421.552†	3066.3	<u>0.00661</u>	mg/L	0.000040	0.00661 mg/L	0.000040	0.61%
Ti 334.903†	89.7	-0.00023	mg/L	0.000283	-0.00023 mg/L	0.000283	121.60%
Tl 190.801†	1272.8	0.9332	mg/L	0.00491	0.9332 mg/L	0.00491	0.53%
V 292.402†	92759.4	1.007	mg/L	0.0013	1.007 mg/L	0.0013	0.13%
Zn 206.200†	2418.8	0.9679	mg/L	0.00349	0.9679 mg/L	0.00349	0.36%

Cont.

Sequence No.: 6
 Sample ID: DI CHECK
 Analyst: CC
 Dilution: 1.000000X

Autosampler Location: 304
 Date Collected: 2/7/2017 1:17:45 PM
 Data Type: Original

Nebulizer Parameters: DI CHECK

Analyte Back Pressure Flow
 All 154.0 kPa 0.65 L/min

Mean Data: DI CHECK

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc. Units	Sample Std.Dev.	RSD
ScA 357.253	1567631.7	103.8	%	0.35			0.33%
ScR 361.383	160360.8	106.0	%	1.19			1.13%
Ag 328.068†	-0.6	-0.00001	mg/L	0.000228	-0.00001 mg/L	0.000228	>999.9%
Al 308.215†	45.1	0.04073	mg/L	0.018333	0.04073 mg/L	0.018333	45.02%
As 188.979†	2.4	0.00199	mg/L	0.001389	0.00199 mg/L	0.001389	69.82%
B 249.677†	0.7	0.00014	mg/L	0.000765	0.00014 mg/L	0.000765	551.31%
Ba 233.527†	1.0	0.00029	mg/L	0.000439	0.00029 mg/L	0.000439	151.96%
Be 313.042†	4.6	0.00001	mg/L	0.000031	0.00001 mg/L	0.000031	219.08%
Ca 317.933†	75.9	0.00967	mg/L	0.005281	0.00967 mg/L	0.005281	54.59%
Cd 228.802†	2.3	0.00009	mg/L	0.000210	0.00009 mg/L	0.000210	222.39%
Co 228.616†	4.3	0.00019	mg/L	0.000128	0.00019 mg/L	0.000128	68.02%
Cr 267.716†	3.4	0.00083	mg/L	0.001095	0.00083 mg/L	0.001095	132.61%
Cu 324.752†	22.6	0.00014	mg/L	0.000186	0.00014 mg/L	0.000186	129.03%
Fe 273.955†	12.9	0.01638	mg/L	0.007107	0.01638 mg/L	0.007107	43.38%
K 766.490†	-2.1	-0.00181	mg/L	0.013408	-0.00181 mg/L	0.013408	741.69%
Mg 279.077†	5.2	0.00510	mg/L	0.008548	0.00510 mg/L	0.008548	167.54%
Mn 257.610†	-2.3	-0.00009	mg/L	0.000271	-0.00009 mg/L	0.000271	289.17%
Mo 202.031†	-1.8	-0.00013	mg/L	0.000154	-0.00013 mg/L	0.000154	118.63%
Na 589.592†	-56.0	-0.00791	mg/L	0.002956	-0.00791 mg/L	0.002956	37.35%
Na 330.237†	4.6	0.2965	mg/L	0.63818	0.2965 mg/L	0.63818	215.24%
Ni 231.604†	4.2	0.00145	mg/L	0.001265	0.00145 mg/L	0.001265	87.45%
Pb 220.353†	9.0	0.00159	mg/L	0.000349	0.00159 mg/L	0.000349	21.86%
Sb 206.836†	-2.1	-0.00100	mg/L	0.002868	-0.00100 mg/L	0.002868	286.83%
Se 196.026†	5.4	0.00614	mg/L	0.003854	0.00614 mg/L	0.003854	62.80%
Si 288.158†	-8.5	-0.00613	mg/L	0.003742	-0.00613 mg/L	0.003742	61.09%
Sn 189.927†	1.1	0.00043	mg/L	0.000624	0.00043 mg/L	0.000624	146.44%
Sr 421.552†	-8.1	-0.00002	mg/L	0.000046	-0.00002 mg/L	0.000046	260.18%
Ti 334.903†	-11.5	-0.00106	mg/L	0.000961	-0.00106 mg/L	0.000961	90.62%
Tl 190.801†	0.4	0.00027	mg/L	0.001967	0.00027 mg/L	0.001967	736.15%
V 292.402†	14.8	0.00016	mg/L	0.000202	0.00016 mg/L	0.000202	122.74%
Zn 206.200†	0.2	0.00009	mg/L	0.000817	0.00009 mg/L	0.000817	899.69%

Sequence No.: 7
 Sample ID: SEQ-CCV1
 Analyst: CC
 Dilution: 1.000000X

Autosampler Location: 7
 Date Collected: 2/7/2017 1:21:44 PM
 Data Type: Original

Nebulizer Parameters: SEQ-CCV1

Analyte Back Pressure Flow
 All 155.0 kPa 0.65 L/min

Mean Data: SEQ-CCV1

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
ScA 357.253	1495737.9	99.00	%	0.797				0.80%
ScR 361.383	151194.9	99.95	%	1.581				1.58%
Ag 328.068†	114048.4	1.027	mg/L	0.0067	1.027	mg/L	0.0067	0.66%
Al 308.215†	2278.8	2.027	mg/L	0.0438	2.027	mg/L	0.0438	2.16%
As 188.979†	2301.8	1.979	mg/L	0.0124	1.979	mg/L	0.0124	0.63%
B 249.677†	5036.0	1.011	mg/L	0.0181	1.011	mg/L	0.0181	1.79%
Ba 233.527†	3563.8	1.006	mg/L	0.0173	1.006	mg/L	0.0173	1.72%
Be 313.042†	334777.0	1.020	mg/L	0.0134	1.020	mg/L	0.0134	1.31%
Ca 317.933†	16027.2	2.027	mg/L	0.0382	2.027	mg/L	0.0382	1.88%
Cd 228.802†	22226.4	0.9994	mg/L	0.01119	0.9994	mg/L	0.01119	1.12%
Co 228.616†	22570.8	0.9762	mg/L	0.00577	0.9762	mg/L	0.00577	0.59%
Cr 267.716†	4231.8	1.018	mg/L	0.0161	1.018	mg/L	0.0161	1.58%
Cu 324.752†	156314.8	0.9917	mg/L	0.00864	0.9917	mg/L	0.00864	0.87%
Fe 273.955†	1592.9	2.004	mg/L	0.0377	2.004	mg/L	0.0377	1.88%
K 766.490†	23184.9	20.37	mg/L	0.238	20.37	mg/L	0.238	1.17%
Mg 279.077†	2035.0	2.015	mg/L	0.0377	2.015	mg/L	0.0377	1.87%
Mn 257.610†	24791.5	0.9976	mg/L	0.01956	0.9976	mg/L	0.01956	1.96%
Mo 202.031†	13961.0	1.014	mg/L	0.0087	1.014	mg/L	0.0087	0.86%
Na 589.592†	363909.3	51.38	mg/L	0.641	51.38	mg/L	0.641	1.25%
Na 330.237†	782.6	50.80	mg/L	0.970	50.80	mg/L	0.970	1.91%
Ni 231.604†	2894.7	1.007	mg/L	0.0195	1.007	mg/L	0.0195	1.94%
Pb 220.353†	11252.9	1.981	mg/L	0.0182	1.981	mg/L	0.0182	0.92%
Sb 206.836†	4311.1	2.070	mg/L	0.0198	2.070	mg/L	0.0198	0.96%
Se 196.026†	1728.7	1.976	mg/L	0.0181	1.976	mg/L	0.0181	0.91%
Si 288.158†	2890.1	2.081	mg/L	0.0368	2.081	mg/L	0.0368	1.77%
Sn 189.927†	2620.4	0.9940	mg/L	0.01020	0.9940	mg/L	0.01020	1.03%
Sr 421.552†	476442.2	1.027	mg/L	0.0109	1.027	mg/L	0.0109	1.07%
Ti 334.903†	10804.0	0.9924	mg/L	0.00955	0.9924	mg/L	0.00955	0.96%
Tl 190.801†	2729.3	1.982	mg/L	0.0249	1.982	mg/L	0.0249	1.26%
V 292.402†	91403.7	0.9989	mg/L	0.00799	0.9989	mg/L	0.00799	0.80%
Zn 206.200†	2492.6	0.9976	mg/L	0.01914	0.9976	mg/L	0.01914	1.92%

Sequence No.: 8
 Sample ID: SEQ-CCB1
 Analyst: CC
 Dilution: 1.000000X

Autosampler Location: 1
 Date Collected: 2/7/2017 1:26:49 PM
 Data Type: Original

Nebulizer Parameters: SEQ-CCB1

Analyte Back Pressure Flow
 All 155.0 kPa 0.65 L/min

Mean Data: SEQ-CCB1

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
ScA 357.253	1545654.5	102.3	%	0.34				0.33%
ScR 361.383	155183.4	102.6	%	0.92				0.89%
Ag 328.068†	31.3	0.00028	mg/L	0.000380	0.00028	mg/L	0.000380	134.87%
Al 308.215†	14.8	0.01338	mg/L	0.008662	0.01338	mg/L	0.008662	64.75%
As 188.979†	1.6	0.00126	mg/L	0.002083	0.00126	mg/L	0.002083	165.81%
B 249.677†	17.8	0.00357	mg/L	0.001363	0.00357	mg/L	0.001363	38.17%
Ba 233.527†	-0.6	-0.00016	mg/L	0.000669	-0.00016	mg/L	0.000669	416.82%
Be 313.042†	46.4	0.00014	mg/L	0.000037	0.00014	mg/L	0.000037	26.11%
Ca 317.933†	16.3	0.00207	mg/L	0.001489	0.00207	mg/L	0.001489	71.78%
Cd 228.802†	-1.9	-0.00010	mg/L	0.000063	-0.00010	mg/L	0.000063	65.74%
Co 228.616†	-3.1	-0.00013	mg/L	0.000119	-0.00013	mg/L	0.000119	92.29%
Cr 267.716†	2.1	0.00051	mg/L	0.000887	0.00051	mg/L	0.000887	173.84%
Cu 324.752†	48.5	0.00031	mg/L	0.000092	0.00031	mg/L	0.000092	29.75%
Fe 273.955†	3.6	0.00455	mg/L	0.004743	0.00455	mg/L	0.004743	104.22%
K 766.490†	18.7	0.01644	mg/L	0.015580	0.01644	mg/L	0.015580	94.75%
Mg 279.077†	7.1	0.00700	mg/L	0.005868	0.00700	mg/L	0.005868	83.88%
Mn 257.610†	5.9	0.00024	mg/L	0.000025	0.00024	mg/L	0.000025	10.55%
Mo 202.031†	10.6	0.00077	mg/L	0.000231	0.00077	mg/L	0.000231	29.87%
Na 589.592†	-22.8	-0.00321	mg/L	0.001883	-0.00321	mg/L	0.001883	58.61%
Na 330.237†	-3.3	-0.2127	mg/L	0.74947	-0.2127	mg/L	0.74947	352.33%
Ni 231.604†	-0.7	-0.00026	mg/L	0.000775	-0.00026	mg/L	0.000775	302.51%
Pb 220.353†	1.4	0.00025	mg/L	0.000880	0.00025	mg/L	0.000880	358.15%
Sb 206.836†	5.0	0.00240	mg/L	0.001436	0.00240	mg/L	0.001436	59.74%
Se 196.026†	-0.7	-0.00083	mg/L	0.001801	-0.00083	mg/L	0.001801	217.33%
Si 288.158†	-1.6	-0.00116	mg/L	0.007103	-0.00116	mg/L	0.007103	610.13%
Sn 189.927†	-1.3	-0.00048	mg/L	0.001065	-0.00048	mg/L	0.001065	223.96%
Sr 421.552†	54.7	0.00012	mg/L	0.000039	0.00012	mg/L	0.000039	32.93%
Ti 334.903†	-18.4	-0.00169	mg/L	0.002116	-0.00169	mg/L	0.002116	125.19%
Tl 190.801†	-1.4	-0.00100	mg/L	0.001560	-0.00100	mg/L	0.001560	155.57%
V 292.402†	18.4	0.00020	mg/L	0.000277	0.00020	mg/L	0.000277	136.26%
Zn 206.200†	2.1	0.00086	mg/L	0.000964	0.00086	mg/L	0.000964	112.57%

Sequence No.: 9

Autosampler Location: 305

Sample ID: BFB0101-BLK1

Date Collected: 2/7/2017 1:30:49 PM

Analyst: CC

Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: BFB0101-BLK1

Analyte Back Pressure Flow
 All 154.0 kPa 0.65 L/min

Mean Data: BFB0101-BLK1

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Conc. Units	Sample Units	Std.Dev.	RSD
ScA 357.253	1569796.2	103.9 %	%	0.63				0.60%
ScR 361.383	159784.2	105.6 %	%	1.16				1.10%
Ag 328.068†	21.7	0.00020	mg/L	0.000355	0.00020	mg/L	0.000355	182.24%
Al 308.215†	94.1	0.08499	mg/L	0.016704	0.08499	mg/L	0.016704	19.65%
As 188.979†	-1.1	-0.00098	mg/L	0.001140	-0.00098	mg/L	0.001140	115.82%
B 249.677†	70.2	0.01410	mg/L	0.000408	0.01410	mg/L	0.000408	2.90%
Ba 233.527†	-0.8	-0.00024	mg/L	0.001254	-0.00024	mg/L	0.001254	529.51%
Be 313.042†	-9.1	-0.00003	mg/L	0.000092	-0.00003	mg/L	0.000092	329.71%
Ca 317.933†	1437.6	0.1831	mg/L	0.00112	0.1831	mg/L	0.00112	0.61%
Cd 228.802†	-1.2	-0.00005	mg/L	0.000137	-0.00005	mg/L	0.000137	298.14%
Co 228.616†	1.9	0.00008	mg/L	0.000152	0.00008	mg/L	0.000152	182.55%
Cr 267.716†	-0.8	-0.00018	mg/L	0.001094	-0.00018	mg/L	0.001094	592.01%
Cu 324.752†	5.5	0.00004	mg/L	0.000058	0.00004	mg/L	0.000058	164.41%
Fe 273.955†	4.4	0.00553	mg/L	0.001029	0.00553	mg/L	0.001029	18.60%
K 766.490†	19.0	0.01667	mg/L	0.009202	0.01667	mg/L	0.009202	55.20%
Mg 279.077†	-2.3	-0.00224	mg/L	0.001841	-0.00224	mg/L	0.001841	82.03%
Mn 257.610†	-0.0	-0.00000	mg/L	0.000201	-0.00000	mg/L	0.000201	>999.9%
Mo 202.031†	0.6	0.00004	mg/L	0.000148	0.00004	mg/L	0.000148	354.34%
Na 589.592†	145.3	0.02052	mg/L	0.006449	0.02052	mg/L	0.006449	31.44%
Na 330.237†	12.6	0.8194	mg/L	0.13295	0.8194	mg/L	0.13295	16.22%
Ni 231.604†	4.2	0.00146	mg/L	0.000398	0.00146	mg/L	0.000398	27.33%
Pb 220.353†	1.9	0.00036	mg/L	0.000564	0.00036	mg/L	0.000564	155.89%
Sb 206.836†	-4.4	-0.00213	mg/L	0.000738	-0.00213	mg/L	0.000738	34.67%
Se 196.026†	1.7	0.00191	mg/L	0.002031	0.00191	mg/L	0.002031	106.29%
Si 288.158†	-2.4	-0.00172	mg/L	0.002363	-0.00172	mg/L	0.002363	137.57%
Sn 189.927†	-0.6	-0.00016	mg/L	0.001659	-0.00016	mg/L	0.001659	>999.9%
Sr 421.552†	461.3	0.00099	mg/L	0.000085	0.00099	mg/L	0.000085	8.51%
Ti 334.903†	-5.1	-0.00048	mg/L	0.000873	-0.00048	mg/L	0.000873	181.88%
Tl 190.801†	0.2	0.00010	mg/L	0.003097	0.00010	mg/L	0.003097	>999.9%
V 292.402†	10.0	0.00011	mg/L	0.000130	0.00011	mg/L	0.000130	120.74%
Zn 206.200†	2.4	0.00097	mg/L	0.000611	0.00097	mg/L	0.000611	63.01%

Sequence No.: 10

Sample ID: BFB0107-BLK1

Analyst: CC

Dilution: 5.000000X

Autosampler Location: 306

Date Collected: 2/7/2017 1:34:50 PM

Data Type: Original

Nebulizer Parameters: BFB0107-BLK1

Analyte	Back Pressure	Flow
All	155.0 kPa	0.65 L/min

Mean Data: BFB0107-BLK1

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
ScA 357.253	1509273.5	99.89	%	0.254				0.25%
ScR 361.383	153242.0	101.3	%	0.49				0.48%
Ag 328.068†	12.9	0.00012	mg/L	0.000085	0.00058	mg/L	0.000427	73.55%
Al 308.215†	17.1	0.01544	mg/L	0.010348	0.07720	mg/L	0.051742	67.03%
As 188.979†	2.8	0.00236	mg/L	0.001602	0.01180	mg/L	0.008008	67.86%
B 249.677†	63.6	0.01278	mg/L	0.001298	0.06388	mg/L	0.006488	10.16%
Ba 233.527†	13.8	0.00390	mg/L	0.000366	0.01951	mg/L	0.001828	9.37%
Be 313.042†	33.9	0.00010	mg/L	0.000026	0.00052	mg/L	0.000128	24.72%
Ca 317.933†	994.2	0.1266	mg/L	0.00137	0.6329	mg/L	0.00687	1.09%
Cd 228.802†	0.4	0.00001	mg/L	0.000148	0.00004	mg/L	0.000739	>999.9%
Co 228.616†	1.9	0.00008	mg/L	0.000204	0.00041	mg/L	0.001021	250.73%
Cr 267.716†	-0.2	-0.00006	mg/L	0.001122	-0.00028	mg/L	0.005610	>999.9%
Cu 324.752†	108.2	0.00069	mg/L	0.000121	0.00343	mg/L	0.000603	17.58%
Fe 273.955†	5.9	0.00743	mg/L	0.001814	0.03714	mg/L	0.009068	24.42%
K 766.490†	104.1	0.09148	mg/L	0.023125	0.4574	mg/L	0.11562	25.28%
Mg 279.077†	33.2	0.03277	mg/L	0.004963	0.1638	mg/L	0.02482	15.15%
Mn 257.610†	7.9	0.00032	mg/L	0.000234	0.00158	mg/L	0.001171	74.02%
Mo 202.031†	7.4	0.00053	mg/L	0.000253	0.00267	mg/L	0.001267	47.49%
Na 589.592†	1761277.6	248.7	mg/L	1.04	1243	mg/L	5.22	0.42%
Na 330.237†	3812.5	248.4	mg/L	2.54	1242	mg/L	12.70	1.02%
Ni 231.604†	3.6	0.00127	mg/L	0.001911	0.00634	mg/L	0.009557	150.70%
Pb 220.353†	8.3	0.00147	mg/L	0.000466	0.00735	mg/L	0.002329	31.70%
Sb 206.836†	-0.9	-0.00043	mg/L	0.000611	-0.00217	mg/L	0.003057	140.84%
Se 196.026†	-1.0	-0.00114	mg/L	0.003226	-0.00572	mg/L	0.016131	282.23%
Si 288.158†	28.5	0.02050	mg/L	0.004750	0.1025	mg/L	0.02375	23.18%
Sn 189.927†	0.2	0.00010	mg/L	0.001646	0.00051	mg/L	0.008228	>999.9%
Sr 421.552†	59.0	0.00013	mg/L	0.000067	0.00064	mg/L	0.000335	52.72%
Ti 334.903†	3.8	0.00034	mg/L	0.002189	0.00168	mg/L	0.010947	651.83%
Tl 190.801†	0.3	0.00021	mg/L	0.003179	0.00103	mg/L	0.015894	>999.9%
V 292.402†	-7.3	-0.00008	mg/L	0.000151	-0.00040	mg/L	0.000753	189.58%
Zn 206.200†	7.4	0.00297	mg/L	0.000501	0.01487	mg/L	0.002505	16.84%

Sequence No.: 11

Sample ID: BFB0107-DUP1

Analyst: CC

Dilution: 5.000000X

Autosampler Location: 307

Date Collected: 2/7/2017 1:39:05 PM

Data Type: Original

Nebulizer Parameters: BFB0107-DUP1

Analyte	Back Pressure	Flow
All	155.0 kPa	0.65 L/min

Mean Data: BFB0107-DUP1

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
ScA 357.253	1555543.3	103.0	%	0.30				0.29%
ScR 361.383	158742.3	104.9	%	0.56				0.54%
Ag 328.068†	-23.0	-0.00021	mg/L	0.000193	-0.00104	mg/L	0.000967	93.39%
Al 308.215†	51.8	0.04678	mg/L	0.006962	0.2339	mg/L	0.03481	14.88%
As 188.979†	8.0	0.00528	mg/L	0.001666	0.02641	mg/L	0.008328	31.54%
B 249.677†	70.6	0.01419	mg/L	0.002048	0.07093	mg/L	0.010241	14.44%
Ba 233.527†	379.2	0.1068	mg/L	0.00037	0.5339	mg/L	0.00184	0.35%
Be 313.042†	34.0	0.00010	mg/L	0.000028	0.00052	mg/L	0.000142	27.40%
Ca 317.933†	153972.4	19.61	mg/L	0.027	98.03	mg/L	0.136	0.14%
Cd 228.802†	100.7	0.00454	mg/L	0.000035	0.02272	mg/L	0.000173	0.76%
Co 228.616†	98.8	0.00426	mg/L	0.000120	0.02131	mg/L	0.000599	2.81%
Cr 267.716†	9.2	0.00203	mg/L	0.000504	0.01013	mg/L	0.002518	24.86%
Cu 324.752†	449.0	0.00286	mg/L	0.000101	0.01431	mg/L	0.000505	3.53%
Fe 273.955†	525.7	0.6654	mg/L	0.00456	3.327	mg/L	0.0228	0.69%
K 766.490†	2787.8	2.449	mg/L	0.0096	12.25	mg/L	0.048	0.39%
Mg 279.077†	1274.1	1.257	mg/L	0.0071	6.284	mg/L	0.0355	0.56%
Mn 257.610†	7739.5	0.3113	mg/L	0.00257	1.556	mg/L	0.0128	0.83%
Mo 202.031†	28.2	0.00173	mg/L	0.000098	0.00863	mg/L	0.000492	5.71%
Na 589.592†	1794899.8	253.4	mg/L	0.55	1267	mg/L	2.74	0.22%
Na 330.237†	3970.2	258.6	mg/L	1.73	1293	mg/L	8.63	0.67%
Ni 231.604†	29.1	0.01011	mg/L	0.001658	0.05055	mg/L	0.008290	16.40%
Pb 220.353†	9.5	0.00165	mg/L	0.000578	0.00825	mg/L	0.002891	35.03%
Sb 206.836†	0.1	-0.00010	mg/L	0.001299	-0.00052	mg/L	0.006495	>999.9%
Se 196.026†	-0.5	-0.00295	mg/L	0.003770	-0.01477	mg/L	0.018852	127.65%
Si 288.158†	2007.3	1.446	mg/L	0.0143	7.230	mg/L	0.0713	0.99%
Sn 189.927†	-28.2	-0.00437	mg/L	0.001710	-0.02187	mg/L	0.008550	39.10%
Sr 421.552†	32473.6	0.06997	mg/L	0.000069	0.3498	mg/L	0.00035	0.10%
Ti 334.903†	14.4	-0.00029	mg/L	0.000369	-0.00146	mg/L	0.001843	126.53%
Tl 190.801†	-2.1	-0.00285	mg/L	0.002501	-0.01425	mg/L	0.012504	87.73%
V 292.402†	18.6	0.00024	mg/L	0.000087	0.00118	mg/L	0.000437	37.05%
Zn 206.200†	705.0	0.2824	mg/L	0.00307	1.412	mg/L	0.0154	1.09%

Sequence No.: 12
 Sample ID: **17B0033-01**
 Analyst: CC
 Dilution: 5.000000X

Autosampler Location: 308
 Date Collected: 2/7/2017 1:43:20 PM
 Data Type: Original

Nebulizer Parameters: 17B0033-01

Analyte Back Pressure Flow
 All 155.0 kPa 0.65 L/min

Mean Data: 17B0033-01

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	1549206.1	102.5	%	0.48			0.46%
ScR 361.383	162009.4	107.1	%	0.72			0.67%
Ag 328.068†	0.4	0.00000	mg/L	0.000352	0.00002 mg/L	0.001759	>999.9%
Al 308.215†	55.6	0.05018	mg/L	0.001531	0.2509 mg/L	0.00766	3.05%
As 188.979†	7.7	0.00485	mg/L	0.001936	0.02427 mg/L	0.009679	39.88%
B 249.677†	71.2	0.01429	mg/L	0.000989	0.07146 mg/L	0.004945	6.92%
Ba 233.527†	425.7	0.1199	mg/L	0.00154	0.5994 mg/L	0.00769	1.28%
Be 313.042†	14.8	0.00005	mg/L	0.000068	0.00023 mg/L	0.000341	151.10%
Ca 317.933†	174981.4	22.28	mg/L	0.072	111.4 mg/L	0.36	0.32%
Cd 228.802†	109.8	0.00496	mg/L	0.000282	0.02478 mg/L	0.001411	5.70%
Co 228.616†	107.2	0.00462	mg/L	0.000175	0.02310 mg/L	0.000875	3.79%
Cr 267.716†	7.5	0.00160	mg/L	0.001530	0.00799 mg/L	0.007648	95.74%
Cu 324.752†	511.6	0.00326	mg/L	0.000075	0.01630 mg/L	0.000373	2.29%
Fe 273.955†	587.5	0.7437	mg/L	0.00264	3.719 mg/L	0.0132	0.35%
K 766.490†	3167.4	2.783	mg/L	0.0331	13.91 mg/L	0.166	1.19%
Mg 279.077†	1429.5	1.410	mg/L	0.0107	7.050 mg/L	0.0536	0.76%
Mn 257.610†	8678.8	0.3491	mg/L	0.00242	1.745 mg/L	0.0121	0.69%
Mo 202.031†	35.0	0.00218	mg/L	0.000334	0.01088 mg/L	0.001671	15.35%
Na 589.592†	1977782.6	279.2	mg/L	1.99	1396 mg/L	9.93	0.71%
Na 330.237†	4409.9	287.2	mg/L	2.02	1436 mg/L	10.10	0.70%
Ni 231.604†	31.9	0.01110	mg/L	0.001705	0.05549 mg/L	0.008526	15.37%
Pb 220.353†	7.1	0.00123	mg/L	0.000808	0.00616 mg/L	0.004042	65.58%
Sb 206.836†	4.0	0.00179	mg/L	0.000658	0.00895 mg/L	0.003292	36.80%
Se 196.026†	3.9	0.00177	mg/L	0.003309	0.00885 mg/L	0.016546	187.03%
Si 288.158†	2224.8	1.603	mg/L	0.0163	8.013 mg/L	0.0817	1.02%
Sn 189.927†	-30.1	-0.00423	mg/L	0.001567	-0.02114 mg/L	0.007836	37.08%
Sr 421.552†	36429.8	0.07849	mg/L	0.000280	0.3925 mg/L	0.00140	0.36%
Ti 334.903†	17.9	-0.00019	mg/L	0.000842	-0.00094 mg/L	0.004212	448.41%
Tl 190.801†	4.5	0.00179	mg/L	0.004062	0.00897 mg/L	0.020310	226.54%
V 292.402†	32.4	0.00039	mg/L	0.000013	0.00194 mg/L	0.000066	3.39%
Zn 206.200†	790.9	0.3168	mg/L	0.00329	1.584 mg/L	0.0165	1.04%

Sequence No.: 13

Sample ID: BFB0107-MS1

Analyst: CC

Dilution: 5.000000X

Autosampler Location: 310

Date Collected: 2/7/2017 1:47:35 PM

Data Type: Original

Nebulizer Parameters: BFB0107-MS1

Analyte	Back Pressure	Flow
All	156.0 kPa	0.65 L/min

Mean Data: BFB0107-MS1

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Conc. Units	Sample Std.Dev.	RSD
ScA 357.253	1529999.4	101.3	%	1.13			1.11%
ScR 361.383	163350.0	108.0	%	0.92			0.85%
Ag 328.068†	22133.2	0.1994	mg/L	0.00177	0.9968 mg/L	0.00887	0.89%
Al 308.215†	918.3	0.8267	mg/L	0.00641	4.134 mg/L	0.0320	0.78%
As 188.979†	968.8	0.8139	mg/L	0.00859	4.069 mg/L	0.0429	1.05%
B 249.677†	94.1	0.01851	mg/L	0.002191	0.09255 mg/L	0.010954	11.84%
Ba 233.527†	3250.3	0.9171	mg/L	0.01061	4.585 mg/L	0.0531	1.16%
Be 313.042†	63975.9	0.1950	mg/L	0.00030	0.9750 mg/L	0.00149	0.15%
Ca 317.933†	231767.8	29.51	mg/L	0.122	147.5 mg/L	0.61	0.41%
Cd 228.802†	4618.7	0.2052	mg/L	0.00211	1.026 mg/L	0.0106	1.03%
Co 228.616†	4589.7	0.1988	mg/L	0.00068	0.9940 mg/L	0.00339	0.34%
Cr 267.716†	815.8	0.1953	mg/L	0.00142	0.9767 mg/L	0.00708	0.72%
Cu 324.752†	31328.6	0.1989	mg/L	0.00118	0.9945 mg/L	0.00592	0.60%
Fe 273.955†	1273.8	1.610	mg/L	0.00078	8.050 mg/L	0.0390	0.48%
K 766.490†	8032.9	7.057	mg/L	0.0408	35.29 mg/L	0.204	0.58%
Mg 279.077†	5524.3	5.450	mg/L	0.0592	27.25 mg/L	0.296	1.09%
Mn 257.610†	14527.0	0.5844	mg/L	0.00374	2.922 mg/L	0.0187	0.64%
Mo 202.031†	45.9	0.00281	mg/L	0.000577	0.01405 mg/L	0.002885	20.53%
Na 589.592†	2287599.9	323.0	mg/L	3.05	1615 mg/L	15.26	0.94%
Na 330.237†	5070.3	330.1	mg/L	1.97	1651 mg/L	9.83	0.60%
Ni 231.604†	589.8	0.2048	mg/L	0.00233	1.024 mg/L	0.0116	1.14%
Pb 220.353†	4381.4	0.7710	mg/L	0.00275	3.855 mg/L	0.0137	0.36%
Sb 206.836†	4.8	0.00012	mg/L	0.001144	0.00059 mg/L	0.005720	963.92%
Se 196.026†	717.5	0.8168	mg/L	0.00757	4.084 mg/L	0.0379	0.93%
Si 288.158†	2313.8	1.668	mg/L	0.0406	8.340 mg/L	0.2028	2.43%
Sn 189.927†	-38.8	-0.00518	mg/L	0.002587	-0.02591 mg/L	0.012933	49.92%
Sr 421.552†	132292.5	0.2850	mg/L	0.00056	1.425 mg/L	0.0028	0.20%
Ti 334.903†	27.7	0.00007	mg/L	0.001088	0.00036 mg/L	0.005438	>999.9%
Tl 190.801†	1026.6	0.7446	mg/L	0.00376	3.723 mg/L	0.0188	0.50%
V 292.402†	18307.9	0.2001	mg/L	0.00224	1.000 mg/L	0.0112	1.12%
Zn 206.200†	1385.2	0.5546	mg/L	0.00586	2.773 mg/L	0.0293	1.06%

Sequence No.: 14
 Sample ID: **BFB0101-DUP1**
 Analyst: CC
 Dilution: 1.000000X

Autosampler Location: 311
 Date Collected: 2/7/2017 1:52:54 PM
 Data Type: Original

Nebulizer Parameters: BFB0101-DUP1

Analyte Back Pressure Flow
 All 154.0 kPa 0.65 L/min

Mean Data: BFB0101-DUP1

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
ScA 357.253	1572549.8	104.1	%	0.80				0.77%
ScR 361.383	158123.7	104.5	%	1.19				1.14%
Ag 328.068†	-26.5	-0.00024	mg/L	0.000219	-0.00024	mg/L	0.000219	92.70%
Al 308.215†	53.4	0.04604	mg/L	0.006080	0.04604	mg/L	0.006080	13.21%
As 188.979†	30.6	0.01596	mg/L	0.003069	0.01596	mg/L	0.003069	19.24%
B 249.677†	99.1	0.02005	mg/L	0.000319	0.02005	mg/L	0.000319	1.59%
Ba 233.527†	3395.1	0.9574	mg/L	0.02157	0.9574	mg/L	0.02157	2.25%
Be 313.042†	-6.6	-0.00002	mg/L	0.000050	-0.00002	mg/L	0.000050	236.89%
Ca 317.933†	980706.4	124.9	mg/L	0.76	124.9	mg/L	0.76	0.61%
Cd 228.802†	-13.0	-0.00073	mg/L	0.000205	-0.00073	mg/L	0.000205	28.22%
Co 228.616†	25.6	0.00103	mg/L	0.000145	0.00103	mg/L	0.000145	14.10%
Cr 267.716†	85.1	0.02037	mg/L	0.001227	0.02037	mg/L	0.001227	6.02%
Cu 324.752†	1031.1	0.00627	mg/L	0.000048	0.00627	mg/L	0.000048	0.77%
Fe 273.955†	20.8	0.02625	mg/L	0.000886	0.02625	mg/L	0.000886	3.38%
K 766.490†	46782.5	41.10	mg/L	0.229	41.10	mg/L	0.229	0.56%
Mg 279.077†	664.8	0.6568	mg/L	0.01298	0.6568	mg/L	0.01298	1.98%
Mn 257.610†	19.9	0.00079	mg/L	0.000092	0.00079	mg/L	0.000092	11.51%
Mo 202.031†	1849.9	0.1324	mg/L	0.00125	0.1324	mg/L	0.00125	0.94%
Na 589.592†	209447.7	29.57	mg/L	0.086	29.57	mg/L	0.086	0.29%
Na 330.237†	457.7	29.82	mg/L	0.586	29.82	mg/L	0.586	1.96%
Ni 231.604†	44.4	0.01544	mg/L	0.000912	0.01544	mg/L	0.000912	5.91%
Pb 220.353†	-3.9	-0.00063	mg/L	0.000563	-0.00063	mg/L	0.000563	89.26%
Sb 206.836†	-5.8	-0.00336	mg/L	0.002629	-0.00336	mg/L	0.002629	78.15%
Se 196.026†	0.9	-0.01423	mg/L	0.004032	-0.01423	mg/L	0.004032	28.33%
Si 288.158†	10749.8	7.743	mg/L	0.0517	7.743	mg/L	0.0517	0.67%
Sn 189.927†	-76.0	0.01136	mg/L	0.001309	0.01136	mg/L	0.001309	11.52%
Sr 421.552†	953436.4	2.054	mg/L	0.0075	2.054	mg/L	0.0075	0.37%
Ti 334.903†	113.4	0.00005	mg/L	0.000924	0.00005	mg/L	0.000924	>999.9%
Tl 190.801†	2.4	-0.00847	mg/L	0.002113	-0.00847	mg/L	0.002113	24.93%
V 292.402†	677.4	0.00750	mg/L	0.000171	0.00750	mg/L	0.000171	2.28%
Zn 206.200†	0.5	0.00156	mg/L	0.000096	0.00156	mg/L	0.000096	6.18%

Sequence No.: 15
 Sample ID: 17B0027-05
 Analyst: CC
 Dilution: 1.000000X

Autosampler Location: 312
 Date Collected: 2/7/2017 1:57:08 PM
 Data Type: Original

Nebulizer Parameters: 17B0027-05

Analyte Back Pressure Flow
 All 156.0 kPa 0.65 L/min

Mean Data: 17B0027-05

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
ScA 357.253	1569432.2	103.9	%	0.21				0.20%
ScR 361.383	161575.3	106.8	%	1.69				1.58%
Ag 328.068†	-39.1	-0.00035	mg/L	0.000457	-0.00035	mg/L	0.000457	130.63%
Al 308.215†	63.1	0.05474	mg/L	0.014140	0.05474	mg/L	0.014140	25.83%
As 188.979†	33.0	0.01784	mg/L	0.000237	0.01784	mg/L	0.000237	1.33%
B 249.677†	91.8	0.01859	mg/L	0.000254	0.01859	mg/L	0.000254	1.37%
Ba 233.527†	3408.2	0.9610	mg/L	0.01400	0.9610	mg/L	0.01400	1.46%
Be 313.042†	-9.6	-0.00003	mg/L	0.000049	-0.00003	mg/L	0.000049	159.02%
Ca 317.933†	991765.3	126.3	mg/L	1.14	126.3	mg/L	1.14	0.91%
Cd 228.802†	-15.0	-0.00083	mg/L	0.000197	-0.00083	mg/L	0.000197	23.84%
Co 228.616†	28.9	0.00117	mg/L	0.000219	0.00117	mg/L	0.000219	18.72%
Cr 267.716†	86.7	0.02076	mg/L	0.000906	0.02076	mg/L	0.000906	4.36%
Cu 324.752†	1042.1	0.00634	mg/L	0.000215	0.00634	mg/L	0.000215	3.38%
Fe 273.955†	19.5	0.02463	mg/L	0.003109	0.02463	mg/L	0.003109	12.62%
K 766.490†	46811.0	41.13	mg/L	0.368	41.13	mg/L	0.368	0.89%
Mg 279.077†	665.0	0.6570	mg/L	0.00834	0.6570	mg/L	0.00834	1.27%
Mn 257.610†	17.3	0.00069	mg/L	0.000252	0.00069	mg/L	0.000252	36.66%
Mo 202.031†	1851.6	0.1325	mg/L	0.00074	0.1325	mg/L	0.00074	0.56%
Na 589.592†	208005.8	29.37	mg/L	0.072	29.37	mg/L	0.072	0.25%
Na 330.237†	460.9	30.03	mg/L	0.635	30.03	mg/L	0.635	2.11%
Ni 231.604†	50.1	0.01743	mg/L	0.000619	0.01743	mg/L	0.000619	3.55%
Pb 220.353†	1.7	0.00036	mg/L	0.001222	0.00036	mg/L	0.001222	338.22%
Sb 206.836†	5.3	0.00197	mg/L	0.000471	0.00197	mg/L	0.000471	23.88%
Se 196.026†	0.0	-0.01544	mg/L	0.001968	-0.01544	mg/L	0.001968	12.75%
Si 288.158†	10794.6	7.775	mg/L	0.1076	7.775	mg/L	0.1076	1.38%
Sn 189.927†	-76.8	0.01148	mg/L	0.000512	0.01148	mg/L	0.000512	4.46%
Sr 421.552†	951505.5	2.050	mg/L	0.0047	2.050	mg/L	0.0047	0.23%
Ti 334.903†	112.3	-0.00017	mg/L	0.000460	-0.00017	mg/L	0.000460	265.28%
Tl 190.801†	3.9	-0.00746	mg/L	0.002762	-0.00746	mg/L	0.002762	37.04%
V 292.402†	661.6	0.00733	mg/L	0.000068	0.00733	mg/L	0.000068	0.92%
Zn 206.200†	1.0	0.00176	mg/L	0.001090	0.00176	mg/L	0.001090	61.95%

Sequence No.: 16
 Sample ID: **BFB0101-MS1**
 Analyst: CC
 Dilution: **1.000000X**

Autosampler Location: 313
 Date Collected: 2/7/2017 2:01:22 PM
 Data Type: Original

Nebulizer Parameters: BFB0101-MS1

Analyte Back Pressure Flow
 All 155.0 kPa 0.65 L/min

Mean Data: BFB0101-MS1

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
ScA 357.253	1582975.1	104.8	%	0.36				0.34%
ScR 361.383	166795.0	110.3	%	0.70				0.64%
Ag 328.068†	54739.5	0.4931	mg/L	0.00711	0.4931	mg/L	0.00711	1.44%
Al 308.215†	2335.2	2.100	mg/L	0.0220	2.100	mg/L	0.0220	1.05%
As 188.979†	2553.1	2.140	mg/L	0.0061	2.140	mg/L	0.0061	0.29%
B 249.677†	100.1	0.01924	mg/L	0.000994	0.01924	mg/L	0.000994	5.17%
Ba 233.527†	10480.2	2.957	mg/L	0.0266	2.957	mg/L	0.0266	0.90%
Be 313.042†	166354.5	0.5071	mg/L	0.00459	0.5071	mg/L	0.00459	0.91%
Ca 317.933†	1025029.7	130.5	mg/L	1.03	130.5	mg/L	1.03	0.79%
Cd 228.802†	11700.8	0.5195	mg/L	0.00417	0.5195	mg/L	0.00417	0.80%
Co 228.616†	11708.1	0.5071	mg/L	0.00153	0.5071	mg/L	0.00153	0.30%
Cr 267.716†	2196.8	0.5266	mg/L	0.00235	0.5266	mg/L	0.00235	0.45%
Cu 324.752†	79915.7	0.5071	mg/L	0.00283	0.5071	mg/L	0.00283	0.56%
Fe 273.955†	1593.7	2.011	mg/L	0.0070	2.011	mg/L	0.0070	0.35%
K 766.490†	56480.4	49.62	mg/L	0.142	49.62	mg/L	0.142	0.29%
Mg 279.077†	10934.4	10.79	mg/L	0.088	10.79	mg/L	0.088	0.81%
Mn 257.610†	11850.9	0.4771	mg/L	0.00337	0.4771	mg/L	0.00337	0.71%
Mo 202.031†	1836.5	0.1312	mg/L	0.00078	0.1312	mg/L	0.00078	0.59%
Na 589.592†	271762.1	38.37	mg/L	0.007	38.37	mg/L	0.007	0.02%
Na 330.237†	608.2	39.44	mg/L	0.047	39.44	mg/L	0.047	0.12%
Ni 231.604†	1493.1	0.5184	mg/L	0.00441	0.5184	mg/L	0.00441	0.85%
Pb 220.353†	11522.9	2.028	mg/L	0.0079	2.028	mg/L	0.0079	0.39%
Sb 206.836†	15.0	0.00137	mg/L	0.001258	0.00137	mg/L	0.001258	91.56%
Se 196.026†	1953.3	2.218	mg/L	0.0109	2.218	mg/L	0.0109	0.49%
Si 288.158†	10917.9	7.867	mg/L	0.0421	7.867	mg/L	0.0421	0.54%
Sn 189.927†	-77.8	0.01256	mg/L	0.003105	0.01256	mg/L	0.003105	24.72%
Sr 421.552†	1142180.1	2.461	mg/L	0.0038	2.461	mg/L	0.0038	0.16%
Ti 334.903†	131.6	0.00115	mg/L	0.000150	0.00115	mg/L	0.000150	13.08%
Tl 190.801†	2771.3	2.005	mg/L	0.0079	2.005	mg/L	0.0079	0.40%
V 292.402†	47301.0	0.5170	mg/L	0.00433	0.5170	mg/L	0.00433	0.84%
Zn 206.200†	1248.5	0.5011	mg/L	0.00519	0.5011	mg/L	0.00519	1.04%

Sequence No.: 17

Sample ID: 17A0311-01

Analyst: CC

Dilution: 5.000000X

Autosampler Location: 314

Date Collected: 2/7/2017 2:08:20 PM

Data Type: Original

Nebulizer Parameters: 17A0311-01

Analyte	Back Pressure	Flow
All	155.0 kPa	0.65 L/min

Mean Data: 17A0311-01

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
ScA 357.253	1567126.3	103.7	%	0.52				0.50%
ScR 361.383	163425.9	108.0	%	0.61				0.57%
Ag 328.068†	1992.6	0.01794	mg/L	0.006347	0.08971	mg/L	0.031734	35.37%
Al 308.215†	40.8	0.03687	mg/L	0.006895	0.1844	mg/L	0.03447	18.70%
As 188.979†	4.2	0.00336	mg/L	0.000722	0.01681	mg/L	0.003609	21.47%
B 249.677†	75.0	0.01507	mg/L	0.001929	0.07536	mg/L	0.009644	12.80%
Ba 233.527†	181.0	0.05105	mg/L	0.001465	0.2553	mg/L	0.00733	2.87%
Be 313.042†	31.8	0.00010	mg/L	0.000071	0.00048	mg/L	0.000357	73.70%
Ca 317.933†	27764.3	3.535	mg/L	0.0097	17.68	mg/L	0.049	0.28%
Cd 228.802†	212.8	0.00966	mg/L	0.000276	0.04832	mg/L	0.001379	2.85%
Co 228.616†	12.7	0.00054	mg/L	0.000056	0.00271	mg/L	0.000279	10.29%
Cr 267.716†	5.2	0.00115	mg/L	0.001381	0.00577	mg/L	0.006907	119.63%
Cu 324.752†	1312.2	0.00832	mg/L	0.000025	0.04161	mg/L	0.000124	0.30%
Fe 273.955†	34.3	0.04338	mg/L	0.003767	0.2169	mg/L	0.01884	8.68%
K 766.490†	1397.7	1.228	mg/L	0.0090	6.140	mg/L	0.0449	0.73%
Mg 279.077†	409.9	0.4044	mg/L	0.01031	2.022	mg/L	0.0515	2.55%
Mn 257.610†	621.1	0.02511	mg/L	0.000106	0.1256	mg/L	0.00053	0.42%
Mo 202.031†	10.0	0.00066	mg/L	0.000272	0.00332	mg/L	0.001361	41.00%
Na 589.592†	1596188.4	225.4	mg/L	0.19	1127	mg/L	0.97	0.09%
Na 330.237†	3423.1	222.2	mg/L	1.43	1111	mg/L	7.13	0.64%
Ni 231.604†	49.4	0.01716	mg/L	0.000550	0.08581	mg/L	0.002752	3.21%
Pb 220.353†	2930.5	0.5155	mg/L	0.00393	2.577	mg/L	0.0196	0.76%
Sb 206.836†	3.7	0.00176	mg/L	0.001429	0.00878	mg/L	0.007145	81.37%
Se 196.026†	2.6	0.00249	mg/L	0.005315	0.01245	mg/L	0.026576	213.49%
Si 288.158†	67.2	0.04849	mg/L	0.004618	0.2424	mg/L	0.02309	9.52%
Sn 189.927†	-3.2	-0.00004	mg/L	0.001141	-0.00021	mg/L	0.005704	>999.9%
Sr 421.552†	7040.0	0.01517	mg/L	0.000073	0.07584	mg/L	0.000365	0.48%
Ti 334.903†	14.5	0.00104	mg/L	0.000766	0.00521	mg/L	0.003832	73.51%
Tl 190.801†	2.0	0.00117	mg/L	0.002744	0.00587	mg/L	0.013721	233.65%
V 292.402†	26.2	0.00029	mg/L	0.000063	0.00146	mg/L	0.000316	21.59%
Zn 206.200†	5386.8	2.156	mg/L	0.0080	10.78	mg/L	0.040	0.37%

User canceled analysis.

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Analysis Begun

Start Time: 2/7/2017 2:15:11 PM

Plasma On Time: 2/7/2017 10:37:36 AM

Logged In Analyst: metinst

Technique: ICP Continuous

Spectrometer: Optima 7300 DV, S/N 077C8121202

Autosampler: ESI

Sample Information File: C:\pe\metals\Sample Information\0207.sif

Batch ID:

Results Data Set: I2170207

Results Library: C:\Documents and Settings\All Users\PerkinElmer\ICP\Data\Results\Results.mdb

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 Sequence No.: 21

Autosampler Location: 315

Sample ID: 17B0021-01

Date Collected: 2/7/2017 2:15:12 PM

Analyst: CC

Data Type: Original

Dilution: 5.000000X

Nebulizer Parameters: 17B0021-01

Analyte	Back Pressure	Flow
All	155.0 kPa	0.65 L/min

Mean Data: 17B0021-01

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	1561571.8	103.4 %	0.18			0.17%
ScR 361.383	159140.1	105.2 %	1.44			1.37%
Ag 328.068†	28.5	0.00026 mg/L	0.000118	0.00131 mg/L	0.000592	45.15%
Al 308.215†	162.0	0.1458 mg/L	0.00597	0.7291 mg/L	0.02986	4.10%
As 188.979†	34.1	0.03238 mg/L	0.000277	0.1619 mg/L	0.00139	0.86%
B 249.677†	9500.8	1.909 mg/L	0.0184	9.545 mg/L	0.0919	0.96%
Ba 233.527†	466.4	0.1314 mg/L	0.00201	0.6569 mg/L	0.01003	1.53%
Be 313.042†	-8.8	-0.00003 mg/L	0.000035	-0.00016 mg/L	0.000173	110.95%
Ca 317.933†	132489.7	16.85 mg/L	0.073	84.25 mg/L	0.363	0.43%
Cd 228.802†	0.3	-0.00012 mg/L	0.000138	-0.00062 mg/L	0.000688	111.59%
Co 228.616†	179.6	0.00754 mg/L	0.000234	0.03772 mg/L	0.001169	3.10%
Cr 267.716†	204.8	0.04769 mg/L	0.000909	0.2385 mg/L	0.00455	1.91%
Cu 324.752†	1008.6	0.00586 mg/L	0.000055	0.02930 mg/L	0.000273	0.93%
Fe 273.955†	759.3	0.9610 mg/L	0.01530	4.805 mg/L	0.0765	1.59%
K 766.490†	107617.3	94.55 mg/L	0.290	472.7 mg/L	1.45	0.31%
Mg 279.077†	9452.8	9.327 mg/L	0.0950	46.64 mg/L	0.475	1.02%
Mn 257.610†	3468.7	0.1394 mg/L	0.00186	0.6972 mg/L	0.00929	1.33%
Mo 202.031†	73.7	0.00499 mg/L	0.000262	0.02494 mg/L	0.001309	5.25%
Na 589.592†	2035909.0	287.4 mg/L	0.95	1437 mg/L	4.75	0.33%
Na 330.237†	4415.7	287.7 mg/L	2.97	1439 mg/L	14.85	1.03%
Ni 231.604†	104.8	0.03642 mg/L	0.001013	0.1821 mg/L	0.00507	2.78%
Pb 220.353†	6.0	0.00116 mg/L	0.000657	0.00581 mg/L	0.003286	56.53%
Sb 206.836†	5.4	0.00204 mg/L	0.003488	0.01018 mg/L	0.017441	171.39%
Se 196.026†	1.7	-0.00010 mg/L	0.004217	-0.00048 mg/L	0.021085	>999.9%
Si 288.158†	4858.0	3.500 mg/L	0.0215	17.50 mg/L	0.108	0.61%
Sn 189.927†	11.7	0.00985 mg/L	0.001472	0.04924 mg/L	0.007359	14.95%
Sr 421.552†	123388.9	0.2659 mg/L	0.00045	1.329 mg/L	0.0023	0.17%
Ti 334.903†	1213.0	0.1101 mg/L	0.00212	0.5507 mg/L	0.01061	1.93%
Tl 190.801†	2.7	0.00065 mg/L	0.002524	0.00326 mg/L	0.012620	387.35%
V 292.402†	1890.7	0.02070 mg/L	0.000306	0.1035 mg/L	0.00153	1.48%
Zn 206.200†	49.6	0.02047 mg/L	0.000418	0.1024 mg/L	0.00209	2.04%

Sequence No.: 22
 Sample ID: SEQ-CCV2
 Analyst: CC
 Dilution: 1.000000X

Autosampler Location: 7
 Date Collected: 2/7/2017 2:20:32 PM
 Data Type: Original

Nebulizer Parameters: SEQ-CCV2

Analyte Back Pressure Flow
 All 155.0 kPa 0.65 L/min

Mean Data: SEQ-CCV2

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
ScA 357.253	1566855.2	103.7	%	0.21				0.21%
ScR 361.383	156195.0	103.3	%	0.55				0.53%
Ag 328.068†	113596.7	1.023	mg/L	0.0028	1.023	mg/L	0.0028	0.28%
Al 308.215†	2255.6	2.006	mg/L	0.0128	2.006	mg/L	0.0128	0.64%
As 188.979†	2280.0	1.962	mg/L	0.0036	1.962	mg/L	0.0036	0.18%
B 249.677†	5024.8	1.009	mg/L	0.0064	1.009	mg/L	0.0064	0.64%
Ba 233.527†	3623.9	1.023	mg/L	0.0085	1.023	mg/L	0.0085	0.83%
Be 313.042†	323828.5	0.9871	mg/L	0.00557	0.9871	mg/L	0.00557	0.56%
Ca 317.933†	15912.0	2.012	mg/L	0.0135	2.012	mg/L	0.0135	0.67%
Cd 228.802†	21809.5	0.9806	mg/L	0.00424	0.9806	mg/L	0.00424	0.43%
Co 228.616†	22459.2	0.9713	mg/L	0.00279	0.9713	mg/L	0.00279	0.29%
Cr 267.716†	4225.3	1.016	mg/L	0.0050	1.016	mg/L	0.0050	0.50%
Cu 324.752†	155218.4	0.9848	mg/L	0.00298	0.9848	mg/L	0.00298	0.30%
Fe 273.955†	1538.9	1.936	mg/L	0.0070	1.936	mg/L	0.0070	0.36%
K 766.490†	22945.2	20.16	mg/L	0.072	20.16	mg/L	0.072	0.36%
Mg 279.077†	2018.7	1.998	mg/L	0.0167	1.998	mg/L	0.0167	0.84%
Mn 257.610†	24412.9	0.9824	mg/L	0.00438	0.9824	mg/L	0.00438	0.45%
Mo 202.031†	13803.0	1.003	mg/L	0.0009	1.003	mg/L	0.0009	0.09%
Na 589.592†	362088.2	51.12	mg/L	0.237	51.12	mg/L	0.237	0.46%
Na 330.237†	785.4	50.99	mg/L	0.213	50.99	mg/L	0.213	0.42%
Ni 231.604†	2920.1	1.016	mg/L	0.0053	1.016	mg/L	0.0053	0.52%
Pb 220.353†	11140.4	1.961	mg/L	0.0035	1.961	mg/L	0.0035	0.18%
Sb 206.836†	4264.1	2.048	mg/L	0.0009	2.048	mg/L	0.0009	0.04%
Se 196.026†	1716.6	1.962	mg/L	0.0044	1.962	mg/L	0.0044	0.22%
Si 288.158†	2990.8	2.154	mg/L	0.0200	2.154	mg/L	0.0200	0.93%
Sn 189.927†	2573.4	0.9762	mg/L	0.00298	0.9762	mg/L	0.00298	0.31%
Sr 421.552†	469959.1	1.013	mg/L	0.0007	1.013	mg/L	0.0007	0.07%
Ti 334.903†	11100.6	1.020	mg/L	0.0047	1.020	mg/L	0.0047	0.46%
Tl 190.801†	2702.8	1.963	mg/L	0.0047	1.963	mg/L	0.0047	0.24%
V 292.402†	91129.8	0.9959	mg/L	0.00245	0.9959	mg/L	0.00245	0.25%
Zn 206.200†	2487.9	0.9957	mg/L	0.00473	0.9957	mg/L	0.00473	0.48%

Sequence No.: 23
 Sample ID: SEQ-CCB2
 Analyst: CC
 Dilution: 1.000000X

Autosampler Location: 1
 Date Collected: 2/7/2017 2:25:36 PM
 Data Type: Original

Nebulizer Parameters: SEQ-CCB2

Analyte Back Pressure Flow
 All 156.0 kPa 0.65 L/min

Mean Data: SEQ-CCB2

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc. Units	Sample Std.Dev.	RSD
ScA 357.253	1582111.7	104.7	%	0.71			0.68%
ScR 361.383	160812.3	106.3	%	0.25			0.23%
Ag 328.068†	14.2	0.00013	mg/L	0.000346	0.00013 mg/L	0.000346	269.58%
Al 308.215†	14.1	0.01270	mg/L	0.011764	0.01270 mg/L	0.011764	92.64%
As 188.979†	0.3	0.00019	mg/L	0.001465	0.00019 mg/L	0.001465	772.72%
B 249.677†	10.5	0.00212	mg/L	0.000553	0.00212 mg/L	0.000553	26.12%
Ba 233.527†	-0.3	-0.00008	mg/L	0.000984	-0.00008 mg/L	0.000984	>999.9%
Be 313.042†	-2.5	-0.00001	mg/L	0.000053	-0.00001 mg/L	0.000053	708.25%
Ca 317.933†	9.8	0.00124	mg/L	0.000730	0.00124 mg/L	0.000730	58.91%
Cd 228.802†	-3.2	-0.00015	mg/L	0.000048	-0.00015 mg/L	0.000048	33.14%
Co 228.616†	-0.6	-0.00002	mg/L	0.000188	-0.00002 mg/L	0.000188	840.42%
Cr 267.716†	0.3	0.00007	mg/L	0.001834	0.00007 mg/L	0.001834	>999.9%
Cu 324.752†	27.0	0.00017	mg/L	0.000022	0.00017 mg/L	0.000022	13.06%
Fe 273.955†	-0.8	-0.00102	mg/L	0.002971	-0.00102 mg/L	0.002971	290.34%
K 766.490†	24.2	0.02130	mg/L	0.031664	0.02130 mg/L	0.031664	148.66%
Mg 279.077†	2.7	0.00267	mg/L	0.012107	0.00267 mg/L	0.012107	453.14%
Mn 257.610†	-0.1	-0.00000	mg/L	0.000028	-0.00000 mg/L	0.000028	910.87%
Mo 202.031†	5.0	0.00036	mg/L	0.000299	0.00036 mg/L	0.000299	81.90%
Na 589.592†	384.8	0.05432	mg/L	0.003172	0.05432 mg/L	0.003172	5.84%
Na 330.237†	11.5	0.7475	mg/L	0.92535	0.7475 mg/L	0.92535	123.79%
Ni 231.604†	5.6	0.00196	mg/L	0.001796	0.00196 mg/L	0.001796	91.55%
Pb 220.353†	3.0	0.00053	mg/L	0.000696	0.00053 mg/L	0.000696	132.61%
Sb 206.836†	-2.4	-0.00114	mg/L	0.001243	-0.00114 mg/L	0.001243	109.43%
Se 196.026†	5.1	0.00584	mg/L	0.005729	0.00584 mg/L	0.005729	98.17%
Si 288.158†	12.4	0.00894	mg/L	0.000704	0.00894 mg/L	0.000704	7.88%
Sn 189.927†	2.5	0.00094	mg/L	0.000587	0.00094 mg/L	0.000587	62.79%
Sr 421.552†	36.4	0.00008	mg/L	0.000064	0.00008 mg/L	0.000064	81.61%
Ti 334.903†	-11.9	-0.00110	mg/L	0.000578	-0.00110 mg/L	0.000578	52.72%
Tl 190.801†	0.3	0.00024	mg/L	0.001984	0.00024 mg/L	0.001984	834.62%
V 292.402†	-6.0	-0.00006	mg/L	0.000214	-0.00006 mg/L	0.000214	332.84%
Zn 206.200†	0.1	0.00003	mg/L	0.001008	0.00003 mg/L	0.001008	>999.9%

Sequence No.: 24
 Sample ID: **BFB0101-BS1**
 Analyst: CC
 Dilution: 1.000000X

Autosampler Location: 316
 Date Collected: 2/7/2017 2:29:36 PM
 Data Type: Original

Nebulizer Parameters: BFB0101-BS1

Analyte	Back Pressure	Flow
All	156.0 kPa	0.65 L/min

Mean Data: BFB0101-BS1

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Conc. Units	Sample Std.Dev.	RSD
ScA 357.253	1596597.2	105.7	%	0.42			0.40%
ScR 361.383	163941.7	108.4	%	0.35			0.32%
Ag 328.068†	57532.0	0.5182	mg/L	0.00260	0.5182 mg/L	0.00260	0.50%
Al 308.215†	2255.2	2.030	mg/L	0.0125	2.030 mg/L	0.0125	0.62%
As 188.979†	2412.7	2.032	mg/L	0.0008	2.032 mg/L	0.0008	0.04%
B 249.677†	-0.0	-0.00100	mg/L	0.001267	-0.00100 mg/L	0.001267	126.36%
Ba 233.527†	7226.9	2.040	mg/L	0.0078	2.040 mg/L	0.0078	0.38%
Be 313.042†	163609.5	0.4987	mg/L	0.00168	0.4987 mg/L	0.00168	0.34%
Ca 317.933†	76200.9	9.694	mg/L	0.0384	9.694 mg/L	0.0384	0.40%
Cd 228.802†	11414.4	0.5071	mg/L	0.00263	0.5071 mg/L	0.00263	0.52%
Co 228.616†	11597.8	0.5024	mg/L	0.00105	0.5024 mg/L	0.00105	0.21%
Cr 267.716†	2126.9	0.5099	mg/L	0.00182	0.5099 mg/L	0.00182	0.36%
Cu 324.752†	78618.3	0.4991	mg/L	0.00176	0.4991 mg/L	0.00176	0.35%
Fe 273.955†	1558.5	1.966	mg/L	0.0095	1.966 mg/L	0.0095	0.48%
K 766.490†	11504.1	10.11	mg/L	0.026	10.11 mg/L	0.026	0.26%
Mg 279.077†	10311.7	10.18	mg/L	0.009	10.18 mg/L	0.009	0.09%
Mn 257.610†	11654.2	0.4692	mg/L	0.00213	0.4692 mg/L	0.00213	0.45%
Mo 202.031†	19.7	0.00117	mg/L	0.000056	0.00117 mg/L	0.000056	4.80%
Na 589.592†	72863.7	10.29	mg/L	0.032	10.29 mg/L	0.032	0.31%
Na 330.237†	163.6	10.47	mg/L	0.273	10.47 mg/L	0.273	2.61%
Ni 231.604†	1463.5	0.5081	mg/L	0.00290	0.5081 mg/L	0.00290	0.57%
Pb 220.353†	11320.3	1.992	mg/L	0.0132	1.992 mg/L	0.0132	0.66%
Sb 206.836†	4.5	-0.00319	mg/L	0.000944	-0.00319 mg/L	0.000944	29.58%
Se 196.026†	1806.8	2.065	mg/L	0.0035	2.065 mg/L	0.0035	0.17%
Si 288.158†	4.9	0.00666	mg/L	0.004493	0.00666 mg/L	0.004493	67.41%
Sn 189.927†	-19.5	-0.00417	mg/L	0.000278	-0.00417 mg/L	0.000278	6.67%
Sr 421.552†	232760.2	0.5015	mg/L	0.00056	0.5015 mg/L	0.00056	0.11%
Ti 334.903†	13.4	0.00032	mg/L	0.000690	0.00032 mg/L	0.000690	217.23%
Tl 190.801†	2817.6	2.049	mg/L	0.0063	2.049 mg/L	0.0063	0.31%
V 292.402†	47524.9	0.5193	mg/L	0.00189	0.5193 mg/L	0.00189	0.36%
Zn 206.200†	1235.5	0.4945	mg/L	0.00098	0.4945 mg/L	0.00098	0.20%

Sequence No.: 25

Sample ID: 17B0029-21

Analyst: CC

Dilution: 1.000000X

Autosampler Location: 317

Date Collected: 2/7/2017 2:36:20 PM

Data Type: Original

Nebulizer Parameters: 17B0029-21

Analyte	Back Pressure	Flow
All	154.0 kPa	0.65 L/min

Mean Data: 17B0029-21

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
ScA 357.253	1613711.7	106.8	%	0.56				0.53%
ScR 361.383	164102.0	108.5	%	0.38				0.35%
Ag 328.068†	34.2	0.00031	mg/L	0.000238	0.00031	mg/L	0.000238	77.25%
Al 308.215†	33.6	0.02984	mg/L	0.010584	0.02984	mg/L	0.010584	35.47%
As 188.979†	23.2	0.01600	mg/L	0.000501	0.01600	mg/L	0.000501	3.13%
B 249.677†	207.7	0.04178	mg/L	0.000780	0.04178	mg/L	0.000780	1.87%
Ba 233.527†	160.0	0.04473	mg/L	0.001557	0.04473	mg/L	0.001557	3.48%
Be 313.042†	-6.3	-0.00002	mg/L	0.000055	-0.00002	mg/L	0.000055	284.79%
Ca 317.933†	370724.6	47.18	mg/L	0.369	47.18	mg/L	0.369	0.78%
Cd 228.802†	-5.0	-0.00034	mg/L	0.000138	-0.00034	mg/L	0.000138	40.61%
Co 228.616†	10.6	0.00045	mg/L	0.000170	0.00045	mg/L	0.000170	37.91%
Cr 267.716†	14.7	0.00009	mg/L	0.001362	0.00009	mg/L	0.001362	>999.9%
Cu 324.752†	579.3	0.00282	mg/L	0.000079	0.00282	mg/L	0.000079	2.81%
Fe 273.955†	27.4	0.03467	mg/L	0.002114	0.03467	mg/L	0.002114	6.10%
K 766.490†	154224.7	135.5	mg/L	0.27	135.5	mg/L	0.27	0.20%
Mg 279.077†	20100.8	19.84	mg/L	0.158	19.84	mg/L	0.158	0.80%
Mn 257.610†	990.9	0.03967	mg/L	0.000167	0.03967	mg/L	0.000167	0.42%
Mo 202.031†	448.5	0.03162	mg/L	0.000274	0.03162	mg/L	0.000274	0.87%
Na 589.592†	360944.6	50.96	mg/L	0.060	50.96	mg/L	0.060	0.12%
Na 330.237†	776.8	50.61	mg/L	0.781	50.61	mg/L	0.781	1.54%
Ni 231.604†	8.6	0.00300	mg/L	0.002786	0.00300	mg/L	0.002786	92.79%
Pb 220.353†	1.3	0.00024	mg/L	0.000661	0.00024	mg/L	0.000661	272.27%
Sb 206.836†	7.6	0.00340	mg/L	0.001817	0.00340	mg/L	0.001817	53.50%
Se 196.026†	3.4	-0.00185	mg/L	0.000268	-0.00185	mg/L	0.000268	14.45%
Si 288.158†	4590.7	3.309	mg/L	0.0363	3.309	mg/L	0.0363	1.10%
Sn 189.927†	-48.9	-0.00333	mg/L	0.000500	-0.00333	mg/L	0.000500	15.00%
Sr 421.552†	368174.5	0.7933	mg/L	0.00031	0.7933	mg/L	0.00031	0.04%
Ti 334.903†	59.1	0.00153	mg/L	0.002483	0.00153	mg/L	0.002483	162.68%
Tl 190.801†	2.9	-0.00174	mg/L	0.001486	-0.00174	mg/L	0.001486	85.29%
V 292.402†	104.9	0.00117	mg/L	0.000102	0.00117	mg/L	0.000102	8.72%
Zn 206.200†	4.9	0.00253	mg/L	0.000667	0.00253	mg/L	0.000667	26.34%

Sequence No.: 26
 Sample ID: 17B0029-23
 Analyst: CC
 Dilution: 1.000000X

Autosampler Location: 318
 Date Collected: 2/7/2017 2:40:34 PM
 Data Type: Original

Nebulizer Parameters: 17B0029-23

Analyte Back Pressure Flow
 All 155.0 kPa 0.65 L/min

Mean Data: 17B0029-23

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
ScA 357.253	1653098.2	109.4	%	0.25				0.23%
ScR 361.383	169157.7	111.8	%	0.36				0.33%
Ag 328.068†	-11.4	-0.00010	mg/L	0.000401	-0.00010	mg/L	0.000401	390.04%
Al 308.215†	16.9	0.01515	mg/L	0.002058	0.01515	mg/L	0.002058	13.58%
As 188.979†	15.0	0.00951	mg/L	0.000666	0.00951	mg/L	0.000666	7.00%
B 249.677†	410.0	0.08239	mg/L	0.001363	0.08239	mg/L	0.001363	1.65%
Ba 233.527†	21.1	0.00557	mg/L	0.000346	0.00557	mg/L	0.000346	6.21%
Be 313.042†	-26.0	-0.00008	mg/L	0.000012	-0.00008	mg/L	0.000012	14.51%
Ca 317.933†	326055.1	41.51	mg/L	0.163	41.51	mg/L	0.163	0.39%
Cd 228.802†	-6.9	-0.00038	mg/L	0.000072	-0.00038	mg/L	0.000072	18.77%
Co 228.616†	12.5	0.00054	mg/L	0.000157	0.00054	mg/L	0.000157	29.38%
Cr 267.716†	10.3	-0.00024	mg/L	0.000958	-0.00024	mg/L	0.000958	395.52%
Cu 324.752†	108.7	0.00059	mg/L	0.000077	0.00059	mg/L	0.000077	13.12%
Fe 273.955†	1.2	0.00151	mg/L	0.004396	0.00151	mg/L	0.004396	291.27%
K 766.490†	932.5	0.8192	mg/L	0.04633	0.8192	mg/L	0.04633	5.66%
Mg 279.077†	15874.6	15.66	mg/L	0.160	15.66	mg/L	0.160	1.02%
Mn 257.610†	202.2	0.00799	mg/L	0.000052	0.00799	mg/L	0.000052	0.65%
Mo 202.031†	47.5	0.00263	mg/L	0.000106	0.00263	mg/L	0.000106	4.02%
Na 589.592†	65831.9	9.294	mg/L	0.1157	9.294	mg/L	0.1157	1.24%
Na 330.237†	162.1	10.56	mg/L	0.535	10.56	mg/L	0.535	5.06%
Ni 231.604†	10.3	0.00358	mg/L	0.001752	0.00358	mg/L	0.001752	48.93%
Pb 220.353†	-7.3	-0.00127	mg/L	0.000285	-0.00127	mg/L	0.000285	22.37%
Sb 206.836†	-3.8	-0.00203	mg/L	0.001406	-0.00203	mg/L	0.001406	69.36%
Se 196.026†	9.1	0.00533	mg/L	0.002164	0.00533	mg/L	0.002164	40.63%
Si 288.158†	18397.6	13.25	mg/L	0.181	13.25	mg/L	0.181	1.36%
Sn 189.927†	-44.7	-0.00358	mg/L	0.000572	-0.00358	mg/L	0.000572	16.00%
Sr 421.552†	83265.7	0.1794	mg/L	0.00177	0.1794	mg/L	0.00177	0.99%
Ti 334.903†	24.3	-0.00118	mg/L	0.000494	-0.00118	mg/L	0.000494	41.92%
Tl 190.801†	-0.5	-0.00378	mg/L	0.001458	-0.00378	mg/L	0.001458	38.55%
V 292.402†	68.5	0.00076	mg/L	0.000032	0.00076	mg/L	0.000032	4.23%
Zn 206.200†	-6.6	-0.00024	mg/L	0.000709	-0.00024	mg/L	0.000709	299.56%

Sequence No.: 27
 Sample ID: 17B0029-24
 Analyst: CC
 Dilution: 1.000000X

Autosampler Location: 319
 Date Collected: 2/7/2017 2:44:48 PM
 Data Type: Original

Nebulizer Parameters: 17B0029-24

Analyte Back Pressure Flow
 All 155.0 kPa 0.65 L/min

Mean Data: 17B0029-24

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
ScA 357.253	1607932.4	106.4	%	0.47				0.44%
ScR 361.383	168125.5	111.1	%	1.18				1.06%
Ag 328.068†	-22.5	-0.00020	mg/L	0.000149	-0.00020	mg/L	0.000149	73.43%
Al 308.215†	14.8	0.01294	mg/L	0.020348	0.01294	mg/L	0.020348	157.29%
As 188.979†	29.1	0.01950	mg/L	0.001002	0.01950	mg/L	0.001002	5.14%
B 249.677†	120.5	0.02420	mg/L	0.000491	0.02420	mg/L	0.000491	2.03%
Ba 233.527†	358.5	0.09989	mg/L	0.000483	0.09989	mg/L	0.000483	0.48%
Be 313.042†	-29.6	-0.00009	mg/L	0.000048	-0.00009	mg/L	0.000048	53.32%
Ca 317.933†	526855.7	67.07	mg/L	0.346	67.07	mg/L	0.346	0.52%
Cd 228.802†	-9.8	-0.00062	mg/L	0.000149	-0.00062	mg/L	0.000149	23.88%
Co 228.616†	472.2	0.02039	mg/L	0.000180	0.02039	mg/L	0.000180	0.88%
Cr 267.716†	14.2	0.00019	mg/L	0.001978	0.00019	mg/L	0.001978	>999.9%
Cu 324.752†	165.2	0.00062	mg/L	0.000126	0.00062	mg/L	0.000126	20.30%
Fe 273.955†	3803.3	4.814	mg/L	0.0334	4.814	mg/L	0.0334	0.69%
K 766.490†	114325.5	100.4	mg/L	0.23	100.4	mg/L	0.23	0.23%
Mg 279.077†	19920.4	19.65	mg/L	0.131	19.65	mg/L	0.131	0.67%
Mn 257.610†	47671.7	1.917	mg/L	0.0116	1.917	mg/L	0.0116	0.61%
Mo 202.031†	390.2	0.02708	mg/L	0.000187	0.02708	mg/L	0.000187	0.69%
Na 589.592†	721682.1	101.9	mg/L	0.23	101.9	mg/L	0.23	0.23%
Na 330.237†	1553.1	101.2	mg/L	1.26	101.2	mg/L	1.26	1.24%
Ni 231.604†	15.4	0.00535	mg/L	0.001406	0.00535	mg/L	0.001406	26.29%
Pb 220.353†	4.8	0.00064	mg/L	0.000757	0.00064	mg/L	0.000757	119.06%
Sb 206.836†	1.9	0.00063	mg/L	0.002606	0.00063	mg/L	0.002606	416.56%
Se 196.026†	7.7	0.00053	mg/L	0.004177	0.00053	mg/L	0.004177	785.55%
Si 288.158†	11584.6	8.346	mg/L	0.0373	8.346	mg/L	0.0373	0.45%
Sn 189.927†	-57.9	-0.00038	mg/L	0.000322	-0.00038	mg/L	0.000322	85.38%
Sr 421.552†	249806.5	0.5382	mg/L	0.00161	0.5382	mg/L	0.00161	0.30%
Ti 334.903†	72.2	0.00110	mg/L	0.000500	0.00110	mg/L	0.000500	45.58%
Tl 190.801†	0.2	-0.00328	mg/L	0.001526	-0.00328	mg/L	0.001526	46.55%
V 292.402†	32.9	0.00051	mg/L	0.000284	0.00051	mg/L	0.000284	56.03%
Zn 206.200†	-3.5	0.00009	mg/L	0.001140	0.00009	mg/L	0.001140	>999.9%

Sequence No.: 28
 Sample ID: 17B0041-01
 Analyst: CC
 Dilution: 1.000000X

Autosampler Location: 320
 Date Collected: 2/7/2017 2:49:03 PM
 Data Type: Original

Nebulizer Parameters: 17B0041-01

Analyte Back Pressure Flow
 All 154.0 kPa 0.65 L/min

Mean Data: 17B0041-01

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
ScA 357.253	1621837.5	107.3	%	0.82				0.76%
ScR 361.383	164527.9	108.8	%	1.19				1.09%
Ag 328.068†	-9.3	-0.00008	mg/L	0.000448	-0.00008	mg/L	0.000448	534.96%
Al 308.215†	10.6	0.00949	mg/L	0.006782	0.00949	mg/L	0.006782	71.48%
As 188.979†	20.2	0.01332	mg/L	0.003428	0.01332	mg/L	0.003428	25.74%
B 249.677†	544.4	0.1094	mg/L	0.00286	0.1094	mg/L	0.00286	2.62%
Ba 233.527†	52.4	0.01435	mg/L	0.000427	0.01435	mg/L	0.000427	2.97%
Be 313.042†	-31.4	-0.00010	mg/L	0.000058	-0.00010	mg/L	0.000058	60.03%
Ca 317.933†	390584.1	49.73	mg/L	0.453	49.73	mg/L	0.453	0.91%
Cd 228.802†	-5.4	-0.00034	mg/L	0.000257	-0.00034	mg/L	0.000257	74.78%
Co 228.616†	8.7	0.00037	mg/L	0.000220	0.00037	mg/L	0.000220	60.23%
Cr 267.716†	23.8	0.00068	mg/L	0.001041	0.00068	mg/L	0.001041	153.39%
Cu 324.752†	233.6	0.00130	mg/L	0.000106	0.00130	mg/L	0.000106	8.18%
Fe 273.955†	11.1	0.01403	mg/L	0.003926	0.01403	mg/L	0.003926	27.99%
K 766.490†	1552.1	1.364	mg/L	0.0268	1.364	mg/L	0.0268	1.97%
Mg 279.077†	29391.5	29.00	mg/L	0.167	29.00	mg/L	0.167	0.57%
Mn 257.610†	41.6	0.00140	mg/L	0.000104	0.00140	mg/L	0.000104	7.40%
Mo 202.031†	69.8	0.00397	mg/L	0.000235	0.00397	mg/L	0.000235	5.91%
Na 589.592†	1016058.5	143.5	mg/L	0.75	143.5	mg/L	0.75	0.52%
Na 330.237†	2151.7	140.2	mg/L	0.63	140.2	mg/L	0.63	0.45%
Ni 231.604†	7.7	0.00268	mg/L	0.000577	0.00268	mg/L	0.000577	21.55%
Pb 220.353†	-8.2	-0.00144	mg/L	0.001231	-0.00144	mg/L	0.001231	85.64%
Sb 206.836†	-2.8	-0.00166	mg/L	0.000765	-0.00166	mg/L	0.000765	46.20%
Se 196.026†	3.8	-0.00177	mg/L	0.003919	-0.00177	mg/L	0.003919	221.38%
Si 288.158†	14696.3	10.59	mg/L	0.032	10.59	mg/L	0.032	0.31%
Sn 189.927†	-53.0	-0.00410	mg/L	0.000691	-0.00410	mg/L	0.000691	16.85%
Sr 421.552†	107593.1	0.2318	mg/L	0.00082	0.2318	mg/L	0.00082	0.36%
Ti 334.903†	48.8	0.00039	mg/L	0.001020	0.00039	mg/L	0.001020	261.48%
Tl 190.801†	-4.0	-0.00698	mg/L	0.001459	-0.00698	mg/L	0.001459	20.89%
V 292.402†	77.6	0.00087	mg/L	0.000055	0.00087	mg/L	0.000055	6.37%
Zn 206.200†	0.2	0.00199	mg/L	0.000463	0.00199	mg/L	0.000463	23.26%

Sequence No.: 29
 Sample ID: 17B0041-02
 Analyst: CC
 Dilution: 1.000000X

Autosampler Location: 321
 Date Collected: 2/7/2017 2:53:18 PM
 Data Type: Original

Nebulizer Parameters: 17B0041-02

Analyte Back Pressure Flow
 All 156.0 kPa 0.65 L/min

Mean Data: 17B0041-02

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
ScA 357.253	1675720.2	110.9	%	0.85				0.77%
ScR 361.383	174265.2	115.2	%	1.33				1.15%
Ag 328.068†	13.7	0.00012	mg/L	0.000164	0.00012	mg/L	0.000164	133.05%
Al 308.215†	3.2	0.00280	mg/L	0.018437	0.00280	mg/L	0.018437	658.26%
As 188.979†	13.1	0.00910	mg/L	0.002147	0.00910	mg/L	0.002147	23.59%
B 249.677†	39.9	0.00802	mg/L	0.001394	0.00802	mg/L	0.001394	17.38%
Ba 233.527†	12.0	0.00316	mg/L	0.001271	0.00316	mg/L	0.001271	40.25%
Be 313.042†	-66.9	-0.00020	mg/L	0.000072	-0.00020	mg/L	0.000072	35.16%
Ca 317.933†	203910.1	25.96	mg/L	0.222	25.96	mg/L	0.222	0.85%
Cd 228.802†	-10.6	-0.00054	mg/L	0.000054	-0.00054	mg/L	0.000054	10.02%
Co 228.616†	7.4	0.00032	mg/L	0.000087	0.00032	mg/L	0.000087	27.42%
Cr 267.716†	14.2	0.00154	mg/L	0.000556	0.00154	mg/L	0.000556	36.05%
Cu 324.752†	75.0	0.00041	mg/L	0.000056	0.00041	mg/L	0.000056	13.81%
Fe 273.955†	0.6	0.00079	mg/L	0.001986	0.00079	mg/L	0.001986	251.13%
K 766.490†	594.6	0.5224	mg/L	0.00761	0.5224	mg/L	0.00761	1.46%
Mg 279.077†	10978.0	10.83	mg/L	0.095	10.83	mg/L	0.095	0.88%
Mn 257.610†	363.9	0.01453	mg/L	0.000347	0.01453	mg/L	0.000347	2.38%
Mo 202.031†	40.3	0.00240	mg/L	0.000108	0.00240	mg/L	0.000108	4.52%
Na 589.592†	61857.2	8.733	mg/L	0.0273	8.733	mg/L	0.0273	0.31%
Na 330.237†	144.0	9.385	mg/L	0.8288	9.385	mg/L	0.8288	8.83%
Ni 231.604†	6.9	0.00241	mg/L	0.001015	0.00241	mg/L	0.001015	42.15%
Pb 220.353†	-9.4	-0.00165	mg/L	0.000829	-0.00165	mg/L	0.000829	50.35%
Sb 206.836†	-5.8	-0.00299	mg/L	0.000105	-0.00299	mg/L	0.000105	3.50%
Se 196.026†	8.0	0.00598	mg/L	0.005413	0.00598	mg/L	0.005413	90.57%
Si 288.158†	14889.9	10.73	mg/L	0.071	10.73	mg/L	0.071	0.66%
Sn 189.927†	-38.0	-0.00606	mg/L	0.001266	-0.00606	mg/L	0.001266	20.89%
Sr 421.552†	51331.5	0.1106	mg/L	0.00057	0.1106	mg/L	0.00057	0.51%
Ti 334.903†	27.9	0.00042	mg/L	0.001572	0.00042	mg/L	0.001572	371.69%
Tl 190.801†	-0.1	-0.00220	mg/L	0.003044	-0.00220	mg/L	0.003044	138.32%
V 292.402†	143.5	0.00158	mg/L	0.000098	0.00158	mg/L	0.000098	6.20%
Zn 206.200†	-3.7	0.00046	mg/L	0.000034	0.00046	mg/L	0.000034	7.30%

Sequence No.: 30

Sample ID: 17B0041-03

Analyst: CC

Dilution: 1.000000X

Autosampler Location: 322

Date Collected: 2/7/2017 2:57:17 PM

Data Type: Original

Nebulizer Parameters: 17B0041-03

Analyte	Back Pressure	Flow
All	155.0 kPa	0.65 L/min

Mean Data: 17B0041-03

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
ScA 357.253	1671339.2	110.6	%	0.64				0.58%
ScR 361.383	1731111.5	114.4	%	1.73				1.51%
Ag 328.068†	15.2	0.00014	mg/L	0.000160	0.00014	mg/L	0.000160	116.44%
Al 308.215†	3.1	0.00279	mg/L	0.012947	0.00279	mg/L	0.012947	463.54%
As 188.979†	10.4	0.00674	mg/L	0.002413	0.00674	mg/L	0.002413	35.79%
B 249.677†	227.4	0.04569	mg/L	0.001836	0.04569	mg/L	0.001836	4.02%
Ba 233.527†	26.5	0.00725	mg/L	0.000989	0.00725	mg/L	0.000989	13.65%
Be 313.042†	-48.4	-0.00015	mg/L	0.000007	-0.00015	mg/L	0.000007	4.53%
Ca 317.933†	207695.4	26.44	mg/L	0.158	26.44	mg/L	0.158	0.60%
Cd 228.802†	-3.3	-0.00020	mg/L	0.000077	-0.00020	mg/L	0.000077	38.18%
Co 228.616†	7.9	0.00034	mg/L	0.000142	0.00034	mg/L	0.000142	42.16%
Cr 267.716†	13.3	0.00117	mg/L	0.001528	0.00117	mg/L	0.001528	130.18%
Cu 324.752†	162.9	0.00093	mg/L	0.000062	0.00093	mg/L	0.000062	6.63%
Fe 273.955†	5.7	0.00716	mg/L	0.002488	0.00716	mg/L	0.002488	34.75%
K 766.490†	6626.1	5.821	mg/L	0.0574	5.821	mg/L	0.0574	0.99%
Mg 279.077†	11760.2	11.60	mg/L	0.119	11.60	mg/L	0.119	1.03%
Mn 257.610†	7.8	0.00021	mg/L	0.000183	0.00021	mg/L	0.000183	88.48%
Mo 202.031†	38.4	0.00225	mg/L	0.000147	0.00225	mg/L	0.000147	6.55%
Na 589.592†	189759.6	26.79	mg/L	0.021	26.79	mg/L	0.021	0.08%
Na 330.237†	427.5	27.86	mg/L	0.497	27.86	mg/L	0.497	1.78%
Ni 231.604†	6.9	0.00241	mg/L	0.000575	0.00241	mg/L	0.000575	23.81%
Pb 220.353†	-3.4	-0.00059	mg/L	0.000269	-0.00059	mg/L	0.000269	45.20%
Sb 206.836†	-9.5	-0.00474	mg/L	0.003009	-0.00474	mg/L	0.003009	63.46%
Se 196.026†	6.5	0.00420	mg/L	0.004249	0.00420	mg/L	0.004249	101.08%
Si 288.158†	12737.3	9.176	mg/L	0.0707	9.176	mg/L	0.0707	0.77%
Sn 189.927†	-37.7	-0.00576	mg/L	0.000803	-0.00576	mg/L	0.000803	13.94%
Sr 421.552†	67054.0	0.1445	mg/L	0.00051	0.1445	mg/L	0.00051	0.36%
Ti 334.903†	17.0	-0.00062	mg/L	0.000453	-0.00062	mg/L	0.000453	73.60%
Tl 190.801†	2.8	-0.00010	mg/L	0.001509	-0.00010	mg/L	0.001509	>999.9%
V 292.402†	20.3	0.00023	mg/L	0.000241	0.00023	mg/L	0.000241	102.95%
Zn 206.200†	1.1	0.00211	mg/L	0.000577	0.00211	mg/L	0.000577	27.30%

Sequence No.: 31
 Sample ID: 17B0041-04
 Analyst: CC
 Dilution: 1.000000X

Autosampler Location: 323
 Date Collected: 2/7/2017 3:01:31 PM
 Data Type: Original

Nebulizer Parameters: 17B0041-04

Analyte Back Pressure Flow
 All 154.0 kPa 0.65 L/min

Mean Data: 17B0041-04

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc. Units	Sample Std.Dev.	RSD
ScA 357.253	1655968.5	109.6	%	0.18			0.16%
ScR 361.383	171671.5	113.5	%	2.10			1.85%
Ag 328.068†	0.6	0.00001	mg/L	0.000166	0.00001 mg/L	0.000166	>999.9%
Al 308.215†	0.5	0.00038	mg/L	0.014351	0.00038 mg/L	0.014351	>999.9%
As 188.979†	14.6	0.00913	mg/L	0.001196	0.00913 mg/L	0.001196	13.09%
B 249.677†	43.3	0.00871	mg/L	0.000751	0.00871 mg/L	0.000751	8.63%
Ba 233.527†	17.1	0.00443	mg/L	0.001209	0.00443 mg/L	0.001209	27.30%
Be 313.042†	-45.6	-0.00014	mg/L	0.000055	-0.00014 mg/L	0.000055	39.57%
Ca 317.933†	332369.6	42.32	mg/L	0.212	42.32 mg/L	0.212	0.50%
Cd 228.802†	-7.1	-0.00040	mg/L	0.000141	-0.00040 mg/L	0.000141	35.57%
Co 228.616†	5.0	0.00021	mg/L	0.000062	0.00021 mg/L	0.000062	29.94%
Cr 267.716†	20.4	0.00227	mg/L	0.001342	0.00227 mg/L	0.001342	59.02%
Cu 324.752†	61.9	0.00029	mg/L	0.000051	0.00029 mg/L	0.000051	17.27%
Fe 273.955†	-0.1	-0.00008	mg/L	0.002973	-0.00008 mg/L	0.002973	>999.9%
K 766.490†	975.8	0.8573	mg/L	0.02504	0.8573 mg/L	0.02504	2.92%
Mg 279.077†	15302.7	15.10	mg/L	0.117	15.10 mg/L	0.117	0.78%
Mn 257.610†	1.6	-0.00008	mg/L	0.000125	-0.00008 mg/L	0.000125	165.22%
Mo 202.031†	56.5	0.00327	mg/L	0.000226	0.00327 mg/L	0.000226	6.92%
Na 589.592†	81788.4	11.55	mg/L	0.038	11.55 mg/L	0.038	0.33%
Na 330.237†	184.5	12.02	mg/L	0.739	12.02 mg/L	0.739	6.14%
Ni 231.604†	3.2	0.00112	mg/L	0.000912	0.00112 mg/L	0.000912	81.17%
Pb 220.353†	-6.5	-0.00114	mg/L	0.000432	-0.00114 mg/L	0.000432	37.94%
Sb 206.836†	-10.2	-0.00517	mg/L	0.001343	-0.00517 mg/L	0.001343	25.99%
Se 196.026†	3.0	-0.00176	mg/L	0.001726	-0.00176 mg/L	0.001726	98.11%
Si 288.158†	15576.5	11.22	mg/L	0.081	11.22 mg/L	0.081	0.72%
Sn 189.927†	-48.7	-0.00486	mg/L	0.000844	-0.00486 mg/L	0.000844	17.36%
Sr 421.552†	85199.4	0.1836	mg/L	0.000050	0.1836 mg/L	0.000050	0.27%
Ti 334.903†	44.0	0.00056	mg/L	0.001412	0.00056 mg/L	0.001412	251.06%
Tl 190.801†	2.7	-0.00156	mg/L	0.001765	-0.00156 mg/L	0.001765	112.87%
V 292.402†	193.5	0.00212	mg/L	0.000093	0.00212 mg/L	0.000093	4.36%
Zn 206.200†	-6.0	-0.00036	mg/L	0.000481	-0.00036 mg/L	0.000481	134.34%

Sequence No.: 32
 Sample ID: 17B0027-06
 Analyst: CC
 Dilution: 1.000000X

Autosampler Location: 325
 Date Collected: 2/7/2017 3:05:45 PM
 Data Type: Original

Nebulizer Parameters: 17B0027-06

Analyte Back Pressure Flow
 All 155.0 kPa 0.65 L/min

Mean Data: 17B0027-06

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
ScA 357.253	1665319.0	110.2	%	0.17				0.16%
ScR 361.383	169923.9	112.3	%	1.73				1.54%
Ag 328.068†	-17.2	-0.00015	mg/L	0.000234	-0.00015	mg/L	0.000234	154.82%
Al 308.215†	3004.6	2.713	mg/L	0.0230	2.713	mg/L	0.0230	0.85%
As 188.979†	22.1	0.01333	mg/L	0.001170	0.01333	mg/L	0.001170	8.77%
B 249.677†	103.8	0.02092	mg/L	0.001239	0.02092	mg/L	0.001239	5.92%
Ba 233.527†	79.6	0.02184	mg/L	0.000875	0.02184	mg/L	0.000875	4.01%
Be 313.042†	-16.0	-0.00005	mg/L	0.000032	-0.00005	mg/L	0.000032	62.63%
Ca 317.933†	529869.6	67.47	mg/L	0.363	67.47	mg/L	0.363	0.54%
Cd 228.802†	-13.3	-0.00069	mg/L	0.000112	-0.00069	mg/L	0.000112	16.17%
Co 228.616†	32.6	0.00141	mg/L	0.000317	0.00141	mg/L	0.000317	22.54%
Cr 267.716†	42.8	0.01029	mg/L	0.000723	0.01029	mg/L	0.000723	7.03%
Cu 324.752†	1279.5	0.00800	mg/L	0.000314	0.00800	mg/L	0.000314	3.93%
Fe 273.955†	7.2	0.00894	mg/L	0.001470	0.00894	mg/L	0.001470	16.44%
K 766.490†	20808.3	18.28	mg/L	0.142	18.28	mg/L	0.142	0.78%
Mg 279.077†	14.5	0.01462	mg/L	0.007946	0.01462	mg/L	0.007946	54.34%
Mn 257.610†	11.3	0.00043	mg/L	0.000136	0.00043	mg/L	0.000136	31.31%
Mo 202.031†	888.6	0.06349	mg/L	0.000742	0.06349	mg/L	0.000742	1.17%
Na 589.592†	676241.1	95.47	mg/L	0.161	95.47	mg/L	0.161	0.17%
Na 330.237†	1426.9	92.97	mg/L	0.973	92.97	mg/L	0.973	1.05%
Ni 231.604†	56.0	0.01946	mg/L	0.001445	0.01946	mg/L	0.001445	7.43%
Pb 220.353†	-2.4	0.00054	mg/L	0.000904	0.00054	mg/L	0.000904	167.05%
Sb 206.836†	-4.9	-0.00269	mg/L	0.003719	-0.00269	mg/L	0.003719	138.49%
Se 196.026†	3.3	-0.00449	mg/L	0.005578	-0.00449	mg/L	0.005578	124.11%
Si 288.158†	5765.8	4.153	mg/L	0.0212	4.153	mg/L	0.0212	0.51%
Sn 189.927†	-61.8	-0.00172	mg/L	0.000679	-0.00172	mg/L	0.000679	39.47%
Sr 421.552†	221332.1	0.4769	mg/L	0.00185	0.4769	mg/L	0.00185	0.39%
Ti 334.903†	54.3	-0.00061	mg/L	0.000770	-0.00061	mg/L	0.000770	125.48%
Tl 190.801†	1.5	-0.00448	mg/L	0.001519	-0.00448	mg/L	0.001519	33.89%
V 292.402†	1459.1	0.01594	mg/L	0.000186	0.01594	mg/L	0.000186	1.17%
Zn 206.200†	1.1	0.00115	mg/L	0.000977	0.00115	mg/L	0.000977	84.75%

Sequence No.: 33

Sample ID: 17B0027-01

Analyst: CC

Dilution: 2.000000X

Autosampler Location: 326

Date Collected: 2/7/2017 3:10:24 PM

Data Type: Original

Nebulizer Parameters: 17B0027-01

Analyte	Back Pressure	Flow
All	155.0 kPa	0.65 L/min

Mean Data: 17B0027-01

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
ScA 357.253	1609753.9	106.5	%	0.41				0.38%
ScR 361.383	163685.4	108.2	%	0.32				0.29%
Ag 328.068†	-119.4	-0.00107	mg/L	0.000152	-0.00214	mg/L	0.000305	14.21%
Al 308.215†	2847.8	2.571	mg/L	0.0129	5.142	mg/L	0.0257	0.50%
As 188.979†	41.2	0.02167	mg/L	0.002289	0.04335	mg/L	0.004579	10.56%
B 249.677†	52.7	0.01066	mg/L	0.001849	0.02132	mg/L	0.003698	17.34%
Ba 233.527†	3402.6	0.9580	mg/L	0.00468	1.916	mg/L	0.0094	0.49%
Be 313.042†	55.3	0.00017	mg/L	0.000042	0.00033	mg/L	0.000084	25.37%
Ca 317.933†	1985188.2	252.8	mg/L	0.28	505.6	mg/L	0.56	0.11%
Cd 228.802†	-14.2	-0.00085	mg/L	0.000040	-0.00170	mg/L	0.000079	4.64%
Co 228.616†	60.8	0.00224	mg/L	0.000269	0.00449	mg/L	0.000538	11.97%
Cr 267.716†	68.4	0.01629	mg/L	0.000056	0.03259	mg/L	0.000112	0.34%
Cu 324.752†	1869.3	0.01179	mg/L	0.000153	0.02359	mg/L	0.000306	1.30%
Fe 273.955†	1751.0	2.216	mg/L	0.0136	4.433	mg/L	0.0273	0.62%
K 766.490†	24220.3	21.28	mg/L	0.144	42.56	mg/L	0.287	0.67%
Mg 279.077†	1489.0	1.468	mg/L	0.0046	2.936	mg/L	0.0091	0.31%
Mn 257.610†	3198.8	0.1286	mg/L	0.00018	0.2573	mg/L	0.00036	0.14%
Mo 202.031†	996.0	0.06838	mg/L	0.000626	0.1368	mg/L	0.00125	0.92%
Na 589.592†	108519.1	15.32	mg/L	0.057	30.64	mg/L	0.114	0.37%
Na 330.237†	258.1	16.83	mg/L	0.407	33.65	mg/L	0.814	2.42%
Ni 231.604†	43.5	0.01513	mg/L	0.001703	0.03026	mg/L	0.003406	11.25%
Pb 220.353†	18.6	0.00407	mg/L	0.000327	0.00815	mg/L	0.000654	8.02%
Sb 206.836†	2.4	0.00063	mg/L	0.001415	0.00126	mg/L	0.002830	223.99%
Se 196.026†	-3.4	-0.03480	mg/L	0.002964	-0.06959	mg/L	0.005927	8.52%
Si 288.158†	15833.9	11.40	mg/L	0.106	22.81	mg/L	0.212	0.93%
Sn 189.927†	-94.1	0.04559	mg/L	0.002237	0.09118	mg/L	0.004475	4.91%
Sr 421.552†	844473.7	1.820	mg/L	0.0050	3.639	mg/L	0.0099	0.27%
Ti 334.903†	1665.5	0.1323	mg/L	0.00104	0.2646	mg/L	0.00207	0.78%
Tl 190.801†	1.5	-0.01937	mg/L	0.001719	-0.03873	mg/L	0.003437	8.87%
V 292.402†	847.7	0.00918	mg/L	0.000115	0.01836	mg/L	0.000231	1.26%
Zn 206.200†	135.6	0.05632	mg/L	0.000653	0.1126	mg/L	0.00131	1.16%

Sequence No.: 34
 Sample ID: SEQ-CCV3
 Analyst: CC
 Dilution: 1.000000X

Autosampler Location: 7
 Date Collected: 2/7/2017 3:16:01 PM
 Data Type: Original

Nebulizer Parameters: SEQ-CCV3

Analyte Back Pressure Flow
 All 154.0 kPa 0.65 L/min

Mean Data: SEQ-CCV3

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
ScA 357.253	1601678.6	106.0	%	0.29				0.28%
ScR 361.383	161389.7	106.7	%	0.41				0.39%
Ag 328.068†	112898.2	1.017	mg/L	0.0080	1.017	mg/L	0.0080	0.79%
Al 308.215†	2210.8	1.967	mg/L	0.0154	1.967	mg/L	0.0154	0.78%
As 188.979†	2242.0	1.927	mg/L	0.0170	1.927	mg/L	0.0170	0.88%
B 249.677†	4905.6	0.9848	mg/L	0.00692	0.9848	mg/L	0.00692	0.70%
Ba 233.527†	3616.3	1.020	mg/L	0.0068	1.020	mg/L	0.0068	0.66%
Be 313.042†	316678.9	0.9653	mg/L	0.00718	0.9653	mg/L	0.00718	0.74%
Ca 317.933†	15674.6	1.982	mg/L	0.0175	1.982	mg/L	0.0175	0.88%
Cd 228.802†	21208.5	0.9534	mg/L	0.00588	0.9534	mg/L	0.00588	0.62%
Co 228.616†	22165.3	0.9587	mg/L	0.01017	0.9587	mg/L	0.01017	1.06%
Cr 267.716†	4146.6	0.9972	mg/L	0.00663	0.9972	mg/L	0.00663	0.66%
Cu 324.752†	152761.7	0.9692	mg/L	0.01052	0.9692	mg/L	0.01052	1.09%
Fe 273.955†	1483.1	1.865	mg/L	0.0201	1.865	mg/L	0.0201	1.08%
K 766.490†	22595.9	19.85	mg/L	0.102	19.85	mg/L	0.102	0.52%
Mg 279.077†	1985.3	1.965	mg/L	0.0114	1.965	mg/L	0.0114	0.58%
Mn 257.610†	23607.5	0.9500	mg/L	0.00823	0.9500	mg/L	0.00823	0.87%
Mo 202.031†	13151.6	0.9552	mg/L	0.00995	0.9552	mg/L	0.00995	1.04%
Na 589.592†	356108.6	50.28	mg/L	0.319	50.28	mg/L	0.319	0.63%
Na 330.237†	775.6	50.35	mg/L	0.261	50.35	mg/L	0.261	0.52%
Ni 231.604†	2877.0	1.001	mg/L	0.0091	1.001	mg/L	0.0091	0.91%
Pb 220.353†	10938.1	1.925	mg/L	0.0123	1.925	mg/L	0.0123	0.64%
Sb 206.836†	4184.9	2.009	mg/L	0.0139	2.009	mg/L	0.0139	0.69%
Se 196.026†	1672.4	1.911	mg/L	0.0179	1.911	mg/L	0.0179	0.94%
Si 288.158†	2837.6	2.044	mg/L	0.0034	2.044	mg/L	0.0034	0.17%
Sn 189.927†	2498.0	0.9476	mg/L	0.00839	0.9476	mg/L	0.00839	0.89%
Sr 421.552†	460765.4	0.9928	mg/L	0.00537	0.9928	mg/L	0.00537	0.54%
Ti 334.903†	10417.4	0.9569	mg/L	0.00452	0.9569	mg/L	0.00452	0.47%
Tl 190.801†	2675.8	1.943	mg/L	0.0198	1.943	mg/L	0.0198	1.02%
V 292.402†	90245.6	0.9862	mg/L	0.01136	0.9862	mg/L	0.01136	1.15%
Zn 206.200†	2446.7	0.9792	mg/L	0.00980	0.9792	mg/L	0.00980	1.00%

Sequence No.: 35
 Sample ID: SEQ-CCB3
 Analyst: CC
 Dilution: 1.000000X

Autosampler Location: 1
 Date Collected: 2/7/2017 3:21:05 PM
 Data Type: Original

Nebulizer Parameters: SEQ-CCB3

Analyte Back Pressure Flow
 All 156.0 kPa 0.65 L/min

Mean Data: SEQ-CCB3

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
ScA 357.253	1634657.8	108.2	%	0.57				0.52%
ScR 361.383	168263.8	111.2	%	0.51				0.45%
Ag 328.068†	6.4	0.00006	mg/L	0.000304	0.00006	mg/L	0.000304	523.44%
Al 308.215†	10.2	0.00925	mg/L	0.001689	0.00925	mg/L	0.001689	18.27%
As 188.979†	-2.7	-0.00226	mg/L	0.000617	-0.00226	mg/L	0.000617	27.24%
B 249.677†	-7.0	-0.00141	mg/L	0.000390	-0.00141	mg/L	0.000390	27.61%
Ba 233.527†	-0.4	-0.00010	mg/L	0.000485	-0.00010	mg/L	0.000485	474.05%
Be 313.042†	-35.0	-0.00011	mg/L	0.000054	-0.00011	mg/L	0.000054	51.02%
Ca 317.933†	196.8	0.02506	mg/L	0.005421	0.02506	mg/L	0.005421	21.63%
Cd 228.802†	-3.0	-0.00012	mg/L	0.000046	-0.00012	mg/L	0.000046	37.84%
Co 228.616†	4.6	0.00020	mg/L	0.000111	0.00020	mg/L	0.000111	56.35%
Cr 267.716†	0.7	0.00017	mg/L	0.000891	0.00017	mg/L	0.000891	532.98%
Cu 324.752†	45.1	0.00029	mg/L	0.000003	0.00029	mg/L	0.000003	1.04%
Fe 273.955†	-0.1	-0.00013	mg/L	0.003456	-0.00013	mg/L	0.003456	>999.9%
K 766.490†	-5.2	-0.00461	mg/L	0.020692	-0.00461	mg/L	0.020692	448.65%
Mg 279.077†	-6.4	-0.00634	mg/L	0.006806	-0.00634	mg/L	0.006806	107.41%
Mn 257.610†	-4.5	-0.00018	mg/L	0.000080	-0.00018	mg/L	0.000080	44.55%
Mo 202.031†	3.8	0.00028	mg/L	0.000316	0.00028	mg/L	0.000316	113.73%
Na 589.592†	261.6	0.03694	mg/L	0.011399	0.03694	mg/L	0.011399	30.86%
Na 330.237†	23.5	1.529	mg/L	0.2772	1.529	mg/L	0.2772	18.13%
Ni 231.604†	7.8	0.00271	mg/L	0.000596	0.00271	mg/L	0.000596	22.01%
Pb 220.353†	5.7	0.00101	mg/L	0.000773	0.00101	mg/L	0.000773	76.55%
Sb 206.836†	-3.4	-0.00163	mg/L	0.002647	-0.00163	mg/L	0.002647	162.03%
Se 196.026†	4.9	0.00557	mg/L	0.003640	0.00557	mg/L	0.003640	65.35%
Si 288.158†	0.3	0.00024	mg/L	0.004123	0.00024	mg/L	0.004123	>999.9%
Sn 189.927†	0.4	0.00016	mg/L	0.001167	0.00016	mg/L	0.001167	738.77%
Sr 421.552†	89.4	0.00019	mg/L	0.000064	0.00019	mg/L	0.000064	33.05%
Ti 334.903†	-1.4	-0.00013	mg/L	0.002077	-0.00013	mg/L	0.002077	>999.9%
Tl 190.801†	-0.6	-0.00045	mg/L	0.001289	-0.00045	mg/L	0.001289	286.56%
V 292.402†	-9.1	-0.00010	mg/L	0.000209	-0.00010	mg/L	0.000209	212.76%
Zn 206.200†	-0.4	-0.00016	mg/L	0.001468	-0.00016	mg/L	0.001468	911.61%

Sequence No.: 36
Sample ID: BFB0104-BLK1
Analyst: CC
Dilution: 1.000000X
User canceled analysis.

Autosampler Location: 327
Date Collected: 2/7/2017 3:25:05 PM
Data Type: Original

Analysis Begun

Start Time: 2/7/2017 3:25:47 PM
Logged In Analyst: metinst
Spectrometer: Optima 7300 DV, S/N 077C8121202
Plasma On Time: 2/7/2017 10:37:36 AM
Technique: ICP Continuous
Autosampler: ESI

Sample Information File: C:\pe\metals\Sample Information\0207.sif
Batch ID:
Results Data Set: I2170207
Results Library: C:\Documents and Settings\All Users\PerkinElmer\ICP\Data\Results\Results.mdb

Sequence No.: 36
Sample ID: BFB0104-BLK1
Analyst: CC
Dilution: 1.000000X
Autosampler Location: 327
Date Collected: 2/7/2017 3:25:47 PM
Data Type: Original

Nebulizer Parameters: BFB0104-BLK1
Analyte Back Pressure Flow
All 155.0 kPa 0.65 L/min

Mean Data: BFB0104-BLK1

Table with 8 columns: Analyte, Mean Corrected Intensity, Conc., Calib. Units, Std.Dev., Sample Conc. Units, Std.Dev., RSD. Lists various elements like ScA, ScR, Ag, Al, As, B, Ba, Be, Ca, Cd, Co, Cr, Cu, Fe, K, Mg, Mn, Mo, Na, Ni, Pb, Sb, Se, Si, Sn, Sr, Ti, Tl, V, Zn with their respective values.

Sequence No.: 37

Autosampler Location: 328

Sample ID: BFB0104-DUP1

Date Collected: 2/7/2017 3:29:50 PM

Analyst: CC

DEL

Data Type: Original

Dilution: 1.000000X

Nebulizer Parameters: BFB0104-DUP1

Analyte	Back Pressure	Flow
All	154.0 kPa	0.65 L/min

Mean Data: BFB0104-DUP1

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
ScA 357.253	1595421.2	105.6	%	0.24				0.23%
ScR 361.383	164602.9	108.8	%	2.37				2.18%
Ag 328.068†	25.6	0.00025	mg/L	0.000341	0.00025	mg/L	0.000341	136.76%
Al 308.215†	2248.1	2.029	mg/L	0.0199	2.029	mg/L	0.0199	0.98%
As 188.979†	65.6	0.05589	mg/L	0.002084	0.05589	mg/L	0.002084	3.73%
B 249.677†	199.4	0.04014	mg/L	0.001289	0.04014	mg/L	0.001289	3.21%
Ba 233.527†	91.2	0.02548	mg/L	0.000556	0.02548	mg/L	0.000556	2.18%
Be 313.042†	71.0	0.00021	mg/L	0.000063	0.00021	mg/L	0.000063	30.46%
Ca 317.933†	90754.6	11.46	mg/L	0.060	11.46	mg/L	0.060	0.52%
Cd 228.802†	11.2	0.00020	mg/L	0.000026	0.00020	mg/L	0.000026	12.99%
Co 228.616†	37.9	0.00155	mg/L	0.000074	0.00155	mg/L	0.000074	4.78%
Cr 267.716†	44.7	0.01038	mg/L	0.001682	0.01038	mg/L	0.001682	16.20%
Cu 324.752†	2034.9	0.01044	mg/L	0.000055	0.01044	mg/L	0.000055	0.52%
Fe 273.955†	785.7	0.9937	mg/L	0.01435	0.9937	mg/L	0.01435	1.44%
K 766.490†	522946.1	459.4	mg/L	2.68	459.4	mg/L	2.68	0.58%
Mg 279.077†	2233.4	2.204	mg/L	0.0268	2.204	mg/L	0.0268	1.22%
Mn 257.610†	1766.5	0.07105	mg/L	0.001102	0.07105	mg/L	0.001102	1.55%
Mo 202.031†	1050.3	0.07609	mg/L	0.000472	0.07609	mg/L	0.000472	0.62%
Na 589.592†	1057559.5	149.3	mg/L	0.77	149.3	mg/L	0.77	0.52%
Na 330.237†	2269.7	147.9	mg/L	0.55	147.9	mg/L	0.55	0.37%
Ni 231.604†	64.2	0.02232	mg/L	0.001314	0.02232	mg/L	0.001314	5.89%
Pb 220.353†	642.7	0.1137	mg/L	0.00060	0.1137	mg/L	0.00060	0.53%
Sb 206.836†	16.6	0.00807	mg/L	0.001447	0.00807	mg/L	0.001447	17.93%
Se 196.026†	12.9	0.01333	mg/L	0.005316	0.01333	mg/L	0.005316	39.86%
Si 288.158†	6546.2	4.715	mg/L	0.0295	4.715	mg/L	0.0295	0.63%
Sn 189.927†	-18.7	-0.00335	mg/L	0.000613	-0.00335	mg/L	0.000613	18.30%
Sr 421.552†	182595.9	0.3934	mg/L	0.00137	0.3934	mg/L	0.00137	0.35%
Ti 334.903†	456.2	0.04094	mg/L	0.001487	0.04094	mg/L	0.001487	3.63%
Tl 190.801†	-0.6	-0.00137	mg/L	0.003638	-0.00137	mg/L	0.003638	265.30%
V 292.402†	6336.1	0.06899	mg/L	0.000690	0.06899	mg/L	0.000690	1.00%
Zn 206.200†	48.0	0.02006	mg/L	0.000905	0.02006	mg/L	0.000905	4.51%

Sequence No.: 38
 Sample ID: 17B0029-20
 Analyst: CC
 Dilution: 1.000000X

DEL

Autosampler Location: 329
 Date Collected: 2/7/2017 3:34:05 PM
 Data Type: Original

Nebulizer Parameters: 17B0029-20

Analyte Back Pressure Flow
 All 156.0 kPa 0.65 L/min

Mean Data: 17B0029-20

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
ScA 357.253	1634476.1	108.2	%	0.68				0.63%
ScR 361.383	169879.7	112.3	%	1.28				1.14%
Ag 328.068†	31.5	0.00030	mg/L	0.000093	0.00030	mg/L	0.000093	30.59%
Al 308.215†	2250.6	2.031	mg/L	0.0274	2.031	mg/L	0.0274	1.35%
As 188.979†	65.1	0.05572	mg/L	0.003267	0.05572	mg/L	0.003267	5.86%
B 249.677†	197.2	0.03970	mg/L	0.000566	0.03970	mg/L	0.000566	1.42%
Ba 233.527†	86.7	0.02420	mg/L	0.001278	0.02420	mg/L	0.001278	5.28%
Be 313.042†	59.3	0.00017	mg/L	0.000036	0.00017	mg/L	0.000036	21.19%
Ca 317.933†	90795.3	11.46	mg/L	0.066	11.46	mg/L	0.066	0.58%
Cd 228.802†	11.7	0.00022	mg/L	0.000156	0.00022	mg/L	0.000156	69.93%
Co 228.616†	36.0	0.00146	mg/L	0.000199	0.00146	mg/L	0.000199	13.61%
Cr 267.716†	46.8	0.01089	mg/L	0.001671	0.01089	mg/L	0.001671	15.34%
Cu 324.752†	2043.0	0.01050	mg/L	0.000239	0.01050	mg/L	0.000239	2.28%
Fe 273.955†	806.4	1.020	mg/L	0.0050	1.020	mg/L	0.0050	0.49%
K 766.490†	521787.6	458.4	mg/L	0.80	458.4	mg/L	0.80	0.18%
Mg 279.077†	2224.8	2.195	mg/L	0.0163	2.195	mg/L	0.0163	0.74%
Mn 257.610†	1760.8	0.07082	mg/L	0.000407	0.07082	mg/L	0.000407	0.58%
Mo 202.031†	1077.4	0.07806	mg/L	0.000272	0.07806	mg/L	0.000272	0.35%
Na 589.592†	1052322.4	148.6	mg/L	0.38	148.6	mg/L	0.38	0.26%
Na 330.237†	2274.5	148.2	mg/L	0.86	148.2	mg/L	0.86	0.58%
Ni 231.604†	65.2	0.02268	mg/L	0.001256	0.02268	mg/L	0.001256	5.54%
Pb 220.353†	642.2	0.1136	mg/L	0.00121	0.1136	mg/L	0.00121	1.07%
Sb 206.836†	14.3	0.00700	mg/L	0.001427	0.00700	mg/L	0.001427	20.39%
Se 196.026†	1.7	0.00047	mg/L	0.004774	0.00047	mg/L	0.004774	>999.9%
Si 288.158†	6564.0	4.728	mg/L	0.0495	4.728	mg/L	0.0495	1.05%
Sn 189.927†	-16.3	-0.00244	mg/L	0.000649	-0.00244	mg/L	0.000649	26.58%
Sr 421.552†	182598.9	0.3934	mg/L	0.00077	0.3934	mg/L	0.00077	0.20%
Ti 334.903†	506.9	0.04560	mg/L	0.000970	0.04560	mg/L	0.000970	2.13%
Tl 190.801†	1.4	0.00007	mg/L	0.001734	0.00007	mg/L	0.001734	>999.9%
V 292.402†	6279.3	0.06837	mg/L	0.000277	0.06837	mg/L	0.000277	0.40%
Zn 206.200†	47.5	0.01986	mg/L	0.001000	0.01986	mg/L	0.001000	5.03%

User canceled analysis.

=====
Analysis Begun

Start Time: 2/7/2017 3:38:33 PM Plasma On Time: 2/7/2017 10:37:36 AM
 Logged In Analyst: metinst Technique: ICP Continuous
 Spectrometer: Optima 7300 DV, S/N 077C8121202 Autosampler: ESI

Sample Information File: C:\pe\metals\Sample Information\0207.sif
 Batch ID:
 Results Data Set: I2170207
 Results Library: C:\Documents and Settings\All Users\PerkinElmer\ICP\Data\Results\Results.mdb

=====
 Sequence No.: 48 Autosampler Location: 332
 Sample ID: **BFB0104-BS1** Date Collected: 2/7/2017 3:38:34 PM
 Analyst: CC Data Type: Original
 Dilution: **1.000000X**

Nebulizer Parameters: BFB0104-BS1
 Analyte Back Pressure Flow
 All 155.0 kPa 0.65 L/min

Mean Data: BFB0104-BS1

Analyte	Mean Intensity	Conc. Units	Calib.	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	1695939.7	112.2 %		0.08			0.07%
ScR 361.383	173452.6	114.7 %		1.74			1.52%
Ag 328.068†	15602.4	0.1406 mg/L		0.05177	0.1406 mg/L	0.05177	36.81%
Al 308.215†	2271.1	2.044 mg/L		0.0351	2.044 mg/L	0.0351	1.72%
As 188.979†	2472.5	2.082 mg/L		0.0112	2.082 mg/L	0.0112	0.54%
B 249.677†	-14.2	-0.00386 mg/L		0.001504	-0.00386 mg/L	0.001504	38.93%
Ba 233.527†	7394.9	2.087 mg/L		0.0476	2.087 mg/L	0.0476	2.28%
Be 313.042†	161404.4	0.4920 mg/L		0.00912	0.4920 mg/L	0.00912	1.85%
Ca 317.933†	77101.6	9.808 mg/L		0.1630	9.808 mg/L	0.1630	1.66%
Cd 228.802†	11662.9	0.5182 mg/L		0.00178	0.5182 mg/L	0.00178	0.34%
Co 228.616†	11742.0	0.5086 mg/L		0.00212	0.5086 mg/L	0.00212	0.42%
Cr 267.716†	2154.1	0.5164 mg/L		0.00779	0.5164 mg/L	0.00779	1.51%
Cu 324.752†	77333.6	0.4909 mg/L		0.00068	0.4909 mg/L	0.00068	0.14%
Fe 273.955†	1551.2	1.957 mg/L		0.0196	1.957 mg/L	0.0196	1.00%
K 766.490†	11828.9	10.39 mg/L		0.137	10.39 mg/L	0.137	1.32%
Mg 279.077†	10465.9	10.33 mg/L		0.176	10.33 mg/L	0.176	1.71%
Mn 257.610†	11652.5	0.4691 mg/L		0.00781	0.4691 mg/L	0.00781	1.67%
Mo 202.031†	16.0	0.00089 mg/L		0.000304	0.00089 mg/L	0.000304	34.17%
Na 589.592†	74124.7	10.47 mg/L		0.104	10.47 mg/L	0.104	0.99%
Na 330.237†	173.1	11.09 mg/L		0.297	11.09 mg/L	0.297	2.68%
Ni 231.604†	1496.5	0.5196 mg/L		0.01001	0.5196 mg/L	0.01001	1.93%
Pb 220.353†	11487.6	2.022 mg/L		0.0064	2.022 mg/L	0.0064	0.32%
Sb 206.836†	5.3	-0.00289 mg/L		0.002895	-0.00289 mg/L	0.002895	100.17%
Se 196.026†	1988.8	2.273 mg/L		0.0154	2.273 mg/L	0.0154	0.68%
Si 288.158†	-24.5	-0.01447 mg/L		0.005077	-0.01447 mg/L	0.005077	35.08%
Sn 189.927†	-13.5	-0.00187 mg/L		0.000802	-0.00187 mg/L	0.000802	42.97%
Sr 421.552†	231751.4	0.4993 mg/L		0.00598	0.4993 mg/L	0.00598	1.20%
Ti 334.903†	16.0	0.00054 mg/L		0.000312	0.00054 mg/L	0.000312	57.53%
Tl 190.801†	2873.8	2.090 mg/L		0.0047	2.090 mg/L	0.0047	0.22%
V 292.402†	47291.6	0.5168 mg/L		0.00173	0.5168 mg/L	0.00173	0.33%
Zn 206.200†	1280.0	0.5123 mg/L		0.01049	0.5123 mg/L	0.01049	2.05%

Sequence No.: 49
 Sample ID: 17A0316-01
 Analyst: CC
 Dilution: 2.000000X

Autosampler Location: 333
 Date Collected: 2/7/2017 3:45:17 PM
 Data Type: Original

Nebulizer Parameters: 17A0316-01

Analyte Back Pressure Flow
 All 155.0 kPa 0.65 L/min

Mean Data: 17A0316-01

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc. Units	Sample Std.Dev.	RSD
ScA 357.253	1671985.7	110.7	%	0.48			0.43%
ScR 361.383	171507.6	113.4	%	0.65			0.57%
Ag 328.068†	3654.8	0.03293	mg/L	0.024059	0.06586 mg/L	0.048118	73.06%
Al 308.215†	7951.3	7.181	mg/L	0.0221	14.36 mg/L	0.044	0.31%
As 188.979†	18.5	0.02318	mg/L	0.001409	0.04636 mg/L	0.002817	6.08%
B 249.677†	199.1	0.04006	mg/L	0.000404	0.08011 mg/L	0.000807	1.01%
Ba 233.527†	903.0	0.2532	mg/L	0.00069	0.5064 mg/L	0.00138	0.27%
Be 313.042†	-7.8	-0.00004	mg/L	0.000033	-0.00007 mg/L	0.000066	90.27%
Ca 317.933†	310333.0	39.52	mg/L	0.128	79.03 mg/L	0.255	0.32%
Cd 228.802†	33.4	0.00139	mg/L	0.000134	0.00277 mg/L	0.000269	9.71%
Co 228.616†	117.0	0.00448	mg/L	0.000247	0.00895 mg/L	0.000495	5.53%
Cr 267.716†	234.0	0.05486	mg/L	0.001224	0.1097 mg/L	0.00245	2.23%
Cu 324.752†	81633.5	0.5184	mg/L	0.00266	1.037 mg/L	0.0053	0.51%
Fe 273.955†	7197.4	9.109	mg/L	0.0538	18.22 mg/L	0.108	0.59%
K 766.490†	3380.3	2.970	mg/L	0.0222	5.939 mg/L	0.0443	0.75%
Mg 279.077†	10407.9	10.26	mg/L	0.043	20.53 mg/L	0.085	0.42%
Mn 257.610†	6134.8	0.2467	mg/L	0.00166	0.4933 mg/L	0.00332	0.67%
Mo 202.031†	753.8	0.05402	mg/L	0.000583	0.1080 mg/L	0.00117	1.08%
Na 589.592†	5627.9	0.7946	mg/L	0.00617	1.589 mg/L	0.0123	0.78%
Na 330.237†	34.3	1.820	mg/L	0.4408	3.640 mg/L	0.8816	24.22%
Ni 231.604†	91.1	0.03167	mg/L	0.001455	0.06335 mg/L	0.002911	4.59%
Pb 220.353†	77.5	0.01499	mg/L	0.000915	0.02998 mg/L	0.001831	6.11%
Sb 206.836†	-0.4	-0.00034	mg/L	0.001672	-0.00069 mg/L	0.003345	487.52%
Se 196.026†	14.4	0.01159	mg/L	0.004406	0.02319 mg/L	0.008813	38.00%
Si 288.158†	1704.1	1.227	mg/L	0.0149	2.455 mg/L	0.0297	1.21%
Sn 189.927†	68.6	0.03869	mg/L	0.000522	0.07738 mg/L	0.001043	1.35%
Sr 421.552†	61484.0	0.1325	mg/L	0.00039	0.2650 mg/L	0.00077	0.29%
Ti 334.903†	2616.0	0.2373	mg/L	0.00108	0.4745 mg/L	0.00217	0.46%
Tl 190.801†	3.8	0.00051	mg/L	0.002262	0.00102 mg/L	0.004523	442.57%
V 292.402†	5928.0	0.06436	mg/L	0.000204	0.1287 mg/L	0.00041	0.32%
Zn 206.200†	3054.8	1.223	mg/L	0.0055	2.445 mg/L	0.0109	0.45%

Sequence No.: 50
 Sample ID: 17A0376-01
 Analyst: CC
 Dilution: 2.000000X

DEL

Autosampler Location: 334
 Date Collected: 2/7/2017 3:49:16 PM
 Data Type: Original

Nebulizer Parameters: 17A0376-01

Analyte Back Pressure Flow
 All 155.0 kPa 0.65 L/min

Mean Data: 17A0376-01

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	1503585.2	99.52 %	0.256			0.26%
ScR 361.383	160027.3	105.8 %	1.08			1.02%
Ag 328.068†	2175.5	0.01965 mg/L	0.000079	0.03931 mg/L	0.000158	0.40%
Al 308.215†	828381.2	748.3 mg/L	1.82	1497 mg/L	3.63	0.24%
As 188.979†	22.6	0.1743 mg/L	0.00534	0.3485 mg/L	0.01068	3.07%
B 249.677†	5207.5	1.047 mg/L	0.0033	2.094 mg/L	0.0066	0.32%
Ba 233.527†	2837.9	0.7390 mg/L	0.00749	1.478 mg/L	0.0150	1.01%
Be 313.042†	-371.5	-0.00122 mg/L	0.000045	-0.00245 mg/L	0.000090	3.68%
Ca 317.933†	758162.2	96.19 mg/L	0.280	192.4 mg/L	0.56	0.29%
Cd 228.802†	1869.9	0.1197 mg/L	0.00049	0.2393 mg/L	0.00097	0.41%
Co 228.616†	9746.0	0.4040 mg/L	0.00094	0.8080 mg/L	0.00187	0.23%
Cr 267.716†	81816.8	19.70 mg/L	0.064	39.40 mg/L	0.127	0.32%
Cu 324.752†	801878.4	5.098 mg/L	0.0242	10.20 mg/L	0.048	0.48%
Fe 273.955†	298378.3	377.7 mg/L	2.58	755.5 mg/L	5.15	0.68%
K 766.490†	1892939.7	1663 mg/L	7.15	3326 mg/L	14.31	0.43%
Mg 279.077†	18045.0	17.53 mg/L	0.098	35.06 mg/L	0.196	0.56%
Mn 257.610†	107987.4	4.340 mg/L	0.0196	8.681 mg/L	0.0392	0.45%
Mo 202.031†	21968.6	1.594 mg/L	0.0008	3.188 mg/L	0.0016	0.05%
Na 589.592†	4280041.1	604.3 mg/L	4.92	1209 mg/L	9.85	0.82%
Na 330.237†	9689.8	624.6 mg/L	3.06	1249 mg/L	6.12	0.49%
Ni 231.604†	98967.4	34.41 mg/L	0.061	68.82 mg/L	0.123	0.18%
Pb 220.353†	977.2	0.4541 mg/L	0.00206	0.9082 mg/L	0.00411	0.45%
Sb 206.836†	834.5	0.1089 mg/L	0.00547	0.2178 mg/L	0.01094	5.02%
Se 196.026†	120.7	0.1258 mg/L	0.00555	0.2516 mg/L	0.01110	4.41%
Si 288.158†	9177.5	6.589 mg/L	0.0355	13.18 mg/L	0.071	0.54%
Sn 189.927†	375.8	0.1741 mg/L	0.00114	0.3481 mg/L	0.00229	0.66%
Sr 421.552†	476282.0	1.026 mg/L	0.0028	2.052 mg/L	0.0055	0.27%
Ti 334.903†	48932.6	4.486 mg/L	0.0083	8.973 mg/L	0.0166	0.19%
Tl 190.801†	-40.9	-0.00167 mg/L	0.002418	-0.00333 mg/L	0.004836	145.06%
V 292.402†	21493.8	0.2987 mg/L	0.00150	0.5974 mg/L	0.00299	0.50%
Zn 206.200†	50264.3	20.12 mg/L	0.131	40.24 mg/L	0.261	0.65%

Sequence No.: 51
 Sample ID: 17B0041-05
 Analyst: CC
 Dilution: 1.000000X

Autosampler Location: 335
 Date Collected: 2/7/2017 3:55:20 PM
 Data Type: Original

Nebulizer Parameters: 17B0041-05

Analyte Back Pressure Flow
 All 156.0 kPa 0.65 L/min

Mean Data: 17B0041-05

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
ScA 357.253	1679437.2	111.2	%	1.05				0.94%
ScR 361.383	176321.6	116.6	%	1.06				0.91%
Ag 328.068†	23.0	0.00021	mg/L	0.000137	0.00021	mg/L	0.000137	66.11%
Al 308.215†	36.3	0.03265	mg/L	0.014236	0.03265	mg/L	0.014236	43.61%
As 188.979†	9.8	0.00622	mg/L	0.000056	0.00622	mg/L	0.000056	0.91%
B 249.677†	55.0	0.01106	mg/L	0.000936	0.01106	mg/L	0.000936	8.46%
Ba 233.527†	32.6	0.00894	mg/L	0.000568	0.00894	mg/L	0.000568	6.36%
Be 313.042†	-57.3	-0.00018	mg/L	0.000016	-0.00018	mg/L	0.000016	9.39%
Ca 317.933†	231121.0	29.42	mg/L	0.203	29.42	mg/L	0.203	0.69%
Cd 228.802†	-9.1	-0.00046	mg/L	0.000091	-0.00046	mg/L	0.000091	19.88%
Co 228.616†	9.5	0.00040	mg/L	0.000144	0.00040	mg/L	0.000144	35.83%
Cr 267.716†	28.3	0.00456	mg/L	0.001940	0.00456	mg/L	0.001940	42.55%
Cu 324.752†	161.8	0.00094	mg/L	0.000153	0.00094	mg/L	0.000153	16.35%
Fe 273.955†	15.6	0.01979	mg/L	0.003348	0.01979	mg/L	0.003348	16.92%
K 766.490†	1746.9	1.535	mg/L	0.0131	1.535	mg/L	0.0131	0.86%
Mg 279.077†	13078.3	12.91	mg/L	0.010	12.91	mg/L	0.010	0.08%
Mn 257.610†	141.7	0.00558	mg/L	0.000216	0.00558	mg/L	0.000216	3.88%
Mo 202.031†	60.6	0.00380	mg/L	0.000324	0.00380	mg/L	0.000324	8.53%
Na 589.592†	79514.0	11.23	mg/L	0.070	11.23	mg/L	0.070	0.62%
Na 330.237†	184.5	12.02	mg/L	0.555	12.02	mg/L	0.555	4.62%
Ni 231.604†	7.0	0.00245	mg/L	0.000965	0.00245	mg/L	0.000965	39.39%
Pb 220.353†	5.1	0.00092	mg/L	0.000853	0.00092	mg/L	0.000853	92.28%
Sb 206.836†	-5.2	-0.00274	mg/L	0.001371	-0.00274	mg/L	0.001371	50.01%
Se 196.026†	7.5	0.00494	mg/L	0.002639	0.00494	mg/L	0.002639	53.44%
Si 288.158†	15513.8	11.18	mg/L	0.034	11.18	mg/L	0.034	0.30%
Sn 189.927†	-40.3	-0.00579	mg/L	0.001089	-0.00579	mg/L	0.001089	18.81%
Sr 421.552†	66349.2	0.1430	mg/L	0.00060	0.1430	mg/L	0.00060	0.42%
Ti 334.903†	63.5	0.00342	mg/L	0.000604	0.00342	mg/L	0.000604	17.68%
Tl 190.801†	-2.5	-0.00425	mg/L	0.001793	-0.00425	mg/L	0.001793	42.17%
V 292.402†	182.6	0.00201	mg/L	0.000062	0.00201	mg/L	0.000062	3.10%
Zn 206.200†	6.3	0.00453	mg/L	0.000262	0.00453	mg/L	0.000262	5.79%

Sequence No.: 52
 Sample ID: 17B0041-06
 Analyst: CC
 Dilution: 1.000000X

Autosampler Location: 336
 Date Collected: 2/7/2017 3:59:34 PM
 Data Type: Original

Nebulizer Parameters: 17B0041-06

Analyte Back Pressure Flow
 All 155.0 kPa 0.65 L/min

Mean Data: 17B0041-06

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
ScA 357.253	1688706.4	111.8	%	0.59				0.53%
ScR 361.383	172326.9	113.9	%	2.28				2.01%
Ag 328.068†	-4.6	-0.00004	mg/L	0.000282	-0.00004	mg/L	0.000282	688.44%
Al 308.215†	16.2	0.01456	mg/L	0.010061	0.01456	mg/L	0.010061	69.09%
As 188.979†	8.9	0.00560	mg/L	0.000713	0.00560	mg/L	0.000713	12.74%
B 249.677†	37.6	0.00756	mg/L	0.000865	0.00756	mg/L	0.000865	11.44%
Ba 233.527†	15.9	0.00425	mg/L	0.000475	0.00425	mg/L	0.000475	11.17%
Be 313.042†	-56.2	-0.00017	mg/L	0.000093	-0.00017	mg/L	0.000093	54.43%
Ca 317.933†	204980.0	26.10	mg/L	0.284	26.10	mg/L	0.284	1.09%
Cd 228.802†	-4.6	-0.00025	mg/L	0.000232	-0.00025	mg/L	0.000232	92.78%
Co 228.616†	9.1	0.00039	mg/L	0.000073	0.00039	mg/L	0.000073	18.91%
Cr 267.716†	13.3	0.00131	mg/L	0.001647	0.00131	mg/L	0.001647	126.05%
Cu 324.752†	171.2	0.00102	mg/L	0.000096	0.00102	mg/L	0.000096	9.41%
Fe 273.955†	1.1	0.00134	mg/L	0.001448	0.00134	mg/L	0.001448	108.44%
K 766.490†	767.9	0.6746	mg/L	0.01748	0.6746	mg/L	0.01748	2.59%
Mg 279.077†	11015.5	10.87	mg/L	0.118	10.87	mg/L	0.118	1.09%
Mn 257.610†	343.2	0.01370	mg/L	0.000395	0.01370	mg/L	0.000395	2.88%
Mo 202.031†	38.7	0.00228	mg/L	0.000227	0.00228	mg/L	0.000227	9.93%
Na 589.592†	63048.5	8.901	mg/L	0.0779	8.901	mg/L	0.0779	0.88%
Na 330.237†	154.2	10.05	mg/L	0.356	10.05	mg/L	0.356	3.54%
Ni 231.604†	7.4	0.00257	mg/L	0.001114	0.00257	mg/L	0.001114	43.33%
Pb 220.353†	1.8	0.00033	mg/L	0.000179	0.00033	mg/L	0.000179	53.56%
Sb 206.836†	-6.6	-0.00335	mg/L	0.002622	-0.00335	mg/L	0.002622	78.22%
Se 196.026†	4.1	0.00145	mg/L	0.008509	0.00145	mg/L	0.008509	587.79%
Si 288.158†	14946.9	10.77	mg/L	0.105	10.77	mg/L	0.105	0.97%
Sn 189.927†	-35.8	-0.00516	mg/L	0.000942	-0.00516	mg/L	0.000942	18.26%
Sr 421.552†	51806.0	0.1116	mg/L	0.00112	0.1116	mg/L	0.00112	1.01%
Ti 334.903†	31.7	0.00076	mg/L	0.001659	0.00076	mg/L	0.001659	217.30%
Tl 190.801†	-0.8	-0.00274	mg/L	0.001894	-0.00274	mg/L	0.001894	69.04%
V 292.402†	151.0	0.00166	mg/L	0.000131	0.00166	mg/L	0.000131	7.90%
Zn 206.200†	-3.5	0.00053	mg/L	0.000668	0.00053	mg/L	0.000668	125.83%

Sequence No.: 53

Sample ID: 17B0041-07

Analyst: CC

Dilution: 1.000000X

Autosampler Location: 337

Date Collected: 2/7/2017 4:03:33 PM

Data Type: Original

Nebulizer Parameters: 17B0041-07

Analyte	Back Pressure	Flow
All	156.0 kPa	0.65 L/min

Mean Data: 17B0041-07

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
ScA 357.253	1679781.1	111.2	%	1.09				0.98%
ScR 361.383	174674.0	115.5	%	1.51				1.30%
Ag 328.068†	9.5	0.00009	mg/L	0.000227	0.00009	mg/L	0.000227	264.27%
Al 308.215†	8.7	0.00785	mg/L	0.016149	0.00785	mg/L	0.016149	205.73%
As 188.979†	7.6	0.00464	mg/L	0.001542	0.00464	mg/L	0.001542	33.21%
B 249.677†	41.8	0.00841	mg/L	0.001371	0.00841	mg/L	0.001371	16.30%
Ba 233.527†	43.1	0.01165	mg/L	0.000800	0.01165	mg/L	0.000800	6.87%
Be 313.042†	-83.1	-0.00025	mg/L	0.000071	-0.00025	mg/L	0.000071	27.88%
Ca 317.933†	184953.0	23.54	mg/L	0.169	23.54	mg/L	0.169	0.72%
Cd 228.802†	-2.8	-0.00018	mg/L	0.000106	-0.00018	mg/L	0.000106	60.56%
Co 228.616†	8.2	0.00032	mg/L	0.000306	0.00032	mg/L	0.000306	94.50%
Cr 267.716†	9.7	0.00031	mg/L	0.001189	0.00031	mg/L	0.001189	386.03%
Cu 324.752†	38.2	0.00026	mg/L	0.000075	0.00026	mg/L	0.000075	28.49%
Fe 273.955†	1555.6	1.969	mg/L	0.0202	1.969	mg/L	0.0202	1.02%
K 766.490†	700.3	0.6152	mg/L	0.02988	0.6152	mg/L	0.02988	4.86%
Mg 279.077†	12221.6	12.06	mg/L	0.095	12.06	mg/L	0.095	0.79%
Mn 257.610†	12215.7	0.4912	mg/L	0.00432	0.4912	mg/L	0.00432	0.88%
Mo 202.031†	33.4	0.00192	mg/L	0.000139	0.00192	mg/L	0.000139	7.21%
Na 589.592†	62727.8	8.856	mg/L	0.0322	8.856	mg/L	0.0322	0.36%
Na 330.237†	152.3	9.923	mg/L	0.9159	9.923	mg/L	0.9159	9.23%
Ni 231.604†	9.5	0.00332	mg/L	0.000310	0.00332	mg/L	0.000310	9.36%
Pb 220.353†	-0.0	-0.00009	mg/L	0.000599	-0.00009	mg/L	0.000599	686.78%
Sb 206.836†	-6.0	-0.00305	mg/L	0.001592	-0.00305	mg/L	0.001592	52.15%
Se 196.026†	3.0	0.00052	mg/L	0.006384	0.00052	mg/L	0.006384	>999.9%
Si 288.158†	17969.0	12.94	mg/L	0.067	12.94	mg/L	0.067	0.52%
Sn 189.927†	-35.2	-0.00575	mg/L	0.001222	-0.00575	mg/L	0.001222	21.26%
Sr 421.552†	42845.7	0.09232	mg/L	0.000464	0.09232	mg/L	0.000464	0.50%
Ti 334.903†	24.6	0.00032	mg/L	0.002345	0.00032	mg/L	0.002345	729.48%
Tl 190.801†	-2.0	-0.00276	mg/L	0.001088	-0.00276	mg/L	0.001088	39.43%
V 292.402†	7.8	0.00010	mg/L	0.000103	0.00010	mg/L	0.000103	101.24%
Zn 206.200†	-5.8	0.00001	mg/L	0.001142	0.00001	mg/L	0.001142	>999.9%

Sequence No.: 54
 Sample ID: 17B0029-01
 Analyst: CC
 Dilution: 1.000000X

Autosampler Location: 338
 Date Collected: 2/7/2017 4:07:32 PM
 Data Type: Original

Nebulizer Parameters: 17B0029-01

Analyte Back Pressure Flow
 All 155.0 kPa 0.65 L/min

Mean Data: 17B0029-01

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
ScA 357.253	1693272.1	112.1	%	0.04				0.03%
ScR 361.383	174099.9	115.1	%	1.38				1.20%
Ag 328.068†	27.8	0.00025	mg/L	0.000154	0.00025	mg/L	0.000154	61.71%
Al 308.215†	-1.2	-0.00111	mg/L	0.005437	-0.00111	mg/L	0.005437	491.86%
As 188.979†	28.8	0.02095	mg/L	0.000665	0.02095	mg/L	0.000665	3.17%
B 249.677†	224.2	0.04505	mg/L	0.000975	0.04505	mg/L	0.000975	2.16%
Ba 233.527†	285.7	0.08023	mg/L	0.000078	0.08023	mg/L	0.000078	0.10%
Be 313.042†	-42.9	-0.00013	mg/L	0.000039	-0.00013	mg/L	0.000039	29.67%
Ca 317.933†	353902.5	45.06	mg/L	0.316	45.06	mg/L	0.316	0.70%
Cd 228.802†	-6.9	-0.00045	mg/L	0.000207	-0.00045	mg/L	0.000207	45.70%
Co 228.616†	17.4	0.00074	mg/L	0.000022	0.00074	mg/L	0.000022	3.02%
Cr 267.716†	10.5	-0.00001	mg/L	0.002147	-0.00001	mg/L	0.002147	>999.9%
Cu 324.752†	100.1	0.00055	mg/L	0.000129	0.00055	mg/L	0.000129	23.58%
Fe 273.955†	139.9	0.1771	mg/L	0.00126	0.1771	mg/L	0.00126	0.71%
K 766.490†	1169.6	1.028	mg/L	0.0040	1.028	mg/L	0.0040	0.39%
Mg 279.077†	14856.6	14.66	mg/L	0.137	14.66	mg/L	0.137	0.94%
Mn 257.610†	1042.7	0.04180	mg/L	0.000613	0.04180	mg/L	0.000613	1.47%
Mo 202.031†	50.8	0.00282	mg/L	0.000176	0.00282	mg/L	0.000176	6.22%
Na 589.592†	91212.4	12.88	mg/L	0.048	12.88	mg/L	0.048	0.37%
Na 330.237†	206.6	13.46	mg/L	0.243	13.46	mg/L	0.243	1.81%
Ni 231.604†	9.7	0.00336	mg/L	0.000452	0.00336	mg/L	0.000452	13.47%
Pb 220.353†	-1.9	-0.00034	mg/L	0.000531	-0.00034	mg/L	0.000531	157.21%
Sb 206.836†	-8.6	-0.00440	mg/L	0.001299	-0.00440	mg/L	0.001299	29.52%
Se 196.026†	2.1	-0.00309	mg/L	0.005703	-0.00309	mg/L	0.005703	184.56%
Si 288.158†	23032.5	16.59	mg/L	0.121	16.59	mg/L	0.121	0.73%
Sn 189.927†	-54.8	-0.00626	mg/L	0.000720	-0.00626	mg/L	0.000720	11.50%
Sr 421.552†	131406.9	0.2831	mg/L	0.00106	0.2831	mg/L	0.00106	0.37%
Ti 334.903†	45.0	0.00043	mg/L	0.000173	0.00043	mg/L	0.000173	40.25%
Tl 190.801†	-1.8	-0.00500	mg/L	0.001648	-0.00500	mg/L	0.001648	32.96%
V 292.402†	2.3	0.00003	mg/L	0.000115	0.00003	mg/L	0.000115	329.61%
Zn 206.200†	-9.1	-0.00063	mg/L	0.000775	-0.00063	mg/L	0.000775	122.27%

Sequence No.: 55
 Sample ID: SEQ-CCV4
 Analyst: CC
 Dilution: 1.000000X

Autosampler Location: 7
 Date Collected: 2/7/2017 4:11:46 PM
 Data Type: Original

Nebulizer Parameters: SEQ-CCV4

Analyte	Back Pressure	Flow
All	155.0 kPa	0.65 L/min

Mean Data: SEQ-CCV4

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	1618302.0	107.1	%	1.00			0.93%
ScR 361.383	165534.6	109.4	%	0.70			0.64%
Ag 328.068†	113933.6	1.026	mg/L	0.0070	1.026 mg/L	0.0070	0.69%
Al 308.215†	2217.4	1.972	mg/L	0.0006	1.972 mg/L	0.0006	0.03%
As 188.979†	2272.5	1.954	mg/L	0.0206	1.954 mg/L	0.0206	1.05%
B 249.677†	4943.3	0.9923	mg/L	0.00323	0.9923 mg/L	0.00323	0.33%
Ba 233.527†	3695.8	1.043	mg/L	0.0017	1.043 mg/L	0.0017	0.16%
Be 313.042†	319803.0	0.9748	mg/L	0.00851	0.9748 mg/L	0.00851	0.87%
Ca 317.933†	15871.1	2.007	mg/L	0.0081	2.007 mg/L	0.0081	0.41%
Cd 228.802†	21394.4	0.9618	mg/L	0.00922	0.9618 mg/L	0.00922	0.96%
Co 228.616†	22566.9	0.9761	mg/L	0.00864	0.9761 mg/L	0.00864	0.89%
Cr 267.716†	4214.8	1.014	mg/L	0.0033	1.014 mg/L	0.0033	0.32%
Cu 324.752†	154221.2	0.9785	mg/L	0.00930	0.9785 mg/L	0.00930	0.95%
Fe 273.955†	1489.3	1.873	mg/L	0.0117	1.873 mg/L	0.0117	0.63%
K 766.490†	22676.9	19.92	mg/L	0.132	19.92 mg/L	0.132	0.67%
Mg 279.077†	1997.9	1.978	mg/L	0.0058	1.978 mg/L	0.0058	0.29%
Mn 257.610†	23729.9	0.9549	mg/L	0.00294	0.9549 mg/L	0.00294	0.31%
Mo 202.031†	13371.8	0.9712	mg/L	0.01192	0.9712 mg/L	0.01192	1.23%
Na 589.592†	358546.3	50.62	mg/L	0.313	50.62 mg/L	0.313	0.62%
Na 330.237†	777.5	50.46	mg/L	0.019	50.46 mg/L	0.019	0.04%
Ni 231.604†	2940.2	1.023	mg/L	0.0046	1.023 mg/L	0.0046	0.45%
Pb 220.353†	11070.1	1.949	mg/L	0.0203	1.949 mg/L	0.0203	1.04%
Sb 206.836†	4232.6	2.032	mg/L	0.0232	2.032 mg/L	0.0232	1.14%
Se 196.026†	1688.7	1.930	mg/L	0.0276	1.930 mg/L	0.0276	1.43%
Si 288.158†	2867.5	2.065	mg/L	0.0043	2.065 mg/L	0.0043	0.21%
Sn 189.927†	2515.2	0.9541	mg/L	0.01212	0.9541 mg/L	0.01212	1.27%
Sr 421.552†	464194.0	1.000	mg/L	0.0051	1.000 mg/L	0.0051	0.51%
Ti 334.903†	10540.9	0.9682	mg/L	0.00249	0.9682 mg/L	0.00249	0.26%
Tl 190.801†	2704.0	1.963	mg/L	0.0224	1.963 mg/L	0.0224	1.14%
V 292.402†	91414.7	0.9990	mg/L	0.00749	0.9990 mg/L	0.00749	0.75%
Zn 206.200†	2501.8	1.001	mg/L	0.0055	1.001 mg/L	0.0055	0.55%

Sequence No.: 56
 Sample ID: SEQ-CCB4
 Analyst: CC
 Dilution: 1.000000X

Autosampler Location: 1
 Date Collected: 2/7/2017 4:16:50 PM
 Data Type: Original

Nebulizer Parameters: SEQ-CCB4

Analyte Back Pressure Flow
 All 156.0 kPa 0.65 L/min

Mean Data: SEQ-CCB4

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
ScA 357.253	1623103.6	107.4	%	0.64				0.60%
ScR 361.383	167970.0	111.0	%	0.44				0.39%
Ag 328.068†	0.5	0.00000	mg/L	0.000372	0.00000	mg/L	0.000372	>999.9%
Al 308.215†	15.5	0.01398	mg/L	0.015008	0.01398	mg/L	0.015008	107.32%
As 188.979†	-1.2	-0.00101	mg/L	0.001632	-0.00101	mg/L	0.001632	161.78%
B 249.677†	-4.5	-0.00090	mg/L	0.001049	-0.00090	mg/L	0.001049	116.03%
Ba 233.527†	-4.3	-0.00120	mg/L	0.001872	-0.00120	mg/L	0.001872	155.78%
Be 313.042†	-24.1	-0.00007	mg/L	0.000101	-0.00007	mg/L	0.000101	137.24%
Ca 317.933†	19.4	0.00245	mg/L	0.001017	0.00245	mg/L	0.001017	41.55%
Cd 228.802†	3.9	0.00019	mg/L	0.000089	0.00019	mg/L	0.000089	47.62%
Co 228.616†	-3.1	-0.00014	mg/L	0.000103	-0.00014	mg/L	0.000103	75.32%
Cr 267.716†	-0.4	-0.00009	mg/L	0.001227	-0.00009	mg/L	0.001227	>999.9%
Cu 324.752†	72.1	0.00046	mg/L	0.000103	0.00046	mg/L	0.000103	22.44%
Fe 273.955†	1.1	0.00143	mg/L	0.002388	0.00143	mg/L	0.002388	166.71%
K 766.490†	104.2	0.09158	mg/L	0.027903	0.09158	mg/L	0.027903	30.47%
Mg 279.077†	-8.5	-0.00840	mg/L	0.006431	-0.00840	mg/L	0.006431	76.55%
Mn 257.610†	-7.1	-0.00028	mg/L	0.000118	-0.00028	mg/L	0.000118	41.37%
Mo 202.031†	6.3	0.00045	mg/L	0.000223	0.00045	mg/L	0.000223	48.98%
Na 589.592†	385.7	0.05446	mg/L	0.006170	0.05446	mg/L	0.006170	11.33%
Na 330.237†	15.9	1.034	mg/L	0.7212	1.034	mg/L	0.7212	69.72%
Ni 231.604†	3.8	0.00131	mg/L	0.000584	0.00131	mg/L	0.000584	44.56%
Pb 220.353†	2.0	0.00036	mg/L	0.000381	0.00036	mg/L	0.000381	104.71%
Sb 206.836†	-3.1	-0.00148	mg/L	0.001283	-0.00148	mg/L	0.001283	86.68%
Se 196.026†	0.4	0.00041	mg/L	0.005628	0.00041	mg/L	0.005628	>999.9%
Si 288.158†	6.5	0.00465	mg/L	0.006151	0.00465	mg/L	0.006151	132.41%
Sn 189.927†	-0.3	-0.00010	mg/L	0.001033	-0.00010	mg/L	0.001033	993.23%
Sr 421.552†	-9.6	-0.00002	mg/L	0.000059	-0.00002	mg/L	0.000059	286.20%
Ti 334.903†	3.8	0.00035	mg/L	0.002113	0.00035	mg/L	0.002113	603.58%
Tl 190.801†	-2.3	-0.00166	mg/L	0.000718	-0.00166	mg/L	0.000718	43.23%
V 292.402†	0.0	-0.00000	mg/L	0.000162	-0.00000	mg/L	0.000162	>999.9%
Zn 206.200†	-1.5	-0.00060	mg/L	0.000922	-0.00060	mg/L	0.000922	152.72%

Sequence No.: 57
 Sample ID: BFB0104-DUP1
 Analyst: CC
 Dilution: 2.000000X
 User canceled analysis.

Autosampler Location: 339
 Date Collected: 2/7/2017 4:20:50 PM
 Data Type: Original

Analysis Begun

Start Time: 2/7/2017 4:23:04 PM
 Logged In Analyst: metinst
 Spectrometer: Optima 7300 DV, S/N 077C8121202

Plasma On Time: 2/7/2017 10:37:36 AM
 Technique: ICP Continuous
 Autosampler: ESI

Sample Information File: C:\pe\metals\Sample Information\0207A.sif
 Batch ID:
 Results Data Set: I2170207
 Results Library: C:\Documents and Settings\All Users\PerkinElmer\ICP\Data\Results\Results.mdb

Sequence No.: 1
 Sample ID: BFB0104-DUP1
 Analyst: CC
 Dilution: 2.000000X

Autosampler Location: 339
 Date Collected: 2/7/2017 4:23:04 PM
 Data Type: Original

Nebulizer Parameters: BFB0104-DUP1

Analyte	Back Pressure	Flow
All	156.0 kPa	0.65 L/min

Mean Data: BFB0104-DUP1

Analyte	Mean Corrected Intensity	Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	1633760.9	108.1 %	0.72			0.67%
ScR 361.383	170786.2	112.9 %	2.35			2.08%
Ag 328.068†	37.1	0.00034 mg/L	0.000303	0.00069 mg/L	0.000606	88.27%
Al 308.215†	1101.3	0.9939 mg/L	0.01865	1.988 mg/L	0.0373	1.88%
As 188.979†	31.5	0.02684 mg/L	0.001810	0.05368 mg/L	0.003621	6.75%
B 249.677†	88.1	0.01773 mg/L	0.000336	0.03546 mg/L	0.000672	1.90%
Ba 233.527†	46.2	0.01292 mg/L	0.000602	0.02585 mg/L	0.001204	4.66%
Be 313.042†	13.9	0.00004 mg/L	0.000092	0.00007 mg/L	0.000184	249.55%
Ca 317.933†	44735.3	5.647 mg/L	0.0110	11.29 mg/L	0.022	0.20%
Cd 228.802†	6.1	0.00013 mg/L	0.000167	0.00026 mg/L	0.000335	128.36%
Co 228.616†	18.6	0.00076 mg/L	0.000191	0.00152 mg/L	0.000383	25.11%
Cr 267.716†	25.0	0.00581 mg/L	0.000727	0.01163 mg/L	0.001453	12.50%
Cu 324.752†	1040.7	0.00540 mg/L	0.000039	0.01079 mg/L	0.000077	0.72%
Fe 273.955†	375.8	0.4753 mg/L	0.01049	0.9507 mg/L	0.02098	2.21%
K 766.490†	255190.1	224.2 mg/L	0.67	448.4 mg/L	1.35	0.30%
Mg 279.077†	1155.1	1.140 mg/L	0.0144	2.279 mg/L	0.0288	1.26%
Mn 257.610†	843.7	0.03393 mg/L	0.000519	0.06787 mg/L	0.001037	1.53%
Mo 202.031†	535.2	0.03877 mg/L	0.000201	0.07755 mg/L	0.000401	0.52%
Na 589.592†	517290.1	73.03 mg/L	0.080	146.1 mg/L	0.16	0.11%
Na 330.237†	1107.5	72.16 mg/L	0.174	144.3 mg/L	0.35	0.24%
Ni 231.604†	34.6	0.01205 mg/L	0.000790	0.02410 mg/L	0.001580	6.55%
Pb 220.353†	315.0	0.05573 mg/L	0.000705	0.1115 mg/L	0.00141	1.26%
Sb 206.836†	8.5	0.00413 mg/L	0.001267	0.00826 mg/L	0.002535	30.70%
Se 196.026†	5.7	0.00579 mg/L	0.002197	0.01158 mg/L	0.004395	37.96%
Si 288.158†	3185.1	2.294 mg/L	0.0317	4.588 mg/L	0.0634	1.38%
Sn 189.927†	-8.8	-0.00150 mg/L	0.001589	-0.00301 mg/L	0.003178	105.73%
Sr 421.552†	89375.3	0.1926 mg/L	0.00023	0.3851 mg/L	0.00045	0.12%
Ti 334.903†	221.0	0.01982 mg/L	0.001564	0.03964 mg/L	0.003128	7.89%
Tl 190.801†	1.4	0.00053 mg/L	0.002460	0.00106 mg/L	0.004920	462.62%
V 292.402†	3095.2	0.03371 mg/L	0.000273	0.06741 mg/L	0.000546	0.81%
Zn 206.200†	27.1	0.01124 mg/L	0.000225	0.02247 mg/L	0.000450	2.00%

Sequence No.: 2
 Sample ID: 17B0029-20
 Analyst: CC
 Dilution: 2.000000X

Autosampler Location: 340
 Date Collected: 2/7/2017 4:27:20 PM
 Data Type: Original

Nebulizer Parameters: 17B0029-20

Analyte Back Pressure Flow
 All 155.0 kPa 0.65 L/min

Mean Data: 17B0029-20

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
ScA 357.253	1605339.4	106.3	%	0.93				0.88%
ScR 361.383	165023.9	109.1	%	1.27				1.16%
Ag 328.068†	-1.4	-0.00000	mg/L	0.000246	-0.00001	mg/L	0.000492	>999.9%
Al 308.215†	1132.9	1.022	mg/L	0.0180	2.045	mg/L	0.0361	1.76%
As 188.979†	33.5	0.02859	mg/L	0.000828	0.05719	mg/L	0.001655	2.89%
B 249.677†	96.0	0.01934	mg/L	0.000986	0.03868	mg/L	0.001971	5.10%
Ba 233.527†	44.8	0.01251	mg/L	0.001470	0.02502	mg/L	0.002939	11.75%
Be 313.042†	39.3	0.00011	mg/L	0.000049	0.00023	mg/L	0.000098	42.76%
Ca 317.933†	44830.5	5.659	mg/L	0.0269	11.32	mg/L	0.054	0.47%
Cd 228.802†	7.6	0.00019	mg/L	0.000117	0.00038	mg/L	0.000233	62.20%
Co 228.616†	18.3	0.00075	mg/L	0.000157	0.00149	mg/L	0.000315	21.05%
Cr 267.716†	20.7	0.00479	mg/L	0.001264	0.00958	mg/L	0.002528	26.40%
Cu 324.752†	1091.1	0.00570	mg/L	0.000219	0.01140	mg/L	0.000438	3.85%
Fe 273.955†	380.6	0.4814	mg/L	0.00482	0.9628	mg/L	0.00964	1.00%
K 766.490†	258763.3	227.3	mg/L	0.88	454.7	mg/L	1.76	0.39%
Mg 279.077†	1166.5	1.151	mg/L	0.0173	2.302	mg/L	0.0346	1.50%
Mn 257.610†	861.2	0.03464	mg/L	0.000549	0.06928	mg/L	0.001097	1.58%
Mo 202.031†	544.7	0.03947	mg/L	0.000103	0.07893	mg/L	0.000206	0.26%
Na 589.592†	526777.8	74.37	mg/L	0.493	148.7	mg/L	0.99	0.66%
Na 330.237†	1133.7	73.87	mg/L	1.017	147.7	mg/L	2.03	1.38%
Ni 231.604†	36.2	0.01258	mg/L	0.002455	0.02516	mg/L	0.004910	19.52%
Pb 220.353†	314.7	0.05569	mg/L	0.001818	0.1114	mg/L	0.00364	3.26%
Sb 206.836†	8.0	0.00390	mg/L	0.001815	0.00779	mg/L	0.003630	46.57%
Se 196.026†	2.1	0.00171	mg/L	0.001792	0.00342	mg/L	0.003585	104.92%
Si 288.158†	3243.3	2.336	mg/L	0.0167	4.672	mg/L	0.0334	0.71%
Sn 189.927†	-9.8	-0.00186	mg/L	0.001642	-0.00372	mg/L	0.003284	88.29%
Sr 421.552†	90633.3	0.1953	mg/L	0.00096	0.3906	mg/L	0.00192	0.49%
Ti 334.903†	229.7	0.02063	mg/L	0.001191	0.04125	mg/L	0.002381	5.77%
Tl 190.801†	1.2	0.00040	mg/L	0.002368	0.00080	mg/L	0.004736	589.54%
V 292.402†	3183.7	0.03466	mg/L	0.000315	0.06933	mg/L	0.000630	0.91%
Zn 206.200†	25.0	0.01041	mg/L	0.000238	0.02082	mg/L	0.000476	2.29%

Sequence No.: 3

Sample ID: BFB0104-MS1

Analyst: CC

Dilution: 2.000000X

Autosampler Location: 341

Date Collected: 2/7/2017 4:31:34 PM

Data Type: Original

Nebulizer Parameters: BFB0104-MS1

Analyte	Back Pressure	Flow
All	156.0 kPa	0.65 L/min

Mean Data: BFB0104-MS1

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	1596958.0	105.7	%	0.16			0.15%
ScR 361.383	168820.4	111.6	%	1.42			1.27%
Ag 328.068†	56350.2	0.5076	mg/L	0.00272	1.015 mg/L	0.0054	0.54%
Al 308.215†	3317.6	2.989	mg/L	0.0290	5.978 mg/L	0.0579	0.97%
As 188.979†	2433.8	2.050	mg/L	0.0025	4.100 mg/L	0.0049	0.12%
B 249.677†	91.4	0.01745	mg/L	0.000976	0.03489 mg/L	0.001953	5.60%
Ba 233.527†	7238.3	2.043	mg/L	0.0185	4.086 mg/L	0.0370	0.91%
Be 313.042†	159412.1	0.4859	mg/L	0.00129	0.9718 mg/L	0.00259	0.27%
Ca 317.933†	122082.2	15.49	mg/L	0.046	30.98 mg/L	0.092	0.30%
Cd 228.802†	11070.6	0.4914	mg/L	0.00276	0.9828 mg/L	0.00553	0.56%
Co 228.616†	11212.3	0.4856	mg/L	0.00148	0.9713 mg/L	0.00296	0.30%
Cr 267.716†	2097.8	0.5027	mg/L	0.00354	1.005 mg/L	0.0071	0.70%
Cu 324.752†	78770.5	0.4989	mg/L	0.00181	0.9977 mg/L	0.00363	0.36%
Fe 273.955†	1853.9	2.340	mg/L	0.0150	4.680 mg/L	0.0300	0.64%
K 766.490†	263610.9	231.6	mg/L	0.41	463.2 mg/L	0.82	0.18%
Mg 279.077†	11117.4	10.97	mg/L	0.076	21.94 mg/L	0.152	0.70%
Mn 257.610†	11943.3	0.4808	mg/L	0.00092	0.9615 mg/L	0.00183	0.19%
Mo 202.031†	542.0	0.03900	mg/L	0.000069	0.07800 mg/L	0.000138	0.18%
Na 589.592†	585768.1	82.70	mg/L	0.386	165.4 mg/L	0.77	0.47%
Na 330.237†	1272.3	82.71	mg/L	0.522	165.4 mg/L	1.04	0.63%
Ni 231.604†	1465.1	0.5087	mg/L	0.00307	1.017 mg/L	0.0061	0.60%
Pb 220.353†	11123.2	1.958	mg/L	0.0044	3.916 mg/L	0.0089	0.23%
Sb 206.836†	20.1	0.00452	mg/L	0.001135	0.00904 mg/L	0.002269	25.11%
Se 196.026†	1807.7	2.065	mg/L	0.0144	4.130 mg/L	0.0288	0.70%
Si 288.158†	3272.6	2.360	mg/L	0.0133	4.721 mg/L	0.0265	0.56%
Sn 189.927†	-26.4	-0.00491	mg/L	0.000562	-0.00982 mg/L	0.001124	11.44%
Sr 421.552†	313487.8	0.6755	mg/L	0.00343	1.351 mg/L	0.0069	0.51%
Ti 334.903†	264.1	0.02286	mg/L	0.000403	0.04572 mg/L	0.000806	1.76%
Tl 190.801†	2640.6	1.919	mg/L	0.0044	3.839 mg/L	0.0087	0.23%
V 292.402†	50006.2	0.5463	mg/L	0.00286	1.093 mg/L	0.0057	0.52%
Zn 206.200†	1258.4	0.5041	mg/L	0.00300	1.008 mg/L	0.0060	0.59%

Sequence No.: 4

Sample ID: BFB0104-MSD1

Analyst: CC

Dilution: 2.000000X

Autosampler Location: 342

Date Collected: 2/7/2017 4:36:12 PM

Data Type: Original

Nebulizer Parameters: BFB0104-MSD1

Analyte	Back Pressure	Flow
All	156.0 kPa	0.65 L/min

Mean Data: BFB0104-MSD1

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
ScA 357.253	1609777.8	106.5	%	0.94				0.88%
ScR 361.383	170732.1	112.9	%	1.18				1.05%
Ag 328.068†	56012.3	0.5045	mg/L	0.00084	1.009	mg/L	0.0017	0.17%
Al 308.215†	3299.0	2.972	mg/L	0.0186	5.944	mg/L	0.0372	0.63%
As 188.979†	2448.9	2.063	mg/L	0.0124	4.125	mg/L	0.0248	0.60%
B 249.677†	86.8	0.01651	mg/L	0.002166	0.03302	mg/L	0.004333	13.12%
Ba 233.527†	7168.1	2.023	mg/L	0.0272	4.046	mg/L	0.0544	1.34%
Be 313.042†	159000.0	0.4847	mg/L	0.00173	0.9693	mg/L	0.00345	0.36%
Ca 317.933†	121459.8	15.41	mg/L	0.065	30.82	mg/L	0.131	0.42%
Cd 228.802†	11047.7	0.4903	mg/L	0.00175	0.9806	mg/L	0.00349	0.36%
Co 228.616†	11231.3	0.4865	mg/L	0.00269	0.9729	mg/L	0.00539	0.55%
Cr 267.716†	2076.9	0.4977	mg/L	0.00615	0.9955	mg/L	0.01230	1.24%
Cu 324.752†	78475.3	0.4970	mg/L	0.00188	0.9940	mg/L	0.00375	0.38%
Fe 273.955†	1848.8	2.334	mg/L	0.0322	4.667	mg/L	0.0643	1.38%
K 766.490†	263761.3	231.7	mg/L	1.23	463.4	mg/L	2.46	0.53%
Mg 279.077†	11034.4	10.89	mg/L	0.137	21.78	mg/L	0.274	1.26%
Mn 257.610†	11869.6	0.4778	mg/L	0.00446	0.9556	mg/L	0.00892	0.93%
Mo 202.031†	537.7	0.03869	mg/L	0.000213	0.07738	mg/L	0.000427	0.55%
Na 589.592†	585737.2	82.70	mg/L	0.251	165.4	mg/L	0.50	0.30%
Na 330.237†	1267.5	82.39	mg/L	0.220	164.8	mg/L	0.44	0.27%
Ni 231.604†	1453.7	0.5047	mg/L	0.00693	1.009	mg/L	0.0139	1.37%
Pb 220.353†	11198.4	1.971	mg/L	0.0135	3.942	mg/L	0.0271	0.69%
Sb 206.836†	17.1	0.00315	mg/L	0.000811	0.00629	mg/L	0.001621	25.76%
Se 196.026†	1814.9	2.073	mg/L	0.0066	4.147	mg/L	0.0132	0.32%
Si 288.158†	3269.2	2.358	mg/L	0.0236	4.716	mg/L	0.0472	1.00%
Sn 189.927†	-26.2	-0.00487	mg/L	0.000295	-0.00974	mg/L	0.000590	6.05%
Sr 421.552†	313517.2	0.6755	mg/L	0.00321	1.351	mg/L	0.0064	0.48%
Ti 334.903†	256.3	0.02215	mg/L	0.000439	0.04431	mg/L	0.000878	1.98%
Tl 190.801†	2651.6	1.927	mg/L	0.0155	3.855	mg/L	0.0311	0.81%
V 292.402†	49801.2	0.5441	mg/L	0.00081	1.088	mg/L	0.0016	0.15%
Zn 206.200†	1248.9	0.5003	mg/L	0.00677	1.001	mg/L	0.0135	1.35%

Sequence No.: 5
 Sample ID: 17B0029-02
 Analyst: CC
 Dilution: 1.000000X

Autosampler Location: 343
 Date Collected: 2/7/2017 4:43:11 PM
 Data Type: Original

Nebulizer Parameters: 17B0029-02

Analyte Back Pressure Flow
 All 155.0 kPa 0.65 L/min

Mean Data: 17B0029-02

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc. Units	Sample Std.Dev.	RSD
ScA 357.253	1687885.8	111.7	%	0.62			0.56%
ScR 361.383	172506.4	114.0	%	0.83			0.73%
Ag 328.068†	26.6	0.00024	mg/L	0.000352	0.00024 mg/L	0.000352	146.88%
Al 308.215†	21.0	0.01895	mg/L	0.011078	0.01895 mg/L	0.011078	58.46%
As 188.979†	22.1	0.01574	mg/L	0.001823	0.01574 mg/L	0.001823	11.58%
B 249.677†	79.1	0.01589	mg/L	0.001261	0.01589 mg/L	0.001261	7.94%
Ba 233.527†	209.4	0.05873	mg/L	0.000779	0.05873 mg/L	0.000779	1.33%
Be 313.042†	-17.2	-0.00005	mg/L	0.000079	-0.00005 mg/L	0.000079	151.44%
Ca 317.933†	300849.3	38.30	mg/L	0.262	38.30 mg/L	0.262	0.68%
Cd 228.802†	-8.7	-0.00050	mg/L	0.000121	-0.00050 mg/L	0.000121	23.96%
Co 228.616†	8.6	0.00036	mg/L	0.000186	0.00036 mg/L	0.000186	51.76%
Cr 267.716†	15.7	0.00090	mg/L	0.001553	0.00090 mg/L	0.001553	173.39%
Cu 324.752†	81.8	0.00043	mg/L	0.000148	0.00043 mg/L	0.000148	34.66%
Fe 273.955†	241.9	0.3062	mg/L	0.00224	0.3062 mg/L	0.00224	0.73%
K 766.490†	1268.2	1.114	mg/L	0.0221	1.114 mg/L	0.0221	1.99%
Mg 279.077†	16923.2	16.70	mg/L	0.137	16.70 mg/L	0.137	0.82%
Mn 257.610†	421.9	0.01682	mg/L	0.000132	0.01682 mg/L	0.000132	0.79%
Mo 202.031†	47.2	0.00264	mg/L	0.000378	0.00264 mg/L	0.000378	14.29%
Na 589.592†	71880.4	10.15	mg/L	0.005	10.15 mg/L	0.005	0.04%
Na 330.237†	172.5	11.24	mg/L	0.462	11.24 mg/L	0.462	4.11%
Ni 231.604†	10.7	0.00371	mg/L	0.001844	0.00371 mg/L	0.001844	49.66%
Pb 220.353†	-3.9	-0.00069	mg/L	0.000647	-0.00069 mg/L	0.000647	93.54%
Sb 206.836†	-7.4	-0.00379	mg/L	0.001065	-0.00379 mg/L	0.001065	28.08%
Se 196.026†	7.3	0.00361	mg/L	0.006020	0.00361 mg/L	0.006020	166.94%
Si 288.158†	20494.5	14.76	mg/L	0.128	14.76 mg/L	0.128	0.87%
Sn 189.927†	-47.2	-0.00555	mg/L	0.000876	-0.00555 mg/L	0.000876	15.77%
Sr 421.552†	94097.5	0.2027	mg/L	0.00029	0.2027 mg/L	0.00029	0.14%
Ti 334.903†	36.9	0.00024	mg/L	0.000804	0.00024 mg/L	0.000804	332.91%
Tl 190.801†	-1.6	-0.00427	mg/L	0.002142	-0.00427 mg/L	0.002142	50.12%
V 292.402†	-21.6	-0.00023	mg/L	0.000281	-0.00023 mg/L	0.000281	122.97%
Zn 206.200†	-9.5	-0.00114	mg/L	0.000631	-0.00114 mg/L	0.000631	55.09%

Sequence No.: 6
 Sample ID: 17B0029-03
 Analyst: CC
 Dilution: 1.000000X

Autosampler Location: 344
 Date Collected: 2/7/2017 4:47:25 PM
 Data Type: Original

Nebulizer Parameters: 17B0029-03

Analyte Back Pressure Flow
 All 155.0 kPa 0.65 L/min

Mean Data: 17B0029-03

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
ScA 357.253	1669878.7	110.5	%	0.38				0.34%
ScR 361.383	171492.5	113.4	%	1.86				1.64%
Ag 328.068†	31.6	0.00028	mg/L	0.000055	0.00028	mg/L	0.000055	19.29%
Al 308.215†	18.4	0.01657	mg/L	0.006081	0.01657	mg/L	0.006081	36.69%
As 188.979†	11.7	0.00801	mg/L	0.002086	0.00801	mg/L	0.002086	26.06%
B 249.677†	36.0	0.00724	mg/L	0.000419	0.00724	mg/L	0.000419	5.79%
Ba 233.527†	9.5	0.00245	mg/L	0.000466	0.00245	mg/L	0.000466	19.02%
Be 313.042†	-71.0	-0.00022	mg/L	0.000096	-0.00022	mg/L	0.000096	44.33%
Ca 317.933†	194770.6	24.79	mg/L	0.074	24.79	mg/L	0.074	0.30%
Cd 228.802†	-2.8	-0.00018	mg/L	0.000189	-0.00018	mg/L	0.000189	103.78%
Co 228.616†	3.0	0.00013	mg/L	0.000209	0.00013	mg/L	0.000209	166.12%
Cr 267.716†	11.3	0.00071	mg/L	0.001858	0.00071	mg/L	0.001858	261.36%
Cu 324.752†	129.6	0.00075	mg/L	0.000130	0.00075	mg/L	0.000130	17.47%
Fe 273.955†	6.3	0.00794	mg/L	0.001778	0.00794	mg/L	0.001778	22.40%
K 766.490†	1084.6	0.9529	mg/L	0.01933	0.9529	mg/L	0.01933	2.03%
Mg 279.077†	11691.4	11.54	mg/L	0.047	11.54	mg/L	0.047	0.41%
Mn 257.610†	678.1	0.02717	mg/L	0.000447	0.02717	mg/L	0.000447	1.64%
Mo 202.031†	34.0	0.00195	mg/L	0.000179	0.00195	mg/L	0.000179	9.20%
Na 589.592†	79996.0	11.29	mg/L	0.035	11.29	mg/L	0.035	0.31%
Na 330.237†	184.9	12.05	mg/L	0.314	12.05	mg/L	0.314	2.60%
Ni 231.604†	6.9	0.00240	mg/L	0.001220	0.00240	mg/L	0.001220	50.81%
Pb 220.353†	-3.5	-0.00060	mg/L	0.000282	-0.00060	mg/L	0.000282	47.26%
Sb 206.836†	-5.9	-0.00303	mg/L	0.001656	-0.00303	mg/L	0.001656	54.72%
Se 196.026†	3.4	0.00082	mg/L	0.001740	0.00082	mg/L	0.001740	213.36%
Si 288.158†	21832.7	15.73	mg/L	0.074	15.73	mg/L	0.074	0.47%
Sn 189.927†	-37.1	-0.00607	mg/L	0.000366	-0.00607	mg/L	0.000366	6.03%
Sr 421.552†	57999.1	0.1250	mg/L	0.00043	0.1250	mg/L	0.00043	0.35%
Ti 334.903†	26.1	0.00035	mg/L	0.000493	0.00035	mg/L	0.000493	139.39%
Tl 190.801†	0.3	-0.00184	mg/L	0.003032	-0.00184	mg/L	0.003032	165.14%
V 292.402†	-4.3	-0.00003	mg/L	0.000163	-0.00003	mg/L	0.000163	502.70%
Zn 206.200†	-4.9	0.00089	mg/L	0.000216	0.00089	mg/L	0.000216	24.35%

Sequence No.: 7
 Sample ID: 17B0029-04
 Analyst: CC
 Dilution: 1.000000X

Autosampler Location: 345
 Date Collected: 2/7/2017 4:51:24 PM
 Data Type: Original

Nebulizer Parameters: 17B0029-04

Analyte Back Pressure Flow
 All 156.0 kPa 0.65 L/min

Mean Data: 17B0029-04

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
ScA 357.253	1656268.6	109.6	%	0.25				0.22%
ScR 361.383	171593.8	113.4	%	2.13				1.88%
Ag 328.068†	1.5	0.00001	mg/L	0.000269	0.00001	mg/L	0.000269	>999.9%
Al 308.215†	5.3	0.00470	mg/L	0.010483	0.00470	mg/L	0.010483	222.98%
As 188.979†	31.6	0.02325	mg/L	0.001862	0.02325	mg/L	0.001862	8.01%
B 249.677†	220.3	0.04427	mg/L	0.001765	0.04427	mg/L	0.001765	3.99%
Ba 233.527†	296.2	0.08320	mg/L	0.000532	0.08320	mg/L	0.000532	0.64%
Be 313.042†	-29.5	-0.00009	mg/L	0.000093	-0.00009	mg/L	0.000093	103.99%
Ca 317.933†	355099.7	45.21	mg/L	0.379	45.21	mg/L	0.379	0.84%
Cd 228.802†	-7.5	-0.00049	mg/L	0.000136	-0.00049	mg/L	0.000136	27.51%
Co 228.616†	7.0	0.00029	mg/L	0.000105	0.00029	mg/L	0.000105	36.65%
Cr 267.716†	13.8	0.00074	mg/L	0.000414	0.00074	mg/L	0.000414	55.68%
Cu 324.752†	93.2	0.00050	mg/L	0.000046	0.00050	mg/L	0.000046	9.09%
Fe 273.955†	141.2	0.1787	mg/L	0.00314	0.1787	mg/L	0.00314	1.76%
K 766.490†	1163.0	1.022	mg/L	0.0368	1.022	mg/L	0.0368	3.60%
Mg 279.077†	15074.9	14.88	mg/L	0.158	14.88	mg/L	0.158	1.06%
Mn 257.610†	1042.7	0.04180	mg/L	0.000543	0.04180	mg/L	0.000543	1.30%
Mo 202.031†	54.0	0.00305	mg/L	0.000217	0.00305	mg/L	0.000217	7.10%
Na 589.592†	91630.2	12.94	mg/L	0.030	12.94	mg/L	0.030	0.23%
Na 330.237†	207.5	13.52	mg/L	0.664	13.52	mg/L	0.664	4.91%
Ni 231.604†	8.1	0.00282	mg/L	0.000771	0.00282	mg/L	0.000771	27.36%
Pb 220.353†	0.7	0.00012	mg/L	0.001276	0.00012	mg/L	0.001276	>999.9%
Sb 206.836†	-8.3	-0.00422	mg/L	0.000844	-0.00422	mg/L	0.000844	19.98%
Se 196.026†	3.6	-0.00141	mg/L	0.005238	-0.00141	mg/L	0.005238	371.72%
Si 288.158†	23436.1	16.88	mg/L	0.189	16.88	mg/L	0.189	1.12%
Sn 189.927†	-52.9	-0.00550	mg/L	0.000621	-0.00550	mg/L	0.000621	11.29%
Sr 421.552†	131928.5	0.2843	mg/L	0.00088	0.2843	mg/L	0.00088	0.31%
Ti 334.903†	46.7	0.00057	mg/L	0.000768	0.00057	mg/L	0.000768	134.38%
Tl 190.801†	-1.1	-0.00449	mg/L	0.003510	-0.00449	mg/L	0.003510	78.23%
V 292.402†	-10.3	-0.00010	mg/L	0.000260	-0.00010	mg/L	0.000260	260.40%
Zn 206.200†	-9.8	-0.00087	mg/L	0.000085	-0.00087	mg/L	0.000085	9.78%

Sequence No.: 8
 Sample ID: 17B0029-05
 Analyst: CC
 Dilution: 1.000000X

Autosampler Location: 346
 Date Collected: 2/7/2017 4:55:38 PM
 Data Type: Original

Nebulizer Parameters: 17B0029-05

Analyte Back Pressure Flow
 All 155.0 kPa 0.65 L/min

Mean Data: 17B0029-05

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
ScA 357.253	1653764.9	109.5	%	0.77				0.70%
ScR 361.383	169331.3	111.9	%	1.40				1.25%
Ag 328.068†	7.0	0.00006	mg/L	0.000385	0.00006	mg/L	0.000385	614.58%
Al 308.215†	14.4	0.01293	mg/L	0.001866	0.01293	mg/L	0.001866	14.44%
As 188.979†	19.7	0.01212	mg/L	0.001314	0.01212	mg/L	0.001314	10.85%
B 249.677†	66.7	0.01340	mg/L	0.000954	0.01340	mg/L	0.000954	7.12%
Ba 233.527†	252.5	0.07070	mg/L	0.000813	0.07070	mg/L	0.000813	1.15%
Be 313.042†	-14.5	-0.00004	mg/L	0.000051	-0.00004	mg/L	0.000051	116.13%
Ca 317.933†	463046.0	58.96	mg/L	0.366	58.96	mg/L	0.366	0.62%
Cd 228.802†	-6.5	-0.00039	mg/L	0.000069	-0.00039	mg/L	0.000069	17.54%
Co 228.616†	20.8	0.00088	mg/L	0.000137	0.00088	mg/L	0.000137	15.55%
Cr 267.716†	20.2	-0.00086	mg/L	0.000445	-0.00086	mg/L	0.000445	51.95%
Cu 324.752†	147.7	0.00075	mg/L	0.000030	0.00075	mg/L	0.000030	4.01%
Fe 273.955†	316.0	0.4000	mg/L	0.00664	0.4000	mg/L	0.00664	1.66%
K 766.490†	1475.5	1.296	mg/L	0.0324	1.296	mg/L	0.0324	2.50%
Mg 279.077†	33475.8	33.03	mg/L	0.285	33.03	mg/L	0.285	0.86%
Mn 257.610†	872.4	0.03479	mg/L	0.000585	0.03479	mg/L	0.000585	1.68%
Mo 202.031†	62.5	0.00325	mg/L	0.000298	0.00325	mg/L	0.000298	9.19%
Na 589.592†	82311.1	11.62	mg/L	0.038	11.62	mg/L	0.038	0.33%
Na 330.237†	194.6	12.68	mg/L	0.148	12.68	mg/L	0.148	1.16%
Ni 231.604†	7.7	0.00267	mg/L	0.002700	0.00267	mg/L	0.002700	101.04%
Pb 220.353†	-4.1	-0.00072	mg/L	0.001619	-0.00072	mg/L	0.001619	225.01%
Sb 206.836†	-8.6	-0.00446	mg/L	0.001665	-0.00446	mg/L	0.001665	37.33%
Se 196.026†	4.5	-0.00208	mg/L	0.003534	-0.00208	mg/L	0.003534	170.24%
Si 288.158†	21446.5	15.45	mg/L	0.141	15.45	mg/L	0.141	0.91%
Sn 189.927†	-63.9	-0.00524	mg/L	0.000677	-0.00524	mg/L	0.000677	12.94%
Sr 421.552†	105983.6	0.2284	mg/L	0.00095	0.2284	mg/L	0.00095	0.42%
Ti 334.903†	33.7	-0.00176	mg/L	0.001781	-0.00176	mg/L	0.001781	101.47%
Tl 190.801†	-3.9	-0.00767	mg/L	0.002344	-0.00767	mg/L	0.002344	30.56%
V 292.402†	-6.1	-0.00006	mg/L	0.000127	-0.00006	mg/L	0.000127	229.81%
Zn 206.200†	-7.4	-0.00018	mg/L	0.000727	-0.00018	mg/L	0.000727	400.60%

Sequence No.: 9
 Sample ID: 17B0029-06
 Analyst: CC
 Dilution: 1.000000X

Autosampler Location: 347
 Date Collected: 2/7/2017 4:59:53 PM
 Data Type: Original

Nebulizer Parameters: 17B0029-06

Analyte Back Pressure Flow
 All 155.0 kPa 0.65 L/min

Mean Data: 17B0029-06

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
ScA 357.253	1597985.8	105.8	%	0.39				0.37%
ScR 361.383	167427.7	110.7	%	2.64				2.38%
Ag 328.068†	-118.1	-0.00106	mg/L	0.000025	-0.00106	mg/L	0.000025	2.34%
Al 308.215†	2.7	0.00223	mg/L	0.015147	0.00223	mg/L	0.015147	680.66%
As 188.979†	67.4	0.03987	mg/L	0.000722	0.03987	mg/L	0.000722	1.81%
B 249.677†	1147.9	0.2307	mg/L	0.00686	0.2307	mg/L	0.00686	2.97%
Ba 233.527†	181.4	0.04903	mg/L	0.000998	0.04903	mg/L	0.000998	2.04%
Be 313.042†	-6.3	-0.00002	mg/L	0.000052	-0.00002	mg/L	0.000052	266.85%
Ca 317.933†	1796651.5	228.8	mg/L	3.23	228.8	mg/L	3.23	1.41%
Cd 228.802†	-13.1	-0.00093	mg/L	0.000107	-0.00093	mg/L	0.000107	11.58%
Co 228.616†	41.7	0.00176	mg/L	0.000280	0.00176	mg/L	0.000280	15.95%
Cr 267.716†	54.9	-0.00446	mg/L	0.001442	-0.00446	mg/L	0.001442	32.36%
Cu 324.752†	284.7	0.00118	mg/L	0.000148	0.00118	mg/L	0.000148	12.47%
Fe 273.955†	558.4	0.7069	mg/L	0.01236	0.7069	mg/L	0.01236	1.75%
K 766.490†	7613.9	6.689	mg/L	0.0892	6.689	mg/L	0.0892	1.33%
Mg 279.077†	103152.2	101.8	mg/L	1.97	101.8	mg/L	1.97	1.94%
Mn 257.610†	3164.3	0.1263	mg/L	0.00283	0.1263	mg/L	0.00283	2.24%
Mo 202.031†	137.8	0.00529	mg/L	0.000293	0.00529	mg/L	0.000293	5.55%
Na 589.592†	234965.7	33.17	mg/L	0.300	33.17	mg/L	0.300	0.90%
Na 330.237†	524.4	34.17	mg/L	0.948	34.17	mg/L	0.948	2.77%
Ni 231.604†	14.0	0.00488	mg/L	0.002440	0.00488	mg/L	0.002440	50.05%
Pb 220.353†	-8.2	-0.00144	mg/L	0.001388	-0.00144	mg/L	0.001388	96.06%
Sb 206.836†	-2.4	-0.00170	mg/L	0.000305	-0.00170	mg/L	0.000305	17.99%
Se 196.026†	31.8	0.00835	mg/L	0.007510	0.00835	mg/L	0.007510	89.94%
Si 288.158†	25643.9	18.48	mg/L	0.335	18.48	mg/L	0.335	1.81%
Sn 189.927†	-93.1	0.03824	mg/L	0.000255	0.03824	mg/L	0.000255	0.67%
Sr 421.552†	487025.6	1.049	mg/L	0.0097	1.049	mg/L	0.0097	0.92%
Ti 334.903†	209.7	0.00046	mg/L	0.001001	0.00046	mg/L	0.001001	219.00%
Tl 190.801†	-5.4	-0.02264	mg/L	0.003238	-0.02264	mg/L	0.003238	14.30%
V 292.402†	15.0	0.00020	mg/L	0.000086	0.00020	mg/L	0.000086	42.35%
Zn 206.200†	-6.2	0.00086	mg/L	0.001068	0.00086	mg/L	0.001068	124.50%

Sequence No.: 10

Sample ID: 17B0029-07

Analyst: CC

Dilution: 1.000000X

Autosampler Location: 348

Date Collected: 2/7/2017 5:04:08 PM

Data Type: Original

Nebulizer Parameters: 17B0029-07

Analyte	Back Pressure	Flow
All	156.0 kPa	0.65 L/min

Mean Data: 17B0029-07

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
ScA 357.253	1630980.2	107.9	%	1.13				1.05%
ScR 361.383	166518.3	110.1	%	1.03				0.94%
Ag 328.068†	-53.4	-0.00048	mg/L	0.000209	-0.00048	mg/L	0.000209	43.55%
Al 308.215†	16.5	0.01482	mg/L	0.008221	0.01482	mg/L	0.008221	55.47%
As 188.979†	31.4	0.01763	mg/L	0.002539	0.01763	mg/L	0.002539	14.40%
B 249.677†	296.1	0.05950	mg/L	0.001893	0.05950	mg/L	0.001893	3.18%
Ba 233.527†	400.6	0.1120	mg/L	0.00135	0.1120	mg/L	0.00135	1.21%
Be 313.042†	-12.7	-0.00004	mg/L	0.000045	-0.00004	mg/L	0.000045	114.99%
Ca 317.933†	933046.2	118.8	mg/L	0.76	118.8	mg/L	0.76	0.64%
Cd 228.802†	-9.2	-0.00058	mg/L	0.000177	-0.00058	mg/L	0.000177	30.82%
Co 228.616†	24.4	0.00102	mg/L	0.000162	0.00102	mg/L	0.000162	15.78%
Cr 267.716†	28.3	-0.00226	mg/L	0.001334	-0.00226	mg/L	0.001334	59.02%
Cu 324.752†	208.2	0.00101	mg/L	0.000137	0.00101	mg/L	0.000137	13.58%
Fe 273.955†	360.6	0.4565	mg/L	0.00790	0.4565	mg/L	0.00790	1.73%
K 766.490†	3882.1	3.411	mg/L	0.0587	3.411	mg/L	0.0587	1.72%
Mg 279.077†	52967.1	52.27	mg/L	0.806	52.27	mg/L	0.806	1.54%
Mn 257.610†	980.2	0.03894	mg/L	0.000692	0.03894	mg/L	0.000692	1.78%
Mo 202.031†	90.7	0.00414	mg/L	0.000208	0.00414	mg/L	0.000208	5.02%
Na 589.592†	162340.3	22.92	mg/L	0.065	22.92	mg/L	0.065	0.29%
Na 330.237†	353.6	23.04	mg/L	0.467	23.04	mg/L	0.467	2.02%
Ni 231.604†	8.9	0.00311	mg/L	0.000876	0.00311	mg/L	0.000876	28.21%
Pb 220.353†	-1.1	-0.00020	mg/L	0.001219	-0.00020	mg/L	0.001219	594.53%
Sb 206.836†	-6.6	-0.00354	mg/L	0.001661	-0.00354	mg/L	0.001661	46.94%
Se 196.026†	110.3	0.1116	mg/L	0.00410	0.1116	mg/L	0.00410	3.67%
Si 288.158†	25362.4	18.27	mg/L	0.248	18.27	mg/L	0.248	1.36%
Sn 189.927†	-72.2	0.01083	mg/L	0.001022	0.01083	mg/L	0.001022	9.44%
Sr 421.552†	268161.0	0.5778	mg/L	0.00210	0.5778	mg/L	0.00210	0.36%
Ti 334.903†	103.9	-0.00022	mg/L	0.000793	-0.00022	mg/L	0.000793	355.15%
Tl 190.801†	-4.3	-0.01284	mg/L	0.002344	-0.01284	mg/L	0.002344	18.26%
V 292.402†	10.7	0.00013	mg/L	0.000163	0.00013	mg/L	0.000163	124.05%
Zn 206.200†	-9.3	-0.00044	mg/L	0.000050	-0.00044	mg/L	0.000050	11.43%

Sequence No.: 11
 Sample ID: SEQ-CCV5
 Analyst: CC
 Dilution: 1.000000X

Autosampler Location: 7
 Date Collected: 2/7/2017 5:08:23 PM
 Data Type: Original

Nebulizer Parameters: SEQ-CCV5

Analyte	Back Pressure	Flow
All	155.0 kPa	0.65 L/min

Mean Data: SEQ-CCV5

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	1597422.4	105.7	%	0.39			0.37%
ScR 361.383	161338.7	106.7	%	0.78			0.73%
Ag 328.068†	114461.8	1.031	mg/L	0.0071	1.031 mg/L	0.0071	0.68%
Al 308.215†	2241.3	1.994	mg/L	0.0212	1.994 mg/L	0.0212	1.07%
As 188.979†	2259.8	1.944	mg/L	0.0041	1.944 mg/L	0.0041	0.21%
B 249.677†	4958.9	0.9955	mg/L	0.00534	0.9955 mg/L	0.00534	0.54%
Ba 233.527†	3711.1	1.047	mg/L	0.0054	1.047 mg/L	0.0054	0.52%
Be 313.042†	316106.0	0.9635	mg/L	0.00697	0.9635 mg/L	0.00697	0.72%
Ca 317.933†	15949.2	2.017	mg/L	0.0139	2.017 mg/L	0.0139	0.69%
Cd 228.802†	21249.0	0.9552	mg/L	0.00203	0.9552 mg/L	0.00203	0.21%
Co 228.616†	22506.2	0.9734	mg/L	0.00529	0.9734 mg/L	0.00529	0.54%
Cr 267.716†	4198.1	1.010	mg/L	0.0071	1.010 mg/L	0.0071	0.70%
Cu 324.752†	153987.3	0.9770	mg/L	0.00551	0.9770 mg/L	0.00551	0.56%
Fe 273.955†	1472.6	1.852	mg/L	0.0115	1.852 mg/L	0.0115	0.62%
K 766.490†	22792.9	20.02	mg/L	0.267	20.02 mg/L	0.267	1.33%
Mg 279.077†	2010.2	1.990	mg/L	0.0122	1.990 mg/L	0.0122	0.61%
Mn 257.610†	23512.5	0.9461	mg/L	0.00785	0.9461 mg/L	0.00785	0.83%
Mo 202.031†	13231.9	0.9611	mg/L	0.00486	0.9611 mg/L	0.00486	0.51%
Na 589.592†	360093.9	50.84	mg/L	0.559	50.84 mg/L	0.559	1.10%
Na 330.237†	769.6	49.96	mg/L	0.307	49.96 mg/L	0.307	0.61%
Ni 231.604†	2937.1	1.022	mg/L	0.0032	1.022 mg/L	0.0032	0.32%
Pb 220.353†	11017.7	1.939	mg/L	0.0063	1.939 mg/L	0.0063	0.33%
Sb 206.836†	4209.5	2.021	mg/L	0.0046	2.021 mg/L	0.0046	0.23%
Se 196.026†	1691.1	1.933	mg/L	0.0086	1.933 mg/L	0.0086	0.44%
Si 288.158†	2862.2	2.061	mg/L	0.0182	2.061 mg/L	0.0182	0.88%
Sn 189.927†	2488.9	0.9442	mg/L	0.00098	0.9442 mg/L	0.00098	0.10%
Sr 421.552†	464988.5	1.002	mg/L	0.0098	1.002 mg/L	0.0098	0.97%
Ti 334.903†	10906.4	1.002	mg/L	0.0063	1.002 mg/L	0.0063	0.63%
Tl 190.801†	2712.0	1.969	mg/L	0.0075	1.969 mg/L	0.0075	0.38%
V 292.402†	91283.9	0.9975	mg/L	0.00629	0.9975 mg/L	0.00629	0.63%
Zn 206.200†	2486.1	0.9950	mg/L	0.00627	0.9950 mg/L	0.00627	0.63%

Sequence No.: 12
 Sample ID: SEQ-CCB5
 Analyst: CC
 Dilution: 1.000000X

Autosampler Location: 1
 Date Collected: 2/7/2017 5:13:27 PM
 Data Type: Original

Nebulizer Parameters: SEQ-CCB5

Analyte Back Pressure Flow
 All 155.0 kPa 0.65 L/min

Mean Data: SEQ-CCB5

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc. Units	Sample Std.Dev.	RSD
ScA 357.253	1643124.0	108.8	%	0.53			0.49%
ScR 361.383	166477.7	110.1	%	0.54			0.49%
Ag 328.068†	6.0	0.00005	mg/L	0.000184	0.00005 mg/L	0.000184	341.37%
Al 308.215†	28.6	0.02579	mg/L	0.011828	0.02579 mg/L	0.011828	45.85%
As 188.979†	-2.2	-0.00187	mg/L	0.001798	-0.00187 mg/L	0.001798	96.28%
B 249.677†	-3.3	-0.00067	mg/L	0.001019	-0.00067 mg/L	0.001019	152.18%
Ba 233.527†	-0.1	-0.00002	mg/L	0.000581	-0.00002 mg/L	0.000581	>999.9%
Be 313.042†	-6.6	-0.00002	mg/L	0.000069	-0.00002 mg/L	0.000069	340.95%
Ca 317.933†	165.1	0.02101	mg/L	0.005418	0.02101 mg/L	0.005418	25.78%
Cd 228.802†	-0.2	0.00000	mg/L	0.000170	0.00000 mg/L	0.000170	>999.9%
Co 228.616†	-3.6	-0.00015	mg/L	0.000113	-0.00015 mg/L	0.000113	73.52%
Cr 267.716†	6.5	0.00156	mg/L	0.000521	0.00156 mg/L	0.000521	33.36%
Cu 324.752†	90.2	0.00057	mg/L	0.000073	0.00057 mg/L	0.000073	12.77%
Fe 273.955†	0.6	0.00077	mg/L	0.003985	0.00077 mg/L	0.003985	519.11%
K 766.490†	64.7	0.05687	mg/L	0.026988	0.05687 mg/L	0.026988	47.46%
Mg 279.077†	6.3	0.00623	mg/L	0.010727	0.00623 mg/L	0.010727	172.07%
Mn 257.610†	-4.4	-0.00018	mg/L	0.000256	-0.00018 mg/L	0.000256	143.49%
Mo 202.031†	-0.7	-0.00005	mg/L	0.000388	-0.00005 mg/L	0.000388	742.51%
Na 589.592†	361.6	0.05105	mg/L	0.000959	0.05105 mg/L	0.000959	1.88%
Na 330.237†	16.6	1.079	mg/L	0.5059	1.079 mg/L	0.5059	46.88%
Ni 231.604†	1.5	0.00051	mg/L	0.002066	0.00051 mg/L	0.002066	407.08%
Pb 220.353†	5.4	0.00097	mg/L	0.000259	0.00097 mg/L	0.000259	26.84%
Sb 206.836†	-10.5	-0.00505	mg/L	0.001778	-0.00505 mg/L	0.001778	35.20%
Se 196.026†	11.3	0.01297	mg/L	0.004242	0.01297 mg/L	0.004242	32.70%
Si 288.158†	2.9	0.00207	mg/L	0.002081	0.00207 mg/L	0.002081	100.68%
Sn 189.927†	0.6	0.00025	mg/L	0.000509	0.00025 mg/L	0.000509	206.08%
Sr 421.552†	38.0	0.00008	mg/L	0.000059	0.00008 mg/L	0.000059	72.54%
Ti 334.903†	-10.5	-0.00097	mg/L	0.000436	-0.00097 mg/L	0.000436	45.16%
Tl 190.801†	-2.1	-0.00150	mg/L	0.001614	-0.00150 mg/L	0.001614	107.50%
V 292.402†	4.8	0.00006	mg/L	0.000187	0.00006 mg/L	0.000187	318.72%
Zn 206.200†	1.0	0.00041	mg/L	0.000519	0.00041 mg/L	0.000519	127.52%

Sequence No.: 13
 Sample ID: 17B0029-08
 Analyst: CC
 Dilution: 1.000000X

Autosampler Location: 349
 Date Collected: 2/7/2017 5:17:27 PM
 Data Type: Original

Nebulizer Parameters: 17B0029-08

Analyte Back Pressure Flow
 All 155.0 kPa 0.65 L/min

Mean Data: 17B0029-08

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
ScA 357.253	1628884.1	107.8	%	1.33				1.23%
ScR 361.383	167286.4	110.6	%	0.95				0.86%
Ag 328.068†	-33.7	-0.00030	mg/L	0.000350	-0.00030	mg/L	0.000350	115.58%
Al 308.215†	7.1	0.00631	mg/L	0.006254	0.00631	mg/L	0.006254	99.18%
As 188.979†	34.4	0.02144	mg/L	0.001586	0.02144	mg/L	0.001586	7.40%
B 249.677†	1995.7	0.4010	mg/L	0.00247	0.4010	mg/L	0.00247	0.62%
Ba 233.527†	770.3	0.2164	mg/L	0.00104	0.2164	mg/L	0.00104	0.48%
Be 313.042†	-23.2	-0.00007	mg/L	0.000055	-0.00007	mg/L	0.000055	77.21%
Ca 317.933†	801491.3	102.1	mg/L	0.21	102.1	mg/L	0.21	0.20%
Cd 228.802†	-10.8	-0.00066	mg/L	0.000156	-0.00066	mg/L	0.000156	23.43%
Co 228.616†	17.3	0.00071	mg/L	0.000038	0.00071	mg/L	0.000038	5.42%
Cr 267.716†	26.8	-0.00172	mg/L	0.000114	-0.00172	mg/L	0.000114	6.63%
Cu 324.752†	182.5	0.00089	mg/L	0.000202	0.00089	mg/L	0.000202	22.73%
Fe 273.955†	561.5	0.7107	mg/L	0.00243	0.7107	mg/L	0.00243	0.34%
K 766.490†	3234.0	2.841	mg/L	0.0326	2.841	mg/L	0.0326	1.15%
Mg 279.077†	47818.4	47.19	mg/L	0.106	47.19	mg/L	0.106	0.22%
Mn 257.610†	780.7	0.03097	mg/L	0.000230	0.03097	mg/L	0.000230	0.74%
Mo 202.031†	96.9	0.00492	mg/L	0.000269	0.00492	mg/L	0.000269	5.47%
Na 589.592†	135332.2	19.11	mg/L	0.083	19.11	mg/L	0.083	0.43%
Na 330.237†	297.2	19.37	mg/L	0.453	19.37	mg/L	0.453	2.34%
Ni 231.604†	7.1	0.00246	mg/L	0.001147	0.00246	mg/L	0.001147	46.67%
Pb 220.353†	-7.3	-0.00130	mg/L	0.001400	-0.00130	mg/L	0.001400	107.75%
Sb 206.836†	-9.1	-0.00475	mg/L	0.001150	-0.00475	mg/L	0.001150	24.19%
Se 196.026†	14.5	0.00413	mg/L	0.003430	0.00413	mg/L	0.003430	83.02%
Si 288.158†	27006.3	19.46	mg/L	0.047	19.46	mg/L	0.047	0.24%
Sn 189.927†	-78.0	0.00327	mg/L	0.001585	0.00327	mg/L	0.001585	48.54%
Sr 421.552†	447131.4	0.9634	mg/L	0.00217	0.9634	mg/L	0.00217	0.23%
Ti 334.903†	100.2	0.00082	mg/L	0.000219	0.00082	mg/L	0.000219	26.81%
Tl 190.801†	-0.9	-0.00897	mg/L	0.002855	-0.00897	mg/L	0.002855	31.81%
V 292.402†	6.7	0.00008	mg/L	0.000143	0.00008	mg/L	0.000143	184.87%
Zn 206.200†	-11.0	-0.00087	mg/L	0.000603	-0.00087	mg/L	0.000603	69.00%

Sequence No.: 14
 Sample ID: 17B0029-09
 Analyst: CC
 Dilution: 1.000000X

Autosampler Location: 350
 Date Collected: 2/7/2017 5:21:43 PM
 Data Type: Original

Nebulizer Parameters: 17B0029-09

Analyte Back Pressure Flow
 All 156.0 kPa 0.65 L/min

Mean Data: 17B0029-09

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
ScA 357.253	1620084.3	107.2	%	0.30				0.28%
ScR 361.383	168824.5	111.6	%	1.42				1.28%
Ag 328.068†	-23.6	-0.00021	mg/L	0.000069	-0.00021	mg/L	0.000069	32.30%
Al 308.215†	14.6	0.01292	mg/L	0.011417	0.01292	mg/L	0.011417	88.34%
As 188.979†	24.0	0.01606	mg/L	0.001141	0.01606	mg/L	0.001141	7.10%
B 249.677†	1070.7	0.2151	mg/L	0.00454	0.2151	mg/L	0.00454	2.11%
Ba 233.527†	335.6	0.09391	mg/L	0.000804	0.09391	mg/L	0.000804	0.86%
Be 313.042†	-21.4	-0.00007	mg/L	0.000040	-0.00007	mg/L	0.000040	60.44%
Ca 317.933†	438562.8	55.83	mg/L	0.581	55.83	mg/L	0.581	1.04%
Cd 228.802†	-3.2	-0.00028	mg/L	0.000174	-0.00028	mg/L	0.000174	62.50%
Co 228.616†	31.4	0.00131	mg/L	0.000114	0.00131	mg/L	0.000114	8.68%
Cr 267.716†	18.7	-0.00146	mg/L	0.000771	-0.00146	mg/L	0.000771	52.75%
Cu 324.752†	165.2	0.00078	mg/L	0.000127	0.00078	mg/L	0.000127	16.20%
Fe 273.955†	1731.4	2.192	mg/L	0.0347	2.192	mg/L	0.0347	1.58%
K 766.490†	33243.1	29.21	mg/L	0.126	29.21	mg/L	0.126	0.43%
Mg 279.077†	35263.5	34.80	mg/L	0.335	34.80	mg/L	0.335	0.96%
Mn 257.610†	7747.8	0.3113	mg/L	0.00306	0.3113	mg/L	0.00306	0.98%
Mo 202.031†	208.5	0.01388	mg/L	0.000341	0.01388	mg/L	0.000341	2.46%
Na 589.592†	186100.4	26.27	mg/L	0.175	26.27	mg/L	0.175	0.67%
Na 330.237†	413.2	26.93	mg/L	0.781	26.93	mg/L	0.781	2.90%
Ni 231.604†	11.8	0.00411	mg/L	0.000870	0.00411	mg/L	0.000870	21.17%
Pb 220.353†	-3.0	-0.00061	mg/L	0.001777	-0.00061	mg/L	0.001777	290.77%
Sb 206.836†	-10.4	-0.00530	mg/L	0.000762	-0.00530	mg/L	0.000762	14.38%
Se 196.026†	5.2	-0.00085	mg/L	0.004248	-0.00085	mg/L	0.004248	502.34%
Si 288.158†	17054.9	12.29	mg/L	0.101	12.29	mg/L	0.101	0.82%
Sn 189.927†	-58.6	-0.00424	mg/L	0.001394	-0.00424	mg/L	0.001394	32.91%
Sr 421.552†	129012.3	0.2780	mg/L	0.00210	0.2780	mg/L	0.00210	0.76%
Ti 334.903†	55.6	0.00051	mg/L	0.000658	0.00051	mg/L	0.000658	129.06%
Tl 190.801†	-4.2	-0.00716	mg/L	0.001200	-0.00716	mg/L	0.001200	16.77%
V 292.402†	7.4	0.00007	mg/L	0.000117	0.00007	mg/L	0.000117	157.92%
Zn 206.200†	-3.8	0.00071	mg/L	0.000255	0.00071	mg/L	0.000255	36.18%

Sequence No.: 15

Sample ID: 17B0029-10

Analyst: CC

Dilution: 1.000000X

Autosampler Location: 351

Date Collected: 2/7/2017 5:25:57 PM

Data Type: Original

Nebulizer Parameters: 17B0029-10

Analyte	Back Pressure	Flow
All	155.0 kPa	0.65 L/min

Mean Data: 17B0029-10

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
ScA 357.253	1631286.4	108.0	%	0.24				0.22%
ScR 361.383	166649.0	110.2	%	1.80				1.64%
Ag 328.068†	-40.8	-0.00037	mg/L	0.000234	-0.00037	mg/L	0.000234	63.62%
Al 308.215†	19.1	0.01719	mg/L	0.002110	0.01719	mg/L	0.002110	12.28%
As 188.979†	22.2	0.01421	mg/L	0.002093	0.01421	mg/L	0.002093	14.73%
B 249.677†	72.6	0.01458	mg/L	0.000926	0.01458	mg/L	0.000926	6.35%
Ba 233.527†	268.1	0.07508	mg/L	0.001191	0.07508	mg/L	0.001191	1.59%
Be 313.042†	-6.8	-0.00002	mg/L	0.000029	-0.00002	mg/L	0.000029	137.99%
Ca 317.933†	474959.2	60.47	mg/L	0.167	60.47	mg/L	0.167	0.28%
Cd 228.802†	-2.7	-0.00023	mg/L	0.000258	-0.00023	mg/L	0.000258	111.24%
Co 228.616†	11.2	0.00046	mg/L	0.000072	0.00046	mg/L	0.000072	15.46%
Cr 267.716†	21.2	-0.00082	mg/L	0.000807	-0.00082	mg/L	0.000807	98.78%
Cu 324.752†	172.8	0.00090	mg/L	0.000069	0.00090	mg/L	0.000069	7.68%
Fe 273.955†	326.3	0.4131	mg/L	0.00884	0.4131	mg/L	0.00884	2.14%
K 766.490†	1511.4	1.328	mg/L	0.0284	1.328	mg/L	0.0284	2.14%
Mg 279.077†	34630.7	34.17	mg/L	0.505	34.17	mg/L	0.505	1.48%
Mn 257.610†	882.9	0.03520	mg/L	0.000576	0.03520	mg/L	0.000576	1.64%
Mo 202.031†	68.6	0.00366	mg/L	0.000346	0.00366	mg/L	0.000346	9.46%
Na 589.592†	83739.6	11.82	mg/L	0.026	11.82	mg/L	0.026	0.22%
Na 330.237†	177.0	11.53	mg/L	0.490	11.53	mg/L	0.490	4.25%
Ni 231.604†	5.4	0.00189	mg/L	0.000553	0.00189	mg/L	0.000553	29.21%
Pb 220.353†	-2.5	-0.00045	mg/L	0.000504	-0.00045	mg/L	0.000504	111.19%
Sb 206.836†	-5.7	-0.00309	mg/L	0.001907	-0.00309	mg/L	0.001907	61.75%
Se 196.026†	10.5	0.00456	mg/L	0.004754	0.00456	mg/L	0.004754	104.15%
Si 288.158†	22129.4	15.94	mg/L	0.218	15.94	mg/L	0.218	1.36%
Sn 189.927†	-64.1	-0.00485	mg/L	0.002498	-0.00485	mg/L	0.002498	51.56%
Sr 421.552†	107699.3	0.2321	mg/L	0.00014	0.2321	mg/L	0.00014	0.06%
Ti 334.903†	63.2	0.00084	mg/L	0.000491	0.00084	mg/L	0.000491	58.71%
Tl 190.801†	-3.9	-0.00774	mg/L	0.001621	-0.00774	mg/L	0.001621	20.94%
V 292.402†	7.4	0.00009	mg/L	0.000157	0.00009	mg/L	0.000157	171.29%
Zn 206.200†	-9.7	-0.00100	mg/L	0.000501	-0.00100	mg/L	0.000501	50.38%

Sequence No.: 16
 Sample ID: 17B0029-11
 Analyst: CC
 Dilution: 1.000000X DEL

Autosampler Location: 352
 Date Collected: 2/7/2017 5:30:11 PM
 Data Type: Original

Nebulizer Parameters: 17B0029-11

Analyte Back Pressure Flow
 All 155.0 kPa 0.65 L/min

Mean Data: 17B0029-11

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
ScA 357.253	1499374.6	99.24	%	0.599				0.60%
ScR 361.383	160163.7	105.9	%	1.30				1.22%
Ag 328.068†	-117.2	-0.00105	mg/L	0.000155	-0.00105	mg/L	0.000155	14.71%
Al 308.215†	197.1	0.1733	mg/L	0.01063	0.1733	mg/L	0.01063	6.13%
As 188.979†	109.5	0.07267	mg/L	0.001532	0.07267	mg/L	0.001532	2.11%
B 249.677†	165.4	0.03355	mg/L	0.000217	0.03355	mg/L	0.000217	0.65%
Ba 233.527†	1321.5	0.3708	mg/L	0.00147	0.3708	mg/L	0.00147	0.40%
Be 313.042†	22.0	0.00007	mg/L	0.000043	0.00007	mg/L	0.000043	65.86%
Ca 317.933†	1936972.7	246.5	mg/L	0.22	246.5	mg/L	0.22	0.09%
Cd 228.802†	-5.2	-0.00077	mg/L	0.000146	-0.00077	mg/L	0.000146	18.96%
Co 228.616†	20.6	0.00086	mg/L	0.000090	0.00086	mg/L	0.000090	10.44%
Cr 267.716†	6.1	0.00147	mg/L	0.001592	0.00147	mg/L	0.001592	108.17%
Cu 324.752†	450.9	-0.00034	mg/L	0.000033	-0.00034	mg/L	0.000033	9.54%
Fe 273.955†	4.5	0.00558	mg/L	0.001424	0.00558	mg/L	0.001424	25.53%
K 766.490†	654599.2	575.1	mg/L	1.87	575.1	mg/L	1.87	0.33%
Mg 279.077†	29.0	0.03026	mg/L	0.004756	0.03026	mg/L	0.004756	15.72%
Mn 257.610†	25.8	0.00104	mg/L	0.000219	0.00104	mg/L	0.000219	21.07%
Mo 202.031†	4049.4	0.2903	mg/L	0.00144	0.2903	mg/L	0.00144	0.50%
Na 589.592†	1561263.9	220.4	mg/L	0.67	220.4	mg/L	0.67	0.30%
Na 330.237†	3340.9	217.7	mg/L	0.70	217.7	mg/L	0.70	0.32%
Ni 231.604†	26.2	0.00911	mg/L	0.000290	0.00911	mg/L	0.000290	3.18%
Pb 220.353†	6.5	0.00121	mg/L	0.000624	0.00121	mg/L	0.000624	51.57%
Sb 206.836†	22.4	0.01037	mg/L	0.002118	0.01037	mg/L	0.002118	20.43%
Se 196.026†	3.8	-0.02584	mg/L	0.003873	-0.02584	mg/L	0.003873	14.99%
Si 288.158†	1654.8	1.192	mg/L	0.0077	1.192	mg/L	0.0077	0.64%
Sn 189.927†	-101.9	0.04067	mg/L	0.001993	0.04067	mg/L	0.001993	4.90%
Sr 421.552†	2208573.9	4.759	mg/L	0.0132	4.759	mg/L	0.0132	0.28%
Ti 334.903†	211.3	-0.00108	mg/L	0.001088	-0.00108	mg/L	0.001088	100.41%
Tl 190.801†	1.0	-0.01930	mg/L	0.003661	-0.01930	mg/L	0.003661	18.98%
V 292.402†	550.3	0.00610	mg/L	0.000231	0.00610	mg/L	0.000231	3.79%
Zn 206.200†	15.7	0.00641	mg/L	0.000771	0.00641	mg/L	0.000771	12.03%

Sequence No.: 17
 Sample ID: 17B0029-12
 Analyst: CC
 Dilution: 1.000000X

Autosampler Location: 353
 Date Collected: 2/7/2017 5:34:28 PM
 Data Type: Original

Nebulizer Parameters: 17B0029-12

Analyte Back Pressure Flow
 All 155.0 kPa 0.65 L/min

Mean Data: 17B0029-12

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
ScA 357.253	1612617.3	106.7	%	1.07				1.00%
ScR 361.383	166876.0	110.3	%	1.21				1.09%
Ag 328.068†	-39.6	-0.00036	mg/L	0.000325	-0.00036	mg/L	0.000325	91.16%
Al 308.215†	13.3	0.01169	mg/L	0.020305	0.01169	mg/L	0.020305	173.62%
As 188.979†	16.2	0.01048	mg/L	0.003593	0.01048	mg/L	0.003593	34.28%
B 249.677†	675.3	0.1357	mg/L	0.00208	0.1357	mg/L	0.00208	1.53%
Ba 233.527†	156.8	0.04389	mg/L	0.000196	0.04389	mg/L	0.000196	0.45%
Be 313.042†	-20.4	-0.00006	mg/L	0.000035	-0.00006	mg/L	0.000035	56.81%
Ca 317.933†	328834.5	41.87	mg/L	0.521	41.87	mg/L	0.521	1.24%
Cd 228.802†	0.7	-0.00005	mg/L	0.000086	-0.00005	mg/L	0.000086	178.65%
Co 228.616†	9.3	0.00039	mg/L	0.000362	0.00039	mg/L	0.000362	91.69%
Cr 267.716†	12.8	-0.00085	mg/L	0.001452	-0.00085	mg/L	0.001452	171.06%
Cu 324.752†	354.9	0.00201	mg/L	0.000093	0.00201	mg/L	0.000093	4.62%
Fe 273.955†	0.5	0.00062	mg/L	0.001377	0.00062	mg/L	0.001377	222.65%
K 766.490†	21643.4	19.01	mg/L	0.105	19.01	mg/L	0.105	0.55%
Mg 279.077†	22920.6	22.62	mg/L	0.221	22.62	mg/L	0.221	0.98%
Mn 257.610†	92.5	0.00351	mg/L	0.000119	0.00351	mg/L	0.000119	3.40%
Mo 202.031†	269.1	0.01864	mg/L	0.000130	0.01864	mg/L	0.000130	0.70%
Na 589.592†	151482.7	21.39	mg/L	0.139	21.39	mg/L	0.139	0.65%
Na 330.237†	325.1	21.18	mg/L	0.785	21.18	mg/L	0.785	3.71%
Ni 231.604†	5.6	0.00196	mg/L	0.001706	0.00196	mg/L	0.001706	86.92%
Pb 220.353†	0.1	0.00002	mg/L	0.001358	0.00002	mg/L	0.001358	>999.9%
Sb 206.836†	-1.0	-0.00073	mg/L	0.001272	-0.00073	mg/L	0.001272	175.35%
Se 196.026†	9.0	0.00515	mg/L	0.006639	0.00515	mg/L	0.006639	128.88%
Si 288.158†	9917.8	7.146	mg/L	0.0558	7.146	mg/L	0.0558	0.78%
Sn 189.927†	-49.8	-0.00539	mg/L	0.000677	-0.00539	mg/L	0.000677	12.57%
Sr 421.552†	141694.4	0.3053	mg/L	0.00184	0.3053	mg/L	0.00184	0.60%
Ti 334.903†	48.9	0.00104	mg/L	0.002116	0.00104	mg/L	0.002116	203.69%
Tl 190.801†	-3.5	-0.00596	mg/L	0.002297	-0.00596	mg/L	0.002297	38.54%
V 292.402†	102.6	0.00114	mg/L	0.000224	0.00114	mg/L	0.000224	19.73%
Zn 206.200†	-4.3	-0.00043	mg/L	0.000189	-0.00043	mg/L	0.000189	44.18%

Sequence No.: 18

Sample ID: 17B0029-13

Analyst: CC

Dilution: 1.000000X

Autosampler Location: 355

Date Collected: 2/7/2017 5:38:42 PM

Data Type: Original

Nebulizer Parameters: 17B0029-13

Analyte	Back Pressure	Flow
All	156.0 kPa	0.65 L/min

Mean Data: 17B0029-13

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Conc. Units	Sample Std.Dev.	RSD
ScA 357.253	1617407.3	107.1	%	0.82			0.76%
ScR 361.383	168005.0	111.1	%	0.54			0.48%
Ag 328.068†	-1.8	-0.00002	mg/L	0.000171	-0.00002	0.000171	>999.9%
Al 308.215†	23.0	0.02024	mg/L	0.011180	0.02024	0.011180	55.23%
As 188.979†	19.9	0.01374	mg/L	0.001425	0.01374	0.001425	10.37%
B 249.677†	665.1	0.1337	mg/L	0.00075	0.1337	0.00075	0.56%
Ba 233.527†	149.2	0.04178	mg/L	0.000121	0.04178	0.000121	0.29%
Be 313.042†	-26.6	-0.00008	mg/L	0.000052	-0.00008	0.000052	63.32%
Ca 317.933†	304473.2	38.76	mg/L	0.372	38.76	0.372	0.96%
Cd 228.802†	2.6	0.00002	mg/L	0.000245	0.00002	0.000245	>999.9%
Co 228.616†	14.0	0.00060	mg/L	0.000197	0.00060	0.000197	32.81%
Cr 267.716†	16.9	0.00057	mg/L	0.001291	0.00057	0.001291	226.35%
Cu 324.752†	519.6	0.00289	mg/L	0.000052	0.00289	0.000052	1.79%
Fe 273.955†	8.2	0.01040	mg/L	0.002900	0.01040	0.002900	27.89%
K 766.490†	58142.9	51.08	mg/L	0.167	51.08	0.167	0.33%
Mg 279.077†	20350.1	20.08	mg/L	0.135	20.08	0.135	0.67%
Mn 257.610†	2.4	-0.00009	mg/L	0.000112	-0.00009	0.000112	124.60%
Mo 202.031†	480.0	0.03404	mg/L	0.000347	0.03404	0.000347	1.02%
Na 589.592†	206649.8	29.18	mg/L	0.040	29.18	0.040	0.14%
Na 330.237†	442.2	28.81	mg/L	0.438	28.81	0.438	1.52%
Ni 231.604†	9.0	0.00315	mg/L	0.001078	0.00315	0.001078	34.28%
Pb 220.353†	-10.5	-0.00184	mg/L	0.001396	-0.00184	0.001396	75.89%
Sb 206.836†	-4.3	-0.00229	mg/L	0.001043	-0.00229	0.001043	45.64%
Se 196.026†	10.0	0.00673	mg/L	0.006014	0.00673	0.006014	89.42%
Si 288.158†	8482.4	6.112	mg/L	0.0433	6.112	0.0433	0.71%
Sn 189.927†	-46.2	-0.00502	mg/L	0.000696	-0.00502	0.000696	13.86%
Sr 421.552†	168892.5	0.3639	mg/L	0.00117	0.3639	0.00117	0.32%
Ti 334.903†	37.4	0.00022	mg/L	0.001905	0.00022	0.001905	872.47%
Tl 190.801†	-1.0	-0.00388	mg/L	0.002458	-0.00388	0.002458	63.37%
V 292.402†	164.5	0.00182	mg/L	0.000212	0.00182	0.000212	11.65%
Zn 206.200†	-3.6	-0.00035	mg/L	0.000954	-0.00035	0.000954	275.72%

Sequence No.: 19
 Sample ID: 17B0029-14
 Analyst: CC
 Dilution: 1.000000X

Autosampler Location: 356
 Date Collected: 2/7/2017 5:42:57 PM
 Data Type: Original

Nebulizer Parameters: 17B0029-14

Analyte Back Pressure Flow
 All 155.0 kPa 0.65 L/min

Mean Data: 17B0029-14

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc. Units	Sample Std.Dev.	RSD
ScA 357.253	1605104.2	106.2	%	1.19			1.12%
ScR 361.383	168915.8	111.7	%	0.58			0.52%
Ag 328.068†	27.9	0.00025	mg/L	0.000253	0.00025 mg/L	0.000253	100.46%
Al 308.215†	38.2	0.03398	mg/L	0.008263	0.03398 mg/L	0.008263	24.32%
As 188.979†	17.3	0.01157	mg/L	0.002482	0.01157 mg/L	0.002482	21.45%
B 249.677†	668.0	0.1343	mg/L	0.00156	0.1343 mg/L	0.00156	1.17%
Ba 233.527†	147.4	0.04127	mg/L	0.001436	0.04127 mg/L	0.001436	3.48%
Be 313.042†	-13.3	-0.00004	mg/L	0.000057	-0.00004 mg/L	0.000057	140.36%
Ca 317.933†	306511.1	39.02	mg/L	0.206	39.02 mg/L	0.206	0.53%
Cd 228.802†	-0.1	-0.00009	mg/L	0.000141	-0.00009 mg/L	0.000141	161.18%
Co 228.616†	14.7	0.00063	mg/L	0.000083	0.00063 mg/L	0.000083	13.17%
Cr 267.716†	16.5	0.00046	mg/L	0.000952	0.00046 mg/L	0.000952	208.28%
Cu 324.752†	479.3	0.00263	mg/L	0.000133	0.00263 mg/L	0.000133	5.04%
Fe 273.955†	6.4	0.00809	mg/L	0.002971	0.00809 mg/L	0.002971	36.70%
K 766.490†	57724.2	50.71	mg/L	0.189	50.71 mg/L	0.189	0.37%
Mg 279.077†	20448.7	20.18	mg/L	0.101	20.18 mg/L	0.101	0.50%
Mn 257.610†	3.8	-0.00003	mg/L	0.000153	-0.00003 mg/L	0.000153	437.42%
Mo 202.031†	468.4	0.03319	mg/L	0.000374	0.03319 mg/L	0.000374	1.13%
Na 589.592†	204462.4	28.87	mg/L	0.043	28.87 mg/L	0.043	0.15%
Na 330.237†	443.5	28.90	mg/L	0.095	28.90 mg/L	0.095	0.33%
Ni 231.604†	6.7	0.00233	mg/L	0.001089	0.00233 mg/L	0.001089	46.64%
Pb 220.353†	-3.2	-0.00054	mg/L	0.001515	-0.00054 mg/L	0.001515	278.81%
Sb 206.836†	5.0	0.00215	mg/L	0.001354	0.00215 mg/L	0.001354	63.04%
Se 196.026†	6.0	0.00208	mg/L	0.001466	0.00208 mg/L	0.001466	70.65%
Si 288.158†	8479.8	6.110	mg/L	0.0209	6.110 mg/L	0.0209	0.34%
Sn 189.927†	-52.0	-0.00716	mg/L	0.001301	-0.00716 mg/L	0.001301	18.18%
Sr 421.552†	168083.7	0.3622	mg/L	0.00095	0.3622 mg/L	0.00095	0.26%
Ti 334.903†	42.1	0.00063	mg/L	0.000198	0.00063 mg/L	0.000198	31.22%
Tl 190.801†	-3.9	-0.00600	mg/L	0.000889	-0.00600 mg/L	0.000889	14.80%
V 292.402†	175.4	0.00194	mg/L	0.000431	0.00194 mg/L	0.000431	22.25%
Zn 206.200†	-2.2	0.00020	mg/L	0.000172	0.00020 mg/L	0.000172	84.87%

Sequence No.: 20
 Sample ID: 17B0029-15
 Analyst: CC
 Dilution: 1.000000X

Autosampler Location: 357
 Date Collected: 2/7/2017 5:47:11 PM
 Data Type: Original

Nebulizer Parameters: 17B0029-15

Analyte Back Pressure Flow
 All 155.0 kPa 0.65 L/min

Mean Data: 17B0029-15

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
ScA 357.253	1580317.6	104.6	%	0.84				0.81%
ScR 361.383	159411.6	105.4	%	2.33				2.21%
Ag 328.068†	18.3	0.00018	mg/L	0.000110	0.00018	mg/L	0.000110	62.40%
Al 308.215†	1573.4	1.418	mg/L	0.0247	1.418	mg/L	0.0247	1.74%
As 188.979†	144.2	0.1201	mg/L	0.00083	0.1201	mg/L	0.00083	0.69%
B 249.677†	427.0	0.08597	mg/L	0.002812	0.08597	mg/L	0.002812	3.27%
Ba 233.527†	122.7	0.03448	mg/L	0.001655	0.03448	mg/L	0.001655	4.80%
Be 313.042†	5.0	0.00001	mg/L	0.000060	0.00001	mg/L	0.000060	738.01%
Ca 317.933†	109158.0	13.86	mg/L	0.076	13.86	mg/L	0.076	0.55%
Cd 228.802†	18.0	0.00011	mg/L	0.000157	0.00011	mg/L	0.000157	148.09%
Co 228.616†	16.0	0.00069	mg/L	0.000080	0.00069	mg/L	0.000080	11.59%
Cr 267.716†	5.6	0.00016	mg/L	0.001634	0.00016	mg/L	0.001634	999.15%
Cu 324.752†	4090.4	0.02482	mg/L	0.000279	0.02482	mg/L	0.000279	1.13%
Fe 273.955†	70.6	0.08873	mg/L	0.003897	0.08873	mg/L	0.003897	4.39%
K 766.490†	220572.3	193.8	mg/L	1.55	193.8	mg/L	1.55	0.80%
Mg 279.077†	6828.7	6.739	mg/L	0.0754	6.739	mg/L	0.0754	1.12%
Mn 257.610†	446.7	0.01789	mg/L	0.000629	0.01789	mg/L	0.000629	3.52%
Mo 202.031†	2399.9	0.1740	mg/L	0.00205	0.1740	mg/L	0.00205	1.18%
Na 589.592†	655340.9	92.52	mg/L	0.671	92.52	mg/L	0.671	0.72%
Na 330.237†	1388.1	90.44	mg/L	0.976	90.44	mg/L	0.976	1.08%
Ni 231.604†	8.9	0.00309	mg/L	0.001513	0.00309	mg/L	0.001513	49.03%
Pb 220.353†	3.8	0.00113	mg/L	0.001042	0.00113	mg/L	0.001042	92.46%
Sb 206.836†	16.3	0.00795	mg/L	0.001889	0.00795	mg/L	0.001889	23.76%
Se 196.026†	10.7	0.01056	mg/L	0.001414	0.01056	mg/L	0.001414	13.39%
Si 288.158†	5997.9	4.321	mg/L	0.0522	4.321	mg/L	0.0522	1.21%
Sn 189.927†	-21.1	-0.00353	mg/L	0.000544	-0.00353	mg/L	0.000544	15.41%
Sr 421.552†	74627.4	0.1608	mg/L	0.00087	0.1608	mg/L	0.00087	0.54%
Ti 334.903†	101.0	0.00801	mg/L	0.002315	0.00801	mg/L	0.002315	28.91%
Tl 190.801†	-0.5	-0.00146	mg/L	0.003536	-0.00146	mg/L	0.003536	241.68%
V 292.402†	4109.2	0.04479	mg/L	0.000284	0.04479	mg/L	0.000284	0.63%
Zn 206.200†	0.7	0.00101	mg/L	0.000934	0.00101	mg/L	0.000934	92.21%

Sequence No.: 21
 Sample ID: 17B0029-16
 Analyst: CC
 Dilution: 1.000000X

Autosampler Location: 358
 Date Collected: 2/7/2017 5:51:26 PM
 Data Type: Original

Nebulizer Parameters: 17B0029-16

Analyte Back Pressure Flow
 All 156.0 kPa 0.65 L/min

Mean Data: 17B0029-16

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
ScA 357.253	1540866.1	102.0	%	0.19				0.19%
ScR 361.383	161003.6	106.4	%	1.75				1.65%
Ag 328.068†	-11.4	-0.00008	mg/L	0.000375	-0.00008	mg/L	0.000375	445.88%
Al 308.215†	8186.8	7.391	mg/L	0.0338	7.391	mg/L	0.0338	0.46%
As 188.979†	182.9	0.1523	mg/L	0.00203	0.1523	mg/L	0.00203	1.33%
B 249.677†	341.0	0.06879	mg/L	0.001452	0.06879	mg/L	0.001452	2.11%
Ba 233.527†	68.6	0.01926	mg/L	0.000446	0.01926	mg/L	0.000446	2.32%
Be 313.042†	10.4	0.00002	mg/L	0.000140	0.00002	mg/L	0.000140	660.36%
Ca 317.933†	80127.9	10.14	mg/L	0.021	10.14	mg/L	0.021	0.21%
Cd 228.802†	23.9	0.00018	mg/L	0.000133	0.00018	mg/L	0.000133	73.00%
Co 228.616†	2.0	0.00011	mg/L	0.000093	0.00011	mg/L	0.000093	82.78%
Cr 267.716†	17.9	0.00396	mg/L	0.001235	0.00396	mg/L	0.001235	31.19%
Cu 324.752†	4454.5	0.02664	mg/L	0.000111	0.02664	mg/L	0.000111	0.42%
Fe 273.955†	30.2	0.03728	mg/L	0.001961	0.03728	mg/L	0.001961	5.26%
K 766.490†	322646.7	283.5	mg/L	0.93	283.5	mg/L	0.93	0.33%
Mg 279.077†	1971.7	1.947	mg/L	0.0071	1.947	mg/L	0.0071	0.37%
Mn 257.610†	67.3	0.00263	mg/L	0.000127	0.00263	mg/L	0.000127	4.83%
Mo 202.031†	3536.3	0.2567	mg/L	0.00042	0.2567	mg/L	0.00042	0.16%
Na 589.592†	896278.6	126.5	mg/L	0.17	126.5	mg/L	0.17	0.14%
Na 330.237†	1865.5	121.5	mg/L	0.70	121.5	mg/L	0.70	0.58%
Ni 231.604†	14.1	0.00491	mg/L	0.000362	0.00491	mg/L	0.000362	7.37%
Pb 220.353†	-8.2	0.00109	mg/L	0.000375	0.00109	mg/L	0.000375	34.34%
Sb 206.836†	32.0	0.01553	mg/L	0.003298	0.01553	mg/L	0.003298	21.23%
Se 196.026†	8.5	0.00847	mg/L	0.004352	0.00847	mg/L	0.004352	51.39%
Si 288.158†	16858.0	12.14	mg/L	0.018	12.14	mg/L	0.018	0.15%
Sn 189.927†	-20.3	-0.00441	mg/L	0.000483	-0.00441	mg/L	0.000483	10.97%
Sr 421.552†	50710.2	0.1093	mg/L	0.00030	0.1093	mg/L	0.00030	0.28%
Ti 334.903†	31.7	0.00188	mg/L	0.000735	0.00188	mg/L	0.000735	39.18%
Tl 190.801†	-1.7	-0.00202	mg/L	0.002684	-0.00202	mg/L	0.002684	132.88%
V 292.402†	6282.4	0.06849	mg/L	0.000334	0.06849	mg/L	0.000334	0.49%
Zn 206.200†	-6.6	-0.00052	mg/L	0.000338	-0.00052	mg/L	0.000338	64.49%

Sequence No.: 22
 Sample ID: 17A0376-01
 Analyst: CC
 Dilution: 10.000000X

Autosampler Location: 359
 Date Collected: 2/7/2017 5:56:04 PM
 Data Type: Original

Nebulizer Parameters: 17A0376-01

Analyte Back Pressure Flow
 All 156.0 kPa 0.65 L/min

Mean Data: 17A0376-01

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
ScA 357.253	1551015.2	102.7	%	0.47				0.46%
ScR 361.383	164369.8	108.7	%	0.56				0.52%
Ag 328.068†	449.5	0.00406	mg/L	0.000313	0.04062	mg/L	0.003130	7.71%
Al 308.215†	167100.6	151.0	mg/L	0.94	1510	mg/L	9.37	0.62%
As 188.979†	2.9	0.03339	mg/L	0.001349	0.3339	mg/L	0.01349	4.04%
B 249.677†	1053.8	0.2119	mg/L	0.00162	2.119	mg/L	0.0162	0.77%
Ba 233.527†	589.3	0.1539	mg/L	0.00171	1.539	mg/L	0.0171	1.11%
Be 313.042†	-67.7	-0.00023	mg/L	0.000022	-0.00225	mg/L	0.000221	9.82%
Ca 317.933†	152803.8	19.39	mg/L	0.080	193.9	mg/L	0.80	0.41%
Cd 228.802†	367.6	0.02396	mg/L	0.000256	0.2396	mg/L	0.00256	1.07%
Co 228.616†	2137.1	0.08890	mg/L	0.000266	0.8890	mg/L	0.00266	0.30%
Cr 267.716†	16752.7	4.034	mg/L	0.0158	40.34	mg/L	0.158	0.39%
Cu 324.752†	167576.4	1.065	mg/L	0.0055	10.65	mg/L	0.055	0.52%
Fe 273.955†	59623.3	75.48	mg/L	0.246	754.8	mg/L	2.46	0.33%
K 766.490†	368506.5	323.7	mg/L	4.23	3237	mg/L	42.31	1.31%
Mg 279.077†	3691.8	3.588	mg/L	0.0311	35.88	mg/L	0.311	0.87%
Mn 257.610†	21565.6	0.8668	mg/L	0.00269	8.668	mg/L	0.0269	0.31%
Mo 202.031†	4700.6	0.3411	mg/L	0.00211	3.411	mg/L	0.0211	0.62%
Na 589.592†	865123.2	122.1	mg/L	1.48	1221	mg/L	14.81	1.21%
Na 330.237†	1913.0	123.3	mg/L	1.13	1233	mg/L	11.29	0.92%
Ni 231.604†	20626.1	7.172	mg/L	0.0672	71.72	mg/L	0.672	0.94%
Pb 220.353†	233.8	0.09820	mg/L	0.001397	0.9820	mg/L	0.01397	1.42%
Sb 206.836†	177.3	0.02536	mg/L	0.001647	0.2536	mg/L	0.01647	6.49%
Se 196.026†	29.5	0.03131	mg/L	0.004622	0.3131	mg/L	0.04622	14.76%
Si 288.158†	1875.6	1.347	mg/L	0.0184	13.47	mg/L	0.184	1.37%
Sn 189.927†	65.2	0.03110	mg/L	0.000259	0.3110	mg/L	0.00259	0.83%
Sr 421.552†	96015.6	0.2069	mg/L	0.00114	2.069	mg/L	0.0114	0.55%
Ti 334.903†	9828.2	0.9010	mg/L	0.00483	9.010	mg/L	0.0483	0.54%
Tl 190.801†	-6.5	0.00077	mg/L	0.000844	0.00765	mg/L	0.008435	110.20%
V 292.402†	4737.7	0.06490	mg/L	0.000126	0.6490	mg/L	0.00126	0.19%
Zn 206.200†	10263.8	4.108	mg/L	0.0351	41.08	mg/L	0.351	0.85%

Sequence No.: 23
 Sample ID: SEQ-CCV6
 Analyst: CC
 Dilution: 1.000000X

Autosampler Location: 7
 Date Collected: 2/7/2017 6:03:02 PM
 Data Type: Original

Nebulizer Parameters: SEQ-CCV6

Analyte Back Pressure Flow
 All 156.0 kPa 0.65 L/min

Mean Data: SEQ-CCV6

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	1579590.7	104.5	%	1.04			1.00%
ScR 361.383	159703.5	105.6	%	0.49			0.46%
Ag 328.068†	116145.7	1.046	mg/L	0.0061	1.046 mg/L	0.0061	0.58%
Al 308.215†	2278.1	2.027	mg/L	0.0039	2.027 mg/L	0.0039	0.19%
As 188.979†	2248.3	1.935	mg/L	0.0091	1.935 mg/L	0.0091	0.47%
B 249.677†	5035.0	1.011	mg/L	0.0068	1.011 mg/L	0.0068	0.68%
Ba 233.527†	3790.0	1.070	mg/L	0.0028	1.070 mg/L	0.0028	0.26%
Be 313.042†	313166.7	0.9546	mg/L	0.00530	0.9546 mg/L	0.00530	0.55%
Ca 317.933†	15856.7	2.005	mg/L	0.0098	2.005 mg/L	0.0098	0.49%
Cd 228.802†	21245.1	0.9551	mg/L	0.01192	0.9551 mg/L	0.01192	1.25%
Co 228.616†	22759.0	0.9843	mg/L	0.00767	0.9843 mg/L	0.00767	0.78%
Cr 267.716†	4249.4	1.022	mg/L	0.0043	1.022 mg/L	0.0043	0.42%
Cu 324.752†	156102.1	0.9904	mg/L	0.00838	0.9904 mg/L	0.00838	0.85%
Fe 273.955†	1464.8	1.842	mg/L	0.0121	1.842 mg/L	0.0121	0.66%
K 766.490†	23231.2	20.41	mg/L	0.198	20.41 mg/L	0.198	0.97%
Mg 279.077†	2022.5	2.002	mg/L	0.0026	2.002 mg/L	0.0026	0.13%
Mn 257.610†	23495.3	0.9455	mg/L	0.00495	0.9455 mg/L	0.00495	0.52%
Mo 202.031†	13395.5	0.9729	mg/L	0.01230	0.9729 mg/L	0.01230	1.26%
Na 589.592†	367091.1	51.83	mg/L	0.472	51.83 mg/L	0.472	0.91%
Na 330.237†	783.4	50.86	mg/L	0.309	50.86 mg/L	0.309	0.61%
Ni 231.604†	2975.8	1.035	mg/L	0.0045	1.035 mg/L	0.0045	0.43%
Pb 220.353†	11035.7	1.943	mg/L	0.0099	1.943 mg/L	0.0099	0.51%
Sb 206.836†	4224.0	2.028	mg/L	0.0088	2.028 mg/L	0.0088	0.43%
Se 196.026†	1673.5	1.913	mg/L	0.0169	1.913 mg/L	0.0169	0.89%
Si 288.158†	2884.6	2.077	mg/L	0.0113	2.077 mg/L	0.0113	0.54%
Sn 189.927†	2474.2	0.9386	mg/L	0.00467	0.9386 mg/L	0.00467	0.50%
Sr 421.552†	469378.2	1.011	mg/L	0.0087	1.011 mg/L	0.0087	0.86%
Ti 334.903†	11026.8	1.013	mg/L	0.0046	1.013 mg/L	0.0046	0.46%
Tl 190.801†	2725.7	1.979	mg/L	0.0150	1.979 mg/L	0.0150	0.76%
V 292.402†	92392.7	1.010	mg/L	0.0075	1.010 mg/L	0.0075	0.75%
Zn 206.200†	2480.9	0.9929	mg/L	0.00391	0.9929 mg/L	0.00391	0.39%

Sequence No.: 24
 Sample ID: SEQ-CCB6
 Analyst: CC
 Dilution: 1.000000X

Autosampler Location: 1
 Date Collected: 2/7/2017 6:08:06 PM
 Data Type: Original

Nebulizer Parameters: SEQ-CCB6

Analyte Back Pressure Flow
 All 154.0 kPa 0.65 L/min

Mean Data: SEQ-CCB6

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
ScA 357.253	1564008.6	103.5	%	0.80				0.78%
ScR 361.383	157151.0	103.9	%	0.29				0.28%
Ag 328.068†	47.8	0.00043	mg/L	0.000041	0.00043	mg/L	0.000041	9.51%
Al 308.215†	14.8	0.01334	mg/L	0.012081	0.01334	mg/L	0.012081	90.58%
As 188.979†	-2.1	-0.00175	mg/L	0.001865	-0.00175	mg/L	0.001865	106.78%
B 249.677†	-2.5	-0.00050	mg/L	0.000855	-0.00050	mg/L	0.000855	170.51%
Ba 233.527†	2.7	0.00077	mg/L	0.001266	0.00077	mg/L	0.001266	165.14%
Be 313.042†	-13.4	-0.00004	mg/L	0.000083	-0.00004	mg/L	0.000083	202.92%
Ca 317.933†	11.7	0.00147	mg/L	0.000728	0.00147	mg/L	0.000728	49.69%
Cd 228.802†	5.9	0.00028	mg/L	0.000270	0.00028	mg/L	0.000270	96.12%
Co 228.616†	-5.0	-0.00022	mg/L	0.000091	-0.00022	mg/L	0.000091	42.25%
Cr 267.716†	-2.5	-0.00060	mg/L	0.002064	-0.00060	mg/L	0.002064	344.48%
Cu 324.752†	132.9	0.00084	mg/L	0.000087	0.00084	mg/L	0.000087	10.29%
Fe 273.955†	1.0	0.00125	mg/L	0.001940	0.00125	mg/L	0.001940	155.14%
K 766.490†	163.6	0.1438	mg/L	0.00342	0.1438	mg/L	0.00342	2.38%
Mg 279.077†	-4.1	-0.00403	mg/L	0.002510	-0.00403	mg/L	0.002510	62.20%
Mn 257.610†	-4.1	-0.00017	mg/L	0.000073	-0.00017	mg/L	0.000073	43.98%
Mo 202.031†	6.5	0.00047	mg/L	0.000188	0.00047	mg/L	0.000188	39.88%
Na 589.592†	391.1	0.05521	mg/L	0.001825	0.05521	mg/L	0.001825	3.30%
Na 330.237†	8.7	0.5641	mg/L	0.94506	0.5641	mg/L	0.94506	167.53%
Ni 231.604†	7.6	0.00264	mg/L	0.000844	0.00264	mg/L	0.000844	32.03%
Pb 220.353†	3.2	0.00057	mg/L	0.001068	0.00057	mg/L	0.001068	188.25%
Sb 206.836†	-4.4	-0.00210	mg/L	0.002465	-0.00210	mg/L	0.002465	117.58%
Se 196.026†	5.7	0.00656	mg/L	0.002129	0.00656	mg/L	0.002129	32.44%
Si 288.158†	0.5	0.00036	mg/L	0.003370	0.00036	mg/L	0.003370	942.85%
Sn 189.927†	-0.3	-0.00013	mg/L	0.000275	-0.00013	mg/L	0.000275	219.38%
Sr 421.552†	-10.1	-0.00002	mg/L	0.000058	-0.00002	mg/L	0.000058	265.95%
Ti 334.903†	-2.4	-0.00022	mg/L	0.001612	-0.00022	mg/L	0.001612	727.69%
Tl 190.801†	-2.0	-0.00144	mg/L	0.002677	-0.00144	mg/L	0.002677	186.49%
V 292.402†	4.9	0.00005	mg/L	0.000432	0.00005	mg/L	0.000432	839.07%
Zn 206.200†	1.6	0.00065	mg/L	0.000386	0.00065	mg/L	0.000386	59.83%

Sequence No.: 25

Sample ID: BFA0668-BLK1

Analyst: CC

Dilution: 1.000000X

Autosampler Location: 360

Date Collected: 2/7/2017 6:12:06 PM

Data Type: Original

Nebulizer Parameters: BFA0668-BLK1

Analyte Back Pressure Flow
 All 155.0 kPa 0.65 L/min

Mean Data: BFA0668-BLK1

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc. Units	Sample Std.Dev.	RSD
ScA 357.253	1575025.4	104.2	%	0.89			0.85%
ScR 361.383	161748.3	106.9	%	0.79			0.73%
Ag 328.068†	37.2	0.00033	mg/L	0.000240	0.00033 mg/L	0.000240	71.63%
Al 308.215†	7.3	0.00658	mg/L	0.012129	0.00658 mg/L	0.012129	184.23%
As 188.979†	-4.0	-0.00340	mg/L	0.001458	-0.00340 mg/L	0.001458	42.84%
B 249.677†	-9.1	-0.00183	mg/L	0.000340	-0.00183 mg/L	0.000340	18.56%
Ba 233.527†	4.8	0.00137	mg/L	0.000441	0.00137 mg/L	0.000441	32.26%
Be 313.042†	-37.8	-0.00012	mg/L	0.000027	-0.00012 mg/L	0.000027	23.14%
Ca 317.933†	5.2	0.00065	mg/L	0.000737	0.00065 mg/L	0.000737	113.80%
Cd 228.802†	3.4	0.00018	mg/L	0.000190	0.00018 mg/L	0.000190	107.35%
Co 228.616†	-7.5	-0.00032	mg/L	0.000200	-0.00032 mg/L	0.000200	61.88%
Cr 267.716†	1.7	0.00041	mg/L	0.000962	0.00041 mg/L	0.000962	235.31%
Cu 324.752†	131.0	0.00083	mg/L	0.000050	0.00083 mg/L	0.000050	6.01%
Fe 273.955†	1.3	0.00160	mg/L	0.003049	0.00160 mg/L	0.003049	190.71%
K 766.490†	112.1	0.09845	mg/L	0.021799	0.09845 mg/L	0.021799	22.14%
Mg 279.077†	-8.1	-0.00794	mg/L	0.003140	-0.00794 mg/L	0.003140	39.53%
Mn 257.610†	-8.5	-0.00034	mg/L	0.000090	-0.00034 mg/L	0.000090	26.55%
Mo 202.031†	8.8	0.00064	mg/L	0.000358	0.00064 mg/L	0.000358	55.75%
Na 589.592†	408.4	0.05765	mg/L	0.002696	0.05765 mg/L	0.002696	4.68%
Na 330.237†	17.2	1.120	mg/L	0.7526	1.120 mg/L	0.7526	67.22%
Ni 231.604†	6.2	0.00215	mg/L	0.001388	0.00215 mg/L	0.001388	64.66%
Pb 220.353†	-3.4	-0.00059	mg/L	0.000981	-0.00059 mg/L	0.000981	165.18%
Sb 206.836†	-3.2	-0.00156	mg/L	0.001412	-0.00156 mg/L	0.001412	90.69%
Se 196.026†	1.0	0.00114	mg/L	0.002314	0.00114 mg/L	0.002314	203.29%
Si 288.158†	0.0	0.00001	mg/L	0.005629	0.00001 mg/L	0.005629	>999.9%
Sn 189.927†	1.4	0.00051	mg/L	0.000921	0.00051 mg/L	0.000921	179.50%
Sr 421.552†	-50.0	-0.00011	mg/L	0.000038	-0.00011 mg/L	0.000038	35.71%
Ti 334.903†	-0.0	-0.00000	mg/L	0.002211	-0.00000 mg/L	0.002211	>999.9%
Tl 190.801†	-3.1	-0.00229	mg/L	0.002881	-0.00229 mg/L	0.002881	125.81%
V 292.402†	6.4	0.00007	mg/L	0.000298	0.00007 mg/L	0.000298	417.34%
Zn 206.200†	-0.6	-0.00024	mg/L	0.000179	-0.00024 mg/L	0.000179	75.74%

Sequence No.: 26

Sample ID: BFA0668-DUP1

Analyst: CC

Dilution: 1.000000X

Autosampler Location: 361

Date Collected: 2/7/2017 6:16:07 PM

Data Type: Original

Nebulizer Parameters: BFA0668-DUP1

Analyte Back Pressure Flow
 All 155.0 kPa 0.65 L/min

Mean Data: BFA0668-DUP1

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
ScA 357.253	1539908.5	101.9	%	0.37				0.36%
ScR 361.383	161755.8	106.9	%	0.92				0.86%
Ag 328.068†	47.2	0.00043	mg/L	0.000195	0.00043	mg/L	0.000195	45.76%
Al 308.215†	1407.7	1.271	mg/L	0.0063	1.271	mg/L	0.0063	0.50%
As 188.979†	58.1	0.05092	mg/L	0.002775	0.05092	mg/L	0.002775	5.45%
B 249.677†	940.8	0.1890	mg/L	0.00199	0.1890	mg/L	0.00199	1.05%
Ba 233.527†	15.1	0.00380	mg/L	0.000378	0.00380	mg/L	0.000378	9.94%
Be 313.042†	5.0	0.00001	mg/L	0.000059	0.00001	mg/L	0.000059	438.72%
Ca 317.933†	141651.3	18.02	mg/L	0.143	18.02	mg/L	0.143	0.79%
Cd 228.802†	276.0	0.01225	mg/L	0.000062	0.01225	mg/L	0.000062	0.50%
Co 228.616†	44.8	0.00177	mg/L	0.000240	0.00177	mg/L	0.000240	13.53%
Cr 267.716†	50.4	0.00563	mg/L	0.000519	0.00563	mg/L	0.000519	9.23%
Cu 324.752†	6529.8	0.04089	mg/L	0.000198	0.04089	mg/L	0.000198	0.48%
Fe 273.955†	1552.3	1.965	mg/L	0.0210	1.965	mg/L	0.0210	1.07%
K 766.490†	86346.1	75.86	mg/L	0.634	75.86	mg/L	0.634	0.84%
Mg 279.077†	38318.0	37.81	mg/L	0.368	37.81	mg/L	0.368	0.97%
Mn 257.610†	1827.9	0.07317	mg/L	0.000884	0.07317	mg/L	0.000884	1.21%
Mo 202.031†	110.4	0.00732	mg/L	0.000626	0.00732	mg/L	0.000626	8.56%
Na 589.592†	2098773.9	296.3	mg/L	3.31	296.3	mg/L	3.31	1.12%
Na 330.237†	4347.2	283.0	mg/L	1.58	283.0	mg/L	1.58	0.56%
Ni 231.604†	24.7	0.00858	mg/L	0.001661	0.00858	mg/L	0.001661	19.35%
Pb 220.353†	18.0	0.00347	mg/L	0.001117	0.00347	mg/L	0.001117	32.19%
Sb 206.836†	-10.4	-0.00519	mg/L	0.004071	-0.00519	mg/L	0.004071	78.38%
Se 196.026†	26.4	0.02801	mg/L	0.003154	0.02801	mg/L	0.003154	11.26%
Si 288.158†	682.1	0.4954	mg/L	0.00561	0.4954	mg/L	0.00561	1.13%
Sn 189.927†	-21.3	-0.00227	mg/L	0.000330	-0.00227	mg/L	0.000330	14.54%
Sr 421.552†	113172.9	0.2438	mg/L	0.00196	0.2438	mg/L	0.00196	0.81%
Ti 334.903†	821.9	0.07409	mg/L	0.000761	0.07409	mg/L	0.000761	1.03%
Tl 190.801†	-5.4	-0.00517	mg/L	0.002277	-0.00517	mg/L	0.002277	44.00%
V 292.402†	485.9	0.00524	mg/L	0.000126	0.00524	mg/L	0.000126	2.41%
Zn 206.200†	1332.3	0.5332	mg/L	0.00330	0.5332	mg/L	0.00330	0.62%

Sequence No.: 27

Sample ID: 17A0053-05

Analyst: CC

Dilution: 1.000000X

Autosampler Location: 362

Date Collected: 2/7/2017 6:20:24 PM

Data Type: Original

Nebulizer Parameters: 17A0053-05

Analyte	Back Pressure	Flow
All	154.0 kPa	0.65 L/min

Mean Data: 17A0053-05

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
ScA 357.253	1503403.6	99.51	%	0.222				0.22%
ScR 361.383	158487.8	104.8	%	0.73				0.69%
Ag 328.068†	46.4	0.00042	mg/L	0.000095	0.00042	mg/L	0.000095	22.63%
Al 308.215†	1172.0	1.059	mg/L	0.0067	1.059	mg/L	0.0067	0.63%
As 188.979†	54.9	0.04720	mg/L	0.000274	0.04720	mg/L	0.000274	0.58%
B 249.677†	892.7	0.1794	mg/L	0.00149	0.1794	mg/L	0.00149	0.83%
Ba 233.527†	12.7	0.00312	mg/L	0.001613	0.00312	mg/L	0.001613	51.63%
Be 313.042†	1.8	0.00000	mg/L	0.000027	0.00000	mg/L	0.000027	676.10%
Ca 317.933†	168135.9	21.40	mg/L	0.107	21.40	mg/L	0.107	0.50%
Cd 228.802†	258.5	0.01147	mg/L	0.000147	0.01147	mg/L	0.000147	1.28%
Co 228.616†	42.6	0.00171	mg/L	0.000165	0.00171	mg/L	0.000165	9.65%
Cr 267.716†	44.3	0.00466	mg/L	0.000948	0.00466	mg/L	0.000948	20.34%
Cu 324.752†	6272.8	0.03929	mg/L	0.000205	0.03929	mg/L	0.000205	0.52%
Fe 273.955†	1384.7	1.753	mg/L	0.0069	1.753	mg/L	0.0069	0.39%
K 766.490†	82274.0	72.28	mg/L	0.303	72.28	mg/L	0.303	0.42%
Mg 279.077†	35314.0	34.85	mg/L	0.109	34.85	mg/L	0.109	0.31%
Mn 257.610†	1674.1	0.06702	mg/L	0.000333	0.06702	mg/L	0.000333	0.50%
Mo 202.031†	109.9	0.00726	mg/L	0.000072	0.00726	mg/L	0.000072	0.99%
Na 589.592†	1993752.8	281.5	mg/L	2.49	281.5	mg/L	2.49	0.88%
Na 330.237†	4130.6	268.9	mg/L	0.58	268.9	mg/L	0.58	0.21%
Ni 231.604†	24.2	0.00841	mg/L	0.001675	0.00841	mg/L	0.001675	19.92%
Pb 220.353†	9.9	0.00199	mg/L	0.000598	0.00199	mg/L	0.000598	29.98%
Sb 206.836†	-2.3	-0.00133	mg/L	0.003140	-0.00133	mg/L	0.003140	236.94%
Se 196.026†	20.2	0.02047	mg/L	0.001170	0.02047	mg/L	0.001170	5.72%
Si 288.158†	609.5	0.4429	mg/L	0.00177	0.4429	mg/L	0.00177	0.40%
Sn 189.927†	-24.7	-0.00247	mg/L	0.001151	-0.00247	mg/L	0.001151	46.70%
Sr 421.552†	114545.2	0.2468	mg/L	0.00130	0.2468	mg/L	0.00130	0.53%
Ti 334.903†	630.7	0.05623	mg/L	0.000897	0.05623	mg/L	0.000897	1.59%
Tl 190.801†	-4.0	-0.00446	mg/L	0.001247	-0.00446	mg/L	0.001247	27.94%
V 292.402†	438.9	0.00474	mg/L	0.000072	0.00474	mg/L	0.000072	1.53%
Zn 206.200†	1204.8	0.4822	mg/L	0.00217	0.4822	mg/L	0.00217	0.45%

Sequence No.: 28

Sample ID: BFA0668-MS1

Analyst: CC

Dilution: 1.000000X

Autosampler Location: 363

Date Collected: 2/7/2017 6:24:39 PM

Data Type: Original

Nebulizer Parameters: BFA0668-MS1

Analyte	Back Pressure	Flow
All	156.0 kPa	0.65 L/min

Mean Data: BFA0668-MS1

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Conc. Units	Sample Std.Dev.	RSD
ScA 357.253	1508022.4	99.81	%	0.819			0.82%
ScR 361.383	160857.2	106.3	%	0.61			0.58%
Ag 328.068†	13713.5	0.1238	mg/L	0.00077	0.1238 mg/L	0.00077	0.62%
Al 308.215†	5655.8	5.095	mg/L	0.0308	5.095 mg/L	0.0308	0.60%
As 188.979†	4532.4	3.818	mg/L	0.0154	3.818 mg/L	0.0154	0.40%
B 249.677†	922.0	0.1834	mg/L	0.00100	0.1834 mg/L	0.00100	0.55%
Ba 233.527†	14670.9	4.141	mg/L	0.0228	4.141 mg/L	0.0228	0.55%
Be 313.042†	301357.0	0.9186	mg/L	0.00133	0.9186 mg/L	0.00133	0.14%
Ca 317.933†	306496.8	39.00	mg/L	0.062	39.00 mg/L	0.062	0.16%
Cd 228.802†	20906.5	0.9284	mg/L	0.00803	0.9284 mg/L	0.00803	0.87%
Co 228.616†	21538.5	0.9328	mg/L	0.00810	0.9328 mg/L	0.00810	0.87%
Cr 267.716†	4089.8	0.9740	mg/L	0.00616	0.9740 mg/L	0.00616	0.63%
Cu 324.752†	162838.3	1.033	mg/L	0.0079	1.033 mg/L	0.0079	0.76%
Fe 273.955†	4339.4	5.480	mg/L	0.0227	5.480 mg/L	0.0227	0.41%
K 766.490†	109741.3	96.41	mg/L	0.738	96.41 mg/L	0.738	0.77%
Mg 279.077†	57811.8	57.05	mg/L	0.242	57.05 mg/L	0.242	0.42%
Mn 257.610†	24285.3	0.9771	mg/L	0.00397	0.9771 mg/L	0.00397	0.41%
Mo 202.031†	123.1	0.00769	mg/L	0.000157	0.00769 mg/L	0.000157	2.04%
Na 589.592†	2255420.5	318.4	mg/L	1.25	318.4 mg/L	1.25	0.39%
Na 330.237†	4838.0	314.7	mg/L	1.20	314.7 mg/L	1.20	0.38%
Ni 231.604†	2867.1	0.9956	mg/L	0.00649	0.9956 mg/L	0.00649	0.65%
Pb 220.353†	20088.6	3.536	mg/L	0.0383	3.536 mg/L	0.0383	1.08%
Sb 206.836†	20.9	-0.00019	mg/L	0.001222	-0.00019 mg/L	0.001222	638.47%
Se 196.026†	3342.8	3.818	mg/L	0.0261	3.818 mg/L	0.0261	0.68%
Si 288.158†	787.8	0.5774	mg/L	0.00829	0.5774 mg/L	0.00829	1.44%
Sn 189.927†	-47.0	-0.00510	mg/L	0.001547	-0.00510 mg/L	0.001547	30.33%
Sr 421.552†	569900.3	1.228	mg/L	0.0050	1.228 mg/L	0.0050	0.40%
Ti 334.903†	663.1	0.05755	mg/L	0.000457	0.05755 mg/L	0.000457	0.79%
Tl 190.801†	4869.4	3.538	mg/L	0.0167	3.538 mg/L	0.0167	0.47%
V 292.402†	92553.6	1.011	mg/L	0.0057	1.011 mg/L	0.0057	0.57%
Zn 206.200†	3619.5	1.449	mg/L	0.0056	1.449 mg/L	0.0056	0.38%

Sequence No.: 29

Sample ID: BFA0668-BS1

Analyst: CC

Dilution: 1.000000X

Autosampler Location: 364

Date Collected: 2/7/2017 6:30:19 PM

Data Type: Original

Nebulizer Parameters: BFA0668-BS1

Analyte	Back Pressure	Flow
All	154.0 kPa	0.65 L/min

Mean Data: BFA0668-BS1

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
ScA 357.253	1552973.5	102.8	%	0.82				0.80%
ScR 361.383	155338.8	102.7	%	0.30				0.29%
Ag 328.068†	109455.4	0.9859	mg/L	0.00904	0.9859	mg/L	0.00904	0.92%
Al 308.215†	4174.1	3.757	mg/L	0.0192	3.757	mg/L	0.0192	0.51%
As 188.979†	4155.4	3.499	mg/L	0.0208	3.499	mg/L	0.0208	0.60%
B 249.677†	-6.4	-0.00307	mg/L	0.001316	-0.00307	mg/L	0.001316	42.86%
Ba 233.527†	14062.8	3.969	mg/L	0.0162	3.969	mg/L	0.0162	0.41%
Be 313.042†	282121.0	0.8599	mg/L	0.00309	0.8599	mg/L	0.00309	0.36%
Ca 317.933†	137918.1	17.55	mg/L	0.090	17.55	mg/L	0.090	0.52%
Cd 228.802†	19332.4	0.8587	mg/L	0.01251	0.8587	mg/L	0.01251	1.46%
Co 228.616†	20627.6	0.8935	mg/L	0.00926	0.8935	mg/L	0.00926	1.04%
Cr 267.716†	3870.9	0.9279	mg/L	0.00949	0.9279	mg/L	0.00949	1.02%
Cu 324.752†	139448.8	0.8852	mg/L	0.00220	0.8852	mg/L	0.00220	0.25%
Fe 273.955†	2678.1	3.378	mg/L	0.0405	3.378	mg/L	0.0405	1.20%
K 766.490†	22165.2	19.47	mg/L	0.056	19.47	mg/L	0.056	0.29%
Mg 279.077†	18907.2	18.66	mg/L	0.128	18.66	mg/L	0.128	0.69%
Mn 257.610†	21438.8	0.8630	mg/L	0.00770	0.8630	mg/L	0.00770	0.89%
Mo 202.031†	31.6	0.00181	mg/L	0.000178	0.00181	mg/L	0.000178	9.85%
Na 589.592†	141520.8	19.98	mg/L	0.041	19.98	mg/L	0.041	0.20%
Na 330.237†	314.0	20.13	mg/L	0.209	20.13	mg/L	0.209	1.04%
Ni 231.604†	2705.2	0.9393	mg/L	0.00469	0.9393	mg/L	0.00469	0.50%
Pb 220.353†	19736.1	3.473	mg/L	0.0462	3.473	mg/L	0.0462	1.33%
Sb 206.836†	17.8	-0.00106	mg/L	0.000850	-0.00106	mg/L	0.000850	80.52%
Se 196.026†	3023.0	3.454	mg/L	0.0123	3.454	mg/L	0.0123	0.36%
Si 288.158†	-10.4	-0.00210	mg/L	0.007043	-0.00210	mg/L	0.007043	336.10%
Sn 189.927†	-31.8	-0.00625	mg/L	0.000642	-0.00625	mg/L	0.000642	10.28%
Sr 421.552†	436065.2	0.9396	mg/L	0.00249	0.9396	mg/L	0.00249	0.26%
Ti 334.903†	21.9	0.00036	mg/L	0.000558	0.00036	mg/L	0.000558	154.96%
Tl 190.801†	4991.5	3.629	mg/L	0.0296	3.629	mg/L	0.0296	0.81%
V 292.402†	88249.2	0.9643	mg/L	0.00989	0.9643	mg/L	0.00989	1.03%
Zn 206.200†	2180.8	0.8728	mg/L	0.00818	0.8728	mg/L	0.00818	0.94%

Sequence No.: 30

Sample ID: 16K0124-01

Analyst: CC

Dilution: 1.000000X

Autosampler Location: 365

Date Collected: 2/7/2017 6:34:42 PM

Data Type: Original

Nebulizer Parameters: 16K0124-01

Analyte	Back Pressure	Flow
All	155.0 kPa	0.65 L/min

Mean Data: 16K0124-01

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Conc. Units	Sample Std.Dev.	RSD
ScA 357.253	1536646.1	101.7	%	0.39			0.38%
ScR 361.383	154689.2	102.3	%	0.59			0.57%
Ag 328.068†	286.3	0.00258	mg/L	0.001741	0.00258 mg/L	0.001741	67.52%
Al 308.215†	789.7	0.7132	mg/L	0.00838	0.7132 mg/L	0.00838	1.17%
As 188.979†	58.9	0.04931	mg/L	0.001828	0.04931 mg/L	0.001828	3.71%
B 249.677†	559.5	0.1124	mg/L	0.00229	0.1124 mg/L	0.00229	2.03%
Ba 233.527†	14.2	0.00361	mg/L	0.001177	0.00361 mg/L	0.001177	32.61%
Be 313.042†	61.4	0.00019	mg/L	0.000021	0.00019 mg/L	0.000021	11.51%
Ca 317.933†	166345.0	21.17	mg/L	0.017	21.17 mg/L	0.017	0.08%
Cd 228.802†	259.1	0.01148	mg/L	0.000132	0.01148 mg/L	0.000132	1.15%
Co 228.616†	49.3	0.00206	mg/L	0.000137	0.00206 mg/L	0.000137	6.64%
Cr 267.716†	44.9	0.00786	mg/L	0.001790	0.00786 mg/L	0.001790	22.76%
Cu 324.752†	5953.2	0.03732	mg/L	0.000376	0.03732 mg/L	0.000376	1.01%
Fe 273.955†	1086.9	1.376	mg/L	0.0172	1.376 mg/L	0.0172	1.25%
K 766.490†	89423.2	78.56	mg/L	0.388	78.56 mg/L	0.388	0.49%
Mg 279.077†	17505.1	17.27	mg/L	0.123	17.27 mg/L	0.123	0.71%
Mn 257.610†	1456.6	0.05843	mg/L	0.000431	0.05843 mg/L	0.000431	0.74%
Mo 202.031†	124.4	0.00851	mg/L	0.000134	0.00851 mg/L	0.000134	1.58%
Na 589.592†	694996.0	98.12	mg/L	0.564	98.12 mg/L	0.564	0.58%
Na 330.237†	1487.2	96.70	mg/L	0.983	96.70 mg/L	0.983	1.02%
Ni 231.604†	26.6	0.00923	mg/L	0.001076	0.00923 mg/L	0.001076	11.65%
Pb 220.353†	8.5	0.00164	mg/L	0.000670	0.00164 mg/L	0.000670	40.81%
Sb 206.836†	-7.2	-0.00370	mg/L	0.001498	-0.00370 mg/L	0.001498	40.46%
Se 196.026†	17.3	0.01718	mg/L	0.004822	0.01718 mg/L	0.004822	28.06%
Si 288.158†	514.9	0.3728	mg/L	0.01226	0.3728 mg/L	0.01226	3.29%
Sn 189.927†	-22.8	-0.00183	mg/L	0.001760	-0.00183 mg/L	0.001760	95.97%
Sr 421.552†	78458.7	0.1690	mg/L	0.00126	0.1690 mg/L	0.00126	0.75%
Ti 334.903†	333.1	0.02888	mg/L	0.000388	0.02888 mg/L	0.000388	1.34%
Tl 190.801†	-2.3	-0.00327	mg/L	0.003639	-0.00327 mg/L	0.003639	111.33%
V 292.402†	314.5	0.00341	mg/L	0.000133	0.00341 mg/L	0.000133	3.89%
Zn 206.200†	1335.6	0.5345	mg/L	0.00637	0.5345 mg/L	0.00637	1.19%

Sequence No.: 31
 Sample ID: 17B0029-11
 Analyst: CC
 Dilution: 2.000000X

DEL

Autosampler Location: 366
 Date Collected: 2/7/2017 6:41:40 PM
 Data Type: Original

Nebulizer Parameters: 17B0029-11

Analyte Back Pressure Flow
 All 154.0 kPa 0.65 L/min

Mean Data: 17B0029-11

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
ScA 357.253	1499481.3	99.25	%	0.191				0.19%
ScR 361.383	154261.1	102.0	%	0.46				0.45%
Ag 328.068†	-33.9	-0.00030	mg/L	0.000284	-0.00061	mg/L	0.000568	93.24%
Al 308.215†	95.2	0.08362	mg/L	0.009967	0.1672	mg/L	0.01993	11.92%
As 188.979†	64.5	0.04494	mg/L	0.002127	0.08988	mg/L	0.004254	4.73%
B 249.677†	68.4	0.01390	mg/L	0.000439	0.02780	mg/L	0.000879	3.16%
Ba 233.527†	665.2	0.1867	mg/L	0.00202	0.3734	mg/L	0.00404	1.08%
Be 313.042†	17.7	0.00005	mg/L	0.000012	0.00011	mg/L	0.000024	22.69%
Ca 317.933†	935885.0	119.1	mg/L	0.49	238.2	mg/L	0.99	0.41%
Cd 228.802†	-1.4	-0.00038	mg/L	0.000152	-0.00076	mg/L	0.000304	40.20%
Co 228.616†	14.7	0.00062	mg/L	0.000190	0.00124	mg/L	0.000380	30.60%
Cr 267.716†	4.9	0.00118	mg/L	0.000984	0.00237	mg/L	0.001967	83.02%
Cu 324.752†	358.8	0.00068	mg/L	0.000159	0.00135	mg/L	0.000317	23.49%
Fe 273.955†	3.7	0.00458	mg/L	0.003462	0.00916	mg/L	0.006925	75.56%
K 766.490†	326964.3	287.3	mg/L	0.81	574.5	mg/L	1.62	0.28%
Mg 279.077†	13.9	0.01456	mg/L	0.000524	0.02912	mg/L	0.001048	3.60%
Mn 257.610†	11.7	0.00047	mg/L	0.000064	0.00094	mg/L	0.000129	13.68%
Mo 202.031†	2037.3	0.1461	mg/L	0.00073	0.2922	mg/L	0.00146	0.50%
Na 589.592†	792472.3	111.9	mg/L	0.15	223.8	mg/L	0.30	0.13%
Na 330.237†	1659.4	108.1	mg/L	0.77	216.2	mg/L	1.55	0.72%
Ni 231.604†	16.2	0.00562	mg/L	0.000585	0.01125	mg/L	0.001170	10.40%
Pb 220.353†	5.4	0.00098	mg/L	0.000335	0.00195	mg/L	0.000670	34.28%
Sb 206.836†	5.6	0.00236	mg/L	0.000476	0.00472	mg/L	0.000953	20.18%
Se 196.026†	-0.3	-0.01495	mg/L	0.010545	-0.02991	mg/L	0.021089	70.51%
Si 288.158†	820.5	0.5912	mg/L	0.00358	1.182	mg/L	0.0072	0.61%
Sn 189.927†	-87.5	0.00517	mg/L	0.001674	0.01034	mg/L	0.003349	32.40%
Sr 421.552†	1106508.5	2.384	mg/L	0.0015	4.768	mg/L	0.0029	0.06%
Ti 334.903†	114.5	0.00061	mg/L	0.000658	0.00121	mg/L	0.001315	108.37%
Tl 190.801†	-0.4	-0.00994	mg/L	0.004677	-0.01989	mg/L	0.009355	47.03%
V 292.402†	293.2	0.00325	mg/L	0.000223	0.00649	mg/L	0.000445	6.86%
Zn 206.200†	6.3	0.00258	mg/L	0.000433	0.00516	mg/L	0.000866	16.80%

Sequence No.: 32
 Sample ID: 17B0029-17
 Analyst: CC
 Dilution: 1.000000X

DEL

Autosampler Location: 367
 Date Collected: 2/7/2017 6:45:55 PM
 Data Type: Original

Nebulizer Parameters: 17B0029-17

Analyte Back Pressure Flow
 All 155.0 kPa 0.65 L/min

Mean Data: 17B0029-17

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
ScA 357.253	1476809.7	97.75	%	0.255				0.26%
ScR 361.383	155069.3	102.5	%	1.18				1.15%
Ag 328.068†	8.5	0.00008	mg/L	0.000152	0.00008	mg/L	0.000152	195.12%
Al 308.215†	753.5	0.6716	mg/L	0.01211	0.6716	mg/L	0.01211	1.80%
As 188.979†	35.6	0.02228	mg/L	0.002968	0.02228	mg/L	0.002968	13.32%
B 249.677†	265.6	0.05398	mg/L	0.000860	0.05398	mg/L	0.000860	1.59%
Ba 233.527†	553.7	0.1557	mg/L	0.00173	0.1557	mg/L	0.00173	1.11%
Be 313.042†	-0.0	-0.00000	mg/L	0.000131	-0.00000	mg/L	0.000131	>999.9%
Ca 317.933†	539734.1	68.54	mg/L	0.345	68.54	mg/L	0.345	0.50%
Cd 228.802†	4.2	0.00003	mg/L	0.000059	0.00003	mg/L	0.000059	212.54%
Co 228.616†	6.6	0.00034	mg/L	0.000131	0.00034	mg/L	0.000131	39.20%
Cr 267.716†	17.9	0.00431	mg/L	0.001578	0.00431	mg/L	0.001578	36.62%
Cu 324.752†	3001.1	0.01404	mg/L	0.000164	0.01404	mg/L	0.000164	1.17%
Fe 273.955†	1.3	0.00153	mg/L	0.001435	0.00153	mg/L	0.001435	93.91%
K 766.490†	1014447.3	891.2	mg/L	2.03	891.2	mg/L	2.03	0.23%
Mg 279.077†	5.3	0.00841	mg/L	0.002441	0.00841	mg/L	0.002441	29.03%
Mn 257.610†	3.5	0.00015	mg/L	0.000154	0.00015	mg/L	0.000154	103.94%
Mo 202.031†	7991.6	0.5794	mg/L	0.00245	0.5794	mg/L	0.00245	0.42%
Na 589.592†	2188037.0	308.9	mg/L	0.88	308.9	mg/L	0.88	0.29%
Na 330.237†	4648.5	302.9	mg/L	1.23	302.9	mg/L	1.23	0.41%
Ni 231.604†	28.7	0.00997	mg/L	0.000943	0.00997	mg/L	0.000943	9.46%
Pb 220.353†	276.8	0.04890	mg/L	0.000653	0.04890	mg/L	0.000653	1.33%
Sb 206.836†	29.6	0.01389	mg/L	0.001471	0.01389	mg/L	0.001471	10.59%
Se 196.026†	3.0	-0.00496	mg/L	0.001549	-0.00496	mg/L	0.001549	31.24%
Si 288.158†	3232.0	2.329	mg/L	0.0072	2.329	mg/L	0.0072	0.31%
Sn 189.927†	-73.1	-0.00559	mg/L	0.001515	-0.00559	mg/L	0.001515	27.13%
Sr 421.552†	1709139.6	3.683	mg/L	0.0093	3.683	mg/L	0.0093	0.25%
Ti 334.903†	57.1	-0.00087	mg/L	0.000911	-0.00087	mg/L	0.000911	105.01%
Tl 190.801†	-1.7	-0.00632	mg/L	0.001395	-0.00632	mg/L	0.001395	22.08%
V 292.402†	460.6	0.00525	mg/L	0.000077	0.00525	mg/L	0.000077	1.46%
Zn 206.200†	3.5	0.00166	mg/L	0.000327	0.00166	mg/L	0.000327	19.65%

Sequence No.: 33
 Sample ID: 17B0029-18
 Analyst: CC
 Dilution: 1.000000X

DEL

Autosampler Location: 368
 Date Collected: 2/7/2017 6:50:12 PM
 Data Type: Original

Nebulizer Parameters: 17B0029-18

Analyte Back Pressure Flow
 All 154.0 kPa 0.65 L/min

Mean Data: 17B0029-18

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
ScA 357.253	1477196.4	97.77	%	0.640				0.65%
ScR 361.383	153546.2	101.5	%	0.59				0.58%
Ag 328.068†	44.9	0.00041	mg/L	0.000233	0.00041	mg/L	0.000233	57.47%
Al 308.215†	745.0	0.6639	mg/L	0.01066	0.6639	mg/L	0.01066	1.61%
As 188.979†	39.6	0.02559	mg/L	0.002780	0.02559	mg/L	0.002780	10.86%
B 249.677†	263.1	0.05349	mg/L	0.001245	0.05349	mg/L	0.001245	2.33%
Ba 233.527†	563.6	0.1585	mg/L	0.00270	0.1585	mg/L	0.00270	1.70%
Be 313.042†	-15.7	-0.00005	mg/L	0.000048	-0.00005	mg/L	0.000048	97.58%
Ca 317.933†	549335.8	69.76	mg/L	0.366	69.76	mg/L	0.366	0.52%
Cd 228.802†	6.5	0.00011	mg/L	0.000166	0.00011	mg/L	0.000166	150.03%
Co 228.616†	10.0	0.00048	mg/L	0.000230	0.00048	mg/L	0.000230	48.00%
Cr 267.716†	16.3	0.00393	mg/L	0.001152	0.00393	mg/L	0.001152	29.32%
Cu 324.752†	3069.2	0.01446	mg/L	0.000283	0.01446	mg/L	0.000283	1.95%
Fe 273.955†	3.3	0.00403	mg/L	0.000762	0.00403	mg/L	0.000762	18.91%
K 766.490†	1015832.4	892.4	mg/L	1.27	892.4	mg/L	1.27	0.14%
Mg 279.077†	5.0	0.00814	mg/L	0.009868	0.00814	mg/L	0.009868	121.29%
Mn 257.610†	6.2	0.00026	mg/L	0.000127	0.00026	mg/L	0.000127	49.74%
Mo 202.031†	8056.3	0.5841	mg/L	0.00440	0.5841	mg/L	0.00440	0.75%
Na 589.592†	2195732.4	310.0	mg/L	0.43	310.0	mg/L	0.43	0.14%
Na 330.237†	4606.8	300.1	mg/L	3.39	300.1	mg/L	3.39	1.13%
Ni 231.604†	27.4	0.00953	mg/L	0.001595	0.00953	mg/L	0.001595	16.73%
Pb 220.353†	285.9	0.05050	mg/L	0.001081	0.05050	mg/L	0.001081	2.14%
Sb 206.836†	32.3	0.01520	mg/L	0.003285	0.01520	mg/L	0.003285	21.61%
Se 196.026†	5.6	-0.00212	mg/L	0.001438	-0.00212	mg/L	0.001438	67.77%
Si 288.158†	3206.7	2.311	mg/L	0.0169	2.311	mg/L	0.0169	0.73%
Sn 189.927†	-71.9	-0.00473	mg/L	0.000169	-0.00473	mg/L	0.000169	3.57%
Sr 421.552†	1724564.9	3.716	mg/L	0.0105	3.716	mg/L	0.0105	0.28%
Ti 334.903†	73.0	0.00050	mg/L	0.000250	0.00050	mg/L	0.000250	50.19%
Tl 190.801†	-2.5	-0.00699	mg/L	0.000534	-0.00699	mg/L	0.000534	7.63%
V 292.402†	453.3	0.00517	mg/L	0.000119	0.00517	mg/L	0.000119	2.31%
Zn 206.200†	1.0	0.00064	mg/L	0.001016	0.00064	mg/L	0.001016	158.79%

Sequence No.: 34
 Sample ID: 17B0029-19
 Analyst: CC
 Dilution: 1.000000X

DEL

Autosampler Location: 370
 Date Collected: 2/7/2017 6:54:29 PM
 Data Type: Original

Nebulizer Parameters: 17B0029-19

Analyte Back Pressure Flow
 All 155.0 kPa 0.65 L/min

Mean Data: 17B0029-19

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
ScA 357.253	1575160.9	104.3	%	0.31				0.30%
ScR 361.383	162873.6	107.7	%	1.54				1.43%
Ag 328.068†	-0.7	-0.00001	mg/L	0.000249	-0.00001	mg/L	0.000249	>999.9%
Al 308.215†	19.2	0.01731	mg/L	0.007955	0.01731	mg/L	0.007955	45.95%
As 188.979†	-1.6	-0.00140	mg/L	0.001635	-0.00140	mg/L	0.001635	117.15%
B 249.677†	-19.6	-0.00393	mg/L	0.000909	-0.00393	mg/L	0.000909	23.11%
Ba 233.527†	0.7	0.00020	mg/L	0.000428	0.00020	mg/L	0.000428	217.90%
Be 313.042†	-49.1	-0.00015	mg/L	0.000058	-0.00015	mg/L	0.000058	38.71%
Ca 317.933†	158.6	0.02007	mg/L	0.007420	0.02007	mg/L	0.007420	36.98%
Cd 228.802†	8.4	0.00039	mg/L	0.000098	0.00039	mg/L	0.000098	25.06%
Co 228.616†	0.4	0.00002	mg/L	0.000155	0.00002	mg/L	0.000155	>999.9%
Cr 267.716†	-2.0	-0.00047	mg/L	0.001388	-0.00047	mg/L	0.001388	294.54%
Cu 324.752†	155.4	0.00098	mg/L	0.000082	0.00098	mg/L	0.000082	8.38%
Fe 273.955†	-1.3	-0.00159	mg/L	0.001454	-0.00159	mg/L	0.001454	91.52%
K 766.490†	714.7	0.6279	mg/L	0.12543	0.6279	mg/L	0.12543	19.98%
Mg 279.077†	-8.2	-0.00807	mg/L	0.008897	-0.00807	mg/L	0.008897	110.22%
Mn 257.610†	-6.0	-0.00024	mg/L	0.000174	-0.00024	mg/L	0.000174	72.37%
Mo 202.031†	44.5	0.00324	mg/L	0.000275	0.00324	mg/L	0.000275	8.50%
Na 589.592†	2159.2	0.3048	mg/L	0.03224	0.3048	mg/L	0.03224	10.58%
Na 330.237†	16.3	1.065	mg/L	0.1741	1.065	mg/L	0.1741	16.34%
Ni 231.604†	5.2	0.00180	mg/L	0.001665	0.00180	mg/L	0.001665	92.28%
Pb 220.353†	-1.3	-0.00022	mg/L	0.001003	-0.00022	mg/L	0.001003	461.12%
Sb 206.836†	-11.2	-0.00537	mg/L	0.001386	-0.00537	mg/L	0.001386	25.82%
Se 196.026†	7.4	0.00843	mg/L	0.008554	0.00843	mg/L	0.008554	101.49%
Si 288.158†	2.9	0.00212	mg/L	0.002645	0.00212	mg/L	0.002645	124.56%
Sn 189.927†	0.8	0.00032	mg/L	0.000716	0.00032	mg/L	0.000716	223.80%
Sr 421.552†	300.4	0.00065	mg/L	0.000357	0.00065	mg/L	0.000357	55.17%
Ti 334.903†	1.3	0.00011	mg/L	0.001032	0.00011	mg/L	0.001032	911.35%
Tl 190.801†	-2.6	-0.00189	mg/L	0.002047	-0.00189	mg/L	0.002047	108.28%
V 292.402†	5.1	0.00005	mg/L	0.000395	0.00005	mg/L	0.000395	721.66%
Zn 206.200†	-1.0	-0.00041	mg/L	0.000814	-0.00041	mg/L	0.000814	200.58%

Sequence No.: 35
 Sample ID: SEQ-CCV7
 Analyst: CC
 Dilution: 1.000000X

Autosampler Location: 7
 Date Collected: 2/7/2017 6:59:31 PM
 Data Type: Original

Nebulizer Parameters: SEQ-CCV7

Analyte Back Pressure Flow
 All 155.0 kPa 0.65 L/min

Mean Data: SEQ-CCV7

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
ScA 357.253	1554620.7	102.9	%	0.26				0.25%
ScR 361.383	157134.8	103.9	%	0.48				0.47%
Ag 328.068†	117835.7	1.061	mg/L	0.0087	1.061	mg/L	0.0087	0.82%
Al 308.215†	2274.1	2.023	mg/L	0.0090	2.023	mg/L	0.0090	0.44%
As 188.979†	2219.9	1.911	mg/L	0.0108	1.911	mg/L	0.0108	0.56%
B 249.677†	5029.3	1.010	mg/L	0.0021	1.010	mg/L	0.0021	0.21%
Ba 233.527†	3838.3	1.083	mg/L	0.0007	1.083	mg/L	0.0007	0.06%
Be 313.042†	308081.6	0.9391	mg/L	0.00698	0.9391	mg/L	0.00698	0.74%
Ca 317.933†	15732.8	1.989	mg/L	0.0043	1.989	mg/L	0.0043	0.22%
Cd 228.802†	20981.8	0.9433	mg/L	0.00416	0.9433	mg/L	0.00416	0.44%
Co 228.616†	22720.4	0.9827	mg/L	0.00333	0.9827	mg/L	0.00333	0.34%
Cr 267.716†	4224.4	1.016	mg/L	0.0025	1.016	mg/L	0.0025	0.25%
Cu 324.752†	156280.5	0.9915	mg/L	0.00613	0.9915	mg/L	0.00613	0.62%
Fe 273.955†	1428.5	1.796	mg/L	0.0090	1.796	mg/L	0.0090	0.50%
K 766.490†	23647.1	20.77	mg/L	0.127	20.77	mg/L	0.127	0.61%
Mg 279.077†	2014.2	1.994	mg/L	0.0151	1.994	mg/L	0.0151	0.76%
Mn 257.610†	23066.3	0.9282	mg/L	0.00297	0.9282	mg/L	0.00297	0.32%
Mo 202.031†	13296.7	0.9658	mg/L	0.00506	0.9658	mg/L	0.00506	0.52%
Na 589.592†	370220.2	52.27	mg/L	0.331	52.27	mg/L	0.331	0.63%
Na 330.237†	780.4	50.67	mg/L	0.212	50.67	mg/L	0.212	0.42%
Ni 231.604†	2971.8	1.034	mg/L	0.0018	1.034	mg/L	0.0018	0.18%
Pb 220.353†	10924.4	1.923	mg/L	0.0135	1.923	mg/L	0.0135	0.70%
Sb 206.836†	4190.8	2.012	mg/L	0.0081	2.012	mg/L	0.0081	0.40%
Se 196.026†	1641.1	1.876	mg/L	0.0153	1.876	mg/L	0.0153	0.81%
Si 288.158†	2881.8	2.075	mg/L	0.0091	2.075	mg/L	0.0091	0.44%
Sn 189.927†	2429.1	0.9215	mg/L	0.00376	0.9215	mg/L	0.00376	0.41%
Sr 421.552†	470549.9	1.014	mg/L	0.0049	1.014	mg/L	0.0049	0.48%
Ti 334.903†	10973.9	1.008	mg/L	0.0021	1.008	mg/L	0.0021	0.21%
Tl 190.801†	2726.1	1.979	mg/L	0.0040	1.979	mg/L	0.0040	0.20%
V 292.402†	93342.9	1.020	mg/L	0.0105	1.020	mg/L	0.0105	1.03%
Zn 206.200†	2457.8	0.9836	mg/L	0.00214	0.9836	mg/L	0.00214	0.22%

Sequence No.: 36
 Sample ID: SEQ-CCB7
 Analyst: CC
 Dilution: 1.000000X

Autosampler Location: 1
 Date Collected: 2/7/2017 7:04:35 PM
 Data Type: Original

Nebulizer Parameters: SEQ-CCB7

Analyte Back Pressure Flow
 All 154.0 kPa 0.65 L/min

Mean Data: SEQ-CCB7

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
ScA 357.253	1527785.3	101.1	%	0.14				0.14%
ScR 361.383	155521.7	102.8	%	0.23				0.22%
Ag 328.068†	28.9	0.00026	mg/L	0.000245	0.00026	mg/L	0.000245	94.05%
Al 308.215†	14.5	0.01309	mg/L	0.007848	0.01309	mg/L	0.007848	59.95%
As 188.979†	-3.0	-0.00254	mg/L	0.001872	-0.00254	mg/L	0.001872	73.79%
B 249.677†	-8.6	-0.00173	mg/L	0.000941	-0.00173	mg/L	0.000941	54.49%
Ba 233.527†	-2.1	-0.00059	mg/L	0.000433	-0.00059	mg/L	0.000433	73.18%
Be 313.042†	-22.4	-0.00007	mg/L	0.000068	-0.00007	mg/L	0.000068	99.08%
Ca 317.933†	7.8	0.00095	mg/L	0.000694	0.00095	mg/L	0.000694	73.36%
Cd 228.802†	11.4	0.00053	mg/L	0.000062	0.00053	mg/L	0.000062	11.56%
Co 228.616†	-6.4	-0.00028	mg/L	0.000252	-0.00028	mg/L	0.000252	91.19%
Cr 267.716†	-2.0	-0.00049	mg/L	0.000269	-0.00049	mg/L	0.000269	55.00%
Cu 324.752†	157.8	0.00100	mg/L	0.000053	0.00100	mg/L	0.000053	5.28%
Fe 273.955†	-1.1	-0.00135	mg/L	0.000963	-0.00135	mg/L	0.000963	71.50%
K 766.490†	296.9	0.2608	mg/L	0.02598	0.2608	mg/L	0.02598	9.96%
Mg 279.077†	-1.7	-0.00167	mg/L	0.004932	-0.00167	mg/L	0.004932	294.47%
Mn 257.610†	-5.6	-0.00023	mg/L	0.000062	-0.00023	mg/L	0.000062	27.64%
Mo 202.031†	8.3	0.00060	mg/L	0.000147	0.00060	mg/L	0.000147	24.33%
Na 589.592†	686.6	0.09694	mg/L	0.004937	0.09694	mg/L	0.004937	5.09%
Na 330.237†	24.0	1.563	mg/L	1.0710	1.563	mg/L	1.0710	68.50%
Ni 231.604†	2.8	0.00096	mg/L	0.000066	0.00096	mg/L	0.000066	6.86%
Pb 220.353†	0.3	0.00006	mg/L	0.000358	0.00006	mg/L	0.000358	597.57%
Sb 206.836†	-4.4	-0.00211	mg/L	0.001353	-0.00211	mg/L	0.001353	64.09%
Se 196.026†	0.8	0.00091	mg/L	0.004197	0.00091	mg/L	0.004197	460.85%
Si 288.158†	-4.4	-0.00316	mg/L	0.003297	-0.00316	mg/L	0.003297	104.41%
Sn 189.927†	-0.4	-0.00016	mg/L	0.000791	-0.00016	mg/L	0.000791	501.81%
Sr 421.552†	-29.8	-0.00006	mg/L	0.000032	-0.00006	mg/L	0.000032	50.11%
Ti 334.903†	-3.2	-0.00029	mg/L	0.000522	-0.00029	mg/L	0.000522	178.41%
Tl 190.801†	-5.0	-0.00362	mg/L	0.003623	-0.00362	mg/L	0.003623	100.10%
V 292.402†	-1.5	-0.00002	mg/L	0.000187	-0.00002	mg/L	0.000187	>999.9%
Zn 206.200†	-0.5	-0.00018	mg/L	0.000423	-0.00018	mg/L	0.000423	232.09%

Sequence No.: 37
 Sample ID: 17A0053-01
 Analyst: CC
 Dilution: 1.000000X

Autosampler Location: 371
 Date Collected: 2/7/2017 7:08:35 PM
 Data Type: Original

Nebulizer Parameters: 17A0053-01

Analyte Back Pressure Flow
 All 155.0 kPa 0.65 L/min

Mean Data: 17A0053-01

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
ScA 357.253	1530288.0	101.3	%	0.51				0.50%
ScR 361.383	162439.6	107.4	%	0.62				0.57%
Ag 328.068†	27.3	0.00025	mg/L	0.000153	0.00025	mg/L	0.000153	61.84%
Al 308.215†	1173.7	1.060	mg/L	0.0069	1.060	mg/L	0.0069	0.65%
As 188.979†	51.3	0.04430	mg/L	0.001098	0.04430	mg/L	0.001098	2.48%
B 249.677†	905.9	0.1820	mg/L	0.00129	0.1820	mg/L	0.00129	0.71%
Ba 233.527†	19.2	0.00494	mg/L	0.000521	0.00494	mg/L	0.000521	10.56%
Be 313.042†	-0.7	-0.00000	mg/L	0.000031	-0.00000	mg/L	0.000031	889.36%
Ca 317.933†	179971.7	22.90	mg/L	0.080	22.90	mg/L	0.080	0.35%
Cd 228.802†	269.5	0.01199	mg/L	0.000124	0.01199	mg/L	0.000124	1.04%
Co 228.616†	34.4	0.00135	mg/L	0.000091	0.00135	mg/L	0.000091	6.79%
Cr 267.716†	46.7	0.00516	mg/L	0.000681	0.00516	mg/L	0.000681	13.20%
Cu 324.752†	5819.7	0.03637	mg/L	0.000517	0.03637	mg/L	0.000517	1.42%
Fe 273.955†	1371.0	1.735	mg/L	0.0208	1.735	mg/L	0.0208	1.20%
K 766.490†	90600.8	79.60	mg/L	0.503	79.60	mg/L	0.503	0.63%
Mg 279.077†	35854.1	35.38	mg/L	0.124	35.38	mg/L	0.124	0.35%
Mn 257.610†	1820.8	0.07291	mg/L	0.000724	0.07291	mg/L	0.000724	0.99%
Mo 202.031†	108.8	0.00715	mg/L	0.000089	0.00715	mg/L	0.000089	1.24%
Na 589.592†	1945533.8	274.7	mg/L	2.61	274.7	mg/L	2.61	0.95%
Na 330.237†	4039.7	263.0	mg/L	0.82	263.0	mg/L	0.82	0.31%
Ni 231.604†	23.6	0.00819	mg/L	0.001619	0.00819	mg/L	0.001619	19.77%
Pb 220.353†	7.8	0.00162	mg/L	0.001427	0.00162	mg/L	0.001427	87.88%
Sb 206.836†	-4.4	-0.00233	mg/L	0.002527	-0.00233	mg/L	0.002527	108.33%
Se 196.026†	20.2	0.02033	mg/L	0.006807	0.02033	mg/L	0.006807	33.47%
Si 288.158†	614.9	0.4468	mg/L	0.00432	0.4468	mg/L	0.00432	0.97%
Sn 189.927†	-23.9	-0.00169	mg/L	0.000674	-0.00169	mg/L	0.000674	39.94%
Sr 421.552†	114055.5	0.2457	mg/L	0.00088	0.2457	mg/L	0.00088	0.36%
Ti 334.903†	690.1	0.06157	mg/L	0.000650	0.06157	mg/L	0.000650	1.06%
Tl 190.801†	-4.7	-0.00510	mg/L	0.002414	-0.00510	mg/L	0.002414	47.36%
V 292.402†	394.0	0.00425	mg/L	0.000232	0.00425	mg/L	0.000232	5.46%
Zn 206.200†	1129.7	0.4522	mg/L	0.00321	0.4522	mg/L	0.00321	0.71%

Sequence No.: 38

Sample ID: 17A0053-04

Analyst: CC

Dilution: 1.000000X

Autosampler Location: 372

Date Collected: 2/7/2017 7:12:52 PM

Data Type: Original

Nebulizer Parameters: 17A0053-04

Analyte	Back Pressure	Flow
All	155.0 kPa	0.65 L/min

Mean Data: 17A0053-04

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
ScA 357.253	1543195.4	102.1	%	0.70				0.69%
ScR 361.383	161951.5	107.1	%	1.13				1.06%
Ag 328.068†	10.0	0.00009	mg/L	0.000492	0.00009	mg/L	0.000492	537.30%
Al 308.215†	1193.9	1.078	mg/L	0.0080	1.078	mg/L	0.0080	0.74%
As 188.979†	52.4	0.04564	mg/L	0.002639	0.04564	mg/L	0.002639	5.78%
B 249.677†	899.9	0.1808	mg/L	0.00105	0.1808	mg/L	0.00105	0.58%
Ba 233.527†	15.5	0.00397	mg/L	0.000206	0.00397	mg/L	0.000206	5.20%
Be 313.042†	-19.2	-0.00006	mg/L	0.000003	-0.00006	mg/L	0.000003	4.27%
Ca 317.933†	130121.3	16.55	mg/L	0.072	16.55	mg/L	0.072	0.43%
Cd 228.802†	281.0	0.01250	mg/L	0.000126	0.01250	mg/L	0.000126	1.01%
Co 228.616†	41.2	0.00165	mg/L	0.000121	0.00165	mg/L	0.000121	7.35%
Cr 267.716†	52.2	0.00652	mg/L	0.001133	0.00652	mg/L	0.001133	17.38%
Cu 324.752†	7254.3	0.04548	mg/L	0.000488	0.04548	mg/L	0.000488	1.07%
Fe 273.955†	1359.8	1.721	mg/L	0.0129	1.721	mg/L	0.0129	0.75%
K 766.490†	88151.1	77.44	mg/L	0.104	77.44	mg/L	0.104	0.13%
Mg 279.077†	35595.5	35.12	mg/L	0.072	35.12	mg/L	0.072	0.21%
Mn 257.610†	1627.9	0.06515	mg/L	0.000572	0.06515	mg/L	0.000572	0.88%
Mo 202.031†	102.6	0.00680	mg/L	0.000343	0.00680	mg/L	0.000343	5.04%
Na 589.592†	1946316.7	274.8	mg/L	0.90	274.8	mg/L	0.90	0.33%
Na 330.237†	4043.7	263.3	mg/L	0.78	263.3	mg/L	0.78	0.29%
Ni 231.604†	26.5	0.00922	mg/L	0.001565	0.00922	mg/L	0.001565	16.98%
Pb 220.353†	15.9	0.00305	mg/L	0.000434	0.00305	mg/L	0.000434	14.21%
Sb 206.836†	-8.7	-0.00440	mg/L	0.000916	-0.00440	mg/L	0.000916	20.82%
Se 196.026†	26.5	0.02827	mg/L	0.005450	0.02827	mg/L	0.005450	19.28%
Si 288.158†	619.2	0.4499	mg/L	0.00396	0.4499	mg/L	0.00396	0.88%
Sn 189.927†	-18.9	-0.00184	mg/L	0.001190	-0.00184	mg/L	0.001190	64.64%
Sr 421.552†	105122.9	0.2265	mg/L	0.00053	0.2265	mg/L	0.00053	0.23%
Ti 334.903†	665.8	0.05986	mg/L	0.000657	0.05986	mg/L	0.000657	1.10%
Tl 190.801†	-3.7	-0.00387	mg/L	0.000475	-0.00387	mg/L	0.000475	12.28%
V 292.402†	419.0	0.00453	mg/L	0.000082	0.00453	mg/L	0.000082	1.81%
Zn 206.200†	1300.9	0.5206	mg/L	0.00318	0.5206	mg/L	0.00318	0.61%

Sequence No.: 39
 Sample ID: 17A0053-06
 Analyst: CC
 Dilution: 1.000000X

Autosampler Location: 373
 Date Collected: 2/7/2017 7:17:07 PM
 Data Type: Original

Nebulizer Parameters: 17A0053-06

Analyte Back Pressure Flow
 All 153.0 kPa 0.65 L/min

Mean Data: 17A0053-06

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
ScA 357.253	1515182.8	100.3	%	0.50				0.50%
ScR 361.383	158636.3	104.9	%	0.39				0.37%
Ag 328.068†	-3.7	-0.00003	mg/L	0.000074	-0.00003	mg/L	0.000074	236.84%
Al 308.215†	1616.9	1.460	mg/L	0.0113	1.460	mg/L	0.0113	0.78%
As 188.979†	58.8	0.05182	mg/L	0.000350	0.05182	mg/L	0.000350	0.68%
B 249.677†	923.6	0.1856	mg/L	0.00042	0.1856	mg/L	0.00042	0.23%
Ba 233.527†	18.3	0.00465	mg/L	0.000293	0.00465	mg/L	0.000293	6.29%
Be 313.042†	-9.1	-0.00003	mg/L	0.000017	-0.00003	mg/L	0.000017	57.40%
Ca 317.933†	156823.5	19.95	mg/L	0.077	19.95	mg/L	0.077	0.39%
Cd 228.802†	261.8	0.01160	mg/L	0.000171	0.01160	mg/L	0.000171	1.47%
Co 228.616†	56.8	0.00227	mg/L	0.000204	0.00227	mg/L	0.000204	9.00%
Cr 267.716†	58.5	0.00811	mg/L	0.000731	0.00811	mg/L	0.000731	9.01%
Cu 324.752†	6759.3	0.04237	mg/L	0.000603	0.04237	mg/L	0.000603	1.42%
Fe 273.955†	1777.2	2.250	mg/L	0.0102	2.250	mg/L	0.0102	0.45%
K 766.490†	86709.9	76.18	mg/L	0.135	76.18	mg/L	0.135	0.18%
Mg 279.077†	35286.2	34.82	mg/L	0.045	34.82	mg/L	0.045	0.13%
Mn 257.610†	1815.8	0.07272	mg/L	0.000135	0.07272	mg/L	0.000135	0.19%
Mo 202.031†	120.4	0.00804	mg/L	0.000168	0.00804	mg/L	0.000168	2.09%
Na 589.592†	1871438.0	264.2	mg/L	2.34	264.2	mg/L	2.34	0.89%
Na 330.237†	3858.0	251.1	mg/L	0.60	251.1	mg/L	0.60	0.24%
Ni 231.604†	31.9	0.01111	mg/L	0.000623	0.01111	mg/L	0.000623	5.60%
Pb 220.353†	14.8	0.00297	mg/L	0.002064	0.00297	mg/L	0.002064	69.47%
Sb 206.836†	-2.6	-0.00149	mg/L	0.001381	-0.00149	mg/L	0.001381	92.62%
Se 196.026†	22.8	0.02367	mg/L	0.000956	0.02367	mg/L	0.000956	4.04%
Si 288.158†	761.5	0.5522	mg/L	0.00148	0.5522	mg/L	0.00148	0.27%
Sn 189.927†	-21.7	-0.00178	mg/L	0.000829	-0.00178	mg/L	0.000829	46.48%
Sr 421.552†	113207.8	0.2439	mg/L	0.00026	0.2439	mg/L	0.00026	0.11%
Ti 334.903†	933.6	0.08420	mg/L	0.000658	0.08420	mg/L	0.000658	0.78%
Tl 190.801†	-8.3	-0.00744	mg/L	0.003414	-0.00744	mg/L	0.003414	45.89%
V 292.402†	516.8	0.00557	mg/L	0.000062	0.00557	mg/L	0.000062	1.11%
Zn 206.200†	1536.3	0.6149	mg/L	0.00274	0.6149	mg/L	0.00274	0.45%

Sequence No.: 40
 Sample ID: 17A0053-07
 Analyst: CC
 Dilution: 1.000000X

Autosampler Location: 374
 Date Collected: 2/7/2017 7:21:22 PM
 Data Type: Original

Nebulizer Parameters: 17A0053-07

Analyte Back Pressure Flow
 All 155.0 kPa 0.65 L/min

Mean Data: 17A0053-07

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
ScA 357.253	1526500.7	101.0	%	0.45				0.45%
ScR 361.383	161646.2	106.9	%	0.94				0.88%
Ag 328.068†	0.8	0.00001	mg/L	0.000210	0.00001	mg/L	0.000210	>999.9%
Al 308.215†	1839.0	1.661	mg/L	0.0049	1.661	mg/L	0.0049	0.30%
As 188.979†	61.8	0.05443	mg/L	0.001901	0.05443	mg/L	0.001901	3.49%
B 249.677†	940.8	0.1890	mg/L	0.00124	0.1890	mg/L	0.00124	0.66%
Ba 233.527†	22.2	0.00565	mg/L	0.000608	0.00565	mg/L	0.000608	10.76%
Be 313.042†	-20.8	-0.00007	mg/L	0.000003	-0.00007	mg/L	0.000003	4.37%
Ca 317.933†	198677.8	25.28	mg/L	0.119	25.28	mg/L	0.119	0.47%
Cd 228.802†	275.5	0.01220	mg/L	0.000031	0.01220	mg/L	0.000031	0.25%
Co 228.616†	60.3	0.00240	mg/L	0.000130	0.00240	mg/L	0.000130	5.42%
Cr 267.716†	49.4	0.00544	mg/L	0.000942	0.00544	mg/L	0.000942	17.33%
Cu 324.752†	6766.1	0.04240	mg/L	0.000426	0.04240	mg/L	0.000426	1.00%
Fe 273.955†	1987.1	2.515	mg/L	0.0230	2.515	mg/L	0.0230	0.92%
K 766.490†	88343.2	77.61	mg/L	0.236	77.61	mg/L	0.236	0.30%
Mg 279.077†	38174.7	37.67	mg/L	0.098	37.67	mg/L	0.098	0.26%
Mn 257.610†	2152.4	0.08623	mg/L	0.000452	0.08623	mg/L	0.000452	0.52%
Mo 202.031†	120.7	0.00795	mg/L	0.000404	0.00795	mg/L	0.000404	5.08%
Na 589.592†	2030589.6	286.7	mg/L	1.64	286.7	mg/L	1.64	0.57%
Na 330.237†	4217.5	274.6	mg/L	1.46	274.6	mg/L	1.46	0.53%
Ni 231.604†	27.9	0.00969	mg/L	0.001109	0.00969	mg/L	0.001109	11.44%
Pb 220.353†	11.0	0.00235	mg/L	0.000304	0.00235	mg/L	0.000304	12.97%
Sb 206.836†	-2.3	-0.00133	mg/L	0.001894	-0.00133	mg/L	0.001894	142.68%
Se 196.026†	22.0	0.02201	mg/L	0.004800	0.02201	mg/L	0.004800	21.81%
Si 288.158†	721.1	0.5234	mg/L	0.00553	0.5234	mg/L	0.00553	1.06%
Sn 189.927†	-31.8	-0.00392	mg/L	0.001858	-0.00392	mg/L	0.001858	47.42%
Sr 421.552†	128879.3	0.2777	mg/L	0.00076	0.2777	mg/L	0.00076	0.28%
Ti 334.903†	1050.7	0.09453	mg/L	0.001188	0.09453	mg/L	0.001188	1.26%
Tl 190.801†	-9.7	-0.00883	mg/L	0.000670	-0.00883	mg/L	0.000670	7.58%
V 292.402†	593.4	0.00638	mg/L	0.000014	0.00638	mg/L	0.000014	0.22%
Zn 206.200†	1567.8	0.6275	mg/L	0.00336	0.6275	mg/L	0.00336	0.54%

Sequence No.: 41
 Sample ID: 17A0053-08
 Analyst: CC
 Dilution: 1.000000X

Autosampler Location: 375
 Date Collected: 2/7/2017 7:25:37 PM
 Data Type: Original

Nebulizer Parameters: 17A0053-08

Analyte Back Pressure Flow
 All 154.0 kPa 0.65 L/min

Mean Data: 17A0053-08

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
ScA 357.253	1553031.2	102.8	%	0.58				0.57%
ScR 361.383	161390.5	106.7	%	0.93				0.87%
Ag 328.068†	15.3	0.00014	mg/L	0.000369	0.00014	mg/L	0.000369	265.04%
Al 308.215†	1477.0	1.334	mg/L	0.0115	1.334	mg/L	0.0115	0.87%
As 188.979†	61.9	0.05391	mg/L	0.001368	0.05391	mg/L	0.001368	2.54%
B 249.677†	994.8	0.1999	mg/L	0.00136	0.1999	mg/L	0.00136	0.68%
Ba 233.527†	19.5	0.00498	mg/L	0.000093	0.00498	mg/L	0.000093	1.87%
Be 313.042†	-19.8	-0.00006	mg/L	0.000012	-0.00006	mg/L	0.000012	19.42%
Ca 317.933†	178230.7	22.68	mg/L	0.091	22.68	mg/L	0.091	0.40%
Cd 228.802†	263.1	0.01164	mg/L	0.000146	0.01164	mg/L	0.000146	1.26%
Co 228.616†	48.0	0.00191	mg/L	0.000080	0.00191	mg/L	0.000080	4.18%
Cr 267.716†	67.6	0.00993	mg/L	0.000554	0.00993	mg/L	0.000554	5.58%
Cu 324.752†	7019.3	0.04399	mg/L	0.000192	0.04399	mg/L	0.000192	0.44%
Fe 273.955†	1683.8	2.131	mg/L	0.0004	2.131	mg/L	0.0004	0.02%
K 766.490†	89750.2	78.85	mg/L	0.450	78.85	mg/L	0.450	0.57%
Mg 279.077†	37379.4	36.88	mg/L	0.263	36.88	mg/L	0.263	0.71%
Mn 257.610†	1754.2	0.07022	mg/L	0.000148	0.07022	mg/L	0.000148	0.21%
Mo 202.031†	127.9	0.00852	mg/L	0.000058	0.00852	mg/L	0.000058	0.68%
Na 589.592†	1969504.4	278.1	mg/L	1.85	278.1	mg/L	1.85	0.67%
Na 330.237†	4073.6	265.2	mg/L	1.46	265.2	mg/L	1.46	0.55%
Ni 231.604†	31.4	0.01093	mg/L	0.001552	0.01093	mg/L	0.001552	14.20%
Pb 220.353†	16.2	0.00318	mg/L	0.000109	0.00318	mg/L	0.000109	3.44%
Sb 206.836†	-5.6	-0.00299	mg/L	0.003194	-0.00299	mg/L	0.003194	106.92%
Se 196.026†	17.2	0.01695	mg/L	0.002171	0.01695	mg/L	0.002171	12.81%
Si 288.158†	608.2	0.4421	mg/L	0.00586	0.4421	mg/L	0.00586	1.33%
Sn 189.927†	-28.1	-0.00336	mg/L	0.001736	-0.00336	mg/L	0.001736	51.72%
Sr 421.552†	119018.8	0.2564	mg/L	0.00168	0.2564	mg/L	0.00168	0.65%
Ti 334.903†	847.8	0.07609	mg/L	0.000564	0.07609	mg/L	0.000564	0.74%
Tl 190.801†	-4.7	-0.00506	mg/L	0.002415	-0.00506	mg/L	0.002415	47.68%
V 292.402†	510.0	0.00551	mg/L	0.000006	0.00551	mg/L	0.000006	0.10%
Zn 206.200†	1430.0	0.5723	mg/L	0.00273	0.5723	mg/L	0.00273	0.48%

Sequence No.: 42

Sample ID: 17A0053-09

Analyst: CC

Dilution: 1.000000X

Autosampler Location: 376

Date Collected: 2/7/2017 7:29:52 PM

Data Type: Original

Nebulizer Parameters: 17A0053-09

Analyte	Back Pressure	Flow
All	154.0 kPa	0.65 L/min

Mean Data: 17A0053-09

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
ScA 357.253	1511459.9	100.0	%	0.95				0.95%
ScR 361.383	159948.4	105.7	%	1.35				1.28%
Ag 328.068†	25.4	0.00023	mg/L	0.000160	0.00023	mg/L	0.000160	69.63%
Al 308.215†	1308.8	1.182	mg/L	0.0138	1.182	mg/L	0.0138	1.17%
As 188.979†	62.5	0.05375	mg/L	0.002974	0.05375	mg/L	0.002974	5.53%
B 249.677†	887.2	0.1783	mg/L	0.00249	0.1783	mg/L	0.00249	1.40%
Ba 233.527†	17.9	0.00457	mg/L	0.001041	0.00457	mg/L	0.001041	22.79%
Be 313.042†	-17.2	-0.00005	mg/L	0.000039	-0.00005	mg/L	0.000039	71.54%
Ca 317.933†	163752.2	20.84	mg/L	0.037	20.84	mg/L	0.037	0.18%
Cd 228.802†	261.2	0.01155	mg/L	0.000190	0.01155	mg/L	0.000190	1.64%
Co 228.616†	45.1	0.00181	mg/L	0.000121	0.00181	mg/L	0.000121	6.69%
Cr 267.716†	63.8	0.00948	mg/L	0.000492	0.00948	mg/L	0.000492	5.19%
Cu 324.752†	8015.4	0.05032	mg/L	0.000381	0.05032	mg/L	0.000381	0.76%
Fe 273.955†	1600.4	2.026	mg/L	0.0180	2.026	mg/L	0.0180	0.89%
K 766.490†	92275.1	81.07	mg/L	0.504	81.07	mg/L	0.504	0.62%
Mg 279.077†	34742.4	34.28	mg/L	0.187	34.28	mg/L	0.187	0.55%
Mn 257.610†	1839.3	0.07367	mg/L	0.000430	0.07367	mg/L	0.000430	0.58%
Mo 202.031†	124.9	0.00836	mg/L	0.000259	0.00836	mg/L	0.000259	3.10%
Na 589.592†	1829540.6	258.3	mg/L	3.64	258.3	mg/L	3.64	1.41%
Na 330.237†	3738.4	243.4	mg/L	1.38	243.4	mg/L	1.38	0.57%
Ni 231.604†	25.1	0.00871	mg/L	0.001189	0.00871	mg/L	0.001189	13.66%
Pb 220.353†	19.5	0.00370	mg/L	0.001196	0.00370	mg/L	0.001196	32.29%
Sb 206.836†	-12.2	-0.00611	mg/L	0.000718	-0.00611	mg/L	0.000718	11.75%
Se 196.026†	18.7	0.01887	mg/L	0.003847	0.01887	mg/L	0.003847	20.39%
Si 288.158†	722.4	0.5241	mg/L	0.01227	0.5241	mg/L	0.01227	2.34%
Sn 189.927†	-21.2	-0.00132	mg/L	0.001245	-0.00132	mg/L	0.001245	94.06%
Sr 421.552†	113259.3	0.2440	mg/L	0.00142	0.2440	mg/L	0.00142	0.58%
Ti 334.903†	668.3	0.05974	mg/L	0.000105	0.05974	mg/L	0.000105	0.18%
Tl 190.801†	-4.8	-0.00496	mg/L	0.000797	-0.00496	mg/L	0.000797	16.08%
V 292.402†	456.7	0.00494	mg/L	0.000164	0.00494	mg/L	0.000164	3.31%
Zn 206.200†	1469.6	0.5882	mg/L	0.00477	0.5882	mg/L	0.00477	0.81%

Sequence No.: 43
 Sample ID: 17A0053-11
 Analyst: CC
 Dilution: 1.000000X

Autosampler Location: 377
 Date Collected: 2/7/2017 7:34:08 PM
 Data Type: Original

Nebulizer Parameters: 17A0053-11

Analyte Back Pressure Flow
 All 154.0 kPa 0.65 L/min

Mean Data: 17A0053-11

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
ScA 357.253	1552669.9	102.8	%	0.40				0.39%
ScR 361.383	161814.2	107.0	%	1.21				1.13%
Ag 328.068†	28.2	0.00025	mg/L	0.000276	0.00025	mg/L	0.000276	108.37%
Al 308.215†	1056.2	0.9539	mg/L	0.01333	0.9539	mg/L	0.01333	1.40%
As 188.979†	56.4	0.04844	mg/L	0.002553	0.04844	mg/L	0.002553	5.27%
B 249.677†	896.9	0.1802	mg/L	0.00324	0.1802	mg/L	0.00324	1.80%
Ba 233.527†	14.5	0.00367	mg/L	0.001023	0.00367	mg/L	0.001023	27.89%
Be 313.042†	-19.4	-0.00006	mg/L	0.000060	-0.00006	mg/L	0.000060	99.87%
Ca 317.933†	149414.7	19.01	mg/L	0.207	19.01	mg/L	0.207	1.09%
Cd 228.802†	244.2	0.01081	mg/L	0.000142	0.01081	mg/L	0.000142	1.31%
Co 228.616†	43.7	0.00177	mg/L	0.000147	0.00177	mg/L	0.000147	8.30%
Cr 267.716†	65.6	0.01006	mg/L	0.001364	0.01006	mg/L	0.001364	13.55%
Cu 324.752†	6274.4	0.03928	mg/L	0.000448	0.03928	mg/L	0.000448	1.14%
Fe 273.955†	1346.5	1.704	mg/L	0.0160	1.704	mg/L	0.0160	0.94%
K 766.490†	87786.7	77.12	mg/L	0.234	77.12	mg/L	0.234	0.30%
Mg 279.077†	33683.4	33.24	mg/L	0.215	33.24	mg/L	0.215	0.65%
Mn 257.610†	1444.0	0.05778	mg/L	0.000373	0.05778	mg/L	0.000373	0.65%
Mo 202.031†	117.9	0.00790	mg/L	0.000199	0.00790	mg/L	0.000199	2.52%
Na 589.592†	1831295.2	258.6	mg/L	2.33	258.6	mg/L	2.33	0.90%
Na 330.237†	3801.5	247.5	mg/L	1.08	247.5	mg/L	1.08	0.44%
Ni 231.604†	28.5	0.00990	mg/L	0.001862	0.00990	mg/L	0.001862	18.80%
Pb 220.353†	19.8	0.00370	mg/L	0.001065	0.00370	mg/L	0.001065	28.81%
Sb 206.836†	-4.9	-0.00263	mg/L	0.001811	-0.00263	mg/L	0.001811	68.72%
Se 196.026†	23.2	0.02420	mg/L	0.001087	0.02420	mg/L	0.001087	4.49%
Si 288.158†	470.2	0.3424	mg/L	0.00269	0.3424	mg/L	0.00269	0.79%
Sn 189.927†	-21.8	-0.00213	mg/L	0.001368	-0.00213	mg/L	0.001368	64.27%
Sr 421.552†	113599.9	0.2448	mg/L	0.00119	0.2448	mg/L	0.00119	0.48%
Ti 334.903†	588.7	0.05256	mg/L	0.000814	0.05256	mg/L	0.000814	1.55%
Tl 190.801†	-5.4	-0.00533	mg/L	0.001757	-0.00533	mg/L	0.001757	33.00%
V 292.402†	388.9	0.00422	mg/L	0.000049	0.00422	mg/L	0.000049	1.17%
Zn 206.200†	1427.7	0.5714	mg/L	0.00401	0.5714	mg/L	0.00401	0.70%

Sequence No.: 44

Sample ID: 17A0053-12

Analyst: CC

Dilution: 1.000000X

Autosampler Location: 378

Date Collected: 2/7/2017 7:38:23 PM

Data Type: Original

Nebulizer Parameters: 17A0053-12

Analyte	Back Pressure	Flow
All	154.0 kPa	0.65 L/min

Mean Data: 17A0053-12

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
ScA 357.253	1528670.0	101.2	%	0.58				0.57%
ScR 361.383	160888.4	106.4	%	0.90				0.85%
Ag 328.068†	-2.4	-0.00002	mg/L	0.000075	-0.00002	mg/L	0.000075	385.47%
Al 308.215†	2095.3	1.893	mg/L	0.0227	1.893	mg/L	0.0227	1.20%
As 188.979†	61.5	0.05517	mg/L	0.001008	0.05517	mg/L	0.001008	1.83%
B 249.677†	977.8	0.1965	mg/L	0.00137	0.1965	mg/L	0.00137	0.70%
Ba 233.527†	24.5	0.00625	mg/L	0.000917	0.00625	mg/L	0.000917	14.67%
Be 313.042†	-17.6	-0.00006	mg/L	0.000043	-0.00006	mg/L	0.000043	76.47%
Ca 317.933†	170889.9	21.74	mg/L	0.201	21.74	mg/L	0.201	0.92%
Cd 228.802†	318.4	0.01415	mg/L	0.000100	0.01415	mg/L	0.000100	0.71%
Co 228.616†	68.0	0.00270	mg/L	0.000190	0.00270	mg/L	0.000190	7.05%
Cr 267.716†	73.1	0.01063	mg/L	0.001434	0.01063	mg/L	0.001434	13.49%
Cu 324.752†	9680.2	0.06091	mg/L	0.000207	0.06091	mg/L	0.000207	0.34%
Fe 273.955†	2427.1	3.072	mg/L	0.0324	3.072	mg/L	0.0324	1.05%
K 766.490†	86533.7	76.02	mg/L	0.614	76.02	mg/L	0.614	0.81%
Mg 279.077†	41203.0	40.66	mg/L	0.302	40.66	mg/L	0.302	0.74%
Mn 257.610†	2980.9	0.1195	mg/L	0.00113	0.1195	mg/L	0.00113	0.94%
Mo 202.031†	123.3	0.00816	mg/L	0.000239	0.00816	mg/L	0.000239	2.93%
Na 589.592†	2196527.1	310.1	mg/L	3.59	310.1	mg/L	3.59	1.16%
Na 330.237†	4568.9	297.4	mg/L	1.87	297.4	mg/L	1.87	0.63%
Ni 231.604†	34.7	0.01205	mg/L	0.001797	0.01205	mg/L	0.001797	14.91%
Pb 220.353†	15.8	0.00324	mg/L	0.000291	0.00324	mg/L	0.000291	8.99%
Sb 206.836†	-4.4	-0.00237	mg/L	0.001544	-0.00237	mg/L	0.001544	65.00%
Se 196.026†	27.5	0.02884	mg/L	0.001911	0.02884	mg/L	0.001911	6.63%
Si 288.158†	913.1	0.6619	mg/L	0.01006	0.6619	mg/L	0.01006	1.52%
Sn 189.927†	-21.0	-0.00093	mg/L	0.001047	-0.00093	mg/L	0.001047	112.37%
Sr 421.552†	126727.3	0.2731	mg/L	0.00174	0.2731	mg/L	0.00174	0.64%
Ti 334.903†	1210.9	0.1096	mg/L	0.00192	0.1096	mg/L	0.00192	1.75%
Tl 190.801†	-5.9	-0.00566	mg/L	0.001411	-0.00566	mg/L	0.001411	24.92%
V 292.402†	717.8	0.00774	mg/L	0.000056	0.00774	mg/L	0.000056	0.73%
Zn 206.200†	1866.4	0.7470	mg/L	0.00585	0.7470	mg/L	0.00585	0.78%

Sequence No.: 45

Autosampler Location: 379

Sample ID: ICPMS CAL INT F1106

Date Collected: 2/7/2017 7:45:21 PM

Analyst: CC

Data Type: Original

Dilution: 10.000000X

DEL

Nebulizer Parameters: ICPMS CAL INT F1106

Analyte Back Pressure Flow
 All 154.0 kPa 0.65 L/min

Mean Data: ICPMS CAL INT F1106

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
ScA 357.253	1460632.6	96.67	%	0.177			0.18%
ScR 361.383	150259.8	99.33	%	0.636			0.64%
Ag 328.068†	116757.1	1.052	mg/L	0.0058	10.52 mg/L	0.058	0.56%
Al 308.215†	109611.4	99.00	mg/L	0.313	990.0 mg/L	3.13	0.32%
As 188.979†	1145.1	0.9529	mg/L	0.00532	9.529 mg/L	0.0532	0.56%
B 249.677†	-17.7	-0.00434	mg/L	0.000623	-0.04343 mg/L	0.006233	14.35%
Ba 233.527†	3738.6	1.041	mg/L	0.0006	10.41 mg/L	0.006	0.05%
Be 313.042†	296409.8	0.9035	mg/L	0.00090	9.035 mg/L	0.0090	0.10%
Ca 317.933†	747780.0	95.20	mg/L	0.333	952.0 mg/L	3.33	0.35%
Cd 228.802†	20344.0	0.9189	mg/L	0.00655	9.189 mg/L	0.0655	0.71%
Co 228.616†	20950.3	0.9067	mg/L	0.00637	9.067 mg/L	0.0637	0.70%
Cr 267.716†	4117.3	0.9772	mg/L	0.00128	9.772 mg/L	0.0128	0.13%
Cu 324.752†	154187.9	0.9817	mg/L	0.00465	9.817 mg/L	0.0465	0.47%
Fe 273.955†	69084.9	87.44	mg/L	0.084	874.4 mg/L	0.84	0.10%
K 766.490†	116707.1	102.5	mg/L	0.39	1025 mg/L	3.94	0.38%
Mg 279.077†	97122.6	95.78	mg/L	0.042	957.8 mg/L	0.42	0.04%
Mn 257.610†	22216.6	0.8929	mg/L	0.00215	8.929 mg/L	0.0215	0.24%
Mo 202.031†	13192.4	0.9557	mg/L	0.00229	9.557 mg/L	0.0229	0.24%
Na 589.592†	733990.1	103.6	mg/L	0.42	1036 mg/L	4.19	0.40%
Na 330.237†	1535.5	99.70	mg/L	0.541	997.0 mg/L	5.41	0.54%
Ni 231.604†	2787.8	0.9697	mg/L	0.00386	9.697 mg/L	0.0386	0.40%
Pb 220.353†	5028.5	0.9156	mg/L	0.00160	9.156 mg/L	0.0160	0.17%
Sb 206.836†	2061.6	0.9793	mg/L	0.00252	9.793 mg/L	0.0252	0.26%
Se 196.026†	833.7	0.9406	mg/L	0.01200	9.406 mg/L	0.1200	1.28%
Si 288.158†	-23.2	-0.00025	mg/L	0.003604	-0.00245 mg/L	0.036041	>999.9%
Sn 189.927†	-89.6	-0.00273	mg/L	0.002409	-0.02735 mg/L	0.024088	88.09%
Sr 421.552†	2941.0	0.00634	mg/L	0.000020	0.06337 mg/L	0.000199	0.31%
Ti 334.903†	157.0	0.00562	mg/L	0.000556	0.05620 mg/L	0.005564	9.90%
Tl 190.801†	1236.7	0.8958	mg/L	0.00300	8.958 mg/L	0.0300	0.33%
V 292.402†	90892.2	0.9908	mg/L	0.00700	9.908 mg/L	0.0700	0.71%
Zn 206.200†	2285.0	0.9141	mg/L	0.00311	9.141 mg/L	0.0311	0.34%

Sequence No.: 46
 Sample ID: SEQ-CCV8
 Analyst: CC
 Dilution: 1.000000X

Autosampler Location: 7
 Date Collected: 2/7/2017 7:50:25 PM
 Data Type: Original

Nebulizer Parameters: SEQ-CCV8

Analyte Back Pressure Flow
 All 155.0 kPa 0.65 L/min

Mean Data: SEQ-CCV8

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
ScA 357.253	1528201.3	101.1	%	0.42				0.42%
ScR 361.383	155422.4	102.7	%	0.46				0.44%
Ag 328.068†	118637.1	1.069	mg/L	0.0126	1.069	mg/L	0.0126	1.18%
Al 308.215†	2287.1	2.035	mg/L	0.0136	2.035	mg/L	0.0136	0.67%
As 188.979†	2226.7	1.917	mg/L	0.0191	1.917	mg/L	0.0191	1.00%
B 249.677†	4991.6	1.002	mg/L	0.0048	1.002	mg/L	0.0048	0.48%
Ba 233.527†	3786.1	1.068	mg/L	0.0041	1.068	mg/L	0.0041	0.39%
Be 313.042†	311031.9	0.9481	mg/L	0.00419	0.9481	mg/L	0.00419	0.44%
Ca 317.933†	15664.9	1.981	mg/L	0.0040	1.981	mg/L	0.0040	0.20%
Cd 228.802†	21111.6	0.9491	mg/L	0.01530	0.9491	mg/L	0.01530	1.61%
Co 228.616†	22878.8	0.9896	mg/L	0.01018	0.9896	mg/L	0.01018	1.03%
Cr 267.716†	4196.3	1.009	mg/L	0.0034	1.009	mg/L	0.0034	0.33%
Cu 324.752†	158132.1	1.003	mg/L	0.0097	1.003	mg/L	0.0097	0.96%
Fe 273.955†	1424.7	1.791	mg/L	0.0061	1.791	mg/L	0.0061	0.34%
K 766.490†	23399.5	20.56	mg/L	0.123	20.56	mg/L	0.123	0.60%
Mg 279.077†	2014.2	1.994	mg/L	0.0052	1.994	mg/L	0.0052	0.26%
Mn 257.610†	22847.7	0.9194	mg/L	0.00217	0.9194	mg/L	0.00217	0.24%
Mo 202.031†	13417.1	0.9745	mg/L	0.01208	0.9745	mg/L	0.01208	1.24%
Na 589.592†	371067.5	52.39	mg/L	0.320	52.39	mg/L	0.320	0.61%
Na 330.237†	772.5	50.16	mg/L	0.485	50.16	mg/L	0.485	0.97%
Ni 231.604†	2941.4	1.023	mg/L	0.0072	1.023	mg/L	0.0072	0.71%
Pb 220.353†	11005.1	1.937	mg/L	0.0166	1.937	mg/L	0.0166	0.86%
Sb 206.836†	4223.8	2.028	mg/L	0.0142	2.028	mg/L	0.0142	0.70%
Se 196.026†	1652.8	1.889	mg/L	0.0187	1.889	mg/L	0.0187	0.99%
Si 288.158†	2858.7	2.058	mg/L	0.0098	2.058	mg/L	0.0098	0.48%
Sn 189.927†	2449.3	0.9292	mg/L	0.00982	0.9292	mg/L	0.00982	1.06%
Sr 421.552†	471767.0	1.016	mg/L	0.0063	1.016	mg/L	0.0063	0.62%
Ti 334.903†	10918.3	1.003	mg/L	0.0034	1.003	mg/L	0.0034	0.33%
Tl 190.801†	2737.4	1.987	mg/L	0.0167	1.987	mg/L	0.0167	0.84%
V 292.402†	93746.1	1.024	mg/L	0.0131	1.024	mg/L	0.0131	1.28%
Zn 206.200†	2413.2	0.9658	mg/L	0.00409	0.9658	mg/L	0.00409	0.42%

Sequence No.: 47
 Sample ID: SEQ-CCB8
 Analyst: CC
 Dilution: 1.000000X

Autosampler Location: 1
 Date Collected: 2/7/2017 7:55:29 PM
 Data Type: Original

Nebulizer Parameters: SEQ-CCB8

Analyte Back Pressure Flow
 All 155.0 kPa 0.65 L/min

Mean Data: SEQ-CCB8

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc. Units	Sample Std.Dev.	RSD
ScA 357.253	1541023.9	102.0	%	0.31			0.30%
ScR 361.383	156457.5	103.4	%	0.85			0.82%
Ag 328.068†	27.9	0.00025	mg/L	0.000214	0.00025 mg/L	0.000214	85.43%
Al 308.215†	16.7	0.01507	mg/L	0.005015	0.01507 mg/L	0.005015	33.28%
As 188.979†	-1.1	-0.00092	mg/L	0.004073	-0.00092 mg/L	0.004073	442.34%
B 249.677†	-1.9	-0.00038	mg/L	0.000552	-0.00038 mg/L	0.000552	145.95%
Ba 233.527†	1.3	0.00037	mg/L	0.000983	0.00037 mg/L	0.000983	263.79%
Be 313.042†	-1.8	-0.00001	mg/L	0.000089	-0.00001 mg/L	0.000089	>999.9%
Ca 317.933†	30.6	0.00386	mg/L	0.000795	0.00386 mg/L	0.000795	20.58%
Cd 228.802†	10.1	0.00047	mg/L	0.000223	0.00047 mg/L	0.000223	47.88%
Co 228.616†	-6.2	-0.00027	mg/L	0.000208	-0.00027 mg/L	0.000208	76.89%
Cr 267.716†	1.3	0.00031	mg/L	0.000648	0.00031 mg/L	0.000648	209.41%
Cu 324.752†	162.7	0.00103	mg/L	0.000122	0.00103 mg/L	0.000122	11.80%
Fe 273.955†	3.9	0.00497	mg/L	0.003772	0.00497 mg/L	0.003772	75.92%
K 766.490†	188.4	0.1656	mg/L	0.00926	0.1656 mg/L	0.00926	5.59%
Mg 279.077†	0.5	0.00050	mg/L	0.010284	0.00050 mg/L	0.010284	>999.9%
Mn 257.610†	-3.5	-0.00014	mg/L	0.000106	-0.00014 mg/L	0.000106	74.30%
Mo 202.031†	6.7	0.00049	mg/L	0.000293	0.00049 mg/L	0.000293	59.71%
Na 589.592†	644.9	0.09105	mg/L	0.009247	0.09105 mg/L	0.009247	10.16%
Na 330.237†	14.9	0.9724	mg/L	0.60985	0.9724 mg/L	0.60985	62.71%
Ni 231.604†	8.9	0.00310	mg/L	0.000517	0.00310 mg/L	0.000517	16.68%
Pb 220.353†	-0.4	-0.00007	mg/L	0.000753	-0.00007 mg/L	0.000753	>999.9%
Sb 206.836†	-0.5	-0.00025	mg/L	0.000539	-0.00025 mg/L	0.000539	211.86%
Se 196.026†	5.2	0.00598	mg/L	0.002766	0.00598 mg/L	0.002766	46.22%
Si 288.158†	-5.0	-0.00362	mg/L	0.003666	-0.00362 mg/L	0.003666	101.40%
Sn 189.927†	1.4	0.00054	mg/L	0.000520	0.00054 mg/L	0.000520	96.64%
Sr 421.552†	-43.5	-0.00009	mg/L	0.000096	-0.00009 mg/L	0.000096	102.28%
Ti 334.903†	-1.2	-0.00011	mg/L	0.000323	-0.00011 mg/L	0.000323	297.55%
Tl 190.801†	-3.6	-0.00260	mg/L	0.003564	-0.00260 mg/L	0.003564	136.89%
V 292.402†	8.1	0.00009	mg/L	0.000298	0.00009 mg/L	0.000298	331.39%
Zn 206.200†	-0.7	-0.00028	mg/L	0.000965	-0.00028 mg/L	0.000965	349.39%



INITIAL AND CONTINUING CALIBRATION CHECK

EPA 6010C

Laboratory: Analytical Resources, Inc.

SDG: 17A0053

Client: Anchor QEA, LLC

Project: Port Gamble Shellfish Monitoring

Instrument ID: ICP2

Calibration: AB00022

Control Limit: +/- 10.00%

Sequence: SFB0091

Lab Sample ID	Analyte	True	Found	%R	Units	Method
SFB0091-ICV1	Cadmium	1.0000	1.01	101	mg/L	EPA 6010C
SFB0091-CCV1	Cadmium	1.0000	0.999	99.9	mg/L	EPA 6010C
SFB0091-CCV2	Cadmium	1.0000	0.981	98.1	mg/L	EPA 6010C
SFB0091-CCV3	Cadmium	1.0000	0.953	95.3	mg/L	EPA 6010C
SFB0091-CCV4	Cadmium	1.0000	0.962	96.2	mg/L	EPA 6010C
SFB0091-CCV5	Cadmium	1.0000	0.955	95.5	mg/L	EPA 6010C
SFB0091-CCV6	Cadmium	1.0000	0.955	95.5	mg/L	EPA 6010C
SFB0091-CCV7	Cadmium	1.0000	0.943	94.3	mg/L	EPA 6010C
SFB0091-CCV8	Cadmium	1.0000	0.949	94.9	mg/L	EPA 6010C

* Values outside of QC limits



ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 6010C

Laboratory: Analytical Resources, Inc.

SDG: 17A0053

Client: Anchor QEA, LLC

Project: Port Gamble Shellfish Monitoring

Sequence: SFB0091

Instrument: ICP2

Calibration: AB00022

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
CAL 0	SFB0091-CAL1	I2170207-001	Water	02/07/17 12:41
CAL 1 - LOW CHECK	SFB0091-CAL2	I2170207-002	Water	02/07/17 12:45
CAL 2	SFB0091-CAL3	I2170207-003	Water	02/07/17 12:46
CAL 3	SFB0091-CAL4	I2170207-004	Water	02/07/17 12:49
CAL 4	SFB0091-CAL5	I2170207-005	Water	02/07/17 12:51
Initial Cal Check	SFB0091-ICV1	I2170207-006	Water	02/07/17 12:55
Initial Cal Blank	SFB0091-ICB1	I2170207-007	Water	02/07/17 12:59
Instrument RL Check	SFB0091-CRL1	I2170207-008	Water	02/07/17 13:04
Interference Check A	SFB0091-IFA1	I2170207-009	Water	02/07/17 13:08
Interference Check B	SFB0091-IFB1	I2170207-010	Water	02/07/17 13:12
Calibration Check	SFB0091-CCV1	I2170207-012	Water	02/07/17 13:21
Calibration Blank	SFB0091-CCB1	I2170207-013	Water	02/07/17 13:26
ZZZZZ	17B0033-01	I2170207-017	Solid	02/07/17 13:43
ZZZZZ	17B0027-05	I2170207-020	Water	02/07/17 13:57
ZZZZZ	17A0311-01	I2170207-022	Solid	02/07/17 14:08
ZZZZZ	17B0021-01	I2170207-023	Water	02/07/17 14:15
Calibration Check	SFB0091-CCV2	I2170207-024	Water	02/07/17 14:20
Calibration Blank	SFB0091-CCB2	I2170207-025	Water	02/07/17 14:25
ZZZZZ	17B0029-21	I2170207-027	Water	02/07/17 14:36
ZZZZZ	17B0029-23	I2170207-028	Water	02/07/17 14:40
ZZZZZ	17B0029-24	I2170207-029	Water	02/07/17 14:44
ZZZZZ	17B0041-01	I2170207-030	Water	02/07/17 14:49
ZZZZZ	17B0041-02	I2170207-031	Water	02/07/17 14:53
ZZZZZ	17B0041-03	I2170207-032	Water	02/07/17 14:57
ZZZZZ	17B0041-04	I2170207-033	Water	02/07/17 15:01
ZZZZZ	17B0027-06	I2170207-034	Water	02/07/17 15:05
ZZZZZ	17B0027-01	I2170207-035	Water	02/07/17 15:10
Calibration Check	SFB0091-CCV3	I2170207-036	Water	02/07/17 15:16
Calibration Blank	SFB0091-CCB3	I2170207-037	Water	02/07/17 15:21
ZZZZZ	17A0316-01	I2170207-040	Solid	02/07/17 15:45
ZZZZZ	17B0041-05	I2170207-041	Water	02/07/17 15:55



ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 6010C

Laboratory: Analytical Resources, Inc.

SDG: 17A0053

Client: Anchor QEA, LLC

Project: Port Gamble Shellfish Monitoring

Sequence: SFB0091

Instrument: ICP2

Calibration: AB00022

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
ZZZZZ	17B0041-06	I2170207-042	Water	02/07/17 15:59
ZZZZZ	17B0041-07	I2170207-043	Water	02/07/17 16:03
ZZZZZ	17B0029-01	I2170207-044	Water	02/07/17 16:07
Calibration Check	SFB0091-CCV4	I2170207-045	Water	02/07/17 16:11
Calibration Blank	SFB0091-CCB4	I2170207-046	Water	02/07/17 16:16
ZZZZZ	17B0029-20	I2170207-048	Water	02/07/17 16:27
ZZZZZ	17B0029-02	I2170207-051	Water	02/07/17 16:43
ZZZZZ	17B0029-03	I2170207-052	Water	02/07/17 16:47
ZZZZZ	17B0029-04	I2170207-053	Water	02/07/17 16:51
ZZZZZ	17B0029-05	I2170207-054	Water	02/07/17 16:55
ZZZZZ	17B0029-06	I2170207-055	Water	02/07/17 16:59
ZZZZZ	17B0029-07	I2170207-056	Water	02/07/17 17:04
Calibration Check	SFB0091-CCV5	I2170207-057	Water	02/07/17 17:08
Calibration Blank	SFB0091-CCB5	I2170207-058	Water	02/07/17 17:13
ZZZZZ	17B0029-08	I2170207-059	Water	02/07/17 17:17
ZZZZZ	17B0029-09	I2170207-060	Water	02/07/17 17:21
ZZZZZ	17B0029-10	I2170207-061	Water	02/07/17 17:25
ZZZZZ	17B0029-12	I2170207-062	Water	02/07/17 17:34
ZZZZZ	17B0029-13	I2170207-063	Water	02/07/17 17:38
ZZZZZ	17B0029-14	I2170207-064	Water	02/07/17 17:42
ZZZZZ	17B0029-15	I2170207-065	Water	02/07/17 17:47
ZZZZZ	17B0029-16	I2170207-066	Water	02/07/17 17:51
Calibration Check	SFB0091-CCV6	I2170207-068	Water	02/07/17 18:03
Calibration Blank	SFB0091-CCB6	I2170207-069	Water	02/07/17 18:08
Blank	BFA0668-BLK1	I2170207-070	Tissue	02/07/17 18:12
PG-SMA2-2-MUS-170105	BFA0668-DUP1	I2170207-071	Tissue	02/07/17 18:16
PG-SMA2-2-MUS-170105	17A0053-05	I2170207-072	Tissue	02/07/17 18:20
PG-SMA2-2-MUS-170105	BFA0668-MS1	I2170207-073	Tissue	02/07/17 18:24
LCS	BFA0668-BS1	I2170207-074	Tissue	02/07/17 18:30
ZZZZZ	16K0124-01	I2170207-075	Tissue	02/07/17 18:34
Calibration Check	SFB0091-CCV7	I2170207-080	Water	02/07/17 18:59



ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 6010C

Laboratory: Analytical Resources, Inc.

SDG: 17A0053

Client: Anchor QEA, LLC

Project: Port Gamble Shellfish Monitoring

Sequence: SFB0091

Instrument: ICP2

Calibration: AB00022

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
Calibration Blank	SFB0091-CCB7	I2170207-081	Water	02/07/17 19:04
PG-SMA1-1-MUS-170105	17A0053-01	I2170207-082	Tissue	02/07/17 19:08
PG-SMA2-1-MUS-170105	17A0053-04	I2170207-083	Tissue	02/07/17 19:12
PG-SMA2-3-MUS-170105	17A0053-06	I2170207-084	Tissue	02/07/17 19:17
PG-SMA2-4-MUS-170105	17A0053-07	I2170207-085	Tissue	02/07/17 19:21
PG-SMA2-5-MUS-170105	17A0053-08	I2170207-086	Tissue	02/07/17 19:25
PG-PJ-1-MUS-170105	17A0053-09	I2170207-087	Tissue	02/07/17 19:29
PG-WS-1-MUS-170105	17A0053-11	I2170207-088	Tissue	02/07/17 19:34
PG-SMA1-2-3-MUS-170105	17A0053-12	I2170207-089	Tissue	02/07/17 19:38
Calibration Check	SFB0091-CCV8	I2170207-090	Water	02/07/17 19:50
Calibration Blank	SFB0091-CCB8	I2170207-091	Water	02/07/17 19:55



ICP INTERFERENCE CHECK SAMPLE

EPA 6010C

Laboratory: Analytical Resources, Inc.

SDG: 17A0053

Client: Anchor QEA, LLC

Project: Port Gamble Shellfish Monitoring

Instrument ID: ICP2

Calibration: AB00022

Sequence: SFB0091

Standard ID: E007731

Lab Sample ID	Analyte	True	Found	%R	Units
SFB0091-IFA1	Cadmium	0	-0.0012		mg/L

* Indicates %R outside of QC limits

NOTE: True value and %R are populated only for analytes found in the interference check standards, and will be seen only if those analytes were requested.



ICP INTERFERENCE CHECK SAMPLE

EPA 6010C

Laboratory: Analytical Resources, Inc.

SDG: 17A0053

Client: Anchor QEA, LLC

Project: Port Gamble Shellfish Monitoring

Instrument ID: ICP2

Calibration: AB00022

Sequence: SFB0091

Standard ID: E007731

Lab Sample ID	Analyte	True	Found	%R	Units
SFB0091-IFB1	Cadmium	1.0000	1.0029	100	mg/L

* Indicates %R outside of QC limits

NOTE: True value and %R are populated only for analytes found in the interference check standards, and will be seen only if those analytes were requested.



DETECTION LEVEL STANDARD

EPA 6010C

Laboratory: Analytical Resources, Inc.

SDG: 17A0053

Client: Anchor QEA, LLC

Project: Port Gamble Shellfish Monitoring

Instrument ID: ICP2

Calibration: AB00022

Sequence: SFB0091

Lab Sample ID: SFB0091-CRL1

Analyte	True	Found	%R	Units	QC Limits
Cadmium	0.0020	0.0019	95.1	mg/L	50 - 150

* Values outside of QC limits

HOLDING TIME SUMMARY

Analysis: EPA 6010C

Laboratory: Analytical Resources, Inc.

SDG: 17A0053

Client: Anchor QEA, LLC

Project: Port Gamble Shellfish Monitoring

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
PG-SMA1-1-MUS-170105 17A0053-01	01/05/17 10:15	01/06/17 16:03	02/01/17 11:20	27	180	02/07/17 19:08	33	180	
PG-SMA2-1-MUS-170105 17A0053-04	01/05/17 13:02	01/06/17 16:03	02/01/17 11:20	26	180	02/07/17 19:12	33	180	
PG-SMA2-2-MUS-170105 17A0053-05	01/05/17 12:50	01/06/17 16:03	02/01/17 11:20	26	180	02/07/17 18:20	33	180	
PG-SMA2-3-MUS-170105 17A0053-06	01/05/17 12:40	01/06/17 16:03	02/01/17 11:20	26	180	02/07/17 19:17	33	180	
PG-SMA2-4-MUS-170105 17A0053-07	01/05/17 12:30	01/06/17 16:03	02/01/17 11:20	26	180	02/07/17 19:21	33	180	
PG-SMA2-5-MUS-170105 17A0053-08	01/05/17 12:20	01/06/17 16:03	02/01/17 11:20	26	180	02/07/17 19:25	33	180	
PG-PJ-1-MUS-170105 17A0053-09	01/05/17 14:53	01/06/17 16:03	02/01/17 11:20	26	180	02/07/17 19:29	33	180	
PG-WS-1-MUS-170105 17A0053-11	01/05/17 14:35	01/06/17 16:03	02/01/17 11:20	26	180	02/07/17 19:34	33	180	
PG-SMA1-2-3-MUS-170105 17A0053-12	01/05/17 00:00	01/06/17 16:03	02/01/17 11:20	27	180	02/07/17 19:38	34	180	
Duplicate BFA0668-DUP1	01/05/17 12:50	01/06/17 16:03	02/01/17 11:20	26	180	02/07/17 18:16	33	180	
Matrix Spike BFA0668-MS1	01/05/17 12:50	01/06/17 16:03	02/01/17 11:20	26	180	02/07/17 18:24	33	180	

* Indicates hold time exceedance.



Analytical
Resources,
Incorporated

METHOD DETECTION AND REPORTING LIMITS

EPA 6010C

Laboratory: Analytical Resources, Inc.

SDG: 17A0053

Client: Anchor QEA, LLC

Project: Port Gamble Shellfish Monitoring

Matrix: Tissue

Instrument: ICP2

Analyte	MDL	RL	Units
Cadmium	0.0025	0.0400	mg/kg



Analytical
Resources,
Incorporated

METHOD DETECTION AND REPORTING LIMITS

EPA 6010C

Laboratory: Analytical Resources, Inc.

SDG: 17A0053

Client: Anchor QEA, LLC

Project: Port Gamble Shellfish Monitoring

Matrix: Water

Instrument: ICP2

Analyte	MDL	RL	Units
Cadmium	0.0003	0.0020	mg/L



Form I
INORGANIC ANALYSIS DATA SHEET

PG-SMA1-1-MUS-170105

Bligh & Dyer (Mod)
TotalAnalytes

Laboratory: Analytical Resources, Inc.

Project: Port Gamble Shellfish Monitoring

Client: Anchor QEA, LLC

SDG: 17A0053

Matrix: Tissue

Laboratory ID: 17A0053-01

File ID:

Sampled: 01/05/17 10:15

Prepared: 01/31/17 12:30

Analyzed: 02/10/17 16:51

Solids (wt%): 0.00

Preparation: EPA 3550C-Mod (Ultrasonic)

Initial/Final: 5.21 g / 5 mL

Batch: BFA0626

Sequence:

Calibration:

Instrument: Inst

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Percent Lipids	0.83	1	0.010	0.010	



Form I
INORGANIC ANALYSIS DATA SHEET

PG-SMA2-1-MUS-170105

Bligh & Dyer (Mod)
TotalAnalytes

Laboratory: Analytical Resources, Inc.

Project: Port Gamble Shellfish Monitoring

Client: Anchor QEA, LLC

SDG: 17A0053

Matrix: Tissue

Laboratory ID: 17A0053-04

File ID:

Sampled: 01/05/17 13:02

Prepared: 01/31/17 12:30

Analyzed: 02/10/17 16:51

Solids (wt%): 0.00

Preparation: EPA 3550C-Mod (Ultrasonic)

Initial/Final: 5.12 g / 5 mL

Batch: BFA0626

Sequence:

Calibration:

Instrument: Inst

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Percent Lipids	0.93	1	0.010	0.010	



Form I
INORGANIC ANALYSIS DATA SHEET

PG-SMA2-2-MUS-170105

Bligh & Dyer (Mod)
TotalAnalytes

Laboratory: Analytical Resources, Inc.

Project: Port Gamble Shellfish Monitoring

Client: Anchor QEA, LLC

SDG: 17A0053

Matrix: Tissue

Laboratory ID: 17A0053-05

File ID:

Sampled: 01/05/17 12:50

Prepared: 01/31/17 12:30

Analyzed: 02/10/17 16:51

Solids (wt%): 0.00

Preparation: EPA 3550C-Mod (Ultrasonic)

Initial/Final: 5.13 g / 5 mL

Batch: BFA0626

Sequence:

Calibration:

Instrument: Inst

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Percent Lipids	0.91	1	0.010	0.010	



Form I
INORGANIC ANALYSIS DATA SHEET

PG-SMA2-3-MUS-170105

Bligh & Dyer (Mod)
TotalAnalytes

Laboratory: Analytical Resources, Inc.

Project: Port Gamble Shellfish Monitoring

Client: Anchor QEA, LLC

SDG: 17A0053

Matrix: Tissue

Laboratory ID: 17A0053-06

File ID:

Sampled: 01/05/17 12:40

Prepared: 01/31/17 12:30

Analyzed: 02/10/17 16:51

Solids (wt%): 0.00

Preparation: EPA 3550C-Mod (Ultrasonic)

Initial/Final: 5.06 g / 5 mL

Batch: BFA0626

Sequence:

Calibration:

Instrument: Inst

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Percent Lipids	1.2	1	0.010	0.010	



Form I
INORGANIC ANALYSIS DATA SHEET

PG-SMA2-4-MUS-170105

Bligh & Dyer (Mod)
TotalAnalytes

Laboratory: Analytical Resources, Inc.

Project: Port Gamble Shellfish Monitoring

Client: Anchor QEA, LLC

SDG: 17A0053

Matrix: Tissue

Laboratory ID: 17A0053-07

File ID:

Sampled: 01/05/17 12:30

Prepared: 01/31/17 12:30

Analyzed: 02/10/17 16:51

Solids (wt%): 0.00

Preparation: EPA 3550C-Mod (Ultrasonic)

Initial/Final: 5.14 g / 5 mL

Batch: BFA0626

Sequence:

Calibration:

Instrument: Inst

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Percent Lipids	1.1	1	0.010	0.010	



Form I
INORGANIC ANALYSIS DATA SHEET

PG-SMA2-5-MUS-170105

Bligh & Dyer (Mod)
TotalAnalytes

Laboratory: Analytical Resources, Inc.

Project: Port Gamble Shellfish Monitoring

Client: Anchor QEA, LLC

SDG: 17A0053

Matrix: Tissue

Laboratory ID: 17A0053-08

File ID:

Sampled: 01/05/17 12:20

Prepared: 01/31/17 12:30

Analyzed: 02/10/17 16:51

Solids (wt%): 0.00

Preparation: EPA 3550C-Mod (Ultrasonic)

Initial/Final: 5.02 g / 5 mL

Batch: BFA0626

Sequence:

Calibration:

Instrument: Inst

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Percent Lipids	1.3	1	0.010	0.010	



Form I
INORGANIC ANALYSIS DATA SHEET

PG-PJ-1-MUS-170105

Bligh & Dyer (Mod)
TotalAnalytes

Laboratory: Analytical Resources, Inc.

Project: Port Gamble Shellfish Monitoring

Client: Anchor QEA, LLC

SDG: 17A0053

Matrix: Tissue

Laboratory ID: 17A0053-09

File ID:

Sampled: 01/05/17 14:53

Prepared: 01/31/17 12:30

Analyzed: 02/10/17 16:51

Solids (wt%): 0.00

Preparation: EPA 3550C-Mod (Ultrasonic)

Initial/Final: 5.11 g / 5 mL

Batch: BFA0626

Sequence:

Calibration:

Instrument: Inst

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Percent Lipids	1.2	1	0.010	0.010	



Form I
INORGANIC ANALYSIS DATA SHEET

PG-GP-1-MUS-170105

Bligh & Dyer (Mod)
TotalAnalytes

Laboratory: Analytical Resources, Inc.

Project: Port Gamble Shellfish Monitoring

Client: Anchor QEA, LLC

SDG: 17A0053

Matrix: Tissue

Laboratory ID: 17A0053-10

File ID:

Sampled: 01/05/17 14:43

Prepared: 01/31/17 12:30

Analyzed: 02/10/17 16:51

Solids (wt%): 0.00

Preparation: EPA 3550C-Mod (Ultrasonic)

Initial/Final: 5.1 g / 5 mL

Batch: BFA0626

Sequence:

Calibration:

Instrument: Inst

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Percent Lipids	1.2	1	0.010	0.010	



Form I
INORGANIC ANALYSIS DATA SHEET

PG-WS-1-MUS-170105

Bligh & Dyer (Mod)
TotalAnalytes

Laboratory: Analytical Resources, Inc.

Project: Port Gamble Shellfish Monitoring

Client: Anchor QEA, LLC

SDG: 17A0053

Matrix: Tissue

Laboratory ID: 17A0053-11

File ID:

Sampled: 01/05/17 14:35

Prepared: 01/31/17 12:30

Analyzed: 02/10/17 16:51

Solids (wt%): 0.00

Preparation: EPA 3550C-Mod (Ultrasonic)

Initial/Final: 5.14 g / 5 mL

Batch: BFA0626

Sequence:

Calibration:

Instrument: Inst

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Percent Lipids	1.3	1	0.010	0.010	



Form I
INORGANIC ANALYSIS DATA SHEET

PG-SMA1-2-3-MUS-170105

Bligh & Dyer (Mod)
TotalAnalytes

Laboratory: Analytical Resources, Inc.

Project: Port Gamble Shellfish Monitoring

Client: Anchor QEA, LLC

SDG: 17A0053

Matrix: Tissue

Laboratory ID: 17A0053-12

File ID:

Sampled: 01/05/17 00:00

Prepared: 01/31/17 12:30

Analyzed: 02/10/17 16:51

Solids (wt%): 0.00

Preparation: EPA 3550C-Mod (Ultrasonic)

Initial/Final: 5.06 g / 5 mL

Batch: BFA0626

Sequence:

Calibration:

Instrument: Inst

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Percent Lipids	1.3	1	0.010	0.010	



Preparation Test % Lipid Test # 1

Lab Number(s) 16K0124 | 17A0053
Batch ID: BFA0626

In-House
Batch set up by: JW

Jar ID	ARI Sample ID	Original Extracted Weight (wet wt)	Original Volume (FEV) (mL)	(split aliquot) Y/N	Volume Taken (µL)	Tare Weight (g)	Tare+Sample Weight (g)	Comments	Verify Client ID
	BFA0626 BLK	5.00	1 mL	(Y/N)	(1000 µL)	1.1515	1.1522		
A	16K0124-01	5.21	1 mL	(Y/N)	(µL)	1.1637	1.2513		Ye
A	17A0053-01	5.12	1 mL	(Y/N)	(µL)	1.1520	1.1965		01/31/17
A	04	5.13	1 mL	(Y/N)	(µL)	1.1611	1.2101		
A	05	5.10	1 mL	(Y/N)	(µL)	1.1640	1.2118		Analyst/Date
A	06	5.06	1 mL	(Y/N)	(µL)	1.1432	1.2055		KD
A	07	5.14	1 mL	(Y/N)	(µL)	1.1560	1.2120		80-85°C
A	08	5.02	1 mL	(Y/N)	(µL)	1.1640	1.2289		123 4 5 6
A	09	5.11	1 mL	(Y/N)	(µL)	1.1487	1.2134		RML
A	10	5.10	1 mL	(Y/N)	(µL)	1.1627	1.2248		02/01/17
A	11	5.14	1 mL	(Y/N)	(µL)	1.1615	1.2270		
A	12	5.10	1 mL	(Y/N)	(µL)	1.1566	1.2219		
A	17A0053-Dup 01	5.06	1 mL	(Y/N)	(µL)	1.1689	1.2124		Analyst/Date
	17A00 BFA0626-Dup1 source 17A0053-05		mL	(Y/N)	(µL)				TurboVap
	JW 1/31/17		mL	(Y/N)	(µL)				1 2 3 4 5
			mL	(Y/N)	(µL)				2/9/17
			mL	(Y/N)	(µL)				
			mL	(Y/N)	(µL)				
			mL	(Y/N)	(µL)				
Analyst/Date	M 01/31/17				W 2/9/17	W 2/9/17	SE 2/9/17	Reviewed by/Date	Analyst/Date
Balance ID:	B139298602				Analytical Balance ID:	1123230597			

SPECIAL INSTRUCTIONS: 1. Weigh into 250mL Centrifuge bottles. 2. Use 10 g neutral Sodium Sulfate for the blanks. 3. Add 1:1 DCM/Acetone. 4. Add Sodium Sulfate to samples just prior to tissuemizing. 5. Tissuemize (2X) with 1:1 DCM/Acetone + (1X) DCM only. 6. Collect in 500mL flask + Lg Funnel with glasswool (NO Sodium Sulfate). 7. KD at 80-85°C. 8. Turbovap to 1mL. 9. Record weights of empty tins from Analytical Balance in Tare Weight column. 10. Transfer the 1mL extract into the empty tins. 11. Dry extracts in tins under hood for a minimum of 2 hours. 12. Store extracts in a desiccator over night. 13. Re-weigh tins with Analytical Balance. 14. Record weights in Tare+Sample Weight column. 15. %Lipids are calculated by entering on LIMS.


*NOTE: THE TARGET IS GENERALLY A 10:1 RATIO (10G SAMPLE TO 1mL FEV).

Freeze Y/N

Organic Extractions Reagent and Solutions Identification

(Modified Bligh/Dyer) % Lipids – Tissue
Modified TissueMizer (3550C) (SOP # 340S)

Lab Number(s) _____

(Modified Bligh/Dyer) % Lipids Tissue:	Analyst/Date
<u>TissueMizing Station:</u> Anhydrous Sodium Sulfate: (F000425) 1:1 DCM/Acetone: (F000719) DCM: (F000336) Neutral Glasswool: (G000744)	TissueMize  01/31/17
<u>KD Station:</u> Neutral Glasswool: () Anhydrous Sodium Sulfate: () DCM: (F000336)	KD RML 02/01/17
<u>Vialing Station:</u> DCM: ()	Vialing



Extraction Parameter: 0% Lipids

Element Batch: BEA0026

Work Order(s): 17A0053/16K0124

Screens: Soil/Sediment/Solid/Other:	Analyst/Date
<input type="checkbox"/> No Anomalies (standard soil/wet sediment/sand/gravel)=	
<input type="checkbox"/> Standing Water Decanted (Not shared)=	
<input type="checkbox"/> Standing Water Homogenized (Shared samples)=	
<input type="checkbox"/> Clay/Clumps (Difficult to homogenize)=	
<input type="checkbox"/> Rocks (%+size)?	
<input type="checkbox"/> Organics (Leaves/sticks/grass)=	
<input type="checkbox"/> Oily, obvious fuel/sulfur odors=	
<input type="checkbox"/> Received in 32oz jar(s)=Homogenized in Pyrex dish=	
<input type="checkbox"/> Other (Details)=	
Aqueous:	
<input type="checkbox"/> No Anomalies	
<input type="checkbox"/> Turbid/Color=	
<input type="checkbox"/> Particulates(%)=(Note: >5%=Notify Supervisor/Lead)	
<input type="checkbox"/> Emulsions (%)=	
<input type="checkbox"/> Oily, obvious fuel/sulfur odors=	
<input type="checkbox"/> Other (Details)=	
<input type="checkbox"/> Received in 1.0L Bottle(s)=No Bottle Rinse=	
<input type="checkbox"/> Other Notes/Comments= (Note problems, concerns, corrective actions).	
<input type="checkbox"/> Share Samples Y / N	
<input type="checkbox"/> Multiple Jars Y / N	
<input type="checkbox"/> Sample Pre-Screens indicate analyte activity=	
<input type="checkbox"/> Sample weights/volumes reduced based on Pre-Screen=	

Sample	Sample Weight(g)	Tare Weight(g)	Tare+Sample(g)	% Lipids
BFA0626-BLK1	5.0000	1.1515	1.1522	0.0140%
16K0124-01	5.2100	1.1637	1.2513	1.6814%
17A0053-01	5.1200	1.1520	1.1965	0.8691%
17A0053-04	5.1300	1.1611	1.2101	0.9552%
17A0053-05	5.1000	1.1640	1.2118	0.9373%
17A0053-06	5.0600	1.1432	1.2055	1.2312%
17A0053-07	5.1400	1.1560	1.2120	1.0895%
17A0053-08	5.0200	1.1640	1.2289	1.2928%
17A0053-09	5.1100	1.1487	1.2130	1.2583%
17A0053-10	5.1000	1.1627	1.2248	1.2176%
17A0053-11	5.1400	1.1615	1.2276	1.2860%
17A0053-12	5.1000	1.1566	1.2219	1.2804%
BFA0626-DUP1	5.0600	1.1689	1.2124	0.8597%



Form I
METHOD BLANK DATA SHEET

Blank

Bligh & Dyer (Mod)

TotalAnalytes

Batch: BFA0626

Laboratory ID: BFA0626-BLK1

Prepared: 01/31/17 12:30

Matrix: Tissue

Preparation: EPA 3550C-Mod (Ultrason

Analyzed: 02/10/17 16:51

Sequence:

Calibration:

Instrument: Inst

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Percent Lipids	0.014	1	0.010	0.010	

DUPLICATES
Bligh & Dyer (Mod)

PG-SMA2-2-MUS-170105

Laboratory: Analytical Resources, Inc.

SDG: 17A0053

Client: Anchor QEA, LLC

Project: Port Gamble Shellfish Monitoring

Matrix: Tissue

Laboratory ID: BFA0626-DUP1

Batch: BFA0626

Lab Source ID: 17A0053-05

Preparation: EPA 3550C-Mod (Ultrasonic)

Initial/Final: 5.06 g / 5 mL

Source Sample Name: PG-SMA2-2-MUS-170105

% Solids:

ANALYTE	CONTROL LIMIT	SAMPLE CONCENTRATION (%)	C	DUPLICATE CONCENTRATION (%)	C	RPD %	Q
Percent Lipids		0.91		0.85		7.26	

*: Values outside of QC limits

L: Analyte concentration is ≤ 5 times the reporting limit and the replicate control limit defaults to Dup = +/-RL instead of 20% RPD

HOLDING TIME SUMMARY

Analysis: Bligh & Dyer (Mod)

 Laboratory: Analytical Resources, Inc.

 SDG: 17A0053

 Client: Anchor QEA, LLC

 Project: Port Gamble Shellfish Monitoring

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
PG-SMA1-1-MUS-170105 17A0053-01	01/05/17 10:15	01/06/17 16:03	01/31/17 12:30	26	365	02/10/17 16:51	36	365	
PG-SMA2-1-MUS-170105 17A0053-04	01/05/17 13:02	01/06/17 16:03	01/31/17 12:30	25	365	02/10/17 16:51	36	365	
PG-SMA2-2-MUS-170105 17A0053-05	01/05/17 12:50	01/06/17 16:03	01/31/17 12:30	25	365	02/10/17 16:51	36	365	
PG-SMA2-3-MUS-170105 17A0053-06	01/05/17 12:40	01/06/17 16:03	01/31/17 12:30	25	365	02/10/17 16:51	36	365	
PG-SMA2-4-MUS-170105 17A0053-07	01/05/17 12:30	01/06/17 16:03	01/31/17 12:30	26	365	02/10/17 16:51	36	365	
PG-SMA2-5-MUS-170105 17A0053-08	01/05/17 12:20	01/06/17 16:03	01/31/17 12:30	26	365	02/10/17 16:51	36	365	
PG-PJ-1-MUS-170105 17A0053-09	01/05/17 14:53	01/06/17 16:03	01/31/17 12:30	25	365	02/10/17 16:51	36	365	
PG-GP-1-MUS-170105 17A0053-10	01/05/17 14:43	01/06/17 16:03	01/31/17 12:30	25	365	02/10/17 16:51	36	365	
PG-WS-1-MUS-170105 17A0053-11	01/05/17 14:35	01/06/17 16:03	01/31/17 12:30	25	365	02/10/17 16:51	36	365	
PG-SMA1-2-3-MUS-170105 17A0053-12	01/05/17 00:00	01/06/17 16:03	01/31/17 12:30	26	365	02/10/17 16:51	37	365	
Duplicate BFA0626-DUP1	01/05/17 12:50	01/06/17 16:03	01/31/17 12:30	25	365	02/10/17 16:51	36	365	

* Indicates hold time exceedance.



Analytical
Resources,
Incorporated

METHOD DETECTION AND REPORTING LIMITS

Bligh & Dyer (Mod)

Laboratory: Analytical Resources, Inc.

SDG: 17A0053

Client: Anchor QEA, LLC

Project: Port Gamble Shellfish Monitoring

Matrix: Tissue

Instrument:

Analyte	MDL	RL	Units
Percent Lipids	0.010	0.010	%

Data File: \\target\share\chem3\nt11.1\20170210.16\N1117021010.D

Date: 10-FEB-2017 16:27

Client ID:

Sample Info: 17A0053-01

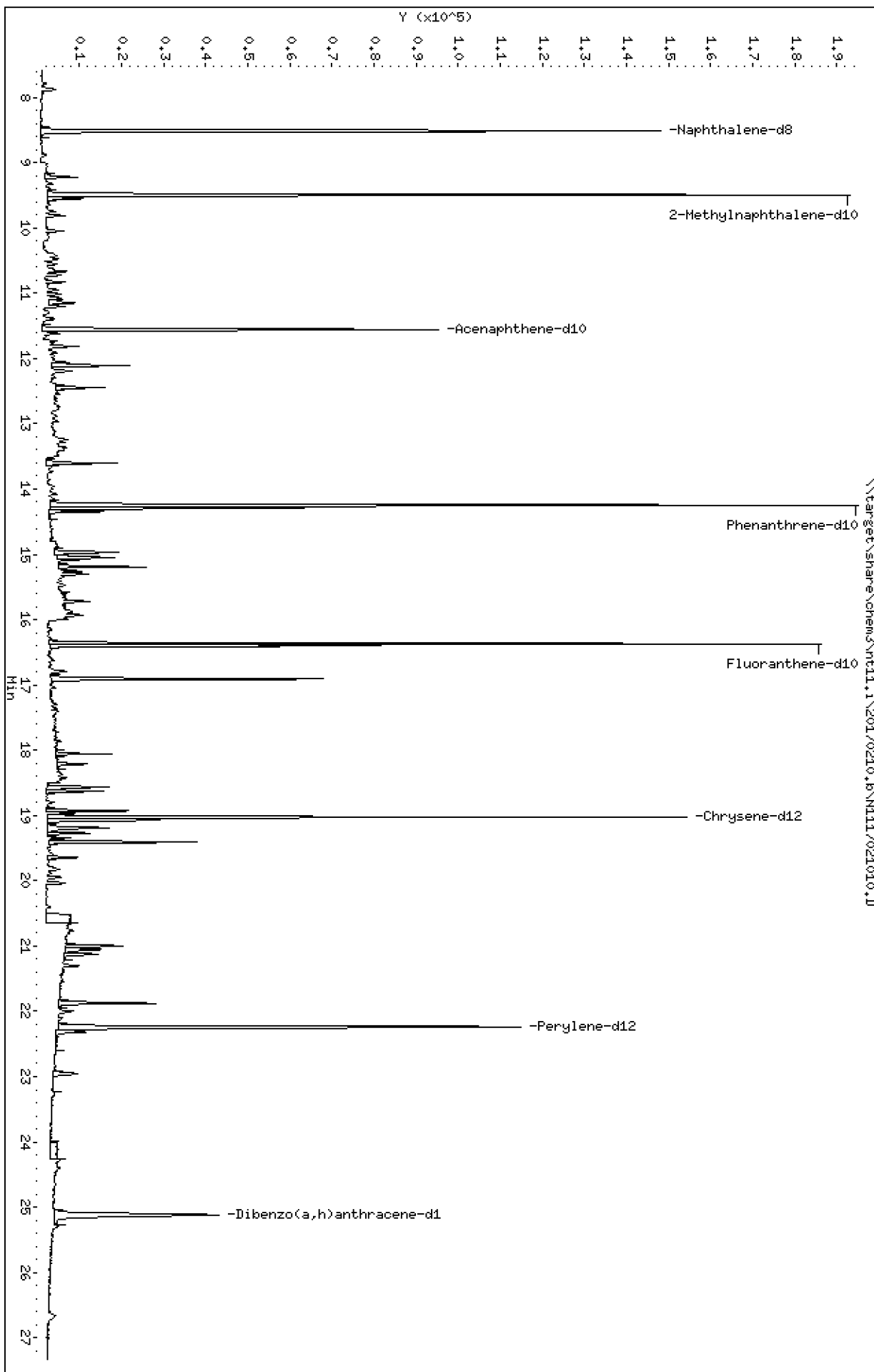
Column phase: Rxi-17S11 MS

Instrument: nt11.1

Operator: VTS

Column diameter: 0.25

Page 1



Date : 10-FEB-2017 16:27

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-01

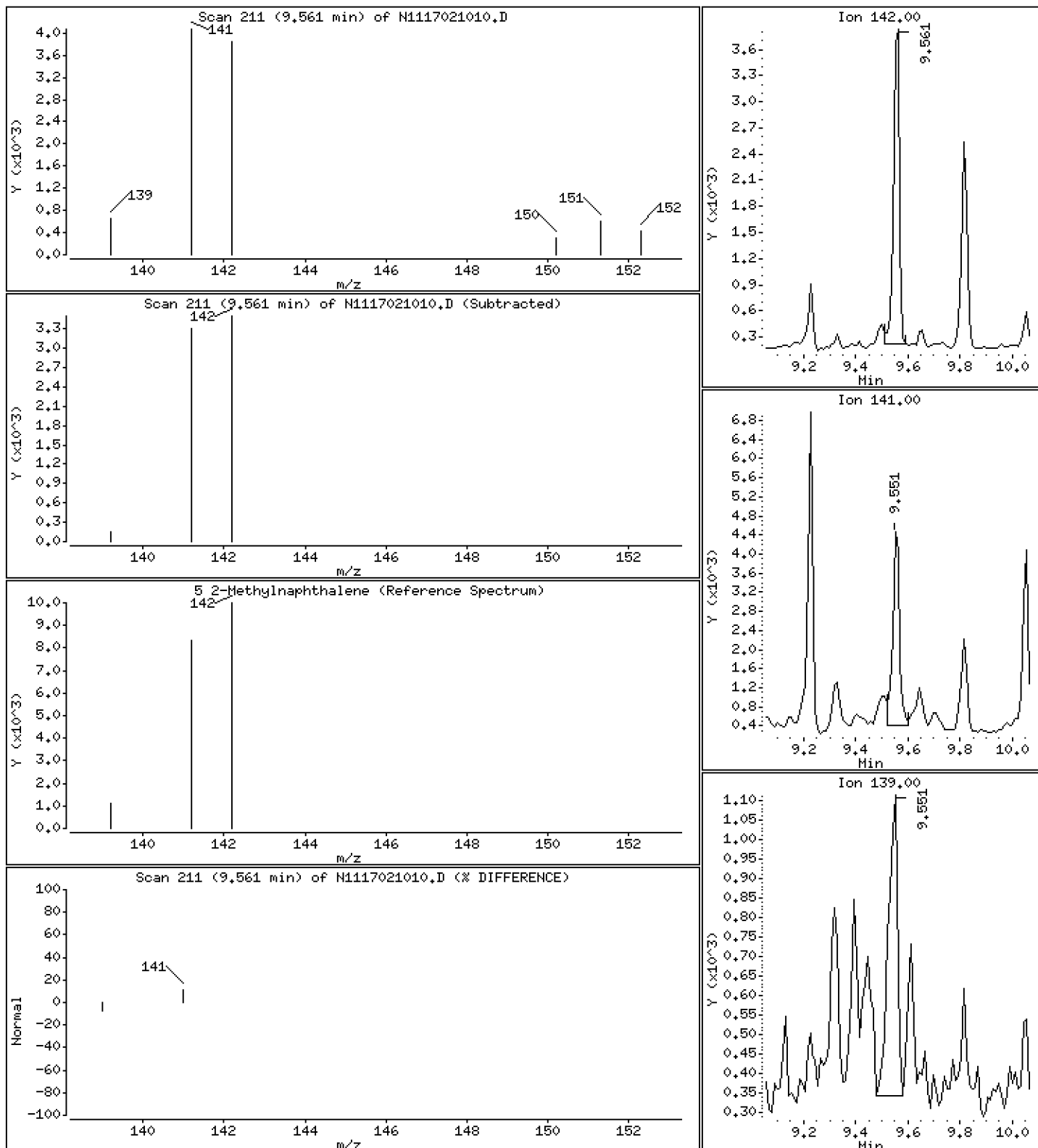
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0.25

5-2-Methylnaphthalene

Concentration: 6.07 ng/mL



Date : 10-FEB-2017 16:27

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-01

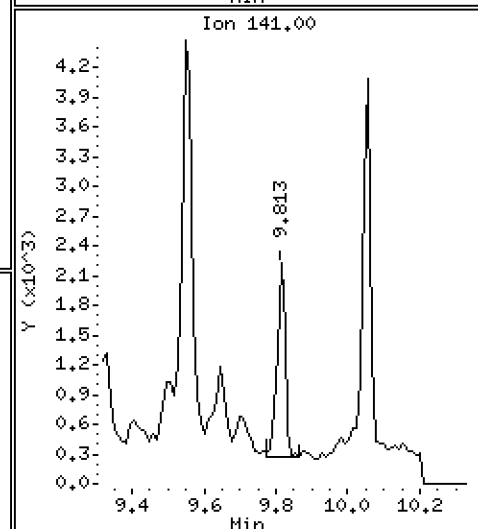
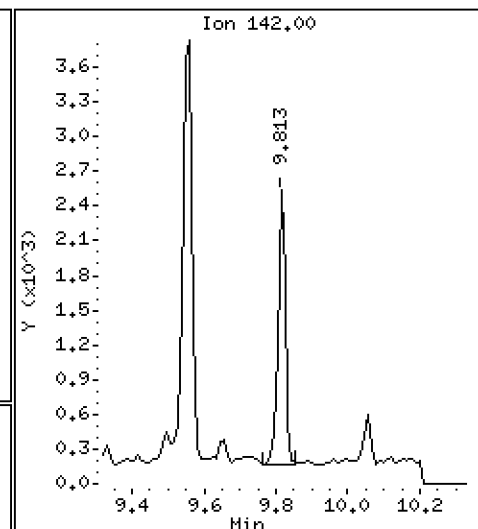
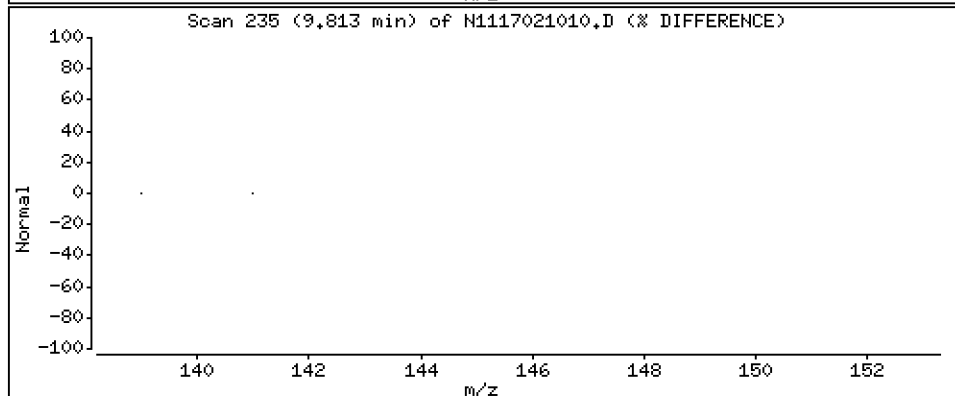
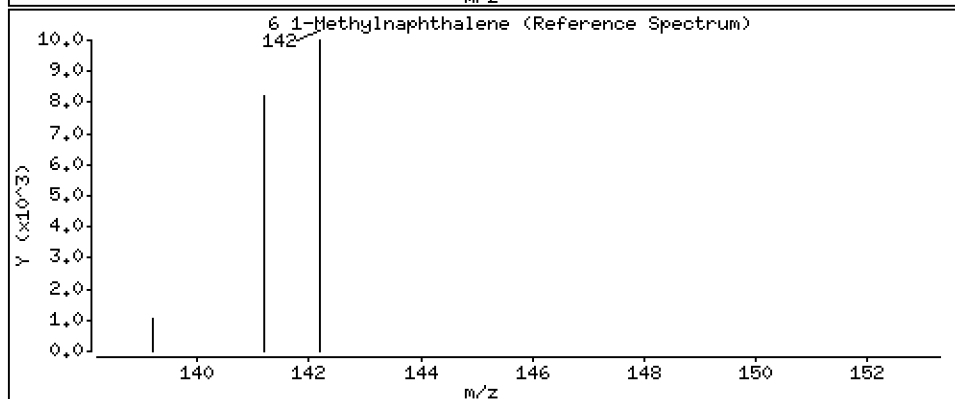
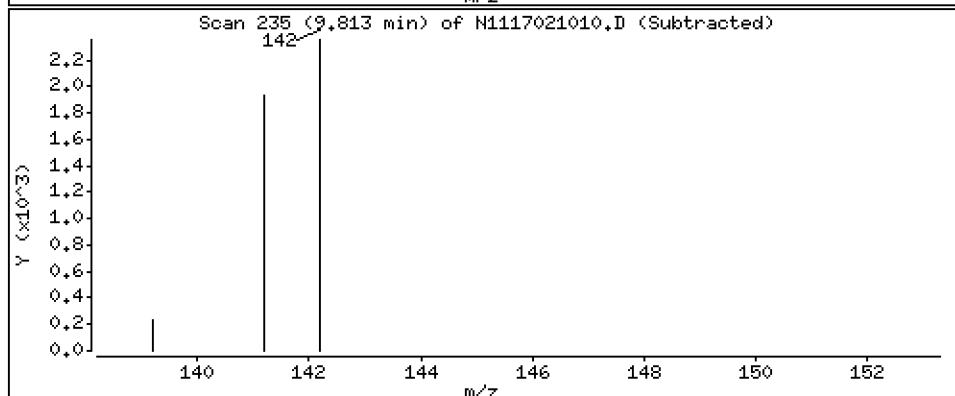
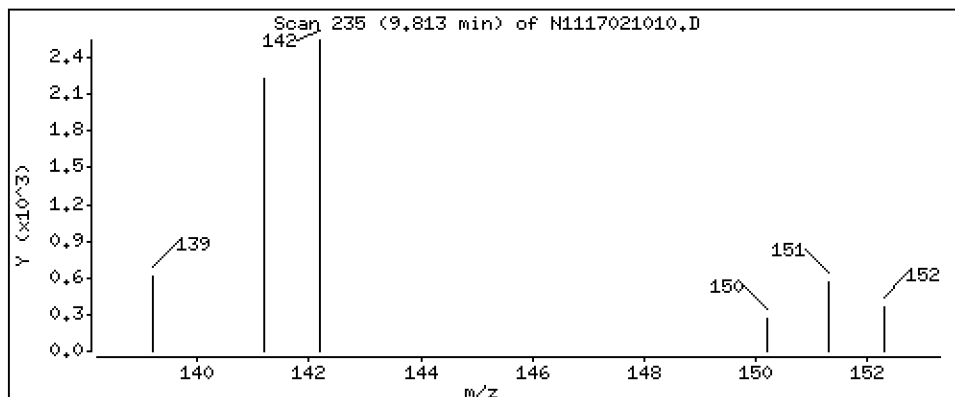
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

6-1-Methylnaphthalene

Concentration: 3,43 ng/mL



Date : 10-FEB-2017 16:27

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-01

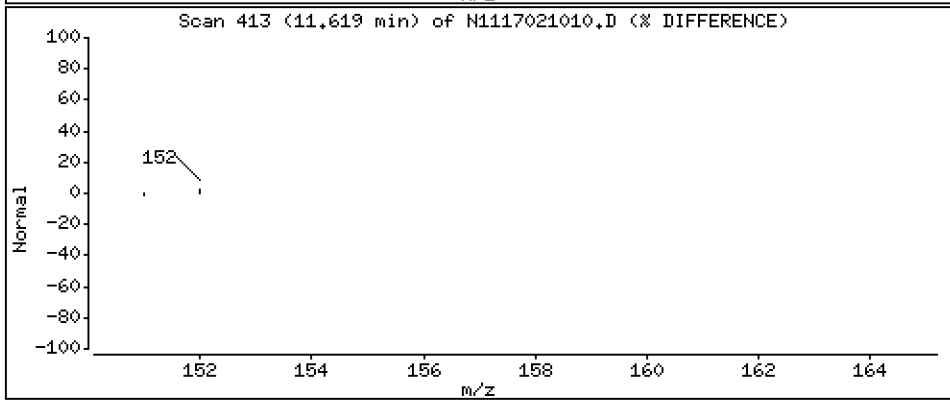
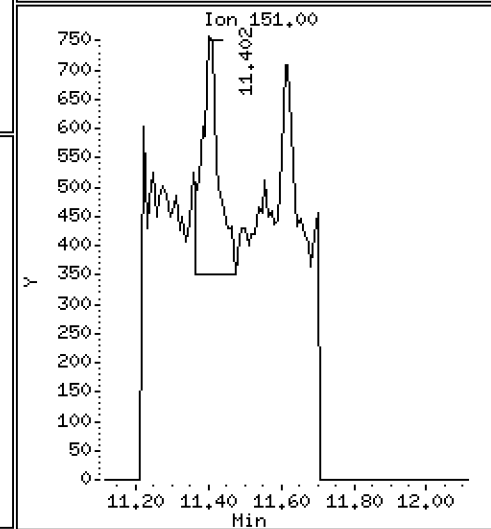
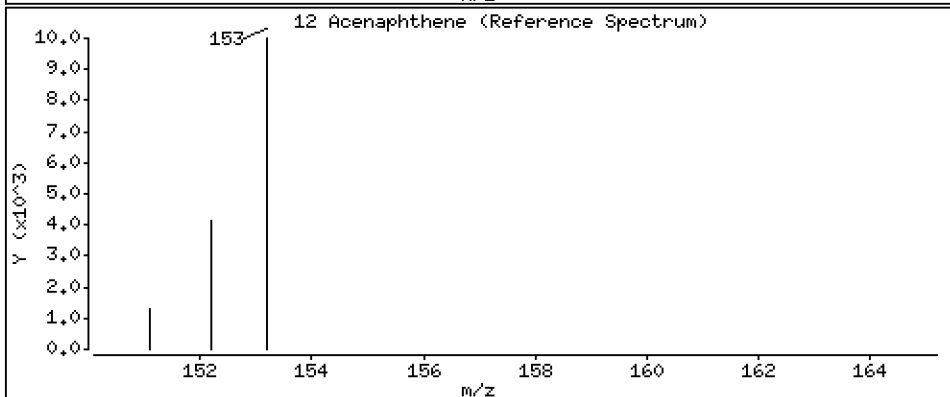
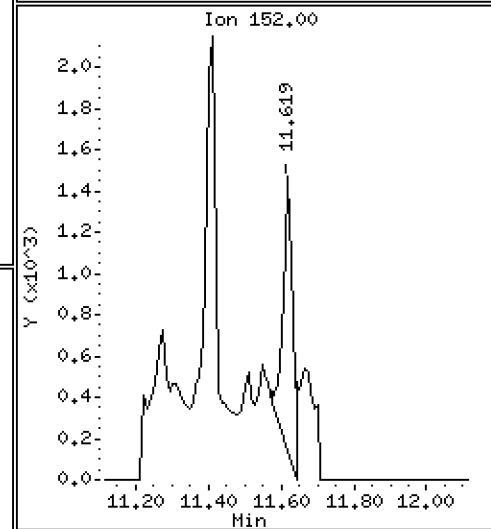
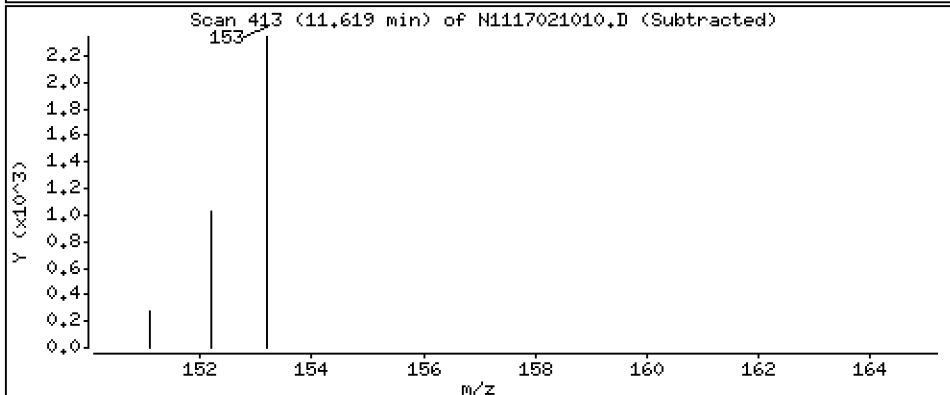
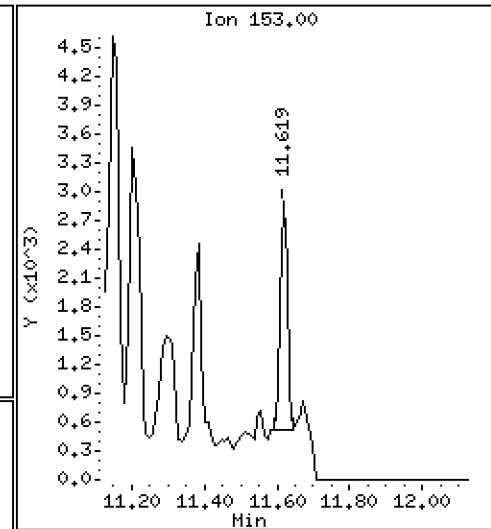
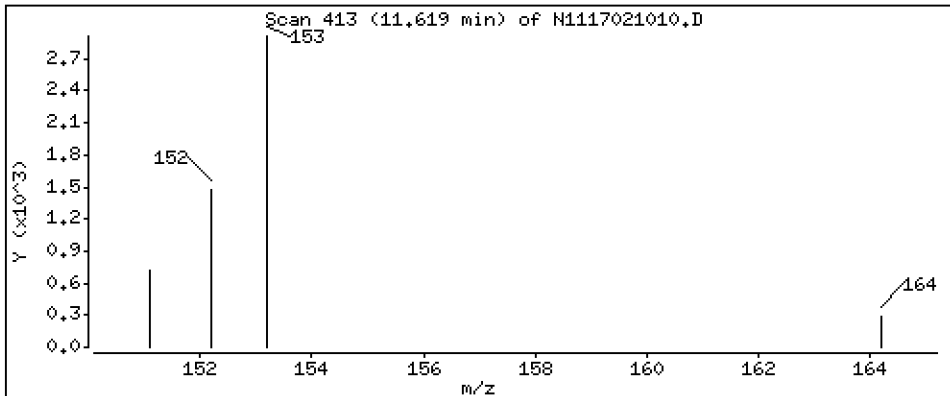
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

Concentration: 3,93 ng/mL

12 Acenaphthene



Date : 10-FEB-2017 16:27

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-01

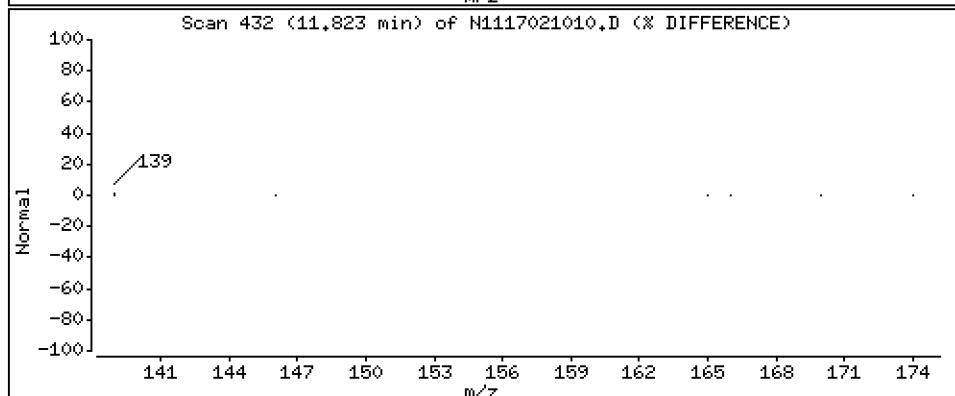
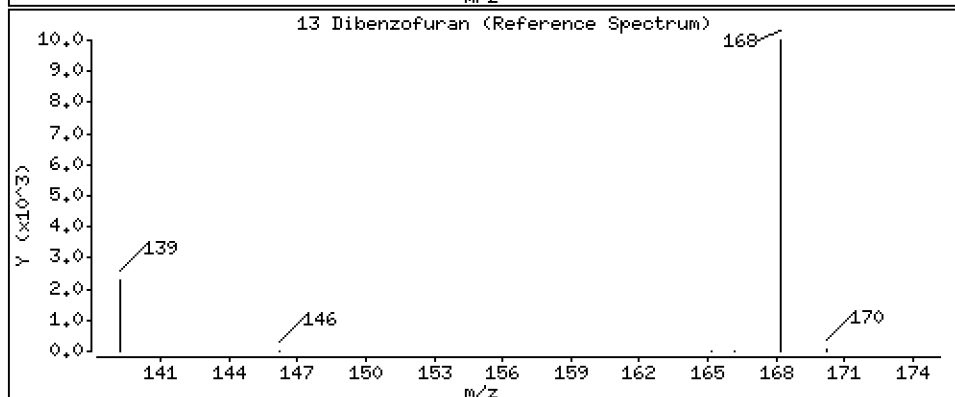
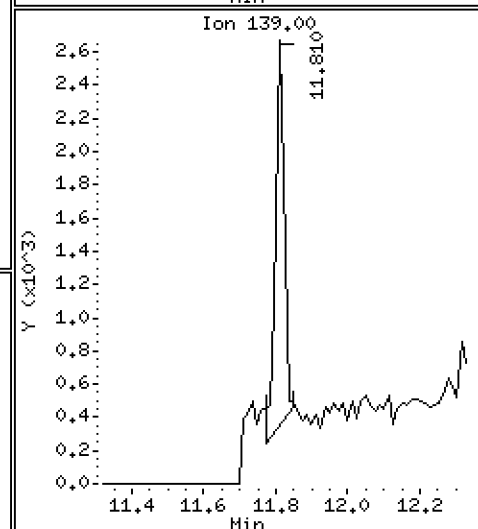
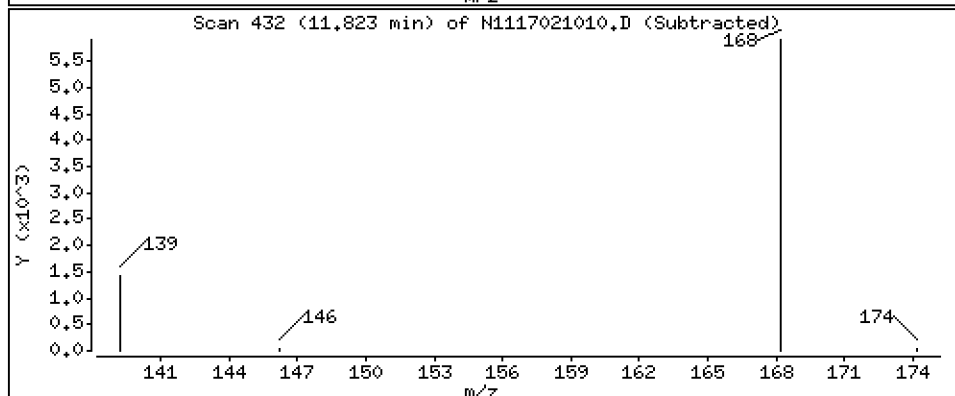
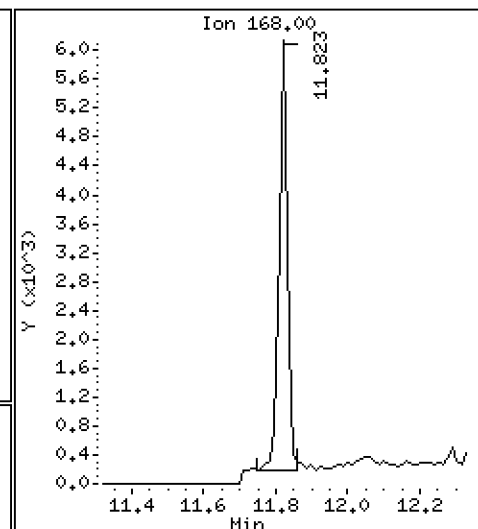
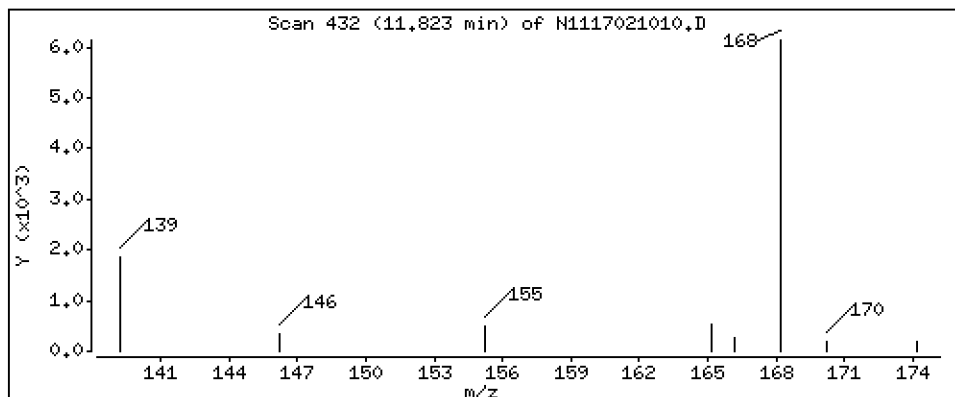
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

13 Dibenzofuran

Concentration: 7,16 ng/mL



Date : 10-FEB-2017 16:27

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-01

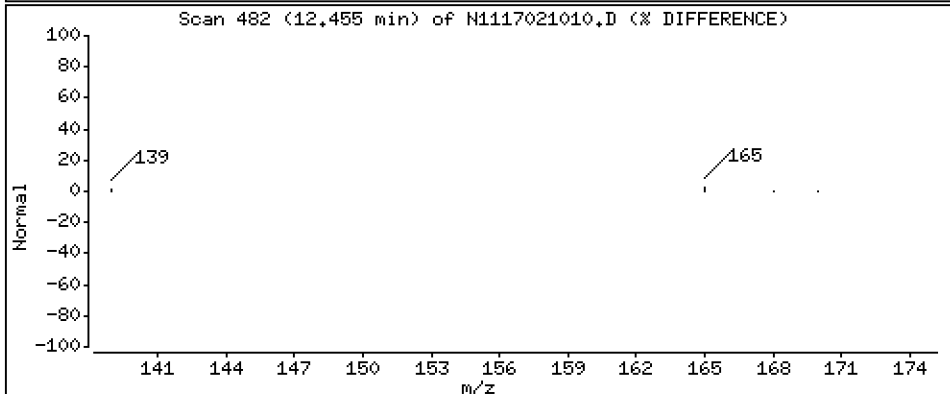
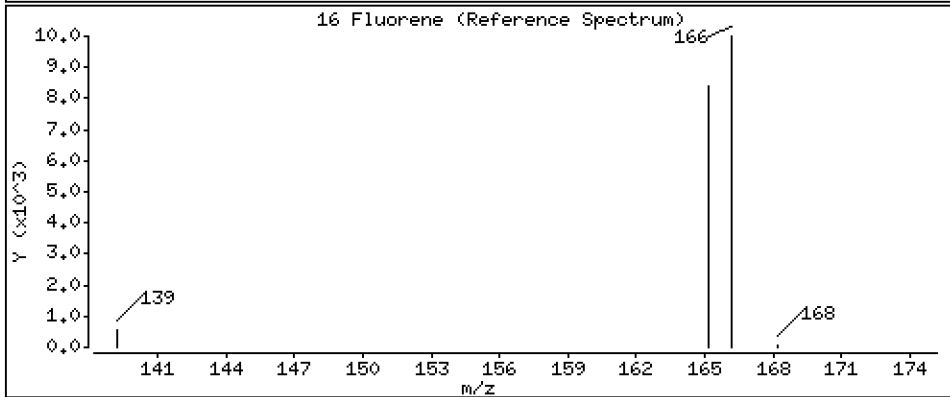
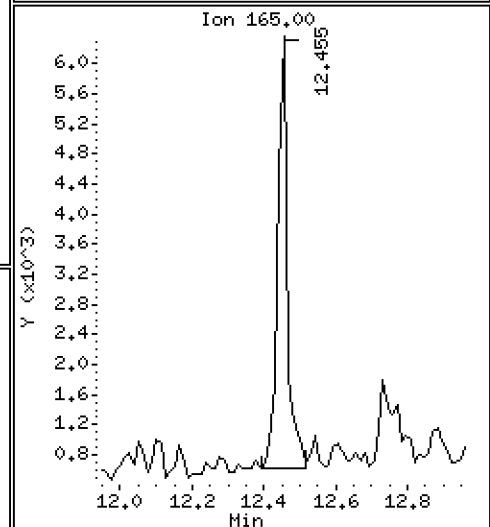
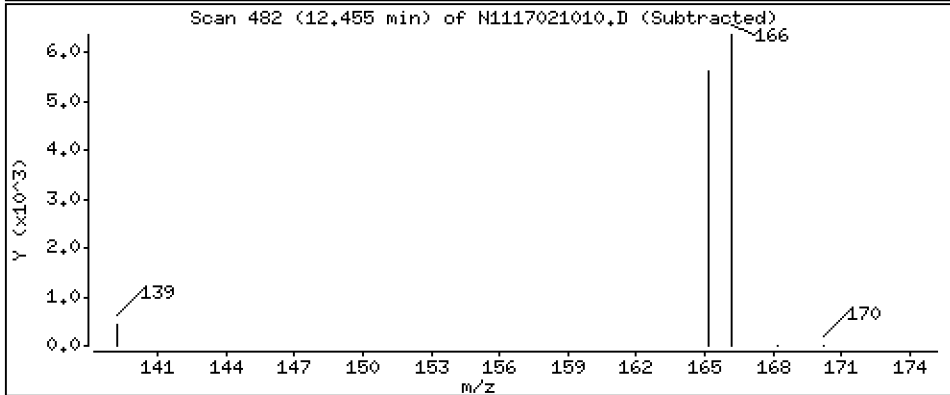
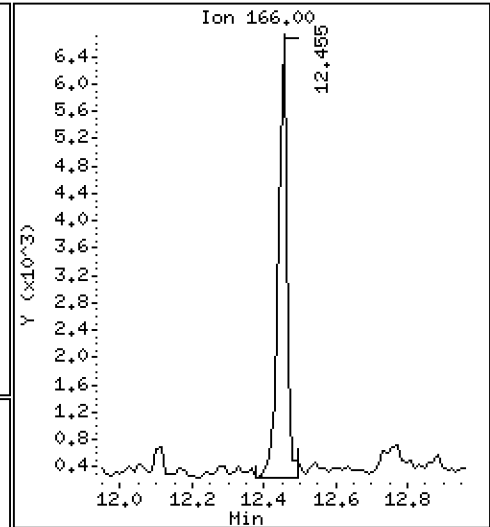
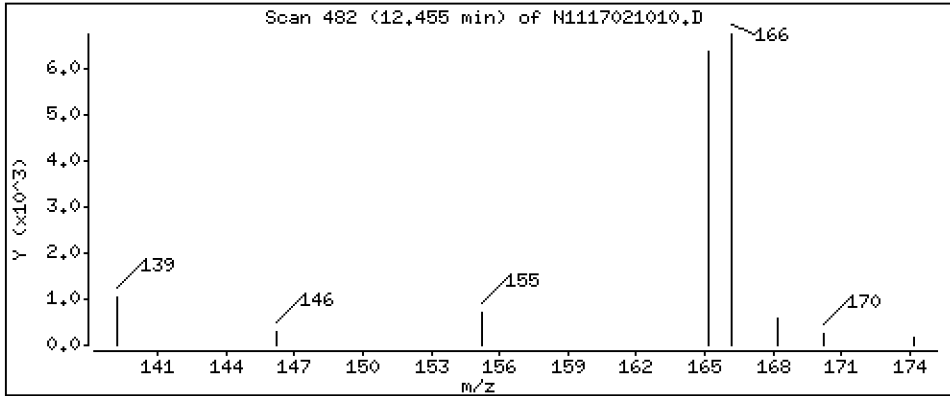
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

16 Fluorene

Concentration: 10,4 ng/mL



Date : 10-FEB-2017 16:27

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-01

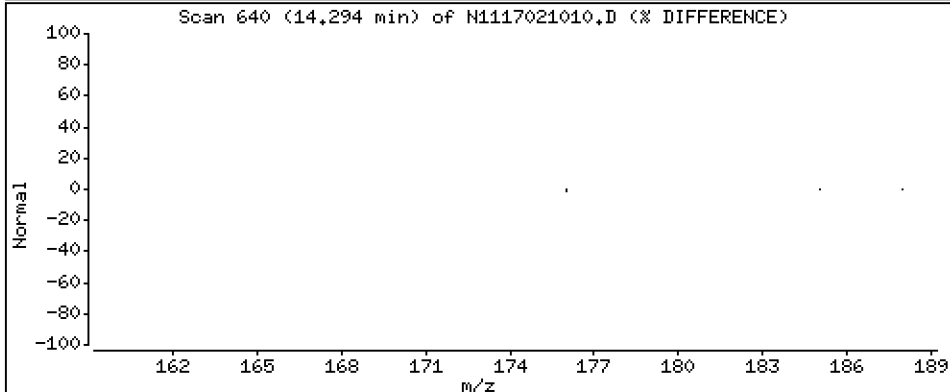
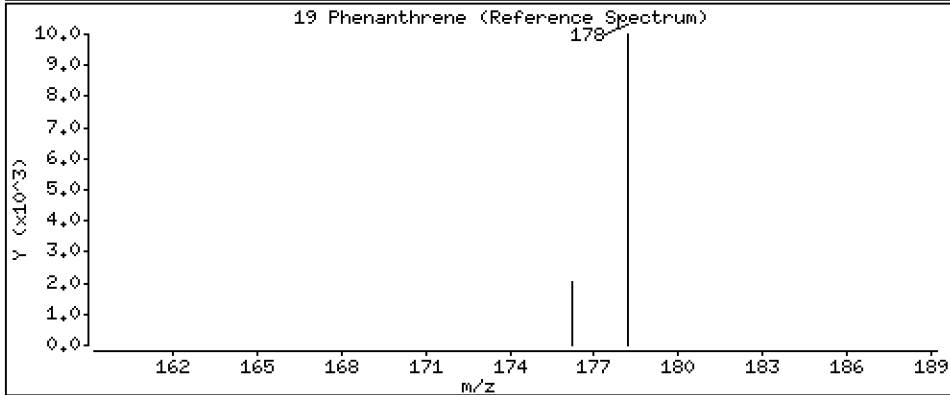
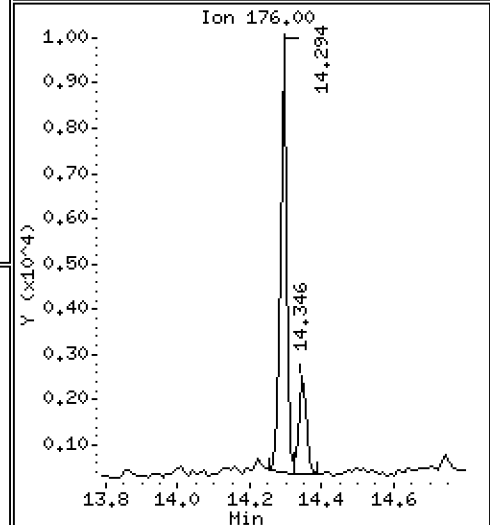
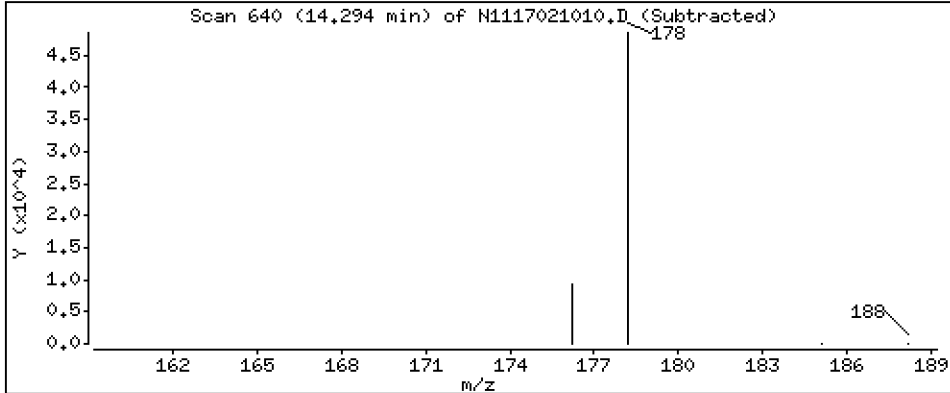
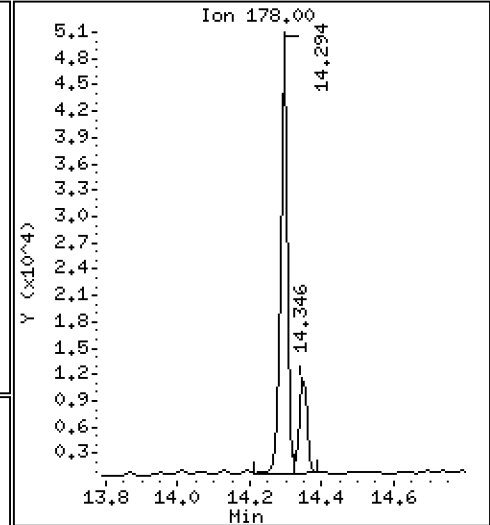
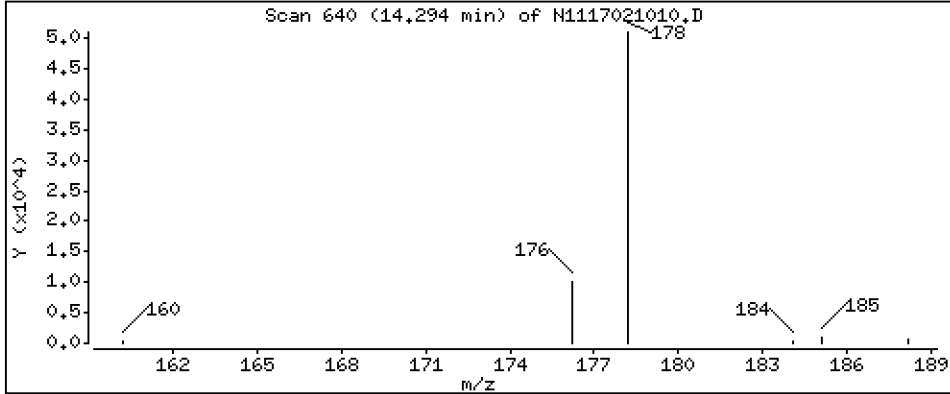
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

19 Phenanthrene

Concentration: 56,4 ng/mL



Date : 10-FEB-2017 16:27

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-01

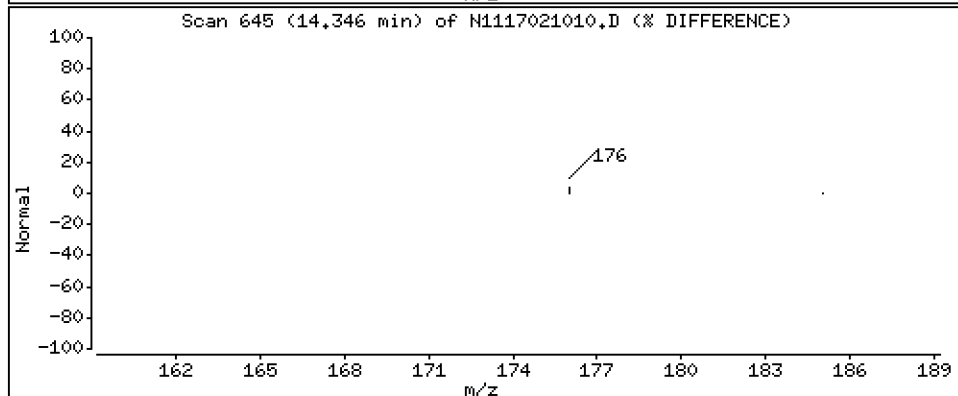
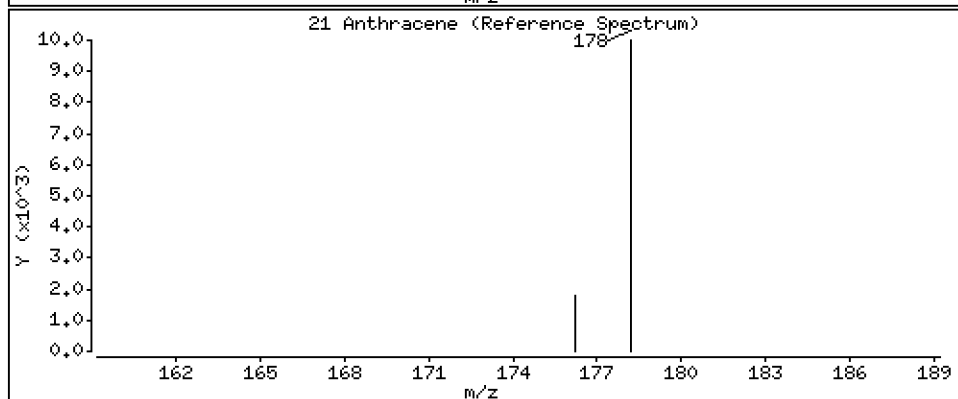
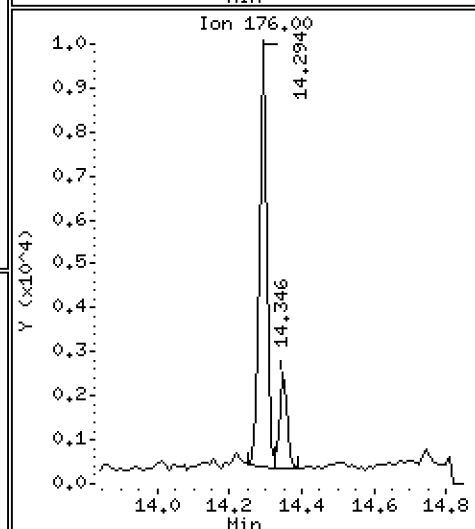
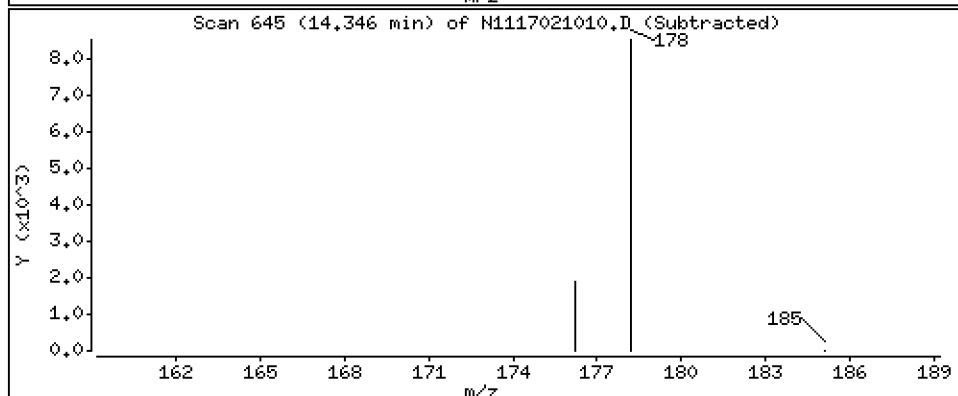
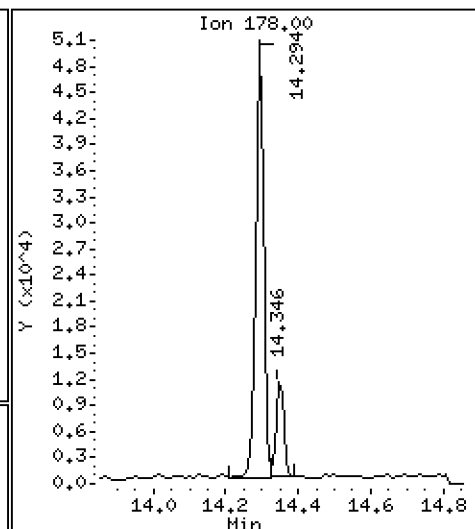
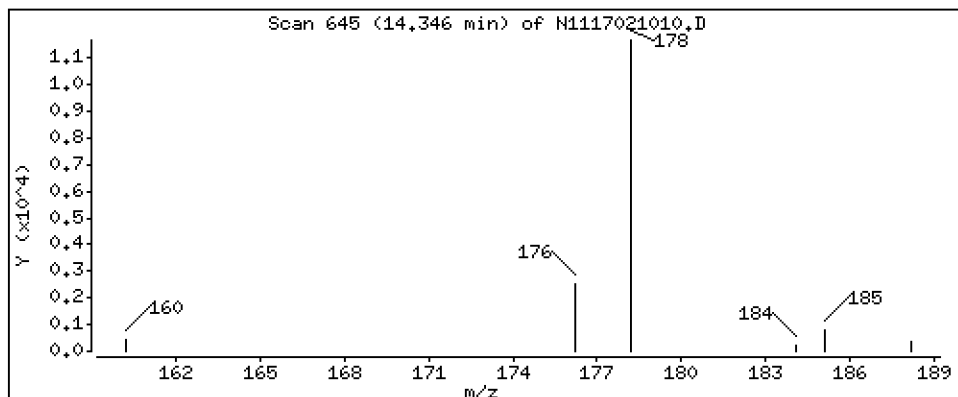
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

21 Anthracene

Concentration: 12,4 ng/mL



Date : 10-FEB-2017 16:27

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-01

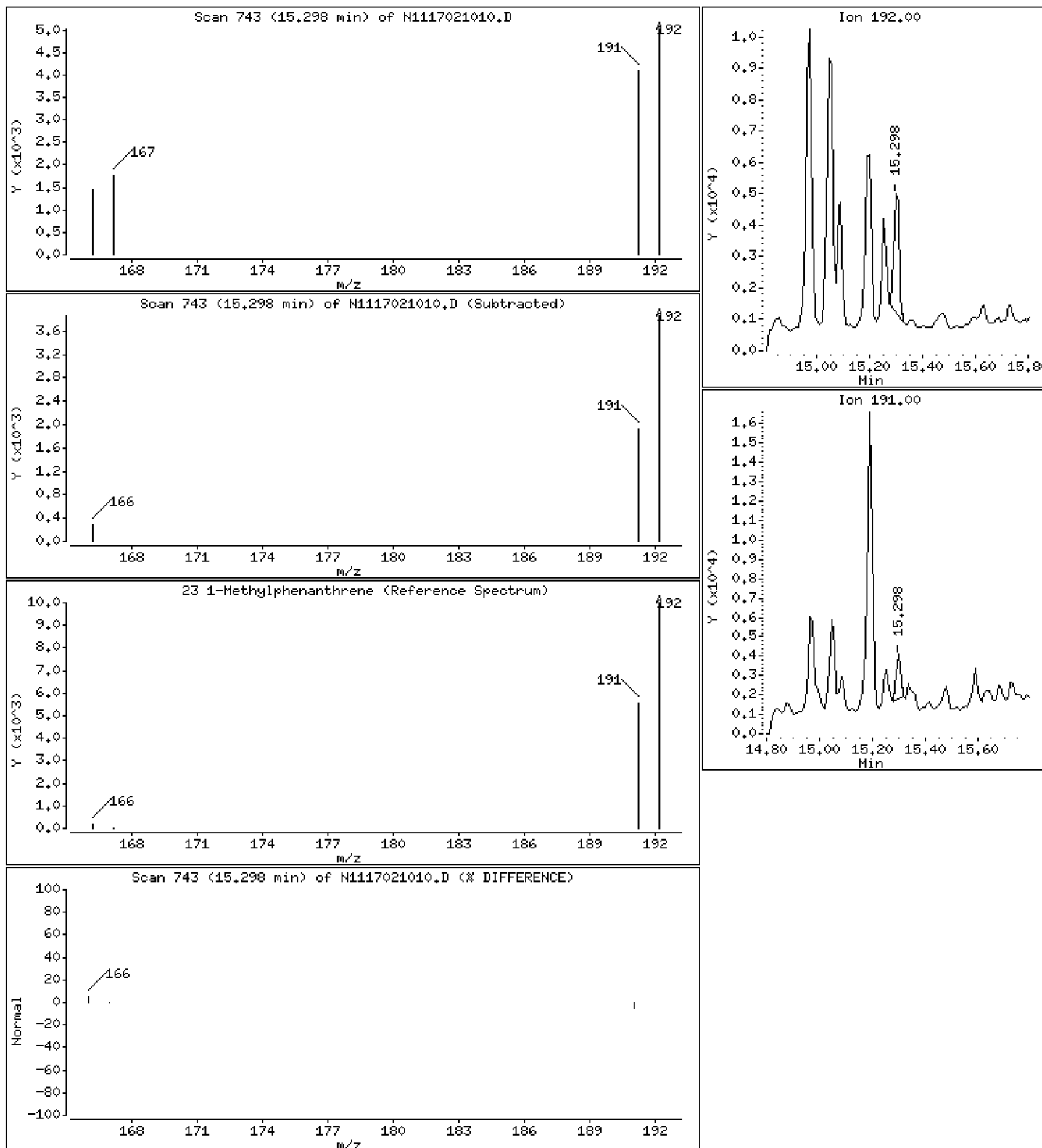
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0.25

23 1-Methylphenanthrene

Concentration: 3.82 ng/mL



Date : 10-FEB-2017 16:27

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-01

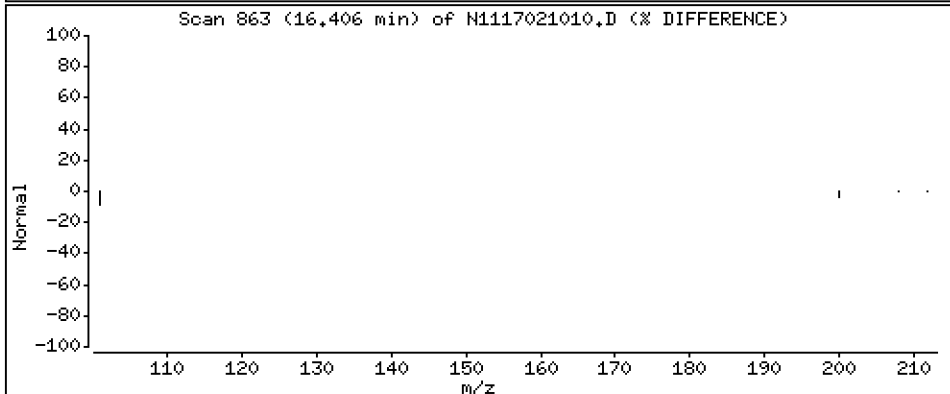
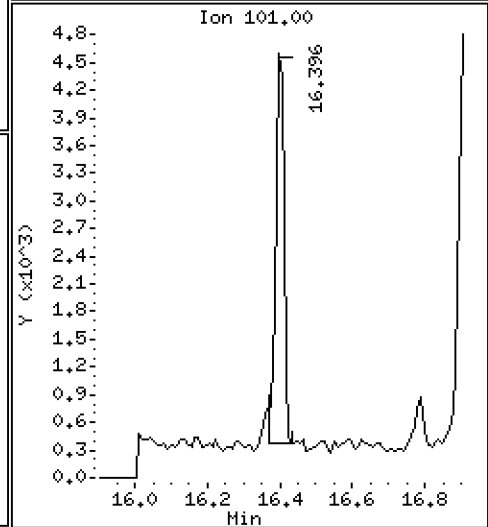
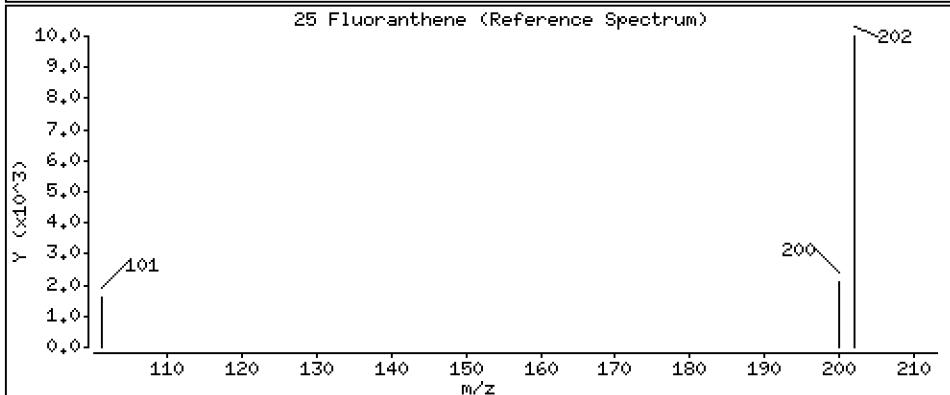
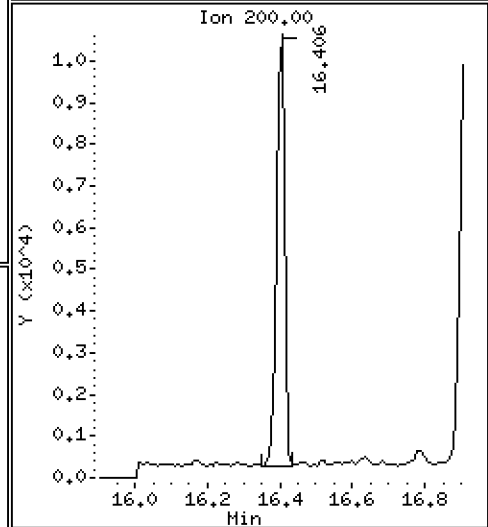
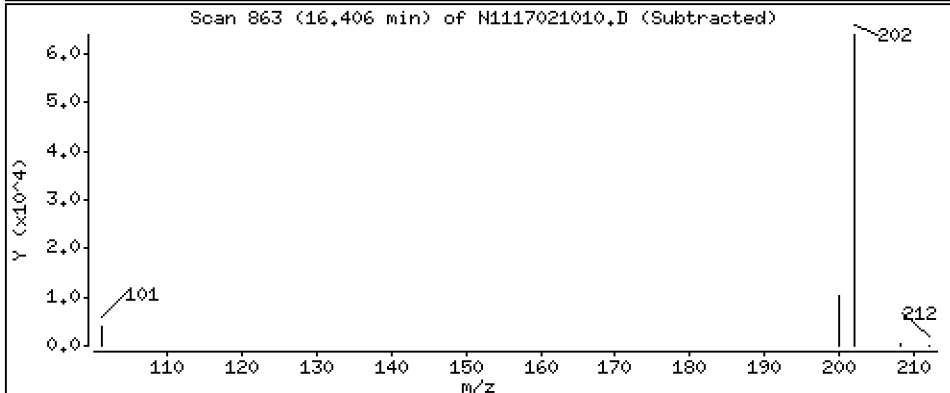
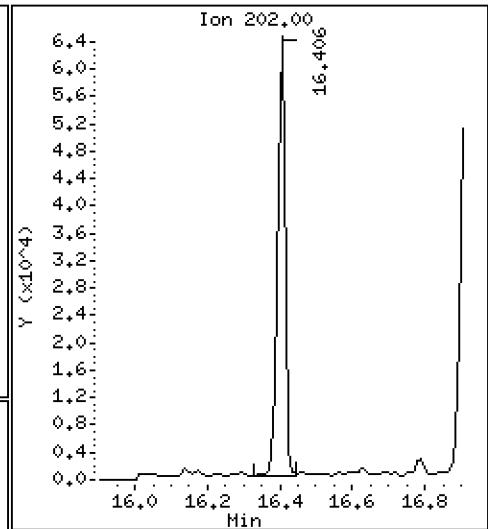
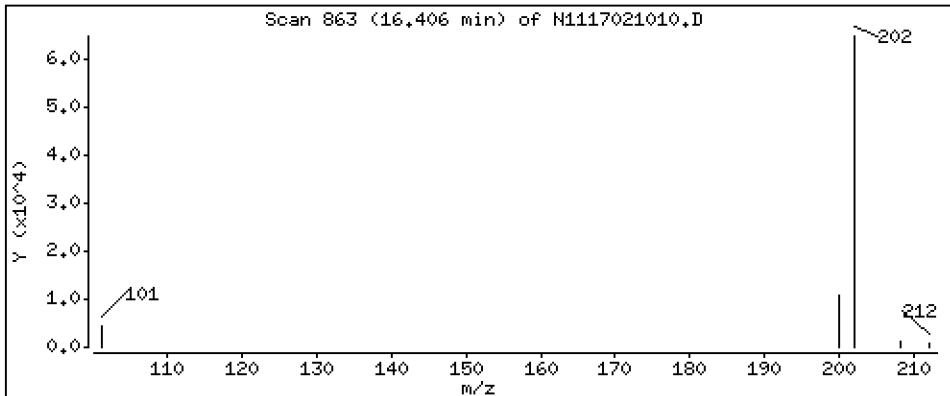
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

25 Fluoranthene

Concentration: 59,2 ng/mL



Date : 10-FEB-2017 16:27

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-01

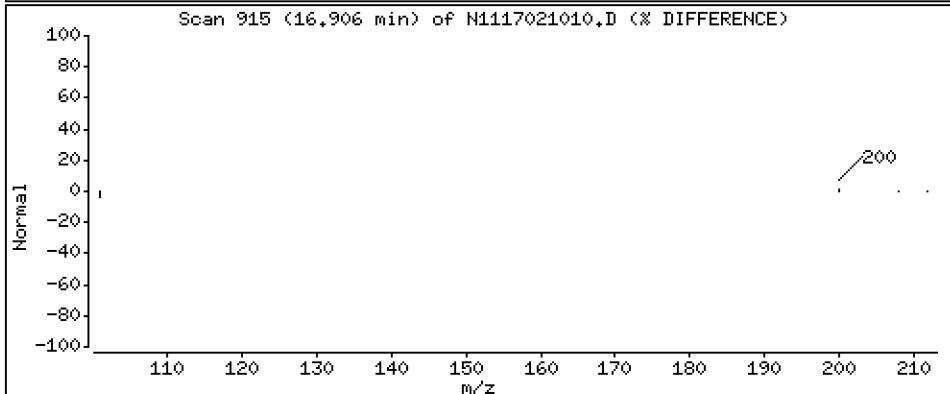
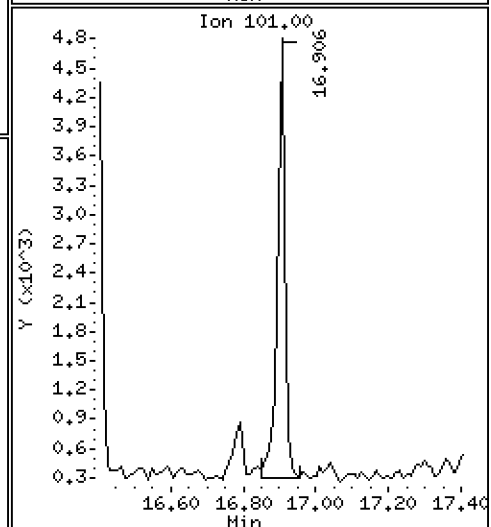
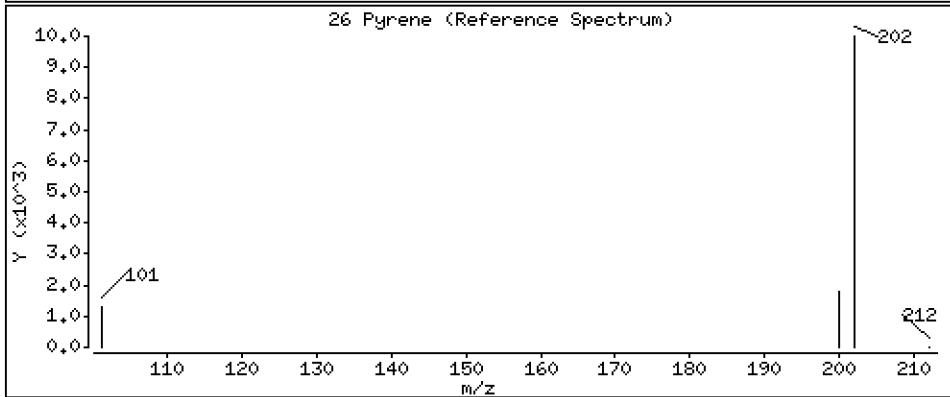
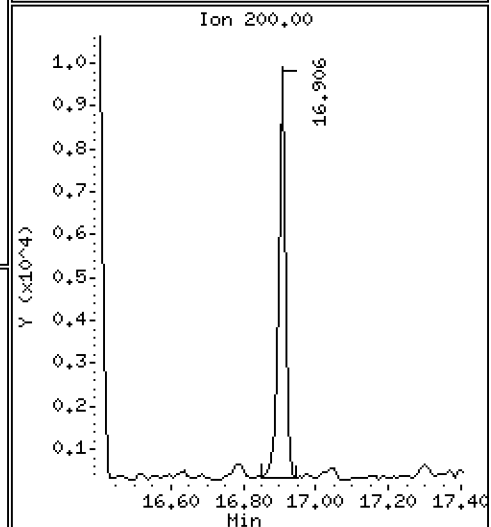
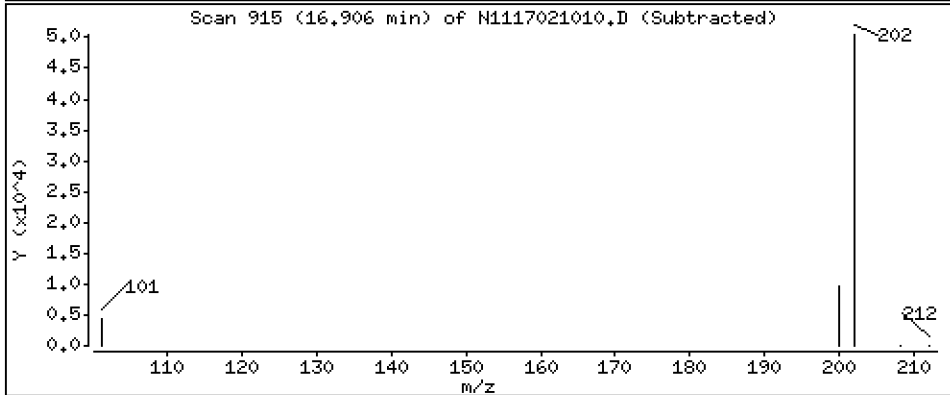
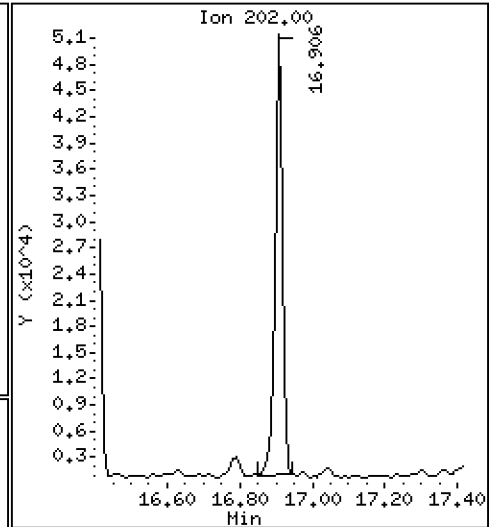
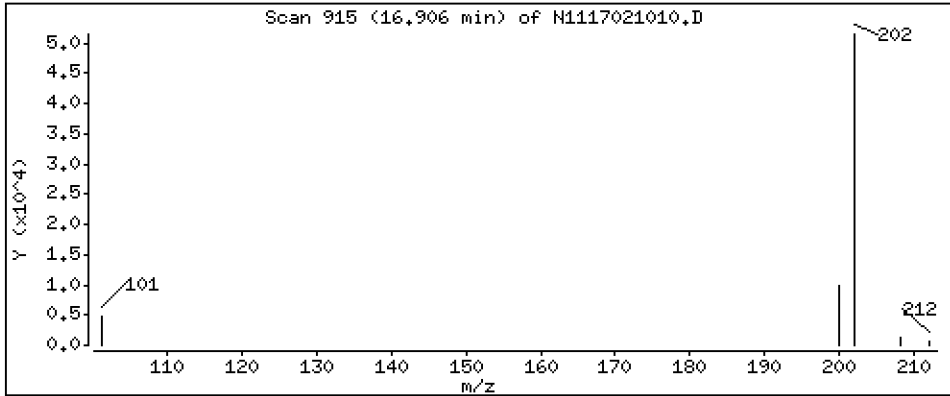
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

26 Pyrene

Concentration: 59,3 ng/mL



Date : 10-FEB-2017 16:27

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-01

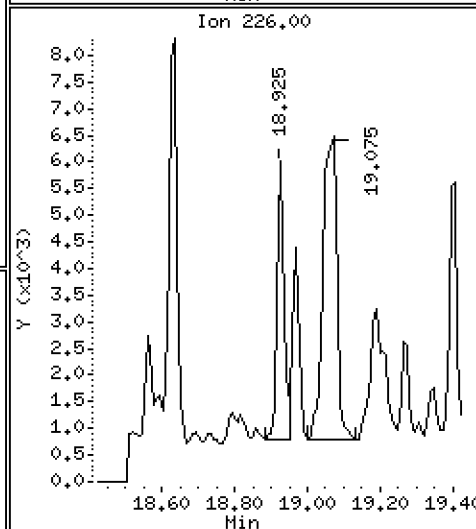
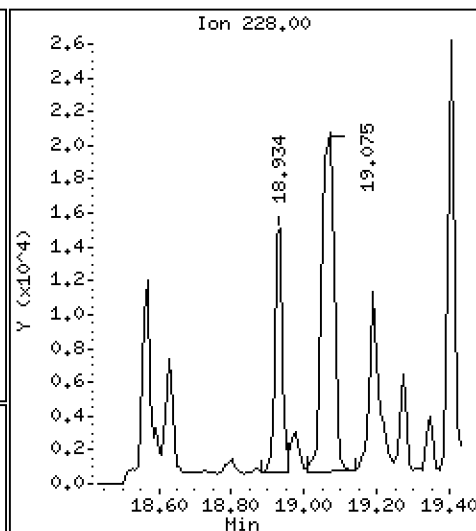
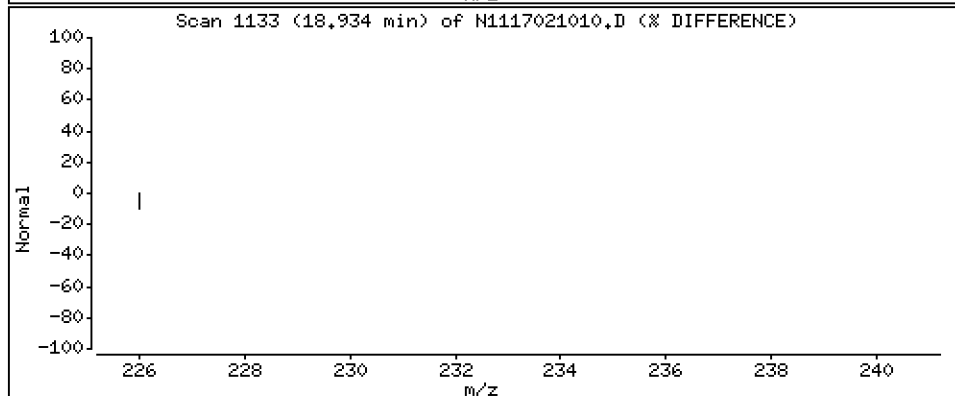
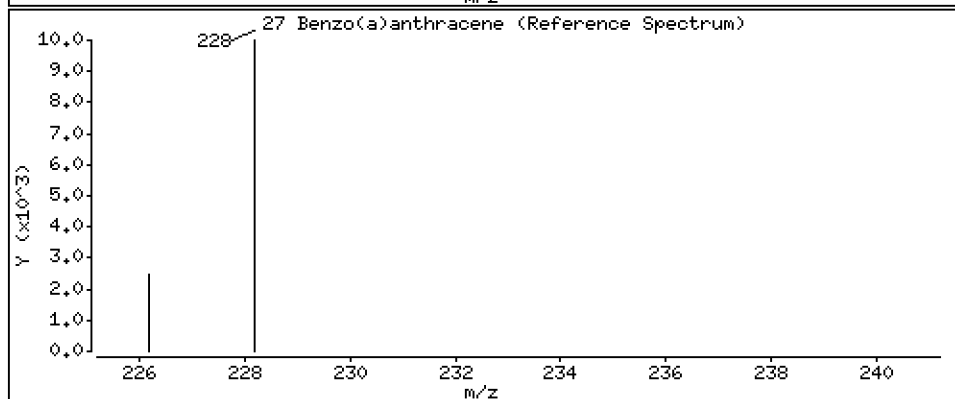
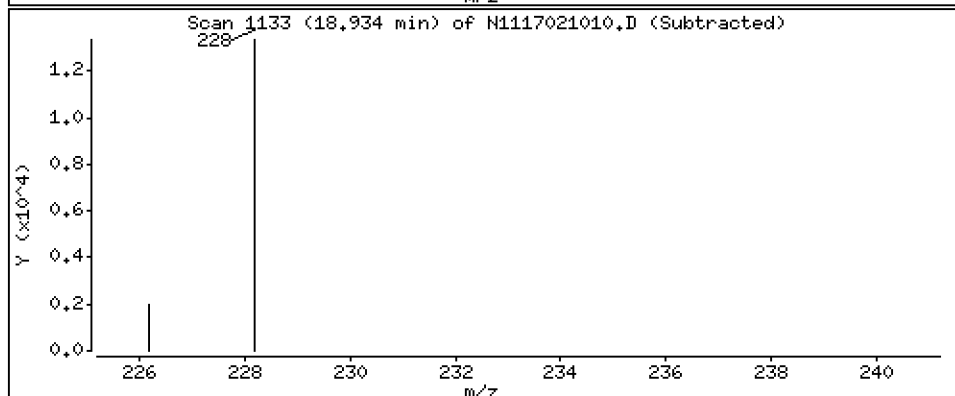
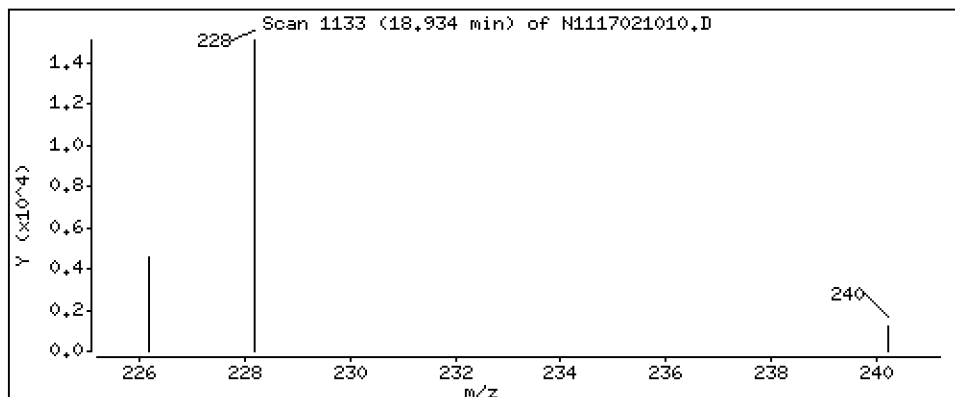
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

27 Benzo(a)anthracene

Concentration: 17,8 ng/mL



Date : 10-FEB-2017 16:27

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-01

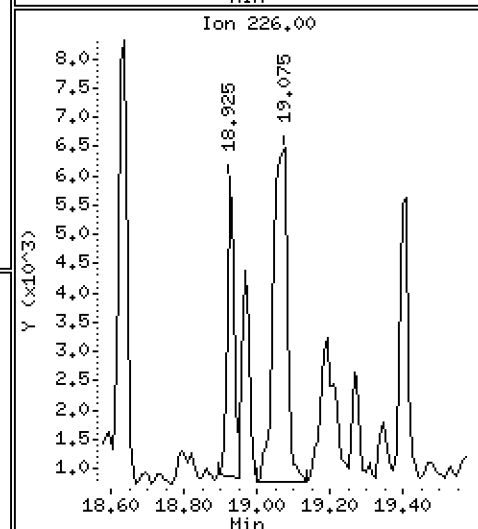
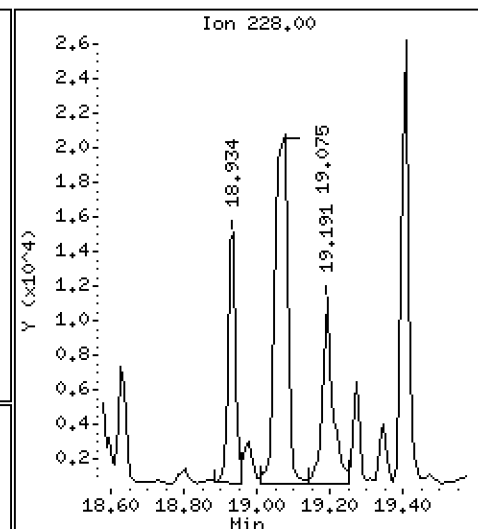
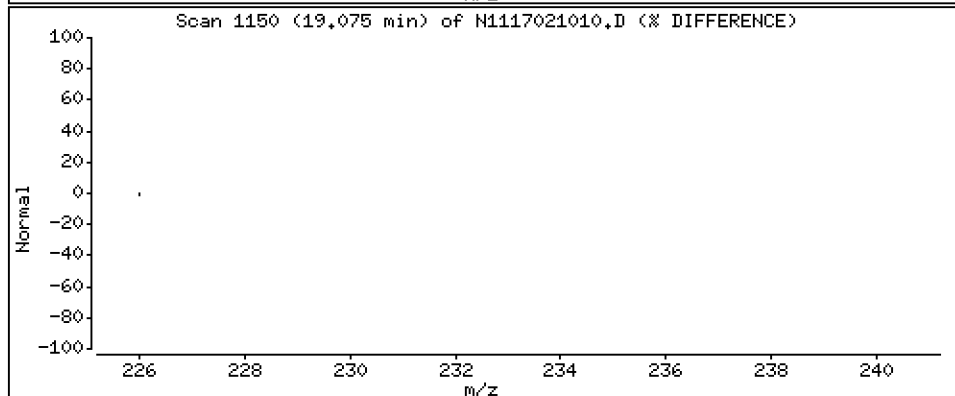
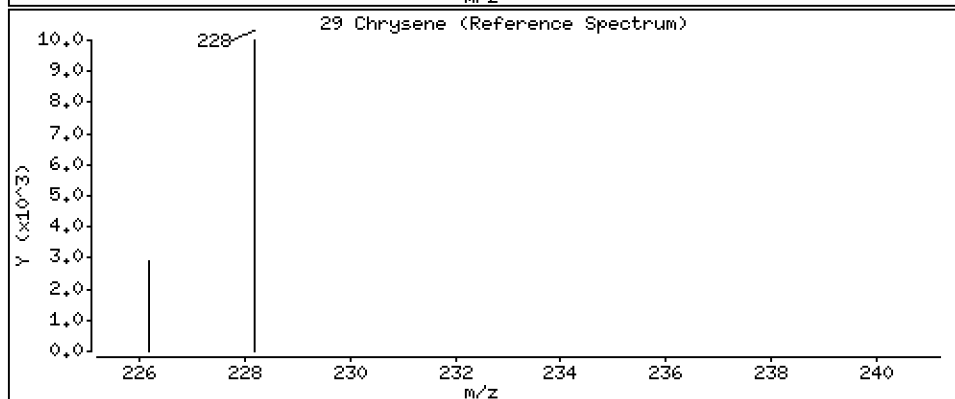
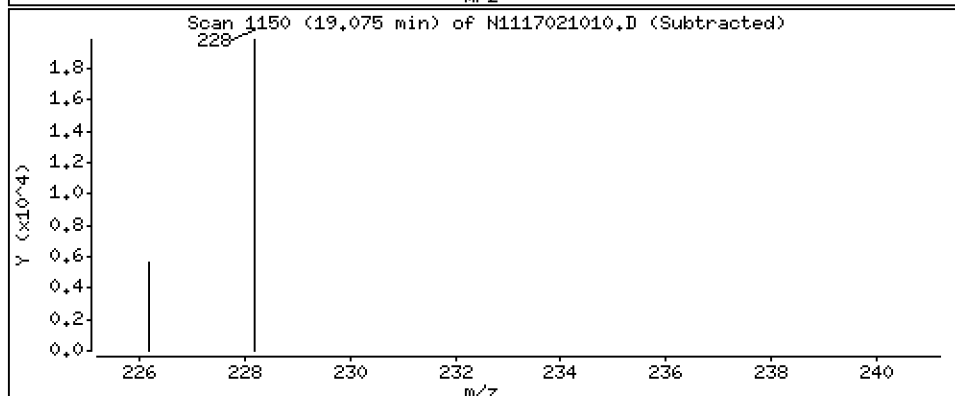
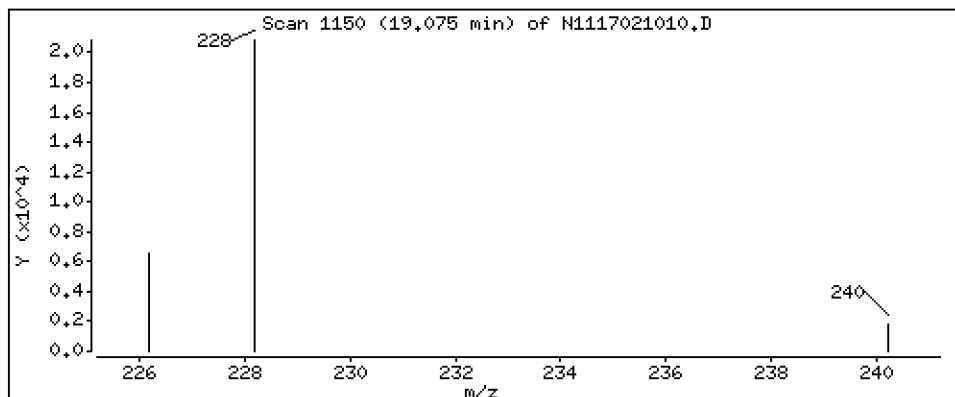
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

29 Chrysene

Concentration: 40,1 ng/mL



Date : 10-FEB-2017 16:27

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-01

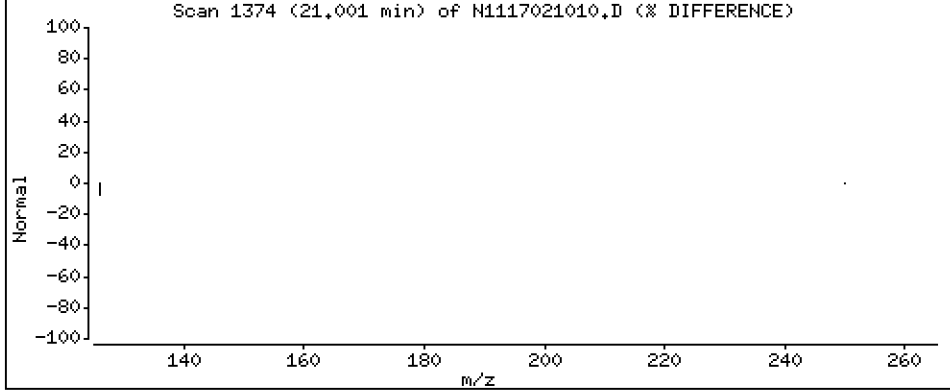
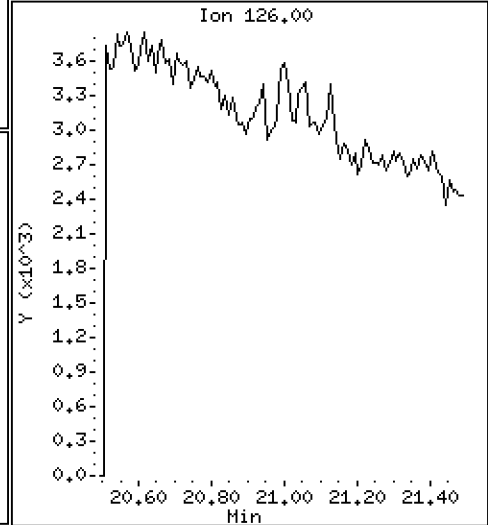
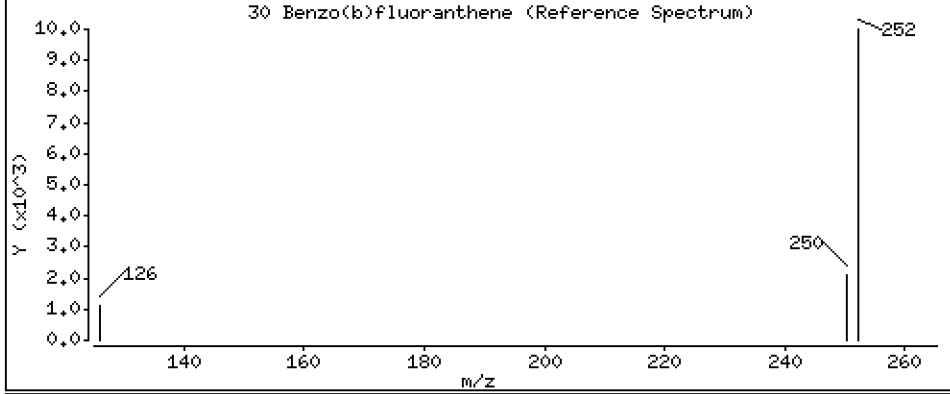
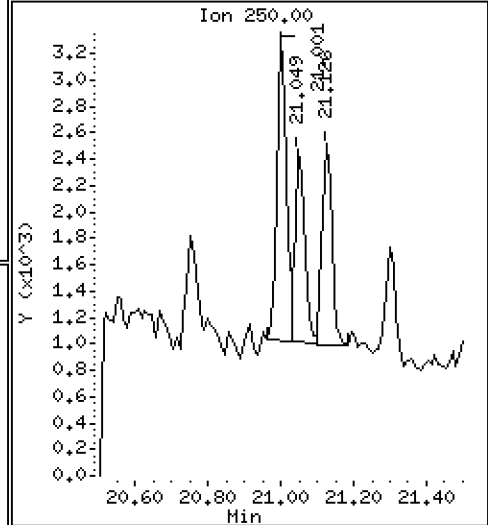
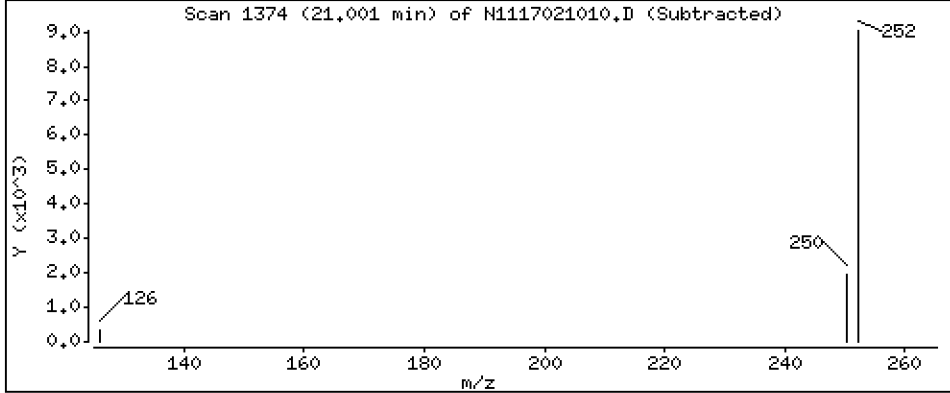
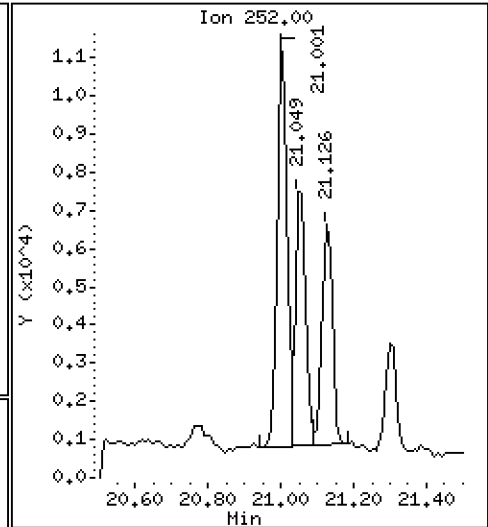
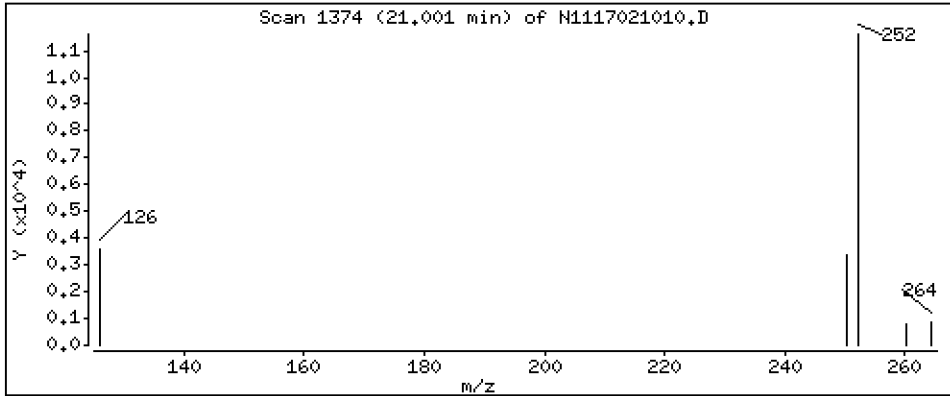
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

30 Benzo(b)fluoranthene

Concentration: 18,4 ng/mL



Date : 10-FEB-2017 16:27

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-01

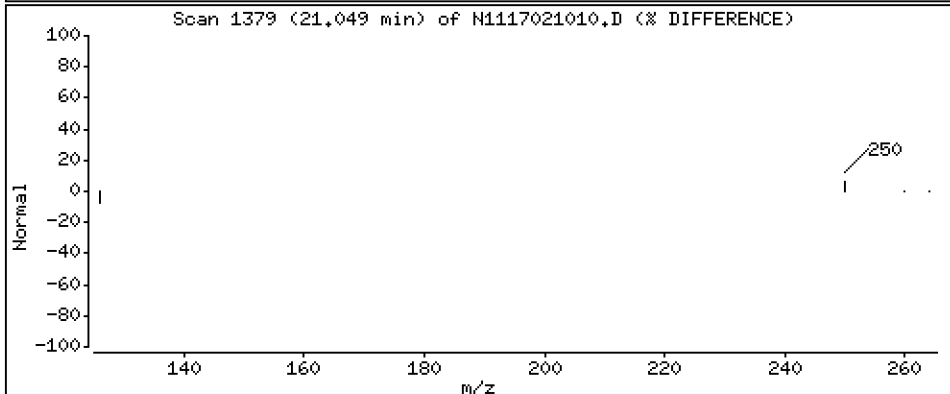
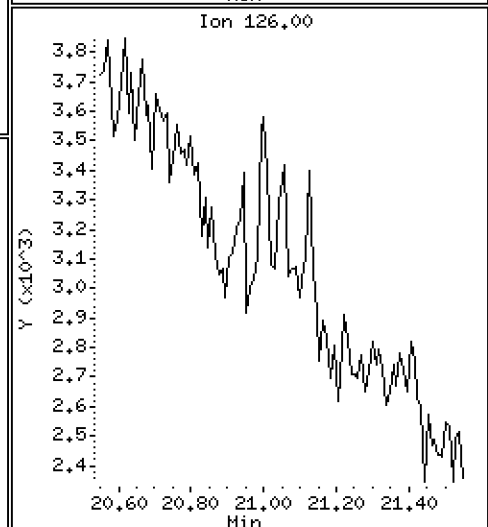
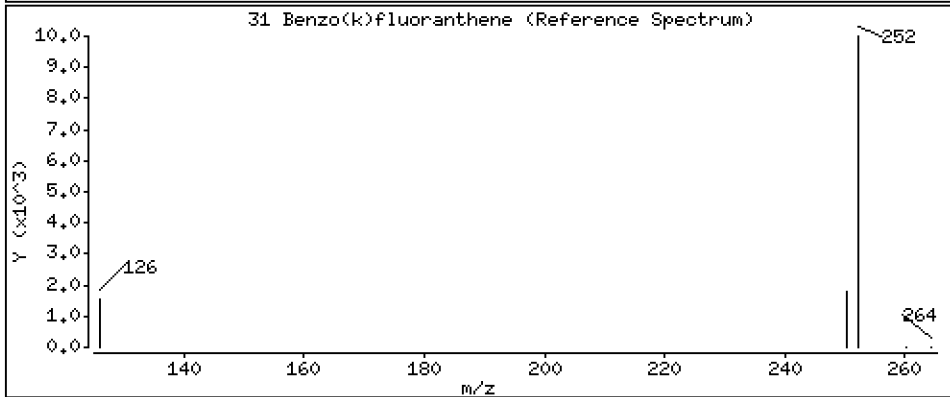
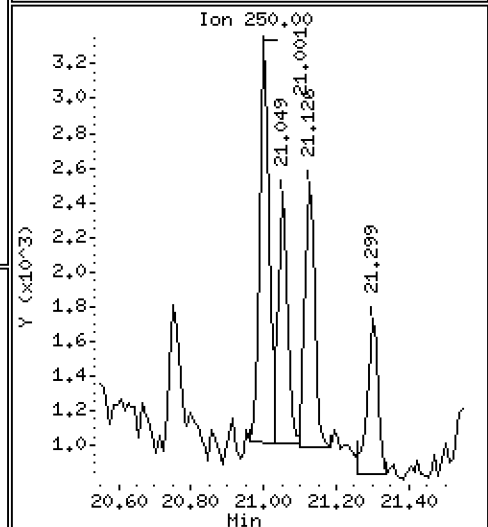
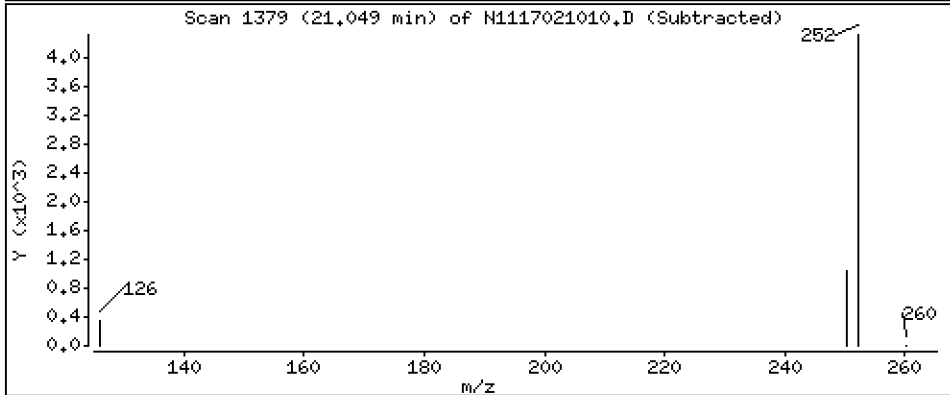
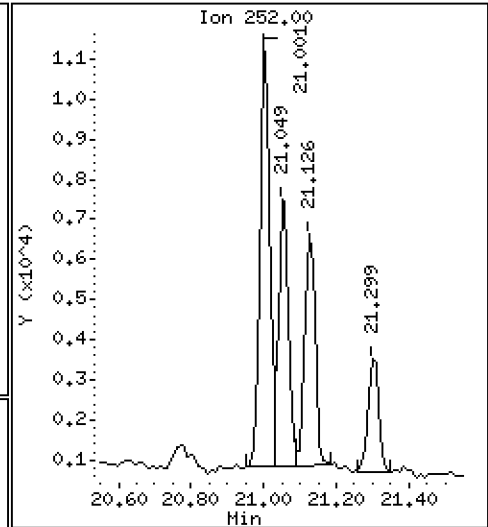
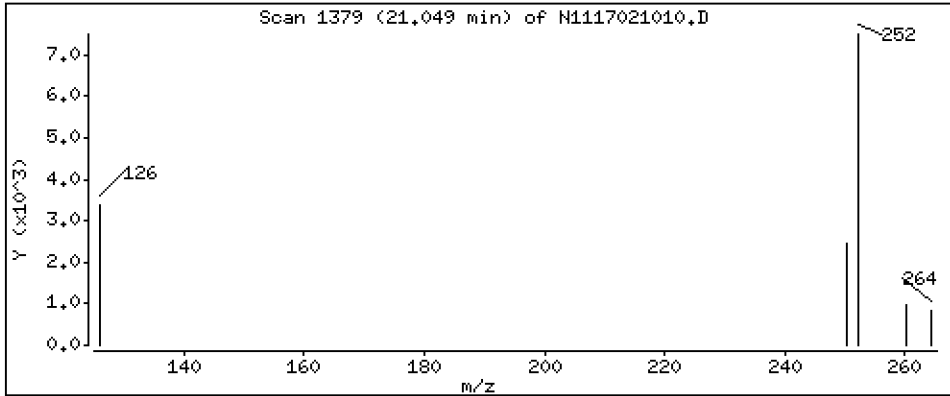
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

31 Benzo(k)fluoranthene

Concentration: 11,2 ng/mL



Date : 10-FEB-2017 16:27

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-01

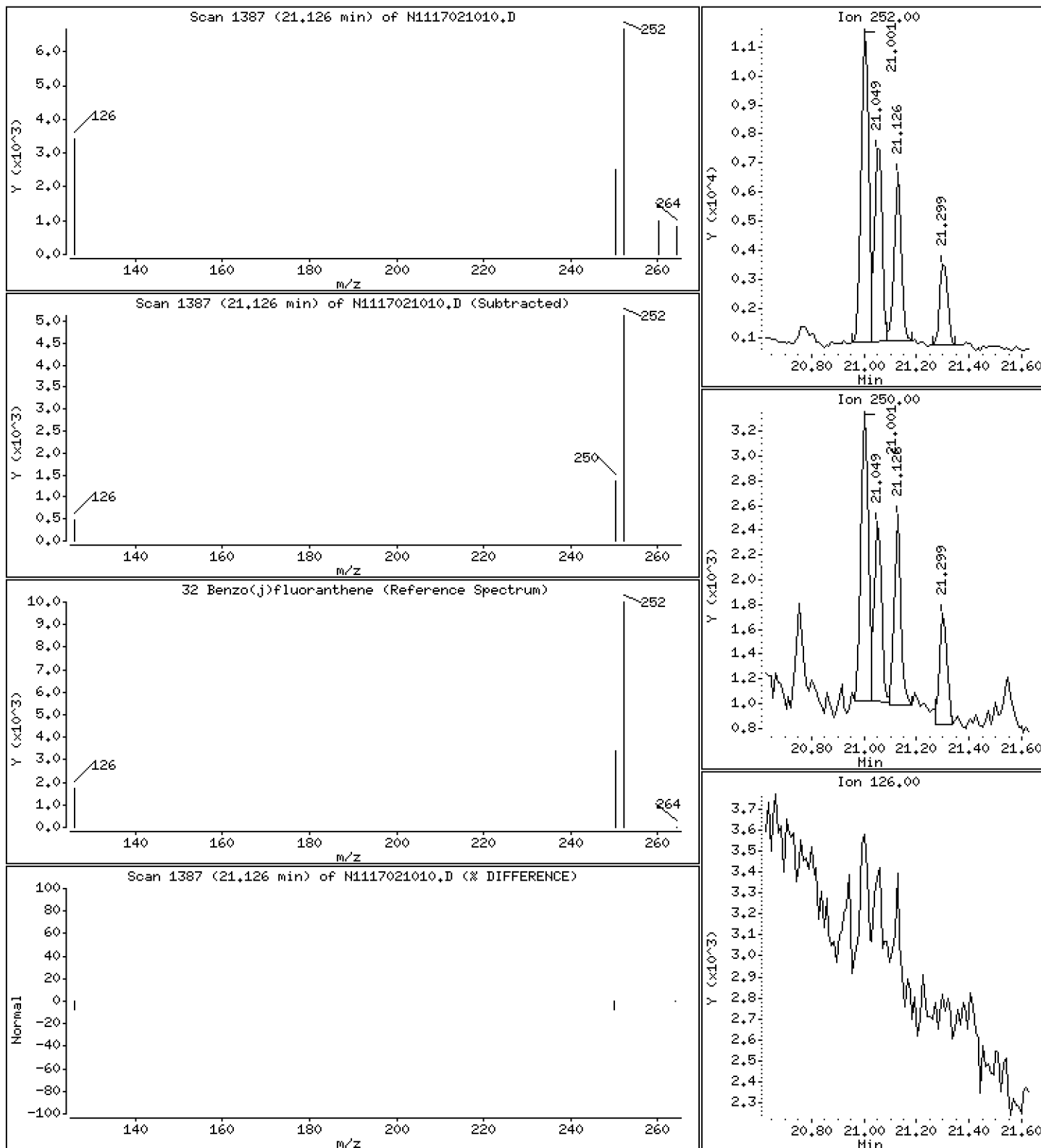
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

32 Benzo(j)fluoranthene

Concentration: 10,4 ng/mL



Date : 10-FEB-2017 16:27

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-01

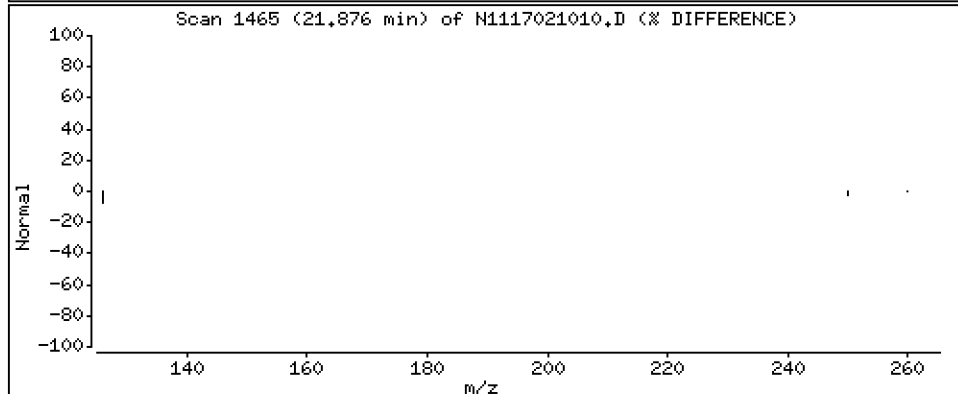
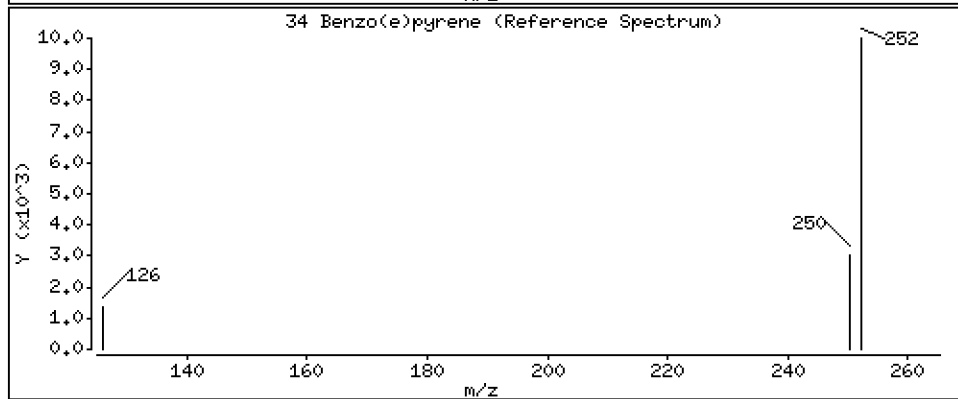
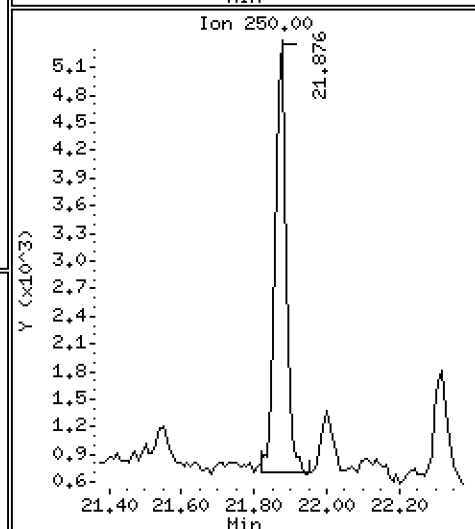
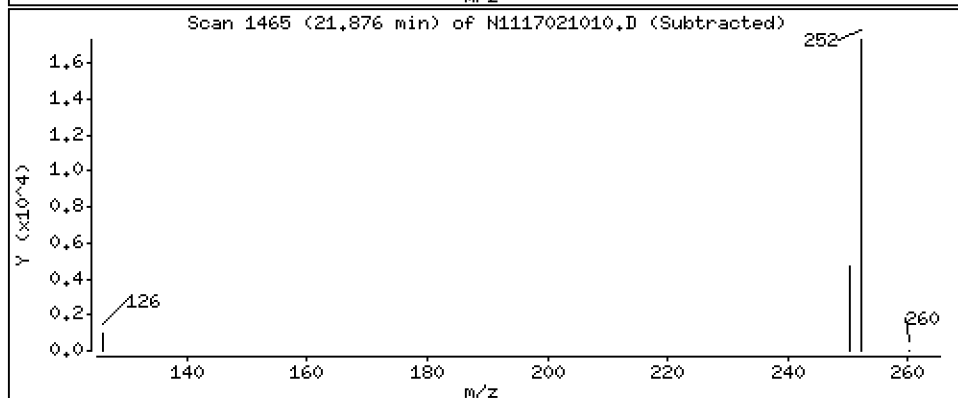
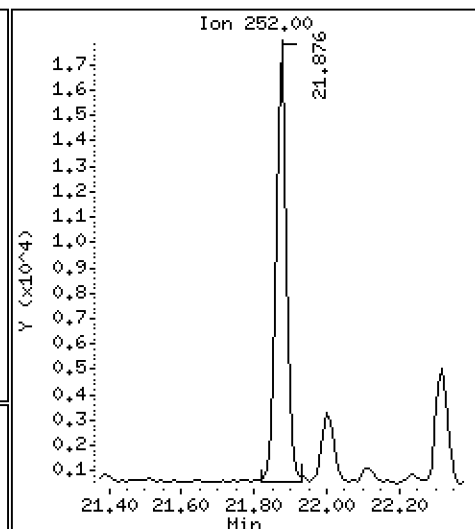
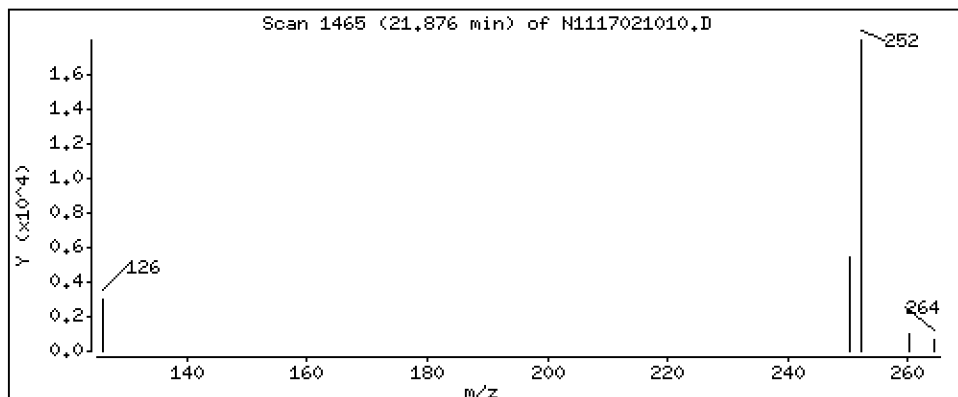
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

34 Benzo(e)pyrene

Concentration: 30,8 ng/mL



Date : 10-FEB-2017 16:27

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-01

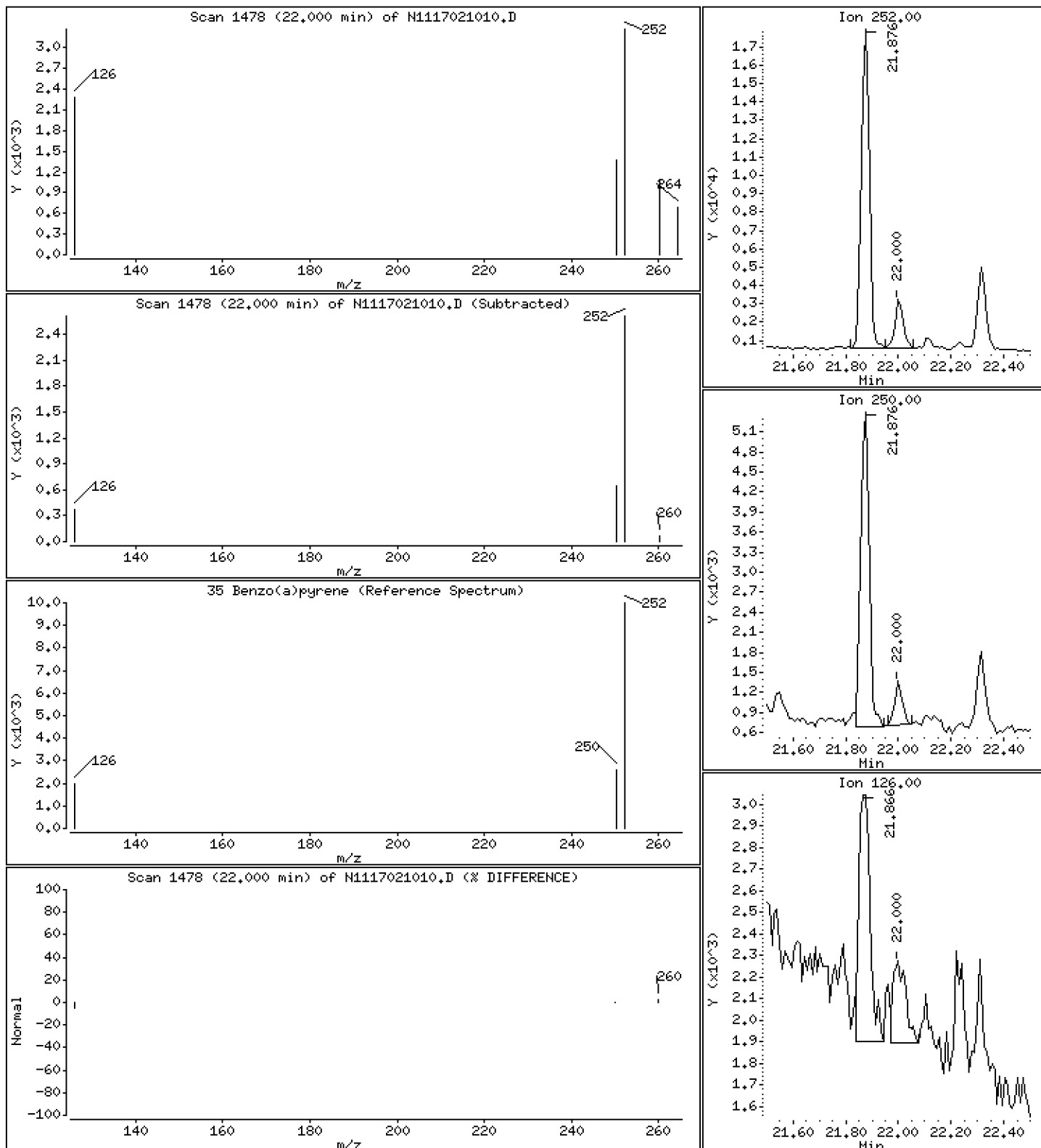
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

35 Benzo(a)pyrene

Concentration: 5,68 ng/mL



Date : 10-FEB-2017 16:27

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-01

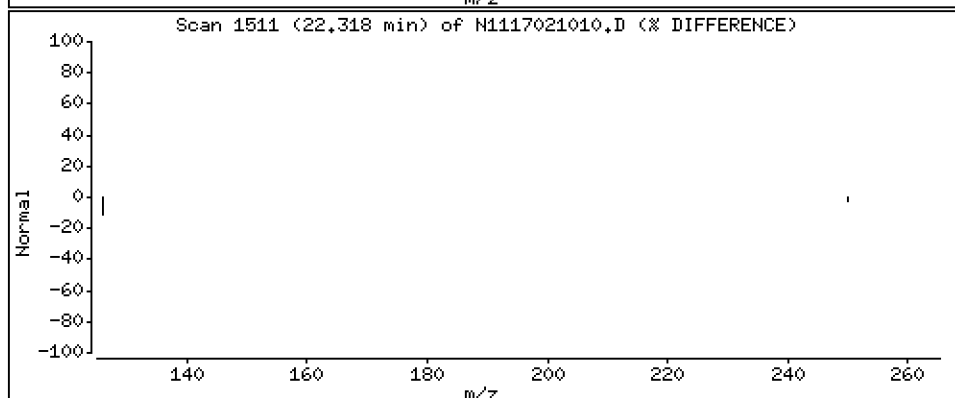
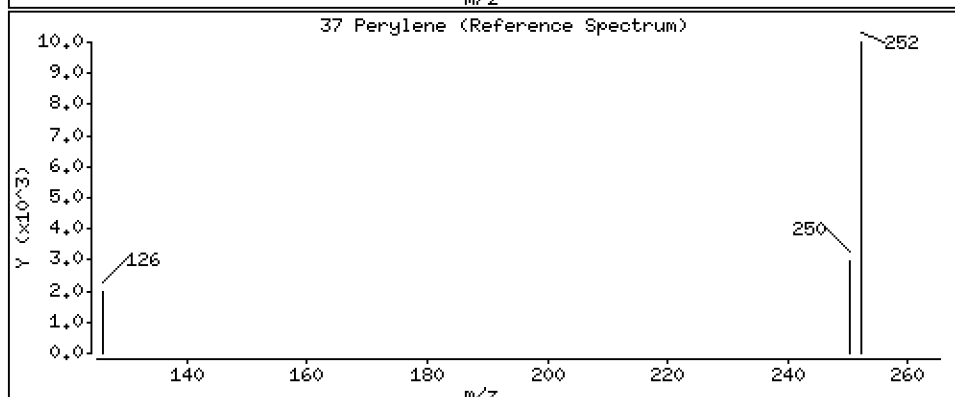
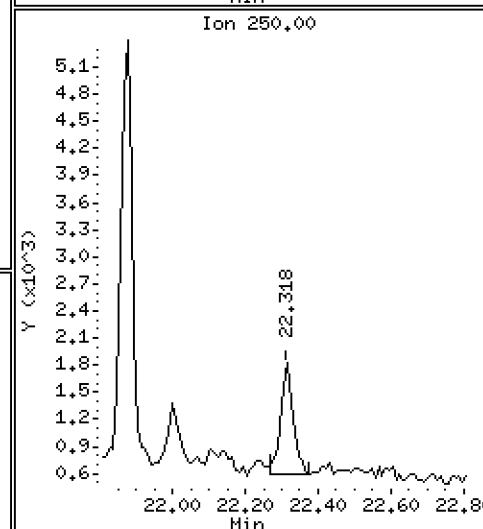
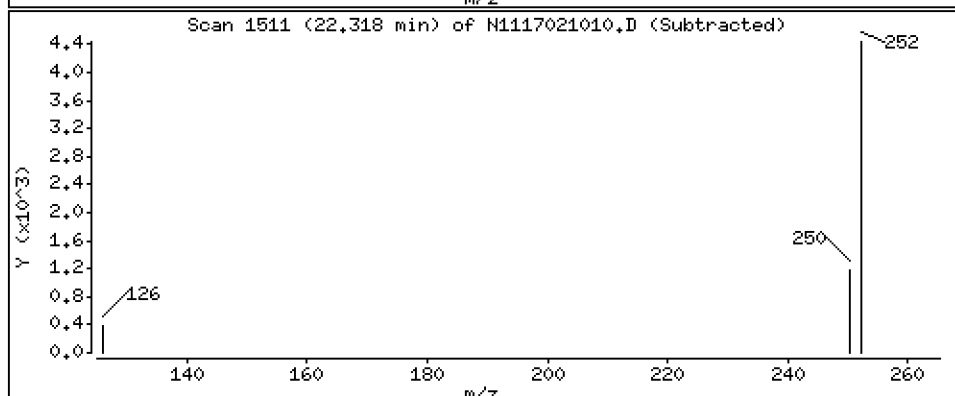
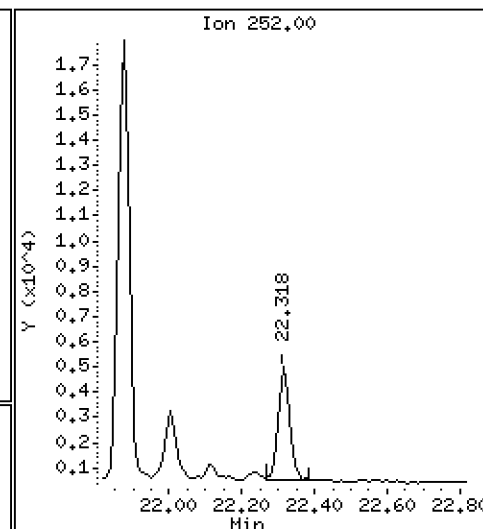
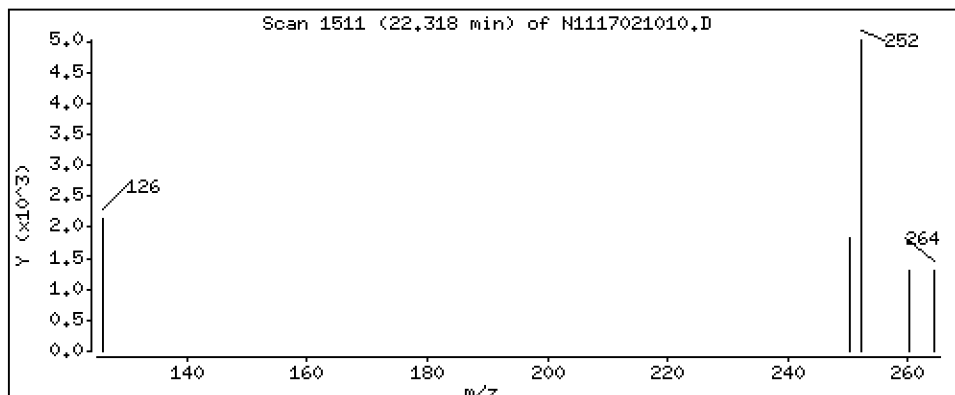
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

37 Perylene

Concentration: 9,26 ng/mL



Date : 10-FEB-2017 16:27

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-01

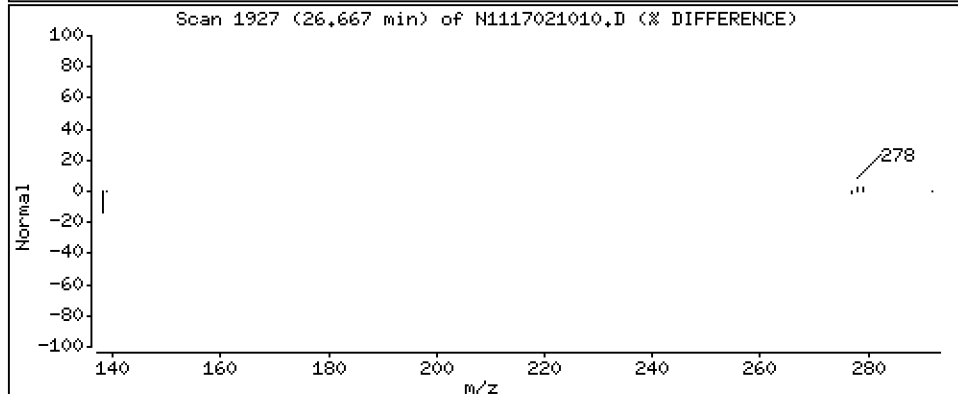
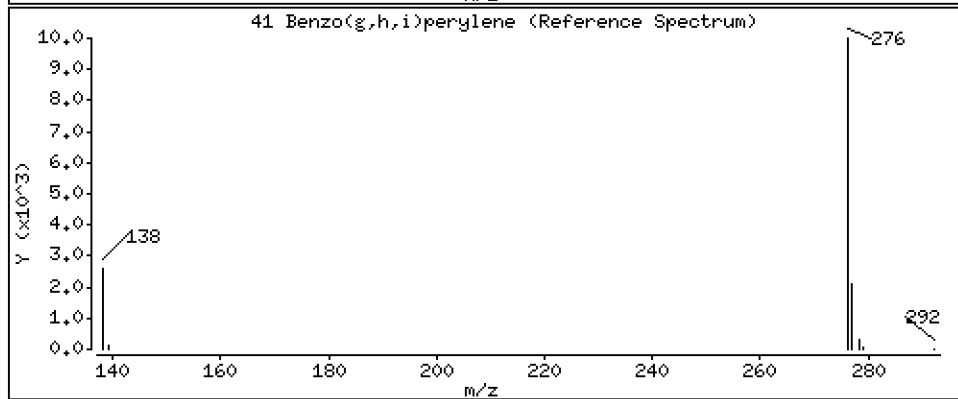
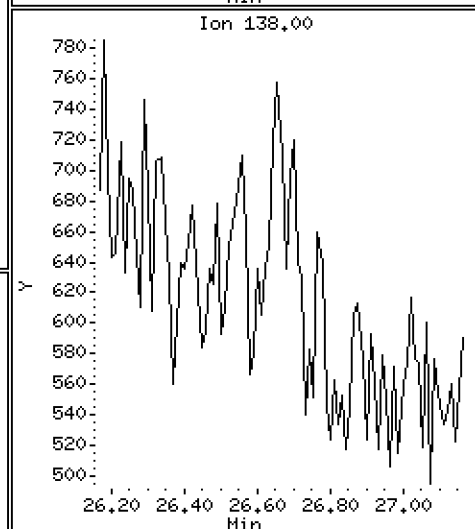
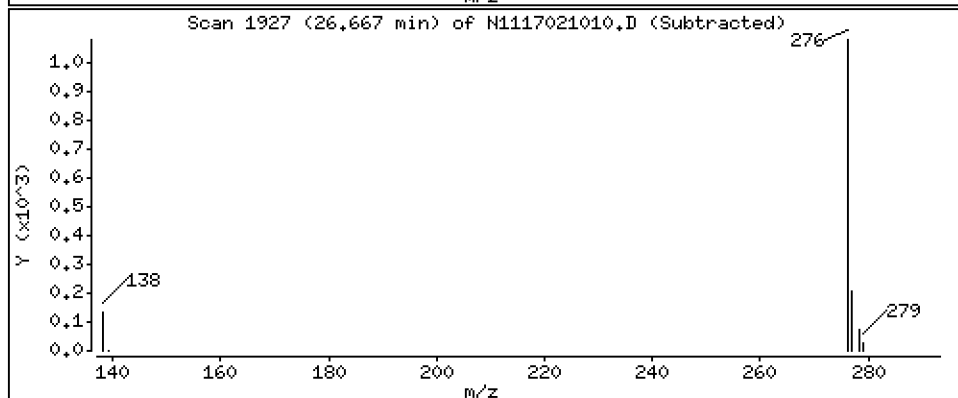
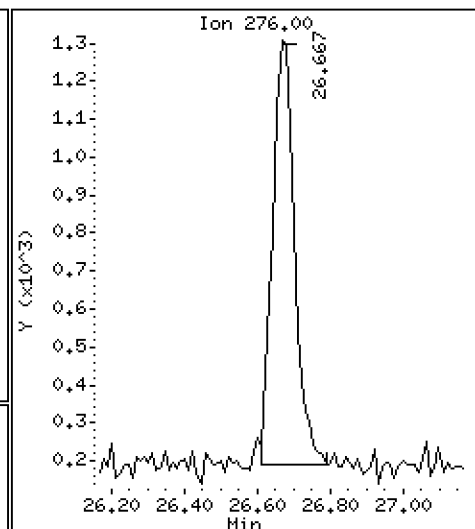
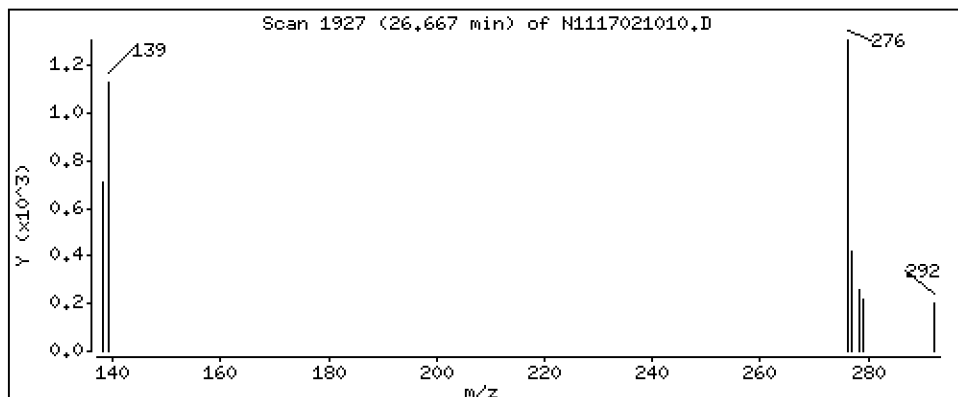
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

41 Benzo(g,h,i)perylene

Concentration: 4,37 ng/mL



ARI Labs, Inc.

LOW LEVEL PNAs BY SW8270D-SIM

Data file : \\target\share\chem3\nt11.i\20170210.b\N1117021010.D
 Lab Smp Id: 17A0053-01
 Inj Date : 10-FEB-2017 16:27 MS Autotune Date: 15-JAN-2015 15:59
 Operator : VTS Inst ID: nt11.i
 Smp Info : 17A0053-01
 Misc Info :
 Comment :
 Method : \\target\share\chem3\nt11.i\20170210.b\LOWSIM.m
 Meth Date : 11-Feb-2017 08:35 nt11.i Quant Type: ISTD
 Cal Date : 31-DEC-2016 09:30 Cal File: N1116123104.D
 Als bottle: 1
 Dil Factor: 1.00000
 Integrator: HP RTE Compound Sublist: allpna.sub
 Target Version: 4.14
 Processing Host: VANS

Compounds	QUANT	SIG	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS	
							ON-COLUMN (ng/mL)	FINAL (ng/mL)
* 1 Naphthalene-d8	136		8.518	8.526	(1.000)	214273	200.000	
2 Naphthalene	128		Compound Not Detected.					
3 Benzo(b)thiophene	134		Compound Not Detected.					
\$ 4 2-Methylnaphthalene-d10	152		9.498	9.508	(1.115)	153083	166.351	166
5 2-Methylnaphthalene	142		9.561	9.561	(1.122)	6397	6.06976	6.07
6 1-Methylnaphthalene	142		9.813	9.823	(1.152)	3639	3.43304	3.43
7 2-Chloronaphthalene	162		Compound Not Detected.					
8 Biphenyl	154		Compound Not Detected.					
9 2,6-Dimethylnaphthalene	156		Compound Not Detected.					
10 Acenaphthylene	152		Compound Not Detected.					
* 11 Acenaphthene-d10	164		11.555	11.564	(1.000)	144698	200.000	
12 Acenaphthene	153		11.618	11.627	(1.005)	3364	3.92973	3.93 (M)
13 Dibenzofuran	168		11.822	11.822	(1.023)	9109	7.15811	7.16
14 2,3,5-Trimethylnaphthalene	170		Compound Not Detected.					
\$ 15 Fluorene-d10	174		Compound Not Detected.					
16 Fluorene	166		12.454	12.454	(1.078)	10549	10.4130	10.4
17 Dibenzothiophene	184		Compound Not Detected.					
* 18 Phenanthrene-d10	188		14.251	14.262	(1.000)	234960	200.000	
19 Phenanthrene	178		14.293	14.293	(1.003)	75788	56.4184	56.4
\$ 20 Anthracene-d10	188		Compound Not Detected.					
21 Anthracene	178		14.346	14.356	(1.007)	16567	12.3687	12.4
22 Carbazole	167		Compound Not Detected.					
23 1-Methylphenanthrene	192		15.298	15.307	(1.073)	5269	3.82477	3.82 (M)
\$ 24 Fluoranthene-d10	212		16.367	16.367	(1.148)	222113	177.984	178
25 Fluoranthene	202		16.406	16.405	(1.151)	90237	59.2198	59.2
26 Pyrene	202		16.905	16.915	(0.889)	77438	59.2618	59.3
27 Benzo(a)anthracene	228		18.933	18.933	(0.995)	21531	17.8005	17.8
* 28 Chrysene-d12	240		19.024	19.024	(1.000)	201157	200.000	
29 Chrysene	228		19.074	19.074	(1.003)	49793	40.1178	40.1
30 Benzo(b)fluoranthene	252		21.001	21.001	(0.944)	21077	18.3520	18.4
31 Benzo(k)fluoranthene	252		21.049	21.049	(0.946)	13888	11.2270	11.2
32 Benzo(j)fluoranthene	252		21.126	21.125	(0.950)	11417	10.3540	10.4
\$ 33 Benzo(e)pyrene-d12	264		Compound Not Detected.					

Compounds	QUANT SIG	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS		
						ON-COLUMN (ng/mL)	FINAL (ng/mL)	
34 Benzo(e)pyrene	252	21.875	21.875	(0.984)	35341	30.8488	30.8	
35 Benzo(a)pyrene	252	22.000	22.000	(0.989)	6082	5.68052	5.68	
* 36 Perylene-d12	264	22.240	22.240	(1.000)	213059	200.000		
37 Perylene	252	22.317	22.317	(1.003)	10356	9.26393	9.26	
§ 38 Dibenzo(a,h)anthracene-d14	292	25.116	25.116	(1.129)	138408	203.421	203	
39 Dibenzo(a,h)anthracene	278	Compound Not Detected.						
40 Indeno(1,2,3-cd)pyrene	276	Compound Not Detected.						
41 Benzo(g,h,i)perylene	276	26.666	26.666	(1.199)	4591	4.37464	4.37	

QC Flag Legend

M - Compound response manually integrated.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
 AREA AND RT SUMMARY

Instrument ID: nt11.i Calibration Date: 10-FEB-2017
 Lab File ID: N1117021010.D Calibration Time: 13:29
 Lab Smp Id: 17A0053-01
 Analysis Type: SV Level:
 Quant Type: ISTD Sample Type:
 Operator: VTS
 Method File: \\target\share\chem3\nt11.i\20170210.b\LOWSIM.m
 Misc Info:

Test Mode:
 Use Initial Calibration Level 4.

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
1 Naphthalene-d8	219654	109827	439308	214273	-2.45
11 Acenaphthene-d10	135248	67624	270496	144698	6.99
18 Phenanthrene-d10	257021	128511	514042	234960	-8.58
28 Chrysene-d12	259511	129756	519022	201157	-22.49
36 Perylene-d12	257535	128768	515070	213059	-17.27

COMPOUND	STANDARD	RT LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
1 Naphthalene-d8	8.53	8.03	9.03	8.52	-0.10
11 Acenaphthene-d10	11.56	11.06	12.06	11.56	-0.08
18 Phenanthrene-d10	14.26	13.76	14.76	14.25	-0.07
28 Chrysene-d12	19.02	18.52	19.52	19.02	0.00
36 Perylene-d12	22.24	21.74	22.74	22.24	0.00

AREA UPPER LIMIT = +100% of internal standard area.
 AREA LOWER LIMIT = - 50% of internal standard area.
 RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
 RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - N1117021010.D

Lab ID: 17A0053-01
nt11.i, 20170210.b\LOWSIM.m, 10-FEB-2017 16:27

RT CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

RRT	CCV	RRT	DELTA	COMPOUND
-----	-----	-----	-------	----------

NONE

On Column LOD for nt11.i, 20170210.b\LOWSIM.m, allpna.sub = 3.0000

Exception: Naphthalene 7.0000
Exception: Phenanthrene 2.5000
Exception: Anthracene 2.0000
Exception: Pyrene 4.0000
Exception: Benzo(j)fluoranthene 2.5000
Exception: Benzo(a)pyrene 2.0000
Exception: Perylene 3.5000
Exception: Benzo(e)pyrene 2.0000
Exception: Benzo(b)thiophene 2.0000
Exception: 2-Chloronaphthalene 2.0000
Exception: 2,6-Dimethylnaphthalene 2.0000
Exception: 2,3,5-Trimethylnaphthalene 2.0000
Exception: 1-Methylphenanthrene 2.0000
Exception: Dibenzothiophene 2.0000
Exception: Carbazole 2.0000
Exception: Biphenyl 2.0000
Exception: 2-Methylnaphthalene-d10 (Surr) 0.1000
Exception: Dibenzo(a,h)anthracene-d14 (Surr) 0.1000
Exception: Fluoranthene-d10 (Surr) 0.1000
Exception: Anthracene-d10 (Surr) 0.1000
Exception: Benzo(e)pyrene-d12 (Surr) 0.1000
Exception: Fluorene-d10 (Surr) 0.1000

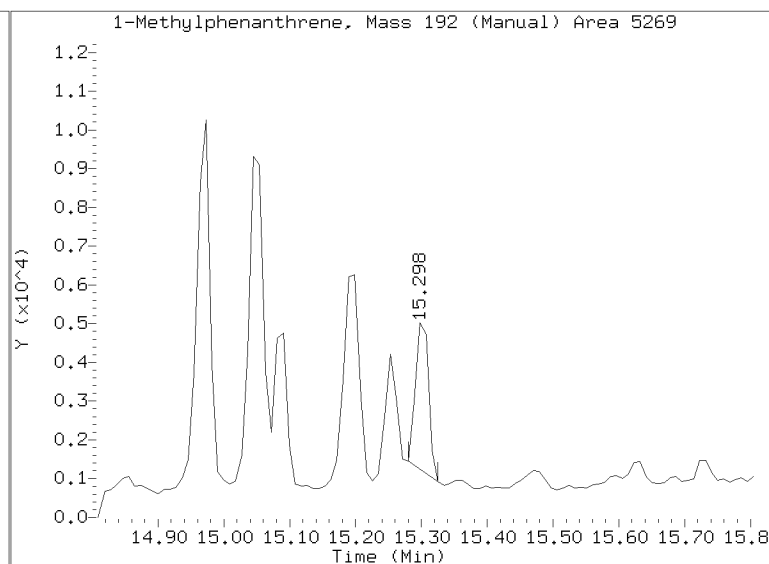
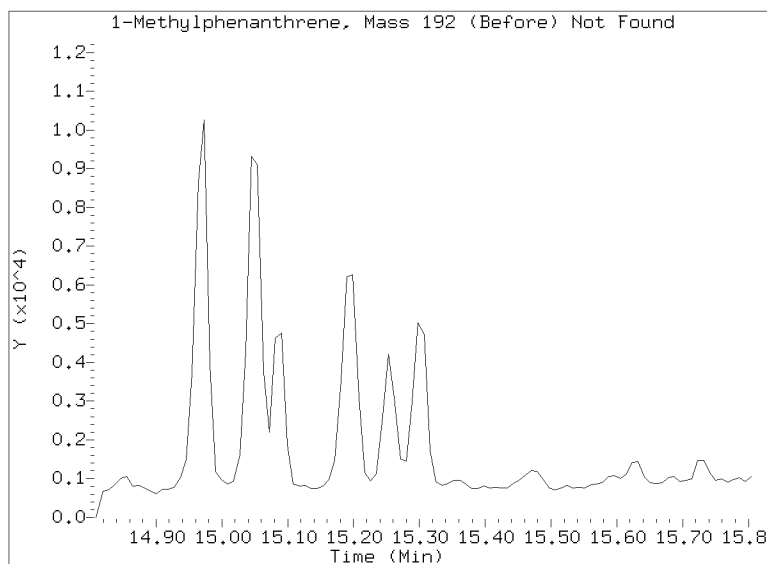
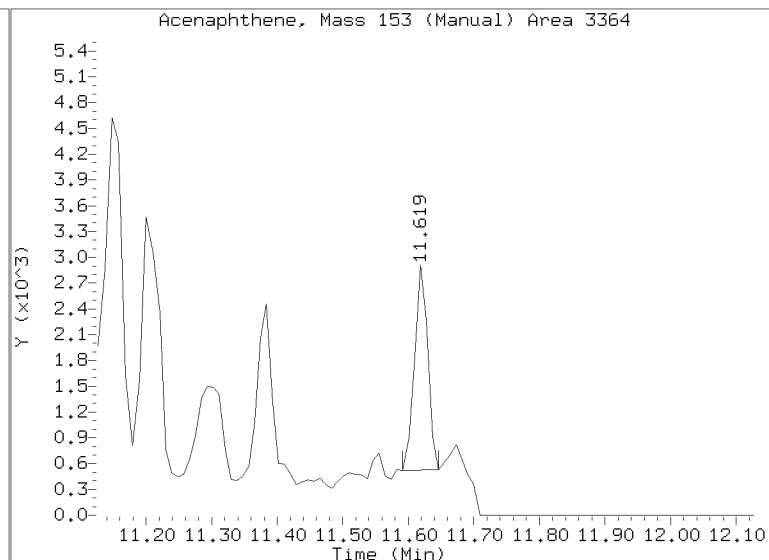
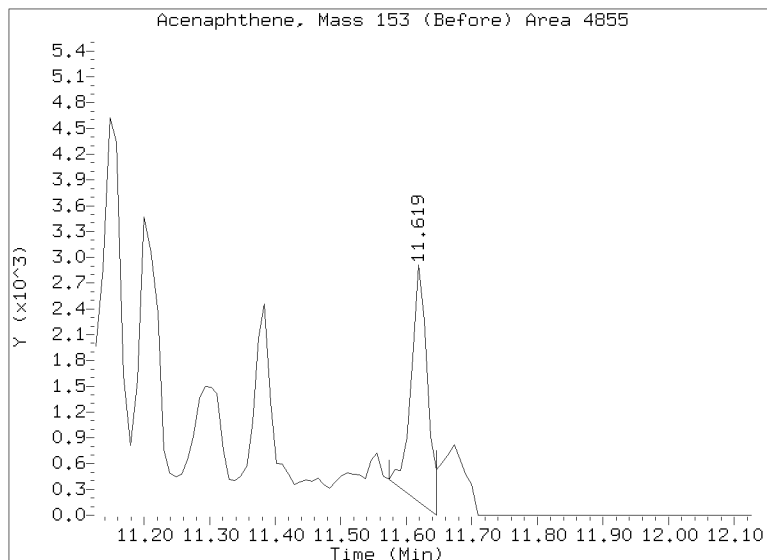
Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt11.i/20170210.b/N1117021010.D

Injection Date: 10-FEB-2017 16:27

Lab ID:17A0053-01 Client ID:

Report Date: 02/11/2017 08:35



Data File: \\target\share\chem3\nt11.1\20170210.6\N1117021011.D

Date: 10-FEB-2017 17:03

Client ID:

Sample Info: 17R0053-04

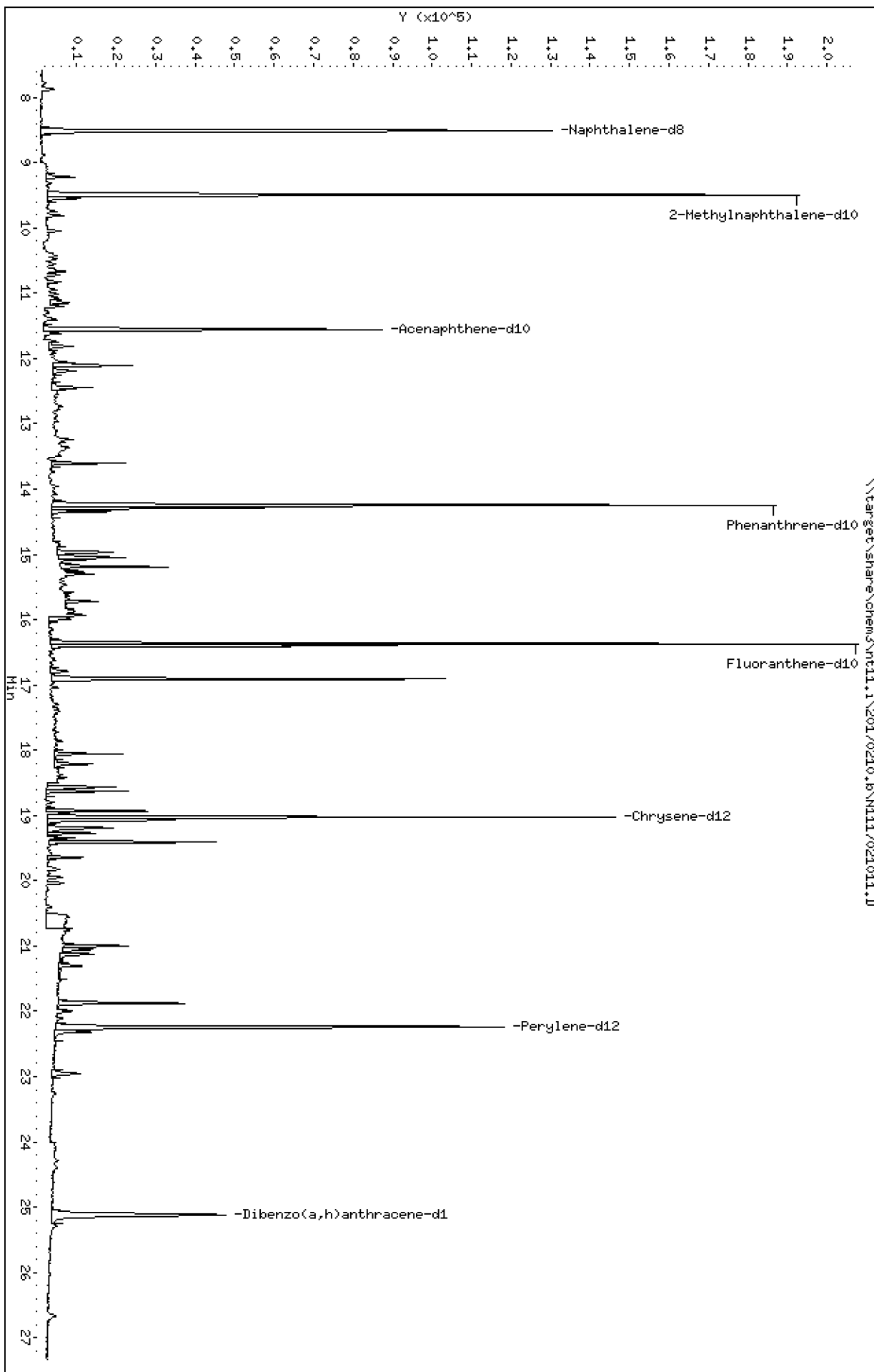
Column phase: Rxi-17S11 MS

Instrument: nt11.1

Operator: VTS

Column diameter: 0.25

Page 1



Date : 10-FEB-2017 17:03

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-04

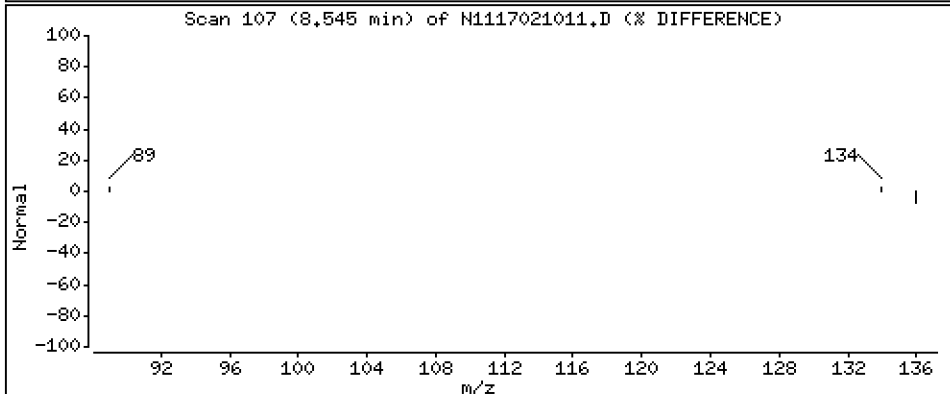
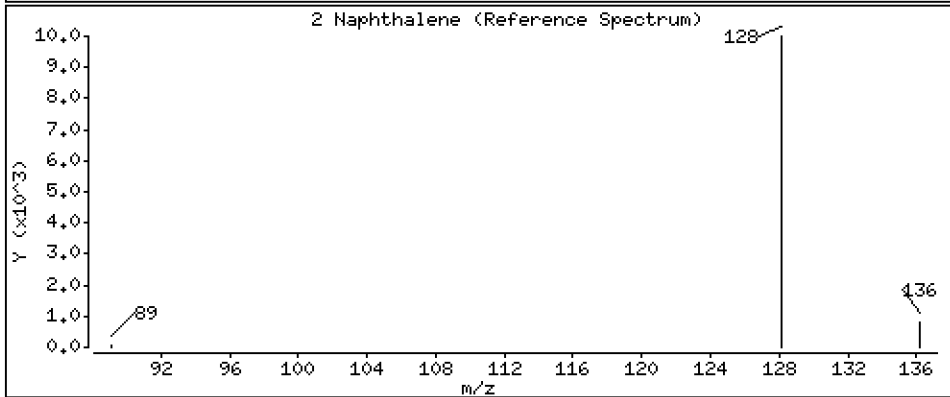
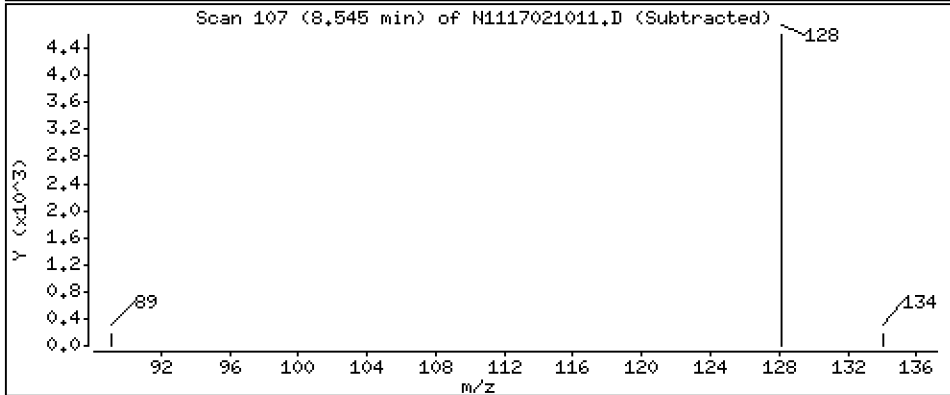
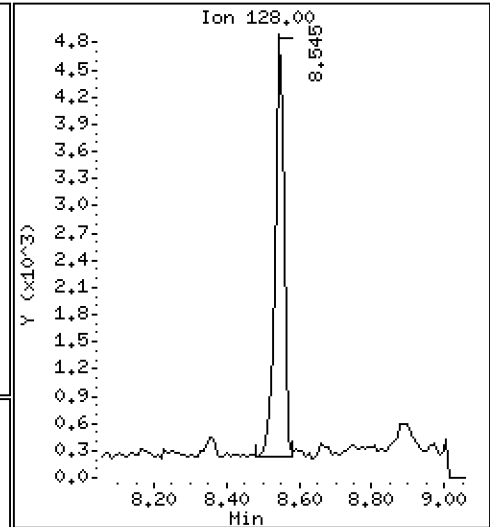
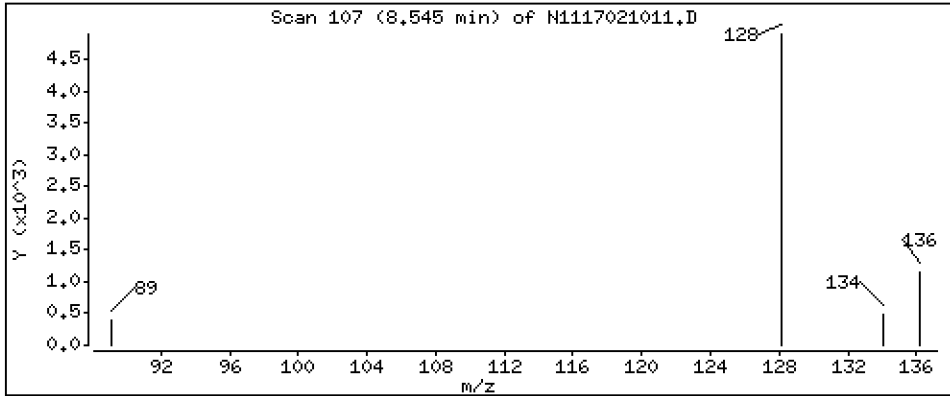
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

2 Naphthalene

Concentration: 7,55 ng/mL



Date : 10-FEB-2017 17:03

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-04

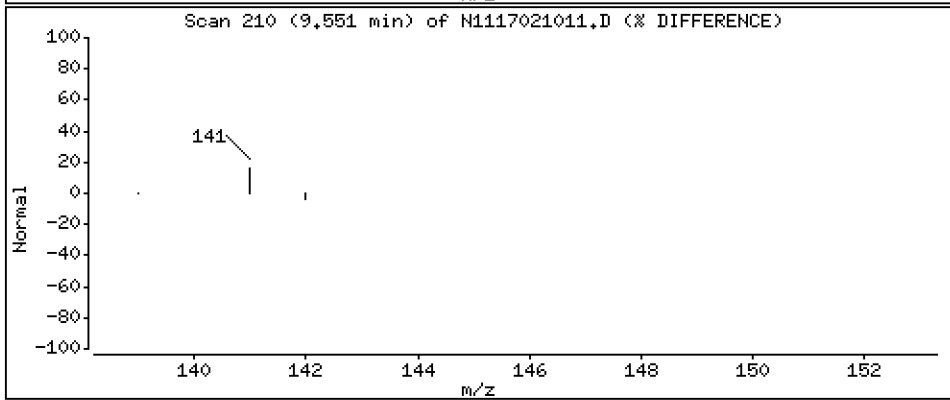
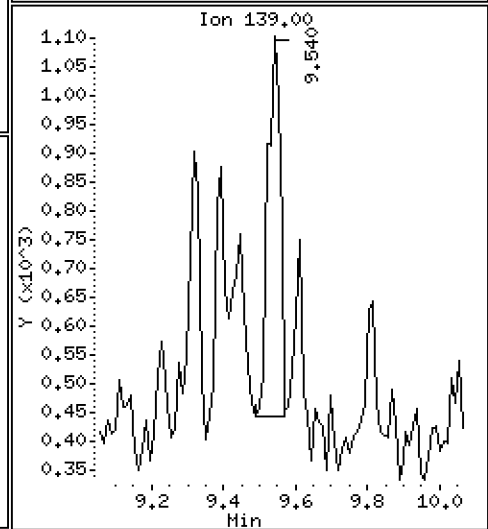
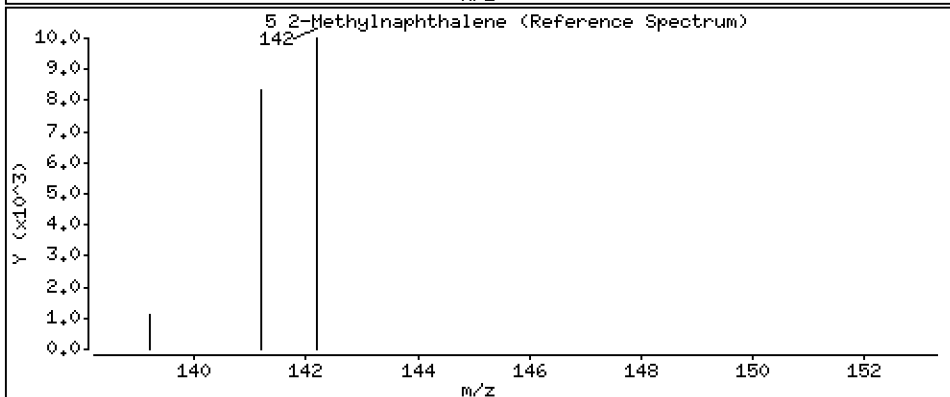
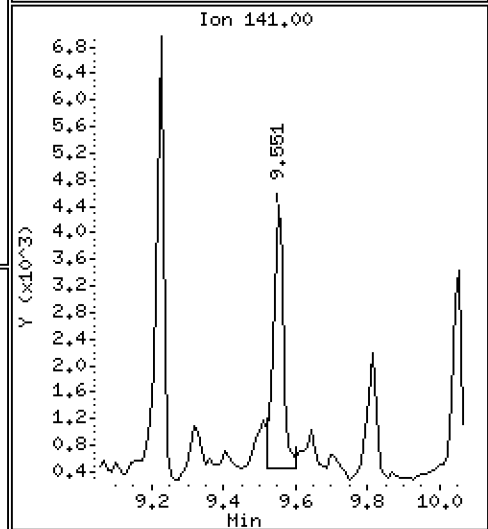
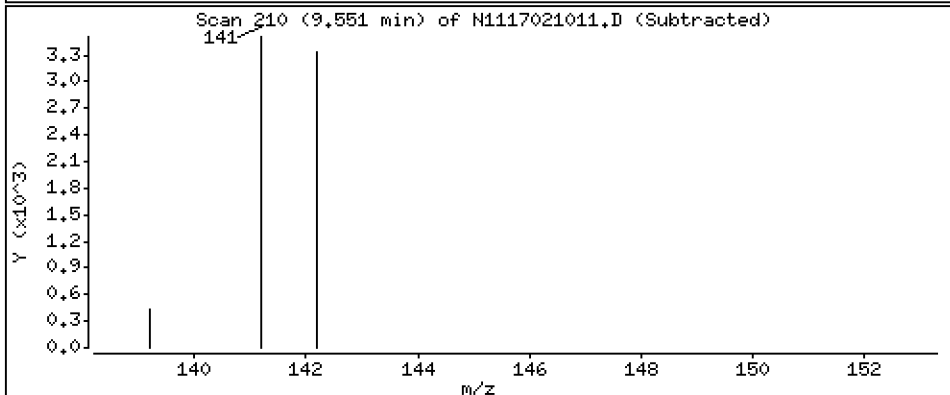
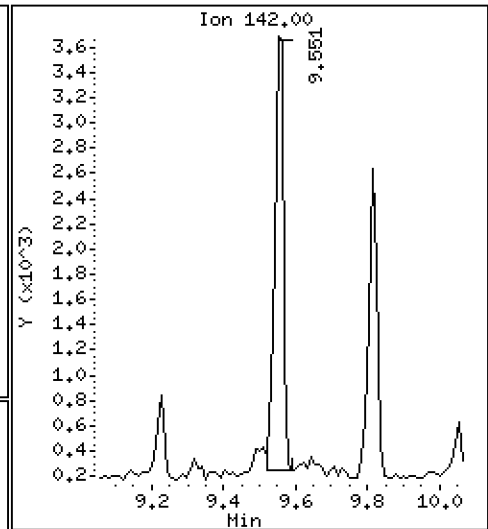
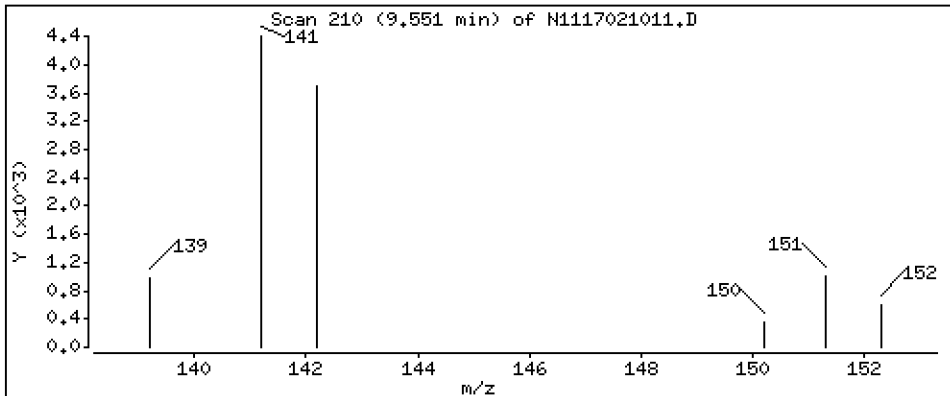
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0.25

5-2-Methylnaphthalene

Concentration: 6.14 ng/mL



Date : 10-FEB-2017 17:03

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-04

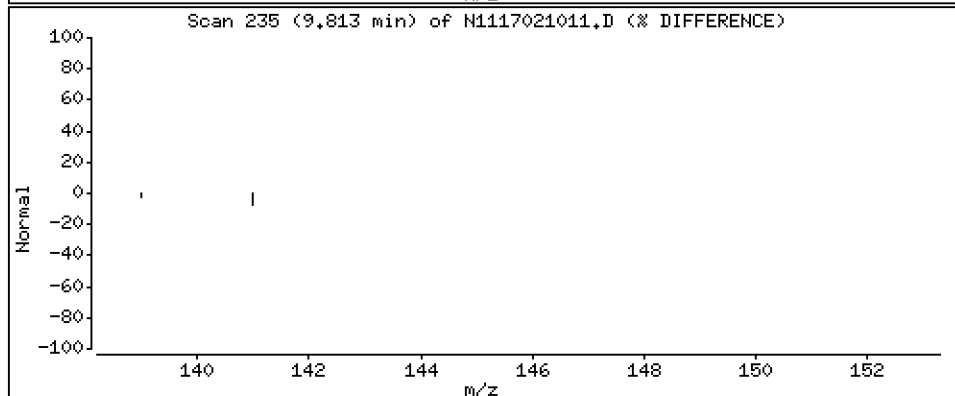
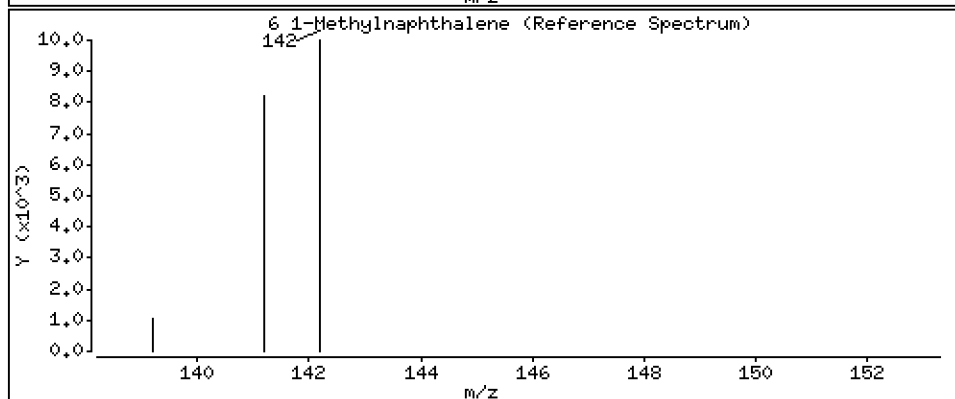
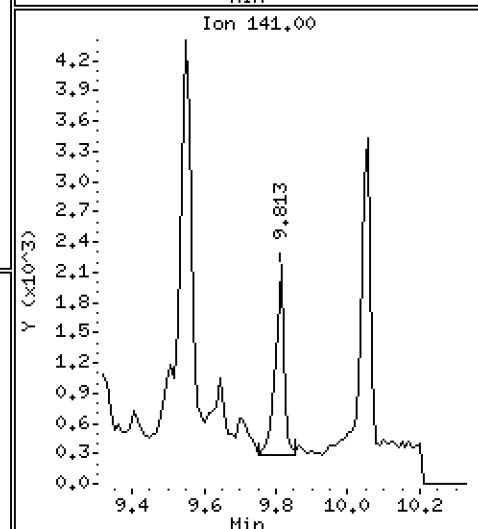
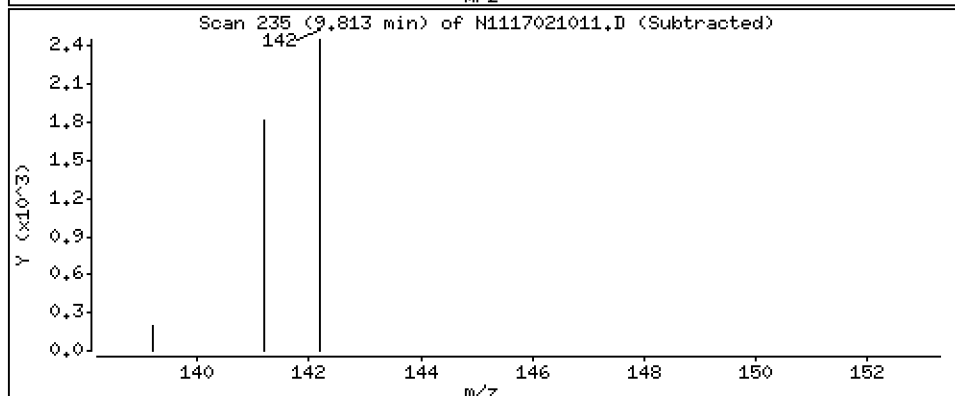
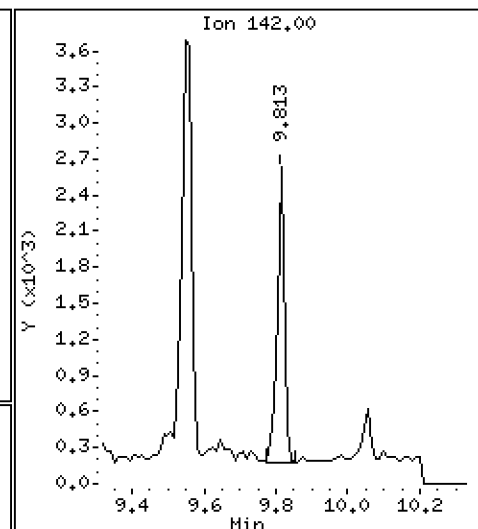
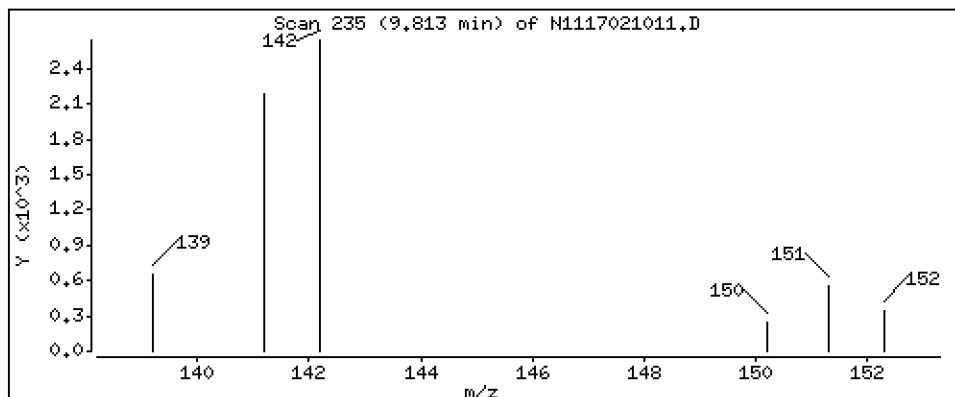
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

6-1-Methylnaphthalene

Concentration: 3,76 ng/mL



Date : 10-FEB-2017 17:03

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-04

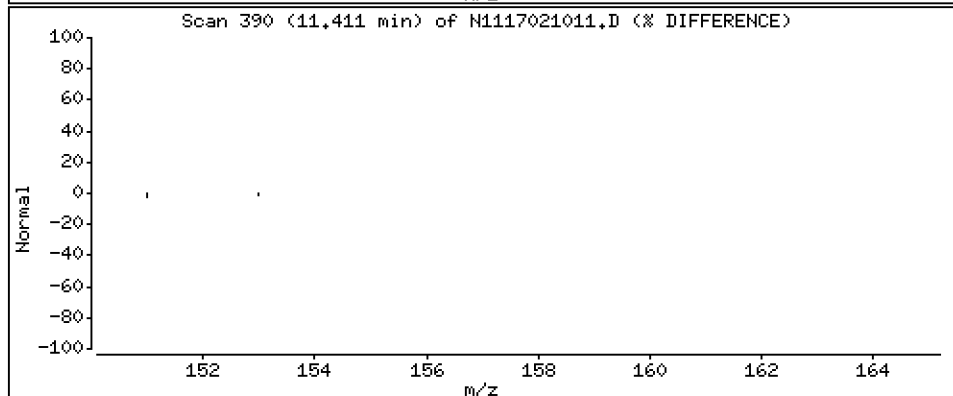
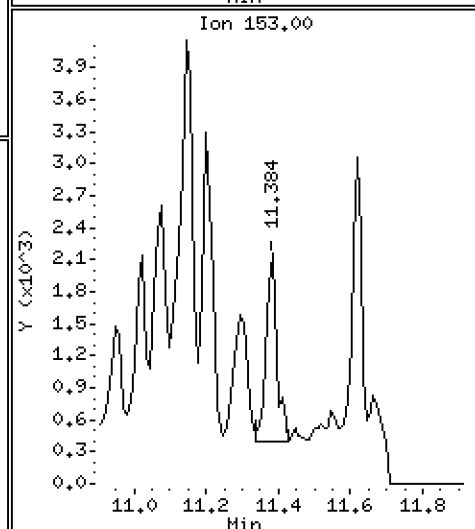
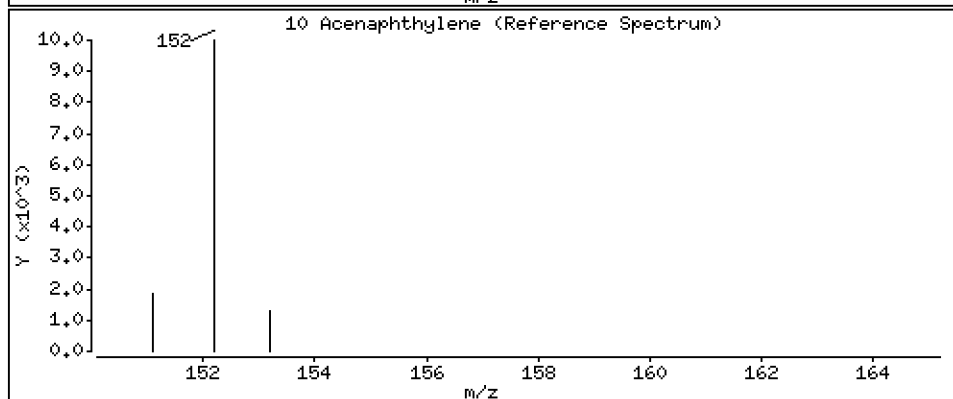
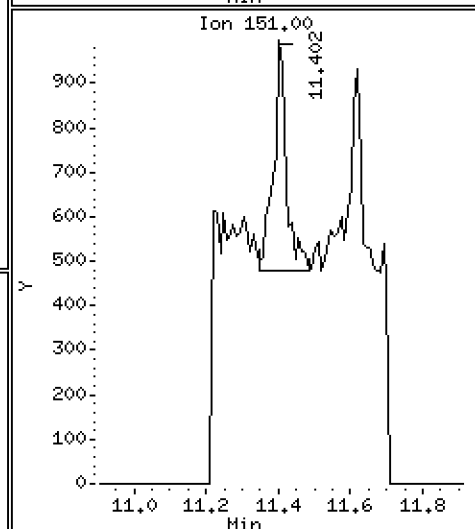
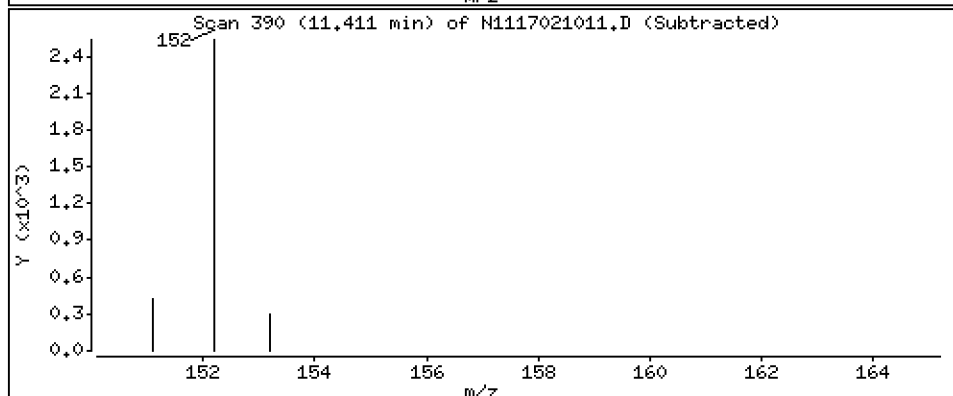
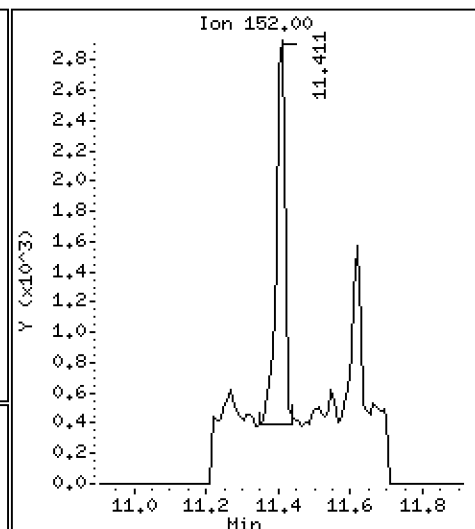
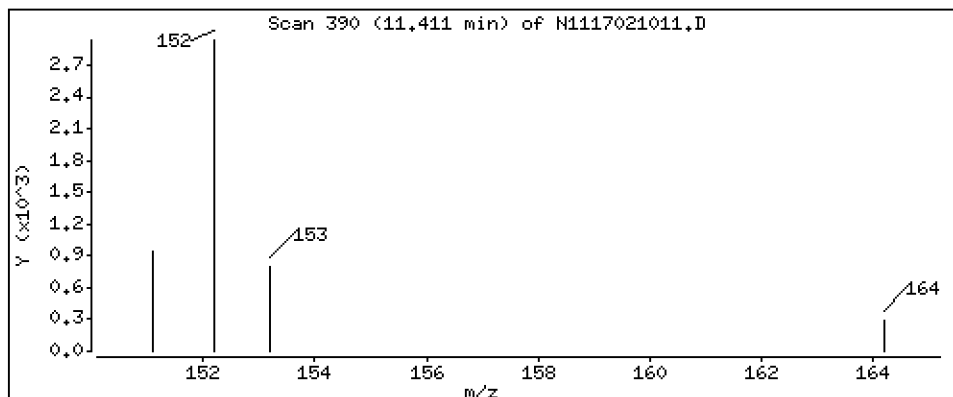
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0.25

10 Acenaphthylene

Concentration: 3.33 ng/mL



Date : 10-FEB-2017 17:03

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-04

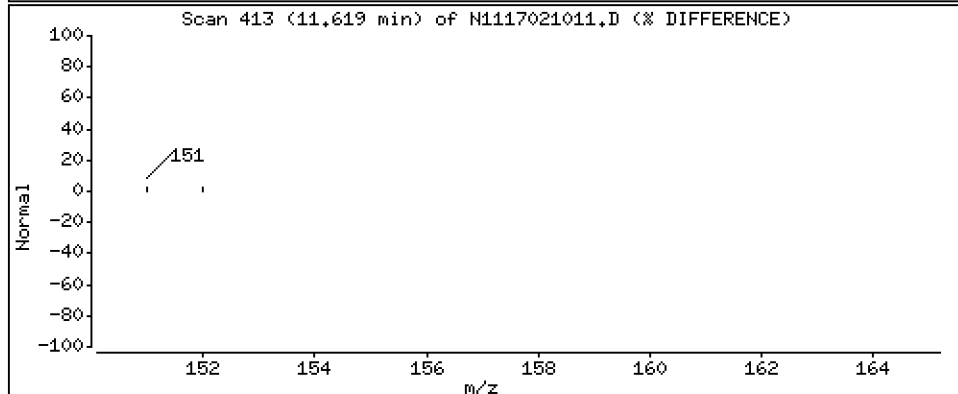
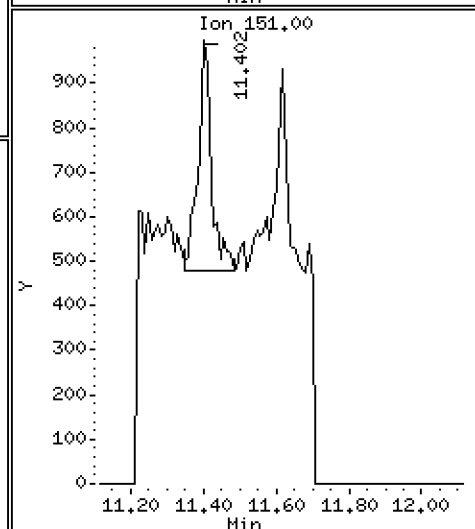
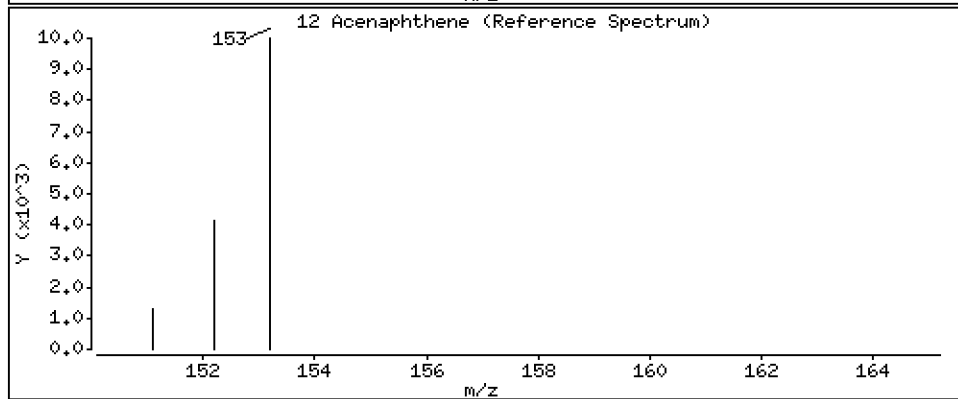
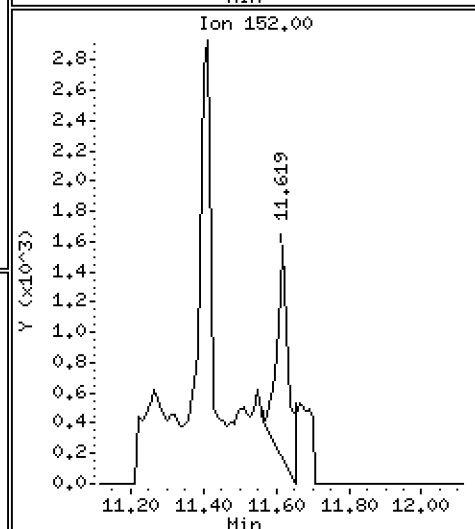
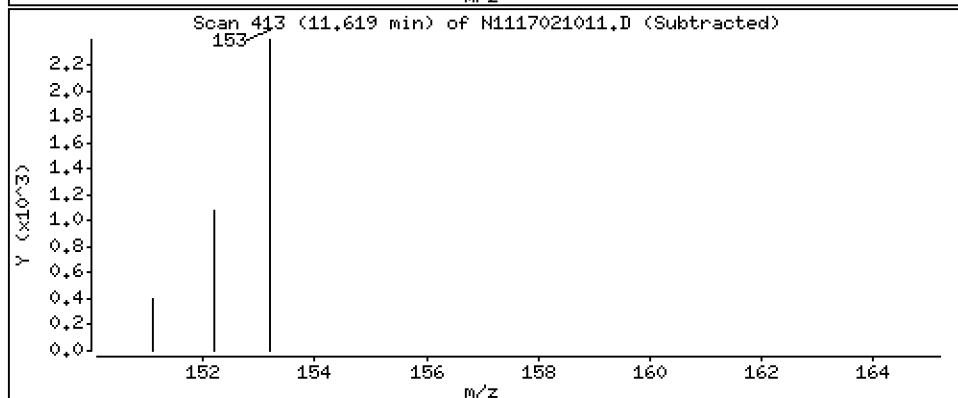
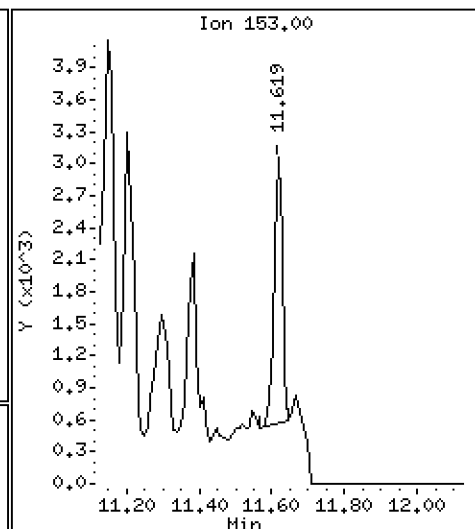
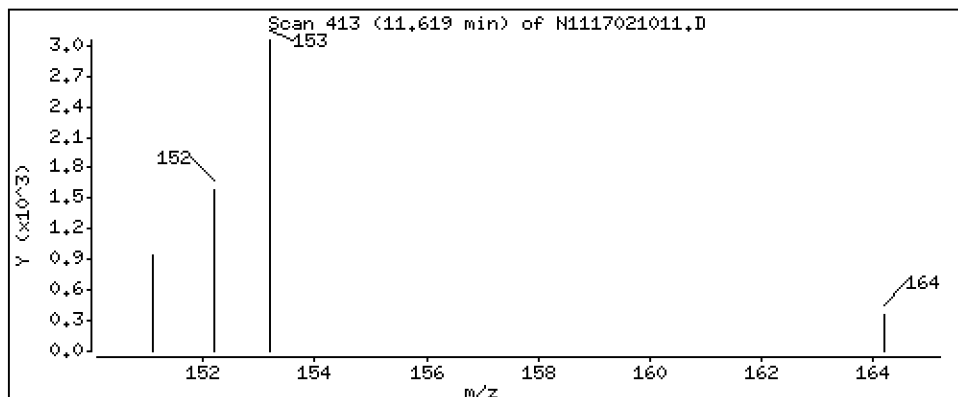
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0.25

12 Acenaphthene

Concentration: 4.65 ng/mL



Date : 10-FEB-2017 17:03

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-04

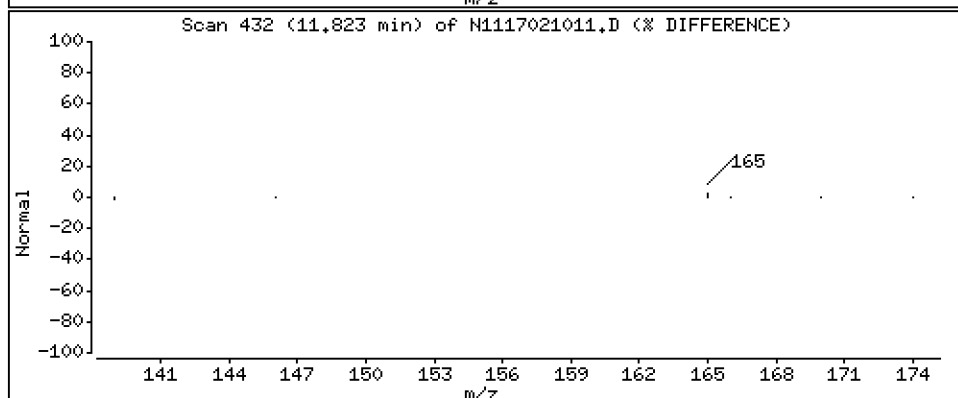
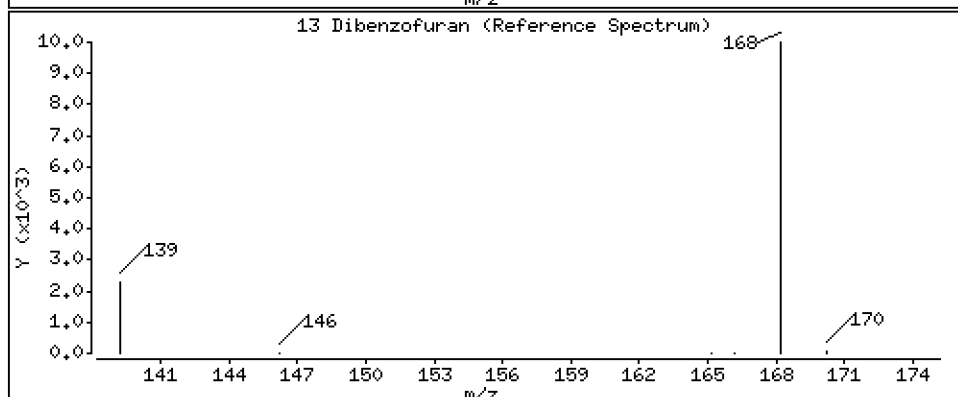
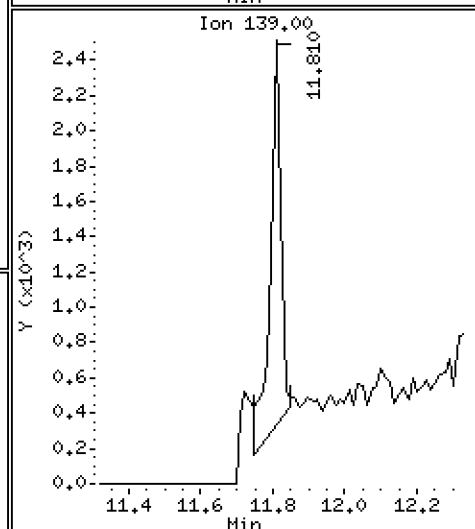
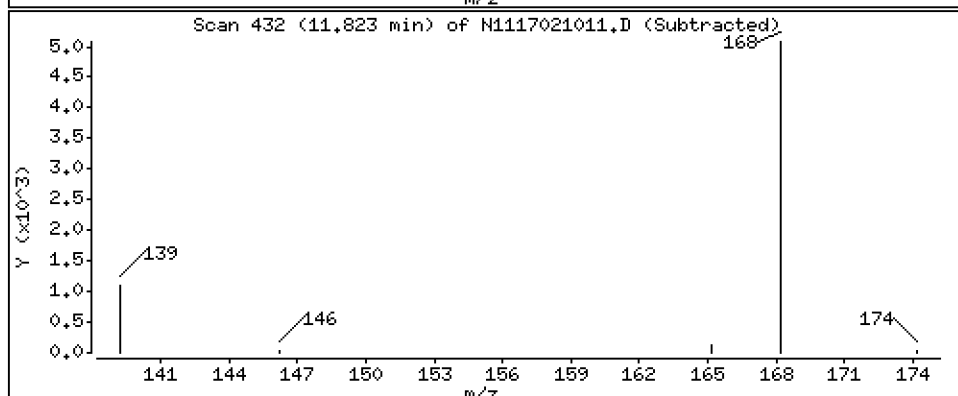
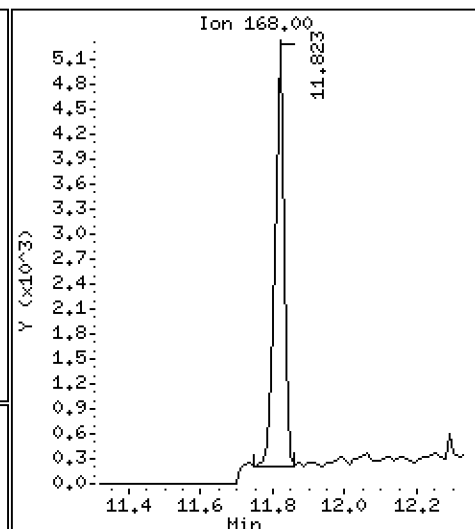
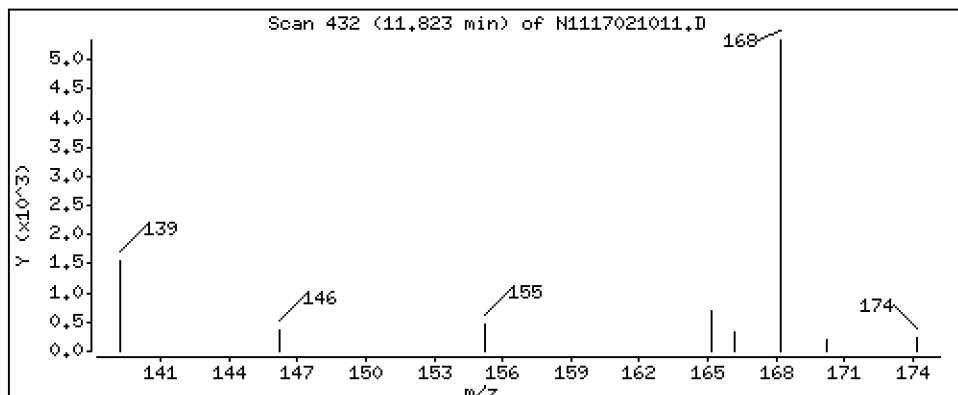
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

13 Dibenzofuran

Concentration: 6,79 ng/mL



Date : 10-FEB-2017 17:03

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-04

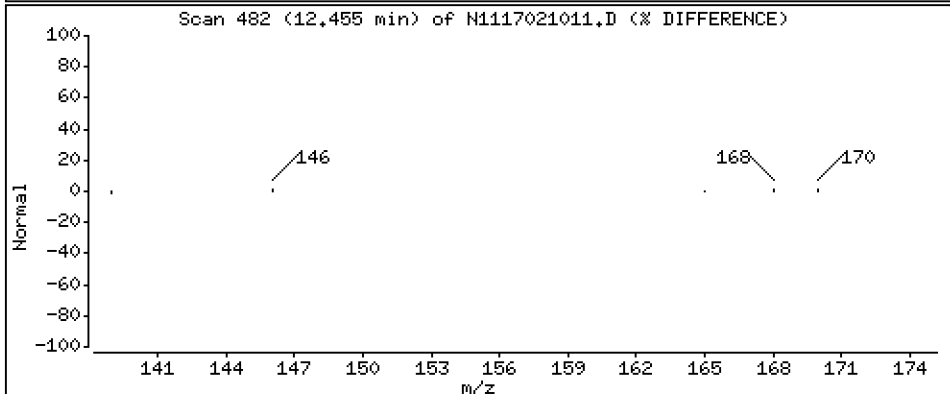
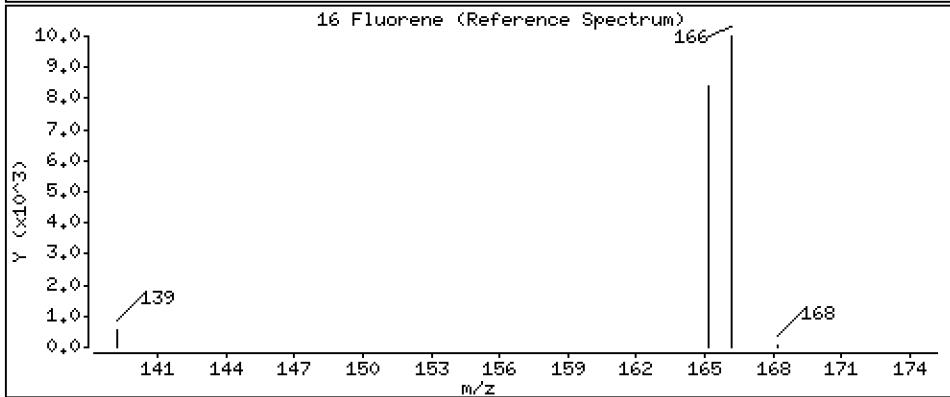
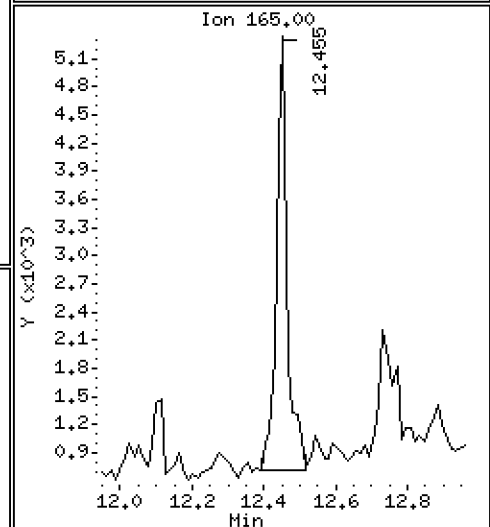
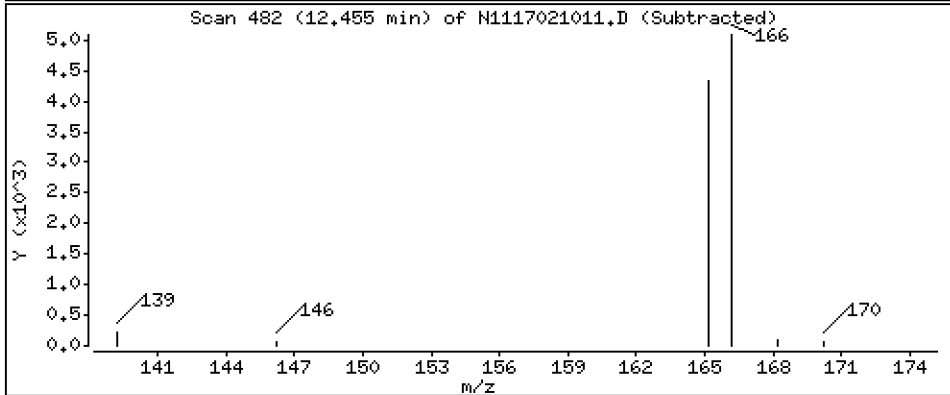
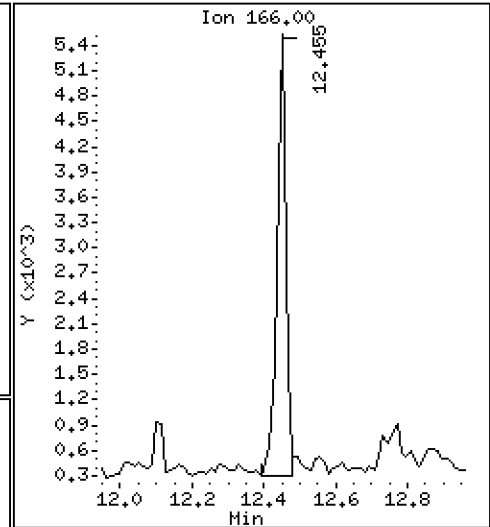
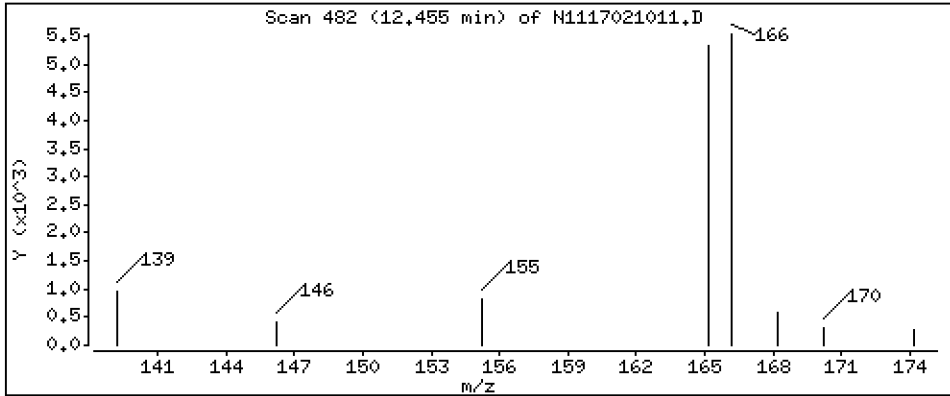
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0.25

16 Fluorene

Concentration: 9.02 ng/mL



Date : 10-FEB-2017 17:03

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-04

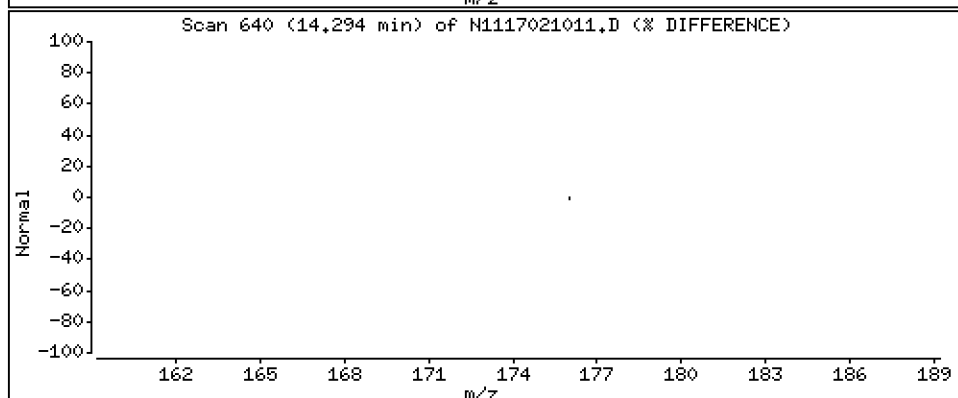
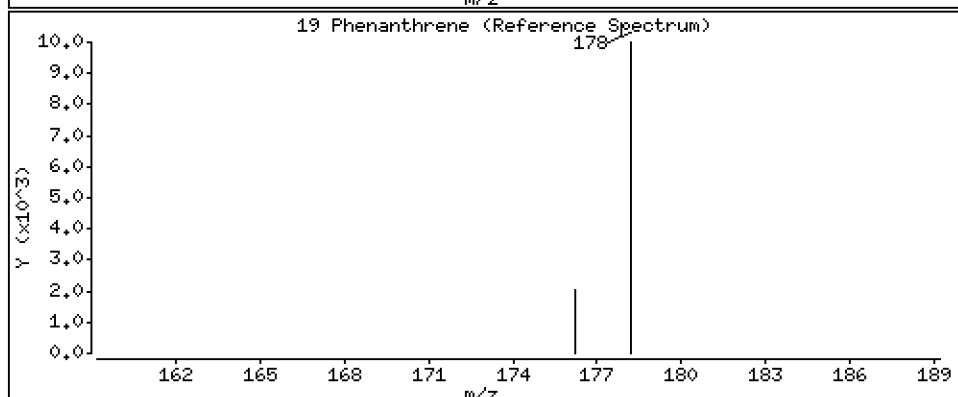
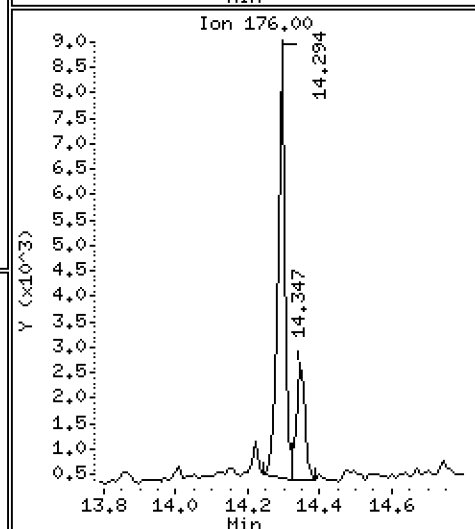
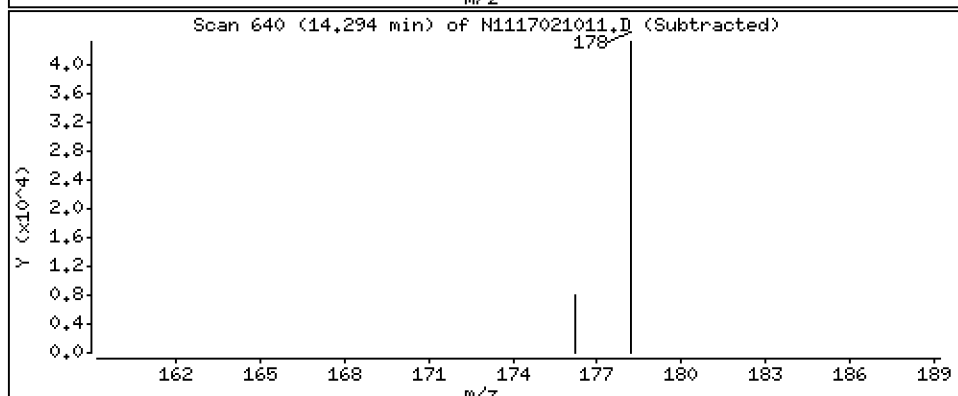
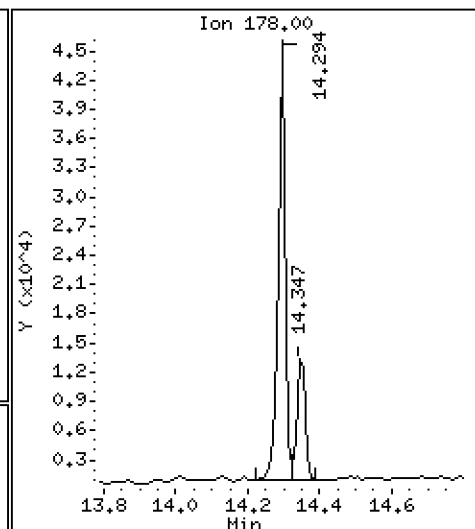
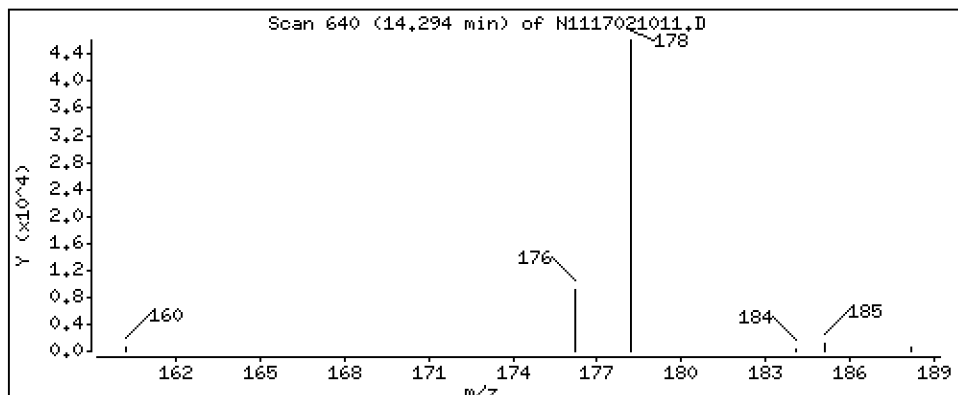
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

19 Phenanthrene

Concentration: 52,6 ng/mL



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Client ID:

Instrument: nt11.i

Sample Info: 17A0053-04

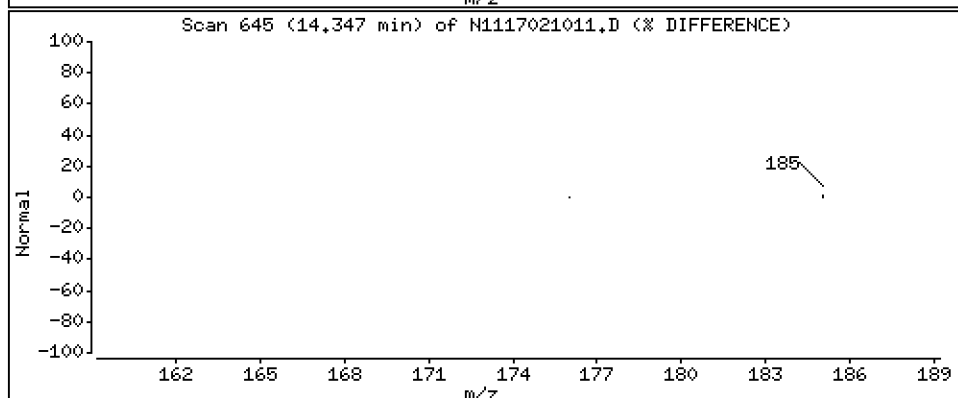
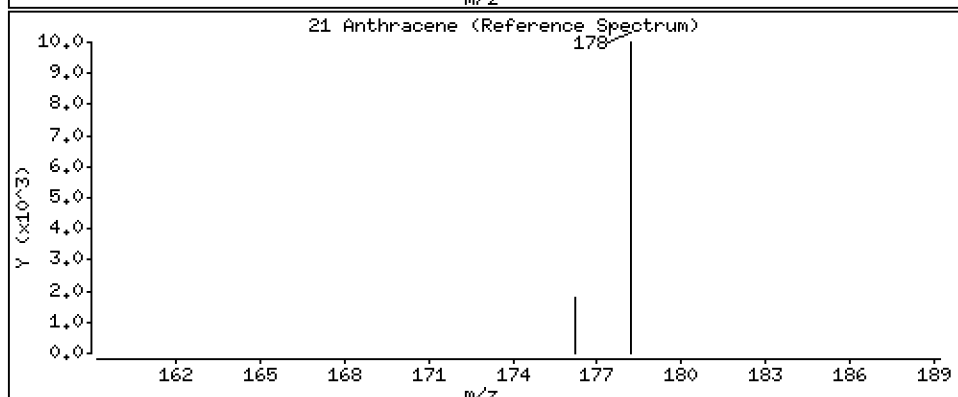
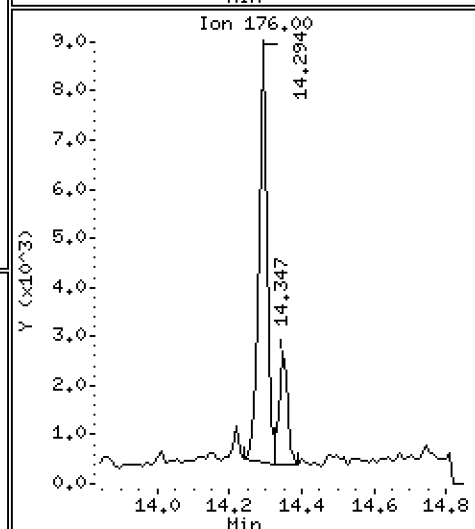
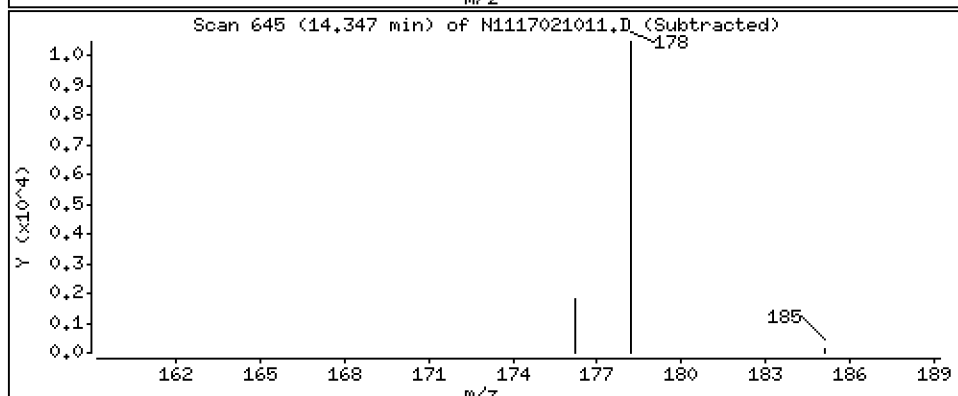
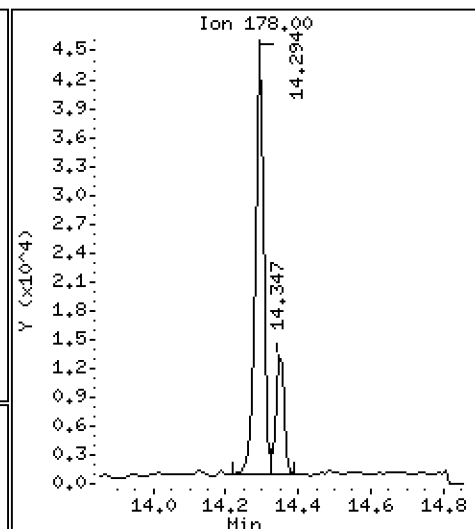
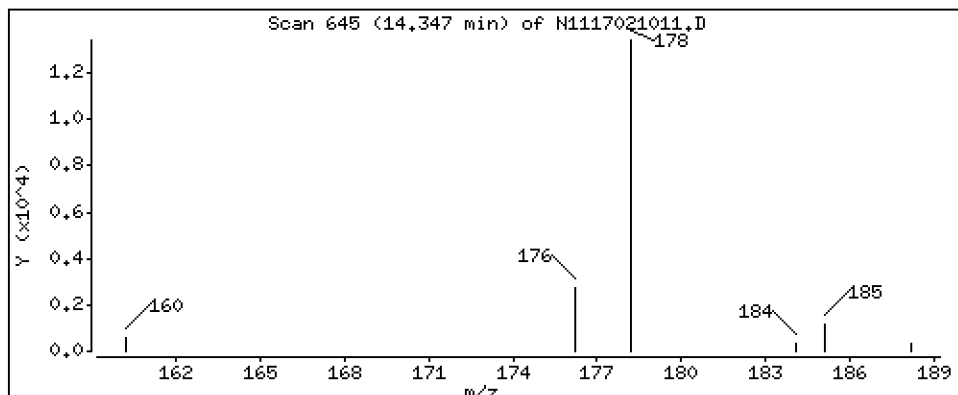
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

21 Anthracene

Concentration: 14,9 ng/mL



Date : 10-FEB-2017 17:03

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-04

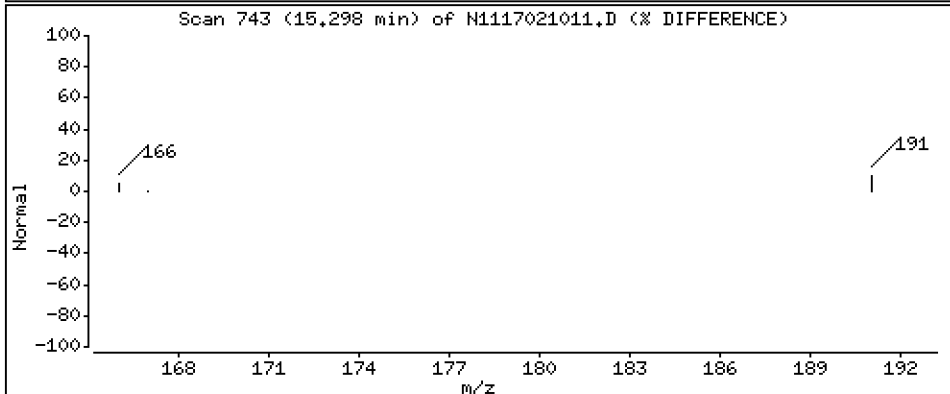
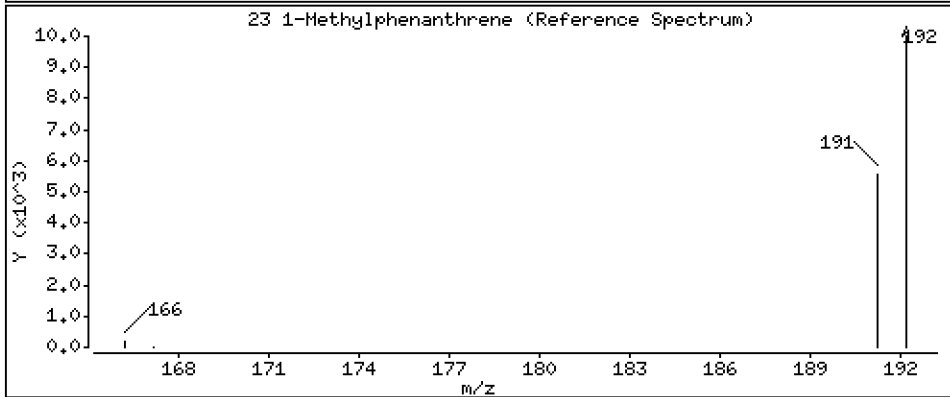
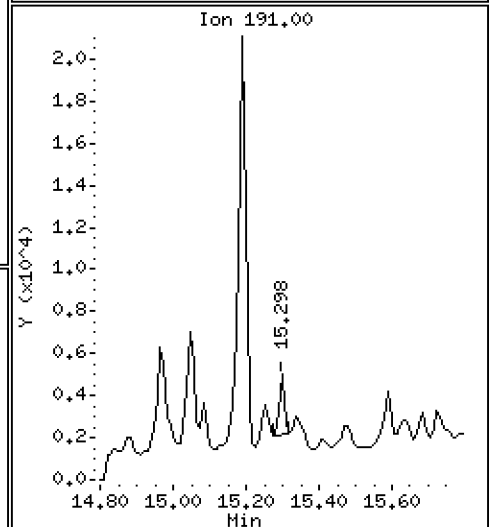
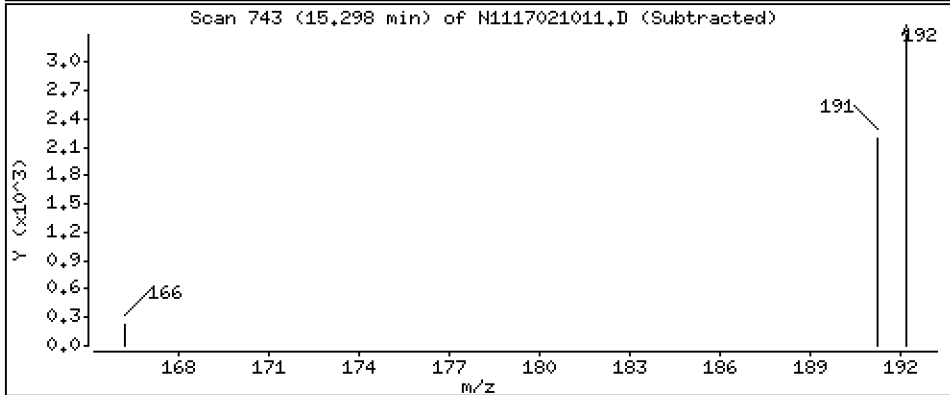
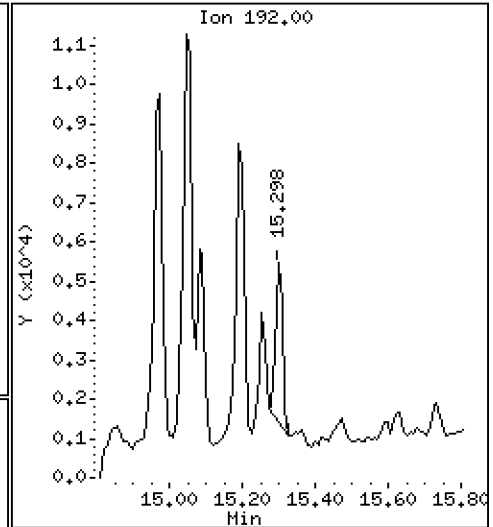
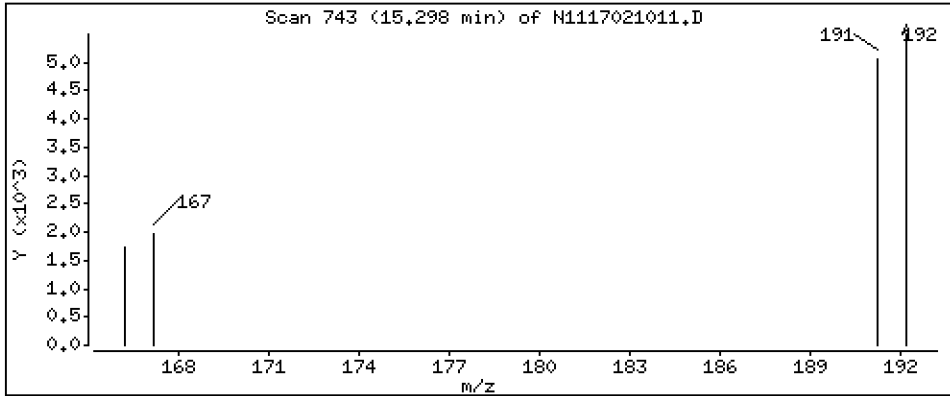
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

Concentration: 3,73 ng/mL

23 1-Methylphenanthrene



Date : 10-FEB-2017 17:03

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-04

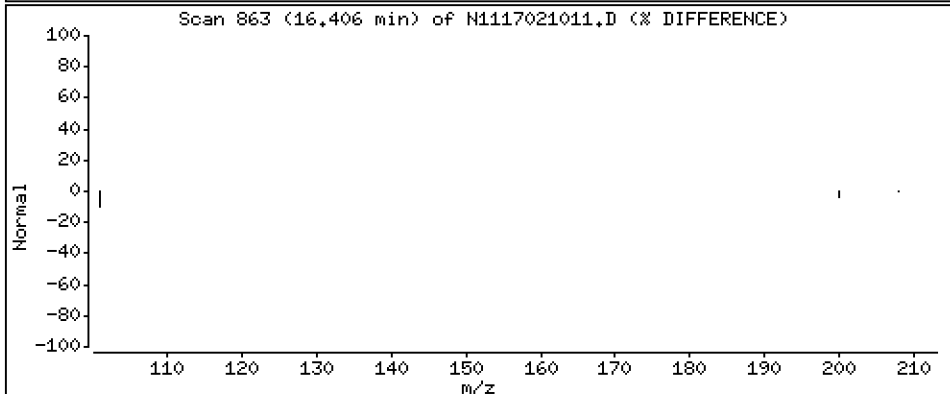
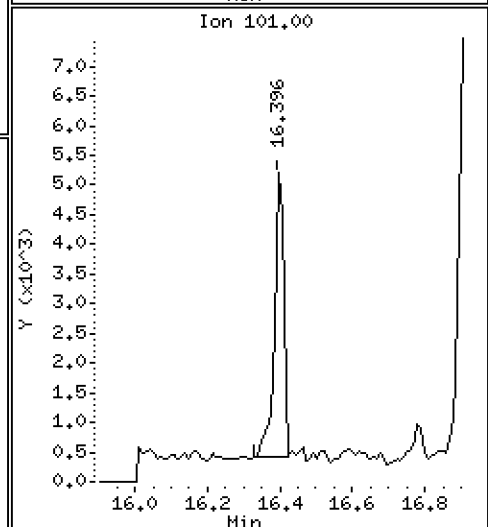
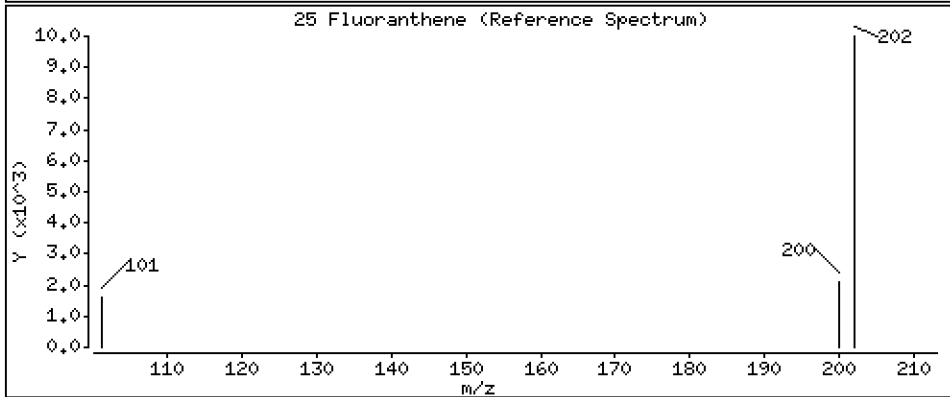
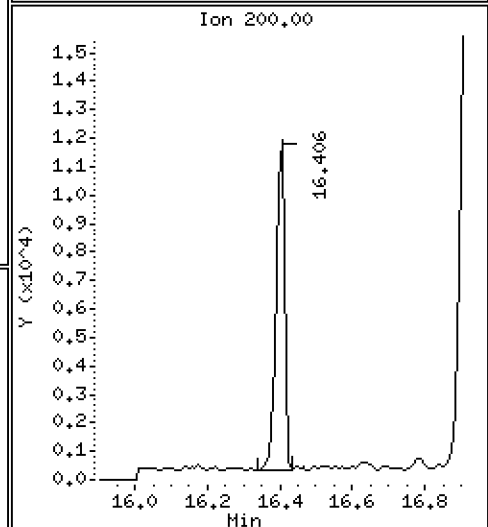
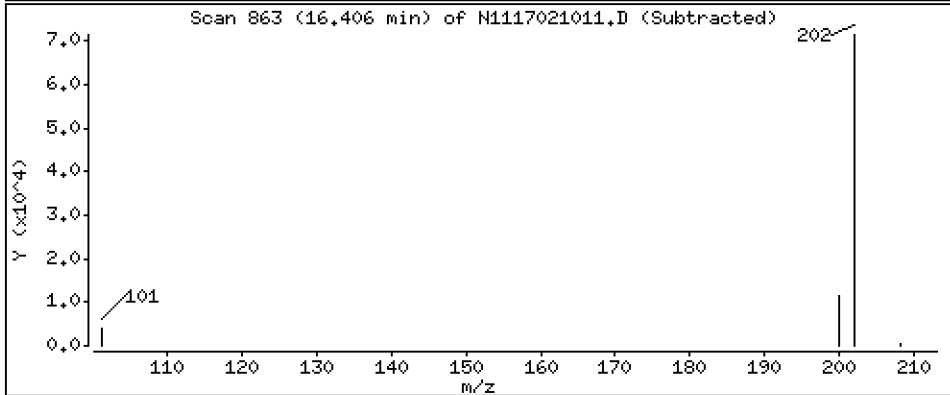
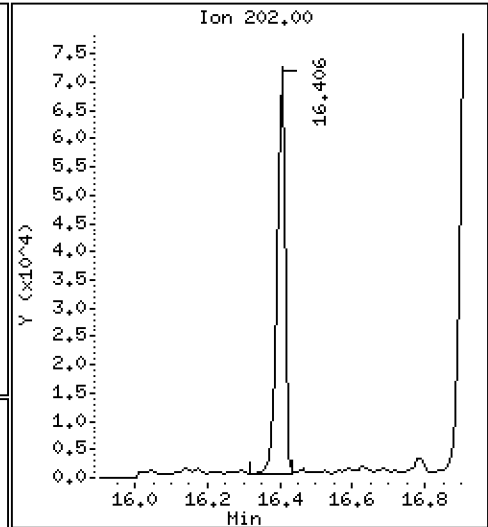
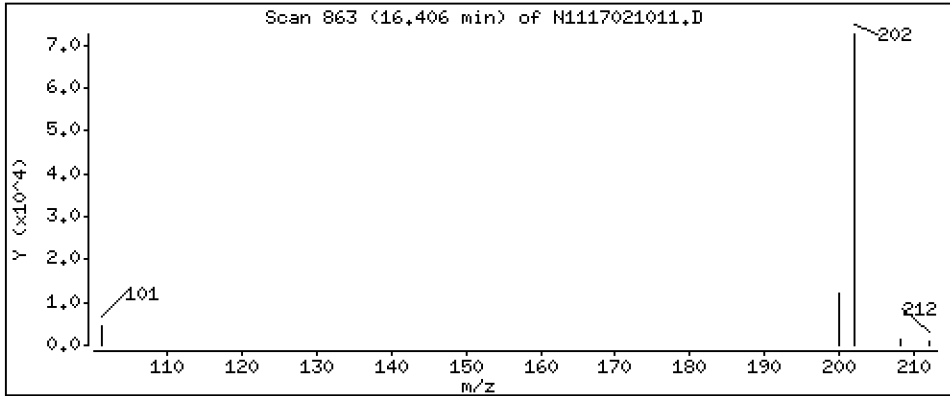
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

25 Fluoranthene

Concentration: 68,9 ng/mL



Date : 10-FEB-2017 17:03

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-04

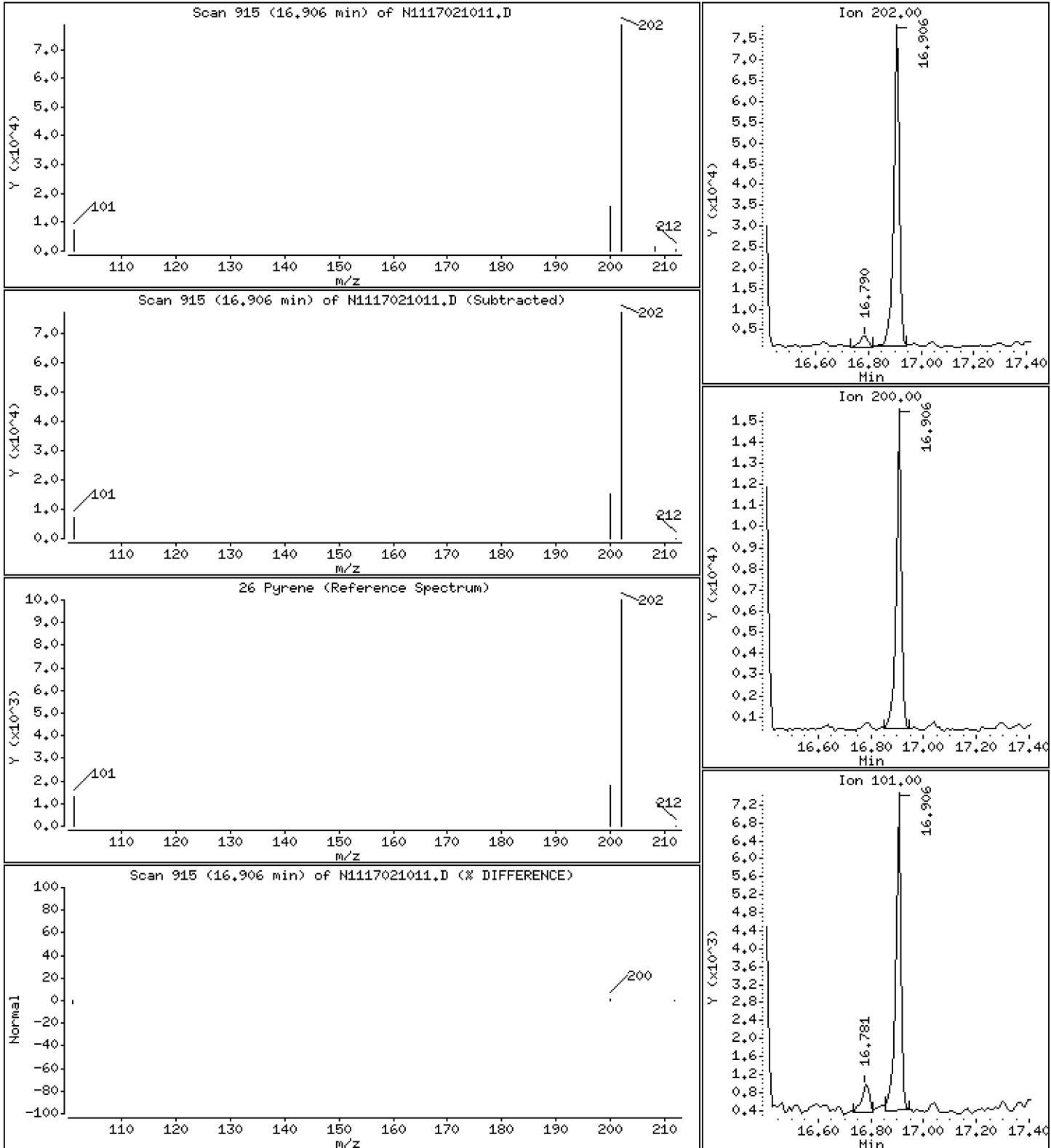
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0.25

26 Pyrene

Concentration: 92.1 ng/mL



Date : 10-FEB-2017 17:03

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-04

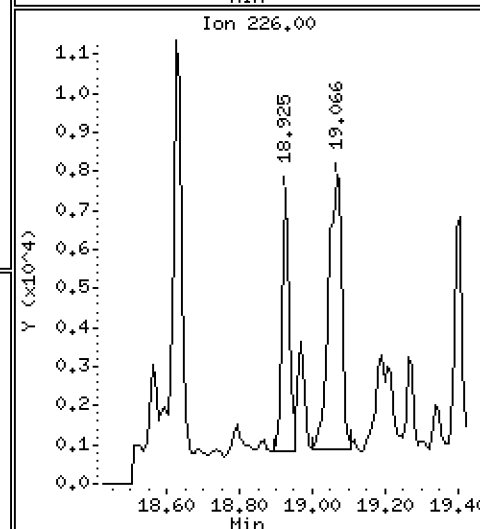
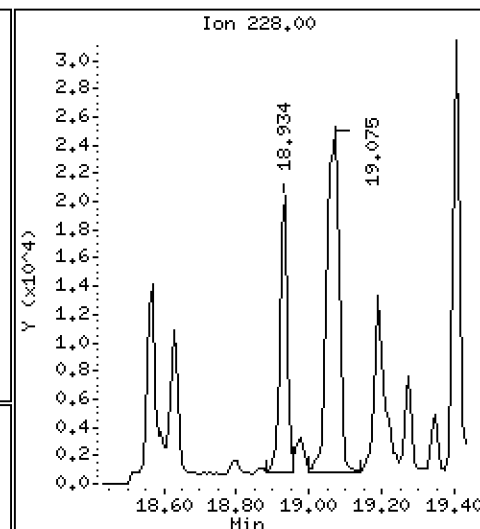
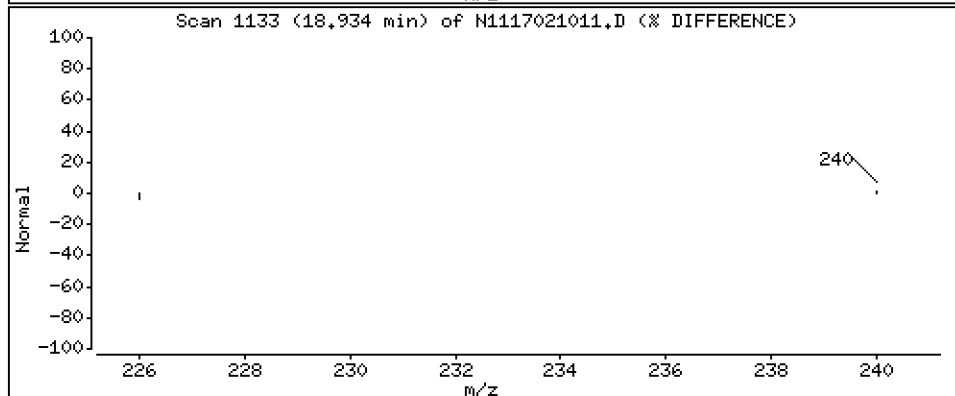
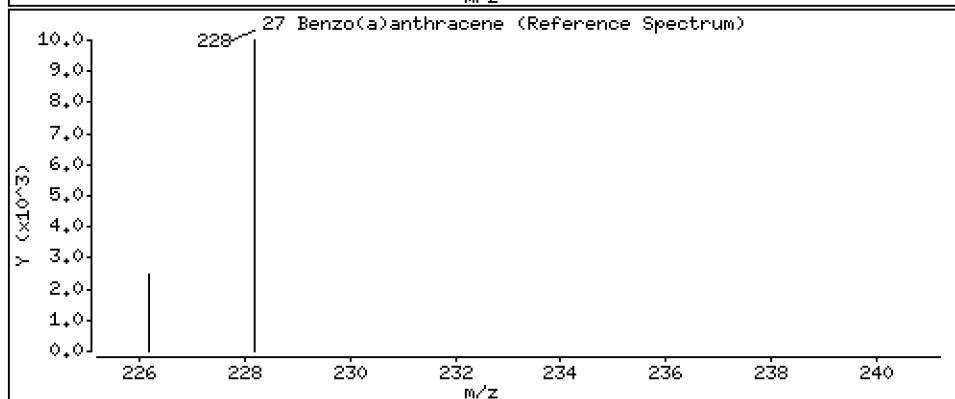
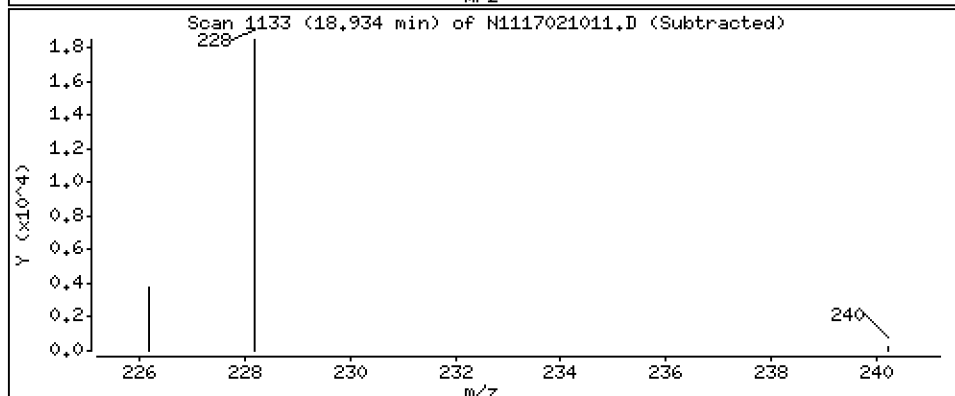
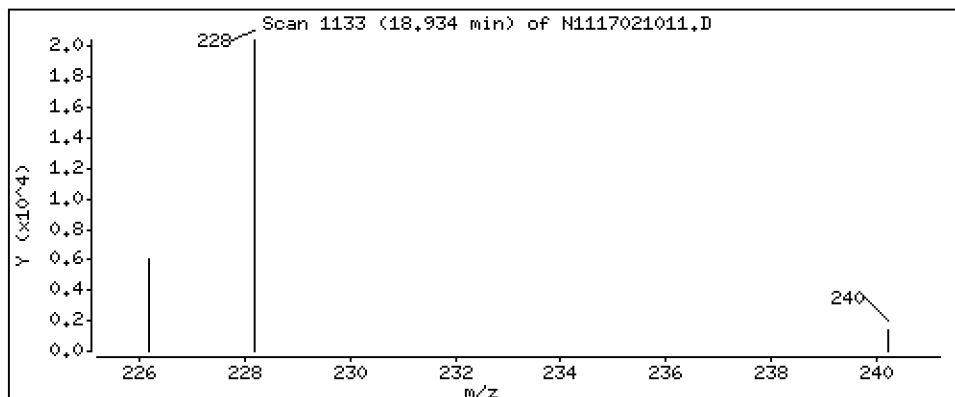
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

27 Benzo(a)anthracene

Concentration: 23,4 ng/mL



Date : 10-FEB-2017 17:03

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-04

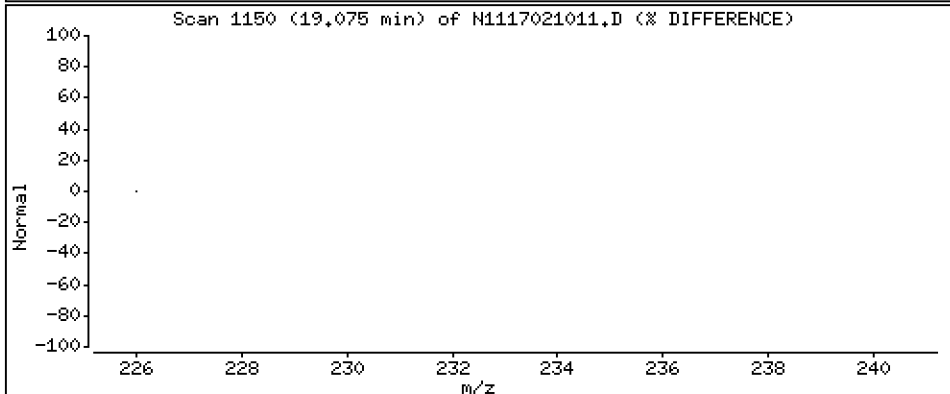
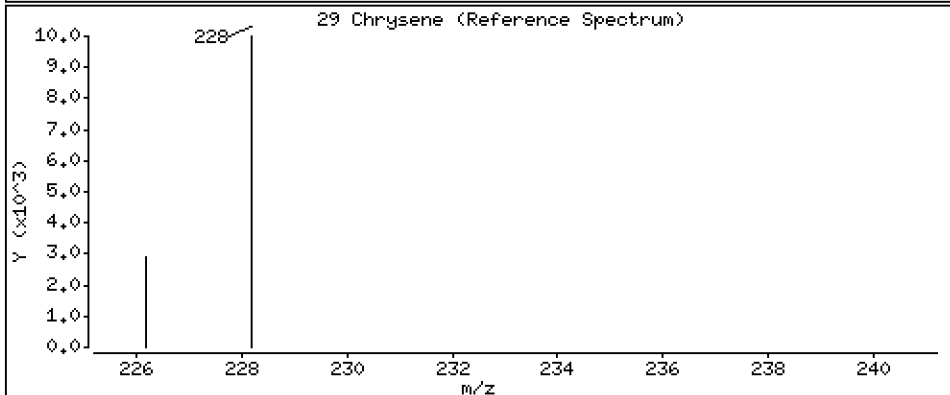
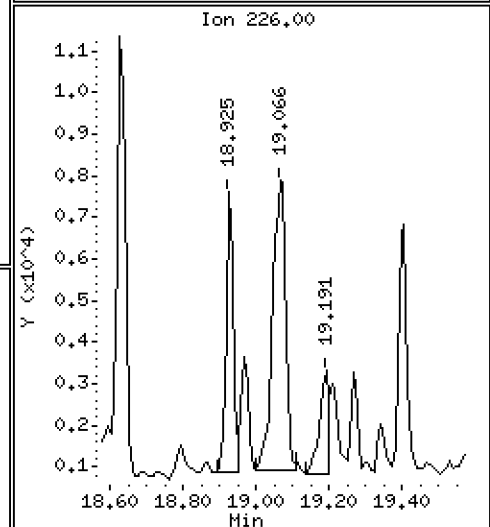
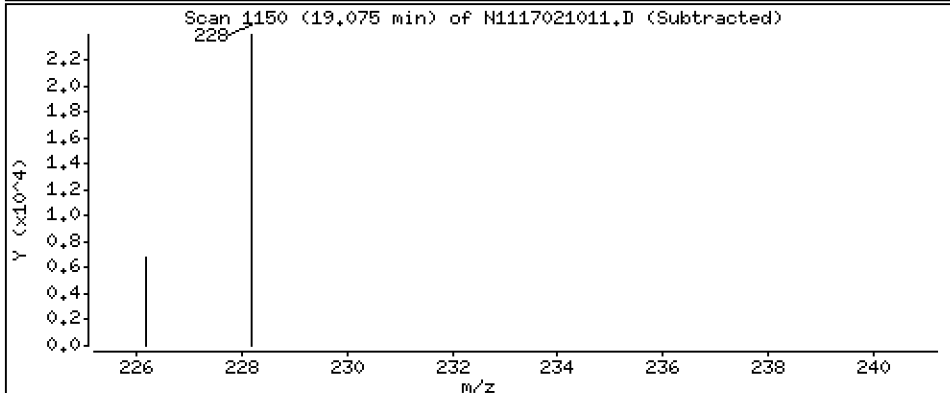
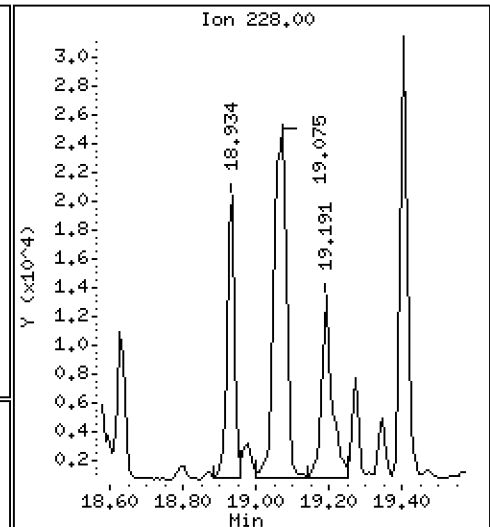
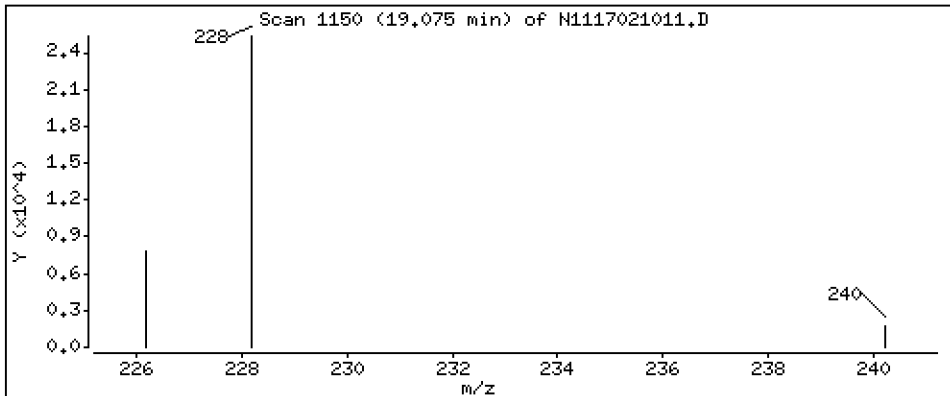
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

29 Chrysene

Concentration: 46,4 ng/mL



Date : 10-FEB-2017 17:03

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-04

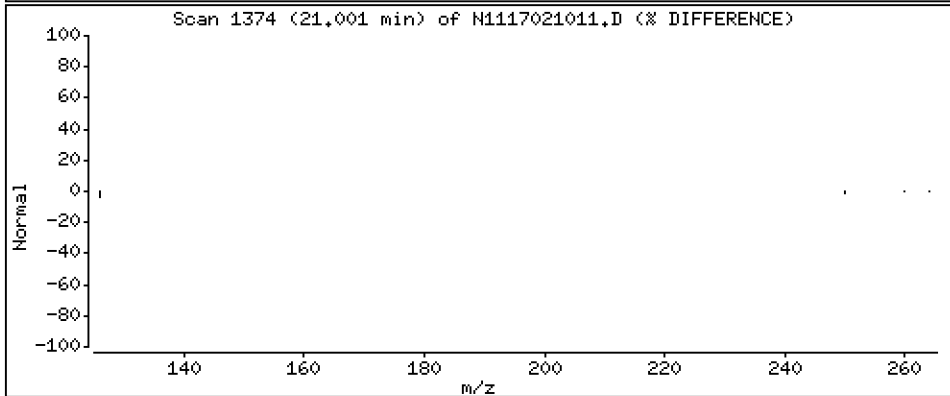
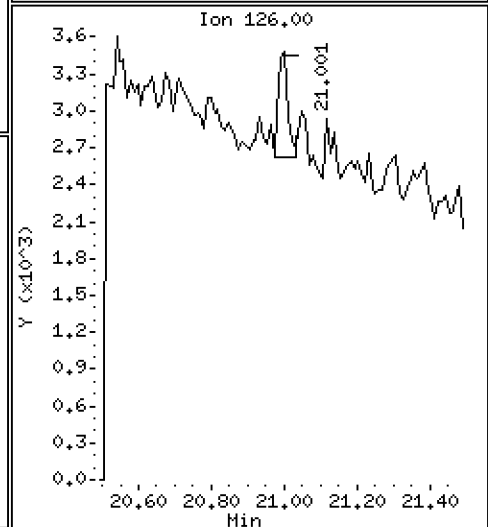
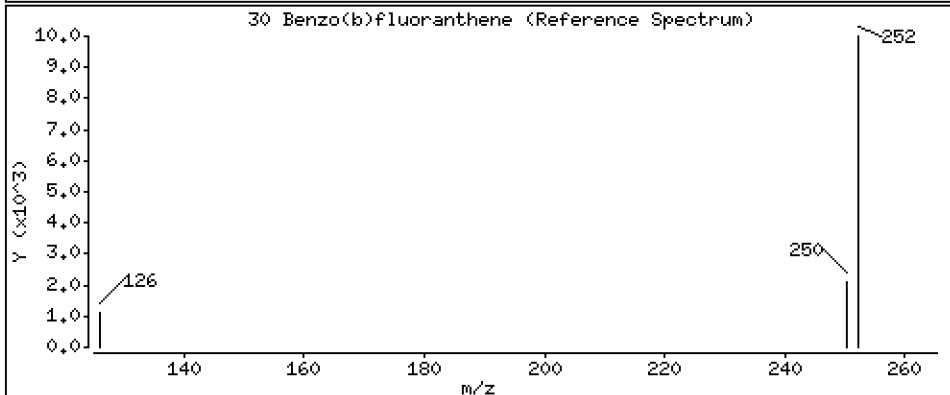
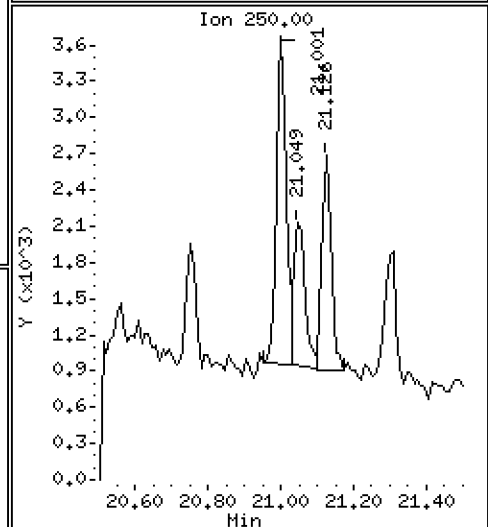
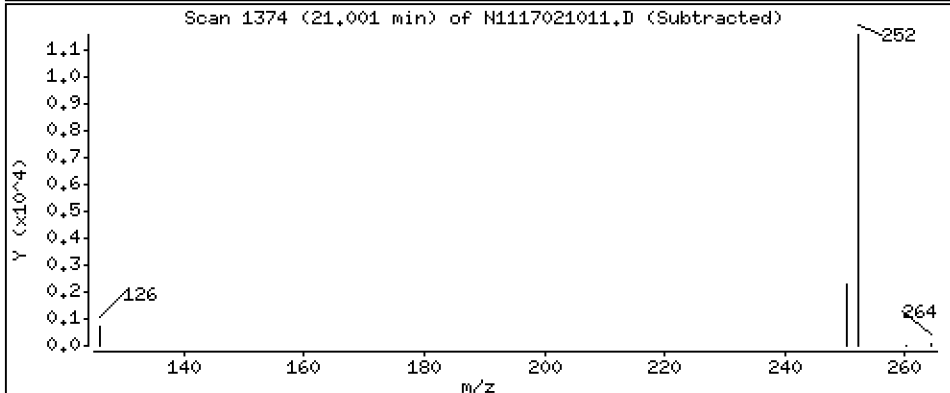
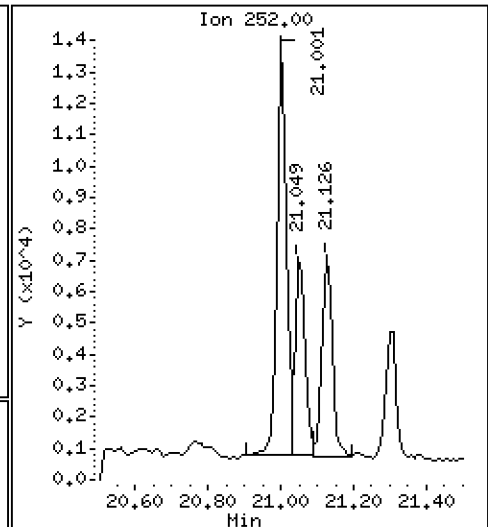
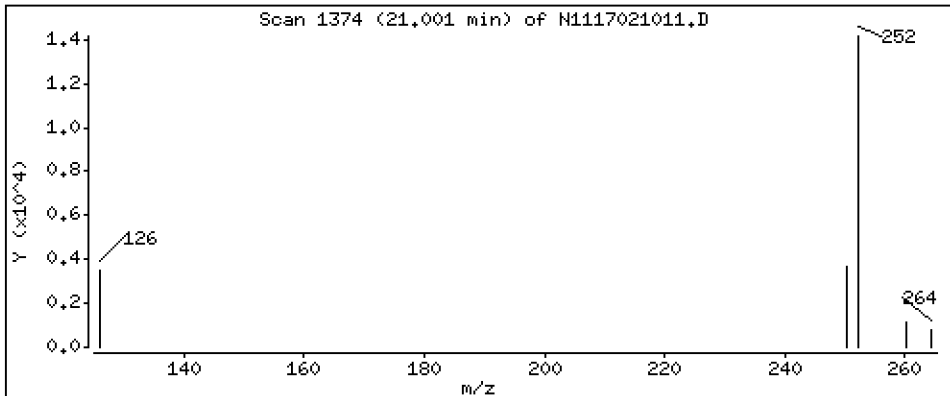
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

30 Benzo(b)fluoranthene

Concentration: 21,6 ng/mL



Date : 10-FEB-2017 17:03

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-04

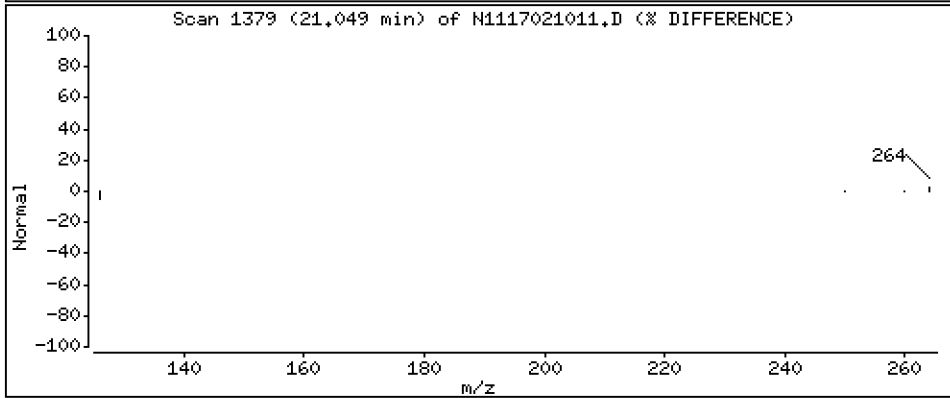
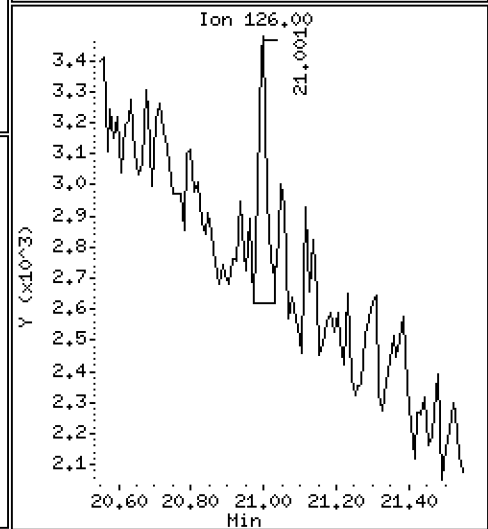
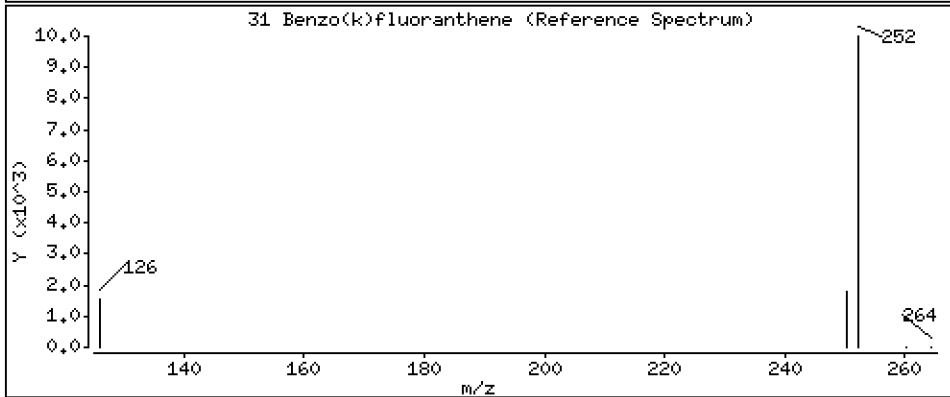
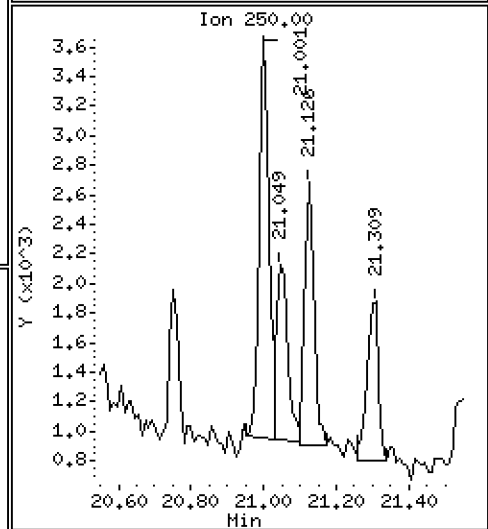
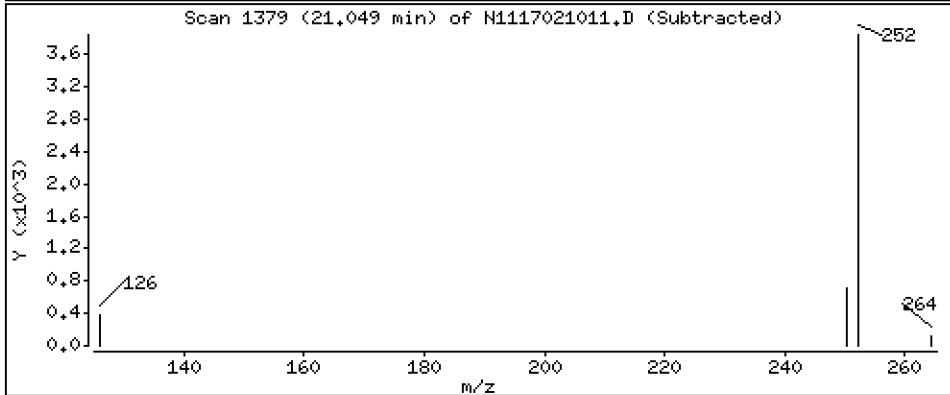
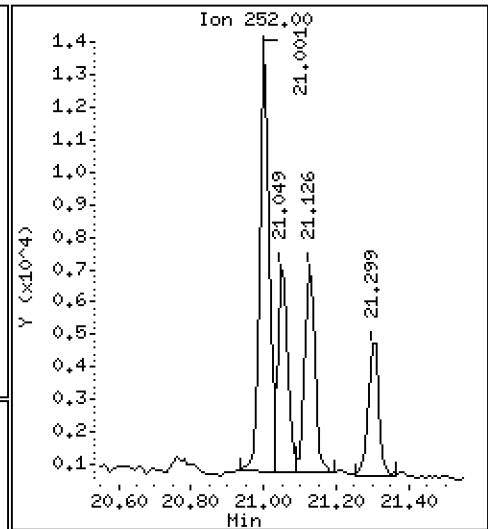
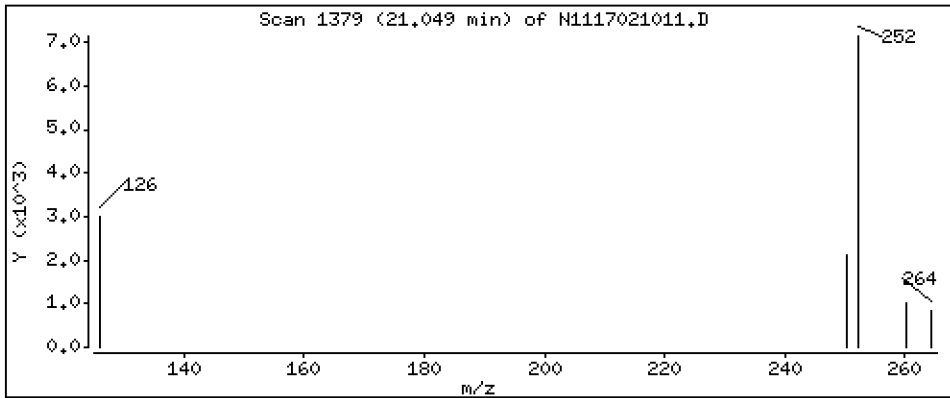
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

31 Benzo(k)fluoranthene

Concentration: 10,3 ng/mL



Date : 10-FEB-2017 17:03

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-04

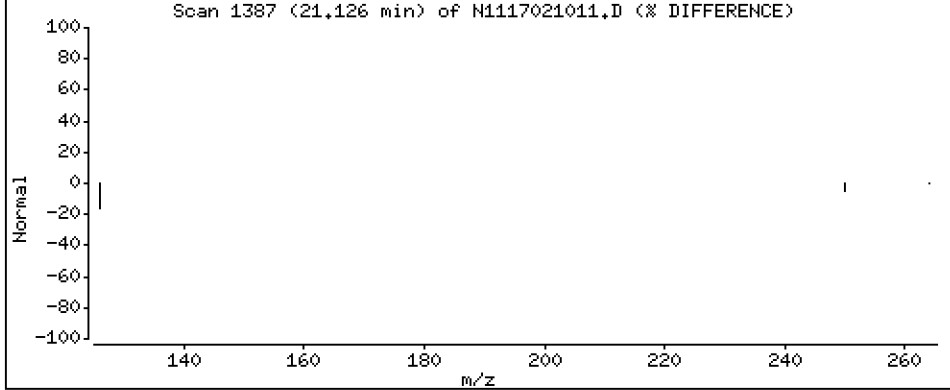
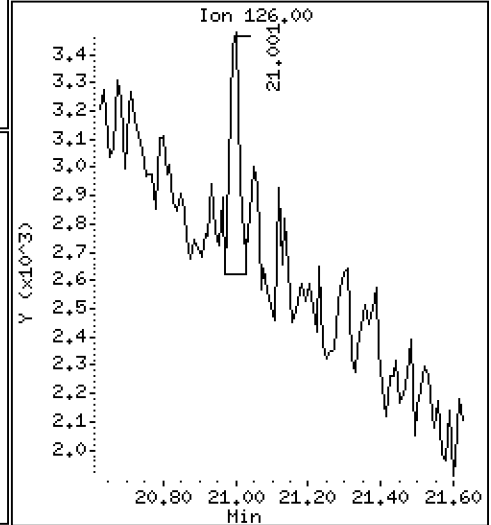
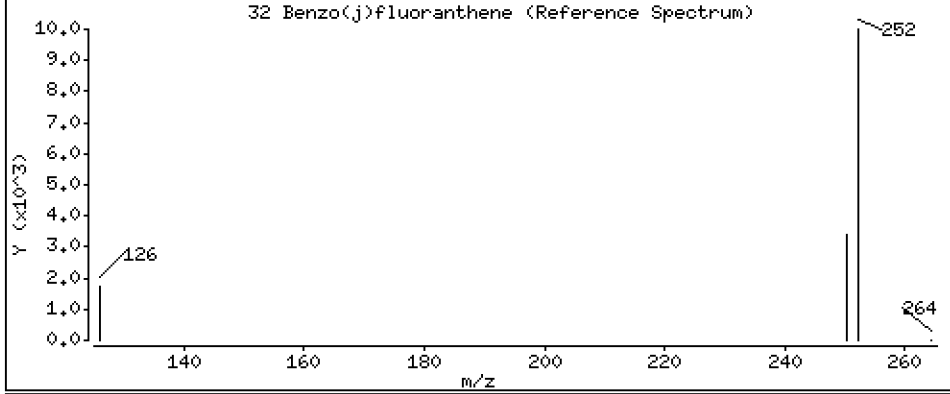
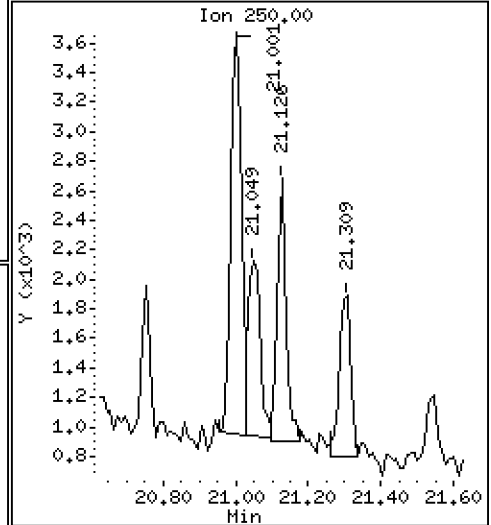
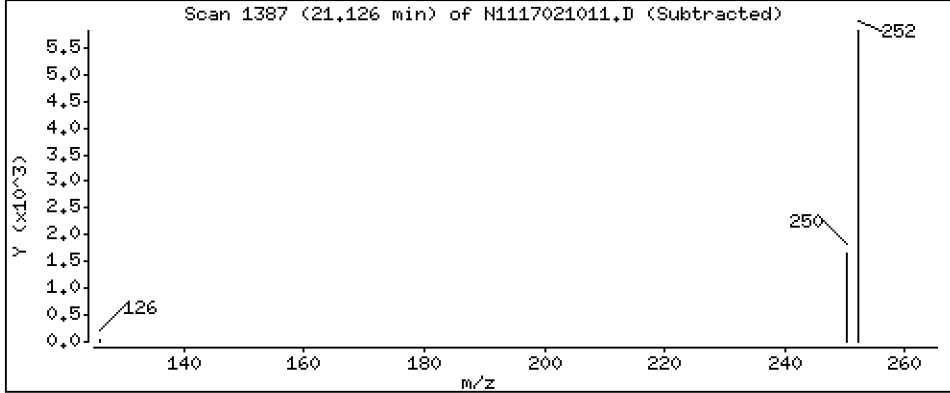
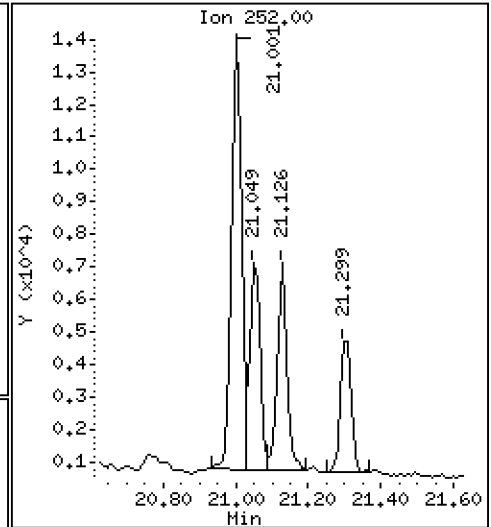
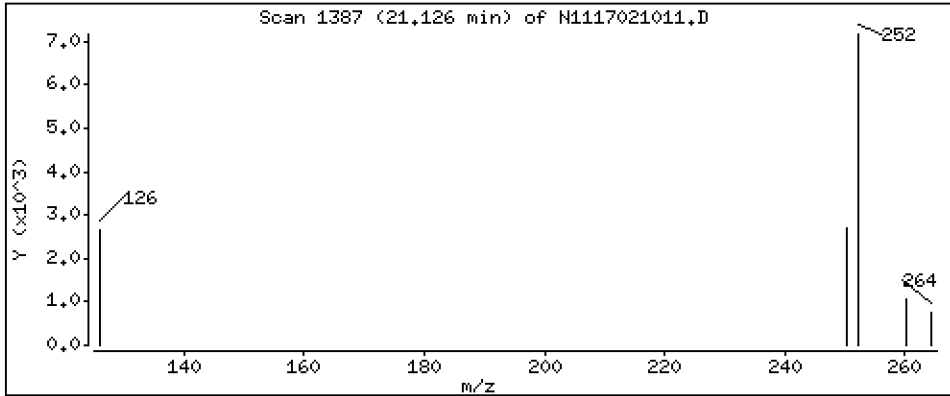
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

32 Benzo(j)fluoranthene

Concentration: 11,1 ng/mL



Date : 10-FEB-2017 17:03

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-04

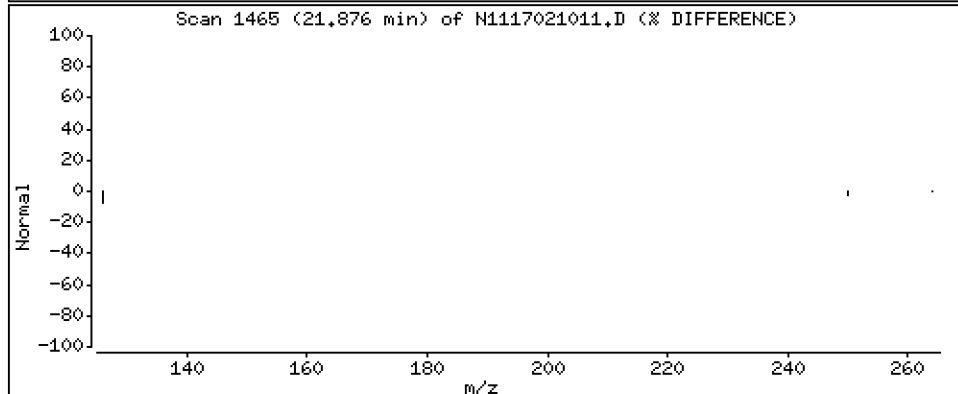
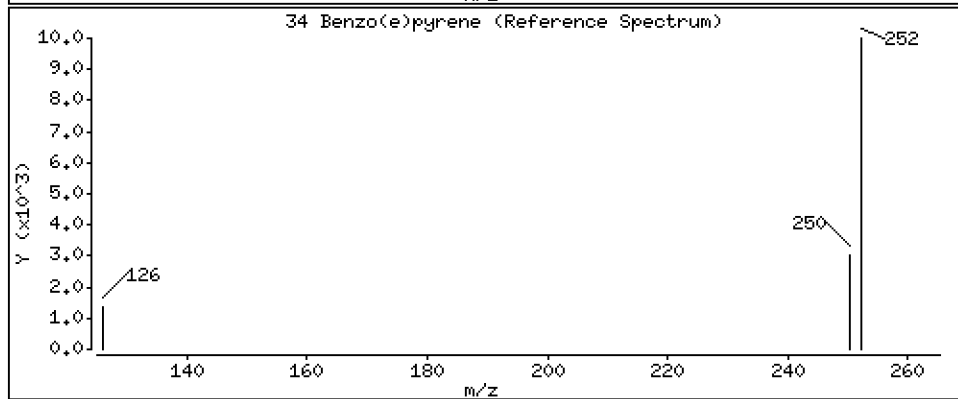
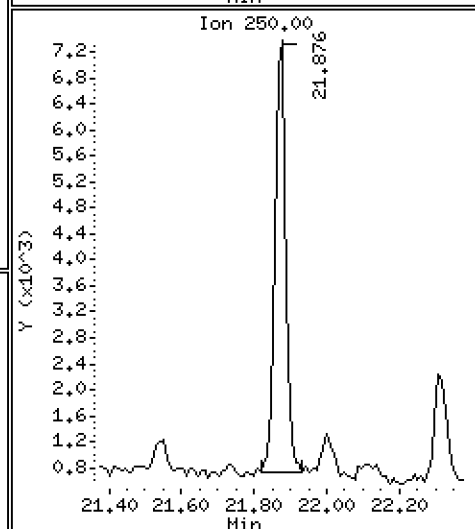
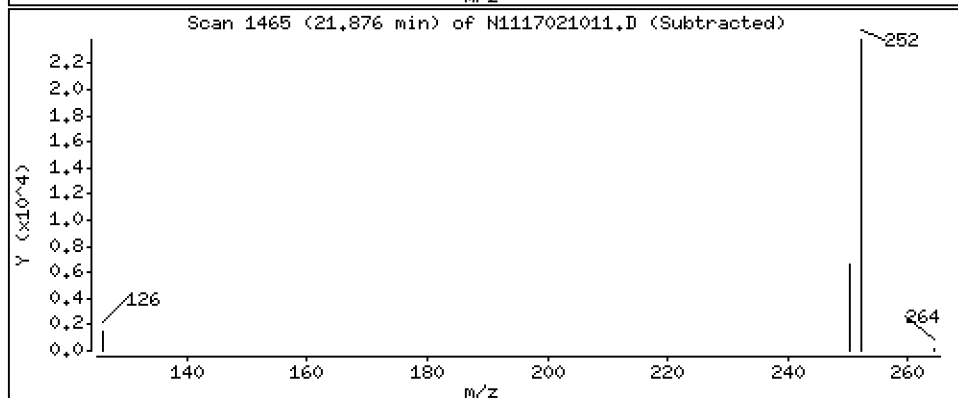
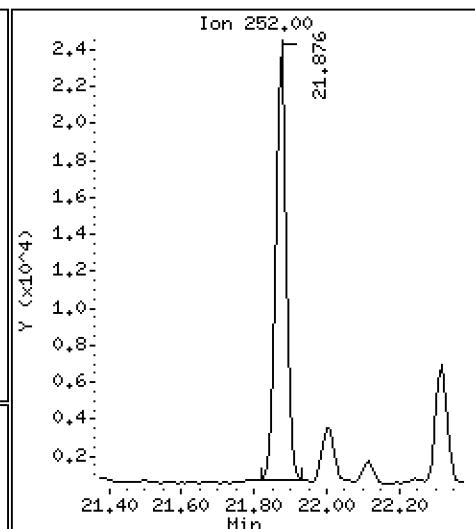
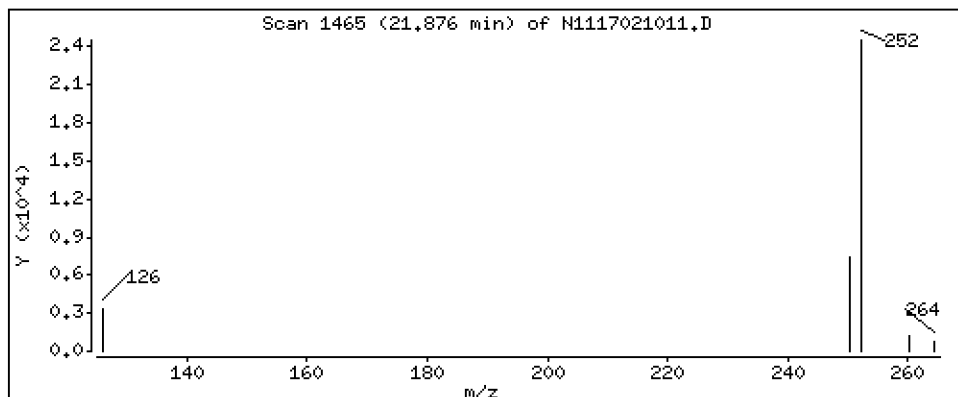
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

34 Benzo(e)pyrene

Concentration: 42,1 ng/mL



Date : 10-FEB-2017 17:03

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-04

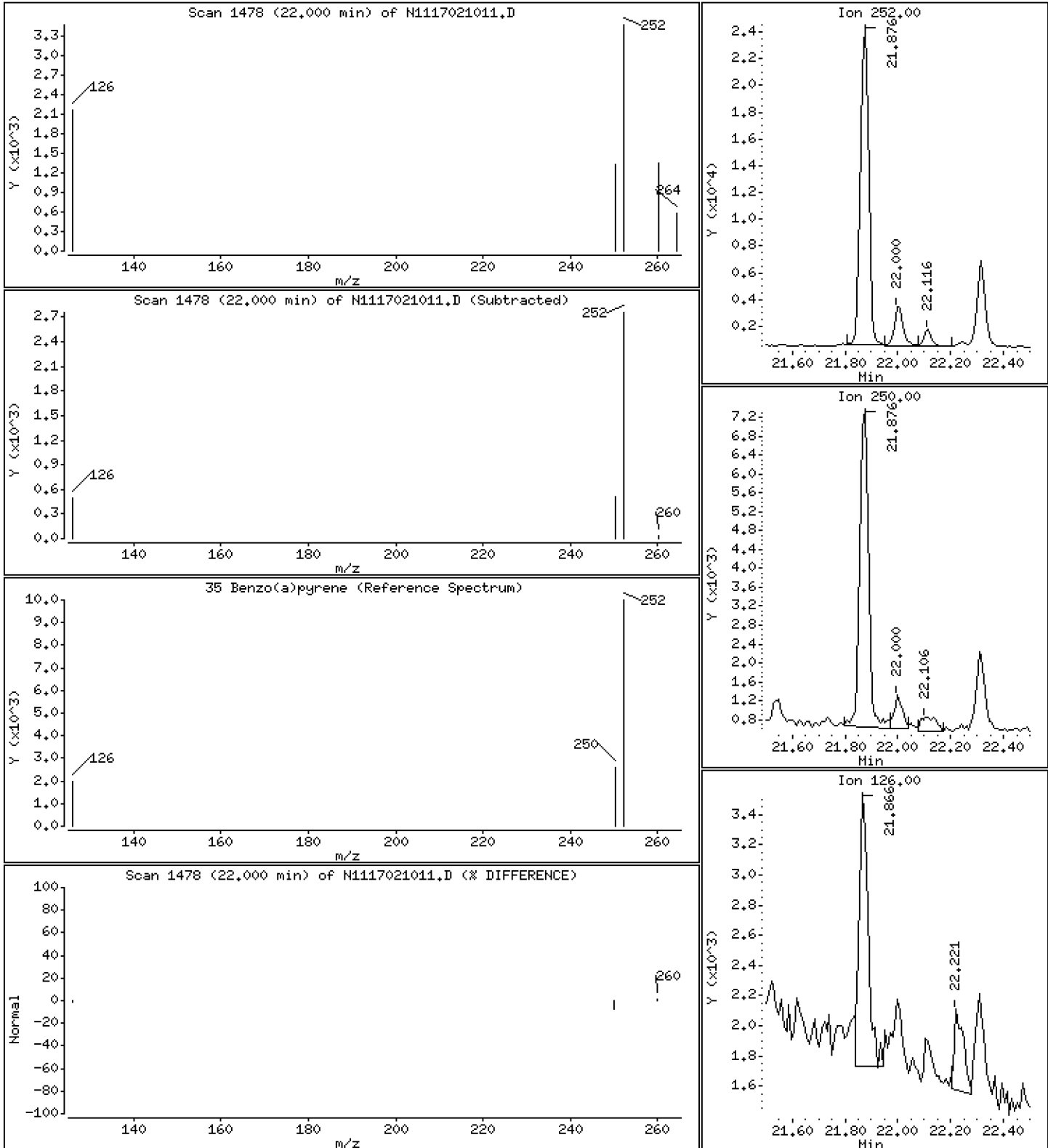
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

35 Benzo(a)pyrene

Concentration: 6,40 ng/mL



Date : 10-FEB-2017 17:03

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-04

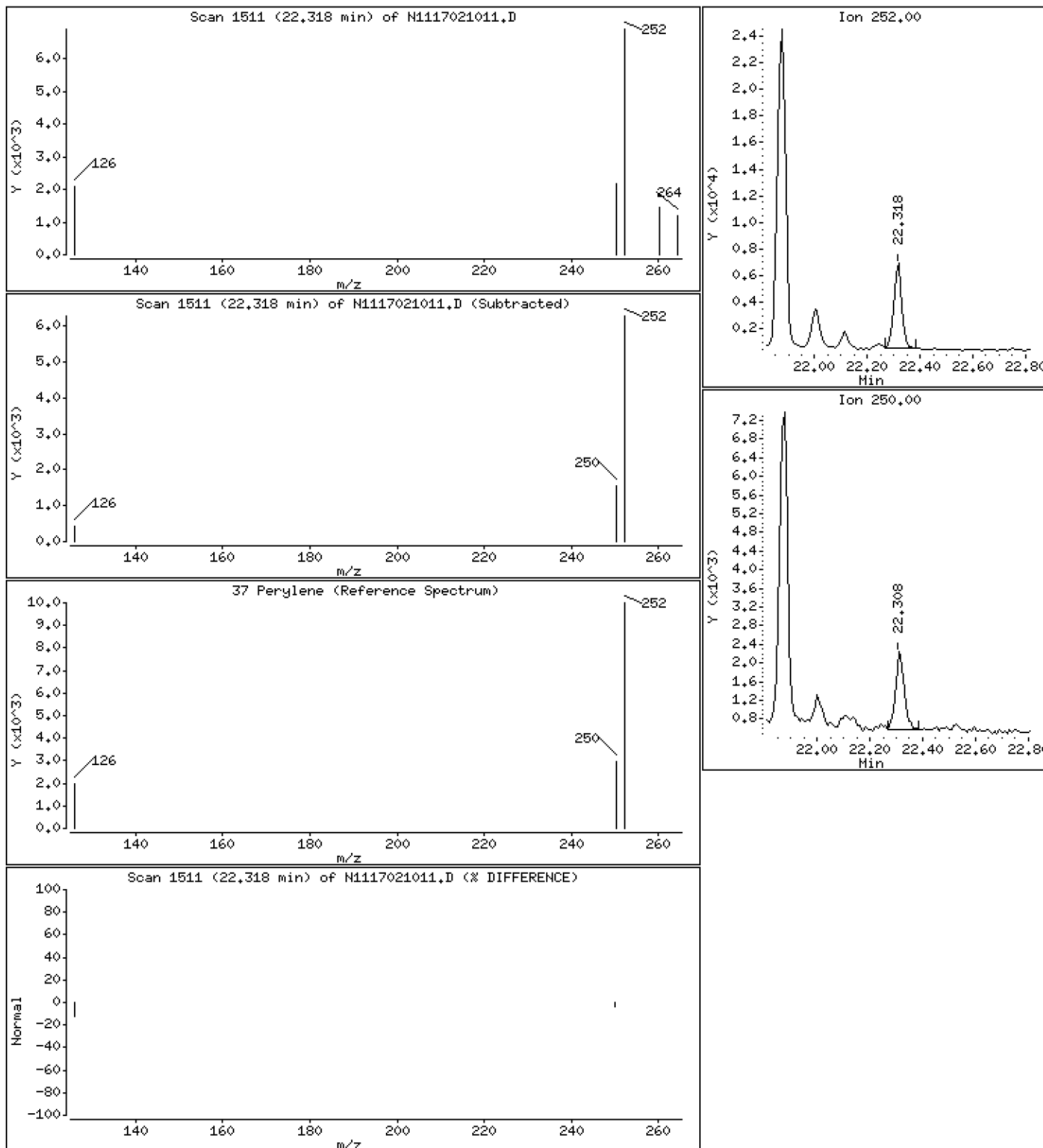
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

37 Perylene

Concentration: 12,0 ng/mL



Date : 10-FEB-2017 17:03

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-04

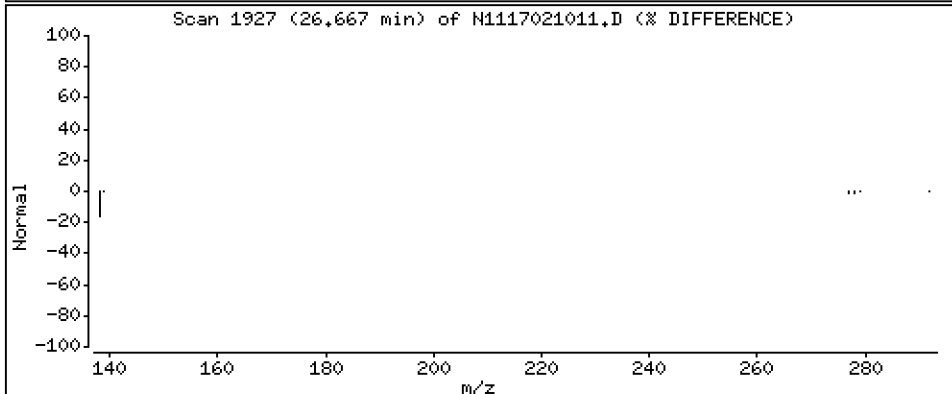
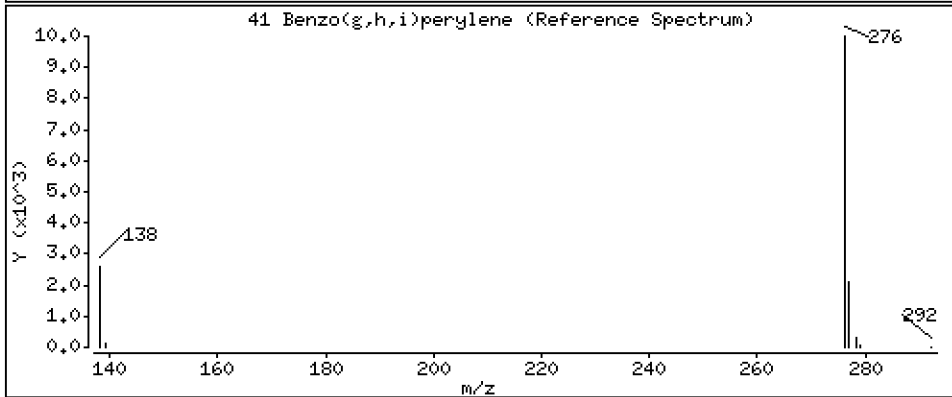
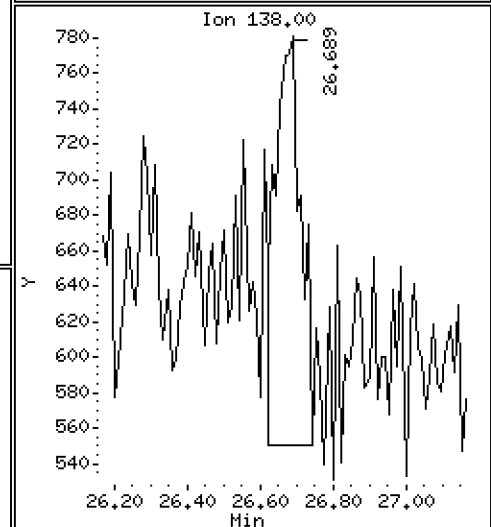
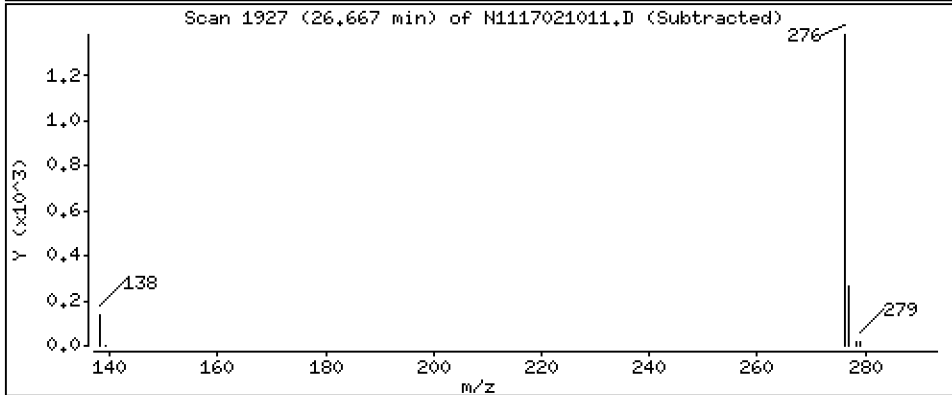
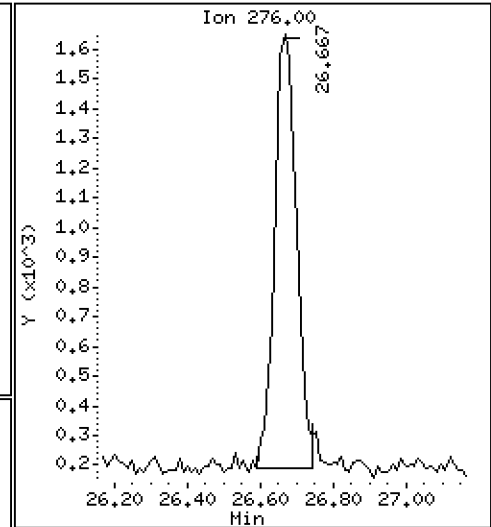
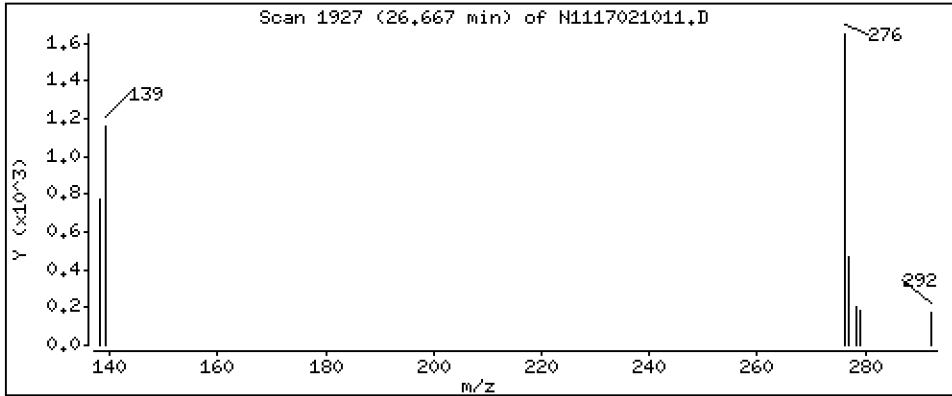
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

41 Benzo(g,h,i)perylene

Concentration: 5,65 ng/mL



ARI Labs, Inc.

LOW LEVEL PNAs BY SW8270D-SIM

Data file : \\target\share\chem3\nt11.i\20170210.b\N1117021011.D
 Lab Smp Id: 17A0053-04
 Inj Date : 10-FEB-2017 17:03 MS Autotune Date: 15-JAN-2015 15:59
 Operator : VTS Inst ID: nt11.i
 Smp Info : 17A0053-04
 Misc Info :
 Comment :
 Method : \\target\share\chem3\nt11.i\20170210.b\LOWSIM.m
 Meth Date : 11-Feb-2017 08:35 nt11.i Quant Type: ISTD
 Cal Date : 31-DEC-2016 09:30 Cal File: N1116123104.D
 Als bottle: 1
 Dil Factor: 1.00000
 Integrator: HP RTE Compound Sublist: allpna.sub
 Target Version: 4.14
 Processing Host: VANS

Compounds	QUANT	SIG	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS	
							ON-COLUMN (ng/mL)	FINAL (ng/mL)
* 1 Naphthalene-d8	136		8.509	8.526	(1.000)	214970	200.000	
2 Naphthalene	128		8.545	8.554	(1.004)	8097	7.54748	7.55
3 Benzo(b)thiophene	134		Compound Not Detected.					
\$ 4 2-Methylnaphthalene-d10	152		9.498	9.508	(1.116)	171218	185.454	185
5 2-Methylnaphthalene	142		9.550	9.561	(1.122)	6489	6.13709	6.14
6 1-Methylnaphthalene	142		9.813	9.823	(1.153)	3997	3.75855	3.76
7 2-Chloronaphthalene	162		Compound Not Detected.					
8 Biphenyl	154		Compound Not Detected.					
9 2,6-Dimethylnaphthalene	156		Compound Not Detected.					
10 Acenaphthylene	152		11.410	11.410	(0.987)	4336	3.32653	3.33
* 11 Acenaphthene-d10	164		11.555	11.564	(1.000)	145064	200.000	
12 Acenaphthene	153		11.618	11.627	(1.005)	3991	4.65041	4.65 (M)
13 Dibenzofuran	168		11.822	11.822	(1.023)	8660	6.78810	6.79
14 2,3,5-Trimethylnaphthalene	170		Compound Not Detected.					
\$ 15 Fluorene-d10	174		Compound Not Detected.					
16 Fluorene	166		12.454	12.454	(1.078)	9157	9.01615	9.02
17 Dibenzothiophene	184		Compound Not Detected.					
* 18 Phenanthrene-d10	188		14.251	14.262	(1.000)	237830	200.000	
19 Phenanthrene	178		14.293	14.293	(1.003)	71458	52.5531	52.6
\$ 20 Anthracene-d10	188		Compound Not Detected.					
21 Anthracene	178		14.346	14.356	(1.007)	20134	14.8504	14.9
22 Carbazole	167		Compound Not Detected.					
23 1-Methylphenanthrene	192		15.298	15.307	(1.073)	5200	3.72913	3.73 (MH)
\$ 24 Fluoranthene-d10	212		16.367	16.367	(1.148)	250981	198.690	199
25 Fluoranthene	202		16.406	16.405	(1.151)	106272	68.9015	68.9
26 Pyrene	202		16.905	16.915	(0.889)	123580	92.0559	92.1
27 Benzo(a)anthracene	228		18.933	18.933	(0.995)	29040	23.3694	23.4
* 28 Chrysene-d12	240		19.024	19.024	(1.000)	206658	200.000	
29 Chrysene	228		19.074	19.074	(1.003)	59172	46.4053	46.4
30 Benzo(b)fluoranthene	252		21.001	21.001	(0.944)	25202	21.5792	21.6
31 Benzo(k)fluoranthene	252		21.049	21.049	(0.946)	12917	10.2686	10.3
32 Benzo(j)fluoranthene	252		21.126	21.125	(0.950)	12414	11.0712	11.1
\$ 33 Benzo(e)pyrene-d12	264		Compound Not Detected.					

Compounds	QUANT	SIG	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS		
							ON-COLUMN (ng/mL)	FINAL (ng/mL)	
34 Benzo(e)pyrene	252		21.875	21.875	(0.984)	49072	42.1231	42.1	
35 Benzo(a)pyrene	252		22.000	22.000	(0.989)	6965	6.39721	6.40	
* 36 Perylene-d12	264		22.240	22.240	(1.000)	216657	200.000		
37 Perylene	252		22.317	22.317	(1.003)	13684	12.0377	12.0	
§ 38 Dibenzo(a,h)anthracene-d14	292		25.116	25.116	(1.129)	156699	226.480	226	
39 Dibenzo(a,h)anthracene	278		Compound Not Detected.						
40 Indeno(1,2,3-cd)pyrene	276		Compound Not Detected.						
41 Benzo(g,h,i)perylene	276		26.666	26.666	(1.199)	6029	5.64947	5.65	

QC Flag Legend

- M - Compound response manually integrated.
- H - Operator selected an alternate compound hit.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
 AREA AND RT SUMMARY

Instrument ID: nt11.i Calibration Date: 10-FEB-2017
 Lab File ID: N1117021011.D Calibration Time: 13:29
 Lab Smp Id: 17A0053-04
 Analysis Type: SV Level:
 Quant Type: ISTD Sample Type:
 Operator: VTS
 Method File: \\target\share\chem3\nt11.i\20170210.b\LOWSIM.m
 Misc Info:

Test Mode:
 Use Initial Calibration Level 4.

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
1 Naphthalene-d8	219654	109827	439308	214970	-2.13
11 Acenaphthene-d10	135248	67624	270496	145064	7.26
18 Phenanthrene-d10	257021	128511	514042	237830	-7.47
28 Chrysene-d12	259511	129756	519022	206658	-20.37
36 Perylene-d12	257535	128768	515070	216657	-15.87

COMPOUND	STANDARD	RT LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
1 Naphthalene-d8	8.53	8.03	9.03	8.51	-0.21
11 Acenaphthene-d10	11.56	11.06	12.06	11.56	-0.08
18 Phenanthrene-d10	14.26	13.76	14.76	14.25	-0.07
28 Chrysene-d12	19.02	18.52	19.52	19.02	0.00
36 Perylene-d12	22.24	21.74	22.74	22.24	0.00

AREA UPPER LIMIT = +100% of internal standard area.
 AREA LOWER LIMIT = - 50% of internal standard area.
 RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
 RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - N1117021011.D

Lab ID: 17A0053-04
nt11.i, 20170210.b\LOWSIM.m, 10-FEB-2017 17:03

RT CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

RRT CCV RRT DELTA COMPOUND

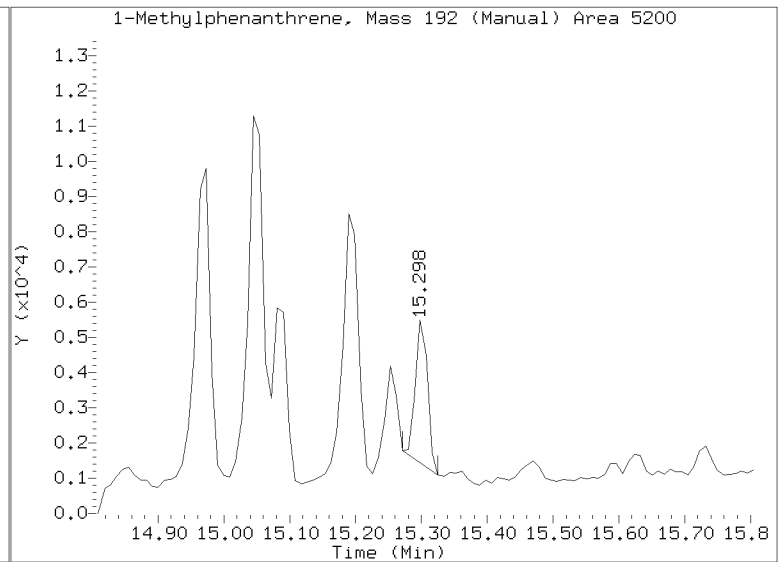
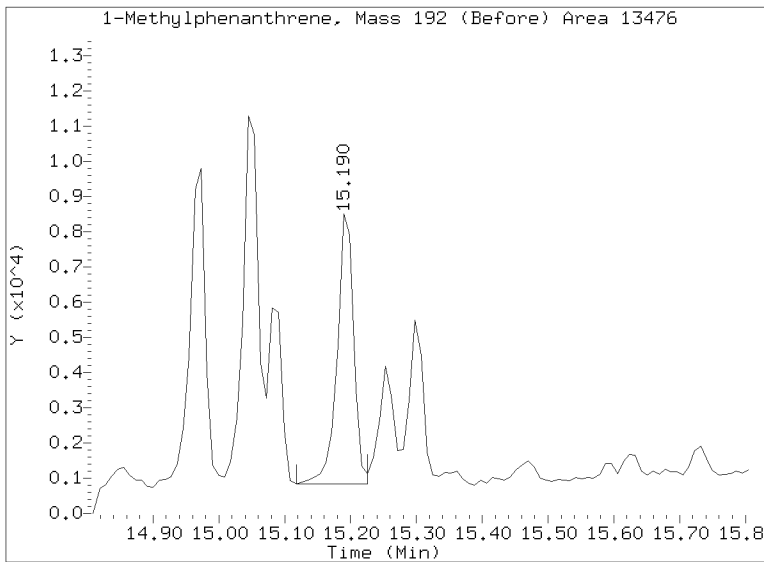
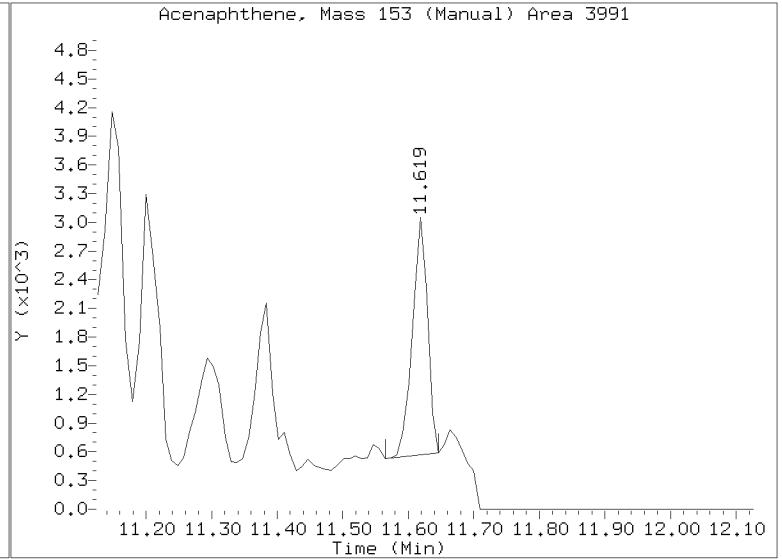
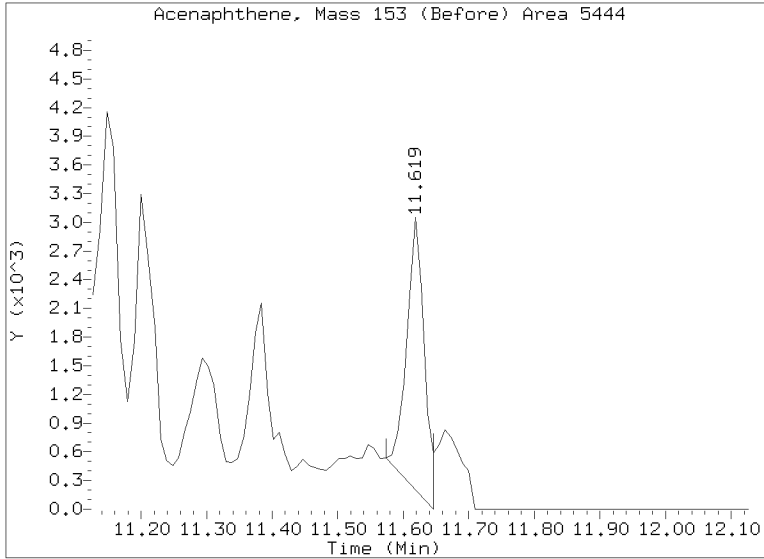
NONE

On Column LOD for nt11.i, 20170210.b\LOWSIM.m, allpna.sub = 3.0000

Exception: Naphthalene 7.0000
Exception: Phenanthrene 2.5000
Exception: Anthracene 2.0000
Exception: Pyrene 4.0000
Exception: Benzo(j)fluoranthene 2.5000
Exception: Benzo(a)pyrene 2.0000
Exception: Perylene 3.5000
Exception: Benzo(e)pyrene 2.0000
Exception: Benzo(b)thiophene 2.0000
Exception: 2-Chloronaphthalene 2.0000
Exception: 2,6-Dimethylnaphthalene 2.0000
Exception: 2,3,5-Trimethylnaphthalene 2.0000
Exception: 1-Methylphenanthrene 2.0000
Exception: Dibenzothiophene 2.0000
Exception: Carbazole 2.0000
Exception: Biphenyl 2.0000
Exception: 2-Methylnaphthalene-d10 (Surr) 0.1000
Exception: Dibenzo(a,h)anthracene-d14 (Surr) 0.1000
Exception: Fluoranthene-d10 (Surr) 0.1000
Exception: Anthracene-d10 (Surr) 0.1000
Exception: Benzo(e)pyrene-d12 (Surr) 0.1000
Exception: Fluorene-d10 (Surr) 0.1000

Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt11.i/20170210.b/N1117021011.D
Injection Date: 10-FEB-2017 17:03
Lab ID:17A0053-04 Client ID:
Report Date: 02/11/2017 08:35



Data File: \\target\share\chem3\nt11.1\20170210.16\N1117021012.D

Date: 10-FEB-2017 17:39

Client ID:

Sample Info: 17A0053-05

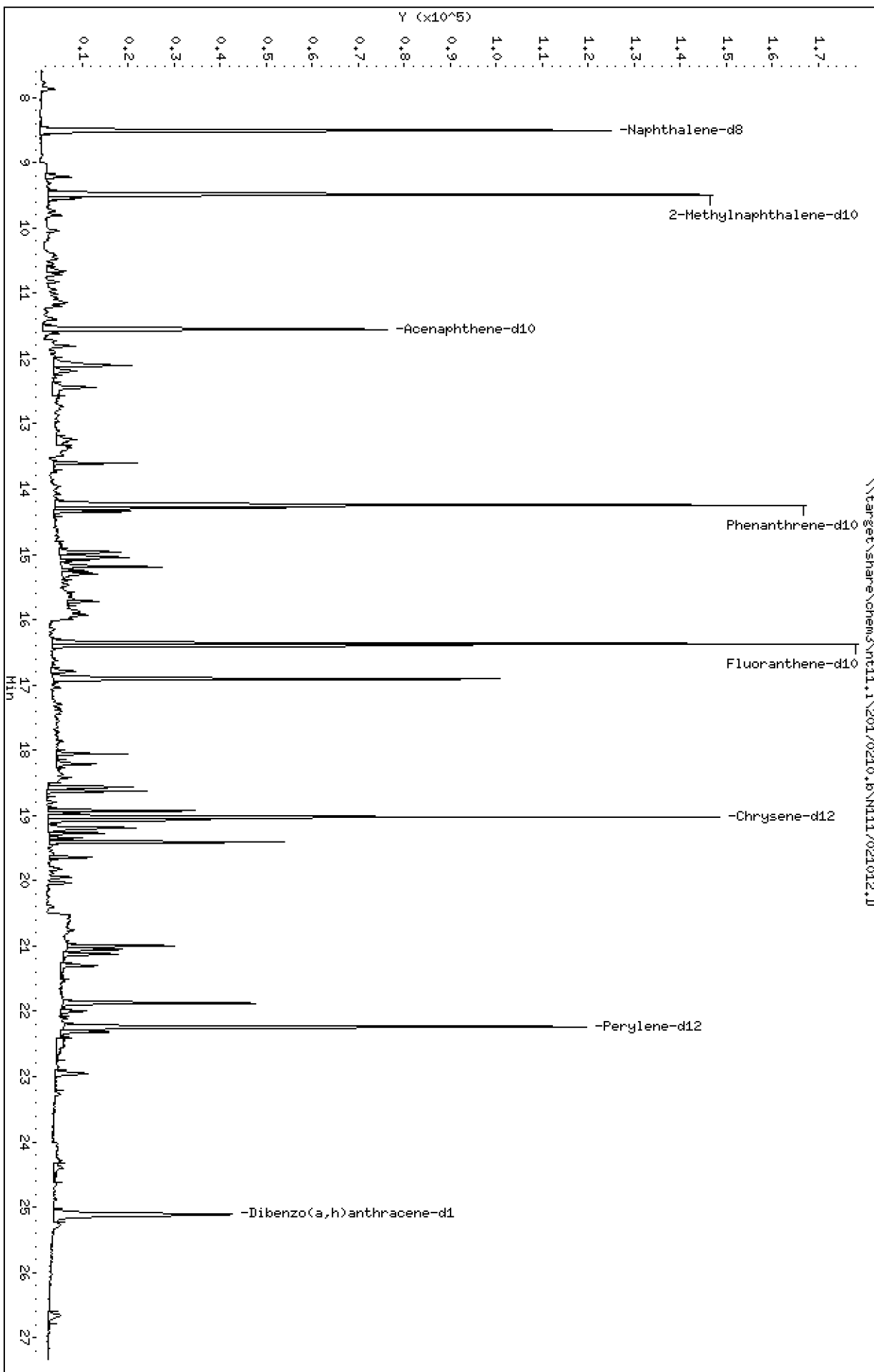
Column phase: Rxi-17S11 MS

Instrument: nt11.1

Operator: VTS

Column diameter: 0.25

Page 1



Date : 10-FEB-2017 17:39

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-05

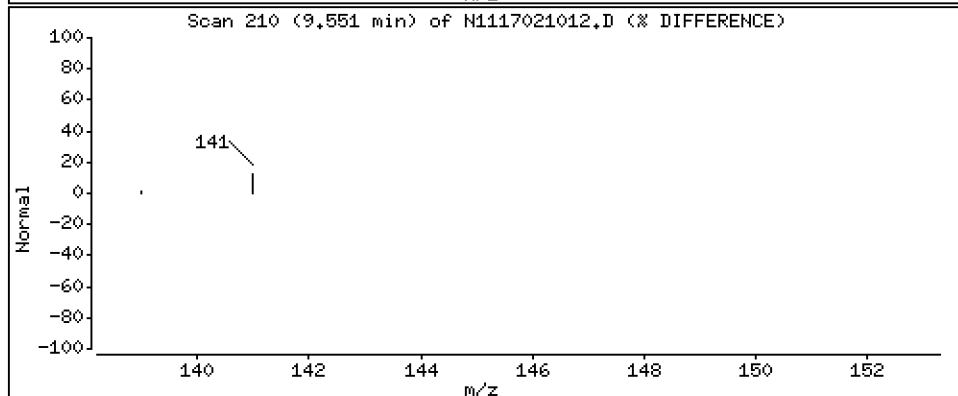
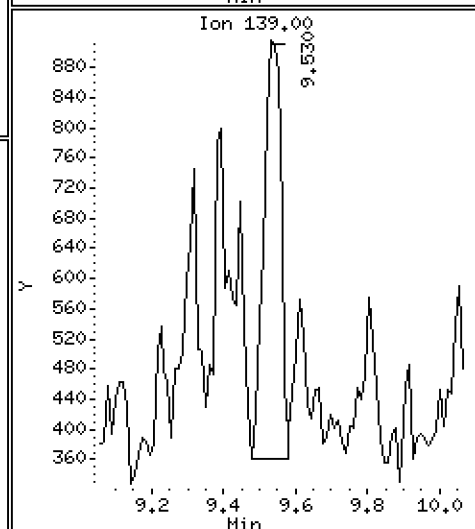
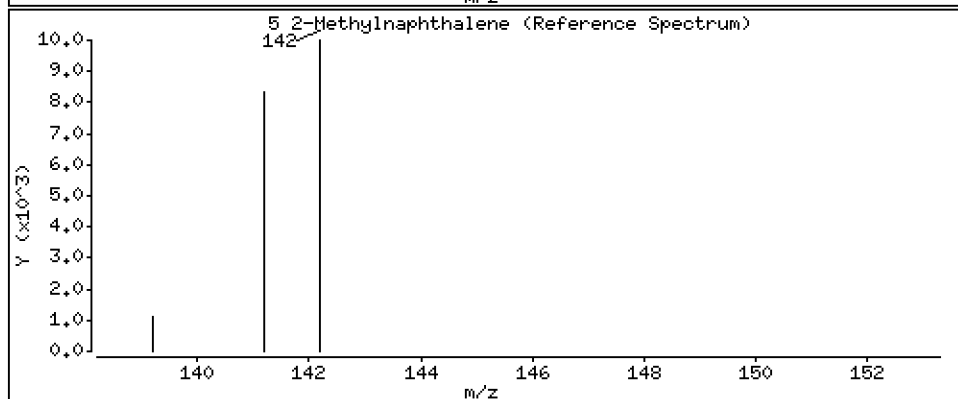
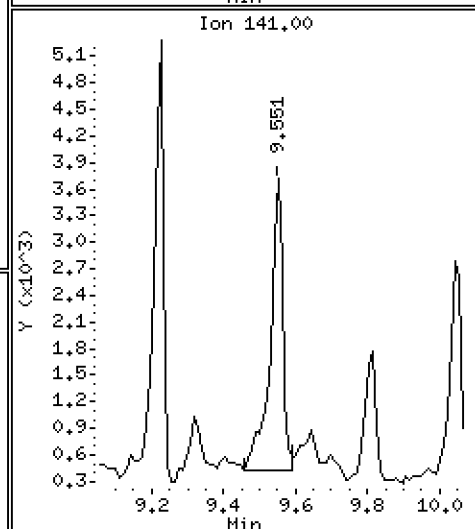
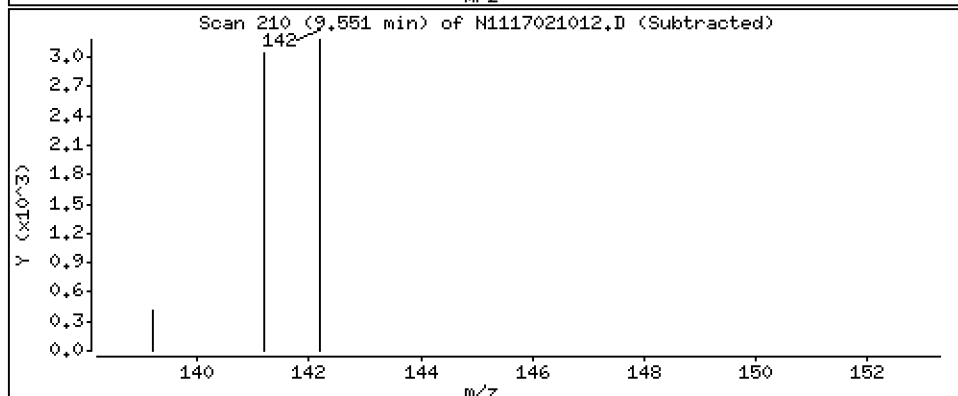
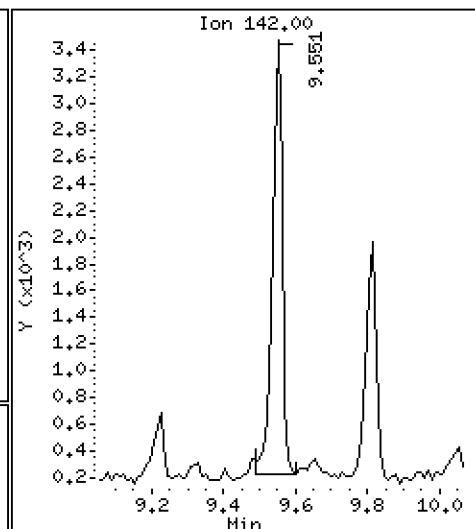
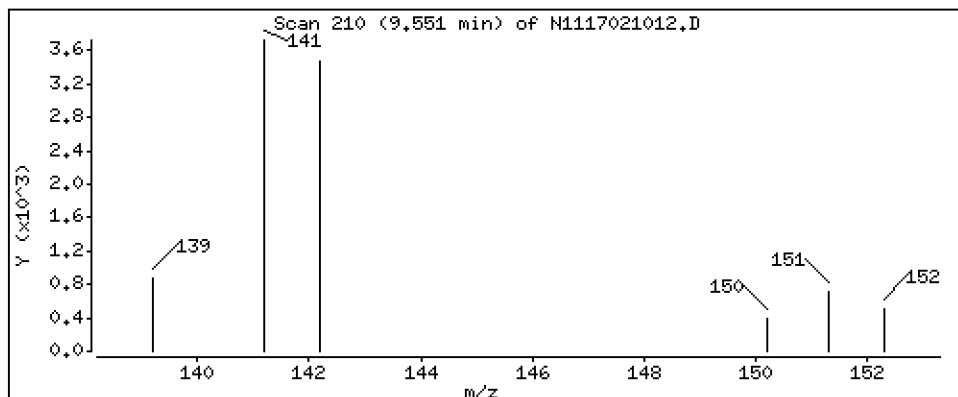
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0.25

5-2-Methylnaphthalene

Concentration: 6.14 ng/mL



Date : 10-FEB-2017 17:39

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-05

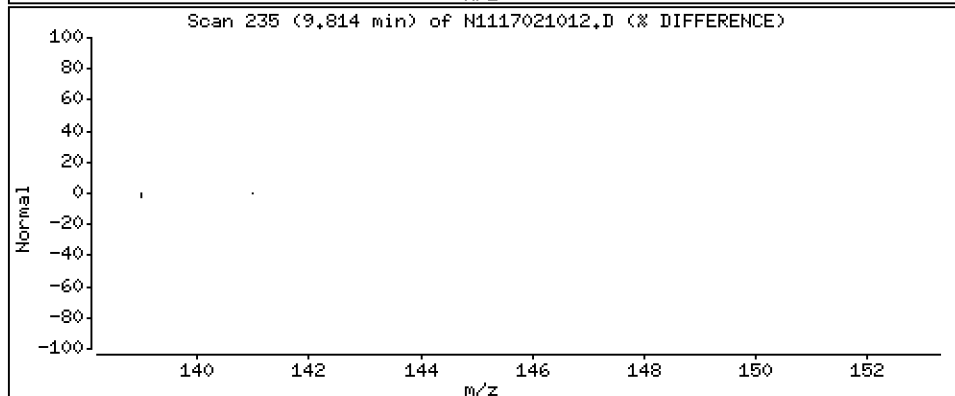
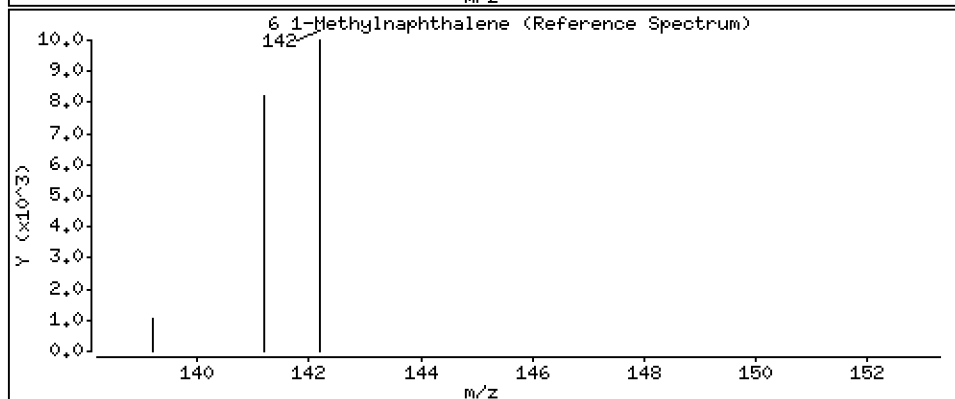
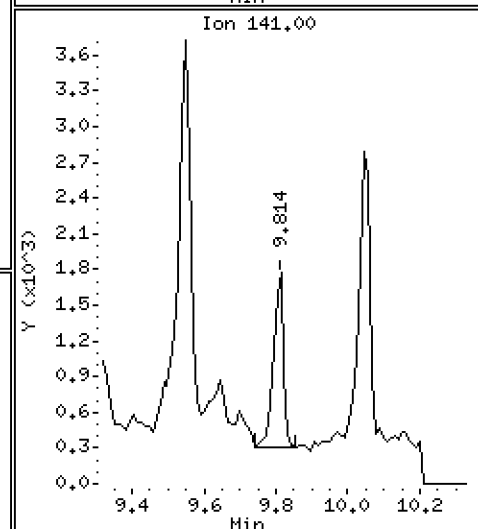
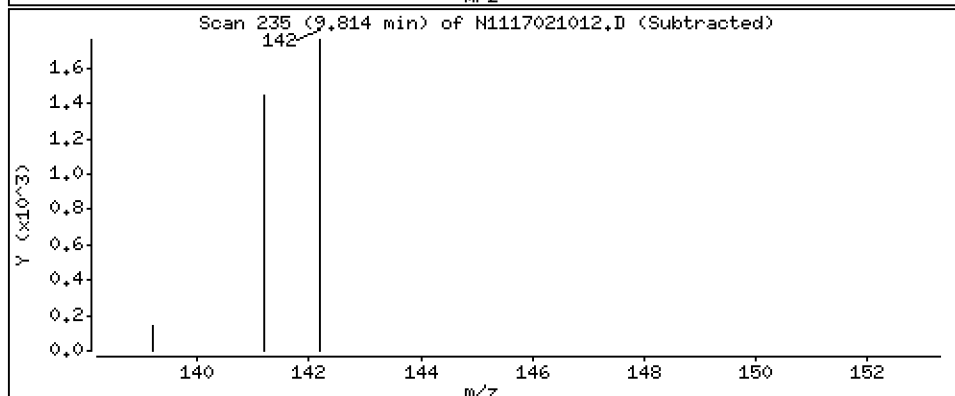
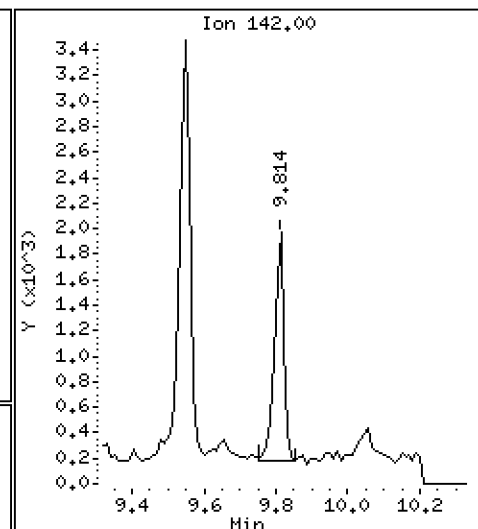
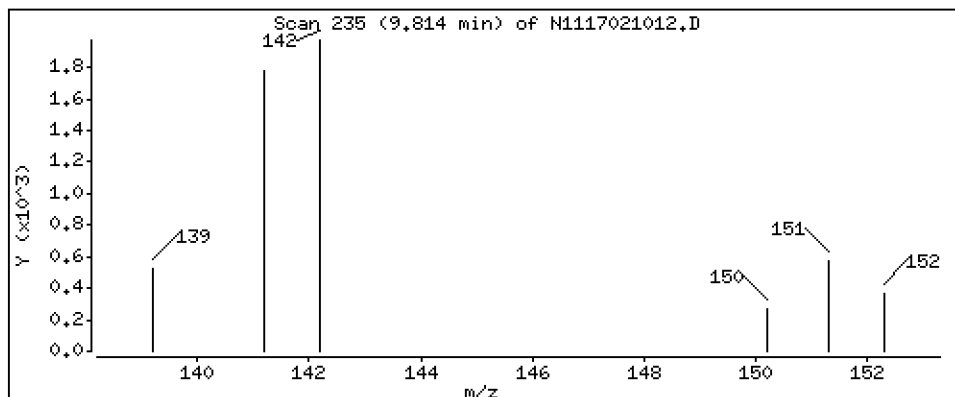
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

6 1-Methylnaphthalene

Concentration: 3,33 ng/mL



Date : 10-FEB-2017 17:39

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-05

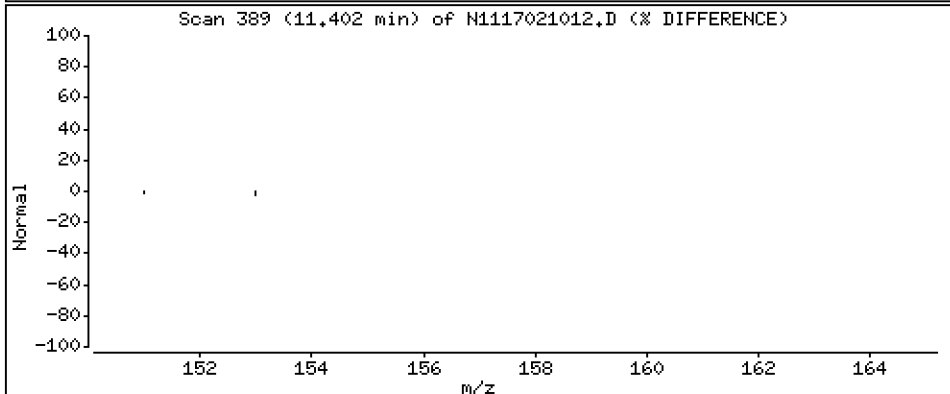
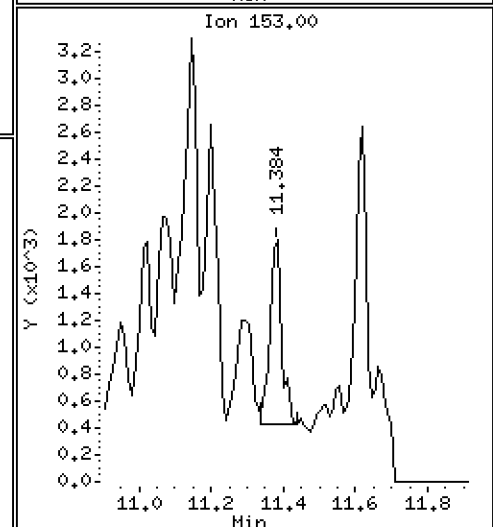
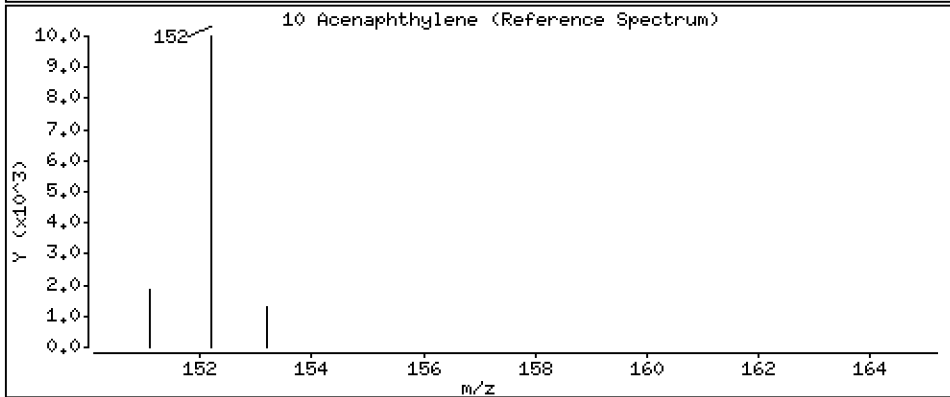
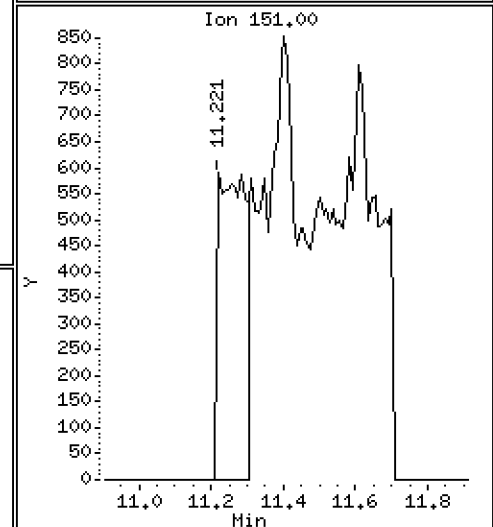
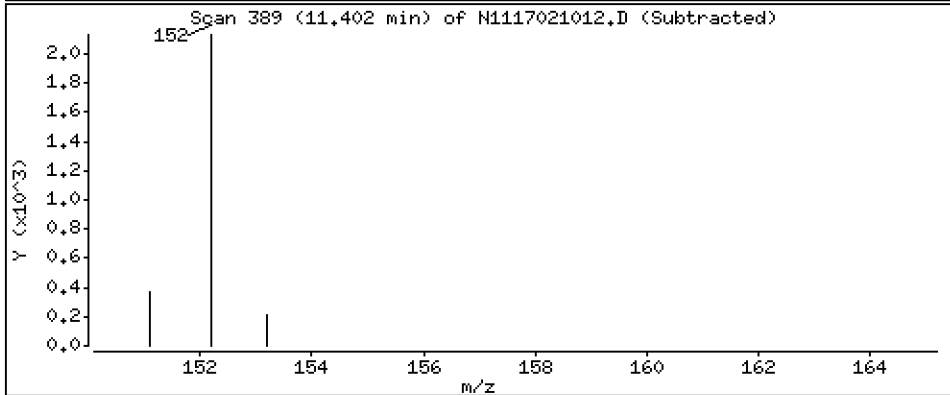
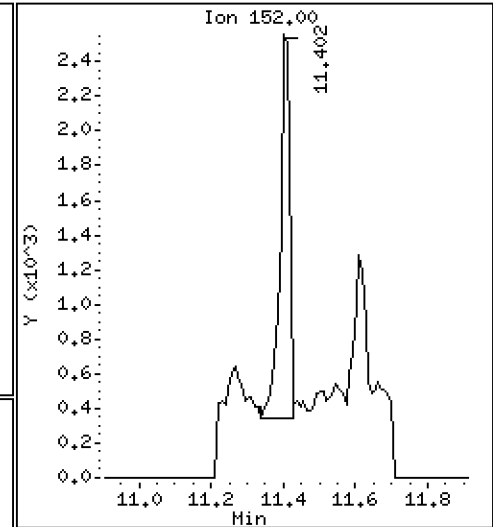
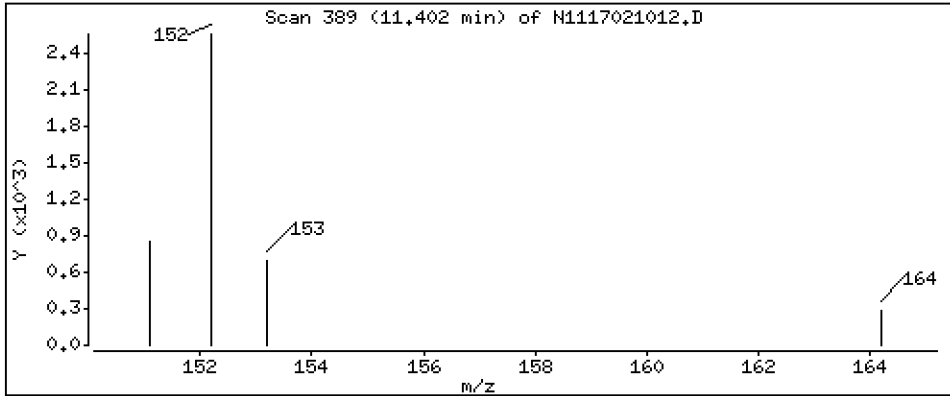
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0.25

10 Acenaphthylene

Concentration: 3.13 ng/mL



Date : 10-FEB-2017 17:39

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-05

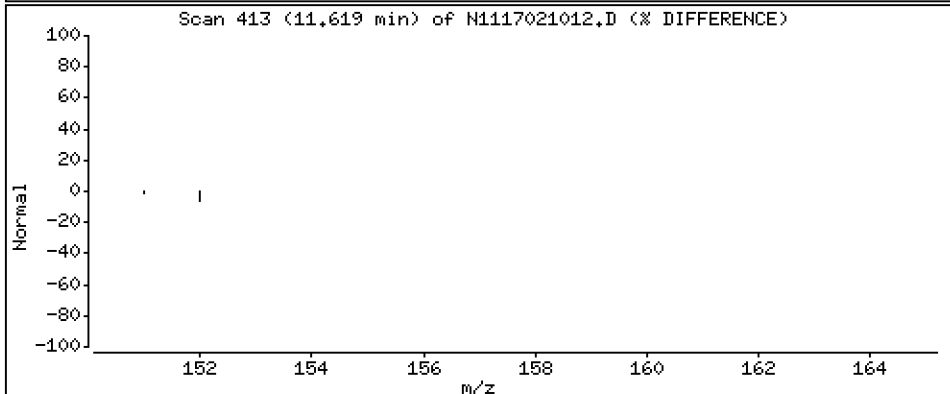
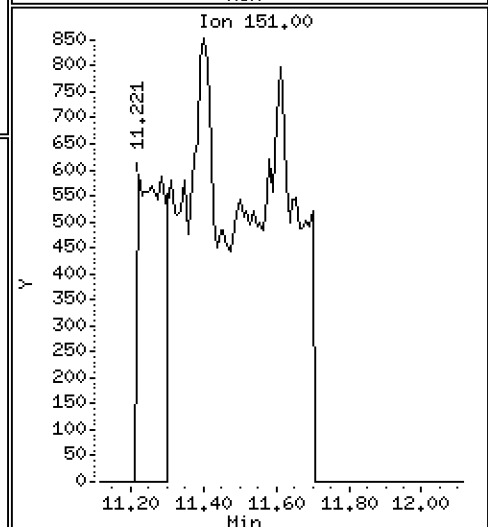
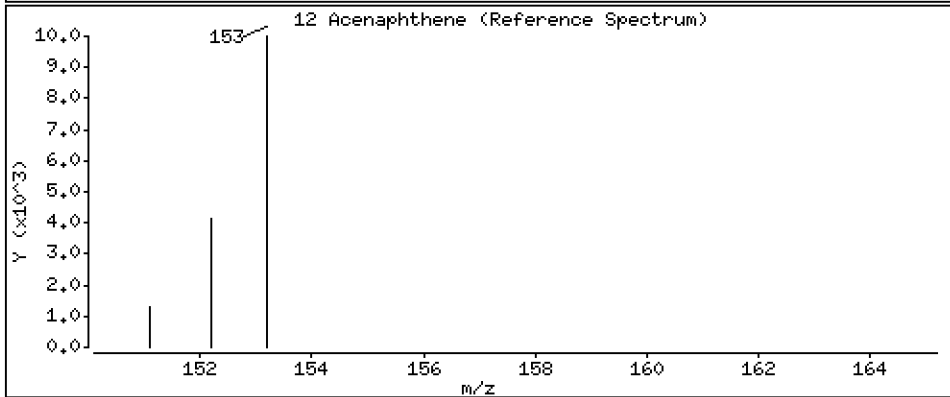
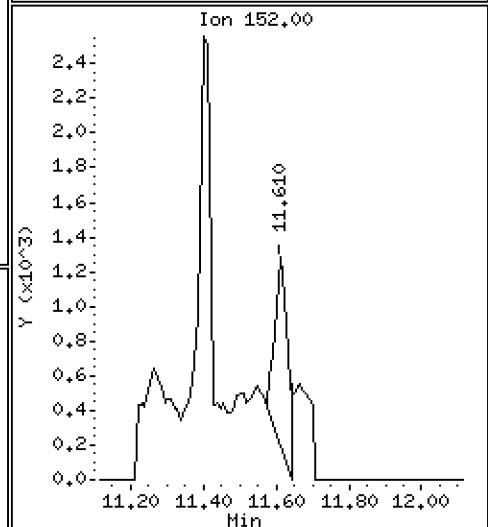
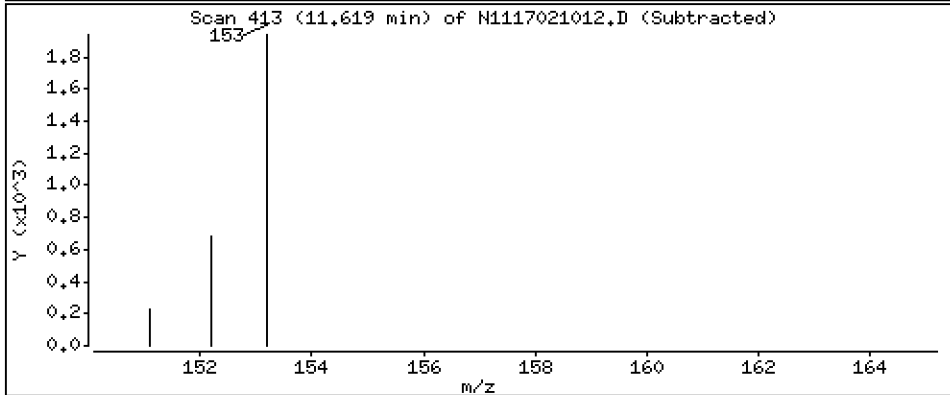
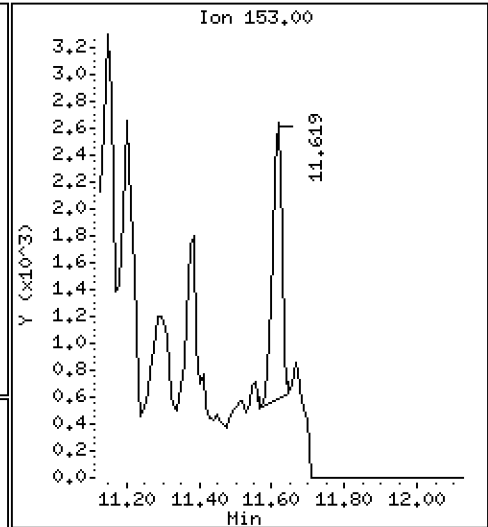
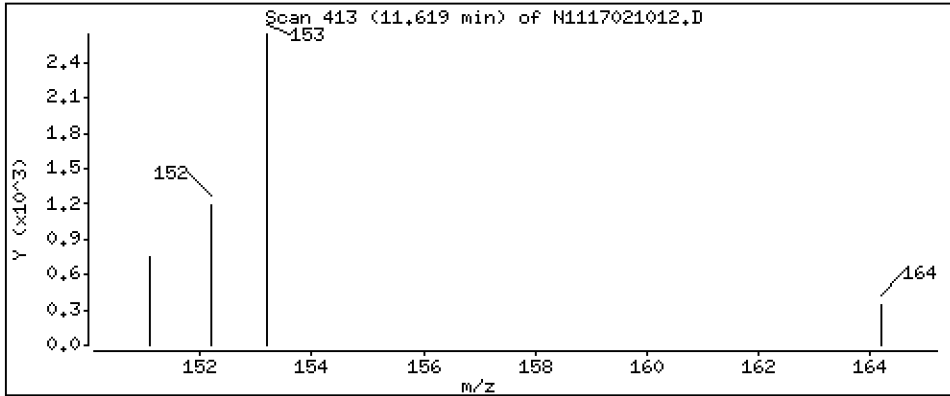
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0.25

Concentration: 4.29 ng/mL

12 Acenaphthene



Date : 10-FEB-2017 17:39

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-05

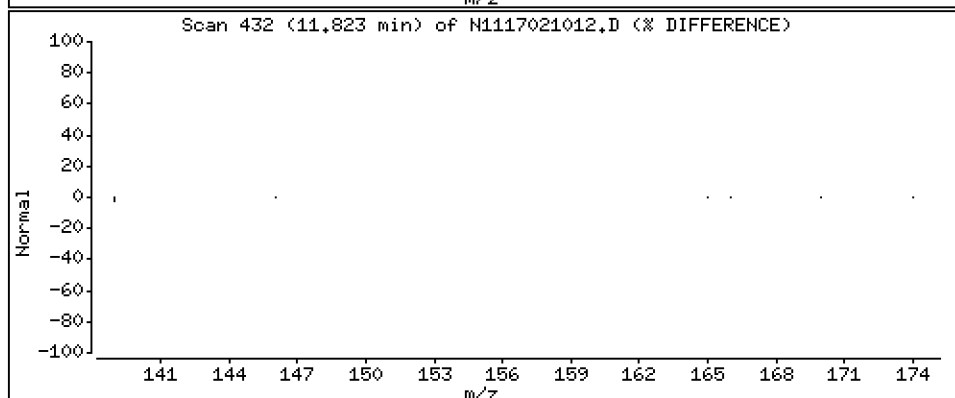
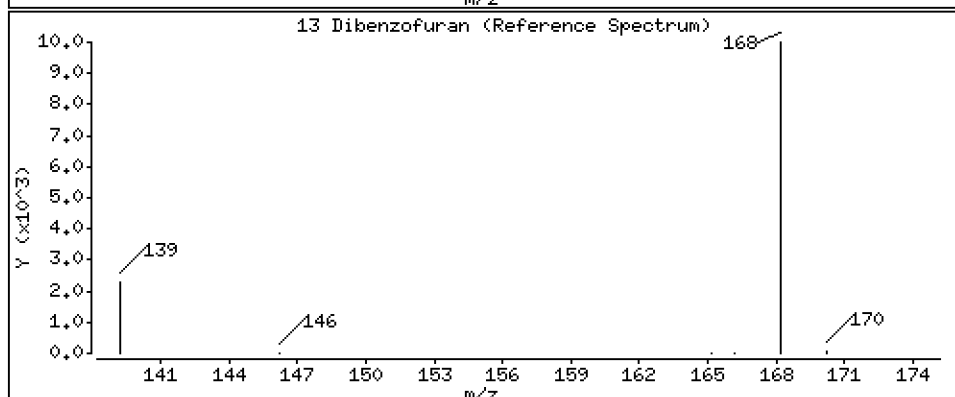
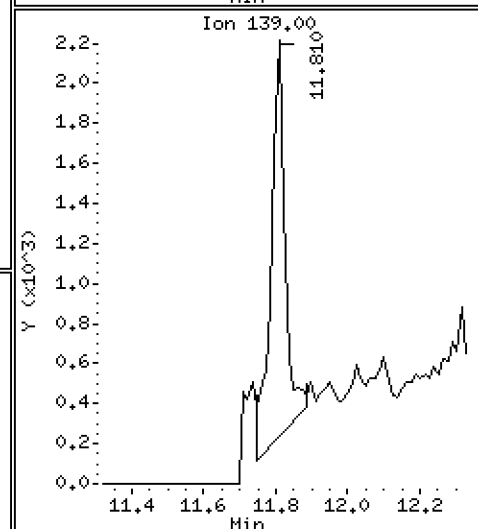
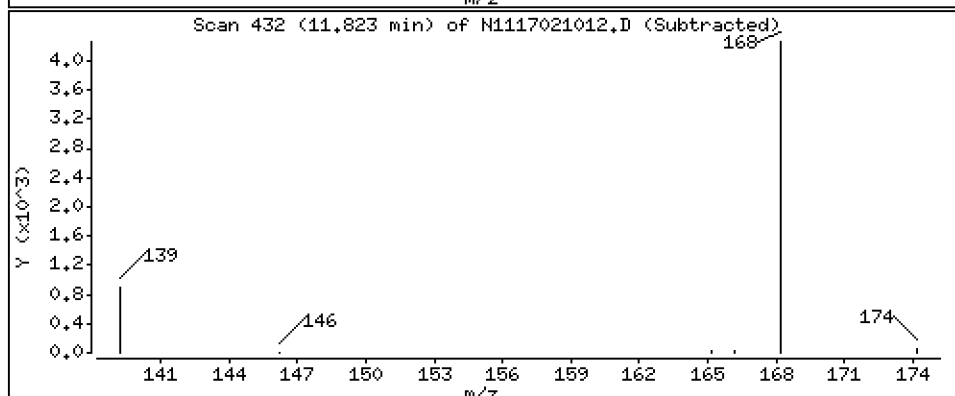
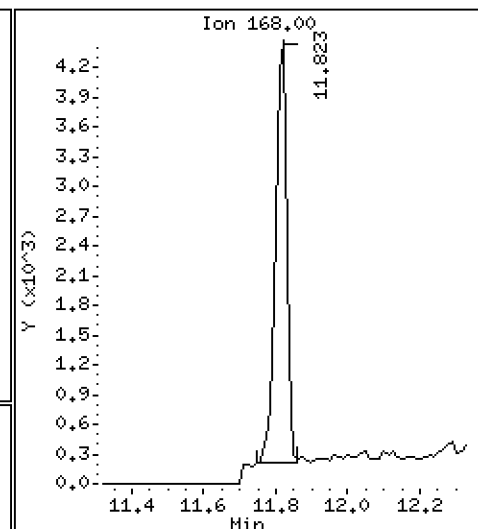
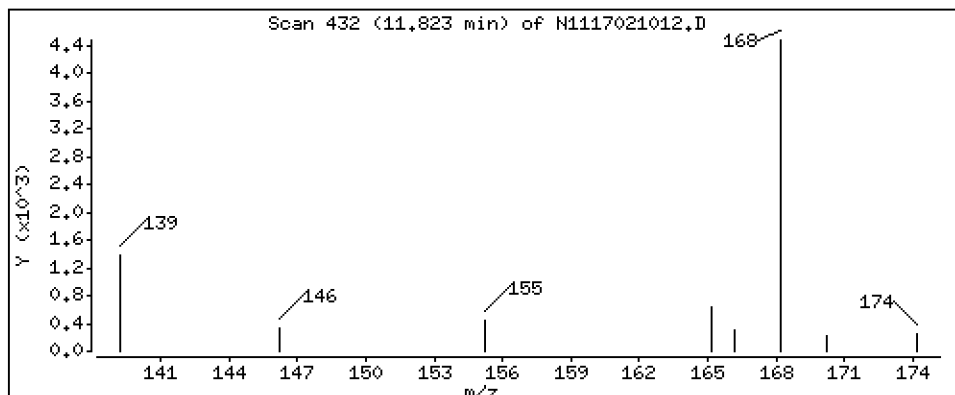
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

13 Dibenzofuran

Concentration: 6,94 ng/mL



Date : 10-FEB-2017 17:39

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-05

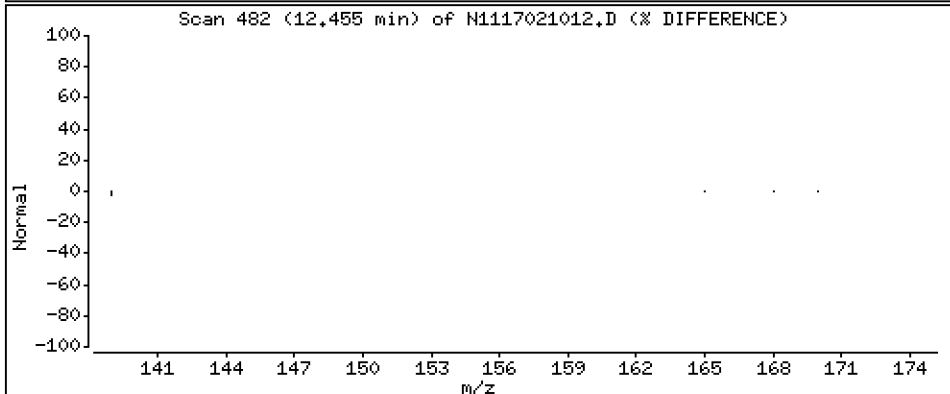
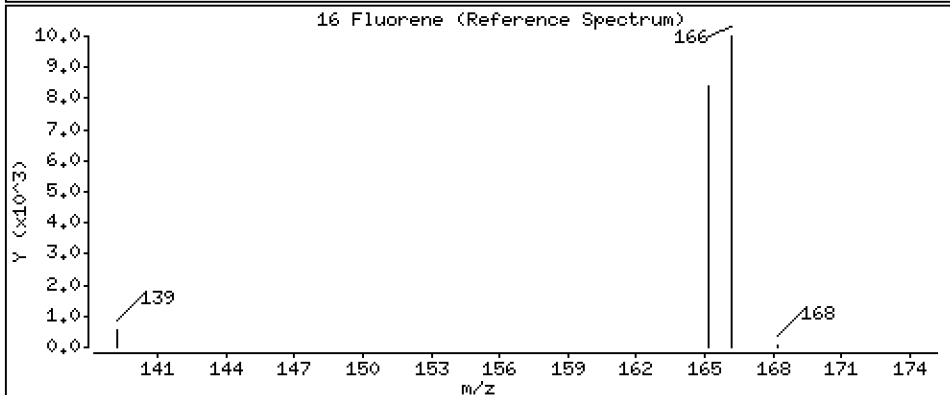
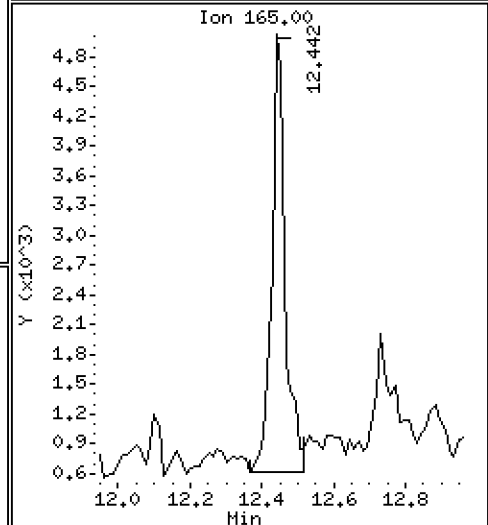
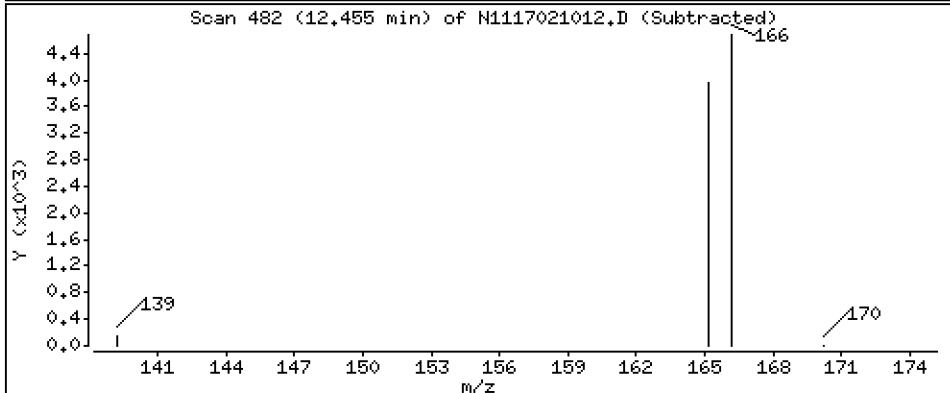
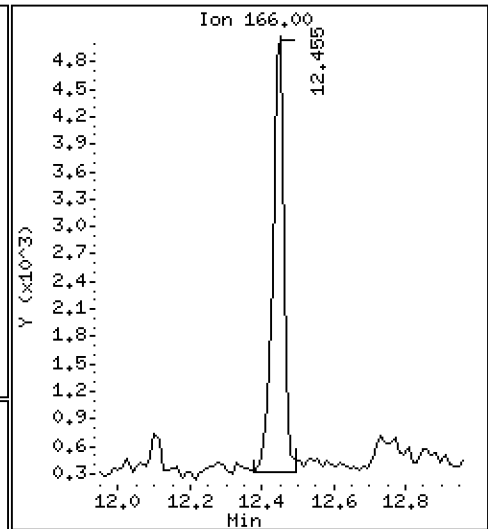
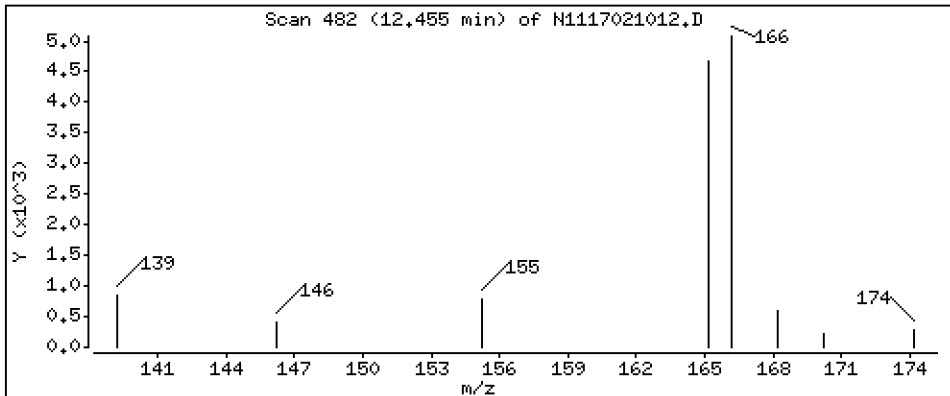
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

16 Fluorene

Concentration: 10,1 ng/mL



Date : 10-FEB-2017 17:39

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-05

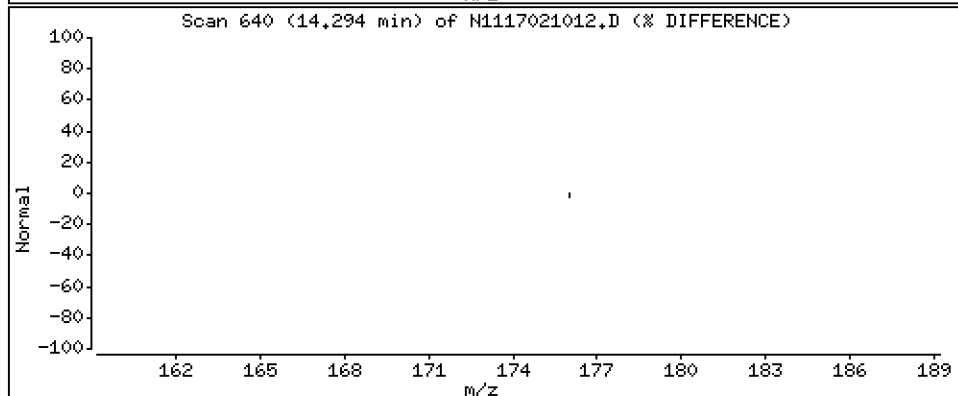
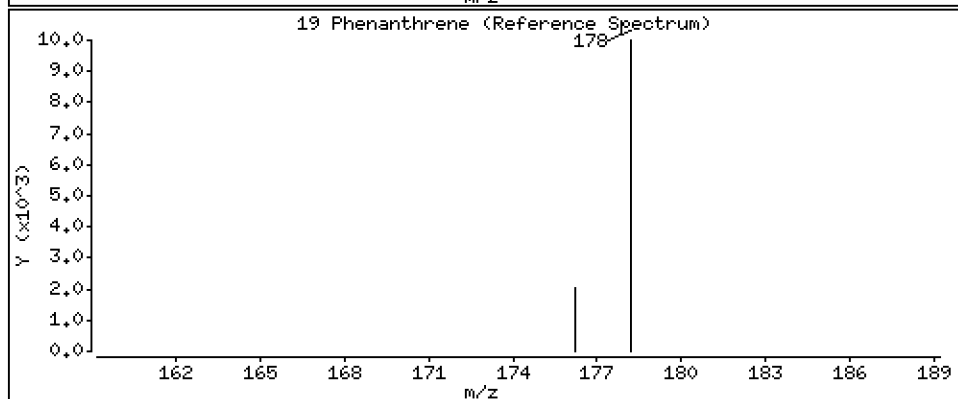
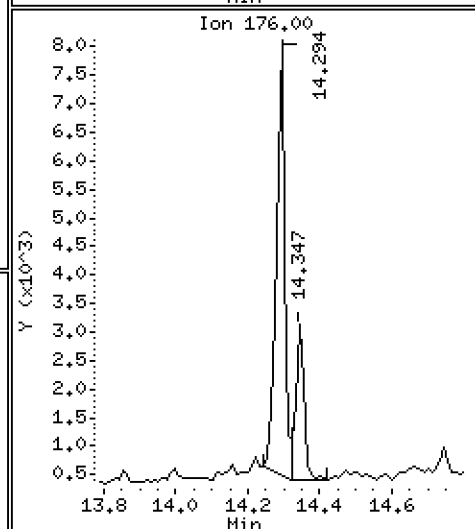
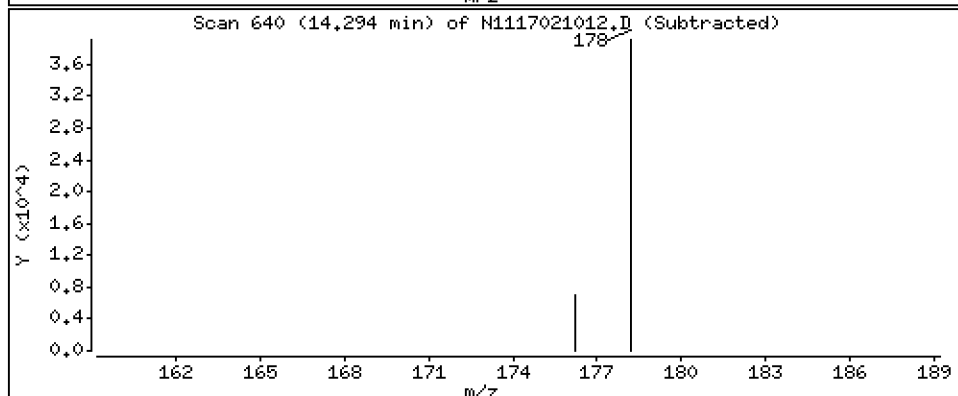
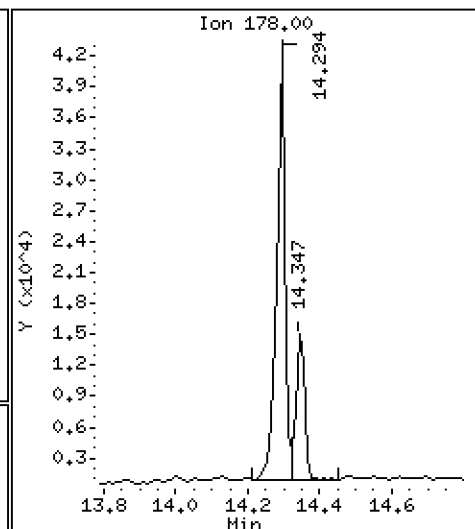
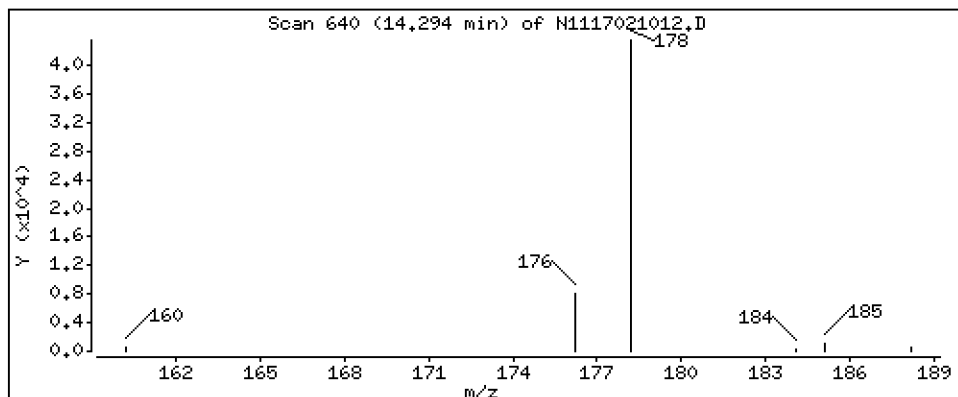
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

19 Phenanthrene

Concentration: 57,0 ng/mL



Date : 10-FEB-2017 17:39

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-05

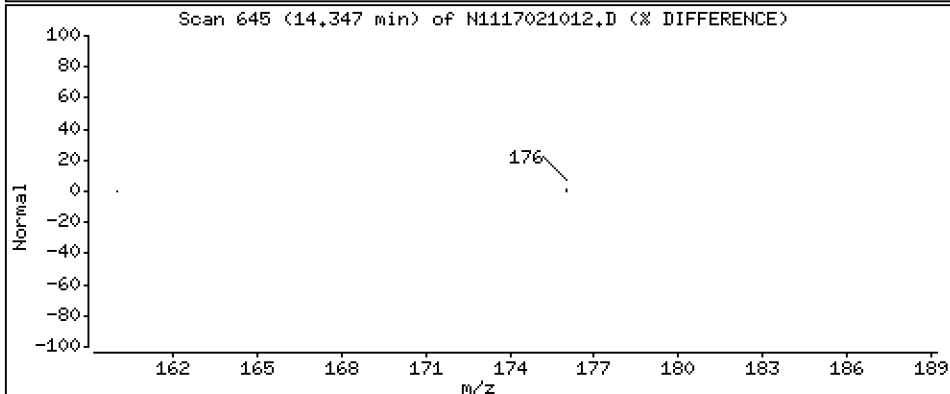
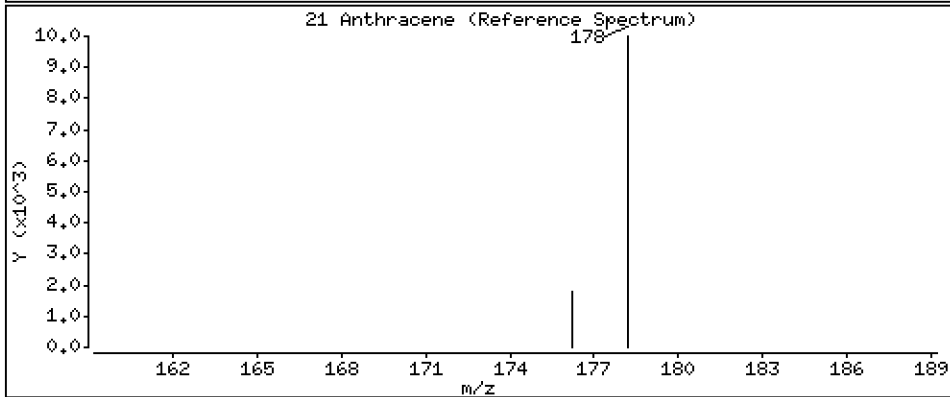
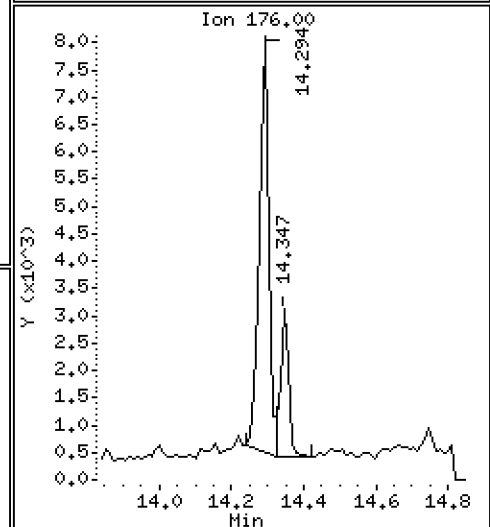
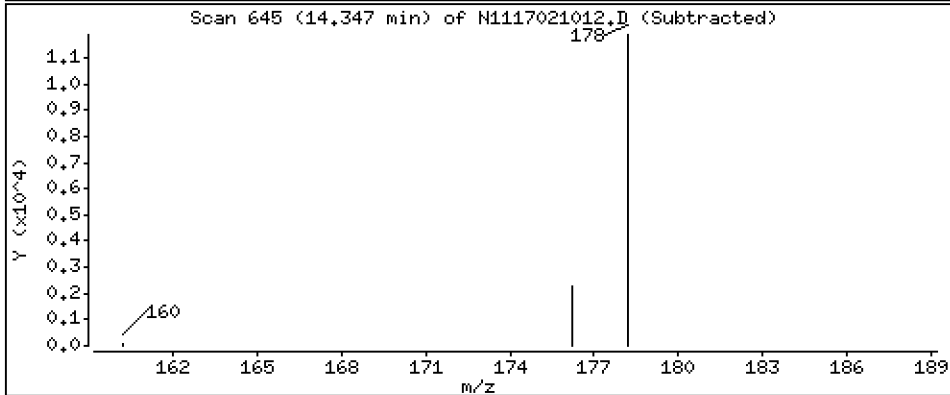
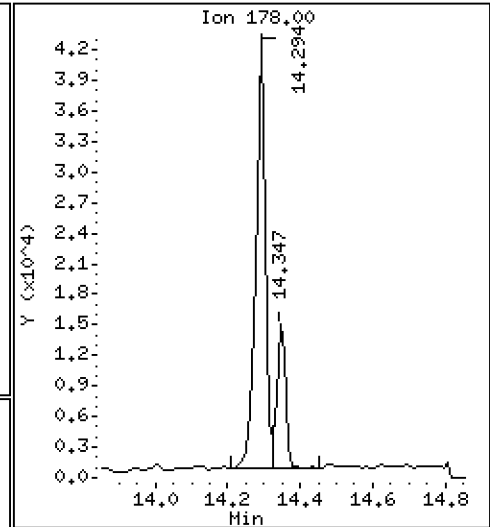
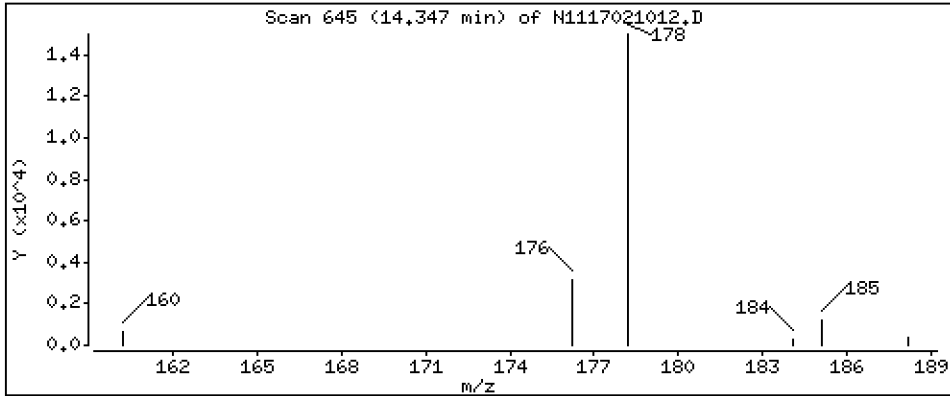
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

21 Anthracene

Concentration: 17,5 ng/mL



Date : 10-FEB-2017 17:39

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-05

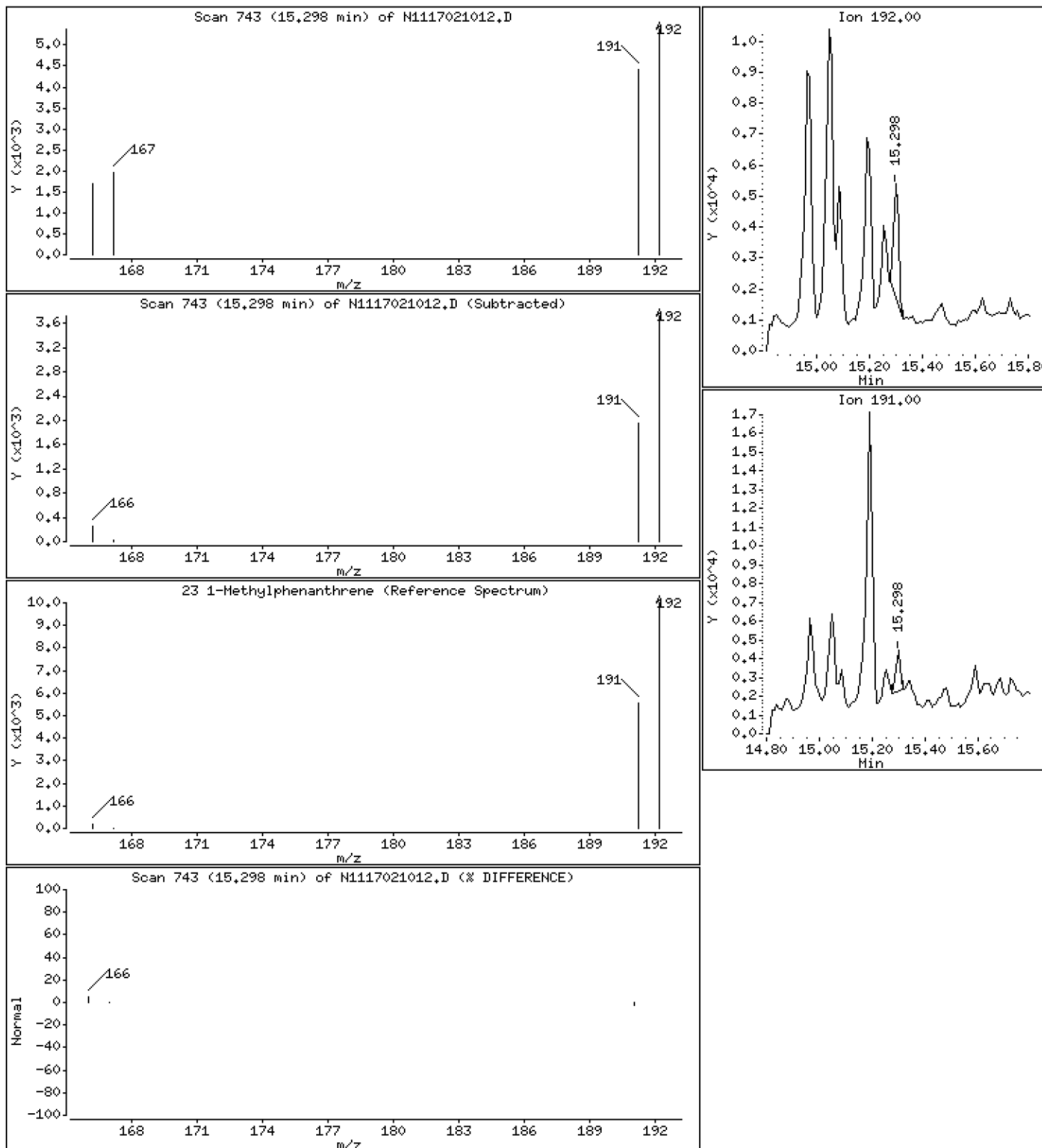
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

23 1-Methylphenanthrene

Concentration: 3,26 ng/mL



Date : 10-FEB-2017 17:39

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-05

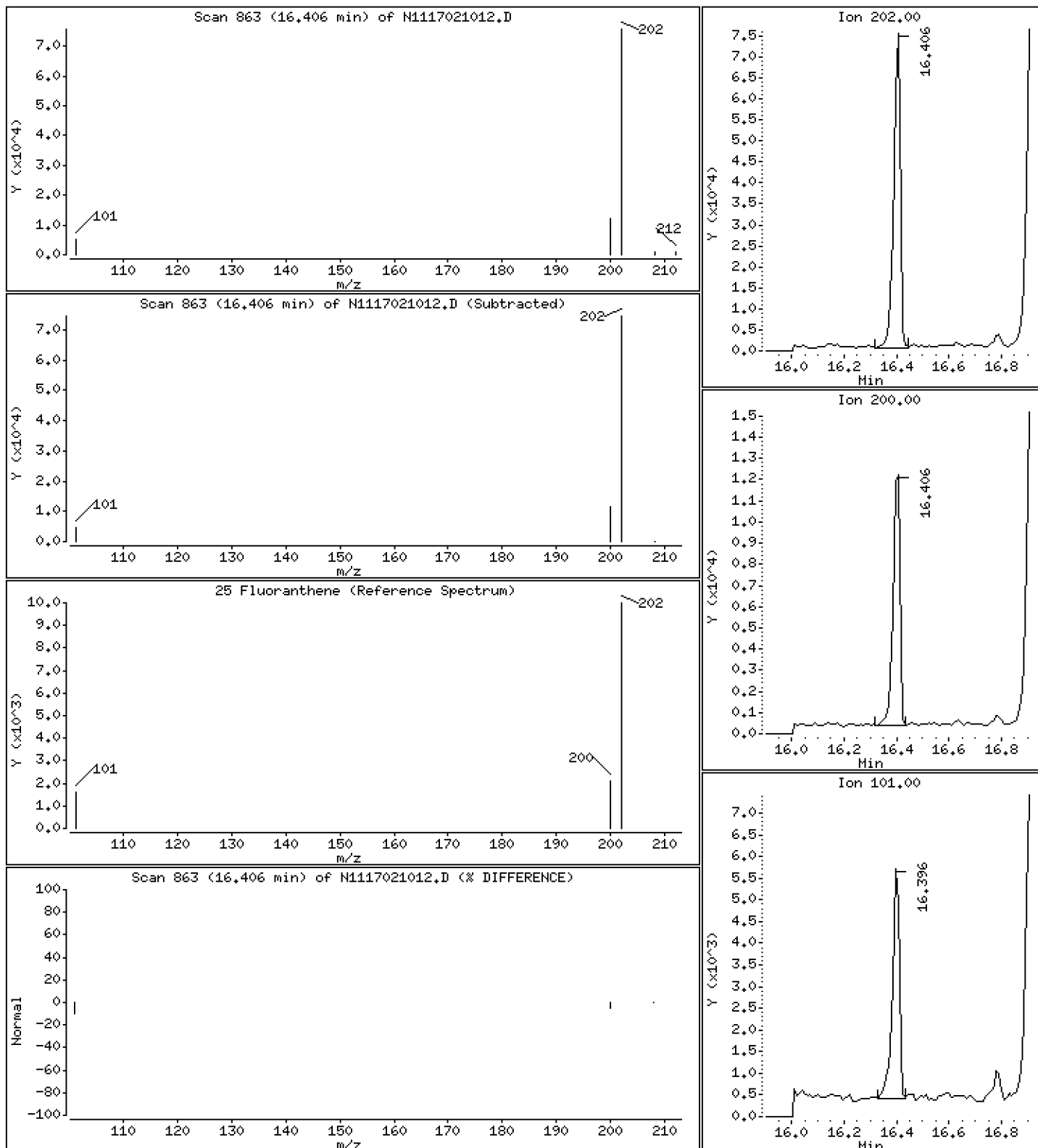
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

25 Fluoranthene

Concentration: 82,6 ng/mL



Date : 10-FEB-2017 17:39

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-05

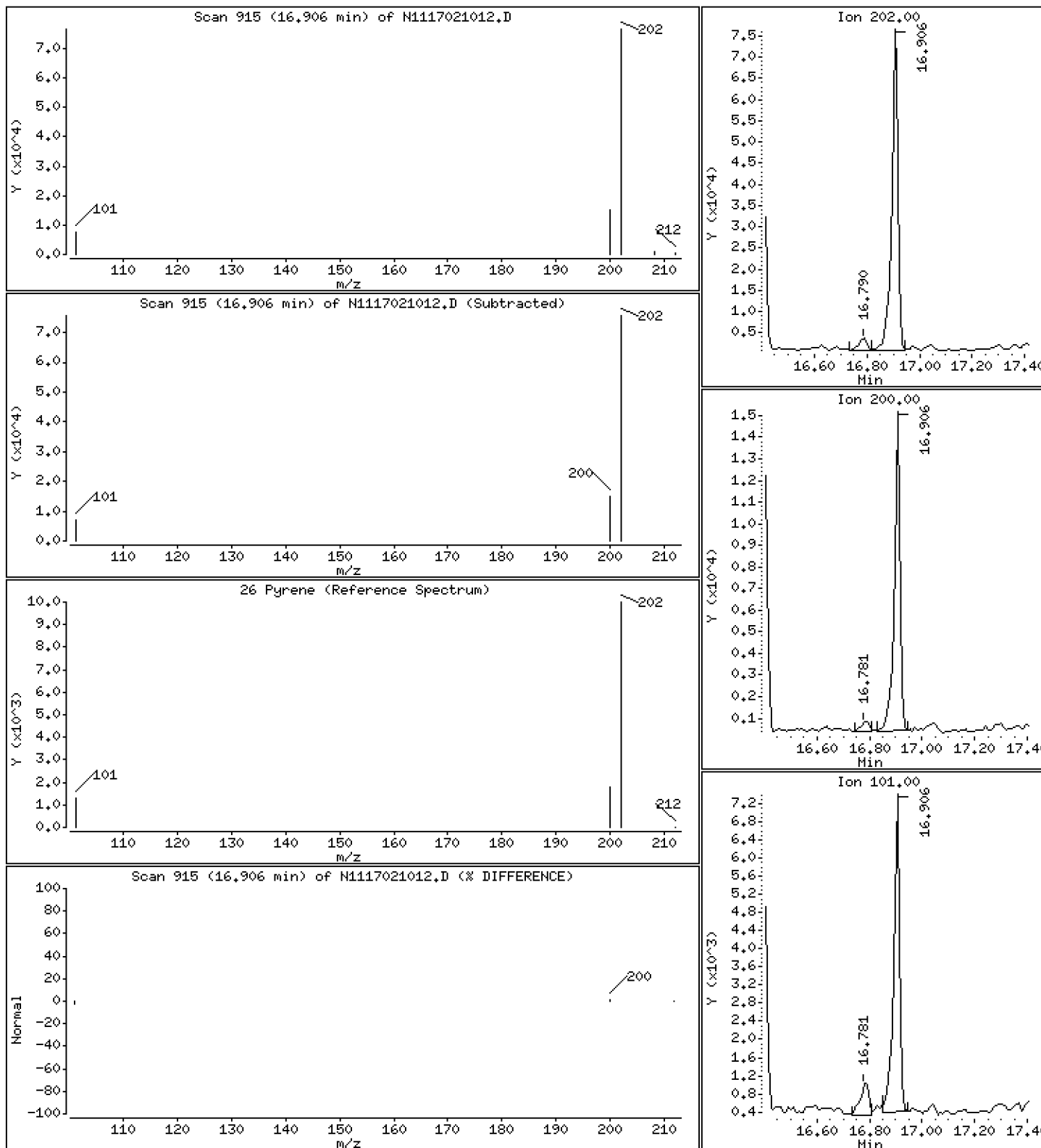
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

26 Pyrene

Concentration: 101 ng/mL



Date : 10-FEB-2017 17:39

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-05

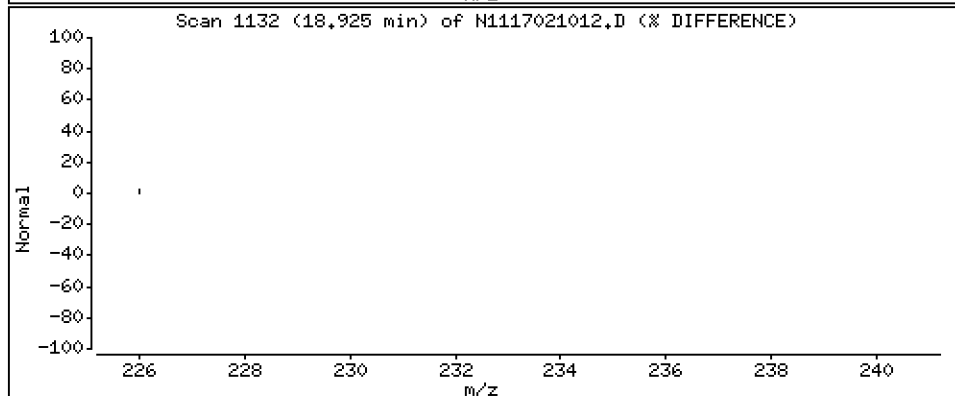
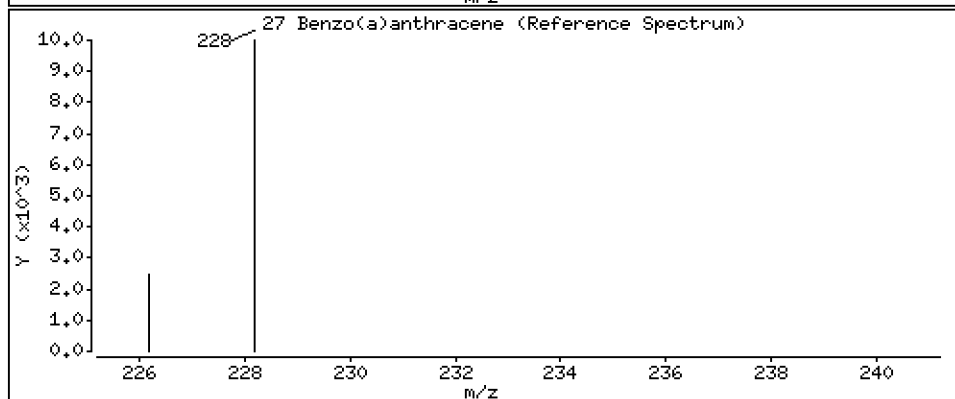
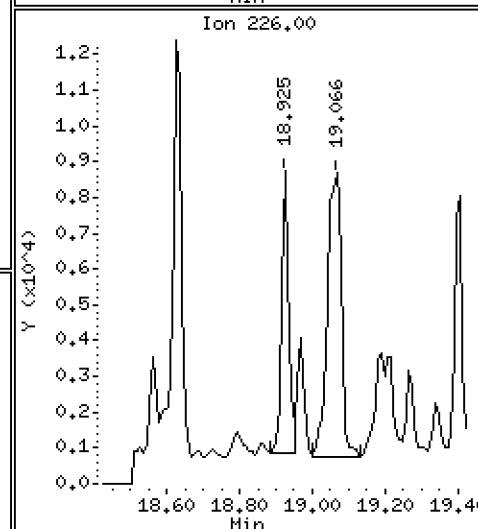
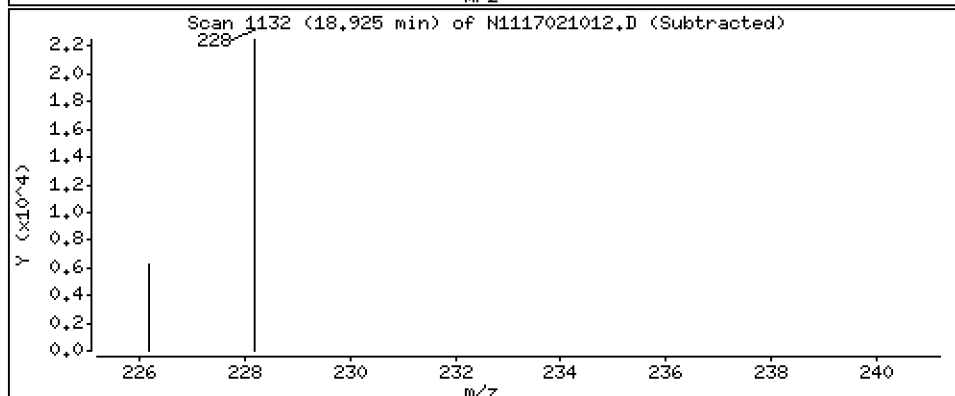
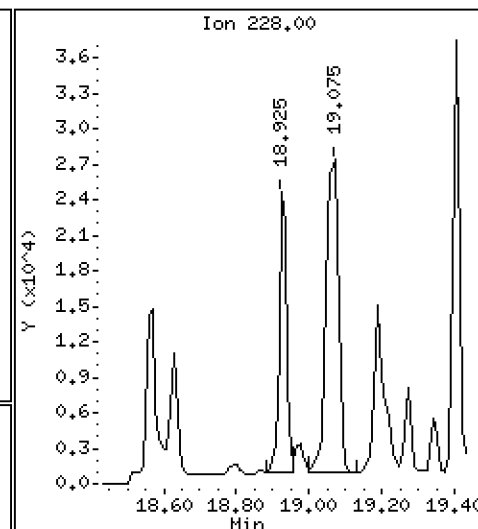
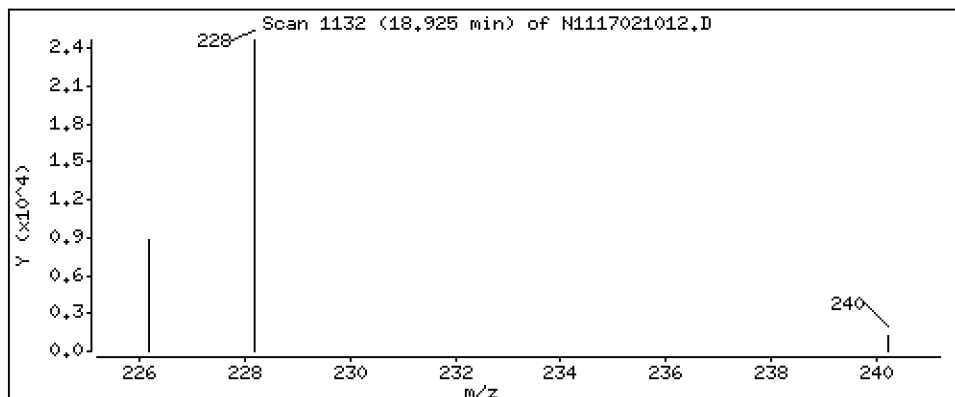
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

27 Benzo(a)anthracene

Concentration: 27,9 ng/mL



Date : 10-FEB-2017 17:39

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-05

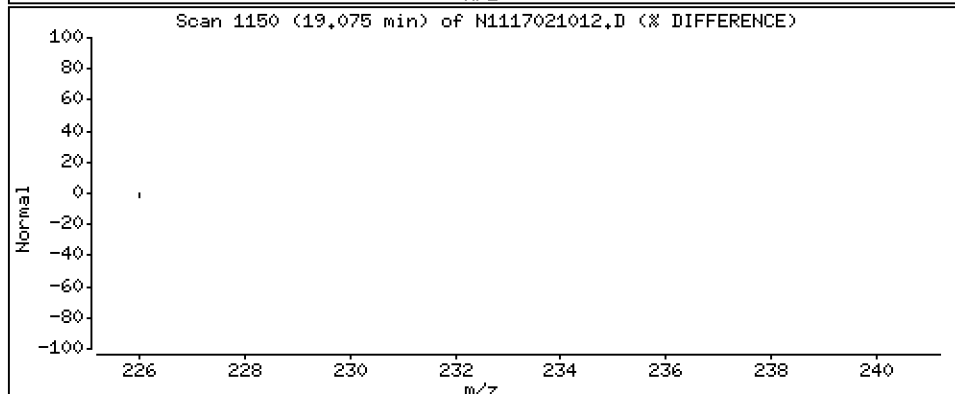
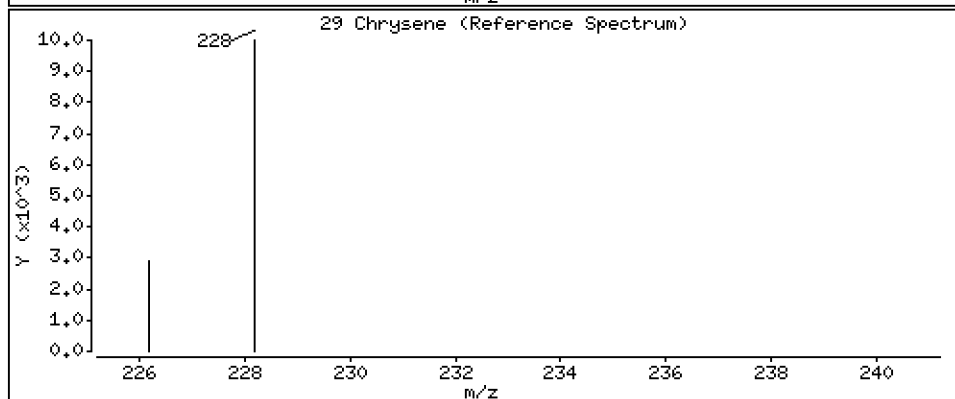
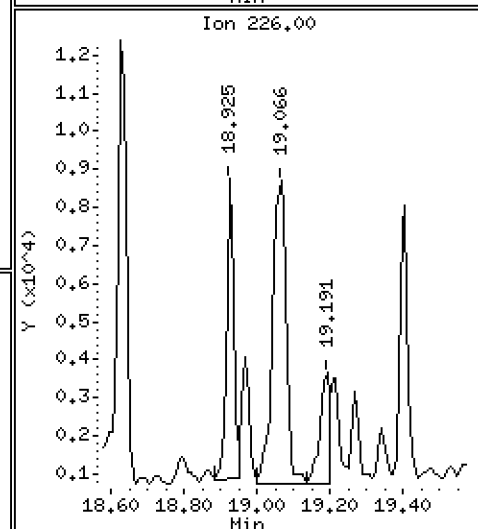
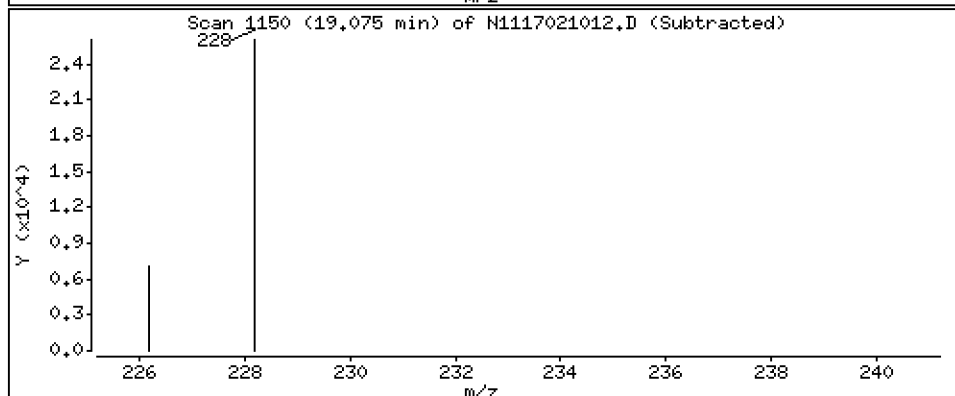
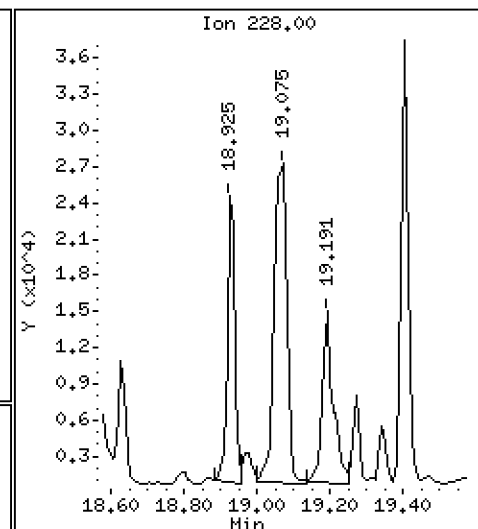
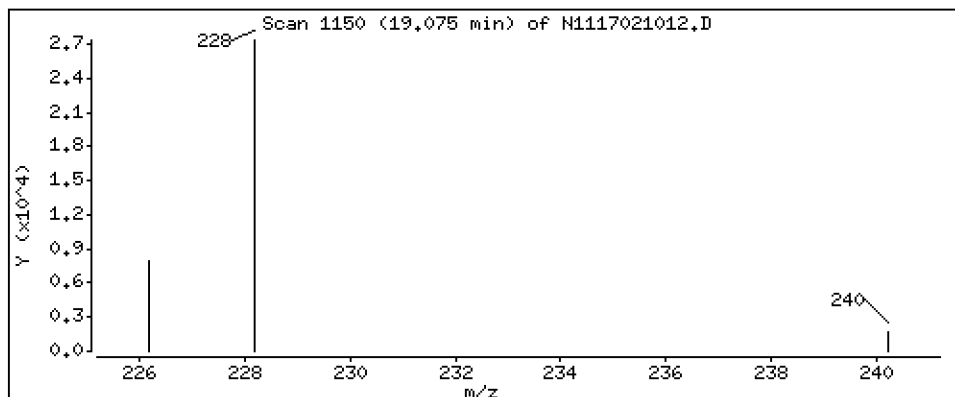
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

29 Chrysene

Concentration: 52,9 ng/mL



Date : 10-FEB-2017 17:39

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-05

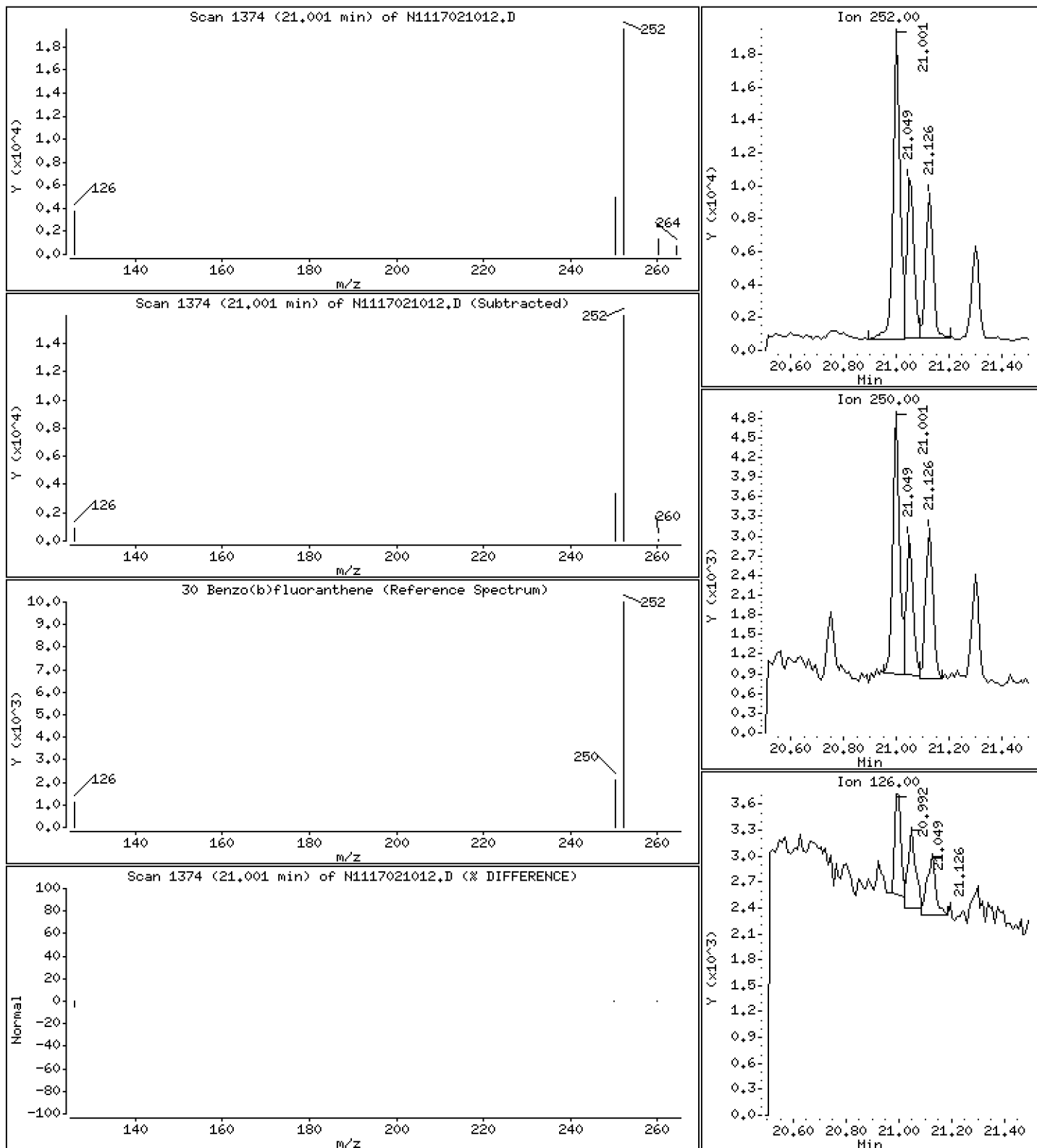
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

30 Benzo(b)fluoranthene

Concentration: 31,2 ng/mL



Date : 10-FEB-2017 17:39

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-05

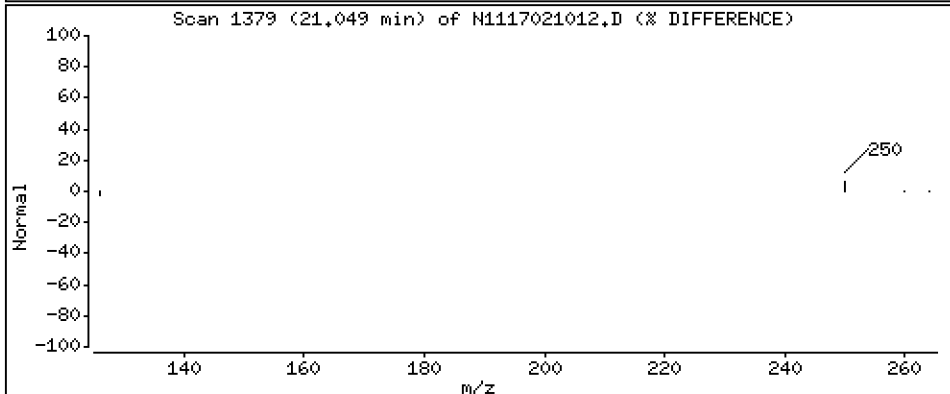
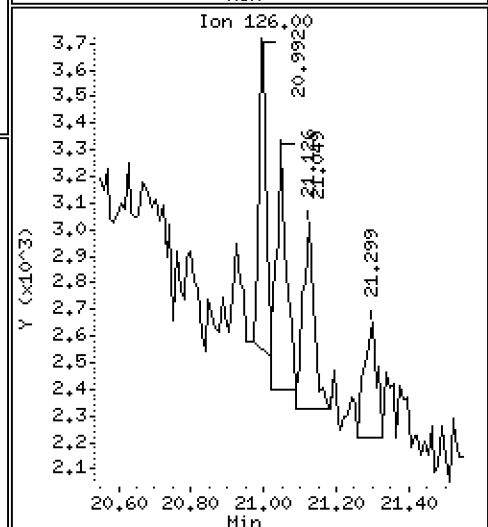
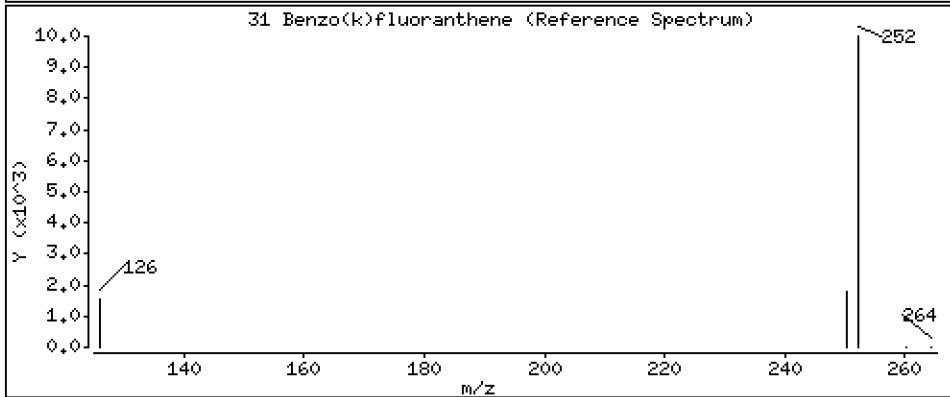
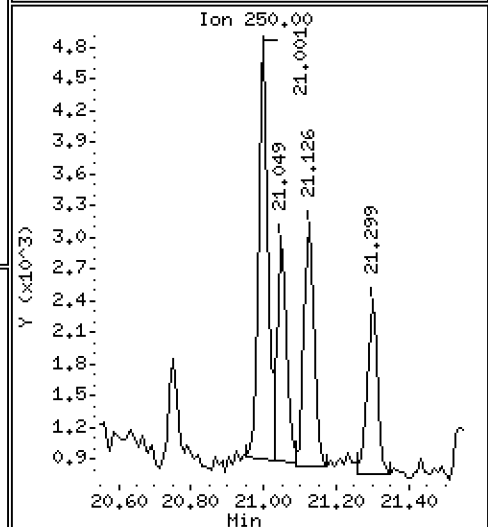
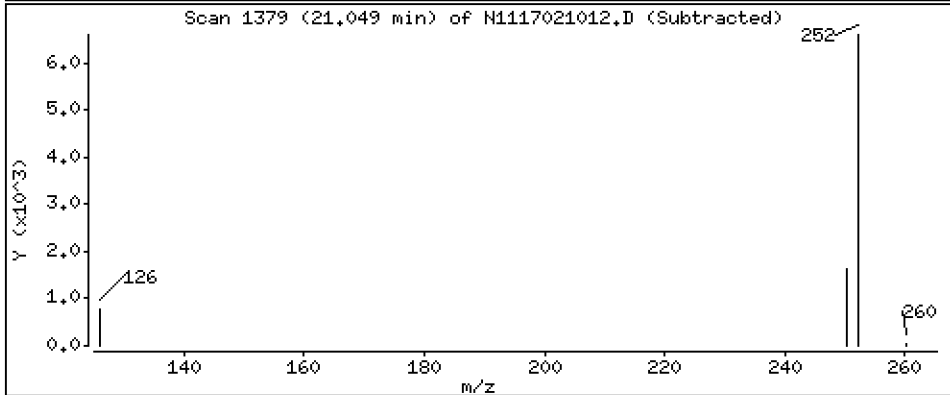
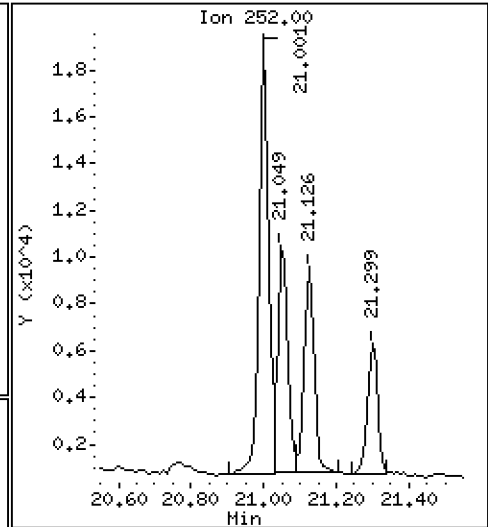
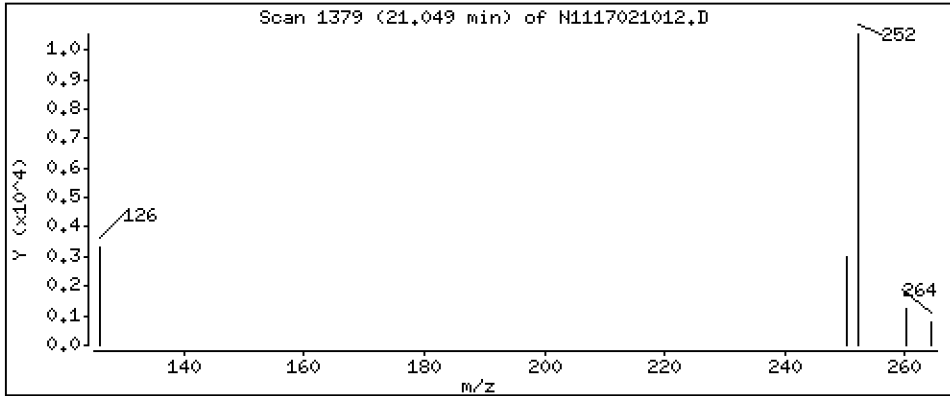
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

31 Benzo(k)fluoranthene

Concentration: 15,7 ng/mL



Date : 10-FEB-2017 17:39

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-05

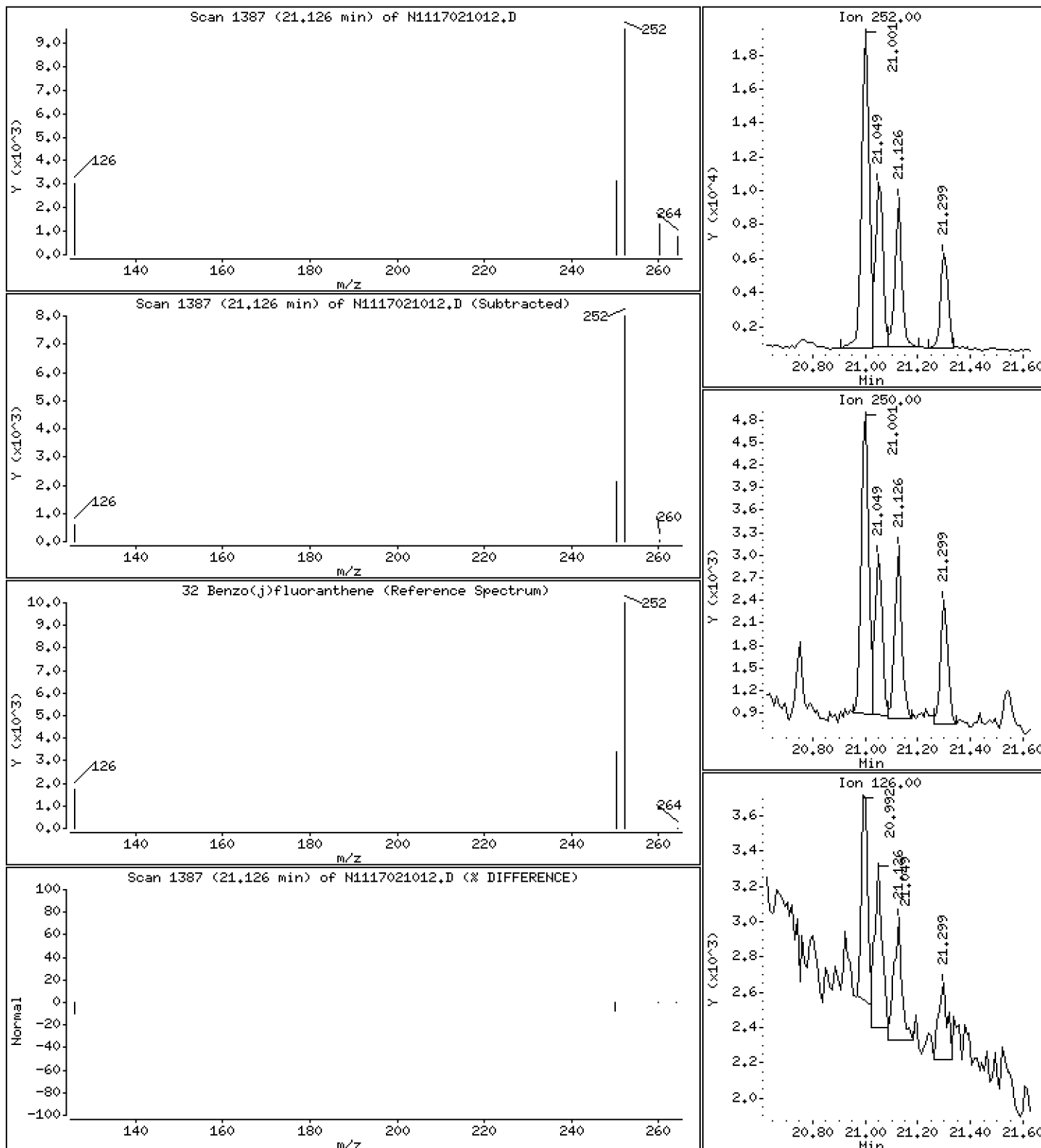
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

32 Benzo(j)fluoranthene

Concentration: 14,8 ng/mL



Date : 10-FEB-2017 17:39

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-05

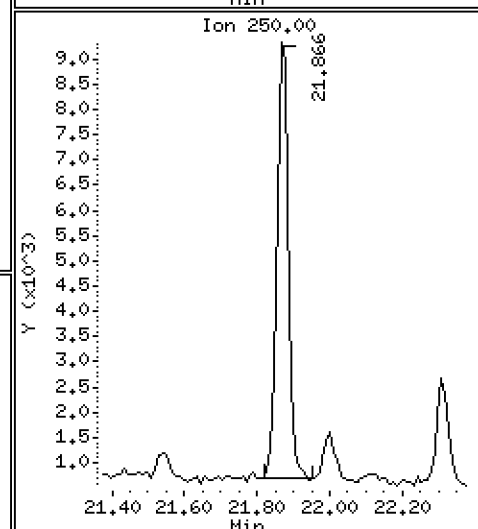
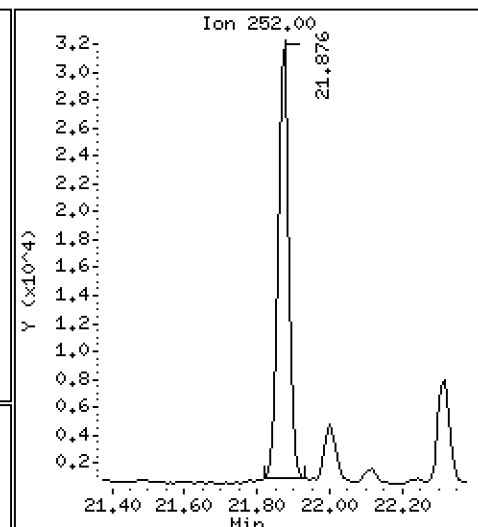
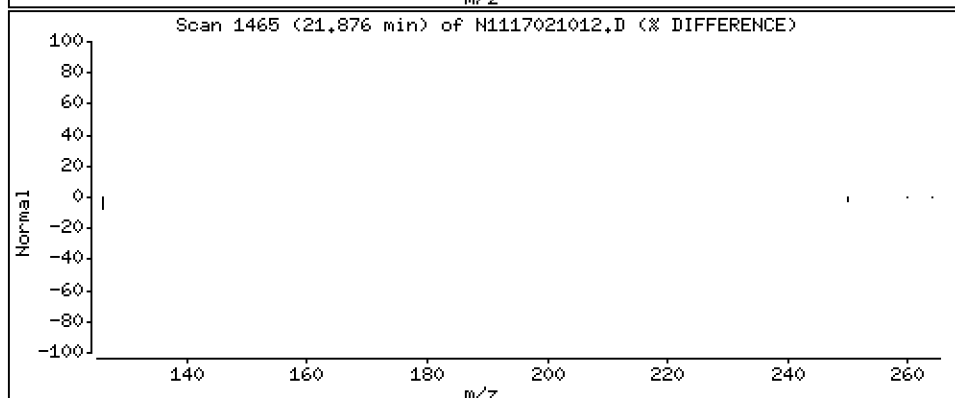
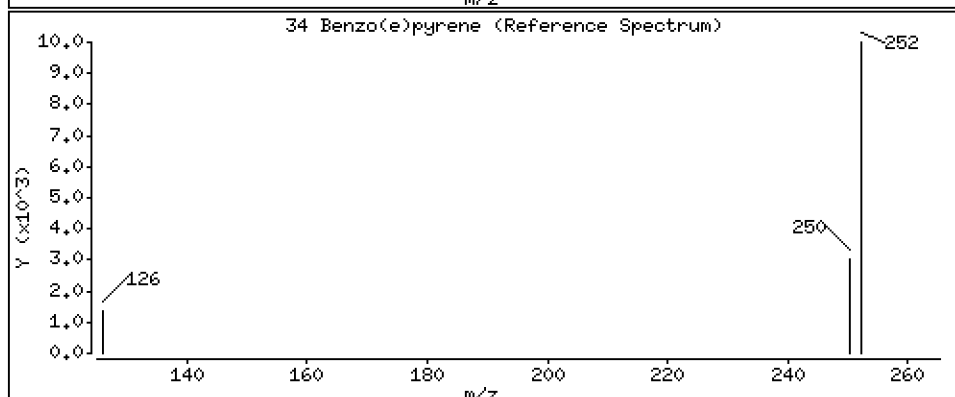
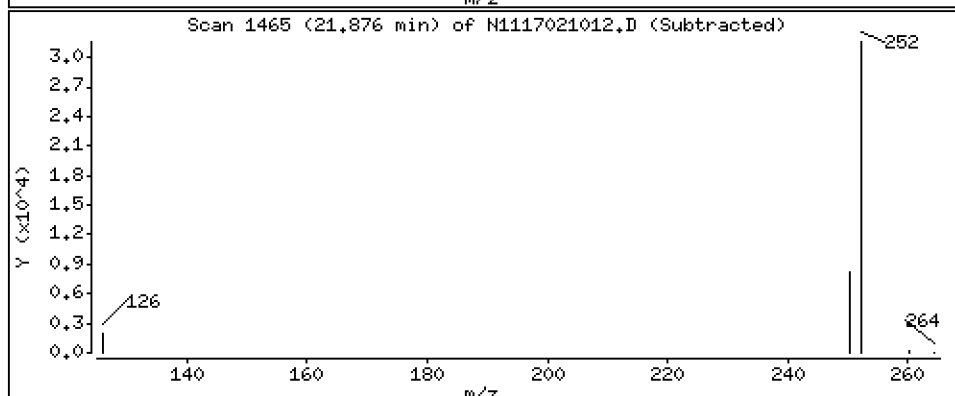
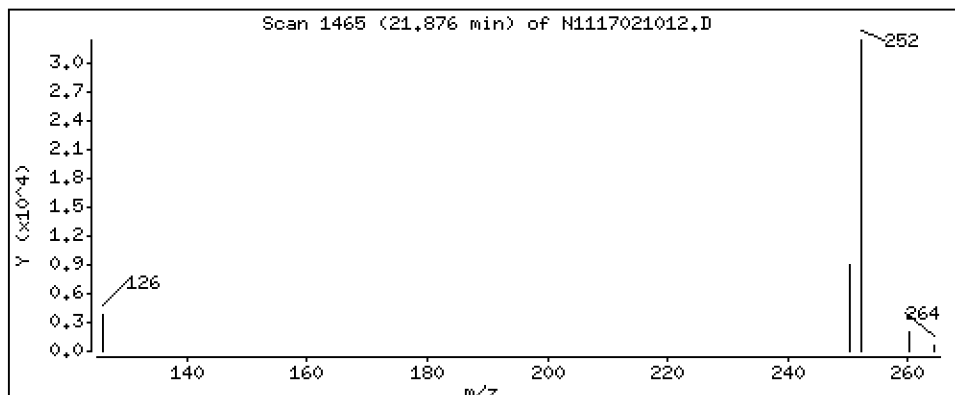
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

34 Benzo(e)pyrene

Concentration: 56,1 ng/mL



Date : 10-FEB-2017 17:39

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-05

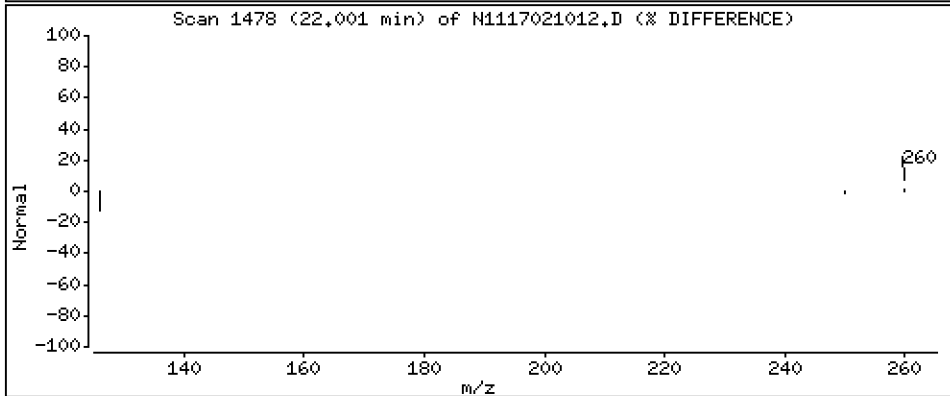
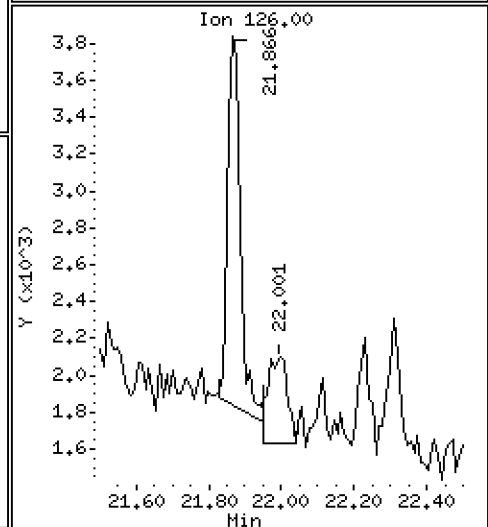
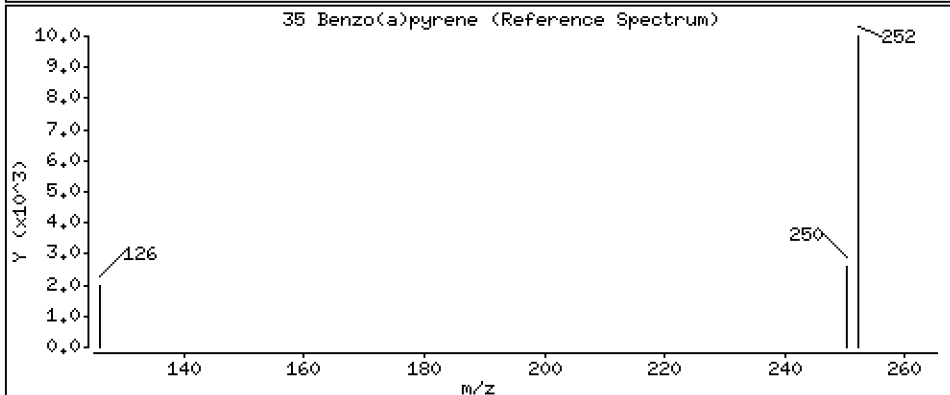
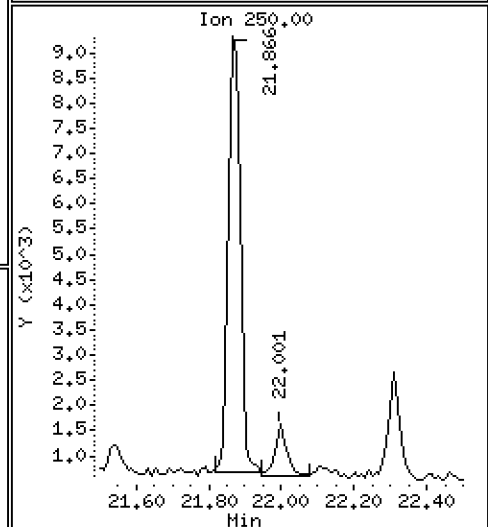
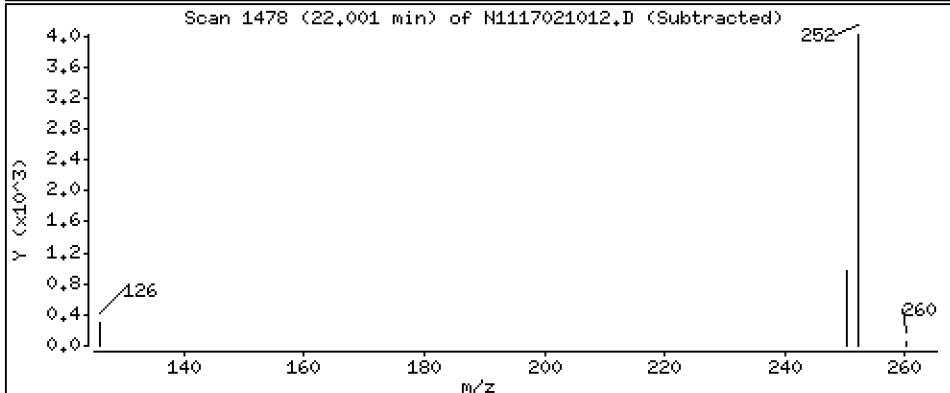
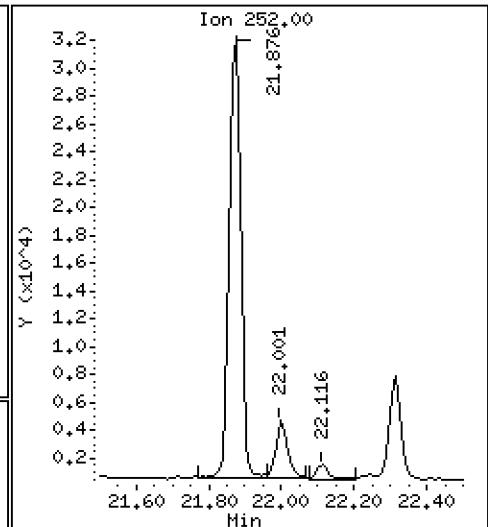
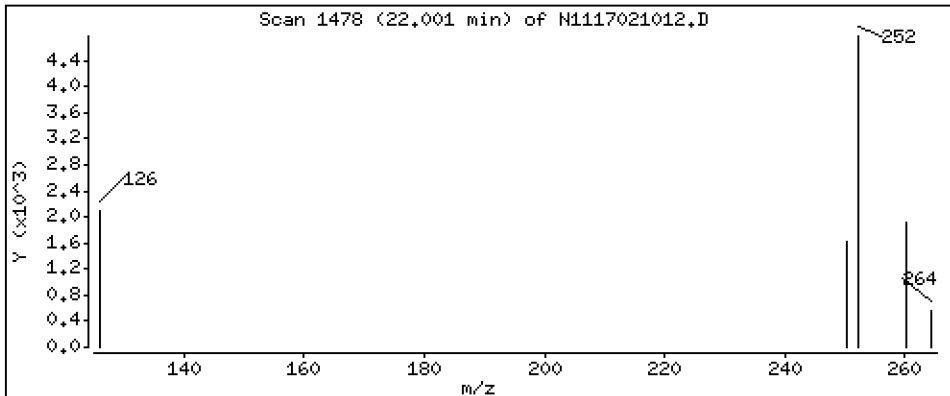
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

35 Benzo(a)pyrene

Concentration: 8,80 ng/mL



Date : 10-FEB-2017 17:39

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-05

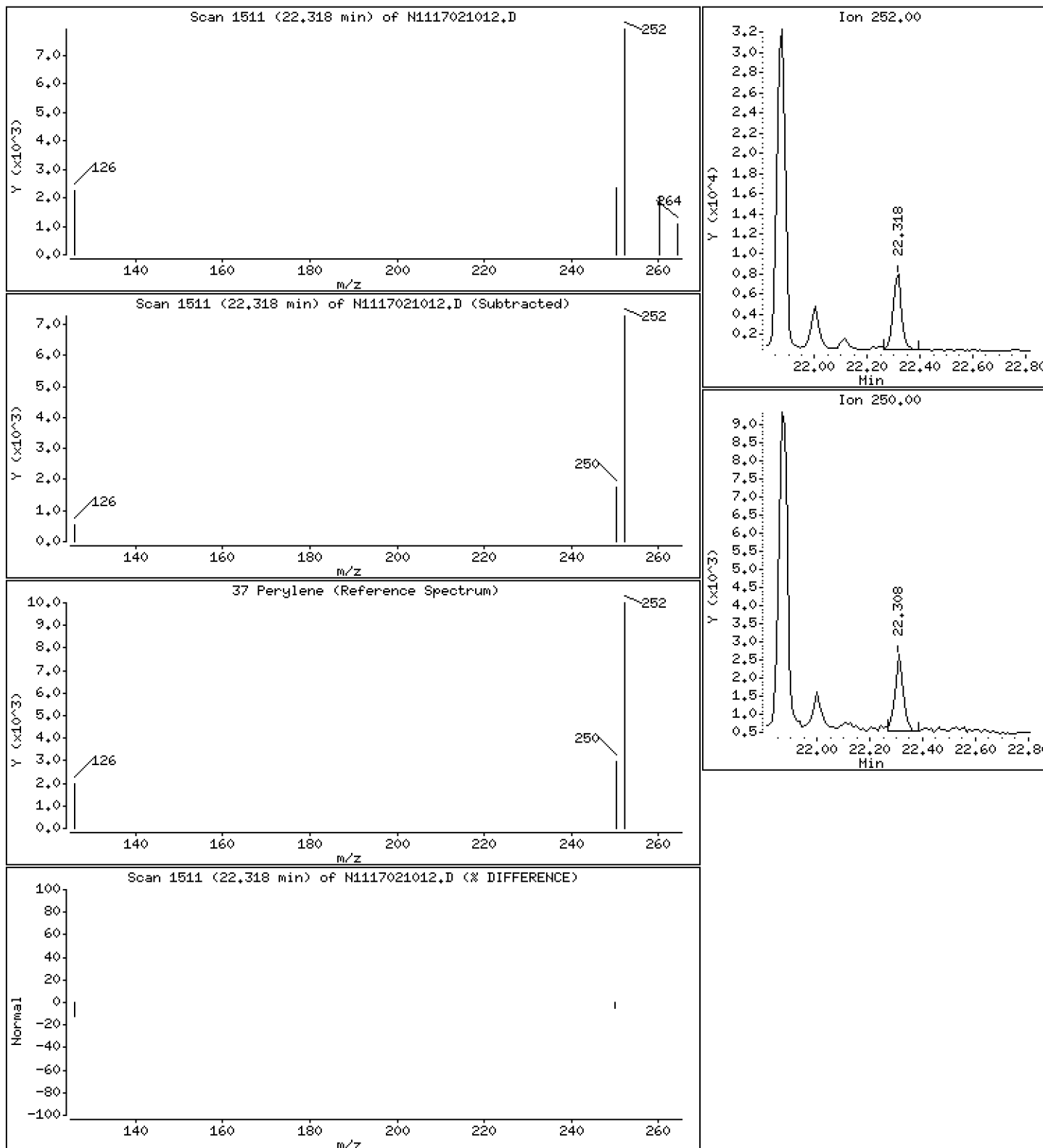
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

37 Perylene

Concentration: 15,0 ng/mL



Date : 10-FEB-2017 17:39

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-05

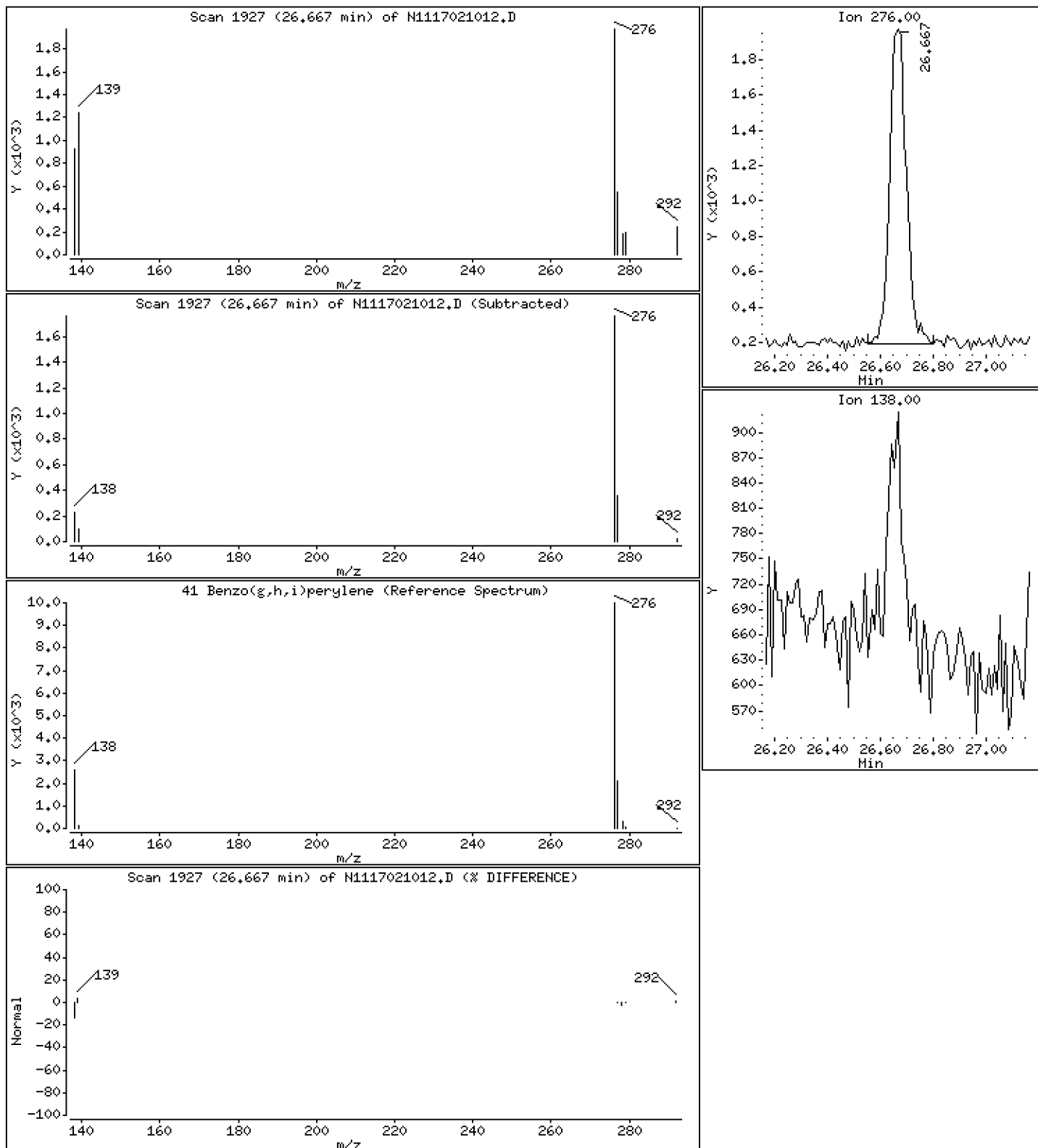
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

41 Benzo(g,h,i)perylene

Concentration: 7,14 ng/mL



ARI Labs, Inc.

LOW LEVEL PNAs BY SW8270D-SIM

Data file : \\target\share\chem3\nt11.i\20170210.b\N1117021012.D
 Lab Smp Id: 17A0053-05
 Inj Date : 10-FEB-2017 17:39 MS Autotune Date: 15-JAN-2015 15:59
 Operator : VTS Inst ID: nt11.i
 Smp Info : 17A0053-05
 Misc Info :
 Comment :
 Method : \\target\share\chem3\nt11.i\20170210.b\LOWSIM.m
 Meth Date : 11-Feb-2017 08:35 nt11.i Quant Type: ISTD
 Cal Date : 31-DEC-2016 09:30 Cal File: N1116123104.D
 Als bottle: 1
 Dil Factor: 1.00000
 Integrator: HP RTE Compound Sublist: allpna.sub
 Target Version: 4.14
 Processing Host: VANS

Compounds	QUANT	SIG	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS	
							ON-COLUMN (ng/mL)	FINAL (ng/mL)
* 1 Naphthalene-d8	136		8.509	8.526	(1.000)	218333	200.000	
2 Naphthalene	128		Compound Not Detected.					
3 Benzo(b)thiophene	134		Compound Not Detected.					
\$ 4 2-Methylnaphthalene-d10	152		9.498	9.508	(1.116)	160476	171.142	171
5 2-Methylnaphthalene	142		9.550	9.561	(1.122)	6595	6.14127	6.14
6 1-Methylnaphthalene	142		9.813	9.823	(1.153)	3593	3.32661	3.33
7 2-Chloronaphthalene	162		Compound Not Detected.					
8 Biphenyl	154		Compound Not Detected.					
9 2,6-Dimethylnaphthalene	156		Compound Not Detected.					
10 Acenaphthylene	152		11.401	11.410	(0.987)	4154	3.12623	3.13
* 11 Acenaphthene-d10	164		11.555	11.564	(1.000)	147879	200.000	
12 Acenaphthene	153		11.618	11.627	(1.005)	3757	4.29442	4.29 (M)
13 Dibenzofuran	168		11.822	11.822	(1.023)	9021	6.93646	6.94
14 2,3,5-Trimethylnaphthalene	170		Compound Not Detected.					
\$ 15 Fluorene-d10	174		Compound Not Detected.					
16 Fluorene	166		12.454	12.454	(1.078)	10497	10.1388	10.1
17 Dibenzothiophene	184		Compound Not Detected.					
* 18 Phenanthrene-d10	188		14.252	14.262	(1.000)	236713	200.000	
19 Phenanthrene	178		14.294	14.293	(1.003)	77157	57.0121	57.0
\$ 20 Anthracene-d10	188		Compound Not Detected.					
21 Anthracene	178		14.346	14.356	(1.007)	23548	17.4505	17.5
22 Carbazole	167		Compound Not Detected.					
23 1-Methylphenanthrene	192		15.298	15.307	(1.066)	4525	3.26037	3.26 (MH)
\$ 24 Fluoranthene-d10	212		16.367	16.367	(1.148)	230836	183.604	184
25 Fluoranthene	202		16.406	16.405	(1.151)	126872	82.6456	82.6
26 Pyrene	202		16.905	16.915	(0.889)	132922	100.573	101
27 Benzo(a)anthracene	228		18.925	18.933	(0.995)	34089	27.8641	27.9
* 28 Chrysene-d12	240		19.024	19.024	(1.000)	203457	200.000	
29 Chrysene	228		19.074	19.074	(1.003)	66398	52.8915	52.9
30 Benzo(b)fluoranthene	252		21.001	21.001	(0.944)	36642	31.2339	31.2
31 Benzo(k)fluoranthene	252		21.049	21.049	(0.946)	19846	15.7061	15.7
32 Benzo(j)fluoranthene	252		21.126	21.125	(0.950)	16637	14.7709	14.8
\$ 33 Benzo(e)pyrene-d12	264		Compound Not Detected.					

Compounds	QUANT	SIG	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS		
							ON-COLUMN (ng/mL)	FINAL (ng/mL)	
34 Benzo(e)pyrene	252		21.875	21.875	(0.984)	65624	56.0784	56.1	
35 Benzo(a)pyrene	252		22.000	22.000	(0.989)	9624	8.79976	8.80	
* 36 Perylene-d12	264		22.240	22.240	(1.000)	217634	200.000		
37 Perylene	252		22.317	22.317	(1.003)	17182	15.0470	15.0	
§ 38 Dibenzo(a,h)anthracene-d14	292		25.105	25.116	(1.129)	141228	203.203	203	
39 Dibenzo(a,h)anthracene	278		Compound Not Detected.						
40 Indeno(1,2,3-cd)pyrene	276		Compound Not Detected.						
41 Benzo(g,h,i)perylene	276		26.666	26.666	(1.199)	7656	7.14184	7.14	

QC Flag Legend

- M - Compound response manually integrated.
- H - Operator selected an alternate compound hit.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
 AREA AND RT SUMMARY

Instrument ID: nt11.i Calibration Date: 10-FEB-2017
 Lab File ID: N1117021012.D Calibration Time: 13:29
 Lab Smp Id: 17A0053-05
 Analysis Type: SV Level:
 Quant Type: ISTD Sample Type:
 Operator: VTS
 Method File: \\target\share\chem3\nt11.i\20170210.b\LOWSIM.m
 Misc Info:

Test Mode:
 Use Initial Calibration Level 4.

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
1 Naphthalene-d8	219654	109827	439308	218333	-0.60
11 Acenaphthene-d10	135248	67624	270496	147879	9.34
18 Phenanthrene-d10	257021	128511	514042	236713	-7.90
28 Chrysene-d12	259511	129756	519022	203457	-21.60
36 Perylene-d12	257535	128768	515070	217634	-15.49

COMPOUND	STANDARD	RT LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
1 Naphthalene-d8	8.53	8.03	9.03	8.51	-0.21
11 Acenaphthene-d10	11.56	11.06	12.06	11.56	-0.08
18 Phenanthrene-d10	14.26	13.76	14.76	14.25	-0.07
28 Chrysene-d12	19.02	18.52	19.52	19.02	0.00
36 Perylene-d12	22.24	21.74	22.74	22.24	0.00

AREA UPPER LIMIT = +100% of internal standard area.
 AREA LOWER LIMIT = - 50% of internal standard area.
 RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
 RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - N1117021012.D

Lab ID: 17A0053-05

nt11.i, 20170210.b\LOWSIM.m, 10-FEB-2017 17:39

RT CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

RRT	CCV	RRT	DELTA	COMPOUND
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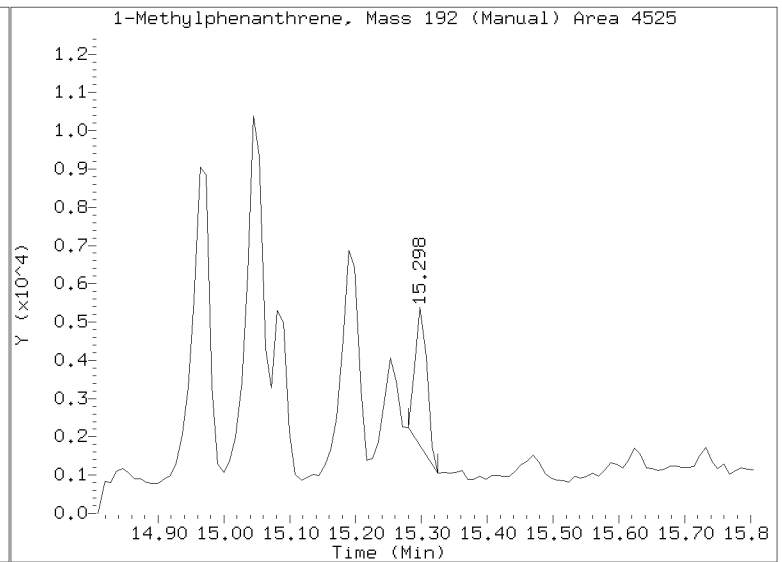
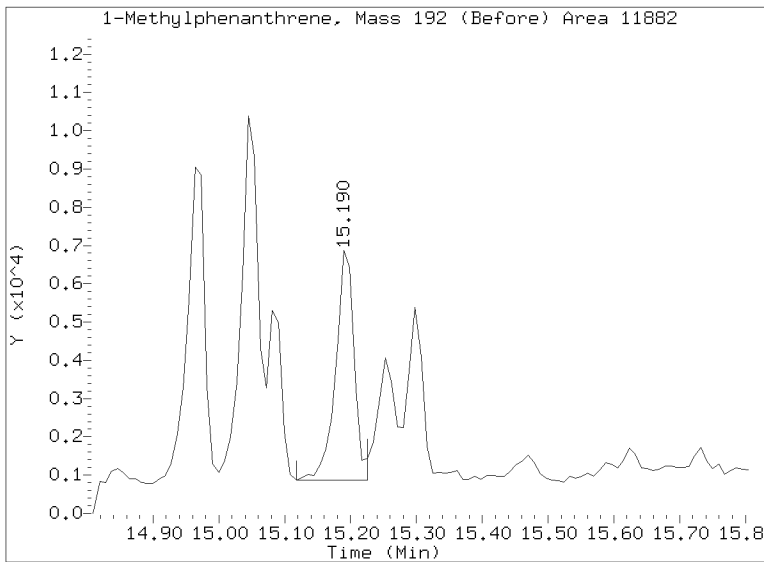
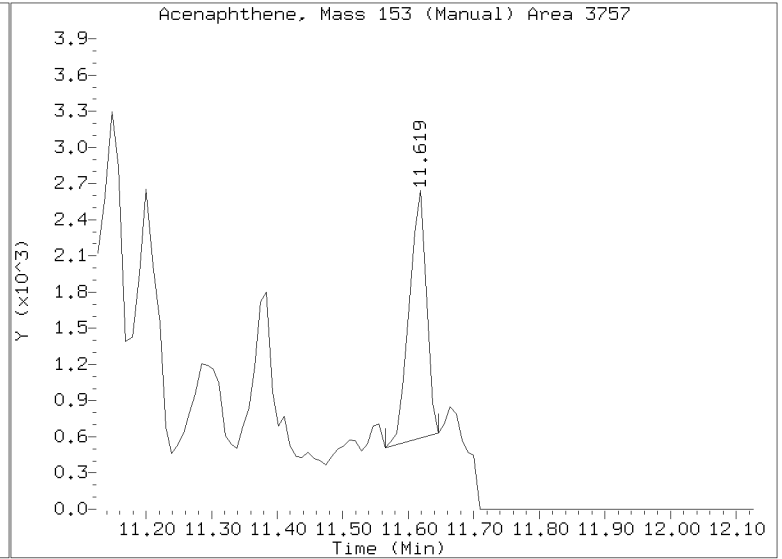
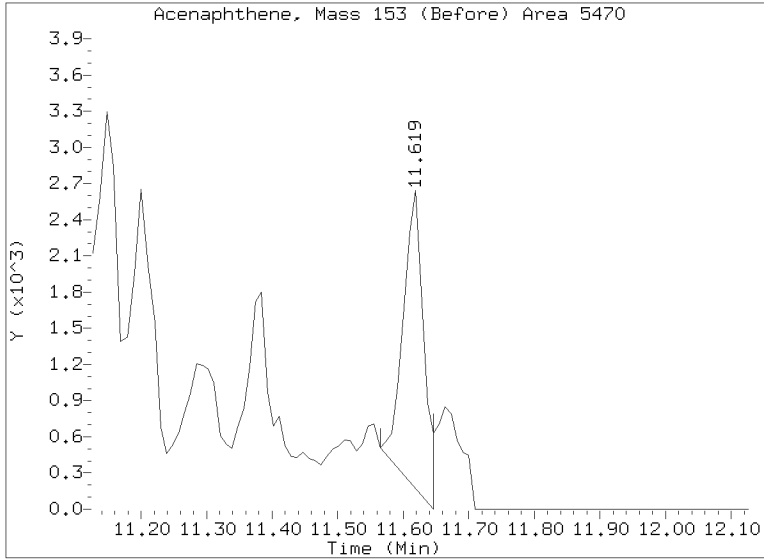
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On Column LOD for nt11.i, 20170210.b\LOWSIM.m, allpna.sub = 3.0000

Exception: Naphthalene 7.0000
Exception: Phenanthrene 2.5000
Exception: Anthracene 2.0000
Exception: Pyrene 4.0000
Exception: Benzo(j)fluoranthene 2.5000
Exception: Benzo(a)pyrene 2.0000
Exception: Perylene 3.5000
Exception: Benzo(e)pyrene 2.0000
Exception: Benzo(b)thiophene 2.0000
Exception: 2-Chloronaphthalene 2.0000
Exception: 2,6-Dimethylnaphthalene 2.0000
Exception: 2,3,5-Trimethylnaphthalene 2.0000
Exception: 1-Methylphenanthrene 2.0000
Exception: Dibenzothiophene 2.0000
Exception: Carbazole 2.0000
Exception: Biphenyl 2.0000
Exception: 2-Methylnaphthalene-d10 (Surr) 0.1000
Exception: Dibenzo(a,h)anthracene-d14 (Surr) 0.1000
Exception: Fluoranthene-d10 (Surr) 0.1000
Exception: Anthracene-d10 (Surr) 0.1000
Exception: Benzo(e)pyrene-d12 (Surr) 0.1000
Exception: Fluorene-d10 (Surr) 0.1000

Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt11.i/20170210.b/N1117021012.D
Injection Date: 10-FEB-2017 17:39
Lab ID:17A0053-05 Client ID:
Report Date: 02/11/2017 08:35



Data File: \\target\share\chem3\nt11.1\20170210.6\N1117021013.D

Date : 10-FEB-2017 18:14

Client ID:

Sample Info: 17A0053-06

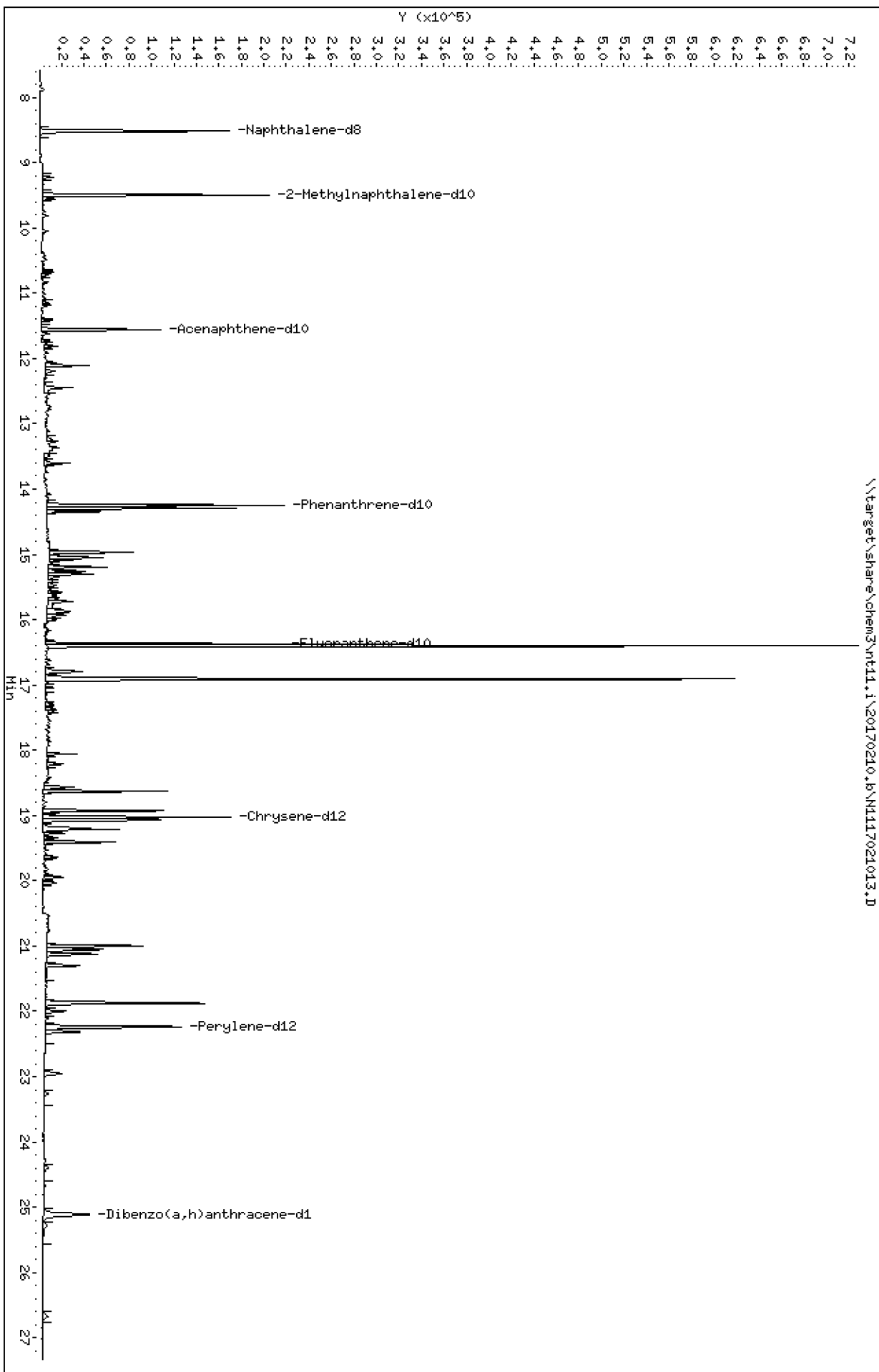
Column phase: Rxi-17Si11 MS

Instrument: nt11.1

Operator: VTS

Column diameter: 0.25

Page 1



Date : 10-FEB-2017 18:14

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-06

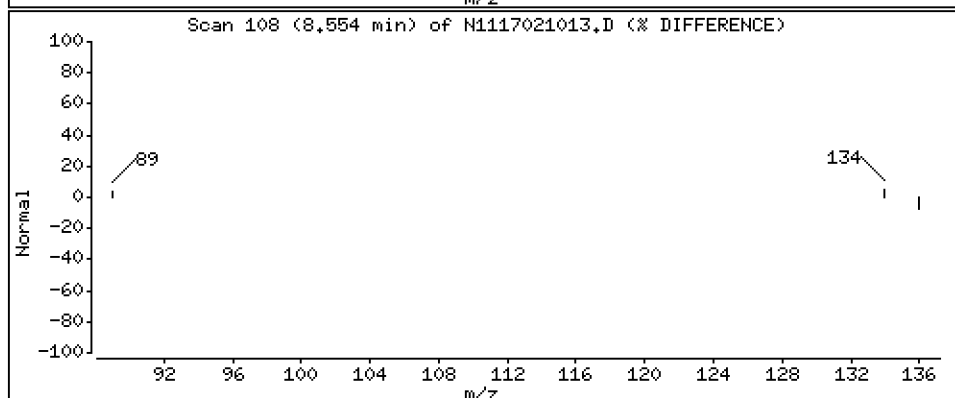
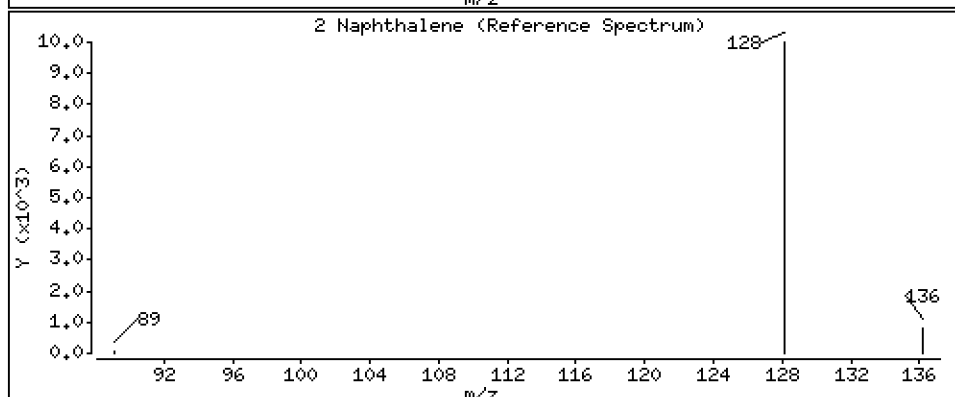
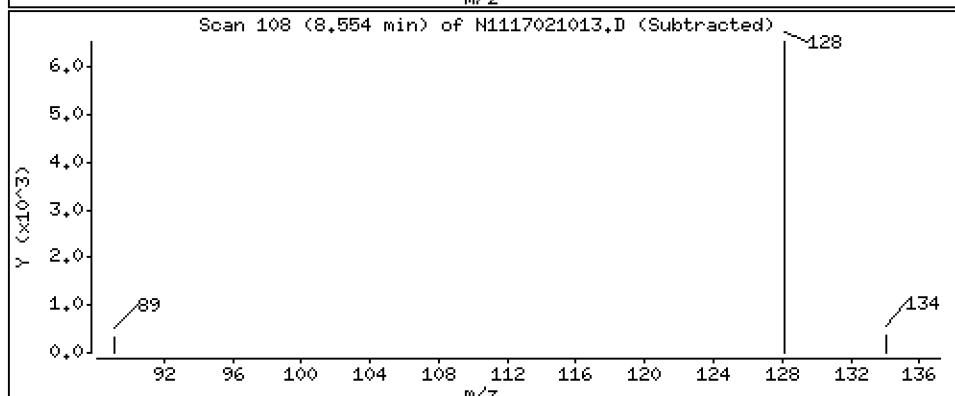
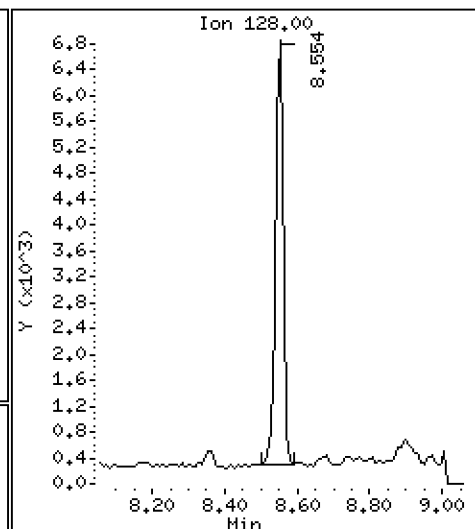
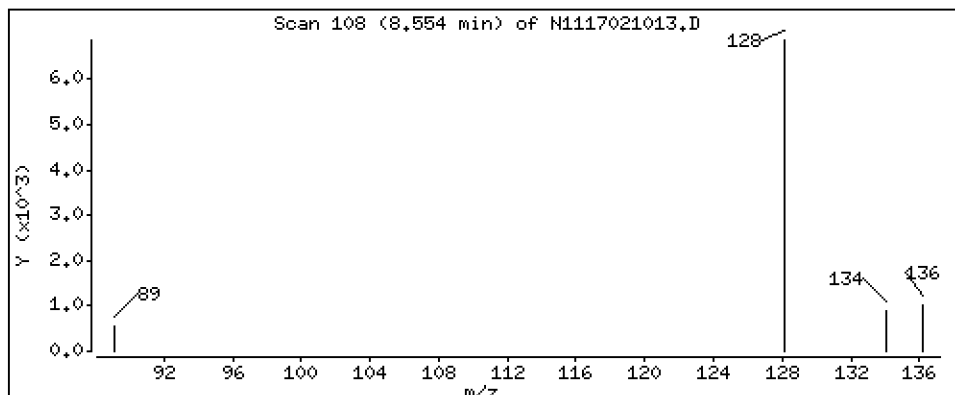
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

2 Naphthalene

Concentration: 8,92 ng/mL



Date : 10-FEB-2017 18:14

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-06

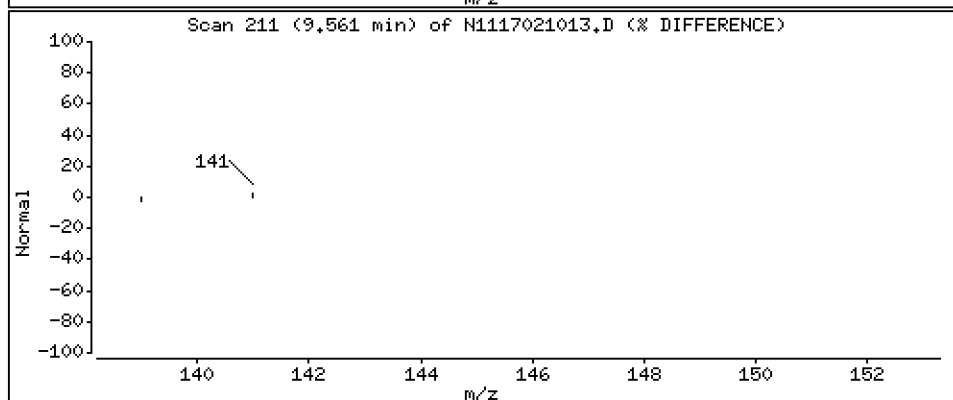
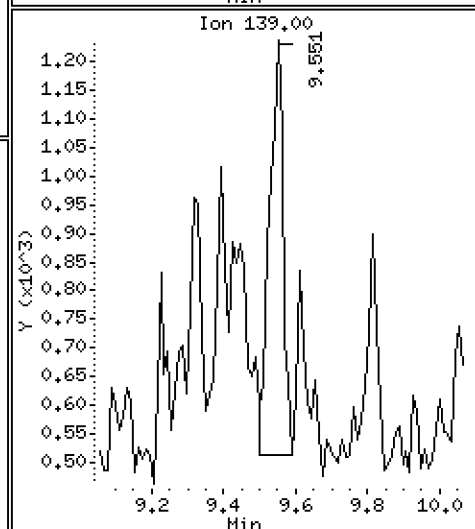
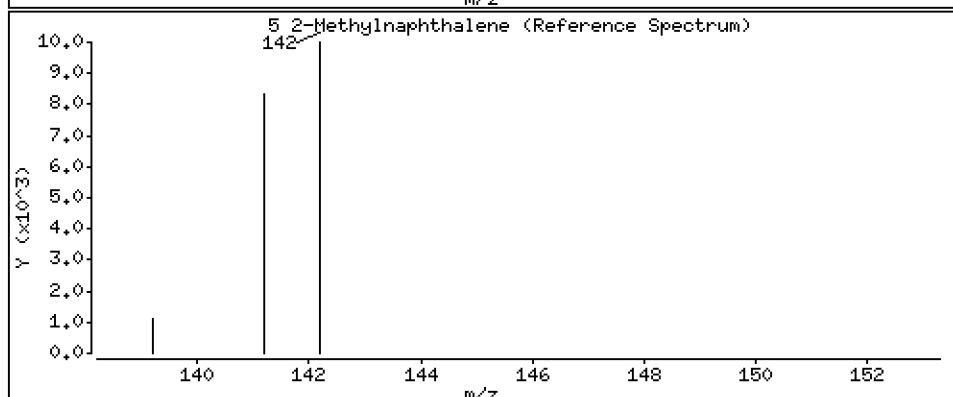
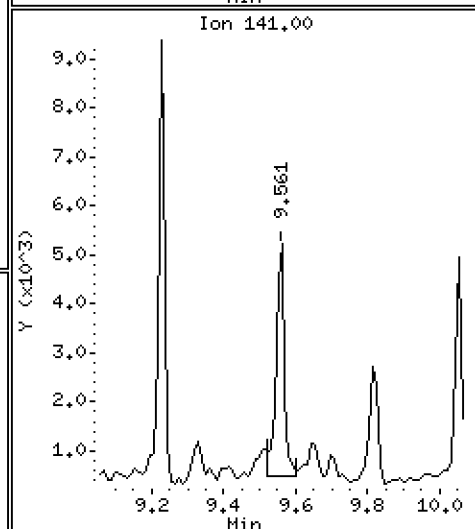
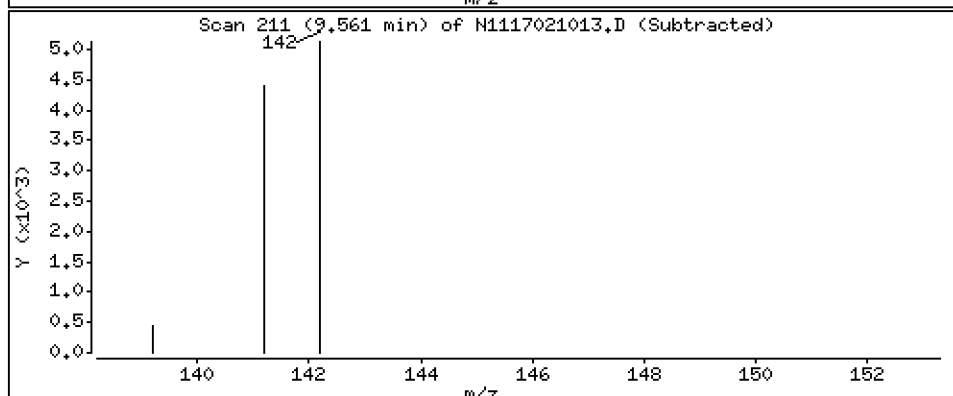
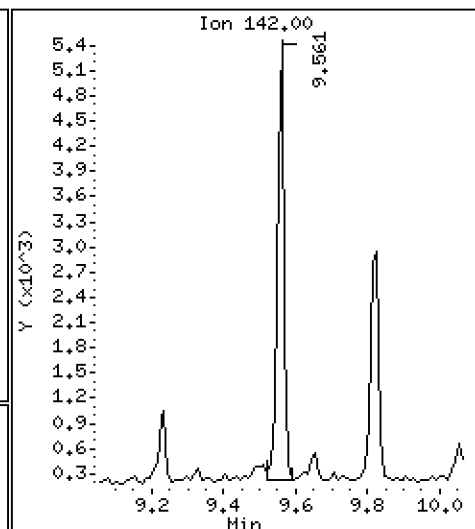
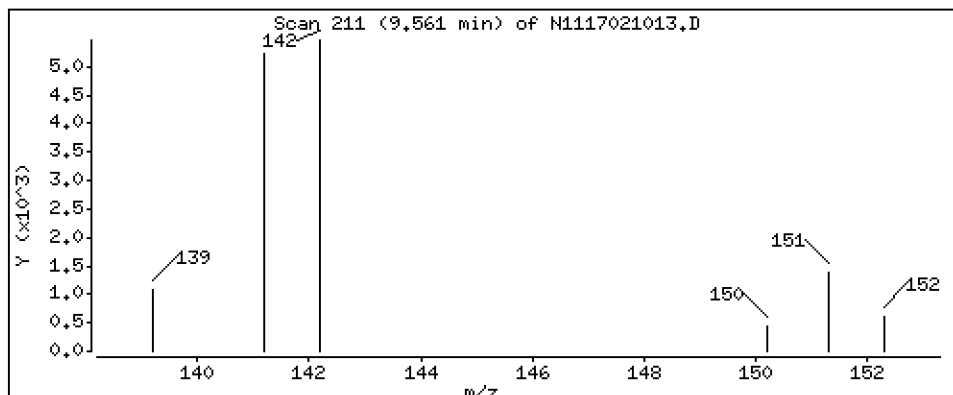
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

5-2-Methylnaphthalene

Concentration: 7,00 ng/mL



Date : 10-FEB-2017 18:14

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-06

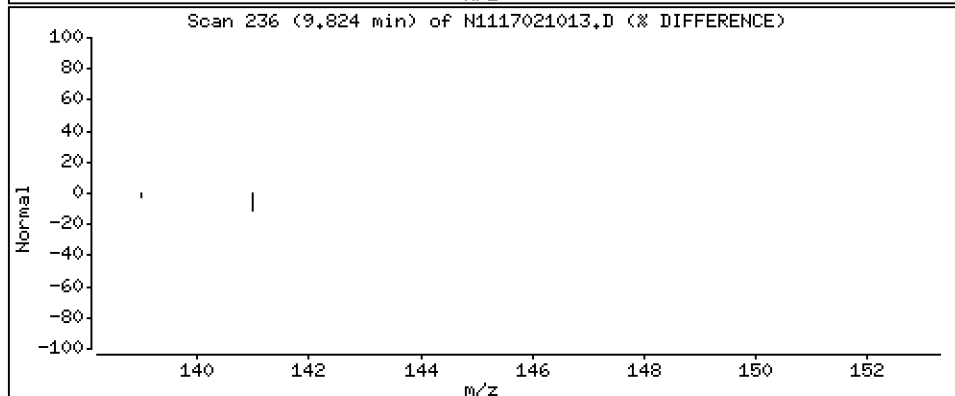
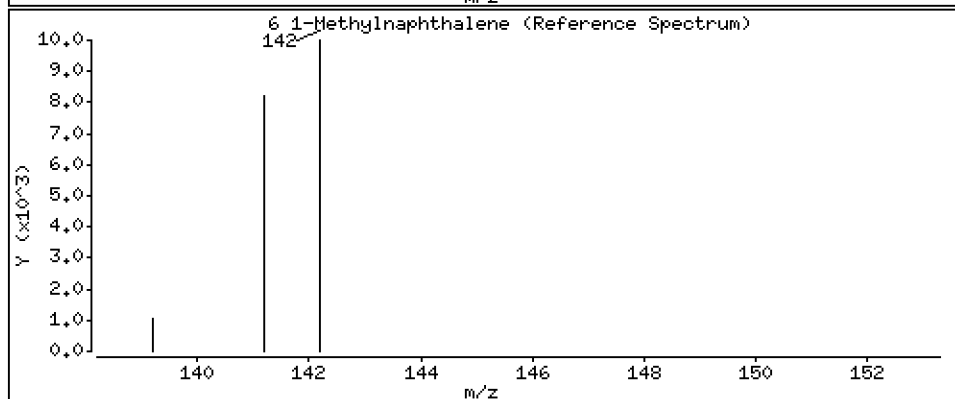
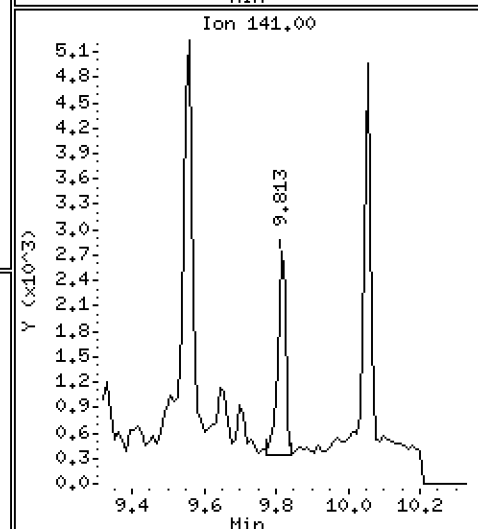
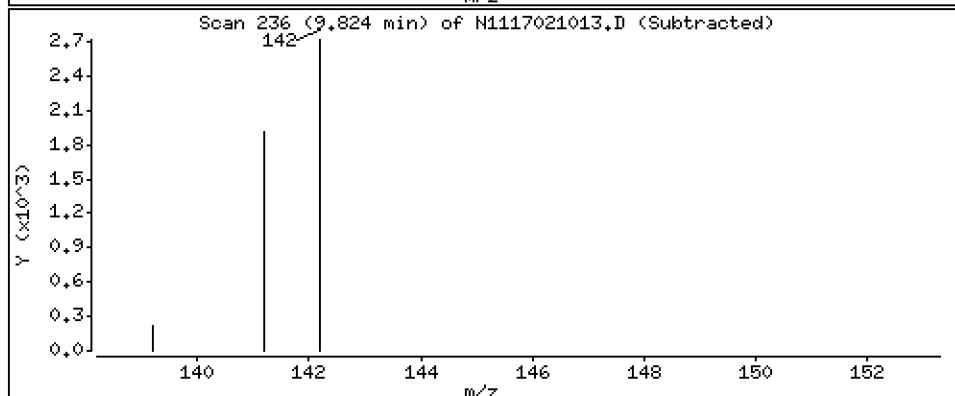
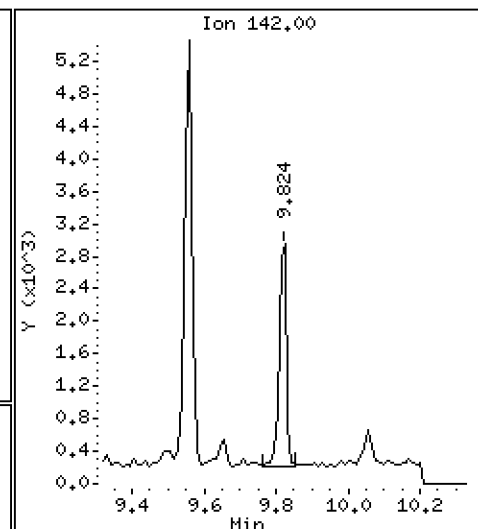
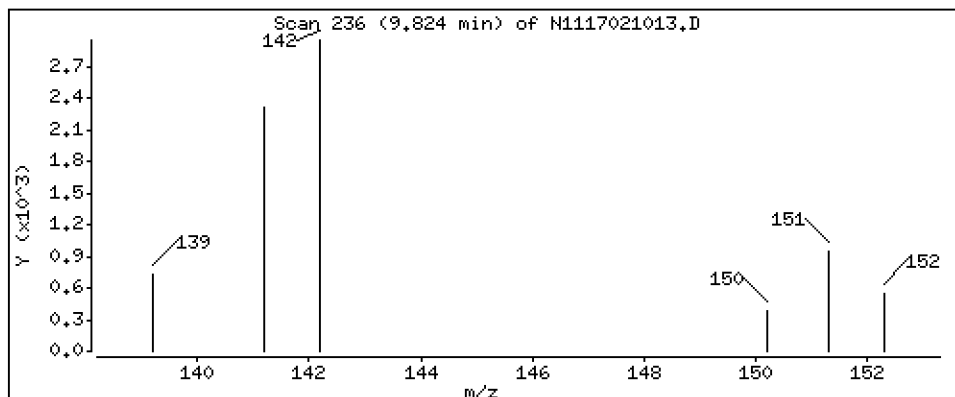
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

6-1-Methylnaphthalene

Concentration: 3,94 ng/mL



Date : 10-FEB-2017 18:14

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-06

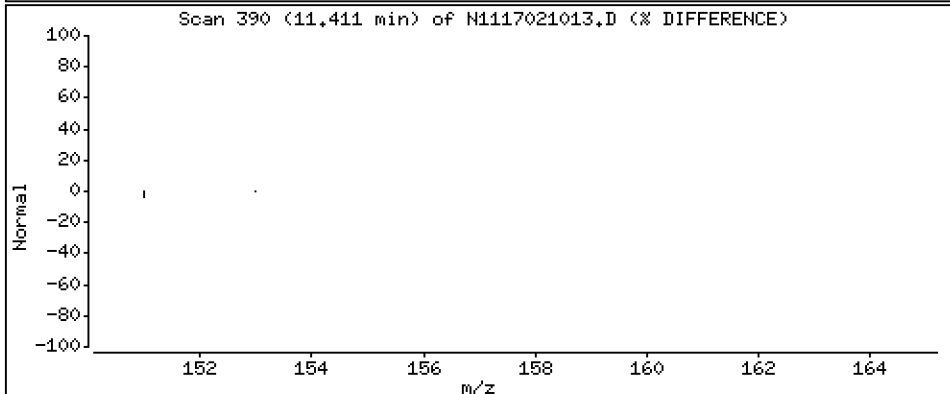
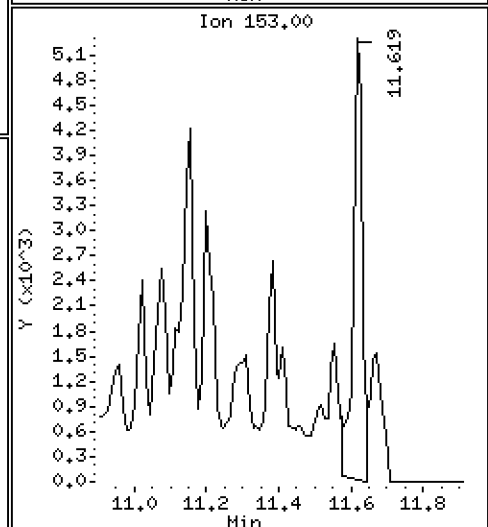
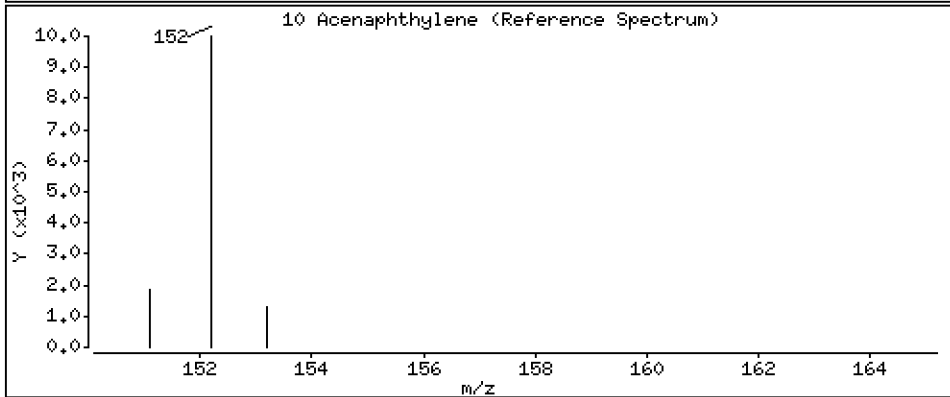
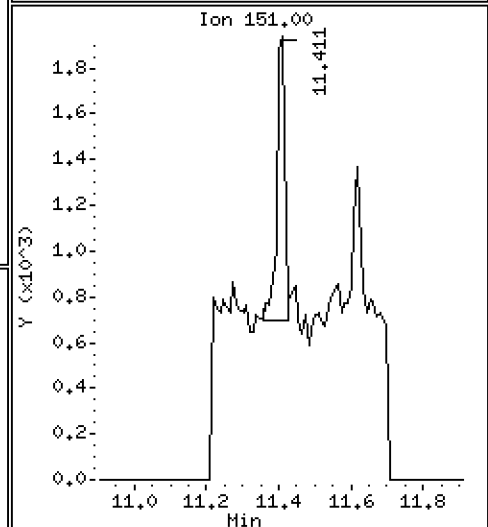
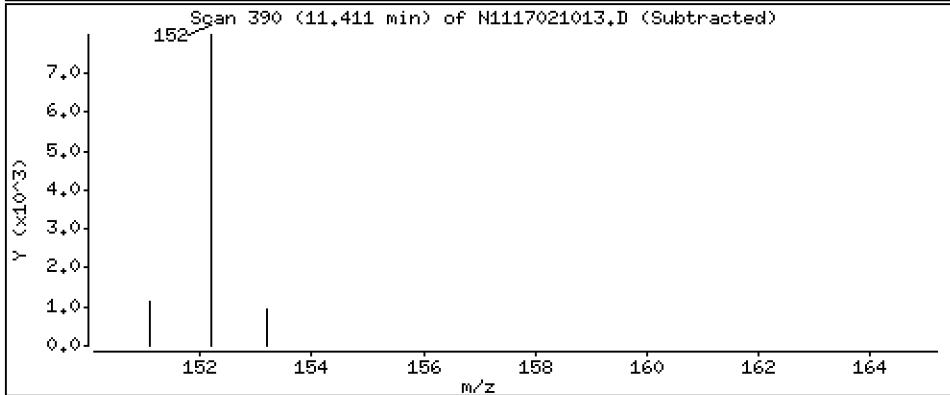
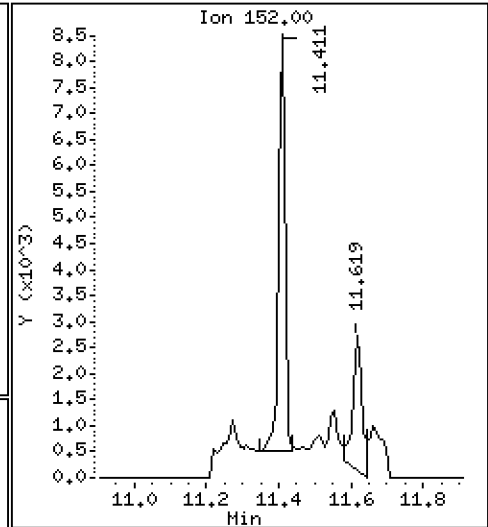
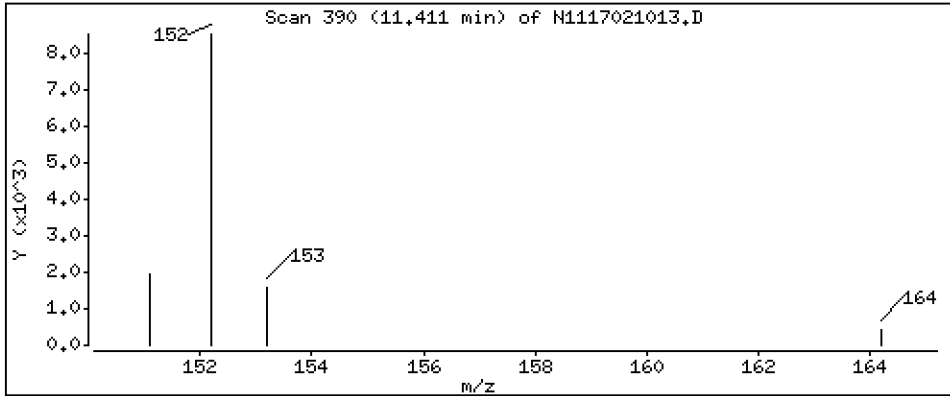
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0.25

10 Acenaphthylene

Concentration: 7.45 ng/mL



Date : 10-FEB-2017 18:14

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-06

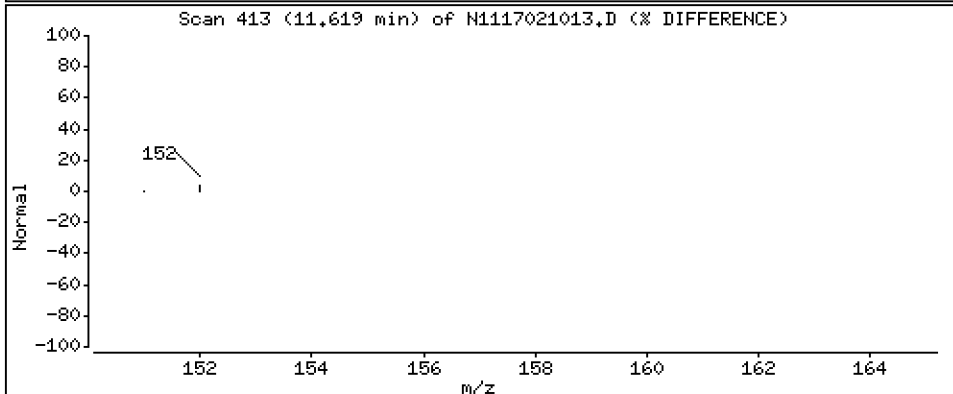
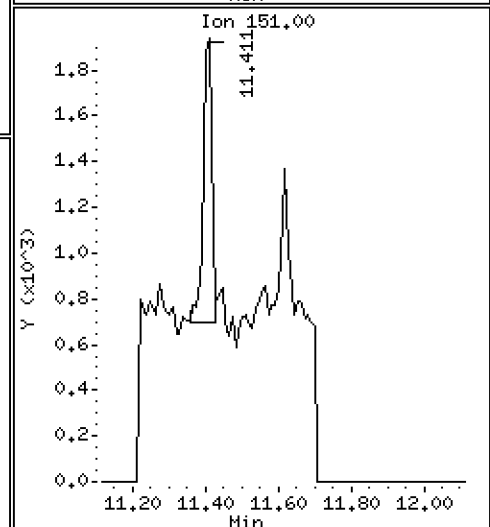
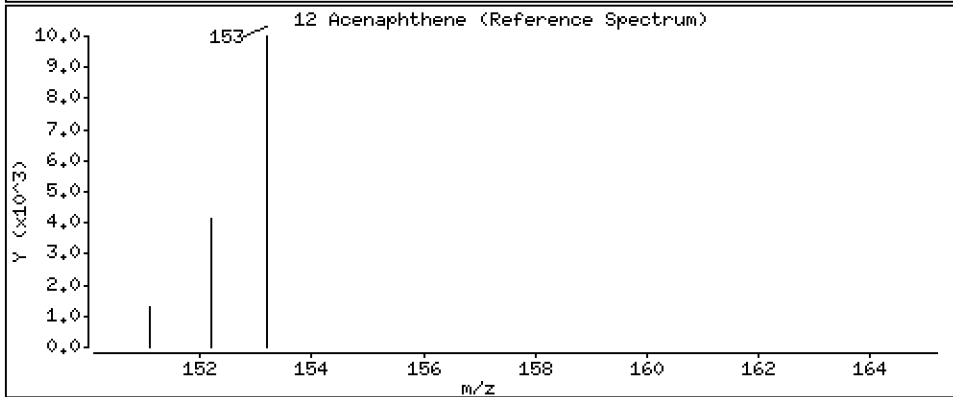
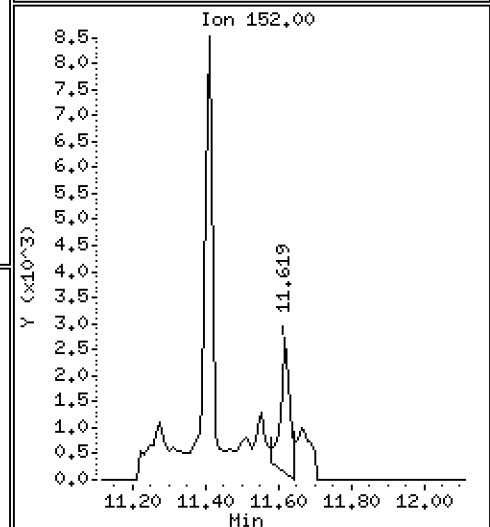
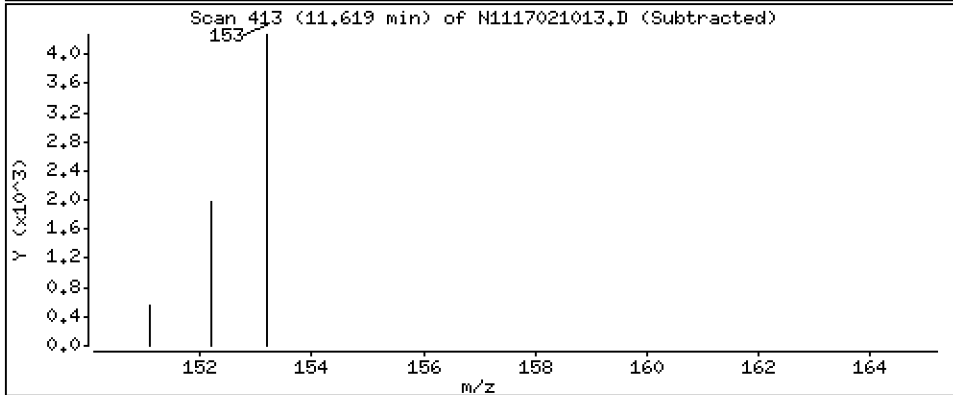
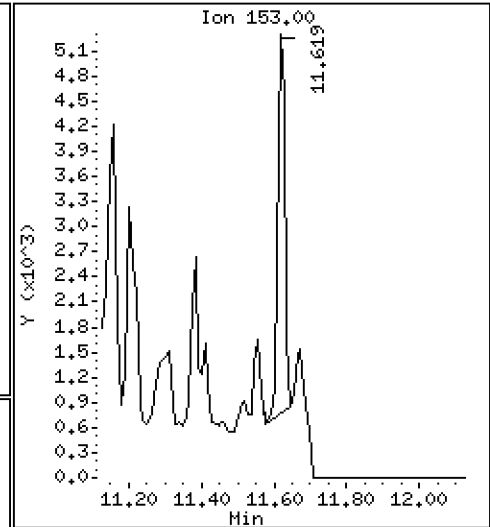
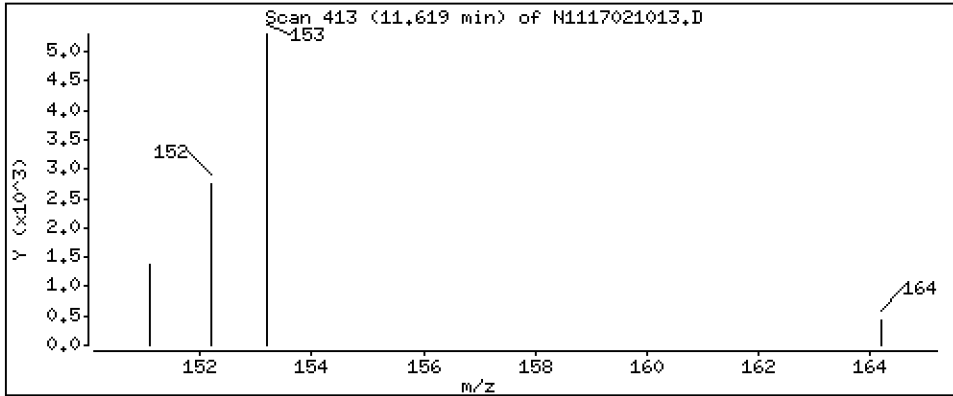
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

Concentration: 7,04 ng/mL

12 Acenaphthene



Date : 10-FEB-2017 18:14

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-06

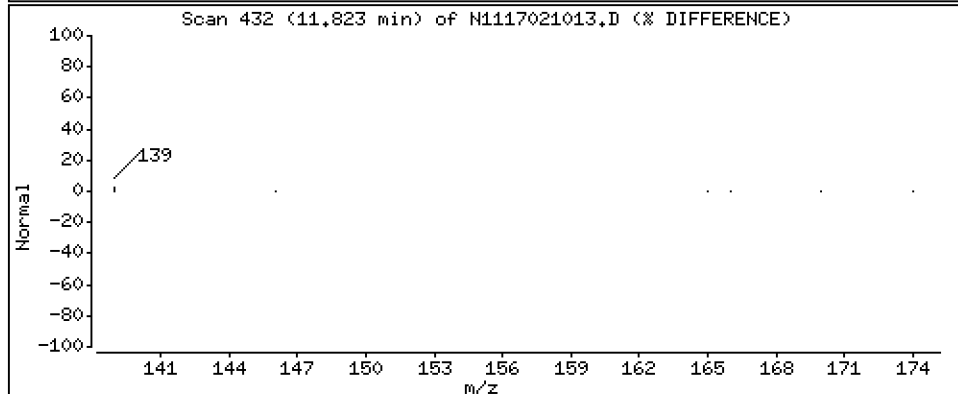
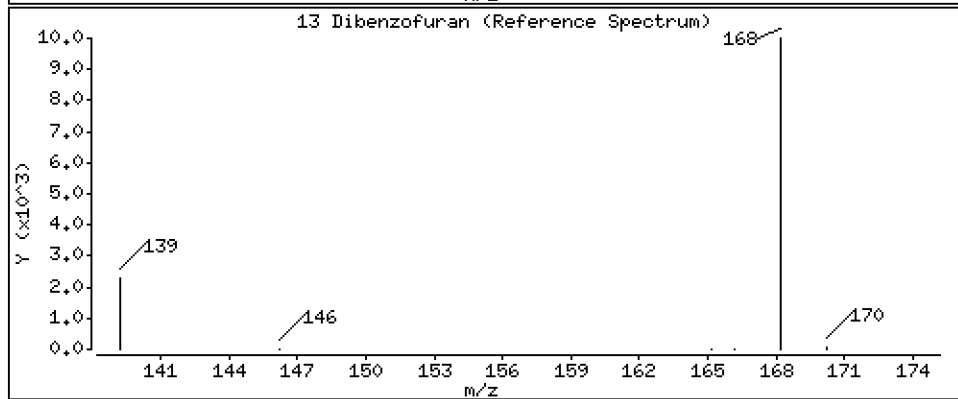
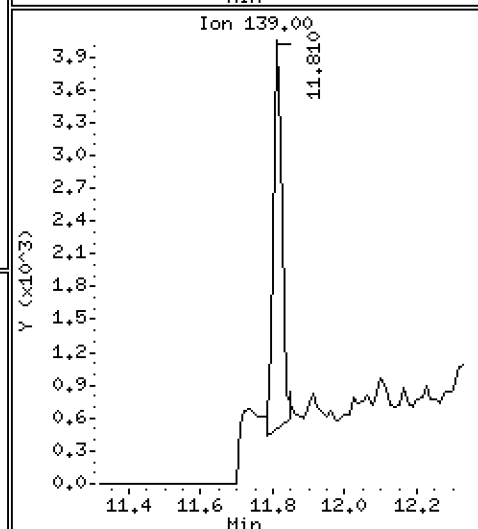
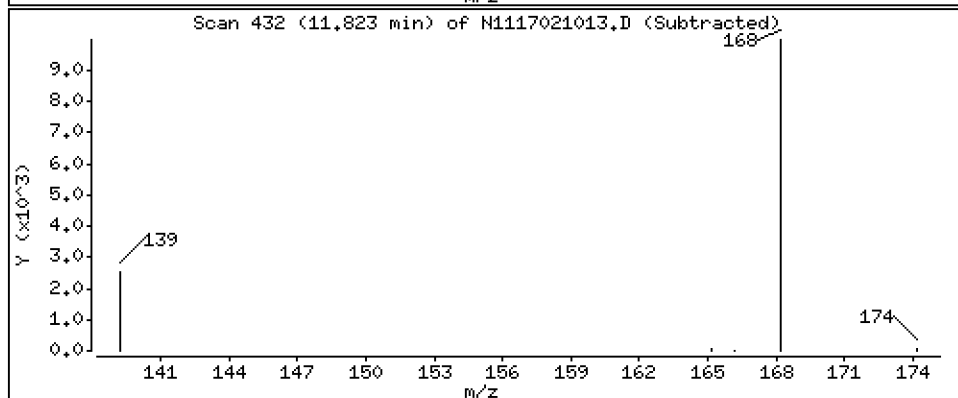
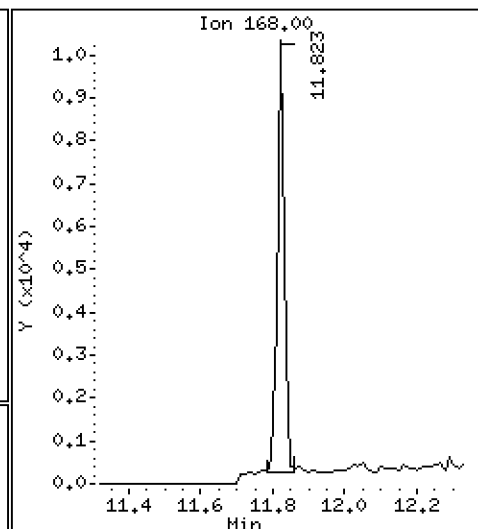
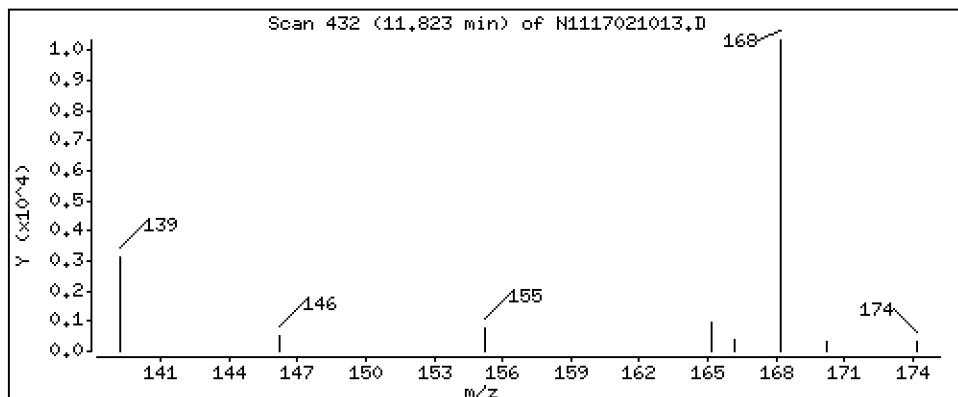
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

13 Dibenzofuran

Concentration: 9,73 ng/mL



Date : 10-FEB-2017 18:14

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-06

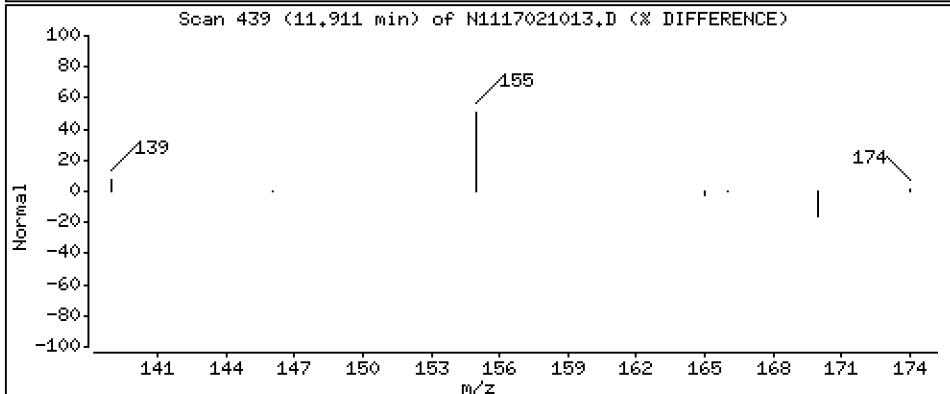
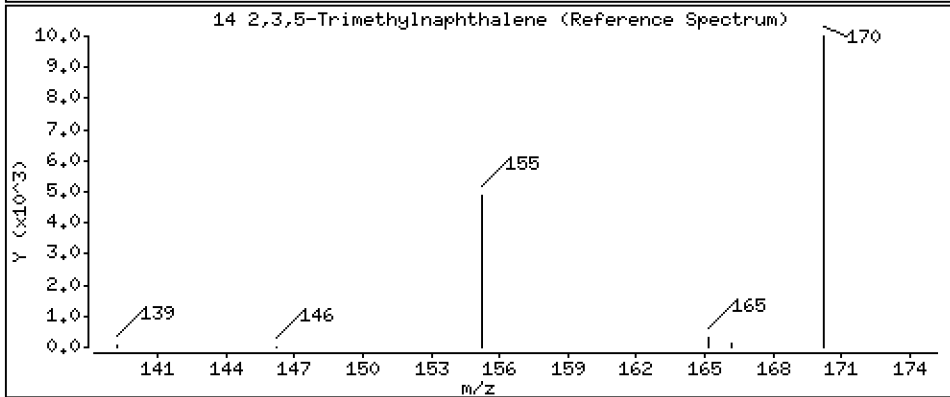
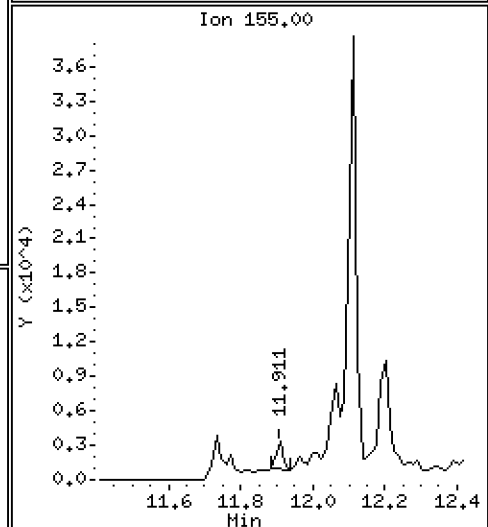
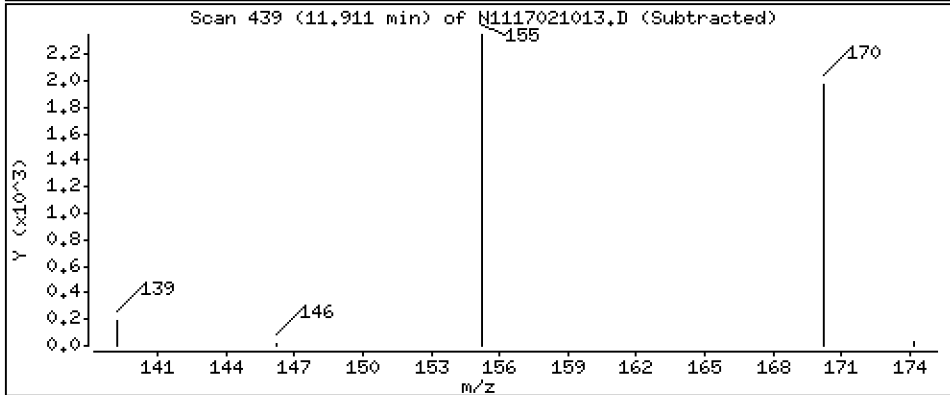
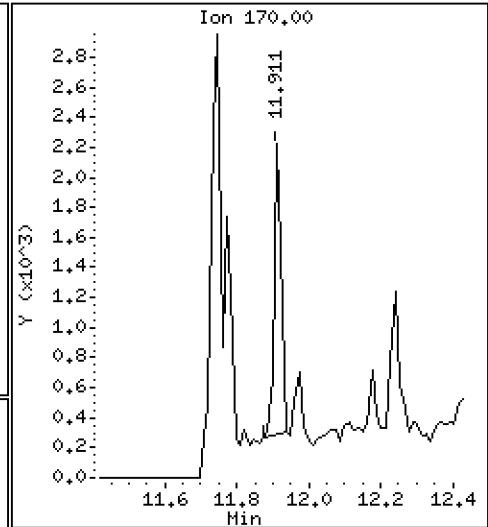
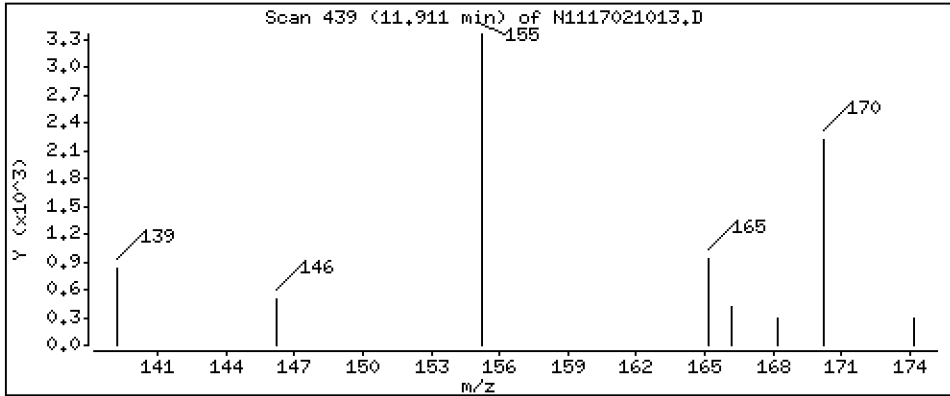
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

14 2,3,5-Trimethylnaphthalene

Concentration: 3,22 ng/mL



Date : 10-FEB-2017 18:14

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-06

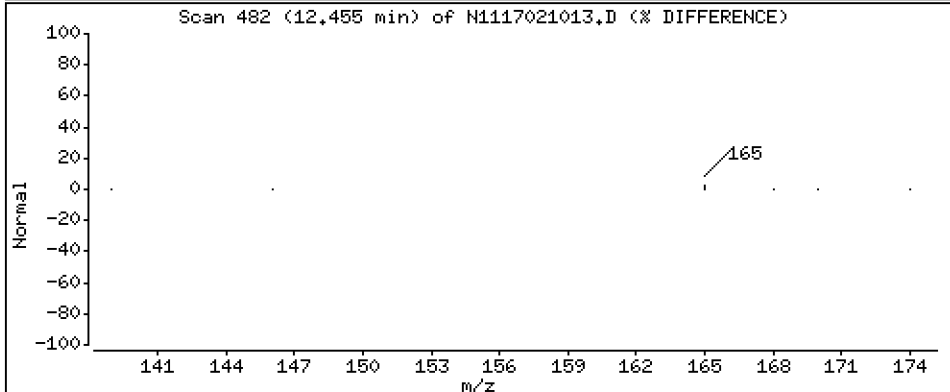
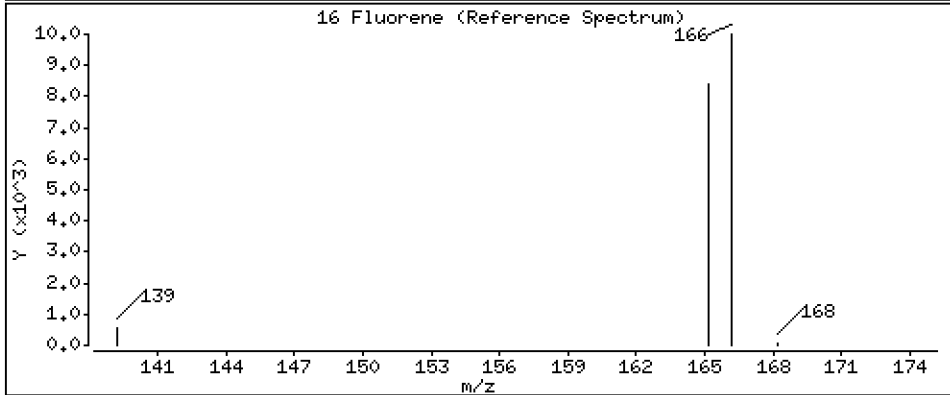
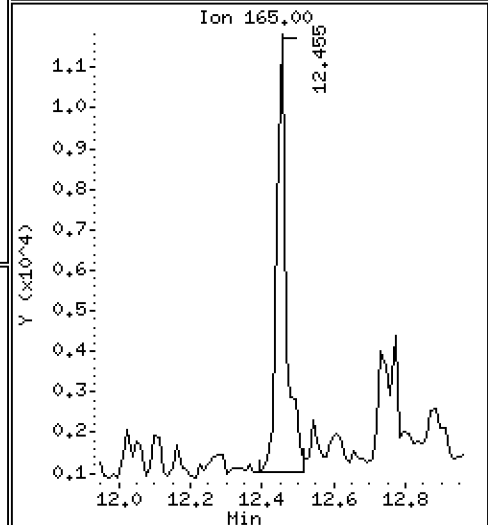
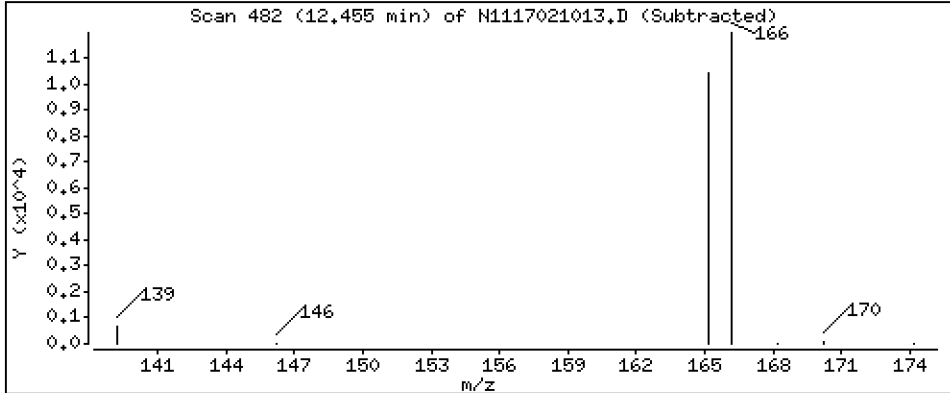
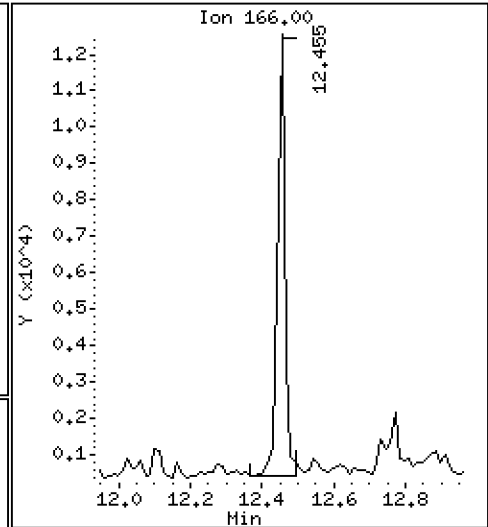
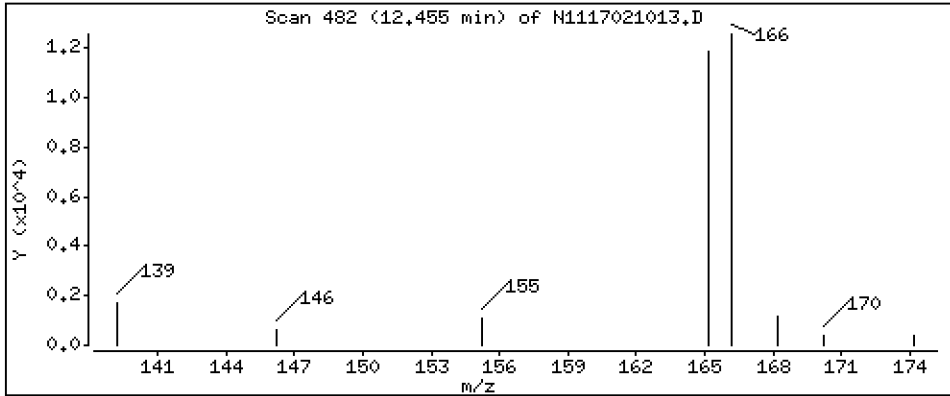
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

16 Fluorene

Concentration: 16,6 ng/mL



Date : 10-FEB-2017 18:14

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-06

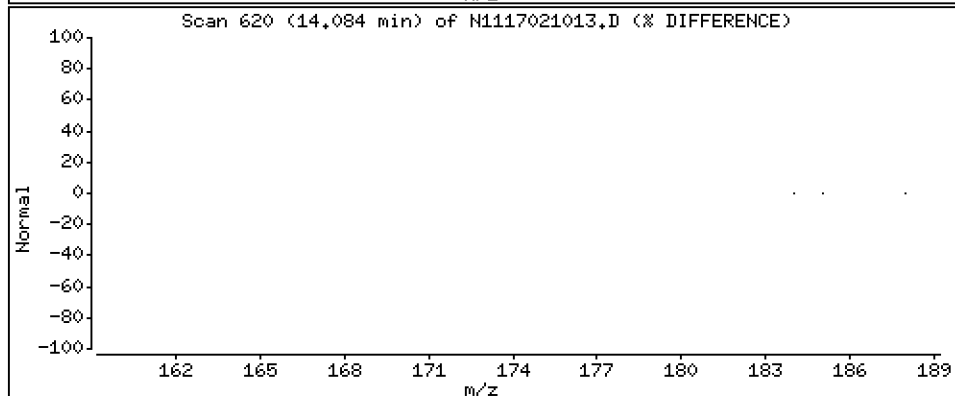
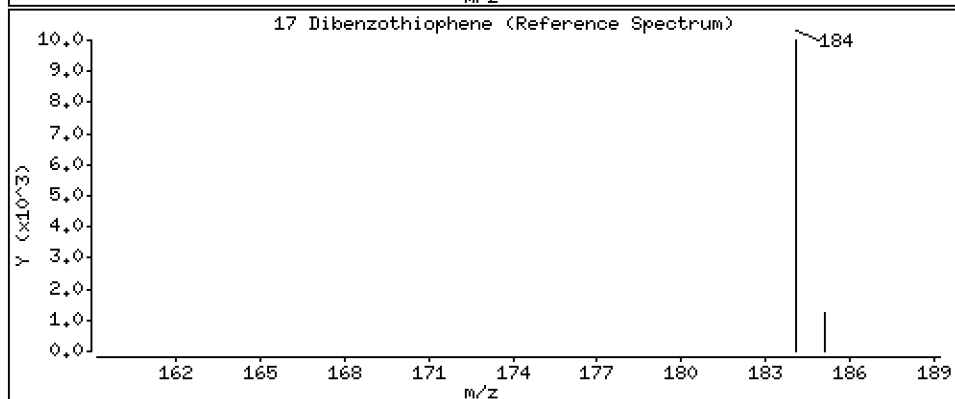
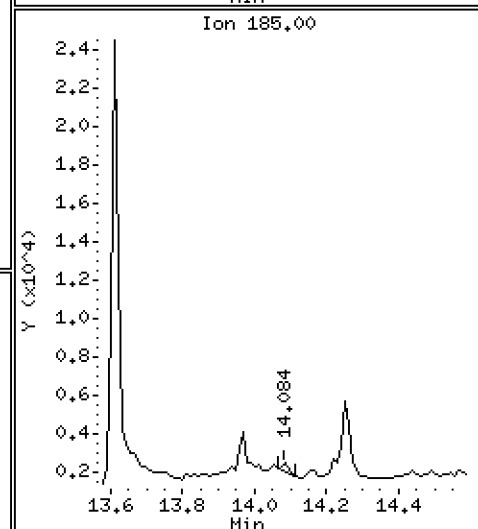
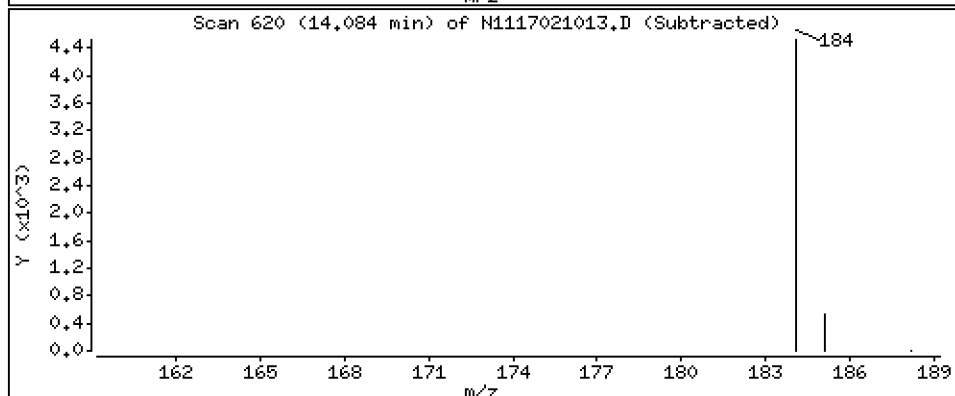
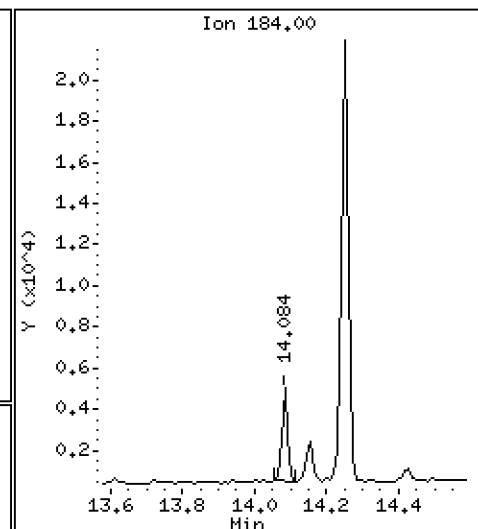
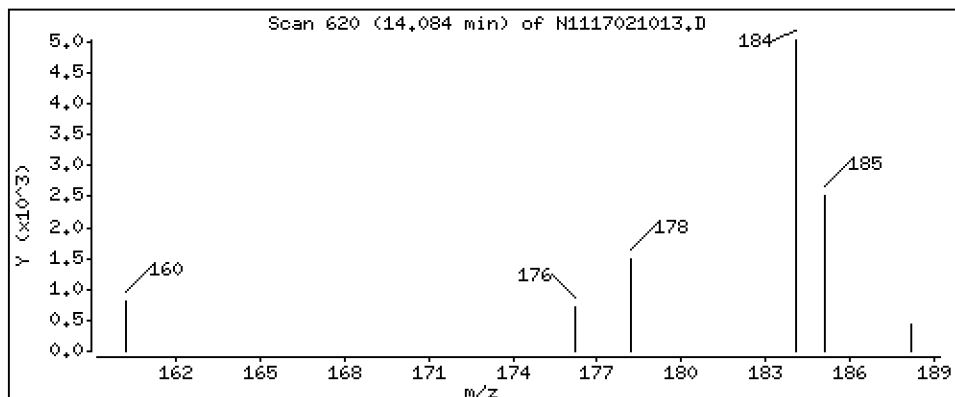
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

17 Dibenzothiophene

Concentration: 5,24 ng/mL



Date : 10-FEB-2017 18:14

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-06

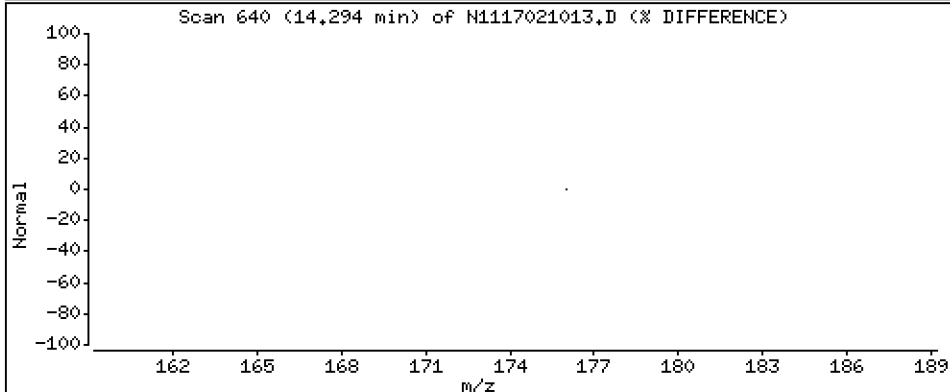
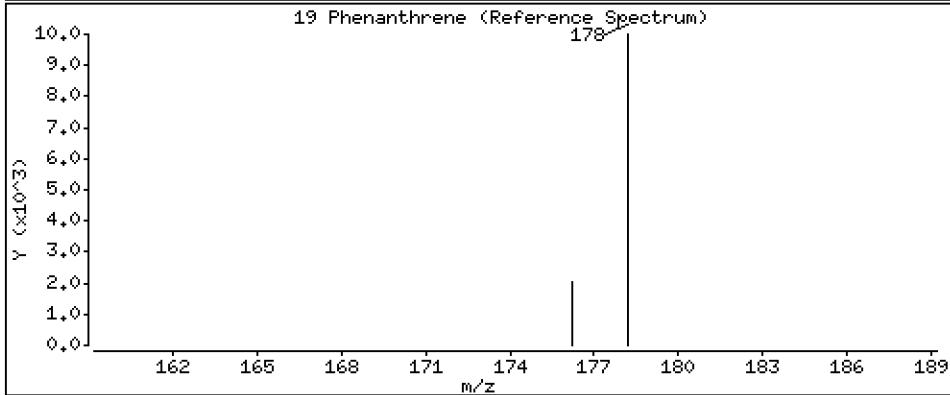
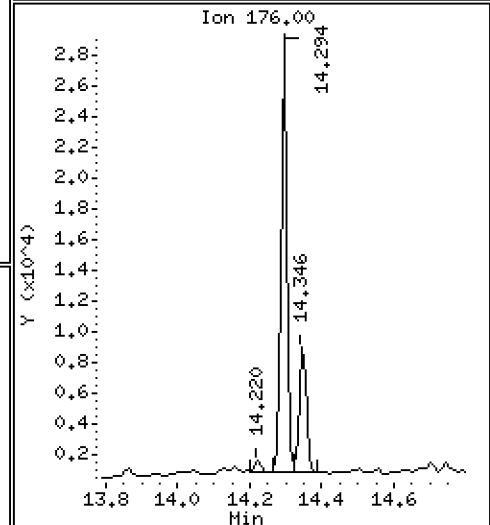
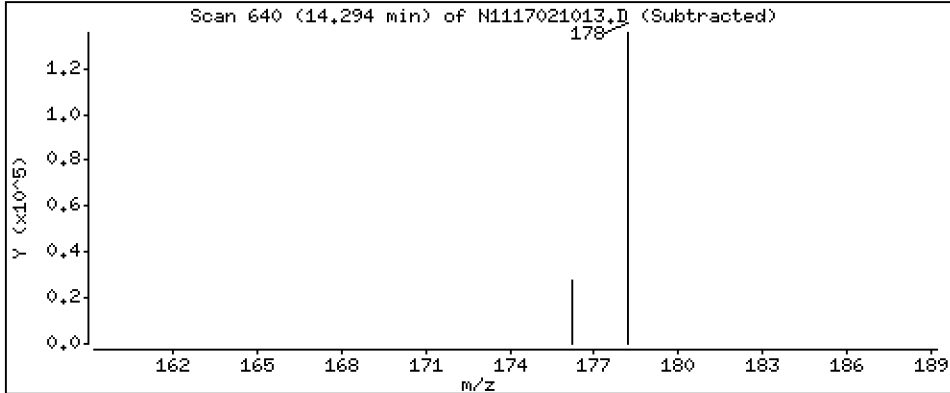
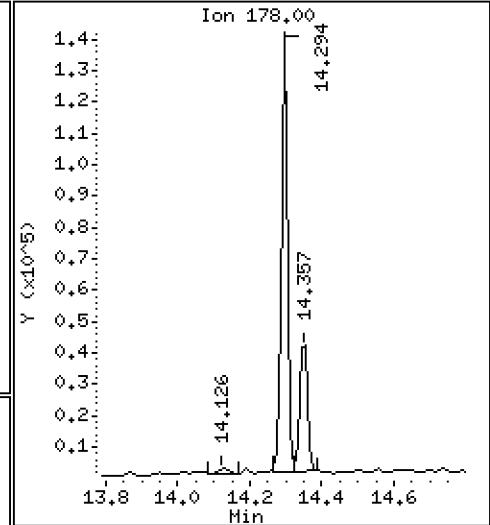
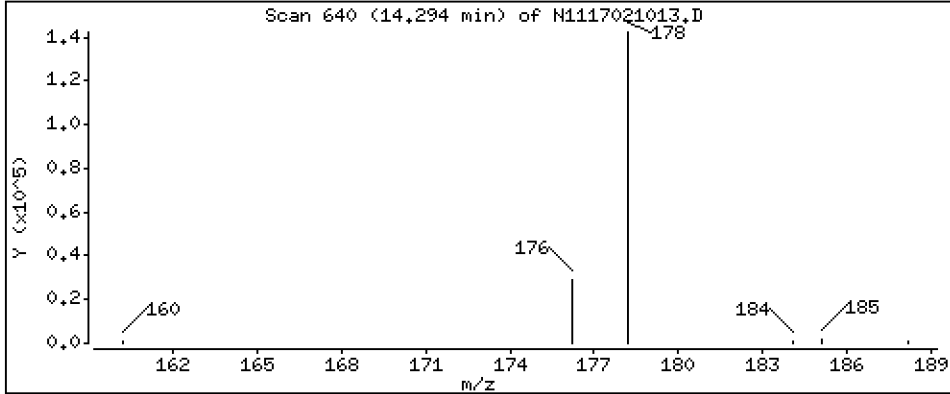
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0.25

19 Phenanthrene

Concentration: 142 ng/mL



Date : 10-FEB-2017 18:14

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-06

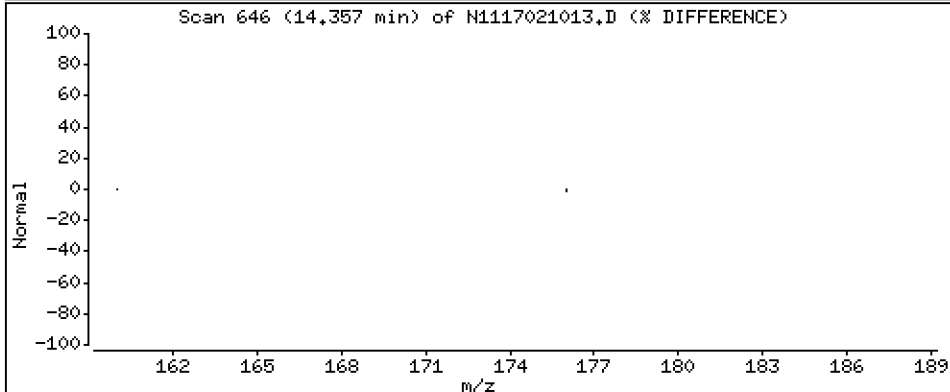
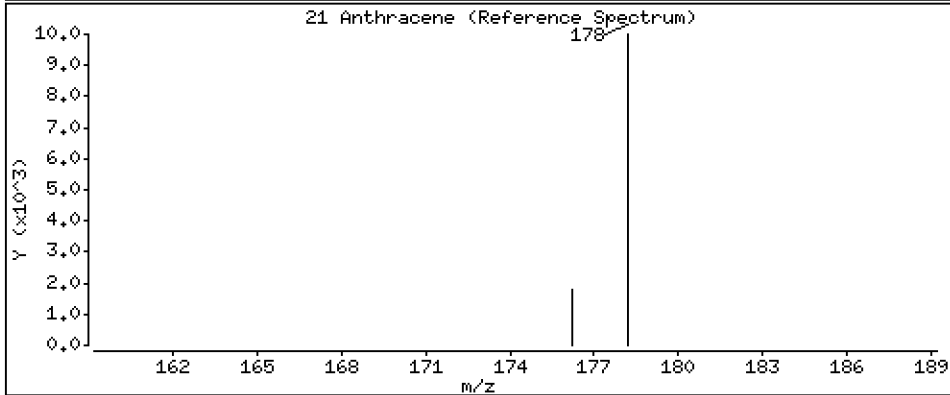
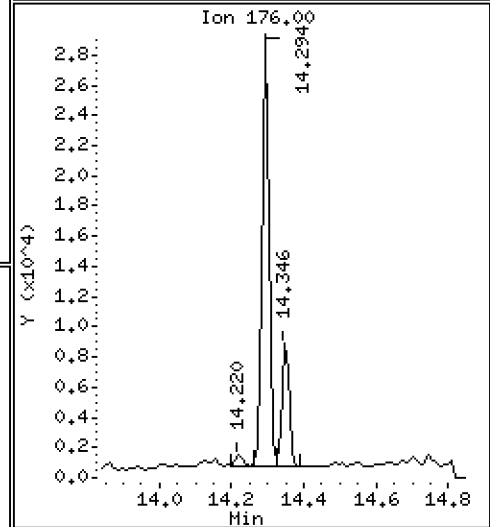
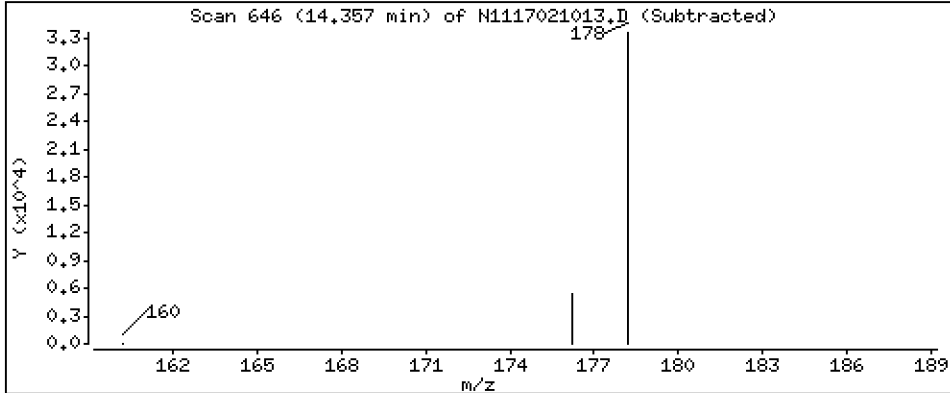
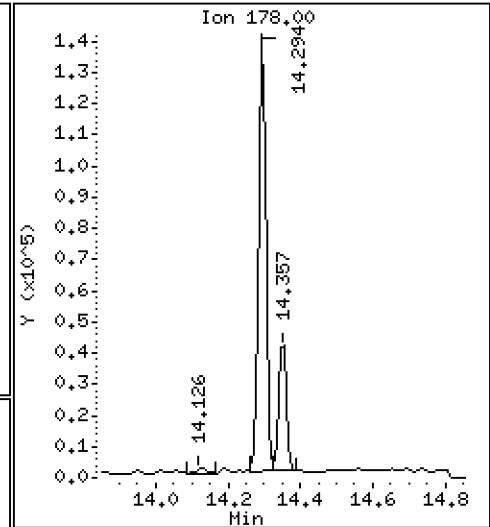
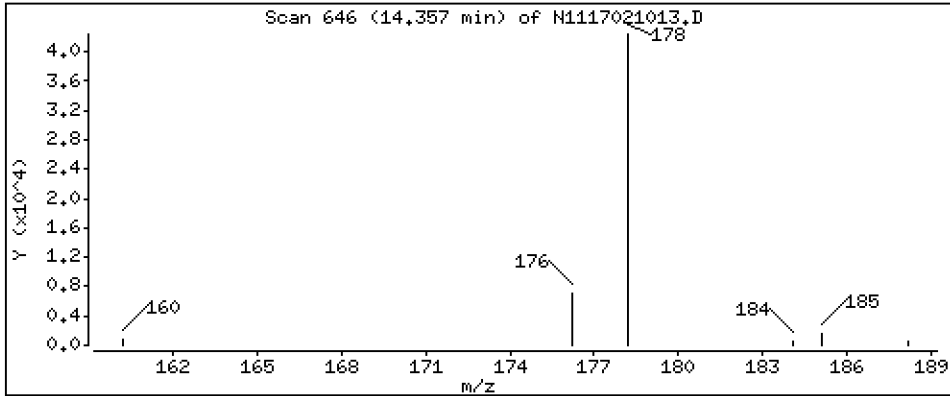
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

21 Anthracene

Concentration: 44,7 ng/mL



Date : 10-FEB-2017 18:14

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-06

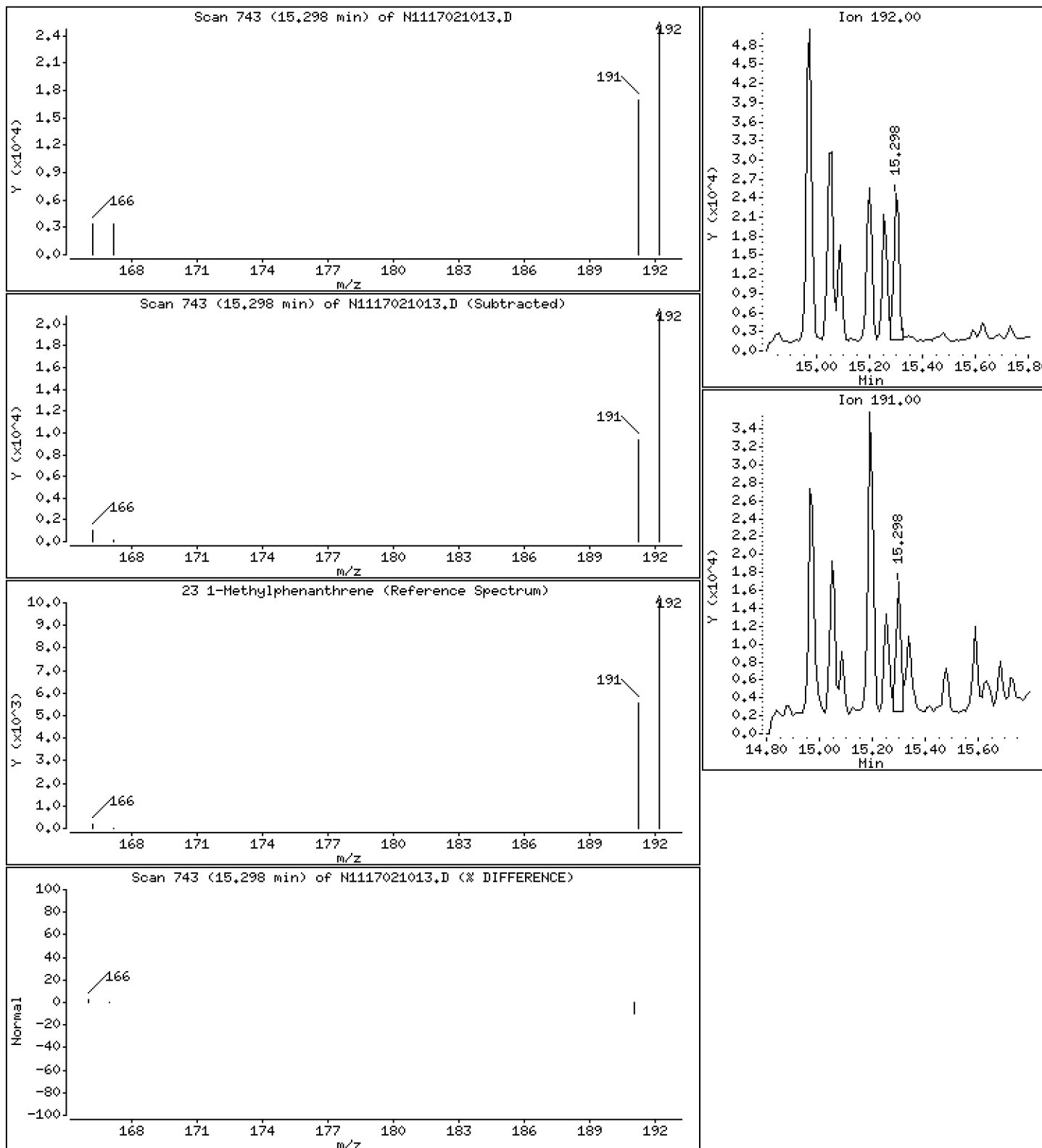
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

23 1-Methylphenanthrene

Concentration: 22,4 ng/mL



Date : 10-FEB-2017 18:14

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-06

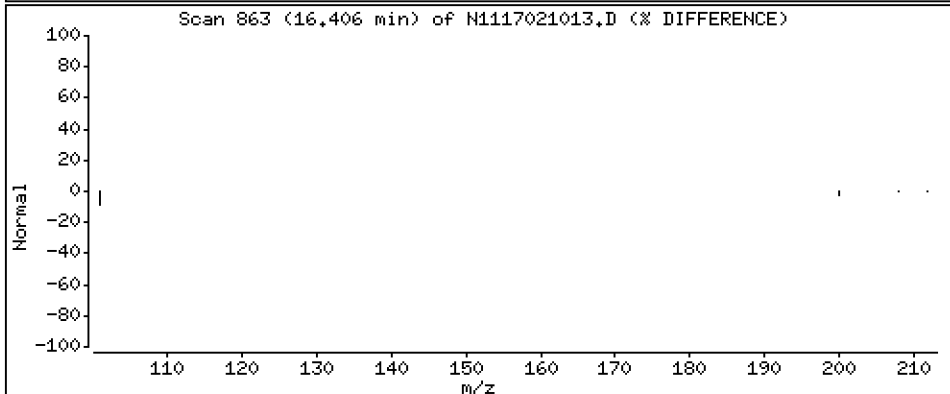
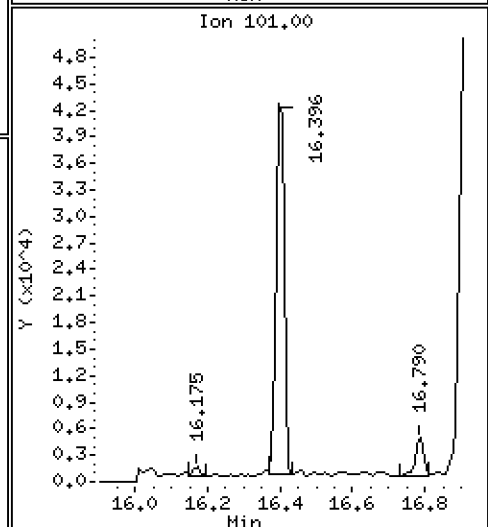
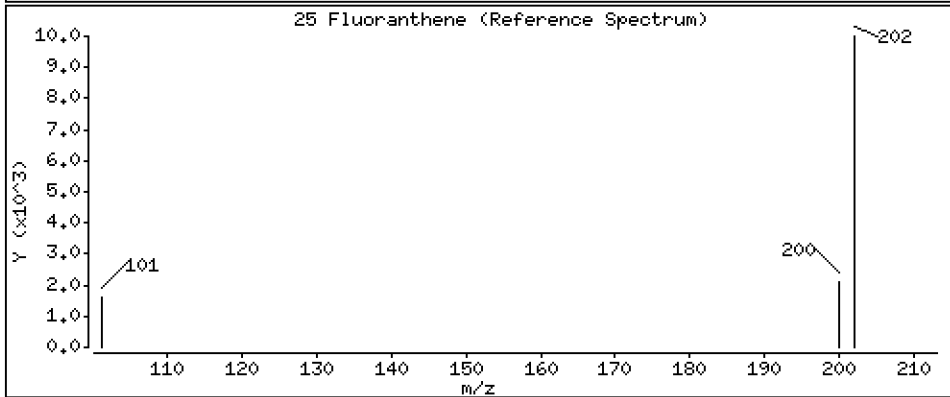
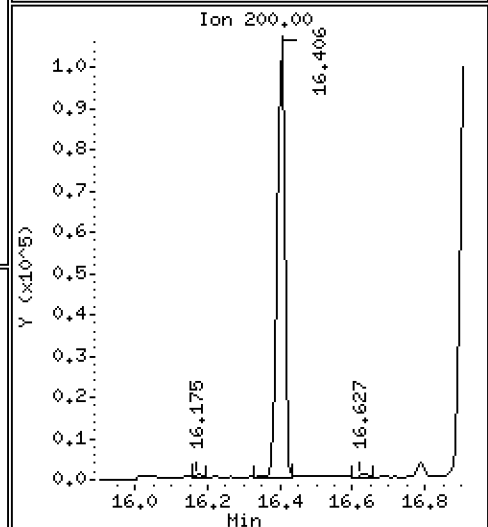
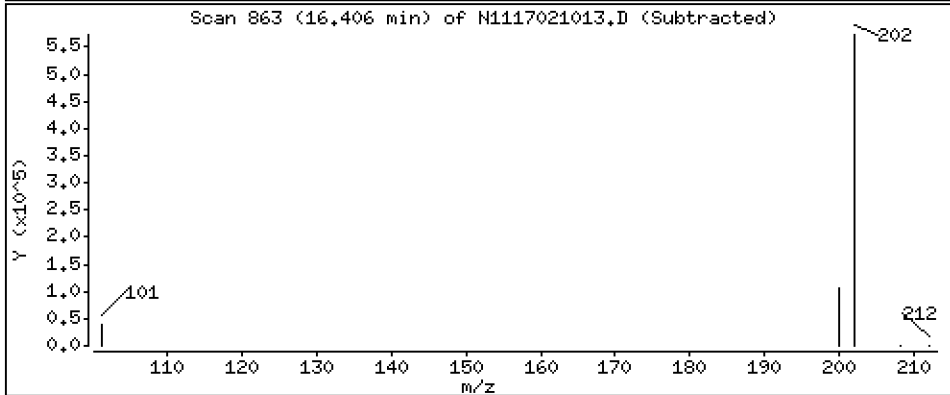
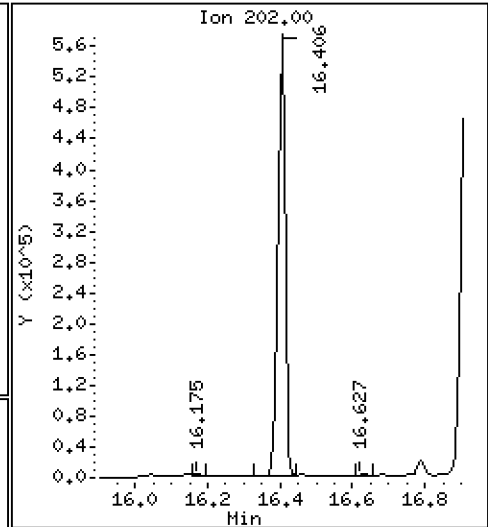
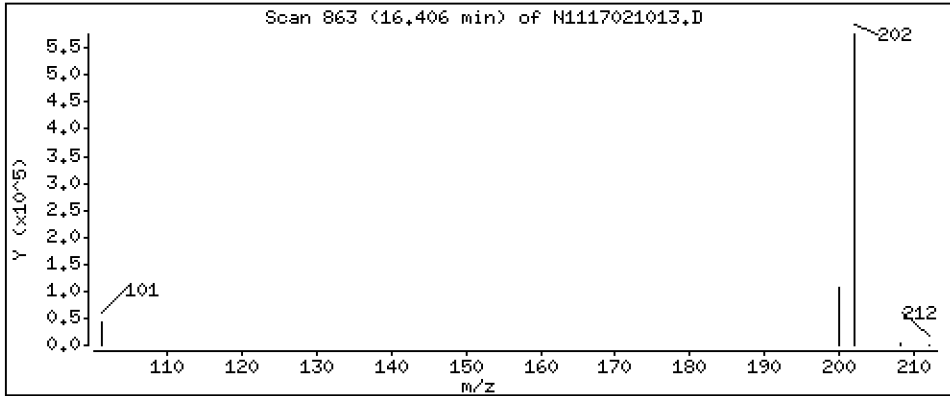
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

25 Fluoranthene

Concentration: 498 ng/mL



Date : 10-FEB-2017 18:14

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-06

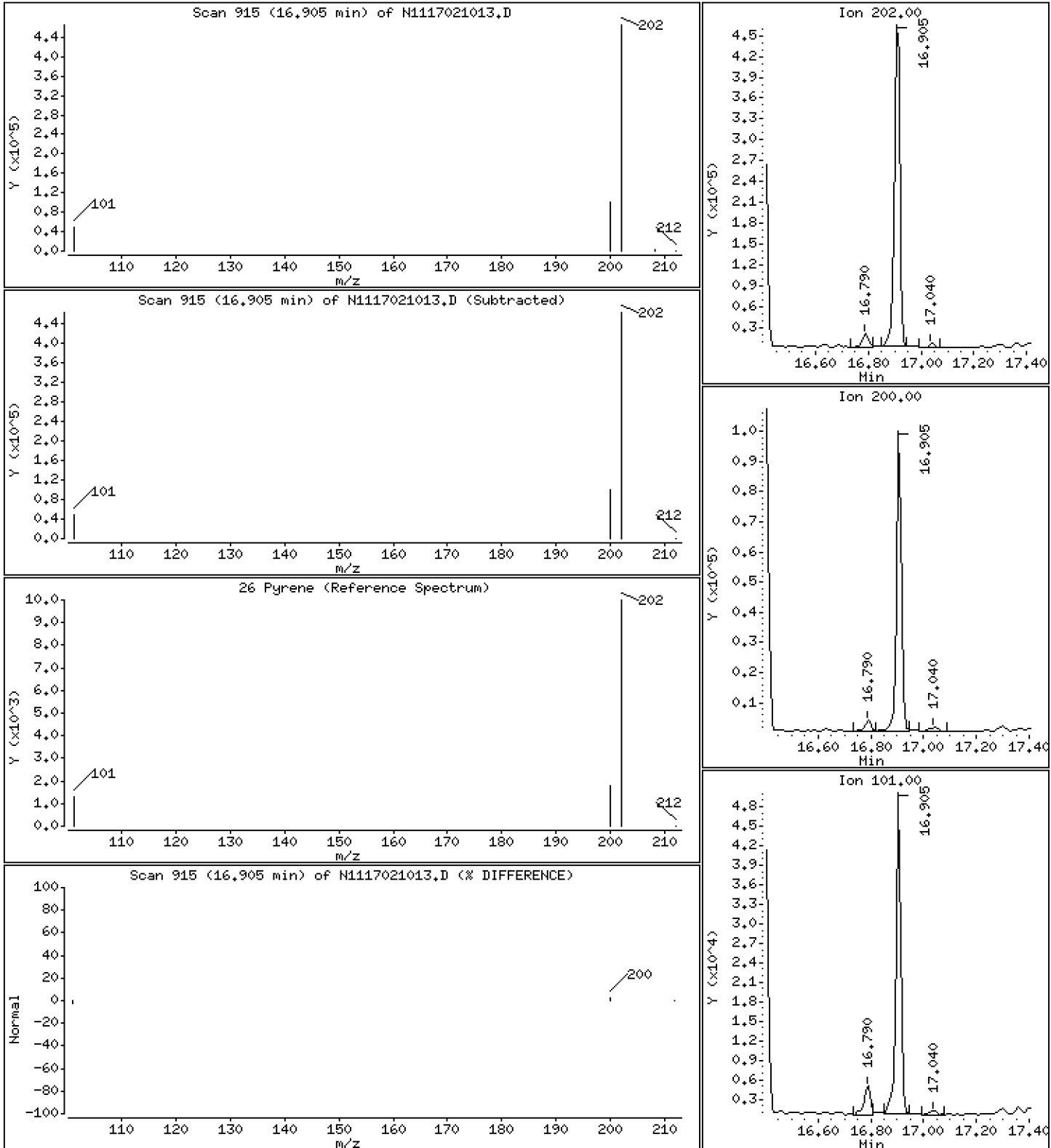
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

26 Pyrene

Concentration: 511 ng/mL



Date : 10-FEB-2017 18:14

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-06

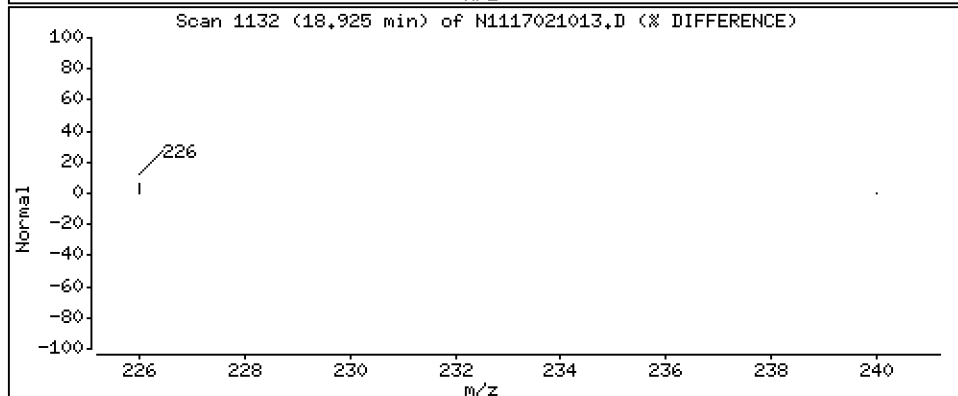
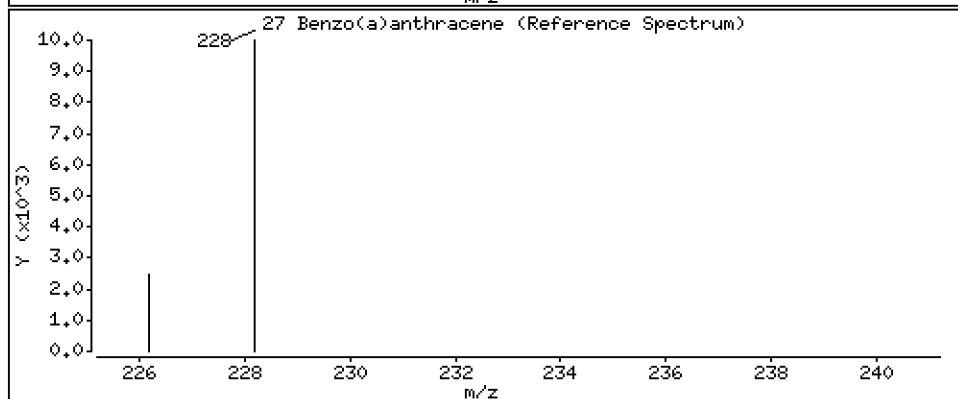
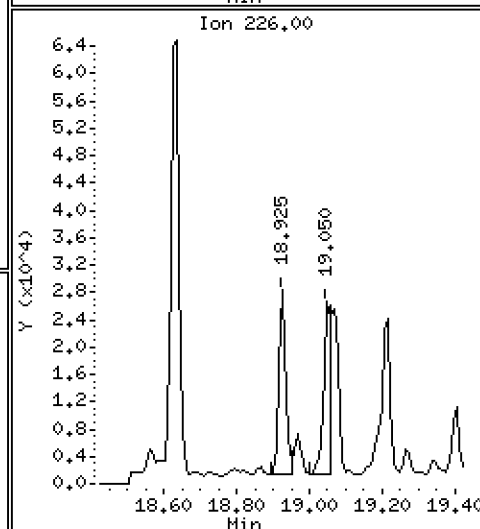
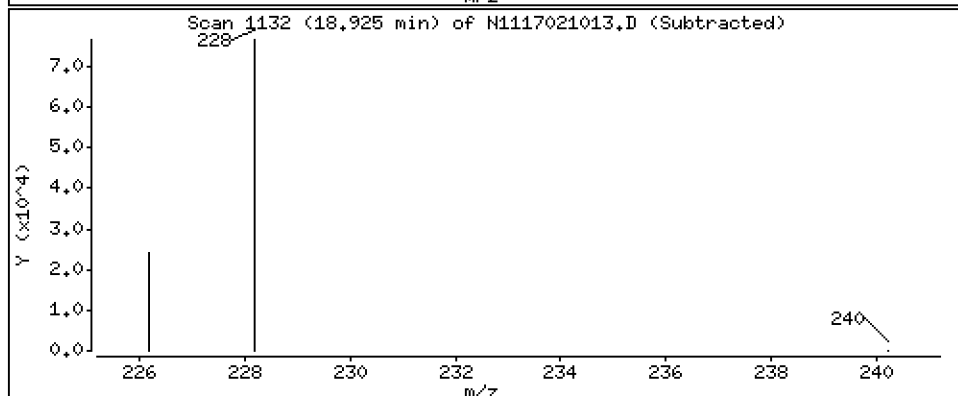
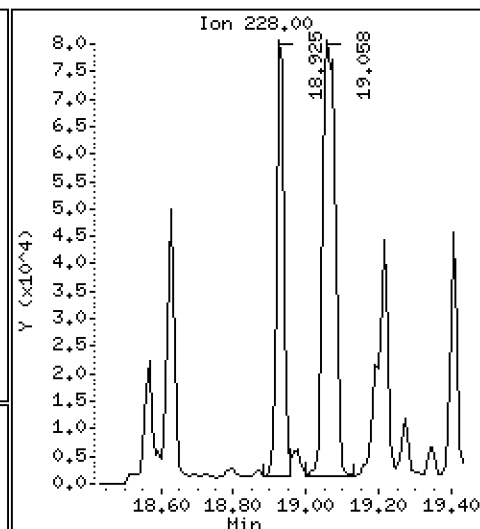
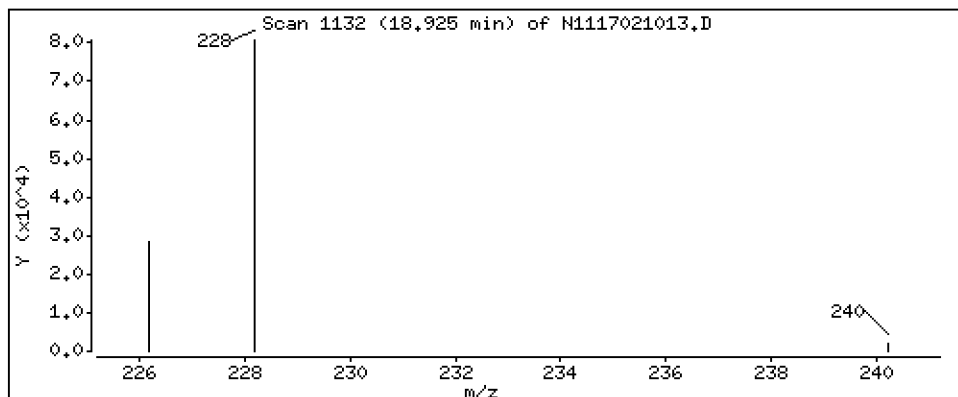
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

27 Benzo(a)anthracene

Concentration: 91,4 ng/mL



Date : 10-FEB-2017 18:14

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-06

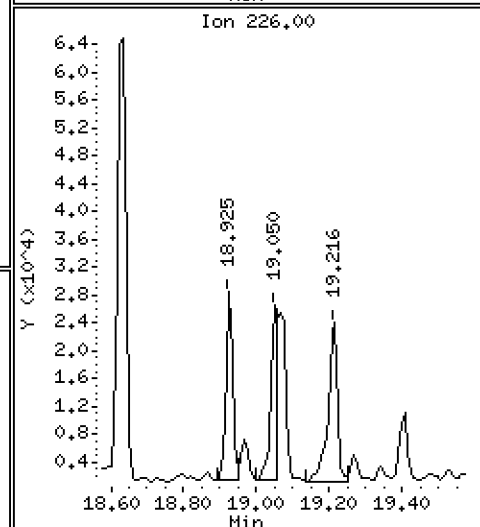
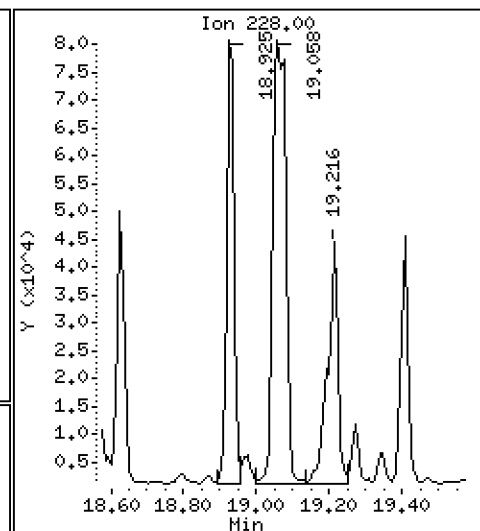
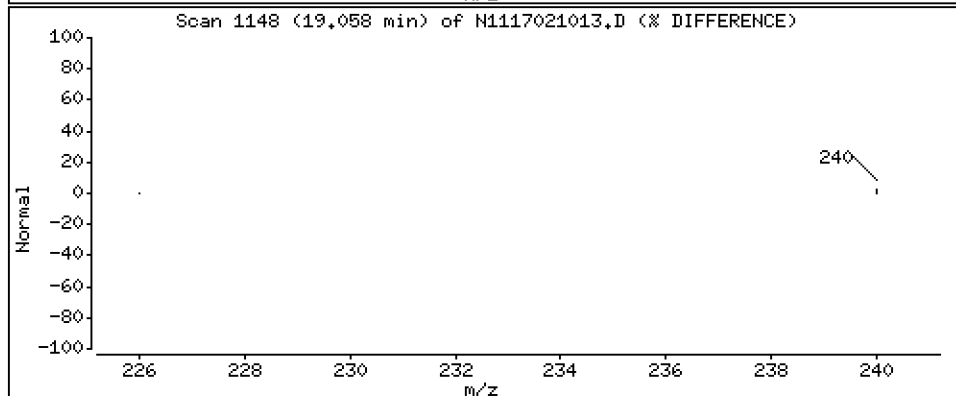
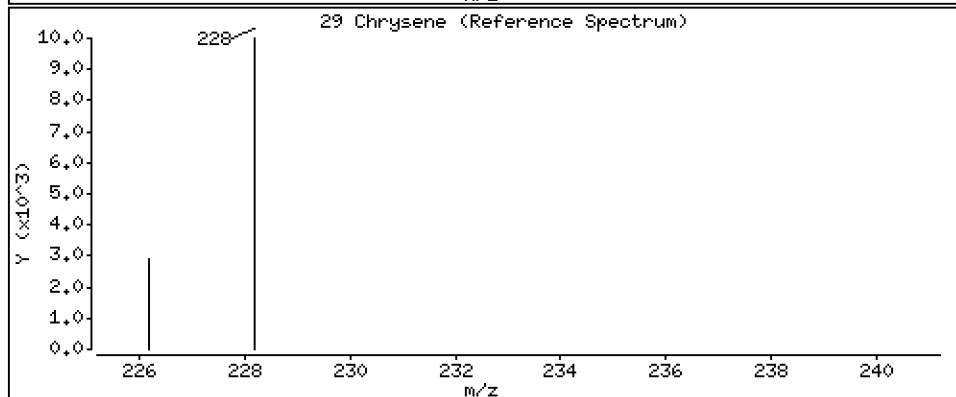
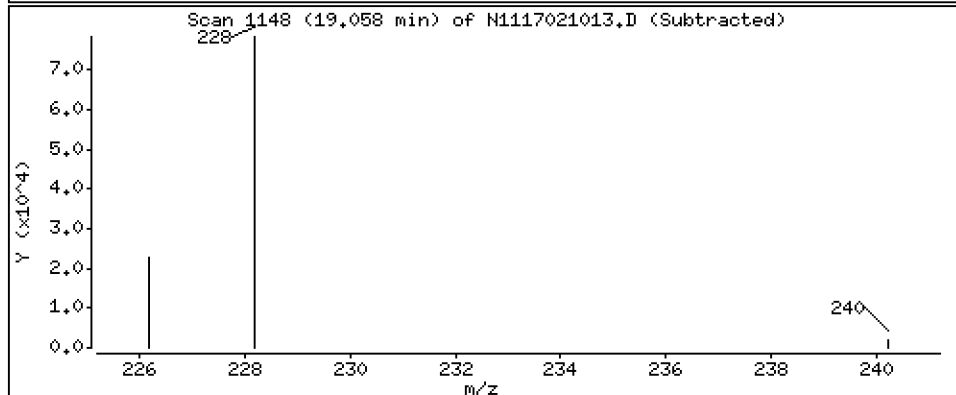
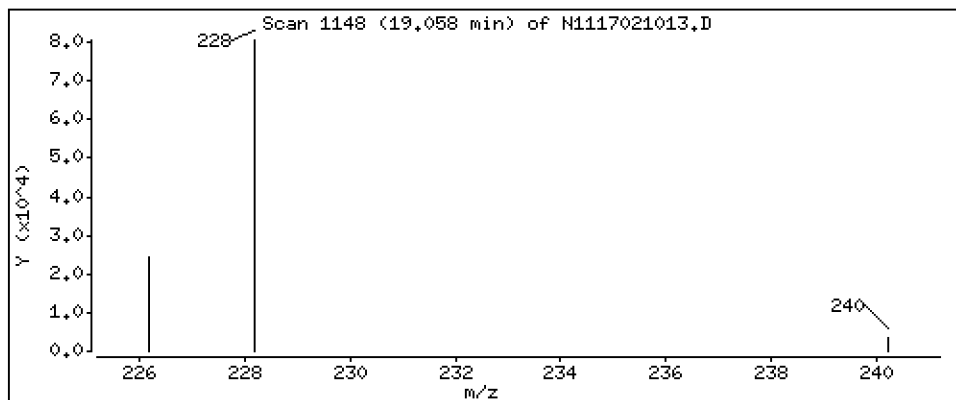
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

29 Chrysene

Concentration: 154 ng/mL



Date : 10-FEB-2017 18:14

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-06

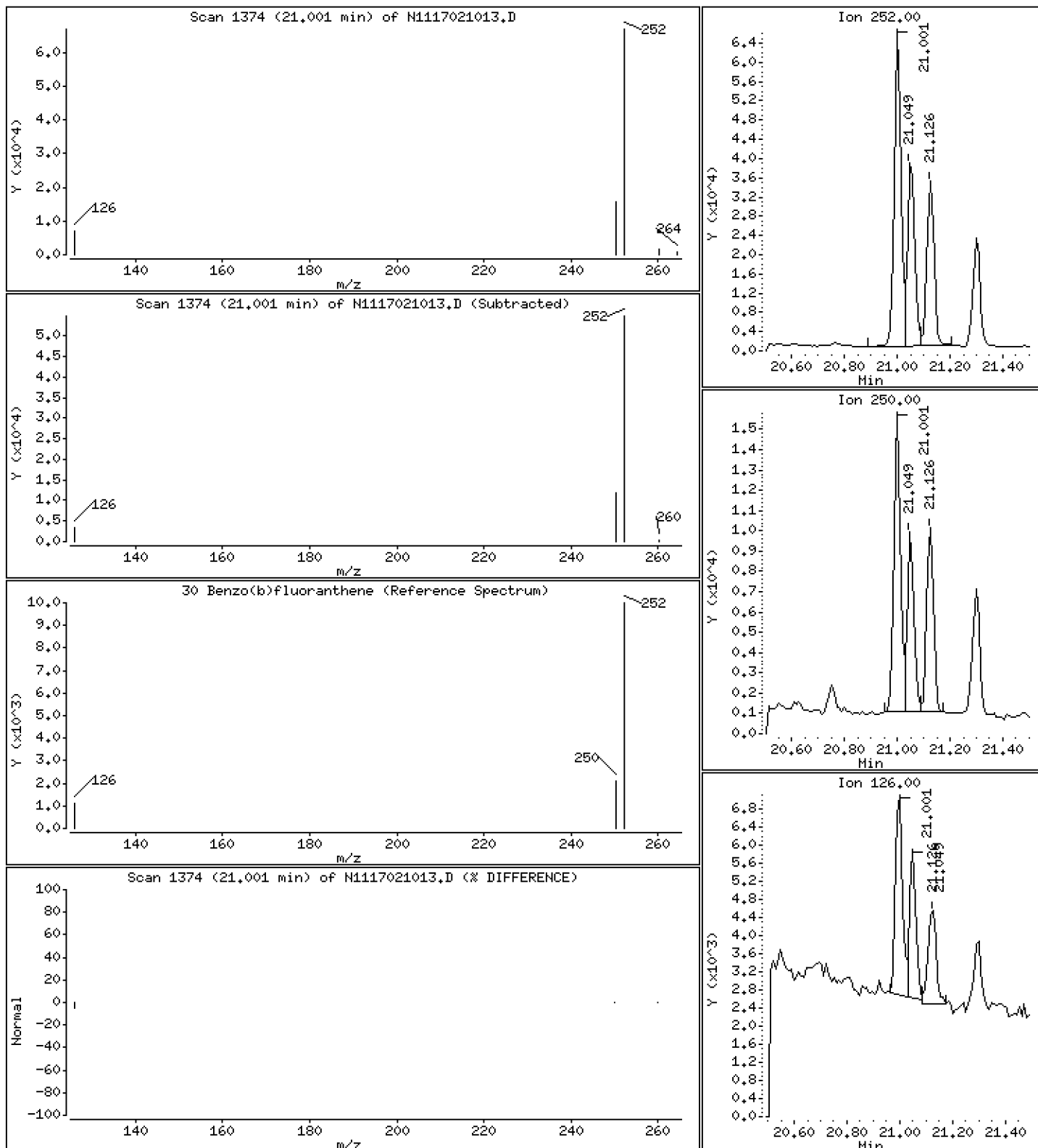
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

30 Benzo(b)fluoranthene

Concentration: 104 ng/mL



Date : 10-FEB-2017 18:14

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-06

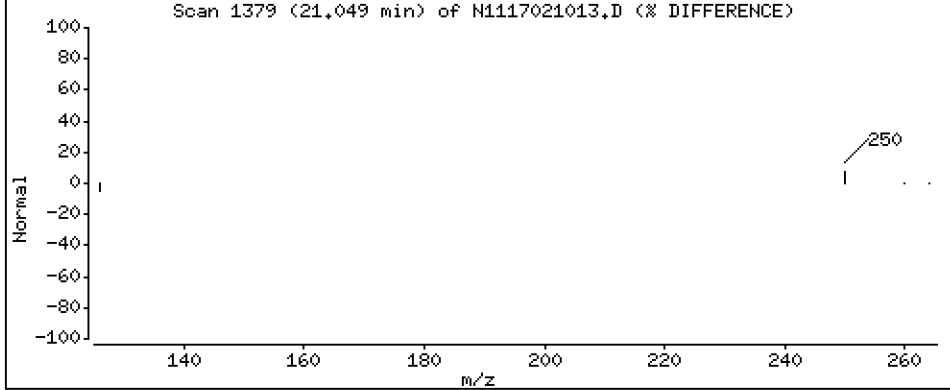
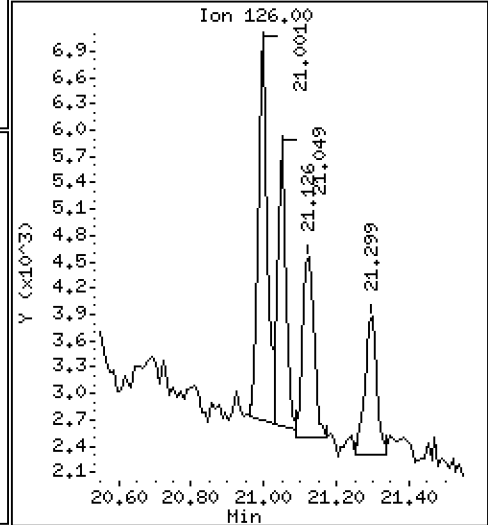
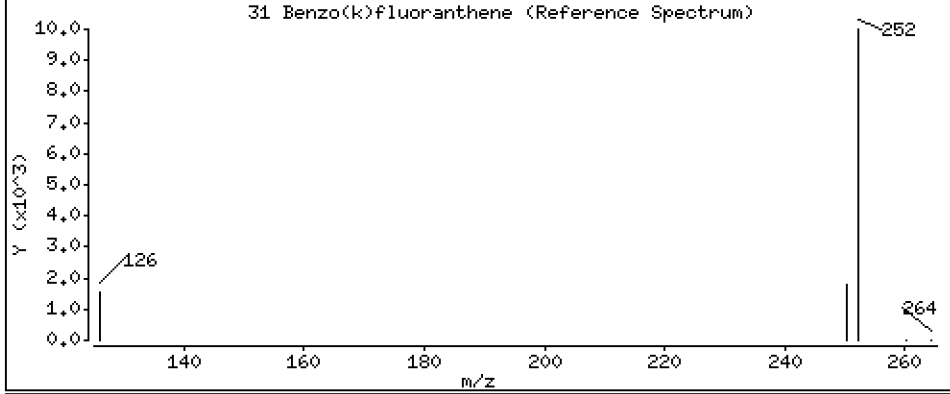
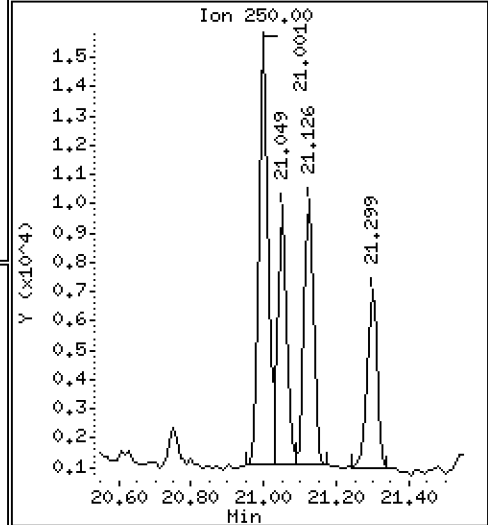
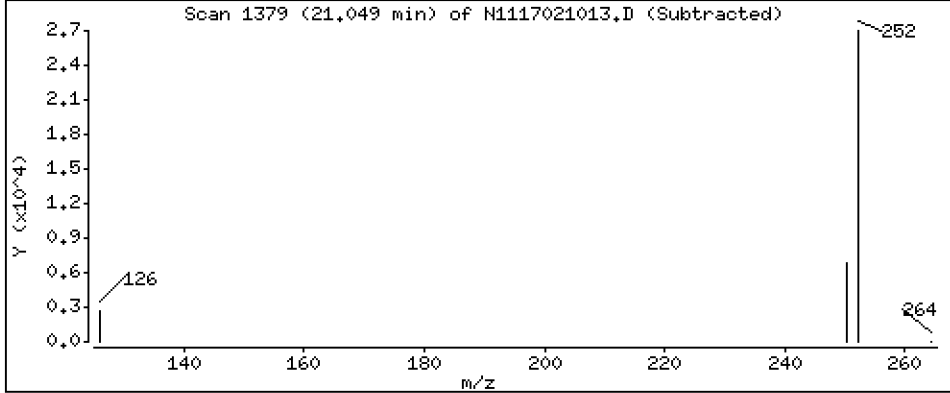
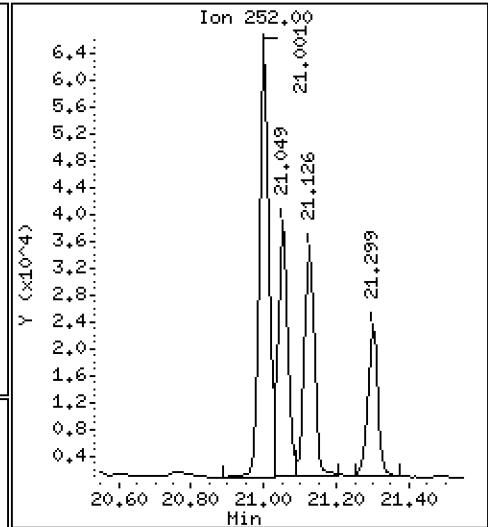
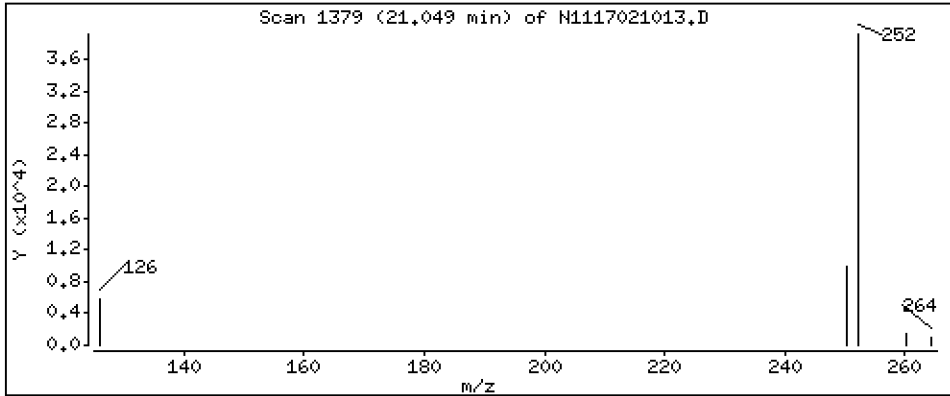
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

31 Benzo(k)fluoranthene

Concentration: 58,2 ng/mL



Date : 10-FEB-2017 18:14

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-06

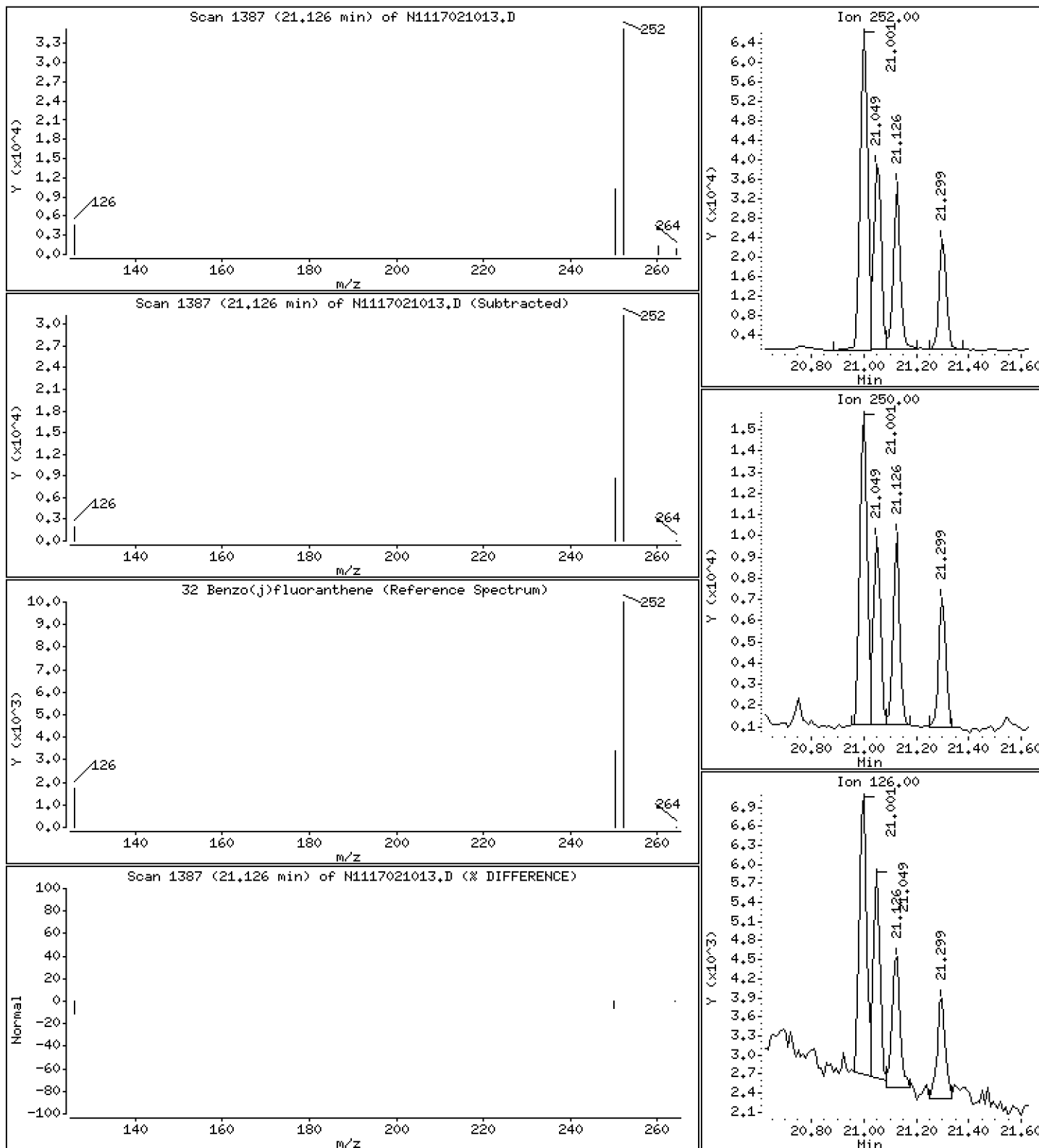
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

32 Benzo(j)fluoranthene

Concentration: 55,1 ng/mL



Date : 10-FEB-2017 18:14

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-06

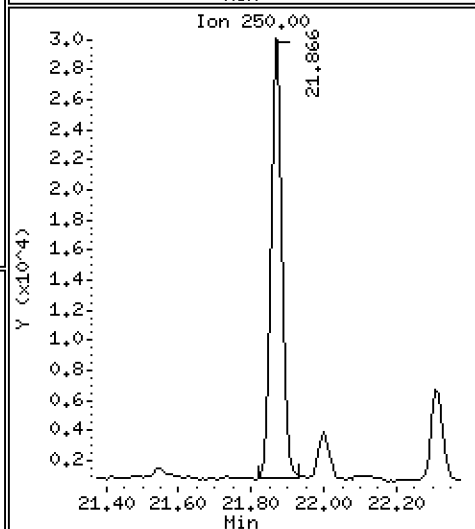
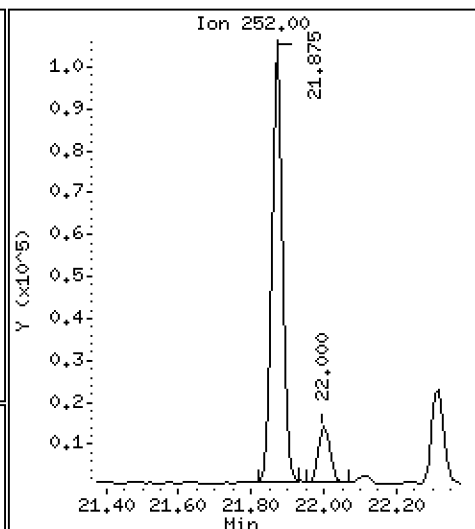
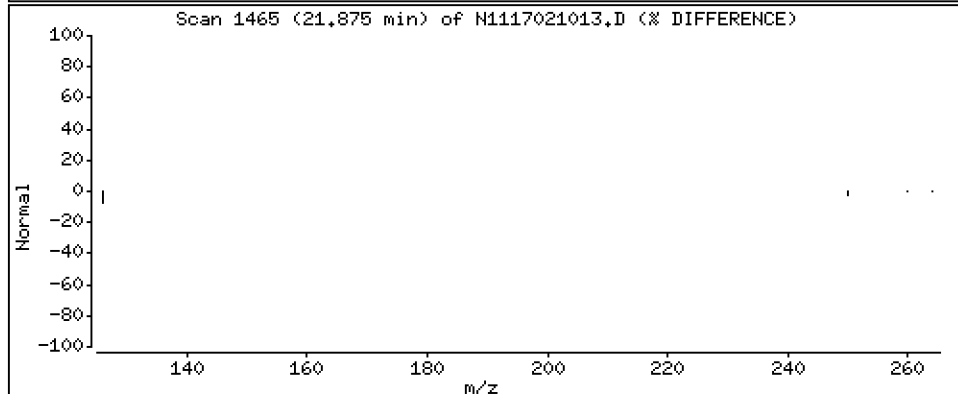
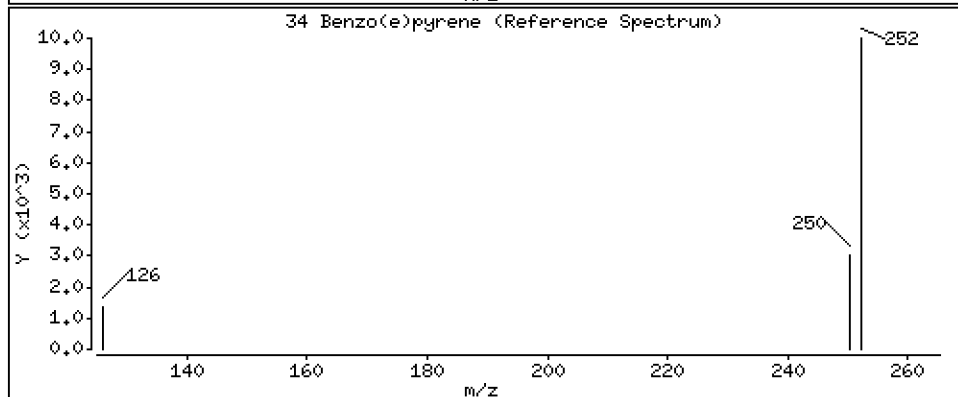
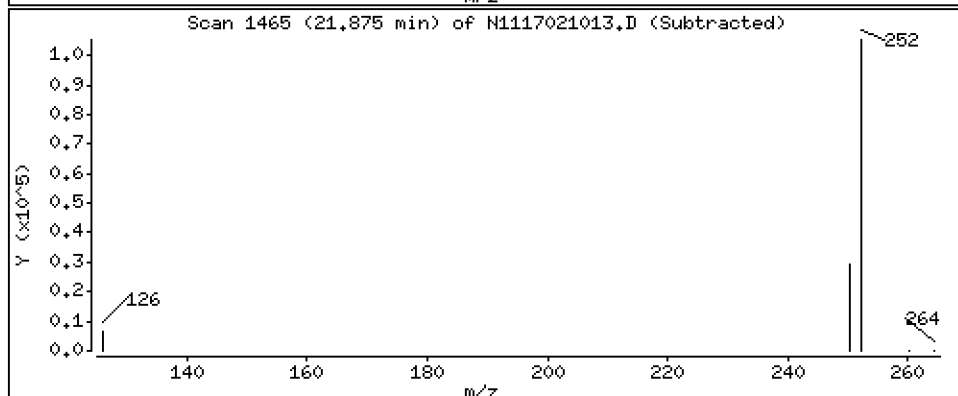
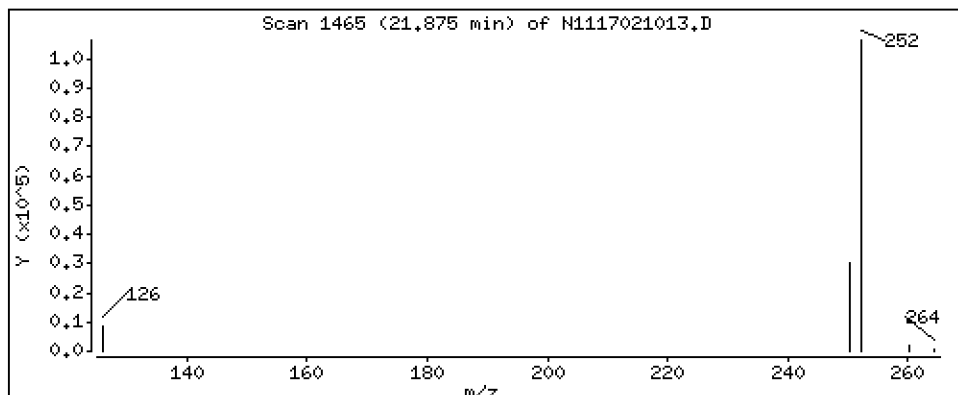
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

34 Benzo(e)pyrene

Concentration: 181 ng/mL



Date : 10-FEB-2017 18:14

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-06

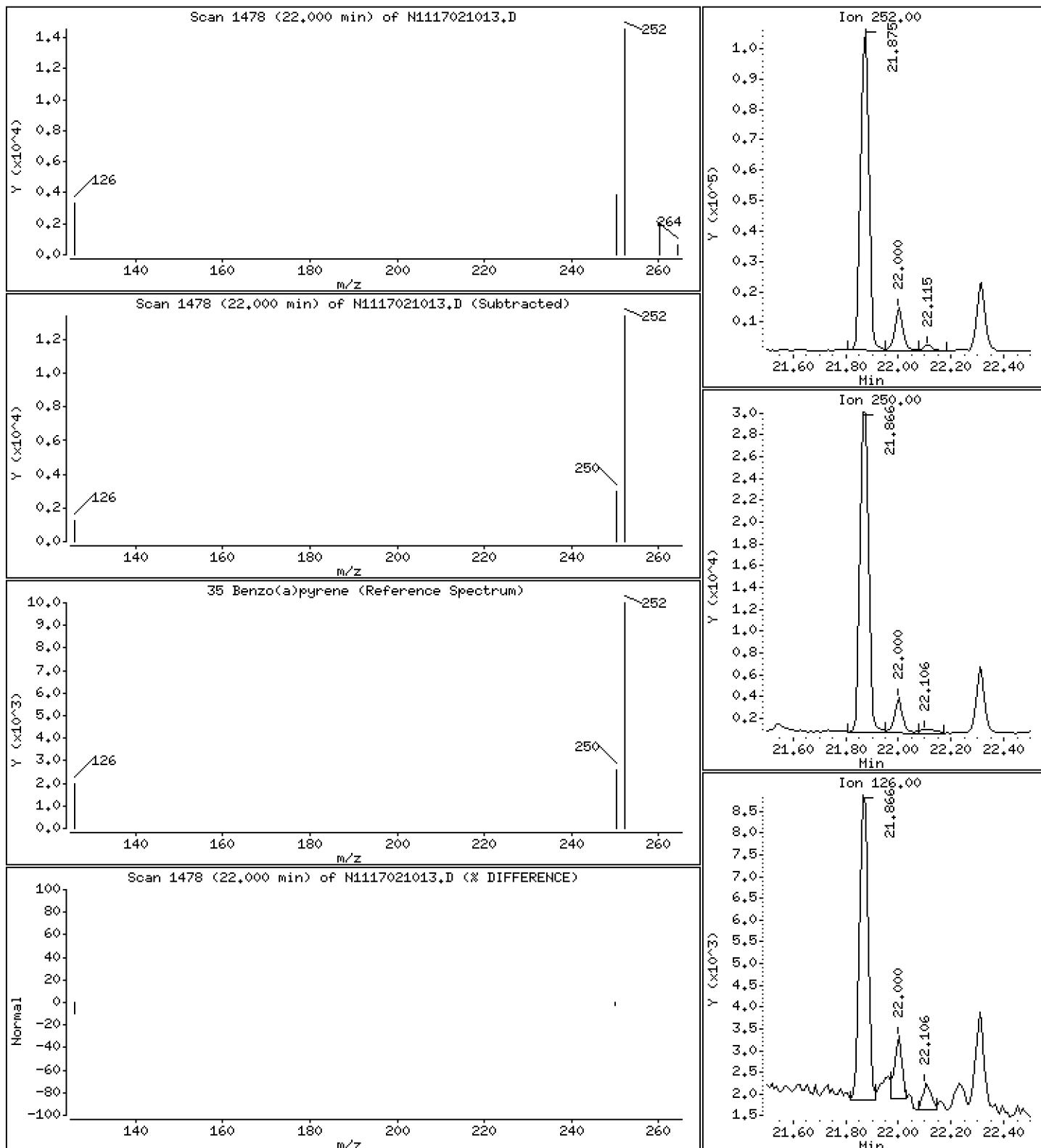
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

35 Benzo(a)pyrene

Concentration: 26,8 ng/mL



Date : 10-FEB-2017 18:14

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-06

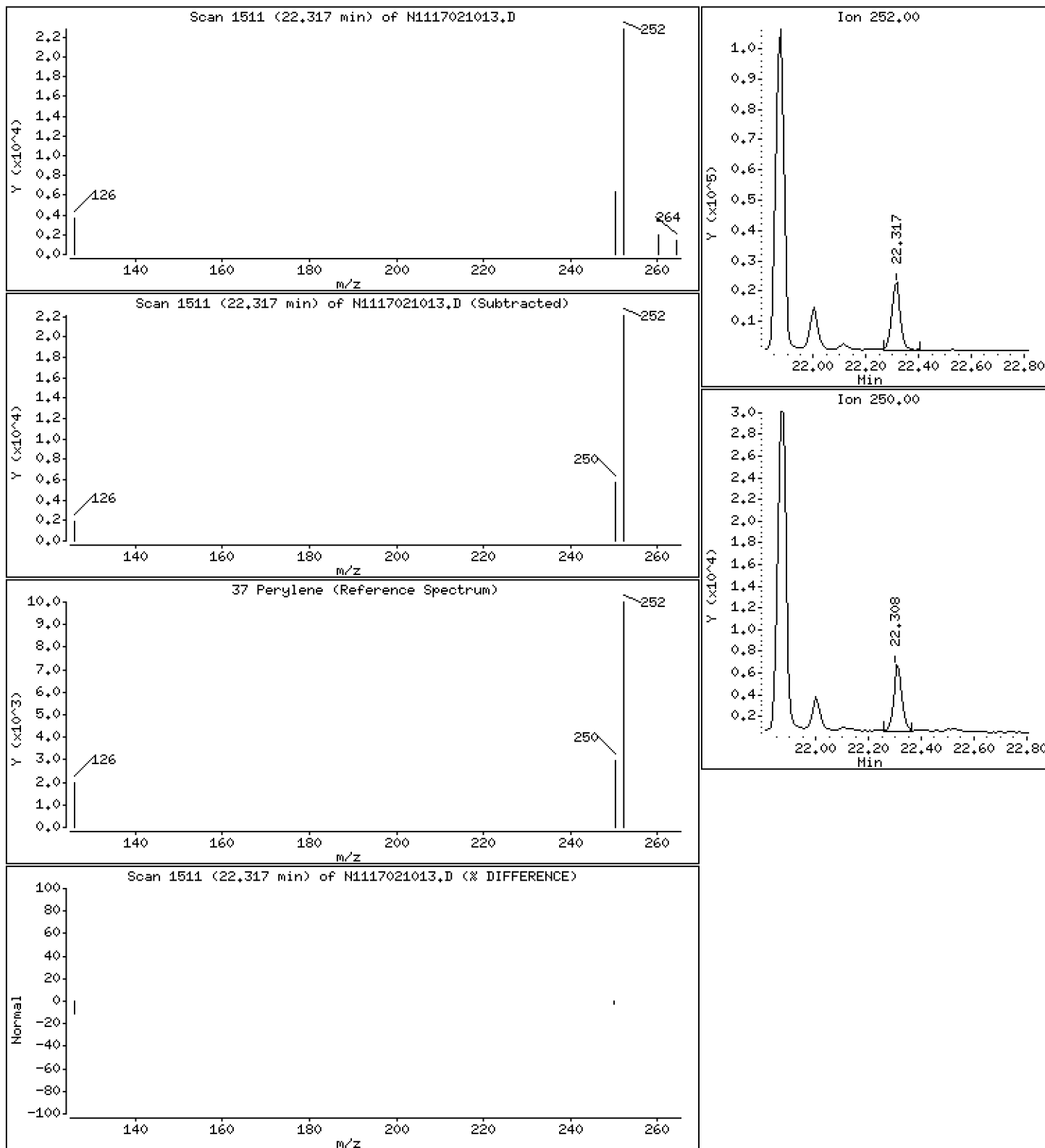
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

37 Perylene

Concentration: 42,4 ng/mL



Date : 10-FEB-2017 18:14

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-06

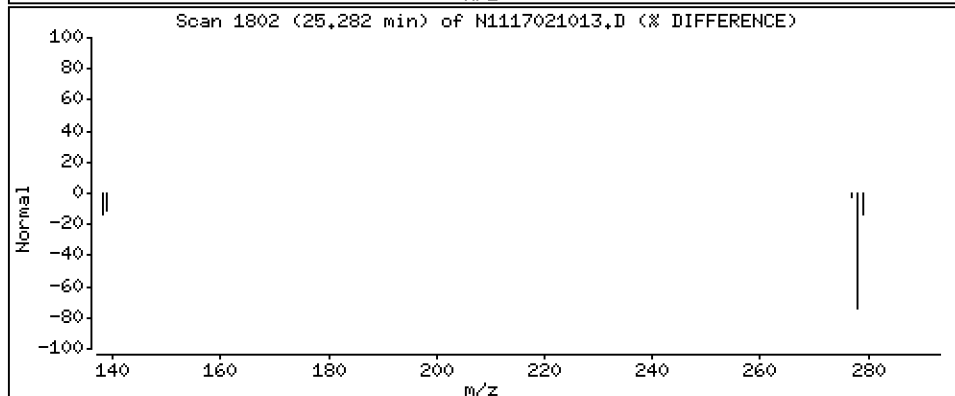
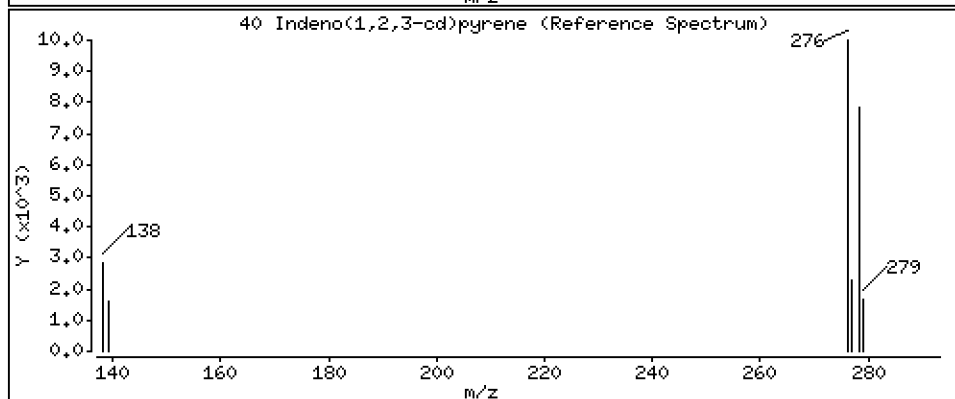
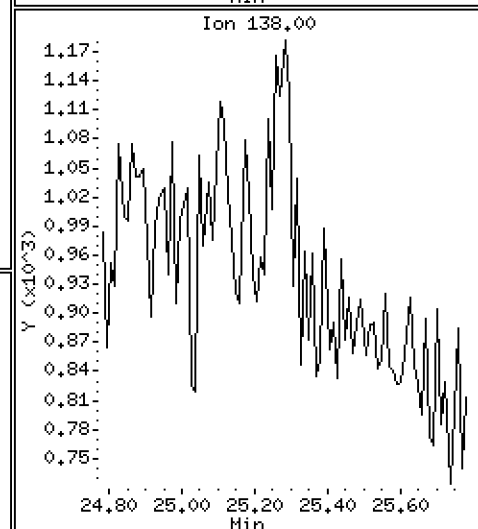
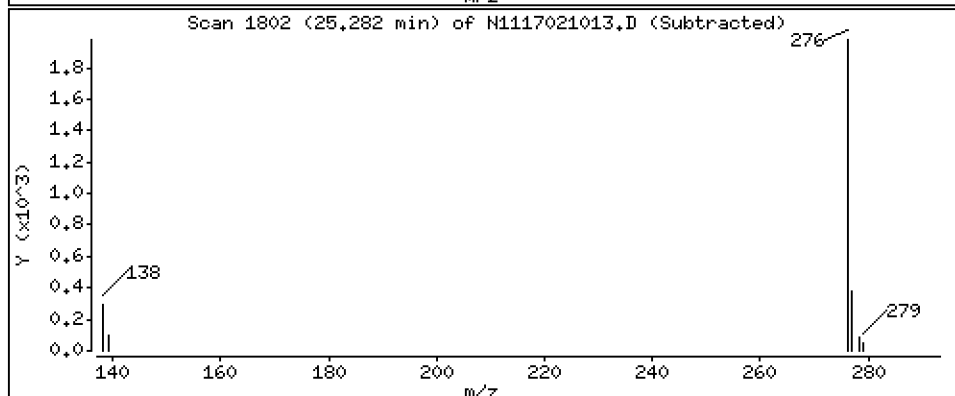
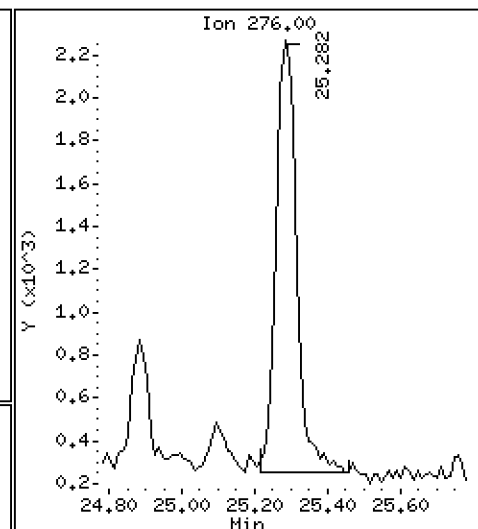
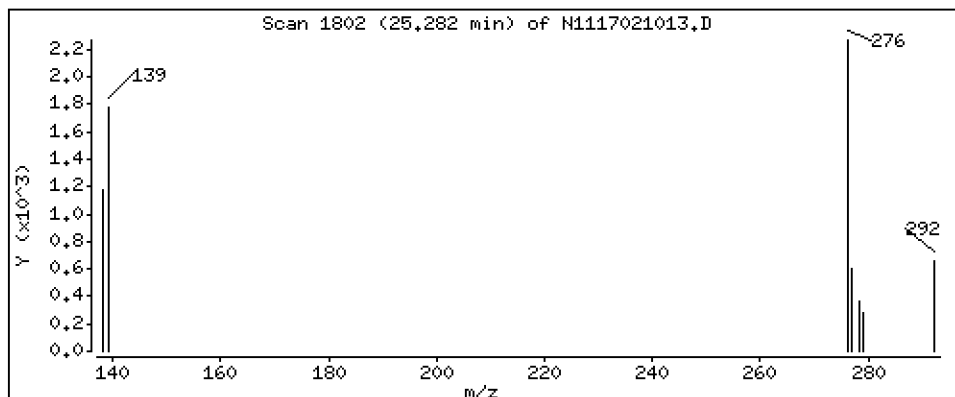
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

40 Indeno(1,2,3-cd)pyrene

Concentration: 6,26 ng/mL



Date : 10-FEB-2017 18:14

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-06

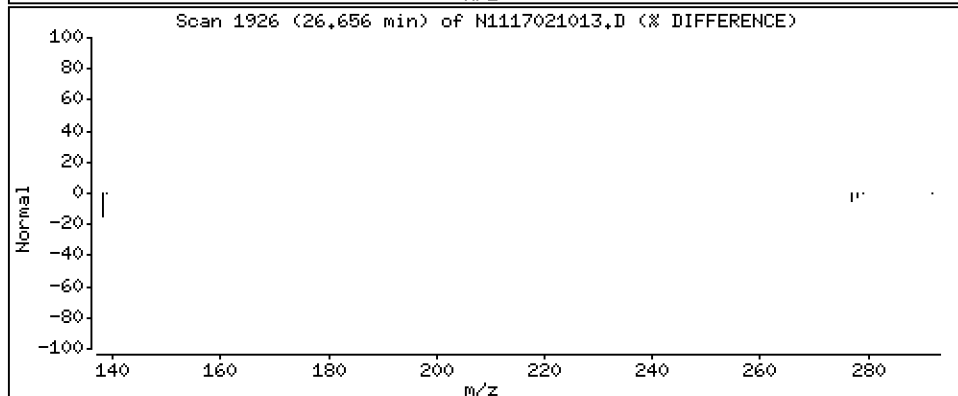
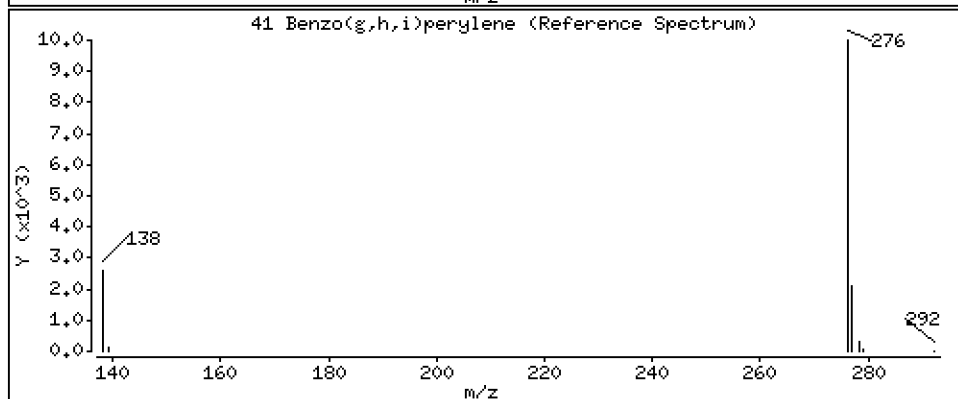
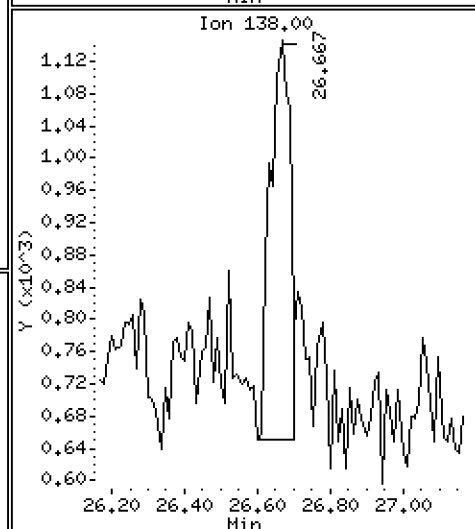
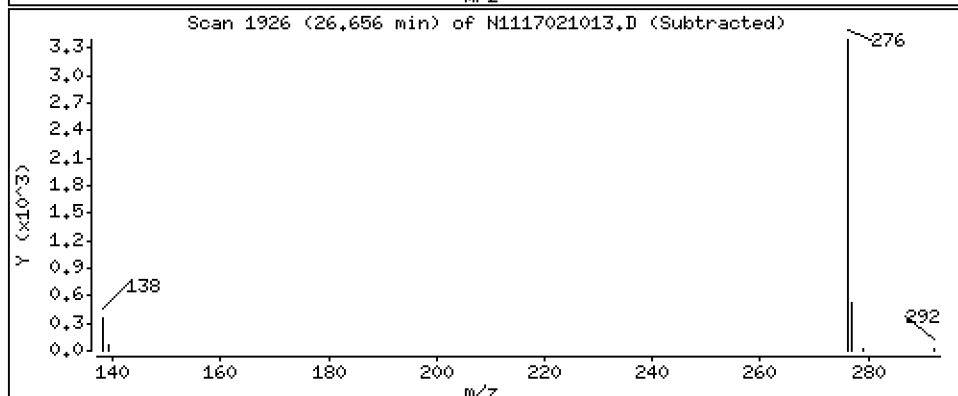
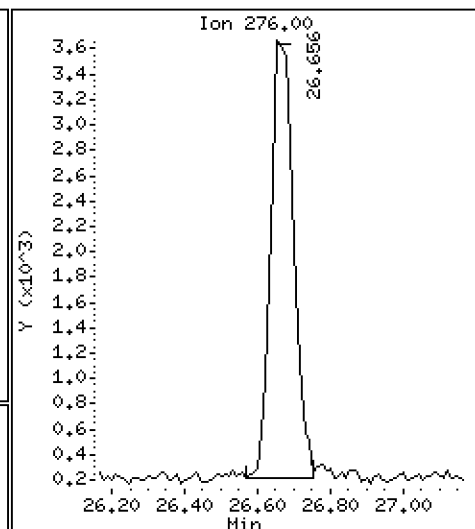
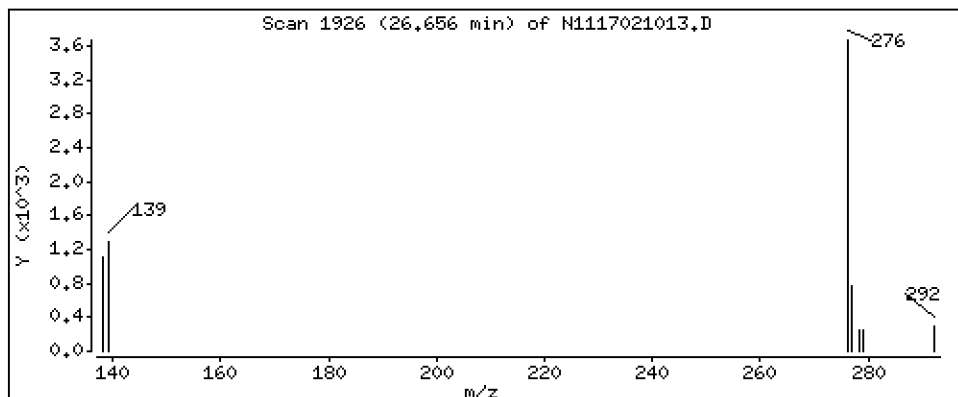
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

41 Benzo(g,h,i)perylene

Concentration: 13,3 ng/mL



ARI Labs, Inc.

LOW LEVEL PNAs BY SW8270D-SIM

Data file : \\target\share\chem3\nt11.i\20170210.b\N1117021013.D
 Lab Smp Id: 17A0053-06
 Inj Date : 10-FEB-2017 18:14 MS Autotune Date: 15-JAN-2015 15:59
 Operator : VTS Inst ID: nt11.i
 Smp Info : 17A0053-06
 Misc Info :
 Comment :
 Method : \\target\share\chem3\nt11.i\20170210.b\LOWSIM.m
 Meth Date : 11-Feb-2017 08:35 nt11.i Quant Type: ISTD
 Cal Date : 31-DEC-2016 09:30 Cal File: N1116123104.D
 Als bottle: 1
 Dil Factor: 1.00000
 Integrator: HP RTE Compound Sublist: allpna.sub
 Target Version: 4.14
 Processing Host: VANS

Compounds	QUANT	SIG	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS	
							ON-COLUMN (ng/mL)	FINAL (ng/mL)
* 1 Naphthalene-d8	136		8.517	8.526	(1.000)	220641	200.000	
2 Naphthalene	128		8.553	8.554	(1.004)	9821	8.91919	8.92
3 Benzo(b)thiophene	134		Compound Not Detected.					
\$ 4 2-Methylnaphthalene-d10	152		9.498	9.508	(1.115)	148185	156.381	156
5 2-Methylnaphthalene	142		9.561	9.561	(1.122)	7594	6.99757	7.00
6 1-Methylnaphthalene	142		9.823	9.823	(1.153)	4301	3.94047	3.94
7 2-Chloronaphthalene	162		Compound Not Detected.					
8 Biphenyl	154		Compound Not Detected.					
9 2,6-Dimethylnaphthalene	156		Compound Not Detected.					
10 Acenaphthylene	152		11.410	11.410	(0.987)	10021	7.44722	7.45
* 11 Acenaphthene-d10	164		11.555	11.564	(1.000)	149754	200.000	
12 Acenaphthene	153		11.618	11.627	(1.005)	6233	7.03539	7.04 (M)
13 Dibenzofuran	168		11.822	11.822	(1.023)	12810	9.72659	9.73
14 2,3,5-Trimethylnaphthalene	170		11.911	11.923	(1.031)	2713	3.21923	3.22 (M)
\$ 15 Fluorene-d10	174		Compound Not Detected.					
16 Fluorene	166		12.454	12.454	(1.078)	17382	16.5786	16.6
17 Dibenzothiophene	184		14.083	14.083	(0.988)	5850	5.24294	5.24 (MH)
* 18 Phenanthrene-d10	188		14.251	14.262	(1.000)	241636	200.000	
19 Phenanthrene	178		14.293	14.293	(1.003)	196447	142.199	142
\$ 20 Anthracene-d10	188		Compound Not Detected.					
21 Anthracene	178		14.356	14.356	(1.007)	61545	44.6793	44.7
22 Carbazole	167		Compound Not Detected.					
23 1-Methylphenanthrene	192		15.297	15.307	(1.073)	31769	22.4240	22.4 (M)
\$ 24 Fluoranthene-d10	212		16.367	16.367	(1.148)	232987	181.540	182
25 Fluoranthene	202		16.405	16.405	(1.151)	780968	498.365	498
26 Pyrene	202		16.905	16.915	(0.889)	693104	511.268	511
27 Benzo(a)anthracene	228		18.925	18.933	(0.995)	114701	91.4038	91.4
* 28 Chrysene-d12	240		19.024	19.024	(1.000)	208692	200.000	
29 Chrysene	228		19.057	19.074	(1.002)	198184	153.910	154
30 Benzo(b)fluoranthene	252		21.000	21.001	(0.944)	126659	103.657	104
31 Benzo(k)fluoranthene	252		21.048	21.049	(0.946)	76542	58.1580	58.2
32 Benzo(j)fluoranthene	252		21.125	21.125	(0.950)	64642	55.1009	55.1
\$ 33 Benzo(e)pyrene-d12	264		Compound Not Detected.					

Compounds	QUANT	SIG	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS		
							ON-COLUMN (ng/mL)	FINAL (ng/mL)	
34 Benzo(e)pyrene	252		21.875	21.875	(0.984)	220706	181.076	181	
35 Benzo(a)pyrene	252		22.000	22.000	(0.989)	30551	26.8197	26.8	
* 36 Perylene-d12	264		22.240	22.240	(1.000)	226680	200.000		
37 Perylene	252		22.317	22.317	(1.003)	50449	42.4173	42.4	
§ 38 Dibenzo(a,h)anthracene-d14	292		25.115	25.116	(1.129)	145322	200.749	201	
39 Dibenzo(a,h)anthracene	278		Compound Not Detected.						
40 Indeno(1,2,3-cd)pyrene	276		25.282	25.282	(1.137)	7787	6.26138	6.26	
41 Benzo(g,h,i)perylene	276		26.655	26.666	(1.199)	14862	13.3106	13.3	

QC Flag Legend

- M - Compound response manually integrated.
- H - Operator selected an alternate compound hit.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
 AREA AND RT SUMMARY

Instrument ID: nt11.i Calibration Date: 10-FEB-2017
 Lab File ID: N1117021013.D Calibration Time: 13:29
 Lab Smp Id: 17A0053-06
 Analysis Type: SV Level:
 Quant Type: ISTD Sample Type:
 Operator: VTS
 Method File: \\target\share\chem3\nt11.i\20170210.b\LOWSIM.m
 Misc Info:

Test Mode:
 Use Initial Calibration Level 4.

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
1 Naphthalene-d8	219654	109827	439308	220641	0.45
11 Acenaphthene-d10	135248	67624	270496	149754	10.73
18 Phenanthrene-d10	257021	128511	514042	241636	-5.99
28 Chrysene-d12	259511	129756	519022	208692	-19.58
36 Perylene-d12	257535	128768	515070	226680	-11.98

COMPOUND	STANDARD	RT LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
1 Naphthalene-d8	8.53	8.03	9.03	8.52	-0.11
11 Acenaphthene-d10	11.56	11.06	12.06	11.56	-0.08
18 Phenanthrene-d10	14.26	13.76	14.76	14.25	-0.07
28 Chrysene-d12	19.02	18.52	19.52	19.02	-0.00
36 Perylene-d12	22.24	21.74	22.74	22.24	-0.00

AREA UPPER LIMIT = +100% of internal standard area.
 AREA LOWER LIMIT = - 50% of internal standard area.
 RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
 RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - N1117021013.D

Lab ID: 17A0053-06

nt11.i, 20170210.b\LOWSIM.m, 10-FEB-2017 18:14

RT CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

RRT CCV RRT DELTA COMPOUND

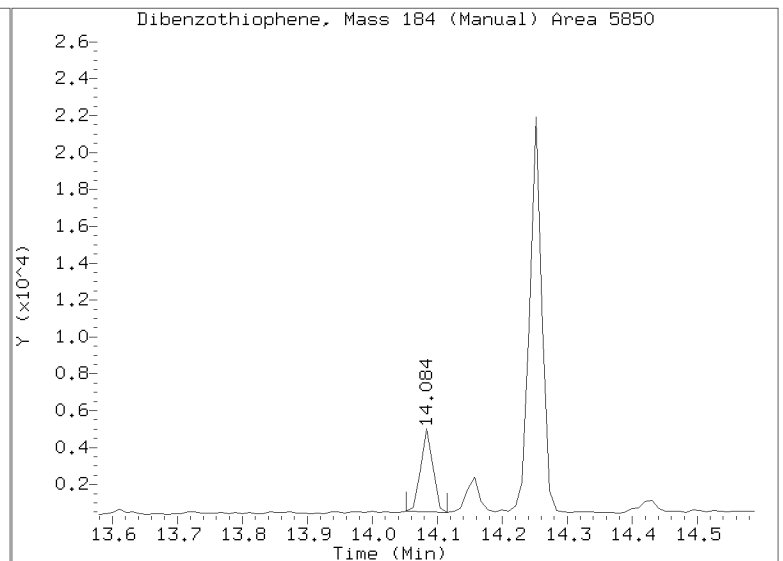
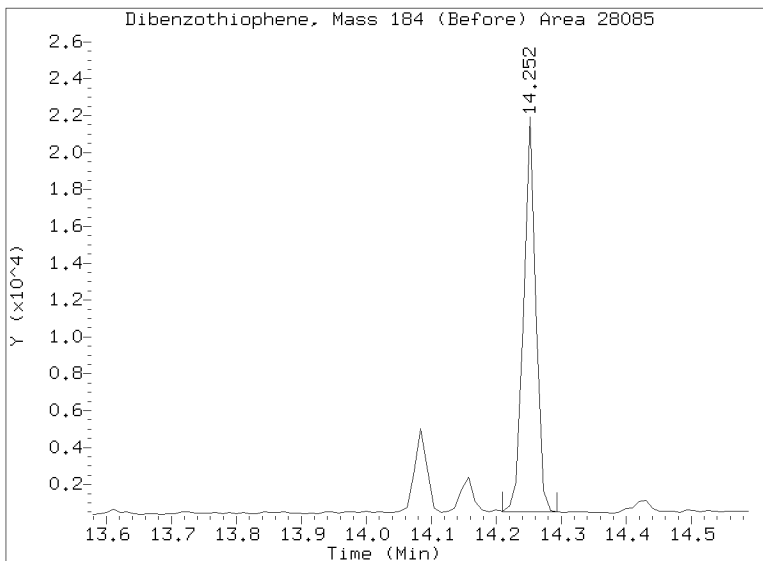
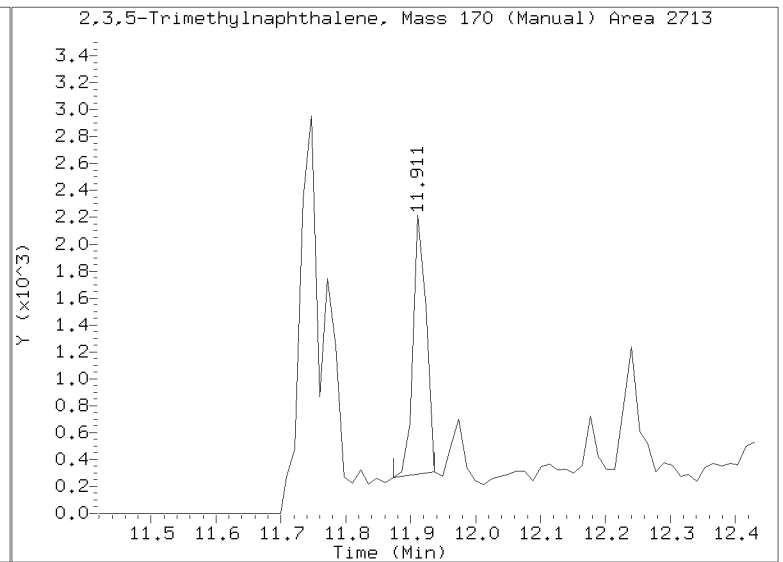
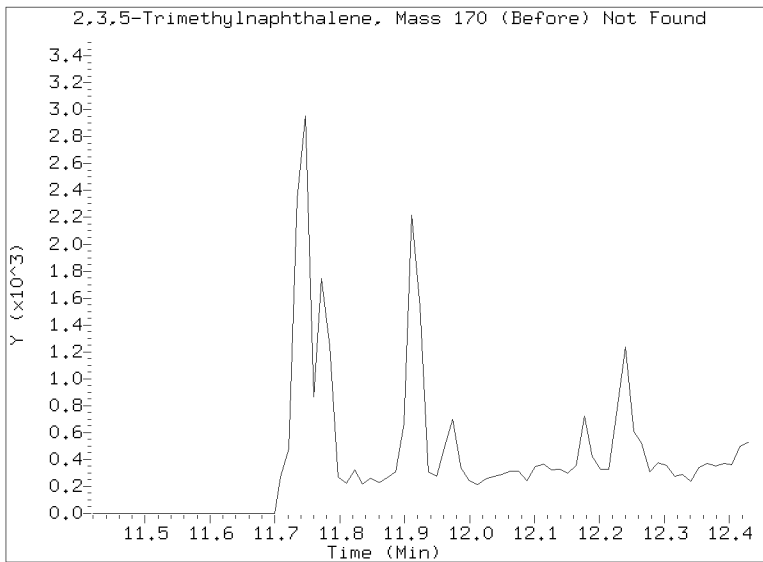
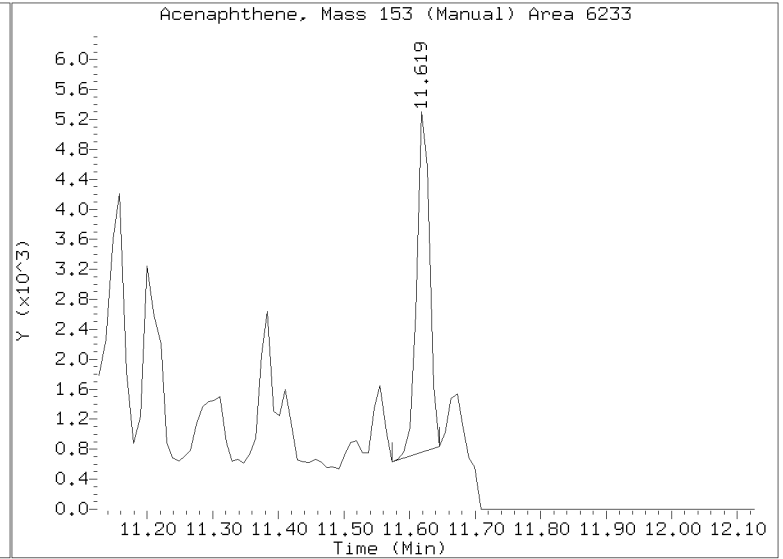
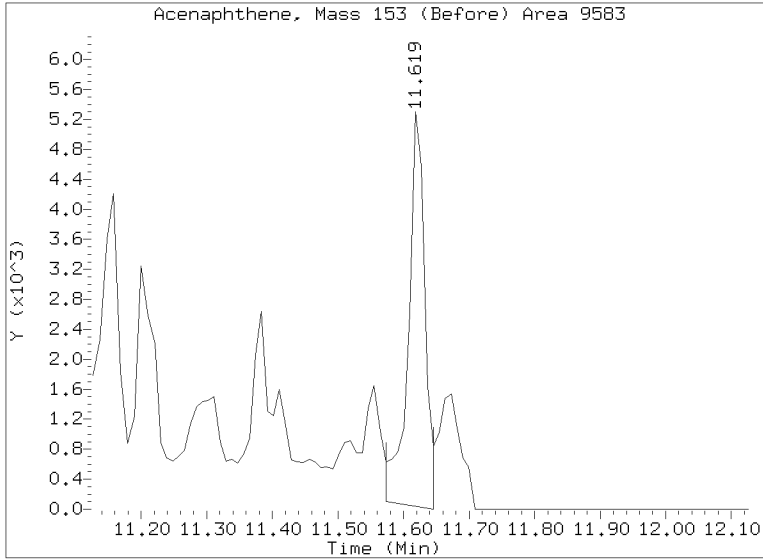
NONE

On Column LOD for nt11.i, 20170210.b\LOWSIM.m, allpna.sub = 3.0000

Exception: Naphthalene 7.0000
Exception: Phenanthrene 2.5000
Exception: Anthracene 2.0000
Exception: Pyrene 4.0000
Exception: Benzo(j)fluoranthene 2.5000
Exception: Benzo(a)pyrene 2.0000
Exception: Perylene 3.5000
Exception: Benzo(e)pyrene 2.0000
Exception: Benzo(b)thiophene 2.0000
Exception: 2-Chloronaphthalene 2.0000
Exception: 2,6-Dimethylnaphthalene 2.0000
Exception: 2,3,5-Trimethylnaphthalene 2.0000
Exception: 1-Methylphenanthrene 2.0000
Exception: Dibenzothiophene 2.0000
Exception: Carbazole 2.0000
Exception: Biphenyl 2.0000
Exception: 2-Methylnaphthalene-d10 (Surr) 0.1000
Exception: Dibenzo(a,h)anthracene-d14 (Surr) 0.1000
Exception: Fluoranthene-d10 (Surr) 0.1000
Exception: Anthracene-d10 (Surr) 0.1000
Exception: Benzo(e)pyrene-d12 (Surr) 0.1000
Exception: Fluorene-d10 (Surr) 0.1000

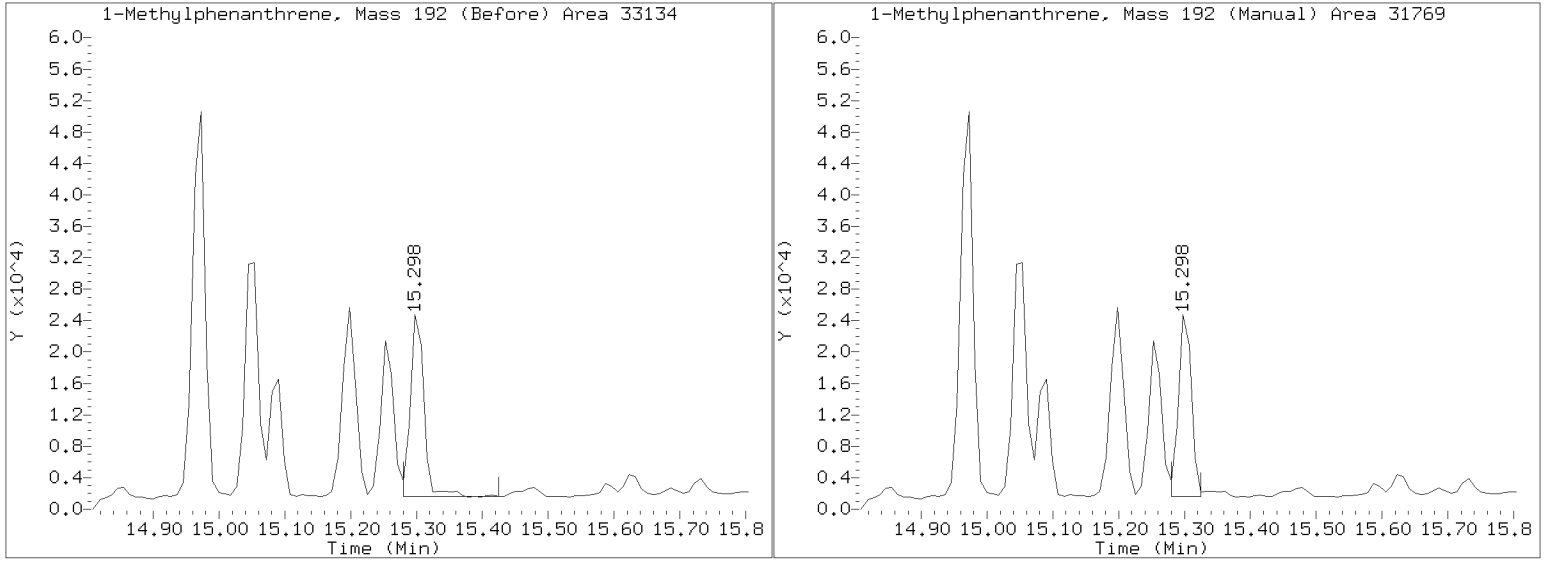
Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt11.i/20170210.b/N1117021013.D
Injection Date: 10-FEB-2017 18:14
Lab ID:17A0053-06 Client ID:
Report Date: 02/11/2017 08:35



Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt11.i/20170210.b/N1117021013.D
Injection Date: 10-FEB-2017 18:14
Lab ID:17A0053-06 Client ID:
Report Date: 02/11/2017 08:35



Data File: \\target\share\chem3\nt11.1\20170210.16\N1117021014.D

Date : 10-FEB-2017 18:50

Client ID:

Sample Info: 17A0053-07

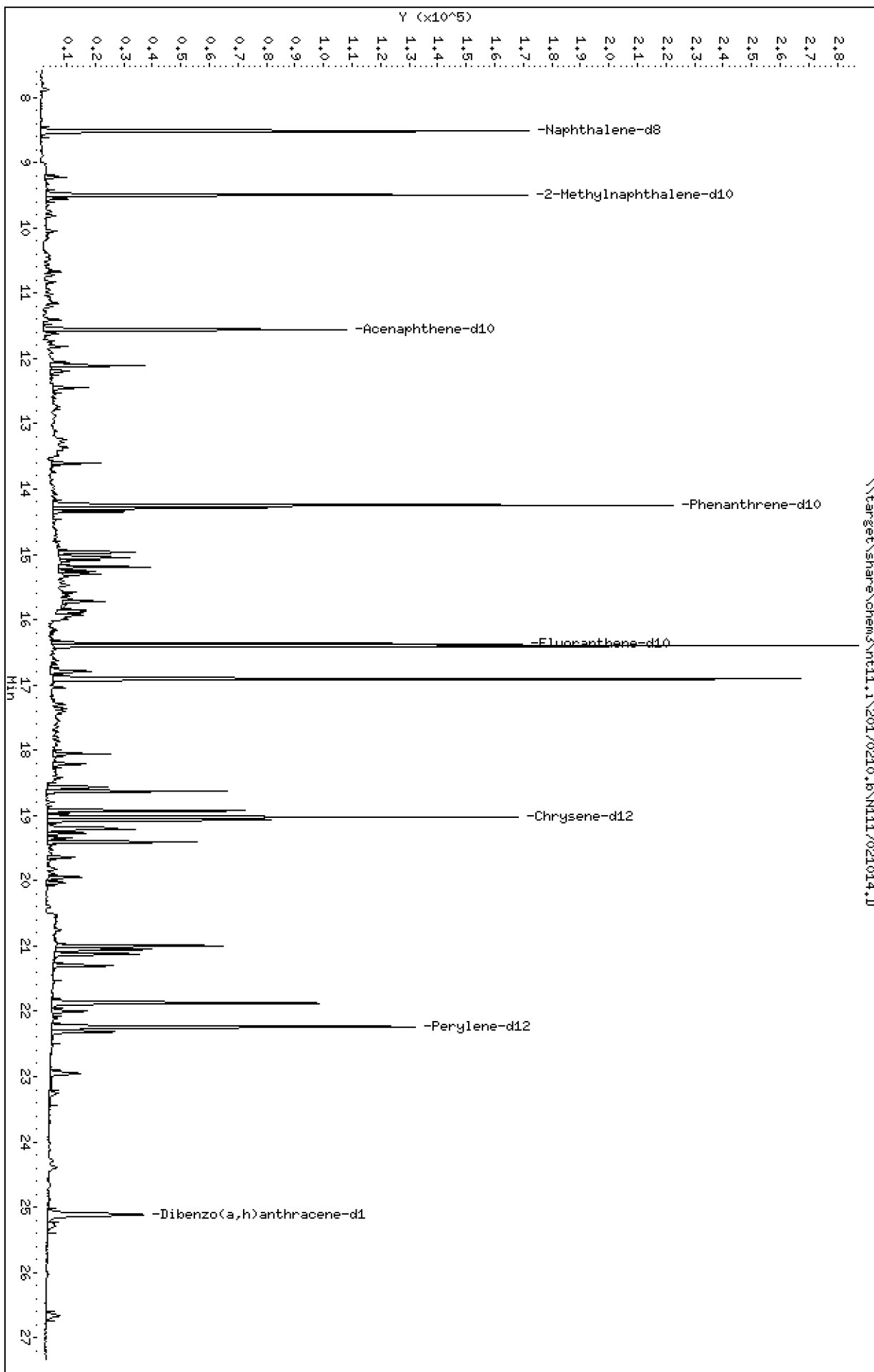
Column phase: Rxi-17S11 MS

Instrument: nt11.1

Operator: VTS

Column diameter: 0.25

Page 1



Date : 10-FEB-2017 18:50

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-07

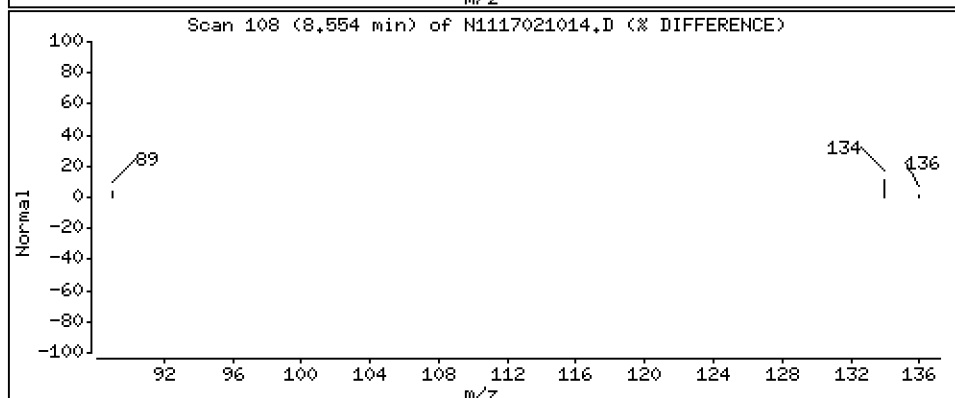
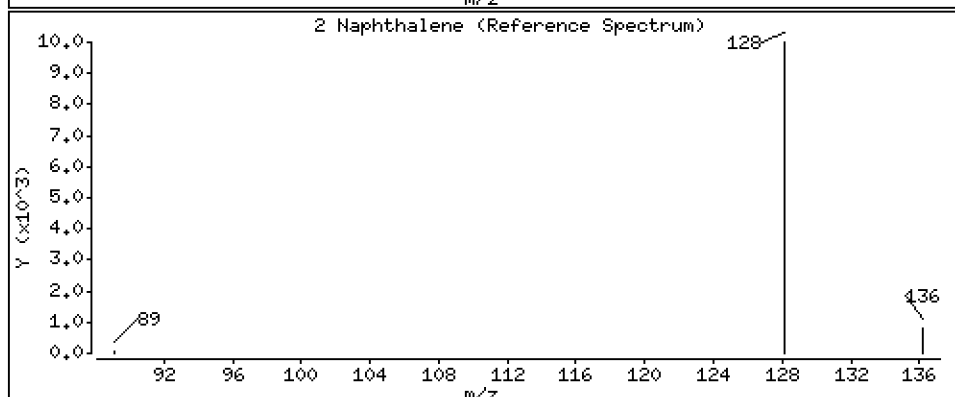
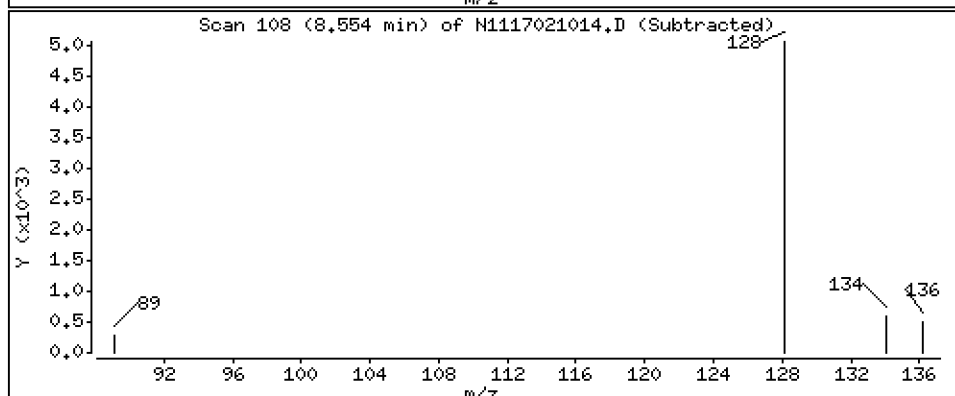
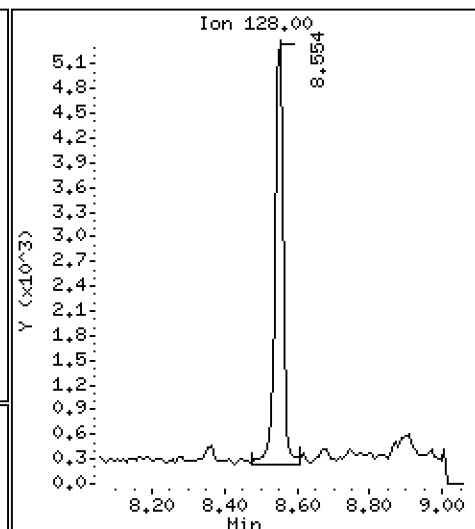
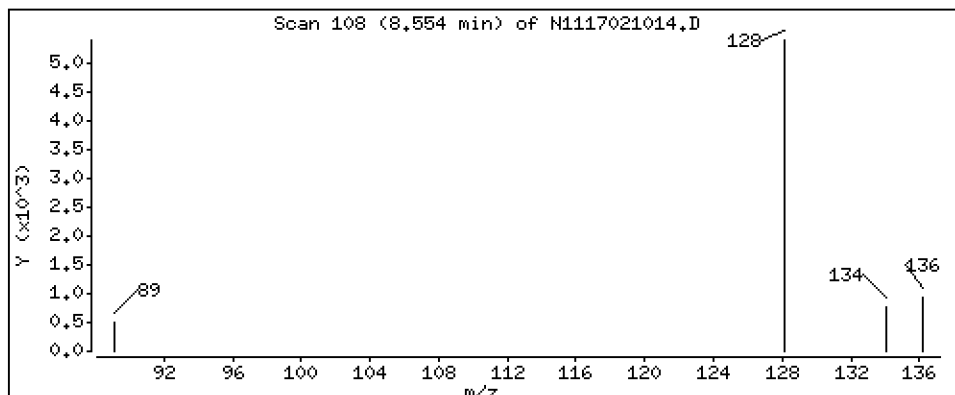
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

2 Naphthalene

Concentration: 7,35 ng/mL



Date : 10-FEB-2017 18:50

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-07

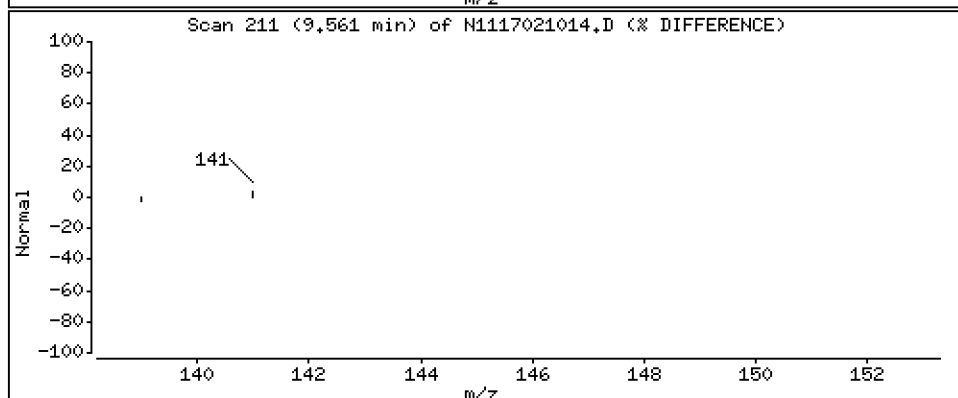
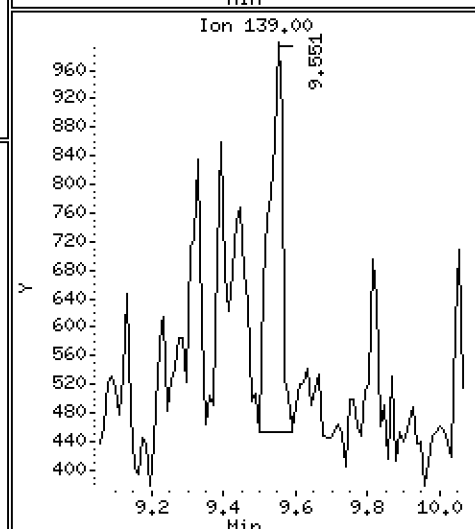
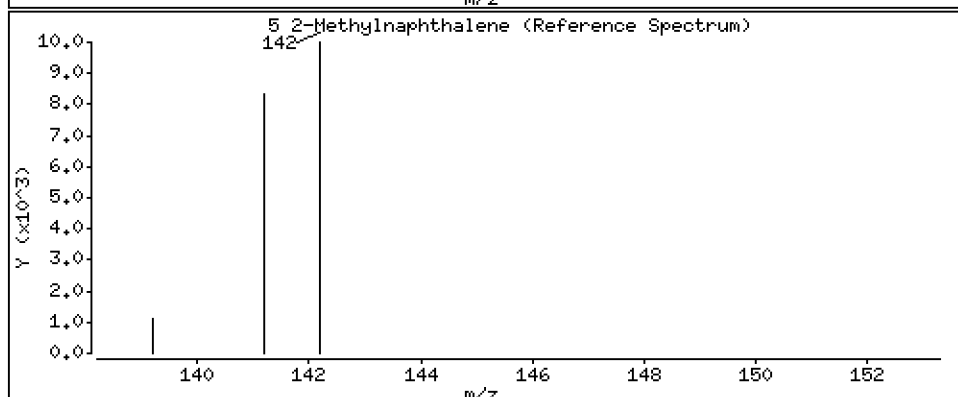
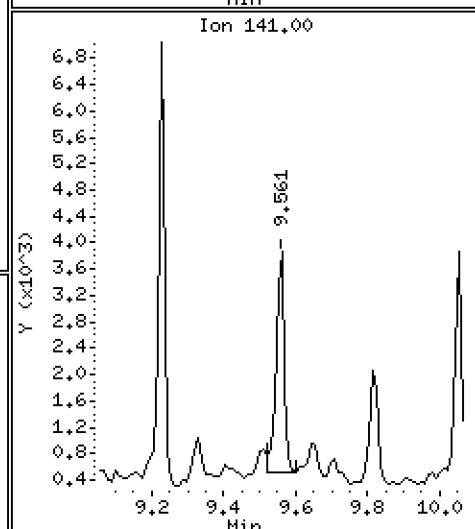
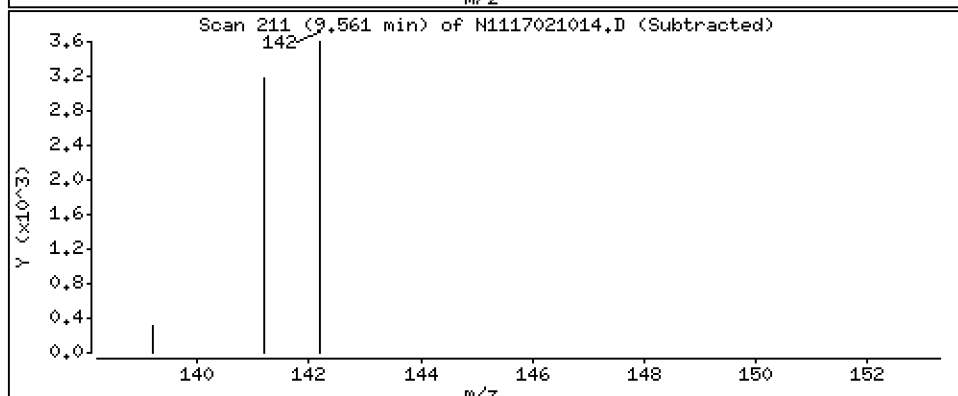
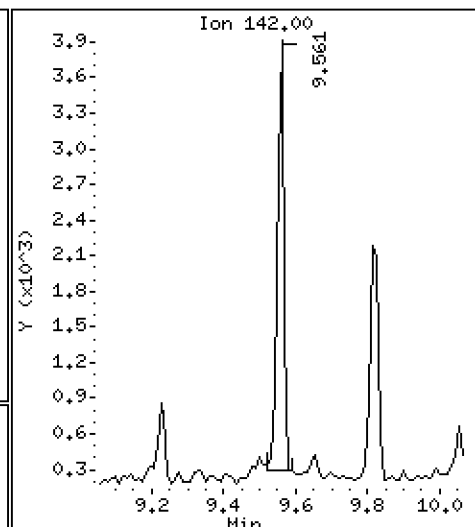
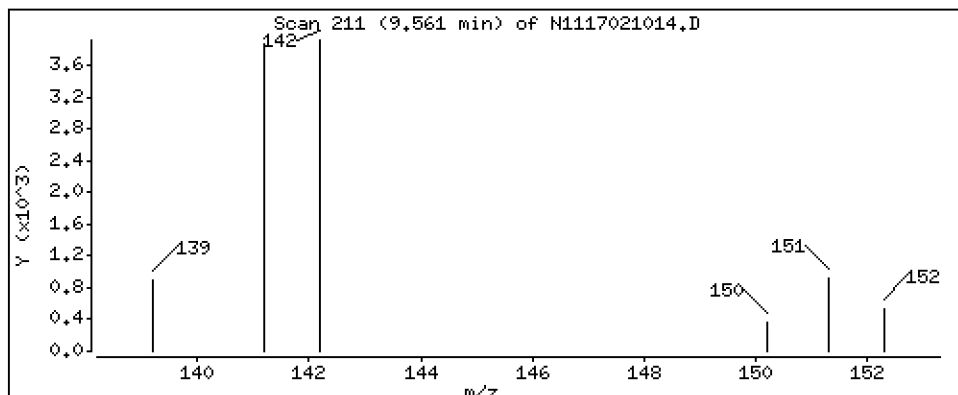
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0.25

5-2-Methylnaphthalene

Concentration: 4.59 ng/mL



Date : 10-FEB-2017 18:50

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-07

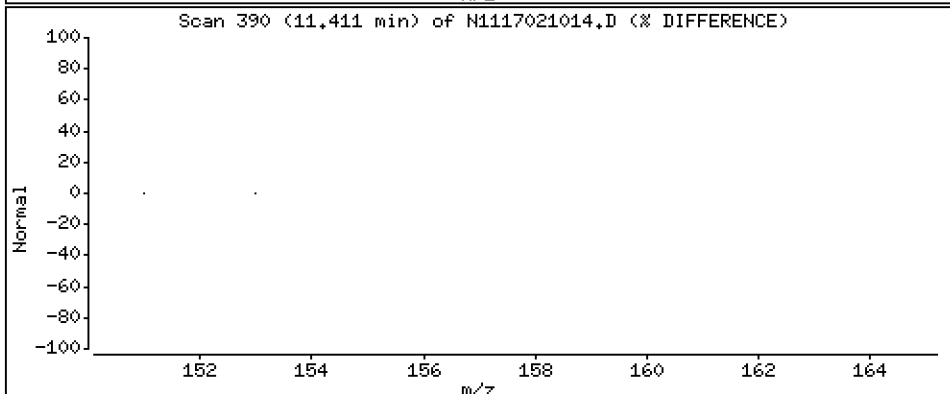
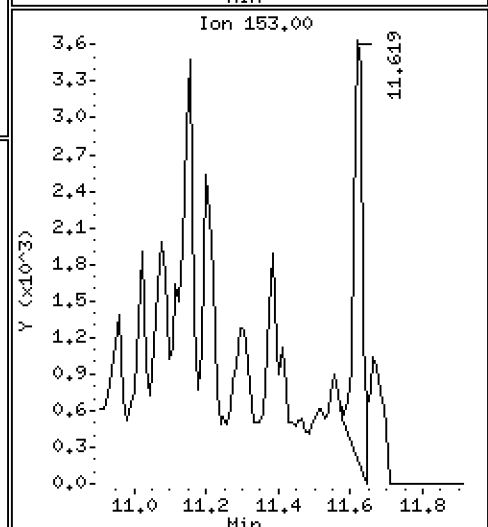
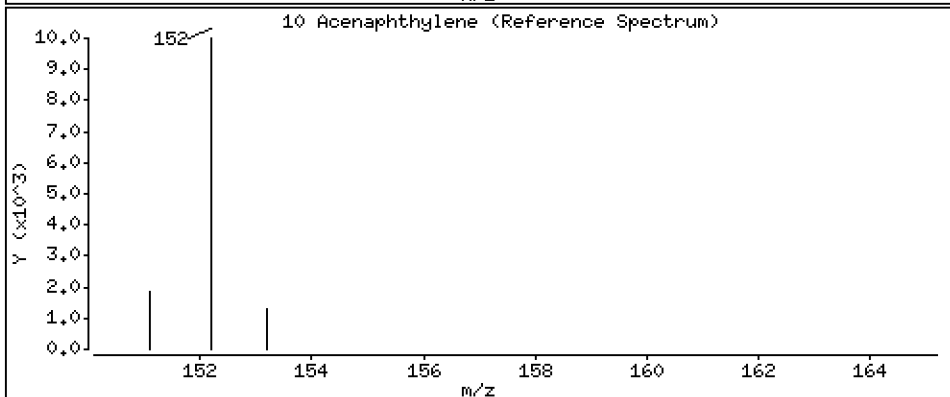
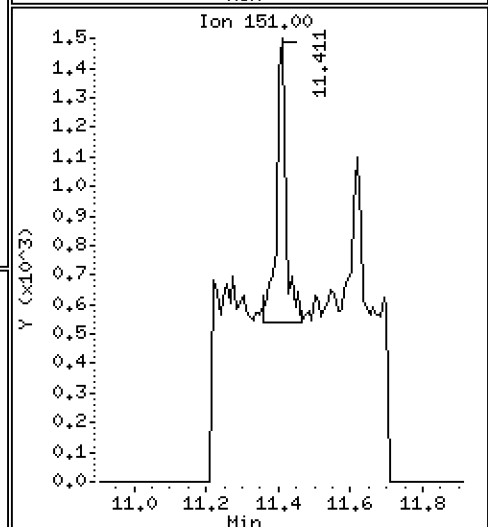
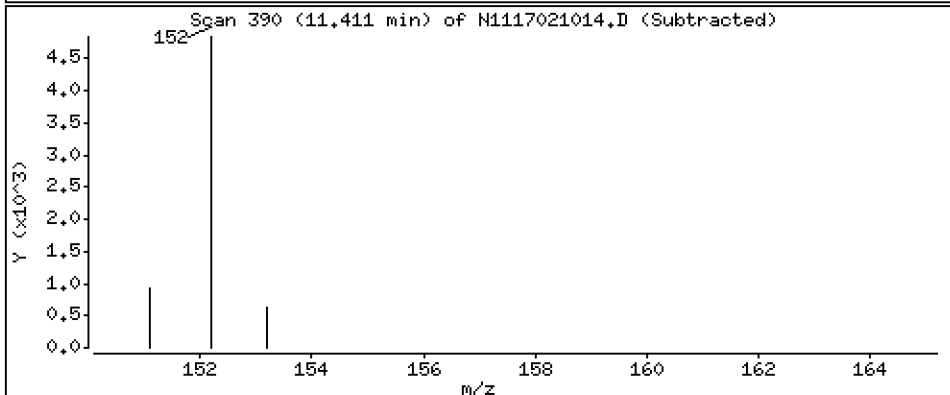
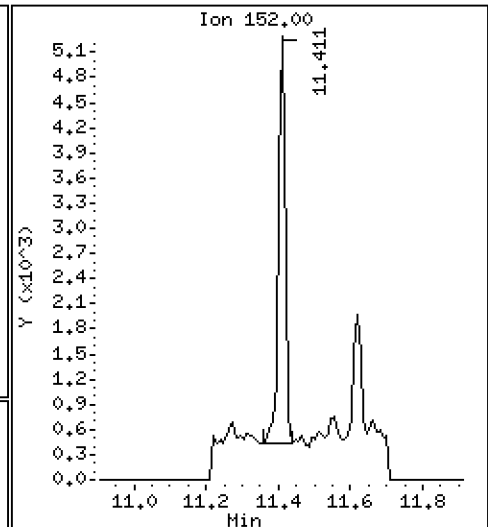
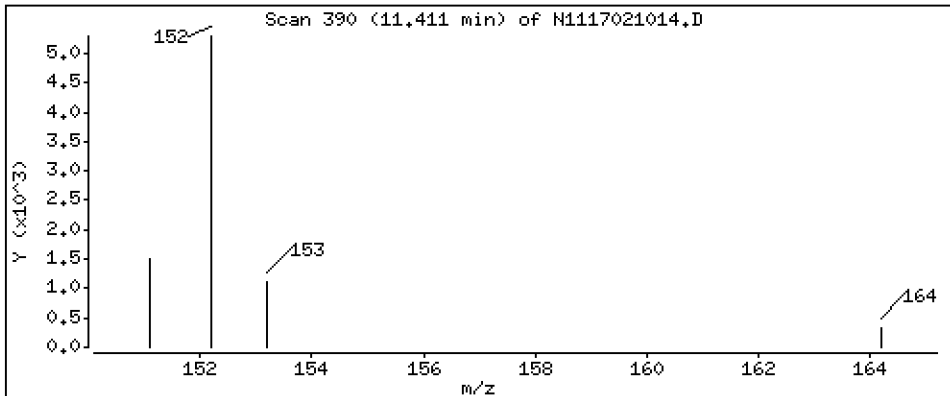
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0.25

10 Acenaphthylene

Concentration: 4.51 ng/mL



Date : 10-FEB-2017 18:50

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-07

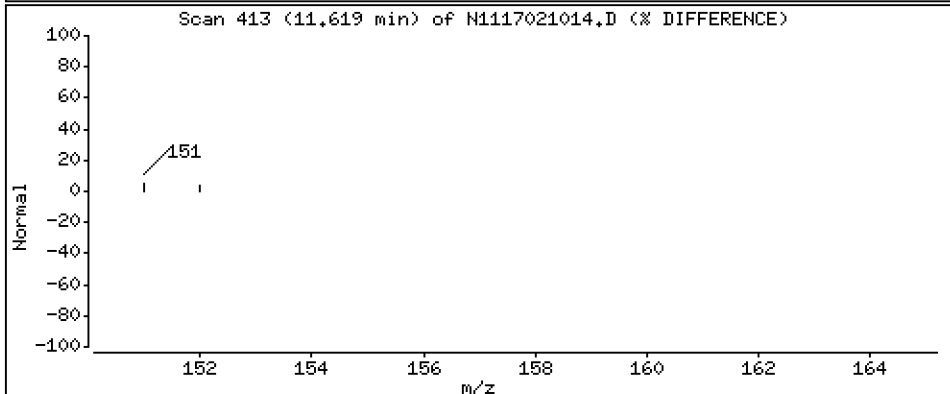
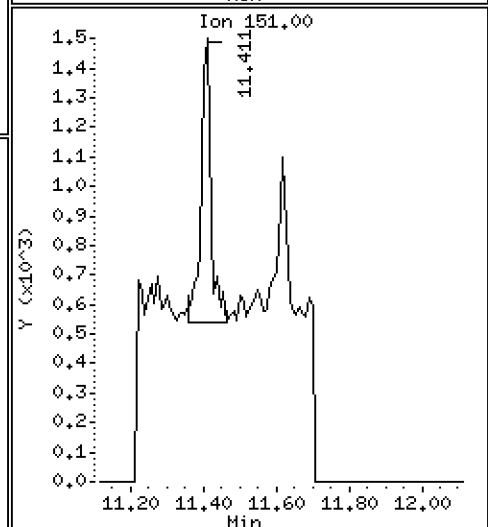
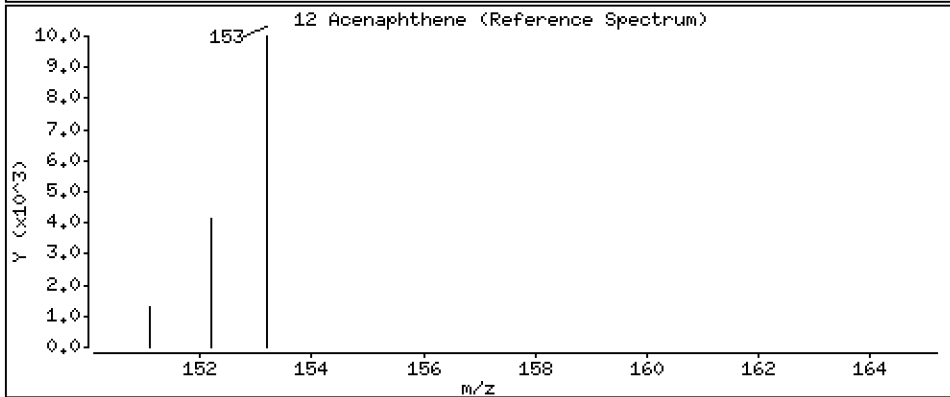
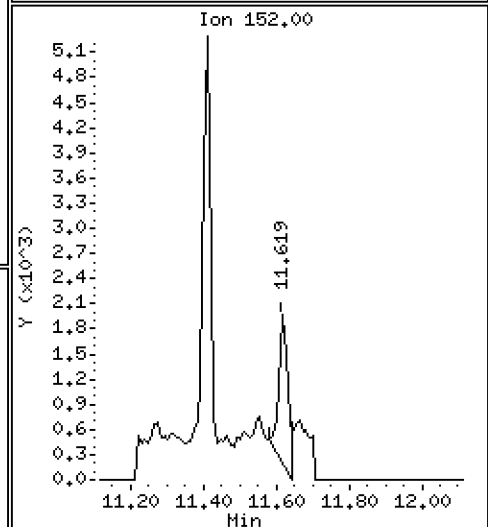
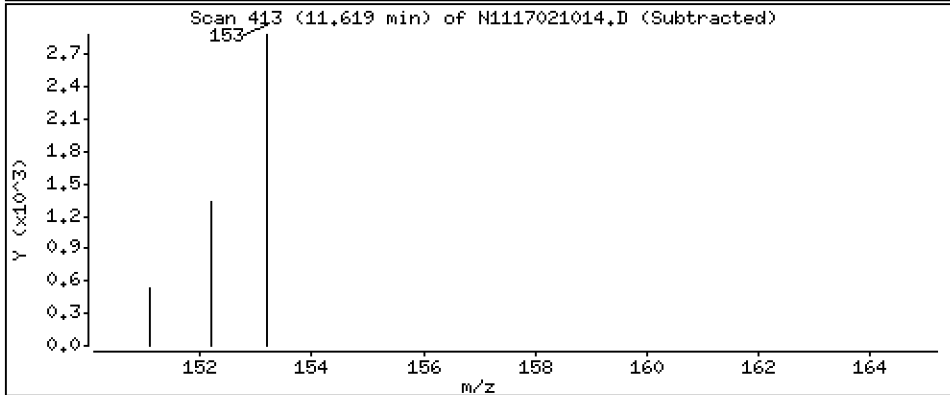
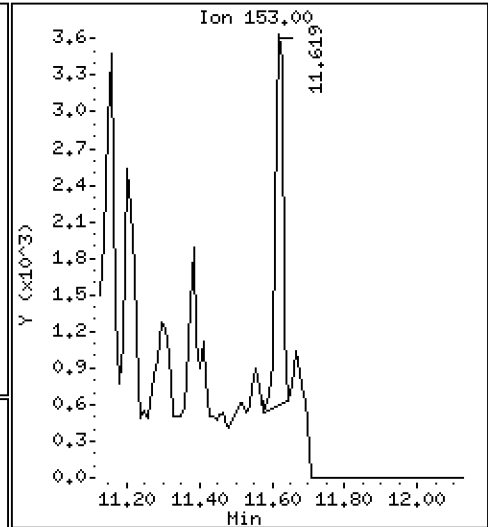
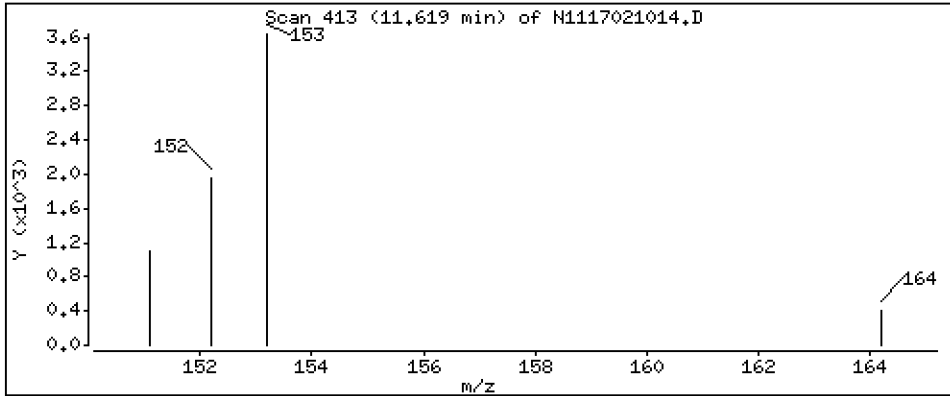
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

Concentration: 4,95 ng/mL

12 Acenaphthene



Date : 10-FEB-2017 18:50

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-07

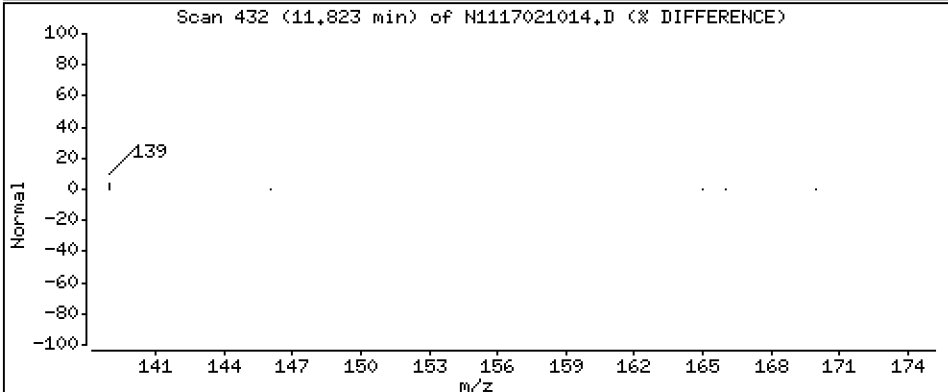
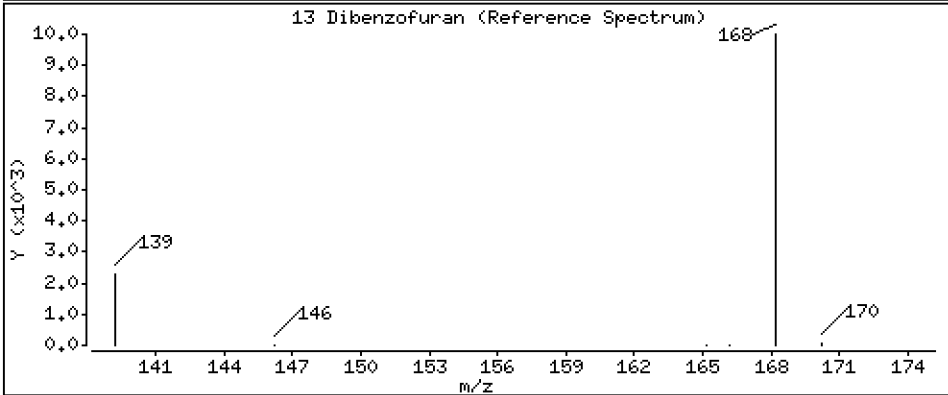
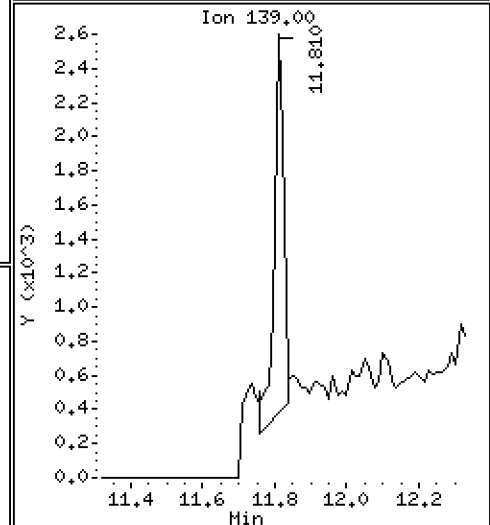
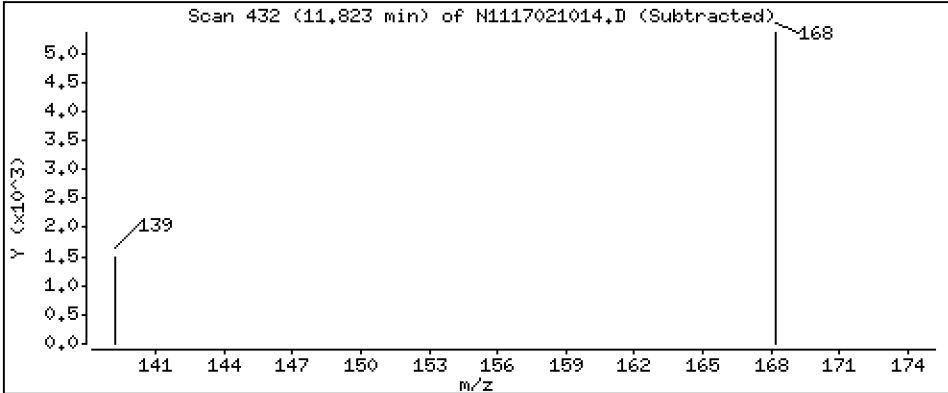
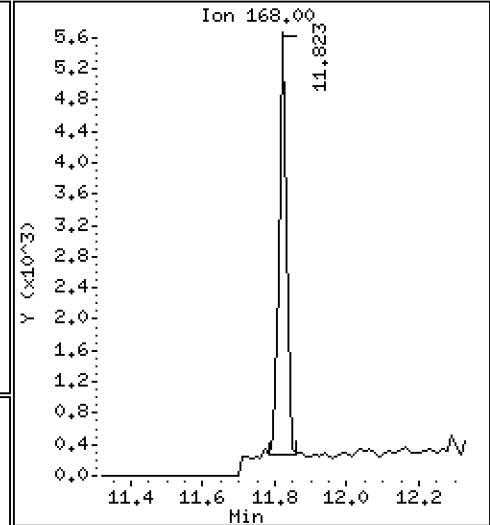
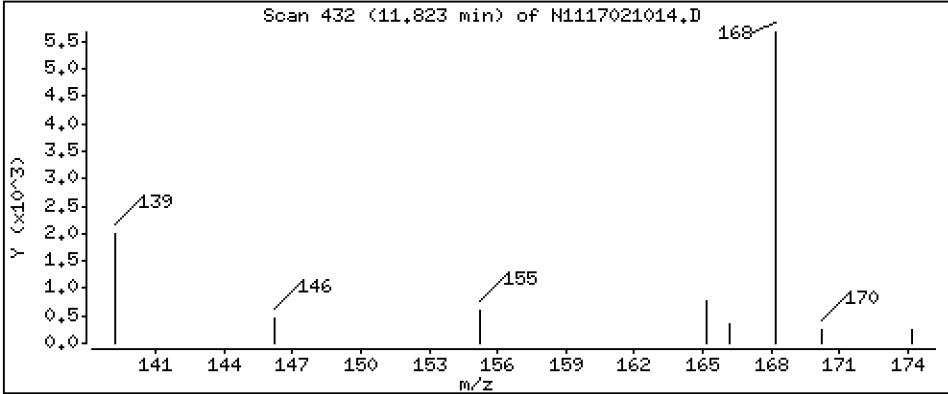
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

13 Dibenzofuran

Concentration: 5,27 ng/mL



Date : 10-FEB-2017 18:50

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-07

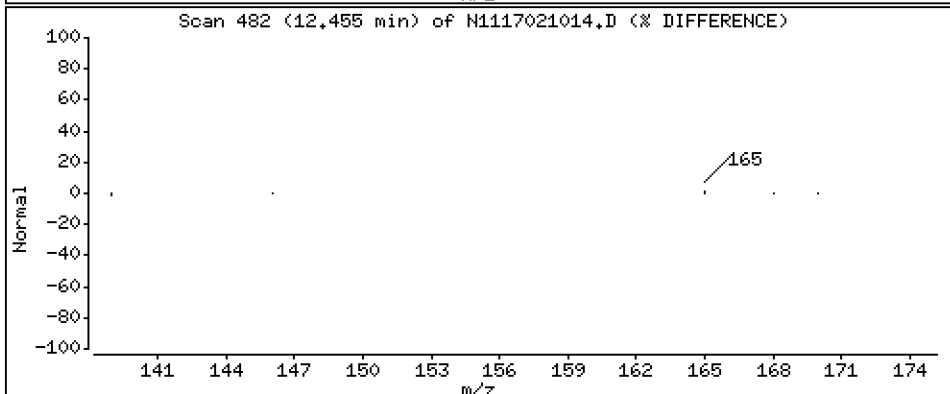
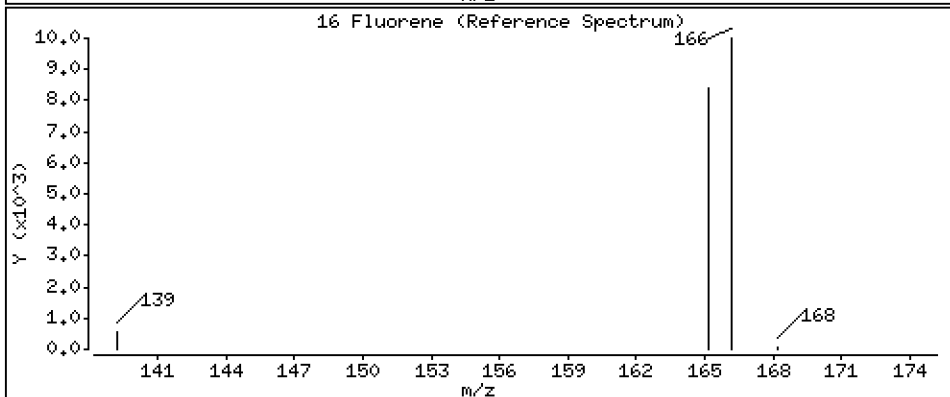
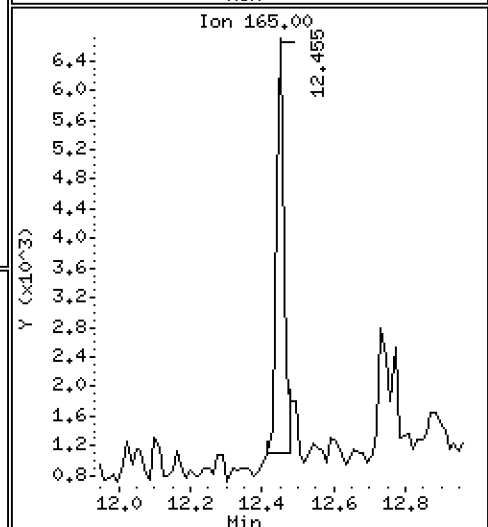
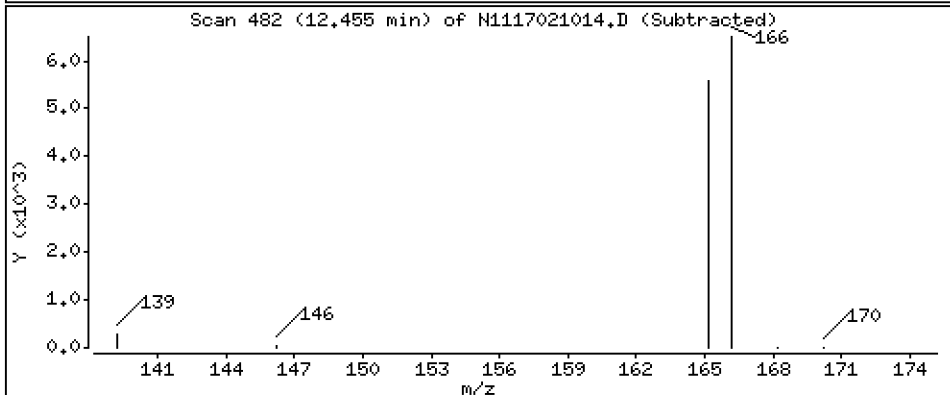
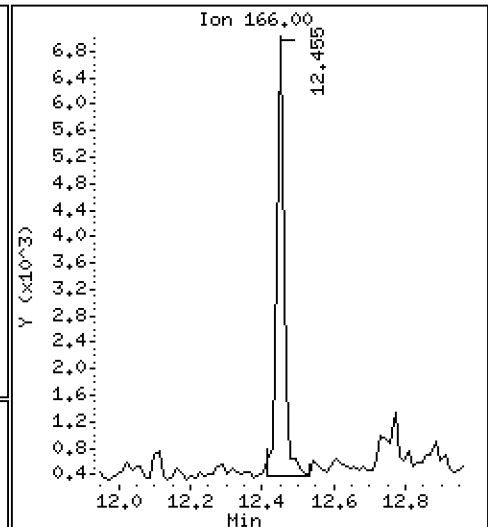
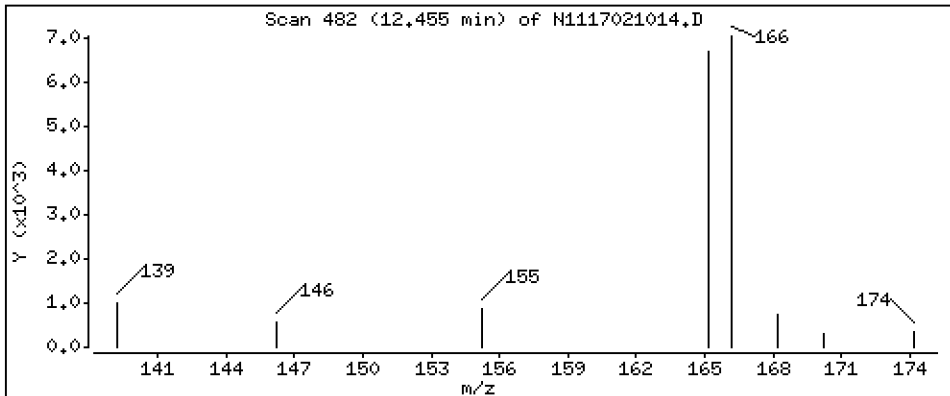
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0.25

16 Fluorene

Concentration: 8.71 ng/mL



Date : 10-FEB-2017 18:50

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-07

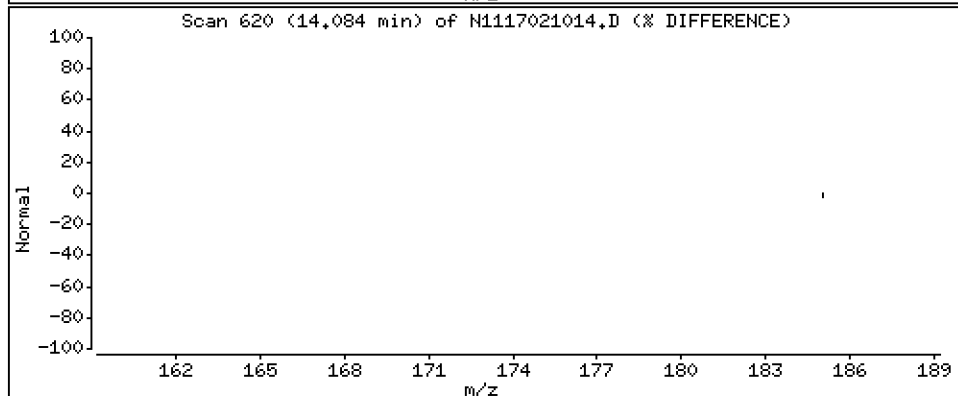
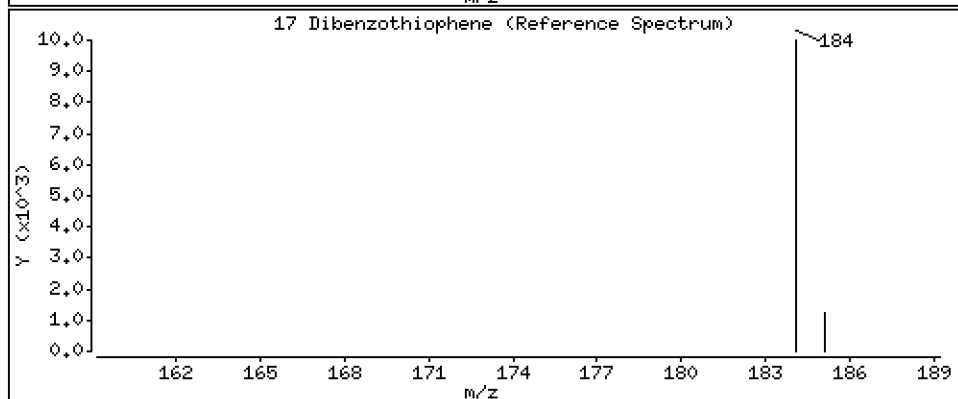
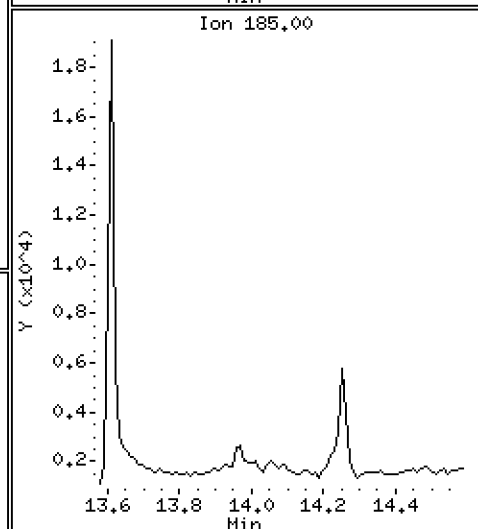
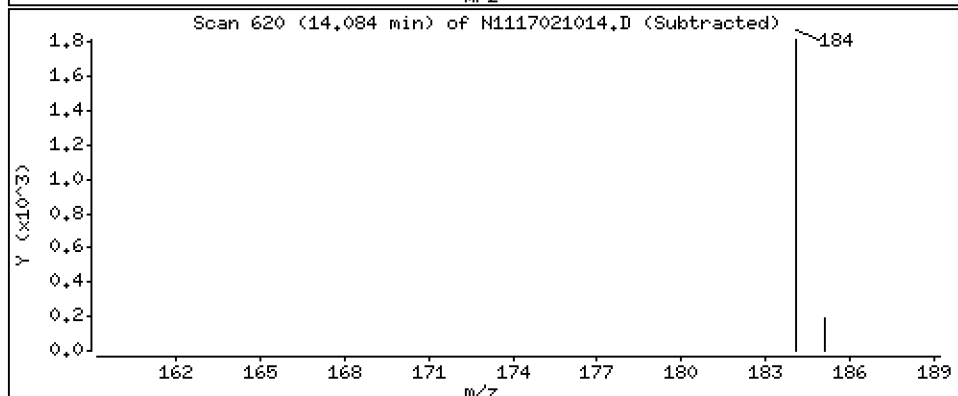
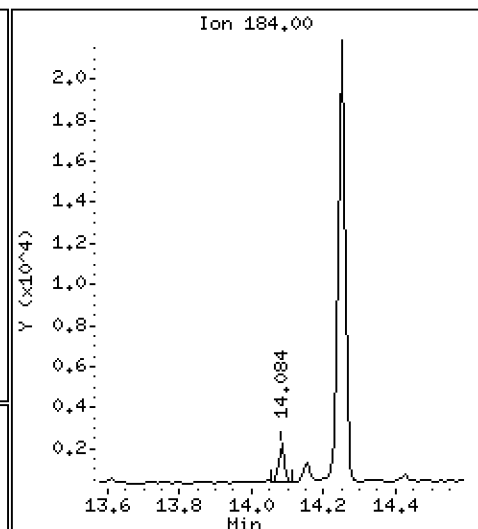
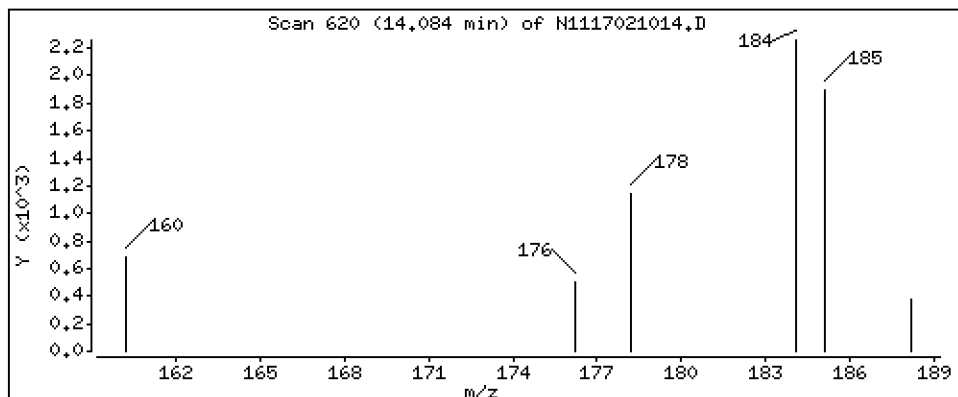
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

17 Dibenzothiophene

Concentration: 2,03 ng/mL



Date : 10-FEB-2017 18:50

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-07

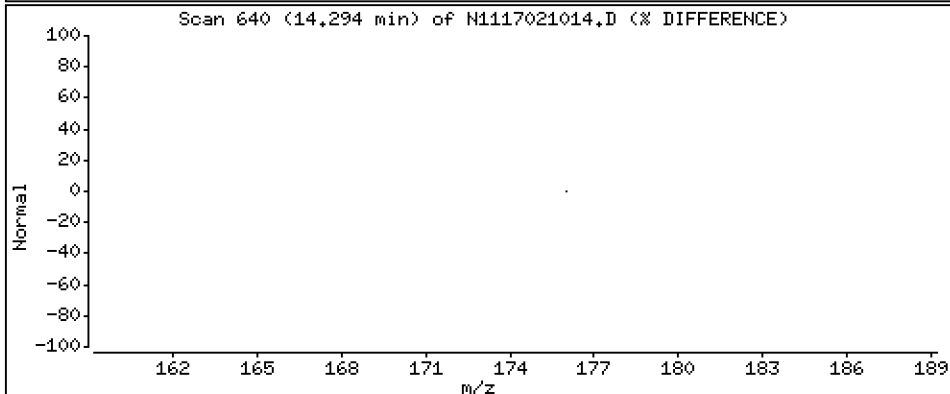
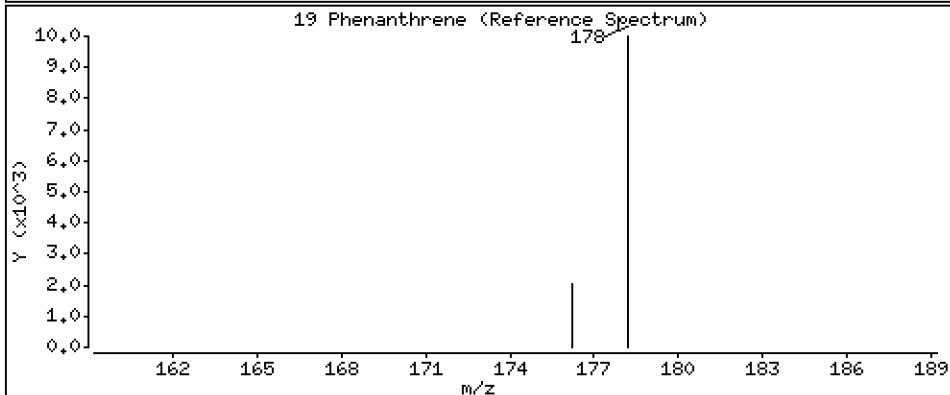
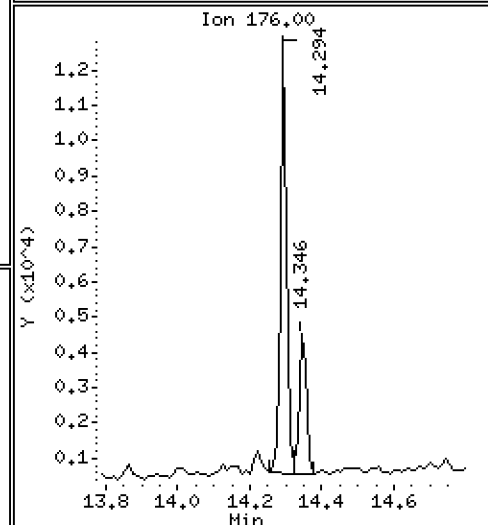
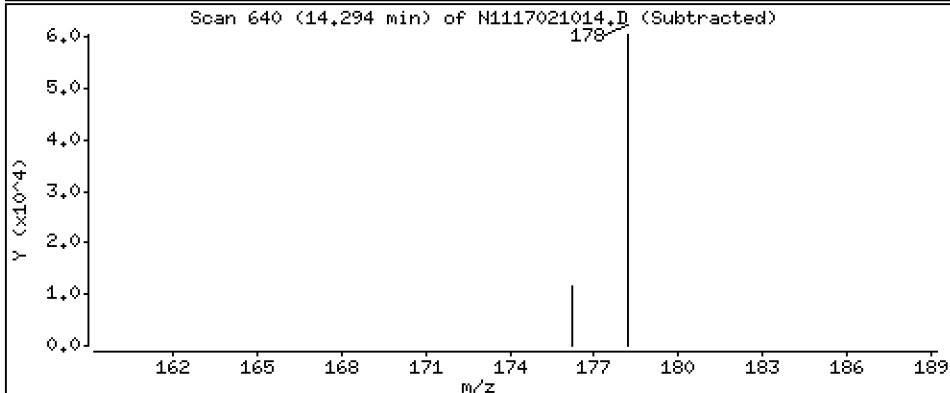
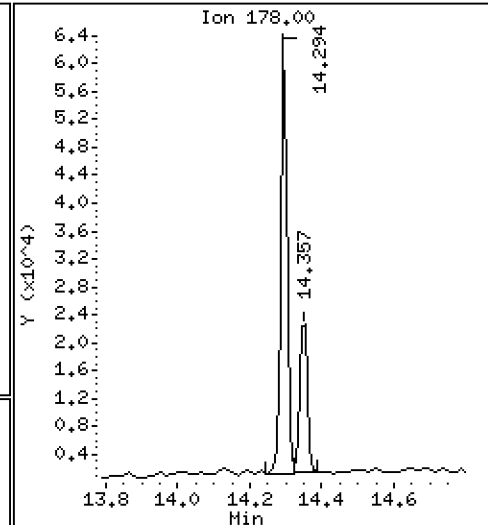
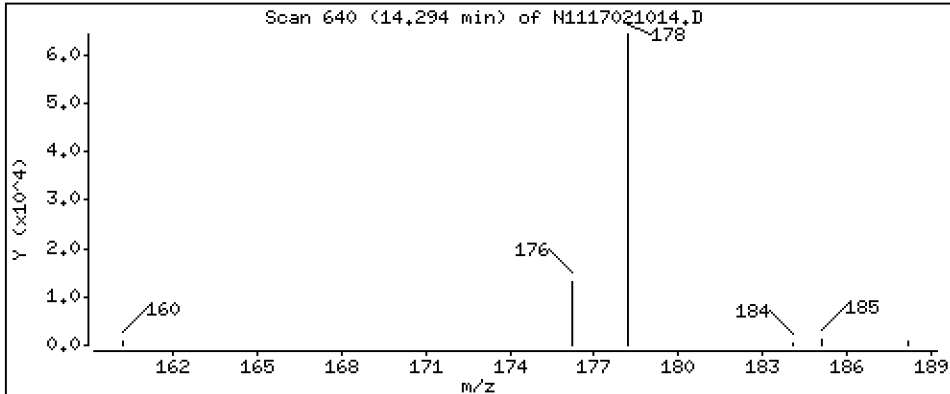
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0.25

19 Phenanthrene

Concentration: 61.4 ng/mL



Date : 10-FEB-2017 18:50

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-07

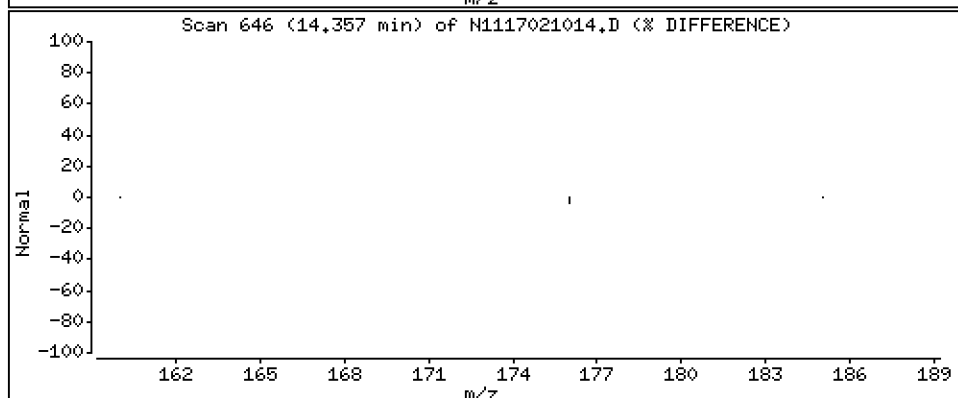
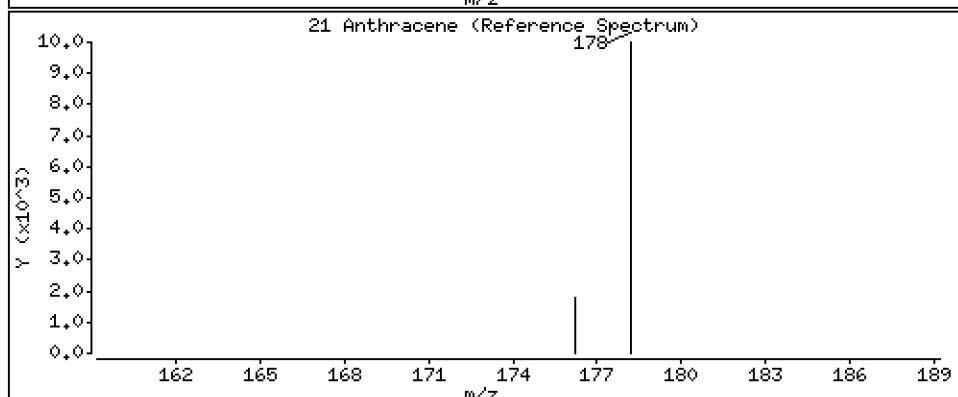
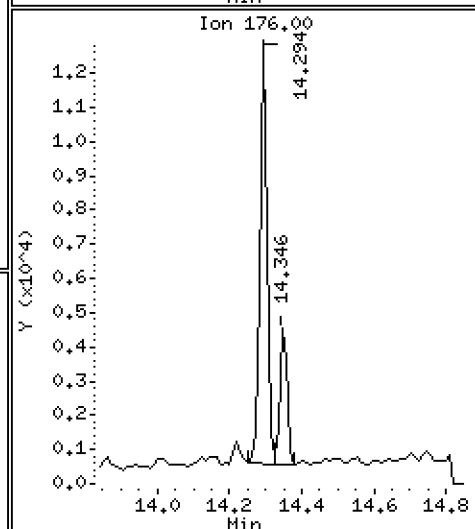
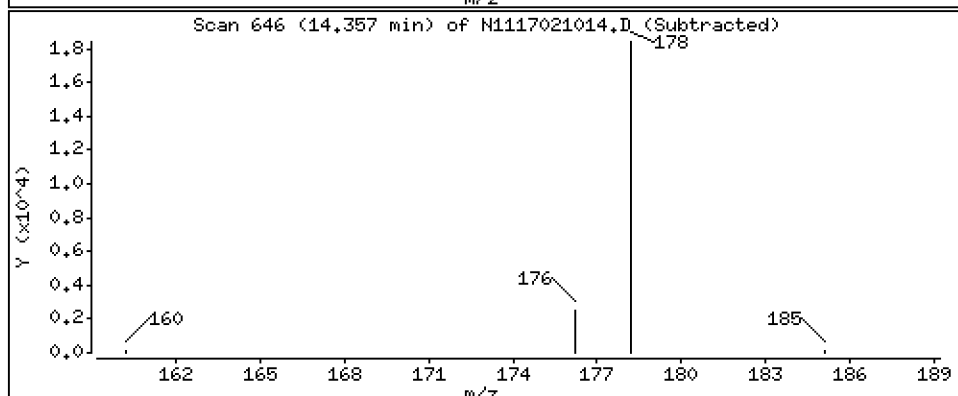
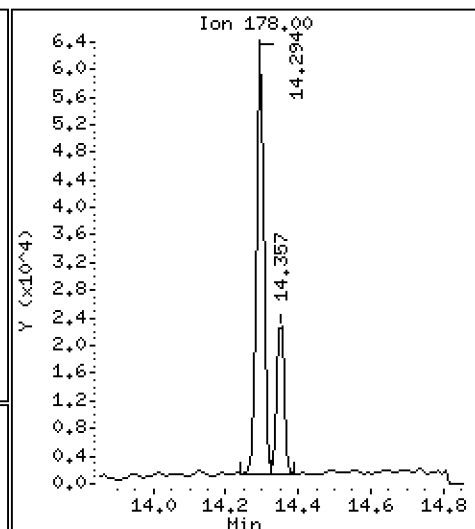
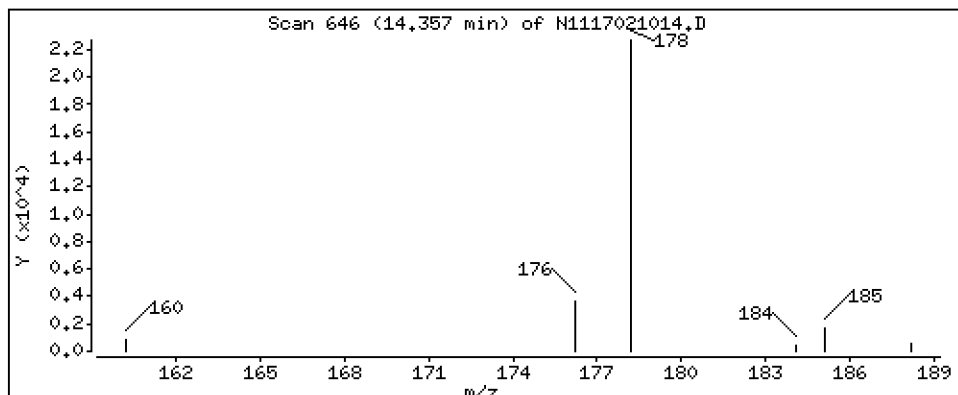
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

21 Anthracene

Concentration: 22,5 ng/mL



Date : 10-FEB-2017 18:50

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-07

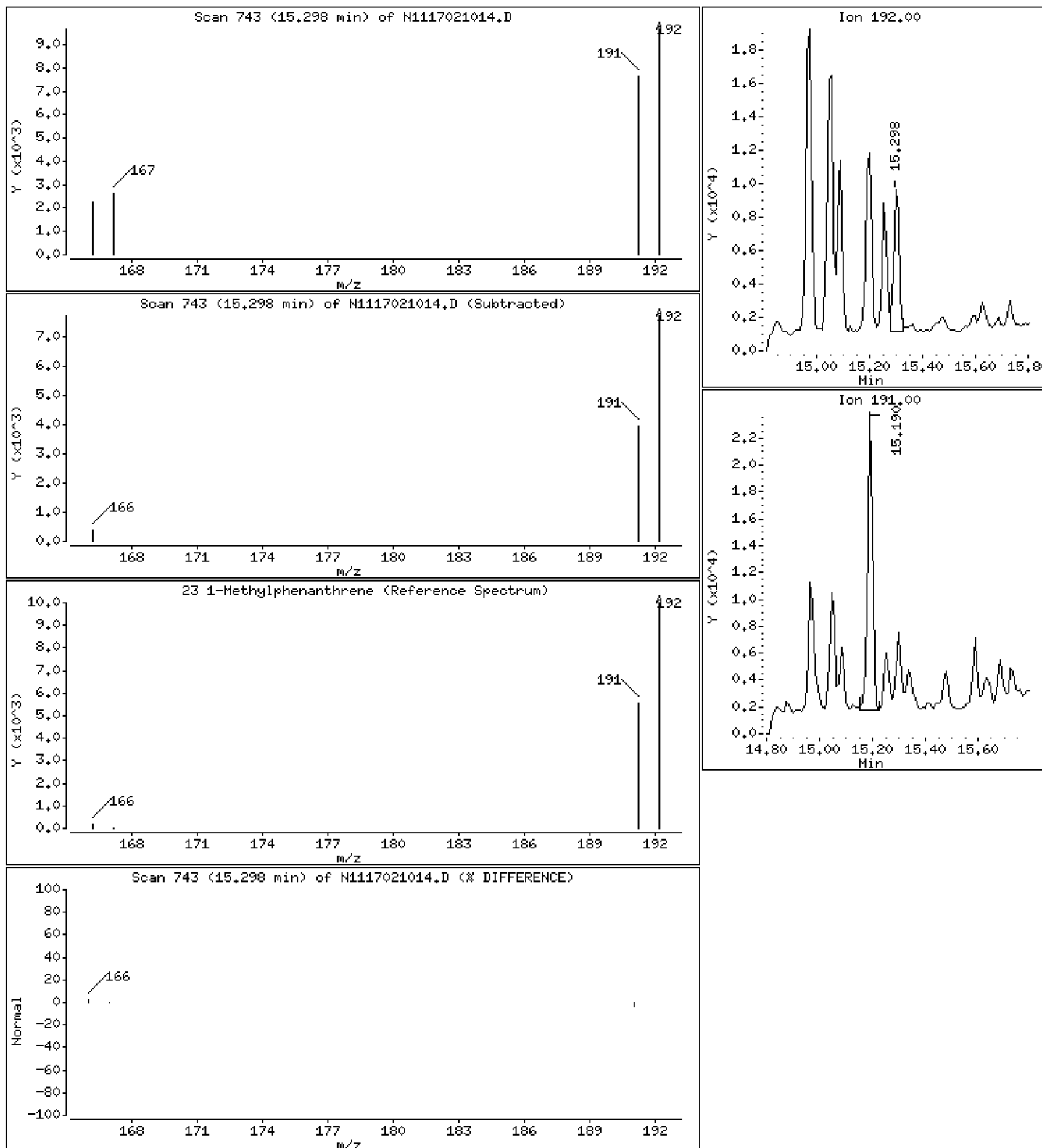
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

23 1-Methylphenanthrene

Concentration: 8,17 ng/mL



Date : 10-FEB-2017 18:50

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-07

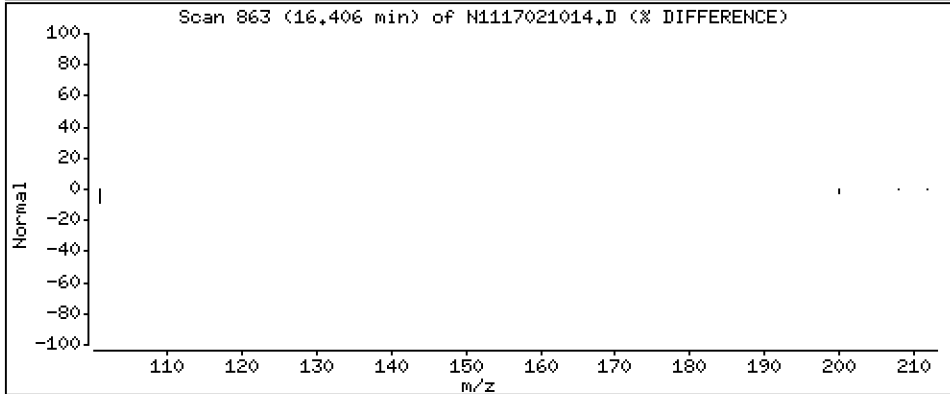
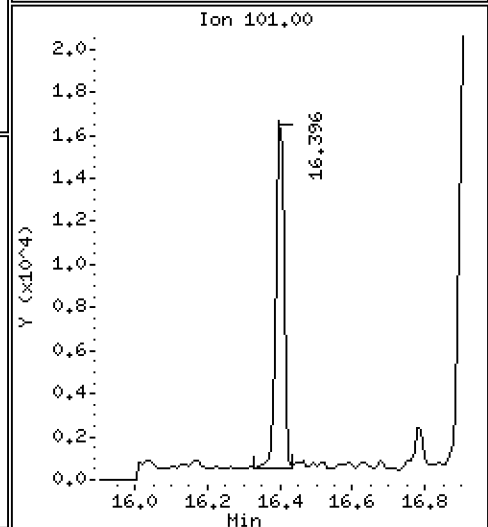
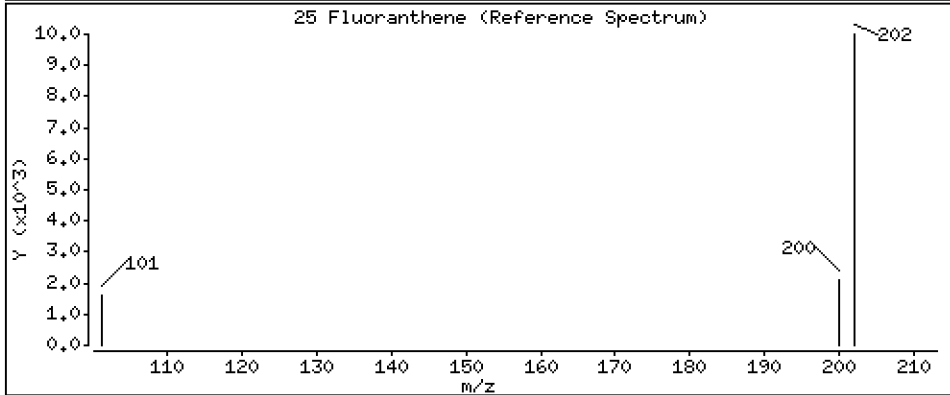
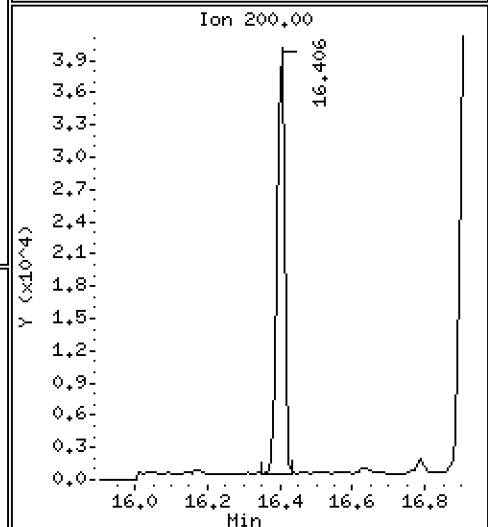
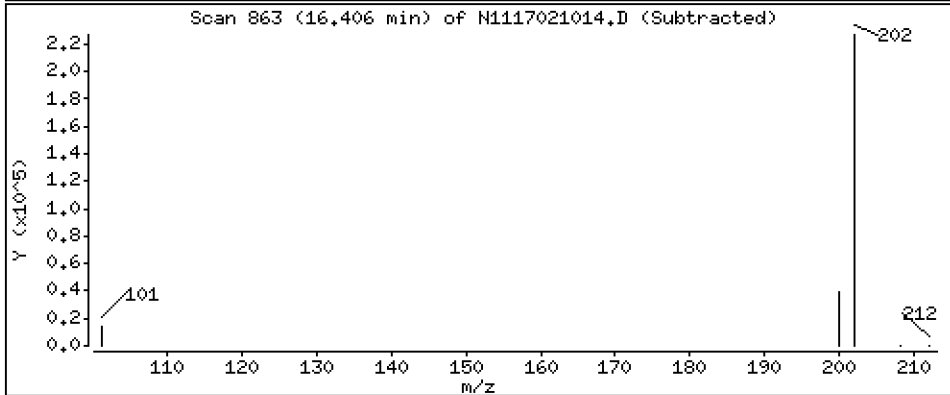
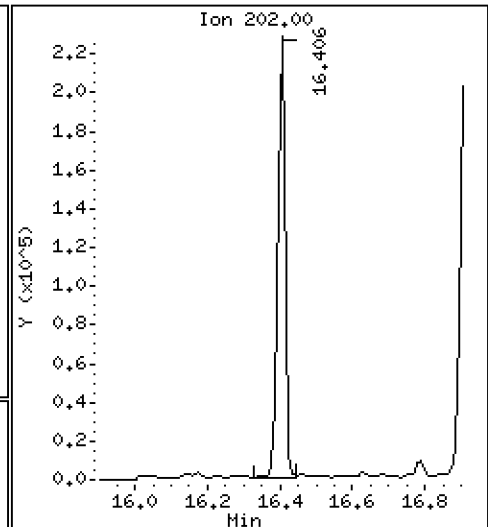
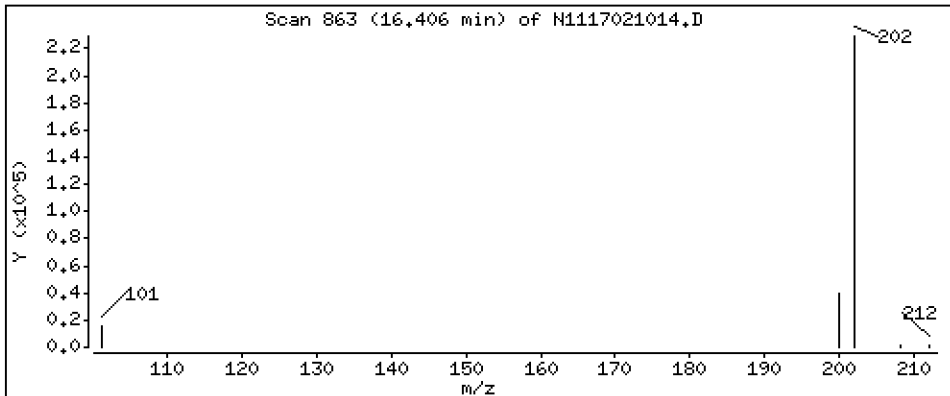
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

25 Fluoranthene

Concentration: 189 ng/mL



Date : 10-FEB-2017 18:50

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-07

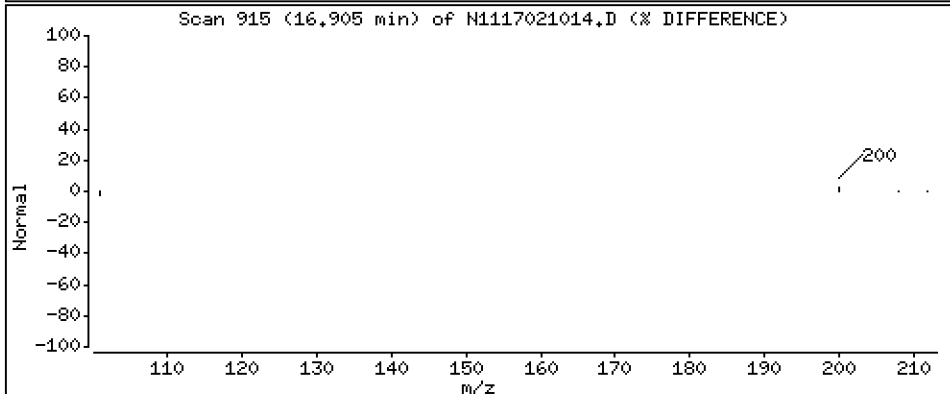
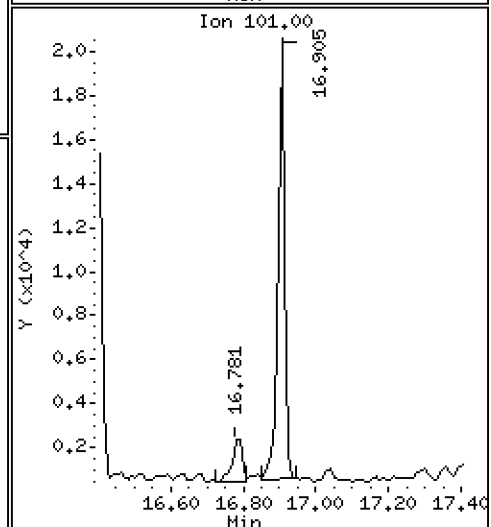
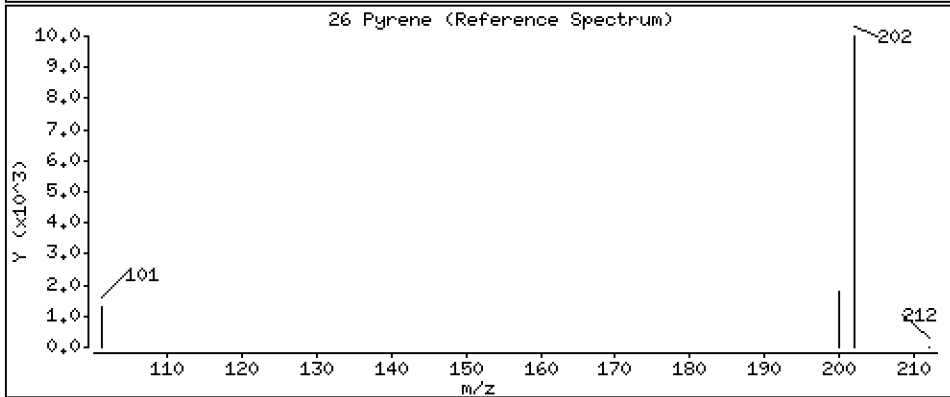
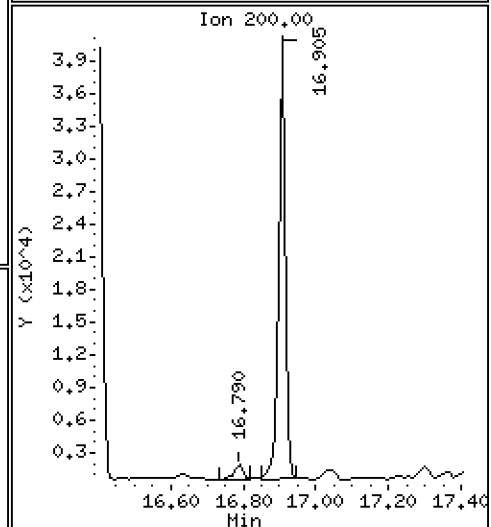
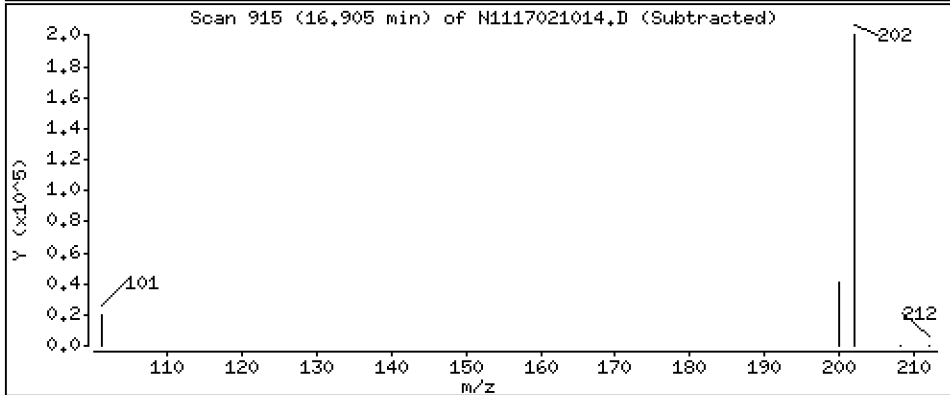
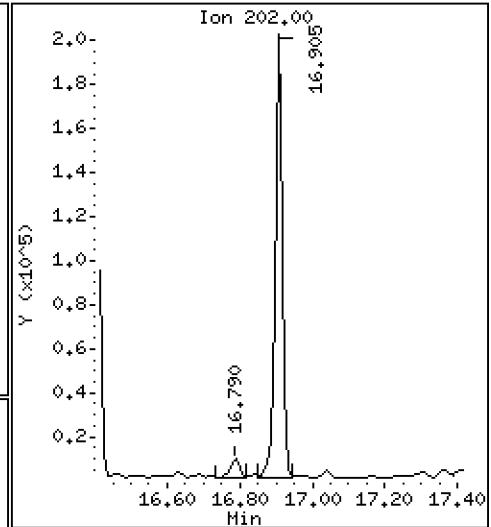
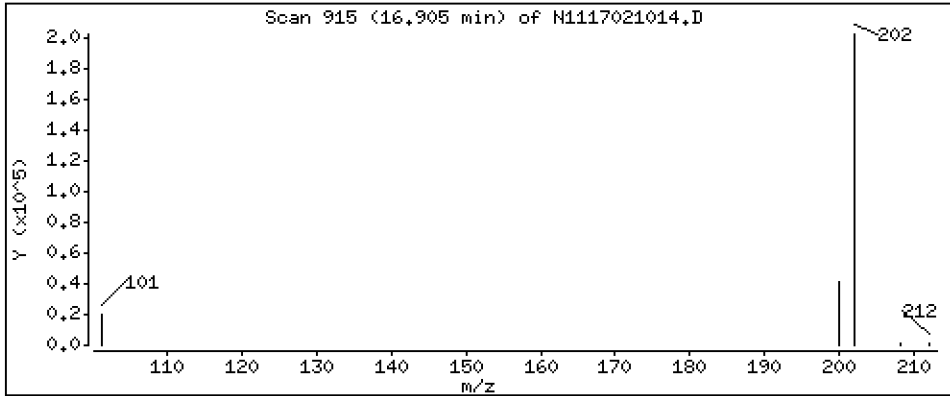
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0.25

26 Pyrene

Concentration: 209 ng/mL



Date : 10-FEB-2017 18:50

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-07

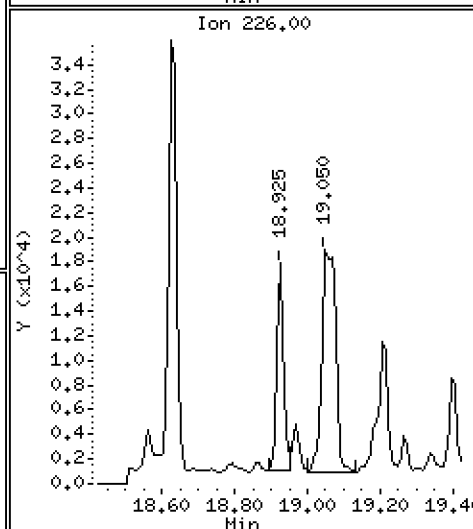
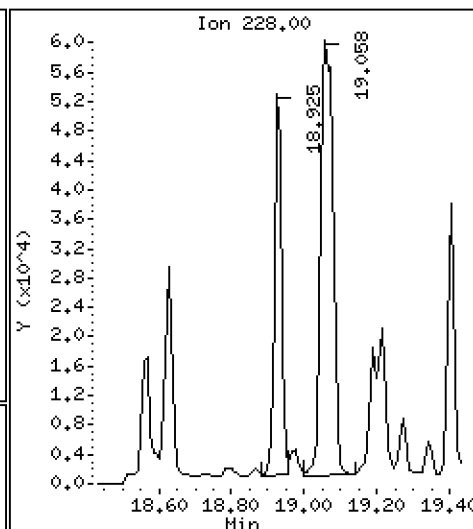
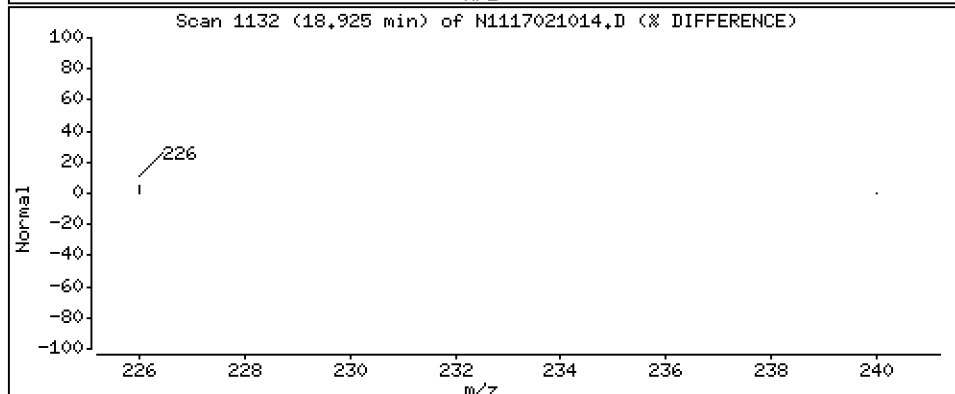
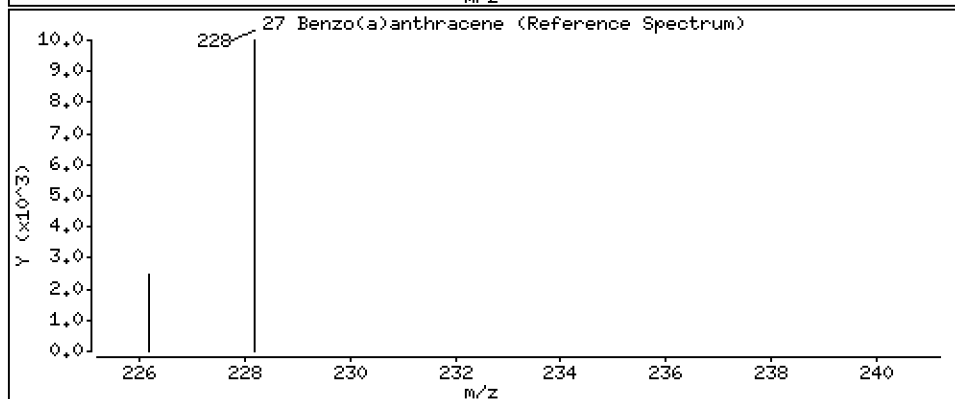
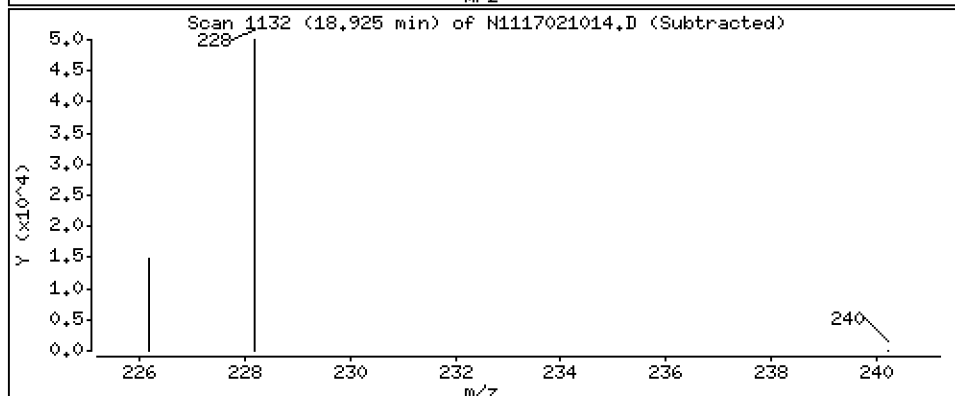
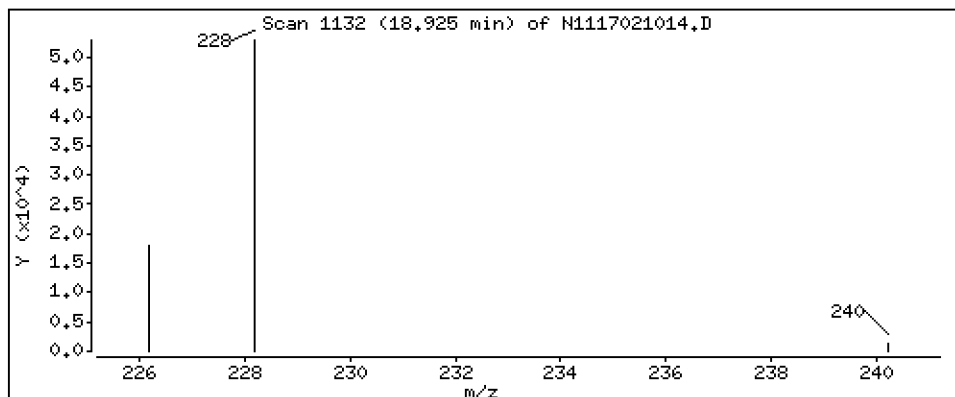
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

27 Benzo(a)anthracene

Concentration: 55,2 ng/mL



Date : 10-FEB-2017 18:50

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-07

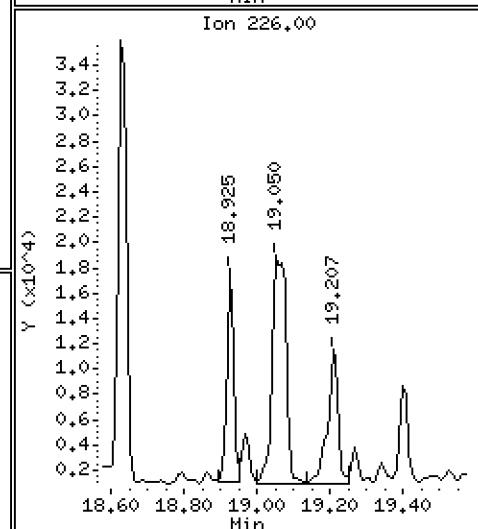
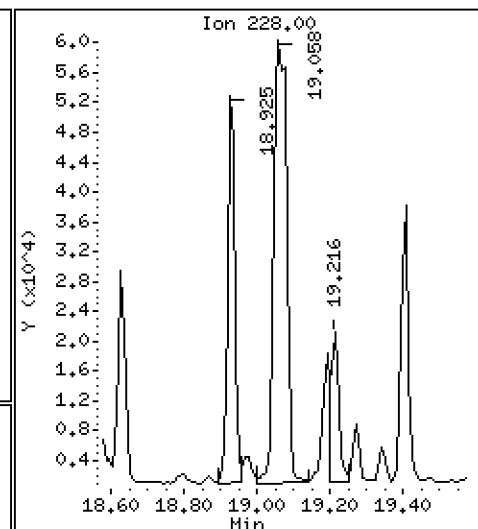
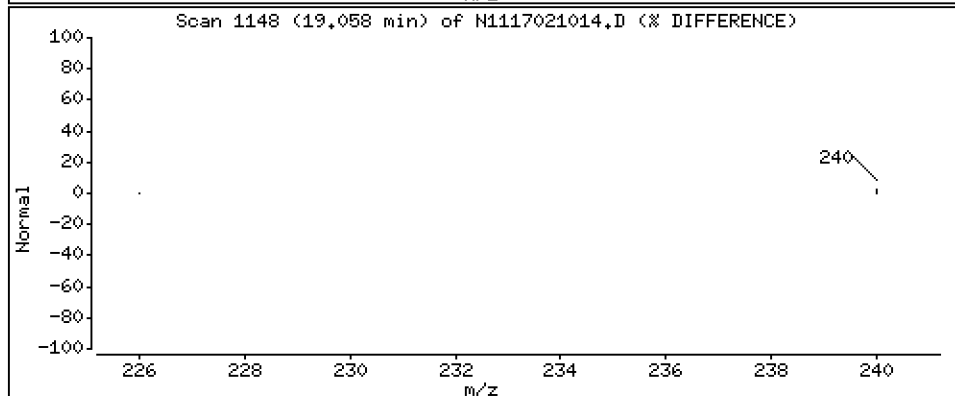
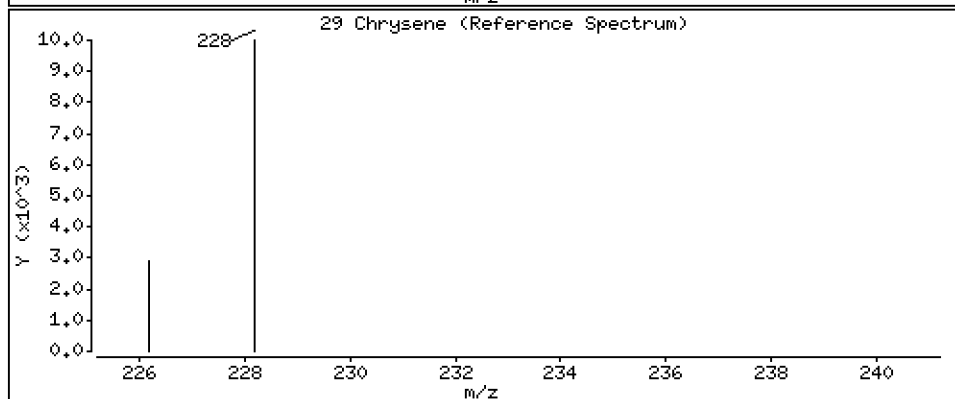
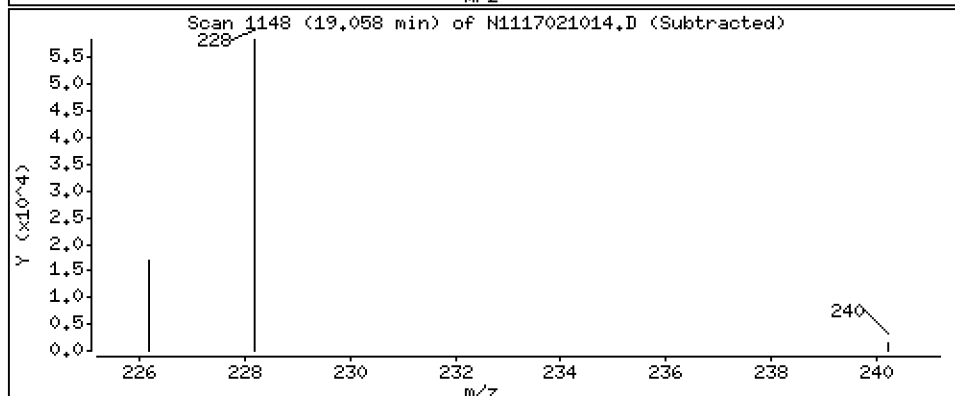
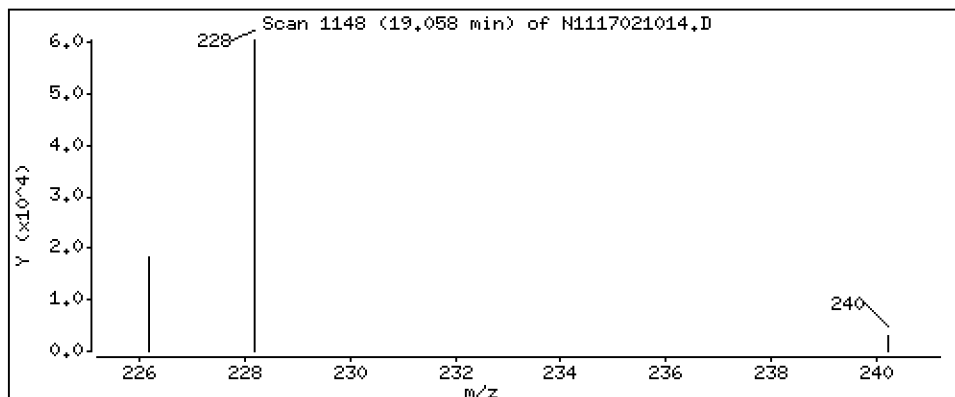
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

29 Chrysene

Concentration: 108 ng/mL



Date : 10-FEB-2017 18:50

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-07

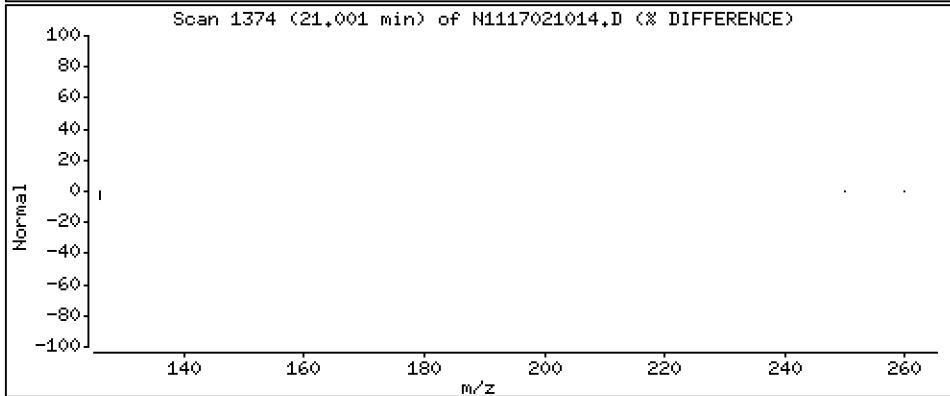
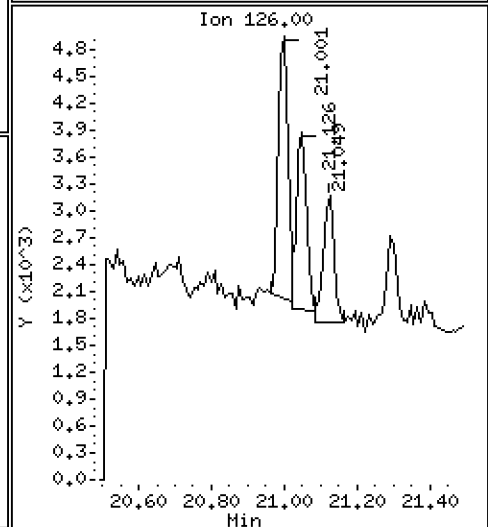
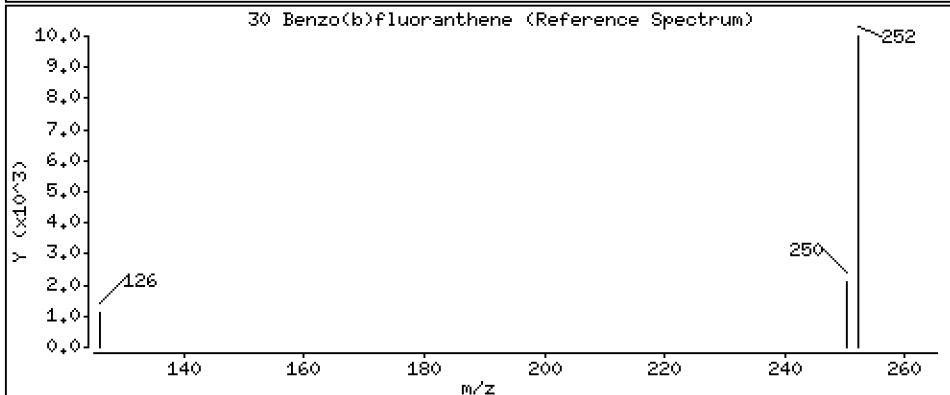
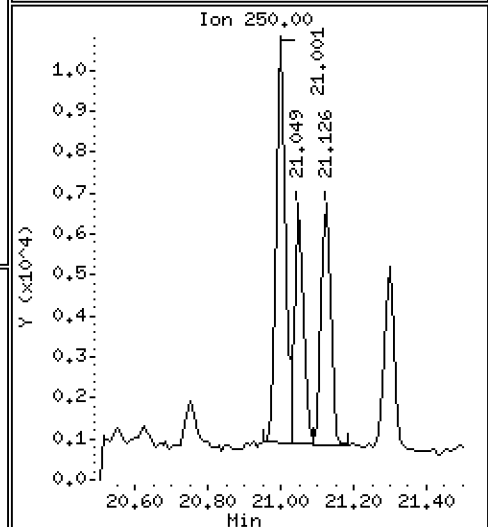
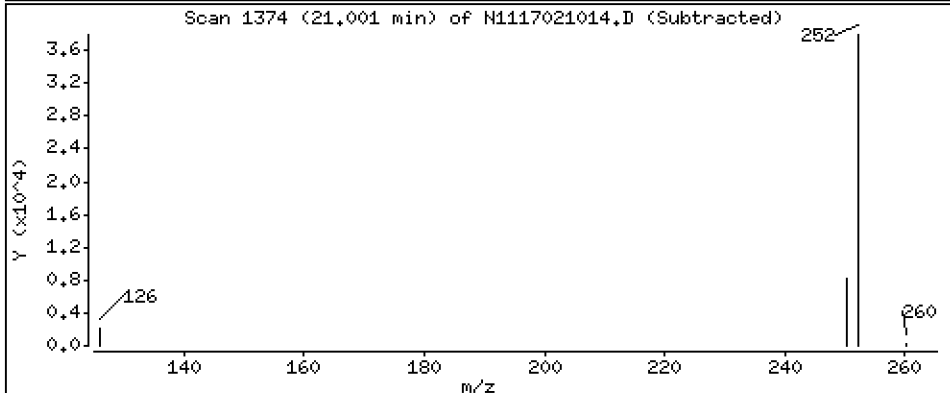
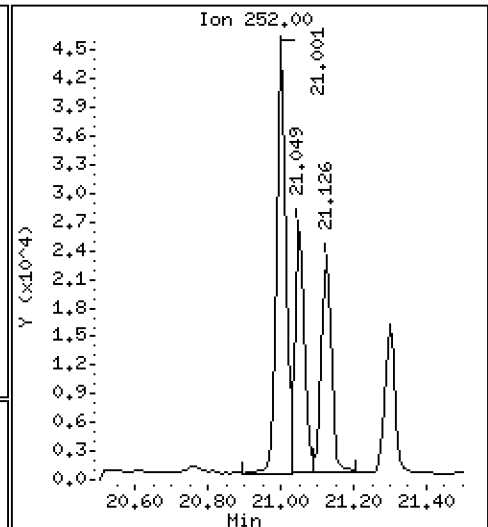
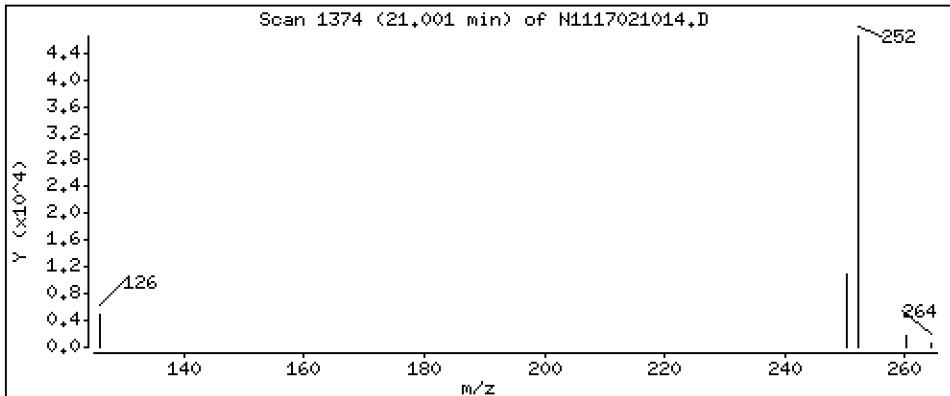
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

30 Benzo(b)fluoranthene

Concentration: 69,0 ng/mL



Date : 10-FEB-2017 18:50

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-07

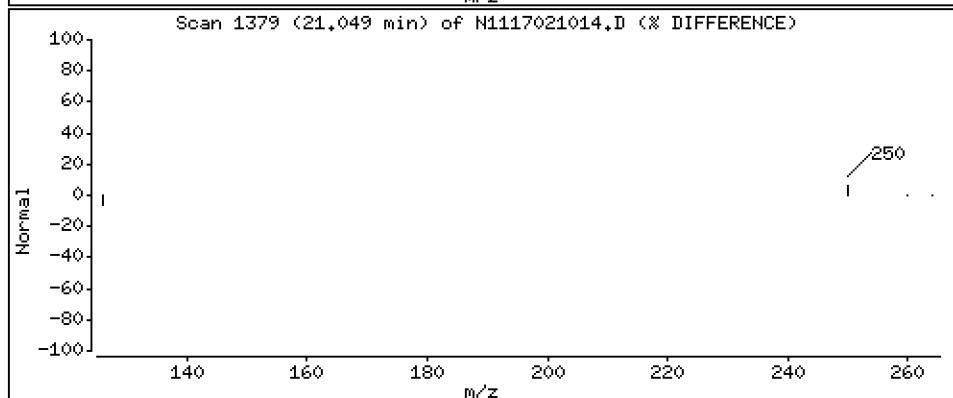
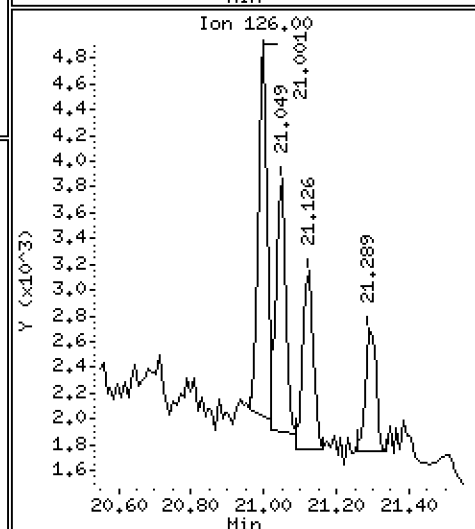
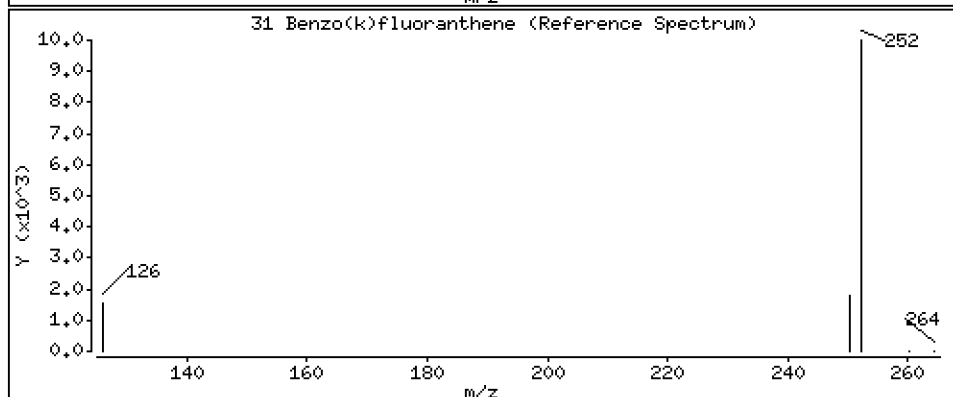
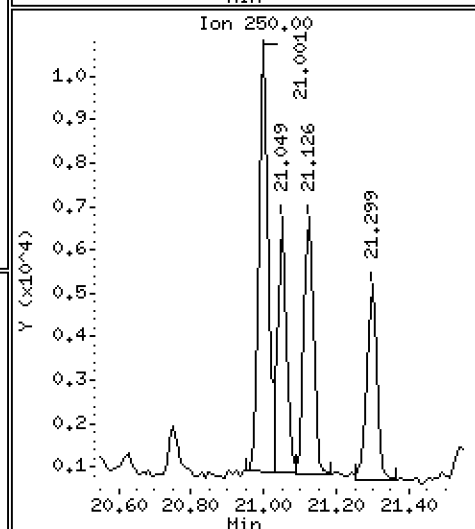
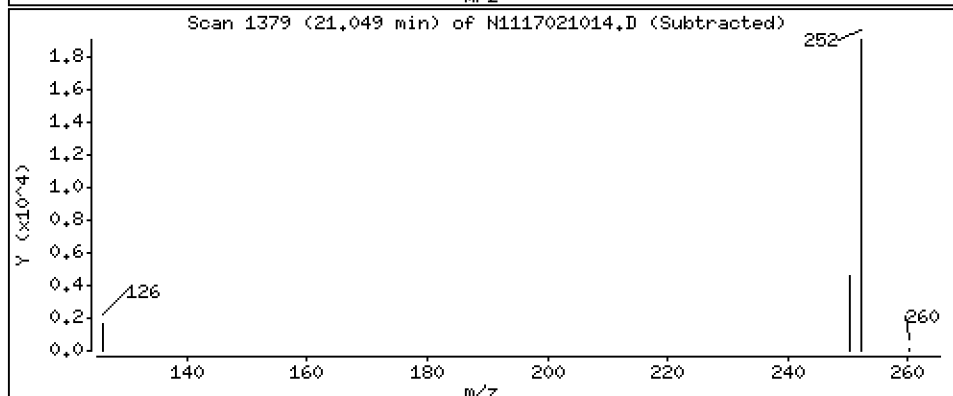
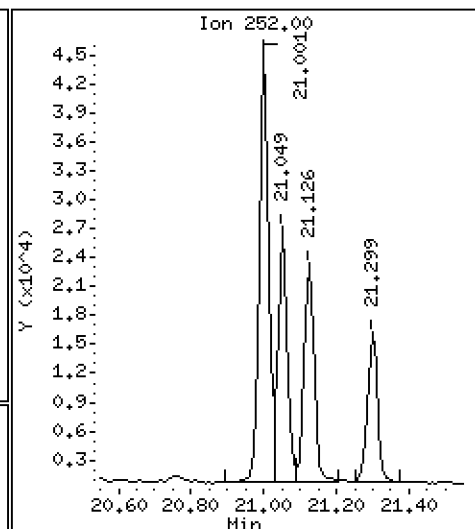
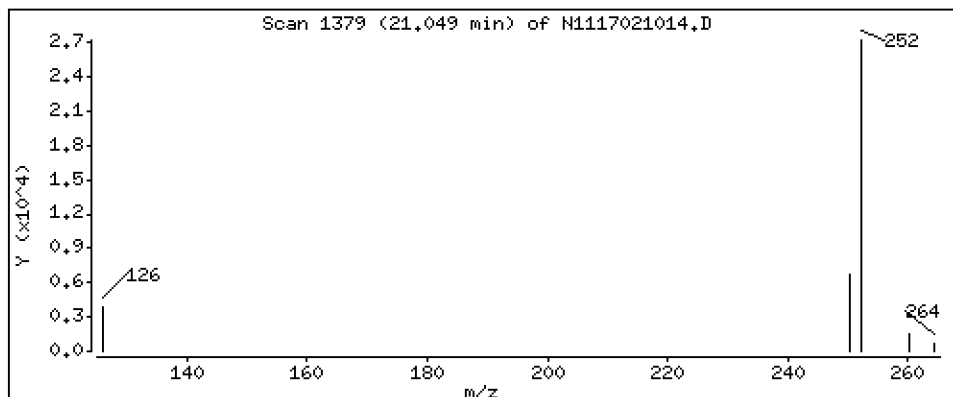
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

31 Benzo(k)fluoranthene

Concentration: 37,0 ng/mL



Date : 10-FEB-2017 18:50

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-07

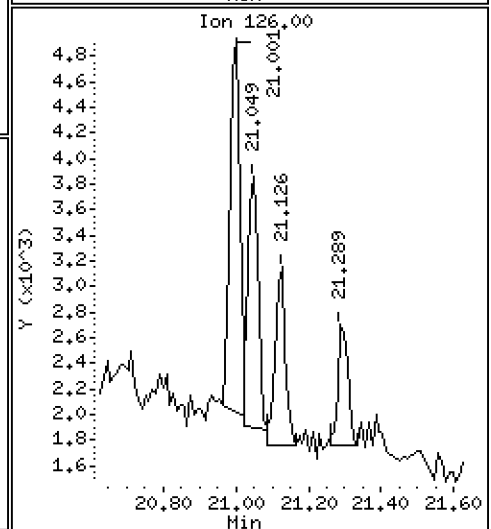
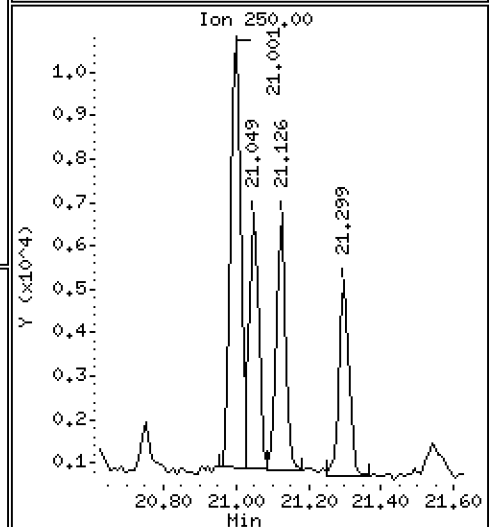
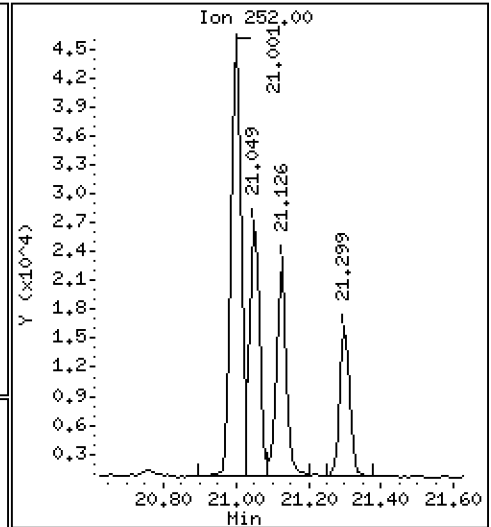
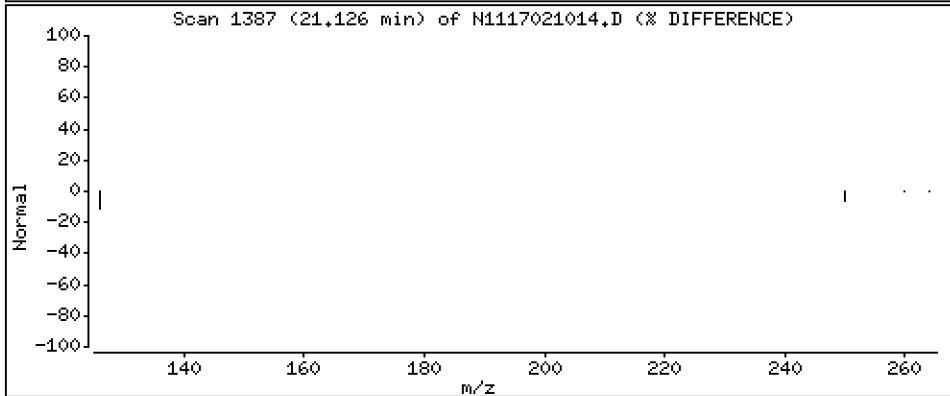
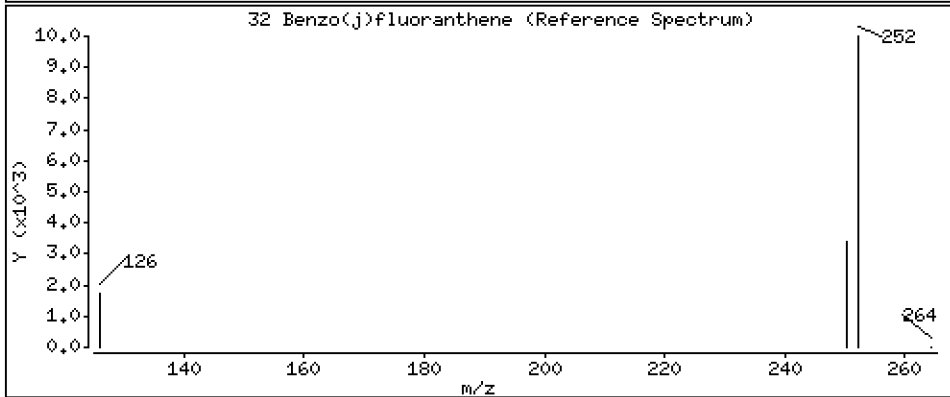
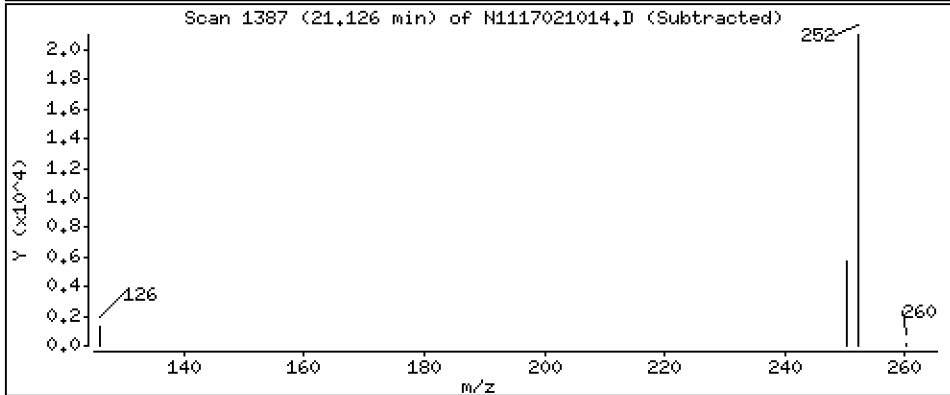
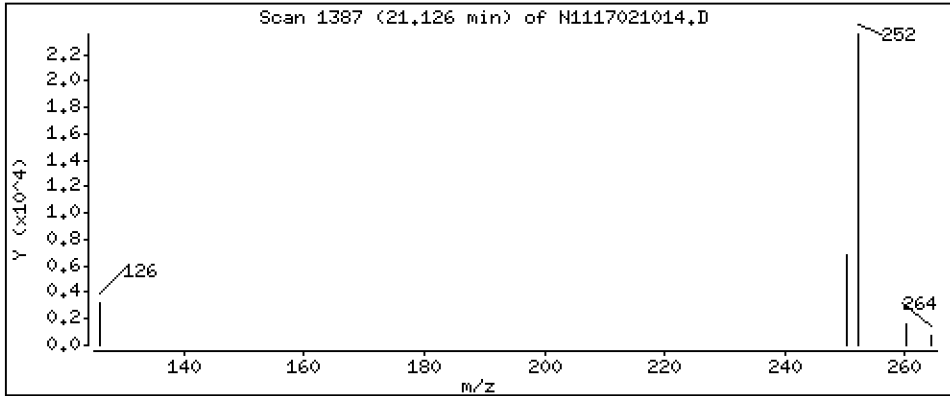
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

32 Benzo(j)fluoranthene

Concentration: 35,7 ng/mL



Date : 10-FEB-2017 18:50

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-07

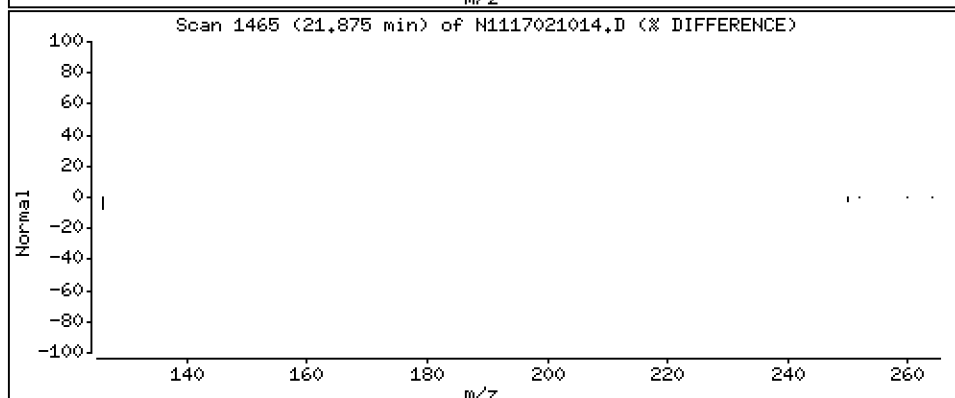
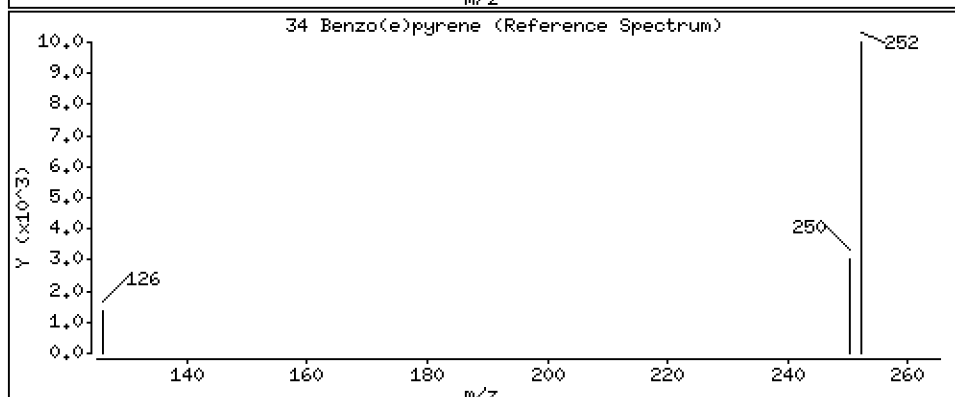
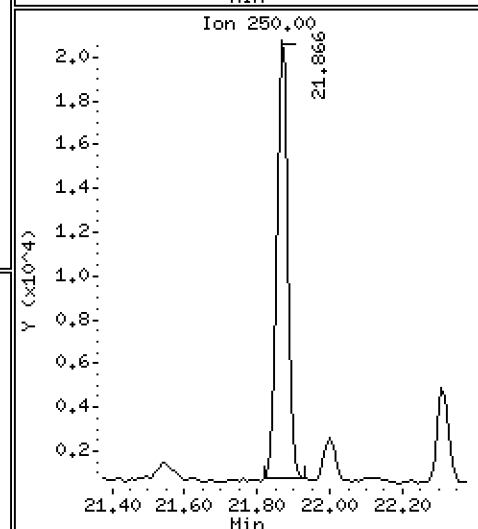
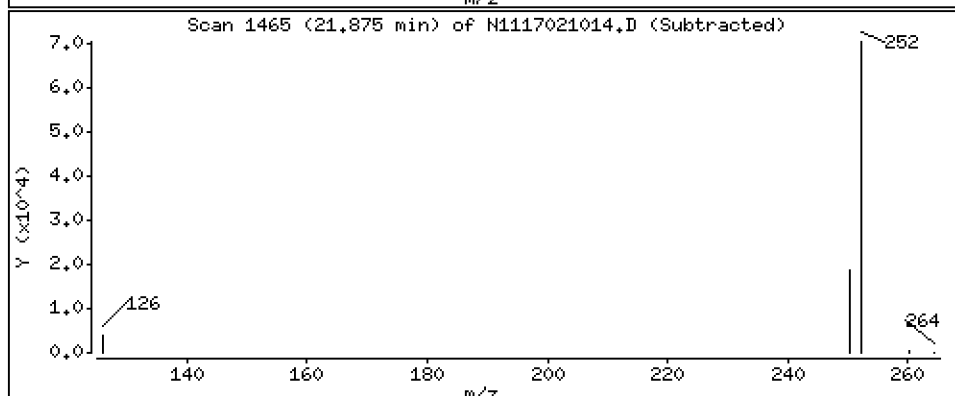
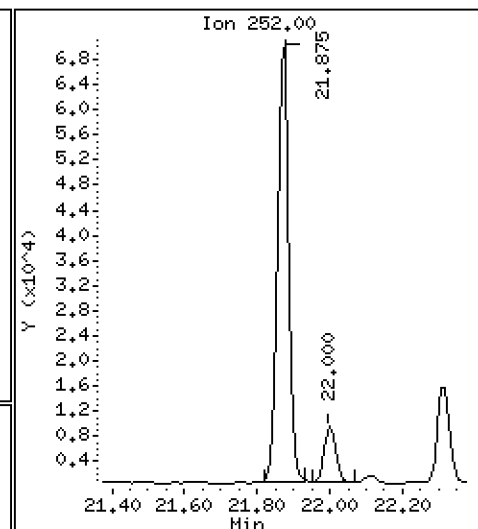
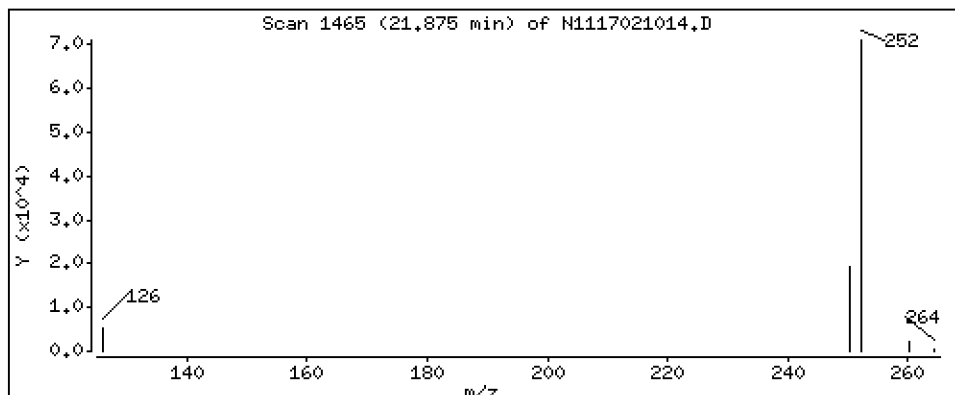
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

34 Benzo(e)pyrene

Concentration: 121 ng/mL



Date : 10-FEB-2017 18:50

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-07

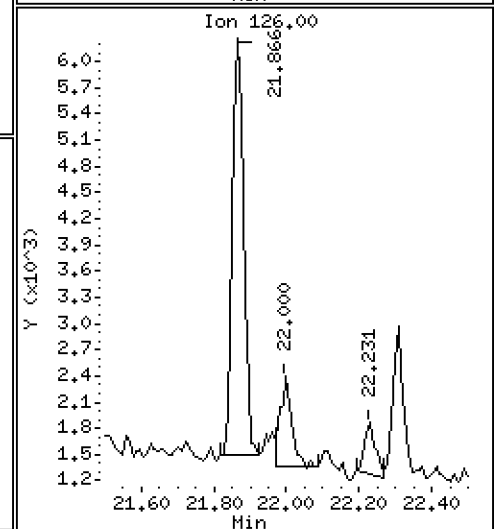
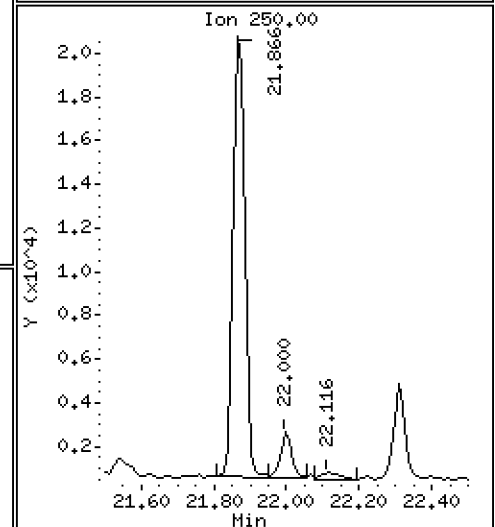
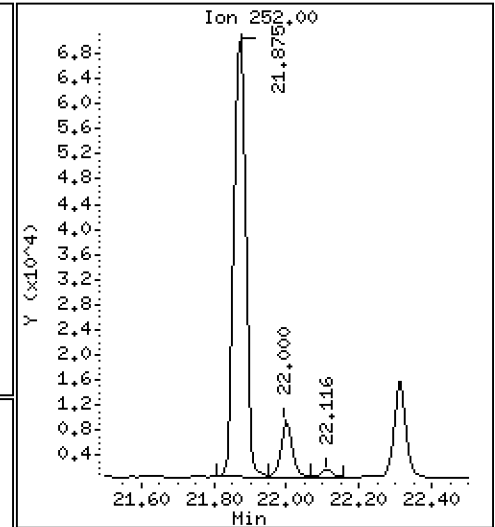
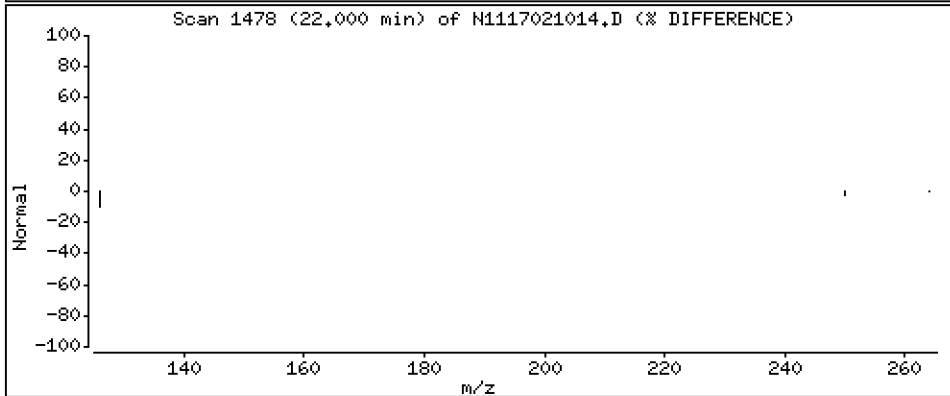
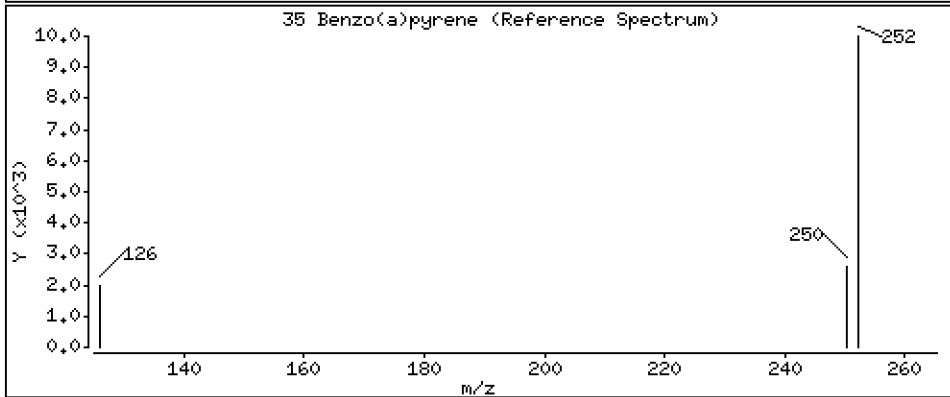
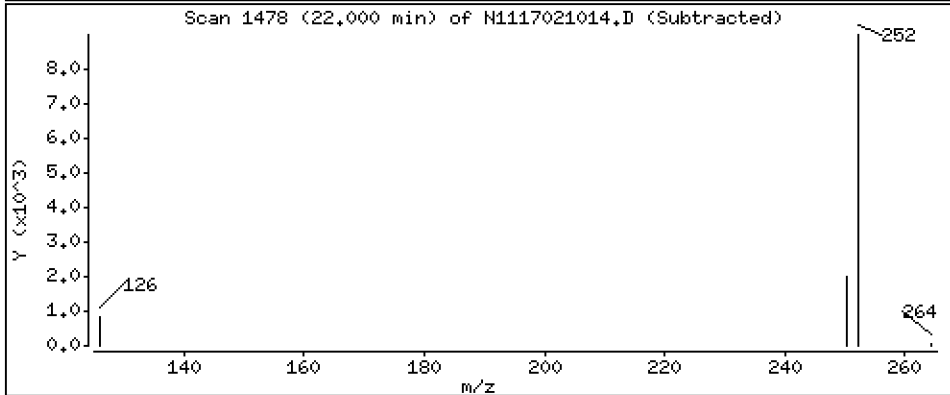
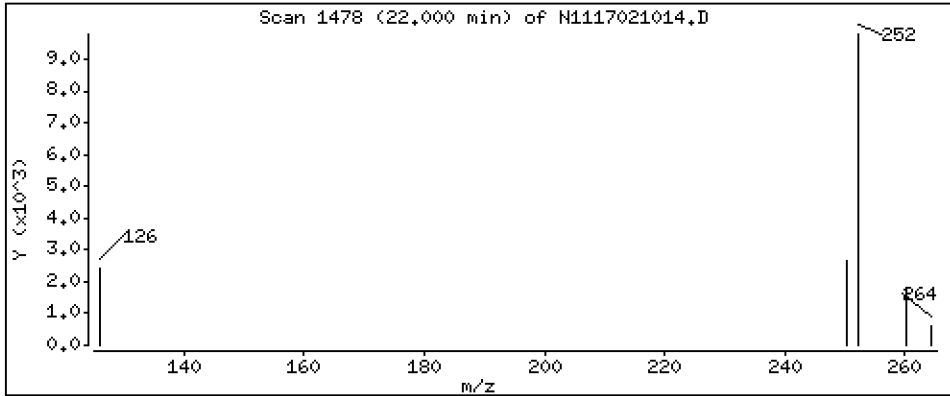
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

35 Benzo(a)pyrene

Concentration: 17,1 ng/mL



Date : 10-FEB-2017 18:50

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-07

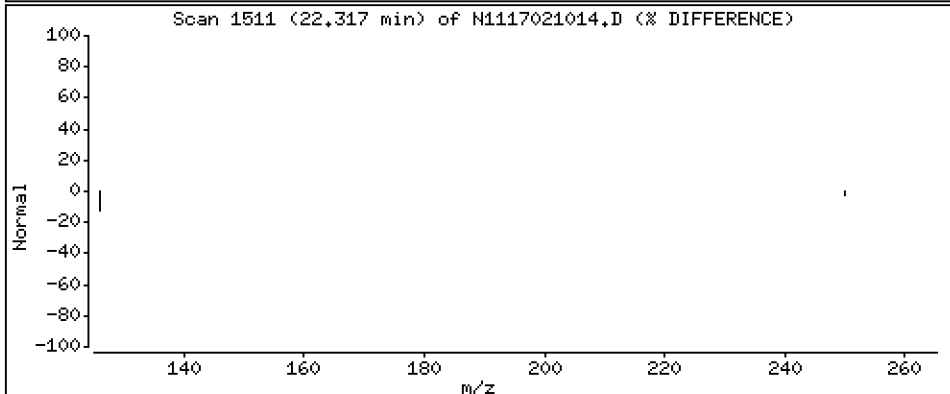
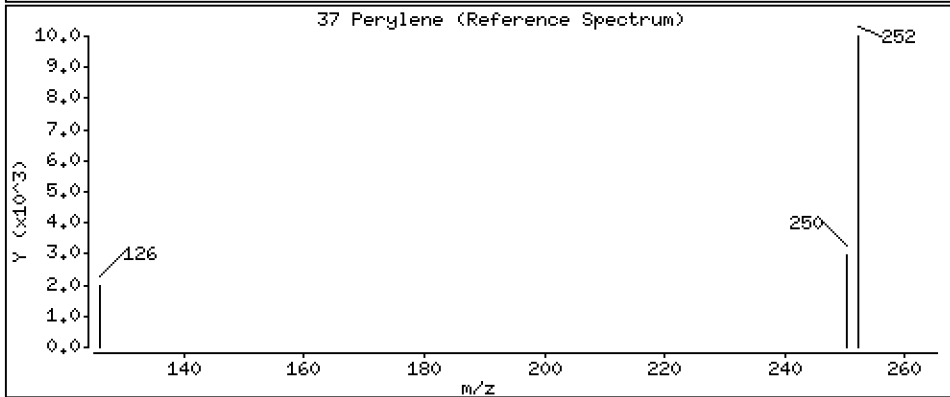
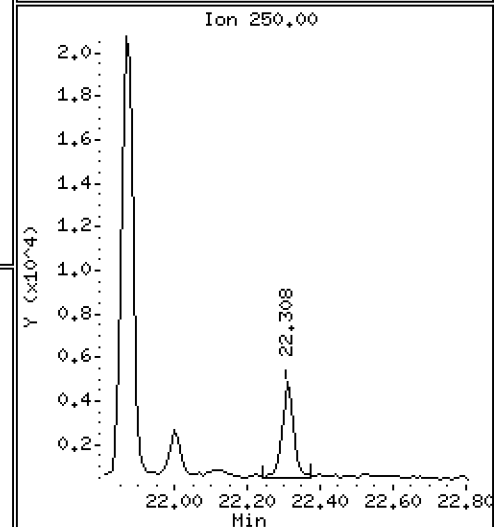
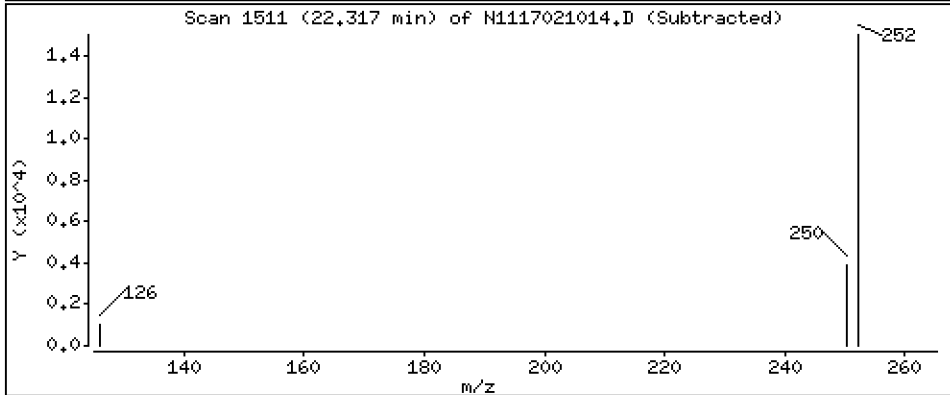
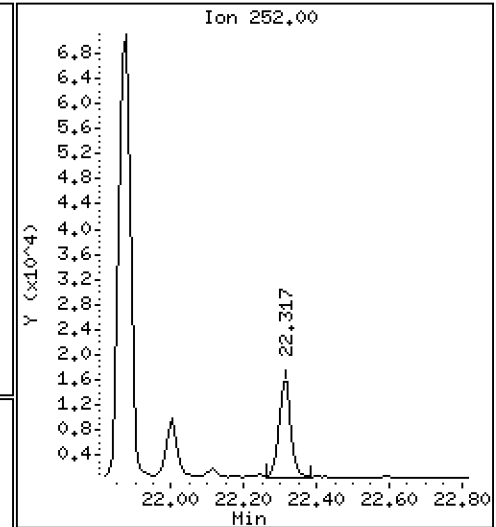
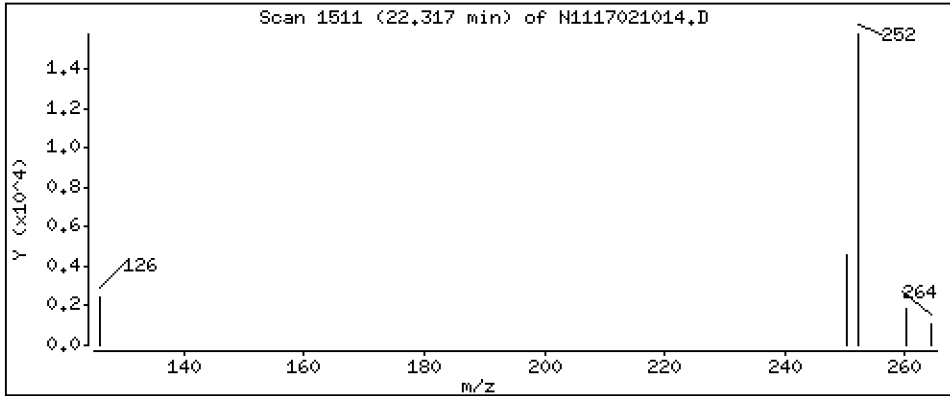
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

Concentration: 28,7 ng/mL

37 Perylene



Date : 10-FEB-2017 18:50

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-07

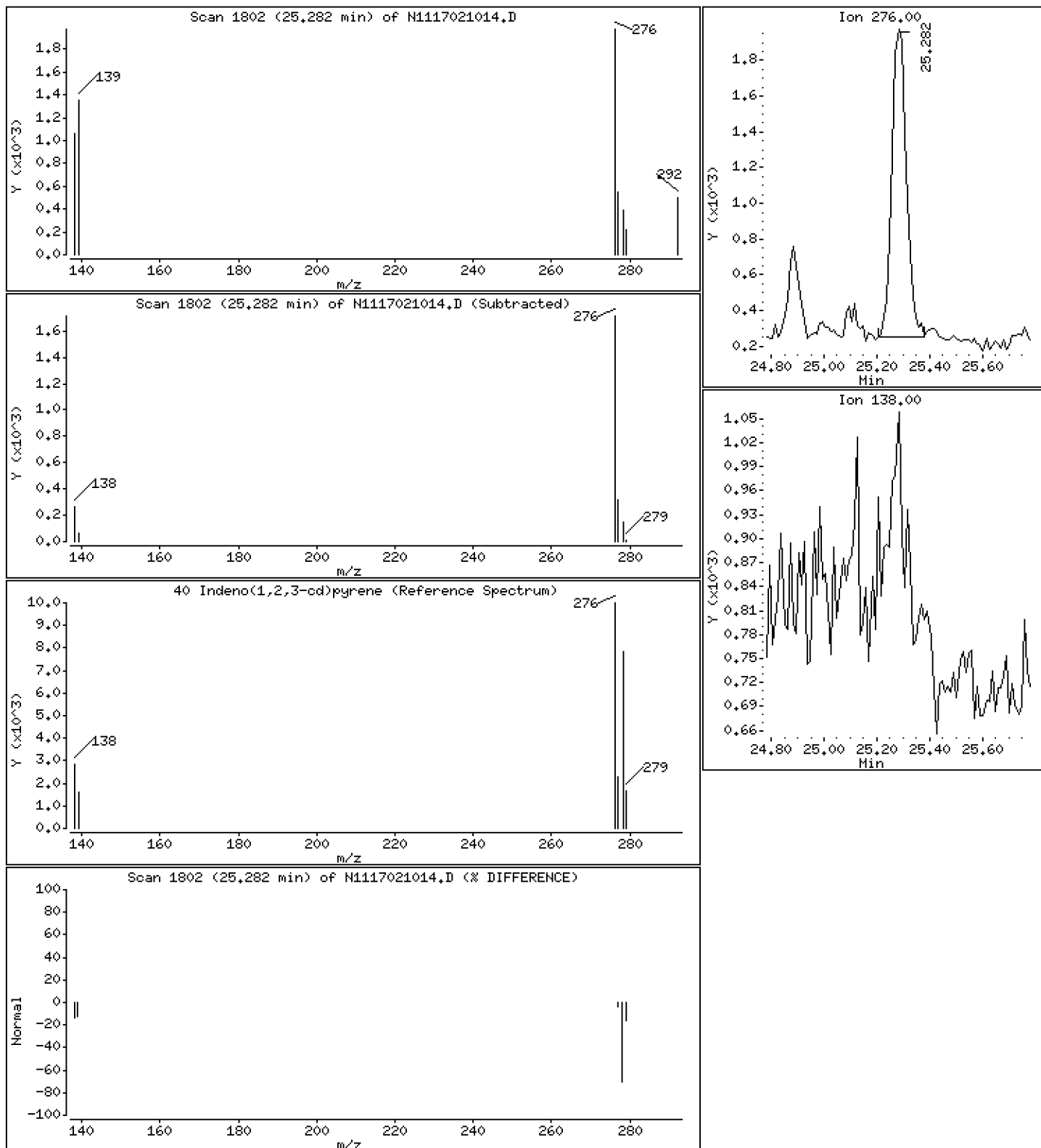
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

40 Indeno(1,2,3-cd)pyrene

Concentration: 5,03 ng/mL



Date : 10-FEB-2017 18:50

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-07

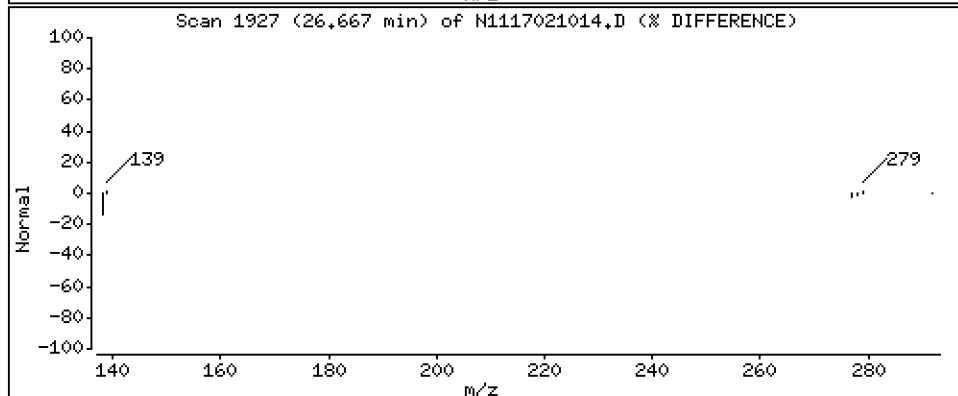
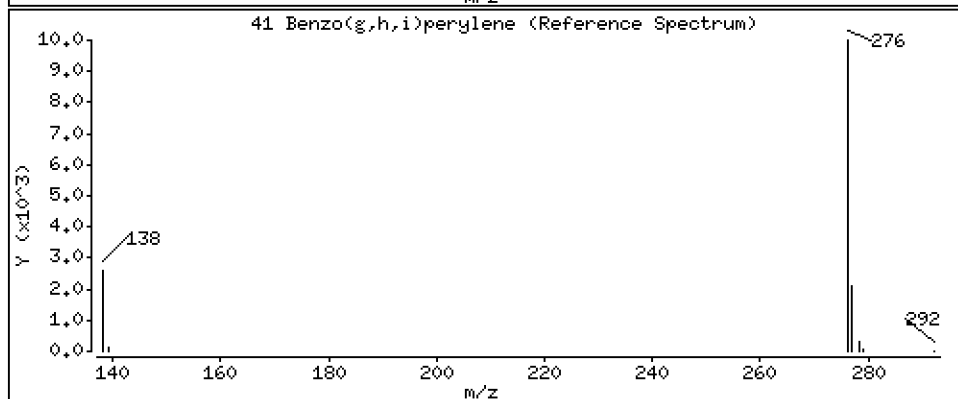
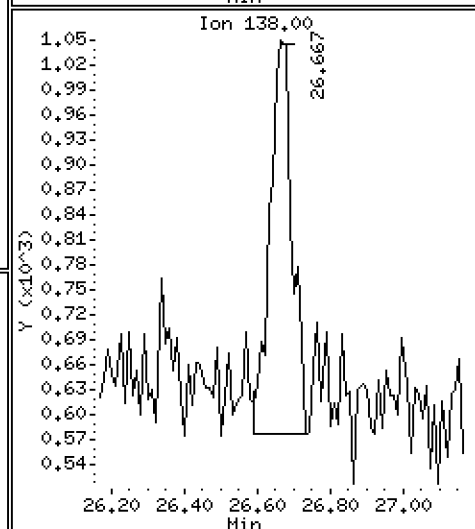
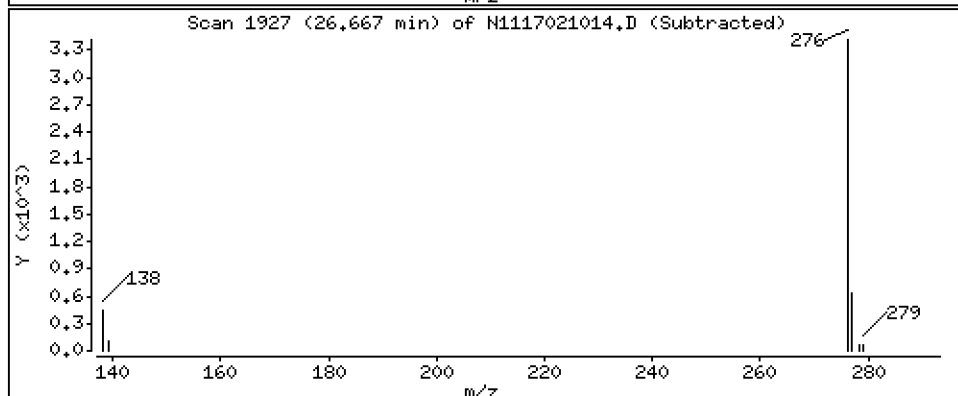
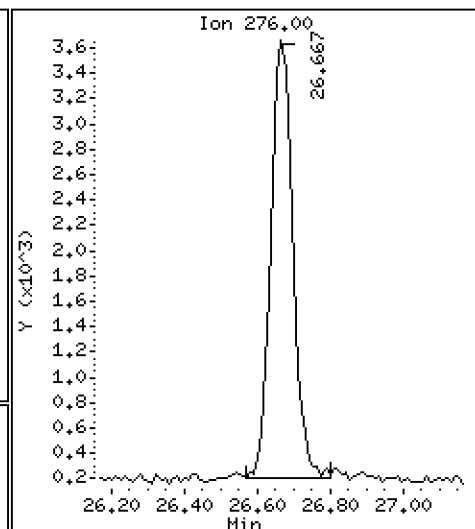
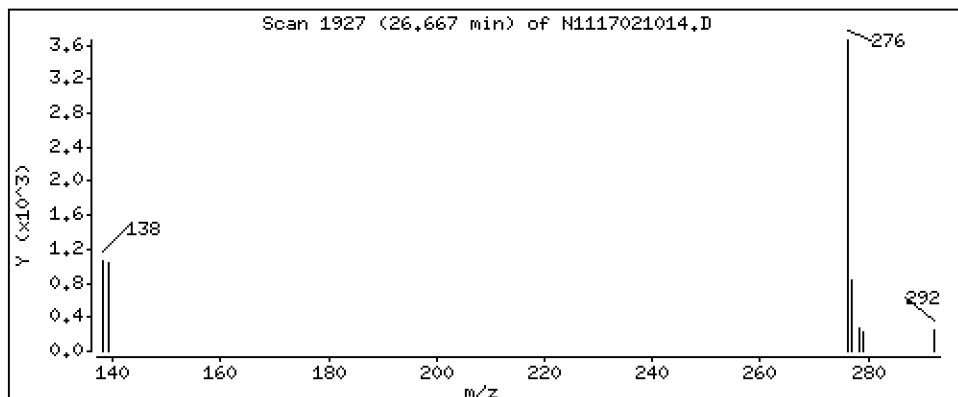
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

41 Benzo(g,h,i)perylene

Concentration: 12,3 ng/mL



ARI Labs, Inc.

LOW LEVEL PNAs BY SW8270D-SIM

Data file : \\target\share\chem3\nt11.i\20170210.b\N1117021014.D
 Lab Smp Id: 17A0053-07
 Inj Date : 10-FEB-2017 18:50 MS Autotune Date: 15-JAN-2015 15:59
 Operator : VTS Inst ID: nt11.i
 Smp Info : 17A0053-07
 Misc Info :
 Comment :
 Method : \\target\share\chem3\nt11.i\20170210.b\LOWSIM.m
 Meth Date : 11-Feb-2017 08:35 nt11.i Quant Type: ISTD
 Cal Date : 31-DEC-2016 09:30 Cal File: N1116123104.D
 Als bottle: 1
 Dil Factor: 1.00000
 Integrator: HP RTE Compound Sublist: allpna.sub
 Target Version: 4.14
 Processing Host: VANS

Compounds	QUANT	SIG	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS	
							ON-COLUMN (ng/mL)	FINAL (ng/mL)
* 1 Naphthalene-d8	136		8.517	8.526	(1.000)	228488	200.000	
2 Naphthalene	128		8.554	8.554	(1.004)	8380	7.34914	7.35
3 Benzo(b)thiophene	134		Compound Not Detected.					
\$ 4 2-Methylnaphthalene-d10	152		9.498	9.508	(1.115)	125722	128.119	128
5 2-Methylnaphthalene	142		9.561	9.561	(1.122)	5155	4.58699	4.59
6 1-Methylnaphthalene	142		Compound Not Detected.					
7 2-Chloronaphthalene	162		Compound Not Detected.					
8 Biphenyl	154		Compound Not Detected.					
9 2,6-Dimethylnaphthalene	156		Compound Not Detected.					
10 Acenaphthylene	152		11.410	11.410	(0.987)	6357	4.50986	4.51
* 11 Acenaphthene-d10	164		11.555	11.564	(1.000)	156874	200.000	
12 Acenaphthene	153		11.618	11.627	(1.005)	4594	4.95005	4.95 (M)
13 Dibenzofuran	168		11.822	11.822	(1.023)	7268	5.26810	5.27
14 2,3,5-Trimethylnaphthalene	170		Compound Not Detected.					
\$ 15 Fluorene-d10	174		Compound Not Detected.					
16 Fluorene	166		12.454	12.454	(1.078)	9563	8.70705	8.71
17 Dibenzothiophene	184		14.083	14.083	(0.988)	2342	2.02786	2.03 (MH)
* 18 Phenanthrene-d10	188		14.251	14.262	(1.000)	250109	200.000	
19 Phenanthrene	178		14.293	14.293	(1.003)	87834	61.4253	61.4
\$ 20 Anthracene-d10	188		Compound Not Detected.					
21 Anthracene	178		14.356	14.356	(1.007)	32149	22.5483	22.5
22 Carbazole	167		Compound Not Detected.					
23 1-Methylphenanthrene	192		15.298	15.307	(1.073)	11978	8.16818	8.17 (M)
\$ 24 Fluoranthene-d10	212		16.367	16.367	(1.148)	188356	141.792	142
25 Fluoranthene	202		16.405	16.405	(1.151)	306348	188.870	189
26 Pyrene	202		16.905	16.915	(0.889)	297778	208.801	209
27 Benzo(a)anthracene	228		18.925	18.933	(0.995)	72870	55.1996	55.2
* 28 Chrysene-d12	240		19.024	19.024	(1.000)	219541	200.000	
29 Chrysene	228		19.057	19.074	(1.002)	146273	107.982	108
30 Benzo(b)fluoranthene	252		21.001	21.001	(0.944)	86736	68.9624	69.0
31 Benzo(k)fluoranthene	252		21.049	21.049	(0.946)	50106	36.9872	37.0
32 Benzo(j)fluoranthene	252		21.125	21.125	(0.950)	43118	35.7071	35.7
\$ 33 Benzo(e)pyrene-d12	264		Compound Not Detected.					

Compounds	QUANT	SIG	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS		
							ON-COLUMN (ng/mL)	FINAL (ng/mL)	
34 Benzo(e)pyrene	252		21.875	21.875	(0.984)	151975	121.135	121	
35 Benzo(a)pyrene	252		22.000	22.000	(0.989)	20074	17.1204	17.1	
* 36 Perylene-d12	264		22.240	22.240	(1.000)	233325	200.000		
37 Perylene	252		22.317	22.317	(1.003)	35163	28.7229	28.7	
§ 38 Dibenzo(a,h)anthracene-d14	292		25.116	25.116	(1.129)	117235	157.337	157	
39 Dibenzo(a,h)anthracene	278		Compound Not Detected.						
40 Indeno(1,2,3-cd)pyrene	276		25.282	25.282	(1.137)	6434	5.02612	5.03	
41 Benzo(g,h,i)perylene	276		26.666	26.666	(1.199)	14164	12.3242	12.3	

QC Flag Legend

- M - Compound response manually integrated.
- H - Operator selected an alternate compound hit.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
 AREA AND RT SUMMARY

Instrument ID: nt11.i Calibration Date: 10-FEB-2017
 Lab File ID: N1117021014.D Calibration Time: 13:29
 Lab Smp Id: 17A0053-07
 Analysis Type: SV Level:
 Quant Type: ISTD Sample Type:
 Operator: VTS
 Method File: \\target\share\chem3\nt11.i\20170210.b\LOWSIM.m
 Misc Info:

Test Mode:
 Use Initial Calibration Level 4.

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
1 Naphthalene-d8	219654	109827	439308	228488	4.02
11 Acenaphthene-d10	135248	67624	270496	156874	15.99
18 Phenanthrene-d10	257021	128511	514042	250109	-2.69
28 Chrysene-d12	259511	129756	519022	219541	-15.40
36 Perylene-d12	257535	128768	515070	233325	-9.40

COMPOUND	STANDARD	RT LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
1 Naphthalene-d8	8.53	8.03	9.03	8.52	-0.11
11 Acenaphthene-d10	11.56	11.06	12.06	11.56	-0.08
18 Phenanthrene-d10	14.26	13.76	14.76	14.25	-0.07
28 Chrysene-d12	19.02	18.52	19.52	19.02	-0.00
36 Perylene-d12	22.24	21.74	22.74	22.24	-0.00

AREA UPPER LIMIT = +100% of internal standard area.
 AREA LOWER LIMIT = - 50% of internal standard area.
 RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
 RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - N1117021014.D

Lab ID: 17A0053-07

nt11.i, 20170210.b\LOWSIM.m, 10-FEB-2017 18:50

RT CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

RRT CCV RRT DELTA COMPOUND

NONE

On Column LOD for nt11.i, 20170210.b\LOWSIM.m, allpna.sub = 3.0000

Exception: Naphthalene 7.0000
Exception: Phenanthrene 2.5000
Exception: Anthracene 2.0000
Exception: Pyrene 4.0000
Exception: Benzo(j)fluoranthene 2.5000
Exception: Benzo(a)pyrene 2.0000
Exception: Perylene 3.5000
Exception: Benzo(e)pyrene 2.0000
Exception: Benzo(b)thiophene 2.0000
Exception: 2-Chloronaphthalene 2.0000
Exception: 2,6-Dimethylnaphthalene 2.0000
Exception: 2,3,5-Trimethylnaphthalene 2.0000
Exception: 1-Methylphenanthrene 2.0000
Exception: Dibenzothiophene 2.0000
Exception: Carbazole 2.0000
Exception: Biphenyl 2.0000
Exception: 2-Methylnaphthalene-d10 (Surr) 0.1000
Exception: Dibenzo(a,h)anthracene-d14 (Surr) 0.1000
Exception: Fluoranthene-d10 (Surr) 0.1000
Exception: Anthracene-d10 (Surr) 0.1000
Exception: Benzo(e)pyrene-d12 (Surr) 0.1000
Exception: Fluorene-d10 (Surr) 0.1000

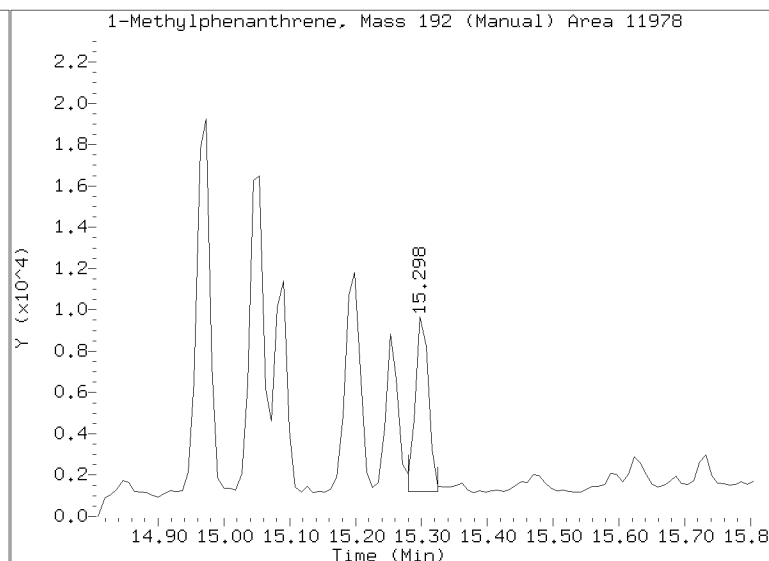
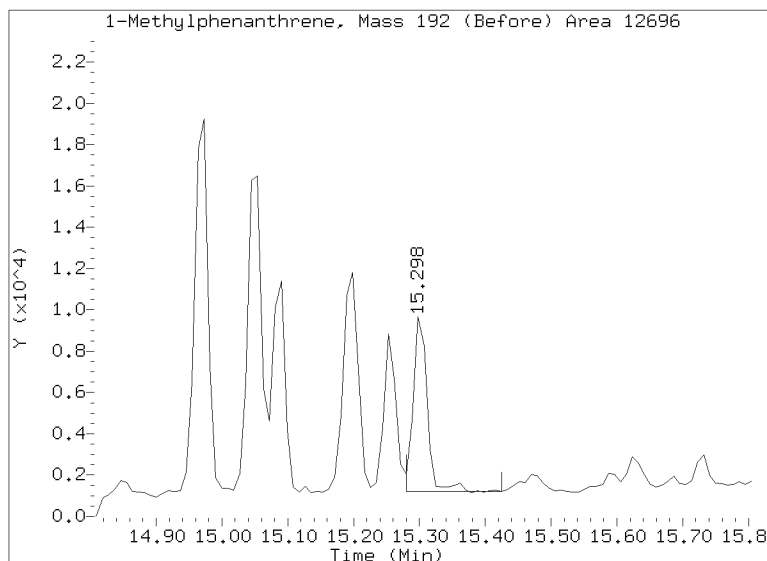
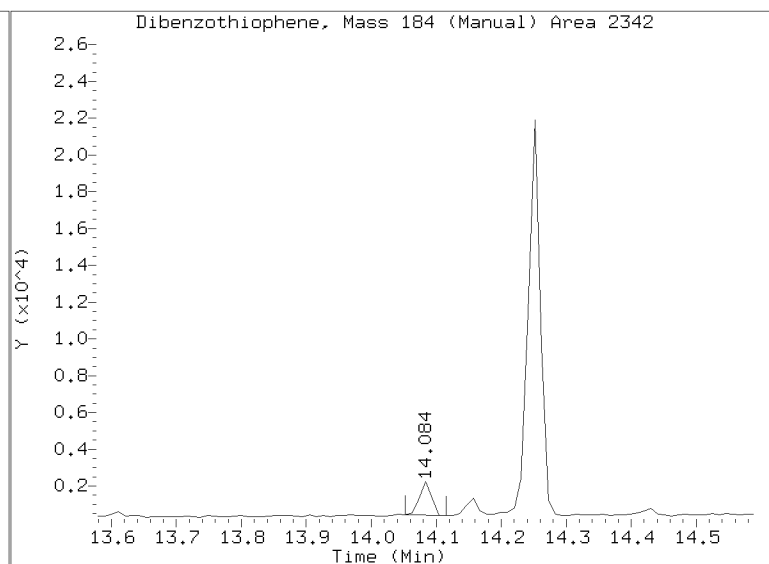
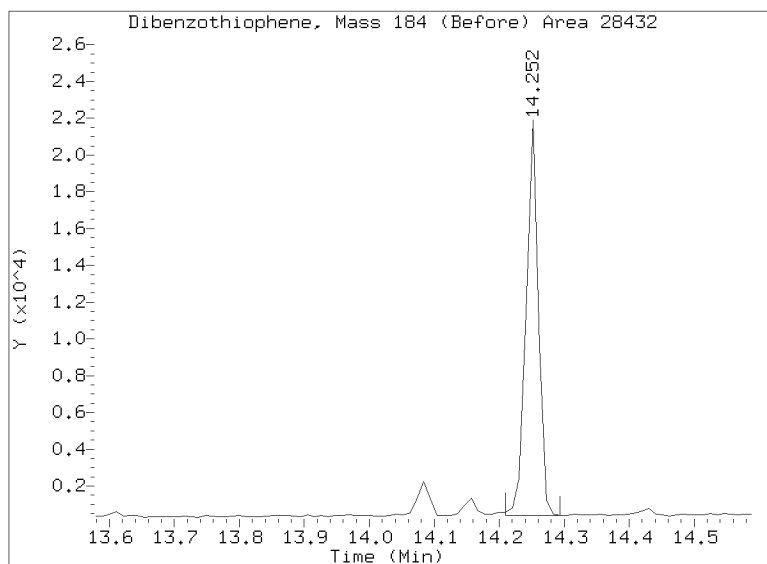
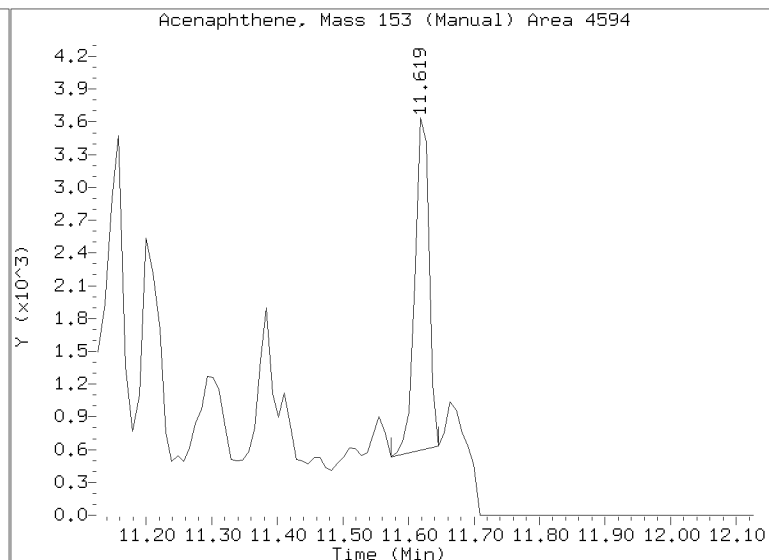
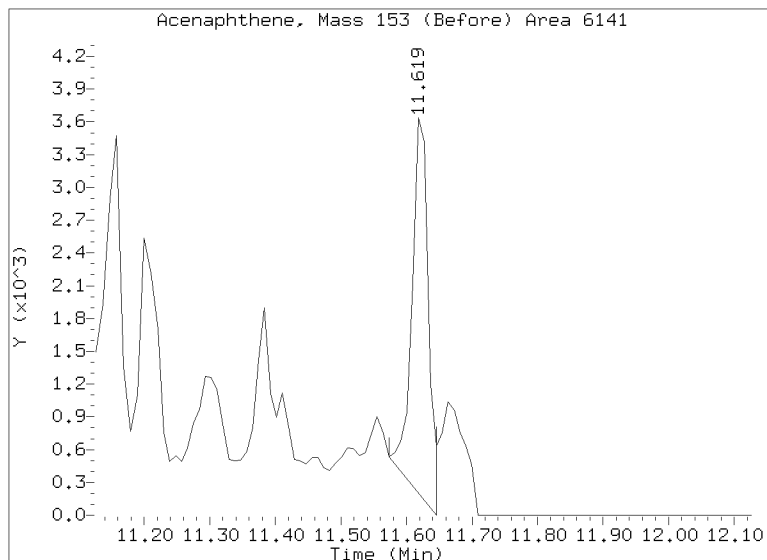
Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt11.i/20170210.b/N1117021014.D

Injection Date: 10-FEB-2017 18:50

Lab ID:17A0053-07 Client ID:

Report Date: 02/11/2017 08:35



Data File: \\target\share\chem3\nt11.1\20170210.16\N1117021015.D

Date : 10-FEB-2017 19:25

Client ID:

Sample Info: 17A0053-08

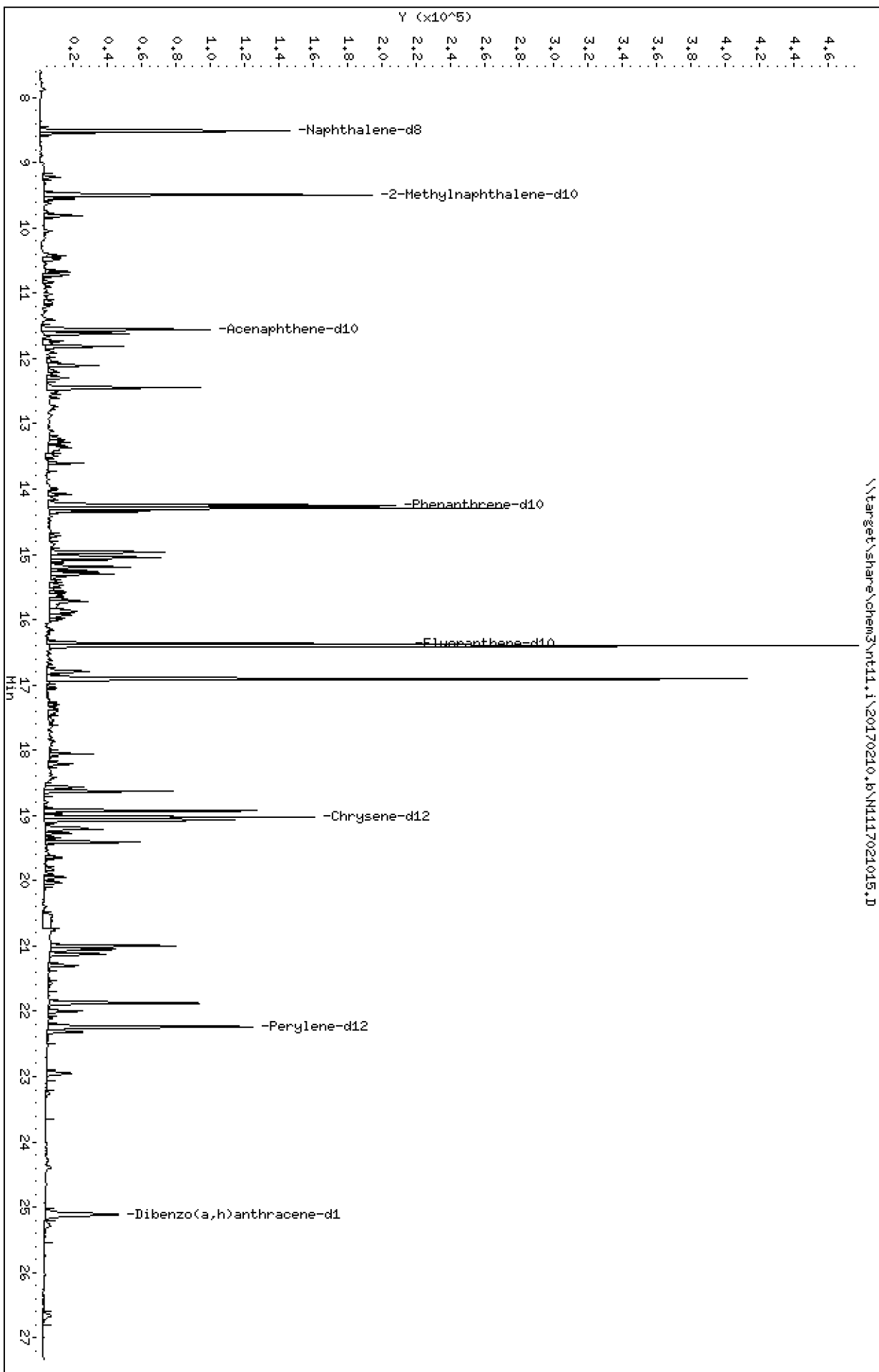
Column phase: Rxi-17Si11 MS

Instrument: nt11.1

Operator: VTS

Column diameter: 0.25

Page 1



Date : 10-FEB-2017 19:25

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-08

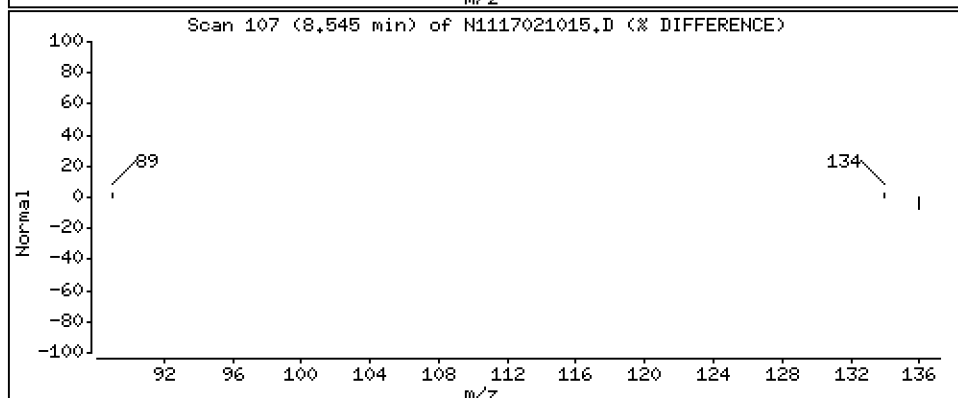
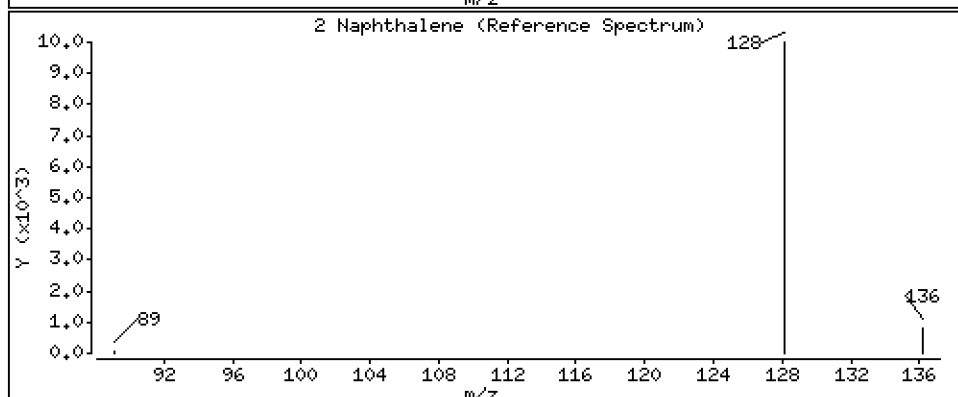
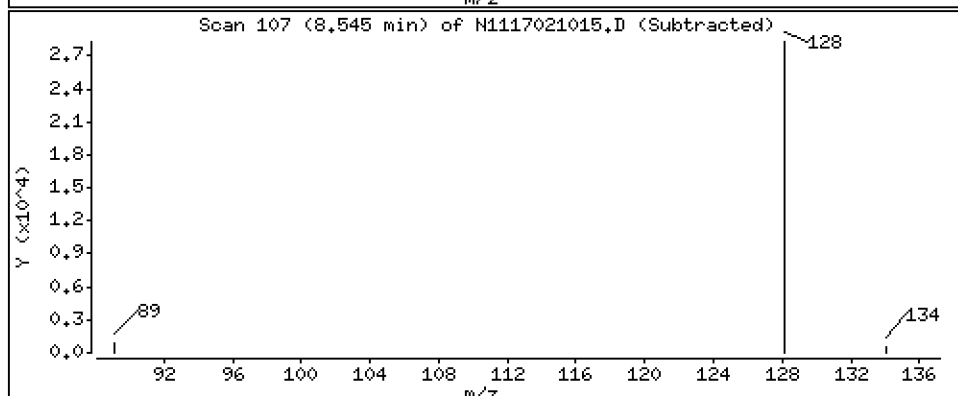
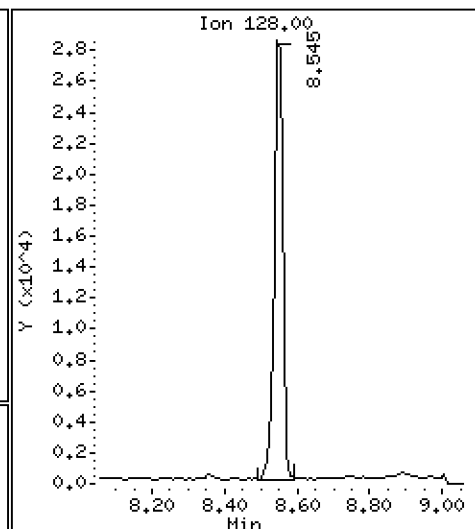
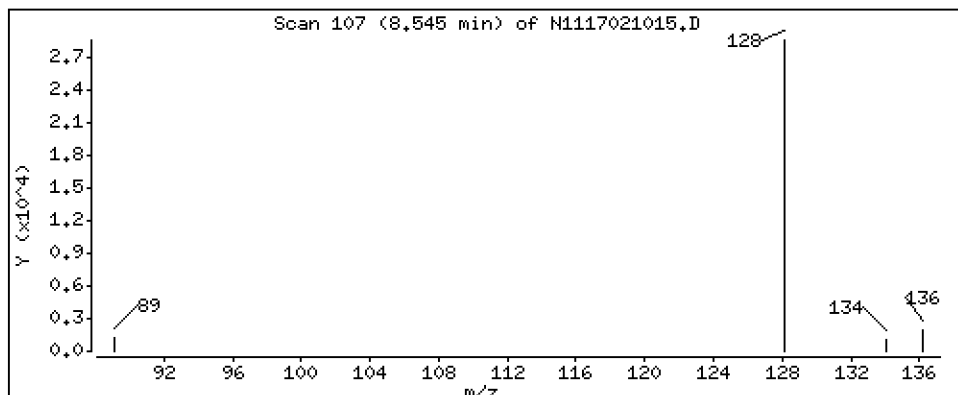
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

2 Naphthalene

Concentration: 44,1 ng/mL



Date : 10-FEB-2017 19:25

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-08

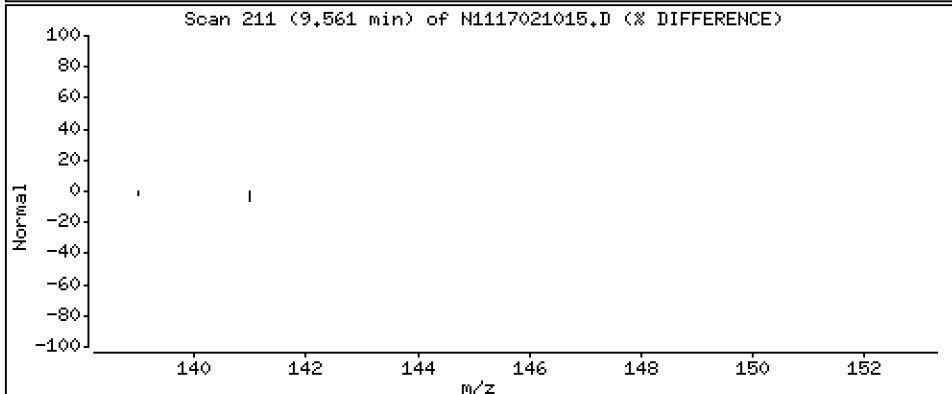
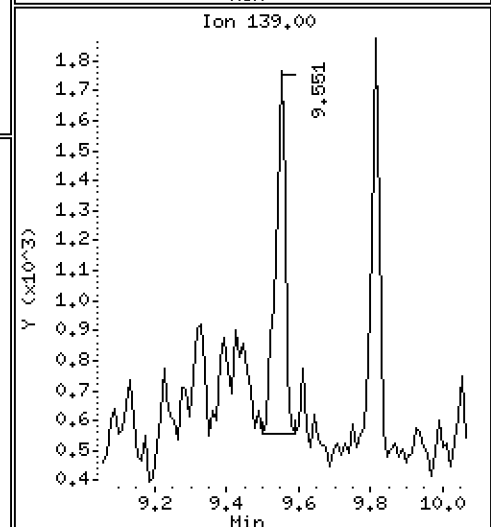
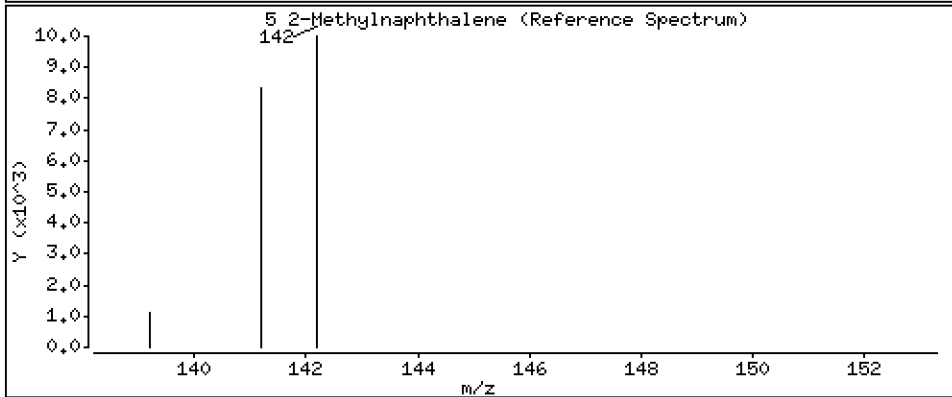
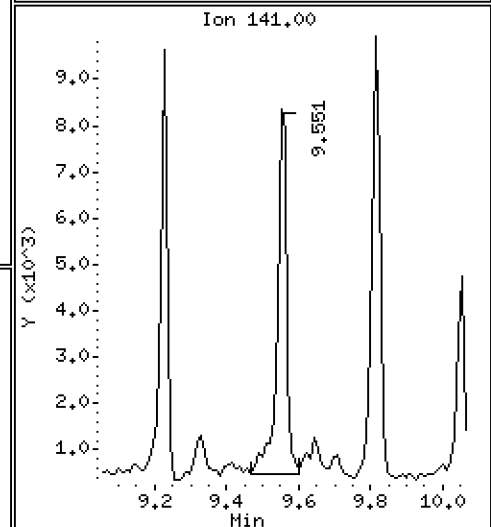
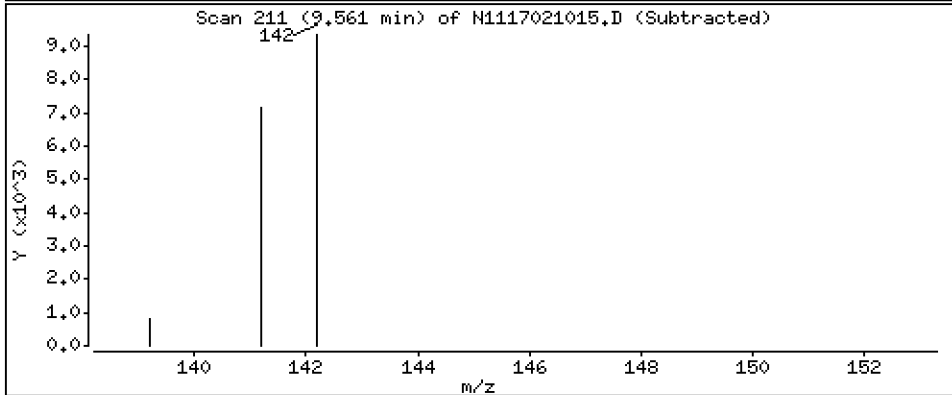
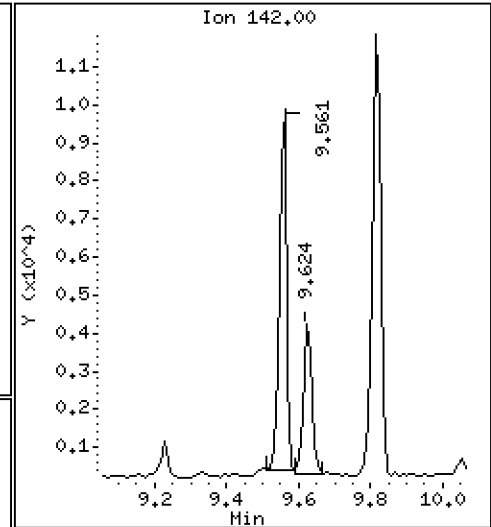
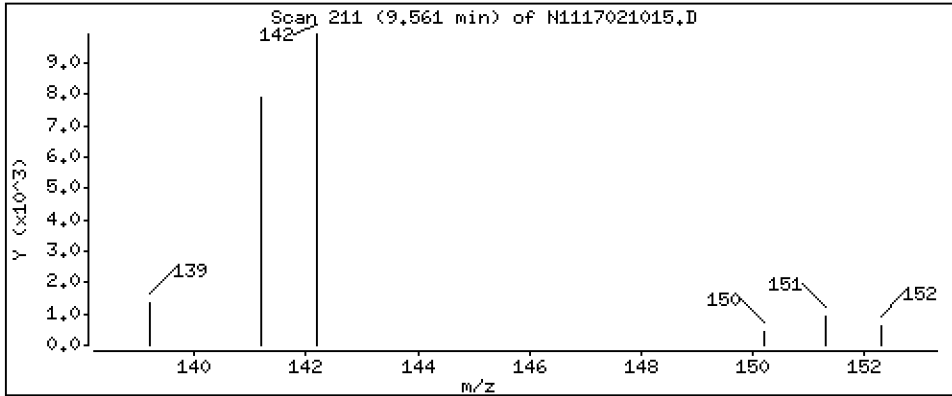
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

5-2-Methylnaphthalene

Concentration: 13,7 ng/mL



Date : 10-FEB-2017 19:25

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-08

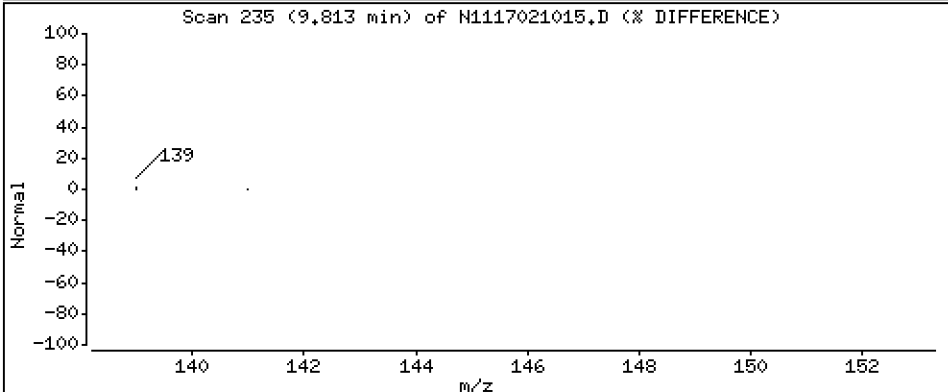
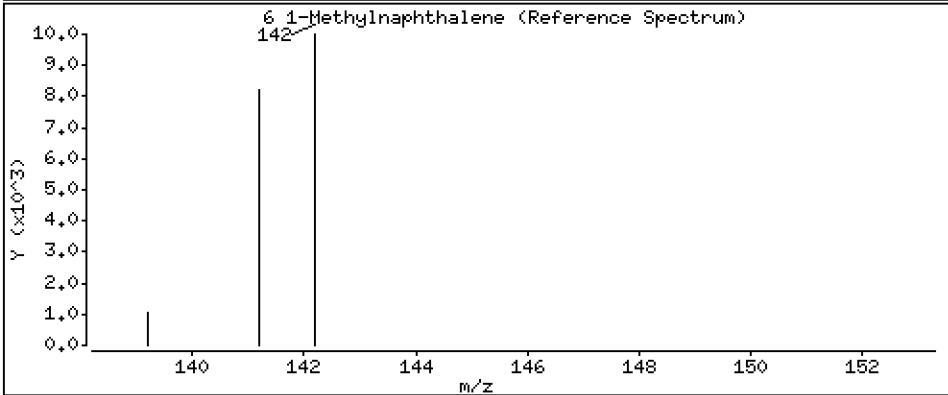
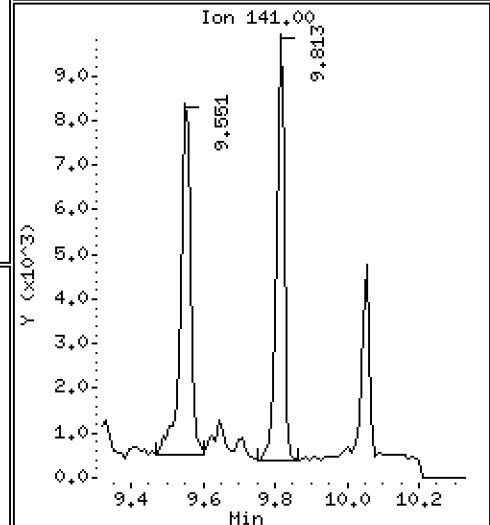
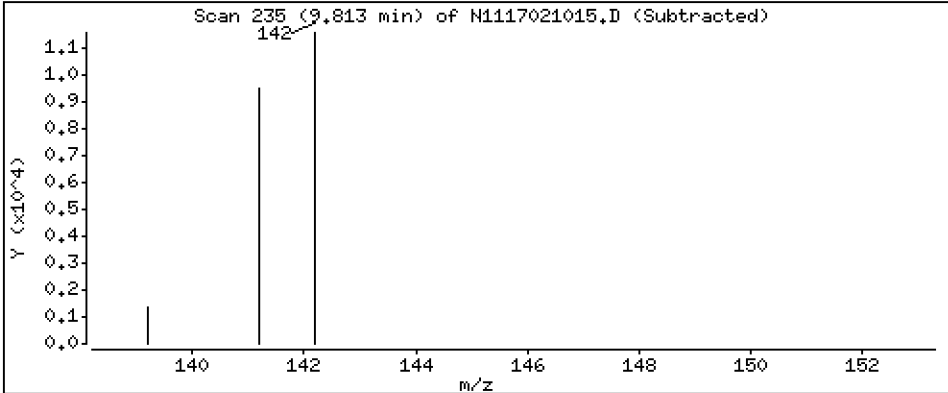
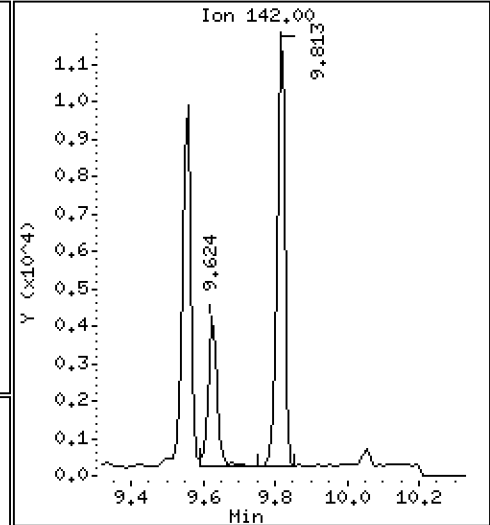
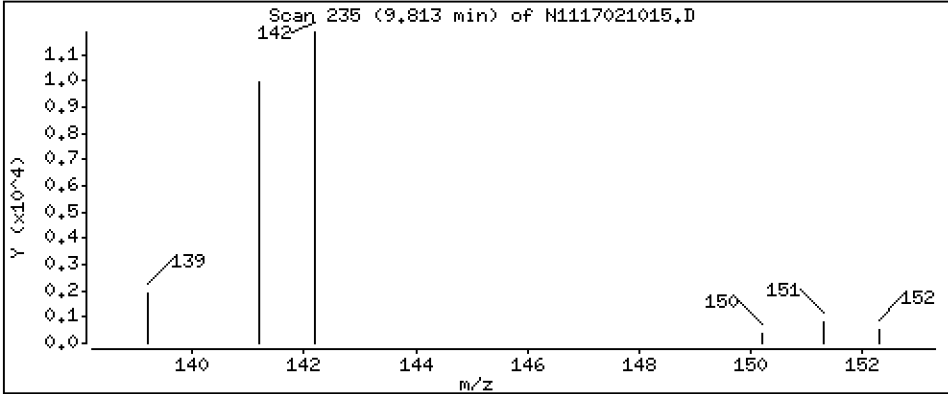
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

6-1-Methylnaphthalene

Concentration: 17,6 ng/mL



Date : 10-FEB-2017 19:25

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-08

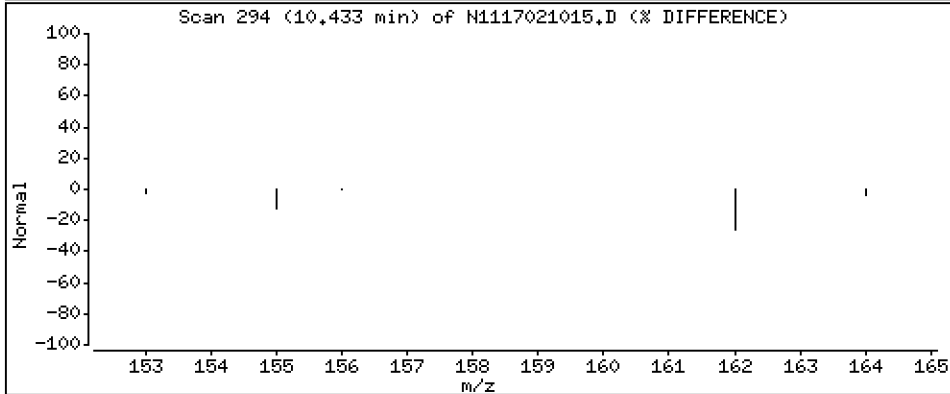
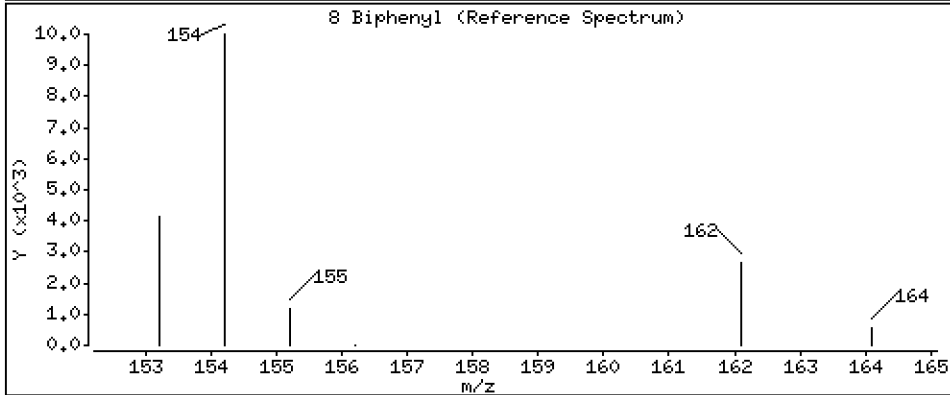
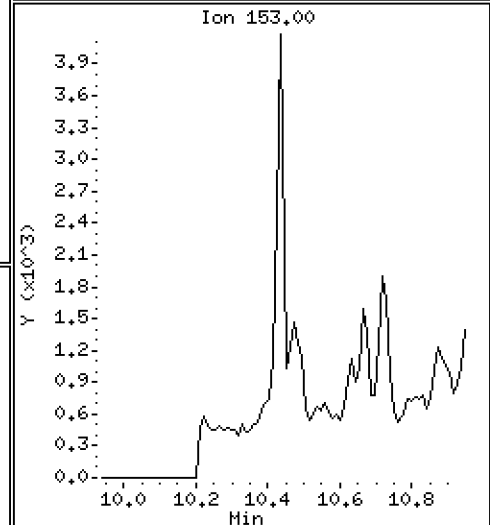
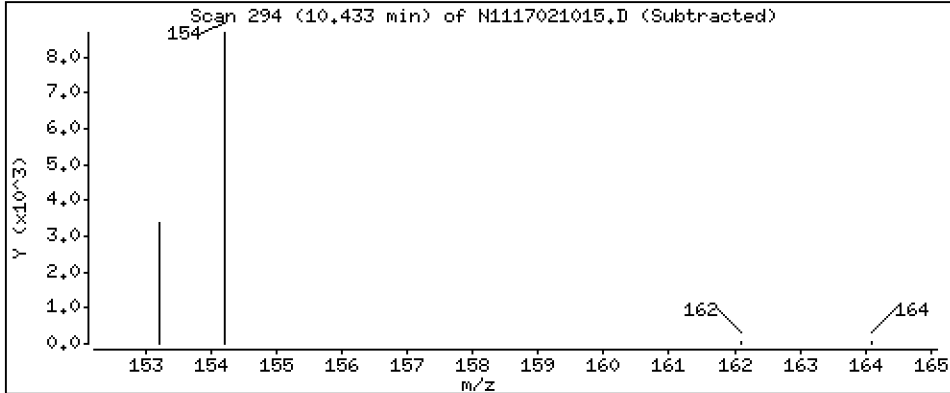
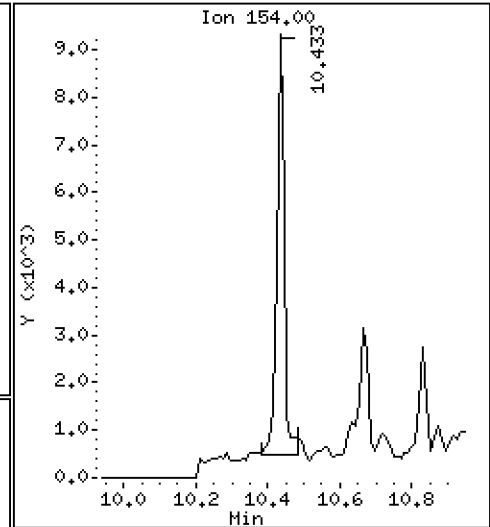
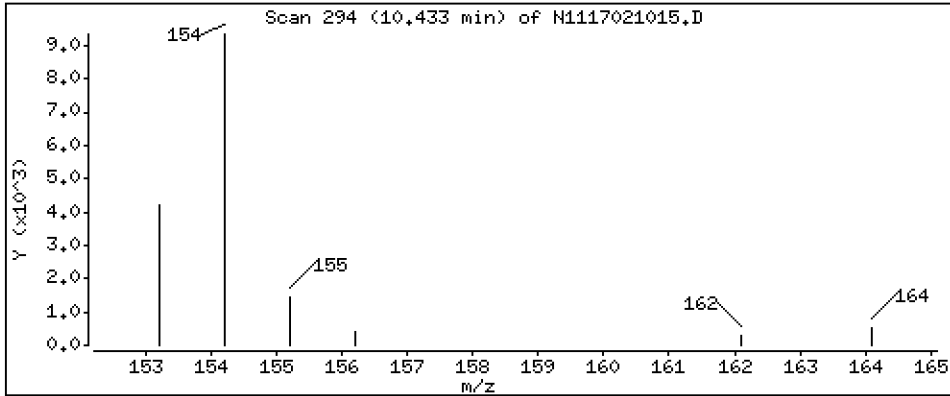
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

8 Biphenyl

Concentration: 9,01 ng/mL



Date : 10-FEB-2017 19:25

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-08

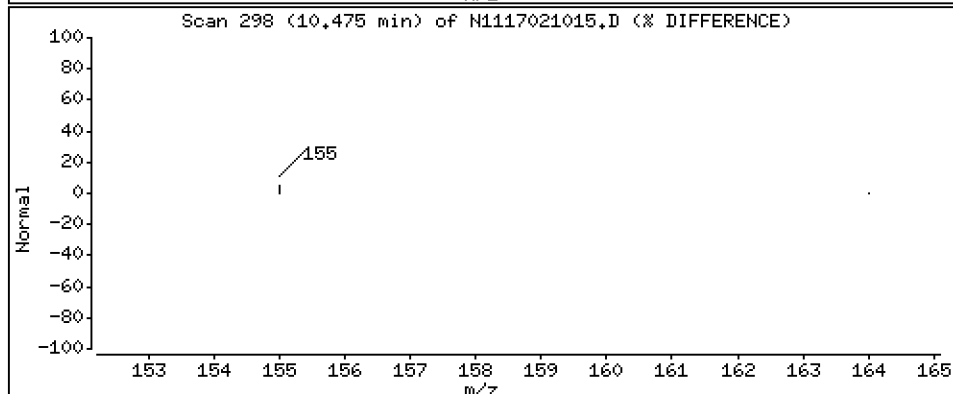
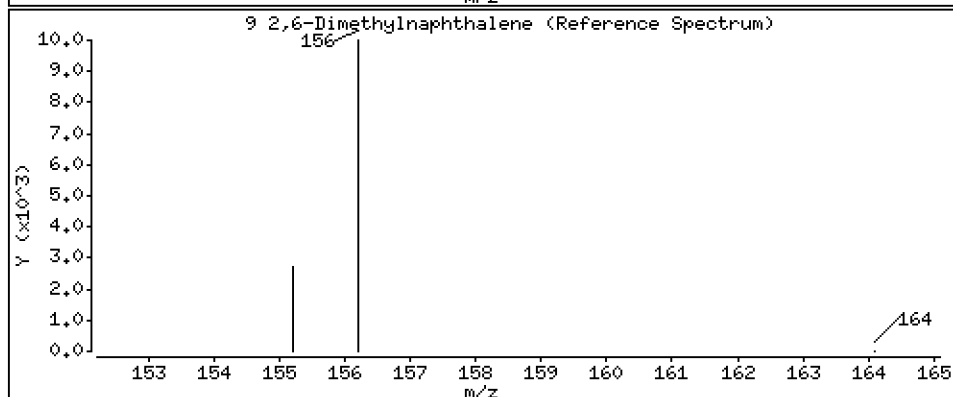
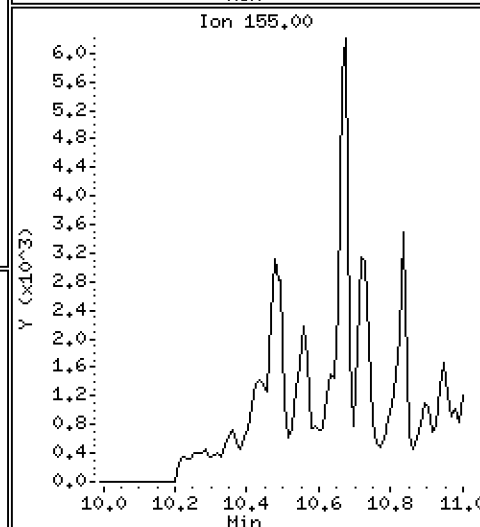
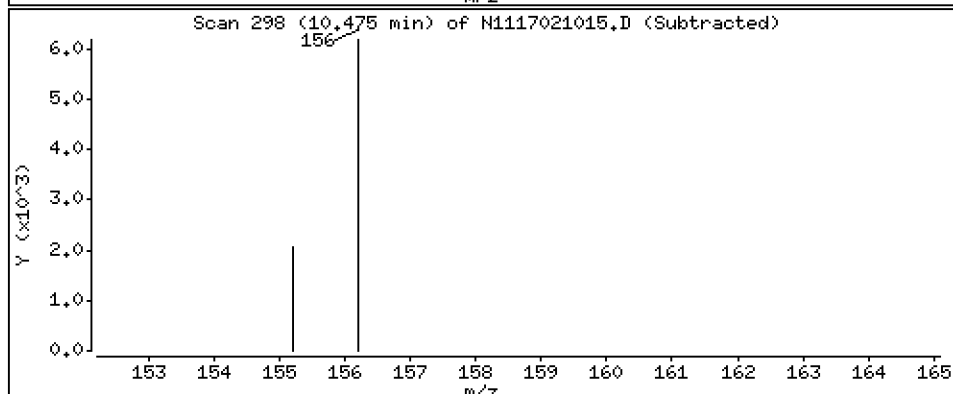
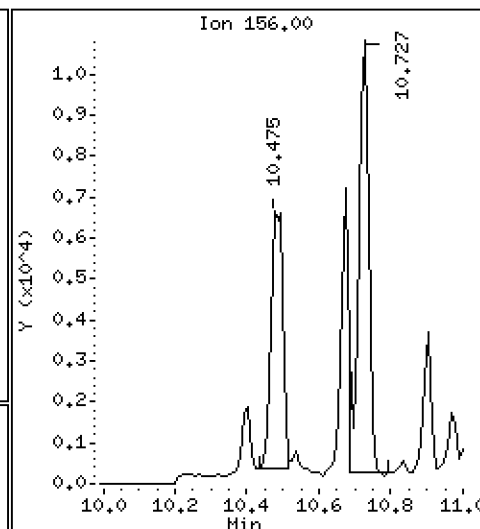
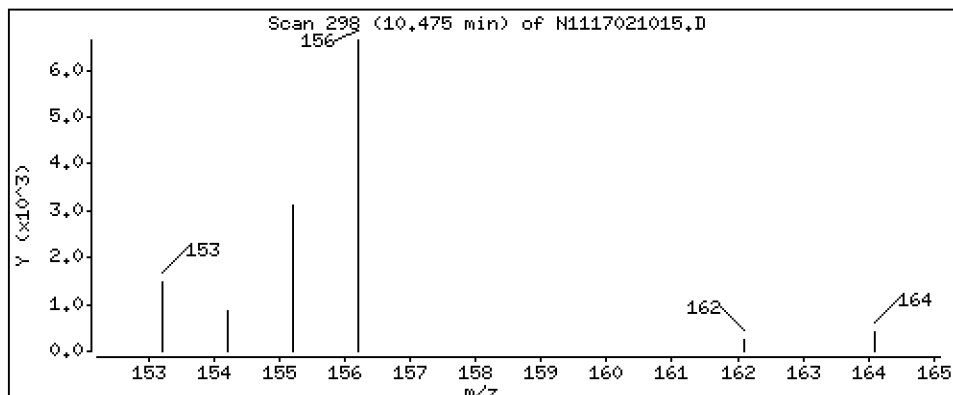
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

9,2,6-Dimethylnaphthalene

Concentration: 13,9 ng/mL



Date : 10-FEB-2017 19:25

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-08

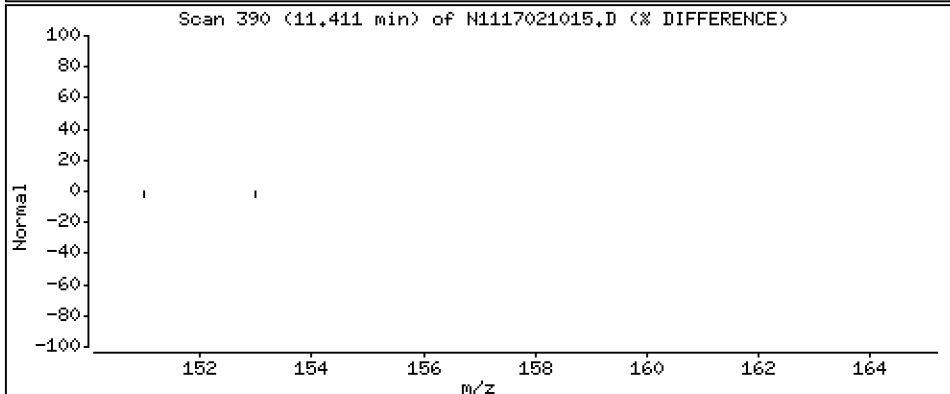
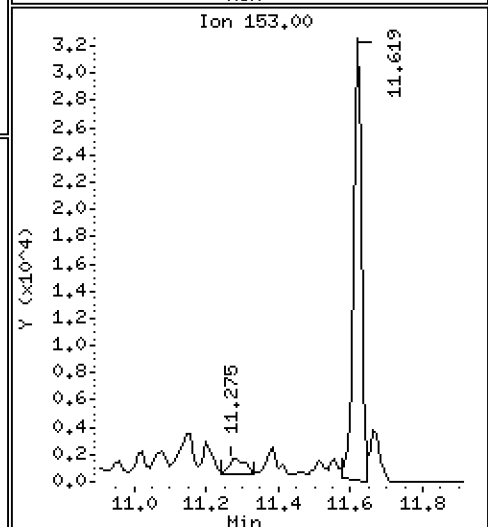
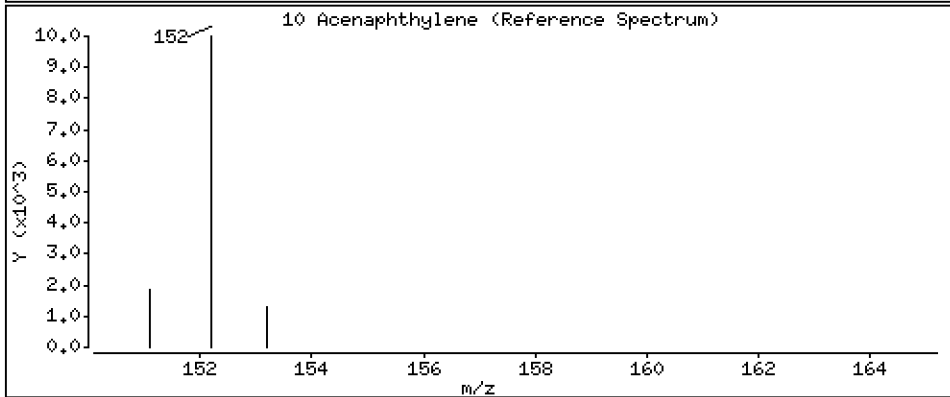
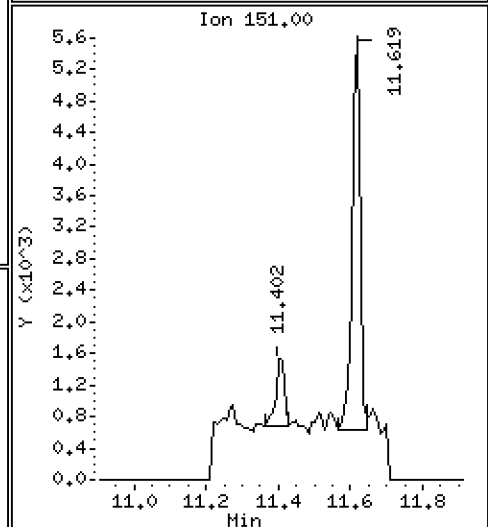
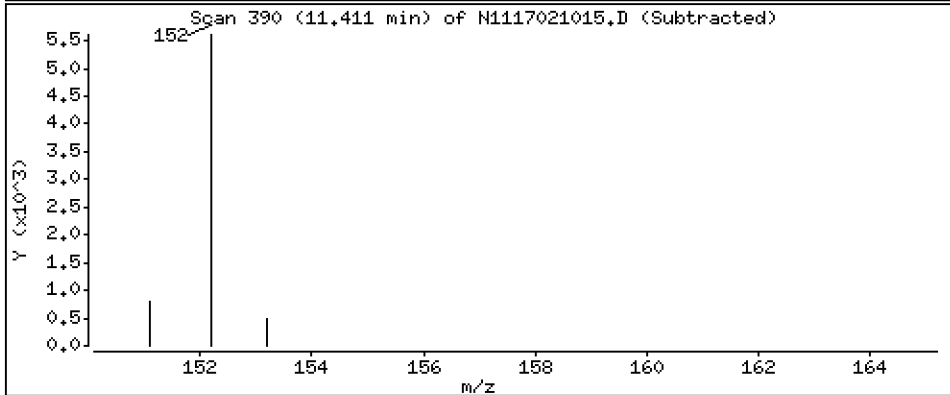
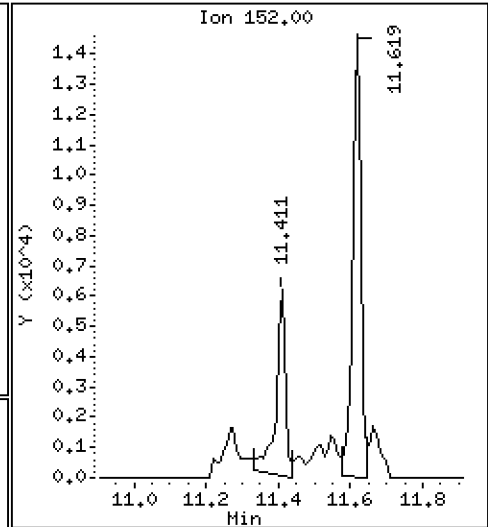
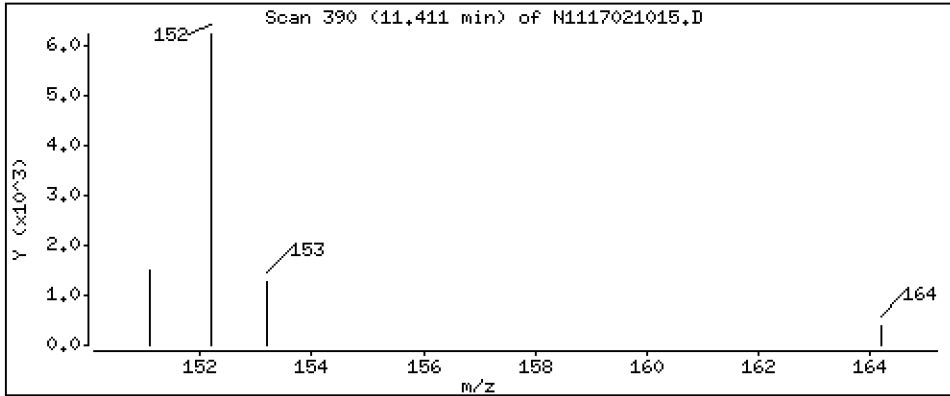
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0.25

10 Acenaphthylene

Concentration: 8.41 ng/mL



Date : 10-FEB-2017 19:25

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-08

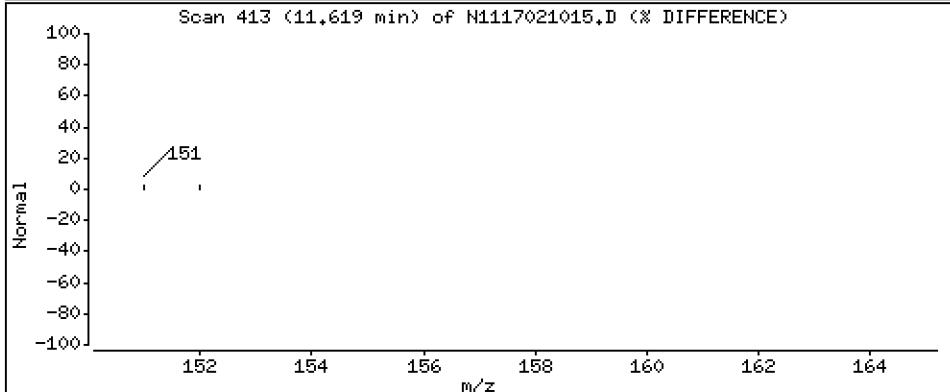
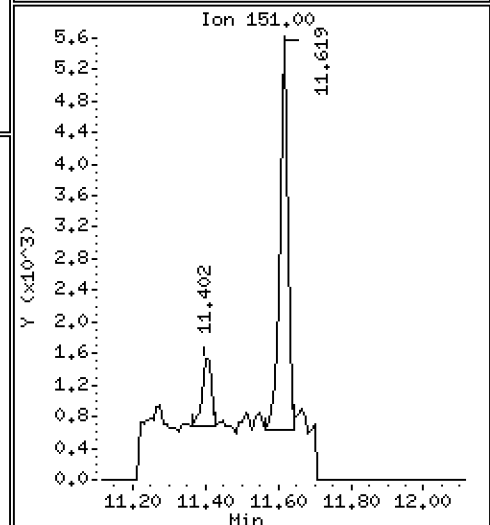
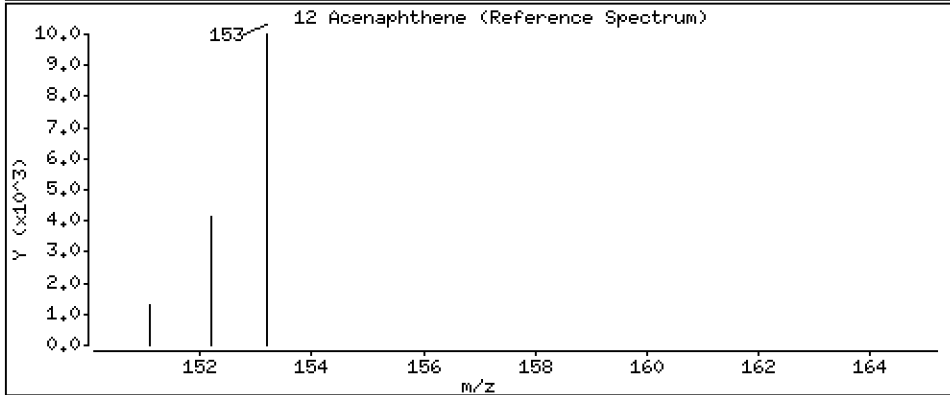
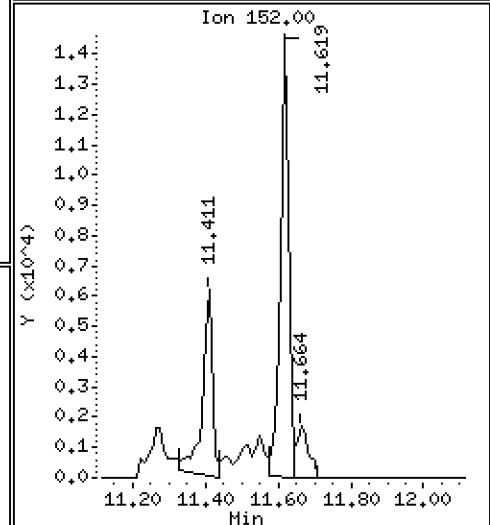
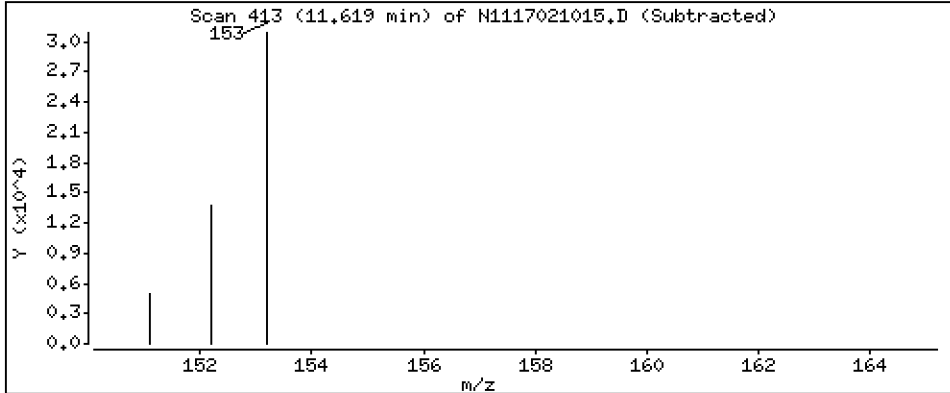
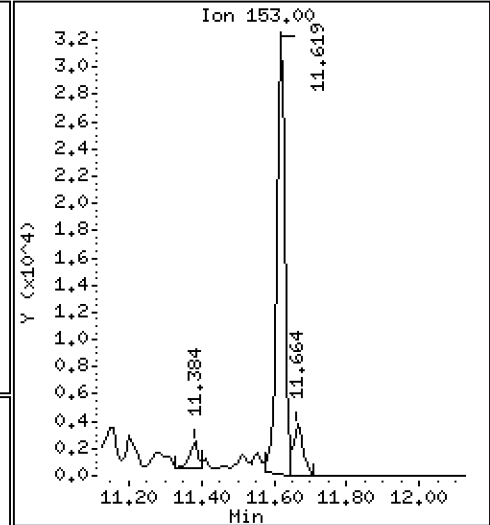
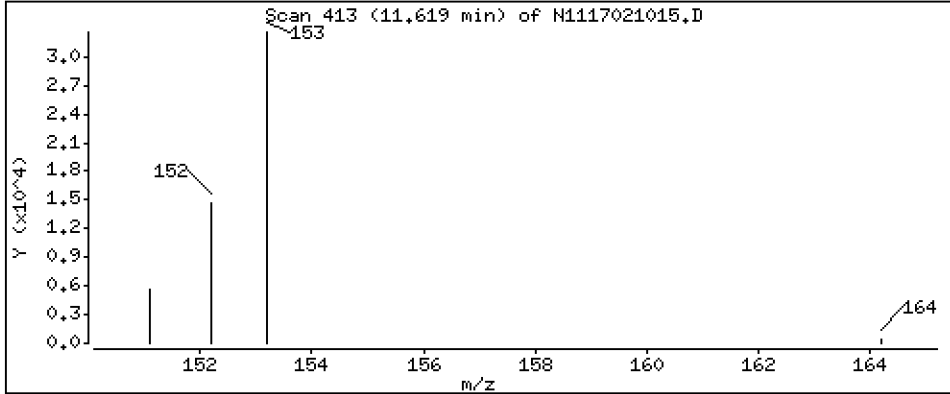
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

12 Acenaphthene

Concentration: 58,2 ng/mL



Date : 10-FEB-2017 19:25

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-08

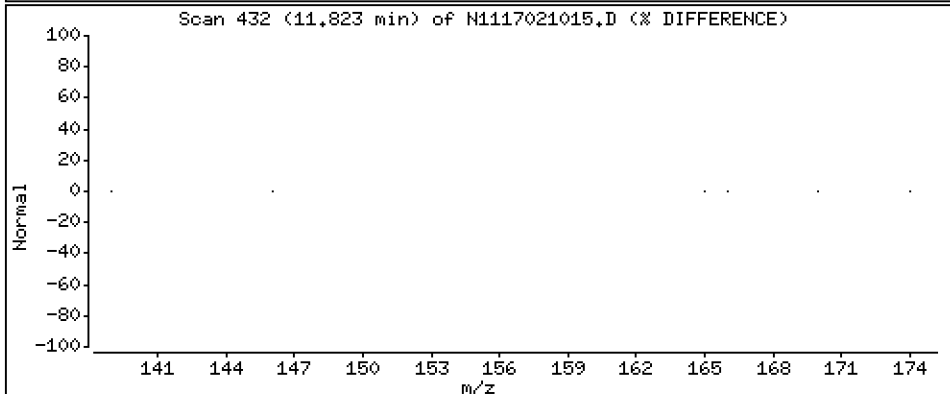
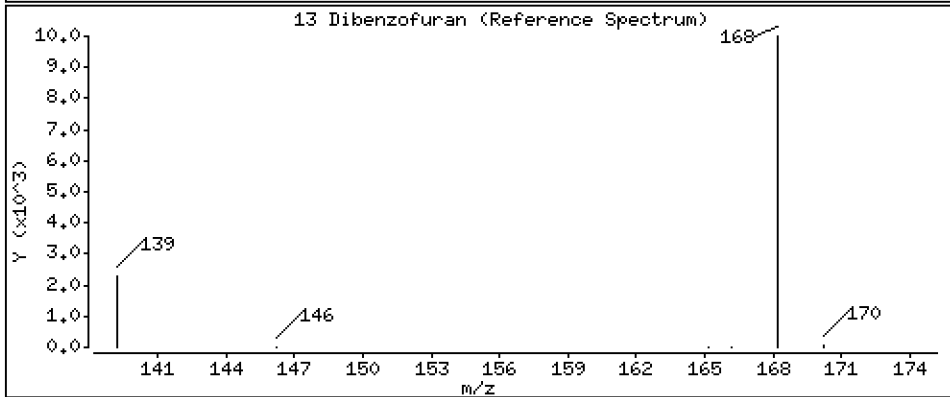
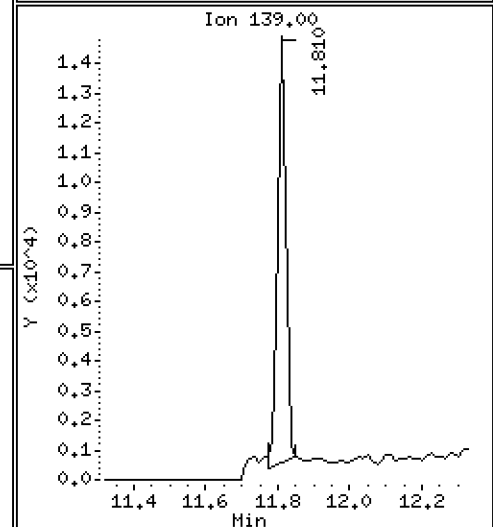
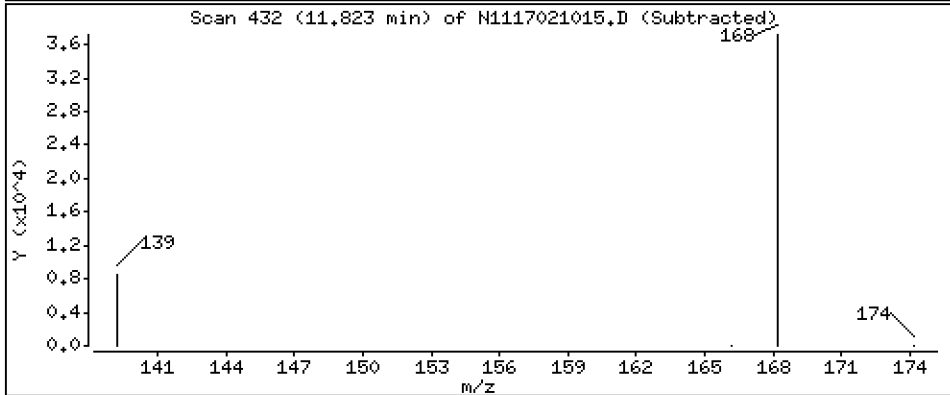
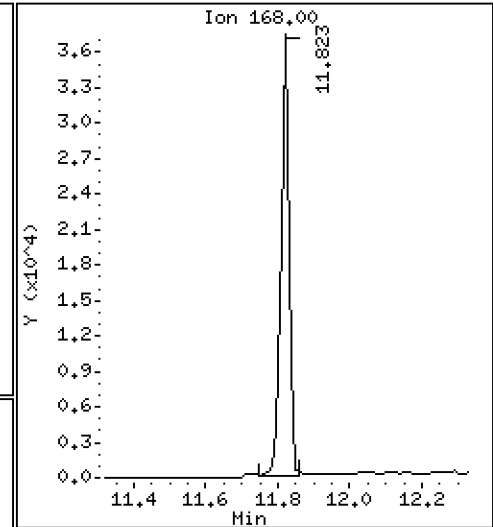
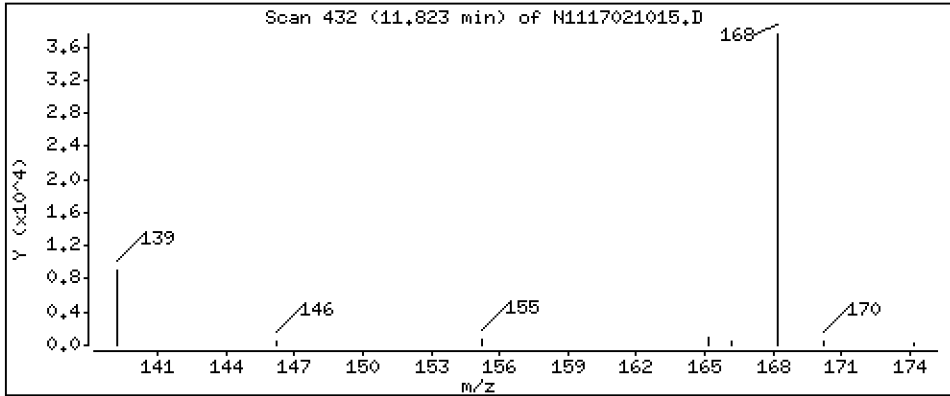
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

Concentration: 41,8 ng/mL

13 Dibenzofuran



Date : 10-FEB-2017 19:25

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-08

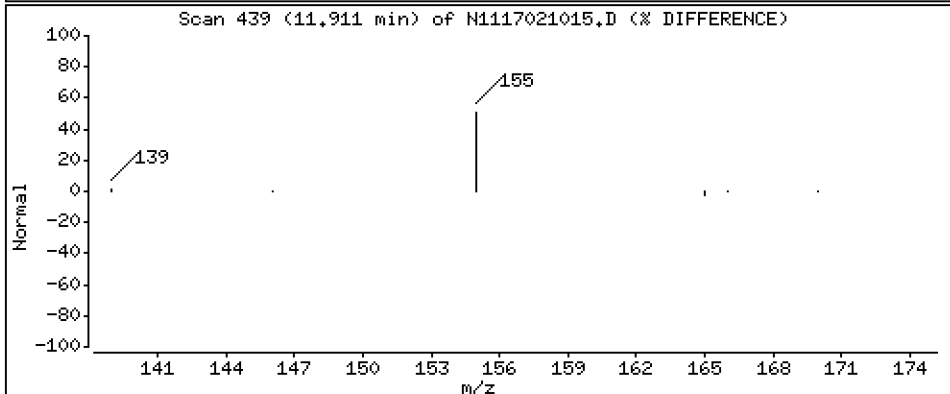
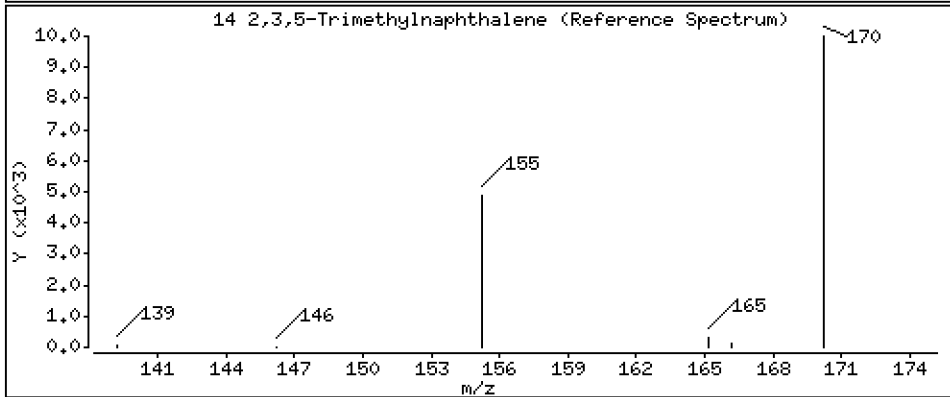
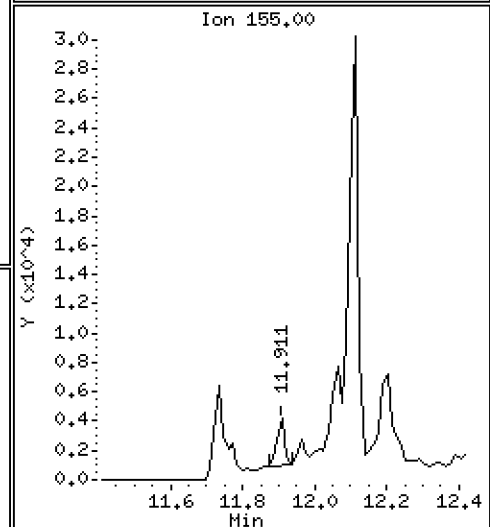
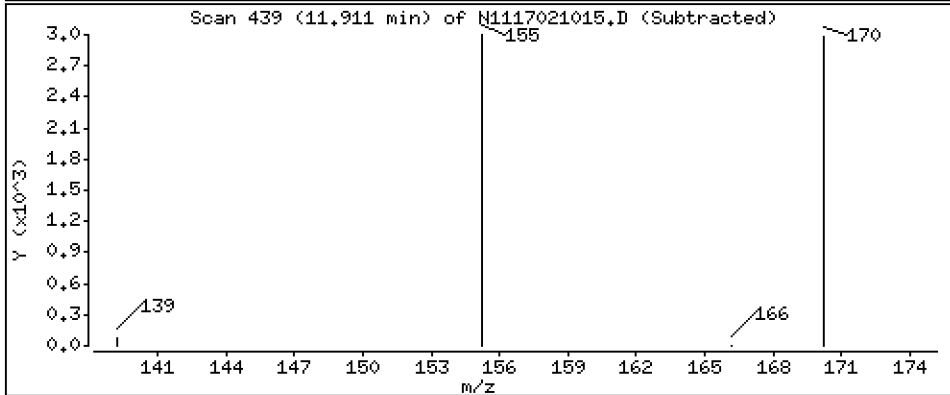
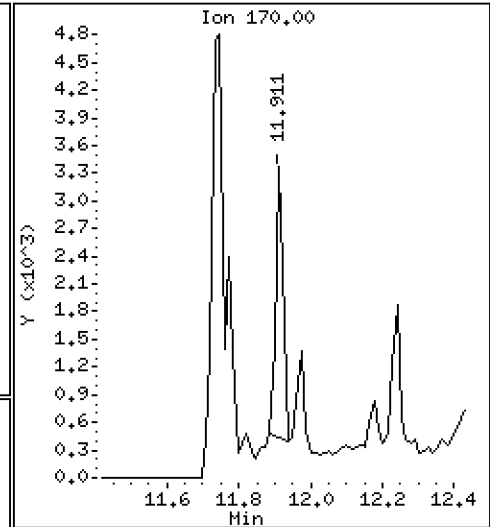
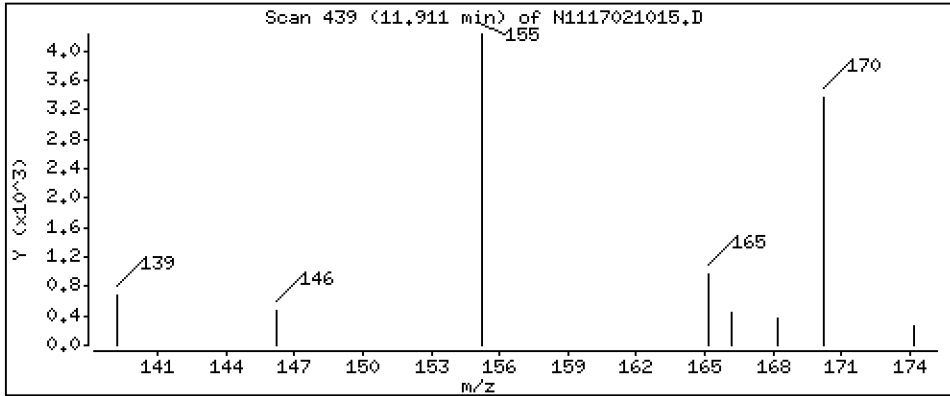
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

14 2,3,5-Trimethylnaphthalene

Concentration: 5,26 ng/mL



Date : 10-FEB-2017 19:25

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-08

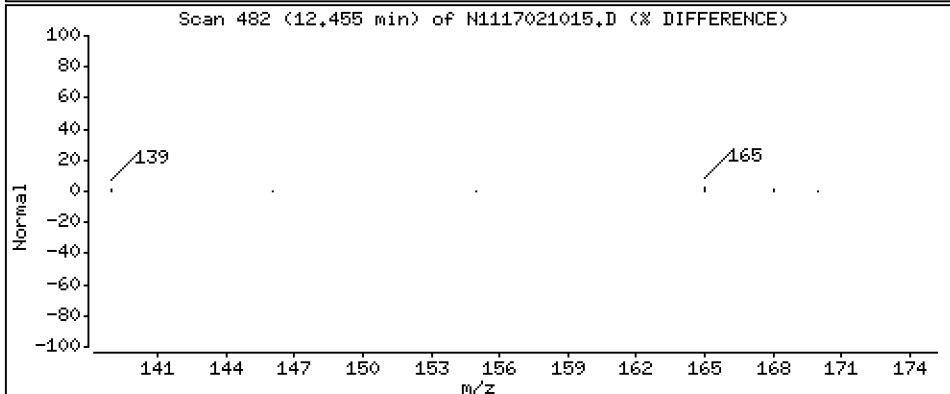
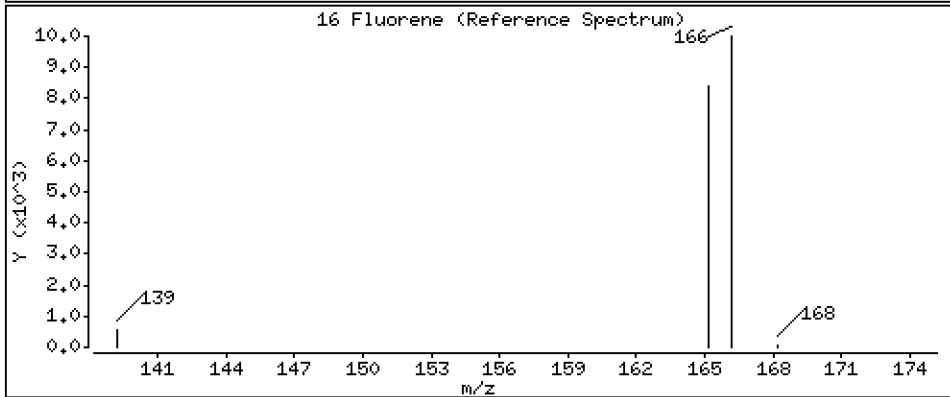
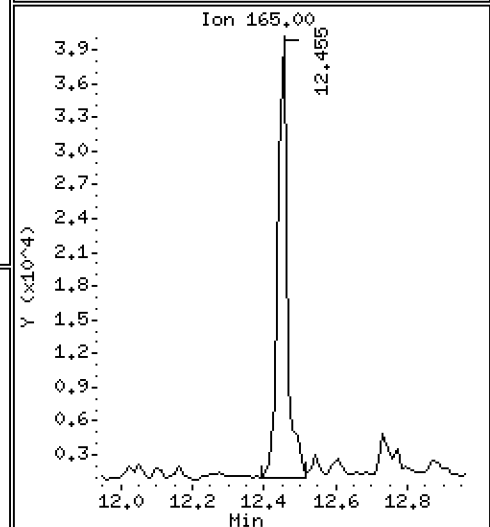
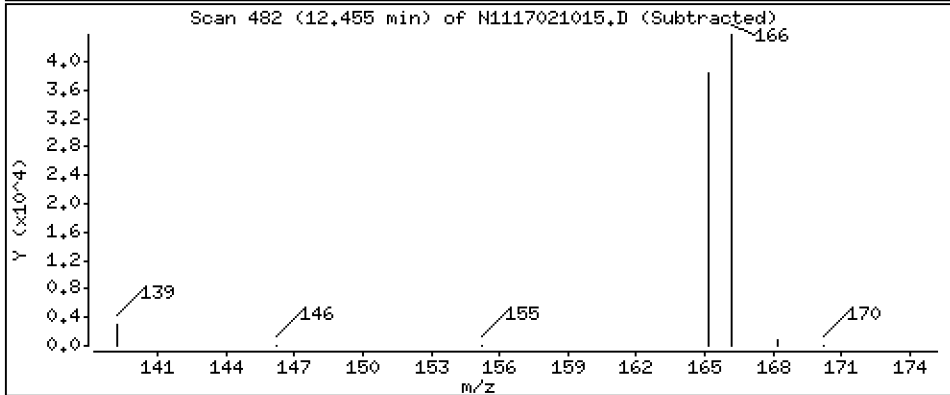
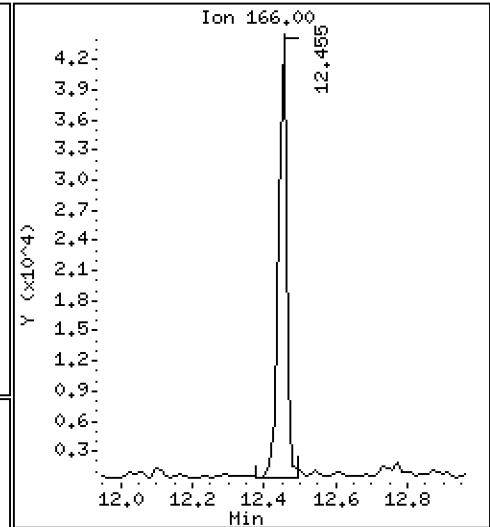
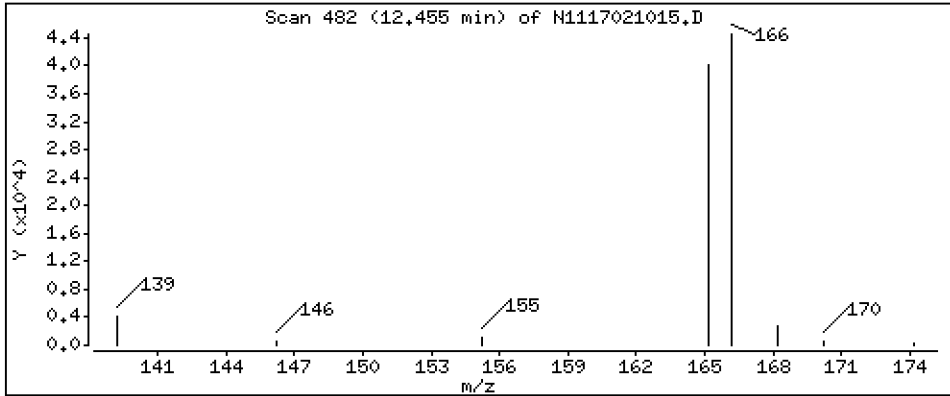
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

16 Fluorene

Concentration: 65,8 ng/mL



Date : 10-FEB-2017 19:25

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-08

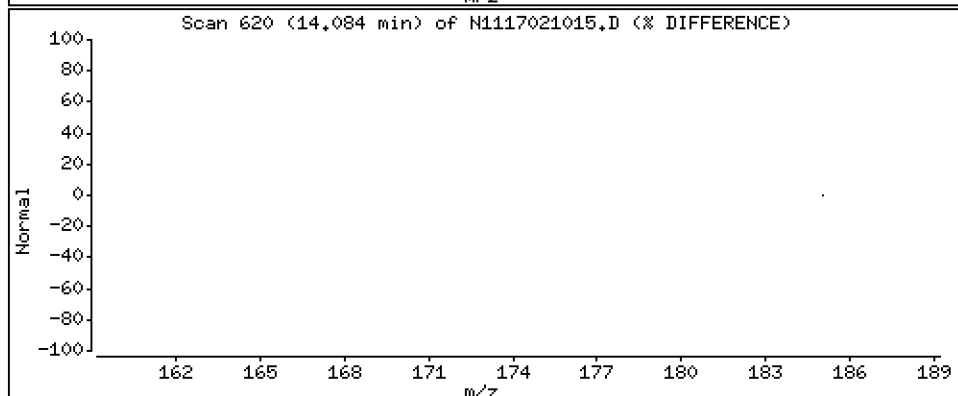
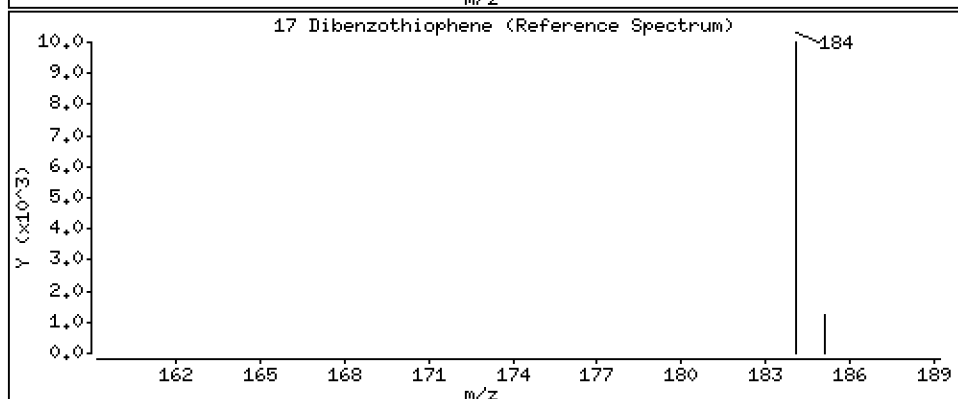
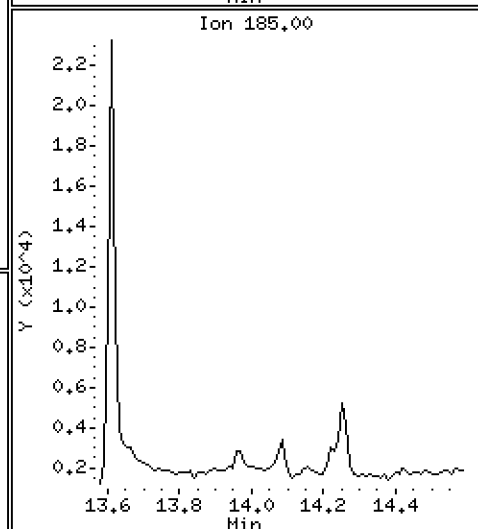
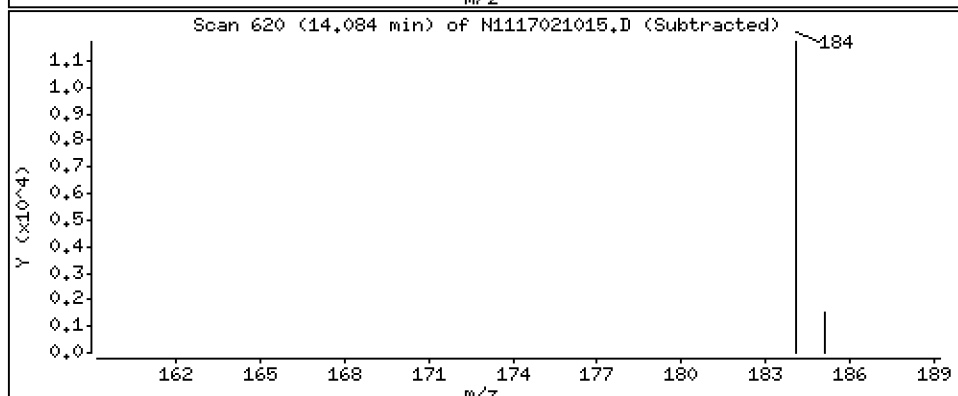
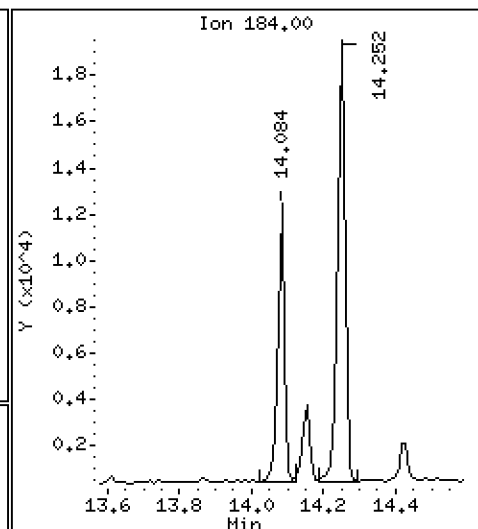
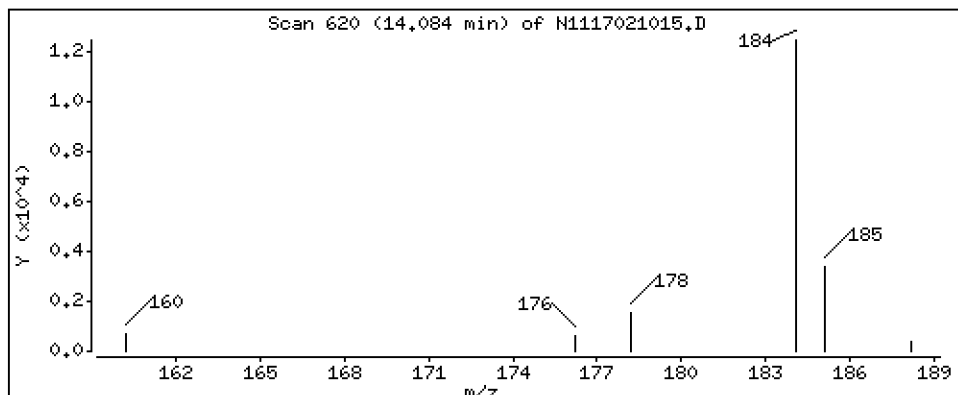
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

17 Dibenzothiophene

Concentration: 15,7 ng/mL



Date : 10-FEB-2017 19:25

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-08

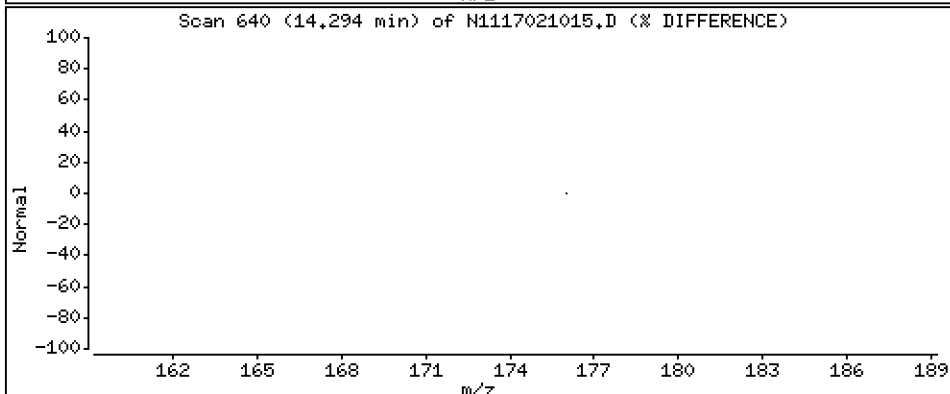
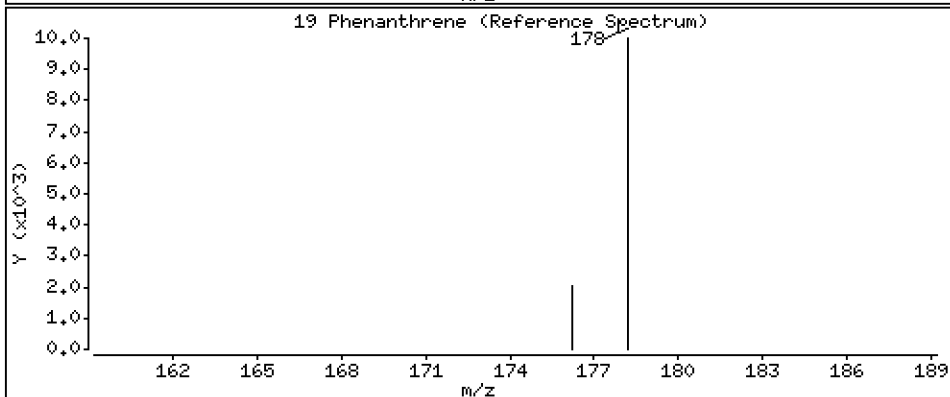
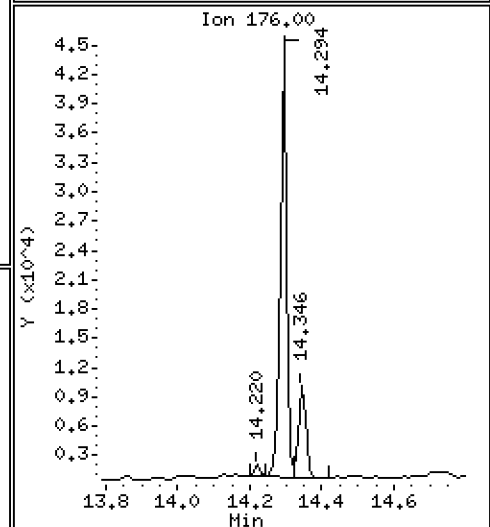
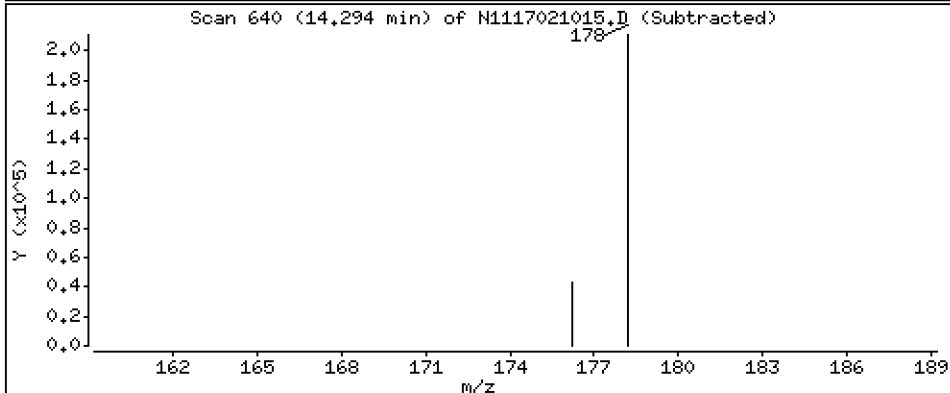
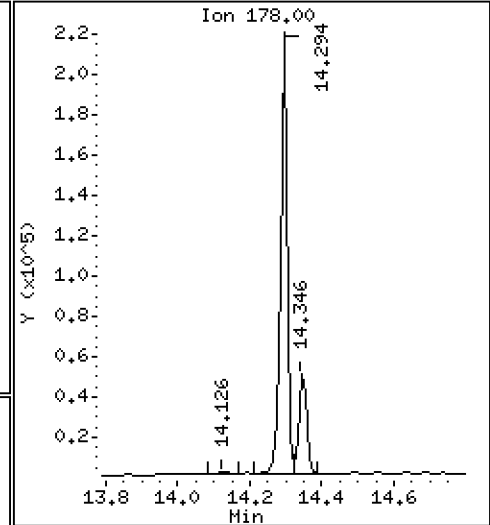
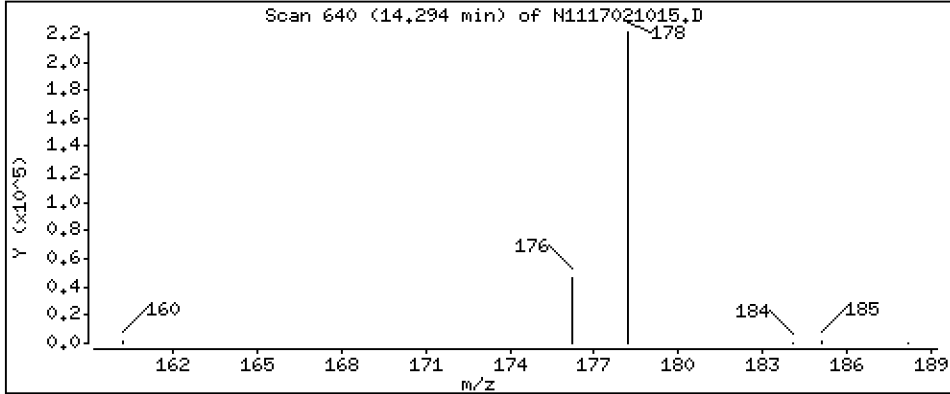
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0.25

19 Phenanthrene

Concentration: 239 ng/mL



Date : 10-FEB-2017 19:25

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-08

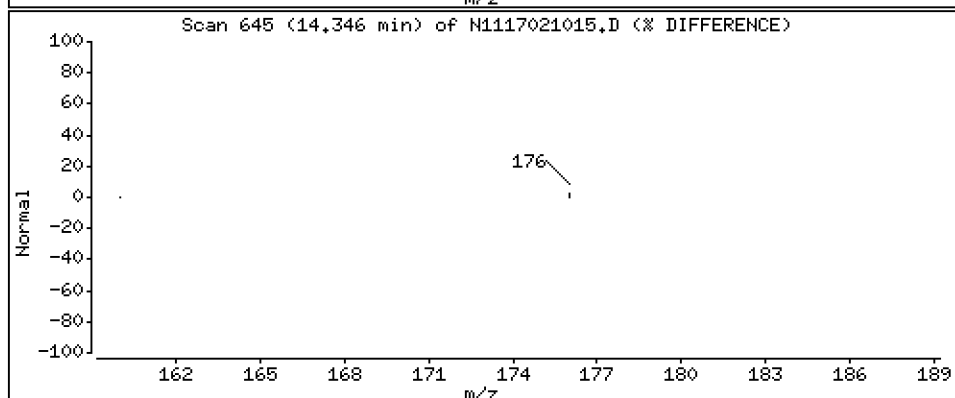
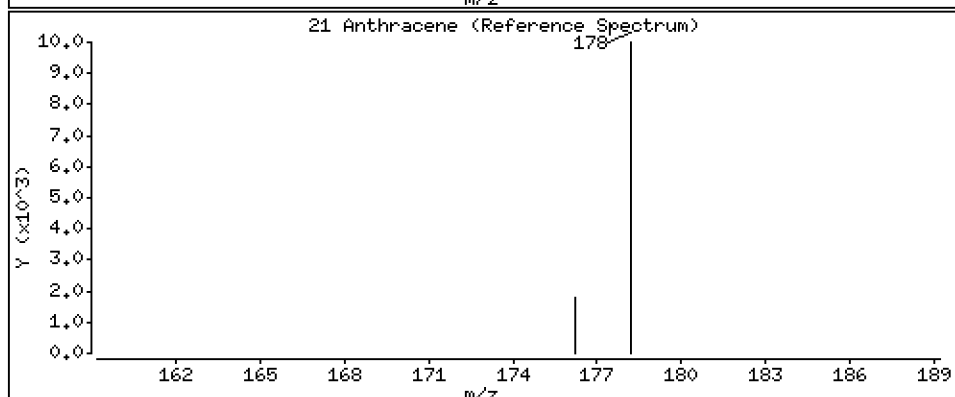
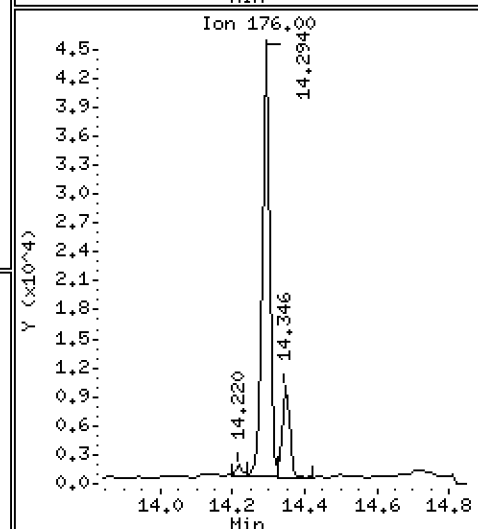
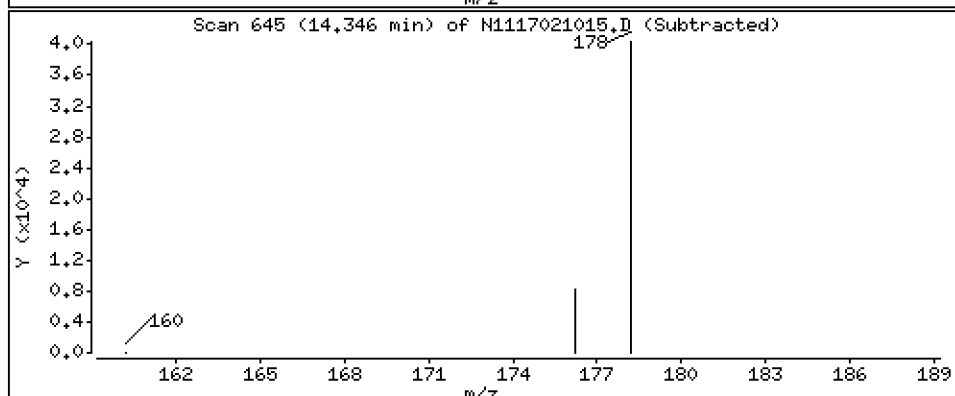
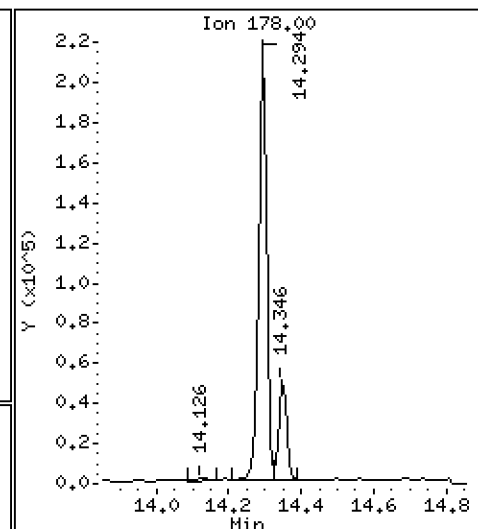
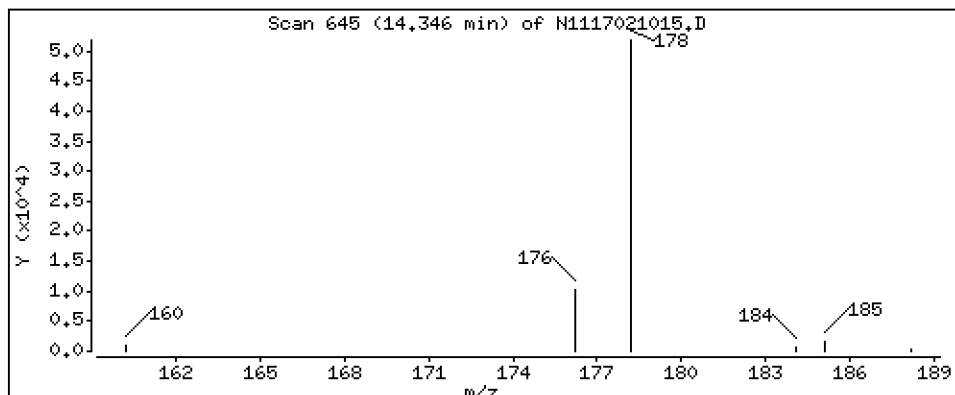
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

21 Anthracene

Concentration: 54,3 ng/mL



Date : 10-FEB-2017 19:25

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-08

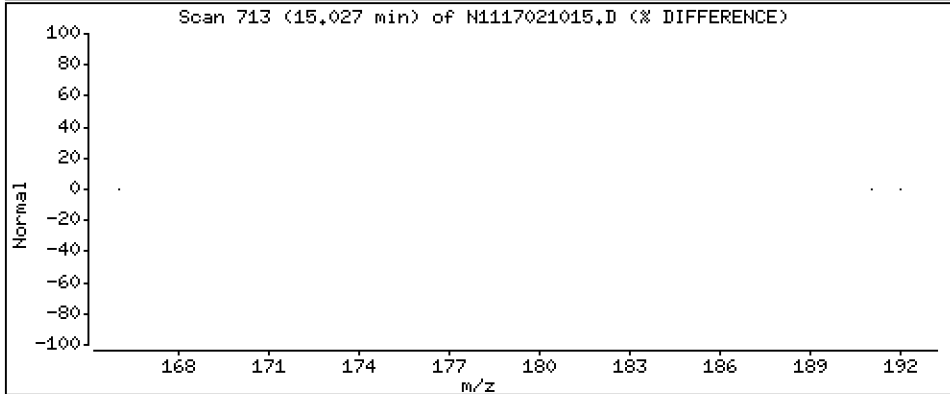
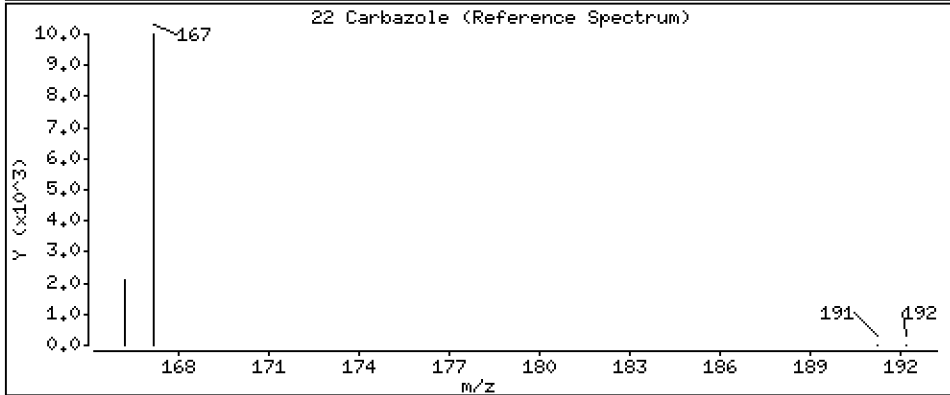
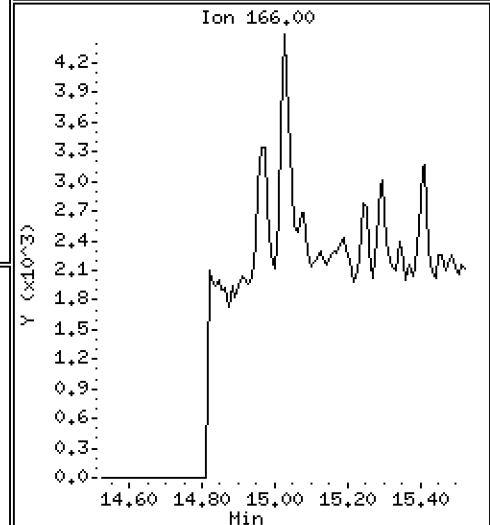
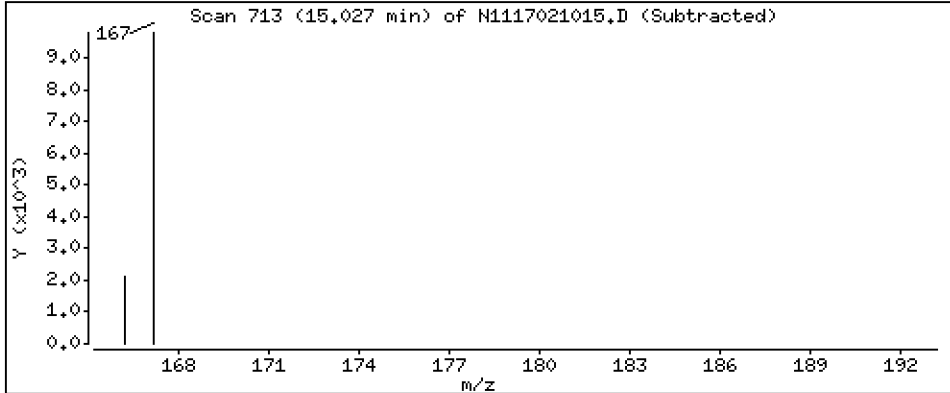
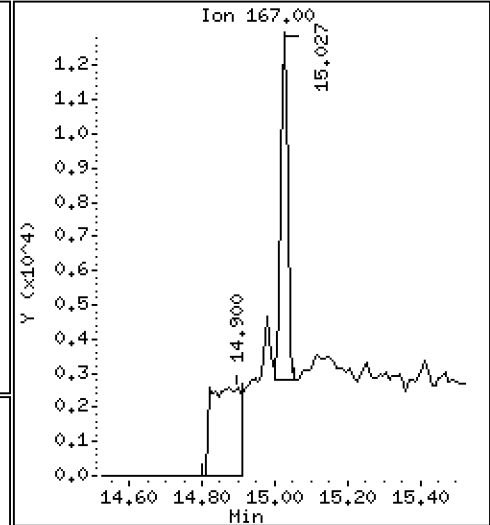
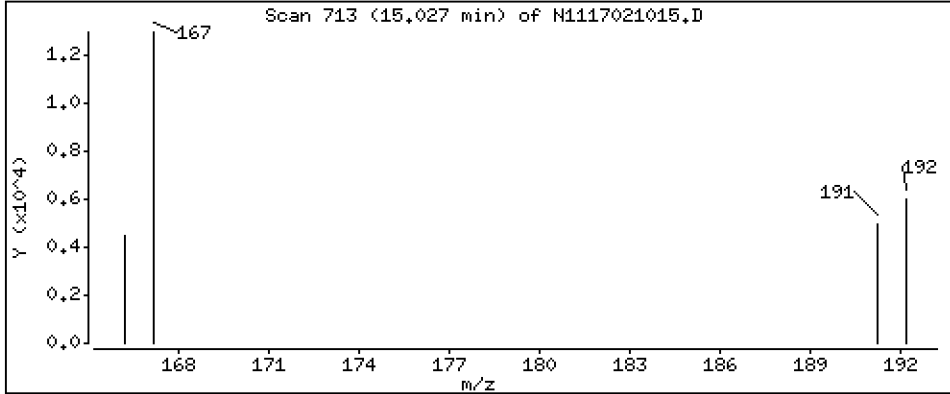
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

22 Carbazole

Concentration: 8,98 ng/mL



Date : 10-FEB-2017 19:25

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-08

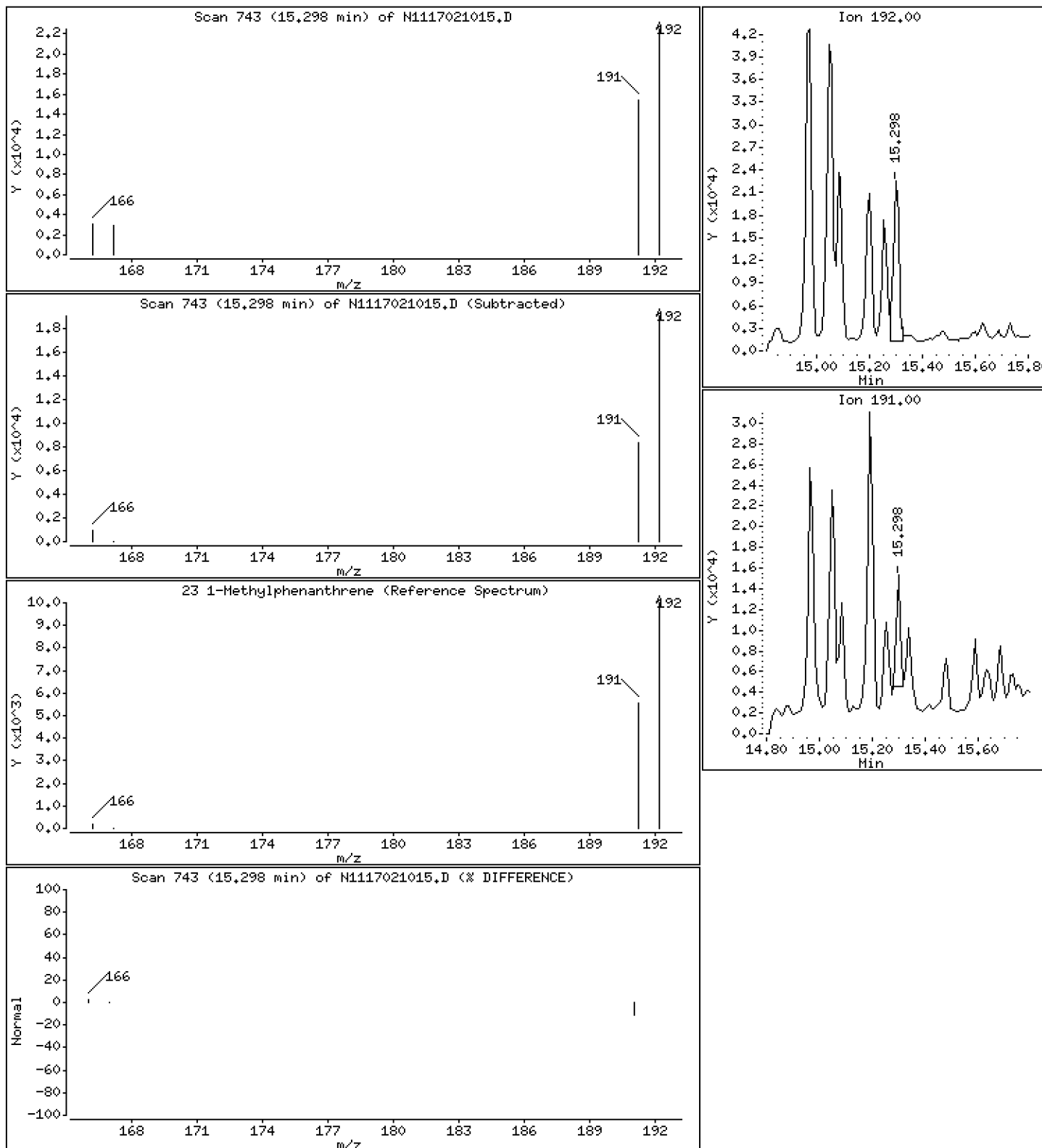
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

23 1-Methylphenanthrene

Concentration: 21,5 ng/mL



Date : 10-FEB-2017 19:25

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-08

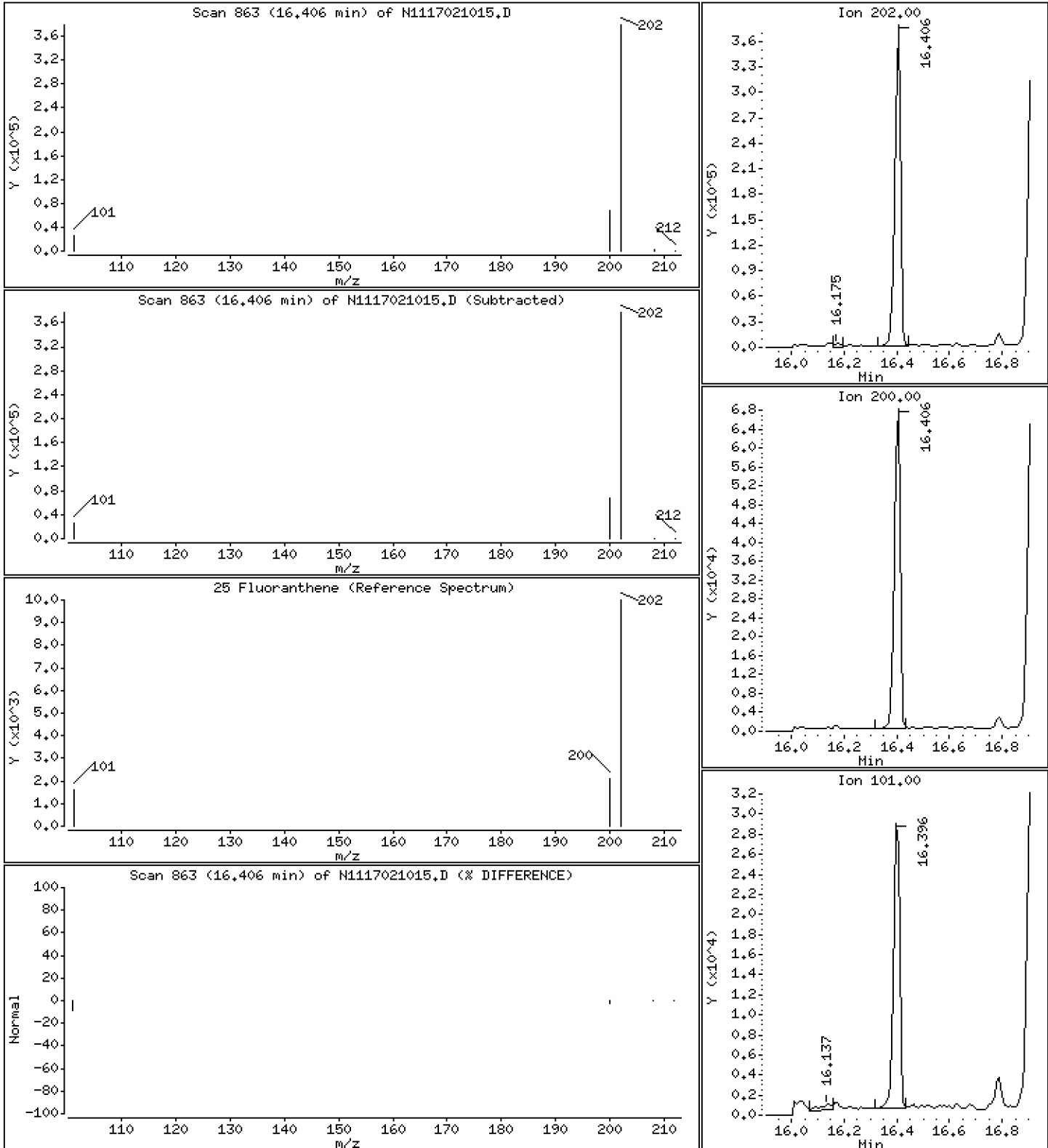
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

25 Fluoranthene

Concentration: 350 ng/mL



Date : 10-FEB-2017 19:25

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-08

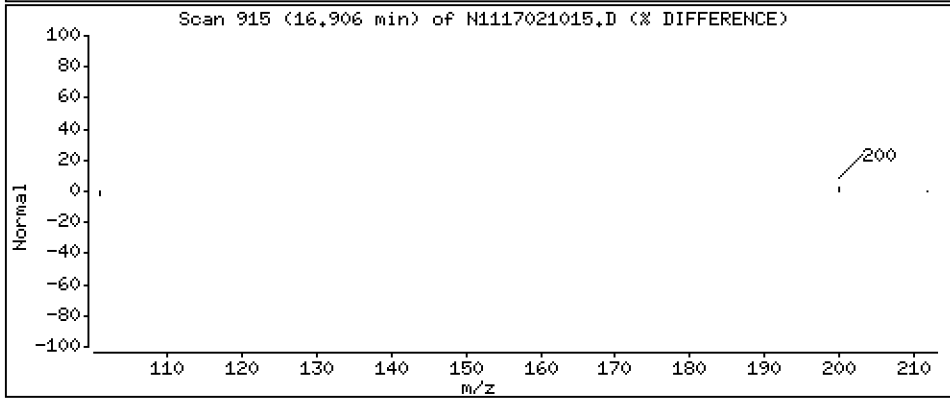
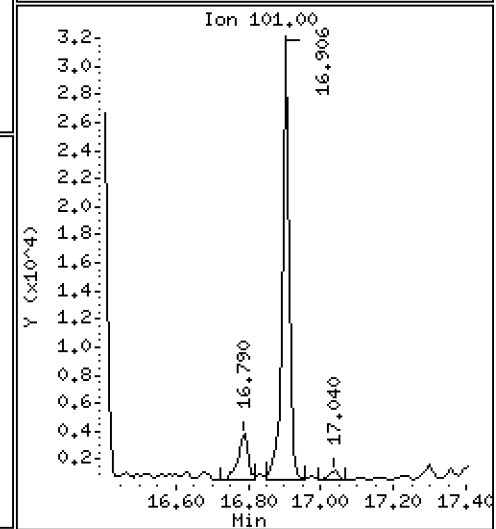
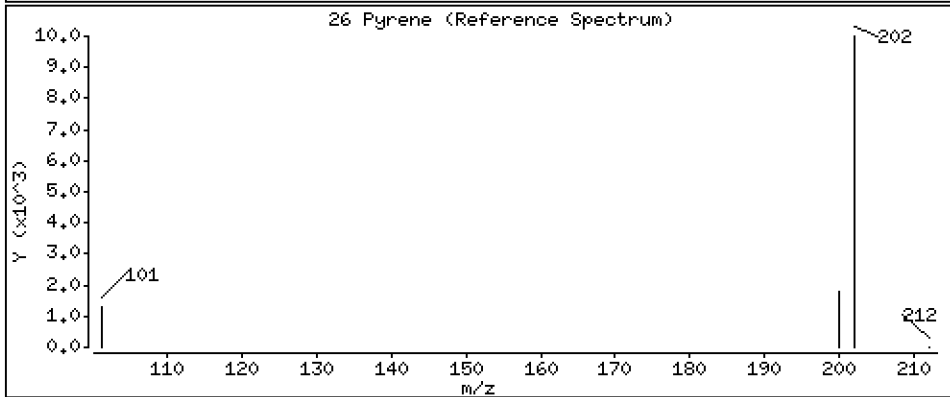
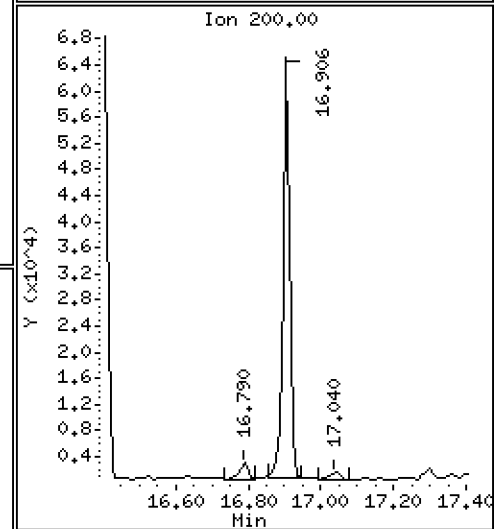
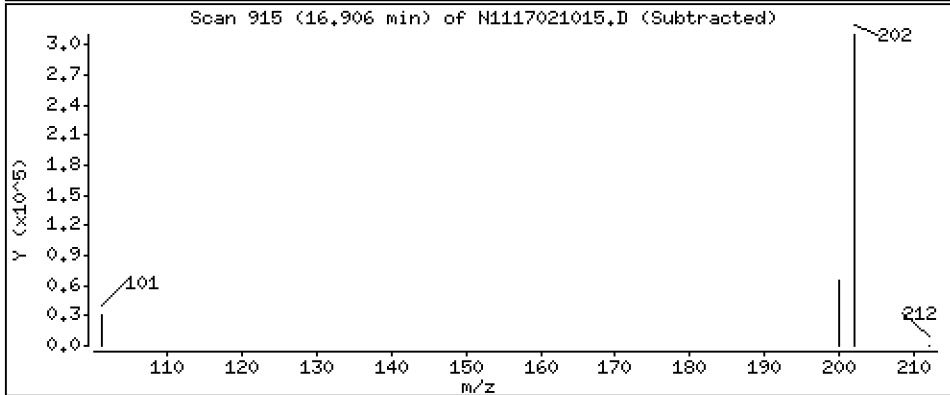
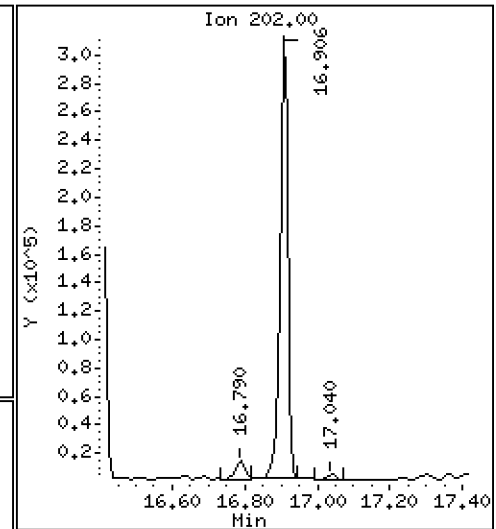
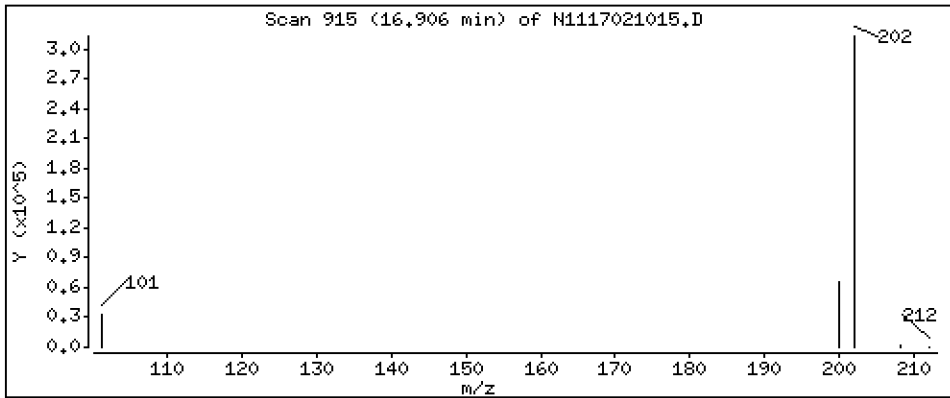
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

26 Pyrene

Concentration: 337 ng/mL



Date : 10-FEB-2017 19:25

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-08

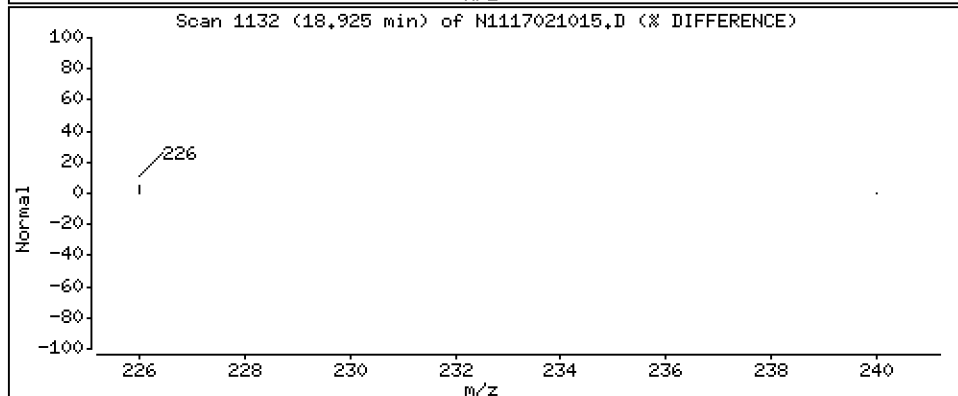
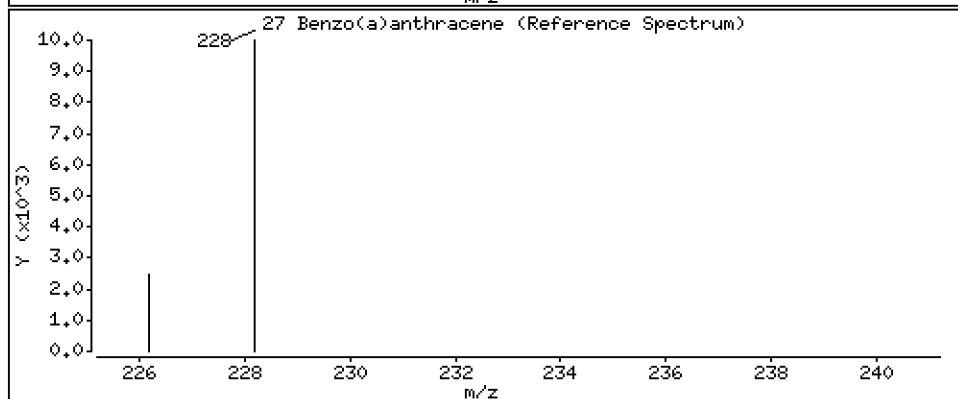
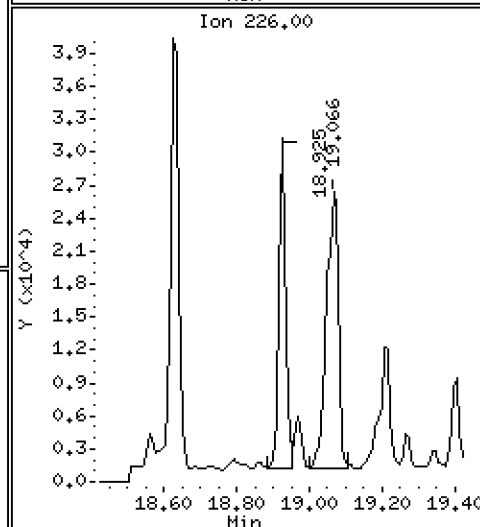
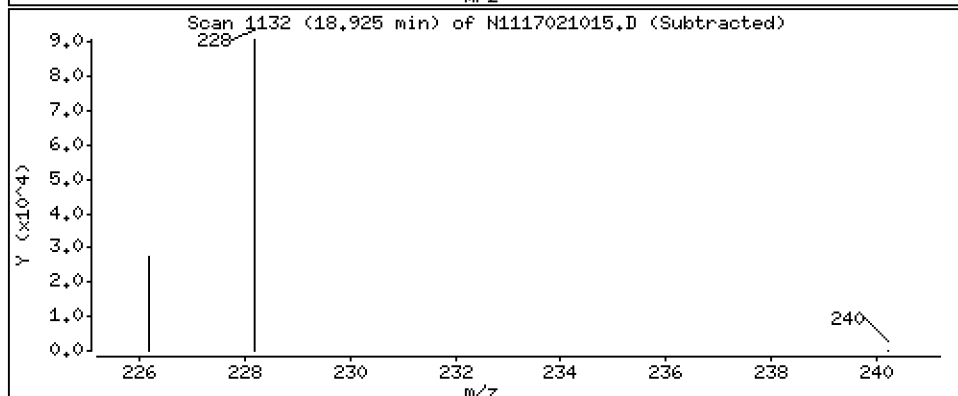
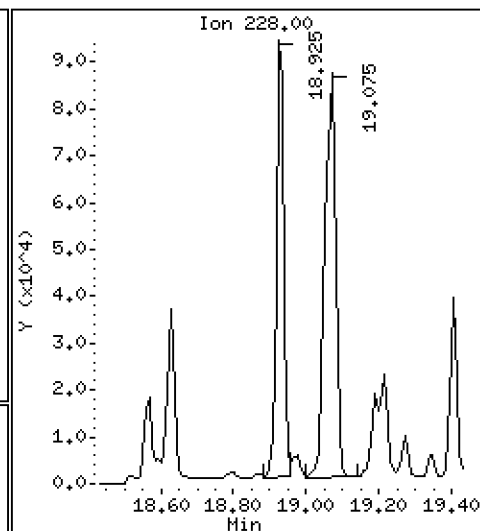
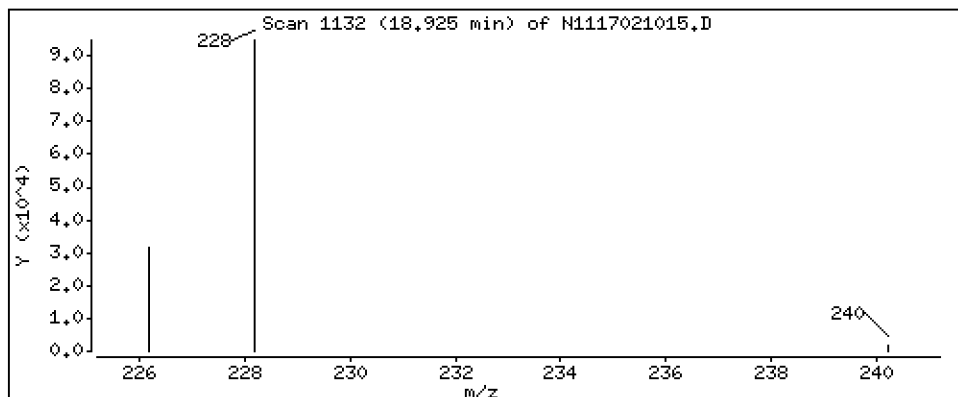
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

27 Benzo(a)anthracene

Concentration: 105 ng/mL



Date : 10-FEB-2017 19:25

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-08

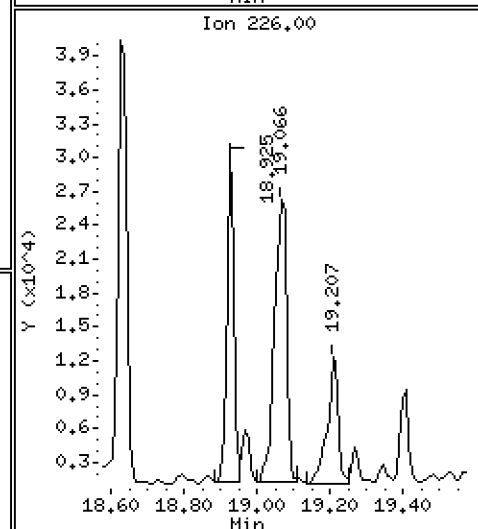
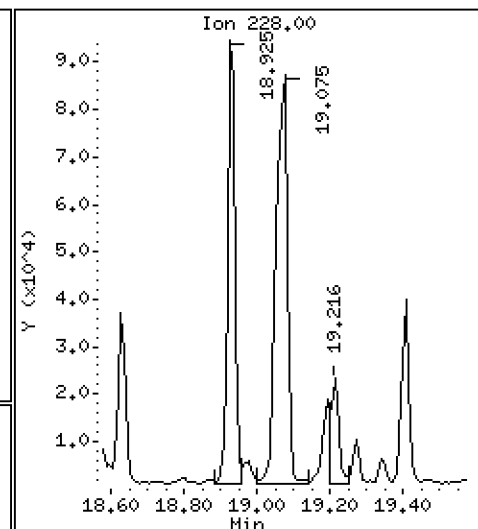
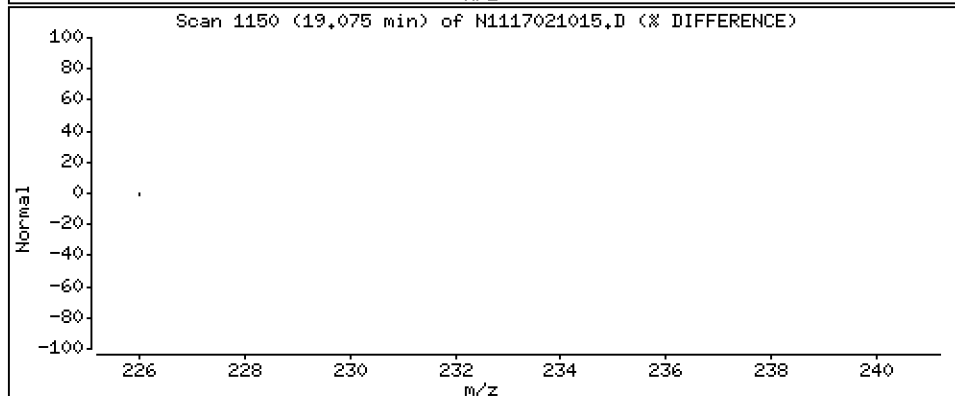
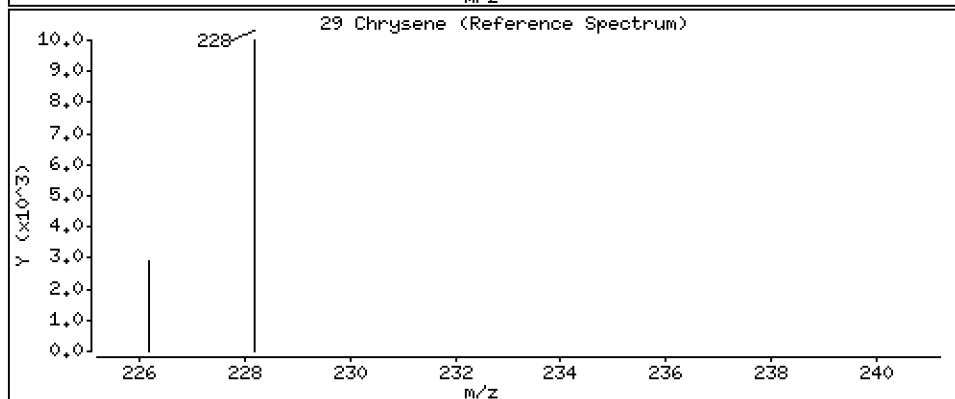
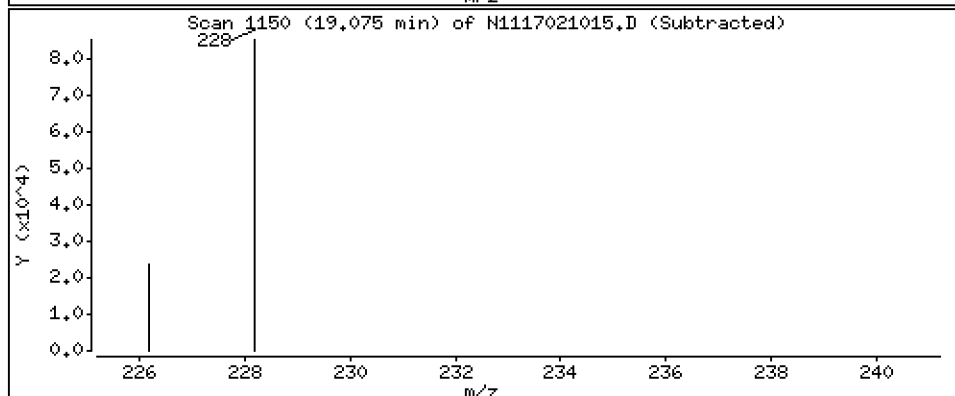
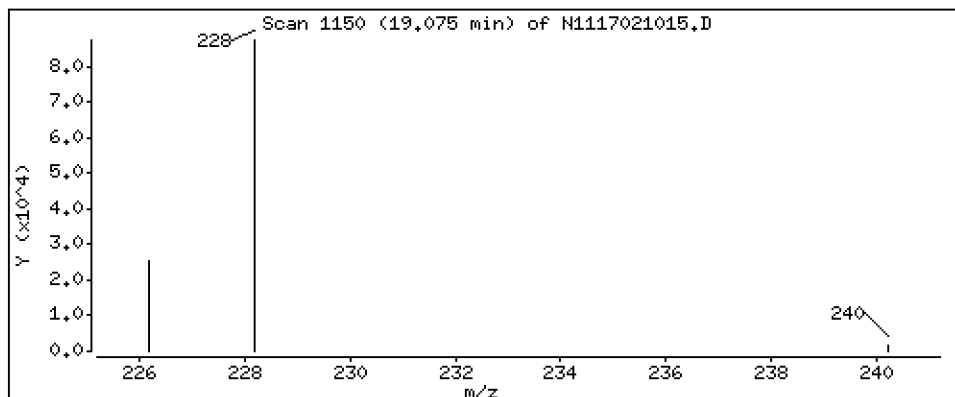
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

29 Chrysene

Concentration: 143 ng/mL



Date : 10-FEB-2017 19:25

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-08

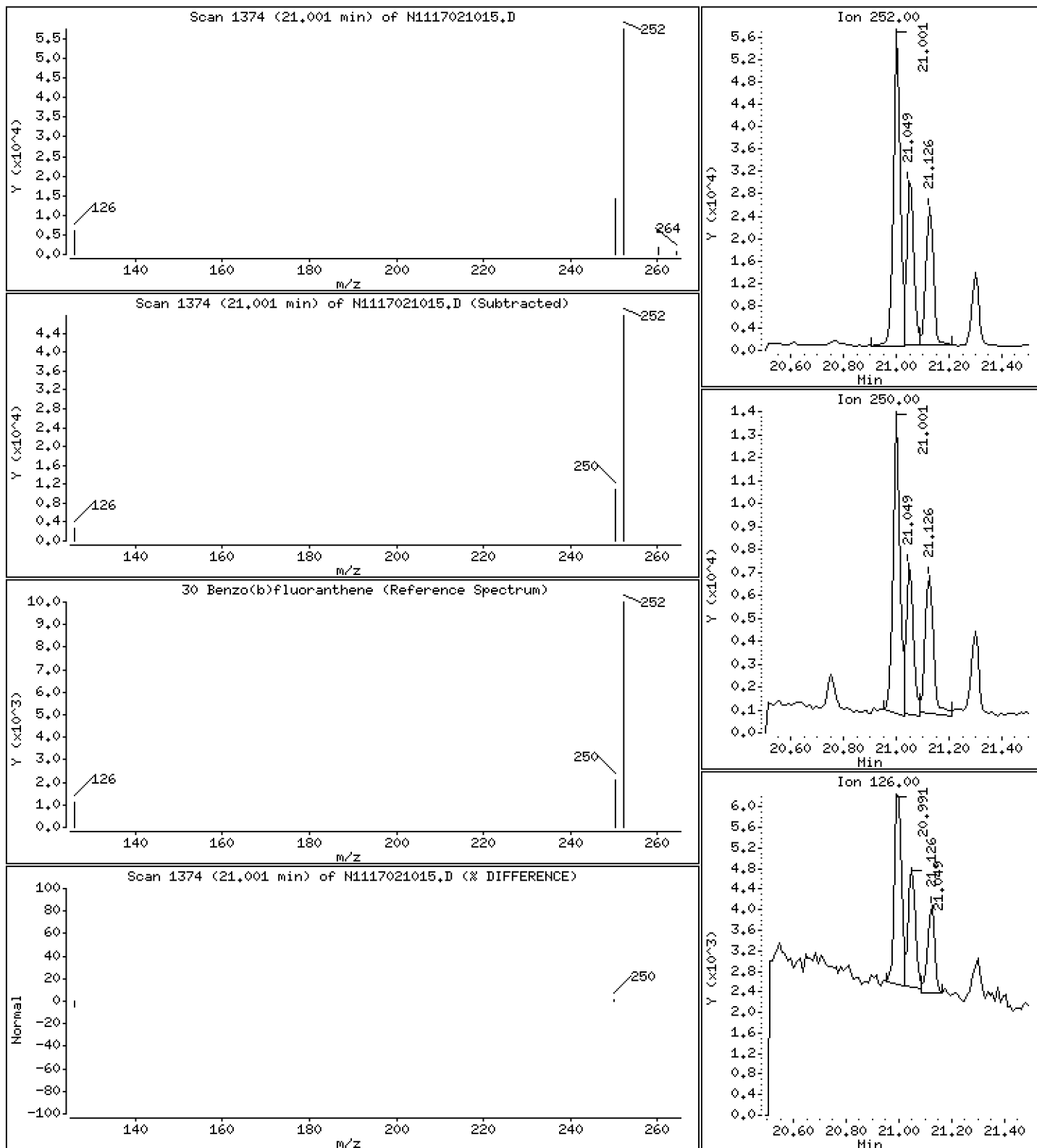
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

30 Benzo(b)fluoranthene

Concentration: 89,3 ng/mL



Date : 10-FEB-2017 19:25

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-08

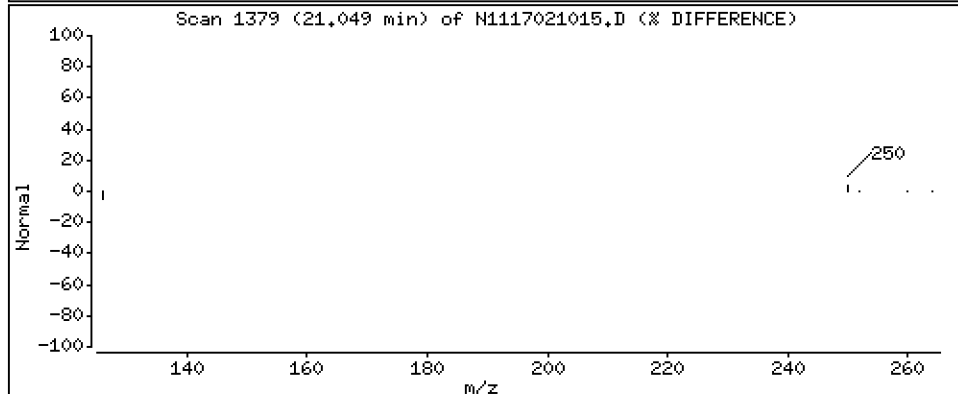
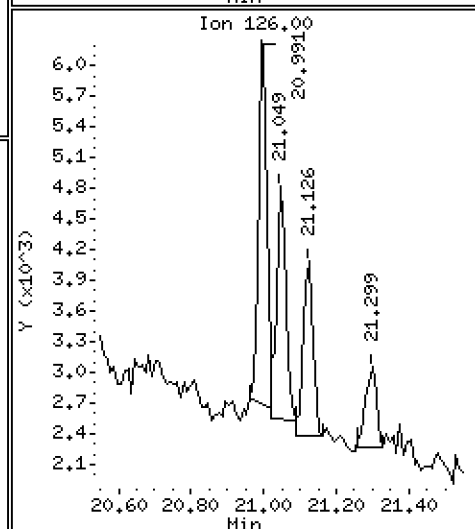
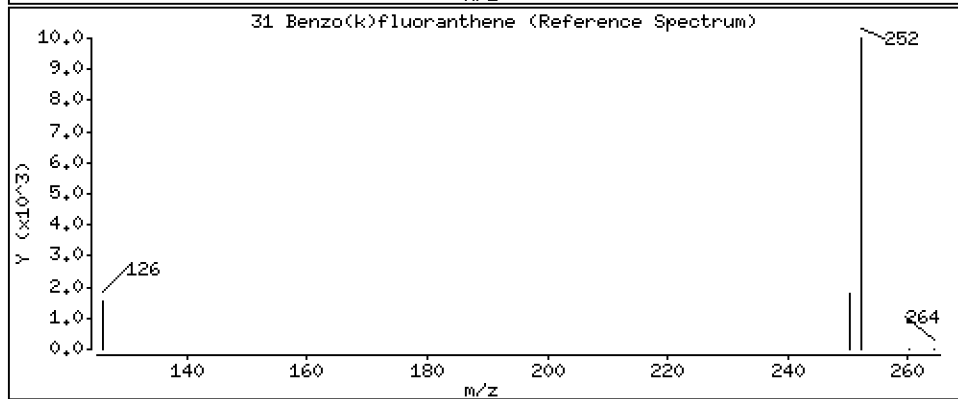
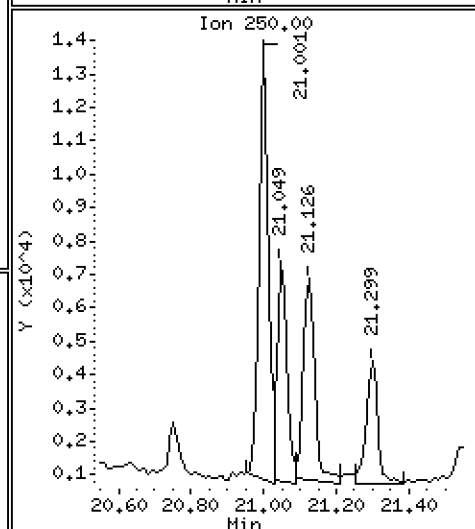
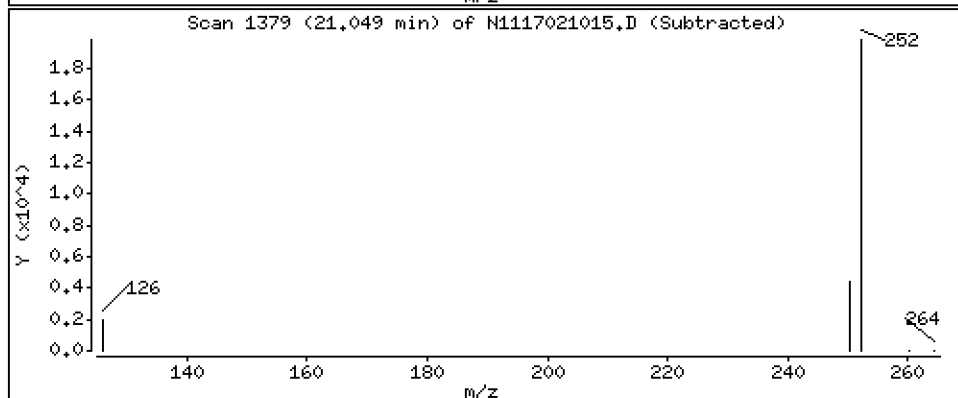
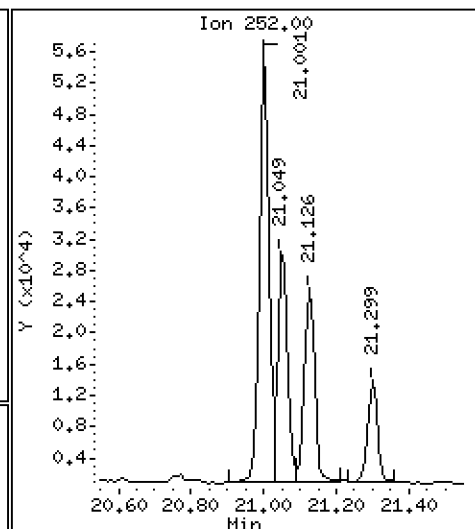
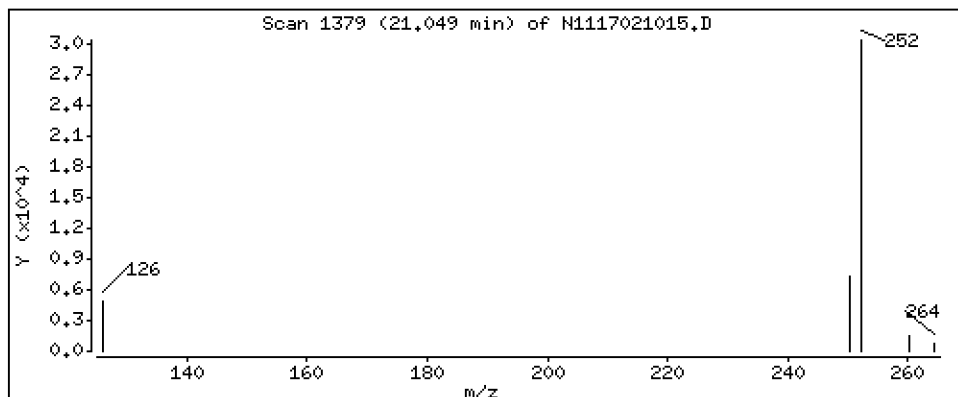
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

31 Benzo(k)fluoranthene

Concentration: 45,0 ng/mL



Date : 10-FEB-2017 19:25

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-08

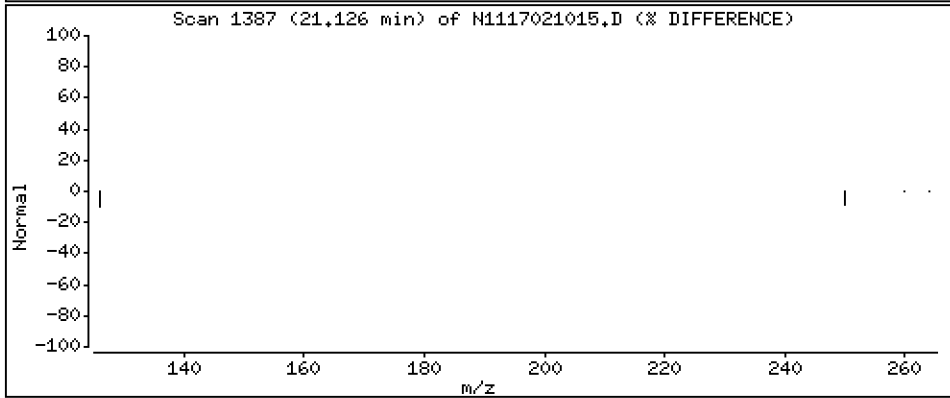
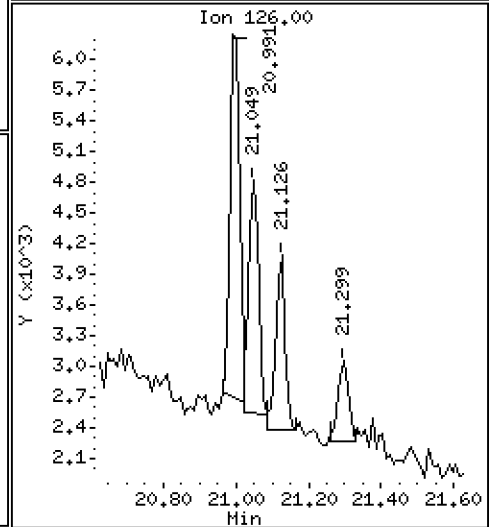
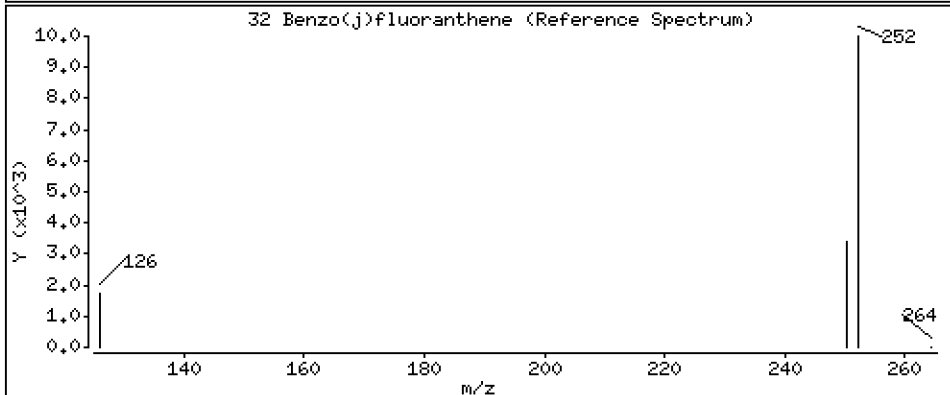
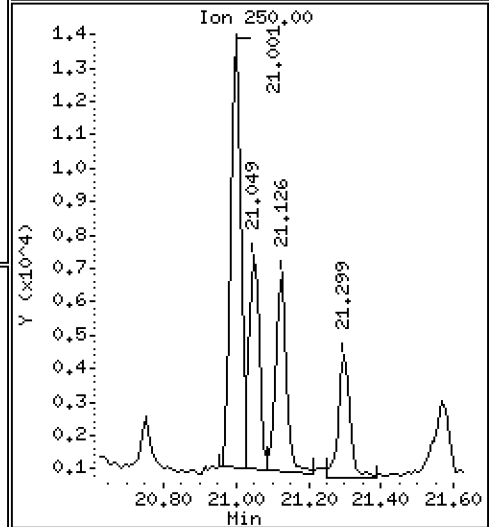
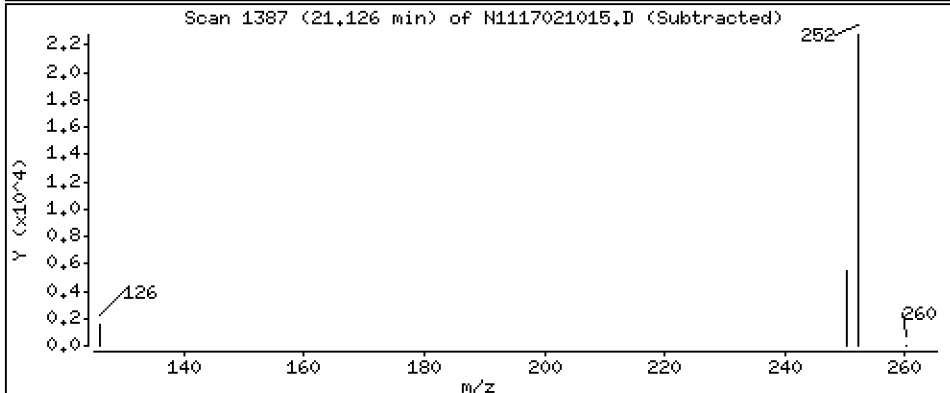
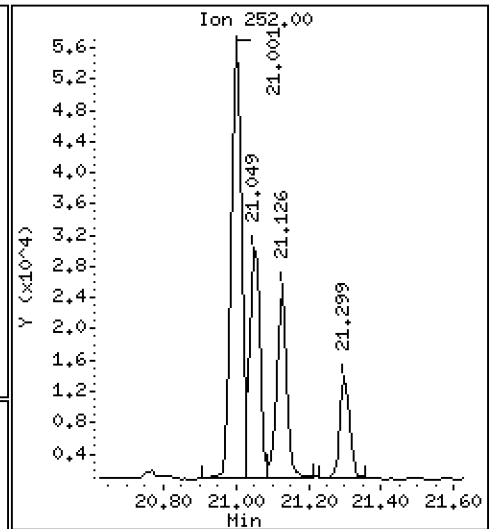
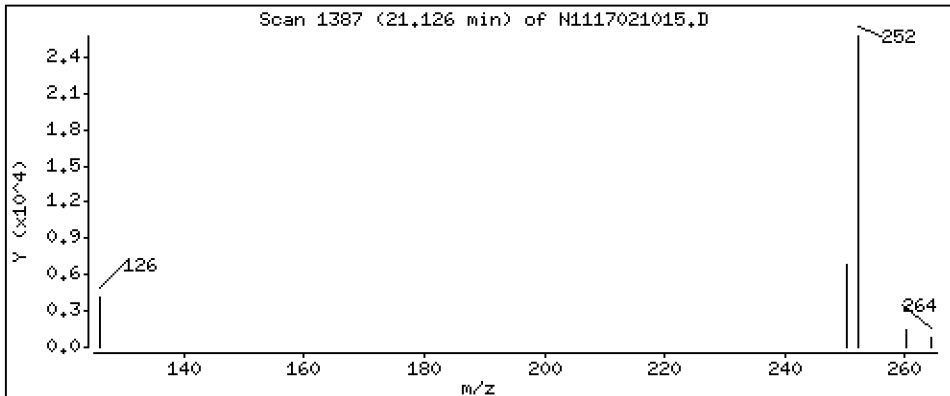
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

32 Benzo(j)fluoranthene

Concentration: 42,0 ng/mL



Date : 10-FEB-2017 19:25

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-08

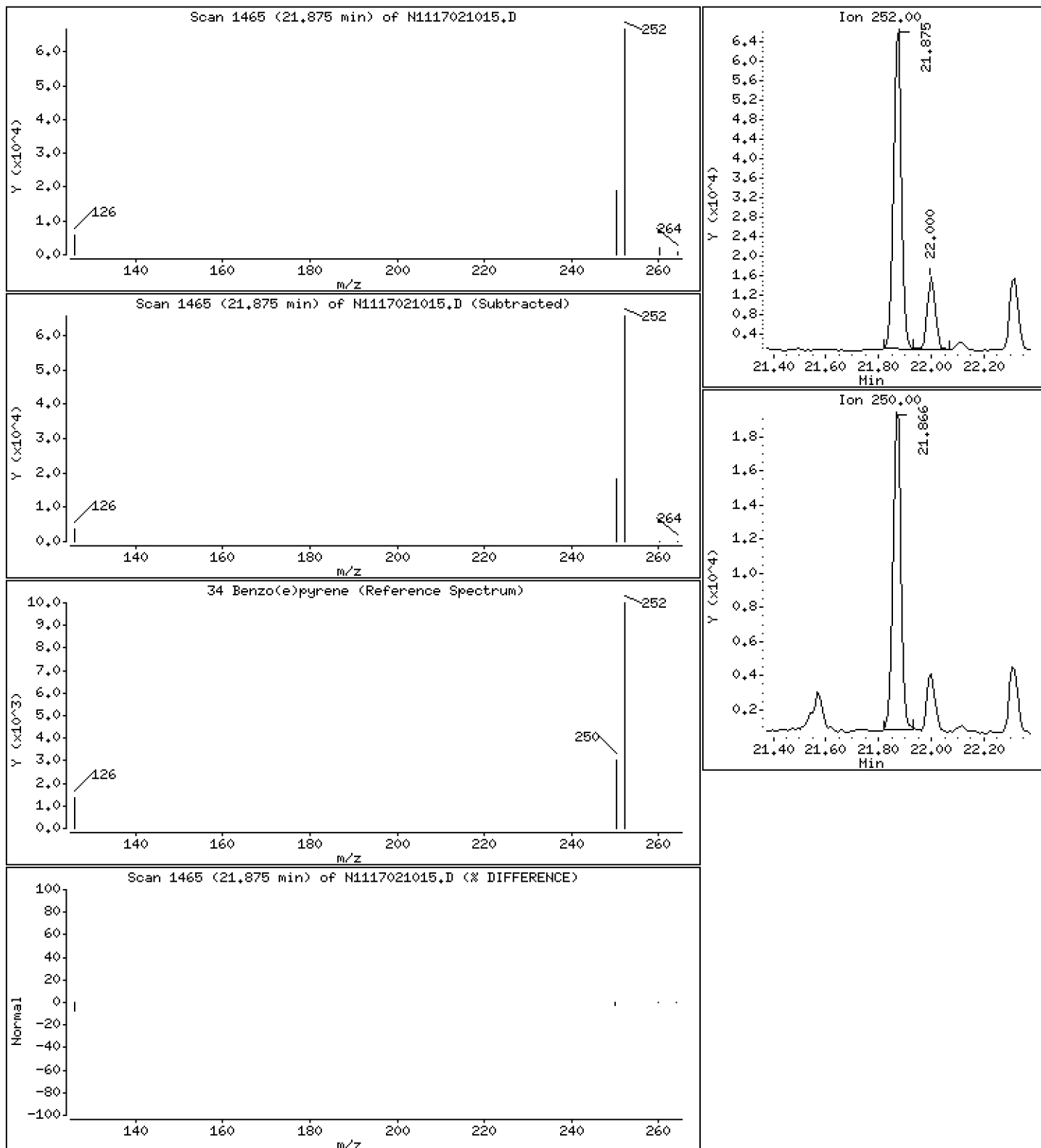
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

34 Benzo(e)pyrene

Concentration: 116 ng/mL



Date : 10-FEB-2017 19:25

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-08

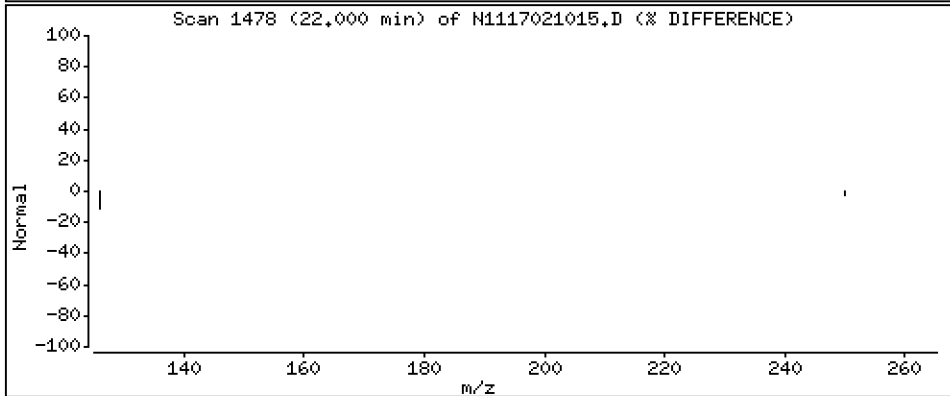
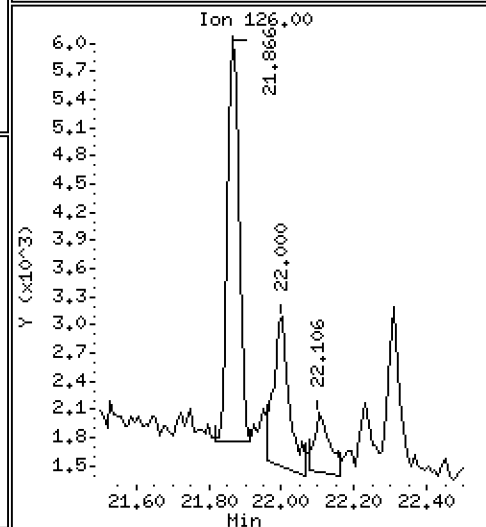
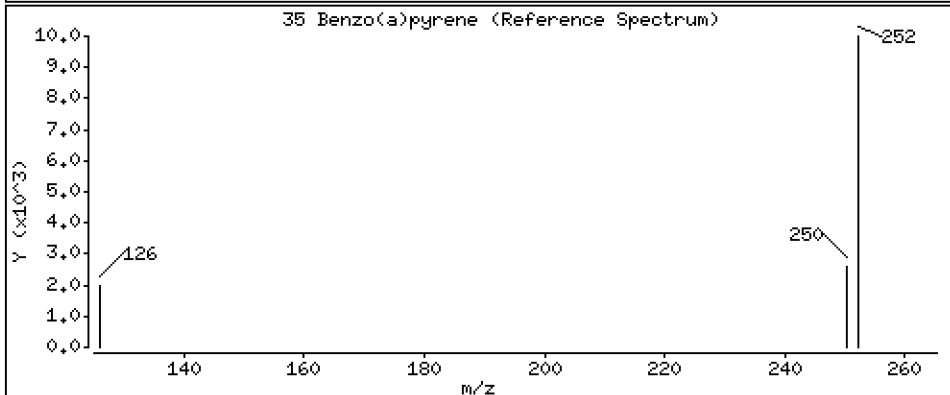
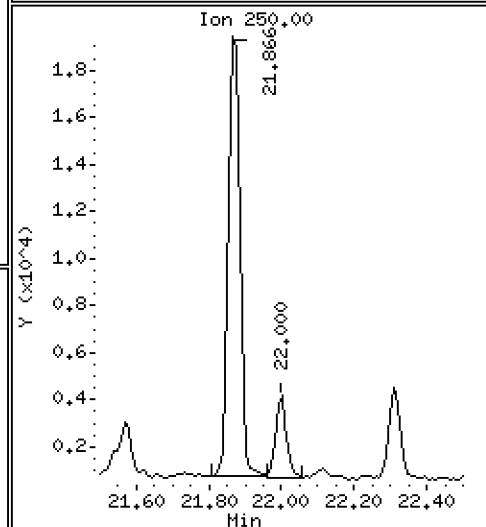
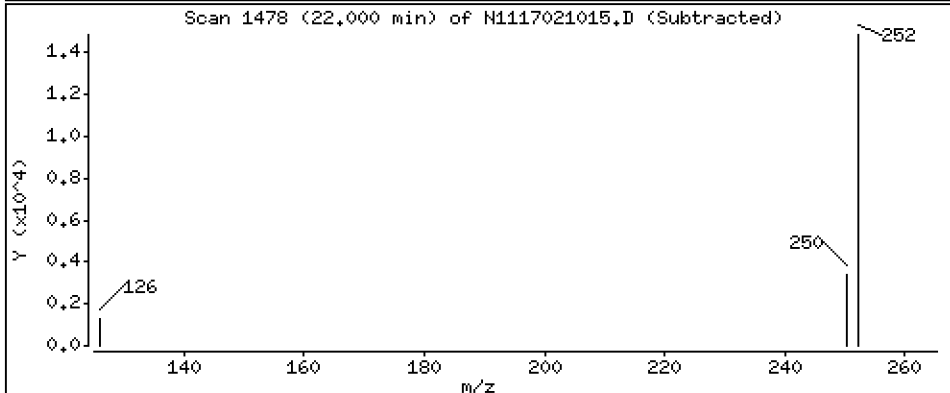
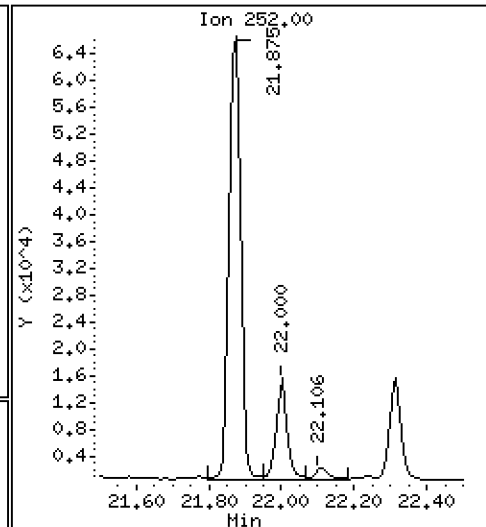
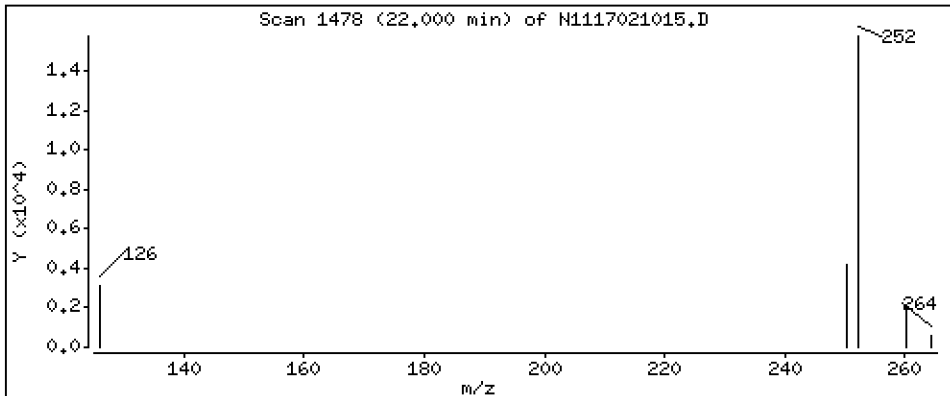
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

35 Benzo(a)pyrene

Concentration: 28,5 ng/mL



Date : 10-FEB-2017 19:25

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-08

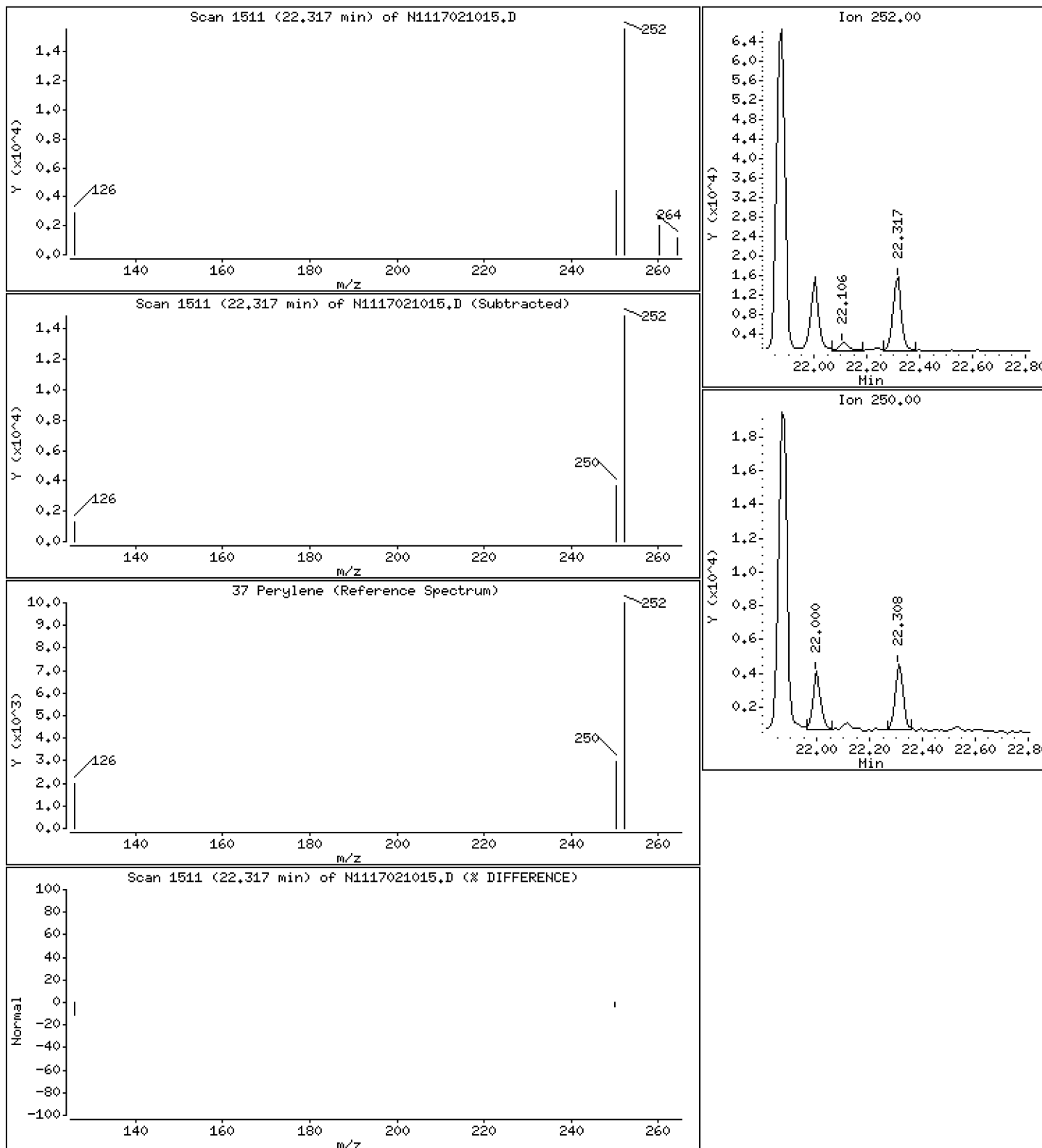
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

37 Perylene

Concentration: 28,6 ng/mL



Date : 10-FEB-2017 19:25

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-08

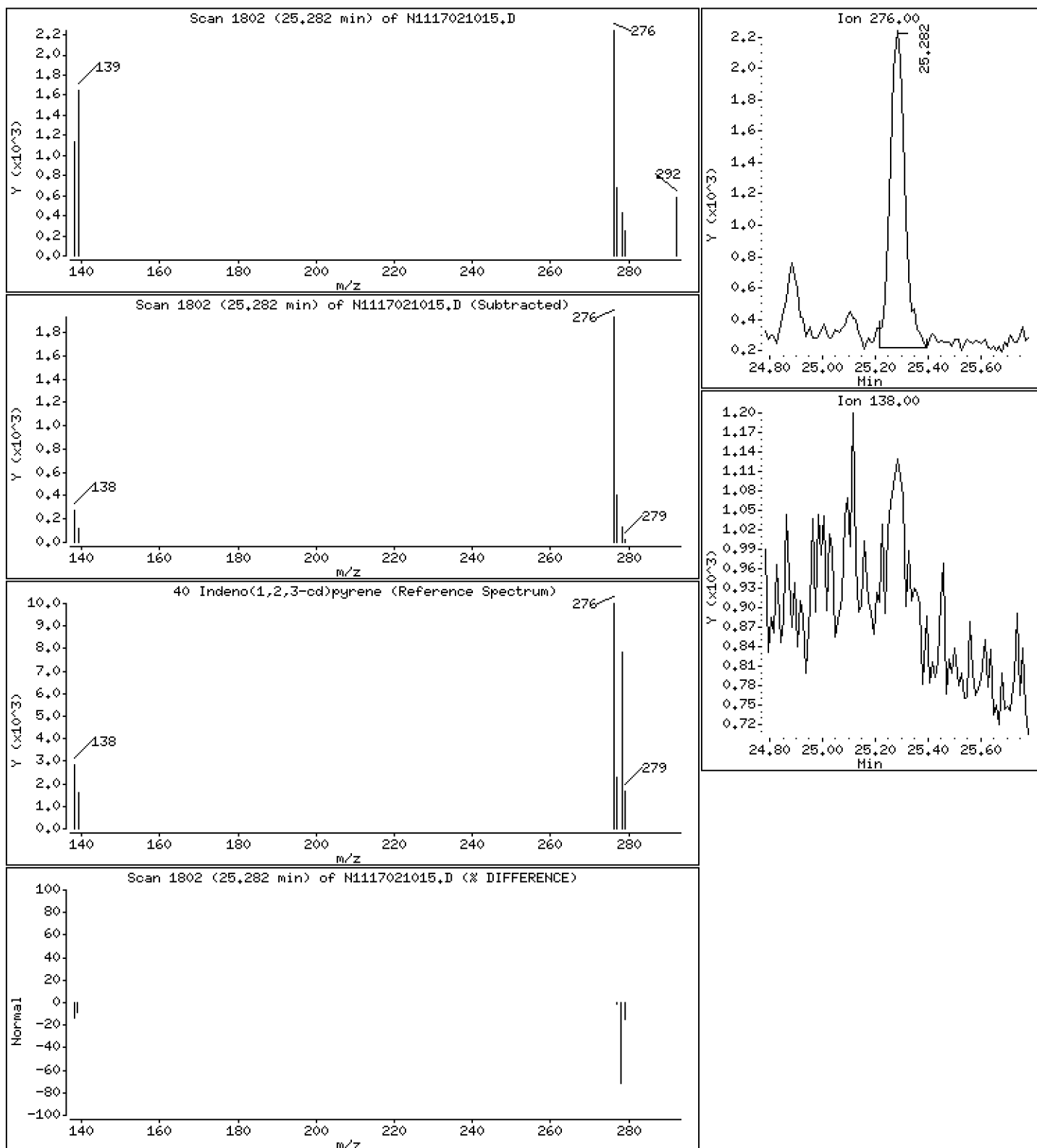
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

40 Indeno(1,2,3-cd)pyrene

Concentration: 6,19 ng/mL



Date : 10-FEB-2017 19:25

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-08

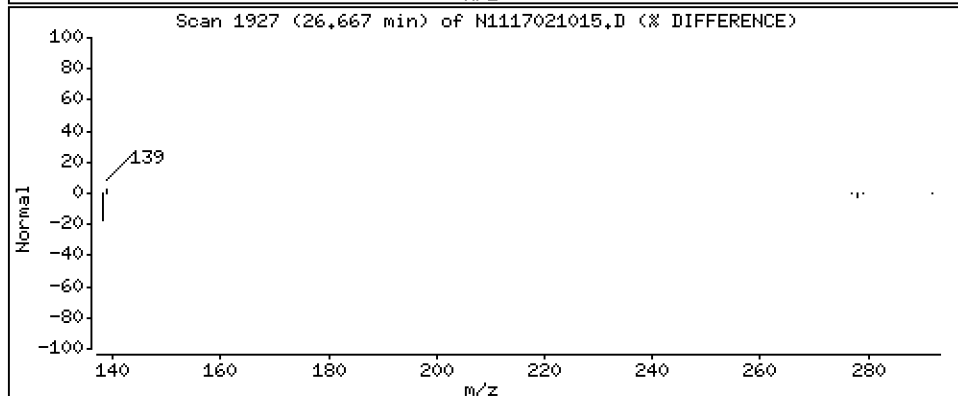
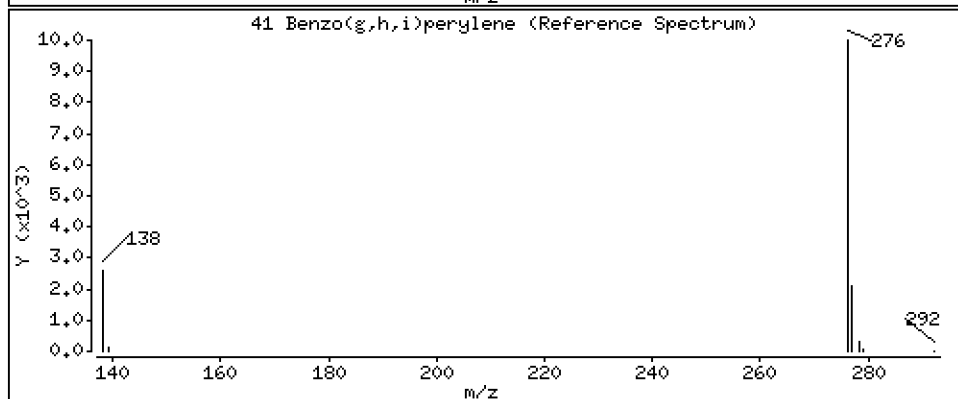
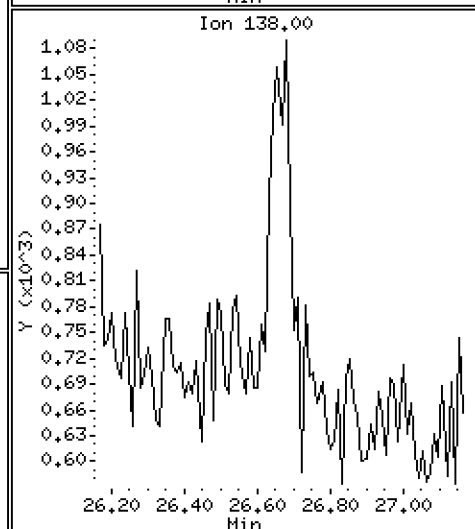
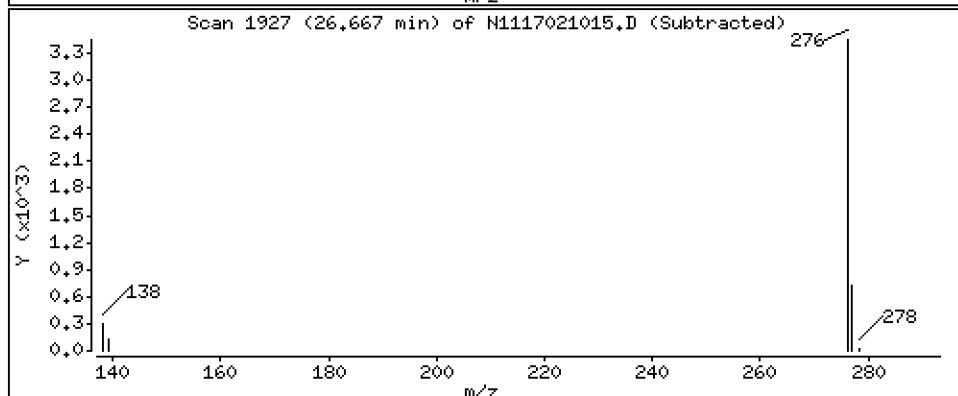
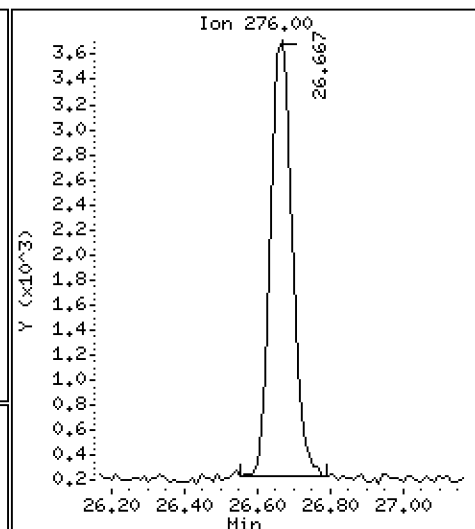
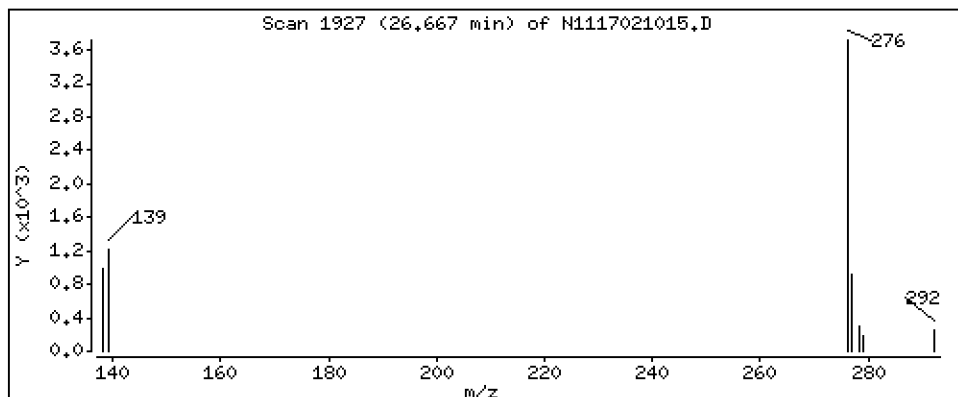
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

41 Benzo(g,h,i)perylene

Concentration: 12,8 ng/mL



ARI Labs, Inc.

LOW LEVEL PNAs BY SW8270D-SIM

Data file : \\target\share\chem3\nt11.i\20170210.b\N1117021015.D
 Lab Smp Id: 17A0053-08
 Inj Date : 10-FEB-2017 19:25 MS Autotune Date: 15-JAN-2015 15:59
 Operator : VTS Inst ID: nt11.i
 Smp Info : 17A0053-08
 Misc Info :
 Comment :
 Method : \\target\share\chem3\nt11.i\20170210.b\LOWSIM.m
 Meth Date : 11-Feb-2017 08:35 nt11.i Quant Type: ISTD
 Cal Date : 31-DEC-2016 09:30 Cal File: N1116123104.D
 Als bottle: 1
 Dil Factor: 1.00000
 Integrator: HP RTE Compound Sublist: allpna.sub
 Target Version: 4.14
 Processing Host: VANS

Compounds	QUANT	SIG	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS	
							ON-COLUMN (ng/mL)	FINAL (ng/mL)
* 1 Naphthalene-d8	136		8.517	8.526	(1.000)	219069	200.000	
2 Naphthalene	128		8.545	8.554	(1.003)	48160	44.0516	44.1
3 Benzo(b)thiophene	134		Compound Not Detected.					
\$ 4 2-Methylnaphthalene-d10	152		9.498	9.508	(1.115)	154153	163.846	164
5 2-Methylnaphthalene	142		9.561	9.561	(1.122)	14787	13.7234	13.7
6 1-Methylnaphthalene	142		9.813	9.823	(1.152)	19107	17.6310	17.6
7 2-Chloronaphthalene	162		Compound Not Detected.					
8 Biphenyl	154		10.433	10.443	(0.903)	13511	9.01364	9.01
9 2,6-Dimethylnaphthalene	156		10.475	10.496	(0.907)	16107	13.8571	13.9
10 Acenaphthylene	152		11.410	11.410	(0.987)	11225	8.41192	8.41
* 11 Acenaphthene-d10	164		11.555	11.564	(1.000)	148509	200.000	
12 Acenaphthene	153		11.618	11.627	(1.005)	51100	58.1618	58.2
13 Dibenzofuran	168		11.822	11.822	(1.023)	54596	41.8021	41.8
14 2,3,5-Trimethylnaphthalene	170		11.911	11.923	(1.031)	4392	5.25522	5.26 (M)
\$ 15 Fluorene-d10	174		Compound Not Detected.					
16 Fluorene	166		12.454	12.454	(1.078)	68408	65.7933	65.8
17 Dibenzothiophene	184		14.083	14.083	(0.988)	17404	15.6519	15.7
* 18 Phenanthrene-d10	188		14.251	14.262	(1.000)	240804	200.000	
19 Phenanthrene	178		14.293	14.293	(1.003)	329204	239.120	239
\$ 20 Anthracene-d10	188		Compound Not Detected.					
21 Anthracene	178		14.346	14.356	(1.007)	74506	54.2754	54.3
22 Carbazole	167		15.026	15.027	(1.054)	13609	8.98327	8.98
23 1-Methylphenanthrene	192		15.298	15.307	(1.073)	30391	21.5254	21.5 (M)
\$ 24 Fluoranthene-d10	212		16.367	16.367	(1.148)	239670	187.392	187
25 Fluoranthene	202		16.405	16.405	(1.151)	547219	350.408	350
26 Pyrene	202		16.905	16.915	(0.889)	462353	336.845	337
27 Benzo(a)anthracene	228		18.925	18.933	(0.995)	133788	105.298	105
* 28 Chrysene-d12	240		19.024	19.024	(1.000)	211300	200.000	
29 Chrysene	228		19.074	19.074	(1.003)	187045	143.466	143
30 Benzo(b)fluoranthene	252		21.001	21.001	(0.944)	108260	89.3209	89.3
31 Benzo(k)fluoranthene	252		21.049	21.049	(0.946)	58792	45.0352	45.0
32 Benzo(j)fluoranthene	252		21.125	21.125	(0.950)	48880	42.0049	42.0
\$ 33 Benzo(e)pyrene-d12	264		Compound Not Detected.					

Compounds	QUANT SIG	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS		
						ON-COLUMN (ng/mL)	FINAL (ng/mL)	
34 Benzo(e)pyrene	252	21.875	21.875	(0.984)	139754	115.594	116	
35 Benzo(a)pyrene	252	22.000	22.000	(0.989)	32196	28.4941	28.5	
* 36 Perylene-d12	264	22.240	22.240	(1.000)	224848	200.000		
37 Perylene	252	22.317	22.317	(1.003)	33694	28.5606	28.6	
§ 38 Dibenzo(a,h)anthracene-d14	292	25.116	25.116	(1.129)	152012	211.702	212	
39 Dibenzo(a,h)anthracene	278	Compound Not Detected.						
40 Indeno(1,2,3-cd)pyrene	276	25.282	25.282	(1.137)	7637	6.19080	6.19	
41 Benzo(g,h,i)perylene	276	26.666	26.666	(1.199)	14228	12.8466	12.8	

QC Flag Legend

M - Compound response manually integrated.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
 AREA AND RT SUMMARY

Instrument ID: nt11.i Calibration Date: 10-FEB-2017
 Lab File ID: N1117021015.D Calibration Time: 13:29
 Lab Smp Id: 17A0053-08
 Analysis Type: SV Level:
 Quant Type: ISTD Sample Type:
 Operator: VTS
 Method File: \\target\share\chem3\nt11.i\20170210.b\LOWSIM.m
 Misc Info:

Test Mode:
 Use Initial Calibration Level 4.

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
1 Naphthalene-d8	219654	109827	439308	219069	-0.27
11 Acenaphthene-d10	135248	67624	270496	148509	9.80
18 Phenanthrene-d10	257021	128511	514042	240804	-6.31
28 Chrysene-d12	259511	129756	519022	211300	-18.58
36 Perylene-d12	257535	128768	515070	224848	-12.69

COMPOUND	STANDARD	RT LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
1 Naphthalene-d8	8.53	8.03	9.03	8.52	-0.11
11 Acenaphthene-d10	11.56	11.06	12.06	11.56	-0.08
18 Phenanthrene-d10	14.26	13.76	14.76	14.25	-0.07
28 Chrysene-d12	19.02	18.52	19.52	19.02	-0.00
36 Perylene-d12	22.24	21.74	22.74	22.24	-0.00

AREA UPPER LIMIT = +100% of internal standard area.
 AREA LOWER LIMIT = - 50% of internal standard area.
 RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
 RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - N1117021015.D

Lab ID: 17A0053-08

nt11.i, 20170210.b\LOWSIM.m, 10-FEB-2017 19:25

RT CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

RRT	CCV	RRT	DELTA	COMPOUND
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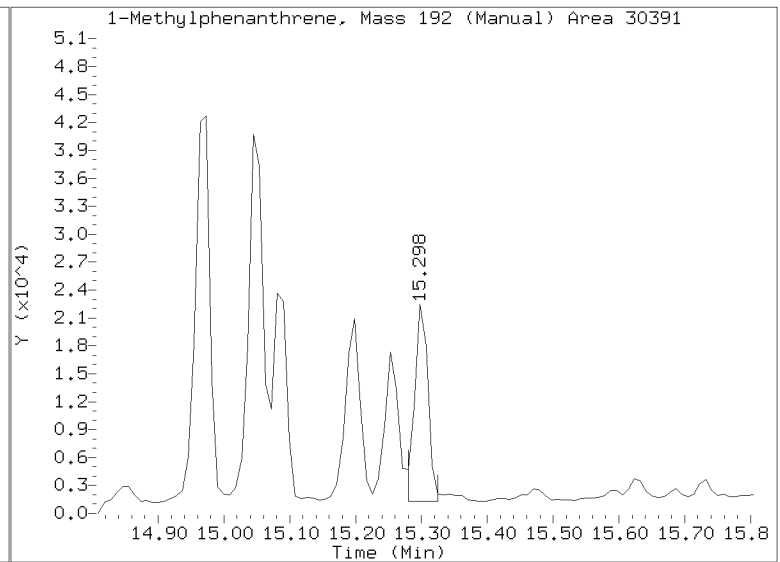
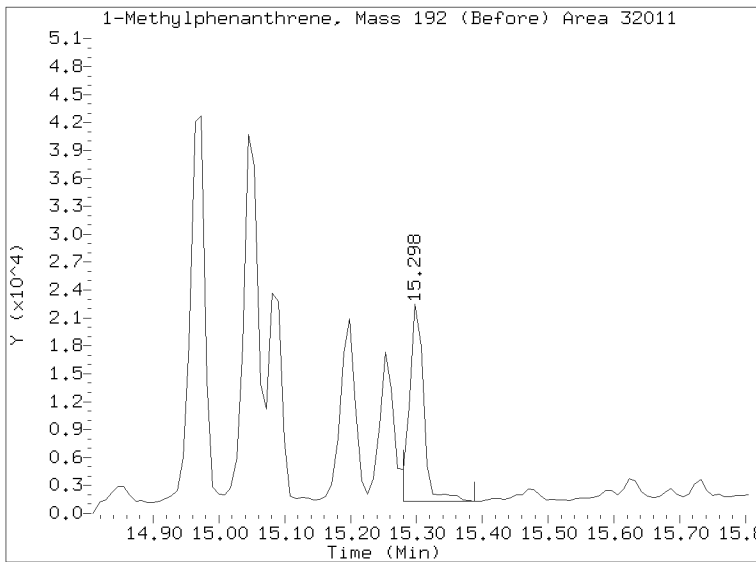
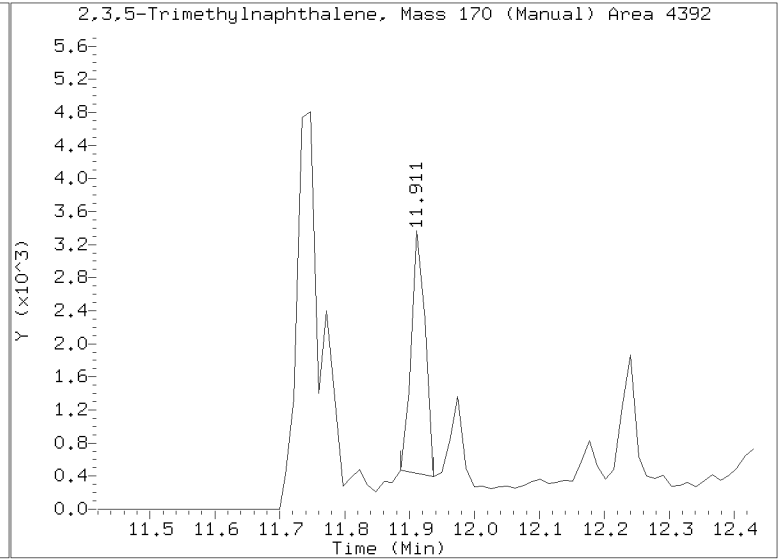
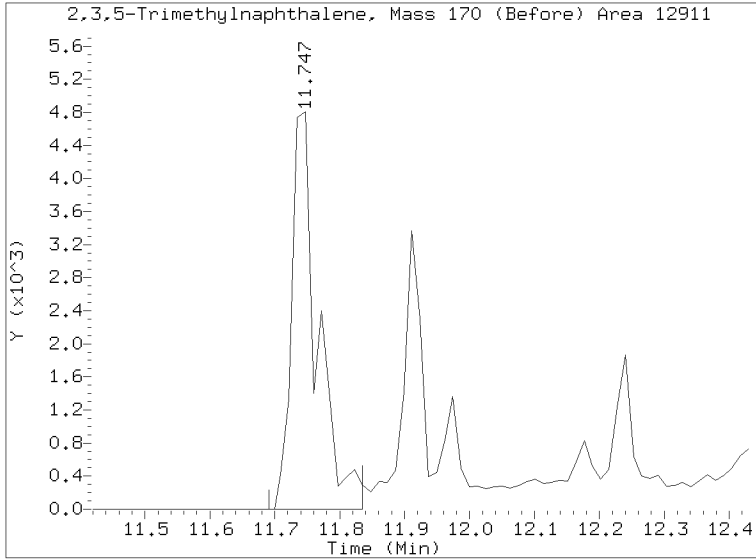
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Exception: Phenanthrene 2.5000
Exception: Anthracene 2.0000
Exception: Pyrene 4.0000
Exception: Benzo(j)fluoranthene 2.5000
Exception: Benzo(a)pyrene 2.0000
Exception: Perylene 3.5000
Exception: Benzo(e)pyrene 2.0000
Exception: Benzo(b)thiophene 2.0000
Exception: 2-Chloronaphthalene 2.0000
Exception: 2,6-Dimethylnaphthalene 2.0000
Exception: 2,3,5-Trimethylnaphthalene 2.0000
Exception: 1-Methylphenanthrene 2.0000
Exception: Dibenzothiophene 2.0000
Exception: Carbazole 2.0000
Exception: Biphenyl 2.0000
Exception: 2-Methylnaphthalene-d10 (Surr) 0.1000
Exception: Dibenzo(a,h)anthracene-d14 (Surr) 0.1000
Exception: Fluoranthene-d10 (Surr) 0.1000
Exception: Anthracene-d10 (Surr) 0.1000
Exception: Benzo(e)pyrene-d12 (Surr) 0.1000
Exception: Fluorene-d10 (Surr) 0.1000

Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt11.i/20170210.b/N1117021015.D
Injection Date: 10-FEB-2017 19:25
Lab ID:17A0053-08 Client ID:
Report Date: 02/11/2017 08:35



Data File: \\target\share\chem3\nt11.1\20170210.16\N1117021016.D

Date : 10-FEB-2017 20:01

Client ID:

Sample Info: 17A0053-09

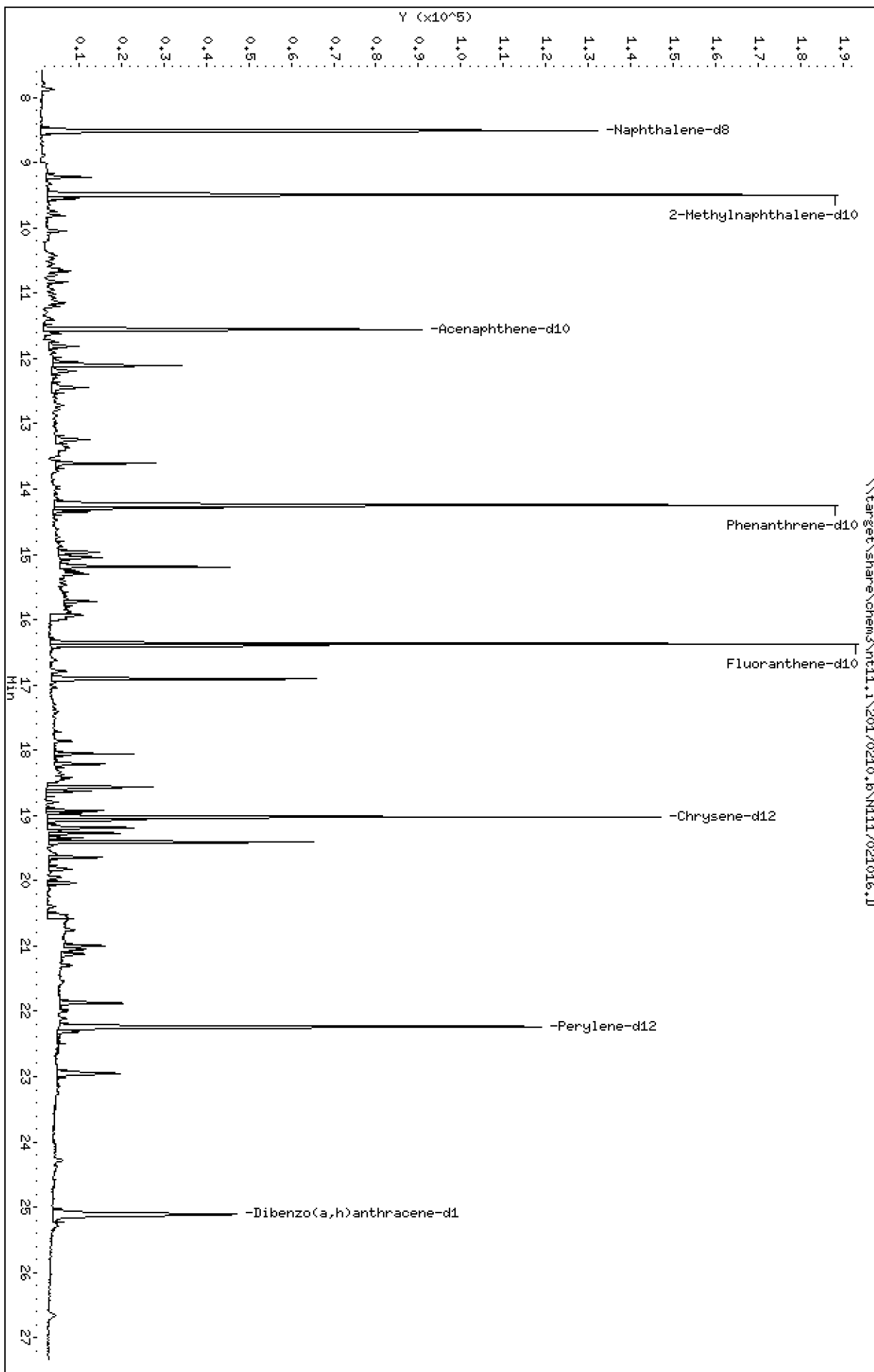
Column phase: Rxi-17S11 MS

Instrument: nt11.1

Operator: VTS

Column diameter: 0.25

Page 1



Date : 10-FEB-2017 20:01

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-09

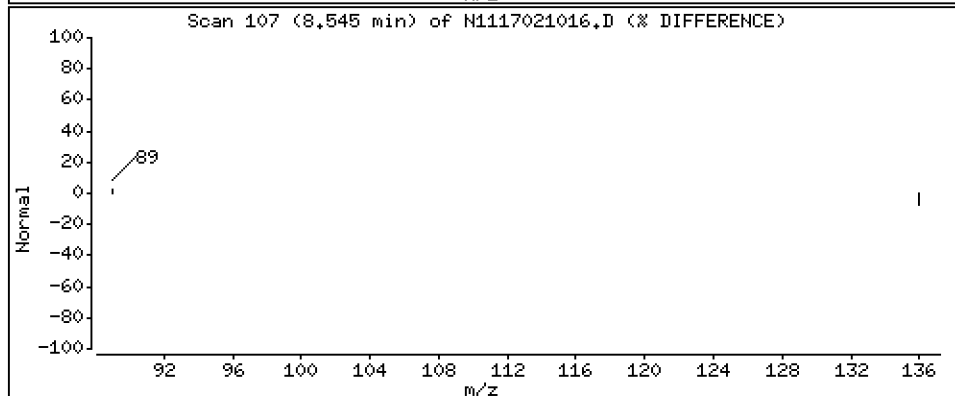
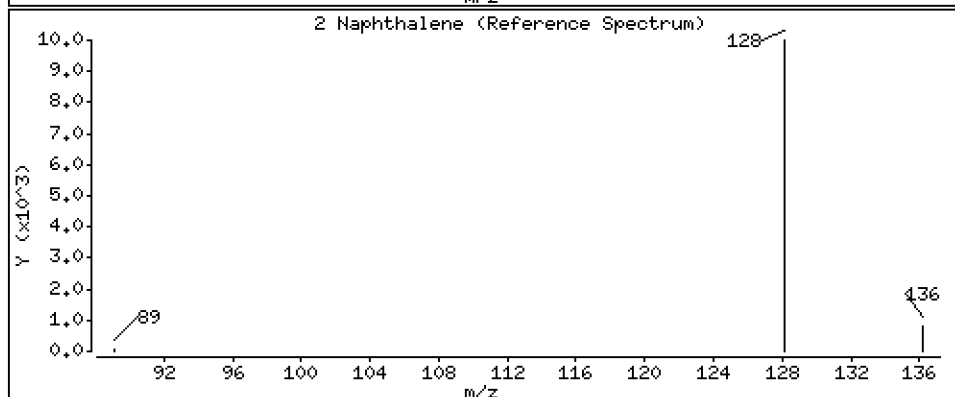
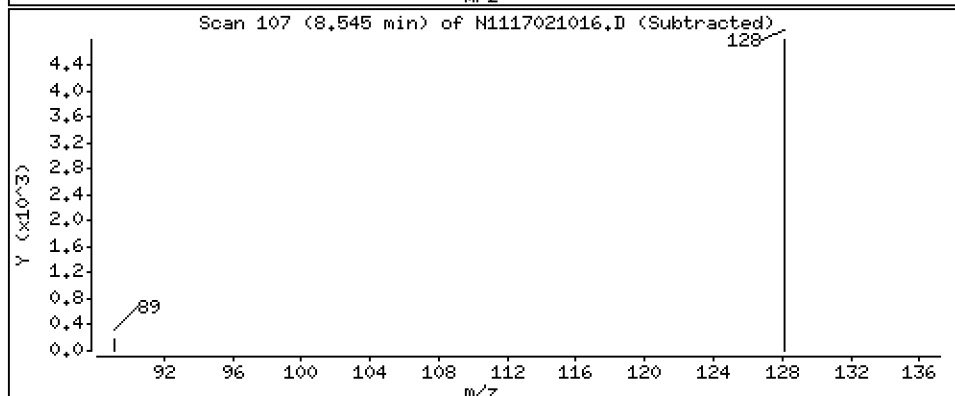
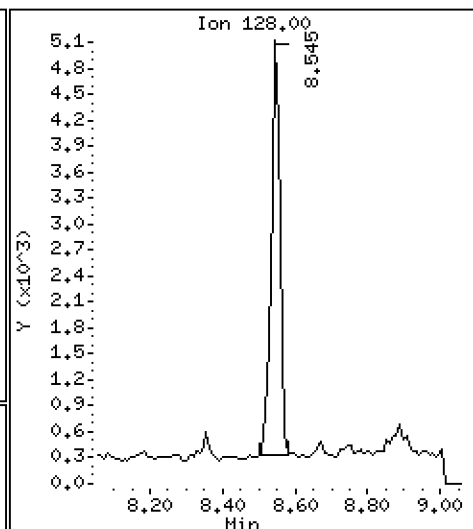
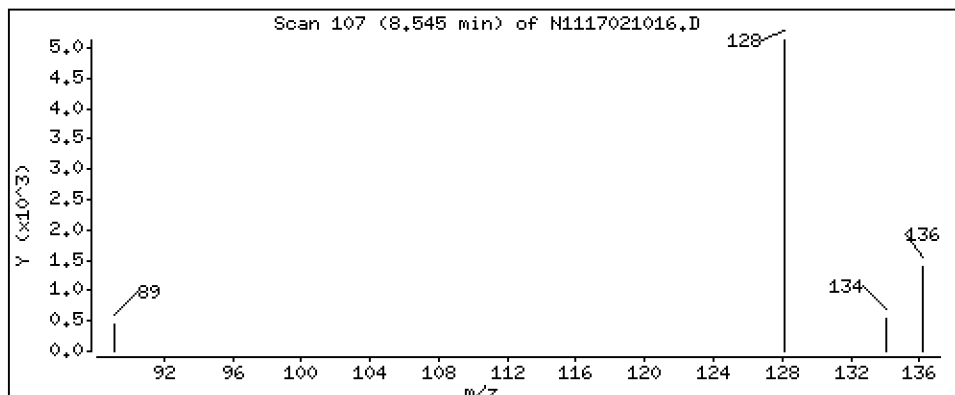
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

2 Naphthalene

Concentration: 7,45 ng/mL



Date : 10-FEB-2017 20:01

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-09

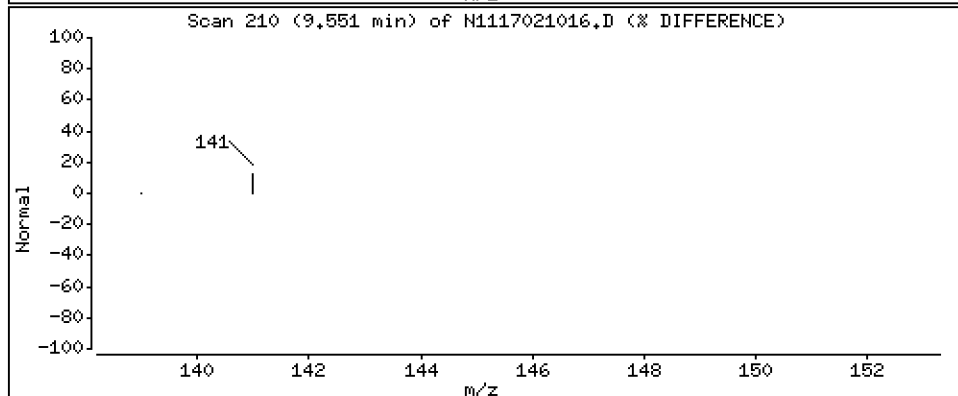
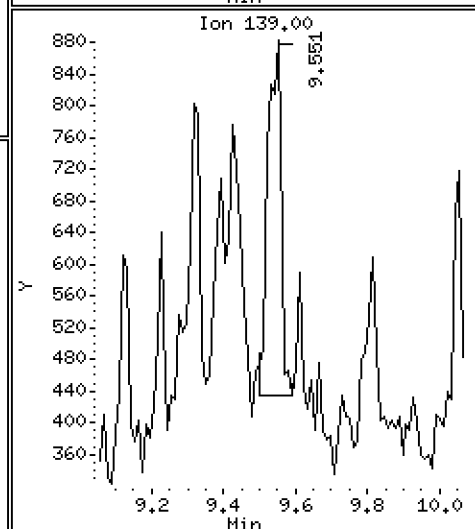
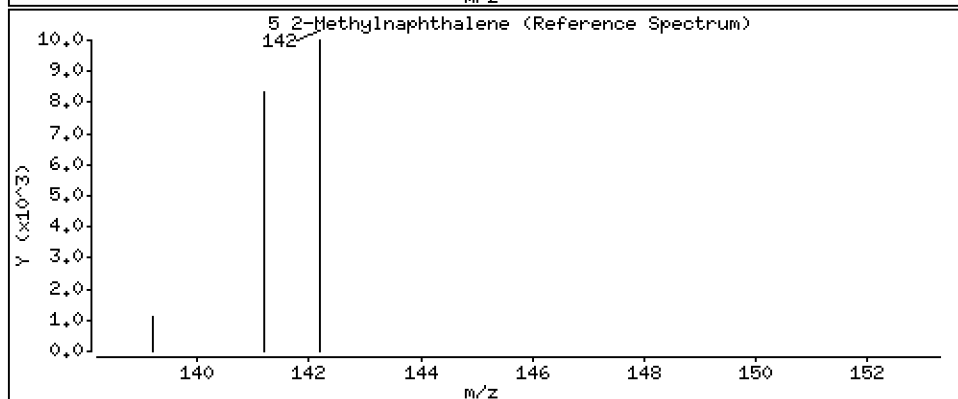
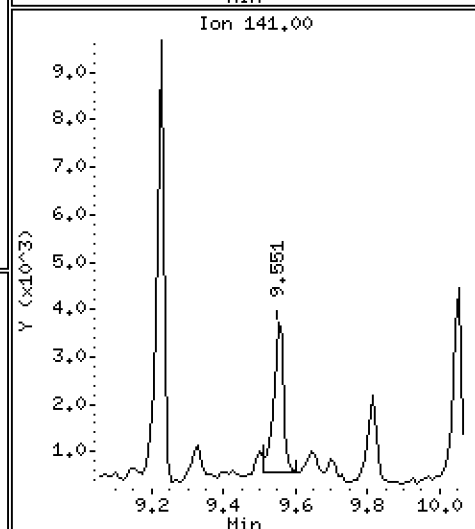
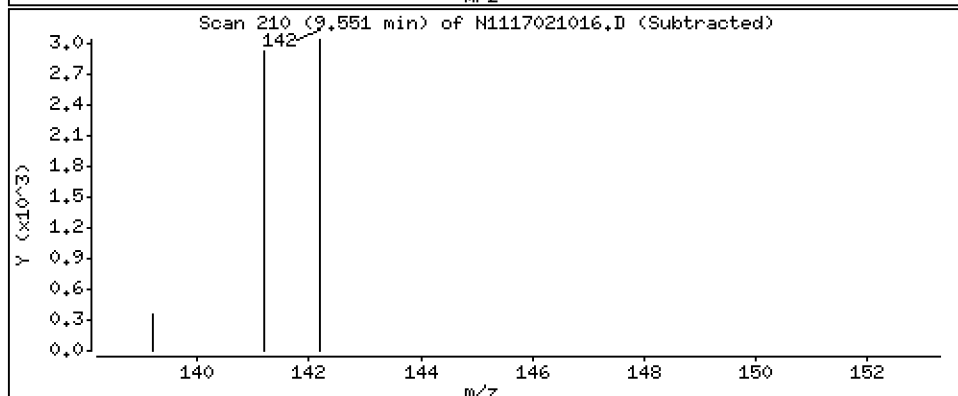
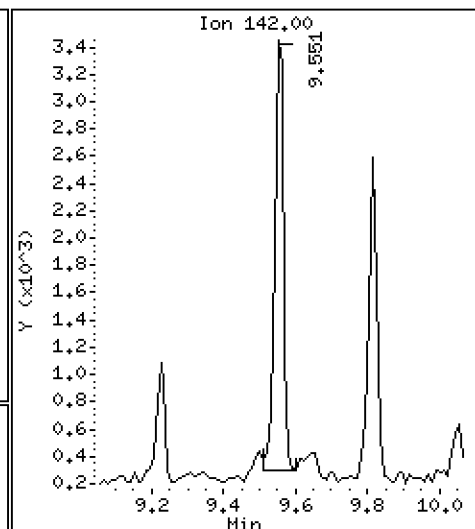
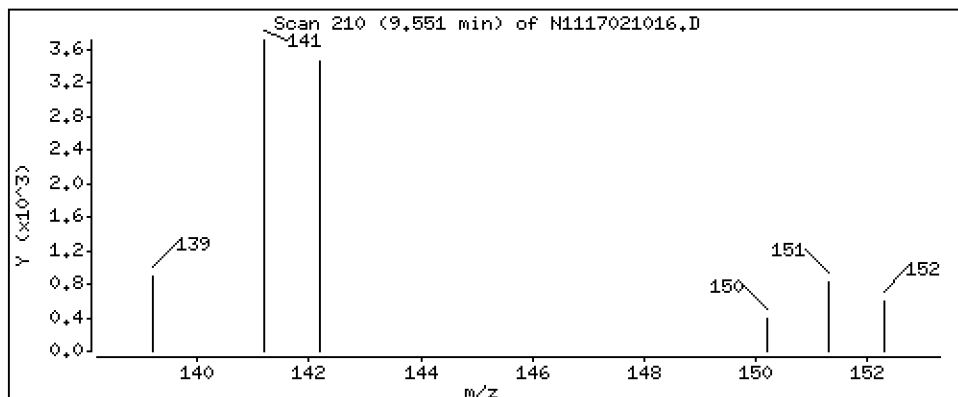
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0.25

5-2-Methylnaphthalene

Concentration: 5.42 ng/mL



Date : 10-FEB-2017 20:01

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-09

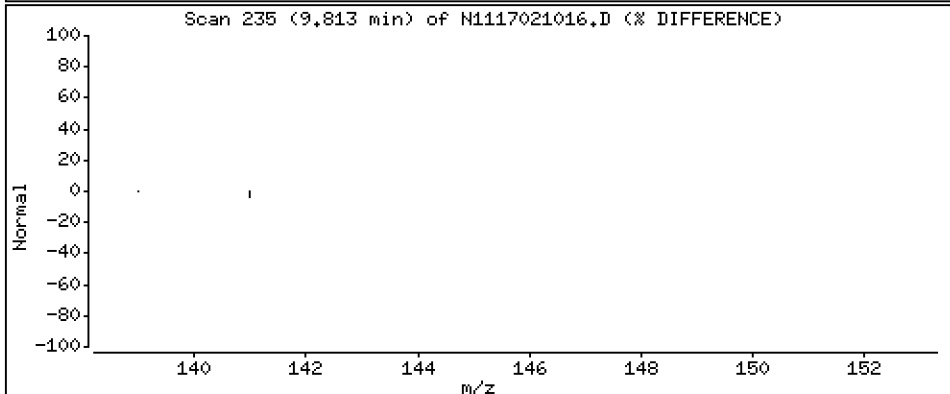
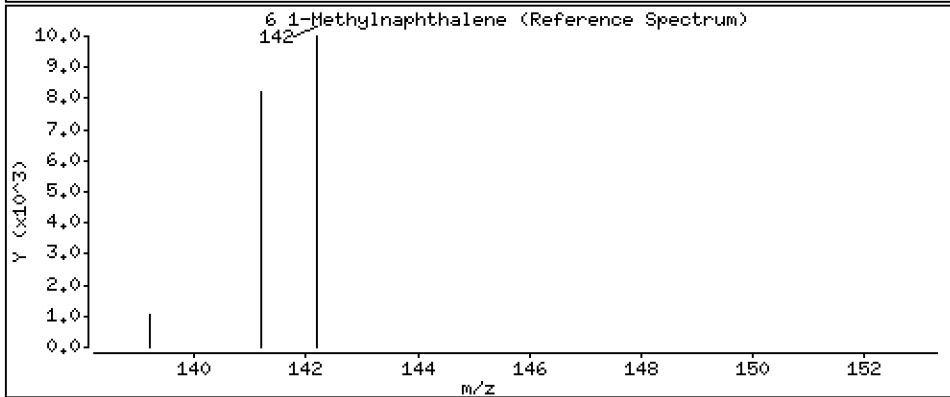
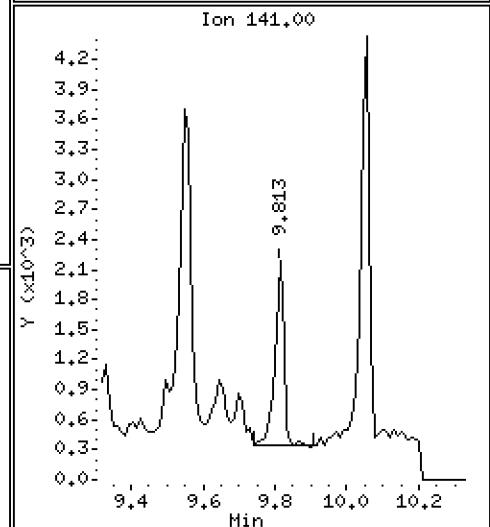
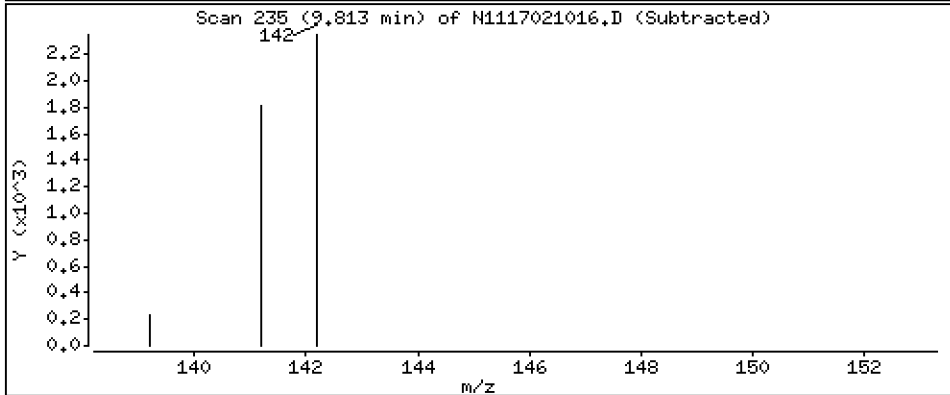
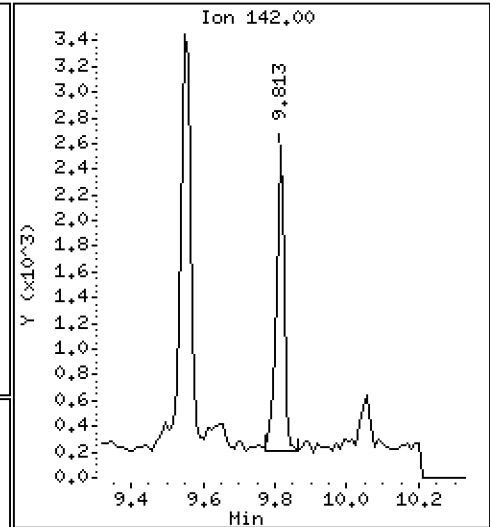
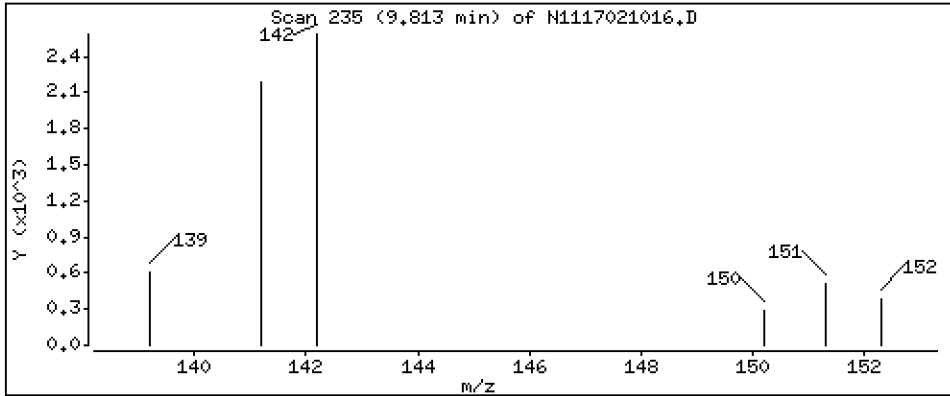
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

6-1-Methylnaphthalene

Concentration: 3,57 ng/mL



Date : 10-FEB-2017 20:01

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-09

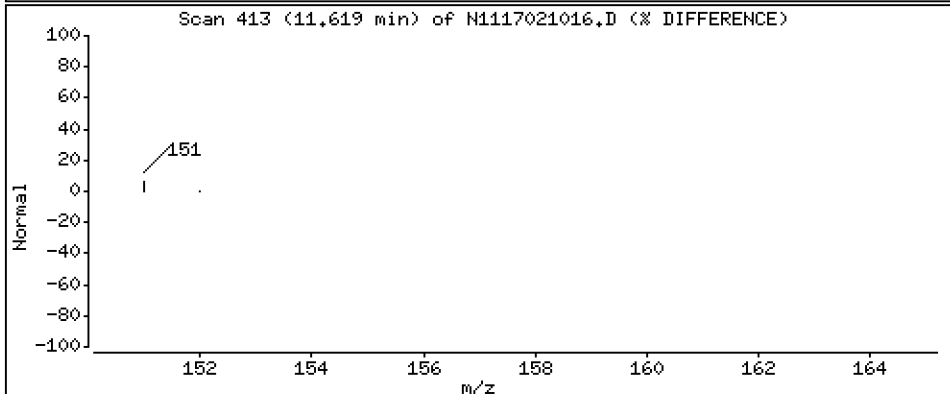
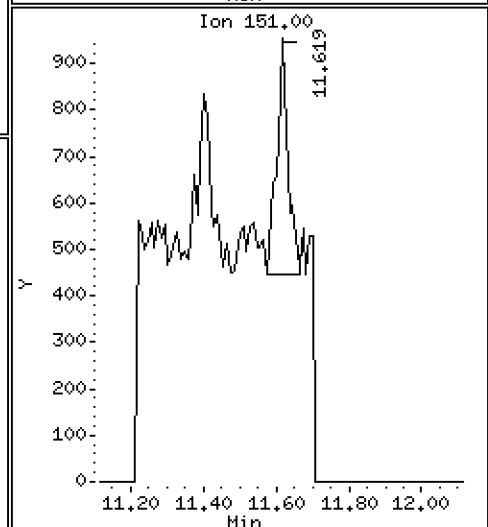
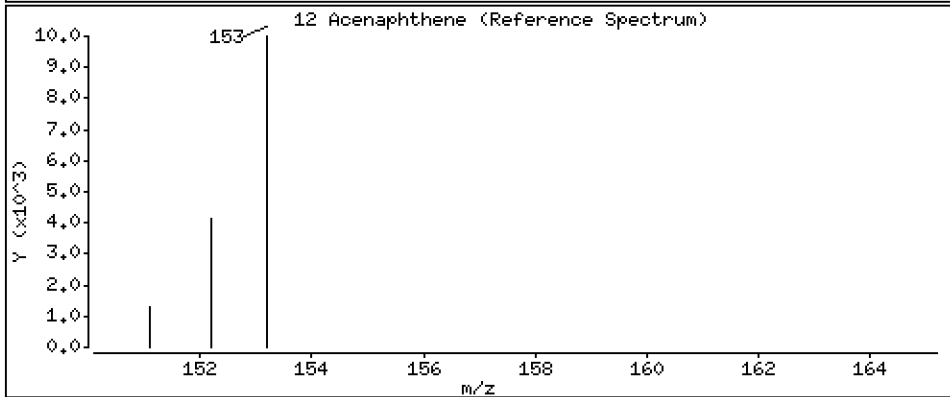
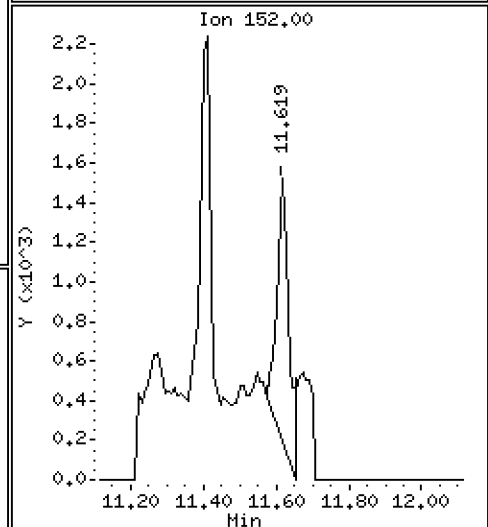
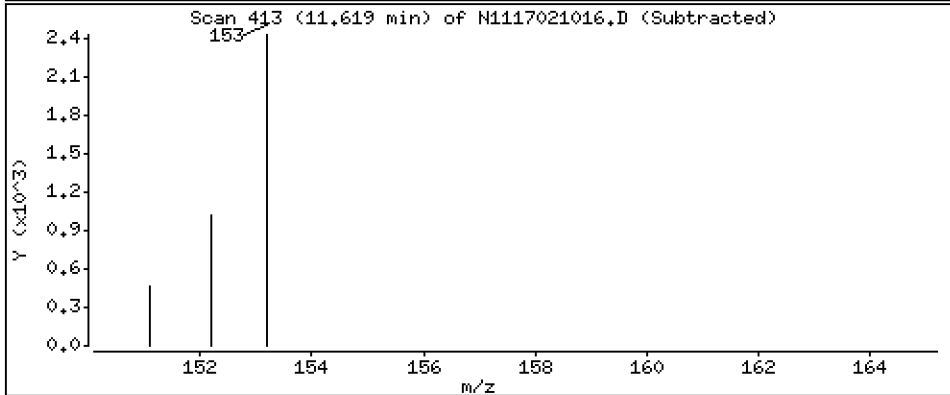
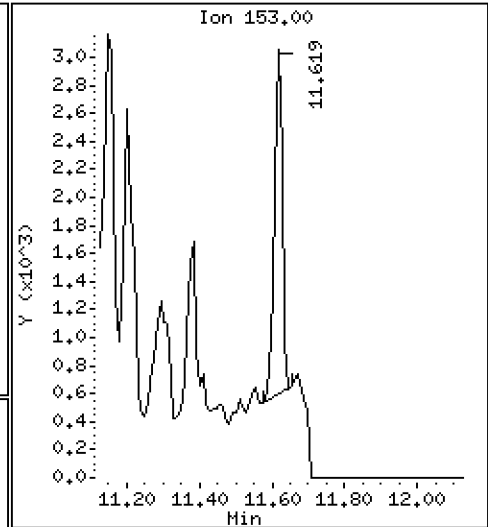
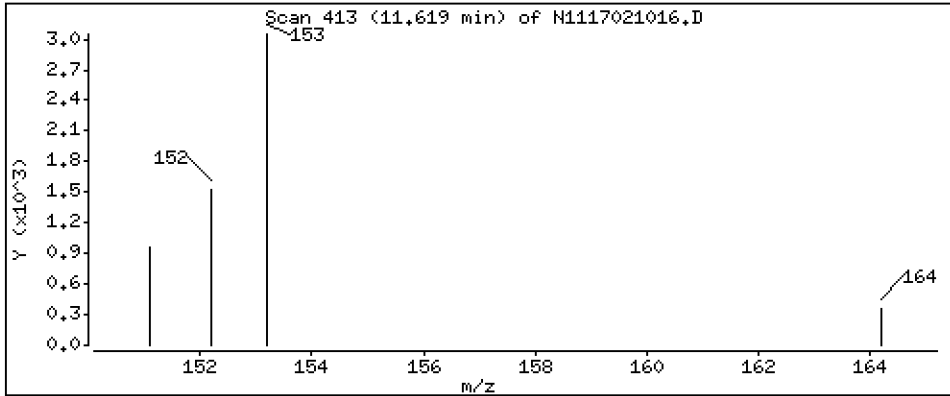
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0.25

12 Acenaphthene

Concentration: 4.20 ng/mL



Date : 10-FEB-2017 20:01

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-09

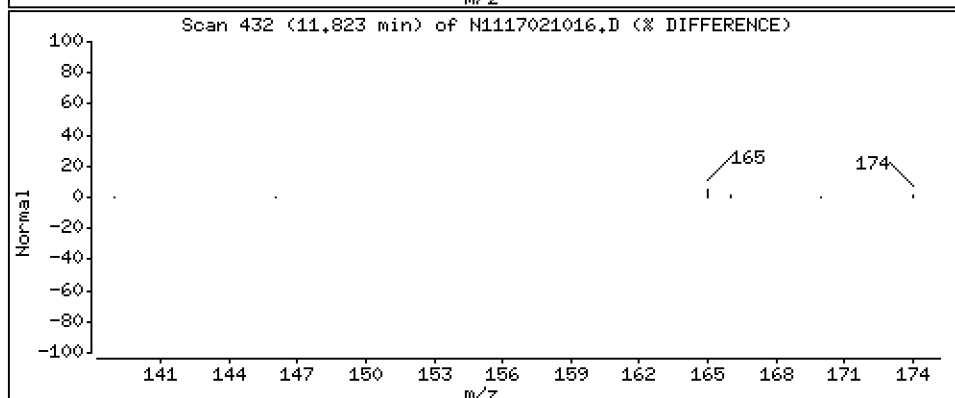
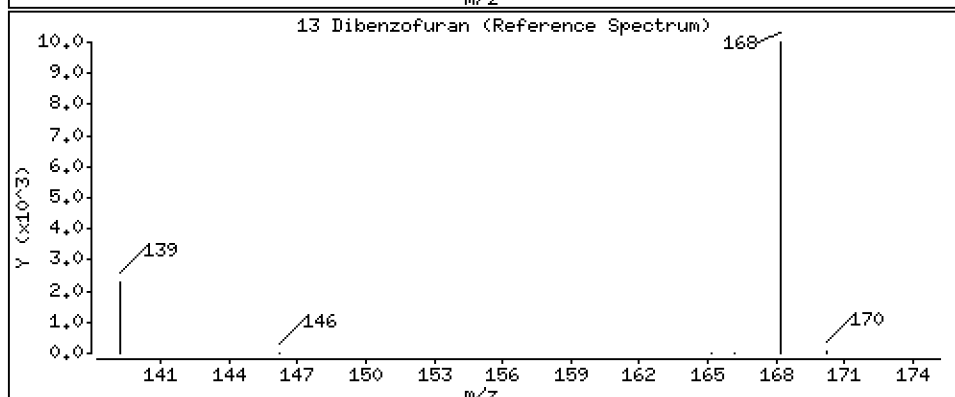
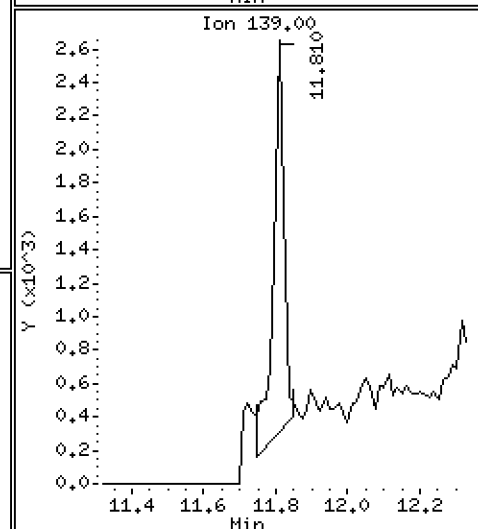
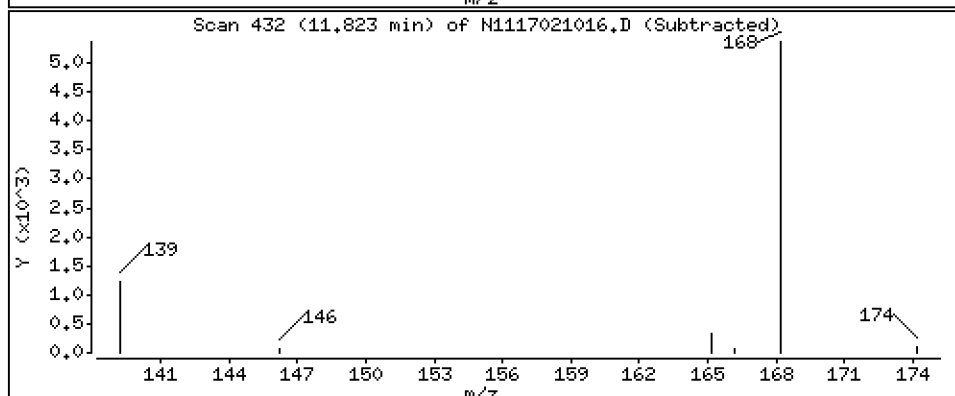
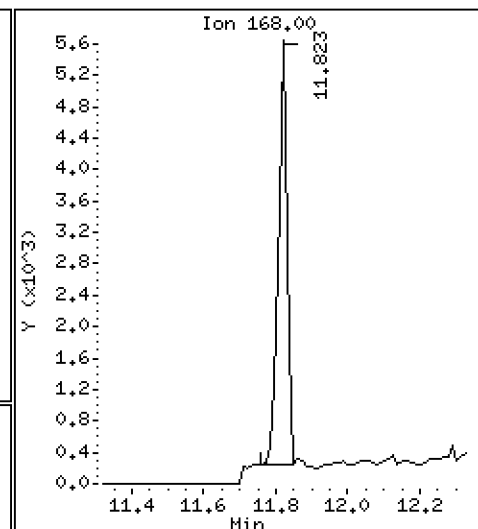
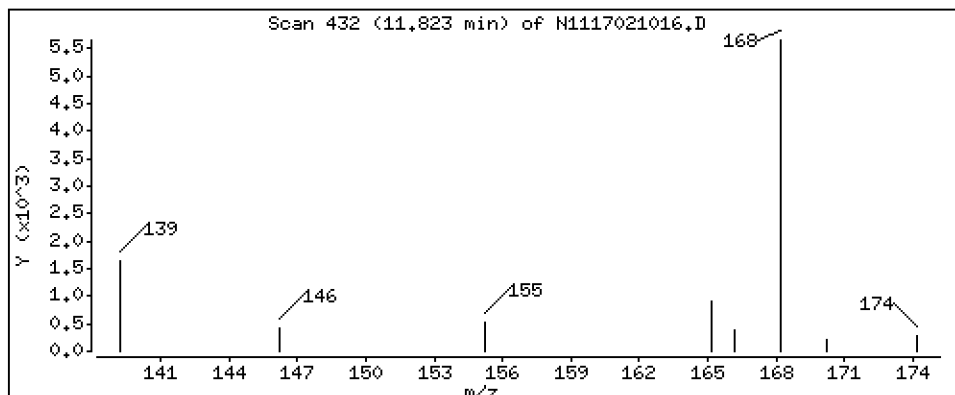
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

13 Dibenzofuran

Concentration: 6,52 ng/mL



Date : 10-FEB-2017 20:01

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-09

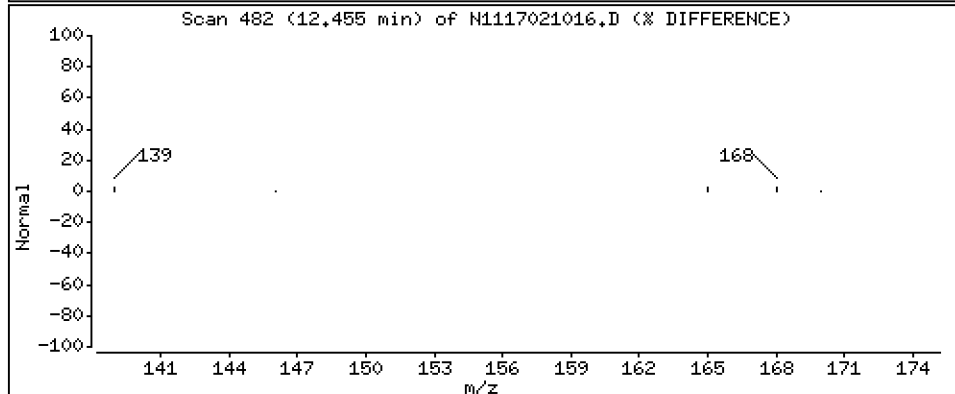
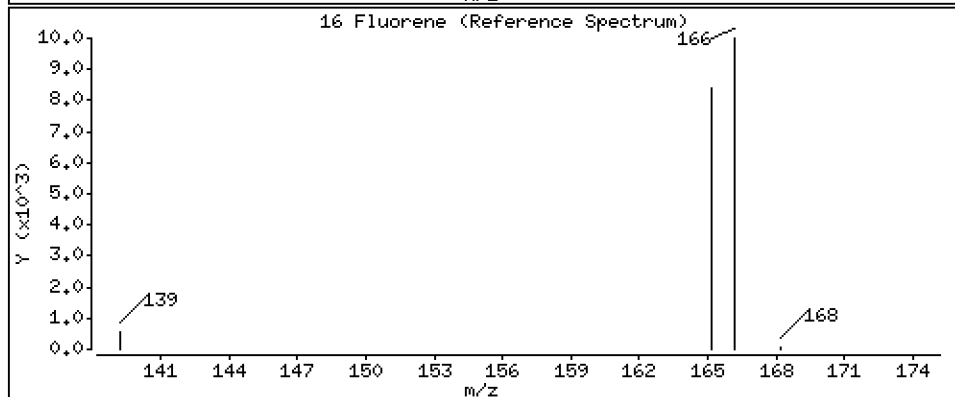
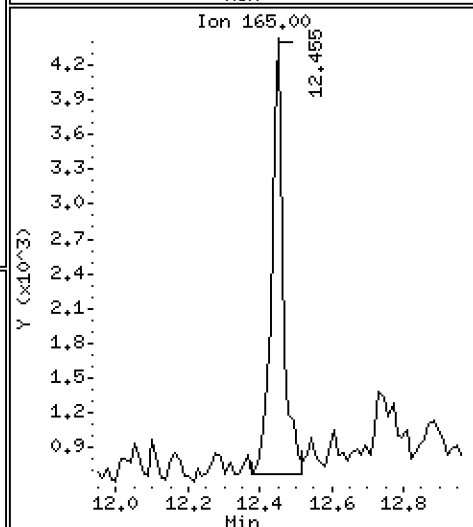
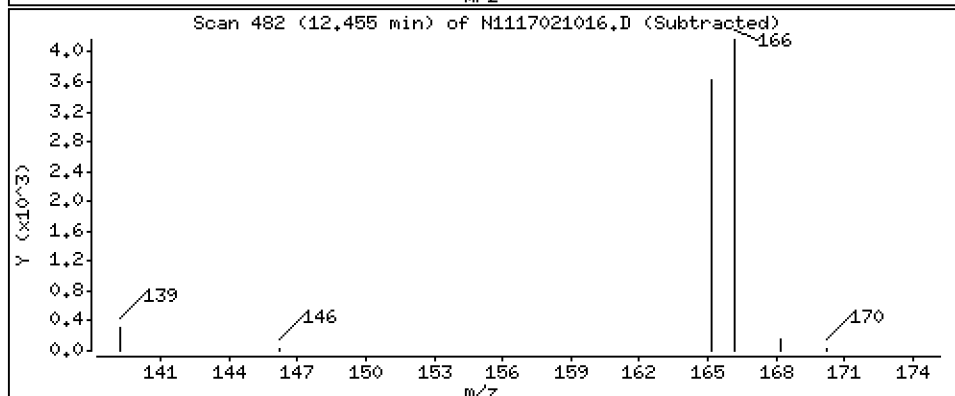
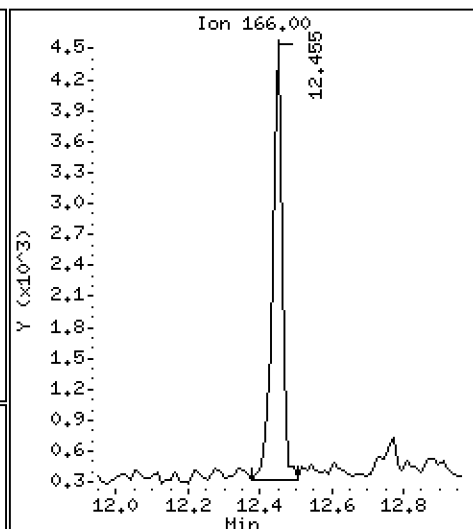
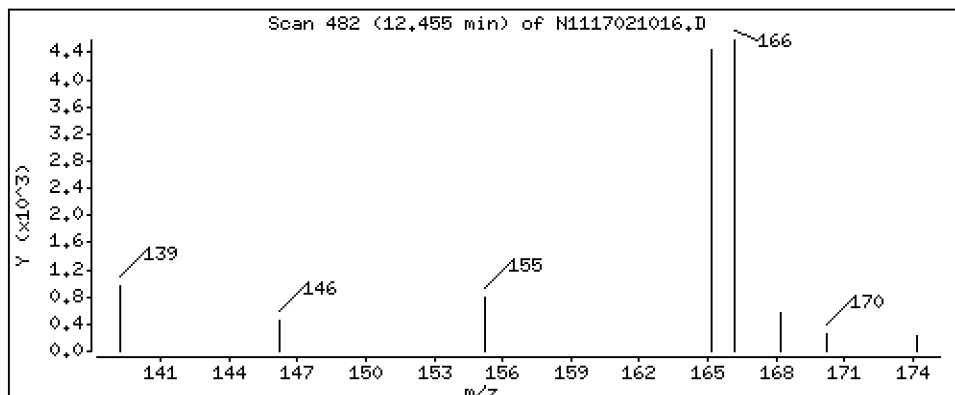
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

16 Fluorene

Concentration: 7,52 ng/mL



Date : 10-FEB-2017 20:01

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-09

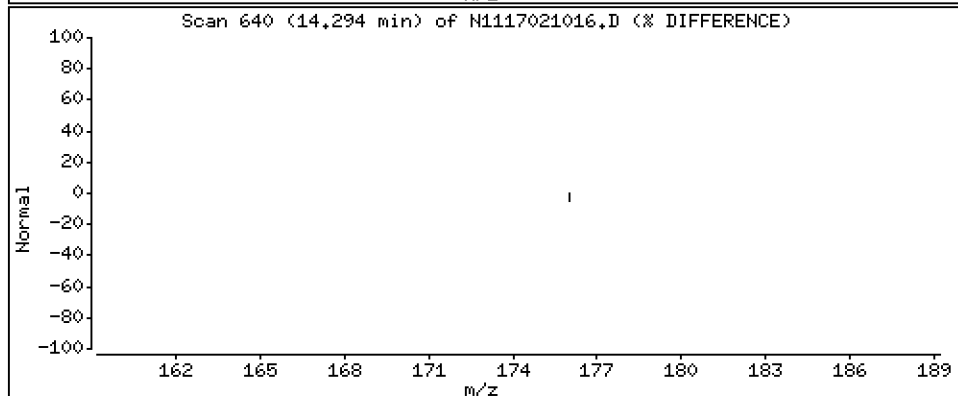
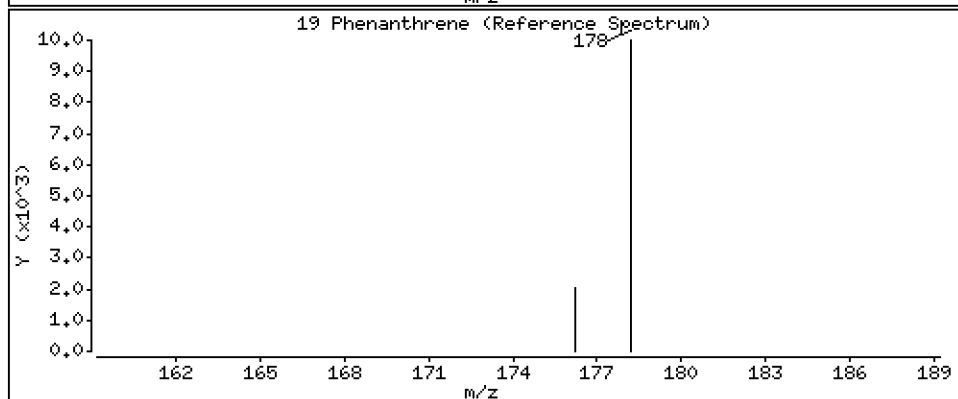
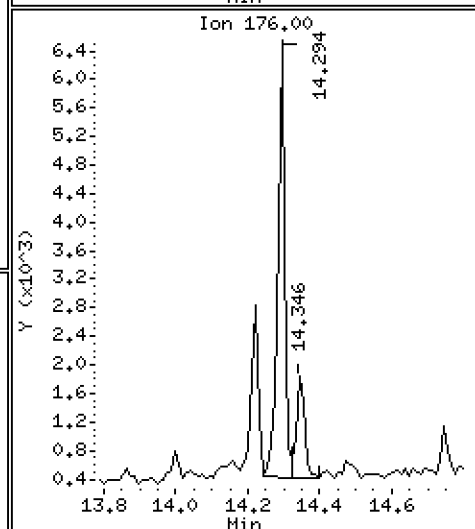
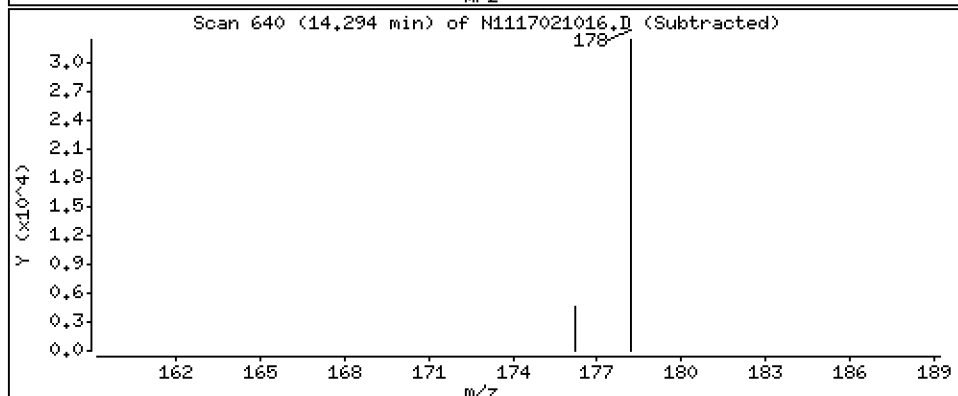
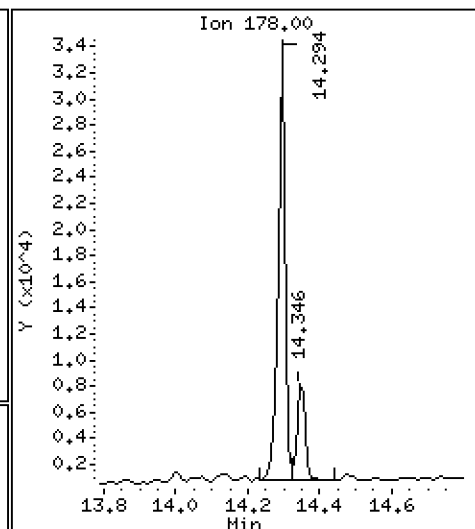
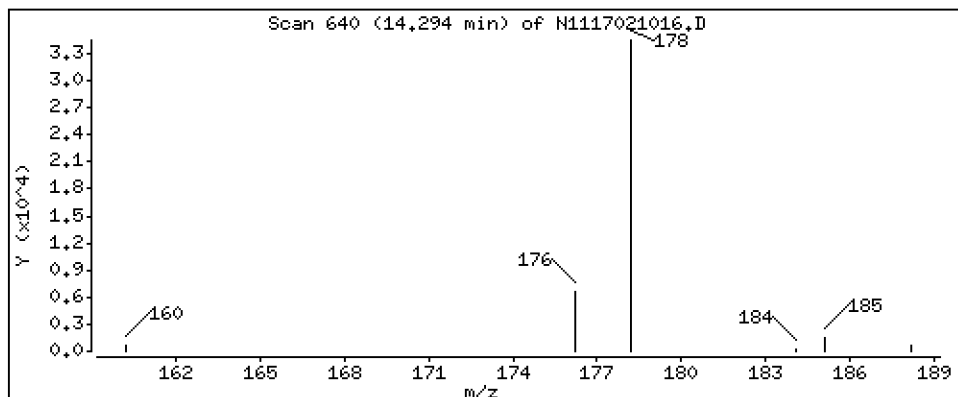
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

19 Phenanthrene

Concentration: 37,5 ng/mL



Date : 10-FEB-2017 20:01

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-09

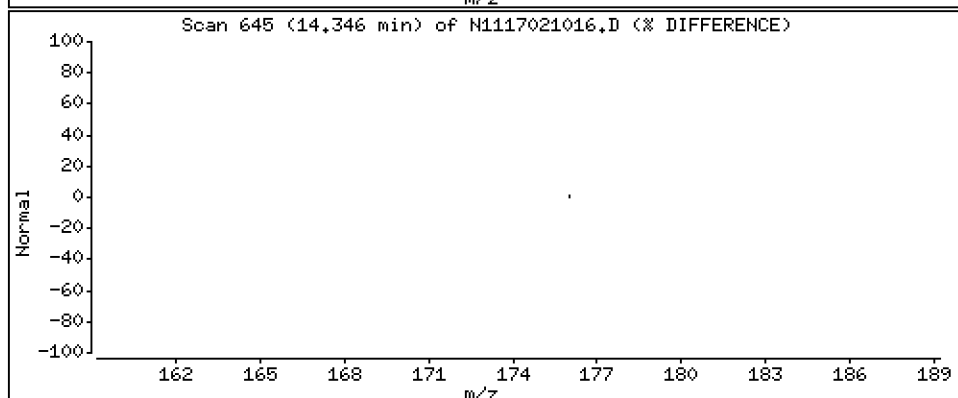
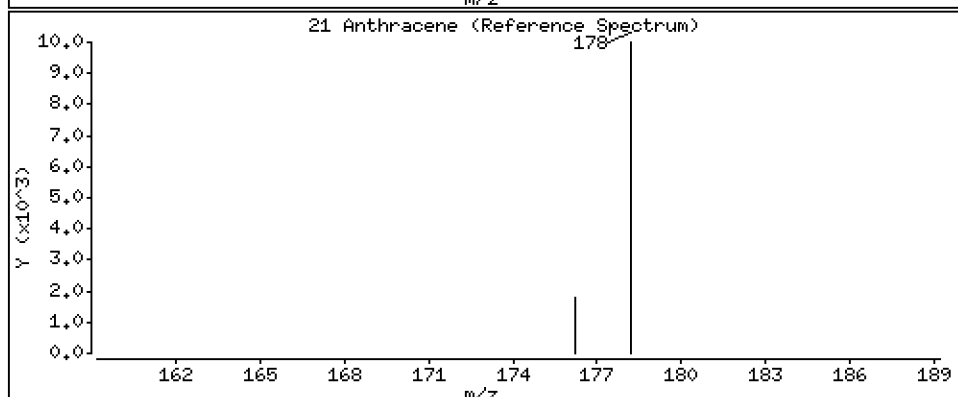
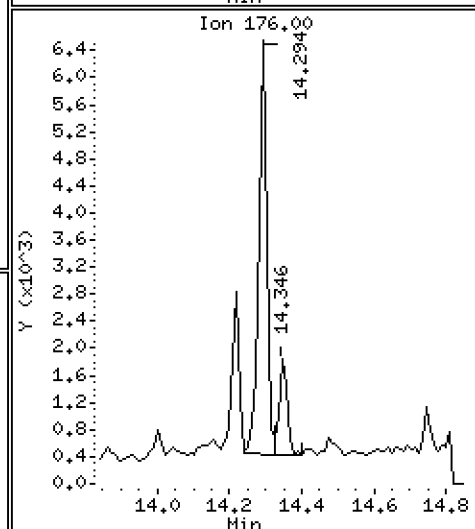
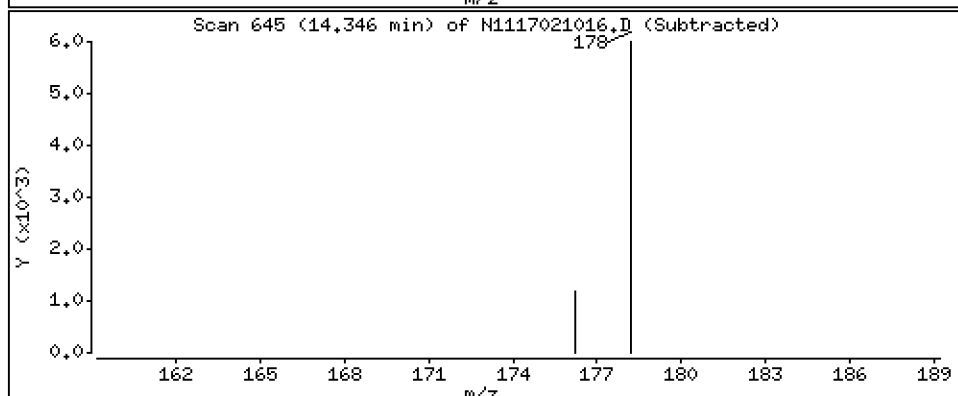
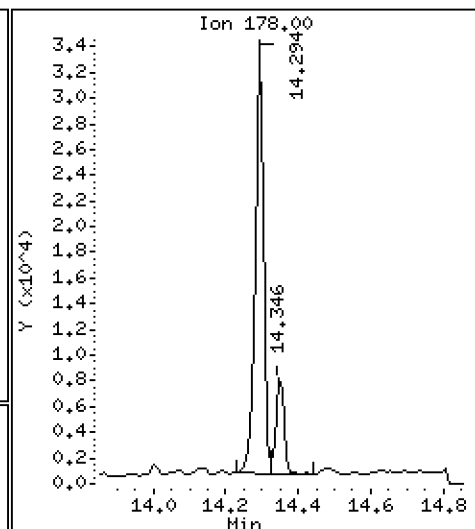
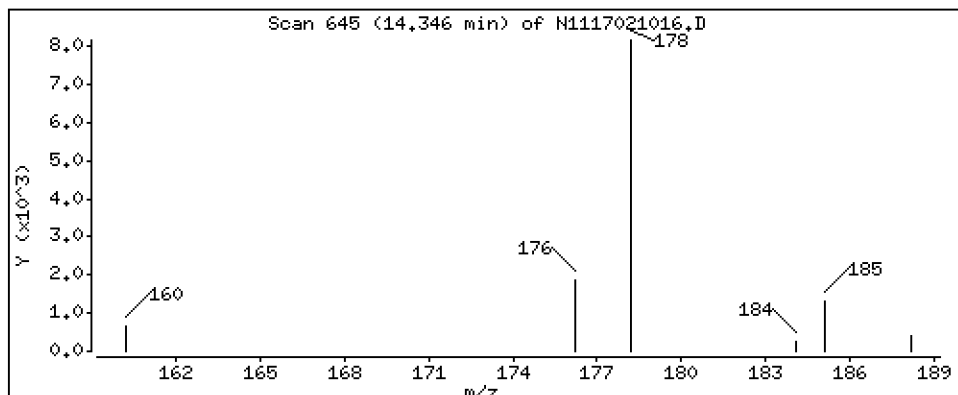
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0.25

21 Anthracene

Concentration: 8.46 ng/mL



Date : 10-FEB-2017 20:01

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-09

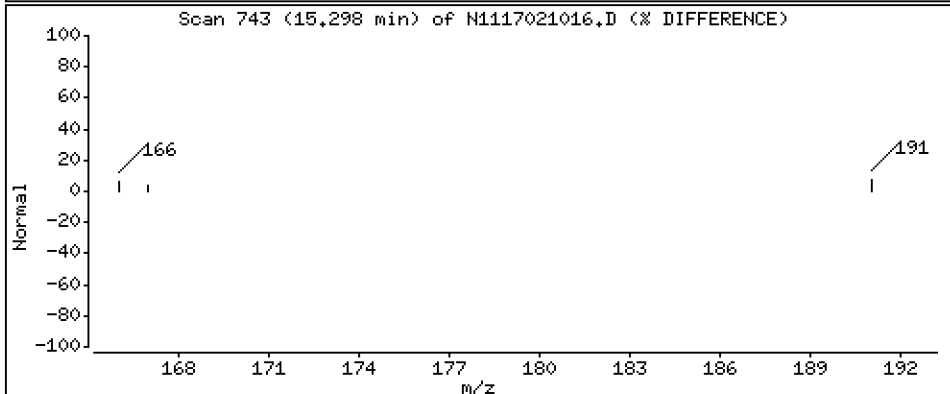
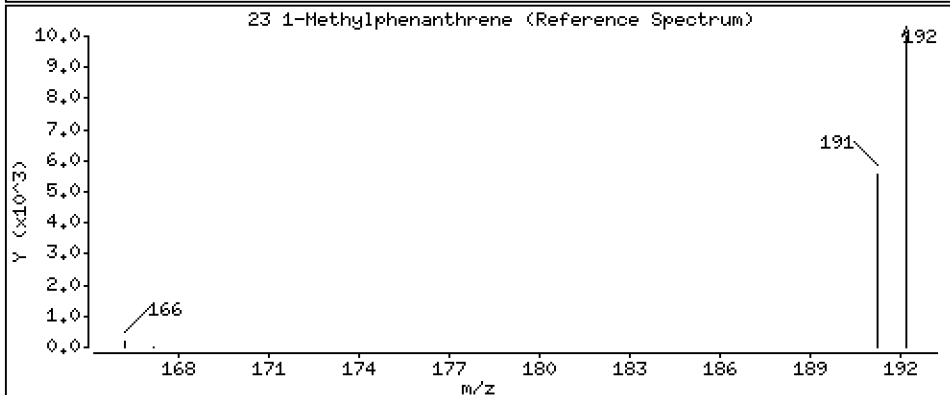
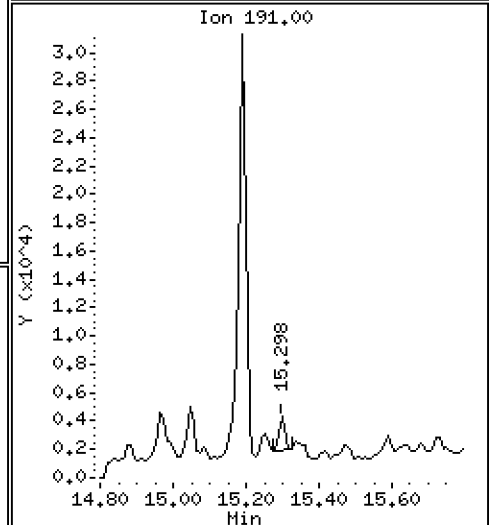
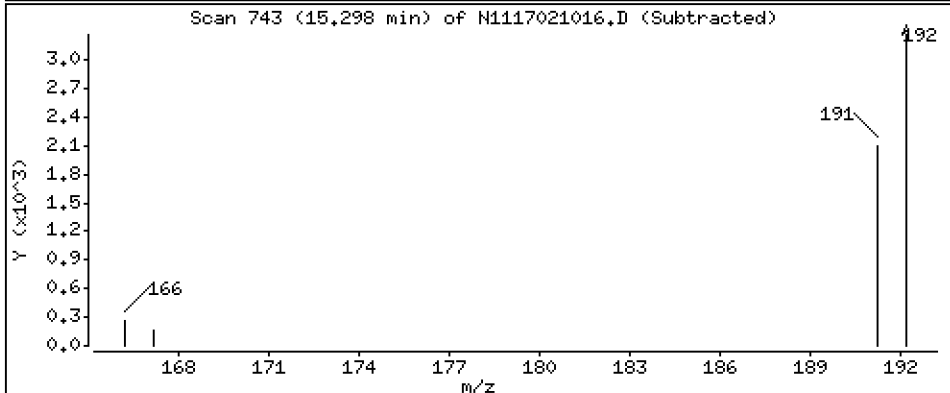
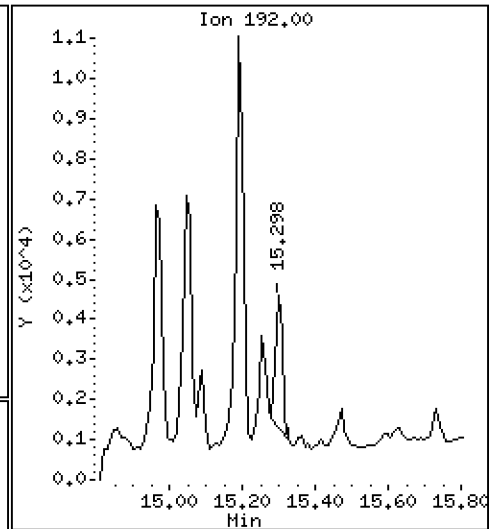
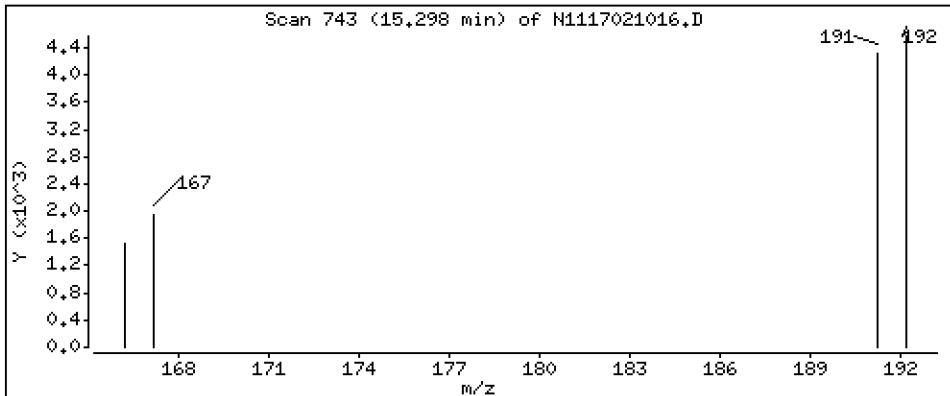
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

23 1-Methylphenanthrene

Concentration: 2,89 ng/mL



Date : 10-FEB-2017 20:01

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-09

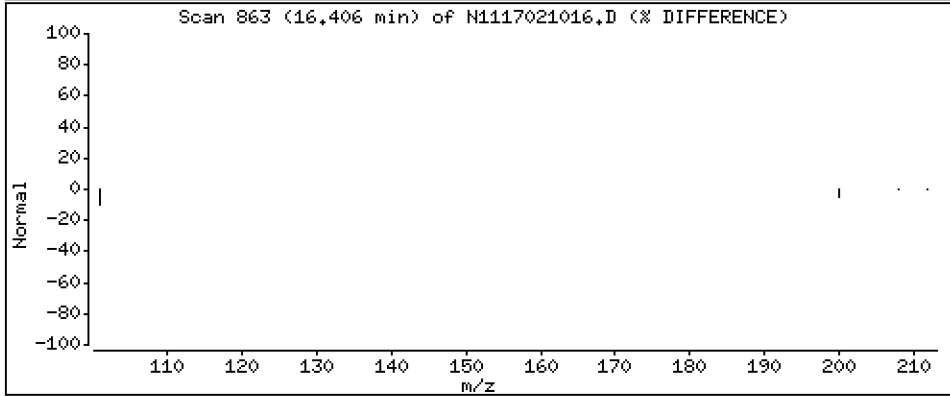
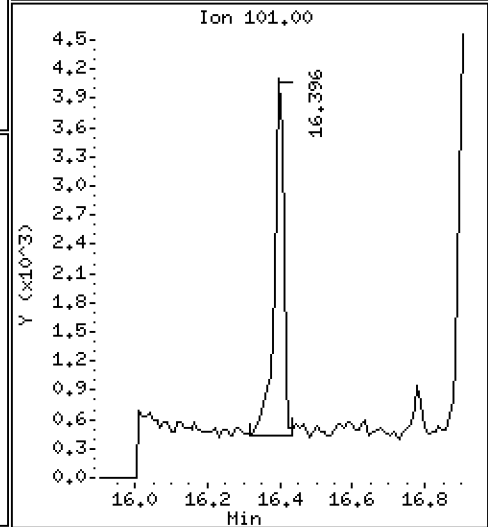
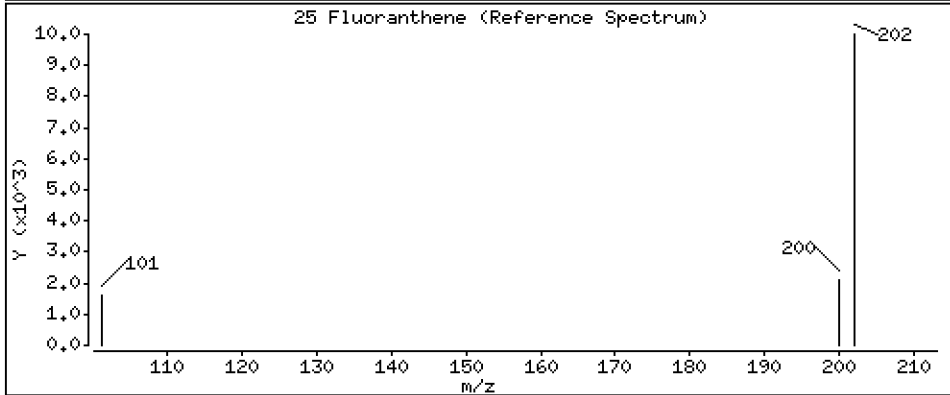
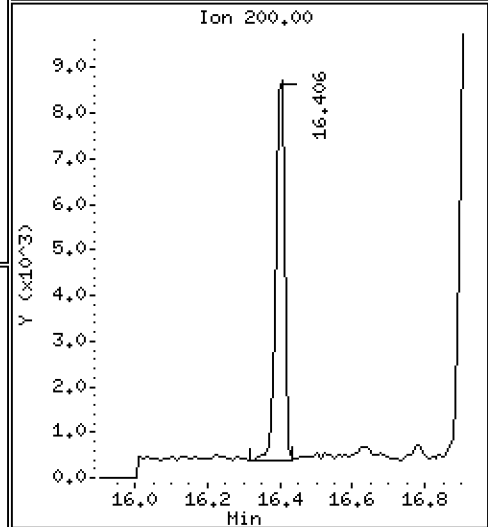
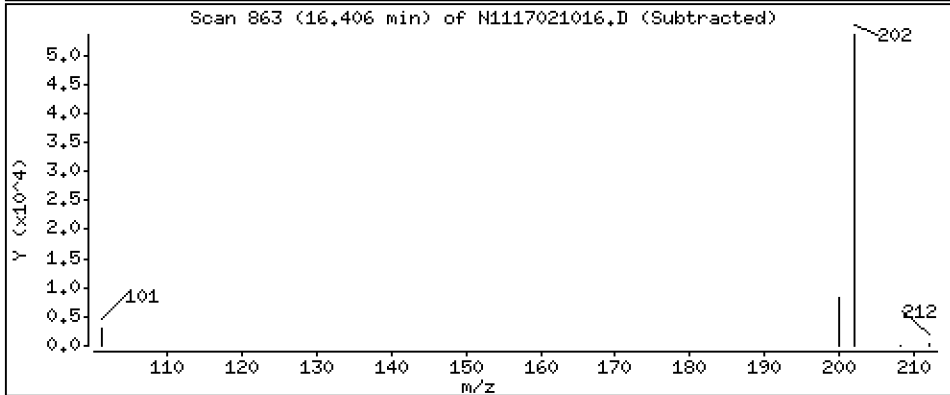
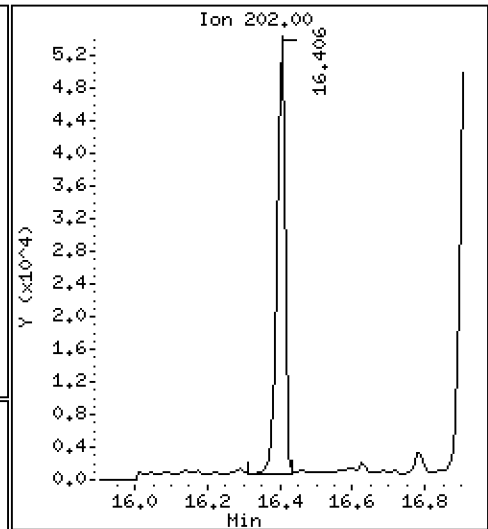
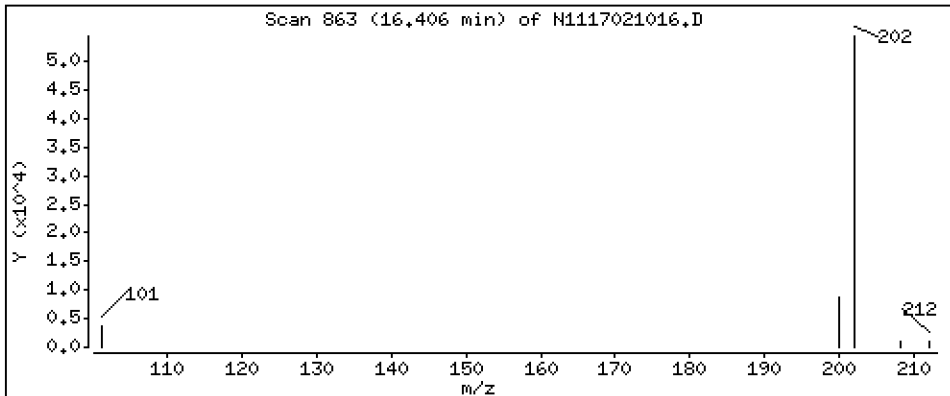
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

25 Fluoranthene

Concentration: 50,9 ng/mL



Date : 10-FEB-2017 20:01

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-09

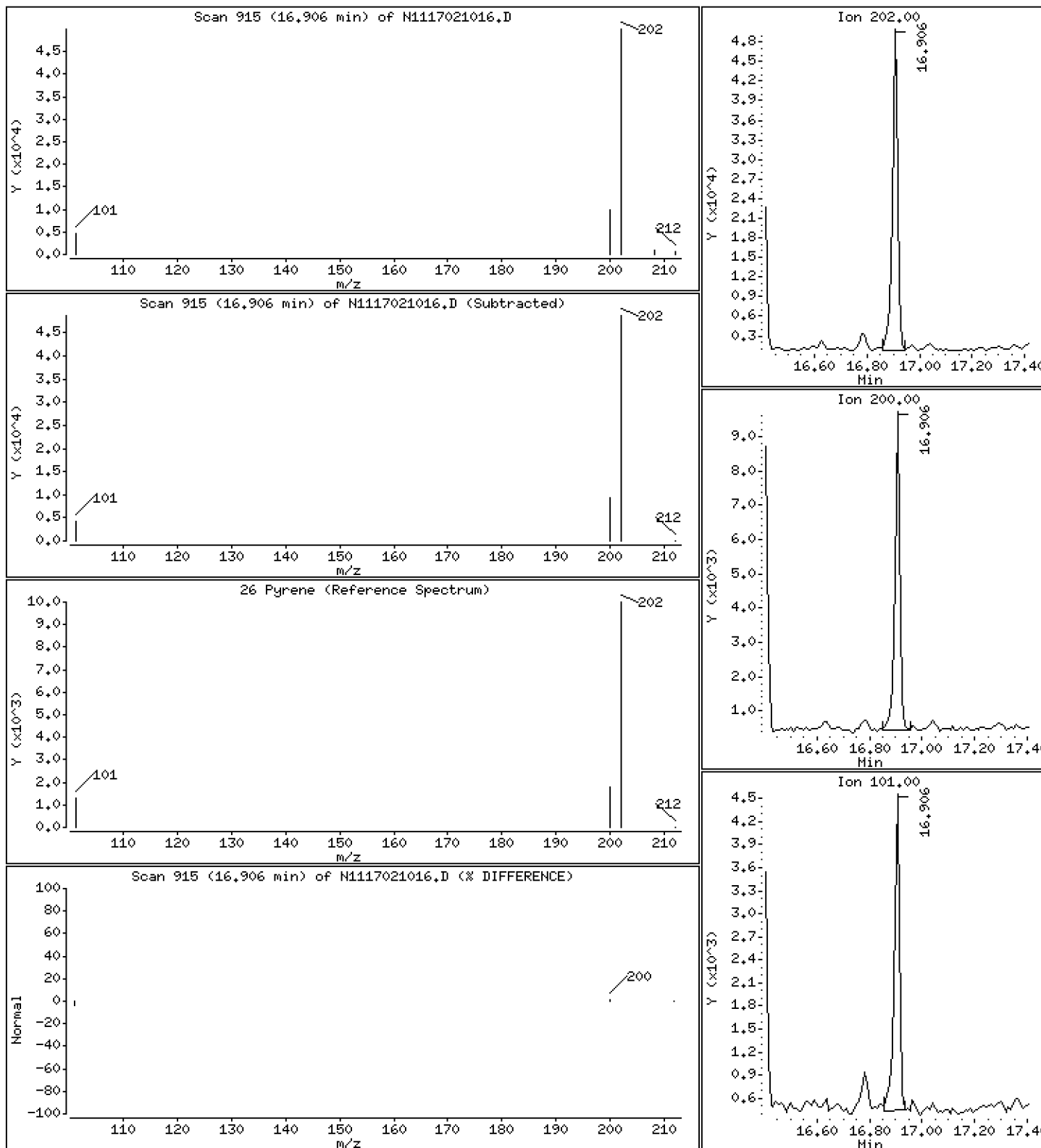
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

26 Pyrene

Concentration: 55,9 ng/mL



Date : 10-FEB-2017 20:01

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-09

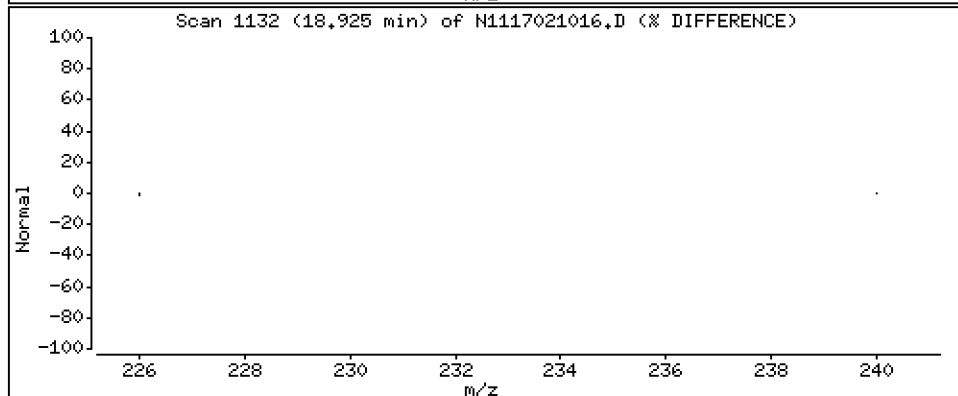
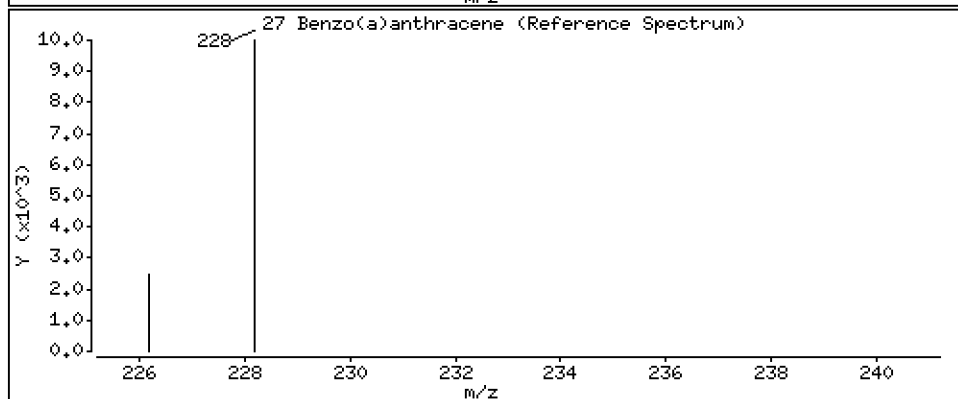
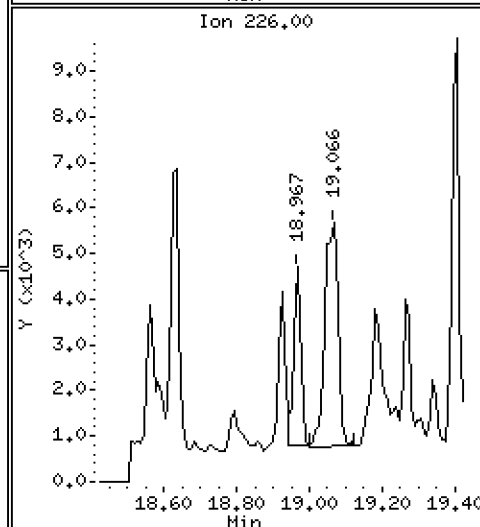
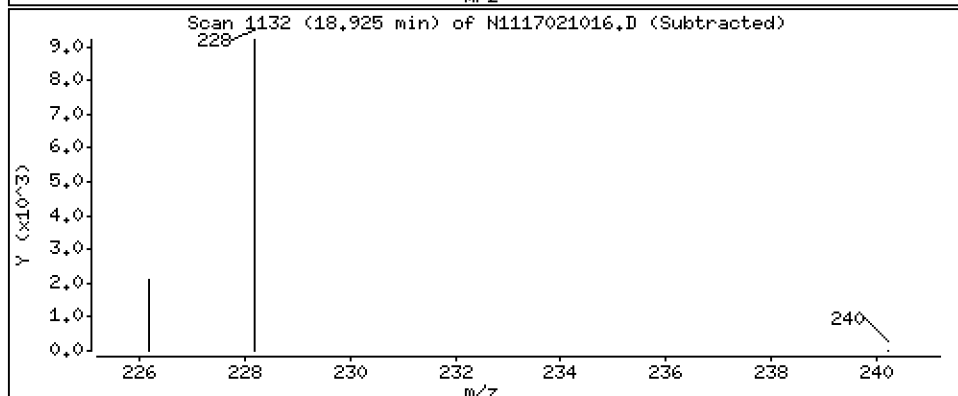
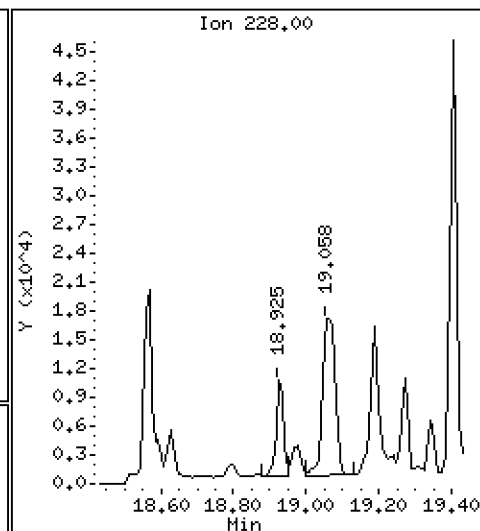
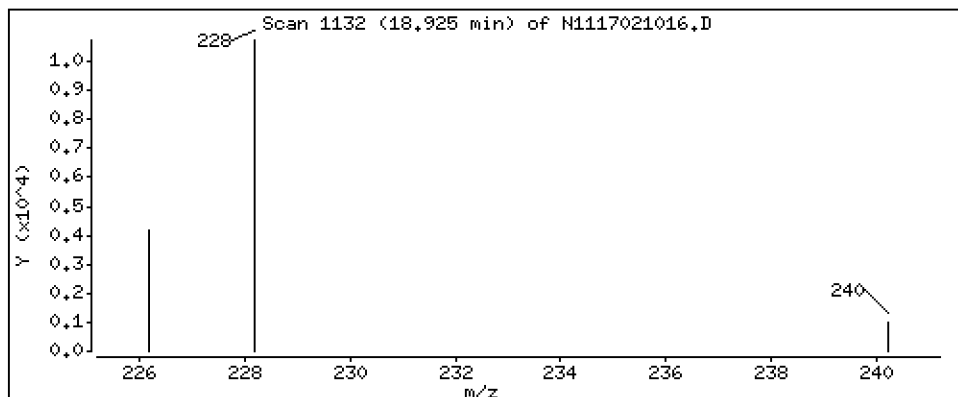
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

27 Benzo(a)anthracene

Concentration: 11,2 ng/mL



Date : 10-FEB-2017 20:01

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-09

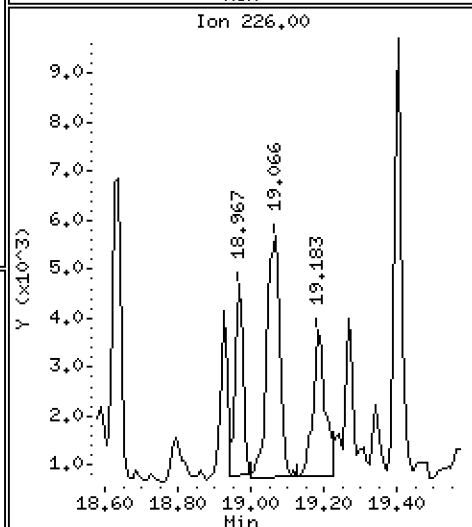
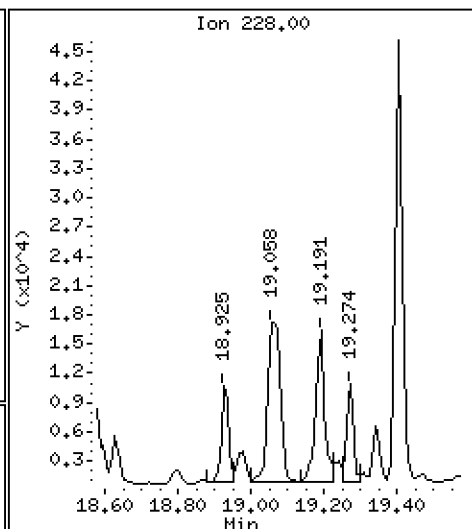
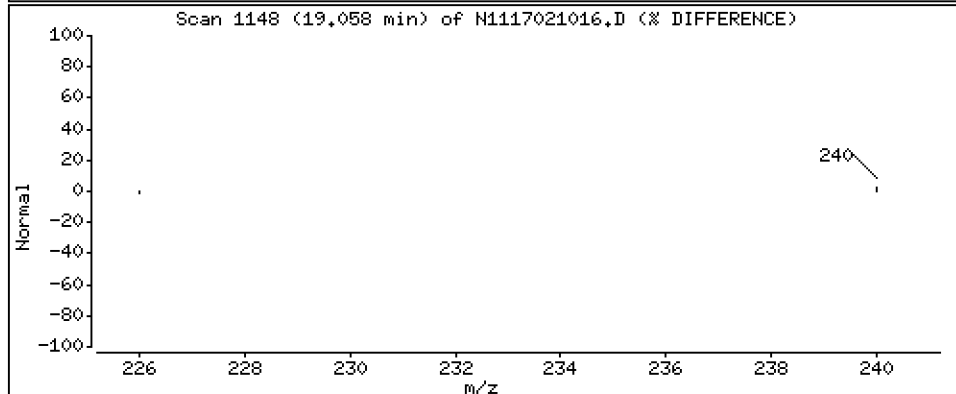
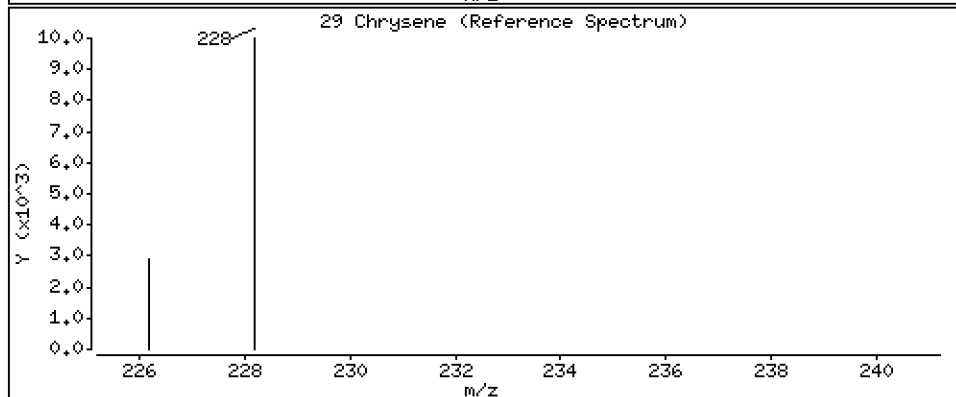
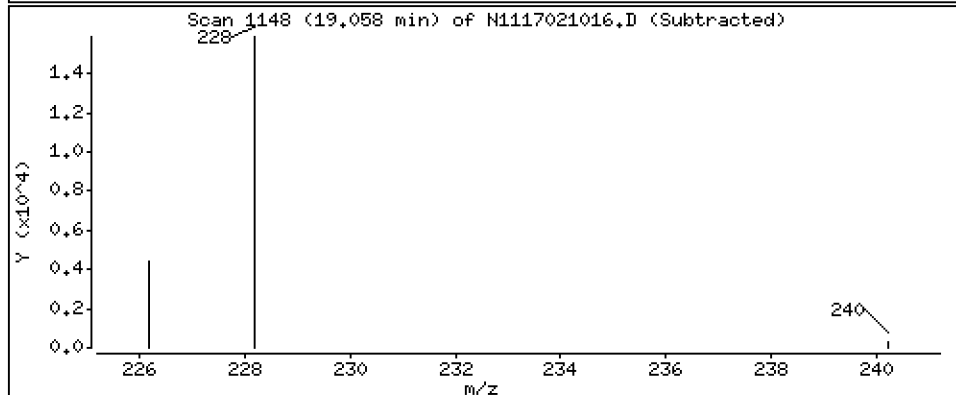
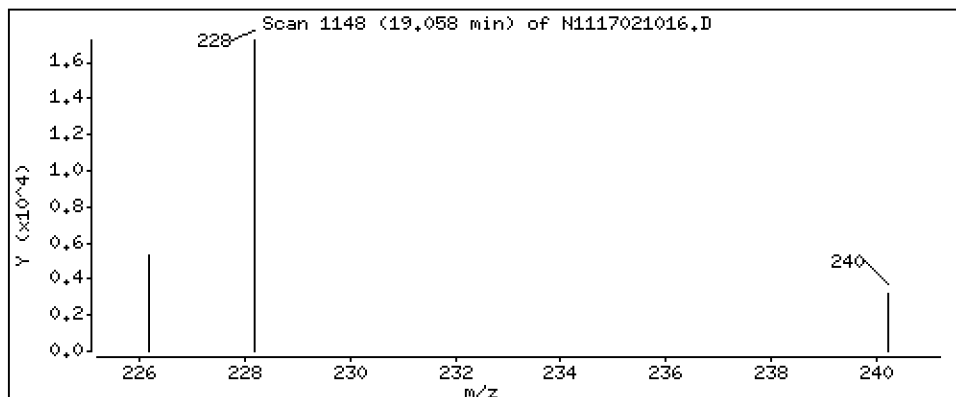
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

29 Chrysene

Concentration: 31,9 ng/mL



Date : 10-FEB-2017 20:01

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-09

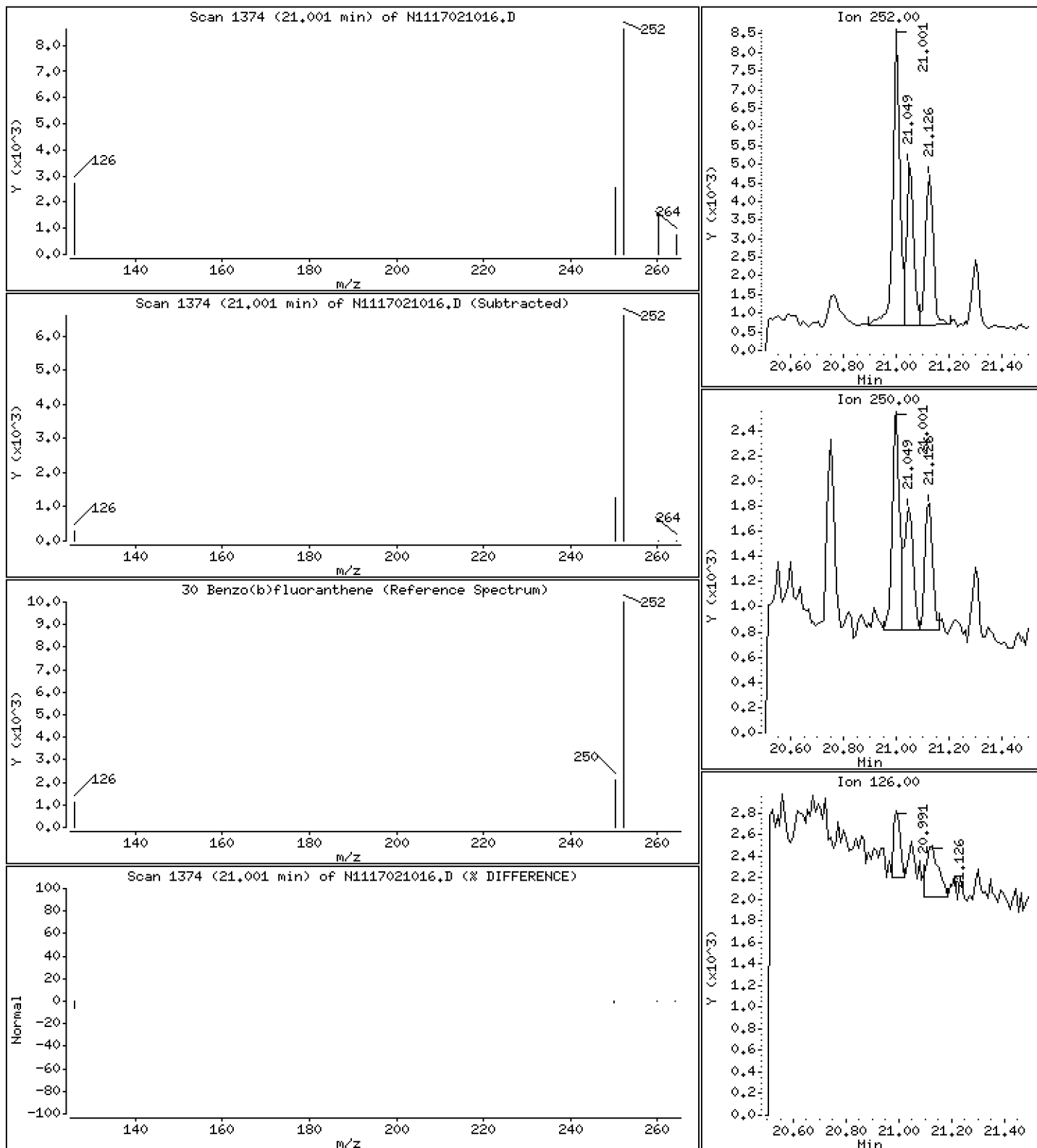
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

30 Benzo(b)fluoranthene

Concentration: 13,2 ng/mL



Date : 10-FEB-2017 20:01

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-09

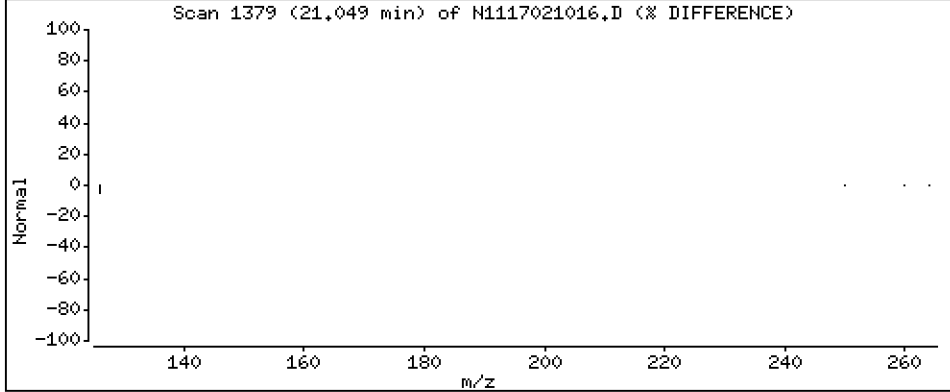
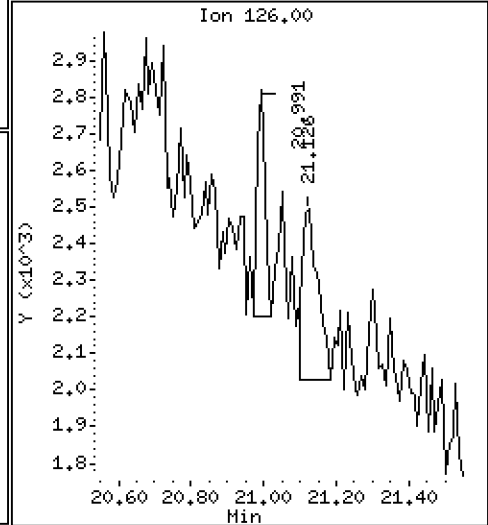
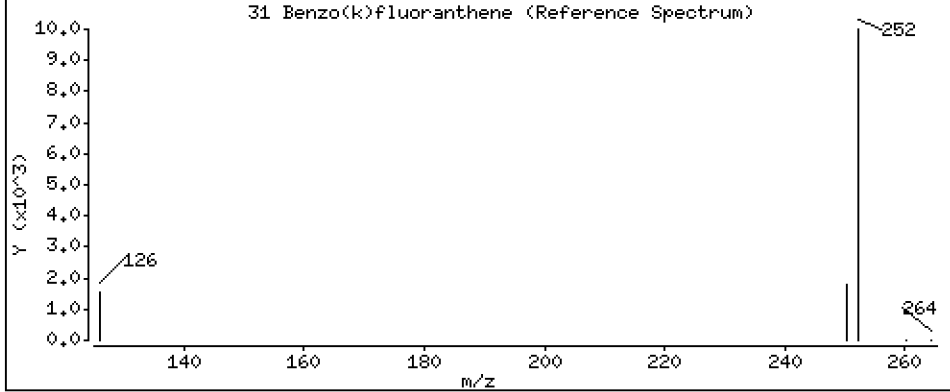
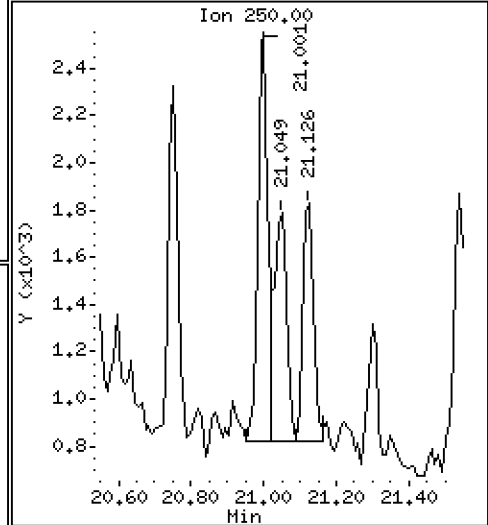
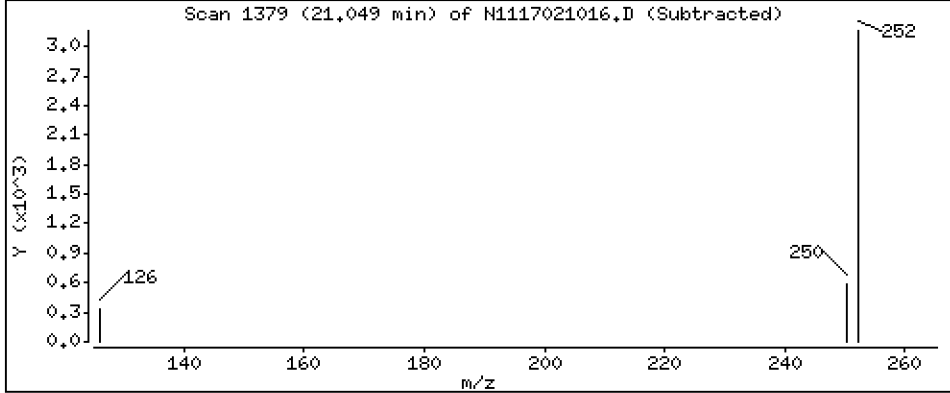
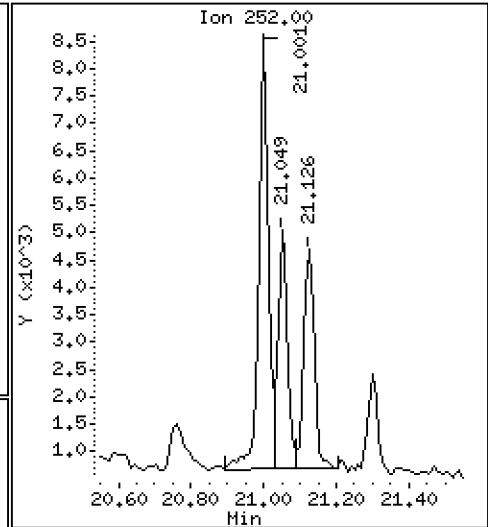
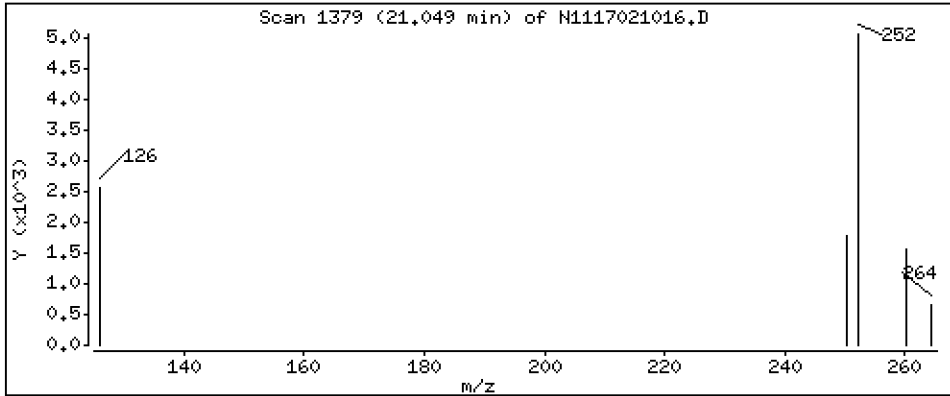
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

31 Benzo(k)fluoranthene

Concentration: 6,76 ng/mL



Date : 10-FEB-2017 20:01

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-09

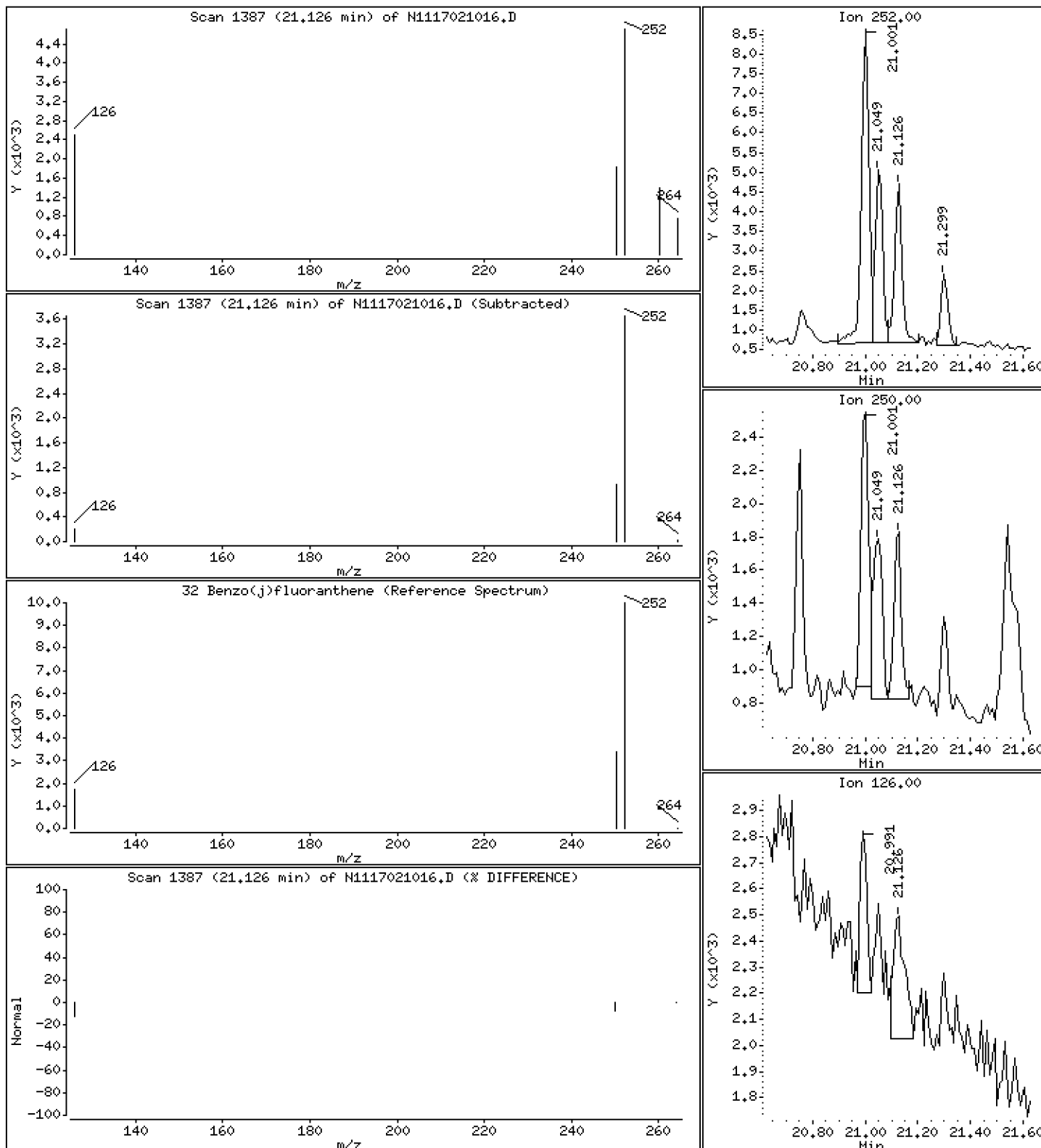
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

32 Benzo(j)fluoranthene

Concentration: 7,13 ng/mL



Date : 10-FEB-2017 20:01

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-09

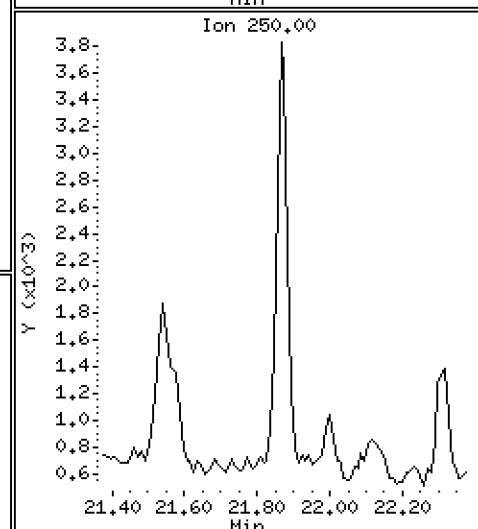
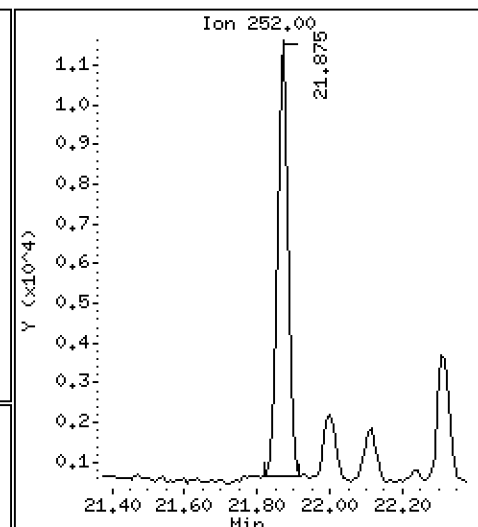
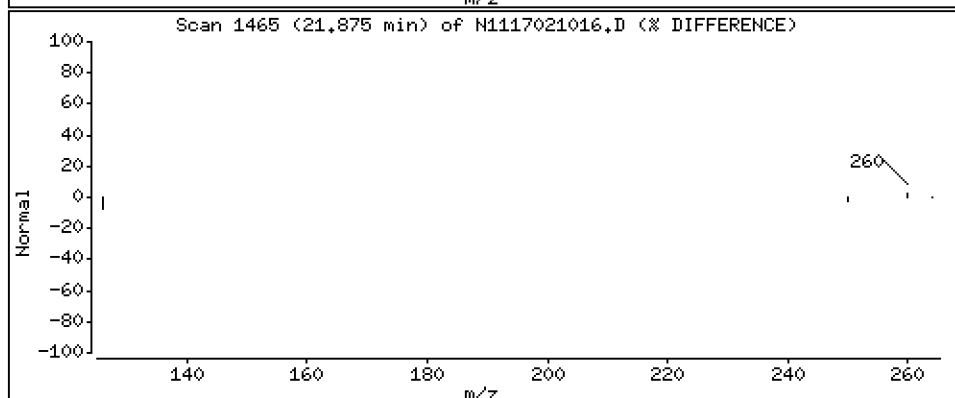
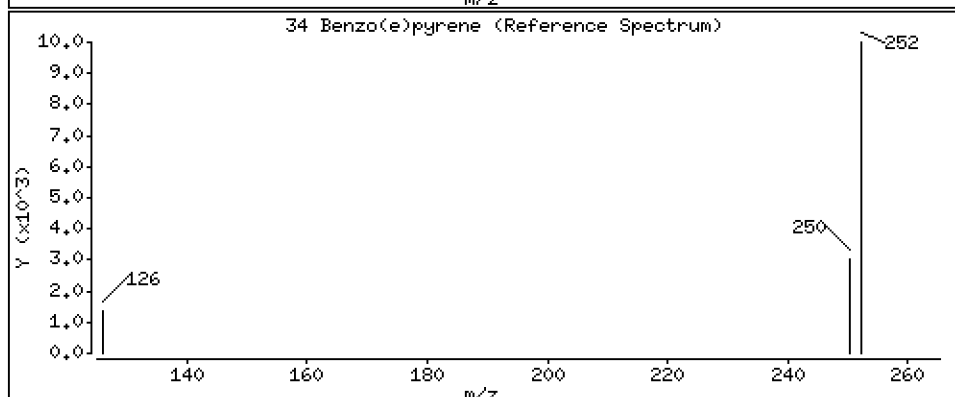
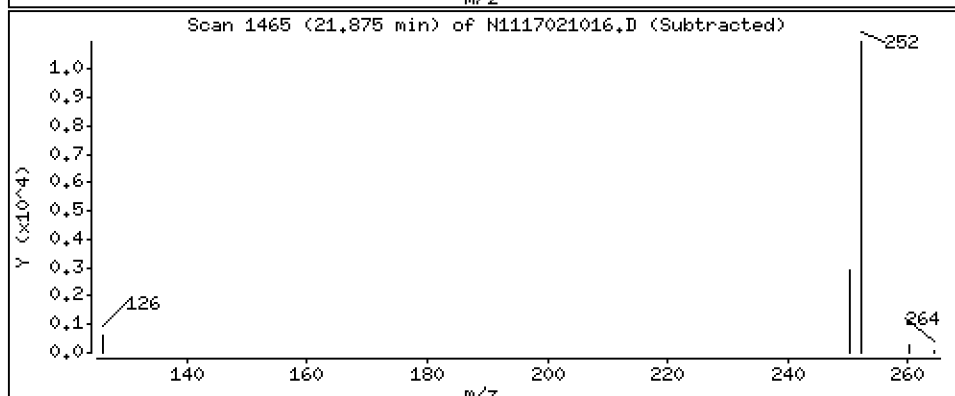
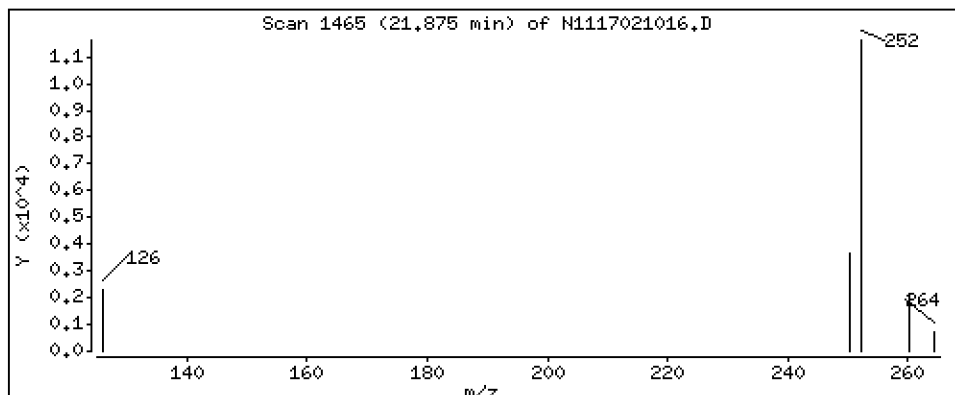
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

34 Benzo(e)pyrene

Concentration: 19,3 ng/mL



Date : 10-FEB-2017 20:01

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-09

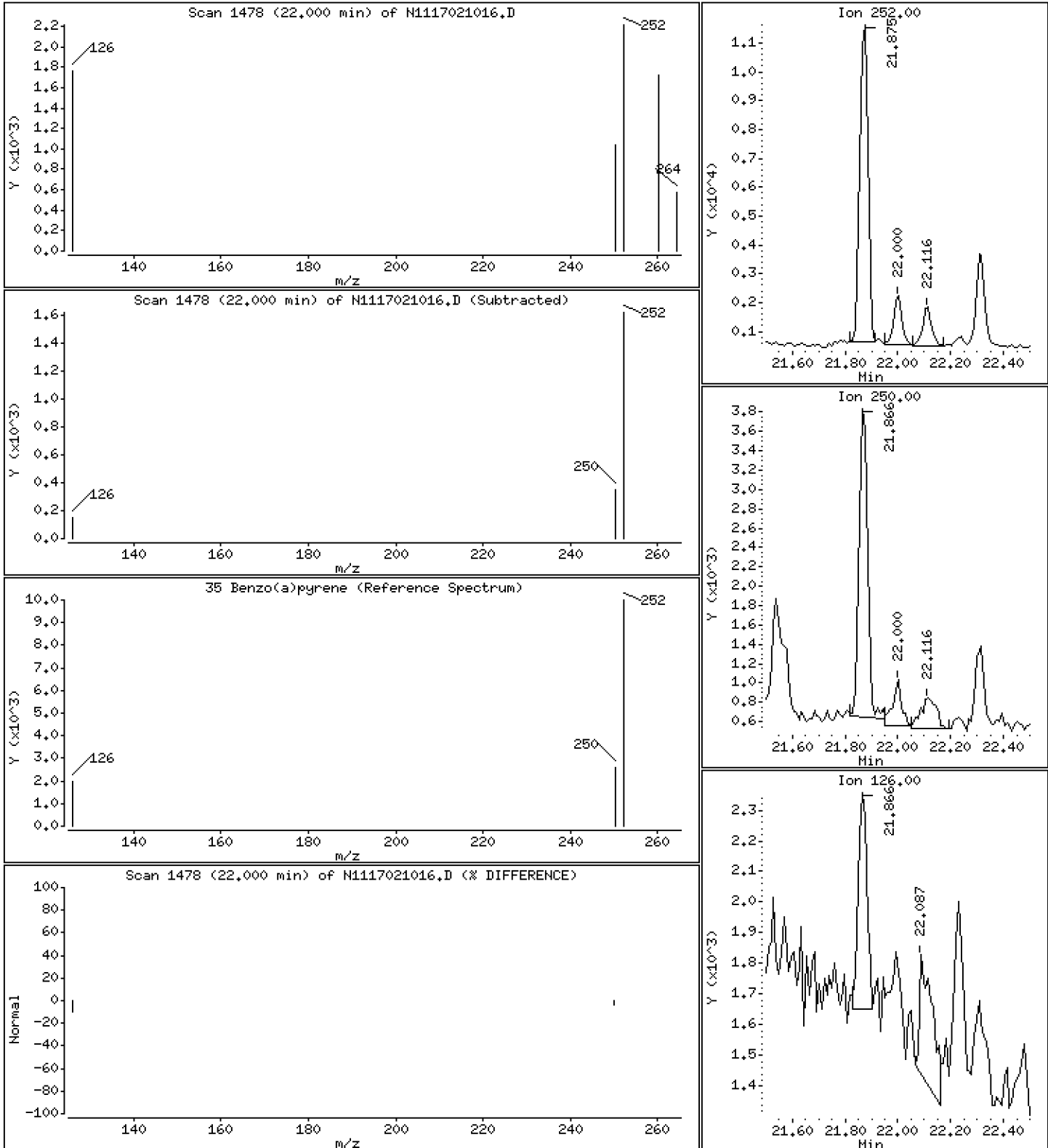
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

35 Benzo(a)pyrene

Concentration: 3,51 ng/mL



Date : 10-FEB-2017 20:01

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-09

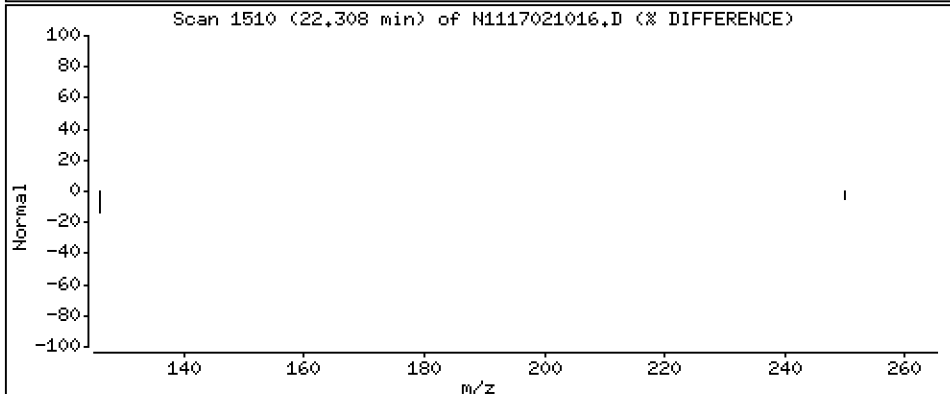
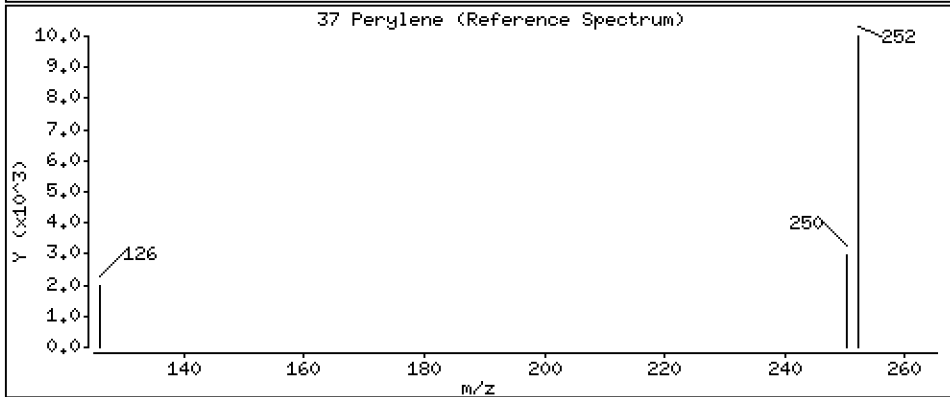
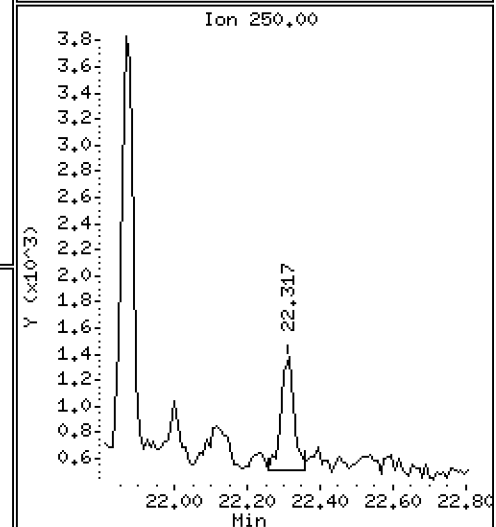
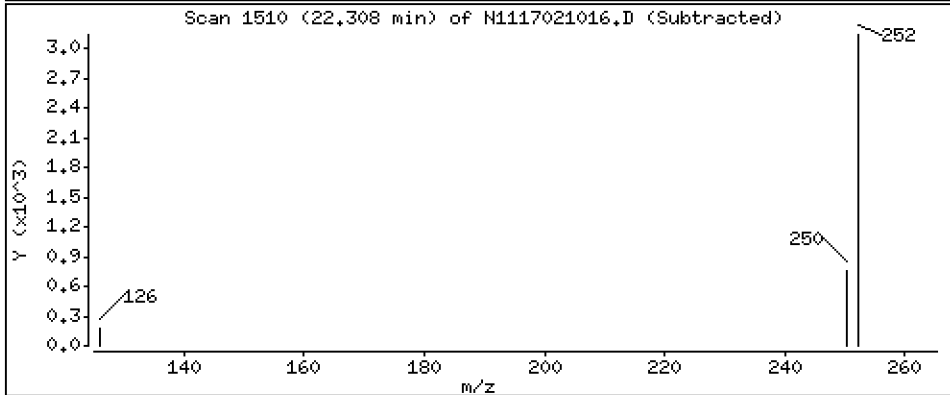
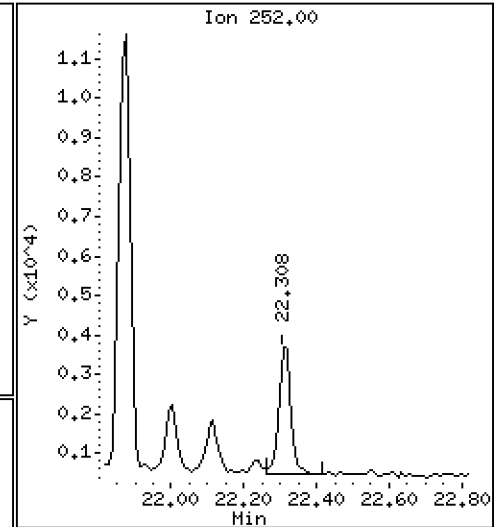
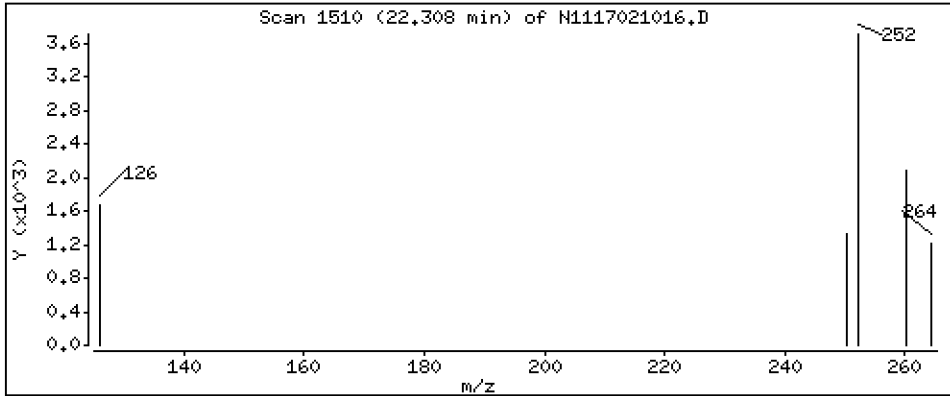
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

Concentration: 6,57 ng/mL

37 Perylene



Date : 10-FEB-2017 20:01

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-09

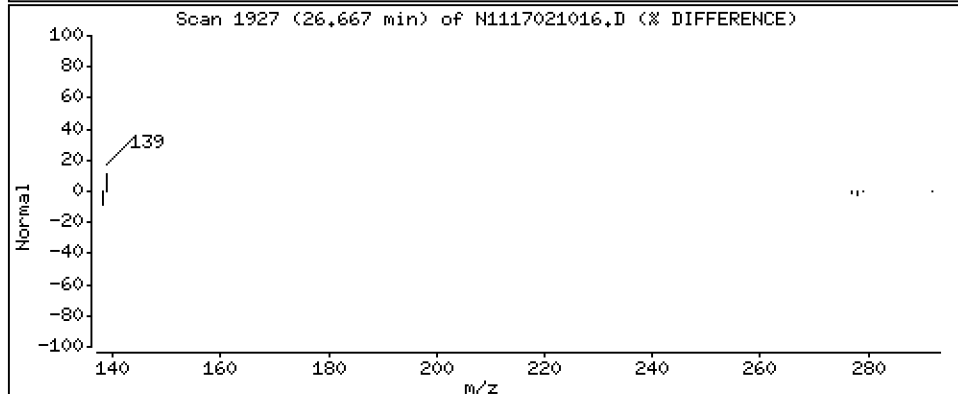
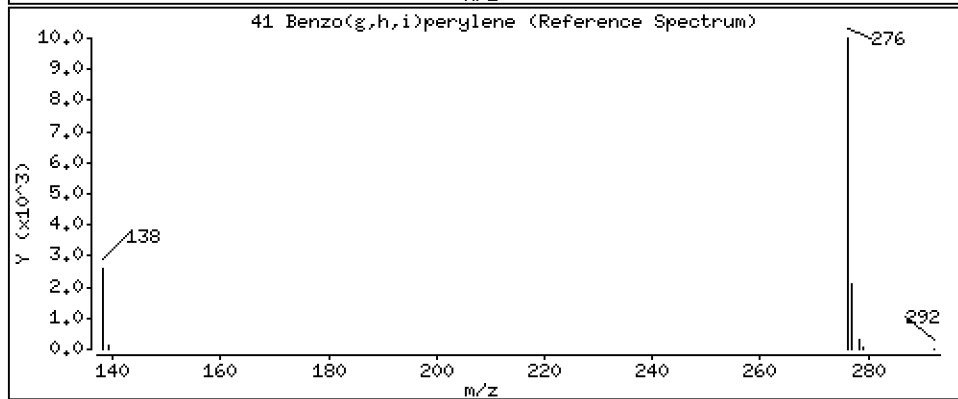
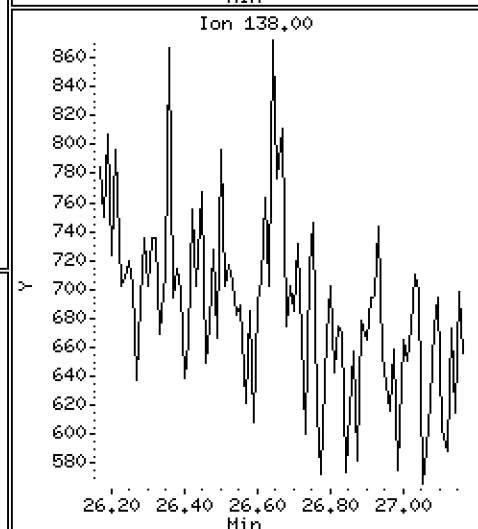
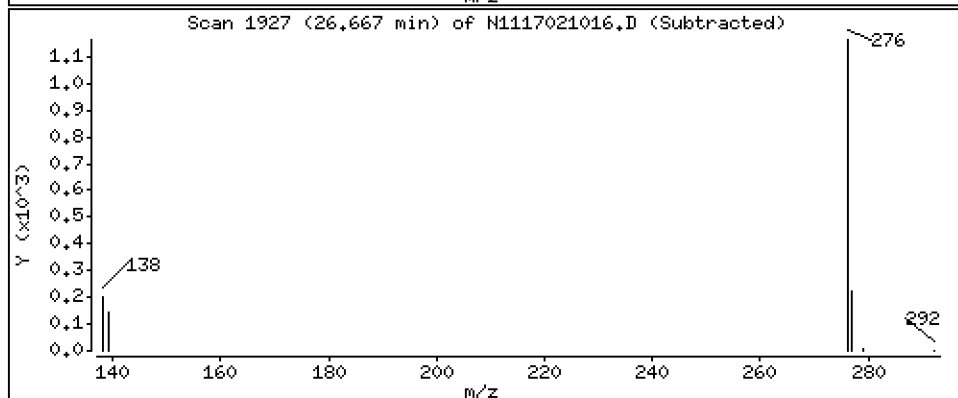
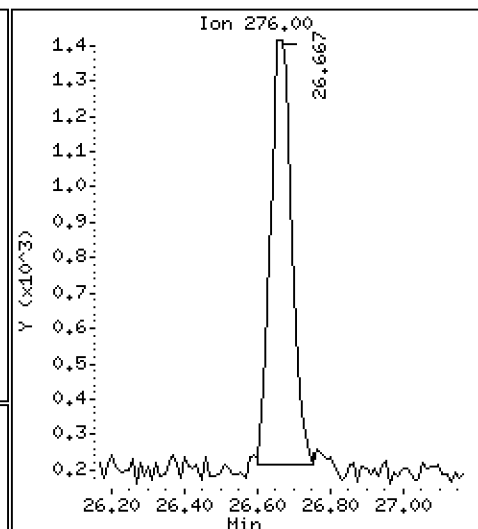
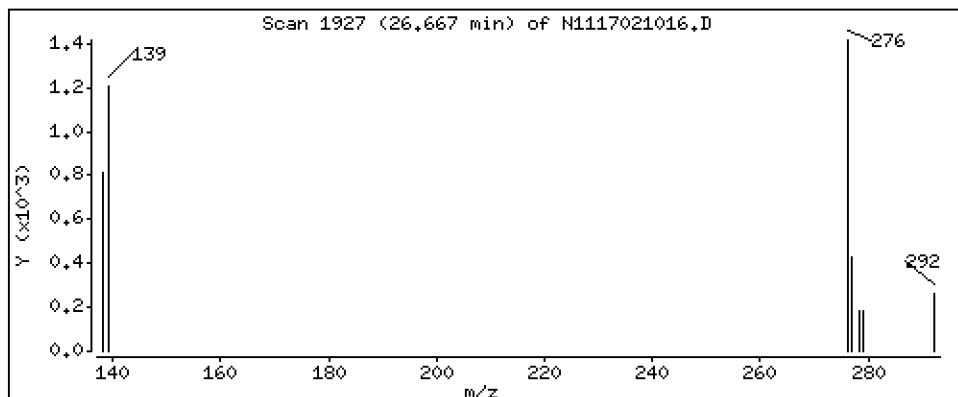
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

41 Benzo(g,h,i)perylene

Concentration: 4,36 ng/mL



ARI Labs, Inc.

LOW LEVEL PNAs BY SW8270D-SIM

Data file : \\target\share\chem3\nt11.i\20170210.b\N1117021016.D
 Lab Smp Id: 17A0053-09
 Inj Date : 10-FEB-2017 20:01 MS Autotune Date: 15-JAN-2015 15:59
 Operator : VTS Inst ID: nt11.i
 Smp Info : 17A0053-09
 Misc Info :
 Comment :
 Method : \\target\share\chem3\nt11.i\20170210.b\LOWSIM.m
 Meth Date : 11-Feb-2017 08:35 nt11.i Quant Type: ISTD
 Cal Date : 31-DEC-2016 09:30 Cal File: N1116123104.D
 Als bottle: 1
 Dil Factor: 1.00000
 Integrator: HP RTE Compound Sublist: allpna.sub
 Target Version: 4.14
 Processing Host: VANS

Compounds	QUANT	SIG	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS	
							ON-COLUMN (ng/mL)	FINAL (ng/mL)
* 1 Naphthalene-d8	136		8.508	8.526	(1.000)	219004	200.000	
2 Naphthalene	128		8.545	8.554	(1.004)	8143	7.45055	7.45
3 Benzo(b)thiophene	134		Compound Not Detected.					
\$ 4 2-Methylnaphthalene-d10	152		9.498	9.508	(1.116)	169585	180.302	180
5 2-Methylnaphthalene	142		9.550	9.561	(1.122)	5834	5.41598	5.42
6 1-Methylnaphthalene	142		9.813	9.823	(1.153)	3872	3.57395	3.57
7 2-Chloronaphthalene	162		Compound Not Detected.					
8 Biphenyl	154		Compound Not Detected.					
9 2,6-Dimethylnaphthalene	156		Compound Not Detected.					
10 Acenaphthylene	152		Compound Not Detected.					
* 11 Acenaphthene-d10	164		11.555	11.564	(1.000)	151898	200.000	
12 Acenaphthene	153		11.618	11.627	(1.005)	3770	4.19526	4.20 (M)
13 Dibenzofuran	168		11.822	11.822	(1.023)	8705	6.51638	6.52
14 2,3,5-Trimethylnaphthalene	170		Compound Not Detected.					
\$ 15 Fluorene-d10	174		Compound Not Detected.					
16 Fluorene	166		12.454	12.454	(1.078)	7999	7.52162	7.52
17 Dibenzothiophene	184		Compound Not Detected.					
* 18 Phenanthrene-d10	188		14.251	14.262	(1.000)	243924	200.000	
19 Phenanthrene	178		14.293	14.293	(1.003)	52231	37.4531	37.5
\$ 20 Anthracene-d10	188		Compound Not Detected.					
21 Anthracene	178		14.346	14.356	(1.007)	11761	8.45795	8.46
22 Carbazole	167		Compound Not Detected.					
23 1-Methylphenanthrene	192		15.298	15.307	(1.073)	4138	2.89339	2.89 (M)
\$ 24 Fluoranthene-d10	212		16.367	16.367	(1.148)	241237	186.205	186
25 Fluoranthene	202		16.405	16.405	(1.151)	80459	50.8623	50.9
26 Pyrene	202		16.905	16.915	(0.889)	75761	55.8700	55.9
27 Benzo(a)anthracene	228		18.925	18.933	(0.995)	14035	11.1813	11.2
* 28 Chrysene-d12	240		19.024	19.024	(1.000)	208748	200.000	
29 Chrysene	228		19.058	19.074	(1.002)	41041	31.8639	31.9
30 Benzo(b)fluoranthene	252		21.001	21.001	(0.944)	15708	13.1767	13.2
31 Benzo(k)fluoranthene	252		21.049	21.049	(0.946)	8680	6.76014	6.76
32 Benzo(j)fluoranthene	252		21.126	21.125	(0.950)	8156	7.12603	7.13
\$ 33 Benzo(e)pyrene-d12	264		Compound Not Detected.					

Compounds	QUANT SIG	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS	
						ON-COLUMN (ng/mL)	FINAL (ng/mL)
34 Benzo(e)pyrene	252	21.875	21.875	(0.984)	22948	19.2982	19.3
35 Benzo(a)pyrene	252	22.000	22.000	(0.989)	3903	3.51199	3.51
* 36 Perylene-d12	264	22.240	22.240	(1.000)	221150	200.000	
37 Perylene	252	22.307	22.317	(1.003)	7620	6.56706	6.57
§ 38 Dibenzo(a,h)anthracene-d14	292	25.105	25.116	(1.129)	153591	217.477	217
39 Dibenzo(a,h)anthracene	278	Compound Not Detected.					
40 Indeno(1,2,3-cd)pyrene	276	Compound Not Detected.					
41 Benzo(g,h,i)perylene	276	26.666	26.666	(1.199)	4745	4.35596	4.36

QC Flag Legend

M - Compound response manually integrated.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
 AREA AND RT SUMMARY

Instrument ID: nt11.i Calibration Date: 10-FEB-2017
 Lab File ID: N1117021016.D Calibration Time: 13:29
 Lab Smp Id: 17A0053-09
 Analysis Type: SV Level:
 Quant Type: ISTD Sample Type:
 Operator: VTS
 Method File: \\target\share\chem3\nt11.i\20170210.b\LOWSIM.m
 Misc Info:

Test Mode:
 Use Initial Calibration Level 4.

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
1 Naphthalene-d8	219654	109827	439308	219004	-0.30
11 Acenaphthene-d10	135248	67624	270496	151898	12.31
18 Phenanthrene-d10	257021	128511	514042	243924	-5.10
28 Chrysene-d12	259511	129756	519022	208748	-19.56
36 Perylene-d12	257535	128768	515070	221150	-14.13

COMPOUND	STANDARD	RT LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
1 Naphthalene-d8	8.53	8.03	9.03	8.51	-0.21
11 Acenaphthene-d10	11.56	11.06	12.06	11.56	-0.08
18 Phenanthrene-d10	14.26	13.76	14.76	14.25	-0.07
28 Chrysene-d12	19.02	18.52	19.52	19.02	0.00
36 Perylene-d12	22.24	21.74	22.74	22.24	0.00

AREA UPPER LIMIT = +100% of internal standard area.
 AREA LOWER LIMIT = - 50% of internal standard area.
 RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
 RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - N1117021016.D

Lab ID: 17A0053-09

nt11.i, 20170210.b\LOWSIM.m, 10-FEB-2017 20:01

RT CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

RRT CCV RRT DELTA COMPOUND

NONE

On Column LOD for nt11.i, 20170210.b\LOWSIM.m, allpna.sub = 3.0000

Exception: Naphthalene 7.0000
Exception: Phenanthrene 2.5000
Exception: Anthracene 2.0000
Exception: Pyrene 4.0000
Exception: Benzo(j)fluoranthene 2.5000
Exception: Benzo(a)pyrene 2.0000
Exception: Perylene 3.5000
Exception: Benzo(e)pyrene 2.0000
Exception: Benzo(b)thiophene 2.0000
Exception: 2-Chloronaphthalene 2.0000
Exception: 2,6-Dimethylnaphthalene 2.0000
Exception: 2,3,5-Trimethylnaphthalene 2.0000
Exception: 1-Methylphenanthrene 2.0000
Exception: Dibenzothiophene 2.0000
Exception: Carbazole 2.0000
Exception: Biphenyl 2.0000
Exception: 2-Methylnaphthalene-d10 (Surr) 0.1000
Exception: Dibenzo(a,h)anthracene-d14 (Surr) 0.1000
Exception: Fluoranthene-d10 (Surr) 0.1000
Exception: Anthracene-d10 (Surr) 0.1000
Exception: Benzo(e)pyrene-d12 (Surr) 0.1000
Exception: Fluorene-d10 (Surr) 0.1000

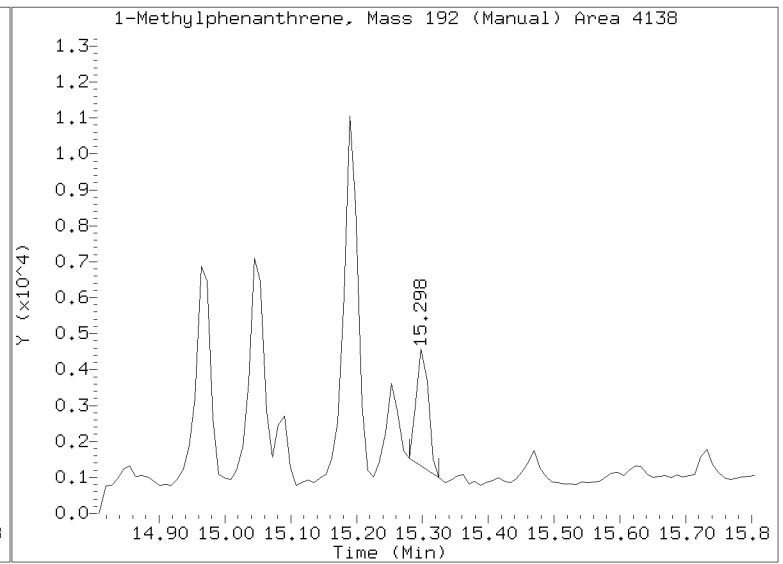
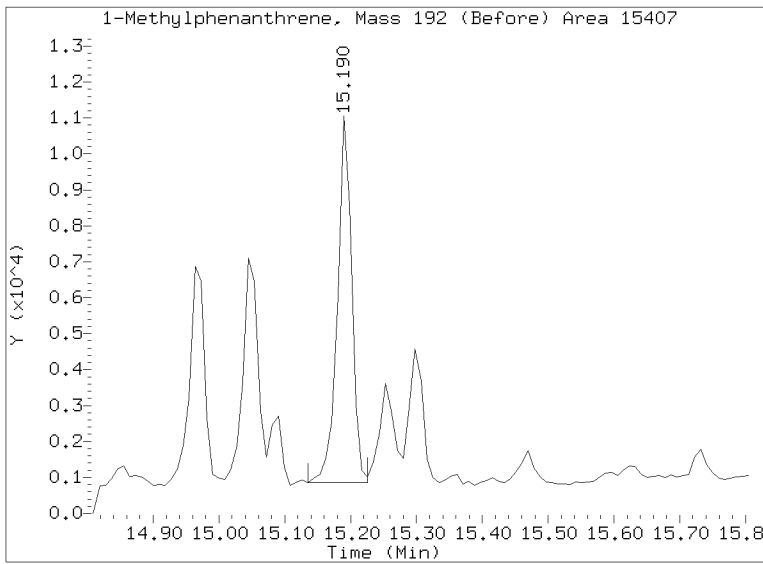
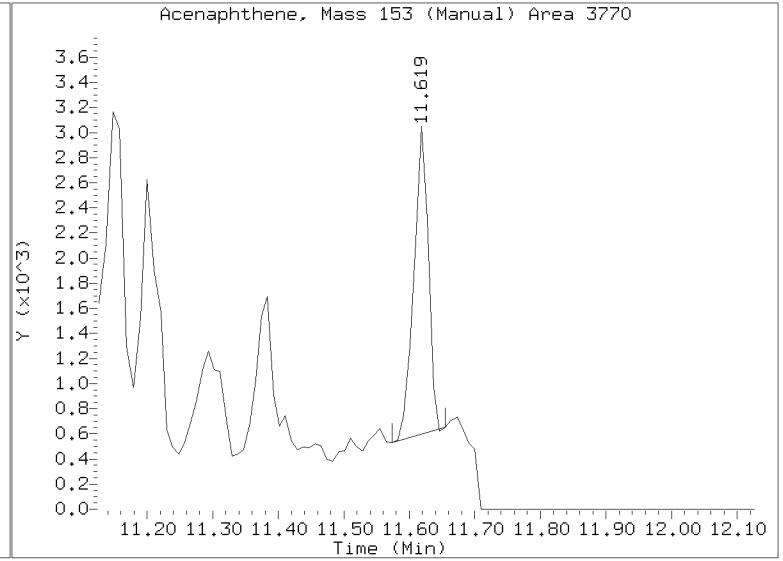
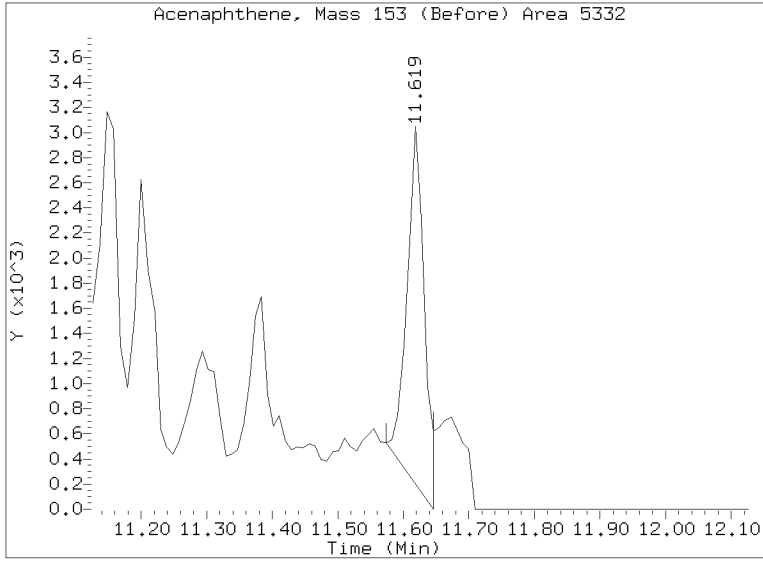
Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt11.i/20170210.b/N1117021016.D

Injection Date: 10-FEB-2017 20:01

Lab ID:17A0053-09 Client ID:

Report Date: 02/11/2017 08:35



Data File: \\target\share\chem3\nt11.1\20170211.6\N1117021103.D

Date: 11-FEB-2017 11:12

Client ID:

Sample Info: 17A0053-10

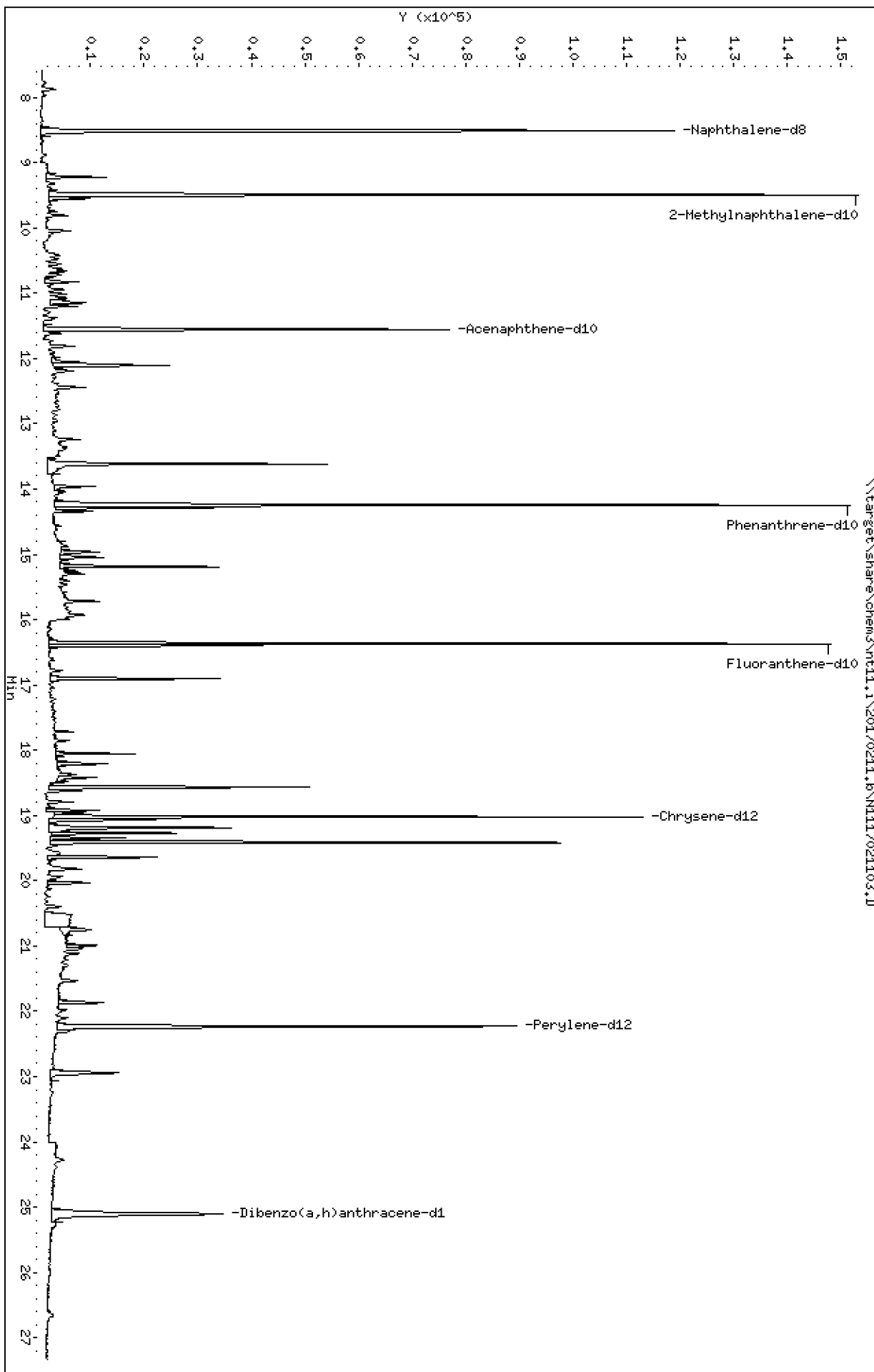
Column phase: Rxi-17S11 MS

Instrument: nt11.1

Operator: VTS

Column diameter: 0.25

Page 1



Date : 11-FEB-2017 11:12

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-10

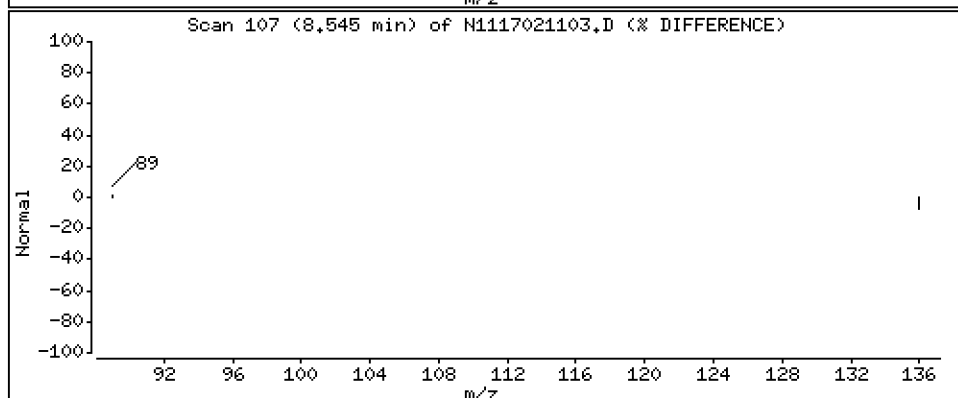
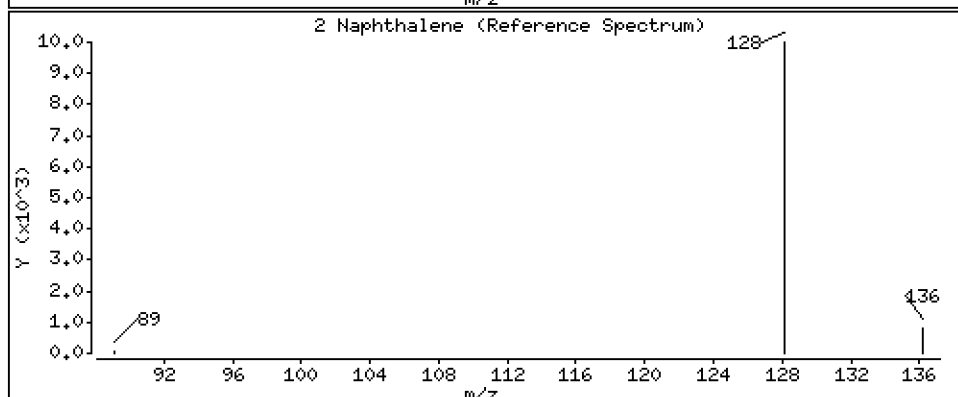
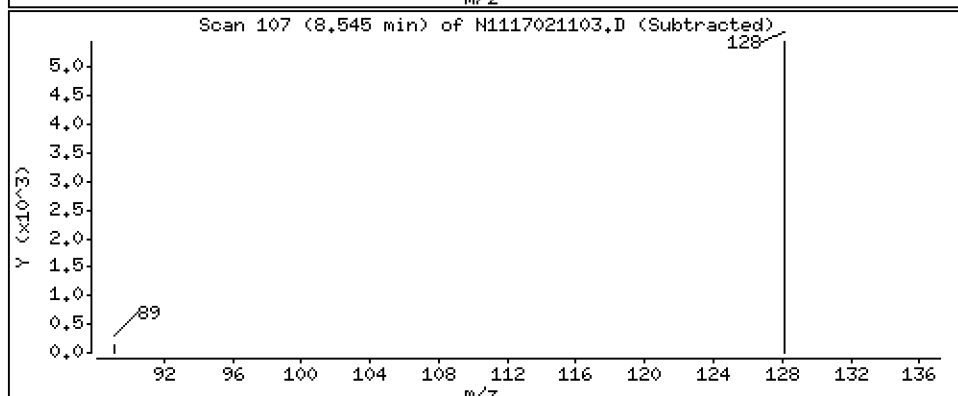
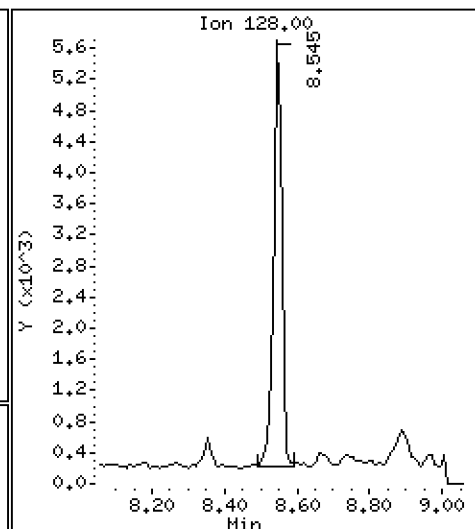
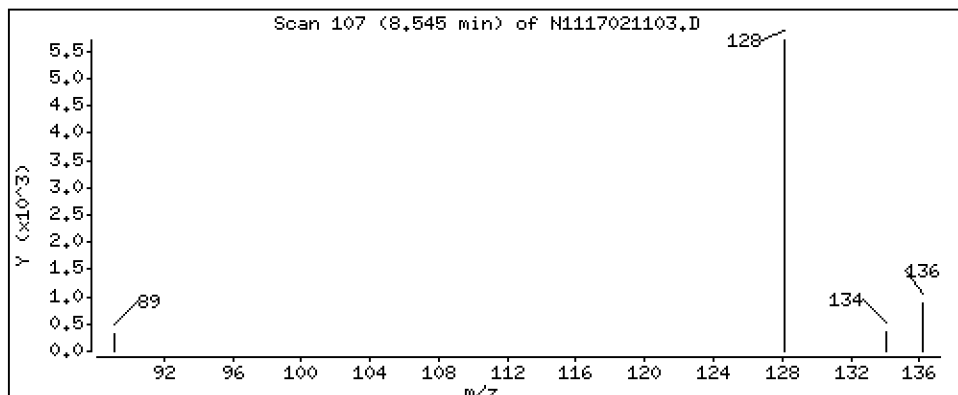
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

2 Naphthalene

Concentration: 9,50 ng/mL



Date : 11-FEB-2017 11:12

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-10

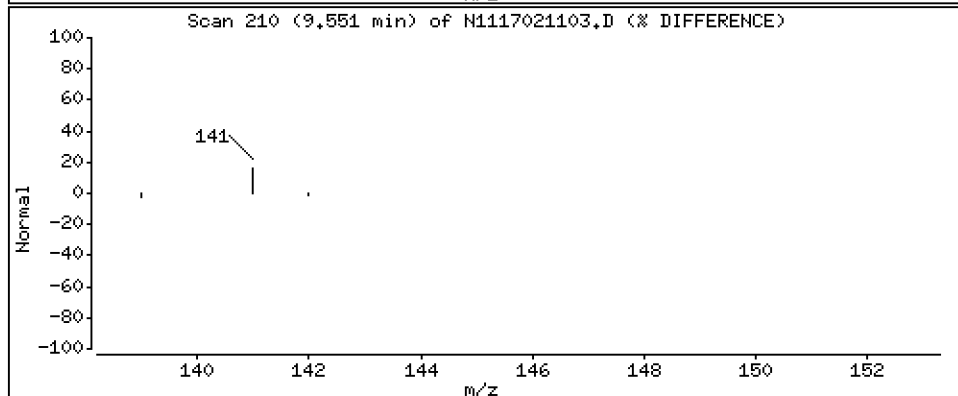
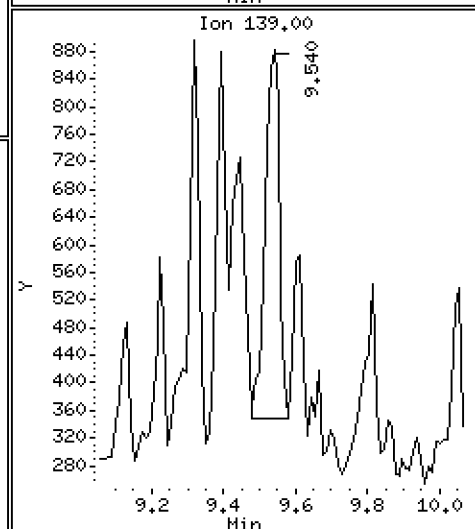
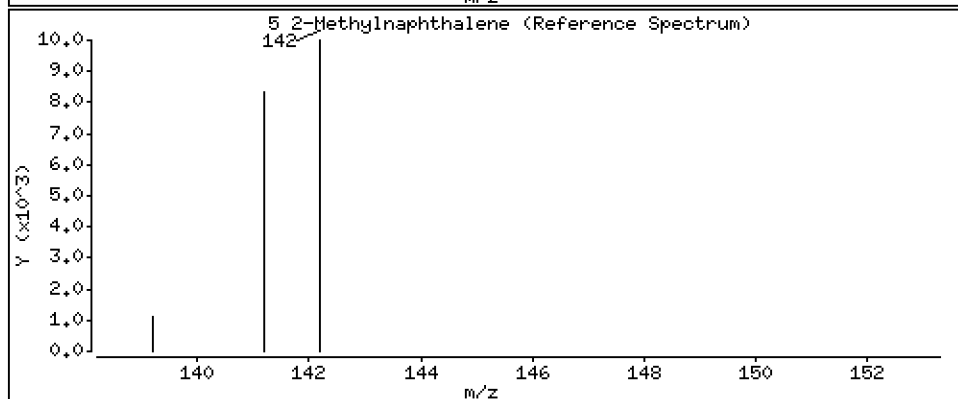
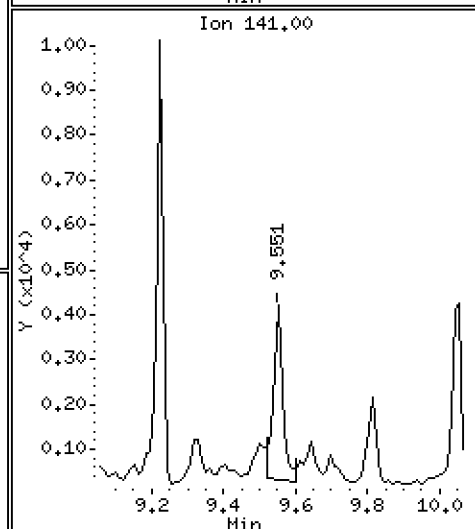
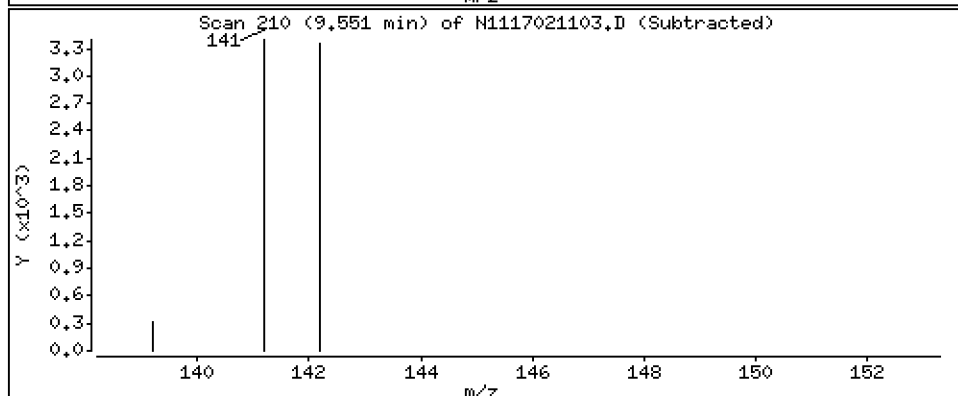
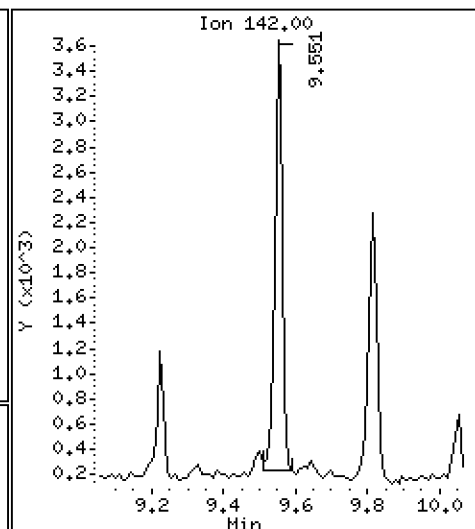
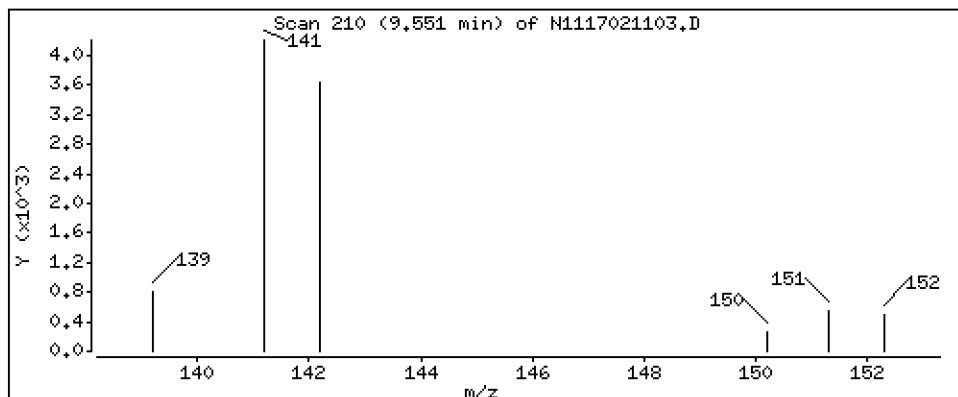
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0.25

5-2-Methylnaphthalene

Concentration: 6.32 ng/mL



Date : 11-FEB-2017 11:12

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-10

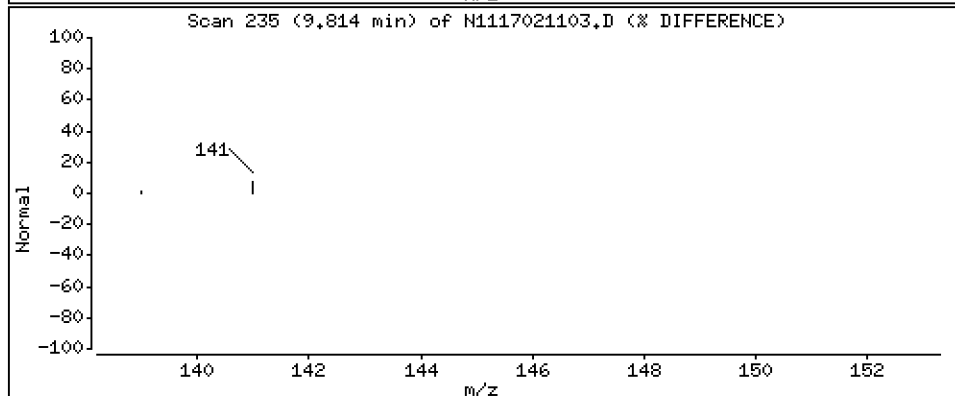
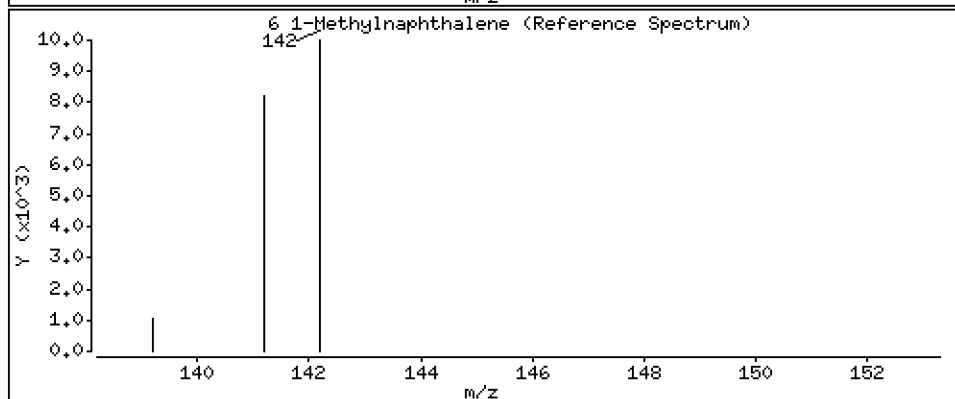
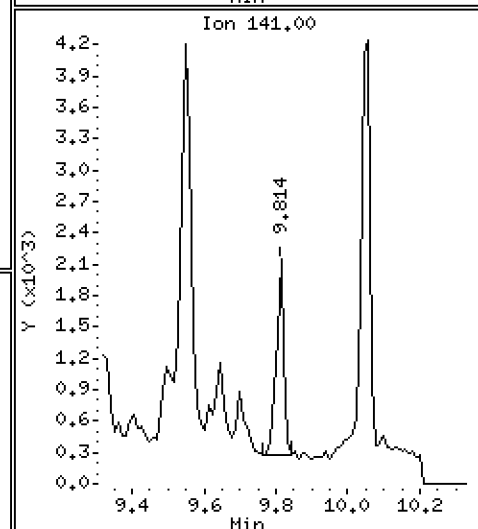
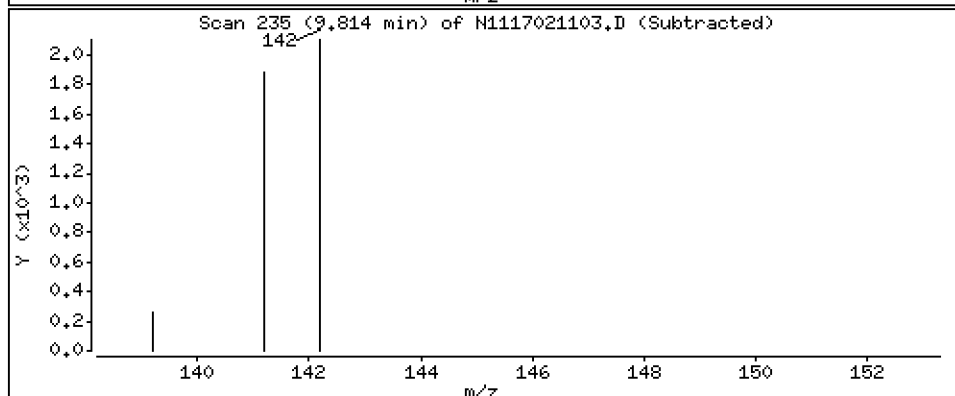
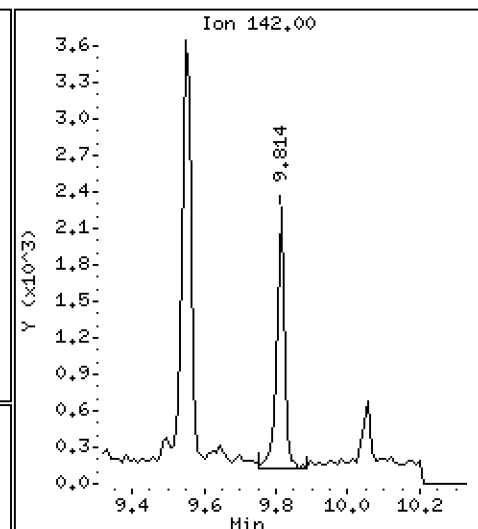
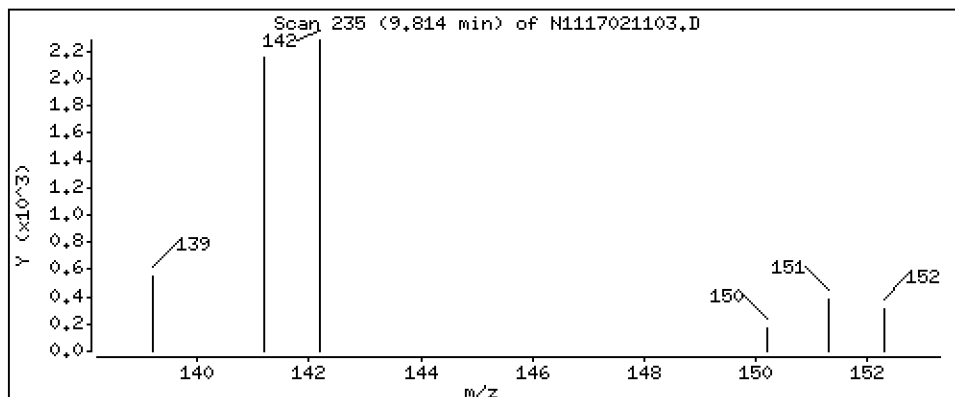
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

6 1-Methylnaphthalene

Concentration: 4,03 ng/mL



Date : 11-FEB-2017 11:12

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-10

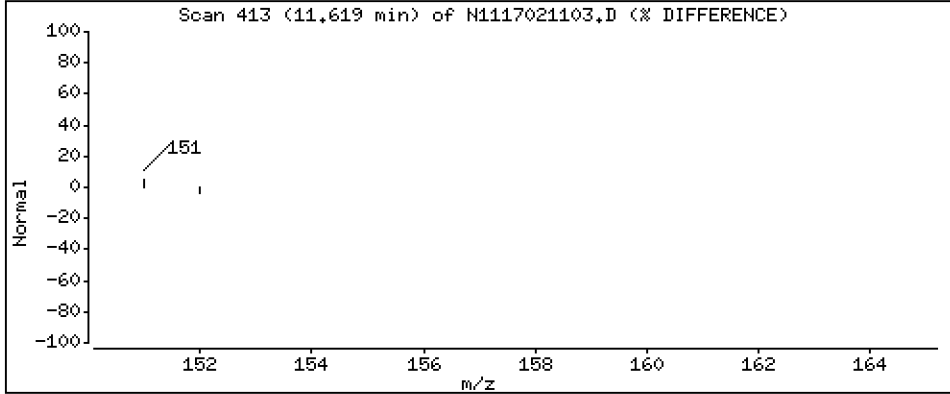
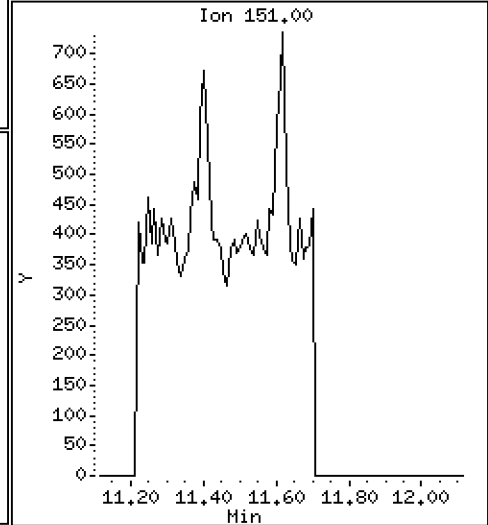
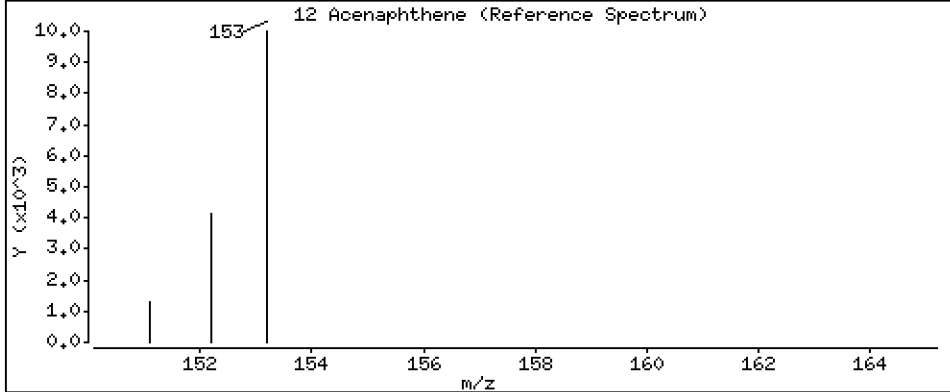
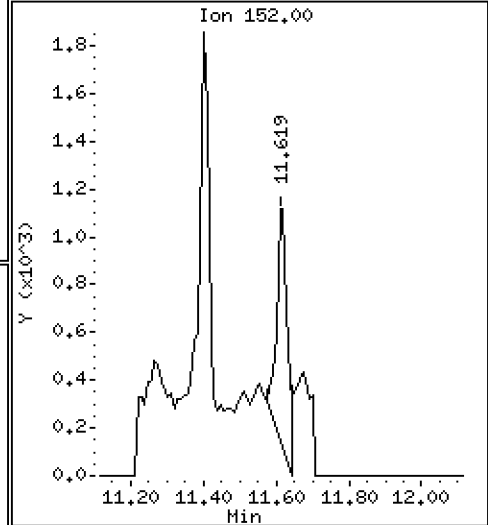
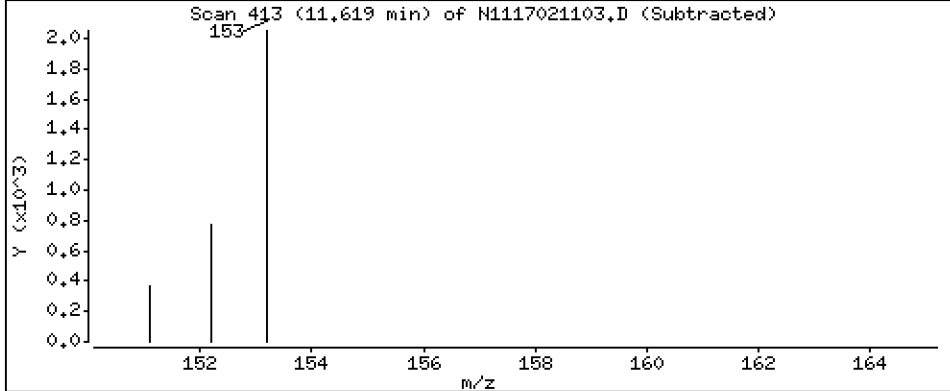
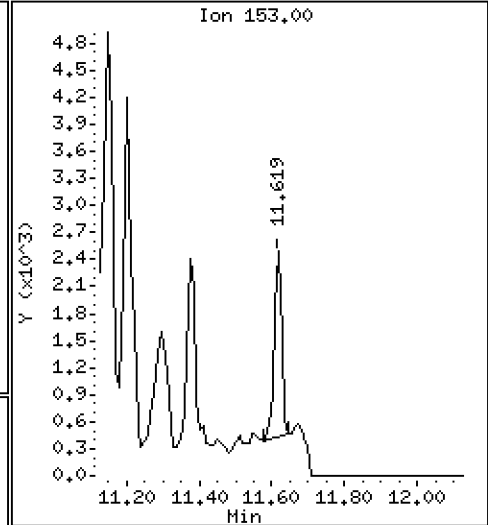
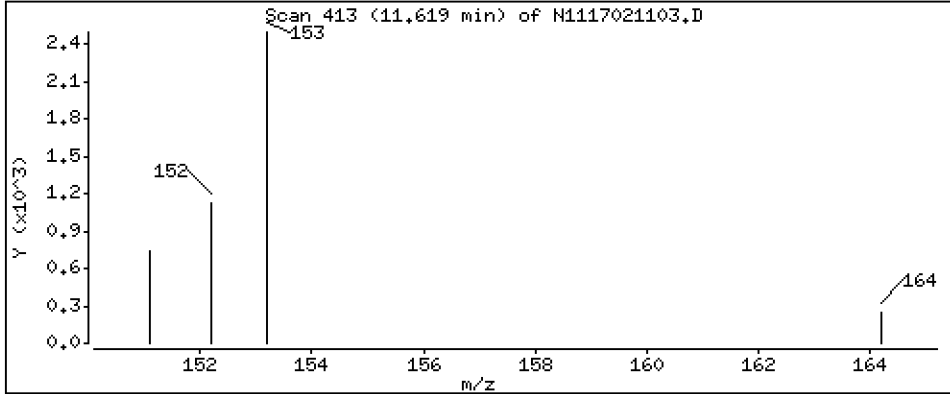
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

Concentration: 4,30 ng/mL

12 Acenaphthene



Date : 11-FEB-2017 11:12

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-10

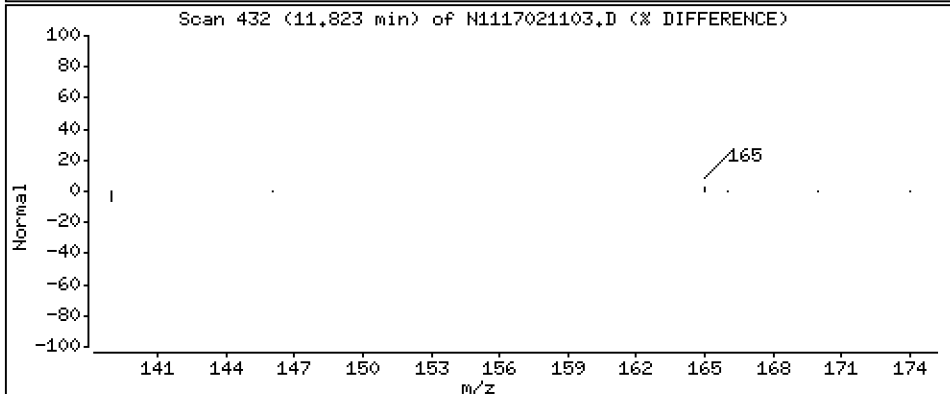
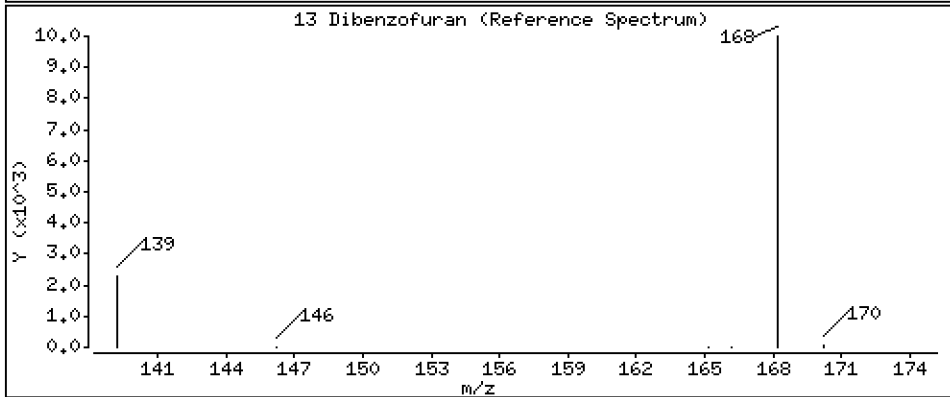
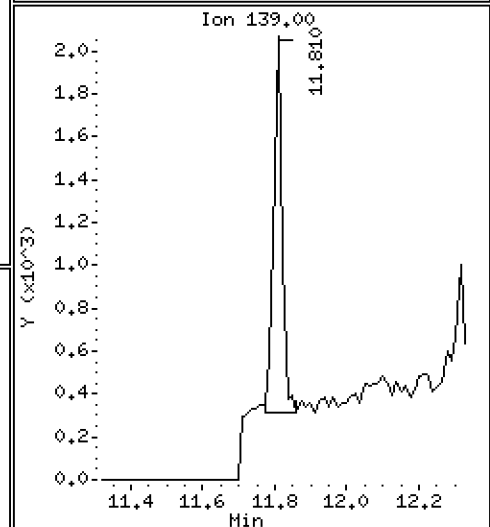
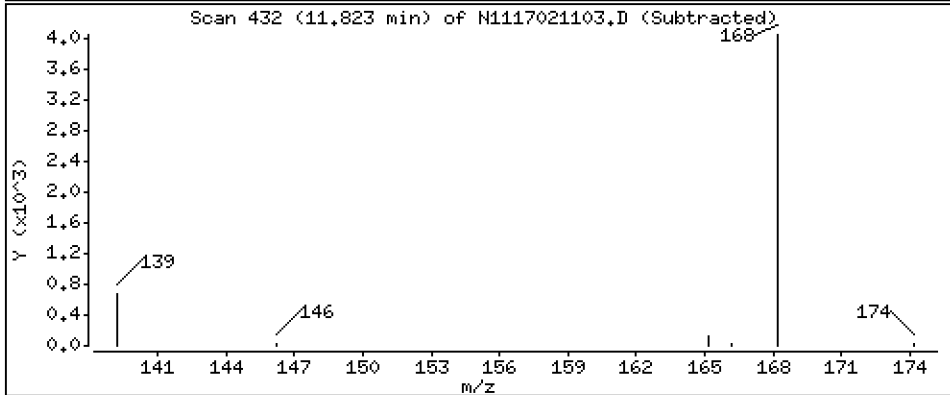
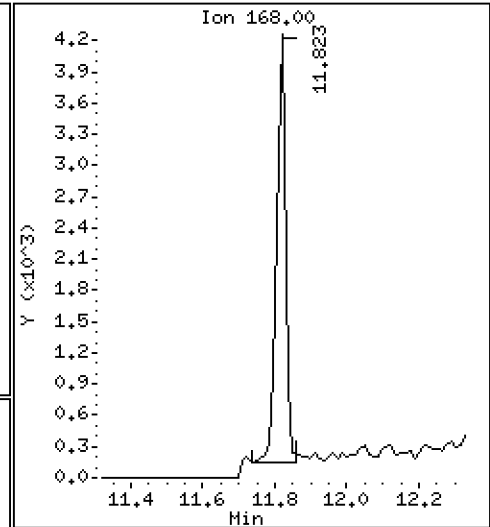
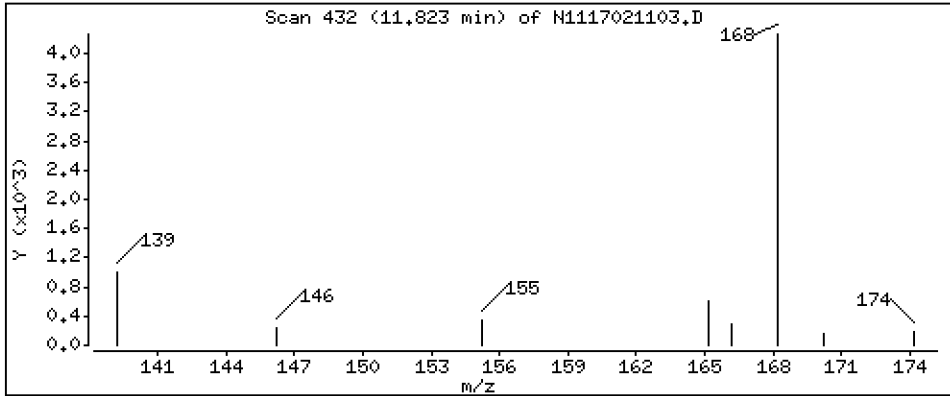
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

13 Dibenzofuran

Concentration: 6,80 ng/mL



Date : 11-FEB-2017 11:12

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-10

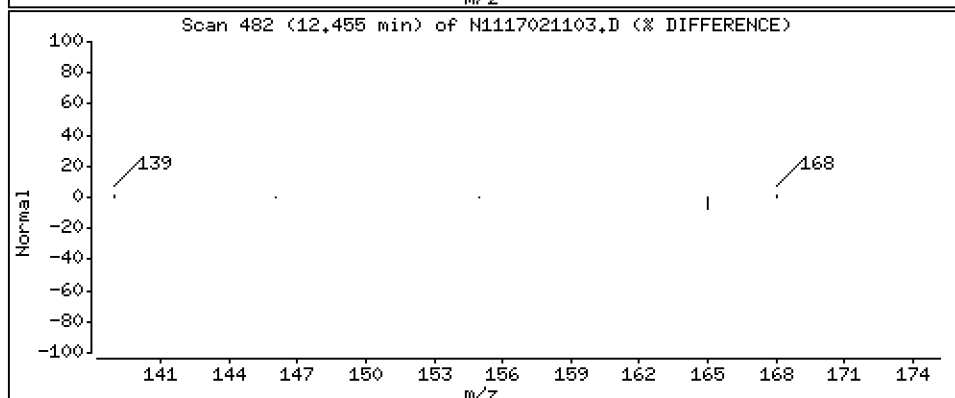
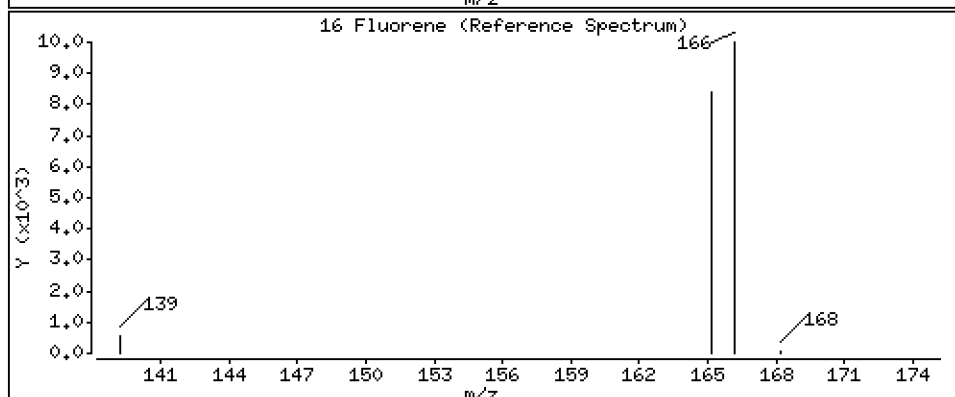
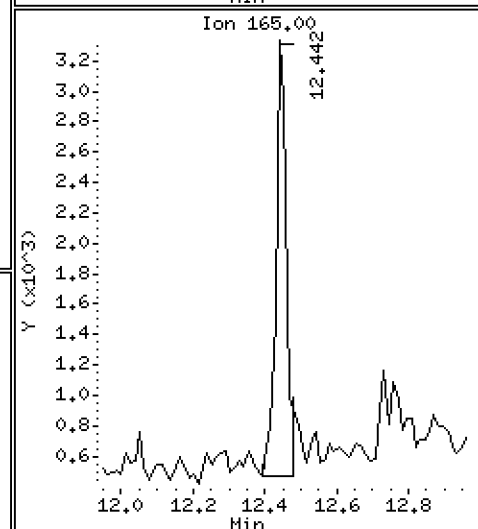
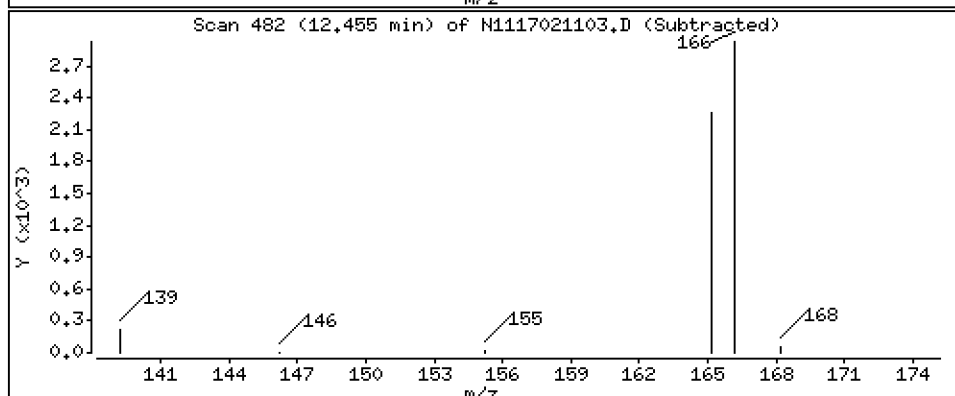
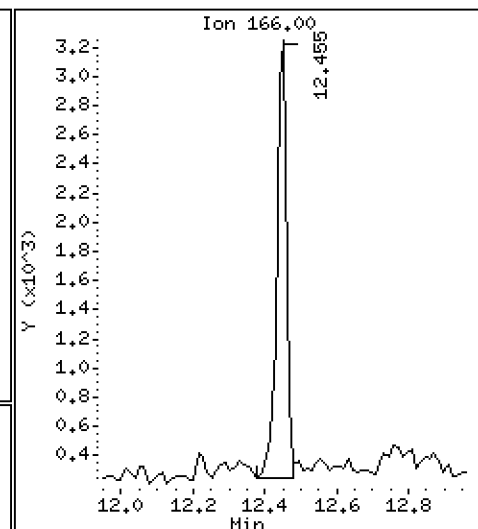
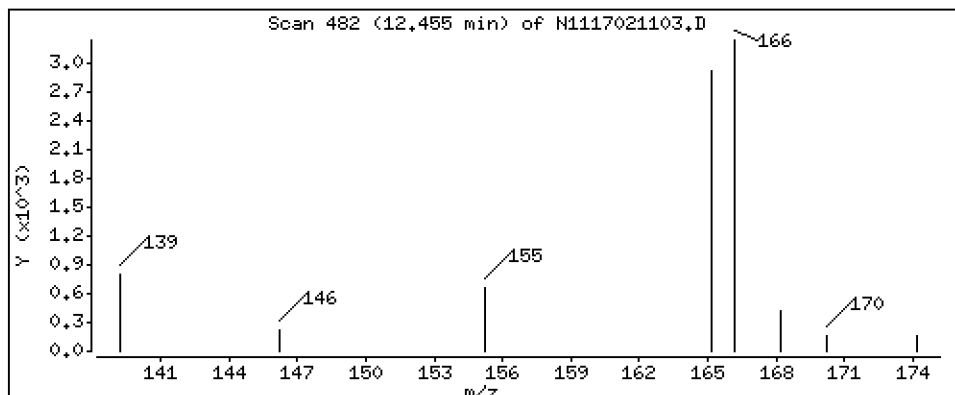
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

16 Fluorene

Concentration: 7,26 ng/mL



Date : 11-FEB-2017 11:12

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-10

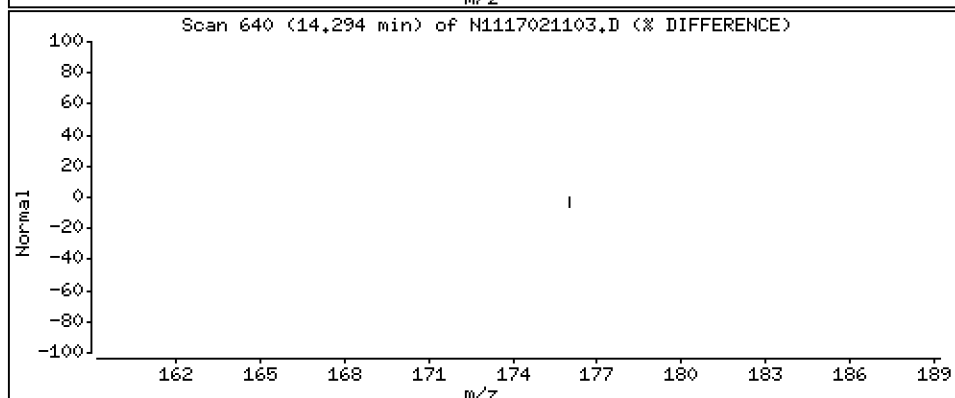
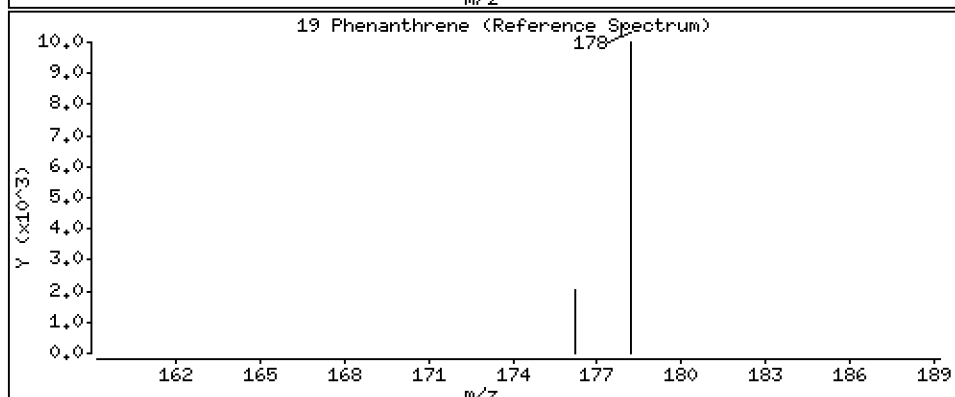
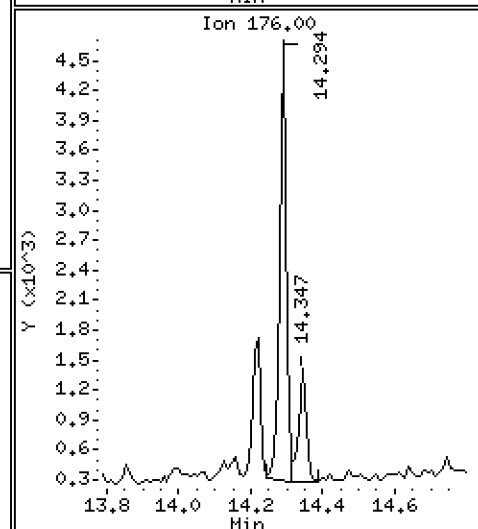
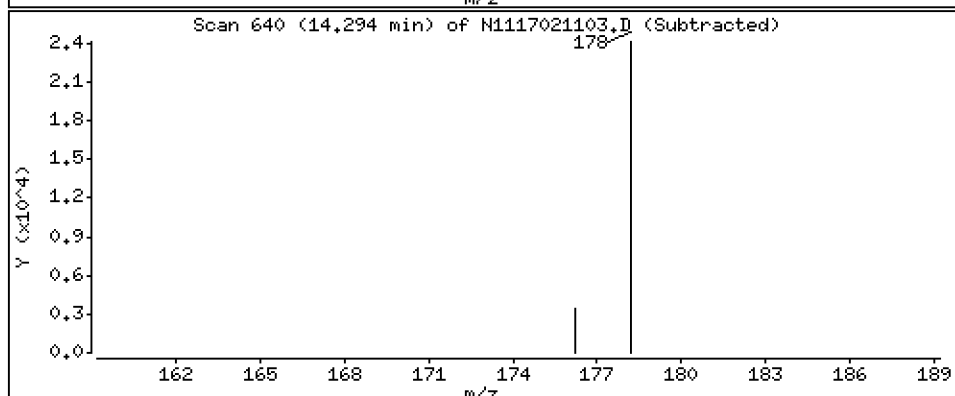
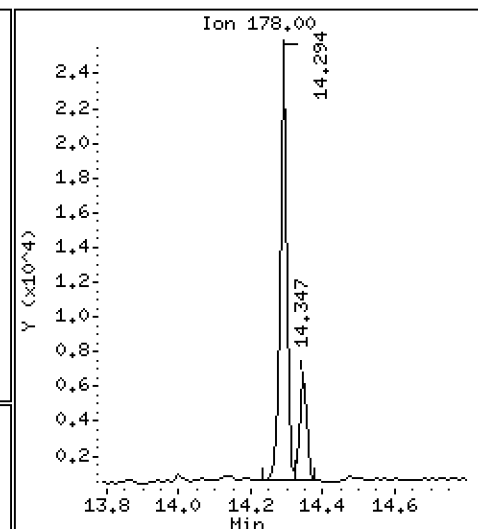
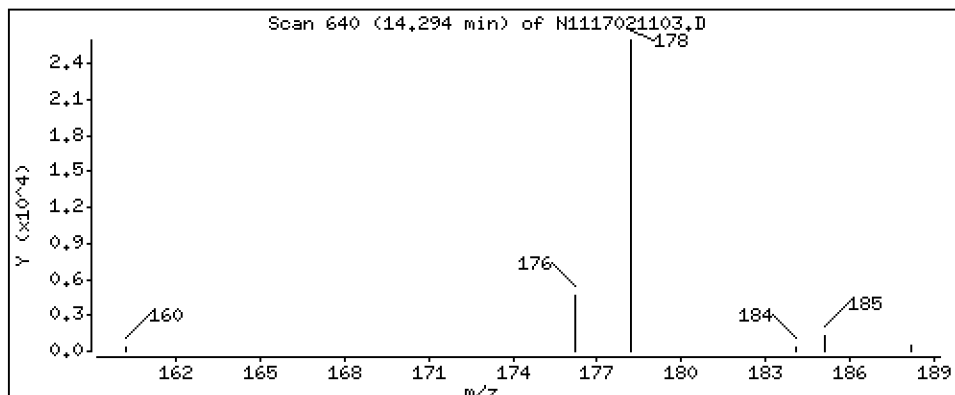
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

19 Phenanthrene

Concentration: 35,3 ng/mL



Date : 11-FEB-2017 11:12

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-10

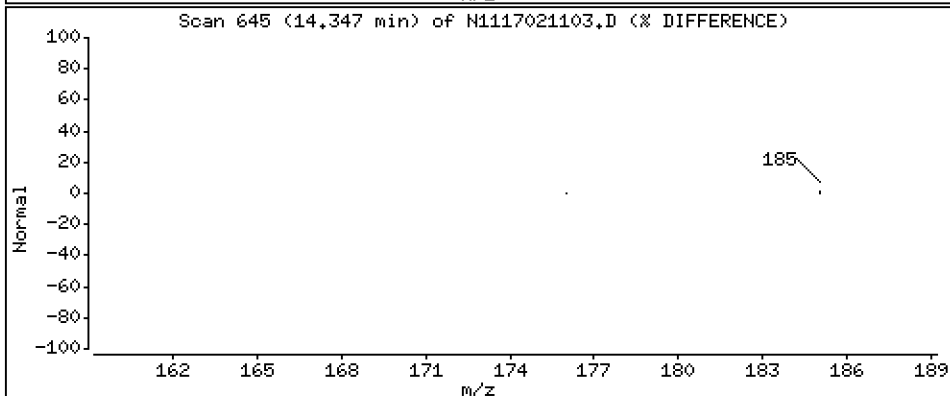
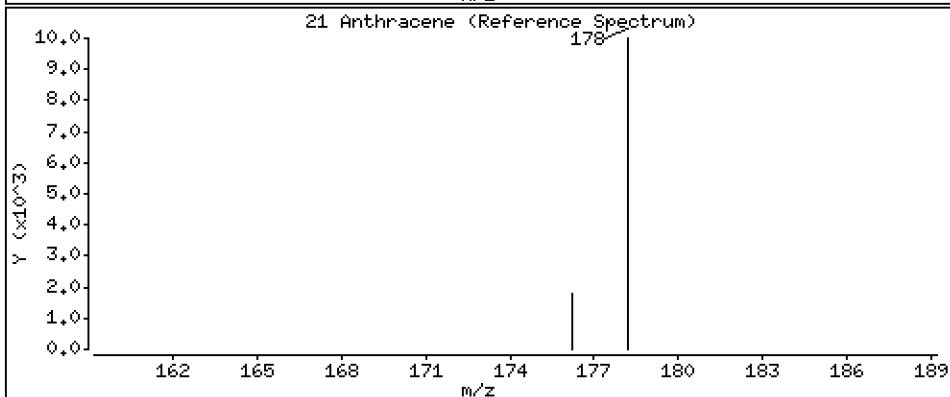
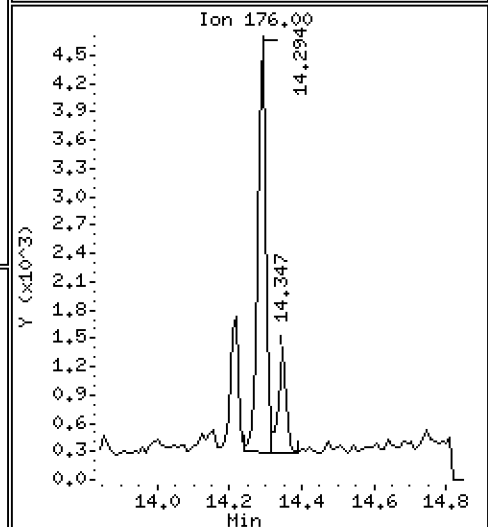
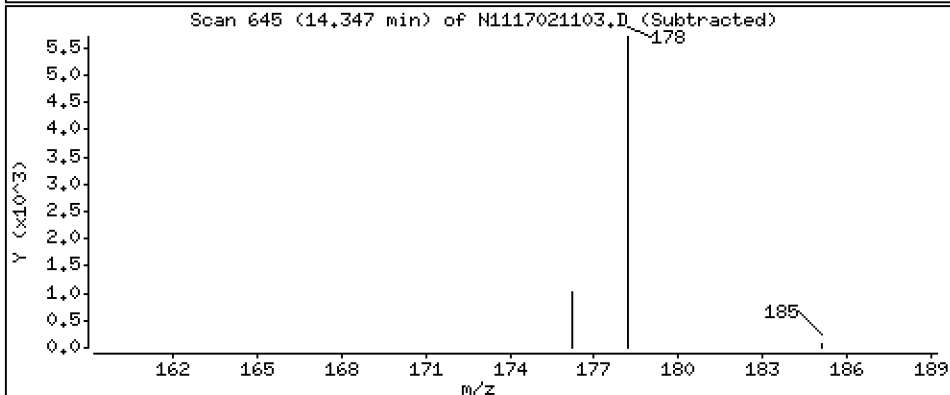
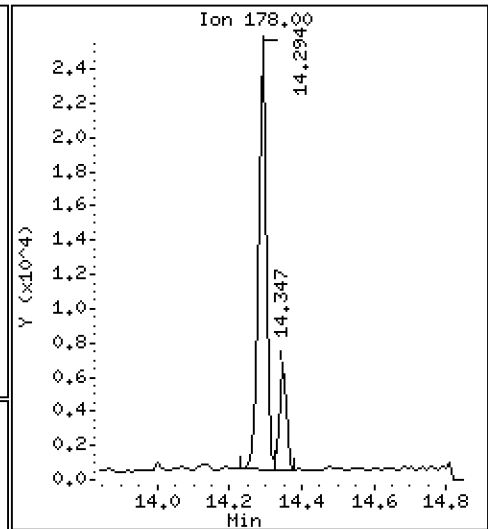
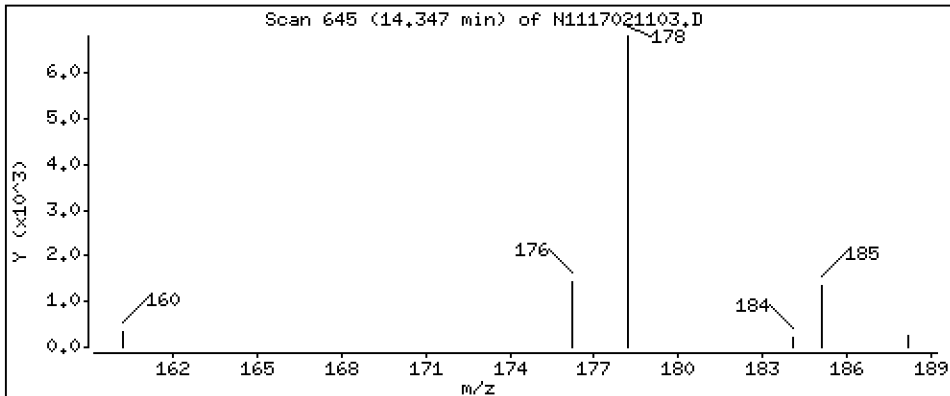
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

21 Anthracene

Concentration: 7,97 ng/mL



Date : 11-FEB-2017 11:12

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-10

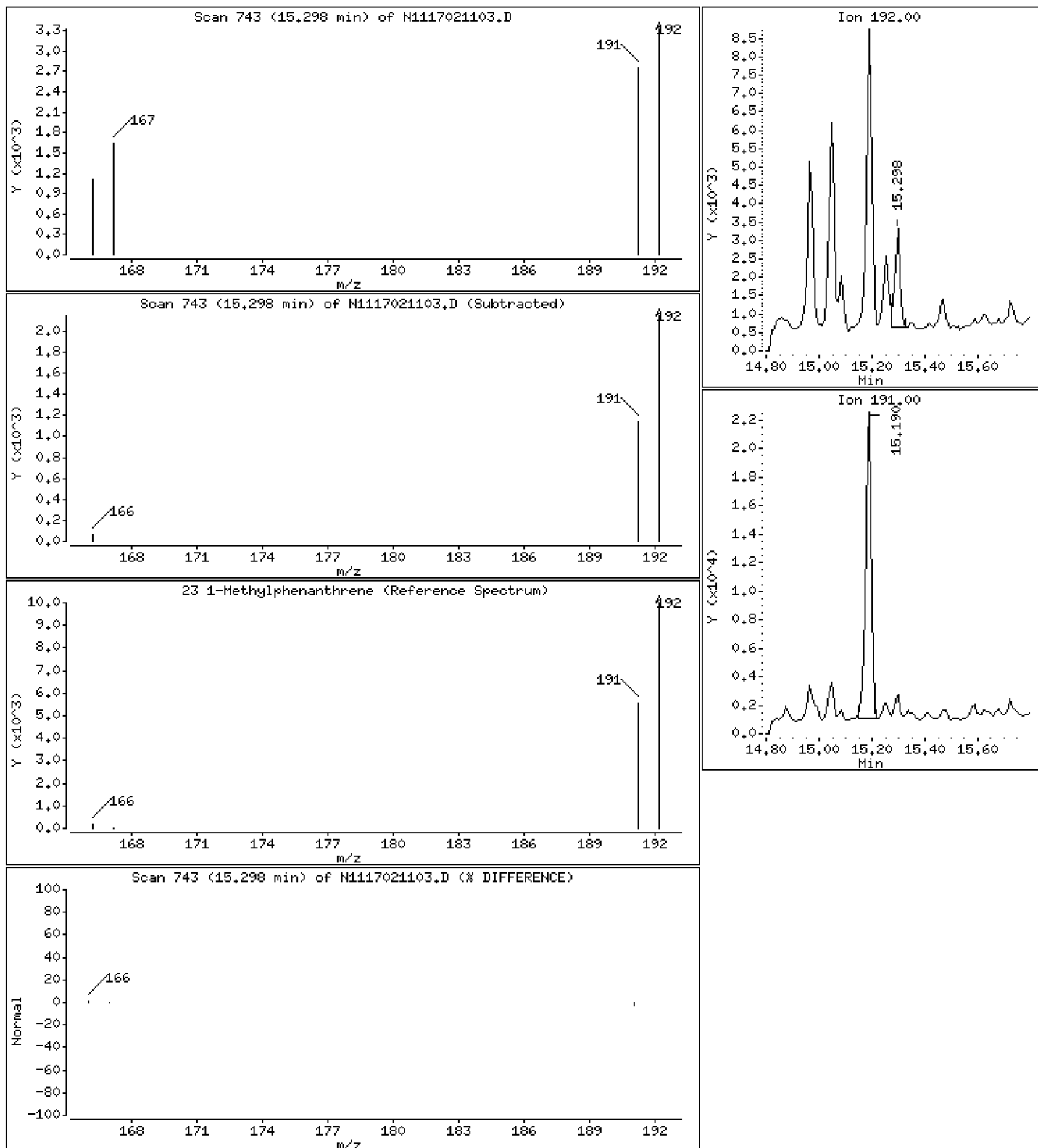
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

23 1-Methylphenanthrene

Concentration: 3,61 ng/mL



Date : 11-FEB-2017 11:12

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-10

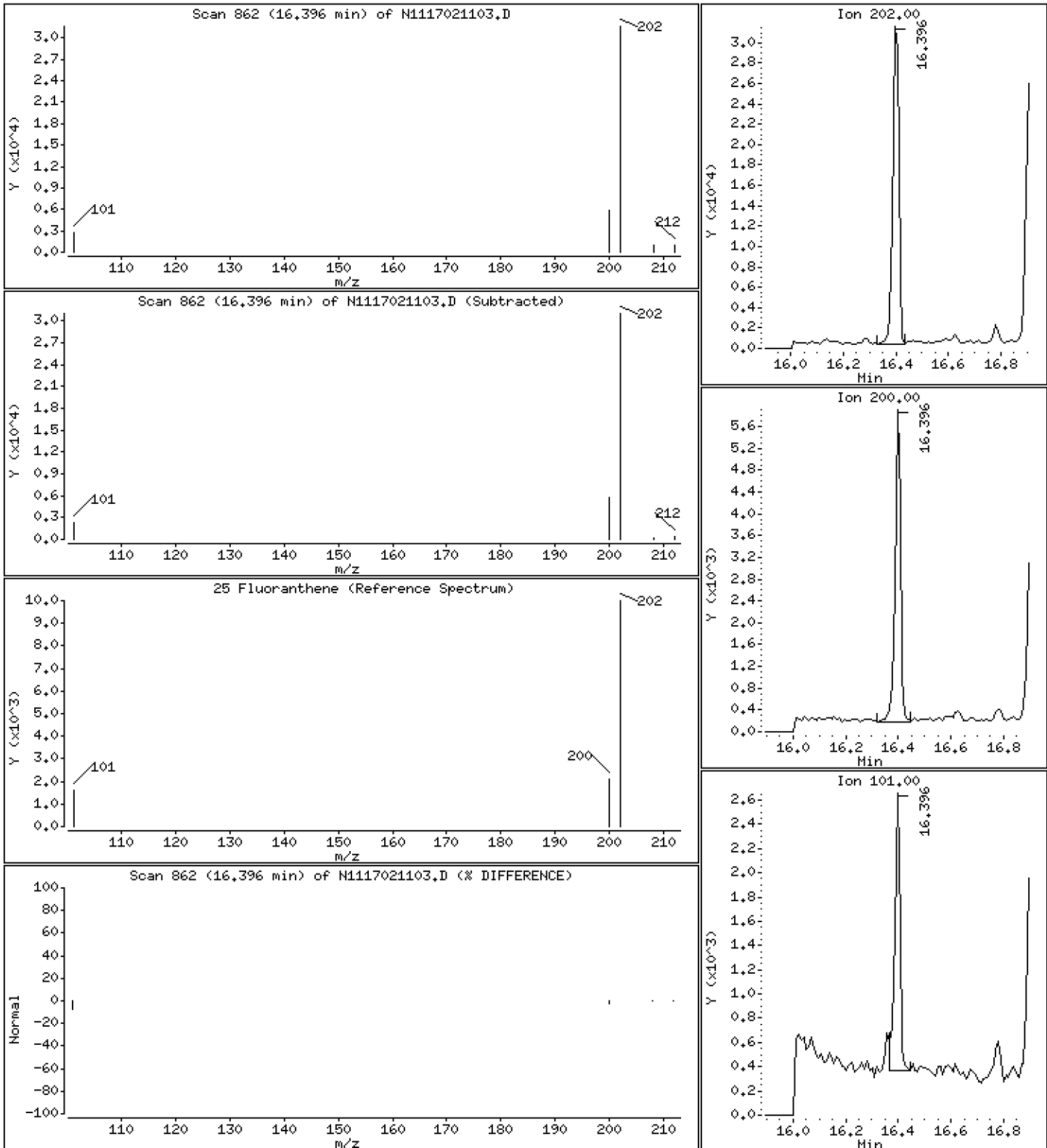
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

25 Fluoranthene

Concentration: 40,6 ng/mL



Date : 11-FEB-2017 11:12

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-10

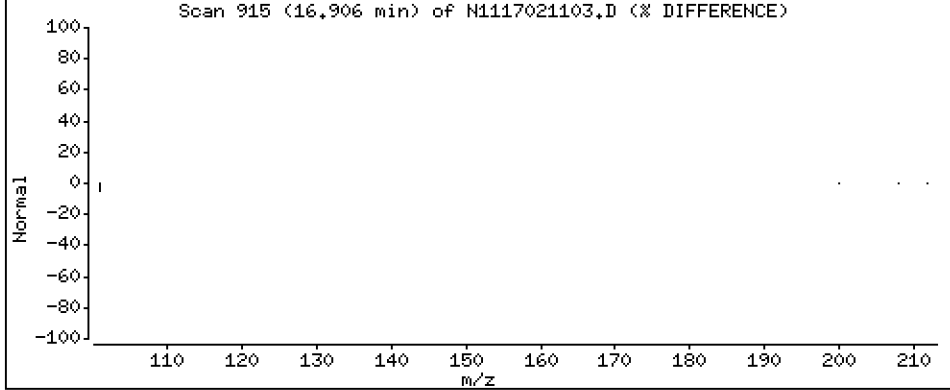
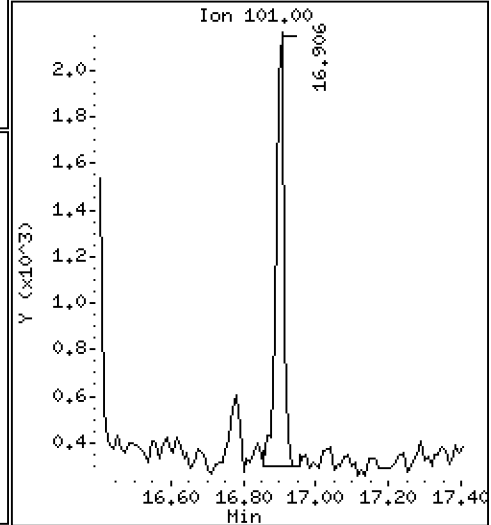
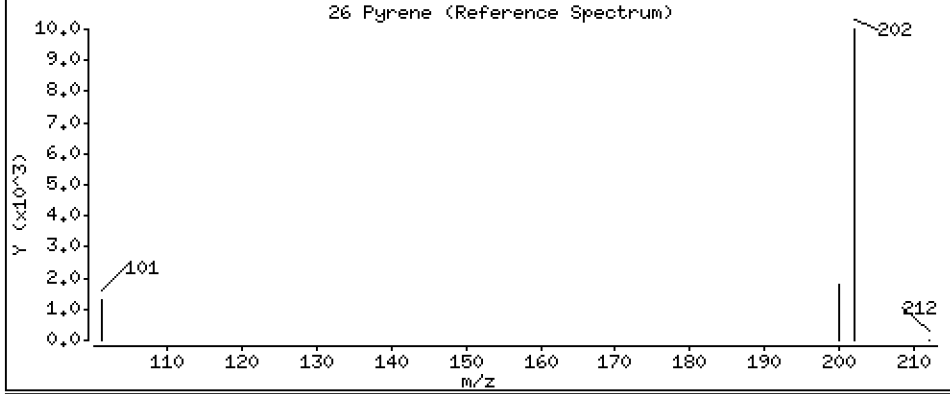
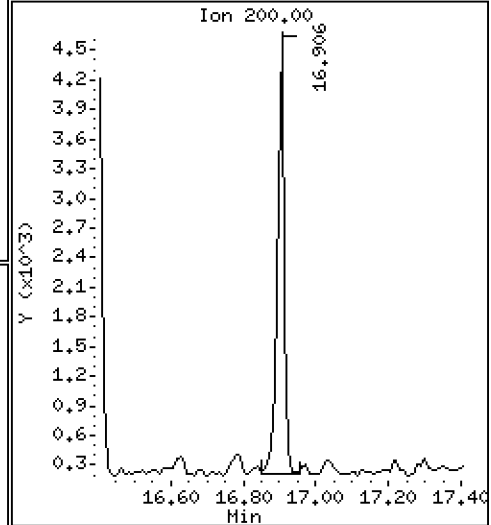
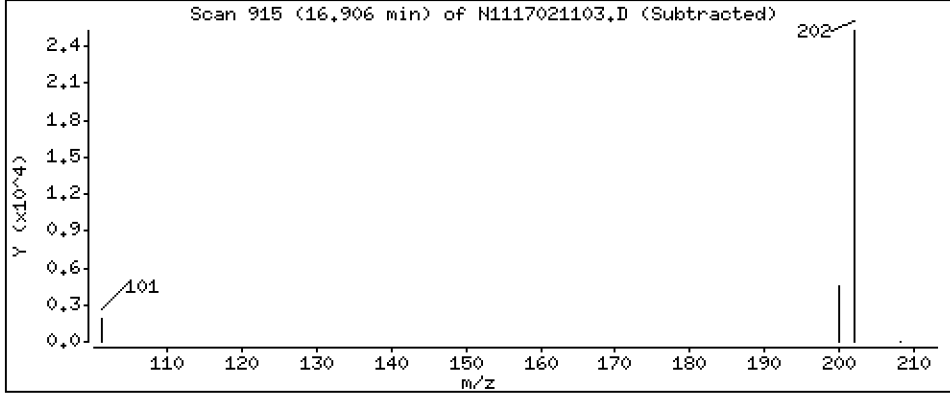
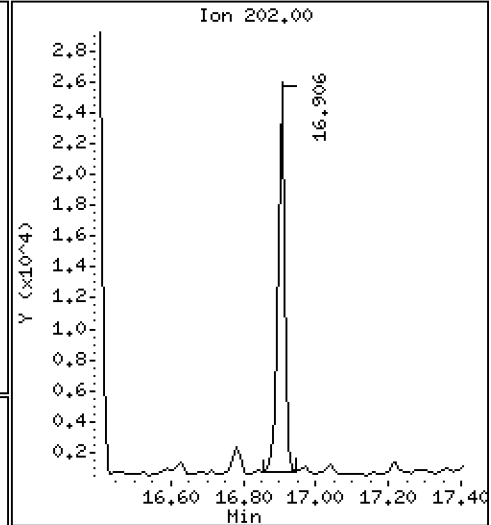
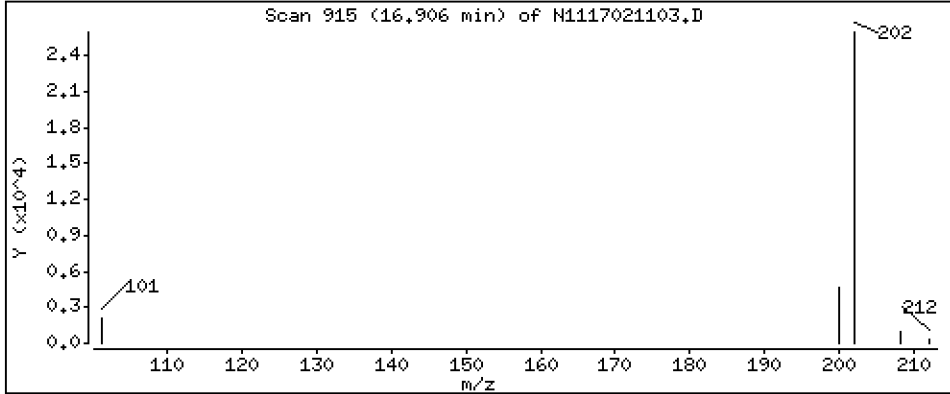
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

26 Pyrene

Concentration: 33,9 ng/mL



Date : 11-FEB-2017 11:12

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-10

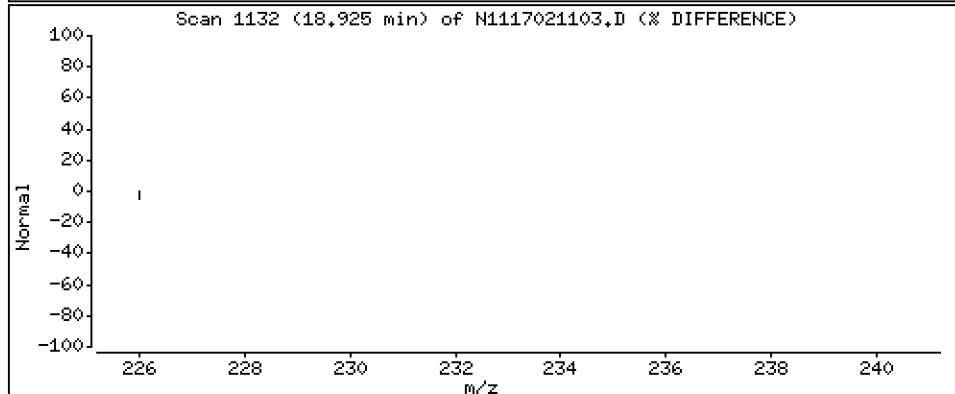
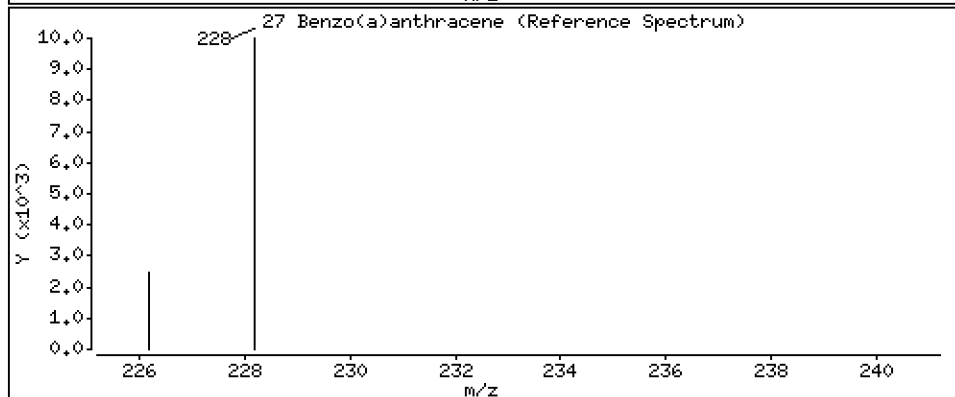
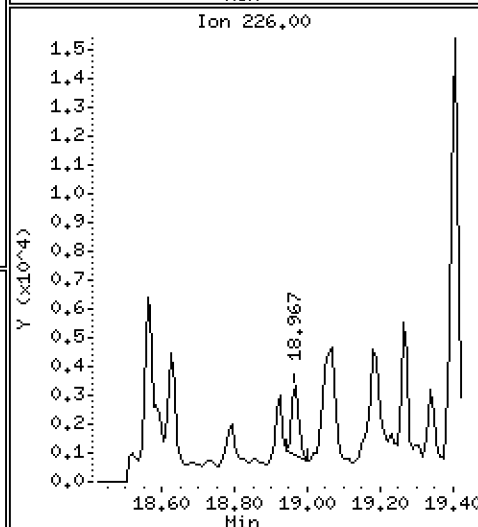
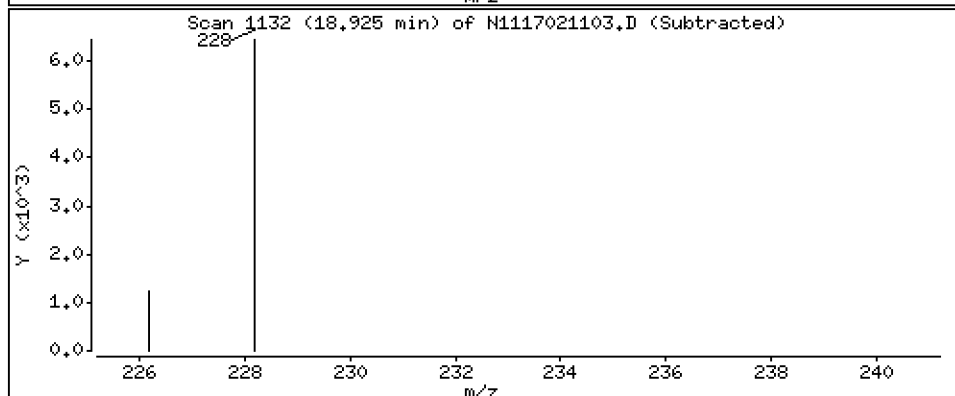
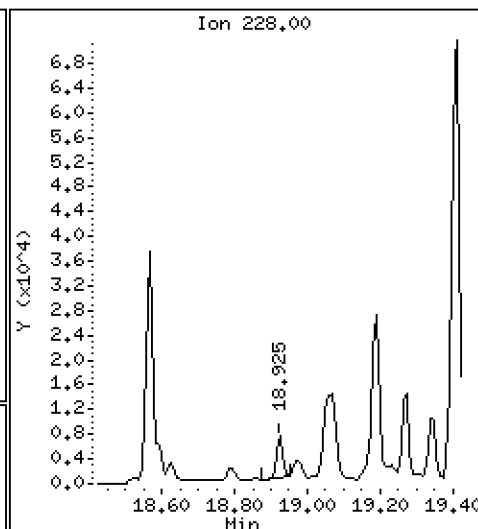
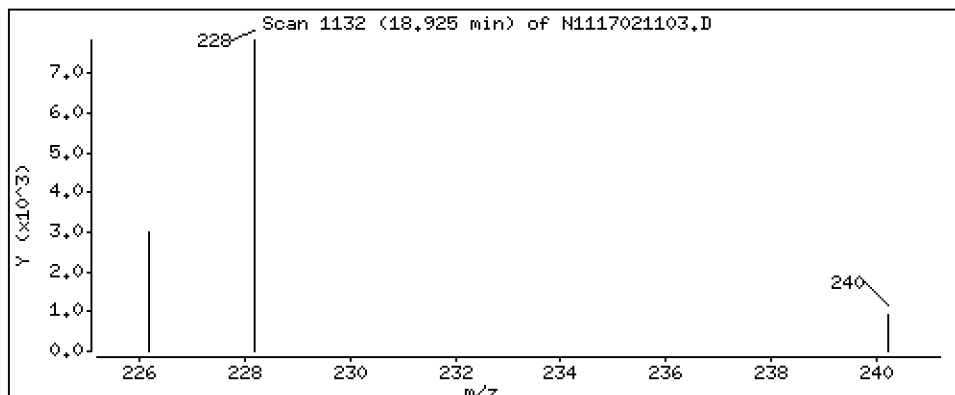
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

27 Benzo(a)anthracene

Concentration: 8,36 ng/mL



Date : 11-FEB-2017 11:12

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-10

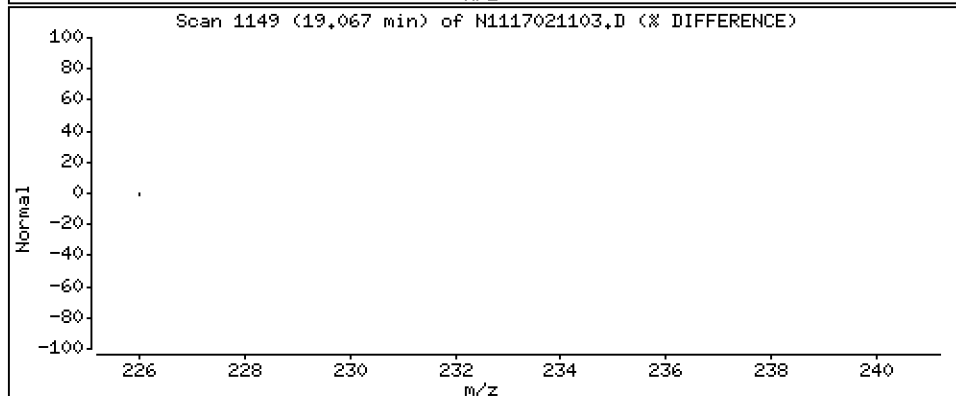
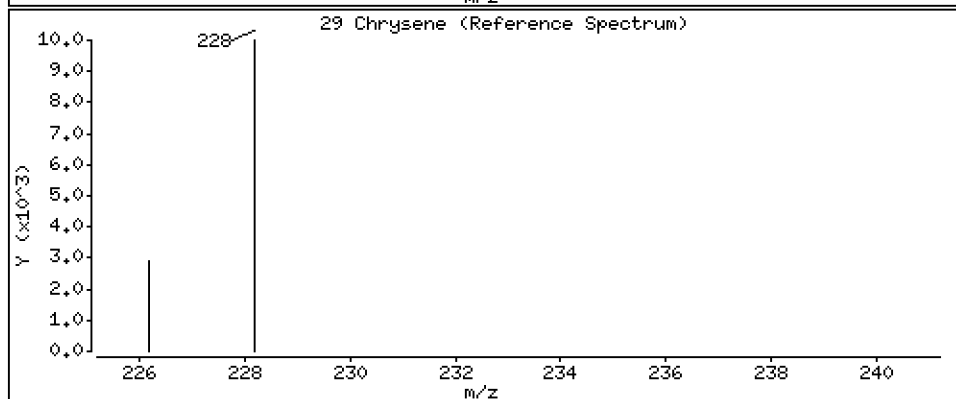
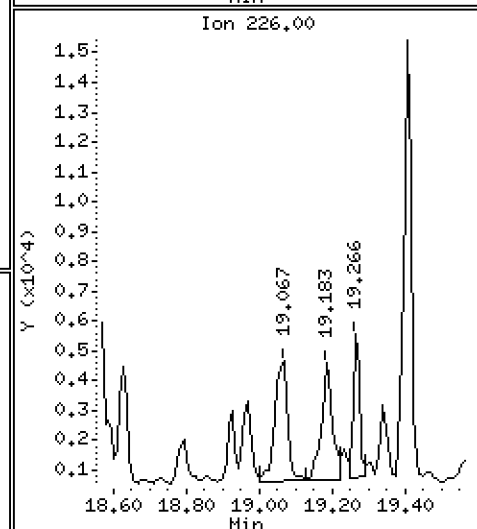
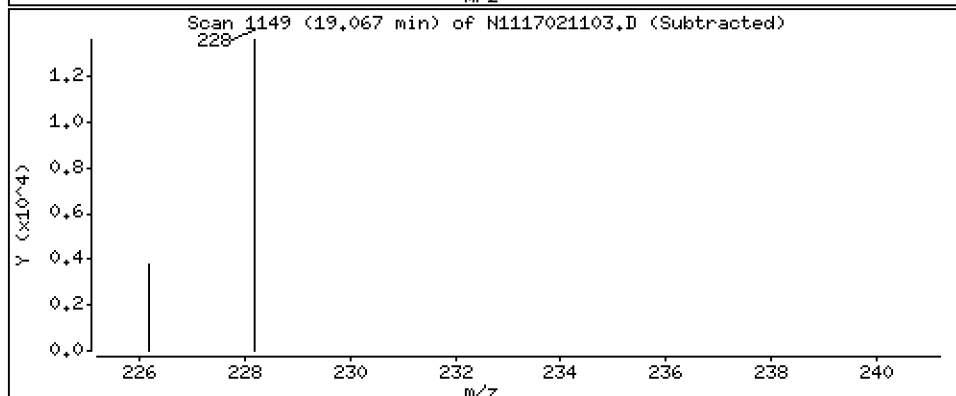
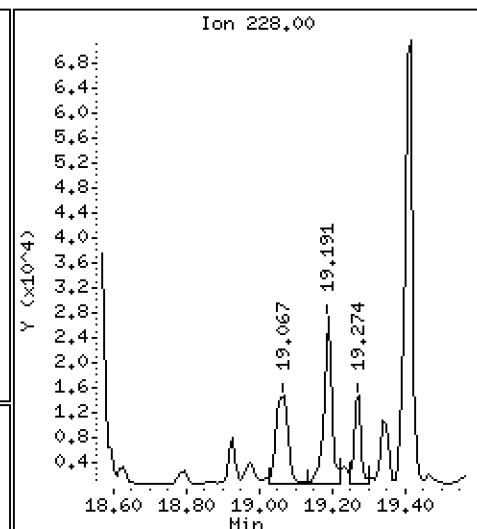
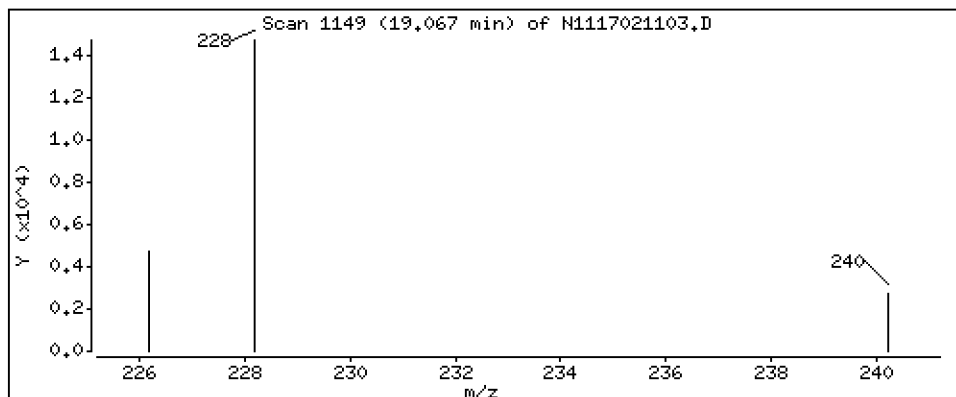
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

29 Chrysene

Concentration: 33,6 ng/mL



Date : 11-FEB-2017 11:12

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-10

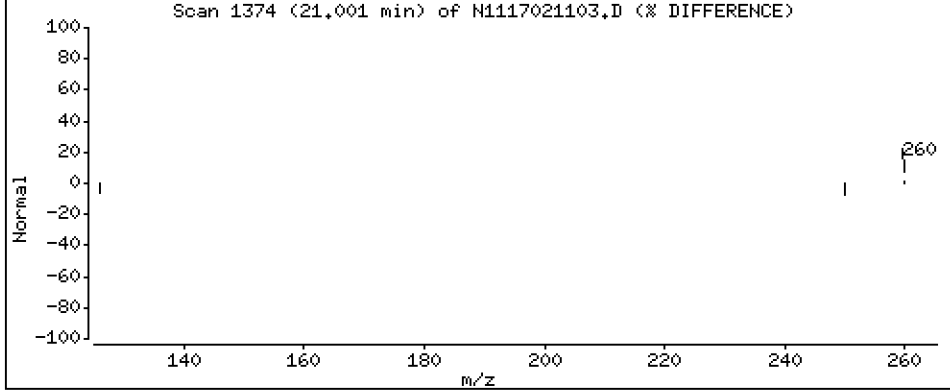
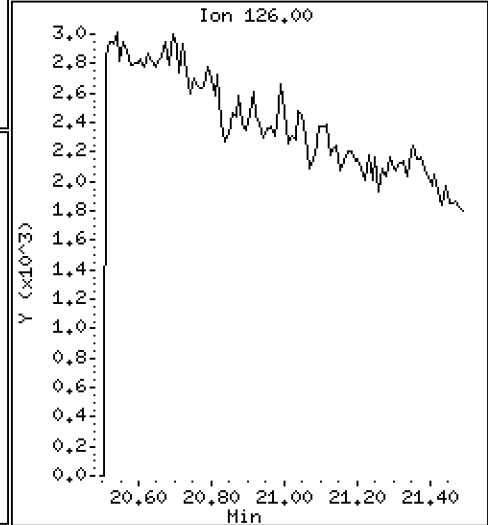
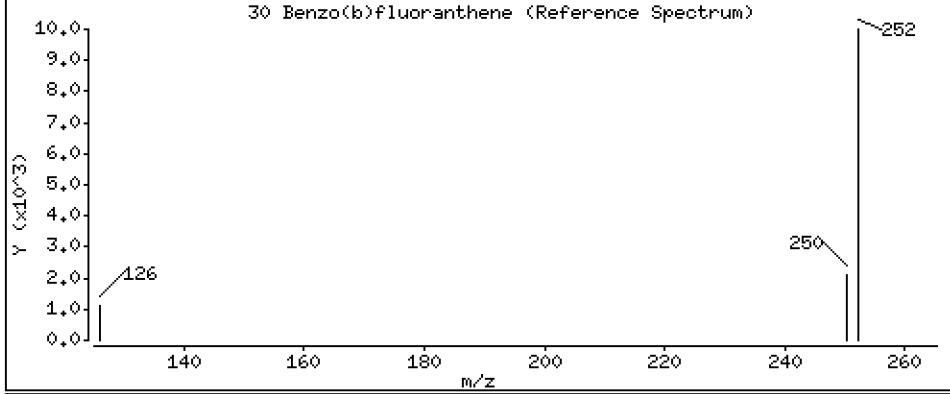
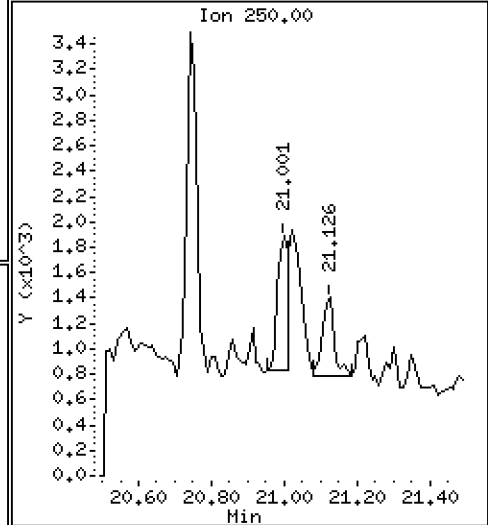
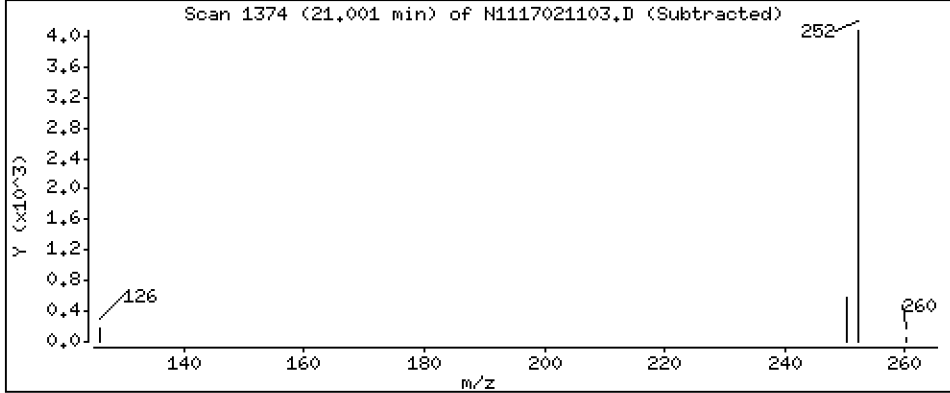
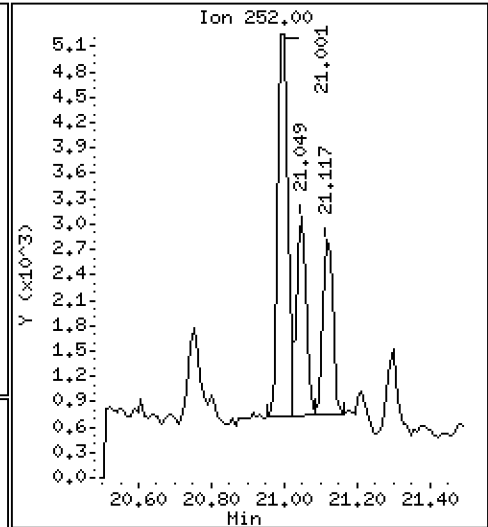
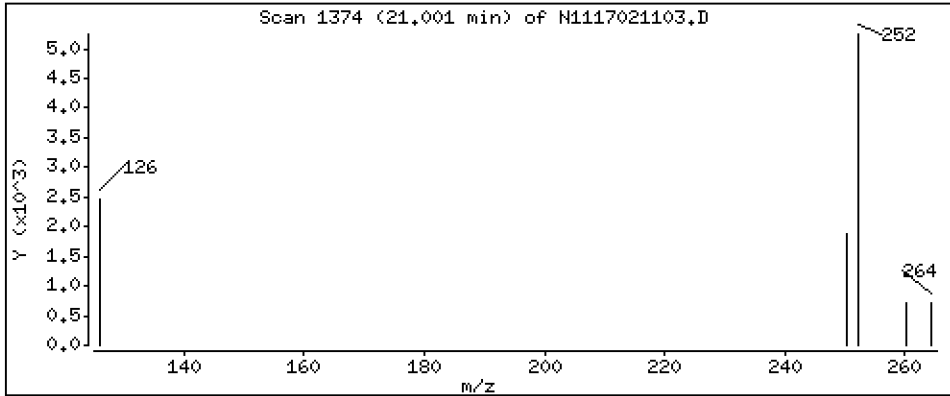
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

30 Benzo(b)fluoranthene

Concentration: 9,65 ng/mL



Date : 11-FEB-2017 11:12

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-10

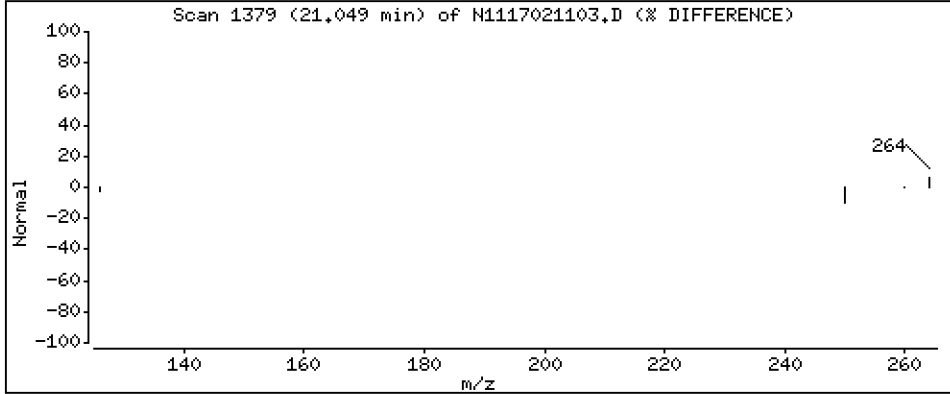
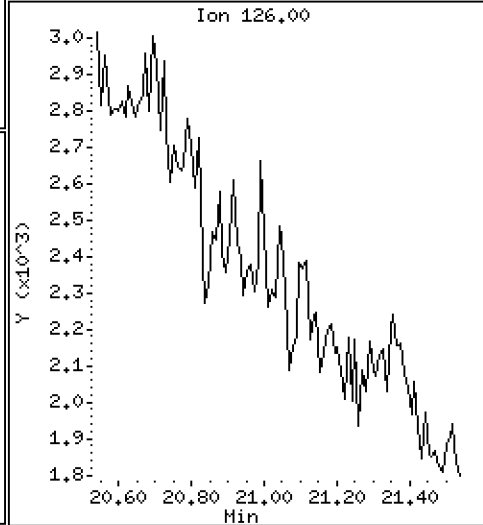
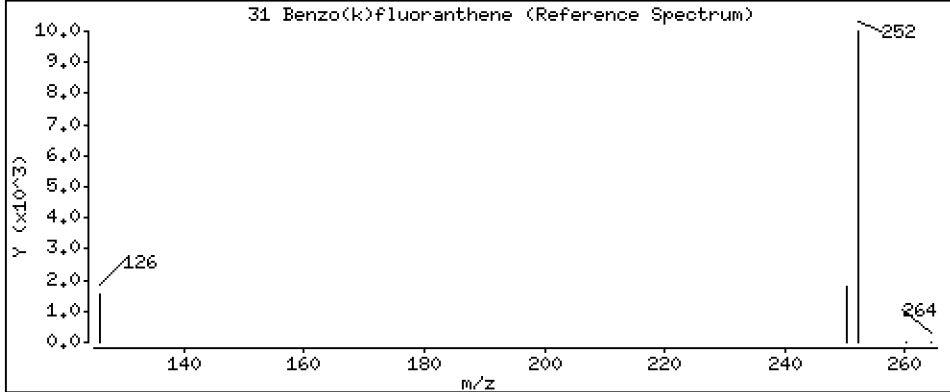
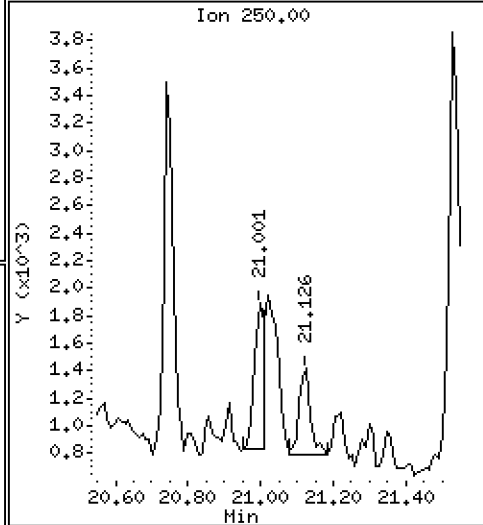
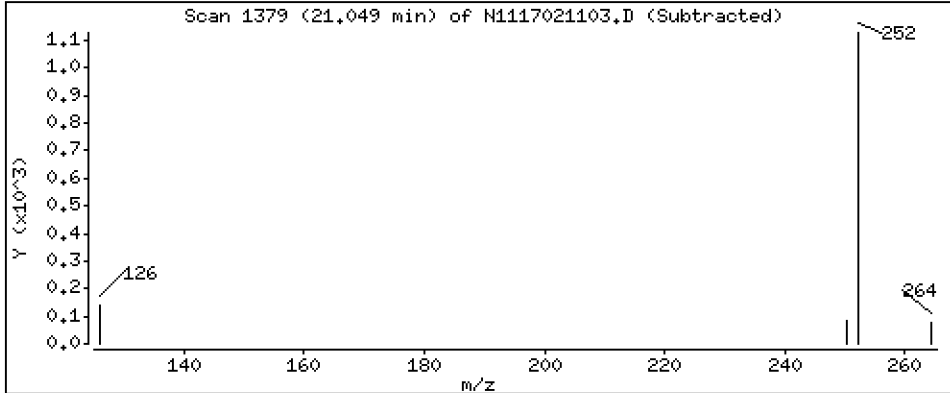
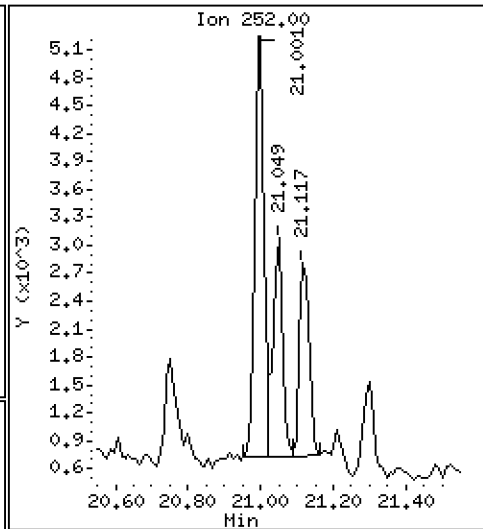
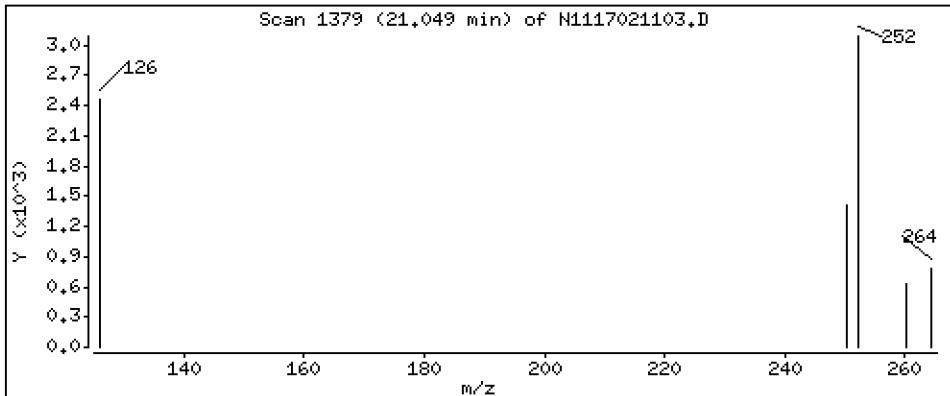
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

31 Benzo(k)fluoranthene

Concentration: 4,99 ng/mL



Date : 11-FEB-2017 11:12

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-10

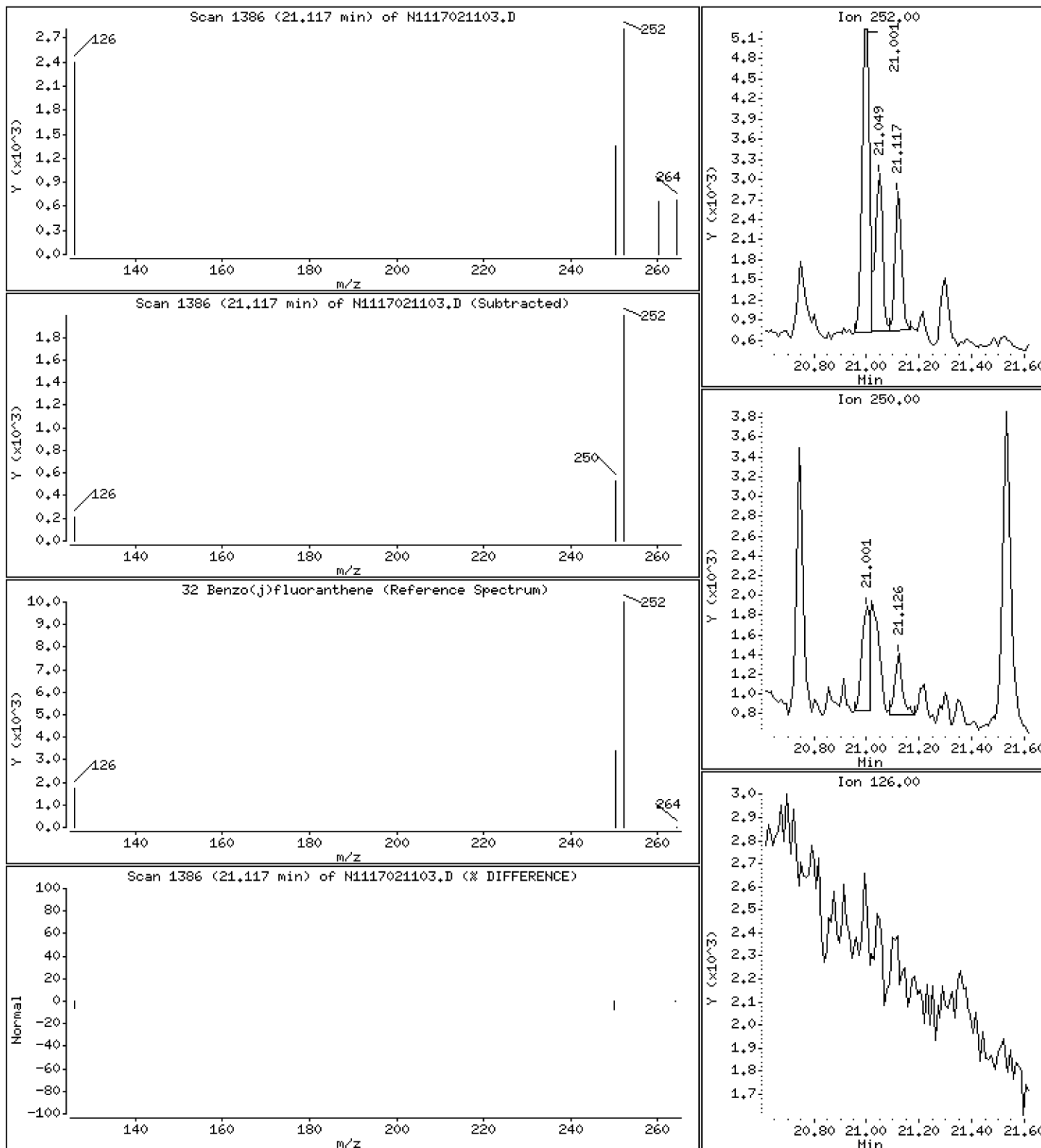
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0.25

32 Benzo(j)fluoranthene

Concentration: 4.53 ng/mL



Date : 11-FEB-2017 11:12

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-10

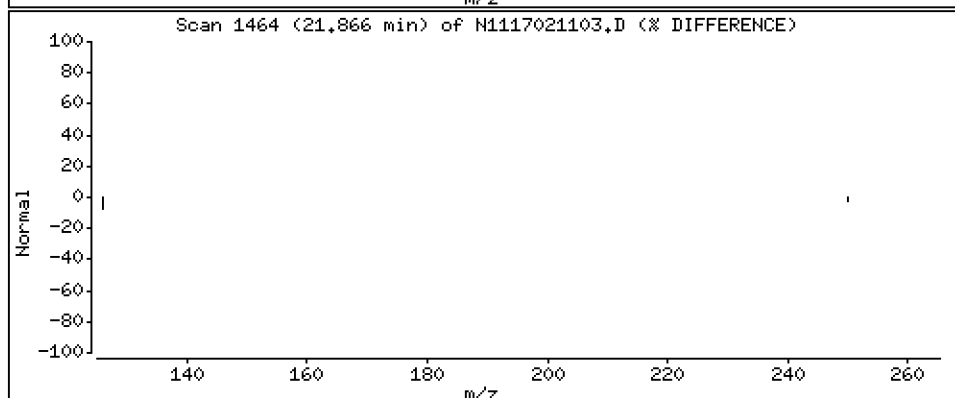
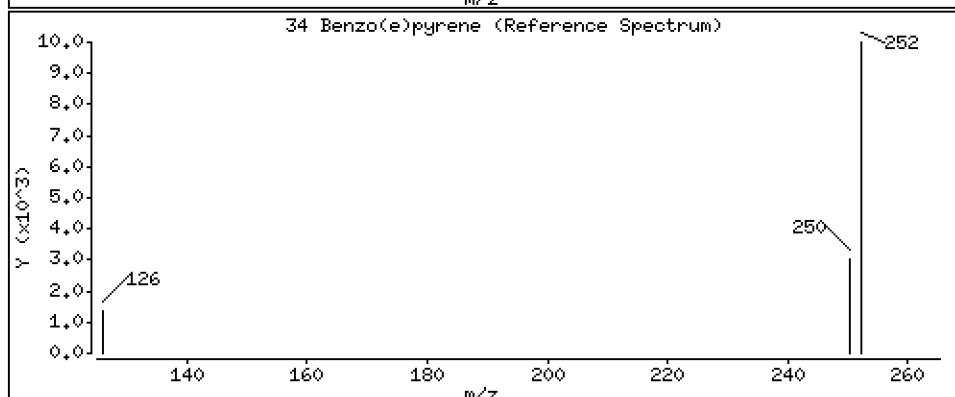
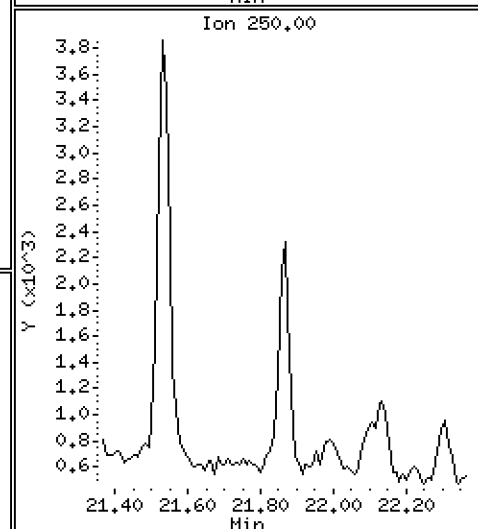
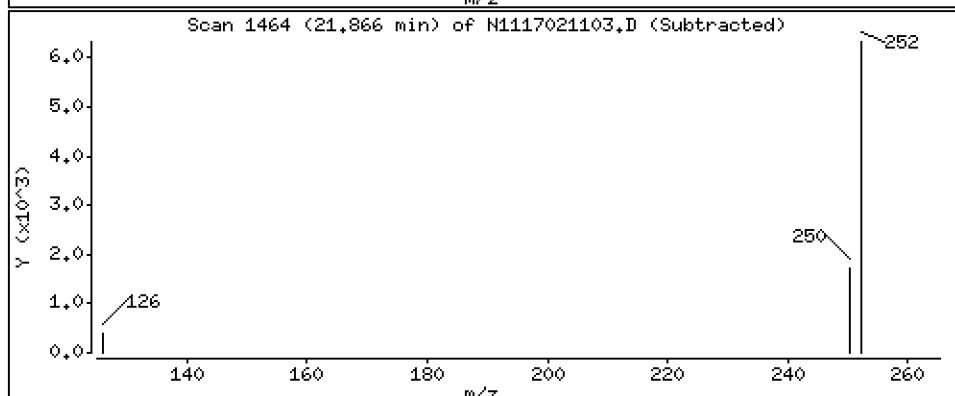
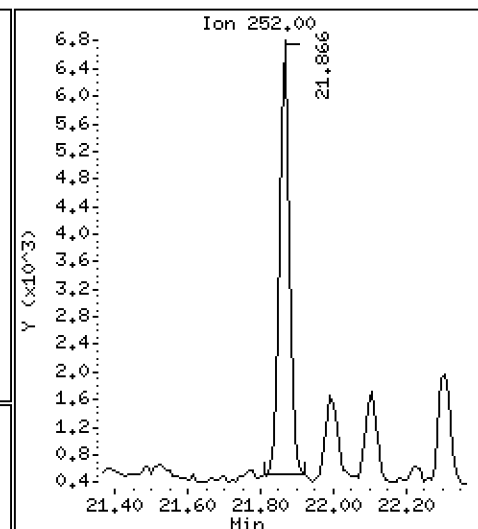
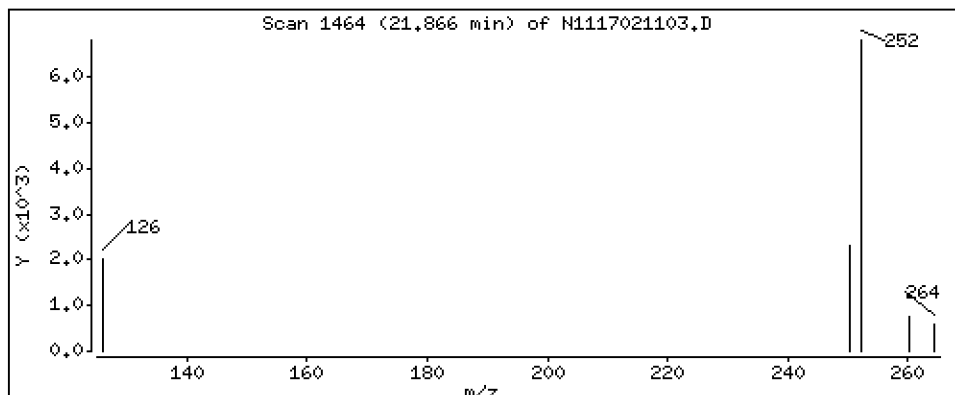
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

34 Benzo(e)pyrene

Concentration: 13,9 ng/mL



Date : 11-FEB-2017 11:12

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-10

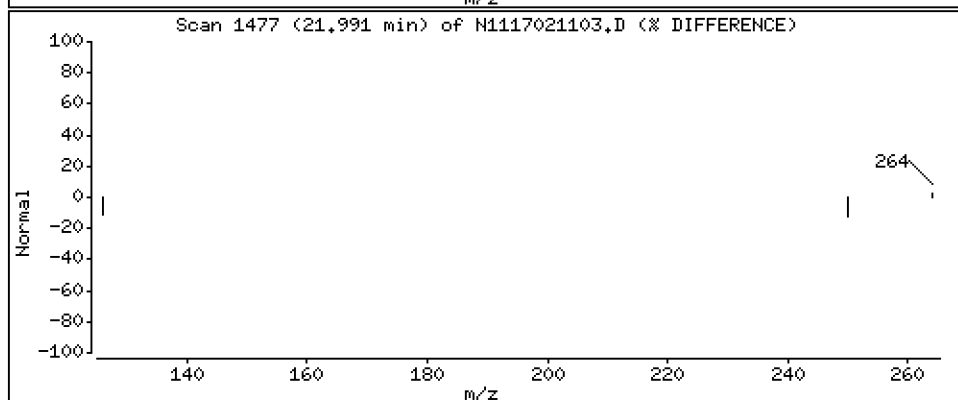
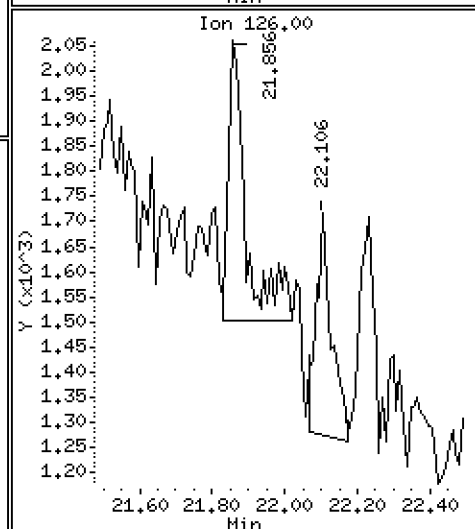
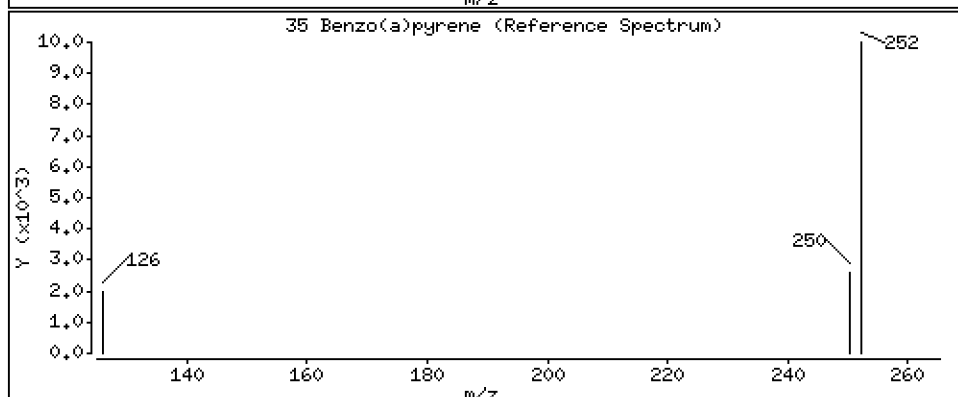
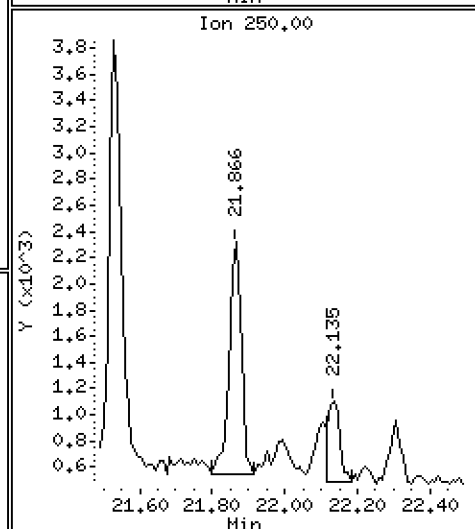
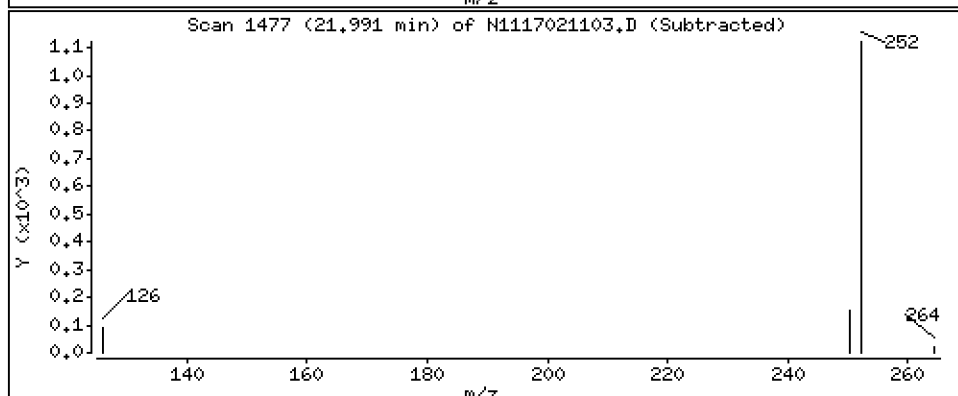
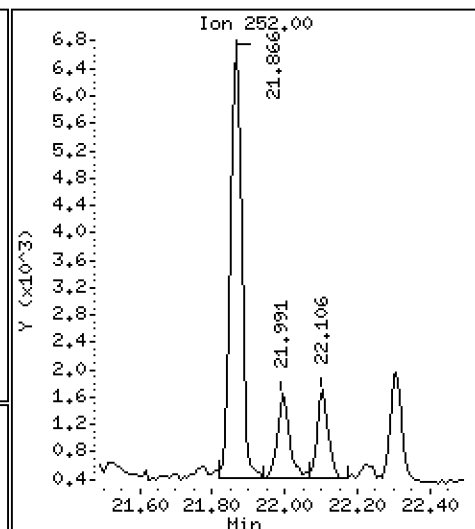
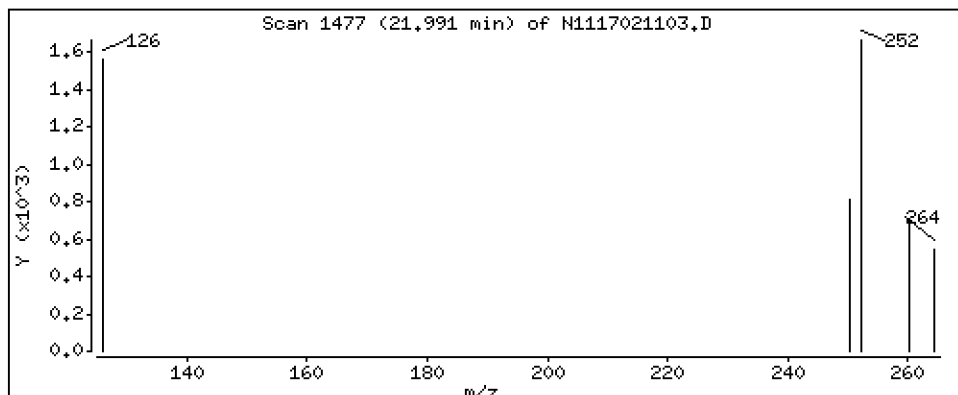
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

35 Benzo(a)pyrene

Concentration: 3,59 ng/mL



Date : 11-FEB-2017 11:12

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-10

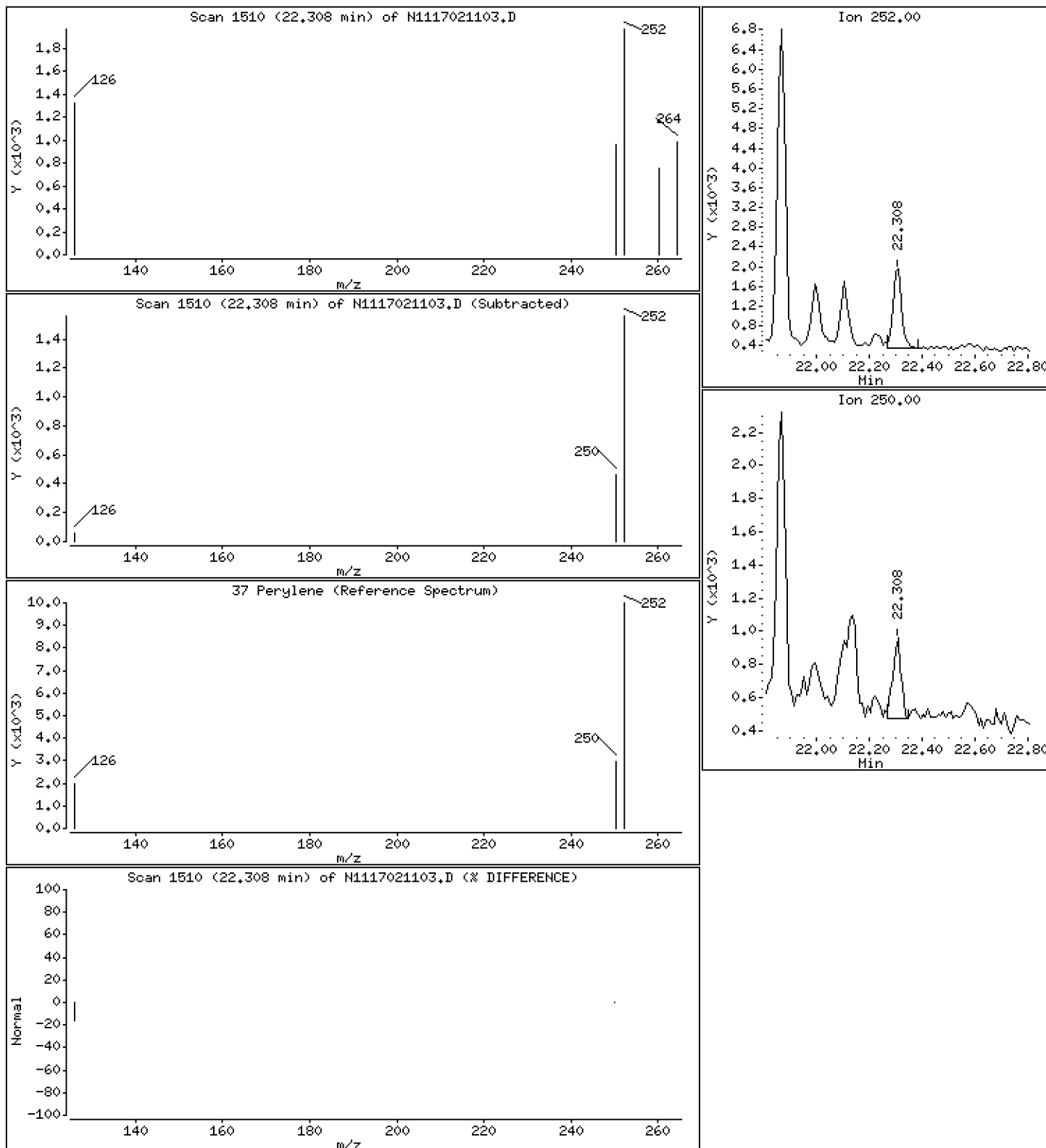
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0.25

37 Perylene

Concentration: 4.32 ng/mL



Date : 11-FEB-2017 11:12

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-10

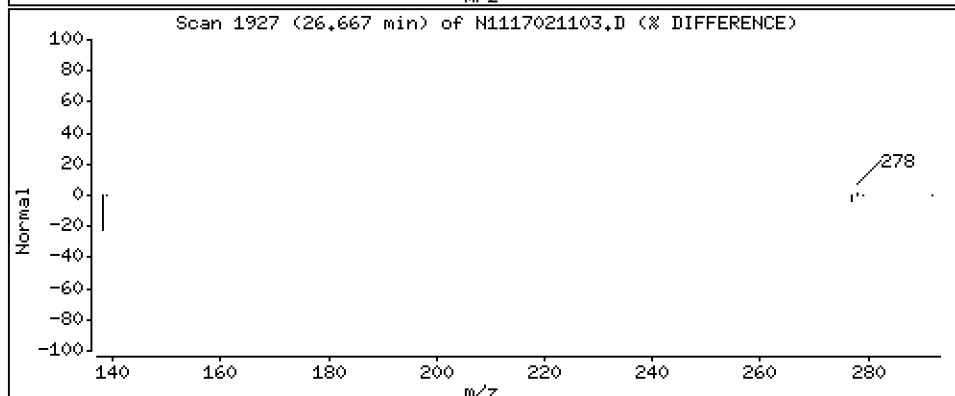
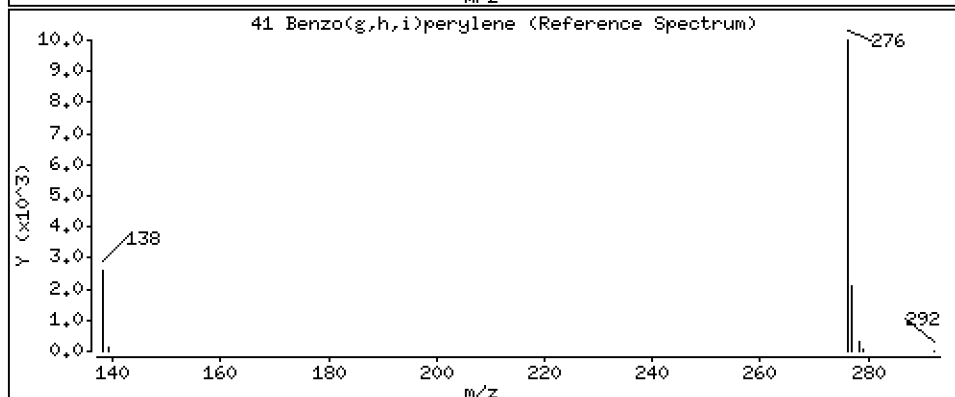
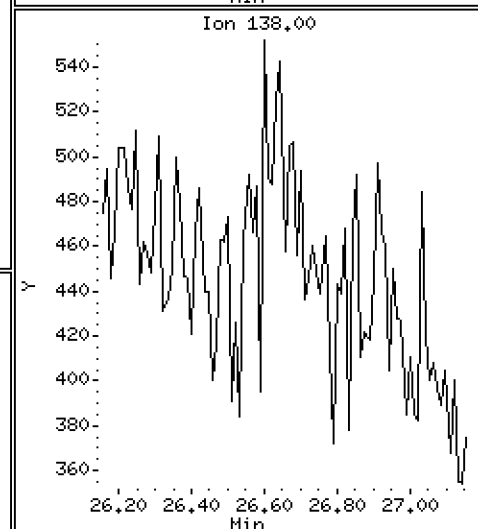
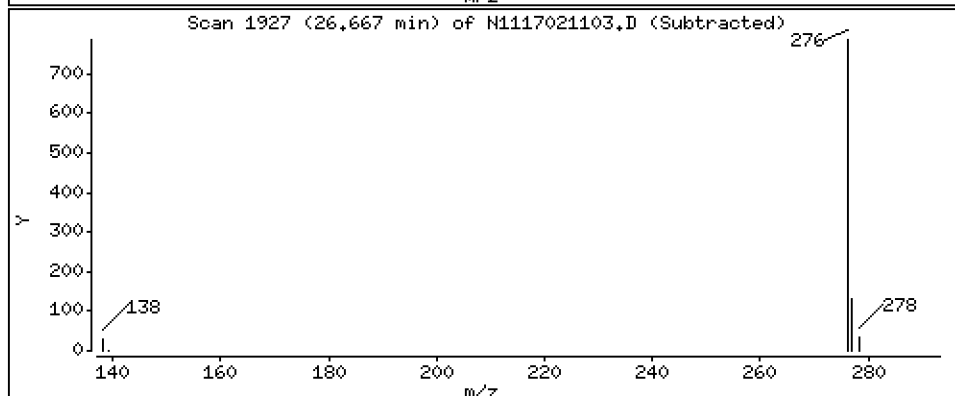
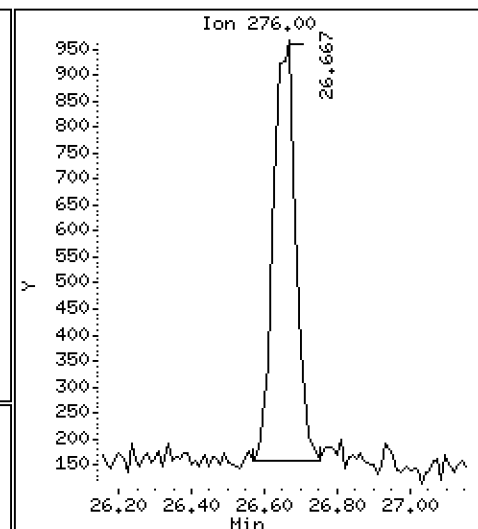
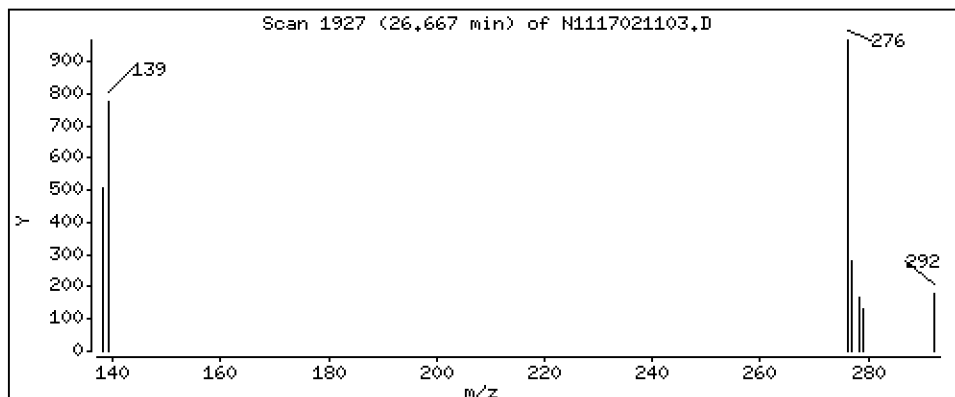
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

41 Benzo(g,h,i)perylene

Concentration: 4,16 ng/mL



ARI Labs, Inc.

LOW LEVEL PNAs BY SW8270D-SIM

Data file : \\target\share\chem3\nt11.i\20170211.b\N1117021103.D
 Lab Smp Id: 17A0053-10
 Inj Date : 11-FEB-2017 11:12 MS Autotune Date: 15-JAN-2015 15:59
 Operator : VTS Inst ID: nt11.i
 Smp Info : 17A0053-10
 Misc Info :
 Comment :
 Method : \\target\share\chem3\nt11.i\20170211.b\LOWSIM.m
 Meth Date : 11-Feb-2017 13:29 nt11.i Quant Type: ISTD
 Cal Date : 31-DEC-2016 09:30 Cal File: N1116123104.D
 Als bottle: 1
 Dil Factor: 1.00000
 Integrator: HP RTE Compound Sublist: allpna.sub
 Target Version: 4.14
 Processing Host: VANS

Compounds	QUANT	SIG	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS	
							ON-COLUMN (ng/mL)	FINAL (ng/mL)
* 1 Naphthalene-d8	136		8.509	8.527	(1.000)	185577	200.000	
2 Naphthalene	128		8.545	8.554	(1.004)	8802	9.50414	9.50
3 Benzo(b)thiophene	134		Compound Not Detected.					
\$ 4 2-Methylnaphthalene-d10	152		9.498	9.508	(1.116)	128997	161.853	162
5 2-Methylnaphthalene	142		9.550	9.561	(1.122)	5770	6.32142	6.32
6 1-Methylnaphthalene	142		9.813	9.824	(1.153)	3702	4.03252	4.03
7 2-Chloronaphthalene	162		Compound Not Detected.					
8 Biphenyl	154		Compound Not Detected.					
9 2,6-Dimethylnaphthalene	156		Compound Not Detected.					
10 Acenaphthylene	152		Compound Not Detected.					
* 11 Acenaphthene-d10	164		11.555	11.564	(1.000)	115607	200.000	
12 Acenaphthene	153		11.618	11.627	(1.005)	2942	4.30158	4.30 (M)
13 Dibenzofuran	168		11.822	11.822	(1.023)	6913	6.79943	6.80
14 2,3,5-Trimethylnaphthalene	170		Compound Not Detected.					
\$ 15 Fluorene-d10	174		Compound Not Detected.					
16 Fluorene	166		12.454	12.454	(1.078)	5873	7.25611	7.26
17 Dibenzothiophene	184		Compound Not Detected.					
* 18 Phenanthrene-d10	188		14.252	14.251	(1.000)	182847	200.000	
19 Phenanthrene	178		14.294	14.293	(1.003)	36880	35.2791	35.3
\$ 20 Anthracene-d10	188		Compound Not Detected.					
21 Anthracene	178		14.346	14.346	(1.007)	8303	7.96567	7.97
22 Carbazole	167		Compound Not Detected.					
23 1-Methylphenanthrene	192		15.298	15.298	(1.073)	3870	3.60989	3.61 (M)
\$ 24 Fluoranthene-d10	212		16.367	16.367	(1.148)	179643	184.980	185
25 Fluoranthene	202		16.396	16.406	(1.150)	48154	40.6089	40.6
26 Pyrene	202		16.905	16.905	(0.889)	34771	33.8699	33.9
27 Benzo(a)anthracene	228		18.925	18.925	(0.995)	7949	8.36482	8.36 (M)
* 28 Chrysene-d12	240		19.016	19.016	(1.000)	158037	200.000	
29 Chrysene	228		19.066	19.066	(1.003)	32760	33.5961	33.6
30 Benzo(b)fluoranthene	252		21.001	20.991	(0.945)	8613	9.65084	9.65
31 Benzo(k)fluoranthene	252		21.049	21.049	(0.947)	4800	4.99345	4.99
32 Benzo(j)fluoranthene	252		21.116	21.116	(0.950)	3880	4.52820	4.53
\$ 33 Benzo(e)pyrene-d12	264		Compound Not Detected.					

Compounds	QUANT	SIG	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS		
							ON-COLUMN (ng/mL)	FINAL (ng/mL)	
34 Benzo(e)pyrene	252		21.866	21.865	(0.984)	12382	13.9087	13.9	
35 Benzo(a)pyrene	252		21.990	21.990	(0.989)	2989	3.59256	3.59	
* 36 Perylene-d12	264		22.231	22.231	(1.000)	165563	200.000		
37 Perylene	252		22.308	22.307	(1.003)	3755	4.32265	4.32	
§ 38 Dibenzo(a,h)anthracene-d14	292		25.105	25.105	(1.129)	115090	217.676	218	
39 Dibenzo(a,h)anthracene	278		Compound Not Detected.						
40 Indeno(1,2,3-cd)pyrene	276		Compound Not Detected.						
41 Benzo(g,h,i)perylene	276		26.666	26.655	(1.200)	3391	4.15814	4.16	

QC Flag Legend

M - Compound response manually integrated.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
 AREA AND RT SUMMARY

Instrument ID: nt11.i Calibration Date: 11-FEB-2017
 Lab File ID: N1117021103.D Calibration Time: 10:36
 Lab Smp Id: 17A0053-10
 Analysis Type: SV Level:
 Quant Type: ISTD Sample Type:
 Operator: VTS
 Method File: \\target\share\chem3\nt11.i\20170211.b\LOWSIM.m
 Misc Info:

Test Mode:
 Use Initial Calibration Level 4.

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
1 Naphthalene-d8	219654	109827	439308	185577	-15.51
11 Acenaphthene-d10	135248	67624	270496	115607	-14.52
18 Phenanthrene-d10	257021	128511	514042	182847	-28.86
28 Chrysene-d12	259511	129756	519022	158037	-39.10
36 Perylene-d12	257535	128768	515070	165563	-35.71

COMPOUND	STANDARD	RT LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
1 Naphthalene-d8	8.53	8.03	9.03	8.51	-0.21
11 Acenaphthene-d10	11.56	11.06	12.06	11.56	-0.08
18 Phenanthrene-d10	14.25	13.75	14.75	14.25	0.00
28 Chrysene-d12	19.02	18.52	19.52	19.02	0.00
36 Perylene-d12	22.23	21.73	22.73	22.23	0.00

AREA UPPER LIMIT = +100% of internal standard area.
 AREA LOWER LIMIT = - 50% of internal standard area.
 RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
 RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - N1117021103.D

Lab ID: 17A0053-10

nt11.i, 20170211.b\LOWSIM.m, 11-FEB-2017 11:12

RT CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

RRT CCV RRT DELTA COMPOUND

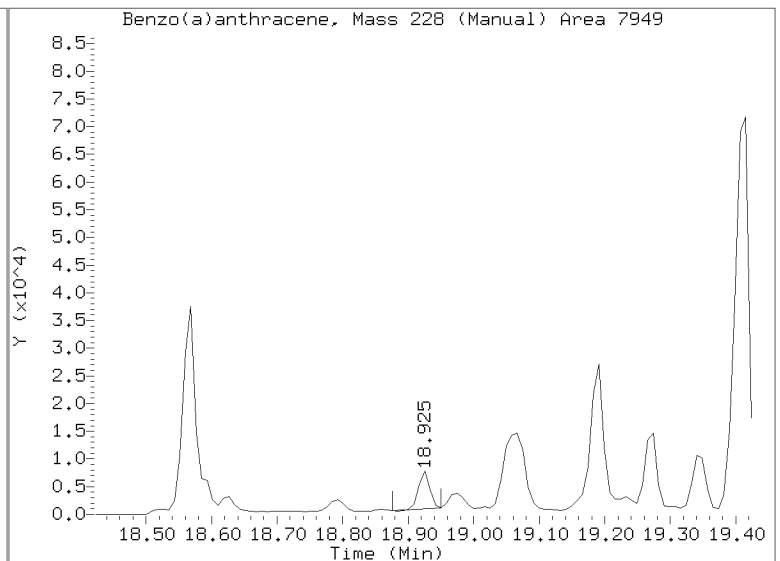
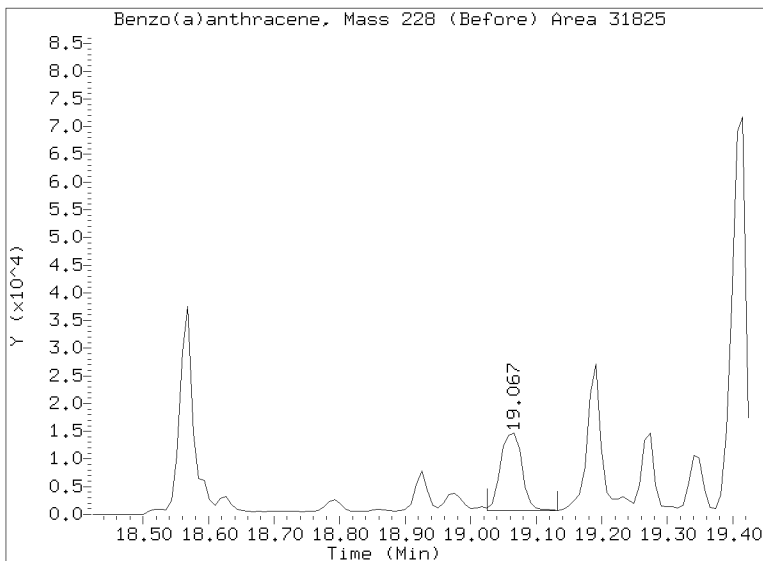
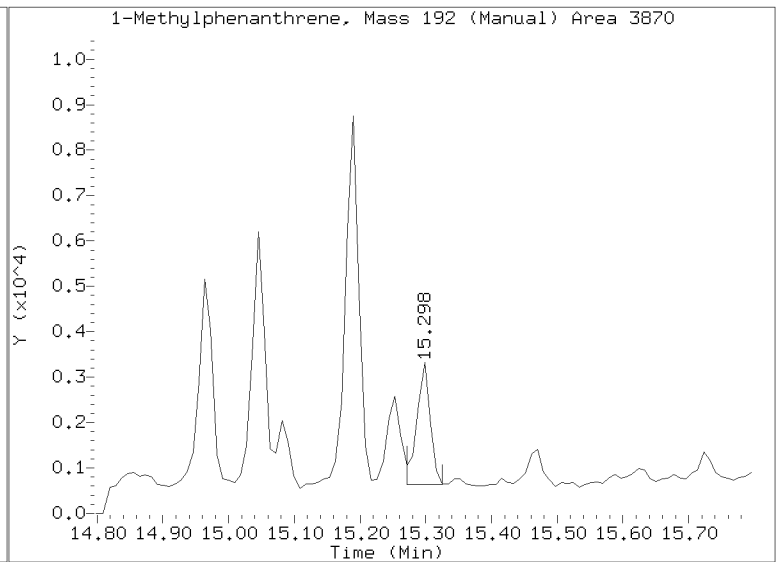
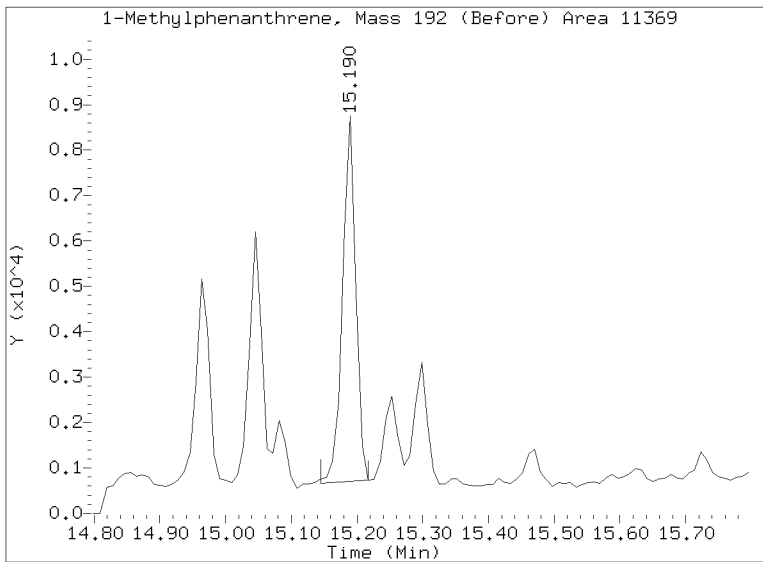
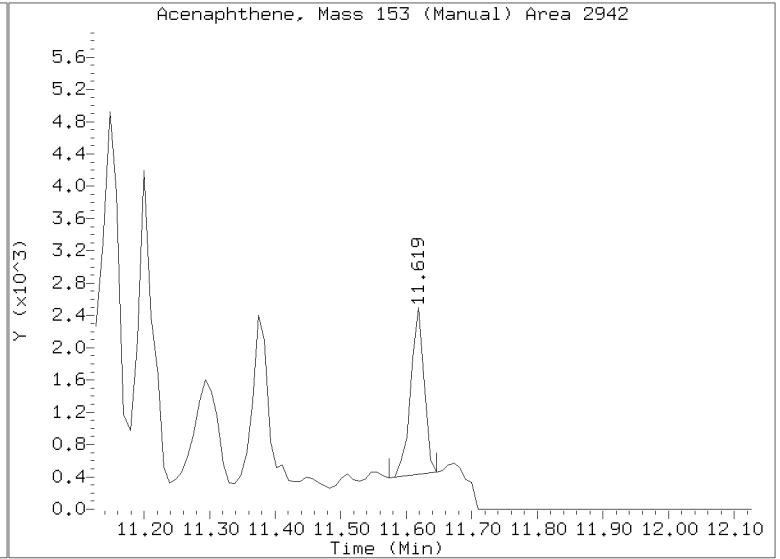
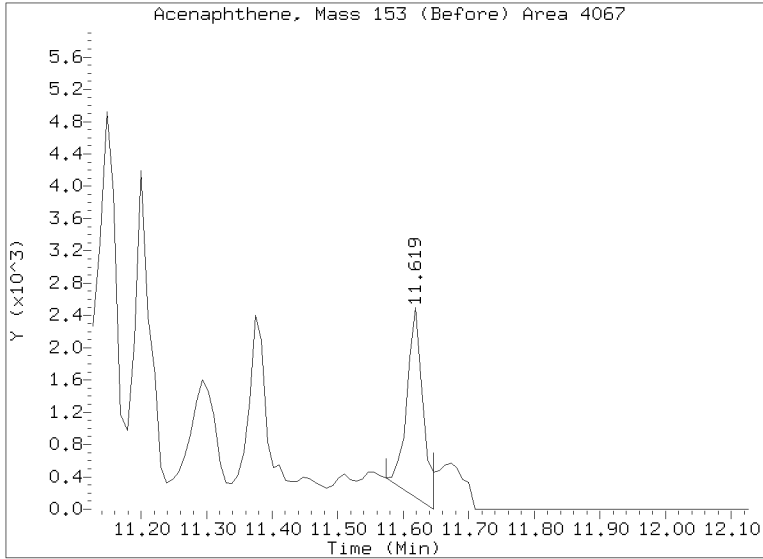
NONE

On Column LOD for nt11.i, 20170211.b\LOWSIM.m, allpna.sub = 3.0000

Exception: Naphthalene 7.0000
Exception: Phenanthrene 2.5000
Exception: Anthracene 2.0000
Exception: Pyrene 4.0000
Exception: Benzo(j)fluoranthene 2.5000
Exception: Benzo(a)pyrene 2.0000
Exception: Perylene 3.5000
Exception: Benzo(e)pyrene 2.0000
Exception: Benzo(b)thiophene 2.0000
Exception: 2-Chloronaphthalene 2.0000
Exception: 2,6-Dimethylnaphthalene 2.0000
Exception: 2,3,5-Trimethylnaphthalene 2.0000
Exception: 1-Methylphenanthrene 2.0000
Exception: Dibenzothiophene 2.0000
Exception: Carbazole 2.0000
Exception: Biphenyl 2.0000
Exception: 2-Methylnaphthalene-d10 (Surr) 0.1000
Exception: Dibenzo(a,h)anthracene-d14 (Surr) 0.1000
Exception: Fluoranthene-d10 (Surr) 0.1000
Exception: Anthracene-d10 (Surr) 0.1000
Exception: Benzo(e)pyrene-d12 (Surr) 0.1000
Exception: Fluorene-d10 (Surr) 0.1000

Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt11.i/20170211.b/N1117021103.D
Injection Date: 11-FEB-2017 11:12
Lab ID:17A0053-10 Client ID:
Report Date: 02/11/2017 13:29



Data File: \\target\share\chem3\nt11.1\20170210.6\N1117021018.D

Date: 10-FEB-2017 21:12

Client ID:

Sample Info: 17R0053-11

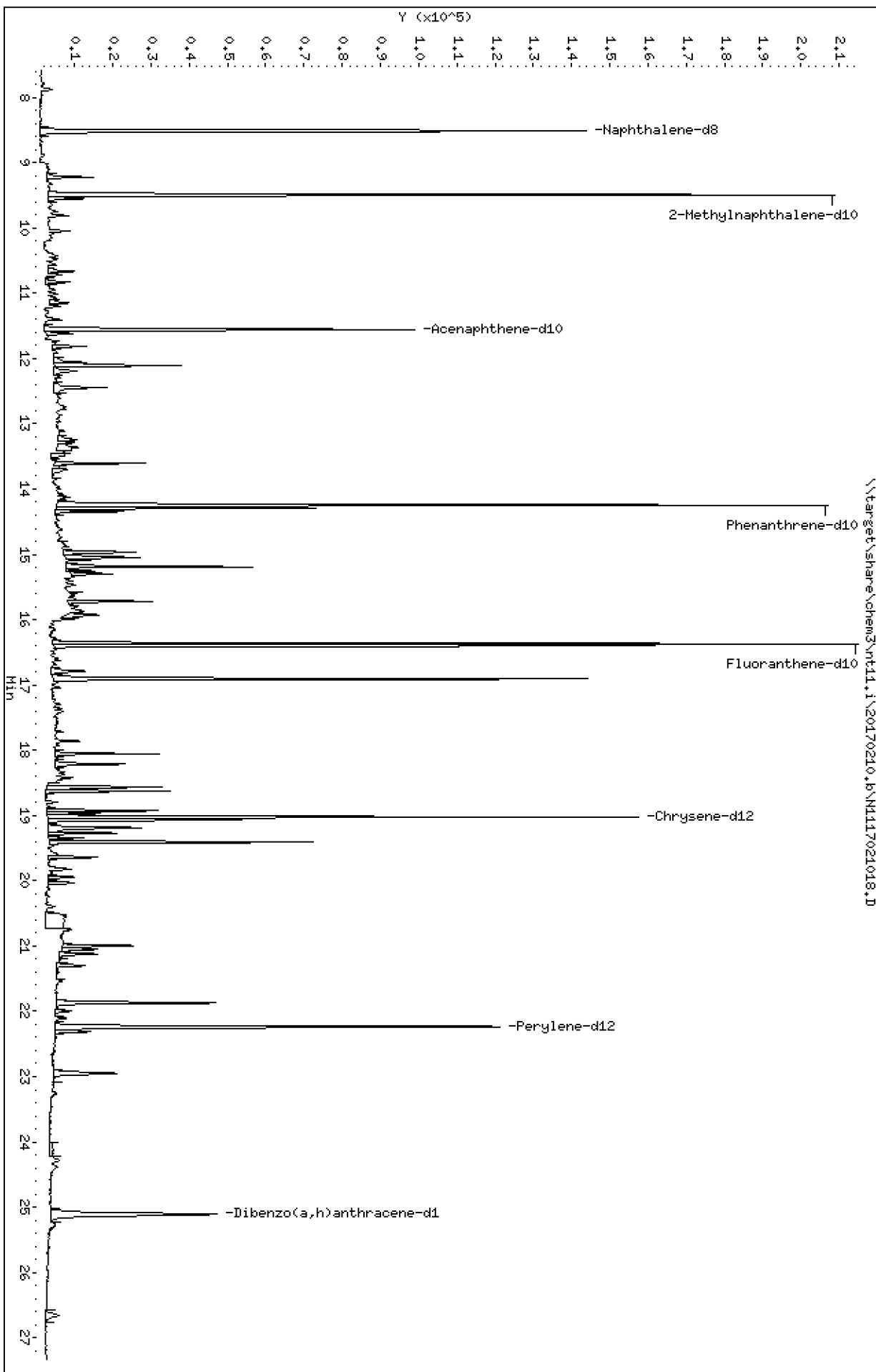
Column phase: Rxi-17S11 MS

Instrument: nt11.1

Operator: VTS

Column diameter: 0.25

Page 1



Date : 10-FEB-2017 21:12

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-11

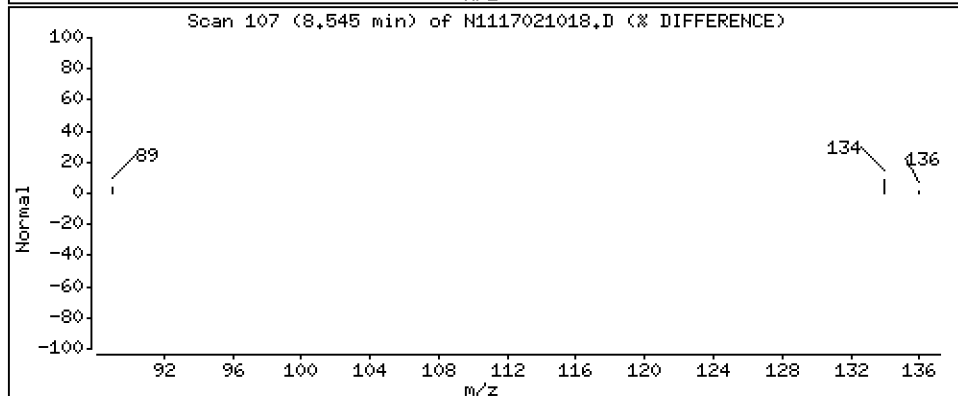
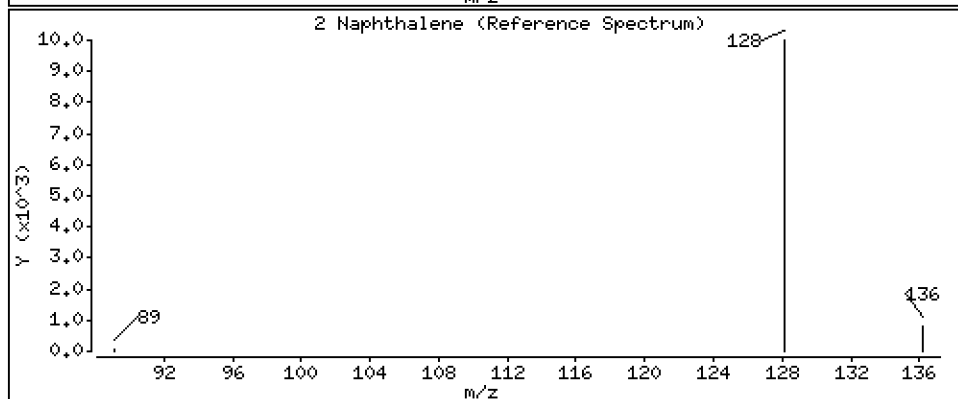
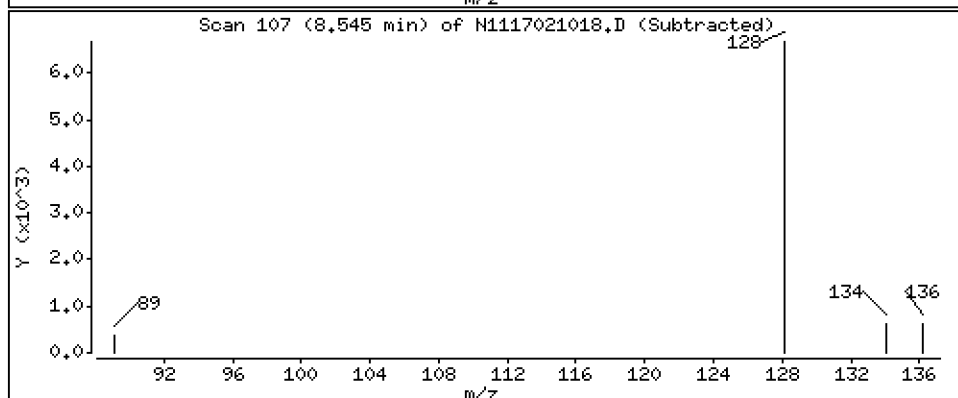
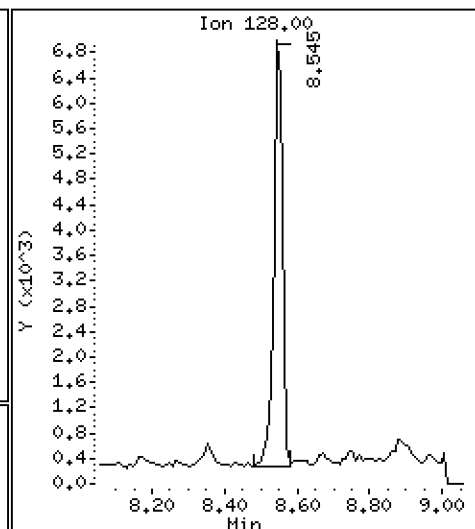
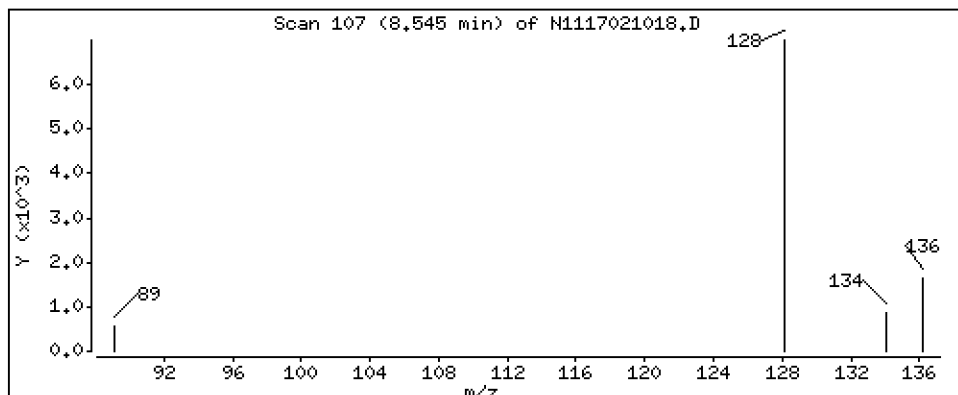
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

2 Naphthalene

Concentration: 10,1 ng/mL



Date : 10-FEB-2017 21:12

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-11

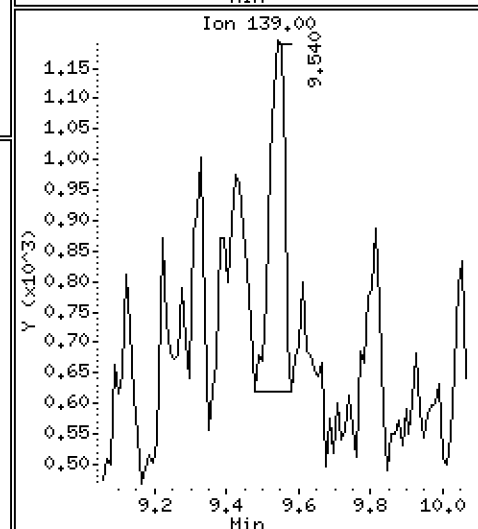
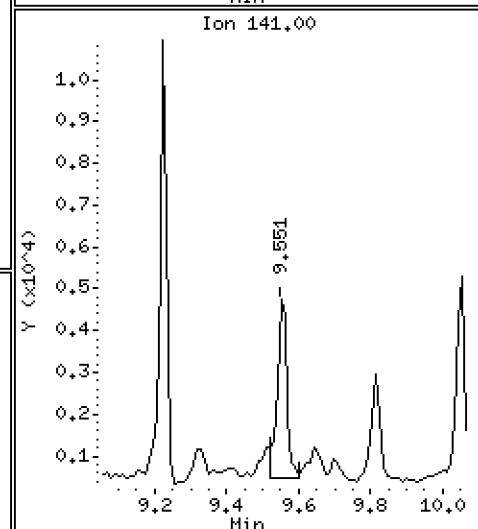
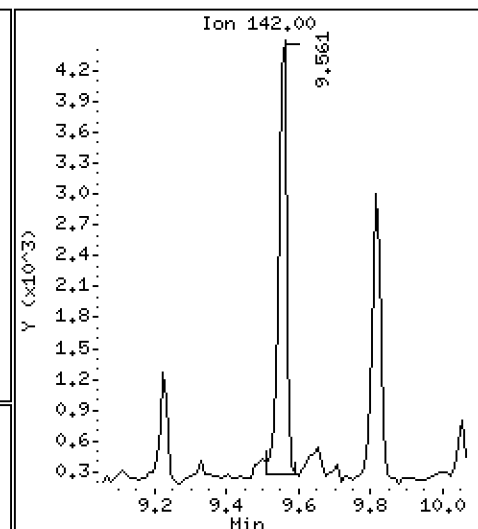
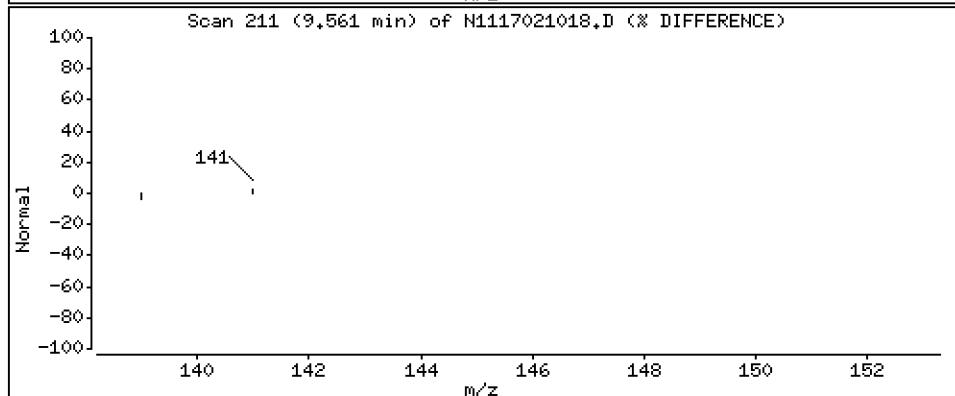
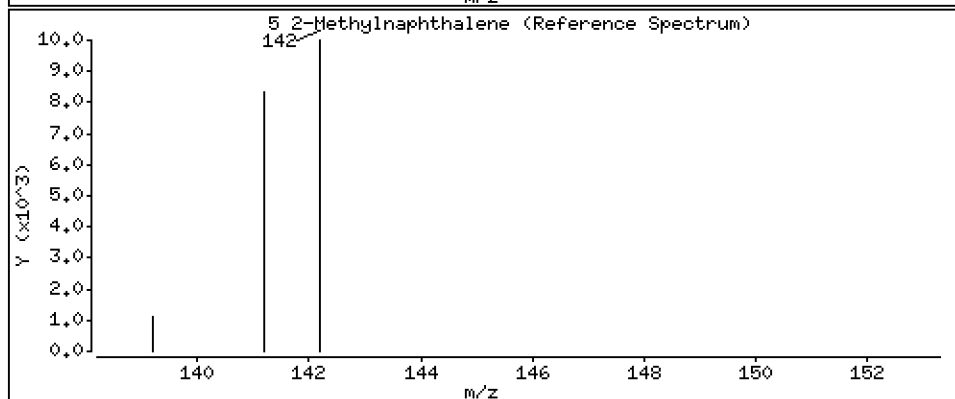
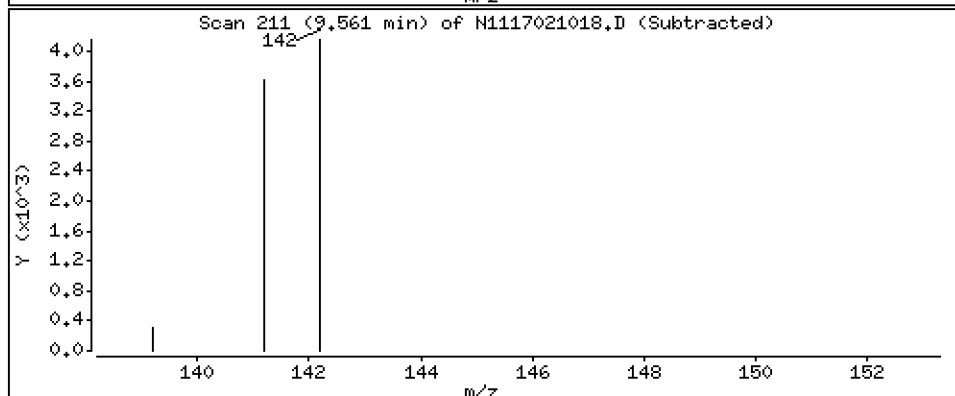
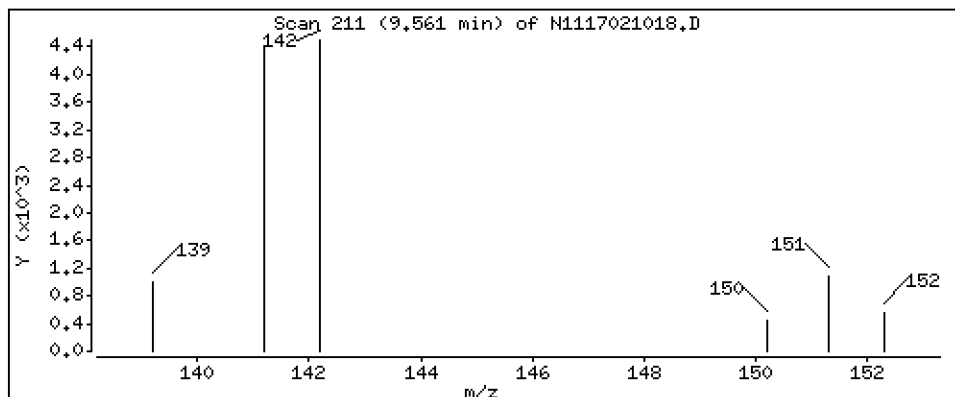
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0.25

5-2-Methylnaphthalene

Concentration: 6.73 ng/mL



Date : 10-FEB-2017 21:12

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-11

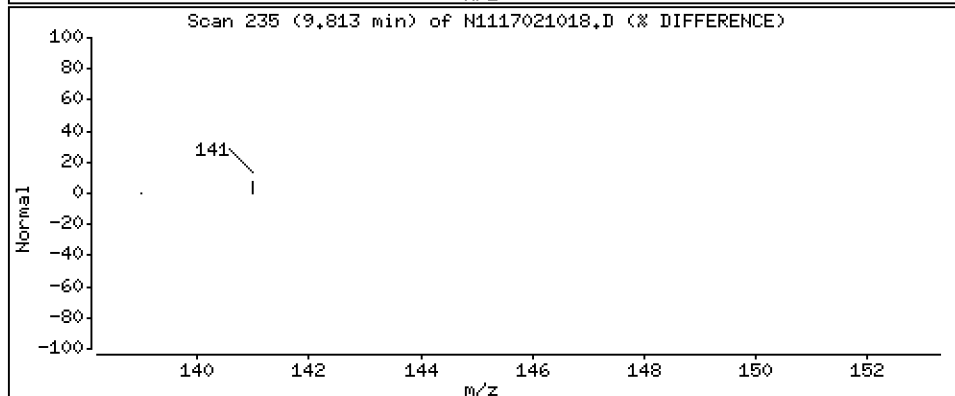
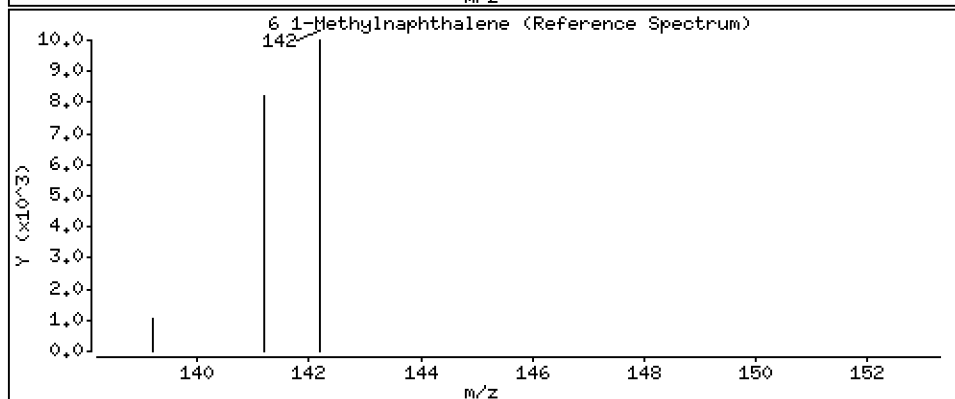
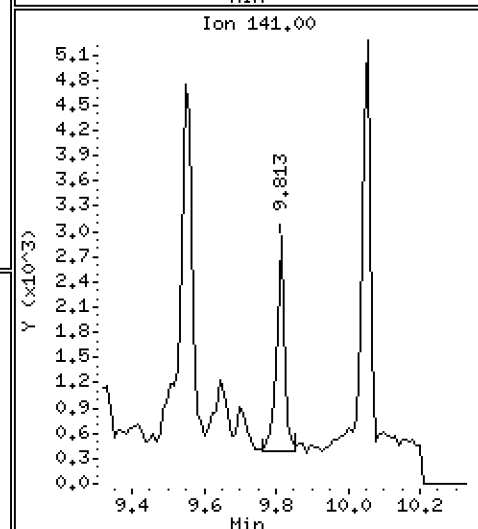
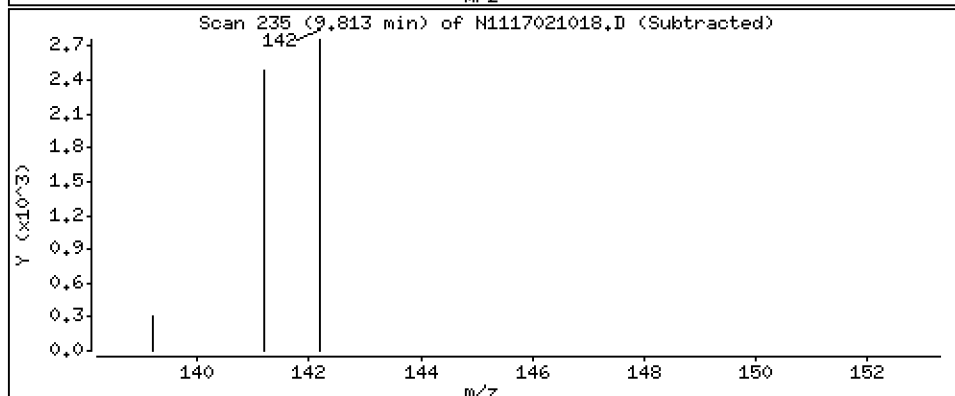
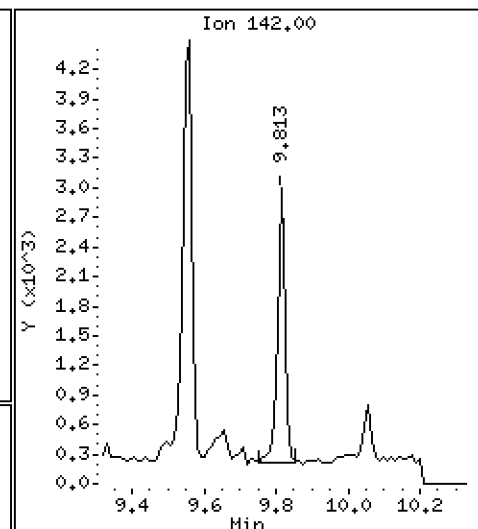
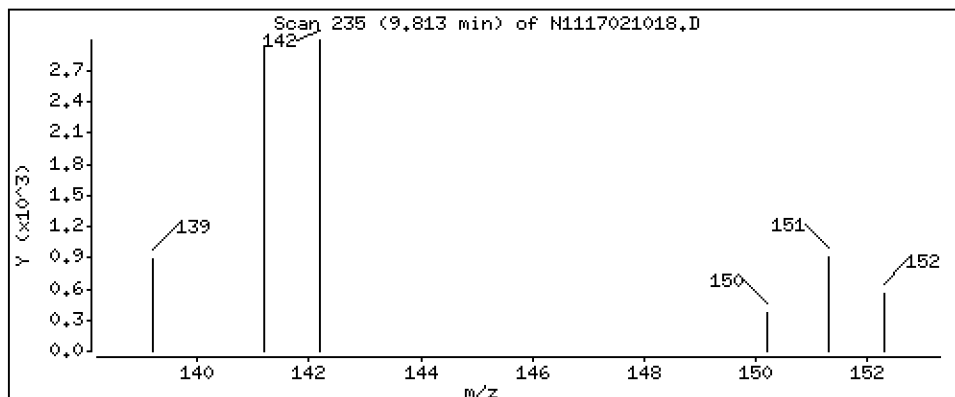
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

6-1-Methylnaphthalene

Concentration: 4,23 ng/mL



Date : 10-FEB-2017 21:12

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-11

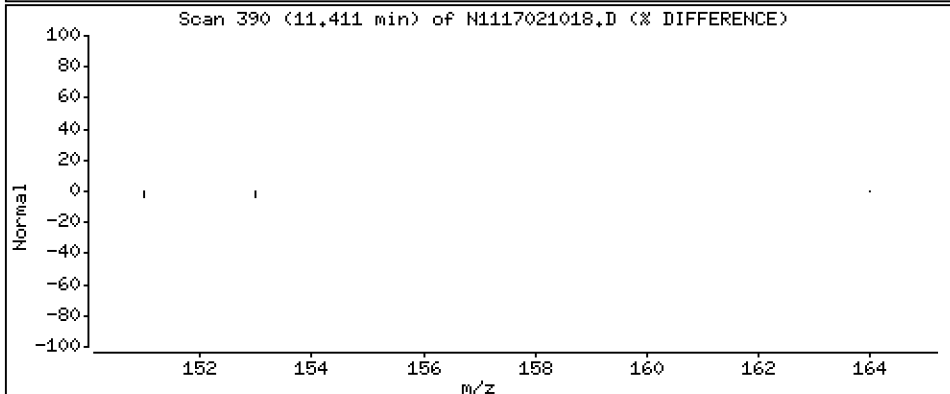
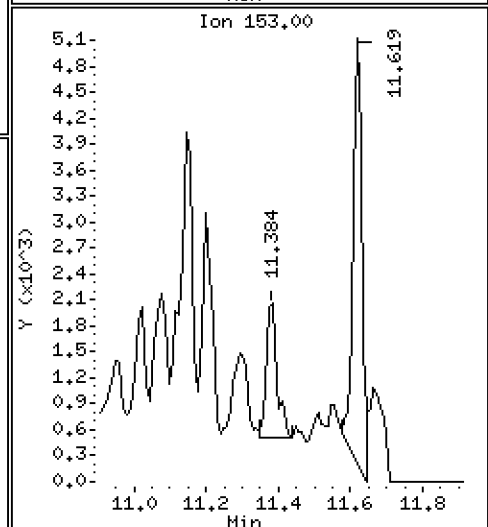
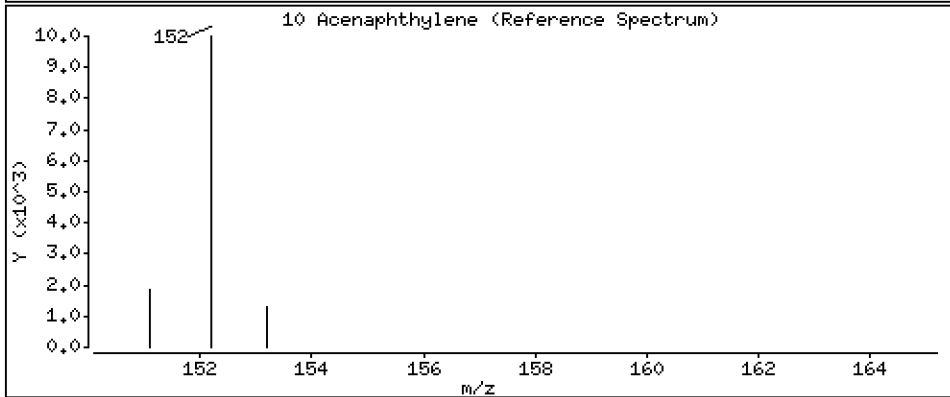
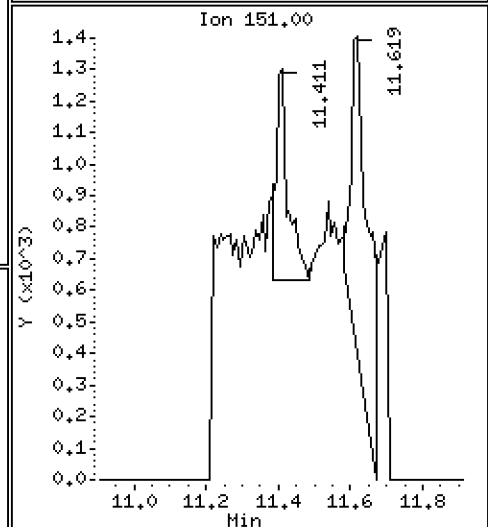
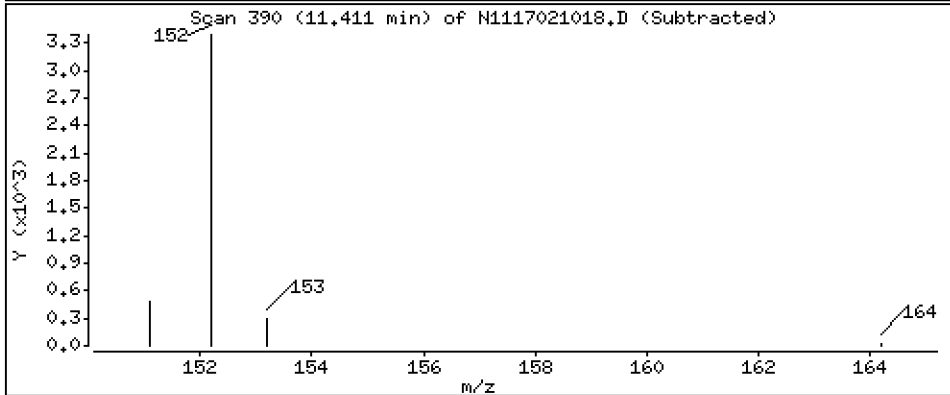
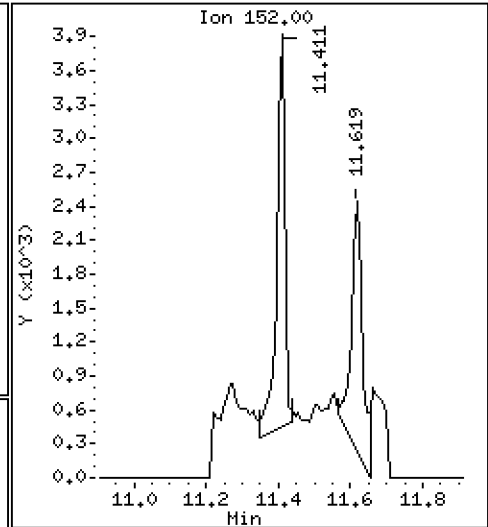
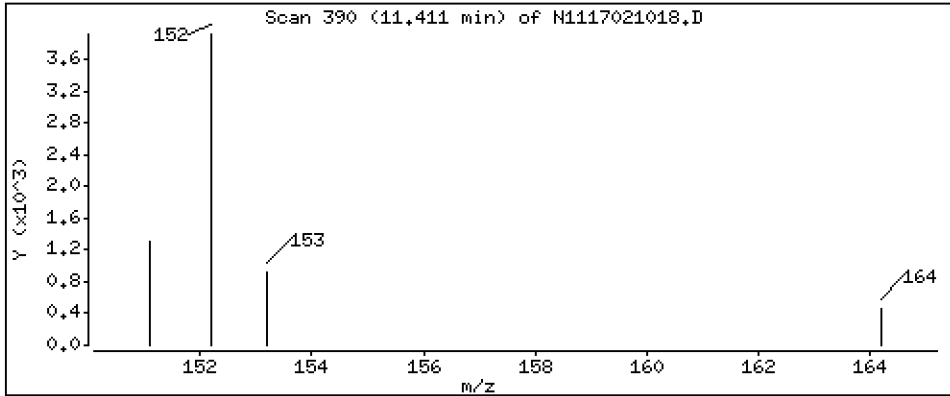
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0.25

Concentration: 4.04 ng/mL

10 Acenaphthylene



Date : 10-FEB-2017 21:12

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-11

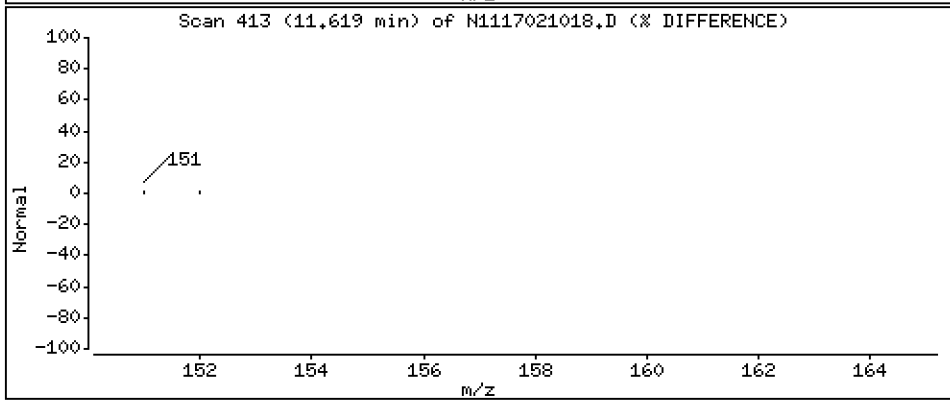
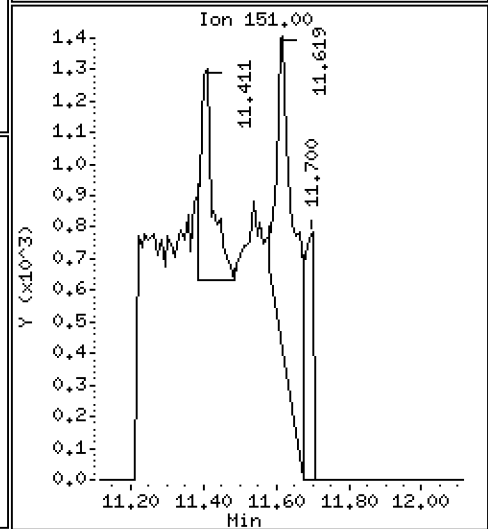
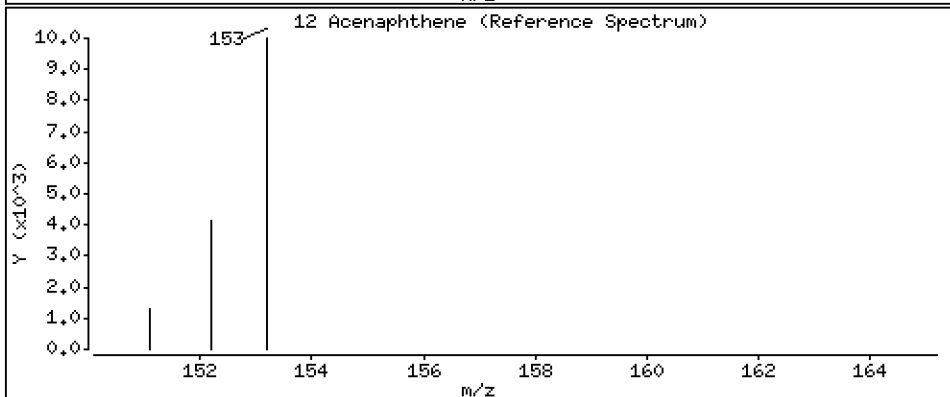
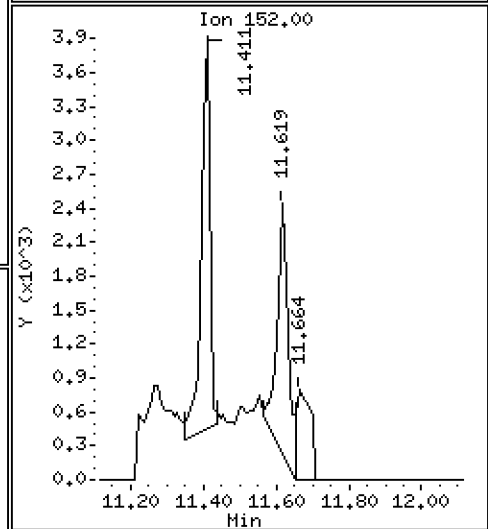
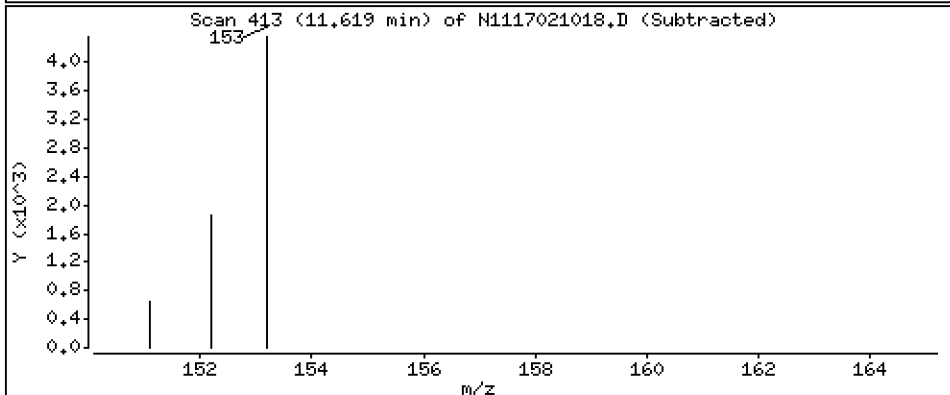
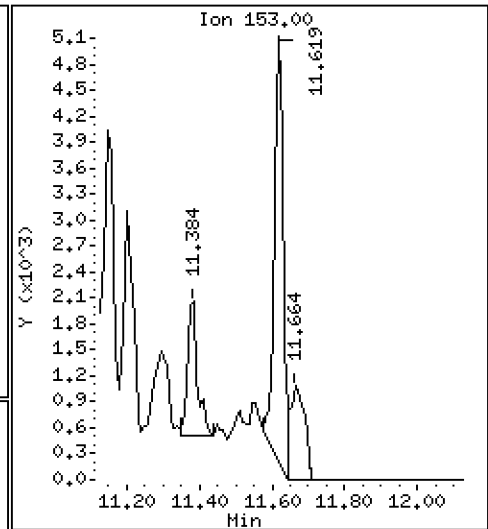
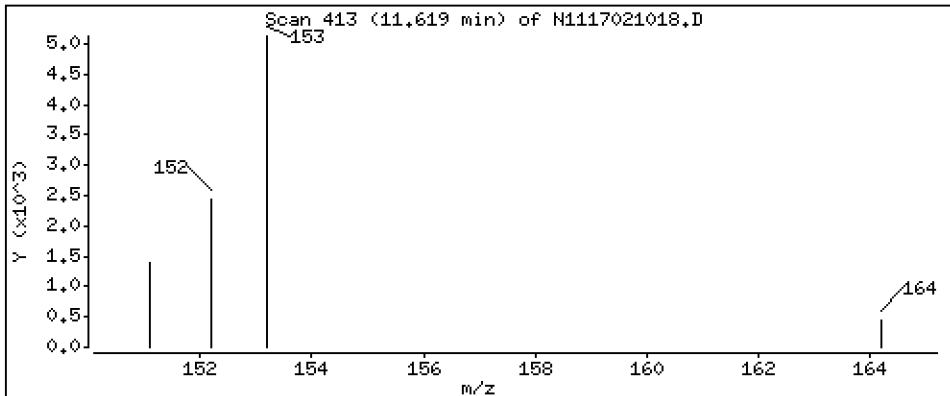
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

Concentration: 9,75 ng/mL

12 Acenaphthene



Date : 10-FEB-2017 21:12

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-11

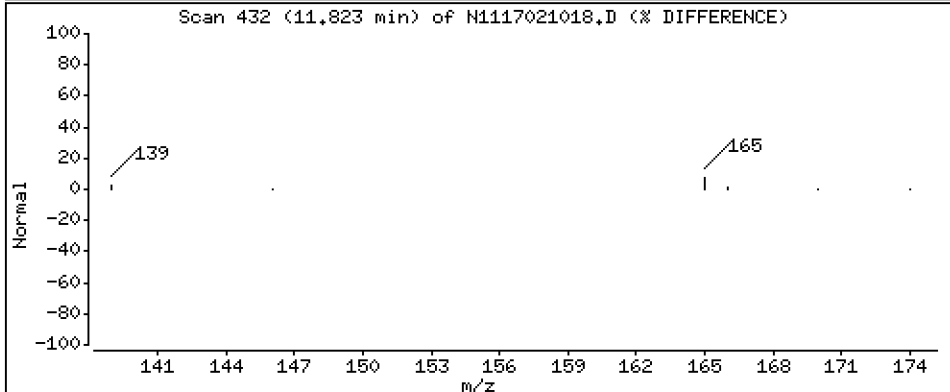
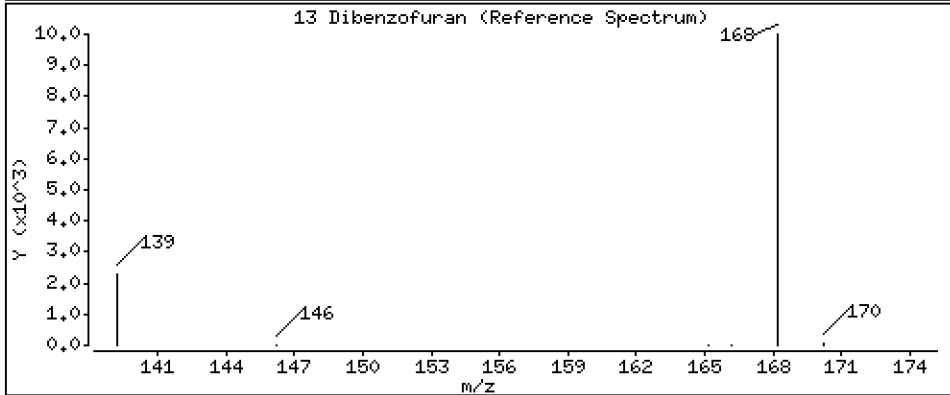
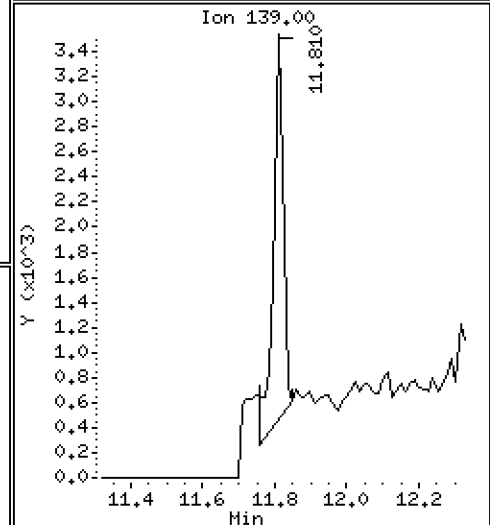
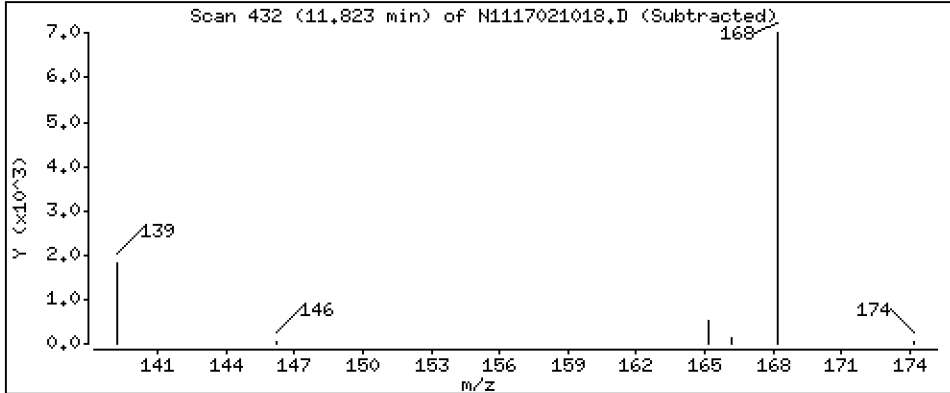
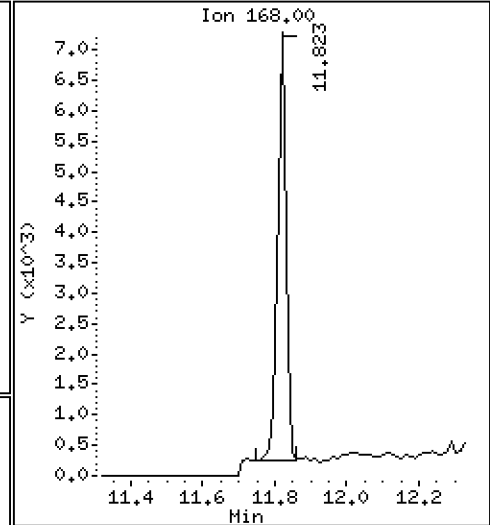
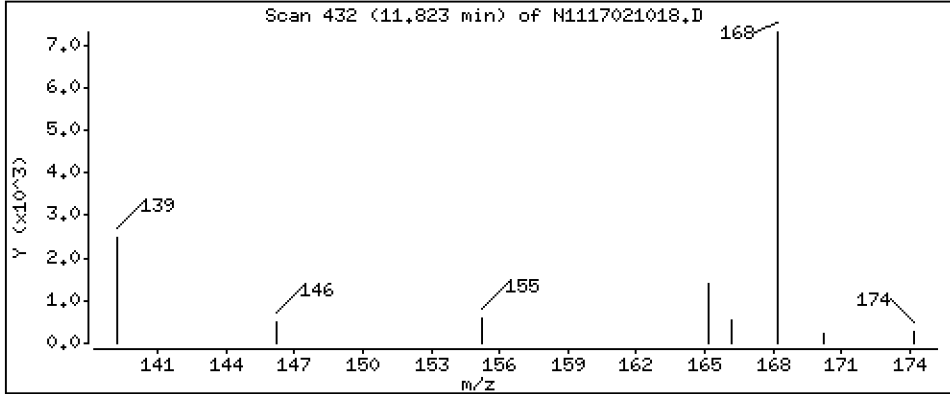
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

Concentration: 8,32 ng/mL

13 Dibenzofuran



Date : 10-FEB-2017 21:12

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-11

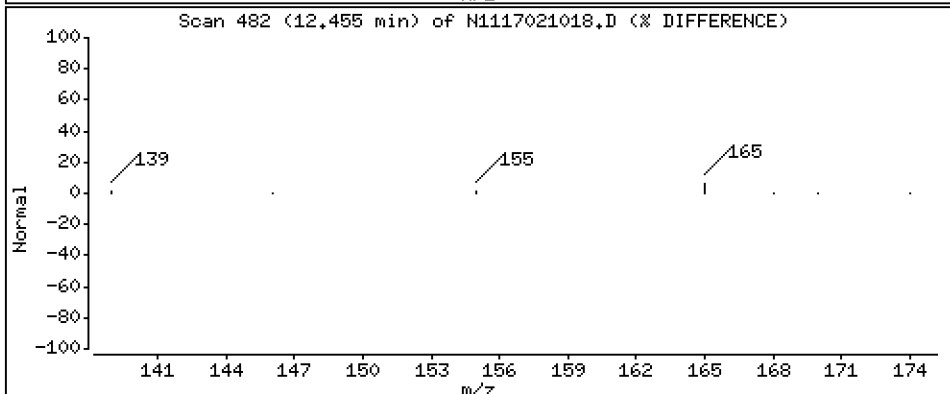
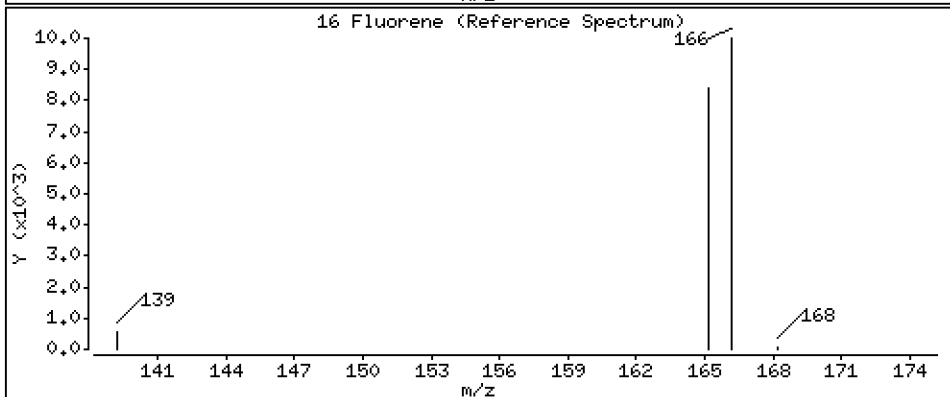
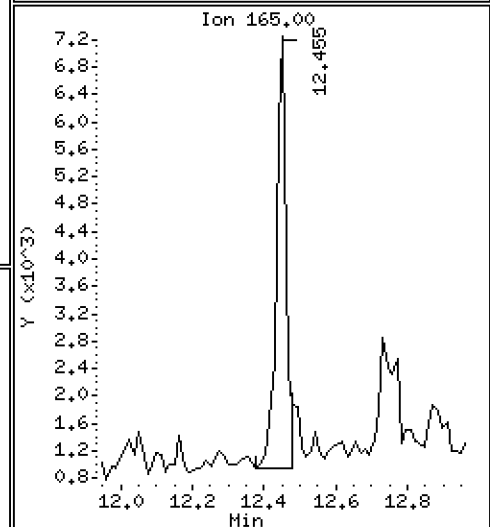
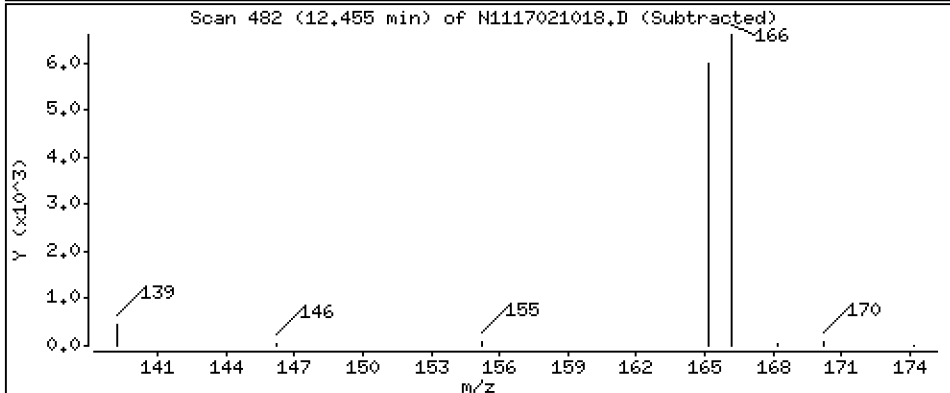
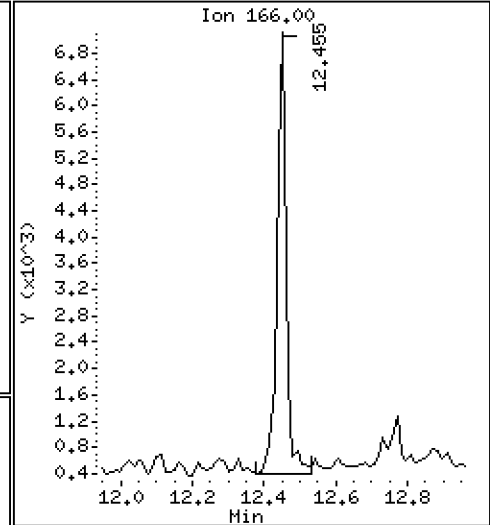
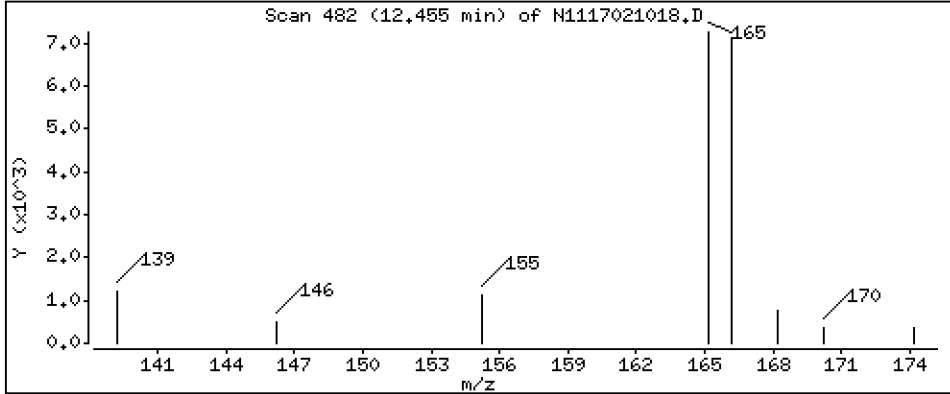
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

16 Fluorene

Concentration: 11,6 ng/mL



Date : 10-FEB-2017 21:12

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-11

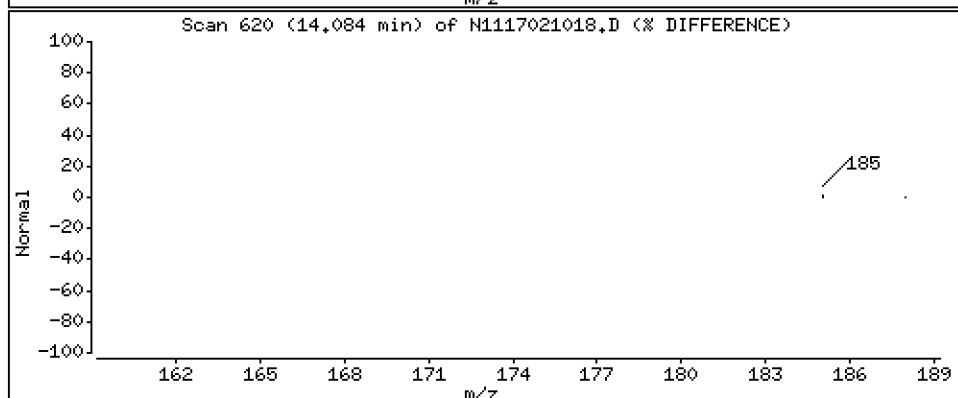
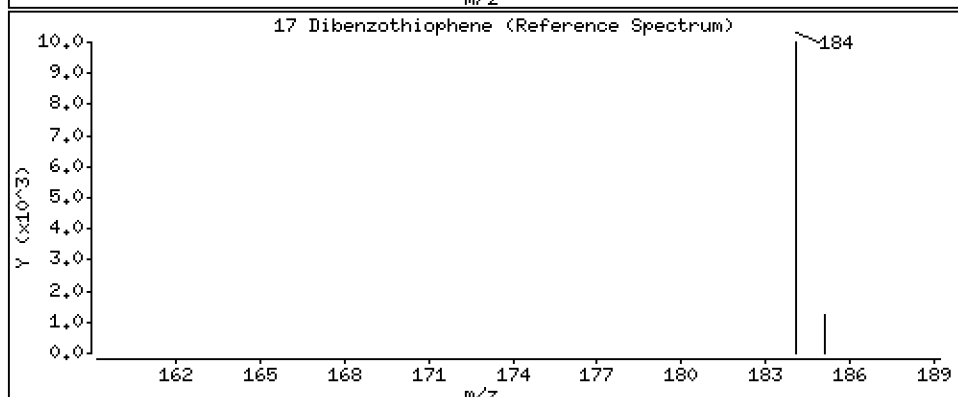
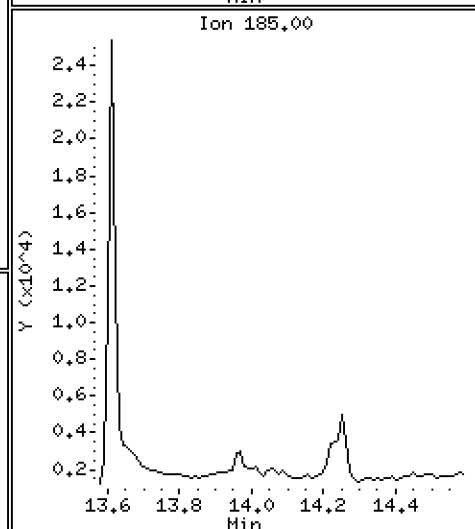
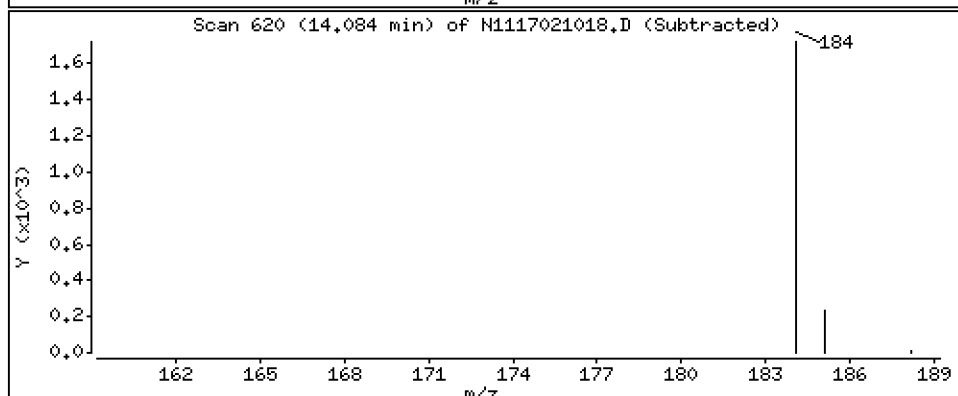
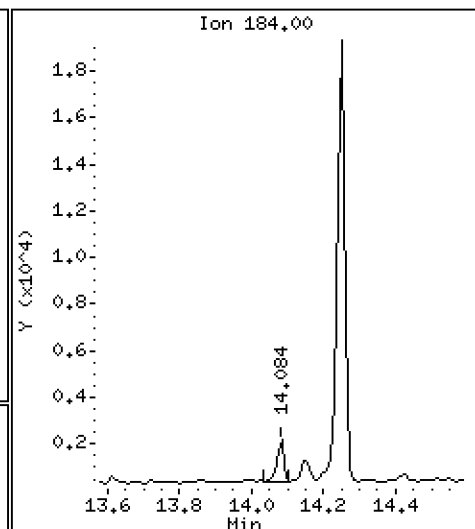
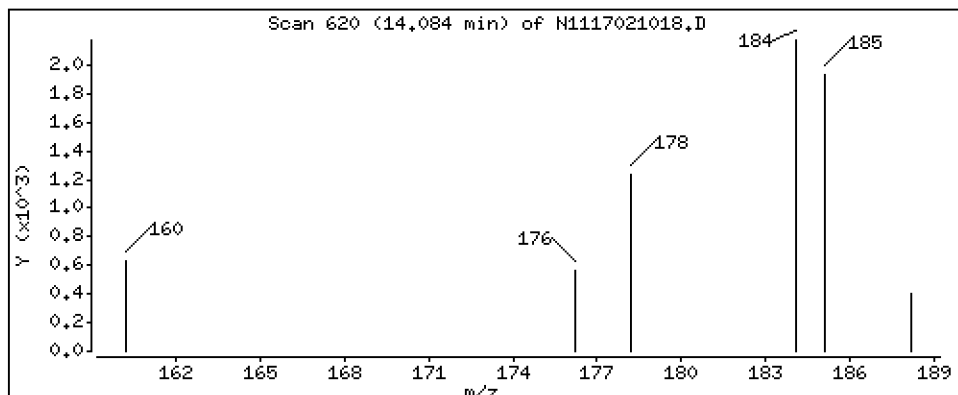
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

17 Dibenzothiophene

Concentration: 2,49 ng/mL



Date : 10-FEB-2017 21:12

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-11

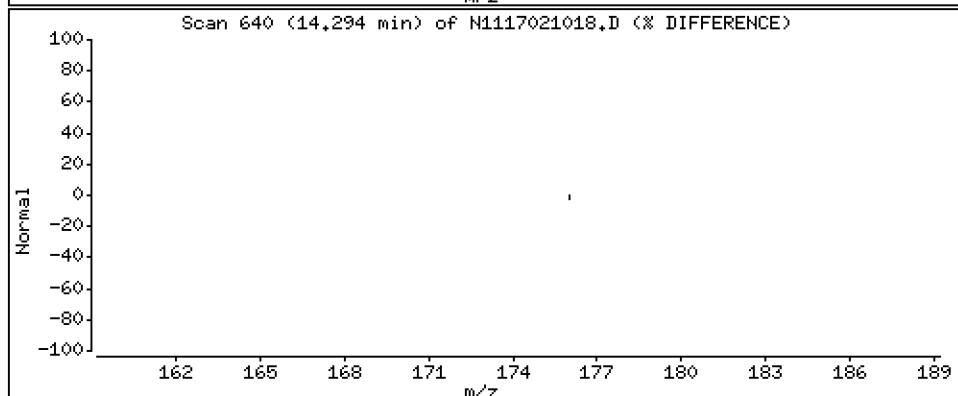
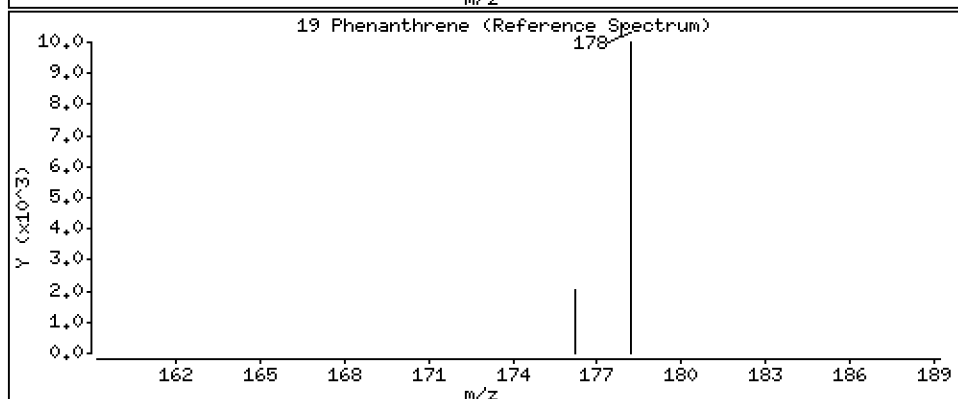
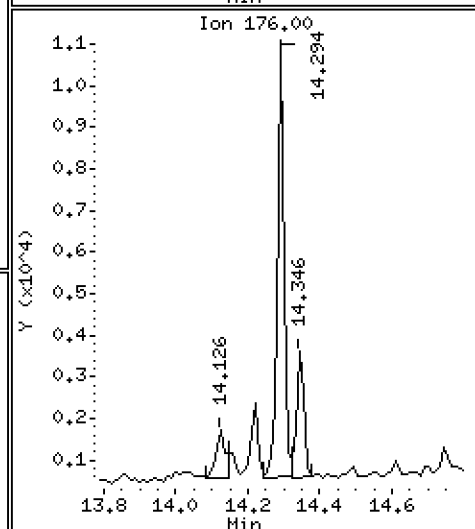
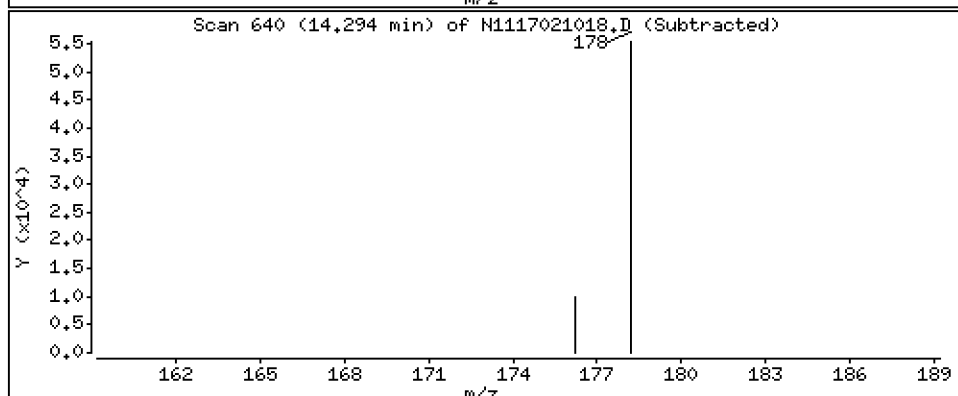
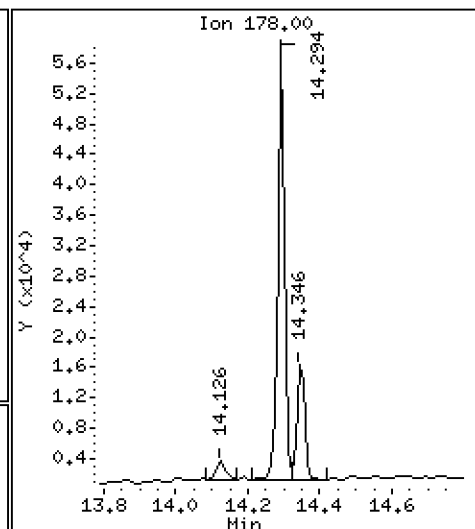
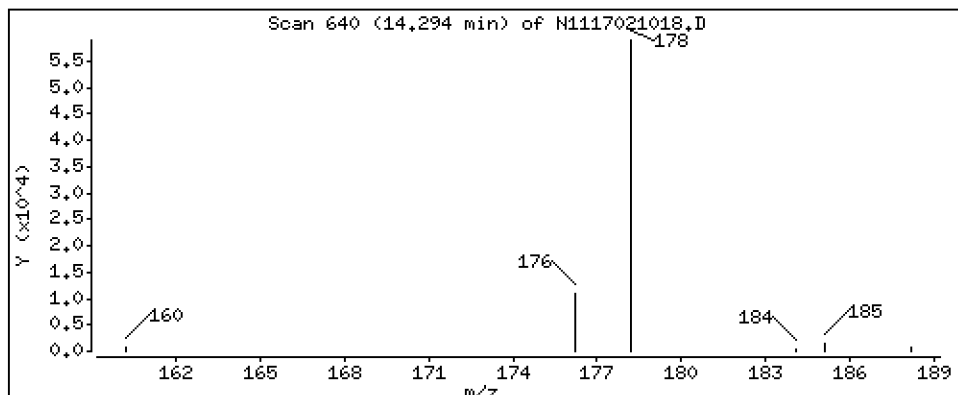
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

19 Phenanthrene

Concentration: 62,5 ng/mL



Date : 10-FEB-2017 21:12

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-11

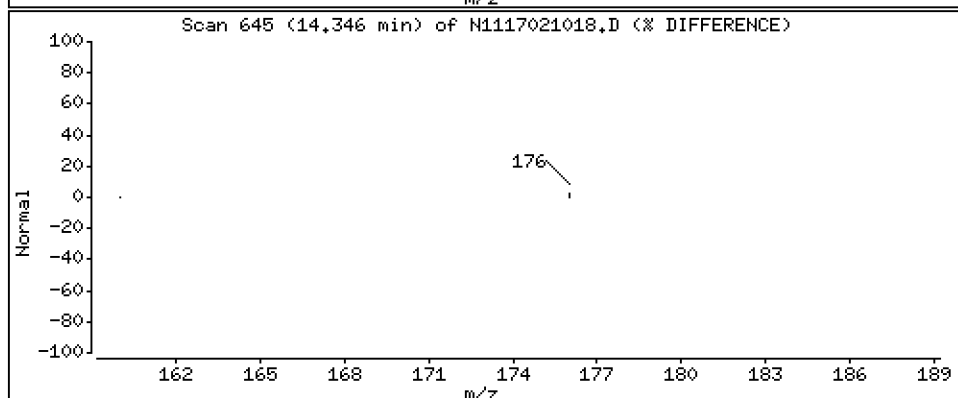
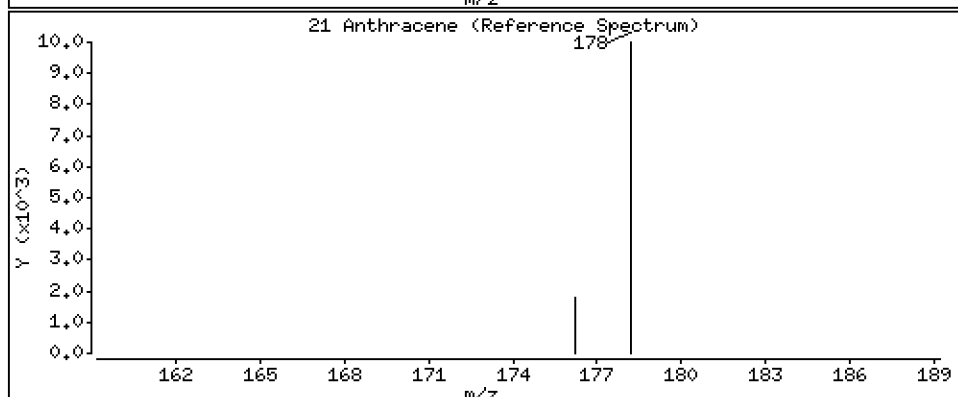
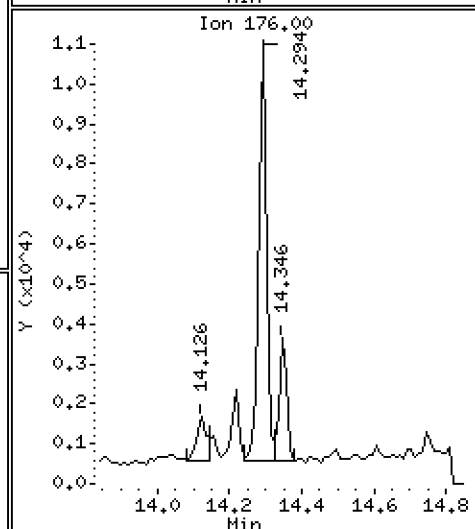
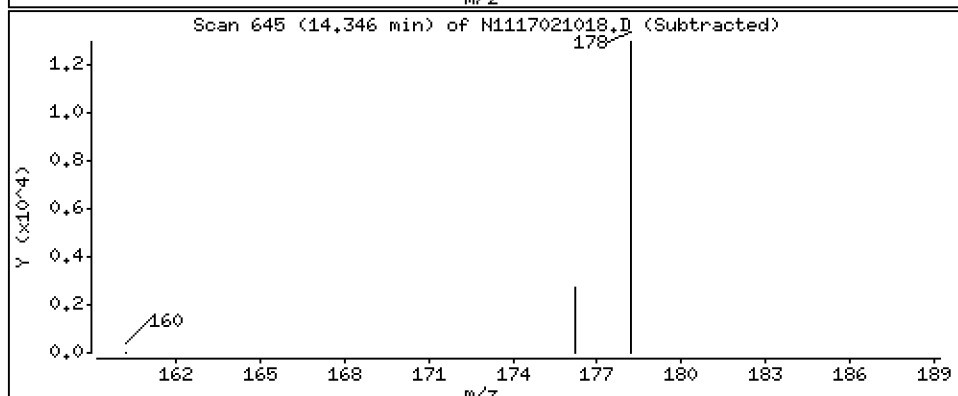
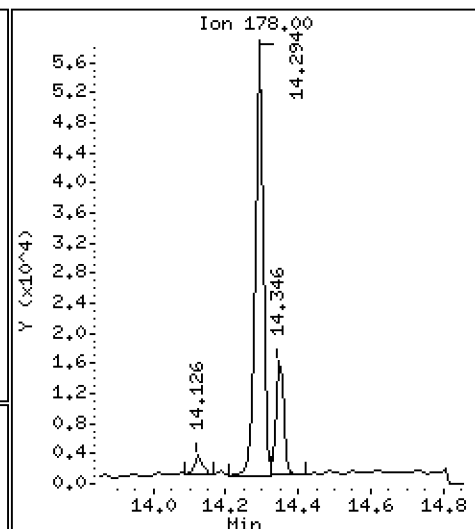
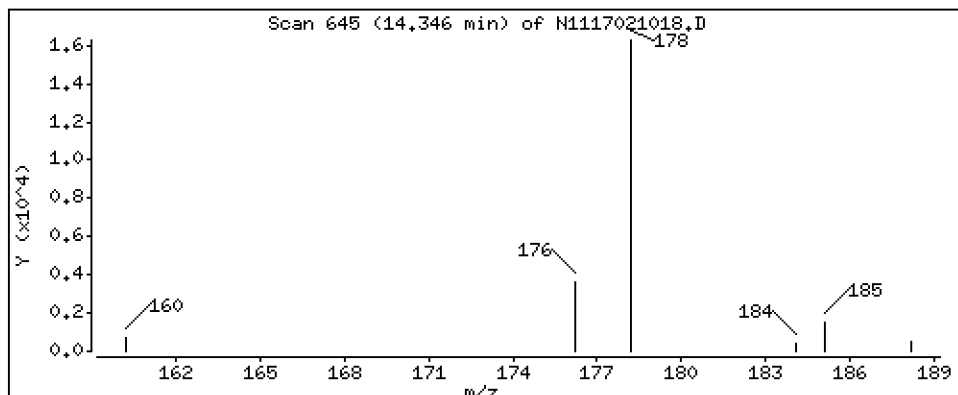
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

21 Anthracene

Concentration: 16,6 ng/mL



Date : 10-FEB-2017 21:12

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-11

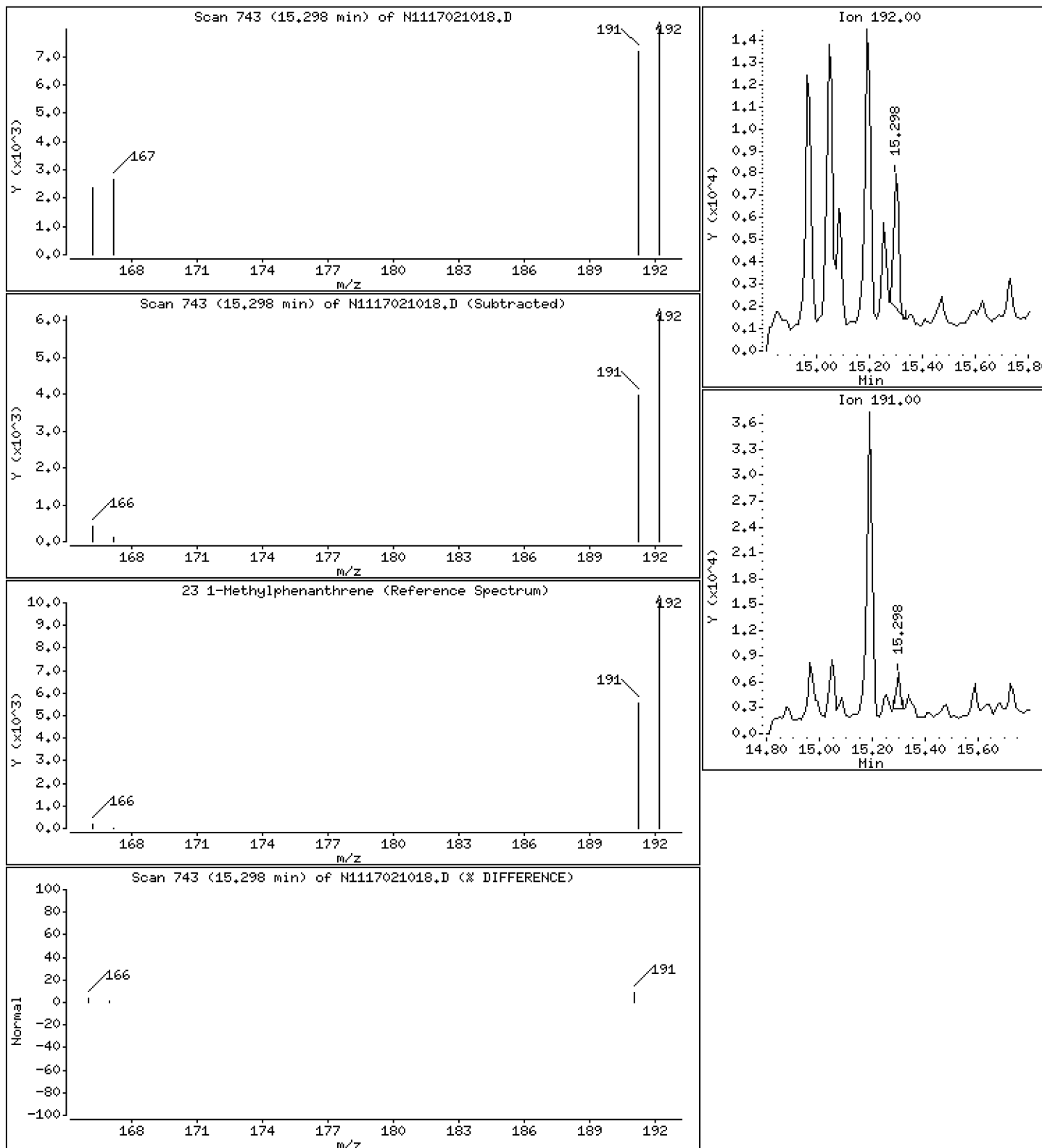
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0.25

23 1-Methylphenanthrene

Concentration: 5.31 ng/mL



Date : 10-FEB-2017 21:12

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-11

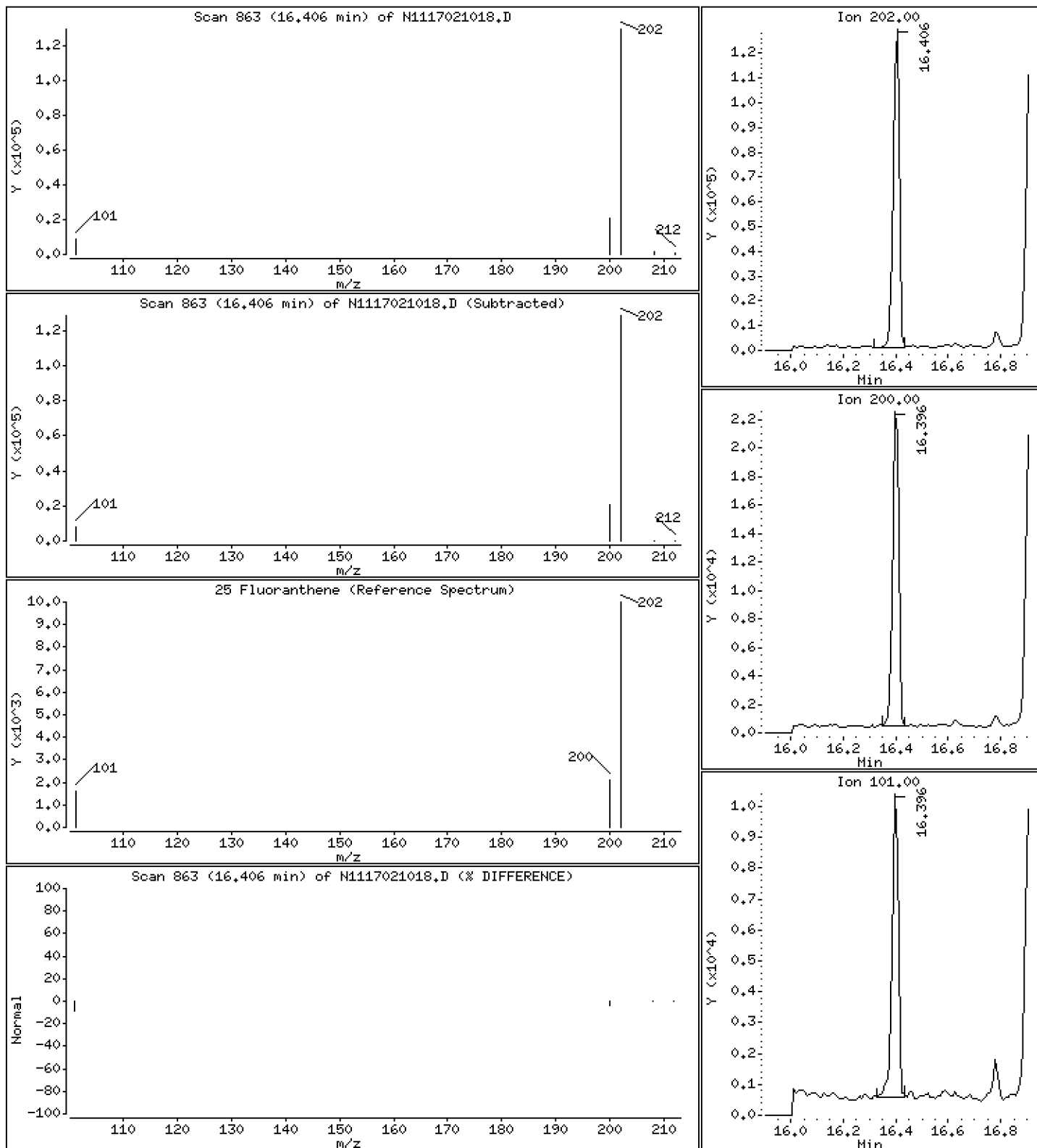
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

25 Fluoranthene

Concentration: 128 ng/mL



Date : 10-FEB-2017 21:12

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-11

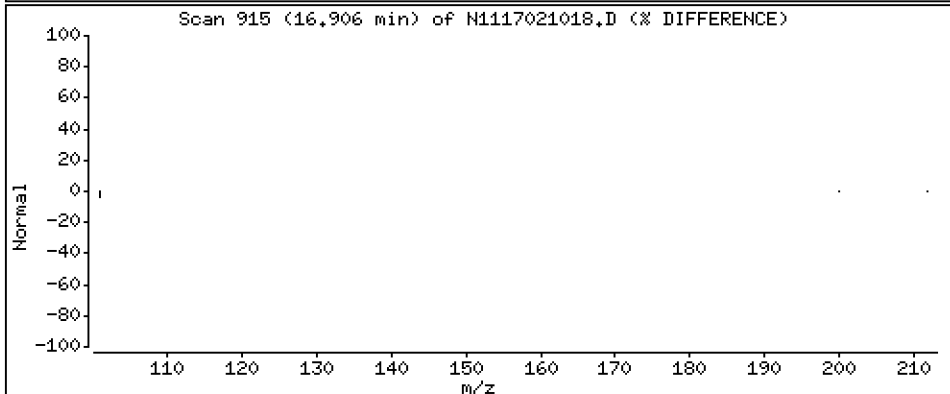
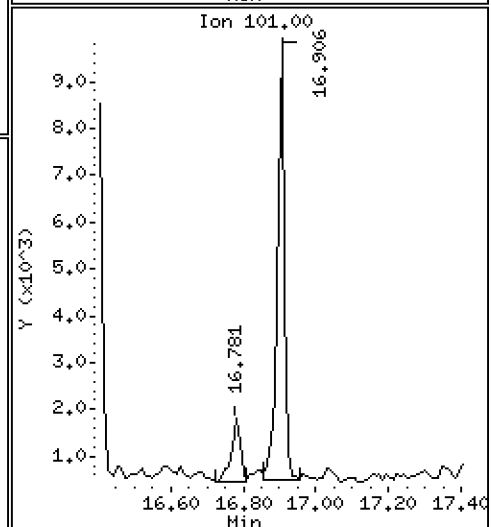
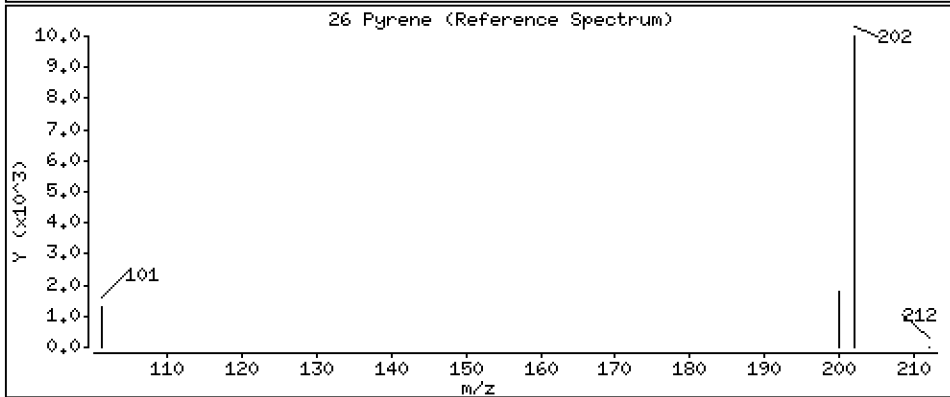
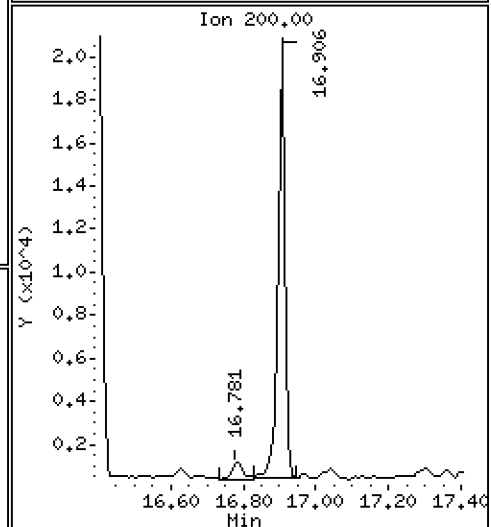
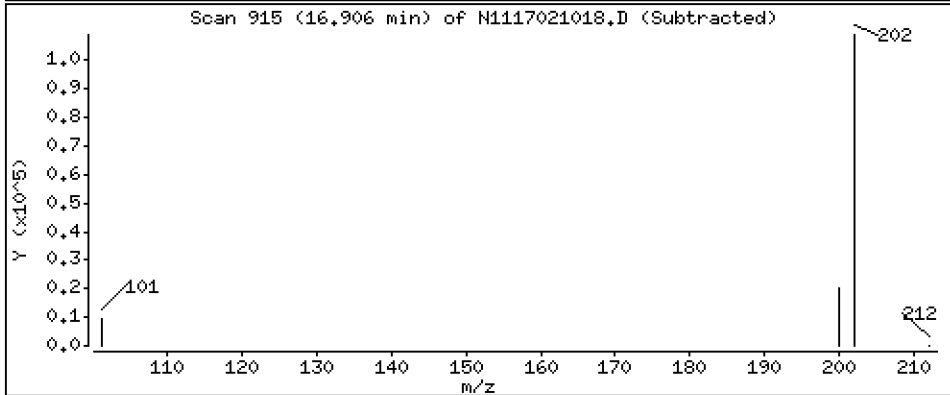
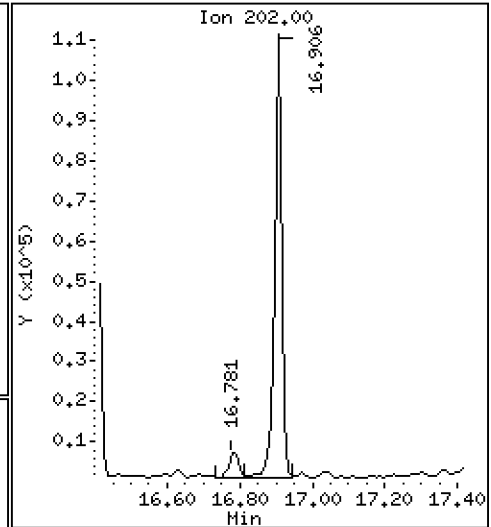
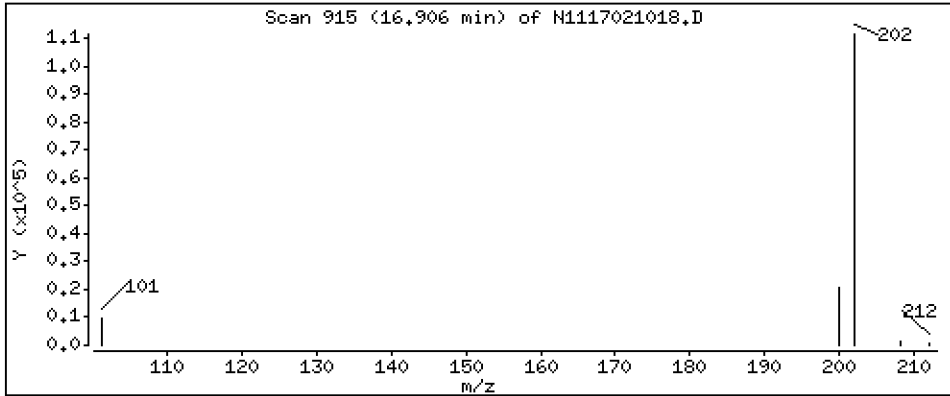
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

26 Pyrene

Concentration: 116 ng/mL



Date : 10-FEB-2017 21:12

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-11

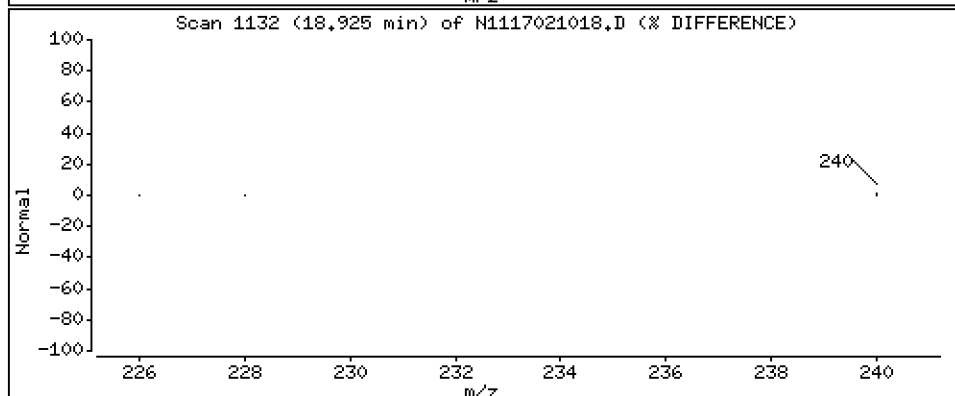
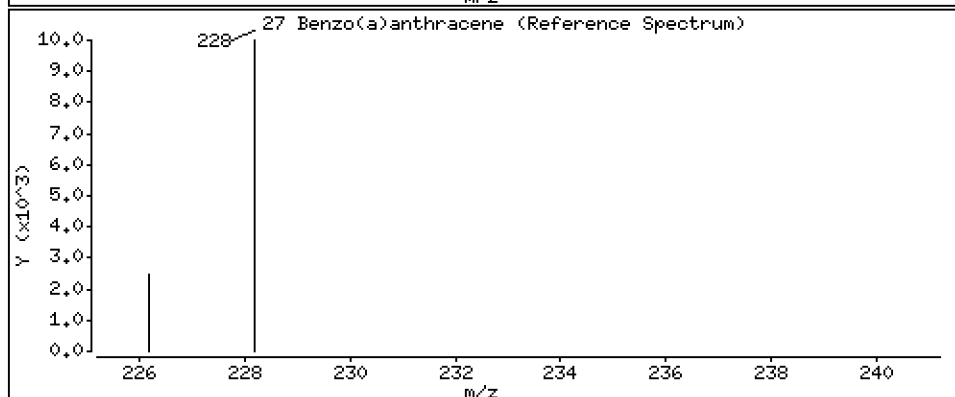
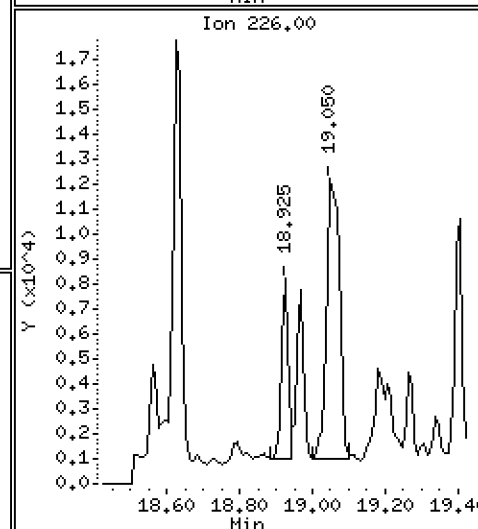
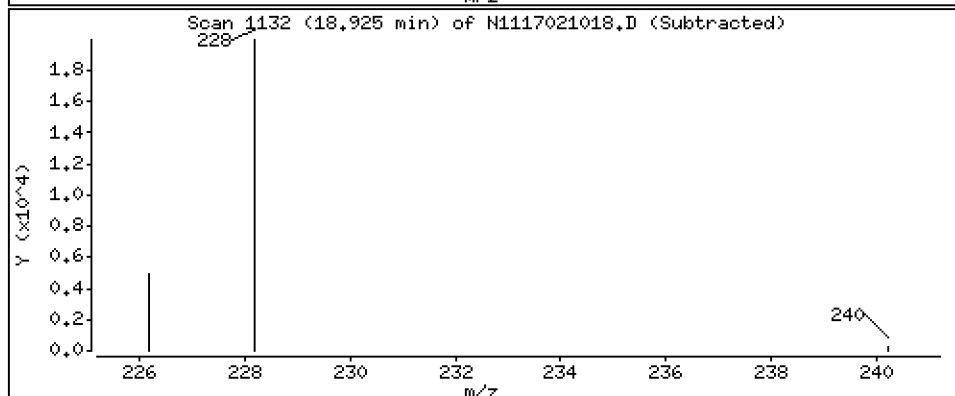
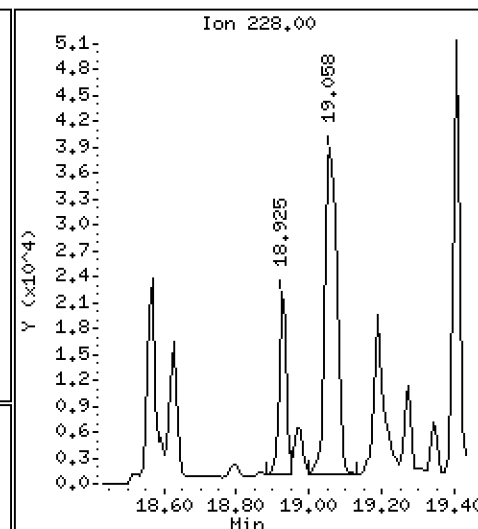
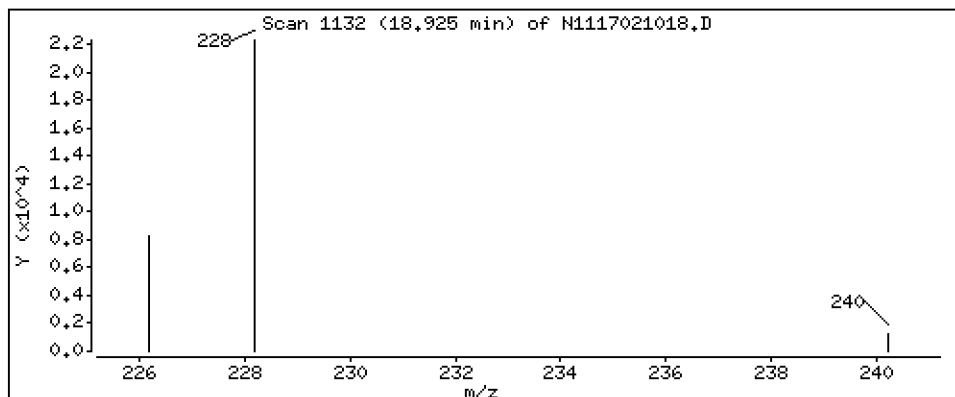
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

27 Benzo(a)anthracene

Concentration: 23,2 ng/mL



Date : 10-FEB-2017 21:12

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-11

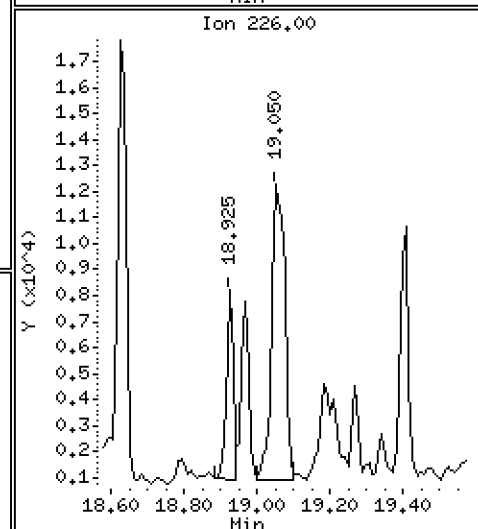
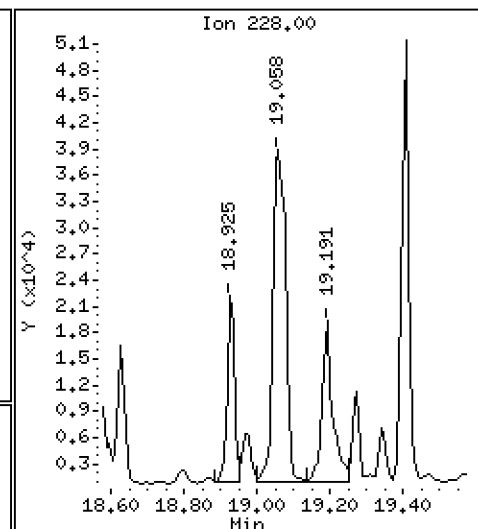
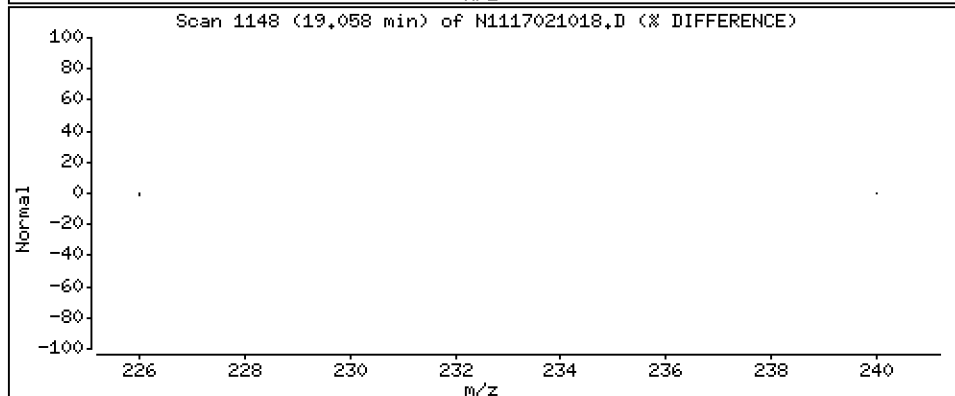
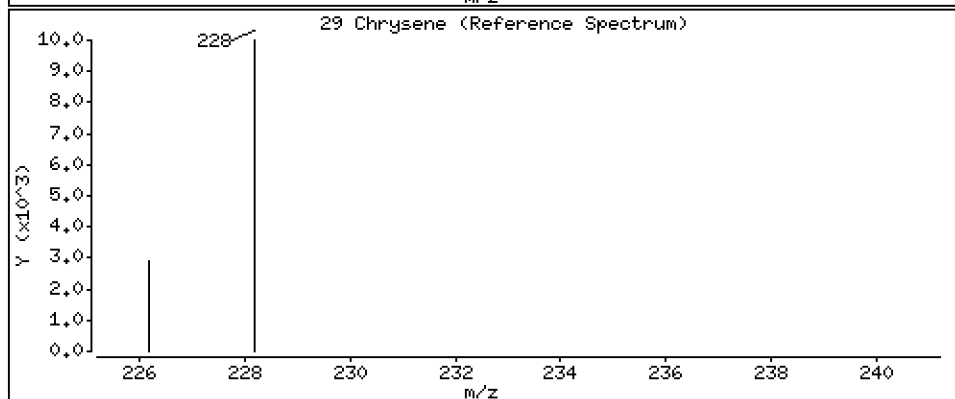
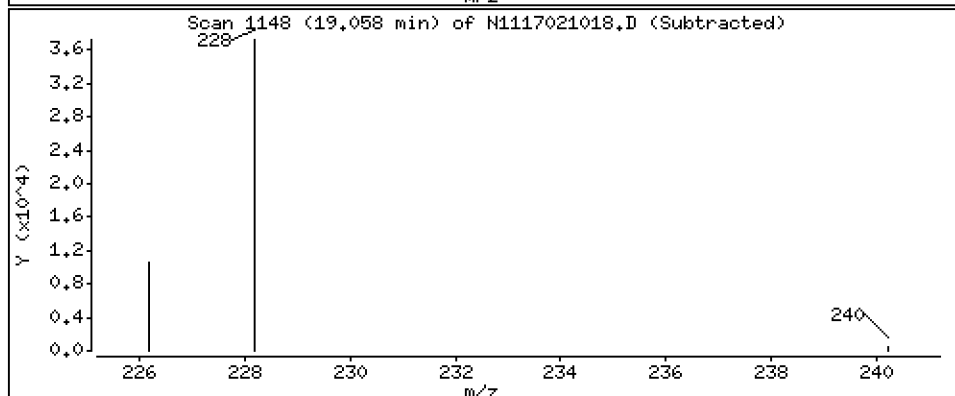
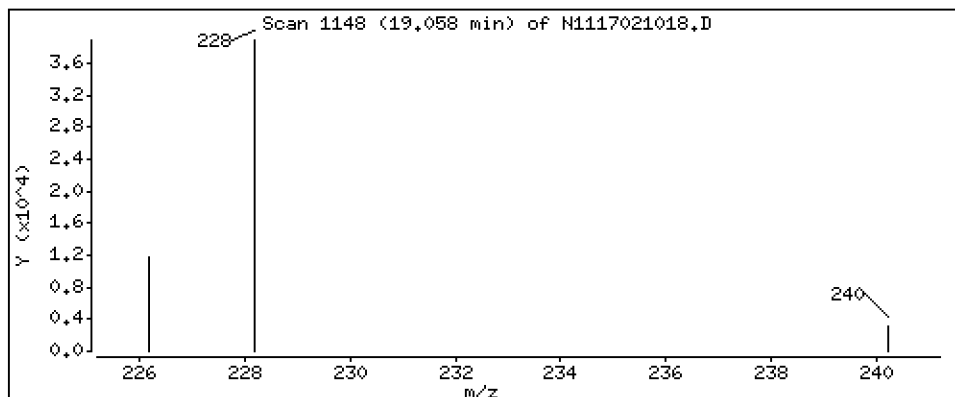
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

29 Chrysene

Concentration: 68,6 ng/mL



Date : 10-FEB-2017 21:12

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-11

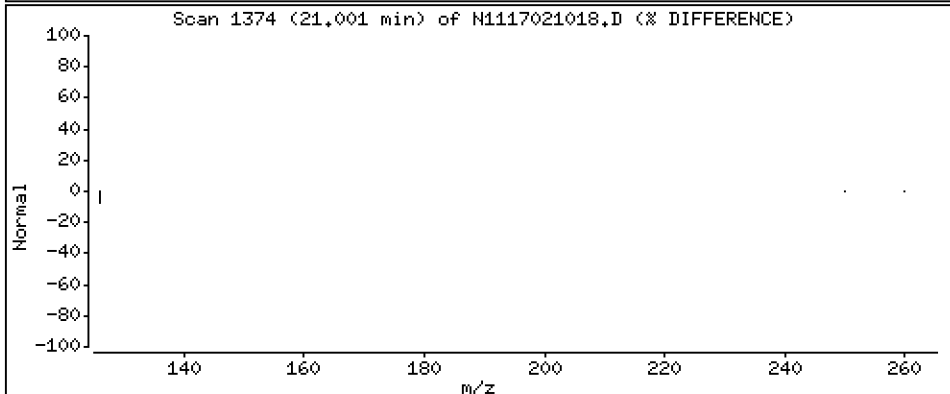
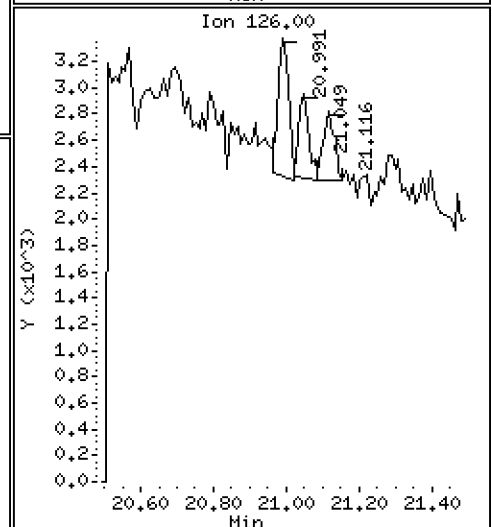
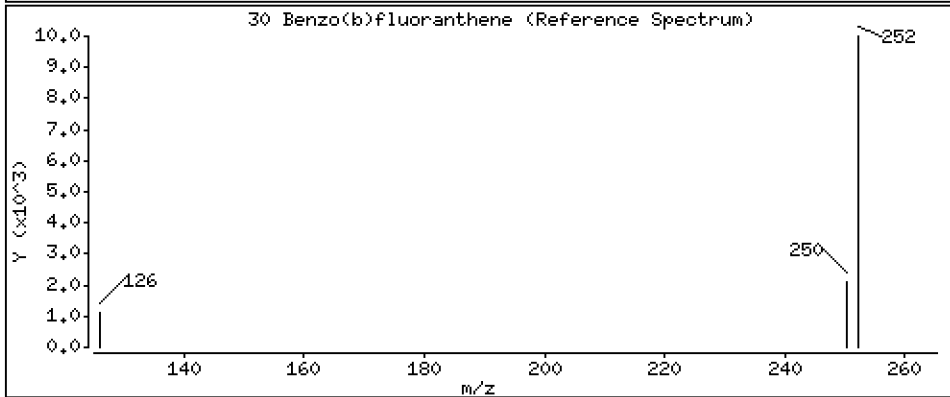
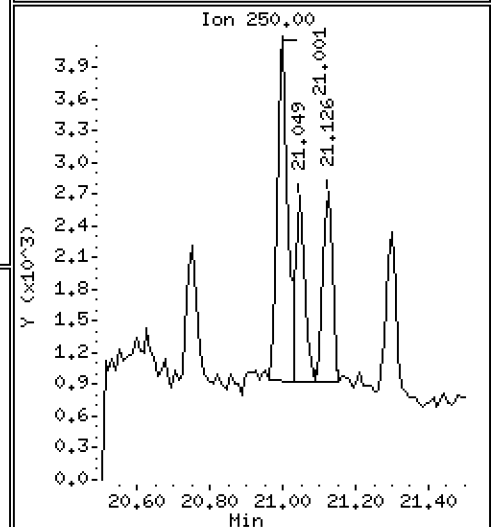
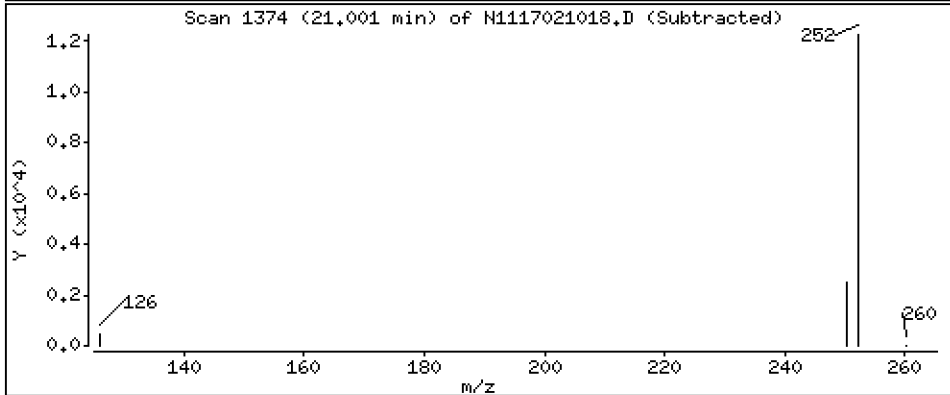
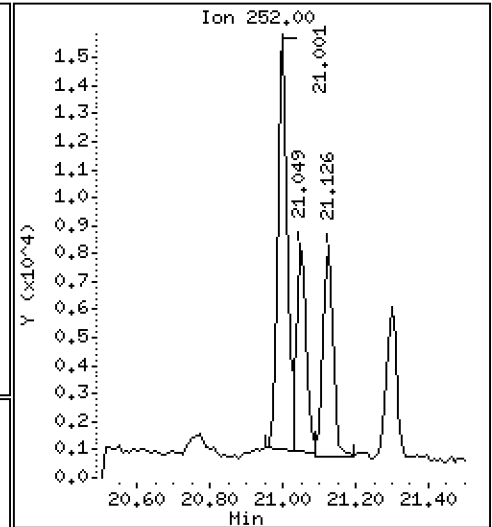
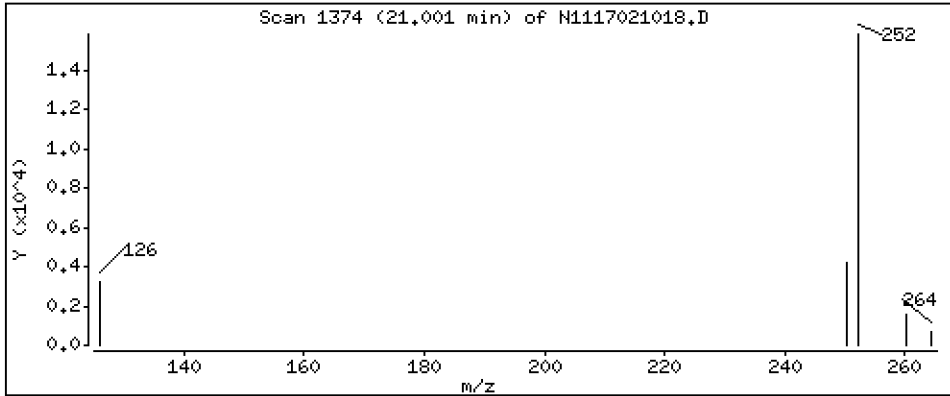
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

30 Benzo(b)fluoranthene

Concentration: 24,1 ng/mL



Date : 10-FEB-2017 21:12

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-11

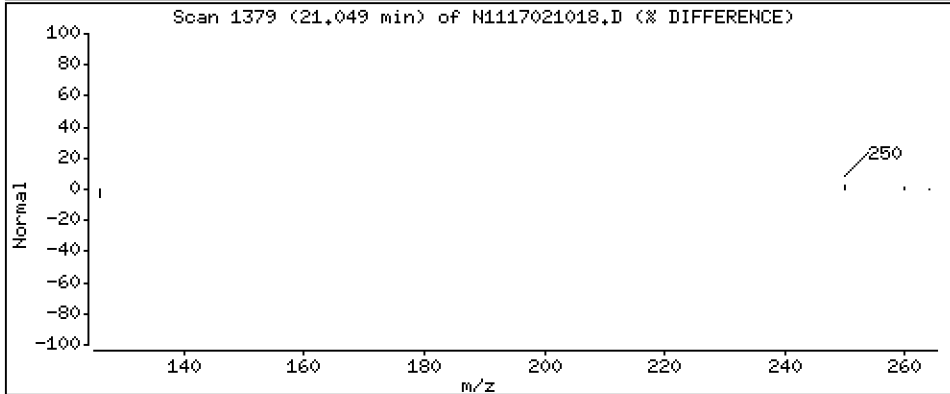
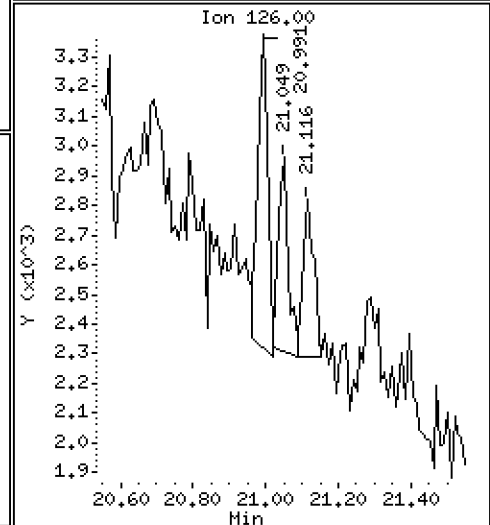
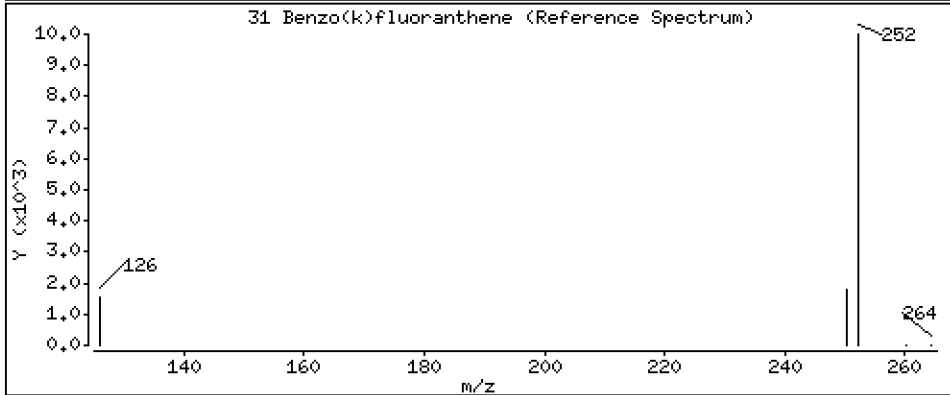
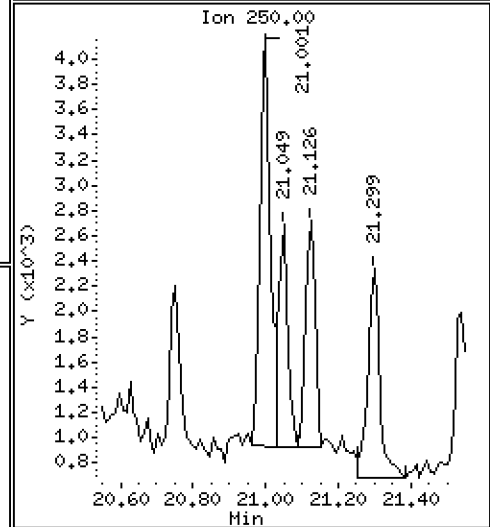
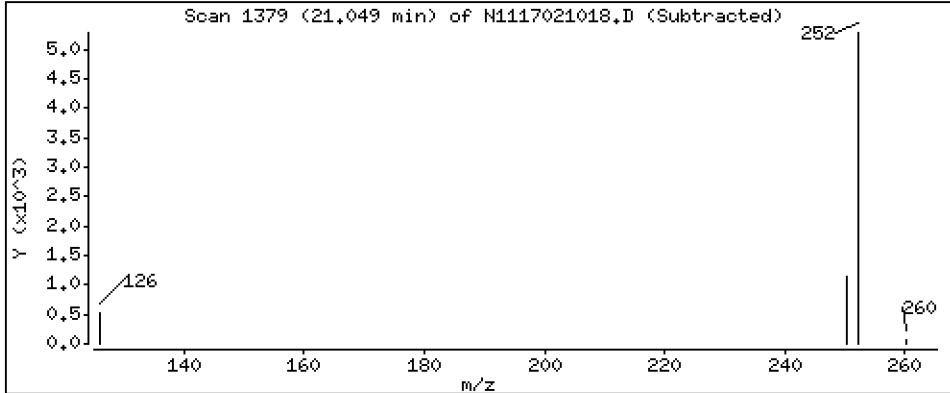
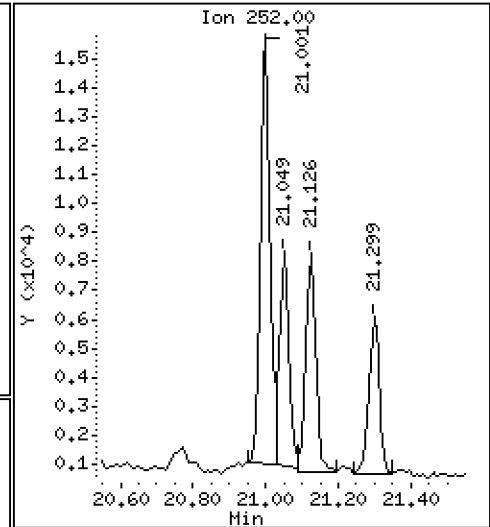
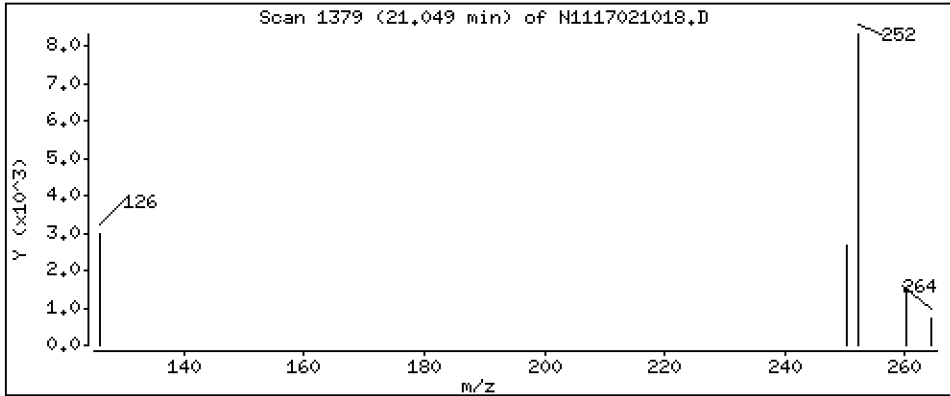
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

31 Benzo(k)fluoranthene

Concentration: 11,2 ng/mL



Date : 10-FEB-2017 21:12

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-11

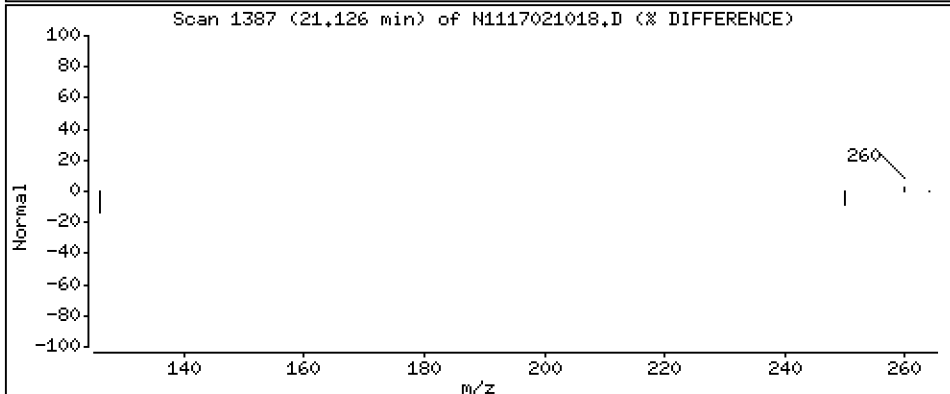
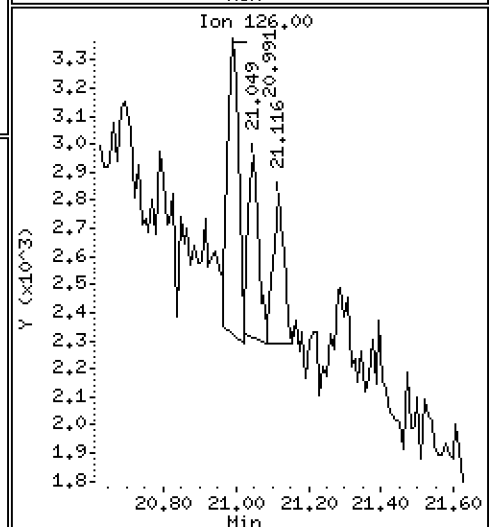
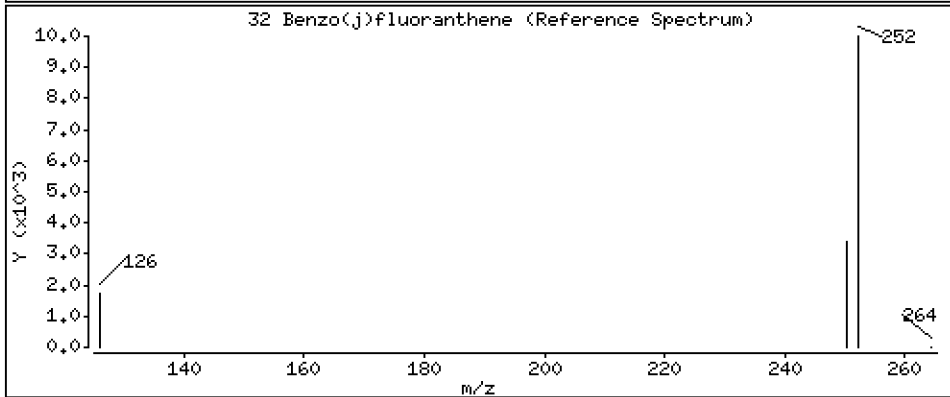
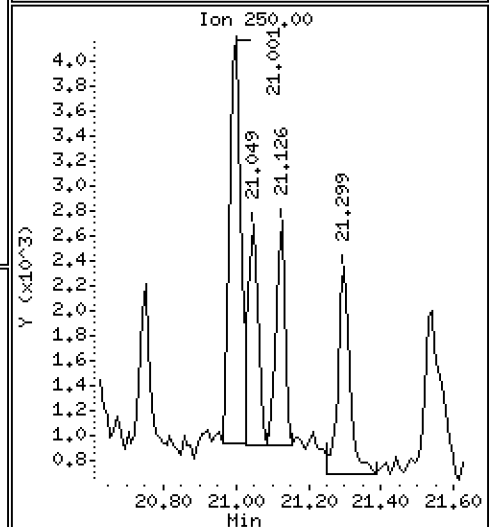
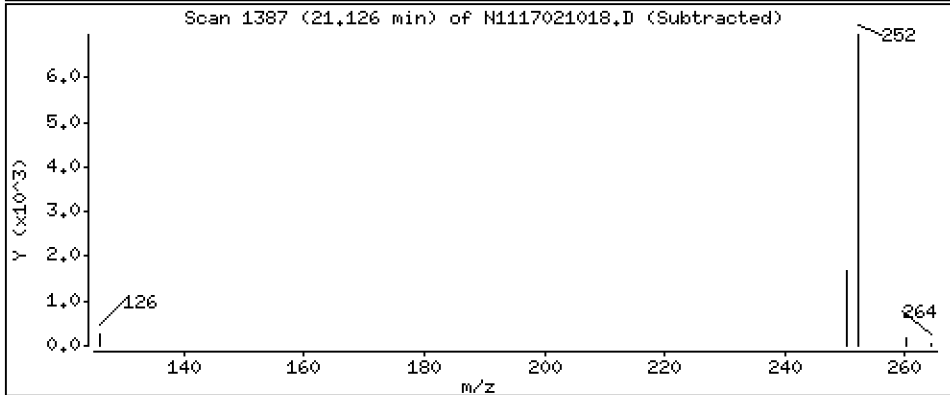
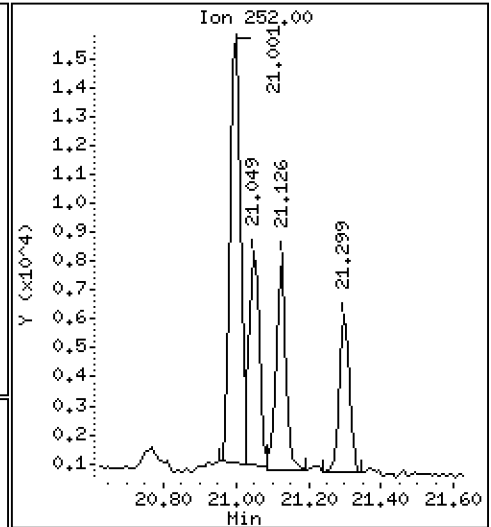
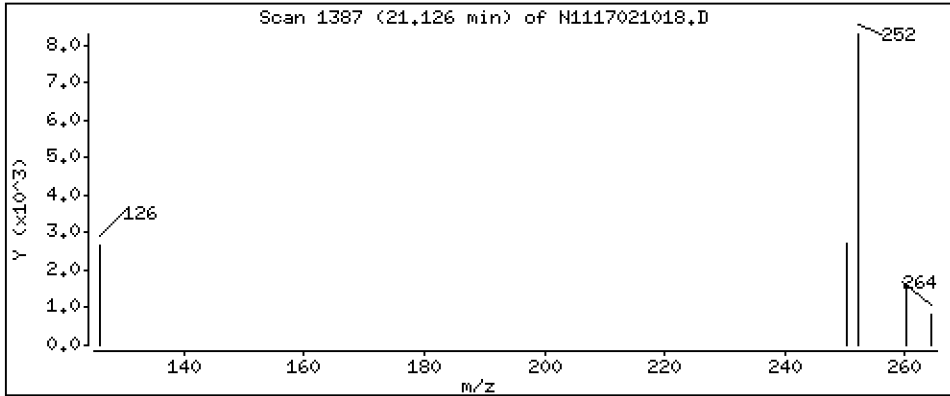
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

32 Benzo(j)fluoranthene

Concentration: 12,3 ng/mL



Date : 10-FEB-2017 21:12

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-11

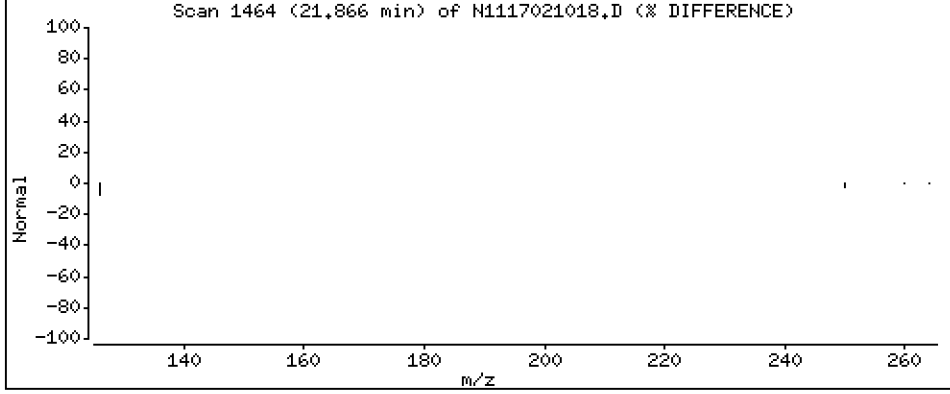
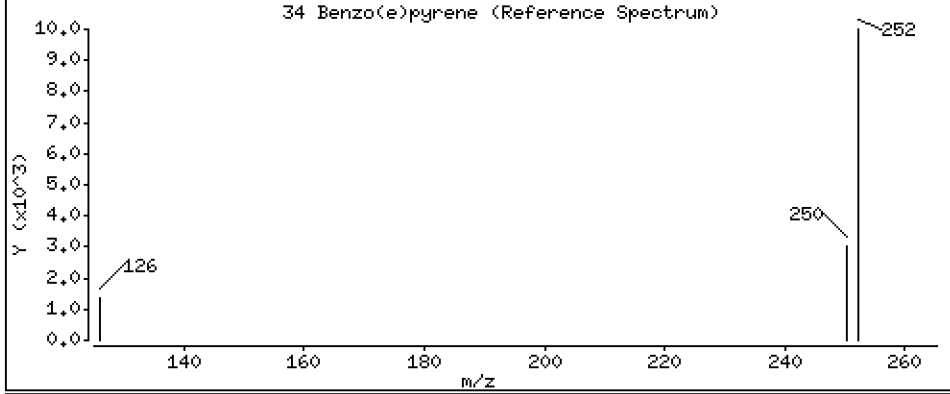
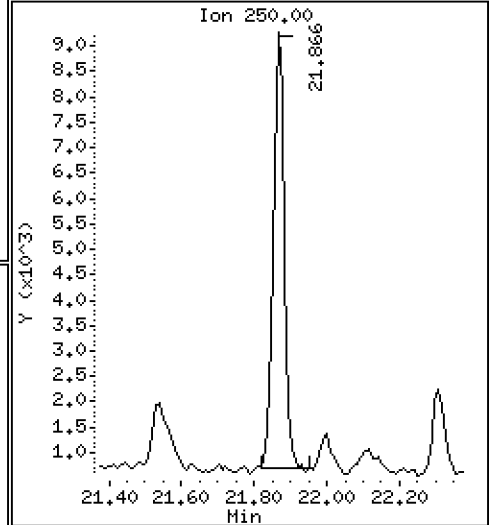
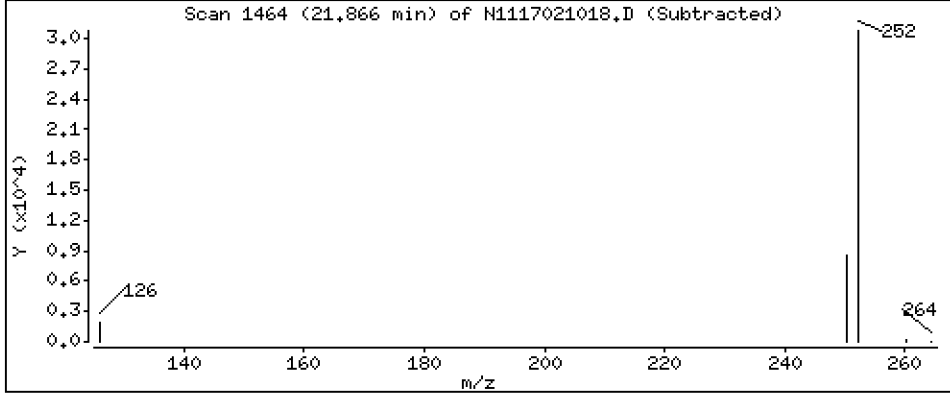
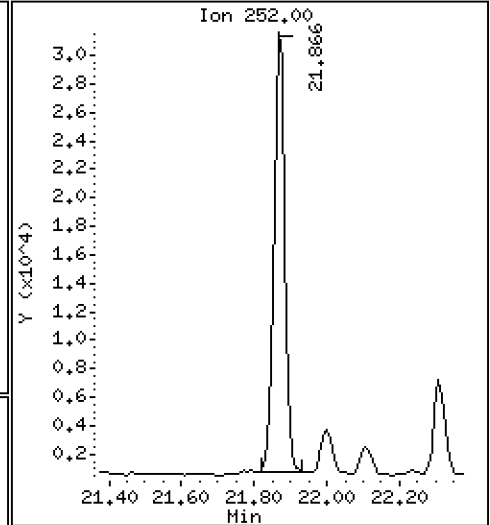
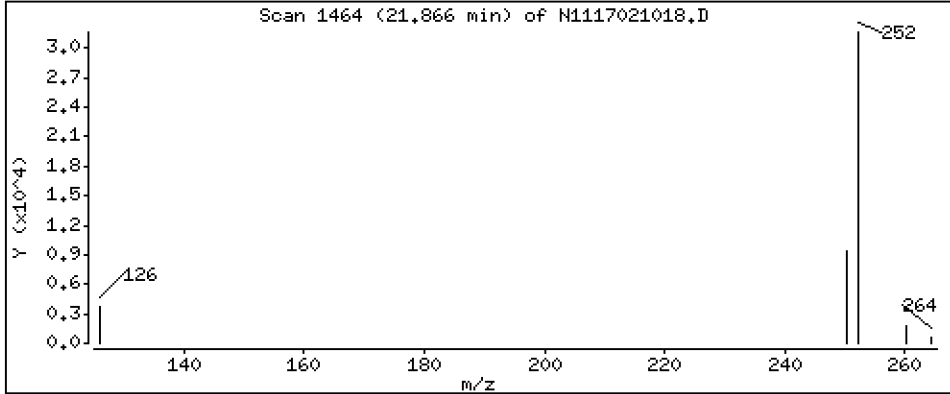
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

34 Benzo(e)pyrene

Concentration: 53,4 ng/mL



Date : 10-FEB-2017 21:12

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-11

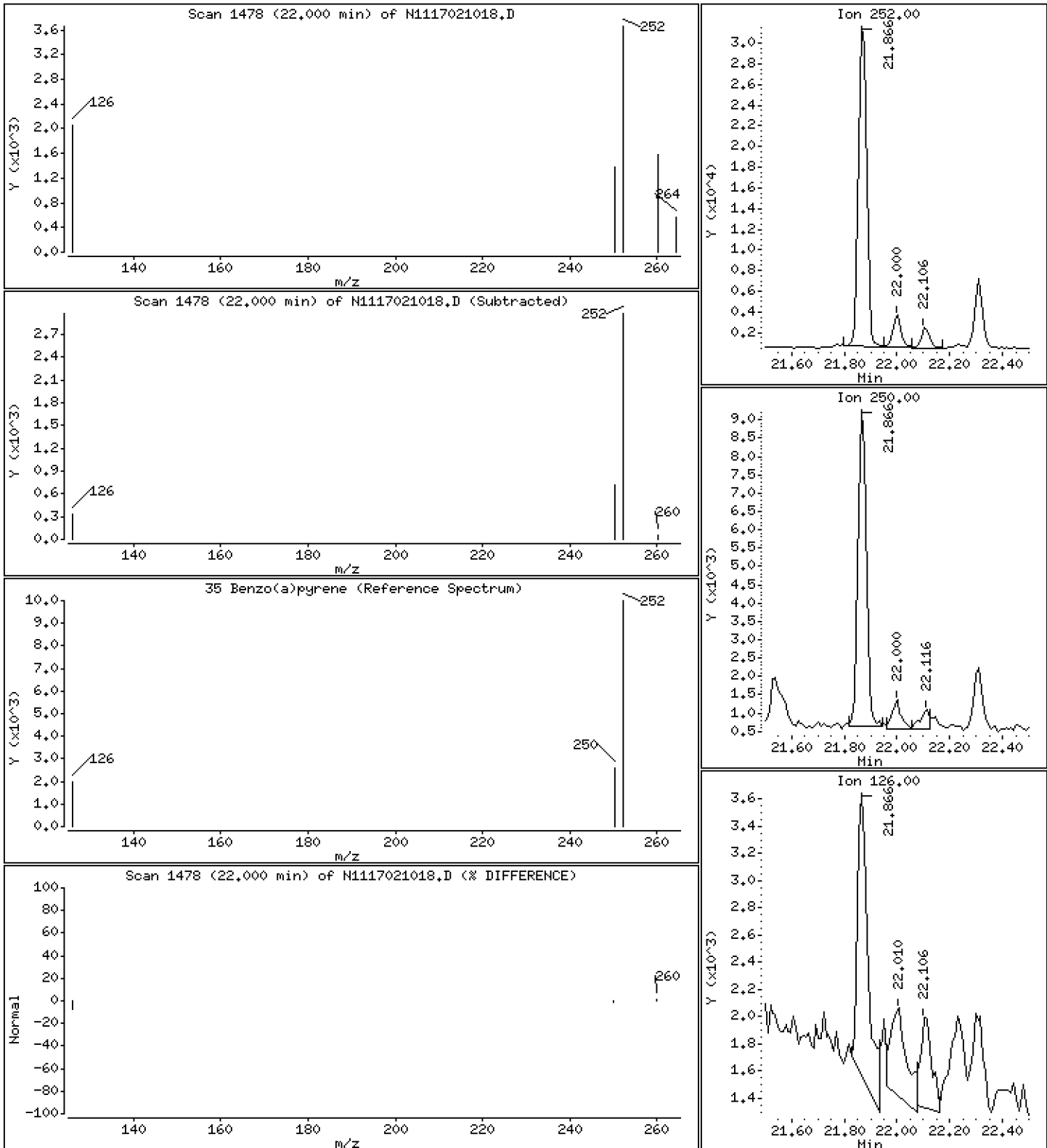
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

35 Benzo(a)pyrene

Concentration: 6,28 ng/mL



Date : 10-FEB-2017 21:12

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-11

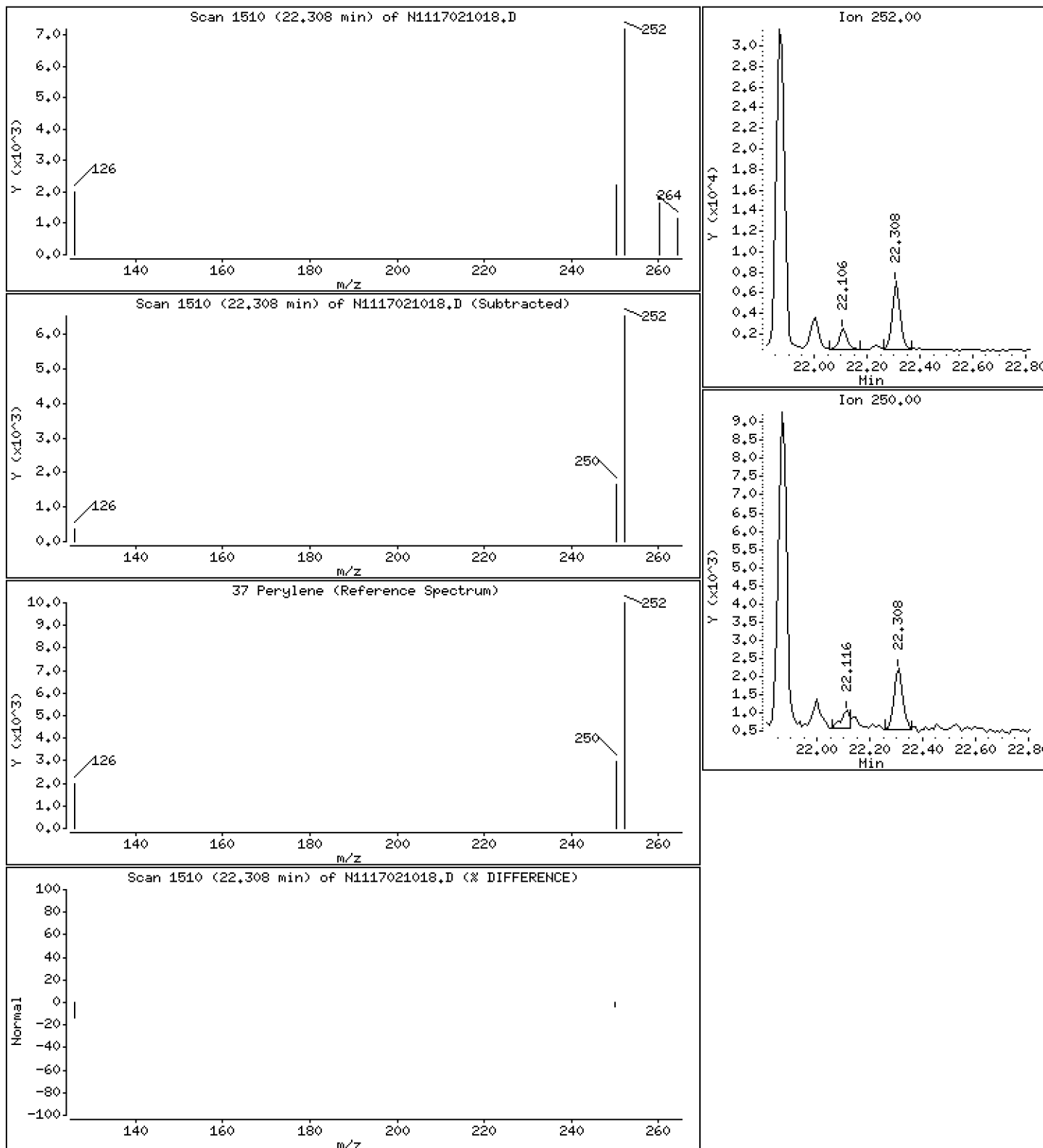
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

37 Perylene

Concentration: 11,9 ng/mL



Date : 10-FEB-2017 21:12

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-11

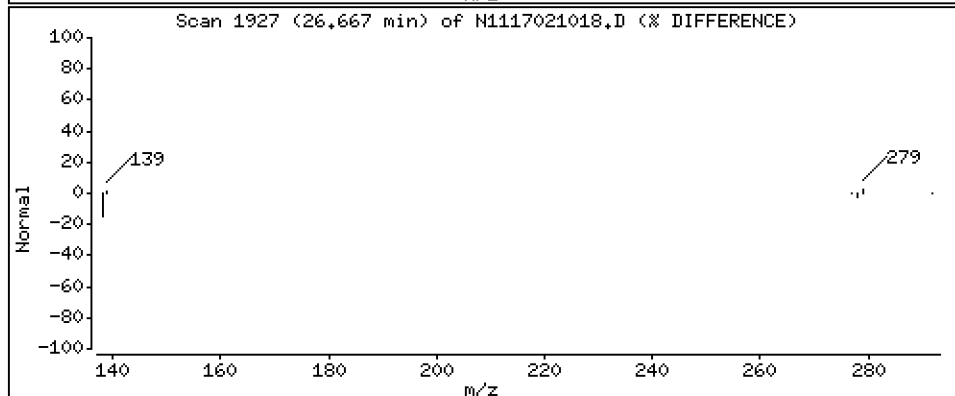
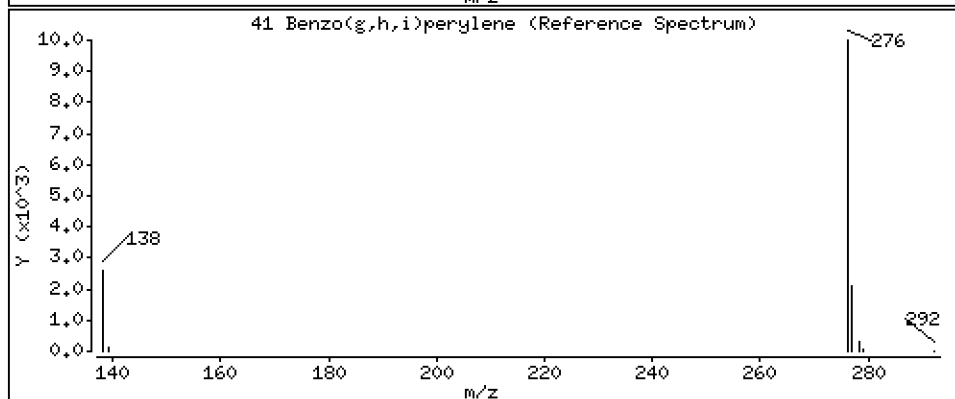
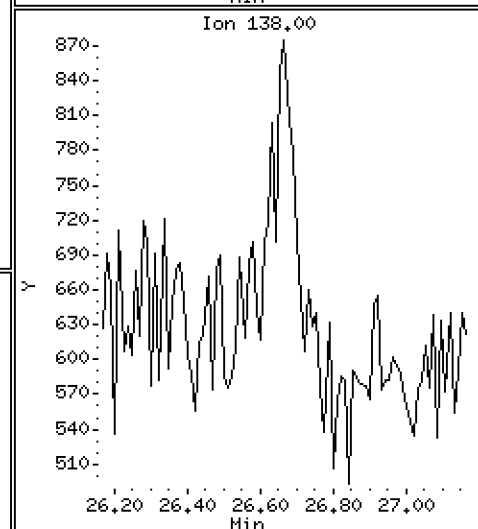
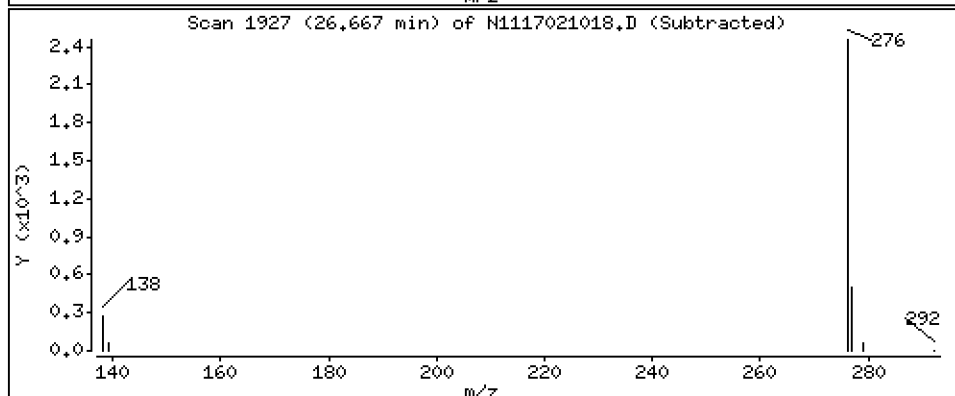
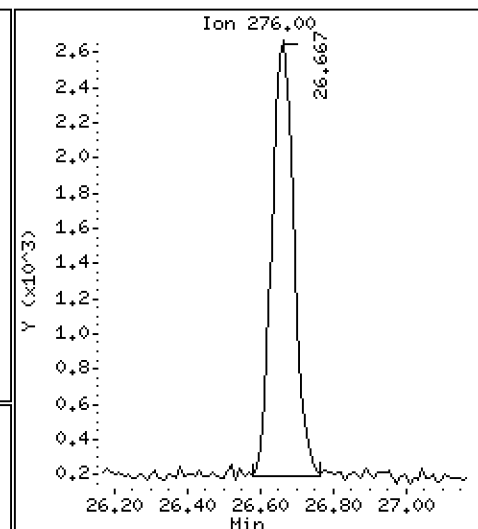
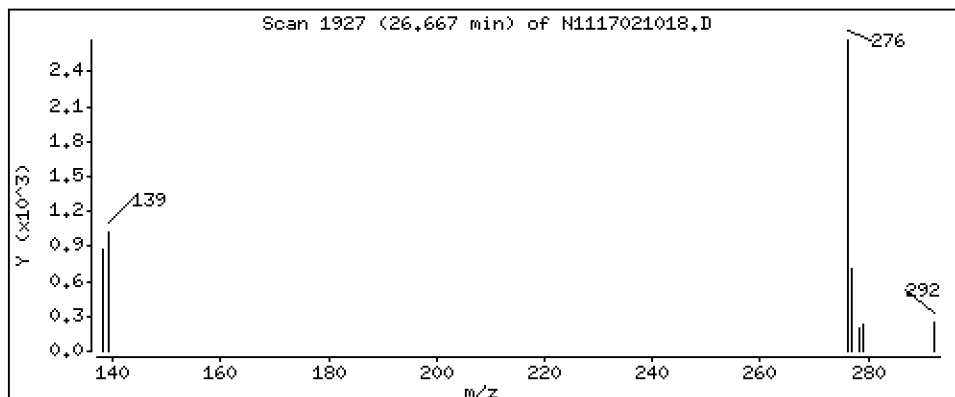
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

41 Benzo(g,h,i)perylene

Concentration: 9,32 ng/mL



ARI Labs, Inc.

LOW LEVEL PNAs BY SW8270D-SIM

Data file : \\target\share\chem3\nt11.i\20170210.b\N1117021018.D
 Lab Smp Id: 17A0053-11
 Inj Date : 10-FEB-2017 21:12 MS Autotune Date: 15-JAN-2015 15:59
 Operator : VTS Inst ID: nt11.i
 Smp Info : 17A0053-11
 Misc Info :
 Comment :
 Method : \\target\share\chem3\nt11.i\20170210.b\LOWSIM.m
 Meth Date : 11-Feb-2017 08:35 nt11.i Quant Type: ISTD
 Cal Date : 31-DEC-2016 09:30 Cal File: N1116123104.D
 Als bottle: 1
 Dil Factor: 1.00000
 Integrator: HP RTE Compound Sublist: allpna.sub
 Target Version: 4.14
 Processing Host: VANS

Compounds	QUANT	SIG	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS	
							ON-COLUMN (ng/mL)	FINAL (ng/mL)
* 1 Naphthalene-d8	136		8.517	8.526	(1.000)	224155	200.000	
2 Naphthalene	128		8.545	8.554	(1.003)	11312	10.1122	10.1
3 Benzo(b)thiophene	134		Compound Not Detected.					
\$ 4 2-Methylnaphthalene-d10	152		9.498	9.508	(1.115)	170432	177.039	177
5 2-Methylnaphthalene	142		9.561	9.561	(1.122)	7423	6.73277	6.73
6 1-Methylnaphthalene	142		9.813	9.823	(1.152)	4694	4.23311	4.23
7 2-Chloronaphthalene	162		Compound Not Detected.					
8 Biphenyl	154		Compound Not Detected.					
9 2,6-Dimethylnaphthalene	156		Compound Not Detected.					
10 Acenaphthylene	152		11.410	11.410	(0.987)	5471	4.04165	4.04
* 11 Acenaphthene-d10	164		11.555	11.564	(1.000)	150650	200.000	
12 Acenaphthene	153		11.618	11.627	(1.005)	8688	9.74811	9.75
13 Dibenzofuran	168		11.822	11.822	(1.023)	11021	8.31844	8.32
14 2,3,5-Trimethylnaphthalene	170		Compound Not Detected.					
\$ 15 Fluorene-d10	174		Compound Not Detected.					
16 Fluorene	166		12.454	12.454	(1.078)	12231	11.5963	11.6
17 Dibenzothiophene	184		14.083	14.083	(1.000)	2768	2.48900	2.49 (MH)
* 18 Phenanthrene-d10	188		14.251	14.262	(1.000)	240836	200.000	
19 Phenanthrene	178		14.293	14.293	(1.003)	86112	62.5398	62.5
\$ 20 Anthracene-d10	188		Compound Not Detected.					
21 Anthracene	178		14.346	14.356	(1.007)	22734	16.5588	16.6
22 Carbazole	167		Compound Not Detected.					
23 1-Methylphenanthrene	192		15.298	15.307	(1.073)	7498	5.31000	5.31 (M)
\$ 24 Fluoranthene-d10	212		16.367	16.367	(1.148)	245092	191.606	192
25 Fluoranthene	202		16.405	16.405	(1.151)	199377	127.653	128
26 Pyrene	202		16.905	16.915	(0.889)	161615	116.097	116
27 Benzo(a)anthracene	228		18.925	18.933	(0.995)	29884	23.1913	23.2
* 28 Chrysene-d12	240		19.024	19.024	(1.000)	214297	200.000	
29 Chrysene	228		19.058	19.074	(1.002)	90699	68.5946	68.6
30 Benzo(b)fluoranthene	252		21.001	21.001	(0.944)	29135	24.0997	24.1
31 Benzo(k)fluoranthene	252		21.049	21.049	(0.946)	14588	11.2032	11.2
32 Benzo(j)fluoranthene	252		21.125	21.125	(0.950)	14265	12.2900	12.3
\$ 33 Benzo(e)pyrene-d12	264		Compound Not Detected.					

Compounds	QUANT	SIG	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS		
							ON-COLUMN (ng/mL)	FINAL (ng/mL)	
34 Benzo(e)pyrene	252		21.865	21.875	(0.983)	64401	53.4042	53.4	
35 Benzo(a)pyrene	252		22.000	22.000	(0.989)	7078	6.28023	6.28	
* 36 Perylene-d12	264		22.240	22.240	(1.000)	224273	200.000		
37 Perylene	252		22.307	22.317	(1.003)	13949	11.8541	11.9	
§ 38 Dibenzo(a,h)anthracene-d14	292		25.105	25.116	(1.129)	150519	210.160	210	
39 Dibenzo(a,h)anthracene	278		Compound Not Detected.						
40 Indeno(1,2,3-cd)pyrene	276		Compound Not Detected.						
41 Benzo(g,h,i)perylene	276		26.666	26.666	(1.199)	10295	9.31932	9.32	

QC Flag Legend

- M - Compound response manually integrated.
- H - Operator selected an alternate compound hit.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
 AREA AND RT SUMMARY

Instrument ID: nt11.i Calibration Date: 10-FEB-2017
 Lab File ID: N1117021018.D Calibration Time: 13:29
 Lab Smp Id: 17A0053-11
 Analysis Type: SV Level:
 Quant Type: ISTD Sample Type:
 Operator: VTS
 Method File: \\target\share\chem3\nt11.i\20170210.b\LOWSIM.m
 Misc Info:

Test Mode:
 Use Initial Calibration Level 4.

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
1 Naphthalene-d8	219654	109827	439308	224155	2.05
11 Acenaphthene-d10	135248	67624	270496	150650	11.39
18 Phenanthrene-d10	257021	128511	514042	240836	-6.30
28 Chrysene-d12	259511	129756	519022	214297	-17.42
36 Perylene-d12	257535	128768	515070	224273	-12.92

COMPOUND	STANDARD	RT LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
1 Naphthalene-d8	8.53	8.03	9.03	8.52	-0.11
11 Acenaphthene-d10	11.56	11.06	12.06	11.56	-0.08
18 Phenanthrene-d10	14.26	13.76	14.76	14.25	-0.07
28 Chrysene-d12	19.02	18.52	19.52	19.02	-0.00
36 Perylene-d12	22.24	21.74	22.74	22.24	-0.00

AREA UPPER LIMIT = +100% of internal standard area.
 AREA LOWER LIMIT = - 50% of internal standard area.
 RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
 RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - N1117021018.D

Lab ID: 17A0053-11
nt11.i, 20170210.b\LOWSIM.m, 10-FEB-2017 21:12

RT CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

RRT CCV RRT DELTA COMPOUND

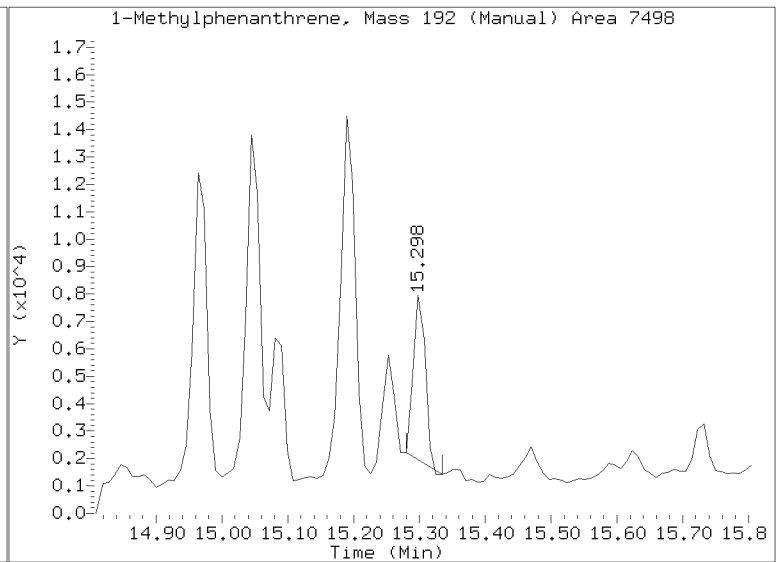
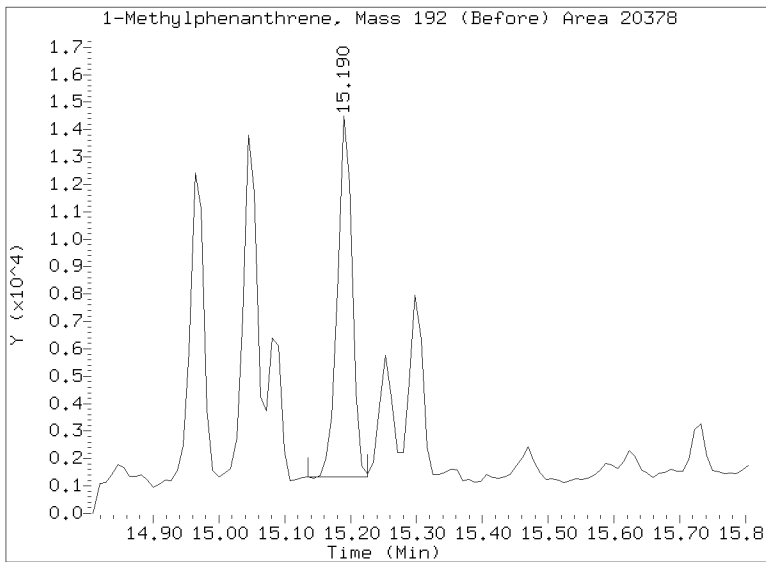
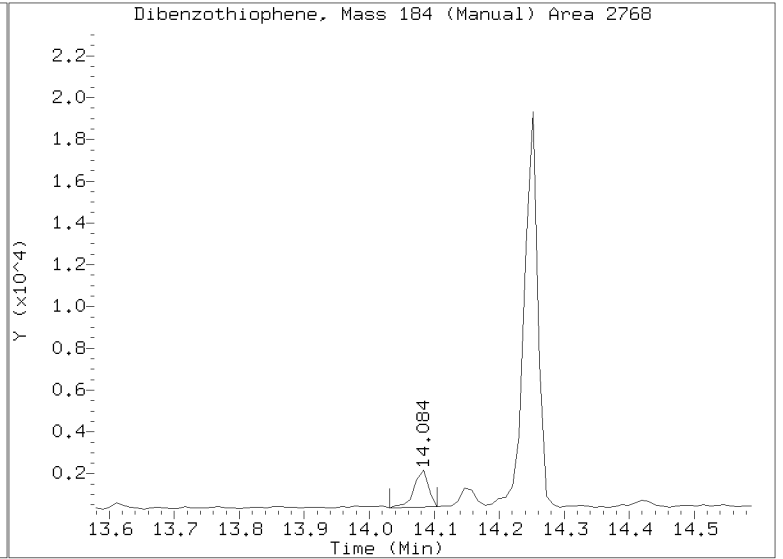
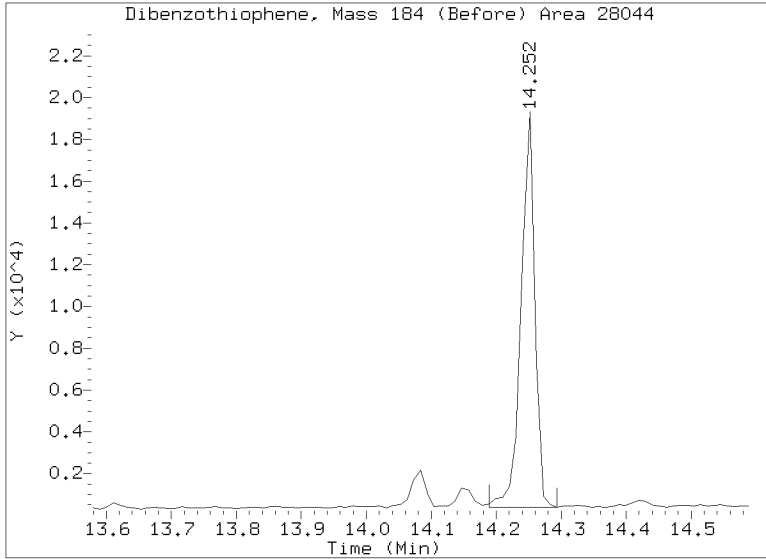
NONE

On Column LOD for nt11.i, 20170210.b\LOWSIM.m, allpna.sub = 3.0000

Exception: Naphthalene 7.0000
Exception: Phenanthrene 2.5000
Exception: Anthracene 2.0000
Exception: Pyrene 4.0000
Exception: Benzo(j)fluoranthene 2.5000
Exception: Benzo(a)pyrene 2.0000
Exception: Perylene 3.5000
Exception: Benzo(e)pyrene 2.0000
Exception: Benzo(b)thiophene 2.0000
Exception: 2-Chloronaphthalene 2.0000
Exception: 2,6-Dimethylnaphthalene 2.0000
Exception: 2,3,5-Trimethylnaphthalene 2.0000
Exception: 1-Methylphenanthrene 2.0000
Exception: Dibenzothiophene 2.0000
Exception: Carbazole 2.0000
Exception: Biphenyl 2.0000
Exception: 2-Methylnaphthalene-d10 (Surr) 0.1000
Exception: Dibenzo(a,h)anthracene-d14 (Surr) 0.1000
Exception: Fluoranthene-d10 (Surr) 0.1000
Exception: Anthracene-d10 (Surr) 0.1000
Exception: Benzo(e)pyrene-d12 (Surr) 0.1000
Exception: Fluorene-d10 (Surr) 0.1000

Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt11.i/20170210.b/N1117021018.D
Injection Date: 10-FEB-2017 21:12
Lab ID:17A0053-11 Client ID:
Report Date: 02/11/2017 08:35



Data File: \\target\share\chem3\nt11.1\20170210.6\N1117021019.D

Date : 10-FEB-2017 21:48

Client ID:

Sample Info: 17R0065-12

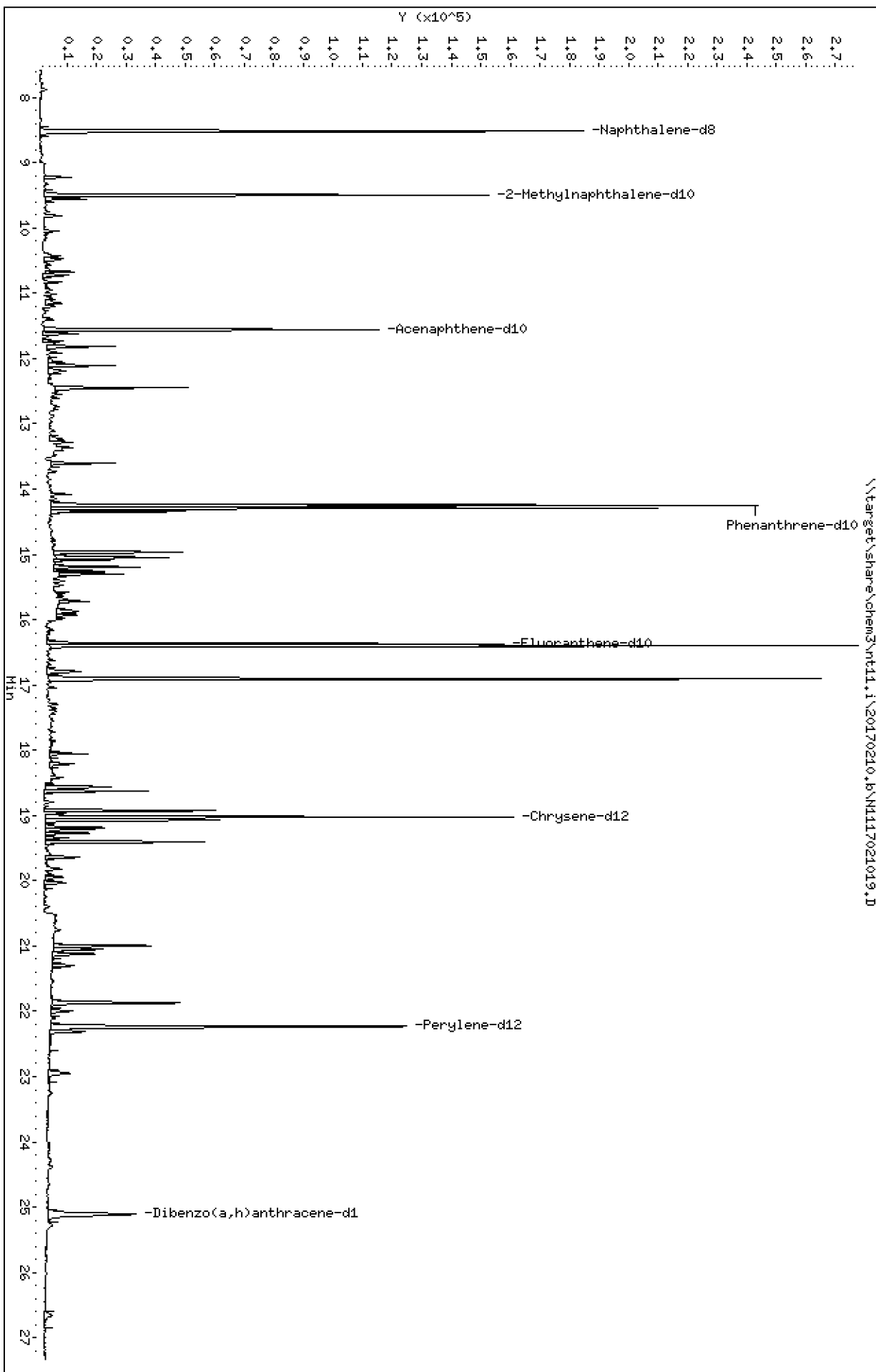
Column phase: Rxi-17S11 MS

Instrument: nt11.1

Operator: VTS

Column diameter: 0.25

Page 1



Date : 10-FEB-2017 21:48

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-12

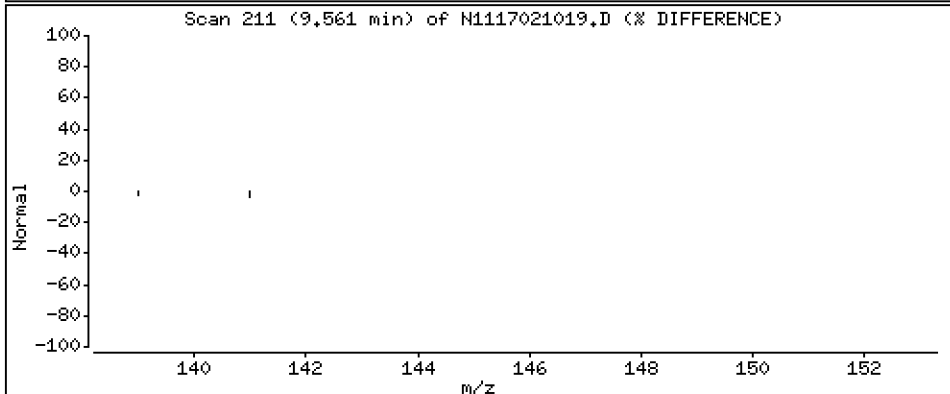
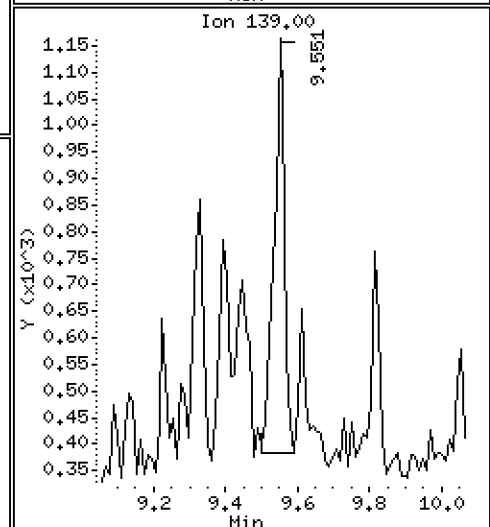
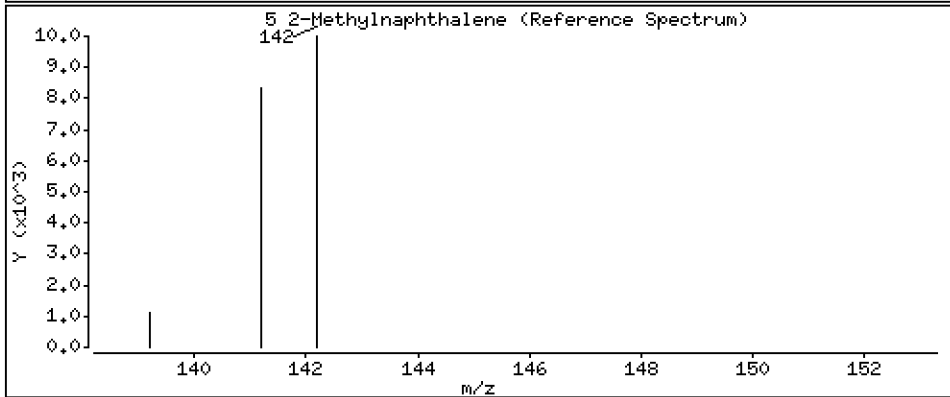
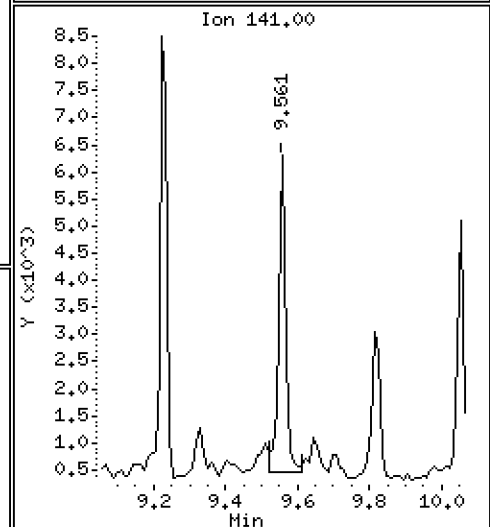
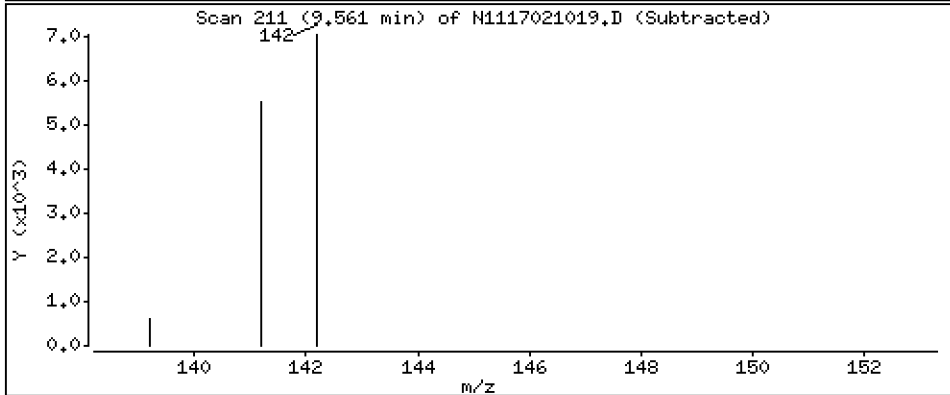
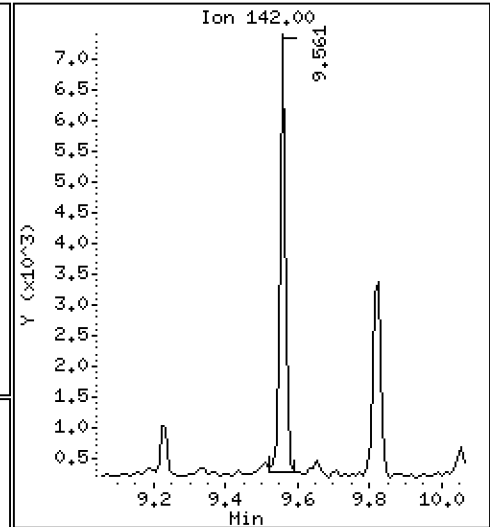
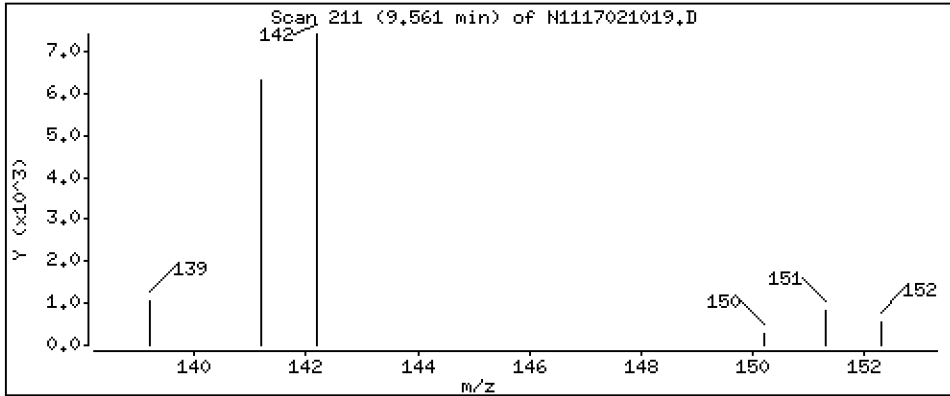
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0.25

5-2-Methylnaphthalene

Concentration: 7.92 ng/mL



Date : 10-FEB-2017 21:48

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-12

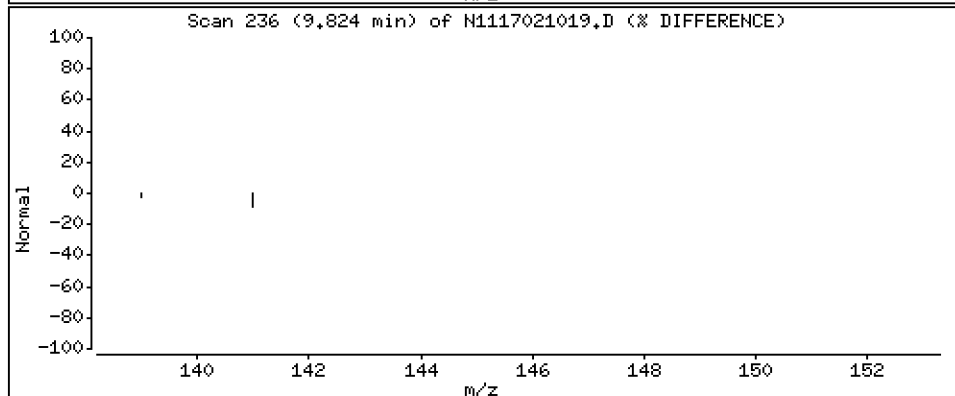
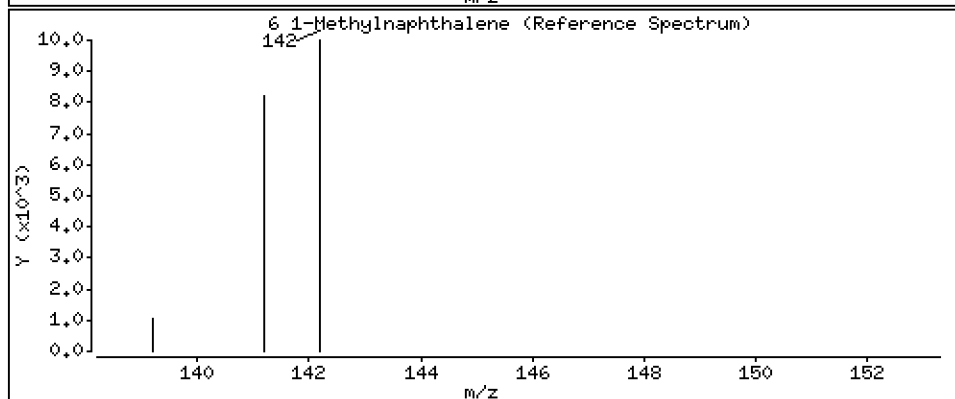
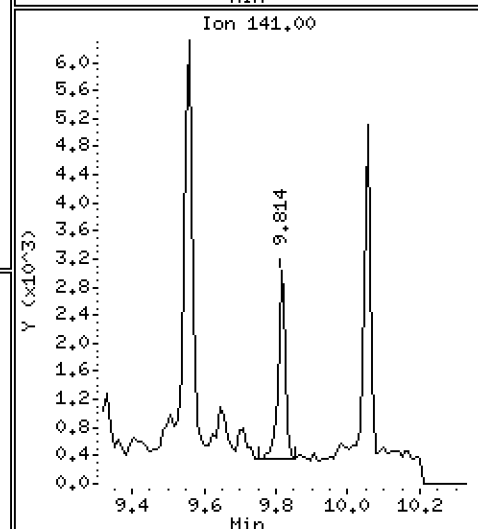
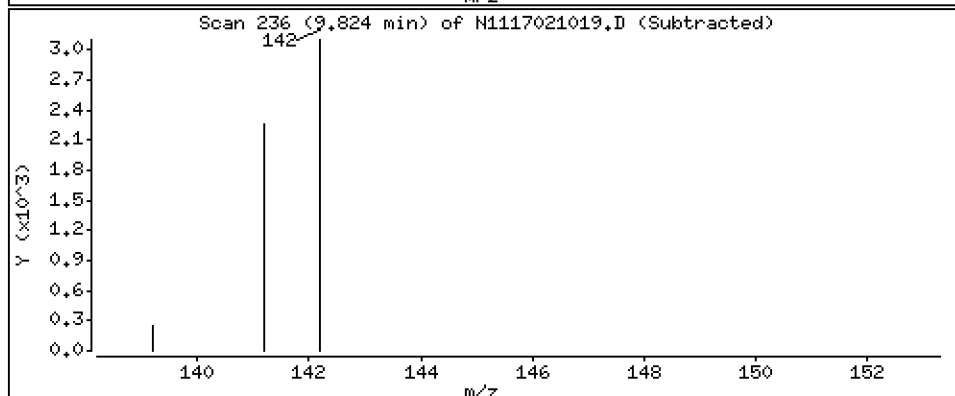
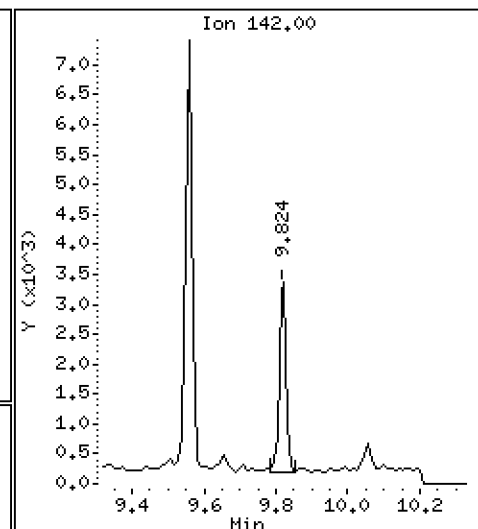
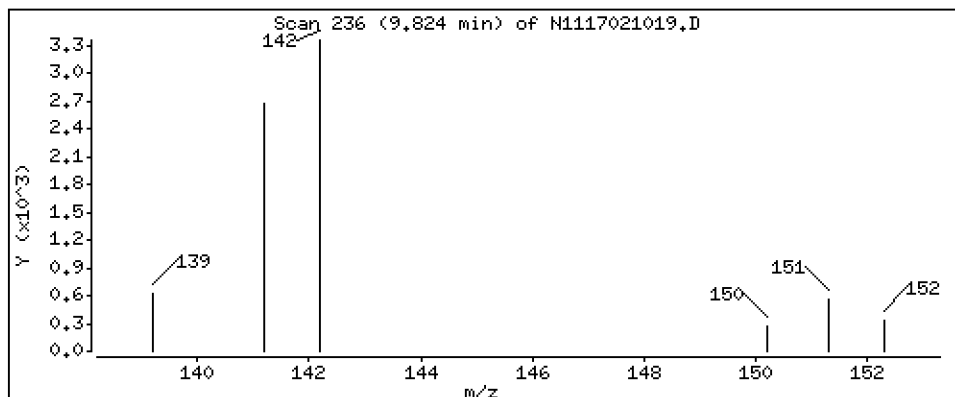
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

6 1-Methylnaphthalene

Concentration: 4,40 ng/mL



Date : 10-FEB-2017 21:48

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-12

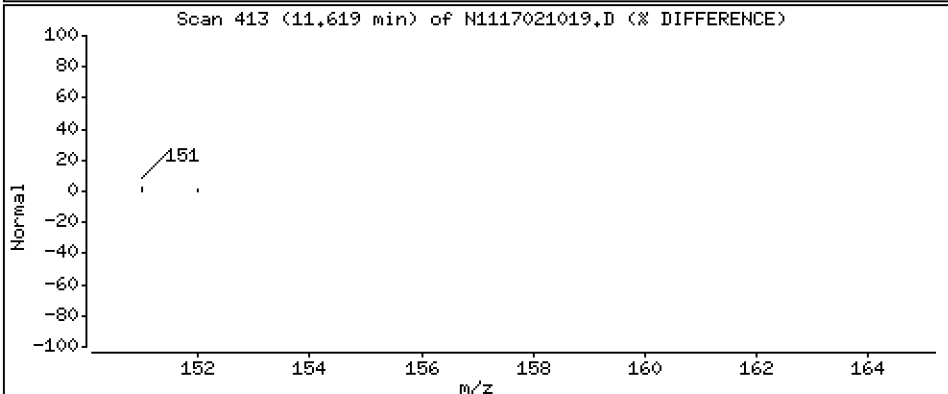
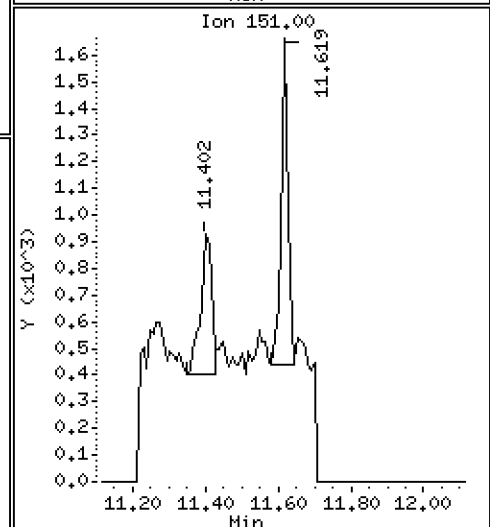
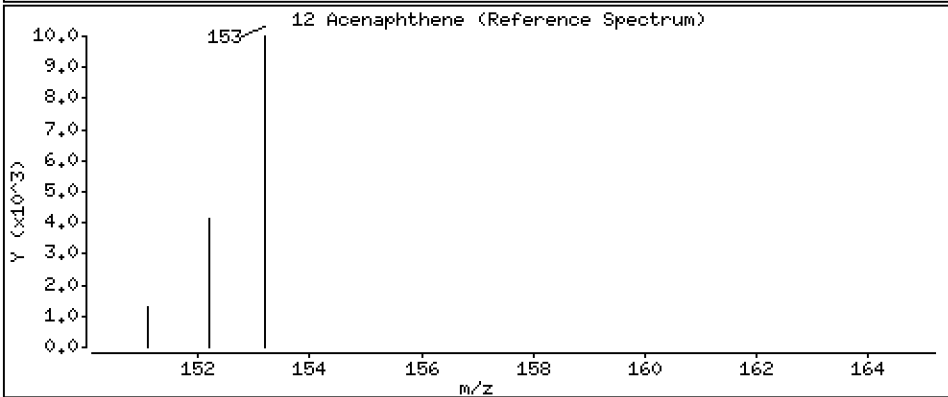
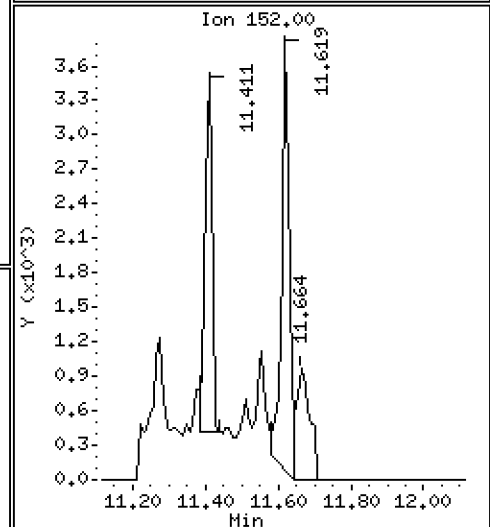
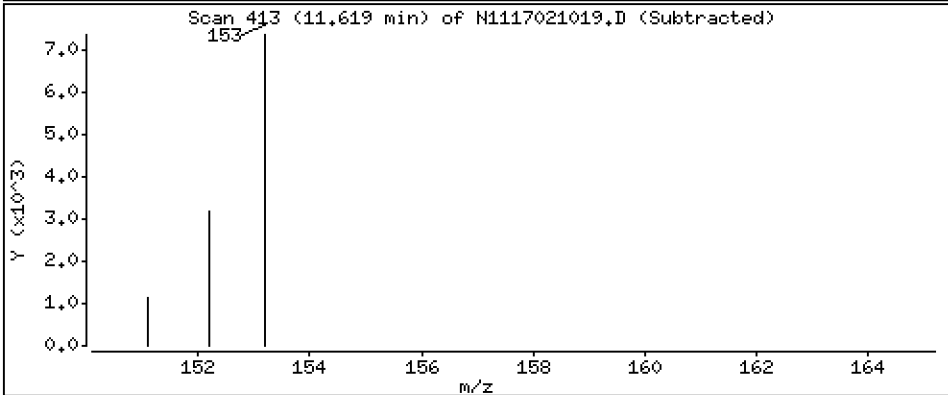
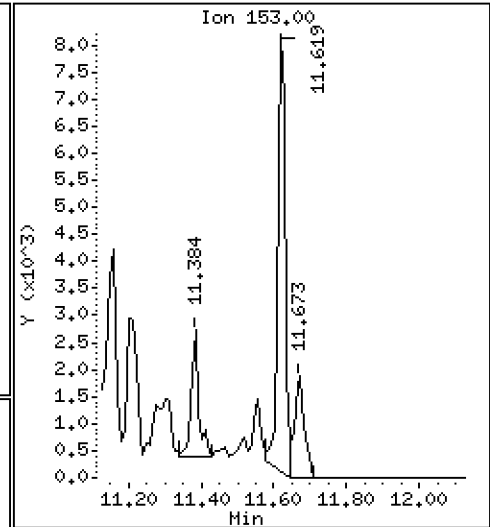
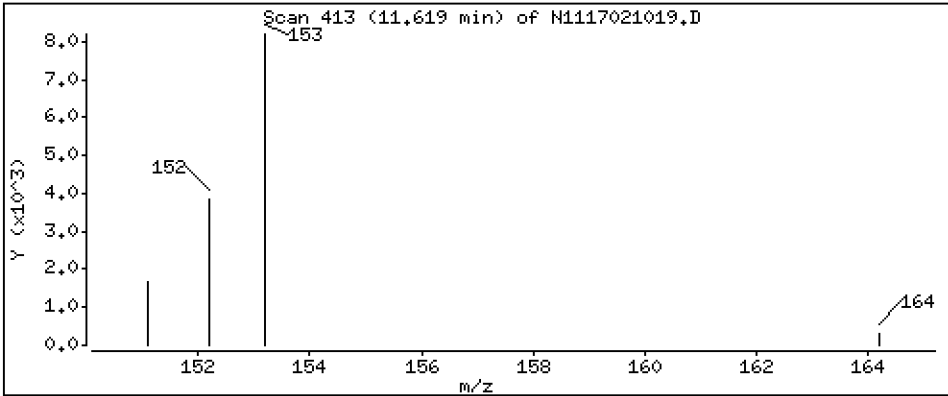
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0.25

12 Acenaphthene

Concentration: 12.6 ng/mL



Date : 10-FEB-2017 21:48

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-12

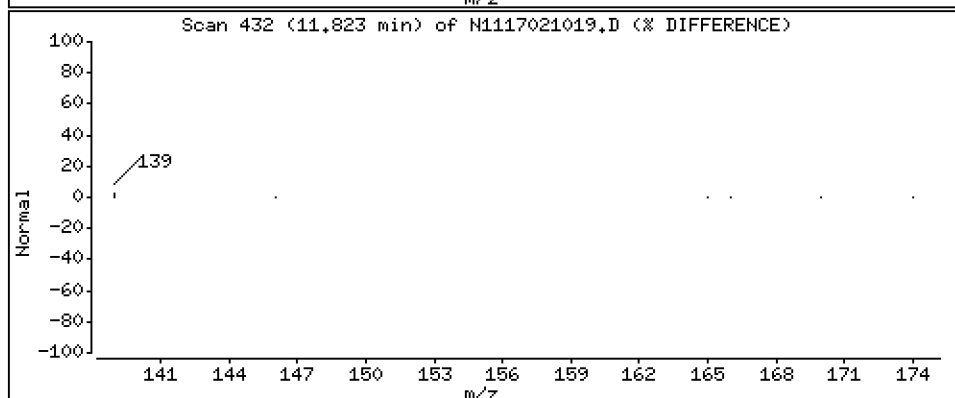
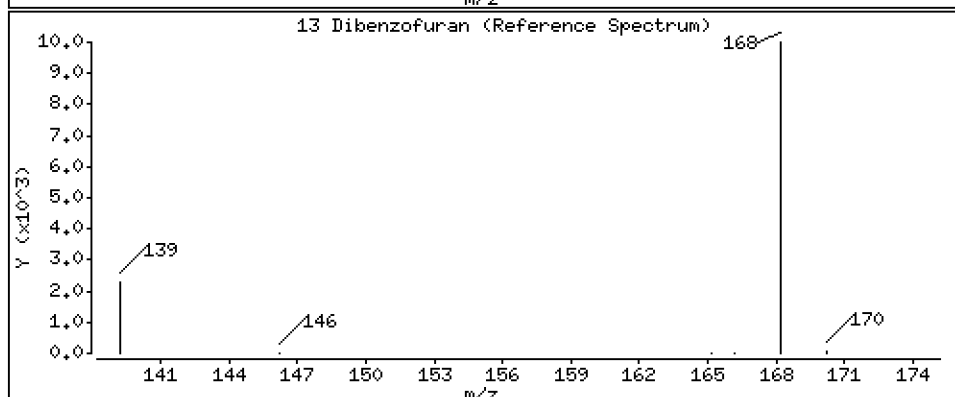
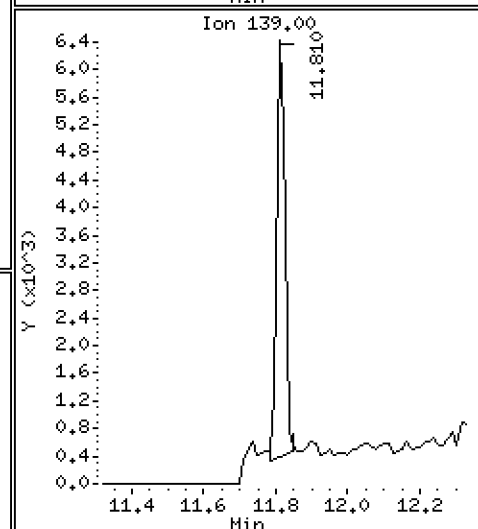
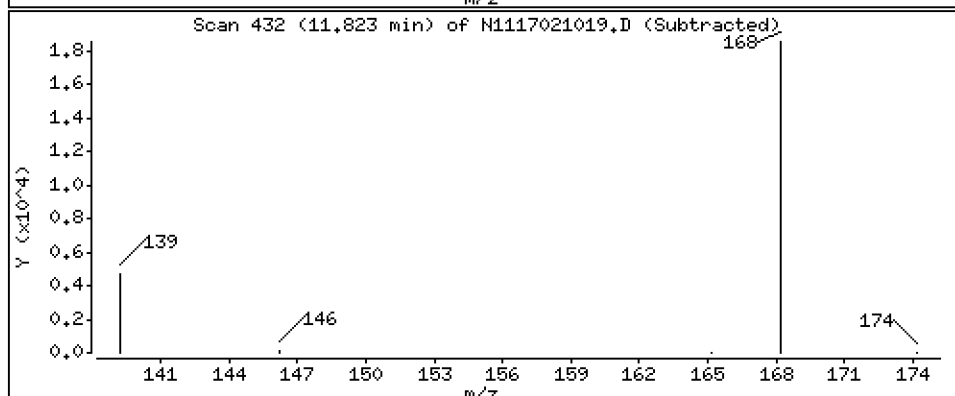
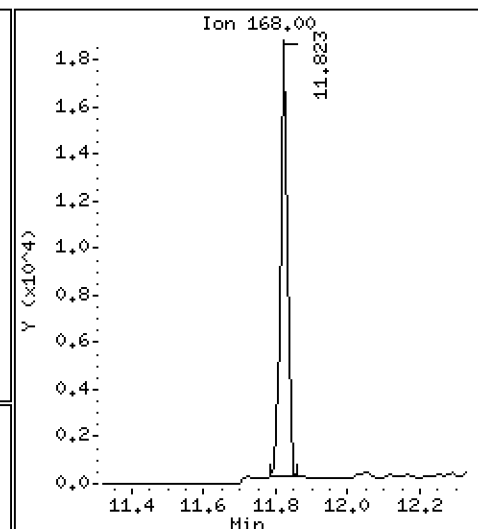
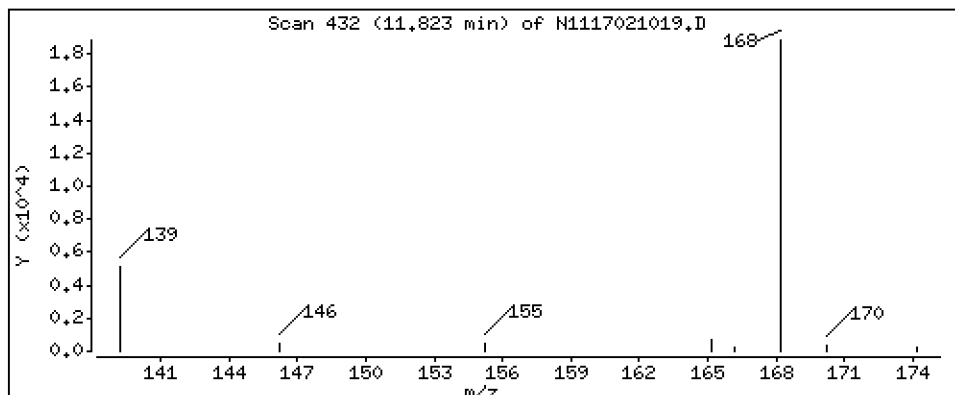
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

13 Dibenzofuran

Concentration: 16,4 ng/mL



Date : 10-FEB-2017 21:48

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-12

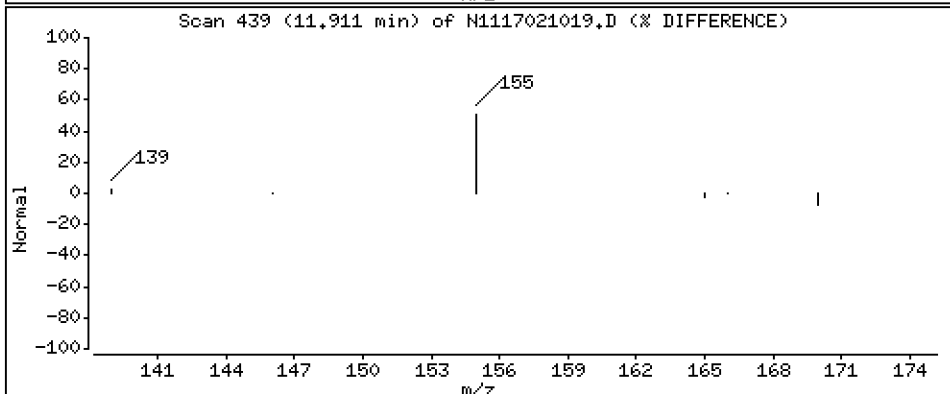
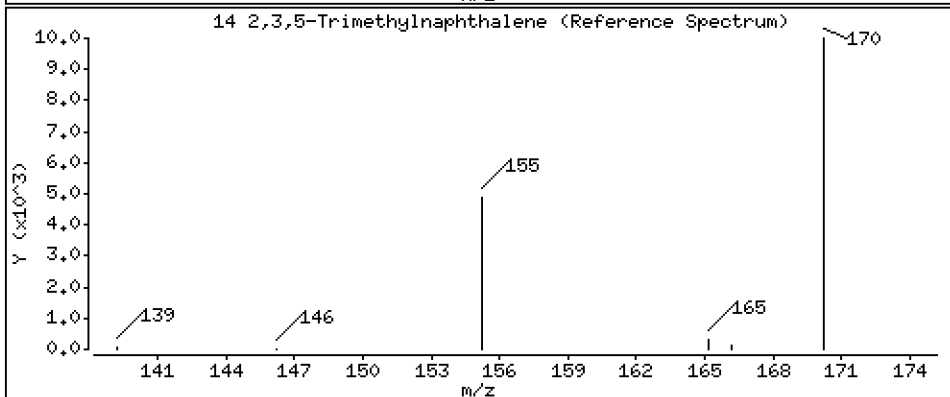
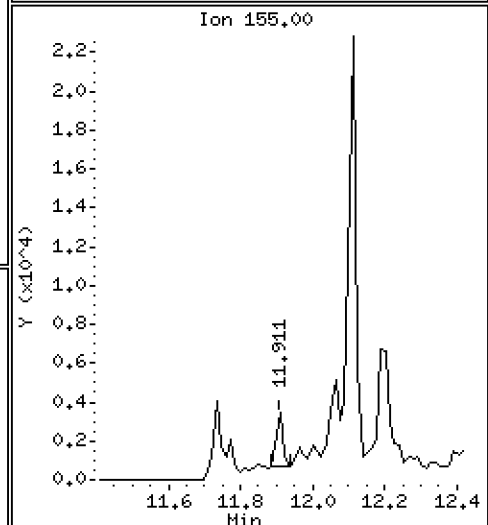
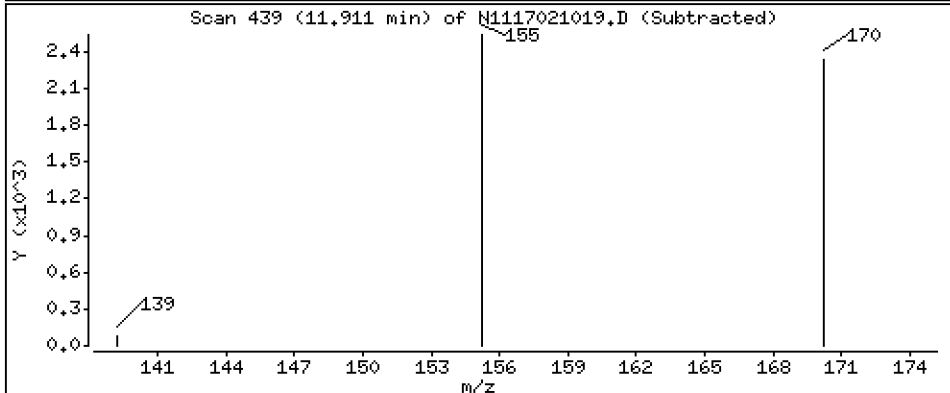
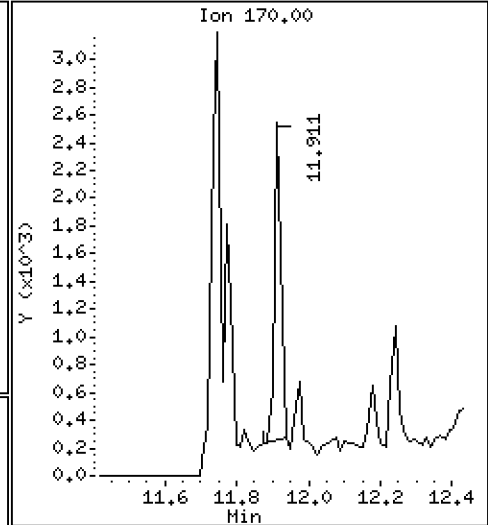
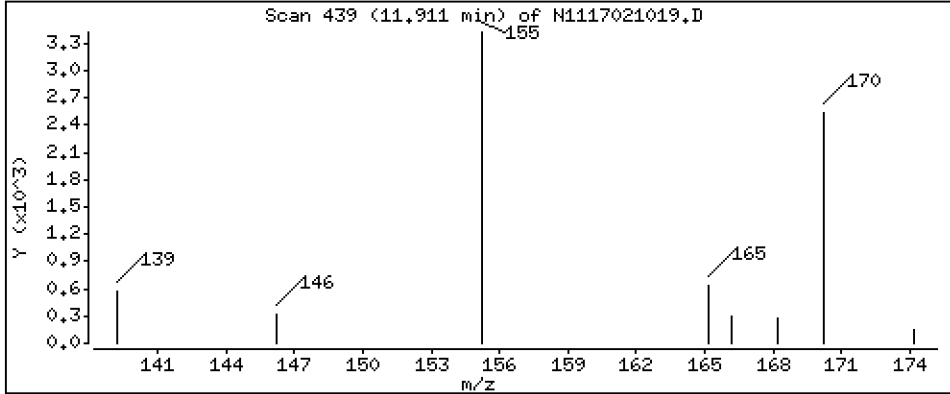
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

14 2,3,5-Trimethylnaphthalene

Concentration: 3,39 ng/mL



Date : 10-FEB-2017 21:48

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-12

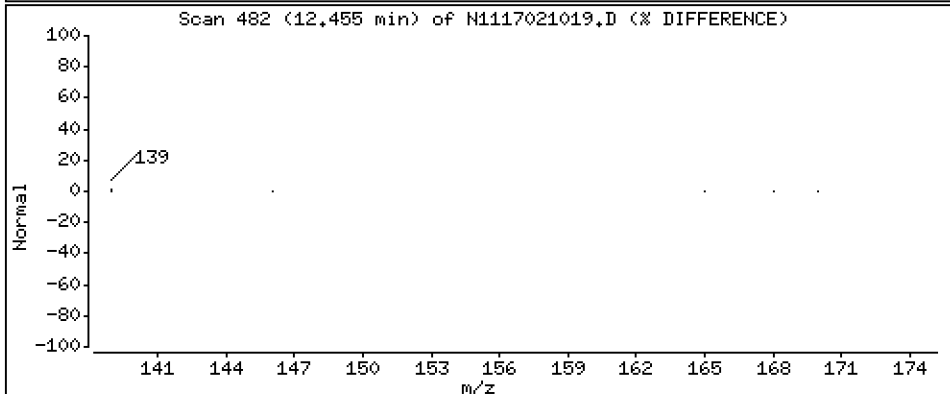
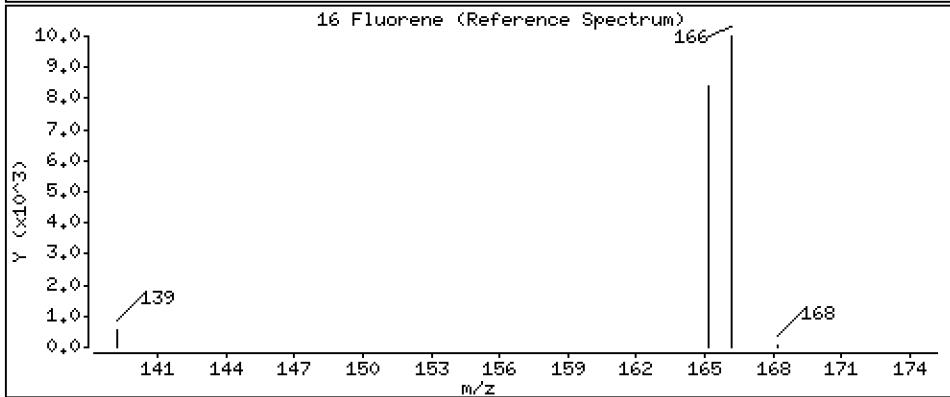
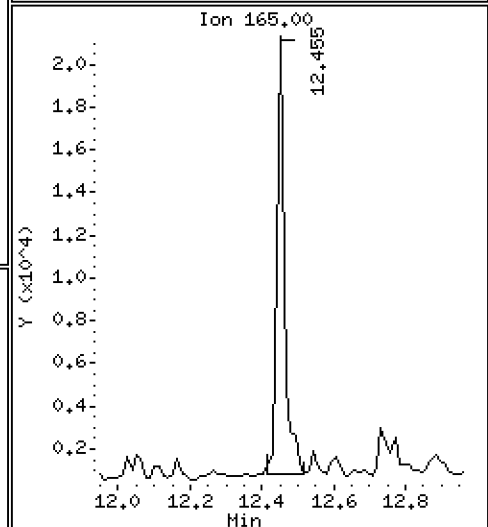
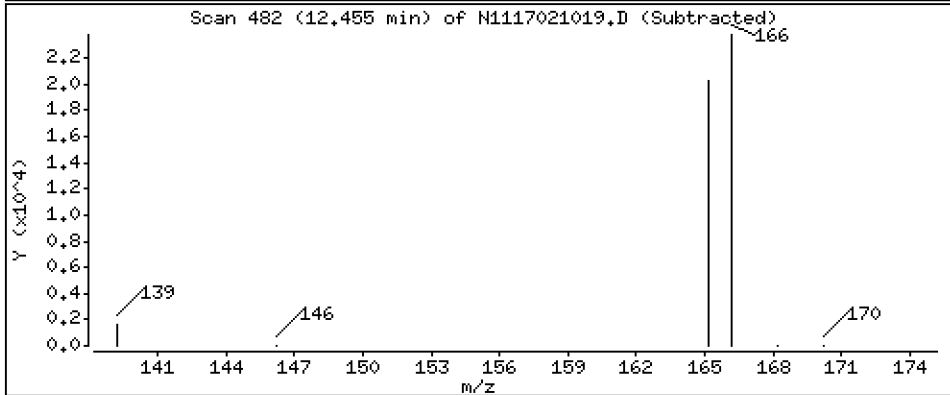
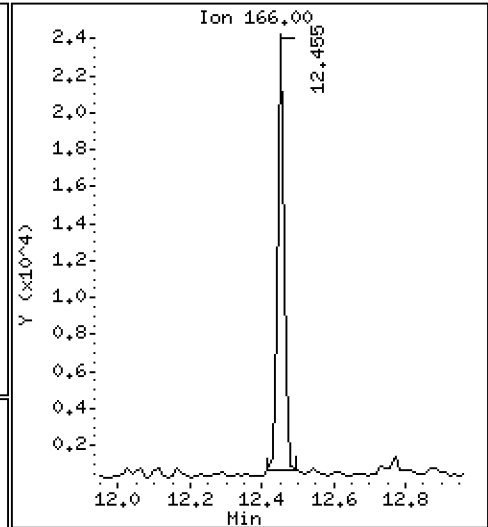
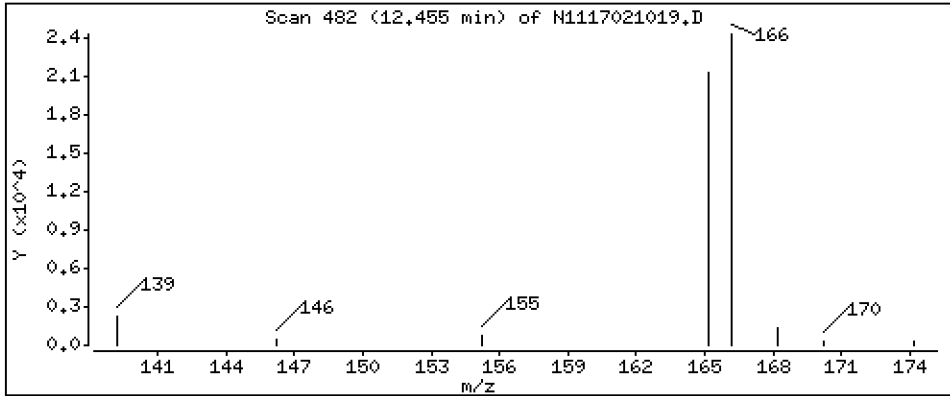
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

16 Fluorene

Concentration: 25,9 ng/mL



Date : 10-FEB-2017 21:48

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-12

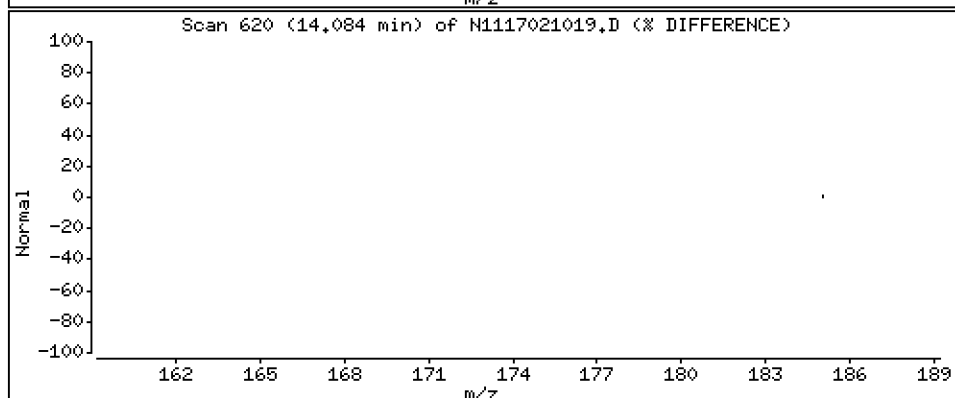
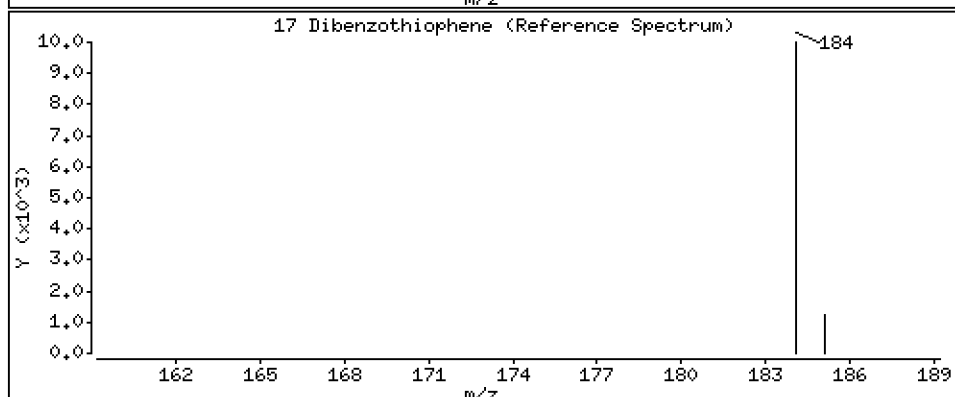
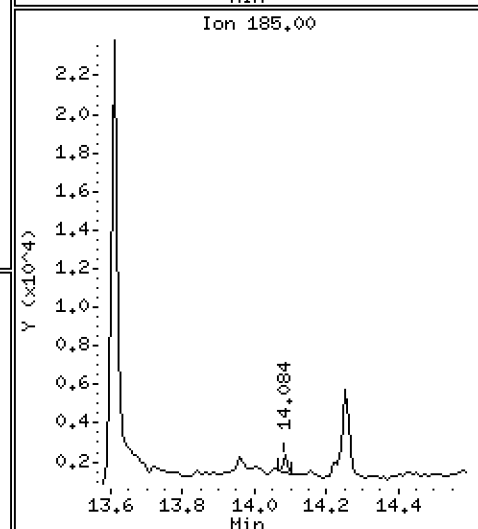
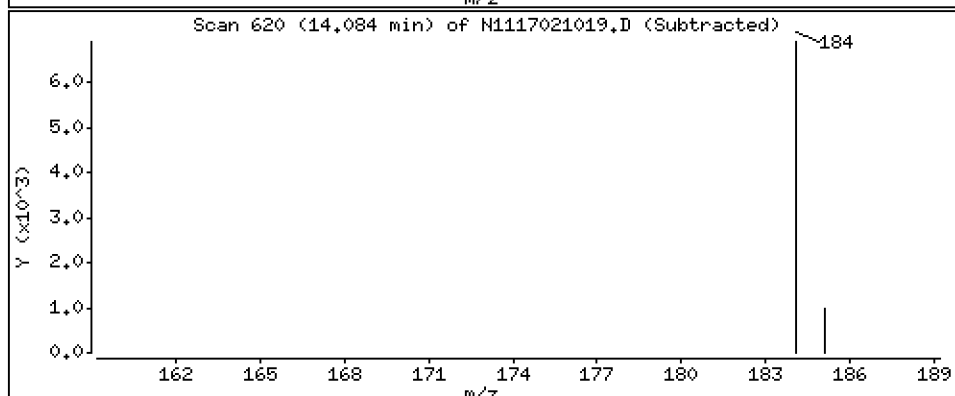
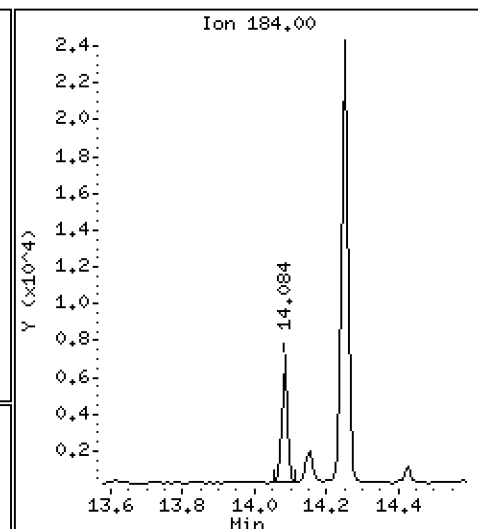
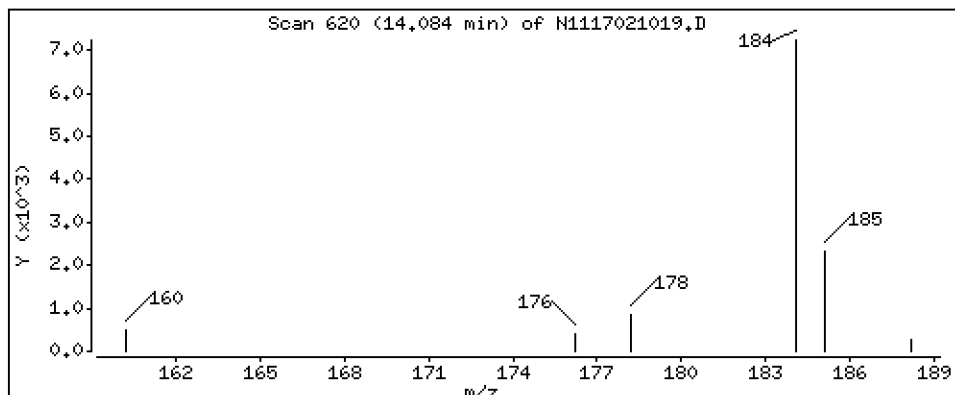
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

17 Dibenzothiophene

Concentration: 7,33 ng/mL



Date : 10-FEB-2017 21:48

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-12

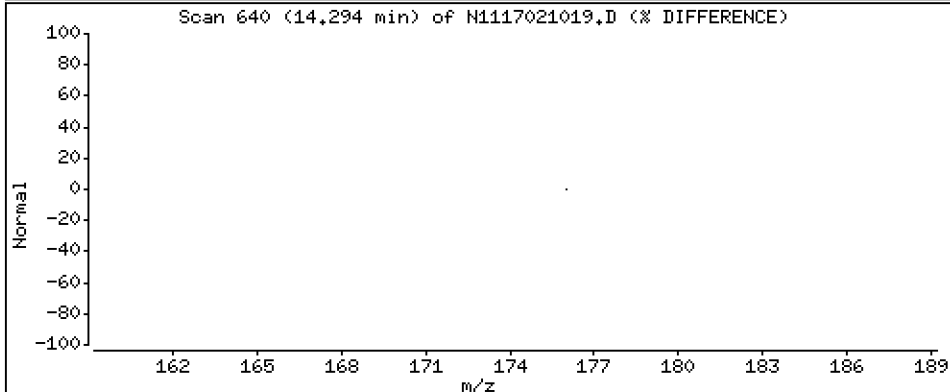
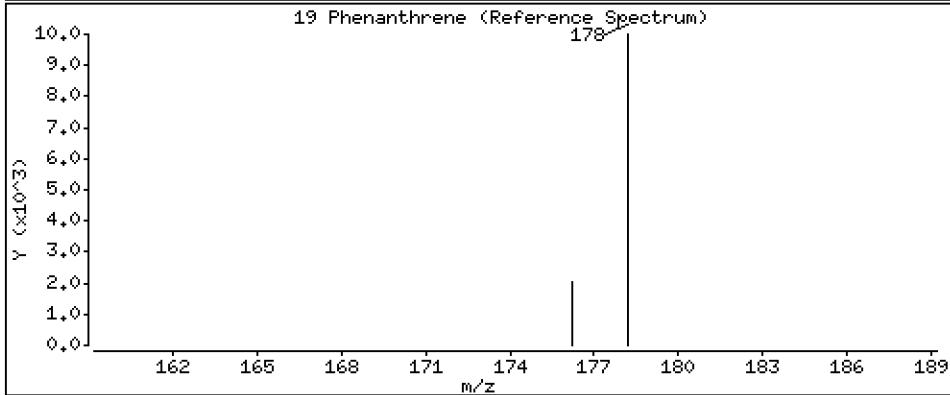
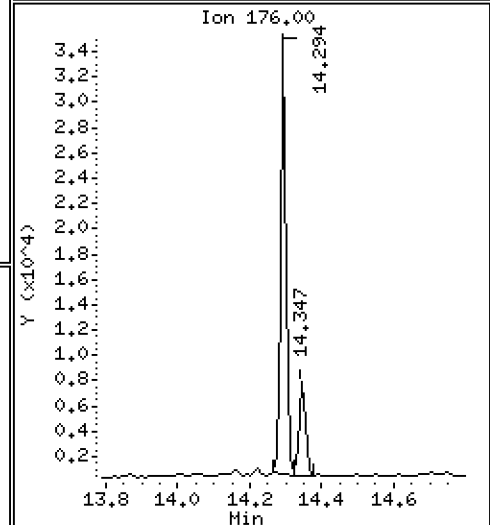
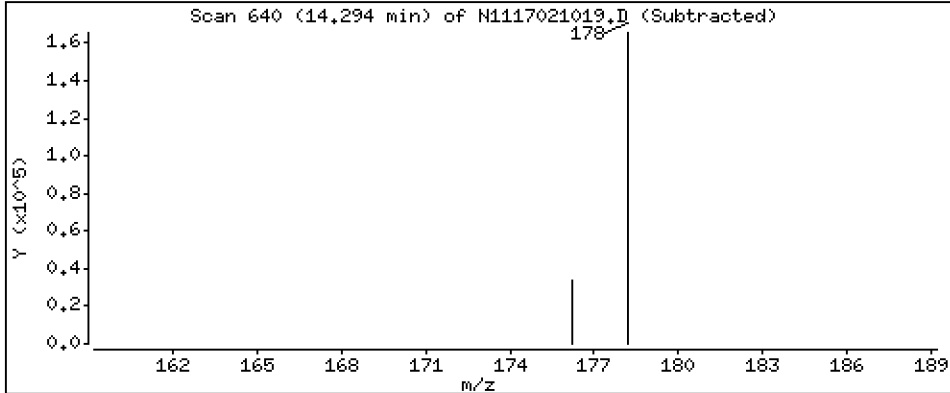
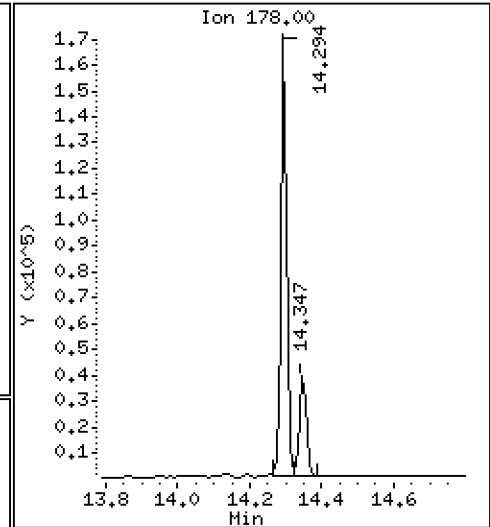
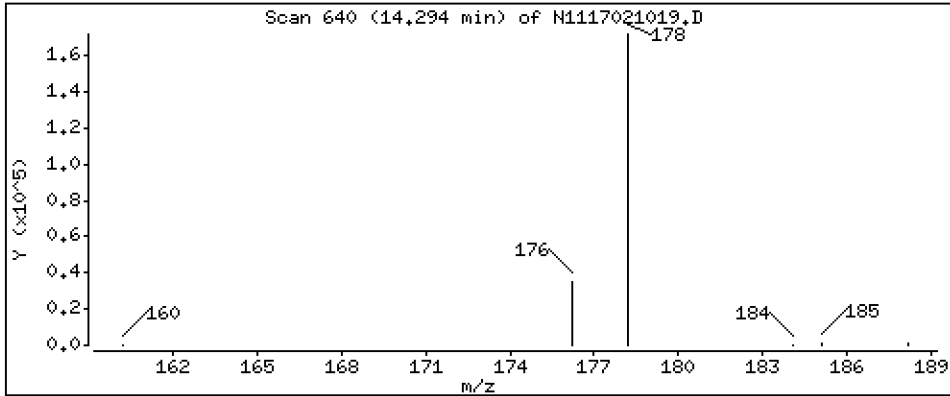
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0.25

19 Phenanthrene

Concentration: 151 ng/mL



Date : 10-FEB-2017 21:48

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-12

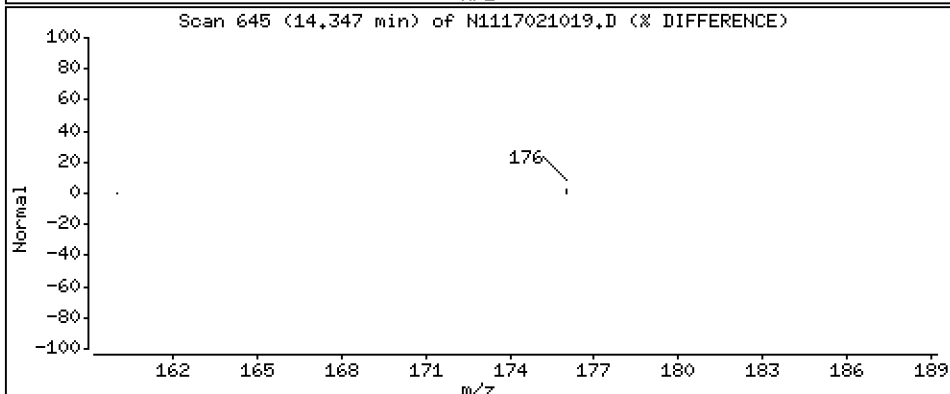
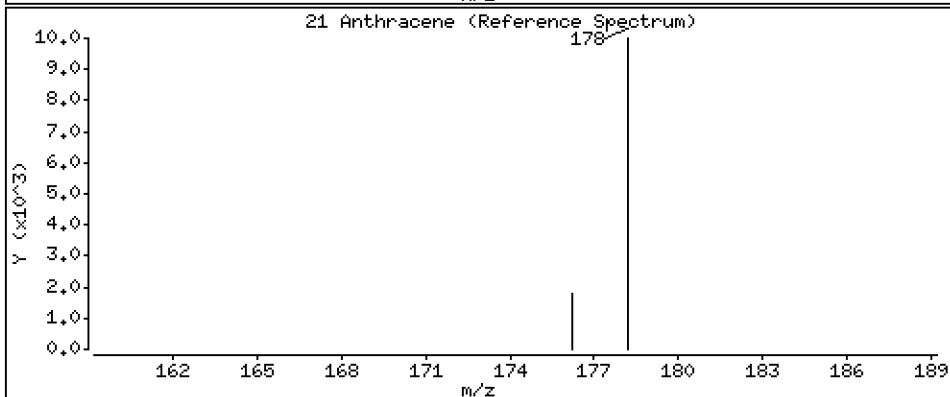
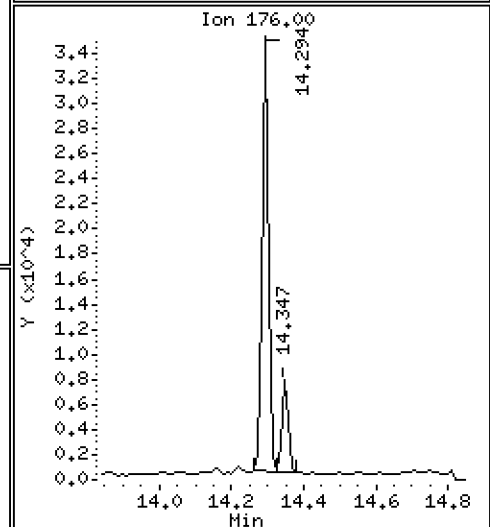
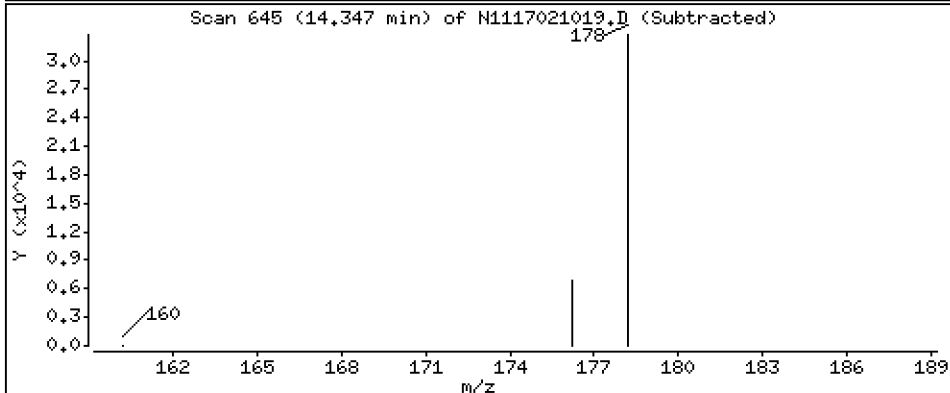
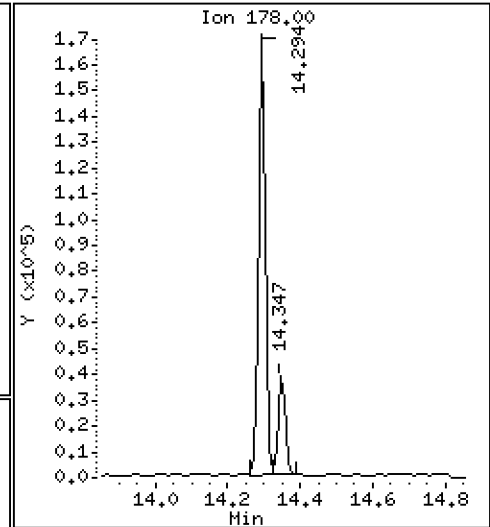
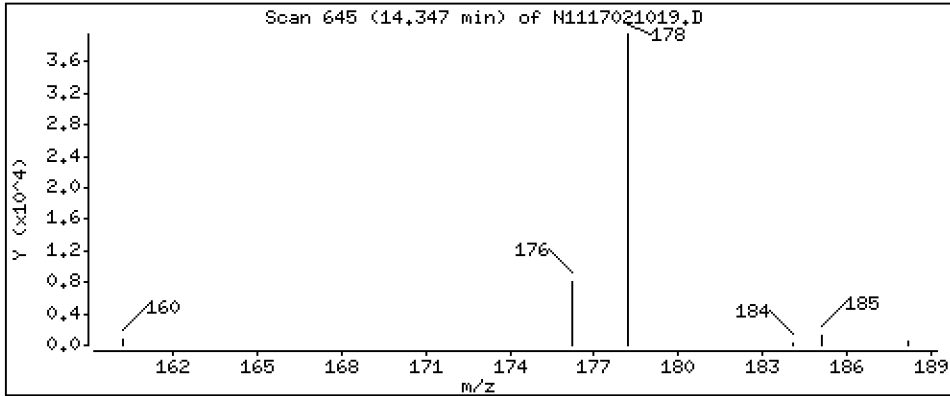
Operator: VTS

Column phase: Rxi-17Si1 MS

Column diameter: 0,25

21 Anthracene

Concentration: 36,5 ng/mL



Date : 10-FEB-2017 21:48

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-12

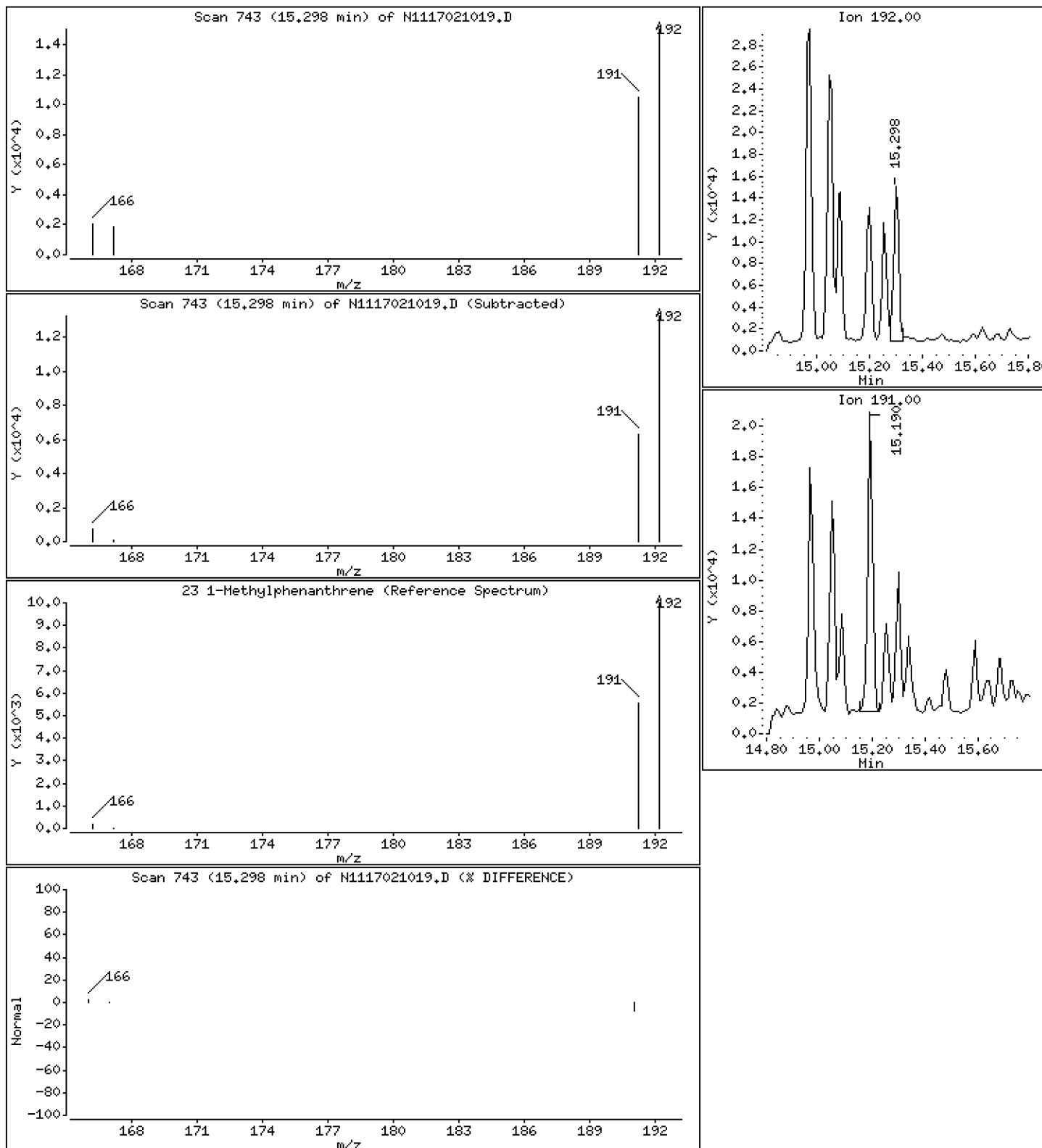
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

23 1-Methylphenanthrene

Concentration: 12,4 ng/mL



Date : 10-FEB-2017 21:48

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-12

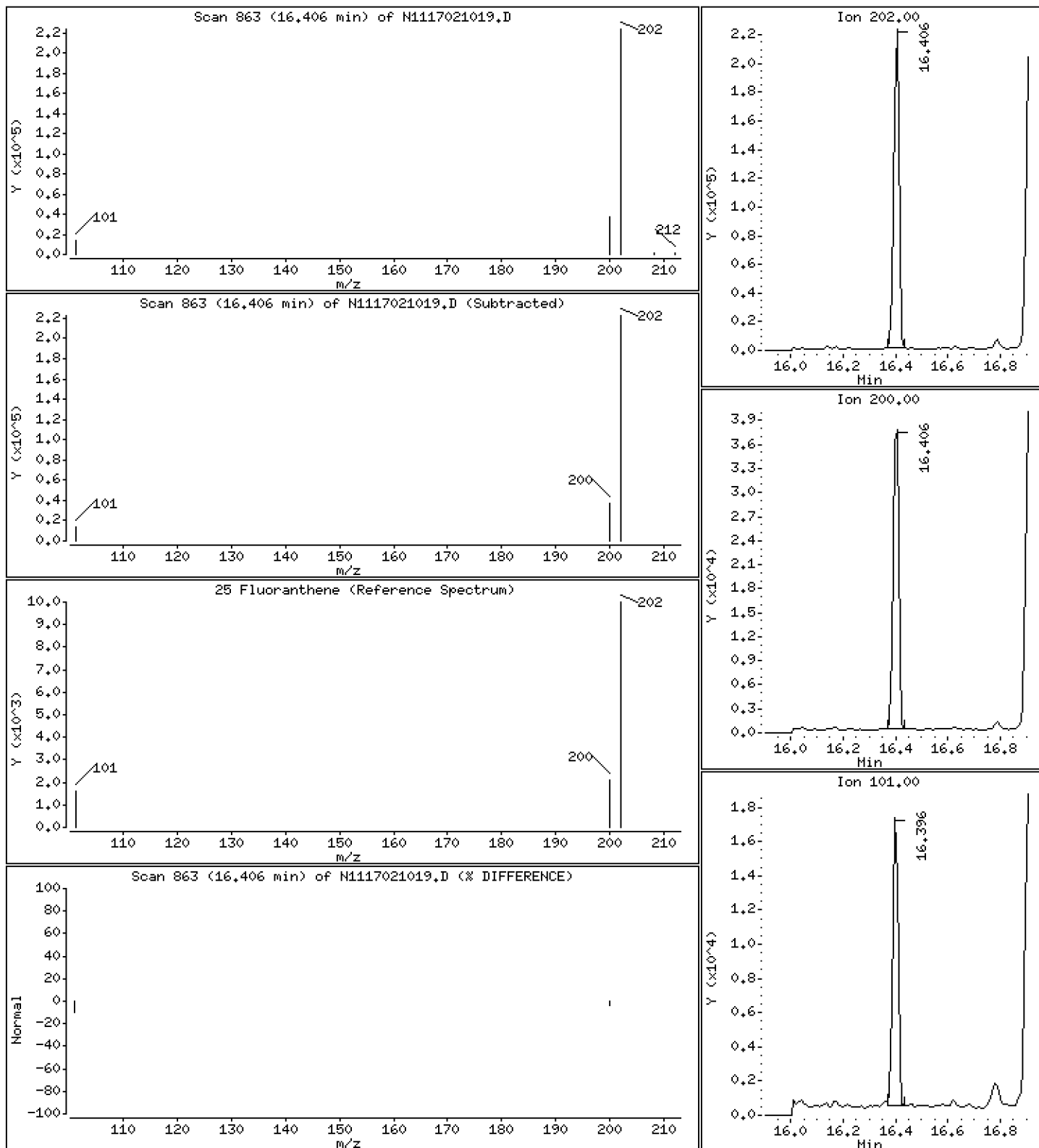
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

25 Fluoranthene

Concentration: 183 ng/mL



Date : 10-FEB-2017 21:48

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-12

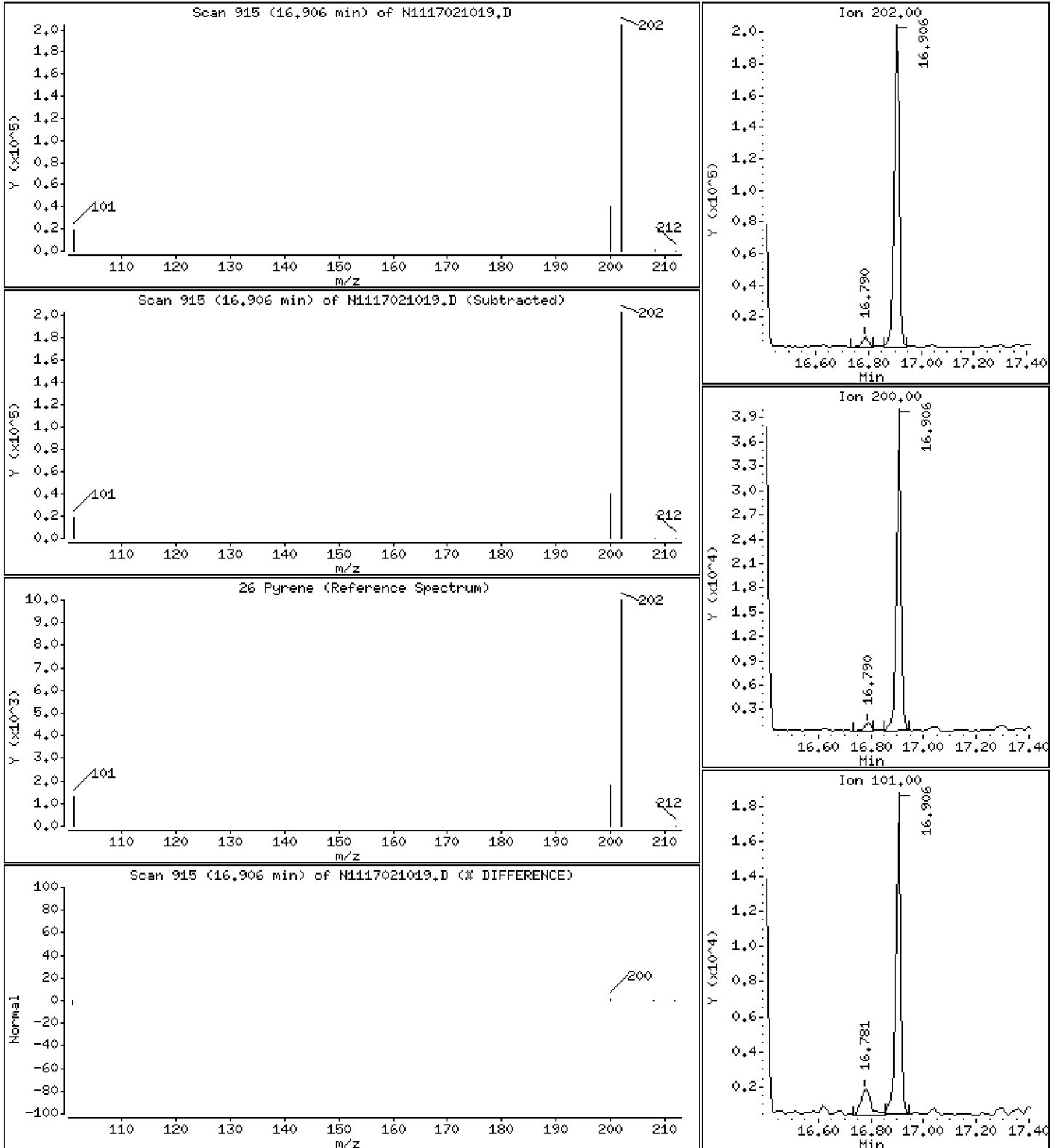
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0.25

26 Pyrene

Concentration: 202 ng/mL



Date : 10-FEB-2017 21:48

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-12

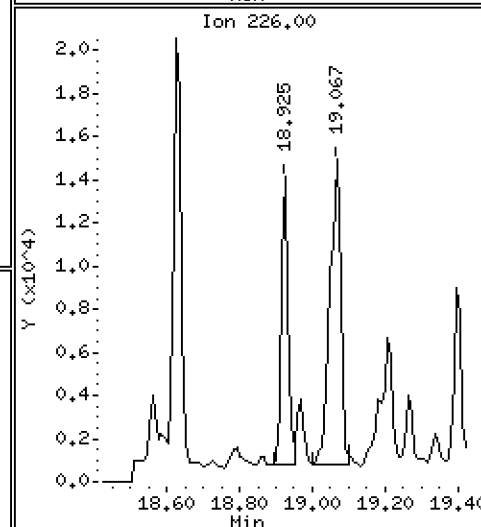
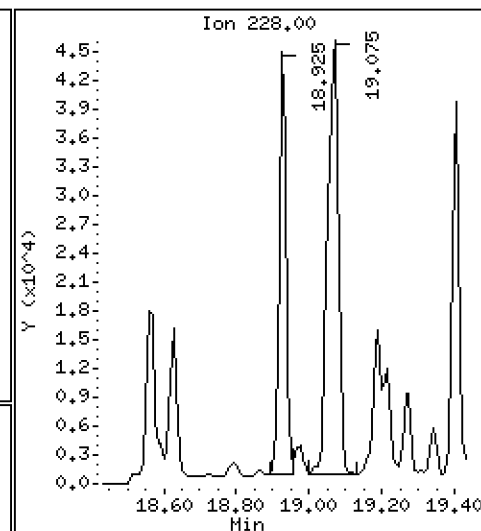
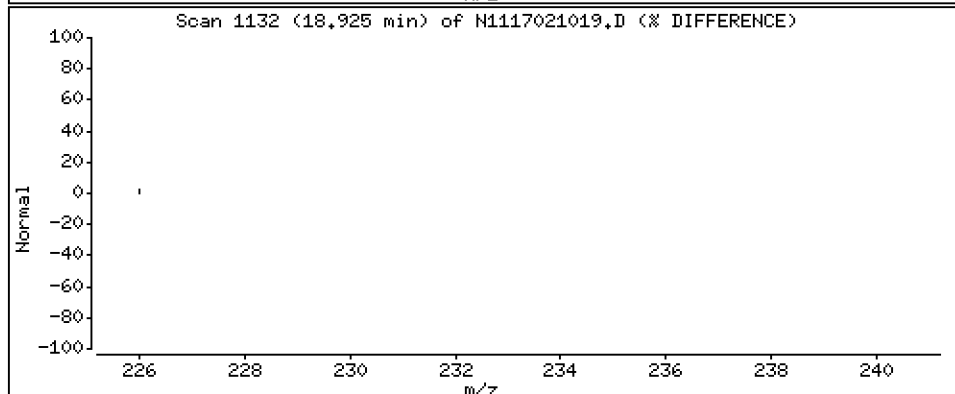
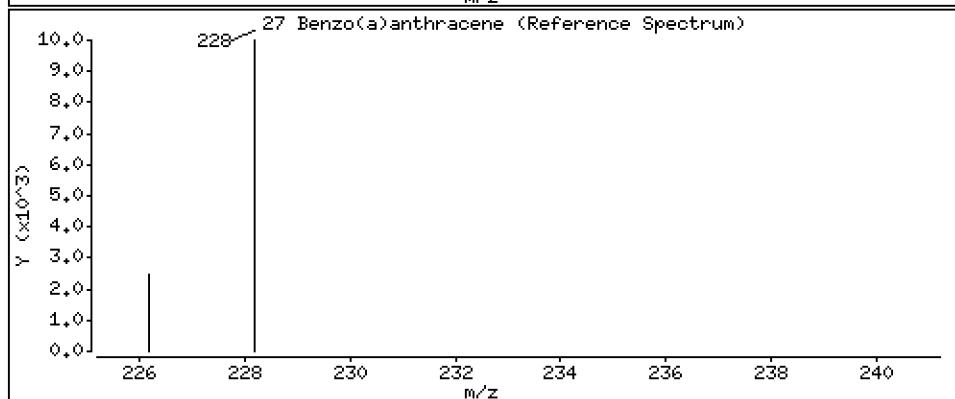
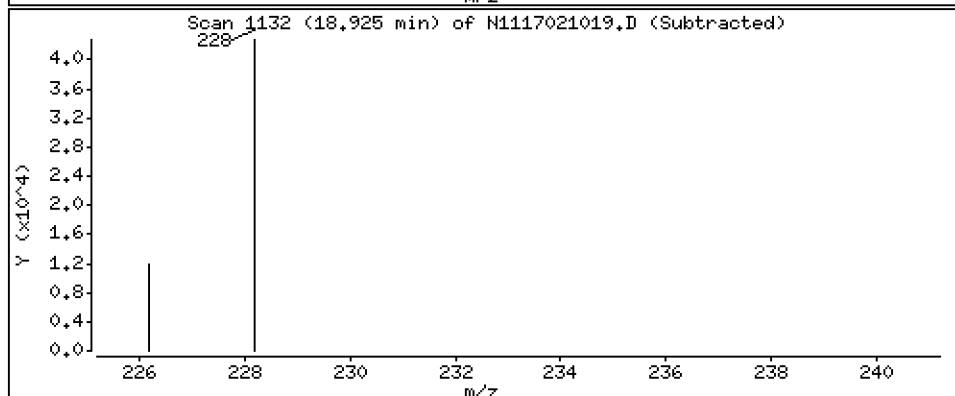
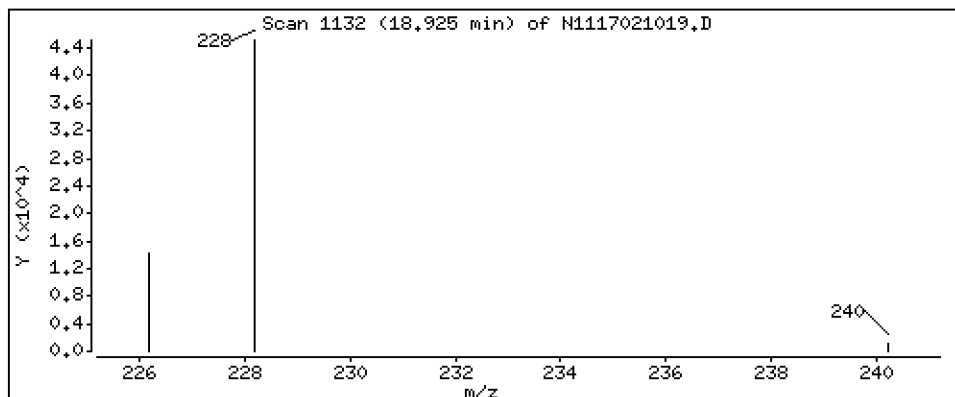
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

27 Benzo(a)anthracene

Concentration: 47,6 ng/mL



Date : 10-FEB-2017 21:48

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-12

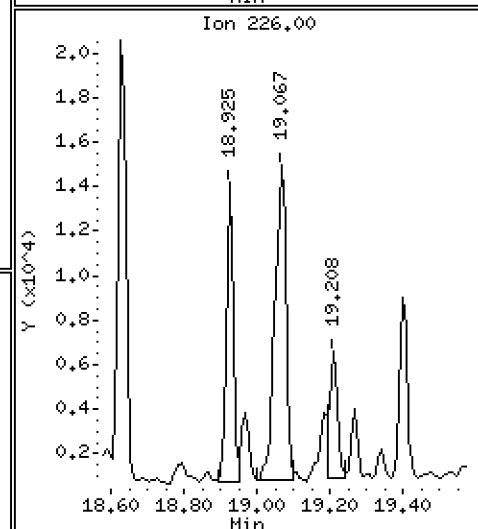
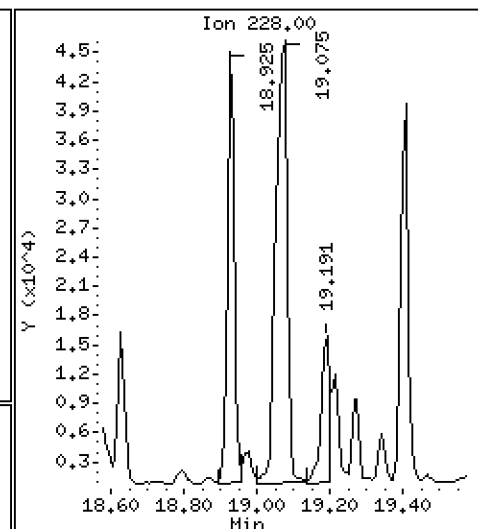
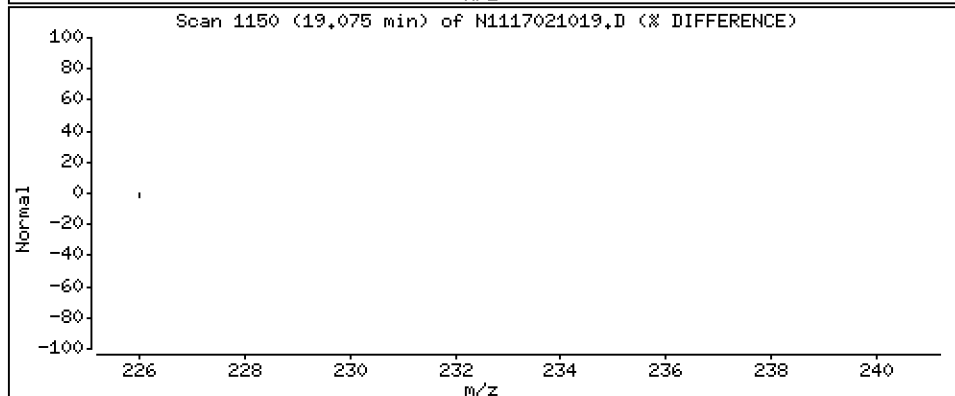
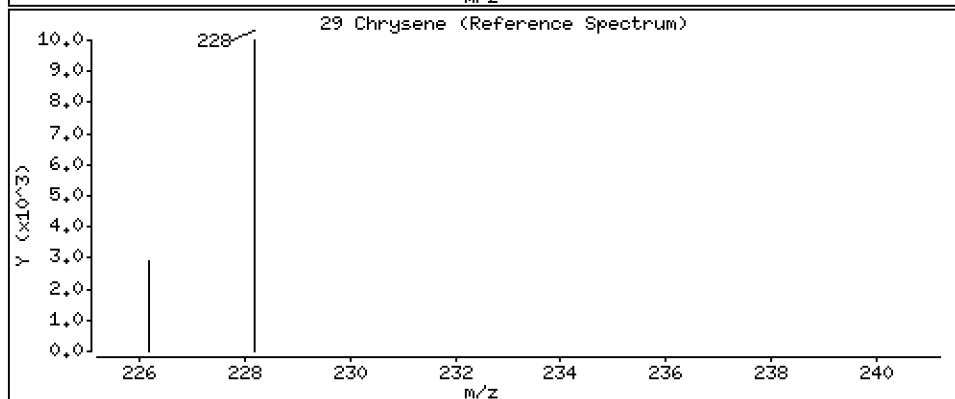
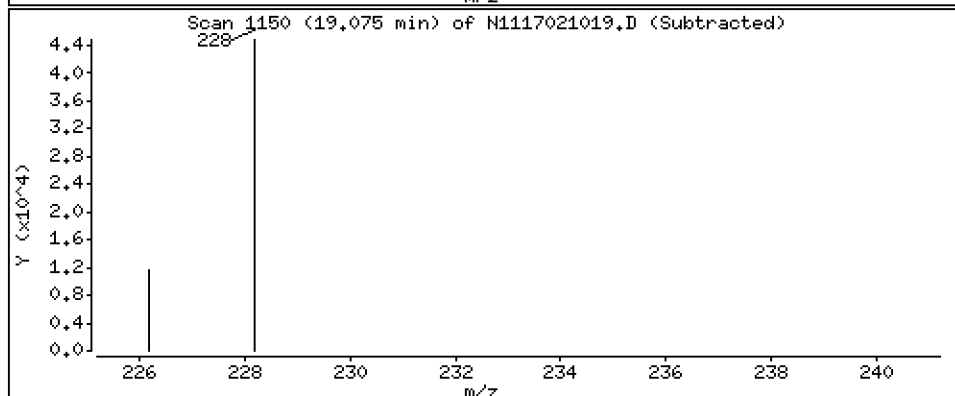
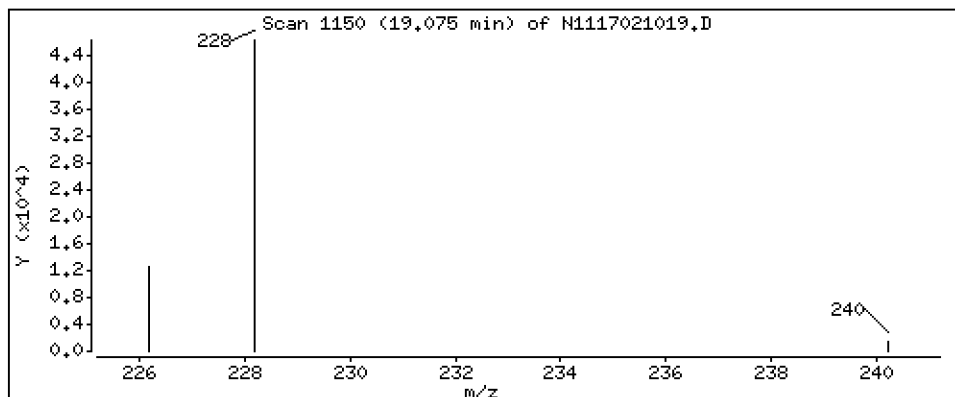
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

29 Chrysene

Concentration: 76,8 ng/mL



Date : 10-FEB-2017 21:48

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-12

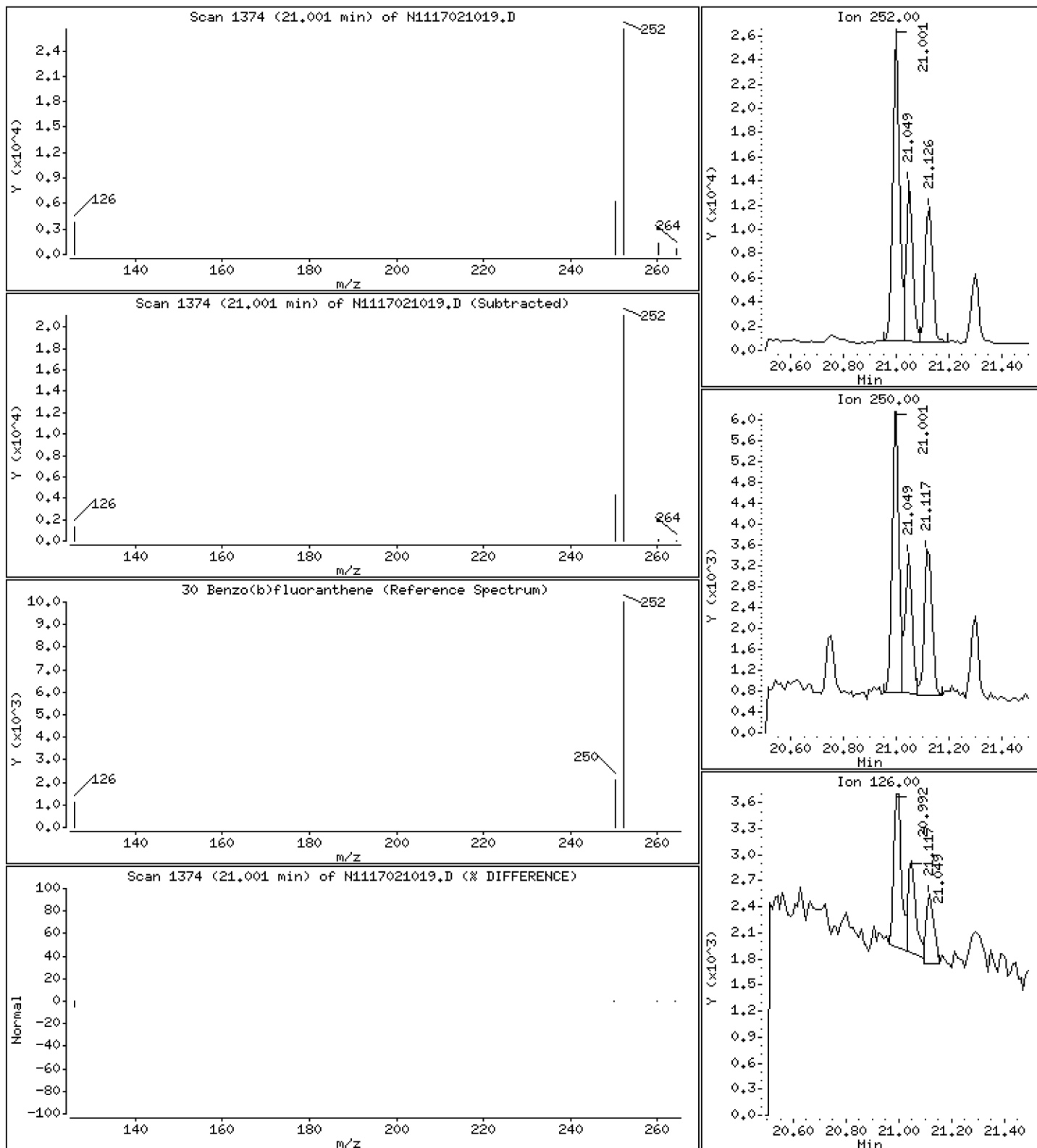
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

30 Benzo(b)fluoranthene

Concentration: 39,9 ng/mL



Date : 10-FEB-2017 21:48

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-12

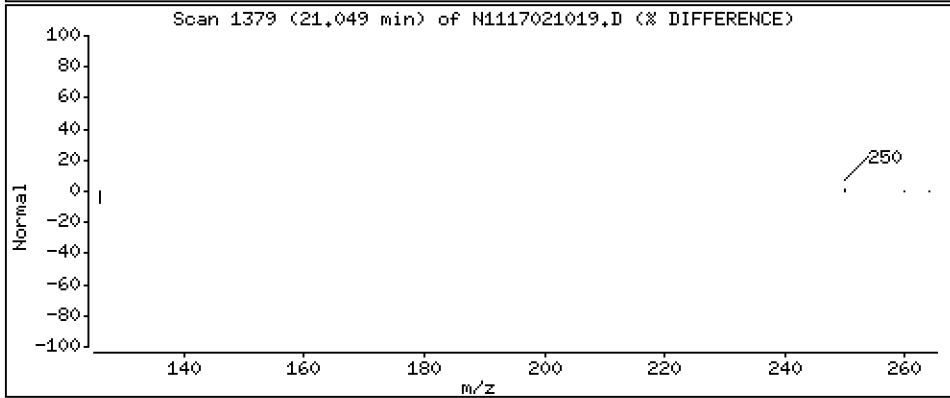
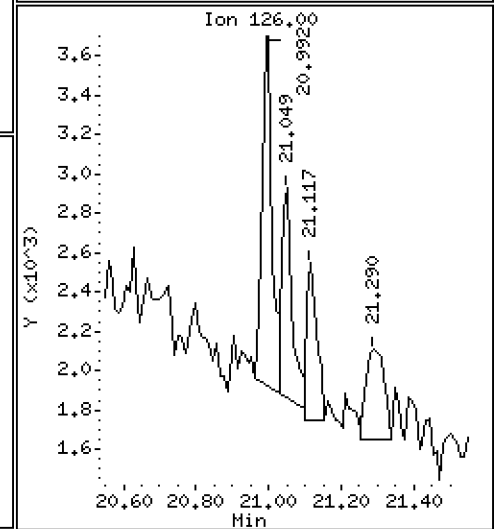
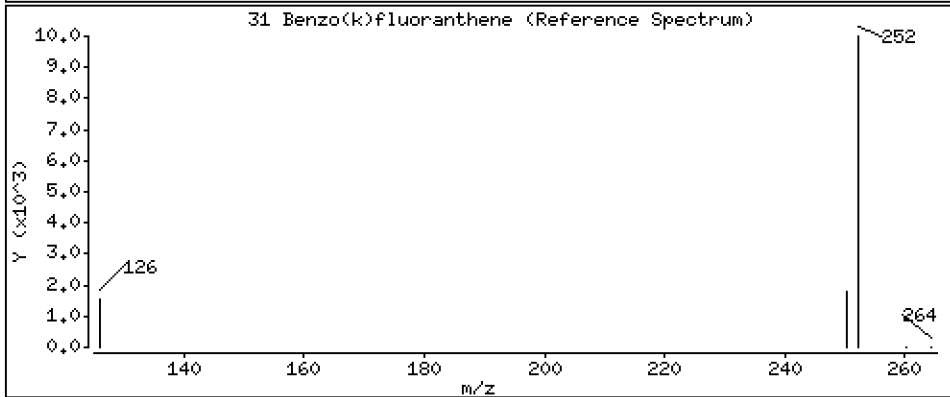
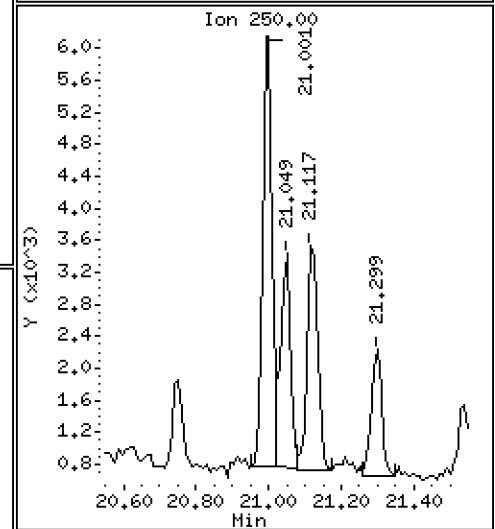
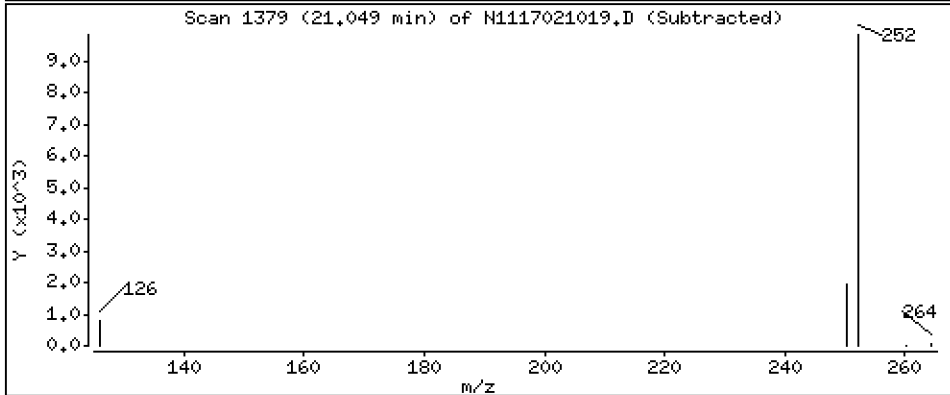
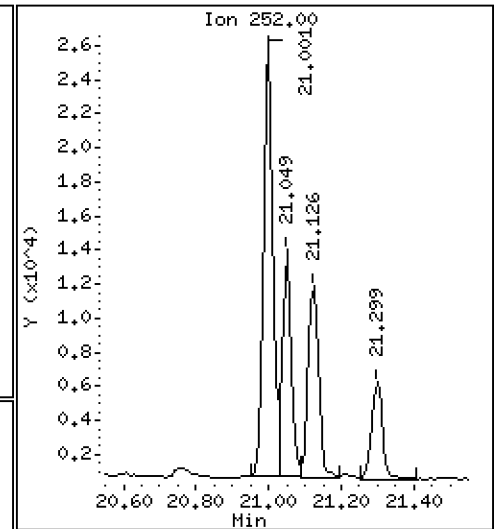
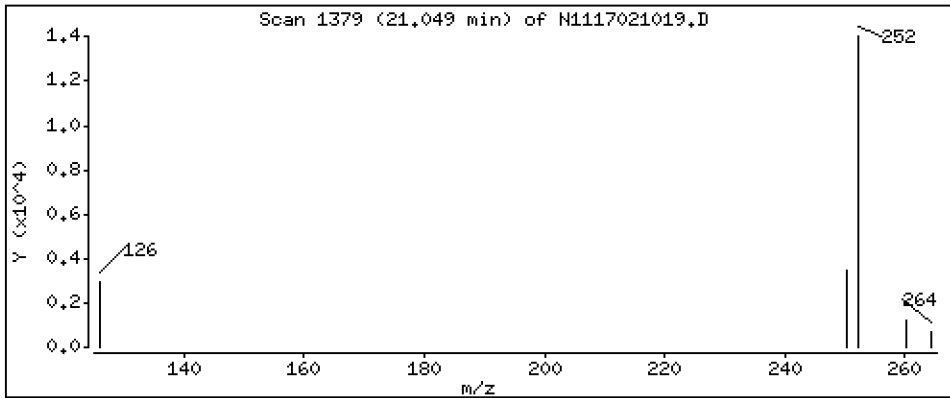
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

31 Benzo(k)fluoranthene

Concentration: 18,2 ng/mL



Date : 10-FEB-2017 21:48

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-12

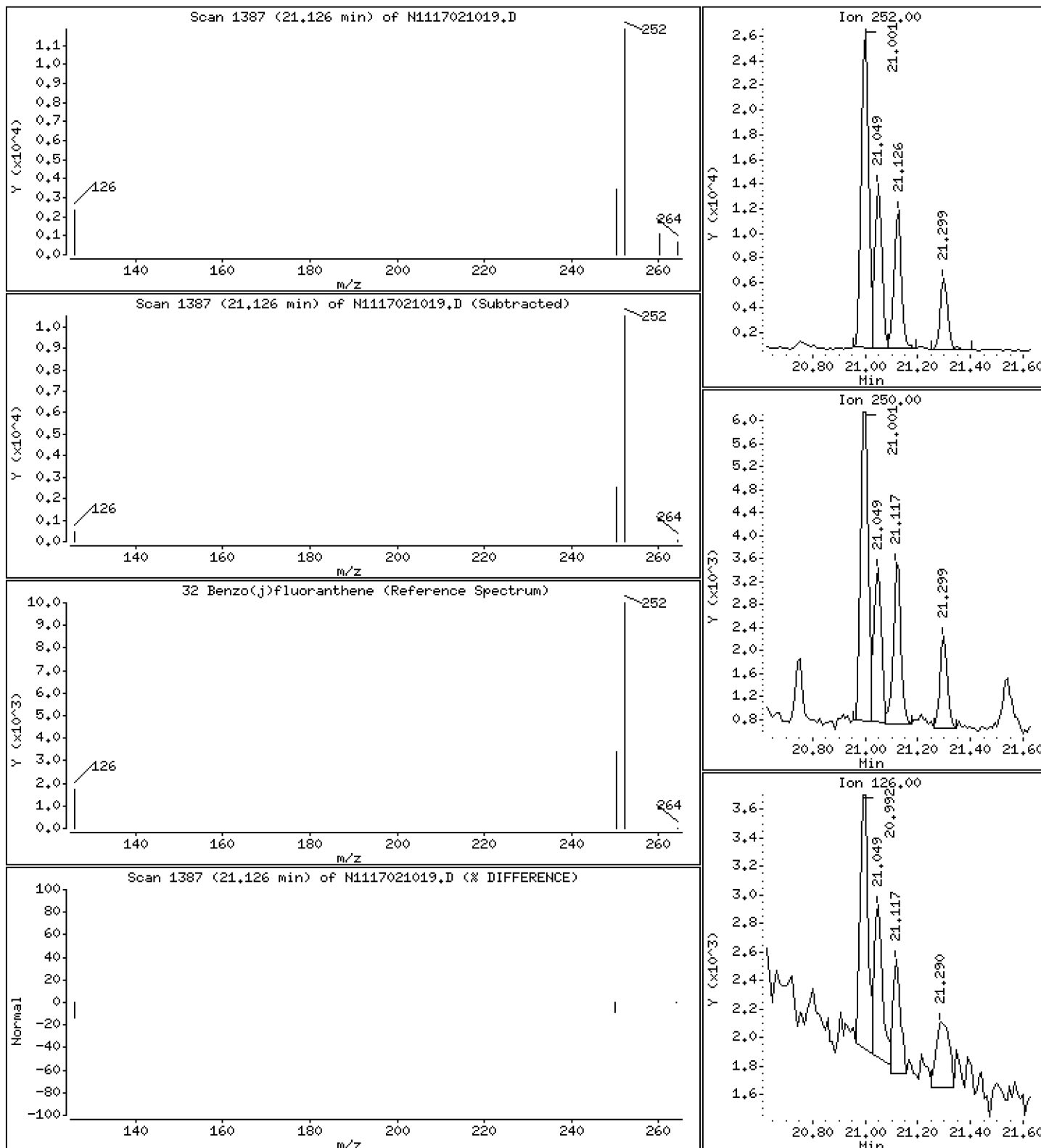
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

32 Benzo(j)fluoranthene

Concentration: 19,0 ng/mL



Date : 10-FEB-2017 21:48

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-12

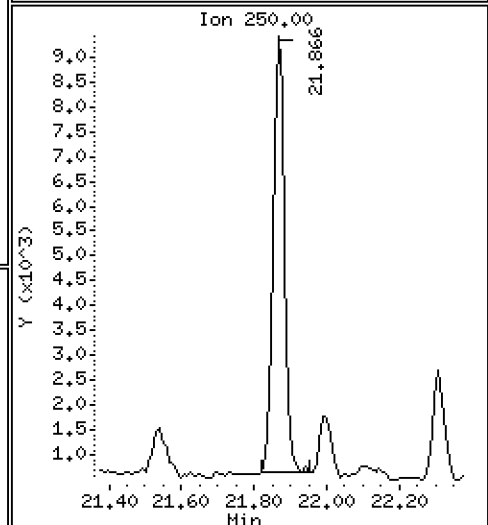
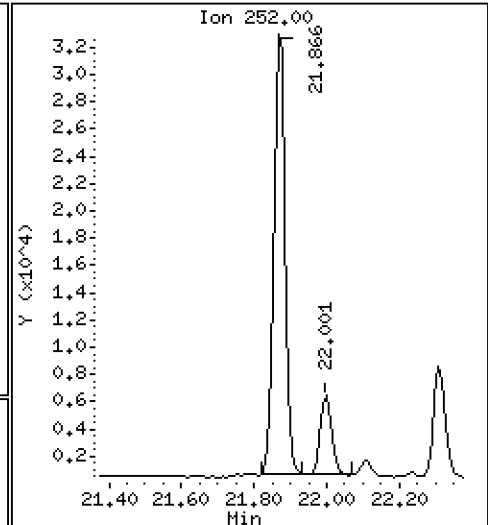
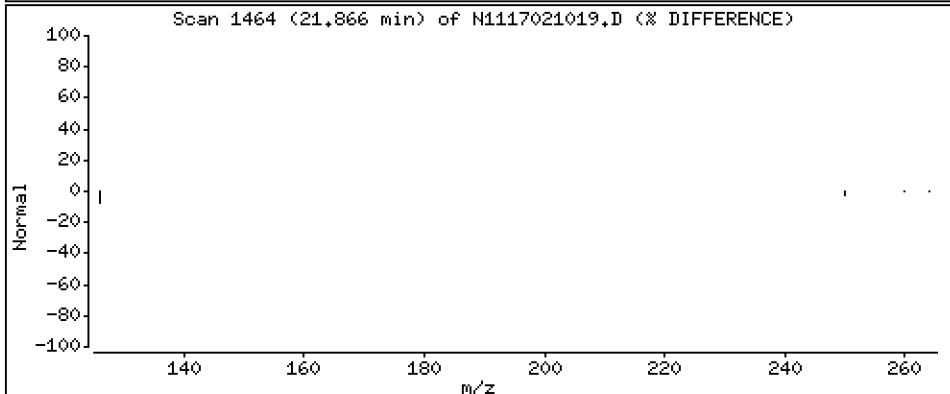
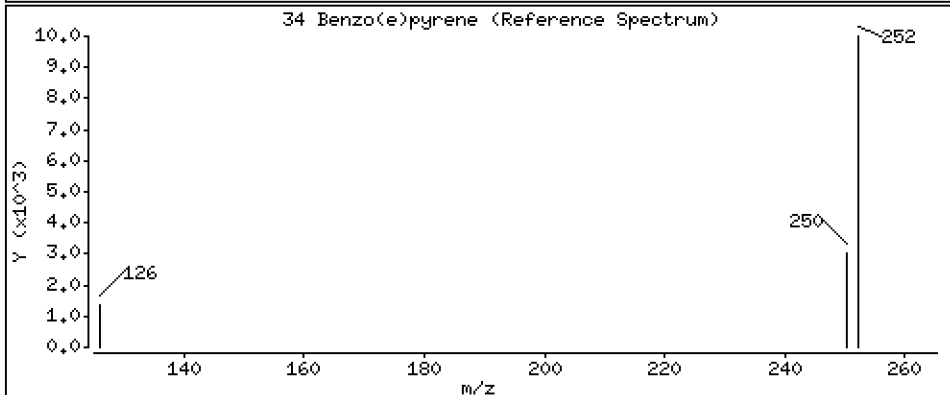
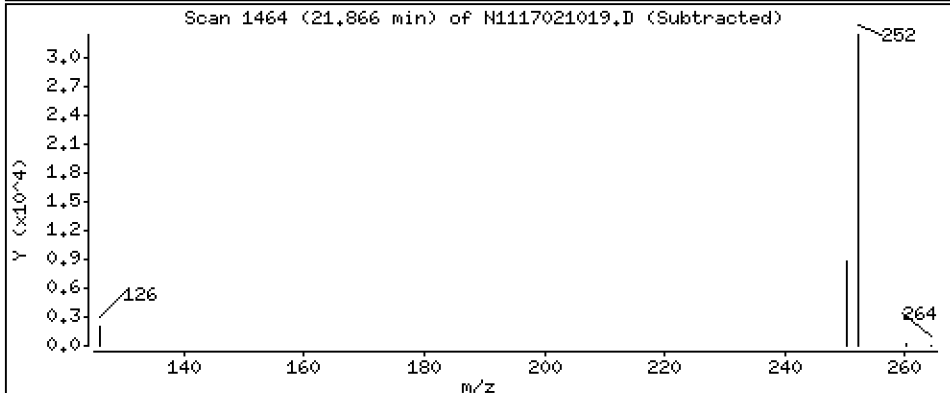
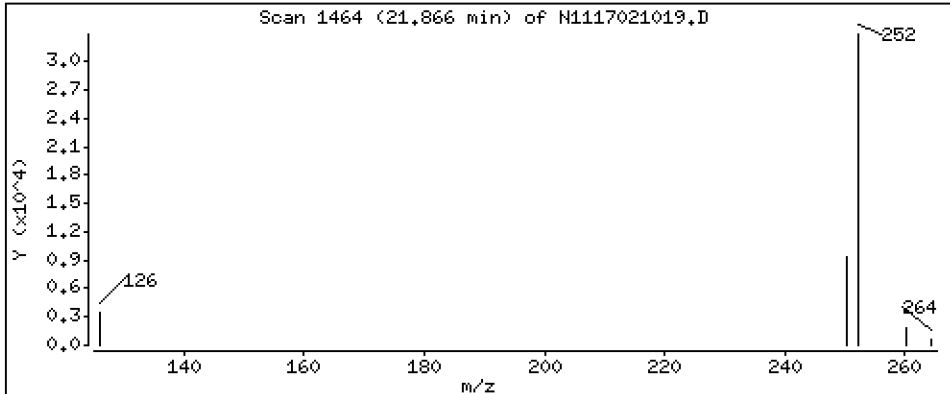
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

34 Benzo(e)pyrene

Concentration: 56,7 ng/mL



Date : 10-FEB-2017 21:48

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-12

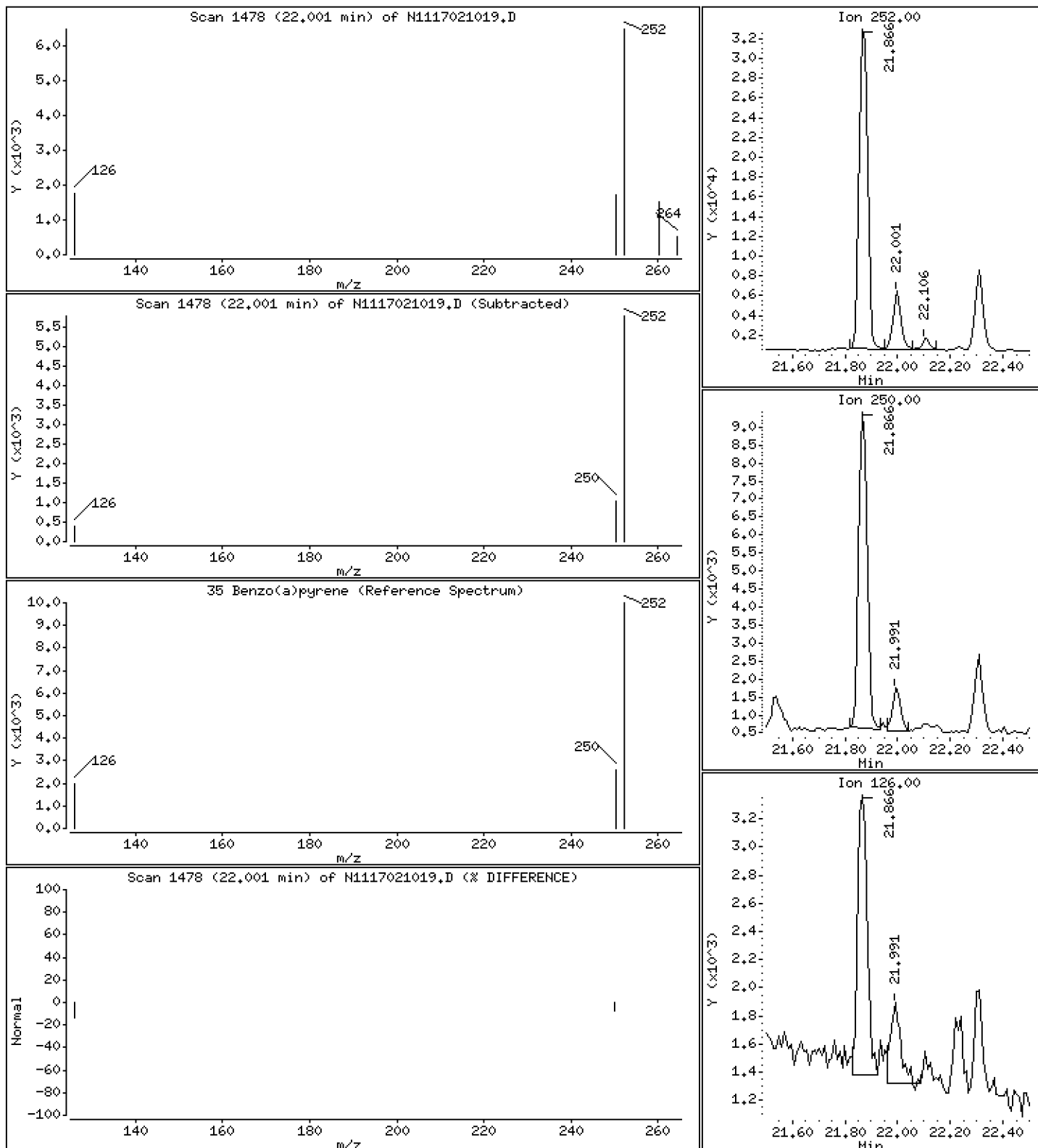
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

35 Benzo(a)pyrene

Concentration: 11,1 ng/mL



Date : 10-FEB-2017 21:48

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-12

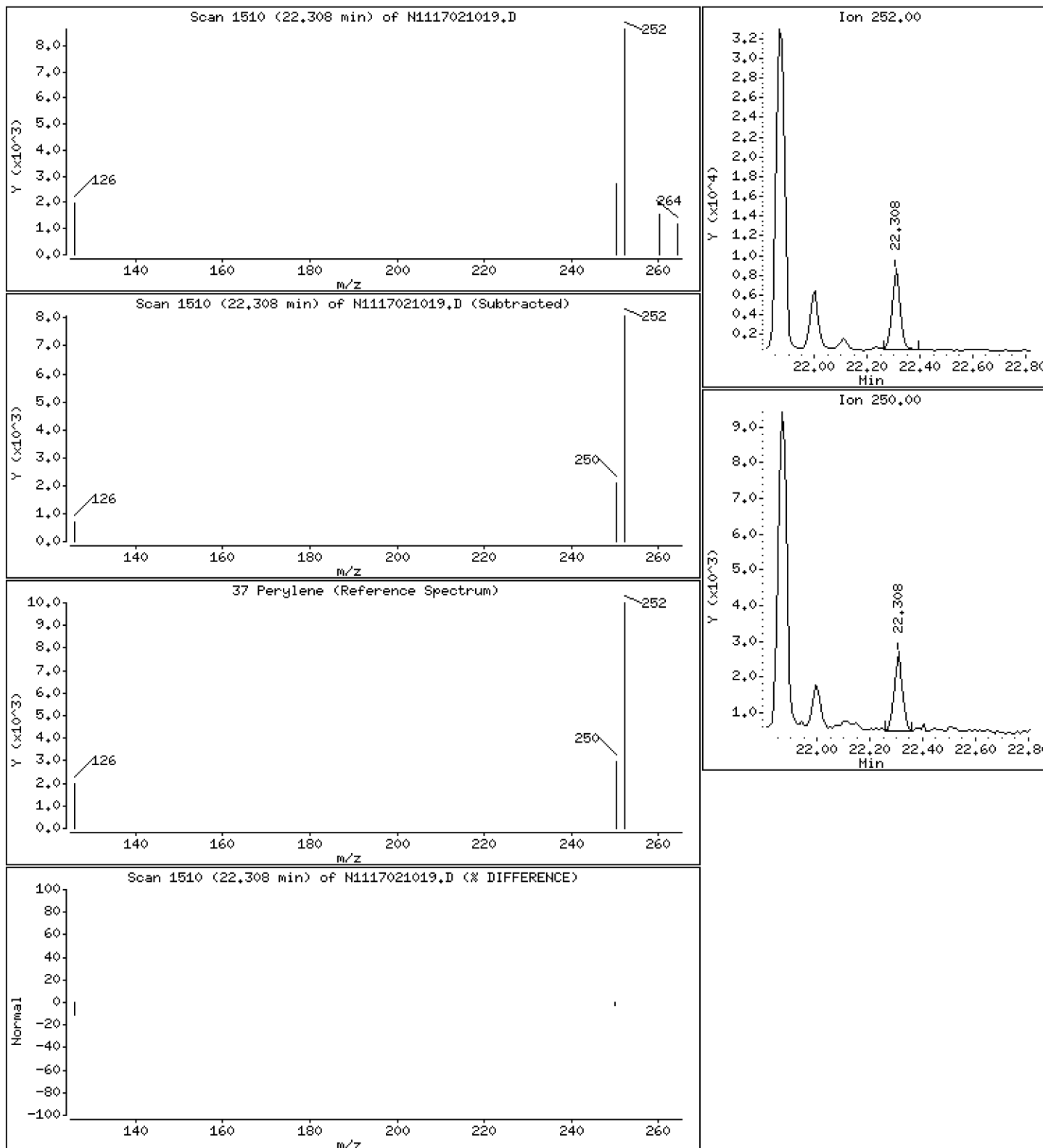
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

37 Perylene

Concentration: 15,1 ng/mL



Date : 10-FEB-2017 21:48

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-12

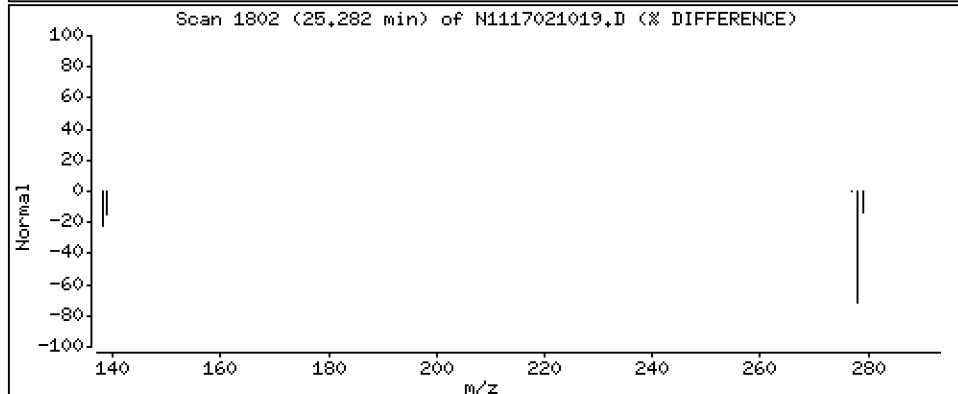
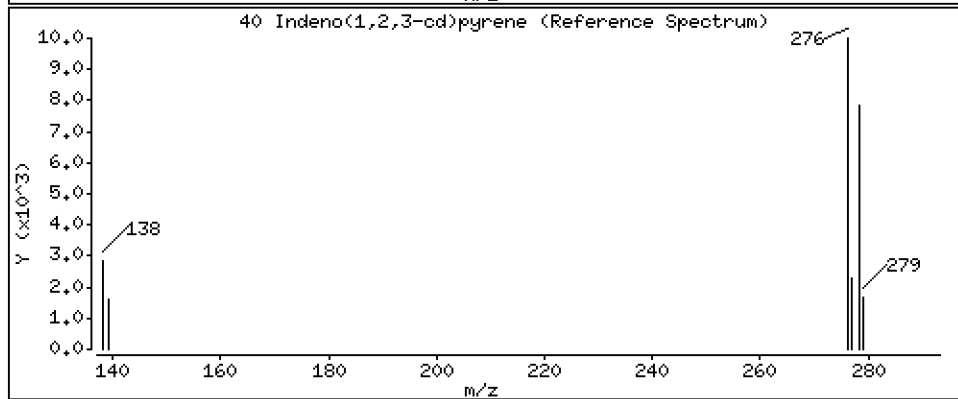
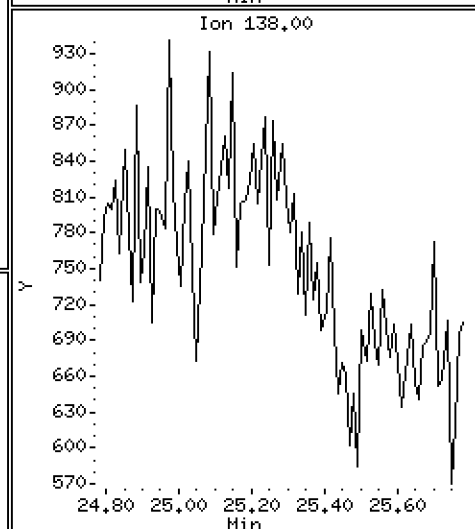
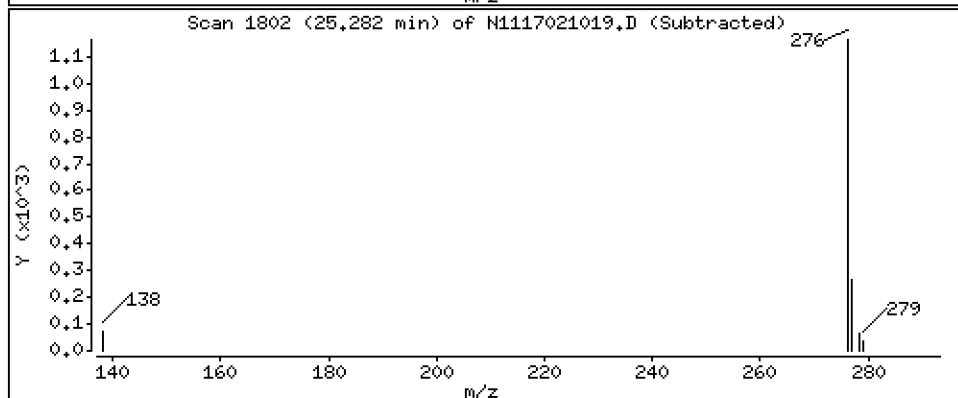
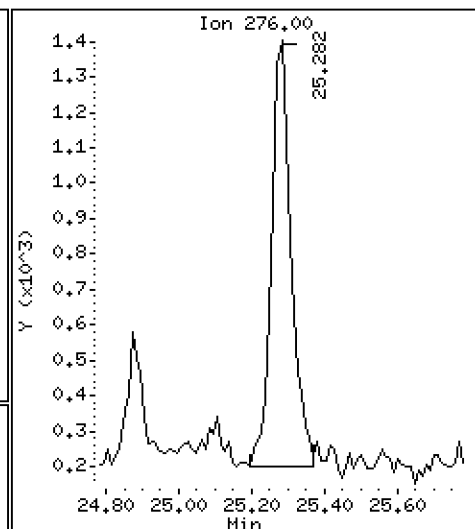
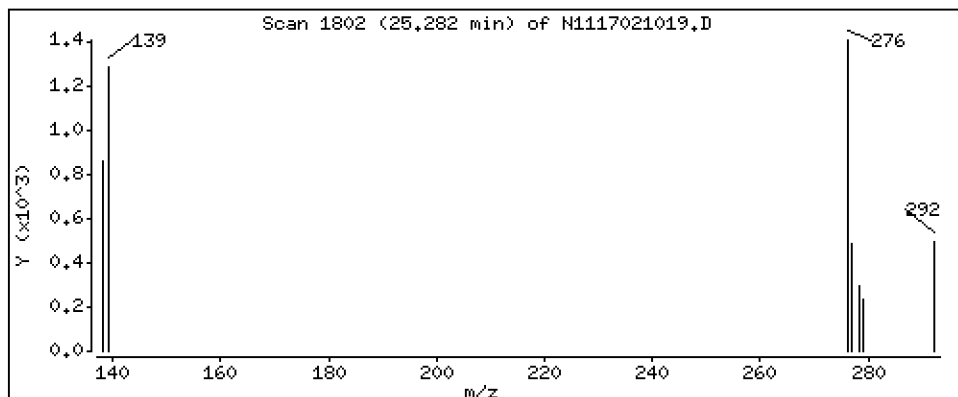
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

40 Indeno(1,2,3-cd)pyrene

Concentration: 3,50 ng/mL



Date : 10-FEB-2017 21:48

Client ID:

Instrument: nt11.i

Sample Info: 17A0053-12

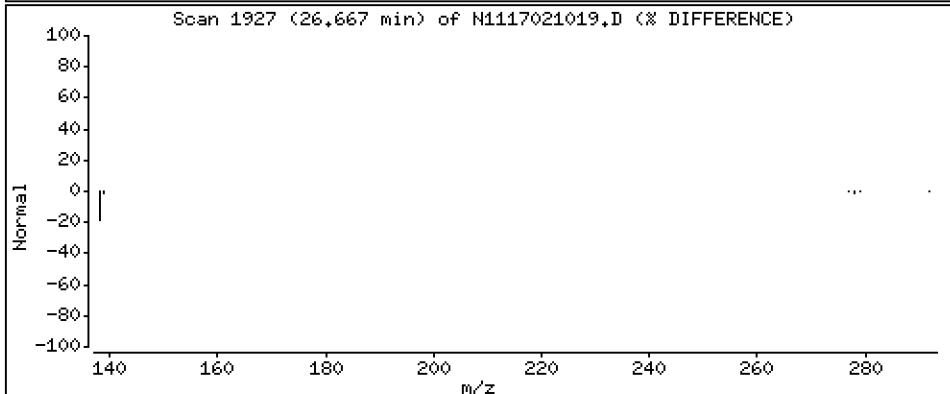
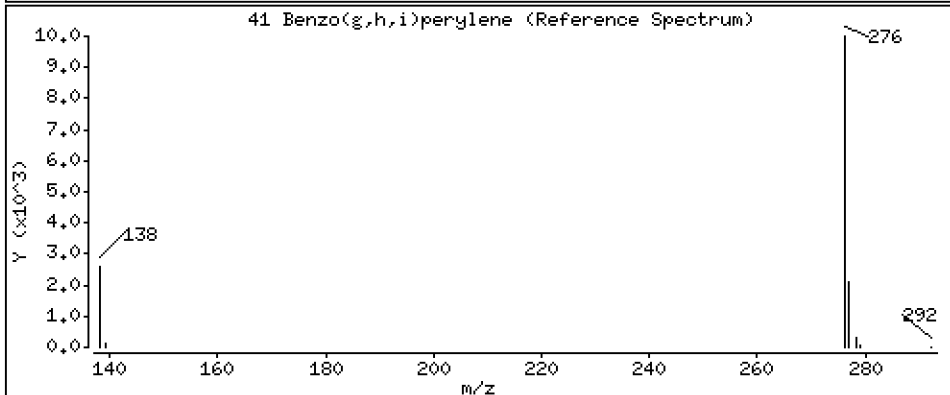
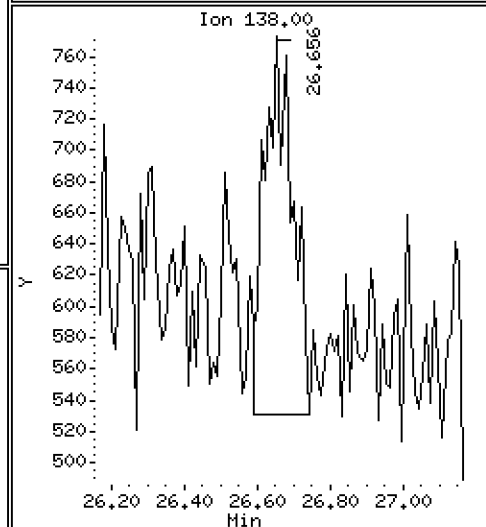
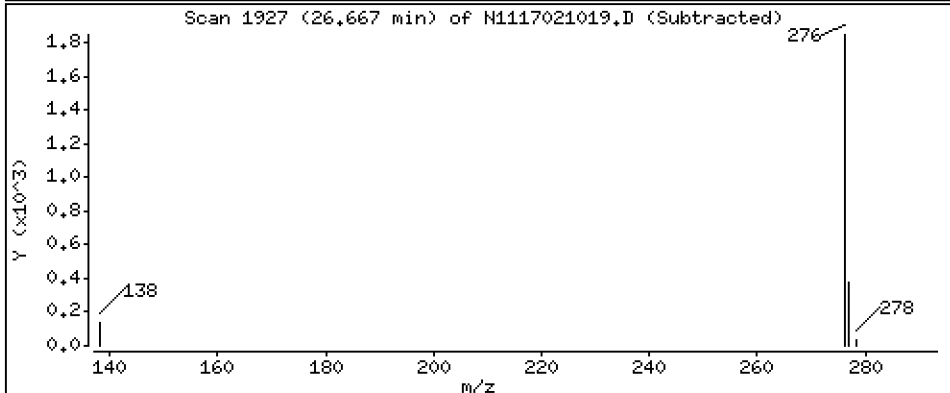
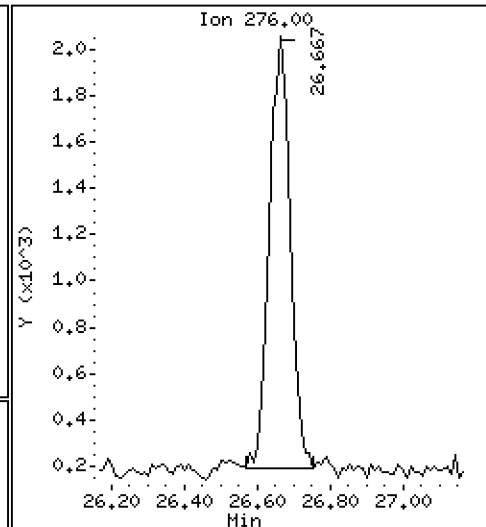
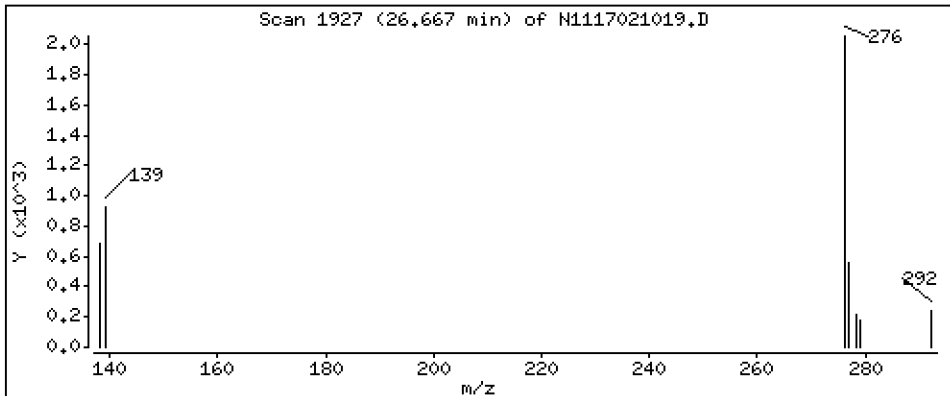
Operator: VTS

Column phase: Rxi-17Sil MS

Column diameter: 0,25

41 Benzo(g,h,i)perylene

Concentration: 6,49 ng/mL



ARI Labs, Inc.

LOW LEVEL PNAs BY SW8270D-SIM

Data file : \\target\share\chem3\nt11.i\20170210.b\N1117021019.D
 Lab Smp Id: 17A0053-12
 Inj Date : 10-FEB-2017 21:48 MS Autotune Date: 15-JAN-2015 15:59
 Operator : VTS Inst ID: nt11.i
 Smp Info : 17A0053-12
 Misc Info :
 Comment :
 Method : \\target\share\chem3\nt11.i\20170210.b\LOWSIM.m
 Meth Date : 11-Feb-2017 08:35 nt11.i Quant Type: ISTD
 Cal Date : 31-DEC-2016 09:30 Cal File: N1116123104.D
 Als bottle: 1
 Dil Factor: 1.00000
 Integrator: HP RTE Compound Sublist: allpna.sub
 Target Version: 4.14
 Processing Host: VANS

Compounds	QUANT	SIG	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS	
							ON-COLUMN (ng/mL)	FINAL (ng/mL)
* 1 Naphthalene-d8	136		8.518	8.526	(1.000)	227725	200.000	
2 Naphthalene	128		Compound Not Detected.					
3 Benzo(b)thiophene	134		Compound Not Detected.					
\$ 4 2-Methylnaphthalene-d10	152		9.498	9.508	(1.115)	109633	112.098	112
5 2-Methylnaphthalene	142		9.561	9.561	(1.122)	8874	7.92267	7.92
6 1-Methylnaphthalene	142		9.824	9.823	(1.153)	4956	4.39932	4.40
7 2-Chloronaphthalene	162		Compound Not Detected.					
8 Biphenyl	154		Compound Not Detected.					
9 2,6-Dimethylnaphthalene	156		Compound Not Detected.					
10 Acenaphthylene	152		Compound Not Detected.					
* 11 Acenaphthene-d10	164		11.555	11.564	(1.000)	158745	200.000	
12 Acenaphthene	153		11.618	11.627	(1.005)	11790	12.5540	12.6
13 Dibenzofuran	168		11.822	11.822	(1.023)	22909	16.4095	16.4
14 2,3,5-Trimethylnaphthalene	170		11.911	11.923	(1.031)	3031	3.39287	3.39 (M)
\$ 15 Fluorene-d10	174		Compound Not Detected.					
16 Fluorene	166		12.454	12.454	(1.078)	28825	25.9356	25.9
17 Dibenzothiophene	184		14.083	14.083	(0.988)	8535	7.33484	7.33 (M)
* 18 Phenanthrene-d10	188		14.252	14.262	(1.000)	251996	200.000	
19 Phenanthrene	178		14.294	14.293	(1.003)	216910	150.557	151
\$ 20 Anthracene-d10	188		Compound Not Detected.					
21 Anthracene	178		14.346	14.356	(1.007)	52428	36.4960	36.5
22 Carbazole	167		Compound Not Detected.					
23 1-Methylphenanthrene	192		15.298	15.307	(1.073)	18348	12.4184	12.4 (M)
\$ 24 Fluoranthene-d10	212		16.367	16.367	(1.148)	167220	124.938	125
25 Fluoranthene	202		16.406	16.405	(1.151)	298768	182.817	183
26 Pyrene	202		16.905	16.915	(0.889)	272455	202.102	202
27 Benzo(a)anthracene	228		18.925	18.933	(0.995)	59345	47.5563	47.6
* 28 Chrysene-d12	240		19.024	19.024	(1.000)	207529	200.000	
29 Chrysene	228		19.074	19.074	(1.003)	98328	76.7895	76.8
30 Benzo(b)fluoranthene	252		21.001	21.001	(0.945)	49217	39.9003	39.9
31 Benzo(k)fluoranthene	252		21.049	21.049	(0.947)	24174	18.1953	18.2
32 Benzo(j)fluoranthene	252		21.126	21.125	(0.950)	22556	19.0461	19.0
\$ 33 Benzo(e)pyrene-d12	264		Compound Not Detected.					

Compounds	QUANT SIG	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS		
						ON-COLUMN (ng/mL)	FINAL (ng/mL)	
34 Benzo(e)pyrene	252	21.866	21.875	(0.984)	69802	56.7302	56.7	
35 Benzo(a)pyrene	252	22.000	22.000	(0.990)	12795	11.1268	11.1	
* 36 Perylene-d12	264	22.231	22.240	(1.000)	228830	200.000		
37 Perylene	252	22.308	22.317	(1.003)	18100	15.0754	15.1	
§ 38 Dibenzo(a,h)anthracene-d14	292	25.105	25.116	(1.129)	101650	139.101	139	
39 Dibenzo(a,h)anthracene	278	Compound Not Detected.						
40 Indeno(1,2,3-cd)pyrene	276	25.282	25.282	(1.137)	4391	3.49754	3.50	
41 Benzo(g,h,i)perylene	276	26.666	26.666	(1.200)	7315	6.48987	6.49	

QC Flag Legend

M - Compound response manually integrated.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
 AREA AND RT SUMMARY

Instrument ID: nt11.i Calibration Date: 10-FEB-2017
 Lab File ID: N1117021019.D Calibration Time: 13:29
 Lab Smp Id: 17A0053-12
 Analysis Type: SV Level:
 Quant Type: ISTD Sample Type:
 Operator: VTS
 Method File: \\target\share\chem3\nt11.i\20170210.b\LOWSIM.m
 Misc Info:

Test Mode:
 Use Initial Calibration Level 4.

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
1 Naphthalene-d8	219654	109827	439308	227725	3.67
11 Acenaphthene-d10	135248	67624	270496	158745	17.37
18 Phenanthrene-d10	257021	128511	514042	251996	-1.96
28 Chrysene-d12	259511	129756	519022	207529	-20.03
36 Perylene-d12	257535	128768	515070	228830	-11.15

COMPOUND	STANDARD	RT LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
1 Naphthalene-d8	8.53	8.03	9.03	8.52	-0.10
11 Acenaphthene-d10	11.56	11.06	12.06	11.56	-0.08
18 Phenanthrene-d10	14.26	13.76	14.76	14.25	-0.07
28 Chrysene-d12	19.02	18.52	19.52	19.02	0.00
36 Perylene-d12	22.24	21.74	22.74	22.23	-0.04

AREA UPPER LIMIT = +100% of internal standard area.
 AREA LOWER LIMIT = - 50% of internal standard area.
 RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
 RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - N1117021019.D

Lab ID: 17A0053-12

nt11.i, 20170210.b\LOWSIM.m, 10-FEB-2017 21:48

RT CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

RRT CCV RRT DELTA COMPOUND

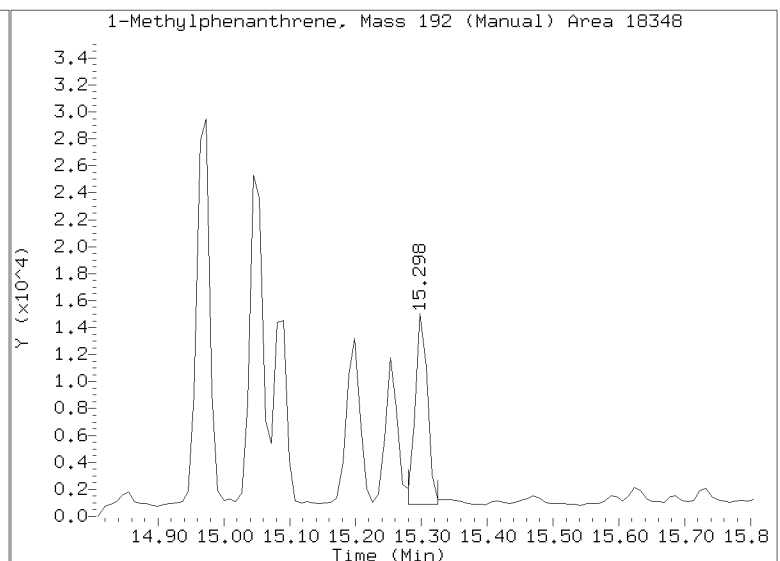
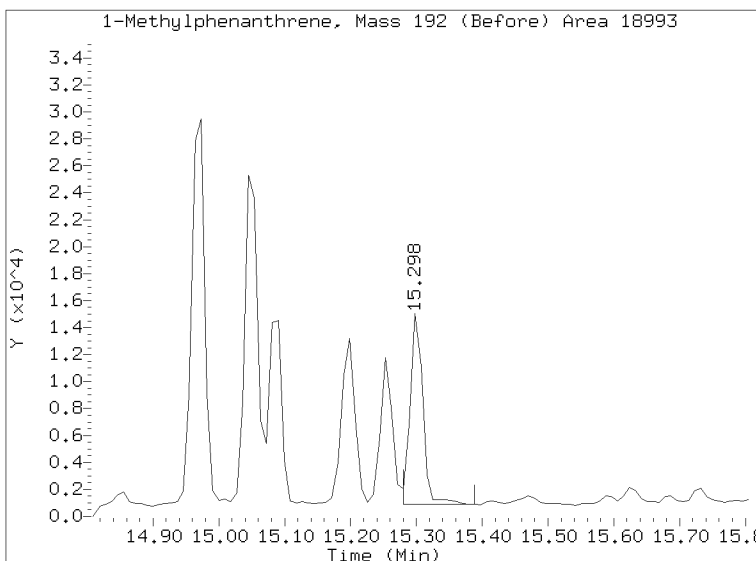
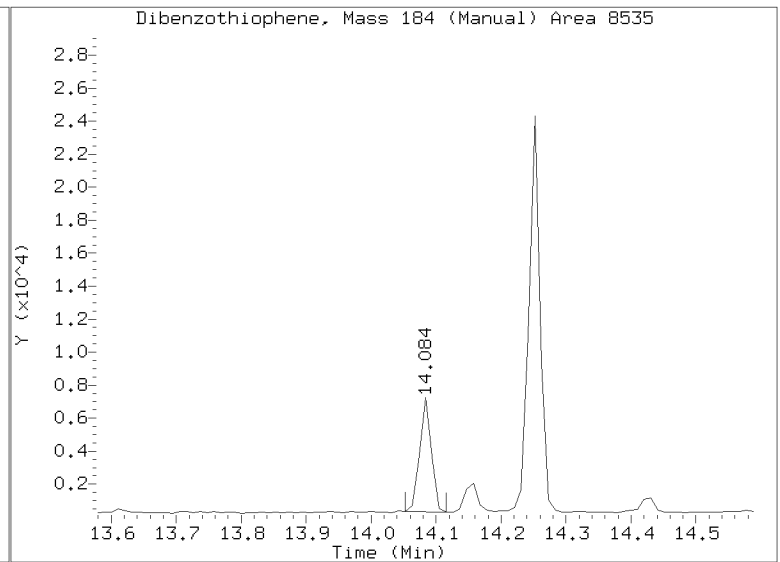
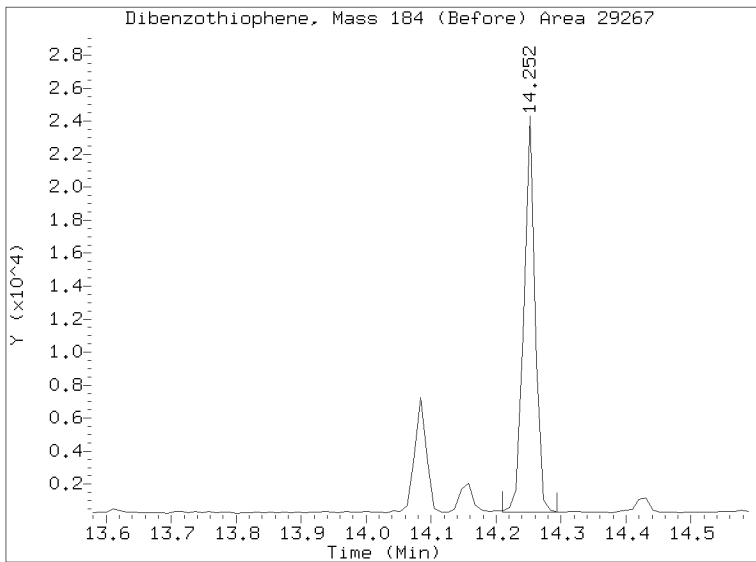
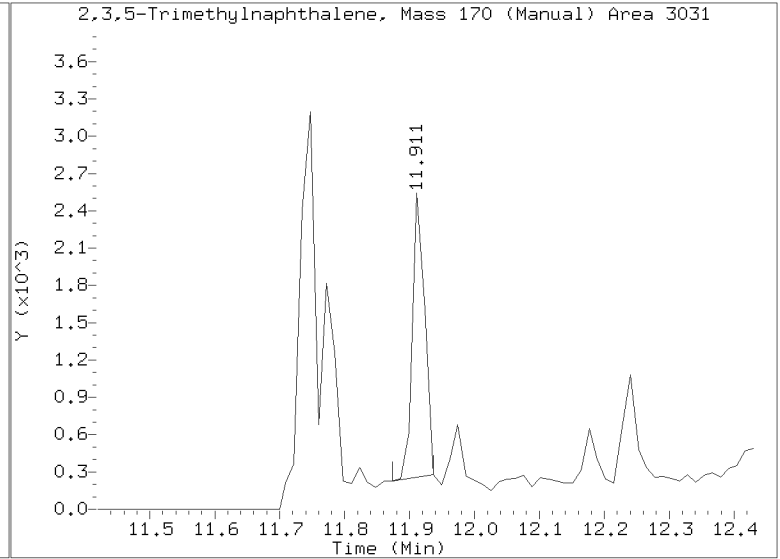
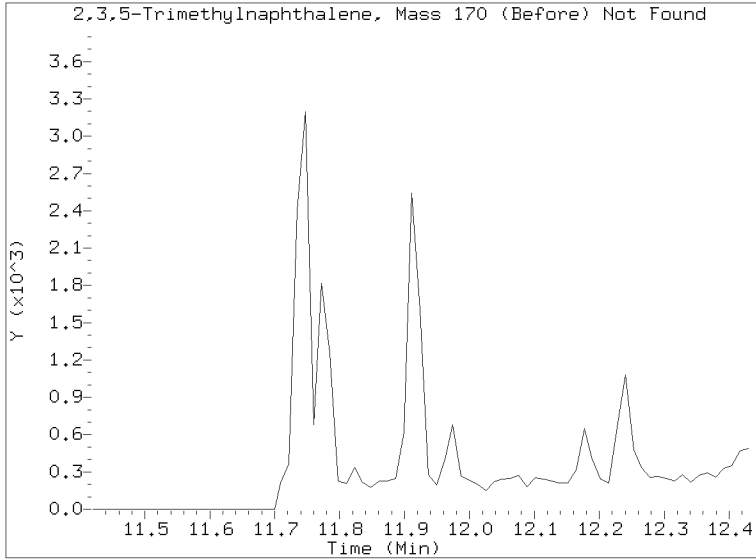
NONE

On Column LOD for nt11.i, 20170210.b\LOWSIM.m, allpna.sub = 3.0000

Exception: Naphthalene 7.0000
Exception: Phenanthrene 2.5000
Exception: Anthracene 2.0000
Exception: Pyrene 4.0000
Exception: Benzo(j)fluoranthene 2.5000
Exception: Benzo(a)pyrene 2.0000
Exception: Perylene 3.5000
Exception: Benzo(e)pyrene 2.0000
Exception: Benzo(b)thiophene 2.0000
Exception: 2-Chloronaphthalene 2.0000
Exception: 2,6-Dimethylnaphthalene 2.0000
Exception: 2,3,5-Trimethylnaphthalene 2.0000
Exception: 1-Methylphenanthrene 2.0000
Exception: Dibenzothiophene 2.0000
Exception: Carbazole 2.0000
Exception: Biphenyl 2.0000
Exception: 2-Methylnaphthalene-d10 (Surr) 0.1000
Exception: Dibenzo(a,h)anthracene-d14 (Surr) 0.1000
Exception: Fluoranthene-d10 (Surr) 0.1000
Exception: Anthracene-d10 (Surr) 0.1000
Exception: Benzo(e)pyrene-d12 (Surr) 0.1000
Exception: Fluorene-d10 (Surr) 0.1000

Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt11.i/20170210.b/N1117021019.D
Injection Date: 10-FEB-2017 21:48
Lab ID:17A0053-12 Client ID:
Report Date: 02/11/2017 08:35





Miscellaneous
Water/Soil/Sed/Tissue/Other
Separatory Funnel (3510C)/Liq-Liq (3520C)
Sonication (3550C)/Microwave (3546)
TissueMize (Modified 3550C)

Analysis SIM PNA LL

Preparation Test Misc # 1

Lab Number(s) 16K0124/17A0053

Page 1 of 1

Batch set up by: JW

Batch ID BFA0647

Bottle or JAR ID	Extraction Requirements	Weight Or Volume Extracted	Sonic Horn ID + Chk	(REQ/Opt) GPC Y/N	(REQ/Opt) Acid Clean Y/N	(REQ/Opt) Sulfur Clean Y/N	(REQ/Opt) SPE Clean Y/N	Final Effective Volume mL	Vol to Lab mL	Comments	Verify Client ID
	BFA0647 - BLK1	10.00		Y			Silica Gel	0.5	0.5		6/13/17
	BS1	10.00						0.5	0.5		Pre-GPC KD 1 2 3 4 5 6
	BS Dup										100 °C
	MRL Check										Exchange to Hex? Analyst/Date
A	16K0124-01	10.18						0.5	0.5		TurboVap Pre-GPC 1 2 3 4 5
A	17A0053-01	10.21						0.5	0.5		2/1/17
A	17A0053-04	10.64						0.5	0.5		Analyst/Date
A	-05	10.18						0.5	0.5		4/2/17 Post GPC KD 1 2 3 4 5 6
A	-06	10.23						0.5	0.5		100 °C
A	-07	10.16						0.5	0.5		Exchange to Hex? Analyst/Date
A	-08	10.13						0.5	0.5		TurboVap Post-GPC 1 2 3 4 5
A	-09	10.07						0.5	0.5		
A	-10	10.19						0.5	0.5		2/9/17
A	-11	10.16						0.5	0.5		Analyst/Date
A	-12	10.19						0.5	0.5		TurboVap Pre-Cleanups 1 2 3 4 5
A	BFA0647-MS1	10.26						0.5	0.5		17A0053-05
A	BFA0647-MSD1	10.16						0.5	0.5		17A0053-05
											Analyst/Date
											TurboVap Post-Cleanups 1 2 3 4 5
											2/9/17
Analyst/Date	6/13/17							2/9/17	2/9/17	2/9/17	Reviewed by/Date

Standard Surrogate	Standard ID	Concentration	Volume	Expiration Date	Analyst	Witness
I	(E006470)	1.5/7.5 ug/ml	100 µL	11/09/17		GM
Spike	18 (E00479)	1.5/7.5 ug/ml	100 µL	11/09/17		GM
Spike	()		µL			
Spike	()		µL			
MRL Spike	()		µL			

Extraction Time: 14:28 Liq/Liq Start: Liq/Liq Stop: Balance ID: B139298662
SPECIAL INSTRUCTIONS: (2x) 1:1 DCM:ACE
3057F (1x) DCM only LL



Extraction Parameter: SIM PNA LL

Element Batch: BFA0647 Work Order(s): 17A0053/16K0124

Screens: Soil/Sediment/Solid/Other:	Analyst/Date
<input type="checkbox"/> No Anomalies (standard soil/wet sediment/sand/gravel)=	
<input type="checkbox"/> Standing Water Decanted (Not shared)=	
<input type="checkbox"/> Standing Water Homogenized (Shared samples)=	
<input type="checkbox"/> Clay/Clumps (Difficult to homogenize)=	
<input type="checkbox"/> Rocks (%+size)?	
<input type="checkbox"/> Organics (Leaves/sticks/grass)=	
<input type="checkbox"/> Oily, obvious fuel/sulfur odors=	
<input type="checkbox"/> Received in 32oz jar(s)=Homogenized in Pyrex dish=	
<input type="checkbox"/> Other (Details)=	
Aqueous:	
<input type="checkbox"/> No Anomalies	
<input type="checkbox"/> Turbid/Color=	
<input type="checkbox"/> Particulates(%)=(Note: >5%=Notify Supervisor/Lead)	
<input type="checkbox"/> Emulsions (%)=	
<input type="checkbox"/> Oily, obvious fuel/sulfur odors=	
<input type="checkbox"/> Other (Details)=	
<input type="checkbox"/> Received in 1.0L Bottle(s)=No Bottle Rinse=	
<input type="checkbox"/> Other Notes/Comments= (Note problems, concerns, corrective actions).	
<input type="checkbox"/> Share Samples Y / N	
<input type="checkbox"/> Multiple Jars Y / N	
<input type="checkbox"/> Sample Pre-Screens indicate analyte activity=	
<input type="checkbox"/> Sample weights/volumes reduced based on Pre-Screen=	



CLEANUP BATCH SUMMARY

Laboratory: Analytical Resources, Inc.

SDG: 17A0053

Client: Anchor QEA, LLC

Project: Port Gamble Shellfish Monitoring

Cleanup Batch: CFB0053

Cleanup Type: Silica Gel

Cleanup Method: EPA 3630C Silica Gel Cleanup

Analysis: EPA 8270D-SIM

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARE	OBSERVATIONS
PG-SMA2-2-MUS-170105	17A0053-05	N1117021012.D	02/09/2017	
PG-GP-1-MUS-170105	17A0053-10	N1117021103.D	02/09/2017	
PG-PJ-1-MUS-170105	17A0053-09	N1117021016.D	02/09/2017	
PG-SMA1-1-MUS-170105	17A0053-01	N1117021010.D	02/09/2017	
PG-SMA2-1-MUS-170105	17A0053-04	N1117021011.D	02/09/2017	
PG-SMA2-3-MUS-170105	17A0053-06	N1117021013.D	02/09/2017	
PG-SMA2-4-MUS-170105	17A0053-07	N1117021014.D	02/09/2017	
PG-SMA2-5-MUS-170105	17A0053-08	N1117021015.D	02/09/2017	
PG-WS-1-MUS-170105	17A0053-11	N1117021018.D	02/09/2017	
PG-SMA1-2-3-MUS-170105	17A0053-12	N1117021019.D	02/09/2017	