



Off-Base Drinking Water Sample Results, Combined Level 2 and Level 4 Laboratory Report, and the Sample Location Figure, SDG FA45196

*Naval Air Station Cecil Field
Jacksonville, Florida*

July 2019

N60200_009867
CECIL_FIELD_NAS
SSIC 5000-33c

LABORATORY DATA PACKAGE FA45196 NAS CECIL FIELD FL
06/21/2017
ACCUTEST LABORATORIES

Approved for public release: distribution unlimited.

Technical Report for

Resolution Consultants

NAS Cecil Field PFAS; Jacksonville, FL

0888817799

SGS Accutest Job Number: FA45196

Sampling Date: 06/21/17

Report to:

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Total number of pages in report: **236**



Test results contained within this data package meet the requirements
of the National Environmental Laboratory Accreditation Program
and/or state specific certification programs as applicable.



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General Manager

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Certifications: FL(E83510), LA(03051), KS(E-10327), IL(200063), NC(573), NJ(FL002), NY(12022), SC(96038001)
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Test results relate only to samples analyzed.

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Sample Summary

Resolution Consultants

Job No: FA45196

NAS Cecil Field PFAS; Jacksonville, FL
Project No: 0888817799

Sample Number	Collected			Received	Matrix		Client Sample ID
	Date	Time	By		Code	Type	
FA45196-1	06/21/17	11:13	RB	06/22/17	DW	Drinking Water	PW-102-0617
FA45196-2	06/21/17	11:15	RB	06/22/17	DW	Drinking Water FB	FB-PW-102-0617

SAMPLE DELIVERY GROUP CASE NARRATIVE

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Client: Resolution Consultants

Job No: FA45196

Site: NAS Cecil Field PFAS; Jacksonville, FL

Report Date 7/19/2017 7:09:48 PM

1 Sample(s) and 1 Field Blank(s) were collected on 06/21/2017 and were received at SGS Accutest Southeast (SASE) on 06/22/2017 properly preserved, at 3.6 Deg. C and intact. These Samples received an SASE job number of FA45196. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section.

Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

Extractables by GCMS By Method EPA 537

Matrix: DW

Batch ID: OP65685

All samples were extracted within the recommended method holding time.

All samples were analyzed within the recommended method holding time.

All method blanks for this batch meet method specific criteria.

Sample(s) FA45196-1MS, FA45196-1MSD were used as the QC samples indicated.

Sample(s) OP65685-BS, OP65685-MB, OP65685-MS, OP65685-MSD have surrogates outside control limits. Probable cause is due to matrix interference.

SGS Accutest (SASE) certifies that this report meets the project requirements for analytical data produced for the samples as received at SASE and as stated on the COC. SASE certifies that the data meets the Data Quality Objectives for precision, accuracy and completeness as specified in the SASE Quality Manual except as noted above. This report is to be used in its entirety. SASE is not responsible for any assumptions of data quality if partial data packages are used.

Narrative prepared by:

Kim Benham, Client Services (signature on file)

Summary of Hits

Job Number: FA45196
Account: Resolution Consultants
Project: NAS Cecil Field PFAS; Jacksonville, FL
Collected: 06/21/17



Lab Sample ID	Client Sample ID	Result/ Qual	LOQ	LOD	Units	Method
---------------	------------------	-----------------	-----	-----	-------	--------

FA45196-1 PW-102-0617

No hits reported in this sample.

FA45196-2 FB-PW-102-0617

No hits reported in this sample.



Sample Results

Report of Analysis

SGS Accutest

Report of Analysis

Page 1 of 1

Client Sample ID:	PW-102-0617		
Lab Sample ID:	FA45196-1	Date Sampled:	06/21/17
Matrix:	DW - Drinking Water	Date Received:	06/22/17
Method:	EPA 537 EPA 537	Percent Solids:	n/a
Project:	NAS Cecil Field PFAS; Jacksonville, FL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Q36918.D	1	07/18/17 16:44	NAF	06/27/17 08:00	OP65685	SQ937
Run #2							

	Initial Volume	Final Volume
Run #1	260 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	MCL	LOQ	LOD	DL	Units	Q
---------	----------	--------	-----	-----	-----	----	-------	---

PERFLUOROALKYLCARBOXYLIC ACIDS

335-67-1	Perfluorooctanoic acid	0.0031 U		0.0077	0.0031	0.0019	ug/l	
----------	------------------------	----------	--	--------	--------	--------	------	--

PERFLUOROALKYLSULFONATES

375-73-5	Perfluorobutanesulfonic acid	0.0058 U		0.0077	0.0058	0.0038	ug/l	
----------	------------------------------	----------	--	--------	--------	--------	------	--

1763-23-1	Perfluorooctanesulfonic acid	0.0031 U		0.0077	0.0031	0.0019	ug/l	
-----------	------------------------------	----------	--	--------	--------	--------	------	--

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
---------	----------------------	--------	--------	--------

	13C2-PFHxA	113%		70-130%
--	------------	------	--	---------

	13C2-PFDA	90%		70-130%
--	-----------	-----	--	---------

U = Not detected LOD = Limit of Detection

MCL = Maximum Contamination Level (40 CFR 141)

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

SGS Accutest

Report of Analysis

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Client Sample ID:	FB-PW-102-0617				
Lab Sample ID:	FA45196-2			Date Sampled:	06/21/17
Matrix:	DW - Drinking Water FB			Date Received:	06/22/17
Method:	EPA 537 EPA 537			Percent Solids:	n/a
Project:	NAS Cecil Field PFAS; Jacksonville, FL				

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Q36912.D	1	07/18/17 14:40	NAF	06/27/17 08:00	OP65685	SQ937
Run #2							

	Initial Volume	Final Volume
Run #1	260 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	MCL	LOQ	LOD	DL	Units	Q
---------	----------	--------	-----	-----	-----	----	-------	---

PERFLUOROALKYLCARBOXYLIC ACIDS

335-67-1	Perfluorooctanoic acid	0.0031 U		0.0077	0.0031	0.0019	ug/l	
----------	------------------------	----------	--	--------	--------	--------	------	--

PERFLUOROALKYLSULFONATES

375-73-5	Perfluorobutanesulfonic acid	0.0058 U		0.0077	0.0058	0.0038	ug/l	
----------	------------------------------	----------	--	--------	--------	--------	------	--

1763-23-1	Perfluorooctanesulfonic acid	0.0031 U		0.0077	0.0031	0.0019	ug/l	
-----------	------------------------------	----------	--	--------	--------	--------	------	--

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
---------	----------------------	--------	--------	--------

	13C2-PFHxA	86%		70-130%
--	------------	-----	--	---------

	13C2-PFDA	86%		70-130%
--	-----------	-----	--	---------

U = Not detected LOD = Limit of Detection

MCL = Maximum Contamination Level (40 CFR 141)

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound



Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody
- QC Evaluation: DOD QSM5 Limits

SGS Accutest Sample Receipt Summary

Job Number: FA45196

Client: RESOLUTION CONSULTANTS

Project: FORMER NAS CECIL FIELD

Date / Time Received: 6/22/2017 6:00:00 AM

Delivery Method: ALSE

Airbill #s:

Therm ID: IR 1;

Therm CF: 0.4;

of Coolers: 1

Cooler Temps (Raw Measured) °C: Cooler 1: (3.2);

Cooler Temps (Corrected) °C: Cooler 1: (3.6);

Cooler Information

Y or N

- | | | |
|-----------------------------|-------------------------------------|--------------------------|
| 1. Custody Seals Present | ☒ | ☐ |
| 2. Custody Seals Intact | ☒ | ☐ |
| 3. Temp criteria achieved | ☒ | ☐ |
| 4. Cooler temp verification | <u>IR Gun</u> | |
| 5. Cooler media | <u>Ice (Bag)</u> | |

Trip Blank Information

Y or N N/A

- | | | | |
|--------------------------------|-------------------------------------|--------------------------|--------------------------|
| 1. Trip Blank present / cooler | ☒ | ☐ | ☐ |
| 2. Trip Blank listed on COC | ☒ | ☐ | ☐ |
| | <u>W or S</u> | <u>N/A</u> | |
| 3. Type Of TB Received | ☒ | ☐ | ☐ |

Sample Information

Y or N N/A

- | | | | |
|---|-------------------------------------|-------------------------------------|-------------------------------------|
| 1. Sample labels present on bottles | ☒ | ☐ | |
| 2. Samples preserved properly | ☒ | ☐ | |
| 3. Sufficient volume/containers recvd for analysis: | ☒ | ☐ | |
| 4. Condition of sample | <u>Intact</u> | | |
| 5. Sample recvd within HT | ☒ | ☐ | |
| 6. Dates/Times/IDs on COC match Sample Label | ☒ | ☐ | |
| 7. VOCs have headspace | ☐ | ☐ | ☒ |
| 8. Bottles received for unspecified tests | ☐ | ☒ | |
| 9. Compositing instructions clear | ☐ | ☐ | ☒ |
| 10. Voa Soil Kits/Jars received past 48hrs? | ☐ | ☐ | ☒ |
| 11. % Solids Jar received? | ☐ | ☐ | ☒ |
| 12. Residual Chlorine Present? | ☐ | ☐ | ☒ |

Misc. Information

Number of Encores: 25-Gram _____ 5-Gram _____
 Test Strip Lot #: pH 0-3 _____ 230315 _____
 Residual Chlorine Test Strip Lot #: _____

Number of 5035 Field Kits: _____
 pH 10-12 _____ 219813A _____

Number of Lab Filtered Metals: _____
 Other: (Specify) _____

Comments

SM001
Rev. Date 05/24/17

Technician: PETERH

Date: 6/22/2017 6:00:00 AM

Reviewer: PDS

Date: 6/23/2017

FA45196: Chain of Custody

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QC Evaluation: DOD QSM5 Limits

Job Number: FA45196
Account: Resolution Consultants
Project: NAS Cecil Field PFAS; Jacksonville, FL
Collected: 06/21/17

QC Sample ID	CAS#	Analyte	Sample Result Type	Result Type	Units	Limits
--------------	------	---------	--------------------	-------------	-------	--------

No Exceptions found.

* Sample used for QC is not from job FA45196



GC/MS Semi-volatiles

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QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Internal Standard Area Summaries
- Surrogate Recovery Summaries
- Initial and Continuing Calibration Summaries

Method Blank Summary

Job Number: FA45196
Account: RESCTNM Resolution Consultants
Project: NAS Cecil Field PFAS; Jacksonville, FL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP65685-MB	Q36908.D	1	07/18/17	NAF	06/27/17	OP65685	SQ937

The QC reported here applies to the following samples: Method: EPA 537
FA45196-1, FA45196-2

CAS No.	Compound	Result	RL	MDL	Units	Q
335-67-1	Perfluorooctanoic acid	ND	0.0077	0.0019	ug/l	
375-73-5	Perfluorobutanesulfonic acid	ND	0.0077	0.0038	ug/l	
1763-23-1	Perfluorooctanesulfonic acid	ND	0.0077	0.0019	ug/l	

CAS No.	Surrogate Recoveries	Limits
	13C2-PFHxA	94% 70-130%
	13C2-PFDA	98% 70-130%
	d5-EtFOSAA	58%* 70-130%

6.1.1
6

Blank Spike Summary

Job Number: FA45196
Account: RESCTNM Resolution Consultants
Project: NAS Cecil Field PFAS; Jacksonville, FL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP65685-BS	Q36917.D	1	07/18/17	NAF	06/27/17	OP65685	SQ937

The QC reported here applies to the following samples: Method: EPA 537
FA45196-1, FA45196-2

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
335-67-1	Perfluorooctanoic acid	0.0769	0.0660	86	70-130
375-73-5	Perfluorobutanesulfonic acid	0.0769	0.0600	78	70-130
1763-23-1	Perfluorooctanesulfonic acid	0.0769	0.0581	76	70-130

CAS No.	Surrogate Recoveries	BSP	Limits
	13C2-PFHxA	82%	70-130%
	13C2-PFDA	86%	70-130%
	d5-EtFOSAA	53%*	70-130%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

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Job Number: FA45196

Account: RESCTNM Resolution Consultants

Project: NAS Cecil Field PFAS; Jacksonville, FL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP65685-MS	Q36910.D	1	07/18/17	NAF	06/27/17	OP65685	SQ937
OP65685-MSD	Q36911.D	1	07/18/17	NAF	06/27/17	OP65685	SQ937
FA45196-1	Q36918.D	1	07/18/17	NAF	06/27/17	OP65685	SQ937

The QC reported here applies to the following samples:

Method: EPA 537

FA45196-1, FA45196-2

CAS No.	Compound	FA45196-1 ug/l	Spike Q ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
335-67-1	Perfluorooctanoic acid	0.0077 U	0.154	0.152	99	0.154	0.148	96	3	70-130/30
375-73-5	Perfluorobutanesulfonic acid	0.0077 U	0.154	0.150	97	0.154	0.148	96	1	70-130/30
1763-23-1	Perfluorooctanesulfonic acid	0.0077 U	0.154	0.132	86	0.154	0.116	75	13	70-130/30

CAS No.	Surrogate Recoveries	MS	MSD	FA45196-1	Limits
	13C2-PFHxA	91%	85%	113%	70-130%
	13C2-PFDA	89%	83%	90%	70-130%
	d5-EtFOSAA	54%*	56%*		70-130%

* = Outside of Control Limits.

Semivolatile Internal Standard Area Summary

Page 1 of 1

Job Number: FA45196
Account: RESCTNM Resolution Consultants
Project: NAS Cecil Field PFAS; Jacksonville, FL

Check Std: SQ937-CC936	Injection Date: 07/18/17
Lab File ID: Q36904.D	Injection Time: 12:00
Instrument ID: GCMSQ	Method: EPA 537

	IS 1		IS 2		IS 3		IS 4		IS 5		IS 6	
	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT
Initial Cal ^a	62111	4.26	92871	6.68	173579	6.66	85077	7.22	71705	7.54	148156	11.19
Check Std ^b	44248	4.27	89129	6.67	142881	6.66	81402	7.21	67480	7.54	122776	11.20
Upper Limit ^c	93167	5.27	139307	7.67	260369	7.66	127616	8.21	107558	8.54	222234	12.20
Lower Limit ^d	31056	3.27	46436	5.67	86790	5.66	42539	6.21	35853	6.54	74078	10.20

Lab Sample ID	IS 1		IS 2		IS 3		IS 4		IS 5		IS 6	
	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT
OP65685-MB	43140	4.27	84913	6.67	137333	6.66	77858	7.21	66608	7.54	118903	11.19
OP65685-MS	41636	4.26	88923	6.67	136923	6.66	78177	7.21	66828	7.54	120761	11.15
OP65685-MSD	41374	4.26	88246	6.67	136211	6.65	77746	7.21	66831	7.54	121189	11.18
FA45196-2	41548	4.26	83735	6.67	135078	6.66	75719	7.21	65704	7.54	116489	11.16
ZZZZZZ	41306	4.26	86337	6.67	140188	6.66	77375	7.21	66452	7.54	119946	11.15

IS 1 = 13C3-PFPeA
IS 2 = 13C2-6:2FTS
IS 3 = 13C2-PFOA
IS 4 = 13C4-PFOS
IS 5 = d3-MeFOSAA
IS 6 = 13C2-PFDODA

(a) Initial Cal is: SQ936-ICC936 Q36831.D 07/17/17 11:35. Area is AVERAGE of initial cal points.

(b) Check Std Limit = -50 to +50% of initial cal area.

(c) Upper Limit = +50% of initial standard area; Retention time +1 minutes of check standard.

(d) Lower Limit = -50% of initial standard area; Retention time -1 minutes of check standard.

Semivolatile Internal Standard Area Summary

Page 1 of 1

Job Number: FA45196
Account: RESCTNM Resolution Consultants
Project: NAS Cecil Field PFAS; Jacksonville, FL

Check Std: SQ937-CC936	Injection Date: 07/18/17
Lab File ID: Q36915.D	Injection Time: 15:39
Instrument ID: GCMSQ	Method: EPA 537

	IS 1		IS 2		IS 3		IS 4		IS 5		IS 6	
	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT
Initial Cal ^a	62111	4.26	92871	6.68	173579	6.66	85077	7.22	71705	7.54	148156	11.19
Check Std ^b	43106	4.26	89615	6.66	138276	6.65	81308	7.21	68490	7.54	125589	11.16
Upper Limit ^c	93167	5.26	139307	7.66	260369	7.65	127616	8.21	107558	8.54	222234	12.16
Lower Limit ^d	31056	3.26	46436	5.66	86790	5.65	42539	6.21	35853	6.54	74078	10.16

Lab Sample ID	IS 1		IS 2		IS 3		IS 4		IS 5		IS 6	
	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT
OP65685-BS	47325	4.26	94876	6.66	148721	6.65	85622	7.20	73444	7.53	134443	11.11
FA45196-1	38521	4.25	81607	6.66	132803	6.65	75123	7.20	64170	7.53	118385	11.11
ZZZZZZ	41458	4.26	84814	6.66	140455	6.65	77516	7.20	65150	7.53	122459	11.13

IS 1 = 13C3-PFPeA
IS 2 = 13C2-6:2FTS
IS 3 = 13C2-PFOA
IS 4 = 13C4-PFOS
IS 5 = d3-MeFOSAA
IS 6 = 13C2-PFDoDA

- (a) Initial Cal is: SQ936-ICC936 Q36831.D 07/17/17 11:35. Area is AVERAGE of initial cal points.
(b) Check Std Limit = -50 to +50% of initial cal area.
(c) Upper Limit = +50% of initial standard area; Retention time +1 minutes of check standard.
(d) Lower Limit = -50% of initial standard area; Retention time -1 minutes of check standard.

Semivolatile Surrogate Recovery Summary

Job Number: FA45196
Account: RESCTNM Resolution Consultants
Project: NAS Cecil Field PFAS; Jacksonville, FL

Method: EPA 537	Matrix: DW
-----------------	------------

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2
FA45196-1	Q36918.D	113	90
FA45196-2	Q36912.D	86	86
OP65685-BS	Q36917.D	82	86
OP65685-MB	Q36908.D	94	98
OP65685-MS	Q36910.D	91	89
OP65685-MSD	Q36911.D	85	83

Surrogate Compounds	Recovery Limits
S1 = 13C2-PFHxA	70-130%
S2 = 13C2-PFDA	70-130%

Initial Calibration Summary

Page 1 of 1

Job Number: FA45196
Account: RESCTNM Resolution Consultants
Project: NAS Cecil Field PFAS; Jacksonville, FL

Sample: SQ936-ICC936
Lab FileID: Q36831.D

Initial Calibration ReSponse Factors - D:\MassHunter\Data\0717_PFC_SQ936\SQ936.batch.bin

Level ID : Calibration File

1 : D:\MassHunter\Data\0717_PFC_SQ936\Q36827.d
2 : D:\MassHunter\Data\0717_PFC_SQ936\Q36828.d
3 : D:\MassHunter\Data\0717_PFC_SQ936\Q36829.d
4 : D:\MassHunter\Data\0717_PFC_SQ936\Q36830.d
5 : D:\MassHunter\Data\0717_PFC_SQ936\Q36831.d
6 : D:\MassHunter\Data\0717_PFC_SQ936\Q36832.d
7 : D:\MassHunter\Data\0717_PFC_SQ936\Q36833.d
8 : D:\MassHunter\Data\0717_PFC_SQ936\Q36834.d

Compound	1	2	3	4	5	6	7	8	AvgRF	%RSD	r^2
1) 13C2-6:2FTS	-----ISTD-----										
7) 6:2FTS	1.1466	1.0597	1.0363	1.0454	0.9817	0.9241	0.9512	0.7801	0.9906	11.093	0.9994
8) 8:2FTS	0.9620	0.9012	0.8867	0.9116	0.8721	0.8318	0.8807	0.7447	0.8739	7.316	0.9988
31) 4:2FTS	0.6895	0.6316	0.6124	0.6182	0.5844	0.5632	0.5782	0.4900	0.5959	9.727	0.9995
3) 13C2-PFDoDA	-----ISTD-----										
17) PFDoDA	0.9855	0.9450	0.9093	0.9244	0.8966	0.8917	0.9372	0.8735	0.9204	3.865	0.9987
27) PFTeDA	0.3758	0.3543	0.3729	0.3735	0.3614	0.3511	0.3844	0.3379	0.3639	4.253	0.9953
28) PFTrDA	0.8224	0.7797	0.7908	0.8127	0.7794	0.7602	0.8170	0.7539	0.7895	3.283	0.9982
29) PFUnDA	1.0755	0.9807	0.9721	0.9966	0.9709	0.9489	1.0172	0.9036	0.9832	5.109	0.9959
5) 13C2-PFOA	-----ISTD-----										
2) 13C2-PFDA	1.2522	1.2167	1.1544	1.2565	1.2166	1.1745	1.2569	1.1256	1.2078	3.895	0.9964
4) 13C2-PFHxA	0.3033	0.2952	0.2925	0.2962	0.2857	0.2761	0.2933	0.2678	0.2884	3.803	0.9976
16) PFDA	0.6571	0.6553	0.6223	0.6708	0.6524	0.6060	0.6796	0.6018	0.6432	4.568	0.9957
19) PFHpA	0.4104	0.3943	0.3619	0.3898	0.3772	0.3707	0.3984	0.3558	0.3823	4.969	0.9964
21) PFHxA	0.2982	0.2825	0.2719	0.2795	0.2671	0.2607	0.2812	0.2524	0.2742	5.226	0.9967
23) PFNA	0.4889	0.4454	0.4331	0.4433	0.4258	0.4161	0.4466	0.4082	0.4384	5.647	0.9978
24) PFOA	1.0857	0.9818	0.9665	0.9700	0.9470	0.9285	0.9909	0.8821	0.9691	6.034	0.9961
6) 13C4-PFOS	-----ISTD-----										
15) PFBS	0.4718	0.4653	0.4545	0.4685	0.4553	0.4591	0.4839	0.4464	0.4631	2.543	0.9983
18) PFDS	0.5527	0.5183	0.5469	0.5547	0.5299	0.5274	0.5626	0.4808	0.5342	4.952	0.9922
20) PFHpS	0.6740	0.6691	0.6339	0.6499	0.6399	0.6325	0.6769	0.5952	0.6464	4.228	0.9952
22) PFHxS	0.6550	0.6379	0.6210	0.6404	0.6099	0.6155	0.6491	0.5884	0.6272	3.577	0.9981
25) PFOS	1.1741	1.1090	1.0873	1.1082	1.0639	1.0586	1.1040	1.0245	1.0912	4.085	0.9984
32) PFNS	0.2581	0.2475	0.2322	0.2411	0.2265	0.2227	0.2340	0.2050	0.2334	6.942	0.9991
33) PFPeS	0.1138	0.1075	0.1069	0.1021	0.0986	0.0968	0.1013	0.0904	0.1022	7.093	0.9958
9) d3-MeFOSAA	-----ISTD-----										
10) d5-EtFOSAA	0.1829	0.1667	0.1695	0.1715	0.1685	0.1519	0.1740	0.1553	0.1675	5.933	0.9958
11) EtFOSAA	0.1710	0.1497	0.1515	0.1523	0.1389	0.1385	0.1521	0.1350	0.1486	7.696	0.9960
12) FOSA	1.6816	1.5524	1.5141	1.5298	1.4586	1.3515	1.4322	1.1515	1.4590	10.781	0.9985
13) MeFOSAA	0.1568	0.1553	0.1699	0.1648	0.1583	0.1476	0.1735	0.1523	0.1598	5.562	0.9947
30) 13C3-PFPeA	-----ISTD-----										
14) PFBA	1.3849	1.2931	1.2895	1.2997	1.2832	1.2860	1.3671	1.2467	1.3063	3.529	0.9977
26) PFPeA	0.4749	0.4650	0.4491	0.4549	0.4435	0.4418	0.4733	0.4291	0.4540	3.565	0.9974

*(value) - Average RF below (value)

Initial Calibration Verification

Page 1 of 1

Job Number: FA45196
 Account: RESCTNM Resolution Consultants
 Project: NAS Cecil Field PFAS; Jacksonville, FL

Sample: SQ936-ICV936
 Lab FileID: Q36836.D

Continuing Calibration Report

Batch: D:\MassHunter\Data\0717_PFC_SQ936\SQ936.batch.bin

Level ID: Calibration File

1:D:\MassHunter\Data\0717_PFC_SQ936\Q36827.d
 2:D:\MassHunter\Data\0717_PFC_SQ936\Q36828.d
 3:D:\MassHunter\Data\0717_PFC_SQ936\Q36829.d
 4:D:\MassHunter\Data\0717_PFC_SQ936\Q36830.d
 5:D:\MassHunter\Data\0717_PFC_SQ936\Q36831.d
 6:D:\MassHunter\Data\0717_PFC_SQ936\Q36832.d
 7:D:\MassHunter\Data\0717_PFC_SQ936\Q36833.d
 8:D:\MassHunter\Data\0717_PFC_SQ936\Q36834.d

Data File: Q36836

Type : QC
 Level : 5

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
13C2-6:2FTS	---	--ISTD--		
13C2-PFDA	20.000	0.000	0.0	0.0
13C2-PFDoDA	---	--ISTD--		
13C2-PFHxA	20.000	0.000	0.0	0.0
13C2-PFOA	---	--ISTD--		
13C4-PFOS	---	--ISTD--		
6:2FTS	20.000	20.558	2.8	102.8
8:2FTS	20.000	21.722	8.6	108.6
d3-MeFOSAA	---	--ISTD--		
d5-EtFOSAA	20.000	0.000	0.0	0.0
EtFOSAA	20.000	24.674	23.4	123.4
FOSA	20.000	21.479	7.4	107.4
MeFOSAA	20.000	24.808	24.0	124.0
PFBA	20.000	22.445	12.2	112.2
PFBS	20.000	21.813	9.1	109.1
PFDA	20.000	23.054	15.3	115.3
PFDoDA	20.000	23.121	15.6	115.6
PFDS	20.000	21.336	6.7	106.7
PFHpA	20.000	22.787	13.9	113.9
PFHpS	20.000	21.241	6.2	106.2
PFHxA	20.000	22.373	11.9	111.9
PFHxS	20.000	22.736	13.7	113.7
PFNA	20.000	22.431	12.2	112.2
PFOA	20.000	22.742	13.7	113.7
PFOS	20.000	20.771	3.9	103.9
PFPeA	20.000	22.283	11.4	111.4
PFTeDA	20.000	22.168	10.8	110.8
PFTTrDA	20.000	22.444	12.2	112.2
PFUnDA	20.000	23.453	17.3	117.3
13C3-PFPeA	---	--ISTD--		
4:2FTS	20.000	21.940	9.7	109.7
PFNS	20.000	23.244	16.2	116.2
PFPeS	20.000	21.624	8.1	108.1

CC Criteria: +/- 25%

Continuing Calibration Summary

Page 1 of 1

Job Number: FA45196
Account: RESCTNM Resolution Consultants
Project: NAS Cecil Field PFAS; Jacksonville, FL

Sample: SQ937-CC936
Lab FileID: Q36904.D

Continuing Calibration Report

Batch: D:\MassHunter\Data\0718_PFC_SQ937\SQ937.batch.bin

Level ID: Calibration File

1:D:\MassHunter\Data\0717_PFC_SQ936\Q36827.d
2:D:\MassHunter\Data\0717_PFC_SQ936\Q36828.d
3:D:\MassHunter\Data\0717_PFC_SQ936\Q36829.d
4:D:\MassHunter\Data\0717_PFC_SQ936\Q36830.d
5:D:\MassHunter\Data\0717_PFC_SQ936\Q36831.d
6:D:\MassHunter\Data\0717_PFC_SQ936\Q36832.d
7:D:\MassHunter\Data\0717_PFC_SQ936\Q36833.d
8:D:\MassHunter\Data\0717_PFC_SQ936\Q36834.d

Data File: Q36904

Type : QC
Level : 1

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
=====	=====	=====	=====	=====
13C2-6:2FTS	---	--ISTD--		
13C2-PFDA	1.000	1.118	11.8	111.8
13C2-PFDoDA	---	--ISTD--		
13C2-PFHxA	1.000	1.034	3.4	103.4
13C2-PFOA	---	--ISTD--		
13C4-PFOS	---	--ISTD--		
6:2FTS	1.000	1.068	6.8	106.8
8:2FTS	1.000	1.170	17.0	117.0
d3-MeFOSAA	---	--ISTD--		
d5-EtFOSAA	1.000	1.205	20.5	120.5
EtFOSAA	1.000	1.156	15.6	115.6
FOSA	1.000	0.959	-4.1	95.9
MeFOSAA	1.000	1.012	1.2	101.2
PFBA	1.000	1.196	19.6	119.6
PFBS	1.000	1.071	7.1	107.1
PFDA	1.000	1.133	13.3	113.3
PFDoDA	1.000	1.126	12.6	112.6
PFDS	1.000	0.995	-0.5	99.5
PFHpA	1.000	1.078	7.8	107.8
PFHpS	1.000	1.060	6.0	106.0
PFHxA	1.000	1.034	3.4	103.4
PFHxS	1.000	1.010	1.0	101.0
PFNA	1.000	1.058	5.8	105.8
PFOA	1.000	1.197	19.7	119.7
PFOS	1.000	1.182	18.2	118.2
PFPeA	1.000	1.119	11.9	111.9
PFTeDA	1.000	1.013	1.3	101.3
PFTrDA	1.000	1.068	6.8	106.8
PFUnDA	1.000	1.154	15.4	115.4
13C3-PFPeA	---	--ISTD--		
4:2FTS	1.000	0.917	-8.3	91.7
PFNS	1.000	0.858	-14.2	85.8
PFPeS	1.000	0.872	-12.8	87.2

CC Criteria: +/- 25%

Continuing Calibration Summary

Page 1 of 1

Job Number: FA45196
 Account: RESCTNM Resolution Consultants
 Project: NAS Cecil Field PFAS; Jacksonville, FL

Sample: SQ937-CC936
 Lab FileID: Q36905.D

Continuing Calibration Report

Batch: D:\MassHunter\Data\0718_PFC_SQ937\SQ937.batch.bin

Level ID: Calibration File

1:D:\MassHunter\Data\0717_PFC_SQ936\Q36827.d
 2:D:\MassHunter\Data\0717_PFC_SQ936\Q36828.d
 3:D:\MassHunter\Data\0717_PFC_SQ936\Q36829.d
 4:D:\MassHunter\Data\0717_PFC_SQ936\Q36830.d
 5:D:\MassHunter\Data\0717_PFC_SQ936\Q36831.d
 6:D:\MassHunter\Data\0717_PFC_SQ936\Q36832.d
 7:D:\MassHunter\Data\0717_PFC_SQ936\Q36833.d
 8:D:\MassHunter\Data\0717_PFC_SQ936\Q36834.d

Data File: Q36905

Type : QC
 Level : 5

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
13C2-6:2FTS	---	--ISTD--		
13C2-PFDA	20.000	21.796	9.0	109.0
13C2-PFDoDA	---	--ISTD--		
13C2-PFHxA	20.000	19.393	-3.0	97.0
13C2-PFOA	---	--ISTD--		
13C4-PFOS	---	--ISTD--		
6:2FTS	20.000	19.337	-3.3	96.7
8:2FTS	20.000	21.145	5.7	105.7
d3-MeFOSAA	---	--ISTD--		
d5-EtFOSAA	20.000	19.419	-2.9	97.1
EtFOSAA	20.000	20.074	0.4	100.4
FOSA	20.000	17.631	-11.8	88.2
MeFOSAA	20.000	19.260	-3.7	96.3
PFBA	20.000	20.880	4.4	104.4
PFBS	20.000	20.107	0.5	100.5
PFDA	20.000	21.105	5.5	105.5
PFDoDA	20.000	20.312	1.6	101.6
PFDS	20.000	19.886	-0.6	99.4
PFHpA	20.000	20.035	0.2	100.2
PFHpS	20.000	19.519	-2.4	97.6
PFHxA	20.000	18.806	-6.0	94.0
PFHxS	20.000	18.487	-7.6	92.4
PFNA	20.000	19.631	-1.8	98.2
PFOA	20.000	20.357	1.8	101.8
PFOS	20.000	20.478	2.4	102.4
PFPeA	20.000	19.714	-1.4	98.6
PFTeDA	20.000	18.569	-7.2	92.8
PFTTrDA	20.000	20.050	0.2	100.2
PFUnDA	20.000	20.307	1.5	101.5
13C3-PFPeA	---	--ISTD--		
4:2FTS	20.000	17.115	-14.4	85.6
PFNS	20.000	15.405	-23.0	77.0
PFPeS	20.000	16.421	-17.9	82.1

CC Criteria: +/- 25%

Continuing Calibration Summary

Page 1 of 1

Job Number: FA45196
Account: RESCTNM Resolution Consultants
Project: NAS Cecil Field PFAS; Jacksonville, FL

Sample: SQ937-CC936
Lab FileID: Q36915.D

Continuing Calibration Report

Batch: D:\MassHunter\Data\0718_PFC_SQ937\SQ937.batch.bin

Level ID: Calibration File

1:D:\MassHunter\Data\0717_PFC_SQ936\Q36827.d
 2:D:\MassHunter\Data\0717_PFC_SQ936\Q36828.d
 3:D:\MassHunter\Data\0717_PFC_SQ936\Q36829.d
 4:D:\MassHunter\Data\0717_PFC_SQ936\Q36830.d
 5:D:\MassHunter\Data\0717_PFC_SQ936\Q36831.d
 6:D:\MassHunter\Data\0717_PFC_SQ936\Q36832.d
 7:D:\MassHunter\Data\0717_PFC_SQ936\Q36833.d
 8:D:\MassHunter\Data\0717_PFC_SQ936\Q36834.d

Data File: Q36915

Type : QC
 Level : 5

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
13C2-6:2FTS	---	--ISTD--		
13C2-PFDA	20.000	22.172	10.9	110.9
13C2-PFDoDA	---	--ISTD--		
13C2-PFHxA	20.000	19.272	-3.6	96.4
13C2-PFOA	---	--ISTD--		
13C4-PFOS	---	--ISTD--		
6:2FTS	20.000	19.415	-2.9	97.1
8:2FTS	20.000	21.664	8.3	108.3
d3-MeFOSAA	---	--ISTD--		
d5-EtFOSAA	20.000	21.057	5.3	105.3
EtFOSAA	20.000	22.253	11.3	111.3
FOSA	20.000	17.617	-11.9	88.1
MeFOSAA	20.000	20.998	5.0	105.0
PFBA	20.000	21.411	7.1	107.1
PFBS	20.000	19.843	-0.8	99.2
PFDA	20.000	21.043	5.2	105.2
PFDoDA	20.000	20.020	0.1	100.1
PFDS	20.000	18.684	-6.6	93.4
PFHpA	20.000	19.884	-0.6	99.4
PFHpS	20.000	19.056	-4.7	95.3
PFHxA	20.000	19.000	-5.0	95.0
PFHxS	20.000	18.292	-8.5	91.5
PFNA	20.000	19.795	-1.0	99.0
PFOA	20.000	20.235	1.2	101.2
PFOS	20.000	20.352	1.8	101.8
PFPeA	20.000	20.399	2.0	102.0
PFTeDA	20.000	20.397	2.0	102.0
PFTTrDA	20.000	19.820	-0.9	99.1
PFUnDA	20.000	20.442	2.2	102.2
13C3-PFPeA	---	--ISTD--		
4:2FTS	20.000	16.973	-15.1	84.9
PFNS	20.000	15.208	-24.0	76.0
PFPeS	20.000	16.062	-19.7	80.3

CC Criteria: +/- 25%

Continuing Calibration Summary

Page 1 of 1

Job Number: FA45196
 Account: RESCTNM Resolution Consultants
 Project: NAS Cecil Field PFAS; Jacksonville, FL

Sample: SQ937-CC936
 Lab FileID: Q36920.D

Continuing Calibration Report

Batch: D:\MassHunter\Data\0718_PFC_SQ937\SQ937.batch.bin

Level ID: Calibration File

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 2:D:\MassHunter\Data\0717_PFC_SQ936\Q36828.d
 3:D:\MassHunter\Data\0717_PFC_SQ936\Q36829.d
 4:D:\MassHunter\Data\0717_PFC_SQ936\Q36830.d
 5:D:\MassHunter\Data\0717_PFC_SQ936\Q36831.d
 6:D:\MassHunter\Data\0717_PFC_SQ936\Q36832.d
 7:D:\MassHunter\Data\0717_PFC_SQ936\Q36833.d
 8:D:\MassHunter\Data\0717_PFC_SQ936\Q36834.d

Data File: Q36920

Type : QC
 Level : 5

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
13C2-6:2FTS	---	--ISTD--		
13C2-PFDA	20.000	22.027	10.1	110.1
13C2-PFDoDA	---	--ISTD--		
13C2-PFHxA	20.000	19.474	-2.6	97.4
13C2-PFOA	---	--ISTD--		
13C4-PFOS	---	--ISTD--		
6:2FTS	20.000	19.193	-4.0	96.0
8:2FTS	20.000	21.378	6.9	106.9
d3-MeFOSAA	---	--ISTD--		
d5-EtFOSAA	20.000	20.032	0.2	100.2
EtFOSAA	20.000	20.963	4.8	104.8
FOSA	20.000	18.159	-9.2	90.8
MeFOSAA	20.000	20.355	1.8	101.8
PFBA	20.000	21.217	6.1	106.1
PFBS	20.000	19.856	-0.7	99.3
PFDA	20.000	21.217	6.1	106.1
PFDoDA	20.000	20.094	0.5	100.5
PFDS	20.000	18.734	-6.3	93.7
PFHpA	20.000	20.206	1.0	101.0
PFHpS	20.000	19.223	-3.9	96.1
PFHxA	20.000	19.324	-3.4	96.6
PFHxS	20.000	18.242	-8.8	91.2
PFNA	20.000	19.916	-0.4	99.6
PFOA	20.000	20.393	2.0	102.0
PFOS	20.000	20.641	3.2	103.2
PFPeA	20.000	20.205	1.0	101.0
PFTeDA	20.000	20.065	0.3	100.3
PFTTrDA	20.000	20.261	1.3	101.3
PFUnDA	20.000	20.284	1.4	101.4
13C3-PFPeA	---	--ISTD--		
4:2FTS	20.000	16.961	-15.2	84.8
PFNS	20.000	15.657	-21.7	78.3
PFPeS	20.000	16.532	-17.3	82.7

CC Criteria: +/- 25%



GC/MS Semi-volatiles

Raw Data

7

Perfluorinated Compounds by LC/MS/MS.

Data File : Q36918.d
 Operator : NANCYF
 Acq Method Name : 537_LIST.m
 Acquisition date : 2017-07-18 16:44
 Sample Name : FA45196-1
 Vial : Vial 7
 Sample Info : OP65685,SQ937,260,,,1,1,WATER
 Quant Method : PFC_LIST_0717_SQ936.quantmethod.xml
 Quant Batch Name : SQ937.batch.bin
 Last Calib Update : 2017-07-18 07:16

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
13C3-PFPeA	4.247	266.0 -> 222.0	38521	20.000	µg/L	-0.013
13C2-PFOA	6.650	415.0 -> 370.0	132803	20.000	µg/L	-0.025
13C2-6:2FTS	6.659	429.0 -> 409.0	81607	20.000	µg/L	-0.025
13C4-PFOS	7.199	503.0 -> 80.0	75123	20.000	µg/L	-0.025
d3-MeFOSAA	7.526	573.0 -> 419.0	64170	20.000	µg/L	-0.012
13C2-PFDoDA	11.114	615.0 -> 570.0	118385	20.000	µg/L	-0.063
System Monitoring Compounds						
13C2-PFHxA	5.235	315.0 -> 270.0	41143	22.63	µg/L	-0.013
Spiked Amount: 20.000	Range: 14 - 26		Recovery = 113.16%			
d5-EtFOSAA	7.660	589.0 -> 419.0	5285	10.38	µg/L	0.000
Spiked Amount: 20.000	Range: 14 - 26		Recovery = 51.92%			
13C2-PFDA	7.943	515.0 -> 470.0	138974	18.09	µg/L	-0.050
Spiked Amount: 20.000	Range: 14 - 26		Recovery = 90.46%			
Target Compounds						Qvalue
PFBA	2.965	213.0 -> 169.0	0	0.000	µg/L m	1
PFPeA	4.213	263.0 -> 219.0	73	0.087	µg/L	100
4:2FTS	5.170	327.0 -> 307.0	26	0.010	µg/L	100
PFHxA	5.237	313.0 -> 269.0	306	0.178	µg/L	89
PFHpA	5.786	363.0 -> 319.0	361	0.149	µg/L	59
PFOA	6.652	413.0 -> 369.0	791	0.131	µg/L	63
6:2FTS	6.661	427.0 -> 407.0	319	0.074	µg/L	100
PFNA	7.281	463.0 -> 419.0	104	0.038	µg/L	58
PFNS	7.853	549.0 -> 99.0	30	0.033	µg/L	100

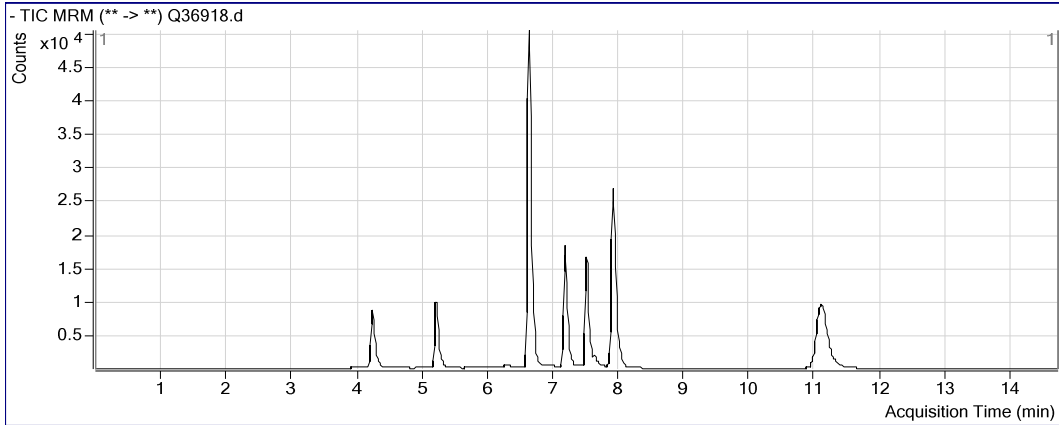
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

7.1.1

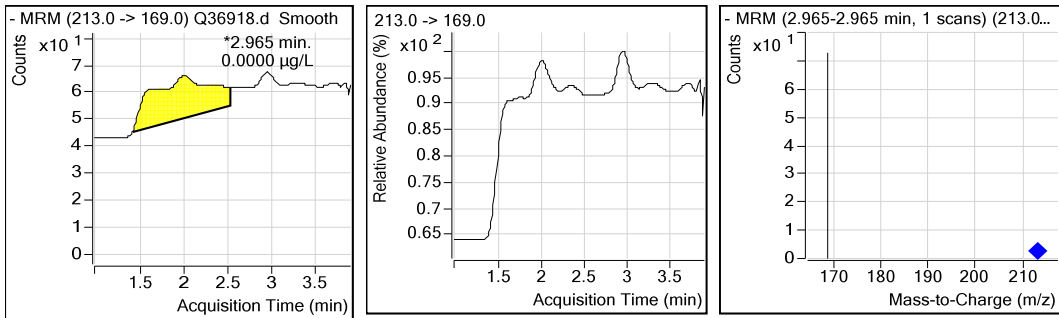
7

Perfluorinated Compounds by LC/MS/MS.

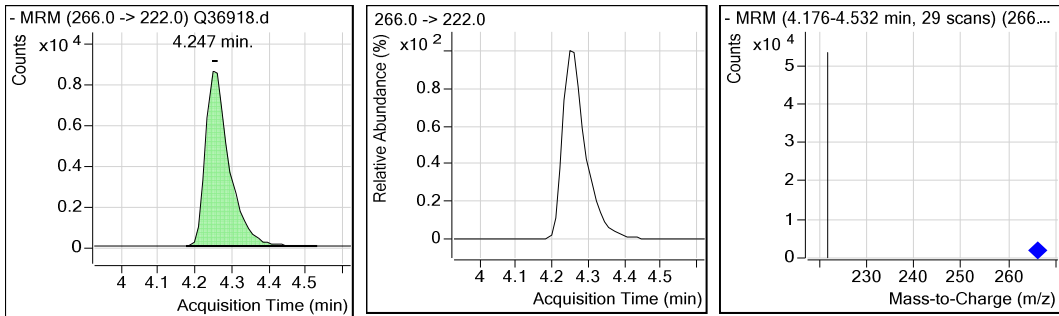
Data File : Q36918.d
Operator : NANCYF
Acq Method Name : 537_LIST.m
Acquisition date : 2017-07-18 16:44
Sample Name : FA45196-1
Vial : Vial 7
Sample Info : OP65685,SQ937,260,,,1,1,WATER
Quant Method : PFC_LIST_0717_SQ936.quantmethod.xml
Quant Batch Name : SQ937.batch.bin
Last Calib Update : 2017-07-18 07:16



PFBA



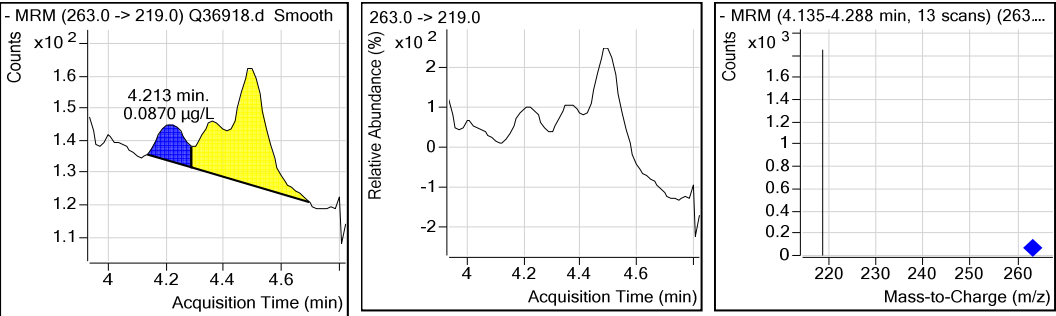
13C3-PFPeA



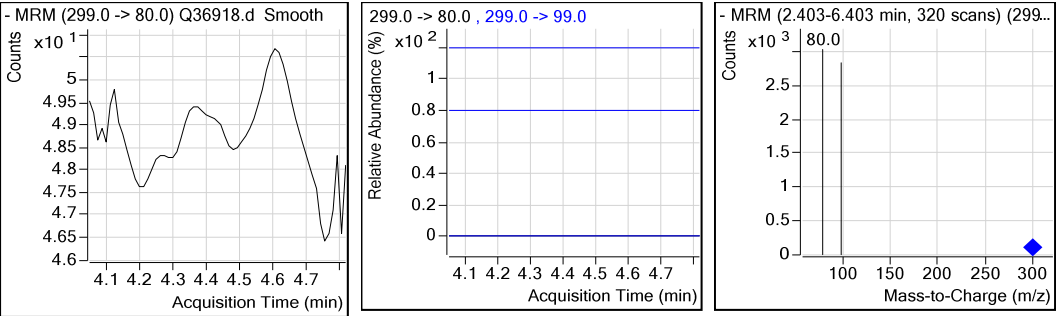
Perfluorinated Compounds by LC/MS/MS.

7.1.1
7

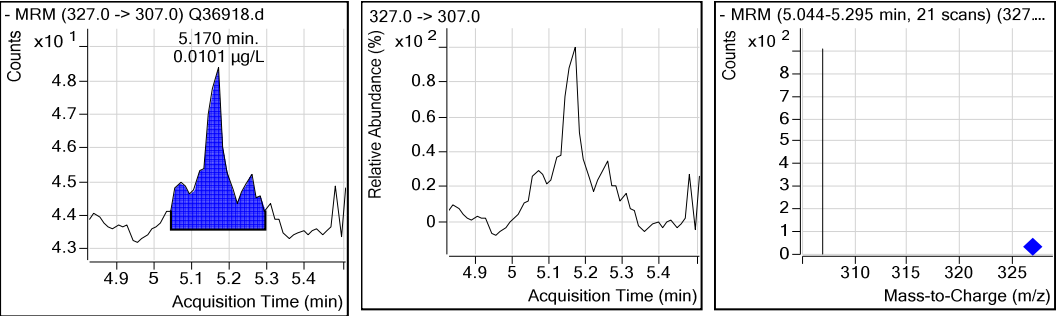
PFPeA



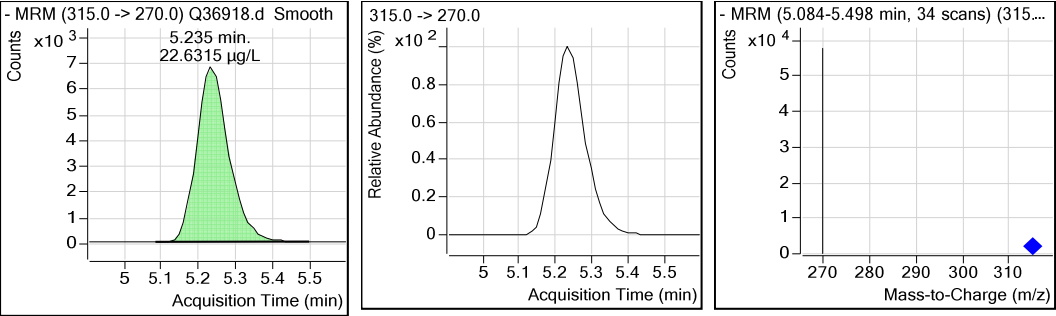
PFBS



4:2FTS



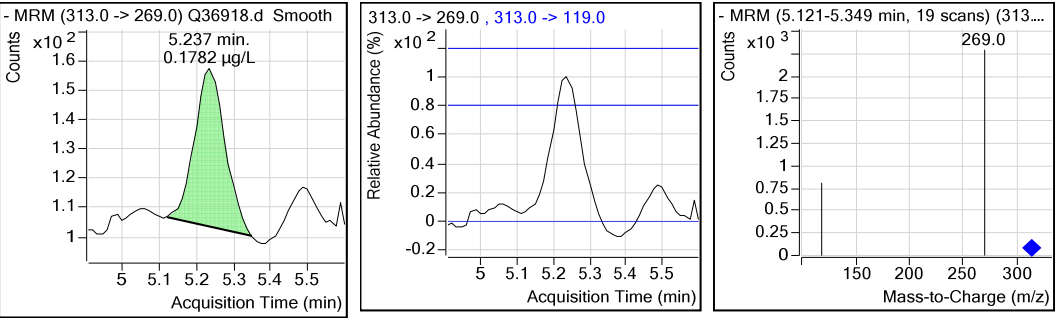
13C2-PFHxA



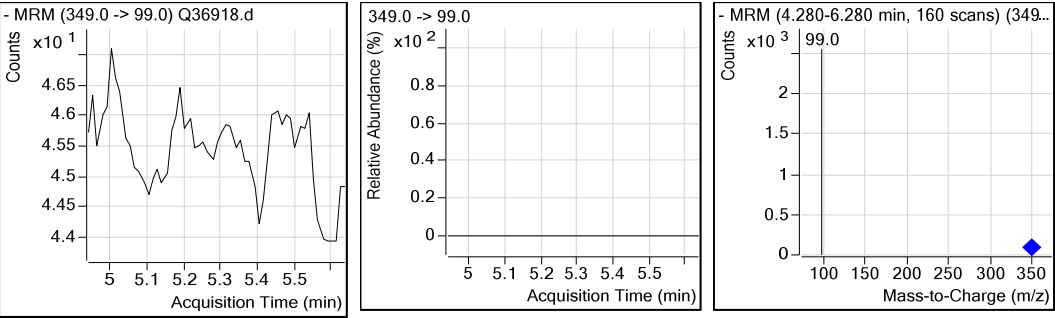
Perfluorinated Compounds by LC/MS/MS.

7.1.1
7

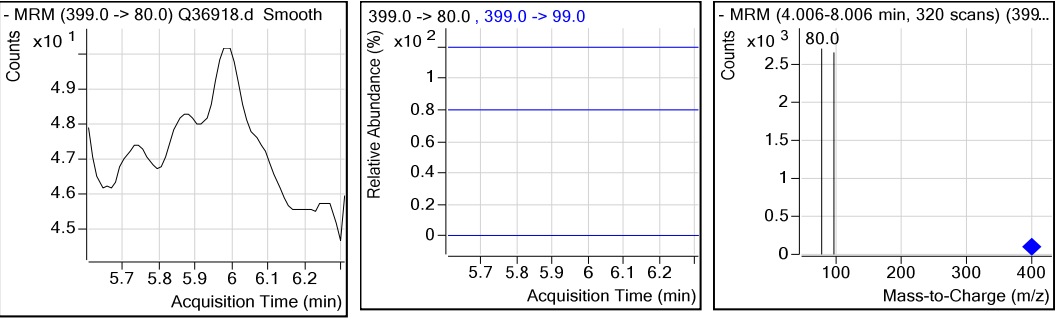
PFHxA



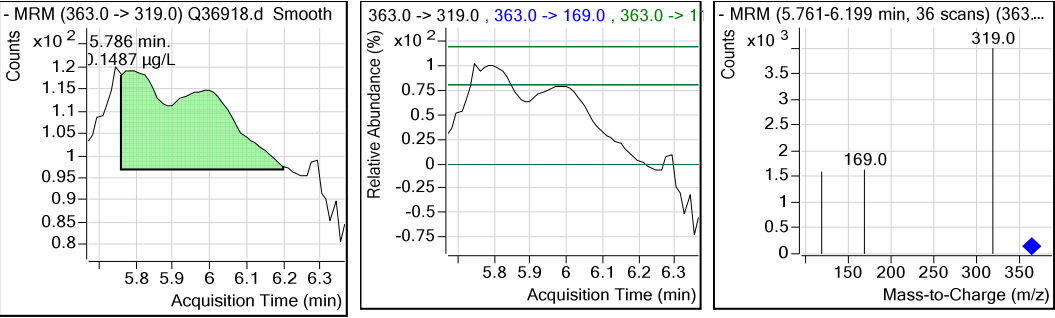
PFPeS



PFHxS



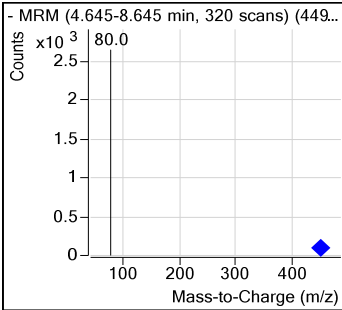
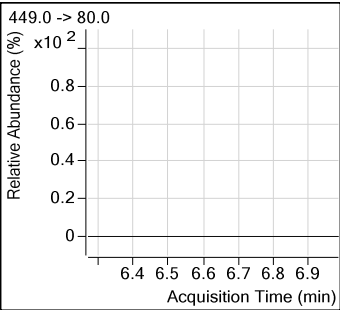
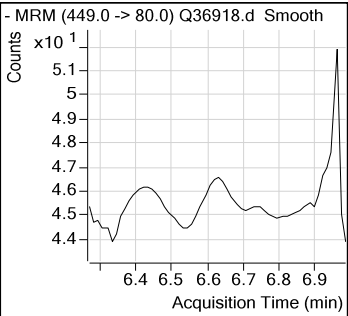
PFHpA



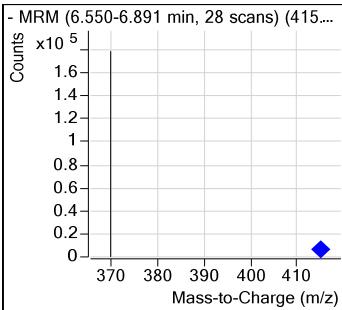
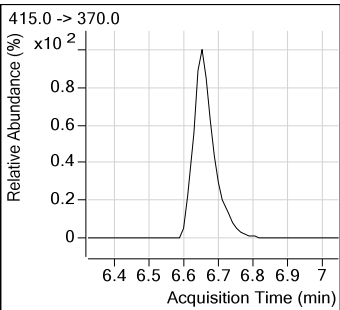
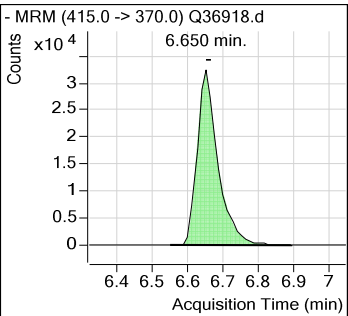
Perfluorinated Compounds by LC/MS/MS.

7.1.1
7

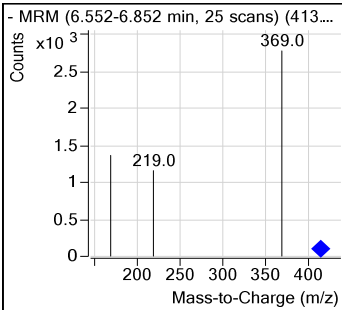
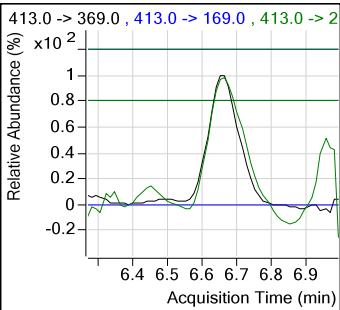
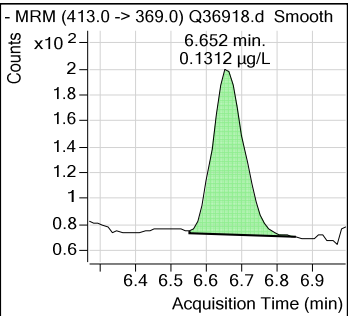
PFHpS



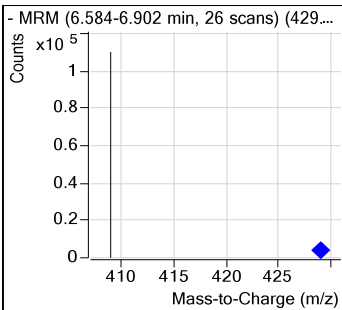
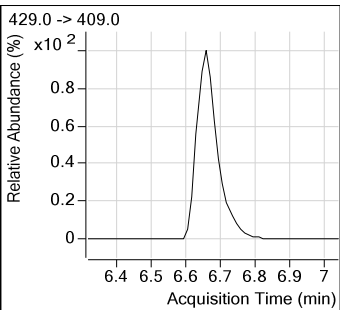
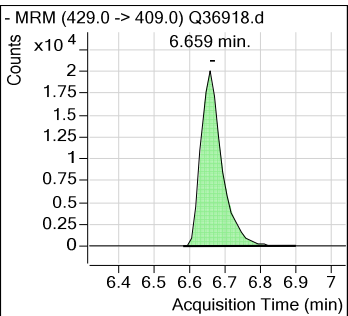
13C2-PFOA



PFOA



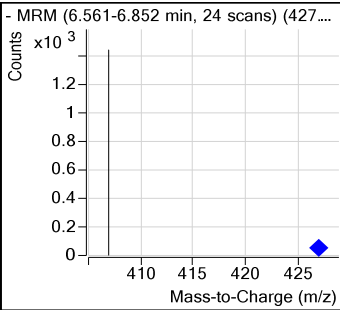
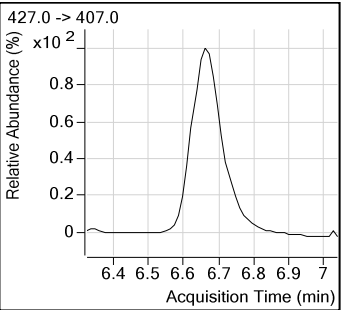
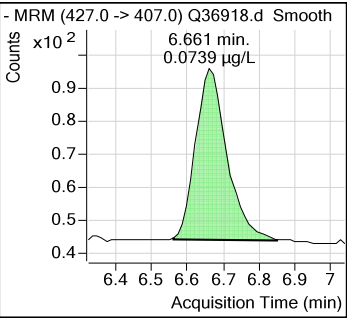
13C2-6:2FTS



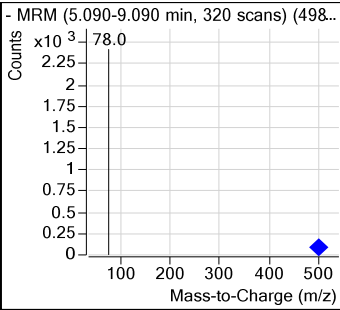
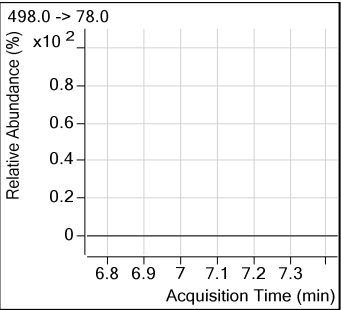
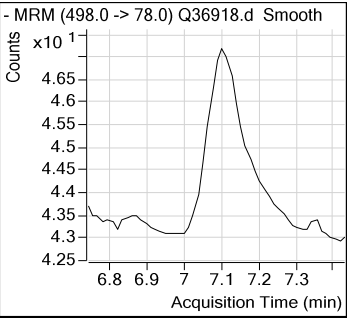
Perfluorinated Compounds by LC/MS/MS.

7.1.1
7

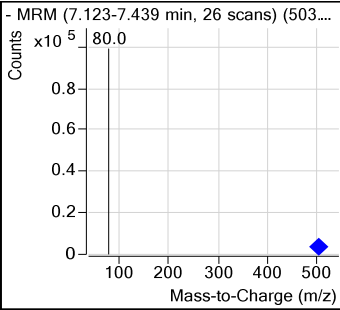
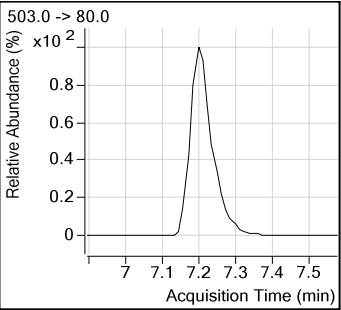
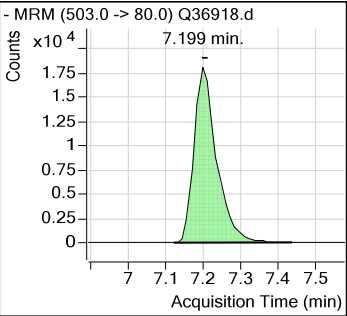
6:2FTS



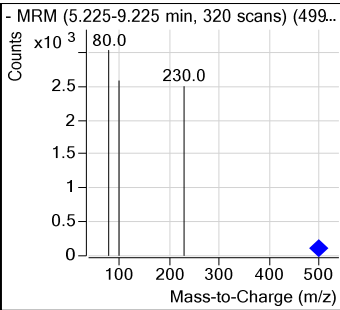
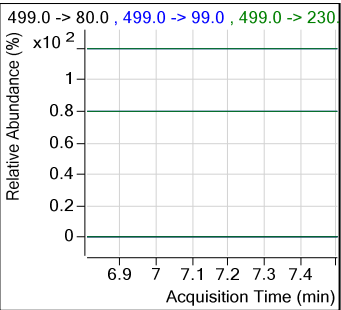
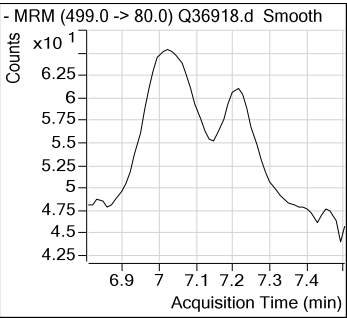
FOSA



13C4-PFOS



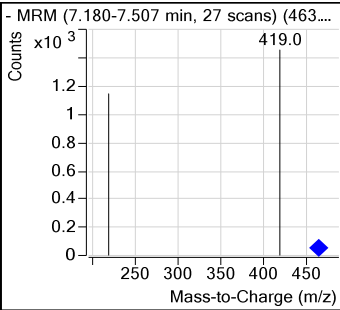
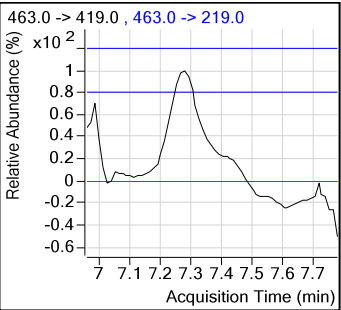
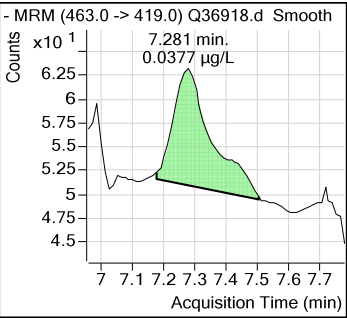
PFOS



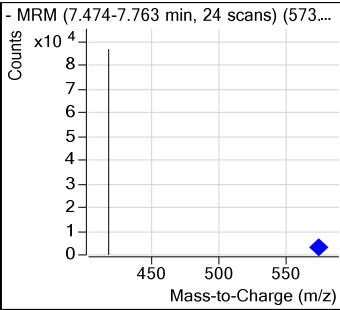
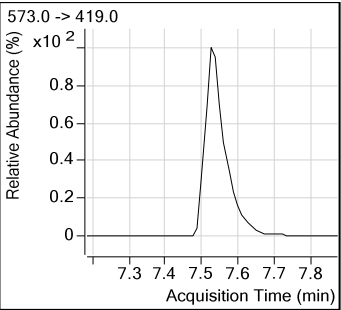
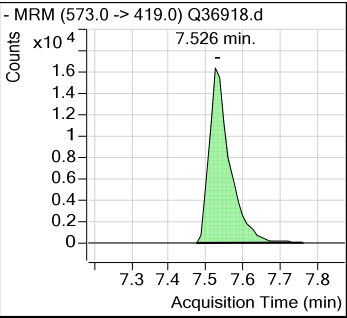
Perfluorinated Compounds by LC/MS/MS.

7.1.1
7

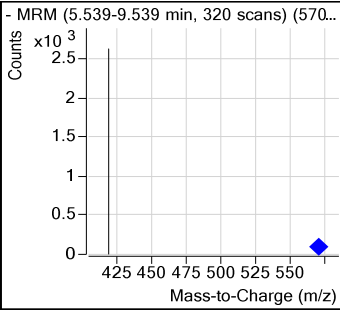
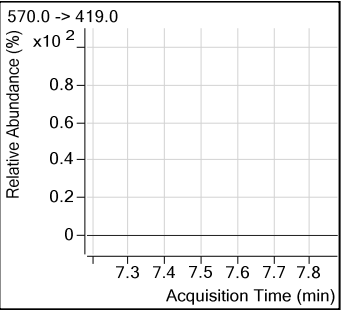
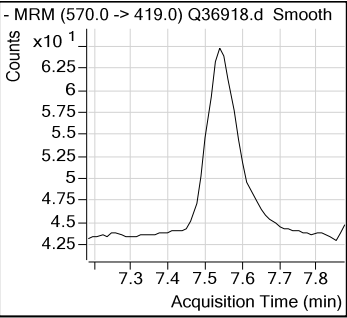
PFNA



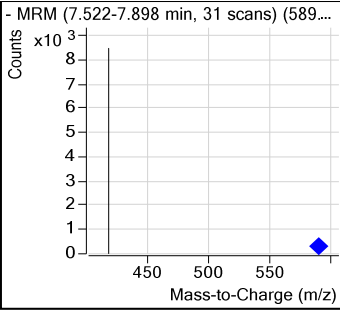
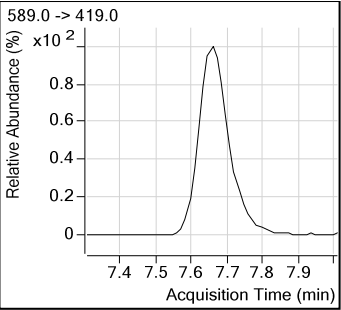
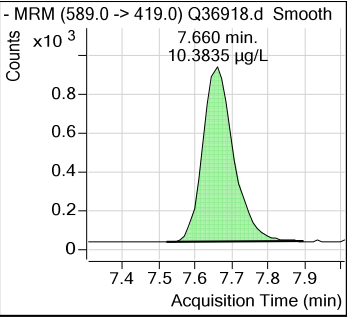
d3-MeFOSAA



MeFOSAA



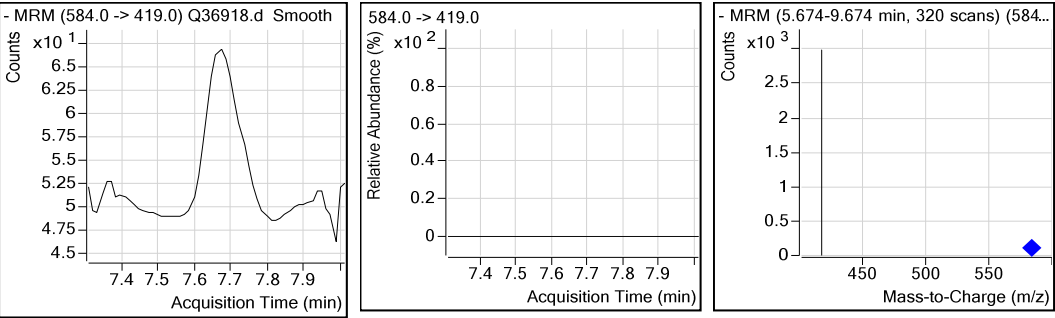
d5-EtFOSAA



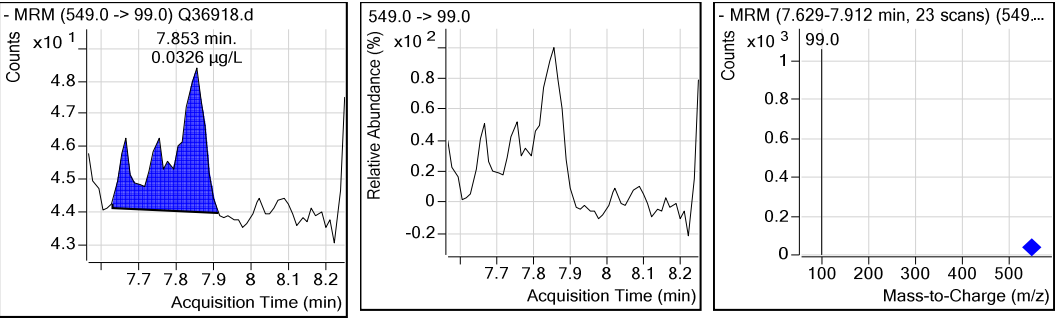
Perfluorinated Compounds by LC/MS/MS.

7.1.1
7

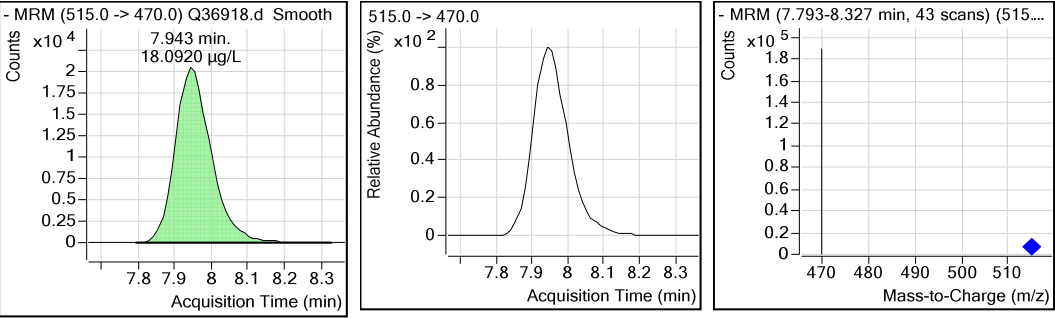
EtFOSAA



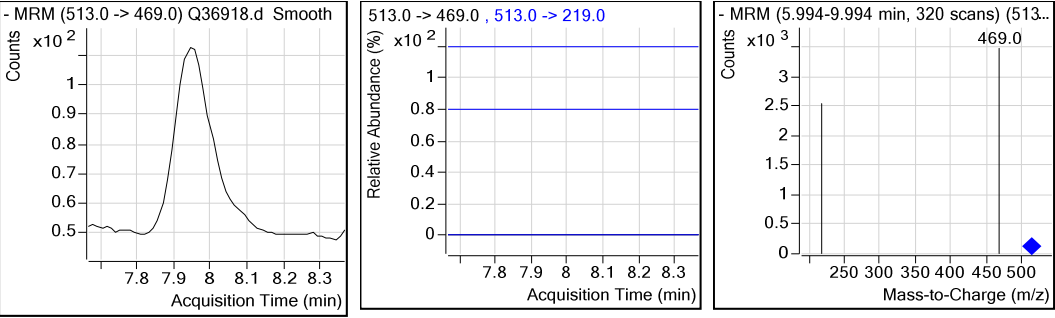
PFNS



13C2-PFDA



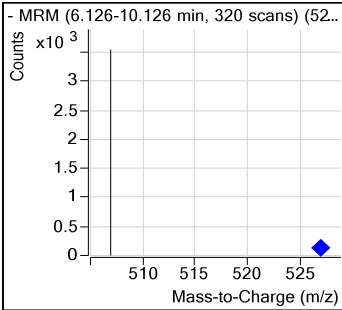
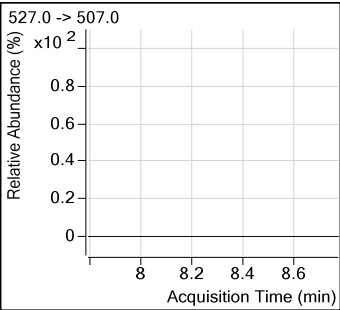
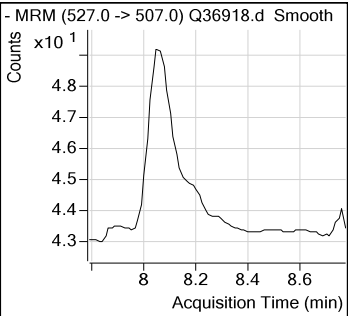
PFDA



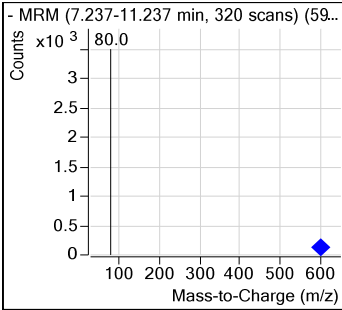
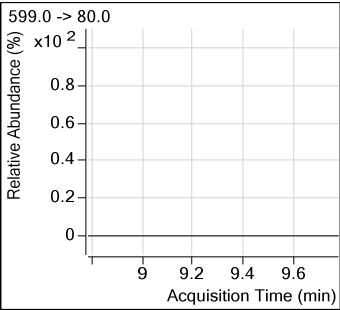
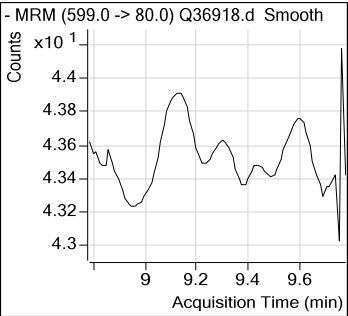
Perfluorinated Compounds by LC/MS/MS.

7.1.1
7

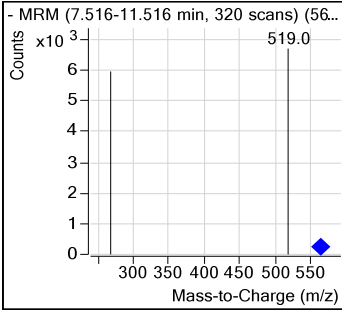
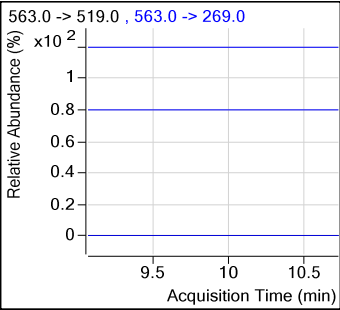
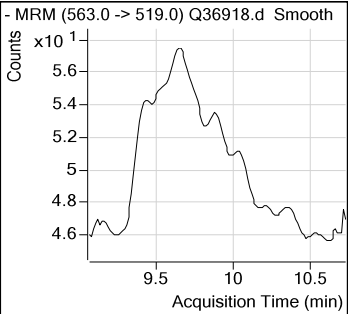
8:2FTS



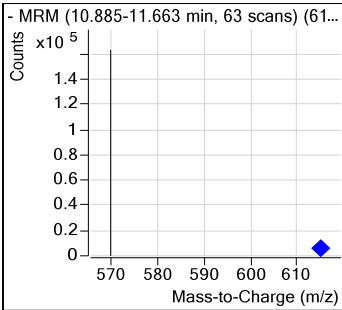
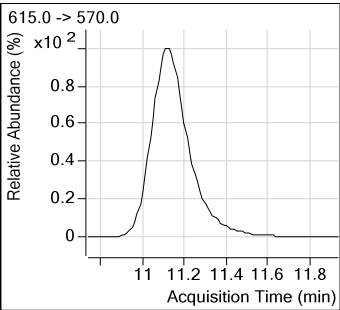
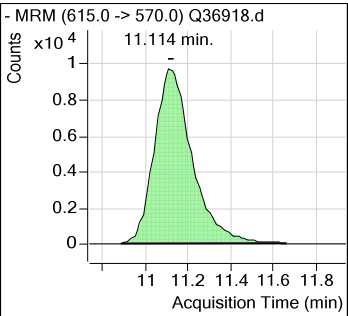
PFDS



PFUnDA



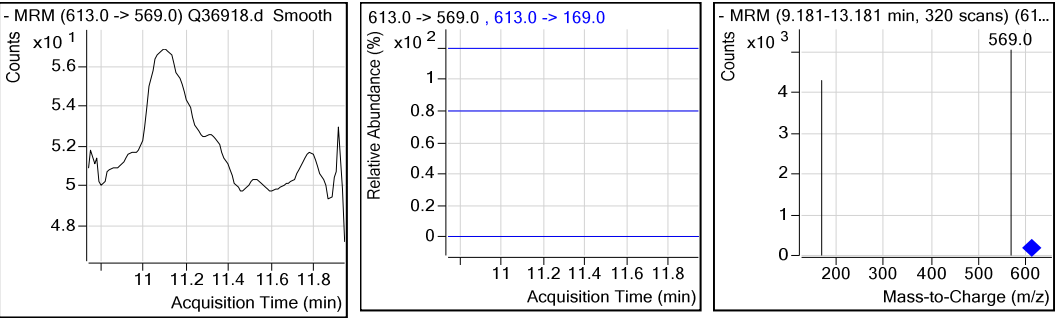
13C2-PFDoDA



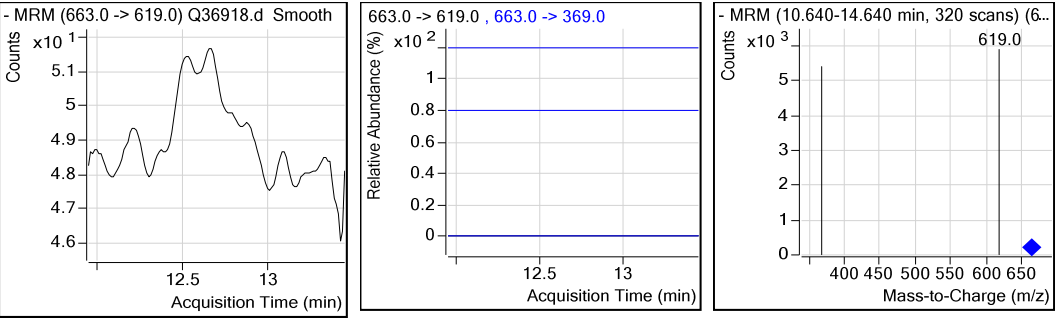
Perfluorinated Compounds by LC/MS/MS.

7.1.1
7

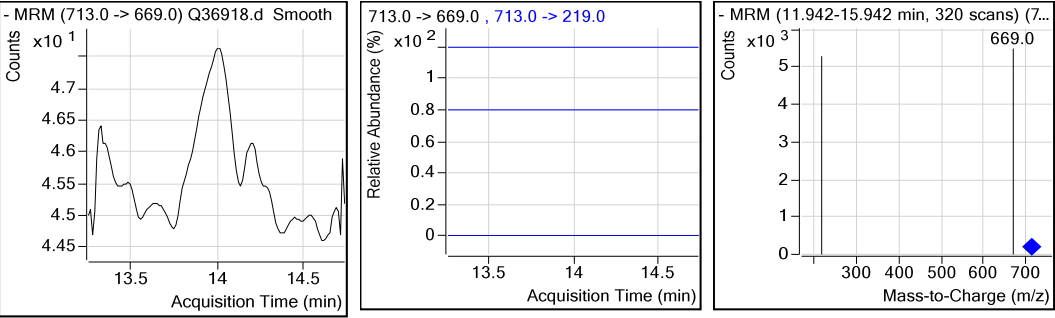
PFD_oDA



PFT_rDA



PFT_eDA



Calibration Curve

Perfluorinated Compounds by LC/MS/MS.

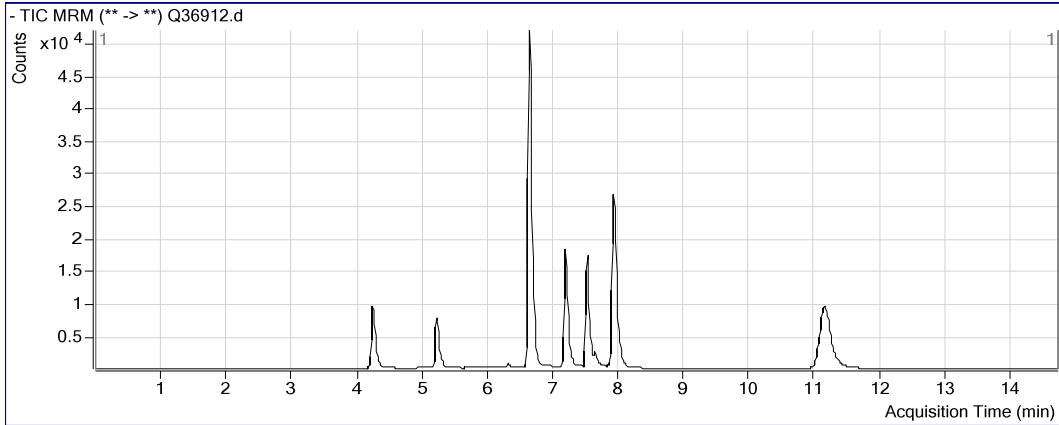
Data File : Q36912.d
 Operator : NANCYF
 Acq Method Name : 537_LIST.m
 Acquisition date : 2017-07-18 14:40
 Sample Name : FA45196-2
 Vial : Vial 10
 Sample Info : OP65685,SQ937,260,,,1,1,WATER
 Quant Method : PFC_LIST_0717_SQ936.quantmethod.xml
 Quant Batch Name : SQ937.batch.bin
 Last Calib Update : 2017-07-18 07:16

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
13C3-PFPeA	4.260	266.0 -> 222.0	41548	20.000	µg/L	0.000
13C2-PFOA	6.663	415.0 -> 370.0	135078	20.000	µg/L	-0.013
13C2-6:2FTS	6.671	429.0 -> 409.0	83735	20.000	µg/L	-0.013
13C4-PFOS	7.211	503.0 -> 80.0	75719	20.000	µg/L	-0.013
d3-MeFOSAA	7.538	573.0 -> 419.0	65704	20.000	µg/L	0.000
13C2-PFDoDA	11.164	615.0 -> 570.0	116489	20.000	µg/L	-0.012
System Monitoring Compounds						
13C2-PFHxA	5.247	315.0 -> 270.0	31943	17.27	µg/L	0.000
Spiked Amount: 20.000	Range: 14 - 26		Recovery = 86.37%			
d5-EtFOSAA	7.660	589.0 -> 419.0	6666	12.79	µg/L	0.000
Spiked Amount: 20.000	Range: 14 - 26		Recovery = 63.96%			
13C2-PFDA	7.955	515.0 -> 470.0	134615	17.23	µg/L	-0.038
Spiked Amount: 20.000	Range: 14 - 26		Recovery = 86.15%			
Target Compounds						Qvalue
PFBA	2.965	213.0 -> 169.0	0	0.000	µg/L m	1
PFPeA	4.501	263.0 -> 219.0	0	0.000	µg/L m	1
4:2FTS	5.157	327.0 -> 307.0	28	0.010	µg/L	100
PFHxA	5.237	313.0 -> 269.0	332	0.190	µg/L	89
PFHxS	6.006	399.0 -> 80.0	27	0.012	µg/L	40
PFHpA	6.011	363.0 -> 319.0	83	0.033	µg/L	59
PFOA	6.664	413.0 -> 369.0	887	0.145	µg/L	59
6:2FTS	6.673	427.0 -> 407.0	341	0.077	µg/L	100
PFOS	7.213	499.0 -> 80.0	263	0.067	µg/L	37
PFNS	7.841	549.0 -> 99.0	16	0.017	µg/L	100

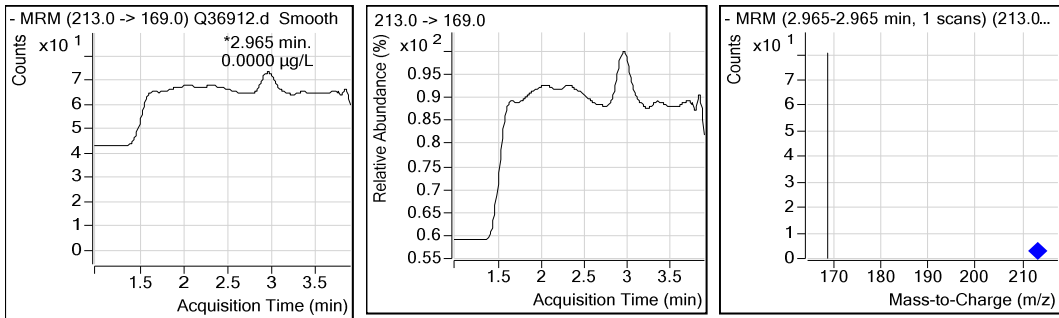
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

Perfluorinated Compounds by LC/MS/MS.

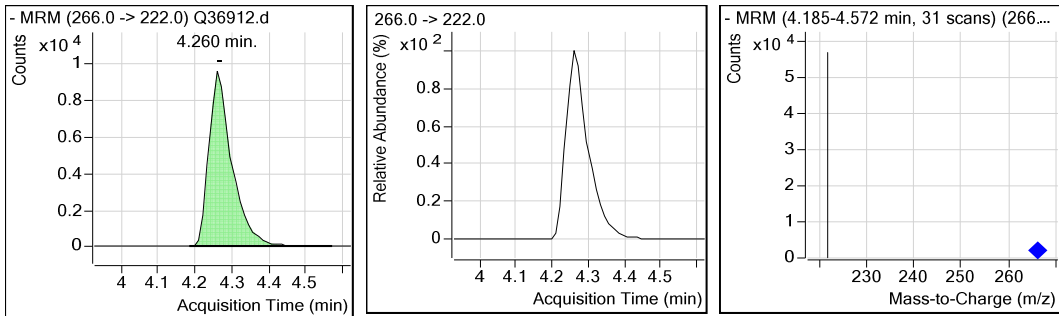
Data File : Q36912.d
Operator : NANCYF
Acq Method Name : 537_LIST.m
Acquisition date : 2017-07-18 14:40
Sample Name : FA45196-2
Vial : Vial 10
Sample Info : OP65685,SQ937,260,,,1,1,WATER
Quant Method : PFC_LIST_0717_SQ936.quantmethod.xml
Quant Batch Name : SQ937.batch.bin
Last Calib Update : 2017-07-18 07:16



PFBA



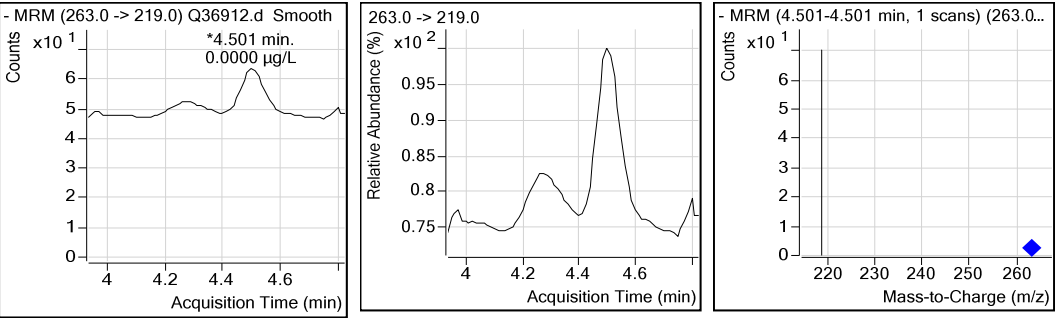
13C3-PFPeA



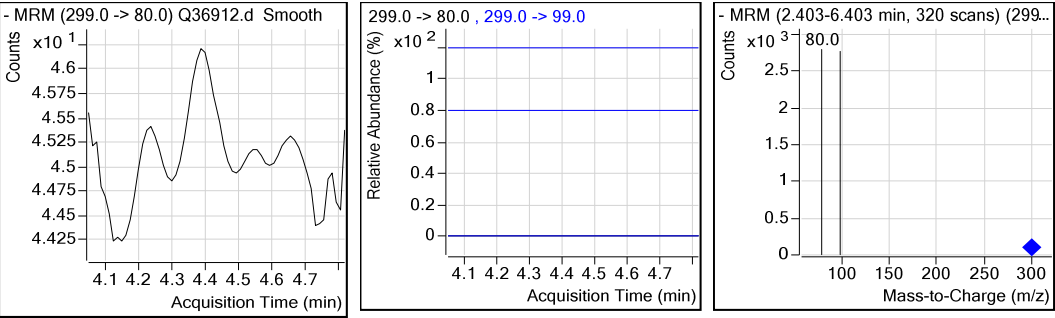
Perfluorinated Compounds by LC/MS/MS.

7.1.2
7

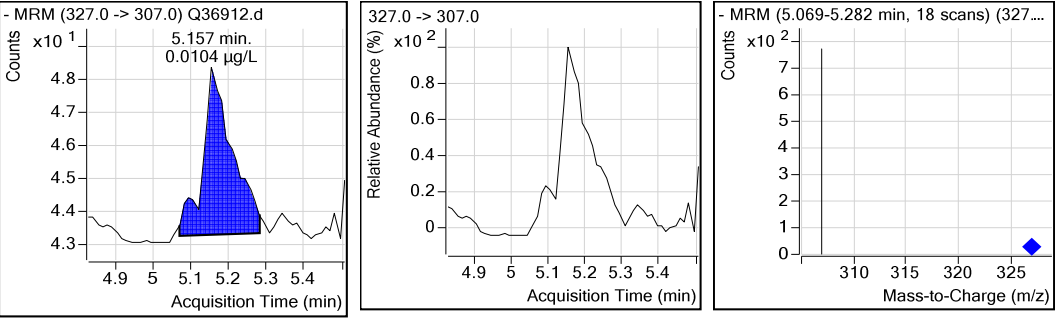
PFPeA



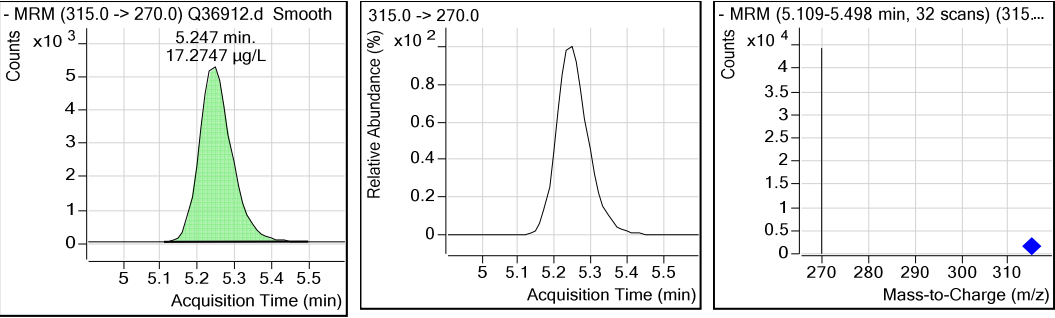
PFBS



4:2FTS

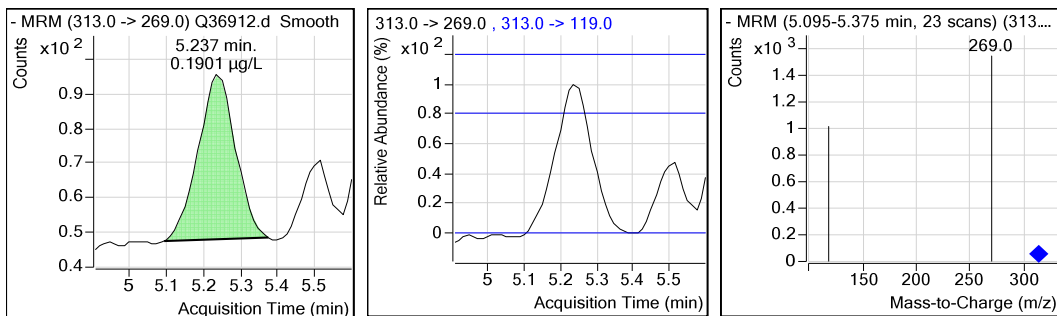


13C2-PFHxA

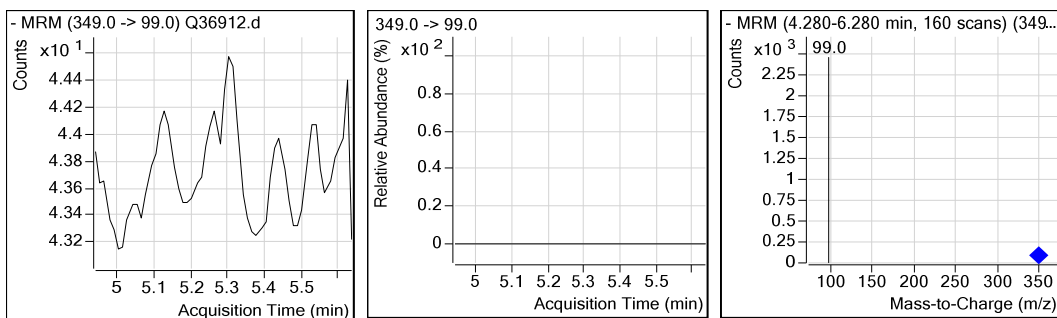


Perfluorinated Compounds by LC/MS/MS.

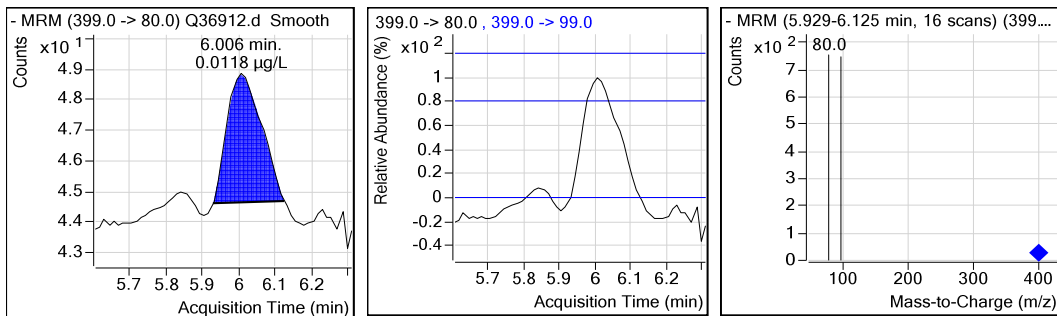
PFHxA



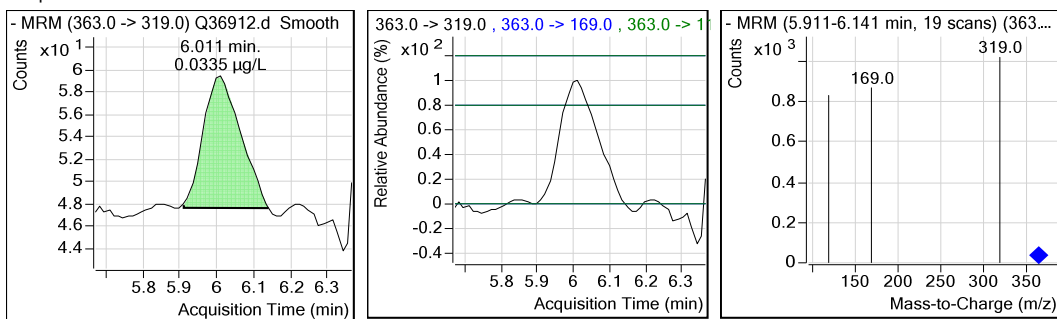
PFPeS



PFHxS



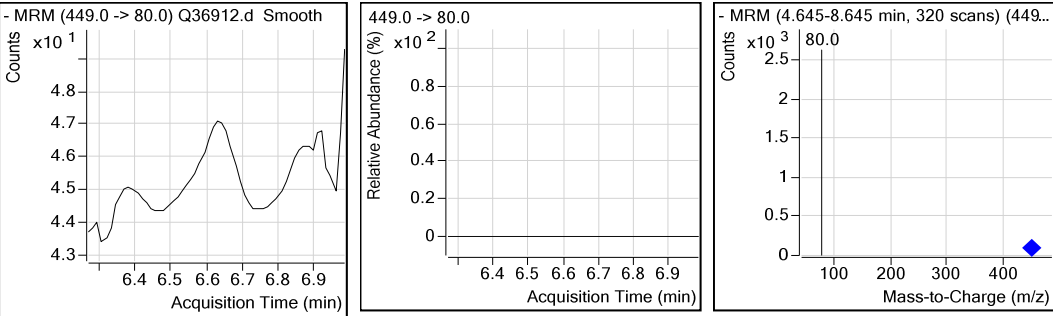
PFHpA



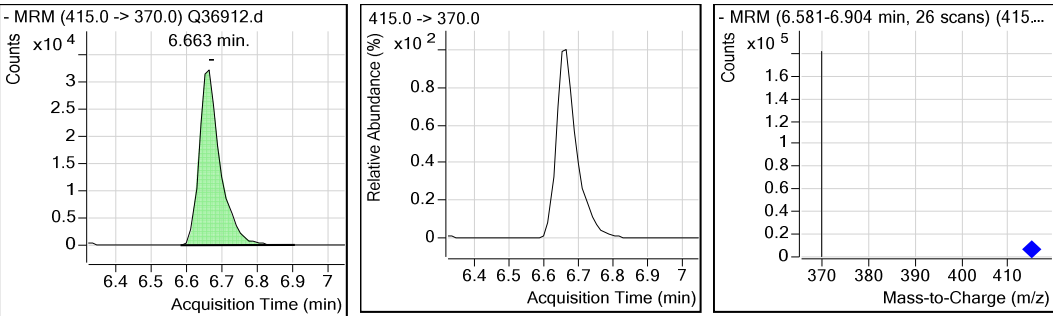
Perfluorinated Compounds by LC/MS/MS.

7.1.2
7

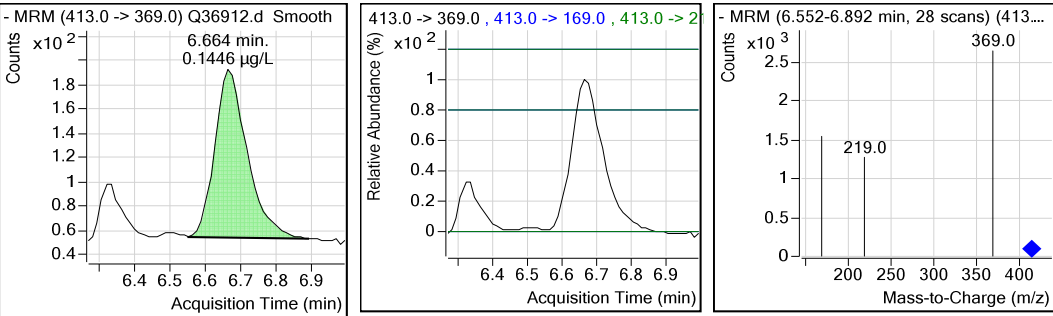
PFHpS



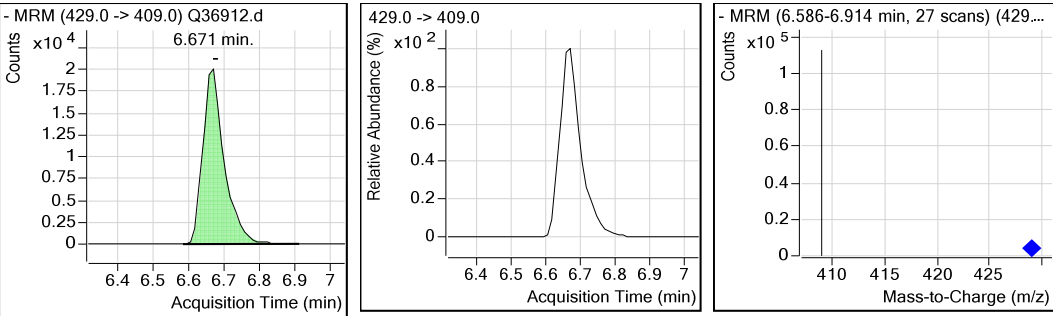
13C2-PFOA



PFOA

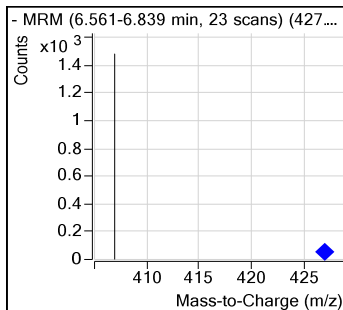
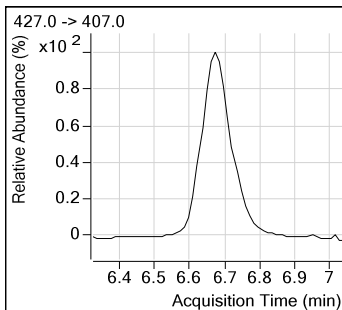
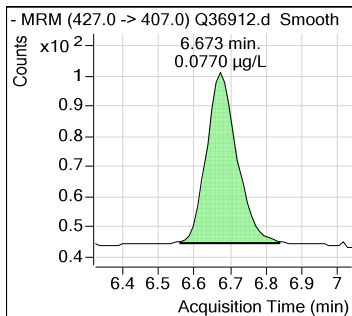


13C2-6:2FTS

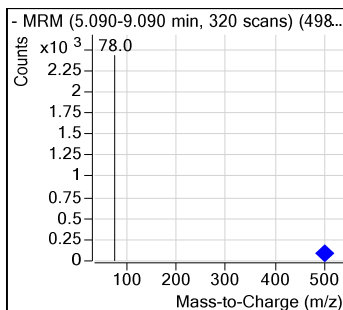
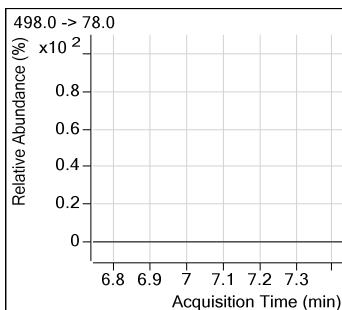
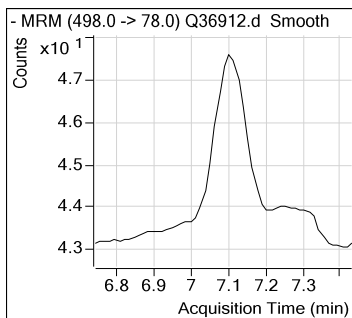


Perfluorinated Compounds by LC/MS/MS.

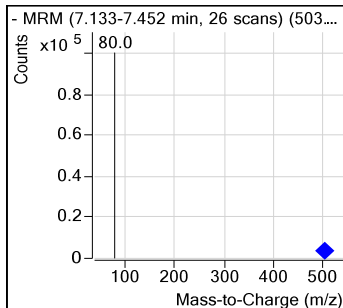
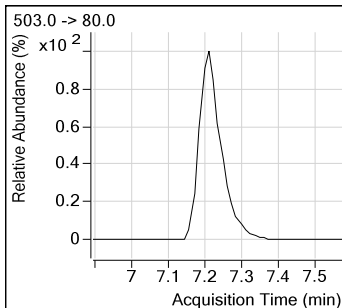
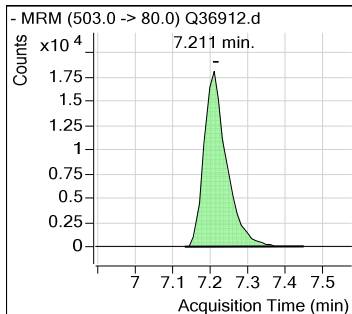
6:2FTS



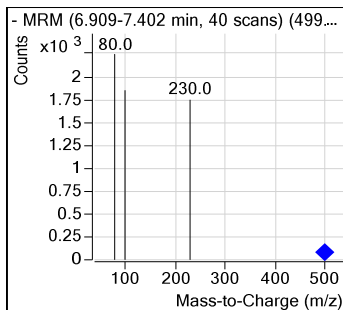
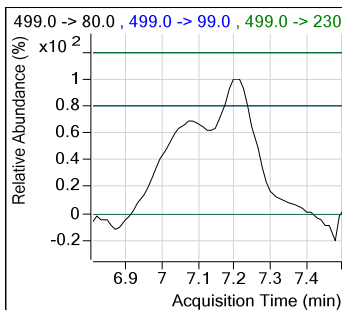
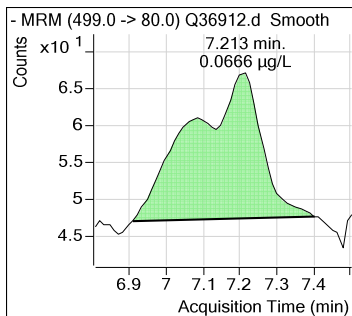
FOSA



13C4-PFOS



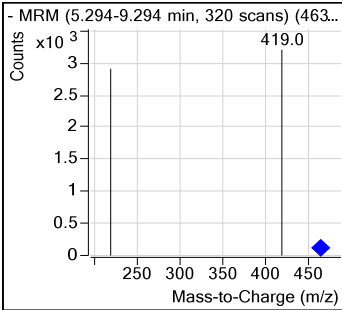
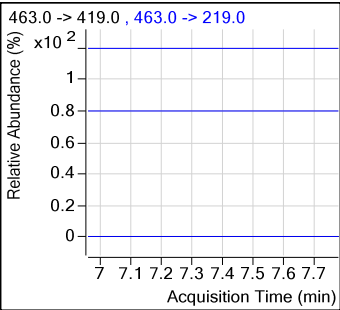
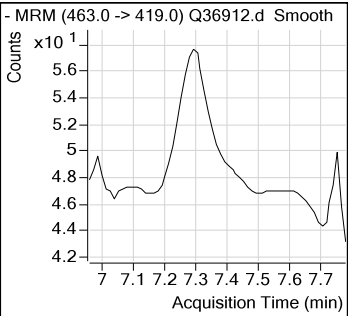
PFOS



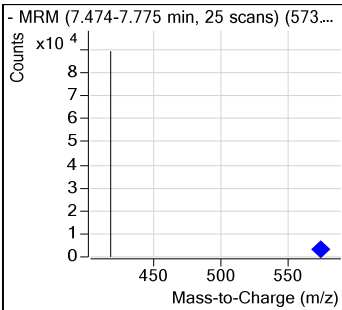
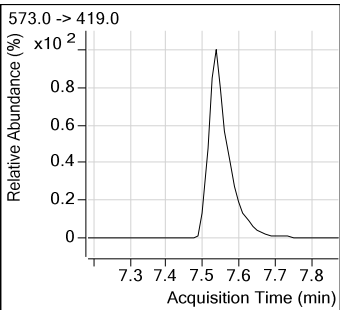
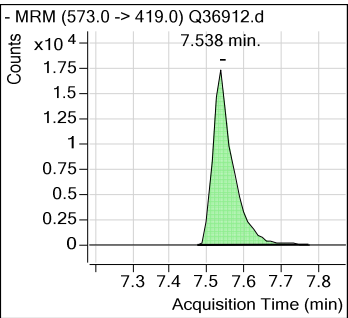
Perfluorinated Compounds by LC/MS/MS.

7.1.2
7

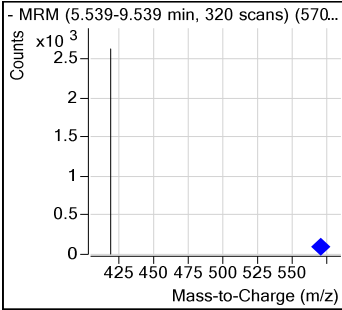
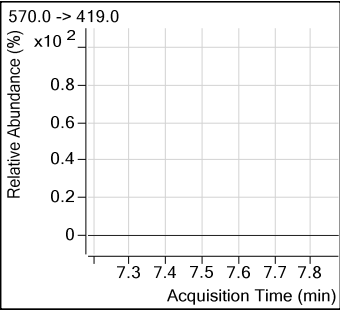
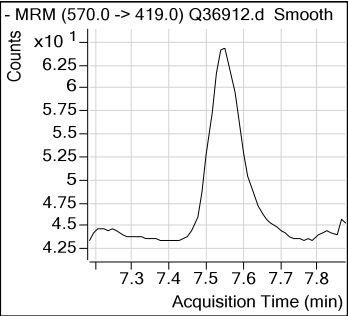
PFNA



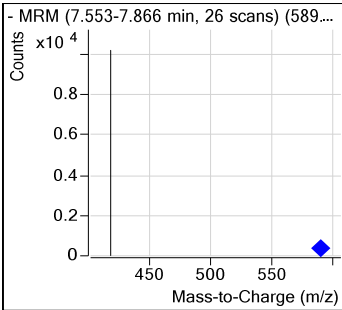
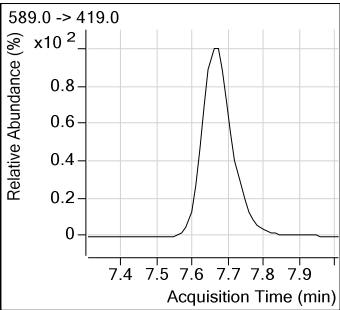
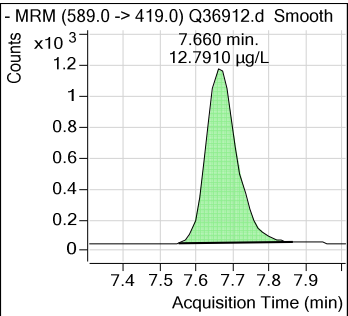
d3-MeFOSAA



MeFOSAA



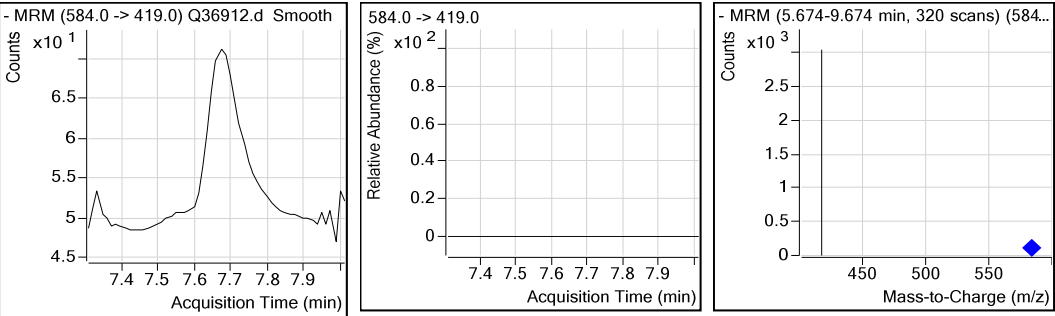
d5-EtFOSAA



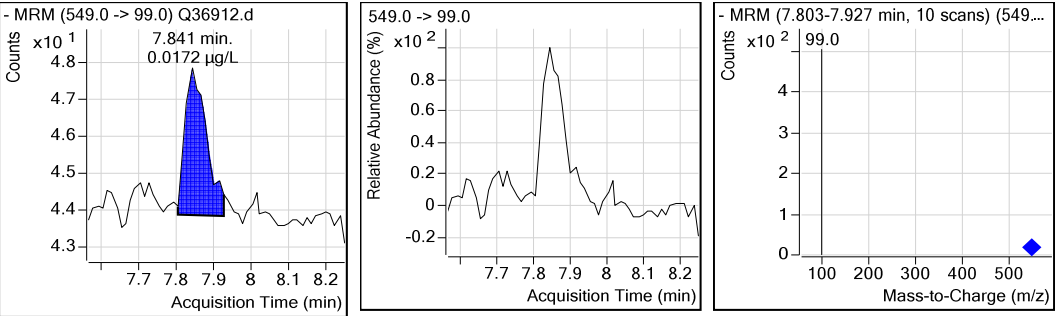
Perfluorinated Compounds by LC/MS/MS.

7.1.2
7

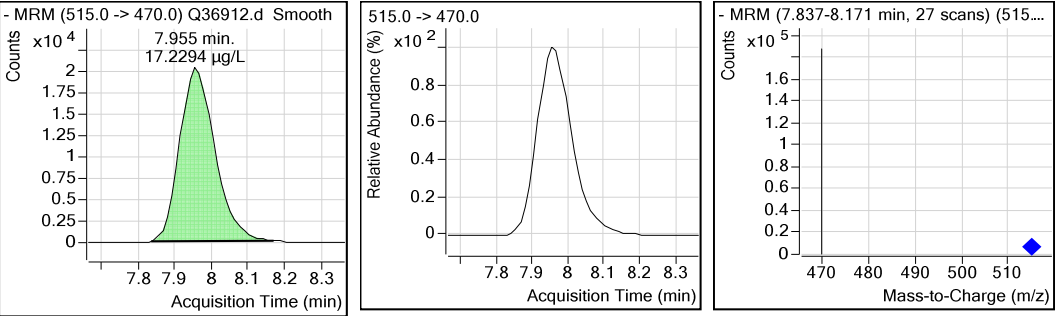
EtFOSAA



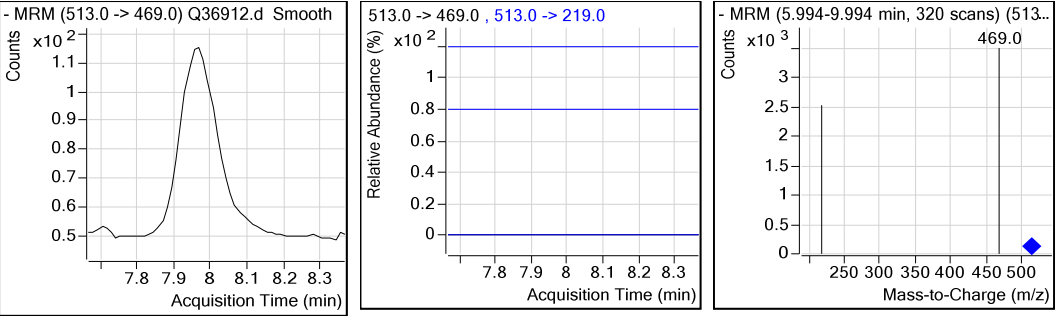
PFNS



13C2-PFDA



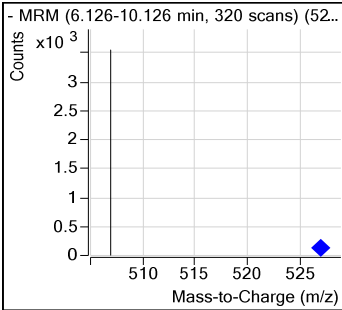
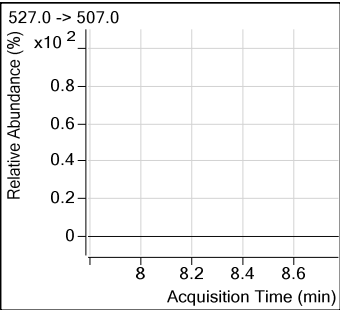
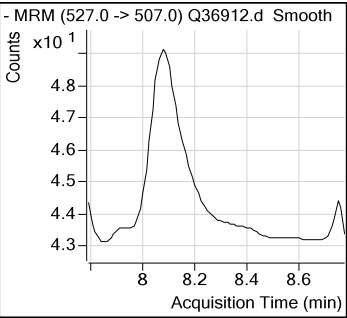
PFDA



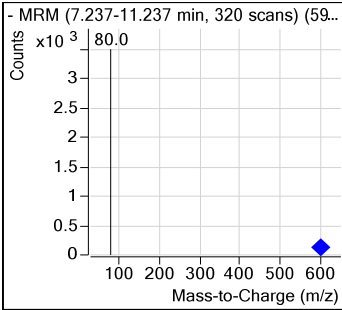
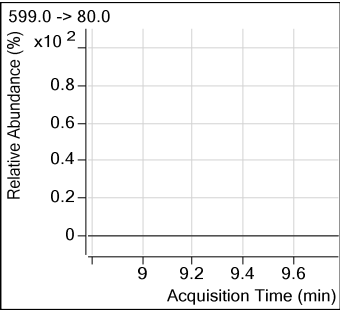
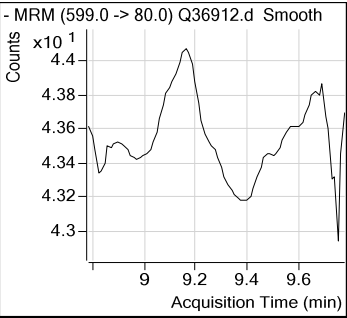
Perfluorinated Compounds by LC/MS/MS.

7.1.2
7

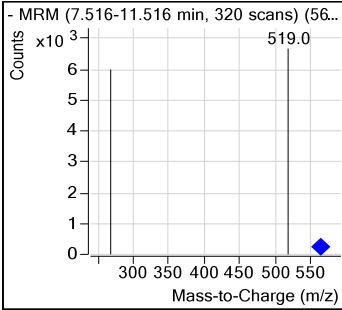
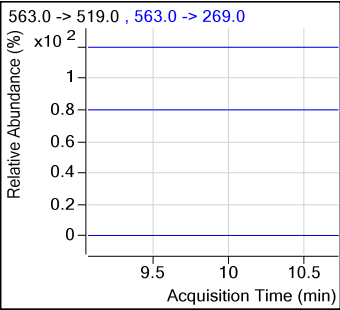
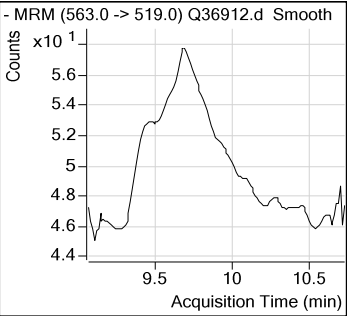
8:2FTS



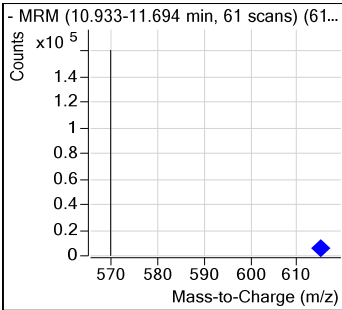
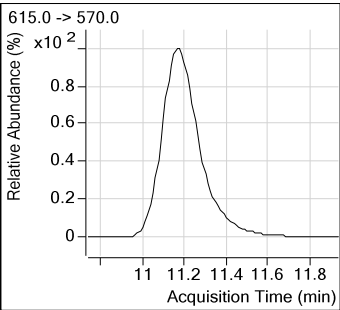
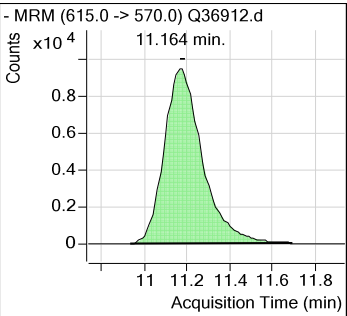
PFDS



PFUnDA



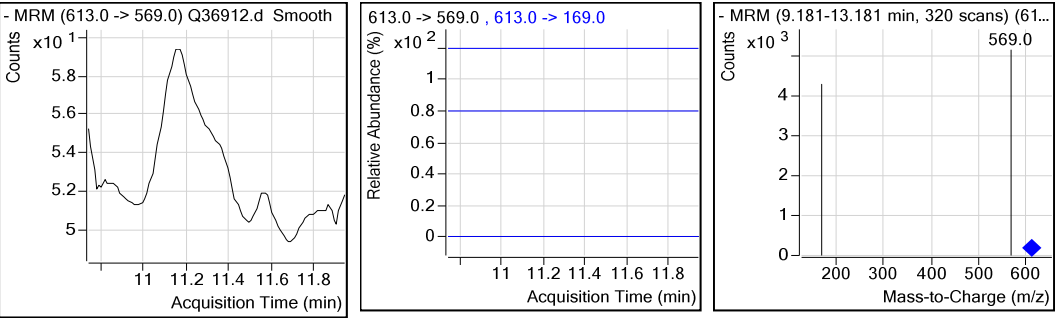
13C2-PFDoDA



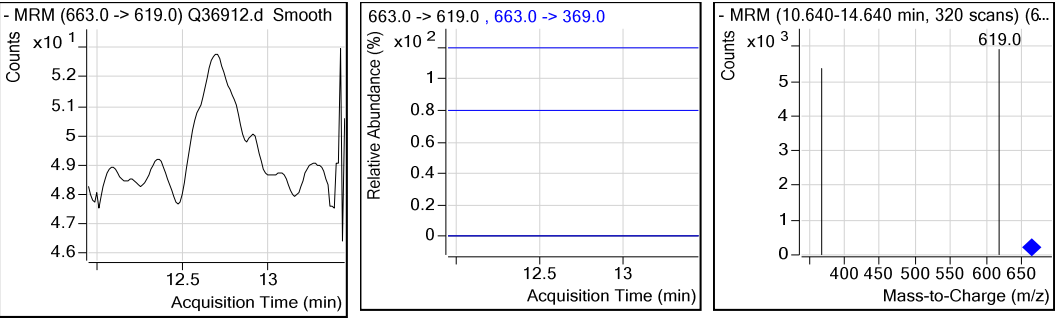
Perfluorinated Compounds by LC/MS/MS.

7.1.2
7

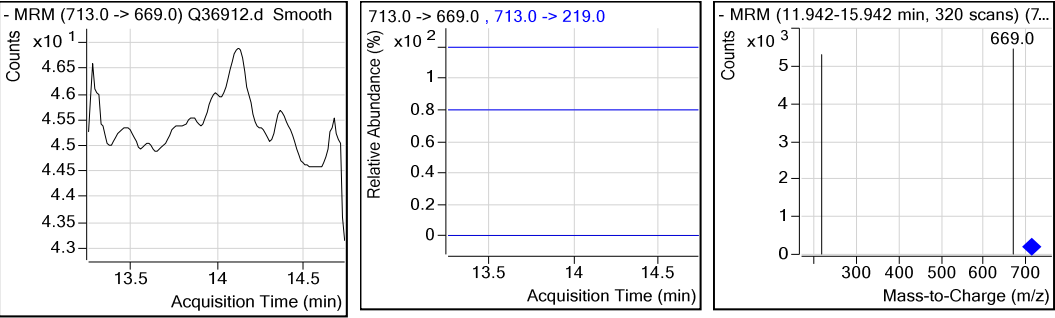
PFD_oDA



PFT_rDA



PFT_eDA



Calibration Curve

Perfluorinated Compounds by LC/MS/MS.

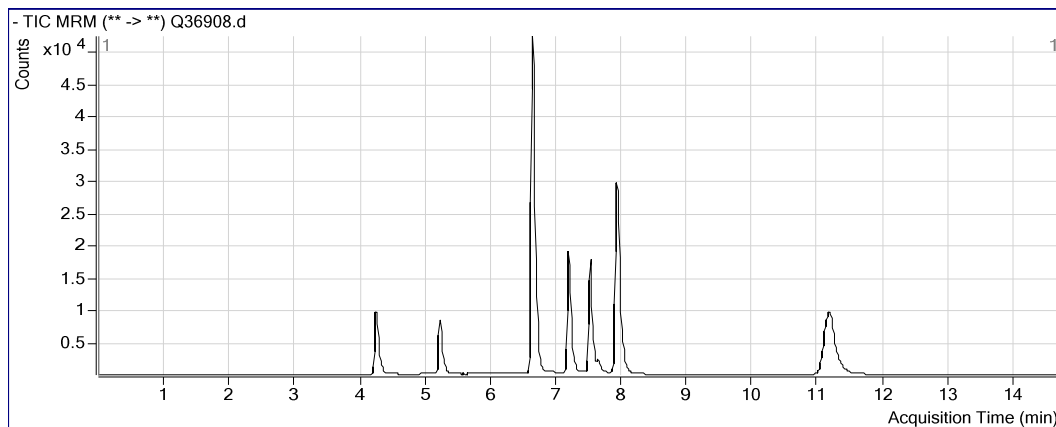
Data File : Q36908.d
 Operator : NANCYF
 Acq Method Name : 537_LIST.m
 Acquisition date : 2017-07-18 13:22
 Sample Name : OP65685-MB
 Vial : Vial 6
 Sample Info : OP65685,SQ937,260,,,1,1,WATER
 Quant Method : PFC_LIST_0717_SQ936.quantmethod.xml
 Quant Batch Name : SQ937.batch.bin
 Last Calib Update : 2017-07-18 07:16

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
13C3-PFPeA	4.272	266.0 -> 222.0	43140	20.000	µg/L	0.013
13C2-PFOA	6.663	415.0 -> 370.0	137333	20.000	µg/L	-0.013
13C2-6:2FTS	6.671	429.0 -> 409.0	84913	20.000	µg/L	-0.013
13C4-PFOS	7.211	503.0 -> 80.0	77858	20.000	µg/L	-0.013
d3-MeFOSAA	7.538	573.0 -> 419.0	66608	20.000	µg/L	0.000
13C2-PFDoDA	11.189	615.0 -> 570.0	118903	20.000	µg/L	0.013
System Monitoring Compounds						
13C2-PFHxA	5.247	315.0 -> 270.0	35229	18.74	µg/L	0.000
Spiked Amount: 20.000	Range: 14 - 26		Recovery = 93.69%			
d5-EtFOSAA	7.672	589.0 -> 419.0	6150	11.64	µg/L	0.013
Spiked Amount: 20.000	Range: 14 - 26		Recovery = 58.20%			
13C2-PFDA	7.968	515.0 -> 470.0	155431	19.57	µg/L	-0.025
Spiked Amount: 20.000	Range: 14 - 26		Recovery = 97.84%			
Target Compounds						Qvalue
PFBA	2.977	213.0 -> 169.0	0	0.000	µg/L m	1
PFPeA	4.513	263.0 -> 219.0	0	0.000	µg/L m	1
PFHxA	5.250	313.0 -> 269.0	347	0.195	µg/L	89
PFHpA	6.011	363.0 -> 319.0	76	0.030	µg/L	59
PFOA	6.664	413.0 -> 369.0	885	0.142	µg/L	63
6:2FTS	6.673	427.0 -> 407.0	283	0.063	µg/L	100
PFOS	7.213	499.0 -> 80.0	451	0.111	µg/L #	58
PFDA	7.969	513.0 -> 469.0	549	0.129	µg/L	56

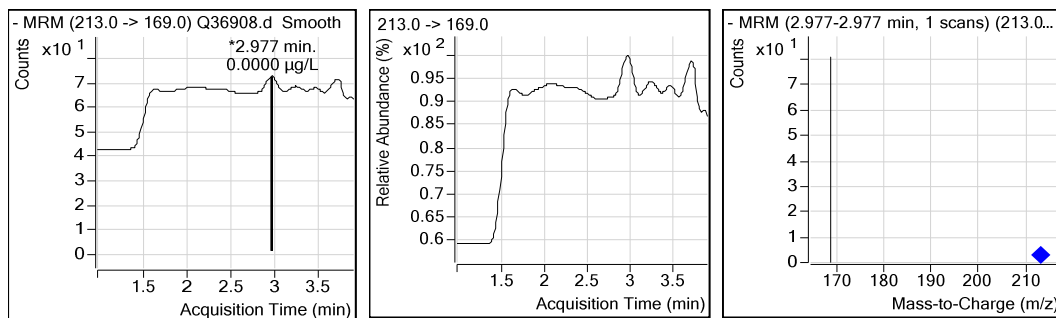
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

Perfluorinated Compounds by LC/MS/MS.

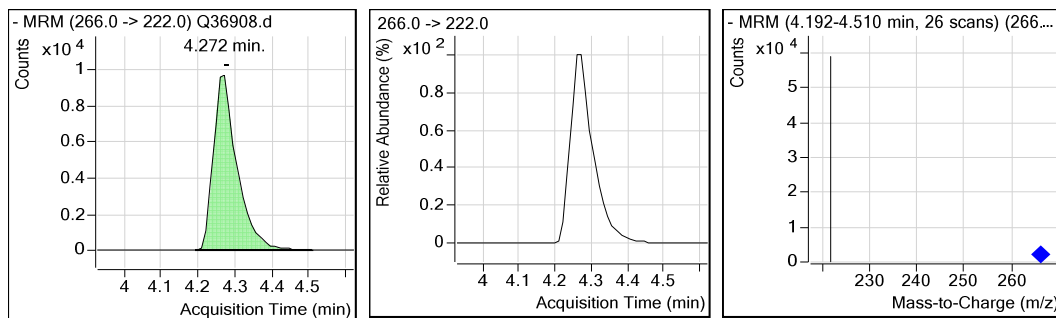
Data File : Q36908.d
Operator : NANCYF
Acq Method Name : 537_LIST.m
Acquisition date : 2017-07-18 13:22
Sample Name : OP65685-MB
Vial : Vial 6
Sample Info : OP65685,SQ937,260,,,1,1,WATER
Quant Method : PFC_LIST_0717_SQ936.quantmethod.xml
Quant Batch Name : SQ937.batch.bin
Last Calib Update : 2017-07-18 07:16



PFBA

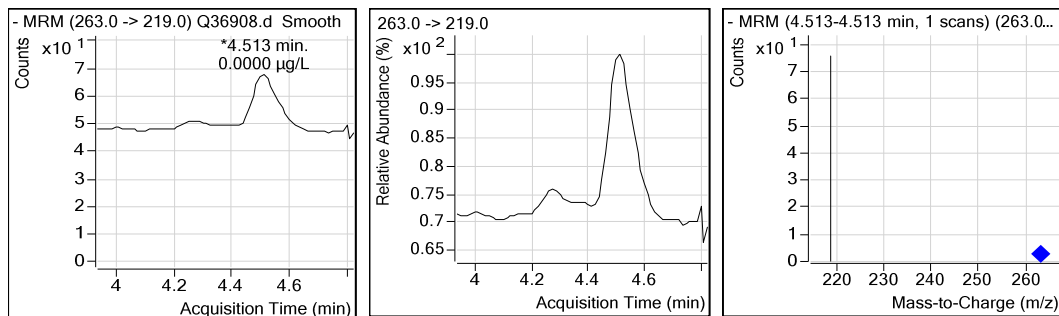


13C3-PFPeA

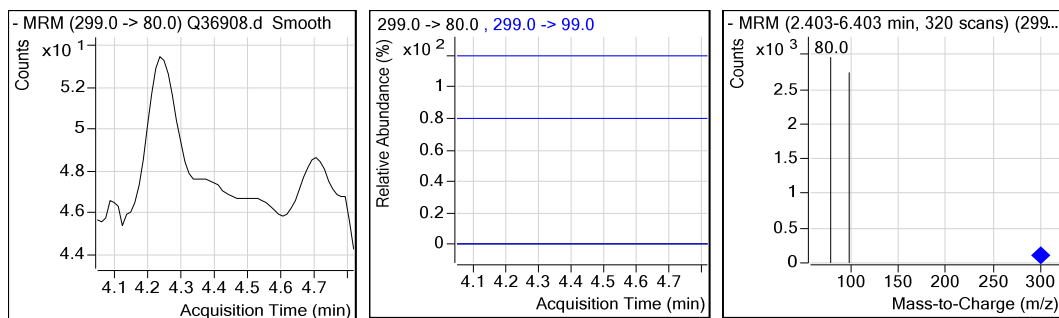


Perfluorinated Compounds by LC/MS/MS.

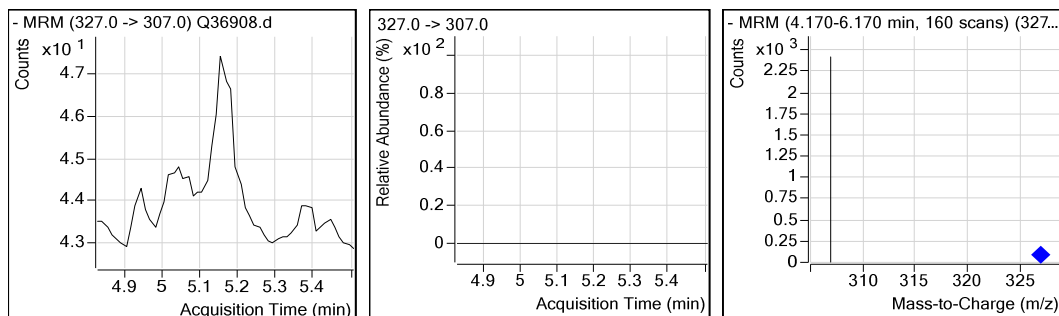
PFPeA



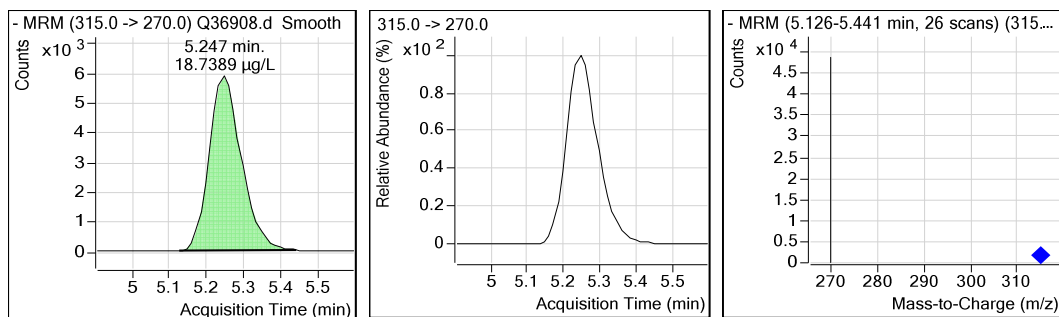
PFBS



4:2FTS

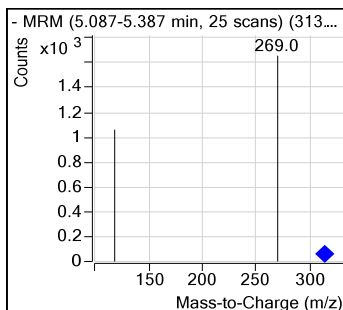
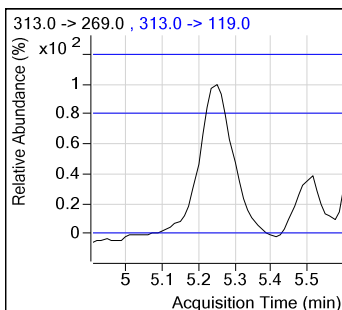
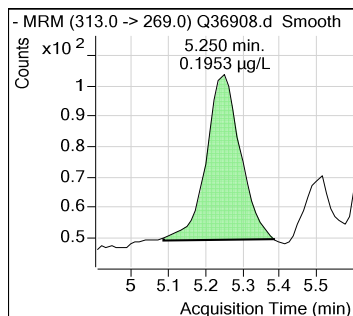


13C2-PFHxA

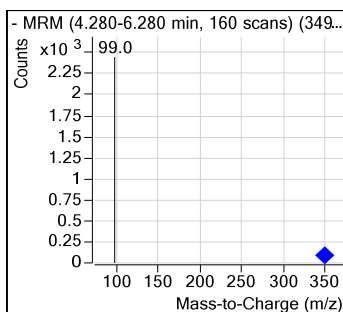
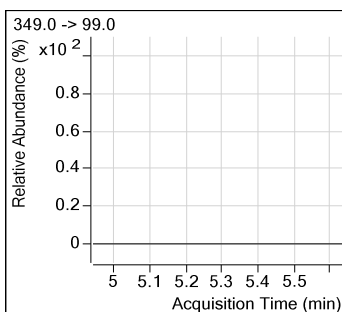
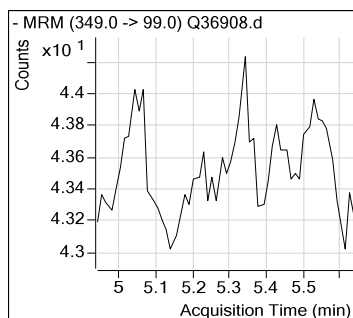


Perfluorinated Compounds by LC/MS/MS.

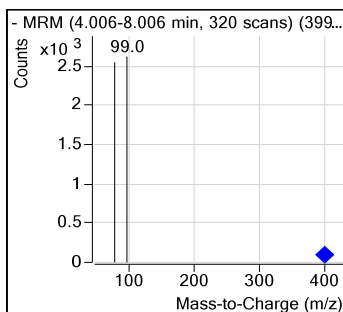
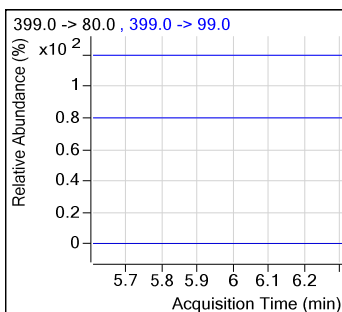
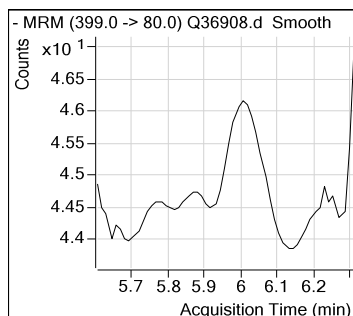
PFHxA



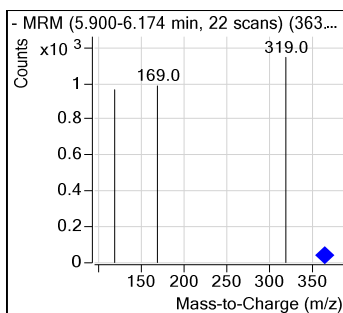
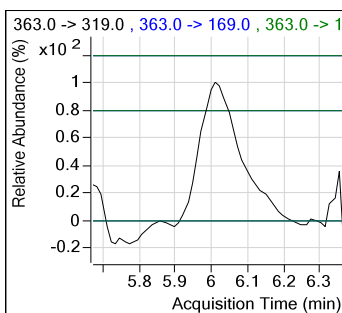
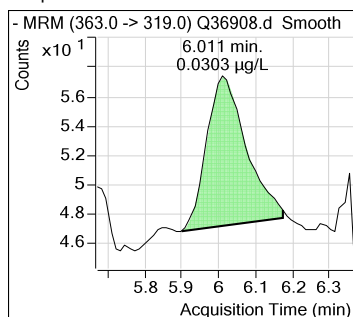
PFPeS



PFHxS

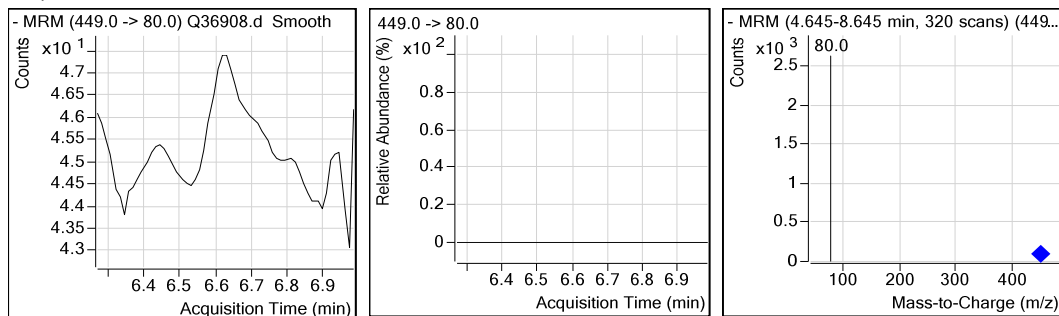


PFHpA

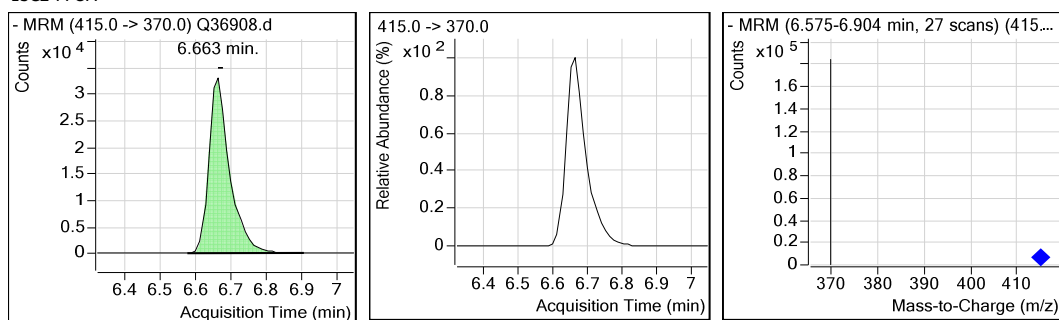


Perfluorinated Compounds by LC/MS/MS.

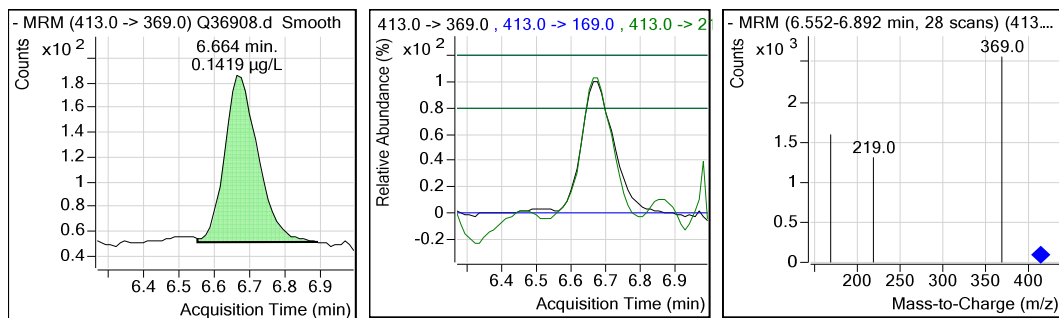
PFHpS



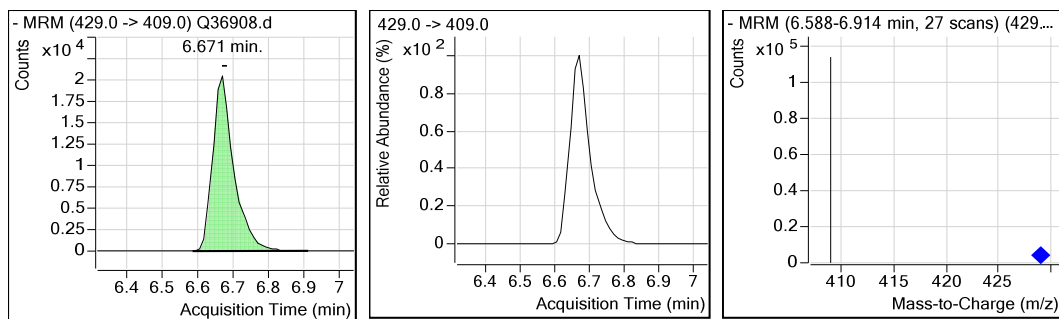
13C2-PFOA



PFOA

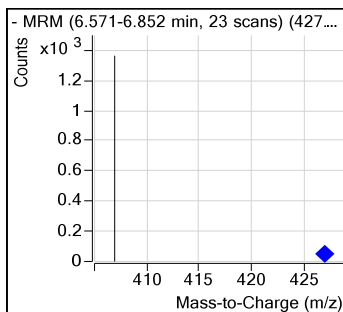
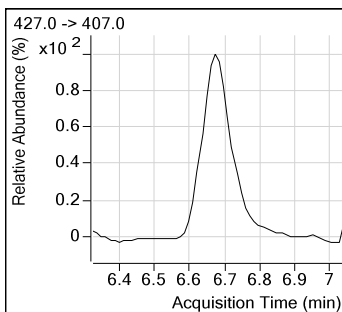
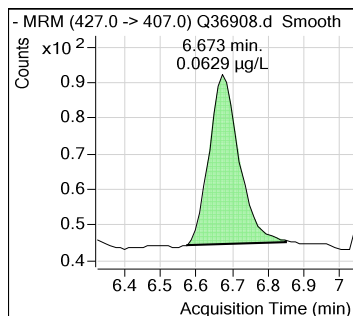


13C2-6:2FTS

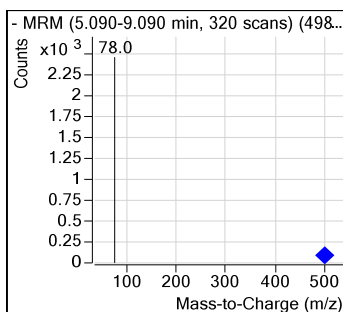
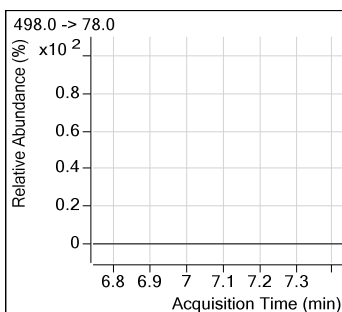
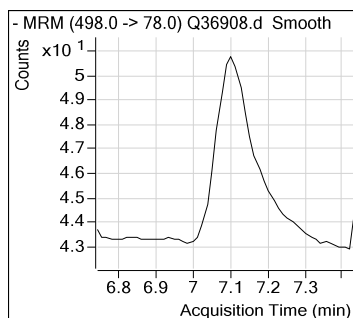


Perfluorinated Compounds by LC/MS/MS.

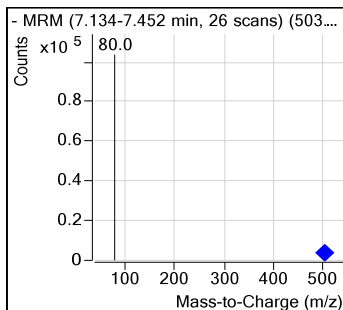
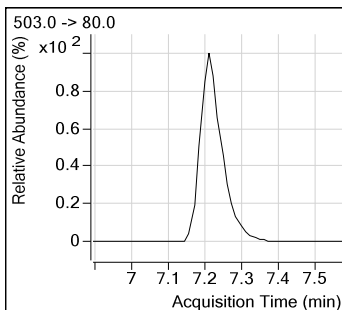
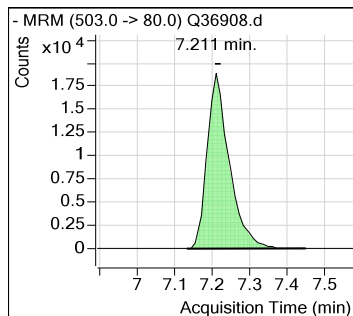
6:2FTS



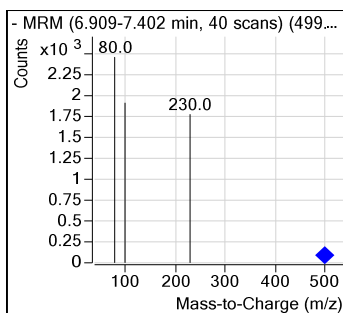
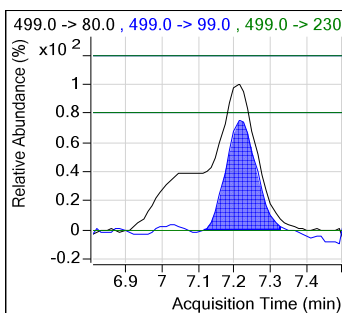
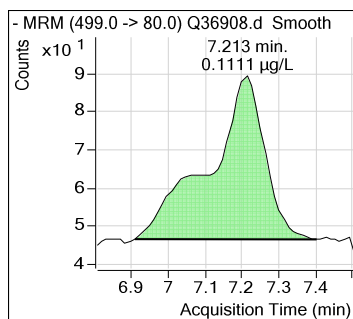
FOSA



13C4-PFOS

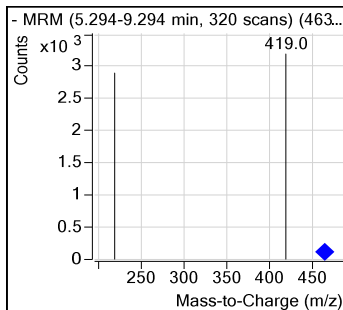
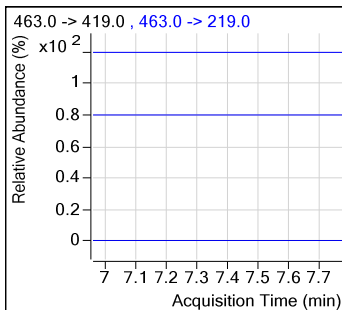
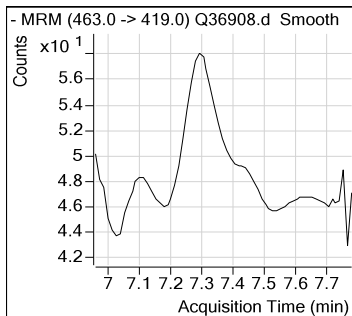


PFOS

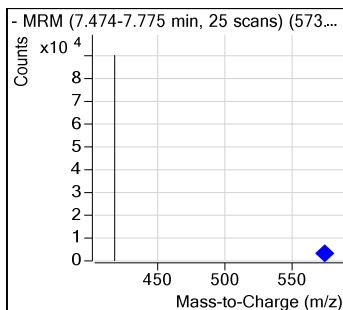
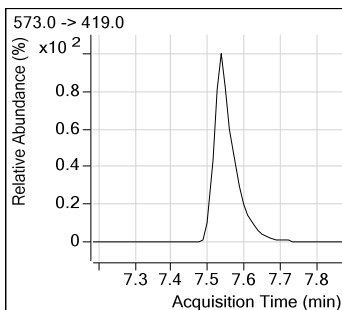
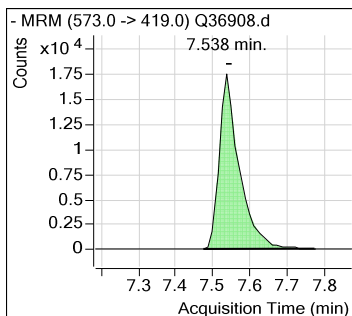


Perfluorinated Compounds by LC/MS/MS.

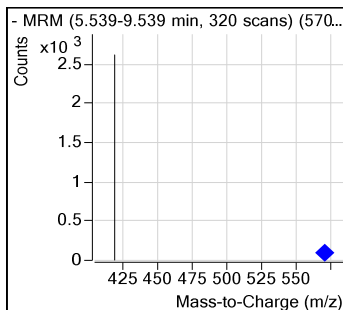
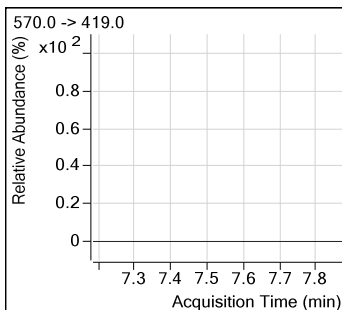
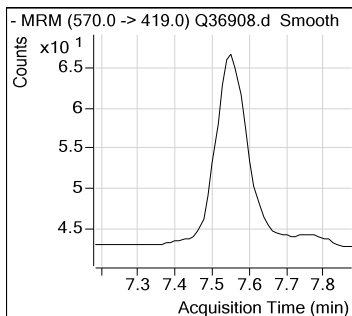
PFNA



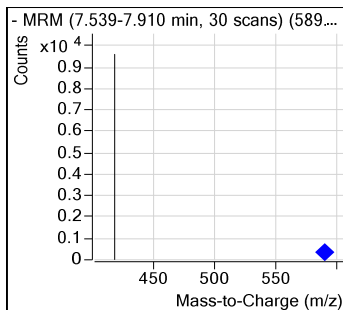
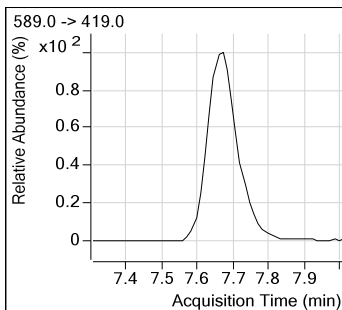
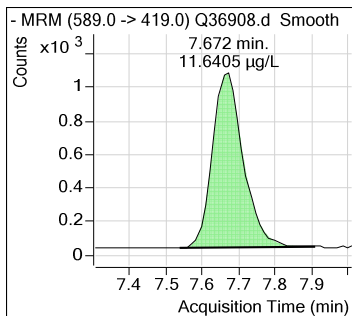
d3-MeFOSAA



MeFOSAA

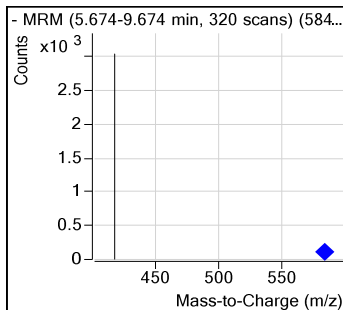
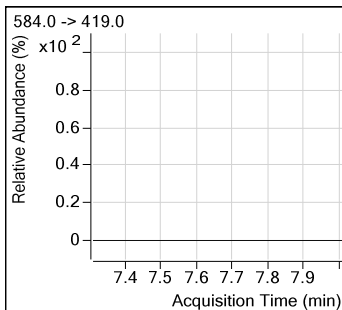
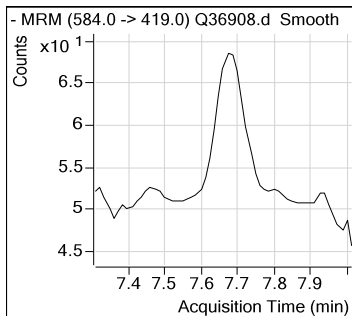


d5-EtFOSAA

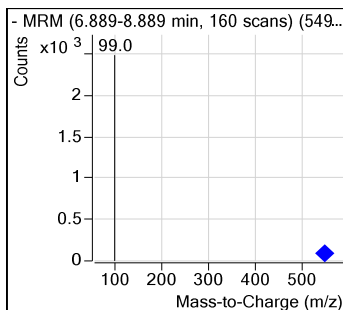
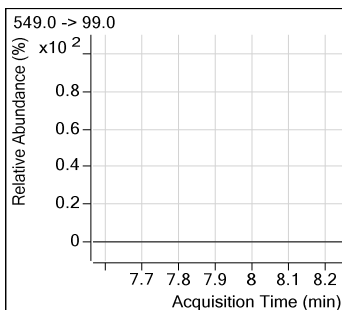
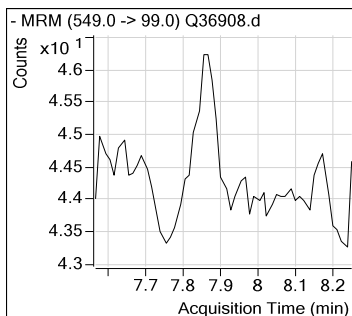


Perfluorinated Compounds by LC/MS/MS.

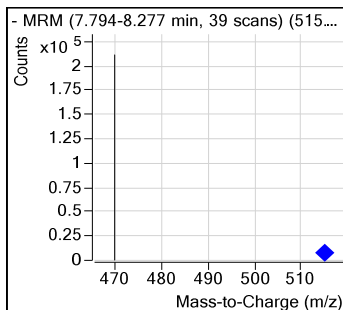
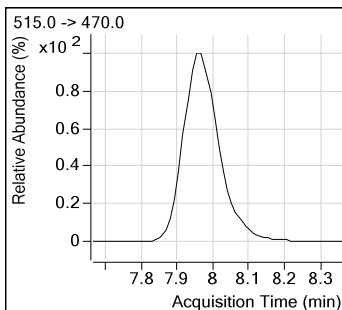
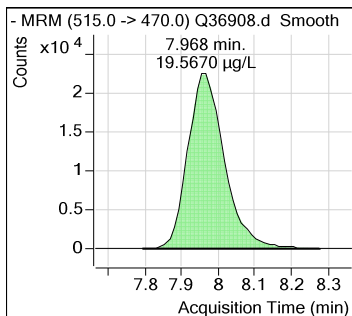
EtFOSAA



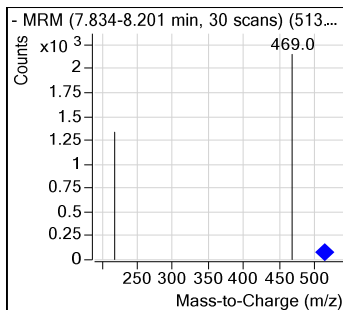
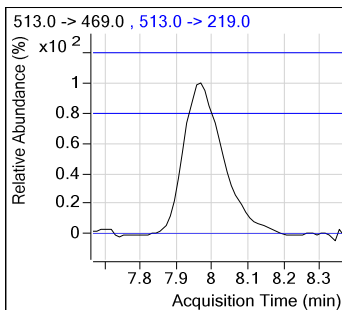
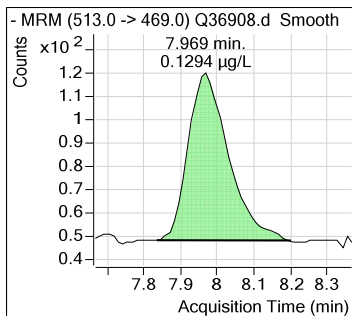
PFNS



13C2-PFDA

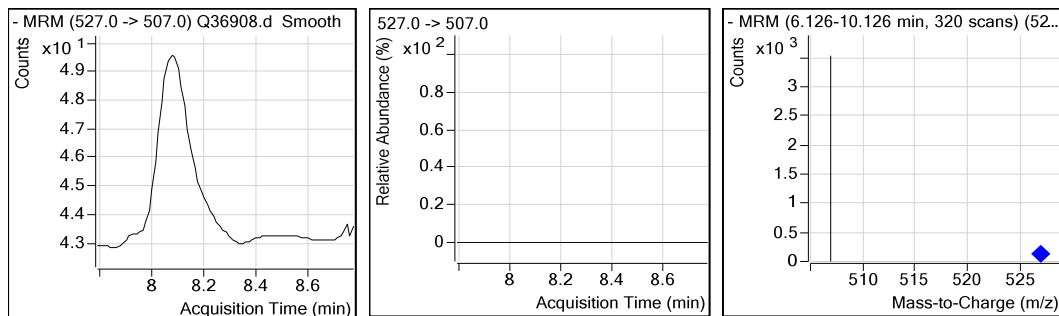


PFDA

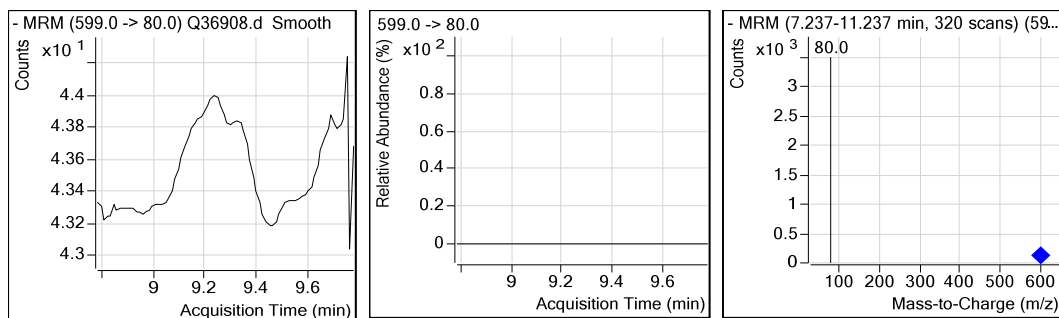


Perfluorinated Compounds by LC/MS/MS.

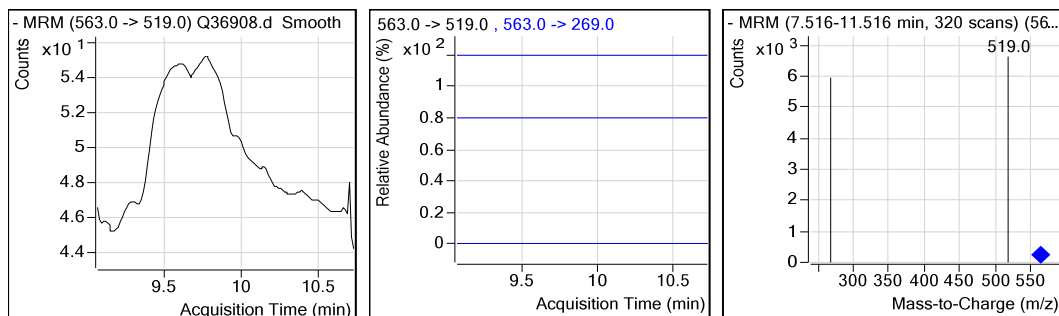
8:2FTS



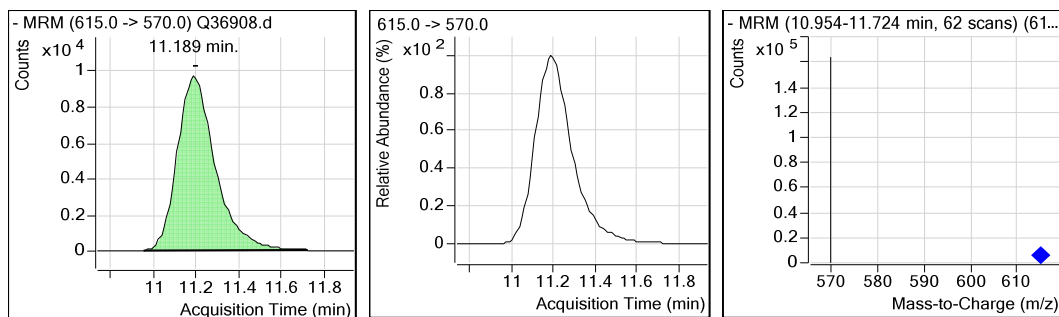
PFDS



PFUnDA

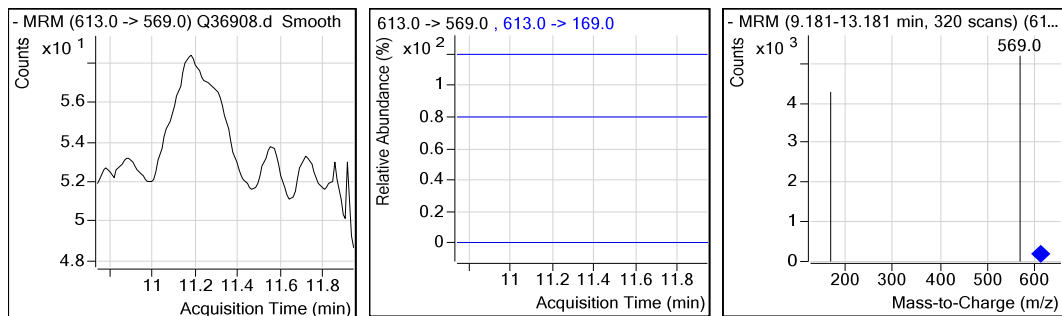


13C2-PFDoDA

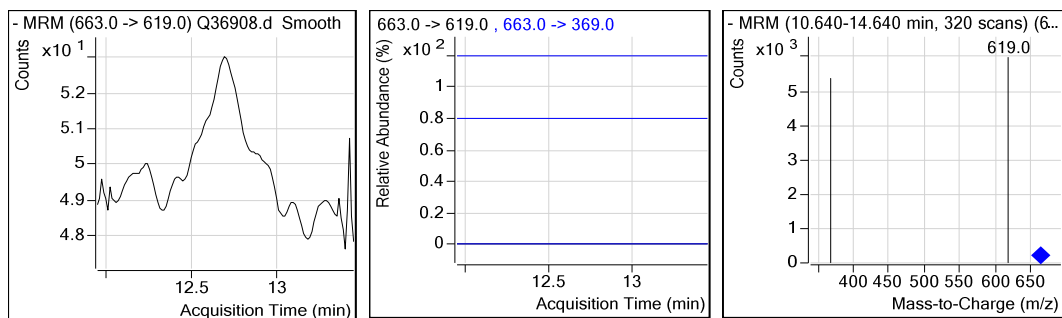


Perfluorinated Compounds by LC/MS/MS.

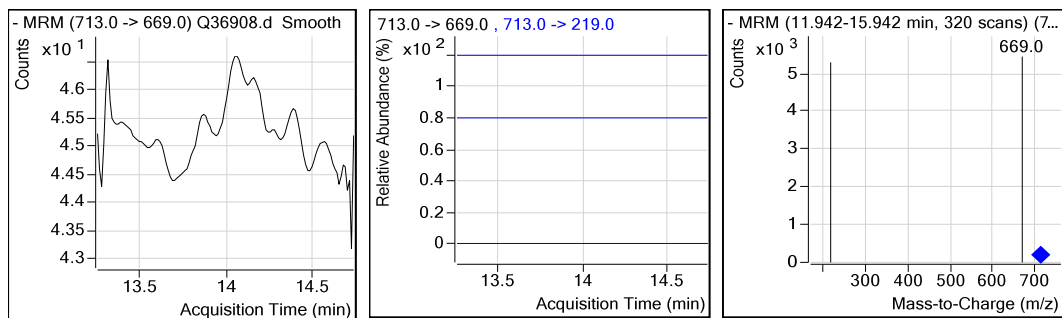
PFDoDA



PFTrDA



PFTeDA



Calibration Curve

Perfluorinated Compounds by LC/MS/MS.

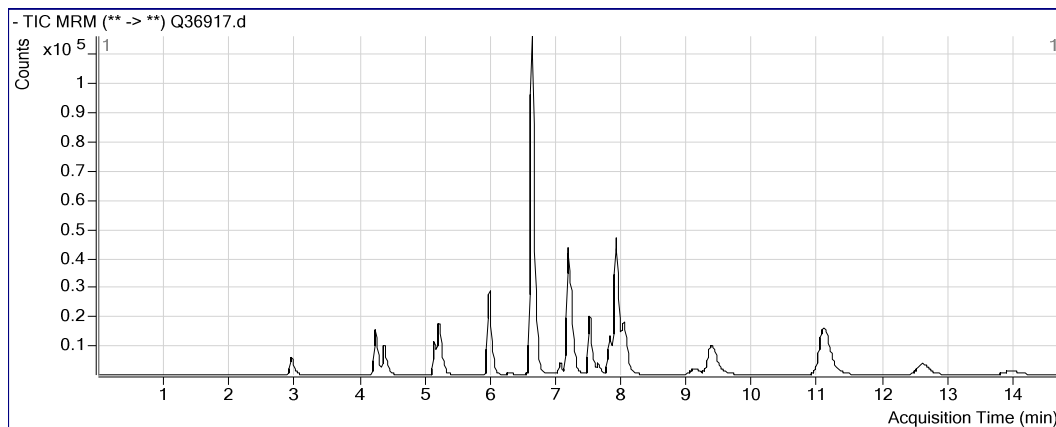
Data File : Q36917.d
 Operator : NANCYF
 Acq Method Name : 537_LIST.m
 Acquisition date : 2017-07-18 16:24
 Sample Name : OP65685-BS
 Vial : Vial 5
 Sample Info : OP65685,SQ937,260,,,1,1,WATER
 Quant Method : PFC_LIST_0717_SQ936.quantmethod.xml
 Quant Batch Name : SQ937.batch.bin
 Last Calib Update : 2017-07-18 07:16

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
13C3-PFPeA	4.260	266.0 -> 222.0	47325	20.000	µg/L	0.000
13C2-PFOA	6.650	415.0 -> 370.0	148721	20.000	µg/L	-0.025
13C2-6:2FTS	6.659	429.0 -> 409.0	94876	20.000	µg/L	-0.025
13C4-PFOS	7.199	503.0 -> 80.0	85622	20.000	µg/L	-0.025
d3-MeFOSAA	7.526	573.0 -> 419.0	73444	20.000	µg/L	-0.012
13C2-PFDoDA	11.114	615.0 -> 570.0	134443	20.000	µg/L	-0.063
System Monitoring Compounds						
13C2-PFHxA	5.235	315.0 -> 270.0	33580	16.49	µg/L	-0.013
Spiked Amount: 20.000	Range: 14 - 26		Recovery = 82.47%			
d5-EtFOSAA	7.660	589.0 -> 419.0	6232	10.70	µg/L	0.000
Spiked Amount: 20.000	Range: 14 - 26		Recovery = 53.49%			
13C2-PFDA	7.943	515.0 -> 470.0	148542	17.27	µg/L	-0.050
Spiked Amount: 20.000	Range: 14 - 26		Recovery = 86.34%			
Target Compounds						Qvalue
PFBA	2.977	213.0 -> 169.0	30454	10.110	µg/L	100
PFPeA	4.263	263.0 -> 219.0	19076	18.378	µg/L	100
PFBS	4.391	299.0 -> 80.0	30339	15.589	µg/L	93
4:2FTS	5.157	327.0 -> 307.0	45520	15.698	µg/L	100
PFHxA	5.237	313.0 -> 269.0	30692	15.944	µg/L #	97
PFPeS	5.280	349.0 -> 99.0	5390	13.492	µg/L	100
PFHxS	5.993	399.0 -> 80.0	39693	15.171	µg/L #	86
PFHpA	5.998	363.0 -> 319.0	46796	17.214	µg/L #	92
PFHpS	6.620	449.0 -> 80.0	38921	14.784	µg/L	100
PFOA	6.652	413.0 -> 369.0	115969	17.169	µg/L #	91
6:2FTS	6.661	427.0 -> 407.0	79759	16.595	µg/L	100
FOSA	7.090	498.0 -> 78.0	13976	2.414	µg/L	100
PFOS	7.200	499.0 -> 80.0	67488	15.106	µg/L	79
PFNA	7.268	463.0 -> 419.0	50383	16.272	µg/L	97
MeFOSAA	7.540	570.0 -> 419.0	6983	12.213	µg/L	100
EtFOSAA	7.661	584.0 -> 419.0	5834	11.466	µg/L	100
PFNS	7.841	549.0 -> 99.0	61946	66.018	µg/L	100
PFDA	7.944	513.0 -> 469.0	77151	16.803	µg/L #	80
8:2FTS	8.063	527.0 -> 507.0	84060	19.579	µg/L	100
PFDS	9.137	599.0 -> 80.0	21115	9.828	µg/L	100
PFUnDA	9.404	563.0 -> 519.0	89405	14.292	µg/L	98
PFDoDA	11.118	613.0 -> 569.0	61895	10.375	µg/L #	72
PFTrDA	12.628	663.0 -> 619.0	44410	8.618	µg/L #	87
PFTeDA	13.967	713.0 -> 669.0	19988	8.539	µg/L #	76

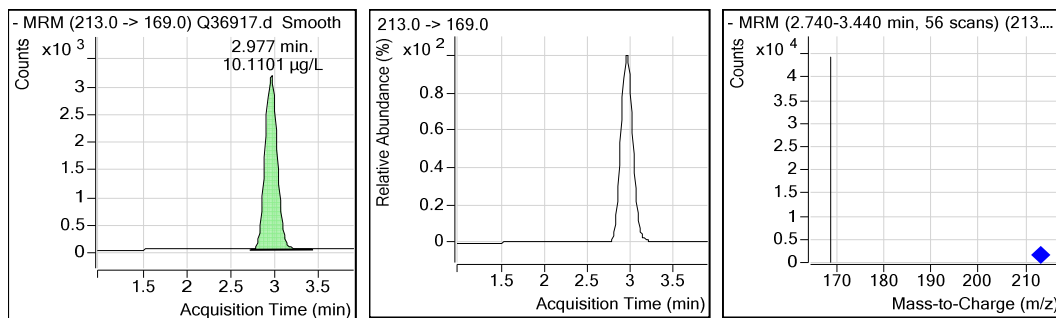
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

Perfluorinated Compounds by LC/MS/MS.

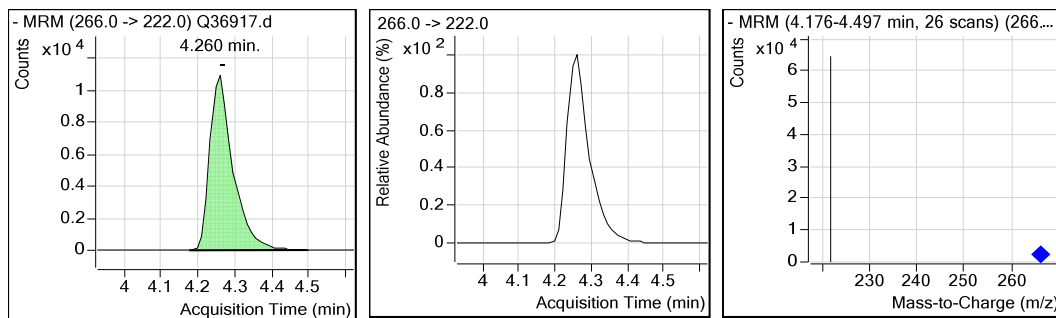
Data File : Q36917.d
Operator : NANCYF
Acq Method Name : 537_LIST.m
Acquisition date : 2017-07-18 16:24
Sample Name : OP65685-BS
Vial : Vial 5
Sample Info : OP65685,SQ937,260,,,1,1,WATER
Quant Method : PFC_LIST_0717_SQ936.quantmethod.xml
Quant Batch Name : SQ937.batch.bin
Last Calib Update : 2017-07-18 07:16



PFBA

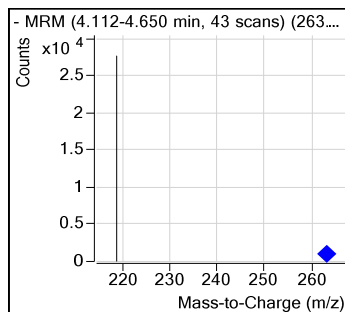
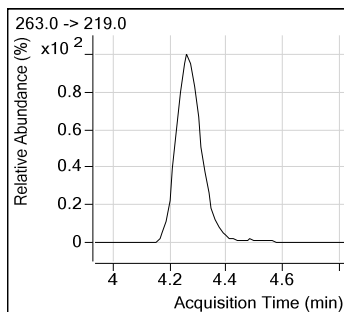
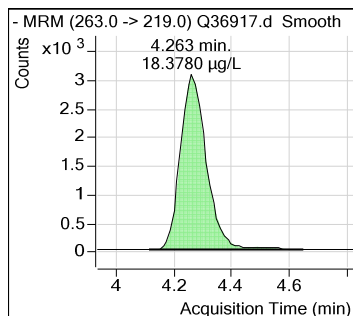


13C3-PFPeA

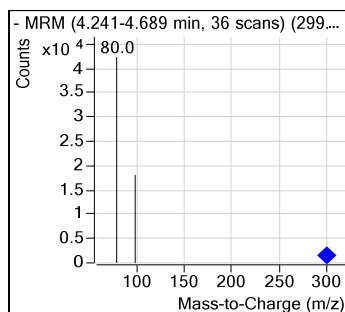
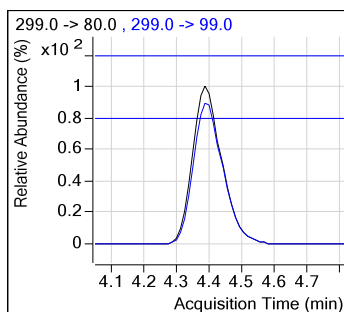
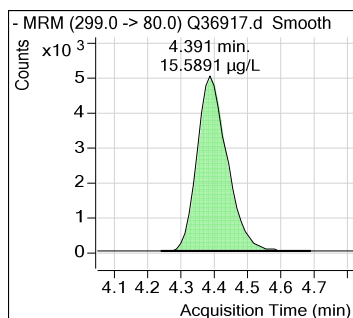


Perfluorinated Compounds by LC/MS/MS.

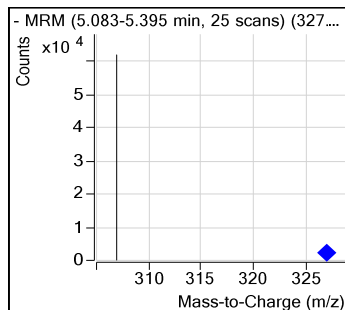
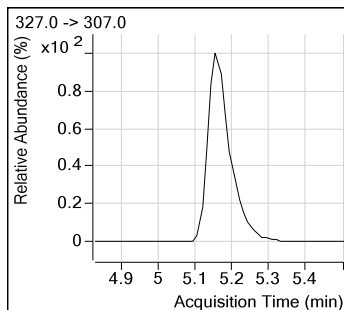
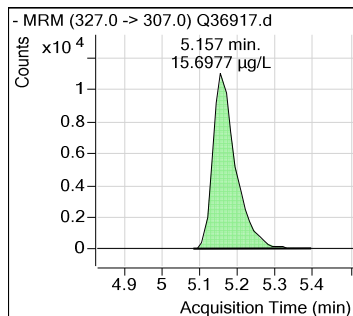
PFPeA



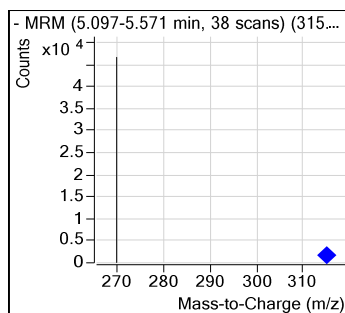
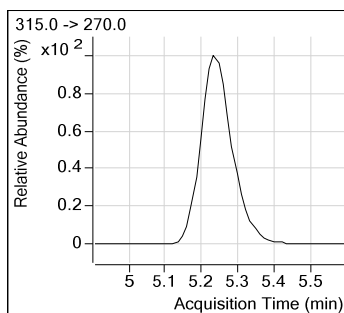
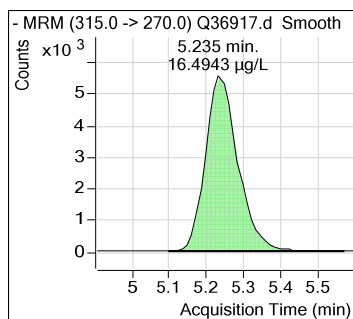
PFBS



4:2FTS

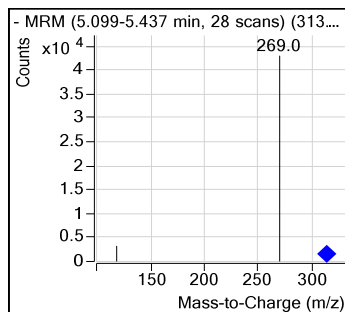
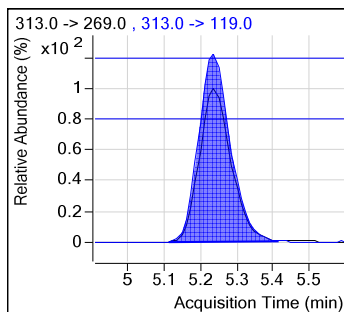
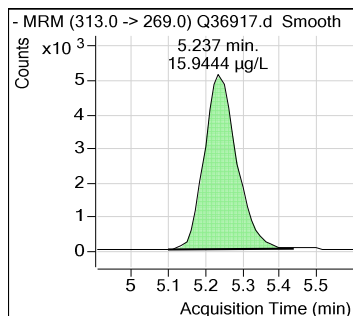


13C2-PFHxA

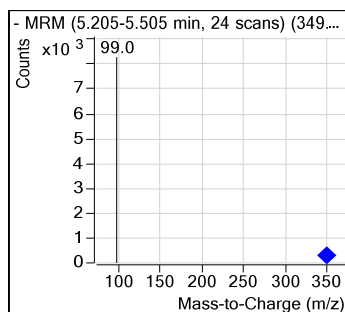
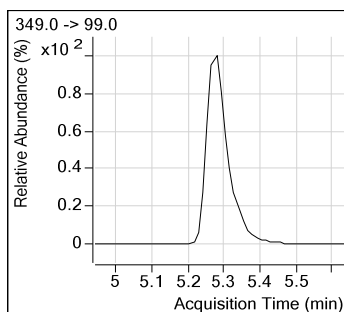
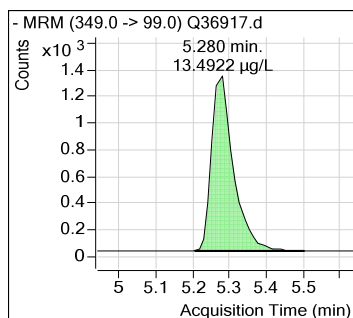


Perfluorinated Compounds by LC/MS/MS.

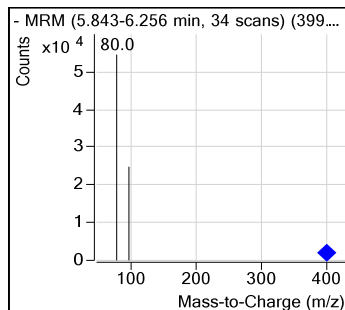
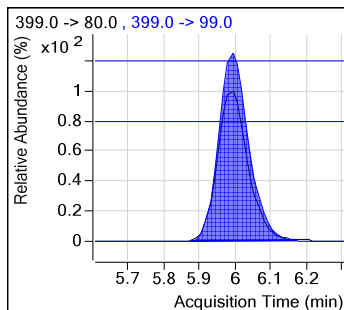
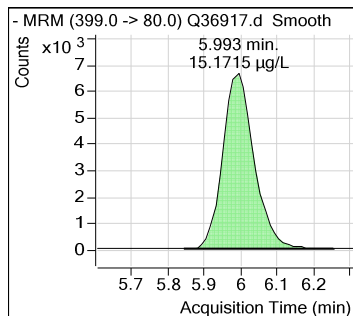
PFHxA



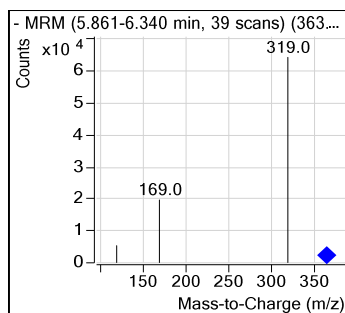
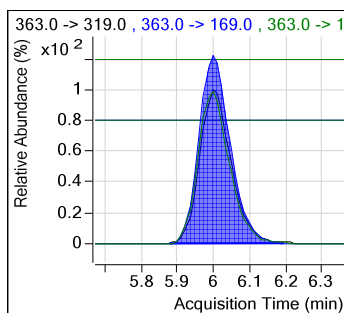
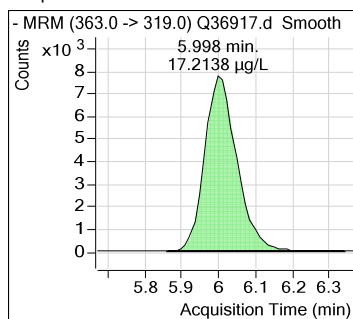
PFPeS



PFHxS

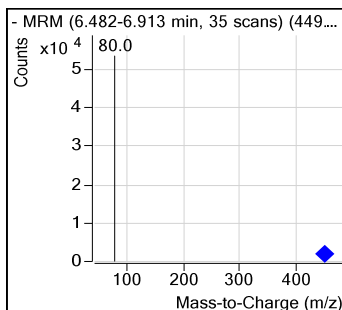
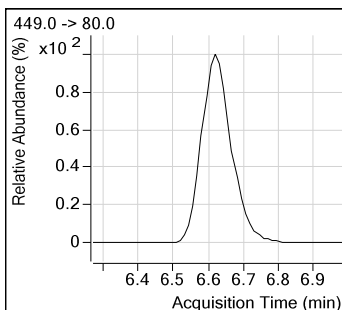
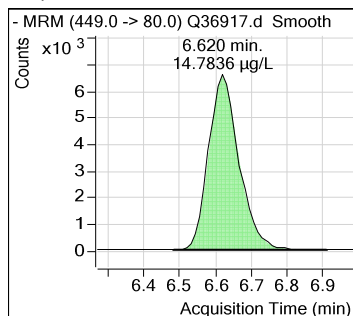


PFHpA

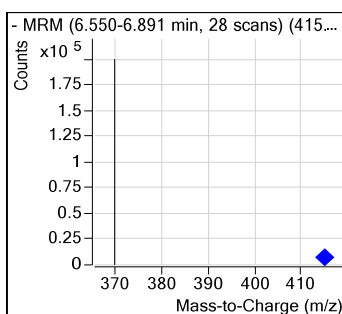
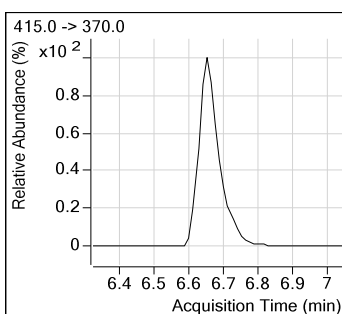
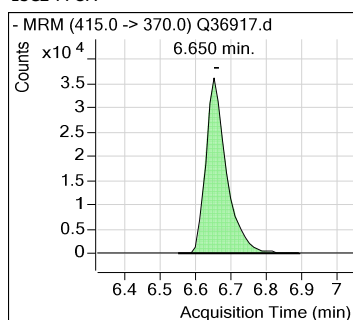


Perfluorinated Compounds by LC/MS/MS.

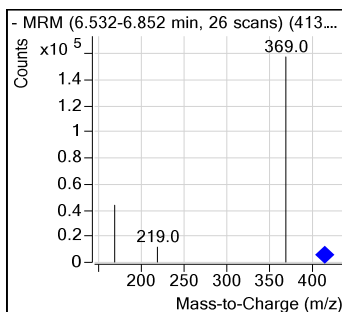
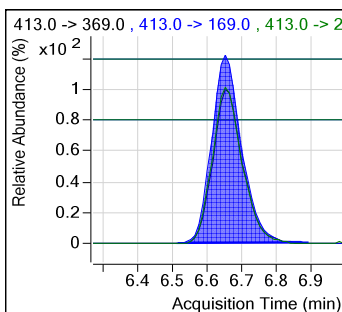
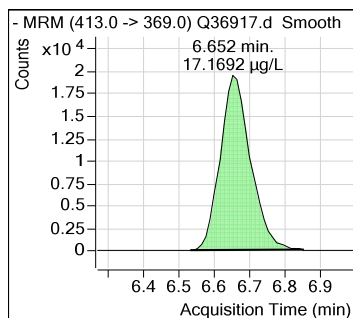
PFHpS



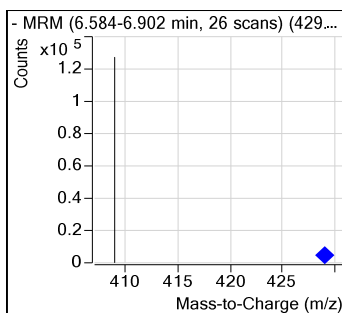
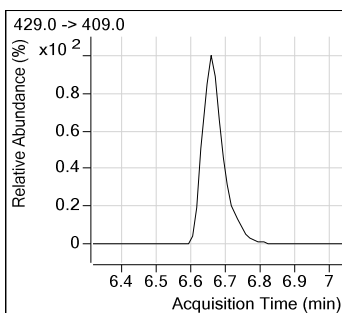
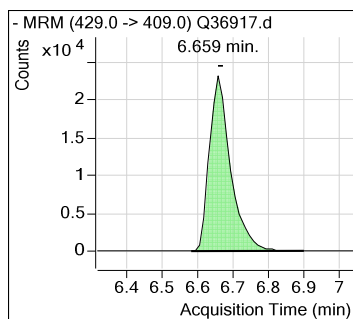
13C2-PFOA



PFOA

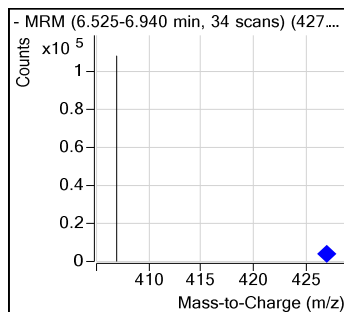
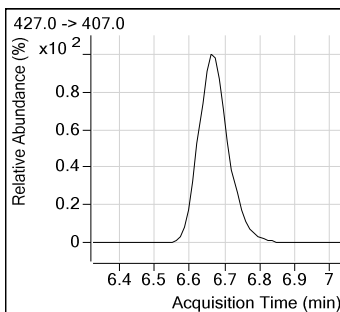
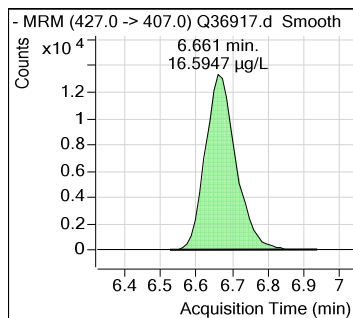


13C2-6:2FTS

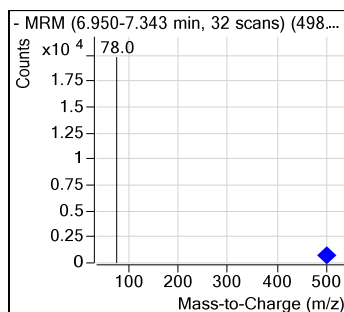
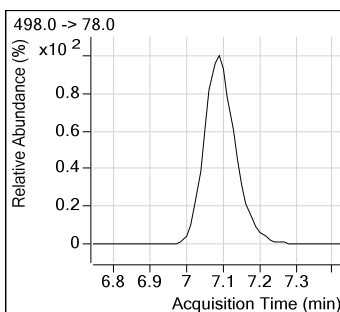
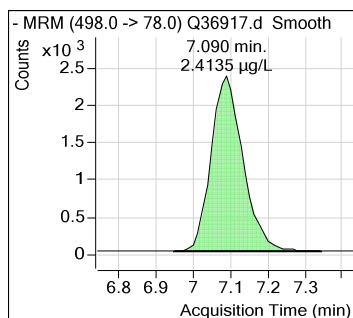


Perfluorinated Compounds by LC/MS/MS.

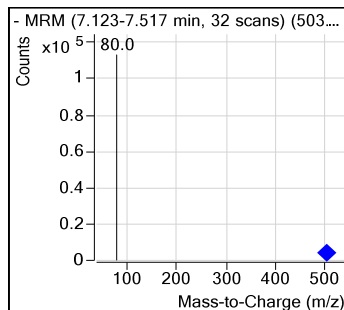
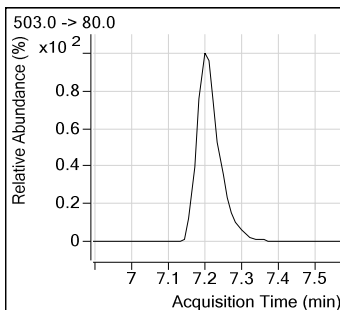
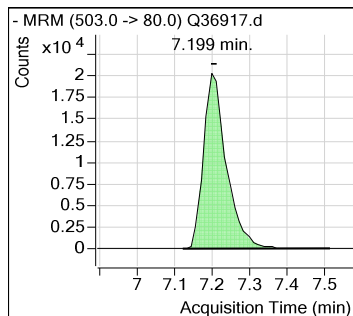
6:2FTS



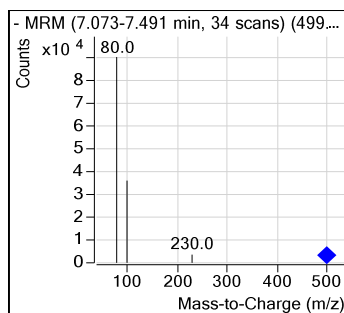
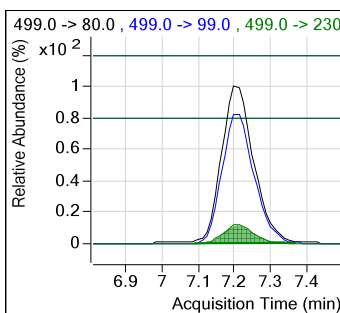
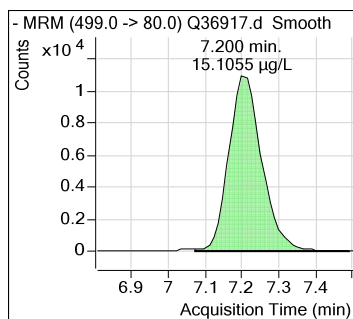
FOSA



13C4-PFOS

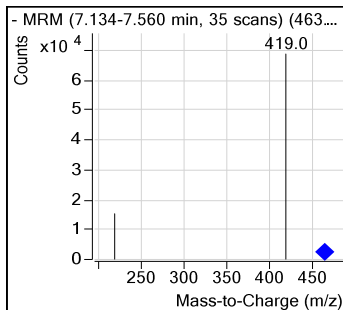
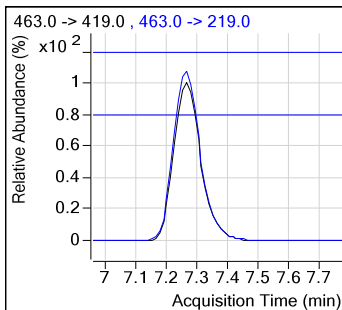
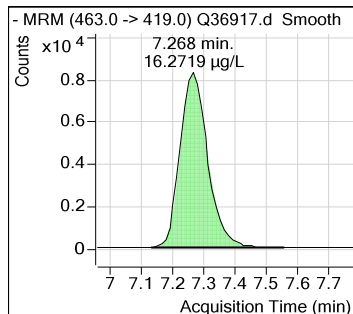


PFOS

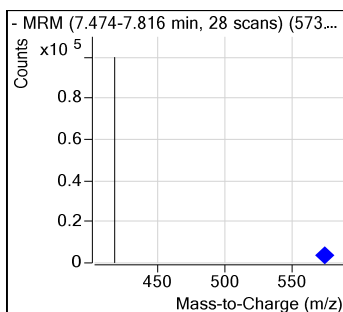
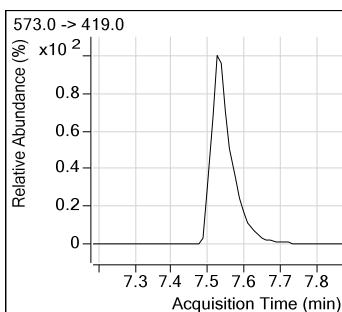
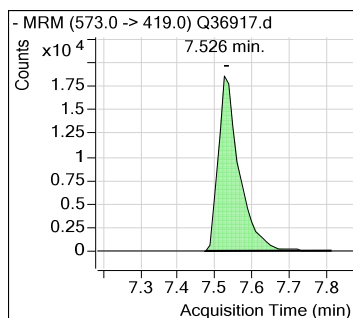


Perfluorinated Compounds by LC/MS/MS.

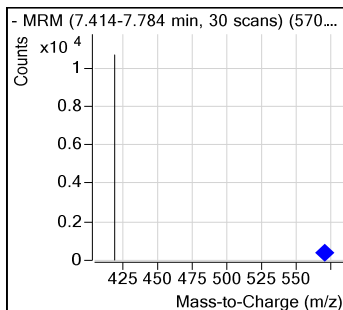
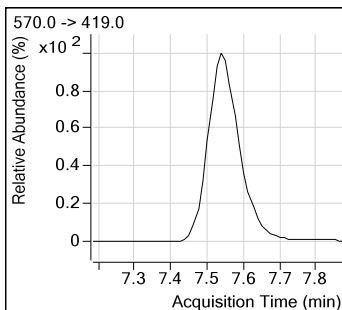
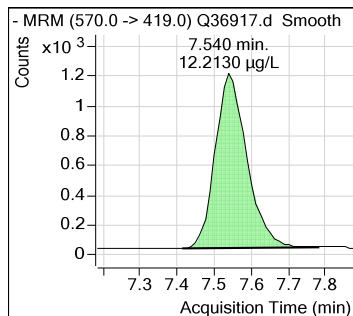
PFNA



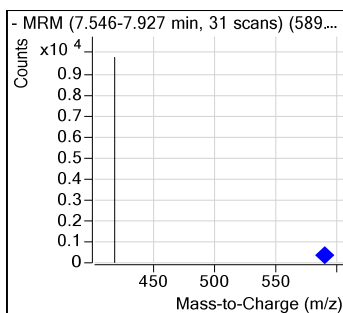
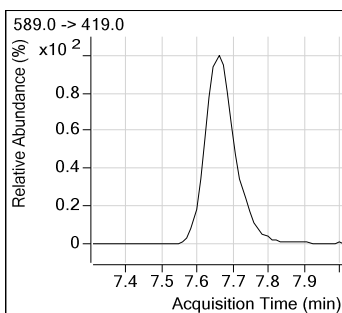
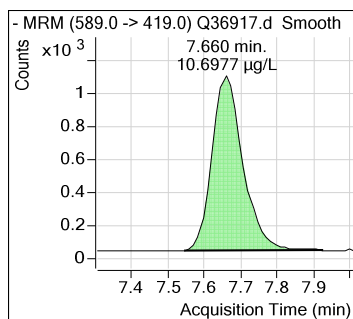
d3-MeFOSAA



MeFOSAA

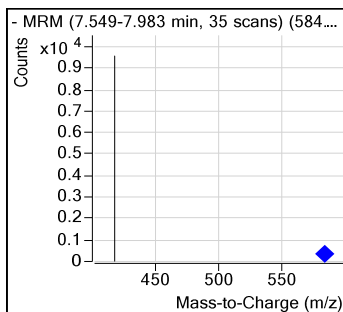
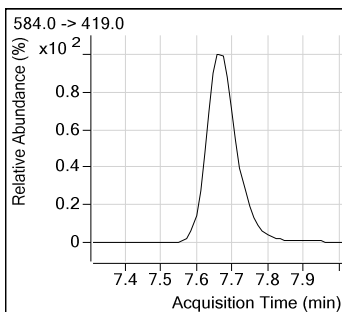
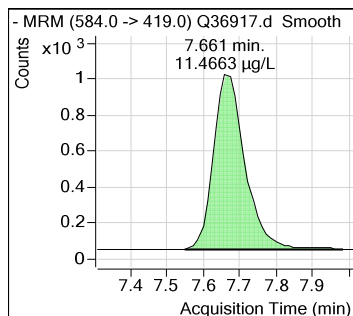


d5-EtFOSAA

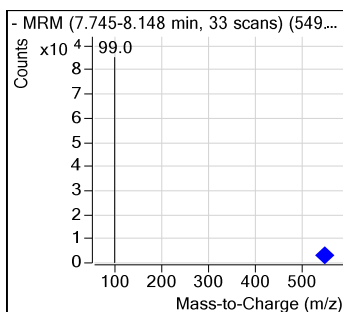
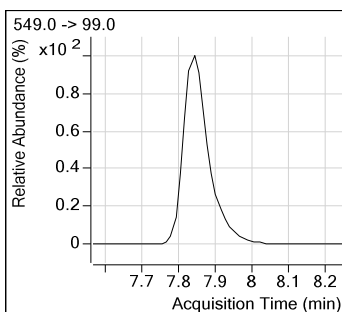
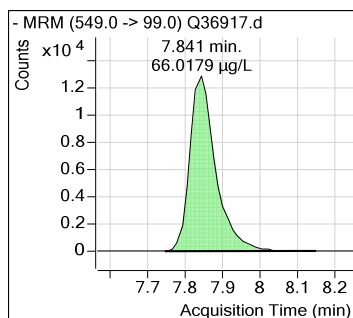


Perfluorinated Compounds by LC/MS/MS.

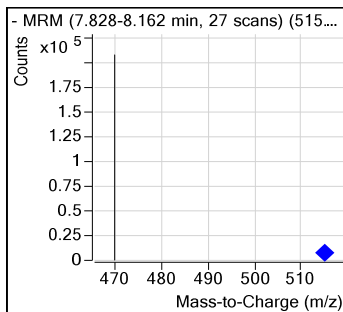
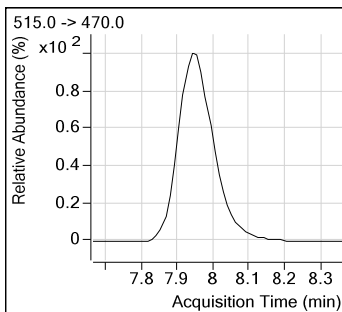
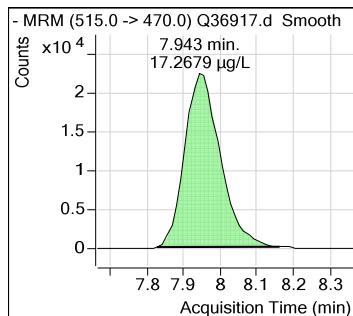
EtFOSAA



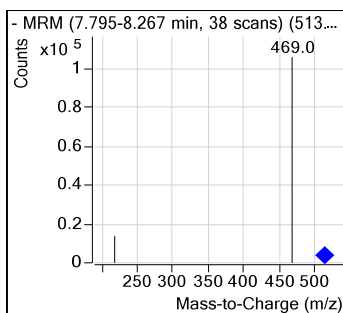
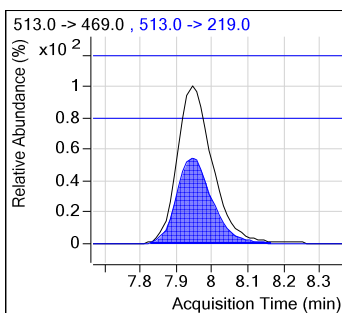
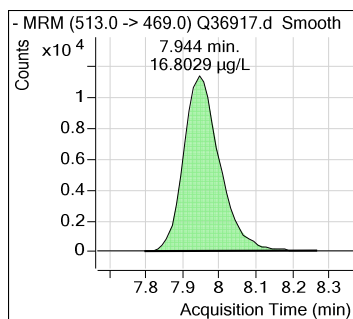
PFNS



13C2-PFDA

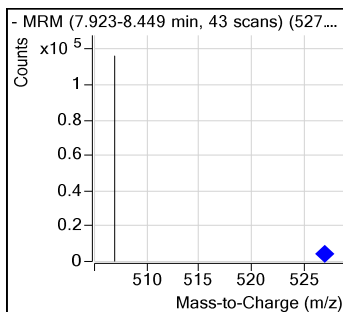
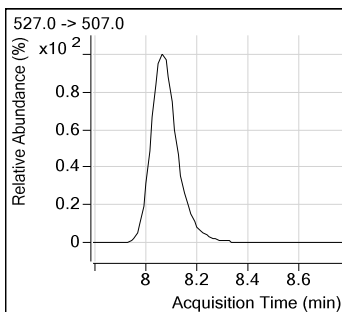
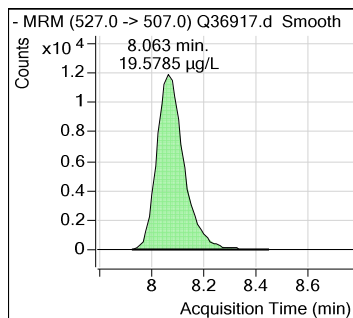


PFDA

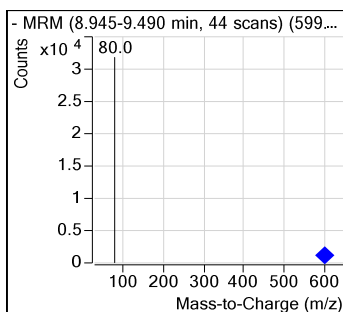
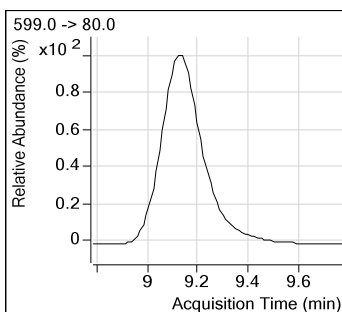
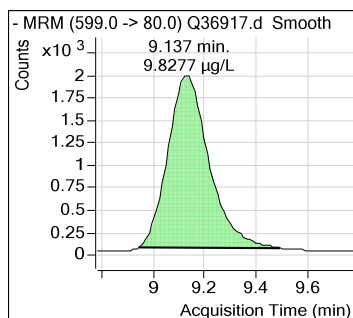


Perfluorinated Compounds by LC/MS/MS.

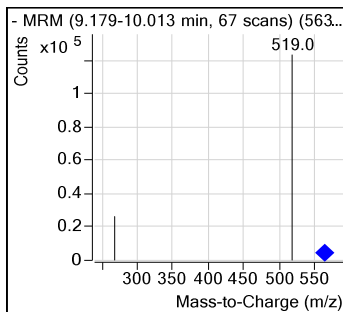
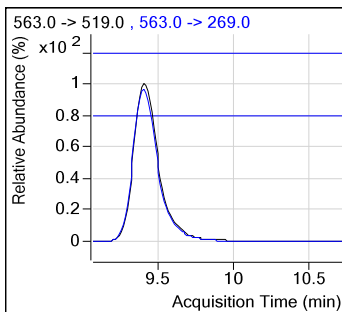
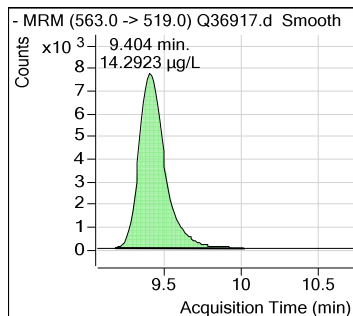
8:2FTS



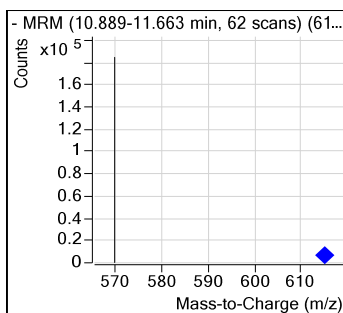
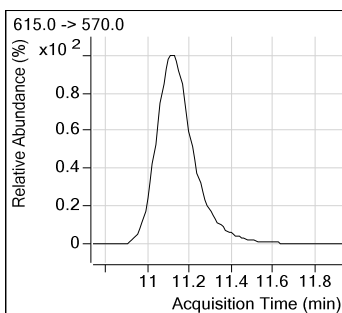
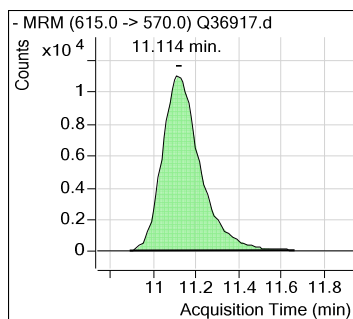
PFDS



PFUnDA

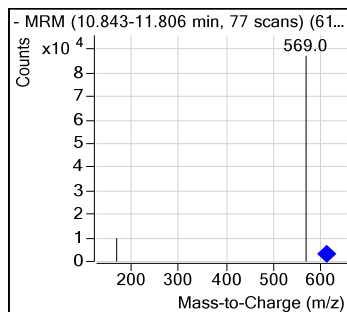
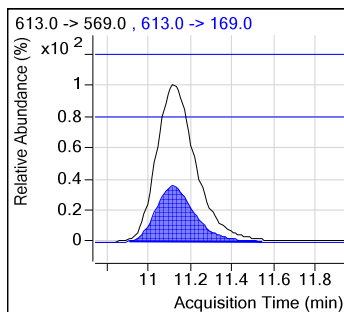
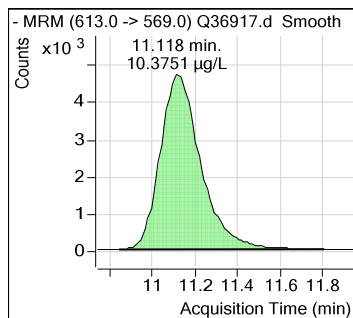


13C2-PFDoDA

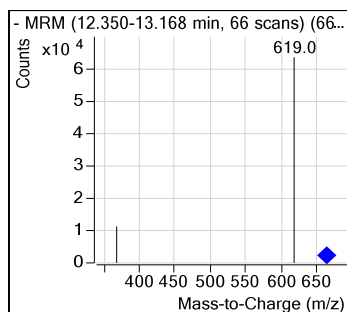
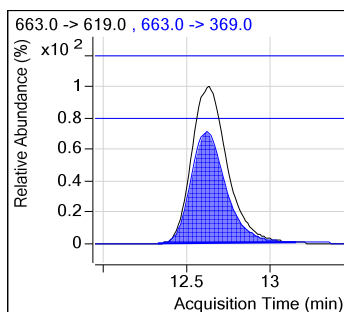
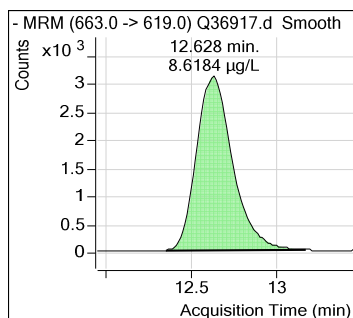


Perfluorinated Compounds by LC/MS/MS.

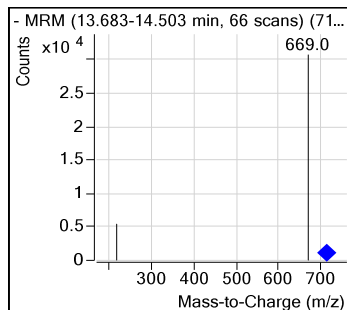
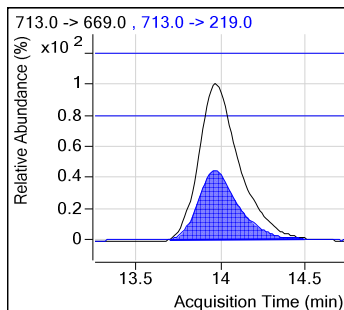
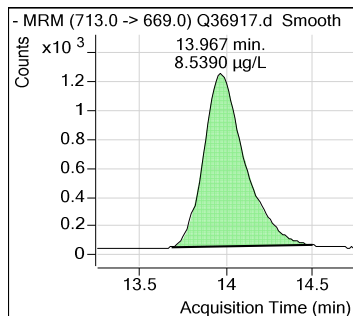
PFDoDA



PFTrDA



PFTeDA



Calibration Curve

Perfluorinated Compounds by LC/MS/MS.

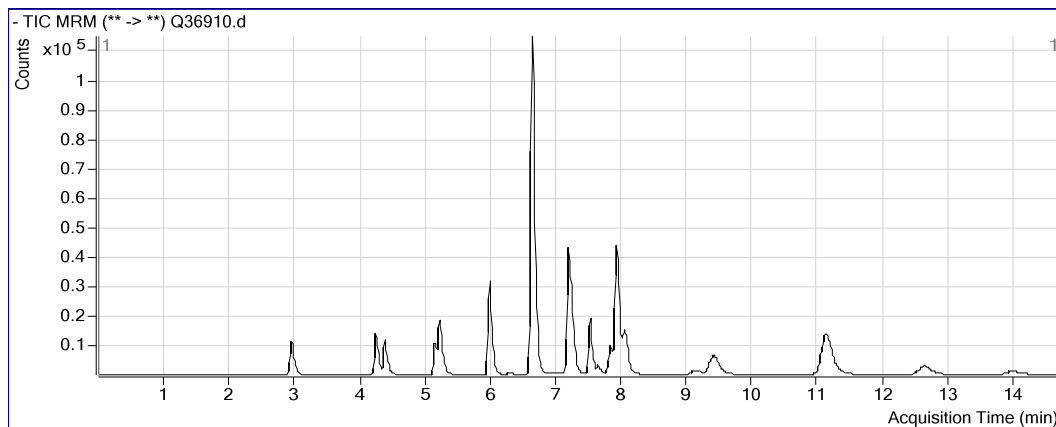
Data File : Q36910.d
 Operator : NANCYF
 Acq Method Name : 537_LIST.m
 Acquisition date : 2017-07-18 14:01
 Sample Name : OP65685-MS
 Vial : Vial 8
 Sample Info : OP65685,SQ937,130,,,1,1,WATER
 Quant Method : PFC_LIST_0717_SQ936.quantmethod.xml
 Quant Batch Name : SQ937.batch.bin
 Last Calib Update : 2017-07-18 07:16

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
13C3-PFPeA	4.260	266.0 -> 222.0	41636	20.000	µg/L	0.000
13C2-PFOA	6.663	415.0 -> 370.0	136923	20.000	µg/L	-0.013
13C2-6:2FTS	6.671	429.0 -> 409.0	88923	20.000	µg/L	-0.013
13C4-PFOS	7.211	503.0 -> 80.0	78177	20.000	µg/L	-0.013
d3-MeFOSAA	7.538	573.0 -> 419.0	66828	20.000	µg/L	0.000
13C2-PFDoDA	11.151	615.0 -> 570.0	120761	20.000	µg/L	-0.025
System Monitoring Compounds						
13C2-PFHxA	5.247	315.0 -> 270.0	34211	18.25	µg/L	0.000
Spiked Amount: 20.000	Range: 14 - 26		Recovery = 91.26%			
d5-EtFOSAA	7.660	589.0 -> 419.0	5684	10.72	µg/L	0.000
Spiked Amount: 20.000	Range: 14 - 26		Recovery = 53.61%			
13C2-PFDA	7.955	515.0 -> 470.0	140968	17.80	µg/L	-0.038
Spiked Amount: 20.000	Range: 14 - 26		Recovery = 89.00%			
Target Compounds						Qvalue
PFBA	2.977	213.0 -> 169.0	55987	21.126	µg/L	100
PFPeA	4.275	263.0 -> 219.0	18286	20.024	µg/L	100
PFBS	4.403	299.0 -> 80.0	34580	19.460	µg/L	94
4:2FTS	5.170	327.0 -> 307.0	45180	16.661	µg/L	100
PFHxA	5.250	313.0 -> 269.0	31974	18.042	µg/L	98
PFPeS	5.280	349.0 -> 99.0	5488	15.047	µg/L	100
PFHxS	5.993	399.0 -> 80.0	45909	19.219	µg/L #	86
PFHpA	6.011	363.0 -> 319.0	48788	19.493	µg/L #	91
PFHpS	6.632	449.0 -> 80.0	40465	16.834	µg/L	100
PFOA	6.664	413.0 -> 369.0	122766	19.742	µg/L #	90
6:2FTS	6.673	427.0 -> 407.0	81174	18.094	µg/L	100
FOSA	7.090	498.0 -> 78.0	805	0.152	µg/L	100
PFOS	7.213	499.0 -> 80.0	69935	17.144	µg/L	81
PFNA	7.268	463.0 -> 419.0	52891	18.554	µg/L	97
MeFOSAA	7.552	570.0 -> 419.0	5388	10.356	µg/L	100
EtFOSAA	7.674	584.0 -> 419.0	4113	8.885	µg/L	100
PFNS	7.853	549.0 -> 99.0	46044	52.442	µg/L	100
PFDA	7.957	513.0 -> 469.0	71849	16.996	µg/L #	80
8:2FTS	8.076	527.0 -> 507.0	70066	17.327	µg/L	100
PFDS	9.149	599.0 -> 80.0	16587	8.455	µg/L	100
PFUnDA	9.429	563.0 -> 519.0	59576	10.603	µg/L	98
PFDoDA	11.156	613.0 -> 569.0	45427	8.477	µg/L #	72
PFTrDA	12.653	663.0 -> 619.0	37081	8.011	µg/L #	87
PFTeDA	14.004	713.0 -> 669.0	16677	7.932	µg/L #	76

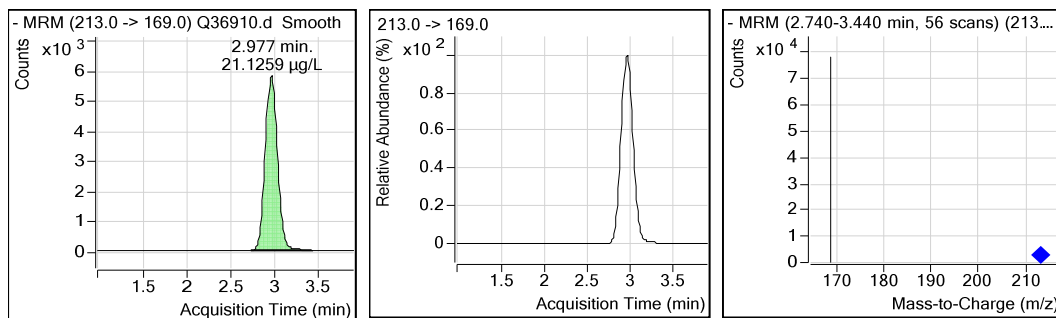
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

Perfluorinated Compounds by LC/MS/MS.

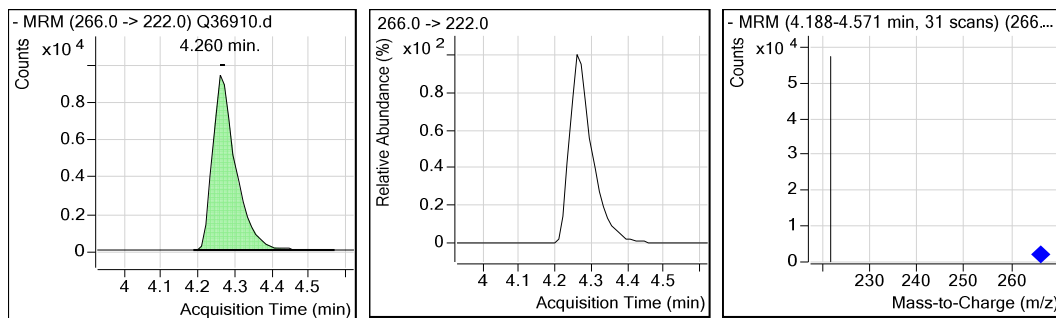
Data File : Q36910.d
Operator : NANCYF
Acq Method Name : 537_LIST.m
Acquisition date : 2017-07-18 14:01
Sample Name : OP65685-MS
Vial : Vial 8
Sample Info : OP65685,SQ937,130,,,1,1,WATER
Quant Method : PFC_LIST_0717_SQ936.quantmethod.xml
Quant Batch Name : SQ937.batch.bin
Last Calib Update : 2017-07-18 07:16



PFBA

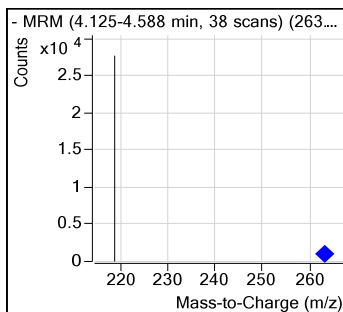
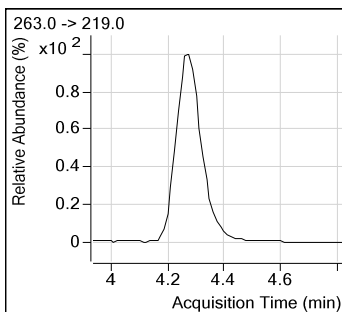
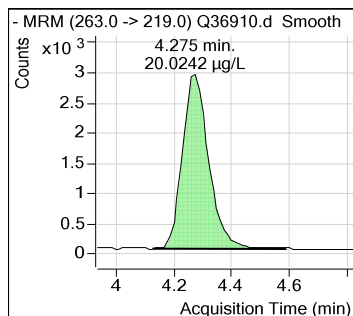


13C3-PFPeA

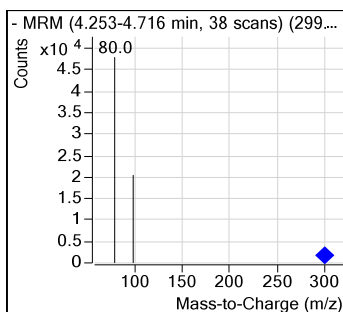
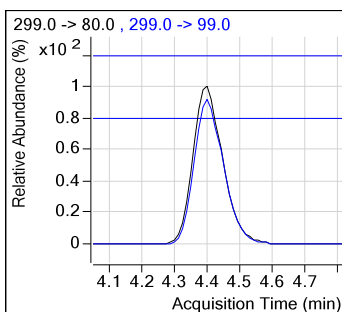
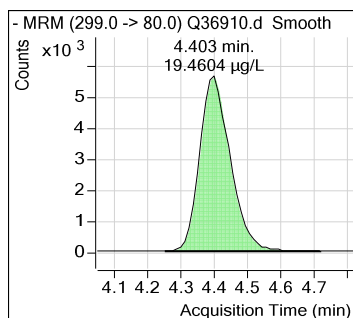


Perfluorinated Compounds by LC/MS/MS.

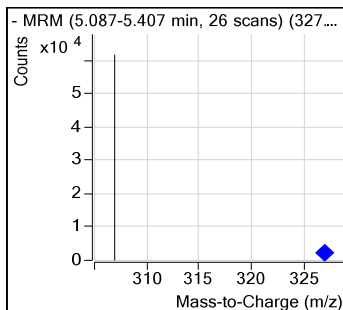
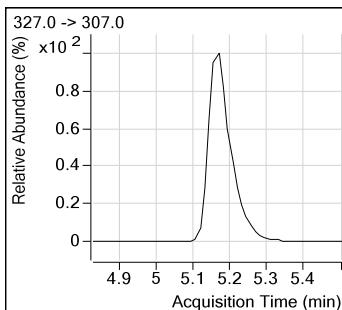
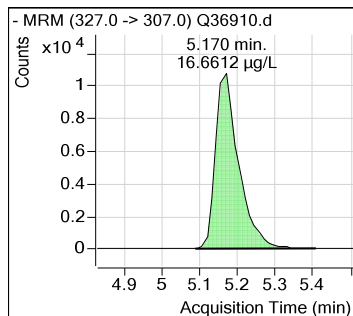
PFPeA



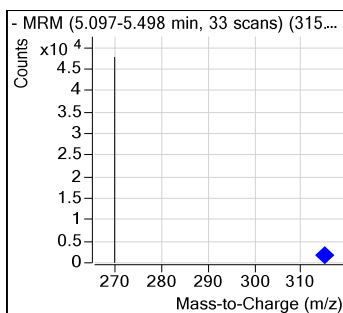
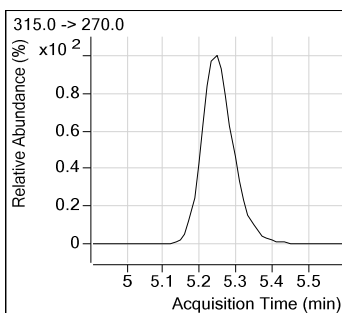
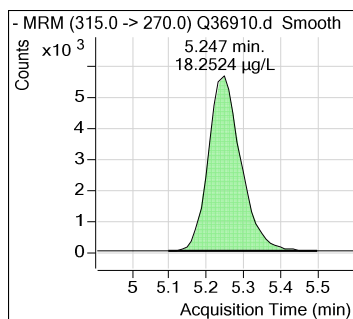
PFBS



4:2FTS

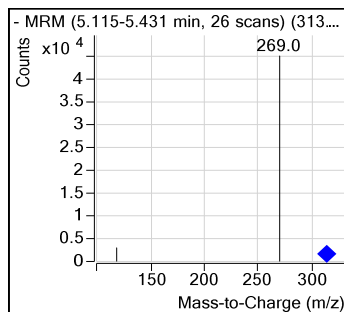
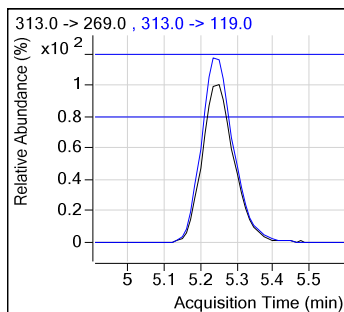
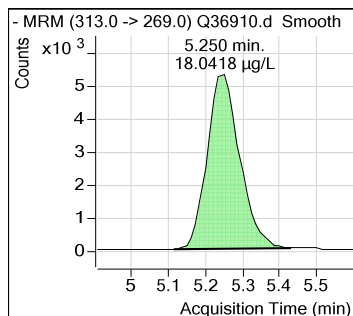


13C2-PFHxA

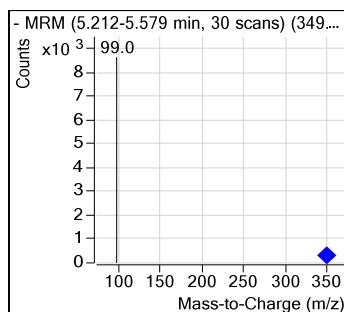
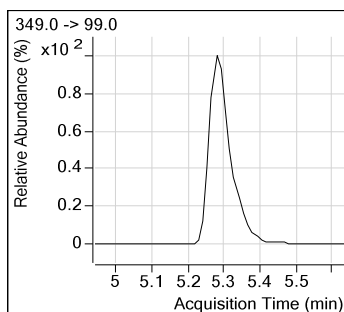
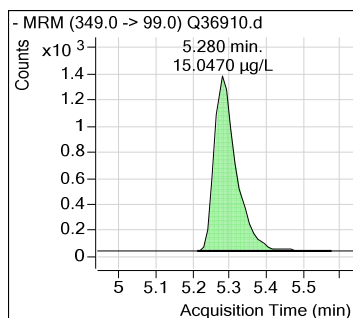


Perfluorinated Compounds by LC/MS/MS.

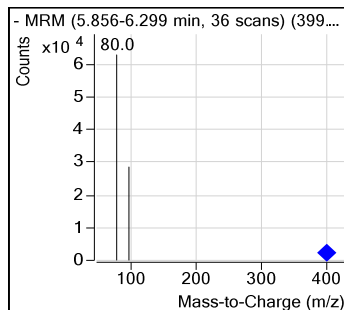
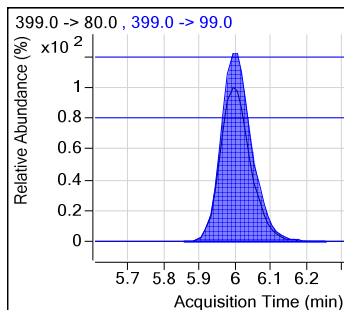
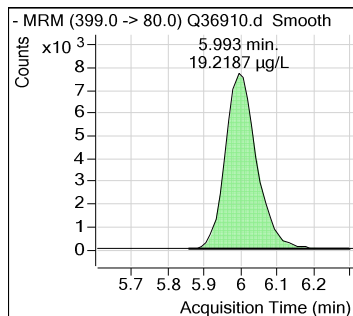
PFHxA



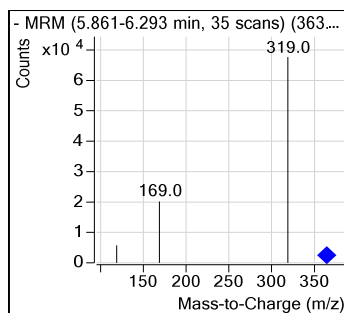
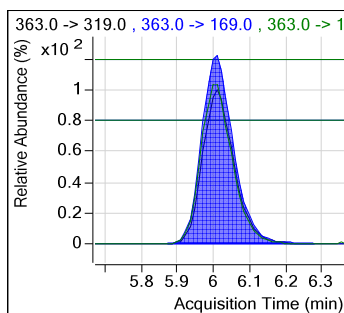
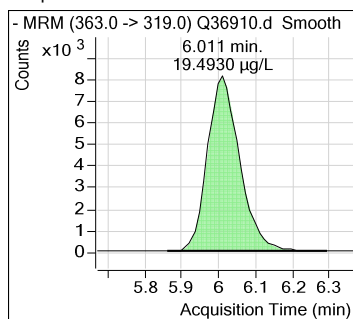
PFPeS



PFHxS

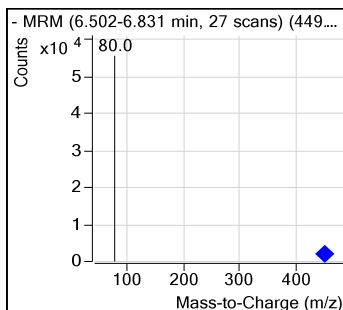
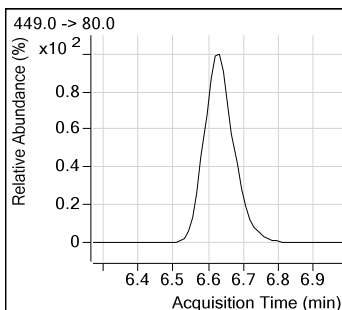
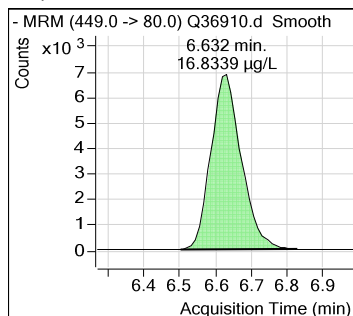


PFHpA

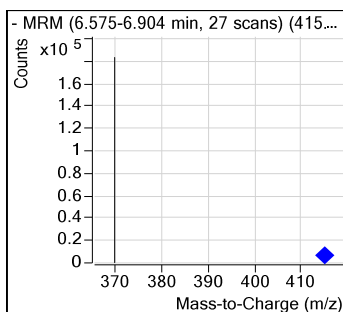
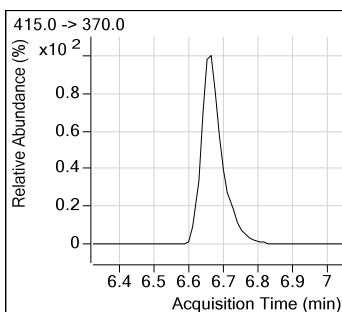
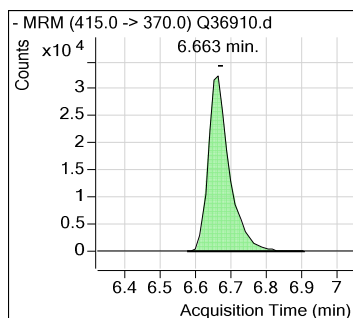


Perfluorinated Compounds by LC/MS/MS.

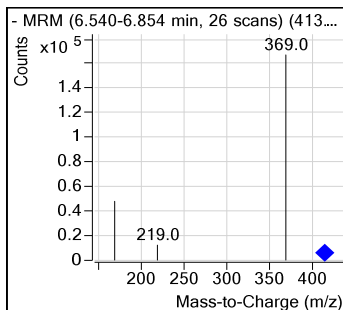
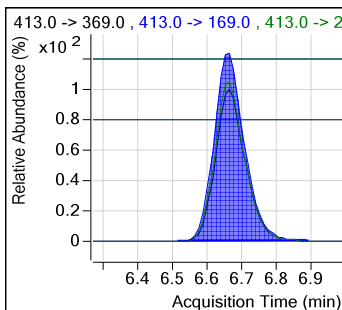
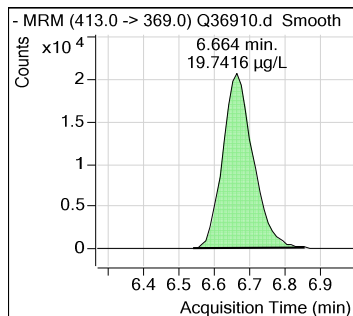
PFHpS



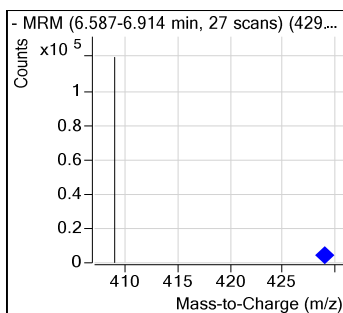
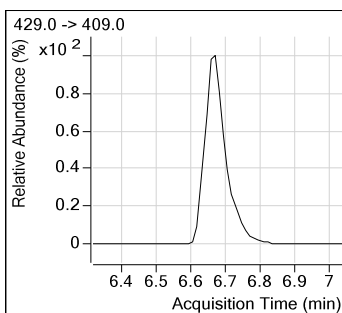
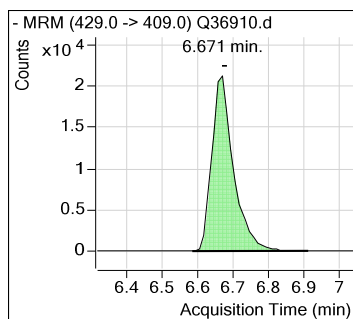
13C2-PFOA



PFOA

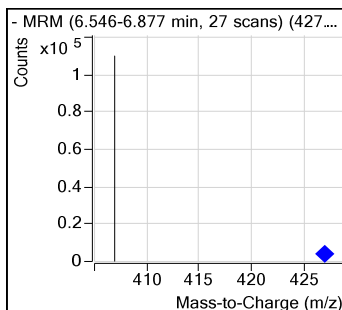
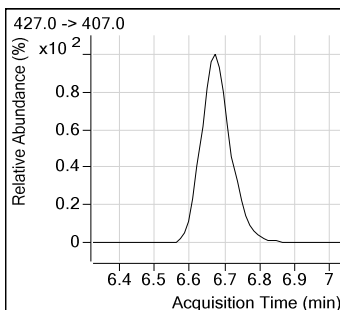
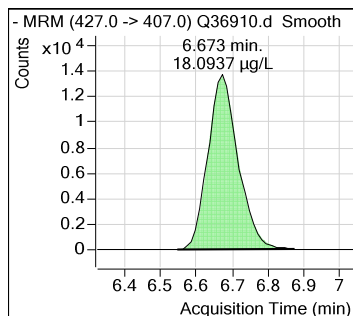


13C2-6:2FTS

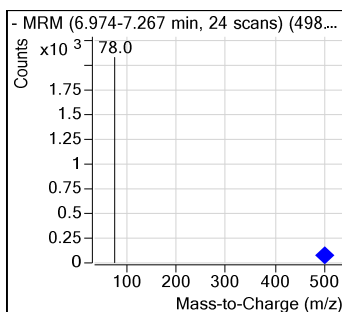
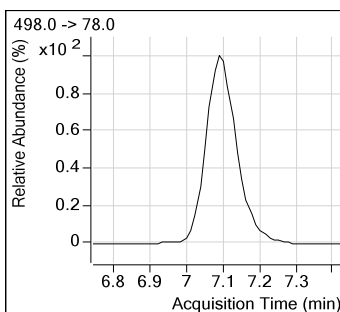
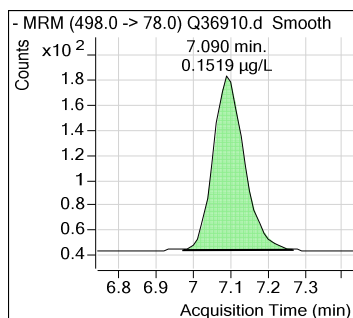


Perfluorinated Compounds by LC/MS/MS.

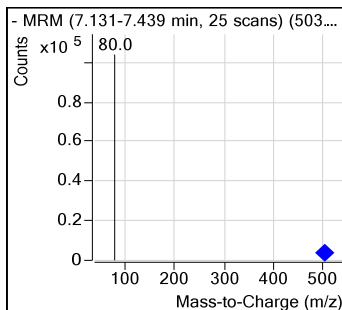
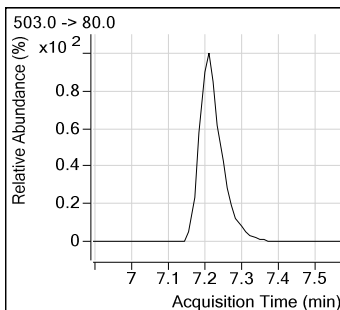
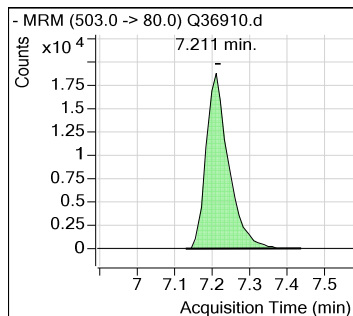
6:2FTS



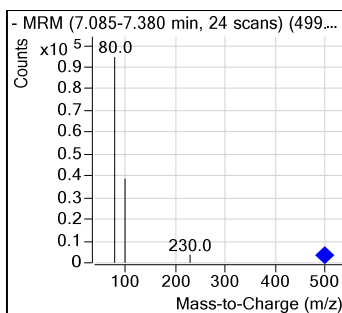
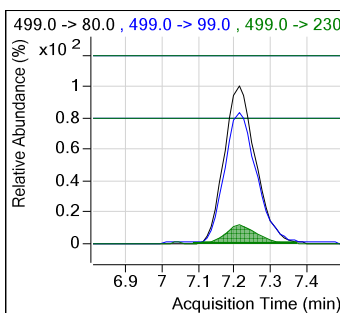
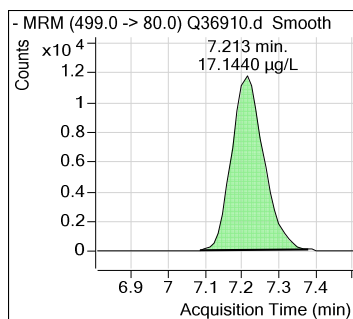
FOSA



13C4-PFOS

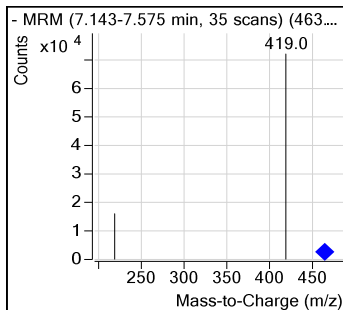
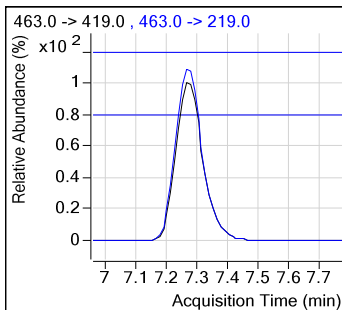
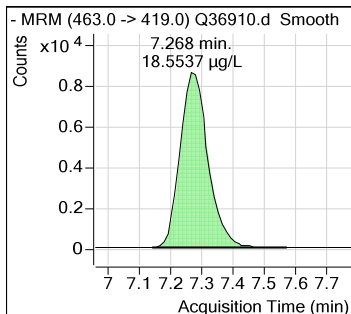


PFOS

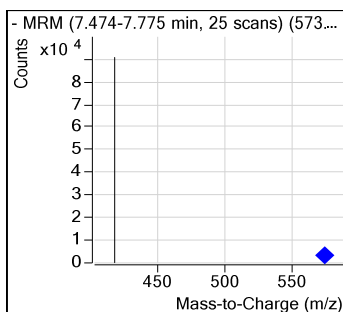
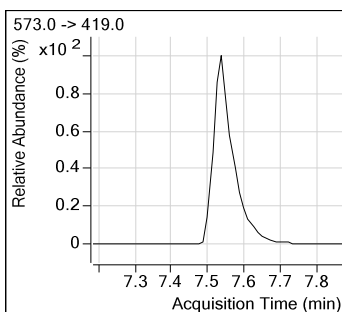
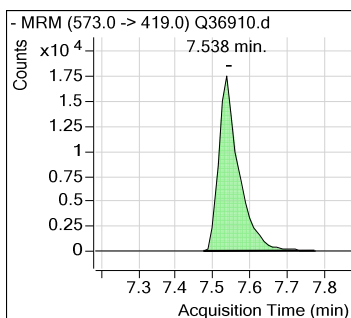


Perfluorinated Compounds by LC/MS/MS.

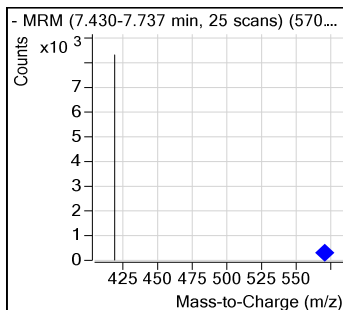
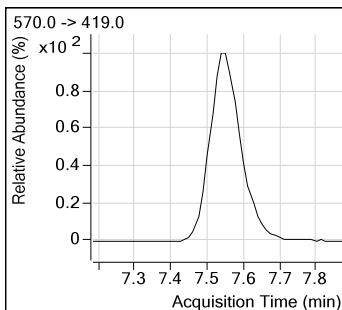
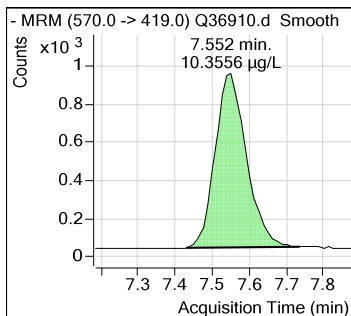
PFNA



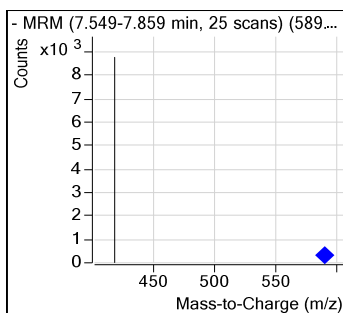
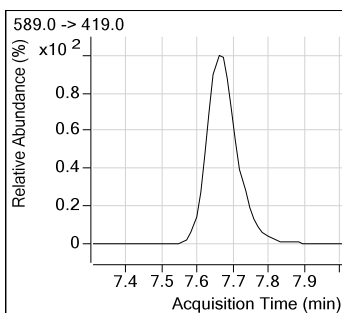
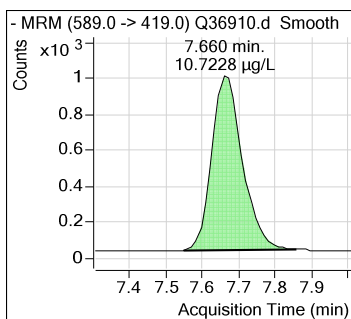
d3-MeFOSAA



MeFOSAA

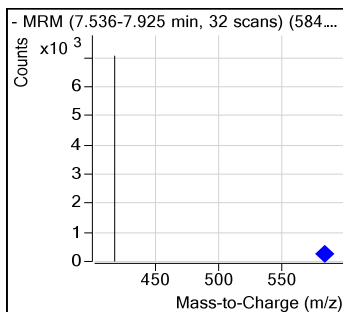
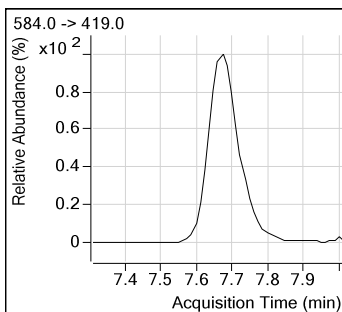
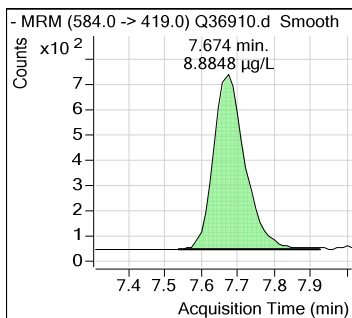


d5-EtFOSAA

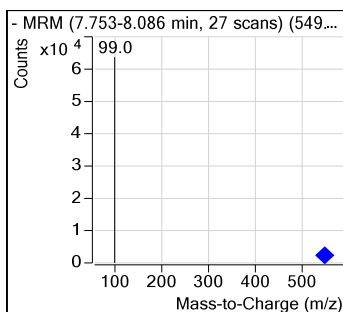
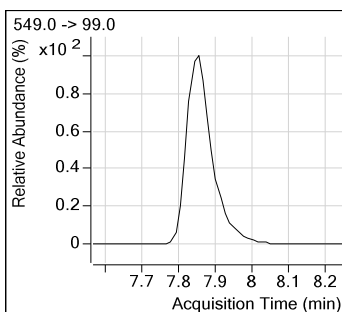
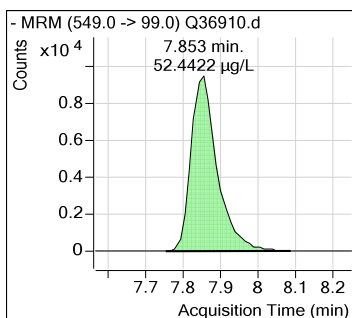


Perfluorinated Compounds by LC/MS/MS.

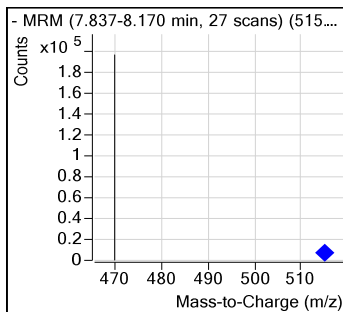
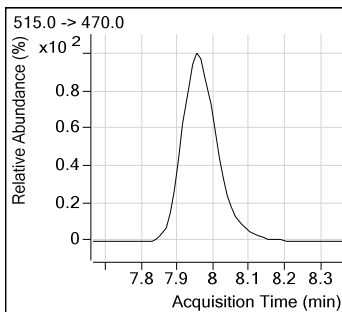
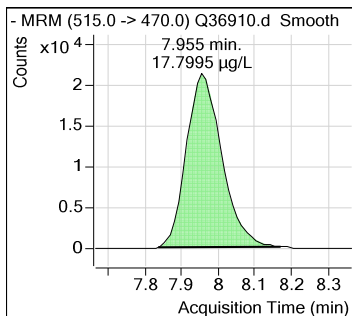
EtFOSAA



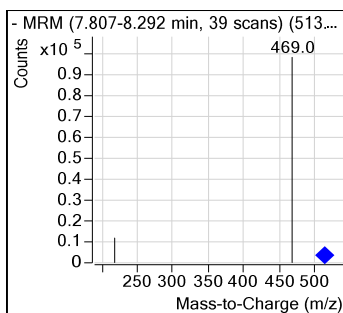
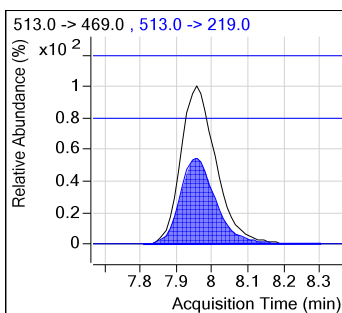
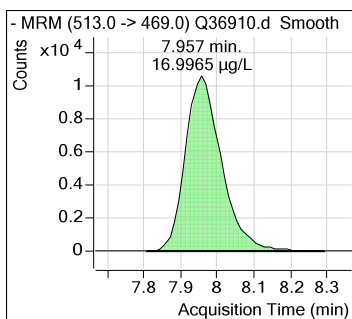
PFNS



13C2-PFDA

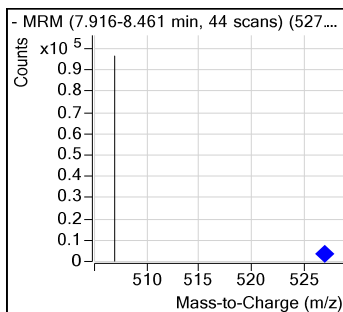
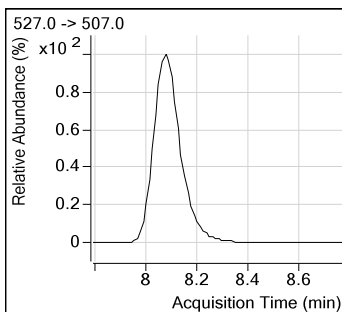
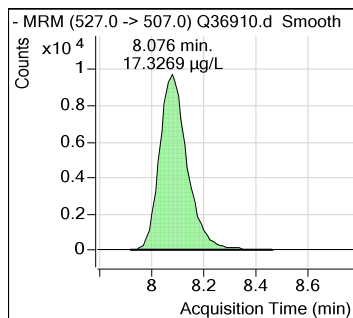


PFDA

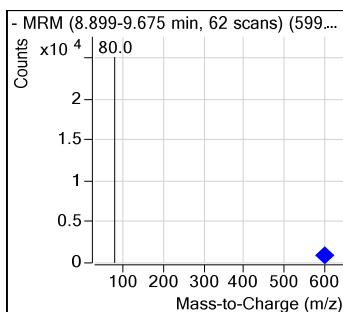
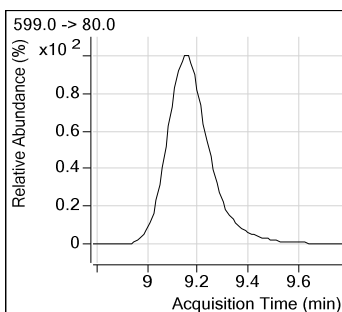
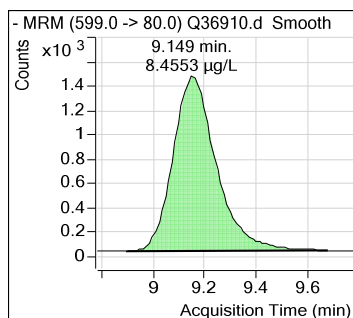


Perfluorinated Compounds by LC/MS/MS.

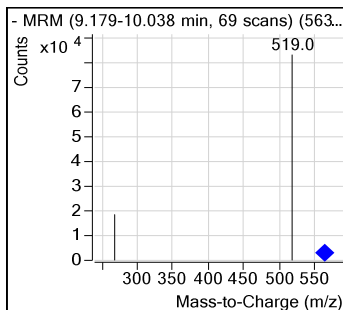
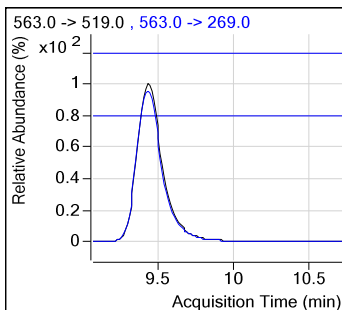
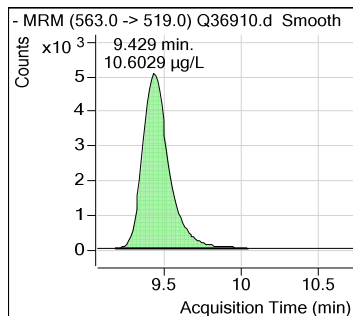
8:2FTS



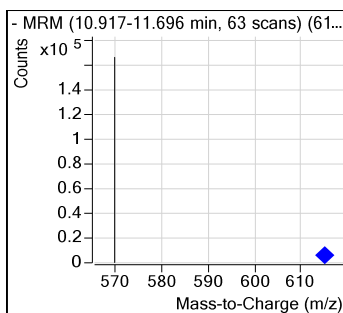
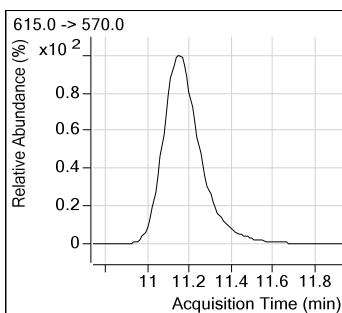
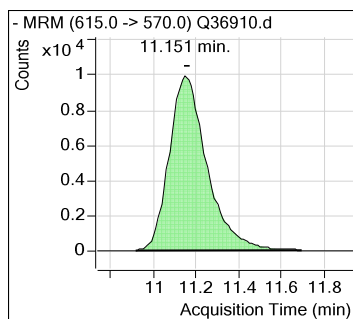
PFDS



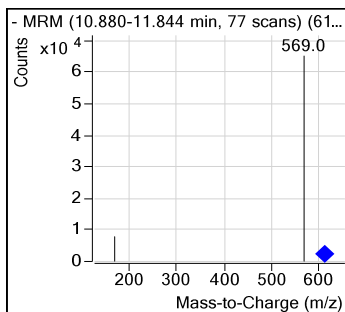
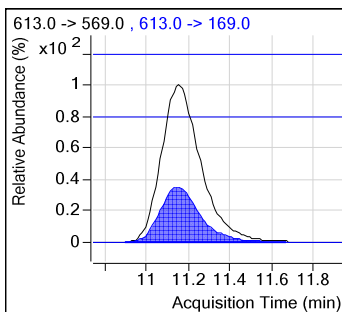
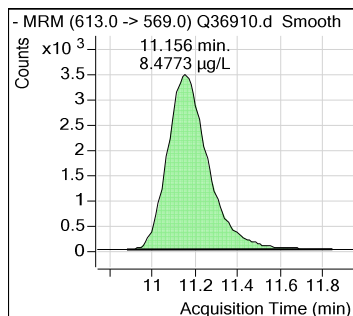
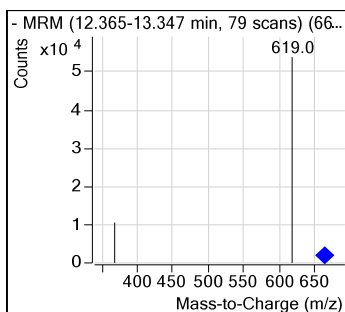
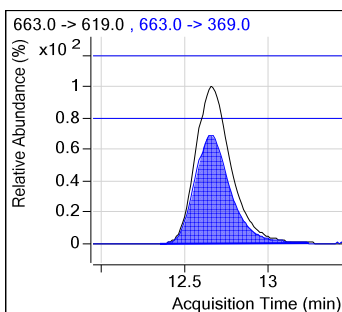
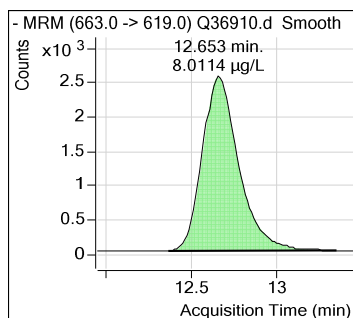
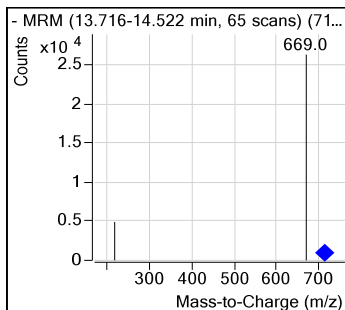
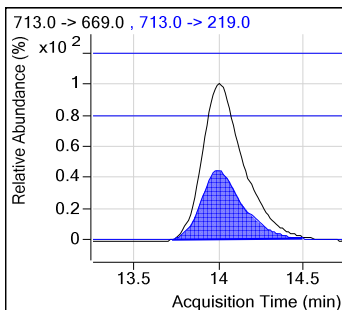
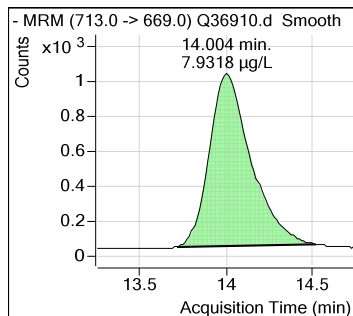
PFUnDA



13C2-PFDoDA



Perfluorinated Compounds by LC/MS/MS.

PFD_oDAPFT_rDAPFT_eDA

Calibration Curve

Perfluorinated Compounds by LC/MS/MS.

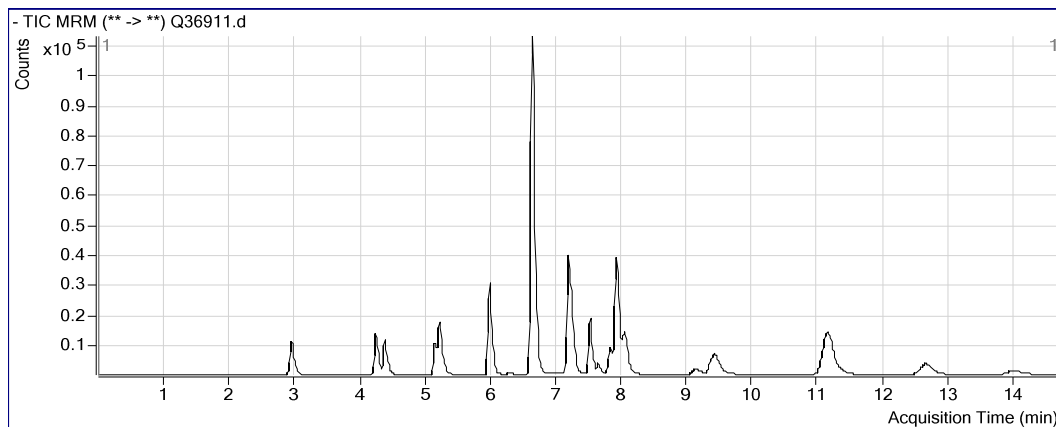
Data File : Q36911.d
 Operator : NANCYF
 Acq Method Name : 537_LIST.m
 Acquisition date : 2017-07-18 14:21
 Sample Name : OP65685-MSD
 Vial : Vial 9
 Sample Info : OP65685,SQ937,130,,,1,1,WATER
 Quant Method : PFC_LIST_0717_SQ936.quantmethod.xml
 Quant Batch Name : SQ937.batch.bin
 Last Calib Update : 2017-07-18 07:16

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
13C3-PFPeA	4.260	266.0 -> 222.0	41374	20.000	µg/L	0.000
13C2-PFOA	6.650	415.0 -> 370.0	136211	20.000	µg/L	-0.025
13C2-6:2FTS	6.671	429.0 -> 409.0	88246	20.000	µg/L	-0.013
13C4-PFOS	7.211	503.0 -> 80.0	77746	20.000	µg/L	-0.013
d3-MeFOSAA	7.538	573.0 -> 419.0	66831	20.000	µg/L	0.000
13C2-PFDoDA	11.176	615.0 -> 570.0	121189	20.000	µg/L	0.000
System Monitoring Compounds						
13C2-PFHxA	5.247	315.0 -> 270.0	31687	16.99	µg/L	0.000
Spiked Amount: 20.000	Range: 14 - 26		Recovery = 84.97%			
d5-EtFOSAA	7.660	589.0 -> 419.0	5980	11.28	µg/L	0.000
Spiked Amount: 20.000	Range: 14 - 26		Recovery = 56.41%			
13C2-PFDA	7.955	515.0 -> 470.0	131368	16.67	µg/L	-0.038
Spiked Amount: 20.000	Range: 14 - 26		Recovery = 83.37%			
Target Compounds						Qvalue
PFBA	2.977	213.0 -> 169.0	55605	21.115	µg/L	100
PFPeA	4.263	263.0 -> 219.0	17758	19.570	µg/L	100
PFBS	4.403	299.0 -> 80.0	34042	19.264	µg/L	93
4:2FTS	5.170	327.0 -> 307.0	45112	16.768	µg/L	100
PFHxA	5.237	313.0 -> 269.0	30897	17.525	µg/L	98
PFPeS	5.280	349.0 -> 99.0	5561	15.329	µg/L	100
PFHxS	5.993	399.0 -> 80.0	43256	18.208	µg/L #	85
PFHpA	6.011	363.0 -> 319.0	46851	18.817	µg/L #	92
PFHpS	6.632	449.0 -> 80.0	39444	16.500	µg/L	100
PFOA	6.664	413.0 -> 369.0	118962	19.230	µg/L #	91
6:2FTS	6.673	427.0 -> 407.0	81582	18.336	µg/L	100
FOSA	7.090	498.0 -> 78.0	1095	0.206	µg/L	100
PFOS	7.213	499.0 -> 80.0	61253	15.099	µg/L	80
PFNA	7.268	463.0 -> 419.0	49623	17.498	µg/L	97
MeFOSAA	7.552	570.0 -> 419.0	5989	11.512	µg/L	100
EtFOSAA	7.674	584.0 -> 419.0	4626	9.992	µg/L	100
PFNS	7.841	549.0 -> 99.0	43748	49.875	µg/L	100
PFDA	7.957	513.0 -> 469.0	66372	15.783	µg/L #	80
8:2FTS	8.076	527.0 -> 507.0	66146	16.452	µg/L	100
PFDS	9.162	599.0 -> 80.0	18192	9.325	µg/L	100
PFUnDA	9.441	563.0 -> 519.0	62850	11.146	µg/L	99
PFDoDA	11.168	613.0 -> 569.0	51041	9.491	µg/L #	72
PFTrDA	12.678	663.0 -> 619.0	43652	9.398	µg/L #	86
PFTeDA	14.017	713.0 -> 669.0	19777	9.373	µg/L #	75

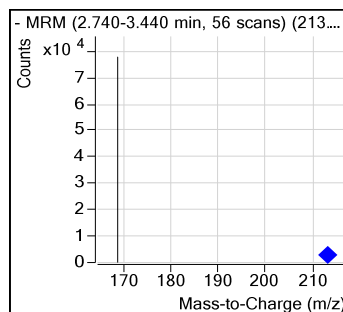
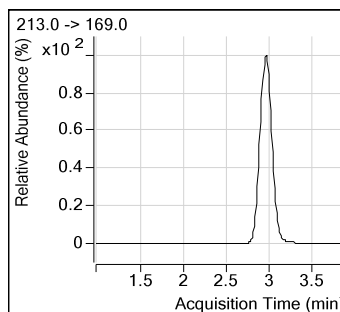
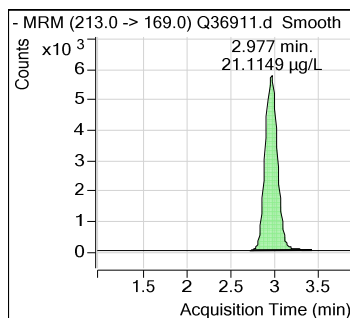
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

Perfluorinated Compounds by LC/MS/MS.

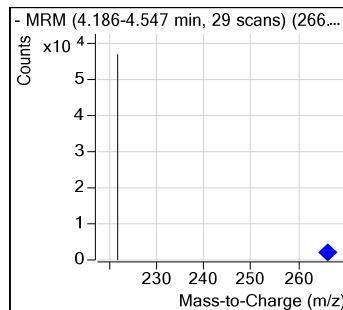
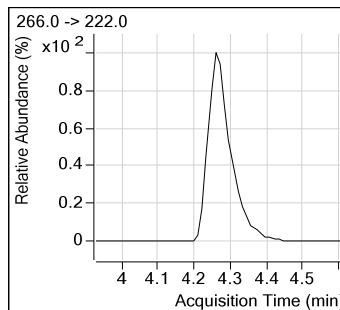
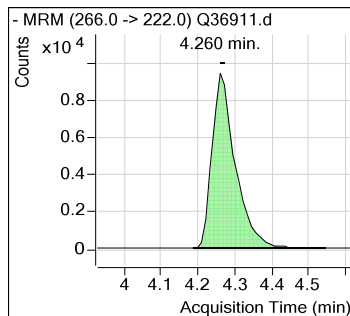
Data File : Q36911.d
Operator : NANCYF
Acq Method Name : 537_LIST.m
Acquisition date : 2017-07-18 14:21
Sample Name : OP65685-MSD
Vial : Vial 9
Sample Info : OP65685,SQ937,130,,,1,1,WATER
Quant Method : PFC_LIST_0717_SQ936.quantmethod.xml
Quant Batch Name : SQ937.batch.bin
Last Calib Update : 2017-07-18 07:16



PFBA

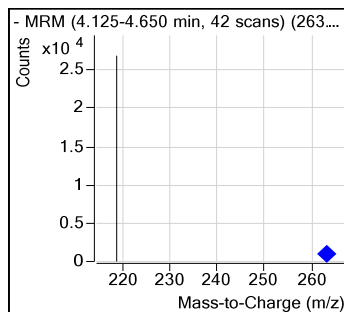
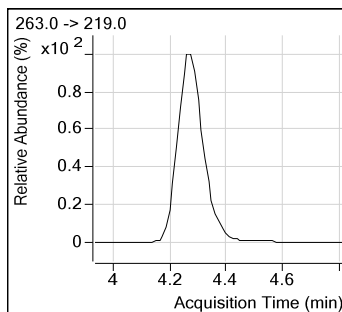
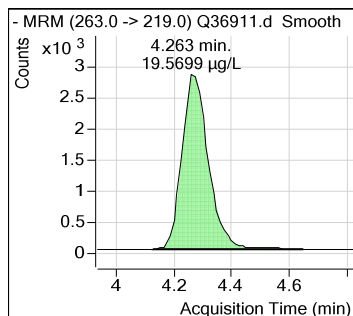


13C3-PFPeA

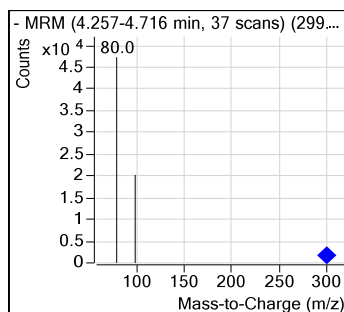
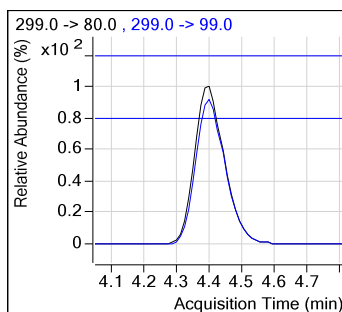
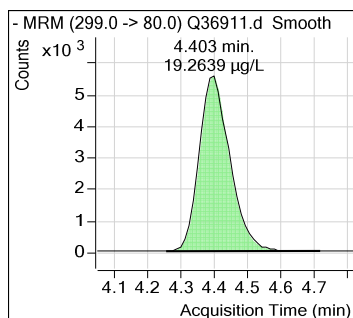


Perfluorinated Compounds by LC/MS/MS.

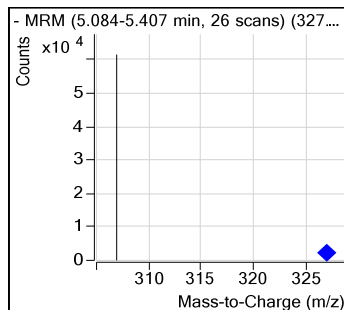
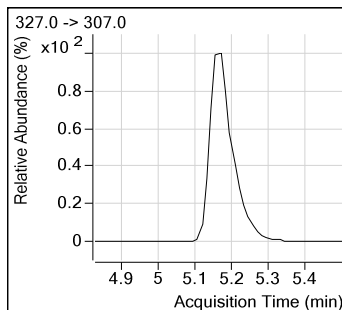
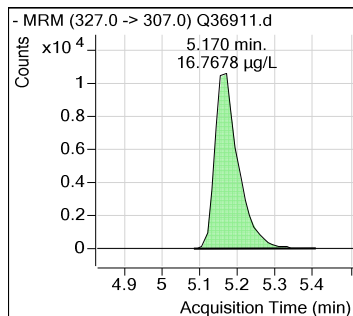
PFPeA



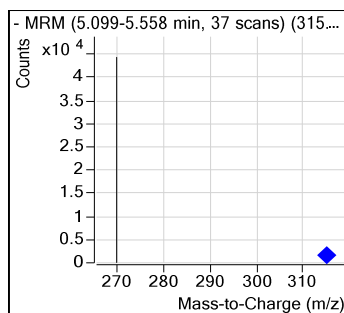
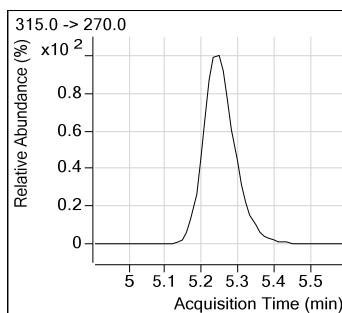
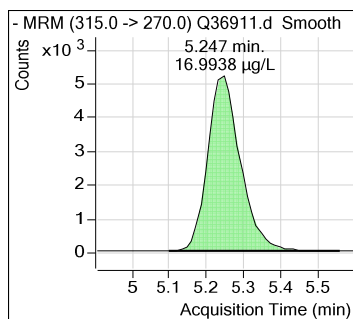
PFBS



4:2FTS

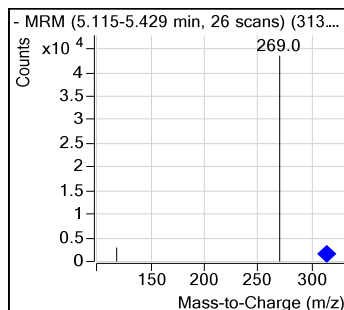
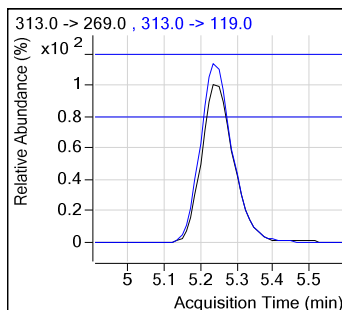
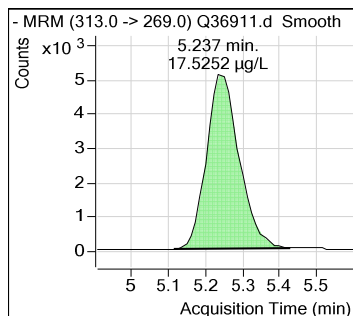


13C2-PFHxA

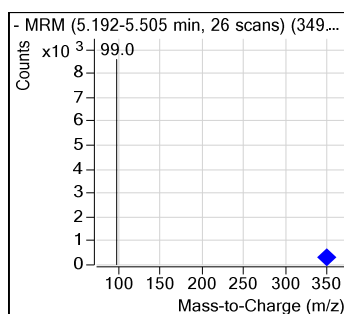
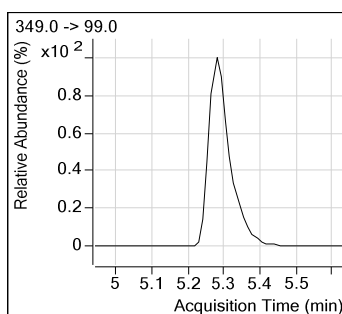
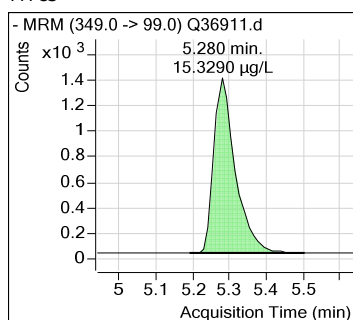


Perfluorinated Compounds by LC/MS/MS.

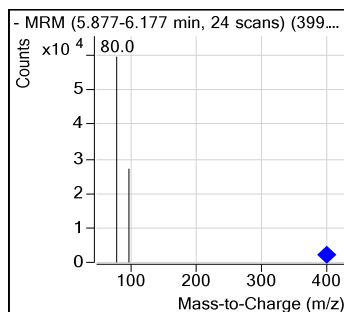
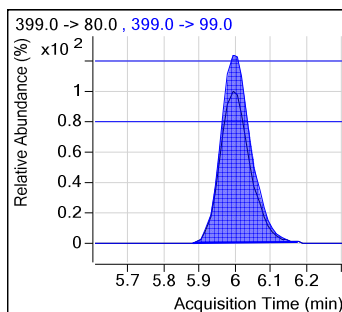
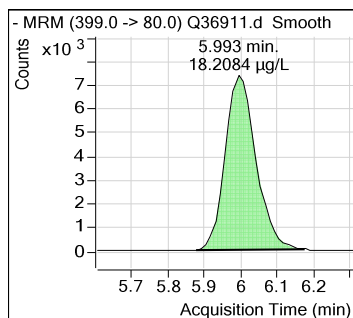
PFHxA



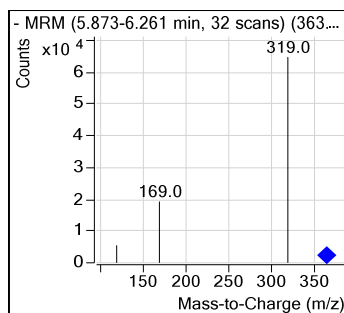
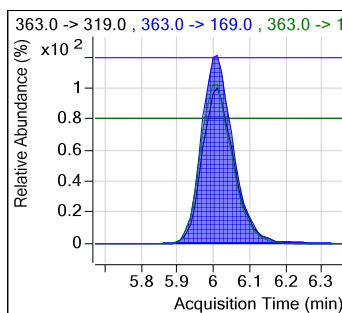
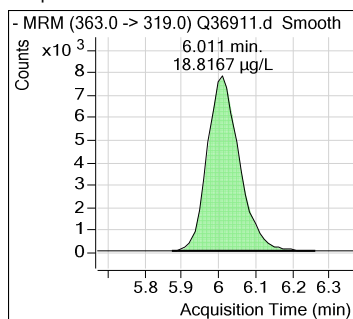
PFPeS



PFHxS

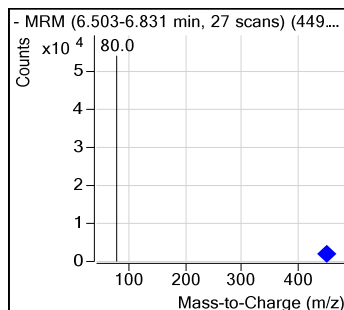
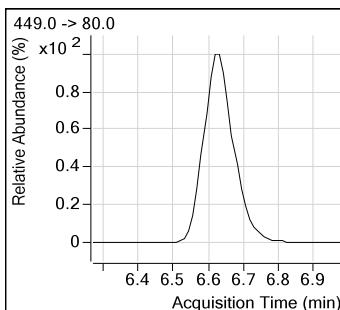
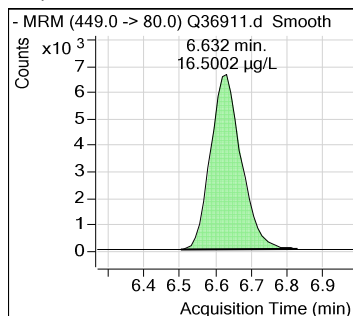


PFHpA

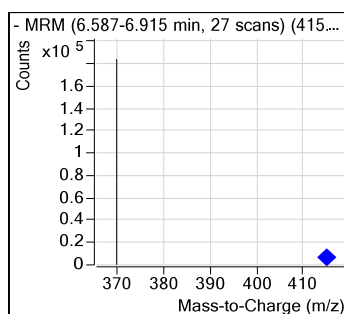
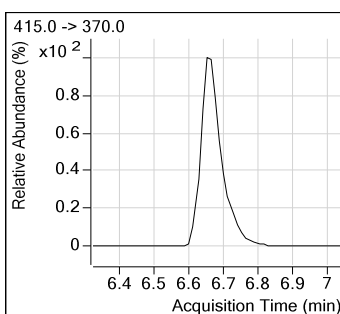
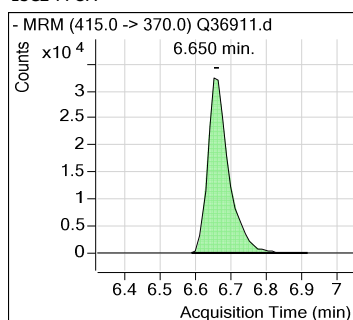


Perfluorinated Compounds by LC/MS/MS.

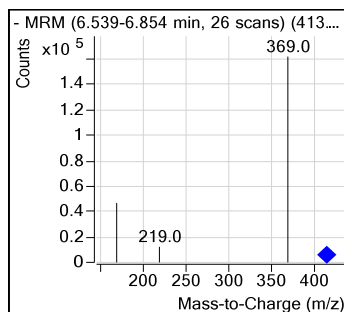
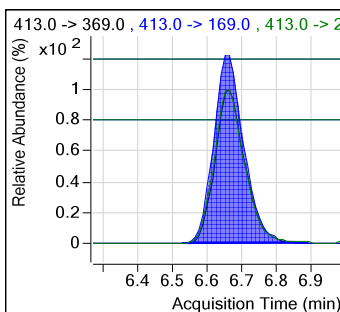
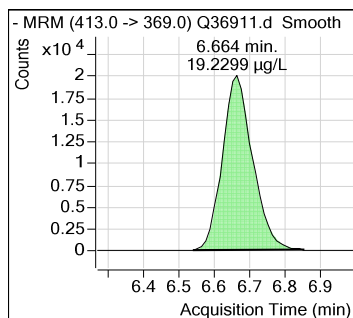
PFHpS



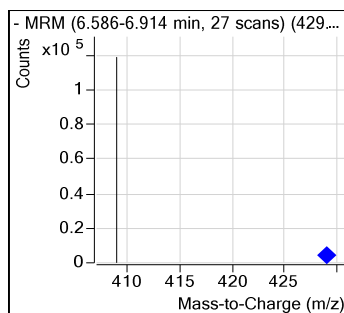
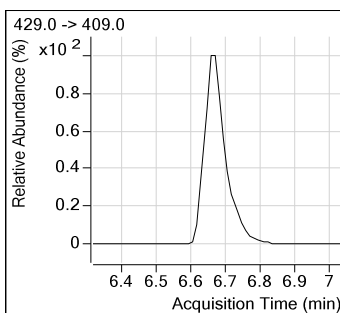
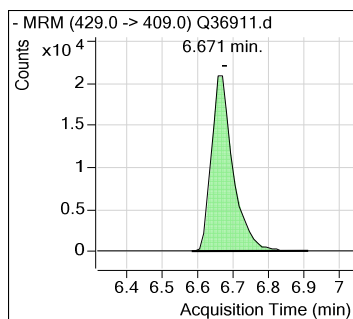
13C2-PFOA



PFOA

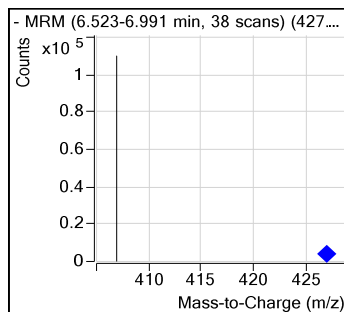
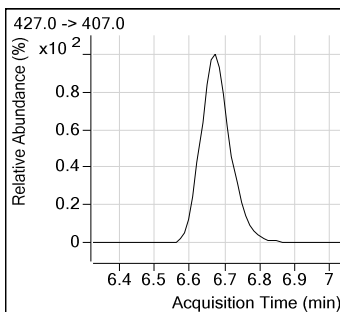
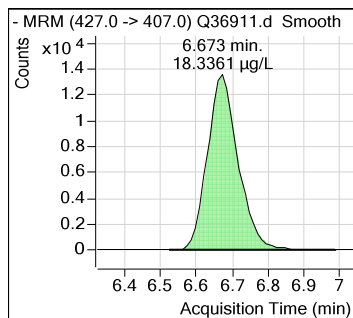


13C2-6:2FTS

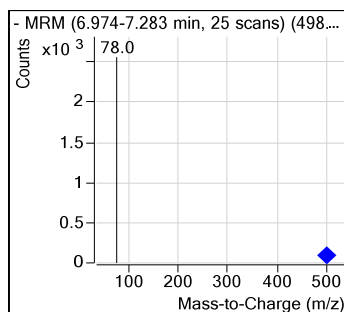
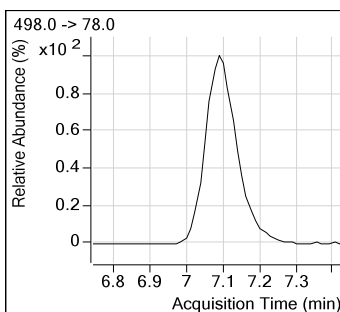
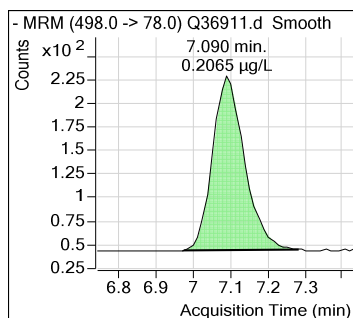


Perfluorinated Compounds by LC/MS/MS.

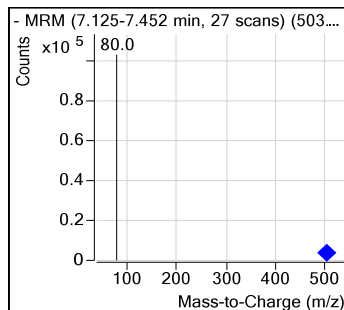
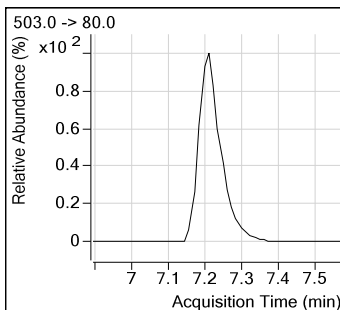
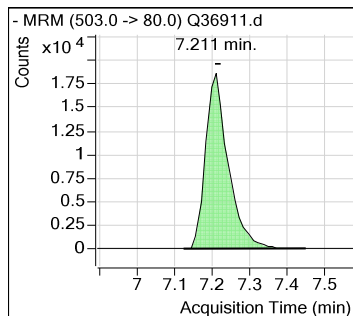
6:2FTS



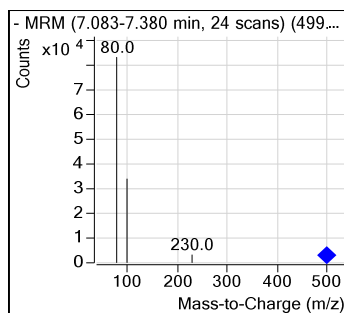
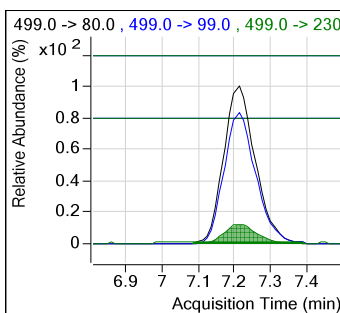
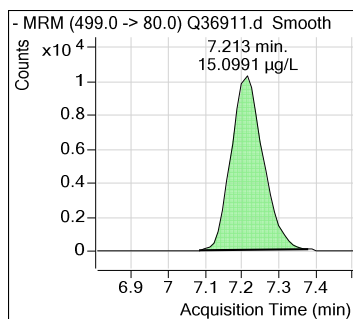
FOSA



13C4-PFOS

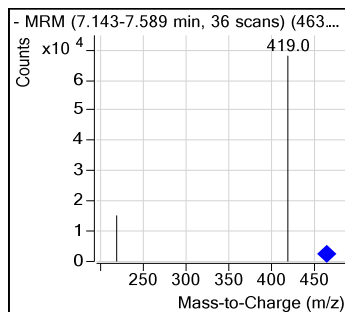
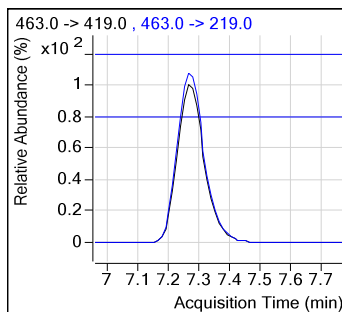
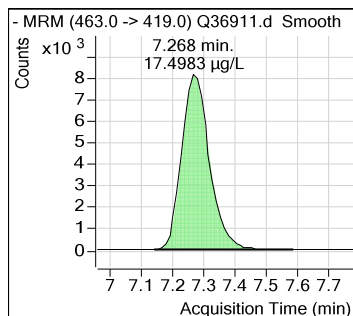


PFOS

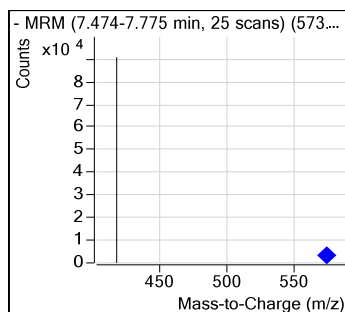
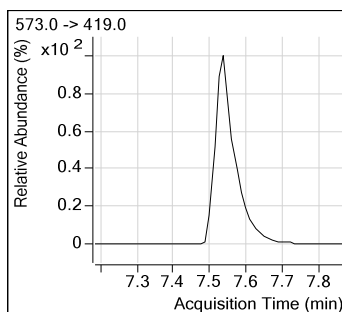
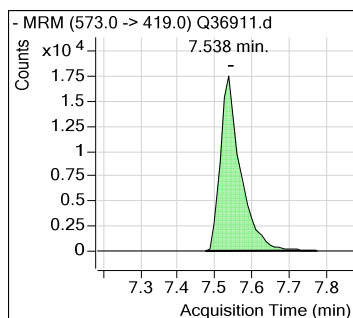


Perfluorinated Compounds by LC/MS/MS.

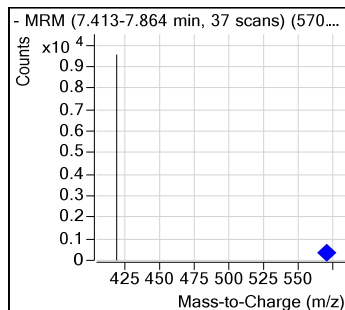
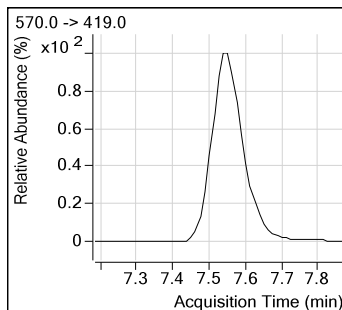
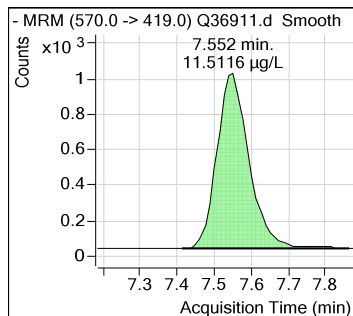
PFNA



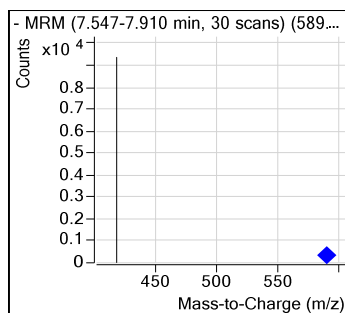
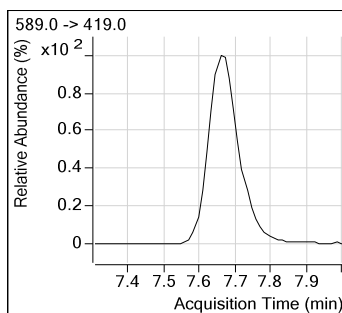
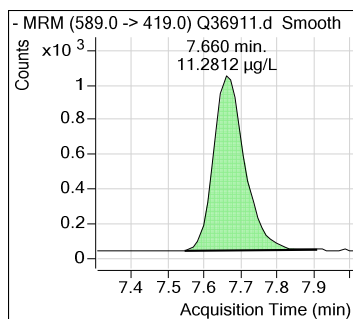
d3-MeFOSAA



MeFOSAA

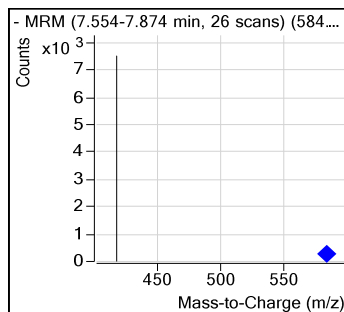
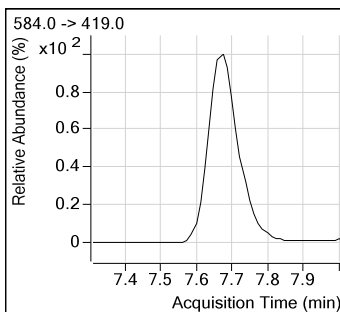
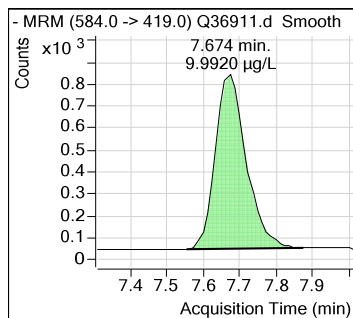


d5-EtFOSAA

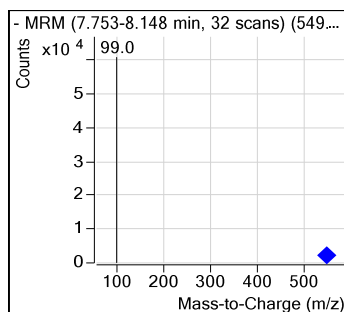
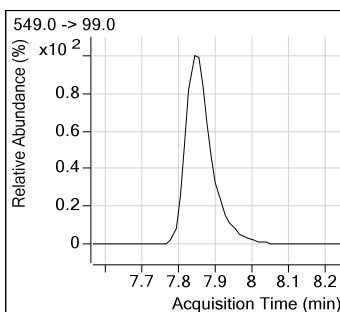
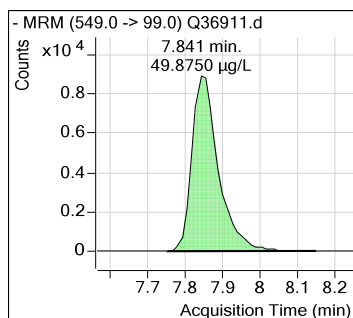


Perfluorinated Compounds by LC/MS/MS.

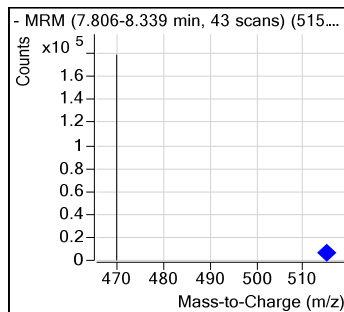
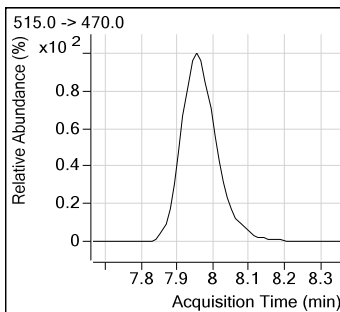
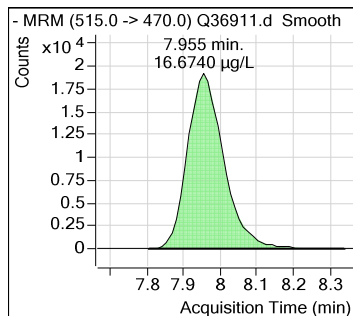
EtFOSAA



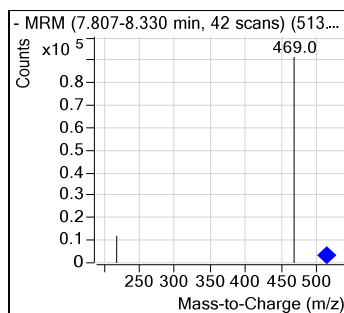
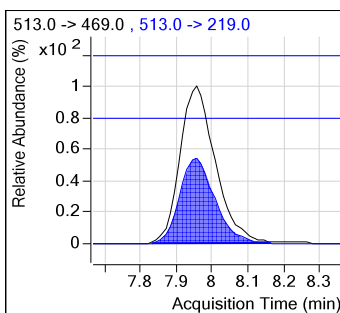
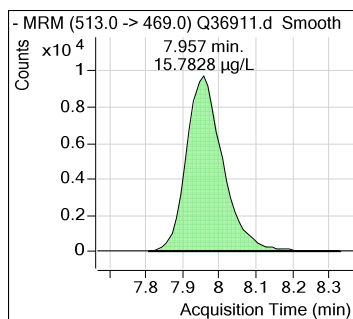
PFNS



13C2-PFDA

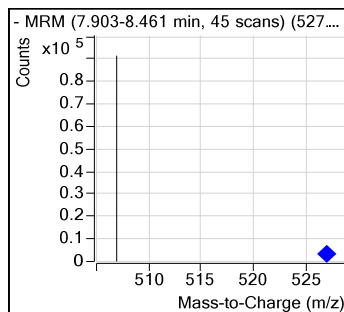
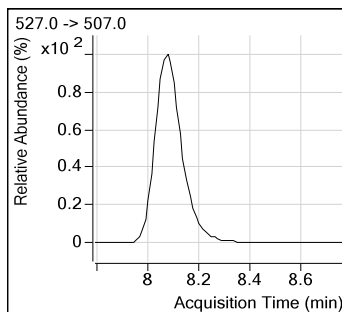
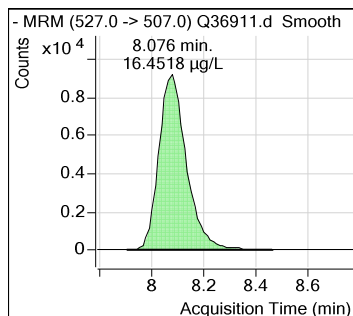


PFDA

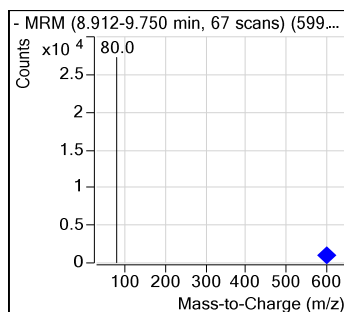
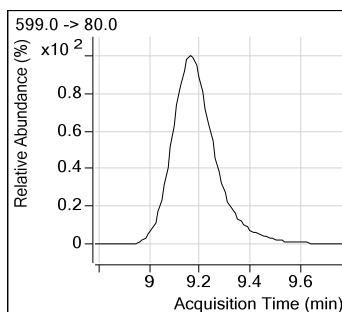
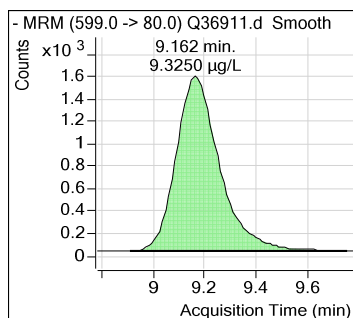


Perfluorinated Compounds by LC/MS/MS.

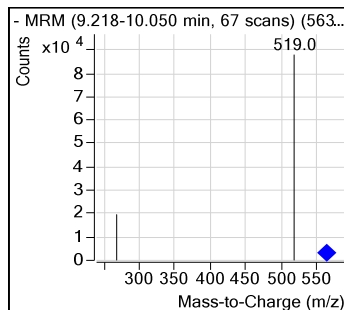
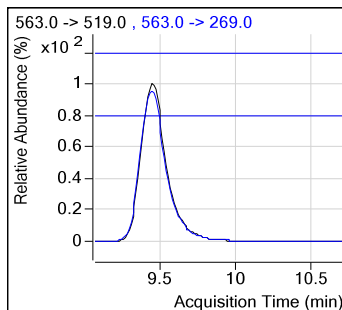
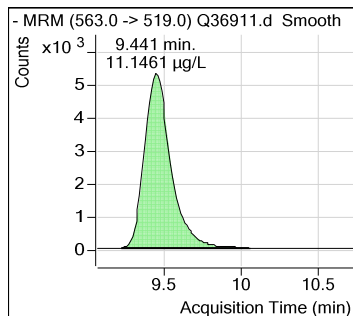
8:2FTS



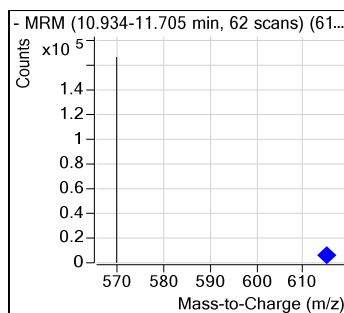
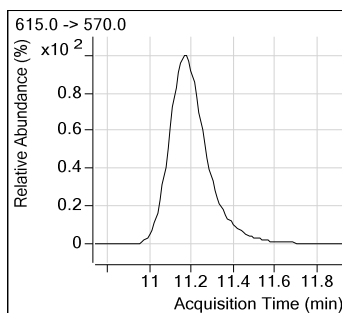
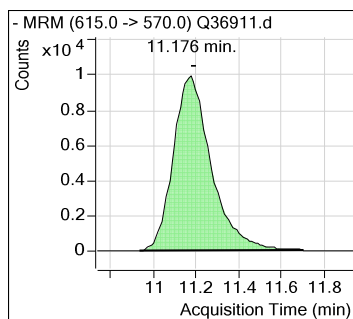
PFDS



PFUnDA

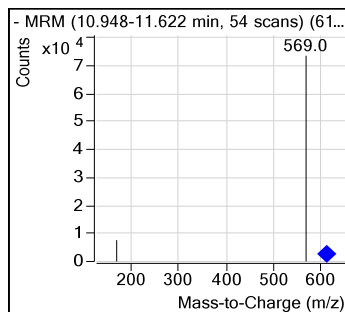
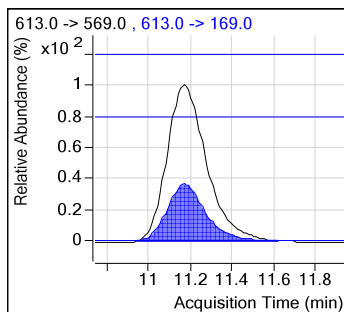
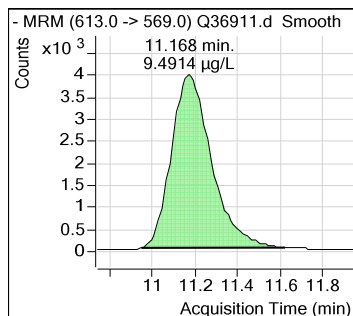


13C2-PFDoDA

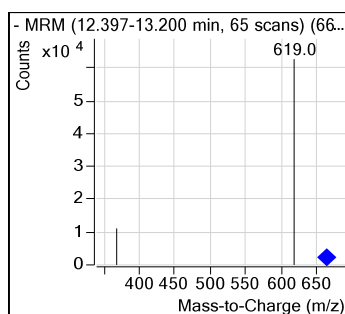
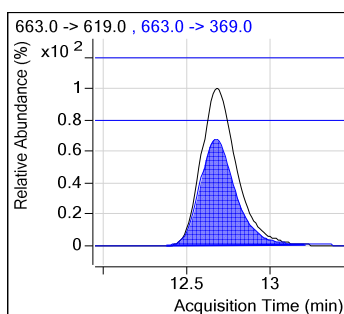
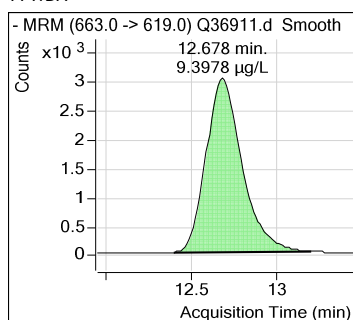


Perfluorinated Compounds by LC/MS/MS.

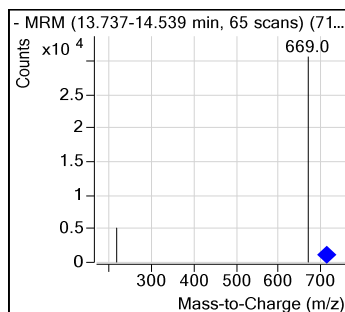
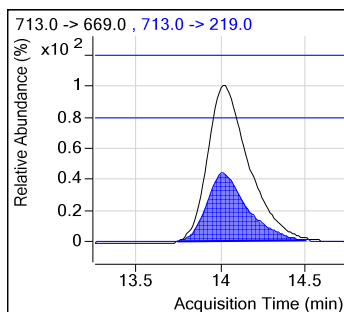
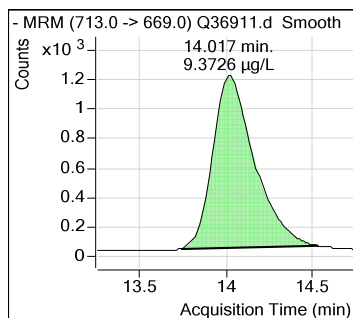
PFDoDA



PFTrDA



PFTeDA



Calibration Curve

Perfluorinated Compounds by LC/MS/MS.

Manual Integrations
APPROVED
(compounds with "m" flag)Mike Eger
07/19/17 14:43

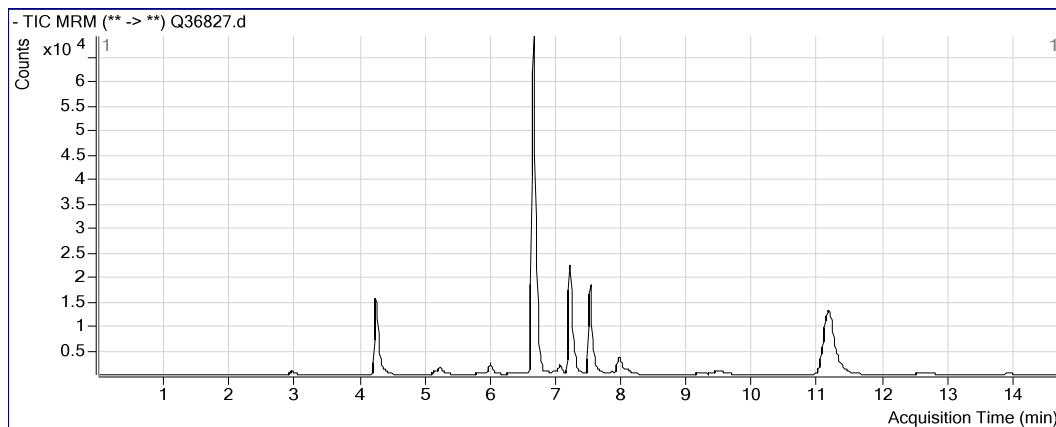
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 Acq Method Name : 537_LIST.m
 Acquisition date : 2017-07-17 10:16
 Sample Name : IC936-1
 Vial : Vial 2
 Sample Info : OP65698,SQ936,5.00,,,5,1,SOIL
 Quant Method : PFC_LIST_0717_SQ936.quantmethod.xml
 Quant Batch Name : SQ936.batch.bin
 Last Calib Update : 2017-07-18 07:16

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
13C3-PFPeA	4.260	266.0 -> 222.0	66921	20.000	µg/L	0.000
13C2-PFOA	6.675	415.0 -> 370.0	185954	20.000	µg/L	0.000
13C2-6:2FTS	6.684	429.0 -> 409.0	88998	20.000	µg/L	0.000
13C4-PFOS	7.224	503.0 -> 80.0	87436	20.000	µg/L	0.000
d3-MeFOSAA	7.538	573.0 -> 419.0	70087	20.000	µg/L	0.000
13C2-PFDoDA	11.176	615.0 -> 570.0	153161	20.000	µg/L	0.000
System Monitoring Compounds						
13C2-PFHxA	5.247	315.0 -> 270.0	2820	1.11	µg/L	0.000
Spiked Amount: 20.000	Range: 14 - 26		Recovery = 5.54%			
d5-EtFOSAA	7.660	589.0 -> 419.0	641	1.15	µg/L	0.000
Spiked Amount: 20.000	Range: 14 - 26		Recovery = 5.76%			
13C2-PFDA	7.993	515.0 -> 470.0	11642	1.08	µg/L	0.000
Spiked Amount: 20.000	Range: 14 - 26		Recovery = 5.41%			
Target Compounds						Qvalue
PFBA	2.977	213.0 -> 169.0	4634	1.088	µg/L	100
PFPeA	4.275	263.0 -> 219.0	1589	1.083	µg/L	100
PFBS	4.403	299.0 -> 80.0	2063	1.038	µg/L	97
4:2FTS	5.170	327.0 -> 307.0	3068	1.091	µg/L	100
PFHxA	5.250	313.0 -> 269.0	2773	1.152	µg/L	98
PFPeS	5.280	349.0 -> 99.0	498	1.220	µg/L	100
PFHxS	6.006	399.0 -> 80.0	2864	1.072	µg/L # m	84
PFHpA	6.023	363.0 -> 319.0	3815	1.122	µg/L #	91
PFHpS	6.645	449.0 -> 80.0	2947	1.096	µg/L	100
PFOA	6.677	413.0 -> 369.0	10094	1.195	µg/L #	91
6:2FTS	6.686	427.0 -> 407.0	5102	1.086	µg/L	100
FOSA	7.090	498.0 -> 78.0	5893	1.062	µg/L	100
PFOS	7.225	499.0 -> 80.0	5133	1.125	µg/L # m	78
PFNA	7.294	463.0 -> 419.0	4546	1.174	µg/L	95
MeFOSAA	7.539	570.0 -> 419.0	549	1.007	µg/L	100
EtFOSAA	7.674	584.0 -> 419.0	599	1.234	µg/L	100
PFNS	7.889	549.0 -> 99.0	1128	1.053	µg/L	100
PFDA	7.994	513.0 -> 469.0	6109	1.064	µg/L #	82
8:2FTS	8.126	527.0 -> 507.0	4281	1.022	µg/L	100
PFDS	9.237	599.0 -> 80.0	2416	1.101	µg/L	100
PFUnDA	9.516	563.0 -> 519.0	8237	1.156	µg/L	97
PFDoDA	11.181	613.0 -> 569.0	7547	1.110	µg/L	56
PFTrDA	12.640	663.0 -> 619.0	6298	1.073	µg/L #	84
PFTeDA	13.942	713.0 -> 669.0	2878	1.079	µg/L #	74

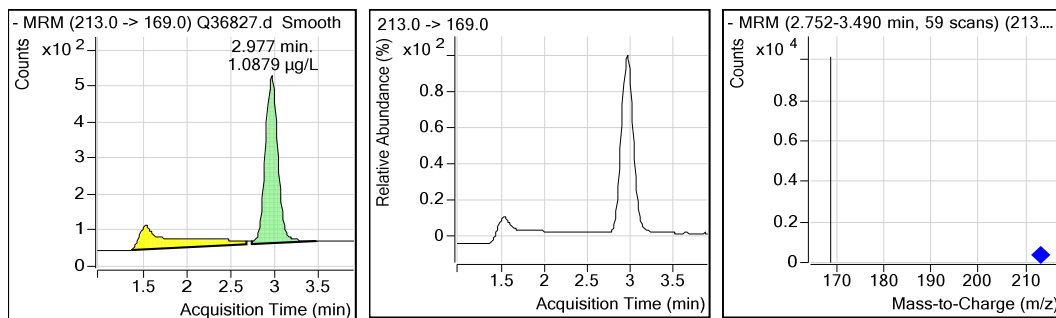
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

Perfluorinated Compounds by LC/MS/MS.

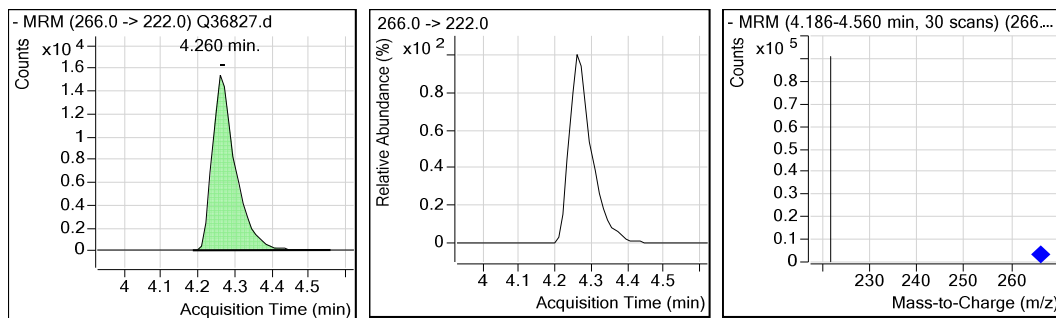
Data File : Q36827.d
Operator : NANCYF
Acq Method Name : 537_LIST.m
Acquisition date : 2017-07-17 10:16
Sample Name : IC936-1
Vial : Vial 2
Sample Info : OP65698,SQ936,5.00,,,5,1,SOIL
Quant Method : PFC_LIST_0717_SQ936.quantmethod.xml
Quant Batch Name : SQ936.batch.bin
Last Calib Update : 2017-07-18 07:16



PFBA

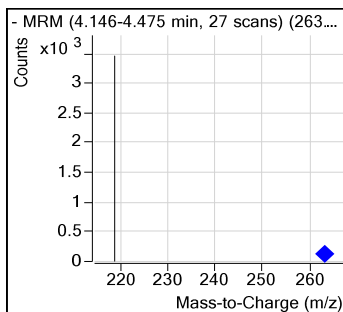
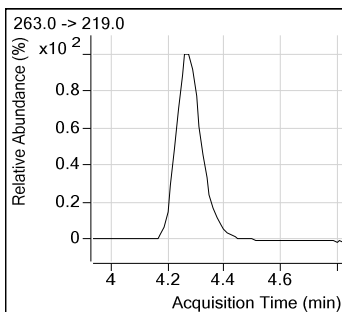
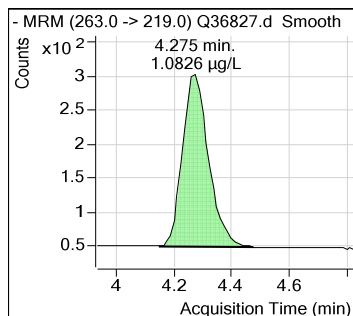


13C3-PFPeA

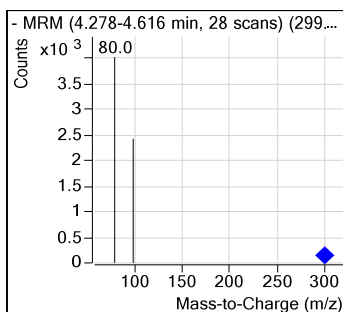
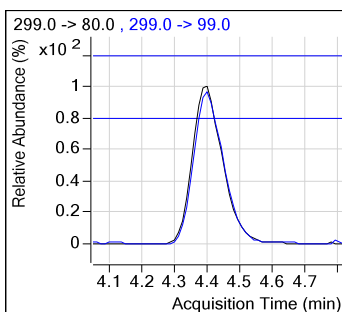
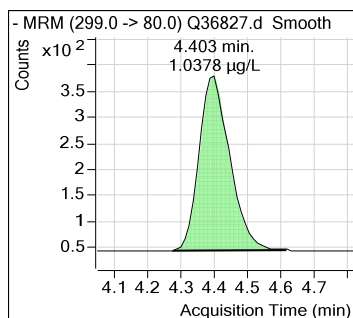


Perfluorinated Compounds by LC/MS/MS.

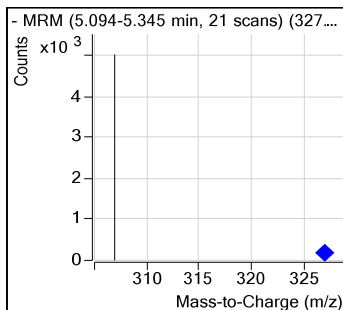
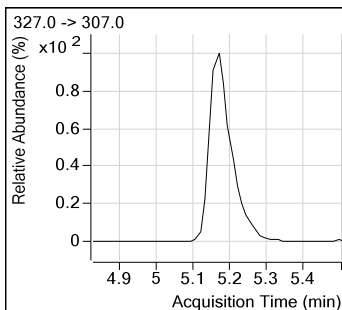
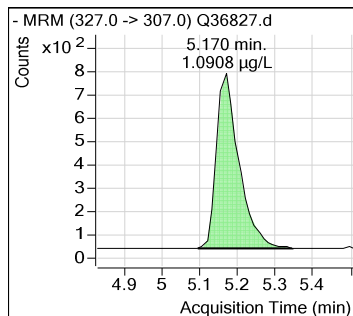
PFPeA



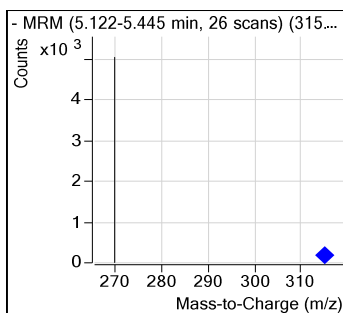
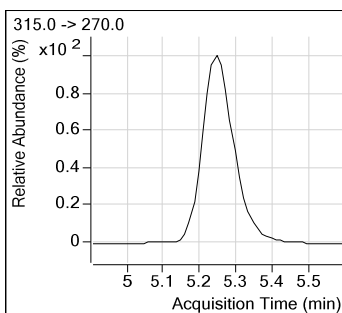
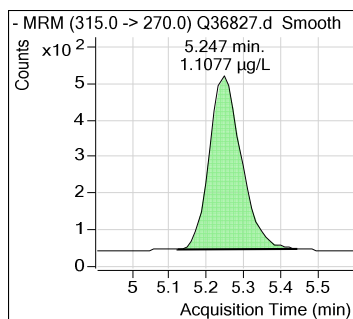
PFBS



4:2FTS

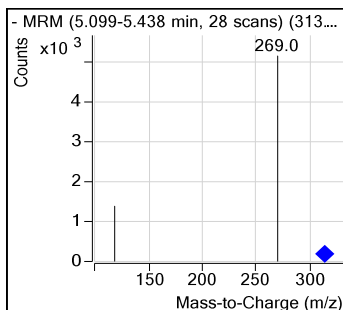
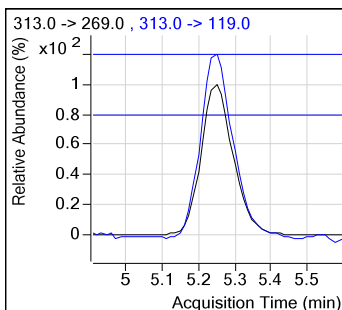
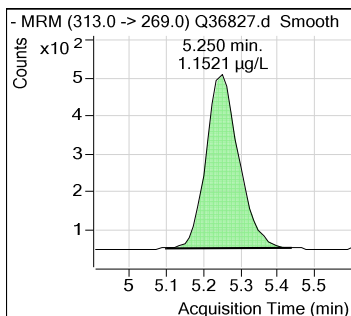


13C2-PFHxA

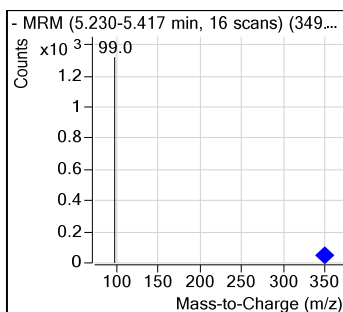
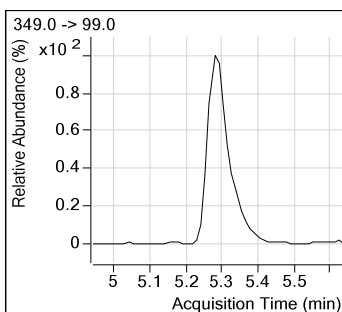
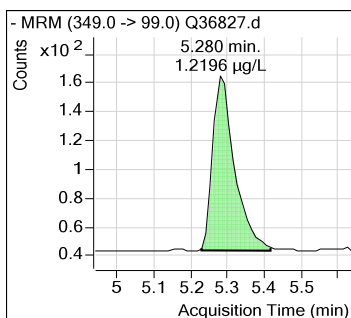


Perfluorinated Compounds by LC/MS/MS.

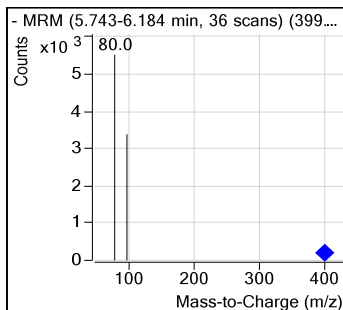
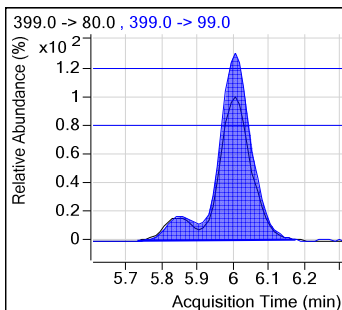
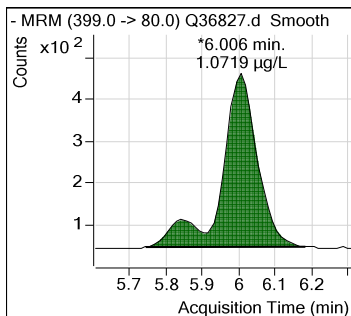
PFHxA



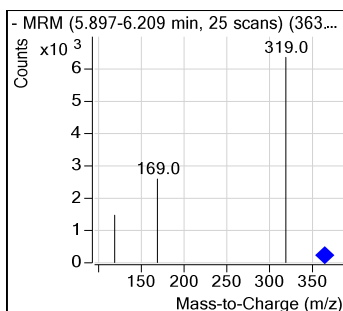
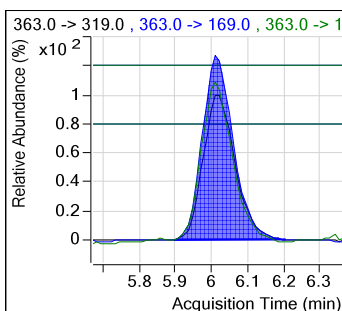
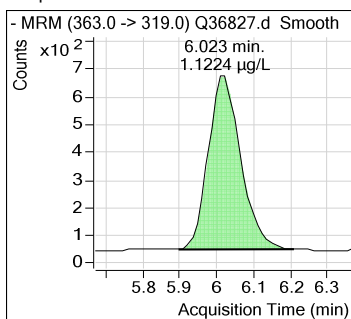
PFPeS



PFHxS

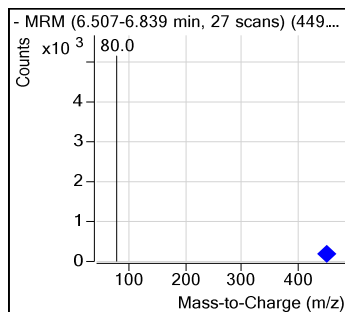
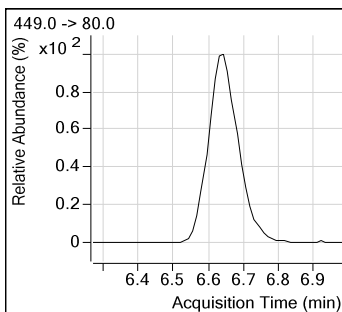
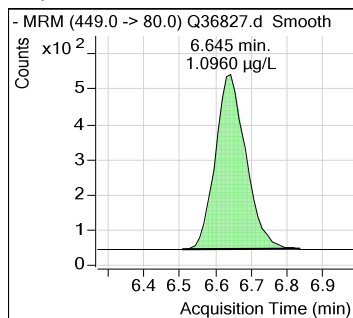


PFHpA

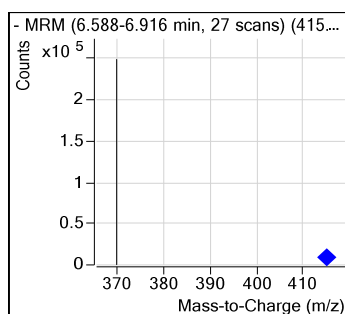
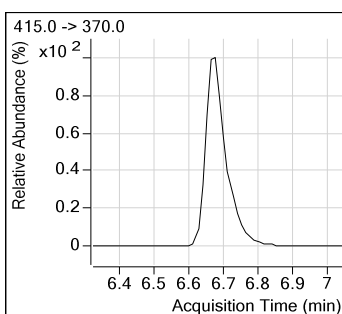
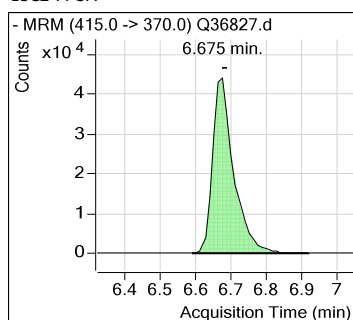


Perfluorinated Compounds by LC/MS/MS.

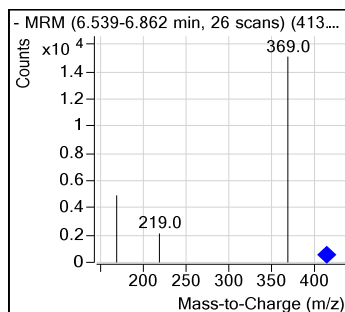
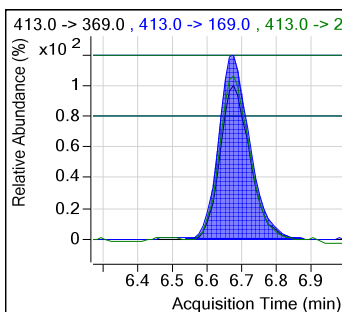
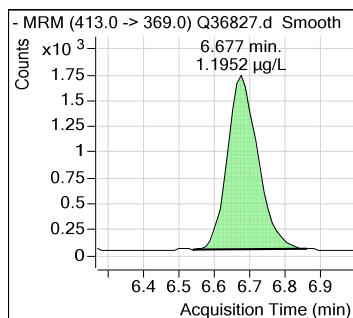
PFHpS



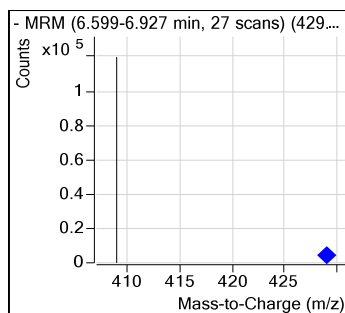
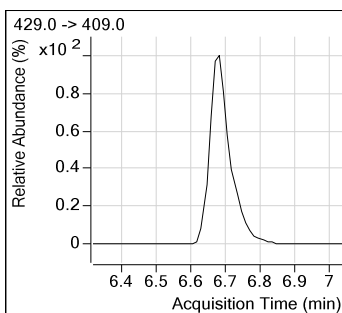
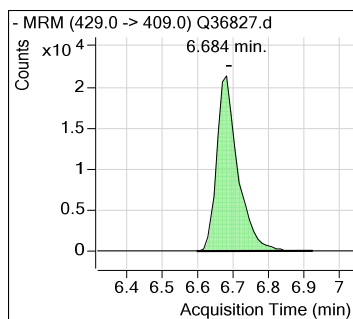
13C2-PFOA



PFOA

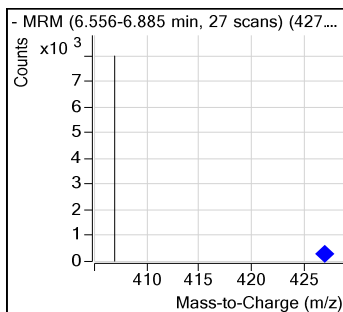
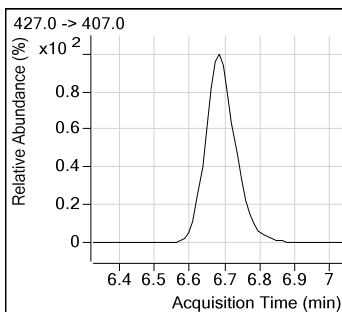
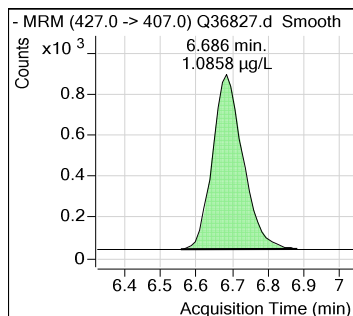


13C2-6:2FTS

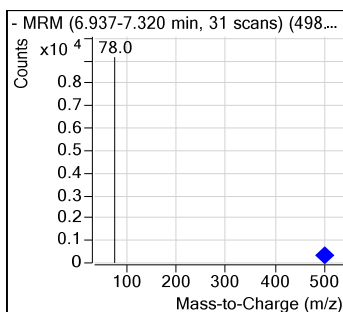
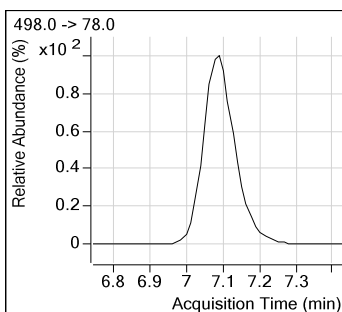
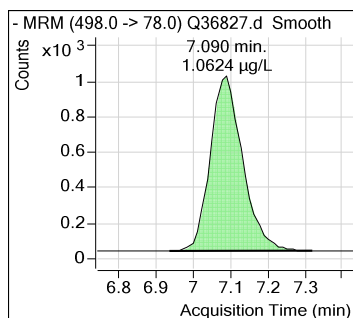


Perfluorinated Compounds by LC/MS/MS.

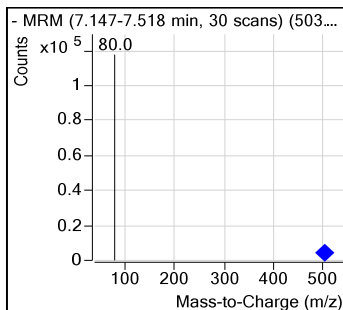
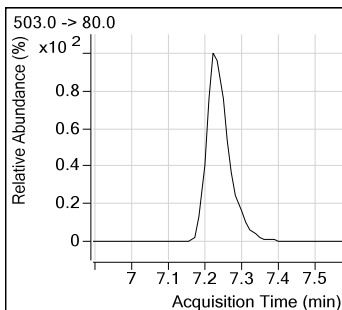
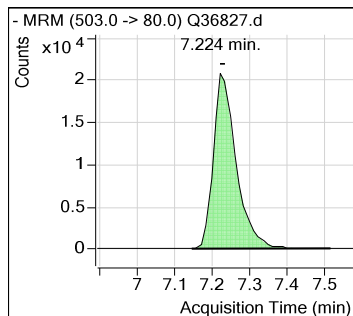
6:2FTS



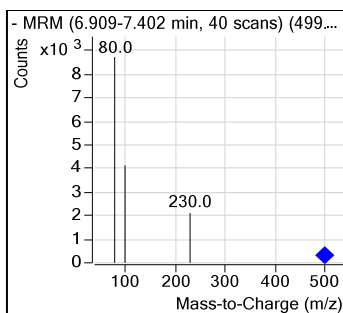
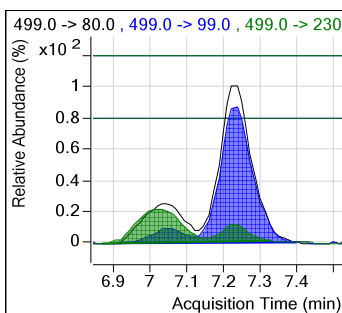
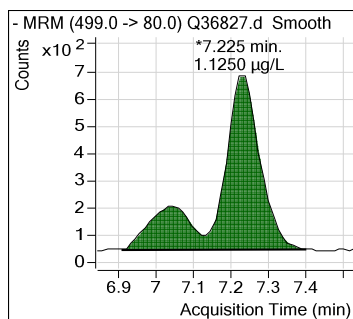
FOSA



13C4-PFOS

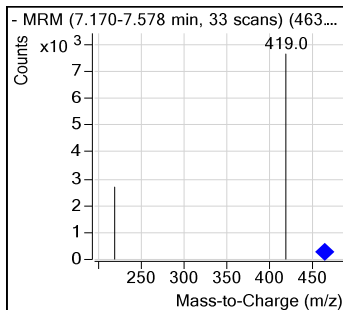
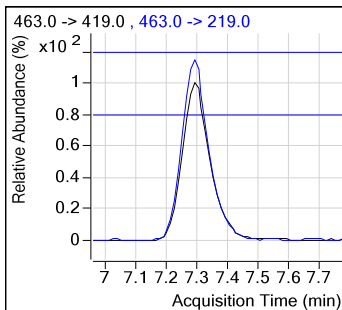
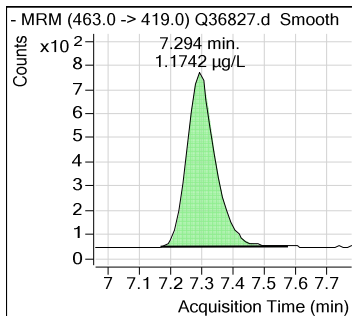


PFOS

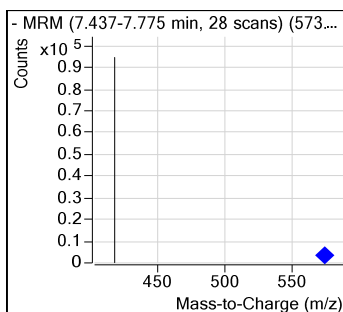
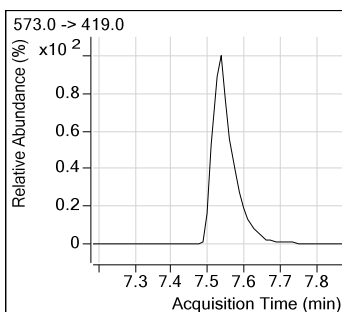
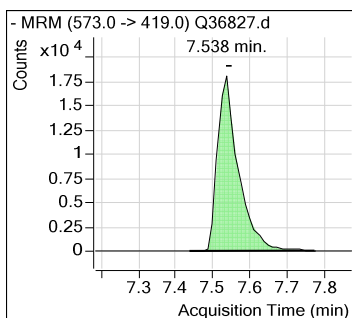


Perfluorinated Compounds by LC/MS/MS.

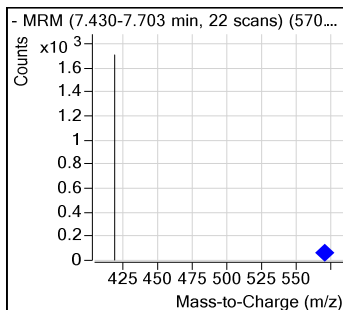
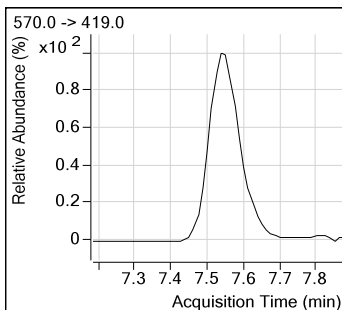
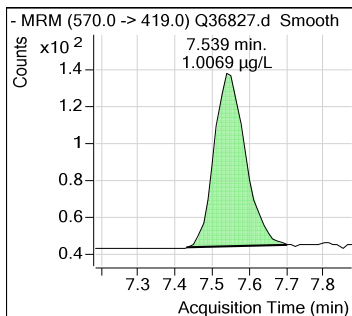
PFNA



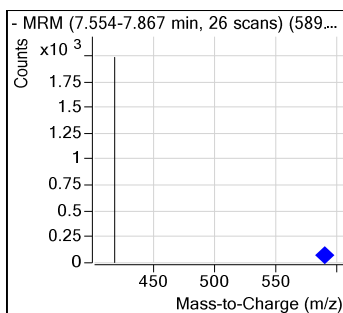
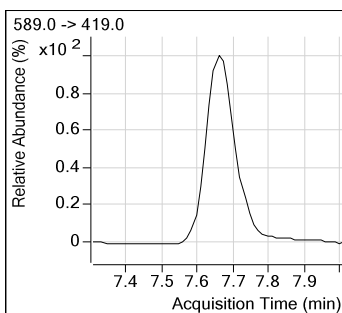
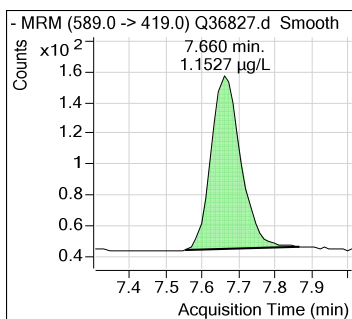
d3-MeFOSAA



MeFOSAA

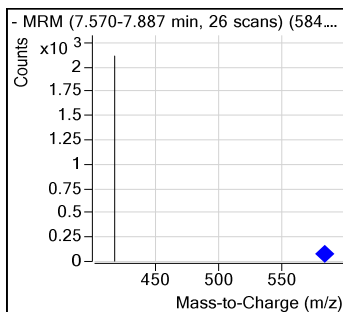
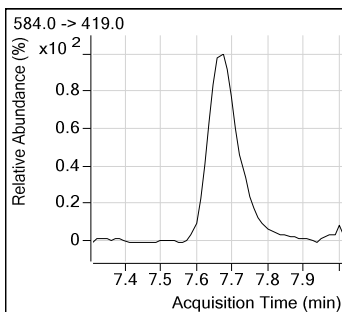
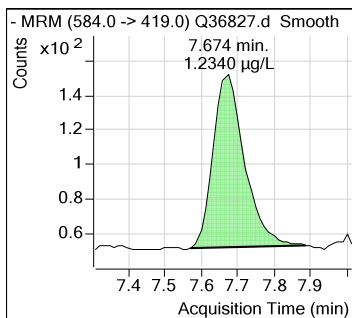


d5-EtFOSAA

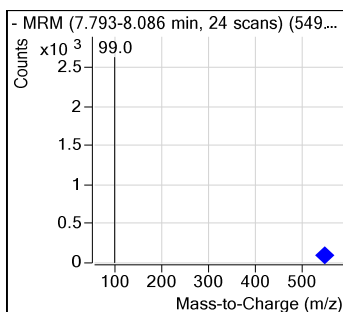
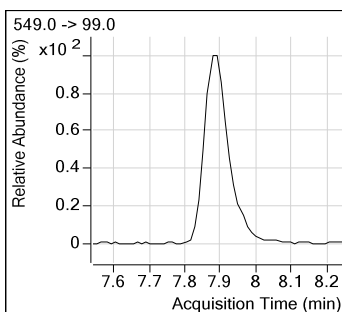
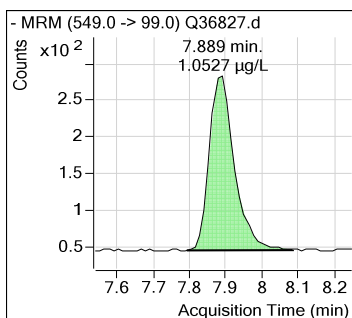


Perfluorinated Compounds by LC/MS/MS.

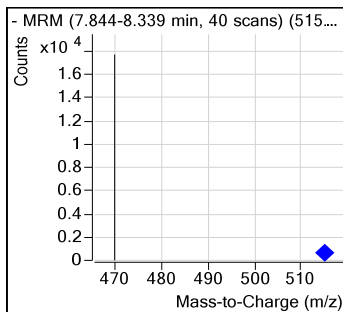
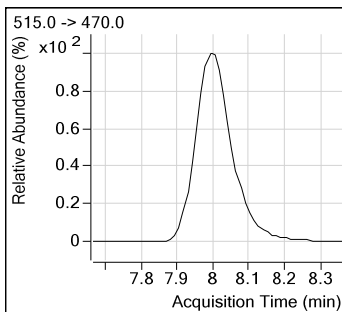
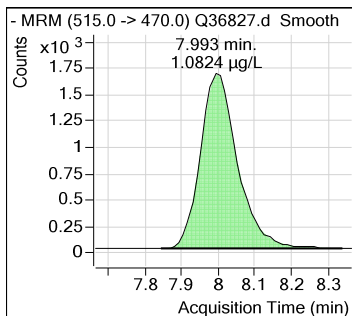
EtFOSAA



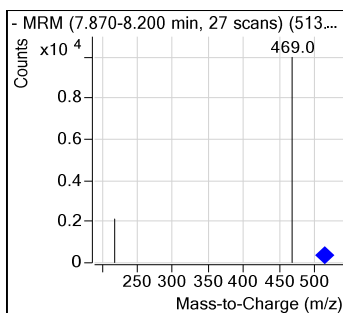
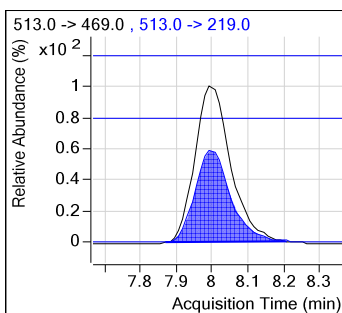
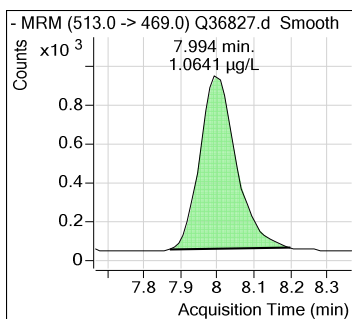
PFNS



13C2-PFDA

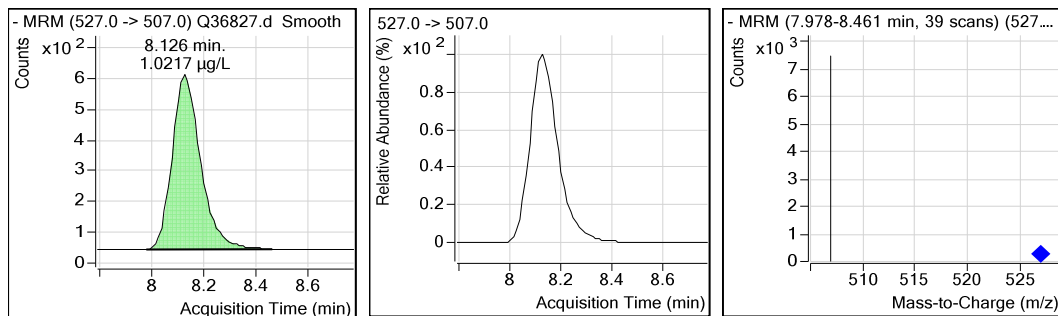


PFDA

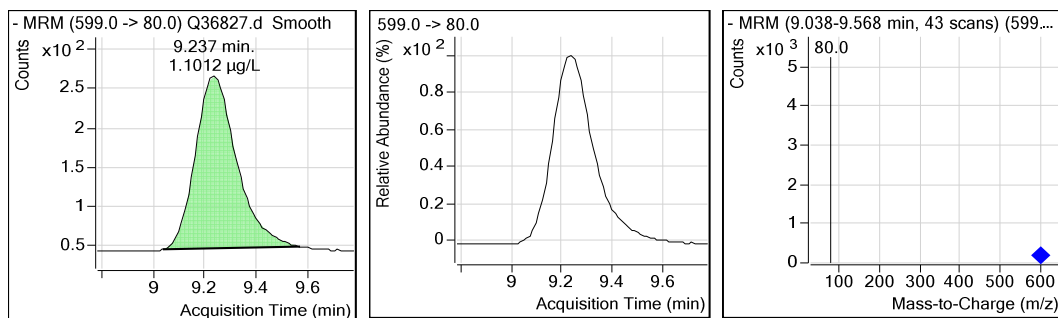


Perfluorinated Compounds by LC/MS/MS.

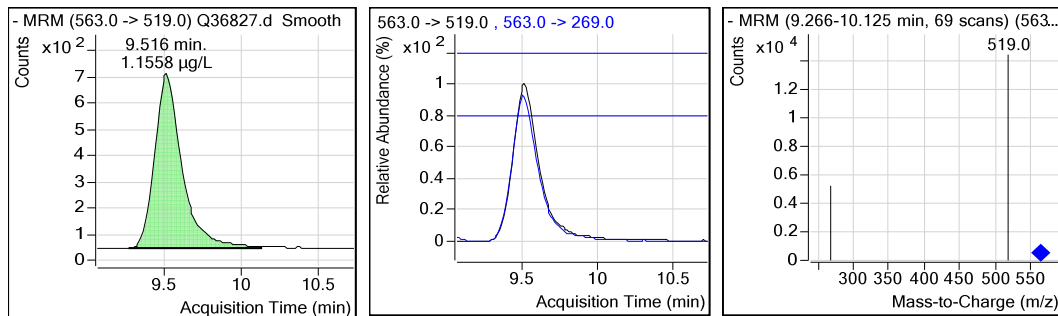
8:2FTS



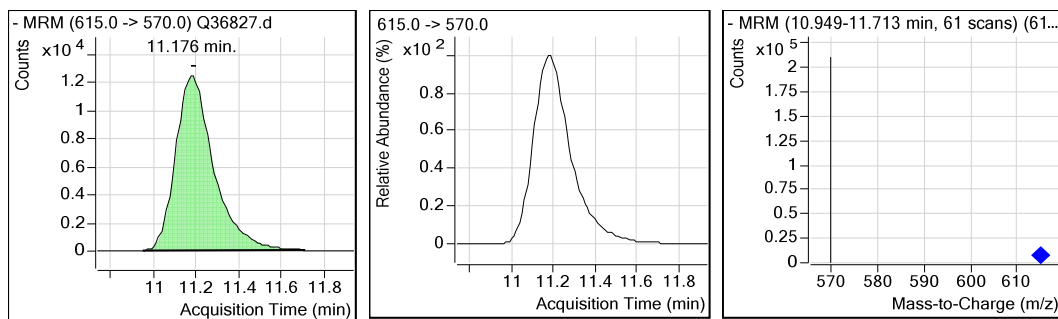
PFDS



PFUnDA

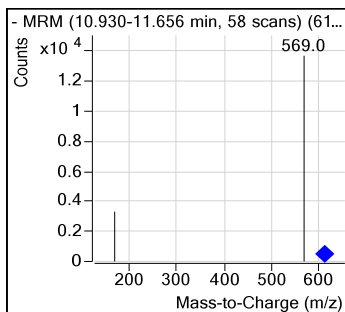
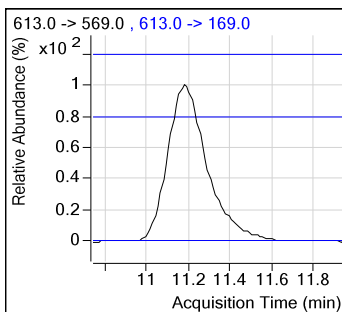
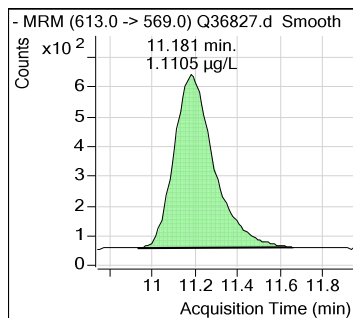


13C2-PFDoDA

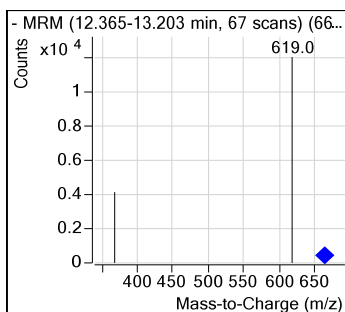
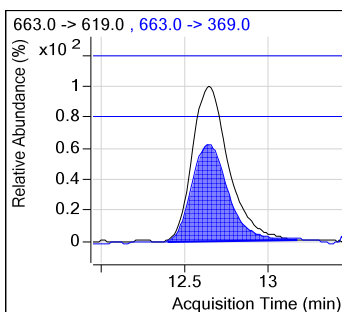
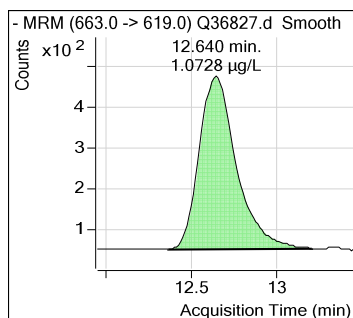


Perfluorinated Compounds by LC/MS/MS.

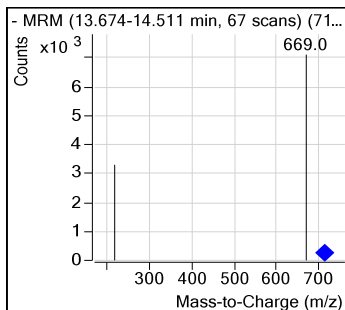
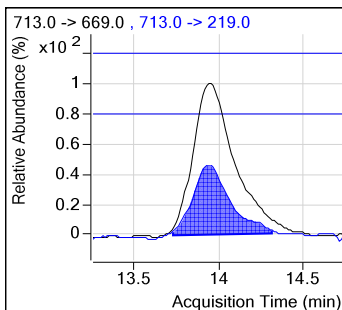
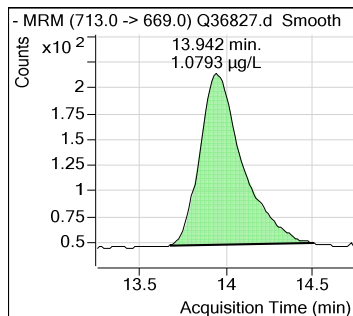
PFDoDA



PFTrDA



PFTeDA



Calibration Curve

Manual Integration Approval Summary

Sample Number: SQ936-IC936

Method: EPA 537 MOD

Lab FileID: Q36827.D

Analyst approved: 07/18/17 14:24 Nancy Saunders

Injection Time: 07/17/17 10:16

Supervisor approved: 07/19/17 14:43 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		6.01	Split peak
Perfluorooctanesulfonic acid	1763-23-1		7.22	Split peak

7.5.1.1
7

Perfluorinated Compounds by LC/MS/MS.

Manual Integrations
APPROVED
(compounds with "m" flag)

Mike Eger
07/19/17 14:43

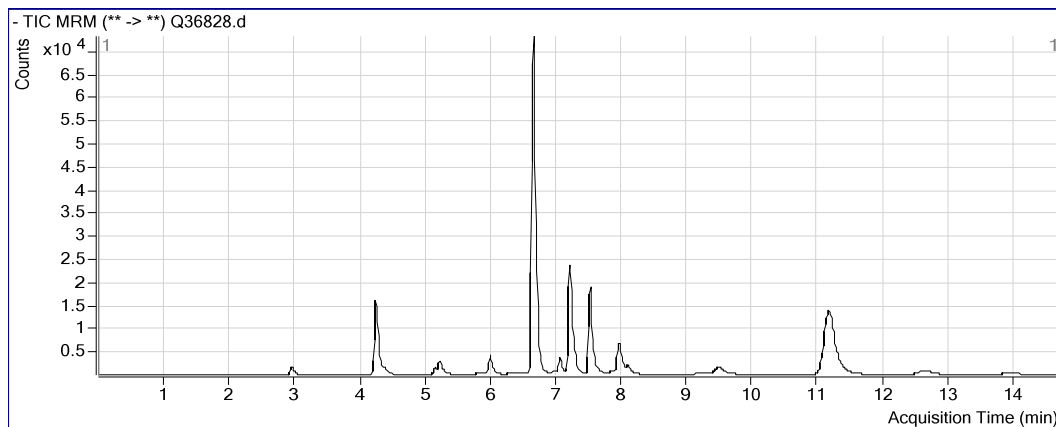
Data File : Q36828.d
Operator : NANCYF
Acq Method Name : 537_LIST.m
Acquisition date : 2017-07-17 10:36
Sample Name : IC936-2
Vial : Vial 3
Sample Info : OP65698,SQ936,5.00,,,5,1,SOIL
Quant Method : PFC_LIST_0717_SQ936.quantmethod.xml
Quant Batch Name : SQ936.batch.bin
Last Calib Update : 2017-07-18 07:16

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
13C3-PFPeA	4.260	266.0 -> 222.0	66623	20.000	µg/L	0.000
13C2-PFOA	6.663	415.0 -> 370.0	184877	20.000	µg/L	-0.013
13C2-6:2FTS	6.684	429.0 -> 409.0	91442	20.000	µg/L	0.000
13C4-PFOS	7.224	503.0 -> 80.0	87839	20.000	µg/L	0.000
d3-MeFOSAA	7.538	573.0 -> 419.0	72740	20.000	µg/L	0.000
13C2-PFDoDA	11.189	615.0 -> 570.0	155203	20.000	µg/L	0.013
System Monitoring Compounds						
13C2-PFHxA	5.247	315.0 -> 270.0	5457	2.16	µg/L	0.000
Spiked Amount: 20.000	Range: 14 - 26		Recovery = 10.78%			
d5-EtFOSAA	7.660	589.0 -> 419.0	1212	2.10	µg/L	0.000
Spiked Amount: 20.000	Range: 14 - 26		Recovery = 10.51%			
13C2-PFDA	7.993	515.0 -> 470.0	22495	2.10	µg/L	0.000
Spiked Amount: 20.000	Range: 14 - 26		Recovery = 10.52%			
Target Compounds						Qvalue
PFBA	2.977	213.0 -> 169.0	8615	2.031	µg/L	100
PFPeA	4.263	263.0 -> 219.0	3098	2.120	µg/L	100
PFBS	4.403	299.0 -> 80.0	4087	2.047	µg/L	96
4:2FTS	5.170	327.0 -> 307.0	5775	2.002	µg/L	100
PFHxA	5.250	313.0 -> 269.0	5223	2.183	µg/L #	97
PFPeS	5.280	349.0 -> 99.0	945	2.305	µg/L	100
PFHxS	6.006	399.0 -> 80.0	5603	2.088	µg/L # m	85
PFHpA	6.011	363.0 -> 319.0	7291	2.157	µg/L #	89
PFHpS	6.645	449.0 -> 80.0	5878	2.176	µg/L	100
PFOA	6.677	413.0 -> 369.0	18152	2.162	µg/L #	91
6:2FTS	6.686	427.0 -> 407.0	9690	2.012	µg/L	100
FOSA	7.090	498.0 -> 78.0	11292	1.966	µg/L	100
PFOS	7.225	499.0 -> 80.0	9741	2.125	µg/L # m	78
PFNA	7.294	463.0 -> 419.0	8234	2.139	µg/L	97
MeFOSAA	7.540	570.0 -> 419.0	1130	1.995	µg/L	100
EtFOSAA	7.674	584.0 -> 419.0	1089	2.160	µg/L	100
PFNS	7.878	549.0 -> 99.0	2174	2.022	µg/L	100
PFDA	7.995	513.0 -> 469.0	12116	2.123	µg/L #	82
8:2FTS	8.126	527.0 -> 507.0	8241	1.918	µg/L	100
PFDS	9.237	599.0 -> 80.0	4553	2.065	µg/L	100
PFUnDA	9.516	563.0 -> 519.0	15221	2.108	µg/L	99
PFDoDA	11.193	613.0 -> 569.0	14667	2.130	µg/L #	71
PFTrDA	12.653	663.0 -> 619.0	12101	2.034	µg/L #	85
PFTeDA	13.954	713.0 -> 669.0	5499	2.035	µg/L #	76

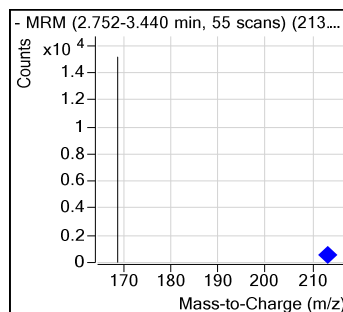
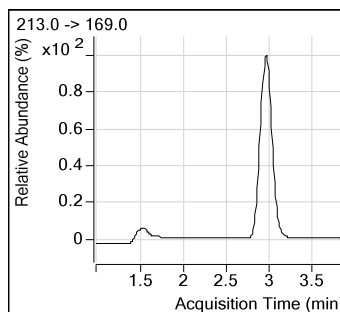
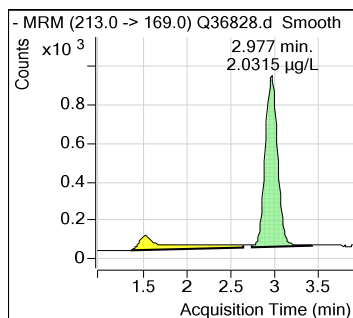
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

Perfluorinated Compounds by LC/MS/MS.

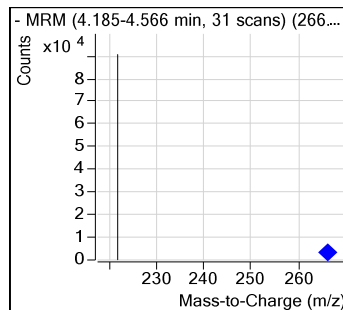
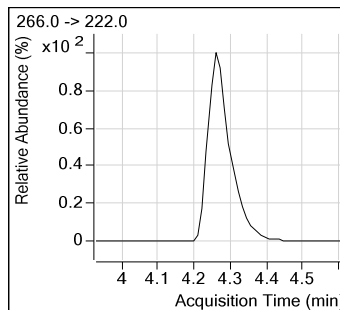
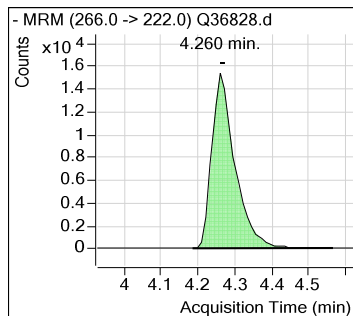
Data File : Q36828.d
Operator : NANCYF
Acq Method Name : 537_LIST.m
Acquisition date : 2017-07-17 10:36
Sample Name : IC936-2
Vial : Vial 3
Sample Info : OP65698,SQ936,5.00,,,5,1,SOIL
Quant Method : PFC_LIST_0717_SQ936.quantmethod.xml
Quant Batch Name : SQ936.batch.bin
Last Calib Update : 2017-07-18 07:16



PFBA

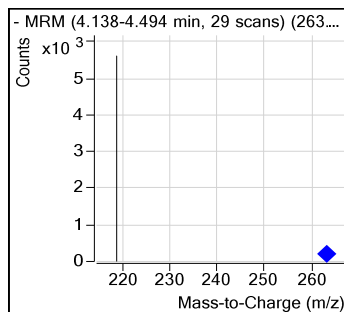
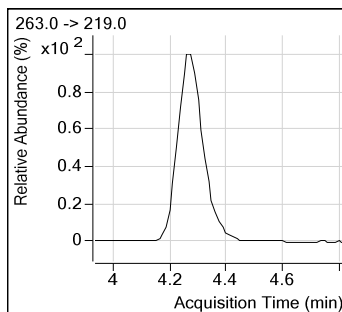
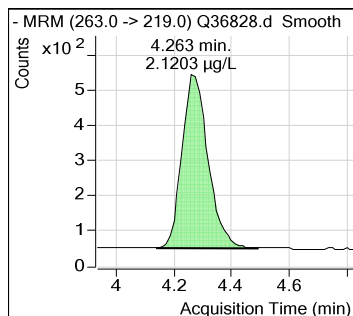


13C3-PFPeA

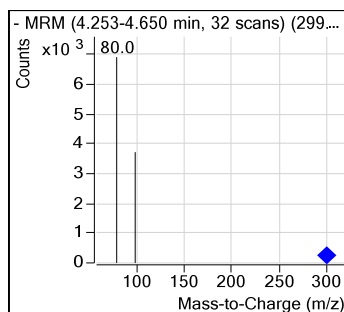
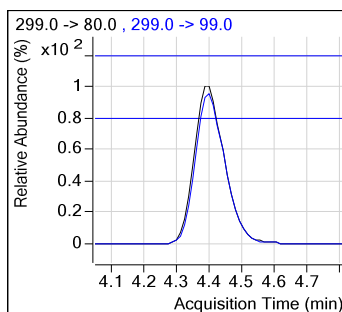
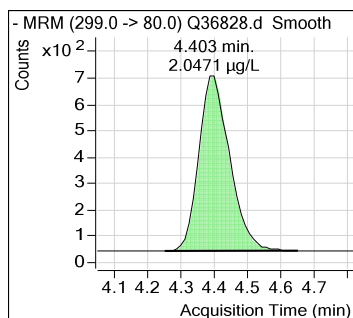


Perfluorinated Compounds by LC/MS/MS.

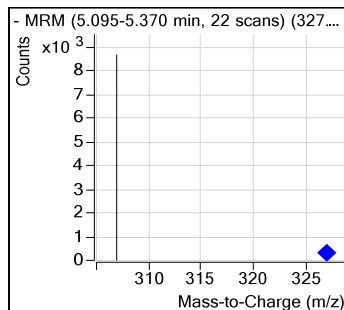
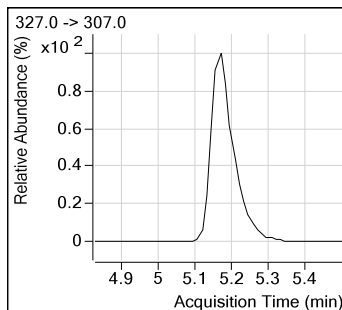
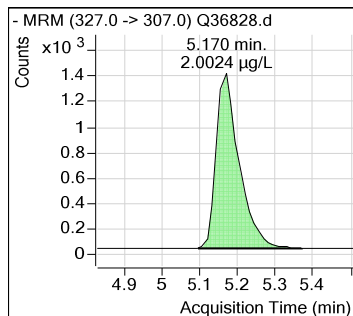
PFPeA



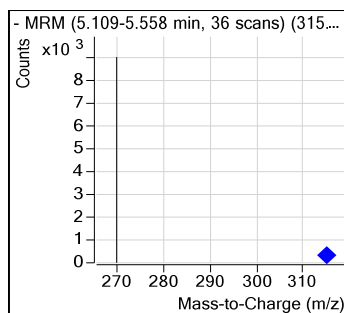
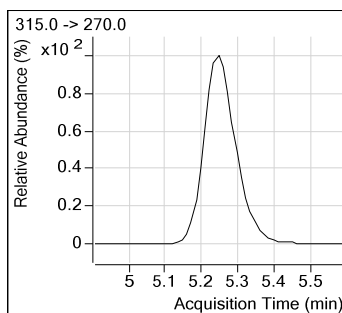
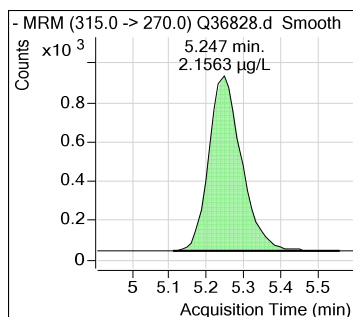
PFBS



4:2FTS

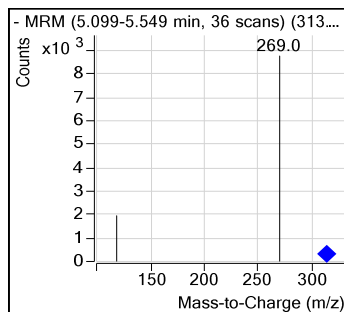
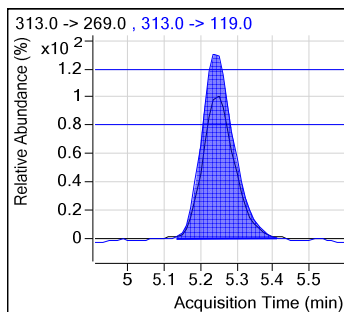
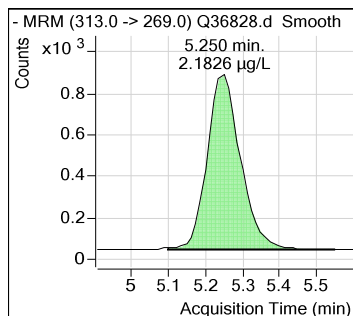


13C2-PFHxA

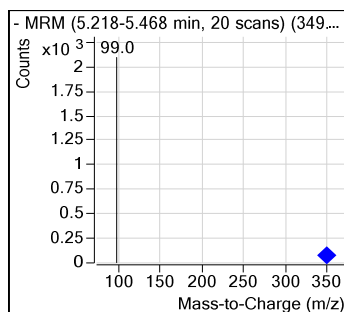
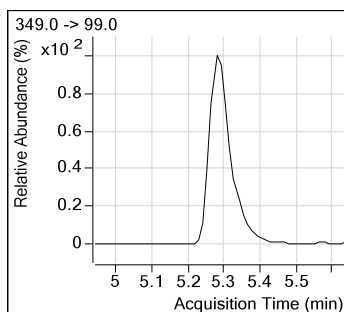
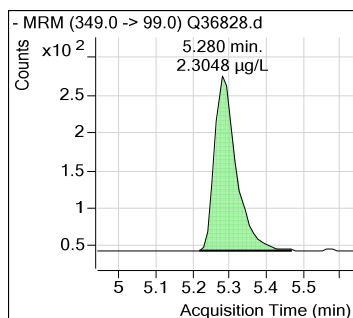


Perfluorinated Compounds by LC/MS/MS.

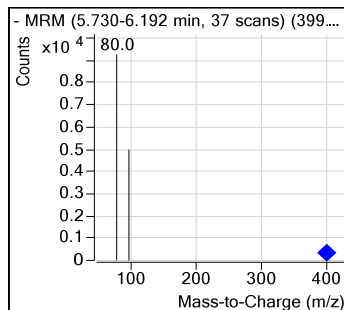
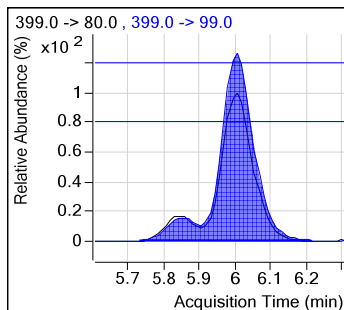
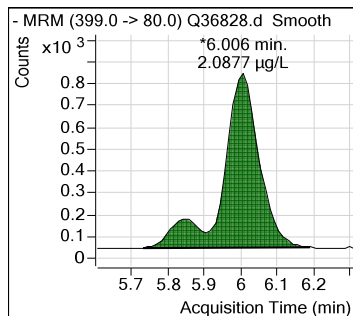
PFHxA



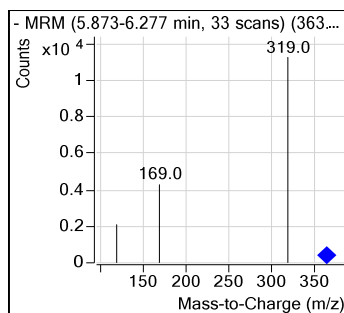
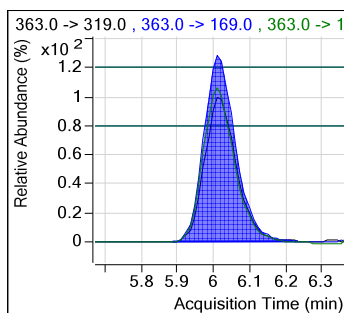
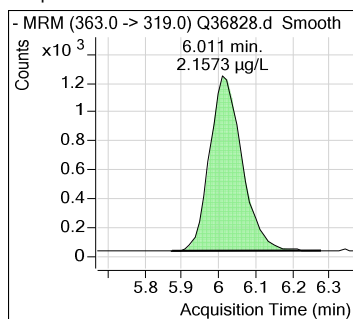
PFPeS



PFHxS

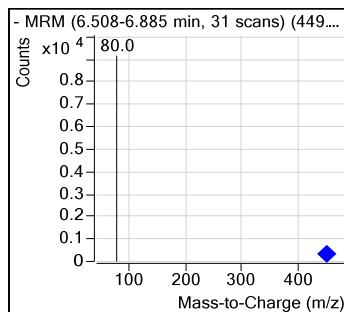
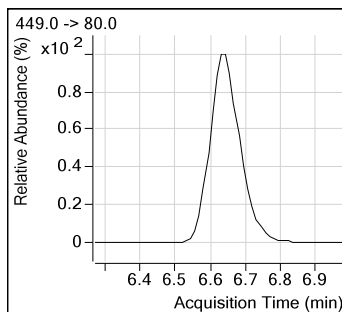
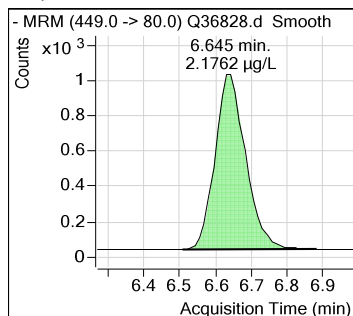


PFHpA

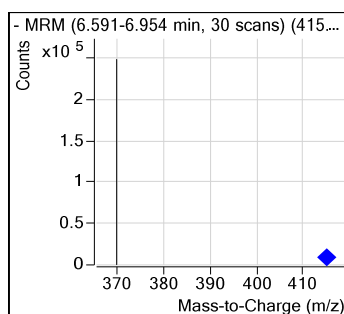
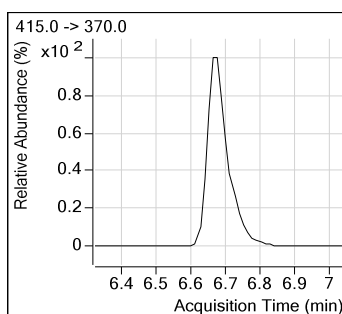
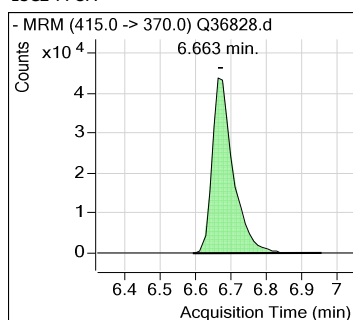


Perfluorinated Compounds by LC/MS/MS.

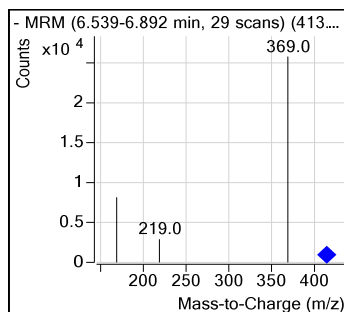
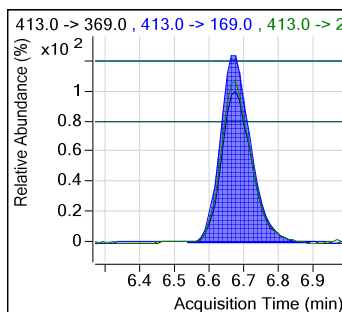
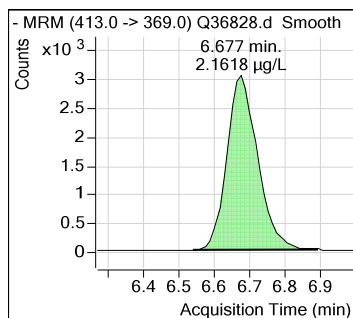
PFHpS



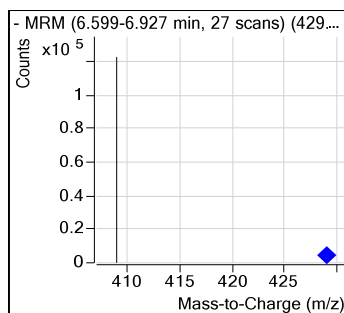
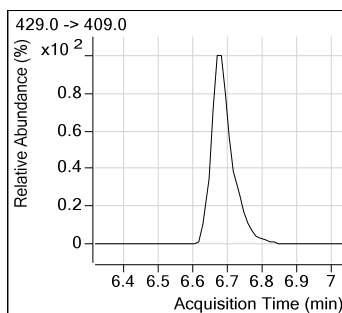
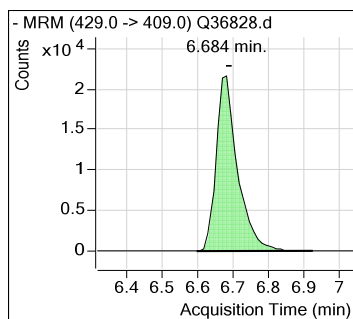
13C2-PFOA



PFOA

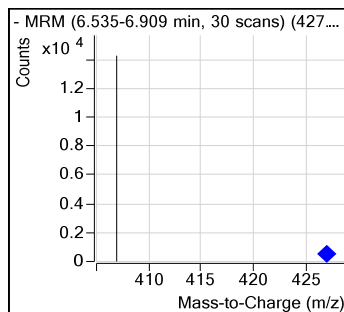
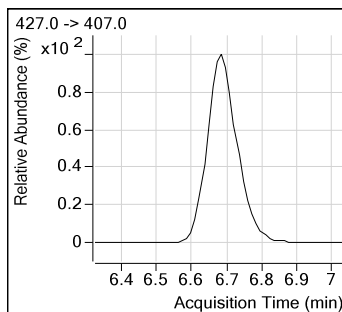
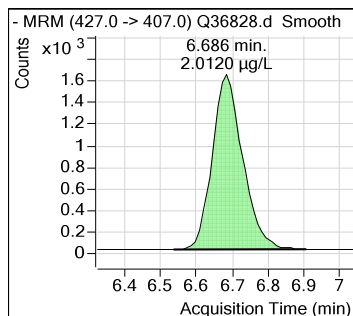


13C2-6:2FTS

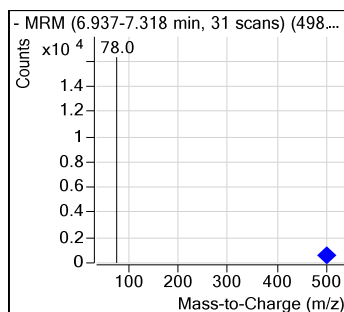
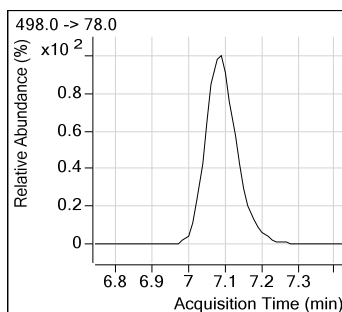
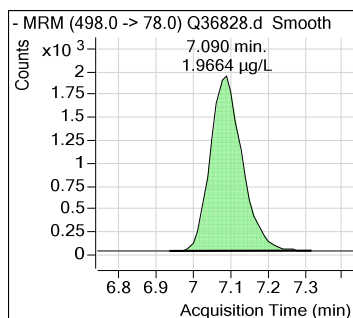


Perfluorinated Compounds by LC/MS/MS.

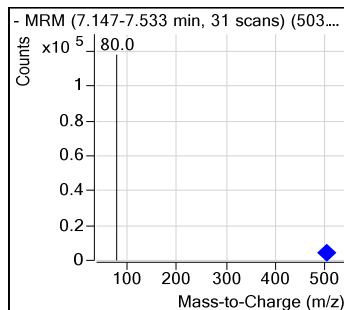
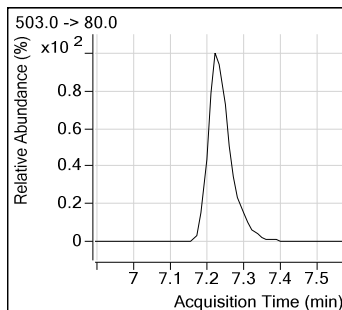
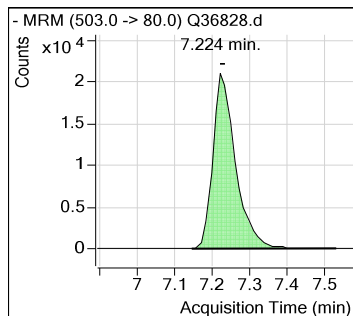
6:2FTS



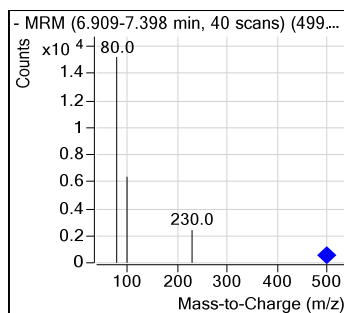
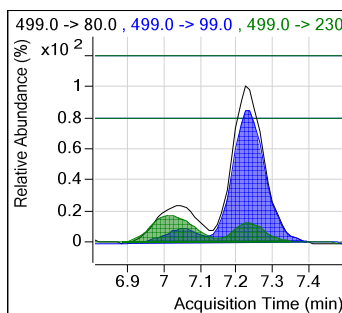
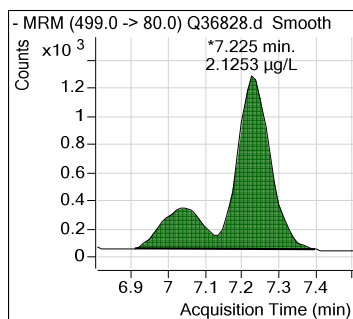
FOSA



13C4-PFOS

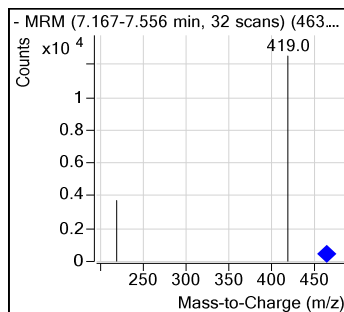
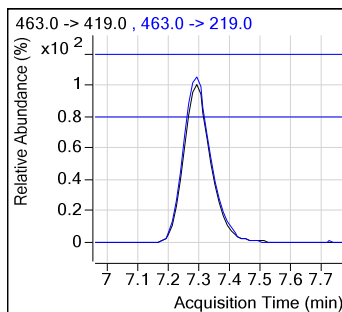
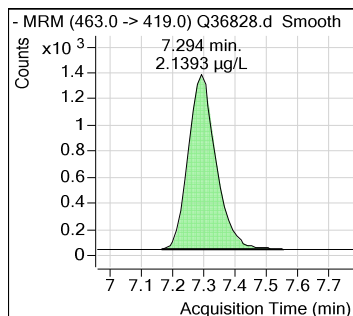


PFOS

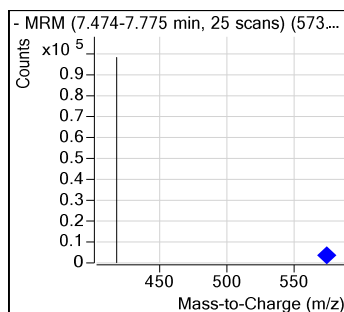
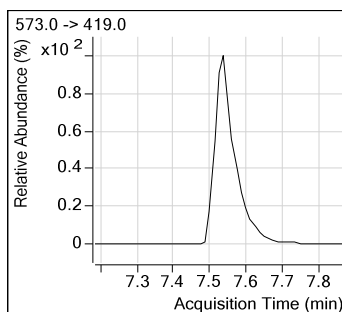
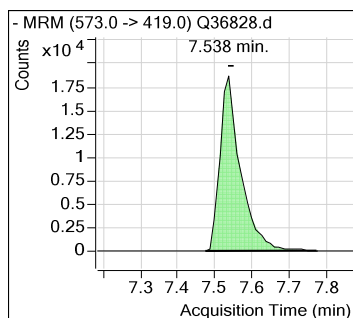


Perfluorinated Compounds by LC/MS/MS.

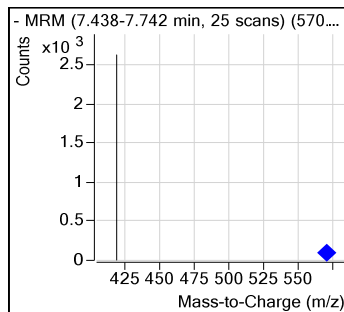
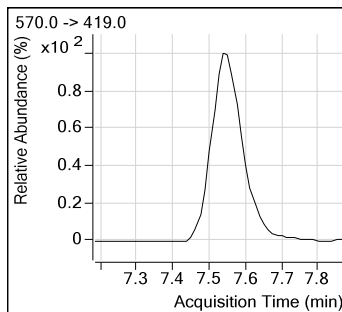
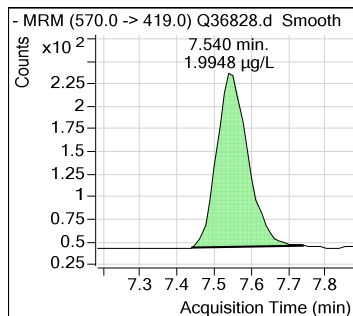
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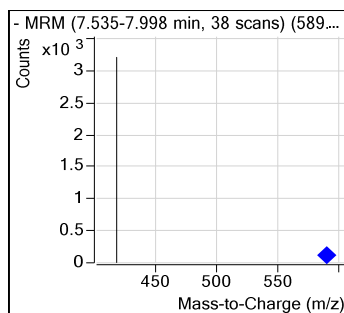
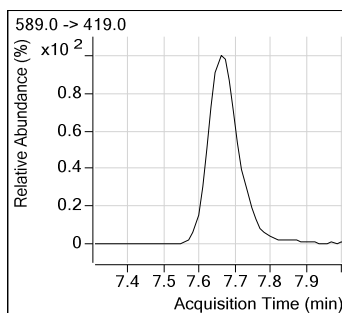
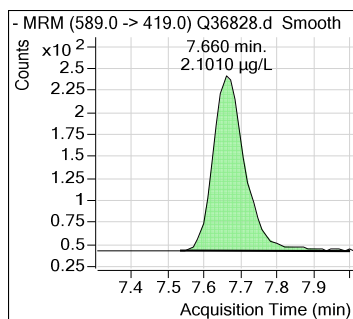
d3-MeFOSAA



MeFOSAA

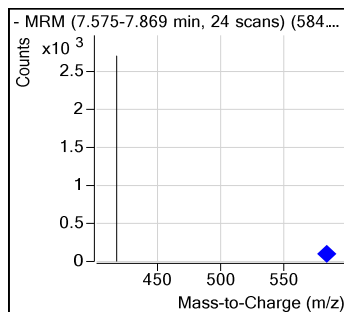
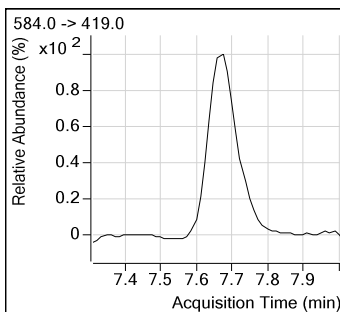
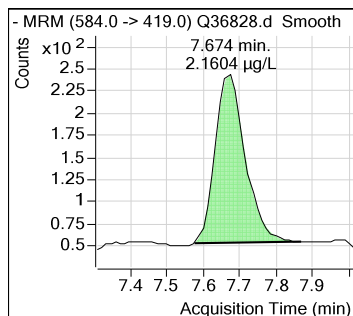


d5-EtFOSAA

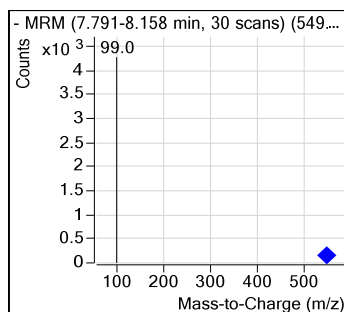
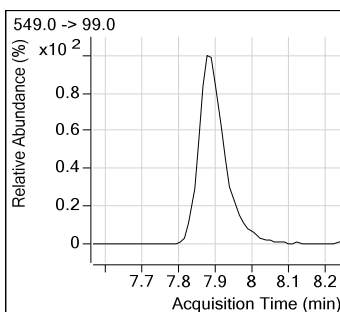
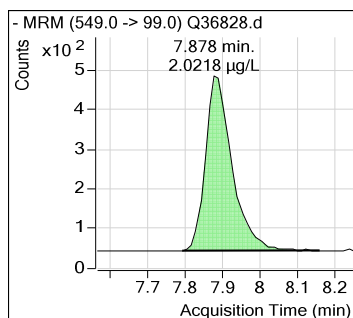


Perfluorinated Compounds by LC/MS/MS.

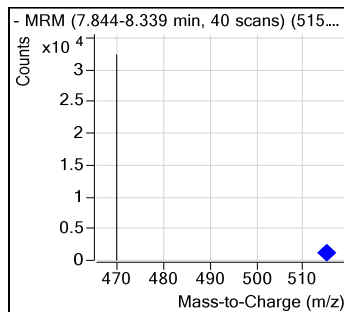
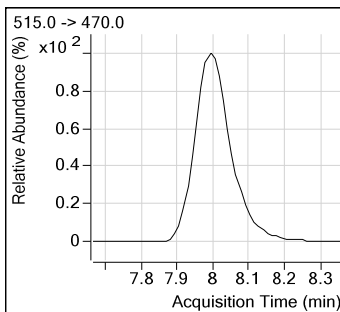
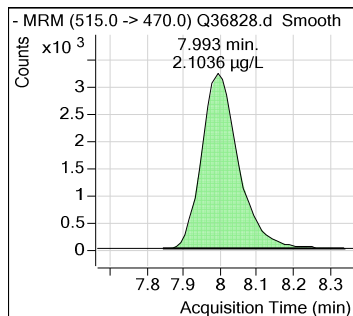
EtFOSAA



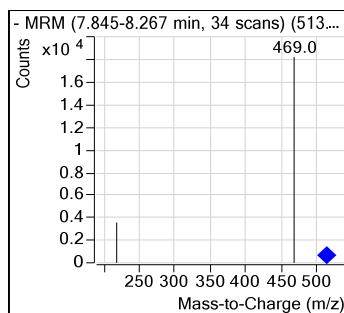
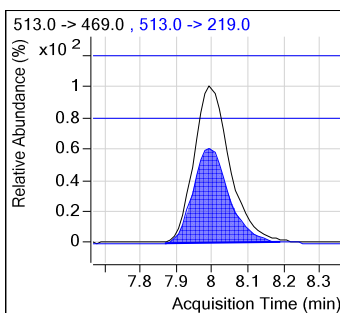
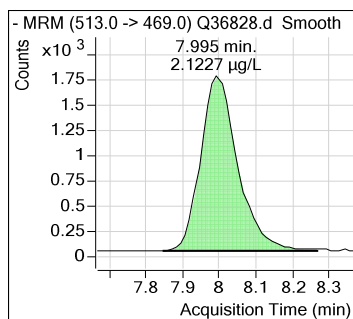
PFNS



13C2-PFDA

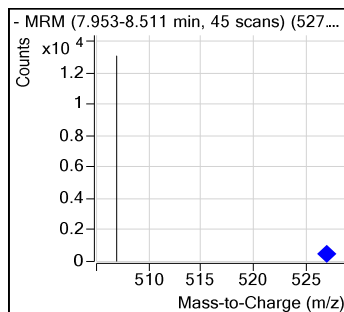
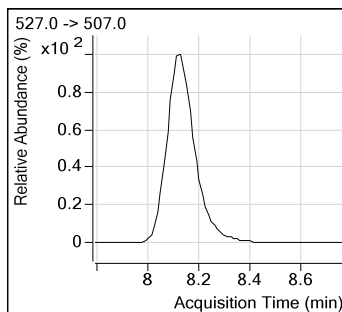
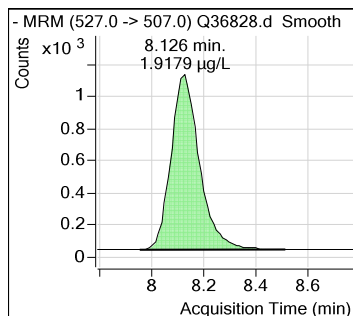


PFDA

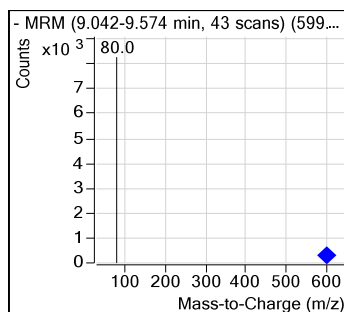
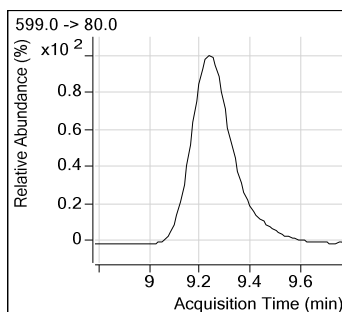
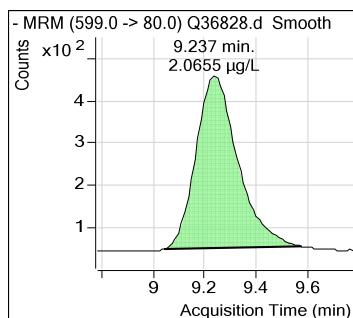


Perfluorinated Compounds by LC/MS/MS.

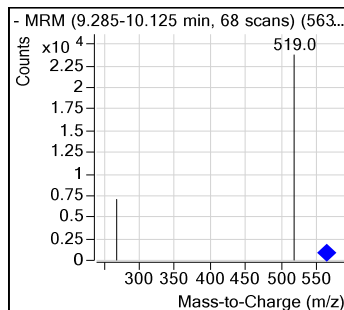
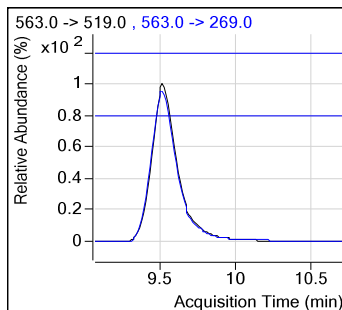
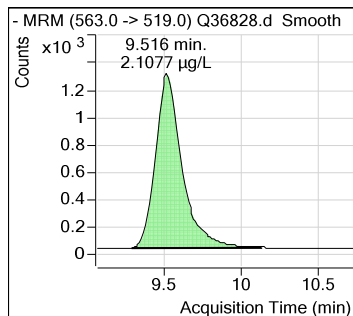
8:2FTS



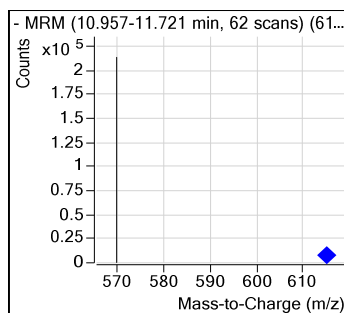
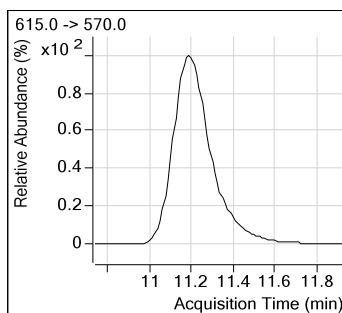
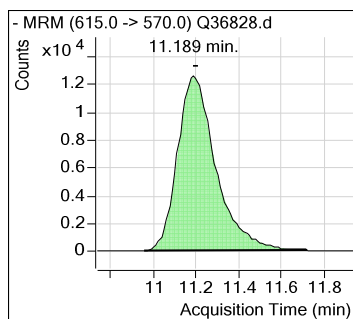
PFDS



PFUnDA

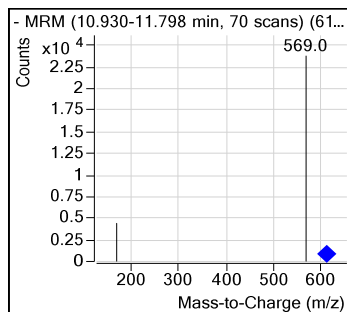
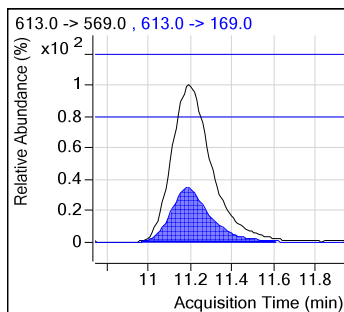
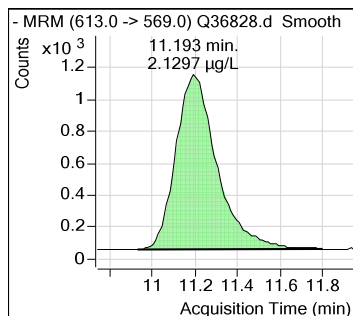


13C2-PFDoDA

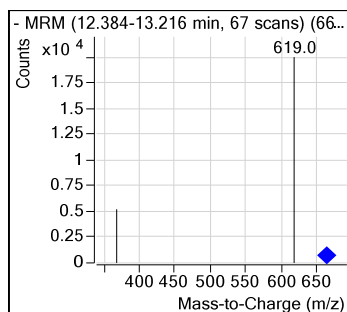
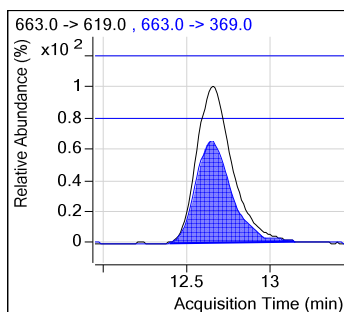
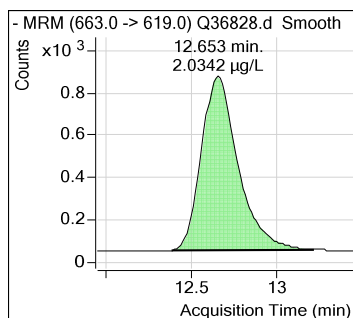


Perfluorinated Compounds by LC/MS/MS.

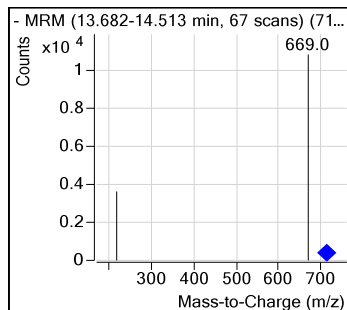
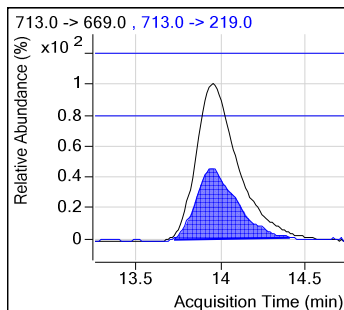
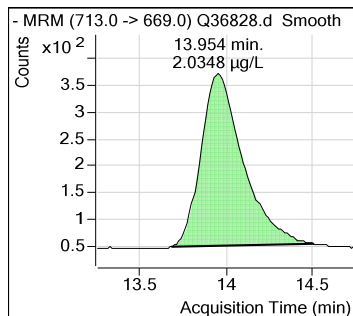
PFDoDA



PFTrDA



PFTeDA



Calibration Curve

Manual Integration Approval Summary

Sample Number: SQ936-IC936

Method: EPA 537 MOD

Lab FileID: Q36828.D

Analyst approved: 07/18/17 14:24 Nancy Saunders

Injection Time: 07/17/17 10:36

Supervisor approved: 07/19/17 14:43 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		6.01	Split peak
Perfluorooctanesulfonic acid	1763-23-1		7.22	Split peak

7.5.2.1
7

Perfluorinated Compounds by LC/MS/MS.

Manual Integrations
APPROVED
(compounds with "m" flag)

Mike Eger
07/19/17 14:43

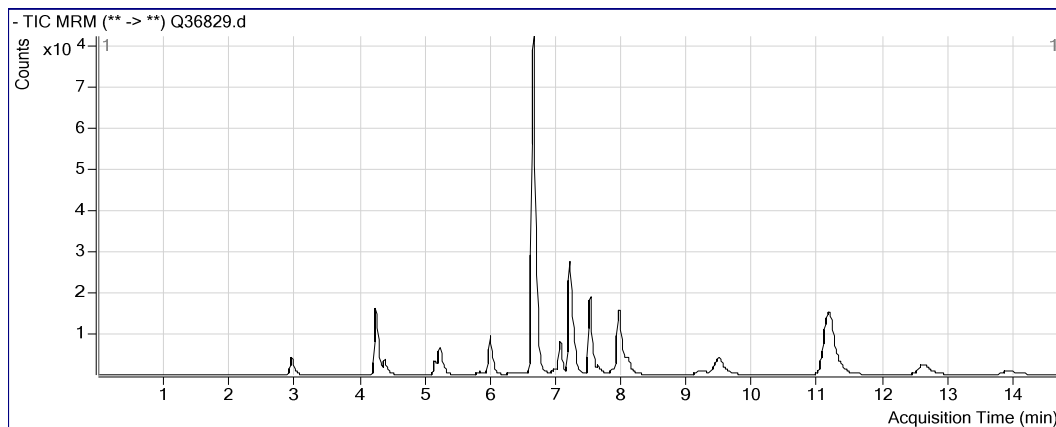
Data File : Q36829.d
Operator : NANCYF
Acq Method Name : 537_LIST.m
Acquisition date : 2017-07-17 10:56
Sample Name : IC936-5
Vial : Vial 4
Sample Info : OP65698,SQ936,5.00,,,5,1,SOIL
Quant Method : PFC_LIST_0717_SQ936.quantmethod.xml
Quant Batch Name : SQ936.batch.bin
Last Calib Update : 2017-07-18 07:16

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
13C3-PFPeA	4.260	266.0 -> 222.0	63348	20.000	µg/L	0.000
13C2-PFOA	6.663	415.0 -> 370.0	178626	20.000	µg/L	-0.013
13C2-6:2FTS	6.671	429.0 -> 409.0	90107	20.000	µg/L	-0.013
13C4-PFOS	7.224	503.0 -> 80.0	85930	20.000	µg/L	0.000
d3-MeFOSAA	7.538	573.0 -> 419.0	71525	20.000	µg/L	0.000
13C2-PFDoDA	11.189	615.0 -> 570.0	150199	20.000	µg/L	0.013
System Monitoring Compounds						
13C2-PFHxA	5.247	315.0 -> 270.0	13064	5.34	µg/L	0.000
Spiked Amount: 20.000	Range: 14 - 26		Recovery = 26.71%			
d5-EtFOSAA	7.660	589.0 -> 419.0	3031	5.34	µg/L	0.000
Spiked Amount: 20.000	Range: 14 - 26		Recovery = 26.71%			
13C2-PFDA	7.993	515.0 -> 470.0	51552	4.99	µg/L	0.000
Spiked Amount: 20.000	Range: 14 - 26		Recovery = 24.95%			
Target Compounds						Qvalue
PFBA	2.977	213.0 -> 169.0	20422	5.065	µg/L	100
PFPeA	4.263	263.0 -> 219.0	7112	5.119	µg/L	100
PFBS	4.403	299.0 -> 80.0	9764	4.999	µg/L	95
4:2FTS	5.170	327.0 -> 307.0	13794	4.886	µg/L	100
PFHxA	5.250	313.0 -> 269.0	12144	5.253	µg/L #	97
PFPeS	5.280	349.0 -> 99.0	2297	5.729	µg/L	100
PFHxS	6.006	399.0 -> 80.0	13340	5.081	µg/L # m	86
PFHpA	6.011	363.0 -> 319.0	16160	4.949	µg/L #	87
PFHpS	6.632	449.0 -> 80.0	13618	5.154	µg/L	100
PFOA	6.677	413.0 -> 369.0	43160	5.320	µg/L #	92
6:2FTS	6.686	427.0 -> 407.0	23344	4.957	µg/L	100
FOSA	7.090	498.0 -> 78.0	27075	4.833	µg/L	100
PFOS	7.225	499.0 -> 80.0	23358	5.209	µg/L # m	78
PFNA	7.294	463.0 -> 419.0	19340	5.200	µg/L	96
MeFOSAA	7.540	570.0 -> 419.0	3038	5.456	µg/L	100
EtFOSAA	7.674	584.0 -> 419.0	2708	5.466	µg/L	100
PFNS	7.878	549.0 -> 99.0	4988	4.764	µg/L	100
PFDA	7.995	513.0 -> 469.0	27792	5.039	µg/L #	81
8:2FTS	8.113	527.0 -> 507.0	19975	4.746	µg/L	100
PFDS	9.237	599.0 -> 80.0	11748	5.448	µg/L	100
PFUnDA	9.516	563.0 -> 519.0	36504	5.223	µg/L	97
PFDoDA	11.193	613.0 -> 569.0	34143	5.123	µg/L #	71
PFTrDA	12.640	663.0 -> 619.0	29694	5.158	µg/L #	84
PFTeDA	13.942	713.0 -> 669.0	14002	5.354	µg/L #	75

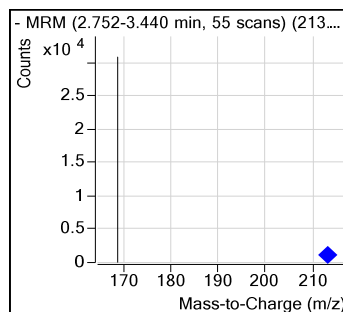
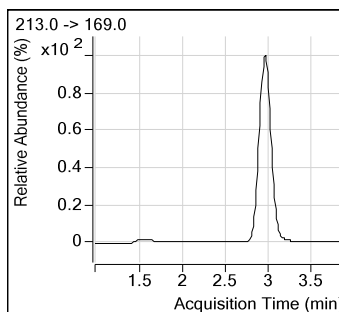
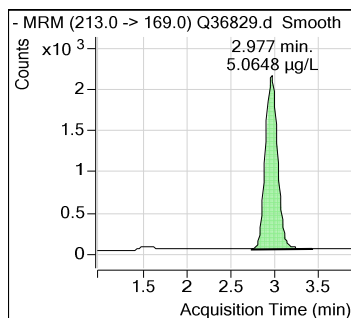
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

Perfluorinated Compounds by LC/MS/MS.

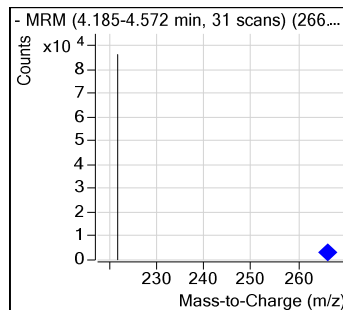
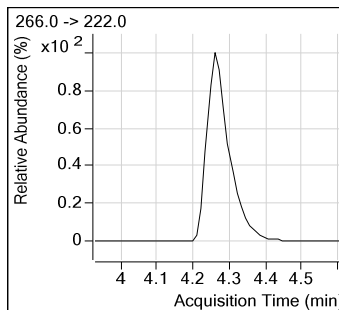
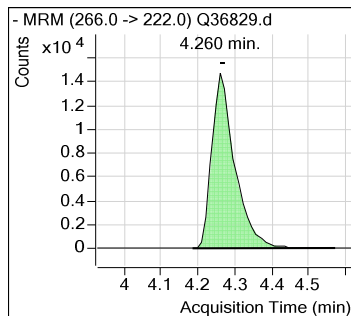
Data File : Q36829.d
Operator : NANCYF
Acq Method Name : 537_LIST.m
Acquisition date : 2017-07-17 10:56
Sample Name : IC936-5
Vial : Vial 4
Sample Info : OP65698,SQ936,5.00,,,5,1,SOIL
Quant Method : PFC_LIST_0717_SQ936.quantmethod.xml
Quant Batch Name : SQ936.batch.bin
Last Calib Update : 2017-07-18 07:16



PFBA

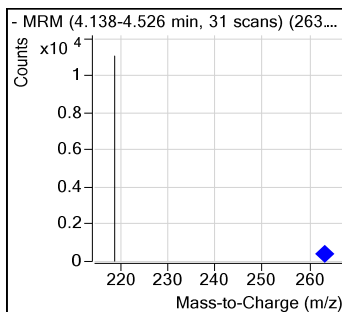
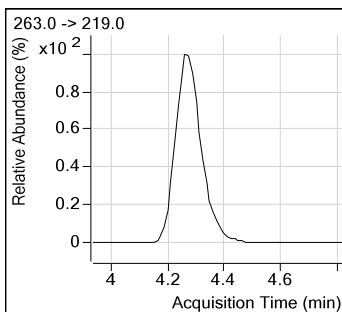
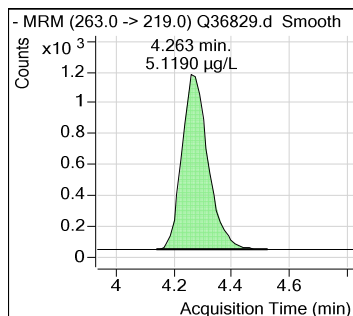


13C3-PFPeA

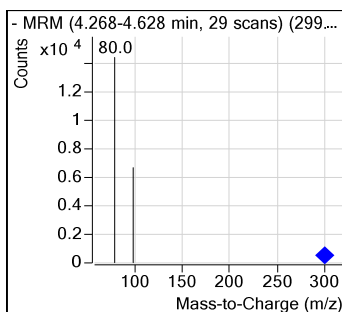
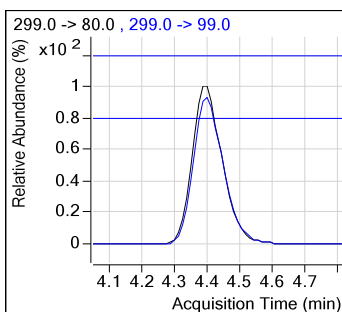
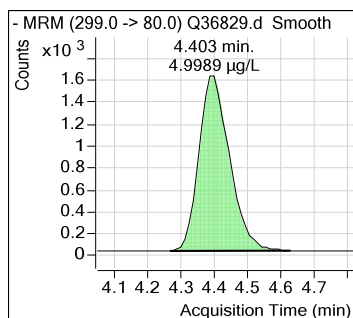


Perfluorinated Compounds by LC/MS/MS.

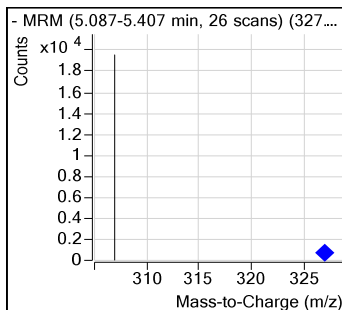
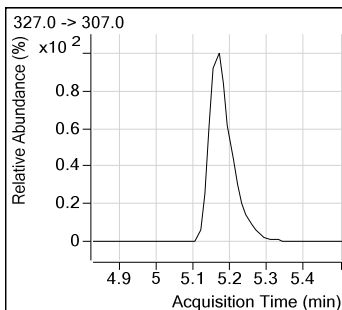
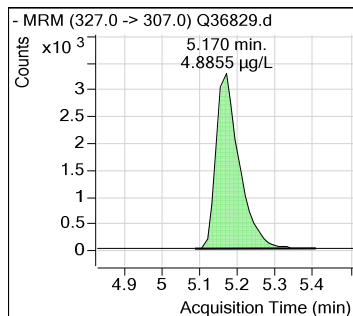
PFPeA



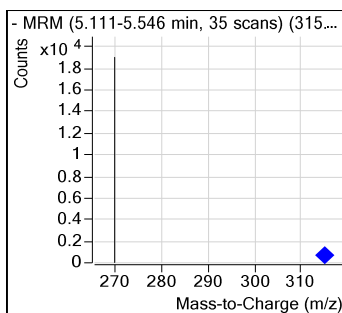
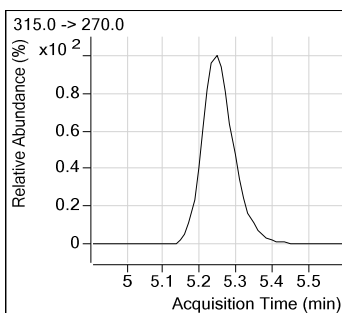
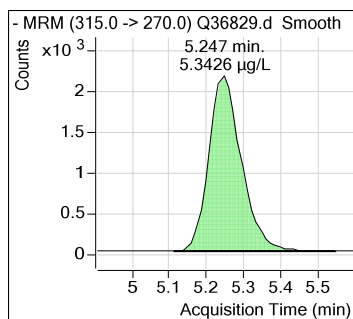
PFBS



4:2FTS

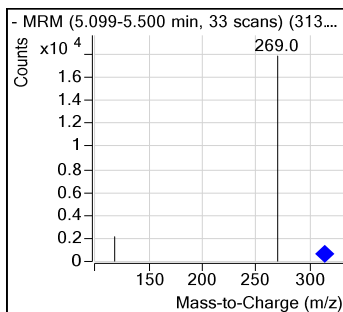
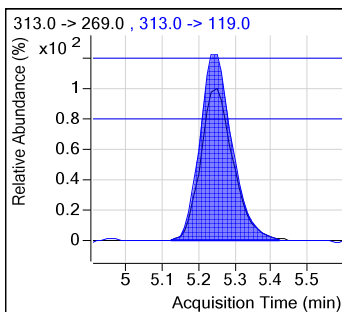
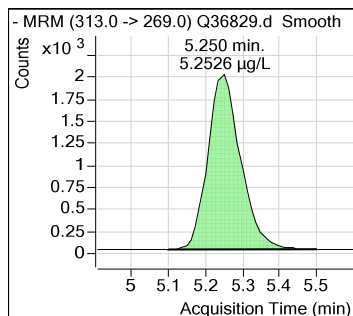


13C2-PFHxA

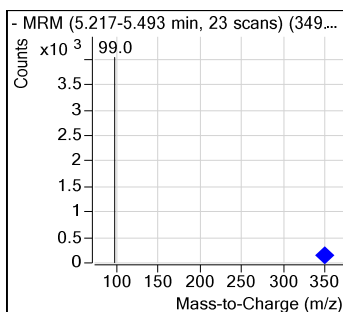
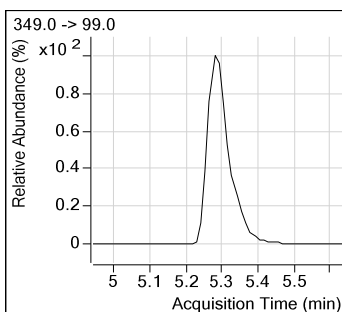
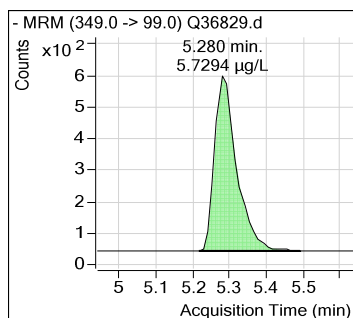


Perfluorinated Compounds by LC/MS/MS.

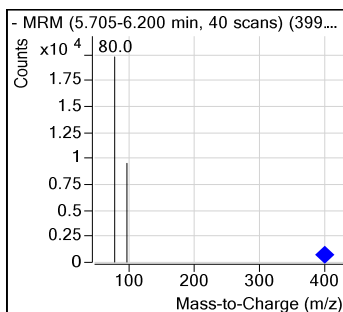
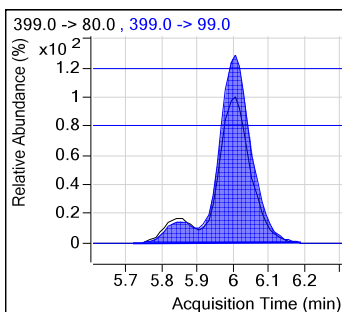
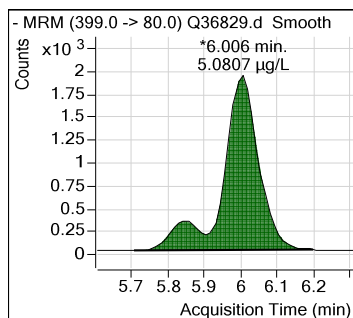
PFHxA



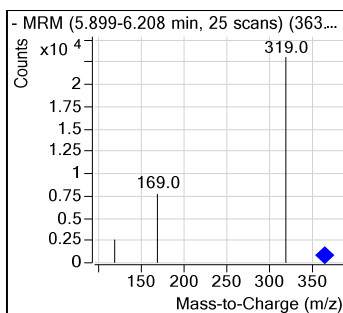
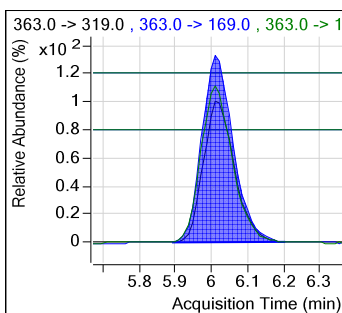
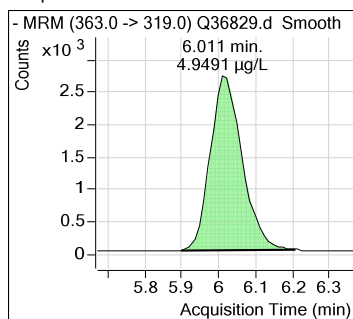
PFPeS



PFHxS

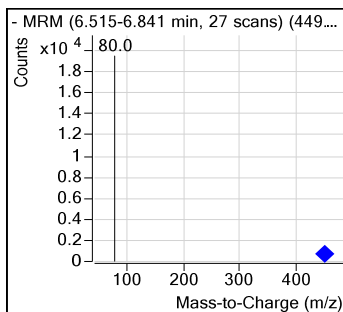
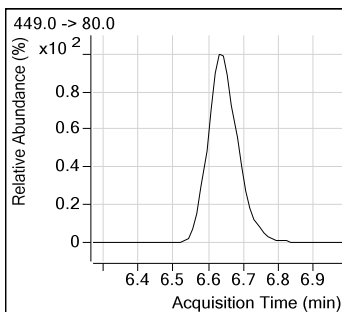
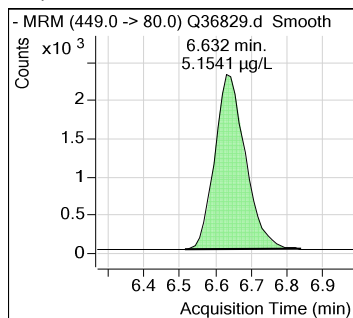


PFHpA

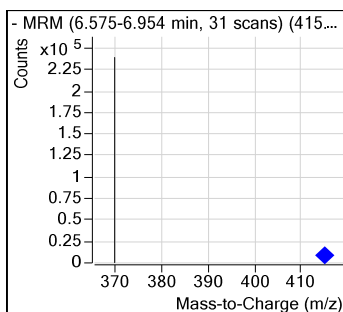
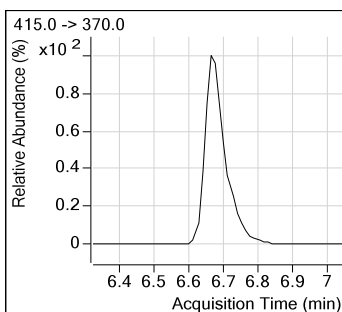
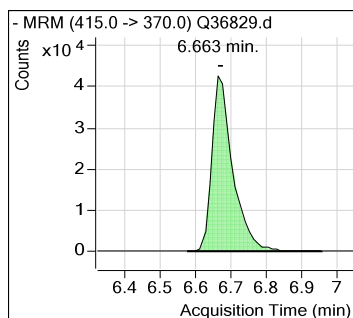


Perfluorinated Compounds by LC/MS/MS.

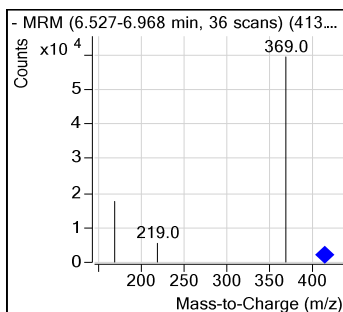
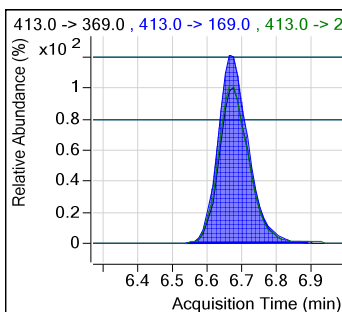
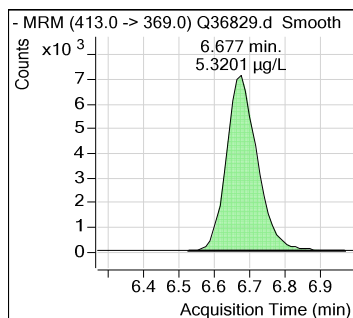
PFHpS



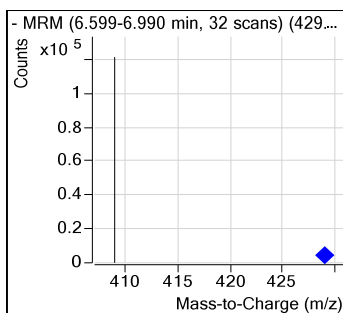
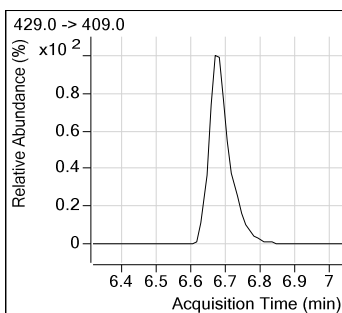
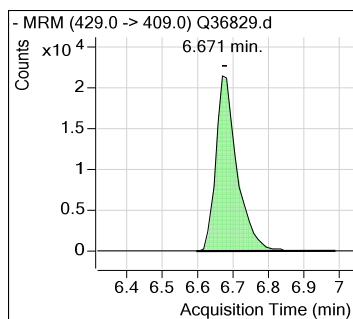
13C2-PFOA



PFOA

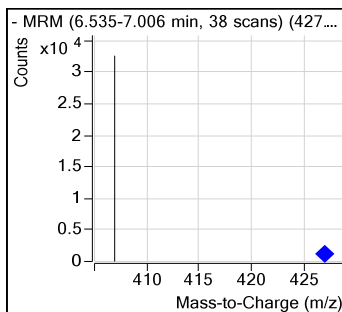
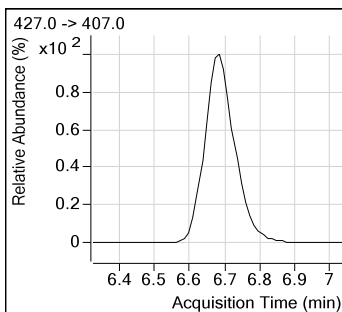
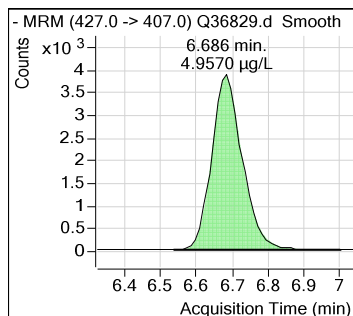


13C2-6:2FTS

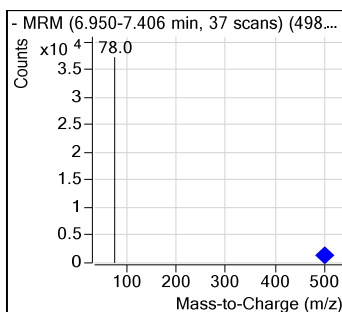
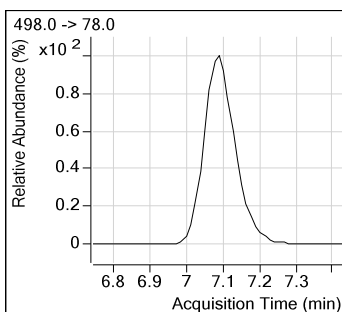
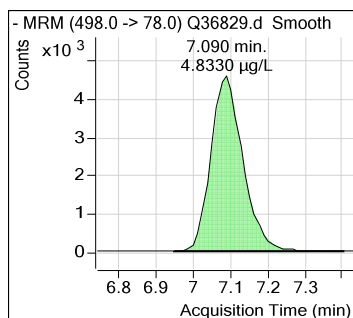


Perfluorinated Compounds by LC/MS/MS.

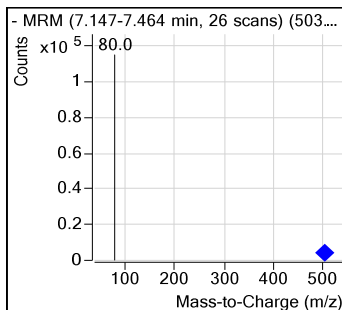
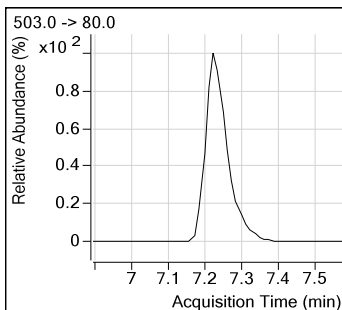
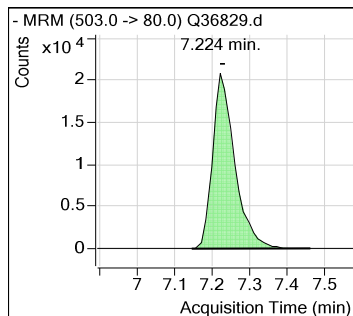
6:2FTS



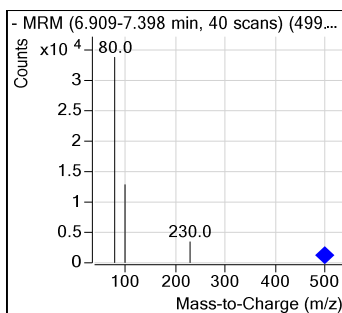
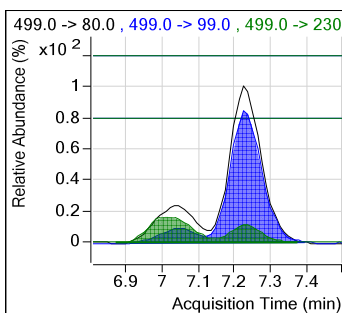
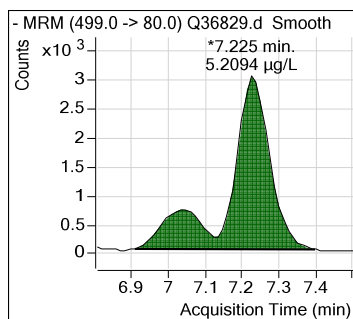
FOSA



13C4-PFOS

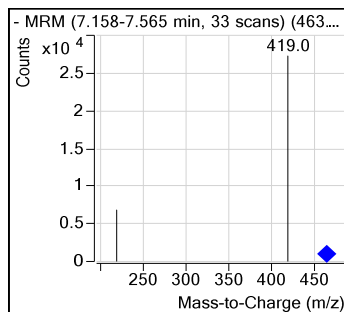
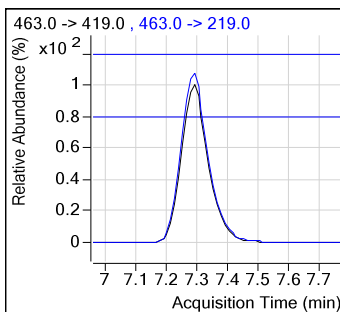
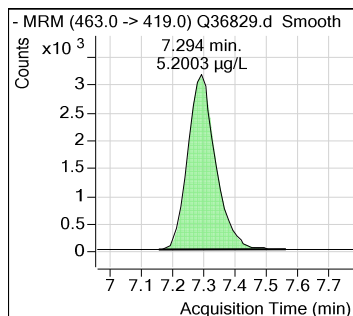


PFOS

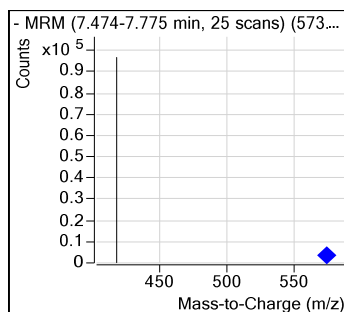
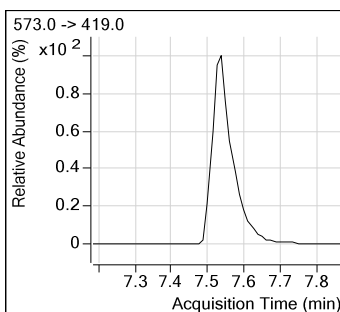
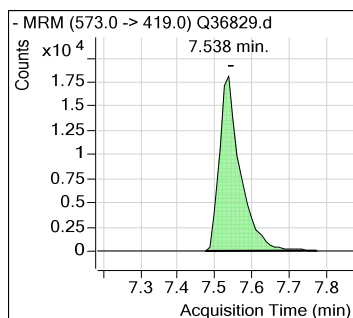


Perfluorinated Compounds by LC/MS/MS.

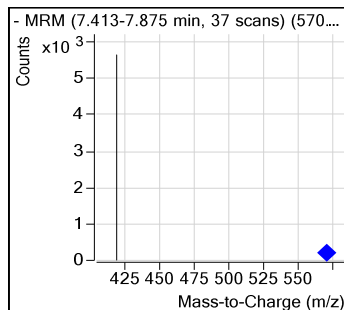
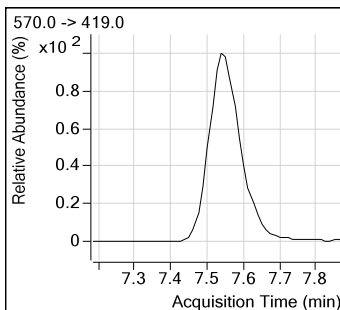
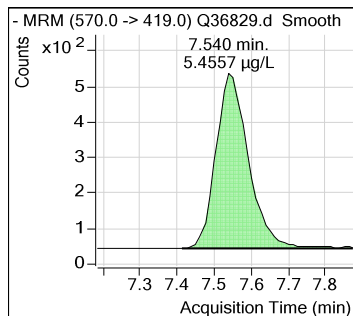
PFNA



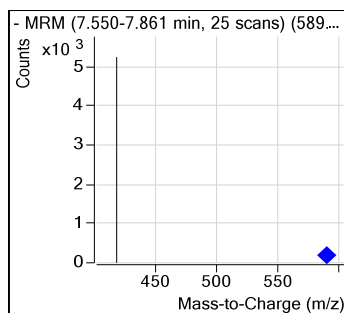
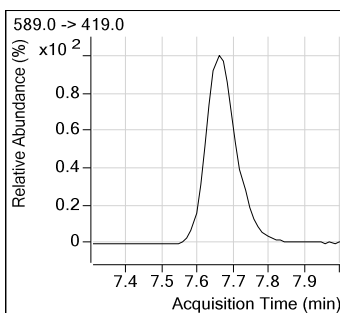
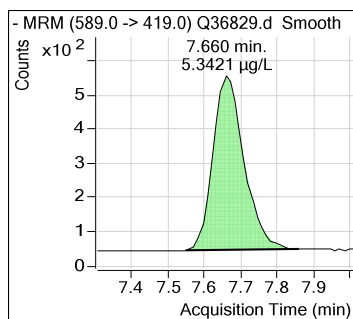
d3-MeFOSAA



MeFOSAA

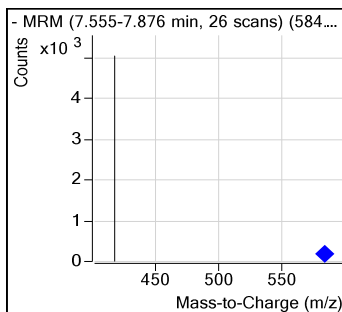
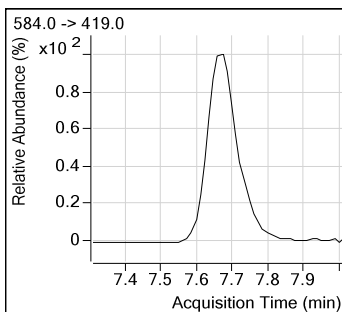
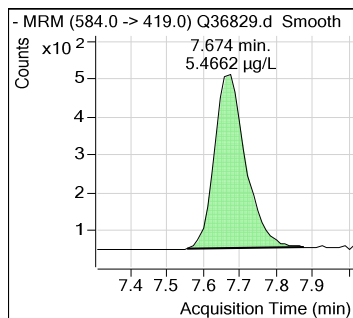


d5-EtFOSAA

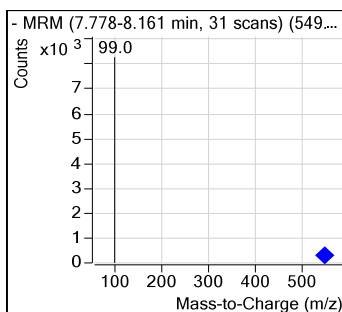
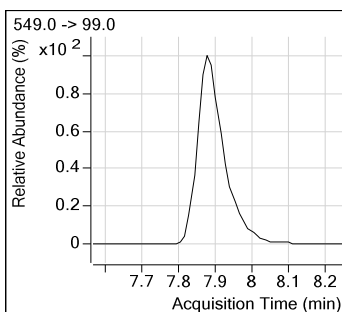
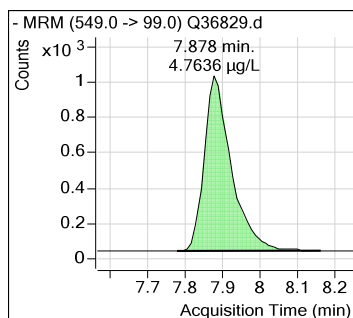


Perfluorinated Compounds by LC/MS/MS.

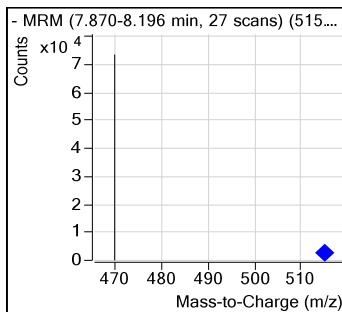
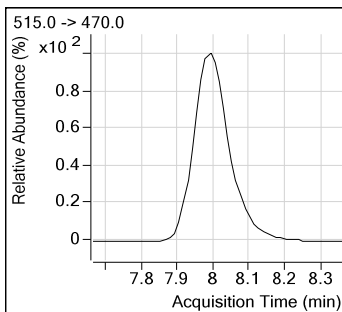
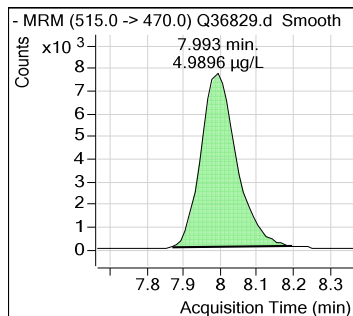
EtFOSAA



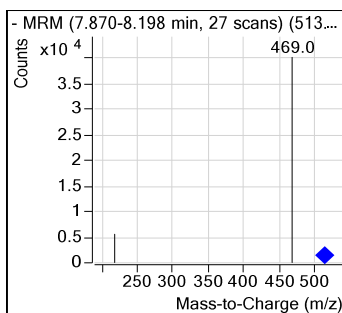
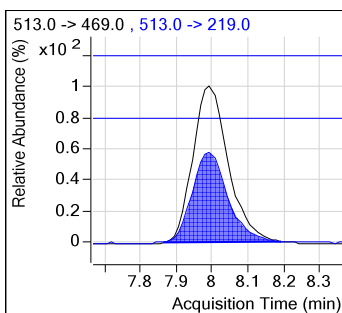
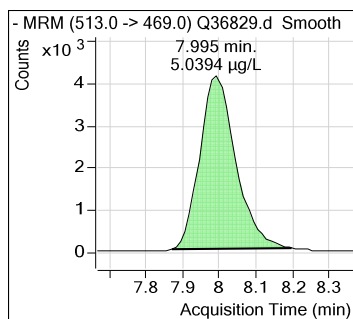
PFNS



13C2-PFDA

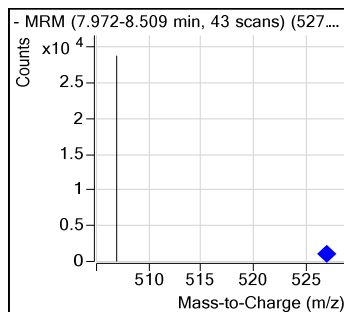
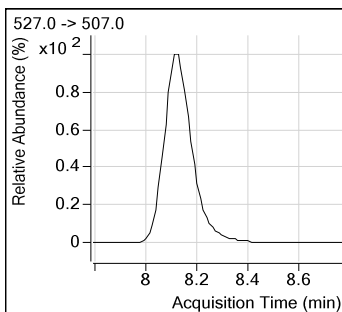
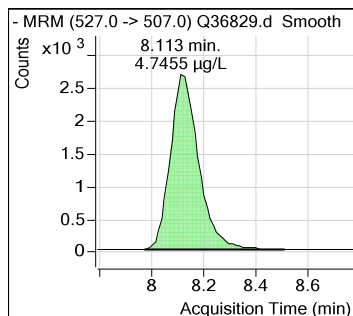


PFDA

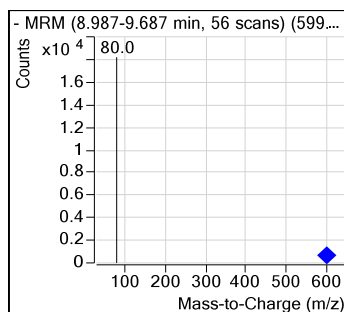
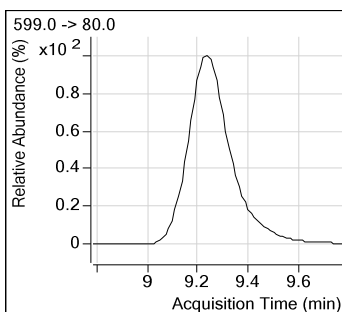
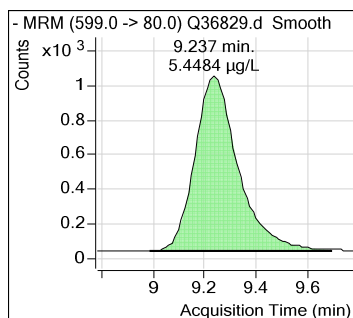


Perfluorinated Compounds by LC/MS/MS.

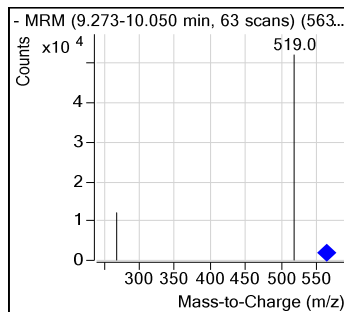
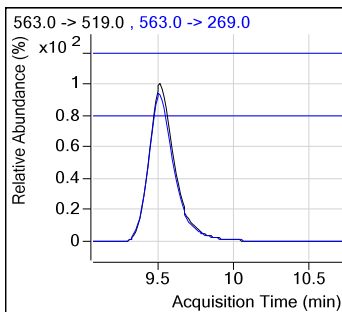
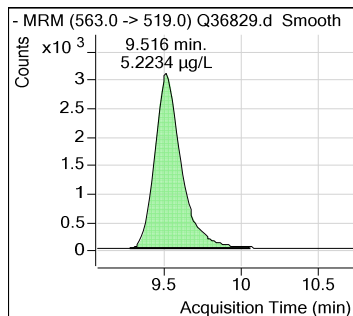
8:2FTS



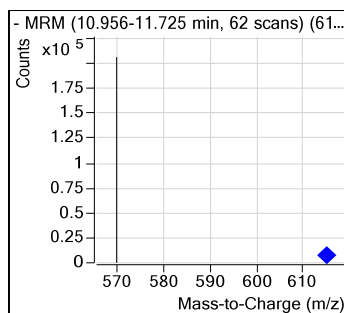
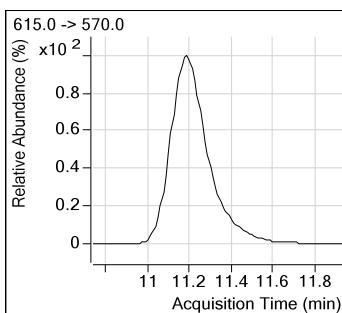
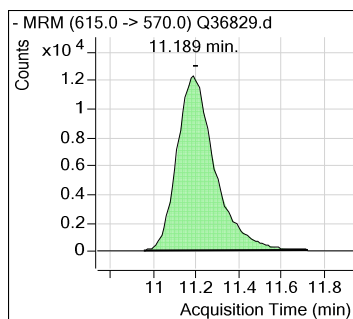
PFDS



PFUnDA

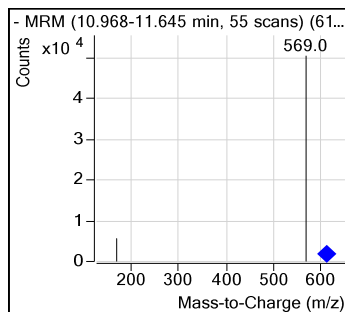
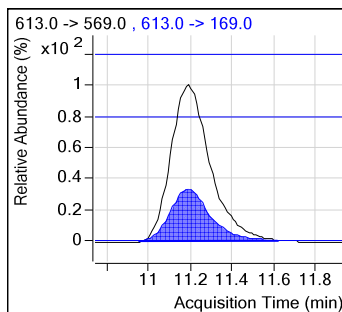
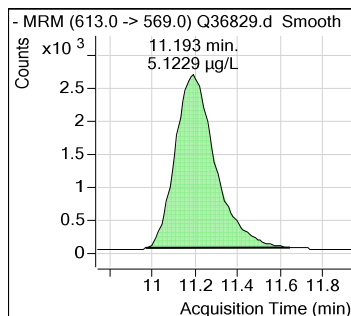


13C2-PFDoDA

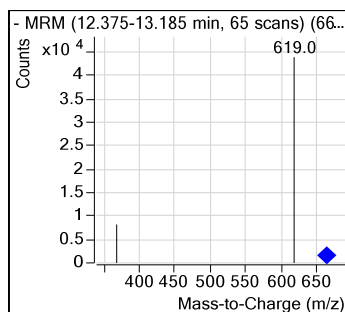
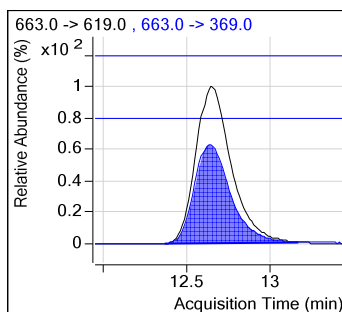
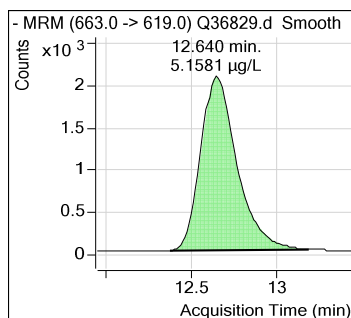


Perfluorinated Compounds by LC/MS/MS.

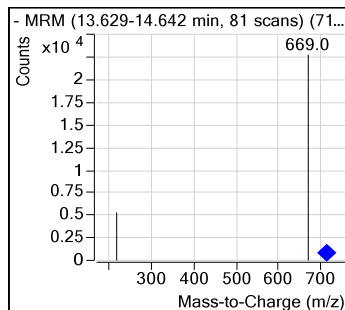
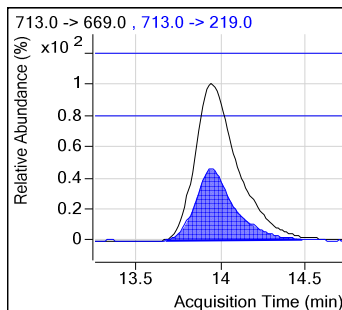
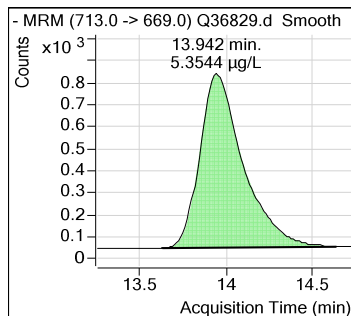
PFDoDA



PFTrDA



PFTeDA



Calibration Curve

Manual Integration Approval Summary

Sample Number: SQ936-IC936

Method: EPA 537 MOD

Lab FileID: Q36829.D

Analyst approved: 07/18/17 14:24 Nancy Saunders

Injection Time: 07/17/17 10:56

Supervisor approved: 07/19/17 14:43 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		6.01	Split peak
Perfluorooctanesulfonic acid	1763-23-1		7.22	Split peak

7.5.3.1
7

Perfluorinated Compounds by LC/MS/MS.

Manual Integrations
APPROVED
(compounds with "m" flag)

Mike Eger
07/19/17 14:43

Data File : Q36830.d
Operator : NANCYF
Acq Method Name : 537_LIST.m
Acquisition date : 2017-07-17 11:15
Sample Name : IC936-10
Vial : Vial 5
Sample Info : OP65698,SQ936,5.00,,,5,1,SOIL
Quant Method : PFC_LIST_0717_SQ936.quantmethod.xml
Quant Batch Name : SQ936.batch.bin
Last Calib Update : 2017-07-18 07:16

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
13C3-PFPeA	4.260	266.0 -> 222.0	62061	20.000	µg/L	0.000
13C2-PFOA	6.663	415.0 -> 370.0	171727	20.000	µg/L	-0.013
13C2-6:2FTS	6.671	429.0 -> 409.0	88831	20.000	µg/L	-0.013
13C4-PFOS	7.224	503.0 -> 80.0	84255	20.000	µg/L	0.000
d3-MeFOSAA	7.538	573.0 -> 419.0	71006	20.000	µg/L	0.000
13C2-PFDoDA	11.176	615.0 -> 570.0	145481	20.000	µg/L	0.000
System Monitoring Compounds						
13C2-PFHxA	5.247	315.0 -> 270.0	25436	10.82	µg/L	0.000
Spiked Amount: 20.000	Range: 14 - 26		Recovery = 54.10%			
d5-EtFOSAA	7.660	589.0 -> 419.0	6090	10.81	µg/L	0.000
Spiked Amount: 20.000	Range: 14 - 26		Recovery = 54.07%			
13C2-PFDA	7.993	515.0 -> 470.0	107887	10.86	µg/L	0.000
Spiked Amount: 20.000	Range: 14 - 26		Recovery = 54.31%			
Target Compounds						Qvalue
PFBA	2.977	213.0 -> 169.0	40330	10.210	µg/L	100
PFPeA	4.263	263.0 -> 219.0	14117	10.371	µg/L	100
PFBS	4.403	299.0 -> 80.0	19735	10.305	µg/L	94
4:2FTS	5.170	327.0 -> 307.0	27456	9.979	µg/L	100
PFHxA	5.250	313.0 -> 269.0	23998	10.797	µg/L #	98
PFPeS	5.280	349.0 -> 99.0	4300	10.939	µg/L	100
PFHxS	6.006	399.0 -> 80.0	26979	10.479	µg/L # m	86
PFHpA	6.011	363.0 -> 319.0	33468	10.662	µg/L #	89
PFHpS	6.632	449.0 -> 80.0	27377	10.568	µg/L	100
PFOA	6.677	413.0 -> 369.0	83290	10.679	µg/L #	91
6:2FTS	6.686	427.0 -> 407.0	46432	10.140	µg/L	100
FOSA	7.090	498.0 -> 78.0	54311	9.904	µg/L	100
PFOS	7.225	499.0 -> 80.0	46687	10.619	µg/L # m	78
PFNA	7.294	463.0 -> 419.0	38067	10.647	µg/L	98
MeFOSAA	7.540	570.0 -> 419.0	5852	10.585	µg/L	100
EtFOSAA	7.674	584.0 -> 419.0	5408	10.995	µg/L	100
PFNS	7.878	549.0 -> 99.0	10157	9.978	µg/L	100
PFDA	7.995	513.0 -> 469.0	57597	10.864	µg/L #	81
8:2FTS	8.113	527.0 -> 507.0	40492	9.864	µg/L	100
PFDS	9.237	599.0 -> 80.0	23369	11.053	µg/L	100
PFUnDA	9.504	563.0 -> 519.0	72495	10.710	µg/L	98
PFDoDA	11.181	613.0 -> 569.0	67244	10.417	µg/L #	71
PFTTrDA	12.640	663.0 -> 619.0	59116	10.602	µg/L #	85
PFTeDA	13.942	713.0 -> 669.0	27169	10.726	µg/L #	75

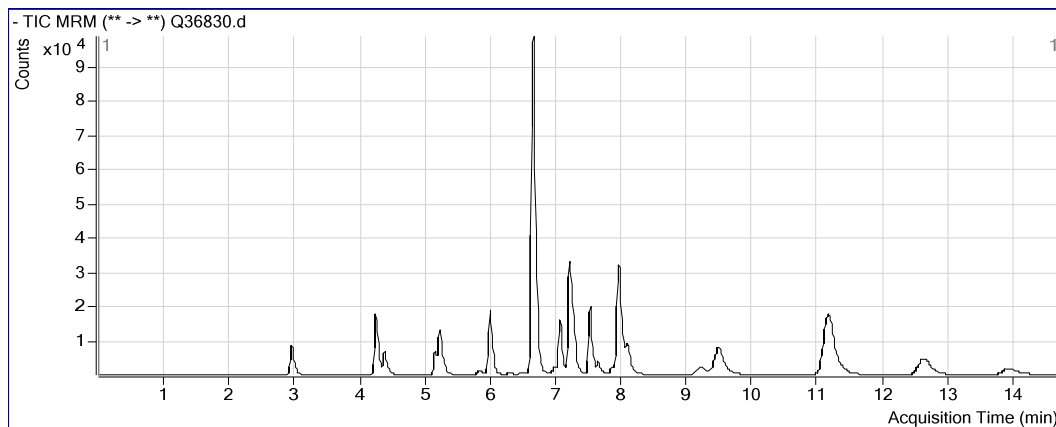
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

7.5.4

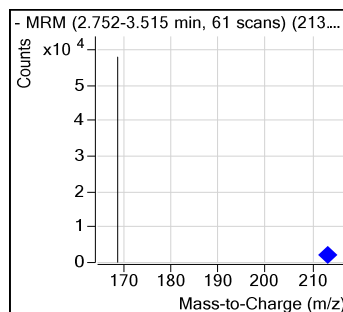
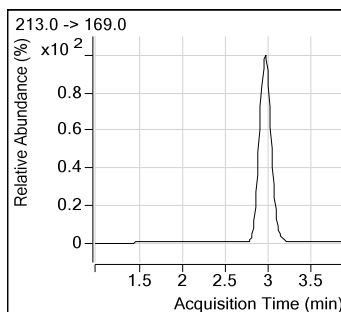
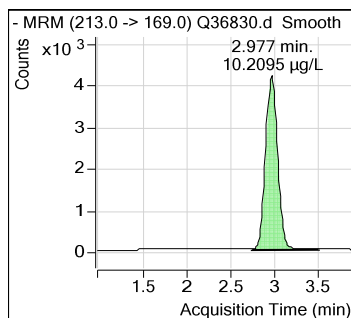
7

Perfluorinated Compounds by LC/MS/MS.

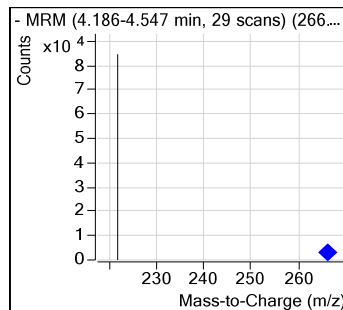
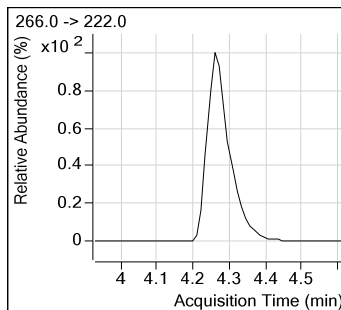
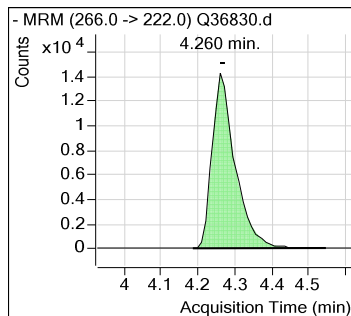
Data File : Q36830.d
Operator : NANCYF
Acq Method Name : 537_LIST.m
Acquisition date : 2017-07-17 11:15
Sample Name : IC936-10
Vial : Vial 5
Sample Info : OP65698,SQ936,5.00,,,5,1,SOIL
Quant Method : PFC_LIST_0717_SQ936.quantmethod.xml
Quant Batch Name : SQ936.batch.bin
Last Calib Update : 2017-07-18 07:16



PFBA

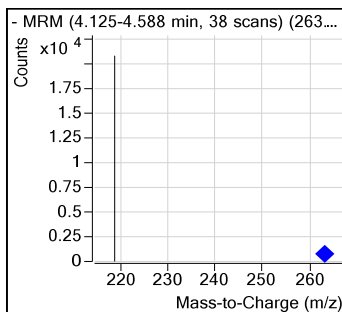
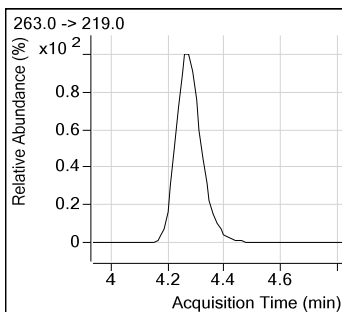
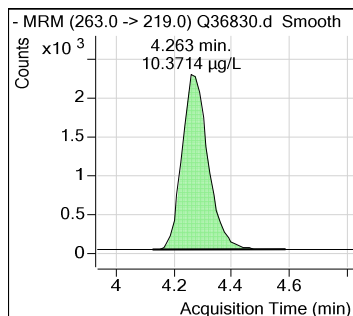


13C3-PFPeA

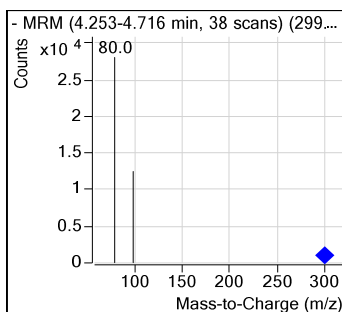
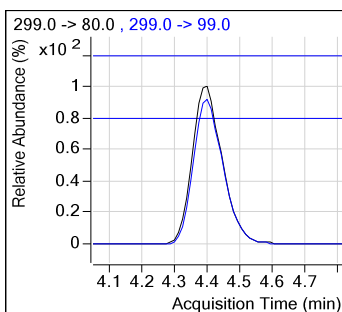
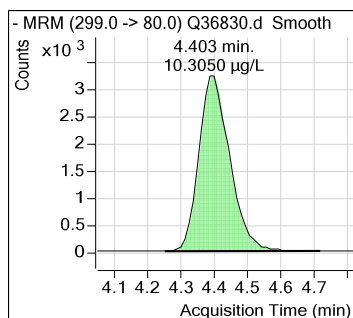


Perfluorinated Compounds by LC/MS/MS.

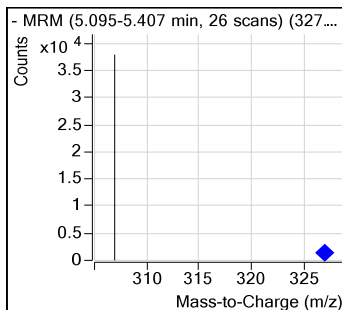
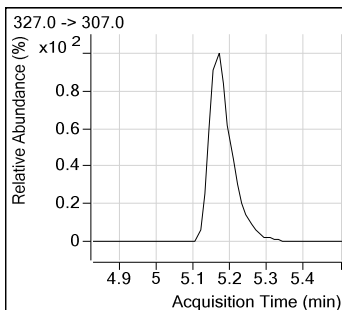
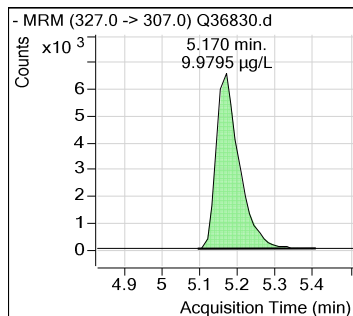
PFPeA



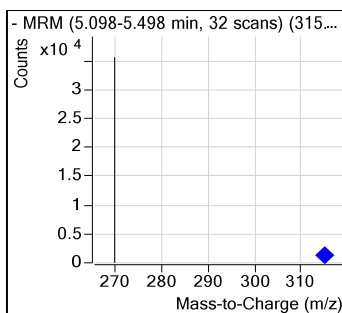
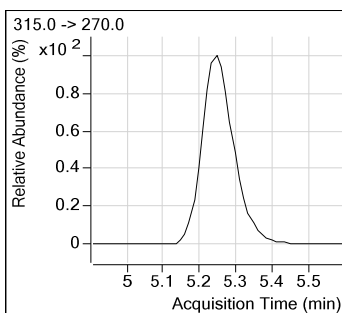
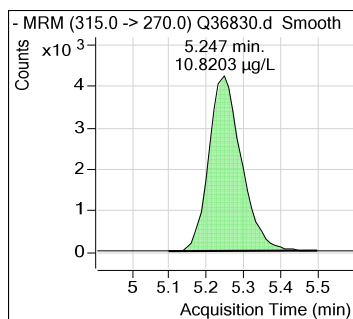
PFBS



4:2FTS

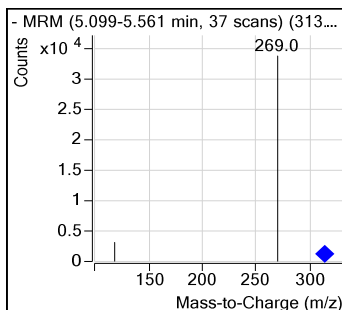
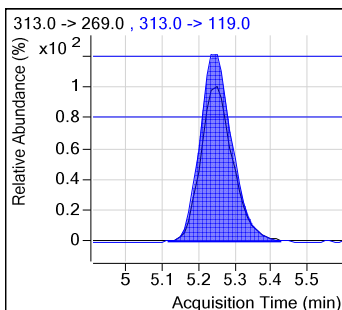
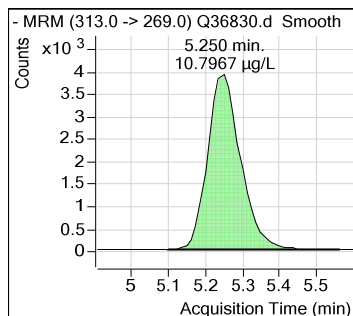


13C2-PFHxA

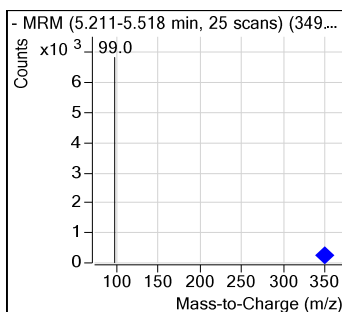
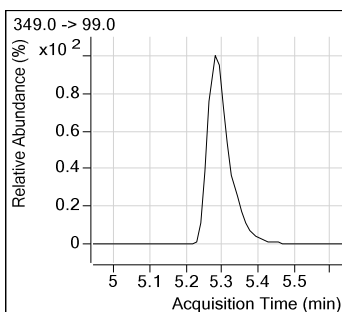
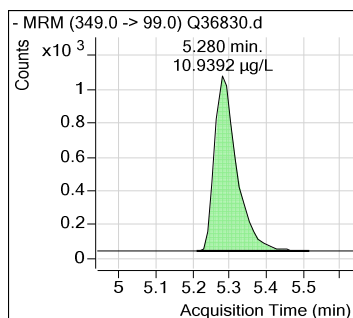


Perfluorinated Compounds by LC/MS/MS.

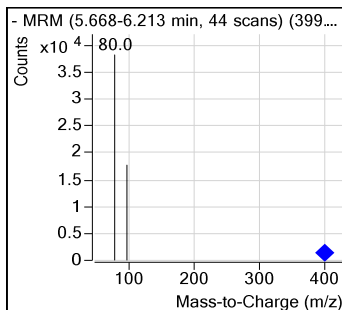
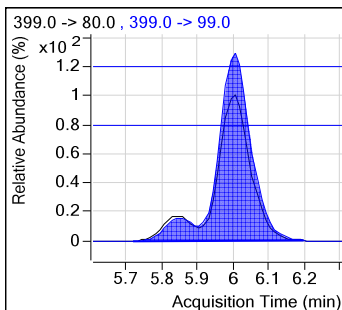
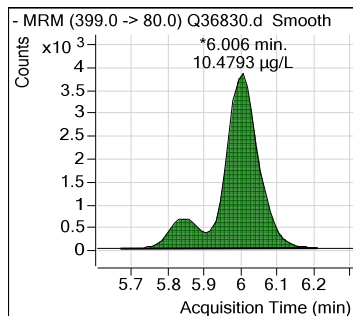
PFHxA



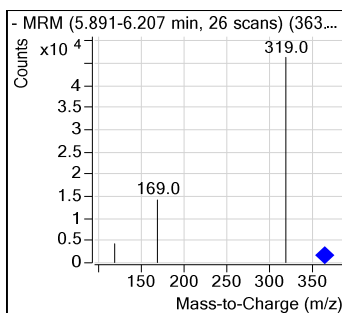
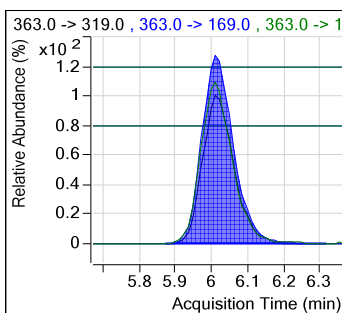
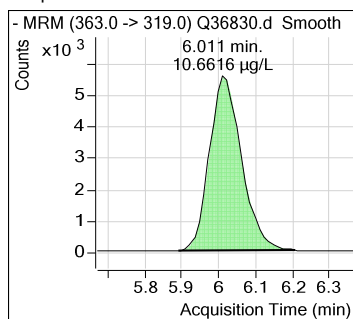
PFPeS



PFHxS

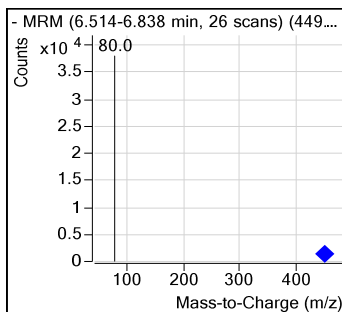
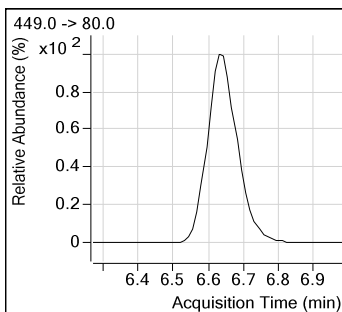
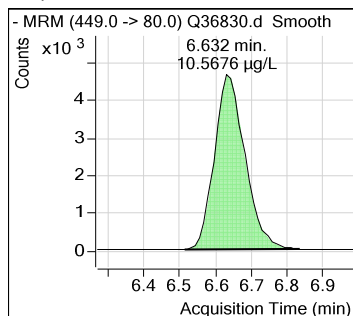


PFHpA

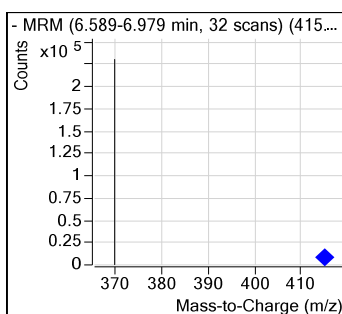
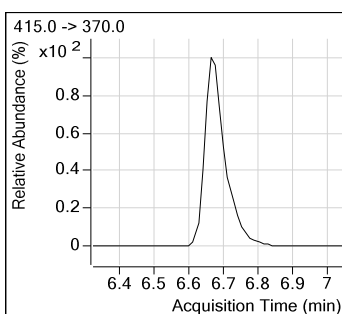
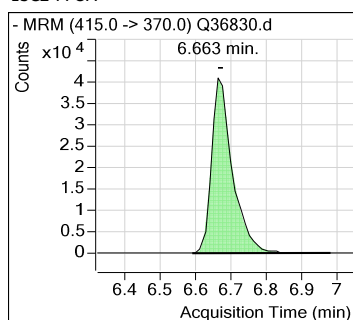


Perfluorinated Compounds by LC/MS/MS.

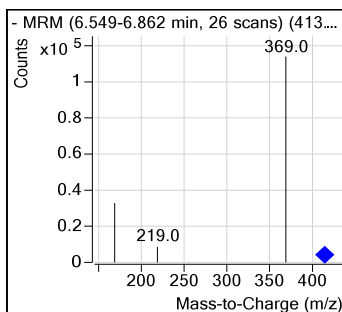
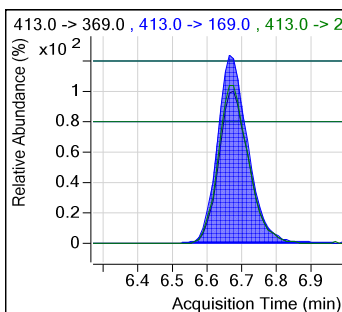
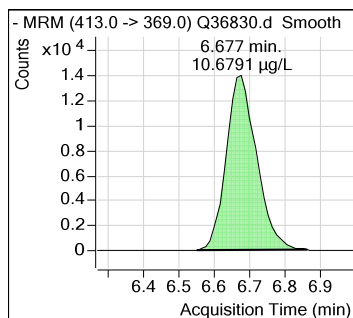
PFHpS



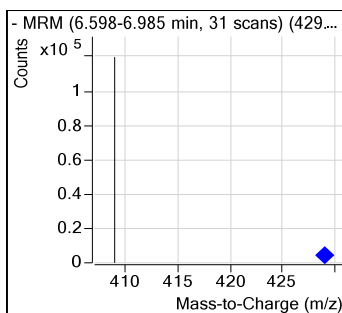
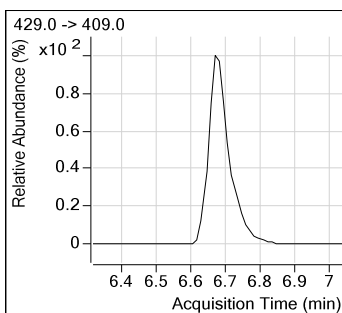
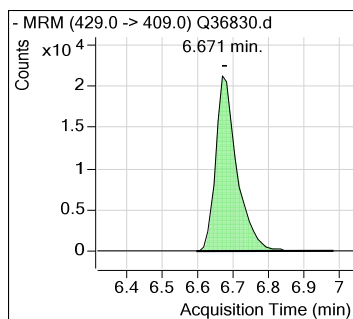
13C2-PFOA



PFOA

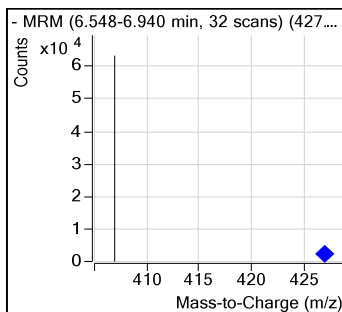
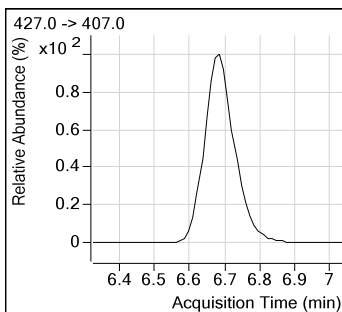
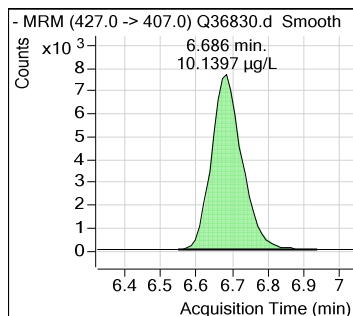


13C2-6:2FTS

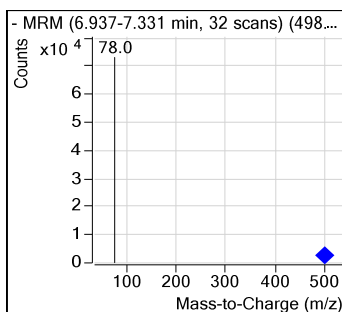
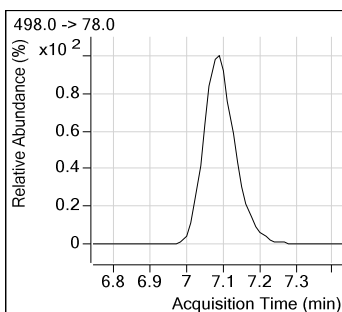
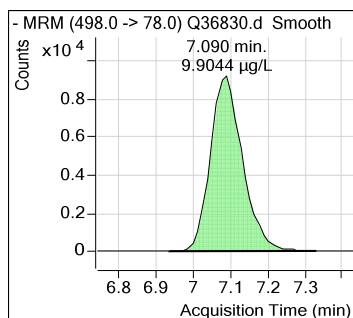


Perfluorinated Compounds by LC/MS/MS.

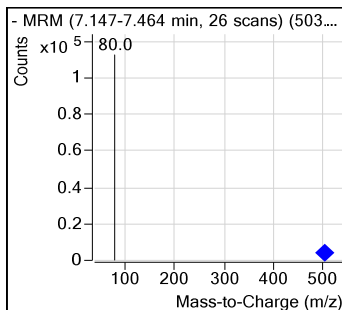
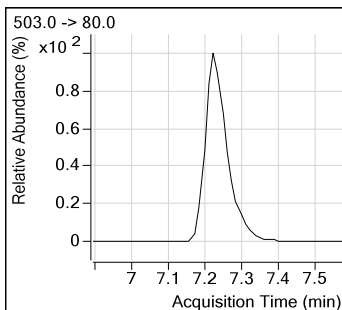
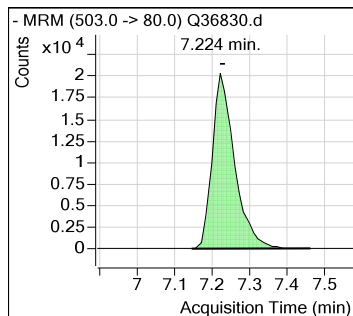
6:2FTS



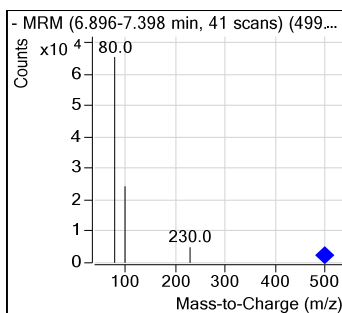
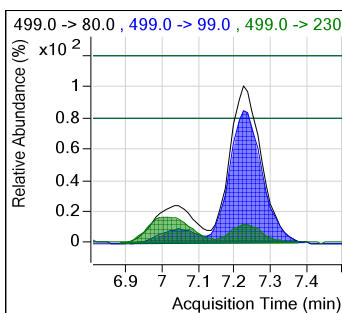
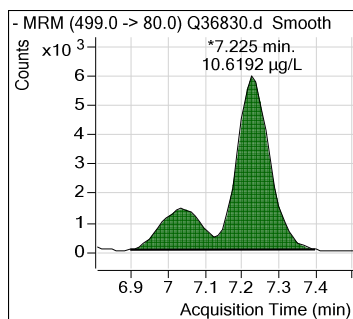
FOSA



13C4-PFOS

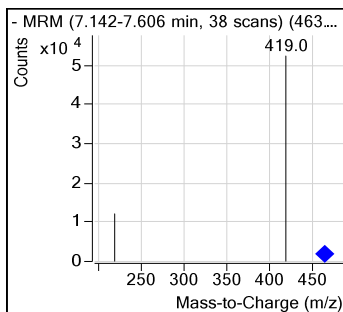
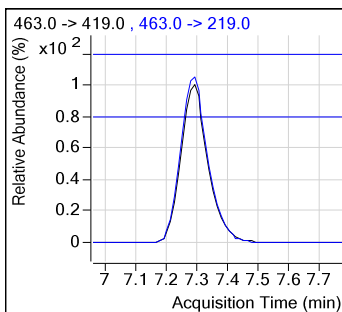
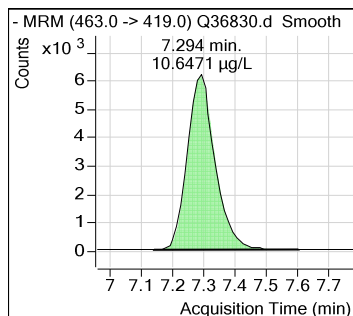


PFOS

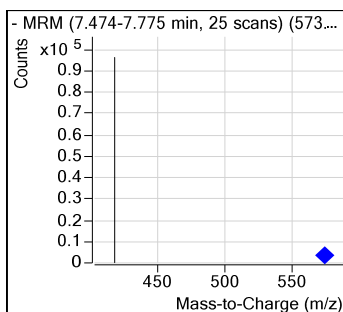
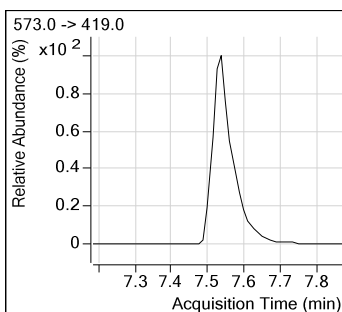
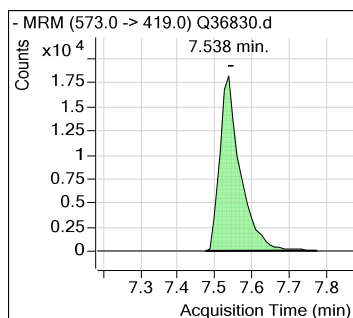


Perfluorinated Compounds by LC/MS/MS.

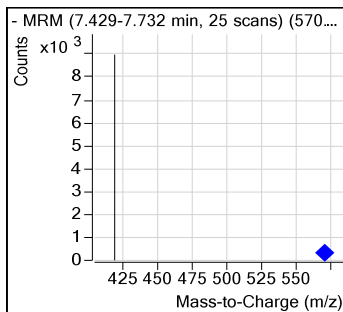
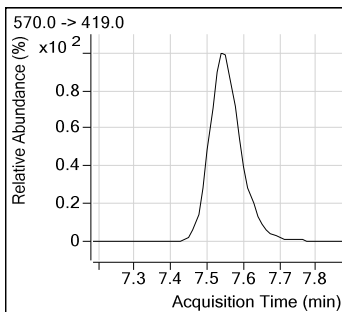
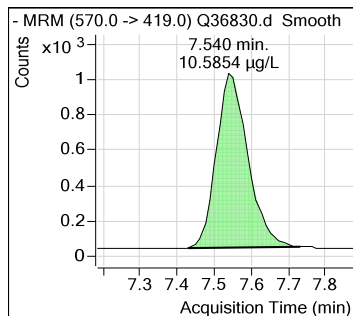
PFNA



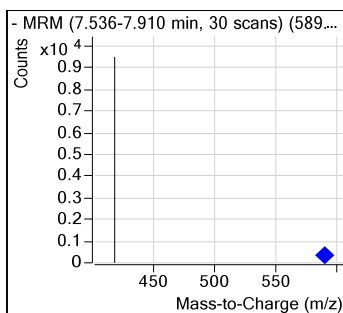
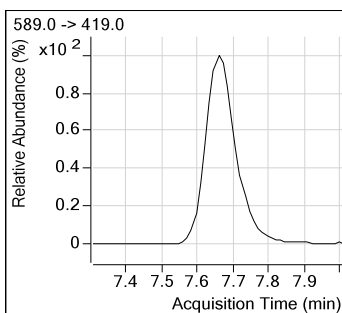
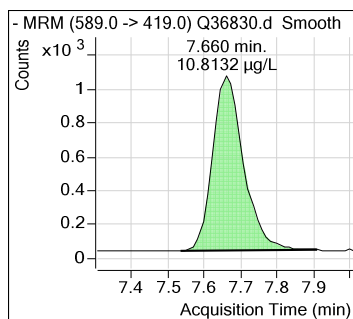
d3-MeFOSAA



MeFOSAA

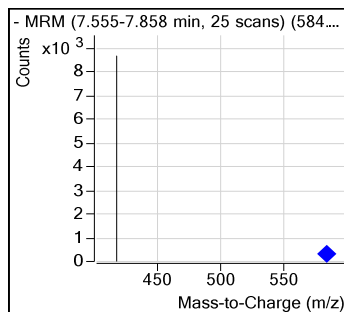
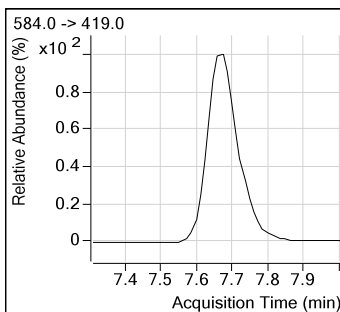
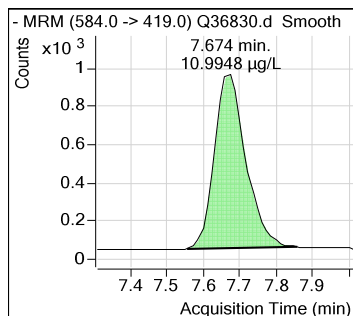


d5-EtFOSAA

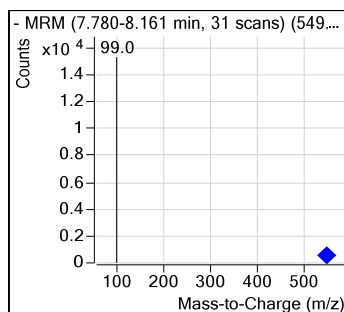
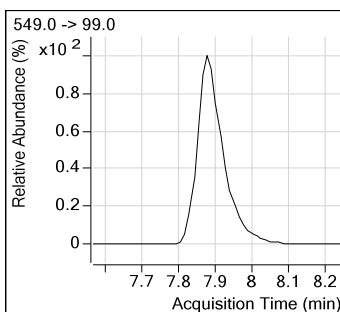
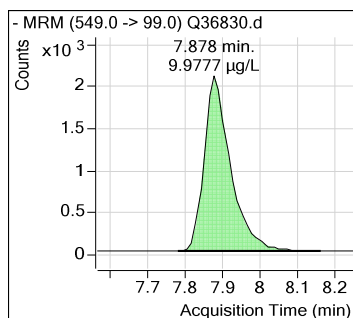


Perfluorinated Compounds by LC/MS/MS.

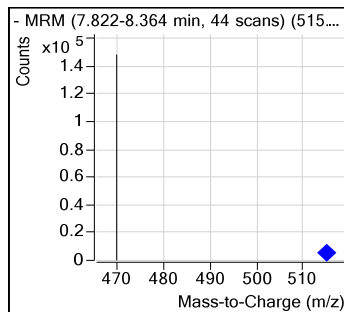
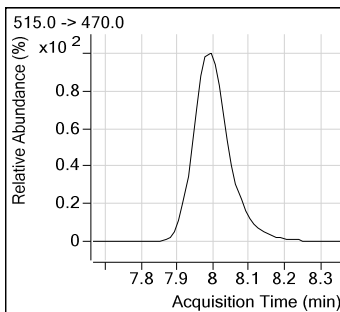
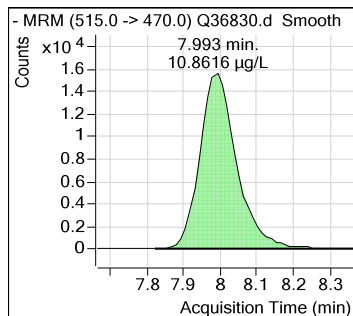
EtFOSAA



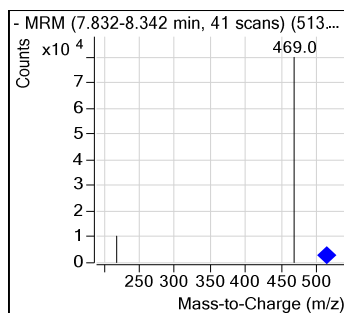
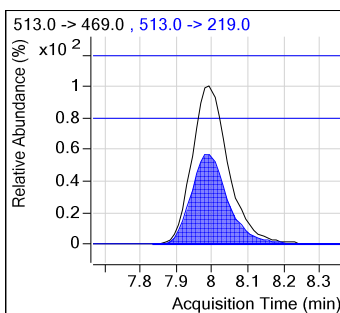
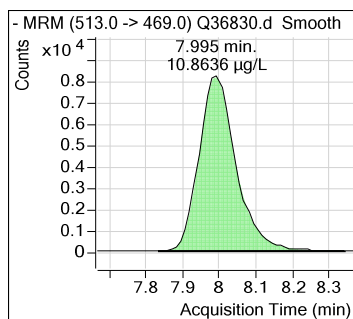
PFNS



13C2-PFDA

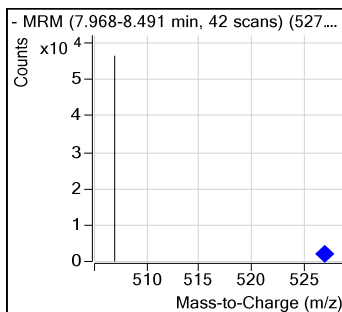
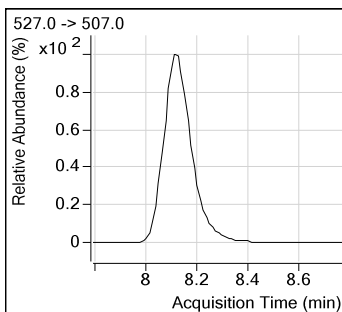
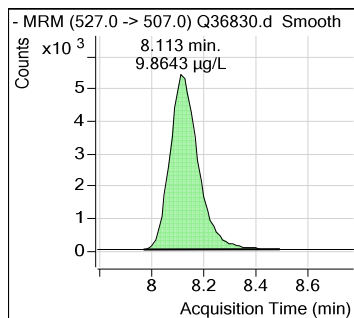


PFDA

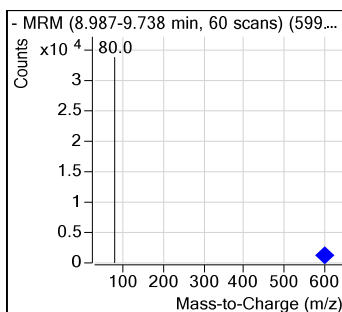
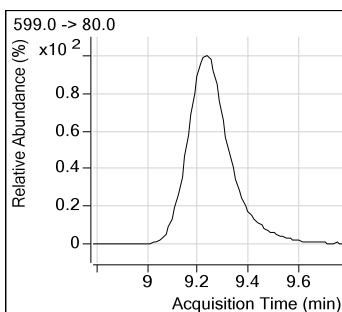
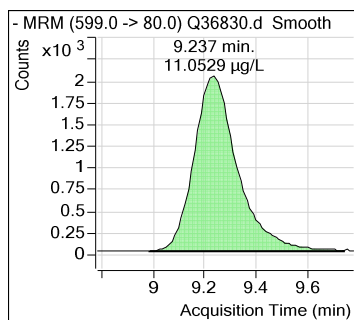


Perfluorinated Compounds by LC/MS/MS.

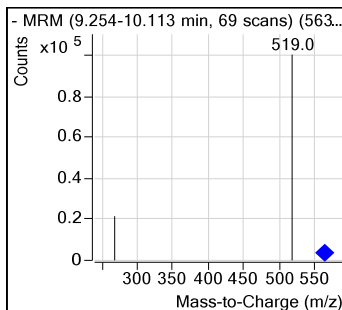
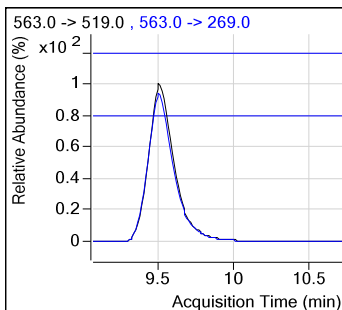
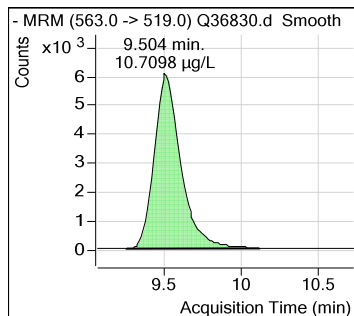
8:2FTS



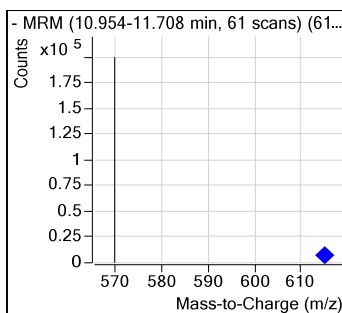
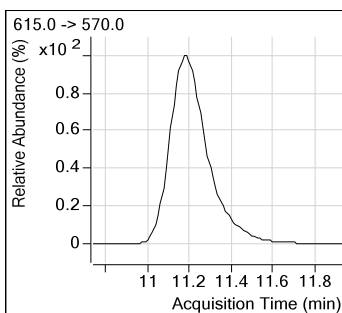
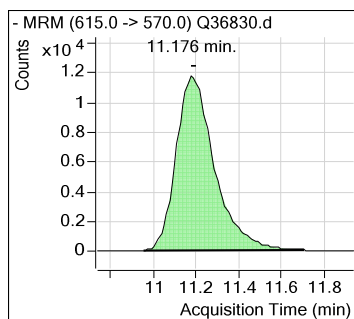
PFDS



PFUnDA

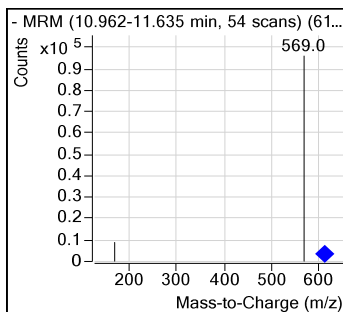
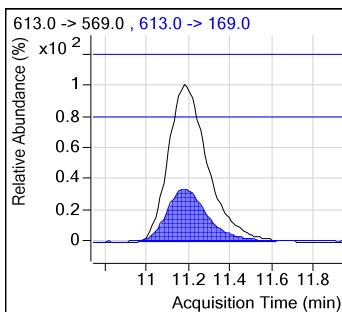
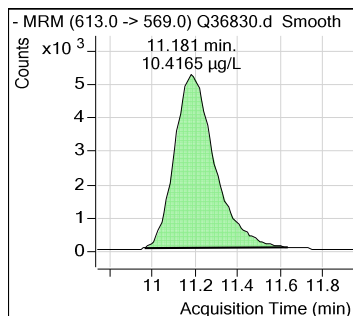


13C2-PFDoDA

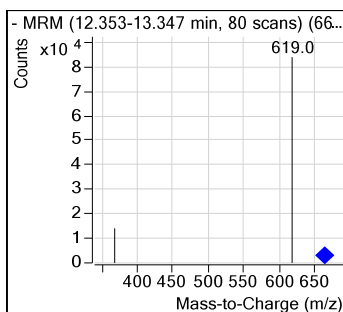
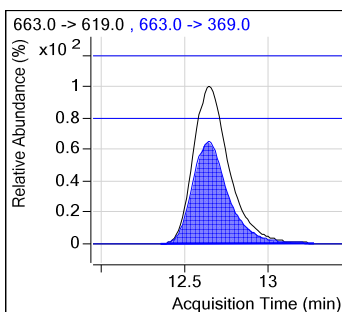
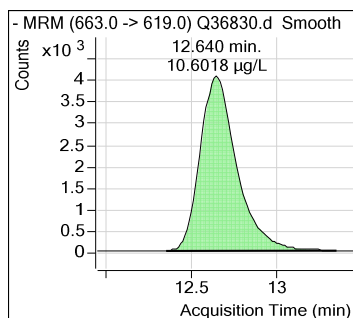


Perfluorinated Compounds by LC/MS/MS.

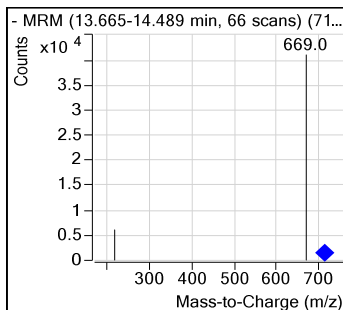
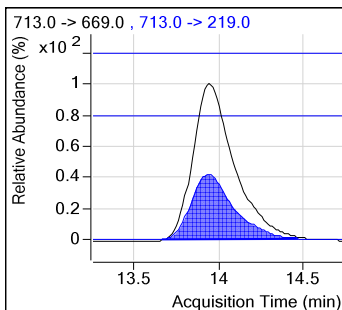
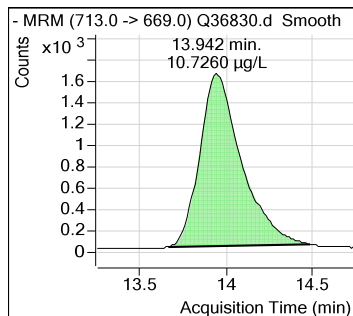
PFDoDA



PFTrDA



PFTeDA



Calibration Curve

Manual Integration Approval Summary

Sample Number: SQ936-IC936

Method: EPA 537 MOD

Lab FileID: Q36830.D

Analyst approved: 07/18/17 14:24 Nancy Saunders

Injection Time: 07/17/17 11:15

Supervisor approved: 07/19/17 14:43 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		6.01	Split peak
Perfluorooctanesulfonic acid	1763-23-1		7.22	Split peak

7.5.4.1
7

Perfluorinated Compounds by LC/MS/MS.

Manual Integrations
APPROVED
(compounds with "m" flag)Mike Eger
07/19/17 14:43

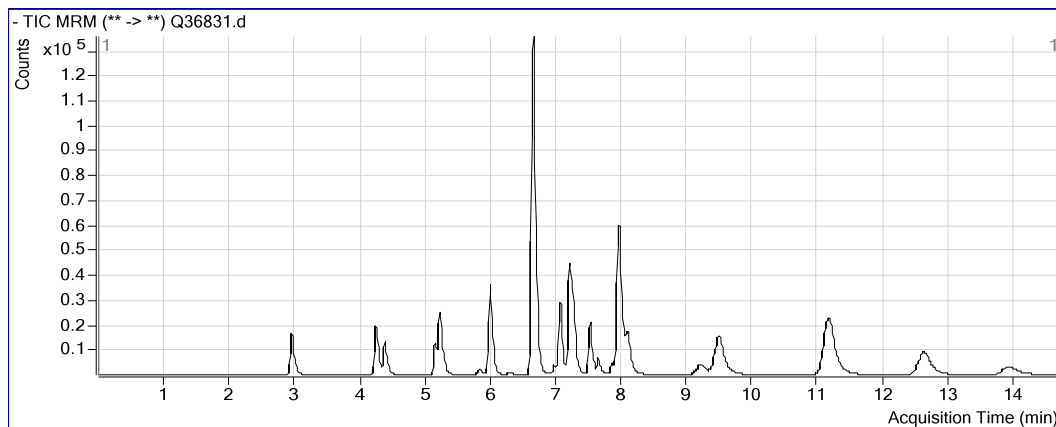
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 Operator : NANCYF
 Acq Method Name : 537_LIST.m
 Acquisition date : 2017-07-17 11:35
 Sample Name : ICC936-20
 Vial : Vial 6
 Sample Info : OP65698,SQ936,5.00,,,5,1,SOIL
 Quant Method : PFC_LIST_0717_SQ936.quantmethod.xml
 Quant Batch Name : SQ936.batch.bin
 Last Calib Update : 2017-07-18 07:16

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
13C3-PFPeA	4.260	266.0 -> 222.0	60346	20.000	µg/L	0.000
13C2-PFOA	6.663	415.0 -> 370.0	169848	20.000	µg/L	-0.013
13C2-6:2FTS	6.684	429.0 -> 409.0	90636	20.000	µg/L	0.000
13C4-PFOS	7.224	503.0 -> 80.0	84159	20.000	µg/L	0.000
d3-MeFOSAA	7.538	573.0 -> 419.0	70509	20.000	µg/L	0.000
13C2-PFDoDA	11.189	615.0 -> 570.0	143524	20.000	µg/L	0.013
System Monitoring Compounds						
13C2-PFHxA	5.247	315.0 -> 270.0	48519	20.87	µg/L	0.000
Spiked Amount: 20.000	Range: 14 - 26		Recovery = 104.34%			
d5-EtFOSAA	7.660	589.0 -> 419.0	11880	21.24	µg/L	0.000
Spiked Amount: 20.000	Range: 14 - 26		Recovery = 106.20%			
13C2-PFDA	7.993	515.0 -> 470.0	206637	21.03	µg/L	0.000
Spiked Amount: 20.000	Range: 14 - 26		Recovery = 105.17%			
Target Compounds						Qvalue
PFBA	2.977	213.0 -> 169.0	77438	20.161	µg/L	100
PFPeA	4.275	263.0 -> 219.0	26761	20.219	µg/L	100
PFBS	4.403	299.0 -> 80.0	38320	20.032	µg/L	93
4:2FTS	5.170	327.0 -> 307.0	52969	19.283	µg/L	100
PFHxA	5.250	313.0 -> 269.0	45359	20.633	µg/L	98
PFPeS	5.280	349.0 -> 99.0	8295	21.124	µg/L	100
PFHxS	6.006	399.0 -> 80.0	51325	19.959	µg/L # m	85
PFHpA	6.023	363.0 -> 319.0	64074	20.638	µg/L #	91
PFHpS	6.645	449.0 -> 80.0	53854	20.811	µg/L	100
PFOA	6.677	413.0 -> 369.0	160845	20.851	µg/L #	92
6:2FTS	6.686	427.0 -> 407.0	88976	19.535	µg/L	100
FOSA	7.090	498.0 -> 78.0	102843	19.403	µg/L	100
PFOS	7.225	499.0 -> 80.0	89536	20.389	µg/L # m	78
PFNA	7.294	463.0 -> 419.0	72316	20.450	µg/L	97
MeFOSAA	7.540	570.0 -> 419.0	11163	20.336	µg/L	100
EtFOSAA	7.674	584.0 -> 419.0	9797	20.057	µg/L	100
PFNS	7.878	549.0 -> 99.0	19062	19.033	µg/L	100
PFDA	7.995	513.0 -> 469.0	110815	21.132	µg/L #	80
8:2FTS	8.113	527.0 -> 507.0	79040	19.257	µg/L	100
PFDS	9.237	599.0 -> 80.0	44594	21.116	µg/L	100
PFUnDA	9.516	563.0 -> 519.0	139348	20.867	µg/L	97
PFDoDA	11.193	613.0 -> 569.0	128684	20.206	µg/L #	71
PFTrDA	12.640	663.0 -> 619.0	111869	20.336	µg/L #	85
PFTeDA	13.942	713.0 -> 669.0	51867	20.756	µg/L #	75

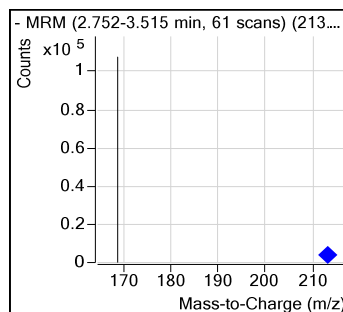
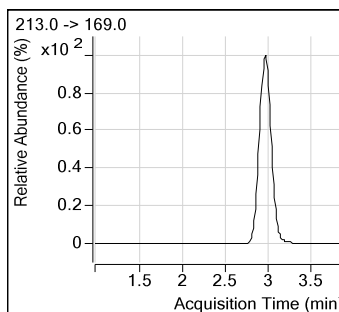
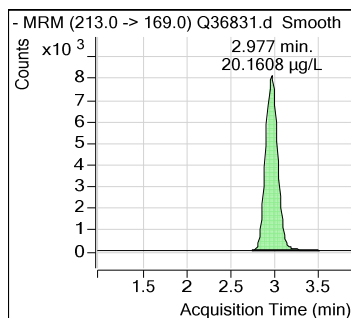
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

Perfluorinated Compounds by LC/MS/MS.

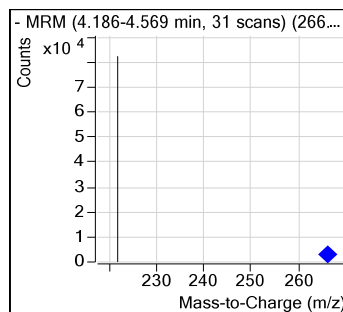
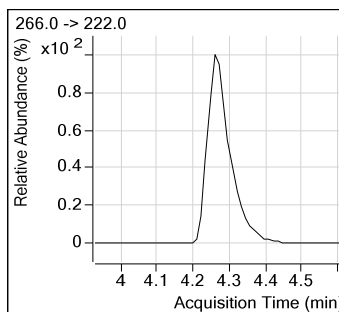
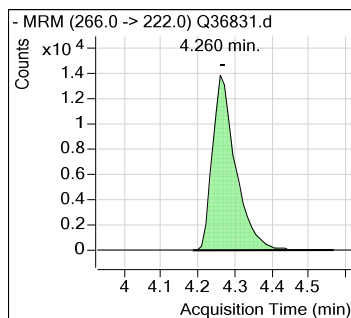
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Operator : NANCYF
Acq Method Name : 537_LIST.m
Acquisition date : 2017-07-17 11:35
Sample Name : ICC936-20
Vial : Vial 6
Sample Info : OP65698,SQ936,5.00,,,5,1,SOIL
Quant Method : PFC_LIST_0717_SQ936.quantmethod.xml
Quant Batch Name : SQ936.batch.bin
Last Calib Update : 2017-07-18 07:16



PFBA

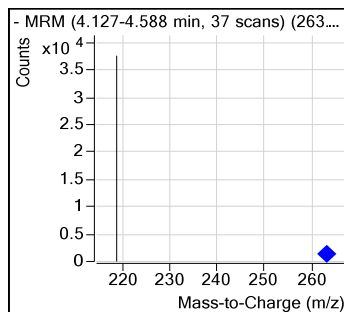
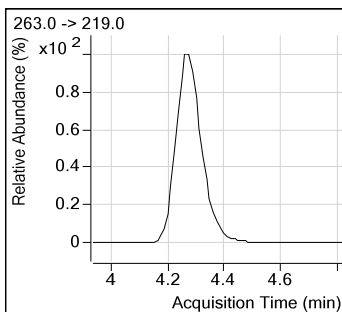
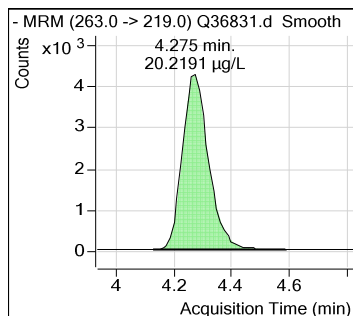


13C3-PFPeA

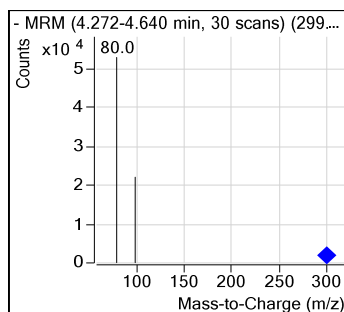
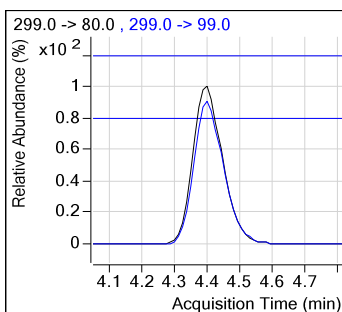
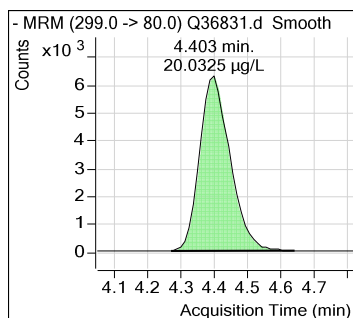


Perfluorinated Compounds by LC/MS/MS.

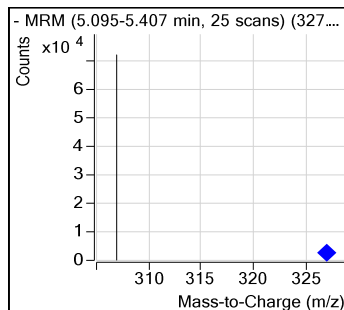
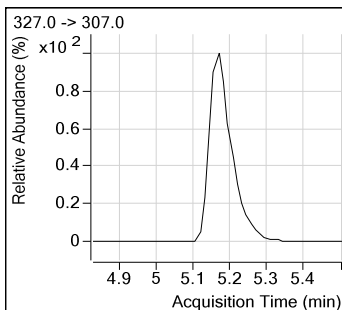
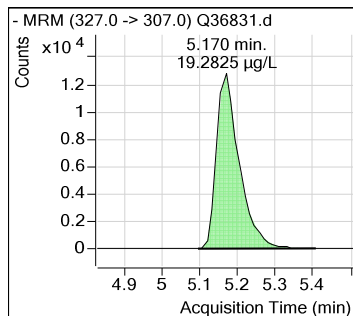
PFPeA



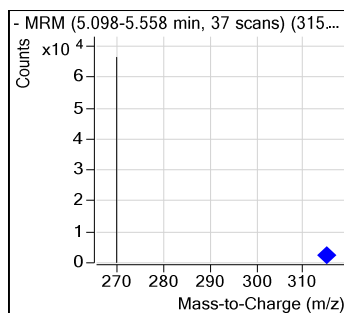
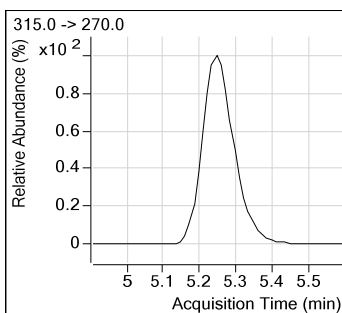
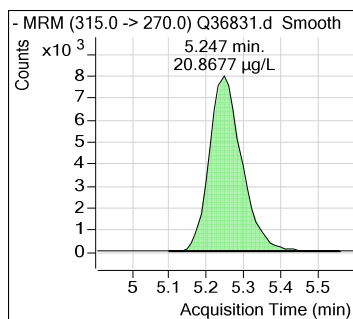
PFBS



4:2FTS

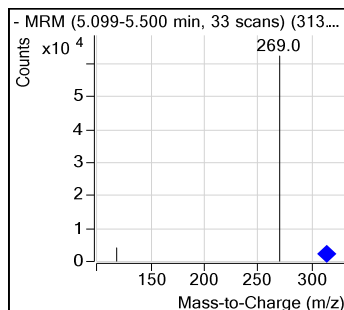
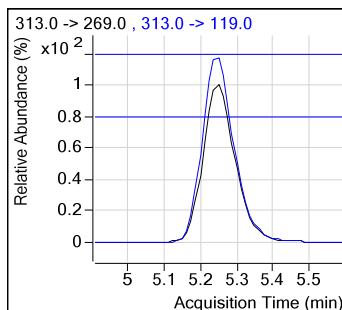
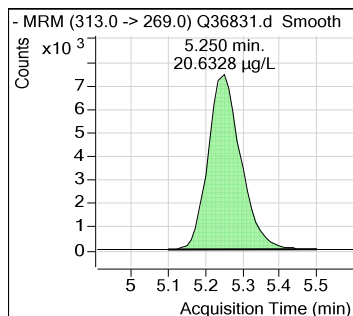


13C2-PFHxA

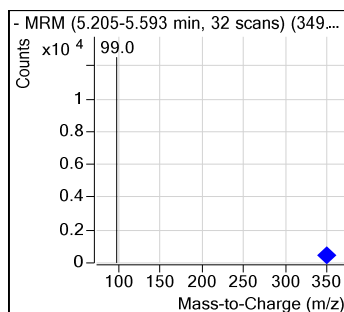
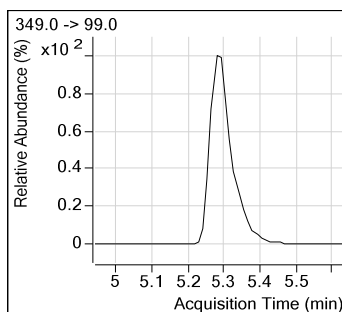
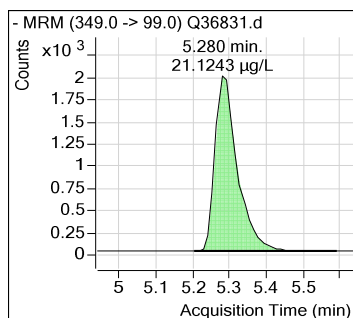


Perfluorinated Compounds by LC/MS/MS.

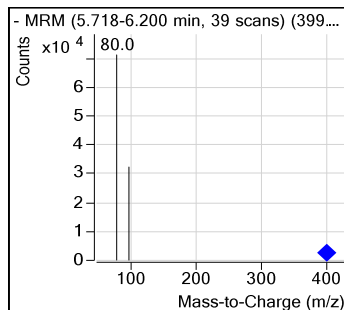
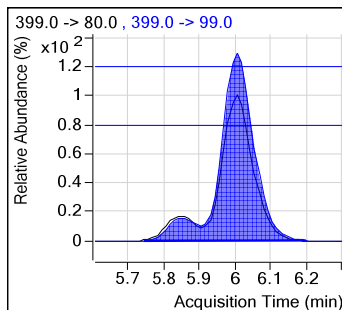
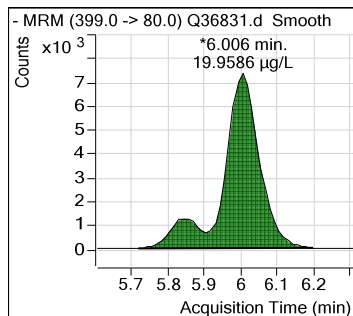
PFHxA



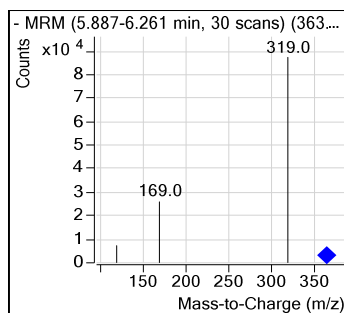
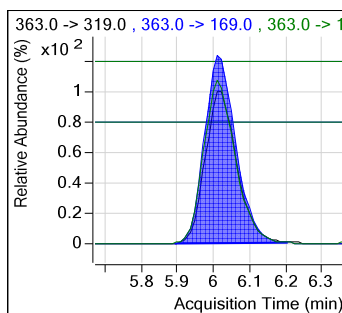
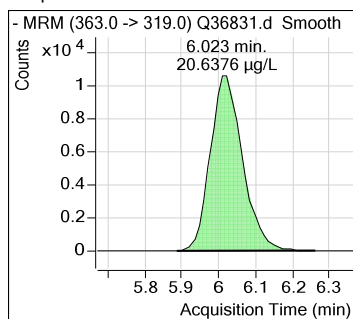
PFPeS



PFHxS

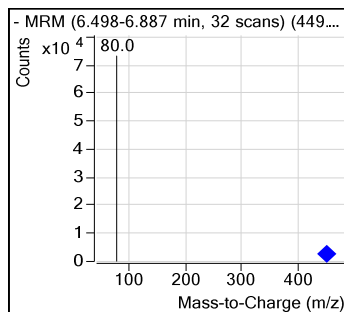
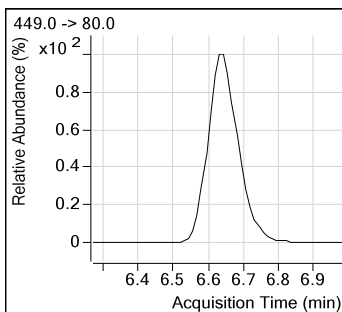
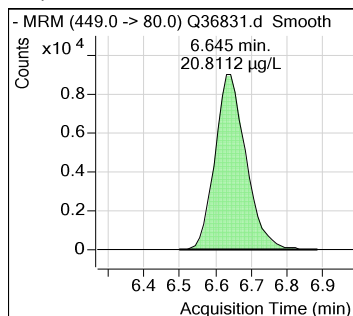


PFHpA

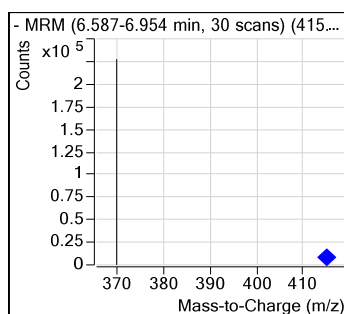
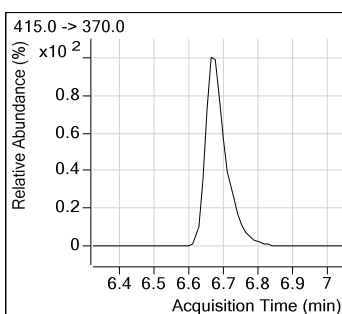
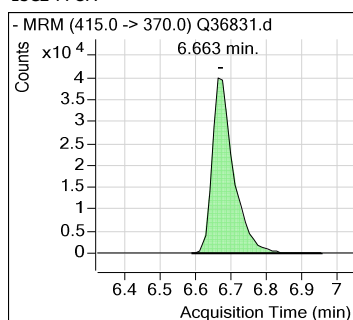


Perfluorinated Compounds by LC/MS/MS.

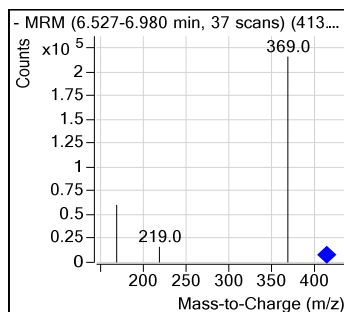
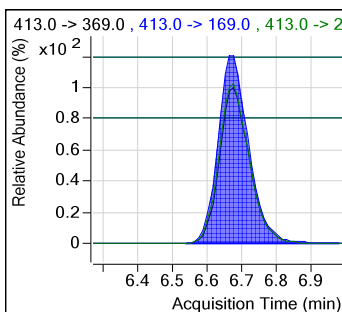
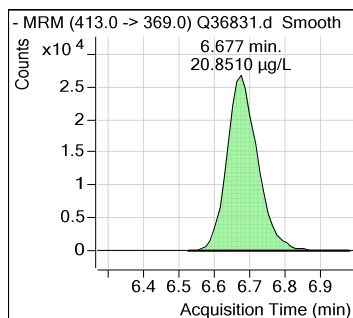
PFHpS



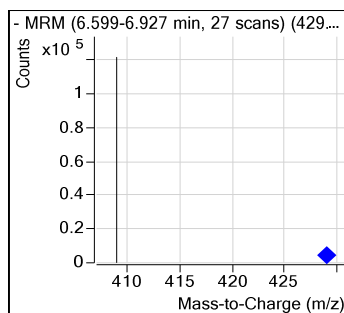
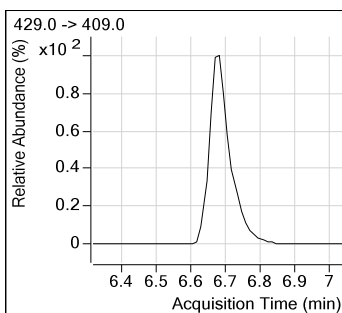
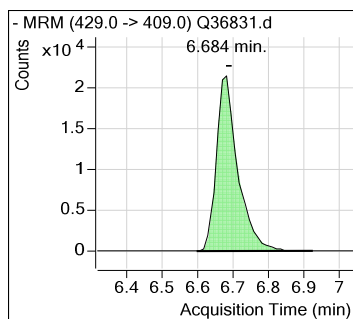
13C2-PFOA



PFOA

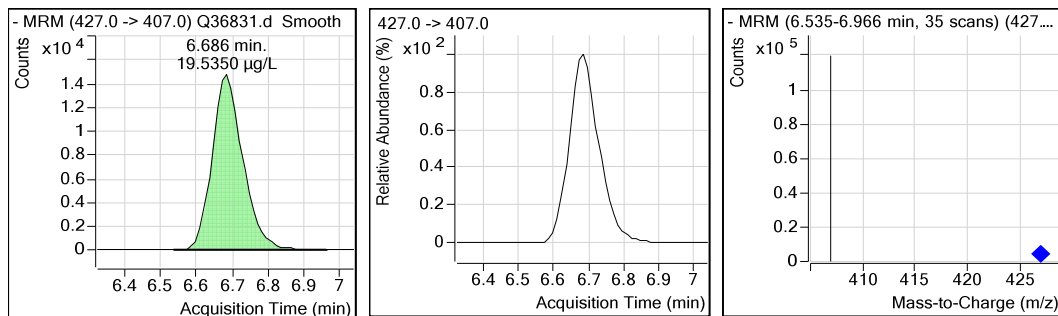


13C2-6:2FTS

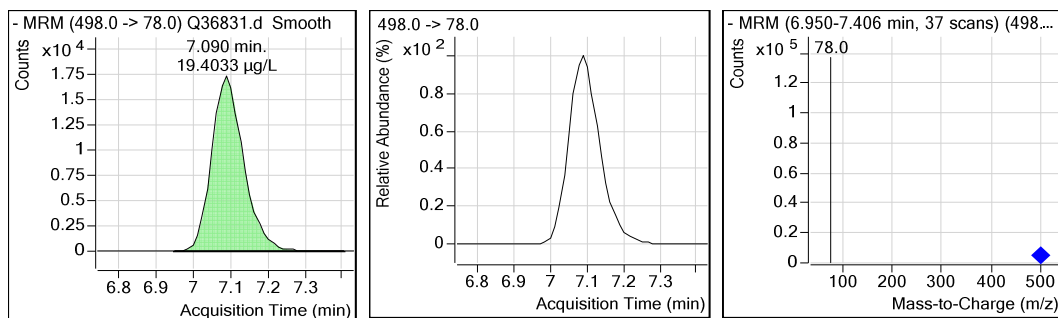


Perfluorinated Compounds by LC/MS/MS.

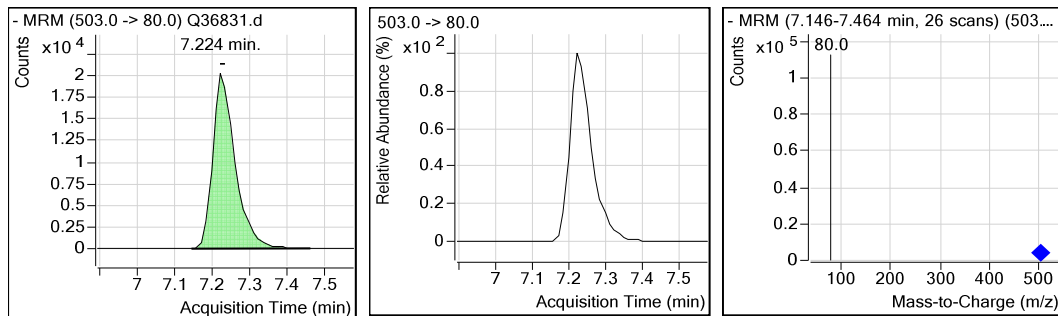
6:2FTS



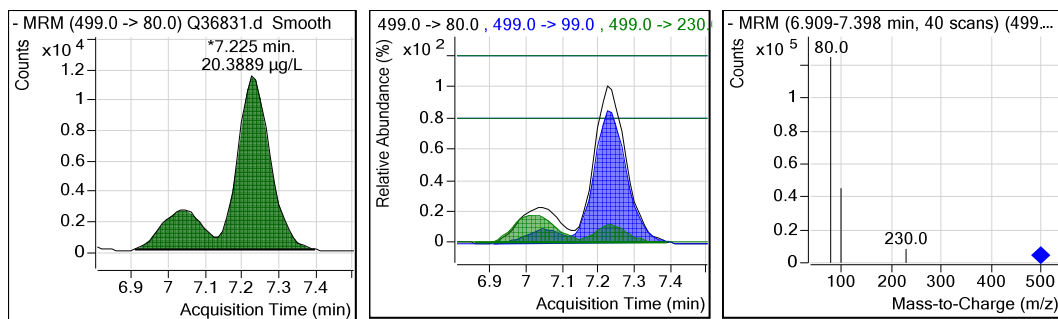
FOSA



13C4-PFOS

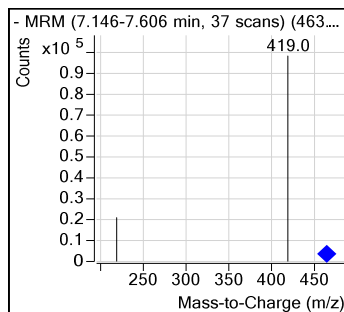
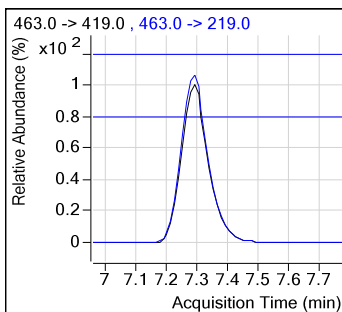
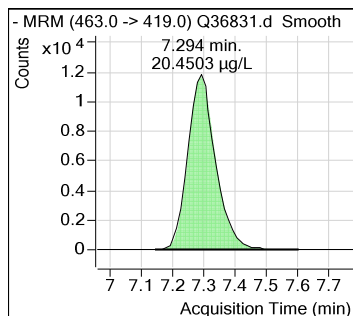


PFOS

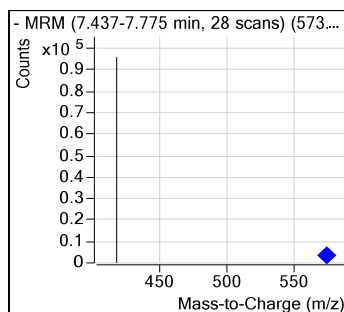
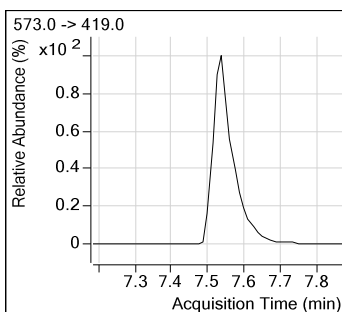
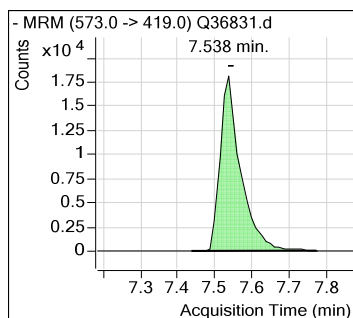


Perfluorinated Compounds by LC/MS/MS.

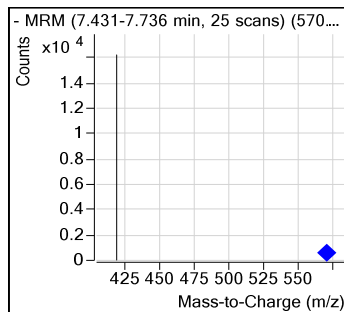
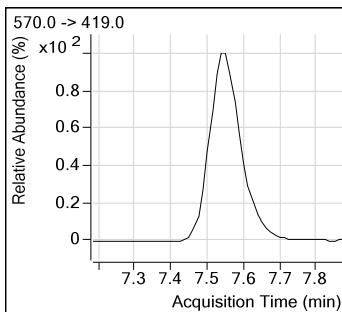
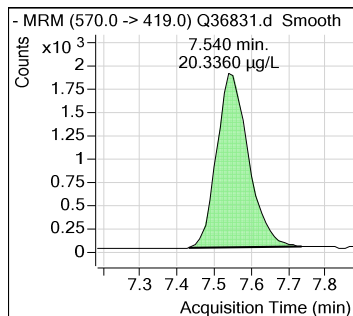
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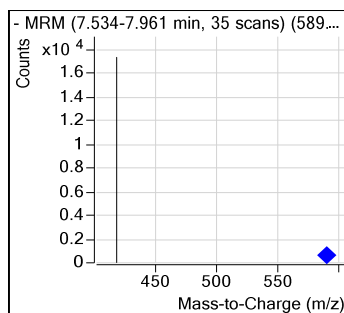
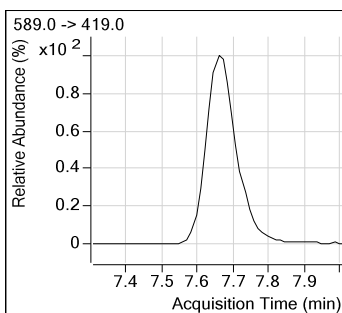
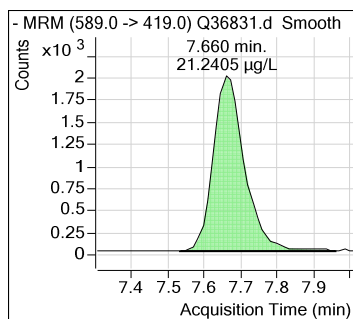
d3-MeFOSAA



MeFOSAA

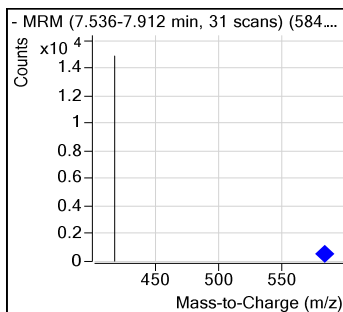
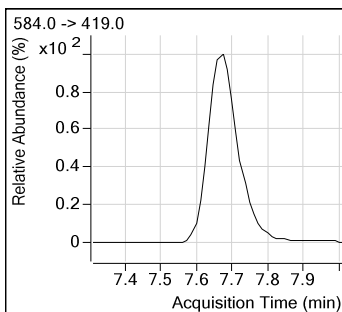
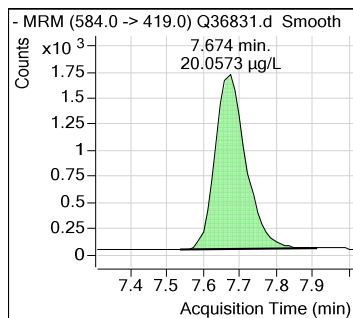


d5-EtFOSAA

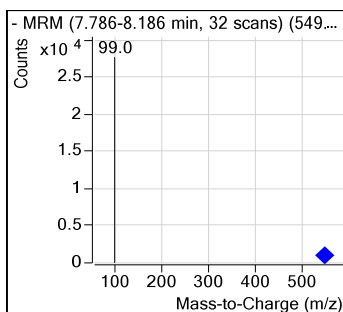
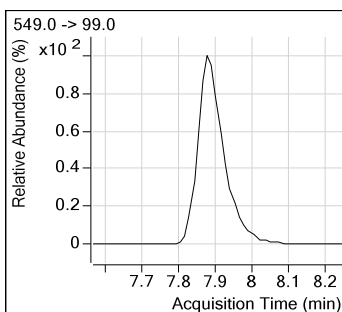
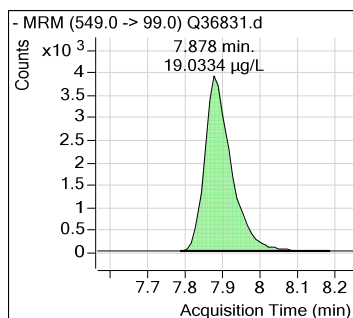


Perfluorinated Compounds by LC/MS/MS.

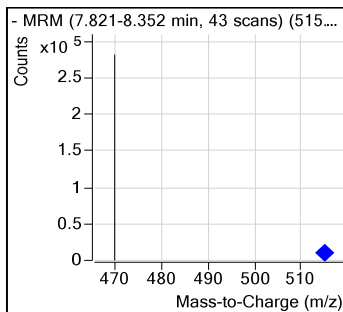
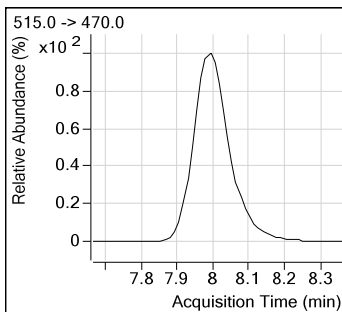
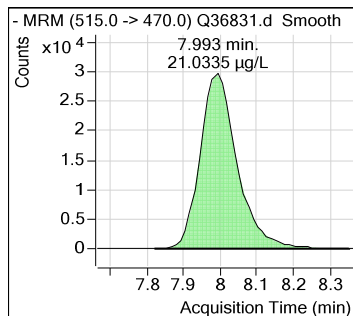
EtFOSAA



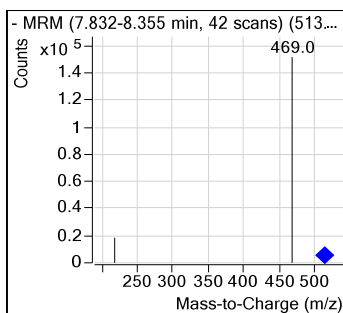
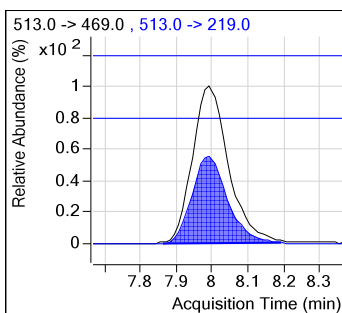
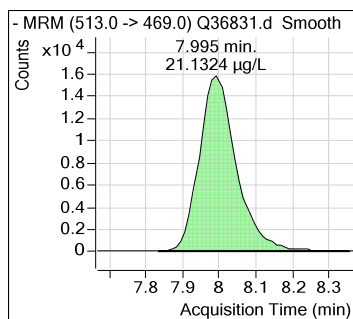
PFNS



13C2-PFDA

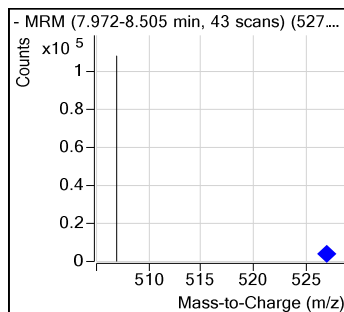
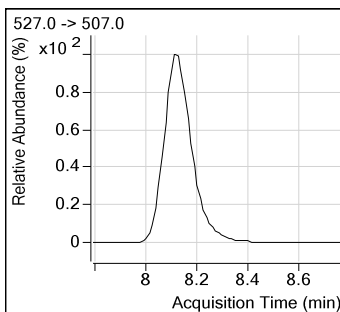
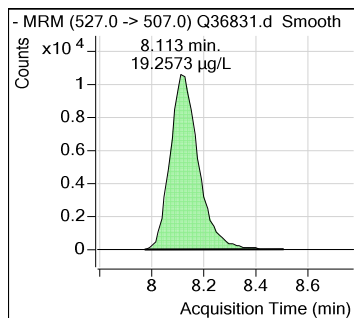


PFDA

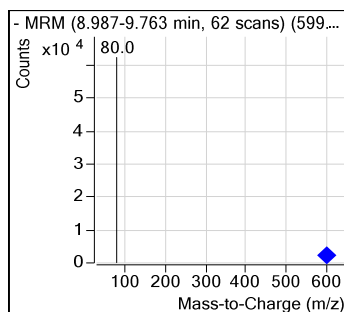
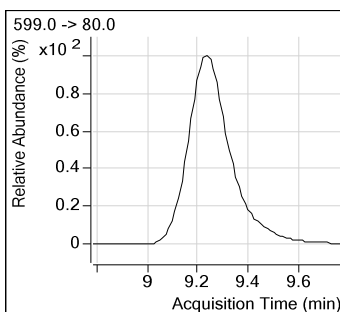
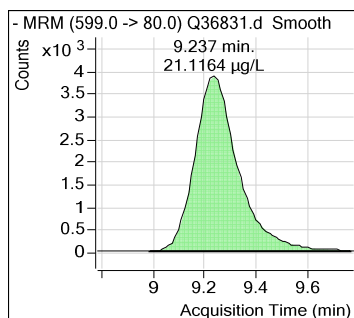


Perfluorinated Compounds by LC/MS/MS.

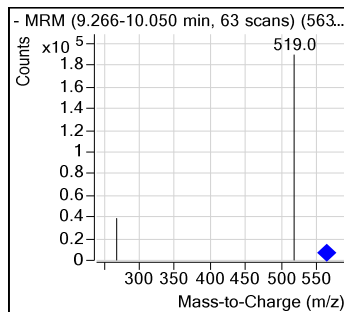
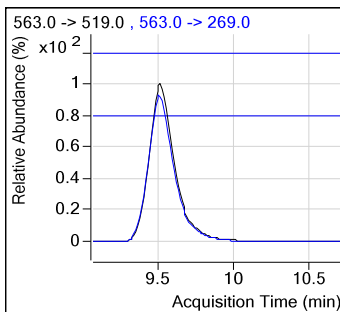
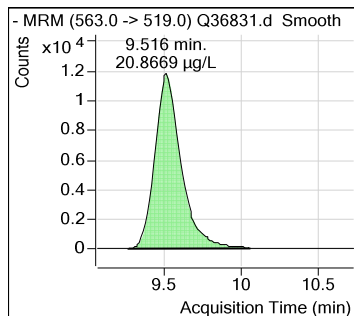
8:2FTS



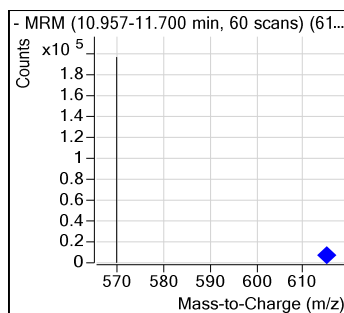
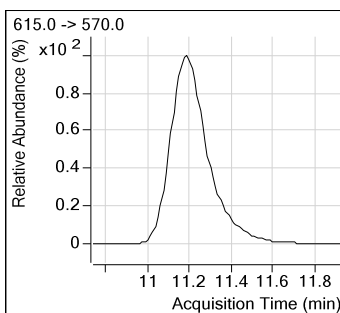
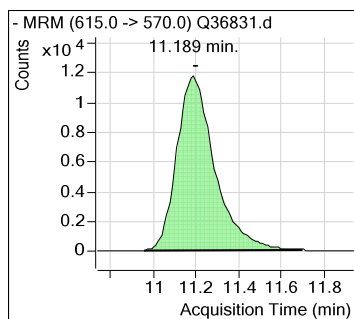
PFDS



PFUnDA

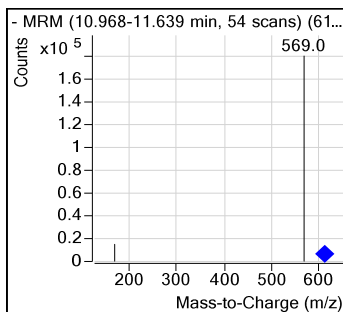
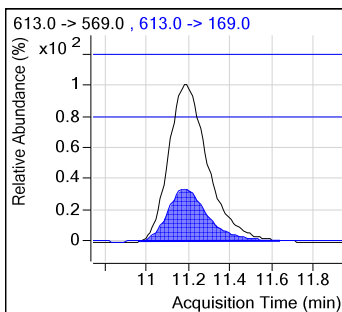
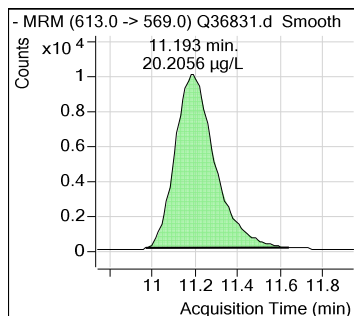


13C2-PFDoDA

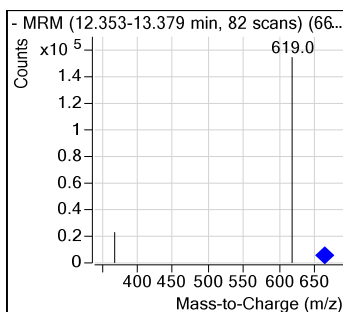
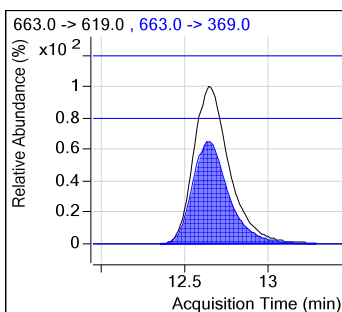
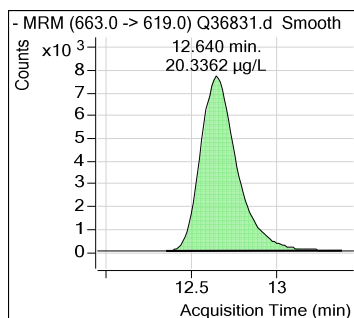


Perfluorinated Compounds by LC/MS/MS.

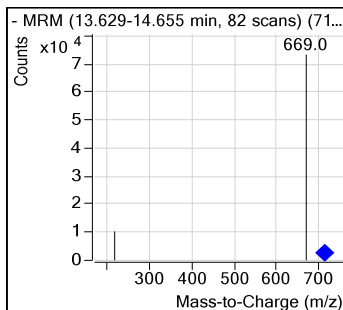
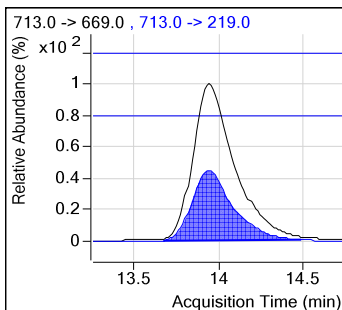
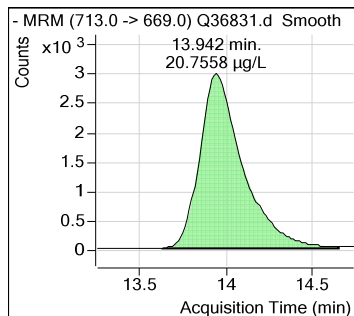
PFDoDA



PFTrDA



PFTeDA



Calibration Curve

Manual Integration Approval Summary

Sample Number: SQ936-ICC936

Method: EPA 537 MOD

Lab FileID: Q36831.D

Analyst approved: 07/18/17 14:24 Nancy Saunders

Injection Time: 07/17/17 11:35

Supervisor approved: 07/19/17 14:43 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		6.01	Split peak
Perfluorooctanesulfonic acid	1763-23-1		7.22	Split peak

7.5.5.1
7

Perfluorinated Compounds by LC/MS/MS.

Manual Integrations
APPROVED
(compounds with "m" flag)Mike Eger
07/19/17 14:43

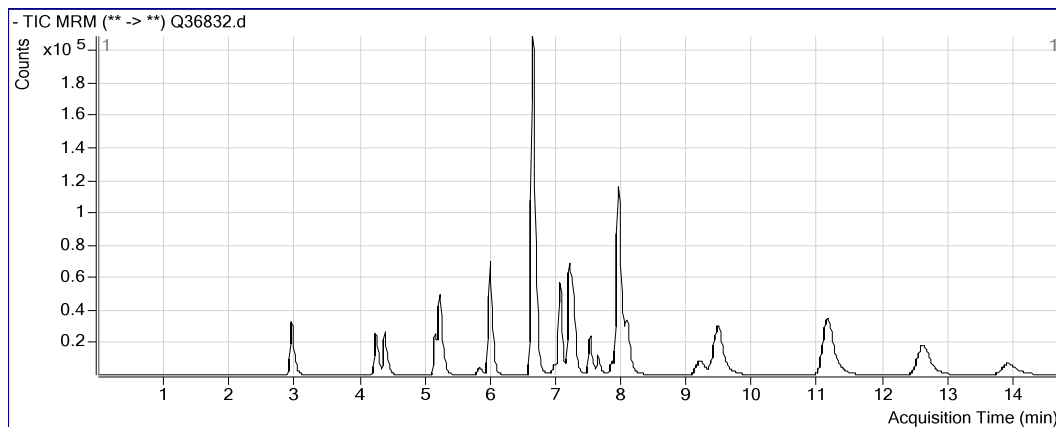
Data File : Q36832.d
 Operator : NANCYF
 Acq Method Name : 537_LIST.m
 Acquisition date : 2017-07-17 11:55
 Sample Name : IC936-40
 Vial : Vial 7
 Sample Info : OP65698,SQ936,5.00,,,5,1,SOIL
 Quant Method : PFC_LIST_0717_SQ936.quantmethod.xml
 Quant Batch Name : SQ936.batch.bin
 Last Calib Update : 2017-07-18 07:16

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
13C3-PFPeA	4.260	266.0 -> 222.0	59567	20.000	µg/L	0.000
13C2-PFOA	6.663	415.0 -> 370.0	168862	20.000	µg/L	-0.013
13C2-6:2FTS	6.671	429.0 -> 409.0	93893	20.000	µg/L	-0.013
13C4-PFOS	7.224	503.0 -> 80.0	83686	20.000	µg/L	0.000
d3-MeFOSAA	7.538	573.0 -> 419.0	71826	20.000	µg/L	0.000
13C2-PFDoDA	11.176	615.0 -> 570.0	144669	20.000	µg/L	0.000
System Monitoring Compounds						
13C2-PFHxA	5.247	315.0 -> 270.0	93241	40.34	µg/L	0.000
Spiked Amount: 20.000	Range: 14 - 26		Recovery = 201.68%			
d5-EtFOSAA	7.660	589.0 -> 419.0	21823	38.30	µg/L	0.000
Spiked Amount: 20.000	Range: 14 - 26		Recovery = 191.52%			
13C2-PFDA	7.980	515.0 -> 470.0	396663	40.61	µg/L	-0.013
Spiked Amount: 20.000	Range: 14 - 26		Recovery = 203.06%			
Target Compounds						Qvalue
PFBA	2.977	213.0 -> 169.0	153206	40.409	µg/L	100
PFPeA	4.263	263.0 -> 219.0	52636	40.289	µg/L	100
PFBS	4.403	299.0 -> 80.0	76840	40.396	µg/L	94
4:2FTS	5.170	327.0 -> 307.0	105768	38.974	µg/L	100
PFHxA	5.250	313.0 -> 269.0	88035	40.279	µg/L	98
PFPeS	5.280	349.0 -> 99.0	16196	41.478	µg/L	100
PFHxS	6.006	399.0 -> 80.0	103011	40.284	µg/L # m	87
PFHpA	6.011	363.0 -> 319.0	125187	40.557	µg/L #	90
PFHpS	6.632	449.0 -> 80.0	105867	41.142	µg/L	100
PFOA	6.664	413.0 -> 369.0	313583	40.889	µg/L #	92
6:2FTS	6.686	427.0 -> 407.0	173532	38.836	µg/L	100
FOSA	7.090	498.0 -> 78.0	194144	37.989	µg/L	100
PFOS	7.225	499.0 -> 80.0	177187	40.576	µg/L # m	78
PFNA	7.294	463.0 -> 419.0	140523	39.971	µg/L	98
MeFOSAA	7.540	570.0 -> 419.0	21197	37.907	µg/L	100
EtFOSAA	7.674	584.0 -> 419.0	19902	39.999	µg/L	100
PFNS	7.878	549.0 -> 99.0	37269	38.704	µg/L	100
PFDA	7.982	513.0 -> 469.0	204666	39.258	µg/L #	82
8:2FTS	8.113	527.0 -> 507.0	156207	38.326	µg/L	100
PFDS	9.224	599.0 -> 80.0	88266	42.032	µg/L	100
PFUnDA	9.504	563.0 -> 519.0	274541	40.786	µg/L	98
PFDoDA	11.168	613.0 -> 569.0	258002	40.190	µg/L #	71
PFTrDA	12.628	663.0 -> 619.0	219949	39.667	µg/L #	85
PFTeDA	13.929	713.0 -> 669.0	101591	40.332	µg/L #	75

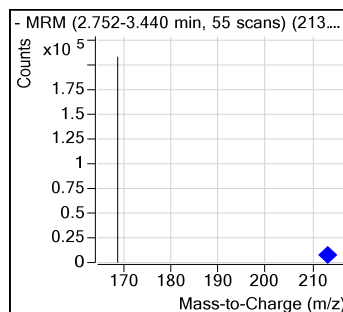
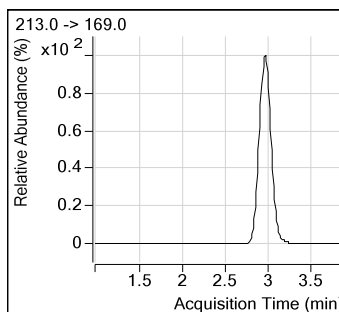
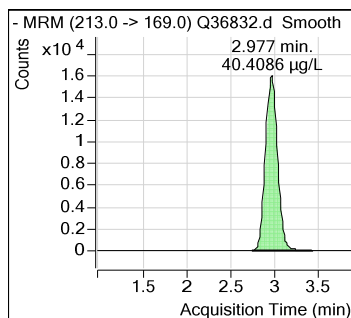
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

Perfluorinated Compounds by LC/MS/MS.

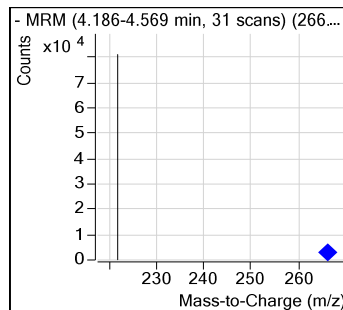
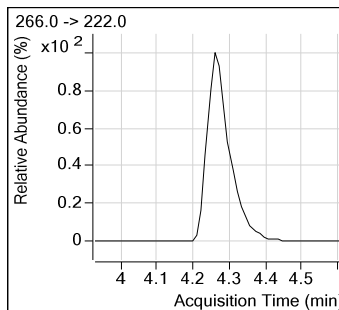
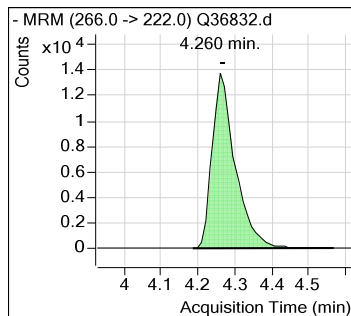
Data File : Q36832.d
Operator : NANCYF
Acq Method Name : 537_LIST.m
Acquisition date : 2017-07-17 11:55
Sample Name : IC936-40
Vial : Vial 7
Sample Info : OP65698,SQ936,5.00,,,5,1,SOIL
Quant Method : PFC_LIST_0717_SQ936.quantmethod.xml
Quant Batch Name : SQ936.batch.bin
Last Calib Update : 2017-07-18 07:16



PFBA

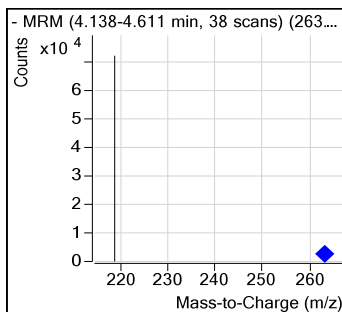
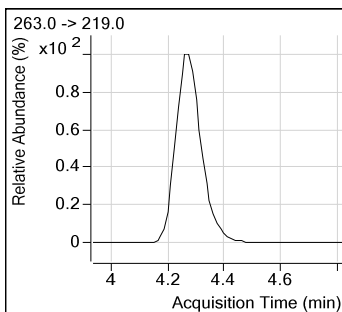
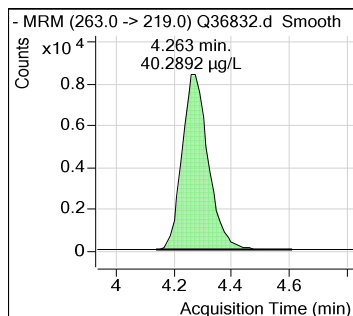


13C3-PFPeA

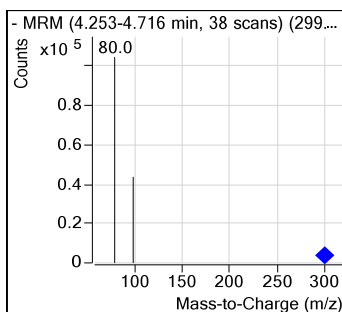
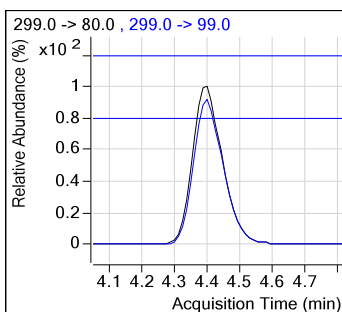
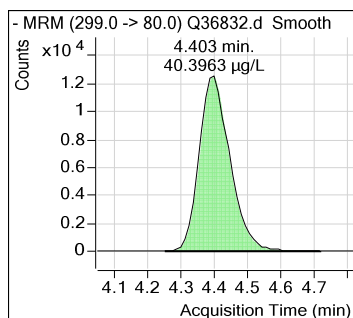


Perfluorinated Compounds by LC/MS/MS.

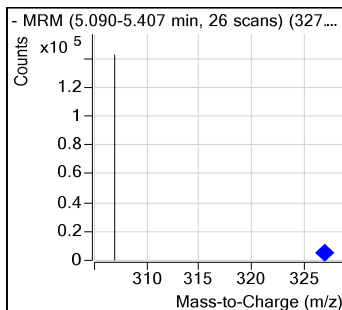
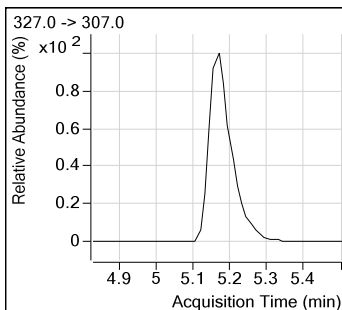
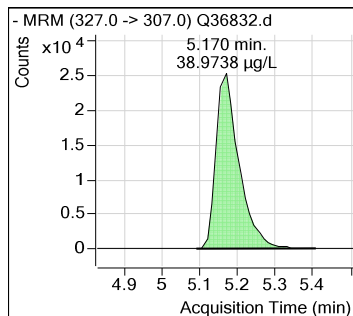
PFPeA



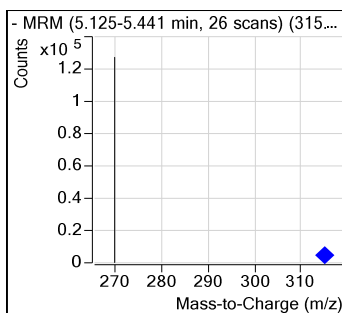
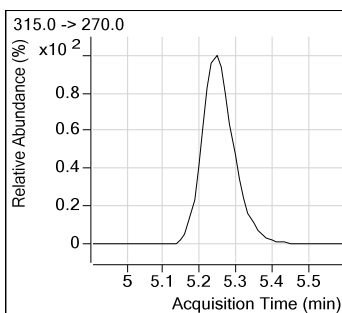
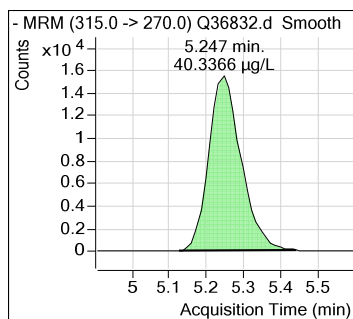
PFBS



4:2FTS

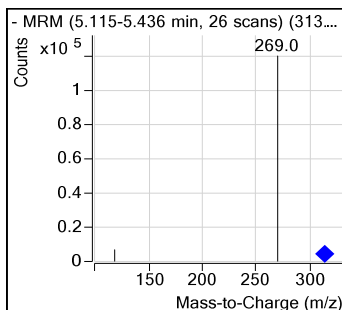
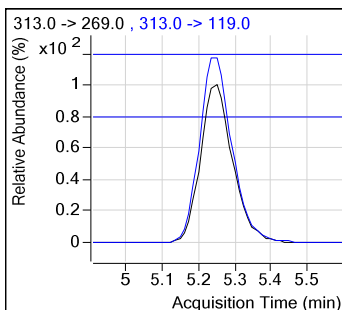
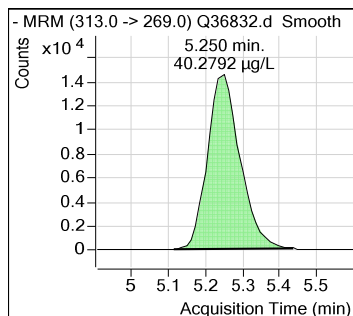


13C2-PFHxA

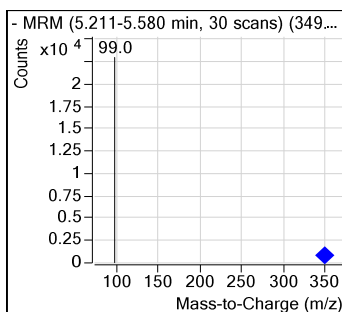
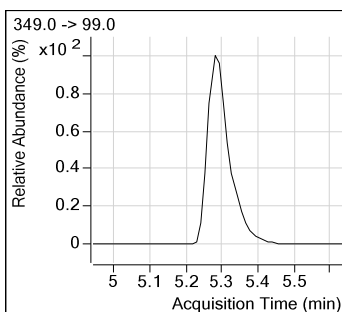
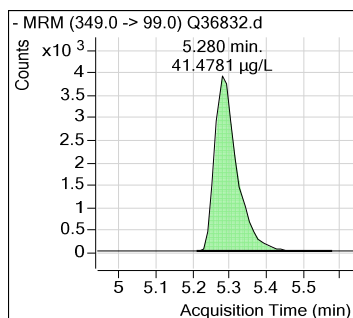


Perfluorinated Compounds by LC/MS/MS.

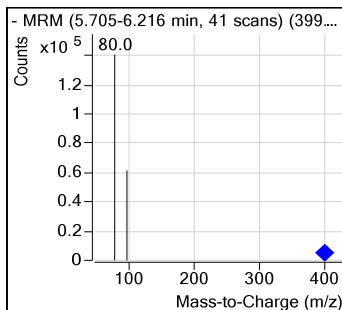
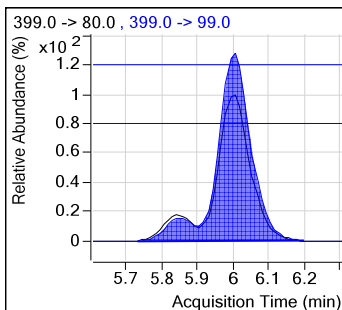
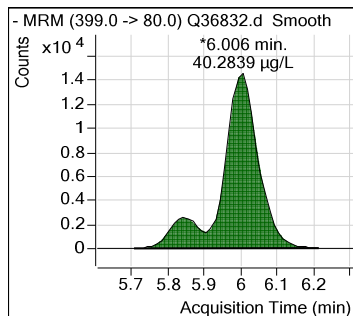
PFHxA



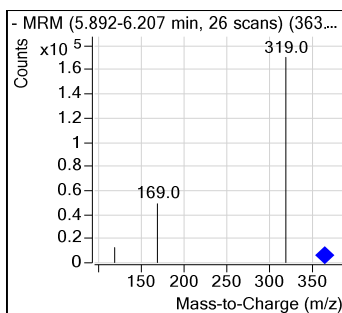
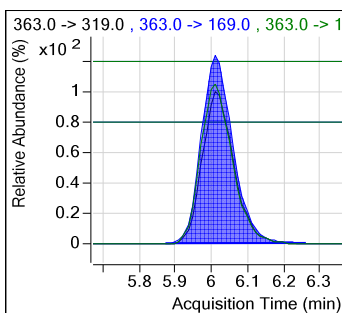
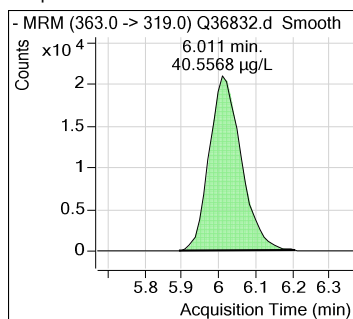
PFPeS



PFHxS

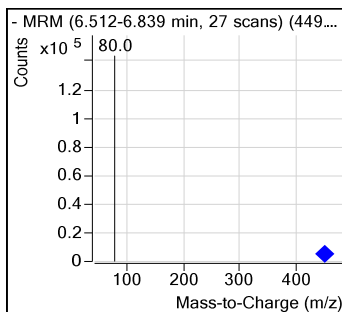
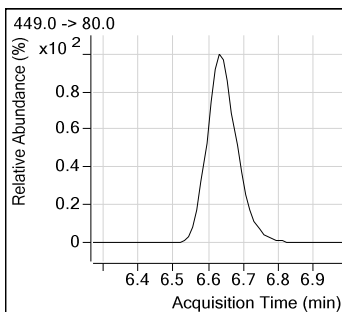
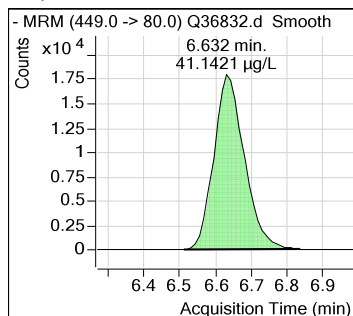


PFHpA

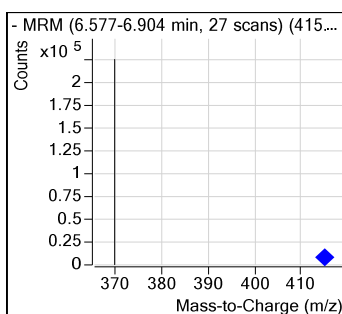
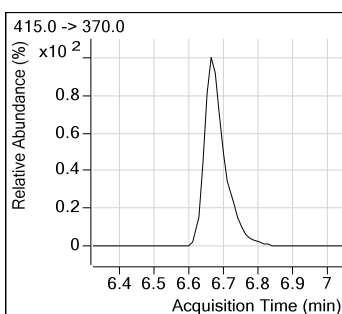
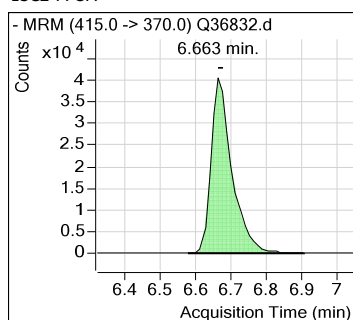


Perfluorinated Compounds by LC/MS/MS.

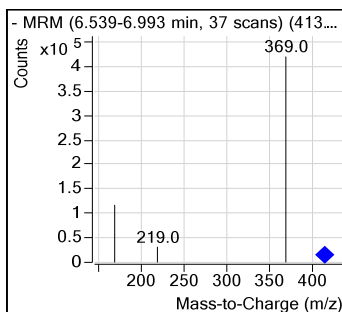
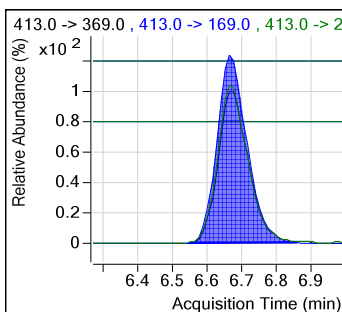
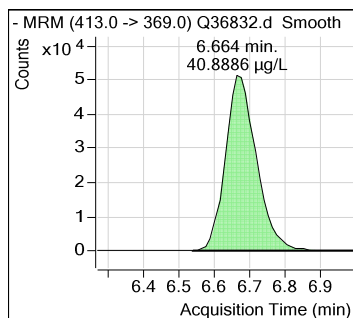
PFHpS



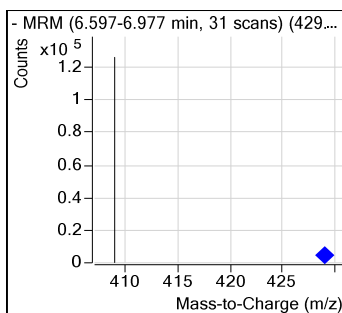
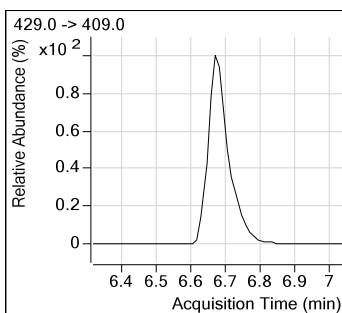
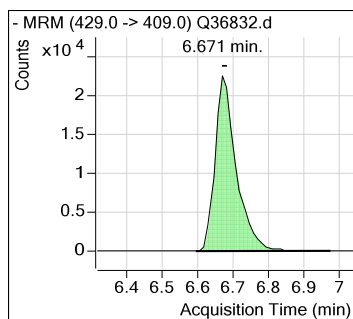
13C2-PFOA



PFOA

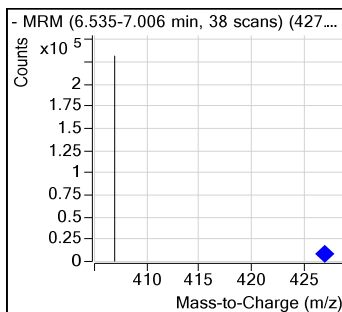
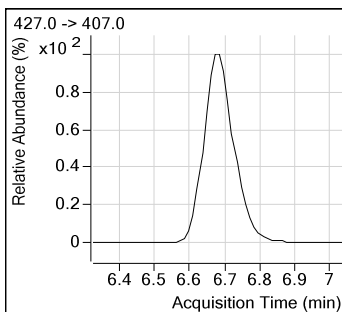
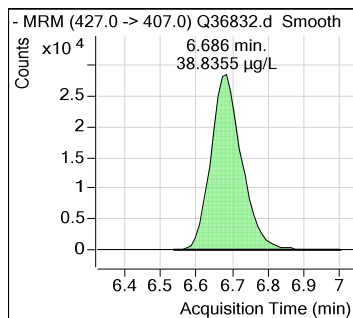


13C2-6:2FTS

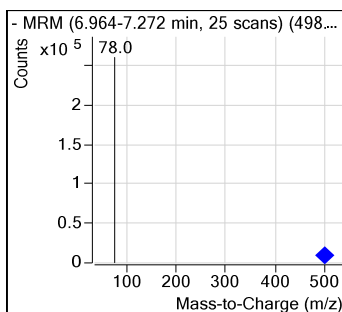
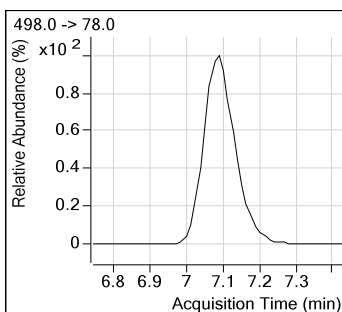
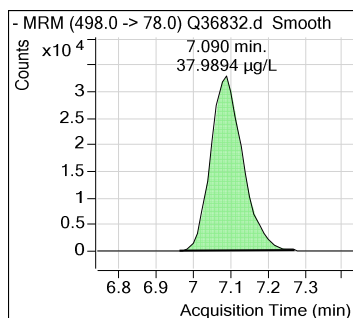


Perfluorinated Compounds by LC/MS/MS.

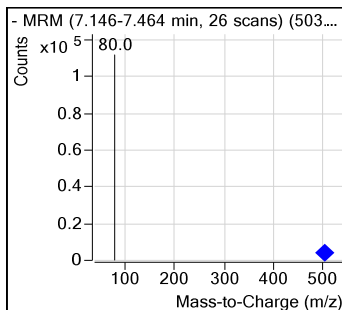
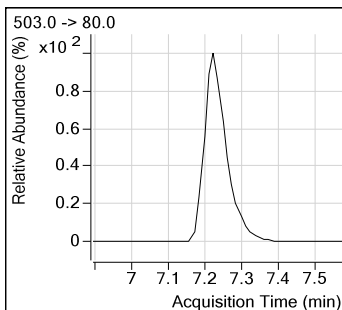
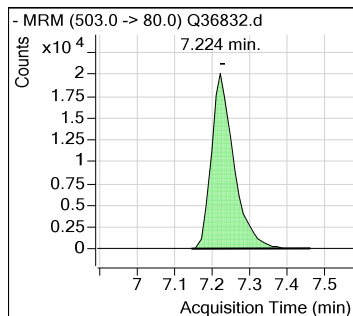
6:2FTS



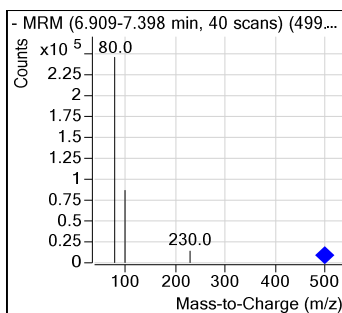
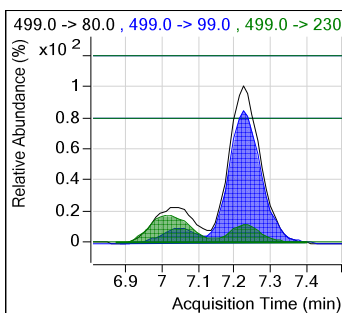
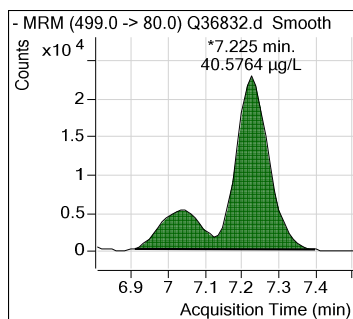
FOSA



13C4-PFOS

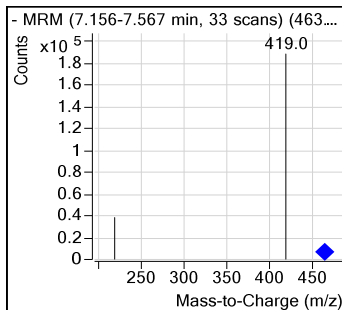
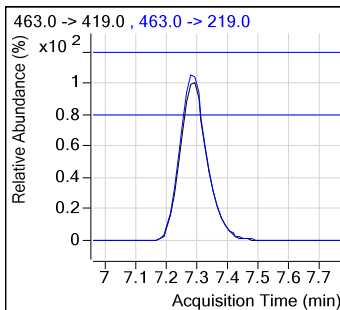
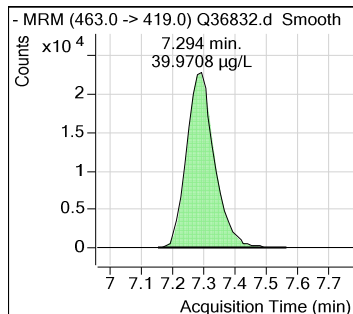


PFOS

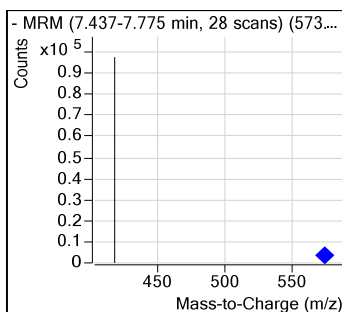
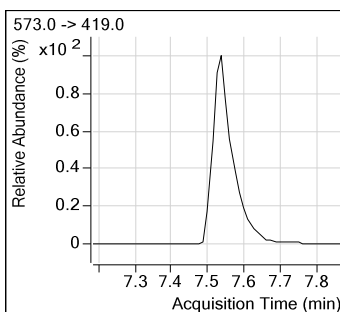
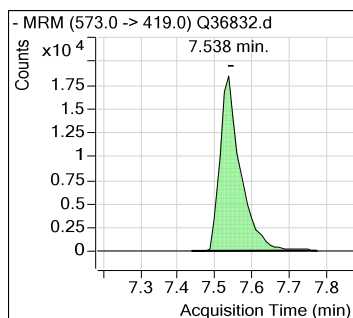


Perfluorinated Compounds by LC/MS/MS.

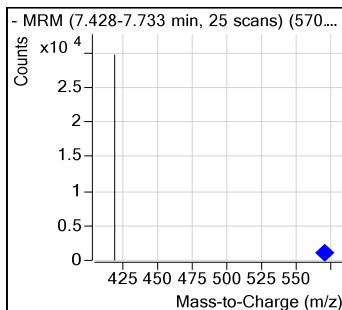
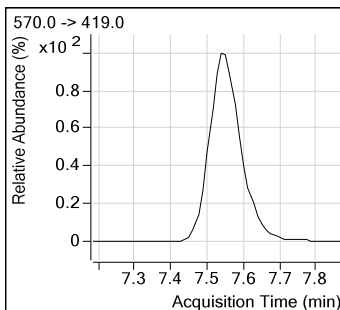
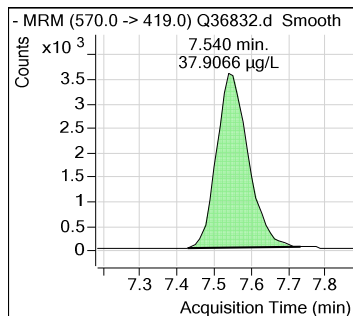
PFNA



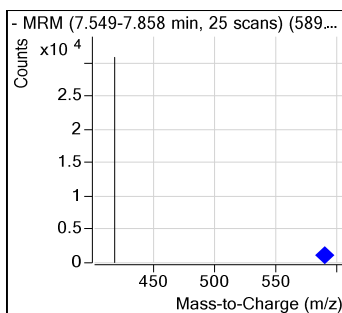
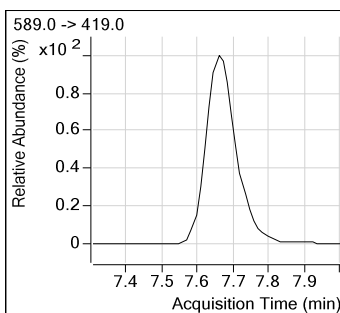
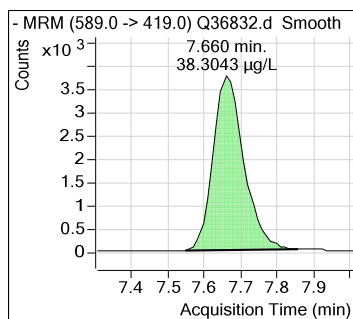
d3-MeFOSAA



MeFOSAA

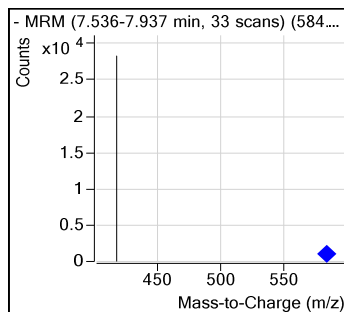
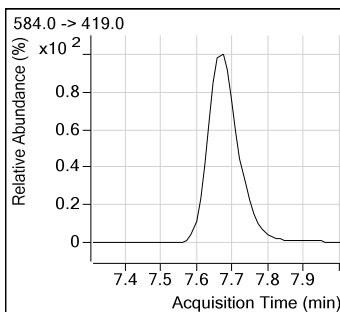
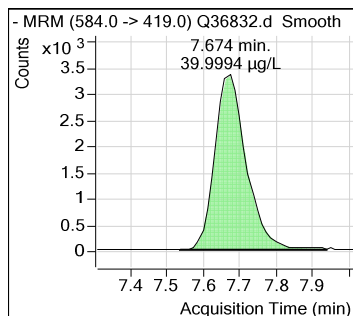


d5-EtFOSAA

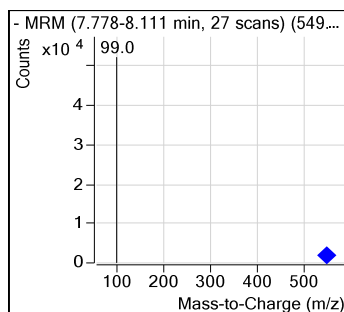
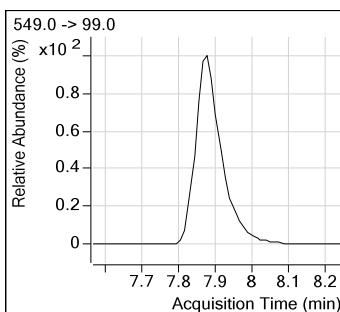
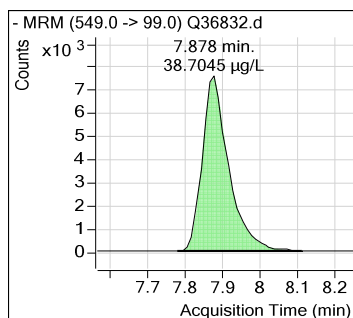


Perfluorinated Compounds by LC/MS/MS.

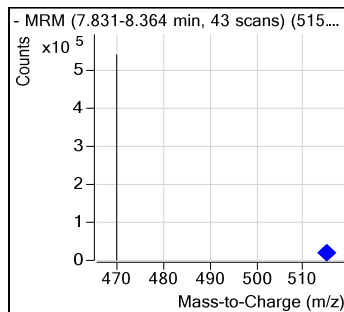
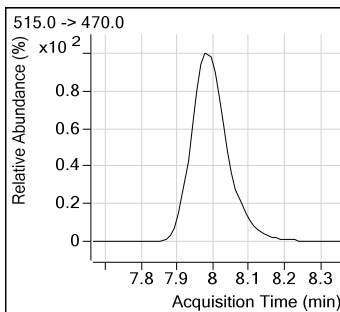
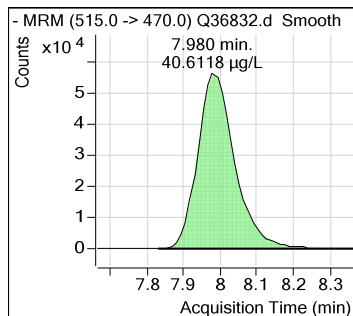
EtFOSAA



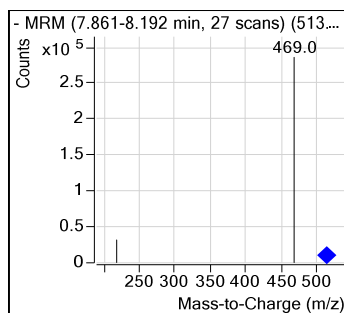
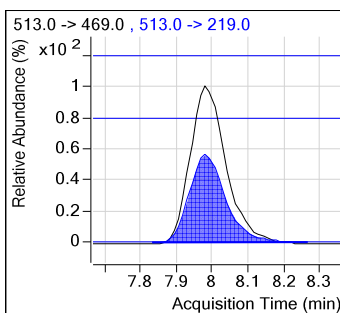
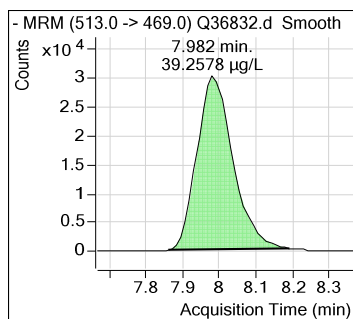
PFNS



13C2-PFDA

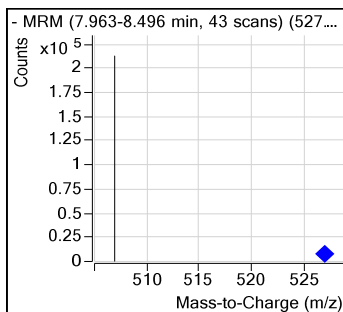
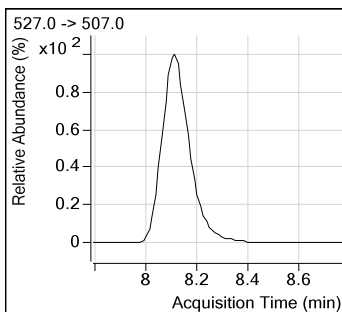
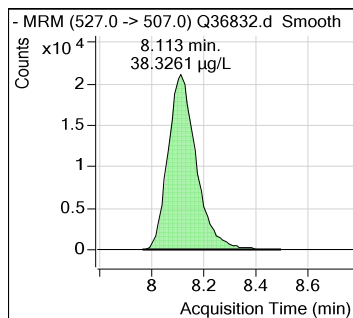


PFDA

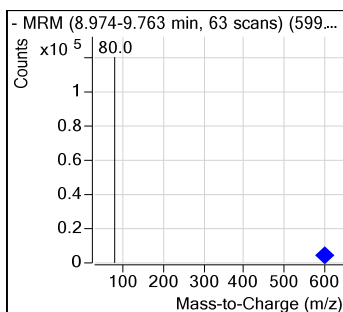
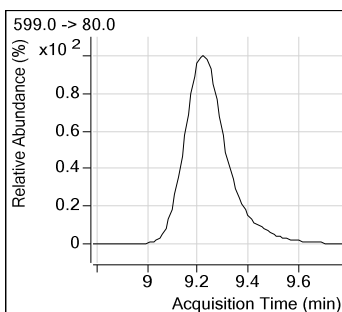
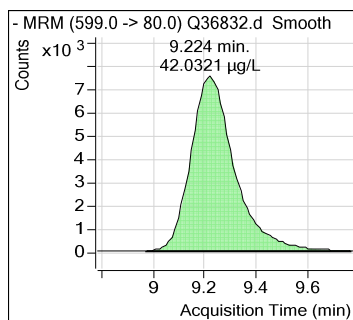


Perfluorinated Compounds by LC/MS/MS.

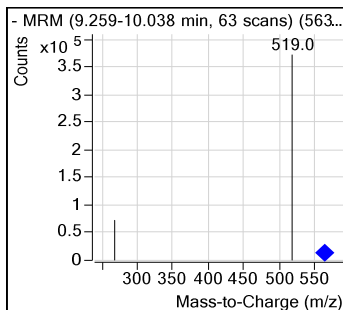
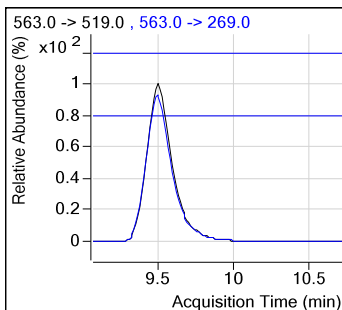
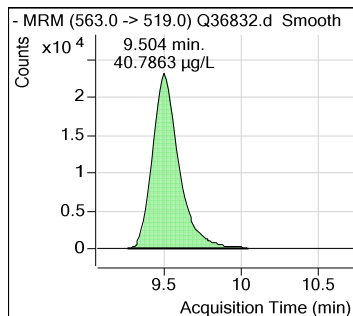
8:2FTS



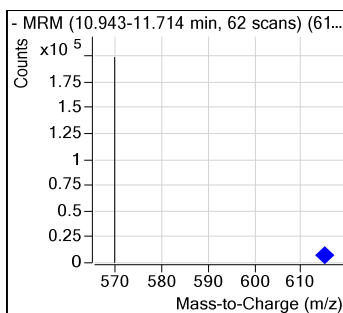
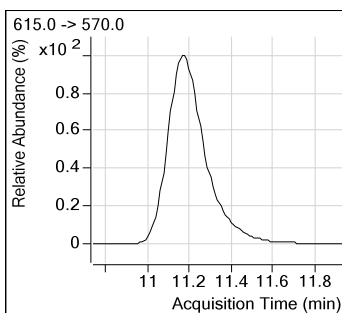
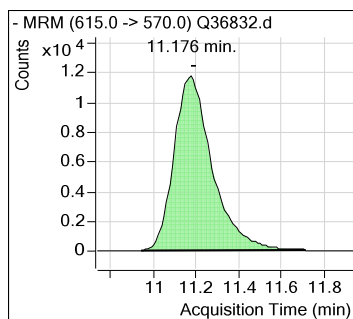
PFDS



PFUnDA

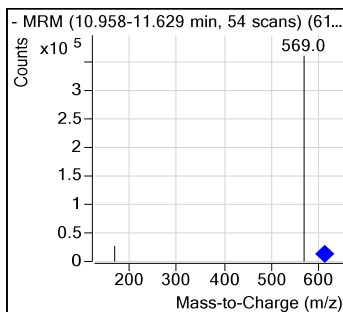
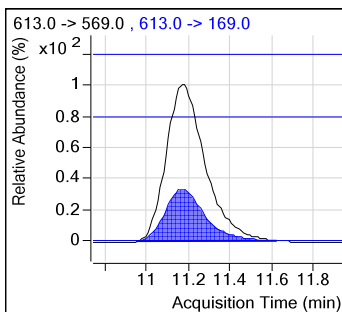
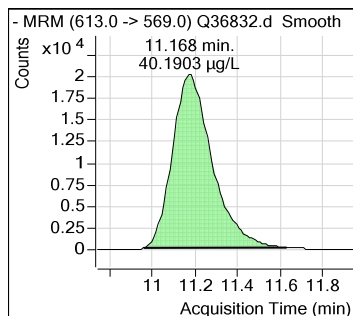


13C2-PFDoDA

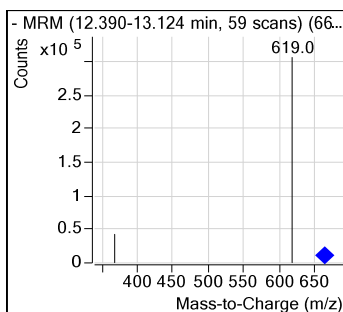
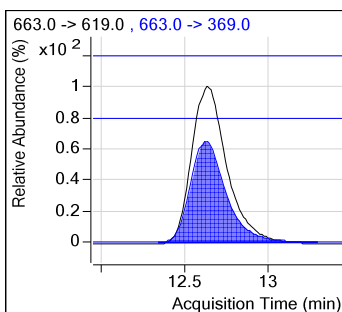
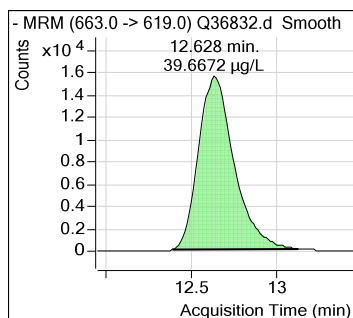


Perfluorinated Compounds by LC/MS/MS.

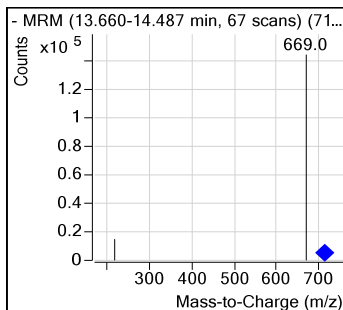
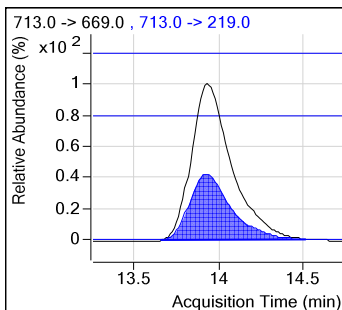
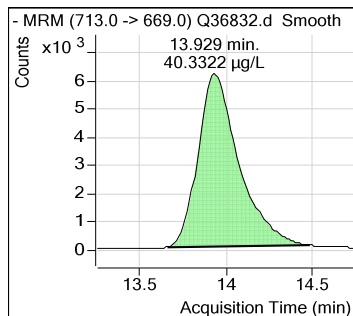
PFDoDA



PFTrDA



PFTeDA



Calibration Curve

Manual Integration Approval Summary

Sample Number: SQ936-IC936

Method: EPA 537 MOD

Lab FileID: Q36832.D

Analyst approved: 07/18/17 14:24 Nancy Saunders

Injection Time: 07/17/17 11:55

Supervisor approved: 07/19/17 14:43 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		6.01	Split peak
Perfluorooctanesulfonic acid	1763-23-1		7.22	Split peak

7.5.6.1
7

Perfluorinated Compounds by LC/MS/MS.

Manual Integrations
APPROVED
(compounds with "m" flag)

Mike Eger
07/19/17 14:43

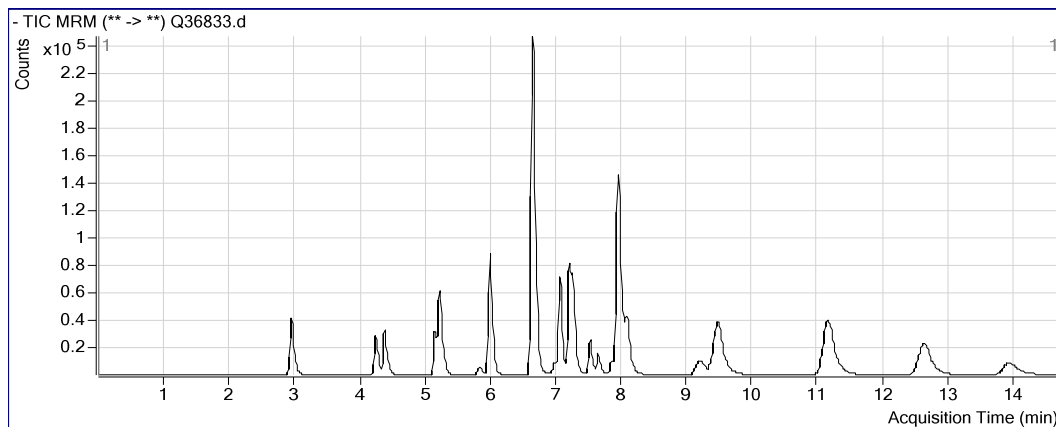
Data File : Q36833.d
Operator : NANCYF
Acq Method Name : 537_LIST.m
Acquisition date : 2017-07-17 12:15
Sample Name : IC936-50
Vial : Vial 8
Sample Info : OP65698,SQ936,5.00,,,5,1,SOIL
Quant Method : PFC_LIST_0717_SQ936.quantmethod.xml
Quant Batch Name : SQ936.batch.bin
Last Calib Update : 2017-07-18 07:16

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
13C3-PFPeA	4.260	266.0 -> 222.0	57058	20.000	µg/L	0.000
13C2-PFOA	6.663	415.0 -> 370.0	160291	20.000	µg/L	-0.013
13C2-6:2FTS	6.671	429.0 -> 409.0	92838	20.000	µg/L	-0.013
13C4-PFOS	7.224	503.0 -> 80.0	80652	20.000	µg/L	0.000
d3-MeFOSAA	7.538	573.0 -> 419.0	69246	20.000	µg/L	0.000
13C2-PFDoDA	11.176	615.0 -> 570.0	139215	20.000	µg/L	0.000
System Monitoring Compounds						
13C2-PFHxA	5.247	315.0 -> 270.0	117542	53.57	µg/L	0.000
Spiked Amount: 20.000	Range: 14 - 26		Recovery = 267.84%			
d5-EtFOSAA	7.660	589.0 -> 419.0	30125	54.84	µg/L	0.000
Spiked Amount: 20.000	Range: 14 - 26		Recovery = 274.22%			
13C2-PFDA	7.980	515.0 -> 470.0	503669	54.32	µg/L	-0.013
Spiked Amount: 20.000	Range: 14 - 26		Recovery = 271.62%			
Target Compounds						Qvalue
PFBA	2.977	213.0 -> 169.0	195004	53.694	µg/L	100
PFPeA	4.263	263.0 -> 219.0	67507	53.944	µg/L	100
PFBS	4.391	299.0 -> 80.0	97563	53.220	µg/L	95
4:2FTS	5.170	327.0 -> 307.0	134201	51.625	µg/L	100
PFHxA	5.237	313.0 -> 269.0	112678	54.311	µg/L	98
PFPeS	5.280	349.0 -> 99.0	20424	54.276	µg/L	100
PFHxS	6.006	399.0 -> 80.0	130878	53.107	µg/L # m	86
PFHpA	6.011	363.0 -> 319.0	159666	54.493	µg/L #	90
PFHpS	6.632	449.0 -> 80.0	136483	55.036	µg/L	100
PFOA	6.664	413.0 -> 369.0	397068	54.543	µg/L #	92
6:2FTS	6.686	427.0 -> 407.0	220773	51.943	µg/L	100
FOSA	7.090	498.0 -> 78.0	247928	52.672	µg/L	100
PFOS	7.225	499.0 -> 80.0	222608	52.896	µg/L # m	79
PFNA	7.294	463.0 -> 419.0	178958	53.625	µg/L	97
MeFOSAA	7.552	570.0 -> 419.0	30041	55.724	µg/L	100
EtFOSAA	7.674	584.0 -> 419.0	26325	54.879	µg/L	100
PFNS	7.878	549.0 -> 99.0	47182	52.053	µg/L	100
PFDA	7.982	513.0 -> 469.0	272329	55.030	µg/L #	81
8:2FTS	8.113	527.0 -> 507.0	204400	52.391	µg/L	100
PFDS	9.224	599.0 -> 80.0	113445	56.054	µg/L	100
PFUnDA	9.491	563.0 -> 519.0	354027	54.655	µg/L	97
PFDoDA	11.181	613.0 -> 569.0	326197	52.804	µg/L #	71
PFTriDA	12.640	663.0 -> 619.0	284357	53.292	µg/L #	85
PFTeDA	13.954	713.0 -> 669.0	133796	55.199	µg/L #	75

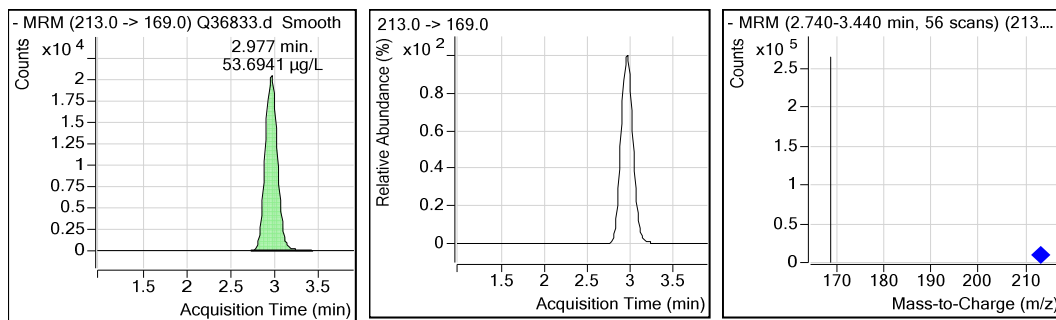
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

Perfluorinated Compounds by LC/MS/MS.

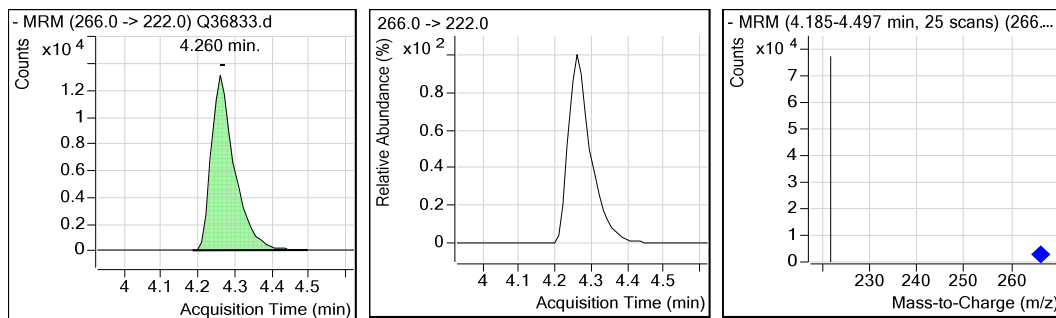
Data File : Q36833.d
Operator : NANCYF
Acq Method Name : 537_LIST.m
Acquisition date : 2017-07-17 12:15
Sample Name : IC936-50
Vial : Vial 8
Sample Info : OP65698,SQ936,5.00,,,5,1,SOIL
Quant Method : PFC_LIST_0717_SQ936.quantmethod.xml
Quant Batch Name : SQ936.batch.bin
Last Calib Update : 2017-07-18 07:16



PFBA

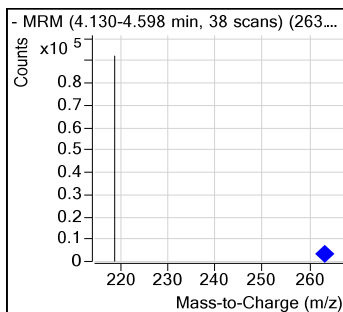
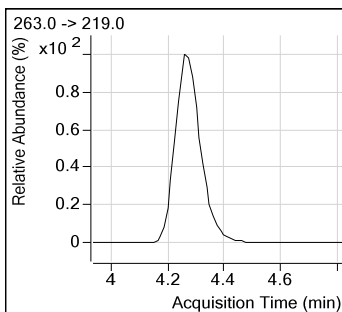
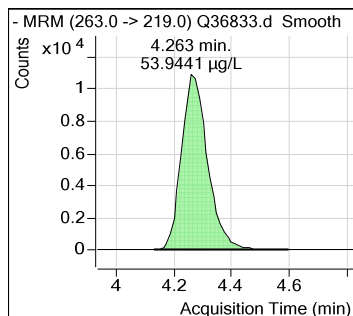


13C3-PFPeA

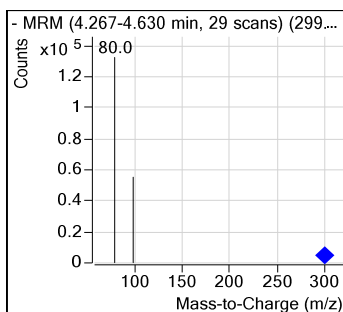
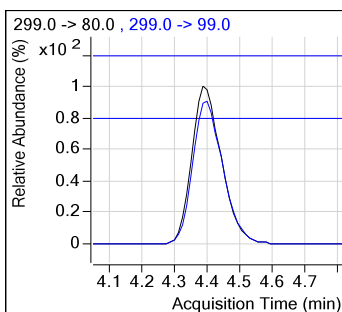
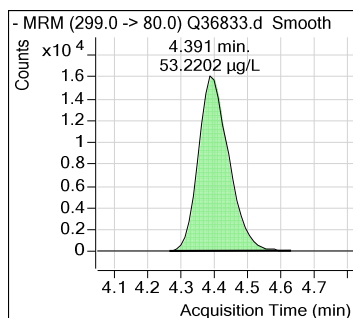


Perfluorinated Compounds by LC/MS/MS.

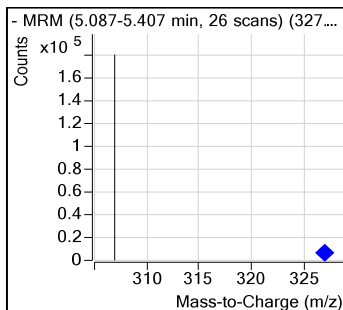
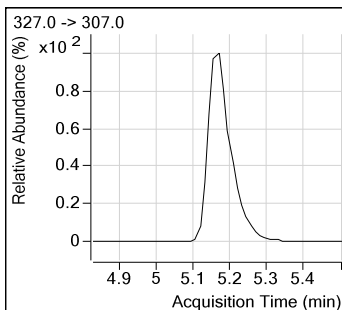
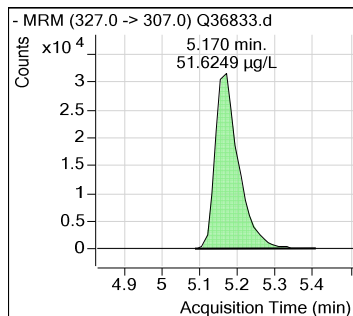
PFPeA



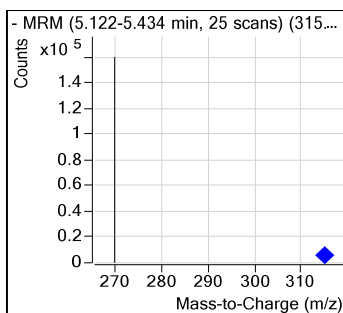
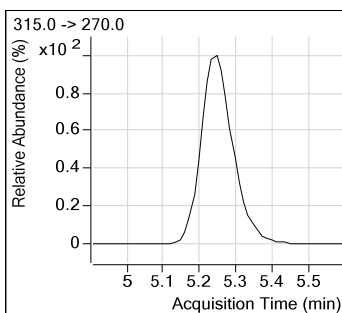
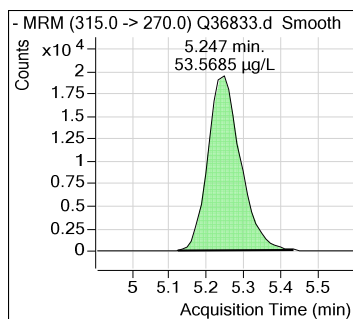
PFBS



4:2FTS

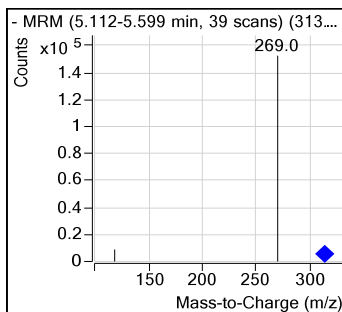
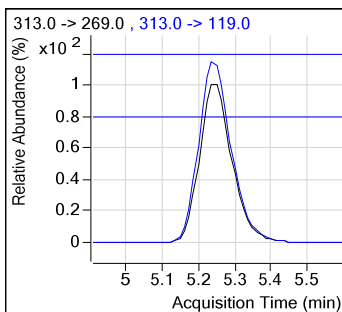
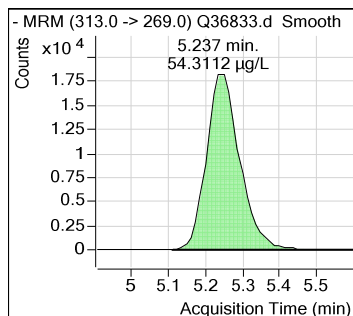


13C2-PFHxA

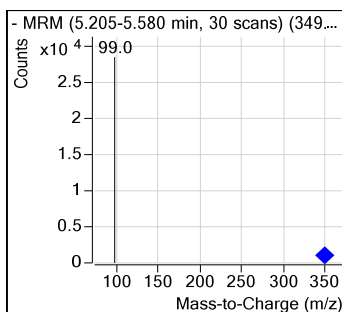
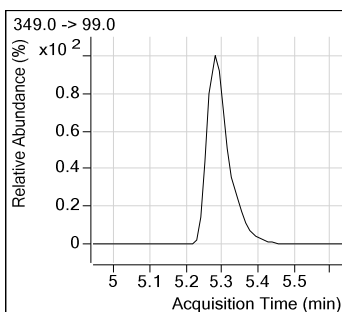
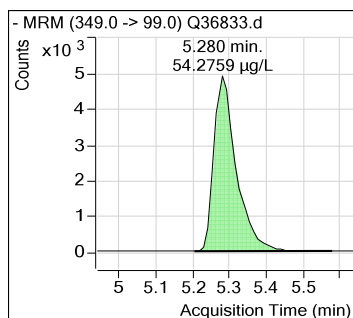


Perfluorinated Compounds by LC/MS/MS.

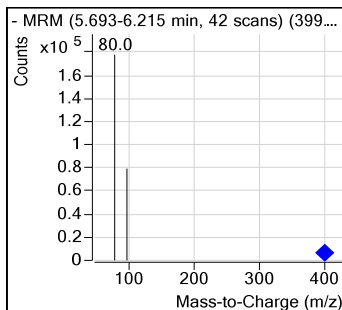
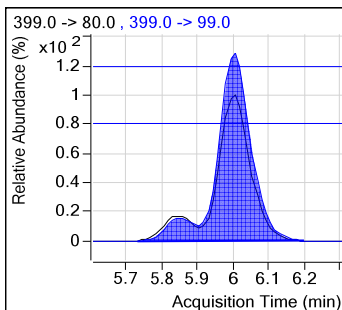
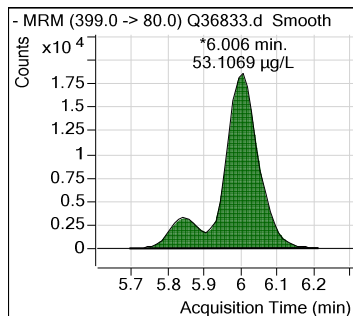
PFHxA



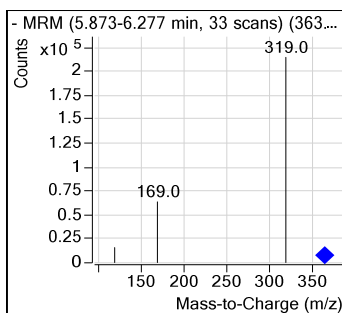
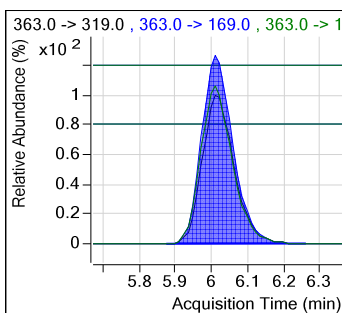
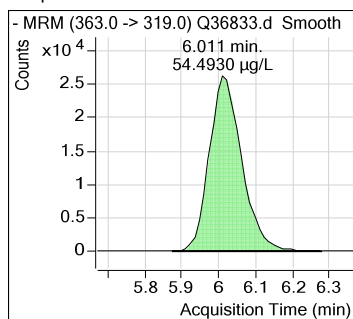
PFPeS



PFHxS

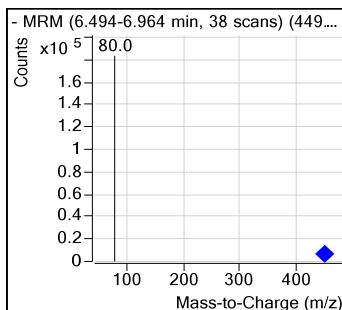
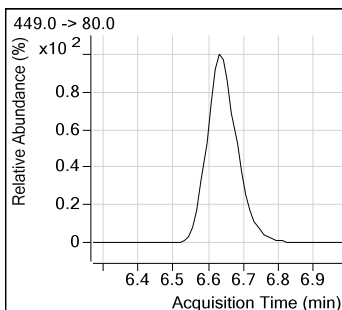
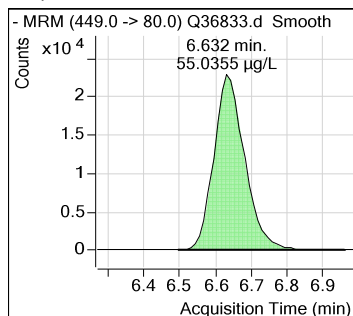


PFHpA

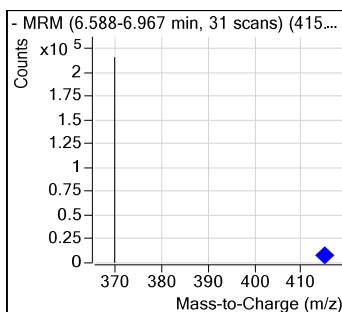
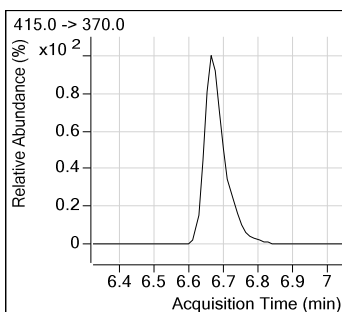
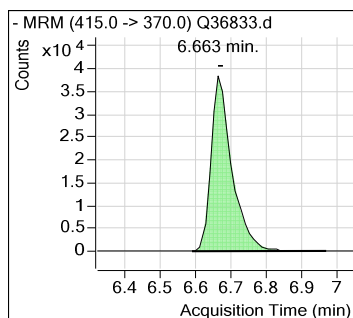


Perfluorinated Compounds by LC/MS/MS.

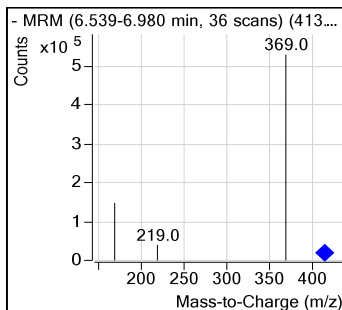
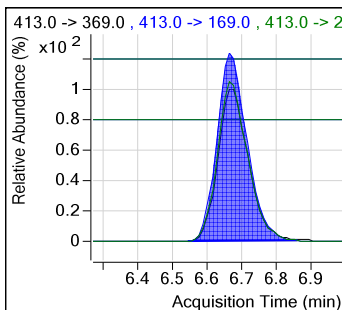
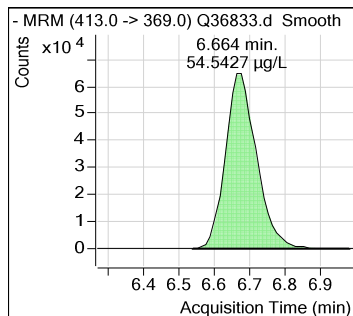
PFHpS



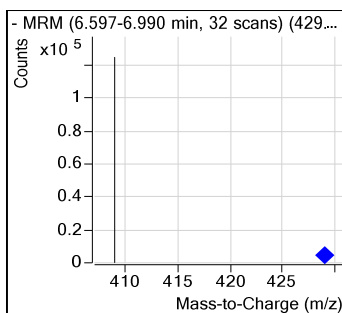
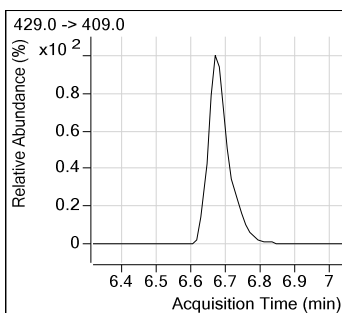
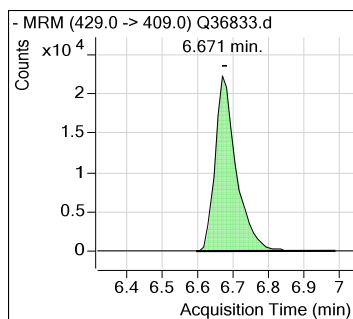
13C2-PFOA



PFOA

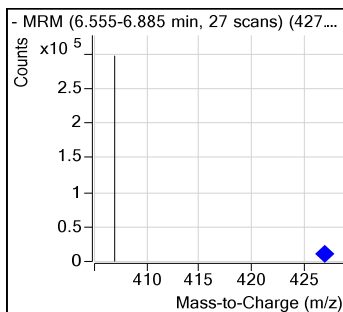
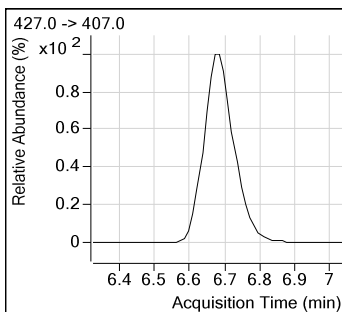
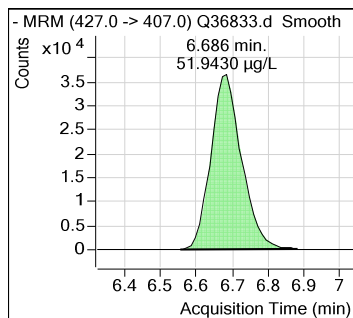


13C2-6:2FTS

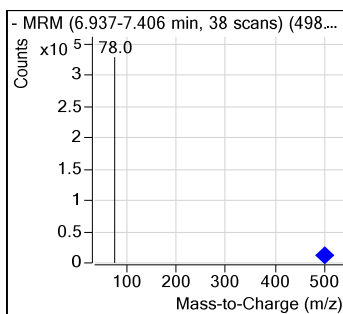
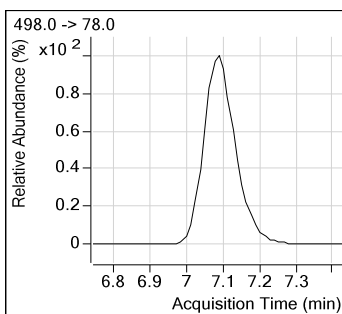
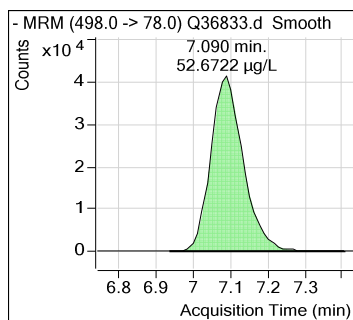


Perfluorinated Compounds by LC/MS/MS.

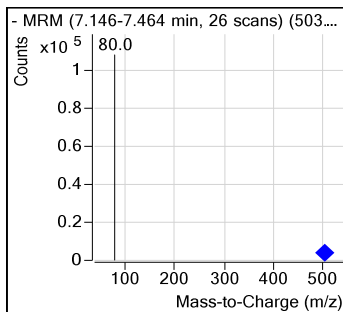
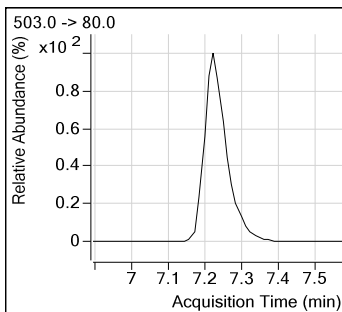
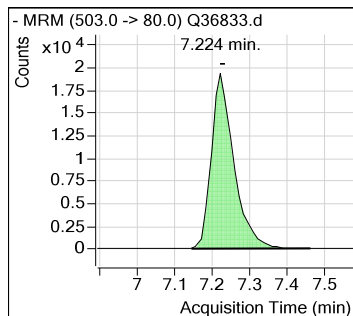
6:2FTS



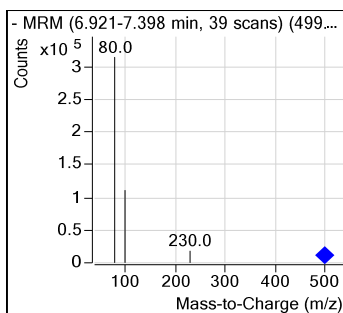
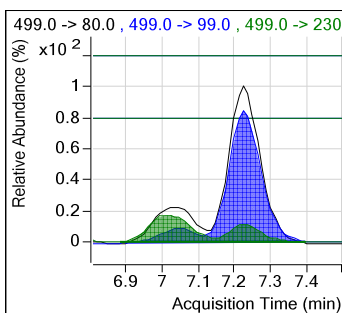
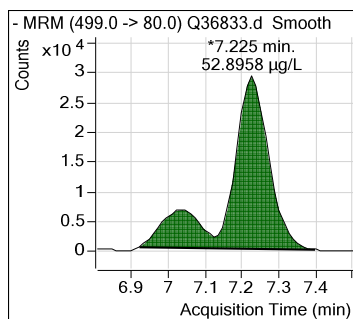
FOSA



13C4-PFOS

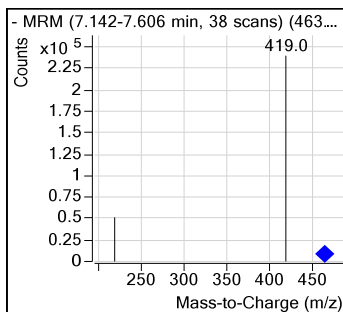
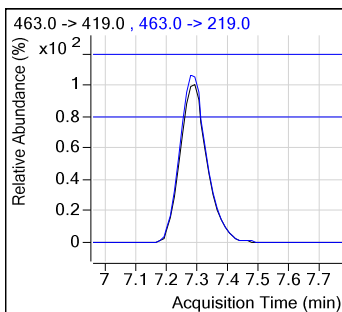
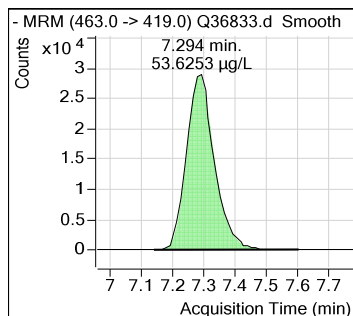


PFOS

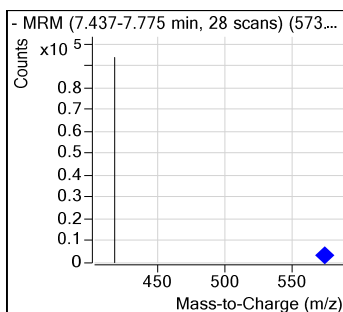
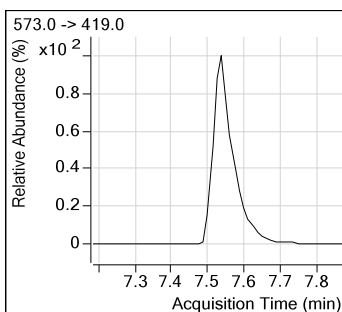
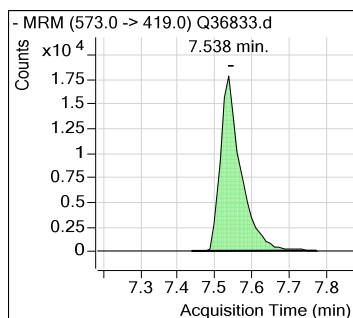


Perfluorinated Compounds by LC/MS/MS.

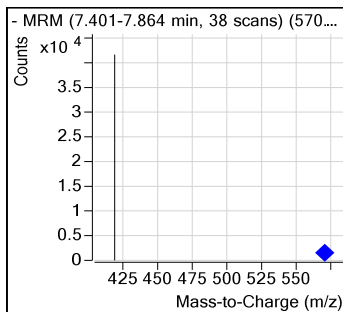
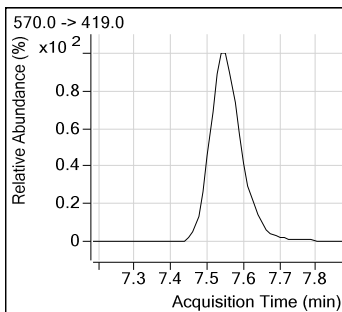
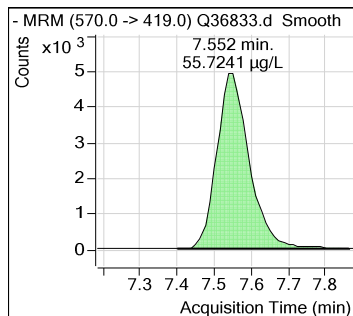
PFNA



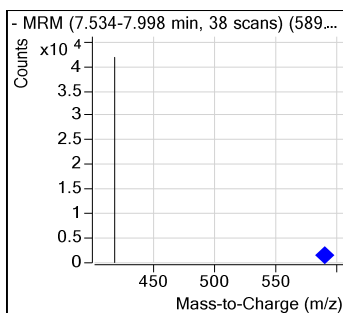
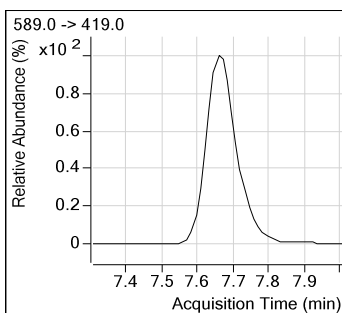
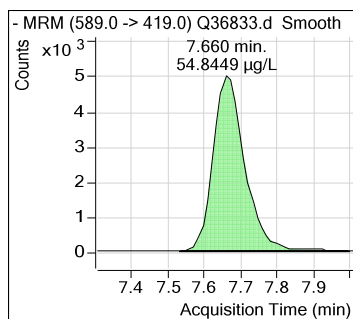
d3-MeFOSAA



MeFOSAA

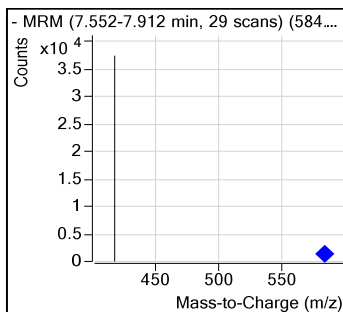
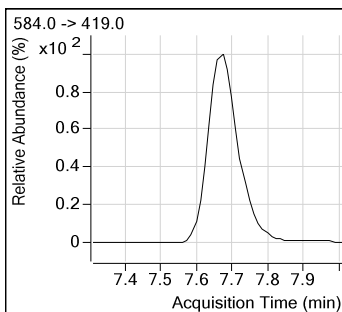
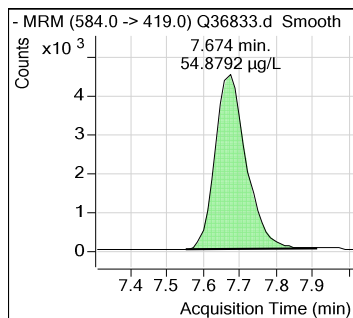


d5-EtFOSAA

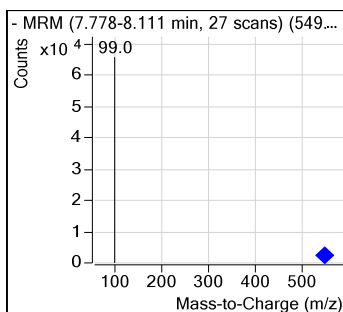
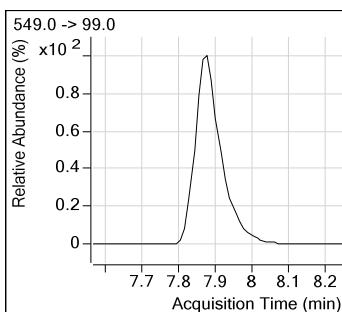
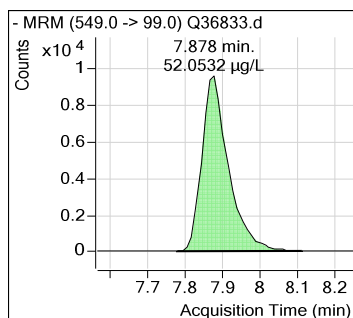


Perfluorinated Compounds by LC/MS/MS.

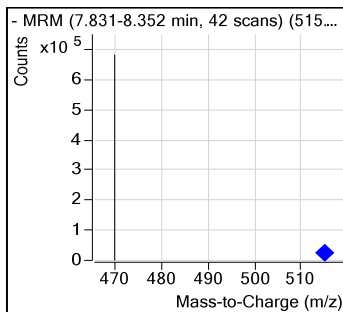
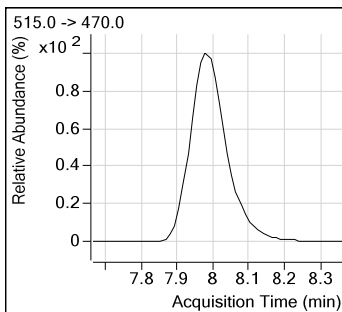
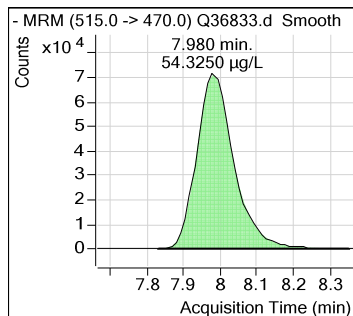
EtFOSAA



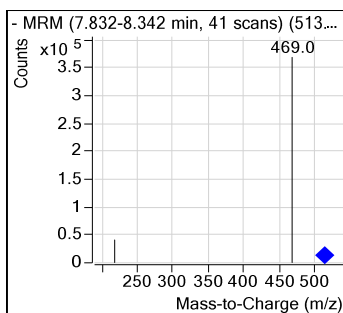
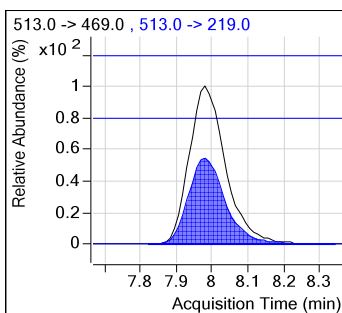
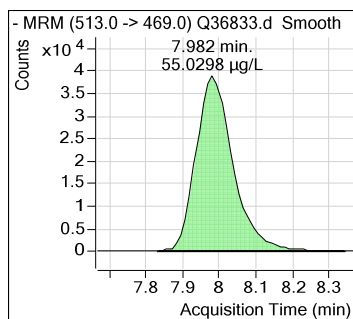
PFNS



13C2-PFDA

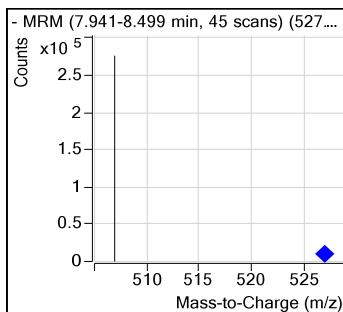
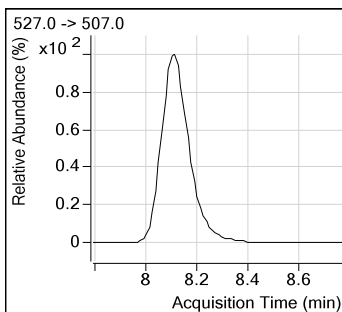
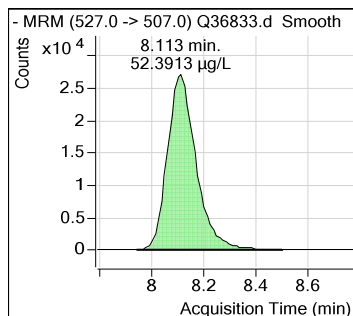


PFDA

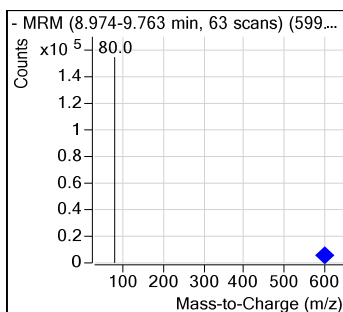
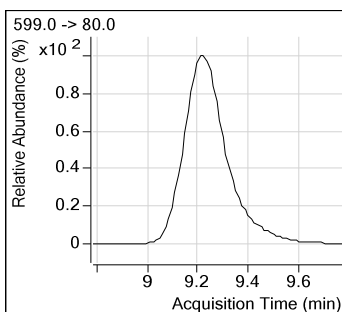
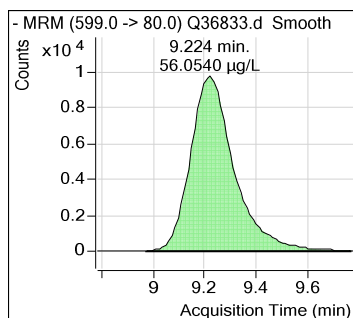


Perfluorinated Compounds by LC/MS/MS.

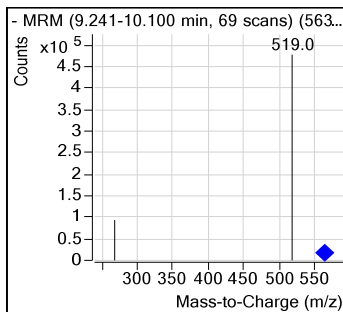
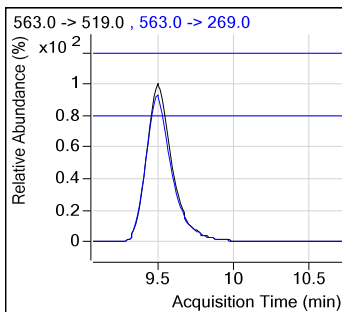
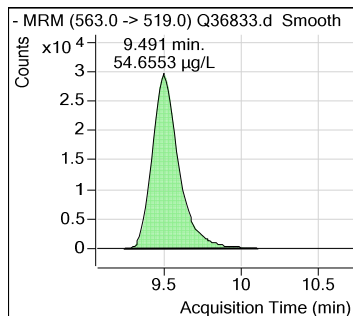
8:2FTS



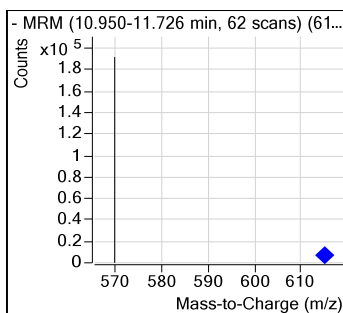
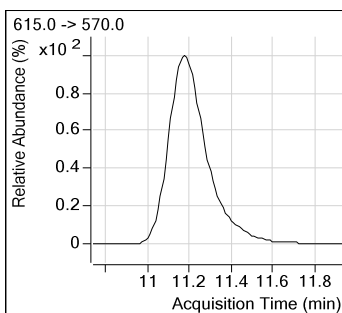
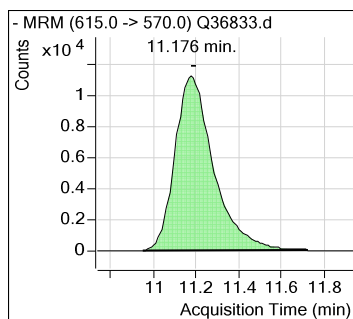
PFDS



PFUnDA

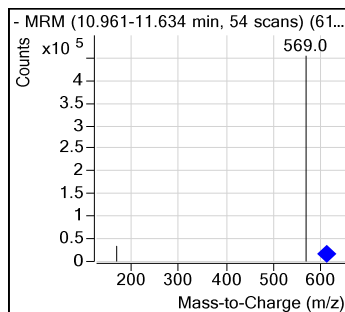
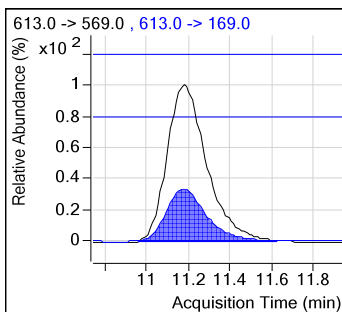
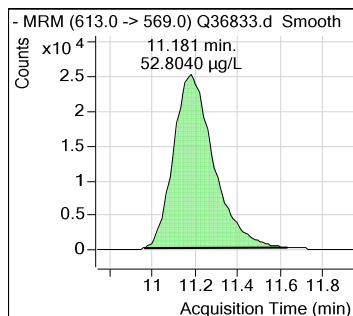


13C2-PFDoDA

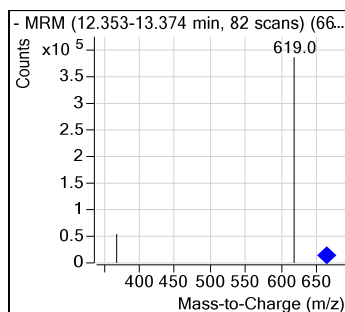
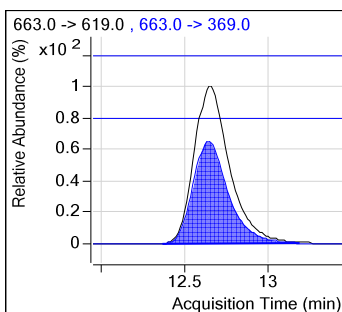
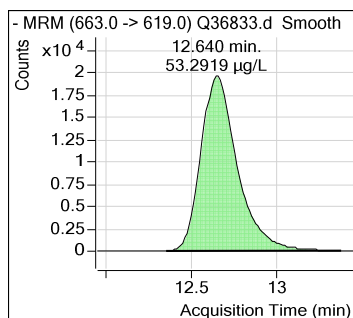


Perfluorinated Compounds by LC/MS/MS.

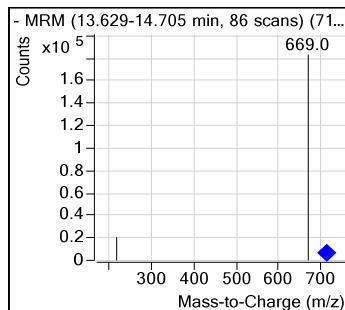
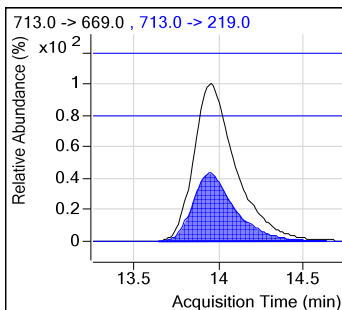
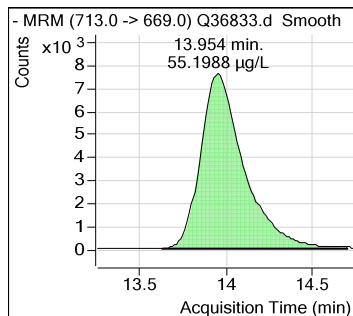
PFDoDA



PFTrDA



PFTeDA



Calibration Curve

Manual Integration Approval Summary

Sample Number: SQ936-IC936

Method: EPA 537 MOD

Lab FileID: Q36833.D

Analyst approved: 07/18/17 14:24 Nancy Saunders

Injection Time: 07/17/17 12:15

Supervisor approved: 07/19/17 14:43 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		6.01	Split peak
Perfluorooctanesulfonic acid	1763-23-1		7.22	Split peak

7.5.7.1
7

Perfluorinated Compounds by LC/MS/MS.

Manual Integrations
APPROVED
(compounds with "m" flag)

Mike Eger
07/19/17 14:43

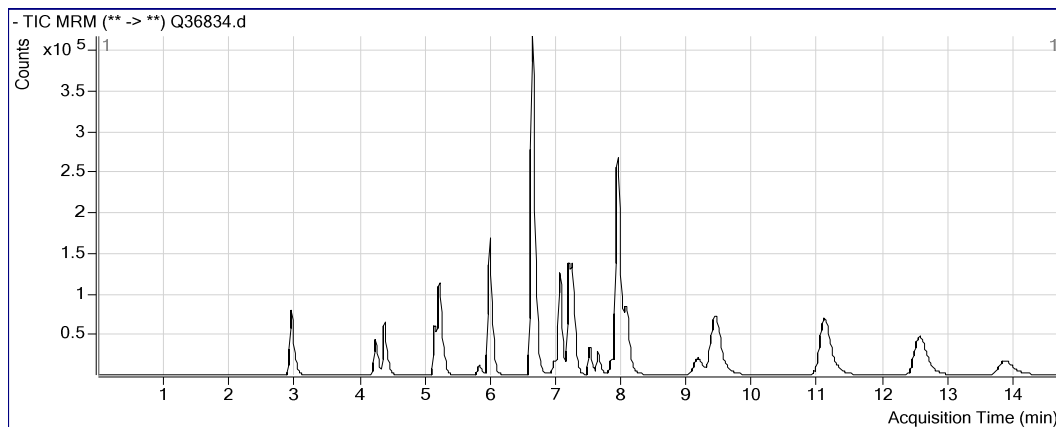
Data File : Q36834.d
Operator : NANCYF
Acq Method Name : 537_LIST.m
Acquisition date : 2017-07-17 12:34
Sample Name : IC936-100
Vial : Vial 9
Sample Info : OP65698,SQ936,5.00,,,5,1,SOIL
Quant Method : PFC_LIST_0717_SQ936.quantmethod.xml
Quant Batch Name : SQ936.batch.bin
Last Calib Update : 2017-07-18 07:16

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
13C3-PFPeA	4.260	266.0 -> 222.0	60963	20.000	µg/L	0.000
13C2-PFOA	6.663	415.0 -> 370.0	168447	20.000	µg/L	-0.013
13C2-6:2FTS	6.671	429.0 -> 409.0	106226	20.000	µg/L	-0.013
13C4-PFOS	7.224	503.0 -> 80.0	86658	20.000	µg/L	0.000
d3-MeFOSAA	7.526	573.0 -> 419.0	76701	20.000	µg/L	-0.012
13C2-PFDoDA	11.126	615.0 -> 570.0	153793	20.000	µg/L	-0.050
System Monitoring Compounds						
13C2-PFHxA	5.235	315.0 -> 270.0	225526	97.80	µg/L	-0.013
Spiked Amount: 20.000	Range: 14 - 26		Recovery = 489.02%			
d5-EtFOSAA	7.660	589.0 -> 419.0	59566	97.91	µg/L	0.000
Spiked Amount: 20.000	Range: 14 - 26		Recovery = 489.53%			
13C2-PFDA	7.968	515.0 -> 470.0	947989	97.30	µg/L	-0.025
Spiked Amount: 20.000	Range: 14 - 26		Recovery = 486.49%			
Target Compounds						
						Qvalue
PFBA	2.965	213.0 -> 169.0	380006	97.932	µg/L	100
PFPeA	4.263	263.0 -> 219.0	130796	97.822	µg/L	100
PFBS	4.391	299.0 -> 80.0	193411	98.193	µg/L	93
4:2FTS	5.157	327.0 -> 307.0	260271	99.724	µg/L	100
PFHxA	5.237	313.0 -> 269.0	212593	97.509	µg/L	98
PFPeS	5.280	349.0 -> 99.0	39182	96.907	µg/L	100
PFHxS	5.993	399.0 -> 80.0	254968	96.290	µg/L # m	86
PFHpA	6.011	363.0 -> 319.0	299707	97.335	µg/L #	90
PFHpS	6.632	449.0 -> 80.0	257913	96.794	µg/L	100
PFOA	6.664	413.0 -> 369.0	742959	97.114	µg/L #	91
6:2FTS	6.673	427.0 -> 407.0	414360	99.433	µg/L	100
FOSA	7.090	498.0 -> 78.0	441596	99.550	µg/L	100
PFOS	7.225	499.0 -> 80.0	443892	98.168	µg/L # m	77
PFNA	7.281	463.0 -> 419.0	343791	98.030	µg/L	97
MeFOSAA	7.540	570.0 -> 419.0	58416	97.827	µg/L	100
EtFOSAA	7.661	584.0 -> 419.0	51763	97.421	µg/L	100
PFNS	7.866	549.0 -> 99.0	88844	99.688	µg/L	100
PFDA	7.969	513.0 -> 469.0	506869	97.464	µg/L #	81
8:2FTS	8.101	527.0 -> 507.0	395545	99.628	µg/L	100
PFDS	9.187	599.0 -> 80.0	208335	95.807	µg/L	100
PFUnDA	9.454	563.0 -> 519.0	694813	97.099	µg/L	97
PFDoDA	11.131	613.0 -> 569.0	671719	98.429	µg/L #	71
PFTrDA	12.590	663.0 -> 619.0	579734	98.350	µg/L #	83
PFTeDA	13.892	713.0 -> 669.0	259805	97.025	µg/L #	75

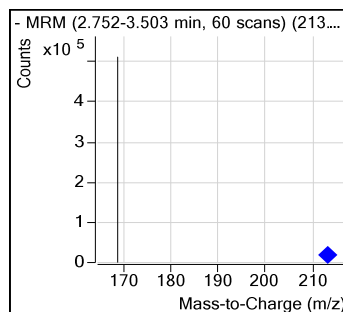
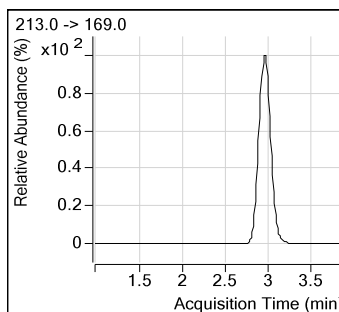
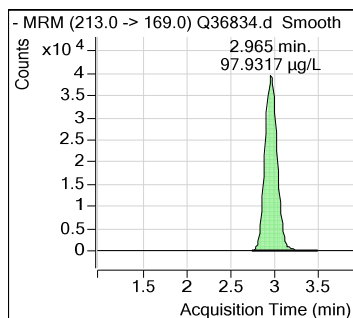
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

Perfluorinated Compounds by LC/MS/MS.

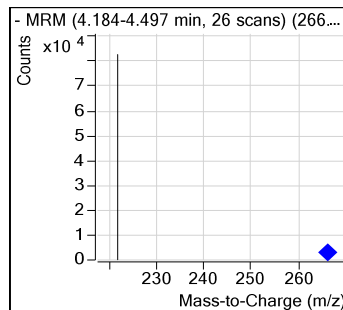
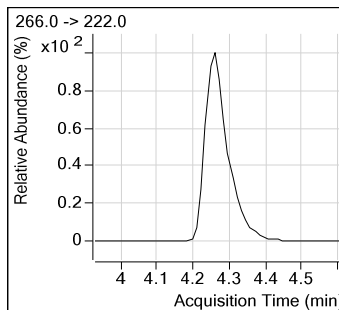
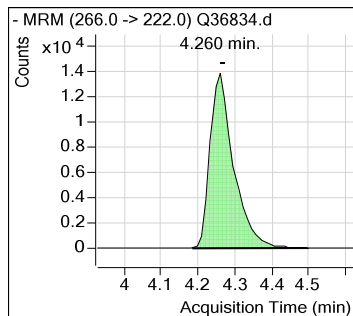
Data File : Q36834.d
Operator : NANCYF
Acq Method Name : 537_LIST.m
Acquisition date : 2017-07-17 12:34
Sample Name : IC936-100
Vial : Vial 9
Sample Info : OP65698,SQ936,5.00,,,5,1,SOIL
Quant Method : PFC_LIST_0717_SQ936.quantmethod.xml
Quant Batch Name : SQ936.batch.bin
Last Calib Update : 2017-07-18 07:16



PFBA

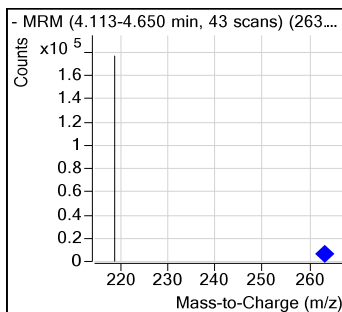
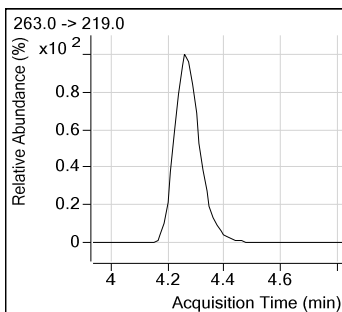
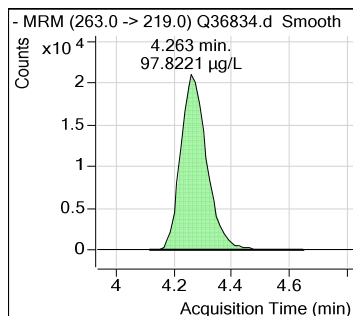


13C3-PFPeA

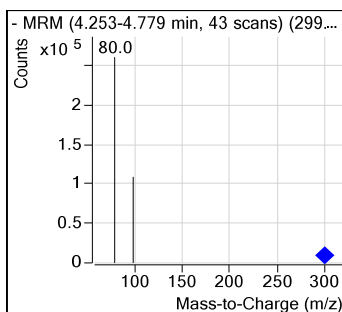
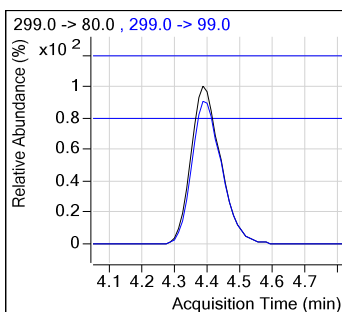
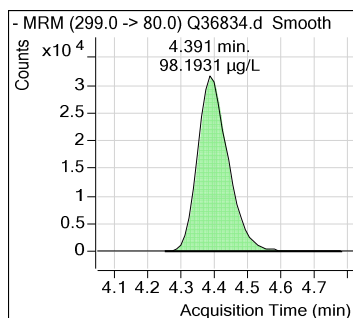


Perfluorinated Compounds by LC/MS/MS.

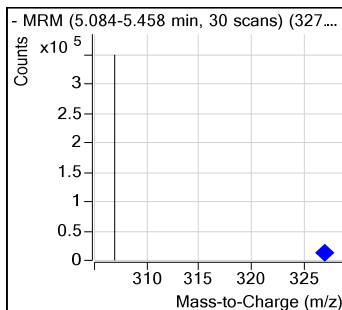
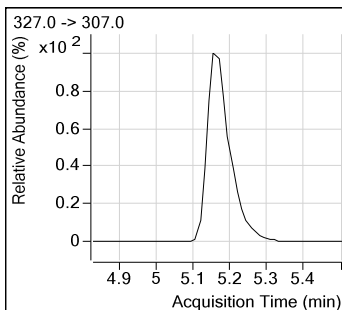
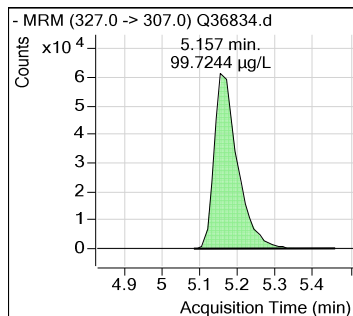
PFPeA



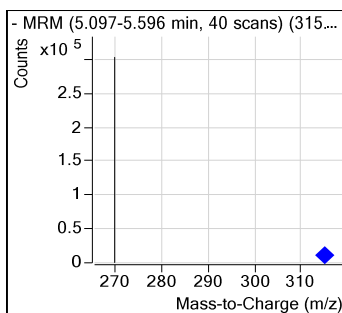
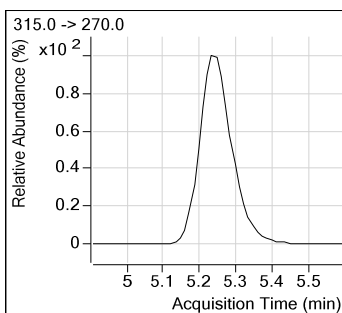
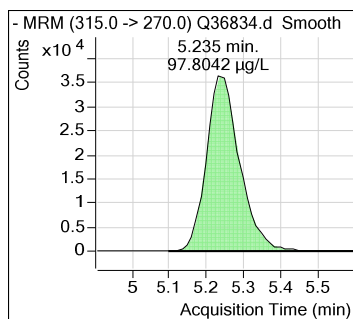
PFBS



4:2FTS

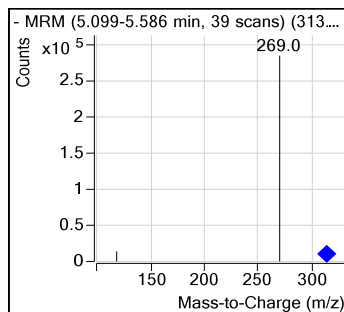
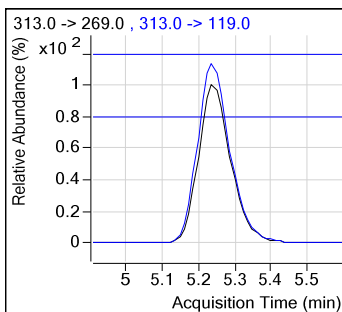
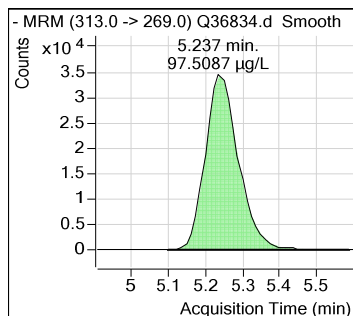


13C2-PFHxA

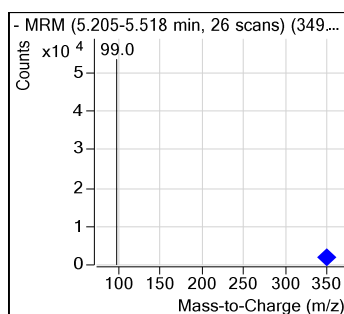
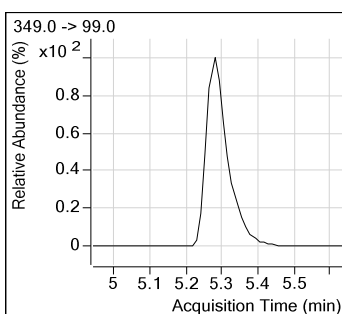
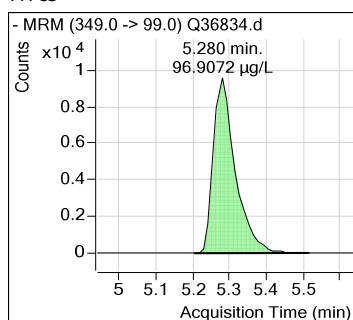


Perfluorinated Compounds by LC/MS/MS.

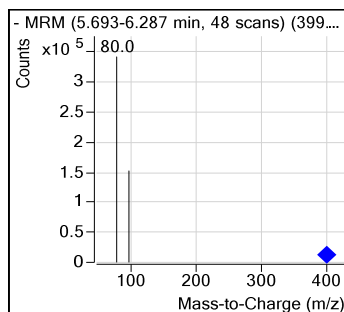
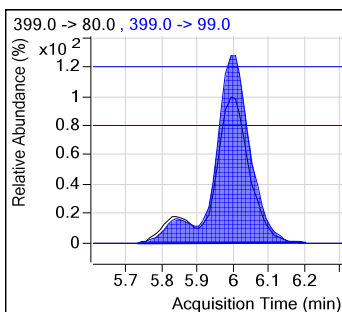
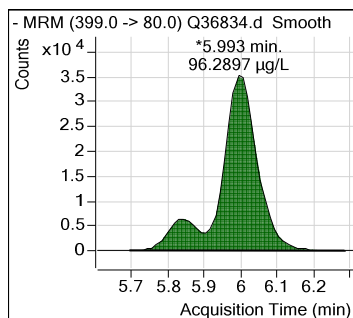
PFHxA



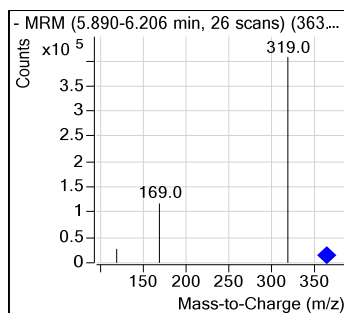
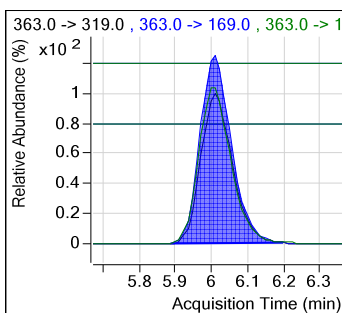
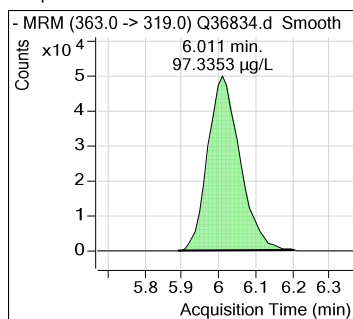
PFPeS



PFHxS

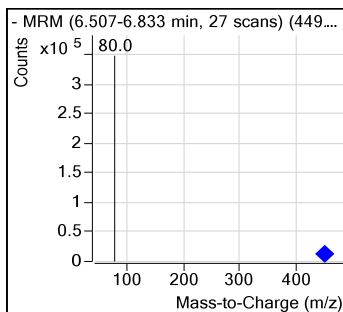
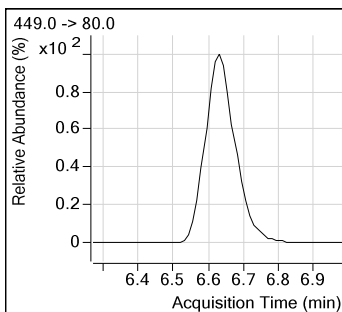
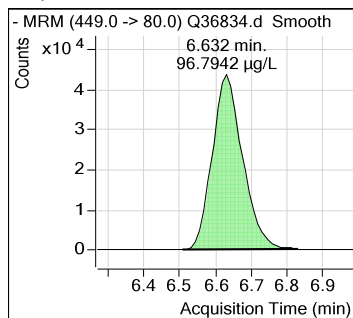


PFHpA

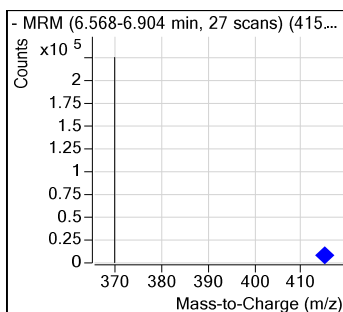
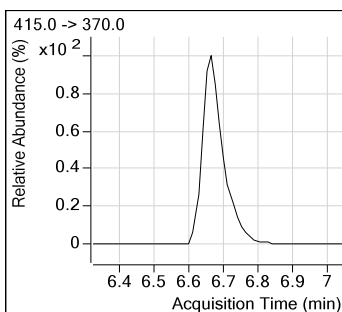
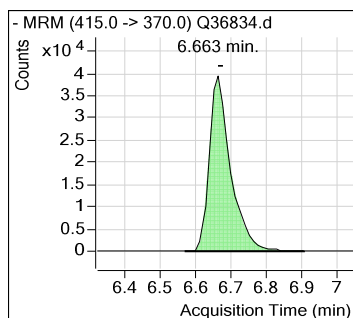


Perfluorinated Compounds by LC/MS/MS.

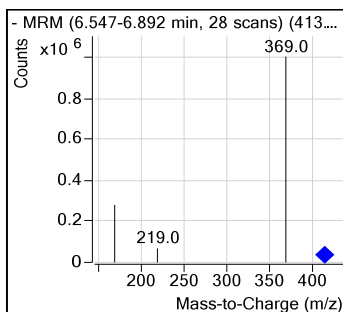
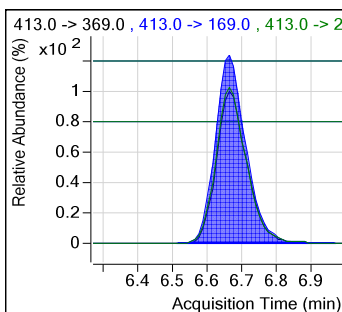
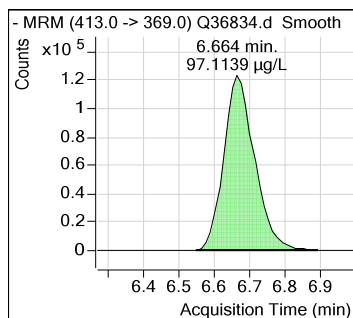
PFHpS



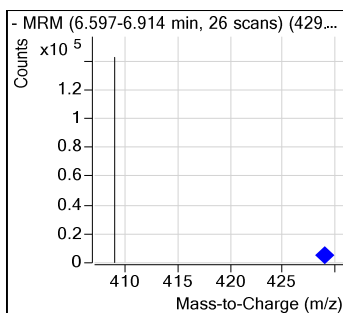
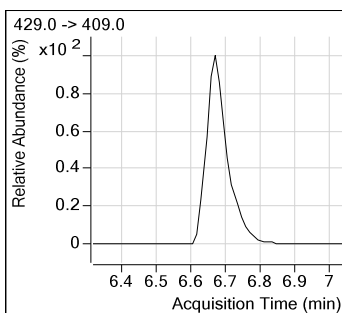
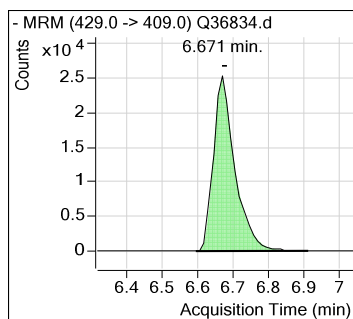
13C2-PFOA



PFOA

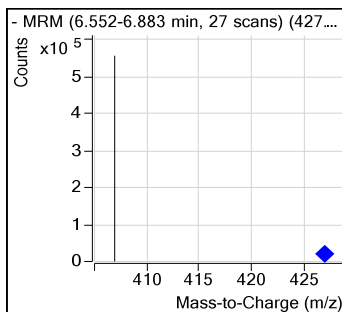
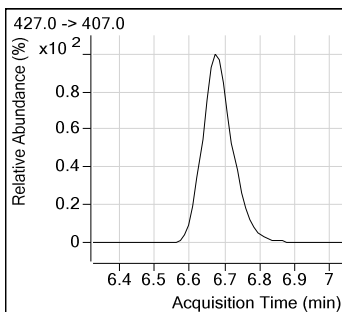
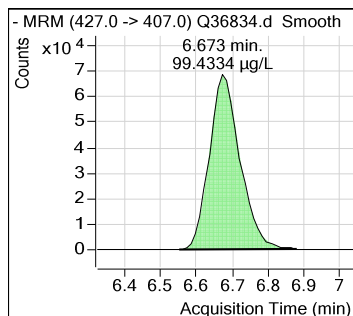


13C2-6:2FTS

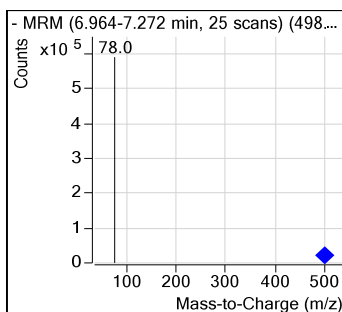
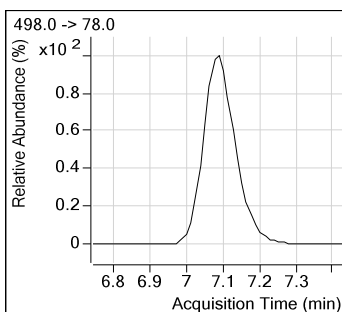
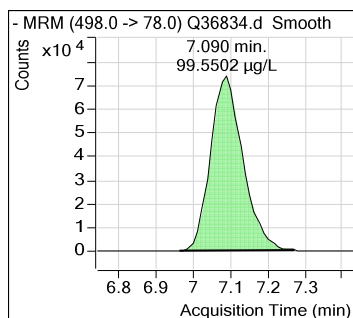


Perfluorinated Compounds by LC/MS/MS.

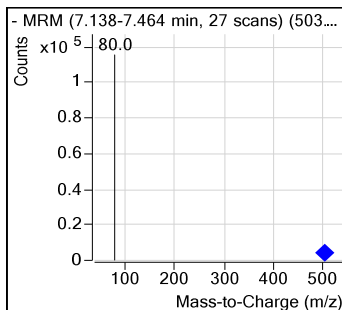
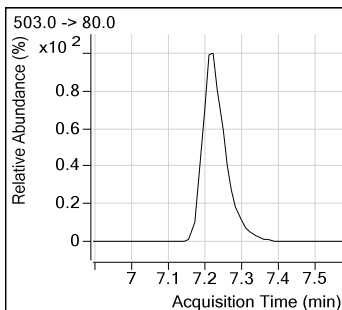
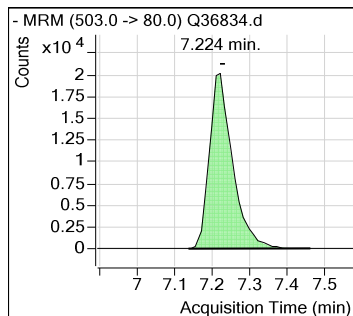
6:2FTS



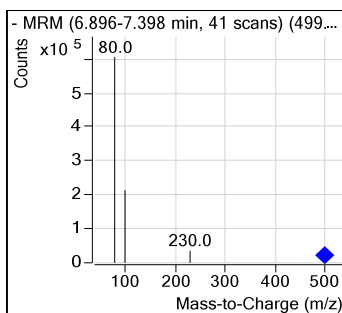
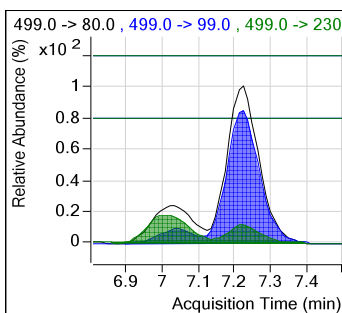
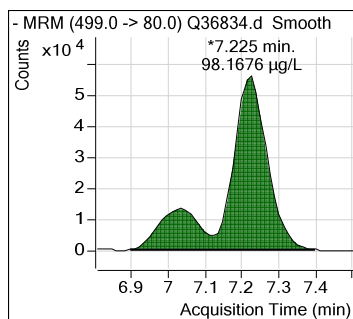
FOSA



13C4-PFOS

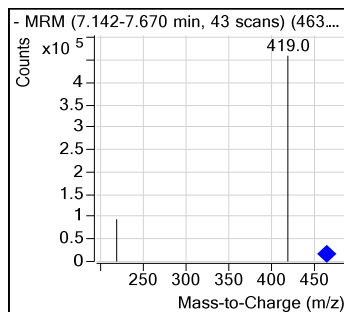
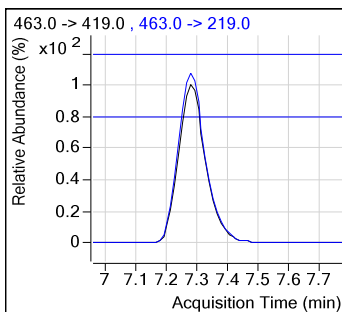
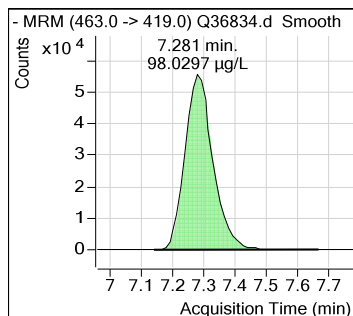


PFOS

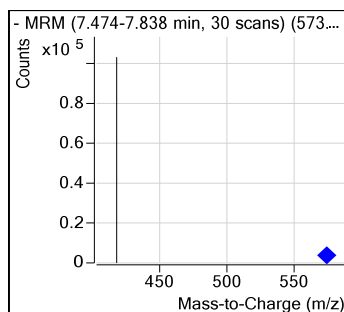
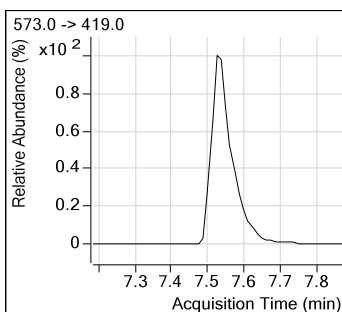
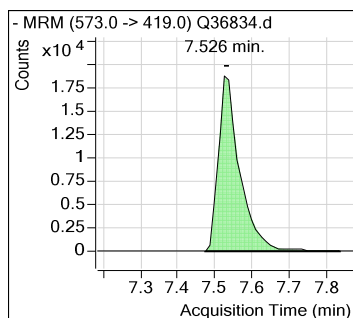


Perfluorinated Compounds by LC/MS/MS.

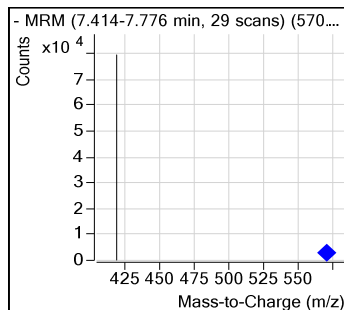
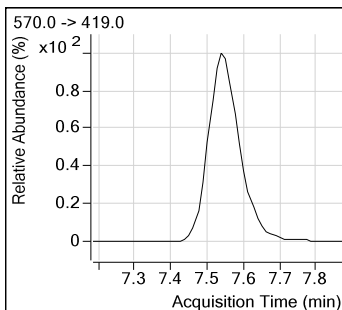
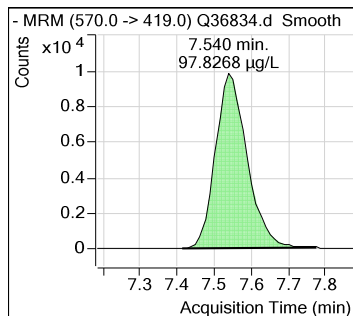
PFNA



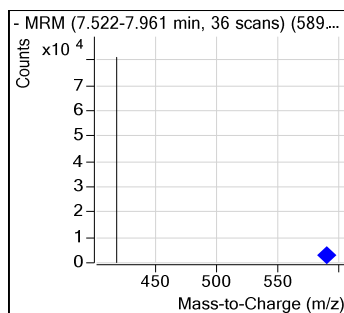
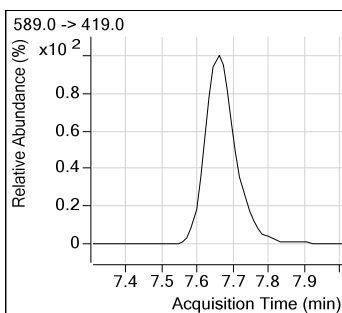
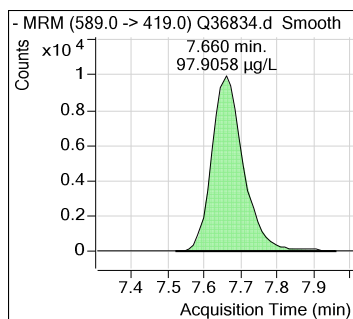
d3-MeFOSAA



MeFOSAA

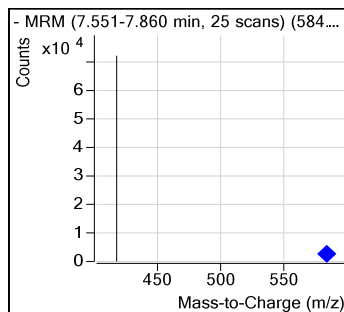
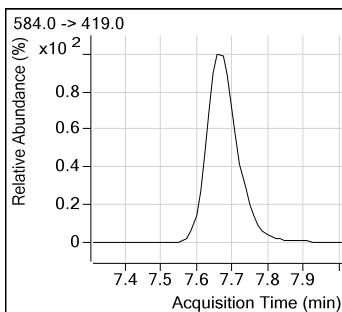
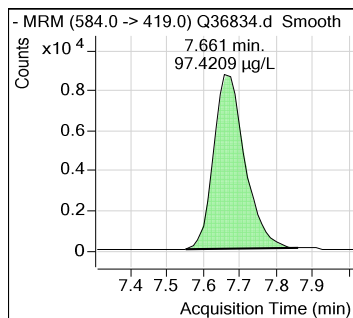


d5-EtFOSAA

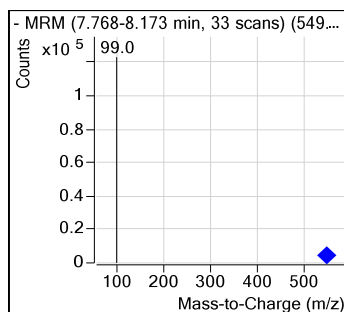
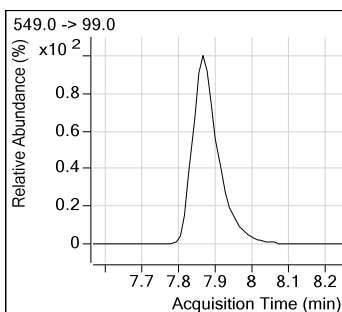
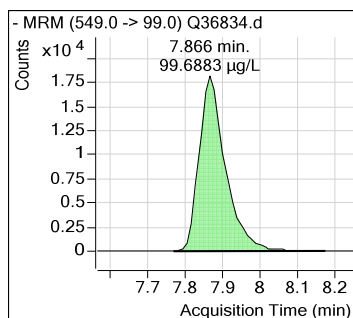


Perfluorinated Compounds by LC/MS/MS.

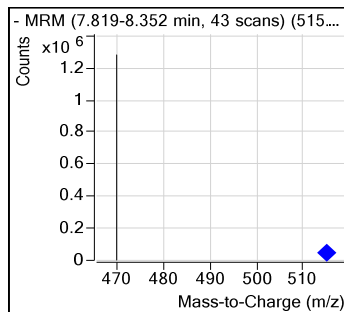
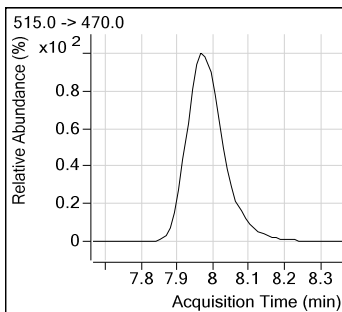
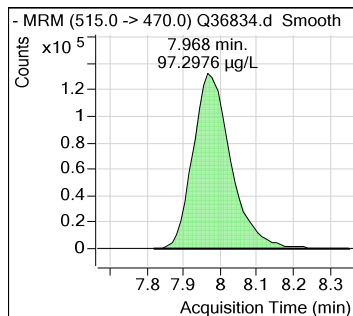
EtFOSAA



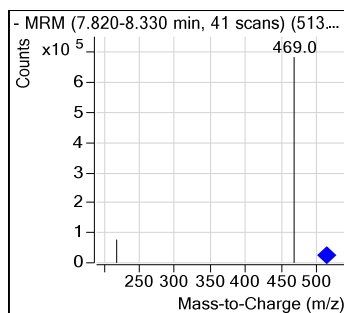
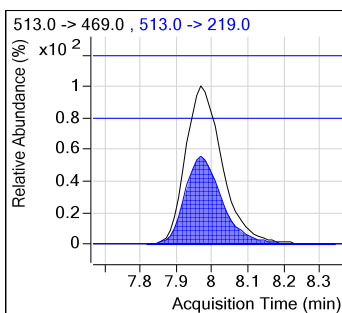
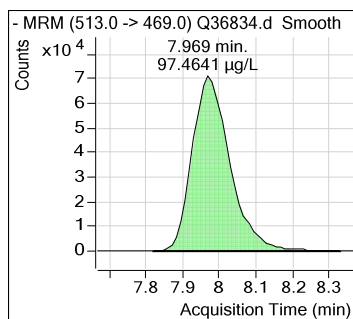
PFNS



13C2-PFDA

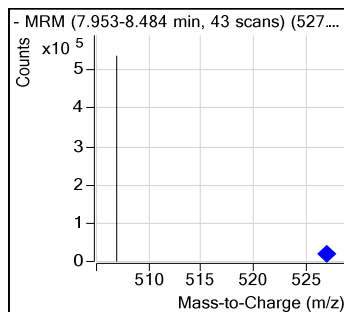
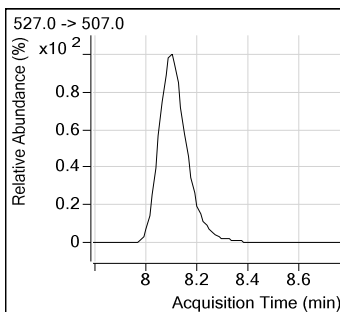
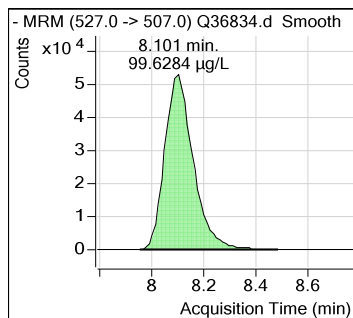


PFDA

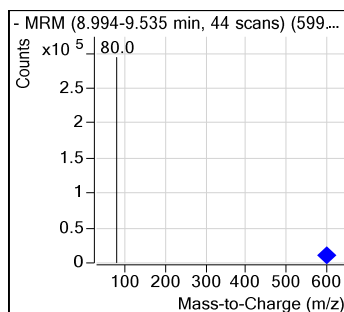
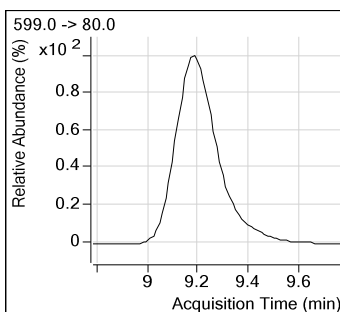
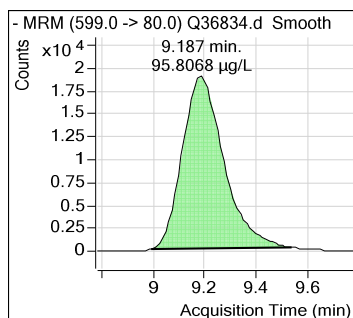


Perfluorinated Compounds by LC/MS/MS.

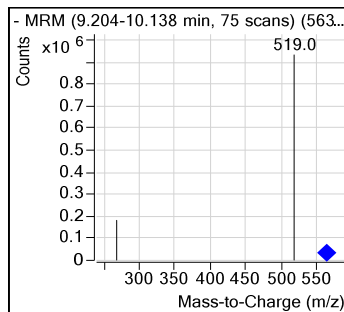
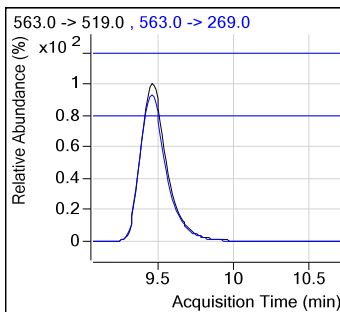
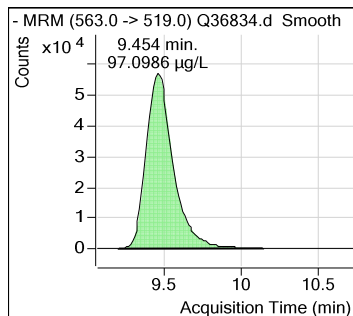
8:2FTS



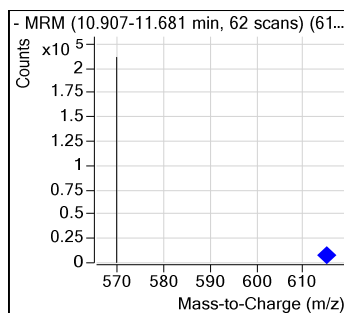
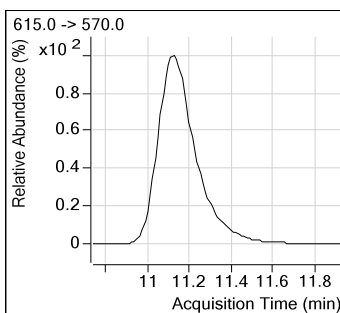
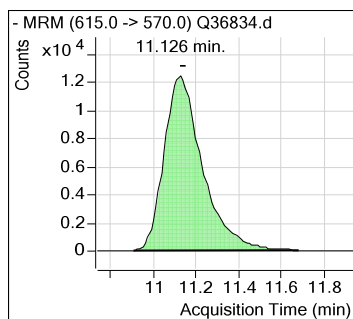
PFDS



PFUnDA

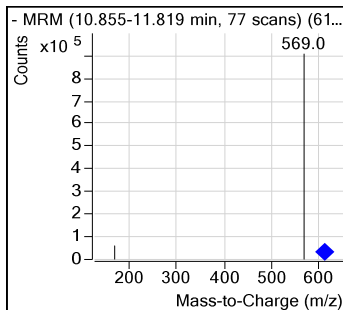
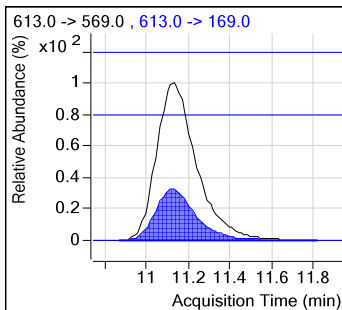
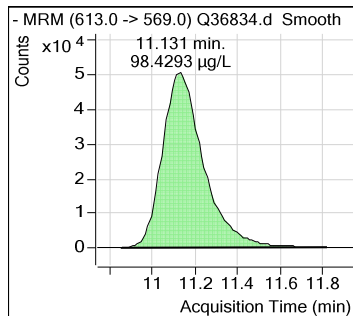


13C2-PFDoDA

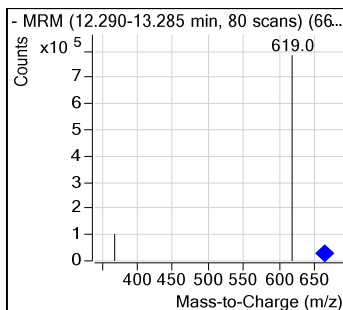
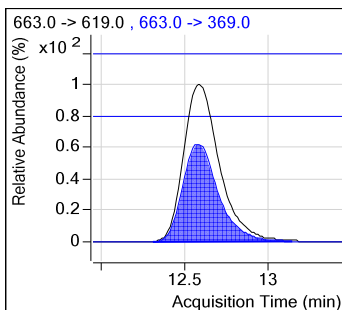
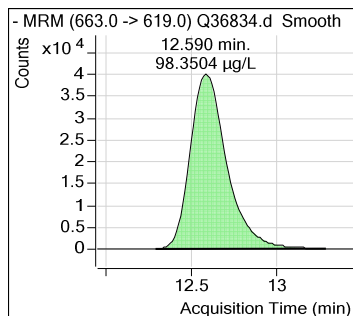


Perfluorinated Compounds by LC/MS/MS.

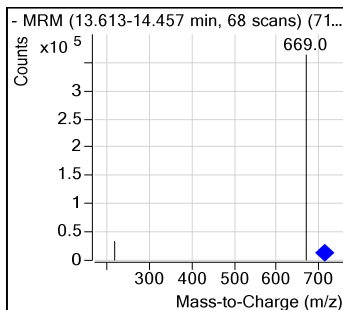
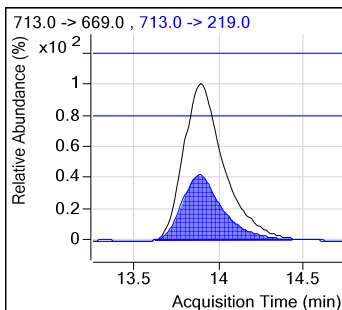
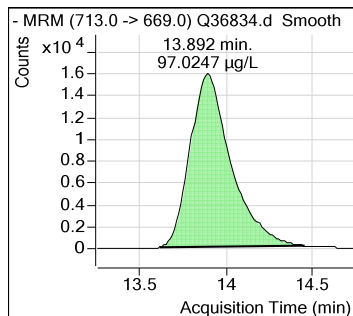
PFDoDA



PFTrDA



PFTeDA



Calibration Curve

Manual Integration Approval Summary

Sample Number: SQ936-IC936

Method: EPA 537 MOD

Lab FileID: Q36834.D

Analyst approved: 07/18/17 14:24 Nancy Saunders

Injection Time: 07/17/17 12:34

Supervisor approved: 07/19/17 14:43 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		5.99	Split peak
Perfluorooctanesulfonic acid	1763-23-1		7.22	Split peak

7.5.8.1
7

Perfluorinated Compounds by LC/MS/MS.

Data File : Q36836.d
 Operator : NANCYF
 Acq Method Name : 537_LIST.m
 Acquisition date : 2017-07-17 13:14
 Sample Name : ICV936-20
 Vial : Vial 11
 Sample Info : OP65698,SQ936,5.00,,,5,1,SOIL
 Quant Method : PFC_LIST_0717_SQ936.quantmethod.xml
 Quant Batch Name : SQ936.batch.bin
 Last Calib Update : 2017-07-18 07:16

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
13C3-PFPeA	4.260	266.0 -> 222.0	55653	20.000	µg/L	0.000
13C2-PFOA	6.663	415.0 -> 370.0	159199	20.000	µg/L	-0.013
13C2-6:2FTS	6.671	429.0 -> 409.0	88453	20.000	µg/L	-0.013
13C4-PFOS	7.211	503.0 -> 80.0	81988	20.000	µg/L	-0.013
d3-MeFOSAA	7.526	573.0 -> 419.0	68826	20.000	µg/L	-0.012
13C2-PFDoDA	11.139	615.0 -> 570.0	137293	20.000	µg/L	-0.038

System Monitoring Compounds

d5-EtFOSAA	7.660	589.0 -> 419.0	0	0.00	µg/L	0.000
Spiked Amount: 20.000	Range: 14 - 26		Recovery = 0.00%			

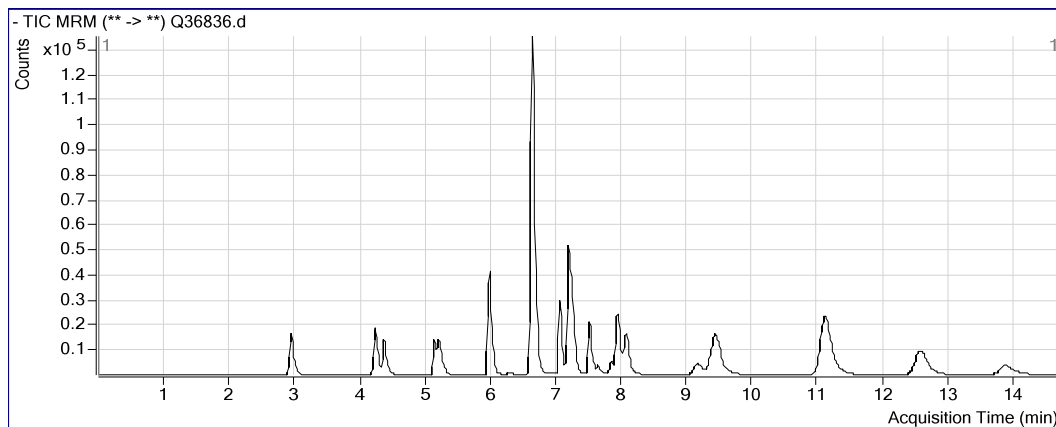
Target Compounds

						Qvalue
PFBA	2.965	213.0 -> 169.0	79509	22.445	µg/L	100
PFPeA	4.263	263.0 -> 219.0	27199	22.283	µg/L	100
PFBS	4.391	299.0 -> 80.0	40649	21.813	µg/L	94
4:2FTS	5.157	327.0 -> 307.0	58450	21.940	µg/L	100
PFHxA	5.237	313.0 -> 269.0	46101	22.373	µg/L	98
PFPeS	5.280	349.0 -> 99.0	8272	21.624	µg/L	100
PFHxS	5.993	399.0 -> 80.0	56958	22.736	µg/L #	86
PFHpA	6.011	363.0 -> 319.0	66310	22.787	µg/L #	91
PFHpS	6.632	449.0 -> 80.0	53548	21.241	µg/L	100
PFOA	6.664	413.0 -> 369.0	164432	22.742	µg/L #	91
6:2FTS	6.673	427.0 -> 407.0	91123	20.558	µg/L	100
FOSA	7.078	498.0 -> 78.0	110464	21.479	µg/L	100
PFOS	7.213	499.0 -> 80.0	88859	20.771	µg/L	81
PFNA	7.281	463.0 -> 419.0	74347	22.431	µg/L	98
MeFOSAA	7.540	570.0 -> 419.0	13293	24.808	µg/L	100
EtFOSAA	7.661	584.0 -> 419.0	11764	24.674	µg/L	100
PFNS	7.866	549.0 -> 99.0	22518	23.244	µg/L	100
PFDA	7.969	513.0 -> 469.0	113314	23.054	µg/L #	80
8:2FTS	8.101	527.0 -> 507.0	86544	21.722	µg/L	100
PFDS	9.187	599.0 -> 80.0	43897	21.336	µg/L	100
PFUnDA	9.454	563.0 -> 519.0	149821	23.453	µg/L	97
PFDoDA	11.131	613.0 -> 569.0	140855	23.121	µg/L #	71
PFTTrDA	12.590	663.0 -> 619.0	118102	22.444	µg/L #	85
PFTeDA	13.892	713.0 -> 669.0	52992	22.168	µg/L #	76

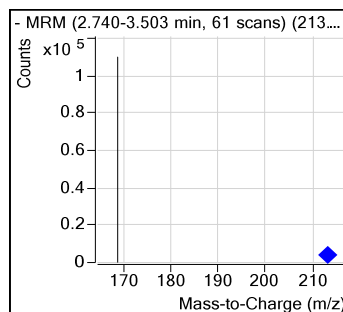
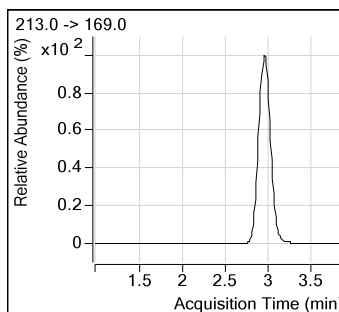
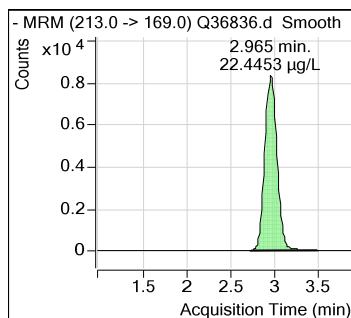
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

Perfluorinated Compounds by LC/MS/MS.

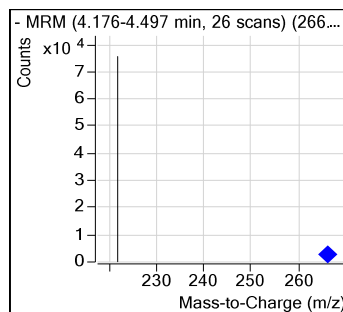
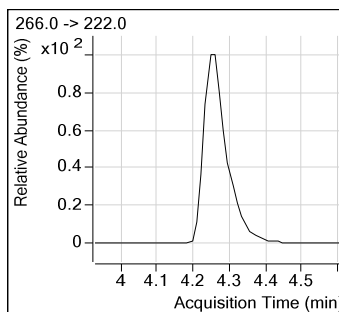
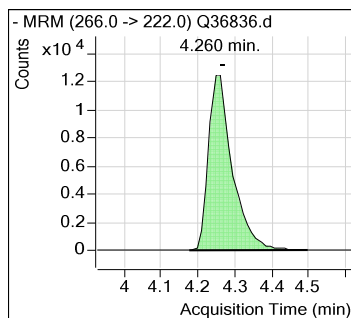
Data File : Q36836.d
Operator : NANCYF
Acq Method Name : 537_LIST.m
Acquisition date : 2017-07-17 13:14
Sample Name : ICV936-20
Vial : Vial 11
Sample Info : OP65698,SQ936,5.00,,,5,1,SOIL
Quant Method : PFC_LIST_0717_SQ936.quantmethod.xml
Quant Batch Name : SQ936.batch.bin
Last Calib Update : 2017-07-18 07:16



PFBA

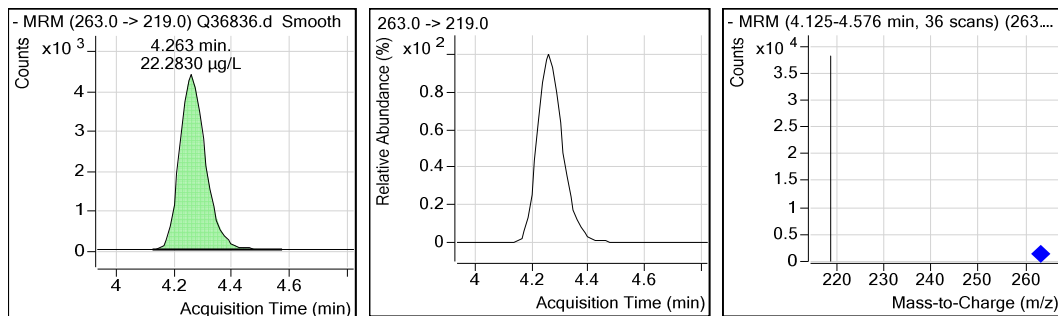


13C3-PFPeA

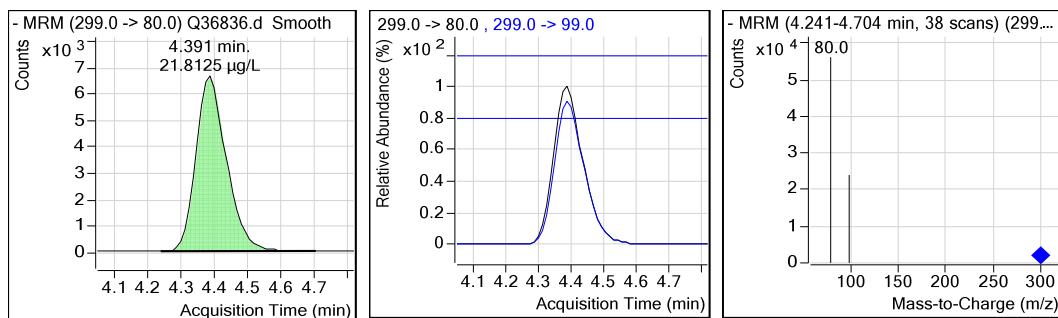


Perfluorinated Compounds by LC/MS/MS.

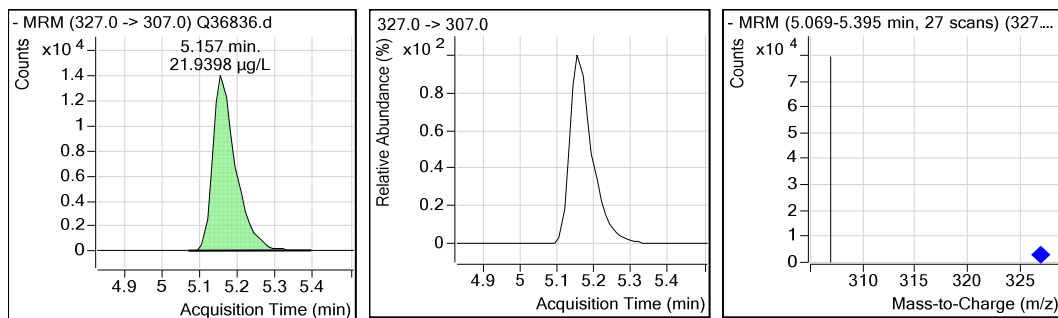
PFPeA



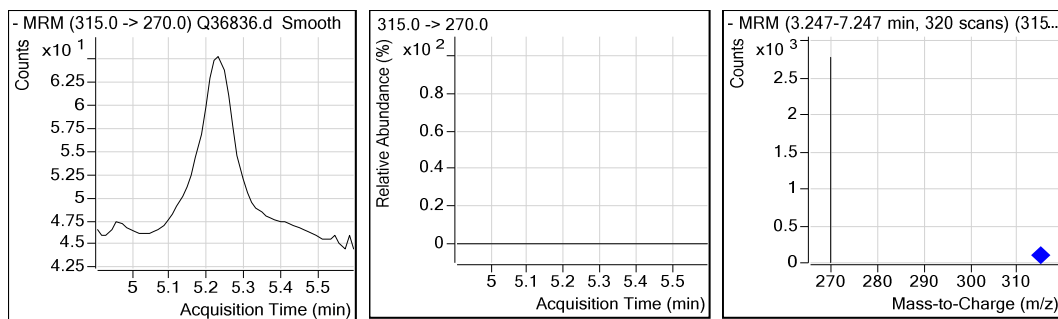
PFBS



4:2FTS

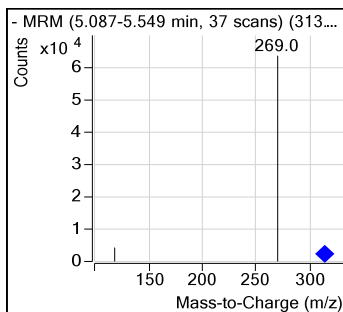
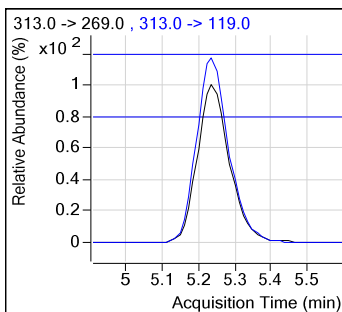
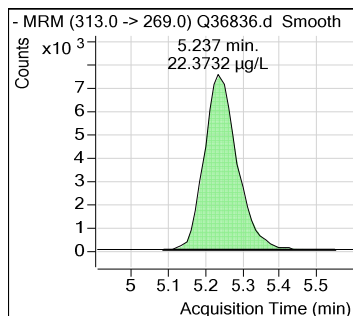


13C2-PFHxA

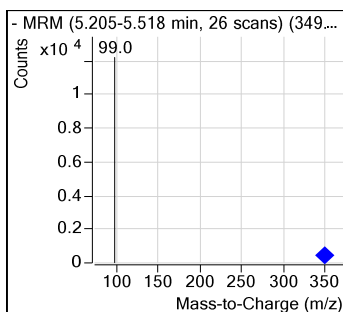
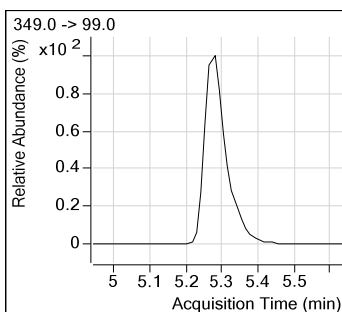
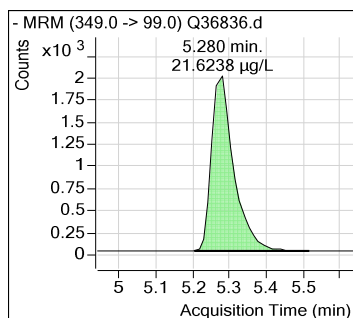


Perfluorinated Compounds by LC/MS/MS.

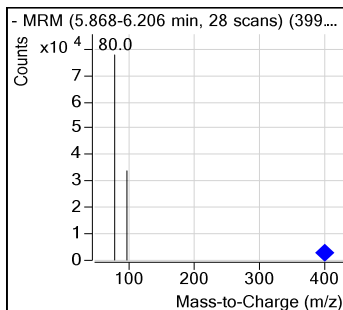
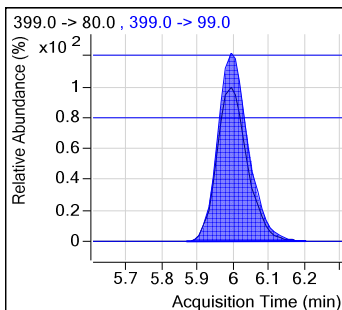
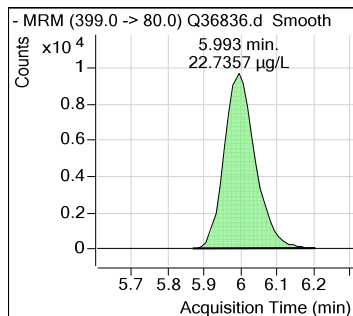
PFHxA



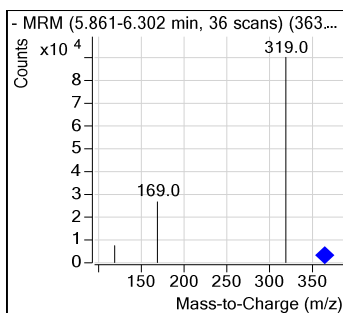
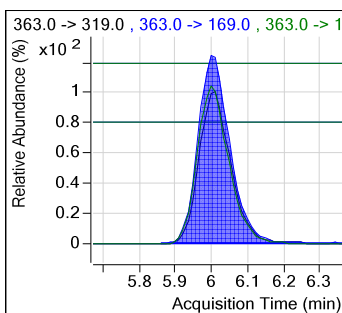
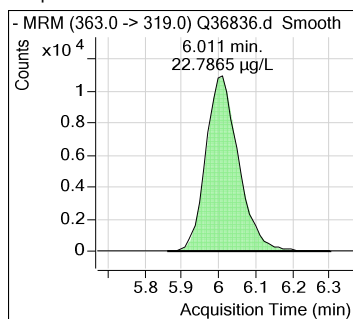
PFPeS



PFHxS

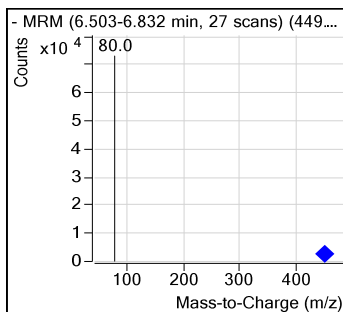
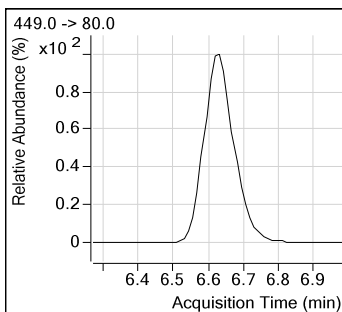
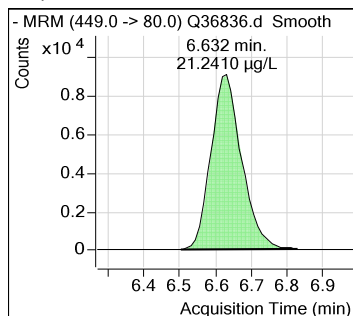


PFHpA

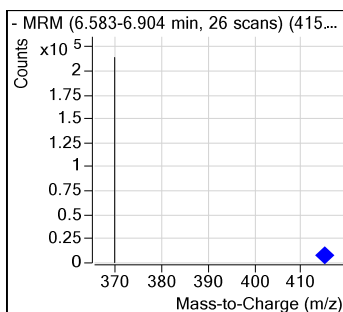
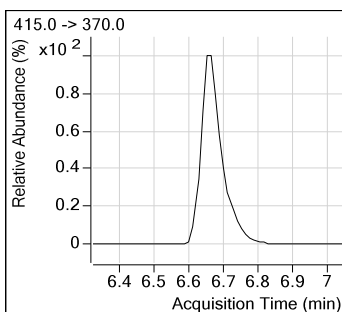
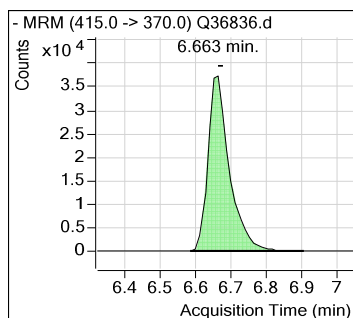


Perfluorinated Compounds by LC/MS/MS.

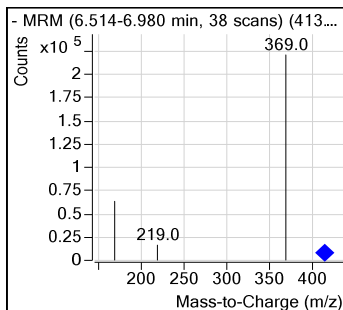
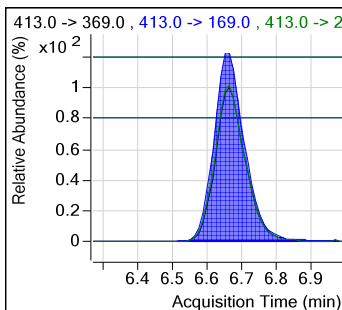
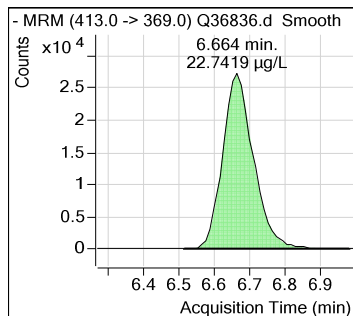
PFHpS



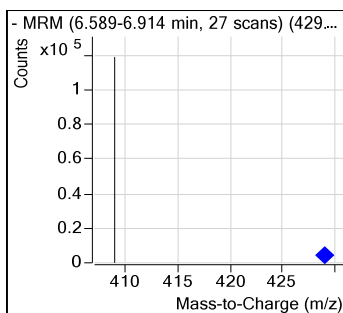
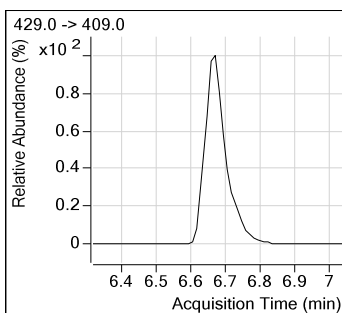
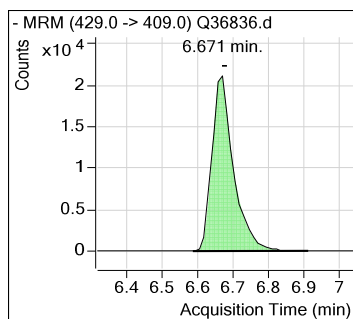
13C2-PFOA



PFOA

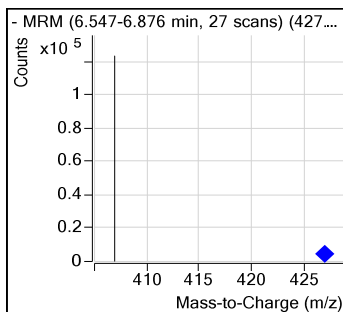
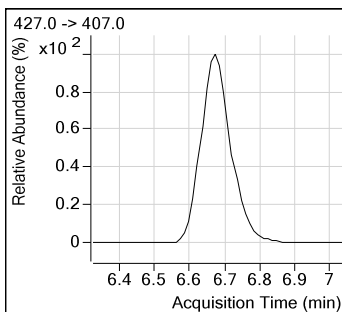
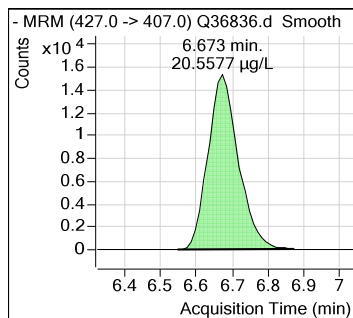


13C2-6:2FTS

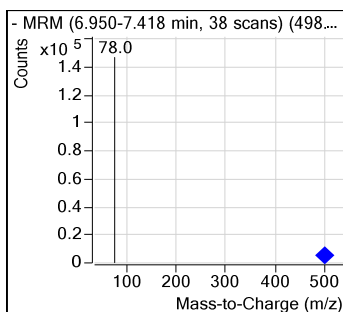
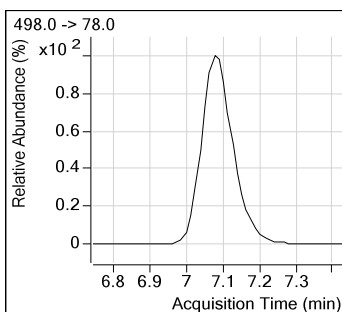
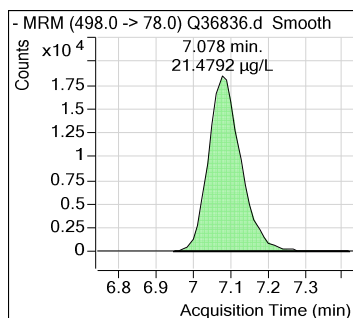


Perfluorinated Compounds by LC/MS/MS.

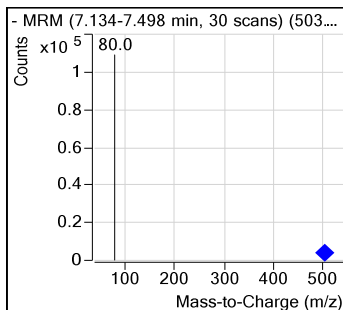
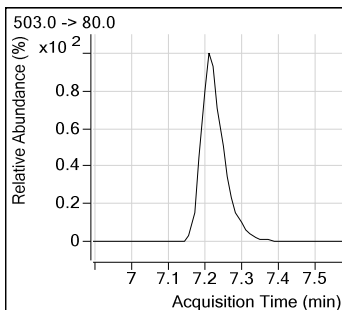
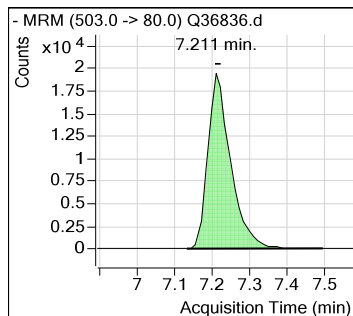
6:2FTS



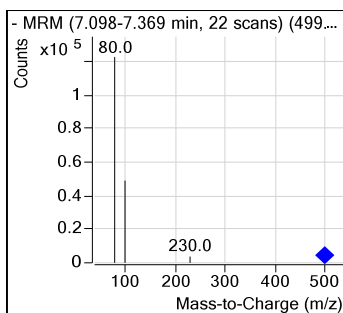
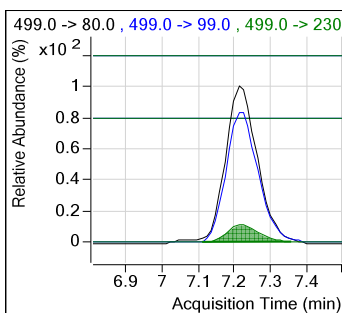
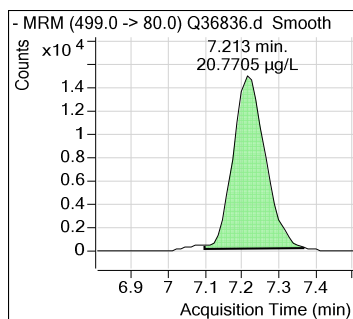
FOSA



13C4-PFOS

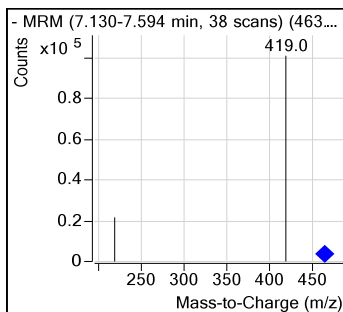
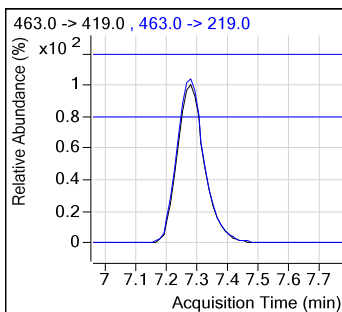
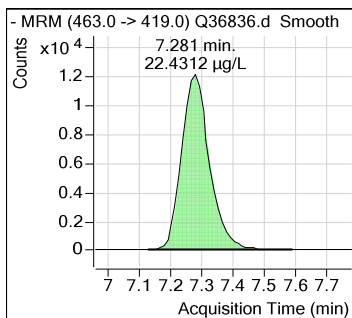


PFOS

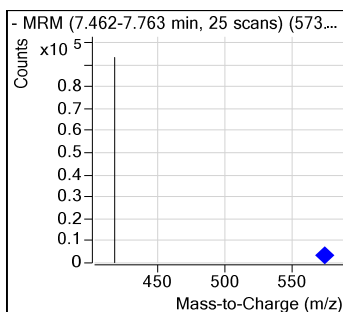
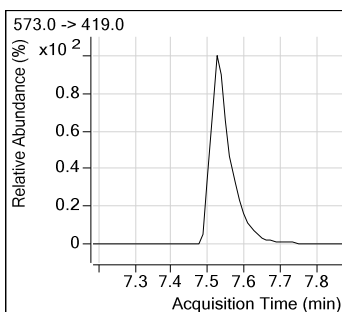
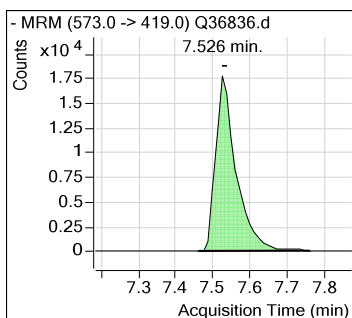


Perfluorinated Compounds by LC/MS/MS.

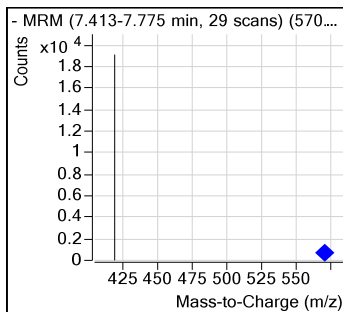
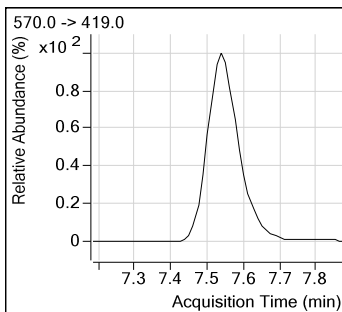
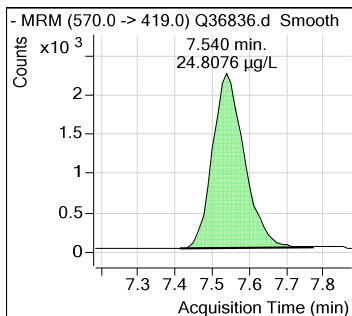
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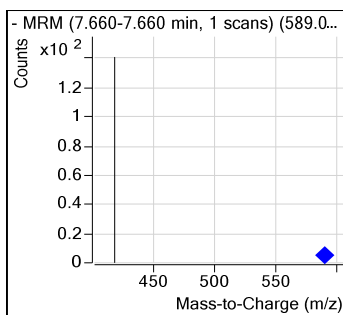
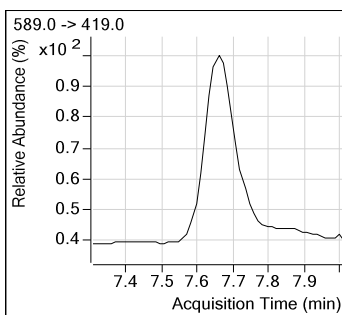
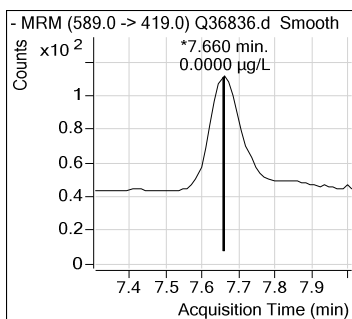
d3-MeFOSAA



MeFOSAA

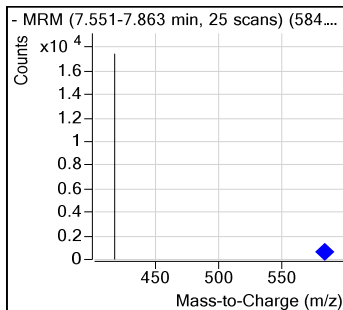
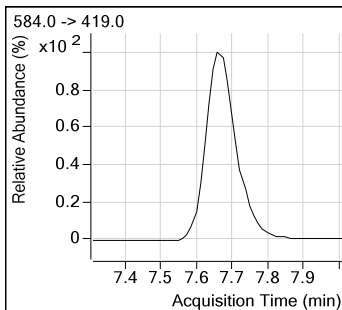
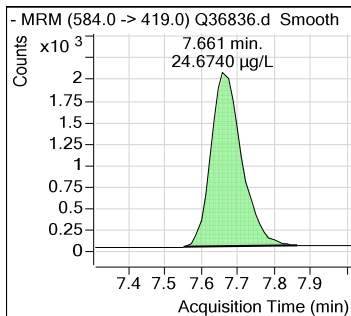


d5-EtFOSAA

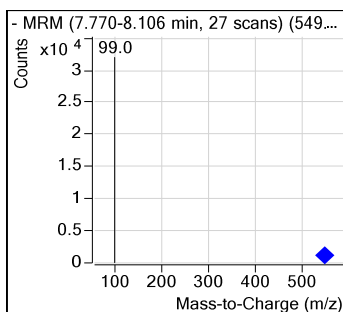
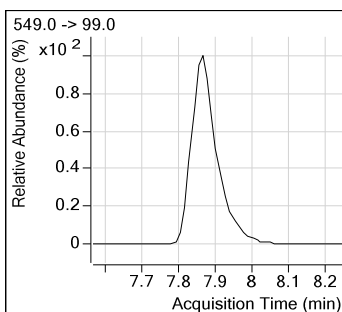
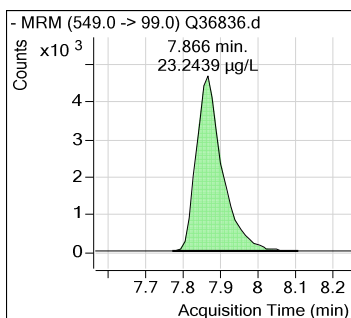


Perfluorinated Compounds by LC/MS/MS.

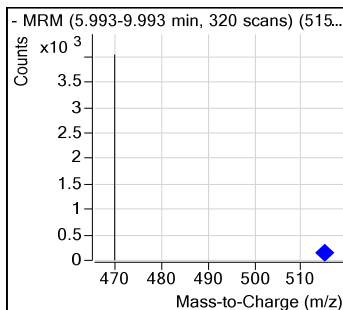
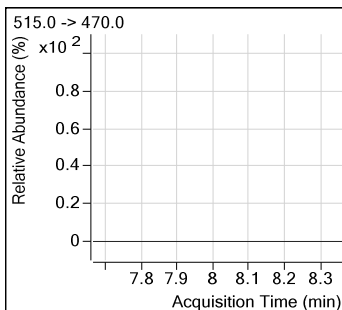
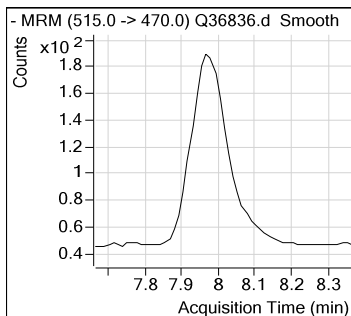
EtFOSAA



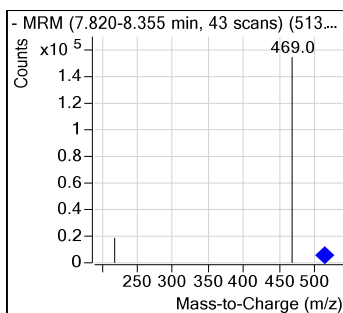
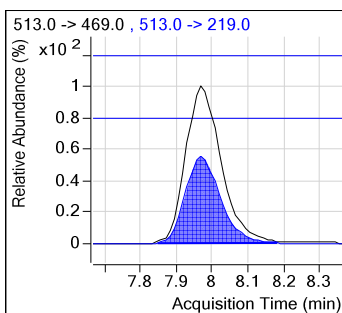
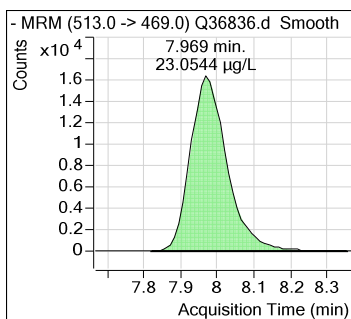
PFNS



13C2-PFDA

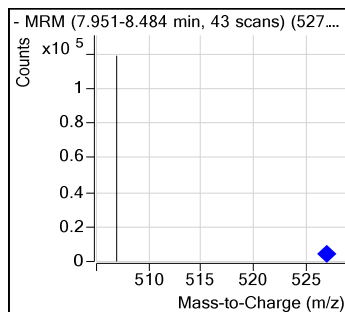
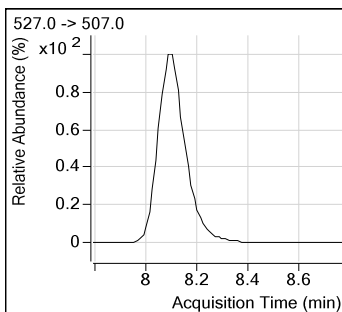
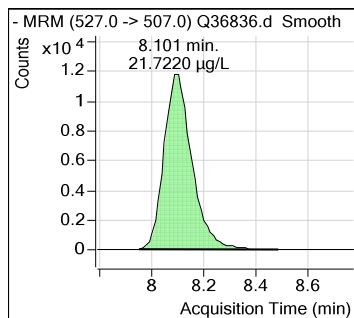


PFDA

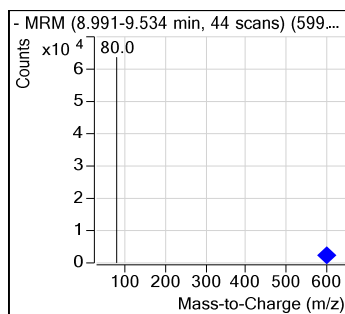
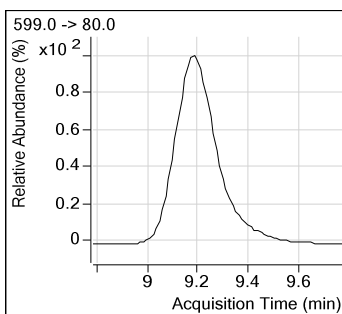
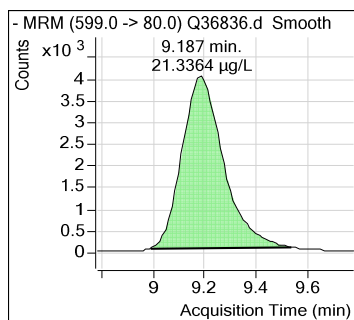


Perfluorinated Compounds by LC/MS/MS.

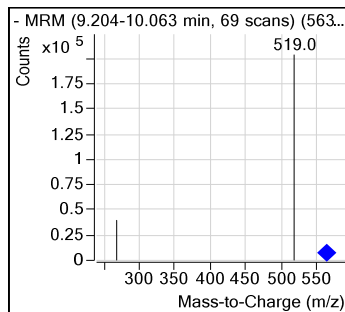
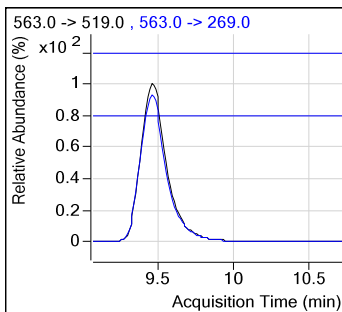
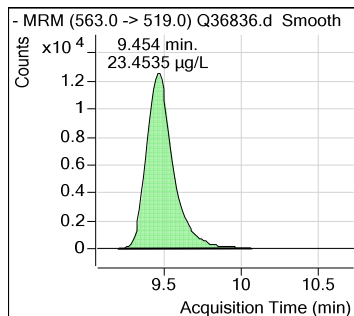
8:2FTS



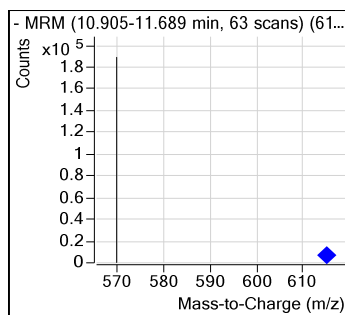
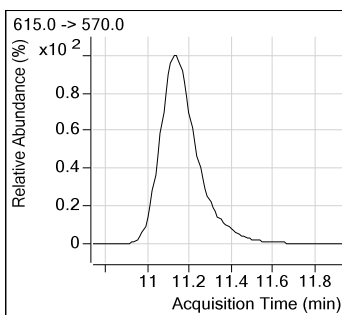
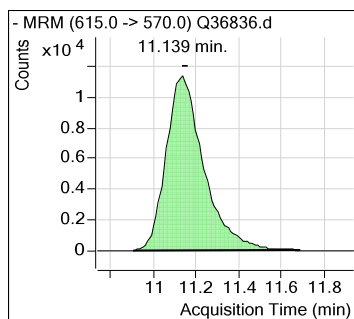
PFDS



PFUnDA

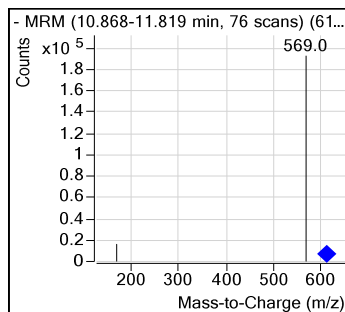
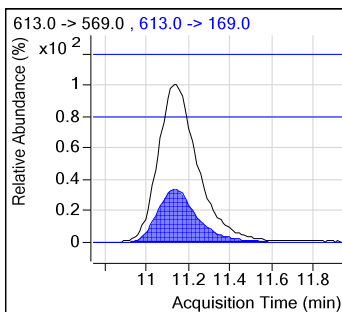
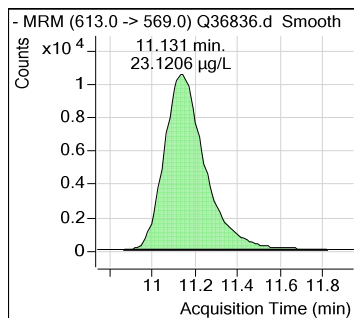


13C2-PFDoDA

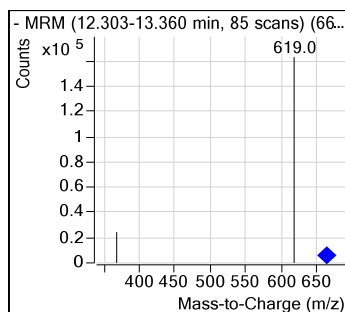
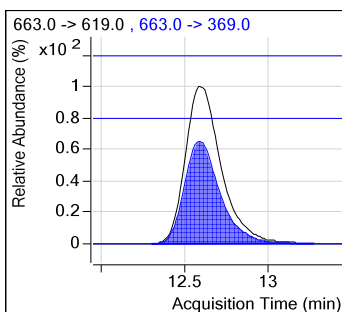
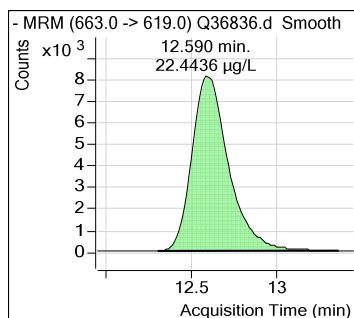


Perfluorinated Compounds by LC/MS/MS.

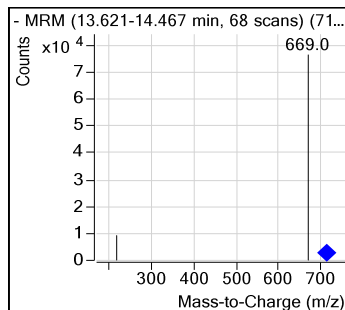
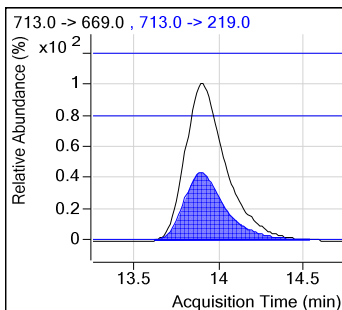
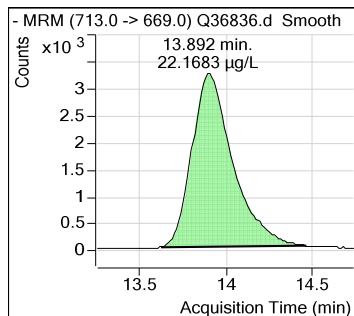
PFDoDA



PFTrDA



PFTeDA



Calibration Curve

Perfluorinated Compounds by LC/MS/MS.

Manual Integrations
APPROVED
(compounds with "m" flag)Mike Eger
07/19/17 18:49

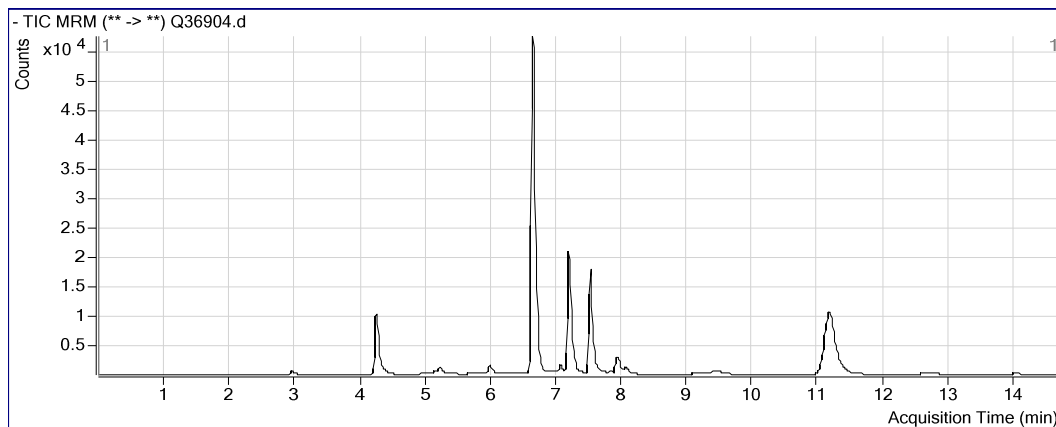
Data File : Q36904.d
 Operator : NANCYF
 Acq Method Name : 537_LIST.m
 Acquisition date : 2017-07-18 12:00
 Sample Name : CC936-1.0
 Vial : Vial 2
 Sample Info : OP65698,SQ937,5.00,,,5,1,SOIL
 Quant Method : PFC_LIST_0717_SQ936.quantmethod.xml
 Quant Batch Name : SQ937.batch.bin
 Last Calib Update : 2017-07-18 07:16

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
13C3-PFPeA	4.272	266.0 -> 222.0	44248	20.000	µg/L	0.013
13C2-PFOA	6.663	415.0 -> 370.0	142881	20.000	µg/L	-0.013
13C2-6:2FTS	6.671	429.0 -> 409.0	89129	20.000	µg/L	-0.013
13C4-PFOS	7.211	503.0 -> 80.0	81402	20.000	µg/L	-0.013
d3-MeFOSAA	7.538	573.0 -> 419.0	67480	20.000	µg/L	0.000
13C2-PFDoDA	11.201	615.0 -> 570.0	122776	20.000	µg/L	0.025
System Monitoring Compounds						
13C2-PFHxA	5.247	315.0 -> 270.0	2022	1.03	µg/L	0.000
Spiked Amount: 20.000	Range: 14 - 26		Recovery = 5.17%			
d5-EtFOSAA	7.672	589.0 -> 419.0	645	1.20	µg/L	0.013
Spiked Amount: 20.000	Range: 14 - 26		Recovery = 6.02%			
13C2-PFDA	7.968	515.0 -> 470.0	9237	1.12	µg/L	-0.025
Spiked Amount: 20.000	Range: 14 - 26		Recovery = 5.59%			
Target Compounds						Qvalue
PFBA	2.990	213.0 -> 169.0	3368	1.196	µg/L	100
PFPeA	4.275	263.0 -> 219.0	1086	1.119	µg/L	100
PFBS	4.403	299.0 -> 80.0	1981	1.071	µg/L	97
4:2FTS	5.170	327.0 -> 307.0	2584	0.917	µg/L	100
PFHxA	5.250	313.0 -> 269.0	1912	1.034	µg/L	99
PFPeS	5.280	349.0 -> 99.0	331	0.872	µg/L	100
PFHxS	6.006	399.0 -> 80.0	2512	1.010	µg/L # m	84
PFHpA	6.011	363.0 -> 319.0	2815	1.078	µg/L #	89
PFHpS	6.632	449.0 -> 80.0	2653	1.060	µg/L	100
PFOA	6.664	413.0 -> 369.0	7769	1.197	µg/L #	88
6:2FTS	6.673	427.0 -> 407.0	5026	1.068	µg/L	100
FOSA	7.090	498.0 -> 78.0	5122	0.959	µg/L	100
PFOS	7.213	499.0 -> 80.0	5022	1.182	µg/L # m	75
PFNA	7.281	463.0 -> 419.0	3146	1.058	µg/L	94
MeFOSAA	7.552	570.0 -> 419.0	532	1.012	µg/L	100
EtFOSAA	7.674	584.0 -> 419.0	540	1.156	µg/L	100
PFNS	7.853	549.0 -> 99.0	856	0.858	µg/L	100
PFDA	7.969	513.0 -> 469.0	4996	1.133	µg/L #	81
8:2FTS	8.088	527.0 -> 507.0	4909	1.170	µg/L	100
PFDS	9.187	599.0 -> 80.0	2033	0.995	µg/L	100
PFUnDA	9.466	563.0 -> 519.0	6591	1.154	µg/L	98
PFDoDA	11.193	613.0 -> 569.0	6133	1.126	µg/L	56
PFTrDA	12.716	663.0 -> 619.0	5025	1.068	µg/L #	84
PFTeDA	14.054	713.0 -> 669.0	2165	1.013	µg/L #	76

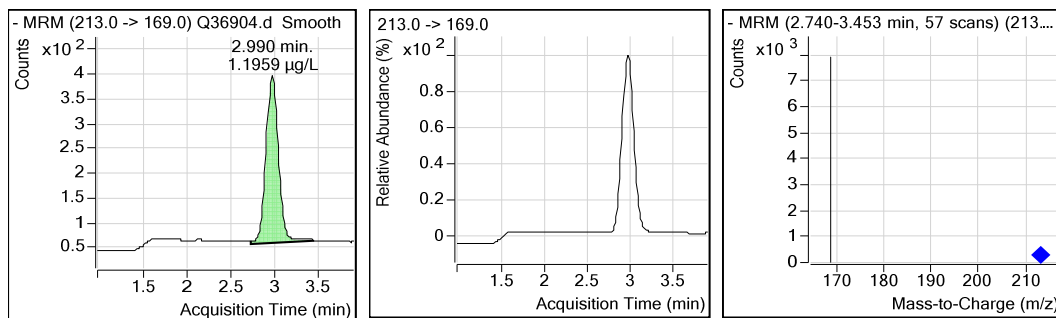
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

Perfluorinated Compounds by LC/MS/MS.

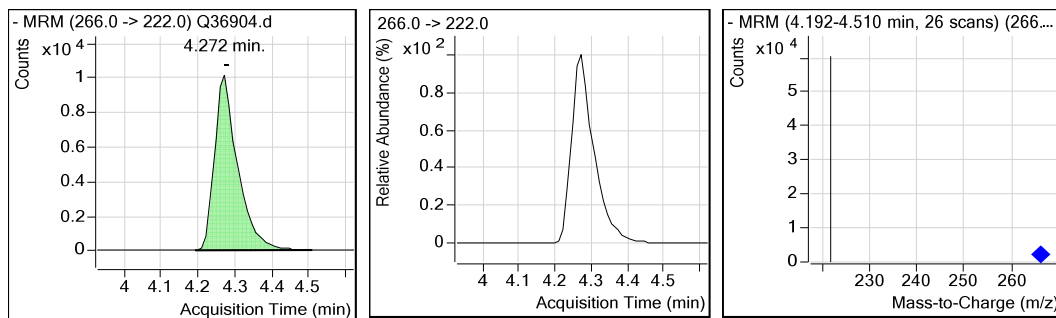
Data File : Q36904.d
Operator : NANCYF
Acq Method Name : 537_LIST.m
Acquisition date : 2017-07-18 12:00
Sample Name : CC936-1.0
Vial : Vial 2
Sample Info : OP65698,SQ937,5.00,,,5,1,SOIL
Quant Method : PFC_LIST_0717_SQ936.quantmethod.xml
Quant Batch Name : SQ937.batch.bin
Last Calib Update : 2017-07-18 07:16



PFBA

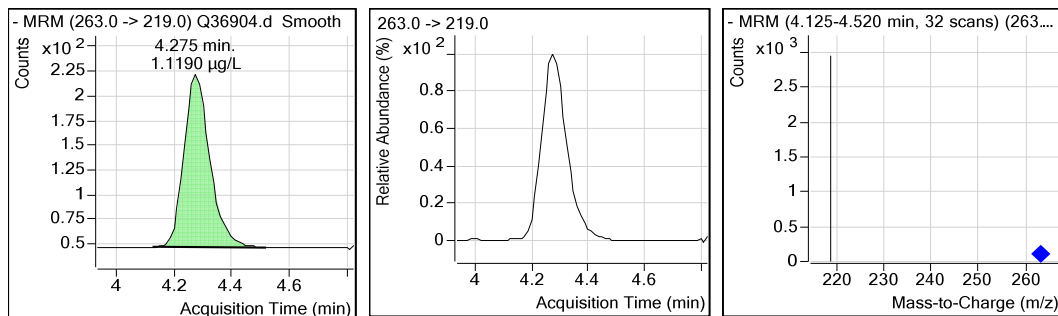


13C3-PFPeA

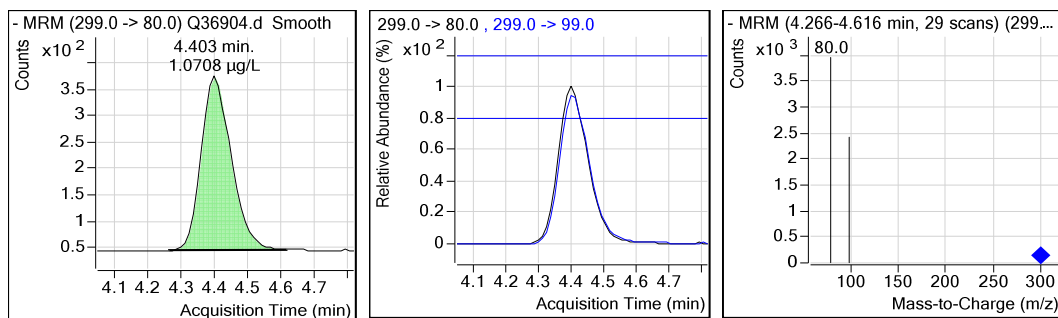


Perfluorinated Compounds by LC/MS/MS.

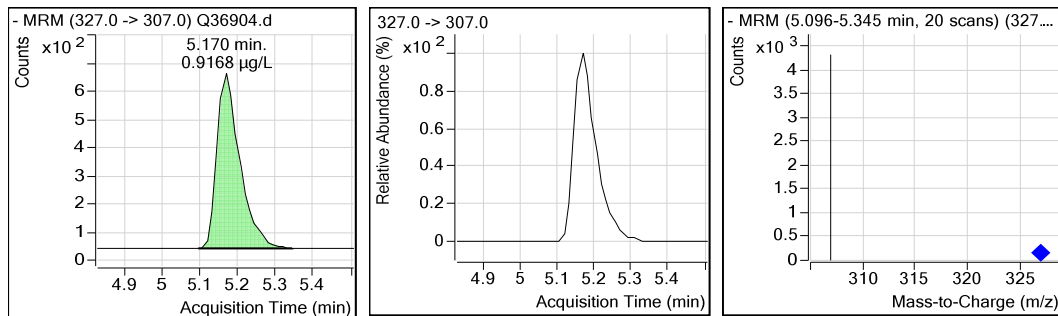
PFPeA



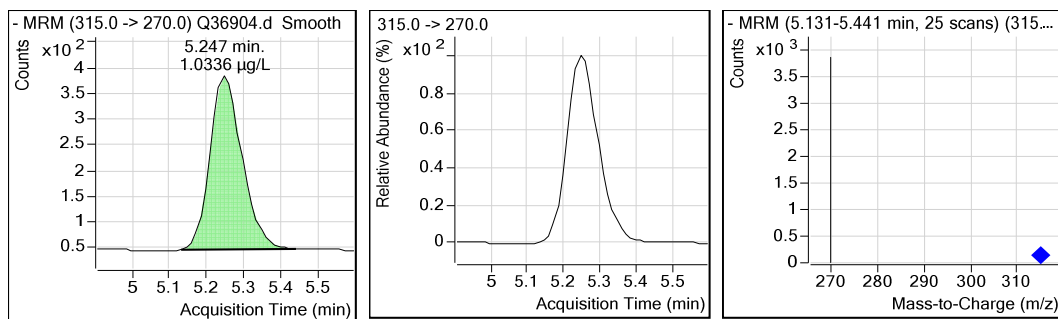
PFBS



4:2FTS

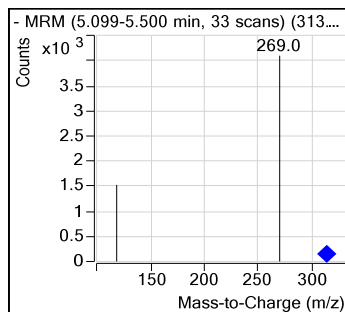
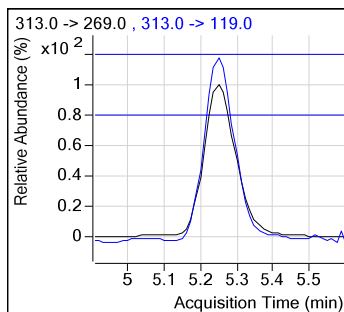
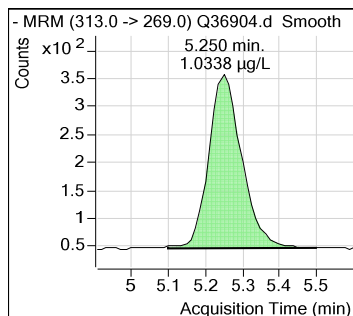


13C2-PFHxA

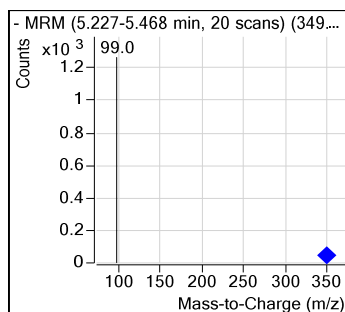
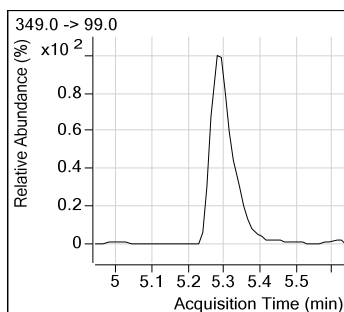
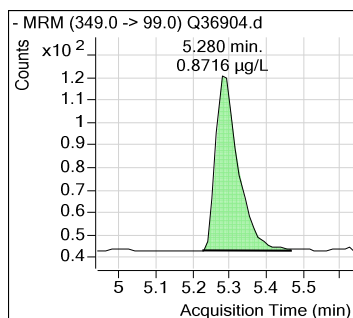


Perfluorinated Compounds by LC/MS/MS.

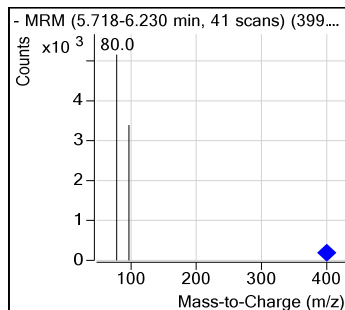
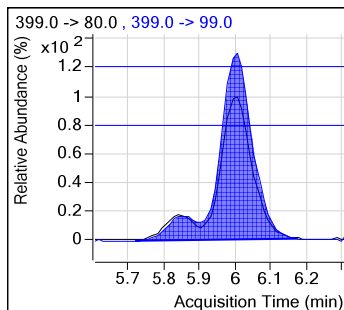
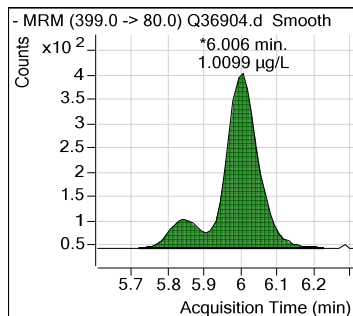
PFHxA



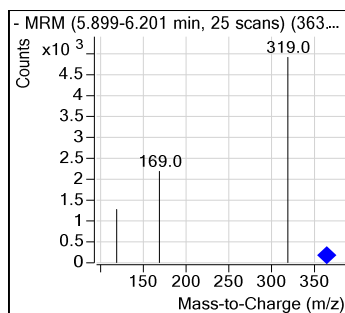
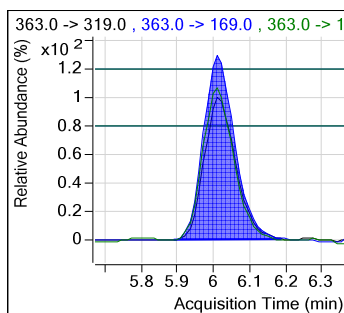
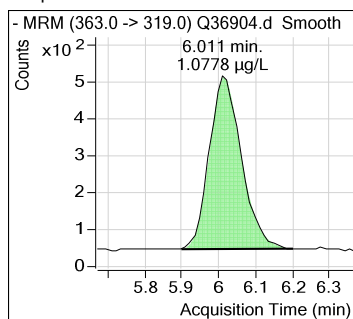
PFPeS



PFHxS

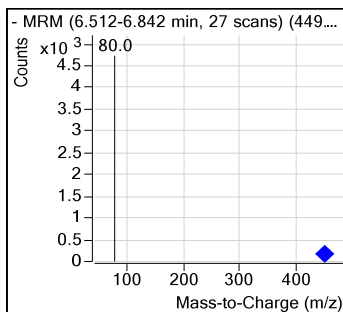
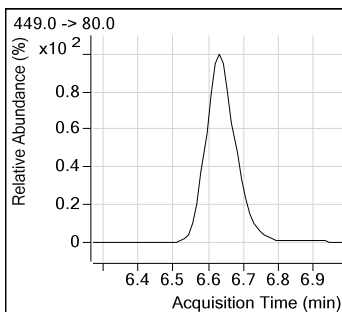
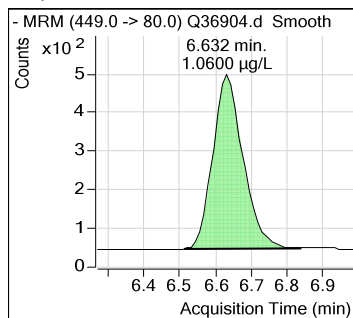


PFHpA

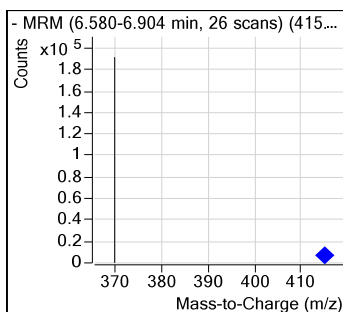
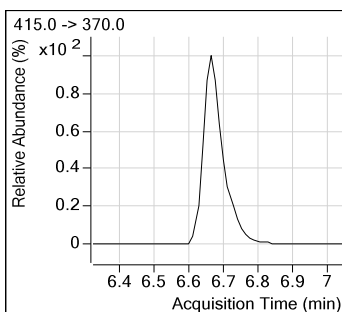
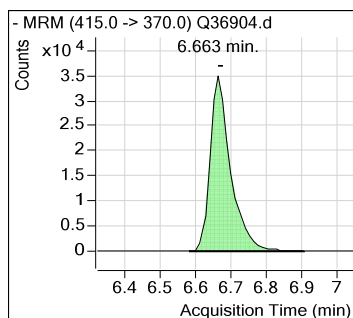


Perfluorinated Compounds by LC/MS/MS.

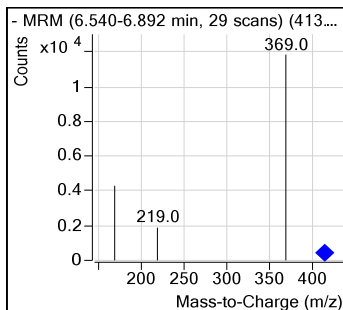
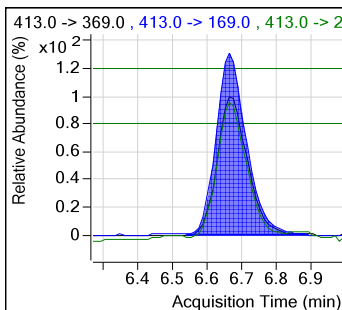
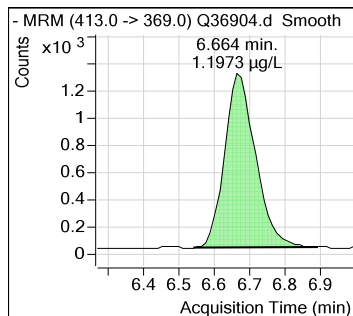
PFHpS



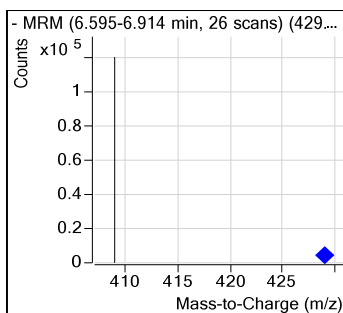
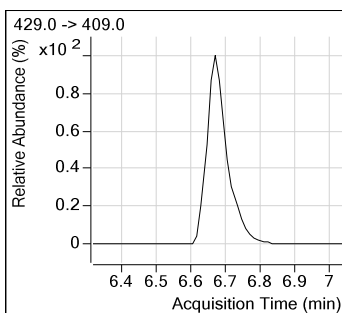
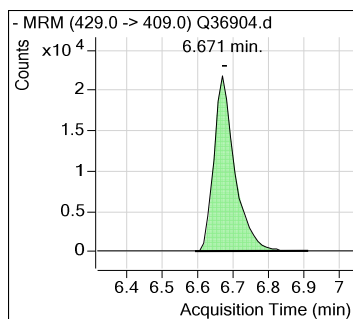
13C2-PFOA



PFOA

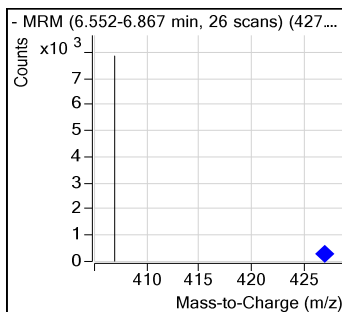
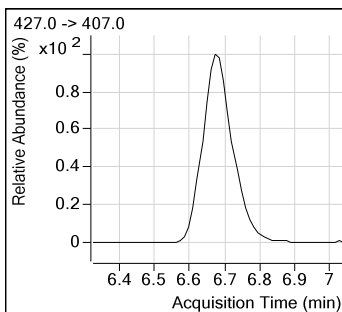
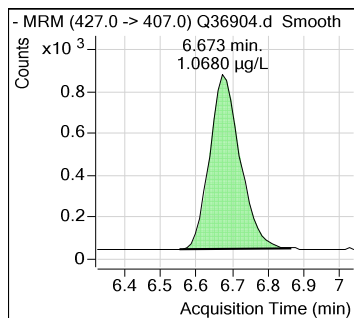


13C2-6:2FTS

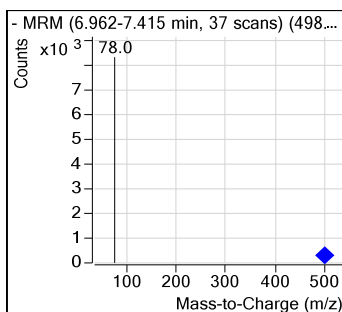
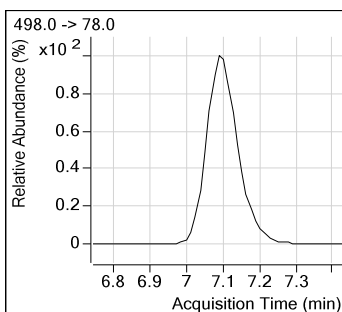
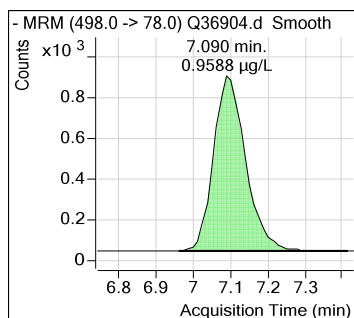


Perfluorinated Compounds by LC/MS/MS.

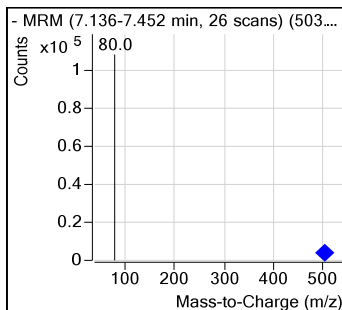
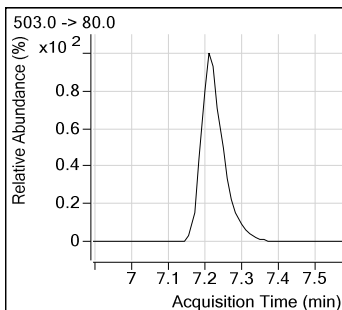
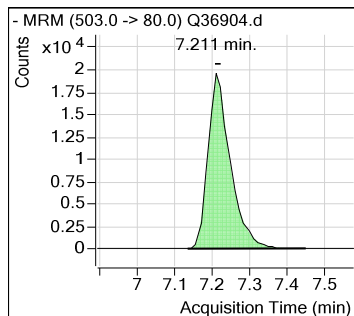
6:2FTS



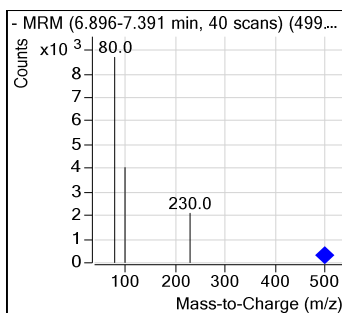
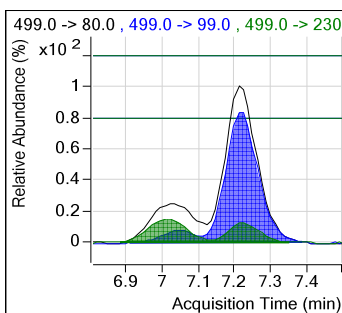
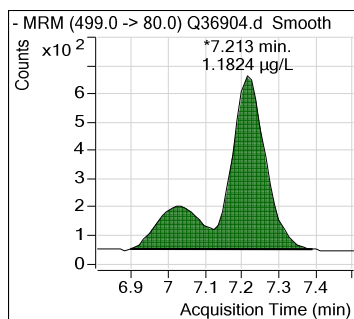
FOSA



13C4-PFOS

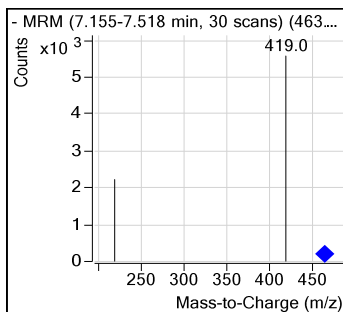
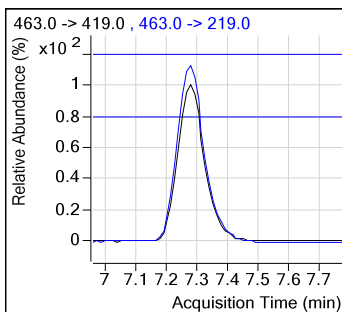
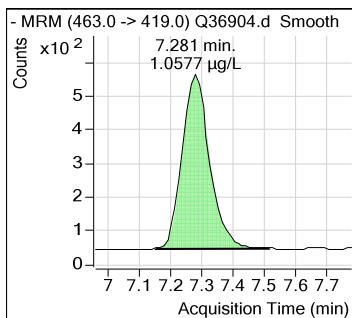


PFOS

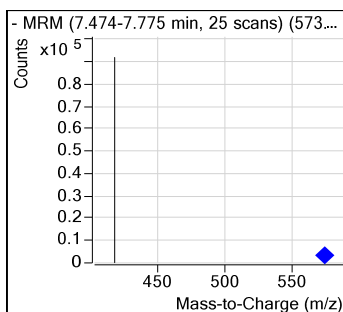
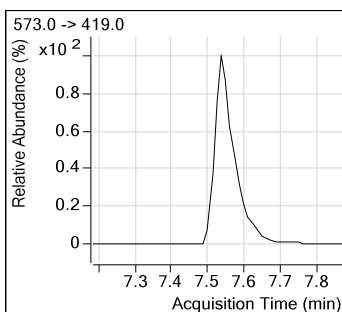
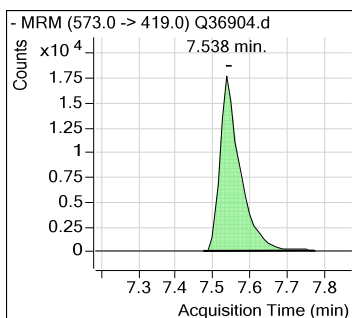


Perfluorinated Compounds by LC/MS/MS.

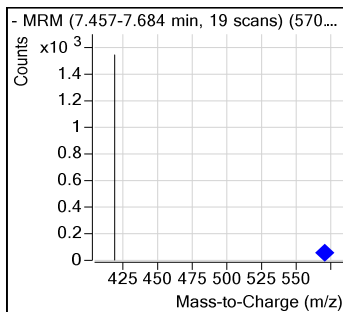
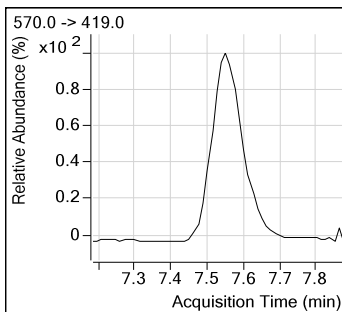
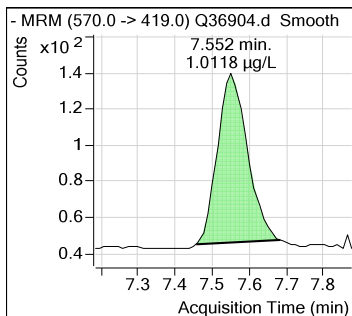
PFNA



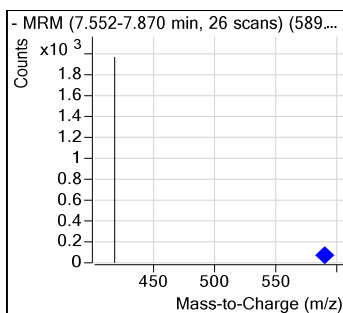
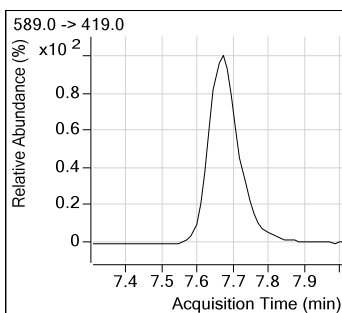
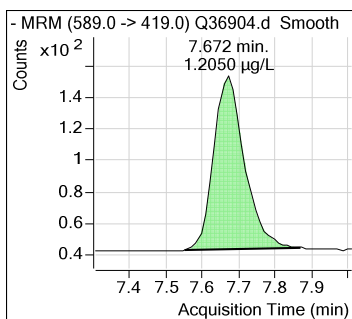
d3-MeFOSAA



MeFOSAA

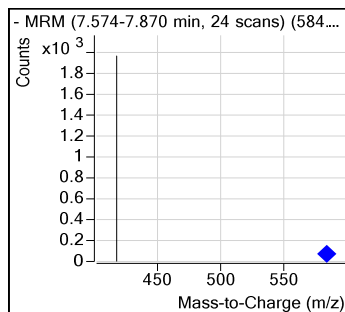
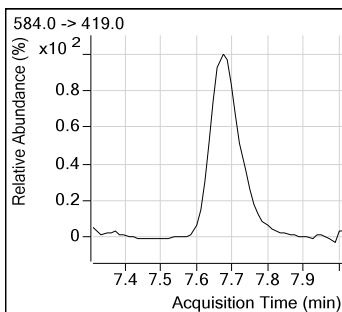
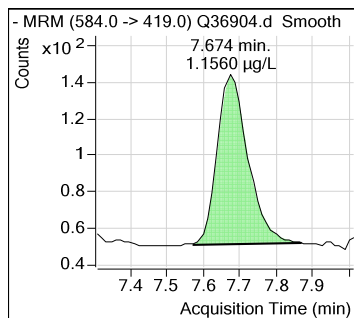


d5-EtFOSAA

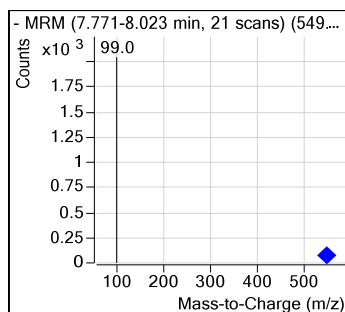
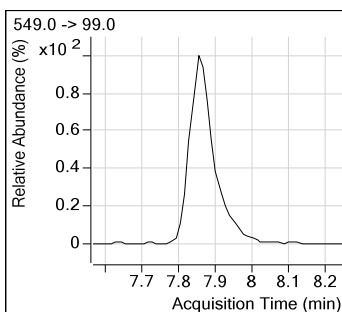
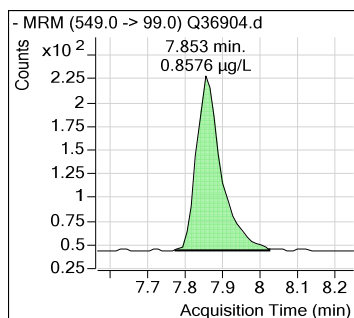


Perfluorinated Compounds by LC/MS/MS.

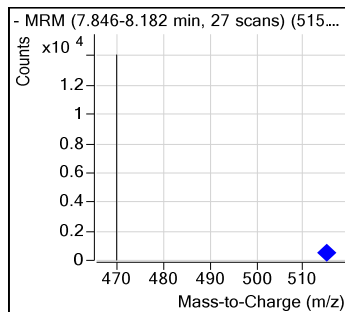
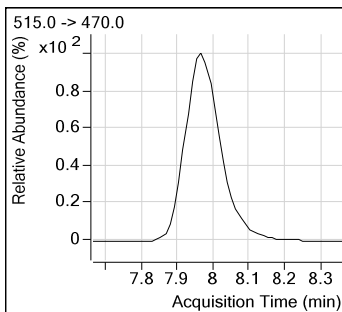
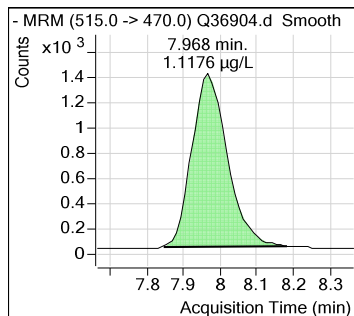
EtFOSAA



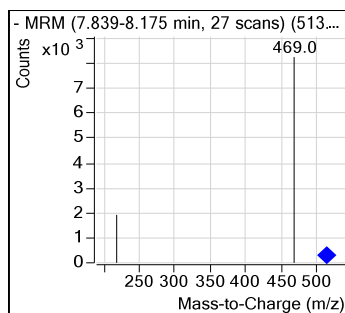
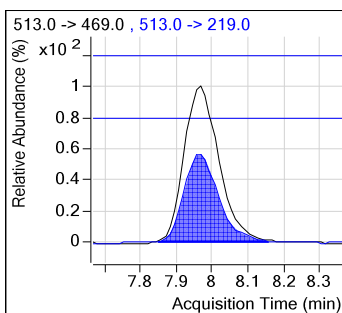
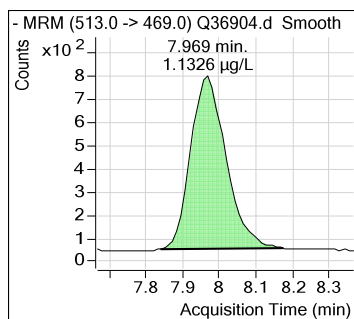
PFNS



13C2-PFDA

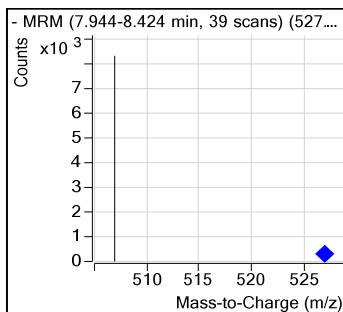
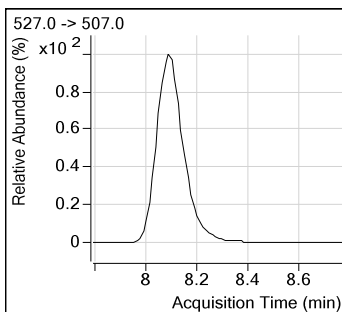
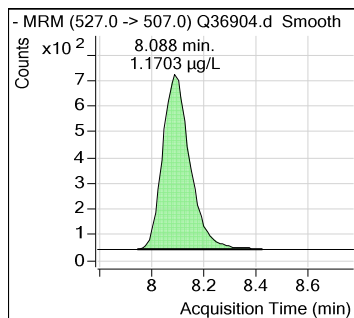


PFDA

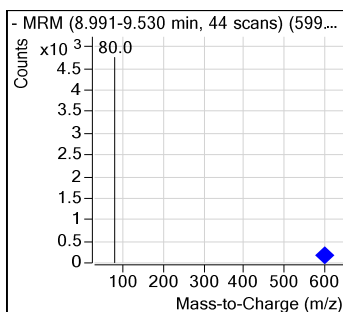
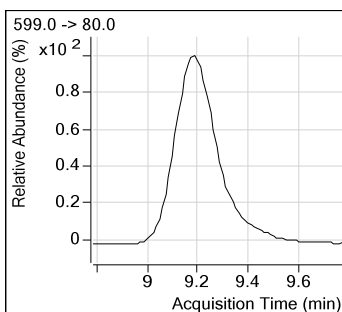
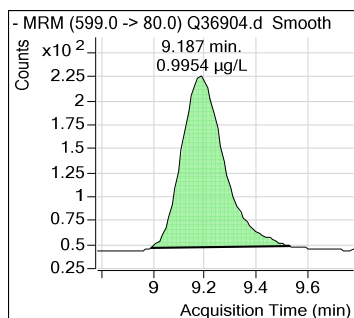


Perfluorinated Compounds by LC/MS/MS.

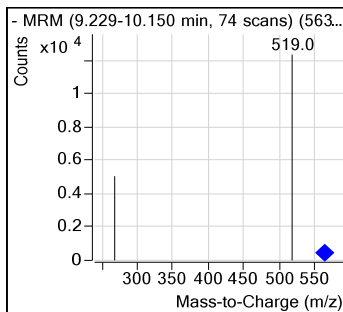
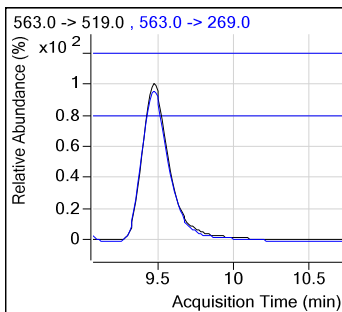
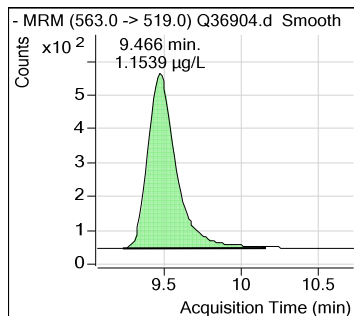
8:2FTS



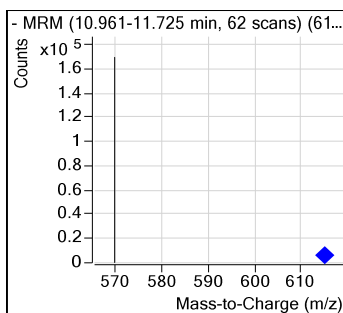
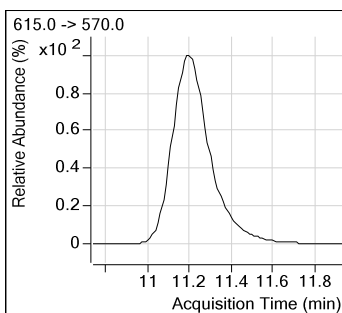
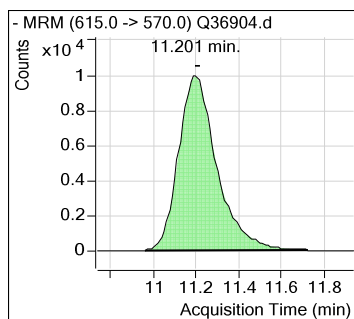
PFDS



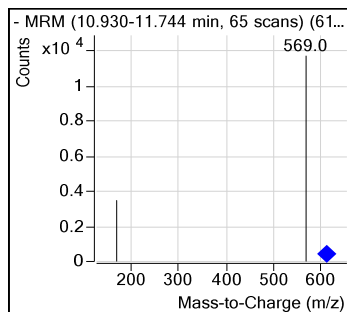
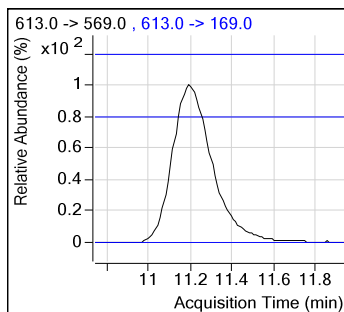
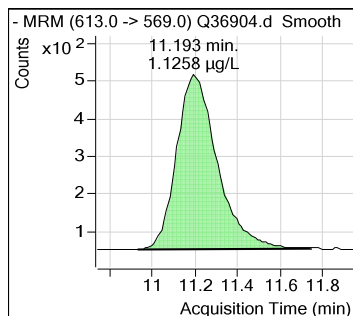
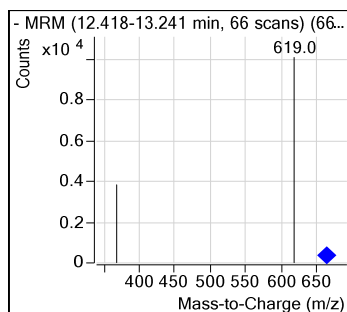
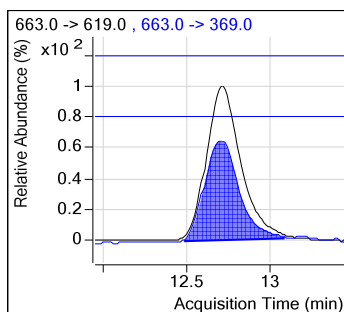
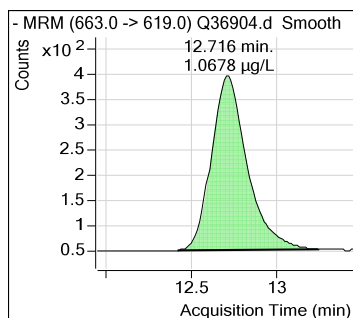
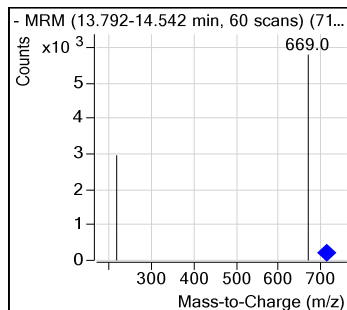
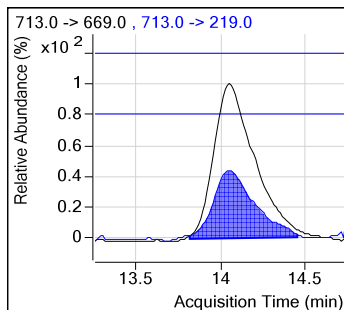
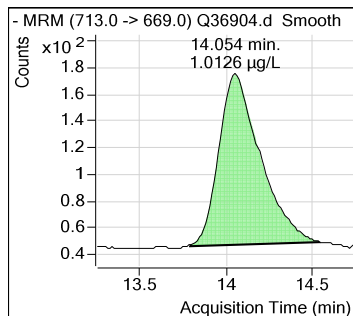
PFUnDA



13C2-PFDoDA



Perfluorinated Compounds by LC/MS/MS.

PFD_oDAPFT_rDAPFT_eDA

Calibration Curve

Manual Integration Approval Summary

Sample Number: SQ937-CC936

Method: EPA 537 MOD

Lab FileID: Q36904.D

Analyst approved: 07/19/17 15:42 Nancy Saunders

Injection Time: 07/18/17 12:00

Supervisor approved: 07/19/17 18:49 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		6.01	Split peak
Perfluorooctanesulfonic acid	1763-23-1		7.21	Split peak

7.5.10.1
7

Perfluorinated Compounds by LC/MS/MS.

Manual Integrations
APPROVED
(compounds with "m" flag)Mike Eger
07/19/17 18:49

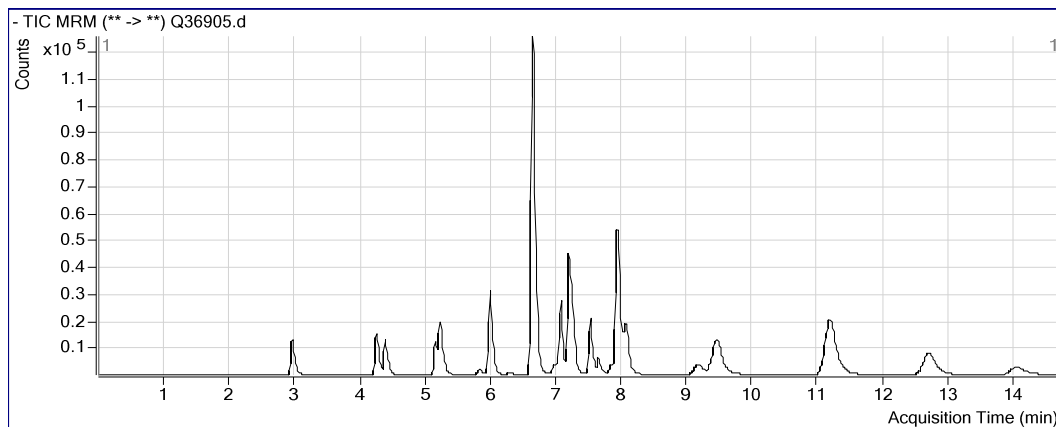
Data File : Q36905.d
 Operator : NANCYF
 Acq Method Name : 537_LIST.m
 Acquisition date : 2017-07-18 12:20
 Sample Name : CC936-20
 Vial : Vial 3
 Sample Info : OP65698,SQ937,5.00,,,5,1,SOIL
 Quant Method : PFC_LIST_0717_SQ936.quantmethod.xml
 Quant Batch Name : SQ937.batch.bin
 Last Calib Update : 2017-07-18 07:16

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
13C3-PFPeA	4.272	266.0 -> 222.0	46441	20.000	µg/L	0.013
13C2-PFOA	6.663	415.0 -> 370.0	146091	20.000	µg/L	-0.013
13C2-6:2FTS	6.671	429.0 -> 409.0	95720	20.000	µg/L	-0.013
13C4-PFOS	7.211	503.0 -> 80.0	84121	20.000	µg/L	-0.013
d3-MeFOSAA	7.538	573.0 -> 419.0	70495	20.000	µg/L	0.000
13C2-PFDoDA	11.201	615.0 -> 570.0	127995	20.000	µg/L	0.025
System Monitoring Compounds						
13C2-PFHxA	5.247	315.0 -> 270.0	38784	19.39	µg/L	0.000
Spiked Amount: 20.000	Range: 14 - 26		Recovery = 96.97%			
d5-EtFOSAA	7.672	589.0 -> 419.0	10859	19.42	µg/L	0.013
Spiked Amount: 20.000	Range: 14 - 26		Recovery = 97.09%			
13C2-PFDA	7.968	515.0 -> 470.0	184181	21.80	µg/L	-0.025
Spiked Amount: 20.000	Range: 14 - 26		Recovery = 108.98%			
Target Compounds						
						Qvalue
PFBA	2.990	213.0 -> 169.0	61722	20.880	µg/L	100
PFPeA	4.275	263.0 -> 219.0	20080	19.714	µg/L	100
PFBS	4.403	299.0 -> 80.0	38446	20.107	µg/L	93
4:2FTS	5.170	327.0 -> 307.0	49905	17.115	µg/L	100
PFHxA	5.250	313.0 -> 269.0	35559	18.806	µg/L	98
PFPeS	5.292	349.0 -> 99.0	6445	16.421	µg/L	100
PFHxS	6.006	399.0 -> 80.0	47519	18.487	µg/L # m	84
PFHpA	6.011	363.0 -> 319.0	53503	20.035	µg/L #	91
PFHpS	6.632	449.0 -> 80.0	50486	19.519	µg/L	100
PFOA	6.664	413.0 -> 369.0	135069	20.357	µg/L #	91
6:2FTS	6.673	427.0 -> 407.0	93066	19.337	µg/L	100
FOSA	7.103	498.0 -> 78.0	93909	17.631	µg/L	100
PFOS	7.213	499.0 -> 80.0	89886	20.478	µg/L # m	77
PFNA	7.281	463.0 -> 419.0	59708	19.631	µg/L	98
MeFOSAA	7.552	570.0 -> 419.0	10570	19.260	µg/L	100
EtFOSAA	7.674	584.0 -> 419.0	9803	20.074	µg/L	100
PFNS	7.853	549.0 -> 99.0	15515	15.405	µg/L	100
PFDA	7.969	513.0 -> 469.0	95193	21.105	µg/L #	80
8:2FTS	8.088	527.0 -> 507.0	91279	21.145	µg/L	100
PFDS	9.199	599.0 -> 80.0	41977	19.886	µg/L	100
PFUnDA	9.479	563.0 -> 519.0	120939	20.307	µg/L	99
PFDoDA	11.206	613.0 -> 569.0	115365	20.312	µg/L #	72
PFTrDA	12.716	663.0 -> 619.0	98359	20.050	µg/L #	87
PFTeDA	14.067	713.0 -> 669.0	41381	18.569	µg/L #	76

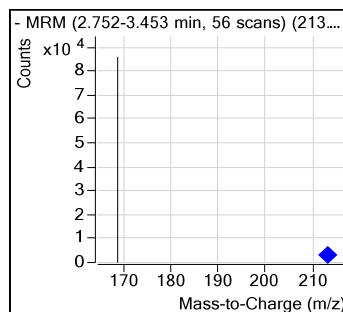
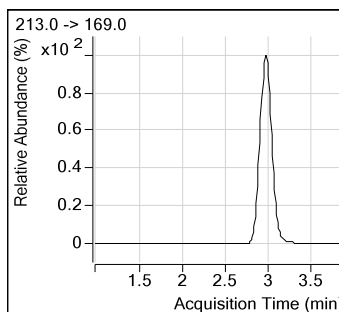
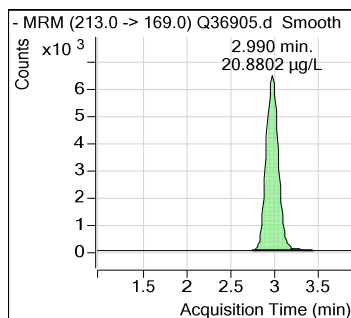
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

Perfluorinated Compounds by LC/MS/MS.

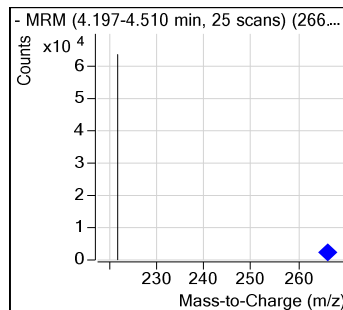
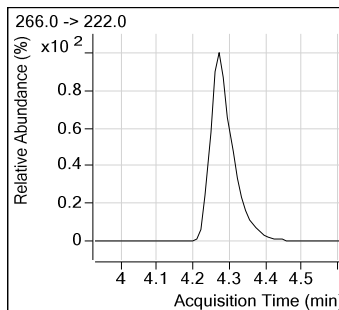
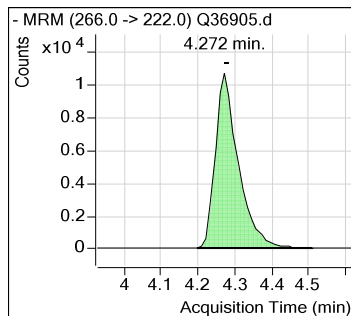
Data File : Q36905.d
Operator : NANCYF
Acq Method Name : 537_LIST.m
Acquisition date : 2017-07-18 12:20
Sample Name : CC936-20
Vial : Vial 3
Sample Info : OP65698,SQ937,5.00,,,5,1,SOIL
Quant Method : PFC_LIST_0717_SQ936.quantmethod.xml
Quant Batch Name : SQ937.batch.bin
Last Calib Update : 2017-07-18 07:16



PFBA

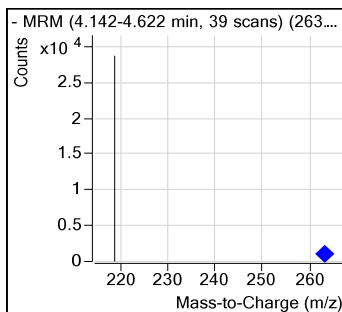
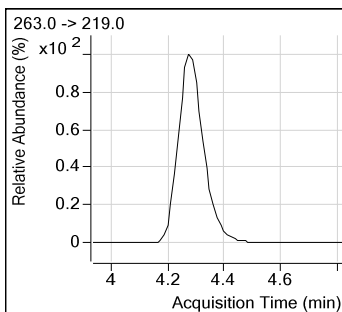
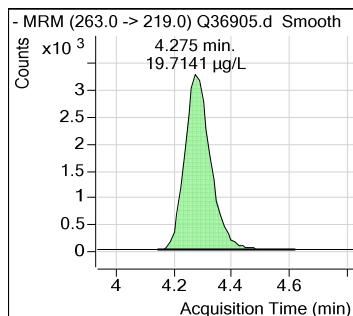


13C3-PFPeA

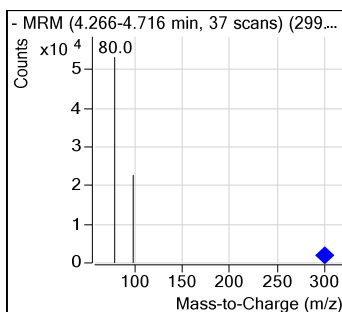
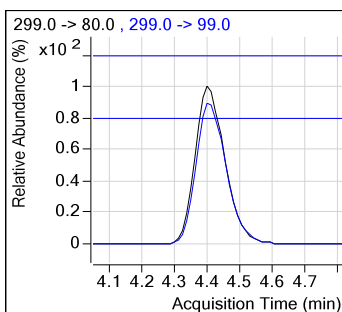
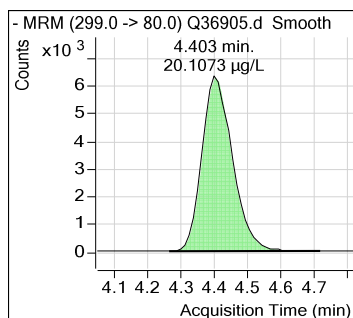


Perfluorinated Compounds by LC/MS/MS.

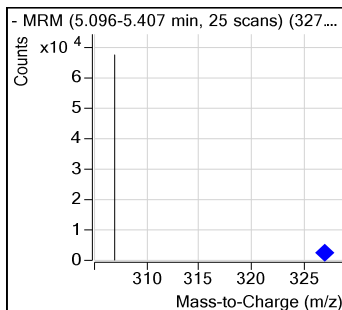
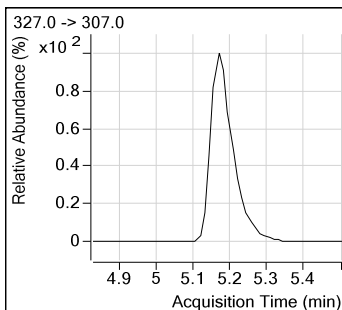
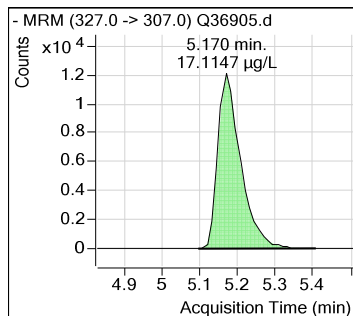
PFPeA



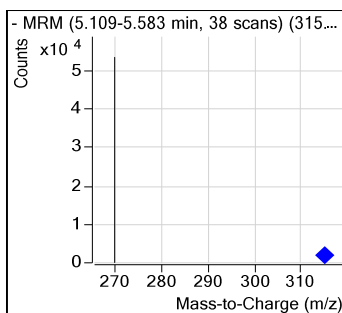
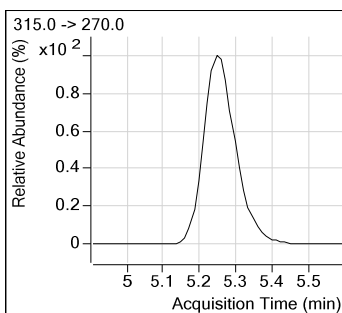
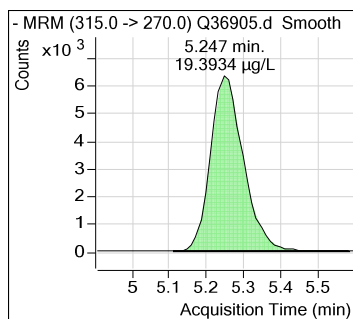
PFBS



4:2FTS

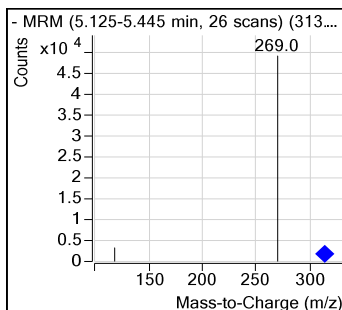
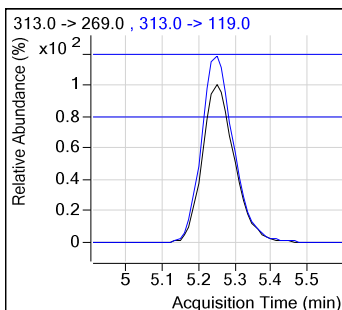
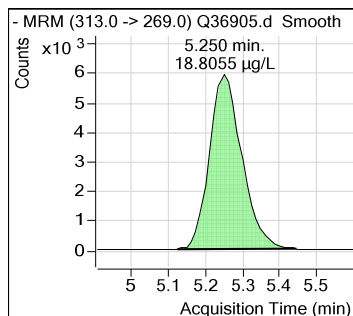


13C2-PFHxA

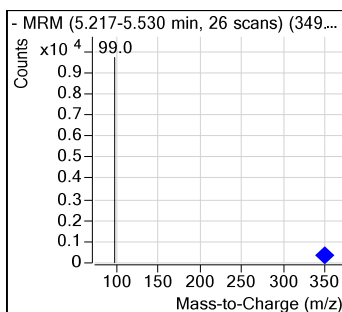
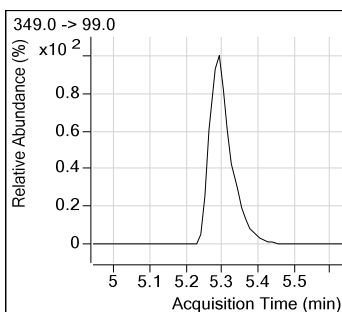
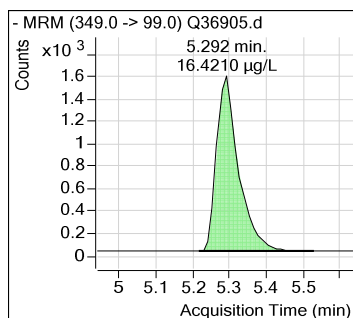


Perfluorinated Compounds by LC/MS/MS.

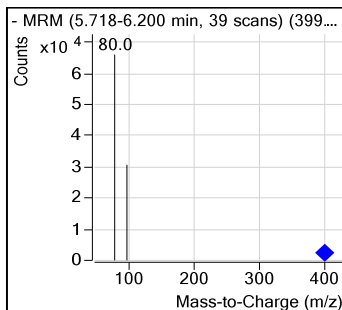
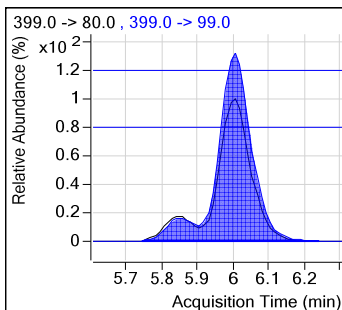
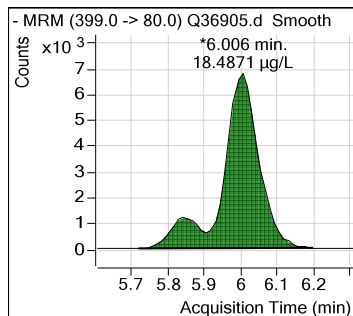
PFHxA



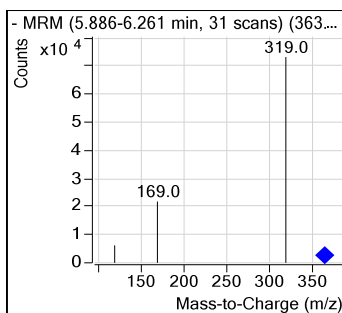
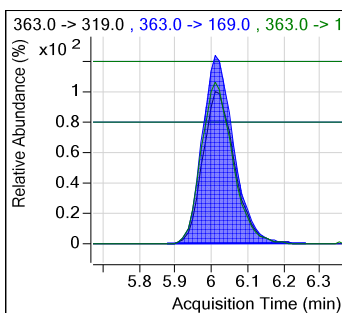
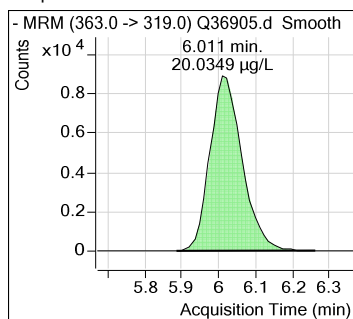
PFPeS



PFHxS

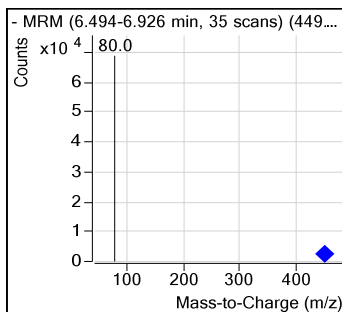
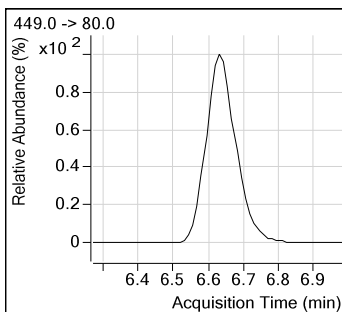
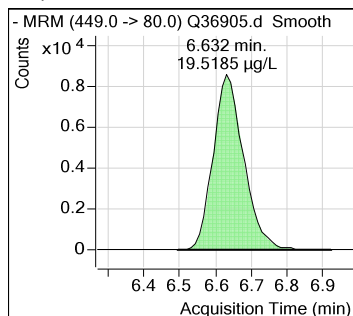


PFHpA

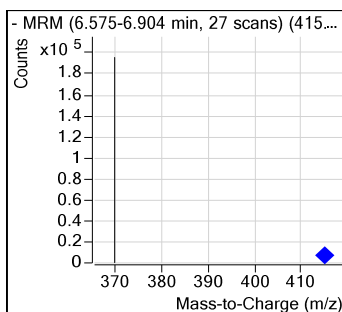
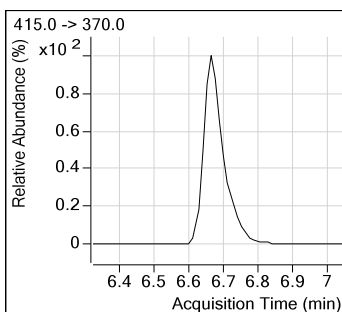
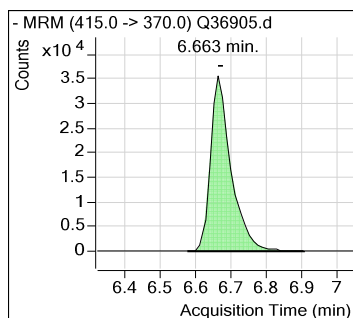


Perfluorinated Compounds by LC/MS/MS.

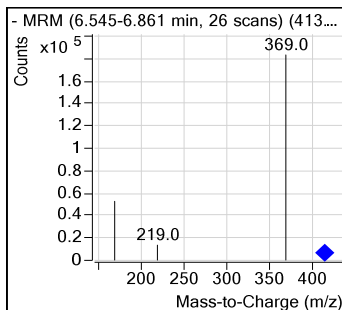
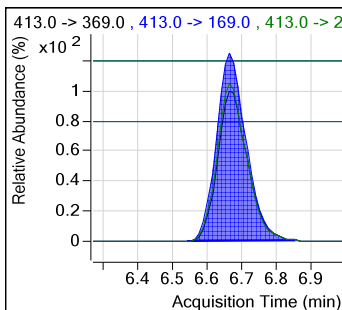
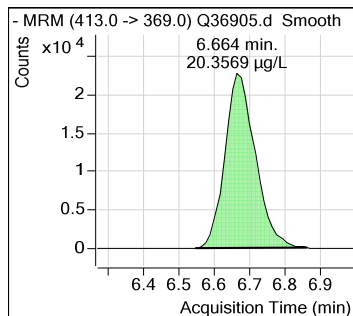
PFHpS



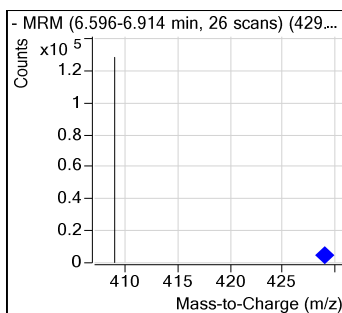
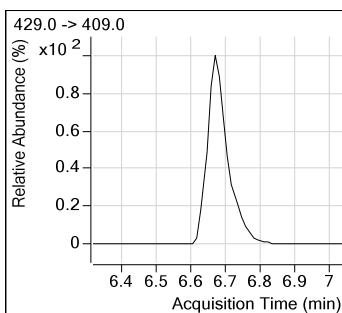
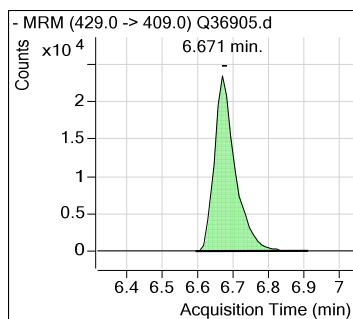
13C2-PFOA



PFOA

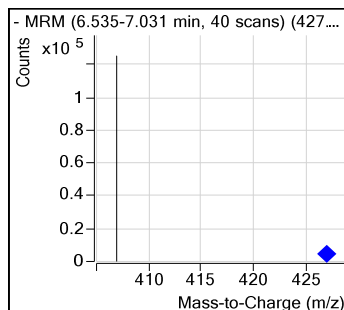
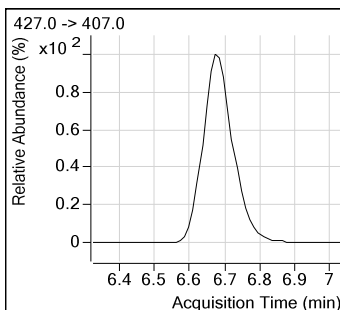
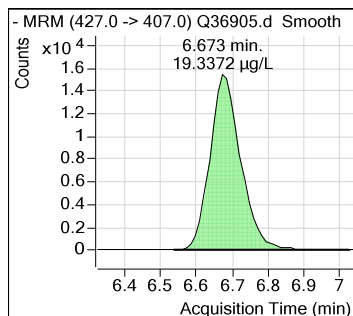


13C2-6:2FTS

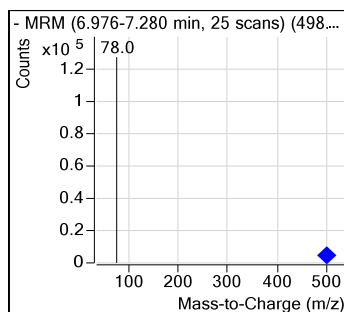
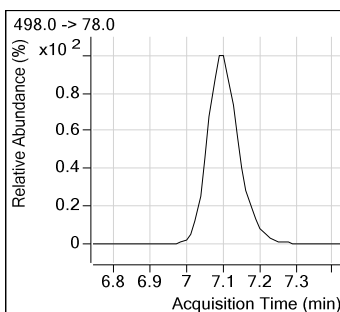
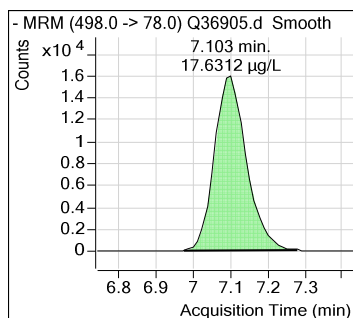


Perfluorinated Compounds by LC/MS/MS.

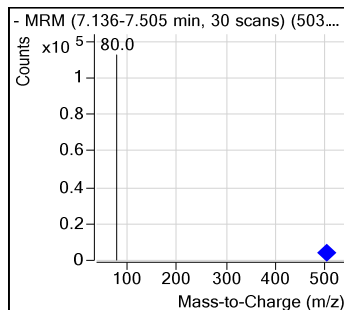
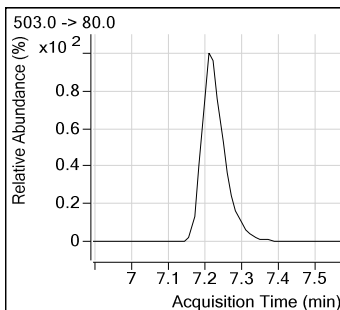
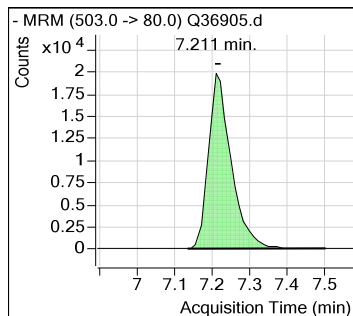
6:2FTS



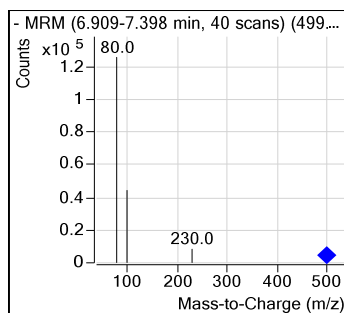
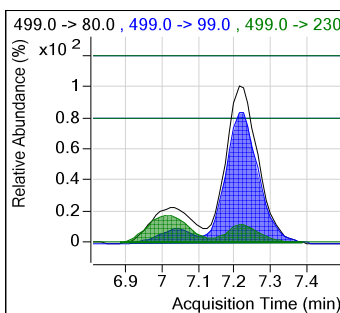
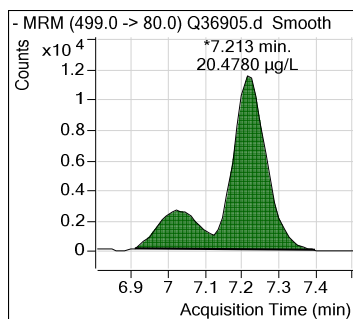
FOSA



13C4-PFOS

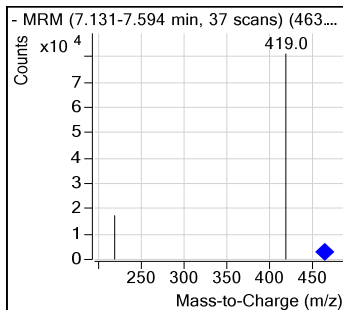
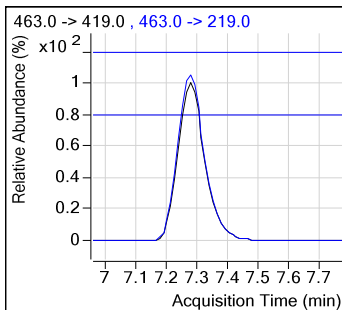
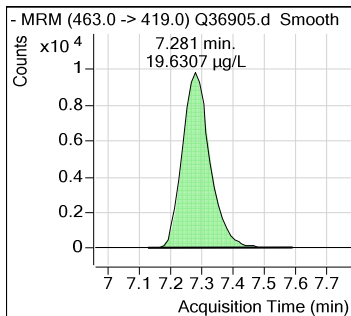


PFOS

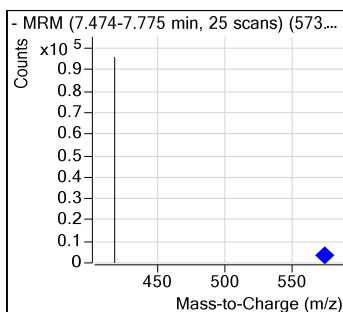
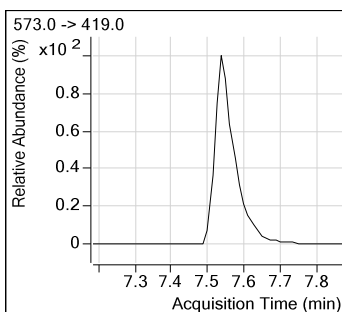
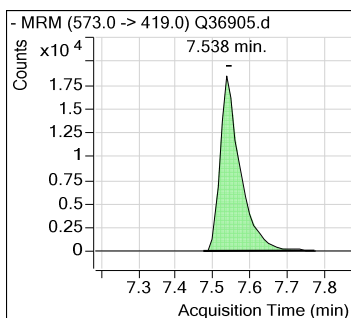


Perfluorinated Compounds by LC/MS/MS.

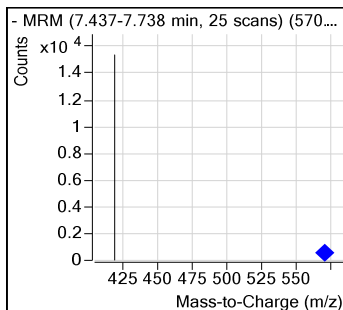
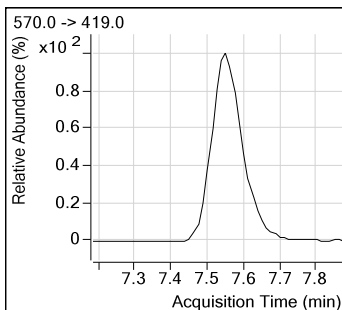
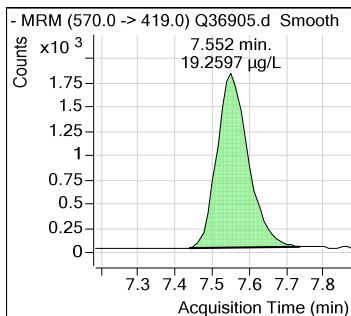
PFNA



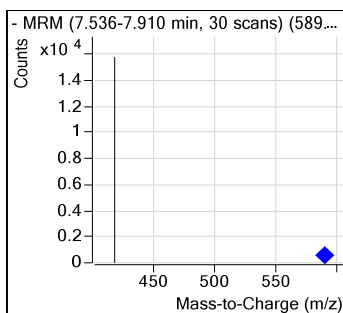
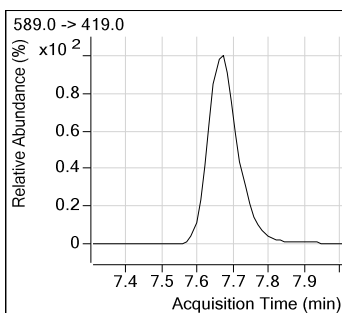
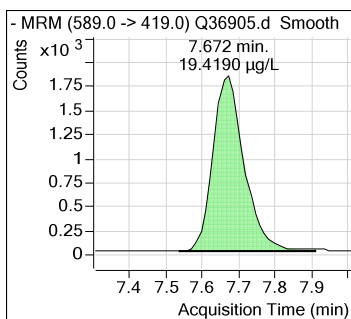
d3-MeFOSAA



MeFOSAA

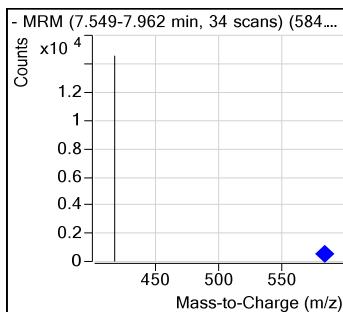
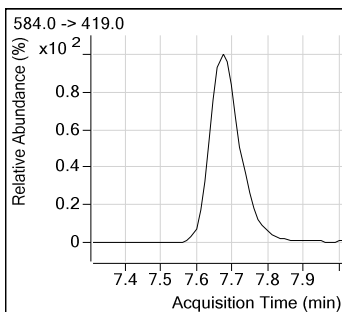
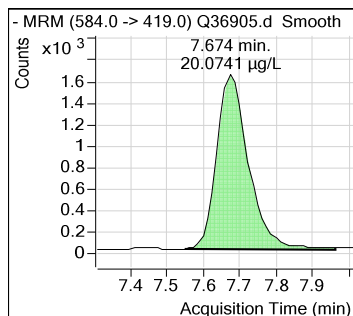


d5-EtFOSAA

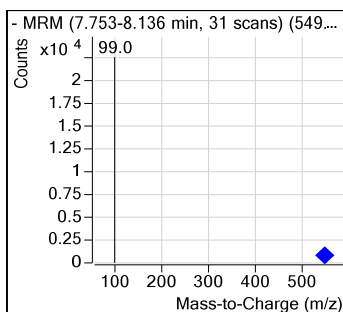
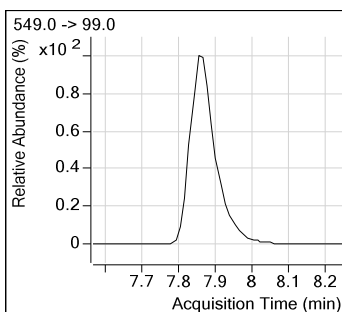
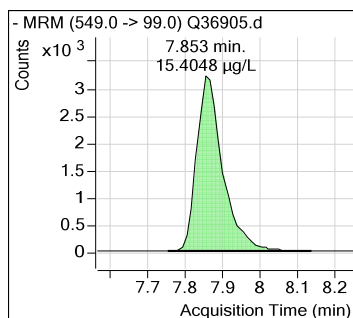


Perfluorinated Compounds by LC/MS/MS.

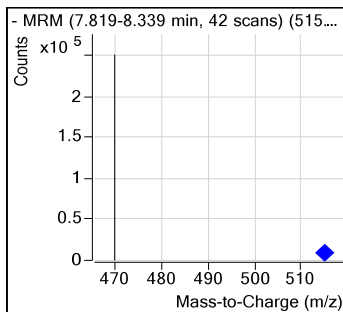
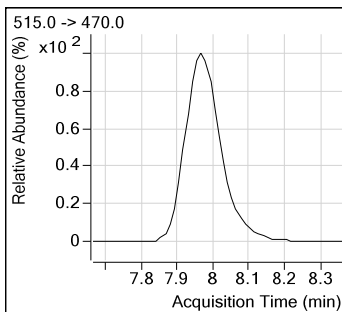
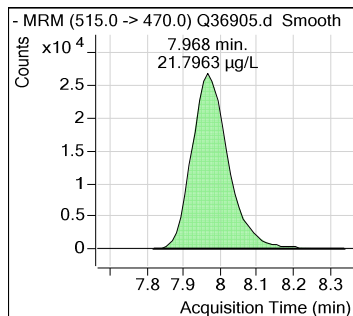
EtFOSAA



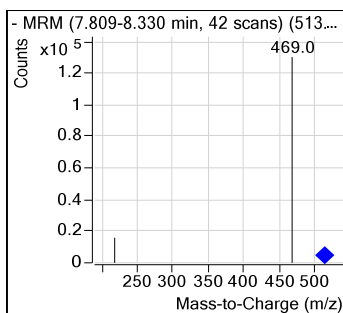
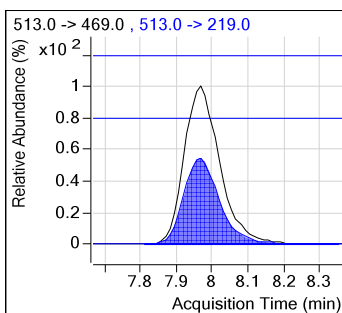
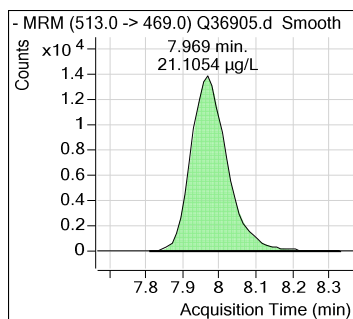
PFNS



13C2-PFDA

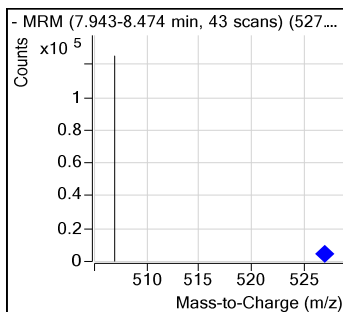
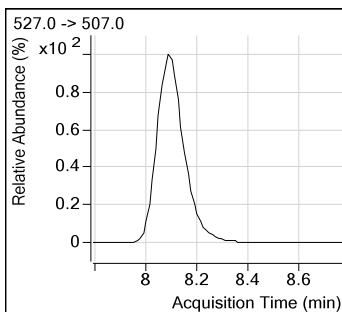
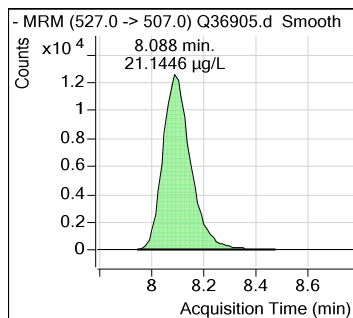


PFDA

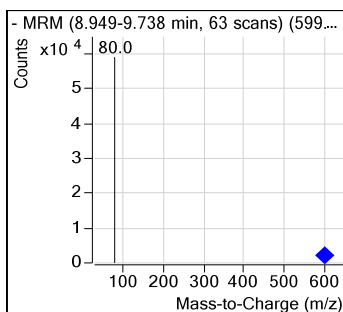
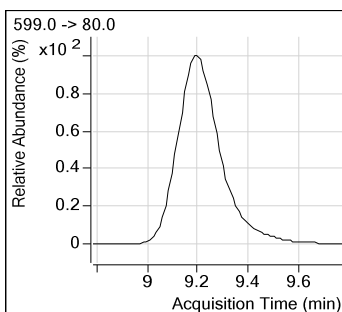
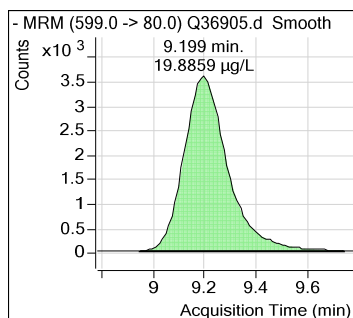


Perfluorinated Compounds by LC/MS/MS.

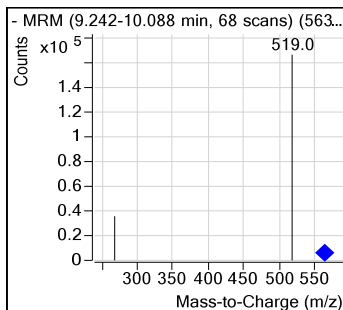
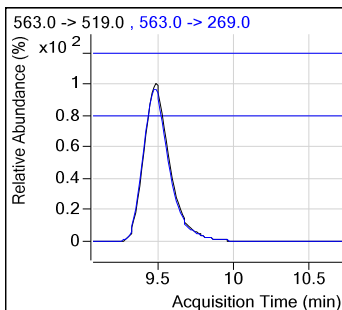
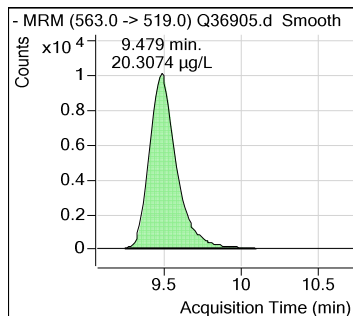
8:2FTS



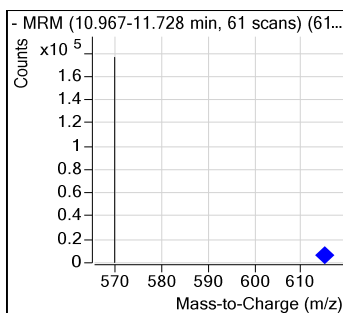
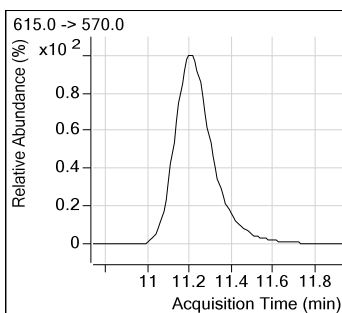
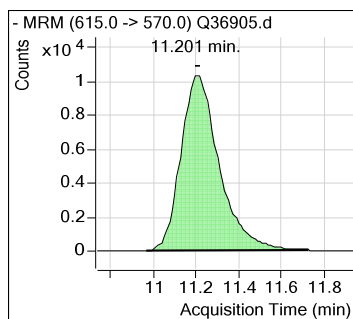
PFDS



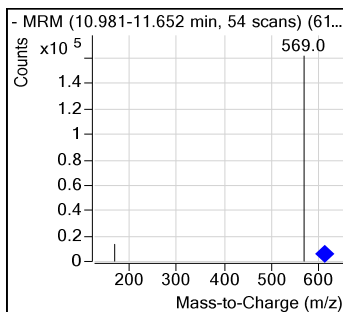
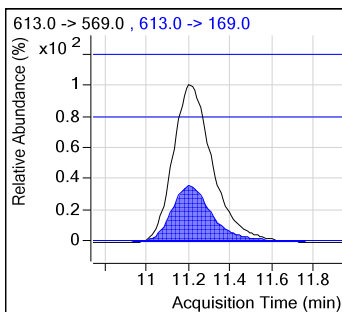
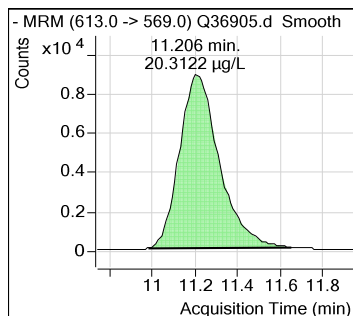
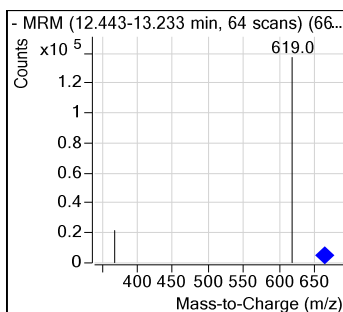
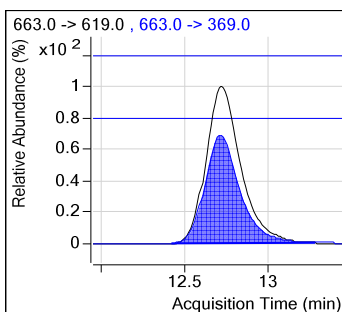
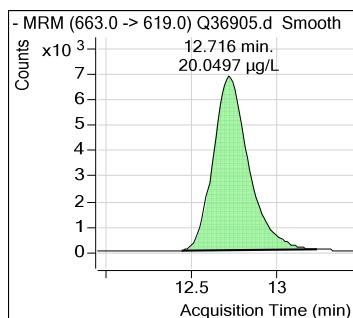
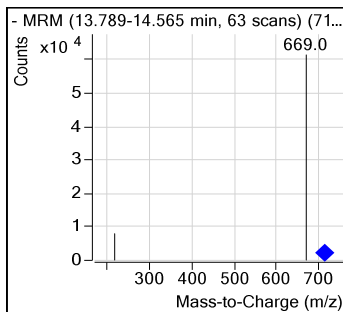
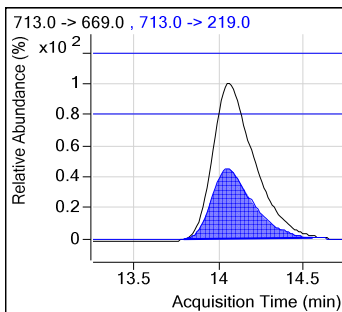
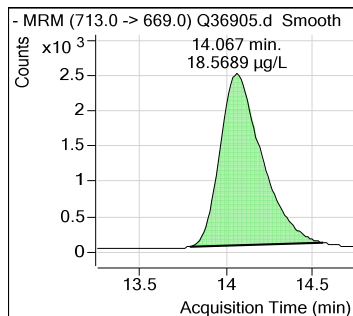
PFUnDA



13C2-PFDoDA



Perfluorinated Compounds by LC/MS/MS.

PFD_oDAPFT_rDAPFT_eDA

Calibration Curve

Manual Integration Approval Summary

Sample Number: SQ937-CC936

Method: EPA 537 MOD

Lab FileID: Q36905.D

Analyst approved: 07/19/17 15:42 Nancy Saunders

Injection Time: 07/18/17 12:20

Supervisor approved: 07/19/17 18:49 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		6.01	Split peak
Perfluorooctanesulfonic acid	1763-23-1		7.21	Split peak

7.5.11.1

7

Perfluorinated Compounds by LC/MS/MS.

Manual Integrations
APPROVED
(compounds with "m" flag)Mike Eger
07/19/17 18:49

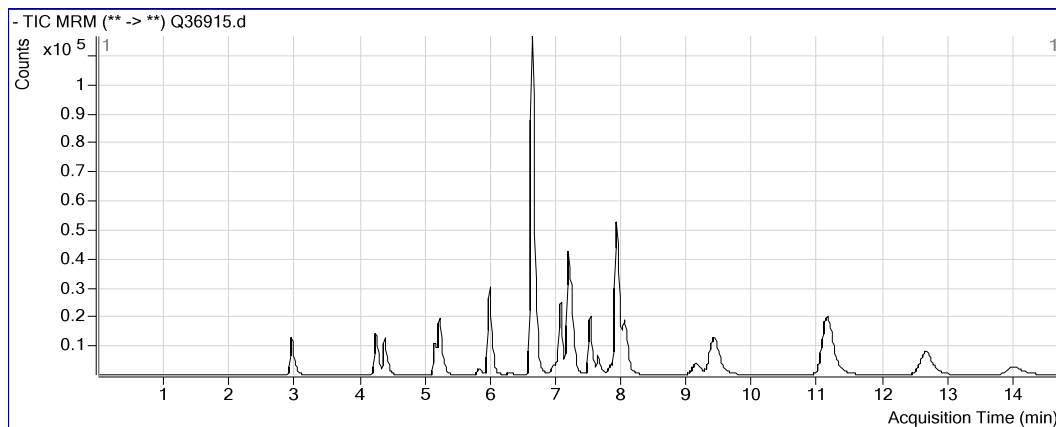
Data File : Q36915.d
 Operator : NANCYF
 Acq Method Name : 537_LIST.m
 Acquisition date : 2017-07-18 15:39
 Sample Name : CC936-20
 Vial : Vial 3
 Sample Info : OP65698,SQ937,5.00,,,5,1,SOIL
 Quant Method : PFC_LIST_0717_SQ936.quantmethod.xml
 Quant Batch Name : SQ937.batch.bin
 Last Calib Update : 2017-07-18 07:16

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
13C3-PFPeA	4.260	266.0 -> 222.0	43106	20.000	µg/L	0.000
13C2-PFOA	6.650	415.0 -> 370.0	138276	20.000	µg/L	-0.025
13C2-6:2FTS	6.659	429.0 -> 409.0	89615	20.000	µg/L	-0.025
13C4-PFOS	7.211	503.0 -> 80.0	81308	20.000	µg/L	-0.013
d3-MeFOSAA	7.538	573.0 -> 419.0	68490	20.000	µg/L	0.000
13C2-PFDoDA	11.164	615.0 -> 570.0	125589	20.000	µg/L	-0.012
System Monitoring Compounds						
13C2-PFHxA	5.247	315.0 -> 270.0	36480	19.27	µg/L	0.000
Spiked Amount: 20.000	Range: 14 - 26		Recovery = 96.36%			
d5-EtFOSAA	7.660	589.0 -> 419.0	11440	21.06	µg/L	0.000
Spiked Amount: 20.000	Range: 14 - 26		Recovery = 105.29%			
13C2-PFDA	7.955	515.0 -> 470.0	177336	22.17	µg/L	-0.038
Spiked Amount: 20.000	Range: 14 - 26		Recovery = 110.86%			
Target Compounds						
						Qvalue
PFBA	2.977	213.0 -> 169.0	58747	21.411	µg/L	100
PFPeA	4.263	263.0 -> 219.0	19286	20.399	µg/L	100
PFBS	4.403	299.0 -> 80.0	36672	19.843	µg/L	94
4:2FTS	5.157	327.0 -> 307.0	46351	16.973	µg/L	100
PFHxA	5.237	313.0 -> 269.0	34005	19.000	µg/L	98
PFPeS	5.280	349.0 -> 99.0	6093	16.062	µg/L	100
PFHxS	5.993	399.0 -> 80.0	45445	18.292	µg/L # m	84
PFHpA	6.011	363.0 -> 319.0	50260	19.884	µg/L #	91
PFHpS	6.620	449.0 -> 80.0	47641	19.056	µg/L	100
PFOA	6.664	413.0 -> 369.0	127077	20.235	µg/L #	90
6:2FTS	6.673	427.0 -> 407.0	87462	19.415	µg/L	100
FOSA	7.090	498.0 -> 78.0	91170	17.617	µg/L	100
PFOS	7.213	499.0 -> 80.0	86348	20.352	µg/L # m	77
PFNA	7.268	463.0 -> 419.0	56986	19.795	µg/L	97
MeFOSAA	7.540	570.0 -> 419.0	11196	20.998	µg/L	100
EtFOSAA	7.674	584.0 -> 419.0	10558	22.253	µg/L	100
PFNS	7.853	549.0 -> 99.0	14810	15.208	µg/L	100
PFDA	7.957	513.0 -> 469.0	89833	21.043	µg/L #	81
8:2FTS	8.076	527.0 -> 507.0	87458	21.664	µg/L	100
PFDS	9.162	599.0 -> 80.0	38122	18.684	µg/L	100
PFUnDA	9.441	563.0 -> 519.0	119454	20.442	µg/L	99
PFDoDA	11.168	613.0 -> 569.0	111570	20.020	µg/L #	72
PFTrDA	12.678	663.0 -> 619.0	95407	19.820	µg/L #	87
PFTeDA	14.017	713.0 -> 669.0	44601	20.397	µg/L #	74

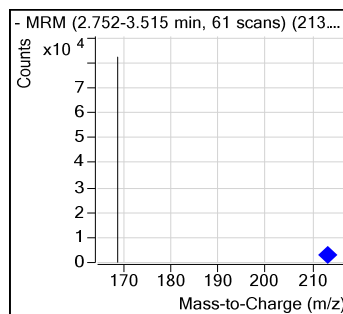
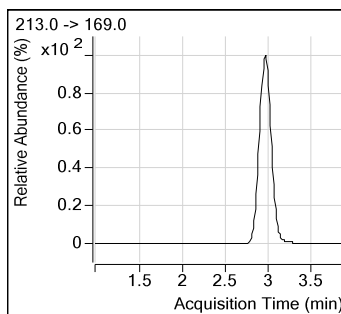
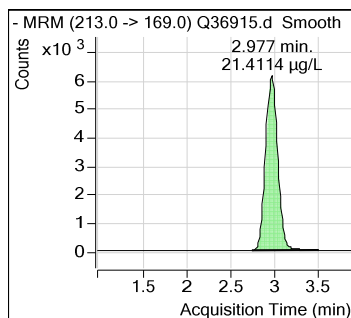
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

Perfluorinated Compounds by LC/MS/MS.

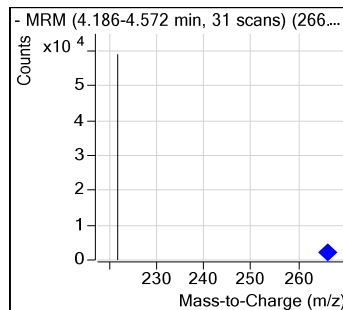
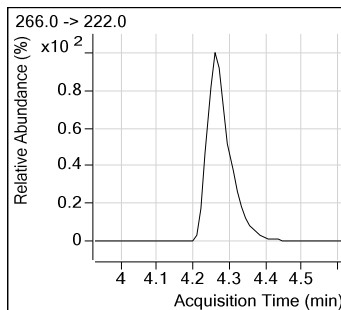
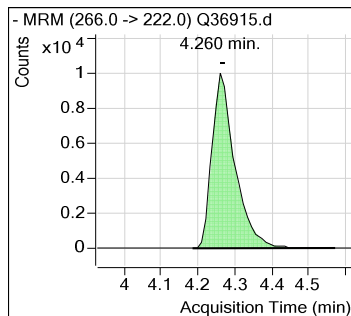
Data File : Q36915.d
Operator : NANCYF
Acq Method Name : 537_LIST.m
Acquisition date : 2017-07-18 15:39
Sample Name : CC936-20
Vial : Vial 3
Sample Info : OP65698,SQ937,5.00,,,5,1,SOIL
Quant Method : PFC_LIST_0717_SQ936.quantmethod.xml
Quant Batch Name : SQ937.batch.bin
Last Calib Update : 2017-07-18 07:16



PFBA

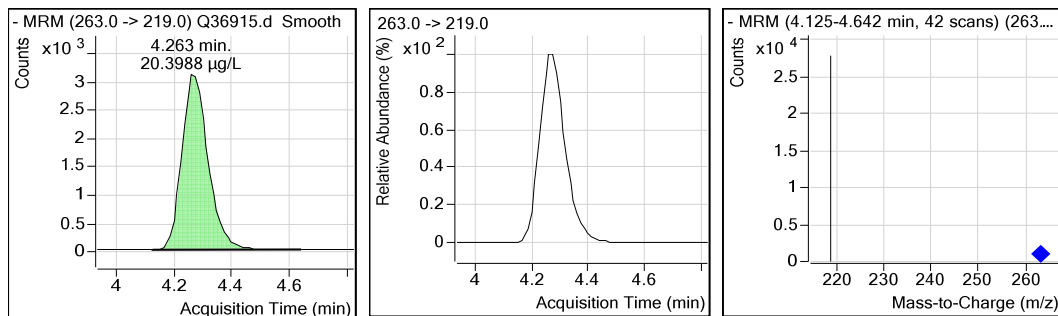


13C3-PFPeA

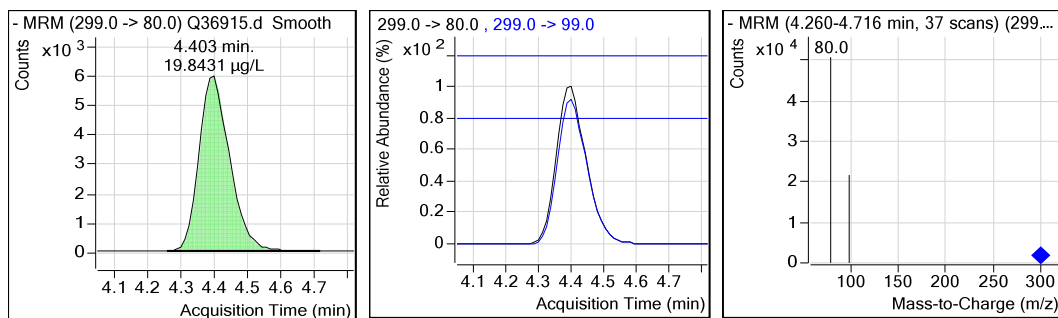


Perfluorinated Compounds by LC/MS/MS.

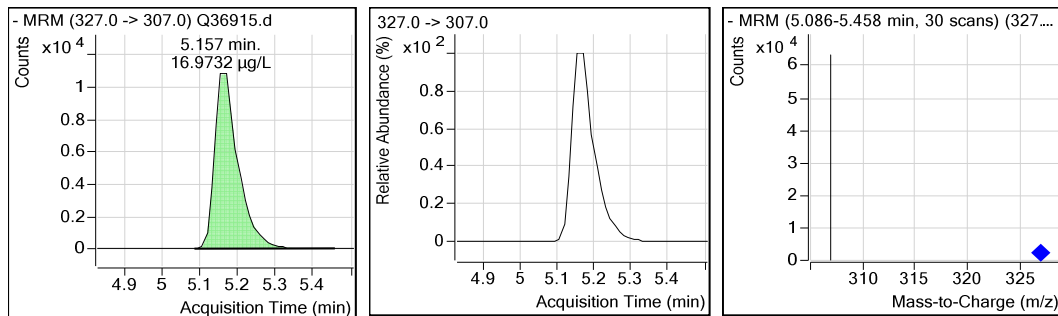
PFPeA



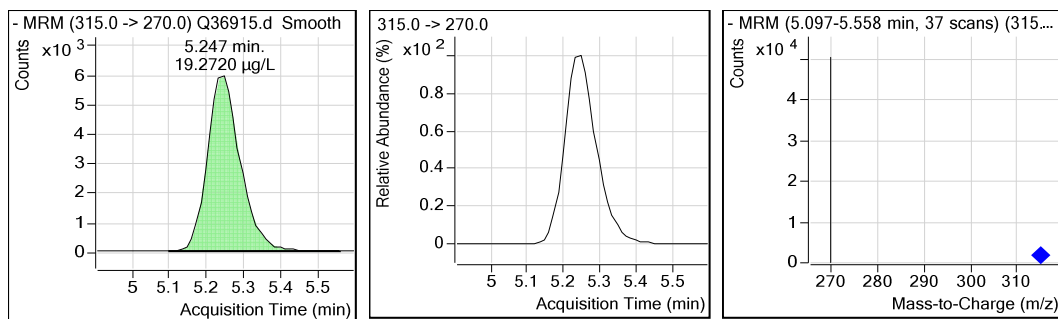
PFBS



4:2FTS

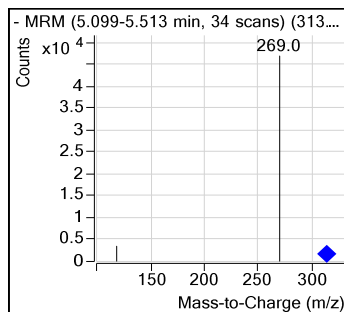
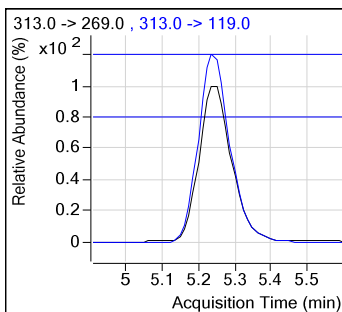
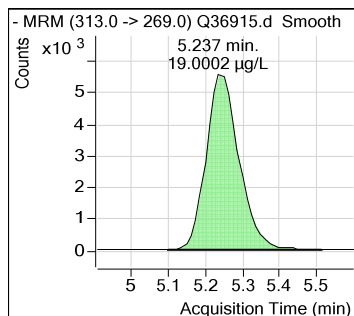


13C2-PFHxA

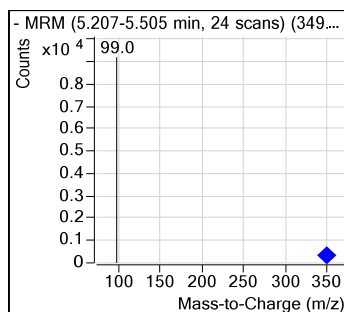
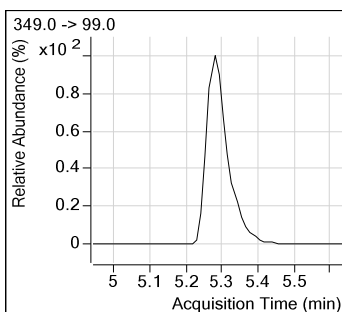
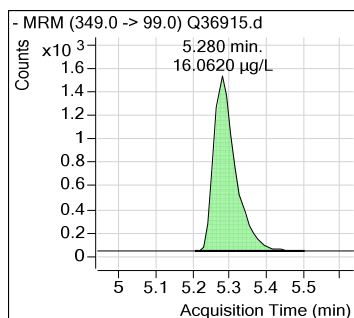


Perfluorinated Compounds by LC/MS/MS.

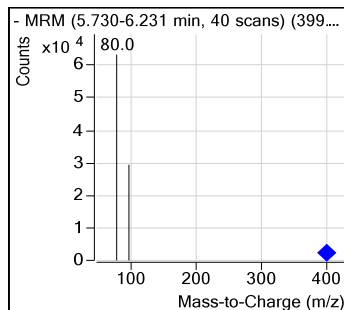
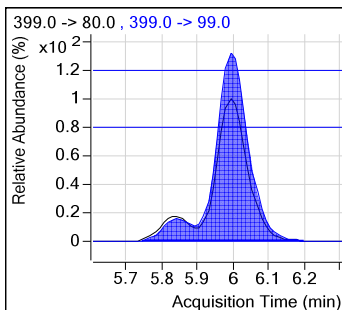
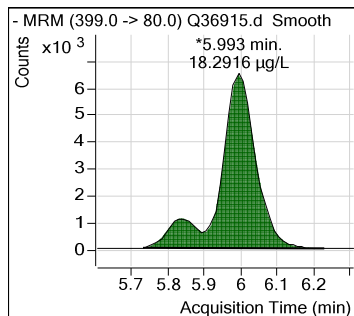
PFHxA



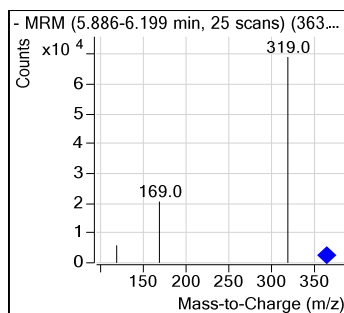
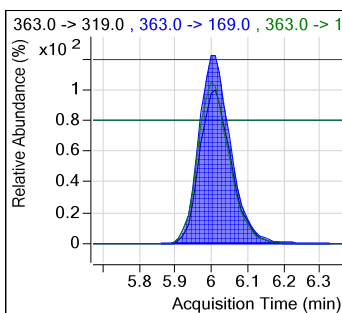
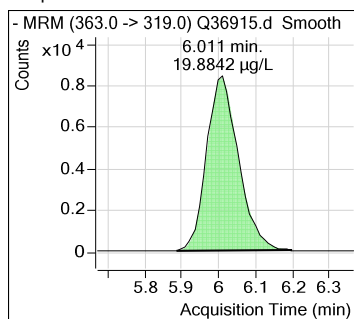
PFPeS



PFHxS

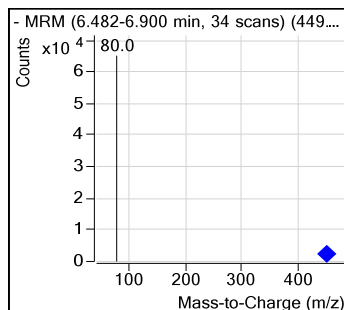
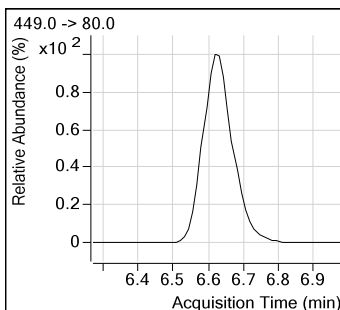
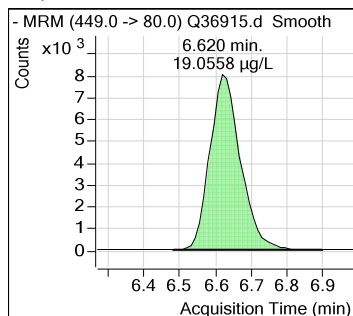


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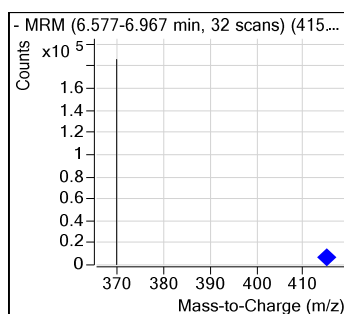
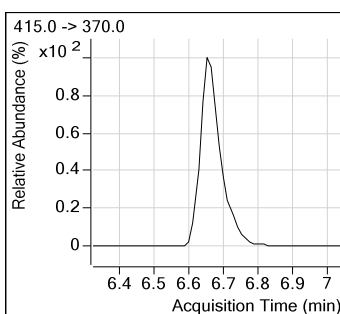
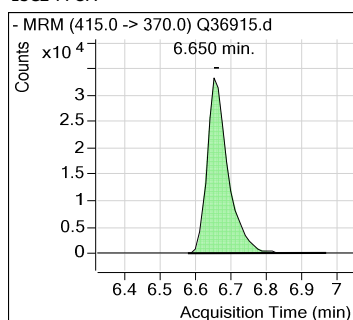


Perfluorinated Compounds by LC/MS/MS.

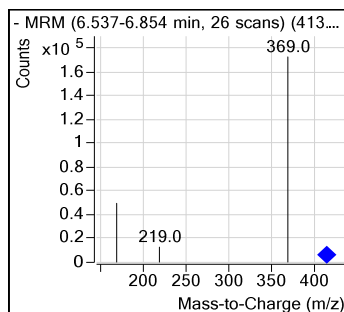
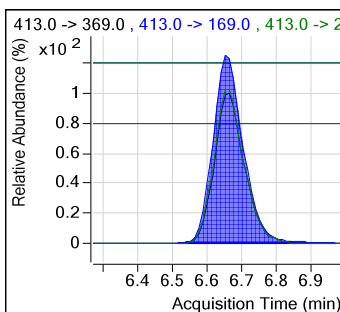
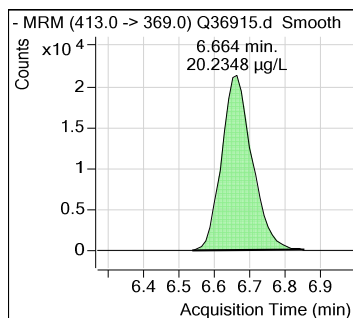
PFHpS



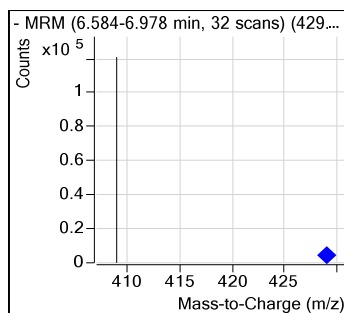
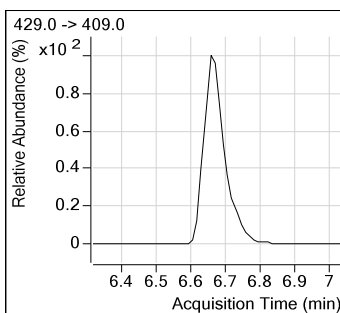
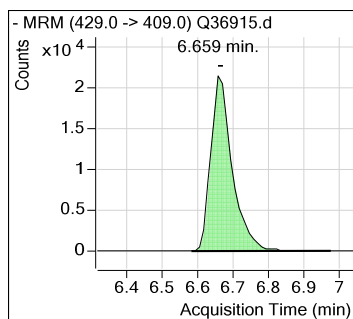
13C2-PFOA



PFOA

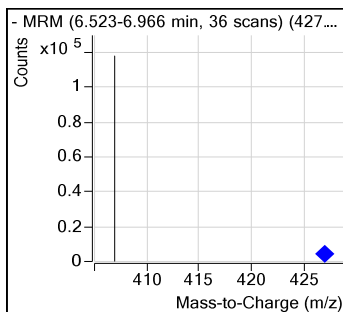
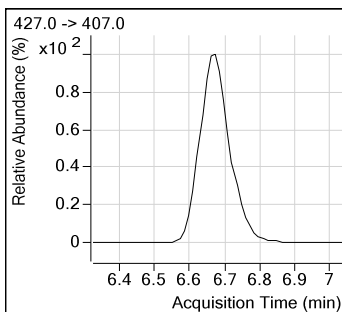
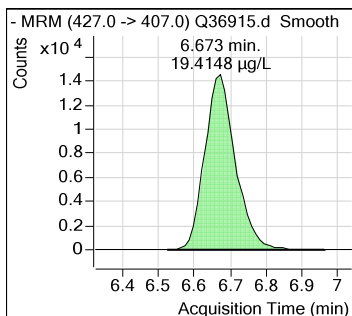


13C2-6:2FTS

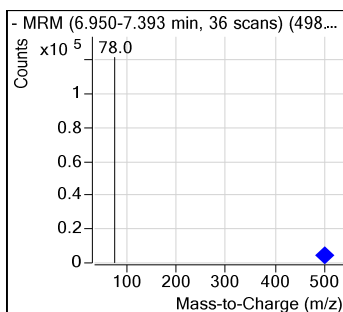
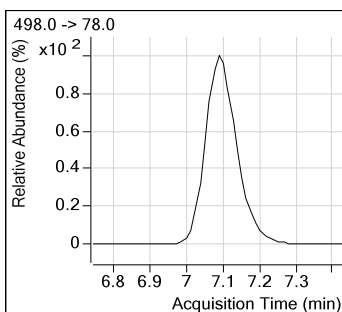
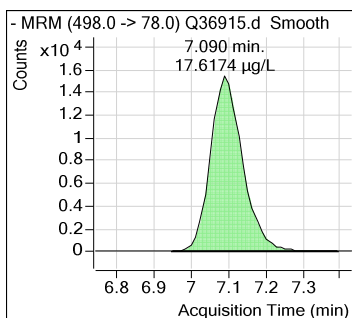


Perfluorinated Compounds by LC/MS/MS.

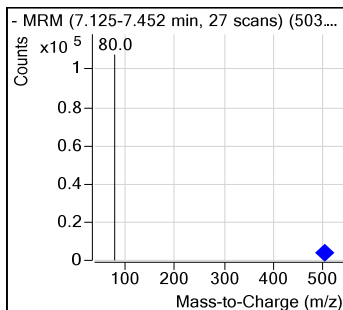
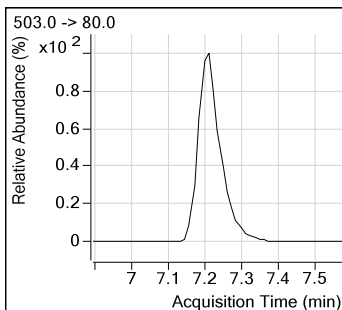
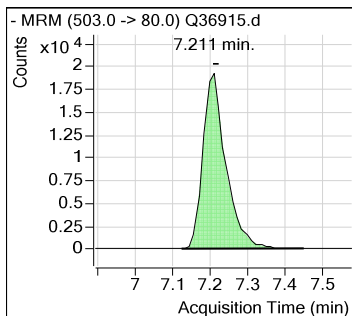
6:2FTS



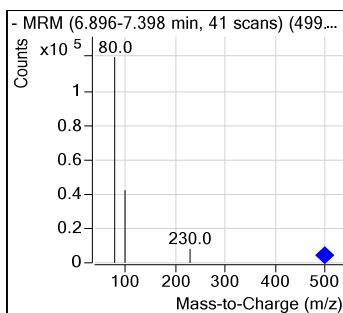
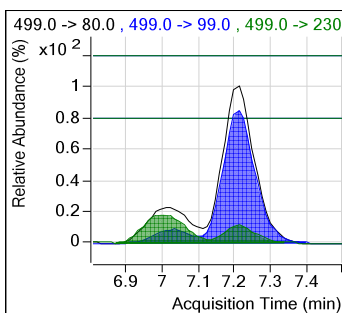
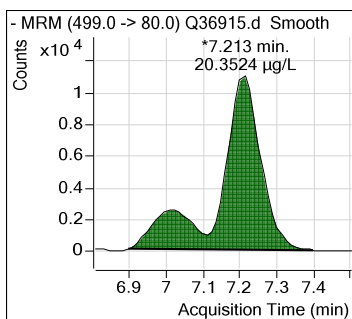
FOSA



13C4-PFOS

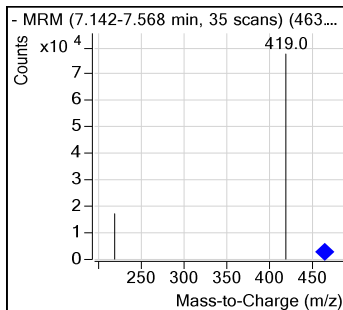
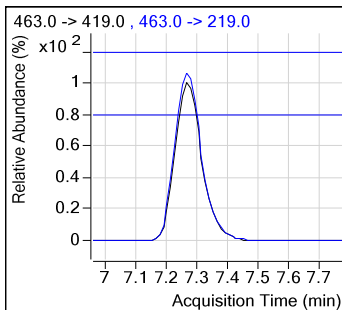
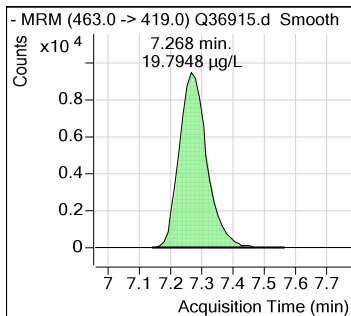


PFOS

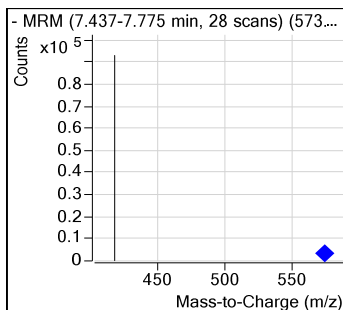
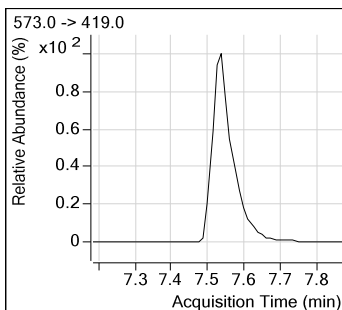
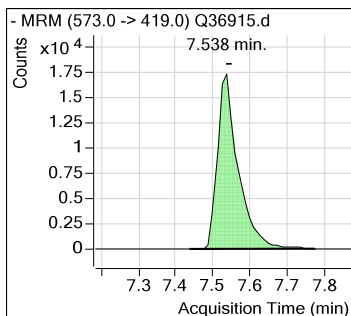


Perfluorinated Compounds by LC/MS/MS.

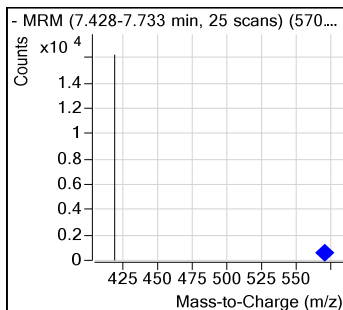
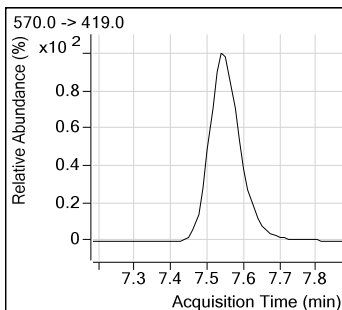
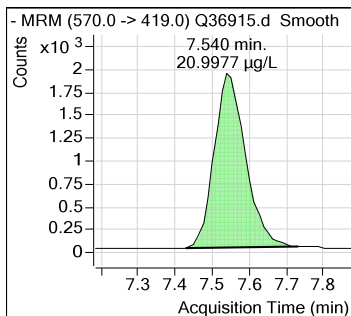
PFNA



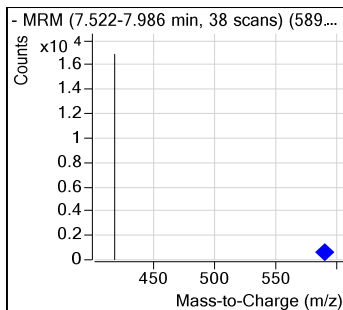
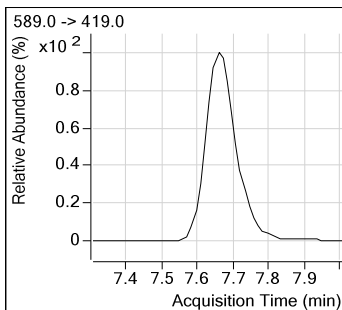
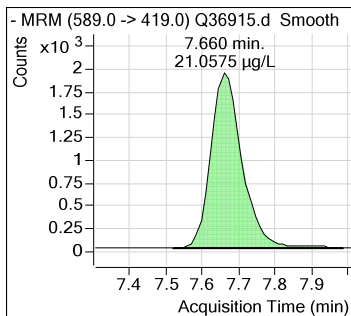
d3-MeFOSAA



MeFOSAA

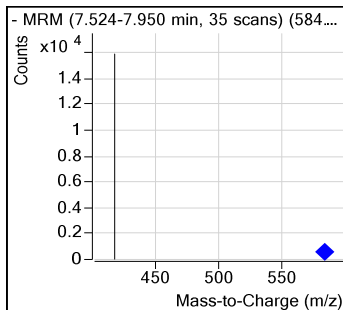
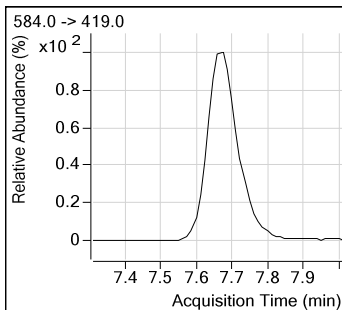
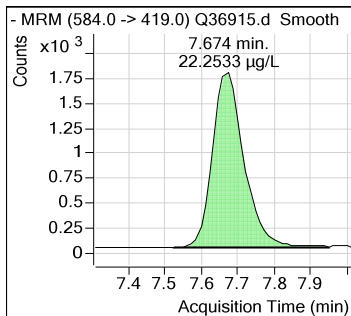


d5-EtFOSAA

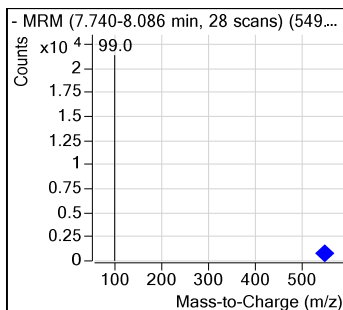
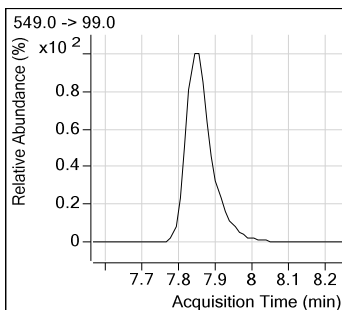
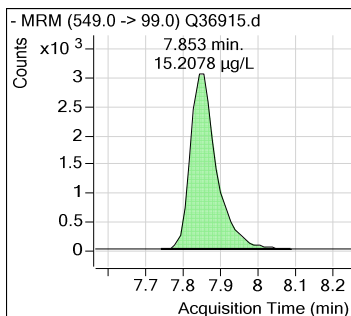


Perfluorinated Compounds by LC/MS/MS.

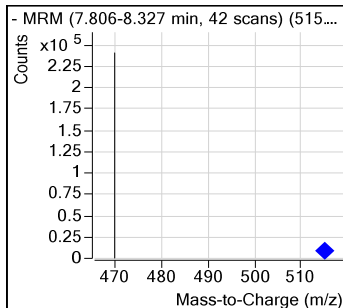
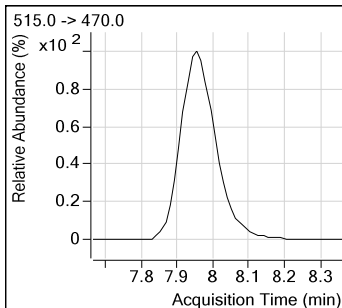
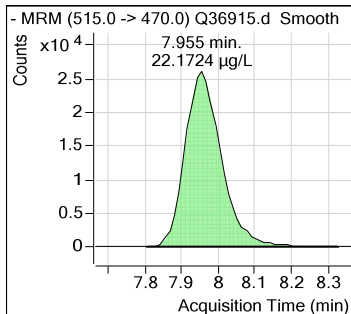
EtFOSAA



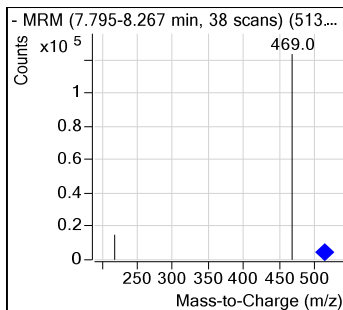
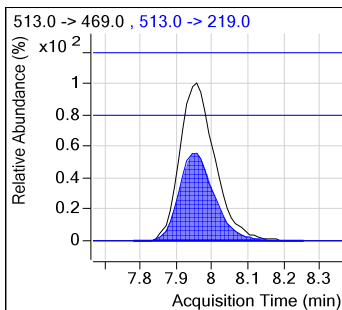
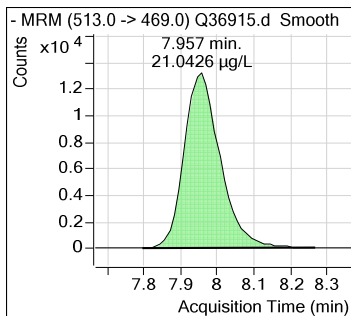
PFNS



13C2-PFDA

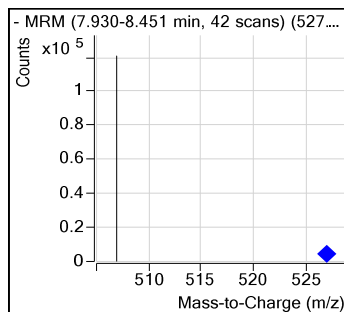
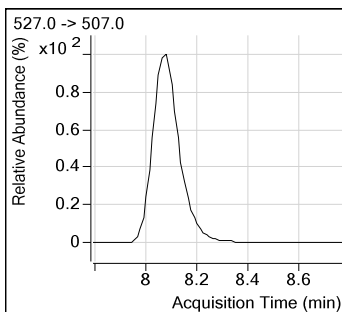
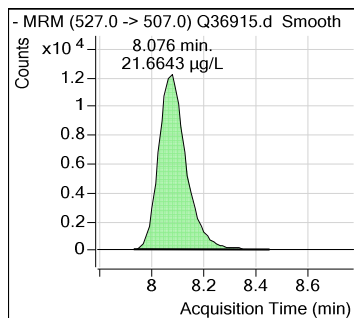


PFDA

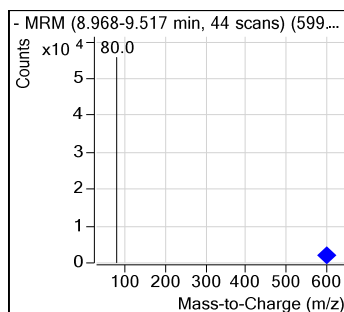
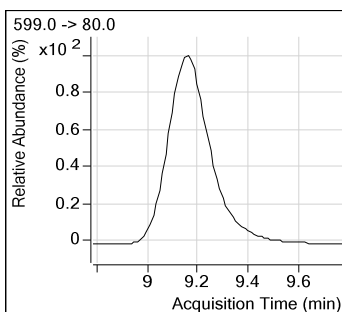
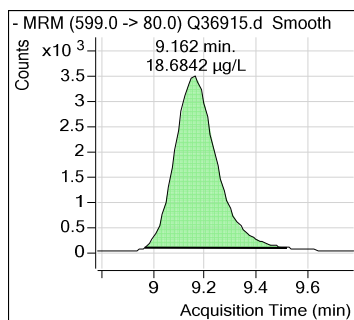


Perfluorinated Compounds by LC/MS/MS.

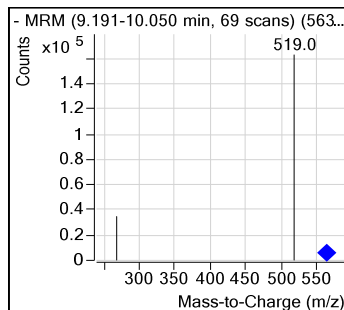
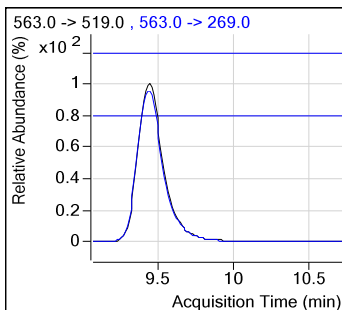
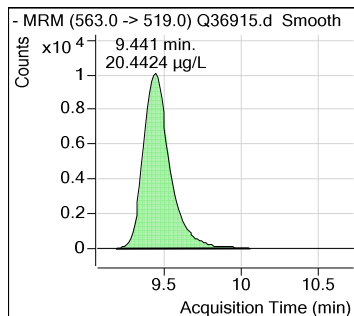
8:2FTS



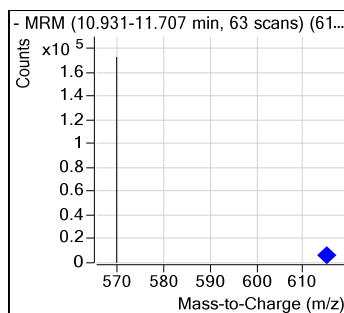
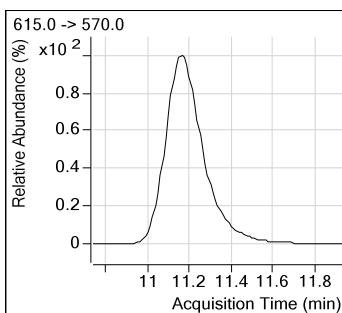
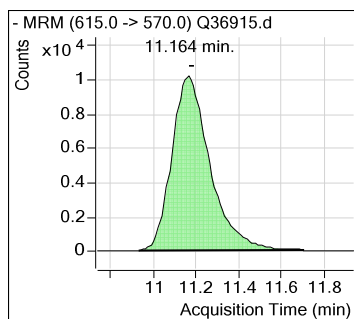
PFDS



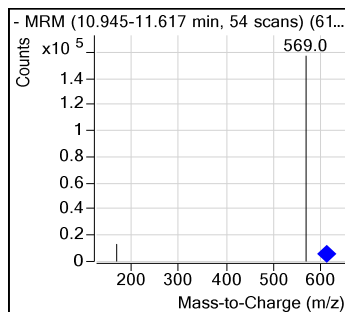
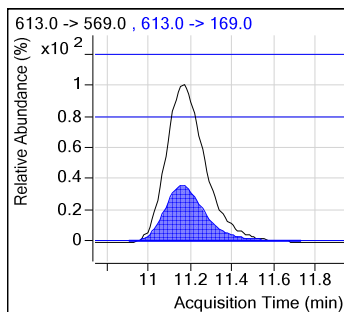
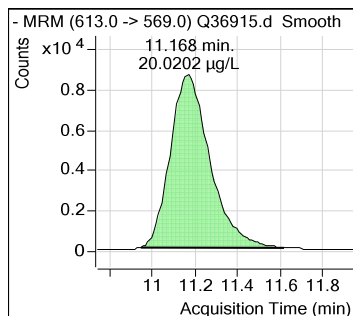
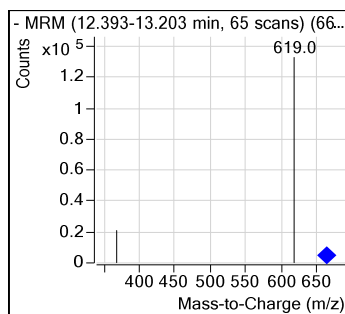
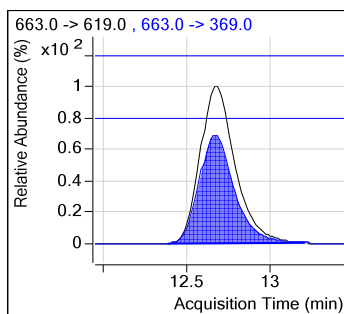
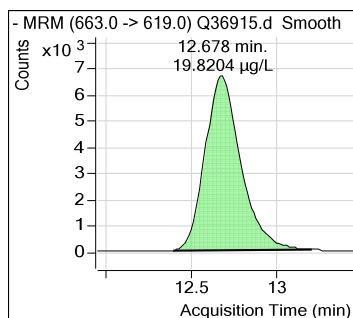
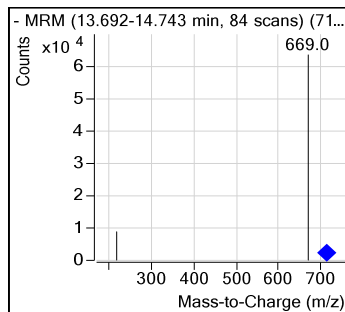
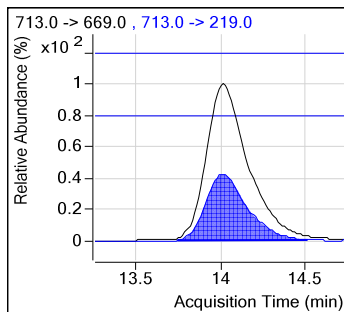
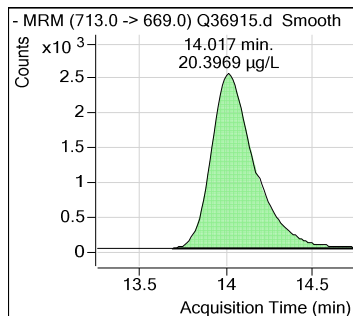
PFUnDA



13C2-PFDoDA



Perfluorinated Compounds by LC/MS/MS.

PFD_oDAPFT_rDAPFT_eDA

Calibration Curve

Manual Integration Approval Summary

Sample Number: SQ937-CC936

Method: EPA 537 MOD

Lab FileID: Q36915.D

Analyst approved: 07/19/17 15:42 Nancy Saunders

Injection Time: 07/18/17 15:39

Supervisor approved: 07/19/17 18:49 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		5.99	Split peak
Perfluorooctanesulfonic acid	1763-23-1		7.21	Split peak

7.5.12.1
7

Perfluorinated Compounds by LC/MS/MS.

Manual Integrations
APPROVED
(compounds with "m" flag)Mike Eger
07/19/17 18:49

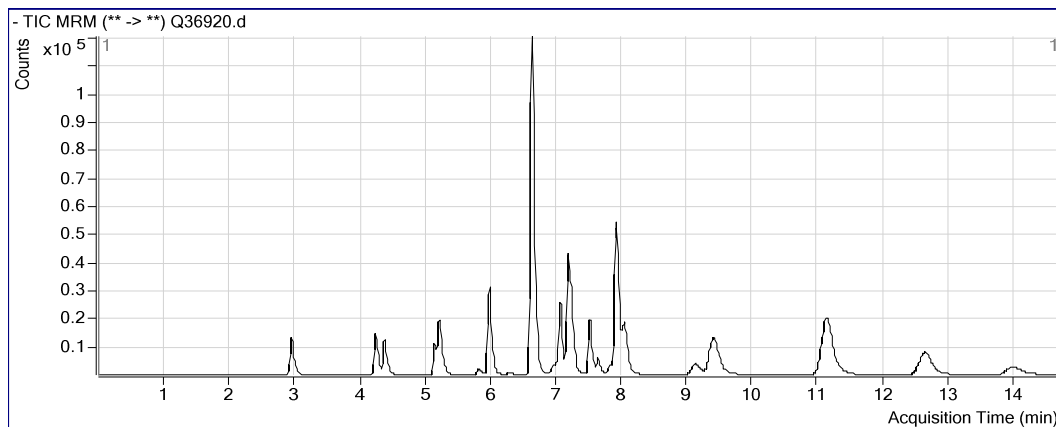
Data File : Q36920.d
 Operator : NANCYF
 Acq Method Name : 537_LIST.m
 Acquisition date : 2017-07-18 17:24
 Sample Name : CC936-20
 Vial : Vial 3
 Sample Info : OP65698,SQ937,5.00,,,5,1,SOIL
 Quant Method : PFC_LIST_0717_SQ936.quantmethod.xml
 Quant Batch Name : SQ937.batch.bin
 Last Calib Update : 2017-07-18 07:16

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
13C3-PFPeA	4.260	266.0 -> 222.0	44845	20.000	µg/L	0.000
13C2-PFOA	6.650	415.0 -> 370.0	141883	20.000	µg/L	-0.025
13C2-6:2FTS	6.659	429.0 -> 409.0	89850	20.000	µg/L	-0.025
13C4-PFOS	7.199	503.0 -> 80.0	81942	20.000	µg/L	-0.025
d3-MeFOSAA	7.538	573.0 -> 419.0	67298	20.000	µg/L	0.000
13C2-PFDoDA	11.151	615.0 -> 570.0	127100	20.000	µg/L	-0.025
System Monitoring Compounds						
13C2-PFHxA	5.235	315.0 -> 270.0	37823	19.47	µg/L	-0.013
Spiked Amount: 20.000	Range: 14 - 26		Recovery = 97.37%			
d5-EtFOSAA	7.660	589.0 -> 419.0	10694	20.03	µg/L	0.000
Spiked Amount: 20.000	Range: 14 - 26		Recovery = 100.16%			
13C2-PFDA	7.955	515.0 -> 470.0	180768	22.03	µg/L	-0.038
Spiked Amount: 20.000	Range: 14 - 26		Recovery = 110.13%			
Target Compounds						
						Qvalue
PFBA	2.977	213.0 -> 169.0	60561	21.217	µg/L	100
PFPeA	4.263	263.0 -> 219.0	19873	20.205	µg/L	100
PFBS	4.391	299.0 -> 80.0	36981	19.856	µg/L	93
4:2FTS	5.157	327.0 -> 307.0	46441	16.961	µg/L	100
PFHxA	5.237	313.0 -> 269.0	35488	19.324	µg/L	99
PFPeS	5.280	349.0 -> 99.0	6321	16.532	µg/L	100
PFHxS	5.993	399.0 -> 80.0	45674	18.242	µg/L # m	84
PFHpA	5.998	363.0 -> 319.0	52404	20.206	µg/L #	91
PFHpS	6.620	449.0 -> 80.0	48434	19.223	µg/L	100
PFOA	6.652	413.0 -> 369.0	131409	20.393	µg/L #	90
6:2FTS	6.661	427.0 -> 407.0	86741	19.193	µg/L	100
FOSA	7.090	498.0 -> 78.0	92195	18.159	µg/L	100
PFOS	7.213	499.0 -> 80.0	88254	20.641	µg/L # m	77
PFNA	7.268	463.0 -> 419.0	58832	19.916	µg/L	97
MeFOSAA	7.540	570.0 -> 419.0	10665	20.355	µg/L	100
EtFOSAA	7.674	584.0 -> 419.0	9773	20.963	µg/L	100
PFNS	7.841	549.0 -> 99.0	15354	15.657	µg/L	100
PFDA	7.944	513.0 -> 469.0	92938	21.217	µg/L #	81
8:2FTS	8.063	527.0 -> 507.0	86583	21.378	µg/L	100
PFDS	9.149	599.0 -> 80.0	38521	18.734	µg/L	100
PFUnDA	9.429	563.0 -> 519.0	119952	20.284	µg/L	99
PFDoDA	11.156	613.0 -> 569.0	113329	20.094	µg/L #	72
PFTrDA	12.666	663.0 -> 619.0	98701	20.261	µg/L #	86
PFTeDA	14.004	713.0 -> 669.0	44402	20.065	µg/L #	75

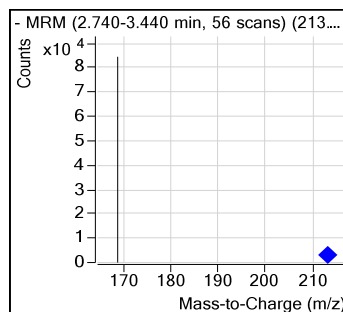
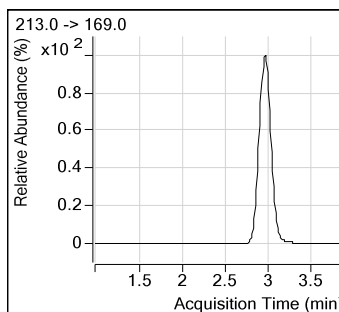
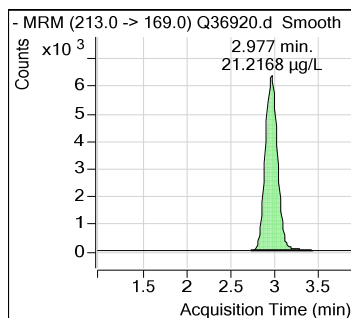
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

Perfluorinated Compounds by LC/MS/MS.

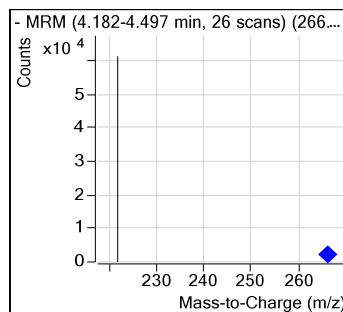
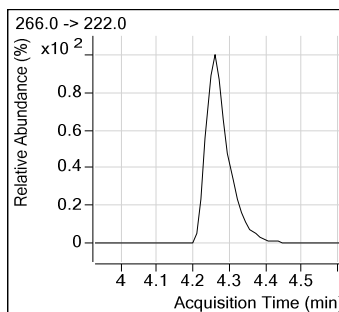
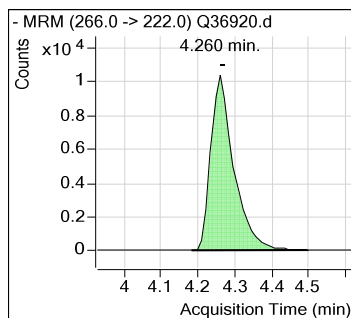
Data File : Q36920.d
Operator : NANCYF
Acq Method Name : 537_LIST.m
Acquisition date : 2017-07-18 17:24
Sample Name : CC936-20
Vial : Vial 3
Sample Info : OP65698,SQ937,5.00,,,5,1,SOIL
Quant Method : PFC_LIST_0717_SQ936.quantmethod.xml
Quant Batch Name : SQ937.batch.bin
Last Calib Update : 2017-07-18 07:16



PFBA

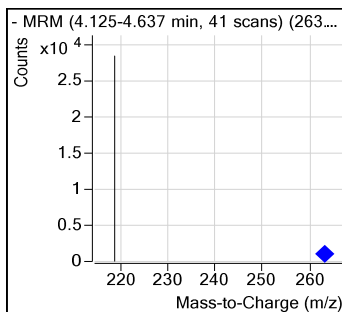
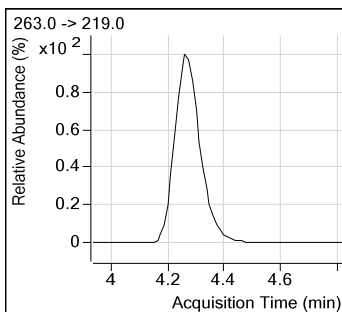
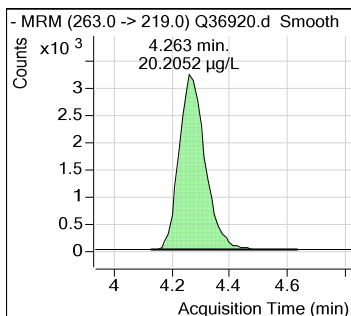


13C3-PFPeA

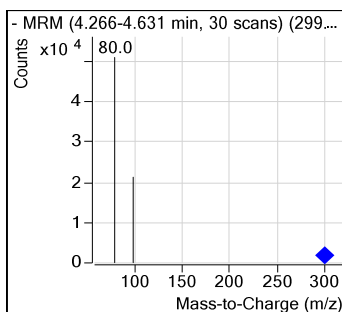
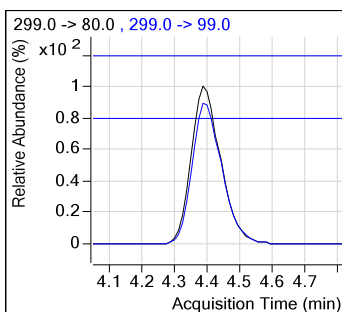
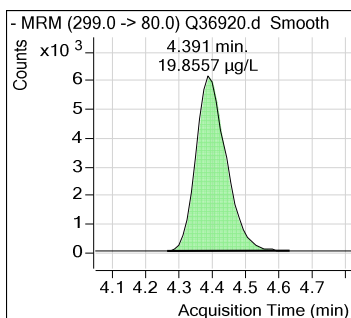


Perfluorinated Compounds by LC/MS/MS.

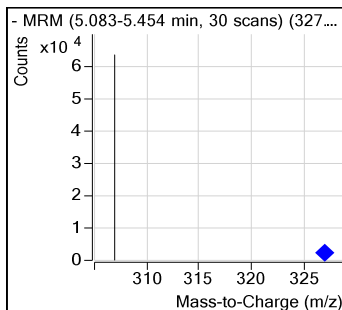
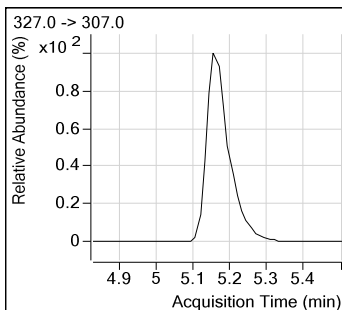
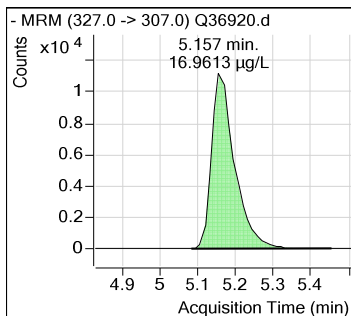
PFPeA



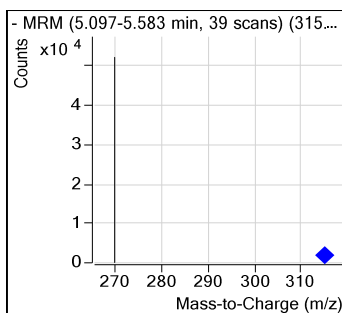
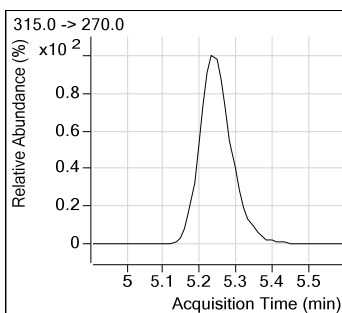
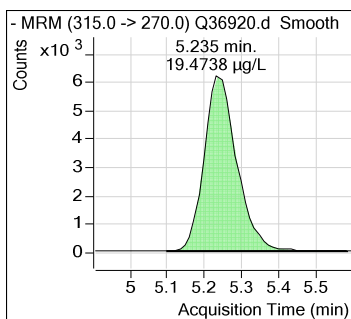
PFBS



4:2FTS

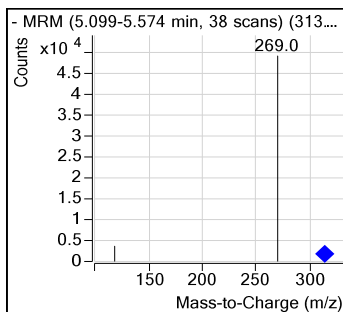
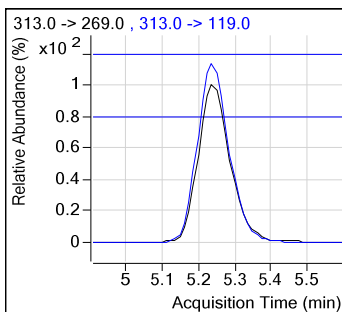
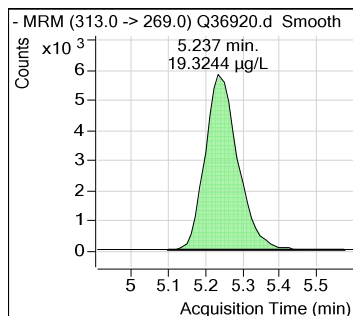


13C2-PFHxA

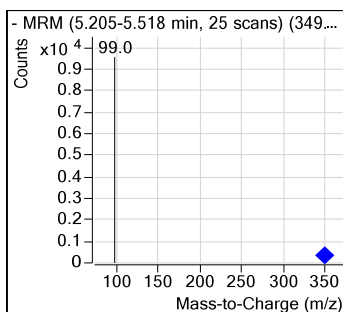
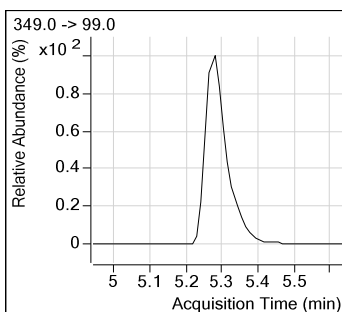
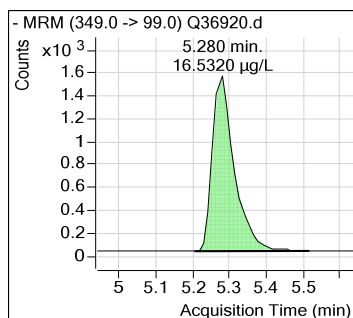


Perfluorinated Compounds by LC/MS/MS.

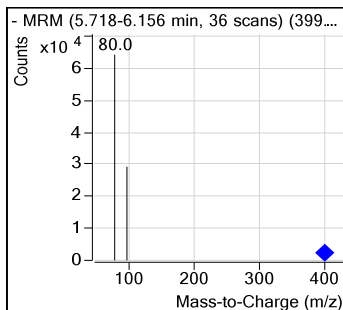
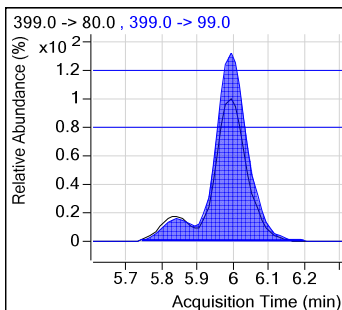
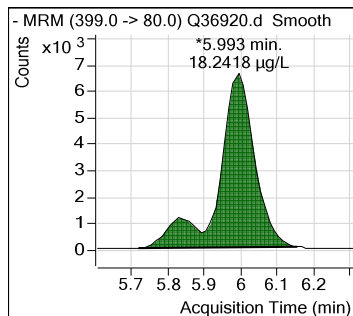
PFHxA



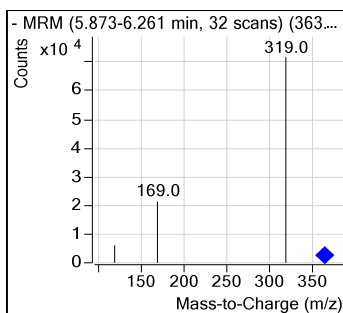
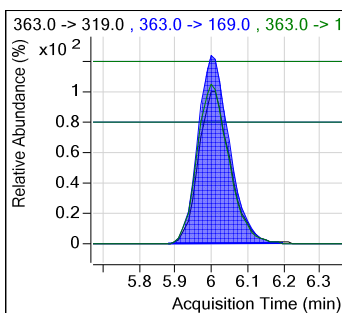
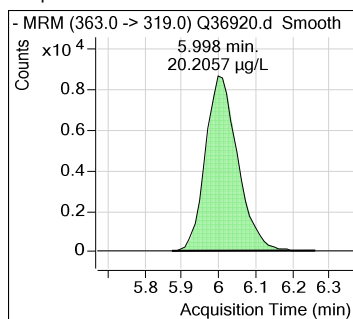
PFPeS



PFHxS

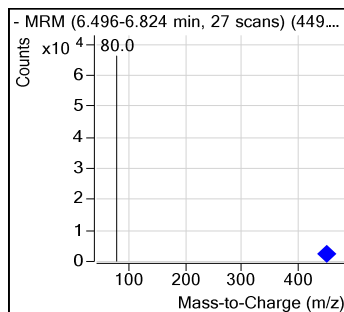
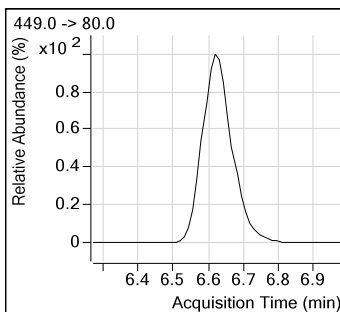
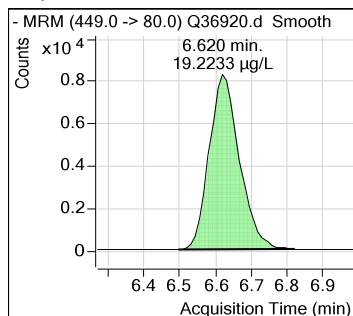


PFHpA

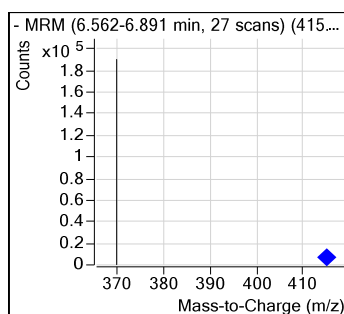
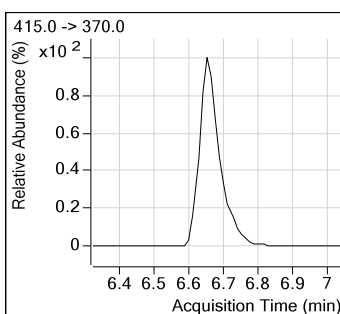
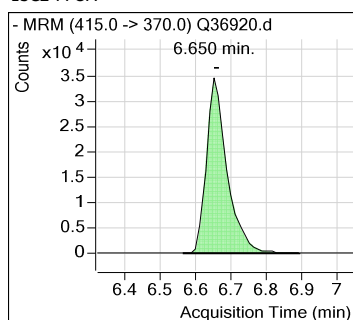


Perfluorinated Compounds by LC/MS/MS.

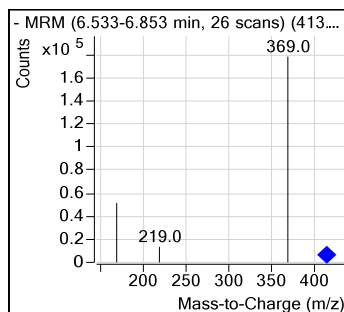
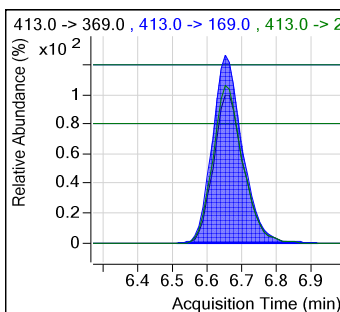
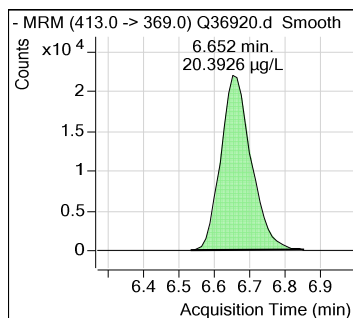
PFHpS



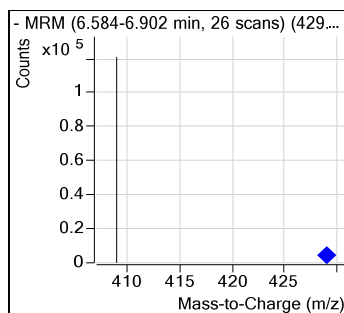
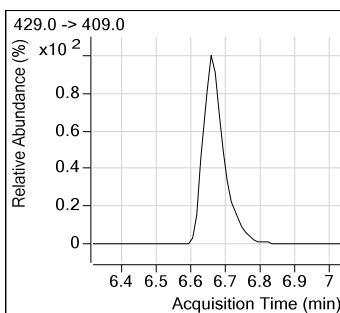
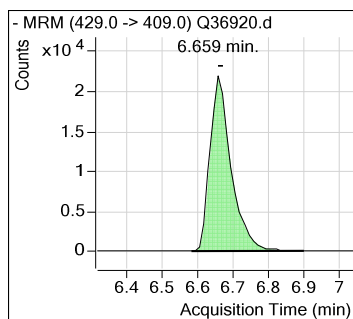
13C2-PFOA



PFOA

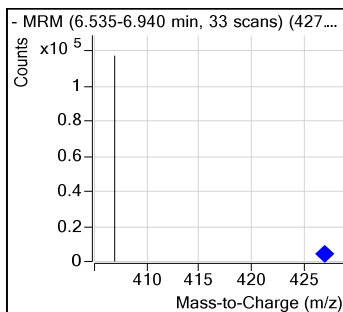
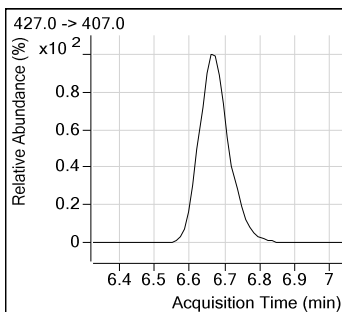
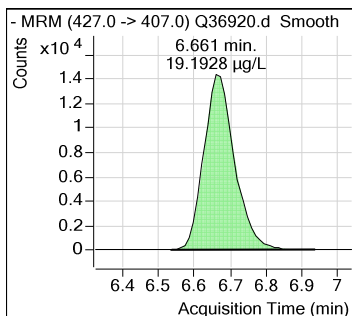


13C2-6:2FTS

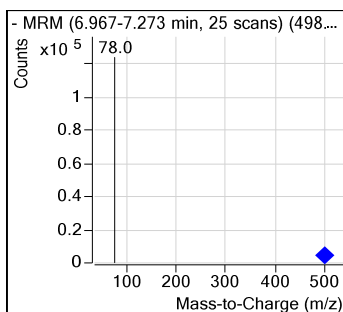
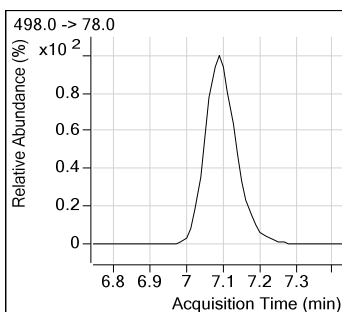
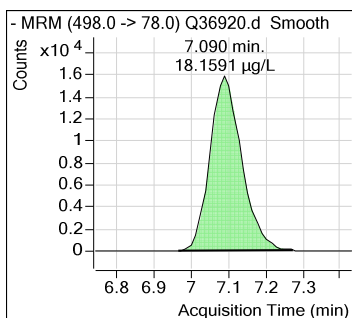


Perfluorinated Compounds by LC/MS/MS.

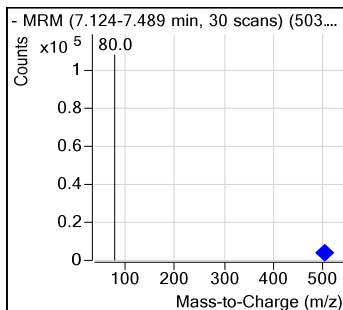
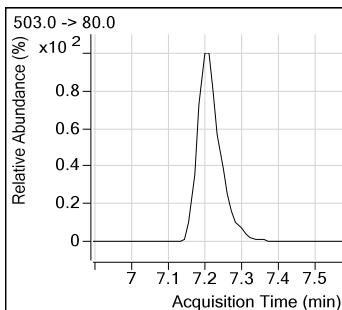
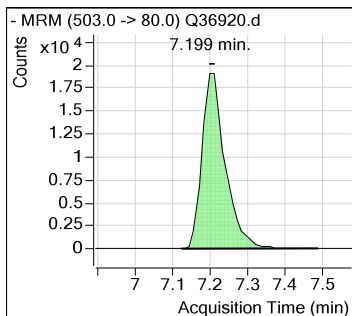
6:2FTS



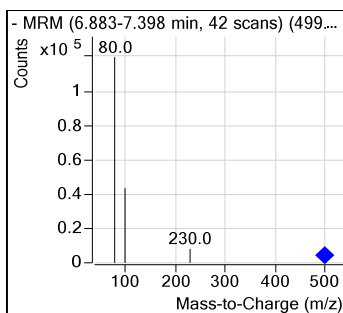
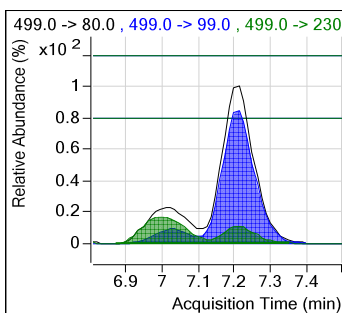
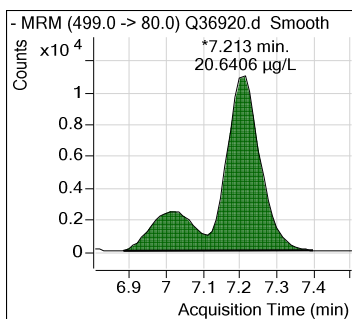
FOSA



13C4-PFOS

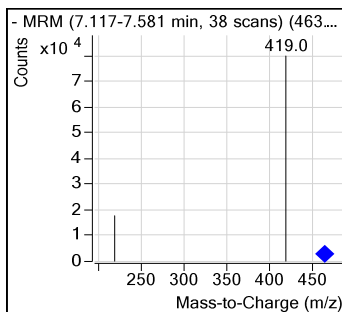
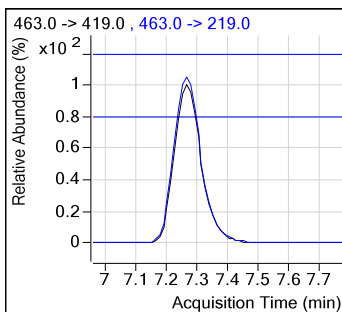
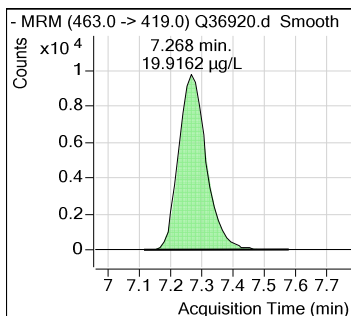


PFOS

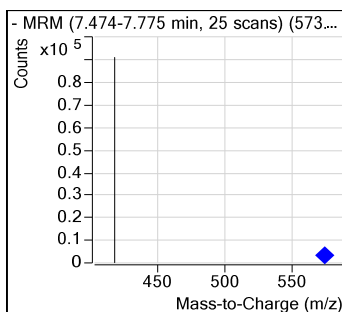
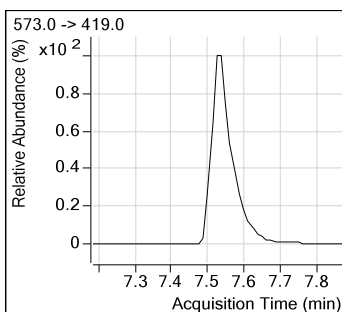
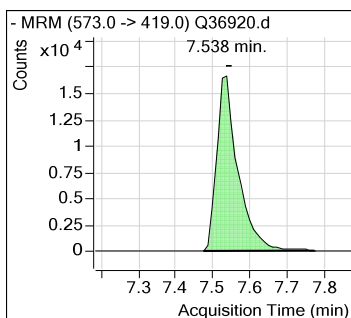


Perfluorinated Compounds by LC/MS/MS.

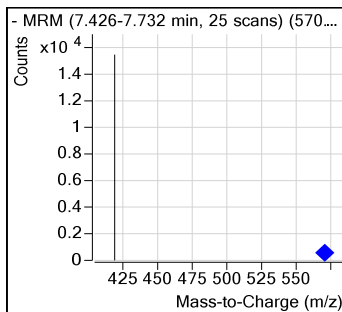
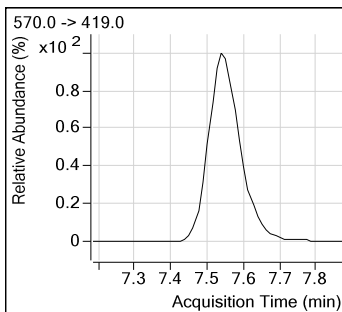
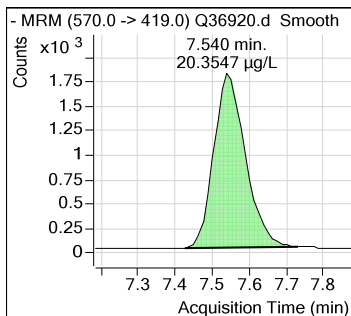
PFNA



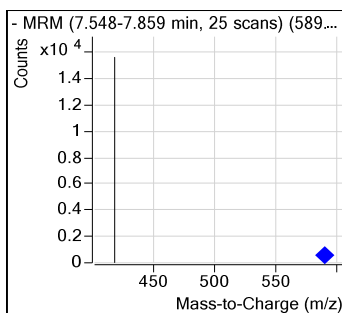
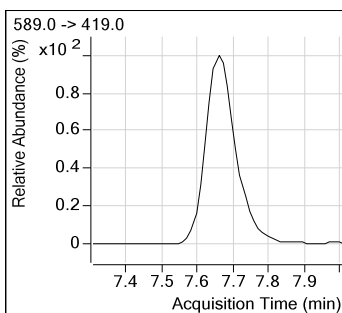
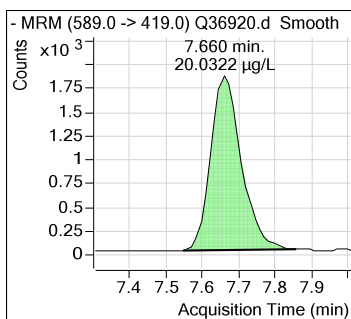
d3-MeFOSAA



MeFOSAA

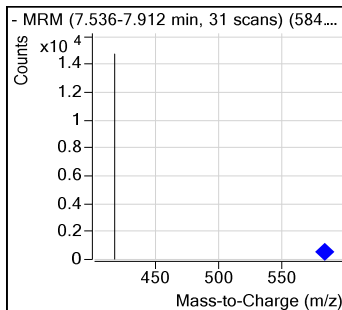
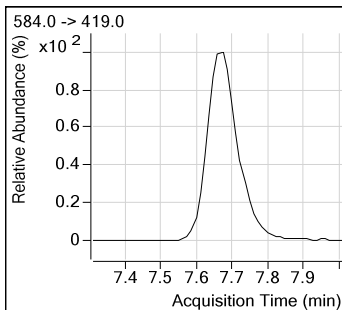
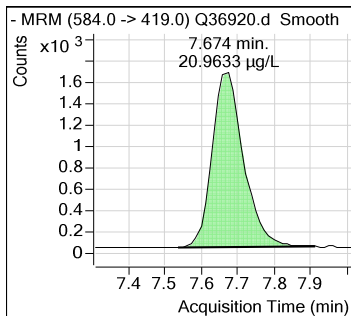


d5-EtFOSAA

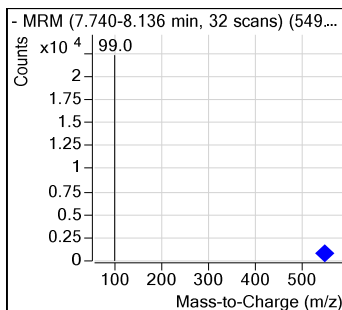
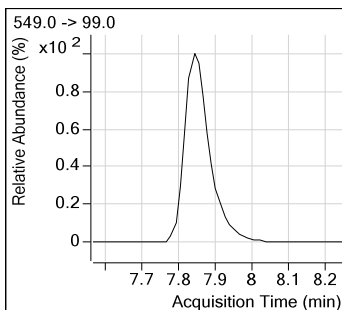
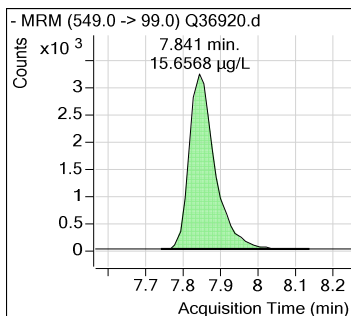


Perfluorinated Compounds by LC/MS/MS.

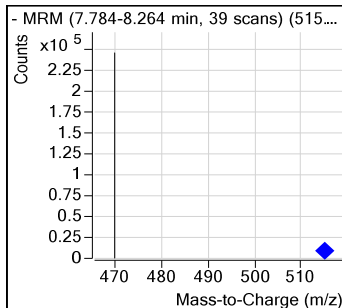
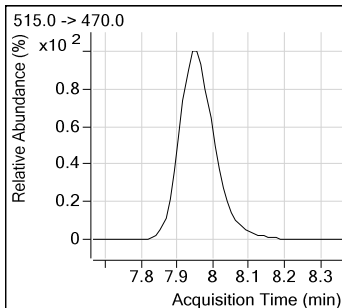
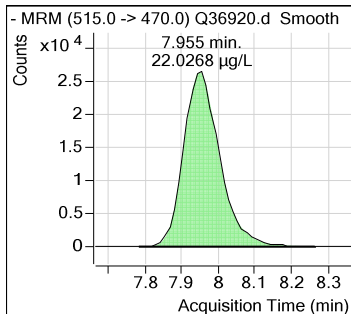
EtFOSAA



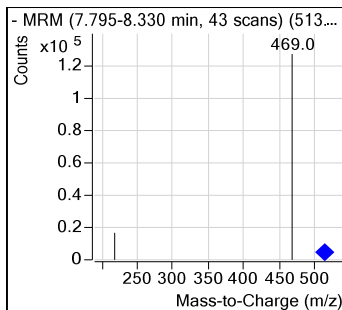
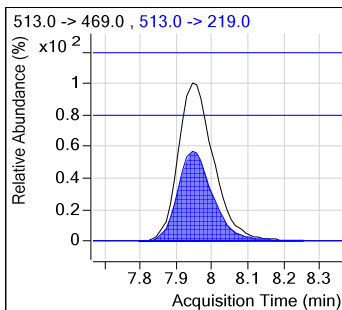
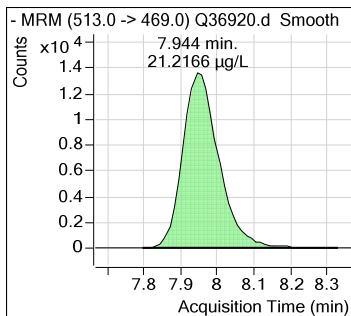
PFNS



13C2-PFDA

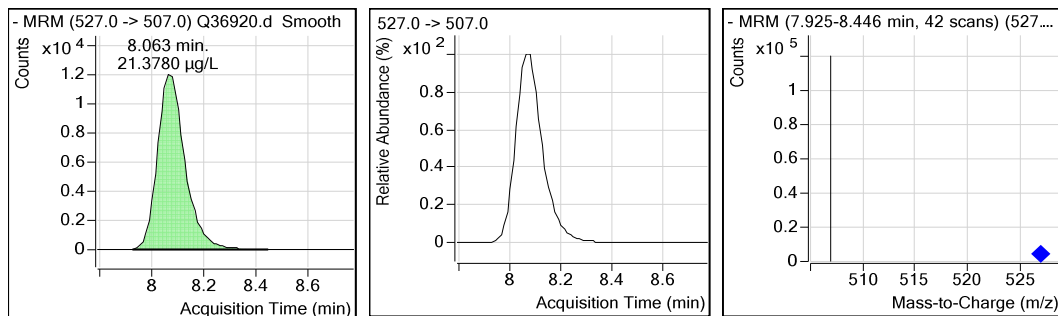


PFDA

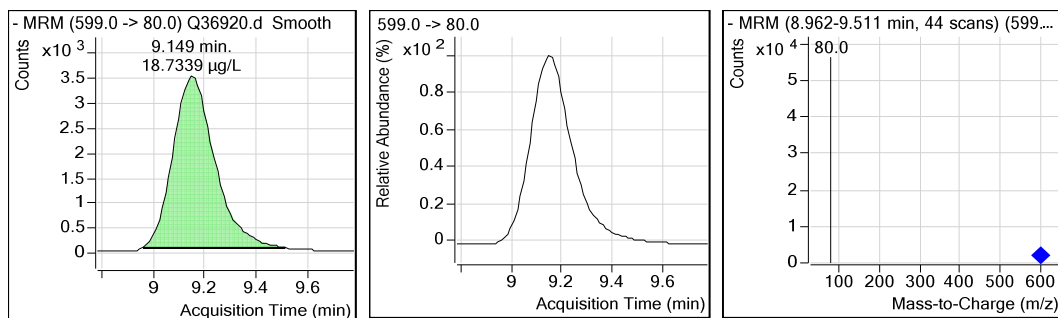


Perfluorinated Compounds by LC/MS/MS.

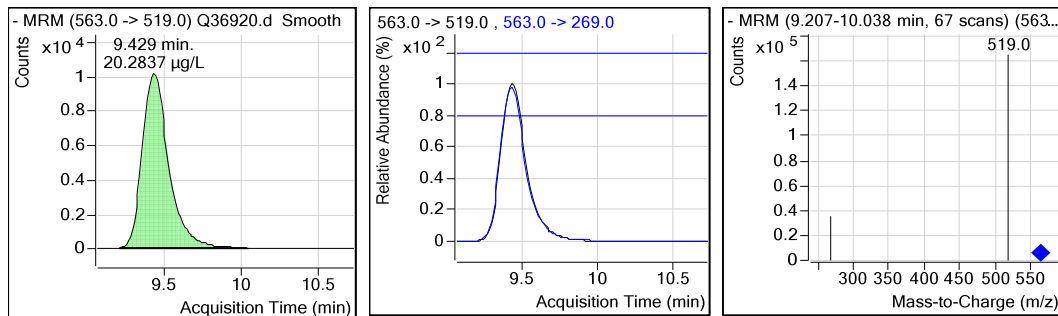
8:2FTS



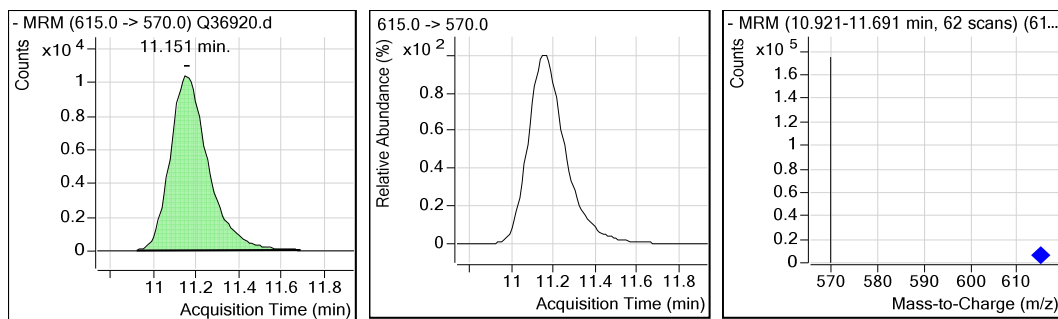
PFDS



PFUnDA

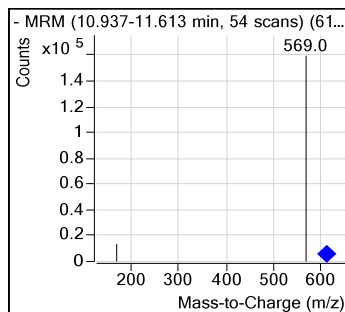
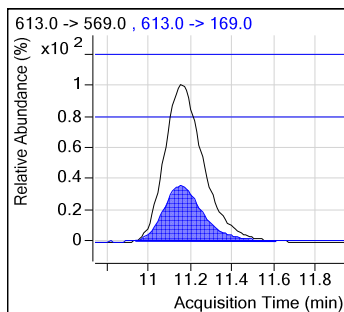
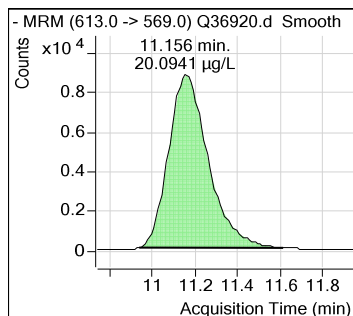


13C2-PFDoDA

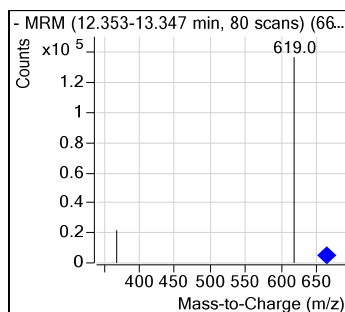
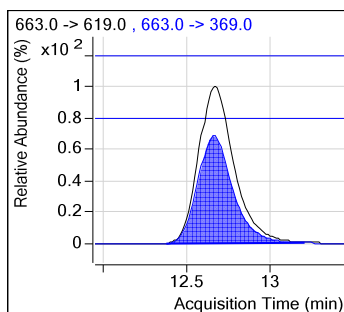
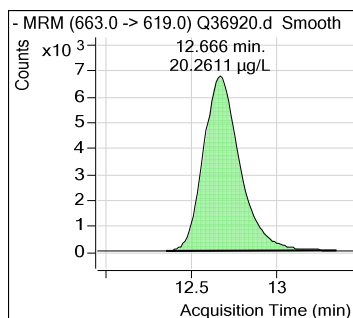


Perfluorinated Compounds by LC/MS/MS.

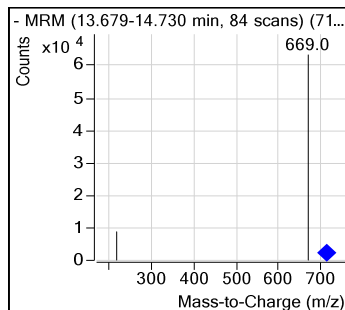
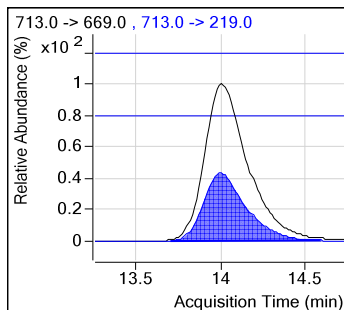
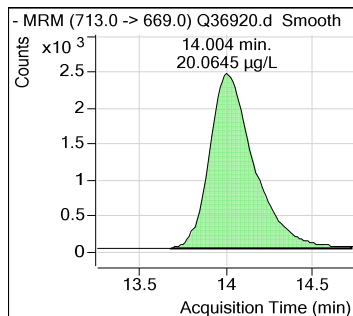
PFDoDA



PFTrDA



PFTeDA



Calibration Curve

Manual Integration Approval Summary

Sample Number: SQ937-CC936

Method: EPA 537 MOD

Lab FileID: Q36920.D

Analyst approved: 07/19/17 15:42 Nancy Saunders

Injection Time: 07/18/17 17:24

Supervisor approved: 07/19/17 18:49 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		5.99	Split peak
Perfluorooctanesulfonic acid	1763-23-1		7.21	Split peak

7.5.13.1
7

SGS ACCUTEST-ORLANDO

DATE: 07-17-17
 COLUMN TYPE: Porus 611 ECL10
 AMOUNT INJECTED: 5 ul
 INSTRUMENT: LCMS1-Q
 HEAD PRESSURE: 350

LCMS1-Q ANALYSIS LOG

METHODS: 537 mod
 ACQ. METHOD: 537 2.5% 15
 PROC. METHOD: DFC List 1709 50-936
 CALIB. DATE: 07-15-17
 RUN BATCH: SQ 936

ANALYST: NPJ
 ELUENT A LOT #: 172161
 ELUENT B LOT #: 171002
 WATER LOT #: 172161
 ISTD Lot #: LC 7877

DATA FILE	ALS #	SAMPLE ID	SAMPLE METHOD	OP BATCH	DF	ION RATIO	MANUAL INTS RATIONALE, PK #	SCON <CL*	COMMENTS
Q 36823	1	CCB	DFC						✓
Q 24	2	CC912-20		LC874					Run times going high/low
Q 25	1	CCB							✓
Q 26	1	CCB							✓
Q 27	2	IC 936-1		LC874	5/TW		SD		✓
Q 28	3	-2			10/TW		SD		✓
Q 29	4	-5			25/TW		SD		✓
Q 30	5	-10			50/TW		SD		✓
Q 31	6	ICC 936-20			100/TW		SD		✓
Q 32	7	IC 936-40			200/TW		SD		✓
Q 33	8	-50			250/TW		SD		✓
Q 34	9	-100			1X		SD		✓
Q 35	10	T - PFOA		LC876	100/TW				✓
Q 36	11	FLV 936-20		LC863 40293	5/TW				POSS
Q 37	12	F+45 202-1		0165710	10X		SP		✓ Am 200X
Q 38	13	-1			200X		SP		✓
Q 39	14	-2			1X		SP		Am 10X CSD
Q 40	15	-2			10X		SP		✓ Re-run only PFB ± 5.6 1X
Q 41	16	-3			500X		SP		✓
Q 42	17	-4			10X		SP		✓

*< Conductivity Limit For Perchlorate by SW846 6850

Manual Integration Rationale SOP QA029: MP Missed Peak, OP Overlapping Peak, SP Split Peak, PDB Poorly Defined Baseline, BR Baseline Ripple, PII Poor Instrument Integration
 All strikeouts must be initiated and dated. If correction was not due to a transcription error, then list the reason for correction.

LCMS1_Q_log.xls ME rev. 06/16

Analyst's Signature: 

SGS ACCUTEST-ORLANDO

DATE: 07-17-17
 COLUMN TYPE: Porosil 11 E11B
 AMOUNT INJECTED: 5 ul
 INSTRUMENT: LCMS1-Q
 HEAD PRESSURE: 350

LCMS1-Q ANALYSIS LOG

METHODS: 137 min
 ACQ. METHOD: 137 min
 PROC. METHOD: PFC 2.5% 0.17 50936
 CALIB. DATE: 07-17-17
 RUN BATCH: SQ 936

ANALYST: NAB
 ELUENT A LOT #: 172161 W1141X
 ELUENT B LOT #: 171002
 WATER LOT #: 172161
 ISTD Lot #: 11877

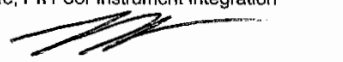
DATA FILE	ALS #	SAMPLE ID	SAMPLE METHOD	OP BATCH	DF	ION RATIO	MANUAL INTS RATIONALE, PK #	SCON <CL*	COMMENTS
Q 36 B43	18	0P65710-m3	PFC	0P65710	10Y		SP		✓
Q 44	19	7m30			↓		SP		✓
Q 45	20	FA45202-5			1X		SP	Re-est	X s.s.d. (PFA ISL) (PDB) ^{re-est}
Q 46	21	-5			10X		SP		✓
Q 47	6	CC 936-20		LC674	100/TW		SP		Pass
Q 48	1	CCB							Pass
Q 49	22	FA45202-7		0P65710	14		SP	Re-est	✓ s.s.d. Re-est
Q 50	23	-8			↓		SP	Re-est	✓ s.s.d. Re-est ^{mix}
Q 51	24	-8			2X		SP		✓ s.s.d.
Q 52	25	-9			1X		SP	Re-est	✓ PDB s.s.d. Re-est
Q 53	26	-9			20X		SP		✓
Q 54	27	-10			1X		SP	Re-est	✓ PFA ISL s.s.d. ^{2X}
Q 55	28	-11			10X		SP		✓ Run 100X
Q 56	29	-11			100X		SP		✓
Q 57	6	CC 936-20		LC674	100/TW		SP		Pass
Q 58	1	CCB		07107					Pass
Q 59	30	FA45241-9		0P65648	1X				✓ s.s.d. Re-est
Q 60	31	FA45241-2		0P65642	1X		SP		Pass
Q 61	32	-3			↓		SP		✓
Q 62	33	FA45241-1			50X		SP	8.2	✓ Run 100X ^{100X}

*< Conductivity Limit For Perchlorate by SW846 6850

Manual Integration Rationale SOP QA029: MP Missed Peak, OP Overlapping Peak, SP Split Peak, PDB Poorly Defined Baseline, BR Baseline Ripple, PII Poor Instrument Integration

All strikeouts must be initialed and dated. If correction was not due to a transcription error, then list the reason for correction.

LCMS1_Q_log.xls ME rev. 06/16

Analyst's Signature: 

SGS ACCUTEST-ORLANDO

DATE:	07-17-17
COLUMN TYPE:	Porosyl 11 E116
AMOUNT INJECTED:	5 ul
INSTRUMENT:	LCMS1-Q
HEAD PRESSURE:	250

LCMS1-Q ANALYSIS LOG

METHODS:	177 mod
ACQ. METHOD:	537 List
PROC. METHOD:	PAL List 0717 50936
CALIB. DATE:	07-17-17
RUN BATCH:	SQ 936-936

ANALYST:	NAS
ELUENT A LOT #:	172161 mth12
ELUENT B LOT #:	171002
WATER LOT #:	172161
ISTD Lot #:	LL877

DATA FILE	ALS #	SAMPLE ID	SAMPLE METHOD	OP BATCH	DF	ION RATIO	MANUAL INTS RATIONALE, PK #	SCON <CL*	COMMENTS
Q 36063	34	FA45429-1	PAC	0P65612	1000x		SP PIZ		✓
Q 64	35	-2			54		SP	0.2	✓ Run for 10/11/17
Q 65	36	-3			504		SP	0.2	✓ Run 2500x
Q 66	37	-3			2500x		SP		✓
Q 67	38	-4			24		SP	0.2	✓
Q 68	39	-5			14		PIZ SP	0.2	✓ 0.0?
Q 69	40	-9			54		SP	0.2	✓
Q 70	6	CC936-20		LL874	100/500		SP		Poss
Q 71	1	CCB							BOZ
Q 72	41	FA45195-16		0P65697	54		SP		✓
Q 73	42	-19			4		SP		✓
Q 74	43	-20			14		SP		✓
Q 75	44	-21			104		SP		✓
Q 76	45	-22			4		SP		✓
Q 77	6	CC936-20		LL874	100/500		SP		Poss
Q 78	1	CCB							BOZ
Q 79	46	0P65468-135		0P65468	14				✓
Q 80	47	-MB							r
Q 81	48	LA44066-20K							BOZ
Q 82	49	-3CP					SP		✓

*< Conductivity Limit For Perchlorate by SW846 6850

Manual Integration Rationale SOP QA029: MP Missed Peak, OP Overlapping Peak, SP Split Peak, PDB Poorly Defined Baseline, BR Baseline Ripple, PII Poor Instrument Integration
All strikeouts must be initialed and dated. If correction was not due to a transcription error, then list the reason for correction.

LCMS1_Q_log.xls ME rev. 06/16

Analyst's Signature: 

SGS ACCUTEST-ORLANDO

DATE:	07-17-17
COLUMN TYPE:	Poragel 11 R10
AMOUNT INJECTED:	5 ul
INSTRUMENT:	LCMS1-Q
HEAD PRESSURE:	350

LCMS1-Q ANALYSIS LOG

METHODS:	537 M 00
ACQ. METHOD:	537 L 03
PROC. METHOD:	PAC LIT 0717 S2436
CALIB. DATE:	07-17-17
RUN BATCH:	SQ 936

ANALYST:	NAS
ELUENT A LOT #:	172161 W 174.12
ELUENT B LOT #:	171022 L
WATER LOT #:	172161
ISTD Lot #:	LC877

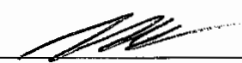
DATA FILE	ALS #	SAMPLE ID	SAMPLE METHOD	OP BATCH	DF	ION RATIO	MANUAL INTS RATIONALE, PK #	SCON <CL*	COMMENTS
Q 36883	50	FA44866-T CF	PAC	0065400	17		SP		✓
Q 84	51	-7 CF					SP		✓
Q 85	52	-8 CF					SP		✓
Q 86	53	-9 CF					SP		✓
Q 87	54	LA 44867-2 CF					SP		✓
Q 88	55	-3 CF					SP		✓
Q 89	6	CC 936-20		LC874	100/150		SP		POSS PAVSL
Q 90	1	CCB							BOZ
Q 91	56	FA44867-4 CF		0065400	17		SP PII		✓
Q 92	57	-5 CF					SP		✓
Q 93	58	-8 CF					SP		✓
Q 94	59	LA 44868-1 CF					SP		-
Q 95	60	-2 CF					SP		✓
Q 96	61	-3 CF					SP		✓
Q 97	62	-4 CF					SP		✓
Q 98	63	-5 CF					SP		✓
Q 99	64	-6 CF					SP		✓
Q 900	65	-7 CF					SP		✓
Q 01	6	EC 936-20		LC874	100/150		SP		POSS PAVSL
Q 02	1	CCB							BOZ

*< Conductivity Limit For Perchlorate by SW846 6850

Manual Integration Rationale SOP QA029: MP Missed Peak, OP Overlapping Peak, SP Split Peak, PDB Poorly Defined Baseline, BR Baseline Ripple, PII Poor Instrument Integration

All strikeouts must be initialed and dated. If correction was not due to a transcription error, then list the reason for correction.

LCMS1_Q_log.xls ME rev. 06/16

Analyst's Signature: 

SGS ACCUTEST-ORLANDO

DATE: 07-16-17
 COLUMN TYPE: Poroshell 120
 AMOUNT INJECTED: 5 ul
 INSTRUMENT: LCMS1-Q
 HEAD PRESSURE: 350

LCMS1-Q ANALYSIS LOG

METHODS: 537 m03
 ACQ. METHOD: 537 L13
 PROC. METHOD: PFLC15T 0717 30-936
 CALIB. DATE: 07-17-17
 RUN BATCH: SQ 937

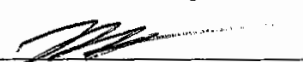
ANALYST: NAC
 ELUENT A LOT #: 172161
 ELUENT B LOT #: 171002
 WATER LOT #: 172161
 ISTD Lot #: LC877

DATA FILE	ALS #	SAMPLE ID	SAMPLE METHOD	OP BATCH	DF	ION RATIO	MANUAL INTS RATIONALE, PK #	SCON <CL*	COMMENTS
Q 36903	1	CCB	PFL						ADL
Q 04	2	CC936-1.0		LC874	5/100		SP		POSS
Q 05	3	-20		+	100/100		SP		POSS
Q 06	4	T-P A0A		LC876	100/100				✓
Q 07	5	OP65685-B5		OP65685	1X				✓ E+SS T ₁ T ₂ ADL
Q 08	6	-m0							ADL
Q 09	7	FA45196-1							ADL E+,H,SSL
Q 10	8	OP65685-A5							✓ E+SSL
Q 11	9	-m0							✓ ↓
Q 12	10	FA45196-2							ADL E+SSL NT
Q 13	11	FA45276-1		+	+		SP		ADL E+SSL ADL IX
Q 14	12	FA45282-10		OP65710	2X		SP	(All)	✓ SSL repeat
Q 15	3	CC936-20		LC874	100/100		SP		POSS
Q 16	1	CCB							ADL
Q 17	5	OP65685-B5		OP65685	1X				✓ some
Q 18	7	FA45196-1		+	+				ADL E+↓ NT
Q 19	11	FA45276-1		+	+			I	ADL E+SSL
Q 20	3	CC936-20		LC874	100/100		SP		POSS
Q 21	1	CCB							ADL
Q 22	13	OP65784-B5		OP65784	1X				✓ low T ₁ T ₂ ADL,BS

*< Conductivity Limit For Perchlorate by SW846 6850

Manual Integration Rationale SOP QA029: MP Missed Peak, OP Overlapping Peak, SP Split Peak, PDB Poorly Defined Baseline, BR Baseline Ripple, PII Poor Instrument Integration
 All strikeouts must be initialed and dated. If correction was not due to a transcription error, then list the reason for correction.

LCMS1_Q_log.xls ME rev. 06/16

Analyst's Signature: 

SGS ACCUTEST-ORLANDO

DATE: 07-18-17
 COLUMN TYPE: Porosil Ec18
 AMOUNT INJECTED: 5 ul
 INSTRUMENT: LCMS1-Q
 HEAD PRESSURE: 370

LCMS1-Q ANALYSIS LOG

METHODS: 137 M00
 ACQ. METHOD: 537 L137
 PROC. METHOD: PCL L137 0717 J1-0726
 CALIB. DATE: 07-17-17
 RUN BATCH: SQ 937

ANALYST: AHS
 ELUENT A LOT #: 122161
 ELUENT B LOT #: 171002
 WATER LOT #: 172161
 ISTD Lot #: LCL077

DATA FILE	ALS #	SAMPLE ID	SAMPLE METHOD	OP BATCH	DF	ION RATIO	MANUAL INTS RATIONALE, PK #	SCON <CL*	COMMENTS
Q 36923	14	0P65784-MB	PCL	0P65784	1X		SP		BDL
Q 24	15	F-A45368-1							BDL
Q 25	16	-2							BDL
Q 26	17	F-A45429-6					SP		✓ E+ PLOA 55↓
Q 27	18	-7					SP	100	✓
Q 28	19	-8							BDL
Q 29	20	F-A45524-5					SP		✓
Q 30	21	F-A45491-1			100%				RA 1X
Q 31	22	-2			+		SP		↓
Q 32	23	C-A36-20		LC074	100/100				Pass
Q 33	1	C18							BDL
Q 34	23	F-A45491-3		0P65784	100%		SP		Am 1X
Q 35	24	-4					SP		
Q 36	25	-5					SP		
Q 37	26	-6							
Q 38	27	-7					SP		
Q 39	28	F-A45443-1					SP		
Q 40	29	-2					SP		
Q 41	30	-3					SP		
Q 42	31	-4					SP		

*< Conductivity Limit For Perchlorate by SW846 6850

Manual Integration Rationale SOP QA029: MP Missed Peak, OP Overlapping Peak, SP Split Peak, PDB Poorly Defined Baseline, BR Baseline Ripple, PII Poor Instrument Integration

All strikeouts must be initialed and dated. If correction was not due to a transcription error, then list the reason for correction.

LCMS1_Q_log.xls ME rev. 06/16

Analyst's Signature: 

LCMS1-Q ANALYSIS LOG

DATE:	07-10-17
COLUMN TYPE:	Porasil 11 (110)
AMOUNT INJECTED:	5 ul
INSTRUMENT:	LCMS1-Q
HEAD PRESSURE:	3.50

METHODS:	337 M00
ACQ. METHOD:	337 L357
PROC. METHOD:	AC-L357 0717 S2036
CALIB. DATE:	07-17-17
RUN BATCH: SQ	937

ANALYST:	ABJ
ELUENT A LOT #:	172161
ELUENT B LOT #:	171002
WATER LOT #:	172161
ISTD Lot #:	LC 877

[illegible]

*< Conductivity Limit For Perchlorate by SW846 6850

Manual Integration Reference SOP QA029: **MP** Missed Peak, **OP** Overlapping Peak, **SP** Split Peak, **PDB** Poorly Defined Baseline, **BR** Baseline Ripple, **PII** Poor Instrument Integration
All strikeouts must be initialed and dated. If correction was not due to a transcription error, then list the reason for correction.

LCMS1_Q_log.xls ME rev. 06/16

Analyst's Signature:

SPE LIQUID SAMPLE PREP REPORT

Prep Method: 3535A or Method (circle)

Analytical Method: CC 537

Conc. By: KL Viald By: ~~KL~~ MN

Comments:

Surr.1 ID: <u>LC871</u>	Conc: <u>1.0 ppm</u>	Exp. Date: <u>12/20/17</u>	Inj. By: <u>mv</u>	Ver. By <u>mb</u>
Surr.2 ID: <u>✓</u>	Conc: <u>✓</u>	Exp. Date: <u>✓</u>	Inj. By: <u>✓</u>	Ver. By <u>✓</u>
Spk.1 ID: <u>LC875</u>	Conc: <u>2.0 ppm</u>	Exp. Date: <u>08/25/17</u>	Inj. By: <u>mv</u>	Ver. By <u>mb</u>
Spk.2 ID: <u>8599B</u>	Conc: <u>2.0 ppm</u>	Exp. Date: <u>06/20/18</u>	Inj. By: <u>mv</u>	Ver. By <u>mb</u>

Comments:

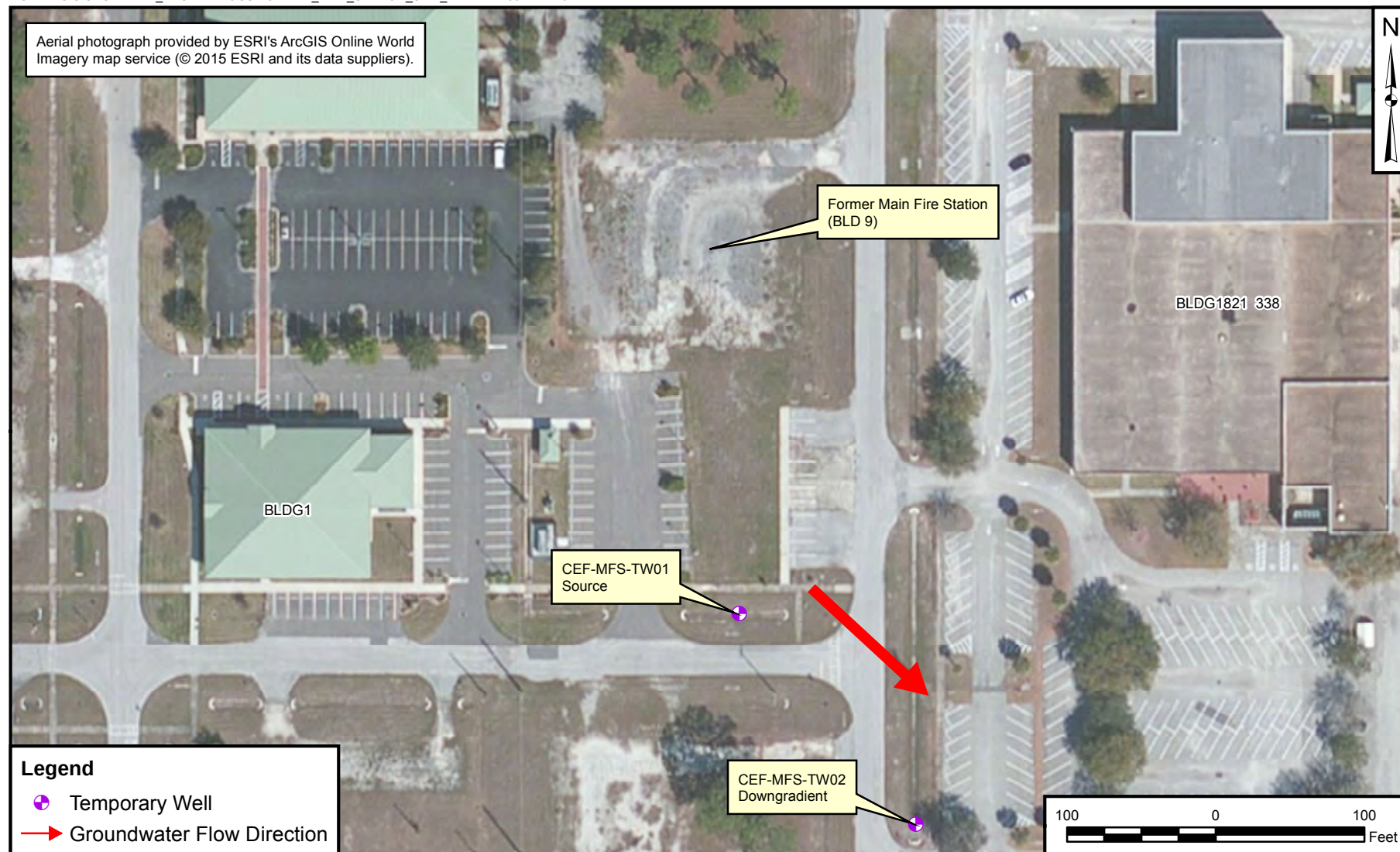
Surr.1 ID: LC871 Conc: 1.0 ppm Exp. Date: 12/20/17 Inj. By: MV Ver. By: MB
Surr.2 ID: ✓ Conc: ✓ Exp. Date: ✓ Inj. By: ✓ Ver. By: ✓
Spk.1 ID: LC875 Conc: 2.0 ppm Exp. Date: 08/25/17 Inj. By: MV Ver. By: MB
Spk.2 ID: 85998 Conc: 2.0 ppm Exp. Date: 06/20/18 Inj. By: MV Ver. By: MB

Initial Bath Temp (Therm ID): _____	Exchange Bath/N-Evap Temp (Therm ID): <u>N-Evap</u>
Observed Temp °C: _____ Corr. Temp °C: _____	Observed Temp °C: <u>40</u> Corr. Temp °C: _____

Methanol Lot # 171470 SPE Lot # 5308-0073 pH Paper # 230016
Acetonitrile Lot # ✓ SPE Lot # ✓ Reagent # ✓
Water Lot# 0865454 Syringe Filter Lot# ✓ Solvent # ✓

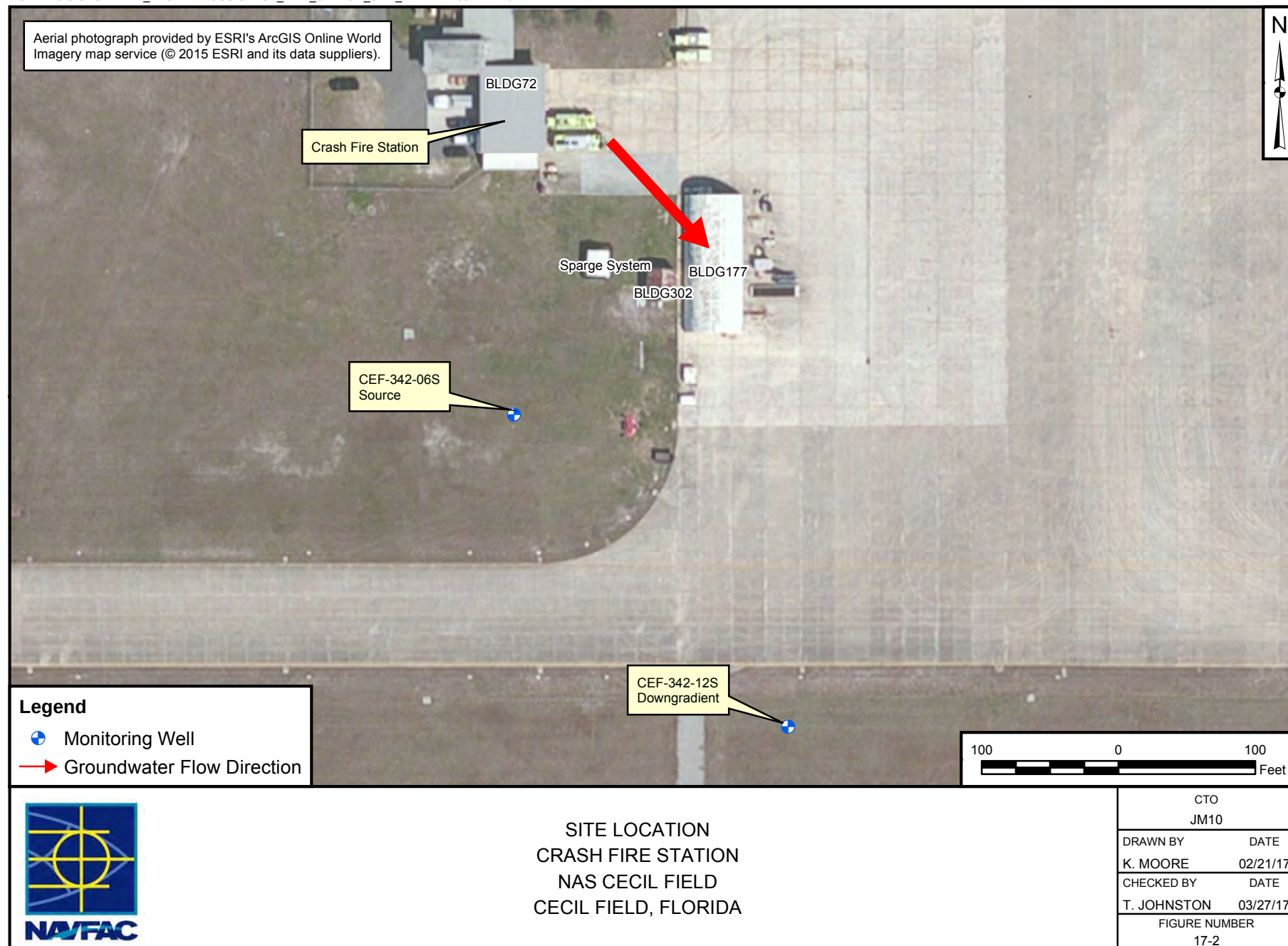
Relinquished By: _____ KC
Accepted By: _____ AC

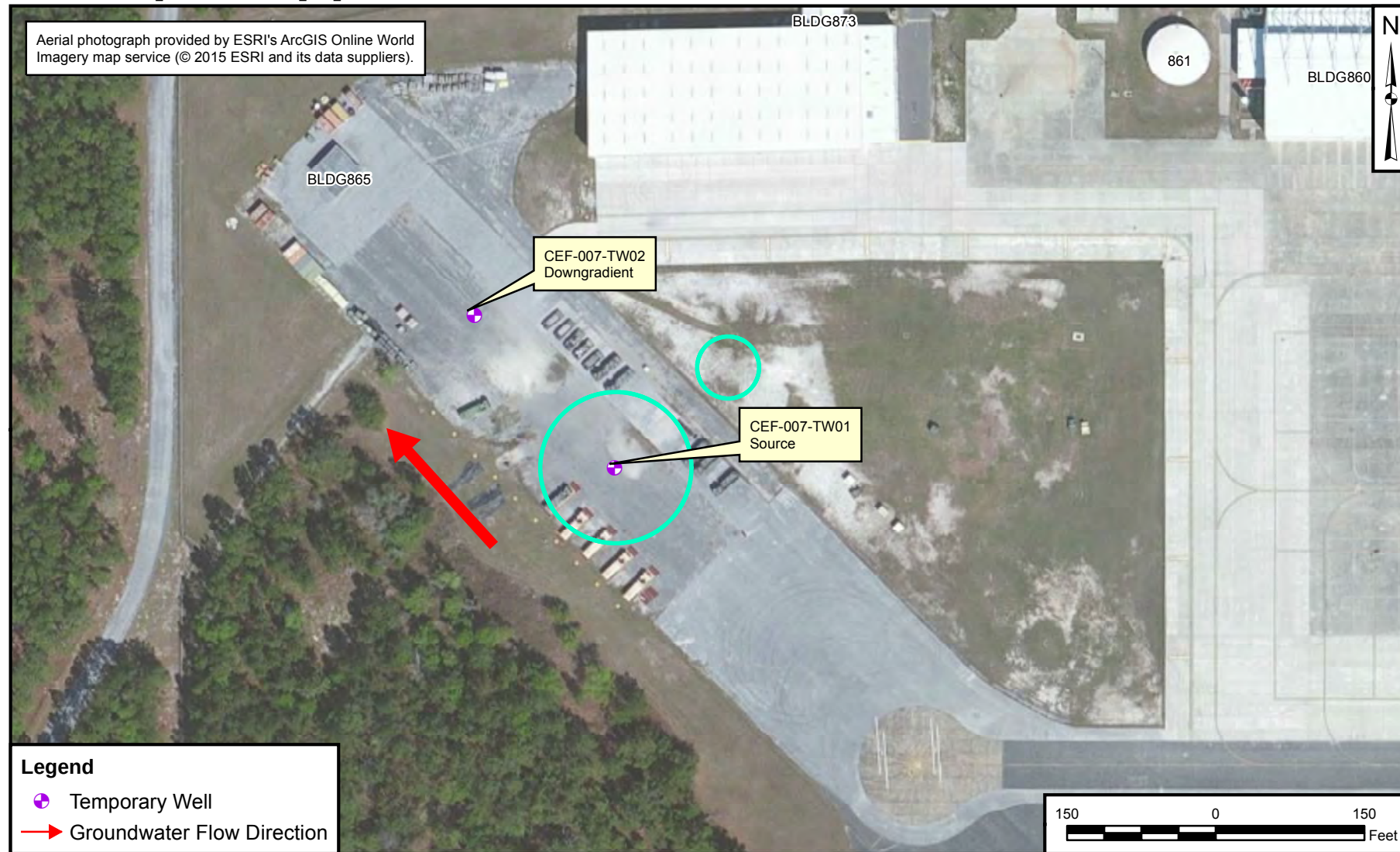
Date: 6/28/17
Date: 6/28/17



SITE LOCATION
FORMER FIRE STATION
NAS CECIL FIELD
CECIL FIELD, FLORIDA

CTO JM10	
DRAWN BY	DATE
K. MOORE	02/21/17
CHECKED BY	DATE
T. JOHNSTON	03/27/17
FIGURE NUMBER 17-1	

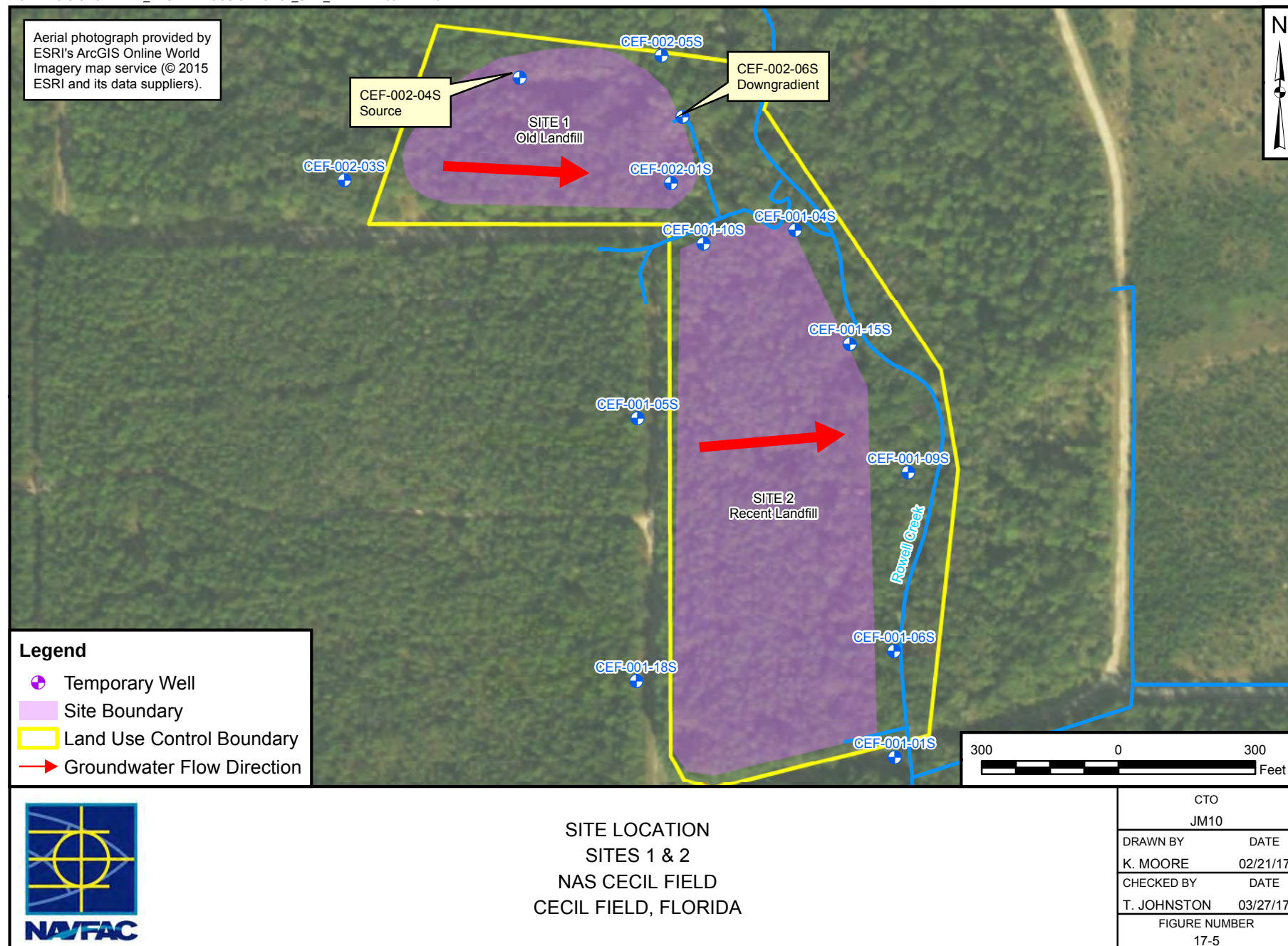


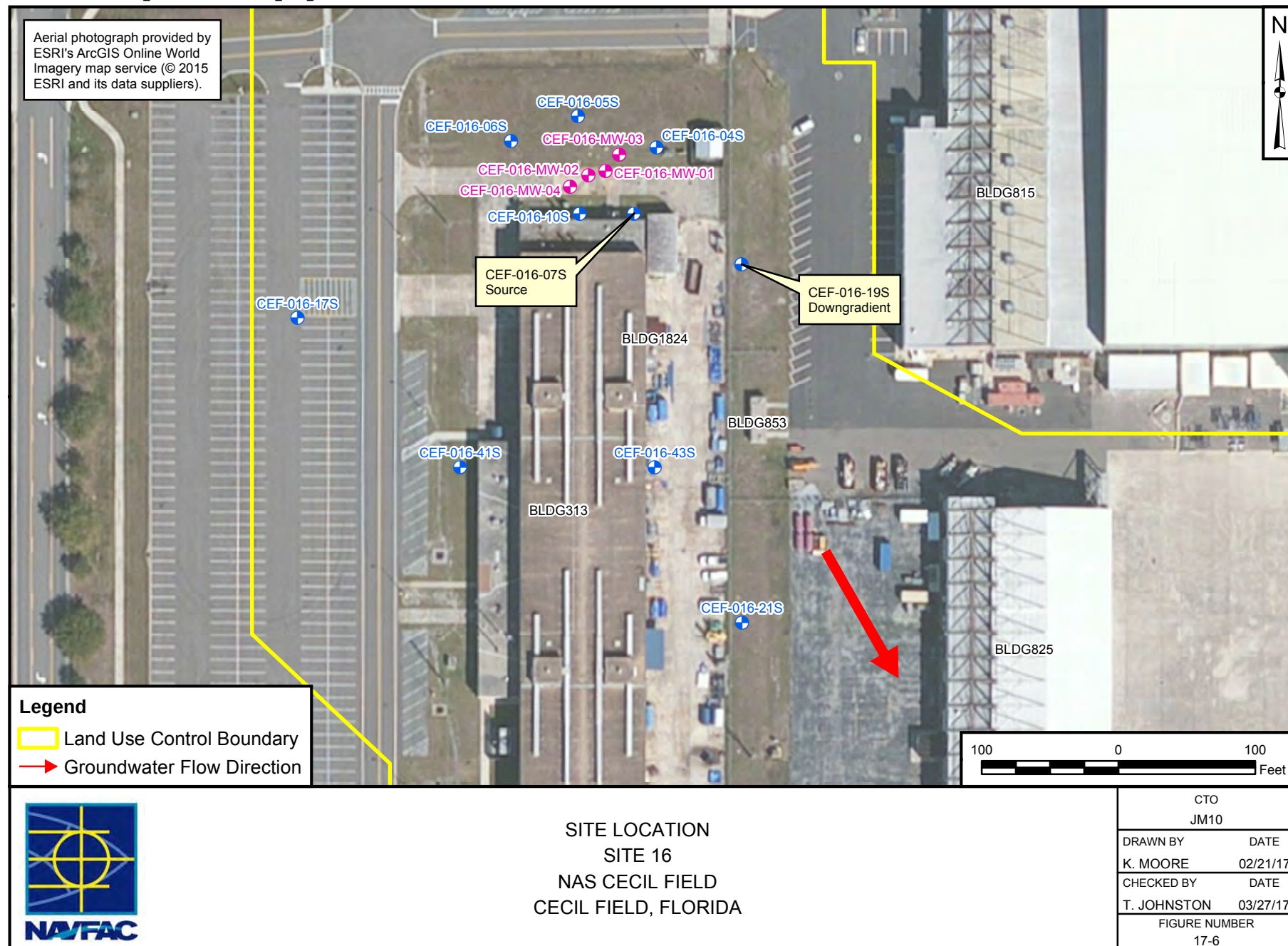


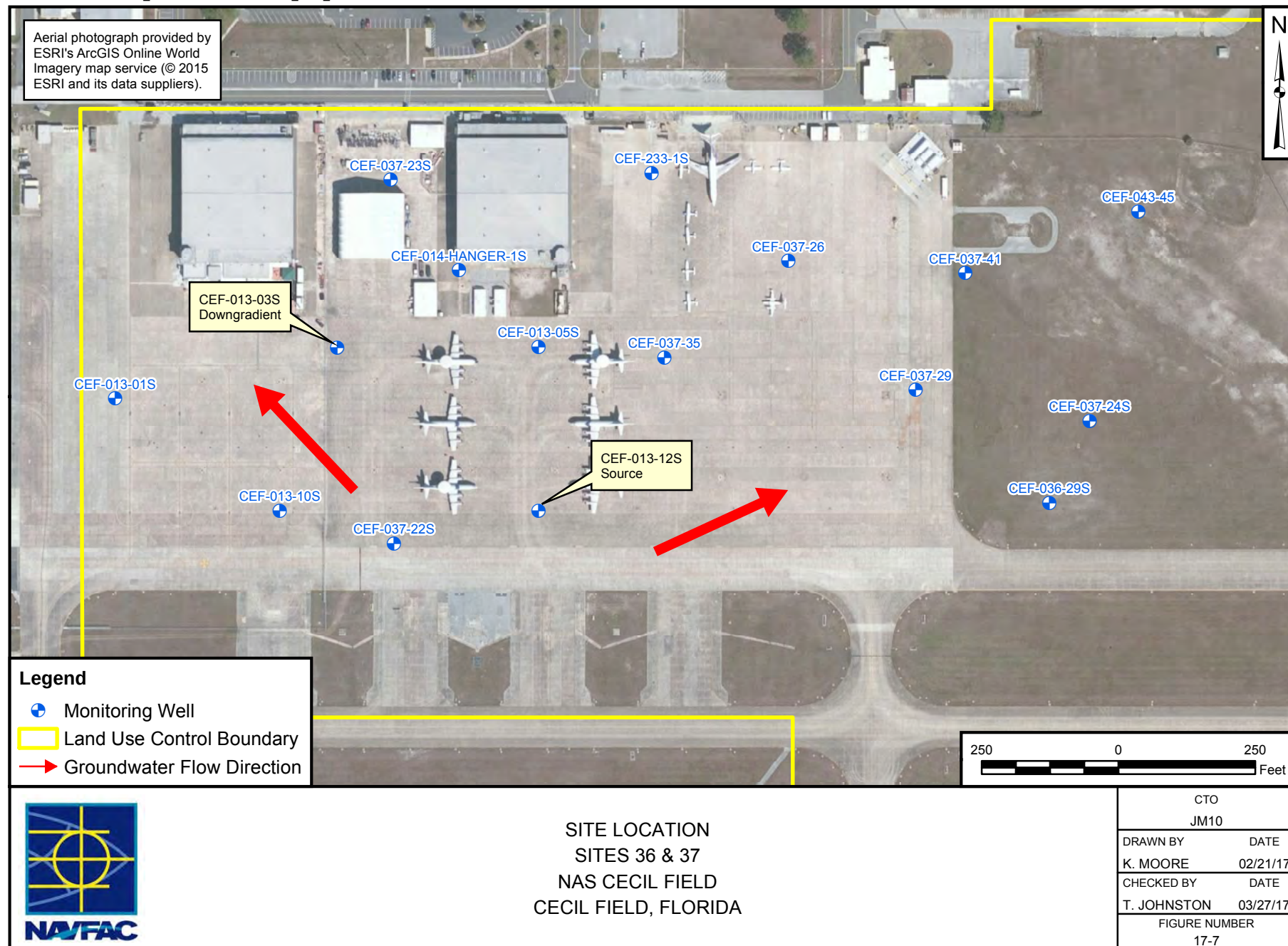
SITE LOCATION
SITE 7
NAS CECIL FIELD
CECIL FIELD, FLORIDA

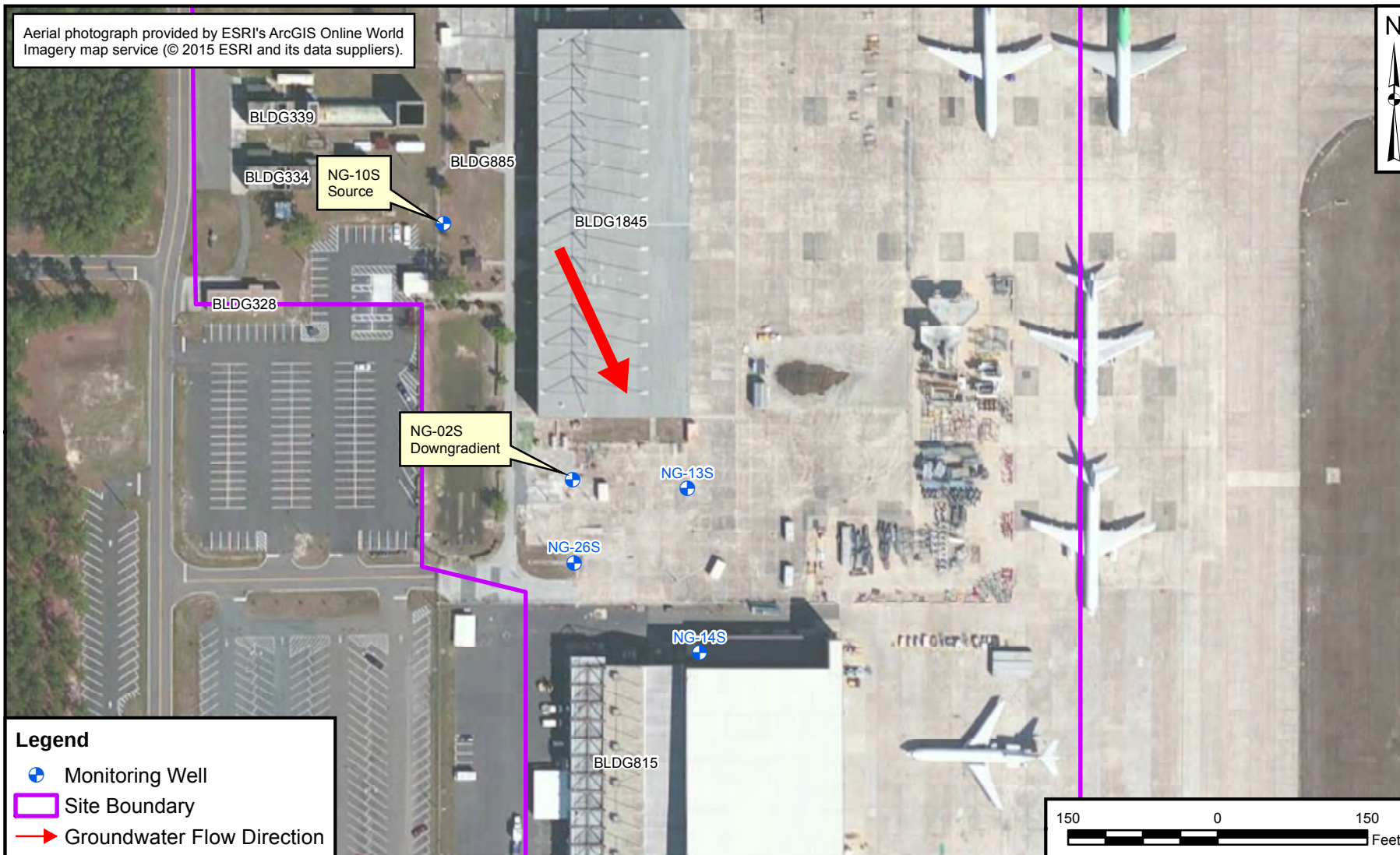
CTO JM10	
DRAWN BY	DATE
K. MOORE	02/21/17
CHECKED BY	DATE
T. JOHNSTON	03/27/17
FIGURE NUMBER 17-3	





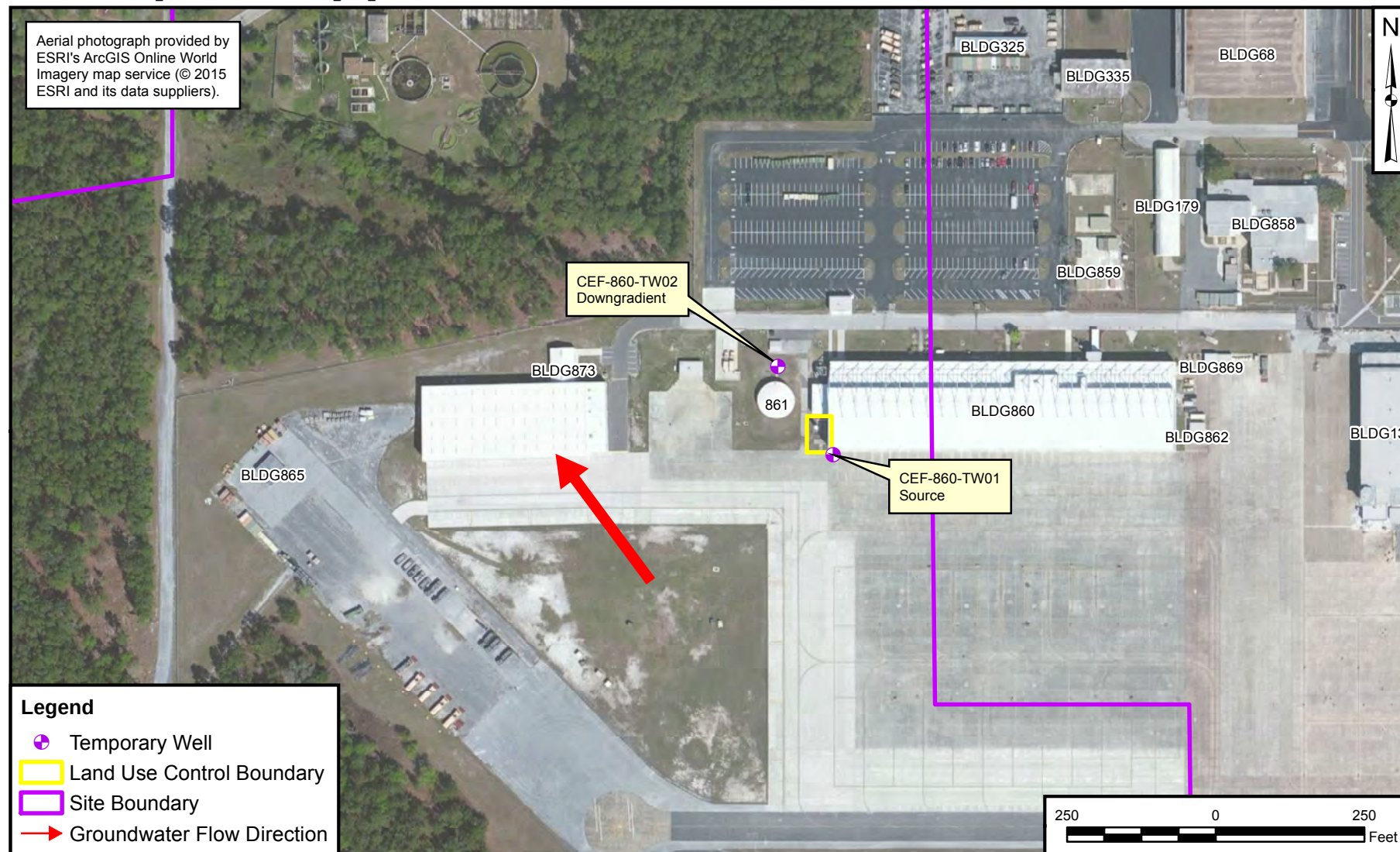






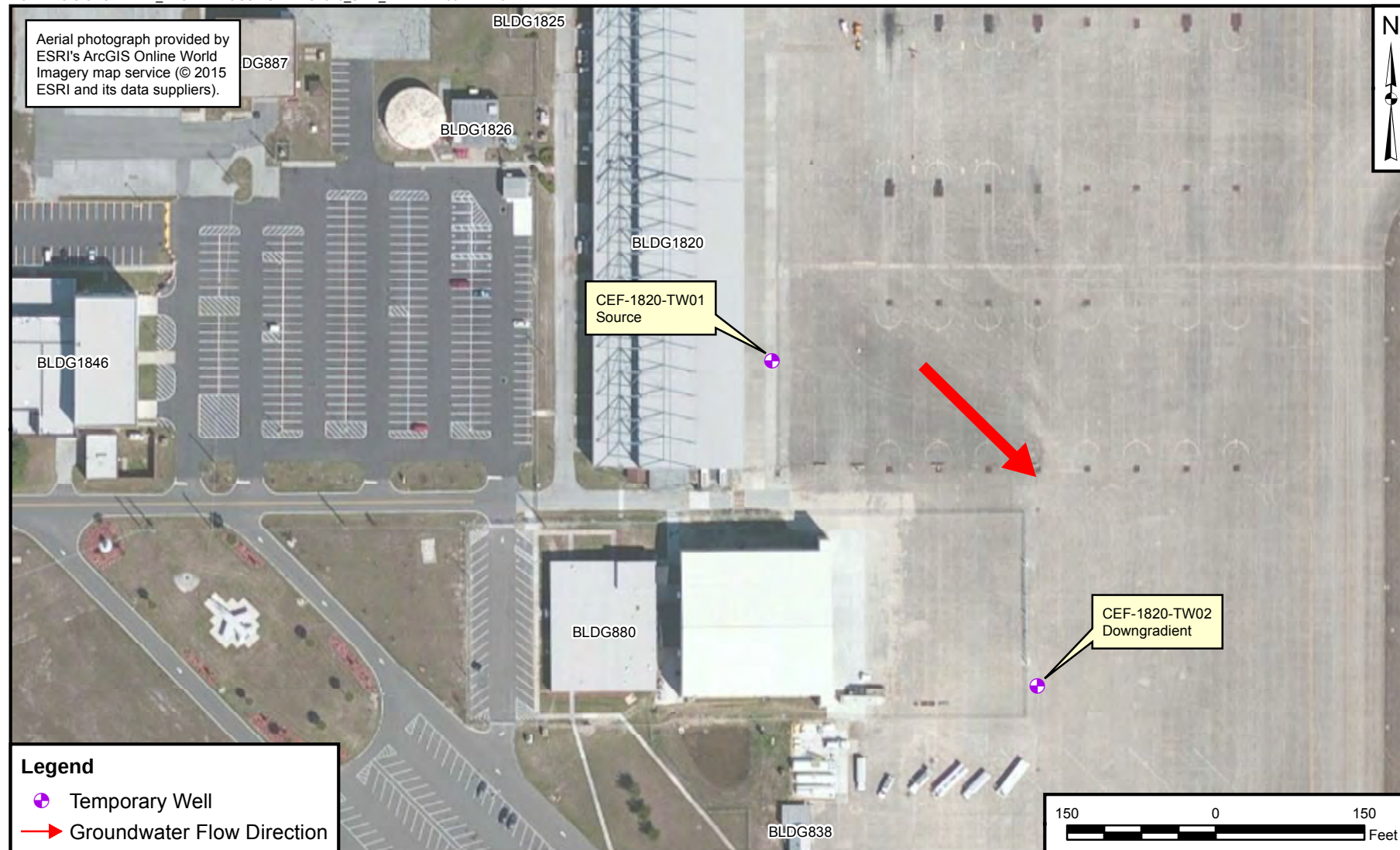
SITE LOCATION
SITE 59
NAS CECIL FIELD
CECIL FIELD, FLORIDA

CTO JM10	
DRAWN BY	DATE
K. MOORE	02/21/17
CHECKED BY	DATE
T. JOHNSTON	03/27/17
FIGURE NUMBER 17-8	



SITE LOCATION
BUILDING 860
NAS CECIL FIELD
CECIL FIELD, FLORIDA

CTO JM10	
DRAWN BY	DATE
K. MOORE	02/21/17
CHECKED BY	DATE
T. JOHNSTON	03/27/17
FIGURE NUMBER 17-9	



Legend

- Temporary Well
- Groundwater Flow Direction



SITE LOCATION
BUILDING 1820
NAS CECIL FIELD
CECIL FIELD, FLORIDA

CTO JM10	
DRAWN BY	DATE
K. MOORE	02/21/17
CHECKED BY	DATE
T. JOHNSTON	03/27/17
FIGURE NUMBER 17-10	

Aerial photograph provided by ESRI's ArcGIS Online World Imagery map service (© 2015 ESRI and its data suppliers).



Legend

- Land Use Control Boundary
- ➔ Groundwater Flow Direction



SITE LOCATION
NORTH FUEL FARM
NAS CECIL FIELD
CECIL FIELD, FLORIDA

CTO JM10	
DRAWN BY	DATE
K. MOORE	02/21/17
CHECKED BY	DATE
T. JOHNSTON	03/27/17
FIGURE NUMBER 17-11	

Aerial photograph provided by ESRI's ArcGIS Online World Imagery map service (© 2015 ESRI and its data suppliers).



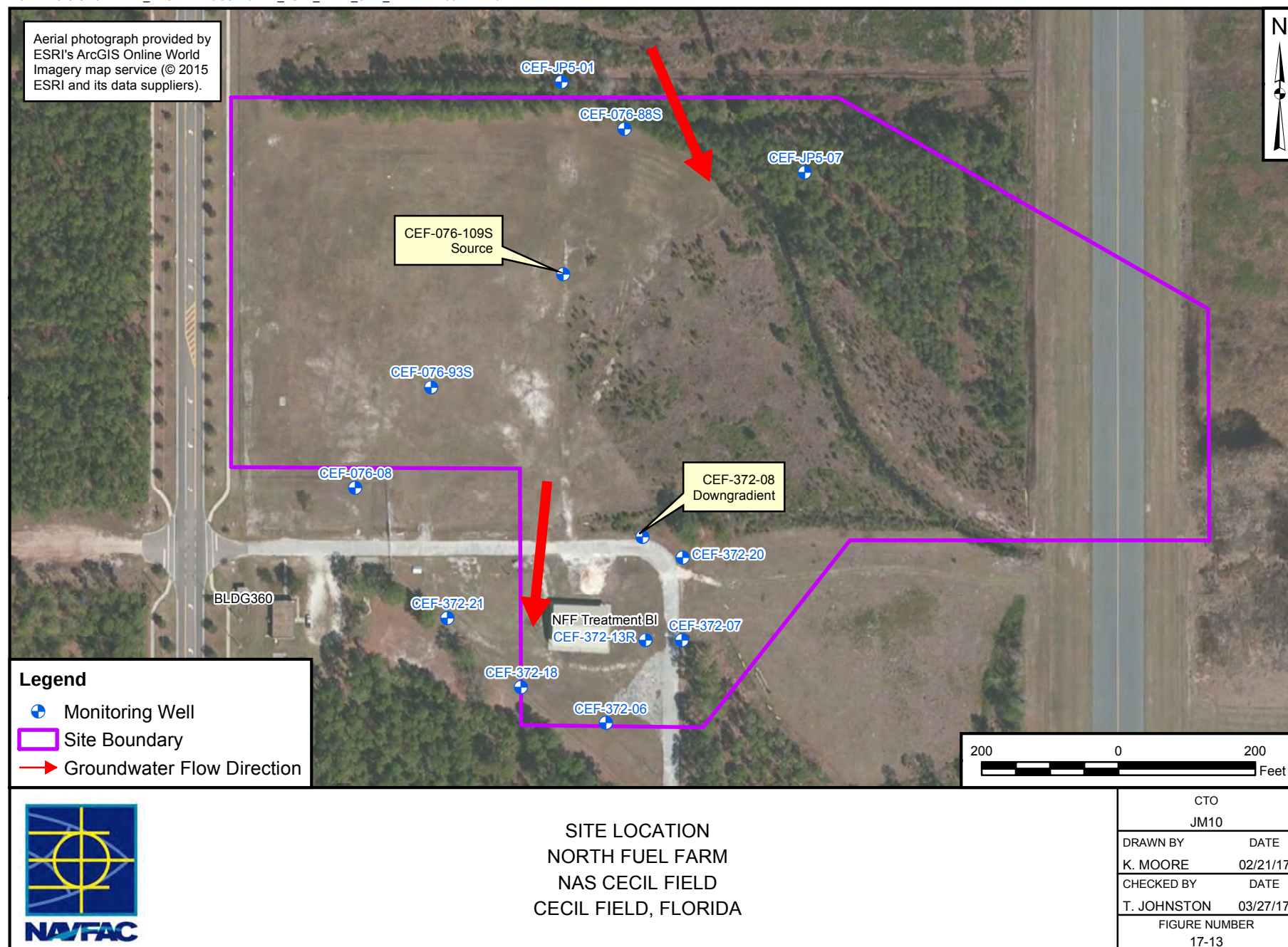
Legend

-  Monitoring Well
-  Groundwater Flow Direction

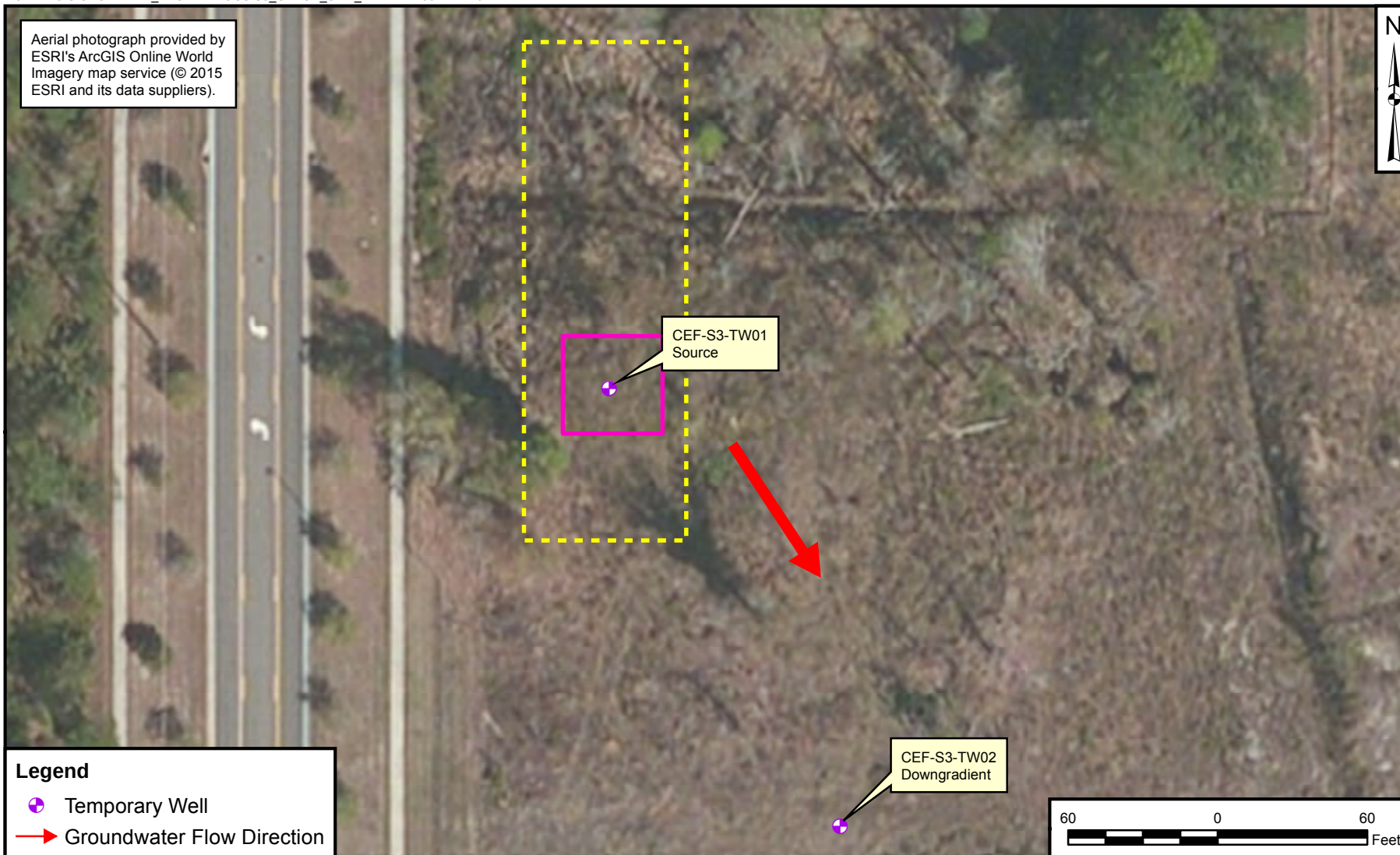


SITE LOCATION
OCALA CRASH SITE
NAS CECIL FIELD
CECIL FIELD, FLORIDA

CTO JM10	
DRAWN BY	DATE
K. MOORE	02/21/17
CHECKED BY	DATE
T. JOHNSTON	03/27/17
FIGURE NUMBER 17-12	



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Imagery map service (© 2015
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Legend

- Temporary Well
- Groundwater Flow Direction



SITE LOCATION
S-3 CRASH SITE
NAS CECIL FIELD
CECIL FIELD, FLORIDA

CTO JM10	
DRAWN BY	DATE
K. MOORE	02/21/17
CHECKED BY	DATE
T. JOHNSTON	03/27/17
FIGURE NUMBER 17-14	