

The results set forth herein are provided by SGS North America Inc.

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Automated Report

Technical Report for

AECOM, INC.

N6274223F0104 RH Fire Suppression System

60697810

SGS Job Number: FC10247

Sampling Date: 10/04/23



Report to:

AECOM, Inc
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Denver, CO 80237
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ATTN: Katie Abbott

Total number of pages in report: 768



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 unless noted in the narrative, comments or footnotes.

Norm Farmer
Technical Director

Client Service contact: Elvin Kumar 407-425-6700

Certifications: FL(E83510), LA(03051), KS(E-10327), NC(573), NJ(FL002), NY(12022), SC(96038001)

DoD ELAP(ANAB L2229), AZ(AZ0806), CA(2937), TX(T104704404), PA(68-03573), VA(460177),

AL, AK, AR, CT, IA, KY, MA, MI, MS, ND, NH, NV, OK, OR, IL, UT, VT, WA, WI, WV

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Test results relate only to samples analyzed.

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Sample Summary

AECOM, INC.

Job No: FC10247

N6274223F0104 RH Fire Suppression System
Project No: 60697810

Sample Number	Collected Date	Time By	Received	Matrix Code	Type	Client Sample ID
FC10247-1	10/04/23	13:55 JV	10/06/23	AQ	Ground Water	AF-RHMW17-WGN01LF-2310

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: AECOM, INC.

Job No: FC10247

Site: N6274223F0104 RH Fire Suppression System

Report Date: 10/16/2023 11:31:13 PM

On 10/06/2023, 1 Sample(s), 0 Trip Blank(s) and 0 Field Blank(s) were received at SGS North America Inc - Orlando. at a maximum corrected temperature of 5 C. Samples were intact and chemically preserved, unless noted below. A SGS North America Inc. - Orlando Job Number of FC10247 was assigned to the project.

Laboratory sample ID, client sample ID and dates of sample collection are detailed in the report's Results Summary Section. Specified quality control criteria were achieved for this job except as noted below. For more information, please refer to the analytical results and QC summary pages.

MS Semi-volatiles By Method EPA DRAFT 1633

Matrix: AQ

Batch ID: OP99445

Sample(s) FC10290-5MS, FC10290-6DUP were used as the QC samples indicated.

RPD(s) for Duplicate for 6:2 Fluorotelomer sulfonate, Perfluorohexanesulfonic acid are outside control limits for sample OP99445-DUP. Probable cause is due to sample non-homogeneity.

SGS North America Inc. - Orlando certifies that data reported for samples received, listed on the associated custody chain or analytical task order, were produced to specifications meeting the Quality System precision, accuracy and completeness objectives except as noted. Estimated non-standard method measurement uncertainty data is available on request, based on quality control bias and implicit for standard methods. Acceptable uncertainty requires tested parameter quality control data to meet method criteria. SGS North America Inc.- Orlando is not responsible for data quality assumptions if partial reports are used and recommends that this report be used in its entirety.

Narrative prepared by:

Kim Benham, Client Services (*Signature on File*)

Summary of Hits

Job Number: FC10247
Account: AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System
Collected: 10/04/23



Lab Sample ID	Client Sample ID	Result/ Qual	LOQ	LOD	Units	Method
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FC10247-1 AF-RHMW17-WGN01LF-2310

No hits reported in this sample.

Sample Results

Report of Analysis

SGS North America Inc.

Report of Analysis

Page 1 of 3

Client Sample ID:	AF-RHMW17-WGN01LF-2310		
Lab Sample ID:	FC10247-1	Date Sampled:	10/04/23
Matrix:	AQ - Ground Water	Date Received:	10/06/23
Method:	EPA DRAFT 1633 EPA 1633 DRAFT	Percent Solids:	n/a
Project:	N6274223F0104 RH Fire Suppression System		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	6Q26296.D	1	10/12/23 19:37	MV	10/10/23 09:30	OP99445	S6Q370
Run #2							

Run #	Initial Volume	Final Volume
Run #1	540 ml	5.0 ml
Run #2		

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
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PERFLUOROALKYL CARBOXYLIC ACIDS

375-22-4	Perfluorobutanoic acid	3.7 U	15	3.7	1.8	ng/l	
2706-90-3	Perfluoropentanoic acid	1.9 U	7.4	1.9	0.87	ng/l	
307-24-4	Perfluorohexanoic acid	1.9 U	3.7	1.9	0.46	ng/l	
375-85-9	Perfluoroheptanoic acid	1.9 U	3.7	1.9	0.46	ng/l	
335-67-1	Perfluorooctanoic acid	0.93 U	3.7	0.93	0.46	ng/l	
375-95-1	Perfluorononanoic acid	1.9 U	3.7	1.9	0.56	ng/l	
335-76-2	Perfluorodecanoic acid	1.9 U	3.7	1.9	0.46	ng/l	
2058-94-8	Perfluoroundecanoic acid	1.9 U	3.7	1.9	0.56	ng/l	
307-55-1	Perfluorododecanoic acid	1.9 U	3.7	1.9	0.56	ng/l	
72629-94-8	Perfluorotridecanoic acid	1.9 U	3.7	1.9	0.78	ng/l	
376-06-7	Perfluorotetradecanoic acid	1.9 U	3.7	1.9	0.46	ng/l	

PERFLUOROALKYL SULFONIC ACIDS

375-73-5	Perfluorobutanesulfonic acid	1.9 U	3.7	1.9	0.46	ng/l	
2706-91-4	Perfluoropentanesulfonic acid	3.7 U	4.6	3.7	1.0	ng/l	
355-46-4	Perfluorohexanesulfonic acid	1.9 U	3.7	1.9	0.65	ng/l	
375-92-8	Perfluoroheptanesulfonic acid	1.9 U	3.7	1.9	0.46	ng/l	
1763-23-1	Perfluorooctanesulfonic acid	1.9 U	3.7	1.9	0.50	ng/l	
68259-12-1	Perfluorononanesulfonic acid	1.9 U	3.7	1.9	0.53	ng/l	
335-77-3	Perfluorodecanesulfonic acid	1.9 U	3.7	1.9	0.59	ng/l	
79780-39-5	Perfluorododecanesulfonic aci	3.7 U	4.6	3.7	1.1	ng/l	

FLUOROTELOMER SULFONIC ACIDS

757124-72-4	4:2 Fluorotelomer sulfonate	7.4 U	19	7.4	3.0	ng/l	
27619-97-2	6:2 Fluorotelomer sulfonate	7.4 U	19	7.4	3.2	ng/l	
39108-34-4	8:2 Fluorotelomer sulfonate	7.4 U	19	7.4	3.8	ng/l	

PERFLUOROOCCTANE SULFONAMIDES

754-91-6	PFOSA	1.9 U	3.7	1.9	0.62	ng/l	
31506-32-8	MeFOSA	3.7 U	7.4	3.7	0.93	ng/l	
4151-50-2	EtFOSA	3.7 U	7.4	3.7	0.93	ng/l	

U = Not detected

LOD = Limit of Detection

J = Indicates an estimated value

LOQ = Limit of Quantitation

DL = Detection Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	AF-RHMW17-WGN01LF-2310	
Lab Sample ID:	FC10247-1	Date Sampled: 10/04/23
Matrix:	AQ - Ground Water	Date Received: 10/06/23
Method:	EPA DRAFT 1633 EPA 1633 DRAFT	Percent Solids: n/a
Project:	N6274223F0104 RH Fire Suppression System	

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
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PERFLUOROOCCTANE SULFONAMIDOACETIC ACIDS

2355-31-9	MeFOSAA	3.7 U	4.6	3.7	0.93	ng/l	
2991-50-6	EtFOSAA	3.7 U	4.6	3.7	1.2	ng/l	

PERFLUOROOCCTANE SULFONAMIDO ETHANOLS

24448-09-7	MeFOSE	19 U	37	19	4.1	ng/l	
1691-99-2	EtFOSE	19 U	37	19	6.9	ng/l	

PER and POLYFLUOROETHER CARBOXYLIC ACIDS

13252-13-6	HFPO-DA (GenX)	1.9 U	3.7	1.9	0.93	ng/l	
919005-14-4	ADONA	3.7 U	7.4	3.7	1.7	ng/l	
377-73-1	PFMPA	1.9 U	7.4	1.9	0.93	ng/l	
863090-89-5	PFMBA	3.7 U	7.4	3.7	1.1	ng/l	
151772-58-6	NFDHA	3.7 U	7.4	3.7	1.1	ng/l	

PER and POLYFLUOROETHER SULFONIC ACIDS

756426-58-1	9Cl-PF3ONS (F-53B Major)	3.7 U	7.4	3.7	1.3	ng/l	
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	3.7 U	7.4	3.7	1.6	ng/l	
113507-82-7	PFEESA	1.9 U	7.4	1.9	0.72	ng/l	

FLUOROTELOMER CARBOXYLIC ACIDS

356-02-5	3:3 Fluorotelomer carboxylate	9.3 U	19	9.3	4.2	ng/l	
914637-49-3	5:3 Fluorotelomer carboxylate	19 U	93	19	8.1	ng/l	
812-70-4	7:3 Fluorotelomer carboxylate	19 U	93	19	7.3	ng/l	

CAS No.	ID Standard Recoveries	Run# 1	Run# 2	Limits
---------	------------------------	--------	--------	--------

	13C4-PFBA	100%		20-150%
	13C5-PFPeA	110%		20-150%
	13C5-PFHxA	107%		20-150%
	13C4-PFHpA	107%		20-150%
	13C8-PFOA	106%		20-150%
	13C9-PFNA	119%		20-150%
	13C6-PFDA	110%		20-150%
	13C7-PFUnDA	101%		20-150%
	13C2-PFDoDA	95%		20-150%
	13C2-PFTeDA	84%		20-150%
	13C3-PFBS	113%		20-150%
	13C3-PFHxS	105%		20-150%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
 LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	AF-RHMW17-WGN01LF-2310	
Lab Sample ID:	FC10247-1	Date Sampled: 10/04/23
Matrix:	AQ - Ground Water	Date Received: 10/06/23
Method:	EPA DRAFT 1633 EPA 1633 DRAFT	Percent Solids: n/a
Project:	N6274223F0104 RH Fire Suppression System	

CAS No.	ID Standard Recoveries	Run# 1	Run# 2	Limits
	13C8-PFOS	98%		20-150%
	13C8-FOSA	88%		20-150%
	d3-MeFOSA	83%		20-150%
	d5-EtFOSA	81%		20-150%
	d3-MeFOSAA	105%		20-150%
	d5-EtFOSAA	94%		20-150%
	d7-MeFOSE	83%		20-150%
	d9-EtFOSE	85%		20-150%
	13C2-4:2FTS	130%		20-180%
	13C2-6:2FTS	115%		20-180%
	13C2-8:2FTS	115%		20-180%
	13C3-HFPO-DA	107%		20-150%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
 LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range 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.x Limits



SGS North America Inc - Orlando
Chain of Custody

4403 Vinland Road, Suite C-15 Orlando, FL 32811
TEL: 407-425-6700 FAX: 407-425-0707
www.sgs.com

FC10247

COC #: 2310AFSG10

SGS - ORLANDO JOB # :

PAGE 1 OF 1

Client / Reporting Information			Project Information				Analytical Information													Matrix Codes											
Company Name: AECOM			Project Name: N6274223F0104 RH Fire Suppression System				<div style="display: flex; justify-content: space-between;"> <div> <p style="writing-mode: vertical-rl; transform: rotate(180deg);">PFAS EPA Draft 1633</p> <p style="writing-mode: vertical-rl; transform: rotate(180deg);">16/4/27</p> <p>INITIAL ASSESSMENT <i>SP</i></p> <p>LABEL VERIFICATION <i>SP</i></p> </div> <div> <table border="0"> <tr><td>DW - Drinking Water</td></tr> <tr><td>GW - Ground Water</td></tr> <tr><td>WW - Wastewater</td></tr> <tr><td>SW - Surface Water</td></tr> <tr><td>SO - Soil</td></tr> <tr><td>SL - Sludge</td></tr> <tr><td>OL - Oil</td></tr> <tr><td>LQ - Other Liquid</td></tr> <tr><td>AIR - Air</td></tr> <tr><td>SQL - Other Solid</td></tr> <tr><td>WP - Wipe</td></tr> </table> </div> </div>													DW - Drinking Water	GW - Ground Water	WW - Wastewater	SW - Surface Water	SO - Soil	SL - Sludge	OL - Oil	LQ - Other Liquid	AIR - Air	SQL - Other Solid	WP - Wipe	LAB USE ONLY
DW - Drinking Water																															
GW - Ground Water																															
WW - Wastewater																															
SW - Surface Water																															
SO - Soil																															
SL - Sludge																															
OL - Oil																															
LQ - Other Liquid																															
AIR - Air																															
SQL - Other Solid																															
WP - Wipe																															
Address: 1001 Bishop St. ste 1600			Street																												
City: Honolulu State: HI Zip: 96813			City Honolulu State Hawaii																												
Project Contact: Katie Abbott Email: katie.abbott@aecom.com			Project # 23F0104 - 60697810																												
Project Manager: Watson Tanji Email: watson.tanji@aecom.com			Client Purchase Order # 151253																												
Phone #: 303-796-4624 / 808-954-4512			Fax #																												
Sampler(s) Name(s) (Printed)			Sampler 1: <i>J. McCann</i> Sampler 2:																												
SGS Orlando Sample #	Field ID / Point of Collection	COLLECTION				CONTAINER INFORMATION												PFAS EPA Draft 1633	LAB USE ONLY												
		DATE	TIME	SAMPLED BY	MATRIX	TOTAL # OF BOTTLES	OTHER	NONE	HCl	NaOH	NaCl	MSD	H2SO4	HNO3/H2O2	DI WATER	MECH															
①	AF-RHMW17-WGN01LF-2310	16/4/27	1355	<i>[Signature]</i>	GW	3		X											X												
Turnaround Time (Business days)				Data Deliverable Information				Comments / Remarks																							
10 Day (Business) Approved By: / Date:			<input type="checkbox"/> COMMERCIAL "A" (RESULTS ONLY) <input type="checkbox"/> COMMERCIAL "B" (RESULTS PLUS QC) <input type="checkbox"/> REDT1 (EPA LEVEL 3) <input checked="" type="checkbox"/> FULLT1 (EPA LEVEL 4) <input checked="" type="checkbox"/> EDD'S				EDMS upload database: JBPHE EDMS Coverage: AFFF Assessment Sampling GW <i>(Under RMB) 016-97418206</i>																								
7 Day																															
<input checked="" type="checkbox"/> 5 Day																															
3 Day RUSH																															
2 Day RUSH																															
1 Day RUSH																															
Other																															
Rush T/A Data Available VIA Email or Lablink																															
Sample Custody must be documented below each time samples change possession, including courier delivery.																															
Relinquished by Sampler/Affiliation	Date Time:	Received By/Affiliation	Date Time:	Relinquished By/Affiliation	Date Time:	Received By/Affiliation																									
1 <i>[Signature]</i>	16/4/27 15:55	2 <i>Christian Perez/AECOM</i>	0930	3 <i>Christian Perez/AECOM</i>	12/4/27 1600	4 <i>UC</i>																									
Relinquished by/Affiliation	Date Time:	Received By/Affiliation	Date Time:	Relinquished By/Affiliation	Date Time:	Received By/Affiliation																									
5 <i>UC</i>		6 <i>[Signature]</i>	10/04/23	7		8																									
Lab Use Only: Cooler Temperature (s) Celsius (corrected): <i>4.4</i> http://www.sgs.com/en/terms-and-conditions																															

5.1 5

PFAS_COCS_ALL_10022023.xls Rev 031318



SGS Sample Receipt Summary

Job Number: fc10247

Client: AECOM

Project: N6274223F0104 RH Fire Suppression Syst

Date / Time Received: 10/6/2023 9:30:00 AM

Delivery Method: United Cargo/Airspace

Airbill #'s: United Cargo AWB #: 016-97418086

Cooler Temps (Raw Measured) °C: Cooler 1: (4.6);

Cooler Temps (Corrected) °C: Cooler 1: (5.0);

Cooler Informatio

Y or N

- 1. Custody Seals Present:
- 2. Custody Seals Intact:
- 3. Temp criteria achieved:
- 4. Cooler temp verification: IR Gun
- 5. Cooler media: Ice (Bag)

Trip Blank Information

Y or N N/A

- 1. Trip Blank present / cooler:
- 2. Trip Blank listed on COC:

W or S N/A

- 3. Type of TB Received

Sample Information

Y or N N/A

- 1. Sample labels present on bottles:
- 2. Samples presented properly:
- 3. Suffiient volume/containers recv'd for analysi:
- 4. Condition of sample: Intact
- 5. Sample recv'd within HT:
- 6. Dates/Times/IDs on COC match sample labe:
- 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 Number of Lab Filtered Metals
 Test Strip Lot #s: pH 0-3: _____ pH 10-12: _____ Other: (Specify) _____
 Residual Chlorine Test Strip Lot: _____

Comments

SM001

Rev. Date 05/04/17

Technician: SHAYLAP

Date: 10/6/2023 9:30:00 AM

Reviewer: ZB

Date: 10/06/2023

FC10247: Chain of Custody

Page 2 of 2

QC Evaluation: DOD QSM5.x Limits

Job Number: FC10247
Account: AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System
Collected: 10/04/23

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

No DOD QSM5.x Limits found for methods in this job.

* Sample used for QC is not from job FC10247

5.2
5

MS Semi-volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Injection Standard Area Summaries
- TDCA Retention Time Checks
- Isotope Dilution Standard Recovery Summaries
- Initial and Continuing Calibration Summaries
- Run Sequence Reports

Instrument Blank

Job Number: FC10247
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S6Q370-IBLK	6Q26258.D	1	10/12/23	MV	n/a	n/a	S6Q370

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC10247-1

CAS No.	Compound	Result	RL	MDL	Units	Q
375-22-4	Perfluorobutanoic acid	ND	0.016	0.0019	ug/l	
2706-90-3	Perfluoropentanoic acid	ND	0.0080	0.00094	ug/l	
307-24-4	Perfluorohexanoic acid	ND	0.0040	0.00050	ug/l	
375-85-9	Perfluoroheptanoic acid	ND	0.0040	0.00050	ug/l	
335-67-1	Perfluorooctanoic acid	ND	0.0040	0.00050	ug/l	
375-95-1	Perfluorononanoic acid	ND	0.0040	0.00061	ug/l	
335-76-2	Perfluorodecanoic acid	ND	0.0040	0.00050	ug/l	
2058-94-8	Perfluoroundecanoic acid	ND	0.0040	0.00060	ug/l	
307-55-1	Perfluorododecanoic acid	ND	0.0040	0.00060	ug/l	
72629-94-8	Perfluorotridecanoic acid	ND	0.0040	0.00084	ug/l	
376-06-7	Perfluorotetradecanoic acid	ND	0.0040	0.00050	ug/l	
375-73-5	Perfluorobutanesulfonic acid	ND	0.0040	0.00050	ug/l	
2706-91-4	Perfluoropentanesulfonic acid	ND	0.0050	0.0011	ug/l	
355-46-4	Perfluorohexanesulfonic acid	ND	0.0040	0.00070	ug/l	
375-92-8	Perfluoroheptanesulfonic acid	ND	0.0040	0.00050	ug/l	
1763-23-1	Perfluorooctanesulfonic acid	ND	0.0040	0.00054	ug/l	
68259-12-1	Perfluorononanesulfonic acid	ND	0.0040	0.00057	ug/l	
335-77-3	Perfluorodecanesulfonic acid	ND	0.0040	0.00064	ug/l	
79780-39-5	Perfluorododecanesulfonic aci	ND	0.0050	0.0011	ug/l	
757124-72-44:2	Fluorotelomer sulfonate	ND	0.020	0.0032	ug/l	
27619-97-2	6:2 Fluorotelomer sulfonate	ND	0.020	0.0035	ug/l	
39108-34-4	8:2 Fluorotelomer sulfonate	ND	0.020	0.0041	ug/l	
754-91-6	PFOSA	ND	0.0040	0.00067	ug/l	
31506-32-8	MeFOSA	ND	0.0080	0.0010	ug/l	
4151-50-2	EtFOSA	ND	0.0080	0.0010	ug/l	
2355-31-9	MeFOSAA	ND	0.0050	0.0010	ug/l	
2991-50-6	EtFOSAA	ND	0.0050	0.0013	ug/l	
24448-09-7	MeFOSE	ND	0.040	0.0044	ug/l	
1691-99-2	EtFOSE	ND	0.040	0.0074	ug/l	
13252-13-6	HFPO-DA (GenX)	ND	0.0040	0.0010	ug/l	
919005-14-4	ADONA	ND	0.0080	0.0019	ug/l	
377-73-1	PFMPA	ND	0.0080	0.0010	ug/l	
863090-89-5	PFMBA	ND	0.0080	0.0011	ug/l	
151772-58-6	NFDHA	ND	0.0080	0.0012	ug/l	
756426-58-19	Cl-PF3ONS (F-53B Major)	ND	0.0080	0.0014	ug/l	
763051-92-91	Cl-PF3OUdS (F-53B Minor)	ND	0.0080	0.0018	ug/l	

Instrument Blank

Job Number: FC10247
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S6Q370-IBLK	6Q26258.D	1	10/12/23	MV	n/a	n/a	S6Q370

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC10247-1

CAS No.	Compound	Result	RL	MDL	Units	Q
113507-82-7	PFEESA	ND	0.0080	0.00078	ug/l	
356-02-5	3:3 Fluorotelomer carboxylate	ND	0.020	0.0045	ug/l	
914637-49-35:3	Fluorotelomer carboxylate	ND	0.10	0.0087	ug/l	
812-70-4	7:3 Fluorotelomer carboxylate	ND	0.10	0.0079	ug/l	

CAS No.	ID Standard Recoveries	Limits
	13C4-PFBA	99% 20-150%
	13C5-PFPeA	99% 20-150%
	13C5-PFHxA	100% 20-150%
	13C4-PFHpA	98% 20-150%
	13C8-PFOA	100% 20-150%
	13C9-PFNA	98% 20-150%
	13C6-PFDA	107% 20-150%
	13C7-PFUnDA	101% 20-150%
	13C2-PFDoDA	97% 20-150%
	13C2-PFTeDA	107% 20-150%
	13C3-PFBS	100% 20-150%
	13C3-PFHxS	99% 20-150%
	13C8-PFOS	100% 20-150%
	13C8-FOSA	100% 20-150%
	d3-MeFOSAA	95% 20-150%
	d5-EtFOSAA	97% 20-150%
	13C2-4:2FTS	125% 20-180%
	13C2-6:2FTS	110% 20-180%
	13C2-8:2FTS	116% 20-180%

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Instrument Blank

Job Number: FC10247
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S6Q370-IBLK	6Q26350.D	1	10/13/23	MV	n/a	n/a	S6Q370

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC10247-1

CAS No.	Compound	Result	RL	MDL	Units	Q
375-22-4	Perfluorobutanoic acid	ND	0.016	0.0019	ug/l	
2706-90-3	Perfluoropentanoic acid	ND	0.0080	0.00094	ug/l	
307-24-4	Perfluorohexanoic acid	ND	0.0040	0.00050	ug/l	
375-85-9	Perfluoroheptanoic acid	ND	0.0040	0.00050	ug/l	
335-67-1	Perfluorooctanoic acid	ND	0.0040	0.00050	ug/l	
375-95-1	Perfluorononanoic acid	ND	0.0040	0.00061	ug/l	
335-76-2	Perfluorodecanoic acid	ND	0.0040	0.00050	ug/l	
2058-94-8	Perfluoroundecanoic acid	ND	0.0040	0.00060	ug/l	
307-55-1	Perfluorododecanoic acid	ND	0.0040	0.00060	ug/l	
72629-94-8	Perfluorotridecanoic acid	ND	0.0040	0.00084	ug/l	
376-06-7	Perfluorotetradecanoic acid	ND	0.0040	0.00050	ug/l	
375-73-5	Perfluorobutanesulfonic acid	ND	0.0040	0.00050	ug/l	
2706-91-4	Perfluoropentanesulfonic acid	ND	0.0050	0.0011	ug/l	
355-46-4	Perfluorohexanesulfonic acid	ND	0.0040	0.00070	ug/l	
375-92-8	Perfluoroheptanesulfonic acid	ND	0.0040	0.00050	ug/l	
1763-23-1	Perfluorooctanesulfonic acid	ND	0.0040	0.00054	ug/l	
68259-12-1	Perfluorononanesulfonic acid	ND	0.0040	0.00057	ug/l	
335-77-3	Perfluorodecanesulfonic acid	ND	0.0040	0.00064	ug/l	
79780-39-5	Perfluorododecanesulfonic aci	ND	0.0050	0.0011	ug/l	
757124-72-44:2	Fluorotelomer sulfonate	ND	0.020	0.0032	ug/l	
27619-97-2	6:2 Fluorotelomer sulfonate	ND	0.020	0.0035	ug/l	
39108-34-4	8:2 Fluorotelomer sulfonate	ND	0.020	0.0041	ug/l	
754-91-6	PFOSA	ND	0.0040	0.00067	ug/l	
31506-32-8	MeFOSA	ND	0.0080	0.0010	ug/l	
4151-50-2	EtFOSA	ND	0.0080	0.0010	ug/l	
2355-31-9	MeFOSAA	ND	0.0050	0.0010	ug/l	
2991-50-6	EtFOSAA	ND	0.0050	0.0013	ug/l	
24448-09-7	MeFOSE	ND	0.040	0.0044	ug/l	
1691-99-2	EtFOSE	ND	0.040	0.0074	ug/l	
13252-13-6	HFPO-DA (GenX)	ND	0.0040	0.0010	ug/l	
919005-14-4	ADONA	ND	0.0080	0.0019	ug/l	
377-73-1	PFMPA	ND	0.0080	0.0010	ug/l	
863090-89-5	PFMBA	ND	0.0080	0.0011	ug/l	
151772-58-6	NFDHA	ND	0.0080	0.0012	ug/l	
756426-58-19	Cl-PF3ONS (F-53B Major)	ND	0.0080	0.0014	ug/l	
763051-92-91	Cl-PF3OUdS (F-53B Minor)	ND	0.0080	0.0018	ug/l	

Instrument Blank

Job Number: FC10247
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S6Q370-IBLK	6Q26350.D	1	10/13/23	MV	n/a	n/a	S6Q370

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC10247-1

CAS No.	Compound	Result	RL	MDL	Units	Q
113507-82-7	PFEESA	ND	0.0080	0.00078	ug/l	
356-02-5	3:3 Fluorotelomer carboxylate	ND	0.020	0.0045	ug/l	
914637-49-35:3	Fluorotelomer carboxylate	ND	0.10	0.0087	ug/l	
812-70-4	7:3 Fluorotelomer carboxylate	ND	0.10	0.0079	ug/l	

CAS No.	ID Standard Recoveries	Limits
	13C4-PFBA	98% 20-150%
	13C5-PFPeA	103% 20-150%
	13C5-PFHxA	107% 20-150%
	13C4-PFHpA	98% 20-150%
	13C8-PFOA	98% 20-150%
	13C9-PFNA	103% 20-150%
	13C6-PFDA	100% 20-150%
	13C7-PFUnDA	100% 20-150%
	13C2-PFDoDA	97% 20-150%
	13C2-PFTeDA	99% 20-150%
	13C3-PFBS	99% 20-150%
	13C3-PFHxS	101% 20-150%
	13C8-PFOS	99% 20-150%
	13C8-FOSA	105% 20-150%
	d3-MeFOSAA	104% 20-150%
	d5-EtFOSAA	100% 20-150%
	13C2-4:2FTS	120% 20-180%
	13C2-6:2FTS	114% 20-180%
	13C2-8:2FTS	105% 20-180%

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Continuing Calibration Blank

Job Number: FC10247
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S6Q370-ICCB	6Q26290.D	1	10/12/23	MV	n/a	n/a	S6Q370

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC10247-1

CAS No.	Compound	Result	RL	MDL	Units	Q
375-22-4	Perfluorobutanoic acid	ND	0.016	0.0019	ug/l	
2706-90-3	Perfluoropentanoic acid	ND	0.0080	0.00094	ug/l	
307-24-4	Perfluorohexanoic acid	ND	0.0040	0.00050	ug/l	
375-85-9	Perfluoroheptanoic acid	ND	0.0040	0.00050	ug/l	
335-67-1	Perfluorooctanoic acid	ND	0.0040	0.00050	ug/l	
375-95-1	Perfluorononanoic acid	ND	0.0040	0.00061	ug/l	
335-76-2	Perfluorodecanoic acid	ND	0.0040	0.00050	ug/l	
2058-94-8	Perfluoroundecanoic acid	ND	0.0040	0.00060	ug/l	
307-55-1	Perfluorododecanoic acid	ND	0.0040	0.00060	ug/l	
72629-94-8	Perfluorotridecanoic acid	ND	0.0040	0.00084	ug/l	
376-06-7	Perfluorotetradecanoic acid	ND	0.0040	0.00050	ug/l	
375-73-5	Perfluorobutanesulfonic acid	ND	0.0040	0.00050	ug/l	
2706-91-4	Perfluoropentanesulfonic acid	ND	0.0050	0.0011	ug/l	
355-46-4	Perfluorohexanesulfonic acid	ND	0.0040	0.00070	ug/l	
375-92-8	Perfluoroheptanesulfonic acid	ND	0.0040	0.00050	ug/l	
1763-23-1	Perfluorooctanesulfonic acid	ND	0.0040	0.00054	ug/l	
68259-12-1	Perfluorononanesulfonic acid	ND	0.0040	0.00057	ug/l	
335-77-3	Perfluorodecanesulfonic acid	ND	0.0040	0.00064	ug/l	
79780-39-5	Perfluorododecanesulfonic aci	ND	0.0050	0.0011	ug/l	
757124-72-44:2	Fluorotelomer sulfonate	ND	0.020	0.0032	ug/l	
27619-97-2	6:2 Fluorotelomer sulfonate	ND	0.020	0.0035	ug/l	
39108-34-4	8:2 Fluorotelomer sulfonate	ND	0.020	0.0041	ug/l	
754-91-6	PFOSA	ND	0.0040	0.00067	ug/l	
31506-32-8	MeFOSA	ND	0.0080	0.0010	ug/l	
4151-50-2	EtFOSA	ND	0.0080	0.0010	ug/l	
2355-31-9	MeFOSAA	ND	0.0050	0.0010	ug/l	
2991-50-6	EtFOSAA	ND	0.0050	0.0013	ug/l	
24448-09-7	MeFOSE	ND	0.040	0.0044	ug/l	
1691-99-2	EtFOSE	ND	0.040	0.0074	ug/l	
13252-13-6	HFPO-DA (GenX)	ND	0.0040	0.0010	ug/l	
919005-14-4	ADONA	ND	0.0080	0.0019	ug/l	
377-73-1	PFMPA	ND	0.0080	0.0010	ug/l	
863090-89-5	PFMBA	ND	0.0080	0.0011	ug/l	
151772-58-6	NFDHA	ND	0.0080	0.0012	ug/l	
756426-58-19	Cl-PF3ONS (F-53B Major)	ND	0.0080	0.0014	ug/l	
763051-92-91	Cl-PF3OUdS (F-53B Minor)	ND	0.0080	0.0018	ug/l	

Continuing Calibration Blank

Job Number: FC10247
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S6Q370-ICCB	6Q26290.D	1	10/12/23	MV	n/a	n/a	S6Q370

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC10247-1

CAS No.	Compound	Result	RL	MDL	Units	Q
113507-82-7	PFEESA	ND	0.0080	0.00078	ug/l	
356-02-5	3:3 Fluorotelomer carboxylate	ND	0.020	0.0045	ug/l	
914637-49-35:3	Fluorotelomer carboxylate	ND	0.10	0.0087	ug/l	
812-70-4	7:3 Fluorotelomer carboxylate	ND	0.10	0.0079	ug/l	

CAS No.	ID Standard Recoveries	Limits
	13C4-PFBA	98% 20-150%
	13C5-PFPeA	97% 20-150%
	13C5-PFHxA	94% 20-150%
	13C4-PFHpA	95% 20-150%
	13C8-PFOA	100% 20-150%
	13C9-PFNA	96% 20-150%
	13C6-PFDA	105% 20-150%
	13C7-PFUnDA	96% 20-150%
	13C2-PFDoDA	101% 20-150%
	13C2-PFTeDA	105% 20-150%
	13C3-PFBS	102% 20-150%
	13C3-PFHxS	98% 20-150%
	13C8-PFOS	99% 20-150%
	13C8-FOSA	96% 20-150%
	d3-MeFOSAA	102% 20-150%
	d5-EtFOSAA	101% 20-150%
	13C2-4:2FTS	119% 20-180%
	13C2-6:2FTS	116% 20-180%
	13C2-8:2FTS	111% 20-180%

Method Blank Summary

Job Number: FC10247
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP99445-MB	6Q26282.D	1	10/12/23	MV	10/10/23	OP99445	S6Q370

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC10247-1

CAS No.	Compound	Result	RL	MDL	Units	Q
375-22-4	Perfluorobutanoic acid	ND	0.016	0.0019	ug/l	
2706-90-3	Perfluoropentanoic acid	ND	0.0080	0.00094	ug/l	
307-24-4	Perfluorohexanoic acid	ND	0.0040	0.00050	ug/l	
375-85-9	Perfluoroheptanoic acid	ND	0.0040	0.00050	ug/l	
335-67-1	Perfluorooctanoic acid	ND	0.0040	0.00050	ug/l	
375-95-1	Perfluorononanoic acid	ND	0.0040	0.00061	ug/l	
335-76-2	Perfluorodecanoic acid	ND	0.0040	0.00050	ug/l	
2058-94-8	Perfluoroundecanoic acid	ND	0.0040	0.00060	ug/l	
307-55-1	Perfluorododecanoic acid	ND	0.0040	0.00060	ug/l	
72629-94-8	Perfluorotridecanoic acid	ND	0.0040	0.00084	ug/l	
376-06-7	Perfluorotetradecanoic acid	ND	0.0040	0.00050	ug/l	
375-73-5	Perfluorobutanesulfonic acid	ND	0.0040	0.00050	ug/l	
2706-91-4	Perfluoropentanesulfonic acid	ND	0.0050	0.0011	ug/l	
355-46-4	Perfluorohexanesulfonic acid	ND	0.0040	0.00070	ug/l	
375-92-8	Perfluoroheptanesulfonic acid	ND	0.0040	0.00050	ug/l	
1763-23-1	Perfluorooctanesulfonic acid	ND	0.0040	0.00054	ug/l	
68259-12-1	Perfluorononanesulfonic acid	ND	0.0040	0.00057	ug/l	
335-77-3	Perfluorodecanesulfonic acid	ND	0.0040	0.00064	ug/l	
79780-39-5	Perfluorododecanesulfonic aci	ND	0.0050	0.0011	ug/l	
757124-72-44:2	Fluorotelomer sulfonate	ND	0.020	0.0032	ug/l	
27619-97-2	6:2 Fluorotelomer sulfonate	0.0059	0.020	0.0035	ug/l	J
39108-34-4	8:2 Fluorotelomer sulfonate	ND	0.020	0.0041	ug/l	
754-91-6	PFOSA	ND	0.0040	0.00067	ug/l	
31506-32-8	MeFOSA	ND	0.0080	0.0010	ug/l	
4151-50-2	EtFOSA	ND	0.0080	0.0010	ug/l	
2355-31-9	MeFOSAA	ND	0.0050	0.0010	ug/l	
2991-50-6	EtFOSAA	ND	0.0050	0.0013	ug/l	
24448-09-7	MeFOSE	ND	0.040	0.0044	ug/l	
1691-99-2	EtFOSE	ND	0.040	0.0074	ug/l	
13252-13-6	HFPO-DA (GenX)	ND	0.0040	0.0010	ug/l	
919005-14-4	ADONA	ND	0.0080	0.0019	ug/l	
377-73-1	PFMPA	ND	0.0080	0.0010	ug/l	
863090-89-5	PFMBA	ND	0.0080	0.0011	ug/l	
151772-58-6	NFDHA	ND	0.0080	0.0012	ug/l	
756426-58-19	Cl-PF3ONS (F-53B Major)	ND	0.0080	0.0014	ug/l	
763051-92-91	Cl-PF3OUdS (F-53B Minor)	ND	0.0080	0.0018	ug/l	

Method Blank Summary

Job Number: FC10247
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP99445-MB	6Q26282.D	1	10/12/23	MV	10/10/23	OP99445	S6Q370

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC10247-1

CAS No.	Compound	Result	RL	MDL	Units	Q
113507-82-7	PFEESA	ND	0.0080	0.00078	ug/l	
356-02-5	3:3 Fluorotelomer carboxylate	ND	0.020	0.0045	ug/l	
914637-49-35:3	Fluorotelomer carboxylate	ND	0.10	0.0087	ug/l	
812-70-4	7:3 Fluorotelomer carboxylate	ND	0.10	0.0079	ug/l	

CAS No.	ID Standard Recoveries	Limits
	13C4-PFBA	108% 20-150%
	13C5-PFPeA	107% 20-150%
	13C5-PFHxA	107% 20-150%
	13C4-PFHpA	104% 20-150%
	13C8-PFOA	107% 20-150%
	13C9-PFNA	114% 20-150%
	13C6-PFDA	105% 20-150%
	13C7-PFUnDA	100% 20-150%
	13C2-PFDoDA	87% 20-150%
	13C2-PFTeDA	84% 20-150%
	13C3-PFBS	101% 20-150%
	13C3-PFHxS	102% 20-150%
	13C8-PFOS	107% 20-150%
	13C8-FOSA	76% 20-150%
	d3-MeFOSA	74% 20-150%
	d5-EtFOSA	83% 20-150%
	d3-MeFOSAA	102% 20-150%
	d5-EtFOSAA	95% 20-150%
	d7-MeFOSE	72% 20-150%
	d9-EtFOSE	79% 20-150%
	13C2-4:2FTS	129% 20-180%
	13C2-6:2FTS	111% 20-180%
	13C2-8:2FTS	117% 20-180%
	13C3-HFPO-DA	105% 20-150%

Continuing Calibration Blank

Job Number: FC10247
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S6Q370-ICCB	6Q26279.D	1	10/12/23	MV	n/a	n/a	S6Q370

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

OP99445-BS, OP99445-LLBS, OP99445-MB

CAS No.	Compound	Result	RL	MDL	Units	Q
375-22-4	Perfluorobutanoic acid	ND	0.016	0.0019	ug/l	
2706-90-3	Perfluoropentanoic acid	ND	0.0080	0.00094	ug/l	
307-24-4	Perfluorohexanoic acid	ND	0.0040	0.00050	ug/l	
375-85-9	Perfluoroheptanoic acid	ND	0.0040	0.00050	ug/l	
335-67-1	Perfluorooctanoic acid	ND	0.0040	0.00050	ug/l	
375-95-1	Perfluorononanoic acid	ND	0.0040	0.00061	ug/l	
335-76-2	Perfluorodecanoic acid	ND	0.0040	0.00050	ug/l	
2058-94-8	Perfluoroundecanoic acid	ND	0.0040	0.00060	ug/l	
307-55-1	Perfluorododecanoic acid	ND	0.0040	0.00060	ug/l	
72629-94-8	Perfluorotridecanoic acid	ND	0.0040	0.00084	ug/l	
376-06-7	Perfluorotetradecanoic acid	ND	0.0040	0.00050	ug/l	
375-73-5	Perfluorobutanesulfonic acid	ND	0.0040	0.00050	ug/l	
2706-91-4	Perfluoropentanesulfonic acid	ND	0.0050	0.0011	ug/l	
355-46-4	Perfluorohexanesulfonic acid	ND	0.0040	0.00070	ug/l	
375-92-8	Perfluoroheptanesulfonic acid	ND	0.0040	0.00050	ug/l	
1763-23-1	Perfluorooctanesulfonic acid	ND	0.0040	0.00054	ug/l	
68259-12-1	Perfluorononanesulfonic acid	ND	0.0040	0.00057	ug/l	
335-77-3	Perfluorodecanesulfonic acid	ND	0.0040	0.00064	ug/l	
79780-39-5	Perfluorododecanesulfonic aci	ND	0.0050	0.0011	ug/l	
757124-72-44:2	Fluorotelomer sulfonate	ND	0.020	0.0032	ug/l	
27619-97-2	6:2 Fluorotelomer sulfonate	ND	0.020	0.0035	ug/l	
39108-34-4	8:2 Fluorotelomer sulfonate	ND	0.020	0.0041	ug/l	
754-91-6	PFOSA	ND	0.0040	0.00067	ug/l	
31506-32-8	MeFOSA	ND	0.0080	0.0010	ug/l	
4151-50-2	EtFOSA	ND	0.0080	0.0010	ug/l	
2355-31-9	MeFOSAA	ND	0.0050	0.0010	ug/l	
2991-50-6	EtFOSAA	ND	0.0050	0.0013	ug/l	
24448-09-7	MeFOSE	ND	0.040	0.0044	ug/l	
1691-99-2	EtFOSE	ND	0.040	0.0074	ug/l	
13252-13-6	HFPO-DA (GenX)	ND	0.0040	0.0010	ug/l	
919005-14-4	ADONA	ND	0.0080	0.0019	ug/l	
377-73-1	PFMPA	ND	0.0080	0.0010	ug/l	
863090-89-5	PFMBA	ND	0.0080	0.0011	ug/l	
151772-58-6	NFDHA	ND	0.0080	0.0012	ug/l	
756426-58-19	Cl-PF3ONS (F-53B Major)	ND	0.0080	0.0014	ug/l	
763051-92-91	Cl-PF3OUdS (F-53B Minor)	ND	0.0080	0.0018	ug/l	

Continuing Calibration Blank

Job Number: FC10247
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S6Q370-ICCB	6Q26279.D	1	10/12/23	MV	n/a	n/a	S6Q370

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

OP99445-BS, OP99445-LLBS, OP99445-MB

CAS No.	Compound	Result	RL	MDL	Units	Q
113507-82-7	PFEESA	ND	0.0080	0.00078	ug/l	
356-02-5	3:3 Fluorotelomer carboxylate	ND	0.020	0.0045	ug/l	
914637-49-35:3	Fluorotelomer carboxylate	ND	0.10	0.0087	ug/l	
812-70-4	7:3 Fluorotelomer carboxylate	ND	0.10	0.0079	ug/l	

CAS No.	ID Standard Recoveries	Limits
	13C4-PFBA	99% 20-150%
	13C5-PFPeA	97% 20-150%
	13C5-PFHxA	97% 20-150%
	13C4-PFHpA	101% 20-150%
	13C8-PFOA	99% 20-150%
	13C9-PFNA	103% 20-150%
	13C6-PFDA	105% 20-150%
	13C7-PFUnDA	94% 20-150%
	13C2-PFDoDA	97% 20-150%
	13C2-PFTeDA	95% 20-150%
	13C3-PFBS	106% 20-150%
	13C3-PFHxS	103% 20-150%
	13C8-PFOS	97% 20-150%
	13C8-FOSA	99% 20-150%
	d3-MeFOSAA	106% 20-150%
	d5-EtFOSAA	104% 20-150%
	13C2-4:2FTS	130% 20-180%
	13C2-6:2FTS	116% 20-180%
	13C2-8:2FTS	113% 20-180%

Continuing Calibration Blank

Job Number: FC10247
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S6Q370-ICCB	6Q26346.D	1	10/13/23	MV	n/a	n/a	S6Q370

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

S6Q370-IBLK

CAS No.	Compound	Result	RL	MDL	Units	Q
375-22-4	Perfluorobutanoic acid	ND	0.016	0.0019	ug/l	
2706-90-3	Perfluoropentanoic acid	ND	0.0080	0.00094	ug/l	
307-24-4	Perfluorohexanoic acid	ND	0.0040	0.00050	ug/l	
375-85-9	Perfluoroheptanoic acid	ND	0.0040	0.00050	ug/l	
335-67-1	Perfluorooctanoic acid	ND	0.0040	0.00050	ug/l	
375-95-1	Perfluorononanoic acid	ND	0.0040	0.00061	ug/l	
335-76-2	Perfluorodecanoic acid	ND	0.0040	0.00050	ug/l	
2058-94-8	Perfluoroundecanoic acid	ND	0.0040	0.00060	ug/l	
307-55-1	Perfluorododecanoic acid	ND	0.0040	0.00060	ug/l	
72629-94-8	Perfluorotridecanoic acid	ND	0.0040	0.00084	ug/l	
376-06-7	Perfluorotetradecanoic acid	ND	0.0040	0.00050	ug/l	
375-73-5	Perfluorobutanesulfonic acid	ND	0.0040	0.00050	ug/l	
2706-91-4	Perfluoropentanesulfonic acid	ND	0.0050	0.0011	ug/l	
355-46-4	Perfluorohexanesulfonic acid	ND	0.0040	0.00070	ug/l	
375-92-8	Perfluoroheptanesulfonic acid	ND	0.0040	0.00050	ug/l	
1763-23-1	Perfluorooctanesulfonic acid	ND	0.0040	0.00054	ug/l	
68259-12-1	Perfluorononanesulfonic acid	ND	0.0040	0.00057	ug/l	
335-77-3	Perfluorodecanesulfonic acid	ND	0.0040	0.00064	ug/l	
79780-39-5	Perfluorododecanesulfonic aci	ND	0.0050	0.0011	ug/l	
757124-72-44:2	Fluorotelomer sulfonate	ND	0.020	0.0032	ug/l	
27619-97-2	6:2 Fluorotelomer sulfonate	ND	0.020	0.0035	ug/l	
39108-34-4	8:2 Fluorotelomer sulfonate	ND	0.020	0.0041	ug/l	
754-91-6	PFOSA	ND	0.0040	0.00067	ug/l	
31506-32-8	MeFOSA	ND	0.0080	0.0010	ug/l	
4151-50-2	EtFOSA	ND	0.0080	0.0010	ug/l	
2355-31-9	MeFOSAA	ND	0.0050	0.0010	ug/l	
2991-50-6	EtFOSAA	ND	0.0050	0.0013	ug/l	
24448-09-7	MeFOSE	ND	0.040	0.0044	ug/l	
1691-99-2	EtFOSE	ND	0.040	0.0074	ug/l	
13252-13-6	HFPO-DA (GenX)	ND	0.0040	0.0010	ug/l	
919005-14-4	ADONA	ND	0.0080	0.0019	ug/l	
377-73-1	PFMPA	ND	0.0080	0.0010	ug/l	
863090-89-5	PFMBA	ND	0.0080	0.0011	ug/l	
151772-58-6	NFDHA	ND	0.0080	0.0012	ug/l	
756426-58-19	Cl-PF3ONS (F-53B Major)	ND	0.0080	0.0014	ug/l	
763051-92-91	Cl-PF3OUdS (F-53B Minor)	ND	0.0080	0.0018	ug/l	

Continuing Calibration Blank

Job Number: FC10247
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S6Q370-ICCB	6Q26346.D	1	10/13/23	MV	n/a	n/a	S6Q370

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

S6Q370-IBLK

CAS No.	Compound	Result	RL	MDL	Units	Q
113507-82-7	PFEESA	ND	0.0080	0.00078	ug/l	
356-02-5	3:3 Fluorotelomer carboxylate	ND	0.020	0.0045	ug/l	
914637-49-35:3	Fluorotelomer carboxylate	ND	0.10	0.0087	ug/l	
812-70-4	7:3 Fluorotelomer carboxylate	ND	0.10	0.0079	ug/l	

CAS No.	ID Standard Recoveries	Limits
	13C4-PFBA	98% 20-150%
	13C5-PFPeA	97% 20-150%
	13C5-PFHxA	94% 20-150%
	13C4-PFHpA	96% 20-150%
	13C8-PFOA	106% 20-150%
	13C9-PFNA	102% 20-150%
	13C6-PFDA	107% 20-150%
	13C7-PFUnDA	102% 20-150%
	13C2-PFDoDA	104% 20-150%
	13C2-PFTeDA	105% 20-150%
	13C3-PFBS	102% 20-150%
	13C3-PFHxS	102% 20-150%
	13C8-PFOS	100% 20-150%
	13C8-FOSA	100% 20-150%
	d3-MeFOSAA	106% 20-150%
	d5-EtFOSAA	96% 20-150%
	13C2-4:2FTS	113% 20-180%
	13C2-6:2FTS	112% 20-180%
	13C2-8:2FTS	109% 20-180%

Blank Spike Summary

Job Number: FC10247
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP99445-LLBS	6Q26281.D	1	10/12/23	MV	10/10/23	OP99445	S6Q370

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC10247-1

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
375-22-4	Perfluorobutanoic acid	0.03	0.0316	105	40-150
2706-90-3	Perfluoropentanoic acid	0.015	0.0151	101	40-150
307-24-4	Perfluorohexanoic acid	0.0075	0.0074	99	40-150
375-85-9	Perfluoroheptanoic acid	0.0075	0.0074	99	40-150
335-67-1	Perfluorooctanoic acid	0.0075	0.0082	109	40-150
375-95-1	Perfluorononanoic acid	0.0075	0.0073	97	40-150
335-76-2	Perfluorodecanoic acid	0.0075	0.0074	99	40-150
2058-94-8	Perfluoroundecanoic acid	0.0075	0.0081	108	40-150
307-55-1	Perfluorododecanoic acid	0.0075	0.0085	113	40-150
72629-94-8	Perfluorotridecanoic acid	0.0075	0.0079	105	40-150
376-06-7	Perfluorotetradecanoic acid	0.0075	0.0087	116	40-150
375-73-5	Perfluorobutanesulfonic acid	0.00665	0.0068	102	40-150
2706-91-4	Perfluoropentanesulfonic acid	0.00706	0.0078	111	40-150
355-46-4	Perfluorohexanesulfonic acid	0.00686	0.0078	114	40-150
375-92-8	Perfluoroheptanesulfonic acid	0.00715	0.0078	109	40-150
1763-23-1	Perfluorooctanesulfonic acid	0.00696	0.0072	103	40-150
68259-12-1	Perfluorononanesulfonic acid	0.00722	0.0074	103	40-150
335-77-3	Perfluorodecanesulfonic acid	0.00724	0.0075	104	40-150
79780-39-5	Perfluorododecanesulfonic aci	0.00728	0.0063	87	40-150
757124-72-44:2	Fluorotelomer sulfonate	0.0281	0.0307	109	40-150
27619-97-2	6:2 Fluorotelomer sulfonate	0.0285	0.0311	109	40-150
39108-34-4	8:2 Fluorotelomer sulfonate	0.0288	0.0309	107	40-150
754-91-6	PFOSA	0.0075	0.0082	109	40-150
31506-32-8	MeFOSA	0.015	0.0171	114	40-150
4151-50-2	EtFOSA	0.015	0.0151	101	40-150
2355-31-9	MeFOSAA	0.0075	0.0079	105	40-150
2991-50-6	EtFOSAA	0.0075	0.0073	97	40-150
24448-09-7	MeFOSE	0.0375	0.0367	98	40-150
1691-99-2	EtFOSE	0.0375	0.0405	108	40-150
13252-13-6	HFPO-DA (GenX)	0.015	0.0162	108	40-150
919005-14-4	ADONA	0.0142	0.0148	104	40-150
377-73-1	PFMPA	0.015	0.0150	100	40-150
863090-89-5	PFMBA	0.015	0.0146	97	40-150
151772-58-6	NFDHA	0.015	0.0148	99	40-150
756426-58-19	Cl-PF3ONS (F-53B Major)	0.014	0.0140	100	40-150
763051-92-91	Cl-PF3OUdS (F-53B Minor)	0.0142	0.0135	95	40-150

* = Outside of Control Limits.

Blank Spike Summary

Job Number: FC10247
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP99445-LLBS	6Q26281.D	1	10/12/23	MV	10/10/23	OP99445	S6Q370

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC10247-1

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
113507-82-7	PFEESA	0.0134	0.0129	97	40-150
356-02-5	3:3 Fluorotelomer carboxylate	0.0375	0.0289	77	40-150
914637-49-35:3	Fluorotelomer carboxylate	0.188	0.170	91	40-150
812-70-4	7:3 Fluorotelomer carboxylate	0.188	0.181	97	40-150

CAS No.	ID Standard Recoveries	BSP	Limits
	13C4-PFBA	112%	20-150%
	13C5-PFPeA	112%	20-150%
	13C5-PFHxA	112%	20-150%
	13C4-PFHpA	111%	20-150%
	13C8-PFOA	113%	20-150%
	13C9-PFNA	115%	20-150%
	13C6-PFDA	123%	20-150%
	13C7-PFUnDA	106%	20-150%
	13C2-PFDoDA	100%	20-150%
	13C2-PFTeDA	88%	20-150%
	13C3-PFBS	119%	20-150%
	13C3-PFHxS	113%	20-150%
	13C8-PFOS	111%	20-150%
	13C8-FOSA	76%	20-150%
	d3-MeFOSA	67%	20-150%
	d5-EtFOSA	72%	20-150%
	d3-MeFOSAA	109%	20-150%
	d5-EtFOSAA	106%	20-150%
	d7-MeFOSE	69%	20-150%
	d9-EtFOSE	71%	20-150%
	13C2-4:2FTS	141%	20-180%
	13C2-6:2FTS	126%	20-180%
	13C2-8:2FTS	122%	20-180%
	13C3-HFPO-DA	107%	20-150%

* = Outside of Control Limits.

Blank Spike Summary

Job Number: FC10247
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP99445-BS	6Q26280.D	1	10/12/23	MV	10/10/23	OP99445	S6Q370

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC10247-1

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
375-22-4	Perfluorobutanoic acid	0.1	0.0983	98	40-150
2706-90-3	Perfluoropentanoic acid	0.05	0.0471	94	40-150
307-24-4	Perfluorohexanoic acid	0.025	0.0236	94	40-150
375-85-9	Perfluoroheptanoic acid	0.025	0.0252	101	40-150
335-67-1	Perfluorooctanoic acid	0.025	0.0248	99	40-150
375-95-1	Perfluorononanoic acid	0.025	0.0218	87	40-150
335-76-2	Perfluorodecanoic acid	0.025	0.0246	98	40-150
2058-94-8	Perfluoroundecanoic acid	0.025	0.0252	101	40-150
307-55-1	Perfluorododecanoic acid	0.025	0.0241	96	40-150
72629-94-8	Perfluorotridecanoic acid	0.025	0.0241	96	40-150
376-06-7	Perfluorotetradecanoic acid	0.025	0.0224	90	40-150
375-73-5	Perfluorobutanesulfonic acid	0.0222	0.0229	103	40-150
2706-91-4	Perfluoropentanesulfonic acid	0.0235	0.0237	101	40-150
355-46-4	Perfluorohexanesulfonic acid	0.0229	0.0215	94	40-150
375-92-8	Perfluoroheptanesulfonic acid	0.0238	0.0237	99	40-150
1763-23-1	Perfluorooctanesulfonic acid	0.0232	0.0225	97	40-150
68259-12-1	Perfluorononanesulfonic acid	0.0241	0.0224	93	40-150
335-77-3	Perfluorodecanesulfonic acid	0.0241	0.0211	87	40-150
79780-39-5	Perfluorododecanesulfonic aci	0.0243	0.0216	89	40-150
757124-72-44:2	Fluorotelomer sulfonate	0.0938	0.0964	103	40-150
27619-97-2	6:2 Fluorotelomer sulfonate	0.095	0.103	108	40-150
39108-34-4	8:2 Fluorotelomer sulfonate	0.096	0.0919	96	40-150
754-91-6	PFOSA	0.025	0.0247	99	40-150
31506-32-8	MeFOSA	0.05	0.0505	101	40-150
4151-50-2	EtFOSA	0.05	0.0464	93	40-150
2355-31-9	MeFOSAA	0.025	0.0250	100	40-150
2991-50-6	EtFOSAA	0.025	0.0245	98	40-150
24448-09-7	MeFOSE	0.125	0.108	86	40-150
1691-99-2	EtFOSE	0.125	0.120	96	40-150
13252-13-6	HFPO-DA (GenX)	0.05	0.0473	95	40-150
919005-14-4	ADONA	0.0473	0.0451	95	40-150
377-73-1	PFMPA	0.05	0.0365	73	40-150
863090-89-5	PFMBA	0.05	0.0451	90	40-150
151772-58-6	NFDHA	0.05	0.0451	90	40-150
756426-58-19	Cl-PF3ONS (F-53B Major)	0.0468	0.0410	88	40-150
763051-92-91	Cl-PF3OUdS (F-53B Minor)	0.0473	0.0357	76	40-150

* = Outside of Control Limits.

Blank Spike Summary

Job Number: FC10247
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP99445-BS	6Q26280.D	1	10/12/23	MV	10/10/23	OP99445	S6Q370

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC10247-1

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
113507-82-7	PFEESA	0.0445	0.0409	92	40-150
356-02-5	3:3 Fluorotelomer carboxylate	0.125	0.145	116	40-150
914637-49-35:3	Fluorotelomer carboxylate	0.625	0.567	91	40-150
812-70-4	7:3 Fluorotelomer carboxylate	0.625	0.585	94	40-150

CAS No.	ID Standard Recoveries	BSP	Limits
	13C4-PFBA	53%	20-150%
	13C5-PFPeA	112%	20-150%
	13C5-PFHxA	112%	20-150%
	13C4-PFHpA	106%	20-150%
	13C8-PFOA	108%	20-150%
	13C9-PFNA	122%	20-150%
	13C6-PFDA	115%	20-150%
	13C7-PFUnDA	106%	20-150%
	13C2-PFDoDA	102%	20-150%
	13C2-PFTeDA	101%	20-150%
	13C3-PFBS	107%	20-150%
	13C3-PFHxS	106%	20-150%
	13C8-PFOS	111%	20-150%
	13C8-FOSA	86%	20-150%
	d3-MeFOSA	84%	20-150%
	d5-EtFOSA	86%	20-150%
	d3-MeFOSAA	112%	20-150%
	d5-EtFOSAA	112%	20-150%
	d7-MeFOSE	81%	20-150%
	d9-EtFOSE	82%	20-150%
	13C2-4:2FTS	130%	20-180%
	13C2-6:2FTS	114%	20-180%
	13C2-8:2FTS	116%	20-180%
	13C3-HFPO-DA	113%	20-150%

* = Outside of Control Limits.

Matrix Spike Summary

Job Number: FC10247
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP99445-MS	6Q26292.D	1	10/12/23	MV	10/10/23	OP99445	S6Q370
FC10290-5	6Q26291.D	1	10/12/23	MV	10/10/23	OP99445	S6Q370

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC10247-1

CAS No.	Compound	FC10290-5 ug/l	Spike Q	MS ug/l	MS %	Limits
375-22-4	Perfluorobutanoic acid	0.015 U	0.0893	0.0887	99	40-150
2706-90-3	Perfluoropentanoic acid	0.0074 U	0.0446	0.0424	95	40-150
307-24-4	Perfluorohexanoic acid	0.0037 U	0.0223	0.0216	97	40-150
375-85-9	Perfluoroheptanoic acid	0.0037 U	0.0223	0.0221	99	40-150
335-67-1	Perfluorooctanoic acid	0.0037 U	0.0223	0.0225	101	40-150
375-95-1	Perfluorononanoic acid	0.0037 U	0.0223	0.0207	93	40-150
335-76-2	Perfluorodecanoic acid	0.0037 U	0.0223	0.0210	94	40-150
2058-94-8	Perfluoroundecanoic acid	0.0037 U	0.0223	0.0250	112	40-150
307-55-1	Perfluorododecanoic acid	0.0037 U	0.0223	0.0230	103	40-150
72629-94-8	Perfluorotridecanoic acid	0.0037 U	0.0223	0.0218	98	40-150
376-06-7	Perfluorotetradecanoic acid	0.0037 U	0.0223	0.0209	94	40-150
375-73-5	Perfluorobutanesulfonic acid	0.0037 U	0.0198	0.0194	98	40-150
2706-91-4	Perfluoropentanesulfonic acid	0.0046 U	0.021	0.0204	97	40-150
355-46-4	Perfluorohexanesulfonic acid	0.0037 U	0.0204	0.0193	95	40-150
375-92-8	Perfluoroheptanesulfonic acid	0.0037 U	0.0213	0.0214	101	40-150
1763-23-1	Perfluorooctanesulfonic acid	0.0037 U	0.0207	0.0221	107	40-150
68259-12-1	Perfluorononanesulfonic acid	0.0037 U	0.0215	0.0210	98	40-150
335-77-3	Perfluorodecanesulfonic acid	0.0037 U	0.0215	0.0205	95	40-150
79780-39-5	Perfluorododecanesulfonic aci	0.0046 U	0.0217	0.0215	99	40-150
757124-72-44:2	Fluorotelomer sulfonate	0.019 U	0.0837	0.0880	105	40-150
27619-97-2	6:2 Fluorotelomer sulfonate	0.019 U	0.0848	0.0918	108	40-150
39108-34-4	8:2 Fluorotelomer sulfonate	0.019 U	0.0857	0.0851	99	40-150
754-91-6	PFOSA	0.0037 U	0.0223	0.0217	97	40-150
31506-32-8	MeFOSA	0.0074 U	0.0446	0.0477	107	40-150
4151-50-2	EtFOSA	0.0074 U	0.0446	0.0449	101	40-150
2355-31-9	MeFOSAA	0.0046 U	0.0223	0.0240	108	40-150
2991-50-6	EtFOSAA	0.0046 U	0.0223	0.0233	104	40-150
24448-09-7	MeFOSE	0.037 U	0.112	0.101	90	40-150
1691-99-2	EtFOSE	0.037 U	0.112	0.112	100	40-150
13252-13-6	HFPO-DA (GenX)	0.0037 U	0.0446	0.0441	99	40-150
919005-14-4	ADONA	0.0074 U	0.0422	0.0399	95	40-150
377-73-1	PFMPA	0.0074 U	0.0446	0.0402	90	40-150
863090-89-5	PFMBA	0.0074 U	0.0446	0.0403	90	40-150
151772-58-6	NFDHA	0.0074 U	0.0446	0.0425	95	40-150
756426-58-19	Cl-PF3ONS (F-53B Major)	0.0074 U	0.0417	0.0398	95	40-150
763051-92-91	Cl-PF3OUdS (F-53B Minor)	0.0074 U	0.0422	0.0358	85	40-150

* = Outside of Control Limits.

Matrix Spike Summary

Job Number: FC10247
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP99445-MS	6Q26292.D	1	10/12/23	MV	10/10/23	OP99445	S6Q370
FC10290-5	6Q26291.D	1	10/12/23	MV	10/10/23	OP99445	S6Q370

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC10247-1

CAS No.	Compound	FC10290-5 ug/l	Spike Q	MS ug/l	MS %	Limits
113507-82-7	PFEESA	0.0074 U	0.0397	0.0358	90	40-150
356-02-5	3:3 Fluorotelomer carboxylate	0.019 U	0.112	0.0941	84	40-150
914637-49-35:3	Fluorotelomer carboxylate	0.093 U	0.558	0.483	87	40-150
812-70-4	7:3 Fluorotelomer carboxylate	0.093 U	0.558	0.526	94	40-150

CAS No.	ID Standard Recoveries	MS	FC10290-5	Limits
	13C4-PFBA	95%	106%	20-150%
	13C5-PFPeA	114%	111%	20-150%
	13C5-PFHxA	111%	106%	20-150%
	13C4-PFHpA	112%	108%	20-150%
	13C8-PFOA	114%	112%	20-150%
	13C9-PFNA	117%	110%	20-150%
	13C6-PFDA	122%	116%	20-150%
	13C7-PFUnDA	109%	108%	20-150%
	13C2-PFDoDA	107%	108%	20-150%
	13C2-PFTeDA	109%	102%	20-150%
	13C3-PFBS	119%	115%	20-150%
	13C3-PFHxS	116%	113%	20-150%
	13C8-PFOS	95%	115%	20-150%
	13C8-FOSA	88%	84%	20-150%
	d3-MeFOSA	78%	86%	20-150%
	d5-EtFOSA	79%	87%	20-150%
	d3-MeFOSAA	105%	126%	20-150%
	d5-EtFOSAA	100%	104%	20-150%
	d7-MeFOSE	82%	88%	20-150%
	d9-EtFOSE	84%	95%	20-150%
	13C2-4:2FTS	143%	138%	20-180%
	13C2-6:2FTS	130%	132%	20-180%
	13C2-8:2FTS	130%	129%	20-180%
	13C3-HFPO-DA	109%	109%	20-150%

* = Outside of Control Limits.

Duplicate Summary

Job Number: FC10247
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP99445-DUP	6Q26294.D	1	10/12/23	MV	10/10/23	OP99445	S6Q370
FC10290-6	6Q26293.D	1	10/12/23	MV	10/10/23	OP99445	S6Q370

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC10247-1

CAS No.	Compound	FC10290-6		Q	RPD	Limits
		ug/l	DUP ug/l			
375-22-4	Perfluorobutanoic acid	0.015 U	ND		nc	30
2706-90-3	Perfluoropentanoic acid	0.0075 U	ND		nc	30
307-24-4	Perfluorohexanoic acid	0.00074 J	0.00087 J		16	30
375-85-9	Perfluoroheptanoic acid	0.0038 U	ND		nc	30
335-67-1	Perfluorooctanoic acid	0.00074 J	0.00084 J		13	30
375-95-1	Perfluorononanoic acid	0.0038 U	ND		nc	30
335-76-2	Perfluorodecanoic acid	0.0038 U	ND		nc	30
2058-94-8	Perfluoroundecanoic acid	0.0038 U	ND		nc	30
307-55-1	Perfluorododecanoic acid	0.0038 U	ND		nc	30
72629-94-8	Perfluorotridecanoic acid	0.0038 U	ND		nc	30
376-06-7	Perfluorotetradecanoic acid	0.0038 U	ND		nc	30
375-73-5	Perfluorobutanesulfonic acid	0.00061 J	0.00057 J		7	30
2706-91-4	Perfluoropentanesulfonic acid	0.0047 U	ND		nc	30
355-46-4	Perfluorohexanesulfonic acid	0.0038 U	0.00079 J		200*	30
375-92-8	Perfluoroheptanesulfonic acid	0.0038 U	ND		nc	30
1763-23-1	Perfluorooctanesulfonic acid	0.0038 U	ND		nc	30
68259-12-1	Perfluorononanesulfonic acid	0.0038 U	ND		nc	30
335-77-3	Perfluorodecanesulfonic acid	0.0038 U	ND		nc	30
79780-39-5	Perfluorododecanesulfonic aci	0.0047 U	ND		nc	30
757124-72-44:2	Fluorotelomer sulfonate	0.019 U	ND		nc	30
27619-97-2	6:2 Fluorotelomer sulfonate	0.019 U	0.0112 J		200*	30
39108-34-4	8:2 Fluorotelomer sulfonate	0.019 U	ND		nc	30
754-91-6	PFOSA	0.0038 U	ND		nc	30
31506-32-8	MeFOSA	0.0075 U	ND		nc	30
4151-50-2	EtFOSA	0.0075 U	ND		nc	30
2355-31-9	MeFOSAA	0.0047 U	ND		nc	30
2991-50-6	EtFOSAA	0.0047 U	ND		nc	30
24448-09-7	MeFOSE	0.038 U	ND		nc	30
1691-99-2	EtFOSE	0.038 U	ND		nc	30
13252-13-6	HFPO-DA (GenX)	0.0038 U	ND		nc	30
919005-14-4	ADONA	0.0075 U	ND		nc	30
377-73-1	PFMPA	0.0075 U	ND		nc	30
863090-89-5	PFMBA	0.0075 U	ND		nc	30
151772-58-6	NFDHA	0.0075 U	ND		nc	30
756426-58-19	Cl-PF3ONS (F-53B Major)	0.0075 U	ND		nc	30
763051-92-91	Cl-PF3OUdS (F-53B Minor)	0.0075 U	ND		nc	30

* = Outside of Control Limits.

Duplicate Summary

Job Number: FC10247
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP99445-DUP	6Q26294.D	1	10/12/23	MV	10/10/23	OP99445	S6Q370
FC10290-6	6Q26293.D	1	10/12/23	MV	10/10/23	OP99445	S6Q370

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC10247-1

CAS No.	Compound	FC10290-6 ug/l	DUP Q	ug/l	Q	RPD	Limits
113507-82-7PFEESA		0.0075 U	ND			nc	30
356-02-5	3:3 Fluorotelomer carboxylate	0.019 U	ND			nc	30
914637-49-35:3	Fluorotelomer carboxylate	0.094 U	ND			nc	30
812-70-4	7:3 Fluorotelomer carboxylate	0.094 U	ND			nc	30

CAS No.	ID Standard Recoveries	DUP	FC10290-6	Limits
	13C4-PFBA	100%	99%	20-150%
	13C5-PFPeA	117%	108%	20-150%
	13C5-PFHxA	113%	107%	20-150%
	13C4-PFHpA	116%	105%	20-150%
	13C8-PFOA	113%	112%	20-150%
	13C9-PFNA	120%	105%	20-150%
	13C6-PFDA	110%	109%	20-150%
	13C7-PFUnDA	100%	103%	20-150%
	13C2-PFDoDA	93%	95%	20-150%
	13C2-PFTeDA	77%	95%	20-150%
	13C3-PFBS	108%	118%	20-150%
	13C3-PFHxS	105%	109%	20-150%
	13C8-PFOS	112%	100%	20-150%
	13C8-FOSA	87%	85%	20-150%
	d3-MeFOSA	79%	81%	20-150%
	d5-EtFOSA	83%	83%	20-150%
	d3-MeFOSAA	110%	105%	20-150%
	d5-EtFOSAA	101%	109%	20-150%
	d7-MeFOSE	82%	83%	20-150%
	d9-EtFOSE	83%	82%	20-150%
	13C2-4:2FTS	130%	156%	20-180%
	13C2-6:2FTS	110%	124%	20-180%
	13C2-8:2FTS	110%	117%	20-180%
	13C3-HFPO-DA	117%	106%	20-150%

* = Outside of Control Limits.

Injection Standard Area Summary

Job Number: FC10247
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Check Std:	S6Q370-CC367	Injection Date:	10/12/23
Lab File ID:	6Q26278.D	Injection Time:	15:16
Instrument ID:	GCMS6Q	Method:	EPA DRAFT 1633

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
Initial Cal ^b	61663	2.95	46783	5.58	72449	7.16	25680	7.68	25916	8.16
Check Std ^c	72275	2.95	54889	5.57	86064	7.15	29532	7.67	26960	8.15
Upper Limit ^d	123326	3.35	93566	5.97	144898	7.55	51360	8.07	51832	8.55
Lower Limit ^e	24665	2.55	18713	5.17	28980	6.75	10272	7.27	10366	7.75

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT	DF ^a
S6Q370-ICCB	68197	2.95	50882	5.57	78811	7.15	27451	7.67	26766	8.15	1
OP99445-BS	53417	2.96	38429	5.57	58517	7.15	20069	7.67	19577	8.15	1
OP99445-LLBS	53452	2.96	39642	5.57	58439	7.15	20951	7.68	19799	8.15	1
OP99445-MB	54688	2.96	40666	5.57	61801	7.15	20043	7.67	22137	8.15	1
ZZZZZZ	46481	2.96	35652	5.57	54690	7.15	18966	7.67	18978	8.15	1
ZZZZZZ	54553	2.96	39430	5.57	59273	7.15	19814	7.67	19487	8.15	1
ZZZZZZ	49825	2.96	40088	5.57	59899	7.15	20917	7.67	21657	8.15	1
ZZZZZZ	54583	2.96	39350	5.57	61868	7.15	21245	7.67	20791	8.15	1
ZZZZZZ	47673	2.96	38500	5.57	57466	7.15	19910	7.68	19788	8.15	1
ZZZZZZ	54490	2.96	40975	5.57	60205	7.15	21055	7.67	19786	8.15	1

IS 1 = 13C3-PFBA
 IS 2 = 13C2-PFHxA
 IS 3 = 13C4-PFOA
 IS 4 = 13C5-PFNA
 IS 5 = 13C2-PFDA

- (a) Sample areas corrected for dilution where applicable.
- (b) Initial Cal is: S6Q367-ICC367 6Q25943.D 10/08/23 15:46. Area is AVERAGE of initial cal points.
- (c) Check Std Limit = -60 to +100% of initial cal area.
- (d) Upper Limit = +100% of initial standard area; Retention time +0.4 minutes of check standard.
- (e) Lower Limit = -60% of initial standard area; Retention time -0.4 minutes of check standard.

6.5.1
6

Injection Standard Area Summary

Job Number: FC10247
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Check Std:	S6Q370-CC367	Injection Date:	10/12/23
Lab File ID:	6Q26278.D	Injection Time:	15:16
Instrument ID:	GCMS6Q	Method:	EPA DRAFT 1633

	IS 6 AREA	RT	IS 7 AREA	RT
Initial Cal ^b	7679	7.26	11341	8.31
Check Std ^c	8507	7.25	12585	8.30
Upper Limit ^d	15358	7.65	22682	8.70
Lower Limit ^e	3072	6.85	4536	7.90

Lab Sample ID	IS 6 AREA	RT	IS 7 AREA	RT	DF ^a
S6Q370-ICCB	7753	7.25	11644	8.30	1
OP99445-BS	6232	7.25	8809	8.30	1
OP99445-LLBS	6016	7.25	9228	8.30	1
OP99445-MB	6816	7.25	9356	8.30	1
ZZZZZZ	5651	7.25	8789	8.30	1
ZZZZZZ	6077	7.25	8792	8.30	1
ZZZZZZ	5897	7.25	8498	8.29	1
ZZZZZZ	6359	7.25	9643	8.30	1
ZZZZZZ	6108	7.25	8804	8.30	1
ZZZZZZ	6282	7.25	9170	8.30	1

IS 6 = 18O2-PFHXS
 IS 7 = 13C4-PFOS

- (a) Sample areas corrected for dilution where applicable.
- (b) Initial Cal is: S6Q367-ICC367 6Q25943.D 10/08/23 15:46. Area is AVERAGE of initial cal points.
- (c) Check Std Limit = -60 to +100% of initial cal area.
- (d) Upper Limit = +100% of initial standard area; Retention time +0.4 minutes of check standard.
- (e) Lower Limit = -60% of initial standard area; Retention time -0.4 minutes of check standard.

6.5.1
6

Injection Standard Area Summary

Job Number: FC10247
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Check Std:	S6Q370-CC367	Injection Date:	10/12/23
Lab File ID:	6Q26289.D	Injection Time:	17:56
Instrument ID:	GCMS6Q	Method:	EPA DRAFT 1633

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
Initial Cal ^b	61663	2.95	46783	5.58	72449	7.16	25680	7.68	25916	8.16
Check Std ^c	73164	2.94	55367	5.57	82511	7.15	28465	7.67	28746	8.15
Upper Limit ^d	123326	3.34	93566	5.97	144898	7.55	51360	8.07	51832	8.55
Lower Limit ^e	24665	2.54	18713	5.17	28980	6.75	10272	7.27	10366	7.75

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT	DF ^a
S6Q370-ICCB	68365	2.94	52702	5.57	77220	7.15	27711	7.67	26185	8.15	1
FC10290-5	53302	2.96	40458	5.57	59073	7.15	21720	7.67	20624	8.15	1
OP99445-MS	51578	2.96	38231	5.57	57623	7.15	20345	7.67	19057	8.15	1
FC10290-6	52853	2.96	39685	5.57	59129	7.15	21460	7.67	20196	8.15	1
OP99445-DUP	53754	2.96	38660	5.57	58993	7.15	20463	7.67	21183	8.15	1
ZZZZZZ	53584	2.96	40627	5.57	57469	7.15	20728	7.67	20480	8.15	1
FC10247-1	54091	2.96	40216	5.57	61855	7.15	20782	7.67	20433	8.15	1

- IS 1 = 13C3-PFBA
- IS 2 = 13C2-PFHxA
- IS 3 = 13C4-PFOA
- IS 4 = 13C5-PFNA
- IS 5 = 13C2-PFDA

- (a) Sample areas corrected for dilution where applicable.
- (b) Initial Cal is: S6Q367-ICC367 6Q25943.D 10/08/23 15:46. Area is AVERAGE of initial cal points.
- (c) Check Std Limit = -60 to +100% of initial cal area.
- (d) Upper Limit = +100% of initial standard area; Retention time +0.4 minutes of check standard.
- (e) Lower Limit = -60% of initial standard area; Retention time -0.4 minutes of check standard.

6.5.2
6

Injection Standard Area Summary

Job Number: FC10247
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Check Std:	S6Q370-CC367	Injection Date:	10/12/23
Lab File ID:	6Q26289.D	Injection Time:	17:56
Instrument ID:	GCMS6Q	Method:	EPA DRAFT 1633

	IS 6 AREA	RT	IS 7 AREA	RT
Initial Cal ^b	7679	7.26	11341	8.31
Check Std ^c	8607	7.25	12564	8.30
Upper Limit ^d	15358	7.65	22682	8.70
Lower Limit ^e	3072	6.85	4536	7.90

Lab Sample ID	IS 6 AREA	RT	IS 7 AREA	RT	DF ^a
S6Q370-ICCB	8106	7.25	12137	8.30	1
FC10290-5	6206	7.25	8992	8.30	1
OP99445-MS	5879	7.25	9438	8.30	1
FC10290-6	6016	7.25	9142	8.30	1
OP99445-DUP	6775	7.25	8983	8.30	1
ZZZZZZ	6050	7.25	8787	8.30	1
FC10247-1	6319	7.25	9439	8.30	1

IS 6 = 18O2-PFHXS
 IS 7 = 13C4-PFOS

- (a) Sample areas corrected for dilution where applicable.
- (b) Initial Cal is: S6Q367-ICC367 6Q25943.D 10/08/23 15:46. Area is AVERAGE of initial cal points.
- (c) Check Std Limit = -60 to + 100% of initial cal area.
- (d) Upper Limit = + 100% of initial standard area; Retention time + 0.4 minutes of check standard.
- (e) Lower Limit = -60% of initial standard area; Retention time -0.4 minutes of check standard.

6.5.2
6

TDCA Retention Time Check

Job Number: FC10247
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample:	S6Q367-RT	Injection Date:	10/08/23
Lab File ID:	6Q25937.D	Injection Time:	14:04
Instrument ID:	GCMS6Q		

Compound	RT (min)	RT Difference	Low Limit
PFOS	8.300	--	--
TDCA	6.873	1.427	1.000
TCDCA	6.737	1.563	1.000
TUDCA	5.898	2.402	1.000

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
S6Q367-IC367	6Q25939.D	10/08/23	14:49	00:45	Mass Calibration Verification
S6Q367-IC367	6Q25940.D	10/08/23	15:03	00:59	Initial cal 1
S6Q367-IC367	6Q25941.D	10/08/23	15:17	01:13	Initial cal 2
S6Q367-IC367	6Q25942.D	10/08/23	15:32	01:28	Initial cal 3
S6Q367-ICC367	6Q25943.D	10/08/23	15:46	01:42	Initial cal 4
S6Q367-IC367	6Q25944.D	10/08/23	16:00	01:56	Initial cal 5
S6Q367-IC367	6Q25945.D	10/08/23	16:15	02:11	Initial cal 6
S6Q367-IC367	6Q25946.D	10/08/23	16:29	02:25	Initial cal 7
S6Q367-IC367	6Q25947.D	10/08/23	16:43	02:39	Initial cal 8
S6Q367-IBLK	6Q25948.D	10/08/23	16:57	02:53	Instrument Blank
S6Q367-IBLK	6Q25948.D	10/08/23	16:57	02:53	Instrument Blank
S6Q367-ICV367	6Q25949.D	10/08/23	17:12	03:08	Initial cal verification 4
S6Q367-ICV367	6Q25950.D	10/08/23	17:26	03:22	Initial cal verification 20
S6Q367-CC367	6Q25951.D	10/08/23	17:40	03:36	Continuing cal 4
S6Q367-CC367	6Q25952.D	10/08/23	17:55	03:51	Continuing cal 1.0LL
OP99404-BS	6Q25953.D	10/08/23	18:09	04:05	Blank Spike
OP99404-LLBS	6Q25954.D	10/08/23	18:23	04:19	Blank Spike
OP99404-MB	6Q25955.D	10/08/23	18:38	04:34	Method Blank
FC10192-1	6Q25956.D	10/08/23	18:52	04:48	(used for QC only; not part of job FC10247)
OP99404-MS	6Q25957.D	10/08/23	19:06	05:02	Matrix Spike
FC10192-2	6Q25958.D	10/08/23	19:21	05:17	(used for QC only; not part of job FC10247)
OP99404-DUP	6Q25959.D	10/08/23	19:35	05:31	Duplicate
ZZZZZZ	6Q25960.D	10/08/23	19:49	05:45	(unrelated sample)
S6Q367-CC367	6Q25961.D	10/08/23	20:04	06:00	Continuing cal 4
S6Q367-ICCB	6Q25962.D	10/08/23	20:18	06:14	Continuing Calibration Blank
OP99393-BS	6Q25963.D	10/08/23	20:32	06:28	Blank Spike
OP99393-LLBS	6Q25964.D	10/08/23	20:47	06:43	Blank Spike
OP99393-MB	6Q25965.D	10/08/23	21:01	06:57	Method Blank
ZZZZZZ	6Q25966.D	10/08/23	21:15	07:11	(unrelated sample)
ZZZZZZ	6Q25967.D	10/08/23	21:30	07:26	(unrelated sample)
ZZZZZZ	6Q25968.D	10/08/23	21:44	07:40	(unrelated sample)
ZZZZZZ	6Q25969.D	10/08/23	21:58	07:54	(unrelated sample)
ZZZZZZ	6Q25970.D	10/08/23	22:13	08:09	(unrelated sample)
ZZZZZZ	6Q25971.D	10/08/23	22:27	08:23	(unrelated sample)

TDCA Retention Time Check

Job Number: FC10247
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample:	S6Q367-RT	Injection Date:	10/08/23
Lab File ID:	6Q25937.D	Injection Time:	14:04
Instrument ID:	GCMS6Q		

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
S6Q367-CC367	6Q25972.D	10/08/23	22:41	08:37	Continuing cal 4
S6Q367-ICCB	6Q25973.D	10/08/23	22:56	08:52	Continuing Calibration Blank
S6Q367-CC367	6Q25992.D	10/09/23	01:33	11:29	Continuing cal 4
S6Q367-ICCB	6Q25993.D	10/09/23	01:47	11:43	Continuing Calibration Blank
OP99269-BS	6Q25994.D	10/09/23	02:02	11:58	Blank Spike
OP99269-LLBS	6Q25995.D	10/09/23	02:16	12:12	Blank Spike
OP99269-MB	6Q25996.D	10/09/23	02:30	12:26	Method Blank
ZZZZZZ	6Q25997.D	10/09/23	02:45	12:41	(unrelated sample)
ZZZZZZ	6Q25998.D	10/09/23	02:59	12:55	(unrelated sample)
ZZZZZZ	6Q25999.D	10/09/23	03:13	13:09	(unrelated sample)
ZZZZZZ	6Q26000.D	10/09/23	03:28	13:24	(unrelated sample)
FC9870-3	6Q26001.D	10/09/23	03:42	13:38	(used for QC only; not part of job FC10247)
OP99269-MS	6Q26002.D	10/09/23	03:56	13:52	Matrix Spike
OP99269-MSD	6Q26003.D	10/09/23	04:11	14:07	Matrix Spike Duplicate
S6Q367-CC367	6Q26004.D	10/09/23	04:25	14:21	Continuing cal 4
S6Q367-ICCB	6Q26005.D	10/09/23	04:39	14:35	Continuing Calibration Blank
ZZZZZZ	6Q26006.D	10/09/23	04:54	14:50	(unrelated sample)
ZZZZZZ	6Q26007.D	10/09/23	05:08	15:04	(unrelated sample)
ZZZZZZ	6Q26008.D	10/09/23	05:22	15:18	(unrelated sample)
ZZZZZZ	6Q26009.D	10/09/23	05:37	15:33	(unrelated sample)
S6Q367-CC367	6Q26010.D	10/09/23	05:51	15:47	Continuing cal 4
S6Q367-ICCB	6Q26011.D	10/09/23	06:05	16:01	Continuing Calibration Blank
OP99272-BS	6Q26012.D	10/09/23	06:20	16:16	Blank Spike
OP99272-LLBS	6Q26013.D	10/09/23	06:34	16:30	Blank Spike
OP99272-MB	6Q26014.D	10/09/23	06:48	16:44	Method Blank
ZZZZZZ	6Q26015.D	10/09/23	07:03	16:59	(unrelated sample)
ZZZZZZ	6Q26016.D	10/09/23	07:17	17:13	(unrelated sample)
ZZZZZZ	6Q26017.D	10/09/23	07:31	17:27	(unrelated sample)
ZZZZZZ	6Q26018.D	10/09/23	07:45	17:41	(unrelated sample)
FC9871-5	6Q26019.D	10/09/23	08:00	17:56	(used for QC only; not part of job FC10247)
S6Q367-CC367	6Q26022.D	10/09/23	08:43	18:39	Continuing cal 4
S6Q367-ICCB	6Q26023.D	10/09/23	08:57	18:53	Continuing Calibration Blank
ZZZZZZ	6Q26024.D	10/09/23	09:36	19:32	(unrelated sample)
OP99405-BS	6Q26025.D	10/09/23	09:52	19:48	Blank Spike
OP99405-LLBS	6Q26026.D	10/09/23	10:07	20:03	Blank Spike
OP99405-MB	6Q26027.D	10/09/23	10:21	20:17	Method Blank
FC10063-2	6Q26028.D	10/09/23	10:35	20:31	(used for QC only; not part of job FC10247)
OP99405-MS	6Q26029.D	10/09/23	10:50	20:46	Matrix Spike
FC10063-3	6Q26030.D	10/09/23	11:04	21:00	(used for QC only; not part of job FC10247)
OP99405-DUP	6Q26031.D	10/09/23	11:18	21:14	Duplicate
ZZZZZZ	6Q26032.D	10/09/23	11:33	21:29	(unrelated sample)
ZZZZZZ	6Q26033.D	10/09/23	11:47	21:43	(unrelated sample)
S6Q367-CC367	6Q26034.D	10/09/23	12:01	21:57	Continuing cal 4
S6Q367-ICCB	6Q26035.D	10/09/23	12:16	22:12	Continuing Calibration Blank

TDCA Retention Time Check

Job Number: FC10247
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample:	S6Q367-RT	Injection Date:	10/08/23
Lab File ID:	6Q25937.D	Injection Time:	14:04
Instrument ID:	GCMS6Q		

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
OP99394-BS	6Q26036.D	10/09/23	12:30	22:26	Blank Spike
OP99394-LLBS	6Q26037.D	10/09/23	12:44	22:40	Blank Spike
OP99394-MB	6Q26038.D	10/09/23	13:04	23:00	Method Blank
ZZZZZ	6Q26039.D	10/09/23	13:19	23:15	(unrelated sample)
FC9961-3	6Q26040.D	10/09/23	13:33	23:29	(used for QC only; not part of job FC10247)
OP99394-MS	6Q26041.D	10/09/23	13:47	23:43	Matrix Spike
OP99394-MSD	6Q26042.D	10/09/23	14:02	23:58	Matrix Spike Duplicate
S6Q367-CC367	6Q26043.D	10/09/23	14:16	24:12	Continuing cal 4
S6Q367-ICCB	6Q26044.D	10/09/23	14:30	24:26	Continuing Calibration Blank

6.6.1

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TDCA Retention Time Check

Job Number: FC10247
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample:	S6Q370-RT	Injection Date:	10/12/23
Lab File ID:	6Q26255.D	Injection Time:	09:43
Instrument ID:	GCMS6Q		

Compound	RT (min)	RT Difference	Low Limit
PFOS	8.300	--	--
TDCA	6.873	1.427	1.000
TCDCA	6.725	1.575	1.000
TUDCA	5.898	2.402	1.000

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
S6Q370-IBLK	6Q26258.D	10/12/23	10:26	00:43	Instrument Blank
S6Q370-IBLK	6Q26258.D	10/12/23	10:26	00:43	Instrument Blank
S6Q370-CC367	6Q26259.D	10/12/23	10:40	00:57	Continuing cal 4
S6Q370-CC367	6Q26260.D	10/12/23	10:55	01:12	Continuing cal 1.0LL
S6Q370-CC367	6Q26270.D	10/12/23	13:19	03:36	Continuing cal 4
S6Q370-ICCB	6Q26271.D	10/12/23	13:34	03:51	Continuing Calibration Blank
S6Q370-CC367	6Q26278.D	10/12/23	15:16	05:33	Continuing cal 4
S6Q370-ICCB	6Q26279.D	10/12/23	15:33	05:50	Continuing Calibration Blank
OP99445-BS	6Q26280.D	10/12/23	15:47	06:04	Blank Spike
OP99445-LLBS	6Q26281.D	10/12/23	16:02	06:19	Blank Spike
OP99445-MB	6Q26282.D	10/12/23	16:16	06:33	Method Blank
ZZZZZZ	6Q26283.D	10/12/23	16:30	06:47	(unrelated sample)
ZZZZZZ	6Q26284.D	10/12/23	16:45	07:02	(unrelated sample)
ZZZZZZ	6Q26285.D	10/12/23	16:59	07:16	(unrelated sample)
ZZZZZZ	6Q26286.D	10/12/23	17:13	07:30	(unrelated sample)
ZZZZZZ	6Q26287.D	10/12/23	17:28	07:45	(unrelated sample)
ZZZZZZ	6Q26288.D	10/12/23	17:42	07:59	(unrelated sample)
S6Q370-CC367	6Q26289.D	10/12/23	17:56	08:13	Continuing cal 4
S6Q370-ICCB	6Q26290.D	10/12/23	18:11	08:28	Continuing Calibration Blank
FC10290-5	6Q26291.D	10/12/23	18:25	08:42	(used for QC only; not part of job FC10247)
OP99445-MS	6Q26292.D	10/12/23	18:39	08:56	Matrix Spike
FC10290-6	6Q26293.D	10/12/23	18:54	09:11	(used for QC only; not part of job FC10247)
OP99445-DUP	6Q26294.D	10/12/23	19:08	09:25	Duplicate
ZZZZZZ	6Q26295.D	10/12/23	19:22	09:39	(unrelated sample)
FC10247-1	6Q26296.D	10/12/23	19:37	09:54	AF-RHMW17-WGN01LF-2310
S6Q370-CC367	6Q26297.D	10/12/23	19:51	10:08	Continuing cal 4
S6Q370-ICCB	6Q26298.D	10/12/23	20:05	10:22	Continuing Calibration Blank
OP99405-BS	6Q26299.D	10/12/23	20:20	10:37	Blank Spike
OP99405-LLBS	6Q26300.D	10/12/23	20:34	10:51	Blank Spike
OP99405-MB	6Q26301.D	10/12/23	20:48	11:05	Method Blank
ZZZZZZ	6Q26302.D	10/12/23	21:03	11:20	(unrelated sample)
ZZZZZZ	6Q26303.D	10/12/23	21:17	11:34	(unrelated sample)
ZZZZZZ	6Q26304.D	10/12/23	21:31	11:48	(unrelated sample)
ZZZZZZ	6Q26305.D	10/12/23	21:46	12:03	(unrelated sample)

TDCA Retention Time Check

Job Number: FC10247
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample:	S6Q370-RT	Injection Date:	10/12/23
Lab File ID:	6Q26255.D	Injection Time:	09:43
Instrument ID:	GCMS6Q		

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
ZZZZZZ	6Q26306.D	10/12/23	22:00	12:17	(unrelated sample)
ZZZZZZ	6Q26307.D	10/12/23	22:14	12:31	(unrelated sample)
ZZZZZZ	6Q26308.D	10/12/23	22:29	12:46	(unrelated sample)
S6Q370-CC367	6Q26309.D	10/12/23	22:43	13:00	Continuing cal 4
S6Q370-ICCB	6Q26310.D	10/12/23	22:57	13:14	Continuing Calibration Blank
S6Q370-ICCB	6Q26310.D	10/12/23	22:57	13:14	Continuing Calibration Blank
OP99330-BS	6Q26311.D	10/12/23	23:12	13:29	Blank Spike
OP99330-LLBS	6Q26312.D	10/12/23	23:26	13:43	Blank Spike
OP99330-MB	6Q26313.D	10/12/23	23:40	13:57	Method Blank
FC9836-1	6Q26314.D	10/12/23	23:55	14:12	(used for QC only; not part of job FC10247)
OP99330-MS	6Q26315.D	10/13/23	00:09	14:26	Matrix Spike
OP99330-MSD	6Q26316.D	10/13/23	00:23	14:40	Matrix Spike Duplicate
ZZZZZZ	6Q26317.D	10/13/23	00:38	14:55	(unrelated sample)
ZZZZZZ	6Q26318.D	10/13/23	00:52	15:09	(unrelated sample)
ZZZZZZ	6Q26319.D	10/13/23	01:06	15:23	(unrelated sample)
ZZZZZZ	6Q26320.D	10/13/23	01:21	15:38	(unrelated sample)
S6Q370-CC367	6Q26321.D	10/13/23	01:35	15:52	Continuing cal 4
S6Q370-ICCB	6Q26322.D	10/13/23	01:49	16:06	Continuing Calibration Blank
S6Q370-ICCB	6Q26322.D	10/13/23	01:49	16:06	Continuing Calibration Blank
ZZZZZZ	6Q26323.D	10/13/23	02:04	16:21	(unrelated sample)
ZZZZZZ	6Q26324.D	10/13/23	02:18	16:35	(unrelated sample)
ZZZZZZ	6Q26325.D	10/13/23	02:32	16:49	(unrelated sample)
ZZZZZZ	6Q26326.D	10/13/23	02:47	17:04	(unrelated sample)
ZZZZZZ	6Q26327.D	10/13/23	03:01	17:18	(unrelated sample)
ZZZZZZ	6Q26328.D	10/13/23	03:15	17:32	(unrelated sample)
ZZZZZZ	6Q26329.D	10/13/23	03:30	17:47	(unrelated sample)
ZZZZZZ	6Q26330.D	10/13/23	03:44	18:01	(unrelated sample)
ZZZZZZ	6Q26331.D	10/13/23	03:58	18:15	(unrelated sample)
ZZZZZZ	6Q26332.D	10/13/23	04:12	18:29	(unrelated sample)
S6Q370-CC367	6Q26333.D	10/13/23	04:27	18:44	Continuing cal 4
S6Q370-ICCB	6Q26334.D	10/13/23	04:41	18:58	Continuing Calibration Blank
S6Q370-ICCB	6Q26334.D	10/13/23	04:41	18:58	Continuing Calibration Blank
OP99345-BS	6Q26335.D	10/13/23	04:55	19:12	Blank Spike
OP99345-LLBS	6Q26336.D	10/13/23	05:10	19:27	Blank Spike
OP99345-MB	6Q26337.D	10/13/23	05:24	19:41	Method Blank
FC9829-1	6Q26338.D	10/13/23	05:38	19:55	(used for QC only; not part of job FC10247)
OP99345-MS	6Q26339.D	10/13/23	05:53	20:10	Matrix Spike
FC9830-1	6Q26340.D	10/13/23	06:07	20:24	(used for QC only; not part of job FC10247)
OP99345-DUP	6Q26341.D	10/13/23	06:21	20:38	Duplicate
ZZZZZZ	6Q26342.D	10/13/23	06:36	20:53	(unrelated sample)
ZZZZZZ	6Q26343.D	10/13/23	06:50	21:07	(unrelated sample)
S6Q370-CC367	6Q26345.D	10/13/23	07:19	21:36	Continuing cal 4
S6Q370-ICCB	6Q26346.D	10/13/23	07:33	21:50	Continuing Calibration Blank

TDCA Retention Time Check

Job Number: FC10247
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample:	S6Q370-RT	Injection Date:	10/13/23
Lab File ID:	6Q26347.D	Injection Time:	07:47
Instrument ID:	GCMS6Q		

Compound	RT (min)	RT Difference	Low Limit
PFOS	8.288	--	--
TDCA	6.873	1.415	1.000
TCDCA	6.712	1.576	1.000
TUDCA	5.873	2.415	1.000

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
S6Q370-IBLK	6Q26350.D	10/13/23	08:30	00:43	Instrument Blank
S6Q370-IBLK	6Q26350.D	10/13/23	08:30	00:43	Instrument Blank
S6Q370-CC367	6Q26351.D	10/13/23	08:45	00:58	Continuing cal 4
S6Q370-CC367	6Q26352.D	10/13/23	08:59	01:12	Continuing cal 1.0LL
OP99347-BS	6Q26353.D	10/13/23	09:13	01:26	Blank Spike
OP99347-LLBS	6Q26354.D	10/13/23	09:28	01:41	Blank Spike
OP99347-MB	6Q26355.D	10/13/23	09:42	01:55	Method Blank
FC9904-2	6Q26356.D	10/13/23	09:56	02:09	(used for QC only; not part of job FC10247)
OP99347-MS	6Q26357.D	10/13/23	10:11	02:24	Matrix Spike
FC9904-3	6Q26358.D	10/13/23	10:25	02:38	(used for QC only; not part of job FC10247)
OP99347-DUP	6Q26359.D	10/13/23	10:39	02:52	Duplicate
ZZZZZZ	6Q26360.D	10/13/23	10:54	03:07	(unrelated sample)
ZZZZZZ	6Q26361.D	10/13/23	11:08	03:21	(unrelated sample)
ZZZZZZ	6Q26362.D	10/13/23	11:22	03:35	(unrelated sample)
S6Q370-CC367	6Q26363.D	10/13/23	11:37	03:50	Continuing cal 4
S6Q370-ICCB	6Q26364.D	10/13/23	11:51	04:04	Continuing Calibration Blank
ZZZZZZ	6Q26365.D	10/13/23	12:05	04:18	(unrelated sample)
ZZZZZZ	6Q26366.D	10/13/23	12:20	04:33	(unrelated sample)
ZZZZZZ	6Q26367.D	10/13/23	12:34	04:47	(unrelated sample)
ZZZZZZ	6Q26368.D	10/13/23	12:48	05:01	(unrelated sample)
ZZZZZZ	6Q26369.D	10/13/23	13:03	05:16	(unrelated sample)
S6Q370-ECC367	6Q26373.D	10/13/23	14:00	06:13	Ending cal 4
S6Q370-ICCB	6Q26374.D	10/13/23	14:14	06:27	Continuing Calibration Blank

Isotope Dilution Standard Recovery Summary

Job Number: FC10247
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Method: EPA DRAFT 1633	Matrix: AQ
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Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3	S4	S5	S6	S7	S8
FC10247-1	6Q26296.D	100	110	107	107	106	119	110	101
OP99445-BS	6Q26280.D	53	112	112	106	108	122	115	106
OP99445-DUP	6Q26294.D	100	117	113	116	113	120	110	100
OP99445-LLBS	6Q26281.D	112	112	112	111	113	115	123	106
OP99445-MB	6Q26282.D	108	107	107	104	107	114	105	100
OP99445-MS	6Q26292.D	95	114	111	112	114	117	122	109
S6Q370-IBLK	6Q26258.D	99	99	100	98	100	98	107	101
S6Q370-IBLK	6Q26350.D	98	103	107	98	98	103	100	100
S6Q370-ICCB	6Q26290.D	98	97	94	95	100	96	105	96
S6Q370-ICCB	6Q26279.D	99	97	97	101	99	103	105	94
S6Q370-ICCB	6Q26346.D	98	97	94	96	106	102	107	102

Isotope Dilution Standards	Recovery Limits
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S1 = 13C4-PFBA	20-150%
S2 = 13C5-PFPeA	20-150%
S3 = 13C5-PFHxA	20-150%
S4 = 13C4-PFHpA	20-150%
S5 = 13C8-PFOA	20-150%
S6 = 13C9-PFNA	20-150%
S7 = 13C6-PFDA	20-150%
S8 = 13C7-PFUnDA	20-150%

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Isotope Dilution Standard Recovery Summary

Job Number: FC10247
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Method: EPA DRAFT 1633	Matrix: AQ
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Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S9	S10	S11	S12	S13	S14	S15	S16
FC10247-1	6Q26296.D	95	84	113	105	98	88	83	81
OP99445-BS	6Q26280.D	102	101	107	106	111	86	84	86
OP99445-DUP	6Q26294.D	93	77	108	105	112	87	79	83
OP99445-LLBS	6Q26281.D	100	88	119	113	111	76	67	72
OP99445-MB	6Q26282.D	87	84	101	102	107	76	74	83
OP99445-MS	6Q26292.D	107	109	119	116	95	88	78	79
S6Q370-IBLK	6Q26258.D	97	107	100	99	100	100		
S6Q370-IBLK	6Q26350.D	97	99	99	101	99	105		
S6Q370-ICCB	6Q26290.D	101	105	102	98	99	96		
S6Q370-ICCB	6Q26279.D	97	95	106	103	97	99		
S6Q370-ICCB	6Q26346.D	104	105	102	102	100	100		

Isotope Dilution Standards

Recovery Limits

S9 = 13C2-PFDoDA	20-150%
S10 = 13C2-PFTeDA	20-150%
S11 = 13C3-PFBS	20-150%
S12 = 13C3-PFHxS	20-150%
S13 = 13C8-PFOS	20-150%
S14 = 13C8-FOSA	20-150%
S15 = d3-MeFOSA	20-150%
S16 = d5-EtFOSA	20-150%

Isotope Dilution Standard Recovery Summary

Job Number: FC10247
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Method: EPA DRAFT 1633	Matrix: AQ
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Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S17	S18	S19	S20	S21	S22	S23	S24
FC10247-1	6Q26296.D	105	94	83	85	130	115	115	107
OP99445-BS	6Q26280.D	112	112	81	82	130	114	116	113
OP99445-DUP	6Q26294.D	110	101	82	83	130	110	110	117
OP99445-LLBS	6Q26281.D	109	106	69	71	141	126	122	107
OP99445-MB	6Q26282.D	102	95	72	79	129	111	117	105
OP99445-MS	6Q26292.D	105	100	82	84	143	130	130	109
S6Q370-IBLK	6Q26258.D	95	97			125	110	116	
S6Q370-IBLK	6Q26350.D	104	100			120	114	105	
S6Q370-ICCB	6Q26290.D	102	101			119	116	111	
S6Q370-ICCB	6Q26279.D	106	104			130	116	113	
S6Q370-ICCB	6Q26346.D	106	96			113	112	109	

Isotope Dilution Standards

Recovery Limits

S17 = d3-MeFOSAA	20-150%
S18 = d5-EtFOSAA	20-150%
S19 = d7-MeFOSE	20-150%
S20 = d9-EtFOSE	20-150%
S21 = 13C2-4:2FTS	20-180%
S22 = 13C2-6:2FTS	20-180%
S23 = 13C2-8:2FTS	20-180%
S24 = 13C3-HFPO-DA	20-150%

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Initial Calibration Summary

Job Number: FC10247
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample: S6Q367-ICC367
Lab FileID: 6Q25943.D

Initial Calibration Report

Method Path	D:\MassHunter\Methods											
Method File	1633_100823_S6Q367.quantmethod.xml											
Batch Name	D:\MassHunter\Data\100823_1633_S6Q367\QuantResults\S6Q367.batch.bin											
Last Calib Update	10/9/2023 9:08:36 AM											
Level Name	Calibration Files	Curve Fit	1	2	3	4	5	6	7	8	Avg RF	%RSD
1	D:\MassHunter\Data\100823_1633_S6Q367\6Q25940.d											
2	D:\MassHunter\Data\100823_1633_S6Q367\6Q25941.d											
3	D:\MassHunter\Data\100823_1633_S6Q367\6Q25942.d											
4	D:\MassHunter\Data\100823_1633_S6Q367\6Q25943.d											
5	D:\MassHunter\Data\100823_1633_S6Q367\6Q25944.d											
6	D:\MassHunter\Data\100823_1633_S6Q367\6Q25945.d											
7	D:\MassHunter\Data\100823_1633_S6Q367\6Q25946.d											
8	D:\MassHunter\Data\100823_1633_S6Q367\6Q25947.d											
Compound												
I M4-PFBA												
T PFBA												
T 3:3FTCA												
I M5-PFPeA												
T PFMPA												
T PFPeA												
T PFMBA												
I M5-PFHxA												
T NFDHA												
T PFHxA												
T PFEEA												
T 5:3FTCA												
T 7:3FTCA												
I M4-PFHpA												
T PFHpA												
I M8-PFOA												
T PFOA												
I M9-PFNA												
T PFNA												
I M6-PFDA												
T PFDA												
I M7-PFUnDA												
T PFUnDA												
I M2-PFDODA												



Initial Calibration Summary

Job Number: FC10247
 Account: AECOM AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample: S6Q367-ICC367
 Lab FileID: 6Q25943.D

Initial Calibration Report

Compound	Curve Fit	1	2	3	4	5	6	7	8	Avg RF	%RSD
T PFDoDA	Avg RF	0.9518	0.9738	0.8943	0.9340	0.9012	0.9694	0.8965	0.9142	0.9294	3.506
T PFTfDA	Avg RF	0.7789	0.7649	0.6790	0.7388	0.7148	0.7389	0.7438	0.6857	0.7306	4.838
I M2-PFTeDA	Avg RF	1.9097	1.6636	1.6205	1.5067	1.6260	1.6953	1.4983	1.4895	1.6262	8.570
T PFTeDA	Avg RF					ISTD					
I M8-FOSA	Avg RF	1.0216	1.0132	0.9535	0.8903	0.9022	0.9557	0.9276	0.9945	0.9573	5.157
T FOSA	Avg RF					ISTD					
I M3-PFBS	Avg RF	0.7422	0.7898	0.7461	0.7135	0.7181	0.7617	0.7746	0.7480	0.7493	3.478
T PFBS	Avg RF					ISTD					
I M3-PFHxS	Avg RF	1.4422	1.3496	1.3490	1.3353	1.3127	1.4048	1.2801	1.3245	1.3498	3.823
T PFPeS	Avg RF	1.1903	1.1533	0.9913	0.9731	1.0039	1.0501	0.9611	1.0361	1.0449	8.066
T PFHxS	Avg RF					ISTD					
I M8-PFOS	Avg RF	1.0526	1.0735	1.0894	0.9180	0.9579	1.0572	1.0688	1.0394	1.0321	5.902
T PFHpS	Avg RF	1.0577	1.0705	1.2369	0.9831	1.0142	1.0565	1.0390	1.0859	1.0680	7.081
T PFOS	Avg RF	0.9764	0.9936	0.9884	0.8029	0.8420	0.8903	0.8749	0.9253	0.9117	7.808
T PFNS	Avg RF	0.6660	0.6961	0.6642	0.6053	0.5886	0.6587	0.6035	0.6332	0.6395	5.907
T PFDS	Avg RF	0.3267	0.3506	0.3412	0.3114	0.3177	0.3430	0.3252	0.3408	0.3321	4.154
T PFDoDS	Avg RF					ISTD					
I M2-4:2FTS	Avg RF	8.9245	8.4980	7.8526	8.3928	8.4266	8.6910	7.9604	7.5969	8.2928	5.424
T 4:2FTS	Avg RF					ISTD					
I M2-6:2FTS	Avg RF	4.7826	5.2431	4.3586	5.1275	4.1057	4.3768	4.4165	3.9518	4.5453	10.210
T 6:2FTS	Avg RF					ISTD					
I M2-8:2FTS	Avg RF	3.7748	3.4657	3.2963	3.7842	3.2603	3.7467	3.5928	2.9455	3.4833	8.620
T 8:2FTS	Avg RF					ISTD					
I M3-MeFOSAA	Avg RF	1.0153	0.9432	0.9047	0.8848	0.8702	0.9330	0.9316	0.9889	0.9340	5.289
T MeFOSAA	Avg RF					ISTD					
I M3-HFO-DA	Avg RF	1.0284	1.0684	0.9800	0.9488	0.9150	0.9766	1.0335	0.9775	0.9910	5.012
T HFO-DA	Avg RF	14.81	14.13	13.50	13.08	12.46	14.20	13.96	13.74	13.74	5.276
T ADONA	Avg RF	5.7183	5.6995	5.0011	5.0675	4.8841	5.5151	5.2672	4.9633	5.2645	6.428
T 9CH-PF3ONS	Avg RF	3.1245	3.0883	2.9091	2.8061	2.8358	3.1482	2.9479	2.8740	2.9667	4.555
T 11CH-PF3OUds	Avg RF					ISTD					
I M5-EFOSAA	Avg RF	0.8329	0.8637	0.7425	0.8466	0.7201	0.8037	0.8940	0.7963	0.8125	7.297
T EFOSAA	Avg RF					ISTD					
I M7-MeFOSE	Avg RF	1.1260	1.1226	1.0666	1.0349	1.0308	1.1329	1.1379	1.1869	1.1048	4.984
T MeFOSE	Avg RF					ISTD					
I M9-EFOSE	Avg RF	1.0292	1.0696	1.0035	0.9650	0.9938	0.9978	0.9963	0.9926	1.0060	3.089
T EFOSE	Avg RF					ISTD					

Generated at 9:09 AM on 10/9/2023

Page 2 of 3

Initial Calibration Summary

Job Number: FC10247
 Account: AECOM AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample: S6Q367-ICC367
 Lab FileID: 6Q25943.D

Initial Calibration Report

Compound	Curve Fit	1	2	3	4	5	6	7	8	Avg RF	%RSD
I M5-EFOSA	Avg RF	1.2633	1.3167	1.1871	1.1290	1.1505	1.2583	1.2258	1.2866	1.2272	5.418
T EtFOSA											
I M3-MeFOSA	Avg RF	1.1343	1.3434	1.1220	1.2169	1.1343	1.1762	1.1231	1.0208	1.1589	8.032
T MeFOSA											
I 13C4-PFOS											
S d3-MeFOSAA	Avg RF	1.1585	1.0334	1.1533	1.1623	1.1277	1.1373	1.0322	0.9924	1.0996	6.237
S 13C8-PFOS	Avg RF	1.1078	1.0613	0.9846	1.1683	1.0939	1.0996	1.0847	1.0798	1.0798	4.997
S d5-EFOSAA	Avg RF	1.0143	0.8942	0.9366	0.9289	0.9518	0.9775	0.8779	0.9566	0.9422	4.642
S 13C8-FOSA	Avg RF	2.0727	2.0395	1.9587	2.1619	2.0597	2.0462	2.1124	2.0631	2.0631	2.844
S d7-MeFOSE	Avg RF	0.6733	0.6637	0.6499	0.7074	0.6764	0.6659	0.6502	0.6403	0.6659	3.133
S d3-MeFOSE	Avg RF	0.5782	0.5554	0.5713	0.5903	0.5868	0.6092	0.6109	0.6837	0.5982	6.551
S d9-EFOSE	Avg RF	0.8220	0.7832	0.7715	0.8196	0.7745	0.7902	0.7833	0.7874	0.7915	2.417
S d5-EFOSA	Avg RF	0.6496	0.6061	0.6208	0.6925	0.6495	0.6306	0.6430	0.6257	0.6397	4.076
I 13C3-PFBA											
S 13C4-PFBA	Avg RF	1.2064	1.2144	1.2065	1.2059	1.2098	1.2109	1.2061	1.1954	1.2069	0.460
I 18O2-PFHxS											
S 13C2-4:2FTS	Avg RF	0.1411	0.1492	0.1470	0.1498	0.1422	0.1337	0.1346	0.1292	0.1408	5.468
S 13C3-PFBS	Avg RF	2.7580	2.7838	2.7472	3.0933	2.8948	2.8603	2.8087	2.7155	2.8327	4.263
S 13C2-6:2FTS	Avg RF	0.2117	0.2077	0.2201	0.2138	0.2224	0.2139	0.1971	0.1895	0.2095	5.348
S 13C3-PFHxS	Avg RF	1.5027	1.5160	1.5286	1.7103	1.5949	1.5824	1.7043	1.5697	1.5886	5.039
S 13C2-8:2FTS	Avg RF	0.2236	0.2193	0.2237	0.2194	0.2360	0.1933	0.1979	0.2122	0.2157	6.557
I 13C4-PFOA											
S 13C8-PFOA	Avg RF	0.8716	0.8580	0.8631	0.8880	0.8058	0.9024	0.8739	0.8724	0.8669	3.273
I 13C2-PFDA											
S 13C6-PFDA	Avg RF	1.0481	1.0831	0.9568	1.0546	0.9917	1.1312	1.1144	1.0415	1.0527	5.559
S 13C7-PFUDA	Avg RF	1.1675	1.2305	1.1154	1.1302	1.0906	1.1812	1.1464	1.0423	1.1380	5.074
S 13C2-PFDODA	Avg RF	1.1989	1.2241	1.2111	1.2543	1.1771	1.3452	1.3009	1.2550	1.2458	4.467
S 13C2-PFTDA	Avg RF	0.3998	0.4371	0.3918	0.4336	0.3972	0.4387	0.4455	0.4363	0.4225	5.228
I 13C5-PFNA											
S 13C9-PFNA	Avg RF	0.9948	0.9899	1.1108	1.0039	0.9858	1.0018	1.0919	1.0474	1.0283	4.780
I 13C2-PFHxA											
S 13C5-PPFA	Avg RF	0.5680	0.5643	0.5882	0.5617	0.5829	0.5809	0.5654	0.5446	0.5657	2.169
S 13C5-PFHxA	Avg RF	1.0163	1.0537	1.0117	1.0040	1.0870	1.0690	1.0349	0.9932	1.0337	3.229
S 13C3-HFPO-DA	Avg RF	0.1693	0.1723	0.1654	0.1770	0.1806	0.1860	0.1748	0.1699	0.1744	3.833
S 13C4-PFHxA	Avg RF	1.0560	1.0136	0.9777	1.0336	1.0163	1.0186	1.0274	0.9501	1.0117	3.282

(RedFont and #) = Outlier Flag; (I) = Internal Standard; (T) = Target; (S) = Surrogate; (M) = Matrix Spike

Initial Calibration Verification

Job Number: FC10247
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample: S6Q367-ICV367
 Lab FileID: 6Q25949.D

Continuing Calibration Report

Batch: D:\MassHunter\Data\100823_1633_S6Q367\S6Q367.batch.bin

Level ID: Calibration File

1:D:\MassHunter\Data\100823_1633_S6Q367\6Q25940.d
 2:D:\MassHunter\Data\100823_1633_S6Q367\6Q25941.d
 3:D:\MassHunter\Data\100823_1633_S6Q367\6Q25942.d
 4:D:\MassHunter\Data\100823_1633_S6Q367\6Q25943.d
 5:D:\MassHunter\Data\100823_1633_S6Q367\6Q25944.d
 6:D:\MassHunter\Data\100823_1633_S6Q367\6Q25945.d
 7:D:\MassHunter\Data\100823_1633_S6Q367\6Q25946.d
 8:D:\MassHunter\Data\100823_1633_S6Q367\6Q25947.d

Data File: 6Q25949
 Type : QC
 Level : 4

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
13C2-4:2FTS	5.000	5.366	7.3	107.3
13C2-6:2FTS	5.000	5.153	3.1	103.1
13C2-8:2FTS	5.000	4.959	-0.8	99.2
13C2-PFDoDA	1.250	1.252	0.1	100.1
13C2-PFTeDA	1.250	1.233	-1.3	98.7
13C3-PFBS	2.500	2.483	-0.7	99.3
13C3-PFHxS	2.500	2.513	0.5	100.5
13C4-PFBA	10.000	9.919	-0.8	99.2
13C4-PFHpA	2.500	2.586	3.5	103.5
13C5-PFHxA	2.500	2.468	-1.3	98.7
13C5-PFPeA	5.000	5.080	1.6	101.6
13C6-PFDA	1.250	1.202	-3.9	96.1
13C7-PFUnDA	1.250	1.285	2.8	102.8
13C8-FOSA	2.500	2.498	-0.1	99.9
13C8-PFOA	2.500	2.626	5.0	105.0
13C8-PFOS	2.500	2.385	-4.6	95.4
13C9-PFNA	1.250	1.350	8.0	108.0
4:2FTS	9.375	9.504	1.4	101.4
6:2FTS	9.500	9.907	4.3	104.3
8:2FTS	9.600	10.108	5.3	105.3
d3-MeFOSAA	5.000	4.782	-4.4	95.6
EtFOSAA	2.500	2.418	-3.3	96.7
FOSA	2.500	2.541	1.6	101.6
MeFOSAA	2.500	2.632	5.3	105.3
PFBA	10.000	10.187	1.9	101.9
PFBS	2.218	2.296	3.5	103.5
PFDA	2.500	2.674	7.0	107.0
PFDoDA	2.500	2.569	2.7	102.7
PFDS	2.413	2.593	7.5	107.5
PFHpA	2.500	2.440	-2.4	97.6
PFHpS	2.383	2.562	7.5	107.5
PFHxA	2.500	2.598	3.9	103.9
PFHxS	2.285	2.246	-1.7	98.3
PFNA	2.500	2.454	-1.9	98.1
PFNS	2.405	2.399	-0.3	99.7
PFOA	2.500	2.392	-4.3	95.7
PFOS	2.320	2.360	1.7	101.7

Initial Calibration Verification

Job Number: FC10247
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample: S6Q367-ICV367
 Lab FileID: 6Q25949.D

PFPeA	5.000	4.980	-0.4	99.6
PFPeS	2.353	2.376	1.0	101.0
PFTeDA	2.500	2.668	6.7	106.7
PFTTrDA	2.500	2.601	4.0	104.0
PFUnDA	2.500	2.435	-2.6	97.4
M4-PFBA	---	--ISTD--		
M5-PFPeA	---	--ISTD--		
M5-PFHxA	---	--ISTD--		
M4-PFHpA	---	--ISTD--		
M8-PFOA	---	--ISTD--		
M9-PFNA	---	--ISTD--		
M6-PFDA	---	--ISTD--		
M7-PFUnDA	---	--ISTD--		
M2-PFDoDA	---	--ISTD--		
M2-PFTeDA	---	--ISTD--		
M8-FOSA	---	--ISTD--		
M3-PFBS	---	--ISTD--		
M3-PFHxS	---	--ISTD--		
M8-PFOS	---	--ISTD--		
M2-4:2FTS	---	--ISTD--		
M2-6:2FTS	---	--ISTD--		
M2-8:2FTS	---	--ISTD--		
M3-MeFOSAA	---	--ISTD--		
11C1-PF3OUdS	4.725	4.644	-1.7	98.3
13C3-HFPO-DA	10.000	10.328	3.3	103.3
9C1-PF3ONS	4.675	4.764	1.9	101.9
ADONA	4.725	4.621	-2.2	97.8
HFPO-DA	5.000	5.021	0.4	100.4
M3-HFPO-DA	---	--ISTD--		
3:3FTCA	12.480	12.197	-2.3	97.7
5:3FTCA	62.400	64.794	3.8	103.8
7:3FTCA	62.400	62.089	-0.5	99.5
d3-MeFOSA	2.500	2.351	-6.0	94.0
M5-EtFOSAA	---	--ISTD--		
M7-MeFOSE	---	--ISTD--		
M9-EtFOSE	---	--ISTD--		
M5-EtFOSA	---	--ISTD--		
EtFOSA	5.000	4.887	-2.3	97.7
EtFOSE	12.500	13.004	4.0	104.0
MeFOSA	5.000	5.411	8.2	108.2
MeFOSE	12.500	12.241	-2.1	97.9
PFDoDS	2.425	2.543	4.9	104.9
M3-MeFOSA	---	--ISTD--		
d5-EtFOSAA	5.000	5.006	0.1	100.1
d7-MeFOSE	25.000	24.760	-1.0	99.0
d9-EtFOSE	25.000	23.821	-4.7	95.3
d5-EtFOSA	2.500	2.517	0.7	100.7
NFDHA	5.000	5.034	0.7	100.7
PFMBA	5.000	5.025	0.5	100.5
PFMPA	5.000	4.998	0.0	100.0
13C4-PFOS	---	--ISTD--		
13C3-PFBA	---	--ISTD--		
18O2-PFHxS	---	--ISTD--		
13C4-PFOA	---	--ISTD--		
13C2-PFDA	---	--ISTD--		
13C5-PFNA	---	--ISTD--		
13C2-PFHxA	---	--ISTD--		
PFEEESA	4.450	4.582	3.0	103.0

CC Criteria: +/- 30%

Initial Calibration Verification

Job Number: FC10247
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample: S6Q367-ICV367
 Lab FileID: 6Q25950.D

Continuing Calibration Report

Batch: D:\MassHunter\Data\100823_1633_S6Q367\S6Q367.batch.bin

Level ID: Calibration File

1:D:\MassHunter\Data\100823_1633_S6Q367\6Q25940.d
 2:D:\MassHunter\Data\100823_1633_S6Q367\6Q25941.d
 3:D:\MassHunter\Data\100823_1633_S6Q367\6Q25942.d
 4:D:\MassHunter\Data\100823_1633_S6Q367\6Q25943.d
 5:D:\MassHunter\Data\100823_1633_S6Q367\6Q25944.d
 6:D:\MassHunter\Data\100823_1633_S6Q367\6Q25945.d
 7:D:\MassHunter\Data\100823_1633_S6Q367\6Q25946.d
 8:D:\MassHunter\Data\100823_1633_S6Q367\6Q25947.d

Data File: 6Q25950
 Type : QC
 Level : 20

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
13C2-4:2FTS	5.000	5.584	11.7	111.7
13C2-6:2FTS	5.000	5.340	6.8	106.8
13C2-8:2FTS	5.000	5.456	9.1	109.1
13C2-PFDoDA	1.250	1.266	1.3	101.3
13C2-PFTeDA	1.250	1.221	-2.3	97.7
13C3-PFBS	2.500	2.592	3.7	103.7
13C3-PFHxS	2.500	2.550	2.0	102.0
13C4-PFBA	10.000	10.042	0.4	100.4
13C4-PFHpA	2.500	2.395	-4.2	95.8
13C5-PFHxA	2.500	2.530	1.2	101.2
13C5-PFPeA	5.000	5.077	1.5	101.5
13C6-PFDA	1.250	1.197	-4.3	95.7
13C7-PFUnDA	1.250	1.219	-2.4	97.6
13C8-FOSA	2.500	2.290	-8.4	91.6
13C8-PFOA	2.500	2.430	-2.8	97.2
13C8-PFOS	2.500	2.358	-5.7	94.3
13C9-PFNA	1.250	1.200	-4.0	96.0
4:2FTS	20.000	19.915	-0.4	99.6
6:2FTS	20.000	21.019	5.1	105.1
8:2FTS	20.000	18.532	-7.3	92.7
d3-MeFOSAA	5.000	4.830	-3.4	96.6
EtFOSAA	20.000	18.532	-7.3	92.7
FOSA	20.000	19.359	-3.2	96.8
MeFOSAA	20.000	19.320	-3.4	96.6
PFBA	20.000	18.444	-7.8	92.2
PFBS	20.000	19.421	-2.9	97.1
PFDA	20.000	19.624	-1.9	98.1
PFDoDA	20.000	17.396	-13.0	87.0
PFDS	20.000	18.869	-5.7	94.3
PFHpA	20.000	19.656	-1.7	98.3
PFHpS	20.000	19.298	-3.5	96.5
PFHxA	20.000	19.475	-2.6	97.4
PFHxS	20.000	19.554	-2.2	97.8
PFNA	20.000	20.428	2.1	102.1
PFNS	20.000	18.435	-7.8	92.2
PFOA	20.000	17.913	-10.4	89.6
PFOS	20.000	17.686	-11.6	88.4

Initial Calibration Verification

Job Number: FC10247
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample: S6Q367-ICV367
 Lab FileID: 6Q25950.D

PFPeA	20.000	19.260	-3.7	96.3
PFPeS	20.000	20.604	3.0	103.0
PFTeDA	20.000	19.028	-4.9	95.1
PFTTrDA	20.000	16.858	-15.7	84.3
PFUnDA	20.000	17.791	-11.0	89.0
M4-PFBA	---	--ISTD--		
M5-PFPeA	---	--ISTD--		
M5-PFHxA	---	--ISTD--		
M4-PFHpA	---	--ISTD--		
M8-PFOA	---	--ISTD--		
M9-PFNA	---	--ISTD--		
M6-PFDA	---	--ISTD--		
M7-PFUnDA	---	--ISTD--		
M2-PFDoDA	---	--ISTD--		
M2-PFTeDA	---	--ISTD--		
M8-FOSA	---	--ISTD--		
M3-PFBS	---	--ISTD--		
M3-PFHxS	---	--ISTD--		
M8-PFOS	---	--ISTD--		
M2-4:2FTS	---	--ISTD--		
M2-6:2FTS	---	--ISTD--		
M2-8:2FTS	---	--ISTD--		
M3-MeFOSAA	---	--ISTD--		
11C1-PF3OUdS	20.000	20.437	2.2	102.2
13C3-HFPO-DA	10.000	9.720	-2.8	97.2
9C1-PF3ONS	20.000	18.749	-6.3	93.7
ADONA	20.000	18.266	-8.7	91.3
HFPO-DA	20.000	18.361	-8.2	91.8
M3-HFPO-DA	---	--ISTD--		
3:3FTCA	20.000	17.879	-10.6	89.4
5:3FTCA	20.000	19.412	-2.9	97.1
7:3FTCA	20.000	17.743	-11.3	88.7
d3-MeFOSA	2.500	2.253	-9.9	90.1
M5-EtFOSAA	---	--ISTD--		
M7-MeFOSE	---	--ISTD--		
M9-EtFOSE	---	--ISTD--		
M5-EtFOSA	---	--ISTD--		
EtFOSA	20.000	16.107	-19.5	80.5
EtFOSE	100.000	99.581	-0.4	99.6
MeFOSA	20.000	18.375	-8.1	91.9
MeFOSE	100.000	108.172	8.2	108.2
PFDoDS	20.000	17.615	-11.9	88.1
M3-MeFOSA	---	--ISTD--		
d5-EtFOSAA	5.000	4.779	-4.4	95.6
d7-MeFOSE	25.000	22.302	-10.8	89.2
d9-EtFOSE	25.000	23.709	-5.2	94.8
d5-EtFOSA	2.500	2.359	-5.6	94.4
NFDHA	20.000	18.862	-5.7	94.3
PFMBA	20.000	18.092	-9.5	90.5
PFMPA	20.000	17.931	-10.3	89.7
13C4-PFOS	---	--ISTD--		
13C3-PFBA	---	--ISTD--		
18O2-PFHxS	---	--ISTD--		
13C4-PFOA	---	--ISTD--		
13C2-PFDA	---	--ISTD--		
13C5-PFNA	---	--ISTD--		
13C2-PFHxA	---	--ISTD--		
PFEESA	20.000	16.023	-19.9	80.1

CC Criteria: +/- 30%

Continuing Calibration Summary

Job Number: FC10247
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample: S6Q370-CC367
 Lab FileID: 6Q26260.D

Continuing Calibration Report

Batch: D:\MassHunter\Data\101223_1633_S6Q370\s6q370.batch.bin

Level ID: Calibration File

1:D:\MassHunter\Data\100823_1633_S6Q367\6Q25940.d
 2:D:\MassHunter\Data\100823_1633_S6Q367\6Q25941.d
 3:D:\MassHunter\Data\100823_1633_S6Q367\6Q25942.d
 4:D:\MassHunter\Data\100823_1633_S6Q367\6Q25943.d
 5:D:\MassHunter\Data\100823_1633_S6Q367\6Q25944.d
 6:D:\MassHunter\Data\100823_1633_S6Q367\6Q25945.d
 7:D:\MassHunter\Data\100823_1633_S6Q367\6Q25946.d
 8:D:\MassHunter\Data\100823_1633_S6Q367\6Q25947.d

Data File: 6Q26260
 Type : QC
 Level : 1

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
13C2-4:2FTS	5.000	5.963	19.3	119.3
13C2-6:2FTS	5.000	5.869	17.4	117.4
13C2-8:2FTS	5.000	5.689	13.8	113.8
13C2-PFDoDA	1.250	1.142	-8.7	91.3
13C2-PFTeDA	1.250	1.170	-6.4	93.6
13C3-PFBS	2.500	2.617	4.7	104.7
13C3-PFHxS	2.500	2.512	0.5	100.5
13C4-PFBA	10.000	9.886	-1.1	98.9
13C4-PFHpA	2.500	2.428	-2.9	97.1
13C5-PFHxA	2.500	2.474	-1.0	99.0
13C5-PFPeA	5.000	4.864	-2.7	97.3
13C6-PFDA	1.250	1.228	-1.8	98.2
13C7-PFUnDA	1.250	1.225	-2.0	98.0
13C8-FOSA	2.500	2.482	-0.7	99.3
13C8-PFOA	2.500	2.526	1.1	101.1
13C8-PFOS	2.500	2.544	1.7	101.7
13C9-PFNA	1.250	1.216	-2.8	97.2
4:2FTS	0.750	0.842	12.3	112.3
6:2FTS	0.760	0.813	6.9	106.9
8:2FTS	0.768	0.764	-0.5	99.5
d3-MeFOSAA	5.000	5.113	2.3	102.3
EtFOSAA	0.200	0.218	8.9	108.9
FOSA	0.200	0.221	10.3	110.3
MeFOSAA	0.200	0.202	0.9	100.9
PFBA	0.800	0.830	3.7	103.7
PFBS	0.177	0.183	3.3	103.3
PFDA	0.200	0.234	16.8	116.8
PFDoDA	0.200	0.213	6.3	106.3
PFDS	0.193	0.190	-1.4	98.6
PFHpA	0.200	0.215	7.7	107.7
PFHpS	0.191	0.211	10.4	110.4
PFHxA	0.200	0.206	3.2	103.2
PFHxS	0.183	0.185	1.2	101.2
PFNA	0.200	0.212	6.2	106.2
PFNS	0.192	0.190	-0.8	99.2
PFOA	0.200	0.245	22.3	122.3
PFOS	0.186	0.164	-12.0	88.0

Continuing Calibration Summary

Job Number: FC10247
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample: S6Q370-CC367
 Lab FileID: 6Q26260.D

PFPeA	0.400	0.413	3.4	103.4
PFPeS	0.188	0.209	11.1	111.1
PFTeDA	0.200	0.205	2.7	102.7
PFTTrDA	0.200	0.198	-1.2	98.8
PFUnDA	0.200	0.206	2.9	102.9
M4-PFBA	---	--ISTD--		
M5-PFPeA	---	--ISTD--		
M5-PFHxA	---	--ISTD--		
M4-PFHpA	---	--ISTD--		
M8-PFOA	---	--ISTD--		
M9-PFNA	---	--ISTD--		
M6-PFDA	---	--ISTD--		
M7-PFUnDA	---	--ISTD--		
M2-PFDoDA	---	--ISTD--		
M2-PFTeDA	---	--ISTD--		
M8-FOSA	---	--ISTD--		
M3-PFBS	---	--ISTD--		
M3-PFHxS	---	--ISTD--		
M8-PFOS	---	--ISTD--		
M2-4:2FTS	---	--ISTD--		
M2-6:2FTS	---	--ISTD--		
M2-8:2FTS	---	--ISTD--		
M3-MeFOSAA	---	--ISTD--		
11C1-PF3OUdS	0.378	0.387	2.4	102.4
13C3-HFPO-DA	10.000	9.685	-3.1	96.9
9C1-PF3ONS	0.374	0.387	3.4	103.4
ADONA	0.378	0.381	0.9	100.9
HFPO-DA	0.400	0.400	-0.1	99.9
M3-HFPO-DA	---	--ISTD--		
3:3FTCA	0.998	0.943	-5.5	94.5
5:3FTCA	4.992	5.069	1.6	101.6
7:3FTCA	4.992	5.005	0.3	100.3
d3-MeFOSA	2.500	2.381	-4.8	95.2
M5-EtFOSAA	---	--ISTD--		
M7-MeFOSE	---	--ISTD--		
M9-EtFOSE	---	--ISTD--		
M5-EtFOSA	---	--ISTD--		
EtFOSA	0.400	0.391	-2.3	97.7
EtFOSE	1.000	1.018	1.8	101.8
MeFOSA	0.400	0.444	11.1	111.1
MeFOSE	1.000	1.014	1.4	101.4
PFDoDS	0.194	0.203	4.5	104.5
M3-MeFOSA	---	--ISTD--		
d5-EtFOSAA	5.000	5.291	5.8	105.8
d7-MeFOSE	25.000	24.924	-0.3	99.7
d9-EtFOSE	25.000	24.551	-1.8	98.2
d5-EtFOSA	2.500	2.511	0.5	100.5
NFDHA	0.400	0.396	-1.1	98.9
PFMBA	0.400	0.414	3.6	103.6
PFMPA	0.400	0.393	-1.8	98.2
13C4-PFOS	---	--ISTD--		
13C3-PFBA	---	--ISTD--		
18O2-PFHxS	---	--ISTD--		
13C4-PFOA	---	--ISTD--		
13C2-PFDA	---	--ISTD--		
13C5-PFNA	---	--ISTD--		
13C2-PFHxA	---	--ISTD--		
PFEEESA	0.356	0.354	-0.7	99.3

CC Criteria: +/- 30%

Continuing Calibration Summary

Job Number: FC10247
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample: S6Q370-CC367
 Lab FileID: 6Q26270.D

Continuing Calibration Report

Batch: D:\MassHunter\Data\101223_1633_S6Q370\s6q370.batch.bin

Level ID: Calibration File

1:D:\MassHunter\Data\100823_1633_S6Q367\6Q25940.d
 2:D:\MassHunter\Data\100823_1633_S6Q367\6Q25941.d
 3:D:\MassHunter\Data\100823_1633_S6Q367\6Q25942.d
 4:D:\MassHunter\Data\100823_1633_S6Q367\6Q25943.d
 5:D:\MassHunter\Data\100823_1633_S6Q367\6Q25944.d
 6:D:\MassHunter\Data\100823_1633_S6Q367\6Q25945.d
 7:D:\MassHunter\Data\100823_1633_S6Q367\6Q25946.d
 8:D:\MassHunter\Data\100823_1633_S6Q367\6Q25947.d

Data File: 6Q26270
 Type : QC
 Level : 4

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
13C2-4:2FTS	5.000	5.921	18.4	118.4
13C2-6:2FTS	5.000	5.664	13.3	113.3
13C2-8:2FTS	5.000	5.674	13.5	113.5
13C2-PFDoDA	1.250	1.183	-5.4	94.6
13C2-PFTeDA	1.250	1.307	4.6	104.6
13C3-PFBS	2.500	2.546	1.8	101.8
13C3-PFHxS	2.500	2.423	-3.1	96.9
13C4-PFBA	10.000	9.764	-2.4	97.6
13C4-PFHpA	2.500	2.284	-8.6	91.4
13C5-PFHxA	2.500	2.420	-3.2	96.8
13C5-PFPeA	5.000	4.907	-1.9	98.1
13C6-PFDA	1.250	1.298	3.9	103.9
13C7-PFUnDA	1.250	1.282	2.5	102.5
13C8-FOSA	2.500	2.519	0.7	100.7
13C8-PFOA	2.500	2.542	1.7	101.7
13C8-PFOS	2.500	2.448	-2.1	97.9
13C9-PFNA	1.250	1.334	6.7	106.7
4:2FTS	9.375	7.230	-22.9	77.1
6:2FTS	9.500	7.539	-20.6	79.4
8:2FTS	9.600	7.450	-22.4	77.6
d3-MeFOSAA	5.000	5.286	5.7	105.7
EtFOSAA	2.500	2.038	-18.5	81.5
FOSA	2.500	1.910	-23.6	76.4
MeFOSAA	2.500	1.948	-22.1	77.9
PFBA	10.000	8.054	-19.5	80.5
PFBS	2.218	1.820	-17.9	82.1
PFDA	2.500	1.878	-24.9	75.1
PFDoDA	2.500	2.069	-17.3	82.7
PFDS	2.413	1.931	-20.0	80.0
PFHpA	2.500	2.030	-18.8	81.2
PFHpS	2.383	2.040	-14.4	85.6
PFHxA	2.500	1.895	-24.2	75.8
PFHxS	2.285	1.849	-19.1	80.9
PFNA	2.500	1.860	-25.6	74.4
PFNS	2.405	1.904	-20.8	79.2
PFOA	2.500	1.987	-20.5	79.5
PFOS	2.320	1.926	-17.0	83.0

Continuing Calibration Summary

Job Number: FC10247
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample: S6Q370-CC367
 Lab FileID: 6Q26270.D

PFPeA	5.000	3.753	-24.9	75.1
PFPeS	2.353	1.996	-15.2	84.8
PFTeDA	2.500	1.703	# -31.9	68.1
PFTrDA	2.500	2.084	-16.6	83.4
PFUnDA	2.500	1.932	-22.7	77.3
M4-PFBA	---	--ISTD--		
M5-PFPeA	---	--ISTD--		
M5-PFHxA	---	--ISTD--		
M4-PFHpA	---	--ISTD--		
M8-PFOA	---	--ISTD--		
M9-PFNA	---	--ISTD--		
M6-PFDA	---	--ISTD--		
M7-PFUnDA	---	--ISTD--		
M2-PFDoDA	---	--ISTD--		
M2-PFTeDA	---	--ISTD--		
M8-FOSA	---	--ISTD--		
M3-PFBS	---	--ISTD--		
M3-PFHxS	---	--ISTD--		
M8-PFOS	---	--ISTD--		
M2-4:2FTS	---	--ISTD--		
M2-6:2FTS	---	--ISTD--		
M2-8:2FTS	---	--ISTD--		
M3-MeFOSAA	---	--ISTD--		
11C1-PF3OUdS	4.725	3.411	-27.8	72.2
13C3-HFPO-DA	10.000	9.517	-4.8	95.2
9C1-PF3ONS	4.675	3.544	-24.2	75.8
ADONA	4.725	3.635	-23.1	76.9
HFPO-DA	5.000	3.909	-21.8	78.2
M3-HFPO-DA	---	--ISTD--		
3:3FTCA	12.480	9.324	-25.3	74.7
5:3FTCA	62.400	46.467	-25.5	74.5
7:3FTCA	62.400	48.427	-22.4	77.6
d3-MeFOSA	2.500	2.313	-7.5	92.5
M5-EtFOSAA	---	--ISTD--		
M7-MeFOSE	---	--ISTD--		
M9-EtFOSE	---	--ISTD--		
M5-EtFOSA	---	--ISTD--		
EtFOSA	5.000	3.942	-21.2	78.8
EtFOSE	12.500	9.970	-20.2	79.8
MeFOSA	5.000	4.128	-17.4	82.6
MeFOSE	12.500	9.621	-23.0	77.0
PFDoDS	2.425	1.940	-20.0	80.0
M3-MeFOSA	---	--ISTD--		
d5-EtFOSAA	5.000	5.046	0.9	100.9
d7-MeFOSE	25.000	23.543	-5.8	94.2
d9-EtFOSE	25.000	23.752	-5.0	95.0
d5-EtFOSA	2.500	2.363	-5.5	94.5
NFDHA	5.000	3.913	-21.7	78.3
PFMBA	5.000	3.757	-24.9	75.1
PFMPA	5.000	3.730	-25.4	74.6
13C4-PFOS	---	--ISTD--		
13C3-PFBA	---	--ISTD--		
18O2-PFHxS	---	--ISTD--		
13C4-PFOA	---	--ISTD--		
13C2-PFDA	---	--ISTD--		
13C5-PFNA	---	--ISTD--		
13C2-PFHxA	---	--ISTD--		
PFEESA	4.450	3.306	-25.7	74.3

CC Criteria: +/- 30%

Continuing Calibration Summary

Job Number: FC10247
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample: S6Q370-CC367
 Lab FileID: 6Q26278.D

Continuing Calibration Report

Batch: D:\MassHunter\Data\101223_1633_S6Q370\s6q370.batch.bin

Level ID: Calibration File

1:D:\MassHunter\Data\100823_1633_S6Q367\6Q25940.d
 2:D:\MassHunter\Data\100823_1633_S6Q367\6Q25941.d
 3:D:\MassHunter\Data\100823_1633_S6Q367\6Q25942.d
 4:D:\MassHunter\Data\100823_1633_S6Q367\6Q25943.d
 5:D:\MassHunter\Data\100823_1633_S6Q367\6Q25944.d
 6:D:\MassHunter\Data\100823_1633_S6Q367\6Q25945.d
 7:D:\MassHunter\Data\100823_1633_S6Q367\6Q25946.d
 8:D:\MassHunter\Data\100823_1633_S6Q367\6Q25947.d

Data File: 6Q26278
 Type : QC
 Level : 4

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
13C2-4:2FTS	5.000	5.999	20.0	120.0
13C2-6:2FTS	5.000	5.739	14.8	114.8
13C2-8:2FTS	5.000	5.344	6.9	106.9
13C2-PFDoDA	1.250	1.245	-0.4	99.6
13C2-PFTeDA	1.250	1.273	1.9	101.9
13C3-PFBS	2.500	2.601	4.0	104.0
13C3-PFHxS	2.500	2.507	0.3	100.3
13C4-PFBA	10.000	9.987	-0.1	99.9
13C4-PFHpA	2.500	2.443	-2.3	97.7
13C5-PFHxA	2.500	2.442	-2.3	97.7
13C5-PFPeA	5.000	4.925	-1.5	98.5
13C6-PFDA	1.250	1.370	9.6	109.6
13C7-PFUnDA	1.250	1.270	1.6	101.6
13C8-FOSA	2.500	2.384	-4.6	95.4
13C8-PFOA	2.500	2.334	-6.7	93.3
13C8-PFOS	2.500	2.521	0.8	100.8
13C9-PFNA	1.250	1.233	-1.4	98.6
4:2FTS	9.375	8.003	-14.6	85.4
6:2FTS	9.500	7.726	-18.7	81.3
8:2FTS	9.600	7.103	-26.0	74.0
d3-MeFOSAA	5.000	5.609	12.2	112.2
EtFOSAA	2.500	1.998	-20.1	79.9
FOSA	2.500	2.122	-15.1	84.9
MeFOSAA	2.500	1.817	-27.3	72.7
PFBA	10.000	8.243	-17.6	82.4
PFBS	2.218	1.864	-16.0	84.0
PFDA	2.500	1.925	-23.0	77.0
PFDoDA	2.500	1.962	-21.5	78.5
PFDS	2.413	1.853	-23.2	76.8
PFHpA	2.500	2.004	-19.8	80.2
PFHpS	2.383	1.961	-17.7	82.3
PFHxA	2.500	2.014	-19.4	80.6
PFHxS	2.285	1.887	-17.4	82.6
PFNA	2.500	2.081	-16.8	83.2
PFNS	2.405	1.894	-21.3	78.7
PFOA	2.500	2.029	-18.8	81.2
PFOS	2.320	1.825	-21.3	78.7

Continuing Calibration Summary

Job Number: FC10247
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample: S6Q370-CC367
 Lab FileID: 6Q26278.D

PFPeA	5.000	4.007	-19.9	80.1
PFPeS	2.353	1.986	-15.6	84.4
PFTeDA	2.500	2.012	-19.5	80.5
PFTrDA	2.500	2.091	-16.4	83.6
PFUnDA	2.500	2.094	-16.3	83.7
M4-PFBA	---	--ISTD--		
M5-PFPeA	---	--ISTD--		
M5-PFHxA	---	--ISTD--		
M4-PFHpA	---	--ISTD--		
M8-PFOA	---	--ISTD--		
M9-PFNA	---	--ISTD--		
M6-PFDA	---	--ISTD--		
M7-PFUnDA	---	--ISTD--		
M2-PFDoDA	---	--ISTD--		
M2-PFTeDA	---	--ISTD--		
M8-FOSA	---	--ISTD--		
M3-PFBS	---	--ISTD--		
M3-PFHxS	---	--ISTD--		
M8-PFOS	---	--ISTD--		
M2-4:2FTS	---	--ISTD--		
M2-6:2FTS	---	--ISTD--		
M2-8:2FTS	---	--ISTD--		
M3-MeFOSAA	---	--ISTD--		
11C1-PF3OUdS	4.725	3.400	-28.0	72.0
13C3-HFPO-DA	10.000	10.160	1.6	101.6
9C1-PF3ONS	4.675	3.663	-21.6	78.4
ADONA	4.725	3.815	-19.3	80.7
HFPO-DA	5.000	4.091	-18.2	81.8
M3-HFPO-DA	---	--ISTD--		
3:3FTCA	12.480	9.489	-24.0	76.0
5:3FTCA	62.400	51.982	-16.7	83.3
7:3FTCA	62.400	51.283	-17.8	82.2
d3-MeFOSA	2.500	2.297	-8.1	91.9
M5-EtFOSAA	---	--ISTD--		
M7-MeFOSE	---	--ISTD--		
M9-EtFOSE	---	--ISTD--		
M5-EtFOSA	---	--ISTD--		
EtFOSA	5.000	4.135	-17.3	82.7
EtFOSE	12.500	10.129	-19.0	81.0
MeFOSA	5.000	4.300	-14.0	86.0
MeFOSE	12.500	9.299	-25.6	74.4
PFDoDS	2.425	1.994	-17.8	82.2
M3-MeFOSA	---	--ISTD--		
d5-EtFOSAA	5.000	4.990	-0.2	99.8
d7-MeFOSE	25.000	23.936	-4.3	95.7
d9-EtFOSE	25.000	23.645	-5.4	94.6
d5-EtFOSA	2.500	2.285	-8.6	91.4
NFDHA	5.000	4.038	-19.2	80.8
PFMBA	5.000	4.004	-19.9	80.1
PFMPA	5.000	3.984	-20.3	79.7
13C4-PFOS	---	--ISTD--		
13C3-PFBA	---	--ISTD--		
18O2-PFHxS	---	--ISTD--		
13C4-PFOA	---	--ISTD--		
13C2-PFDA	---	--ISTD--		
13C5-PFNA	---	--ISTD--		
13C2-PFHxA	---	--ISTD--		
PFEESA	4.450	3.578	-19.6	80.4

CC Criteria: +/- 30%

Continuing Calibration Summary

Job Number: FC10247
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample: S6Q370-CC367
 Lab FileID: 6Q26289.D

Continuing Calibration Report

Batch: D:\MassHunter\Data\101223_1633_S6Q370\s6q370.batch.bin

Level ID: Calibration File

1:D:\MassHunter\Data\100823_1633_S6Q367\6Q25940.d
 2:D:\MassHunter\Data\100823_1633_S6Q367\6Q25941.d
 3:D:\MassHunter\Data\100823_1633_S6Q367\6Q25942.d
 4:D:\MassHunter\Data\100823_1633_S6Q367\6Q25943.d
 5:D:\MassHunter\Data\100823_1633_S6Q367\6Q25944.d
 6:D:\MassHunter\Data\100823_1633_S6Q367\6Q25945.d
 7:D:\MassHunter\Data\100823_1633_S6Q367\6Q25946.d
 8:D:\MassHunter\Data\100823_1633_S6Q367\6Q25947.d

Data File: 6Q26289
 Type : QC
 Level : 4

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
13C2-4:2FTS	5.000	5.845	16.9	116.9
13C2-6:2FTS	5.000	5.878	17.6	117.6
13C2-8:2FTS	5.000	5.634	12.7	112.7
13C2-PFDoDA	1.250	1.163	-7.0	93.0
13C2-PFTeDA	1.250	1.155	-7.6	92.4
13C3-PFBS	2.500	2.561	2.5	102.5
13C3-PFHxS	2.500	2.604	4.1	104.1
13C4-PFBA	10.000	9.808	-1.9	98.1
13C4-PFHpA	2.500	2.509	0.4	100.4
13C5-PFHxA	2.500	2.466	-1.4	98.6
13C5-PFPeA	5.000	5.022	0.4	100.4
13C6-PFDA	1.250	1.264	1.1	101.1
13C7-PFUnDA	1.250	1.238	-0.9	99.1
13C8-FOSA	2.500	2.486	-0.6	99.4
13C8-PFOA	2.500	2.468	-1.3	98.7
13C8-PFOS	2.500	2.407	-3.7	96.3
13C9-PFNA	1.250	1.302	4.2	104.2
4:2FTS	9.375	7.778	-17.0	83.0
6:2FTS	9.500	7.528	-20.8	79.2
8:2FTS	9.600	7.357	-23.4	76.6
d3-MeFOSAA	5.000	5.236	4.7	104.7
EtFOSAA	2.500	2.247	-10.1	89.9
FOSA	2.500	1.977	-20.9	79.1
MeFOSAA	2.500	1.994	-20.2	79.8
PFBA	10.000	8.282	-17.2	82.8
PFBS	2.218	1.817	-18.1	81.9
PFDA	2.500	2.003	-19.9	80.1
PFDoDA	2.500	2.118	-15.3	84.7
PFDS	2.413	1.946	-19.3	80.7
PFHpA	2.500	1.932	-22.7	77.3
PFHpS	2.383	2.017	-15.3	84.7
PFHxA	2.500	2.056	-17.8	82.2
PFHxS	2.285	1.775	-22.3	77.7
PFNA	2.500	2.030	-18.8	81.2
PFNS	2.405	2.033	-15.5	84.5
PFOA	2.500	2.087	-16.5	83.5
PFOS	2.320	1.946	-16.1	83.9

Continuing Calibration Summary

Job Number: FC10247
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample: S6Q370-CC367
 Lab FileID: 6Q26289.D

PFPeA	5.000	3.918	-21.6	78.4
PFPeS	2.353	1.932	-17.9	82.1
PFTeDA	2.500	2.042	-18.3	81.7
PFTrDA	2.500	2.212	-11.5	88.5
PFUnDA	2.500	2.018	-19.3	80.7
M4-PFBA	---	--ISTD--		
M5-PFPeA	---	--ISTD--		
M5-PFHxA	---	--ISTD--		
M4-PFHpA	---	--ISTD--		
M8-PFOA	---	--ISTD--		
M9-PFNA	---	--ISTD--		
M6-PFDA	---	--ISTD--		
M7-PFUnDA	---	--ISTD--		
M2-PFDoDA	---	--ISTD--		
M2-PFTeDA	---	--ISTD--		
M8-FOSA	---	--ISTD--		
M3-PFBS	---	--ISTD--		
M3-PFHxS	---	--ISTD--		
M8-PFOS	---	--ISTD--		
M2-4:2FTS	---	--ISTD--		
M2-6:2FTS	---	--ISTD--		
M2-8:2FTS	---	--ISTD--		
M3-MeFOSAA	---	--ISTD--		
11C1-PF3OUdS	4.725	3.594	-23.9	76.1
13C3-HFPO-DA	10.000	10.008	0.1	100.1
9C1-PF3ONS	4.675	3.675	-21.4	78.6
ADONA	4.725	3.602	-23.8	76.2
HFPO-DA	5.000	3.841	-23.2	76.8
M3-HFPO-DA	---	--ISTD--		
3:3FTCA	12.480	9.682	-22.4	77.6
5:3FTCA	62.400	47.272	-24.2	75.8
7:3FTCA	62.400	51.037	-18.2	81.8
d3-MeFOSA	2.500	2.269	-9.3	90.7
M5-EtFOSAA	---	--ISTD--		
M7-MeFOSE	---	--ISTD--		
M9-EtFOSE	---	--ISTD--		
M5-EtFOSA	---	--ISTD--		
EtFOSA	5.000	3.978	-20.4	79.6
EtFOSE	12.500	10.485	-16.1	83.9
MeFOSA	5.000	4.388	-12.2	87.8
MeFOSE	12.500	9.750	-22.0	78.0
PFDoDS	2.425	2.009	-17.1	82.9
M3-MeFOSA	---	--ISTD--		
d5-EtFOSAA	5.000	4.988	-0.2	99.8
d7-MeFOSE	25.000	23.273	-6.9	93.1
d9-EtFOSE	25.000	22.983	-8.1	91.9
d5-EtFOSA	2.500	2.296	-8.2	91.8
NFDHA	5.000	4.025	-19.5	80.5
PFMBA	5.000	3.896	-22.1	77.9
PFMPA	5.000	3.868	-22.6	77.4
13C4-PFOS	---	--ISTD--		
13C3-PFBA	---	--ISTD--		
18O2-PFHxS	---	--ISTD--		
13C4-PFOA	---	--ISTD--		
13C2-PFDA	---	--ISTD--		
13C5-PFNA	---	--ISTD--		
13C2-PFHxA	---	--ISTD--		
PFEESA	4.450	3.526	-20.8	79.2

CC Criteria: +/- 30%

Continuing Calibration Summary

Job Number: FC10247
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample: S6Q370-CC367
 Lab FileID: 6Q26297.D

Continuing Calibration Report

Batch: D:\MassHunter\Data\101223_1633_S6Q370\s6q370.batch.bin

Level ID: Calibration File

1:D:\MassHunter\Data\100823_1633_S6Q367\6Q25940.d
 2:D:\MassHunter\Data\100823_1633_S6Q367\6Q25941.d
 3:D:\MassHunter\Data\100823_1633_S6Q367\6Q25942.d
 4:D:\MassHunter\Data\100823_1633_S6Q367\6Q25943.d
 5:D:\MassHunter\Data\100823_1633_S6Q367\6Q25944.d
 6:D:\MassHunter\Data\100823_1633_S6Q367\6Q25945.d
 7:D:\MassHunter\Data\100823_1633_S6Q367\6Q25946.d
 8:D:\MassHunter\Data\100823_1633_S6Q367\6Q25947.d

Data File: 6Q26297
 Type : QC
 Level : 4

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
13C2-4:2FTS	5.000	5.833	16.7	116.7
13C2-6:2FTS	5.000	5.681	13.6	113.6
13C2-8:2FTS	5.000	5.761	15.2	115.2
13C2-PFDoDA	1.250	1.306	4.5	104.5
13C2-PFTeDA	1.250	1.233	-1.3	98.7
13C3-PFBS	2.500	2.621	4.9	104.9
13C3-PFHxS	2.500	2.458	-1.7	98.3
13C4-PFBA	10.000	9.857	-1.4	98.6
13C4-PFHpA	2.500	2.509	0.4	100.4
13C5-PFHxA	2.500	2.460	-1.6	98.4
13C5-PFPeA	5.000	5.064	1.3	101.3
13C6-PFDA	1.250	1.312	4.9	104.9
13C7-PFUnDA	1.250	1.261	0.9	100.9
13C8-FOSA	2.500	2.463	-1.5	98.5
13C8-PFOA	2.500	2.526	1.0	101.0
13C8-PFOS	2.500	2.426	-3.0	97.0
13C9-PFNA	1.250	1.250	0.0	100.0
4:2FTS	9.375	7.911	-15.6	84.4
6:2FTS	9.500	7.859	-17.3	82.7
8:2FTS	9.600	7.099	-26.1	73.9
d3-MeFOSAA	5.000	5.102	2.0	102.0
EtFOSAA	2.500	1.914	-23.4	76.6
FOSA	2.500	1.973	-21.1	78.9
MeFOSAA	2.500	2.016	-19.4	80.6
PFBA	10.000	8.172	-18.3	81.7
PFBS	2.218	1.761	-20.6	79.4
PFDA	2.500	2.033	-18.7	81.3
PFDoDA	2.500	2.083	-16.7	83.3
PFDS	2.413	1.815	-24.8	75.2
PFHpA	2.500	1.984	-20.6	79.4
PFHpS	2.383	1.974	-17.2	82.8
PFHxA	2.500	2.010	-19.6	80.4
PFHxS	2.285	1.882	-17.7	82.3
PFNA	2.500	1.937	-22.5	77.5
PFNS	2.405	1.855	-22.9	77.1
PFOA	2.500	1.960	-21.6	78.4
PFOS	2.320	1.908	-17.8	82.2

Continuing Calibration Summary

Job Number: FC10247
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample: S6Q370-CC367
 Lab FileID: 6Q26297.D

PFPeA	5.000	3.975	-20.5	79.5
PFPeS	2.353	2.038	-13.4	86.6
PFTeDA	2.500	2.089	-16.4	83.6
PFTTrDA	2.500	1.955	-21.8	78.2
PFUnDA	2.500	2.081	-16.8	83.2
M4-PFBA	---	--ISTD--		
M5-PFPeA	---	--ISTD--		
M5-PFHxA	---	--ISTD--		
M4-PFHpA	---	--ISTD--		
M8-PFOA	---	--ISTD--		
M9-PFNA	---	--ISTD--		
M6-PFDA	---	--ISTD--		
M7-PFUnDA	---	--ISTD--		
M2-PFDoDA	---	--ISTD--		
M2-PFTeDA	---	--ISTD--		
M8-FOSA	---	--ISTD--		
M3-PFBS	---	--ISTD--		
M3-PFHxS	---	--ISTD--		
M8-PFOS	---	--ISTD--		
M2-4:2FTS	---	--ISTD--		
M2-6:2FTS	---	--ISTD--		
M2-8:2FTS	---	--ISTD--		
M3-MeFOSAA	---	--ISTD--		
11C1-PF3OUdS	4.725	3.408	-27.9	72.1
13C3-HFPO-DA	10.000	9.922	-0.8	99.2
9C1-PF3ONS	4.675	3.793	-18.9	81.1
ADONA	4.725	3.803	-19.5	80.5
HFPO-DA	5.000	4.262	-14.8	85.2
M3-HFPO-DA	---	--ISTD--		
3:3FTCA	12.480	9.610	-23.0	77.0
5:3FTCA	62.400	52.108	-16.5	83.5
7:3FTCA	62.400	52.490	-15.9	84.1
d3-MeFOSA	2.500	2.196	-12.2	87.8
M5-EtFOSAA	---	--ISTD--		
M7-MeFOSE	---	--ISTD--		
M9-EtFOSE	---	--ISTD--		
M5-EtFOSA	---	--ISTD--		
EtFOSA	5.000	3.825	-23.5	76.5
EtFOSE	12.500	10.209	-18.3	81.7
MeFOSA	5.000	4.132	-17.4	82.6
MeFOSE	12.500	9.493	-24.1	75.9
PFDoDS	2.425	1.887	-22.2	77.8
M3-MeFOSA	---	--ISTD--		
d5-EtFOSAA	5.000	4.803	-3.9	96.1
d7-MeFOSE	25.000	22.845	-8.6	91.4
d9-EtFOSE	25.000	22.579	-9.7	90.3
d5-EtFOSA	2.500	2.333	-6.7	93.3
NFDHA	5.000	4.186	-16.3	83.7
PFMBA	5.000	3.977	-20.5	79.5
PFMPA	5.000	3.912	-21.8	78.2
13C4-PFOS	---	--ISTD--		
13C3-PFBA	---	--ISTD--		
18O2-PFHxS	---	--ISTD--		
13C4-PFOA	---	--ISTD--		
13C2-PFDA	---	--ISTD--		
13C5-PFNA	---	--ISTD--		
13C2-PFHxA	---	--ISTD--		
PFEESA	4.450	3.661	-17.7	82.3

CC Criteria: +/- 30%

Continuing Calibration Summary

Job Number: FC10247
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample: S6Q370-CC367
 Lab FileID: 6Q26345.D

Continuing Calibration Report

Batch: D:\MassHunter\Data\101223_1633_S6Q370\s6q370.batch.bin

Level ID: Calibration File

1:D:\MassHunter\Data\100823_1633_S6Q367\6Q25940.d
 2:D:\MassHunter\Data\100823_1633_S6Q367\6Q25941.d
 3:D:\MassHunter\Data\100823_1633_S6Q367\6Q25942.d
 4:D:\MassHunter\Data\100823_1633_S6Q367\6Q25943.d
 5:D:\MassHunter\Data\100823_1633_S6Q367\6Q25944.d
 6:D:\MassHunter\Data\100823_1633_S6Q367\6Q25945.d
 7:D:\MassHunter\Data\100823_1633_S6Q367\6Q25946.d
 8:D:\MassHunter\Data\100823_1633_S6Q367\6Q25947.d

Data File: 6Q26345
 Type : QC
 Level : 4

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
13C2-4:2FTS	5.000	5.844	16.9	116.9
13C2-6:2FTS	5.000	5.158	3.2	103.2
13C2-8:2FTS	5.000	5.395	7.9	107.9
13C2-PFDoDA	1.250	1.302	4.1	104.1
13C2-PFTeDA	1.250	1.274	1.9	101.9
13C3-PFBS	2.500	2.477	-0.9	99.1
13C3-PFHxS	2.500	2.465	-1.4	98.6
13C4-PFBA	10.000	9.778	-2.2	97.8
13C4-PFHpA	2.500	2.349	-6.0	94.0
13C5-PFHxA	2.500	2.527	1.1	101.1
13C5-PFPeA	5.000	4.976	-0.5	99.5
13C6-PFDA	1.250	1.243	-0.6	99.4
13C7-PFUnDA	1.250	1.277	2.2	102.2
13C8-FOSA	2.500	2.684	7.3	107.3
13C8-PFOA	2.500	2.424	-3.1	96.9
13C8-PFOS	2.500	2.547	1.9	101.9
13C9-PFNA	1.250	1.289	3.1	103.1
4:2FTS	9.375	7.425	-20.8	79.2
6:2FTS	9.500	8.137	-14.3	85.7
8:2FTS	9.600	7.773	-19.0	81.0
d3-MeFOSAA	5.000	5.790	15.8	115.8
EtFOSAA	2.500	1.807	-27.7	72.3
FOSA	2.500	2.010	-19.6	80.4
MeFOSAA	2.500	1.858	-25.7	74.3
PFBA	10.000	8.210	-17.9	82.1
PFBS	2.218	1.858	-16.2	83.8
PFDA	2.500	2.033	-18.7	81.3
PFDoDA	2.500	1.930	-22.8	77.2
PFDS	2.413	1.912	-20.8	79.2
PFHpA	2.500	2.137	-14.5	85.5
PFHpS	2.383	1.953	-18.0	82.0
PFHxA	2.500	1.980	-20.8	79.2
PFHxS	2.285	1.868	-18.2	81.8
PFNA	2.500	1.984	-20.6	79.4
PFNS	2.405	1.781	-25.9	74.1
PFOA	2.500	1.980	-20.8	79.2
PFOS	2.320	1.907	-17.8	82.2

Continuing Calibration Summary

Job Number: FC10247
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample: S6Q370-CC367
 Lab FileID: 6Q26345.D

PFPeA	5.000	3.983	-20.3	79.7
PFPeS	2.353	1.980	-15.8	84.2
PFTeDA	2.500	2.160	-13.6	86.4
PFTTrDA	2.500	2.072	-17.1	82.9
PFUnDA	2.500	2.021	-19.2	80.8
M4-PFBA	---	--ISTD--		
M5-PFPeA	---	--ISTD--		
M5-PFHxA	---	--ISTD--		
M4-PFHpA	---	--ISTD--		
M8-PFOA	---	--ISTD--		
M9-PFNA	---	--ISTD--		
M6-PFDA	---	--ISTD--		
M7-PFUnDA	---	--ISTD--		
M2-PFDoDA	---	--ISTD--		
M2-PFTeDA	---	--ISTD--		
M8-FOSA	---	--ISTD--		
M3-PFBS	---	--ISTD--		
M3-PFHxS	---	--ISTD--		
M8-PFOS	---	--ISTD--		
M2-4:2FTS	---	--ISTD--		
M2-6:2FTS	---	--ISTD--		
M2-8:2FTS	---	--ISTD--		
M3-MeFOSAA	---	--ISTD--		
11C1-PF3OUdS	4.725	3.670	-22.3	77.7
13C3-HFPO-DA	10.000	9.674	-3.3	96.7
9C1-PF3ONS	4.675	3.836	-17.9	82.1
ADONA	4.725	3.880	-17.9	82.1
HFPO-DA	5.000	4.029	-19.4	80.6
M3-HFPO-DA	---	--ISTD--		
3:3FTCA	12.480	9.699	-22.3	77.7
5:3FTCA	62.400	48.957	-21.5	78.5
7:3FTCA	62.400	50.876	-18.5	81.5
d3-MeFOSA	2.500	2.282	-8.7	91.3
M5-EtFOSAA	---	--ISTD--		
M7-MeFOSE	---	--ISTD--		
M9-EtFOSE	---	--ISTD--		
M5-EtFOSA	---	--ISTD--		
EtFOSA	5.000	4.009	-19.8	80.2
EtFOSE	12.500	10.267	-17.9	82.1
MeFOSA	5.000	4.444	-11.1	88.9
MeFOSE	12.500	9.075	-27.4	72.6
PFDoDS	2.425	1.987	-18.1	81.9
M3-MeFOSA	---	--ISTD--		
d5-EtFOSAA	5.000	5.741	14.8	114.8
d7-MeFOSE	25.000	26.298	5.2	105.2
d9-EtFOSE	25.000	25.832	3.3	103.3
d5-EtFOSA	2.500	2.369	-5.2	94.8
NFDHA	5.000	3.893	-22.1	77.9
PFMBA	5.000	3.960	-20.8	79.2
PFMPA	5.000	3.889	-22.2	77.8
13C4-PFOS	---	--ISTD--		
13C3-PFBA	---	--ISTD--		
18O2-PFHxS	---	--ISTD--		
13C4-PFOA	---	--ISTD--		
13C2-PFDA	---	--ISTD--		
13C5-PFNA	---	--ISTD--		
13C2-PFHxA	---	--ISTD--		
PFEESA	4.450	3.468	-22.1	77.9

CC Criteria: +/- 30%

Continuing Calibration Summary

Job Number: FC10247
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample: S6Q370-CC367
 Lab FileID: 6Q26351.D

Continuing Calibration Report

Batch: D:\MassHunter\Data\101223_1633_S6Q370\s6q370.batch.bin

Level ID: Calibration File

1:D:\MassHunter\Data\100823_1633_S6Q367\6Q25940.d
 2:D:\MassHunter\Data\100823_1633_S6Q367\6Q25941.d
 3:D:\MassHunter\Data\100823_1633_S6Q367\6Q25942.d
 4:D:\MassHunter\Data\100823_1633_S6Q367\6Q25943.d
 5:D:\MassHunter\Data\100823_1633_S6Q367\6Q25944.d
 6:D:\MassHunter\Data\100823_1633_S6Q367\6Q25945.d
 7:D:\MassHunter\Data\100823_1633_S6Q367\6Q25946.d
 8:D:\MassHunter\Data\100823_1633_S6Q367\6Q25947.d

Data File: 6Q26351
 Type : QC
 Level : 4

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
13C2-4:2FTS	5.000	5.784	15.7	115.7
13C2-6:2FTS	5.000	5.257	5.1	105.1
13C2-8:2FTS	5.000	5.676	13.5	113.5
13C2-PFDoDA	1.250	1.164	-6.9	93.1
13C2-PFTeDA	1.250	1.251	0.1	100.1
13C3-PFBS	2.500	2.592	3.7	103.7
13C3-PFHxS	2.500	2.608	4.3	104.3
13C4-PFBA	10.000	9.895	-1.1	98.9
13C4-PFHpA	2.500	2.431	-2.8	97.2
13C5-PFHxA	2.500	2.518	0.7	100.7
13C5-PFPeA	5.000	4.988	-0.2	99.8
13C6-PFDA	1.250	1.241	-0.8	99.2
13C7-PFUnDA	1.250	1.192	-4.7	95.3
13C8-FOSA	2.500	2.650	6.0	106.0
13C8-PFOA	2.500	2.607	4.3	104.3
13C8-PFOS	2.500	2.619	4.8	104.8
13C9-PFNA	1.250	1.336	6.9	106.9
4:2FTS	9.375	7.819	-16.6	83.4
6:2FTS	9.500	8.681	-8.6	91.4
8:2FTS	9.600	7.016	-26.9	73.1
d3-MeFOSAA	5.000	5.418	8.4	108.4
EtFOSAA	2.500	1.934	-22.6	77.4
FOSA	2.500	2.024	-19.0	81.0
MeFOSAA	2.500	2.065	-17.4	82.6
PFBA	10.000	8.151	-18.5	81.5
PFBS	2.218	1.855	-16.4	83.6
PFDA	2.500	2.011	-19.5	80.5
PFDoDA	2.500	2.117	-15.3	84.7
PFDS	2.413	1.911	-20.8	79.2
PFHpA	2.500	2.075	-17.0	83.0
PFHpS	2.383	2.143	-10.1	89.9
PFHxA	2.500	2.028	-18.9	81.1
PFHxS	2.285	1.764	-22.8	77.2
PFNA	2.500	1.938	-22.5	77.5
PFNS	2.405	1.990	-17.3	82.7
PFOA	2.500	1.916	-23.4	76.6
PFOS	2.320	1.817	-21.7	78.3

Continuing Calibration Summary

Job Number: FC10247
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample: S6Q370-CC367
 Lab FileID: 6Q26351.D

PFPeA	5.000	4.026	-19.5	80.5
PFPeS	2.353	1.937	-17.7	82.3
PFTeDA	2.500	1.953	-21.9	78.1
PFTTrDA	2.500	2.174	-13.0	87.0
PFUnDA	2.500	2.082	-16.7	83.3
M4-PFBA	---	--ISTD--		
M5-PFPeA	---	--ISTD--		
M5-PFHxA	---	--ISTD--		
M4-PFHpA	---	--ISTD--		
M8-PFOA	---	--ISTD--		
M9-PFNA	---	--ISTD--		
M6-PFDA	---	--ISTD--		
M7-PFUnDA	---	--ISTD--		
M2-PFDoDA	---	--ISTD--		
M2-PFTeDA	---	--ISTD--		
M8-FOSA	---	--ISTD--		
M3-PFBS	---	--ISTD--		
M3-PFHxS	---	--ISTD--		
M8-PFOS	---	--ISTD--		
M2-4:2FTS	---	--ISTD--		
M2-6:2FTS	---	--ISTD--		
M2-8:2FTS	---	--ISTD--		
M3-MeFOSAA	---	--ISTD--		
11C1-PF3OUdS	4.725	3.471	-26.5	73.5
13C3-HFPO-DA	10.000	10.058	0.6	100.6
9C1-PF3ONS	4.675	3.624	-22.5	77.5
ADONA	4.725	3.804	-19.5	80.5
HFPO-DA	5.000	4.080	-18.4	81.6
M3-HFPO-DA	---	--ISTD--		
3:3FTCA	12.480	9.672	-22.5	77.5
5:3FTCA	62.400	47.425	-24.0	76.0
7:3FTCA	62.400	51.307	-17.8	82.2
d3-MeFOSA	2.500	2.350	-6.0	94.0
M5-EtFOSAA	---	--ISTD--		
M7-MeFOSE	---	--ISTD--		
M9-EtFOSE	---	--ISTD--		
M5-EtFOSA	---	--ISTD--		
EtFOSA	5.000	3.870	-22.6	77.4
EtFOSE	12.500	10.274	-17.8	82.2
MeFOSA	5.000	4.283	-14.3	85.7
MeFOSE	12.500	9.334	-25.3	74.7
PFDoDS	2.425	1.894	-21.9	78.1
M3-MeFOSA	---	--ISTD--		
d5-EtFOSAA	5.000	5.339	6.8	106.8
d7-MeFOSE	25.000	25.311	1.2	101.2
d9-EtFOSE	25.000	24.770	-0.9	99.1
d5-EtFOSA	2.500	2.534	1.3	101.3
NFDHA	5.000	3.979	-20.4	79.6
PFMBA	5.000	3.968	-20.6	79.4
PFMPA	5.000	3.939	-21.2	78.8
13C4-PFOS	---	--ISTD--		
13C3-PFBA	---	--ISTD--		
18O2-PFHxS	---	--ISTD--		
13C4-PFOA	---	--ISTD--		
13C2-PFDA	---	--ISTD--		
13C5-PFNA	---	--ISTD--		
13C2-PFHxA	---	--ISTD--		
PFEESA	4.450	3.501	-21.3	78.7

CC Criteria: +/- 30%

Continuing Calibration Summary

Job Number: FC10247
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample: S6Q370-CC367
 Lab FileID: 6Q26352.D

Continuing Calibration Report

Batch: D:\MassHunter\Data\101223_1633_S6Q370\s6q370.batch.bin

Level ID: Calibration File

1:D:\MassHunter\Data\100823_1633_S6Q367\6Q25940.d
 2:D:\MassHunter\Data\100823_1633_S6Q367\6Q25941.d
 3:D:\MassHunter\Data\100823_1633_S6Q367\6Q25942.d
 4:D:\MassHunter\Data\100823_1633_S6Q367\6Q25943.d
 5:D:\MassHunter\Data\100823_1633_S6Q367\6Q25944.d
 6:D:\MassHunter\Data\100823_1633_S6Q367\6Q25945.d
 7:D:\MassHunter\Data\100823_1633_S6Q367\6Q25946.d
 8:D:\MassHunter\Data\100823_1633_S6Q367\6Q25947.d

Data File: 6Q26352
 Type : QC
 Level : 1

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
13C2-4:2FTS	5.000	6.302	26.0	126.0
13C2-6:2FTS	5.000	5.832	16.6	116.6
13C2-8:2FTS	5.000	5.424	8.5	108.5
13C2-PFDoDA	1.250	1.372	9.7	109.7
13C2-PFTeDA	1.250	1.406	12.5	112.5
13C3-PFBS	2.500	2.600	4.0	104.0
13C3-PFHxS	2.500	2.635	5.4	105.4
13C4-PFBA	10.000	9.769	-2.3	97.7
13C4-PFHpA	2.500	2.415	-3.4	96.6
13C5-PFHxA	2.500	2.511	0.4	100.4
13C5-PFPeA	5.000	4.996	-0.1	99.9
13C6-PFDA	1.250	1.432	14.5	114.5
13C7-PFUnDA	1.250	1.341	7.3	107.3
13C8-FOSA	2.500	2.449	-2.0	98.0
13C8-PFOA	2.500	2.407	-3.7	96.3
13C8-PFOS	2.500	2.360	-5.6	94.4
13C9-PFNA	1.250	1.292	3.4	103.4
4:2FTS	0.750	0.805	7.3	107.3
6:2FTS	0.760	0.781	2.8	102.8
8:2FTS	0.768	0.828	7.9	107.9
d3-MeFOSAA	5.000	5.227	4.5	104.5
EtFOSAA	0.200	0.215	7.6	107.6
FOSA	0.200	0.205	2.6	102.6
MeFOSAA	0.200	0.193	-3.7	96.3
PFBA	0.800	0.810	1.2	101.2
PFBS	0.177	0.193	9.1	109.1
PFDA	0.200	0.216	8.0	108.0
PFDoDA	0.200	0.178	-11.2	88.8
PFDS	0.193	0.184	-4.6	95.4
PFHpA	0.200	0.197	-1.6	98.4
PFHpS	0.191	0.205	7.4	107.4
PFHxA	0.200	0.200	0.0	100.0
PFHxS	0.183	0.190	3.8	103.8
PFNA	0.200	0.212	5.9	105.9
PFNS	0.192	0.188	-2.0	98.0
PFOA	0.200	0.196	-1.9	98.1
PFOS	0.186	0.196	5.4	105.4

Continuing Calibration Summary

Job Number: FC10247
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample: S6Q370-CC367
 Lab FileID: 6Q26352.D

PFPeA	0.400	0.405	1.3	101.3
PFPeS	0.188	0.195	3.7	103.7
PFTeDA	0.200	0.187	-6.7	93.3
PFTrDA	0.200	0.210	5.2	105.2
PFUnDA	0.200	0.212	5.9	105.9
M4-PFBA	---	--ISTD--		
M5-PFPeA	---	--ISTD--		
M5-PFHxA	---	--ISTD--		
M4-PFHpA	---	--ISTD--		
M8-PFOA	---	--ISTD--		
M9-PFNA	---	--ISTD--		
M6-PFDA	---	--ISTD--		
M7-PFUnDA	---	--ISTD--		
M2-PFDoDA	---	--ISTD--		
M2-PFTeDA	---	--ISTD--		
M8-FOSA	---	--ISTD--		
M3-PFBS	---	--ISTD--		
M3-PFHxS	---	--ISTD--		
M8-PFOS	---	--ISTD--		
M2-4:2FTS	---	--ISTD--		
M2-6:2FTS	---	--ISTD--		
M2-8:2FTS	---	--ISTD--		
M3-MeFOSAA	---	--ISTD--		
11C1-PF3OUdS	0.378	0.371	-1.8	98.2
13C3-HFPO-DA	10.000	10.036	0.4	100.4
9C1-PF3ONS	0.374	0.349	-6.6	93.4
ADONA	0.378	0.385	1.9	101.9
HFPO-DA	0.400	0.422	5.4	105.4
M3-HFPO-DA	---	--ISTD--		
3:3FTCA	0.998	0.998	0.0	100.0
5:3FTCA	4.992	5.204	4.2	104.2
7:3FTCA	4.992	4.854	-2.8	97.2
d3-MeFOSA	2.500	2.326	-7.0	93.0
M5-EtFOSAA	---	--ISTD--		
M7-MeFOSE	---	--ISTD--		
M9-EtFOSE	---	--ISTD--		
M5-EtFOSA	---	--ISTD--		
EtFOSA	0.400	0.401	0.3	100.3
EtFOSE	1.000	1.032	3.2	103.2
MeFOSA	0.400	0.420	4.9	104.9
MeFOSE	1.000	0.996	-0.4	99.6
PFDoDS	0.194	0.223	15.0	115.0
M3-MeFOSA	---	--ISTD--		
d5-EtFOSAA	5.000	4.756	-4.9	95.1
d7-MeFOSE	25.000	23.968	-4.1	95.9
d9-EtFOSE	25.000	23.312	-6.8	93.2
d5-EtFOSA	2.500	2.407	-3.7	96.3
NFDHA	0.400	0.391	-2.2	97.8
PFMBA	0.400	0.391	-2.1	97.9
PFMPA	0.400	0.401	0.2	100.2
13C4-PFOS	---	--ISTD--		
13C3-PFBA	---	--ISTD--		
18O2-PFHxS	---	--ISTD--		
13C4-PFOA	---	--ISTD--		
13C2-PFDA	---	--ISTD--		
13C5-PFNA	---	--ISTD--		
13C2-PFHxA	---	--ISTD--		
PFEEESA	0.356	0.340	-4.6	95.4

CC Criteria: +/- 30%

Run Sequence Report

Job Number: FC10247
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Run ID: S6Q367	Method: EPA DRAFT 1633	Instrument ID: GCMS6Q		
Lab Sample ID	Lab File ID	Date/Time Analyzed	Prep QC Batch	Client Sample ID
S6Q367-RT	6Q25937.D	10/08/23 14:04	n/a	Retention Time Marker
S6Q367-RT	6Q25938.D	10/08/23 14:34	n/a	Retention Time Marker
S6Q367-IC367	6Q25939.D	10/08/23 14:49	n/a	Mass Calibration Verification
S6Q367-IC367	6Q25940.D	10/08/23 15:03	n/a	Initial cal 1
S6Q367-IC367	6Q25941.D	10/08/23 15:17	n/a	Initial cal 2
S6Q367-IC367	6Q25942.D	10/08/23 15:32	n/a	Initial cal 3
S6Q367-ICC367	6Q25943.D	10/08/23 15:46	n/a	Initial cal 4
S6Q367-IC367	6Q25944.D	10/08/23 16:00	n/a	Initial cal 5
S6Q367-IC367	6Q25945.D	10/08/23 16:15	n/a	Initial cal 6
S6Q367-IC367	6Q25946.D	10/08/23 16:29	n/a	Initial cal 7
S6Q367-IC367	6Q25947.D	10/08/23 16:43	n/a	Initial cal 8
S6Q367-IBLK	6Q25948.D	10/08/23 16:57	n/a	Instrument Blank
S6Q367-IBLK	6Q25948.D	10/08/23 16:57	n/a	Instrument Blank
S6Q367-ICV367	6Q25949.D	10/08/23 17:12	n/a	Initial cal verification 4
S6Q367-ICV367	6Q25950.D	10/08/23 17:26	n/a	Initial cal verification 20
S6Q367-CC367	6Q25951.D	10/08/23 17:40	n/a	Continuing cal 4
S6Q367-CC367	6Q25952.D	10/08/23 17:55	n/a	Continuing cal 1.0LL
OP99404-BS	6Q25953.D	10/08/23 18:09	OP99404	Blank Spike
OP99404-LLBS	6Q25954.D	10/08/23 18:23	OP99404	Blank Spike
OP99404-MB	6Q25955.D	10/08/23 18:38	OP99404	Method Blank
FC10192-1	6Q25956.D	10/08/23 18:52	OP99404	(used for QC only; not part of job FC10247)
OP99404-MS	6Q25957.D	10/08/23 19:06	OP99404	Matrix Spike
FC10192-2	6Q25958.D	10/08/23 19:21	OP99404	(used for QC only; not part of job FC10247)
OP99404-DUP	6Q25959.D	10/08/23 19:35	OP99404	Duplicate
ZZZZZZ	6Q25960.D	10/08/23 19:49	OP99404	(unrelated sample)
S6Q367-CC367	6Q25961.D	10/08/23 20:04	n/a	Continuing cal 4
S6Q367-ICCB	6Q25962.D	10/08/23 20:18	n/a	Continuing Calibration Blank
OP99393-BS	6Q25963.D	10/08/23 20:32	OP99393	Blank Spike
OP99393-LLBS	6Q25964.D	10/08/23 20:47	OP99393	Blank Spike
OP99393-MB	6Q25965.D	10/08/23 21:01	OP99393	Method Blank
ZZZZZZ	6Q25966.D	10/08/23 21:15	OP99393	(unrelated sample)
ZZZZZZ	6Q25967.D	10/08/23 21:30	OP99393	(unrelated sample)
ZZZZZZ	6Q25968.D	10/08/23 21:44	OP99393	(unrelated sample)
ZZZZZZ	6Q25969.D	10/08/23 21:58	OP99393	(unrelated sample)
ZZZZZZ	6Q25970.D	10/08/23 22:13	OP99393	(unrelated sample)
ZZZZZZ	6Q25971.D	10/08/23 22:27	OP99393	(unrelated sample)
S6Q367-CC367	6Q25972.D	10/08/23 22:41	n/a	Continuing cal 4
S6Q367-ICCB	6Q25973.D	10/08/23 22:56	n/a	Continuing Calibration Blank
S6Q367-CC367	6Q25992.D	10/09/23 01:33	n/a	Continuing cal 4
S6Q367-ICCB	6Q25993.D	10/09/23 01:47	n/a	Continuing Calibration Blank
OP99269-BS	6Q25994.D	10/09/23 02:02	OP99269	Blank Spike
OP99269-LLBS	6Q25995.D	10/09/23 02:16	OP99269	Blank Spike
OP99269-MB	6Q25996.D	10/09/23 02:30	OP99269	Method Blank
ZZZZZZ	6Q25997.D	10/09/23 02:45	OP99269	(unrelated sample)
ZZZZZZ	6Q25998.D	10/09/23 02:59	OP99269	(unrelated sample)
ZZZZZZ	6Q25999.D	10/09/23 03:13	OP99269	(unrelated sample)

Run Sequence Report

Job Number: FC10247
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Run ID: S6Q367	Method: EPA DRAFT 1633	Instrument ID: GCMS6Q
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Lab Sample ID	Lab File ID	Date/Time Analyzed	Prep QC Batch	Client Sample ID
ZZZZZZ	6Q26000.D	10/09/23 03:28	OP99269	(unrelated sample)
FC9870-3	6Q26001.D	10/09/23 03:42	OP99269	(used for QC only; not part of job FC10247)
OP99269-MS	6Q26002.D	10/09/23 03:56	OP99269	Matrix Spike
OP99269-MSD	6Q26003.D	10/09/23 04:11	OP99269	Matrix Spike Duplicate
S6Q367-CC367	6Q26004.D	10/09/23 04:25	n/a	Continuing cal 4
S6Q367-ICCB	6Q26005.D	10/09/23 04:39	n/a	Continuing Calibration Blank
ZZZZZZ	6Q26006.D	10/09/23 04:54	OP99269	(unrelated sample)
ZZZZZZ	6Q26007.D	10/09/23 05:08	OP99269	(unrelated sample)
ZZZZZZ	6Q26008.D	10/09/23 05:22	OP99269	(unrelated sample)
ZZZZZZ	6Q26009.D	10/09/23 05:37	OP99269	(unrelated sample)
S6Q367-CC367	6Q26010.D	10/09/23 05:51	n/a	Continuing cal 4
S6Q367-ICCB	6Q26011.D	10/09/23 06:05	n/a	Continuing Calibration Blank
OP99272-BS	6Q26012.D	10/09/23 06:20	OP99272	Blank Spike
OP99272-LLBS	6Q26013.D	10/09/23 06:34	OP99272	Blank Spike
OP99272-MB	6Q26014.D	10/09/23 06:48	OP99272	Method Blank
ZZZZZZ	6Q26015.D	10/09/23 07:03	OP99272	(unrelated sample)
ZZZZZZ	6Q26016.D	10/09/23 07:17	OP99272	(unrelated sample)
ZZZZZZ	6Q26017.D	10/09/23 07:31	OP99272	(unrelated sample)
ZZZZZZ	6Q26018.D	10/09/23 07:45	OP99272	(unrelated sample)
FC9871-5	6Q26019.D	10/09/23 08:00	OP99272	(used for QC only; not part of job FC10247)
S6Q367-CC367	6Q26022.D	10/09/23 08:43	n/a	Continuing cal 4
S6Q367-ICCB	6Q26023.D	10/09/23 08:57	n/a	Continuing Calibration Blank
ZZZZZZ	6Q26024.D	10/09/23 09:36	OP99272	(unrelated sample)
OP99405-BS	6Q26025.D	10/09/23 09:52	OP99405	Blank Spike
OP99405-LLBS	6Q26026.D	10/09/23 10:07	OP99405	Blank Spike
OP99405-MB	6Q26027.D	10/09/23 10:21	OP99405	Method Blank
FC10063-2	6Q26028.D	10/09/23 10:35	OP99405	(used for QC only; not part of job FC10247)
OP99405-MS	6Q26029.D	10/09/23 10:50	OP99405	Matrix Spike
FC10063-3	6Q26030.D	10/09/23 11:04	OP99405	(used for QC only; not part of job FC10247)
OP99405-DUP	6Q26031.D	10/09/23 11:18	OP99405	Duplicate
ZZZZZZ	6Q26032.D	10/09/23 11:33	OP99405	(unrelated sample)
ZZZZZZ	6Q26033.D	10/09/23 11:47	OP99405	(unrelated sample)
S6Q367-CC367	6Q26034.D	10/09/23 12:01	n/a	Continuing cal 4
S6Q367-ICCB	6Q26035.D	10/09/23 12:16	n/a	Continuing Calibration Blank
OP99394-BS	6Q26036.D	10/09/23 12:30	OP99394	Blank Spike
OP99394-LLBS	6Q26037.D	10/09/23 12:44	OP99394	Blank Spike
OP99394-MB	6Q26038.D	10/09/23 13:04	OP99394	Method Blank
ZZZZZZ	6Q26039.D	10/09/23 13:19	OP99394	(unrelated sample)
FC9961-3	6Q26040.D	10/09/23 13:33	OP99394	(used for QC only; not part of job FC10247)
OP99394-MS	6Q26041.D	10/09/23 13:47	OP99394	Matrix Spike
OP99394-MSD	6Q26042.D	10/09/23 14:02	OP99394	Matrix Spike Duplicate
S6Q367-CC367	6Q26043.D	10/09/23 14:16	n/a	Continuing cal 4
S6Q367-ICCB	6Q26044.D	10/09/23 14:30	n/a	Continuing Calibration Blank
S6Q367-RT	6Q26045.D	10/09/23 14:45	n/a	Retention Time Marker
S6Q367-RT	6Q26046.D	10/09/23 14:59	n/a	Retention Time Marker
S6Q367-IBLK	6Q26048.D	10/09/23 15:28	n/a	Instrument Blank

Run Sequence Report

Job Number: FC10247
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Run ID: S6Q367	Method: EPA DRAFT 1633	Instrument ID: GCMS6Q
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Lab Sample ID	Lab File ID	Date/Time Analyzed	Prep QC Batch	Client Sample ID
S6Q367-IBLK	6Q26048.D	10/09/23 15:28	n/a	Instrument Blank
S6Q367-CC367	6Q26049.D	10/09/23 15:42	n/a	Continuing cal 4
S6Q367-CC367	6Q26050.D	10/09/23 15:56	n/a	Continuing cal 1.0LL
ZZZZZZ	6Q26051.D	10/09/23 16:11	OP99272	(unrelated sample)
ZZZZZZ	6Q26053.D	10/09/23 16:39	OP99272	(unrelated sample)
ZZZZZZ	6Q26054.D	10/09/23 16:54	OP99272	(unrelated sample)
ZZZZZZ	6Q26055.D	10/09/23 17:08	OP99272	(unrelated sample)
ZZZZZZ	6Q26056.D	10/09/23 17:22	OP99272	(unrelated sample)
ZZZZZZ	6Q26058.D	10/09/23 17:51	OP99272	(unrelated sample)
ZZZZZZ	6Q26059.D	10/09/23 18:05	OP99272	(unrelated sample)
S6Q367-CC367	6Q26060.D	10/09/23 18:20	n/a	Continuing cal 4
S6Q367-ICCB	6Q26061.D	10/09/23 18:34	n/a	Continuing Calibration Blank
ZZZZZZ	6Q26062.D	10/09/23 18:48	OP99272	(unrelated sample)
ZZZZZZ	6Q26063.D	10/09/23 19:03	OP99272	(unrelated sample)
ZZZZZZ	6Q26064.D	10/09/23 19:17	OP99272	(unrelated sample)
ZZZZZZ	6Q26065.D	10/09/23 19:31	OP99272	(unrelated sample)
ZZZZZZ	6Q26066.D	10/09/23 19:46	OP99272	(unrelated sample)
S6Q367-CC367	6Q26067.D	10/09/23 20:00	n/a	Continuing cal 4
S6Q367-ICCB	6Q26068.D	10/09/23 20:14	n/a	Continuing Calibration Blank
S6Q367-ICCB	6Q26068.D	10/09/23 20:14	n/a	Continuing Calibration Blank
ZZZZZZ	6Q26069.D	10/09/23 20:28	OP99300	(unrelated sample)
ZZZZZZ	6Q26070.D	10/09/23 20:43	OP99300	(unrelated sample)
ZZZZZZ	6Q26071.D	10/09/23 20:57	OP99300	(unrelated sample)
ZZZZZZ	6Q26072.D	10/09/23 21:11	OP99227	(unrelated sample)
ZZZZZZ	6Q26073.D	10/09/23 21:26	OP99203	(unrelated sample)
ZZZZZZ	6Q26074.D	10/09/23 21:40	OP99251	(unrelated sample)
ZZZZZZ	6Q26075.D	10/09/23 21:54	OP99251	(unrelated sample)
ZZZZZZ	6Q26076.D	10/09/23 22:09	OP99251	(unrelated sample)
S6Q367-CC367	6Q26079.D	10/09/23 22:52	n/a	Continuing cal 4
S6Q367-ICCB	6Q26080.D	10/09/23 23:06	n/a	Continuing Calibration Blank
S6Q367-ICCB	6Q26080.D	10/09/23 23:06	n/a	Continuing Calibration Blank
ZZZZZZ	6Q26087.D	10/10/23 00:46	OP99203	(unrelated sample)
ZZZZZZ	6Q26088.D	10/10/23 01:01	OP99203	(unrelated sample)
S6Q367-ECC367	6Q26089.D	10/10/23 01:15	n/a	Ending cal 4
S6Q367-ICCB	6Q26090.D	10/10/23 01:29	n/a	Continuing Calibration Blank
S6Q367-ICCB	6Q26090.D	10/10/23 01:29	n/a	Continuing Calibration Blank

Run Sequence Report

Job Number: FC10247
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Run ID: S6Q370	Method: EPA DRAFT 1633	Instrument ID: GCMS6Q
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Lab Sample ID	Lab File ID	Date/Time Analyzed	Prep QC Batch	Client Sample ID
S6Q370-RT	6Q26255.D	10/12/23 09:43	n/a	Retention Time Marker
S6Q370-RT	6Q26256.D	10/12/23 09:58	n/a	Retention Time Marker
S6Q370-IBLK	6Q26258.D	10/12/23 10:26	n/a	Instrument Blank
S6Q370-IBLK	6Q26258.D	10/12/23 10:26	n/a	Instrument Blank
S6Q370-CC367	6Q26259.D	10/12/23 10:40	n/a	Continuing cal 4
S6Q370-CC367	6Q26260.D	10/12/23 10:55	n/a	Continuing cal 1.0LL
S6Q370-CC367	6Q26270.D	10/12/23 13:19	n/a	Continuing cal 4
S6Q370-ICCB	6Q26271.D	10/12/23 13:34	n/a	Continuing Calibration Blank
S6Q370-CC367	6Q26278.D	10/12/23 15:16	n/a	Continuing cal 4
S6Q370-ICCB	6Q26279.D	10/12/23 15:33	n/a	Continuing Calibration Blank
OP99445-BS	6Q26280.D	10/12/23 15:47	OP99445	Blank Spike
OP99445-LLBS	6Q26281.D	10/12/23 16:02	OP99445	Blank Spike
OP99445-MB	6Q26282.D	10/12/23 16:16	OP99445	Method Blank
ZZZZZZ	6Q26283.D	10/12/23 16:30	OP99445	(unrelated sample)
ZZZZZZ	6Q26284.D	10/12/23 16:45	OP99445	(unrelated sample)
ZZZZZZ	6Q26285.D	10/12/23 16:59	OP99445	(unrelated sample)
ZZZZZZ	6Q26286.D	10/12/23 17:13	OP99445	(unrelated sample)
ZZZZZZ	6Q26287.D	10/12/23 17:28	OP99445	(unrelated sample)
ZZZZZZ	6Q26288.D	10/12/23 17:42	OP99445	(unrelated sample)
S6Q370-CC367	6Q26289.D	10/12/23 17:56	n/a	Continuing cal 4
S6Q370-ICCB	6Q26290.D	10/12/23 18:11	n/a	Continuing Calibration Blank
FC10290-5	6Q26291.D	10/12/23 18:25	OP99445	(used for QC only; not part of job FC10247)
OP99445-MS	6Q26292.D	10/12/23 18:39	OP99445	Matrix Spike
FC10290-6	6Q26293.D	10/12/23 18:54	OP99445	(used for QC only; not part of job FC10247)
OP99445-DUP	6Q26294.D	10/12/23 19:08	OP99445	Duplicate
ZZZZZZ	6Q26295.D	10/12/23 19:22	OP99445	(unrelated sample)
FC10247-1	6Q26296.D	10/12/23 19:37	OP99445	AF-RHMW17-WGN01LF-2310
S6Q370-CC367	6Q26297.D	10/12/23 19:51	n/a	Continuing cal 4
S6Q370-ICCB	6Q26298.D	10/12/23 20:05	n/a	Continuing Calibration Blank
OP99405-BS	6Q26299.D	10/12/23 20:20	OP99405	Blank Spike
OP99405-LLBS	6Q26300.D	10/12/23 20:34	OP99405	Blank Spike
OP99405-MB	6Q26301.D	10/12/23 20:48	OP99405	Method Blank
ZZZZZZ	6Q26302.D	10/12/23 21:03	OP99405	(unrelated sample)
ZZZZZZ	6Q26303.D	10/12/23 21:17	OP99405	(unrelated sample)
ZZZZZZ	6Q26304.D	10/12/23 21:31	OP99405	(unrelated sample)
ZZZZZZ	6Q26305.D	10/12/23 21:46	OP99405	(unrelated sample)
ZZZZZZ	6Q26306.D	10/12/23 22:00	OP99405	(unrelated sample)
ZZZZZZ	6Q26307.D	10/12/23 22:14	OP99405	(unrelated sample)
ZZZZZZ	6Q26308.D	10/12/23 22:29	OP99405	(unrelated sample)
S6Q370-CC367	6Q26309.D	10/12/23 22:43	n/a	Continuing cal 4
S6Q370-ICCB	6Q26310.D	10/12/23 22:57	n/a	Continuing Calibration Blank
S6Q370-ICCB	6Q26310.D	10/12/23 22:57	n/a	Continuing Calibration Blank
OP99330-BS	6Q26311.D	10/12/23 23:12	OP99330	Blank Spike
OP99330-LLBS	6Q26312.D	10/12/23 23:26	OP99330	Blank Spike
OP99330-MB	6Q26313.D	10/12/23 23:40	OP99330	Method Blank
FC9836-1	6Q26314.D	10/12/23 23:55	OP99330	(used for QC only; not part of job FC10247)

Run Sequence Report

Job Number: FC10247
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Run ID: S6Q370	Method: EPA DRAFT 1633	Instrument ID: GCMS6Q
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Lab Sample ID	Lab File ID	Date/Time Analyzed	Prep QC Batch	Client Sample ID
OP99330-MS	6Q26315.D	10/13/23 00:09	OP99330	Matrix Spike
OP99330-MSD	6Q26316.D	10/13/23 00:23	OP99330	Matrix Spike Duplicate
ZZZZZZ	6Q26317.D	10/13/23 00:38	OP99330	(unrelated sample)
ZZZZZZ	6Q26318.D	10/13/23 00:52	OP99330	(unrelated sample)
ZZZZZZ	6Q26319.D	10/13/23 01:06	OP99330	(unrelated sample)
ZZZZZZ	6Q26320.D	10/13/23 01:21	OP99330	(unrelated sample)
S6Q370-CC367	6Q26321.D	10/13/23 01:35	n/a	Continuing cal 4
S6Q370-ICCB	6Q26322.D	10/13/23 01:49	n/a	Continuing Calibration Blank
S6Q370-ICCB	6Q26322.D	10/13/23 01:49	n/a	Continuing Calibration Blank
ZZZZZZ	6Q26323.D	10/13/23 02:04	OP99330	(unrelated sample)
ZZZZZZ	6Q26324.D	10/13/23 02:18	OP99330	(unrelated sample)
ZZZZZZ	6Q26325.D	10/13/23 02:32	OP99330	(unrelated sample)
ZZZZZZ	6Q26326.D	10/13/23 02:47	OP99330	(unrelated sample)
ZZZZZZ	6Q26327.D	10/13/23 03:01	OP99330	(unrelated sample)
ZZZZZZ	6Q26328.D	10/13/23 03:15	OP99330	(unrelated sample)
ZZZZZZ	6Q26329.D	10/13/23 03:30	OP99330	(unrelated sample)
ZZZZZZ	6Q26330.D	10/13/23 03:44	OP99330	(unrelated sample)
ZZZZZZ	6Q26331.D	10/13/23 03:58	OP99330	(unrelated sample)
ZZZZZZ	6Q26332.D	10/13/23 04:12	OP99330	(unrelated sample)
S6Q370-CC367	6Q26333.D	10/13/23 04:27	n/a	Continuing cal 4
S6Q370-ICCB	6Q26334.D	10/13/23 04:41	n/a	Continuing Calibration Blank
S6Q370-ICCB	6Q26334.D	10/13/23 04:41	n/a	Continuing Calibration Blank
OP99345-BS	6Q26335.D	10/13/23 04:55	OP99345	Blank Spike
OP99345-LLBS	6Q26336.D	10/13/23 05:10	OP99345	Blank Spike
OP99345-MB	6Q26337.D	10/13/23 05:24	OP99345	Method Blank
FC9829-1	6Q26338.D	10/13/23 05:38	OP99345	(used for QC only; not part of job FC10247)
OP99345-MS	6Q26339.D	10/13/23 05:53	OP99345	Matrix Spike
FC9830-1	6Q26340.D	10/13/23 06:07	OP99345	(used for QC only; not part of job FC10247)
OP99345-DUP	6Q26341.D	10/13/23 06:21	OP99345	Duplicate
ZZZZZZ	6Q26342.D	10/13/23 06:36	OP99345	(unrelated sample)
ZZZZZZ	6Q26343.D	10/13/23 06:50	OP99254	(unrelated sample)
S6Q370-CC367	6Q26345.D	10/13/23 07:19	n/a	Continuing cal 4
S6Q370-ICCB	6Q26346.D	10/13/23 07:33	n/a	Continuing Calibration Blank
S6Q370-RT	6Q26347.D	10/13/23 07:47	n/a	Retention Time Marker
S6Q370-RT	6Q26348.D	10/13/23 08:02	n/a	Retention Time Marker
S6Q370-IBLK	6Q26350.D	10/13/23 08:30	n/a	Instrument Blank
S6Q370-IBLK	6Q26350.D	10/13/23 08:30	n/a	Instrument Blank
S6Q370-CC367	6Q26351.D	10/13/23 08:45	n/a	Continuing cal 4
S6Q370-CC367	6Q26352.D	10/13/23 08:59	n/a	Continuing cal 1.0LL
OP99347-BS	6Q26353.D	10/13/23 09:13	OP99347	Blank Spike
OP99347-LLBS	6Q26354.D	10/13/23 09:28	OP99347	Blank Spike
OP99347-MB	6Q26355.D	10/13/23 09:42	OP99347	Method Blank
FC9904-2	6Q26356.D	10/13/23 09:56	OP99347	(used for QC only; not part of job FC10247)
OP99347-MS	6Q26357.D	10/13/23 10:11	OP99347	Matrix Spike
FC9904-3	6Q26358.D	10/13/23 10:25	OP99347	(used for QC only; not part of job FC10247)
OP99347-DUP	6Q26359.D	10/13/23 10:39	OP99347	Duplicate

Run Sequence Report

Job Number: FC10247
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Run ID: S6Q370	Method: EPA DRAFT 1633	Instrument ID: GCMS6Q
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Lab Sample ID	Lab File ID	Date/Time Analyzed	Prep QC Batch	Client Sample ID
ZZZZZZ	6Q26360.D	10/13/23 10:54	OP99347	(unrelated sample)
ZZZZZZ	6Q26361.D	10/13/23 11:08	OP99347	(unrelated sample)
ZZZZZZ	6Q26362.D	10/13/23 11:22	OP99347	(unrelated sample)
S6Q370-CC367	6Q26363.D	10/13/23 11:37	n/a	Continuing cal 4
S6Q370-ICCB	6Q26364.D	10/13/23 11:51	n/a	Continuing Calibration Blank
ZZZZZZ	6Q26365.D	10/13/23 12:05	OP99347	(unrelated sample)
ZZZZZZ	6Q26366.D	10/13/23 12:20	OP99347	(unrelated sample)
ZZZZZZ	6Q26367.D	10/13/23 12:34	OP99347	(unrelated sample)
ZZZZZZ	6Q26368.D	10/13/23 12:48	OP99347	(unrelated sample)
ZZZZZZ	6Q26369.D	10/13/23 13:03	OP99347	(unrelated sample)
S6Q370-ECC367	6Q26373.D	10/13/23 14:00	n/a	Ending cal 4
S6Q370-ICCB	6Q26374.D	10/13/23 14:14	n/a	Continuing Calibration Blank

6.9.2

6

MS Semi-volatiles

Raw Data

Perfluorinated Compounds by LC/MS/MS

Data File : 6Q26296.d
 Operator : marthav
 Acq. Method : 1633full.m
 Acq. Date-Time : 10/12/2023 7:37:15 PM
 Sample Name : FC10247-1
 Vial : P6-B6
 DA Method File : 1633_100823_S6Q367.quantmethod.xml
 Batch Name : s6q370.batch.bin
 Sample Information : OP99445,S6Q370,540,,,5.0,1,water

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Internal Standards					
M4-PFBA	2.960	216.8 -> 171.9	130024	10.00 µg/L	0.012
M5-PFPeA	4.359	268.3 -> 223.0	49981	5.00 µg/L	-0.012
M5-PFHxA	5.567	318.0 -> 273.0	44446	2.50 µg/L	-0.012
M4-PFHpA	6.507	367.1 -> 322.0	43338	2.50 µg/L	-0.012
M8-PFOA	7.149	421.1 -> 376.0	56991	2.50 µg/L	-0.012
M9-PFNA	7.666	472.1 -> 427.0	25501	1.25 µg/L	-0.013
M6-PFDA	8.148	519.1 -> 474.1	23645	1.25 µg/L	-0.012
M7-PFUnDA	8.601	570.0 -> 525.1	23472	1.25 µg/L	-0.012
M2-PFDoDA	9.030	615.1 -> 570.0	24055	1.25 µg/L	0.000
M2-PFTeDA	9.735	715.2 -> 670.0	7236	1.25 µg/L	-0.012
M8-FOSA	9.657	506.1 -> 77.8	17104	2.50 µg/L	0.000
M3-PFBS	5.497	302.1 -> 79.9	20285	2.50 µg/L	0.000
M3-PFHxS	7.251	402.1 -> 79.9	10535	2.50 µg/L	-0.012
M8-PFOS	8.298	507.1 -> 79.9	10025	2.50 µg/L	-0.013
M2-4:2FTS	5.242	329.1 -> 80.9	2308	5.00 µg/L	-0.012
M2-6:2FTS	6.924	429.1 -> 80.9	3032	5.00 µg/L	-0.012
M2-8:2FTS	7.950	529.1 -> 80.9	3133	5.00 µg/L	0.000
M3-MeFOSAA	8.207	573.2 -> 419.0	21734	5.00 µg/L	0.000
M3-HFPO-DA	5.945	286.9 -> 168.9	30035	10.00 µg/L	-0.012
M5-EtFOSAA	8.402	589.2 -> 419.0	16703	5.00 µg/L	-0.012
M7-MeFOSE	10.665	623.2 -> 58.9	51918	25.00 µg/L	0.000
M9-EtFOSE	10.898	639.2 -> 58.9	63447	25.00 µg/L	-0.012
M5-EtFOSA	10.976	531.1 -> 219.0	4888	2.50 µg/L	0.000
M3-MeFOSA	10.744	515.0 -> 219.0	4701	2.50 µg/L	-0.012
13C4-PFOS	8.299	502.8 -> 79.9	9439	2.50 µg/L	-0.013
13C3-PFBA	2.964	216.0 -> 172.0	54091	5.00 µg/L	0.012
18O2-PFHxS	7.250	403.0 -> 83.9	6319	2.50 µg/L	-0.012
13C4-PFOA	7.150	417.1 -> 372.0	61855	2.50 µg/L	-0.012
13C2-PFDA	8.149	515.1 -> 470.1	20433	1.25 µg/L	-0.012
13C5-PFNA	7.667	468.0 -> 423.0	20782	1.25 µg/L	-0.013
13C2-PFHxA	5.568	315.1 -> 270.0	40216	2.50 µg/L	-0.012
System Monitoring Compounds					
13C2-4:2FTS	5.242	329.1 -> 80.9	2308	6.48 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 129.7%		
13C2-6:2FTS	6.924	429.1 -> 80.9	3032	5.73 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 114.5%		
13C2-8:2FTS	7.950	529.1 -> 80.9	3133	5.75 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 114.9%		
13C2-PFDoDA	9.030	615.1 -> 570.0	24055	1.18 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 94.5%		
13C2-PFTeDA	9.735	715.2 -> 670.0	7236	1.05 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 83.8%		
13C3-PFBS	5.497	302.1 -> 79.9	20285	2.83 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 113.3%		
13C3-PFHxS	7.251	402.1 -> 79.9	10535	2.62 µg/L	-0.012



7.1.1
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Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 105.0%	
13C4-PFBA	2.960	216.8 -> 171.9	130024	9.96 µg/L	0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 99.6%	
13C4-PFHpA	6.507	367.1 -> 322.0	43338	2.66 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 106.5%	
13C5-PFHxA	5.567	318.0 -> 273.0	44446	2.67 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 106.9%	
13C5-PFPeA	4.359	268.3 -> 223.0	49981	5.49 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 109.8%	
13C6-PFDA	8.148	519.1 -> 474.1	23645	1.37 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 109.9%	
13C7-PFUnDA	8.601	570.0 -> 525.1	23472	1.26 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 100.9%	
13C8-FOSA	9.657	506.1 -> 77.8	17104	2.20 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 87.8%	
13C8-PFOA	7.149	421.1 -> 376.0	56991	2.66 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 106.3%	
13C8-PFOS	8.298	507.1 -> 79.9	10025	2.46 µg/L	-0.013
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 98.4%	
13C9-PFNA	7.666	472.1 -> 427.0	25501	1.49 µg/L	-0.013
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 119.3%	
d3-MeFOSAA	8.207	573.2 -> 419.0	21734	5.23 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 104.7%	
13C3-HFPO-DA	5.945	286.9 -> 168.9	30035	10.71 µg/L	-0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 107.1%	
d3-MeFOSA	10.744	515.0 -> 219.0	4701	2.08 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 83.3%	
d5-EtFOSAA	8.402	589.2 -> 419.0	16703	4.70 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 93.9%	
d7-MeFOSE	10.665	623.2 -> 58.9	51918	20.65 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 82.6%	
d9-EtFOSE	10.898	639.2 -> 58.9	63447	21.23 µg/L	-0.012
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 84.9%	
d5-EtFOSA	10.976	531.1 -> 219.0	4888	2.02 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 80.9%	

Target Compounds

Compound	RT	Transition	Response	Conc. Units	QValue
4:2FTS	-	327.1 -> 307.0	-	N.D.	
		327.1 -> 80.9			
6:2FTS	-	427.1 -> 407.0	-	N.D.	
		427.1 -> 80.9			
8:2FTS	-	527.1 -> 507.0	-	N.D.	
		527.1 -> 80.8			
EtFOSAA	-	584.2 -> 419.1	-	N.D.	
		584.2 -> 526.0			
FOSA	-	498.1 -> 77.9	-	N.D.	
		498.1 -> 478.0			
MeFOSAA	-	570.1 -> 419.0	-	N.D.	
		570.1 -> 483.0			
PFBA	-	212.8 -> 168.9	-	N.D.	
PFBS	-	298.7 -> 79.9	-	N.D.	
		298.7 -> 98.8			
PFDA	-	512.9 -> 469.0	-	N.D.	
		512.9 -> 219.0			
PFDODA	-	613.1 -> 569.0	-	N.D.	
		613.1 -> 319.0			
PFDS	-	599.0 -> 79.9	-	N.D.	



Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
		599.0 -> 98.8				
PFHpA	-	363.1 -> 319.0	-	N.D.		
		363.1 -> 169.0				
PFHpS	-	449.0 -> 79.9	-	N.D.		
		449.0 -> 98.9				
PFHxA	-	313.0 -> 269.0	-	N.D.		
		313.0 -> 118.9				
PFHxS	-	398.7 -> 79.9	-	N.D.		
		398.7 -> 98.9				
PFNA	-	463.0 -> 419.0	-	N.D.		
		463.0 -> 219.0				
PFNS	-	548.8 -> 79.9	-	N.D.		
		548.8 -> 98.9				
PFOA	-	413.0 -> 369.0	-	N.D.		
		413.0 -> 169.0				
PFOS	-	498.9 -> 79.9	-	N.D.		
		498.9 -> 98.8				
PFPeA	-	263.0 -> 219.0	-	N.D.		
PFPeS	-	349.1 -> 79.9	-	N.D.		
		349.1 -> 98.9				
PFTeDA	-	713.1 -> 669.0	-	N.D.		
		713.1 -> 168.9				
PFTTrDA	-	663.0 -> 619.0	-	N.D.		
		663.0 -> 168.9				
PFUnDA	-	563.1 -> 519.0	-	N.D.		
		563.1 -> 269.1				
11Cl-PF3OUdS	-	630.9 -> 450.9	-	N.D.		
		632.9 -> 452.9				
9Cl-PF3ONS	-	530.8 -> 351.0	-	N.D.		
		532.8 -> 353.0				
ADONA	-	376.9 -> 250.9	-	N.D.		
		376.9 -> 84.8				
HFPO-DA	-	284.9 -> 168.9	-	N.D.		
		284.9 -> 184.9				
3:3FTCA	-	241.0 -> 177.0	-	N.D.		
		241.0 -> 117.0				
5:3FTCA	-	341.0 -> 237.1	-	N.D.		
		341.0 -> 217.0				
7:3FTCA	-	441.0 -> 316.9	-	N.D.		
		441.0 -> 336.9				
EtFOSA	-	526.0 -> 219.0	-	N.D.		
		526.0 -> 169.0				
EtFOSE	-	630.0 -> 58.9	-	N.D.		
MeFOSA	-	511.9 -> 219.0	-	N.D.		
		511.9 -> 169.0				
MeFOSE	-	616.1 -> 58.9	-	N.D.		
PFDoDS	-	699.1 -> 79.9	-	N.D.		
		699.1 -> 98.8				
NFDHA	-	295.0 -> 201.0	-	N.D.		
		295.0 -> 84.9				
PFMBA	-	279.0 -> 85.1	-	N.D.		
PFMPA	-	229.0 -> 84.9	-	N.D.		
PFEESA	-	314.8 -> 134.9	-	N.D.		
		314.8 -> 82.9				

= Qualifier out of range, m = manually integrated, + = Area summed

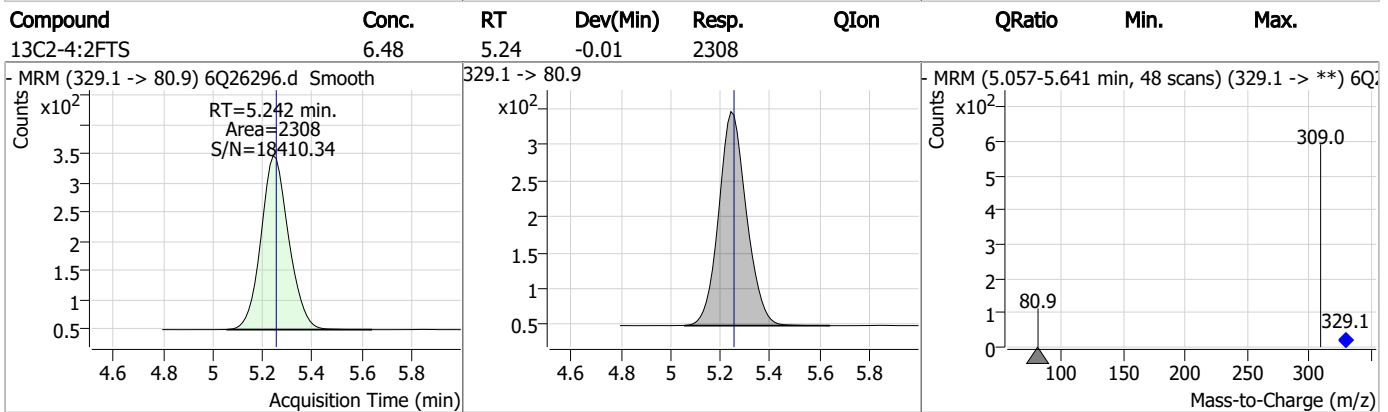
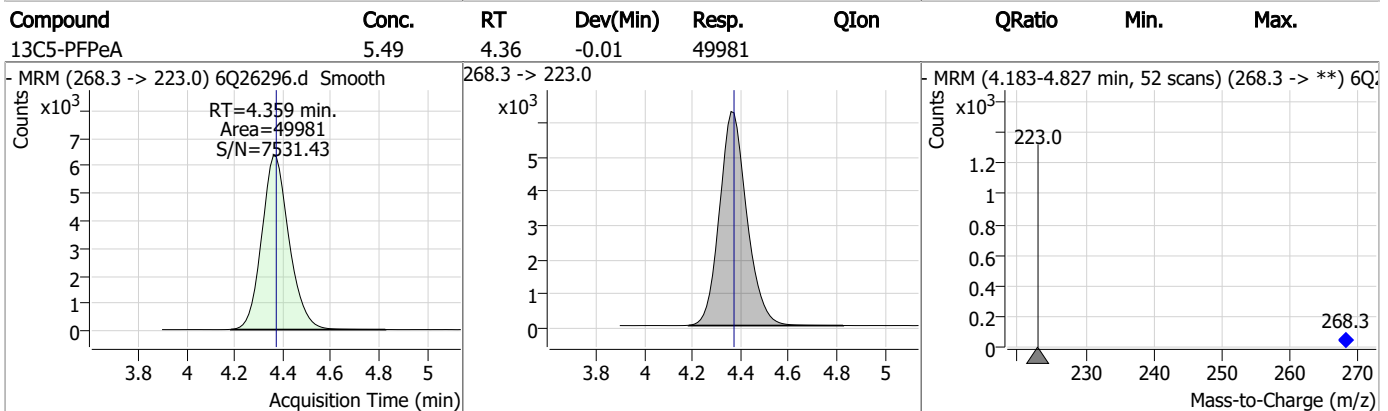
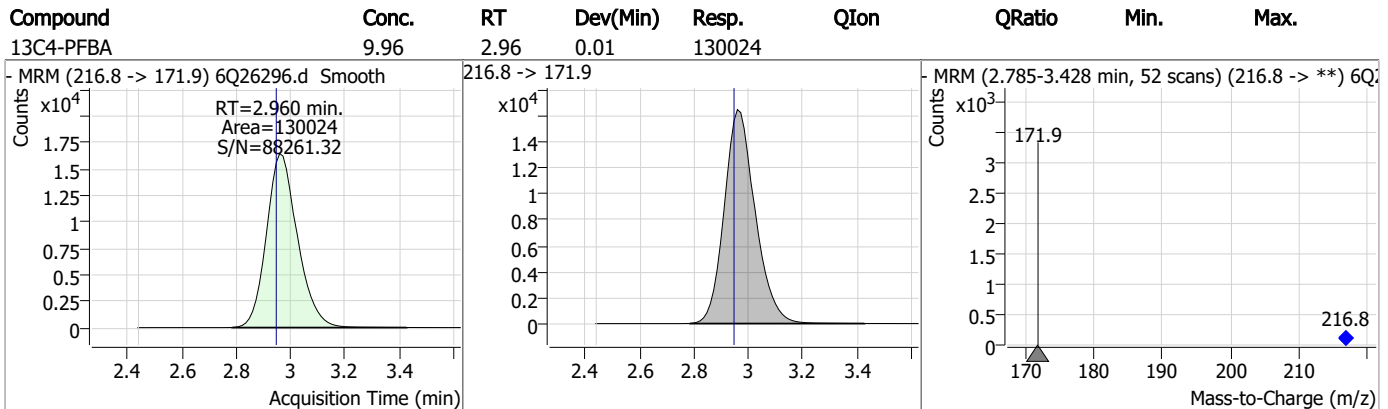
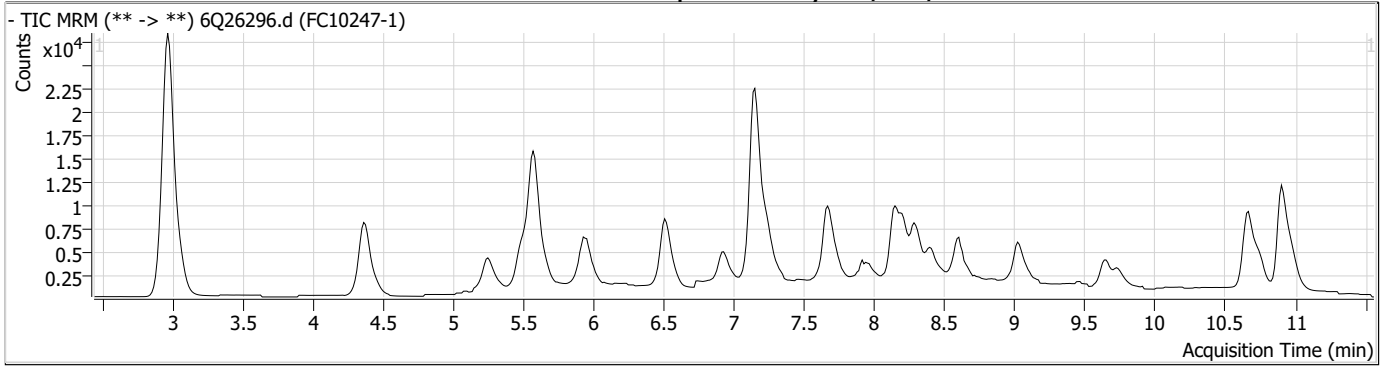
Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
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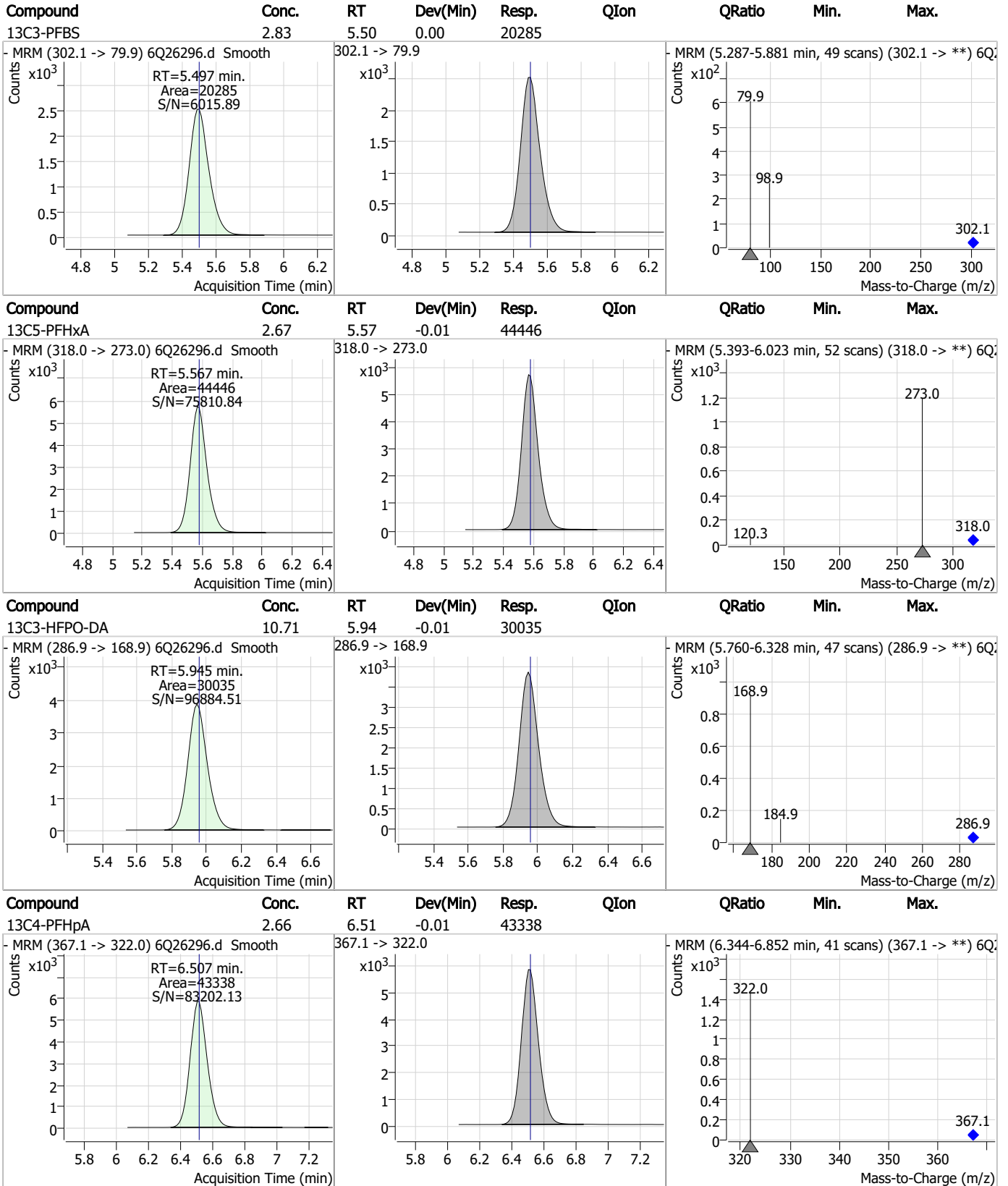
7.1.1
7



Perfluorinated Compounds by LC/MS/MS

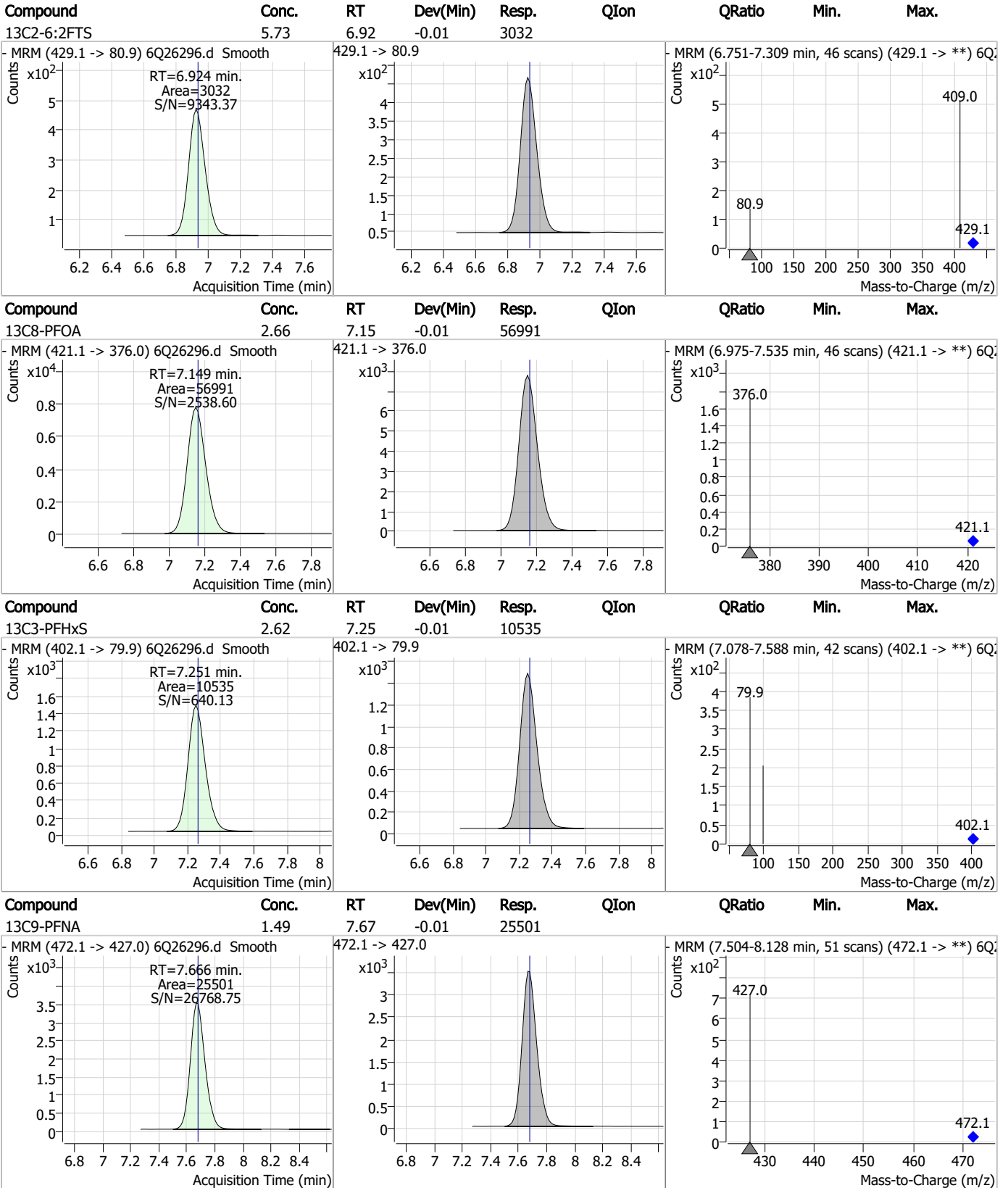


Perfluorinated Compounds by LC/MS/MS



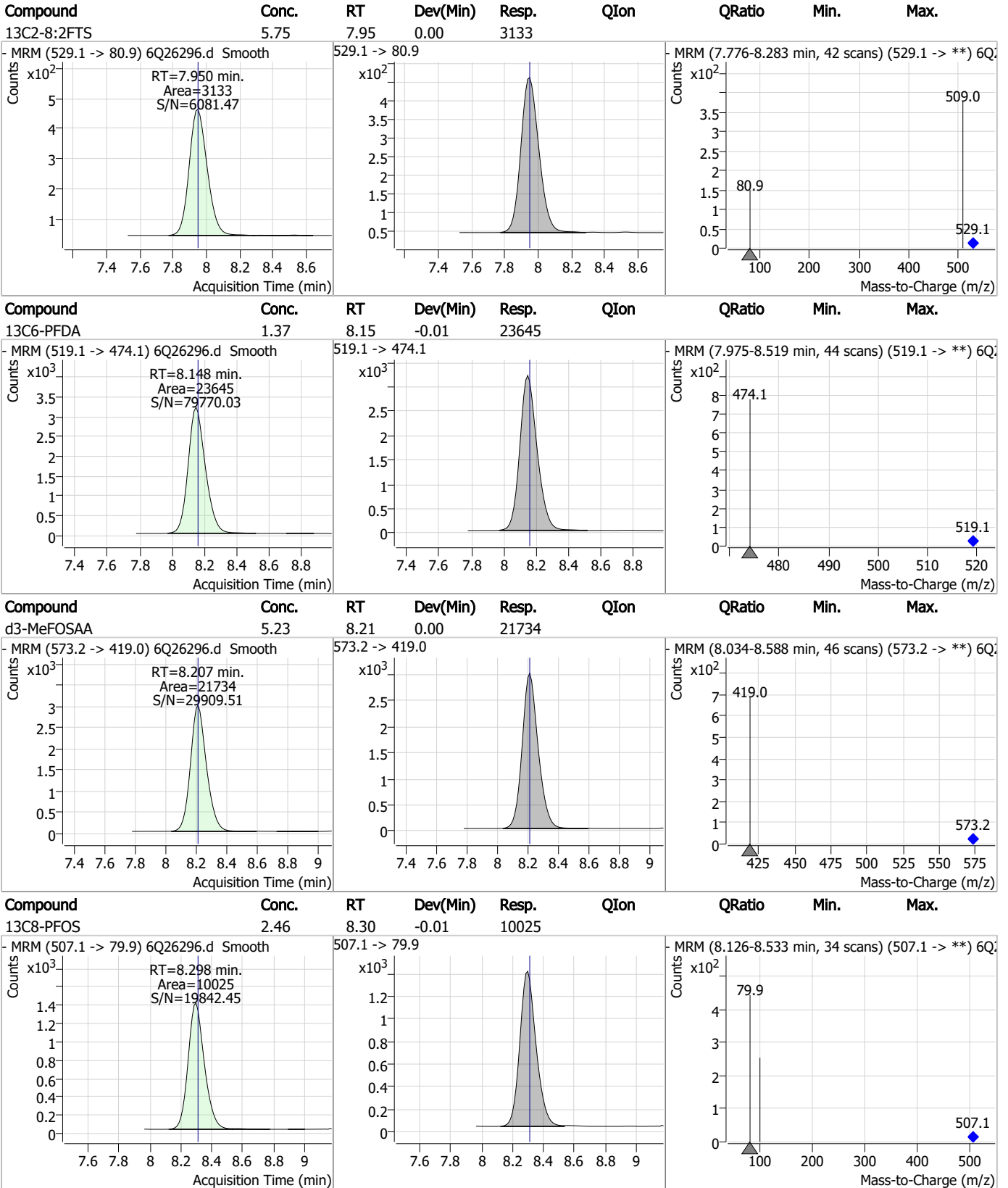
7.1.1
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Perfluorinated Compounds by LC/MS/MS



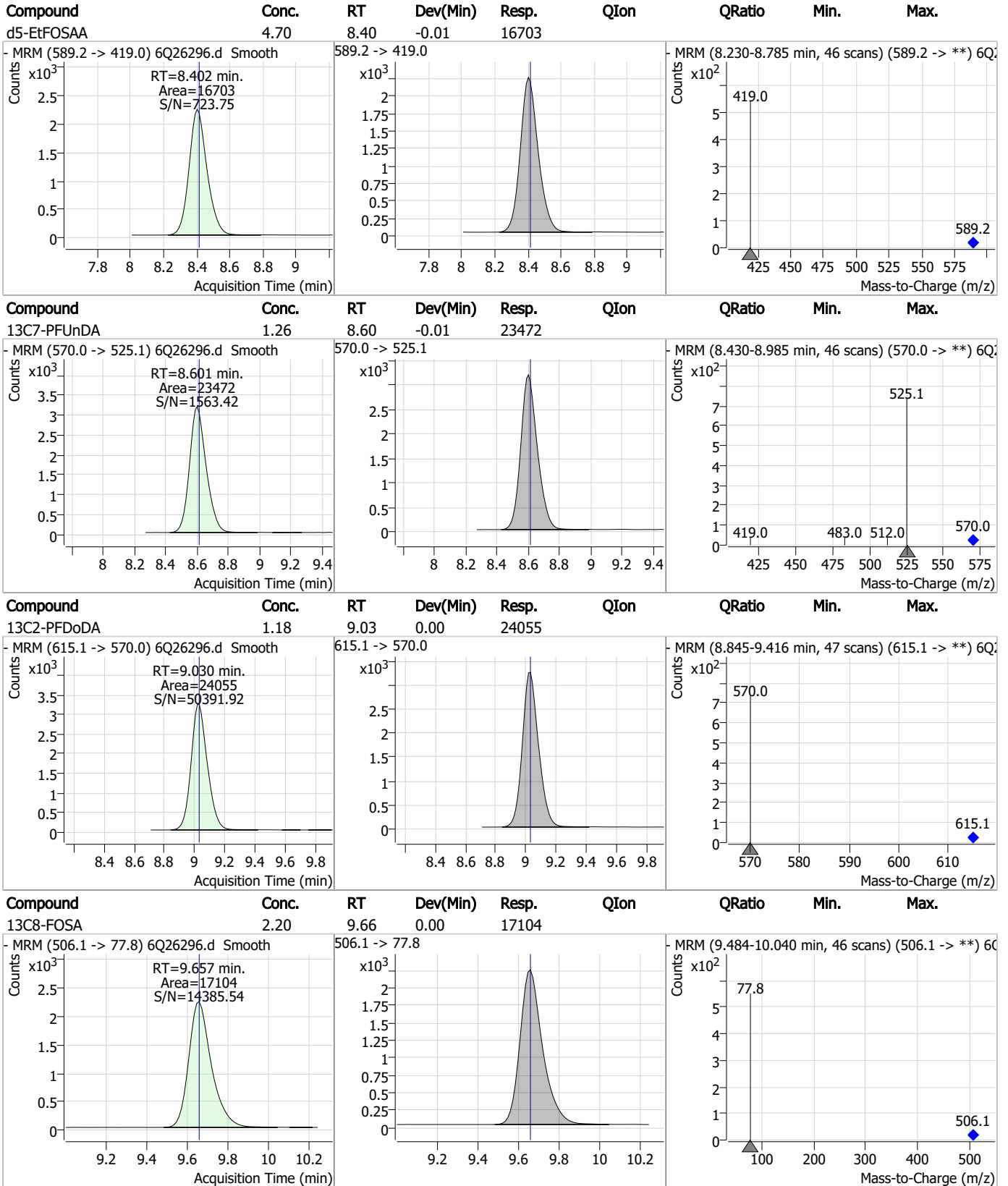
7.1.1
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Perfluorinated Compounds by LC/MS/MS

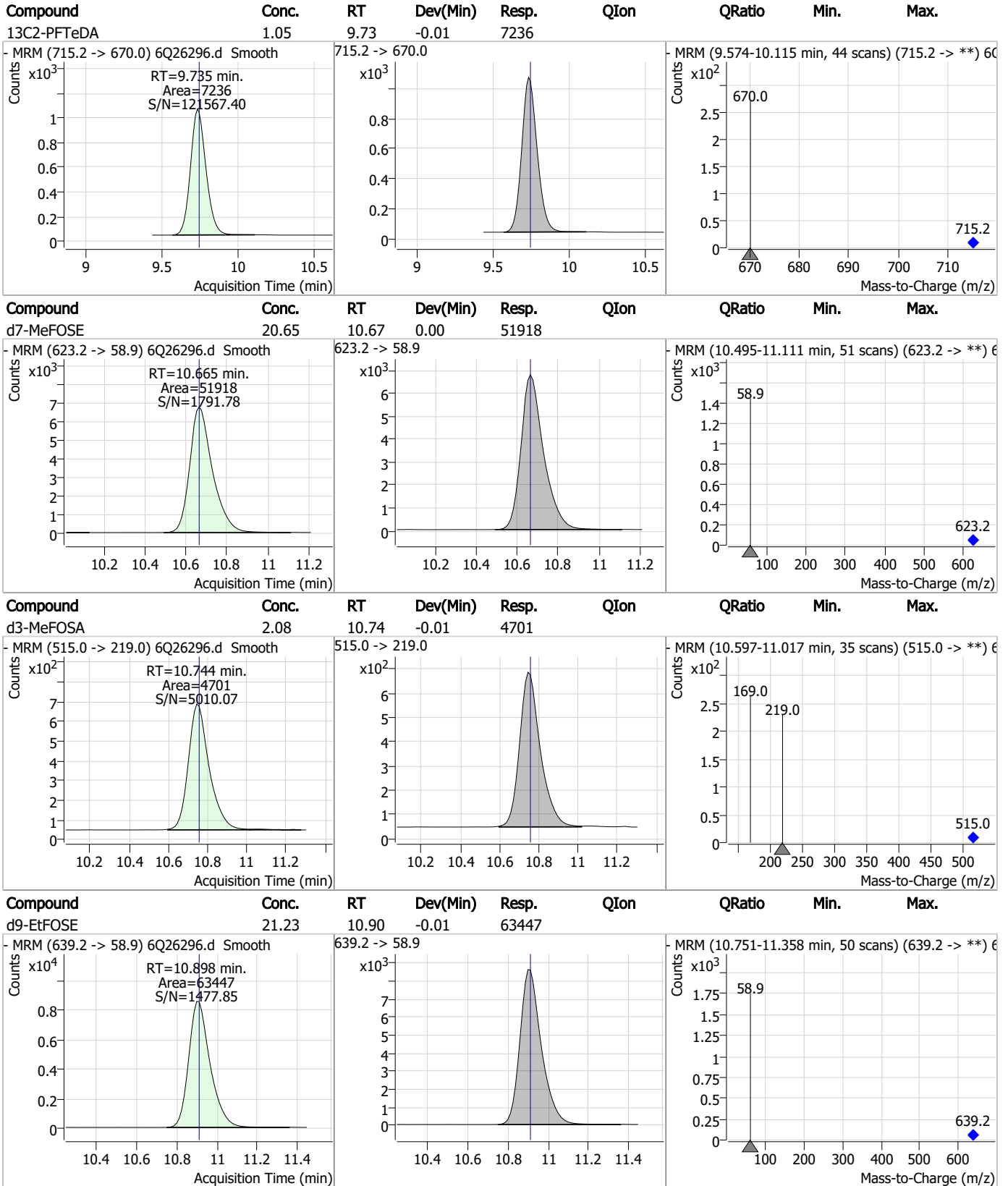


7.1.1
7

Perfluorinated Compounds by LC/MS/MS



Perfluorinated Compounds by LC/MS/MS

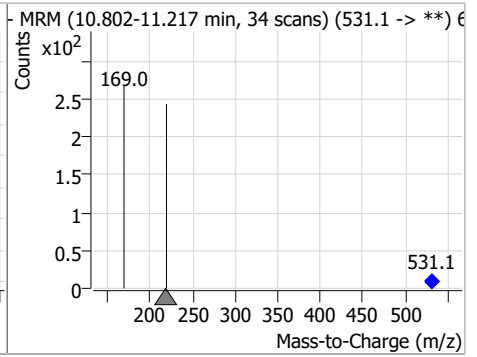
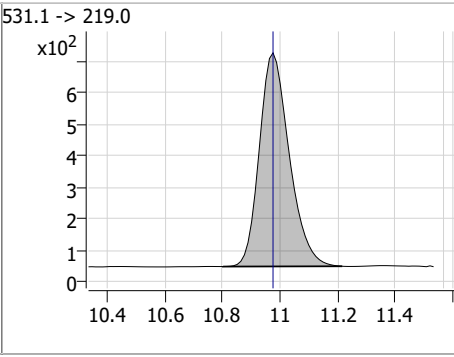
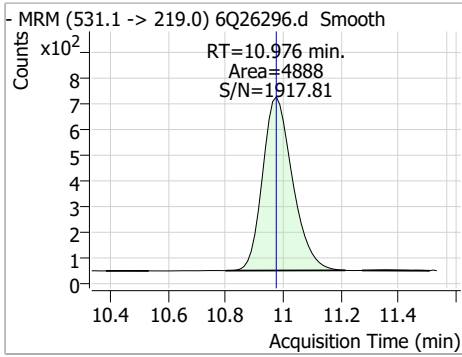


7.1.1

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Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSA	2.02	10.98	0.00	4888				



7.1.1
7



Perfluorinated Compounds by LC/MS/MS

Data File : 6Q26282.d
 Operator : marthav
 Acq. Method : 1633full.m
 Acq. Date-Time : 10/12/2023 4:16:37 PM
 Sample Name : OP99445-MB
 Vial : P6-A3
 DA Method File : 1633_100823_S6Q367.quantmethod.xml
 Batch Name : s6q370.batch.bin
 Sample Information : OP99445,S6Q370,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Internal Standards					
M4-PFBA	2.960	216.8 -> 171.9	142197	10.00 µg/L	0.012
M5-PFPeA	4.359	268.3 -> 223.0	49313	5.00 µg/L	-0.012
M5-PFHxA	5.567	318.0 -> 273.0	45091	2.50 µg/L	-0.012
M4-PFHpA	6.507	367.1 -> 322.0	42620	2.50 µg/L	-0.012
M8-PFOA	7.149	421.1 -> 376.0	57092	2.50 µg/L	-0.012
M9-PFNA	7.666	472.1 -> 427.0	23451	1.25 µg/L	-0.013
M6-PFDA	8.148	519.1 -> 474.1	24549	1.25 µg/L	-0.012
M7-PFUnDA	8.601	570.0 -> 525.1	25068	1.25 µg/L	-0.012
M2-PFDoDA	9.030	615.1 -> 570.0	24015	1.25 µg/L	0.000
M2-PFTeDA	9.735	715.2 -> 670.0	7861	1.25 µg/L	-0.012
M8-FOSA	9.657	506.1 -> 77.8	14654	2.50 µg/L	0.000
M3-PFBS	5.485	302.1 -> 79.9	19575	2.50 µg/L	-0.012
M3-PFHxS	7.251	402.1 -> 79.9	11077	2.50 µg/L	-0.012
M8-PFOS	8.298	507.1 -> 79.9	10761	2.50 µg/L	-0.013
M2-4:2FTS	5.242	329.1 -> 80.9	2486	5.00 µg/L	-0.012
M2-6:2FTS	6.924	429.1 -> 80.9	3183	5.00 µg/L	-0.012
M2-8:2FTS	7.950	529.1 -> 80.9	3434	5.00 µg/L	0.000
M3-MeFOSAA	8.207	573.2 -> 419.0	20899	5.00 µg/L	0.000
M3-HFPO-DA	5.933	286.9 -> 168.9	29818	10.00 µg/L	-0.025
M5-EtFOSAA	8.402	589.2 -> 419.0	16718	5.00 µg/L	-0.012
M7-MeFOSE	10.665	623.2 -> 58.9	44569	25.00 µg/L	0.000
M9-EtFOSE	10.898	639.2 -> 58.9	58688	25.00 µg/L	-0.012
M5-EtFOSA	10.976	531.1 -> 219.0	4981	2.50 µg/L	0.000
M3-MeFOSA	10.744	515.0 -> 219.0	4143	2.50 µg/L	-0.012
13C4-PFOS	8.299	502.8 -> 79.9	9356	2.50 µg/L	-0.013
13C3-PFBA	2.964	216.0 -> 172.0	54688	5.00 µg/L	0.012
18O2-PFHxS	7.250	403.0 -> 83.9	6816	2.50 µg/L	-0.012
13C4-PFOA	7.150	417.1 -> 372.0	61801	2.50 µg/L	-0.012
13C2-PFDA	8.149	515.1 -> 470.1	22137	1.25 µg/L	-0.012
13C5-PFNA	7.667	468.0 -> 423.0	20043	1.25 µg/L	-0.013
13C2-PFHxA	5.568	315.1 -> 270.0	40666	2.50 µg/L	-0.012
System Monitoring Compounds					
13C2-4:2FTS	5.242	329.1 -> 80.9	2486	6.47 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 129.5%		
13C2-6:2FTS	6.924	429.1 -> 80.9	3183	5.57 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 111.4%		
13C2-8:2FTS	7.950	529.1 -> 80.9	3434	5.84 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 116.8%		
13C2-PFDoDA	9.030	615.1 -> 570.0	24015	1.09 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 87.1%		
13C2-PFTeDA	9.735	715.2 -> 670.0	7861	1.05 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 84.0%		
13C3-PFBS	5.485	302.1 -> 79.9	19575	2.53 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 101.4%		
13C3-PFHxS	7.251	402.1 -> 79.9	11077	2.56 µg/L	-0.012

7.2.1
7



Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 102.3%	
13C4-PFBA	2.960	216.8 -> 171.9	142197	10.77 µg/L	0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 107.7%	
13C4-PFHpA	6.507	367.1 -> 322.0	42620	2.59 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 103.6%	
13C5-PFHxA	5.567	318.0 -> 273.0	45091	2.68 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 107.3%	
13C5-PFPeA	4.359	268.3 -> 223.0	49313	5.36 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 107.2%	
13C6-PFDA	8.148	519.1 -> 474.1	24549	1.32 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 105.3%	
13C7-PFUnDA	8.601	570.0 -> 525.1	25068	1.24 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 99.5%	
13C8-FOSA	9.657	506.1 -> 77.8	14654	99.0 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 75.9%	
13C8-PFOA	7.149	421.1 -> 376.0	57092	2.66 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 106.6%	
13C8-PFOS	8.298	507.1 -> 79.9	10761	2.66 µg/L	-0.013
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 106.5%	
13C9-PFNA	7.666	472.1 -> 427.0	23451	1.42 µg/L	-0.013
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 113.8%	
d3-MeFOSAA	8.207	573.2 -> 419.0	20899	5.08 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 101.6%	
13C3-HFPO-DA	5.933	286.9 -> 168.9	29818	10.51 µg/L	-0.025
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 105.1%	
d3-MeFOSA	10.744	515.0 -> 219.0	4143	1.85 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 74.0%	
d5-EtFOSAA	8.402	589.2 -> 419.0	16718	4.74 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 94.8%	
d7-MeFOSE	10.665	623.2 -> 58.9	44569	17.88 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 71.5%	
d9-EtFOSE	10.898	639.2 -> 58.9	58688	19.81 µg/L	-0.012
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 79.3%	
d5-EtFOSA	10.976	531.1 -> 219.0	4981	2.08 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 83.2%	
Target Compounds					QValue
4:2FTS	-	327.1 -> 307.0 327.1 -> 80.9	-	N.D.	
6:2FTS	6.925	427.1 -> 407.0 427.1 -> 80.9	1719 620	0.59 µg/L	96
8:2FTS	-	527.1 -> 507.0 527.1 -> 80.8	-	N.D.	
EtFOSAA	-	584.2 -> 419.1 584.2 -> 526.0	-	N.D.	
FOSA	-	498.1 -> 77.9 498.1 -> 478.0	-	N.D.	
MeFOSAA	-	570.1 -> 419.0 570.1 -> 483.0	-	N.D.	
PFBA	-	212.8 -> 168.9	-	N.D.	
PFBS	-	298.7 -> 79.9 298.7 -> 98.8	-	N.D.	
PFDA	-	512.9 -> 469.0 512.9 -> 219.0	-	N.D.	
PFDODA	-	613.1 -> 569.0 613.1 -> 319.0	-	N.D.	
PFDS	-	599.0 -> 79.9	-	N.D.	

7.2.1
7



Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
PFHpA	-	599.0 -> 98.8	-	N.D.	
		363.1 -> 319.0			
PFHpS	-	363.1 -> 169.0	-	N.D.	
		449.0 -> 79.9			
PFHxA	-	449.0 -> 98.9	-	N.D.	
		313.0 -> 269.0			
PFHxS	-	313.0 -> 118.9	-	N.D.	
		398.7 -> 79.9			
PFNA	-	398.7 -> 98.9	-	N.D.	
		463.0 -> 419.0			
PFNS	-	463.0 -> 219.0	-	N.D.	
		548.8 -> 79.9			
PFOA	-	548.8 -> 98.9	-	N.D.	
		413.0 -> 369.0			
PFOS	-	413.0 -> 169.0	-	N.D.	
		498.9 -> 79.9			
PFPeA	-	498.9 -> 98.8	-	N.D.	
		263.0 -> 219.0			
PFPeS	-	349.1 -> 79.9	-	N.D.	
		349.1 -> 98.9			
PFTeDA	-	713.1 -> 669.0	-	N.D.	
		713.1 -> 168.9			
PFTrDA	-	663.0 -> 619.0	-	N.D.	
		663.0 -> 168.9			
PFUnDA	-	563.1 -> 519.0	-	N.D.	
		563.1 -> 269.1			
11Cl-PF3OUdS	-	630.9 -> 450.9	-	N.D.	
		632.9 -> 452.9			
9Cl-PF3ONS	-	530.8 -> 351.0	-	N.D.	
		532.8 -> 353.0			
ADONA	-	376.9 -> 250.9	-	N.D.	
		376.9 -> 84.8			
HFPO-DA	-	284.9 -> 168.9	-	N.D.	
		284.9 -> 184.9			
3:3FTCA	-	241.0 -> 177.0	-	N.D.	
		241.0 -> 117.0			
5:3FTCA	-	341.0 -> 237.1	-	N.D.	
		341.0 -> 217.0			
7:3FTCA	-	441.0 -> 316.9	-	N.D.	
		441.0 -> 336.9			
EtFOSA	-	526.0 -> 219.0	-	N.D.	
		526.0 -> 169.0			
EtFOSE	-	630.0 -> 58.9	-	N.D.	
		511.9 -> 219.0			
MeFOSA	-	511.9 -> 169.0	-	N.D.	
		616.1 -> 58.9			
MeFOSE	-	699.1 -> 79.9	-	N.D.	
		699.1 -> 98.8			
PFDoDS	-	295.0 -> 201.0	-	N.D.	
		295.0 -> 84.9			
NFDHA	-	279.0 -> 85.1	-	N.D.	
		229.0 -> 84.9			
PFMBA	-	314.8 -> 134.9	-	N.D.	
		314.8 -> 82.9			

= Qualifier out of range, m = manually integrated, + = Area summed



7.2.1
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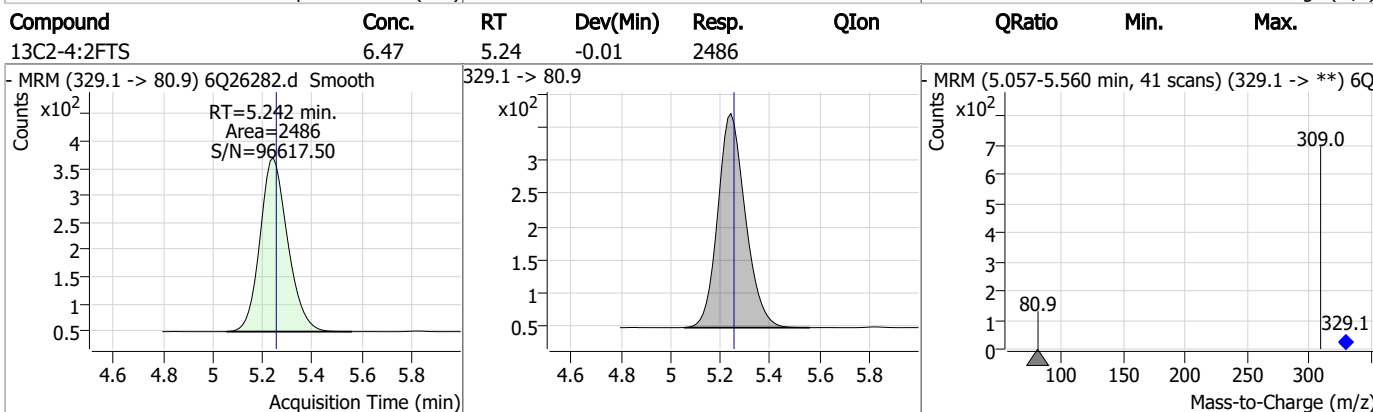
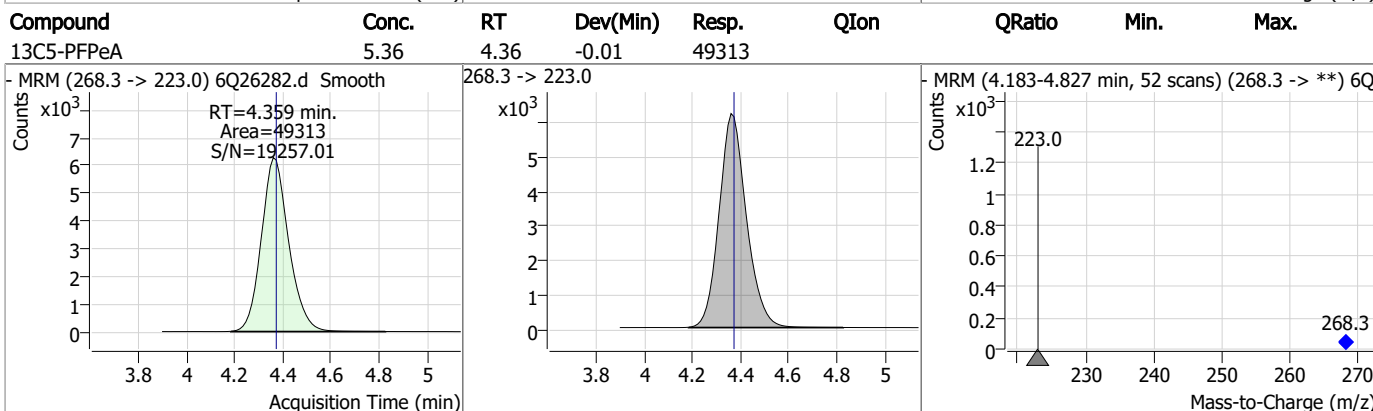
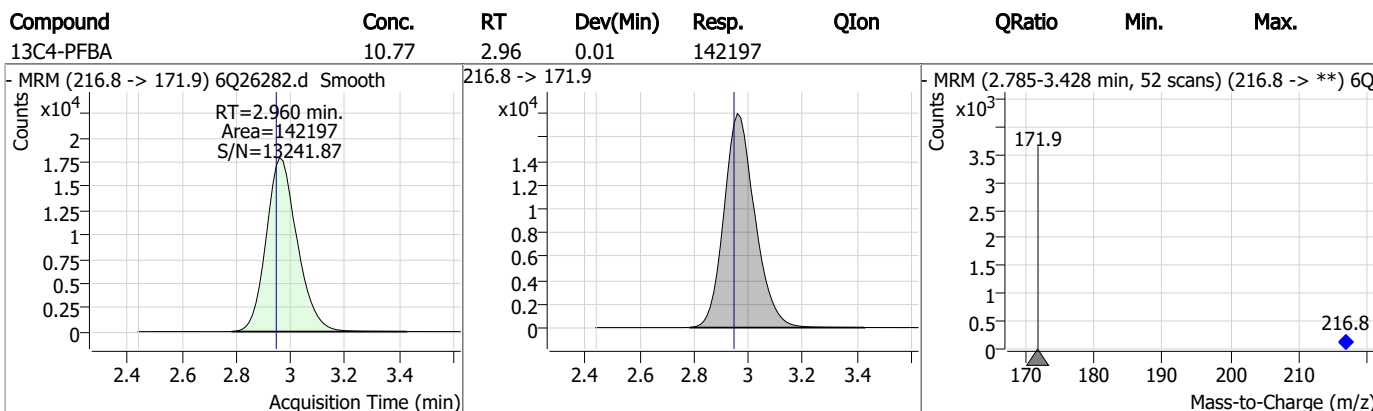
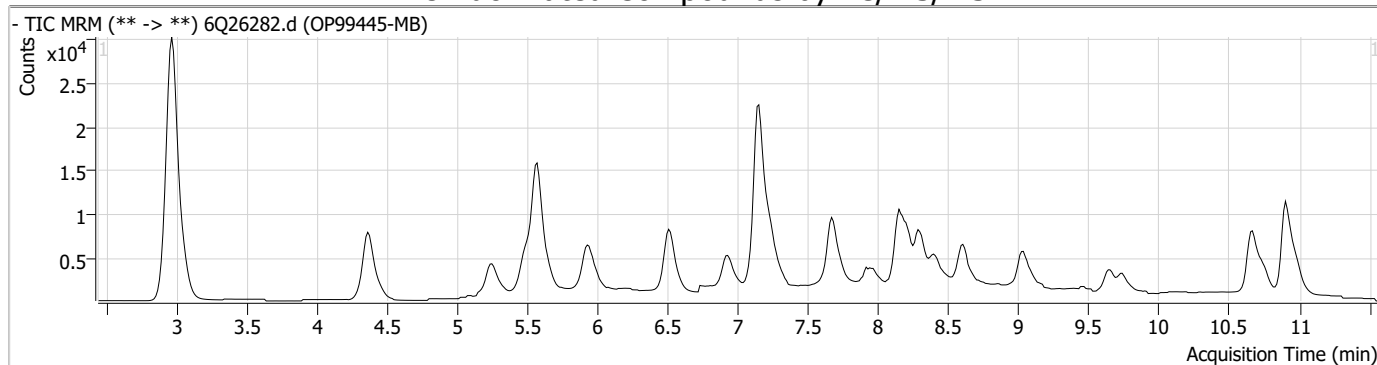
Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
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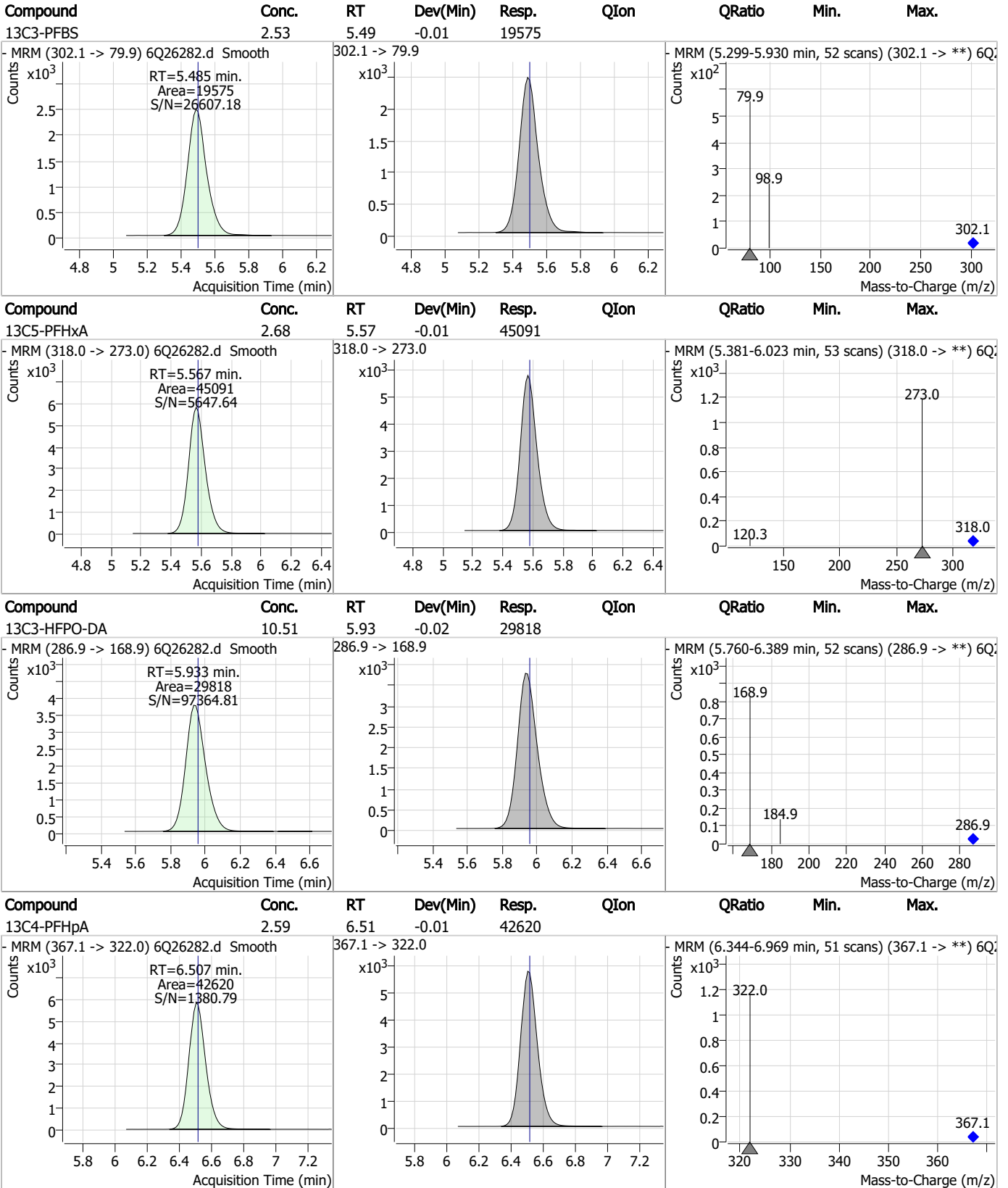
7.2.1

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Perfluorinated Compounds by LC/MS/MS



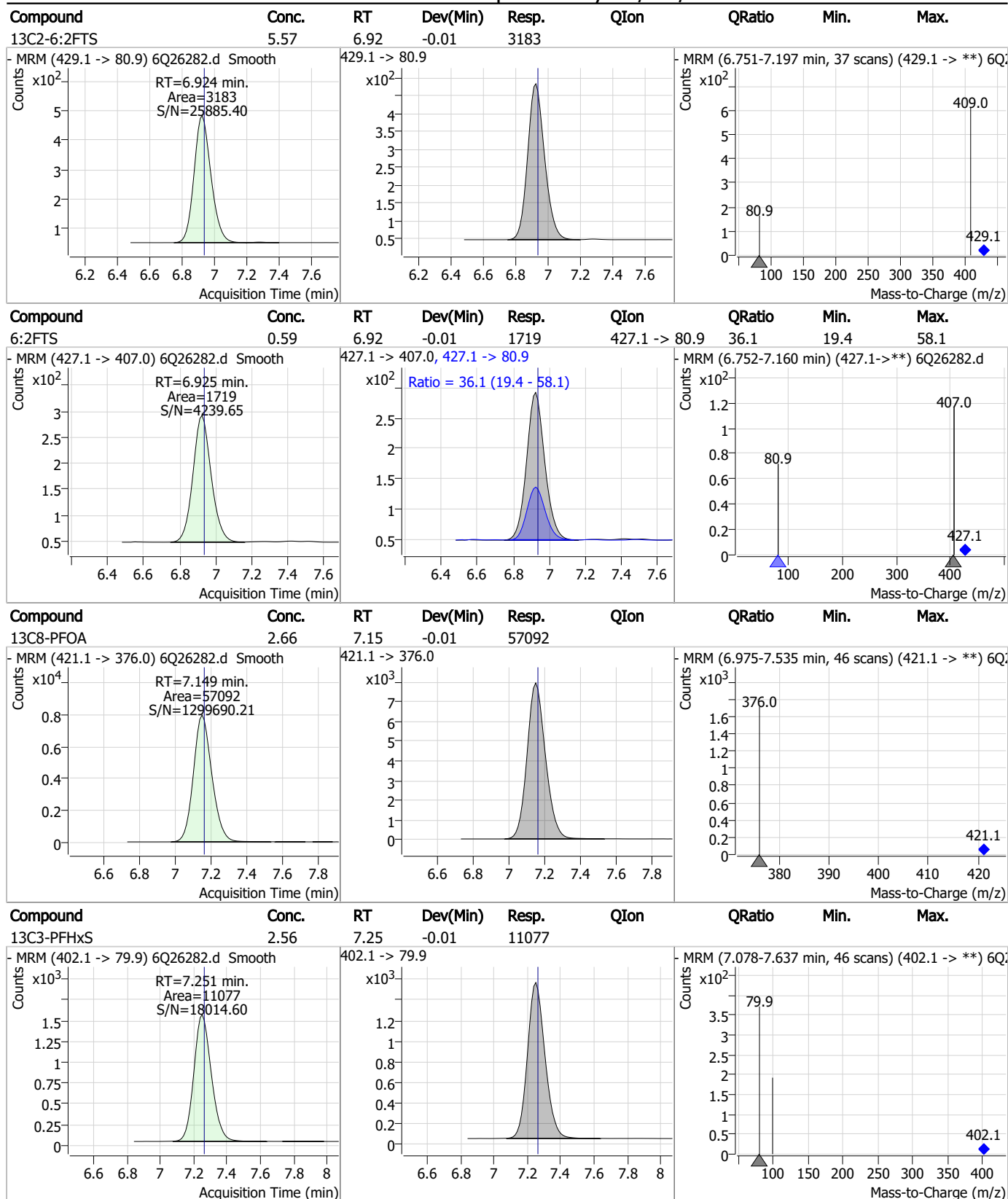
Perfluorinated Compounds by LC/MS/MS



7.2.1

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Perfluorinated Compounds by LC/MS/MS



7.2.1
7

Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C9-PFNA	1.42	7.67	-0.01	23451				
13C2-8:2FTS	5.84	7.95	0.00	3434				
13C6-PFDA	1.32	8.15	-0.01	24549				
d3-MeFOSAA	5.08	8.21	0.00	20899				

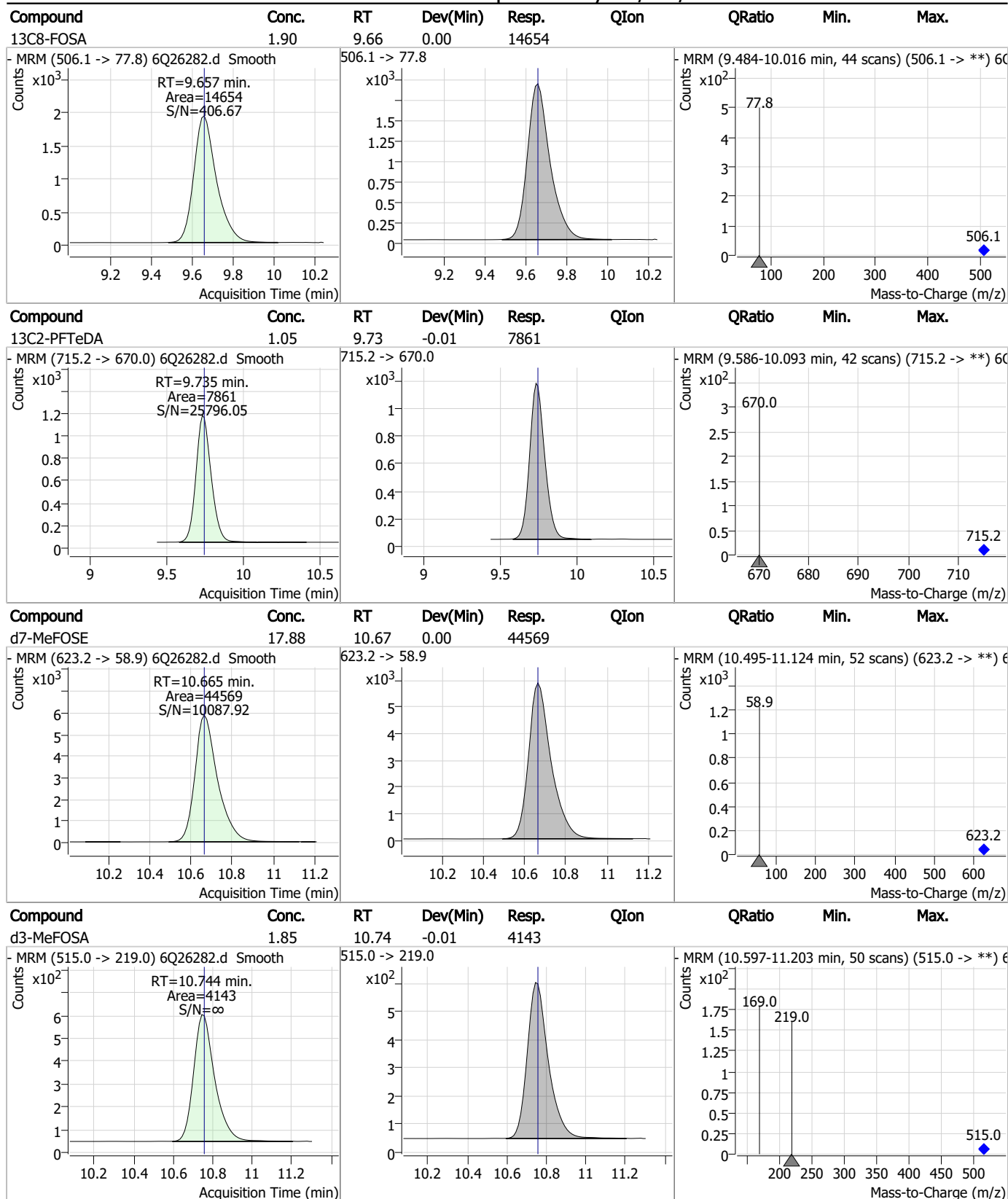
7.2.1
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Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOS	2.66	8.30	-0.01	10761				
d5-EtFOSAA	4.74	8.40	-0.01	16718				
13C7-PFUnDA	1.24	8.60	-0.01	25068				
13C2-PFDoDA	1.09	9.03	0.00	24015				

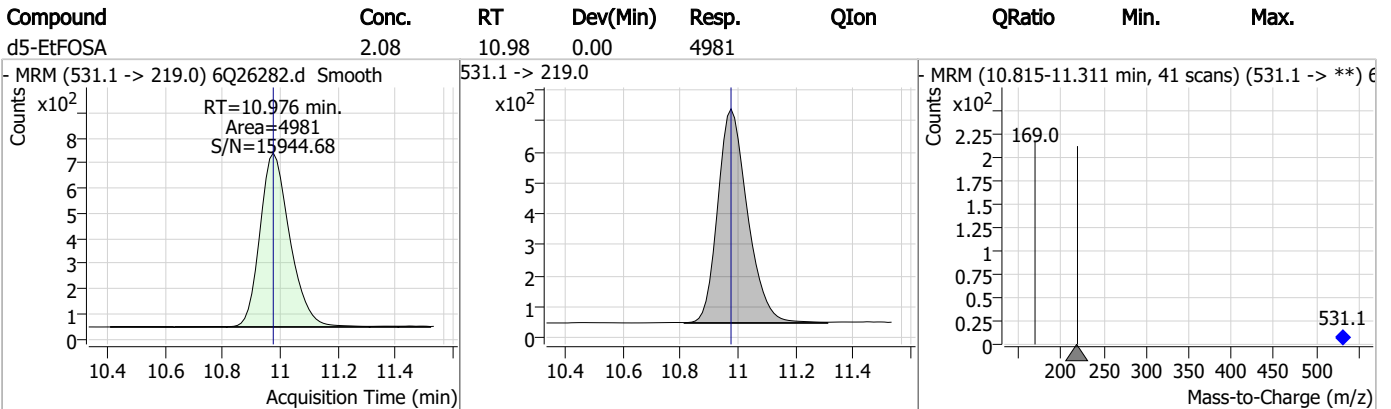
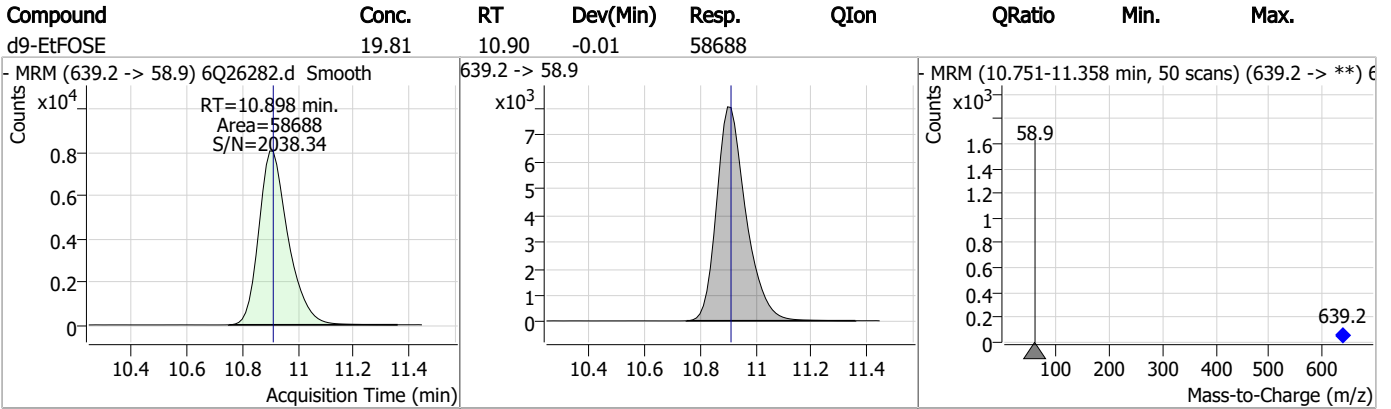
7.2.1
7

Perfluorinated Compounds by LC/MS/MS



7.2.1
7

Perfluorinated Compounds by LC/MS/MS



7.2.1

7

Perfluorinated Compounds by LC/MS/MS

Data File : 6Q26258.d
 Operator : marthav
 Acq. Method : 1633full.m
 Acq. Date-Time : 10/12/2023 10:26:39 AM
 Sample Name : IBLK
 Vial : P1-A1
 DA Method File : 1633_100823_S6Q367.quantmethod.xml
 Batch Name : s6q370.batch.bin
 Sample Information : OP99081,S6Q370,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Internal Standards					
M4-PFBA	2.935	216.8 -> 171.9	164572	10.00 µg/L	-0.013
M5-PFPeA	4.359	268.3 -> 223.0	59267	5.00 µg/L	-0.012
M5-PFHxA	5.567	318.0 -> 273.0	54739	2.50 µg/L	-0.012
M4-PFHpA	6.507	367.1 -> 322.0	52805	2.50 µg/L	-0.012
M8-PFOA	7.149	421.1 -> 376.0	69577	2.50 µg/L	-0.012
M9-PFNA	7.666	472.1 -> 427.0	28961	1.25 µg/L	-0.013
M6-PFDA	8.148	519.1 -> 474.1	29689	1.25 µg/L	-0.012
M7-PFUnDA	8.601	570.0 -> 525.1	30435	1.25 µg/L	-0.012
M2-PFDoDA	9.030	615.1 -> 570.0	31978	1.25 µg/L	0.000
M2-PFTeDA	9.747	715.2 -> 670.0	11937	1.25 µg/L	0.000
M8-FOSA	9.645	506.1 -> 77.8	25729	2.50 µg/L	-0.012
M3-PFBS	5.485	302.1 -> 79.9	23439	2.50 µg/L	-0.012
M3-PFHxS	7.251	402.1 -> 79.9	13049	2.50 µg/L	-0.012
M8-PFOS	8.298	507.1 -> 79.9	13350	2.50 µg/L	-0.013
M2-4:2FTS	5.242	329.1 -> 80.9	2919	5.00 µg/L	-0.012
M2-6:2FTS	6.924	429.1 -> 80.9	3808	5.00 µg/L	-0.012
M2-8:2FTS	7.937	529.1 -> 80.9	4141	5.00 µg/L	-0.012
M3-MeFOSAA	8.207	573.2 -> 419.0	26045	5.00 µg/L	0.000
M3-HFPO-DA	5.945	286.9 -> 168.9	36480	10.00 µg/L	-0.012
M5-EtFOSAA	8.402	589.2 -> 419.0	22727	5.00 µg/L	-0.012
M7-MeFOSE	10.665	623.2 -> 58.9	80876	25.00 µg/L	0.000
M9-EtFOSE	10.911	639.2 -> 58.9	96562	25.00 µg/L	0.000
M5-EtFOSA	10.976	531.1 -> 219.0	7614	2.50 µg/L	0.000
M3-MeFOSA	10.744	515.0 -> 219.0	6785	2.50 µg/L	-0.012
13C4-PFOS	8.299	502.8 -> 79.9	12414	2.50 µg/L	-0.013
13C3-PFBA	2.939	216.0 -> 172.0	68586	5.00 µg/L	-0.013
18O2-PFHxS	7.250	403.0 -> 83.9	8269	2.50 µg/L	-0.012
13C4-PFOA	7.150	417.1 -> 372.0	80308	2.50 µg/L	-0.012
13C2-PFDA	8.149	515.1 -> 470.1	26429	1.25 µg/L	-0.012
13C5-PFNA	7.667	468.0 -> 423.0	28876	1.25 µg/L	-0.013
13C2-PFHxA	5.568	315.1 -> 270.0	53108	2.50 µg/L	-0.012
System Monitoring Compounds					
13C2-4:2FTS	5.242	329.1 -> 80.9	2919	6.27 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 125.3%		
13C2-6:2FTS	6.924	429.1 -> 80.9	3808	5.49 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 109.9%		
13C2-8:2FTS	7.937	529.1 -> 80.9	4141	5.80 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 116.1%		
13C2-PFDoDA	9.030	615.1 -> 570.0	31978	1.21 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 97.1%		
13C2-PFTeDA	9.747	715.2 -> 670.0	11937	1.34 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 106.9%		
13C3-PFBS	5.485	302.1 -> 79.9	23439	2.50 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 100.1%		
13C3-PFHxS	7.251	402.1 -> 79.9	13049	2.48 µg/L	-0.012

7.2.2
7



Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 99.3%	
13C4-PFBA	2.935	216.8 -> 171.9	164572	9.94 µg/L	-0.013
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 99.4%	
13C4-PFHpA	6.507	367.1 -> 322.0	52805	2.46 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 98.3%	
13C5-PFHxA	5.567	318.0 -> 273.0	54739	2.49 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 99.7%	
13C5-PFPeA	4.359	268.3 -> 223.0	59267	4.93 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 98.6%	
13C6-PFDA	8.148	519.1 -> 474.1	29689	1.33 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 106.7%	
13C7-PFUnDA	8.601	570.0 -> 525.1	30435	1.26 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 101.2%	
13C8-FOSA	9.645	506.1 -> 77.8	25729	2.51 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 100.5%	
13C8-PFOA	7.149	421.1 -> 376.0	69577	2.50 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 99.9%	
13C8-PFOS	8.298	507.1 -> 79.9	13350	2.49 µg/L	-0.013
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 99.6%	
13C9-PFNA	7.666	472.1 -> 427.0	28961	1.22 µg/L	-0.013
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 97.5%	
d3-MeFOSAA	8.207	573.2 -> 419.0	26045	4.77 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 95.4%	
13C3-HFPO-DA	5.945	286.9 -> 168.9	36480	9.85 µg/L	-0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 98.5%	
d3-MeFOSA	10.744	515.0 -> 219.0	6785	2.28 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 91.4%	
d5-EtFOSAA	8.402	589.2 -> 419.0	22727	4.86 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 97.2%	
d7-MeFOSE	10.665	623.2 -> 58.9	80876	24.46 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 97.8%	
d9-EtFOSE	10.911	639.2 -> 58.9	96562	24.57 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 98.3%	
d5-EtFOSA	10.976	531.1 -> 219.0	7614	2.40 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 95.9%	

Target Compounds	RT	Transition	Response	Conc. Units	QValue
4:2FTS	-	327.1 -> 307.0	-	N.D.	
		327.1 -> 80.9			
6:2FTS	-	427.1 -> 407.0	-	N.D.	
		427.1 -> 80.9			
8:2FTS	-	527.1 -> 507.0	-	N.D.	
		527.1 -> 80.8			
EtFOSAA	-	584.2 -> 419.1	-	N.D.	
		584.2 -> 526.0			
FOSA	-	498.1 -> 77.9	-	N.D.	
		498.1 -> 478.0			
MeFOSAA	-	570.1 -> 419.0	-	N.D.	
		570.1 -> 483.0			
PFBA	-	212.8 -> 168.9	-	N.D.	
PFBS	-	298.7 -> 79.9	-	N.D.	
		298.7 -> 98.8			
PFDA	-	512.9 -> 469.0	-	N.D.	
		512.9 -> 219.0			
PFDODA	-	613.1 -> 569.0	-	N.D.	
		613.1 -> 319.0			
PFDS	-	599.0 -> 79.9	-	N.D.	



7.2.2
7

Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
PFHpA	-	599.0 -> 98.8	-	N.D.	
		363.1 -> 319.0			
PFHpS	-	363.1 -> 169.0	-	N.D.	
		449.0 -> 79.9			
PFHxA	-	449.0 -> 98.9	-	N.D.	
		313.0 -> 269.0			
PFHxS	-	313.0 -> 118.9	-	N.D.	
		398.7 -> 79.9			
PFNA	-	398.7 -> 98.9	-	N.D.	
		463.0 -> 419.0			
PFNS	-	463.0 -> 219.0	-	N.D.	
		548.8 -> 79.9			
PFOA	-	548.8 -> 98.9	-	N.D.	
		413.0 -> 369.0			
PFOS	-	413.0 -> 169.0	-	N.D.	
		498.9 -> 79.9			
PFPeA	-	498.9 -> 98.8	-	N.D.	
		263.0 -> 219.0			
PFPeS	-	349.1 -> 79.9	-	N.D.	
		349.1 -> 98.9			
PFTeDA	-	713.1 -> 669.0	-	N.D.	
		713.1 -> 168.9			
PFTrDA	-	663.0 -> 619.0	-	N.D.	
		663.0 -> 168.9			
PFUnDA	-	563.1 -> 519.0	-	N.D.	
		563.1 -> 269.1			
11Cl-PF3OUdS	-	630.9 -> 450.9	-	N.D.	
		632.9 -> 452.9			
9Cl-PF3ONS	-	530.8 -> 351.0	-	N.D.	
		532.8 -> 353.0			
ADONA	-	376.9 -> 250.9	-	N.D.	
		376.9 -> 84.8			
HFPO-DA	-	284.9 -> 168.9	-	N.D.	
		284.9 -> 184.9			
3:3FTCA	-	241.0 -> 177.0	-	N.D.	
		241.0 -> 117.0			
5:3FTCA	-	341.0 -> 237.1	-	N.D.	
		341.0 -> 217.0			
7:3FTCA	-	441.0 -> 316.9	-	N.D.	
		441.0 -> 336.9			
EtFOSA	-	526.0 -> 219.0	-	N.D.	
		526.0 -> 169.0			
EtFOSE	-	630.0 -> 58.9	-	N.D.	
		511.9 -> 219.0			
MeFOSA	-	511.9 -> 169.0	-	N.D.	
		616.1 -> 58.9			
MeFOSE	-	699.1 -> 79.9	-	N.D.	
		699.1 -> 98.8			
PFDoDS	-	295.0 -> 201.0	-	N.D.	
		295.0 -> 84.9			
NFDHA	-	279.0 -> 85.1	-	N.D.	
		229.0 -> 84.9			
PFMBA	-	314.8 -> 134.9	-	N.D.	
		314.8 -> 82.9			

= Qualifier out of range, m = manually integrated, + = Area summed

7.2.2
7

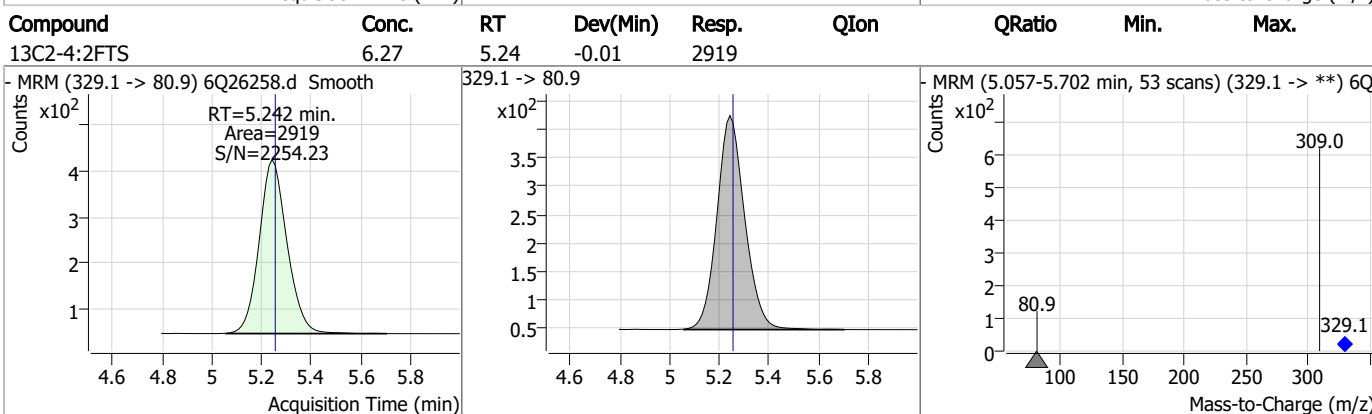
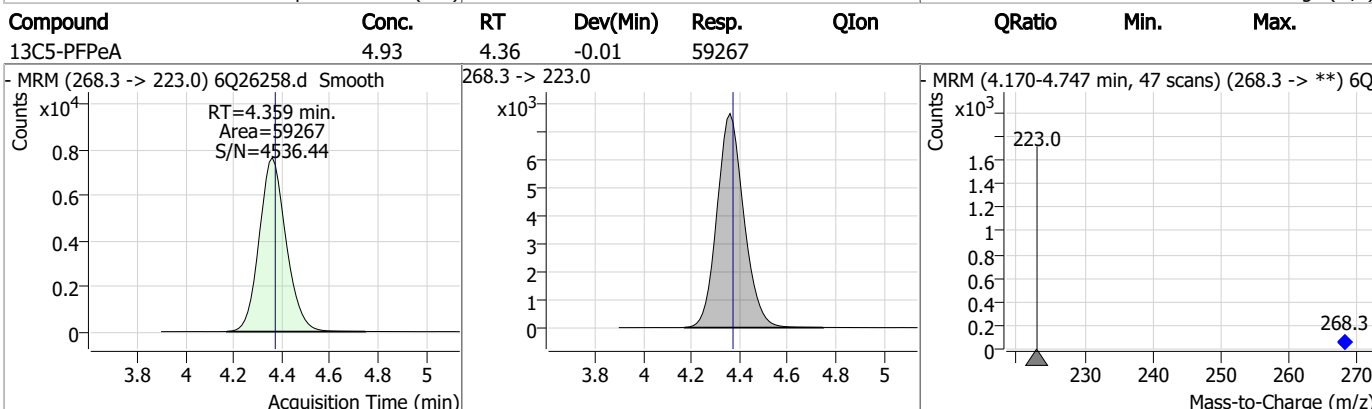
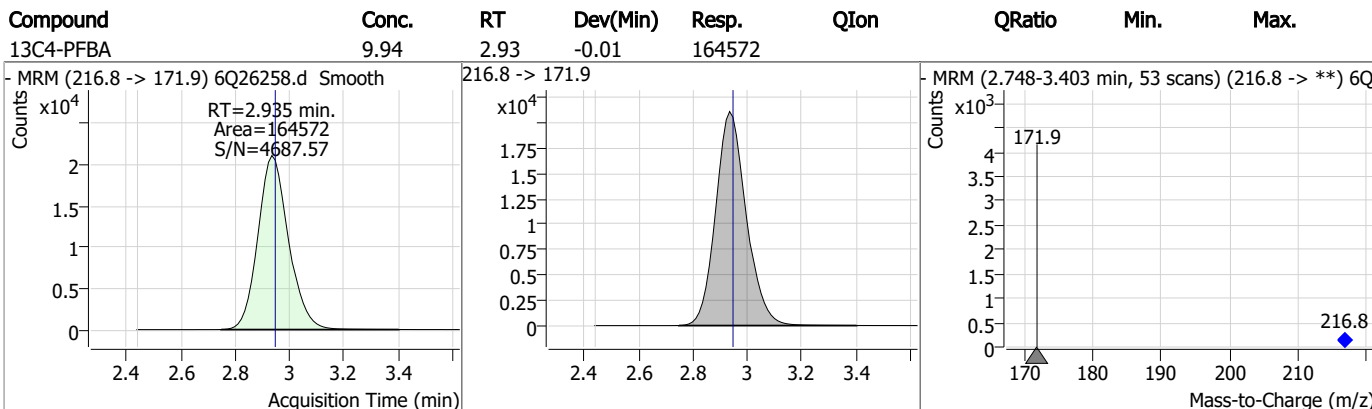
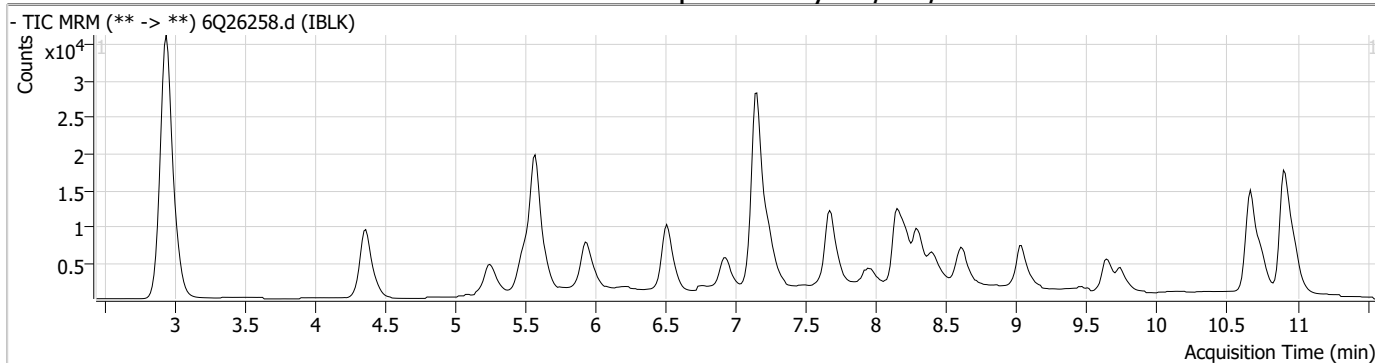
Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
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7.2.2

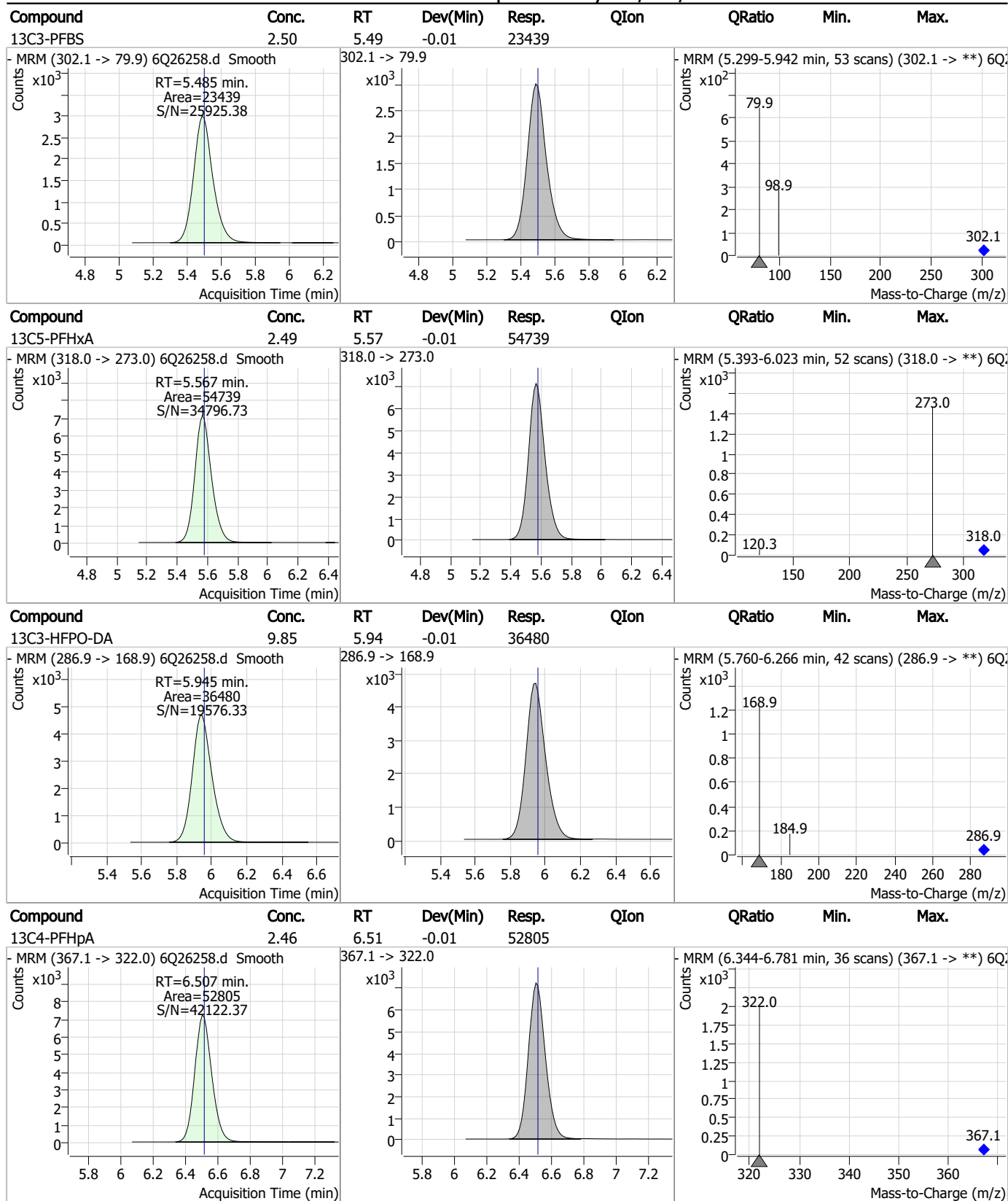
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Perfluorinated Compounds by LC/MS/MS



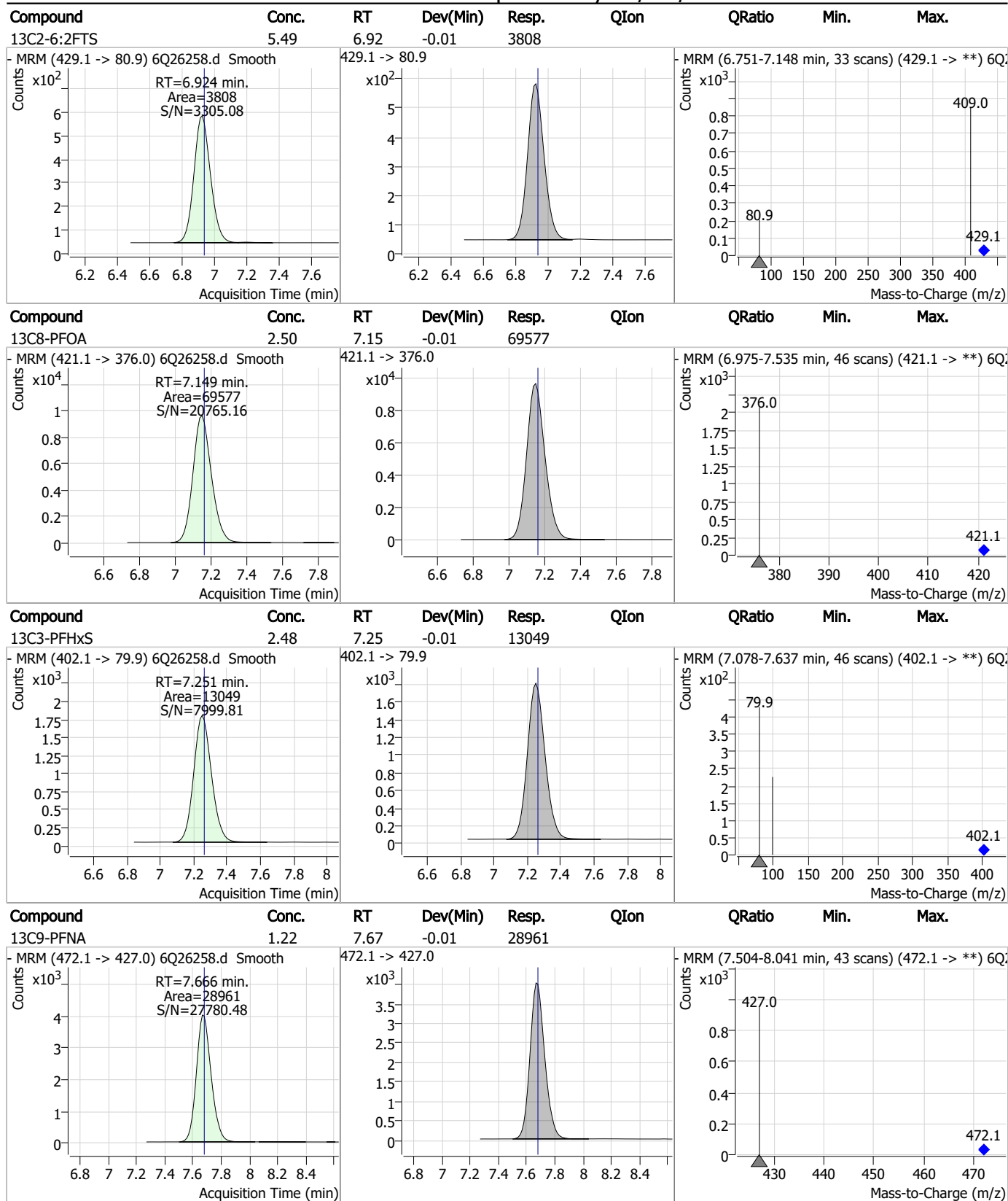
7.2.2
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Perfluorinated Compounds by LC/MS/MS



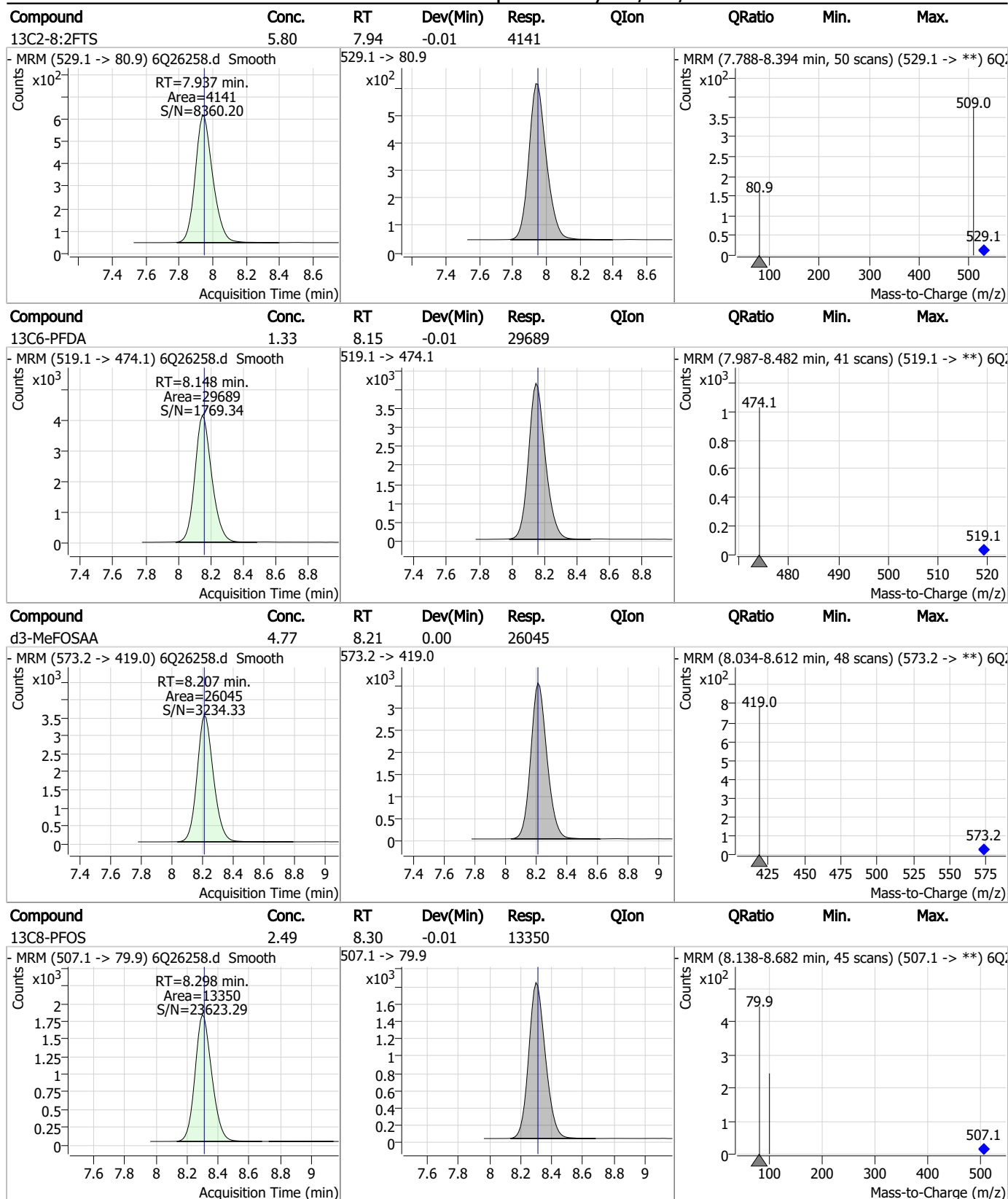
7.2.2
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Perfluorinated Compounds by LC/MS/MS



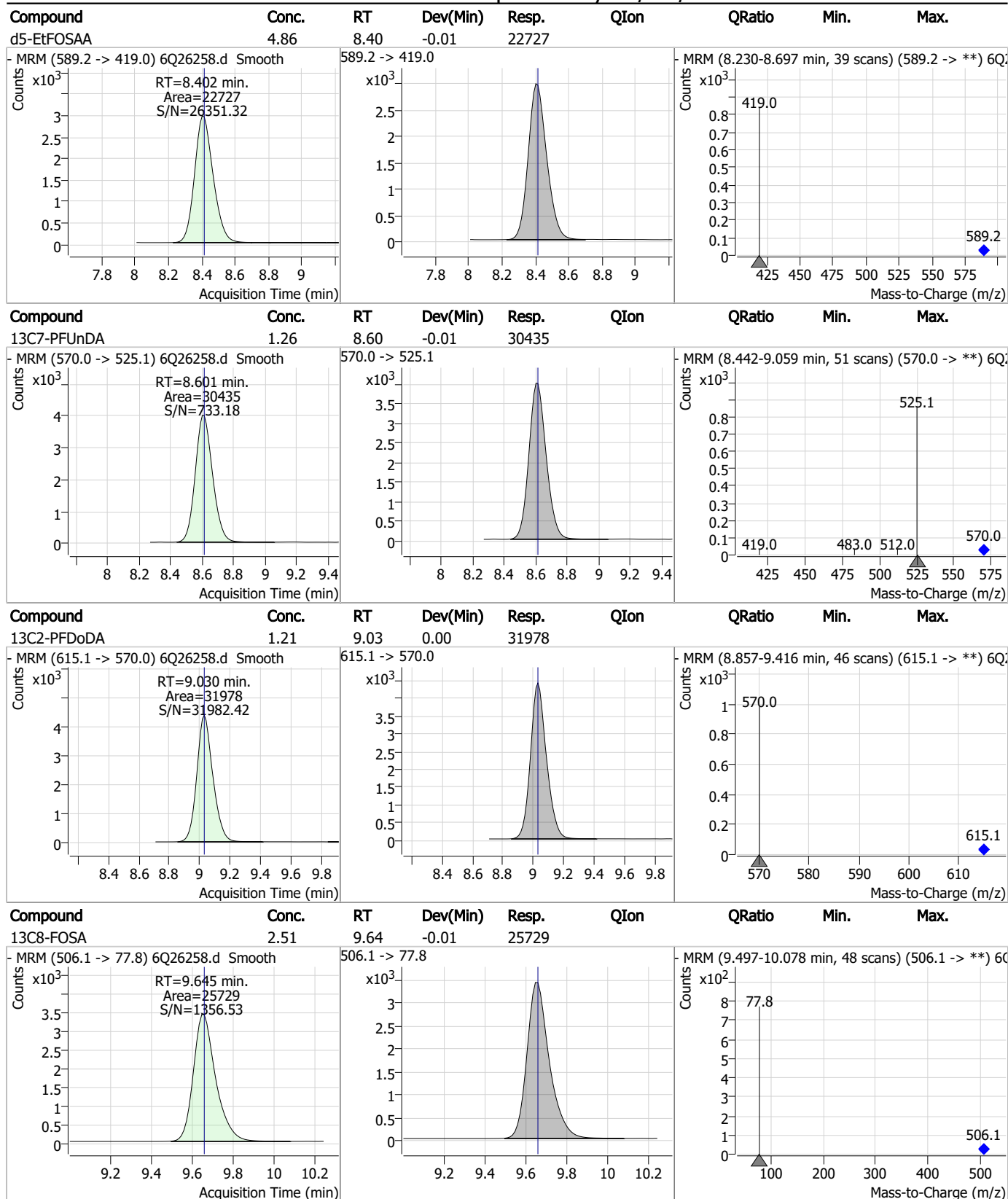
7.2.2
7

Perfluorinated Compounds by LC/MS/MS



7.2.2
7

Perfluorinated Compounds by LC/MS/MS



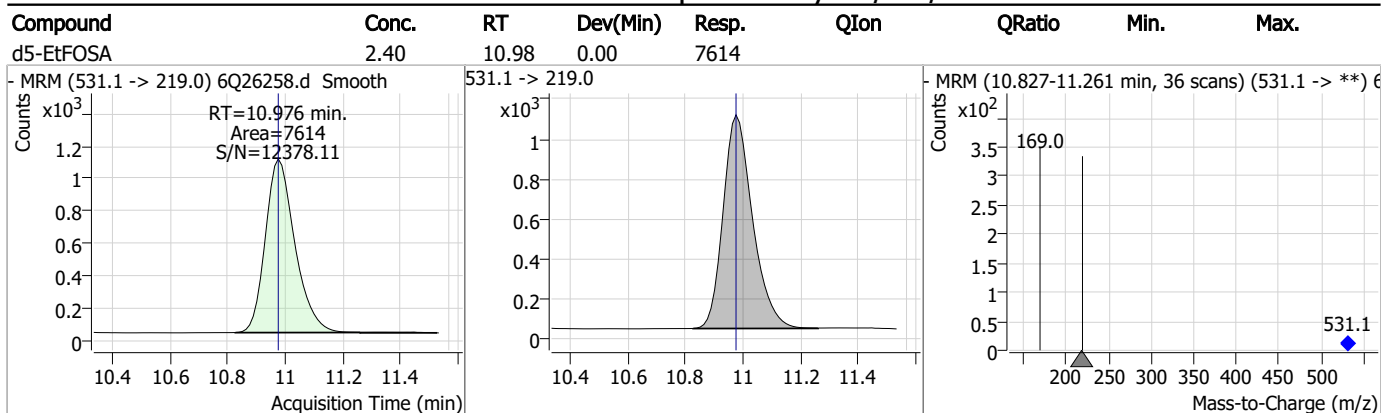
7.2.2
7

Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFTeDA	1.34	9.75	0.00	11937				
d7-MeFOSE	24.46	10.67	0.00	80876				
d3-MeFOSA	2.28	10.74	-0.01	6785				
d9-EtFOSE	24.57	10.91	0.00	96562				

7.2.2
7

Perfluorinated Compounds by LC/MS/MS



7.2.2
7

Perfluorinated Compounds by LC/MS/MS

Data File : 6Q26290.d
 Operator : marthav
 Acq. Method : 1633full.m
 Acq. Date-Time : 10/12/2023 6:11:18 PM
 Sample Name : iccb
 Vial : P1-A1
 DA Method File : 1633_100823_S6Q367.quantmethod.xml
 Batch Name : s6q370.batch.bin
 Sample Information : OP99081,S6Q370,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Internal Standards					
M4-PFBA	2.935	216.8 -> 171.9	160915	10.00 µg/L	-0.013
M5-PFPeA	4.359	268.3 -> 223.0	57779	5.00 µg/L	-0.012
M5-PFHxA	5.567	318.0 -> 273.0	51253	2.50 µg/L	-0.012
M4-PFHpA	6.507	367.1 -> 322.0	50735	2.50 µg/L	-0.012
M8-PFOA	7.149	421.1 -> 376.0	66728	2.50 µg/L	-0.012
M9-PFNA	7.666	472.1 -> 427.0	27372	1.25 µg/L	-0.013
M6-PFDA	8.148	519.1 -> 474.1	28996	1.25 µg/L	-0.012
M7-PFUnDA	8.601	570.0 -> 525.1	28518	1.25 µg/L	-0.012
M2-PFDoDA	9.018	615.1 -> 570.0	33044	1.25 µg/L	-0.012
M2-PFTeDA	9.735	715.2 -> 670.0	11584	1.25 µg/L	-0.012
M8-FOSA	9.657	506.1 -> 77.8	23912	2.50 µg/L	0.000
M3-PFBS	5.485	302.1 -> 79.9	23497	2.50 µg/L	-0.012
M3-PFHxS	7.251	402.1 -> 79.9	12580	2.50 µg/L	-0.012
M8-PFOS	8.298	507.1 -> 79.9	12979	2.50 µg/L	-0.013
M2-4:2FTS	5.242	329.1 -> 80.9	2712	5.00 µg/L	-0.012
M2-6:2FTS	6.924	429.1 -> 80.9	3950	5.00 µg/L	-0.012
M2-8:2FTS	7.950	529.1 -> 80.9	3895	5.00 µg/L	0.000
M3-MeFOSAA	8.207	573.2 -> 419.0	27331	5.00 µg/L	0.000
M3-HFPO-DA	5.945	286.9 -> 168.9	36919	10.00 µg/L	-0.012
M5-EtFOSAA	8.402	589.2 -> 419.0	23035	5.00 µg/L	-0.012
M7-MeFOSE	10.665	623.2 -> 58.9	76950	25.00 µg/L	0.000
M9-EtFOSE	10.911	639.2 -> 58.9	86485	25.00 µg/L	0.000
M5-EtFOSA	10.976	531.1 -> 219.0	7254	2.50 µg/L	0.000
M3-MeFOSA	10.744	515.0 -> 219.0	6012	2.50 µg/L	-0.012
13C4-PFOS	8.299	502.8 -> 79.9	12137	2.50 µg/L	-0.013
13C3-PFBA	2.939	216.0 -> 172.0	68365	5.00 µg/L	-0.013
18O2-PFHxS	7.250	403.0 -> 83.9	8106	2.50 µg/L	-0.012
13C4-PFOA	7.150	417.1 -> 372.0	77220	2.50 µg/L	-0.012
13C2-PFDA	8.149	515.1 -> 470.1	26185	1.25 µg/L	-0.012
13C5-PFNA	7.667	468.0 -> 423.0	27711	1.25 µg/L	-0.013
13C2-PFHxA	5.568	315.1 -> 270.0	52702	2.50 µg/L	-0.012
System Monitoring Compounds					
13C2-4:2FTS	5.242	329.1 -> 80.9	2712	5.94 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 118.8%		
13C2-6:2FTS	6.924	429.1 -> 80.9	3950	5.81 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 116.3%		
13C2-8:2FTS	7.950	529.1 -> 80.9	3895	5.57 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 111.4%		
13C2-PFDoDA	9.018	615.1 -> 570.0	33044	1.27 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 101.3%		
13C2-PFTeDA	9.735	715.2 -> 670.0	11584	1.31 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 104.7%		
13C3-PFBS	5.485	302.1 -> 79.9	23497	2.56 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 102.3%		
13C3-PFHxS	7.251	402.1 -> 79.9	12580	2.44 µg/L	-0.012

7.2.3
7



Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 97.7%	
13C4-PFBA	2.935	216.8 -> 171.9	160915	9.75 µg/L	-0.013
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 97.5%	
13C4-PFHpA	6.507	367.1 -> 322.0	50735	2.38 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 95.2%	
13C5-PFHxA	5.567	318.0 -> 273.0	51253	2.35 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 94.1%	
13C5-PFPeA	4.359	268.3 -> 223.0	57779	4.84 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 96.9%	
13C6-PFDA	8.148	519.1 -> 474.1	28996	1.31 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 105.2%	
13C7-PFUnDA	8.601	570.0 -> 525.1	28518	1.20 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 95.7%	
13C8-FOSA	9.657	506.1 -> 77.8	23912	2.39 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 95.5%	
13C8-PFOA	7.149	421.1 -> 376.0	66728	2.49 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 99.7%	
13C8-PFOS	8.298	507.1 -> 79.9	12979	2.48 µg/L	-0.013
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 99.0%	
13C9-PFNA	7.666	472.1 -> 427.0	27372	1.20 µg/L	-0.013
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 96.1%	
d3-MeFOSAA	8.207	573.2 -> 419.0	27331	5.12 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 102.4%	
13C3-HFPO-DA	5.945	286.9 -> 168.9	36919	10.04 µg/L	-0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 100.4%	
d3-MeFOSA	10.744	515.0 -> 219.0	6012	2.07 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 82.8%	
d5-EtFOSAA	8.402	589.2 -> 419.0	23035	5.04 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 100.7%	
d7-MeFOSE	10.665	623.2 -> 58.9	76950	23.80 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 95.2%	
d9-EtFOSE	10.911	639.2 -> 58.9	86485	22.51 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 90.0%	
d5-EtFOSA	10.976	531.1 -> 219.0	7254	2.34 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 93.4%	

Target Compounds

Compound	RT	Transition	Response	Conc. Units	QValue
4:2FTS	-	327.1 -> 307.0	-	N.D.	
		327.1 -> 80.9			
6:2FTS	-	427.1 -> 407.0	-	N.D.	
		427.1 -> 80.9			
8:2FTS	-	527.1 -> 507.0	-	N.D.	
		527.1 -> 80.8			
EtFOSAA	-	584.2 -> 419.1	-	N.D.	
		584.2 -> 526.0			
FOSA	-	498.1 -> 77.9	-	N.D.	
		498.1 -> 478.0			
MeFOSAA	-	570.1 -> 419.0	-	N.D.	
		570.1 -> 483.0			
PFBA	-	212.8 -> 168.9	-	N.D.	
PFBS	-	298.7 -> 79.9	-	N.D.	
		298.7 -> 98.8			
PFDA	-	512.9 -> 469.0	-	N.D.	
		512.9 -> 219.0			
PFDODA	-	613.1 -> 569.0	-	N.D.	
		613.1 -> 319.0			
PFDS	-	599.0 -> 79.9	-	N.D.	

7.2.3
7

Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
PFHpA	-	599.0 -> 98.8	-	N.D.		
		363.1 -> 319.0				
PFHpS	-	363.1 -> 169.0	-	N.D.		
		449.0 -> 79.9				
PFHxA	-	449.0 -> 98.9	-	N.D.		
		313.0 -> 269.0				
PFHxS	-	313.0 -> 118.9	-	N.D.		
		398.7 -> 79.9				
PFNA	-	398.7 -> 98.9	-	N.D.		
		463.0 -> 419.0				
PFNS	-	463.0 -> 219.0	-	N.D.		
		548.8 -> 79.9				
PFOA	7.611	548.8 -> 98.9	0	µg/L	m	1
		413.0 -> 369.0				
PFOS	-	413.0 -> 169.0	-	N.D.		
		498.9 -> 79.9				
PFPeA	-	498.9 -> 98.8	-	N.D.		
		263.0 -> 219.0				
PFPeS	-	349.1 -> 79.9	-	N.D.		
		349.1 -> 98.9				
PFTeDA	-	713.1 -> 669.0	-	N.D.		
		713.1 -> 168.9				
PFTrDA	-	663.0 -> 619.0	-	N.D.		
		663.0 -> 168.9				
PFUnDA	-	563.1 -> 519.0	-	N.D.		
		563.1 -> 269.1				
11Cl-PF3OUdS	-	630.9 -> 450.9	-	N.D.		
		632.9 -> 452.9				
9Cl-PF3ONS	-	530.8 -> 351.0	-	N.D.		
		532.8 -> 353.0				
ADONA	-	376.9 -> 250.9	-	N.D.		
		376.9 -> 84.8				
HFPO-DA	-	284.9 -> 168.9	-	N.D.		
		284.9 -> 184.9				
3:3FTCA	-	241.0 -> 177.0	-	N.D.		
		241.0 -> 117.0				
5:3FTCA	-	341.0 -> 237.1	-	N.D.		
		341.0 -> 217.0				
7:3FTCA	-	441.0 -> 316.9	-	N.D.		
		441.0 -> 336.9				
EtFOSA	-	526.0 -> 219.0	-	N.D.		
		526.0 -> 169.0				
EtFOSE	-	630.0 -> 58.9	-	N.D.		
		511.9 -> 219.0				
MeFOSA	-	511.9 -> 169.0	-	N.D.		
		616.1 -> 58.9				
MeFOSE	-	699.1 -> 79.9	-	N.D.		
		699.1 -> 98.8				
PFDoDS	-	295.0 -> 201.0	-	N.D.		
		295.0 -> 84.9				
NFDHA	-	279.0 -> 85.1	-	N.D.		
		229.0 -> 84.9				
PFMBA	-	314.8 -> 134.9	-	N.D.		
		314.8 -> 82.9				

= Qualifier out of range, m = manually integrated, + = Area summed

7.2.3
7

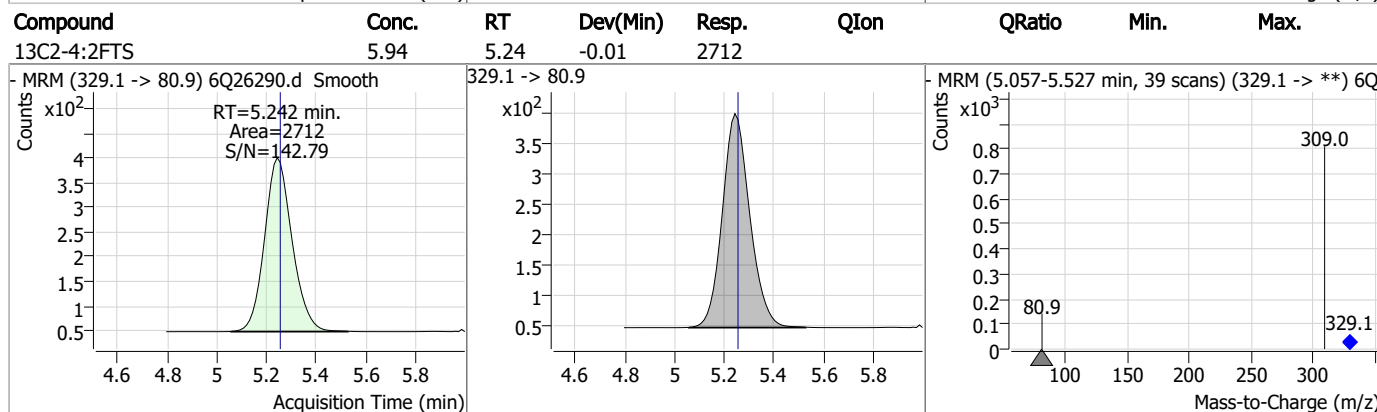
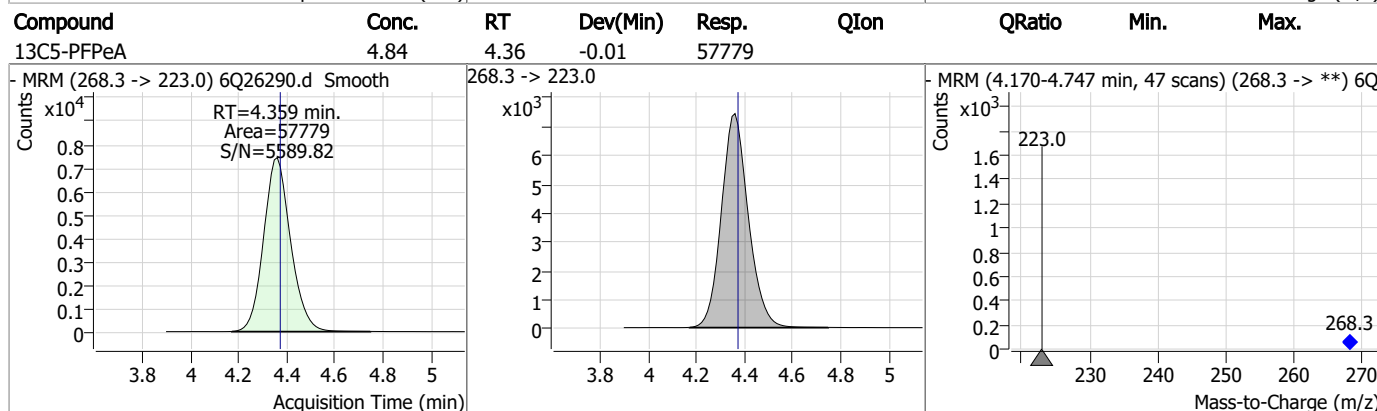
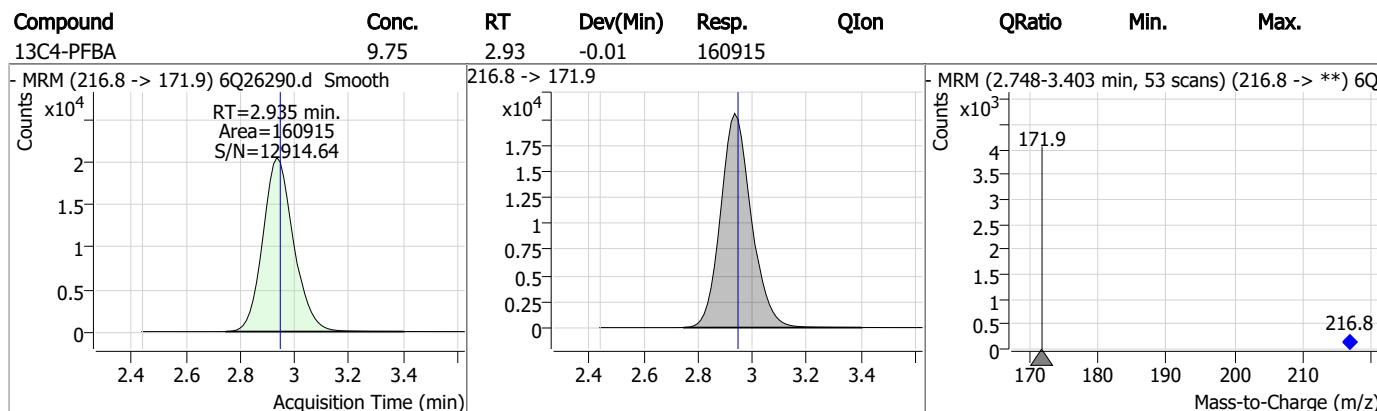
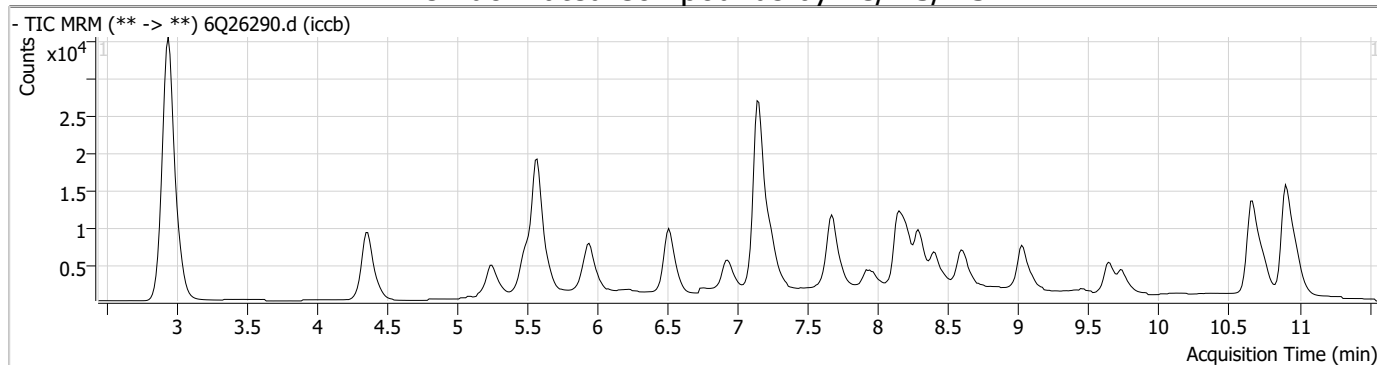
Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
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7.2.3

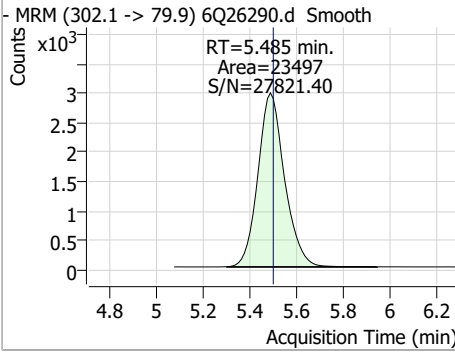
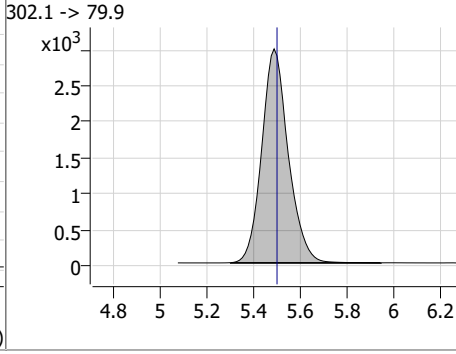
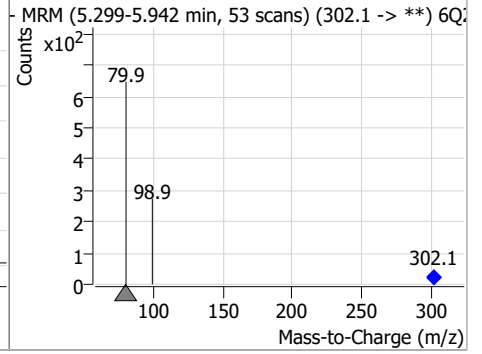
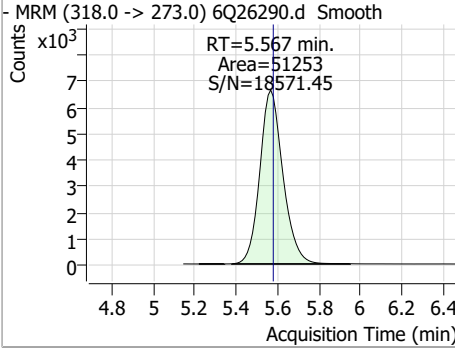
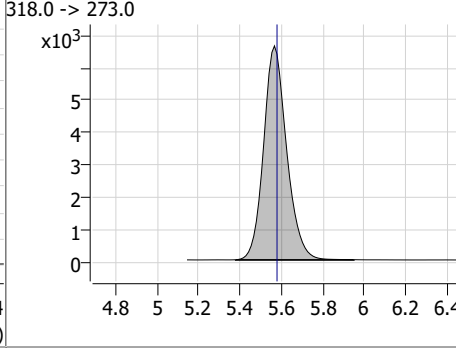
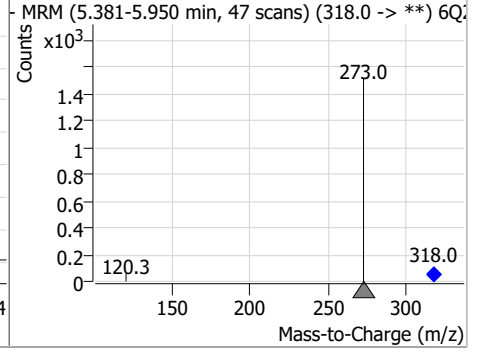
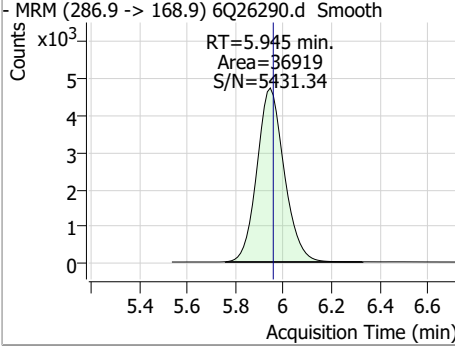
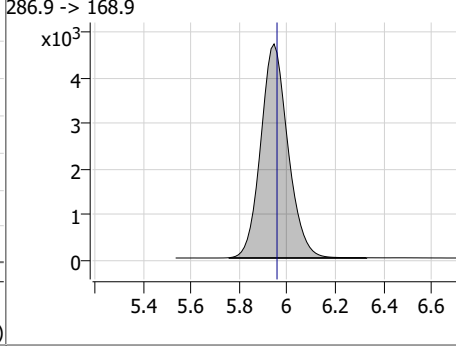
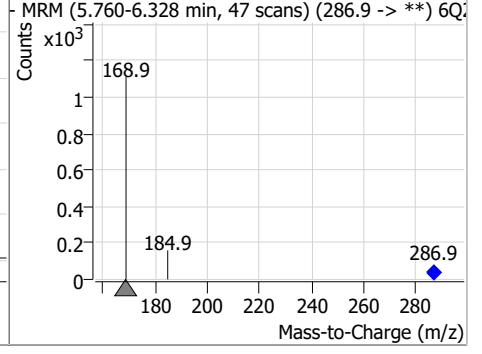
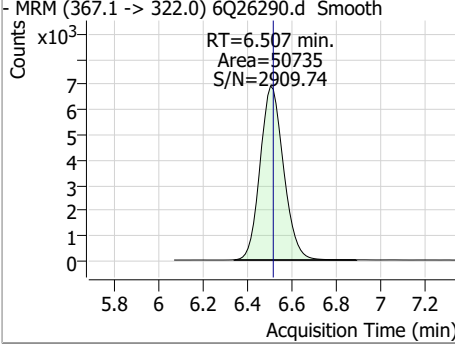
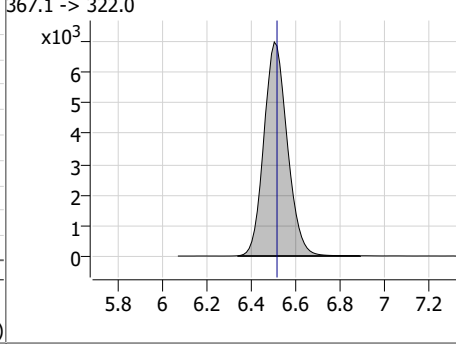
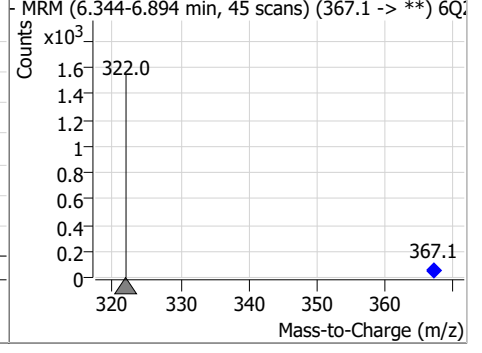
7

Perfluorinated Compounds by LC/MS/MS



7.2.3
7

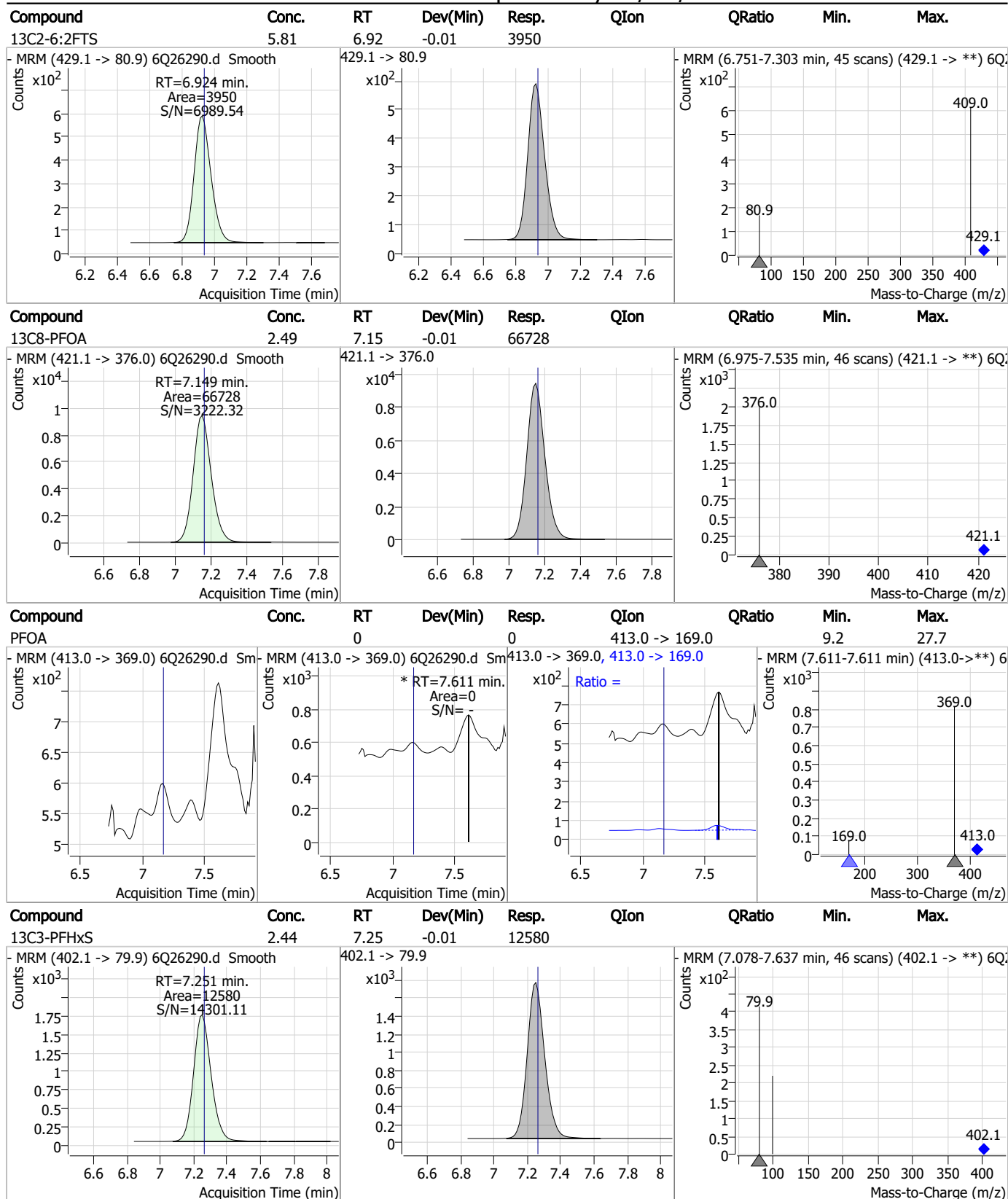
Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFBS	2.56	5.49	-0.01	23497				
- MRM (302.1 -> 79.9) 6Q26290.d Smooth Counts x10 ³ RT=5.485 min. Area=23497 S/N=27821.40 			302.1 -> 79.9 Counts x10 ³ 			- MRM (5.299-5.942 min, 53 scans) (302.1 -> **) 6Q26290.d Smooth Counts x10 ² 79.9 98.9 302.1 		
13C5-PFHxA	2.35	5.57	-0.01	51253				
- MRM (318.0 -> 273.0) 6Q26290.d Smooth Counts x10 ³ RT=5.567 min. Area=51253 S/N=18571.45 			318.0 -> 273.0 Counts x10 ³ 			- MRM (5.381-5.950 min, 47 scans) (318.0 -> **) 6Q26290.d Smooth Counts x10 ³ 273.0 120.3 318.0 		
13C3-HFPO-DA	10.04	5.94	-0.01	36919				
- MRM (286.9 -> 168.9) 6Q26290.d Smooth Counts x10 ³ RT=5.945 min. Area=36919 S/N=5431.34 			286.9 -> 168.9 Counts x10 ³ 			- MRM (5.760-6.328 min, 47 scans) (286.9 -> **) 6Q26290.d Smooth Counts x10 ³ 168.9 184.9 286.9 		
13C4-PFHpA	2.38	6.51	-0.01	50735				
- MRM (367.1 -> 322.0) 6Q26290.d Smooth Counts x10 ³ RT=6.507 min. Area=50735 S/N=2909.74 			367.1 -> 322.0 Counts x10 ³ 			- MRM (6.344-6.894 min, 45 scans) (367.1 -> **) 6Q26290.d Smooth Counts x10 ³ 322.0 367.1 		

7.2.3

7

Perfluorinated Compounds by LC/MS/MS



7.2.3
7

Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C9-PFNA	1.20	7.67	-0.01	27372				
13C2-8:2FTS	5.57	7.95	0.00	3895				
13C6-PFDA	1.31	8.15	-0.01	28996				
d3-MeFOSAA	5.12	8.21	0.00	27331				

7.2.3

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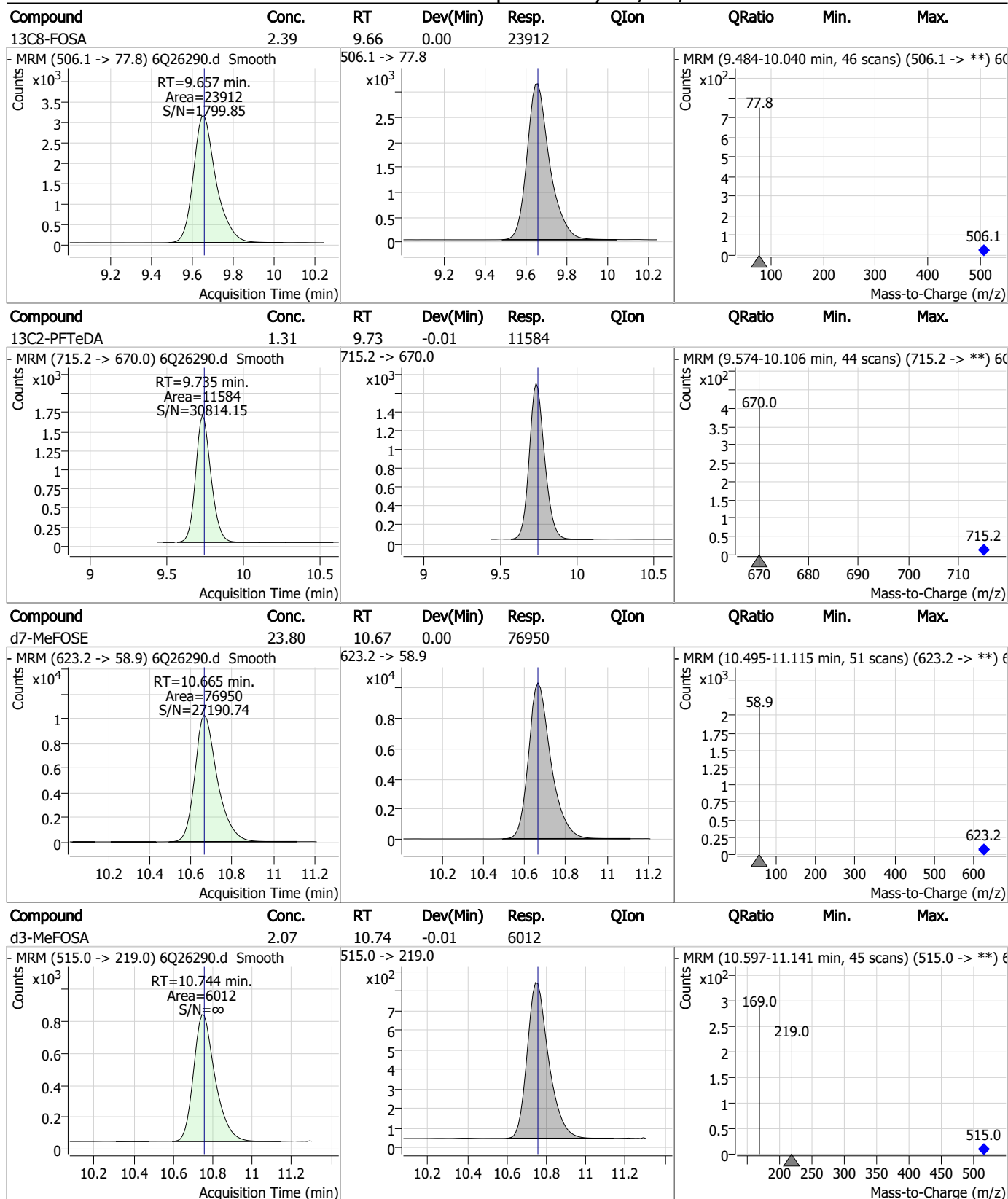
Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOS	2.48	8.30	-0.01	12979				
d5-EtFOSAA	5.04	8.40	-0.01	23035				
13C7-PFUnDA	1.20	8.60	-0.01	28518				
13C2-PFDoDA	1.27	9.02	-0.01	33044				

7.2.3

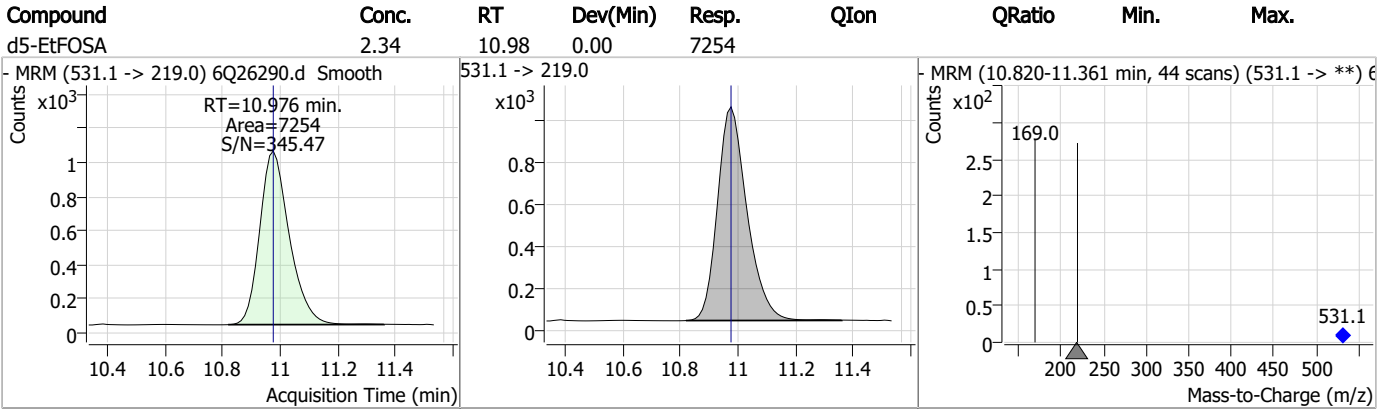
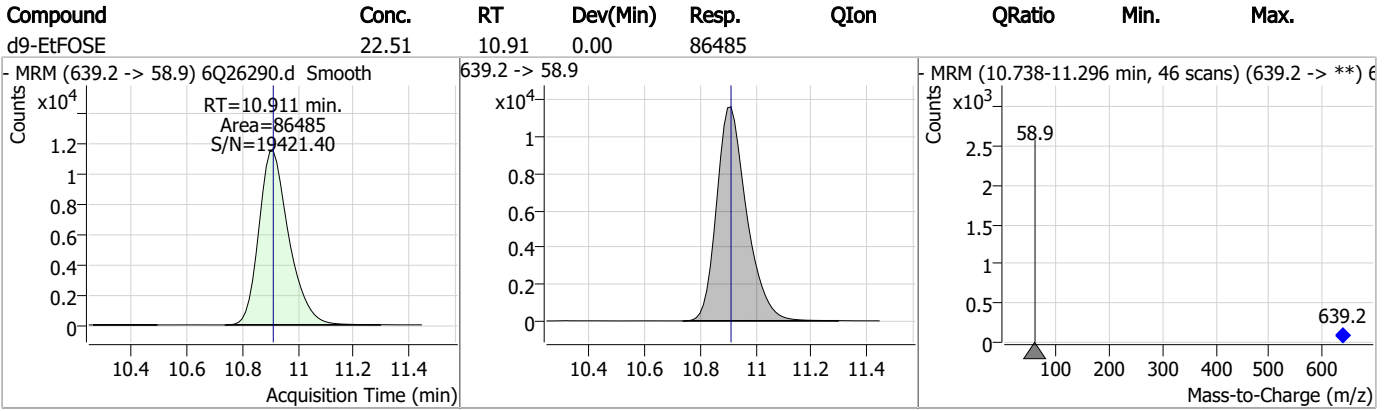
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Perfluorinated Compounds by LC/MS/MS



7.2.3
7

Perfluorinated Compounds by LC/MS/MS



7.2.3

7

Perfluorinated Compounds by LC/MS/MS

Data File : 6Q26350.d
 Operator : marthav
 Acq. Method : 1633full.m
 Acq. Date-Time : 10/13/2023 8:30:46 AM
 Sample Name : IBLK
 Vial : P1-A1
 DA Method File : 1633_100823_S6Q367.quantmethod.xml
 Batch Name : s6q370.batch.bin
 Sample Information : OP99081,S6Q370,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Internal Standards					
M4-PFBA	2.935	216.8 -> 171.9	159996	10.00 µg/L	-0.013
M5-PFPeA	4.347	268.3 -> 223.0	58198	5.00 µg/L	-0.025
M5-PFHxA	5.555	318.0 -> 273.0	55239	2.50 µg/L	-0.025
M4-PFHpA	6.507	367.1 -> 322.0	49437	2.50 µg/L	-0.012
M8-PFOA	7.136	421.1 -> 376.0	67714	2.50 µg/L	-0.025
M9-PFNA	7.666	472.1 -> 427.0	28900	1.25 µg/L	-0.013
M6-PFDA	8.136	519.1 -> 474.1	28347	1.25 µg/L	-0.025
M7-PFUnDA	8.589	570.0 -> 525.1	30640	1.25 µg/L	-0.025
M2-PFDoDA	9.018	615.1 -> 570.0	32389	1.25 µg/L	-0.012
M2-PFTeDA	9.735	715.2 -> 670.0	11216	1.25 µg/L	-0.012
M8-FOSA	9.645	506.1 -> 77.8	25306	2.50 µg/L	-0.012
M3-PFBS	5.473	302.1 -> 79.9	23211	2.50 µg/L	-0.025
M3-PFHxS	7.239	402.1 -> 79.9	13189	2.50 µg/L	-0.025
M8-PFOS	8.286	507.1 -> 79.9	12547	2.50 µg/L	-0.025
M2-4:2FTS	5.230	329.1 -> 80.9	2781	5.00 µg/L	-0.025
M2-6:2FTS	6.912	429.1 -> 80.9	3926	5.00 µg/L	-0.025
M2-8:2FTS	7.937	529.1 -> 80.9	3737	5.00 µg/L	-0.012
M3-MeFOSAA	8.195	573.2 -> 419.0	26716	5.00 µg/L	-0.012
M3-HFPO-DA	5.933	286.9 -> 168.9	36940	10.00 µg/L	-0.025
M5-EtFOSAA	8.390	589.2 -> 419.0	22080	5.00 µg/L	-0.025
M7-MeFOSE	10.665	623.2 -> 58.9	76787	25.00 µg/L	0.000
M9-EtFOSE	10.898	639.2 -> 58.9	94453	25.00 µg/L	-0.012
M5-EtFOSA	10.976	531.1 -> 219.0	7353	2.50 µg/L	0.000
M3-MeFOSA	10.744	515.0 -> 219.0	6354	2.50 µg/L	-0.012
13C4-PFOS	8.287	502.8 -> 79.9	11718	2.50 µg/L	-0.025
13C3-PFBA	2.927	216.0 -> 172.0	67496	5.00 µg/L	-0.025
18O2-PFHxS	7.238	403.0 -> 83.9	8253	2.50 µg/L	-0.025
13C4-PFOA	7.136	417.1 -> 372.0	79468	2.50 µg/L	-0.025
13C2-PFDA	8.136	515.1 -> 470.1	26830	1.25 µg/L	-0.025
13C5-PFNA	7.667	468.0 -> 423.0	27418	1.25 µg/L	-0.013
13C2-PFHxA	5.556	315.1 -> 270.0	50080	2.50 µg/L	-0.025
System Monitoring Compounds					
13C2-4:2FTS	5.230	329.1 -> 80.9	2781	5.98 µg/L	-0.025
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 119.6%		
13C2-6:2FTS	6.912	429.1 -> 80.9	3926	5.68 µg/L	-0.025
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 113.5%		
13C2-8:2FTS	7.937	529.1 -> 80.9	3737	5.25 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 105.0%		
13C2-PFDoDA	9.018	615.1 -> 570.0	32389	1.21 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 96.9%		
13C2-PFTeDA	9.735	715.2 -> 670.0	11216	1.24 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 98.9%		
13C3-PFBS	5.473	302.1 -> 79.9	23211	2.48 µg/L	-0.025
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 99.3%		
13C3-PFHxS	7.239	402.1 -> 79.9	13189	2.51 µg/L	-0.025

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Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 100.6%	
13C4-PFBA	2.935	216.8 -> 171.9	159996	9.82 µg/L	-0.013
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 98.2%	
13C4-PFHpA	6.507	367.1 -> 322.0	49437	2.44 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 97.6%	
13C5-PFHxA	5.555	318.0 -> 273.0	55239	2.67 µg/L	-0.025
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 106.7%	
13C5-PFPeA	4.347	268.3 -> 223.0	58198	5.14 µg/L	-0.025
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 102.7%	
13C6-PFDA	8.136	519.1 -> 474.1	28347	1.25 µg/L	-0.025
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 100.4%	
13C7-PFUnDA	8.589	570.0 -> 525.1	30640	1.25 µg/L	-0.025
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 100.3%	
13C8-FOSA	9.645	506.1 -> 77.8	25306	2.62 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 104.7%	
13C8-PFOA	7.136	421.1 -> 376.0	67714	2.46 µg/L	-0.025
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 98.3%	
13C8-PFOS	8.286	507.1 -> 79.9	12547	2.48 µg/L	-0.025
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 99.2%	
13C9-PFNA	7.666	472.1 -> 427.0	28900	1.28 µg/L	-0.013
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 102.5%	
d3-MeFOSAA	8.195	573.2 -> 419.0	26716	5.18 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 103.7%	
13C3-HFPO-DA	5.933	286.9 -> 168.9	36940	10.57 µg/L	-0.025
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 105.7%	
d3-MeFOSA	10.744	515.0 -> 219.0	6354	2.27 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 90.6%	
d5-EtFOSAA	8.390	589.2 -> 419.0	22080	5.00 µg/L	-0.025
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 100.0%	
d7-MeFOSE	10.665	623.2 -> 58.9	76787	24.60 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 98.4%	
d9-EtFOSE	10.898	639.2 -> 58.9	94453	25.46 µg/L	-0.012
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 101.8%	
d5-EtFOSA	10.976	531.1 -> 219.0	7353	2.45 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 98.1%	

Target Compounds	RT	Transition	Response	Conc. Units	QValue
4:2FTS	-	327.1 -> 307.0	-	N.D.	
		327.1 -> 80.9			
6:2FTS	-	427.1 -> 407.0	-	N.D.	
		427.1 -> 80.9			
8:2FTS	-	527.1 -> 507.0	-	N.D.	
		527.1 -> 80.8			
EtFOSAA	-	584.2 -> 419.1	-	N.D.	
		584.2 -> 526.0			
FOSA	-	498.1 -> 77.9	-	N.D.	
		498.1 -> 478.0			
MeFOSAA	-	570.1 -> 419.0	-	N.D.	
		570.1 -> 483.0			
PFBA	-	212.8 -> 168.9	-	N.D.	
PFBS	-	298.7 -> 79.9	-	N.D.	
		298.7 -> 98.8			
PFDA	-	512.9 -> 469.0	-	N.D.	
		512.9 -> 219.0			
PFDODA	-	613.1 -> 569.0	-	N.D.	
		613.1 -> 319.0			
PFDS	-	599.0 -> 79.9	-	N.D.	



7.2.4
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Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
PFHpA	-	599.0 -> 98.8	-	N.D.	
		363.1 -> 319.0			
PFHpS	-	363.1 -> 169.0	-	N.D.	
		449.0 -> 79.9			
PFHxA	-	449.0 -> 98.9	-	N.D.	
		313.0 -> 269.0			
PFHxS	-	313.0 -> 118.9	-	N.D.	
		398.7 -> 79.9			
PFNA	-	398.7 -> 98.9	-	N.D.	
		463.0 -> 419.0			
PFNS	-	463.0 -> 219.0	-	N.D.	
		548.8 -> 79.9			
PFOA	-	548.8 -> 98.9	-	N.D.	
		413.0 -> 369.0			
PFOS	-	413.0 -> 169.0	-	N.D.	
		498.9 -> 79.9			
PFPeA	-	498.9 -> 98.8	-	N.D.	
		263.0 -> 219.0			
PFPeS	-	349.1 -> 79.9	-	N.D.	
		349.1 -> 98.9			
PFTeDA	-	713.1 -> 669.0	-	N.D.	
		713.1 -> 168.9			
PFTrDA	-	663.0 -> 619.0	-	N.D.	
		663.0 -> 168.9			
PFUnDA	-	563.1 -> 519.0	-	N.D.	
		563.1 -> 269.1			
11Cl-PF3OUdS	-	630.9 -> 450.9	-	N.D.	
		632.9 -> 452.9			
9Cl-PF3ONS	-	530.8 -> 351.0	-	N.D.	
		532.8 -> 353.0			
ADONA	-	376.9 -> 250.9	-	N.D.	
		376.9 -> 84.8			
HFPO-DA	-	284.9 -> 168.9	-	N.D.	
		284.9 -> 184.9			
3:3FTCA	-	241.0 -> 177.0	-	N.D.	
		241.0 -> 117.0			
5:3FTCA	-	341.0 -> 237.1	-	N.D.	
		341.0 -> 217.0			
7:3FTCA	-	441.0 -> 316.9	-	N.D.	
		441.0 -> 336.9			
EtFOSA	-	526.0 -> 219.0	-	N.D.	
		526.0 -> 169.0			
EtFOSE	-	630.0 -> 58.9	-	N.D.	
		511.9 -> 219.0			
MeFOSA	-	511.9 -> 169.0	-	N.D.	
		616.1 -> 58.9			
MeFOSE	-	699.1 -> 79.9	-	N.D.	
		699.1 -> 98.8			
PFDoDS	-	295.0 -> 201.0	-	N.D.	
		295.0 -> 84.9			
NFDHA	-	279.0 -> 85.1	-	N.D.	
		229.0 -> 84.9			
PFMBA	-	314.8 -> 134.9	-	N.D.	
		314.8 -> 82.9			

= Qualifier out of range, m = manually integrated, + = Area summed



7.2.4
7

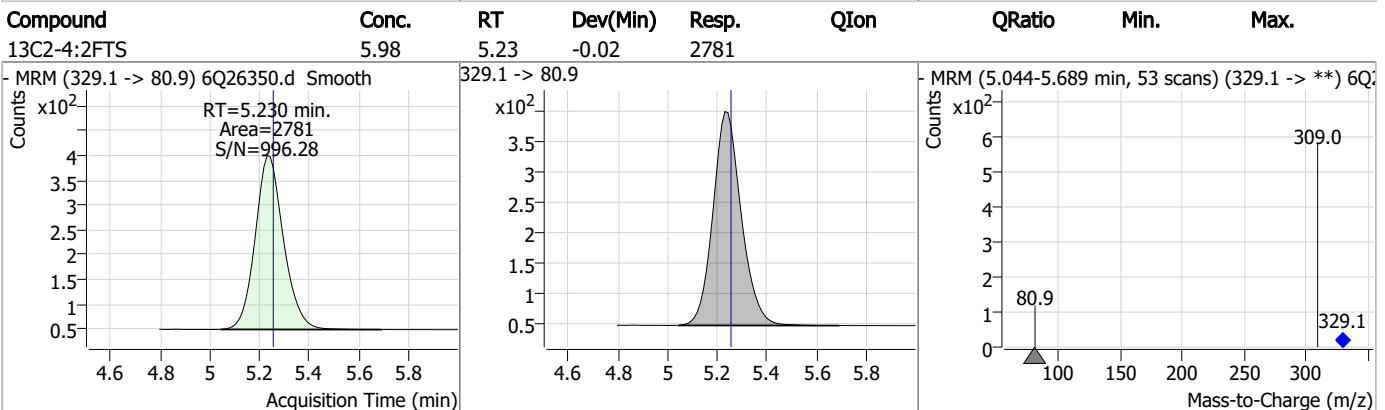
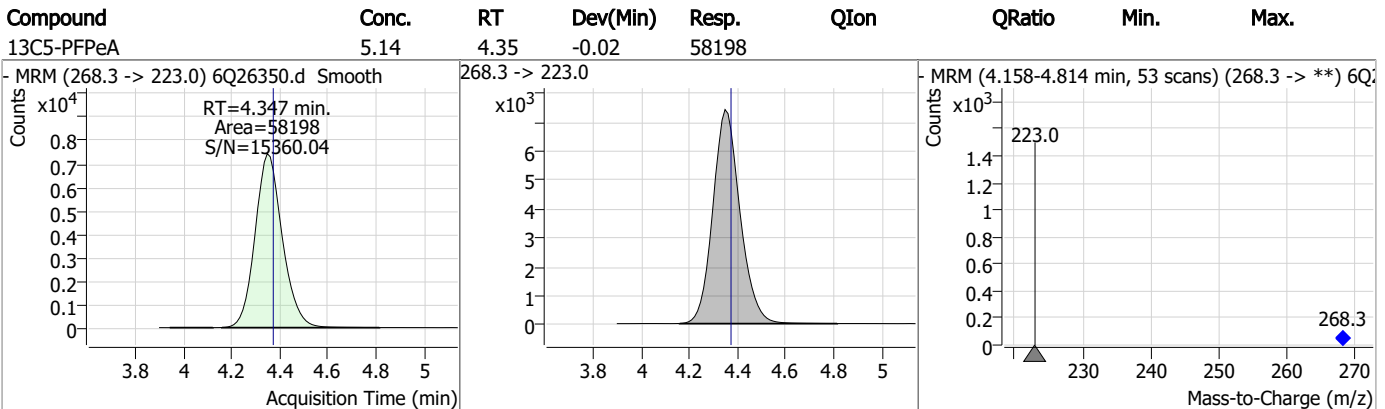
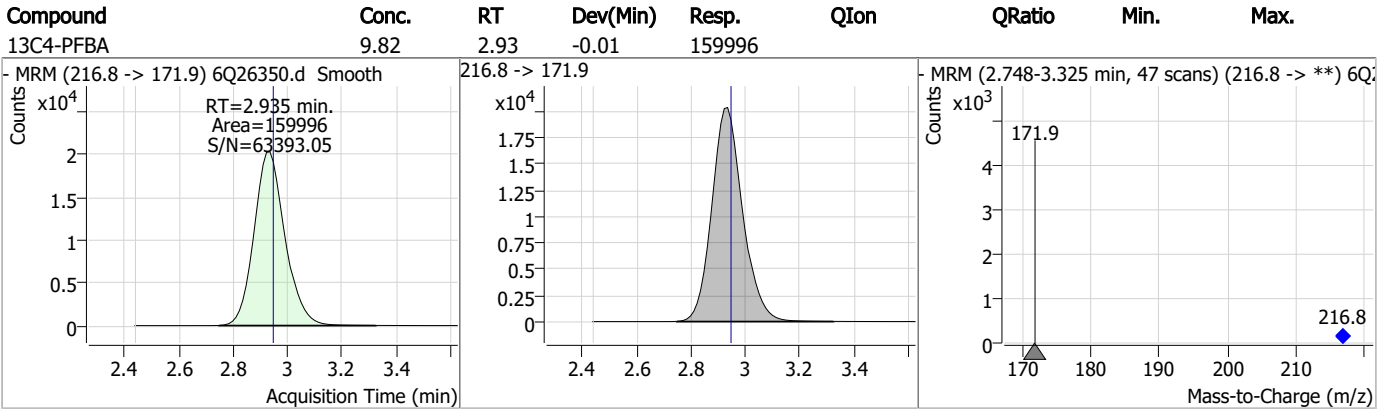
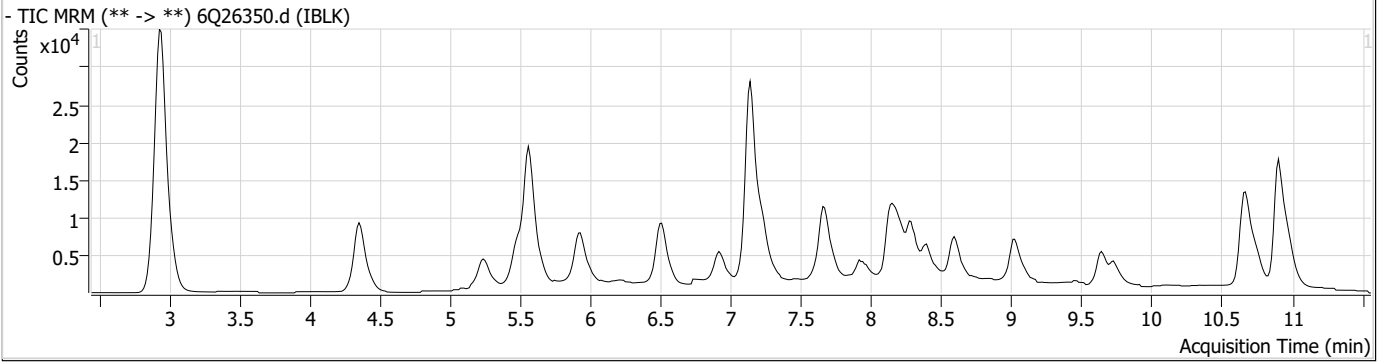
Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
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7.2.4

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Perfluorinated Compounds by LC/MS/MS



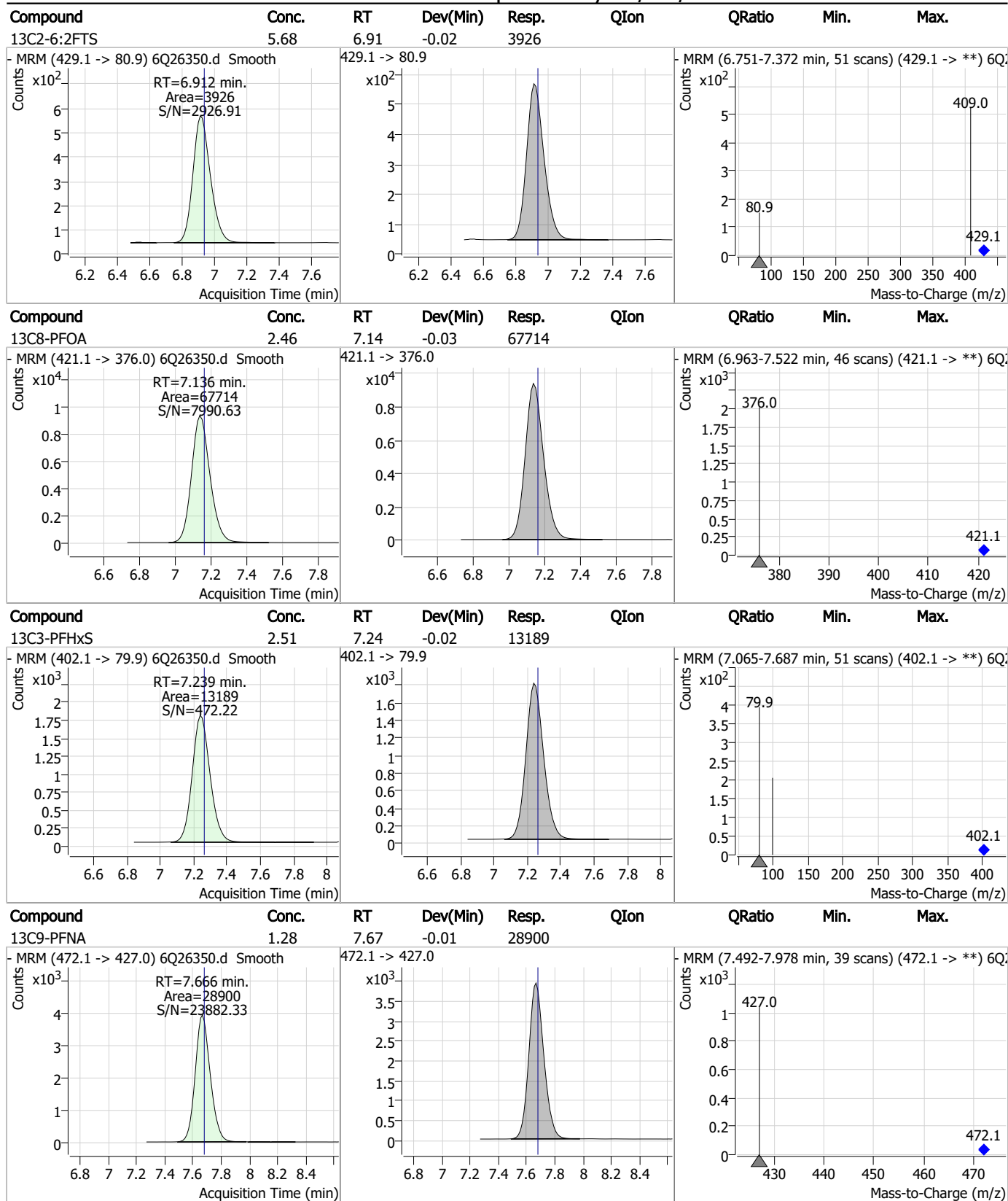
Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFBS	2.48	5.47	-0.02	23211				
13C5-PFHxA	2.67	5.56	-0.02	55239				
13C3-HFPO-DA	10.57	5.93	-0.02	36940				
13C4-PFHpA	2.44	6.51	-0.01	49437				

7.2.4

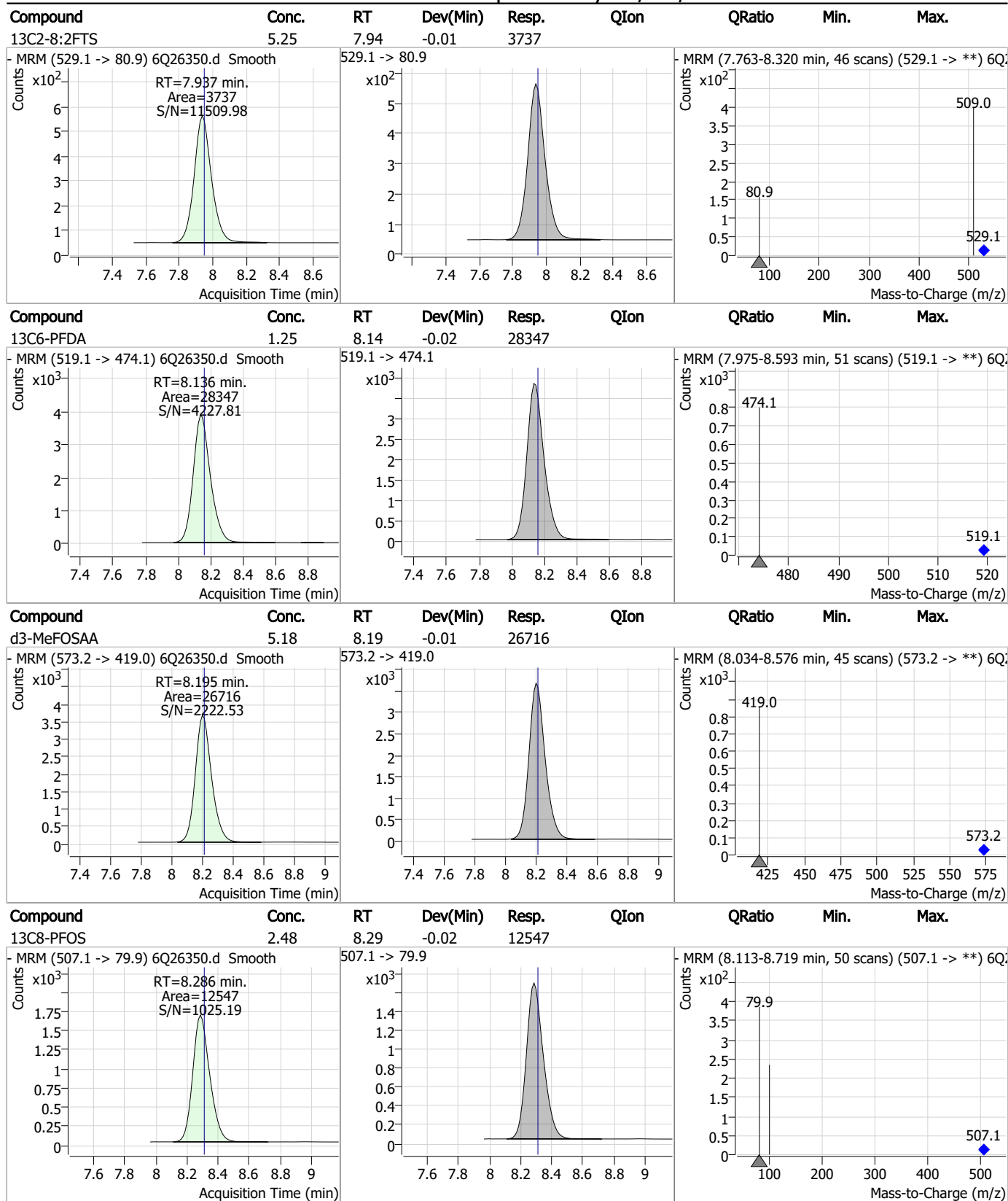
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Perfluorinated Compounds by LC/MS/MS



7.2.4
7

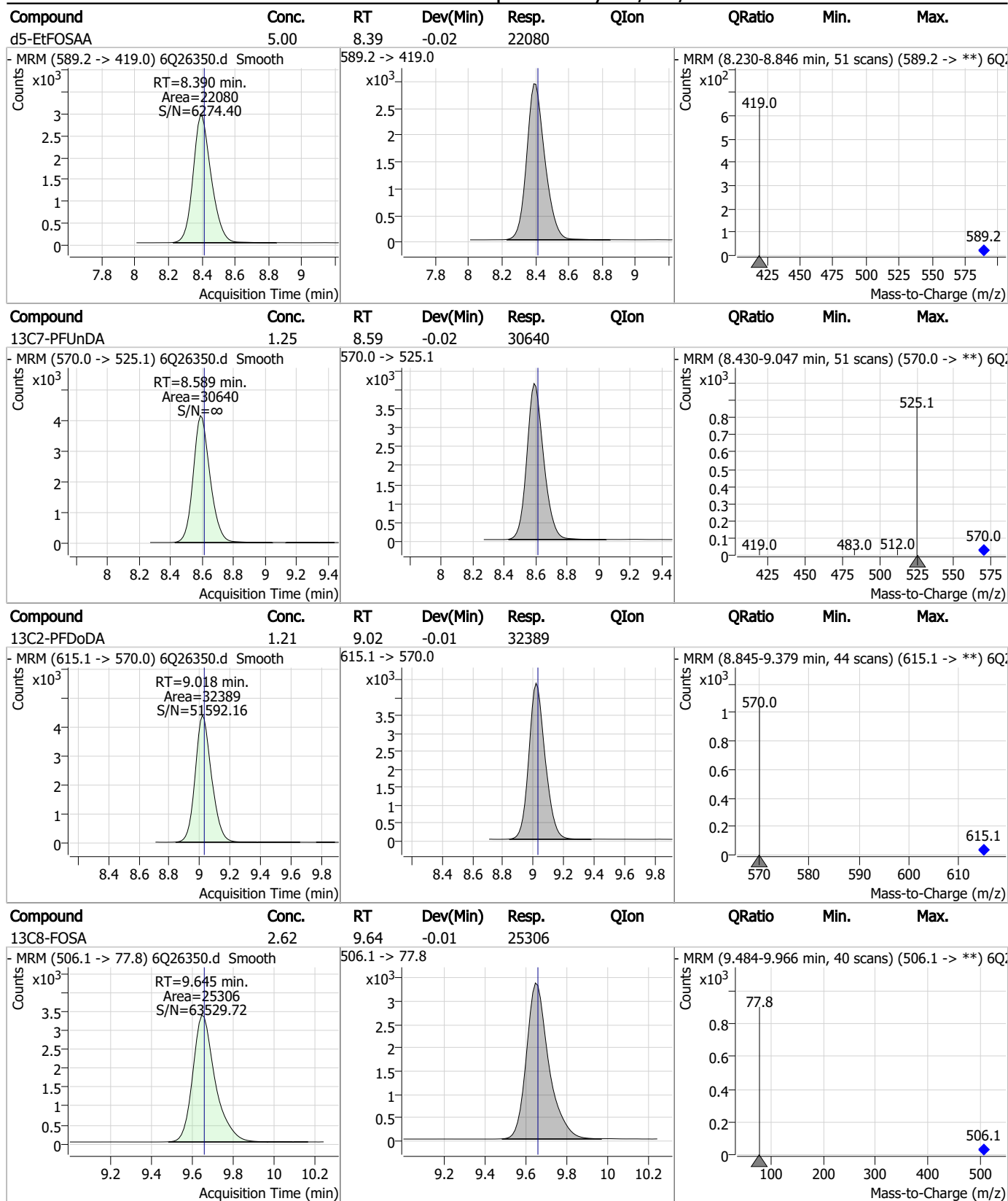
Perfluorinated Compounds by LC/MS/MS



7.2.4
7



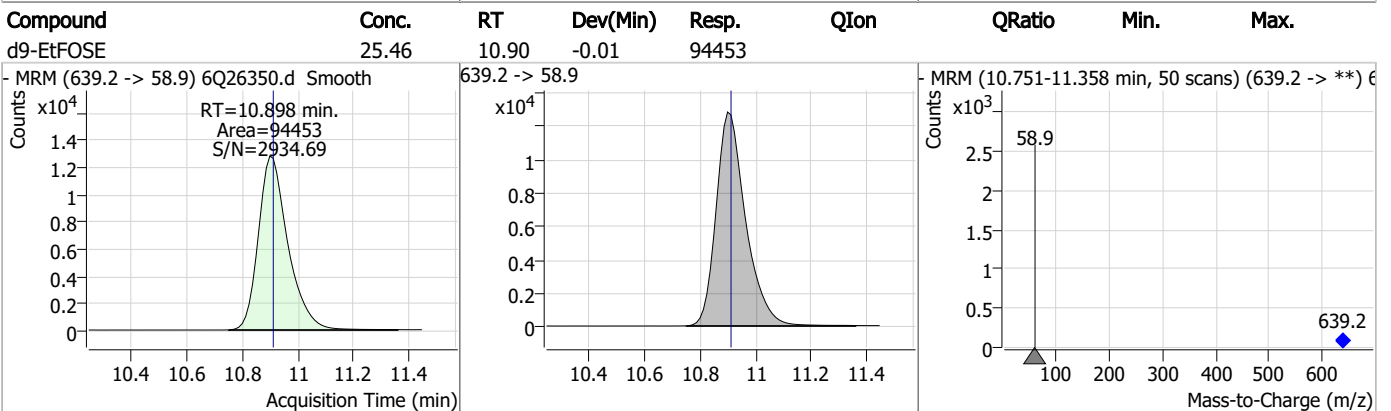
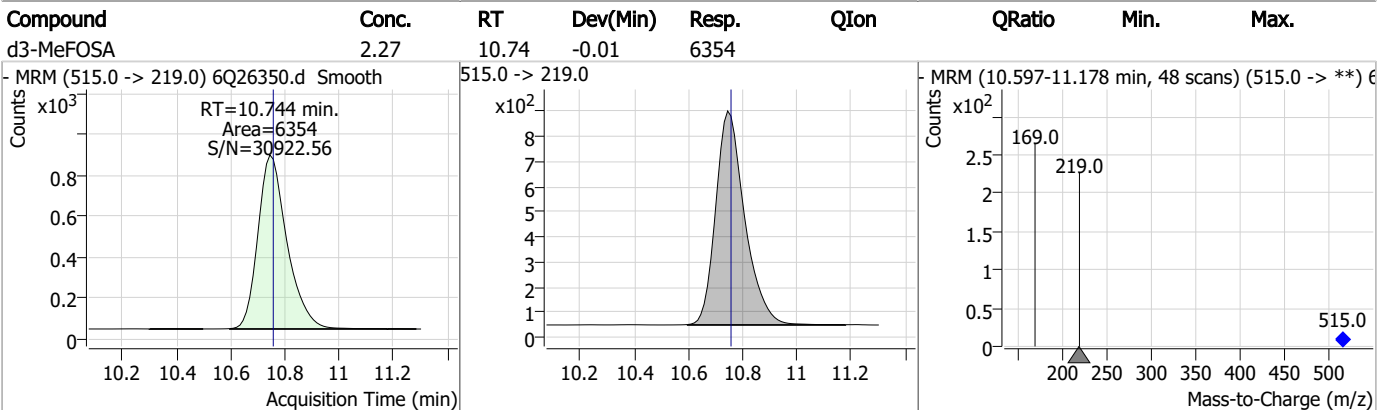
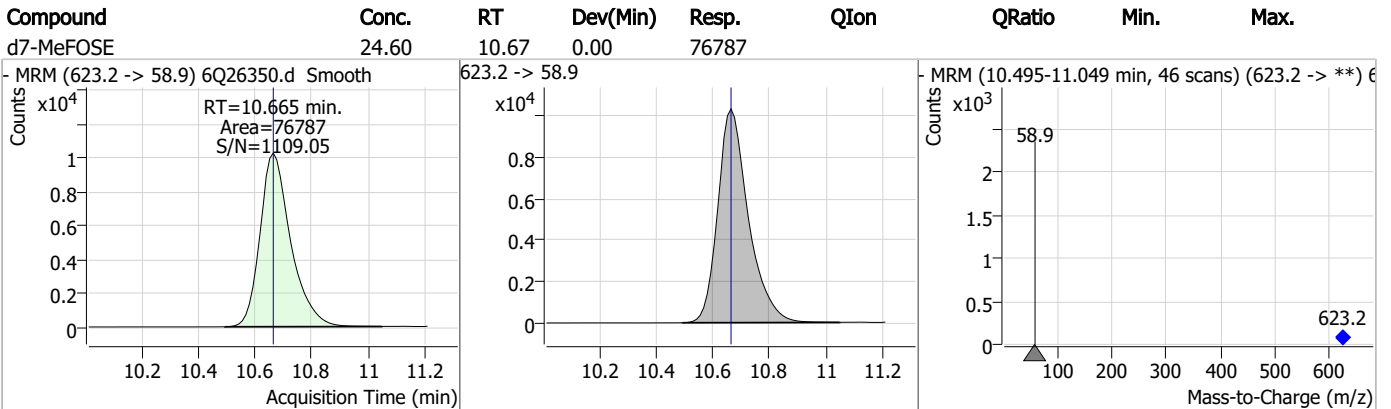
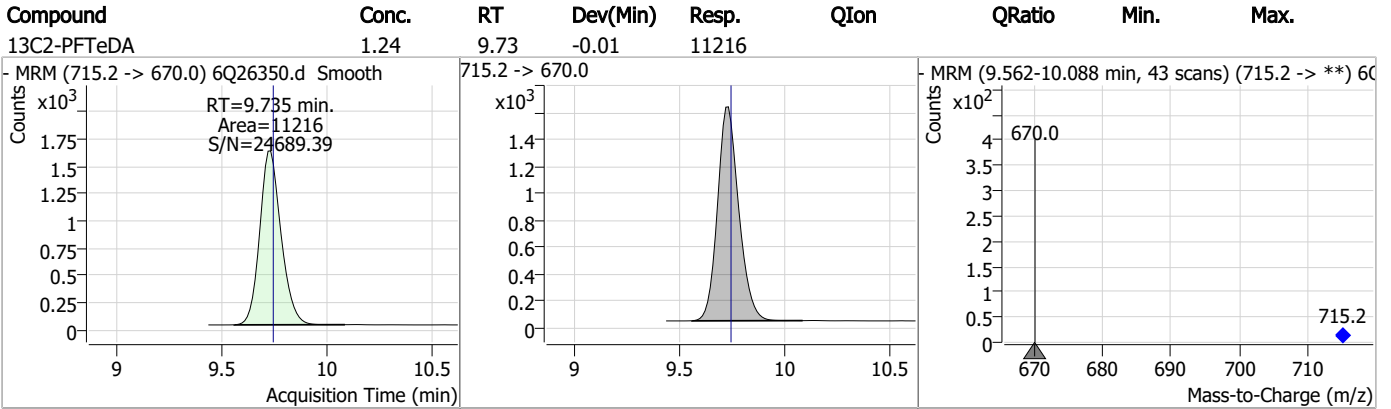
Perfluorinated Compounds by LC/MS/MS



7.2.4

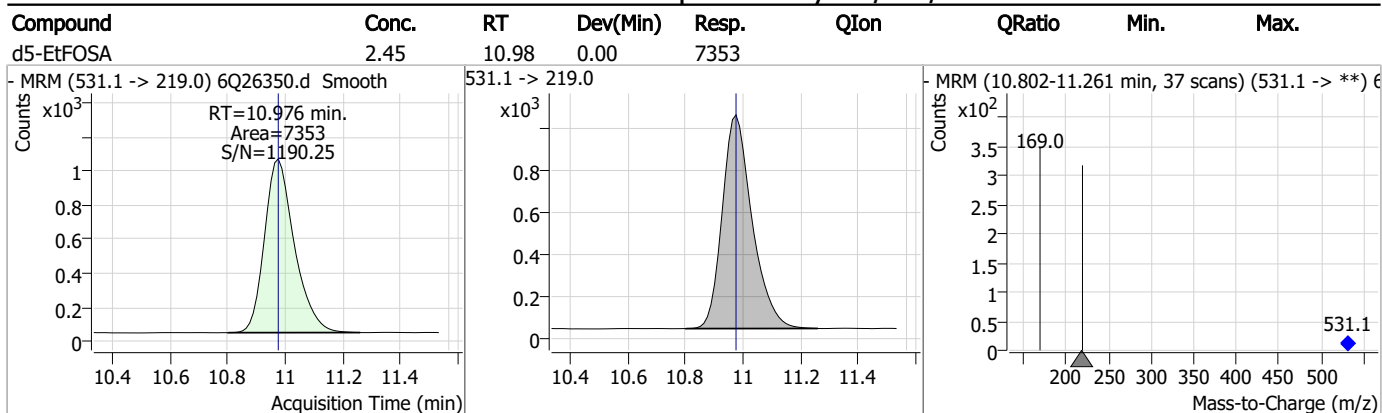
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Perfluorinated Compounds by LC/MS/MS



7.2.4 7

Perfluorinated Compounds by LC/MS/MS



7.2.4
7

Perfluorinated Compounds by LC/MS/MS

Data File : 6Q26279.d
 Operator : marthav
 Acq. Method : 1633full.m
 Acq. Date-Time : 10/12/2023 3:33:38 PM
 Sample Name : iccb
 Vial : P1-A1
 DA Method File : 1633_100823_S6Q367.quantmethod.xml
 Batch Name : s6q370.batch.bin
 Sample Information : OP99081,S6Q370,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Internal Standards					
M4-PFBA	2.960	216.8 -> 171.9	162647	10.00 µg/L	0.012
M5-PFPeA	4.359	268.3 -> 223.0	55927	5.00 µg/L	-0.012
M5-PFHxA	5.567	318.0 -> 273.0	51190	2.50 µg/L	-0.012
M4-PFHpA	6.507	367.1 -> 322.0	52135	2.50 µg/L	-0.012
M8-PFOA	7.149	421.1 -> 376.0	67683	2.50 µg/L	-0.012
M9-PFNA	7.666	472.1 -> 427.0	29131	1.25 µg/L	-0.013
M6-PFDA	8.148	519.1 -> 474.1	29532	1.25 µg/L	-0.012
M7-PFUnDA	8.601	570.0 -> 525.1	28513	1.25 µg/L	-0.012
M2-PFDoDA	9.030	615.1 -> 570.0	32216	1.25 µg/L	0.000
M2-PFTeDA	9.735	715.2 -> 670.0	10729	1.25 µg/L	-0.012
M8-FOSA	9.657	506.1 -> 77.8	23706	2.50 µg/L	0.000
M3-PFBS	5.485	302.1 -> 79.9	23226	2.50 µg/L	-0.012
M3-PFHxS	7.251	402.1 -> 79.9	12684	2.50 µg/L	-0.012
M8-PFOS	8.298	507.1 -> 79.9	12231	2.50 µg/L	-0.013
M2-4:2FTS	5.242	329.1 -> 80.9	2845	5.00 µg/L	-0.012
M2-6:2FTS	6.924	429.1 -> 80.9	3768	5.00 µg/L	-0.012
M2-8:2FTS	7.950	529.1 -> 80.9	3786	5.00 µg/L	0.000
M3-MeFOSAA	8.207	573.2 -> 419.0	27161	5.00 µg/L	0.000
M3-HFPO-DA	5.945	286.9 -> 168.9	35128	10.00 µg/L	-0.012
M5-EtFOSAA	8.402	589.2 -> 419.0	22802	5.00 µg/L	-0.012
M7-MeFOSE	10.665	623.2 -> 58.9	75558	25.00 µg/L	0.000
M9-EtFOSE	10.911	639.2 -> 58.9	84857	25.00 µg/L	0.000
M5-EtFOSA	10.976	531.1 -> 219.0	6992	2.50 µg/L	0.000
M3-MeFOSA	10.744	515.0 -> 219.0	6383	2.50 µg/L	-0.012
13C4-PFOS	8.299	502.8 -> 79.9	11644	2.50 µg/L	-0.013
13C3-PFBA	2.952	216.0 -> 172.0	68197	5.00 µg/L	0.000
18O2-PFHxS	7.250	403.0 -> 83.9	7753	2.50 µg/L	-0.012
13C4-PFOA	7.150	417.1 -> 372.0	78811	2.50 µg/L	-0.012
13C2-PFDA	8.149	515.1 -> 470.1	26766	1.25 µg/L	-0.012
13C5-PFNA	7.667	468.0 -> 423.0	27451	1.25 µg/L	-0.013
13C2-PFHxA	5.568	315.1 -> 270.0	50882	2.50 µg/L	-0.012
System Monitoring Compounds					
13C2-4:2FTS	5.242	329.1 -> 80.9	2845	6.51 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 130.3%		
13C2-6:2FTS	6.924	429.1 -> 80.9	3768	5.80 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 116.0%		
13C2-8:2FTS	7.950	529.1 -> 80.9	3786	5.66 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 113.2%		
13C2-PFDoDA	9.030	615.1 -> 570.0	32216	1.21 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 96.6%		
13C2-PFTeDA	9.735	715.2 -> 670.0	10729	1.19 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 94.9%		
13C3-PFBS	5.485	302.1 -> 79.9	23226	2.64 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 105.8%		
13C3-PFHxS	7.251	402.1 -> 79.9	12684	2.57 µg/L	-0.012

7.2.5
7



Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 103.0%	
13C4-PFBA	2.960	216.8 -> 171.9	162647	9.88 µg/L	0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 98.8%	
13C4-PFHpA	6.507	367.1 -> 322.0	52135	2.53 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 101.3%	
13C5-PFHxA	5.567	318.0 -> 273.0	51190	2.43 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 97.3%	
13C5-PFPeA	4.359	268.3 -> 223.0	55927	4.86 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 97.1%	
13C6-PFDA	8.148	519.1 -> 474.1	29532	1.31 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 104.8%	
13C7-PFUnDA	8.601	570.0 -> 525.1	28513	1.17 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 93.6%	
13C8-FOSA	9.657	506.1 -> 77.8	23706	2.47 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 98.7%	
13C8-PFOA	7.149	421.1 -> 376.0	67683	2.48 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 99.1%	
13C8-PFOS	8.298	507.1 -> 79.9	12231	2.43 µg/L	-0.013
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 97.3%	
13C9-PFNA	7.666	472.1 -> 427.0	29131	1.29 µg/L	-0.013
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 103.2%	
d3-MeFOSAA	8.207	573.2 -> 419.0	27161	5.30 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 106.1%	
13C3-HFPO-DA	5.945	286.9 -> 168.9	35128	9.90 µg/L	-0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 99.0%	
d3-MeFOSA	10.744	515.0 -> 219.0	6383	2.29 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 91.6%	
d5-EtFOSAA	8.402	589.2 -> 419.0	22802	5.20 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 103.9%	
d7-MeFOSE	10.665	623.2 -> 58.9	75558	24.36 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 97.5%	
d9-EtFOSE	10.911	639.2 -> 58.9	84857	23.02 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 92.1%	
d5-EtFOSA	10.976	531.1 -> 219.0	6992	2.35 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 93.9%	

Target Compounds

Compound	RT	Transition	Response	Conc. Units	QValue
4:2FTS	-	327.1 -> 307.0	-	N.D.	
		327.1 -> 80.9			
6:2FTS	-	427.1 -> 407.0	-	N.D.	
		427.1 -> 80.9			
8:2FTS	-	527.1 -> 507.0	-	N.D.	
		527.1 -> 80.8			
EtFOSAA	-	584.2 -> 419.1	-	N.D.	
		584.2 -> 526.0			
FOSA	-	498.1 -> 77.9	-	N.D.	
		498.1 -> 478.0			
MeFOSAA	-	570.1 -> 419.0	-	N.D.	
		570.1 -> 483.0			
PFBA	-	212.8 -> 168.9	-	N.D.	
PFBS	-	298.7 -> 79.9	-	N.D.	
		298.7 -> 98.8			
PFDA	-	512.9 -> 469.0	-	N.D.	
		512.9 -> 219.0			
PFDODA	-	613.1 -> 569.0	-	N.D.	
		613.1 -> 319.0			
PFDS	-	599.0 -> 79.9	-	N.D.	



7.25
7

Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
PFHpA	-	599.0 -> 98.8	-	N.D.	
		363.1 -> 319.0			
PFHpS	-	363.1 -> 169.0	-	N.D.	
		449.0 -> 79.9			
PFHxA	-	449.0 -> 98.9	-	N.D.	
		313.0 -> 269.0			
PFHxS	-	313.0 -> 118.9	-	N.D.	
		398.7 -> 79.9			
PFNA	-	398.7 -> 98.9	-	N.D.	
		463.0 -> 419.0			
PFNS	-	463.0 -> 219.0	-	N.D.	
		548.8 -> 79.9			
PFOA	-	548.8 -> 98.9	-	N.D.	
		413.0 -> 369.0			
PFOS	-	413.0 -> 169.0	-	N.D.	
		498.9 -> 79.9			
PFPeA	-	498.9 -> 98.8	-	N.D.	
		263.0 -> 219.0			
PFPeS	-	349.1 -> 79.9	-	N.D.	
		349.1 -> 98.9			
PFTeDA	-	713.1 -> 669.0	-	N.D.	
		713.1 -> 168.9			
PFTrDA	-	663.0 -> 619.0	-	N.D.	
		663.0 -> 168.9			
PFUnDA	-	563.1 -> 519.0	-	N.D.	
		563.1 -> 269.1			
11Cl-PF3OUdS	-	630.9 -> 450.9	-	N.D.	
		632.9 -> 452.9			
9Cl-PF3ONS	-	530.8 -> 351.0	-	N.D.	
		532.8 -> 353.0			
ADONA	-	376.9 -> 250.9	-	N.D.	
		376.9 -> 84.8			
HFPO-DA	-	284.9 -> 168.9	-	N.D.	
		284.9 -> 184.9			
3:3FTCA	-	241.0 -> 177.0	-	N.D.	
		241.0 -> 117.0			
5:3FTCA	-	341.0 -> 237.1	-	N.D.	
		341.0 -> 217.0			
7:3FTCA	-	441.0 -> 316.9	-	N.D.	
		441.0 -> 336.9			
EtFOSA	-	526.0 -> 219.0	-	N.D.	
		526.0 -> 169.0			
EtFOSE	-	630.0 -> 58.9	-	N.D.	
		511.9 -> 219.0			
MeFOSA	-	511.9 -> 169.0	-	N.D.	
		616.1 -> 58.9			
MeFOSE	-	699.1 -> 79.9	-	N.D.	
		699.1 -> 98.8			
PFDoDS	-	295.0 -> 201.0	-	N.D.	
		295.0 -> 84.9			
NFDHA	-	279.0 -> 85.1	-	N.D.	
		229.0 -> 84.9			
PFMBA	-	314.8 -> 134.9	-	N.D.	
		314.8 -> 82.9			

= Qualifier out of range, m = manually integrated, + = Area summed



7.2.5
7

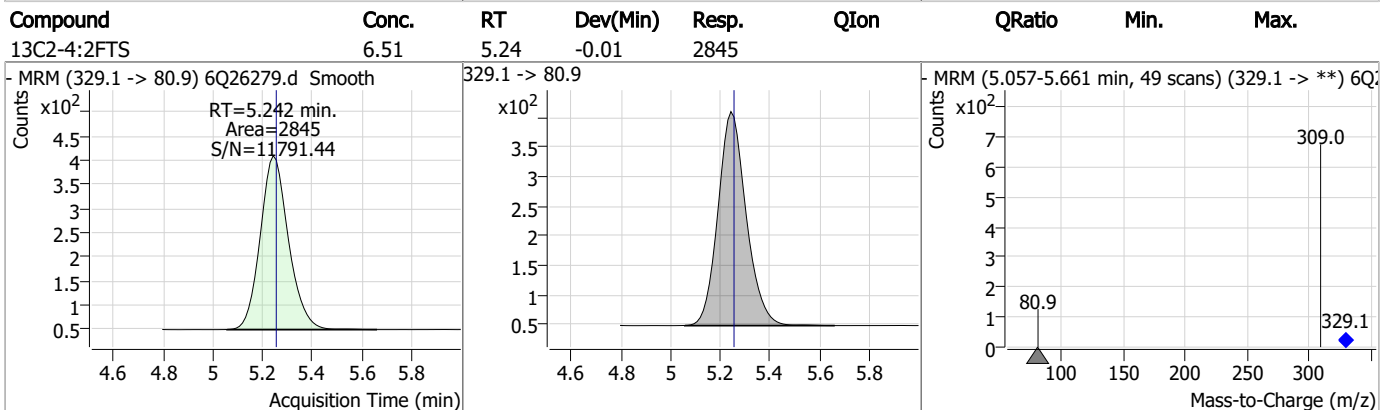
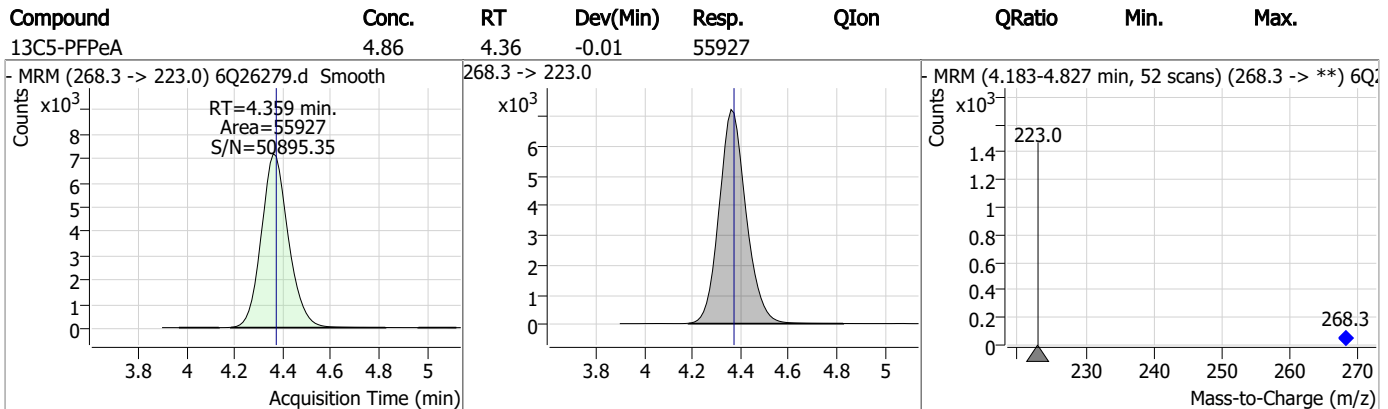
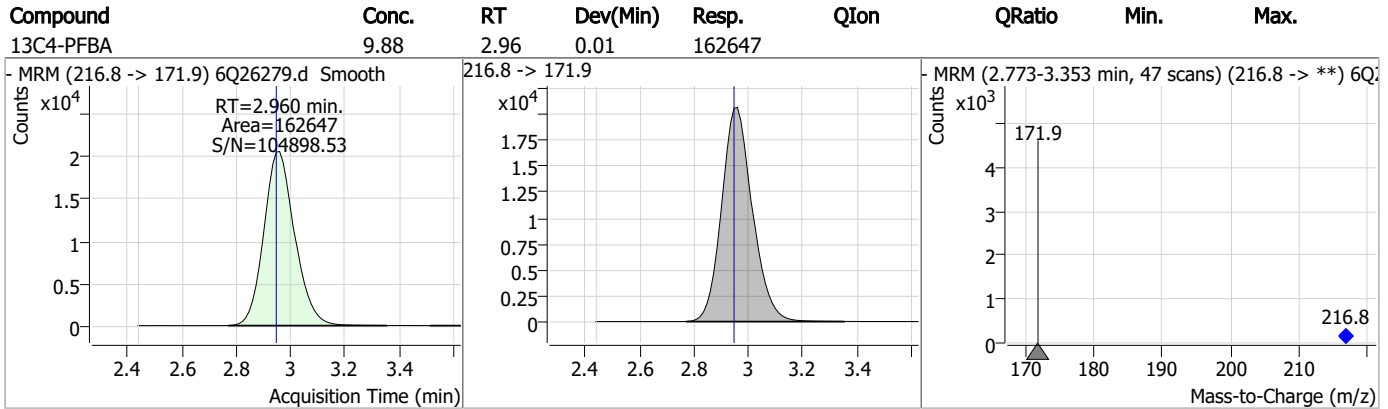
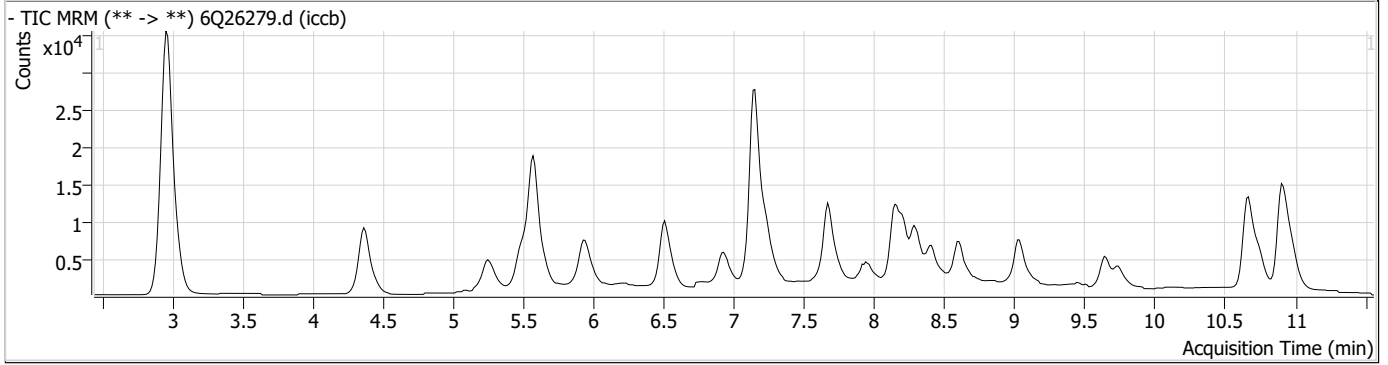
Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
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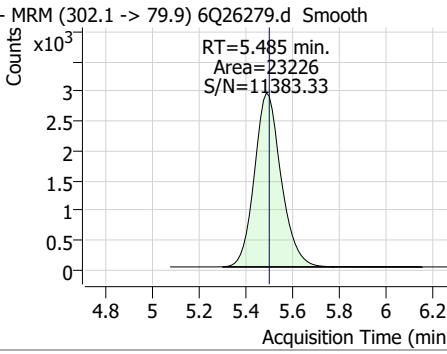
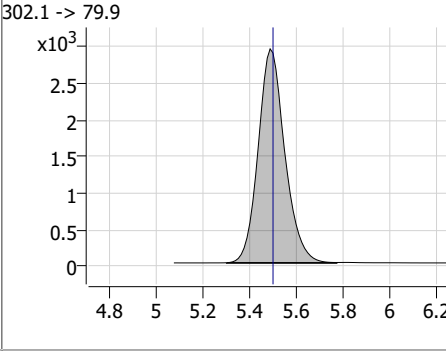
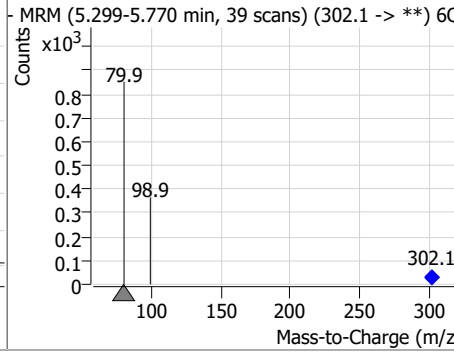
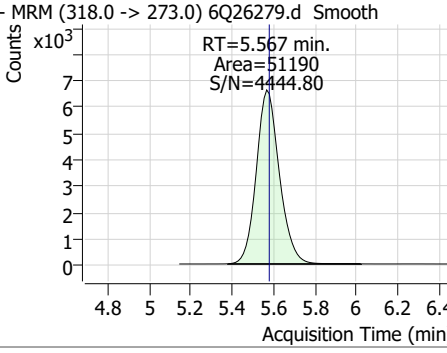
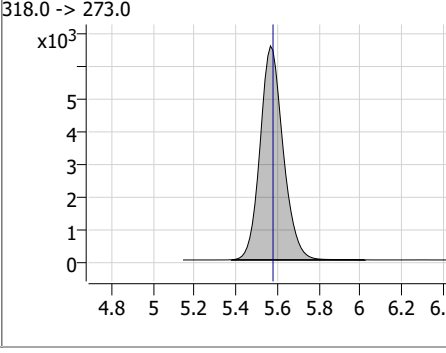
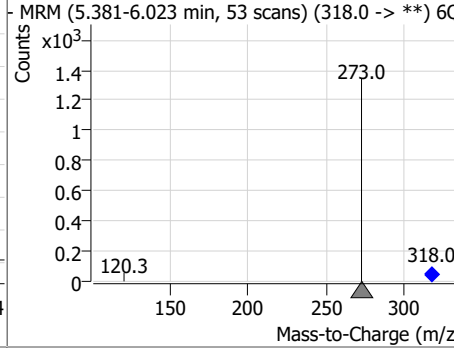
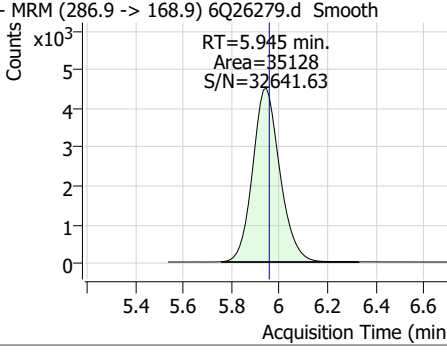
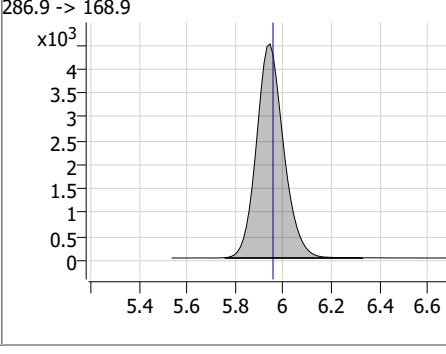
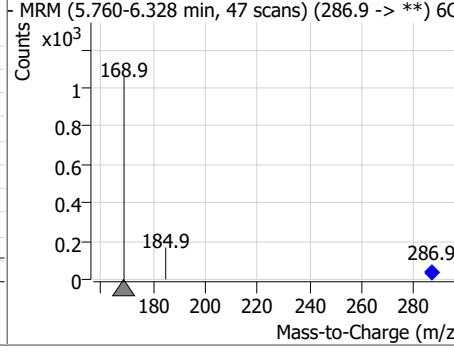
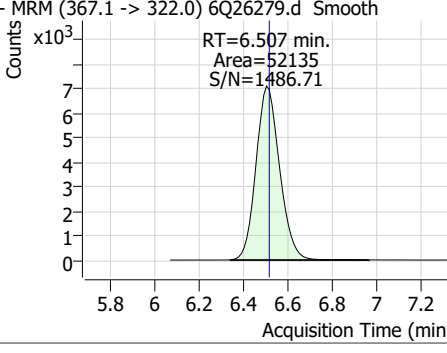
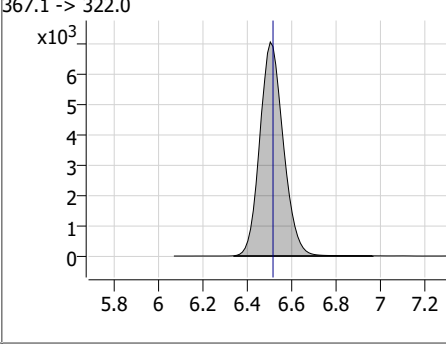
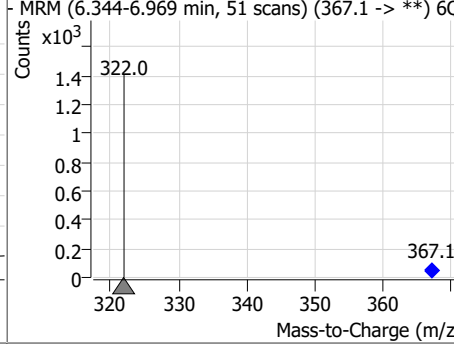
7.2.5

7

Perfluorinated Compounds by LC/MS/MS



Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFBS	2.64	5.49	-0.01	23226				
- MRM (302.1 -> 79.9) 6Q26279.d Smooth 			302.1 -> 79.9 			- MRM (5.299-5.770 min, 39 scans) (302.1 -> **) 6Q26279.d Smooth 		
13C5-PFHxA	2.43	5.57	-0.01	51190				
- MRM (318.0 -> 273.0) 6Q26279.d Smooth 			318.0 -> 273.0 			- MRM (5.381-6.023 min, 53 scans) (318.0 -> **) 6Q26279.d Smooth 		
13C3-HFPO-DA	9.90	5.94	-0.01	35128				
- MRM (286.9 -> 168.9) 6Q26279.d Smooth 			286.9 -> 168.9 			- MRM (5.760-6.328 min, 47 scans) (286.9 -> **) 6Q26279.d Smooth 		
13C4-PFHpA	2.53	6.51	-0.01	52135				
- MRM (367.1 -> 322.0) 6Q26279.d Smooth 			367.1 -> 322.0 			- MRM (6.344-6.969 min, 51 scans) (367.1 -> **) 6Q26279.d Smooth 		

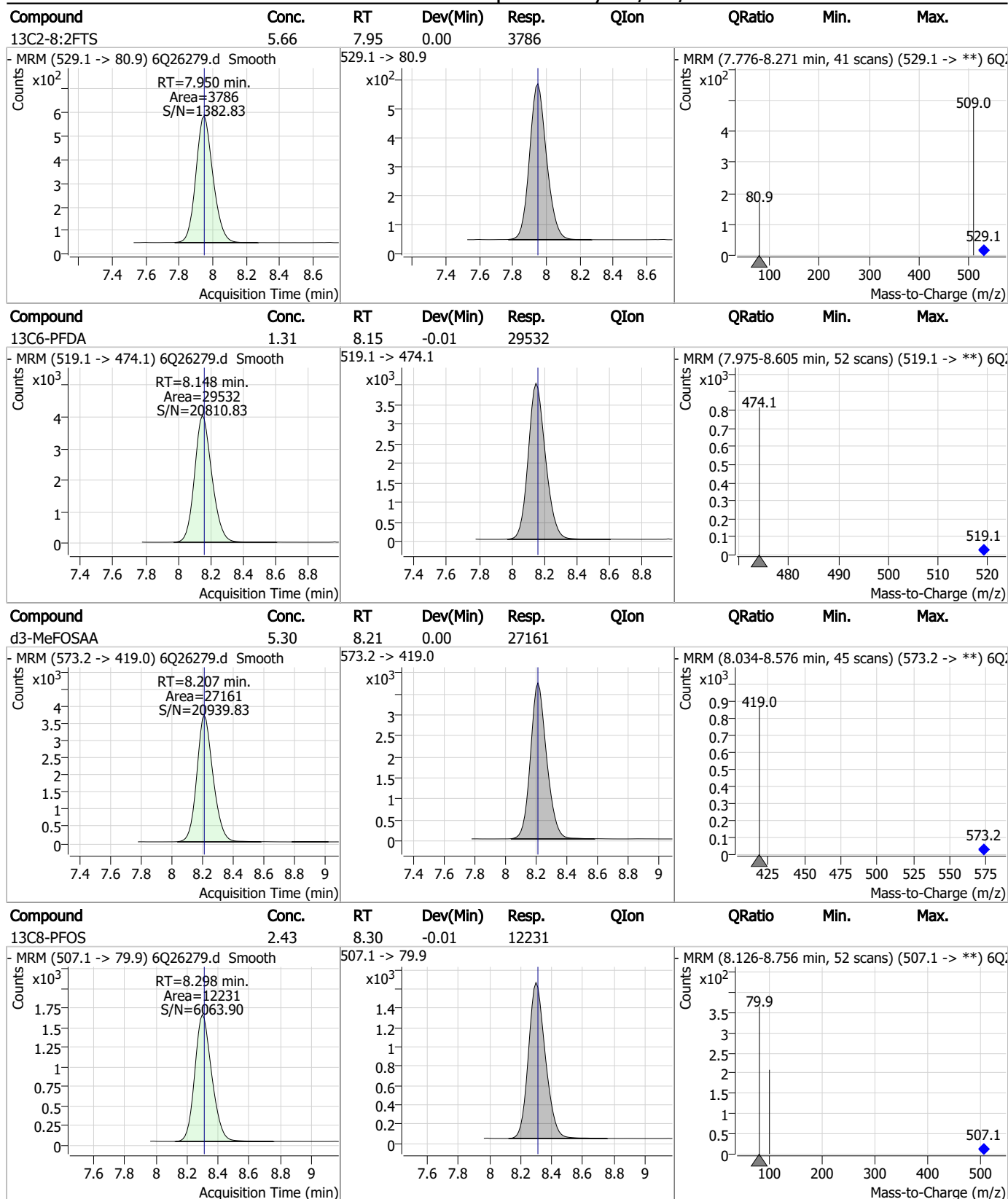
7.2.5
7

Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-6:2FTS	5.80	6.92	-0.01	3768				
13C8-PFOA	2.48	7.15	-0.01	67683				
13C3-PFHxS	2.57	7.25	-0.01	12684				
13C9-PFNA	1.29	7.67	-0.01	29131				

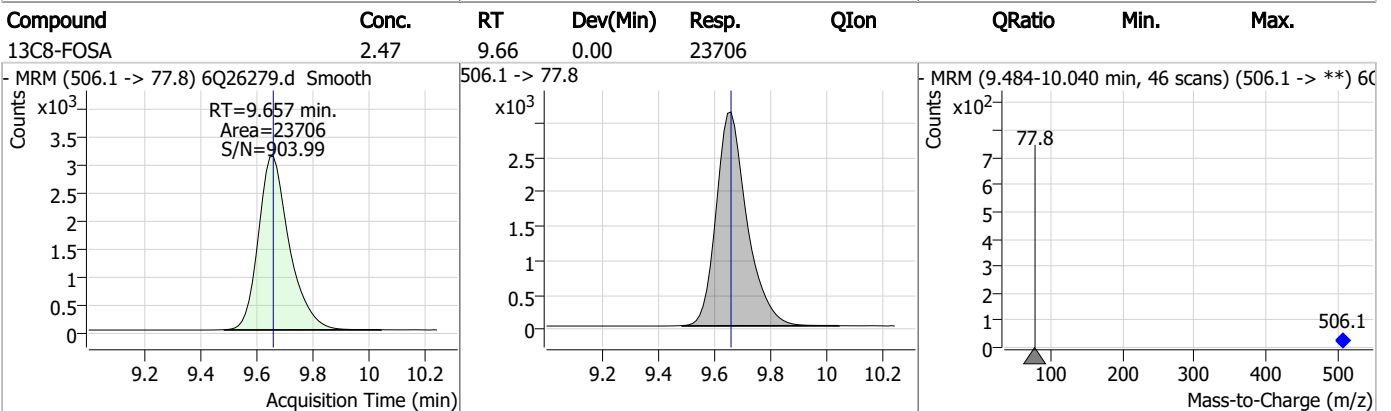
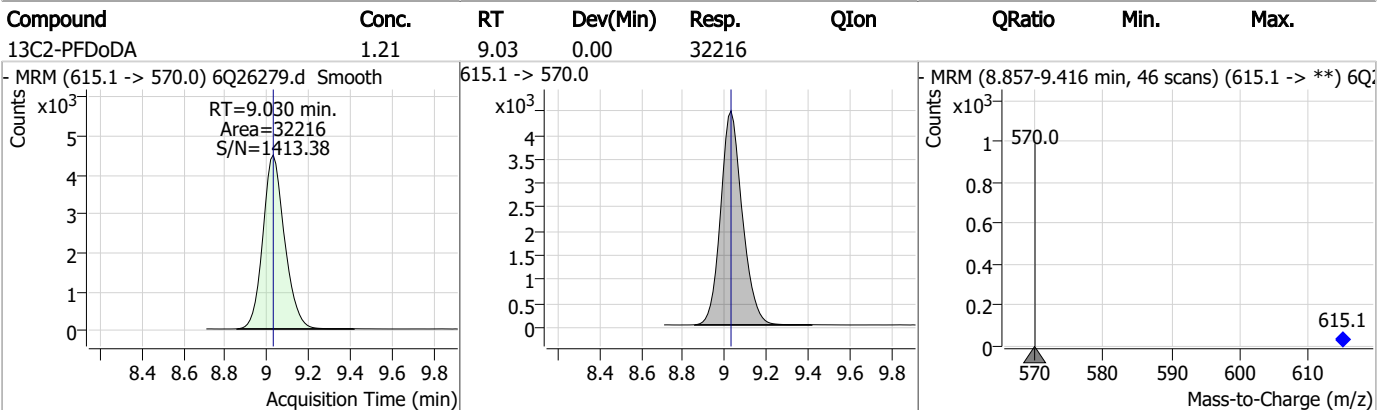
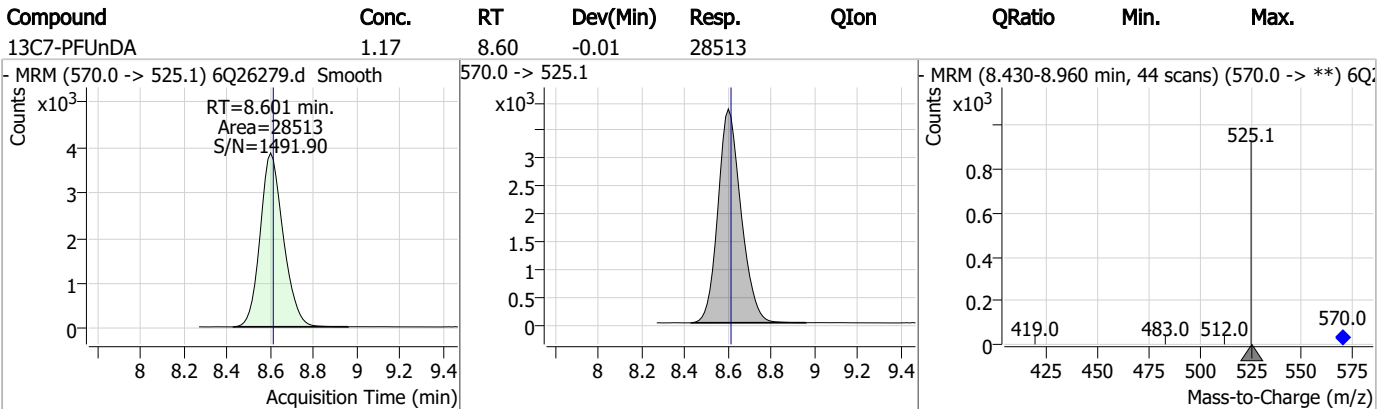
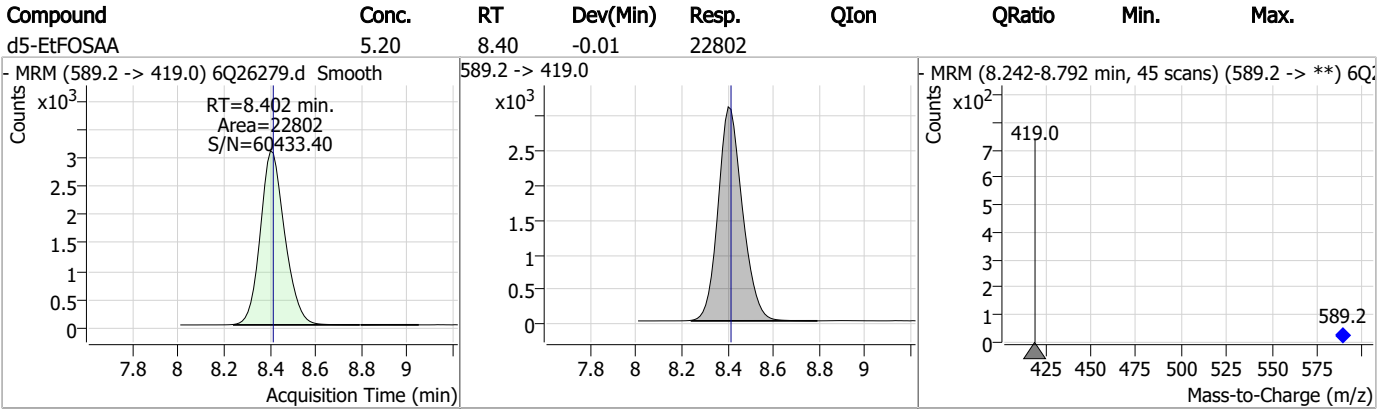
7.25
7

Perfluorinated Compounds by LC/MS/MS

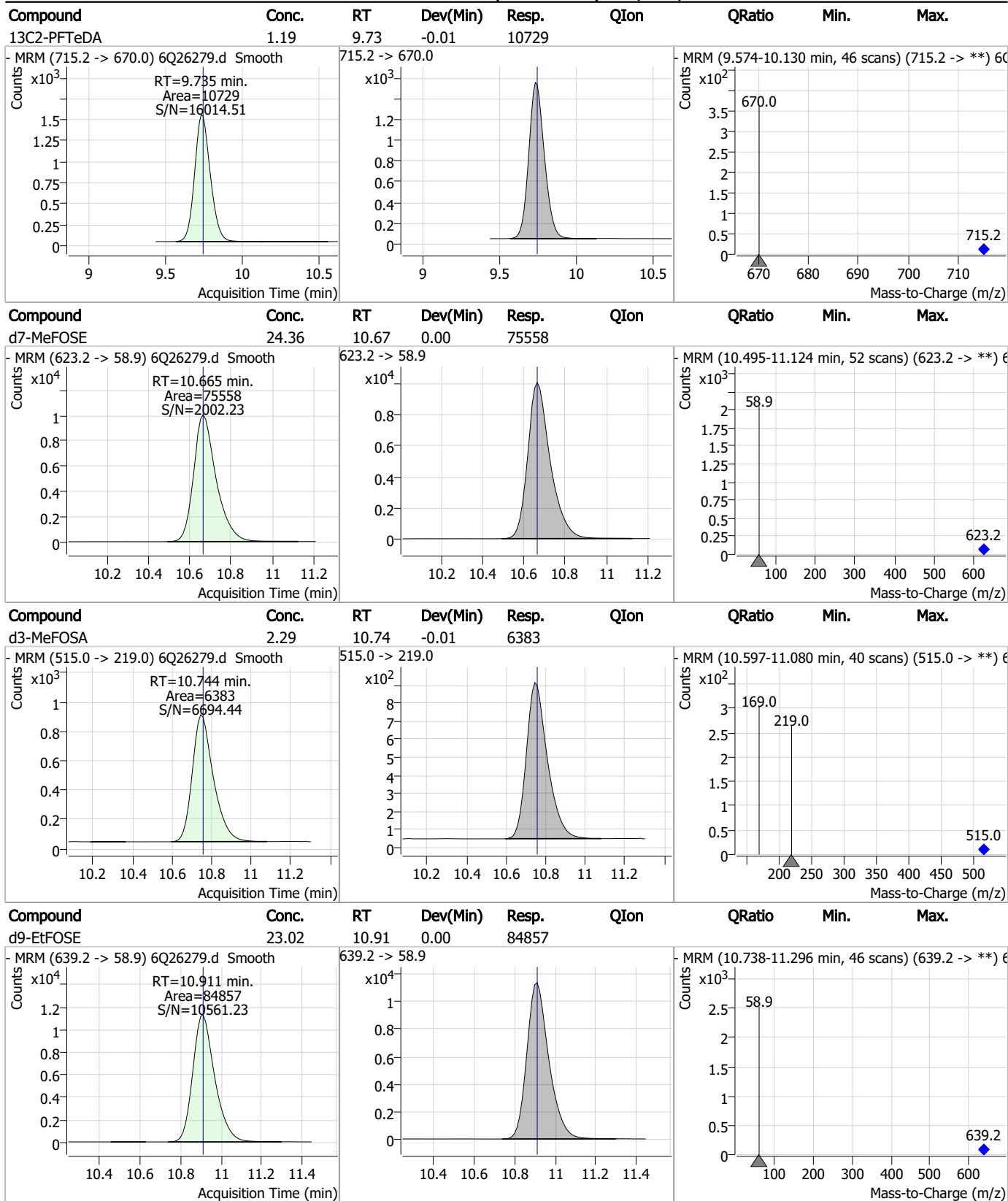


7.25
7

Perfluorinated Compounds by LC/MS/MS

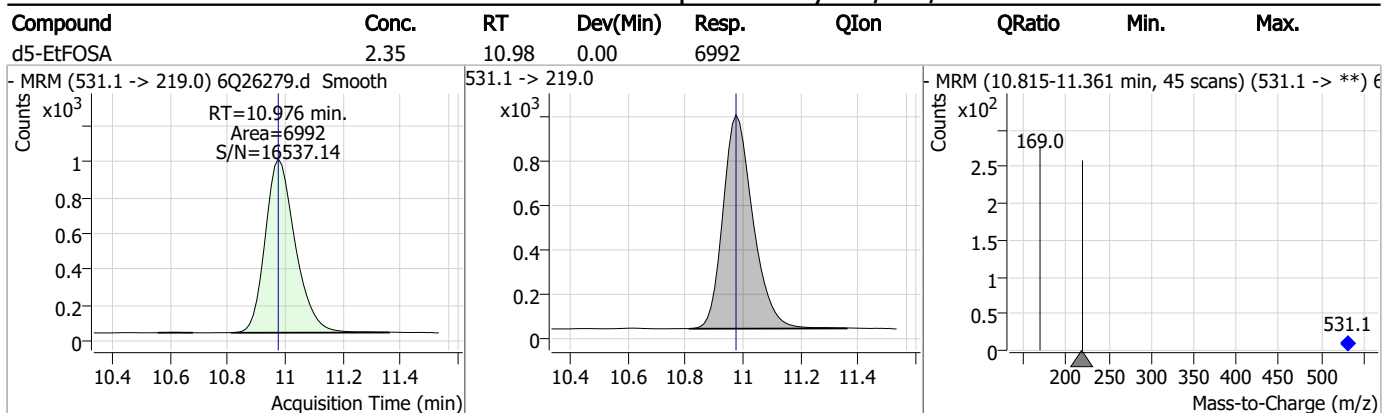


Perfluorinated Compounds by LC/MS/MS



7.2.5
7

Perfluorinated Compounds by LC/MS/MS



7.2.5
7

Perfluorinated Compounds by LC/MS/MS

Data File : 6Q26346.d
 Operator : marthav
 Acq. Method : 1633full.m
 Acq. Date-Time : 10/13/2023 7:33:30 AM
 Sample Name : iccb
 Vial : P1-A1
 DA Method File : 1633_100823_S6Q367.quantmethod.xml
 Batch Name : s6q370.batch.bin
 Sample Information : OP99081,S6Q370,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Internal Standards					
M4-PFBA	2.935	216.8 -> 171.9	161780	10.00 µg/L	-0.013
M5-PFPeA	4.347	268.3 -> 223.0	59193	5.00 µg/L	-0.025
M5-PFHxA	5.555	318.0 -> 273.0	52695	2.50 µg/L	-0.025
M4-PFHpA	6.507	367.1 -> 322.0	52200	2.50 µg/L	-0.012
M8-PFOA	7.136	421.1 -> 376.0	70356	2.50 µg/L	-0.025
M9-PFNA	7.666	472.1 -> 427.0	29361	1.25 µg/L	-0.013
M6-PFDA	8.148	519.1 -> 474.1	29439	1.25 µg/L	-0.012
M7-PFUnDA	8.589	570.0 -> 525.1	30371	1.25 µg/L	-0.025
M2-PFDoDA	9.018	615.1 -> 570.0	33805	1.25 µg/L	-0.012
M2-PFTeDA	9.722	715.2 -> 670.0	11556	1.25 µg/L	-0.025
M8-FOSA	9.645	506.1 -> 77.8	25224	2.50 µg/L	-0.012
M3-PFBS	5.473	302.1 -> 79.9	23894	2.50 µg/L	-0.025
M3-PFHxS	7.239	402.1 -> 79.9	13362	2.50 µg/L	-0.025
M8-PFOS	8.286	507.1 -> 79.9	13174	2.50 µg/L	-0.025
M2-4:2FTS	5.230	329.1 -> 80.9	2646	5.00 µg/L	-0.025
M2-6:2FTS	6.912	429.1 -> 80.9	3892	5.00 µg/L	-0.025
M2-8:2FTS	7.937	529.1 -> 80.9	3891	5.00 µg/L	-0.012
M3-MeFOSAA	8.195	573.2 -> 419.0	28500	5.00 µg/L	-0.012
M3-HFPO-DA	5.933	286.9 -> 168.9	36455	10.00 µg/L	-0.025
M5-EtFOSAA	8.402	589.2 -> 419.0	22175	5.00 µg/L	-0.012
M7-MeFOSE	10.665	623.2 -> 58.9	80796	25.00 µg/L	0.000
M9-EtFOSE	10.898	639.2 -> 58.9	93681	25.00 µg/L	-0.012
M5-EtFOSA	10.976	531.1 -> 219.0	7491	2.50 µg/L	0.000
M3-MeFOSA	10.744	515.0 -> 219.0	6987	2.50 µg/L	-0.012
13C4-PFOS	8.287	502.8 -> 79.9	12247	2.50 µg/L	-0.025
13C3-PFBA	2.927	216.0 -> 172.0	68350	5.00 µg/L	-0.025
18O2-PFHxS	7.238	403.0 -> 83.9	8278	2.50 µg/L	-0.025
13C4-PFOA	7.136	417.1 -> 372.0	76451	2.50 µg/L	-0.025
13C2-PFDA	8.149	515.1 -> 470.1	26172	1.25 µg/L	-0.012
13C5-PFNA	7.667	468.0 -> 423.0	28103	1.25 µg/L	-0.013
13C2-PFHxA	5.556	315.1 -> 270.0	54006	2.50 µg/L	-0.025
System Monitoring Compounds					
13C2-4:2FTS	5.230	329.1 -> 80.9	2646	5.67 µg/L	-0.025
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 113.5%		
13C2-6:2FTS	6.912	429.1 -> 80.9	3892	5.61 µg/L	-0.025
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 112.2%		
13C2-8:2FTS	7.937	529.1 -> 80.9	3891	5.45 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 109.0%		
13C2-PFDoDA	9.018	615.1 -> 570.0	33805	1.30 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 103.7%		
13C2-PFTeDA	9.722	715.2 -> 670.0	11556	1.31 µg/L	-0.025
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 104.5%		
13C3-PFBS	5.473	302.1 -> 79.9	23894	2.55 µg/L	-0.025
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 101.9%		
13C3-PFHxS	7.239	402.1 -> 79.9	13362	2.54 µg/L	-0.025

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Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 101.6%	
13C4-PFBA	2.935	216.8 -> 171.9	161780	9.81 µg/L	-0.013
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 98.1%	
13C4-PFHpA	6.507	367.1 -> 322.0	52200	2.39 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 95.5%	
13C5-PFHxA	5.555	318.0 -> 273.0	52695	2.36 µg/L	-0.025
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 94.4%	
13C5-PFPeA	4.347	268.3 -> 223.0	59193	4.84 µg/L	-0.025
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 96.9%	
13C6-PFDA	8.148	519.1 -> 474.1	29439	1.34 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 106.9%	
13C7-PFUnDA	8.589	570.0 -> 525.1	30371	1.27 µg/L	-0.025
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 102.0%	
13C8-FOSA	9.645	506.1 -> 77.8	25224	2.50 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 99.8%	
13C8-PFOA	7.136	421.1 -> 376.0	70356	2.65 µg/L	-0.025
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 106.2%	
13C8-PFOS	8.286	507.1 -> 79.9	13174	2.49 µg/L	-0.025
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 99.6%	
13C9-PFNA	7.666	472.1 -> 427.0	29361	1.27 µg/L	-0.013
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 101.6%	
d3-MeFOSAA	8.195	573.2 -> 419.0	28500	5.29 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 105.8%	
13C3-HFPO-DA	5.933	286.9 -> 168.9	36455	9.68 µg/L	-0.025
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 96.8%	
d3-MeFOSA	10.744	515.0 -> 219.0	6987	2.38 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 95.4%	
d5-EtFOSAA	8.402	589.2 -> 419.0	22175	4.80 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 96.1%	
d7-MeFOSE	10.665	623.2 -> 58.9	80796	24.77 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 99.1%	
d9-EtFOSE	10.898	639.2 -> 58.9	93681	24.16 µg/L	-0.012
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 96.6%	
d5-EtFOSA	10.976	531.1 -> 219.0	7491	2.39 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 95.6%	

Target Compounds

Target Compounds	RT	Transition	Response	Conc. Units	QValue
4:2FTS	-	327.1 -> 307.0	-	N.D.	
		327.1 -> 80.9			
6:2FTS	-	427.1 -> 407.0	-	N.D.	
		427.1 -> 80.9			
8:2FTS	-	527.1 -> 507.0	-	N.D.	
		527.1 -> 80.8			
EtFOSAA	-	584.2 -> 419.1	-	N.D.	
		584.2 -> 526.0			
FOSA	-	498.1 -> 77.9	-	N.D.	
		498.1 -> 478.0			
MeFOSAA	-	570.1 -> 419.0	-	N.D.	
		570.1 -> 483.0			
PFBA	-	212.8 -> 168.9	-	N.D.	
PFBS	-	298.7 -> 79.9	-	N.D.	
		298.7 -> 98.8			
PFDA	-	512.9 -> 469.0	-	N.D.	
		512.9 -> 219.0			
PFDODA	-	613.1 -> 569.0	-	N.D.	
		613.1 -> 319.0			
PFDS	-	599.0 -> 79.9	-	N.D.	



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Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
PFHpA	-	599.0 -> 98.8	-	N.D.	
		363.1 -> 319.0			
PFHpS	-	363.1 -> 169.0	-	N.D.	
		449.0 -> 79.9			
PFHxA	-	449.0 -> 98.9	-	N.D.	
		313.0 -> 269.0			
PFHxS	-	313.0 -> 118.9	-	N.D.	
		398.7 -> 79.9			
PFNA	-	398.7 -> 98.9	-	N.D.	
		463.0 -> 419.0			
PFNS	-	463.0 -> 219.0	-	N.D.	
		548.8 -> 79.9			
PFOA	-	548.8 -> 98.9	-	N.D.	
		413.0 -> 369.0			
PFOS	-	413.0 -> 169.0	-	N.D.	
		498.9 -> 79.9			
PFPeA	-	498.9 -> 98.8	-	N.D.	
		263.0 -> 219.0			
PFPeS	-	349.1 -> 79.9	-	N.D.	
		349.1 -> 98.9			
PFTeDA	-	713.1 -> 669.0	-	N.D.	
		713.1 -> 168.9			
PFTrDA	-	663.0 -> 619.0	-	N.D.	
		663.0 -> 168.9			
PFUnDA	-	563.1 -> 519.0	-	N.D.	
		563.1 -> 269.1			
11Cl-PF3OUdS	-	630.9 -> 450.9	-	N.D.	
		632.9 -> 452.9			
9Cl-PF3ONS	-	530.8 -> 351.0	-	N.D.	
		532.8 -> 353.0			
ADONA	-	376.9 -> 250.9	-	N.D.	
		376.9 -> 84.8			
HFPO-DA	-	284.9 -> 168.9	-	N.D.	
		284.9 -> 184.9			
3:3FTCA	-	241.0 -> 177.0	-	N.D.	
		241.0 -> 117.0			
5:3FTCA	-	341.0 -> 237.1	-	N.D.	
		341.0 -> 217.0			
7:3FTCA	-	441.0 -> 316.9	-	N.D.	
		441.0 -> 336.9			
EtFOSA	-	526.0 -> 219.0	-	N.D.	
		526.0 -> 169.0			
EtFOSE	-	630.0 -> 58.9	-	N.D.	
		511.9 -> 219.0			
MeFOSA	-	511.9 -> 169.0	-	N.D.	
		616.1 -> 58.9			
MeFOSE	-	699.1 -> 79.9	-	N.D.	
		699.1 -> 98.8			
PFDoDS	-	295.0 -> 201.0	-	N.D.	
		295.0 -> 84.9			
NFDHA	-	279.0 -> 85.1	-	N.D.	
		229.0 -> 84.9			
PFMBA	-	314.8 -> 134.9	-	N.D.	
		314.8 -> 82.9			

= Qualifier out of range, m = manually integrated, + = Area summed



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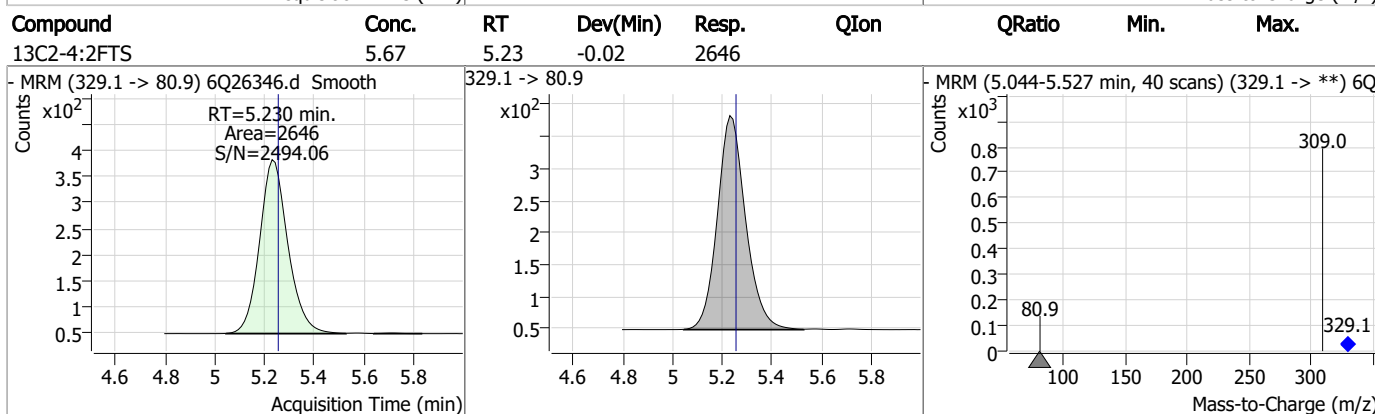
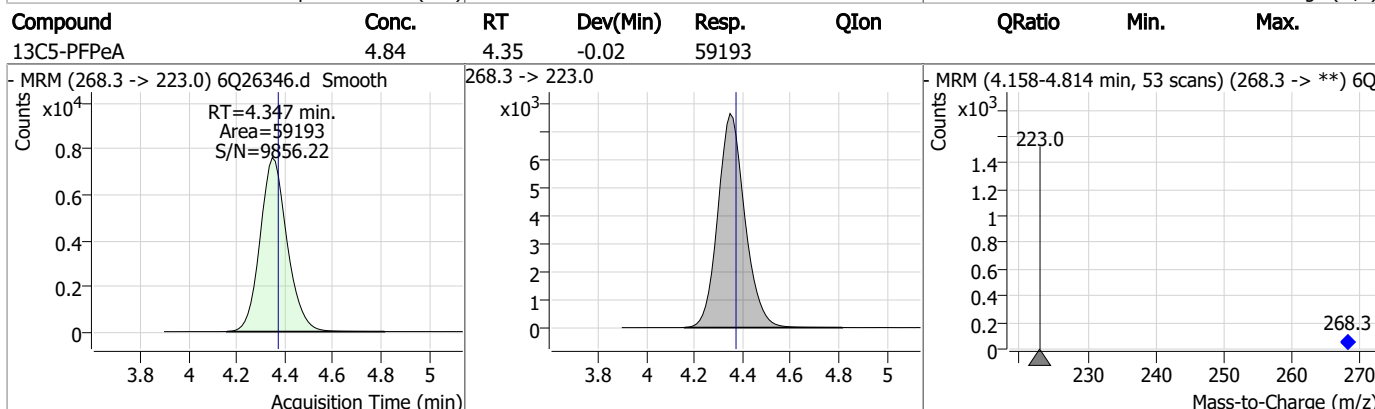
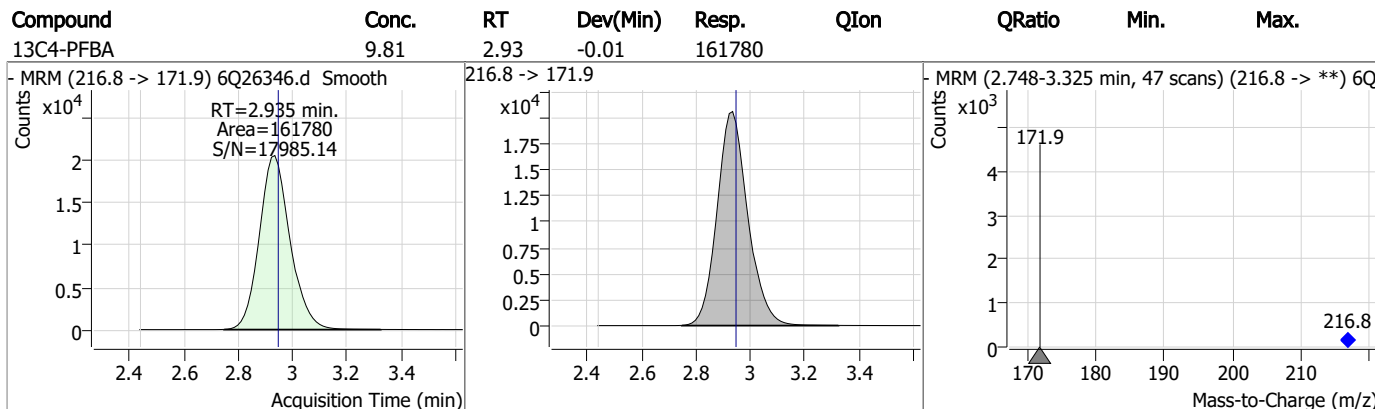
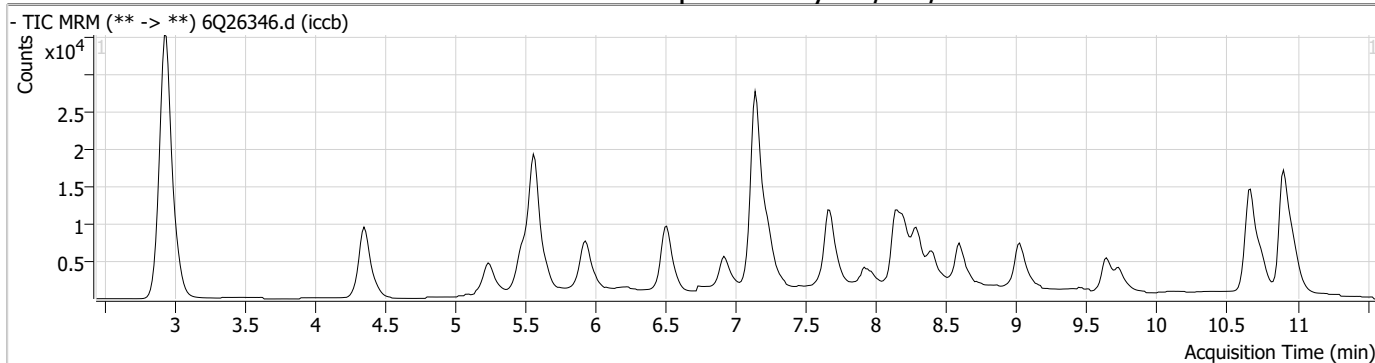
Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
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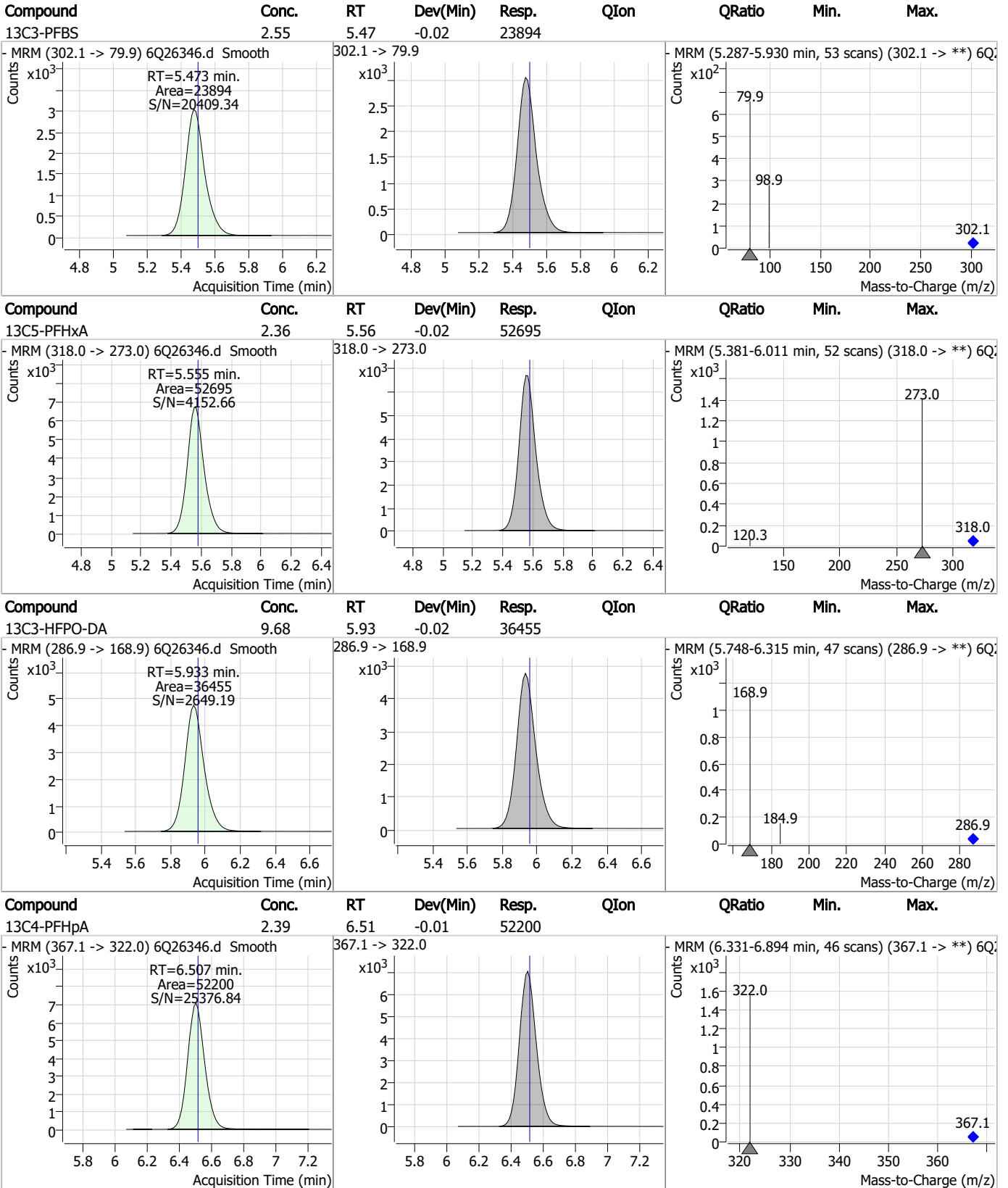
7.2.6

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Perfluorinated Compounds by LC/MS/MS



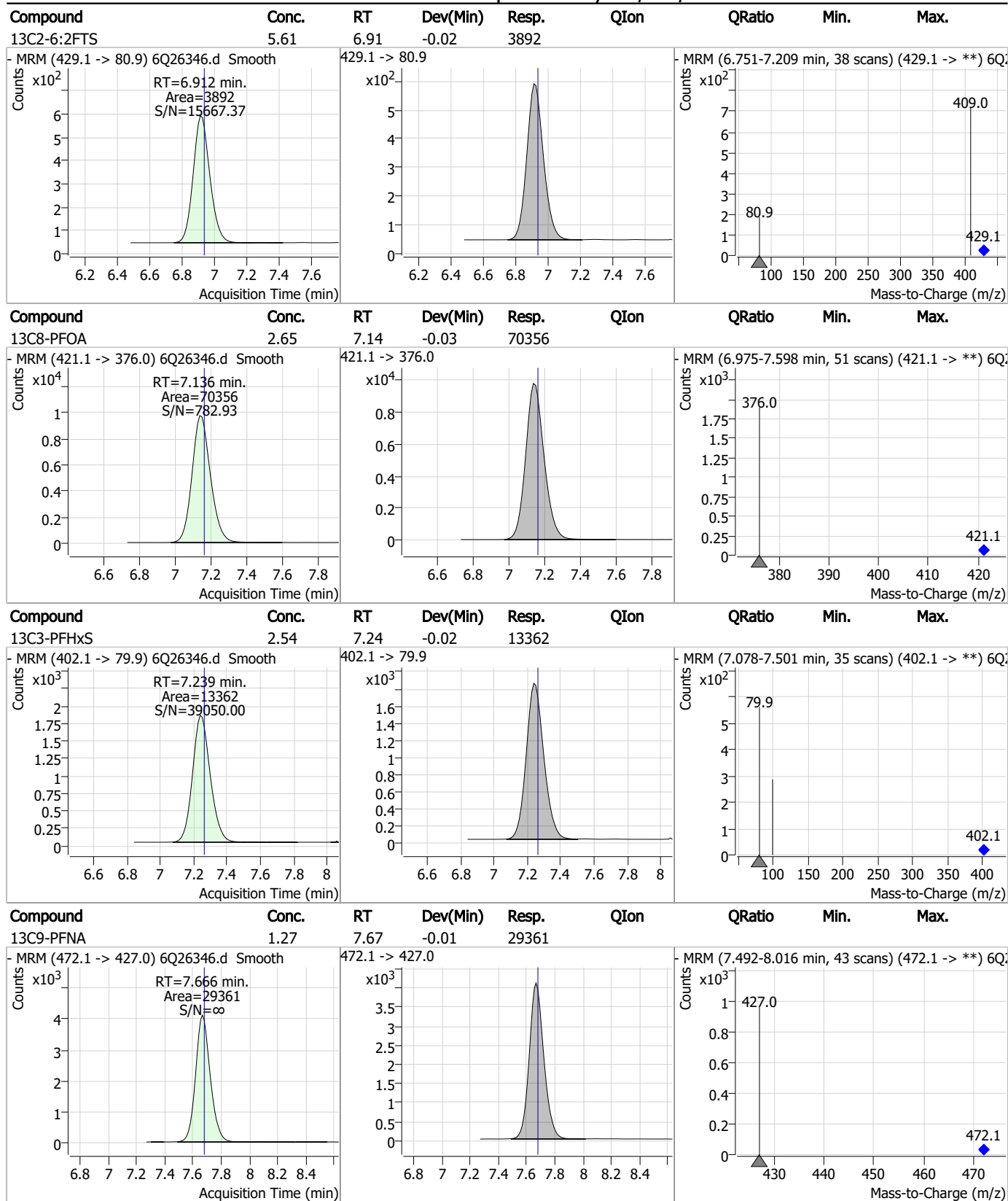
Perfluorinated Compounds by LC/MS/MS



7.2.6

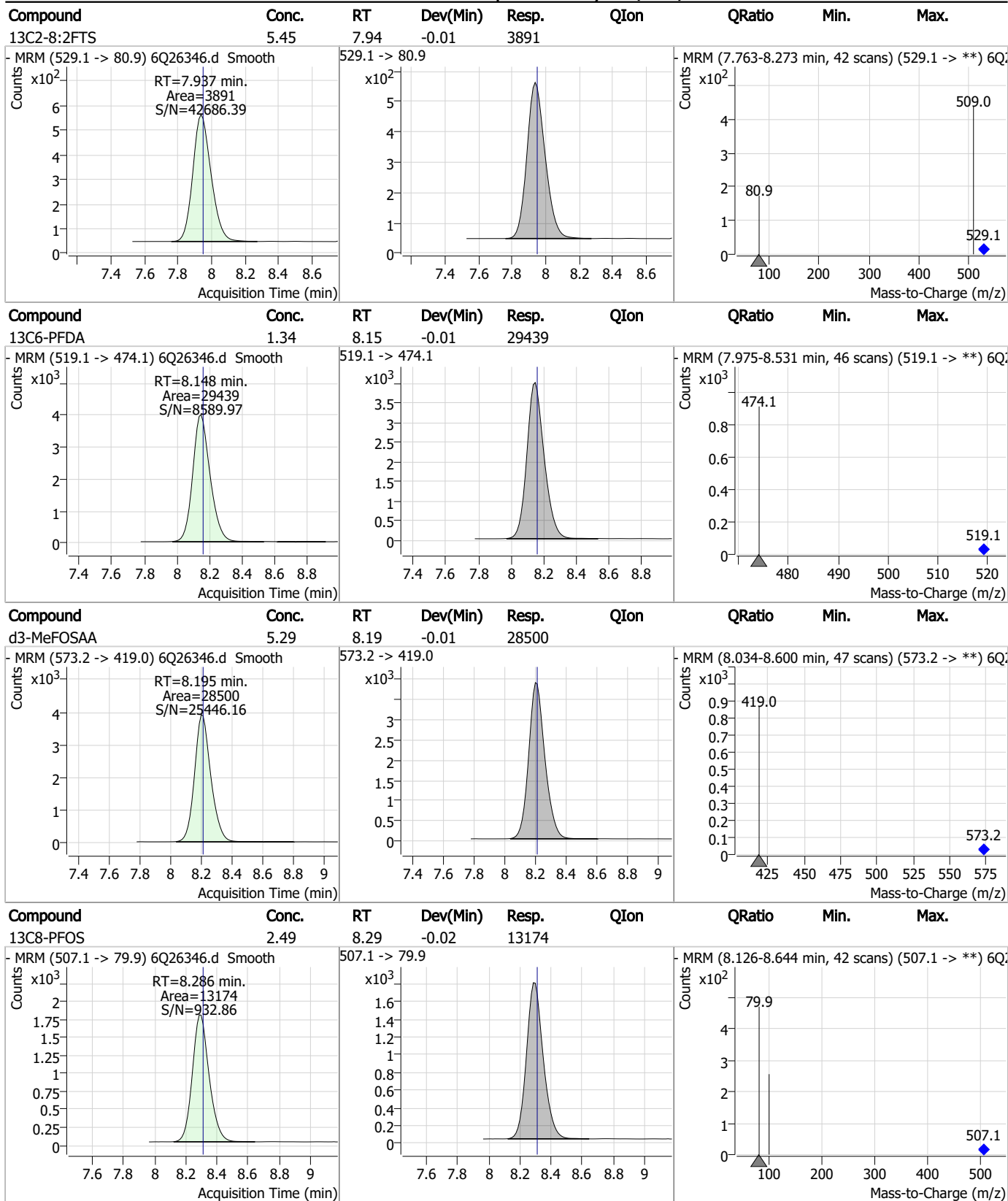
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Perfluorinated Compounds by LC/MS/MS



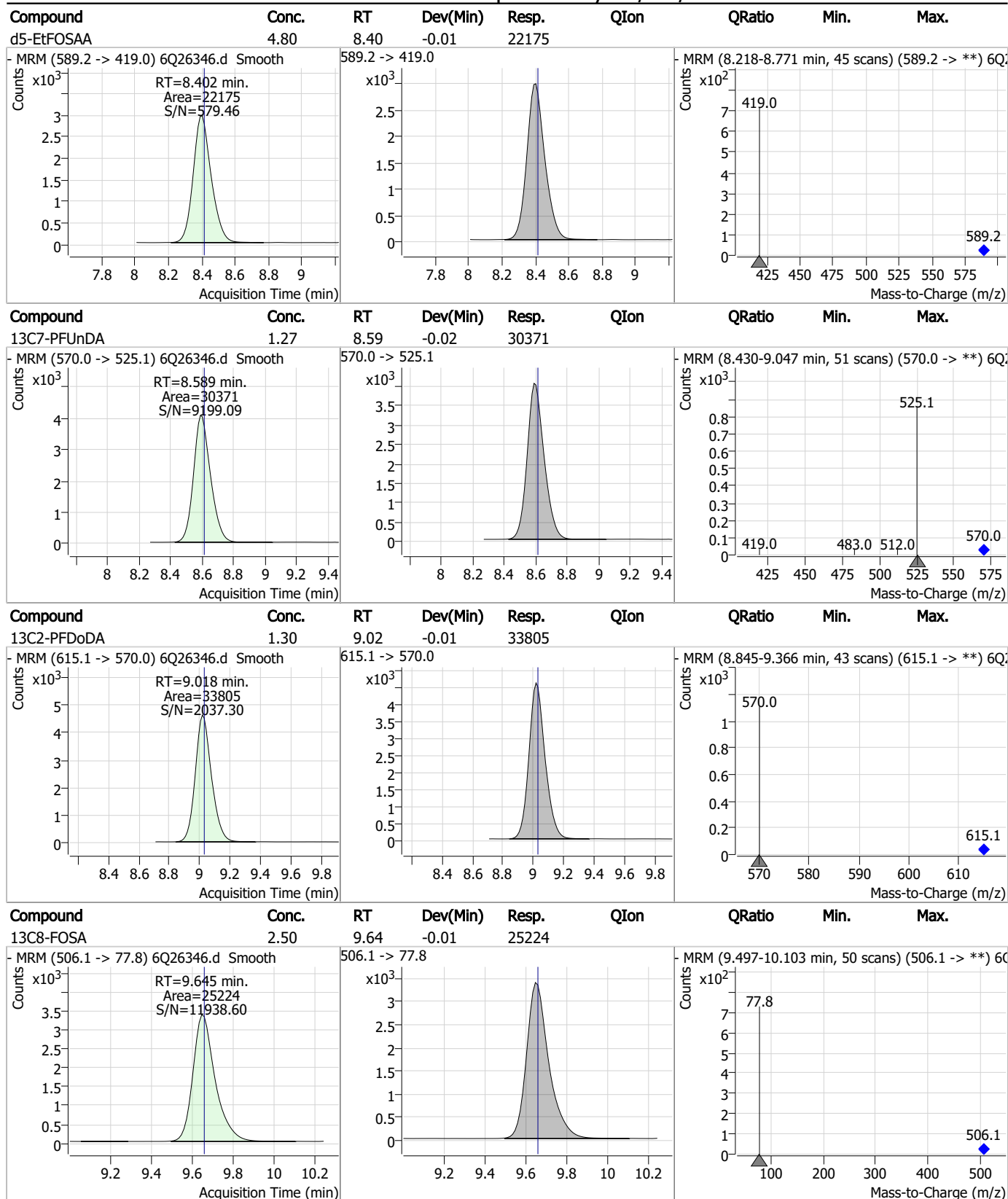
7.2.6
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Perfluorinated Compounds by LC/MS/MS



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Perfluorinated Compounds by LC/MS/MS



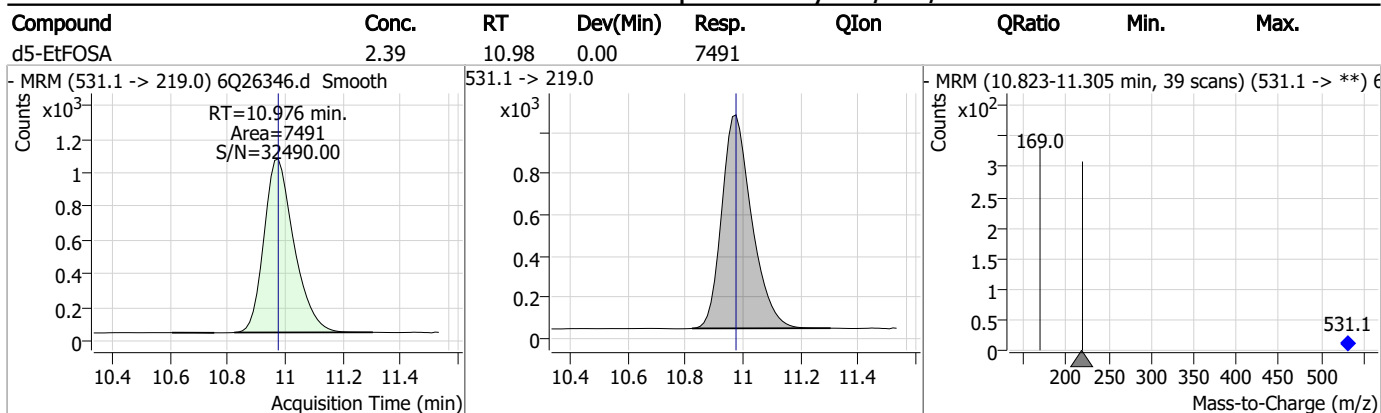
7.2.6
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Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFTeDA	1.31	9.72	-0.02	11556				
d7-MeFOSE	24.77	10.67	0.00	80796				
d3-MeFOSA	2.38	10.74	-0.01	6987				
d9-EtFOSE	24.16	10.90	-0.01	93681				

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Perfluorinated Compounds by LC/MS/MS



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Perfluorinated Compounds by LC/MS/MS

Data File : 6Q26280.d
 Operator : marthav
 Acq. Method : 1633full.m
 Acq. Date-Time : 10/12/2023 3:47:58 PM
 Sample Name : OP99445-BS
 Vial : P6-A1
 DA Method File : 1633_100823_S6Q367.quantmethod.xml
 Batch Name : s6q370.batch.bin
 Sample Information : OP99445,S6Q370,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Internal Standards					
M4-PFBA	2.960	216.8 -> 171.9	68726	10.00 µg/L	0.012
M5-PFPeA	4.359	268.3 -> 223.0	48877	5.00 µg/L	-0.012
M5-PFHxA	5.567	318.0 -> 273.0	44675	2.50 µg/L	-0.012
M4-PFHpA	6.507	367.1 -> 322.0	41060	2.50 µg/L	-0.012
M8-PFOA	7.149	421.1 -> 376.0	54940	2.50 µg/L	-0.012
M9-PFNA	7.666	472.1 -> 427.0	25252	1.25 µg/L	-0.013
M6-PFDA	8.148	519.1 -> 474.1	23774	1.25 µg/L	-0.012
M7-PFUnDA	8.601	570.0 -> 525.1	23649	1.25 µg/L	-0.012
M2-PFDoDA	9.030	615.1 -> 570.0	24796	1.25 µg/L	0.000
M2-PFTeDA	9.735	715.2 -> 670.0	8378	1.25 µg/L	-0.012
M8-FOSA	9.657	506.1 -> 77.8	15677	2.50 µg/L	0.000
M3-PFBS	5.485	302.1 -> 79.9	18877	2.50 µg/L	-0.012
M3-PFHxS	7.251	402.1 -> 79.9	10533	2.50 µg/L	-0.012
M8-PFOS	8.298	507.1 -> 79.9	10597	2.50 µg/L	-0.013
M2-4:2FTS	5.242	329.1 -> 80.9	2286	5.00 µg/L	-0.012
M2-6:2FTS	6.924	429.1 -> 80.9	2975	5.00 µg/L	-0.012
M2-8:2FTS	7.950	529.1 -> 80.9	3129	5.00 µg/L	0.000
M3-MeFOSAA	8.207	573.2 -> 419.0	21717	5.00 µg/L	0.000
M3-HFPO-DA	5.945	286.9 -> 168.9	30375	10.00 µg/L	-0.012
M5-EtFOSAA	8.402	589.2 -> 419.0	18625	5.00 µg/L	-0.012
M7-MeFOSE	10.665	623.2 -> 58.9	47491	25.00 µg/L	0.000
M9-EtFOSE	10.911	639.2 -> 58.9	57355	25.00 µg/L	0.000
M5-EtFOSA	10.976	531.1 -> 219.0	4840	2.50 µg/L	0.000
M3-MeFOSA	10.744	515.0 -> 219.0	4437	2.50 µg/L	-0.012
13C4-PFOS	8.299	502.8 -> 79.9	8809	2.50 µg/L	-0.013
13C3-PFBA	2.964	216.0 -> 172.0	53417	5.00 µg/L	0.012
18O2-PFHxS	7.250	403.0 -> 83.9	6232	2.50 µg/L	-0.012
13C4-PFOA	7.150	417.1 -> 372.0	58517	2.50 µg/L	-0.012
13C2-PFDA	8.149	515.1 -> 470.1	19577	1.25 µg/L	-0.012
13C5-PFNA	7.667	468.0 -> 423.0	20069	1.25 µg/L	-0.013
13C2-PFHxA	5.568	315.1 -> 270.0	38429	2.50 µg/L	-0.012
System Monitoring Compounds					
13C2-4:2FTS	5.242	329.1 -> 80.9	2286	6.51 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 130.2%		
13C2-6:2FTS	6.924	429.1 -> 80.9	2975	5.70 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 113.9%		
13C2-8:2FTS	7.950	529.1 -> 80.9	3129	5.82 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 116.4%		
13C2-PFDoDA	9.030	615.1 -> 570.0	24796	1.27 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 101.7%		
13C2-PFTeDA	9.735	715.2 -> 670.0	8378	1.27 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 101.3%		
13C3-PFBS	5.485	302.1 -> 79.9	18877	2.67 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 106.9%		
13C3-PFHxS	7.251	402.1 -> 79.9	10533	2.66 µg/L	-0.012

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Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 106.4%	
13C4-PFBA	2.960	216.8 -> 171.9	68726	5.33 µg/L	0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 53.3%	
13C4-PFHpA	6.507	367.1 -> 322.0	41060	2.64 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 105.6%	
13C5-PFHxA	5.567	318.0 -> 273.0	44675	2.81 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 112.5%	
13C5-PFPeA	4.359	268.3 -> 223.0	48877	5.62 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 112.4%	
13C6-PFDA	8.148	519.1 -> 474.1	23774	1.44 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 115.4%	
13C7-PFUnDA	8.601	570.0 -> 525.1	23649	1.33 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 106.2%	
13C8-FOSA	9.657	506.1 -> 77.8	15677	2.16 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 86.3%	
13C8-PFOA	7.149	421.1 -> 376.0	54940	2.71 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 108.3%	
13C8-PFOS	8.298	507.1 -> 79.9	10597	2.79 µg/L	-0.013
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 111.4%	
13C9-PFNA	7.666	472.1 -> 427.0	25252	1.53 µg/L	-0.013
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 122.4%	
d3-MeFOSAA	8.207	573.2 -> 419.0	21717	5.60 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 112.1%	
13C3-HFPO-DA	5.945	286.9 -> 168.9	30375	11.33 µg/L	-0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 113.3%	
d3-MeFOSA	10.744	515.0 -> 219.0	4437	2.11 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 84.2%	
d5-EtFOSAA	8.402	589.2 -> 419.0	18625	5.61 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 112.2%	
d7-MeFOSE	10.665	623.2 -> 58.9	47491	20.24 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 81.0%	
d9-EtFOSE	10.911	639.2 -> 58.9	57355	20.57 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 82.3%	
d5-EtFOSA	10.976	531.1 -> 219.0	4840	2.15 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 85.9%	
Target Compounds					QValue
4:2FTS	5.243	327.1 -> 307.0	36554	9.64 µg/L	98
		327.1 -> 80.9	13678		
6:2FTS	6.925	427.1 -> 407.0	27907	10.32 µg/L	94
		427.1 -> 80.9	11735		
8:2FTS	7.950	527.1 -> 507.0	20030	9.19 µg/L	100
		527.1 -> 80.8	7083		
EtFOSAA	8.416	584.2 -> 419.1	7422	2.45 µg/L	100
		584.2 -> 526.0	4660		
FOSA	9.647	498.1 -> 77.9	14843	2.47 µg/L	99
		498.1 -> 478.0	466		
MeFOSAA	8.208	570.1 -> 419.0	10123	2.50 µg/L	100
		570.1 -> 483.0	2140		
PFBA	2.956	212.8 -> 168.9	25174	9.83 µg/L	100
PFBS	5.486	298.7 -> 79.9	12948	2.29 µg/L	99
		298.7 -> 98.8	4867		
PFDA	8.149	512.9 -> 469.0	45699	2.46 µg/L	99
		512.9 -> 219.0	7299		
PFDODA	9.031	613.1 -> 569.0	44380	2.41 µg/L	95
		613.1 -> 319.0	5938		
PFDS	9.183	599.0 -> 79.9	5732	2.11 µg/L	93

7.3.1
7



Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
		599.0 -> 98.8	2805			
PFHpA	6.507	363.1 -> 319.0	56172	2.52	µg/L	99
		363.1 -> 169.0	8021			
PFHpS	7.807	449.0 -> 79.9	10389	2.37	µg/L	96
		449.0 -> 98.9	4762			
PFHxA	5.569	313.0 -> 269.0	37662	2.36	µg/L	100
		313.0 -> 118.9	1943			
PFHxS	7.252	398.7 -> 79.9	9485	2.15	µg/L	m 94
		398.7 -> 98.9	4657			
PFNA	7.667	463.0 -> 419.0	33984	2.18	µg/L	99
		463.0 -> 219.0	8473			
PFNS	8.765	548.8 -> 79.9	8674	2.24	µg/L	95
		548.8 -> 98.9	4354			
PFOA	7.150	413.0 -> 369.0	58391	2.48	µg/L	95
		413.0 -> 169.0	9421			
PFOS	8.300	498.9 -> 79.9	10208	2.25	µg/L	m 85
		498.9 -> 98.8	5284			
PFPeA	4.361	263.0 -> 219.0	49675	4.71	µg/L	100
PFPeS	6.558	349.1 -> 79.9	13452	2.37	µg/L	95
		349.1 -> 98.9	6341			
PFTeDA	9.735	713.1 -> 669.0	24464	2.24	µg/L	97
		713.1 -> 168.9	2235			
PFTrDA	9.413	663.0 -> 619.0	34968	2.41	µg/L	98
		663.0 -> 168.9	3069			
PFUnDA	8.602	563.1 -> 519.0	41984	2.52	µg/L	99
		563.1 -> 269.1	6399			
11Cl-PF3OUdS	9.442	630.9 -> 450.9	32164	3.57	µg/L	100
		632.9 -> 452.9	10370			
9Cl-PF3ONS	8.628	530.8 -> 351.0	65497	4.10	µg/L	94
		532.8 -> 353.0	21672			
ADONA	6.755	376.9 -> 250.9	188023	4.51	µg/L	96
		376.9 -> 84.8	48087			
HFPO-DA	5.946	284.9 -> 168.9	14246	4.73	µg/L	97
		284.9 -> 184.9	1575			
3:3FTCA	3.833	241.0 -> 177.0	5347	14.50	µg/L	100
		241.0 -> 117.0	722			
5:3FTCA	6.221	341.0 -> 237.1	169875	56.74	µg/L	99
		341.0 -> 217.0	122180			
7:3FTCA	7.632	441.0 -> 316.9	106995	58.51	µg/L	99
		441.0 -> 336.9	216292			
EtFOSA	10.978	526.0 -> 219.0	11015	4.64	µg/L	98
		526.0 -> 169.0	14339			
EtFOSE	10.912	630.0 -> 58.9	27641	11.98	µg/L	100
MeFOSA	10.746	511.9 -> 219.0	10390	5.05	µg/L	99
		511.9 -> 169.0	13943			
MeFOSE	10.679	616.1 -> 58.9	22647	10.79	µg/L	100
PFDoDS	9.861	699.1 -> 79.9	3035	2.16	µg/L	92
		699.1 -> 98.8	1555			
NFDHA	5.450	295.0 -> 201.0	9051	4.51	µg/L	98
		295.0 -> 84.9	2387			
PFMBA	4.781	279.0 -> 85.1	36243	4.51	µg/L	100
PFMPA	3.501	229.0 -> 84.9	24203	3.65	µg/L	100
PFEESA	6.025	314.8 -> 134.9	84108	4.09	µg/L	99
		314.8 -> 82.9	2822			

= Qualifier out of range, m = manually integrated, + = Area summed

7.3.1
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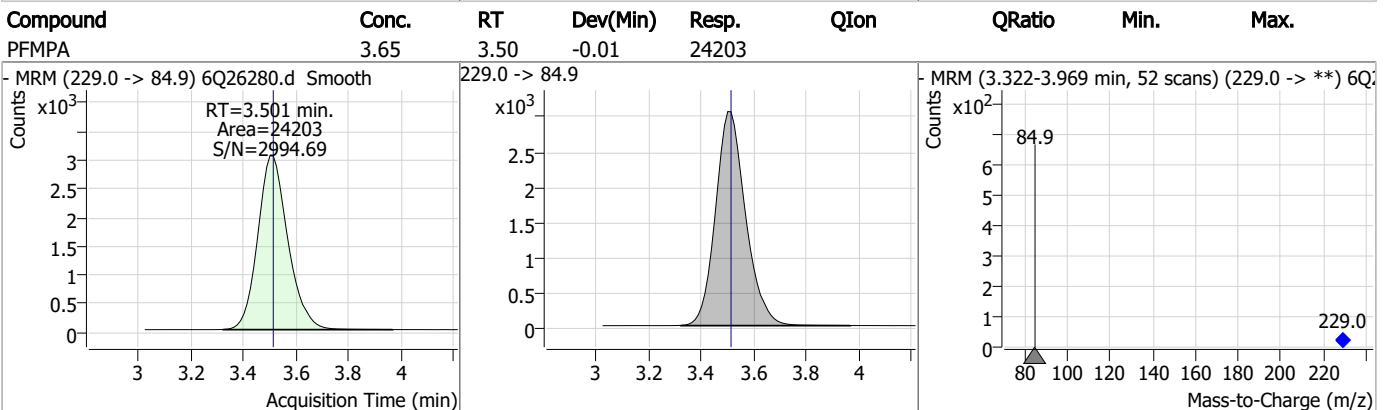
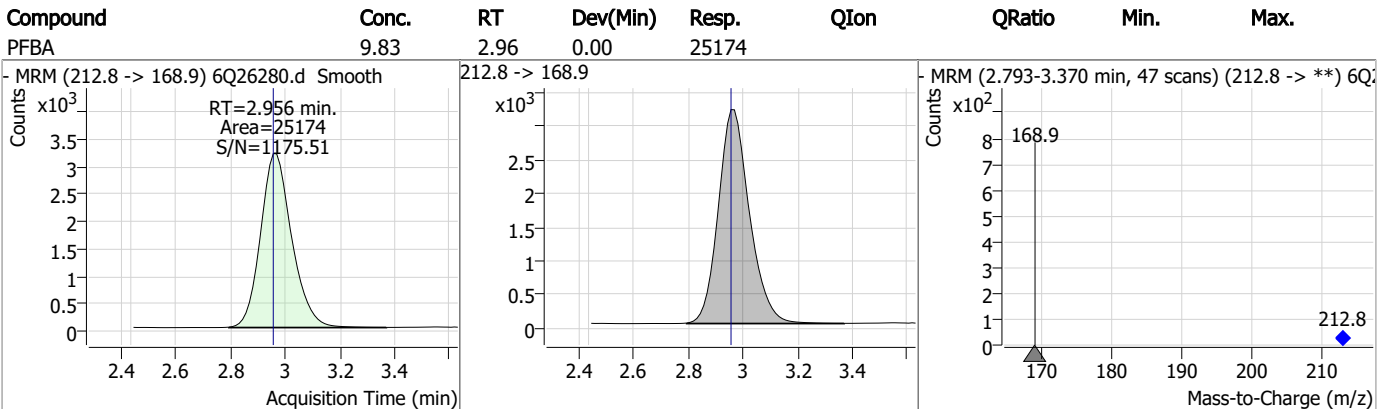
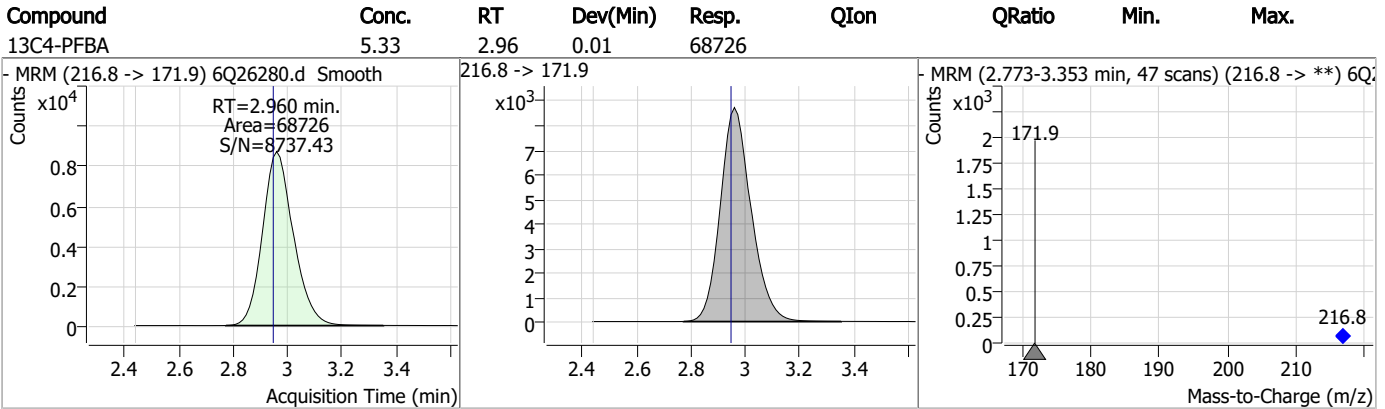
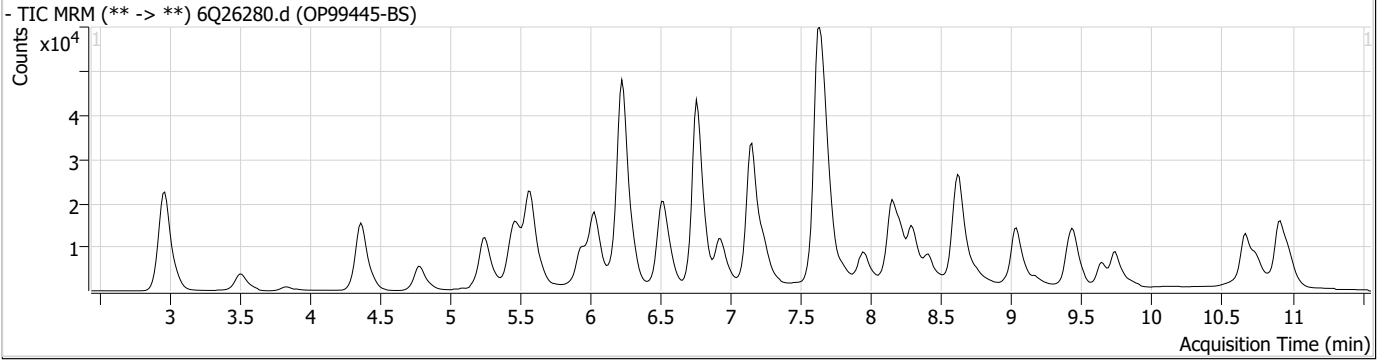
Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
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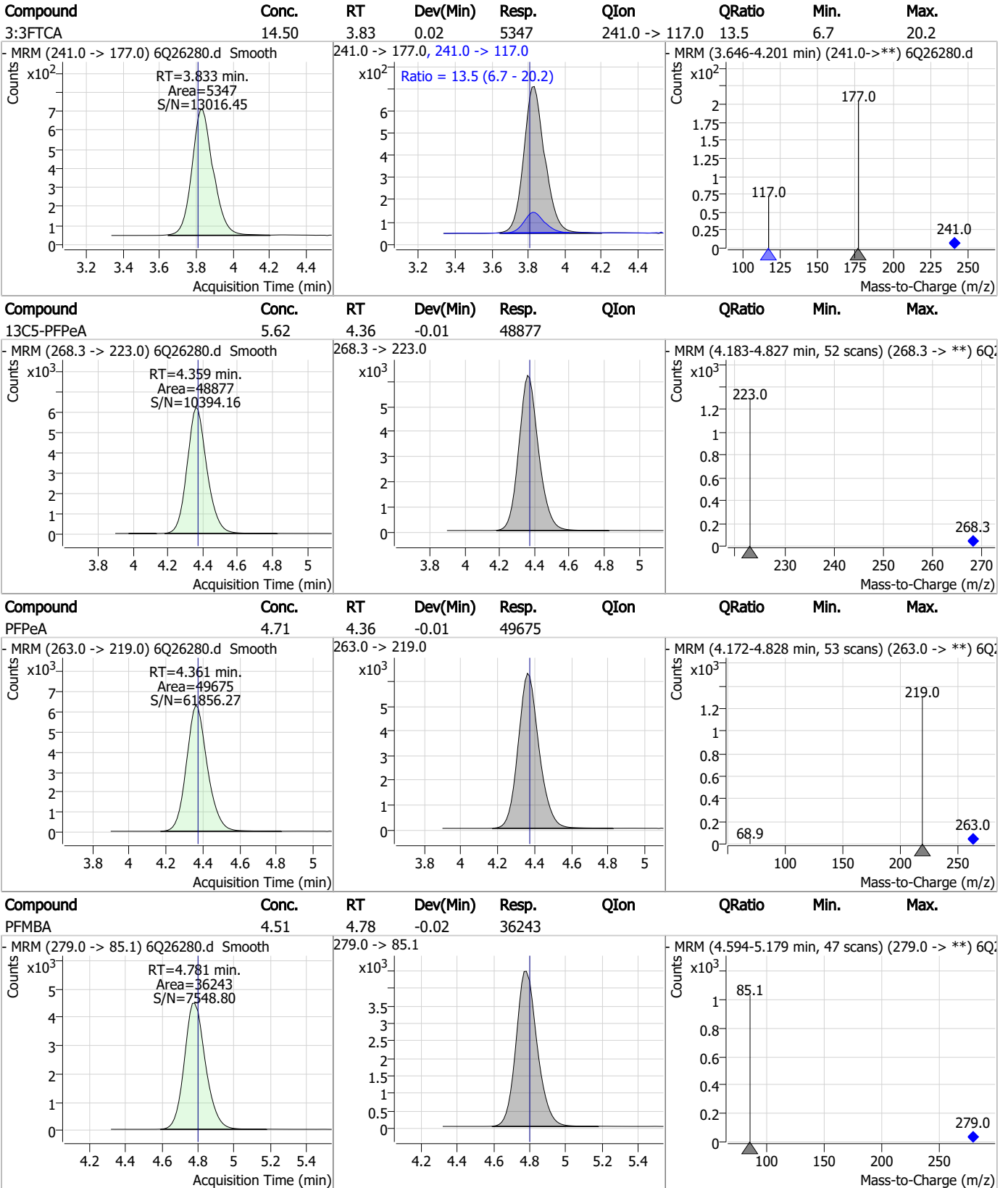
7.3.1

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Perfluorinated Compounds by LC/MS/MS



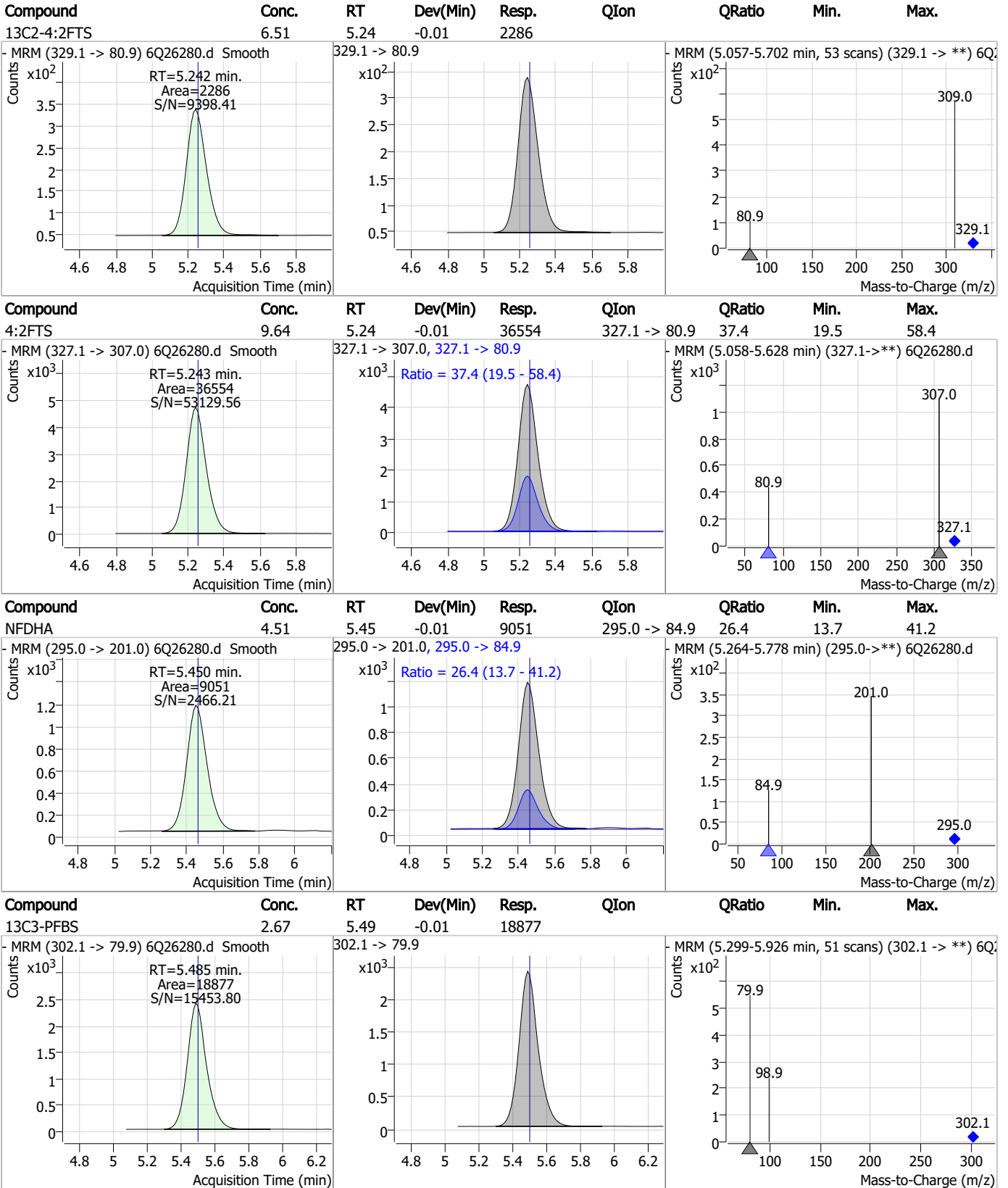
Perfluorinated Compounds by LC/MS/MS



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Perfluorinated Compounds by LC/MS/MS

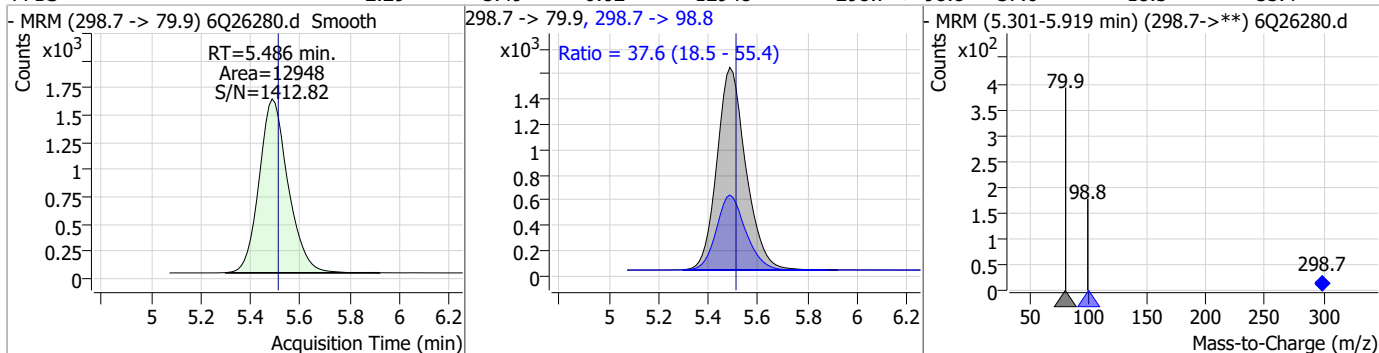


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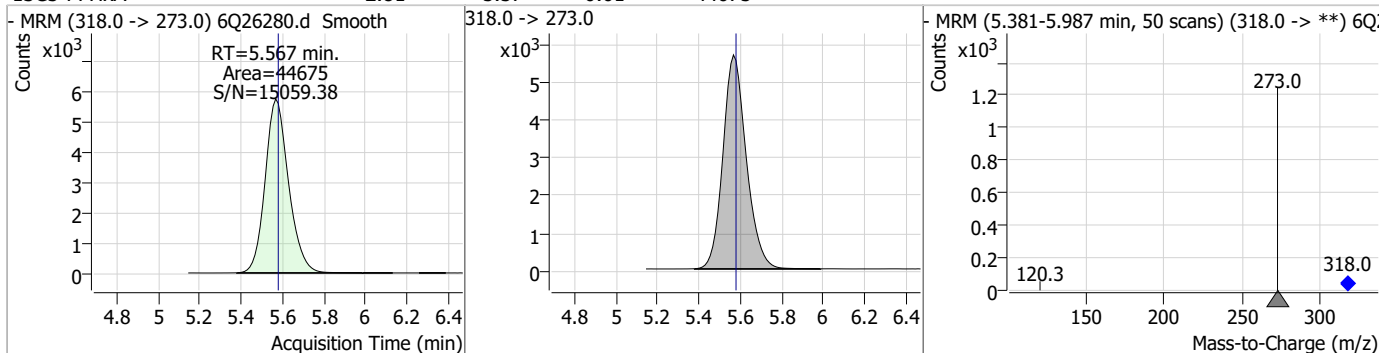
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Perfluorinated Compounds by LC/MS/MS

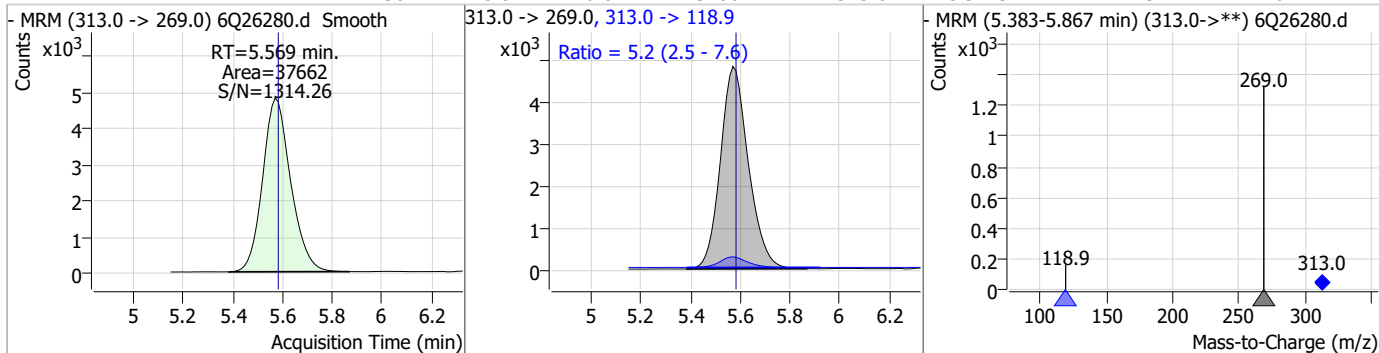
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBS	2.29	5.49	-0.02	12948	298.7 -> 98.8	37.6	18.5	55.4



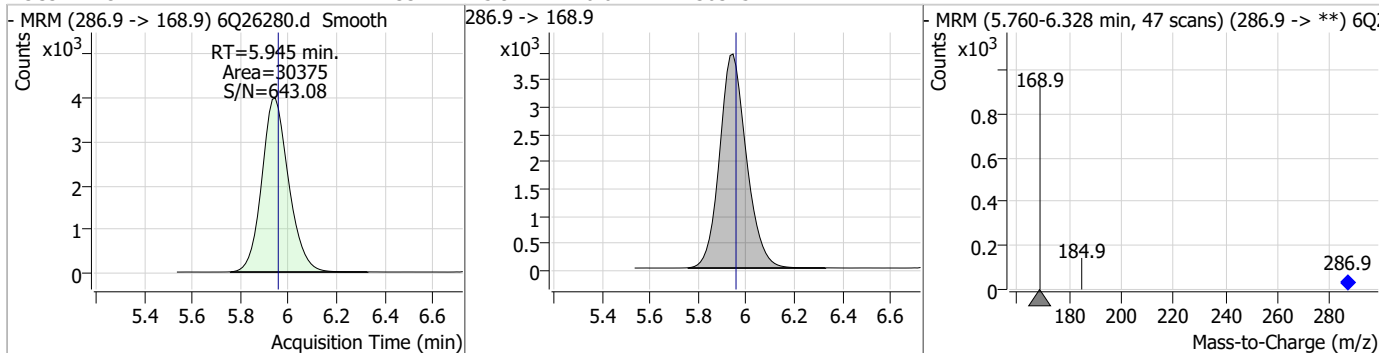
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFHxA	2.81	5.57	-0.01	44675				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxA	2.36	5.57	-0.01	37662	313.0 -> 118.9	5.2	2.5	7.6

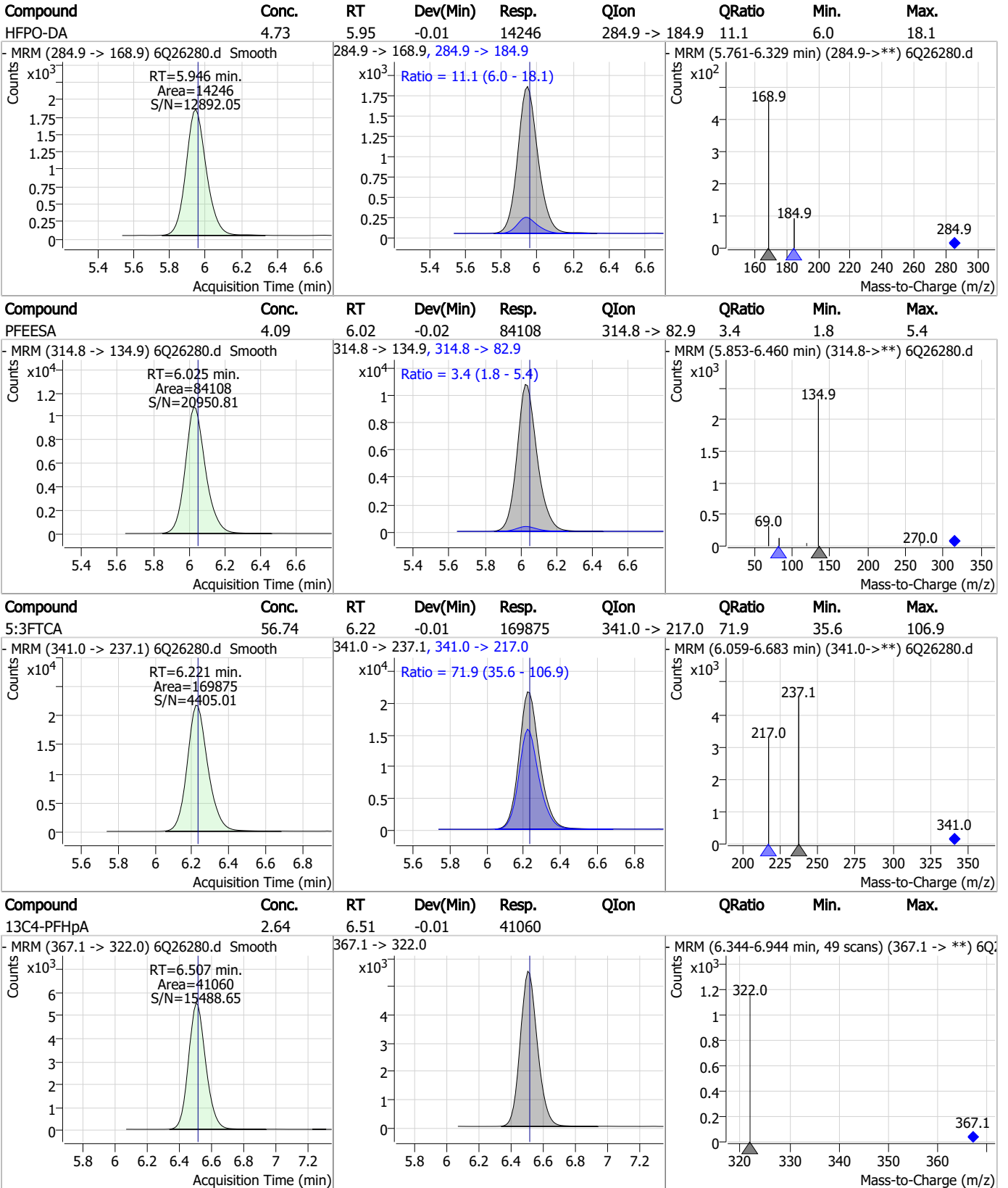


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-HFPO-DA	11.33	5.94	-0.01	30375				



7.3.1
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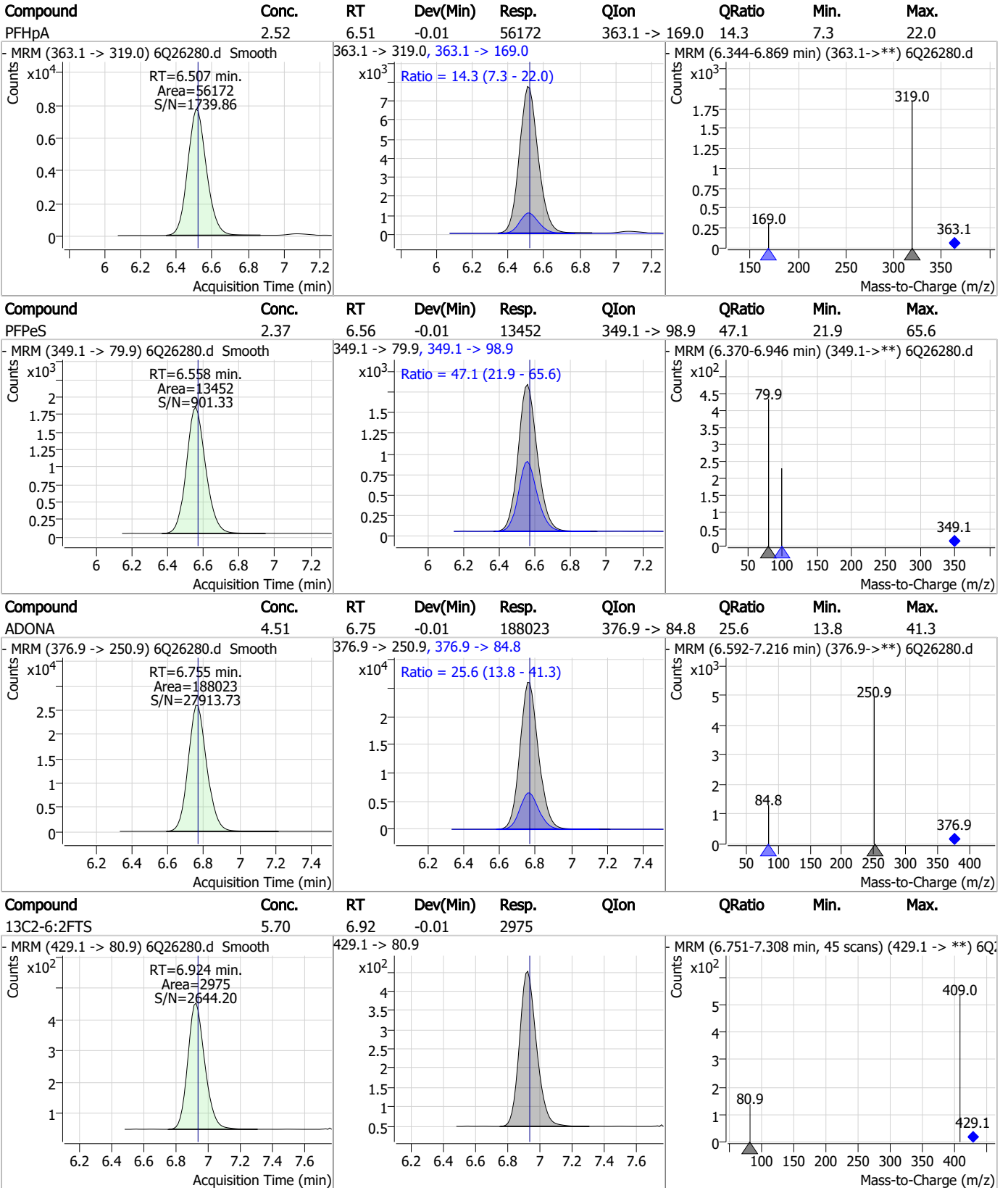
Perfluorinated Compounds by LC/MS/MS



7.3.1

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Perfluorinated Compounds by LC/MS/MS

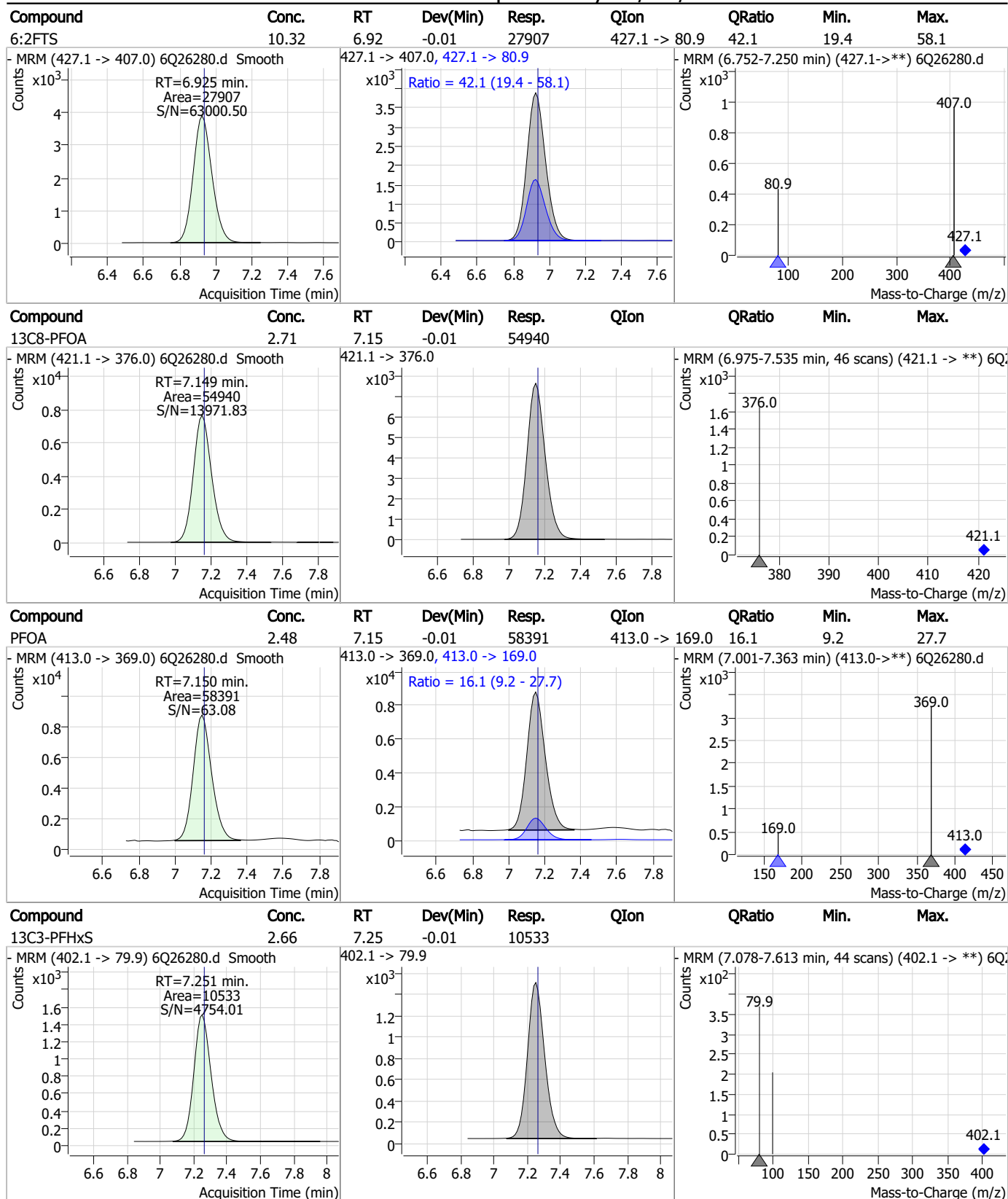


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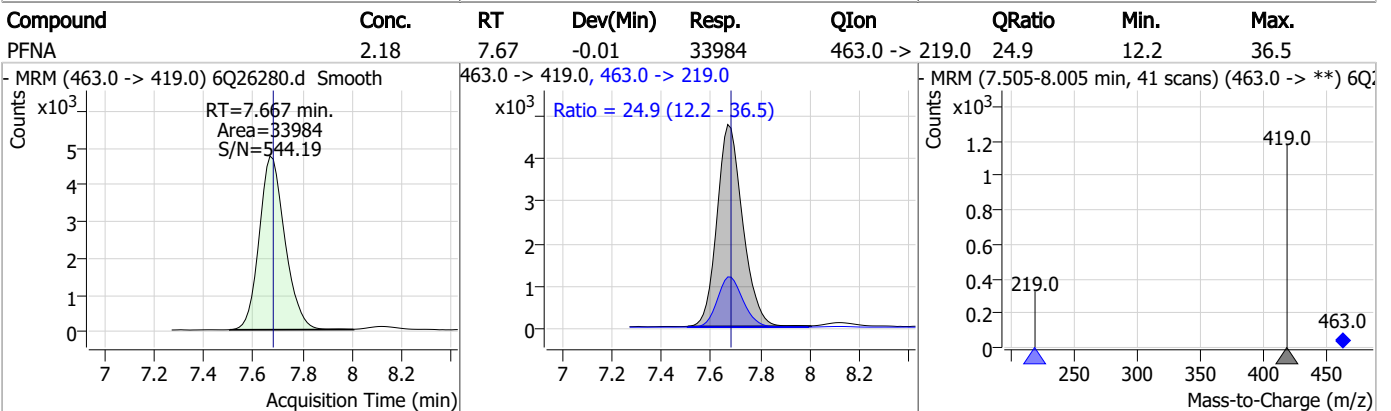
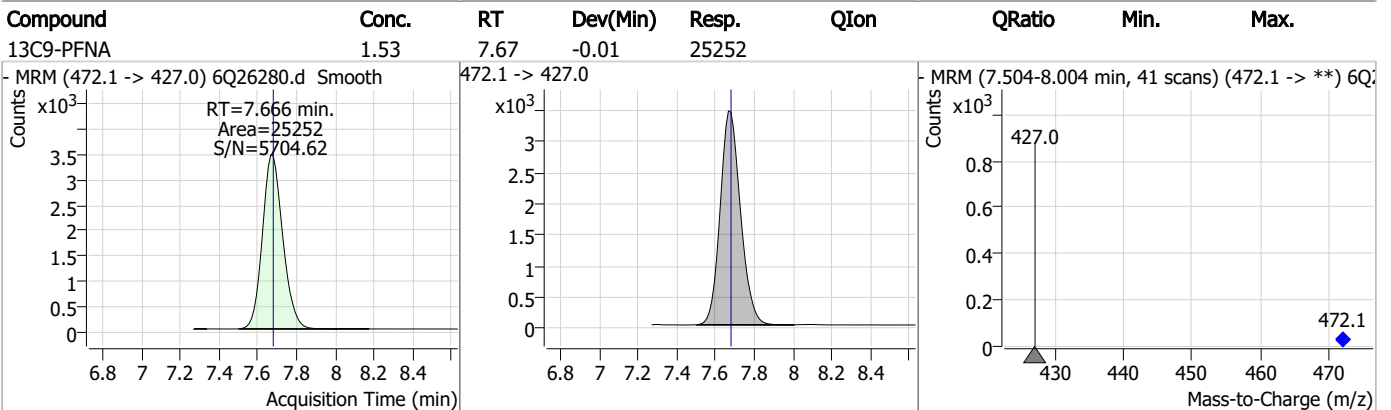
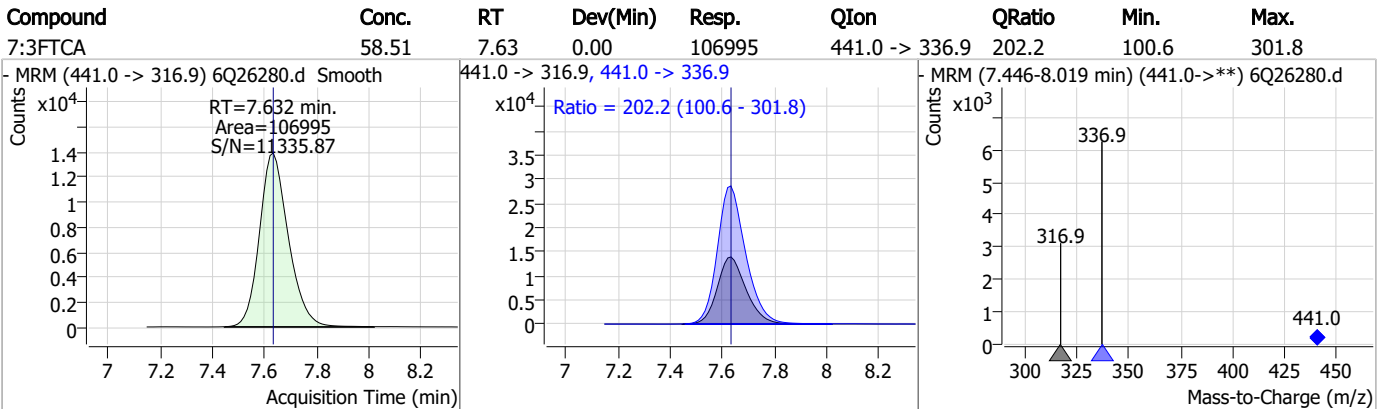
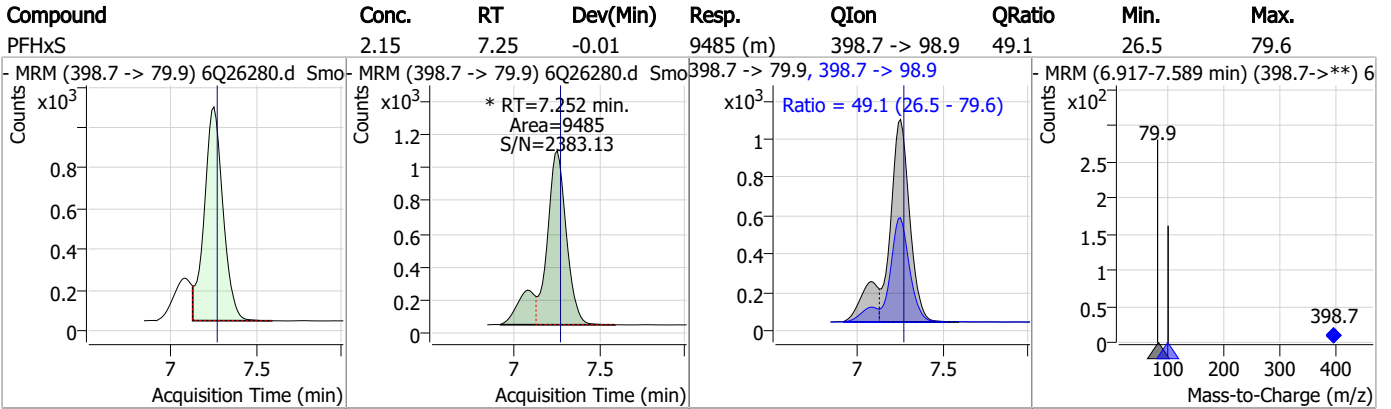


Perfluorinated Compounds by LC/MS/MS

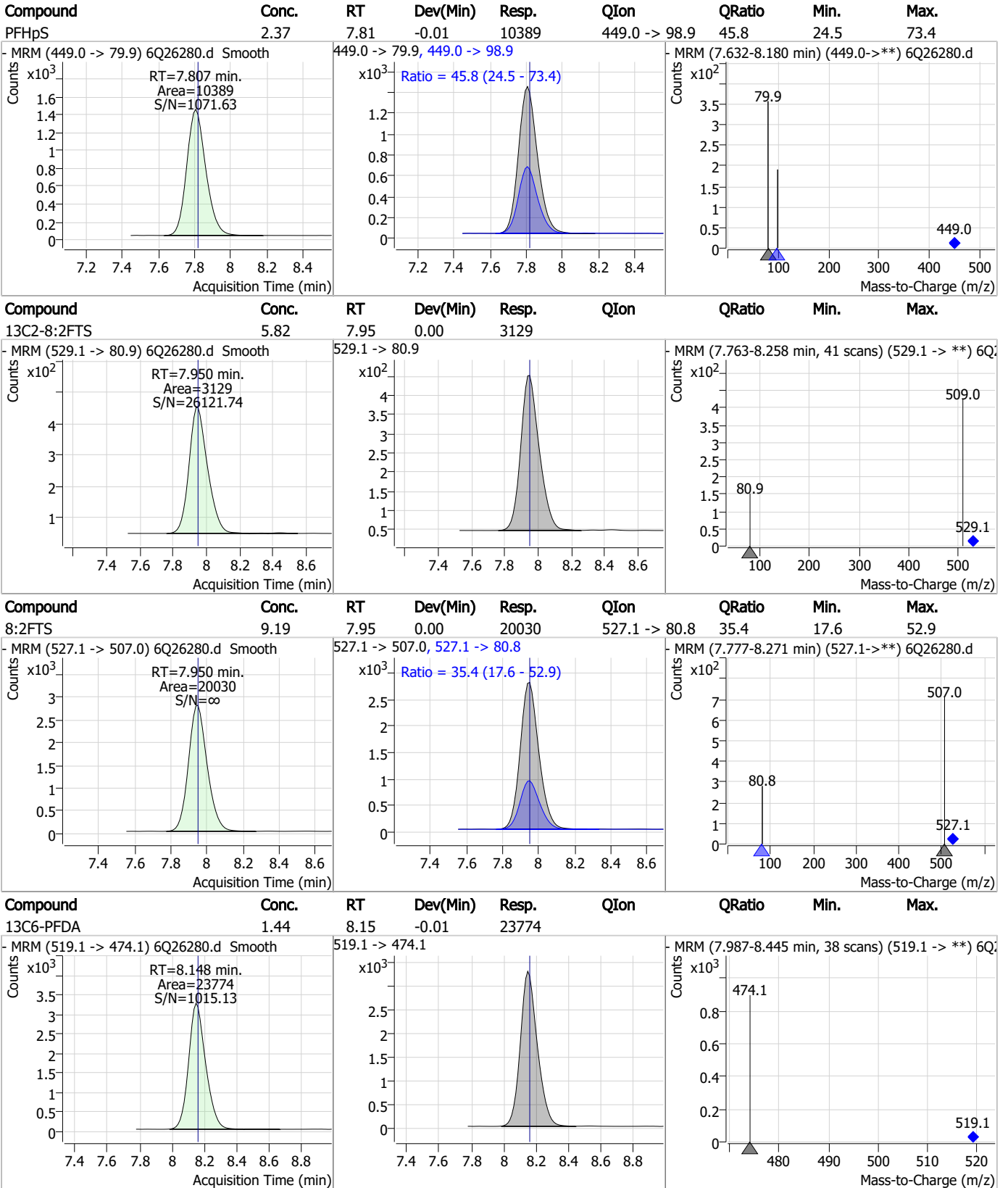


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Perfluorinated Compounds by LC/MS/MS



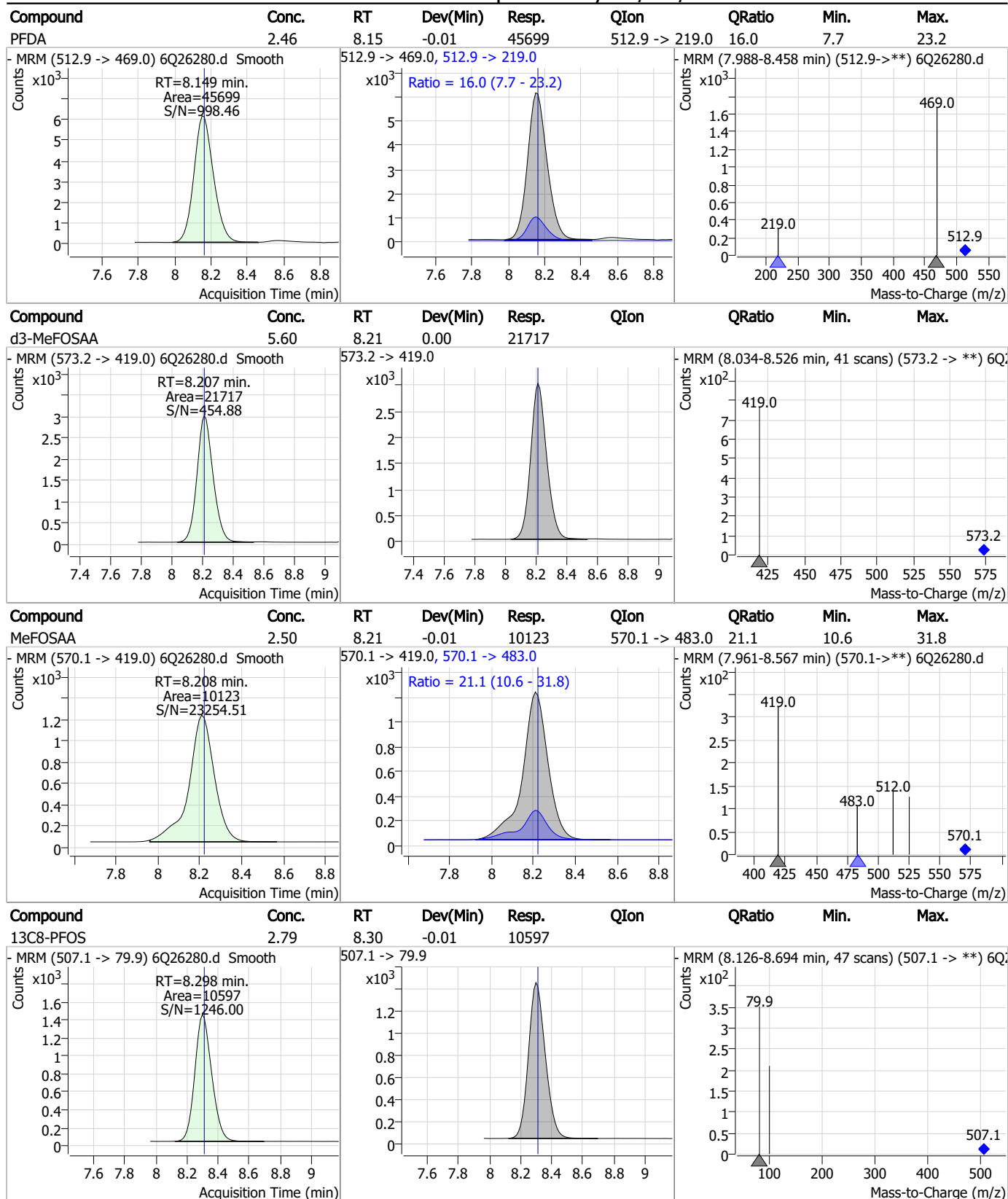
Perfluorinated Compounds by LC/MS/MS



7.3.1

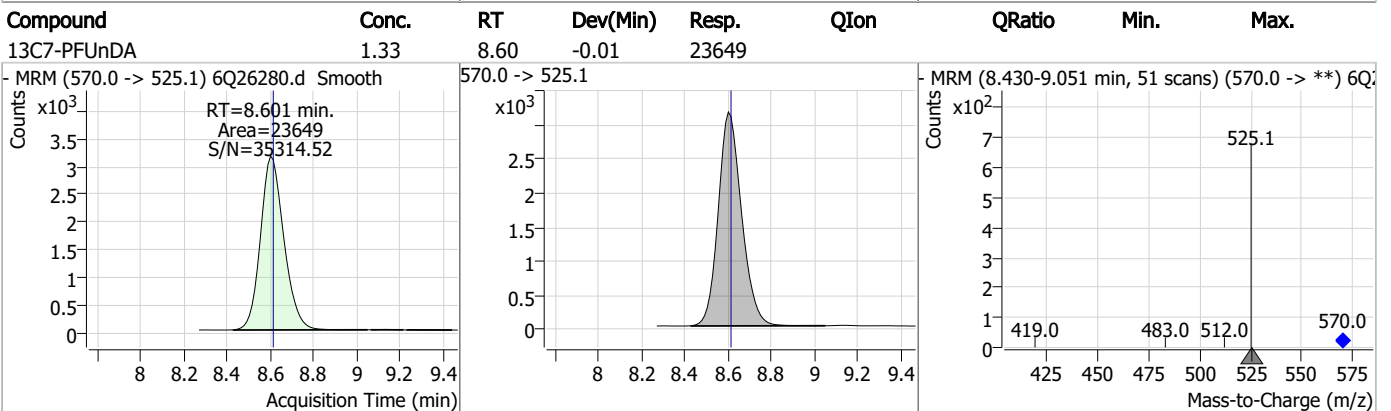
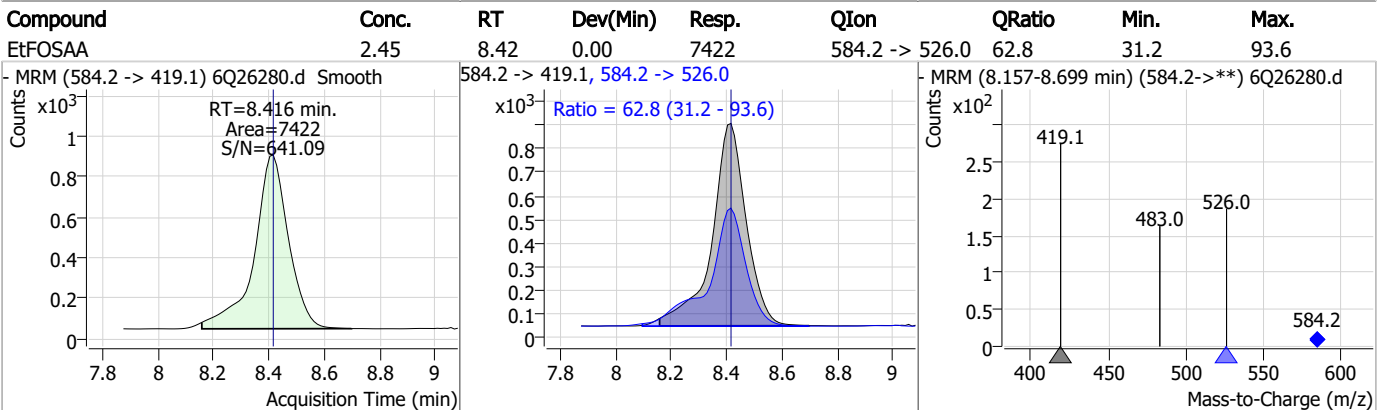
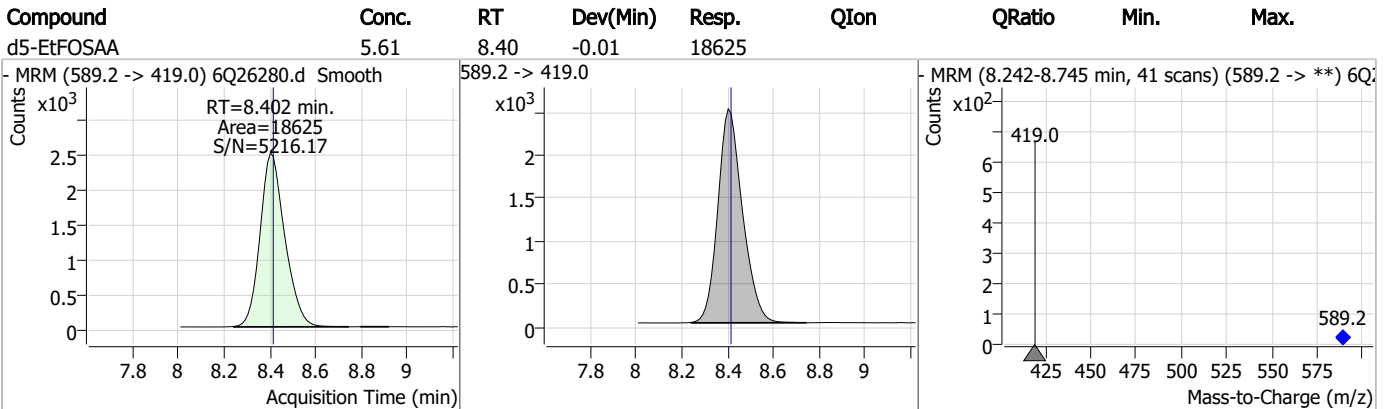
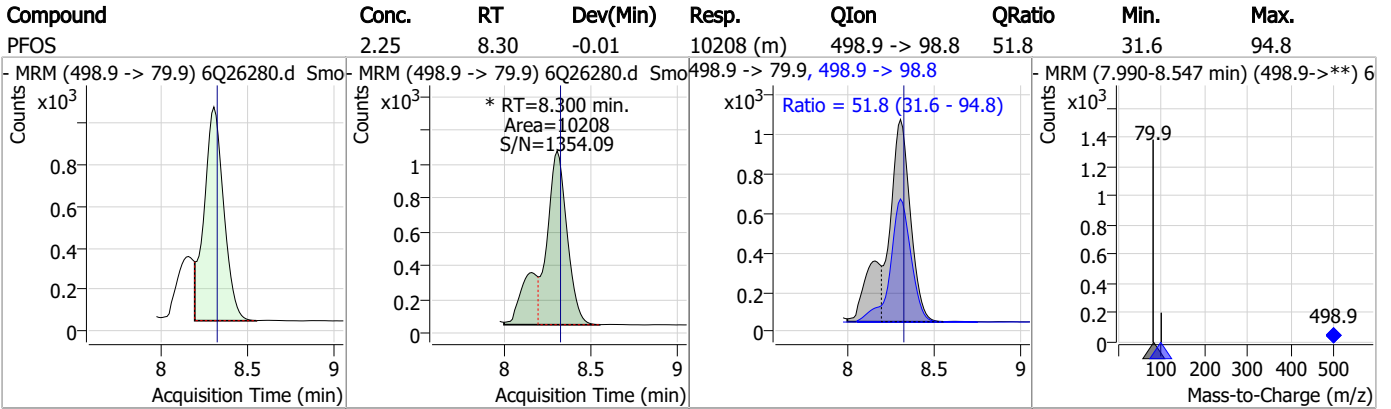
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Perfluorinated Compounds by LC/MS/MS



7.3.1

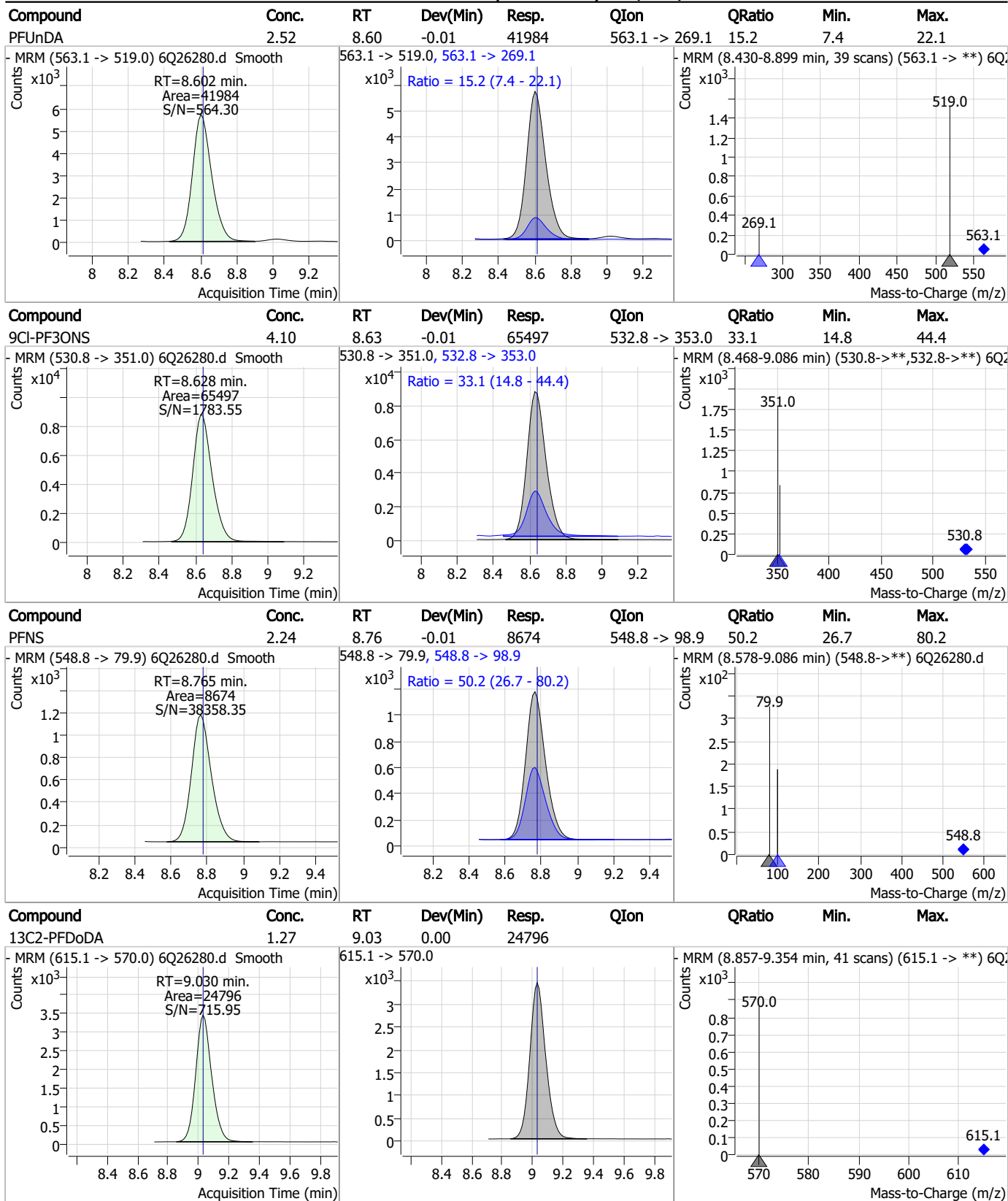
Perfluorinated Compounds by LC/MS/MS



7.3.1

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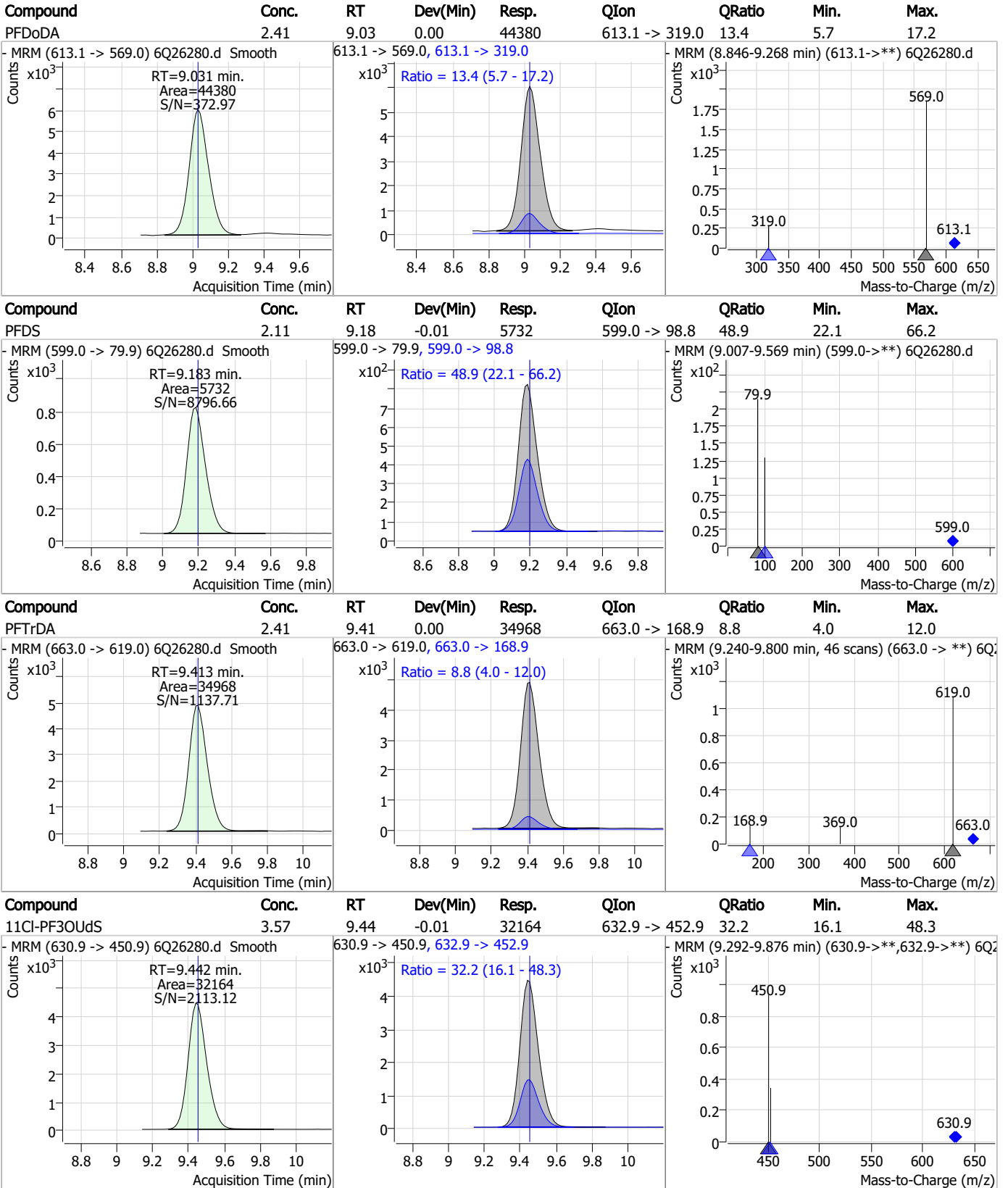
Perfluorinated Compounds by LC/MS/MS



7.3.1

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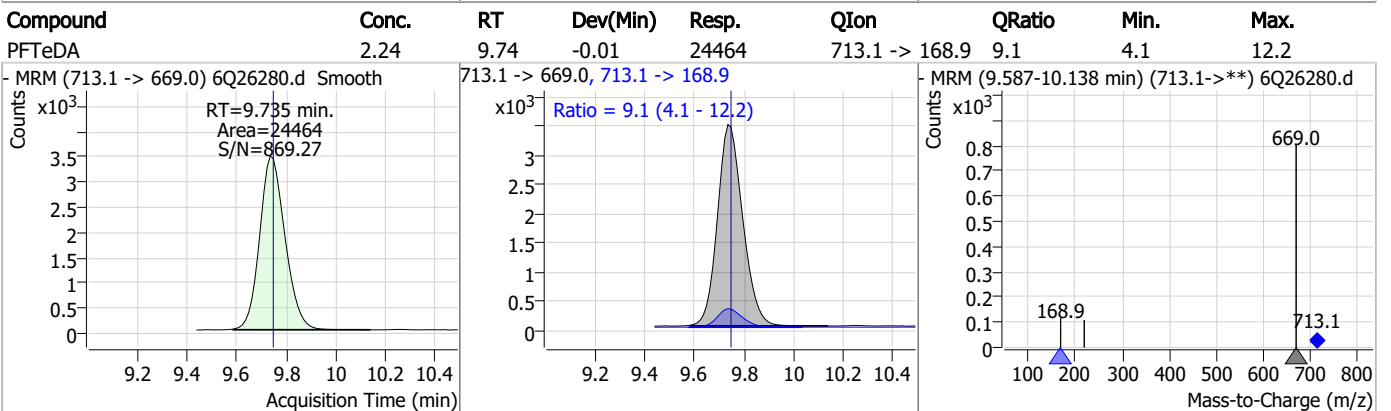
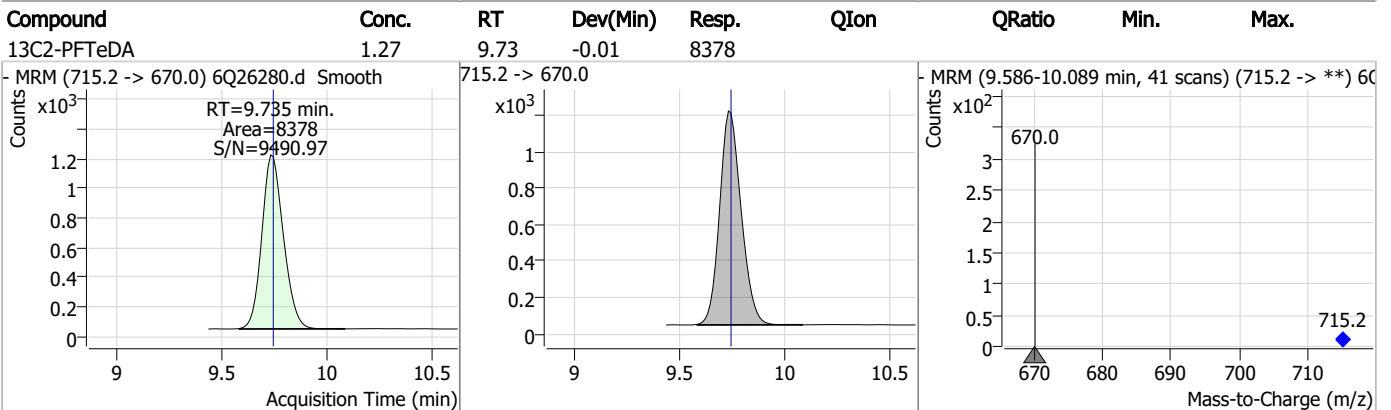
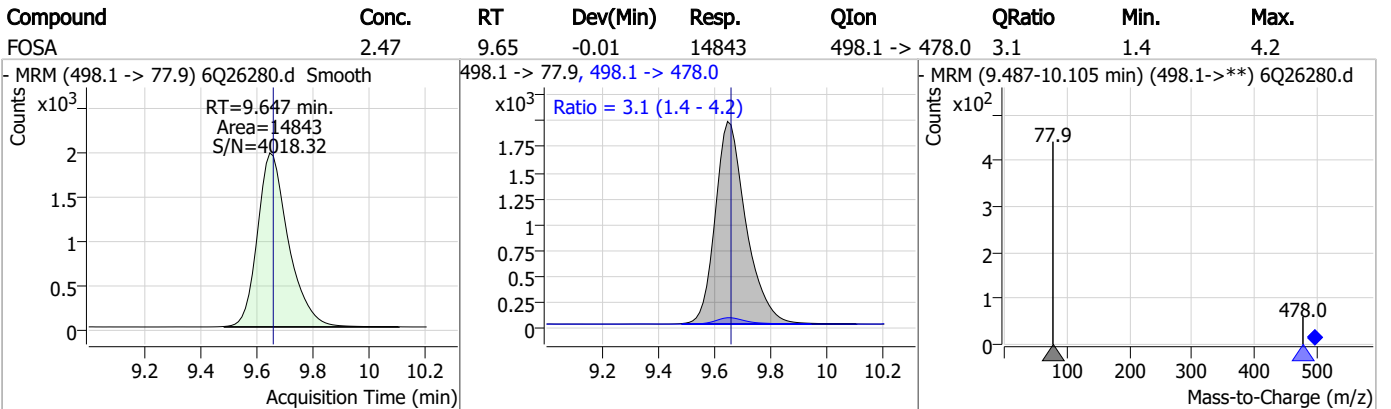
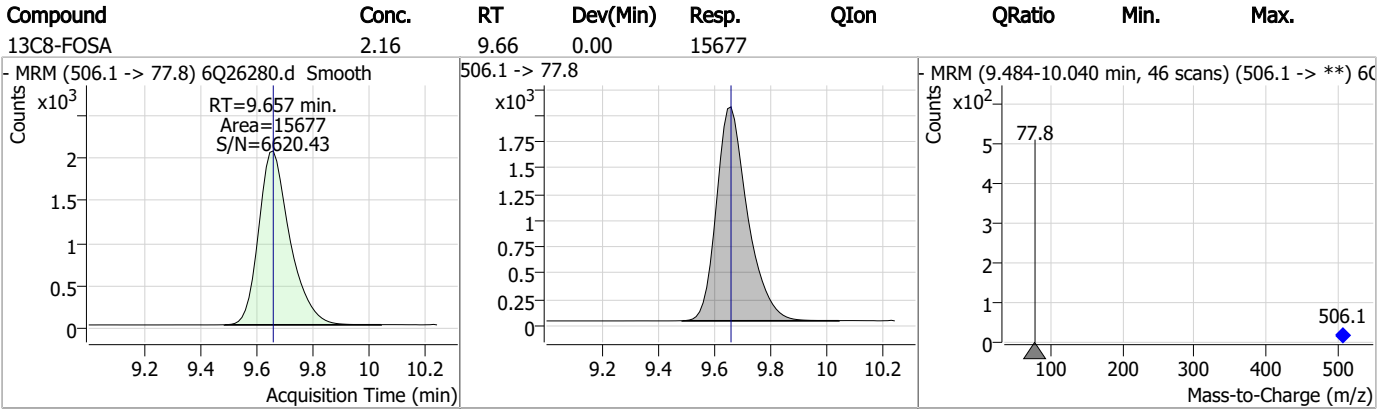
Perfluorinated Compounds by LC/MS/MS



7.3.1

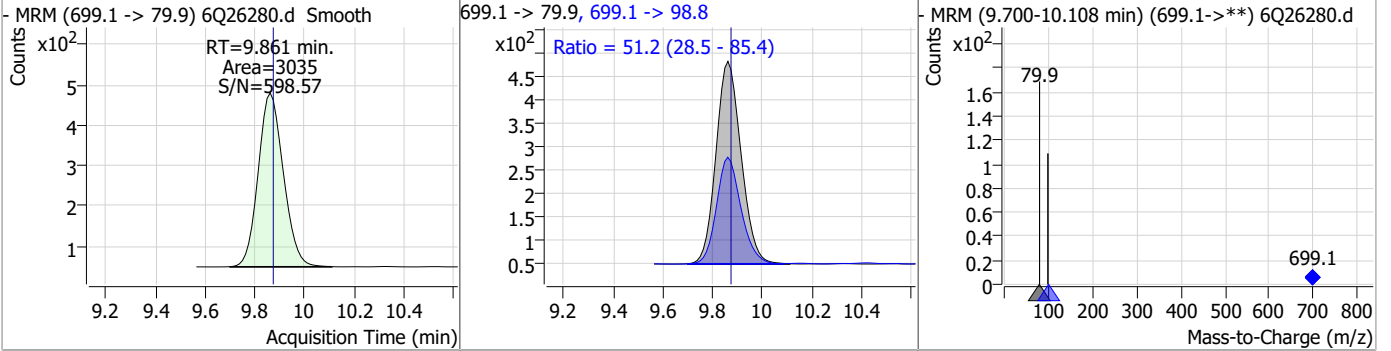
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Perfluorinated Compounds by LC/MS/MS

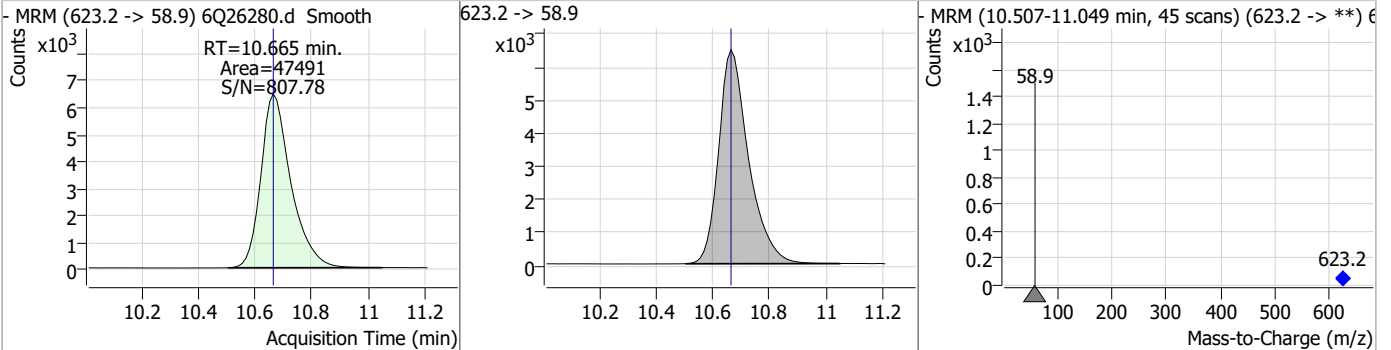


Perfluorinated Compounds by LC/MS/MS

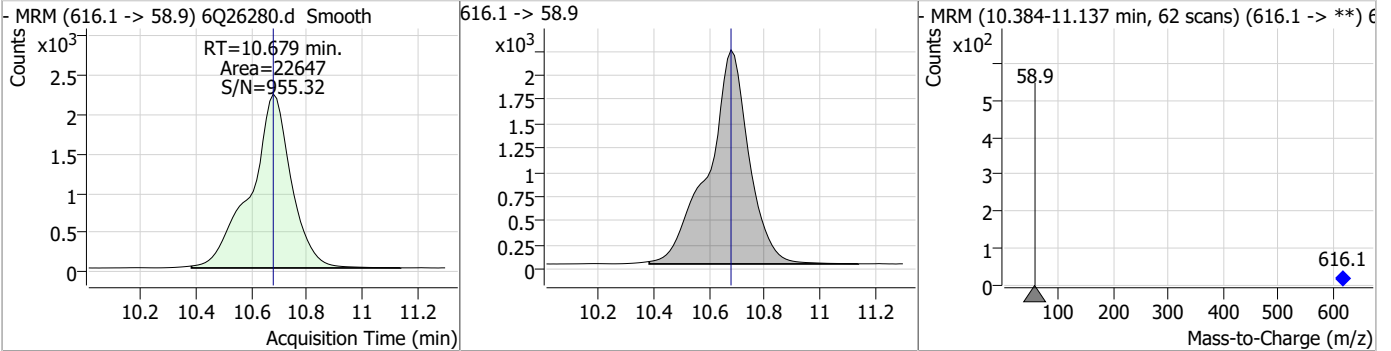
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoS	2.16	9.86	-0.01	3035	699.1 -> 98.8	51.2	28.5	85.4



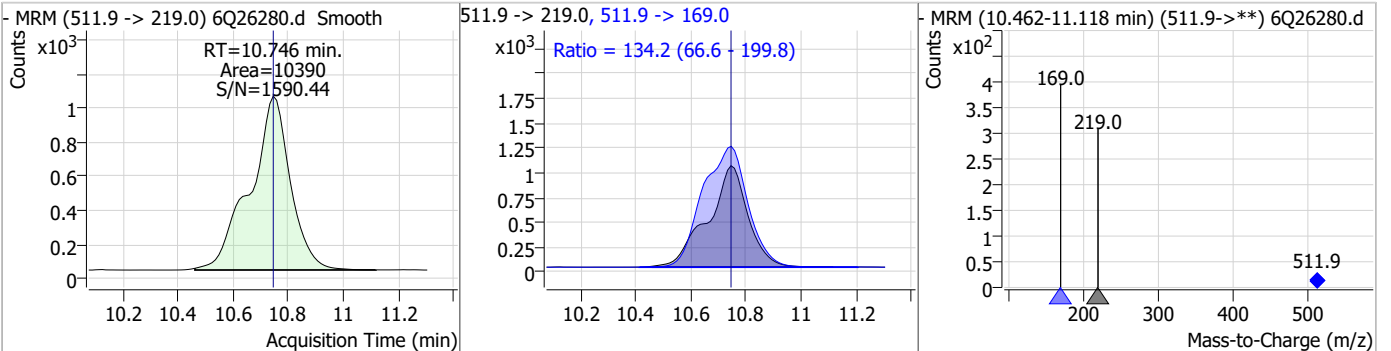
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d7-MeFOSE	20.24	10.67	0.00	47491				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSE	10.79	10.68	0.00	22647				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSA	5.05	10.75	0.00	10390	511.9 -> 169.0	134.2	66.6	199.8

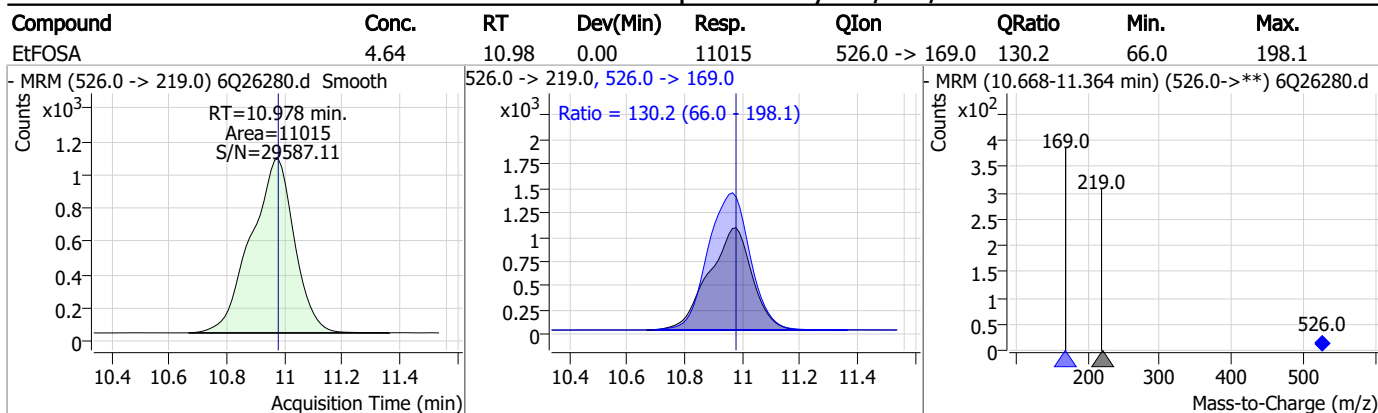


Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSA	2.11	10.74	-0.01	4437				
d9-EtFOSE	20.57	10.91	0.00	57355				
EtFOSE	11.98	10.91	-0.01	27641				
d5-EtFOSA	2.15	10.98	0.00	4840				

7.3.1
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Perfluorinated Compounds by LC/MS/MS



7.3.1

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Manual Integration Approval Summary

Sample Number: OP99445-BS Method: EPA DRAFT 1633
Lab FileID: 6Q26280.D Analyst approved: 10/16/23 10:56 Martha Valls
Injection Time: 10/12/23 15:47 Supervisor approved: 10/16/23 17:51 Natasha Gumtie

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		7.25	Split peak
Perfluorooctanesulfonic acid	1763-23-1		8.30	Split peak

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Perfluorinated Compounds by LC/MS/MS

Data File : 6Q26281.d
 Operator : marthav
 Acq. Method : 1633full.m
 Acq. Date-Time : 10/12/2023 4:02:17 PM
 Sample Name : OP99445-LLBS:3
 Vial : P6-A2
 DA Method File : 1633_100823_S6Q367.quantmethod.xml
 Batch Name : s6q370.batch.bin
 Sample Information : OP99445,S6Q370,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Internal Standards					
M4-PFBA	2.960	216.8 -> 171.9	144454	10.00 µg/L	0.012
M5-PFPeA	4.359	268.3 -> 223.0	50356	5.00 µg/L	-0.012
M5-PFHxA	5.567	318.0 -> 273.0	45775	2.50 µg/L	-0.012
M4-PFHpA	6.507	367.1 -> 322.0	44506	2.50 µg/L	-0.012
M8-PFOA	7.149	421.1 -> 376.0	57244	2.50 µg/L	-0.012
M9-PFNA	7.680	472.1 -> 427.0	24807	1.25 µg/L	0.000
M6-PFDA	8.148	519.1 -> 474.1	25547	1.25 µg/L	-0.012
M7-PFUnDA	8.601	570.0 -> 525.1	23843	1.25 µg/L	-0.012
M2-PFDoDA	9.030	615.1 -> 570.0	24723	1.25 µg/L	0.000
M2-PFTeDA	9.735	715.2 -> 670.0	7364	1.25 µg/L	-0.012
M8-FOSA	9.657	506.1 -> 77.8	14432	2.50 µg/L	0.000
M3-PFBS	5.485	302.1 -> 79.9	20251	2.50 µg/L	-0.012
M3-PFHxS	7.251	402.1 -> 79.9	10766	2.50 µg/L	-0.012
M8-PFOS	8.298	507.1 -> 79.9	11090	2.50 µg/L	-0.013
M2-4:2FTS	5.242	329.1 -> 80.9	2397	5.00 µg/L	-0.012
M2-6:2FTS	6.924	429.1 -> 80.9	3171	5.00 µg/L	-0.012
M2-8:2FTS	7.950	529.1 -> 80.9	3163	5.00 µg/L	0.000
M3-MeFOSAA	8.207	573.2 -> 419.0	22166	5.00 µg/L	0.000
M3-HFPO-DA	5.945	286.9 -> 168.9	29516	10.00 µg/L	-0.012
M5-EtFOSAA	8.402	589.2 -> 419.0	18519	5.00 µg/L	-0.012
M7-MeFOSE	10.665	623.2 -> 58.9	42309	25.00 µg/L	0.000
M9-EtFOSE	10.911	639.2 -> 58.9	51661	25.00 µg/L	0.000
M5-EtFOSA	10.976	531.1 -> 219.0	4256	2.50 µg/L	0.000
M3-MeFOSA	10.744	515.0 -> 219.0	3705	2.50 µg/L	-0.012
13C4-PFOS	8.299	502.8 -> 79.9	9228	2.50 µg/L	-0.013
13C3-PFBA	2.964	216.0 -> 172.0	53452	5.00 µg/L	0.012
18O2-PFHxS	7.250	403.0 -> 83.9	6016	2.50 µg/L	-0.012
13C4-PFOA	7.150	417.1 -> 372.0	58439	2.50 µg/L	-0.012
13C2-PFDA	8.149	515.1 -> 470.1	19799	1.25 µg/L	-0.012
13C5-PFNA	7.680	468.0 -> 423.0	20951	1.25 µg/L	0.000
13C2-PFHxA	5.568	315.1 -> 270.0	39642	2.50 µg/L	-0.012
System Monitoring Compounds					
13C2-4:2FTS	5.242	329.1 -> 80.9	2397	7.07 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 141.5%		
13C2-6:2FTS	6.924	429.1 -> 80.9	3171	6.29 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 125.8%		
13C2-8:2FTS	7.950	529.1 -> 80.9	3163	6.09 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 121.9%		
13C2-PFDoDA	9.030	615.1 -> 570.0	24723	1.25 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 100.2%		
13C2-PFTeDA	9.735	715.2 -> 670.0	7364	1.10 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 88.0%		
13C3-PFBS	5.485	302.1 -> 79.9	20251	2.97 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 118.8%		
13C3-PFHxS	7.251	402.1 -> 79.9	10766	2.82 µg/L	-0.012

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Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 112.7%	
13C4-PFBA	2.960	216.8 -> 171.9	144454	11.20 µg/L	0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 112.0%	
13C4-PFHpA	6.507	367.1 -> 322.0	44506	2.77 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 111.0%	
13C5-PFHxA	5.567	318.0 -> 273.0	45775	2.79 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 111.7%	
13C5-PFPeA	4.359	268.3 -> 223.0	50356	5.61 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 112.3%	
13C6-PFDA	8.148	519.1 -> 474.1	25547	1.53 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 122.6%	
13C7-PFUnDA	8.601	570.0 -> 525.1	23843	1.32 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 105.8%	
13C8-FOSA	9.657	506.1 -> 77.8	14432	1.90 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 75.8%	
13C8-PFOA	7.149	421.1 -> 376.0	57244	2.82 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 113.0%	
13C8-PFOS	8.298	507.1 -> 79.9	11090	2.78 µg/L	-0.013
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 111.3%	
13C9-PFNA	7.680	472.1 -> 427.0	24807	1.44 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 115.1%	
d3-MeFOSAA	8.207	573.2 -> 419.0	22166	5.46 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 109.2%	
13C3-HFPO-DA	5.945	286.9 -> 168.9	29516	10.67 µg/L	-0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 106.7%	
d3-MeFOSA	10.744	515.0 -> 219.0	3705	1.68 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 67.1%	
d5-EtFOSAA	8.402	589.2 -> 419.0	18519	5.32 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 106.5%	
d7-MeFOSE	10.665	623.2 -> 58.9	42309	17.21 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 68.9%	
d9-EtFOSE	10.911	639.2 -> 58.9	51661	17.68 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 70.7%	
d5-EtFOSA	10.976	531.1 -> 219.0	4256	1.80 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 72.1%	
Target Compounds					QValue
4:2FTS	5.243	327.1 -> 307.0	12201	3.07 µg/L	98
		327.1 -> 80.9	4578		
6:2FTS	6.925	427.1 -> 407.0	8967	3.11 µg/L	97
		427.1 -> 80.9	3628		
8:2FTS	7.950	527.1 -> 507.0	6799	3.09 µg/L	97
		527.1 -> 80.8	2520		
EtFOSAA	8.416	584.2 -> 419.1	2193	0.73 µg/L	86
		584.2 -> 526.0	1610		
FOSA	9.647	498.1 -> 77.9	4556	0.82 µg/L	99
		498.1 -> 478.0	117		
MeFOSAA	8.208	570.1 -> 419.0	3286	0.79 µg/L	94
		570.1 -> 483.0	782		
PFBA	2.968	212.8 -> 168.9	17029	3.16 µg/L	100
PFBS	5.486	298.7 -> 79.9	4120	0.68 µg/L	99
		298.7 -> 98.8	1539		
PFDA	8.149	512.9 -> 469.0	14725	0.74 µg/L	97
		512.9 -> 219.0	2429		
PFDODA	9.031	613.1 -> 569.0	15568	0.85 µg/L	99
		613.1 -> 319.0	1833		
PFDS	9.183	599.0 -> 79.9	2140	0.75 µg/L	99

7.3.2
7

Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
PFHpA	6.520	599.0 -> 98.8	930	0.74	µg/L	98
		363.1 -> 319.0	17792			
PFHpS	7.807	363.1 -> 169.0	2718	0.78	µg/L	99
		449.0 -> 79.9	3557			
PFHxA	5.569	449.0 -> 98.9	1774	0.74	µg/L	100
		313.0 -> 269.0	12060			
PFHxS	7.252	313.0 -> 118.9	609	0.78	µg/L	87
		398.7 -> 79.9	3521			
PFNA	7.667	398.7 -> 98.9	1541	0.73	µg/L	98
		463.0 -> 419.0	11221			
PFNS	8.765	463.0 -> 219.0	2833	0.74	µg/L	92
		548.8 -> 79.9	2984			
PFOA	7.150	548.8 -> 98.9	1434	0.82	µg/L	91
		413.0 -> 369.0	20030			
PFOS	8.300	413.0 -> 169.0	2944	0.72	µg/L	86
		498.9 -> 79.9	3401			
PFPeA	4.361	498.9 -> 98.8	1778	1.51	µg/L	100
		263.0 -> 219.0	16434			
PFPeS	6.558	349.1 -> 79.9	4559	0.78	µg/L	98
		349.1 -> 98.9	2060			
PFTeDA	9.735	713.1 -> 669.0	8374	0.87	µg/L	99
		713.1 -> 168.9	641			
PFTrDA	9.401	663.0 -> 619.0	11408	0.79	µg/L	99
		663.0 -> 168.9	942			
PFUnDA	8.602	563.1 -> 519.0	13679	0.81	µg/L	99
		563.1 -> 269.1	2083			
11CI-PF3OUdS	9.442	630.9 -> 450.9	11790	1.35	µg/L	95
		632.9 -> 452.9	3459			
9CI-PF3ONS	8.628	530.8 -> 351.0	21805	1.40	µg/L	84
		532.8 -> 353.0	8322			
ADONA	6.767	376.9 -> 250.9	60029	1.48	µg/L	99
		376.9 -> 84.8	16972			
HFPO-DA	5.946	284.9 -> 168.9	4748	1.62	µg/L	99
		284.9 -> 184.9	554			
3:3FTCA	3.833	241.0 -> 177.0	2237	2.89	µg/L	100
		241.0 -> 117.0	304			
5:3FTCA	6.221	341.0 -> 237.1	52182	17.01	µg/L	97
		341.0 -> 217.0	38502			
7:3FTCA	7.632	441.0 -> 316.9	33926	18.11	µg/L	100
		441.0 -> 336.9	68142			
EtFOSA	10.978	526.0 -> 219.0	3151	1.51	µg/L	97
		526.0 -> 169.0	4037			
EtFOSE	10.912	630.0 -> 58.9	8429	4.05	µg/L	100
		511.9 -> 219.0	2936			
MeFOSA	10.746	511.9 -> 169.0	3959	1.71	µg/L	99
		616.1 -> 58.9	6861			
MeFOSE	10.679	699.1 -> 79.9	935	3.67	µg/L	100
		699.1 -> 98.8	517			
PFDoDS	9.849	295.0 -> 201.0	3033	0.63	µg/L	98
		295.0 -> 84.9	767			
NFDHA	5.450	279.0 -> 85.1	12074	1.46	µg/L	100
		229.0 -> 84.9	10251			
PFMBA	4.781	314.8 -> 134.9	27149	1.50	µg/L	100
		314.8 -> 82.9	1067			
PFMPA	3.513			1.29	µg/L	99
PFEESA	6.025					

= Qualifier out of range, m = manually integrated, + = Area summed



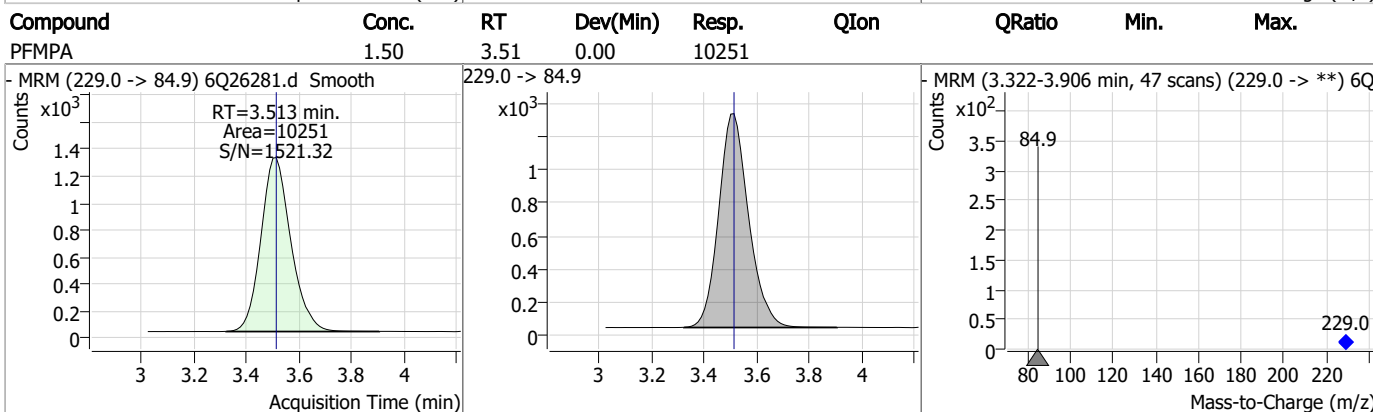
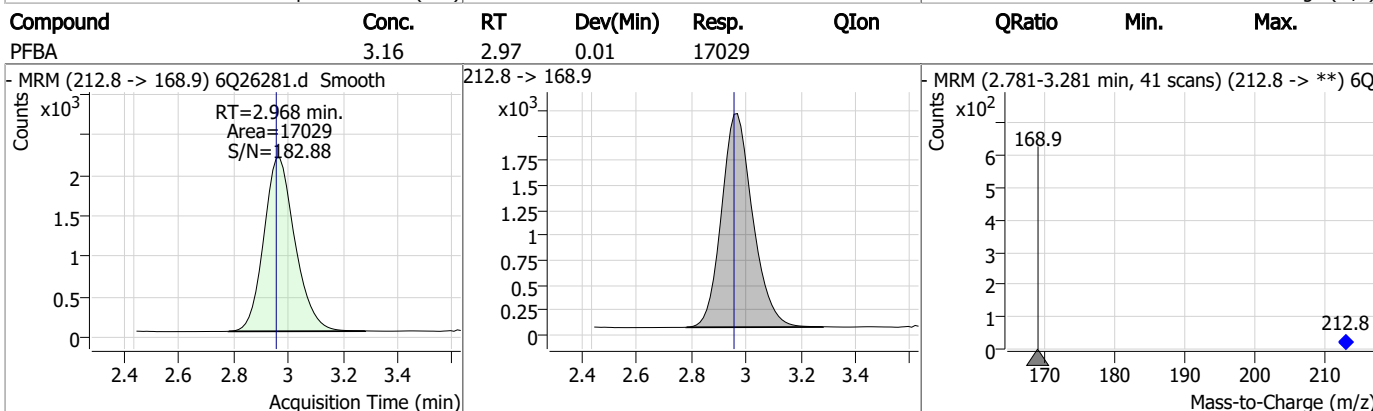
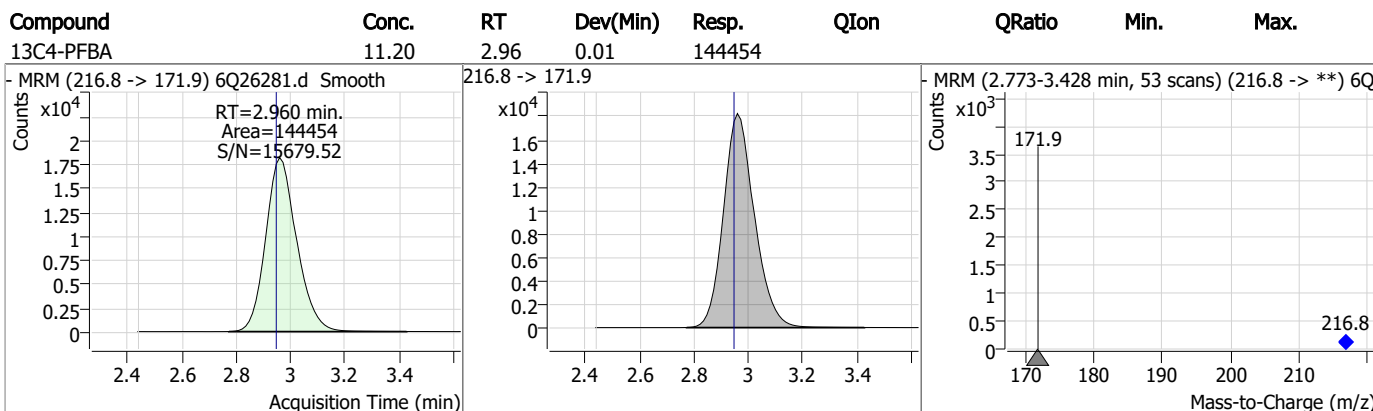
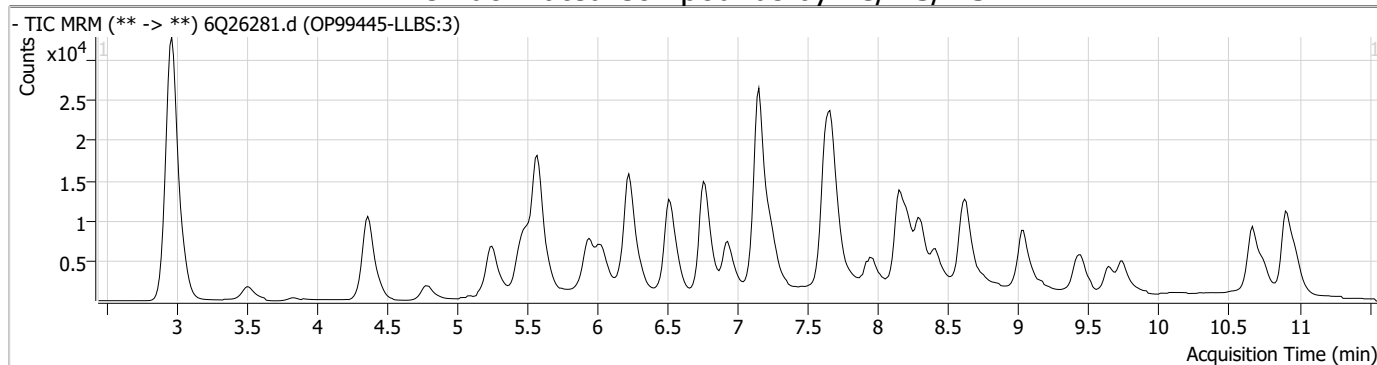
Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
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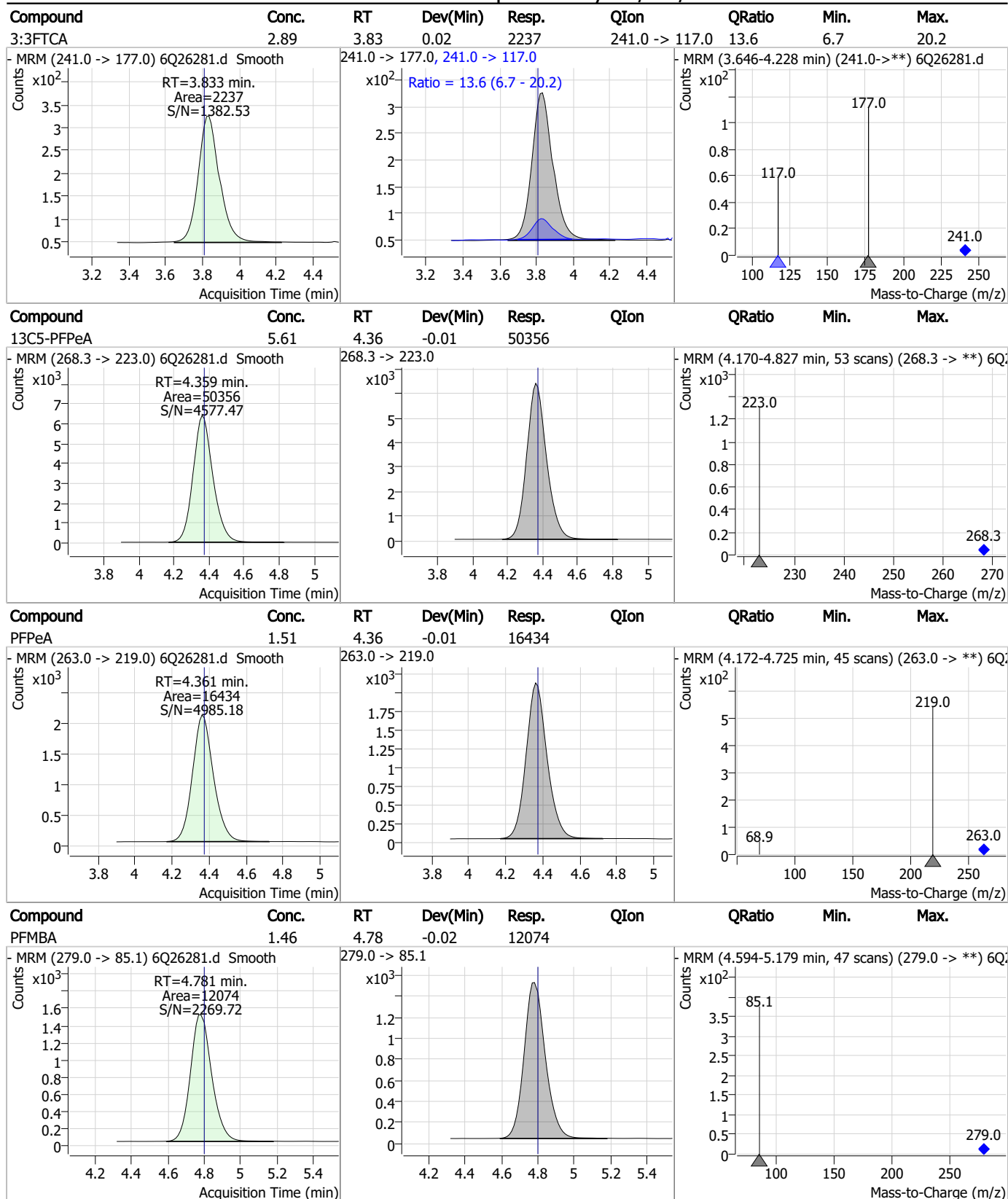
7.3.2

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Perfluorinated Compounds by LC/MS/MS

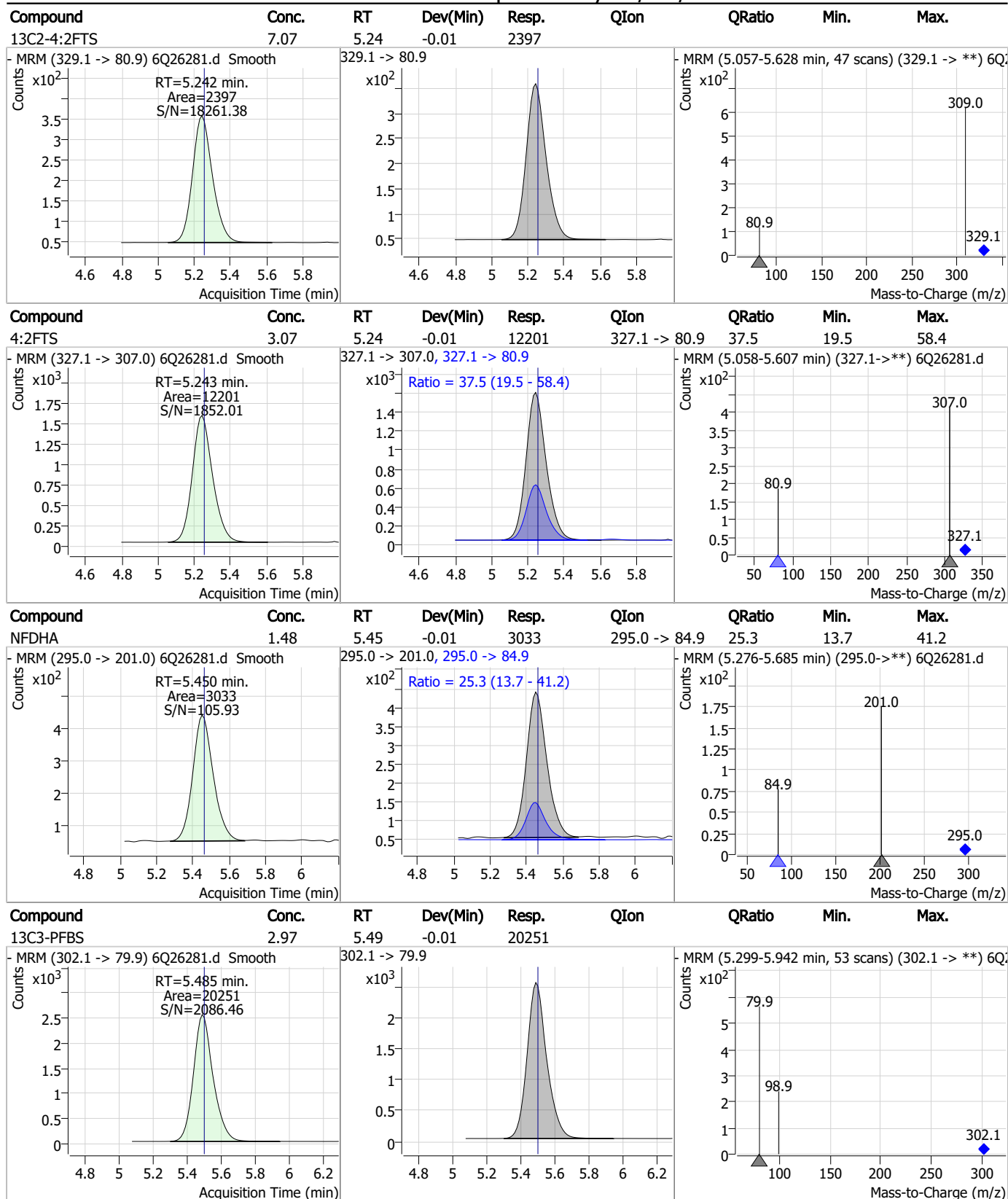


Perfluorinated Compounds by LC/MS/MS



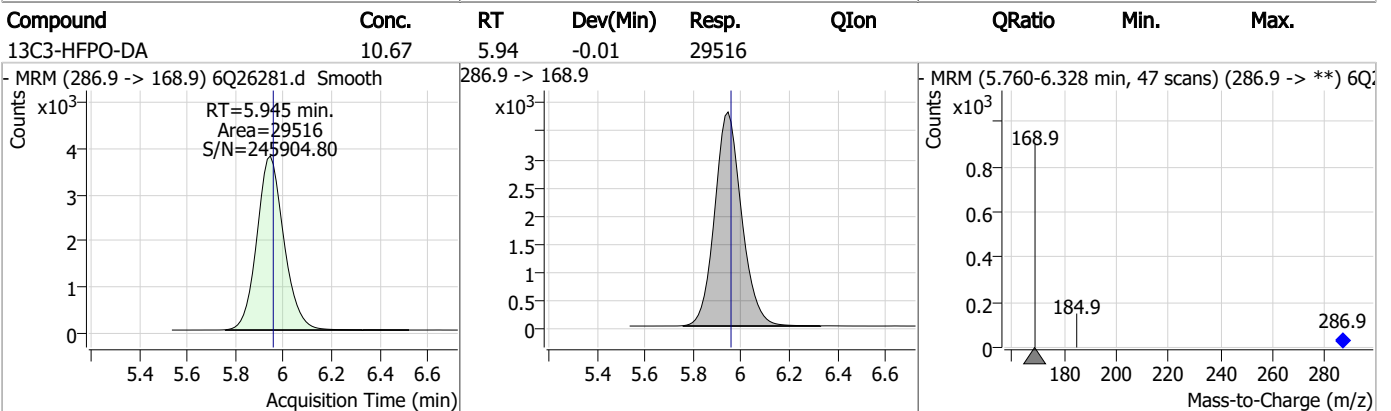
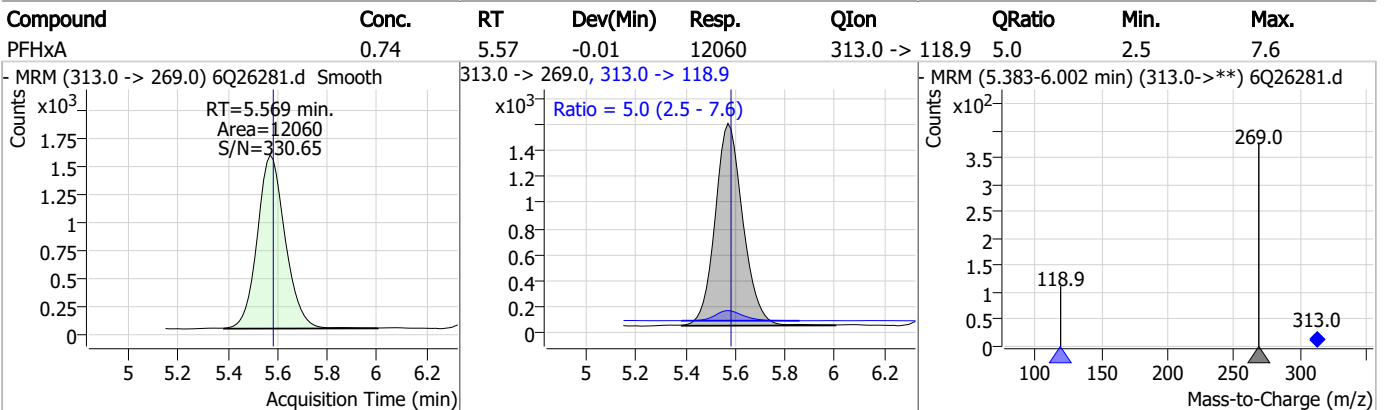
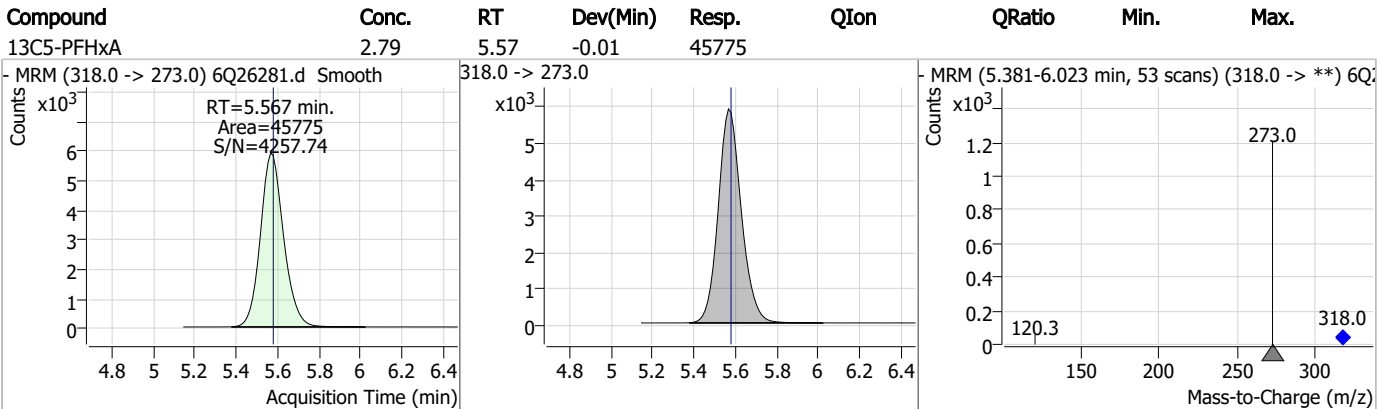
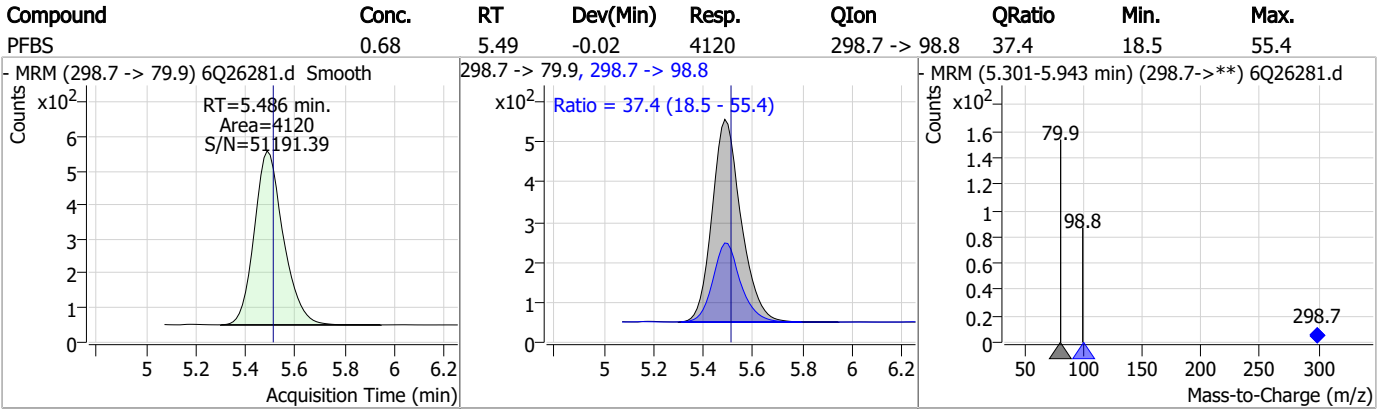
7.3.2
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Perfluorinated Compounds by LC/MS/MS



7.3.2
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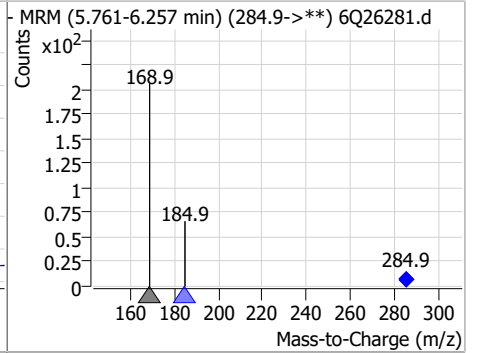
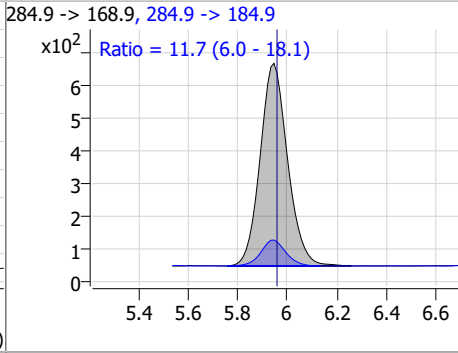
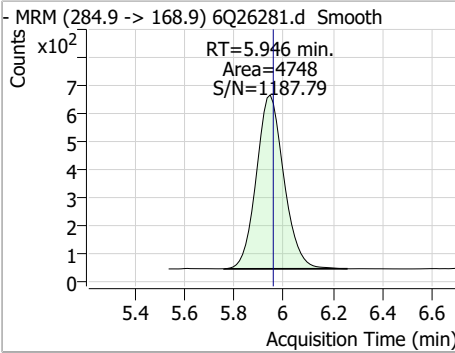
Perfluorinated Compounds by LC/MS/MS



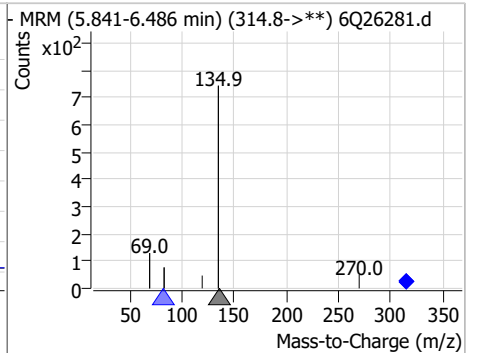
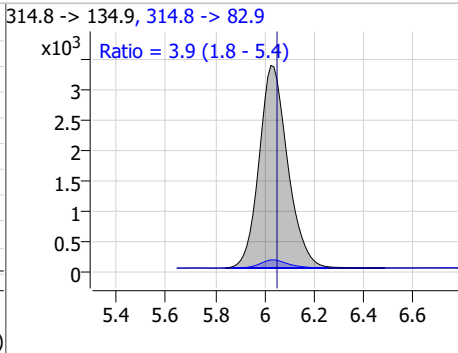
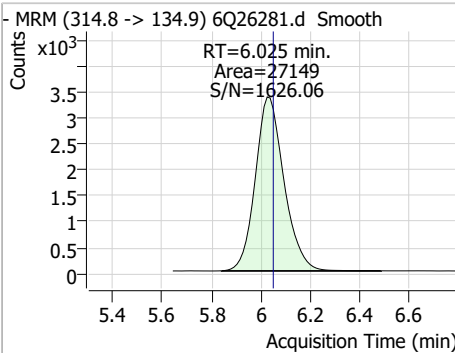
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Perfluorinated Compounds by LC/MS/MS

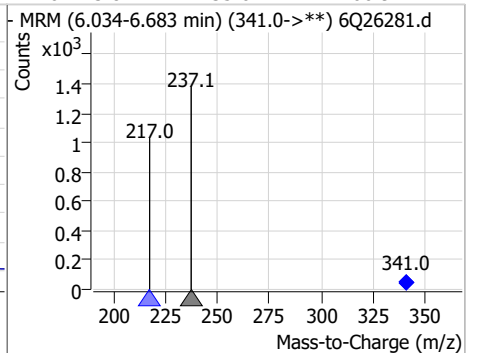
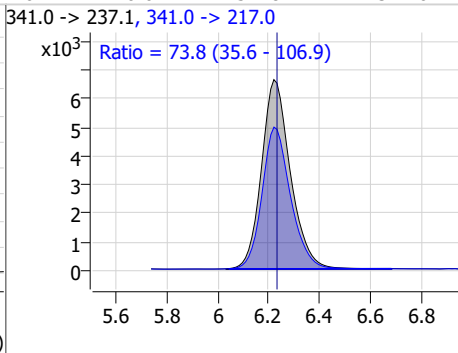
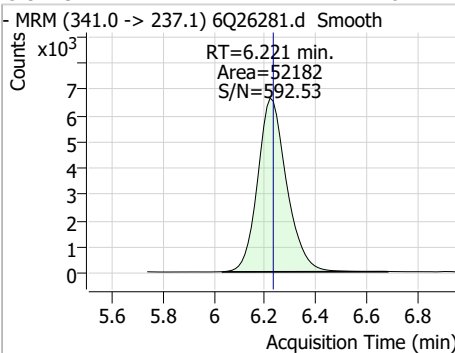
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
HFPO-DA	1.62	5.95	-0.01	4748	284.9 -> 184.9	11.7	6.0	18.1



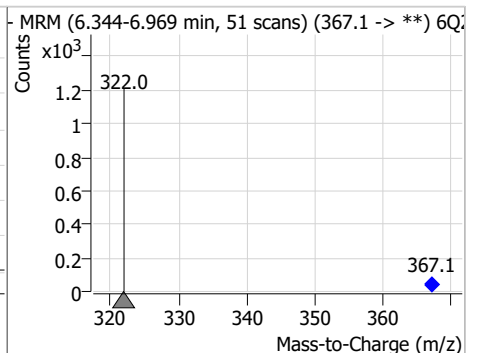
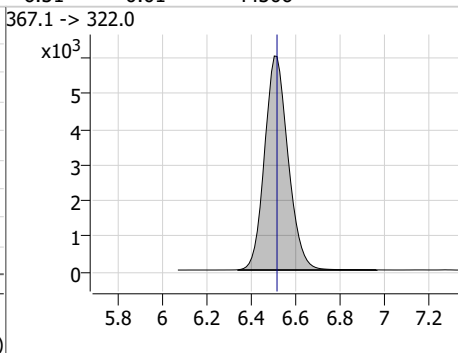
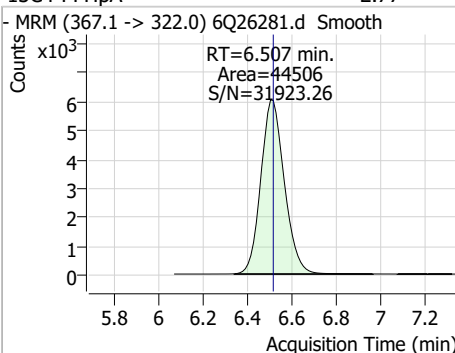
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFEESA	1.29	6.02	-0.02	27149	314.8 -> 82.9	3.9	1.8	5.4



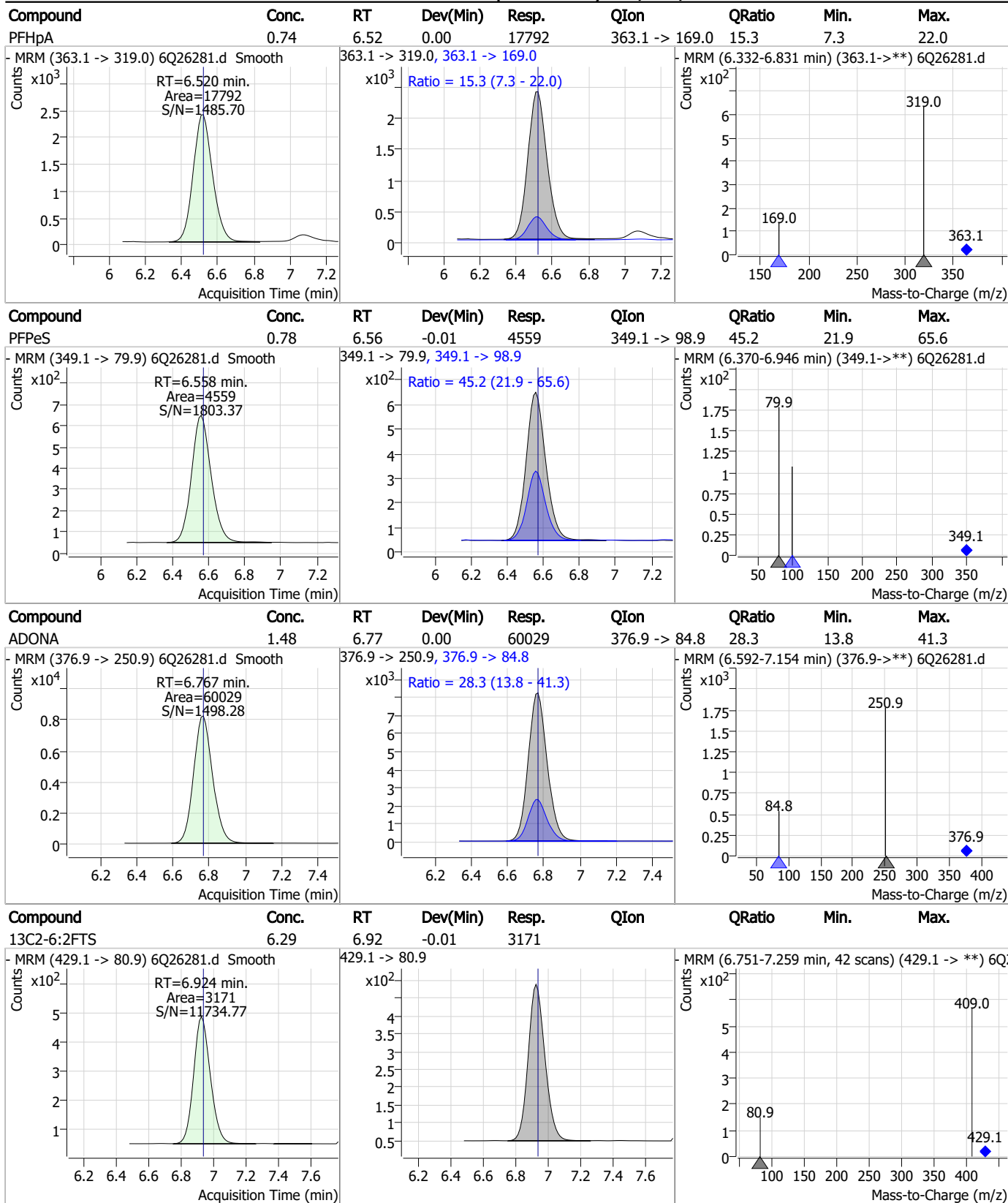
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
5:3FTCA	17.01	6.22	-0.01	52182	341.0 -> 217.0	73.8	35.6	106.9



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFHpA	2.77	6.51	-0.01	44506	367.1 -> 322.0			

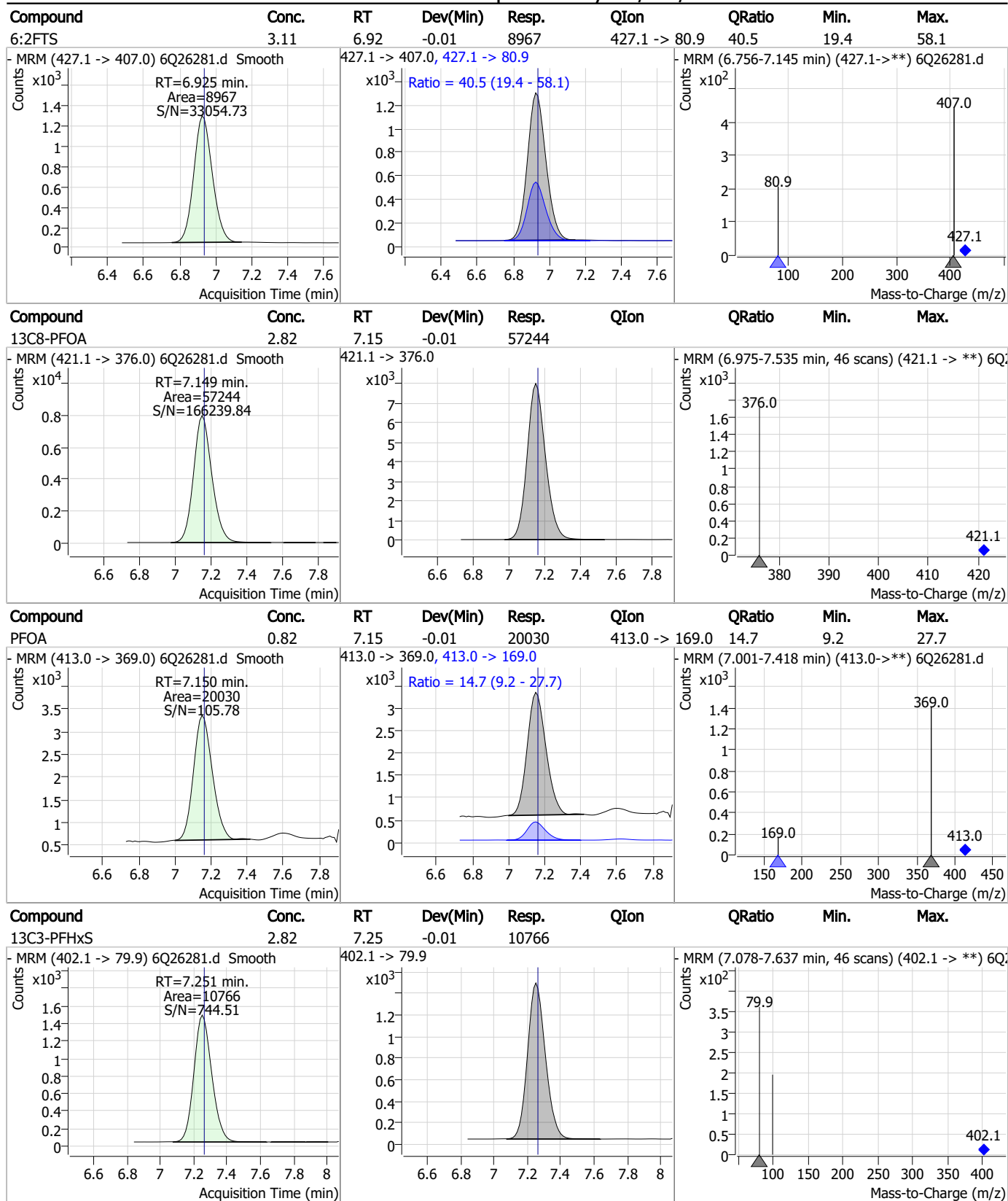


Perfluorinated Compounds by LC/MS/MS



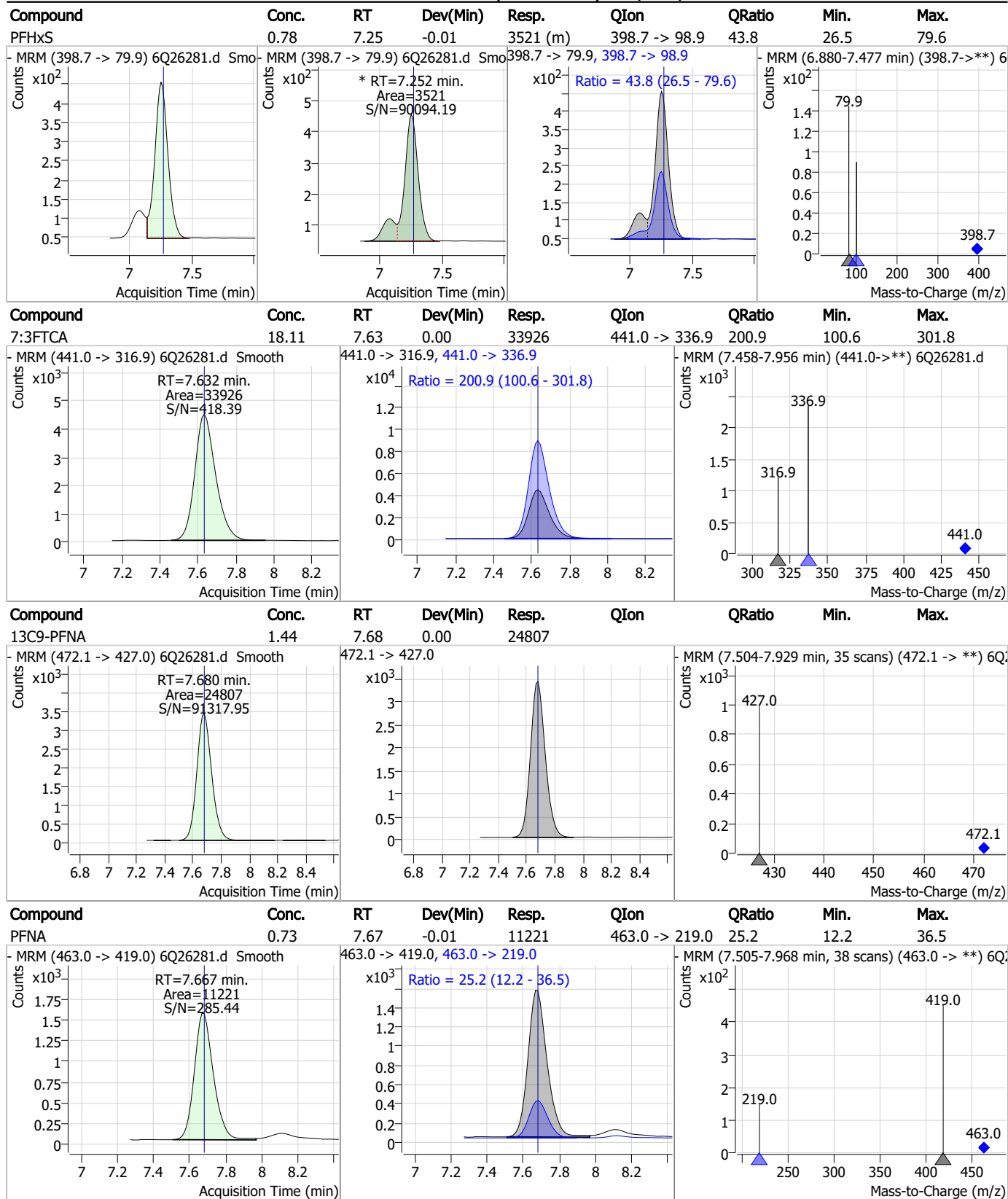
7.3.2
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Perfluorinated Compounds by LC/MS/MS



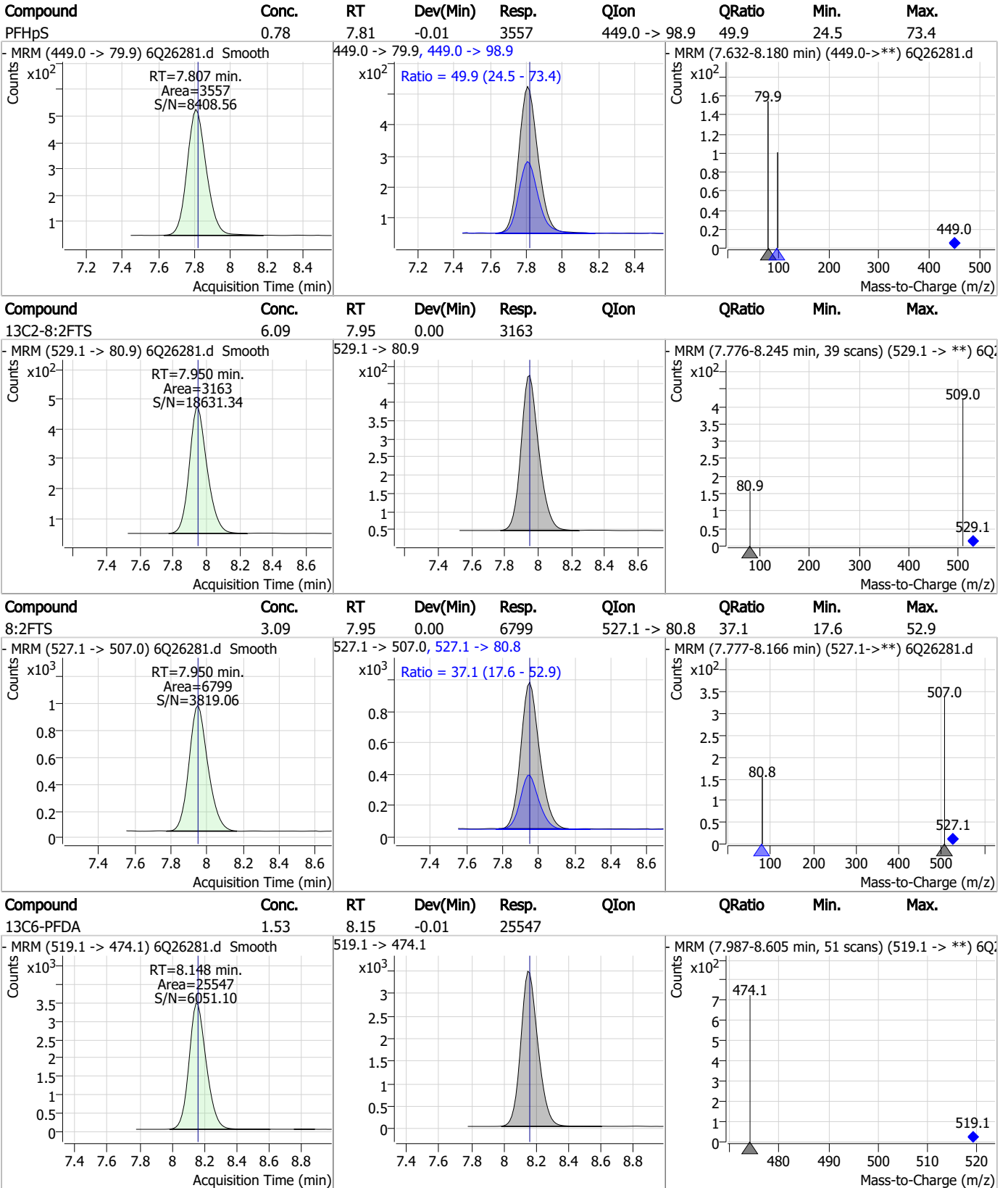
7.3.2
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Perfluorinated Compounds by LC/MS/MS



7.3.2
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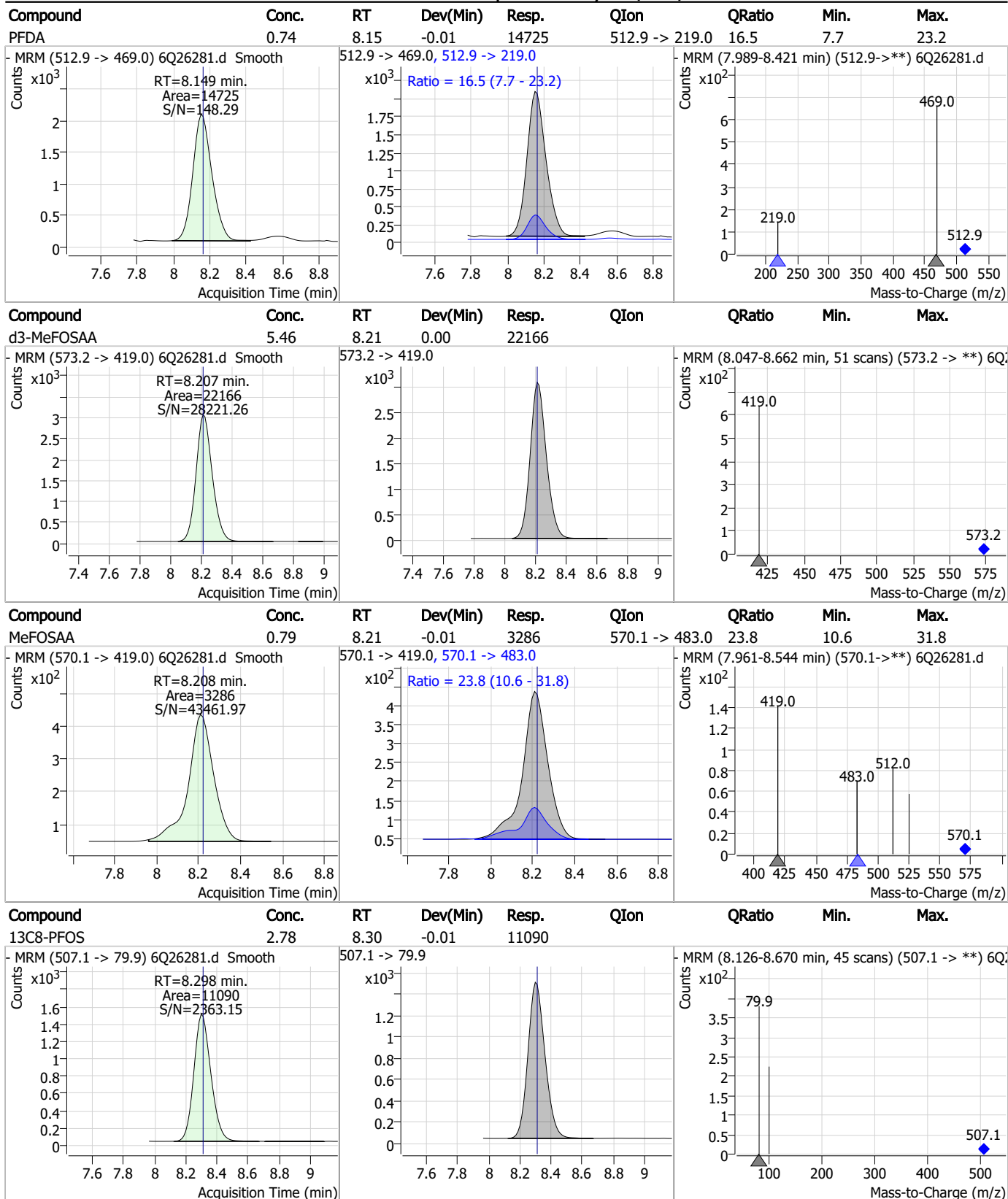
Perfluorinated Compounds by LC/MS/MS



7.3.2
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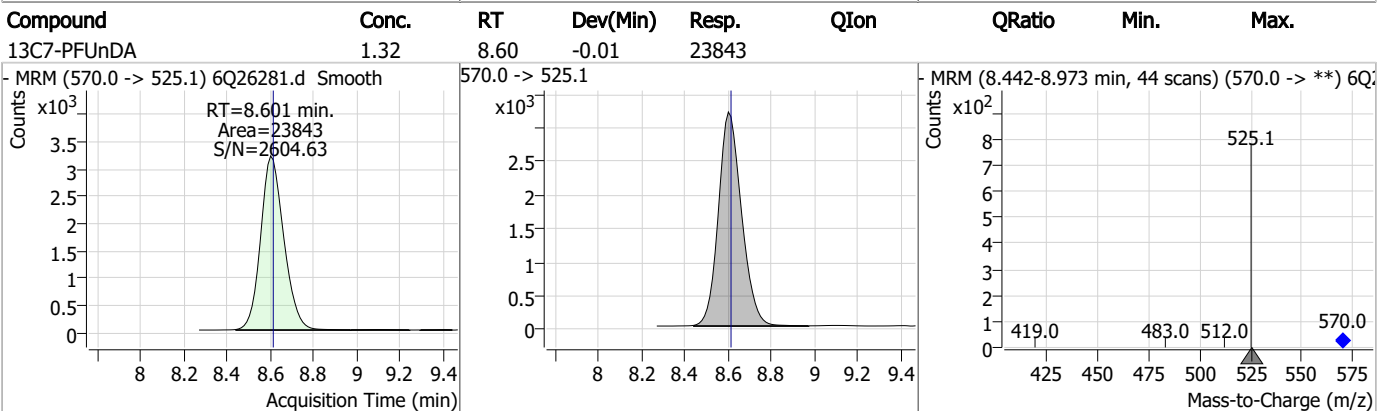
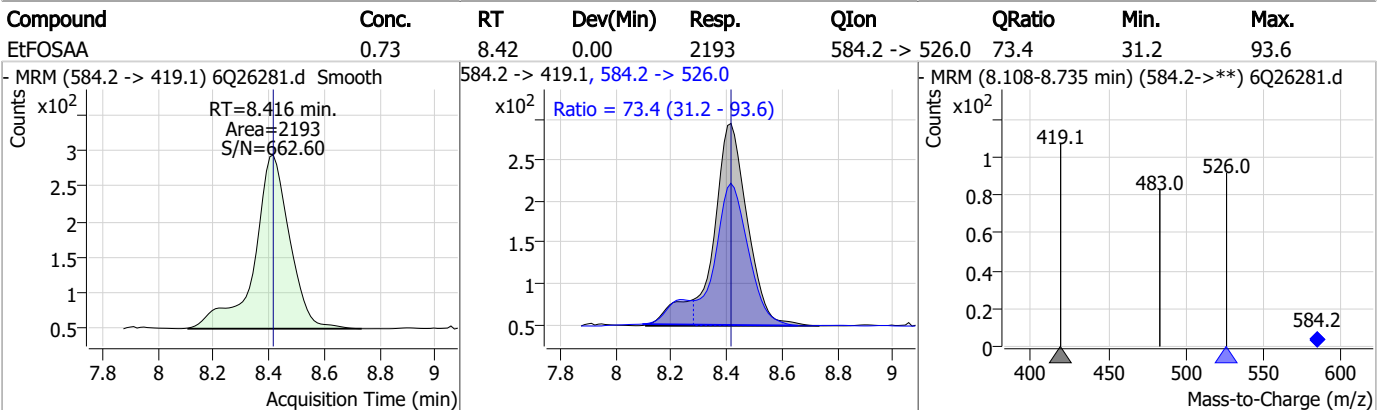
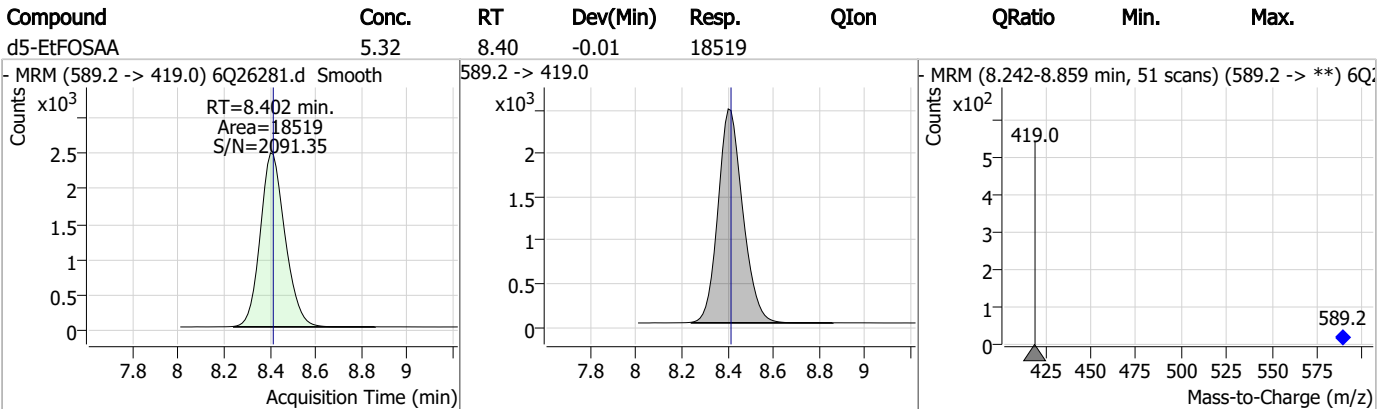
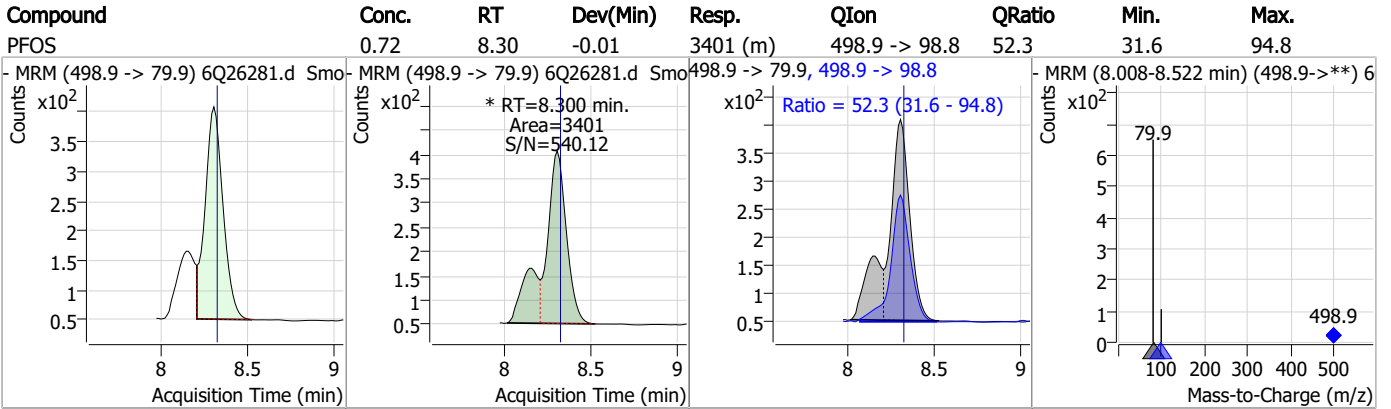


Perfluorinated Compounds by LC/MS/MS

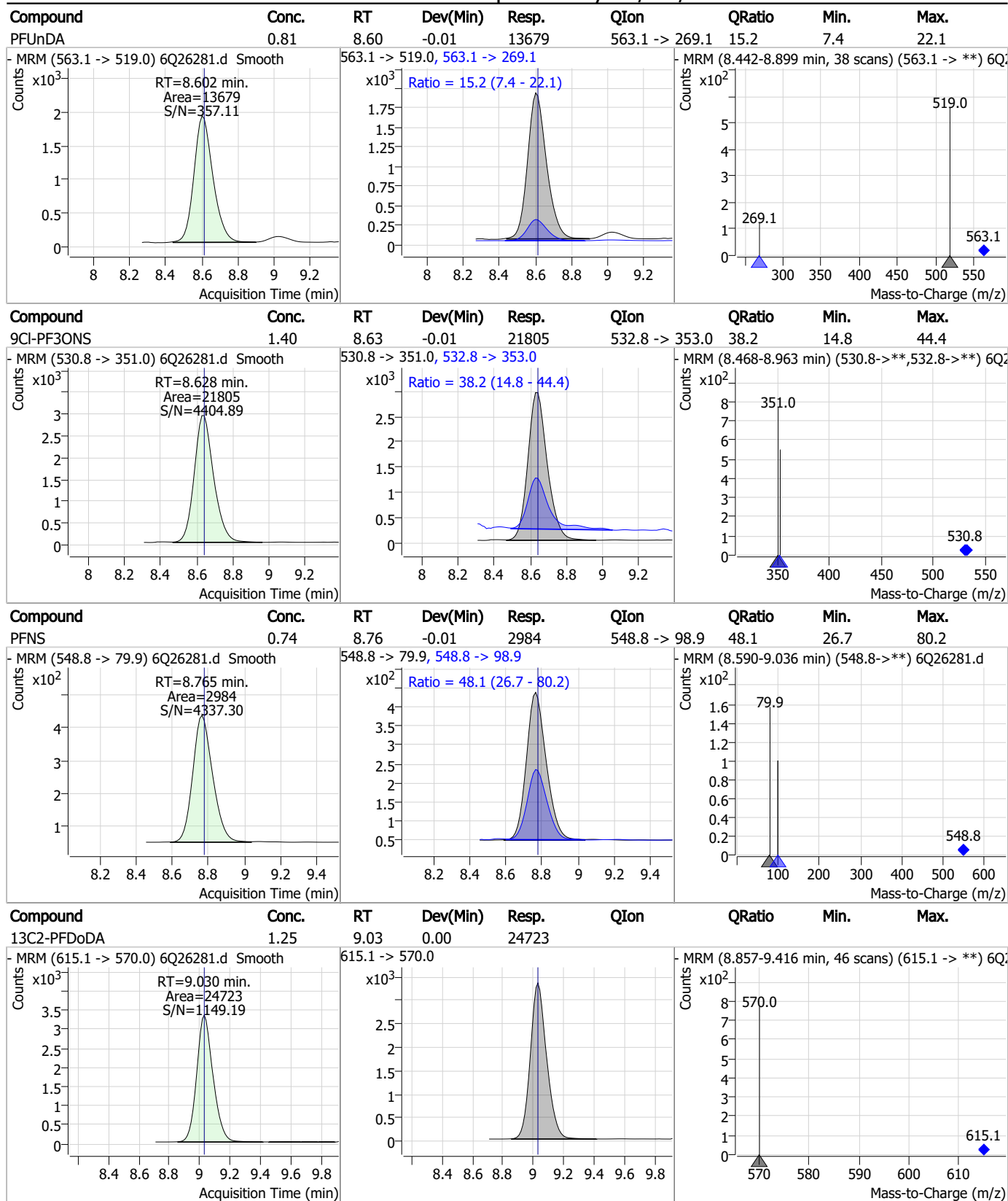


7.3.2
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Perfluorinated Compounds by LC/MS/MS

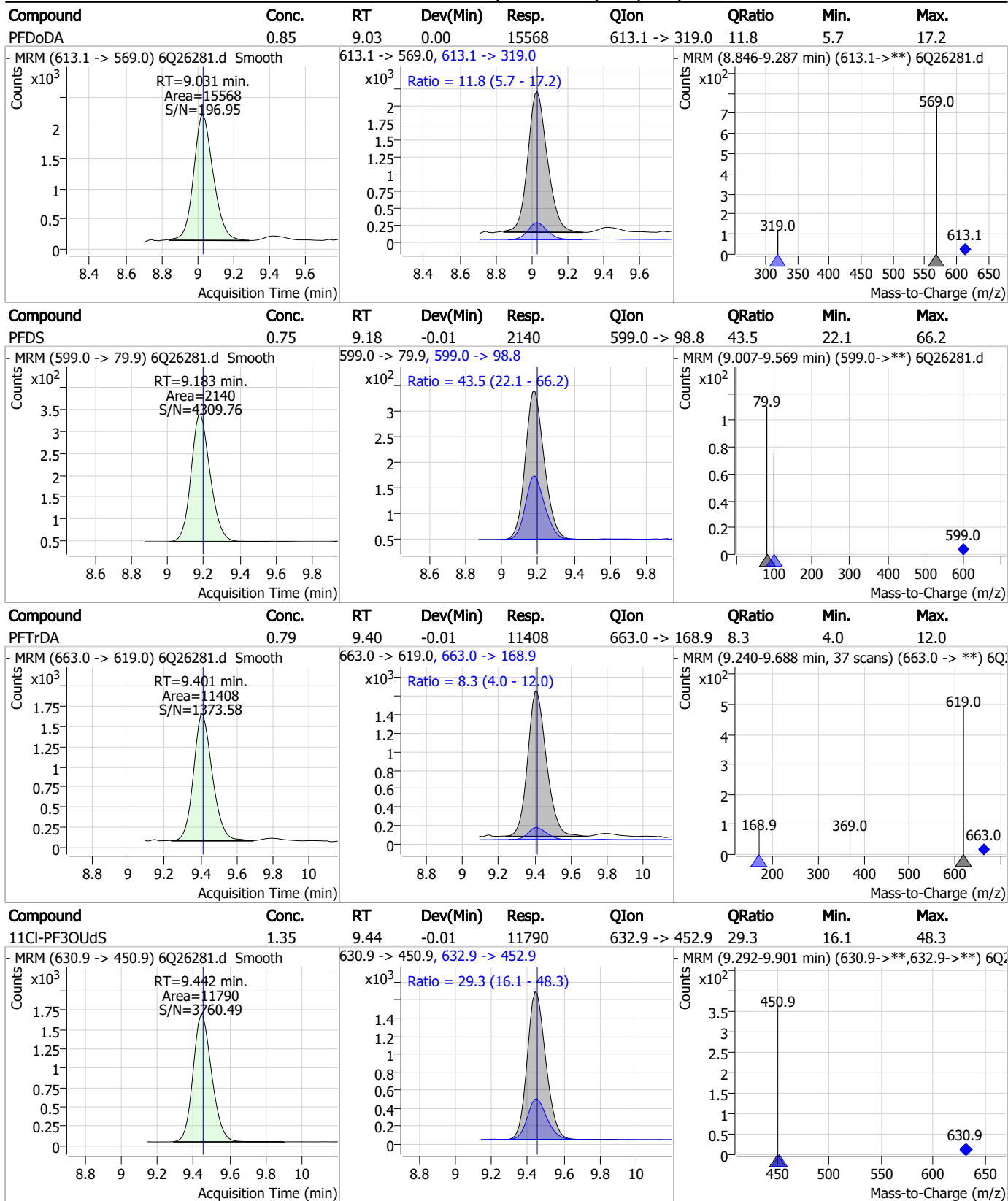


Perfluorinated Compounds by LC/MS/MS



7.3.2
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Perfluorinated Compounds by LC/MS/MS



7.3.2
7

Perfluorinated Compounds by LC/MS/MS

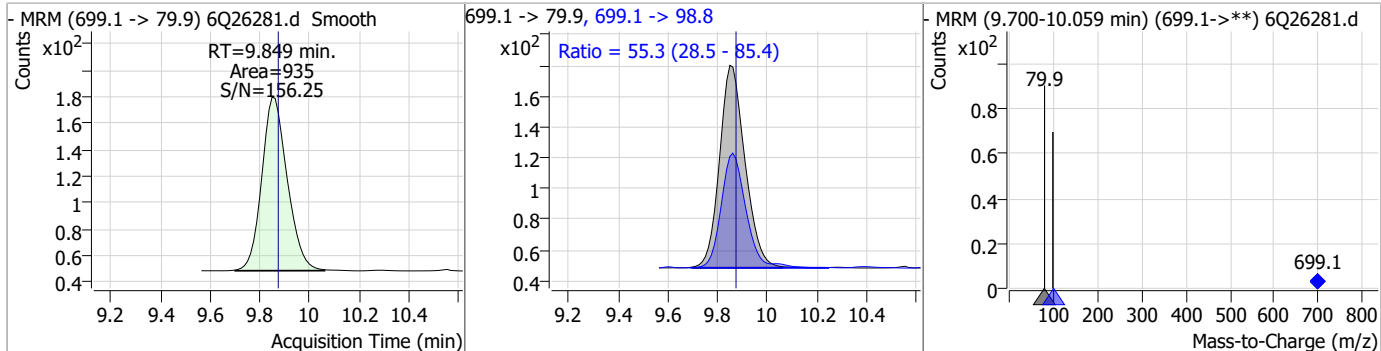
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-FOSA	1.90	9.66	0.00	14432				
FOSA	0.82	9.65	-0.01	4556	498.1 -> 478.0	2.6	1.4	4.2
13C2-PFTeDA	1.10	9.73	-0.01	7364				
PFTeDA	0.87	9.74	-0.01	8374	713.1 -> 168.9	7.7	4.1	12.2

7.3.2

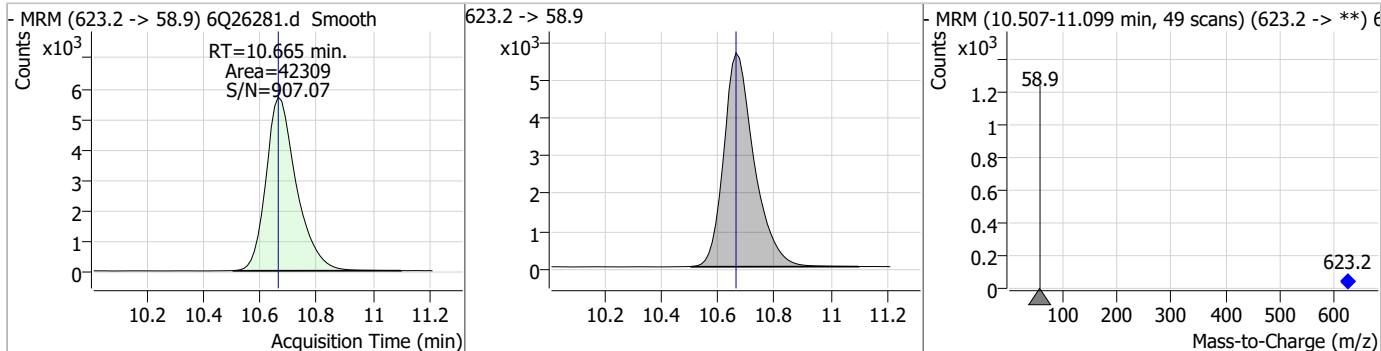
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Perfluorinated Compounds by LC/MS/MS

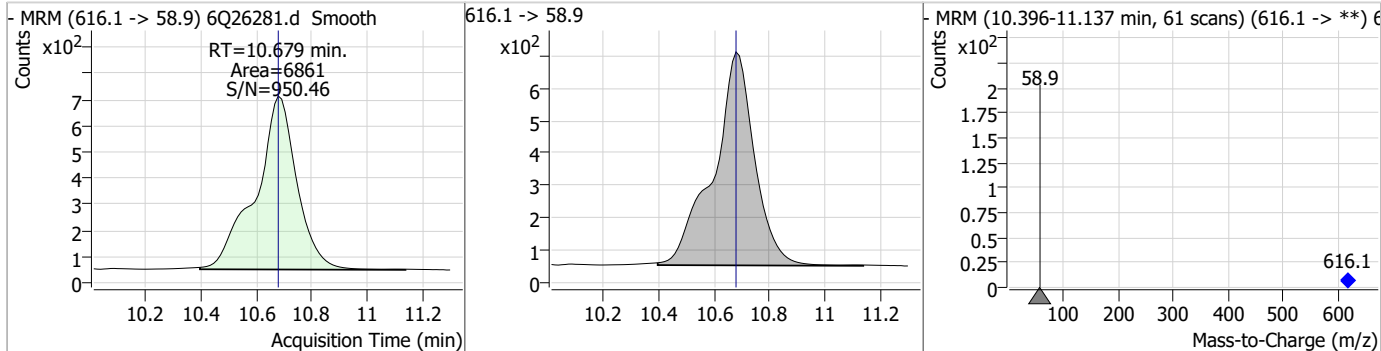
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoS	0.63	9.85	-0.02	935	699.1 -> 98.8	55.3	28.5	85.4



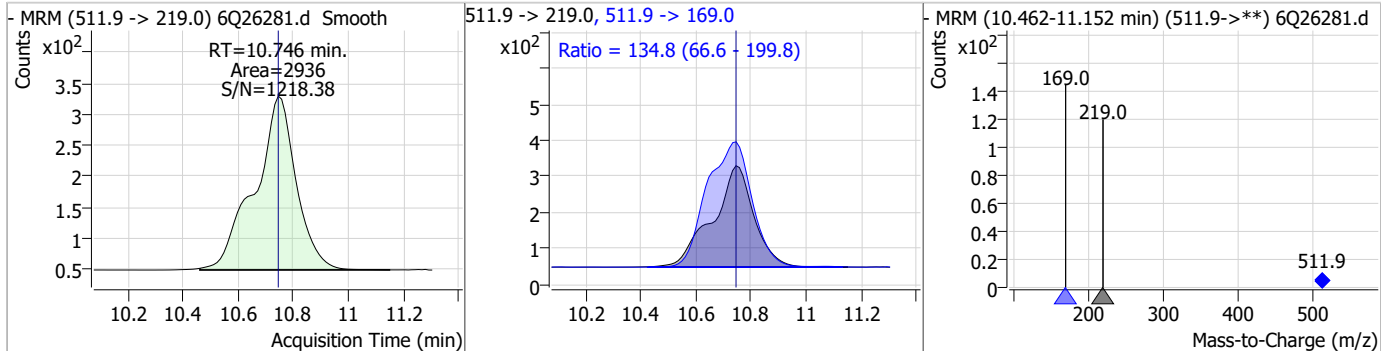
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d7-MeFOSE	17.21	10.67	0.00	42309				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSE	3.67	10.68	0.00	6861				

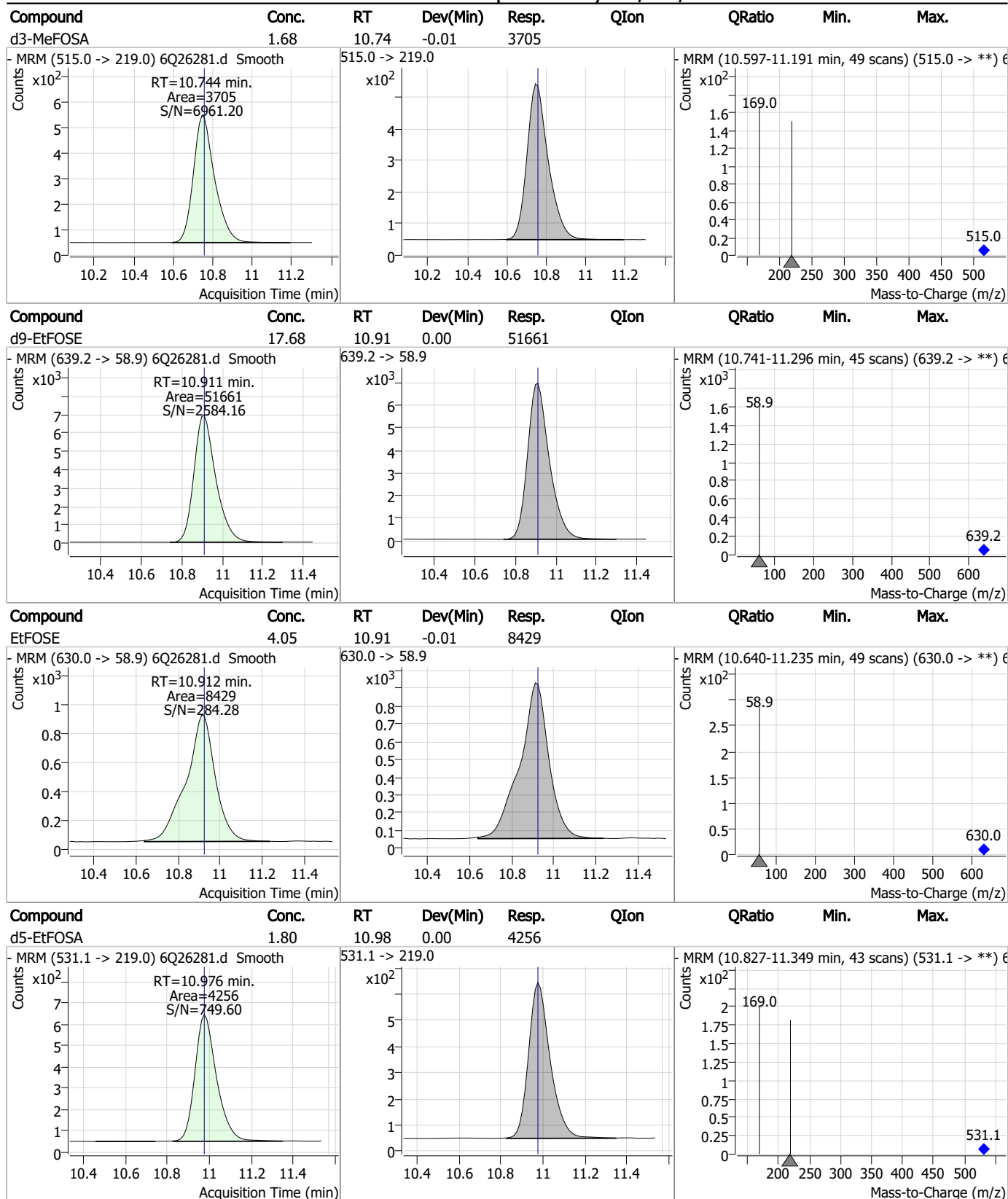


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSA	1.71	10.75	0.00	2936	511.9 -> 169.0	134.8	66.6	199.8



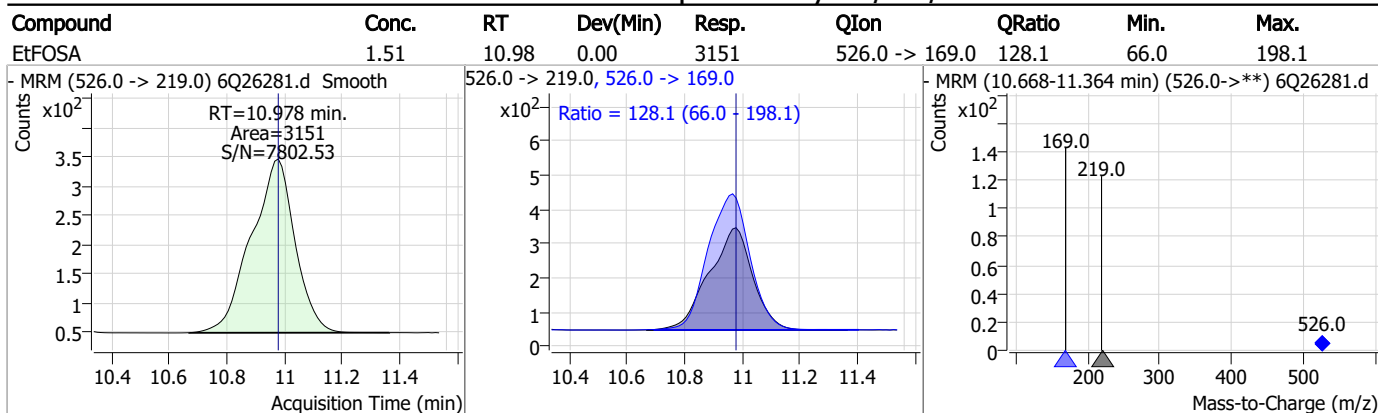
7.3.2
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Perfluorinated Compounds by LC/MS/MS



7.3.2
7

Perfluorinated Compounds by LC/MS/MS



7.3.2
7

Manual Integration Approval Summary

Sample Number: OP99445-LLBS Method: EPA DRAFT 1633
Lab FileID: 6Q26281.D Analyst approved: 10/16/23 10:56 Martha Valls
Injection Time: 10/12/23 16:02 Supervisor approved: 10/16/23 17:51 Natasha Gumtie

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		7.25	Split peak
Perfluorooctanesulfonic acid	1763-23-1		8.30	Split peak

7.3.2.1

7

Perfluorinated Compounds by LC/MS/MS

Data File : 6Q26292.d
 Operator : marthav
 Acq. Method : 1633full.m
 Acq. Date-Time : 10/12/2023 6:39:56 PM
 Sample Name : OP99445-MS
 Vial : P6-B2
 DA Method File : 1633_100823_S6Q367.quantmethod.xml
 Batch Name : s6q370.batch.bin
 Sample Information : OP99445,S6Q370,560,,5.0,1,water

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Internal Standards					
M4-PFBA	2.960	216.8 -> 171.9	118437	10.00 µg/L	0.012
M5-PFPeA	4.372	268.3 -> 223.0	49346	5.00 µg/L	0.000
M5-PFHxA	5.567	318.0 -> 273.0	43845	2.50 µg/L	-0.012
M4-PFHpA	6.507	367.1 -> 322.0	43286	2.50 µg/L	-0.012
M8-PFOA	7.149	421.1 -> 376.0	56925	2.50 µg/L	-0.012
M9-PFNA	7.666	472.1 -> 427.0	24475	1.25 µg/L	-0.013
M6-PFDA	8.148	519.1 -> 474.1	24480	1.25 µg/L	-0.012
M7-PFUnDA	8.601	570.0 -> 525.1	23631	1.25 µg/L	-0.012
M2-PFDoDA	9.030	615.1 -> 570.0	25512	1.25 µg/L	0.000
M2-PFTeDA	9.735	715.2 -> 670.0	8768	1.25 µg/L	-0.012
M8-FOSA	9.657	506.1 -> 77.8	17064	2.50 µg/L	0.000
M3-PFBS	5.497	302.1 -> 79.9	19776	2.50 µg/L	0.000
M3-PFHxS	7.251	402.1 -> 79.9	10879	2.50 µg/L	-0.012
M8-PFOS	8.298	507.1 -> 79.9	9689	2.50 µg/L	-0.013
M2-4:2FTS	5.242	329.1 -> 80.9	2374	5.00 µg/L	-0.012
M2-6:2FTS	6.924	429.1 -> 80.9	3205	5.00 µg/L	-0.012
M2-8:2FTS	7.937	529.1 -> 80.9	3300	5.00 µg/L	-0.012
M3-MeFOSAA	8.207	573.2 -> 419.0	21704	5.00 µg/L	0.000
M3-HFPO-DA	5.945	286.9 -> 168.9	29130	10.00 µg/L	-0.012
M5-EtFOSAA	8.402	589.2 -> 419.0	17750	5.00 µg/L	-0.012
M7-MeFOSE	10.665	623.2 -> 58.9	51629	25.00 µg/L	0.000
M9-EtFOSE	10.898	639.2 -> 58.9	62648	25.00 µg/L	-0.012
M5-EtFOSA	10.976	531.1 -> 219.0	4761	2.50 µg/L	0.000
M3-MeFOSA	10.744	515.0 -> 219.0	4424	2.50 µg/L	-0.012
13C4-PFOS	8.299	502.8 -> 79.9	9438	2.50 µg/L	-0.013
13C3-PFBA	2.964	216.0 -> 172.0	51578	5.00 µg/L	0.012
18O2-PFHxS	7.250	403.0 -> 83.9	5879	2.50 µg/L	-0.012
13C4-PFOA	7.150	417.1 -> 372.0	57623	2.50 µg/L	-0.012
13C2-PFDA	8.149	515.1 -> 470.1	19057	1.25 µg/L	-0.012
13C5-PFNA	7.667	468.0 -> 423.0	20345	1.25 µg/L	-0.013
13C2-PFHxA	5.568	315.1 -> 270.0	38231	2.50 µg/L	-0.012
System Monitoring Compounds					
13C2-4:2FTS	5.242	329.1 -> 80.9	2374	7.17 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 143.3%		
13C2-6:2FTS	6.924	429.1 -> 80.9	3205	6.51 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 130.1%		
13C2-8:2FTS	7.937	529.1 -> 80.9	3300	6.51 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 130.1%		
13C2-PFDoDA	9.030	615.1 -> 570.0	25512	1.34 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 107.5%		
13C2-PFTeDA	9.735	715.2 -> 670.0	8768	1.36 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 108.9%		
13C3-PFBS	5.497	302.1 -> 79.9	19776	2.97 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 118.7%		
13C3-PFHxS	7.251	402.1 -> 79.9	10879	2.91 µg/L	-0.012

7.4.1
7

Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 116.5%	
13C4-PFBA	2.960	216.8 -> 171.9	118437	9.51 µg/L	0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 95.1%	
13C4-PFHpA	6.507	367.1 -> 322.0	43286	2.80 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 111.9%	
13C5-PFHxA	5.567	318.0 -> 273.0	43845	2.77 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 110.9%	
13C5-PFPeA	4.372	268.3 -> 223.0	49346	5.70 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 114.1%	
13C6-PFDA	8.148	519.1 -> 474.1	24480	1.53 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 122.0%	
13C7-PFUnDA	8.601	570.0 -> 525.1	23631	1.36 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 109.0%	
13C8-FOSA	9.657	506.1 -> 77.8	17064	2.19 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 87.6%	
13C8-PFOA	7.149	421.1 -> 376.0	56925	2.85 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 114.0%	
13C8-PFOS	8.298	507.1 -> 79.9	9689	2.38 µg/L	-0.013
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 95.1%	
13C9-PFNA	7.666	472.1 -> 427.0	24475	1.46 µg/L	-0.013
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 117.0%	
d3-MeFOSAA	8.207	573.2 -> 419.0	21704	5.23 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 104.6%	
13C3-HFPO-DA	5.945	286.9 -> 168.9	29130	10.92 µg/L	-0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 109.2%	
d3-MeFOSA	10.744	515.0 -> 219.0	4424	1.96 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 78.4%	
d5-EtFOSAA	8.402	589.2 -> 419.0	17750	4.99 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 99.8%	
d7-MeFOSE	10.665	623.2 -> 58.9	51629	20.54 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 82.2%	
d9-EtFOSE	10.898	639.2 -> 58.9	62648	20.97 µg/L	-0.012
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 83.9%	
d5-EtFOSA	10.976	531.1 -> 219.0	4761	1.97 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 78.9%	
Target Compounds					QValue
4:2FTS	5.243	327.1 -> 307.0	38795	9.85 µg/L	99
		327.1 -> 80.9	15354		
6:2FTS	6.925	427.1 -> 407.0	29947	10.28 µg/L	100
		427.1 -> 80.9	11606		
8:2FTS	7.938	527.1 -> 507.0	21920	9.54 µg/L	97
		527.1 -> 80.8	8085		
EtFOSAA	8.403	584.2 -> 419.1	7536	2.61 µg/L	98
		584.2 -> 526.0	4802		
FOSA	9.647	498.1 -> 77.9	15888	2.43 µg/L	100
		498.1 -> 478.0	453		
MeFOSAA	8.208	570.1 -> 419.0	10877	2.68 µg/L	99
		570.1 -> 483.0	2252		
PFBA	2.968	212.8 -> 168.9	43838	9.94 µg/L	100
PFBS	5.486	298.7 -> 79.9	12873	2.17 µg/L	98
		298.7 -> 98.8	4867		
PFDA	8.149	512.9 -> 469.0	45028	2.35 µg/L	99
		512.9 -> 219.0	7196		
PFDODA	9.031	613.1 -> 569.0	48857	2.58 µg/L	94
		613.1 -> 319.0	6660		
PFDS	9.170	599.0 -> 79.9	5680	2.29 µg/L	94

7.4.1
7



Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
		599.0 -> 98.8	2718			
PFHpA	6.507	363.1 -> 319.0	58107	2.47	µg/L	99
		363.1 -> 169.0	8271			
PFHpS	7.807	449.0 -> 79.9	9569	2.39	µg/L	90
		449.0 -> 98.9	5360			
PFHxA	5.569	313.0 -> 269.0	37867	2.42	µg/L	99
		313.0 -> 118.9	1838			
PFHxS	7.252	398.7 -> 79.9	9819	2.16	µg/L	m 93
		398.7 -> 98.9	4733			
PFNA	7.667	463.0 -> 419.0	34942	2.32	µg/L	99
		463.0 -> 219.0	8579			
PFNS	8.765	548.8 -> 79.9	8296	2.35	µg/L	96
		548.8 -> 98.9	4650			
PFOA	7.150	413.0 -> 369.0	61566	2.52	µg/L	96
		413.0 -> 169.0	10171			
PFOS	8.300	498.9 -> 79.9	10232	2.47	µg/L	m 82
		498.9 -> 98.8	5020			
PFPeA	4.361	263.0 -> 219.0	50607	4.75	µg/L	100
PFPeS	6.558	349.1 -> 79.9	13390	2.28	µg/L	97
		349.1 -> 98.9	6149			
PFTeDA	9.735	713.1 -> 669.0	26704	2.34	µg/L	99
		713.1 -> 168.9	2246			
PFTrDA	9.401	663.0 -> 619.0	36381	2.44	µg/L	98
		663.0 -> 168.9	3179			
PFUnDA	8.602	563.1 -> 519.0	46588	2.80	µg/L	98
		563.1 -> 269.1	7282			
11CI-PF3OUdS	9.442	630.9 -> 450.9	34678	4.01	µg/L	99
		632.9 -> 452.9	11273			
9CI-PF3ONS	8.628	530.8 -> 351.0	68409	4.46	µg/L	92
		532.8 -> 353.0	23198			
ADONA	6.767	376.9 -> 250.9	178689	4.47	µg/L	98
		376.9 -> 84.8	51052			
HFPO-DA	5.946	284.9 -> 168.9	14264	4.94	µg/L	99
		284.9 -> 184.9	1649			
3:3FTCA	3.833	241.0 -> 177.0	6697	10.54	µg/L	100
		241.0 -> 117.0	895			
5:3FTCA	6.221	341.0 -> 237.1	159055	54.13	µg/L	94
		341.0 -> 217.0	121204			
7:3FTCA	7.632	441.0 -> 316.9	105748	58.92	µg/L	93
		441.0 -> 336.9	223720			
EtFOSA	10.978	526.0 -> 219.0	11742	5.02	µg/L	94
		526.0 -> 169.0	14632			
EtFOSE	10.912	630.0 -> 58.9	31739	12.59	µg/L	100
MeFOSA	10.746	511.9 -> 219.0	10952	5.34	µg/L	100
		511.9 -> 169.0	14639			
MeFOSE	10.679	616.1 -> 58.9	25721	11.27	µg/L	100
PFDoDS	9.861	699.1 -> 79.9	3104	2.41	µg/L	95
		699.1 -> 98.8	1653			
NFDHA	5.450	295.0 -> 201.0	9370	4.76	µg/L	98
		295.0 -> 84.9	2673			
PFMBA	4.781	279.0 -> 85.1	36619	4.51	µg/L	100
PFMPA	3.513	229.0 -> 84.9	30127	4.50	µg/L	100
PFEESA	6.037	314.8 -> 134.9	80772	4.01	µg/L	100
		314.8 -> 82.9	2973			

= Qualifier out of range, m = manually integrated, + = Area summed

7.4.1
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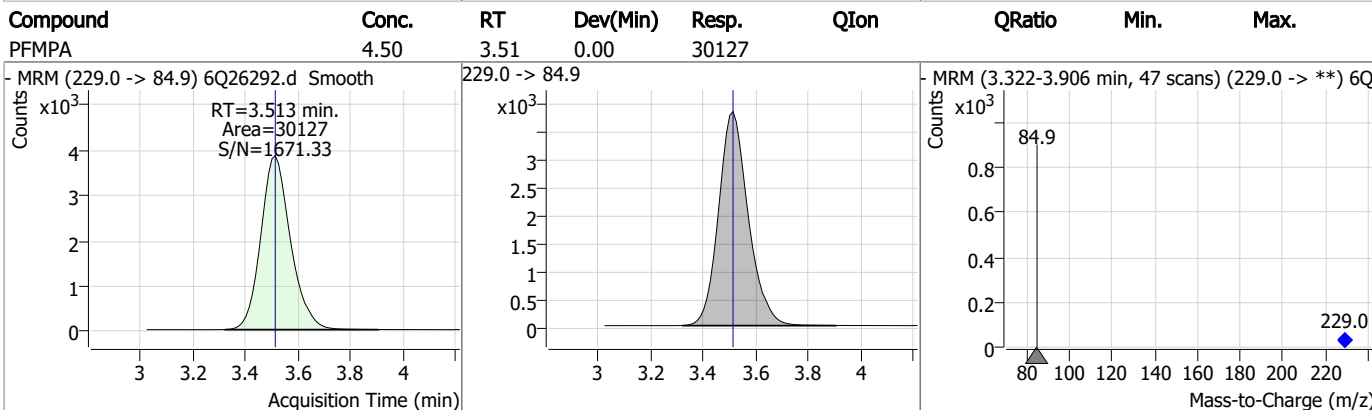
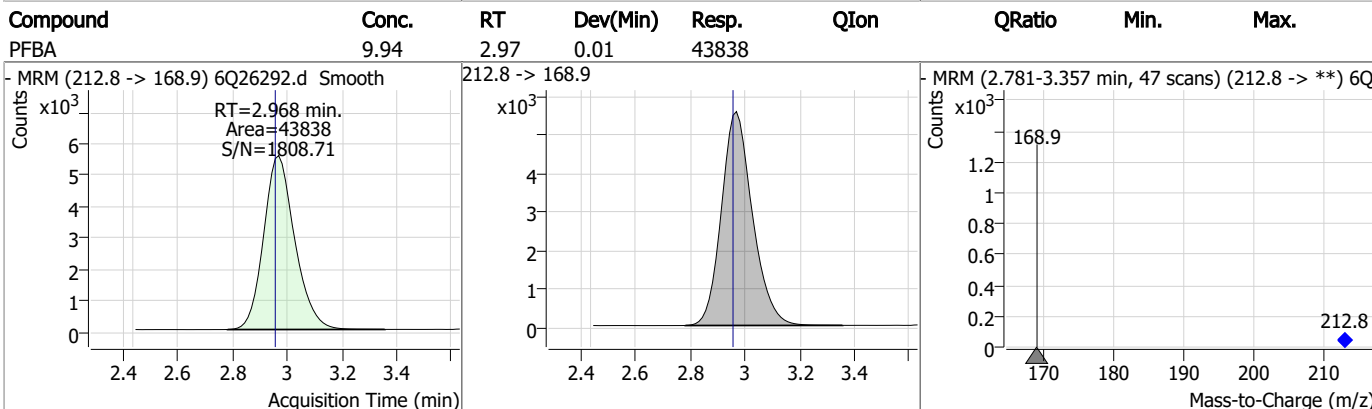
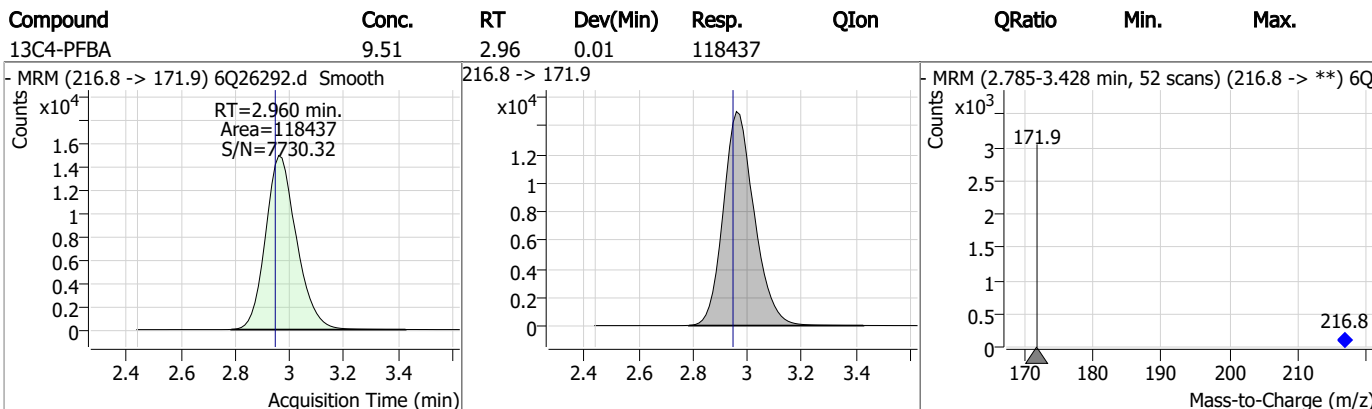
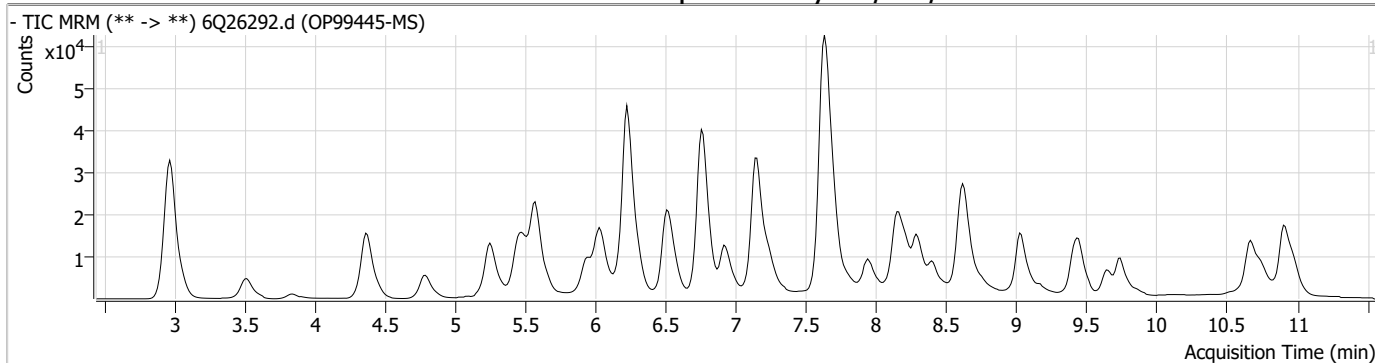
Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
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7.4.1

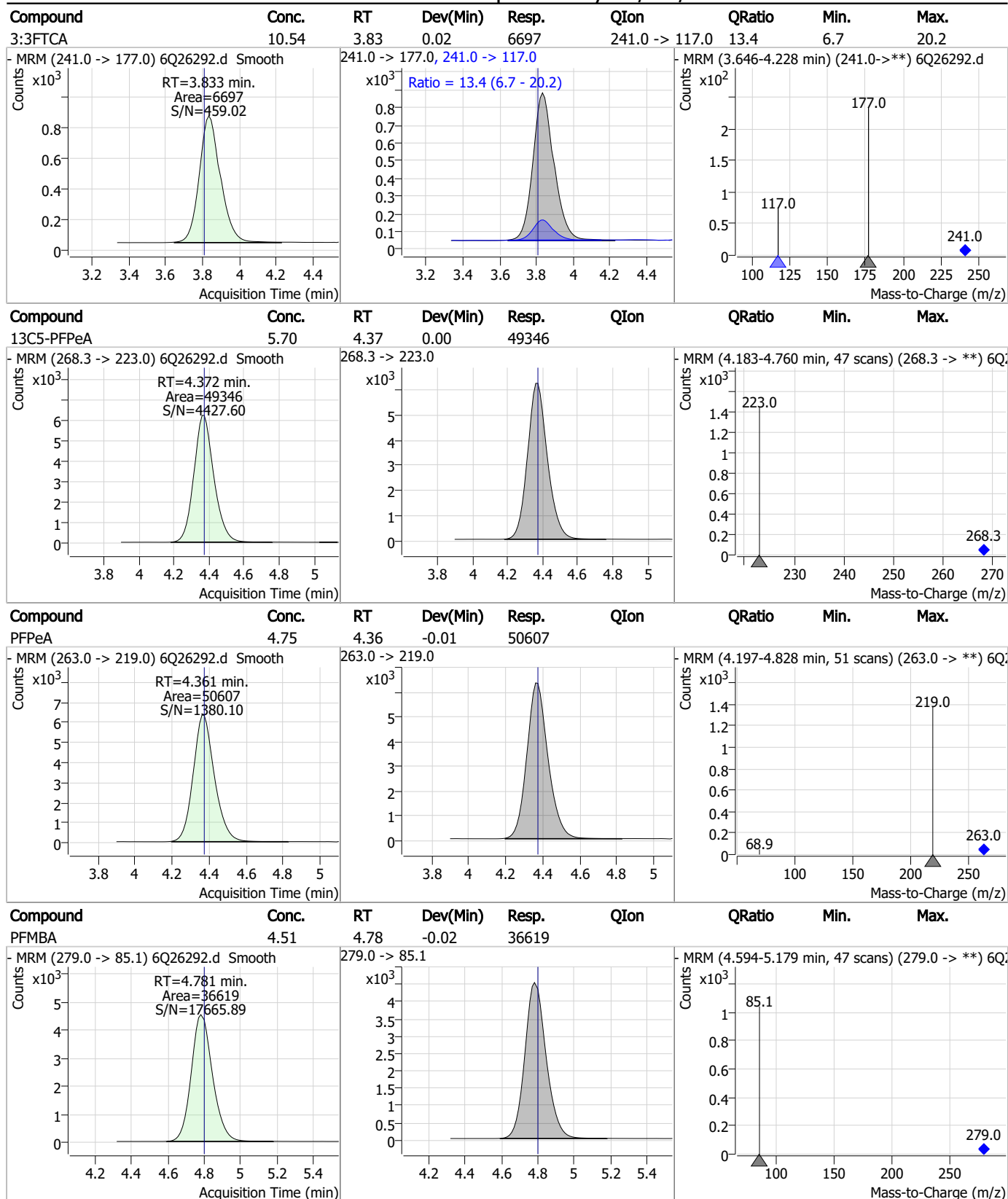
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Perfluorinated Compounds by LC/MS/MS



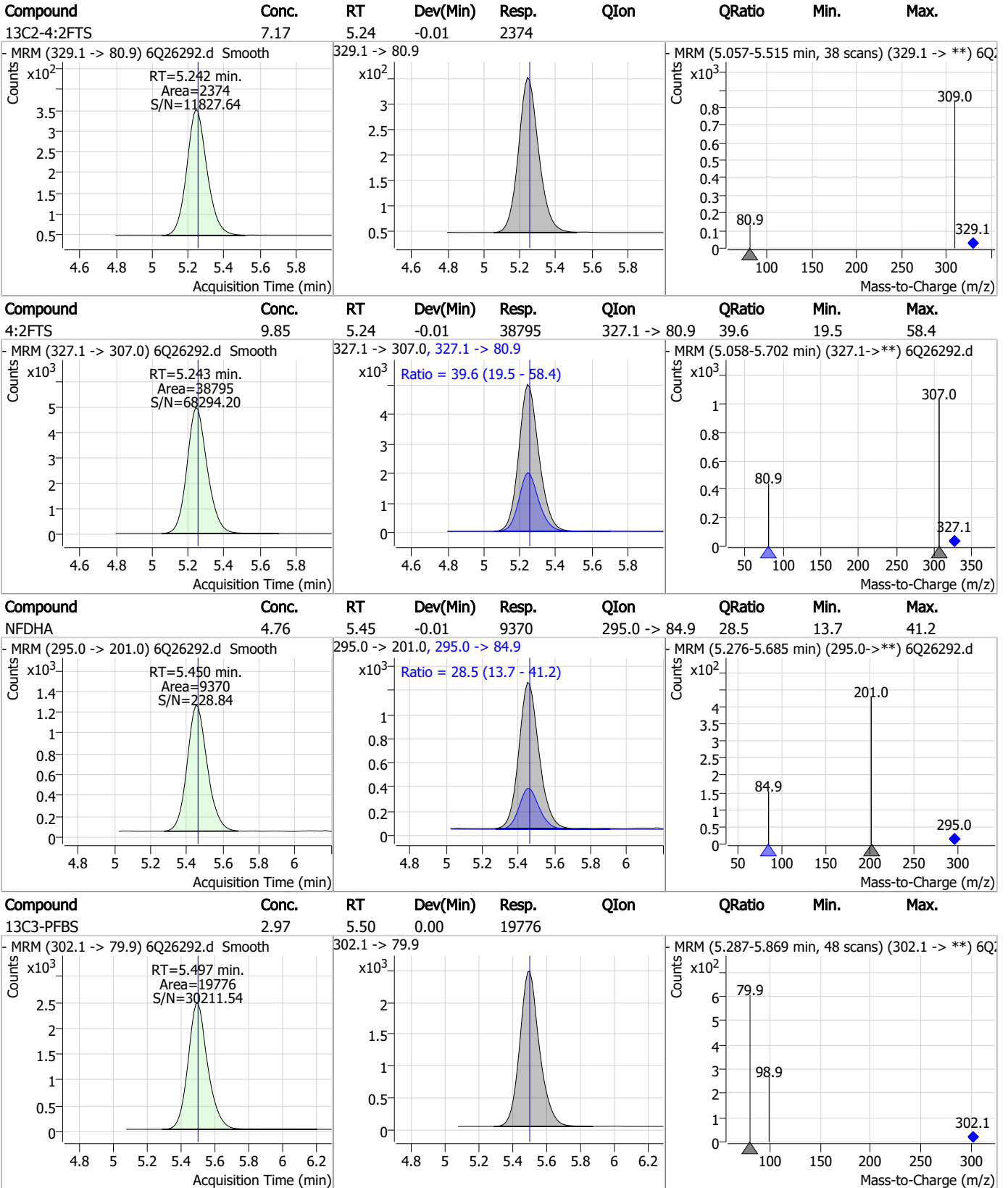
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Perfluorinated Compounds by LC/MS/MS



7.4.1
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Perfluorinated Compounds by LC/MS/MS

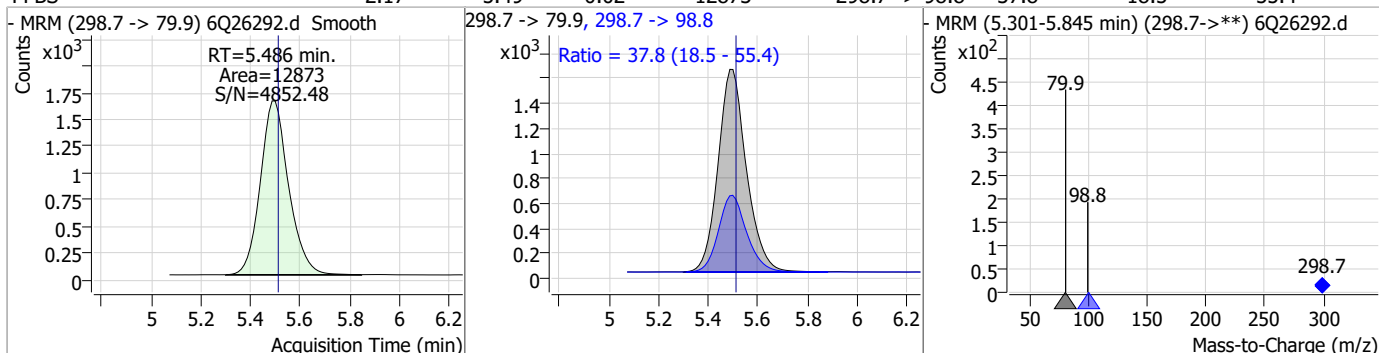


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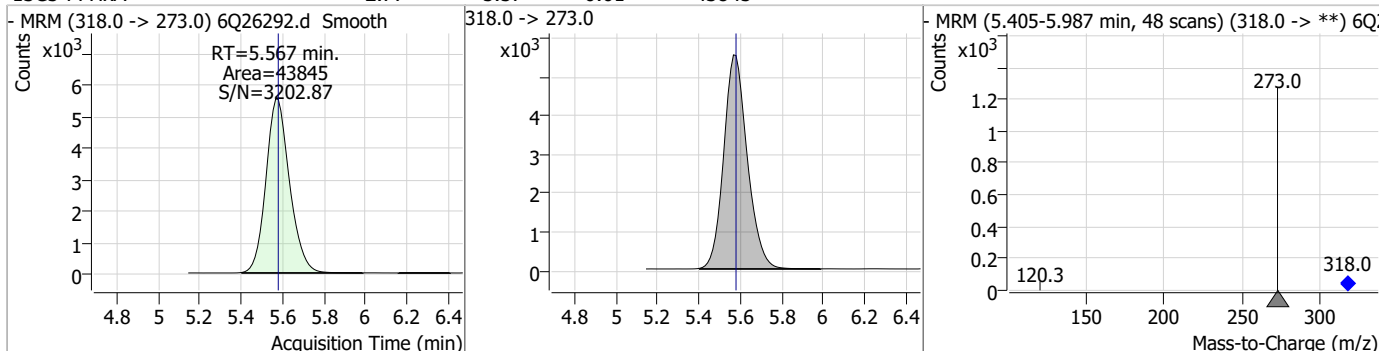
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Perfluorinated Compounds by LC/MS/MS

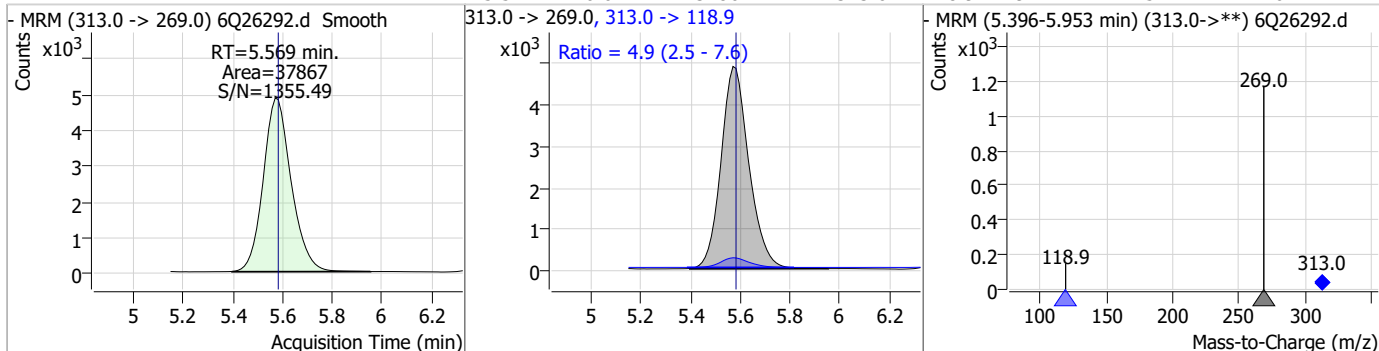
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBS	2.17	5.49	-0.02	12873	298.7 -> 98.8	37.8	18.5	55.4



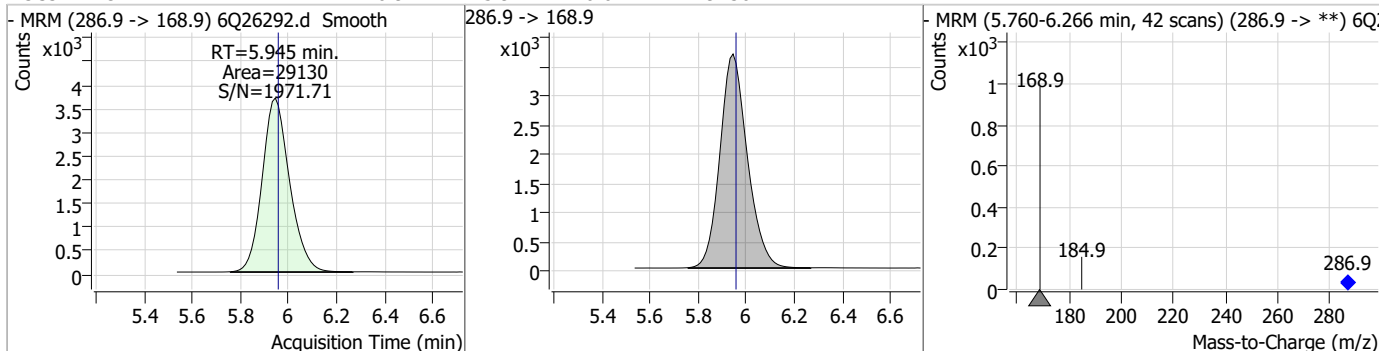
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFHxA	2.77	5.57	-0.01	43845				



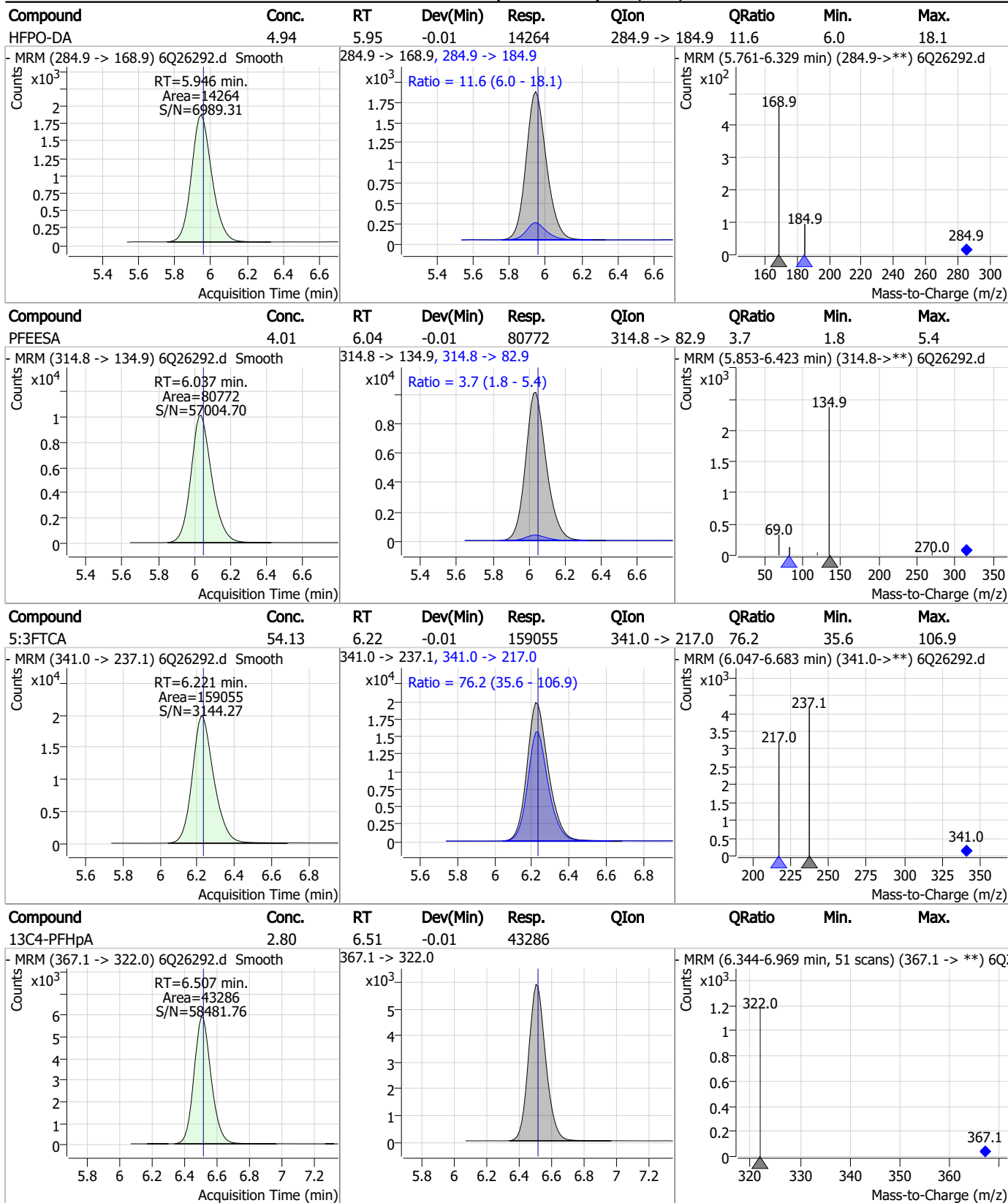
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxA	2.42	5.57	-0.01	37867	313.0 -> 118.9	4.9	2.5	7.6



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-HFPO-DA	10.92	5.94	-0.01	29130				

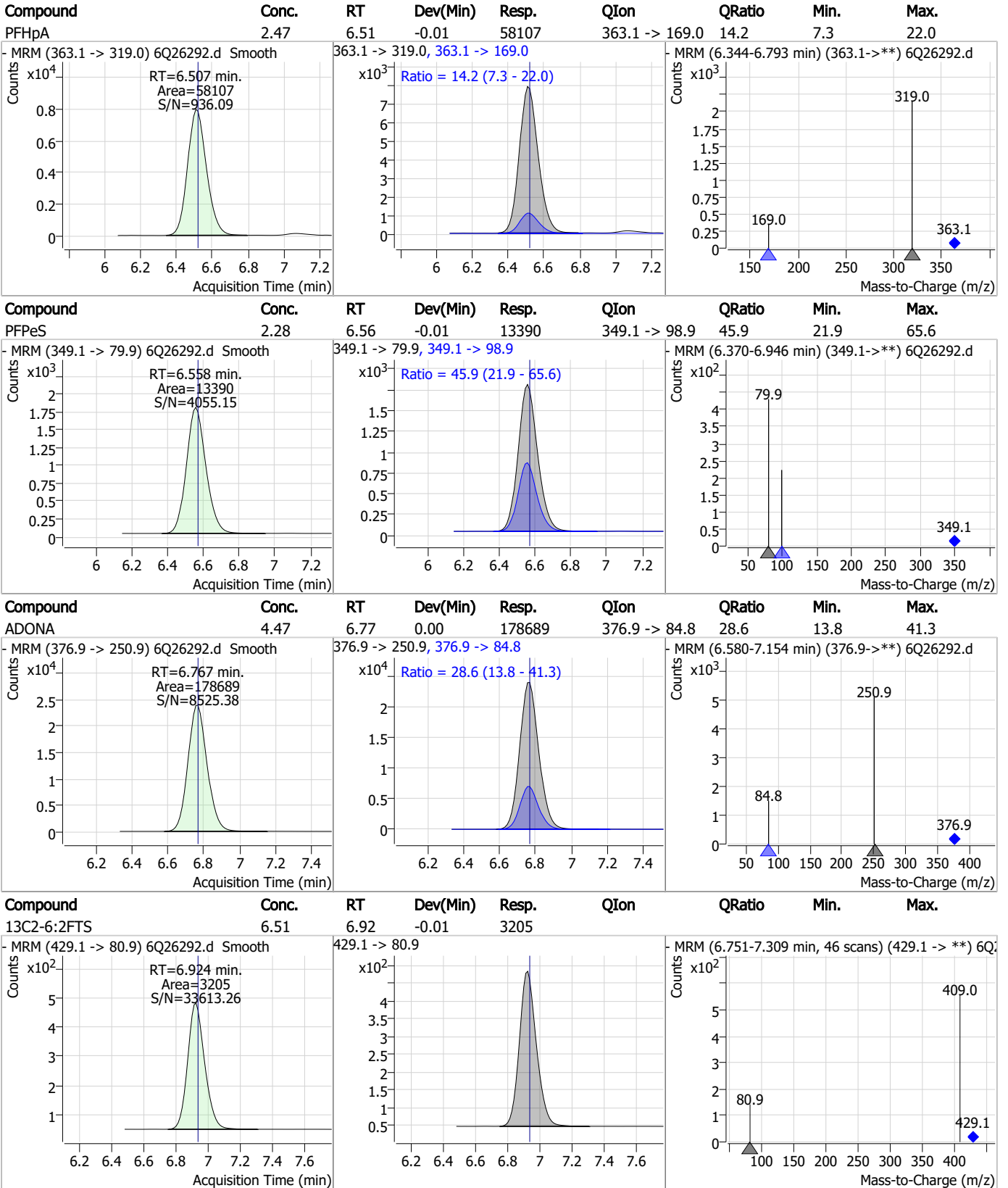


Perfluorinated Compounds by LC/MS/MS



7.4.1
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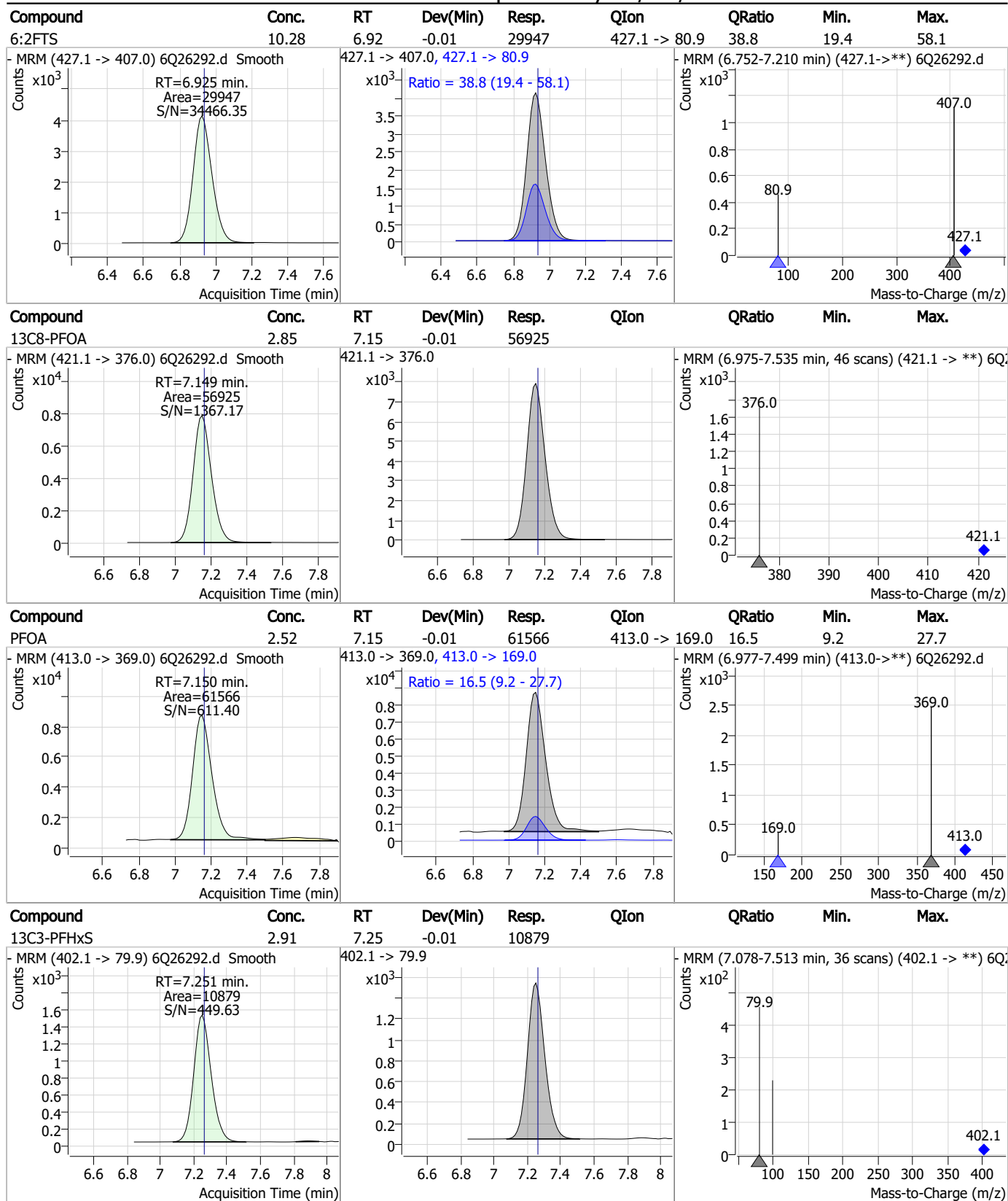
Perfluorinated Compounds by LC/MS/MS



7.4.1

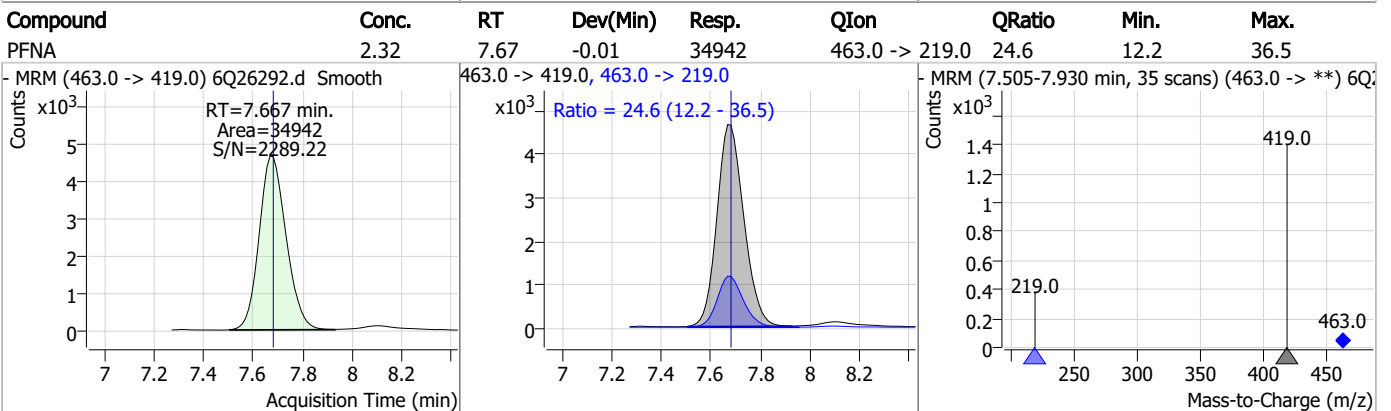
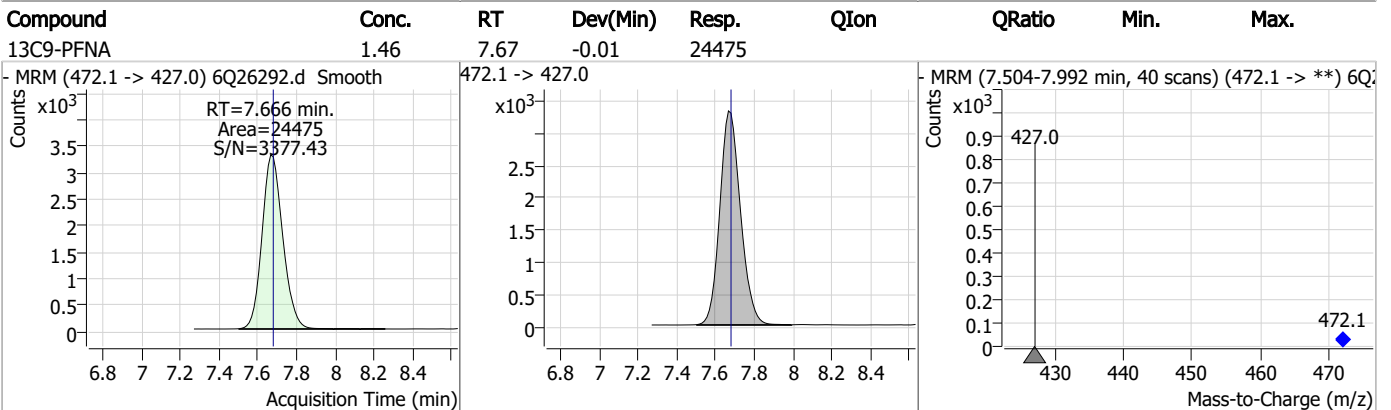
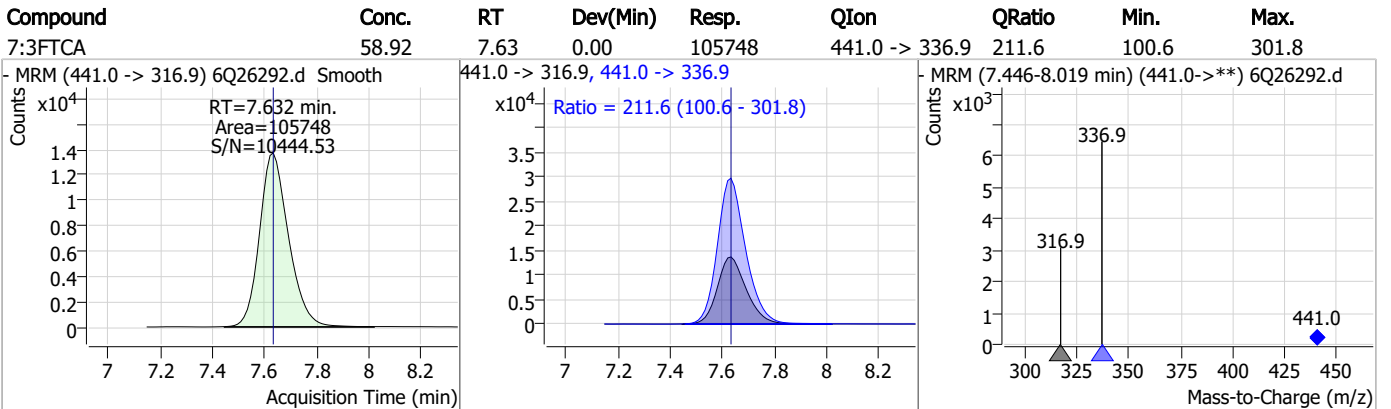
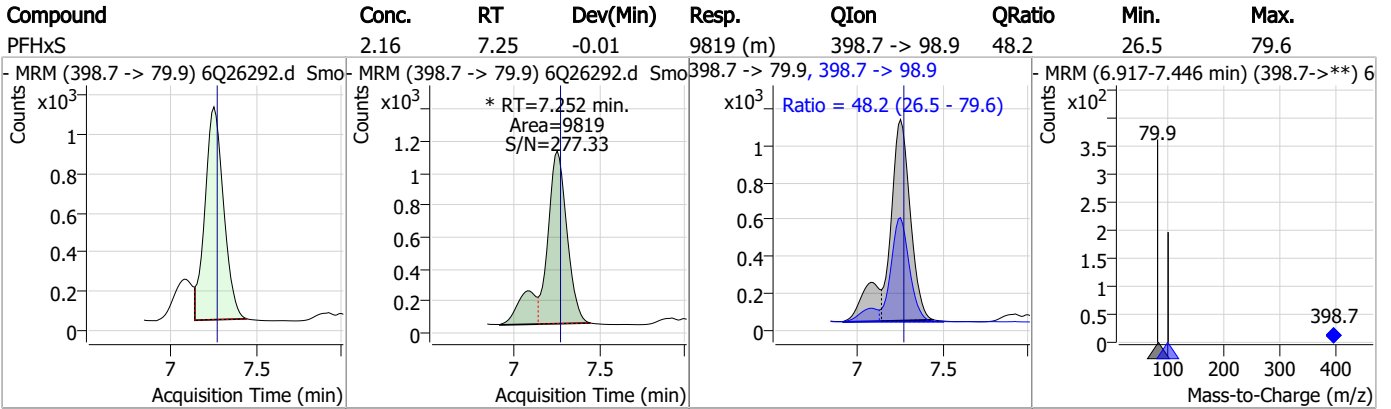
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Perfluorinated Compounds by LC/MS/MS

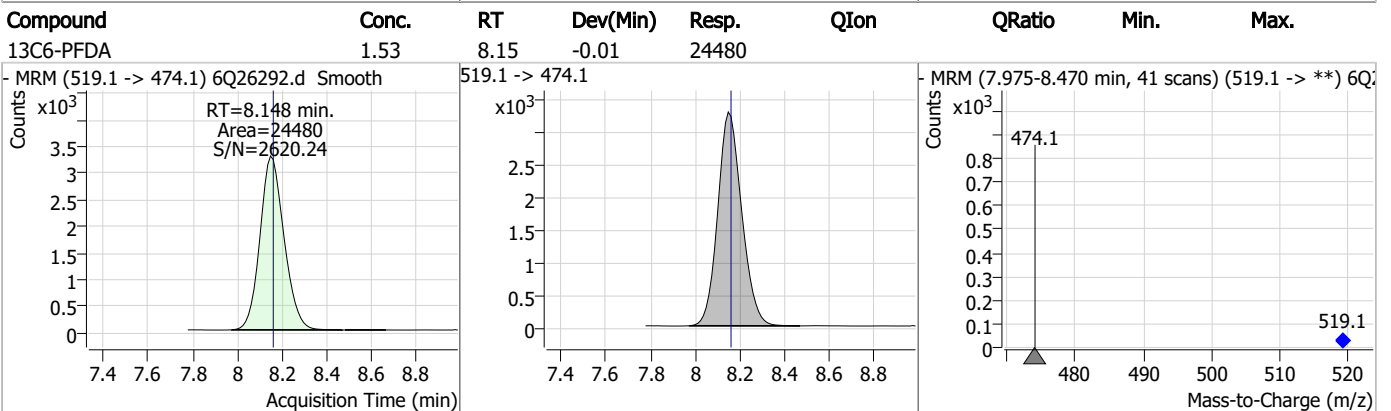
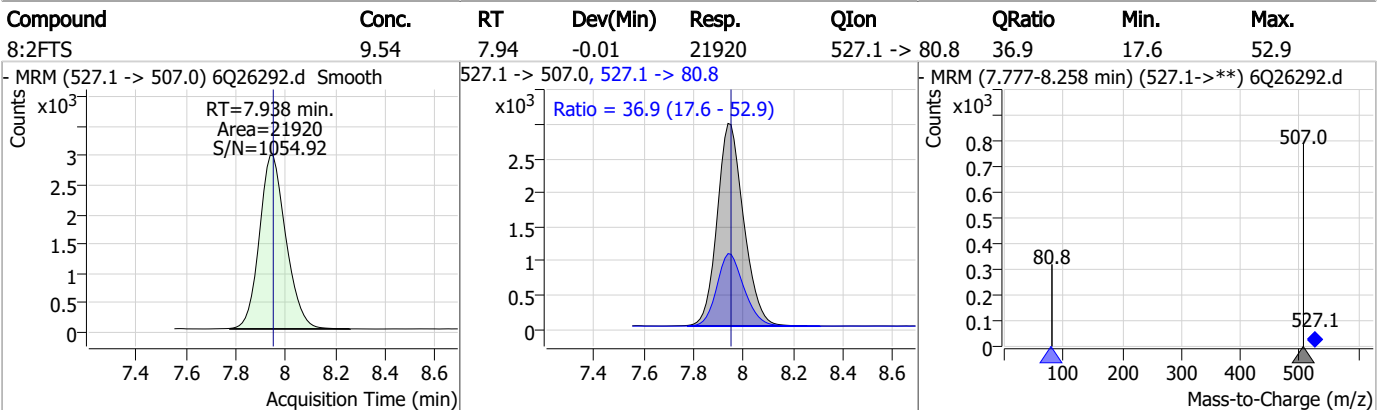
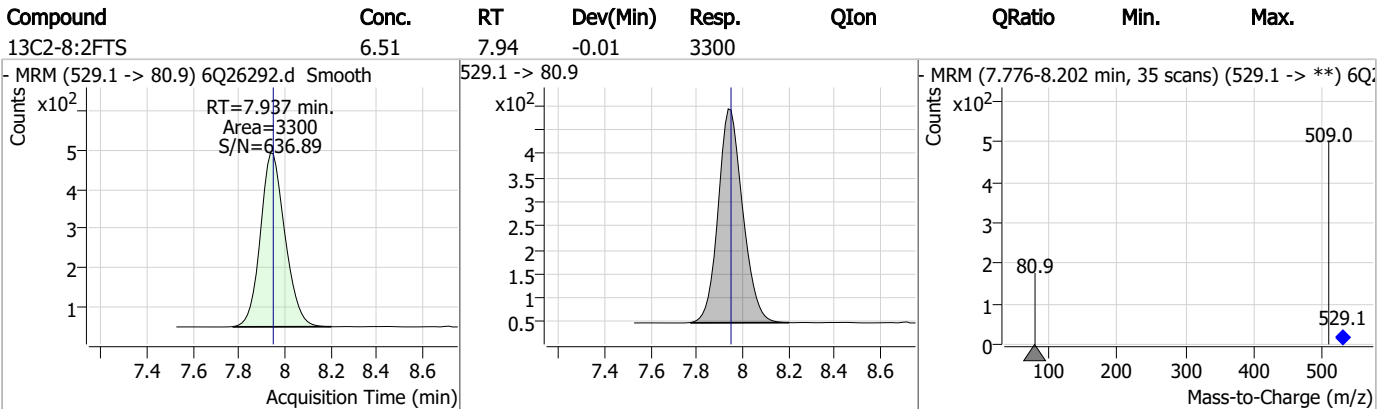
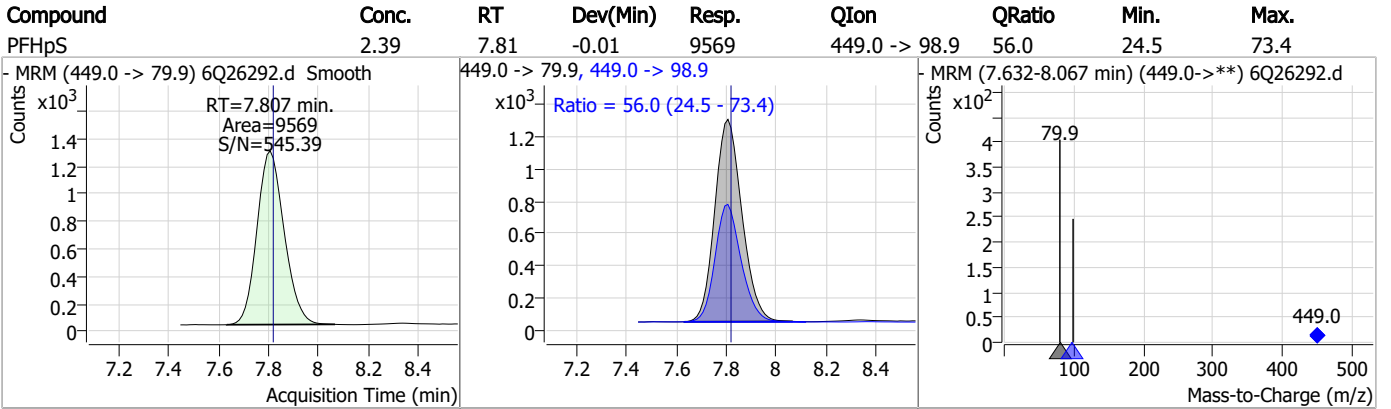


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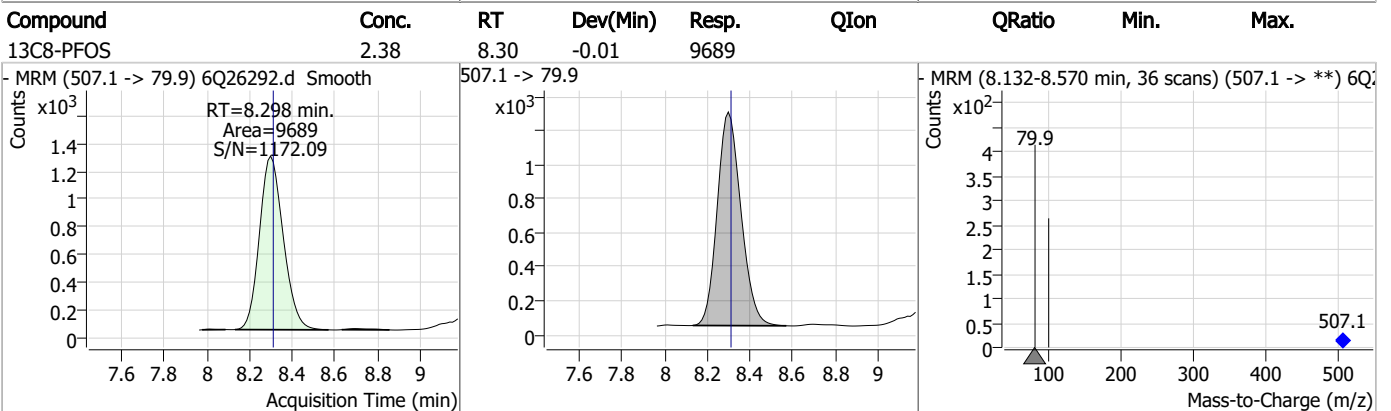
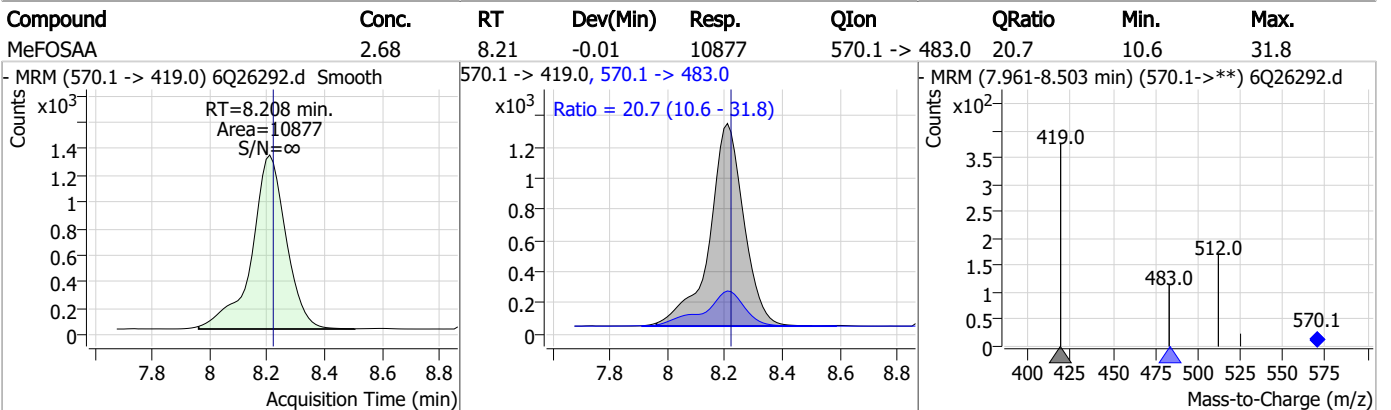
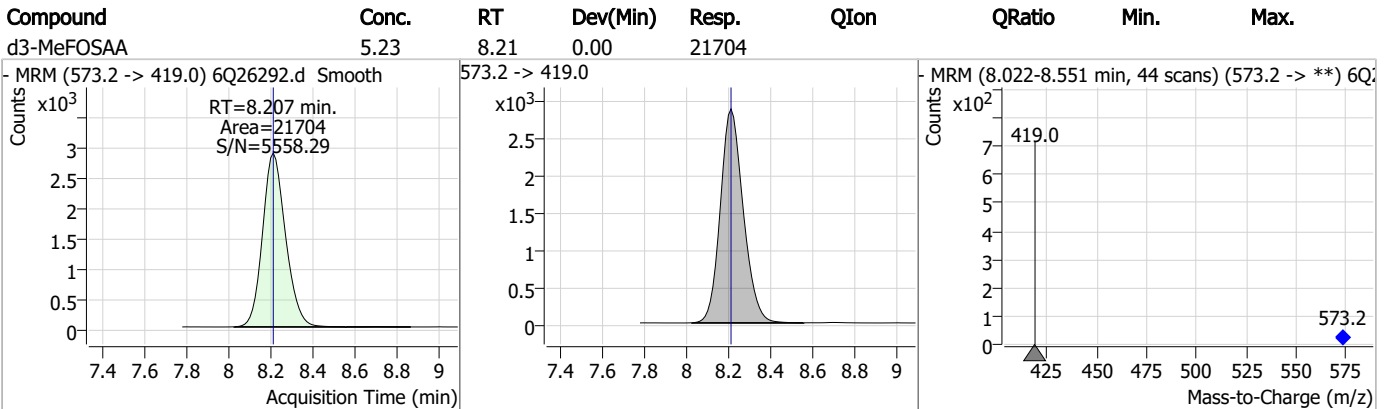
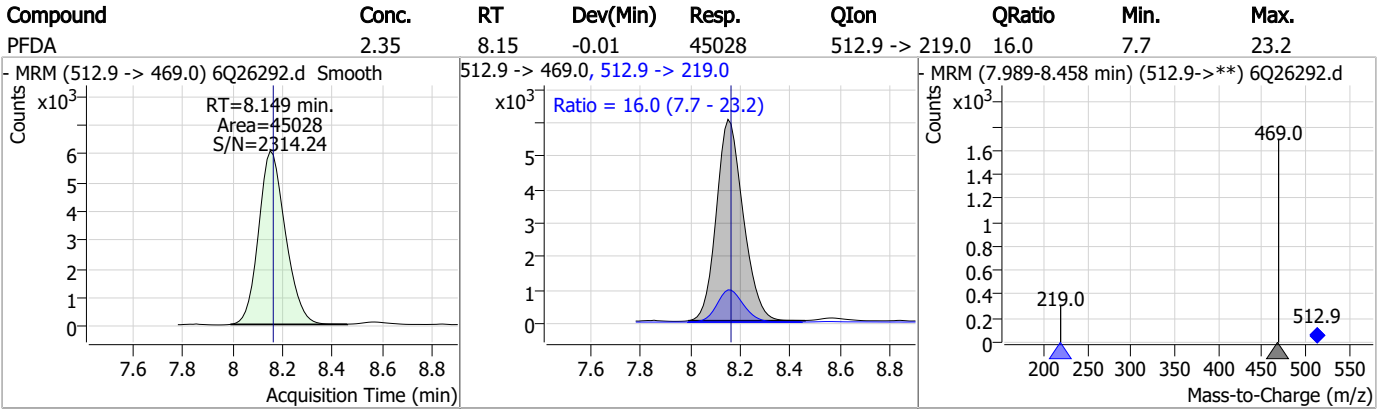
Perfluorinated Compounds by LC/MS/MS



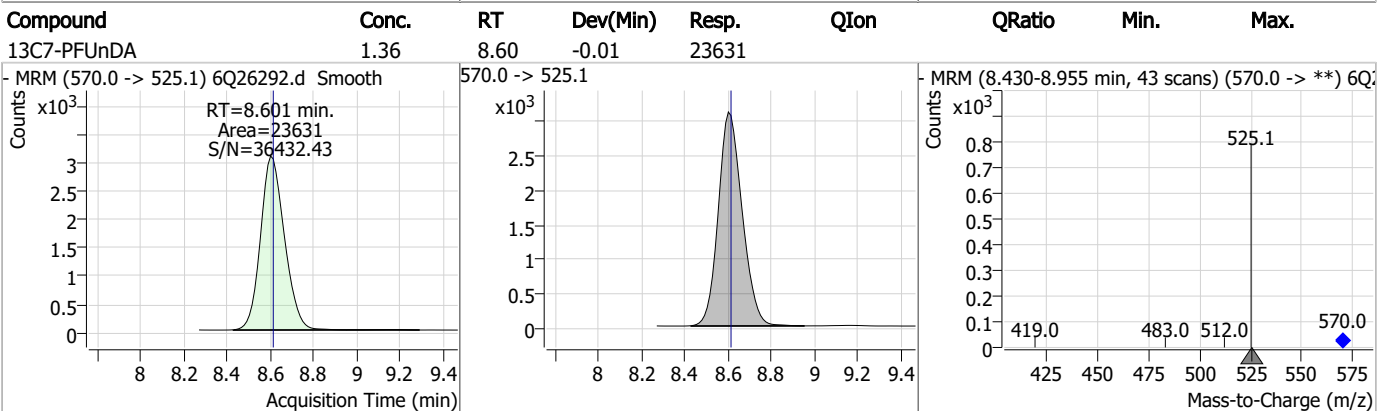
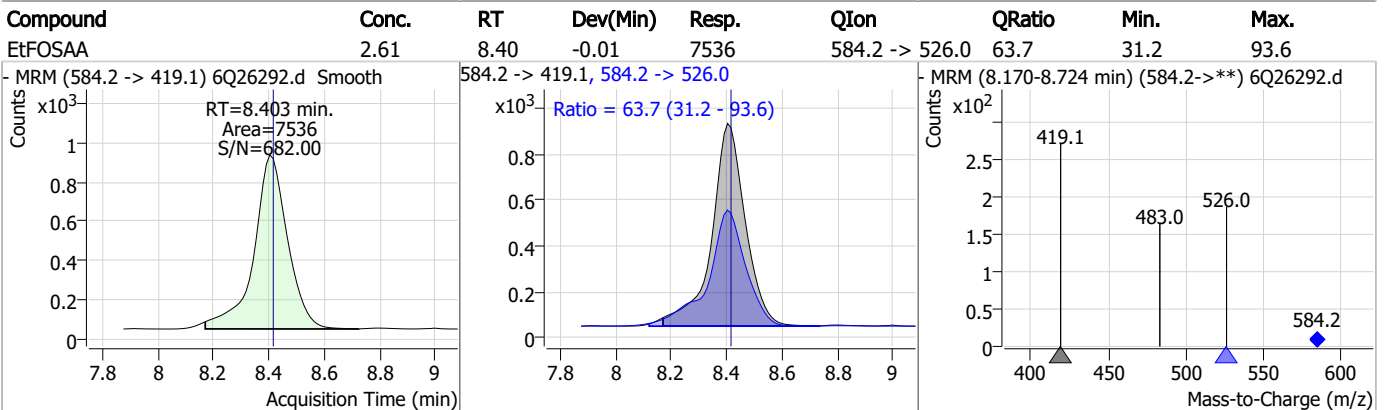
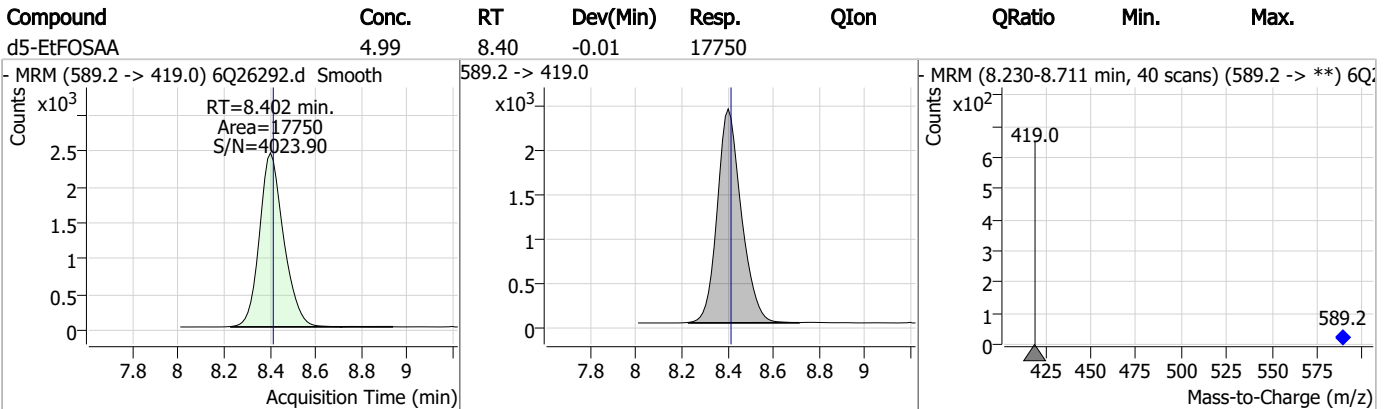
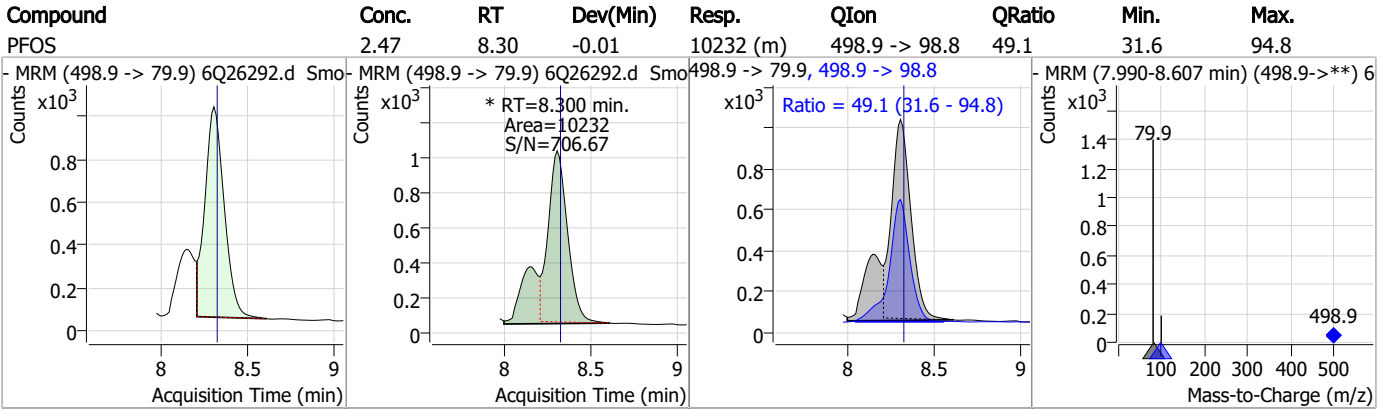
Perfluorinated Compounds by LC/MS/MS



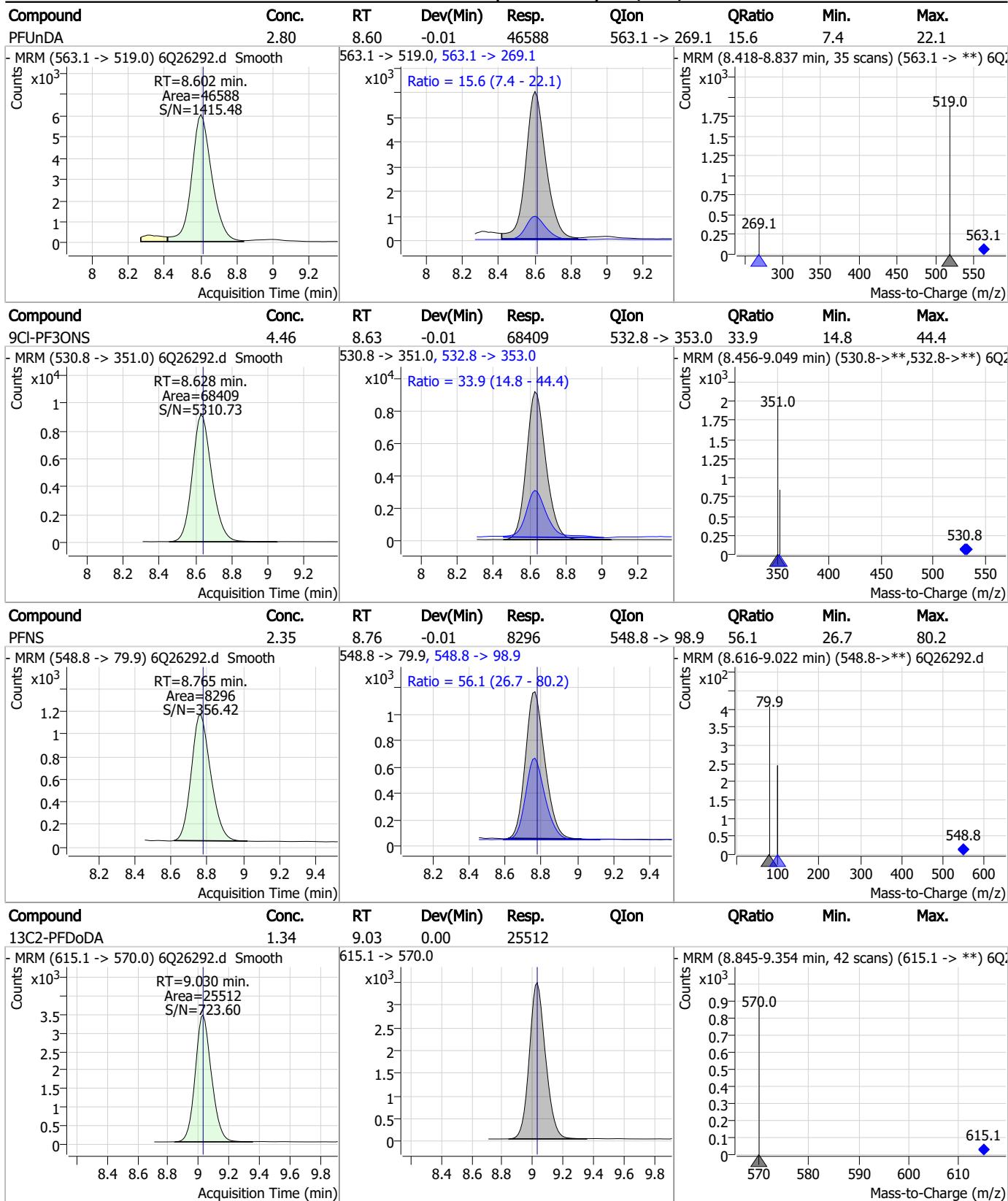
Perfluorinated Compounds by LC/MS/MS



Perfluorinated Compounds by LC/MS/MS

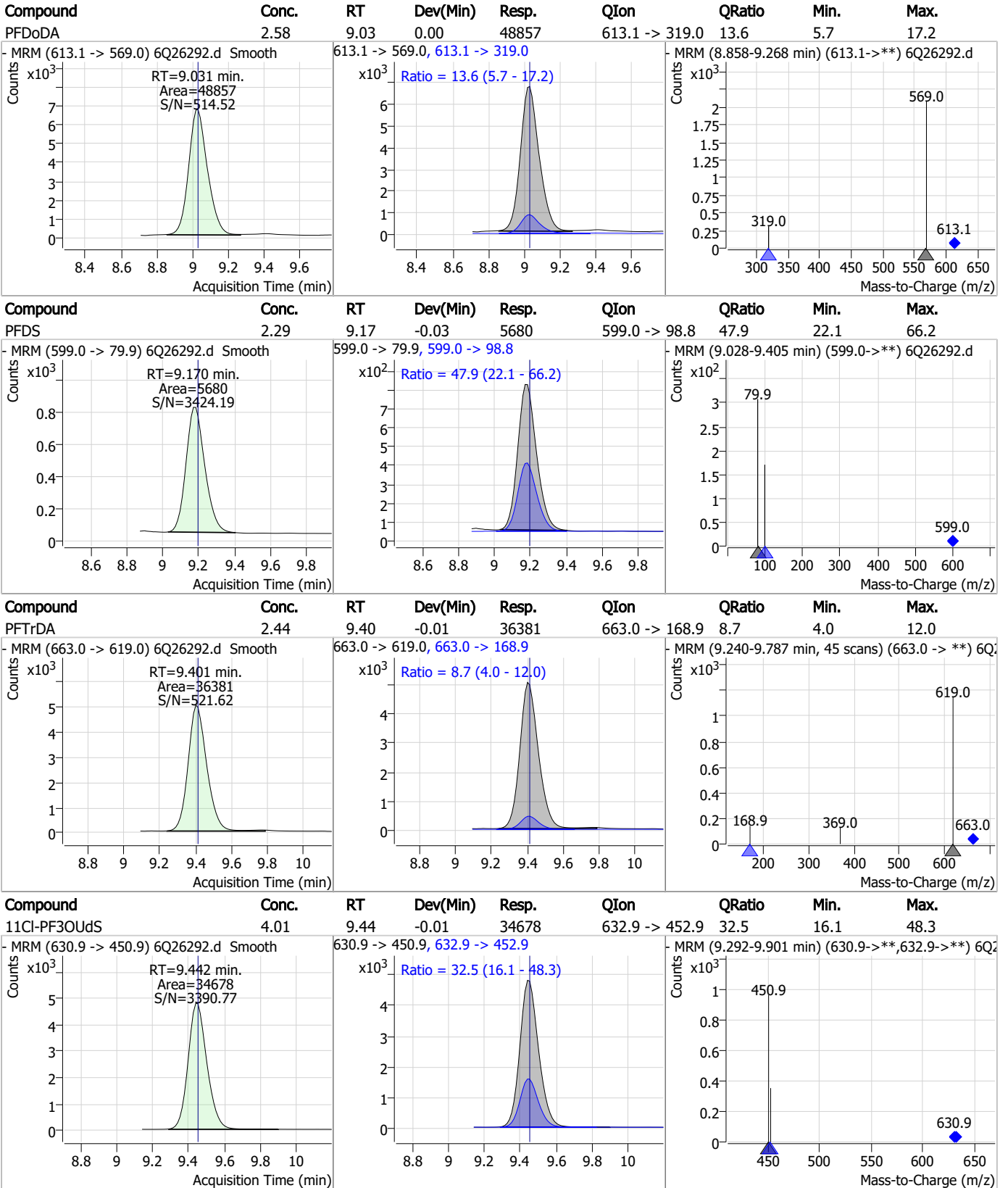


Perfluorinated Compounds by LC/MS/MS



7.4.1
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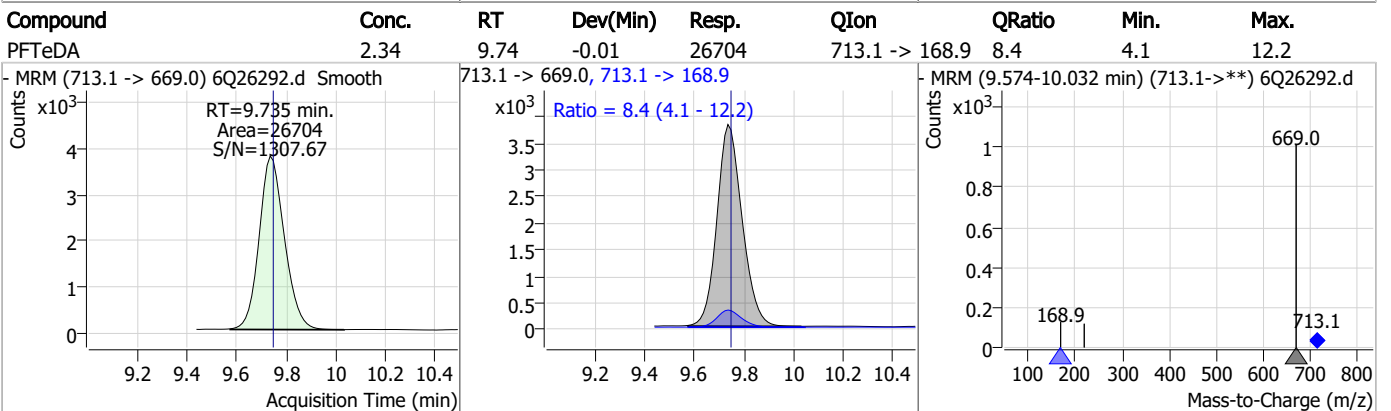
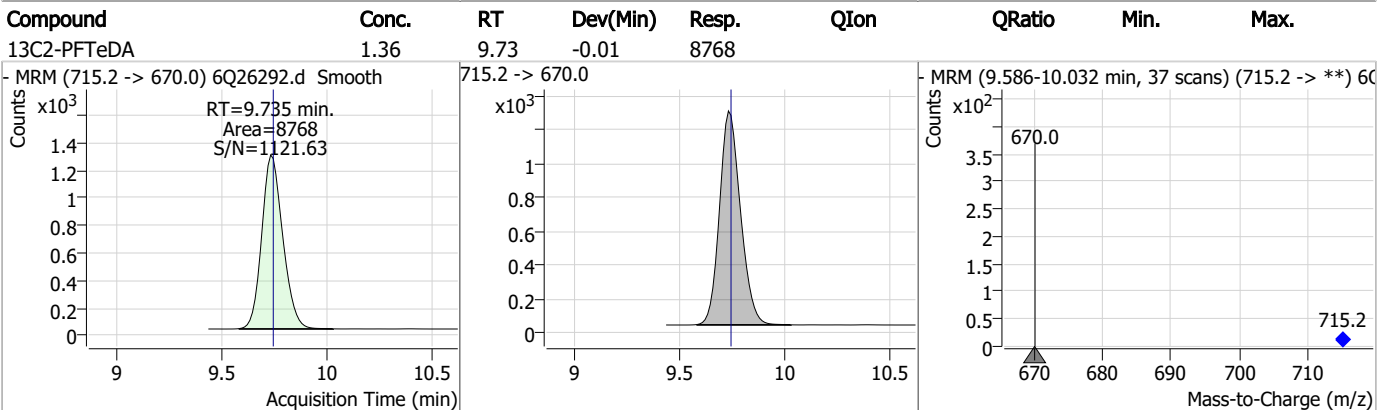
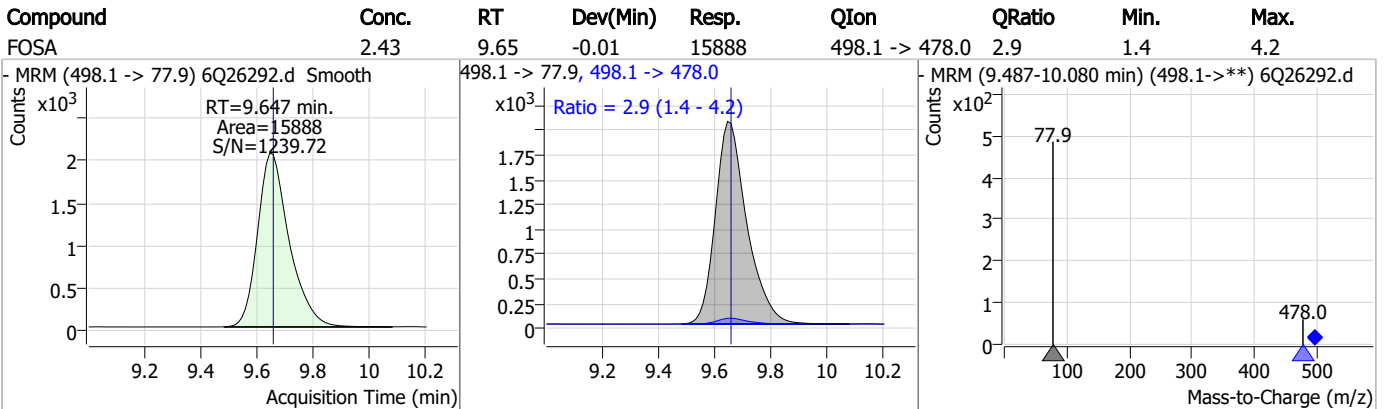
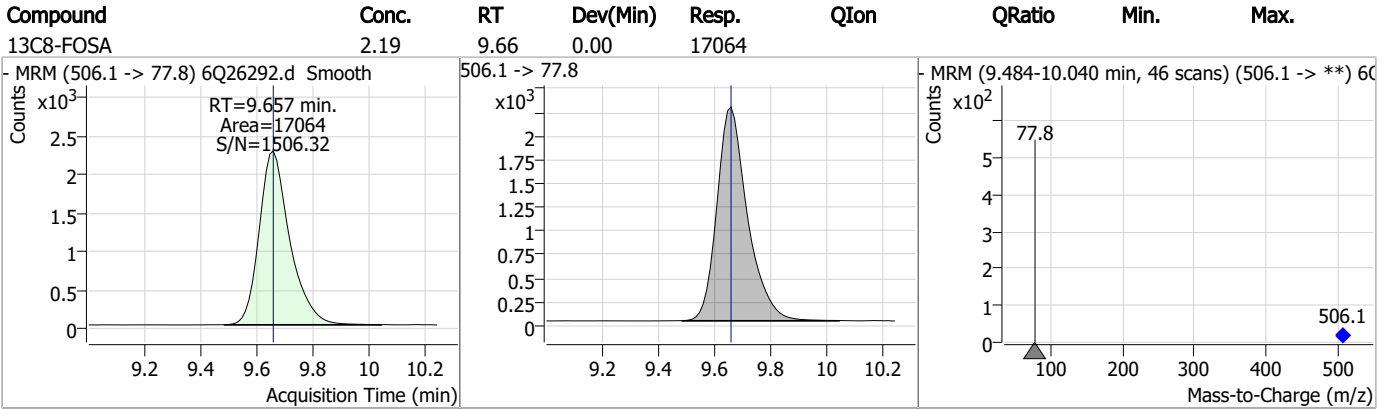
Perfluorinated Compounds by LC/MS/MS



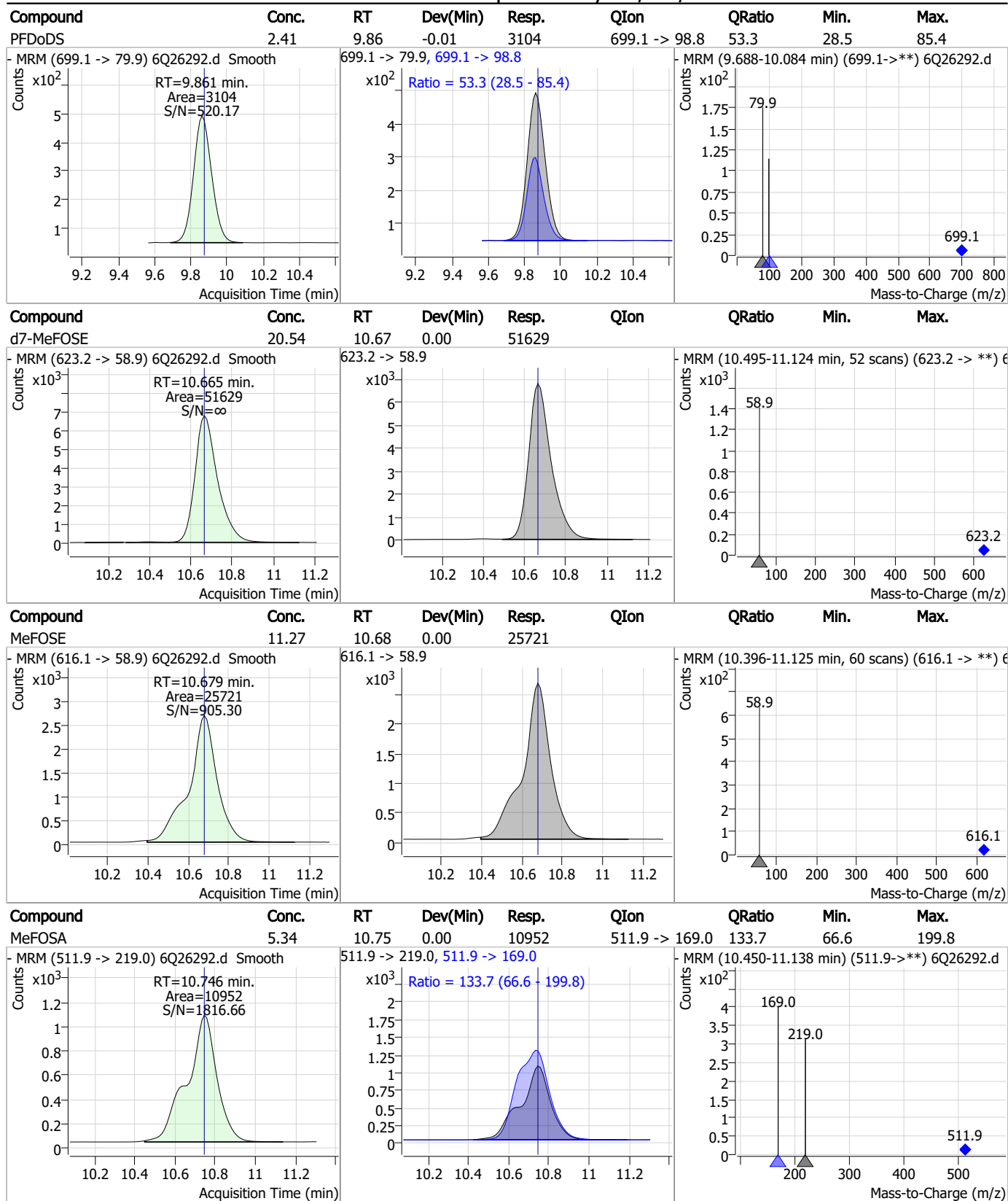
7.4.1

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Perfluorinated Compounds by LC/MS/MS

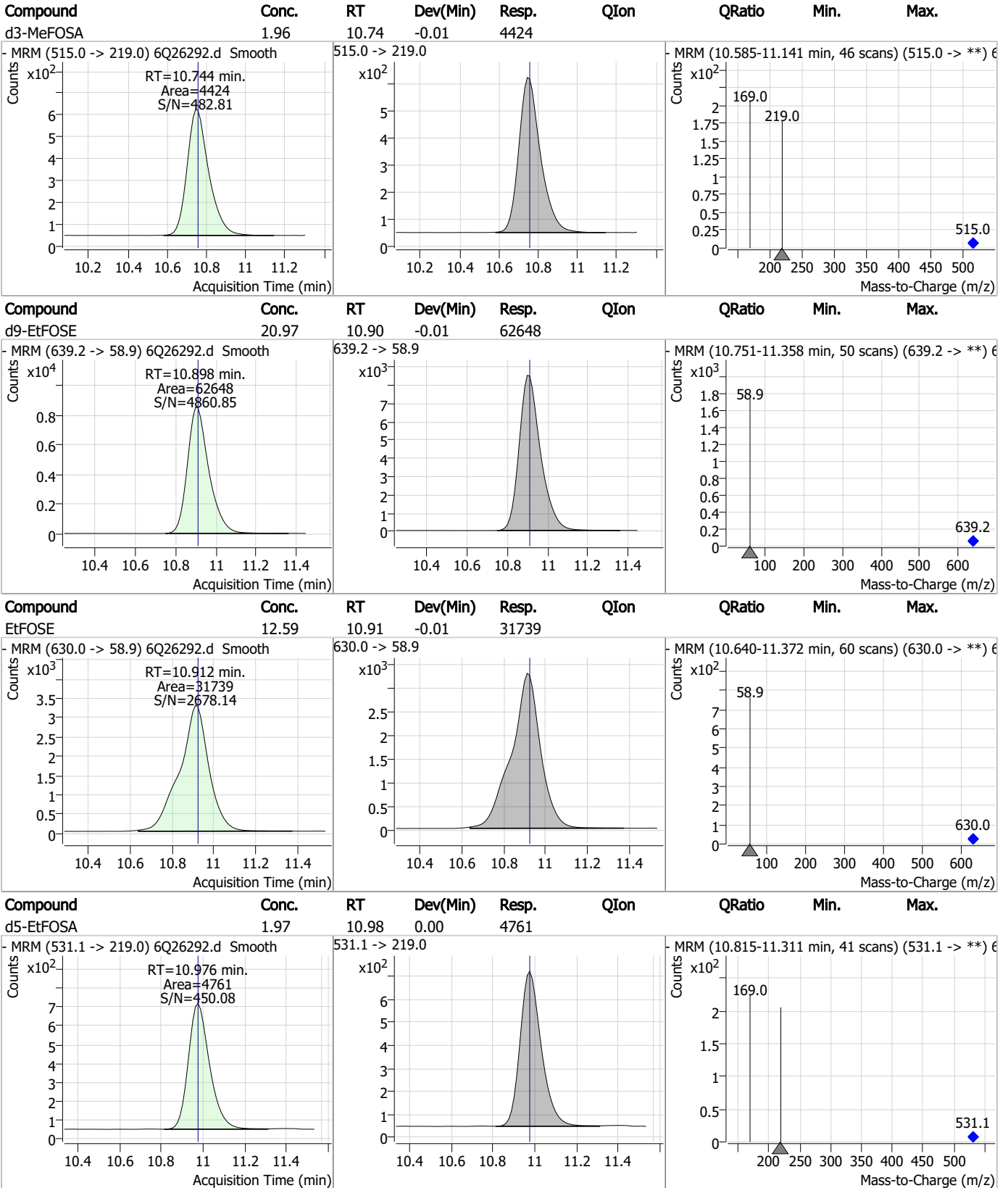


Perfluorinated Compounds by LC/MS/MS



7.4.1
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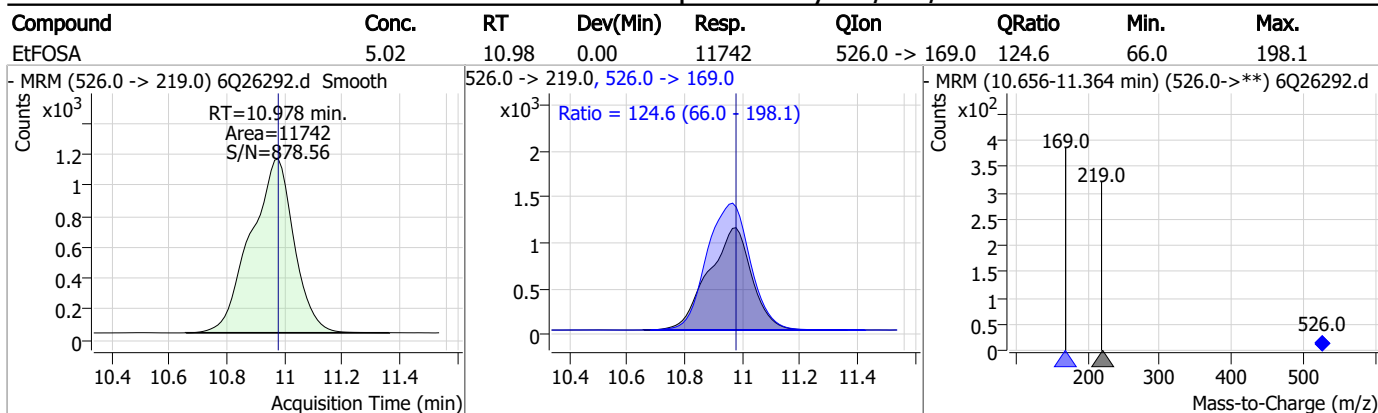
Perfluorinated Compounds by LC/MS/MS



7.4.1

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Perfluorinated Compounds by LC/MS/MS



7.4.1

7

Manual Integration Approval Summary

Sample Number: OP99445-MS Method: EPA DRAFT 1633
Lab FileID: 6Q26292.D Analyst approved: 10/16/23 11:42 Martha Valls
Injection Time: 10/12/23 18:39 Supervisor approved: 10/16/23 17:58 Natasha Gumtie

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		7.25	Split peak
Perfluorooctanesulfonic acid	1763-23-1		8.30	Split peak

7.4.1.1

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Perfluorinated Compounds by LC/MS/MS

Data File : 6Q26294.d
 Operator : marthav
 Acq. Method : 1633full.m
 Acq. Date-Time : 10/12/2023 7:08:37 PM
 Sample Name : OP99445-DUP
 Vial : P6-B4
 DA Method File : 1633_100823_S6Q367.quantmethod.xml
 Batch Name : s6q370.batch.bin
 Sample Information : OP99445,S6Q370,530,,5.0,1,water

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Internal Standards					
M4-PFBA	2.960	216.8 -> 171.9	129302	10.00 µg/L	0.012
M5-PFPeA	4.359	268.3 -> 223.0	50983	5.00 µg/L	-0.012
M5-PFHxA	5.567	318.0 -> 273.0	45051	2.50 µg/L	-0.012
M4-PFHpA	6.507	367.1 -> 322.0	45546	2.50 µg/L	-0.012
M8-PFOA	7.149	421.1 -> 376.0	57704	2.50 µg/L	-0.012
M9-PFNA	7.666	472.1 -> 427.0	25262	1.25 µg/L	-0.013
M6-PFDA	8.148	519.1 -> 474.1	24603	1.25 µg/L	-0.012
M7-PFUnDA	8.601	570.0 -> 525.1	24096	1.25 µg/L	-0.012
M2-PFDoDA	9.030	615.1 -> 570.0	24629	1.25 µg/L	0.000
M2-PFTeDA	9.735	715.2 -> 670.0	6933	1.25 µg/L	-0.012
M8-FOSA	9.657	506.1 -> 77.8	16174	2.50 µg/L	0.000
M3-PFBS	5.485	302.1 -> 79.9	20789	2.50 µg/L	-0.012
M3-PFHxS	7.251	402.1 -> 79.9	11295	2.50 µg/L	-0.012
M8-PFOS	8.298	507.1 -> 79.9	10835	2.50 µg/L	-0.013
M2-4:2FTS	5.242	329.1 -> 80.9	2480	5.00 µg/L	-0.012
M2-6:2FTS	6.924	429.1 -> 80.9	3135	5.00 µg/L	-0.012
M2-8:2FTS	7.937	529.1 -> 80.9	3225	5.00 µg/L	-0.012
M3-MeFOSAA	8.207	573.2 -> 419.0	21639	5.00 µg/L	0.000
M3-HFPO-DA	5.945	286.9 -> 168.9	31462	10.00 µg/L	-0.012
M5-EtFOSAA	8.402	589.2 -> 419.0	17125	5.00 µg/L	-0.012
M7-MeFOSE	10.665	623.2 -> 58.9	49206	25.00 µg/L	0.000
M9-EtFOSE	10.911	639.2 -> 58.9	58814	25.00 µg/L	0.000
M5-EtFOSA	10.976	531.1 -> 219.0	4746	2.50 µg/L	0.000
M3-MeFOSA	10.744	515.0 -> 219.0	4254	2.50 µg/L	-0.012
13C4-PFOS	8.299	502.8 -> 79.9	8983	2.50 µg/L	-0.013
13C3-PFBA	2.964	216.0 -> 172.0	53754	5.00 µg/L	0.012
18O2-PFHxS	7.250	403.0 -> 83.9	6775	2.50 µg/L	-0.012
13C4-PFOA	7.150	417.1 -> 372.0	58993	2.50 µg/L	-0.012
13C2-PFDA	8.149	515.1 -> 470.1	21183	1.25 µg/L	-0.012
13C5-PFNA	7.667	468.0 -> 423.0	20463	1.25 µg/L	-0.013
13C2-PFHxA	5.568	315.1 -> 270.0	38660	2.50 µg/L	-0.012
System Monitoring Compounds					
13C2-4:2FTS	5.242	329.1 -> 80.9	2480	6.50 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 129.9%		
13C2-6:2FTS	6.924	429.1 -> 80.9	3135	5.52 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 110.4%		
13C2-8:2FTS	7.937	529.1 -> 80.9	3225	5.52 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 110.4%		
13C2-PFDoDA	9.030	615.1 -> 570.0	24629	1.17 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 93.3%		
13C2-PFTeDA	9.735	715.2 -> 670.0	6933	0.97 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 77.5%		
13C3-PFBS	5.485	302.1 -> 79.9	20789	2.71 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 108.3%		
13C3-PFHxS	7.251	402.1 -> 79.9	11295	2.62 µg/L	-0.012

7.5.1
7

Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 105.0%	
13C4-PFBA	2.960	216.8 -> 171.9	129302	9.97 µg/L	0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 99.7%	
13C4-PFHpA	6.507	367.1 -> 322.0	45546	2.91 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 116.5%	
13C5-PFHxA	5.567	318.0 -> 273.0	45051	2.82 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 112.7%	
13C5-PFPeA	4.359	268.3 -> 223.0	50983	5.83 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 116.6%	
13C6-PFDA	8.148	519.1 -> 474.1	24603	1.38 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 110.3%	
13C7-PFUnDA	8.601	570.0 -> 525.1	24096	1.25 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 100.0%	
13C8-FOSA	9.657	506.1 -> 77.8	16174	2.18 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 87.3%	
13C8-PFOA	7.149	421.1 -> 376.0	57704	2.82 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 112.8%	
13C8-PFOS	8.298	507.1 -> 79.9	10835	2.79 µg/L	-0.013
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 111.7%	
13C9-PFNA	7.666	472.1 -> 427.0	25262	1.50 µg/L	-0.013
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 120.1%	
d3-MeFOSAA	8.207	573.2 -> 419.0	21639	5.48 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 109.5%	
13C3-HFPO-DA	5.945	286.9 -> 168.9	31462	11.67 µg/L	-0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 116.7%	
d3-MeFOSA	10.744	515.0 -> 219.0	4254	1.98 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 79.2%	
d5-EtFOSAA	8.402	589.2 -> 419.0	17125	5.06 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 101.2%	
d7-MeFOSE	10.665	623.2 -> 58.9	49206	20.57 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 82.3%	
d9-EtFOSE	10.911	639.2 -> 58.9	58814	20.68 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 82.7%	
d5-EtFOSA	10.976	531.1 -> 219.0	4746	2.06 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 82.6%	

7.5.1
7

Target Compounds	RT	Transition	Response	Conc. Units	QValue
4:2FTS	-	327.1 -> 307.0 327.1 -> 80.9	-	N.D.	
6:2FTS	6.925	427.1 -> 407.0 427.1 -> 80.9	3371 1230	1.18 µg/L	96
8:2FTS	-	527.1 -> 507.0 527.1 -> 80.8	-	N.D.	
EtFOSAA	-	584.2 -> 419.1 584.2 -> 526.0	-	N.D.	
FOSA	-	498.1 -> 77.9 498.1 -> 478.0	-	N.D.	
MeFOSAA	-	570.1 -> 419.0 570.1 -> 483.0	-	N.D.	
PFBA	-	212.8 -> 168.9	-	N.D.	
PFBS	5.486	298.7 -> 79.9 298.7 -> 98.8	375 133	0.06 µg/L	98
PFDA	-	512.9 -> 469.0 512.9 -> 219.0	-	N.D.	
PFDODA	-	613.1 -> 569.0 613.1 -> 319.0	-	N.D.	
PFDS	-	599.0 -> 79.9	-	N.D.	



Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
		599.0 -> 98.8				
PFHpA	-	363.1 -> 319.0	-	N.D.		
		363.1 -> 169.0				
PFHpS	-	449.0 -> 79.9	-	N.D.		
		449.0 -> 98.9				
PFHxA	5.569	313.0 -> 269.0	1481	0.09	µg/L	100
		313.0 -> 118.9	73			
PFHxS	7.240	398.7 -> 79.9	394	0.08	µg/L	m 96
		398.7 -> 98.9	198			
PFNA	8.117	463.0 -> 419.0	0		µg/L	m 1
		463.0 -> 219.0	0			
PFNS	-	548.8 -> 79.9	-	N.D.		
		548.8 -> 98.9				
PFOA	7.163	413.0 -> 369.0	2216	0.09	µg/L	m 100
		413.0 -> 169.0	409			
PFOS	-	498.9 -> 79.9	-	N.D.		
		498.9 -> 98.8				
PFPeA	-	263.0 -> 219.0	-	N.D.		
PFPeS	-	349.1 -> 79.9	-	N.D.		
		349.1 -> 98.9				
PFTeDA	-	713.1 -> 669.0	-	N.D.		
		713.1 -> 168.9				
PFTrDA	-	663.0 -> 619.0	-	N.D.		
		663.0 -> 168.9				
PFUnDA	-	563.1 -> 519.0	-	N.D.		
		563.1 -> 269.1				
11Cl-PF3OUdS	-	630.9 -> 450.9	-	N.D.		
		632.9 -> 452.9				
9Cl-PF3ONS	-	530.8 -> 351.0	-	N.D.		
		532.8 -> 353.0				
ADONA	-	376.9 -> 250.9	-	N.D.		
		376.9 -> 84.8				
HFPO-DA	-	284.9 -> 168.9	-	N.D.		
		284.9 -> 184.9				
3:3FTCA	-	241.0 -> 177.0	-	N.D.		
		241.0 -> 117.0				
5:3FTCA	-	341.0 -> 237.1	-	N.D.		
		341.0 -> 217.0				
7:3FTCA	-	441.0 -> 316.9	-	N.D.		
		441.0 -> 336.9				
EtFOSA	-	526.0 -> 219.0	-	N.D.		
		526.0 -> 169.0				
EtFOSE	-	630.0 -> 58.9	-	N.D.		
MeFOSA	-	511.9 -> 219.0	-	N.D.		
		511.9 -> 169.0				
MeFOSE	-	616.1 -> 58.9	-	N.D.		
PFDoDS	-	699.1 -> 79.9	-	N.D.		
		699.1 -> 98.8				
NFDHA	-	295.0 -> 201.0	-	N.D.		
		295.0 -> 84.9				
PFMBA	-	279.0 -> 85.1	-	N.D.		
PFMPA	-	229.0 -> 84.9	-	N.D.		
PFEESA	-	314.8 -> 134.9	-	N.D.		
		314.8 -> 82.9				

= Qualifier out of range, m = manually integrated, + = Area summed

7.5.1
7

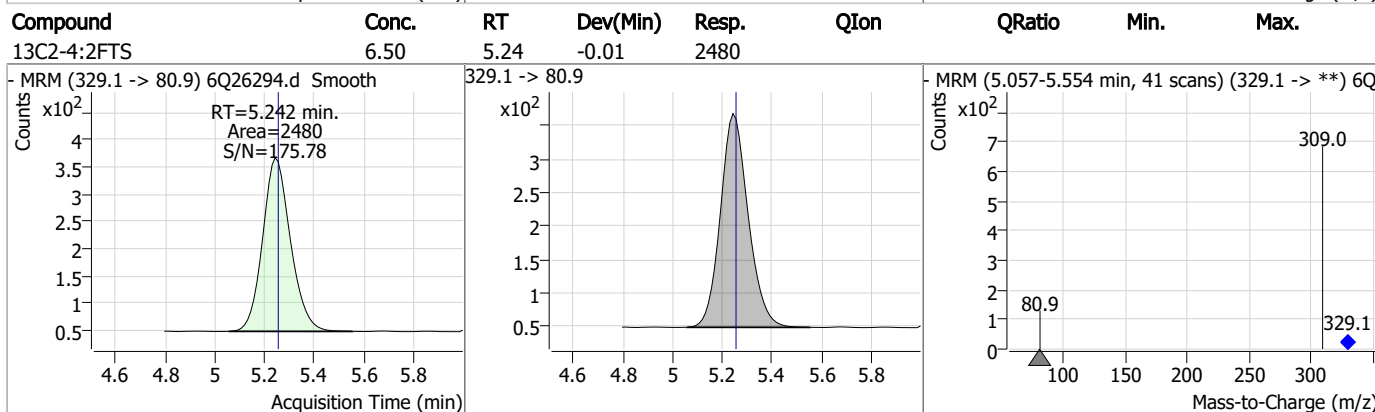
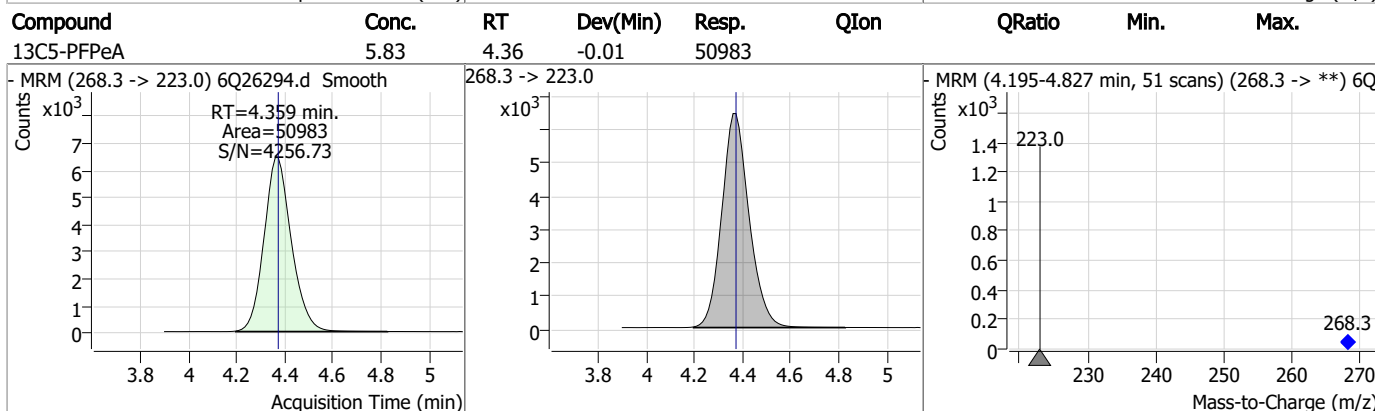
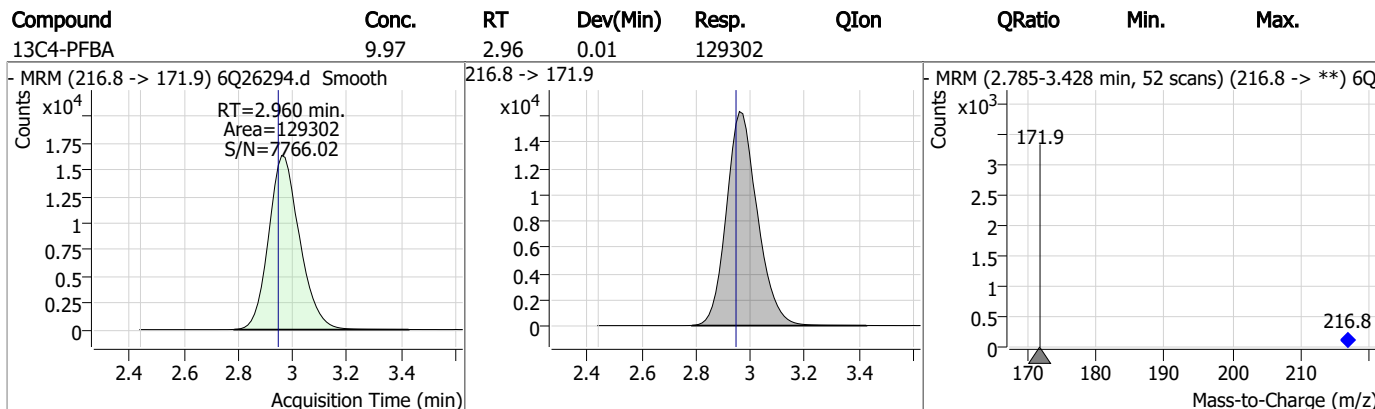
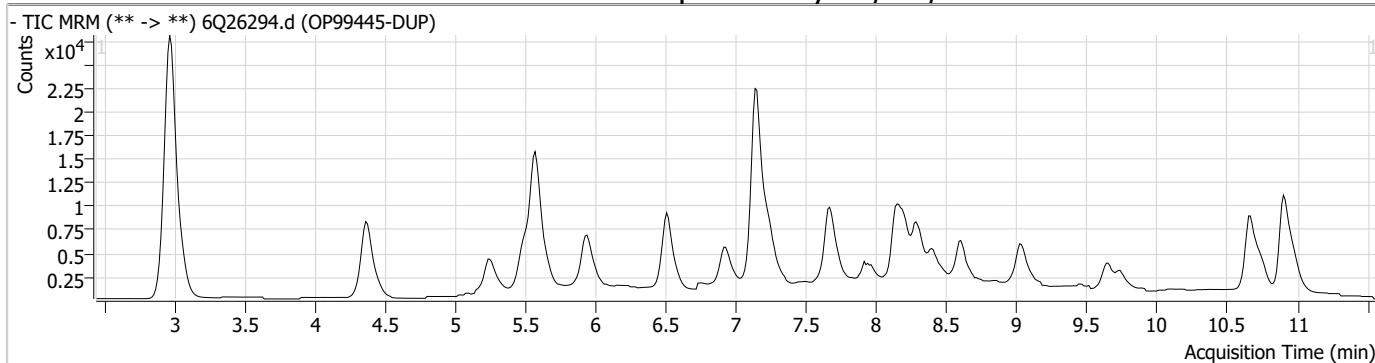
Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
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7.5.1

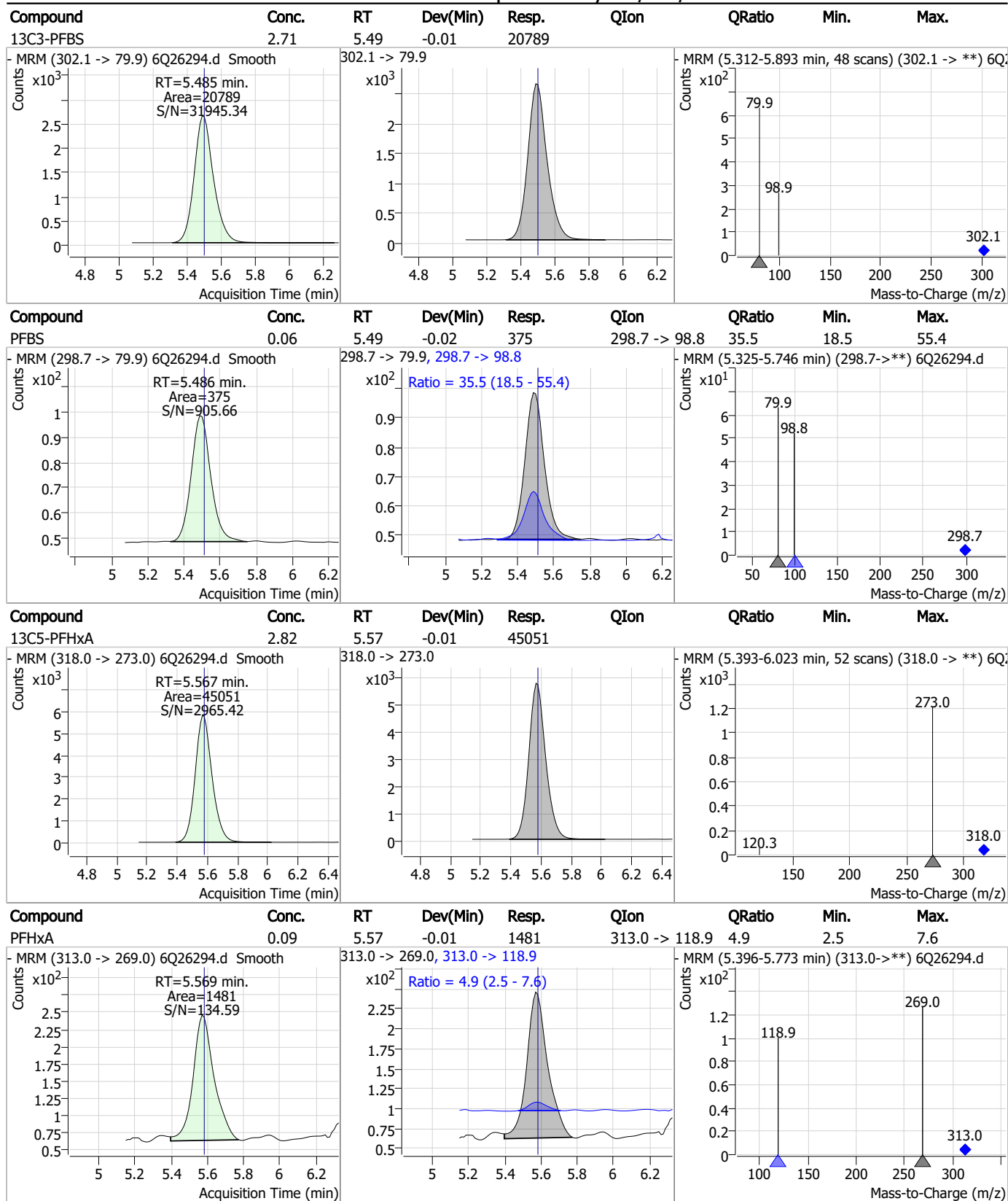
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Perfluorinated Compounds by LC/MS/MS



7.5.1
7

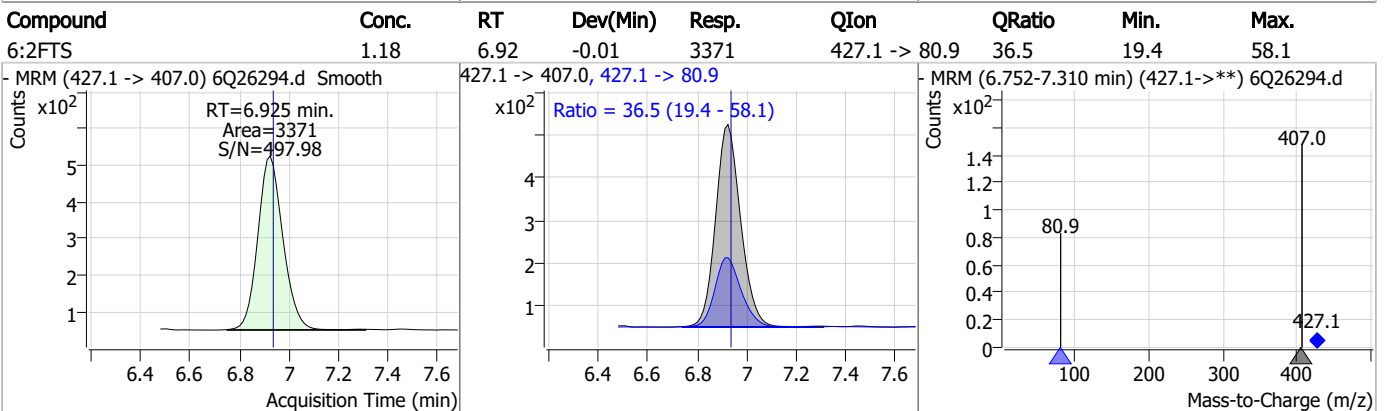
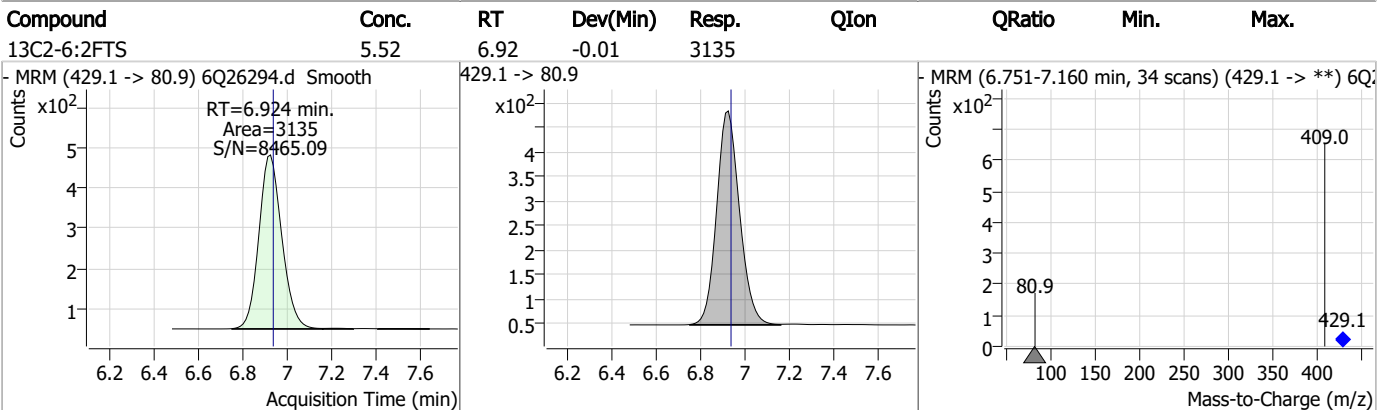
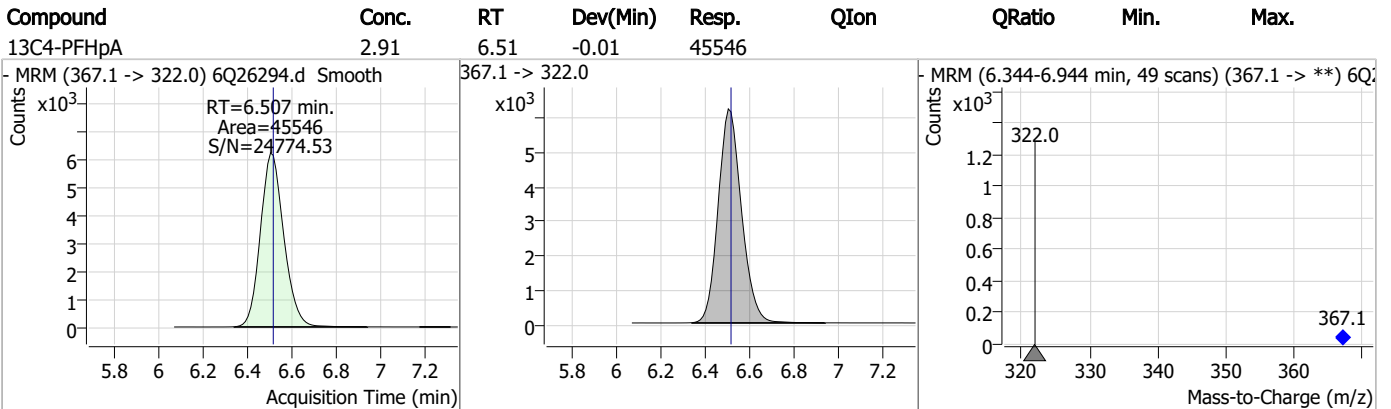
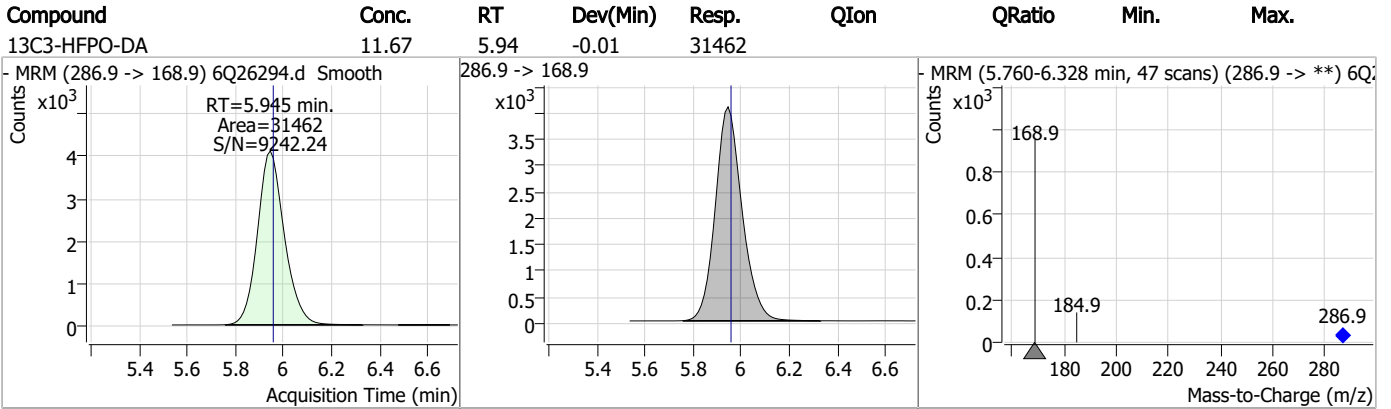
Perfluorinated Compounds by LC/MS/MS



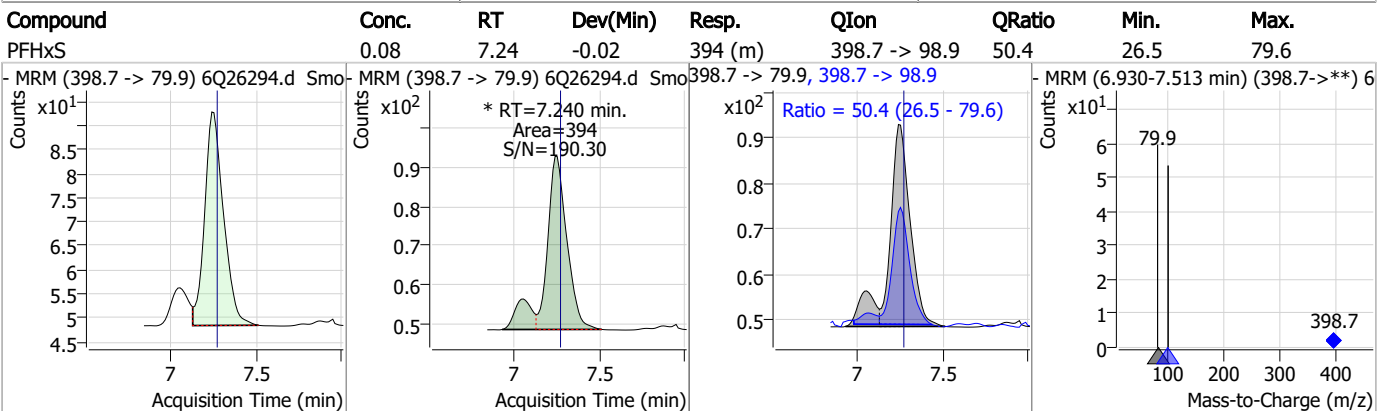
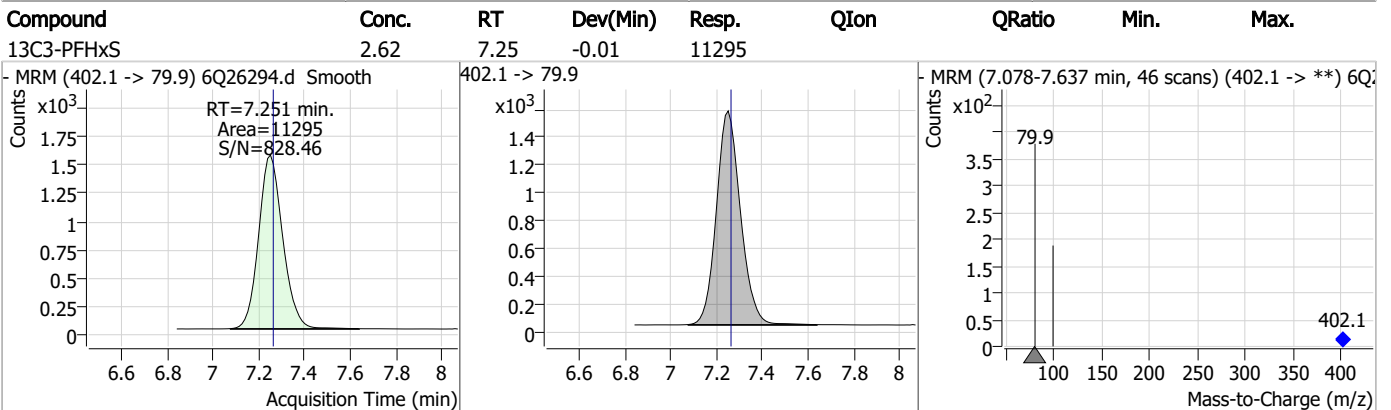
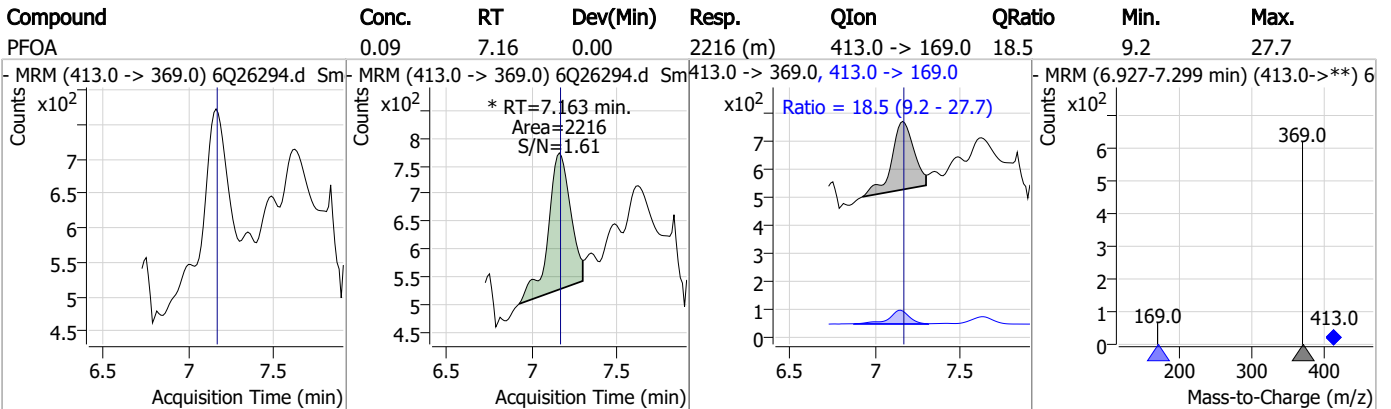
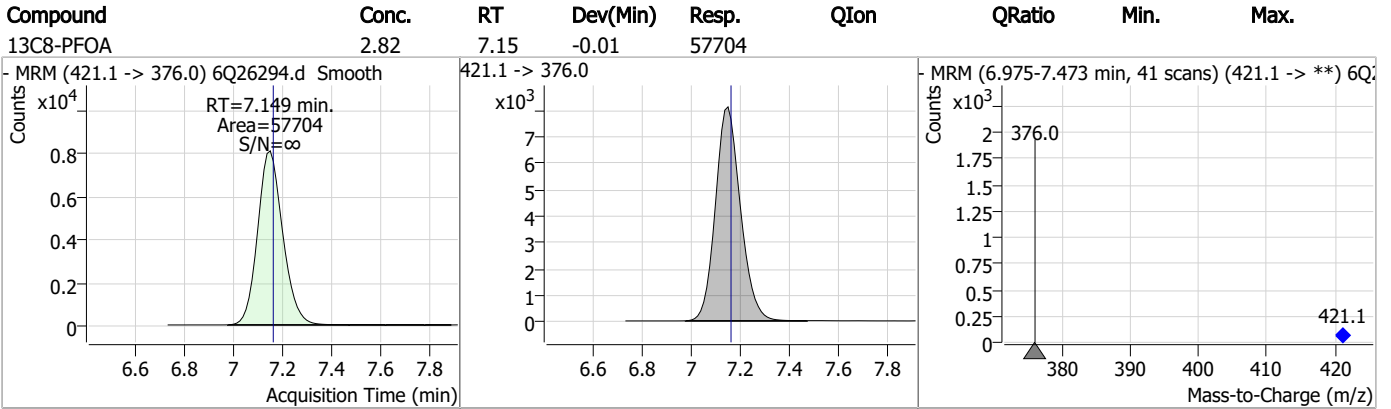
7.5.1
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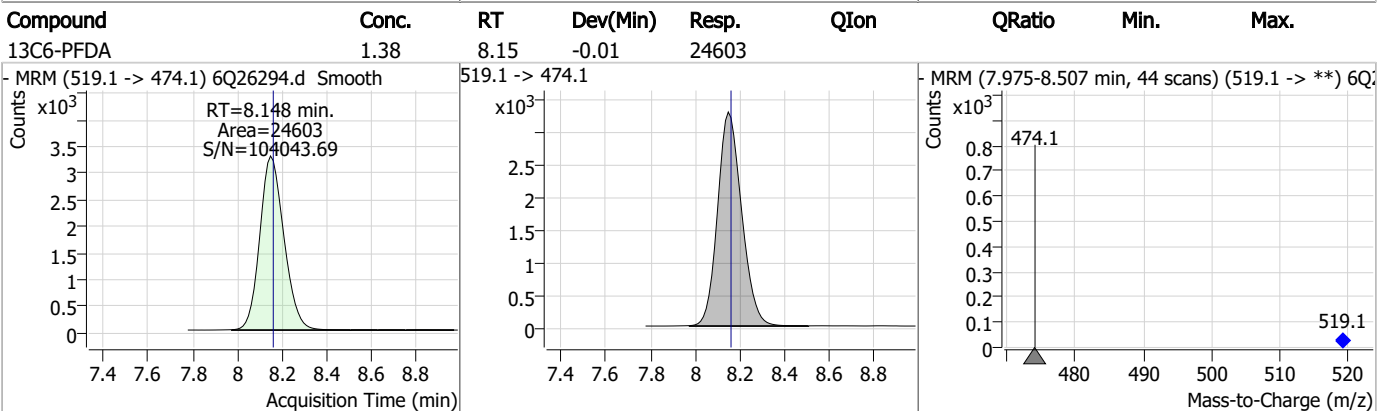
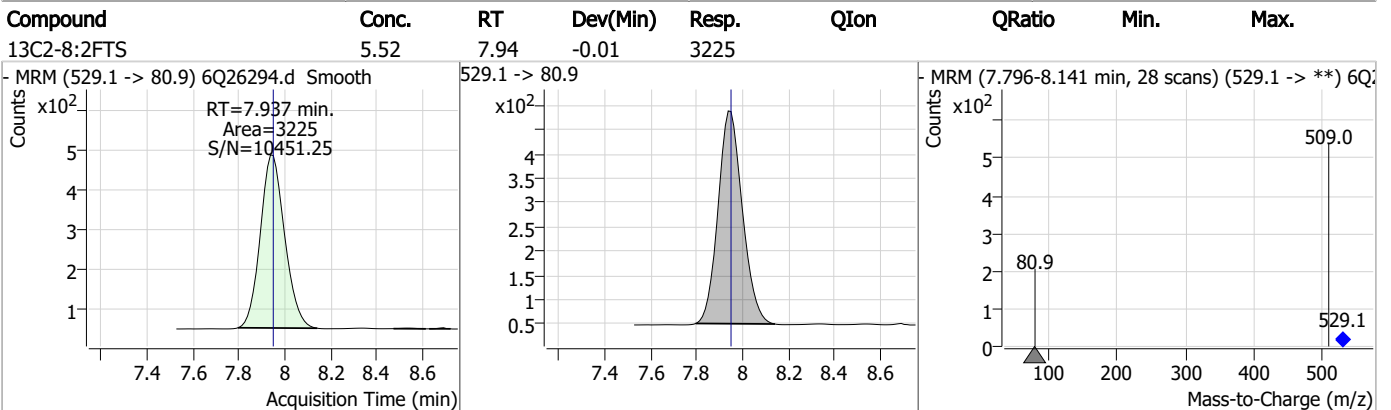
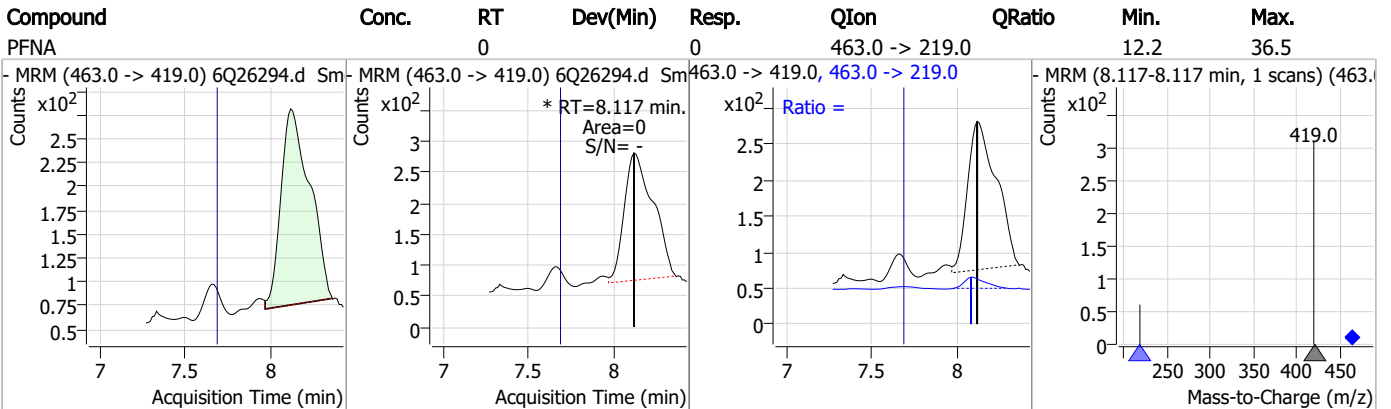
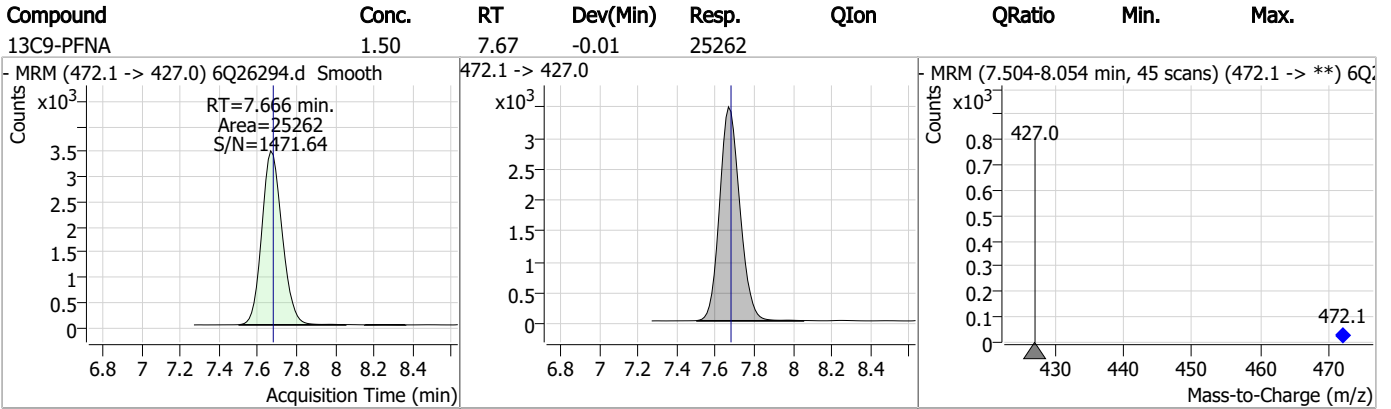
Perfluorinated Compounds by LC/MS/MS



Perfluorinated Compounds by LC/MS/MS

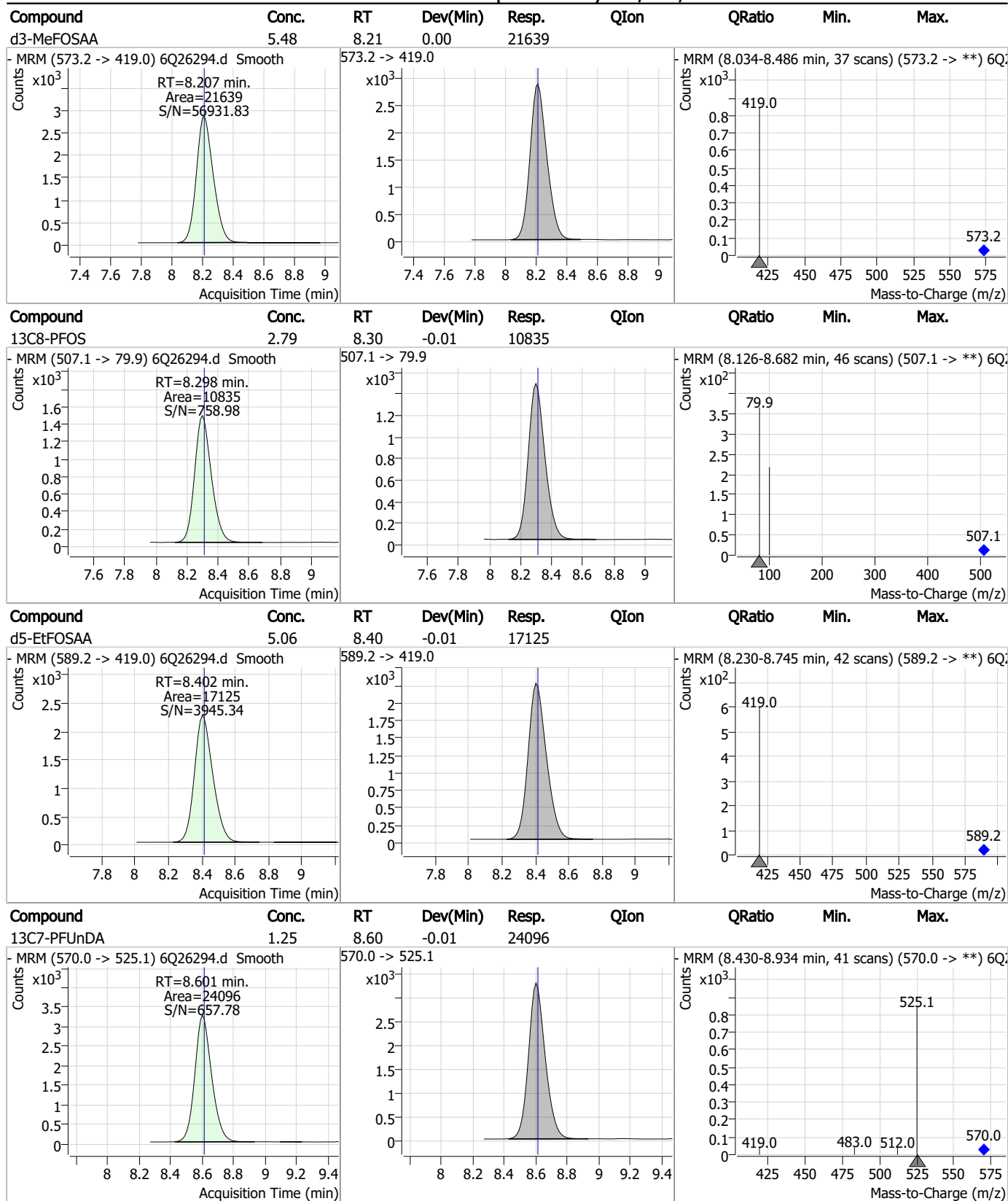


Perfluorinated Compounds by LC/MS/MS



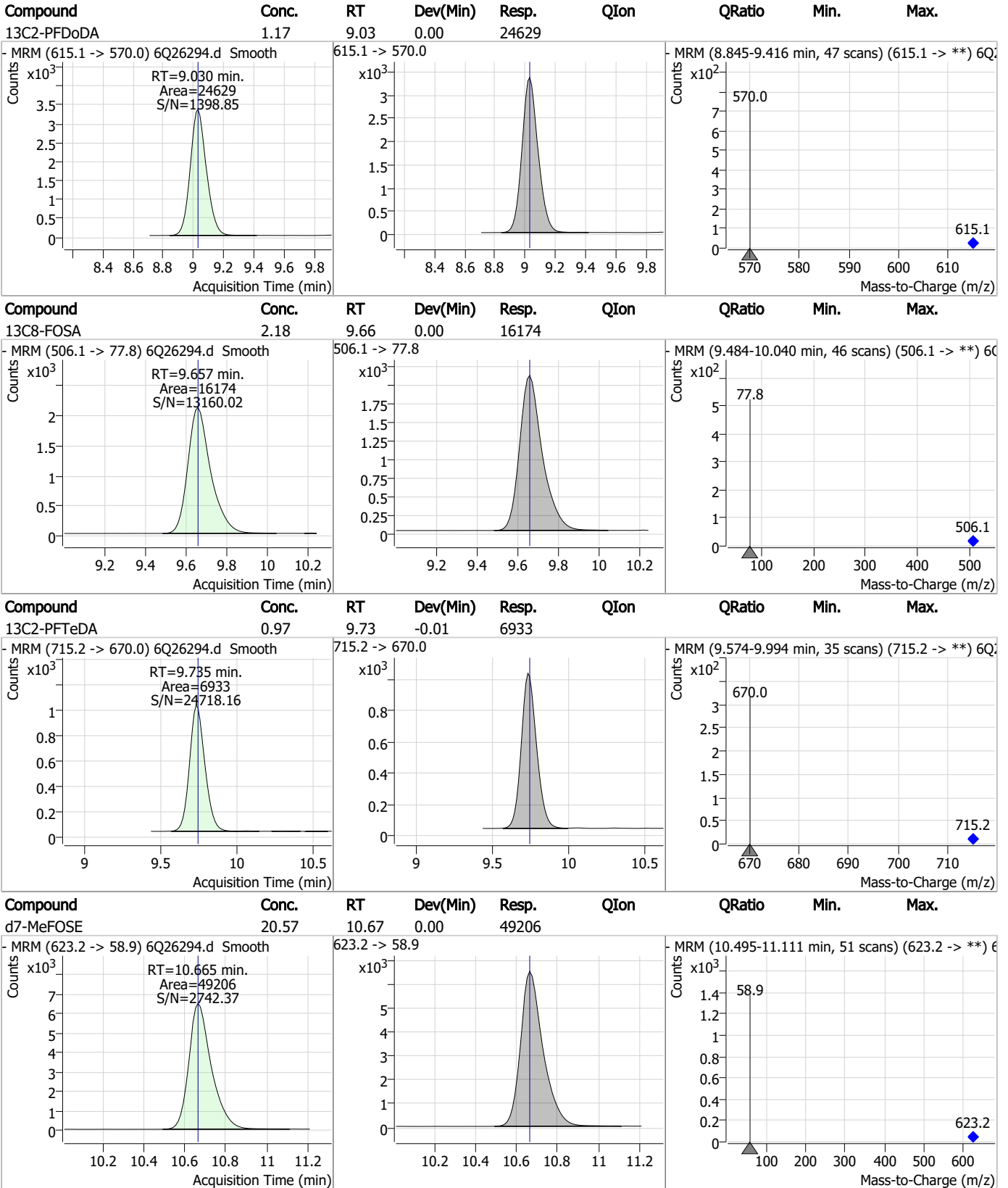
7.5.1
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Perfluorinated Compounds by LC/MS/MS



7.5.1
7

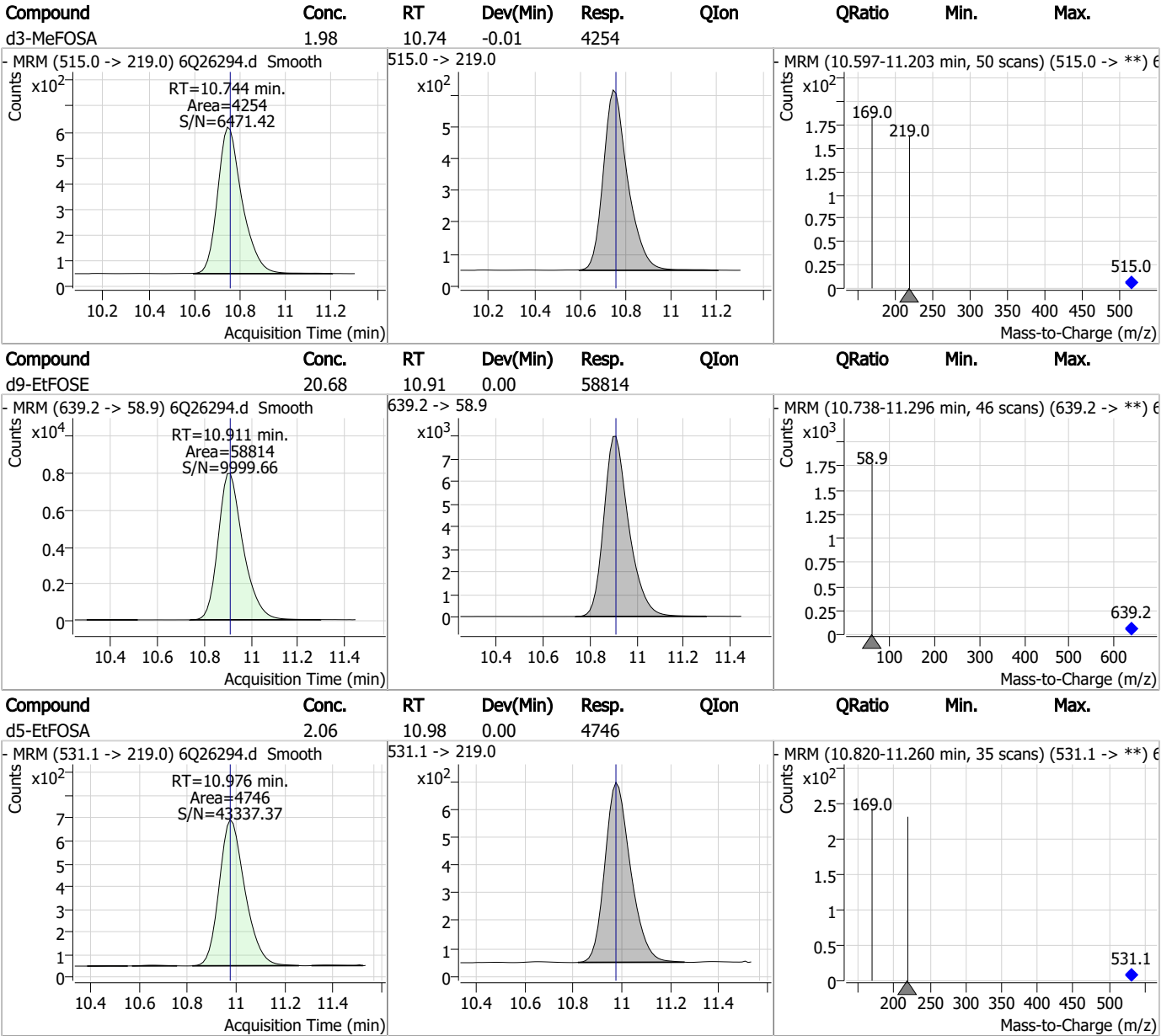
Perfluorinated Compounds by LC/MS/MS



7.5.1

7

Perfluorinated Compounds by LC/MS/MS



7.5.1

7

Manual Integration Approval Summary

Sample Number: OP99445-DUP Method: EPA DRAFT 1633
Lab FileID: 6Q26294.D Analyst approved: 10/16/23 11:42 Martha Valls
Injection Time: 10/12/23 19:08 Supervisor approved: 10/16/23 17:58 Natasha Gumtie

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorooctanoic acid	335-67-1		7.16	Split peak
Perfluorohexanesulfonic acid	355-46-4		7.24	Split peak

7.5.1.1

7

Perfluorinated Compounds by LC/MS/MS

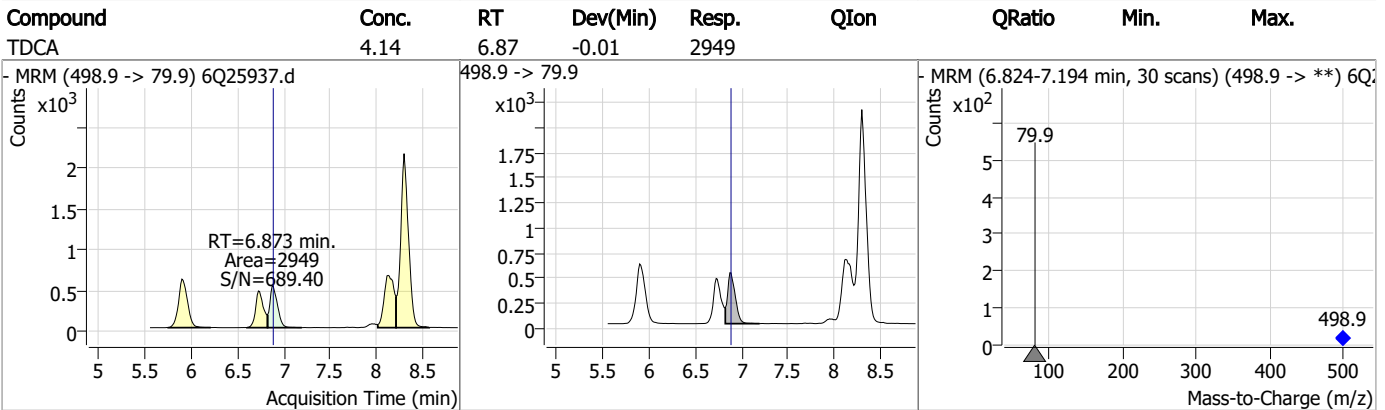
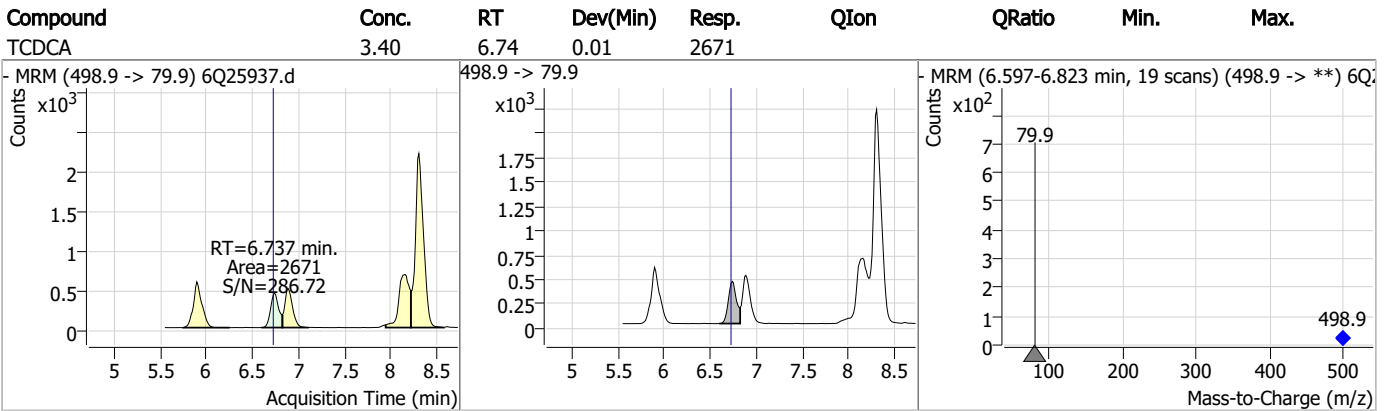
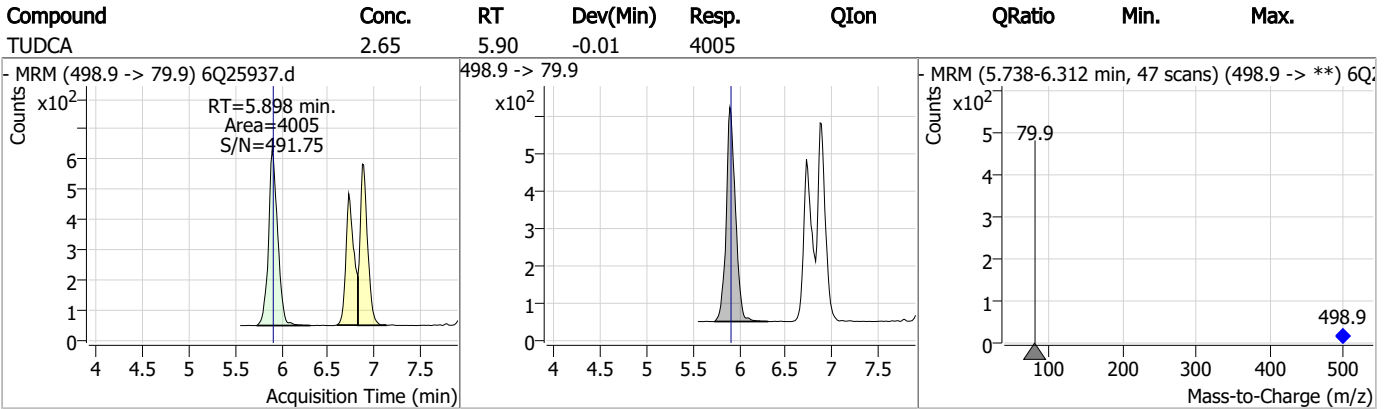
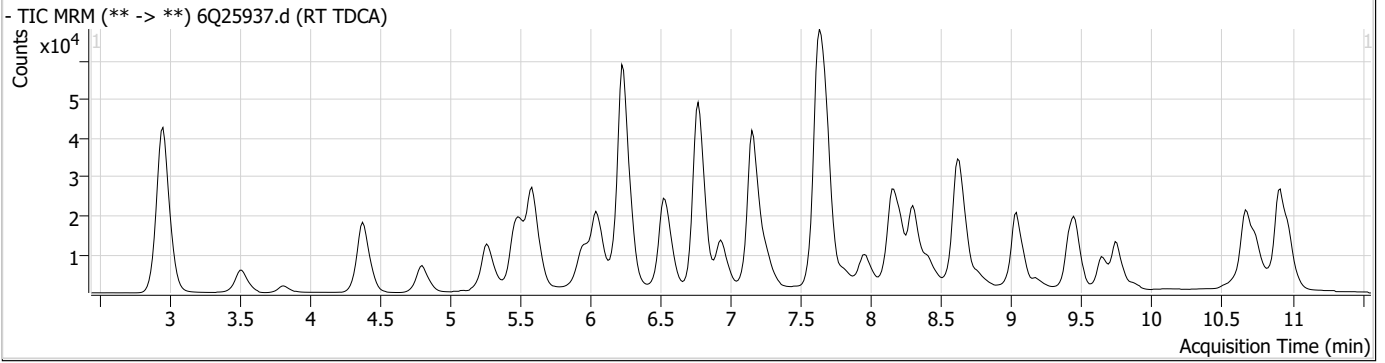
Data File : 6Q25937.d
 Operator : marthav
 Acq. Method : 1633full.m
 Acq. Date-Time : 10/8/2023 2:04:18 PM
 Sample Name : RT TDCA
 Vial : P1-B3
 DA Method File : TDCA.quantmethod.xml
 Batch Name : S6Q367 TDCA.batch.bin
 Sample Information : OP99308,S6Q367,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc. Units	Dev(Min)	
Internal Standards						
M8-PFOS	8.311	507.1 -> 79.9	17039	2.50 µg/L	-0.012	
13C4-PFOS	8.299	502.8 -> 79.9	16928	2.50 µg/L	-0.025	
System Monitoring Compounds						
13C8-PFOS	8.311	507.1 -> 79.9	17039	2.55 µg/L	-0.012	
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 102.1%			
Target Compounds						
PFOS	8.300	498.9 -> 79.9	17310	2.97 µg/L	#m	QValue 73
		498.9 -> 98.8	8205			
TCDCa	6.737	498.9 -> 79.9	2671	3.40 ng/ml		100
TDCA	6.873	498.9 -> 79.9	2949	4.14 ng/ml		100
TUDCA	5.898	498.9 -> 79.9	4005	2.65 ng/ml		100

= Qualifier out of range, m = manually integrated, + = Area summed

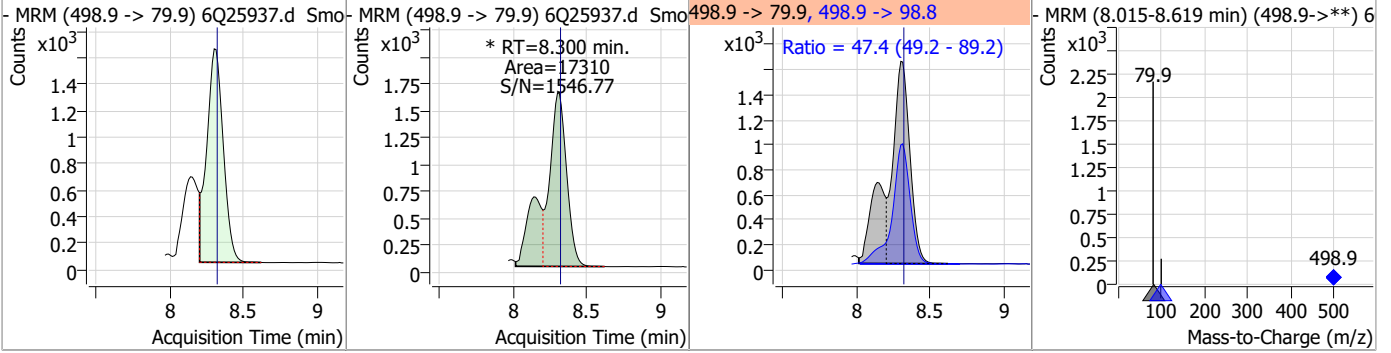
7.6.1
7

Perfluorinated Compounds by LC/MS/MS

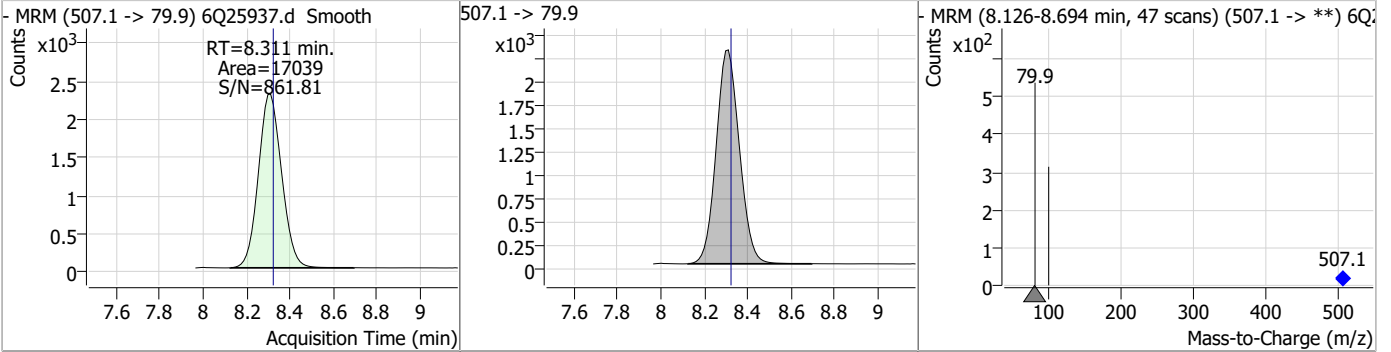


Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOS	2.97	8.30	-0.01	17310 (m)	498.9 -> 98.8	47.4	49.2	89.2



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOS	2.55	8.31	-0.01	17039				



7.6.1

7

Manual Integration Approval Summary

Sample Number: S6Q367-RT Method: EPA DRAFT 1633
Lab FileID: 6Q25937.D Analyst approved: 10/09/23 13:30 Martha Valls
Injection Time: 10/08/23 14:04 Supervisor approved: 10/09/23 16:36 Natasha Gumtie

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorooctanesulfonic acid	1763-23-1		8.30	Split peak

Perfluorinated Compounds by LC/MS/MS

Data File : 6Q25938.d
 Operator : marthav
 Acq. Method : 1633full.m
 Acq. Date-Time : 10/8/2023 2:34:43 PM
 Sample Name : RT BR-LN
 Vial : P1-B4
 DA Method File : 1633_100823_S6Q367.quantmethod.xml
 Batch Name : S6Q367.batch.bin
 Sample Information : OP99308,S6Q367,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Internal Standards					
M4-PFBA	2.972	216.8 -> 171.9	145218	10.00 µg/L	0.025
M5-PFPeA	4.384	268.3 -> 223.0	45891	5.00 µg/L	0.012
M5-PFHxA	5.592	318.0 -> 273.0	45283	2.50 µg/L	0.012
M4-PFHpA	6.531	367.1 -> 322.0	42388	2.50 µg/L	0.012
M8-PFOA	7.161	421.1 -> 376.0	58085	2.50 µg/L	0.000
M9-PFNA	7.680	472.1 -> 427.0	24682	1.25 µg/L	0.000
M6-PFDA	8.161	519.1 -> 474.1	25853	1.25 µg/L	0.000
M7-PFUnDA	8.614	570.0 -> 525.1	28374	1.25 µg/L	0.000
M2-PFDoDA	9.043	615.1 -> 570.0	30639	1.25 µg/L	0.012
M2-PFTeDA	9.747	715.2 -> 670.0	11065	1.25 µg/L	0.000
M8-FOSA	9.657	506.1 -> 77.8	23528	2.50 µg/L	0.000
M3-PFBS	5.510	302.1 -> 79.9	20977	2.50 µg/L	0.012
M3-PFHxS	7.263	402.1 -> 79.9	12082	2.50 µg/L	0.000
M8-PFOS	8.311	507.1 -> 79.9	11827	2.50 µg/L	0.000
M2-4:2FTS	5.267	329.1 -> 80.9	2324	5.00 µg/L	0.012
M2-6:2FTS	6.936	429.1 -> 80.9	3016	5.00 µg/L	0.000
M2-8:2FTS	7.962	529.1 -> 80.9	3415	5.00 µg/L	0.012
M3-MeFOSAA	8.219	573.2 -> 419.0	22597	5.00 µg/L	0.012
M3-HFPO-DA	5.957	286.9 -> 168.9	32041	10.00 µg/L	0.000
M5-EtFOSAA	8.415	589.2 -> 419.0	17971	5.00 µg/L	0.000
M7-MeFOSE	10.666	623.2 -> 58.9	75626	25.00 µg/L	0.000
M9-EtFOSE	10.911	639.2 -> 58.9	91793	25.00 µg/L	0.000
M5-EtFOSA	10.976	531.1 -> 219.0	7081	2.50 µg/L	0.000
M3-MeFOSA	10.744	515.0 -> 219.0	6783	2.50 µg/L	-0.012
13C4-PFOS	8.312	502.8 -> 79.9	10766	2.50 µg/L	0.000
13C3-PFBA	2.976	216.0 -> 172.0	59560	5.00 µg/L	0.025
18O2-PFHxS	7.263	403.0 -> 83.9	7295	2.50 µg/L	0.000
13C4-PFOA	7.162	417.1 -> 372.0	68670	2.50 µg/L	0.000
13C2-PFDA	8.161	515.1 -> 470.1	25607	1.25 µg/L	0.000
13C5-PFNA	7.692	468.0 -> 423.0	24415	1.25 µg/L	0.012
13C2-PFHxA	5.593	315.1 -> 270.0	46242	2.50 µg/L	0.012
System Monitoring Compounds					
13C2-4:2FTS	5.267	329.1 -> 80.9	2324	5.66 µg/L	0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 113.1%		
13C2-6:2FTS	6.936	429.1 -> 80.9	3016	4.93 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 98.7%		
13C2-8:2FTS	7.962	529.1 -> 80.9	3415	5.43 µg/L	0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 108.5%		
13C2-PFDoDA	9.043	615.1 -> 570.0	30639	1.20 µg/L	0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 96.0%		
13C2-PFTeDA	9.747	715.2 -> 670.0	11065	1.28 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 102.3%		
13C3-PFBS	5.510	302.1 -> 79.9	20977	2.54 µg/L	0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 101.5%		
13C3-PFHxS	7.263	402.1 -> 79.9	12082	2.61 µg/L	0.000

7.6.2
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Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 104.3%	
13C4-PFBA	2.972	216.8 -> 171.9	145218	10.10 µg/L	0.025
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 101.0%	
13C4-PFHpA	6.531	367.1 -> 322.0	42388	2.27 µg/L	0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 90.6%	
13C5-PFHxA	5.592	318.0 -> 273.0	45283	2.37 µg/L	0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 94.7%	
13C5-PFPeA	4.384	268.3 -> 223.0	45891	4.39 µg/L	0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 87.7%	
13C6-PFDA	8.161	519.1 -> 474.1	25853	1.20 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 95.9%	
13C7-PFUnDA	8.614	570.0 -> 525.1	28374	1.22 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 97.4%	
13C8-FOSA	9.657	506.1 -> 77.8	23528	2.65 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 105.9%	
13C8-PFOA	7.161	421.1 -> 376.0	58085	2.44 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 97.6%	
13C8-PFOS	8.311	507.1 -> 79.9	11827	2.54 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 101.7%	
13C9-PFNA	7.680	472.1 -> 427.0	24682	1.23 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 98.3%	
d3-MeFOSAA	8.219	573.2 -> 419.0	22597	4.77 µg/L	0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 95.4%	
13C3-HFPO-DA	5.957	286.9 -> 168.9	32041	9.93 µg/L	0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 99.3%	
d3-MeFOSA	10.744	515.0 -> 219.0	6783	2.63 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 105.3%	
d5-EtFOSAA	8.415	589.2 -> 419.0	17971	4.43 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 88.6%	
d7-MeFOSE	10.666	623.2 -> 58.9	75626	26.37 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 105.5%	
d9-EtFOSE	10.911	639.2 -> 58.9	91793	26.93 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 107.7%	
d5-EtFOSA	10.976	531.1 -> 219.0	7081	2.57 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 102.8%	
Target Compounds					QValue
4:2FTS	5.268	327.1 -> 307.0	191986	49.80 µg/L	99
		327.1 -> 80.9	76143		
6:2FTS	6.937	427.1 -> 407.0	143786	52.44 µg/L	98
		427.1 -> 80.9	54071		
8:2FTS	7.950	527.1 -> 507.0	100670	42.31 µg/L	100
		527.1 -> 80.8	35467		
EtFOSAA	8.428	584.2 -> 419.1	39033	13.37 µg/L	97
		584.2 -> 526.0	25314		
FOSA	9.660	498.1 -> 77.9	282046	31.30 µg/L	100
		498.1 -> 478.0	8157		
MeFOSAA	8.220	570.1 -> 419.0	57663	13.66 µg/L	99
		570.1 -> 483.0	12628		
PFBA	2.981	212.8 -> 168.9	287820	53.20 µg/L	100
PFBS	5.511	298.7 -> 79.9	74854	11.91 µg/L	99
		298.7 -> 98.8	27356		
PFDA	8.161	512.9 -> 469.0	265891	13.16 µg/L	98
		512.9 -> 219.0	43730		
PFDoDA	9.043	613.1 -> 569.0	325093	14.27 µg/L	98
		613.1 -> 319.0	39042		
PFDS	9.195	599.0 -> 79.9	37382	12.36 µg/L	92

7.6.2
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Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
PFHpA	6.532	599.0 -> 98.8	18336	14.45	µg/L	98
		363.1 -> 319.0	332289			
PFHpS	7.819	363.1 -> 169.0	46140	12.81	µg/L	97
		449.0 -> 79.9	62561			
PFHxA	5.594	449.0 -> 98.9	29513	13.25	µg/L	100
		313.0 -> 269.0	214503			
PFHxS	7.264	313.0 -> 118.9	10814	11.37	µg/L	91
		398.7 -> 79.9	57435			
PFNA	7.556	398.7 -> 98.9	26908	29.61	µg/L	99
		463.0 -> 419.0	450430			
PFNS	8.777	463.0 -> 219.0	112257	12.41	µg/L	94
		548.8 -> 79.9	53546			
PFOA	7.163	548.8 -> 98.9	26207	30.02	µg/L	100
		413.0 -> 369.0	748287			
PFOS	8.312	413.0 -> 169.0	138195	11.92	µg/L	84
		498.9 -> 79.9	60208			
PFPeA	4.386	498.9 -> 98.8	30510	27.07	µg/L	100
		263.0 -> 219.0	268016			
PFPeS	6.583	349.1 -> 79.9	80459	12.33	µg/L	98
		349.1 -> 98.9	36214			
PFTeDA	9.748	713.1 -> 669.0	183697	12.76	µg/L	99
		713.1 -> 168.9	14460			
PFTrDA	9.413	663.0 -> 619.0	257079	14.36	µg/L	100
		663.0 -> 168.9	20478			
PFUnDA	8.614	563.1 -> 519.0	258375	12.92	µg/L	97
		563.1 -> 269.1	40860			
11Cl-PF3OUdS	9.454	630.9 -> 450.9	241547	25.41	µg/L	98
		632.9 -> 452.9	74428			
9Cl-PF3ONS	8.641	530.8 -> 351.0	414136	24.55	µg/L	97
		532.8 -> 353.0	130384			
ADONA	6.780	376.9 -> 250.9	1094419	24.87	µg/L	98
		376.9 -> 84.8	287989			
HFPO-DA	5.970	284.9 -> 168.9	86777	27.33	µg/L	96
		284.9 -> 184.9	9219			
3:3FTCA	3.846	241.0 -> 177.0	44618	57.25	µg/L	99
		241.0 -> 117.0	6123			
5:3FTCA	6.246	341.0 -> 237.1	1044097	344.05	µg/L	97
		341.0 -> 217.0	774714			
7:3FTCA	7.645	441.0 -> 316.9	638887	344.67	µg/L	95
		441.0 -> 336.9	1333615			
EtFOSA	10.978	526.0 -> 219.0	165937	47.74	µg/L	93
		526.0 -> 169.0	206234			
EtFOSE	10.912	630.0 -> 58.9	314463	85.14	µg/L	100
		511.9 -> 219.0	144164			
MeFOSA	10.746	511.9 -> 169.0	203685	45.85	µg/L	93
		616.1 -> 58.9	294115			
MeFOSE	10.679	699.1 -> 79.9	19783	88.00	µg/L	100
		699.1 -> 98.8	11290			
PFDoDS	9.873	295.0 -> 201.0	51307	12.59	µg/L	100
		295.0 -> 84.9	14081			
NFDHA	5.475	279.0 -> 85.1	216627	25.23	µg/L	100
		229.0 -> 84.9	172754			
PFMBA	4.813	314.8 -> 134.9	524120	28.72	µg/L	100
		314.8 -> 82.9	18706			
PFMPA	3.526			27.74	µg/L	100
PFEESA	6.050			25.17	µg/L	100

= Qualifier out of range, m = manually integrated, + = Area summed

7.6.2
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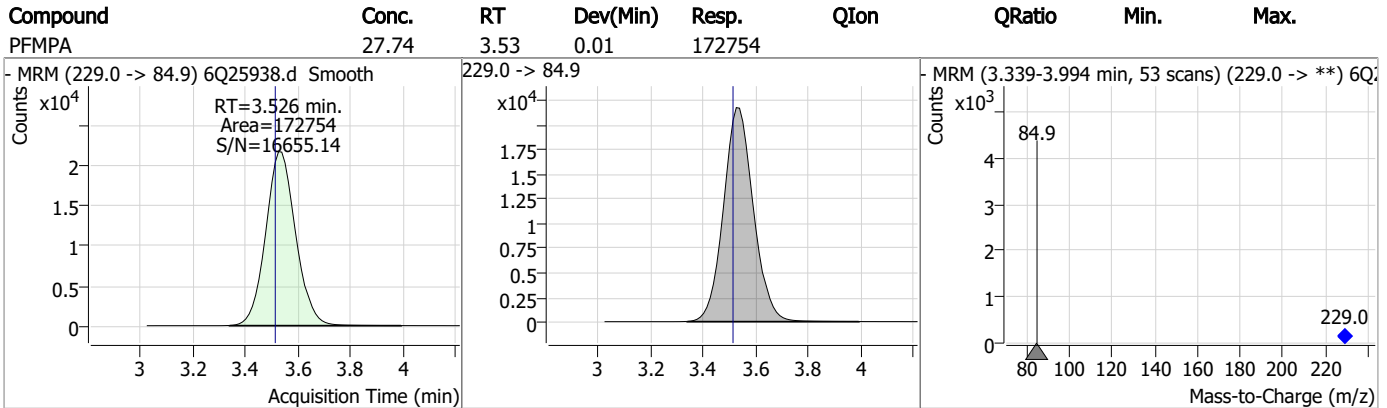
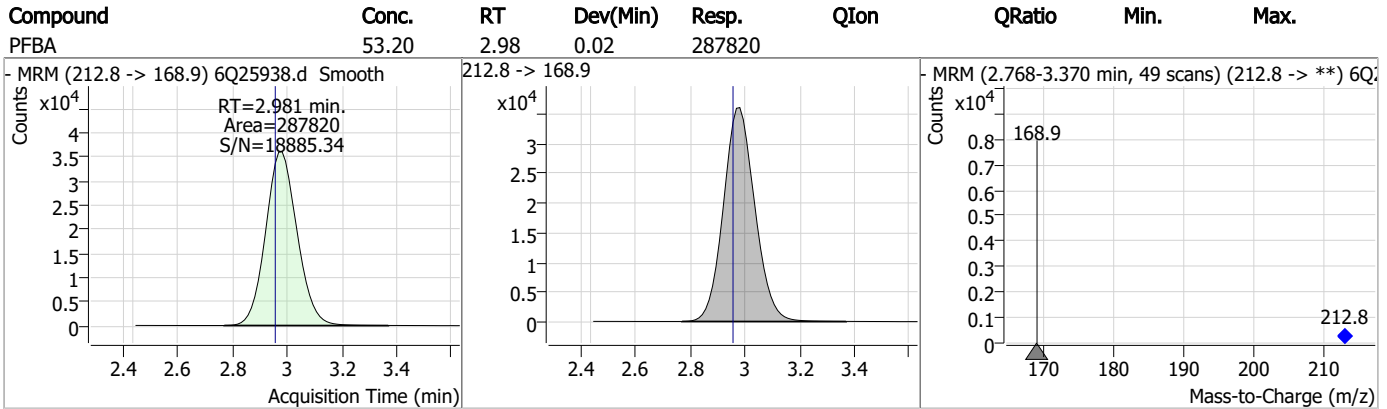
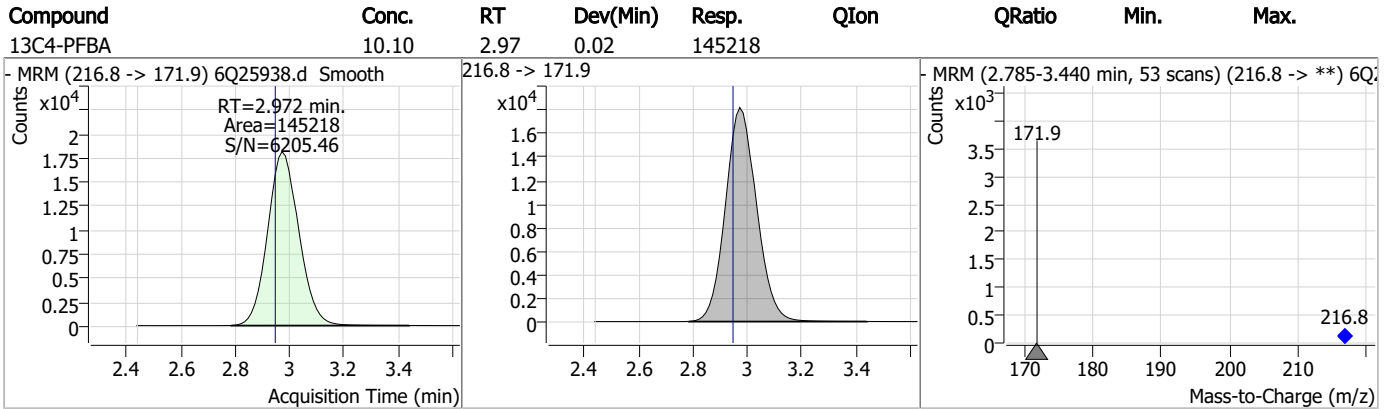
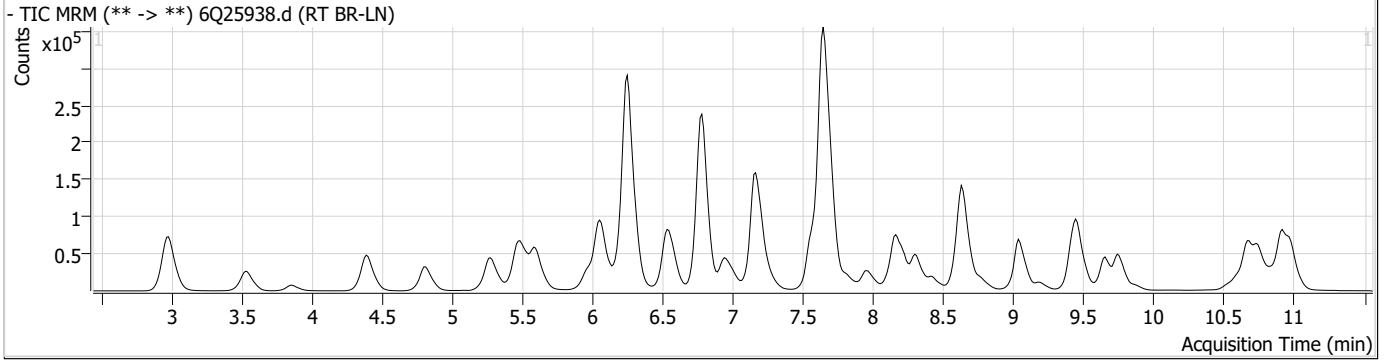
Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
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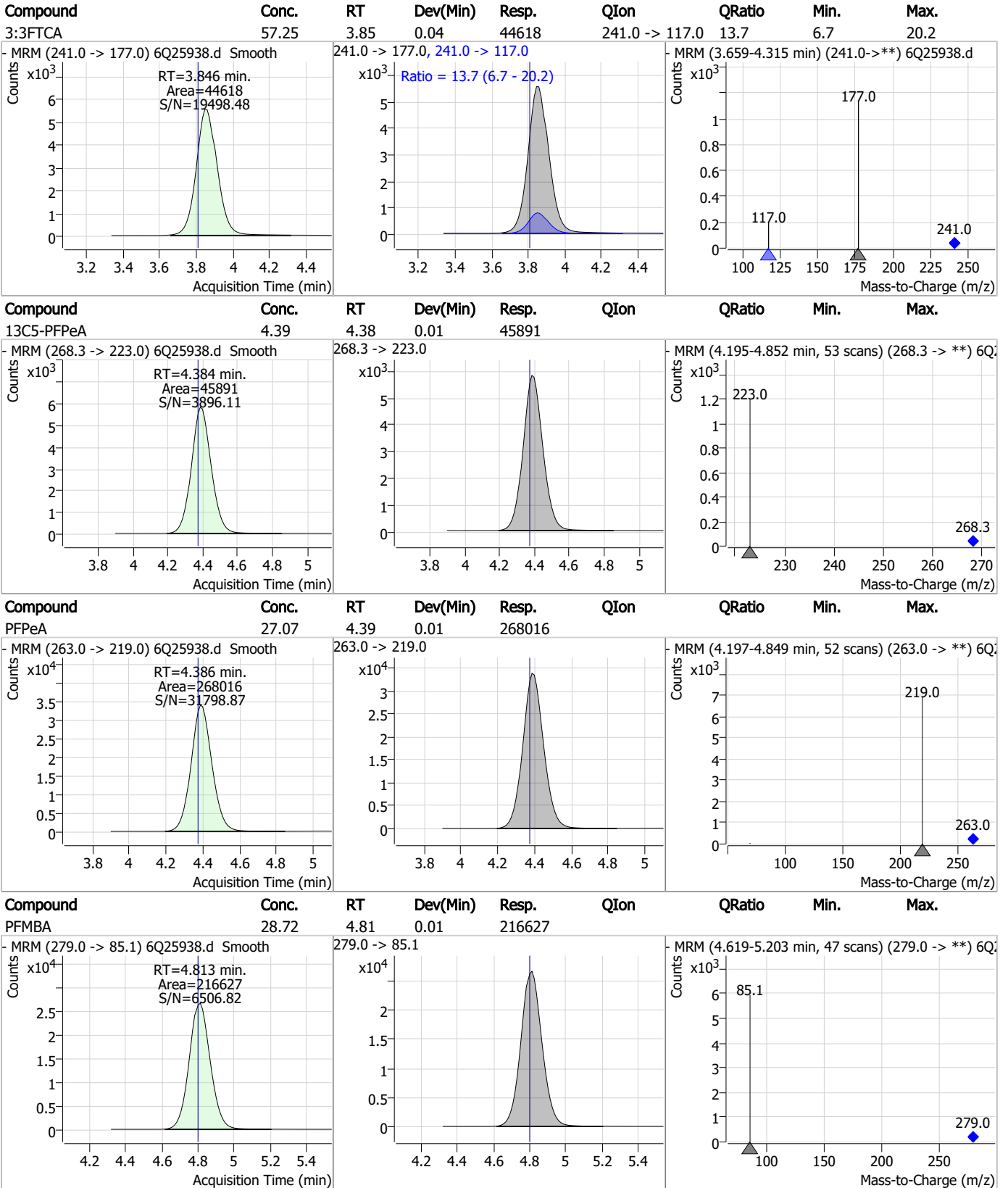
7.6.2

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Perfluorinated Compounds by LC/MS/MS



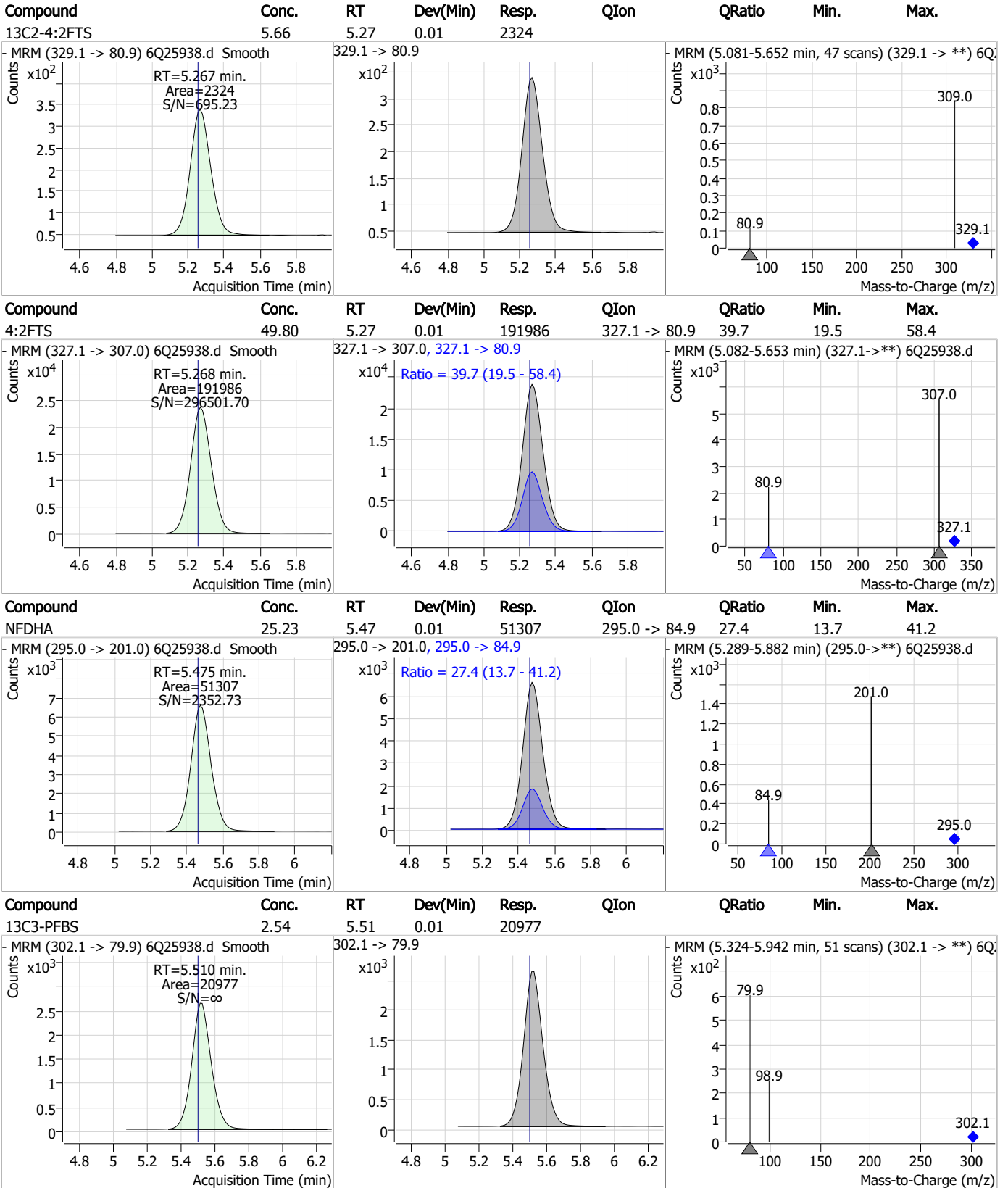
Perfluorinated Compounds by LC/MS/MS



7.6.2

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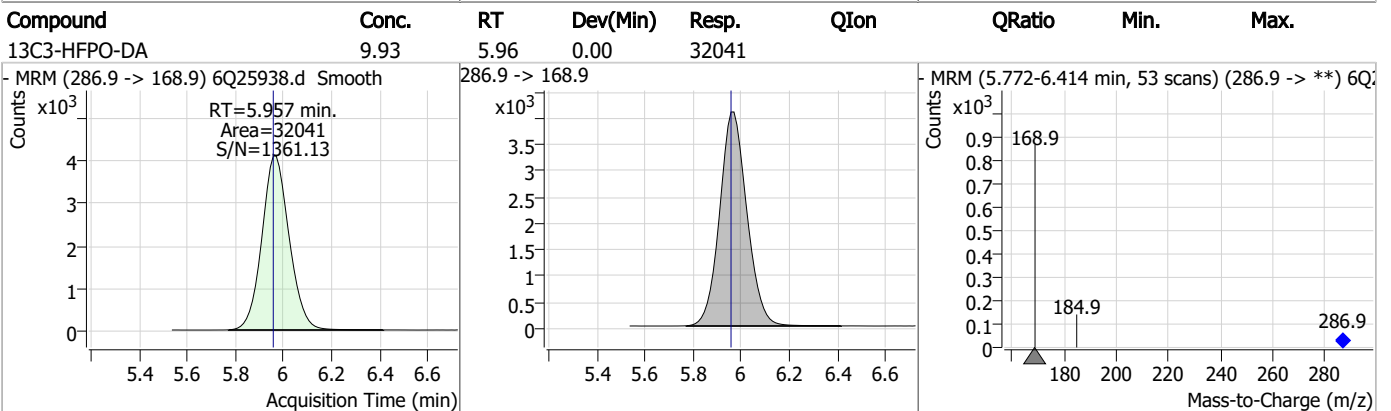
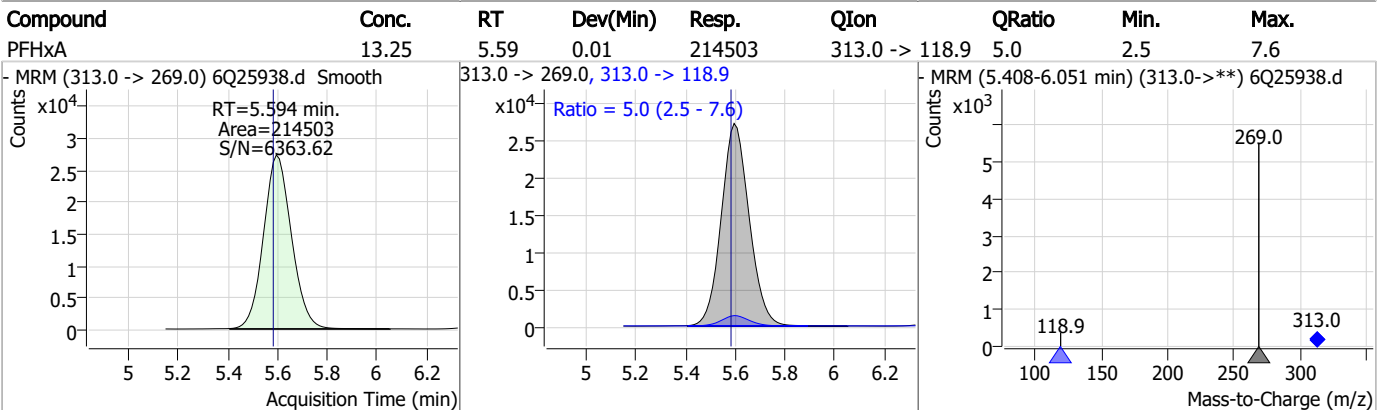
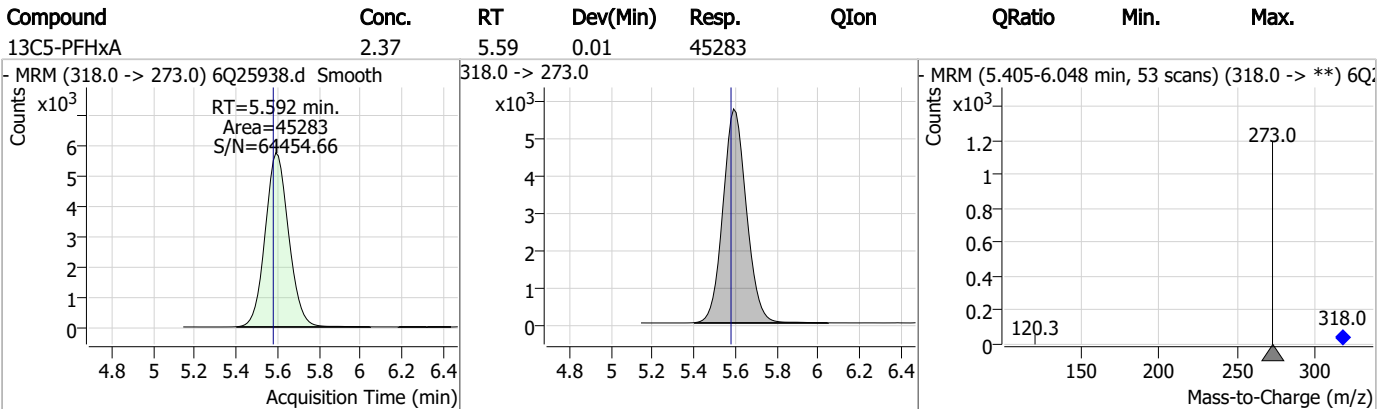
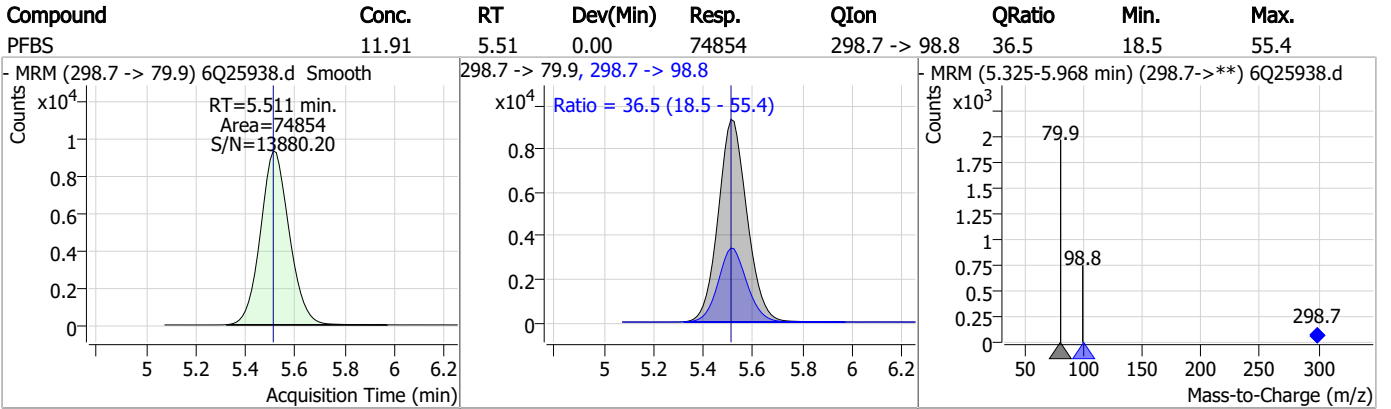
Perfluorinated Compounds by LC/MS/MS



7.6.2

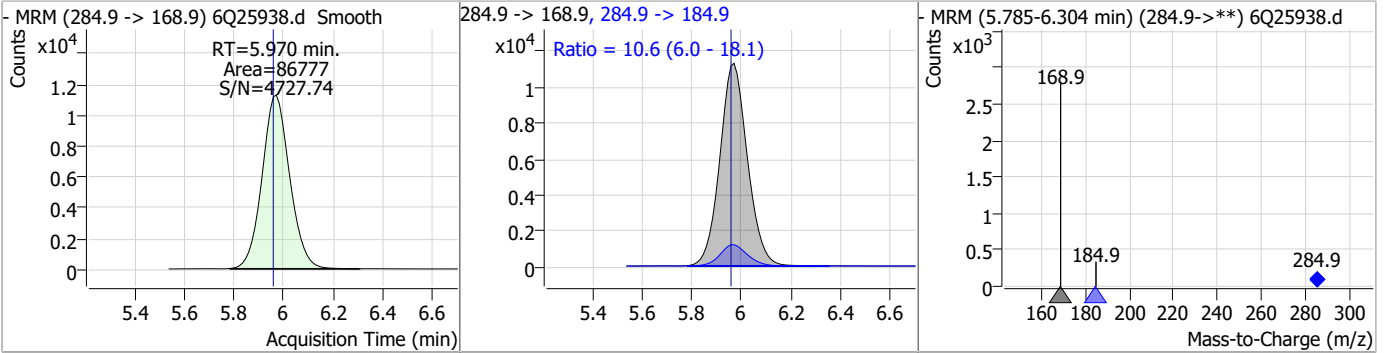
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Perfluorinated Compounds by LC/MS/MS

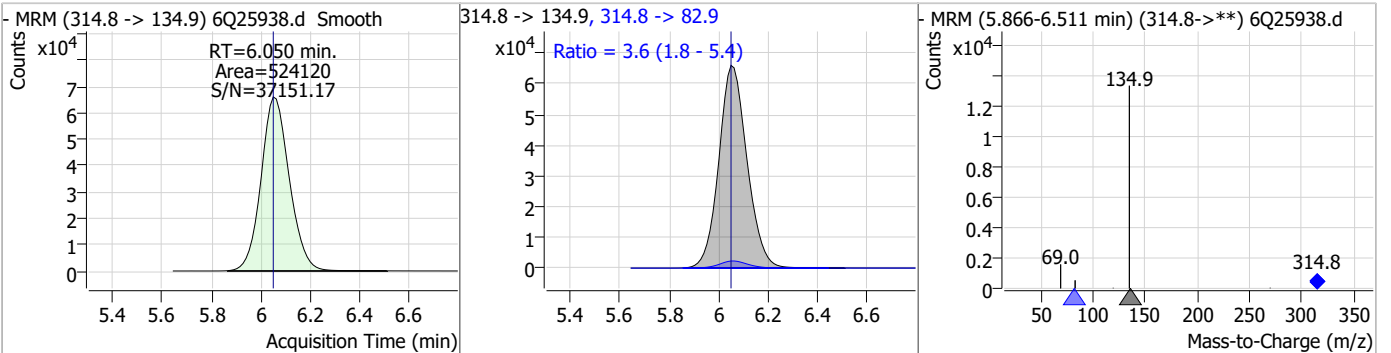


Perfluorinated Compounds by LC/MS/MS

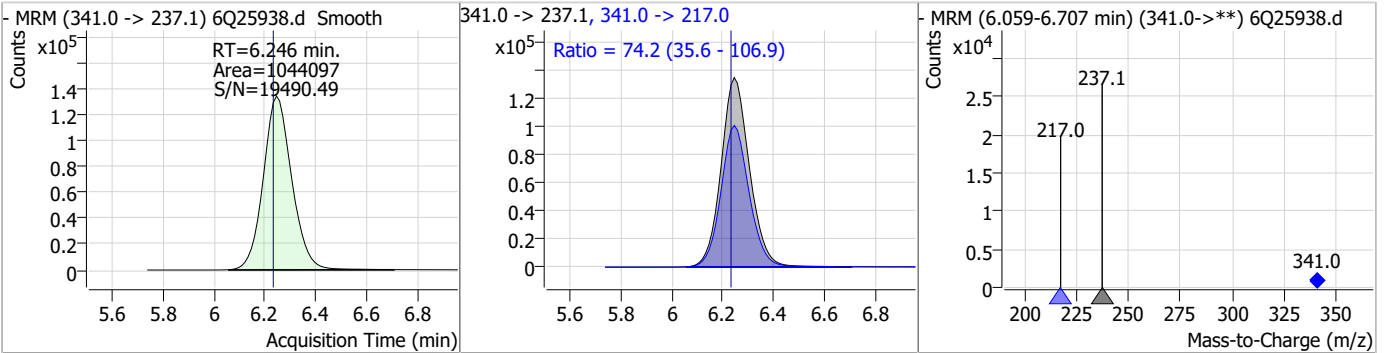
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
HFPO-DA	27.33	5.97	0.01	86777	284.9 -> 184.9	10.6	6.0	18.1



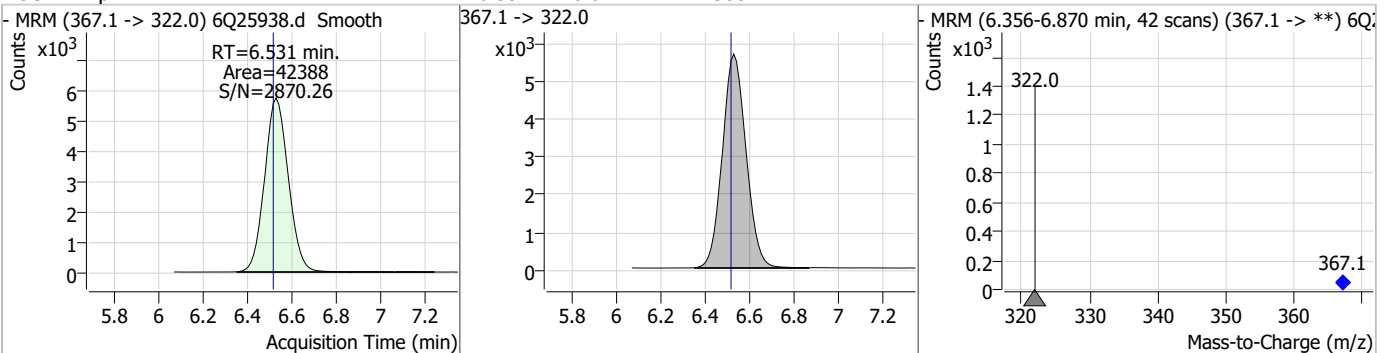
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFEESA	25.17	6.05	0.00	524120	314.8 -> 82.9	3.6	1.8	5.4



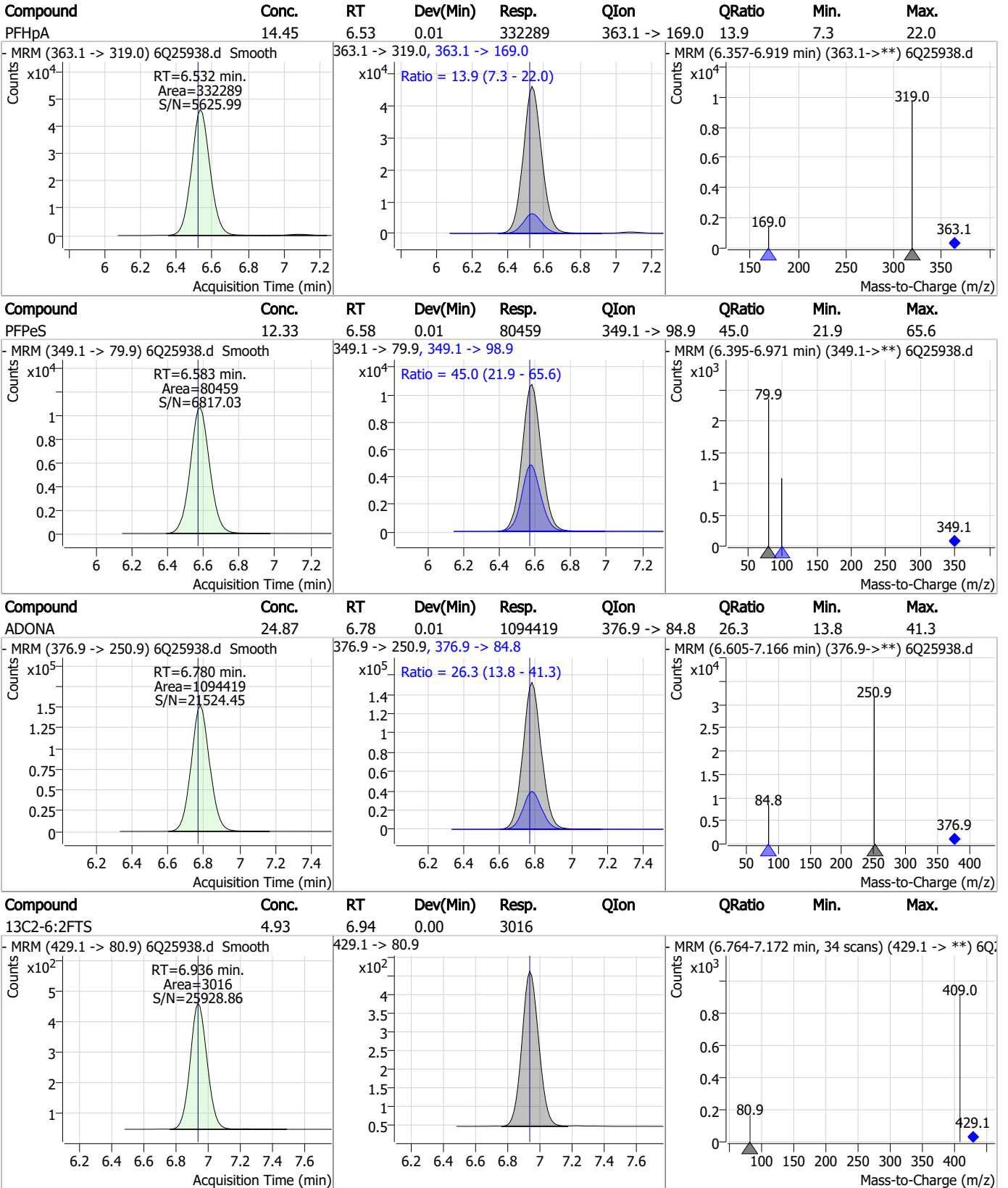
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
5:3FTCA	344.05	6.25	0.01	1044097	341.0 -> 217.0	74.2	35.6	106.9



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFHpa	2.27	6.53	0.01	42388	367.1 -> 322.0	-	-	-



Perfluorinated Compounds by LC/MS/MS

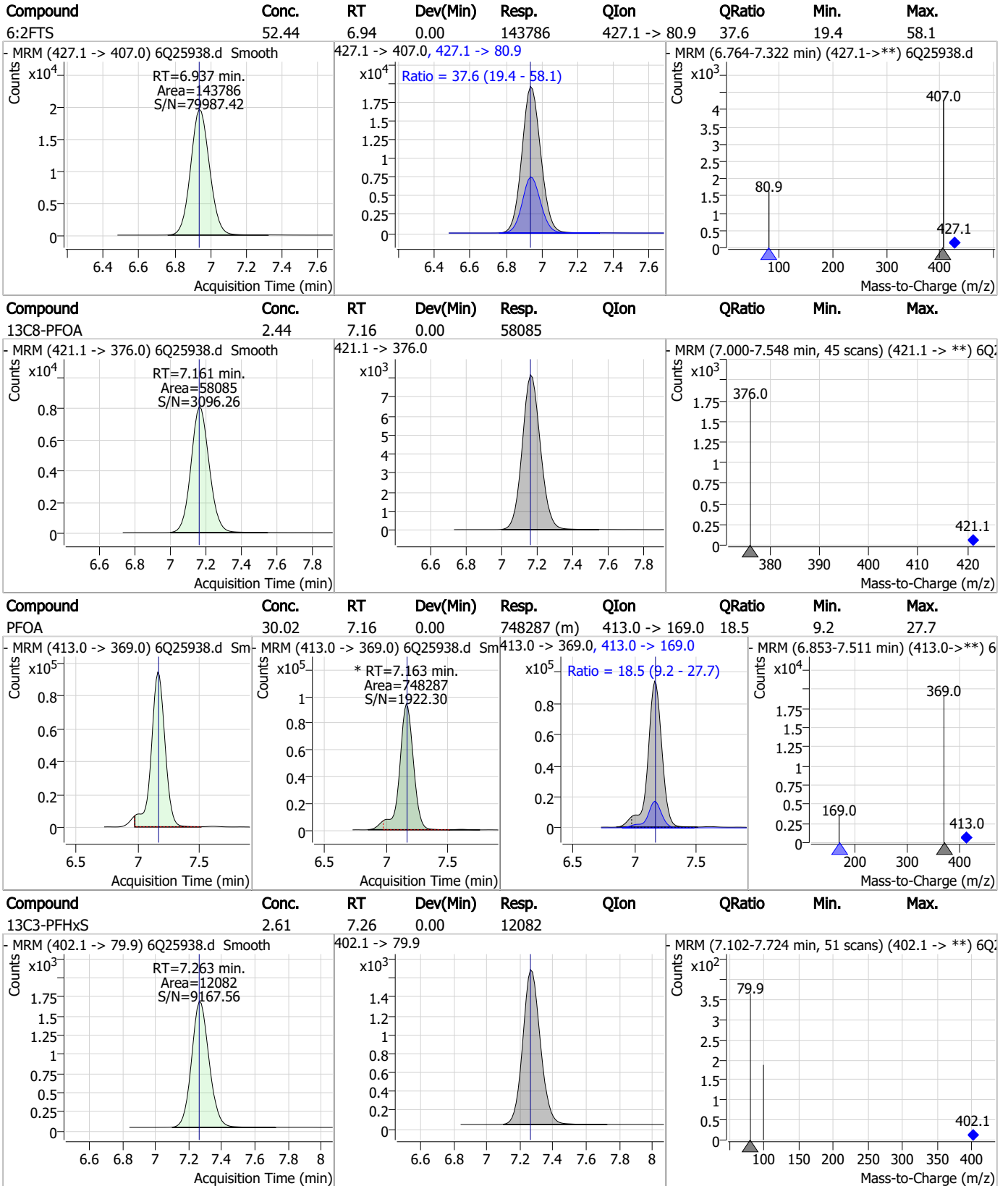


7.6.2

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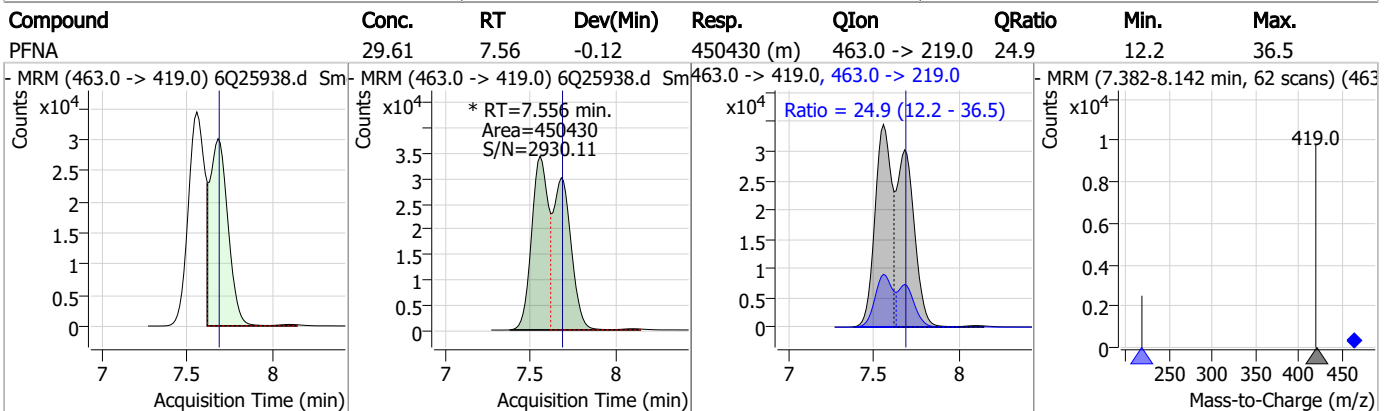
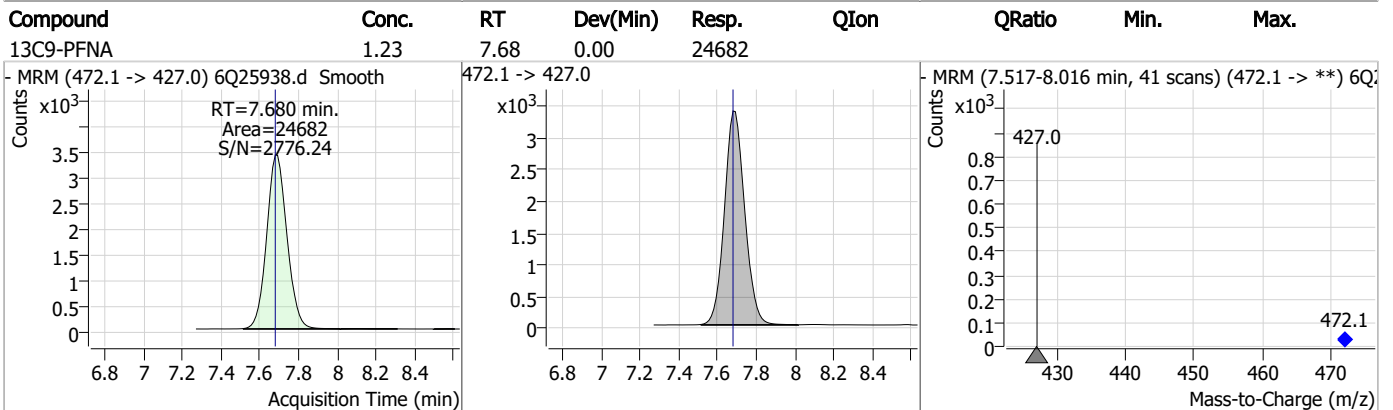
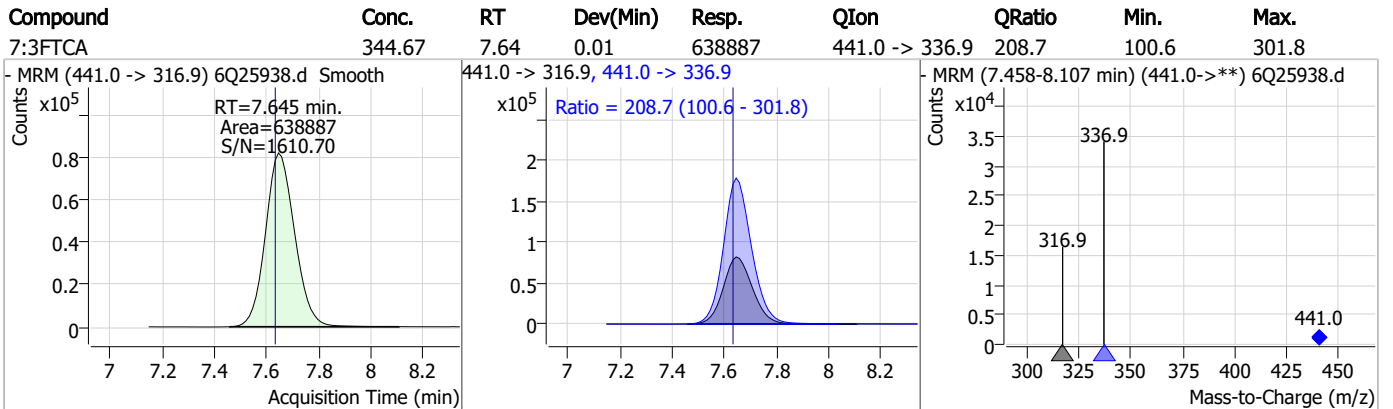
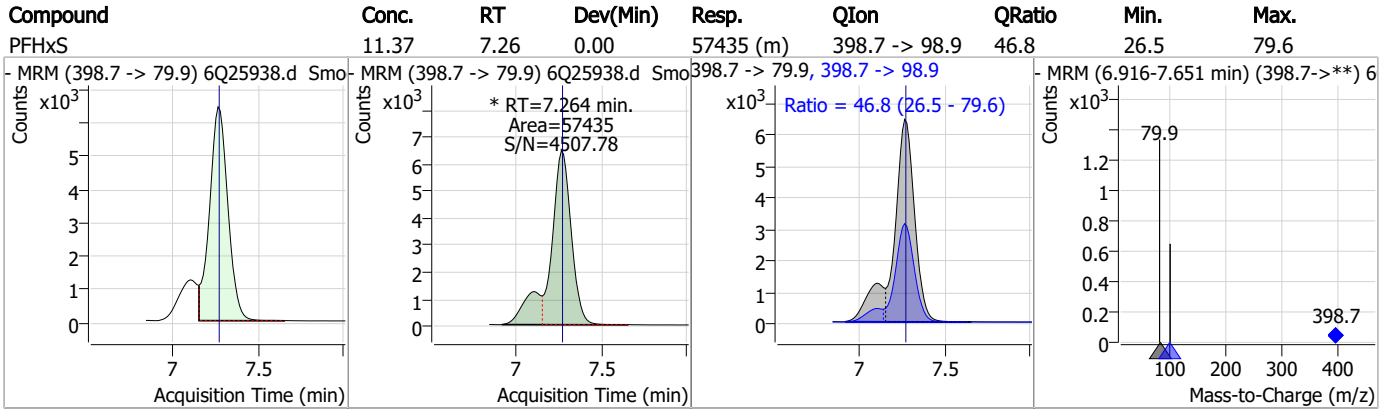
Perfluorinated Compounds by LC/MS/MS



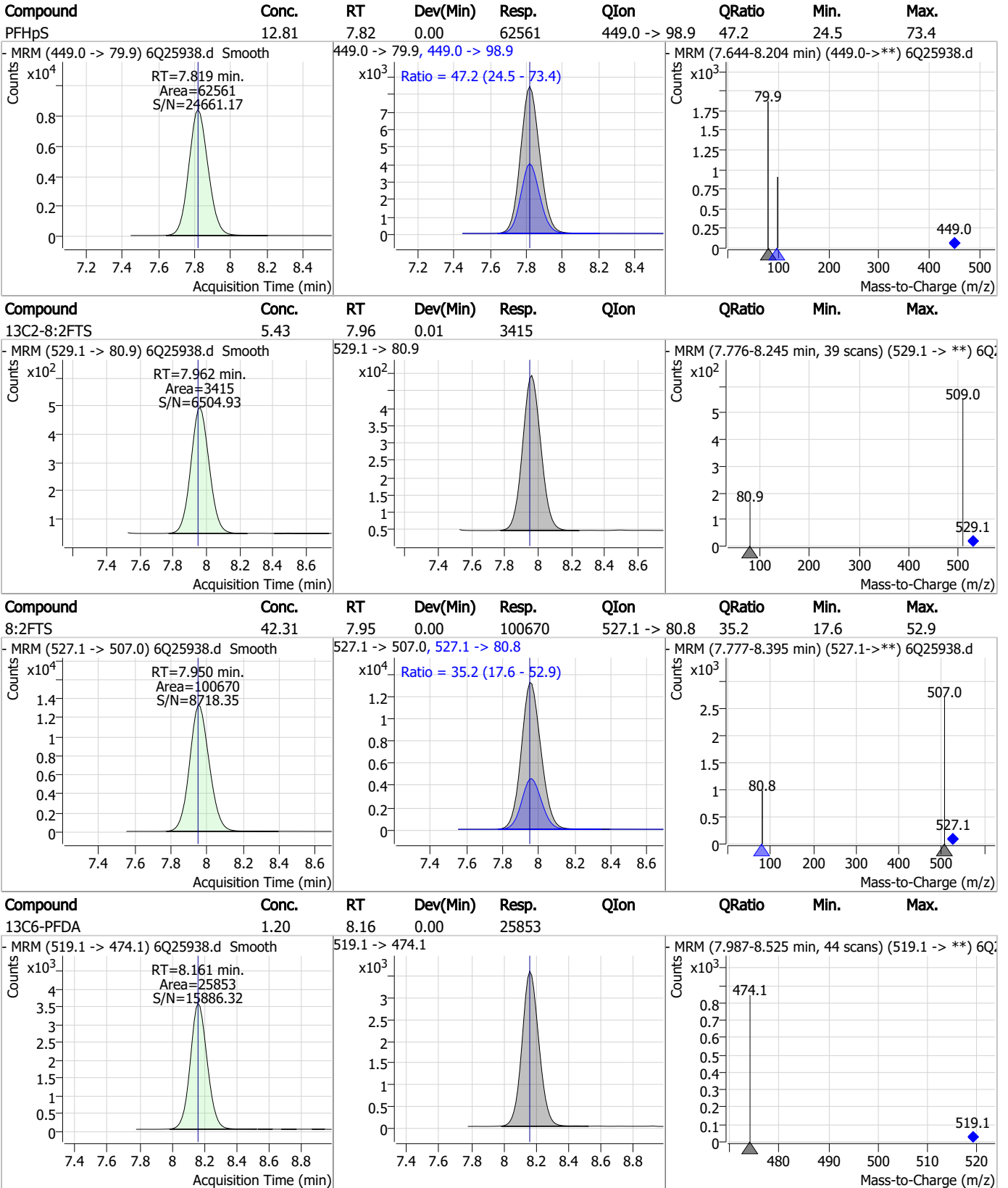
7.6.2

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Perfluorinated Compounds by LC/MS/MS



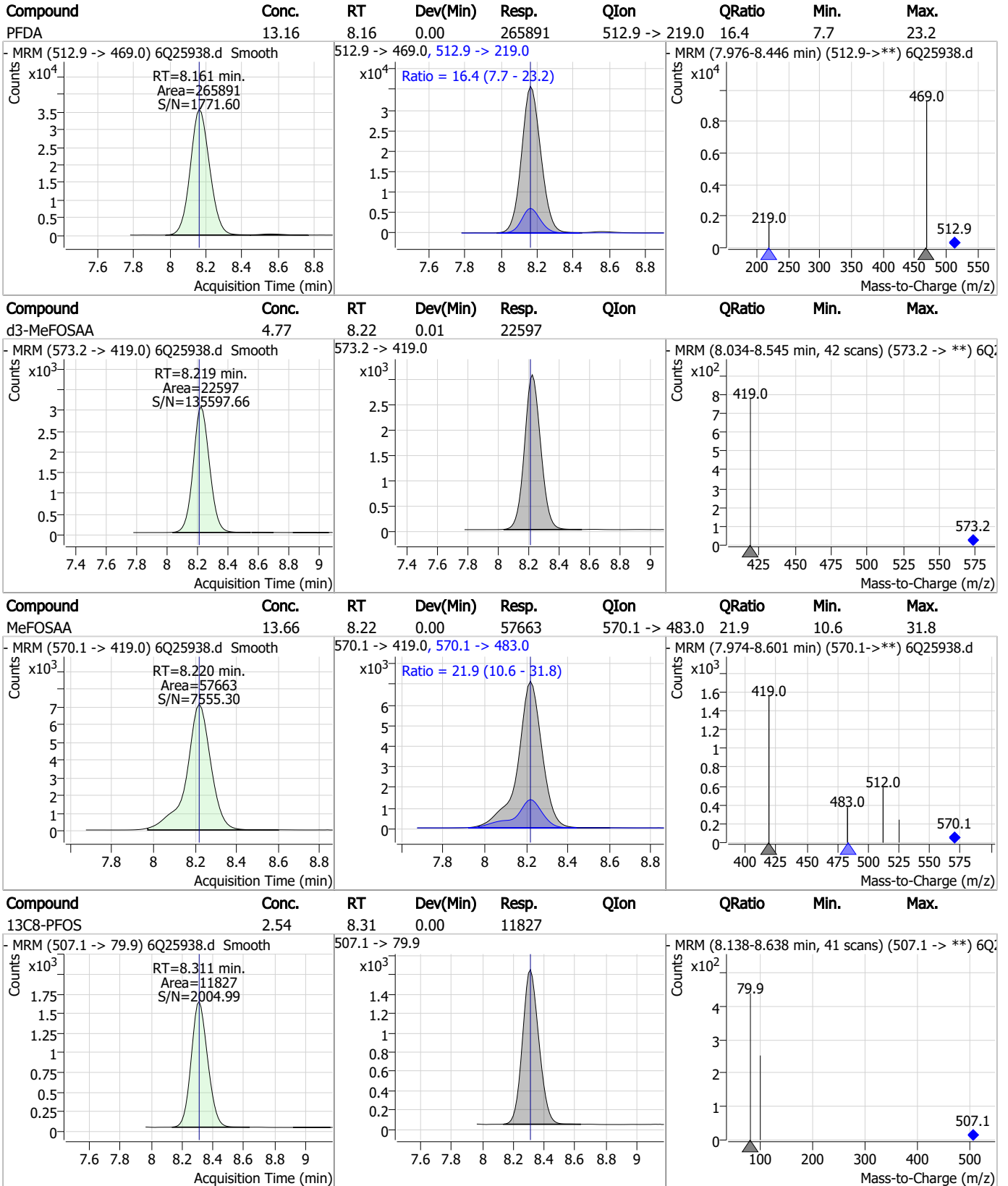
Perfluorinated Compounds by LC/MS/MS



7.6.2

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Perfluorinated Compounds by LC/MS/MS

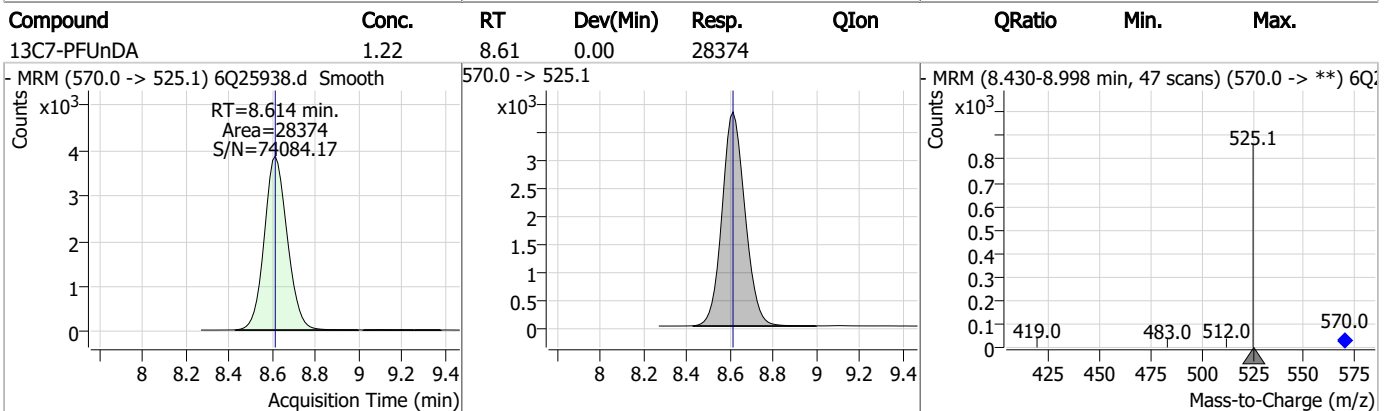
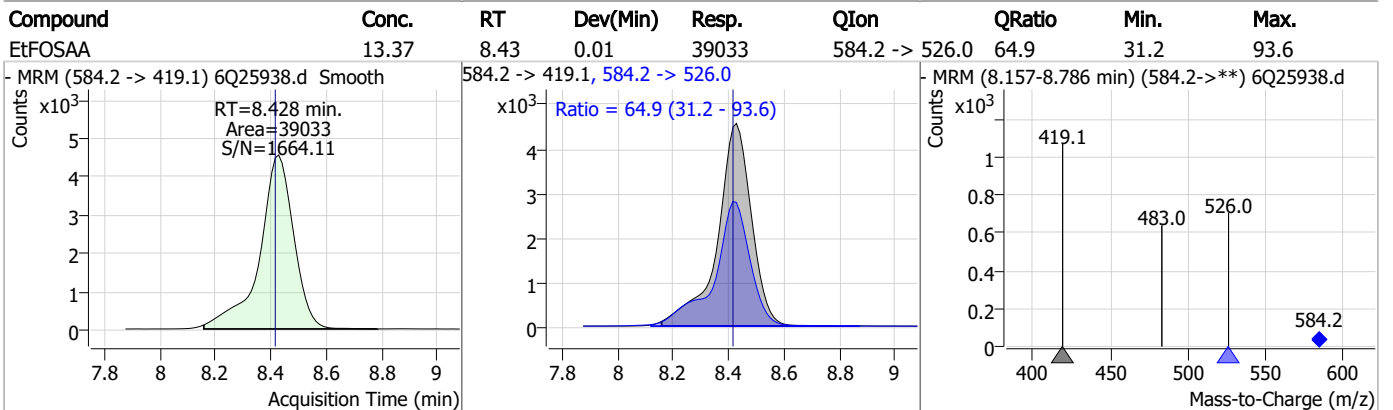
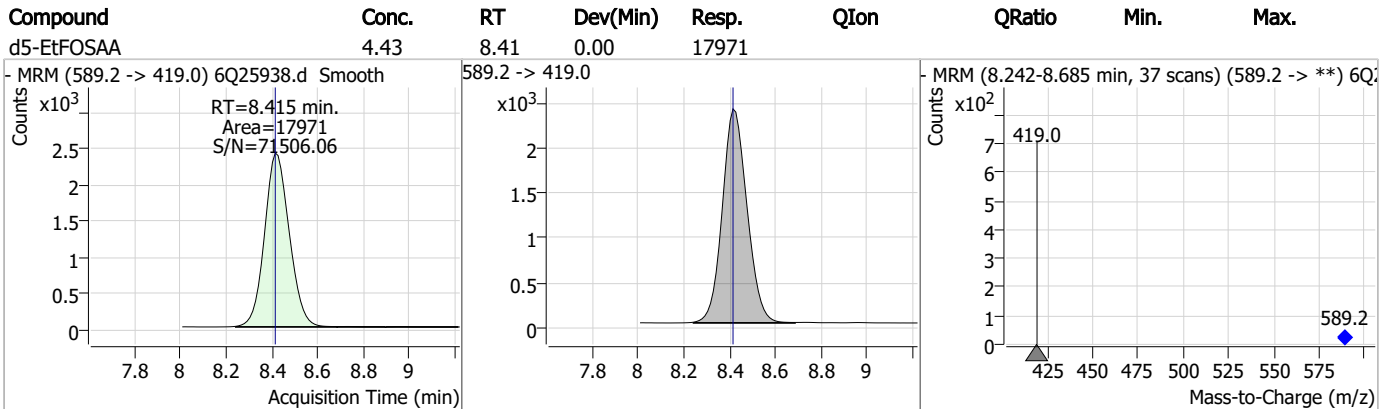
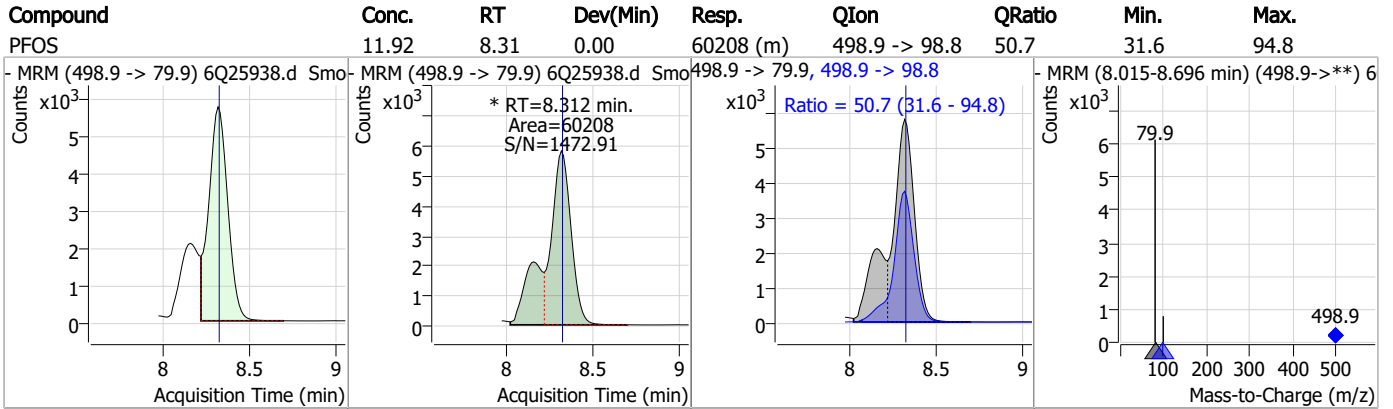


7.6.2

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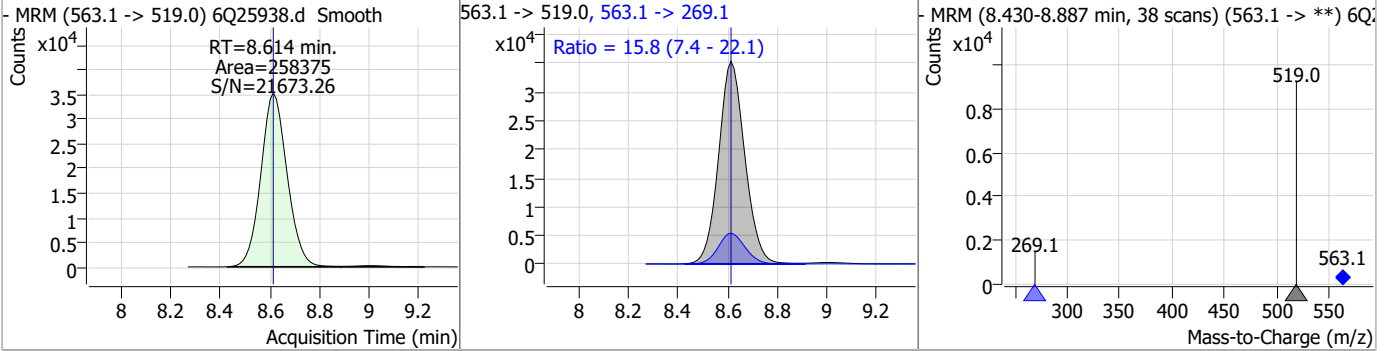


Perfluorinated Compounds by LC/MS/MS

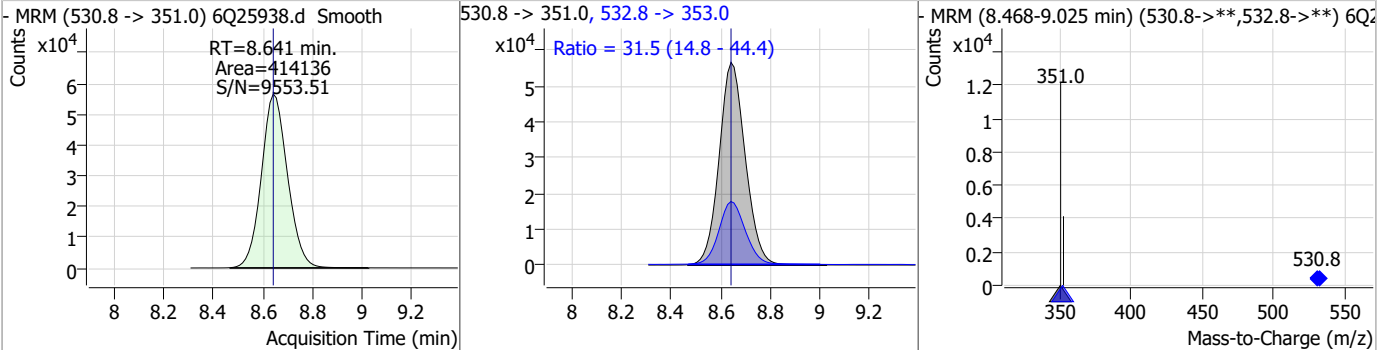


Perfluorinated Compounds by LC/MS/MS

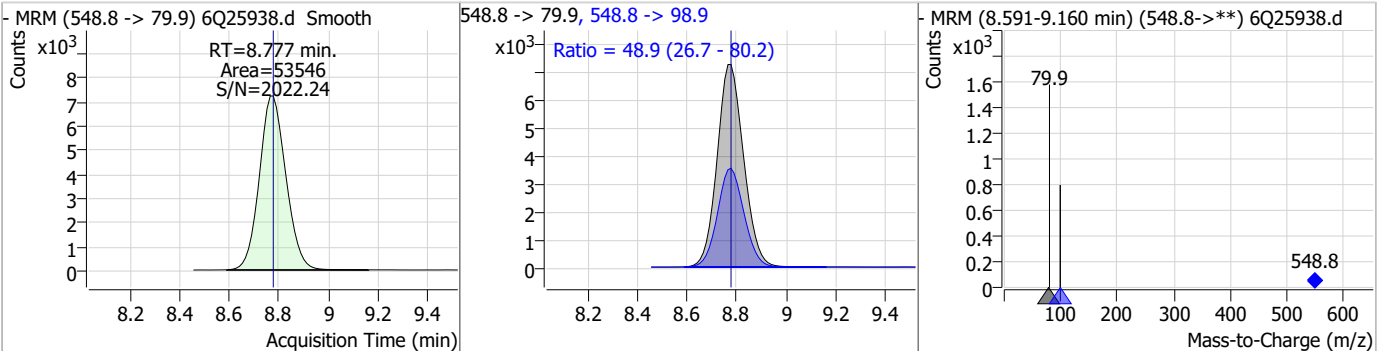
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFUnDA	12.92	8.61	0.00	258375	563.1 -> 269.1	15.8	7.4	22.1



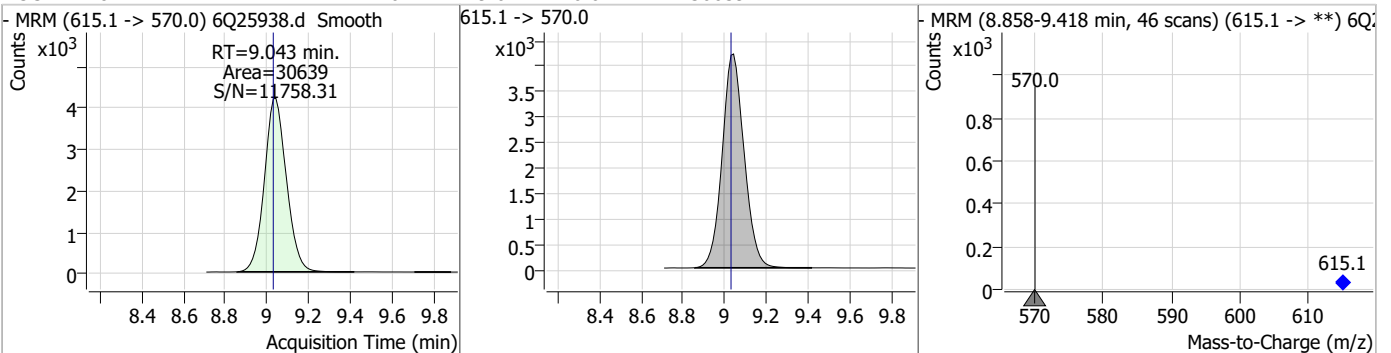
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
9CI-PF3ONS	24.55	8.64	0.00	414136	532.8 -> 353.0	31.5	14.8	44.4



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNS	12.41	8.78	0.00	53546	548.8 -> 98.9	48.9	26.7	80.2

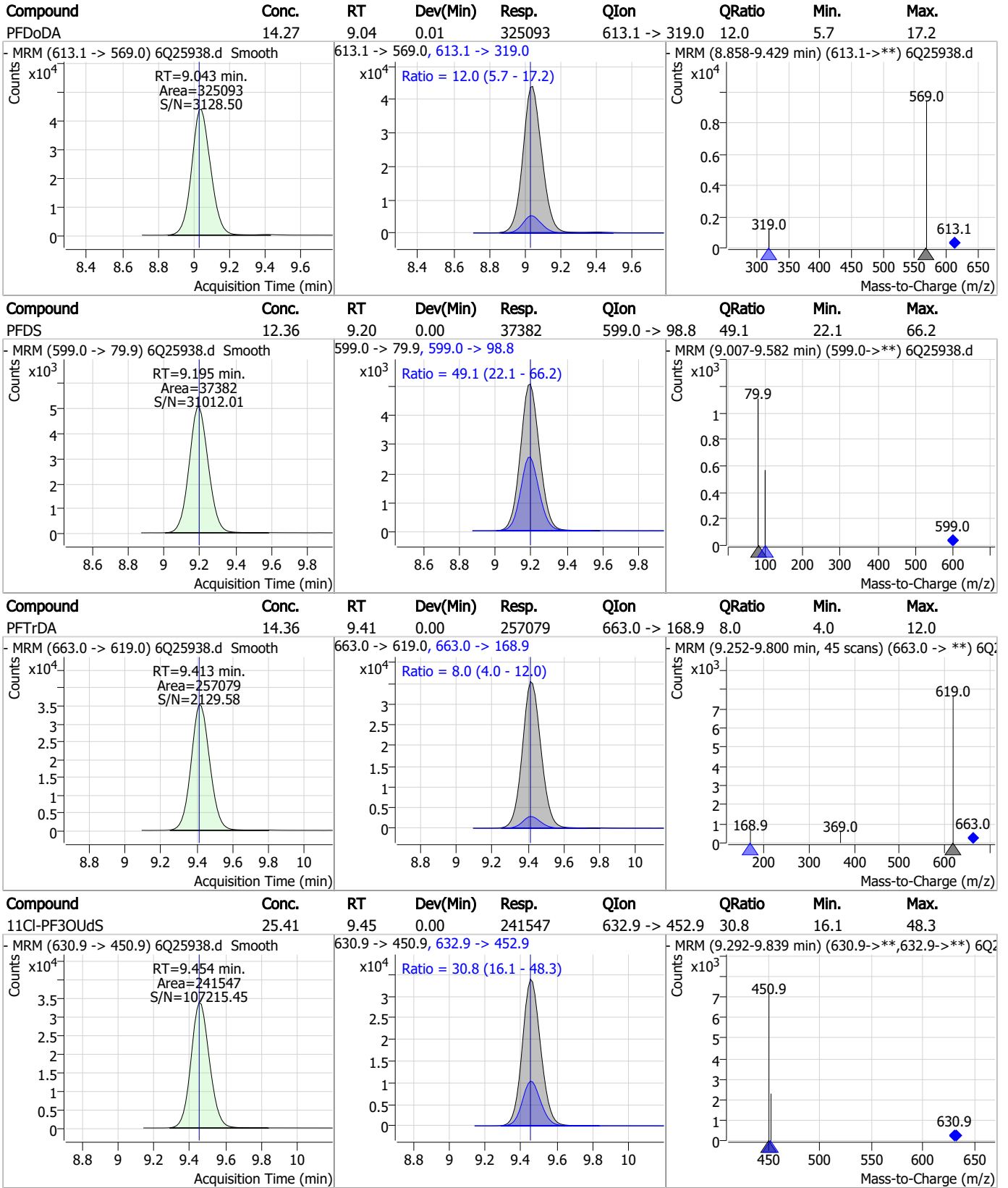


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFDoDA	1.20	9.04	0.01	30639	615.1 -> 570.0			



7.6.2
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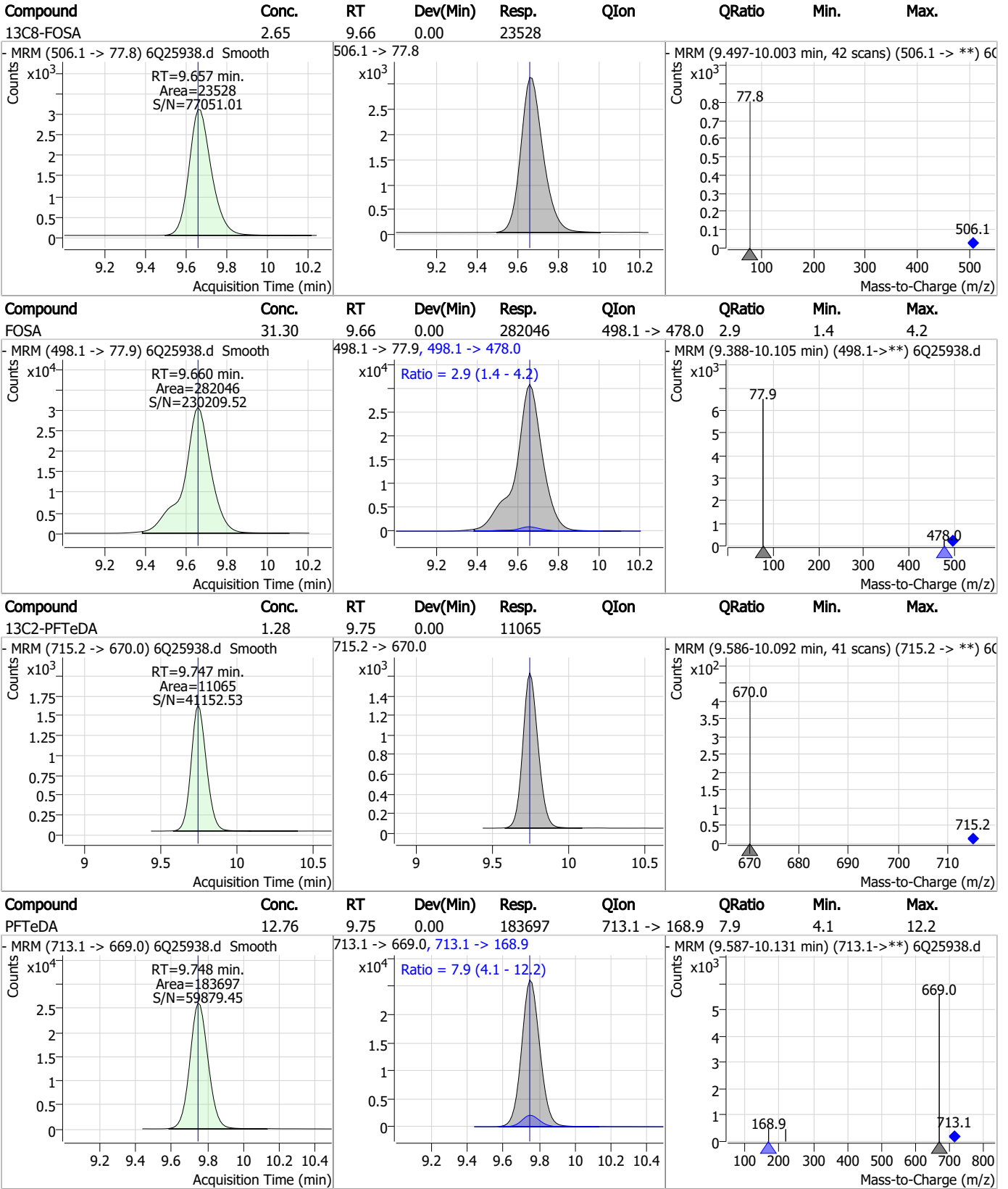
Perfluorinated Compounds by LC/MS/MS



7.6.2

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Perfluorinated Compounds by LC/MS/MS

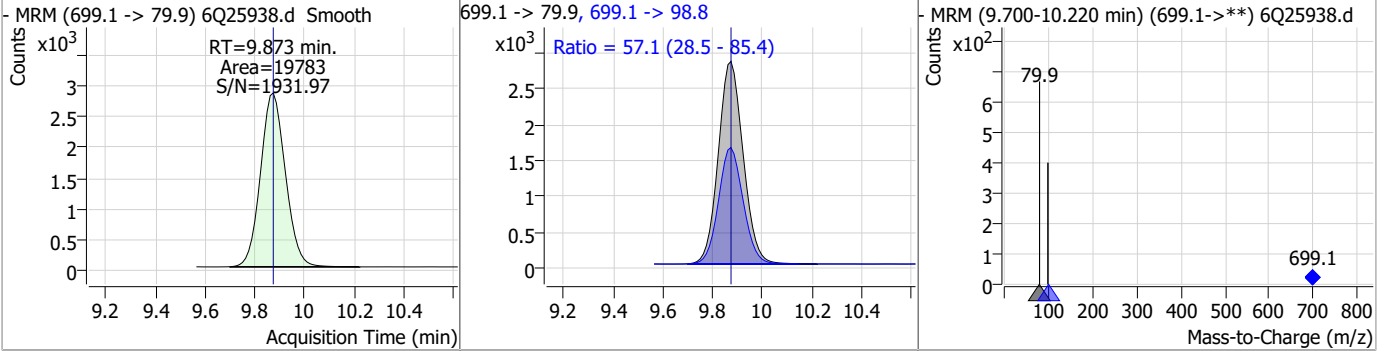


7.6.2

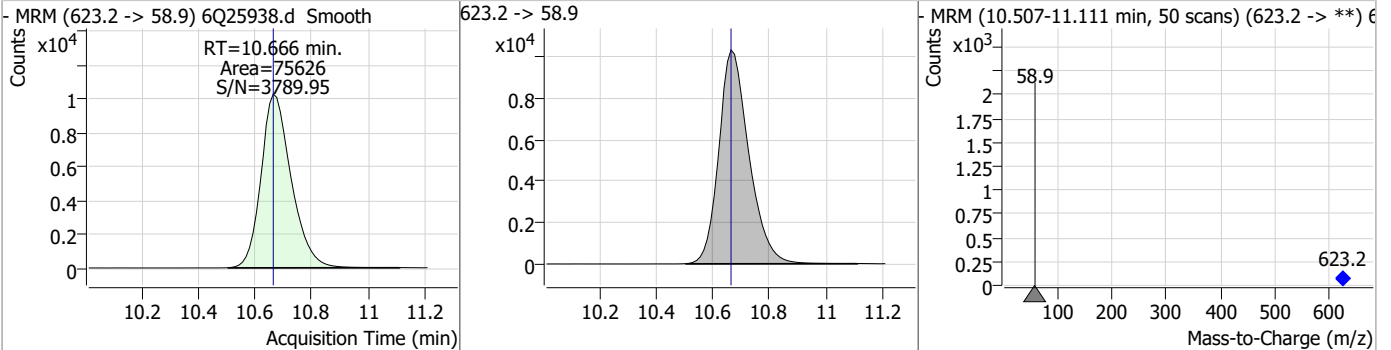
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Perfluorinated Compounds by LC/MS/MS

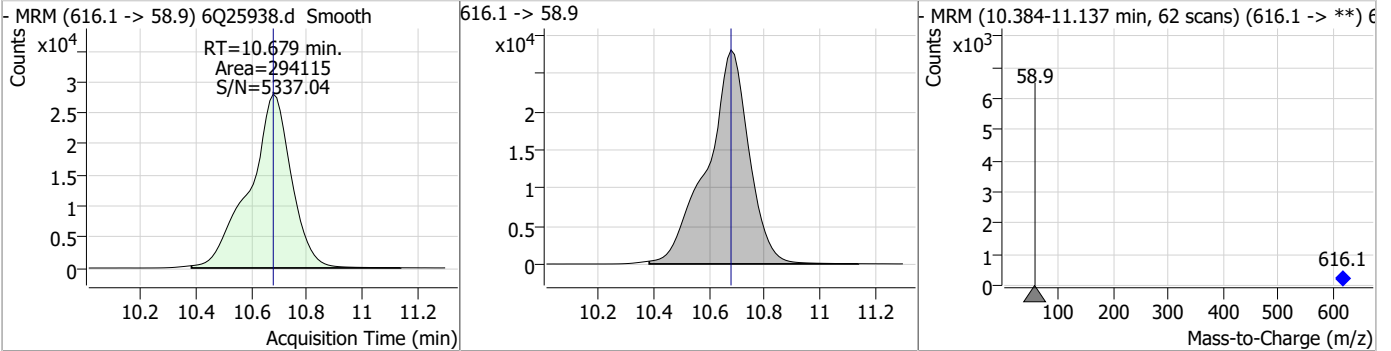
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFD _o DS	12.59	9.87	0.00	19783	699.1 -> 98.8	57.1	28.5	85.4



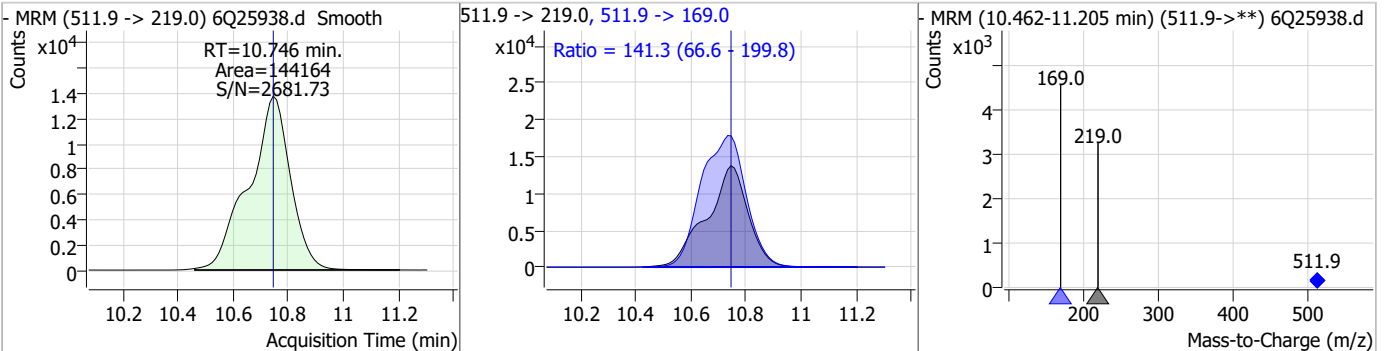
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d7-MeFOSE	26.37	10.67	0.00	75626				



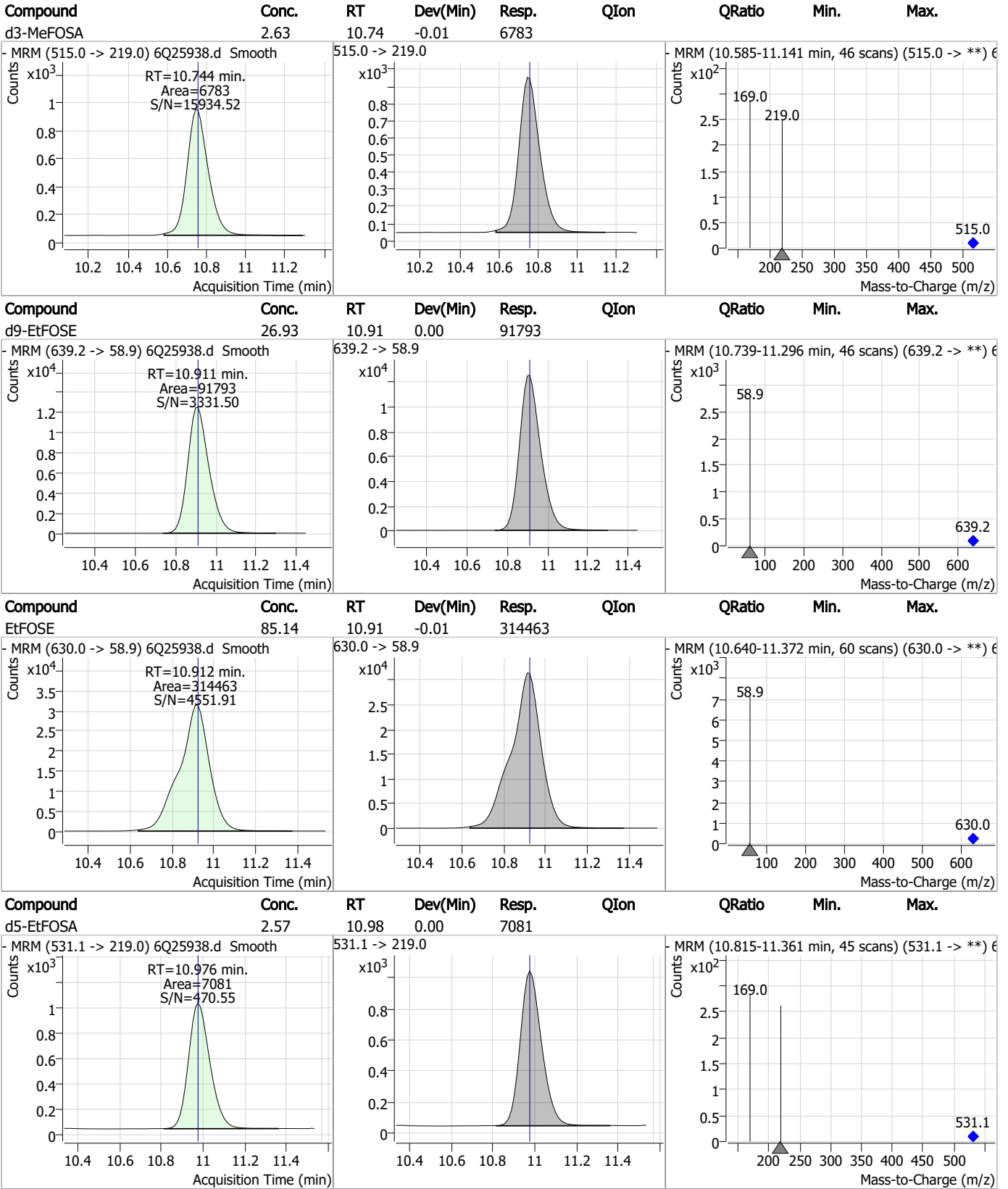
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSE	88.00	10.68	0.00	294115				



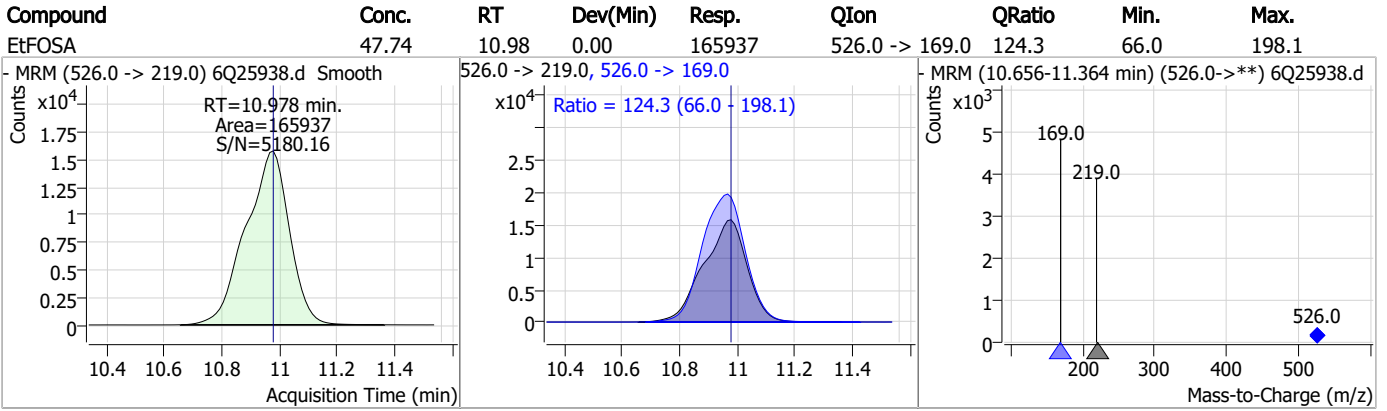
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSA	45.85	10.75	0.00	144164	511.9 -> 169.0	141.3	66.6	199.8



Perfluorinated Compounds by LC/MS/MS



Perfluorinated Compounds by LC/MS/MS



7.6.2

7

Manual Integration Approval Summary

Sample Number: S6Q367-RT Method: EPA DRAFT 1633
Lab FileID: 6Q25938.D Analyst approved: 10/09/23 16:24 Martha Valls
Injection Time: 10/08/23 14:34 Supervisor approved: 10/09/23 16:36 Natasha Gumtie

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorooctanoic acid	335-67-1		7.16	Split peak
Perfluorohexanesulfonic acid	355-46-4		7.26	Split peak
Perfluorononanoic acid	375-95-1		7.56	Split peak
Perfluorooctanesulfonic acid	1763-23-1		8.31	Split peak

7.6.2.1
7

Manual Integrations
APPROVED
 (compounds with "m" flag)

Natasha Gumtie
 10/16/23 17:48

Perfluorinated Compounds by LC/MS/MS

Data File : 6Q26255.d
 Operator : marthav
 Acq. Method : 1633full.m
 Acq. Date-Time : 10/12/2023 9:43:41 AM
 Sample Name : RT TDCA
 Vial : P1-B3
 DA Method File : TDCA.quantmethod.xml
 Batch Name : s6q370 TDCA.batch.bin
 Sample Information : OP99081,S6Q370,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc. Units	Dev(Min)	QValue
Internal Standards						
M8-PFOS	8.311	507.1 -> 79.9	18545	2.50 µg/L	-0.012	
13C4-PFOS	8.299	502.8 -> 79.9	18110	2.50 µg/L	-0.025	
System Monitoring Compounds						
13C8-PFOS	8.311	507.1 -> 79.9	18545	2.60 µg/L	-0.012	
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 103.9%			
Target Compounds						
PFOS	8.300	498.9 -> 79.9 498.9 -> 98.8	19112 9376	3.02 µg/L	#m	75
TCDCa	6.725	498.9 -> 79.9	3179	3.72 ng/ml		100
TDCA	6.873	498.9 -> 79.9	3755	4.85 ng/ml		100
TUDCA	5.898	498.9 -> 79.9	5209	3.17 ng/ml		100

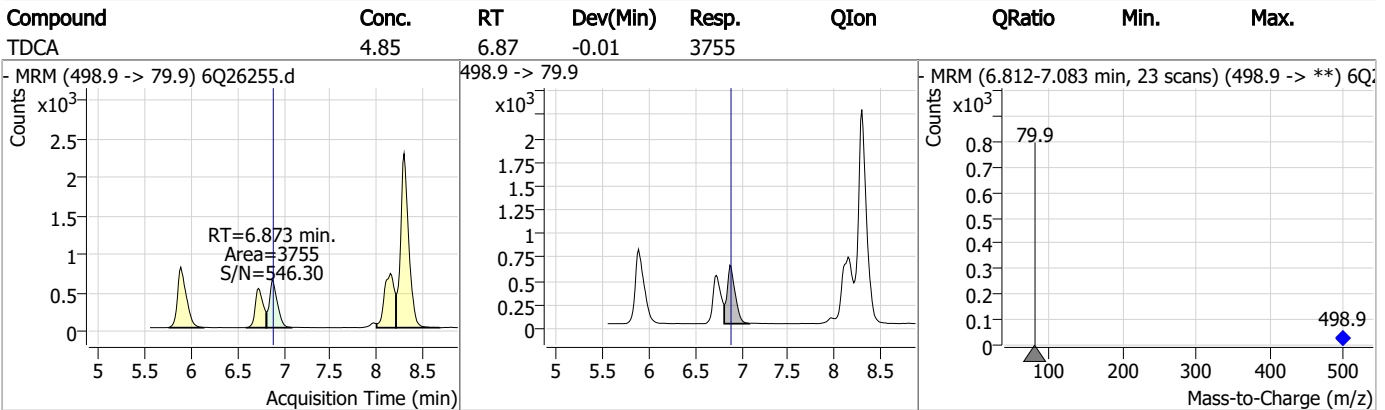
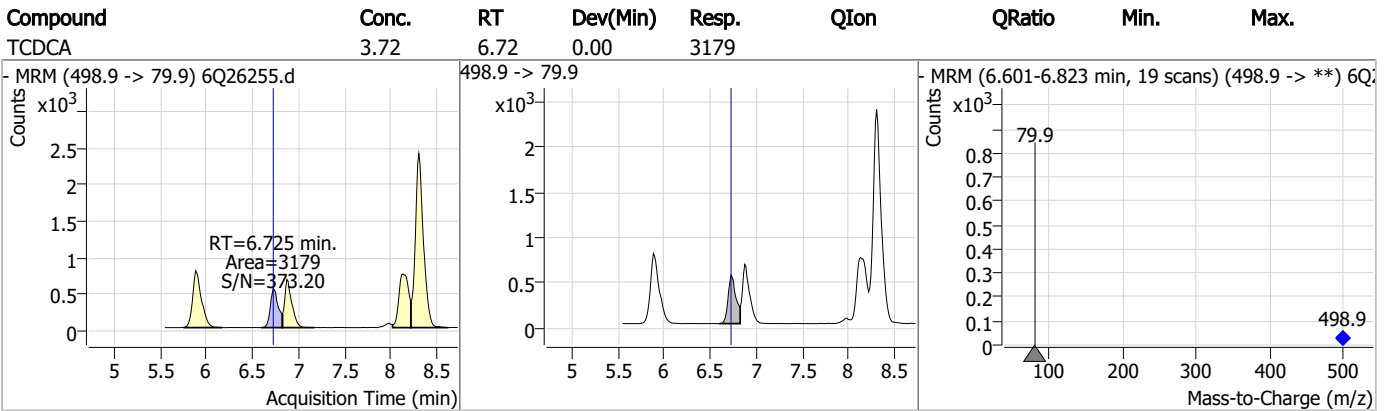
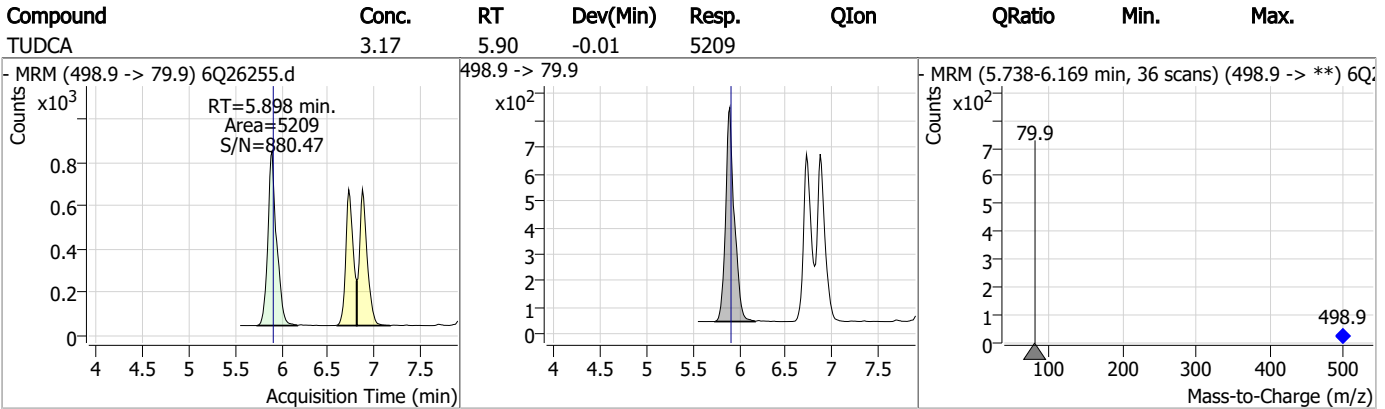
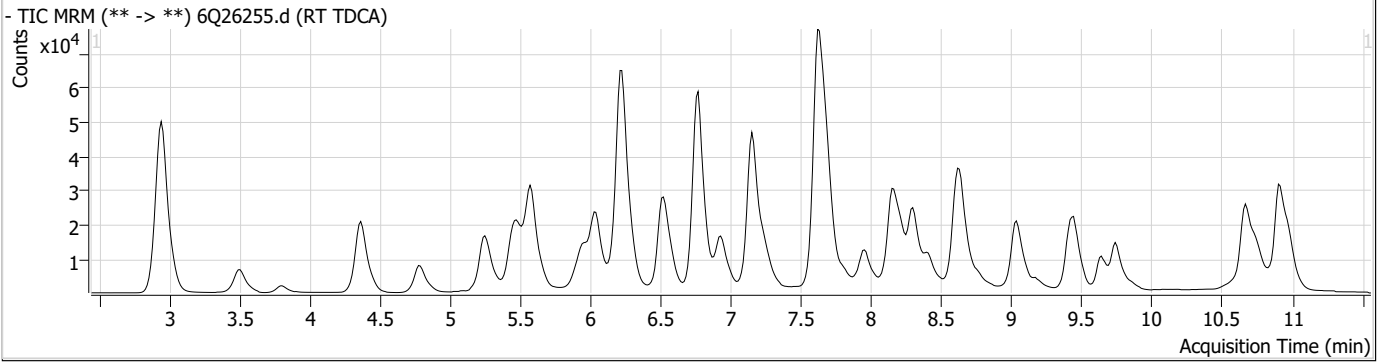
= Qualifier out of range, m = manually integrated, + = Area summed

7.6.3

7

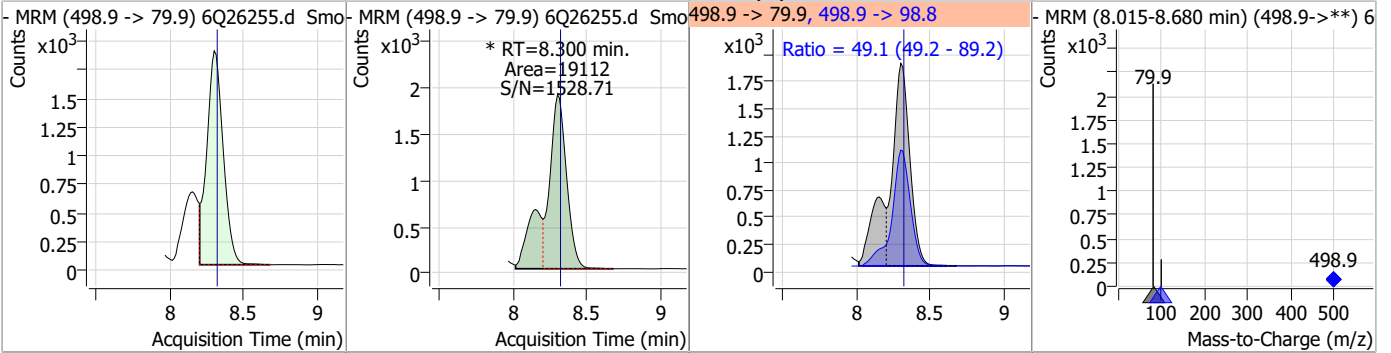


Perfluorinated Compounds by LC/MS/MS

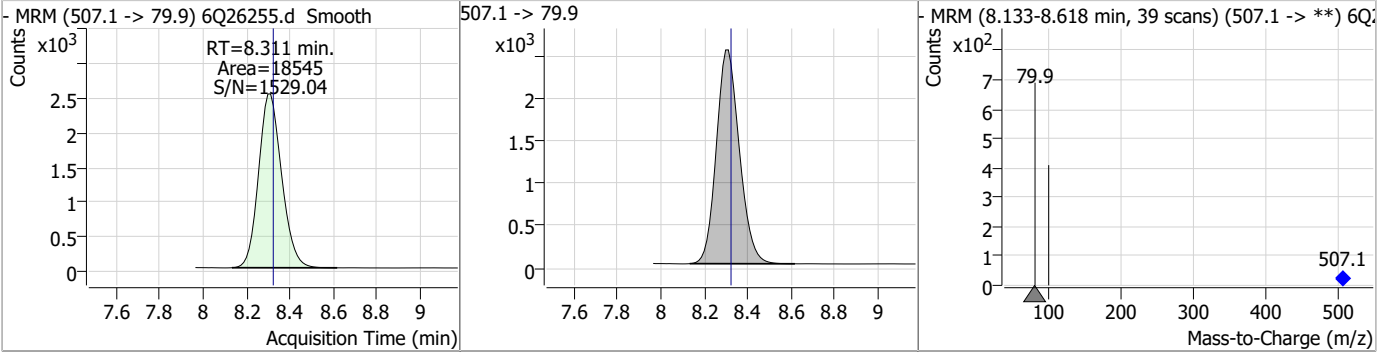


Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOS	3.02	8.30	-0.01	19112 (m)	498.9 -> 98.8	49.1	49.2	89.2



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOS	2.60	8.31	-0.01	18545				



7.6.3

7

Manual Integration Approval Summary

Sample Number: S6Q370-RT Method: EPA DRAFT 1633
Lab FileID: 6Q26255.D Analyst approved: 10/16/23 10:56 Martha Valls
Injection Time: 10/12/23 09:43 Supervisor approved: 10/16/23 17:48 Natasha Gumtie

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorooctanesulfonic acid	1763-23-1		8.30	Split peak

7.6.3.1

7

Perfluorinated Compounds by LC/MS/MS

Data File : 6Q26256.d
 Operator : marthav
 Acq. Method : 1633full.m
 Acq. Date-Time : 10/12/2023 9:58:00 AM
 Sample Name : RT BR-LN
 Vial : P1-B4
 DA Method File : 1633_100823_S6Q367.quantmethod.xml
 Batch Name : s6q370.batch.bin
 Sample Information : OP99081,S6Q370,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Internal Standards					
M4-PFBA	2.935	216.8 -> 171.9	164162	10.00 µg/L	-0.013
M5-PFPeA	4.359	268.3 -> 223.0	59322	5.00 µg/L	-0.012
M5-PFHxA	5.580	318.0 -> 273.0	54546	2.50 µg/L	0.000
M4-PFHpA	6.519	367.1 -> 322.0	53153	2.50 µg/L	0.000
M8-PFOA	7.149	421.1 -> 376.0	69974	2.50 µg/L	-0.012
M9-PFNA	7.680	472.1 -> 427.0	28301	1.25 µg/L	0.000
M6-PFDA	8.148	519.1 -> 474.1	27486	1.25 µg/L	-0.012
M7-PFUnDA	8.601	570.0 -> 525.1	31790	1.25 µg/L	-0.012
M2-PFDoDA	9.030	615.1 -> 570.0	35200	1.25 µg/L	0.000
M2-PFTeDA	9.735	715.2 -> 670.0	12749	1.25 µg/L	-0.012
M8-FOSA	9.645	506.1 -> 77.8	25525	2.50 µg/L	-0.012
M3-PFBS	5.485	302.1 -> 79.9	23966	2.50 µg/L	-0.012
M3-PFHxS	7.251	402.1 -> 79.9	13464	2.50 µg/L	-0.012
M8-PFOS	8.298	507.1 -> 79.9	13030	2.50 µg/L	-0.013
M2-4:2FTS	5.242	329.1 -> 80.9	2679	5.00 µg/L	-0.012
M2-6:2FTS	6.924	429.1 -> 80.9	3503	5.00 µg/L	-0.012
M2-8:2FTS	7.950	529.1 -> 80.9	3555	5.00 µg/L	0.000
M3-MeFOSAA	8.207	573.2 -> 419.0	26916	5.00 µg/L	0.000
M3-HFPO-DA	5.945	286.9 -> 168.9	35295	10.00 µg/L	-0.012
M5-EtFOSAA	8.402	589.2 -> 419.0	24576	5.00 µg/L	-0.012
M7-MeFOSE	10.665	623.2 -> 58.9	82385	25.00 µg/L	0.000
M9-EtFOSE	10.911	639.2 -> 58.9	99641	25.00 µg/L	0.000
M5-EtFOSA	10.976	531.1 -> 219.0	8180	2.50 µg/L	0.000
M3-MeFOSA	10.744	515.0 -> 219.0	7312	2.50 µg/L	-0.012
13C4-PFOS	8.299	502.8 -> 79.9	11892	2.50 µg/L	-0.013
13C3-PFBA	2.939	216.0 -> 172.0	69482	5.00 µg/L	-0.013
18O2-PFHxS	7.250	403.0 -> 83.9	8331	2.50 µg/L	-0.012
13C4-PFOA	7.150	417.1 -> 372.0	77890	2.50 µg/L	-0.012
13C2-PFDA	8.149	515.1 -> 470.1	28272	1.25 µg/L	-0.012
13C5-PFNA	7.680	468.0 -> 423.0	28089	1.25 µg/L	0.000
13C2-PFHxA	5.581	315.1 -> 270.0	53194	2.50 µg/L	0.000
System Monitoring Compounds					
13C2-4:2FTS	5.242	329.1 -> 80.9	2679	5.71 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 114.1%		
13C2-6:2FTS	6.924	429.1 -> 80.9	3503	5.02 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 100.4%		
13C2-8:2FTS	7.950	529.1 -> 80.9	3555	4.95 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 98.9%		
13C2-PFDoDA	9.030	615.1 -> 570.0	35200	1.25 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 99.9%		
13C2-PFTeDA	9.735	715.2 -> 670.0	12749	1.33 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 106.7%		
13C3-PFBS	5.485	302.1 -> 79.9	23966	2.54 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 101.6%		
13C3-PFHxS	7.251	402.1 -> 79.9	13464	2.54 µg/L	-0.012

7.6.4
7

Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 101.7%	
13C4-PFBA	2.935	216.8 -> 171.9	164162	9.79 µg/L	-0.013
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 97.9%	
13C4-PFHpA	6.519	367.1 -> 322.0	53153	2.47 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 98.8%	
13C5-PFHxA	5.580	318.0 -> 273.0	54546	2.48 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 99.2%	
13C5-PFPeA	4.359	268.3 -> 223.0	59322	4.93 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 98.6%	
13C6-PFDA	8.148	519.1 -> 474.1	27486	1.15 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 92.4%	
13C7-PFUnDA	8.601	570.0 -> 525.1	31790	1.24 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 98.8%	
13C8-FOSA	9.645	506.1 -> 77.8	25525	2.60 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 104.0%	
13C8-PFOA	7.149	421.1 -> 376.0	69974	2.59 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 103.6%	
13C8-PFOS	8.298	507.1 -> 79.9	13030	2.54 µg/L	-0.013
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 101.5%	
13C9-PFNA	7.680	472.1 -> 427.0	28301	1.22 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 98.0%	
d3-MeFOSAA	8.207	573.2 -> 419.0	26916	5.15 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 102.9%	
13C3-HFPO-DA	5.945	286.9 -> 168.9	35295	9.51 µg/L	-0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 95.1%	
d3-MeFOSA	10.744	515.0 -> 219.0	7312	2.57 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 102.8%	
d5-EtFOSAA	8.402	589.2 -> 419.0	24576	5.48 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 109.7%	
d7-MeFOSE	10.665	623.2 -> 58.9	82385	26.01 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 104.0%	
d9-EtFOSE	10.911	639.2 -> 58.9	99641	26.47 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 105.9%	
d5-EtFOSA	10.976	531.1 -> 219.0	8180	2.69 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 107.5%	
Target Compounds					QValue
4:2FTS	5.243	327.1 -> 307.0	219353	49.37 µg/L	99
		327.1 -> 80.9	86024		
6:2FTS	6.925	427.1 -> 407.0	166223	52.19 µg/L	96
		427.1 -> 80.9	68749		
8:2FTS	7.950	527.1 -> 507.0	133948	54.08 µg/L	97
		527.1 -> 80.8	49536		
EtFOSAA	8.416	584.2 -> 419.1	51841	12.98 µg/L	100
		584.2 -> 526.0	32256		
FOSA	9.647	498.1 -> 77.9	306739	31.38 µg/L	100
		498.1 -> 478.0	8583		
MeFOSAA	8.208	570.1 -> 419.0	67961	13.52 µg/L	99
		570.1 -> 483.0	14847		
PFBA	2.943	212.8 -> 168.9	328979	53.79 µg/L	100
PFBS	5.486	298.7 -> 79.9	83633	11.64 µg/L	99
		298.7 -> 98.8	31411		
PFDA	8.149	512.9 -> 469.0	306035	14.25 µg/L	100
		512.9 -> 219.0	46587		
PFDoDA	9.031	613.1 -> 569.0	346773	13.25 µg/L	97
		613.1 -> 319.0	43685		
PFDS	9.183	599.0 -> 79.9	43537	13.06 µg/L	100

Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
		599.0 -> 98.8	19247			
PFHpA	6.520	363.1 -> 319.0	384220	13.32	µg/L	99
		363.1 -> 169.0	54463			
PFHpS	7.807	449.0 -> 79.9	69483	12.92	µg/L	95
		449.0 -> 98.9	31750			
PFHxA	5.569	313.0 -> 269.0	252274	12.94	µg/L	99
		313.0 -> 118.9	12001			
PFHxS	7.252	398.7 -> 79.9	67830	12.05	µg/L	m 89
		398.7 -> 98.9	30643			
PFNA	7.543	463.0 -> 419.0	507502	29.09	µg/L	m 96
		463.0 -> 219.0	132333			
PFNS	8.765	548.8 -> 79.9	59869	12.60	µg/L	96
		548.8 -> 98.9	30304			
PFOA	7.150	413.0 -> 369.0	895716	29.83	µg/L	m 98
		413.0 -> 169.0	156877			
PFOS	8.300	498.9 -> 79.9	69589	12.50	µg/L	m 84
		498.9 -> 98.8	35358			
PFPeA	4.361	263.0 -> 219.0	328271	25.65	µg/L	100
PFPeS	6.558	349.1 -> 79.9	91205	12.55	µg/L	97
		349.1 -> 98.9	41338			
PFTeDA	9.735	713.1 -> 669.0	197102	11.88	µg/L	99
		713.1 -> 168.9	16525			
PFTrDA	9.413	663.0 -> 619.0	289556	14.07	µg/L	99
		663.0 -> 168.9	21969			
PFUnDA	8.602	563.1 -> 519.0	284439	12.70	µg/L	96
		563.1 -> 269.1	46998			
11CI-PF3OUdS	9.454	630.9 -> 450.9	261726	25.00	µg/L	98
		632.9 -> 452.9	80641			
9CI-PF3ONS	8.641	530.8 -> 351.0	448183	24.12	µg/L	98
		532.8 -> 353.0	137878			
ADONA	6.767	376.9 -> 250.9	1195649	24.66	µg/L	100
		376.9 -> 84.8	327645			
HFPO-DA	5.946	284.9 -> 168.9	95767	27.38	µg/L	99
		284.9 -> 184.9	11151			
3:3FTCA	3.796	241.0 -> 177.0	56217	63.81	µg/L	100
		241.0 -> 117.0	7632			
5:3FTCA	6.221	341.0 -> 237.1	1178556	322.41	µg/L	98
		341.0 -> 217.0	855377			
7:3FTCA	7.620	441.0 -> 316.9	703079	314.89	µg/L	99
		441.0 -> 336.9	1429003			
EtFOSA	10.978	526.0 -> 219.0	186568	46.47	µg/L	95
		526.0 -> 169.0	236197			
EtFOSE	10.924	630.0 -> 58.9	350890	87.51	µg/L	100
MeFOSA	10.746	511.9 -> 219.0	162467	47.93	µg/L	99
		511.9 -> 169.0	217777			
MeFOSE	10.679	616.1 -> 58.9	325962	89.53	µg/L	100
PFDoS	9.861	699.1 -> 79.9	21761	12.57	µg/L	98
		699.1 -> 98.8	12653			
NFDHA	5.450	295.0 -> 201.0	62424	25.48	µg/L	99
		295.0 -> 84.9	16710			
PFMBA	4.781	279.0 -> 85.1	252595	25.90	µg/L	100
PFMPA	3.501	229.0 -> 84.9	207811	25.82	µg/L	100
PFEESA	6.037	314.8 -> 134.9	560637	22.35	µg/L	100
		314.8 -> 82.9	20676			

= Qualifier out of range, m = manually integrated, + = Area summed

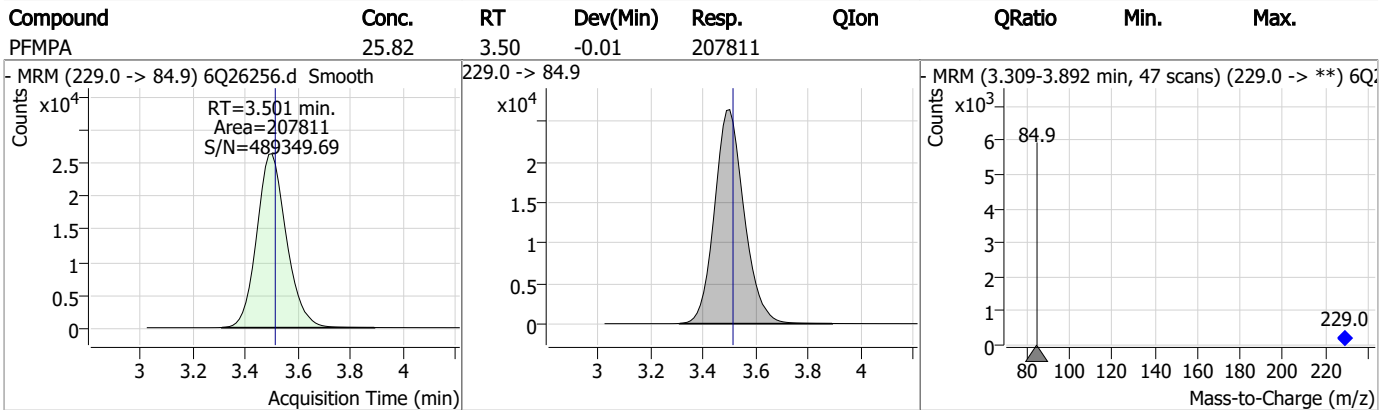
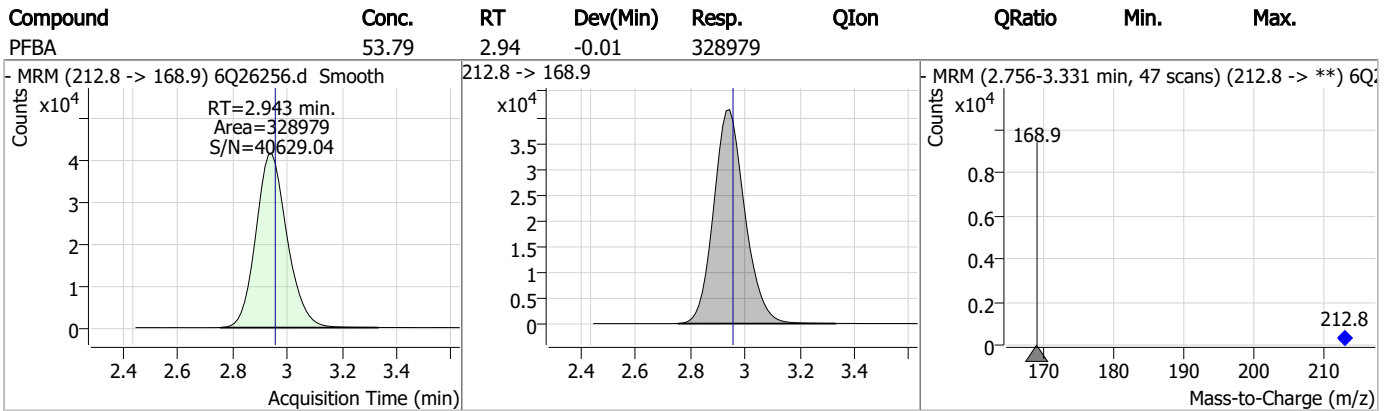
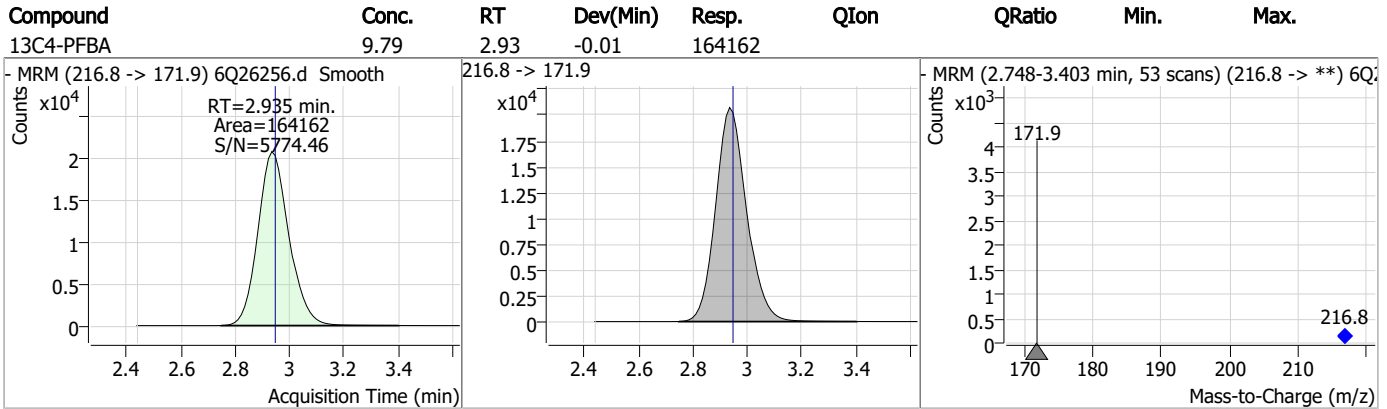
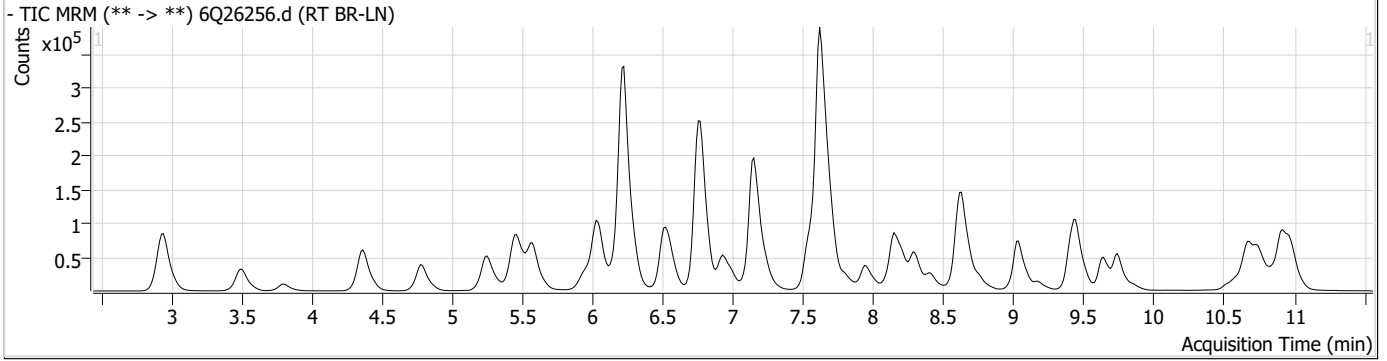
Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
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7.6.4

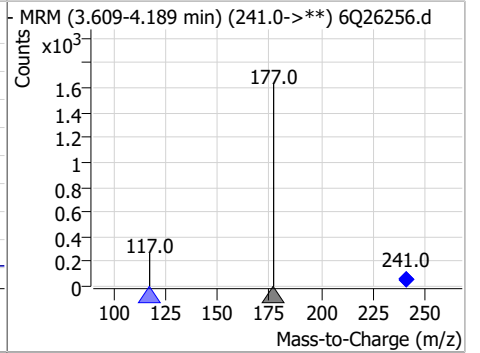
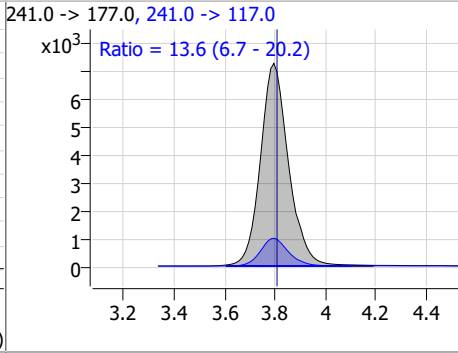
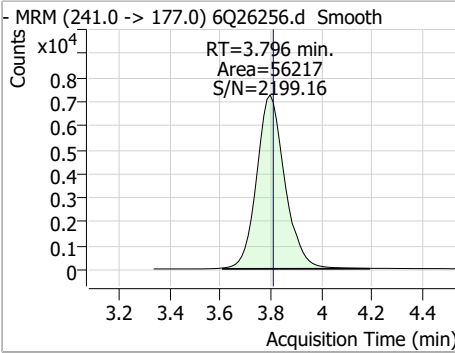
7

Perfluorinated Compounds by LC/MS/MS

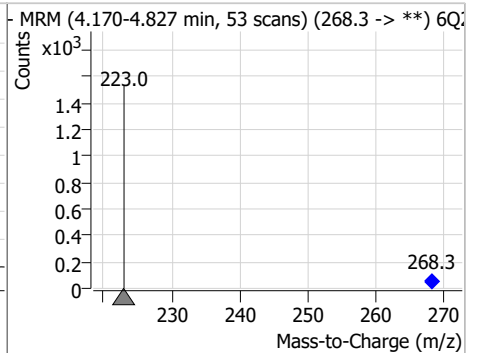
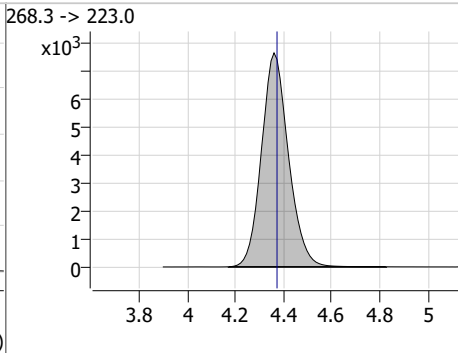
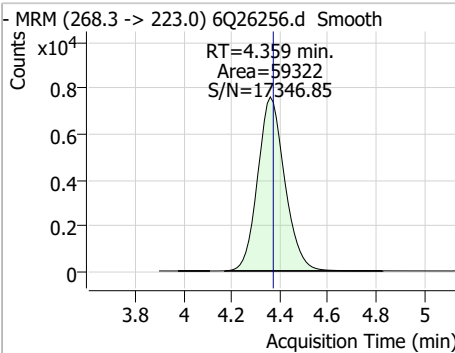


Perfluorinated Compounds by LC/MS/MS

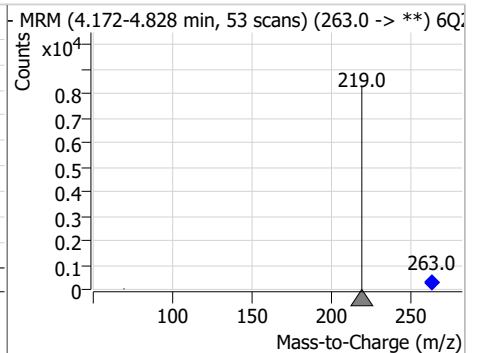
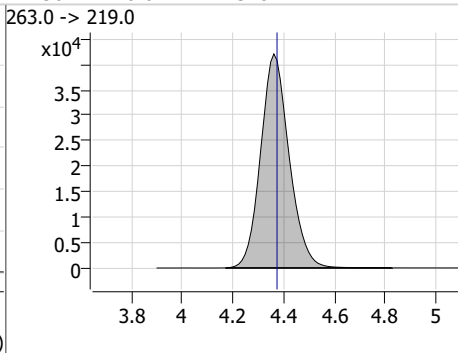
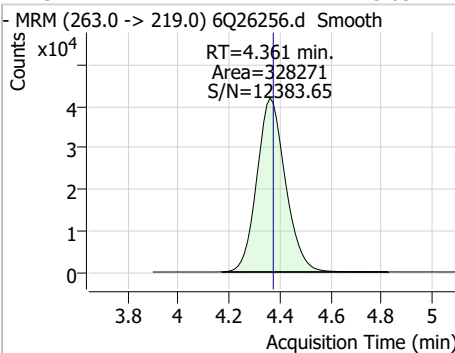
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
3:3FTCA	63.81	3.80	-0.01	56217	241.0 -> 117.0	13.6	6.7	20.2



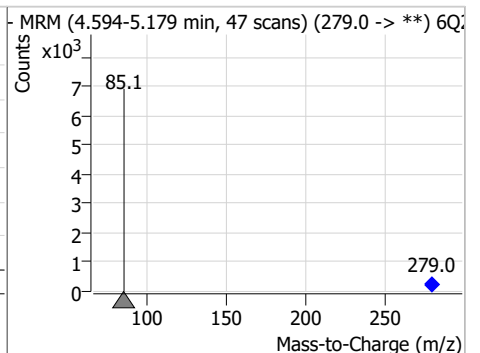
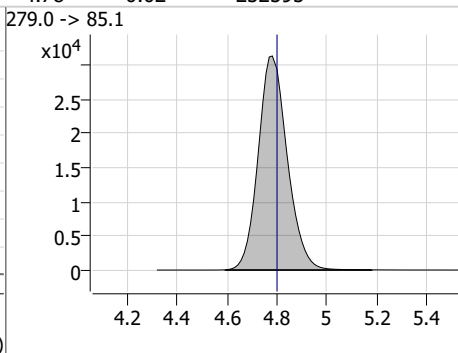
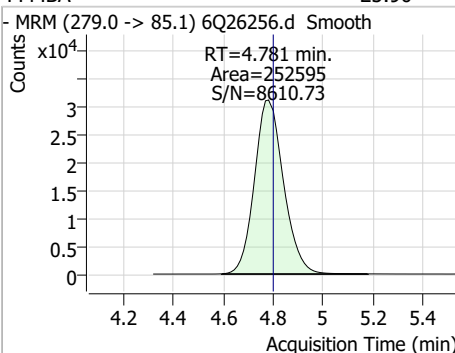
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFPeA	4.93	4.36	-0.01	59322				



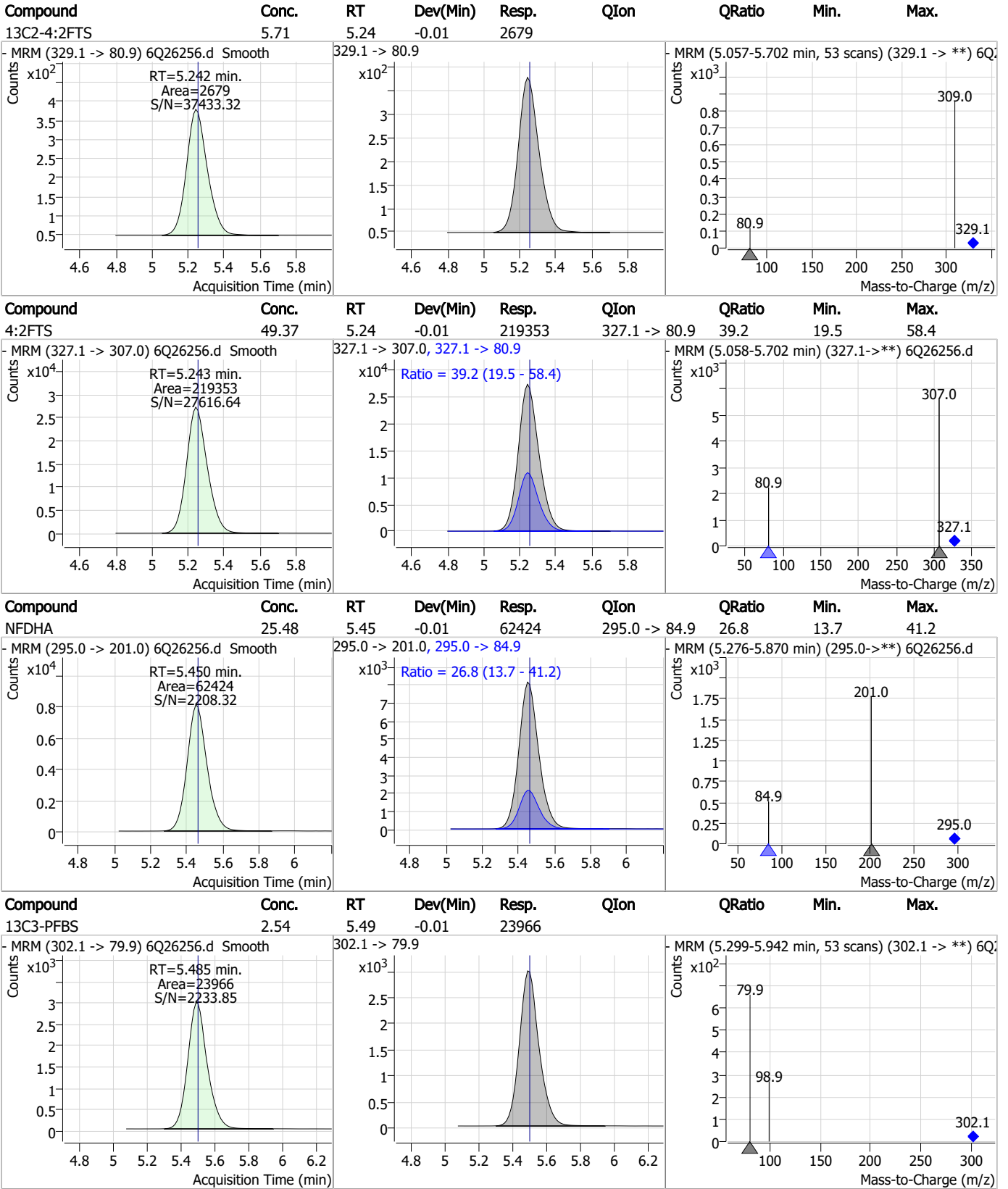
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeA	25.65	4.36	-0.01	328271				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFMBA	25.90	4.78	-0.02	252595				



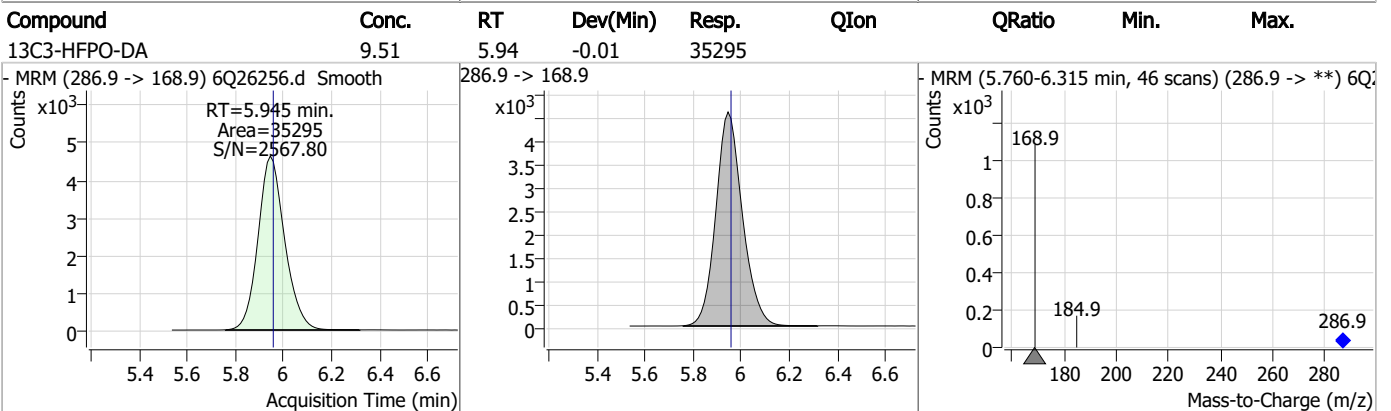
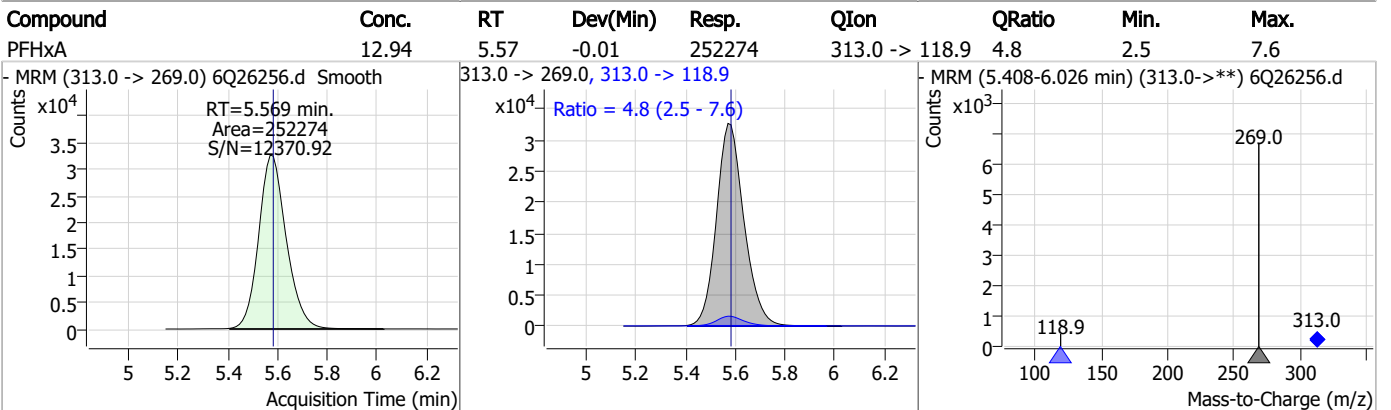
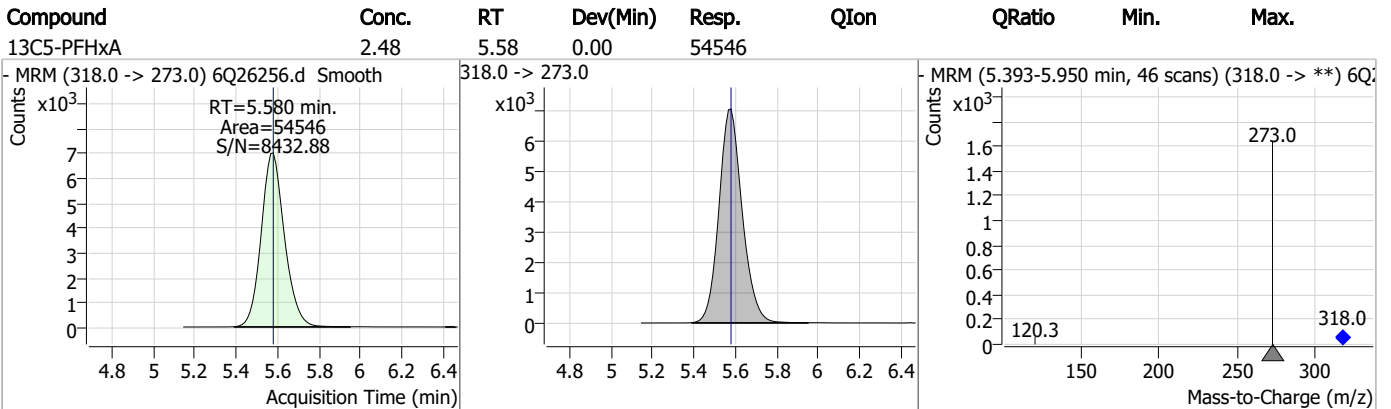
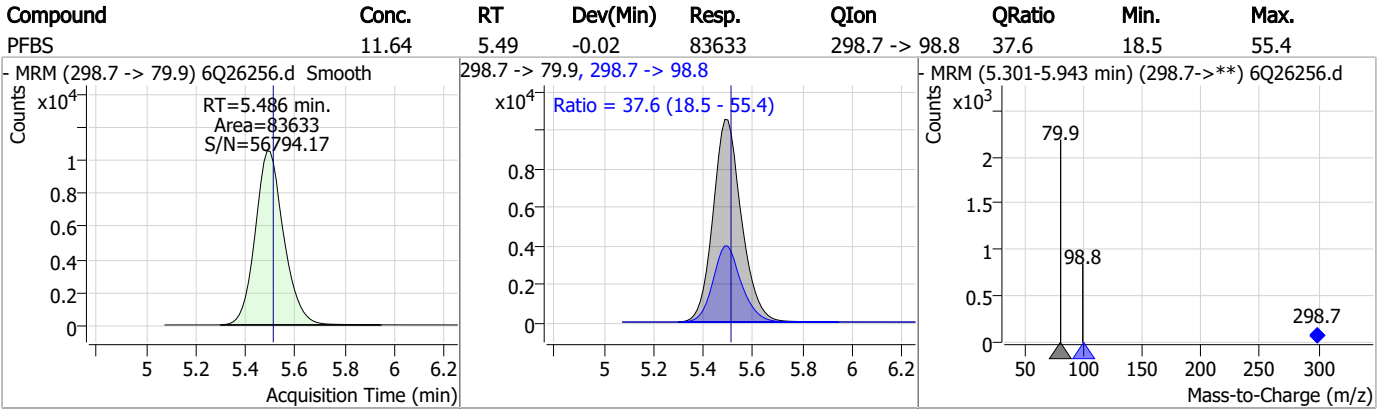
Perfluorinated Compounds by LC/MS/MS



7.6.4

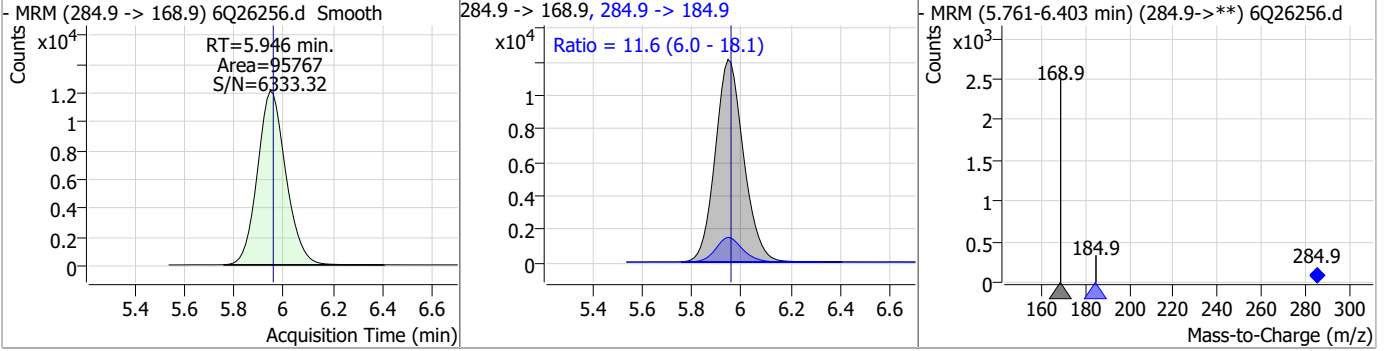
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Perfluorinated Compounds by LC/MS/MS

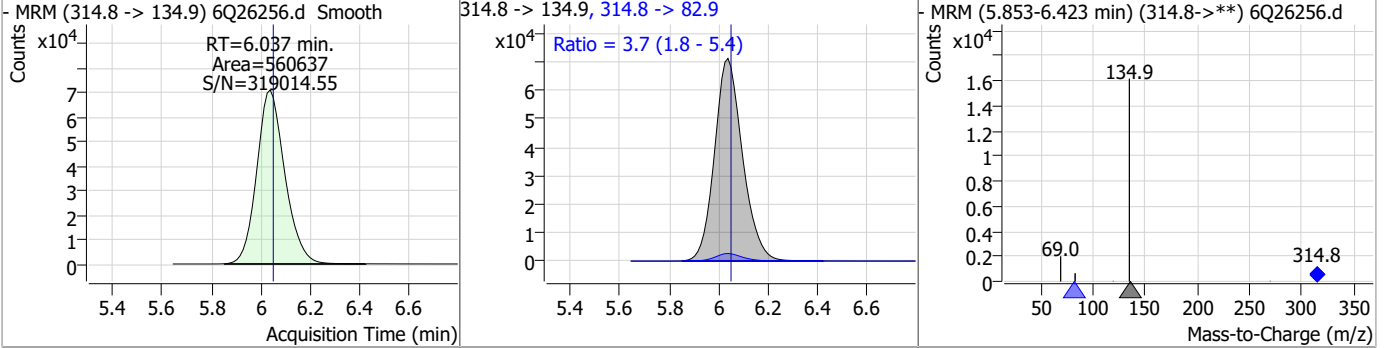


Perfluorinated Compounds by LC/MS/MS

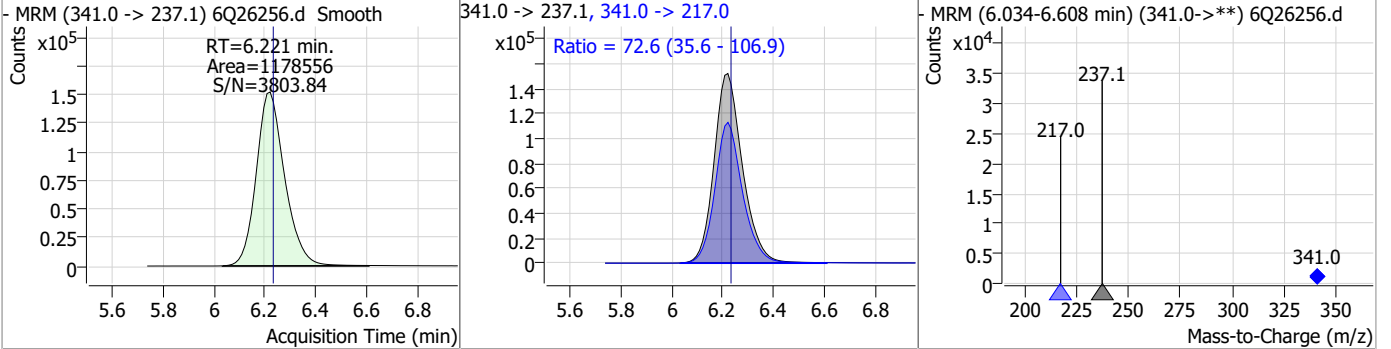
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
HFPO-DA	27.38	5.95	-0.01	95767	284.9 -> 184.9	11.6	6.0	18.1



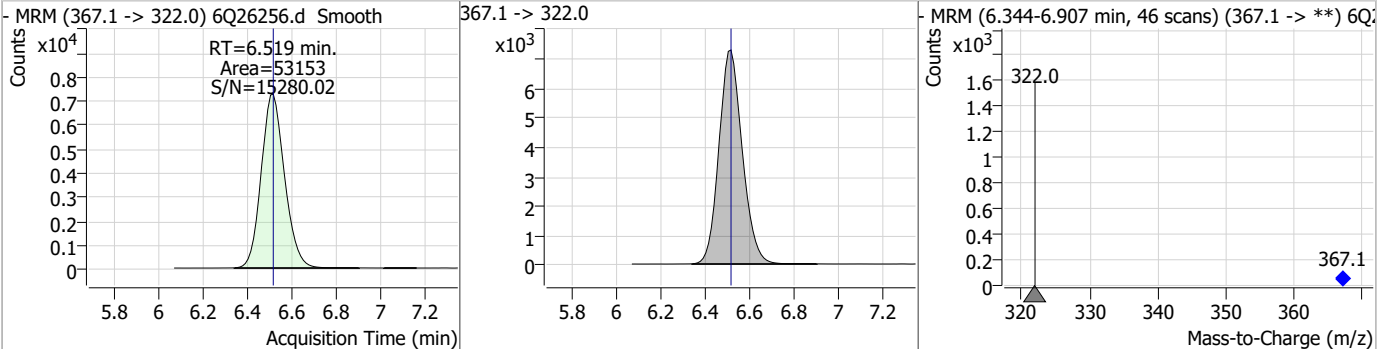
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFEESA	22.35	6.04	-0.01	560637	314.8 -> 82.9	3.7	1.8	5.4



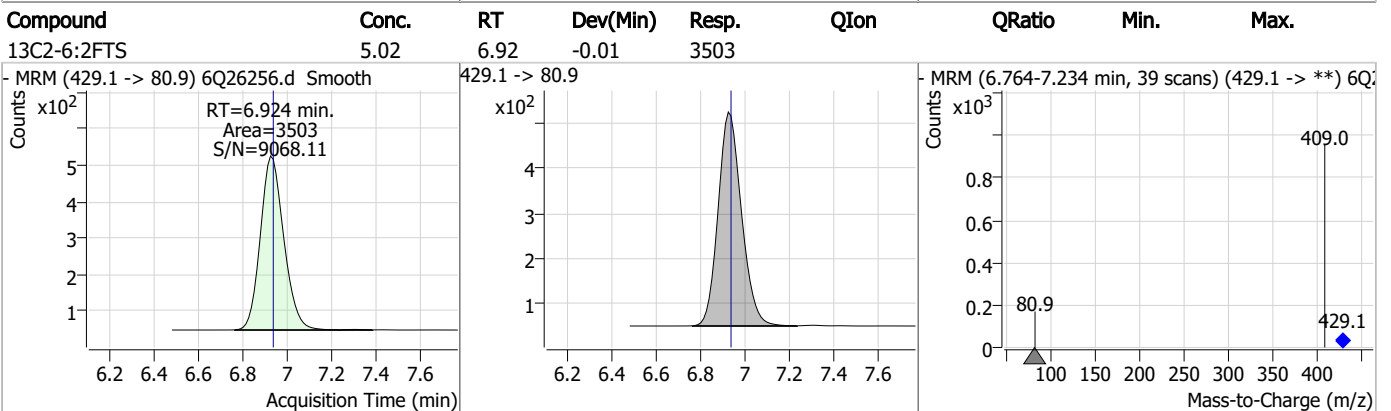
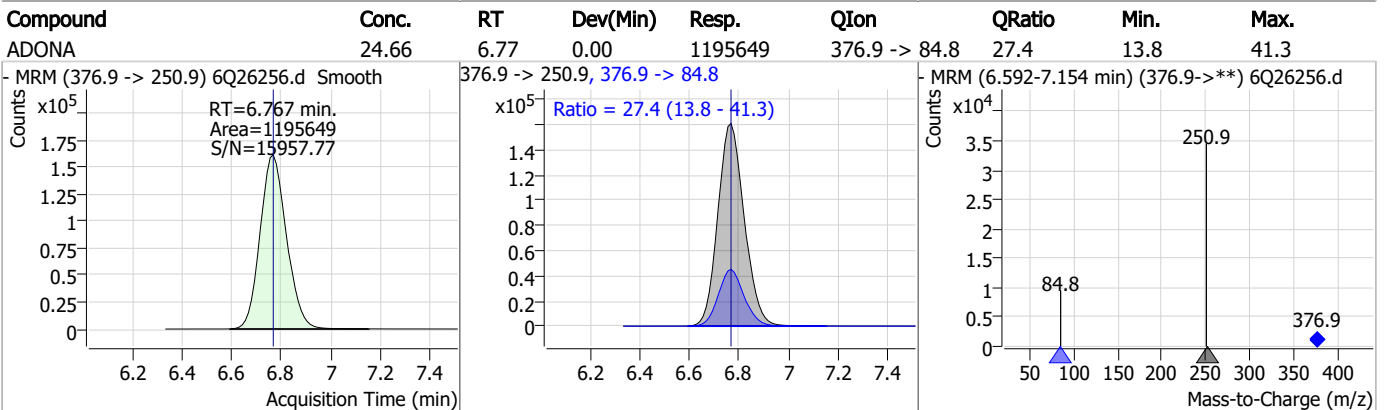
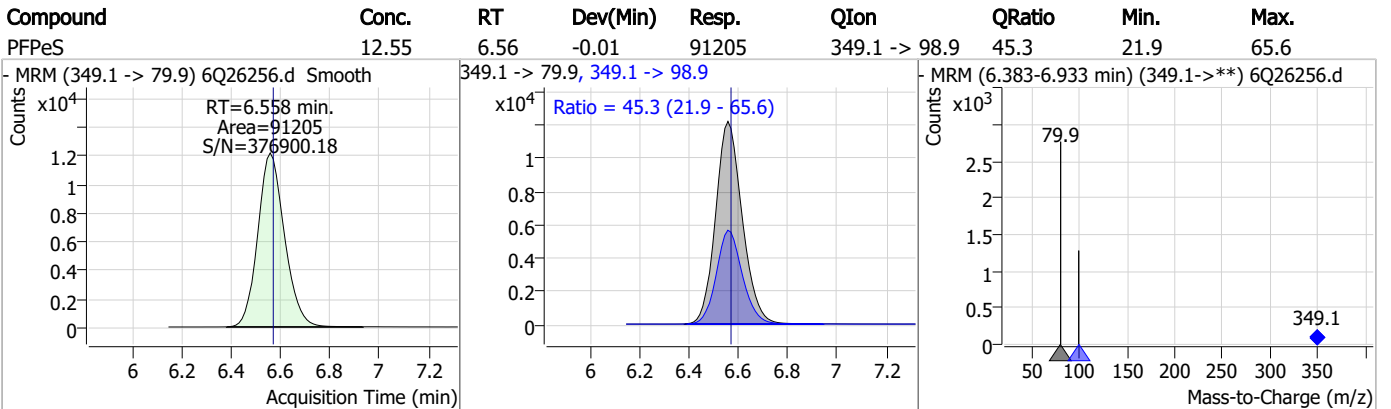
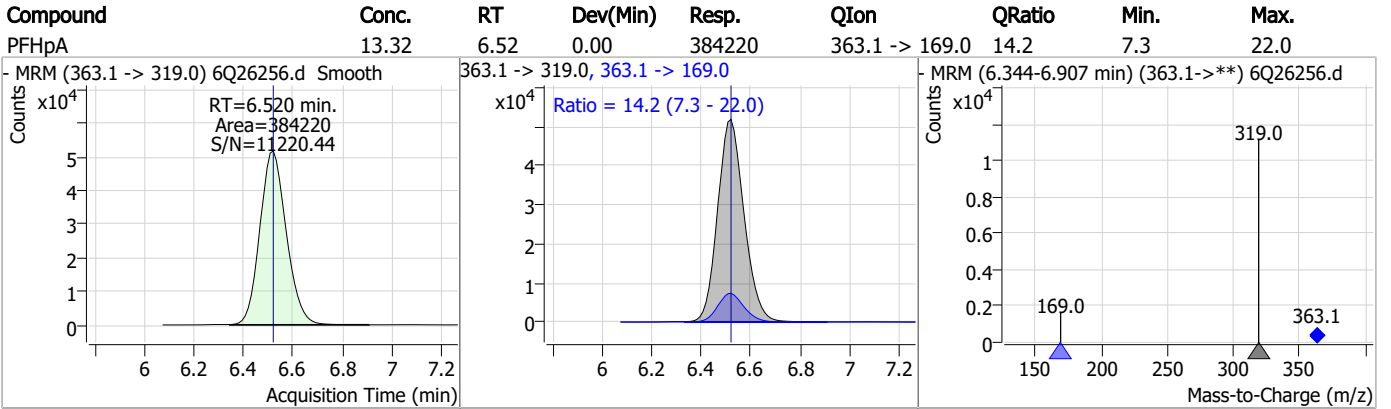
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
5:3FTCA	322.41	6.22	-0.01	1178556	341.0 -> 217.0	72.6	35.6	106.9



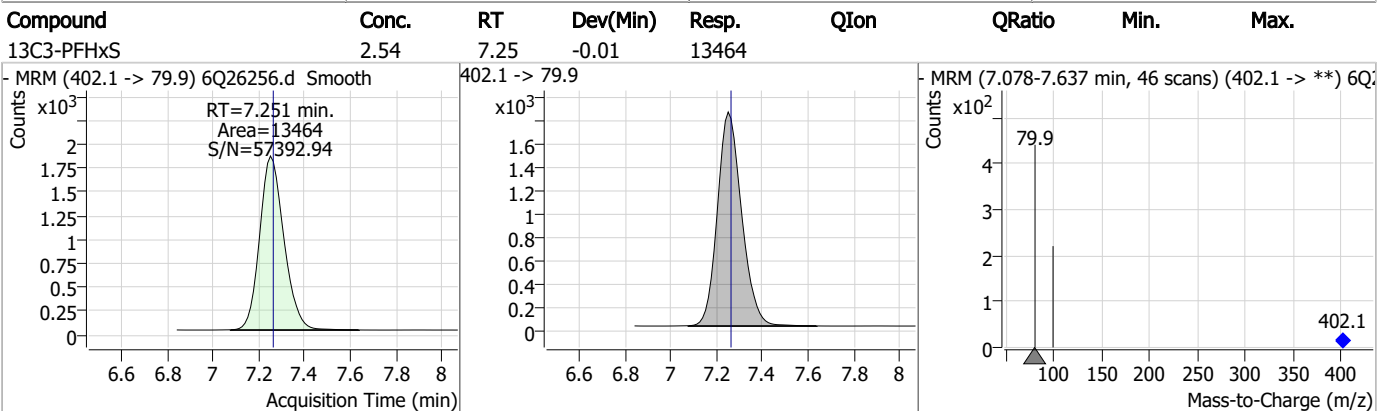
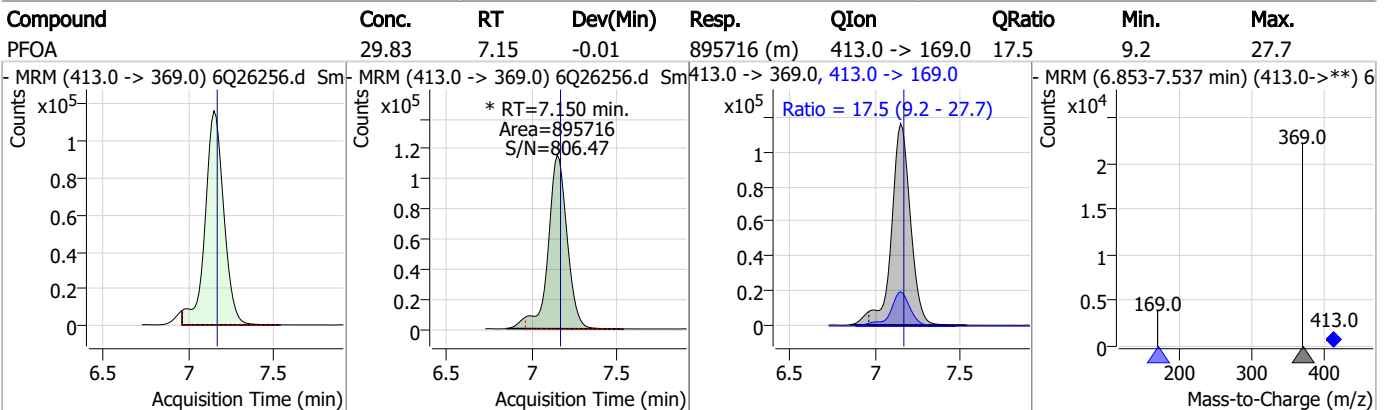
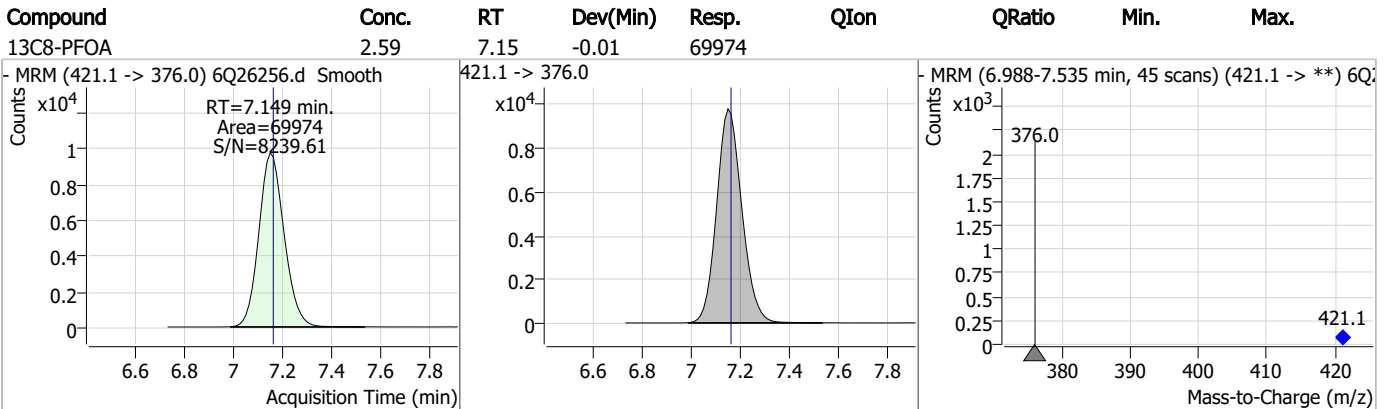
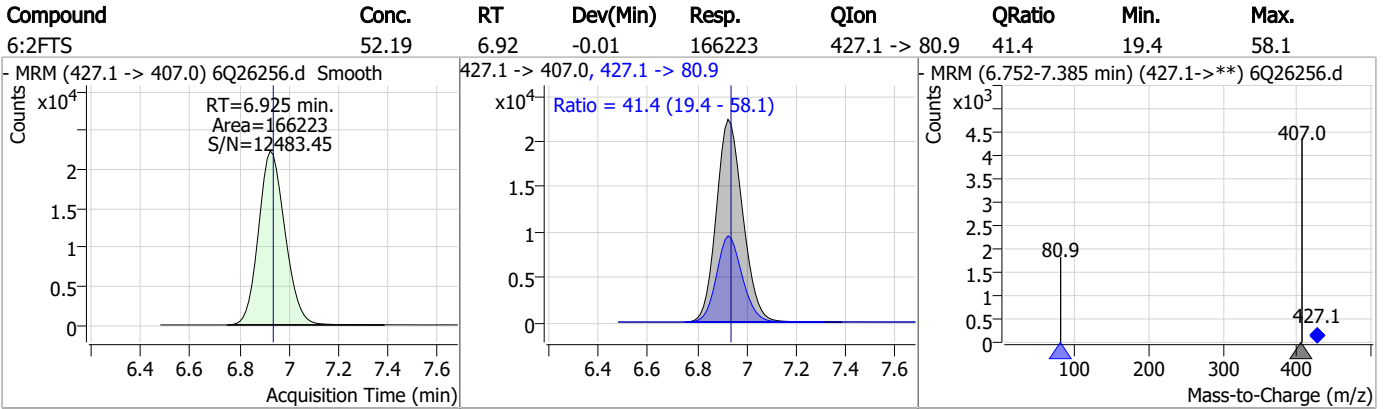
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFHpA	2.47	6.52	0.00	53153	367.1 -> 322.0			



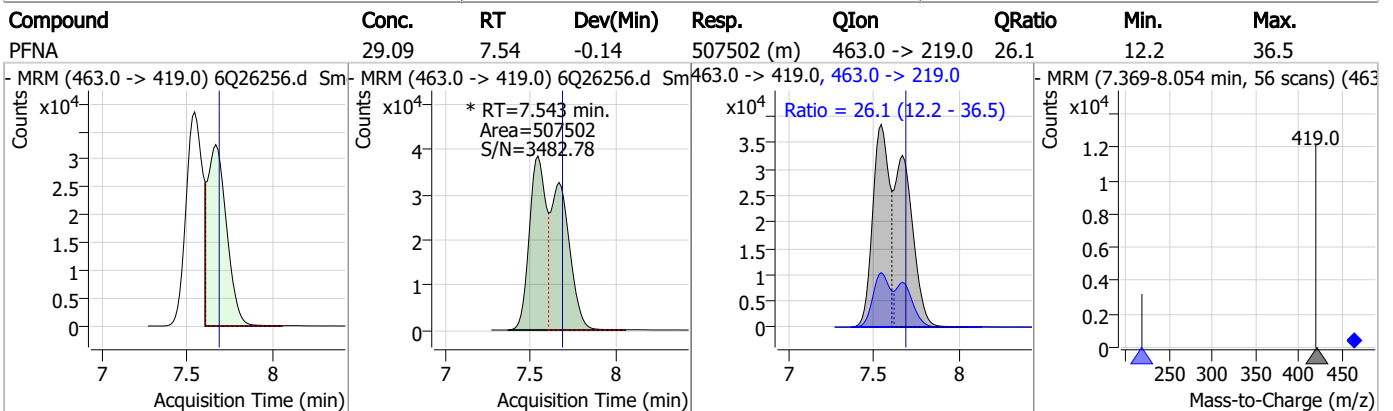
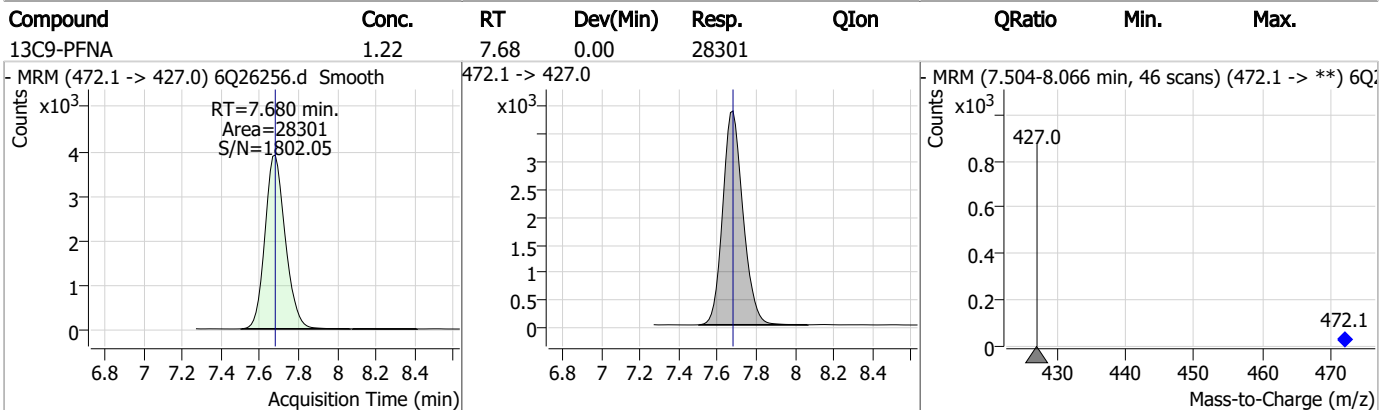
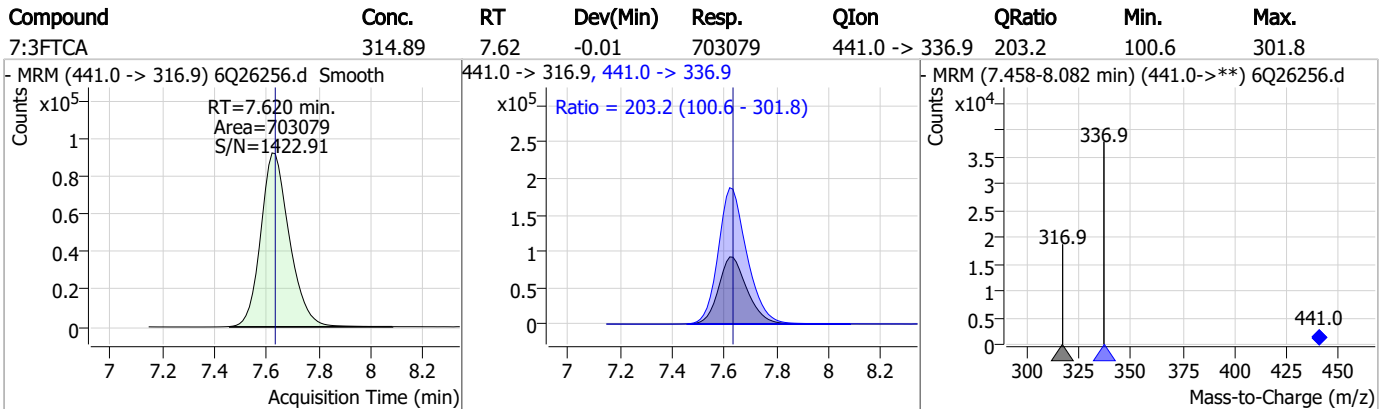
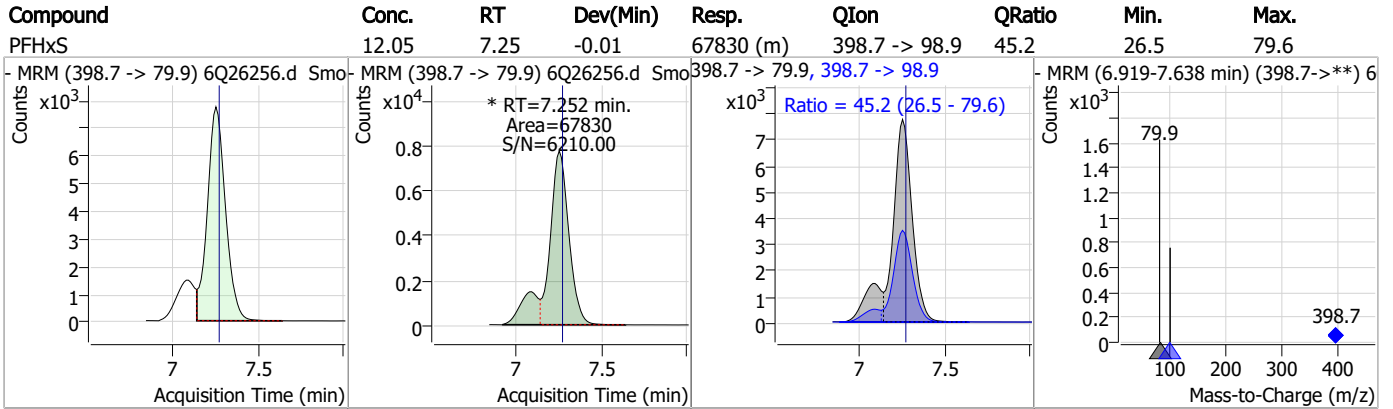
Perfluorinated Compounds by LC/MS/MS



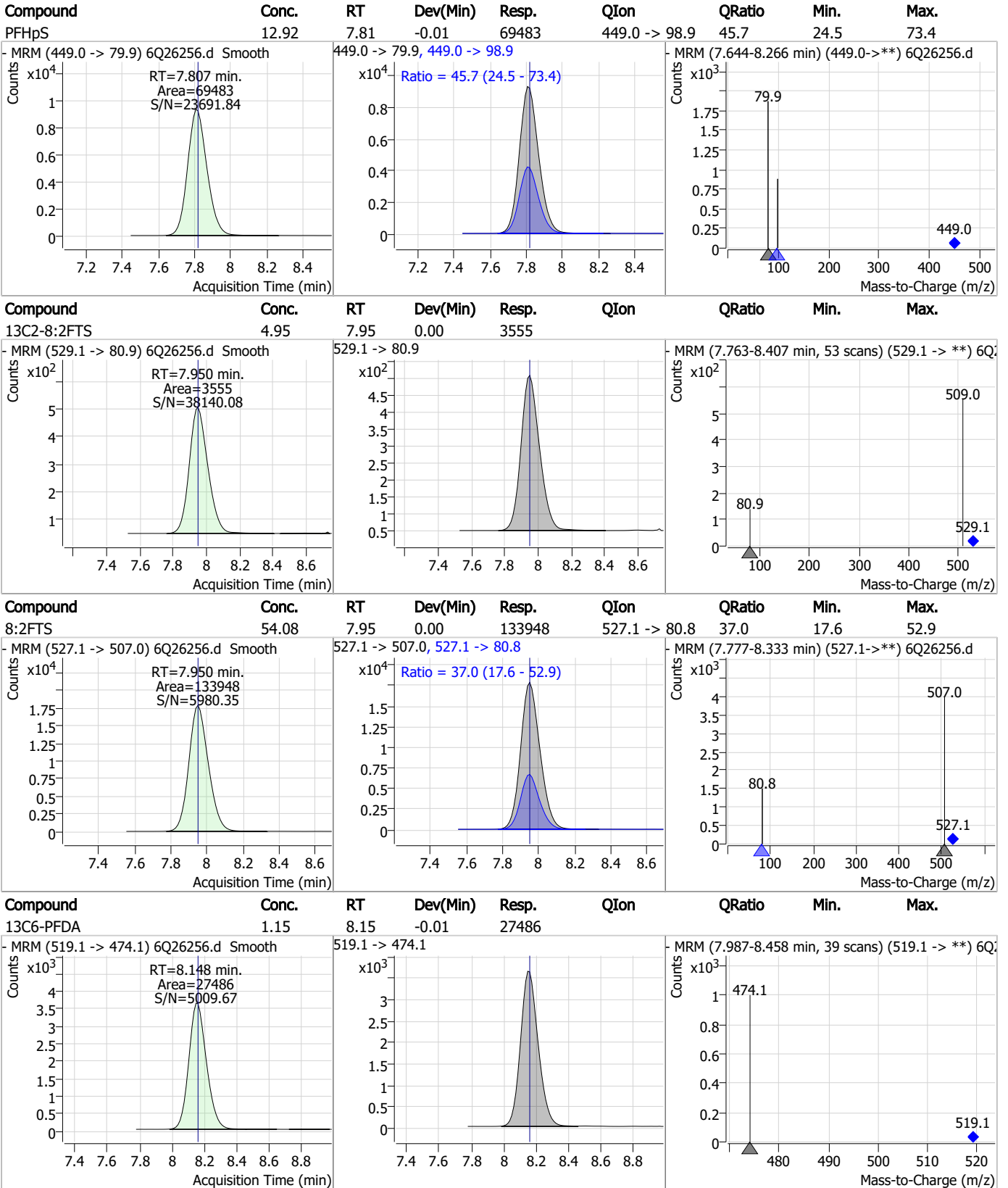
Perfluorinated Compounds by LC/MS/MS



Perfluorinated Compounds by LC/MS/MS



Perfluorinated Compounds by LC/MS/MS



7.6.4

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Perfluorinated Compounds by LC/MS/MS

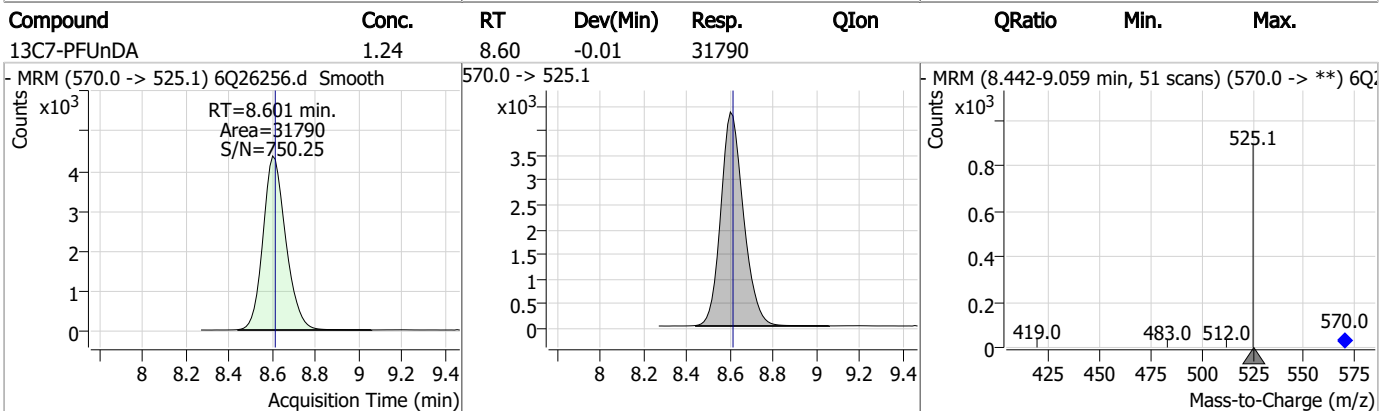
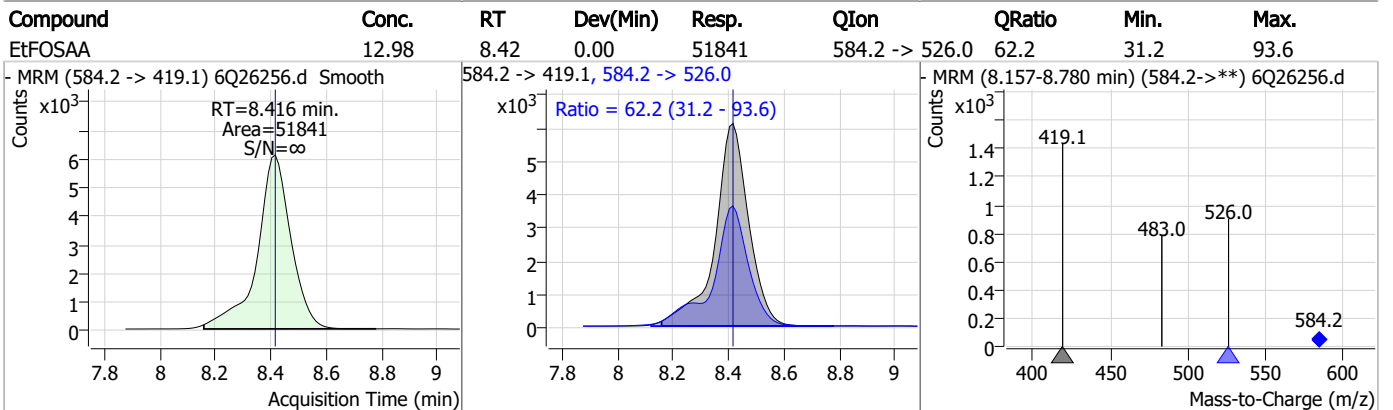
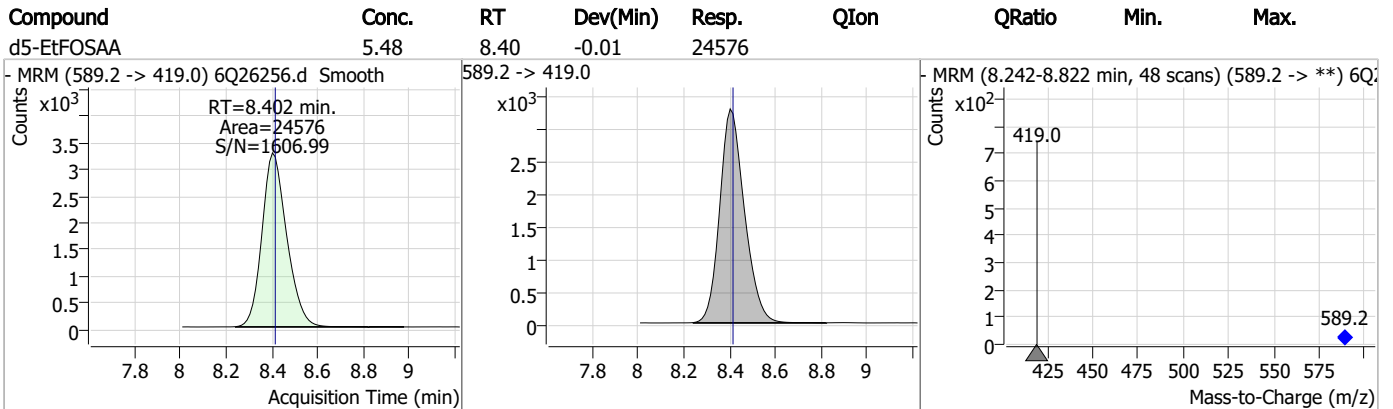
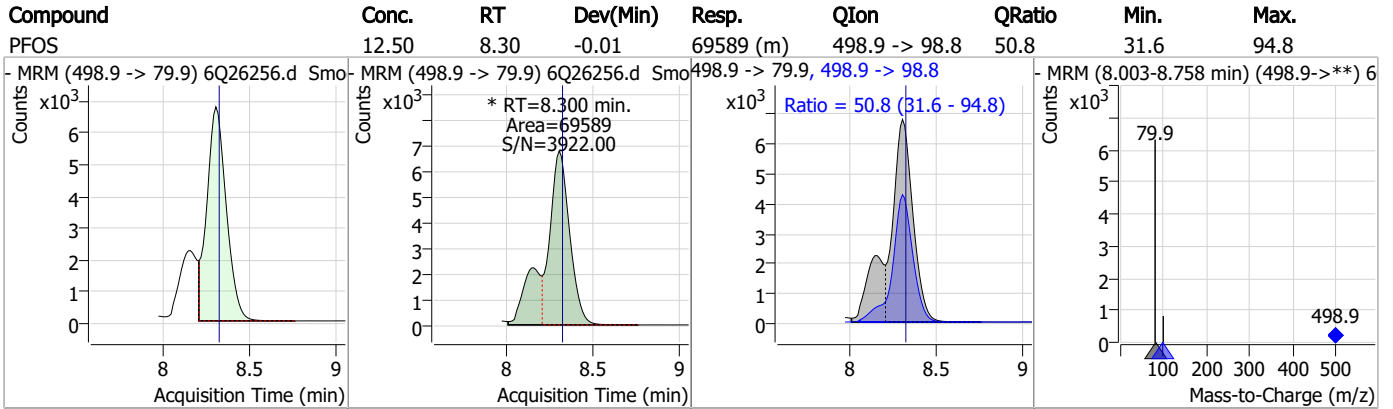
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDA	14.25	8.15	-0.01	306035	512.9 -> 219.0	15.2	7.7	23.2
d3-MeFOSAA	5.15	8.21	0.00	26916				
MeFOSAA	13.52	8.21	-0.01	67961	570.1 -> 483.0	21.8	10.6	31.8
13C8-PFOS	2.54	8.30	-0.01	13030				

7.6.4

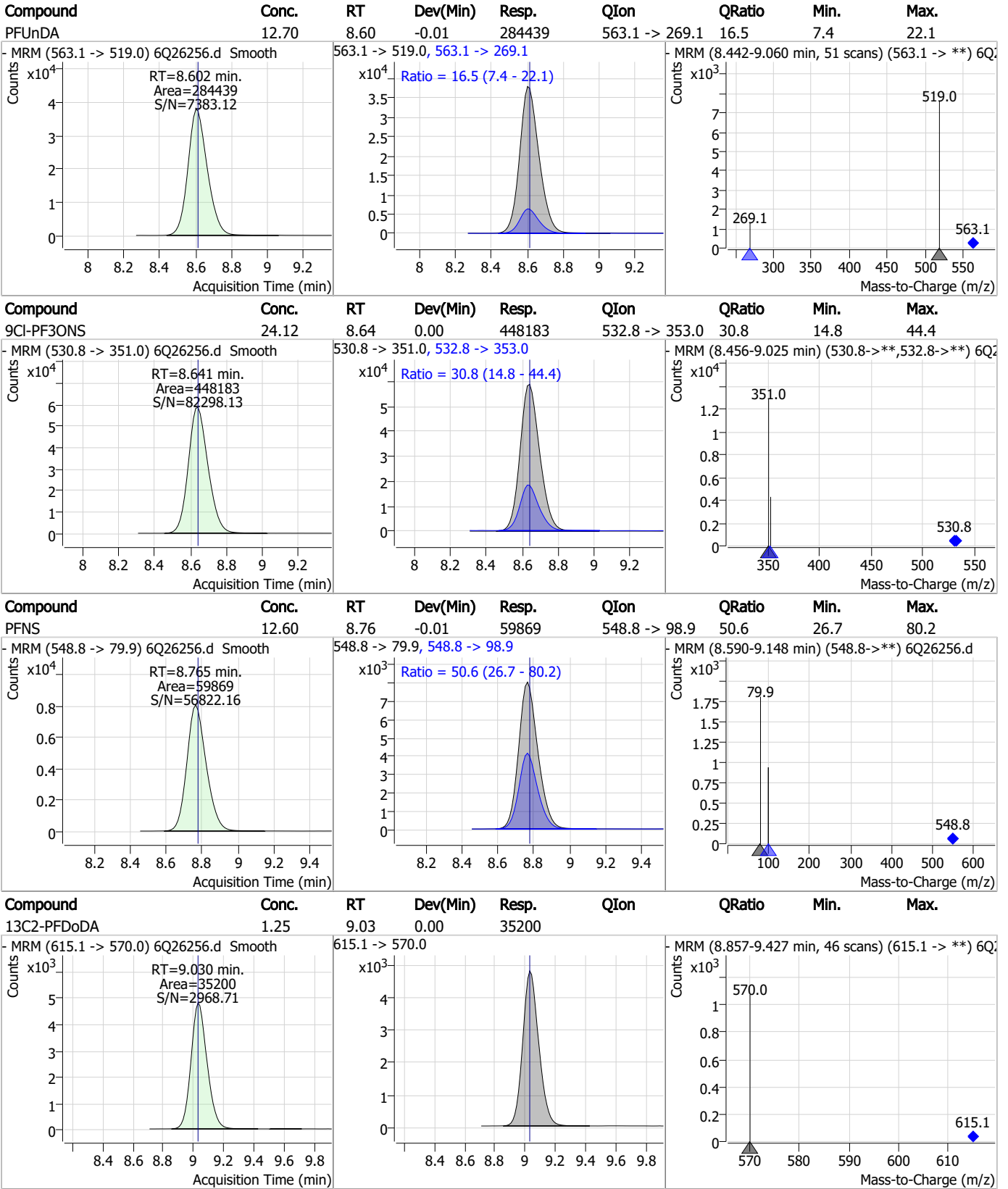
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Perfluorinated Compounds by LC/MS/MS



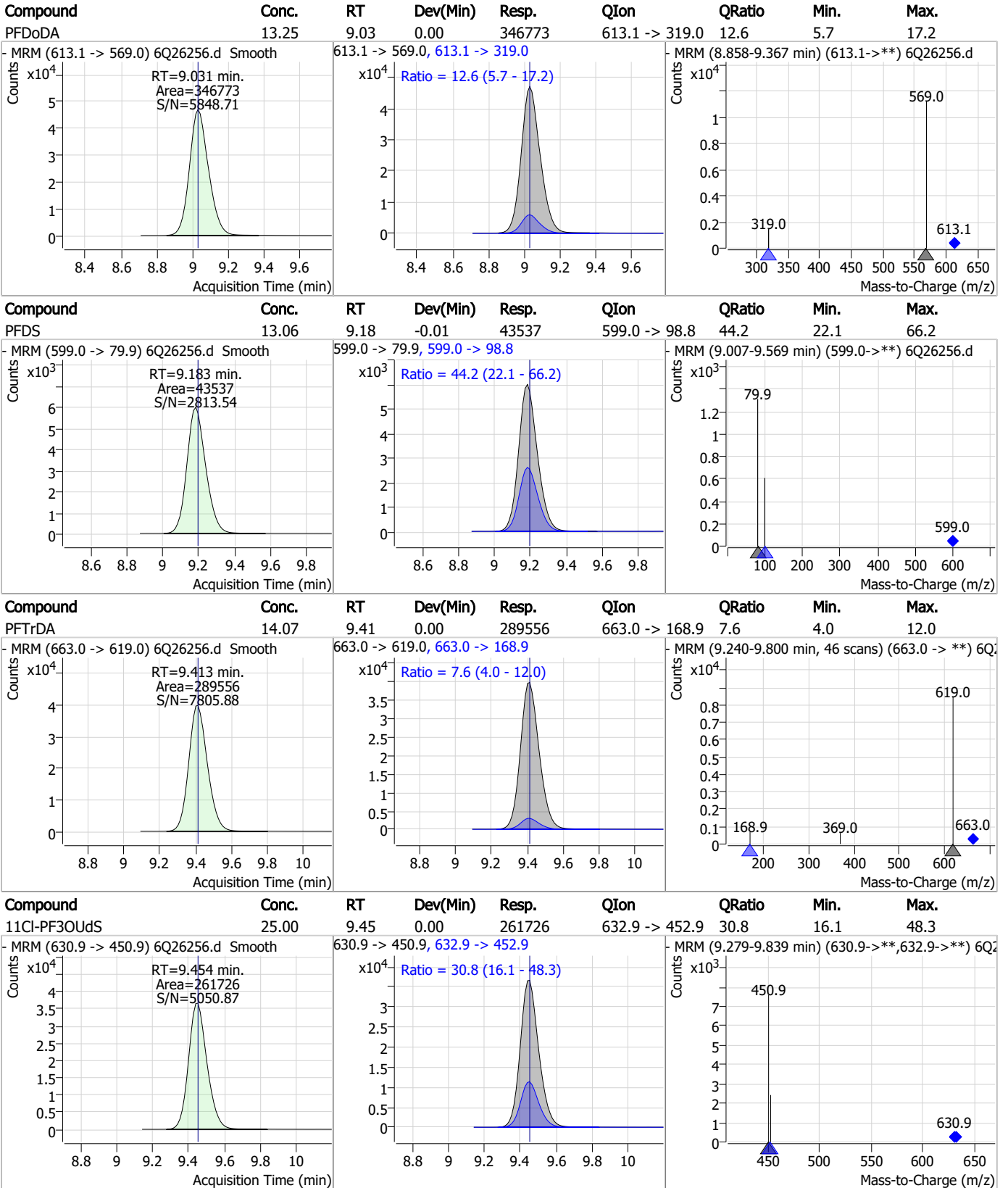
Perfluorinated Compounds by LC/MS/MS



7.6.4

7

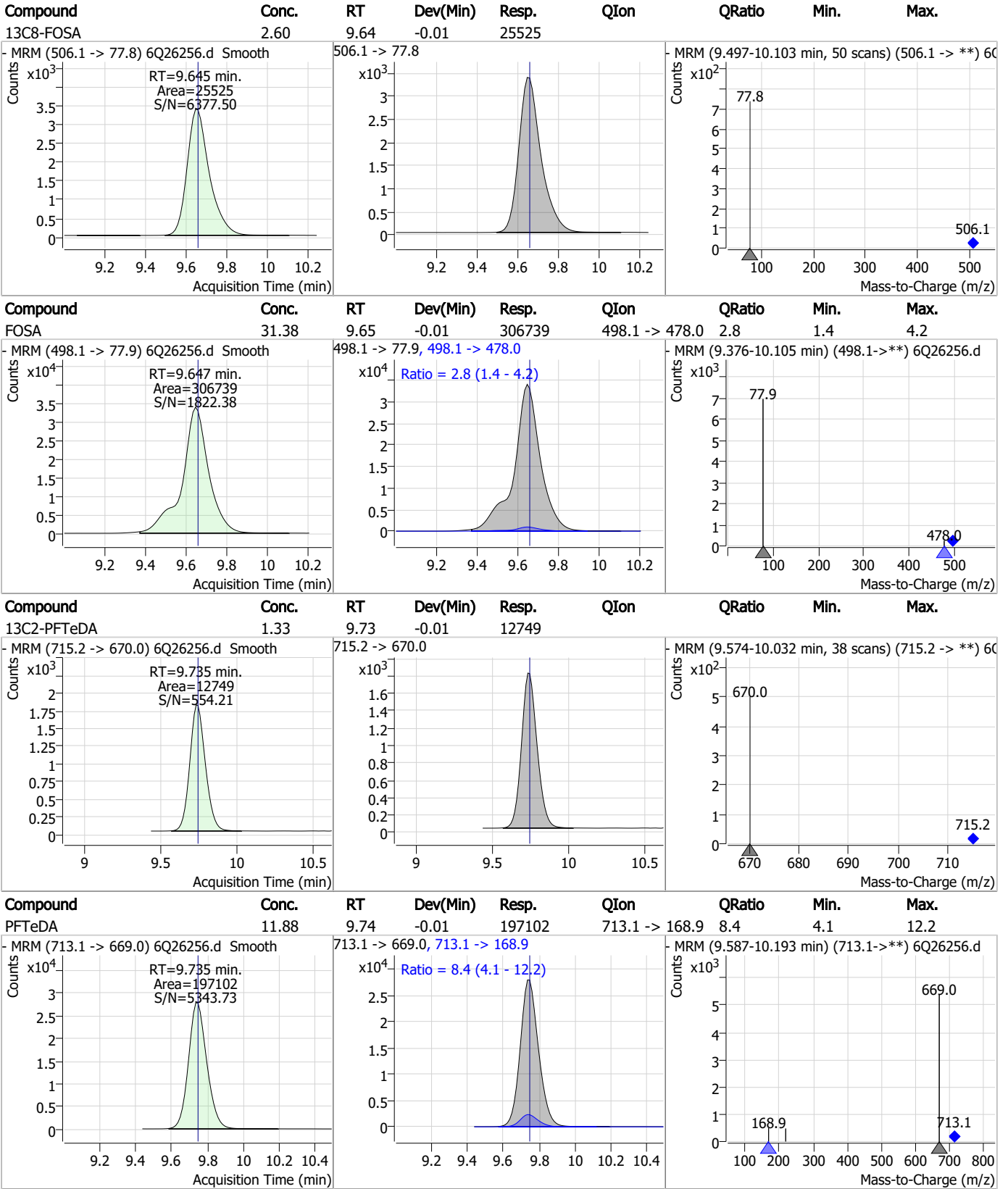
Perfluorinated Compounds by LC/MS/MS



7.6.4

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Perfluorinated Compounds by LC/MS/MS

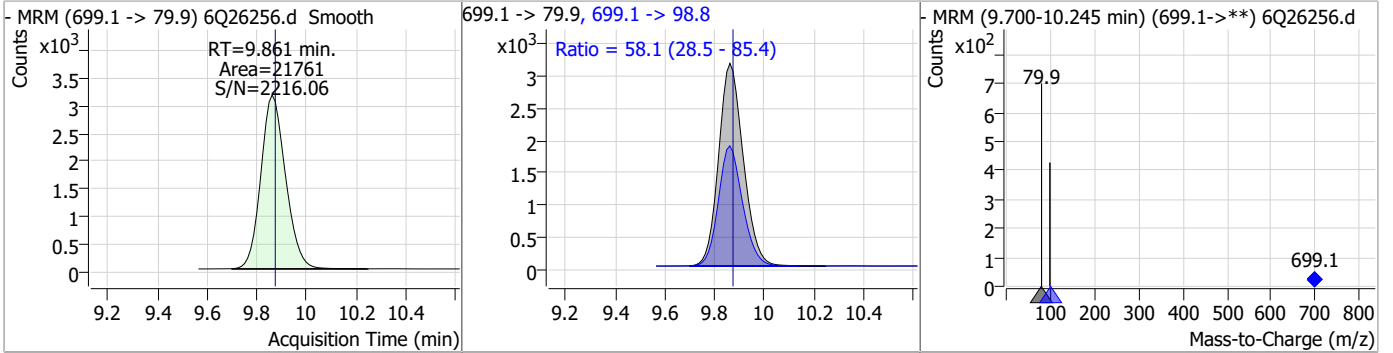


7.6.4

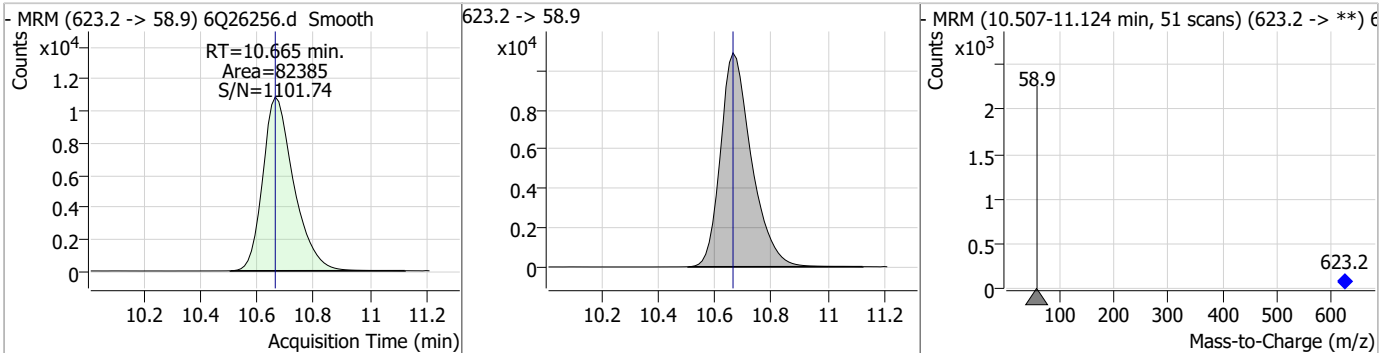
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Perfluorinated Compounds by LC/MS/MS

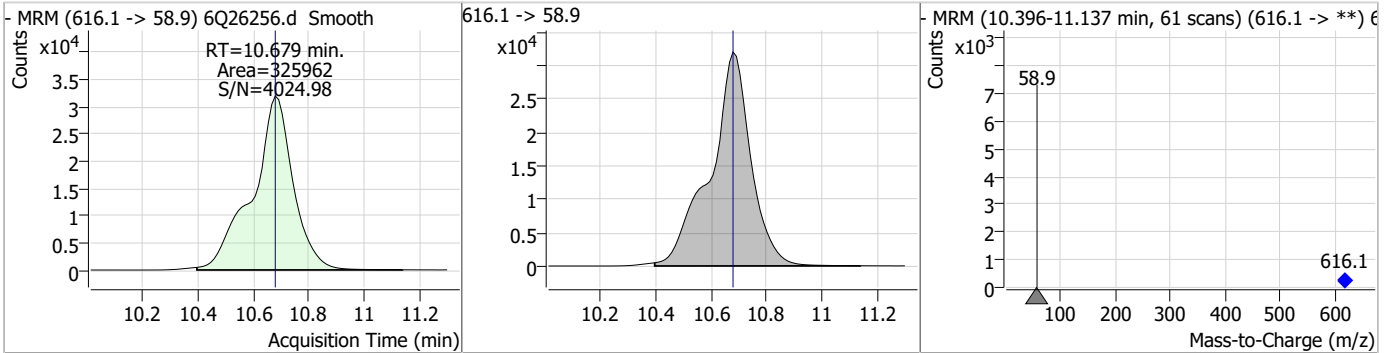
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoS	12.57	9.86	-0.01	21761	699.1 -> 98.8	58.1	28.5	85.4



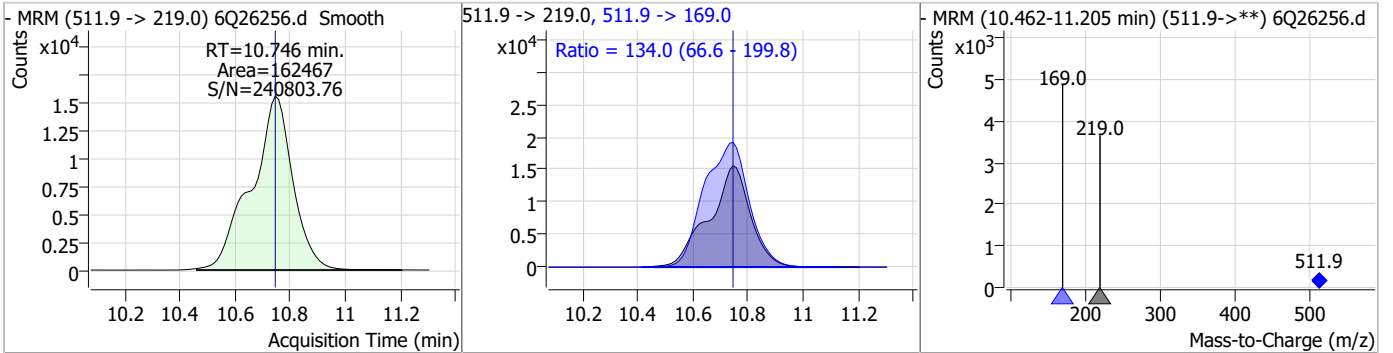
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d7-MeFOSE	26.01	10.67	0.00	82385				



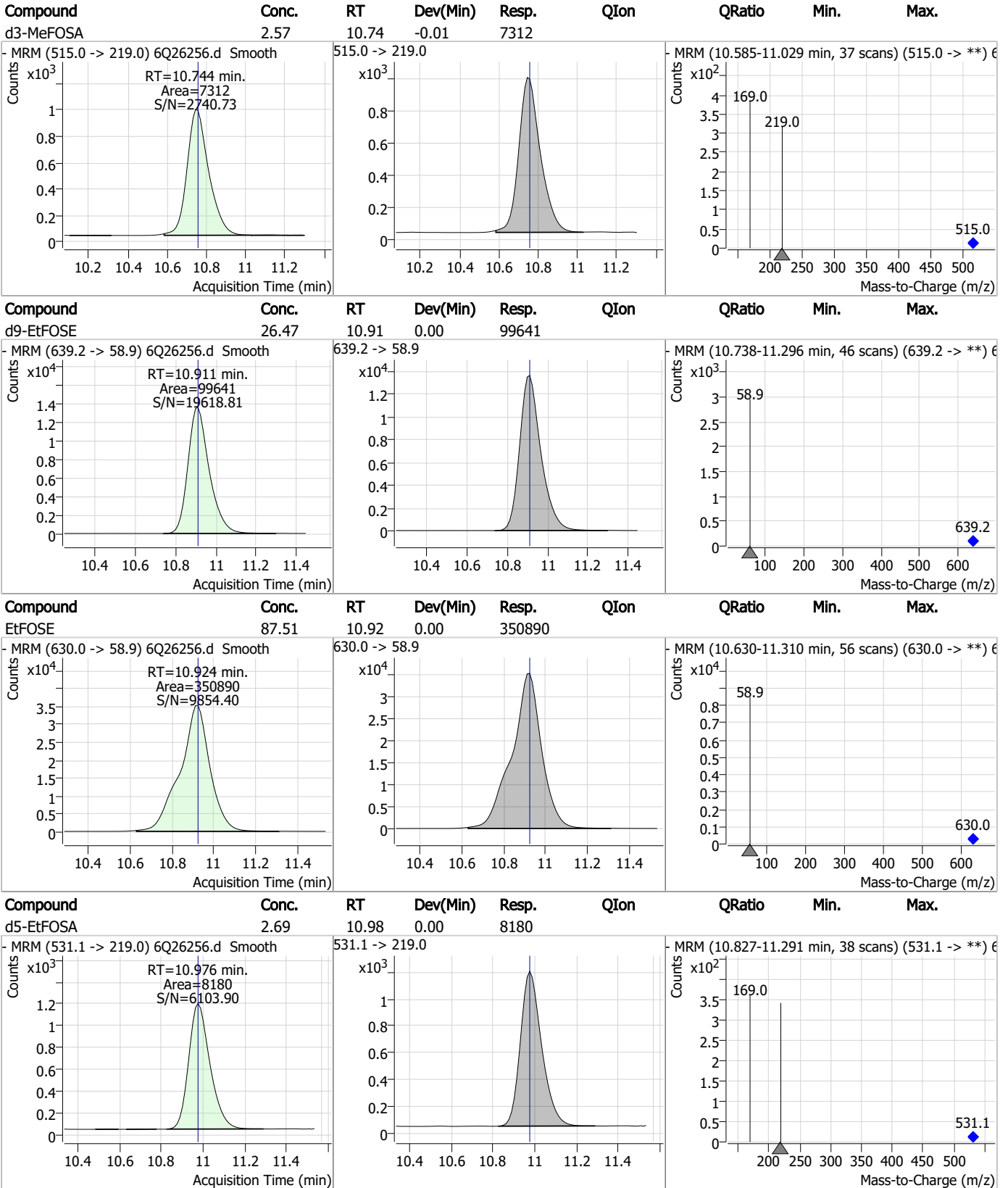
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSE	89.53	10.68	0.00	325962				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSA	47.93	10.75	0.00	162467	511.9 -> 169.0	134.0	66.6	199.8



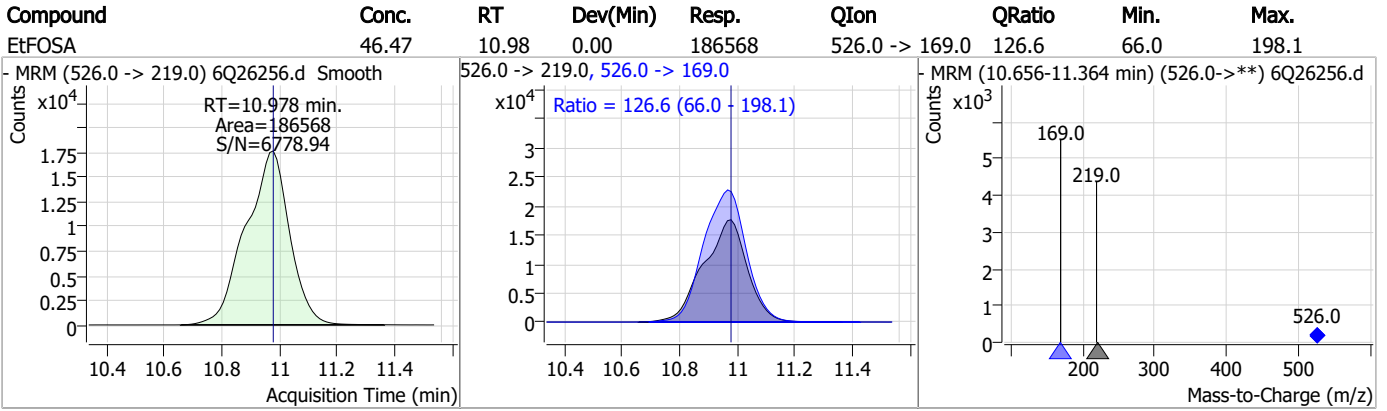
Perfluorinated Compounds by LC/MS/MS



7.6.4

7

Perfluorinated Compounds by LC/MS/MS



7.6.4

7

Manual Integration Approval Summary

Sample Number: S6Q370-RT Method: EPA DRAFT 1633
Lab FileID: 6Q26256.D Analyst approved: 10/16/23 10:56 Martha Valls
Injection Time: 10/12/23 09:58 Supervisor approved: 10/16/23 17:48 Natasha Gumtie

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorooctanoic acid	335-67-1		7.15	Split peak
Perfluorohexanesulfonic acid	355-46-4		7.25	Split peak
Perfluorononanoic acid	375-95-1		7.54	Split peak
Perfluorooctanesulfonic acid	1763-23-1		8.30	Split peak

7.6.4.1

7

Perfluorinated Compounds by LC/MS/MS

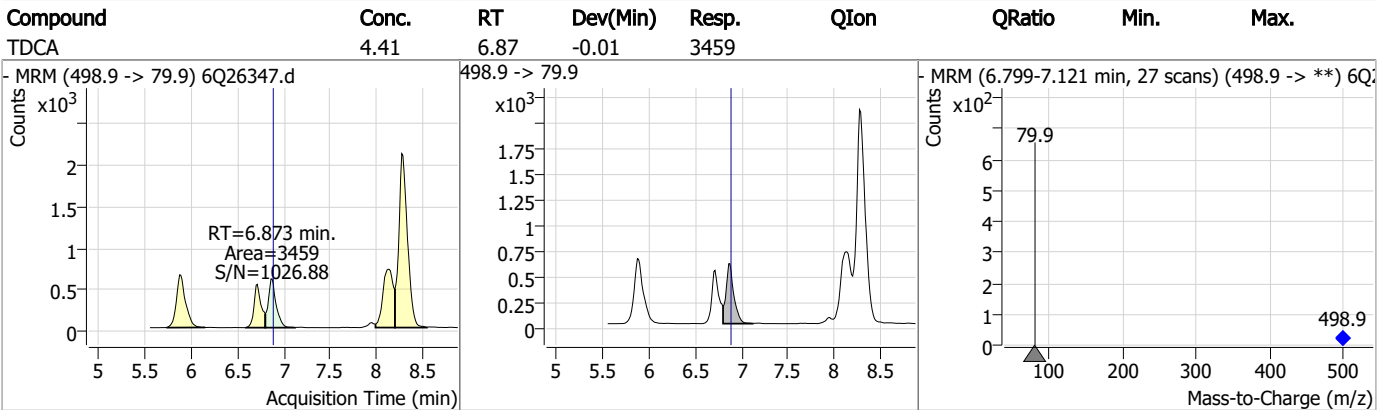
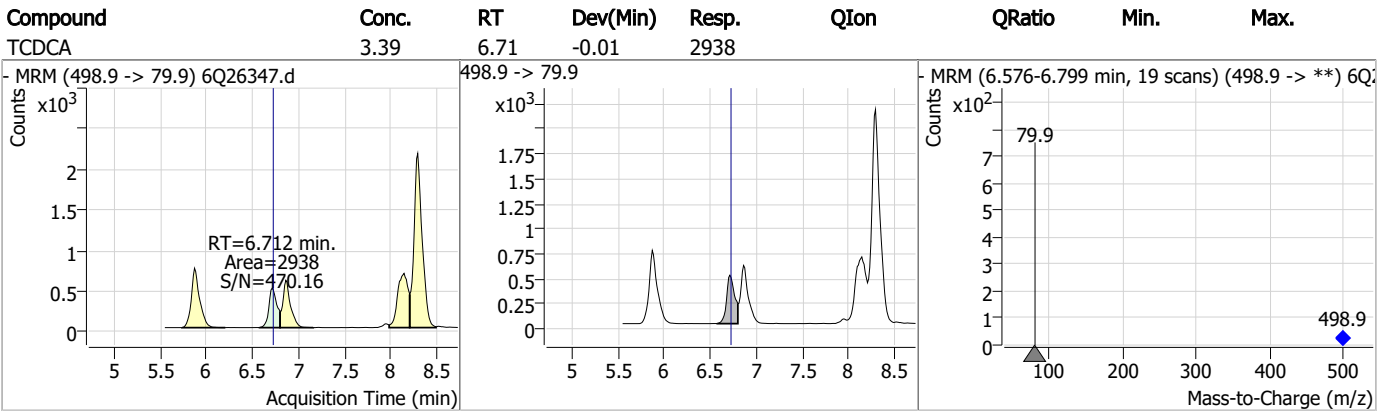
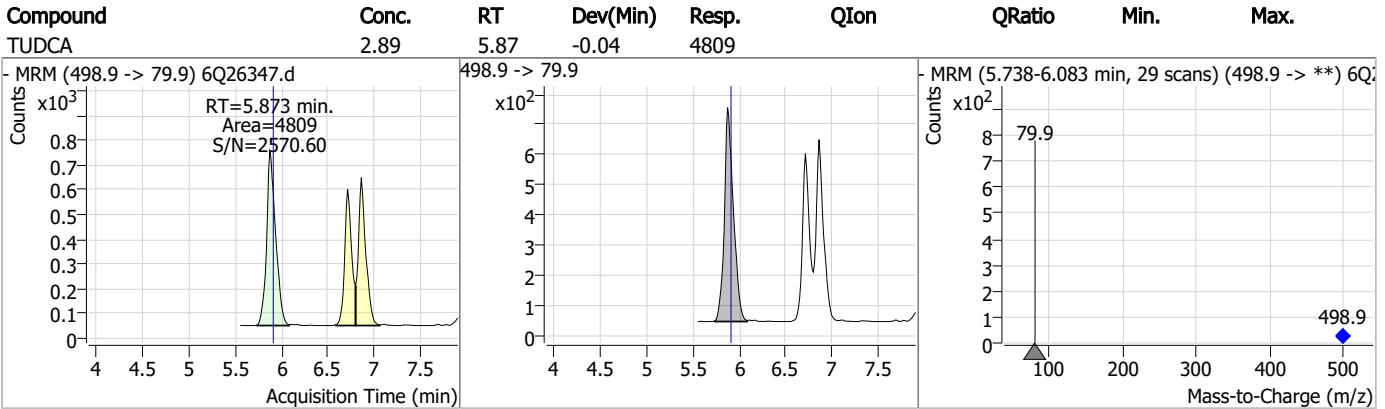
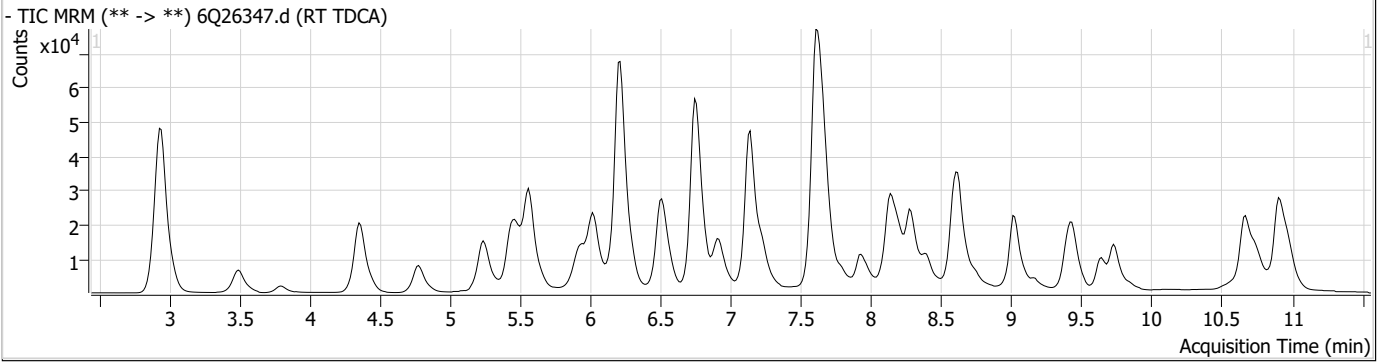
Data File : 6Q26347.d
 Operator : marthav
 Acq. Method : 1633full.m
 Acq. Date-Time : 10/13/2023 7:47:49 AM
 Sample Name : RT TDCA
 Vial : P1-B3
 DA Method File : TDCA.quantmethod.xml
 Batch Name : s6q370 TDCA.batch.bin
 Sample Information : OP99081,S6Q370,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc. Units	Dev(Min)	QValue
Internal Standards						
M8-PFOS	8.286	507.1 -> 79.9	18760	2.50 µg/L	-0.037	
13C4-PFOS	8.287	502.8 -> 79.9	18644	2.50 µg/L	-0.037	
System Monitoring Compounds						
13C8-PFOS	8.286	507.1 -> 79.9	18760	2.55 µg/L	-0.037	
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 102.1%			
Target Compounds						
PFOS	8.288	498.9 -> 79.9 498.9 -> 98.8	18976 9257	2.96 µg/L	#m	75
TCDCa	6.712	498.9 -> 79.9	2938	3.39 ng/ml		100
TDCA	6.873	498.9 -> 79.9	3459	4.41 ng/ml		100
TUDCA	5.873	498.9 -> 79.9	4809	2.89 ng/ml		100

= Qualifier out of range, m = manually integrated, + = Area summed

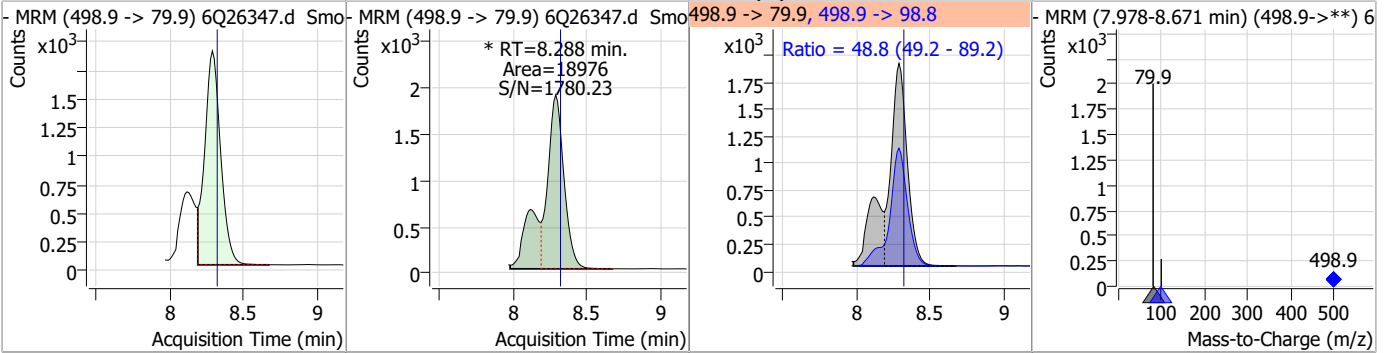
7.6.5
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Perfluorinated Compounds by LC/MS/MS

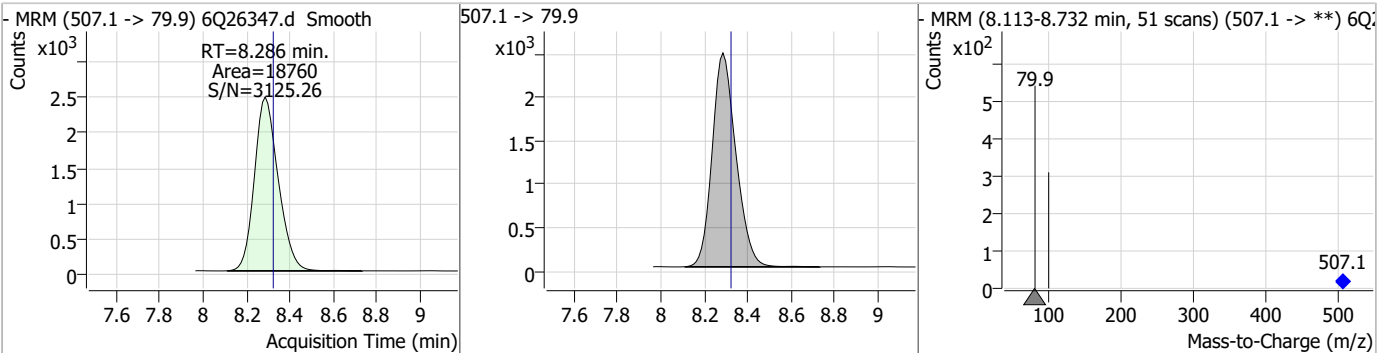


Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOS	2.96	8.29	-0.02	18976 (m)	498.9 -> 98.8	48.8	49.2	89.2



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOS	2.55	8.29	-0.04	18760				



7.6.5

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Manual Integration Approval Summary

Sample Number: S6Q370-RT Method: EPA DRAFT 1633
Lab FileID: 6Q26347.D Analyst approved: 10/16/23 10:56 Martha Valls
Injection Time: 10/13/23 07:47 Supervisor approved: 10/16/23 17:48 Natasha Gumtie

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorooctanesulfonic acid	1763-23-1		8.29	Split peak

Perfluorinated Compounds by LC/MS/MS

Data File : 6Q26348.d
 Operator : marthav
 Acq. Method : 1633full.m
 Acq. Date-Time : 10/13/2023 8:02:08 AM
 Sample Name : RT BR-LN
 Vial : P1-B4
 DA Method File : 1633_100823_S6Q367.quantmethod.xml
 Batch Name : s6q370.batch.bin
 Sample Information : OP99081,S6Q370,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Internal Standards					
M4-PFBA	2.935	216.8 -> 171.9	161913	10.00 µg/L	-0.013
M5-PFPeA	4.347	268.3 -> 223.0	58823	5.00 µg/L	-0.025
M5-PFHxA	5.555	318.0 -> 273.0	53861	2.50 µg/L	-0.025
M4-PFHpA	6.507	367.1 -> 322.0	51302	2.50 µg/L	-0.012
M8-PFOA	7.136	421.1 -> 376.0	66386	2.50 µg/L	-0.025
M9-PFNA	7.666	472.1 -> 427.0	27702	1.25 µg/L	-0.013
M6-PFDA	8.136	519.1 -> 474.1	29108	1.25 µg/L	-0.025
M7-PFUnDA	8.601	570.0 -> 525.1	30180	1.25 µg/L	-0.012
M2-PFDoDA	9.018	615.1 -> 570.0	35400	1.25 µg/L	-0.012
M2-PFTeDA	9.735	715.2 -> 670.0	11492	1.25 µg/L	-0.012
M8-FOSA	9.645	506.1 -> 77.8	24981	2.50 µg/L	-0.012
M3-PFBS	5.473	302.1 -> 79.9	23842	2.50 µg/L	-0.025
M3-PFHxS	7.239	402.1 -> 79.9	13184	2.50 µg/L	-0.025
M8-PFOS	8.286	507.1 -> 79.9	13372	2.50 µg/L	-0.025
M2-4:2FTS	5.230	329.1 -> 80.9	2484	5.00 µg/L	-0.025
M2-6:2FTS	6.912	429.1 -> 80.9	3259	5.00 µg/L	-0.025
M2-8:2FTS	7.937	529.1 -> 80.9	3697	5.00 µg/L	-0.012
M3-MeFOSAA	8.195	573.2 -> 419.0	27313	5.00 µg/L	-0.012
M3-HFPO-DA	5.933	286.9 -> 168.9	35948	10.00 µg/L	-0.025
M5-EtFOSAA	8.402	589.2 -> 419.0	23489	5.00 µg/L	-0.012
M7-MeFOSE	10.665	623.2 -> 58.9	79443	25.00 µg/L	0.000
M9-EtFOSE	10.898	639.2 -> 58.9	94836	25.00 µg/L	-0.012
M5-EtFOSA	10.976	531.1 -> 219.0	7910	2.50 µg/L	0.000
M3-MeFOSA	10.744	515.0 -> 219.0	7061	2.50 µg/L	-0.012
13C4-PFOS	8.287	502.8 -> 79.9	13019	2.50 µg/L	-0.025
13C3-PFBA	2.927	216.0 -> 172.0	67842	5.00 µg/L	-0.025
18O2-PFHxS	7.238	403.0 -> 83.9	8688	2.50 µg/L	-0.025
13C4-PFOA	7.136	417.1 -> 372.0	79224	2.50 µg/L	-0.025
13C2-PFDA	8.136	515.1 -> 470.1	27195	1.25 µg/L	-0.025
13C5-PFNA	7.667	468.0 -> 423.0	26596	1.25 µg/L	-0.013
13C2-PFHxA	5.556	315.1 -> 270.0	53795	2.50 µg/L	-0.025
System Monitoring Compounds					
13C2-4:2FTS	5.230	329.1 -> 80.9	2484	5.08 µg/L	-0.025
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 101.5%		
13C2-6:2FTS	6.912	429.1 -> 80.9	3259	4.48 µg/L	-0.025
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 89.5%		
13C2-8:2FTS	7.937	529.1 -> 80.9	3697	4.93 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 98.7%		
13C2-PFDoDA	9.018	615.1 -> 570.0	35400	1.31 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 104.5%		
13C2-PFTeDA	9.735	715.2 -> 670.0	11492	1.25 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 100.0%		
13C3-PFBS	5.473	302.1 -> 79.9	23842	2.42 µg/L	-0.025
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 96.9%		
13C3-PFHxS	7.239	402.1 -> 79.9	13184	2.39 µg/L	-0.025

7.6.6
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Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 95.5%	
13C4-PFBA	2.935	216.8 -> 171.9	161913	9.89 µg/L	-0.013
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 98.9%	
13C4-PFHpA	6.507	367.1 -> 322.0	51302	2.36 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 94.3%	
13C5-PFHxA	5.555	318.0 -> 273.0	53861	2.42 µg/L	-0.025
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 96.9%	
13C5-PFPeA	4.347	268.3 -> 223.0	58823	4.83 µg/L	-0.025
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 96.6%	
13C6-PFDA	8.136	519.1 -> 474.1	29108	1.27 µg/L	-0.025
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 101.7%	
13C7-PFUnDA	8.601	570.0 -> 525.1	30180	1.22 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 97.5%	
13C8-FOSA	9.645	506.1 -> 77.8	24981	2.33 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 93.0%	
13C8-PFOA	7.136	421.1 -> 376.0	66386	2.42 µg/L	-0.025
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 96.7%	
13C8-PFOS	8.286	507.1 -> 79.9	13372	2.38 µg/L	-0.025
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 95.1%	
13C9-PFNA	7.666	472.1 -> 427.0	27702	1.27 µg/L	-0.013
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 101.3%	
d3-MeFOSAA	8.195	573.2 -> 419.0	27313	4.77 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 95.4%	
13C3-HFPO-DA	5.933	286.9 -> 168.9	35948	9.58 µg/L	-0.025
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 95.8%	
d3-MeFOSA	10.744	515.0 -> 219.0	7061	2.27 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 90.7%	
d5-EtFOSAA	8.402	589.2 -> 419.0	23489	4.79 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 95.7%	
d7-MeFOSE	10.665	623.2 -> 58.9	79443	22.91 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 91.6%	
d9-EtFOSE	10.898	639.2 -> 58.9	94836	23.01 µg/L	-0.012
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 92.0%	
d5-EtFOSA	10.976	531.1 -> 219.0	7910	2.37 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 95.0%	
Target Compounds					QValue
4:2FTS	5.231	327.1 -> 307.0	211762	51.40 µg/L	99
		327.1 -> 80.9	81316		
6:2FTS	6.912	427.1 -> 407.0	162531	54.87 µg/L	99
		427.1 -> 80.9	61928		
8:2FTS	7.938	527.1 -> 507.0	121629	47.22 µg/L	97
		527.1 -> 80.8	44984		
EtFOSAA	8.403	584.2 -> 419.1	48228	12.64 µg/L	95
		584.2 -> 526.0	31893		
FOSA	9.647	498.1 -> 77.9	316296	33.06 µg/L	100
		498.1 -> 478.0	8328		
MeFOSAA	8.196	570.1 -> 419.0	66505	13.04 µg/L	97
		570.1 -> 483.0	13247		
PFBA	2.931	212.8 -> 168.9	323921	53.70 µg/L	100
PFBS	5.474	298.7 -> 79.9	82978	11.61 µg/L	100
		298.7 -> 98.8	30549		
PFDA	8.149	512.9 -> 469.0	298246	13.11 µg/L	99
		512.9 -> 219.0	47459		
PFDoDA	9.018	613.1 -> 569.0	333474	12.67 µg/L	97
		613.1 -> 319.0	41360		
PFDS	9.170	599.0 -> 79.9	41900	12.25 µg/L	96

Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
PFHpA	6.507	599.0 -> 98.8	19458	13.62	µg/L	99
		363.1 -> 319.0	379102			
PFHpS	7.794	363.1 -> 169.0	54112	12.72	µg/L	97
		449.0 -> 79.9	70213			
PFHxA	5.557	449.0 -> 98.9	32711	12.70	µg/L	100
		313.0 -> 269.0	244593			
PFHxS	7.240	313.0 -> 118.9	12454	11.93	µg/L	m
		398.7 -> 79.9	65725			
PFNA	7.531	398.7 -> 98.9	31857	29.99	µg/L	m
		463.0 -> 419.0	512020			
PFNS	8.752	463.0 -> 219.0	129731	12.03	µg/L	98
		548.8 -> 79.9	58668			
PFOA	7.137	548.8 -> 98.9	30396	30.43	µg/L	m
		413.0 -> 369.0	866947			
PFOS	8.288	413.0 -> 169.0	157526	11.79	µg/L	m
		498.9 -> 79.9	67336			
PFPeA	4.349	498.9 -> 98.8	34921	25.76	µg/L	100
		263.0 -> 219.0	326862			
PFPeS	6.546	349.1 -> 79.9	90387	12.70	µg/L	99
		349.1 -> 98.9	40079			
PFTeDA	9.735	713.1 -> 669.0	197987	13.24	µg/L	98
		713.1 -> 168.9	14871			
PFTrDA	9.401	663.0 -> 619.0	287570	13.90	µg/L	99
		663.0 -> 168.9	22371			
PFUnDA	8.589	563.1 -> 519.0	297262	13.98	µg/L	98
		563.1 -> 269.1	45609			
11CI-PF3OUdS	9.442	630.9 -> 450.9	261408	24.51	µg/L	95
		632.9 -> 452.9	76930			
9CI-PF3ONS	8.628	530.8 -> 351.0	462187	24.42	µg/L	99
		532.8 -> 353.0	138890			
ADONA	6.755	376.9 -> 250.9	1163173	23.56	µg/L	99
		376.9 -> 84.8	328394			
HFPO-DA	5.933	284.9 -> 168.9	94802	26.61	µg/L	100
		284.9 -> 184.9	11343			
3:3FTCA	3.783	241.0 -> 177.0	55935	64.37	µg/L	100
		241.0 -> 117.0	7623			
5:3FTCA	6.209	341.0 -> 237.1	1155706	320.17	µg/L	100
		341.0 -> 217.0	825192			
7:3FTCA	7.620	441.0 -> 316.9	700842	317.87	µg/L	99
		441.0 -> 336.9	1424352			
EtFOSA	10.978	526.0 -> 219.0	173330	44.64	µg/L	99
		526.0 -> 169.0	227161			
EtFOSE	10.912	630.0 -> 58.9	323820	84.86	µg/L	100
		511.9 -> 219.0	157860			
MeFOSA	10.746	511.9 -> 169.0	212323	48.23	µg/L	99
		616.1 -> 58.9	309290			
MeFOSE	10.679	699.1 -> 79.9	22677	88.10	µg/L	100
		699.1 -> 98.8	12126			
PFDoDS	9.849	295.0 -> 201.0	63145	12.77	µg/L	95
		295.0 -> 84.9	17177			
NFDHA	5.437	279.0 -> 85.1	253157	26.10	µg/L	100
		229.0 -> 84.9	208313			
PFMBA	4.769	314.8 -> 134.9	574430	26.10	µg/L	100
		314.8 -> 82.9	19879			
PFMPA	3.488			23.19	µg/L	100
PFEESA	6.025					

= Qualifier out of range, m = manually integrated, + = Area summed

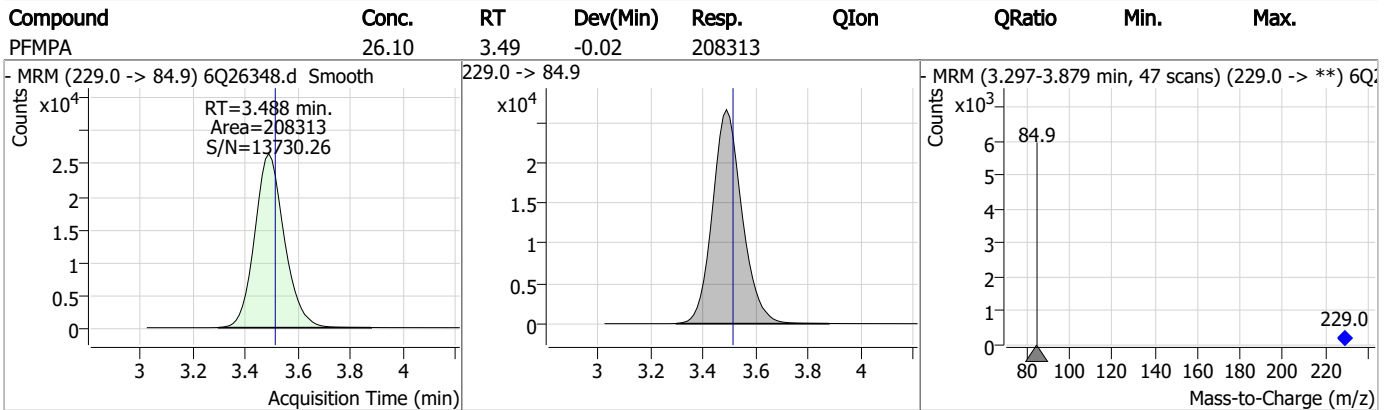
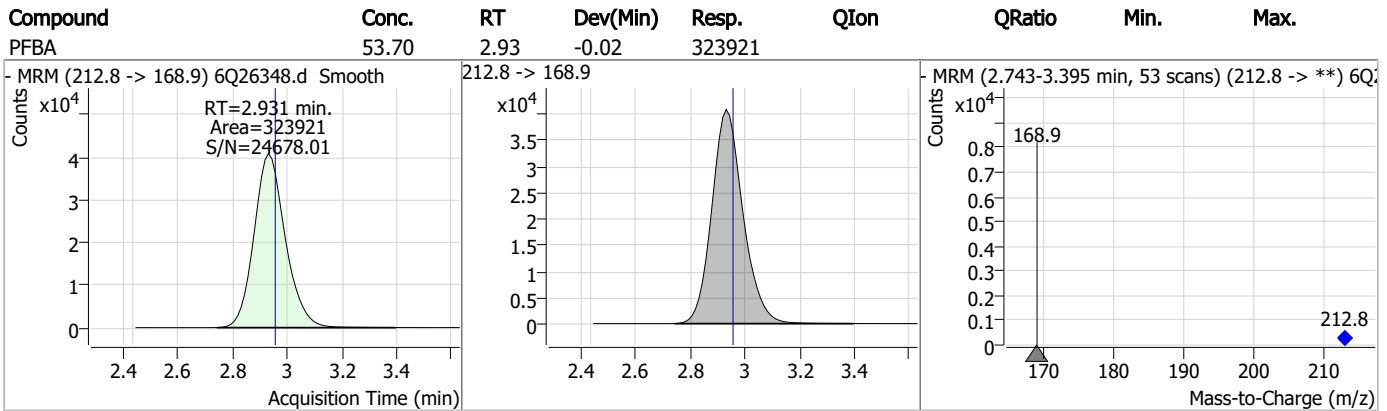
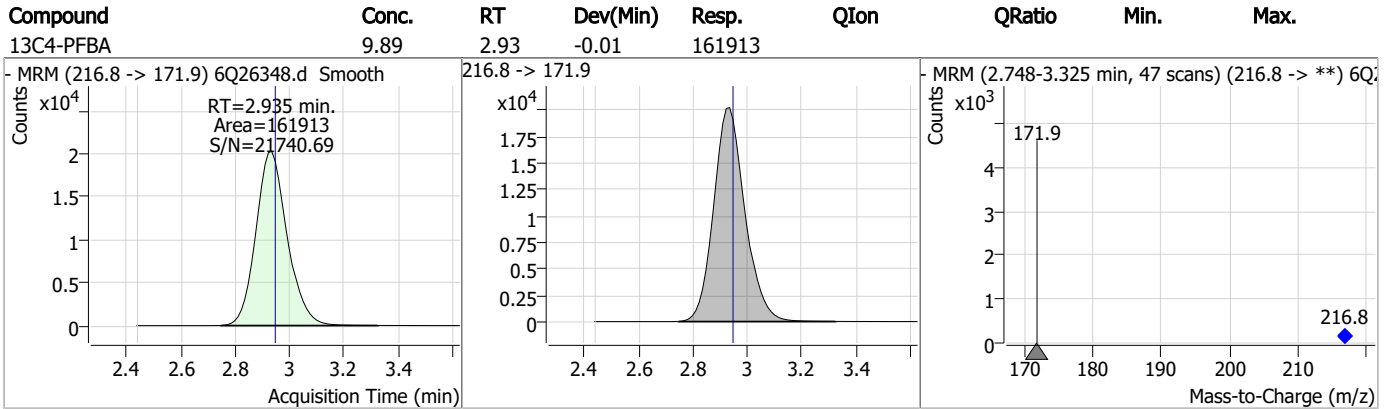
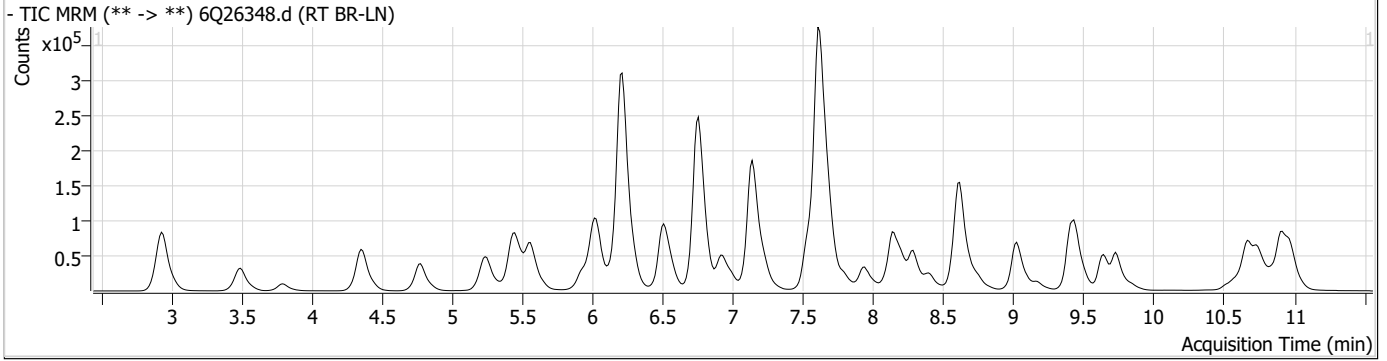
Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
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7.6.6

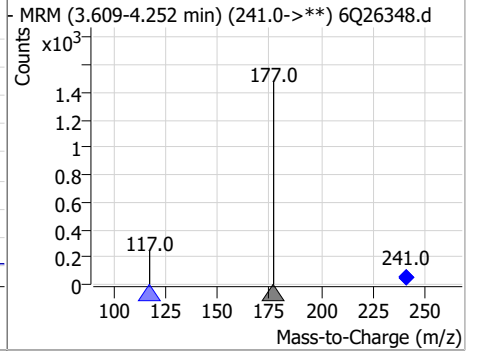
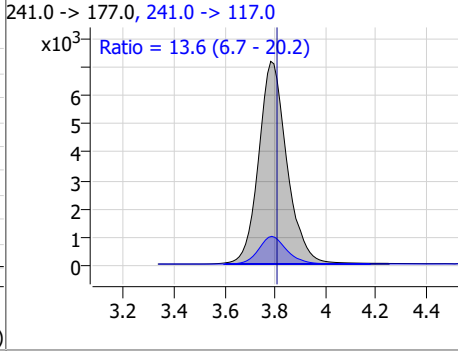
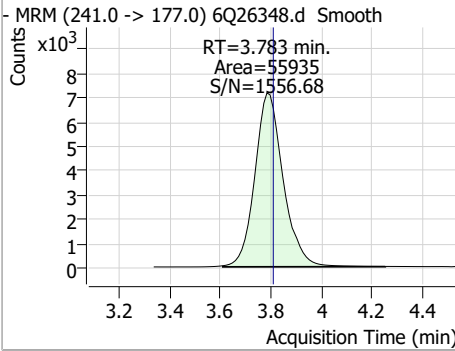
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Perfluorinated Compounds by LC/MS/MS

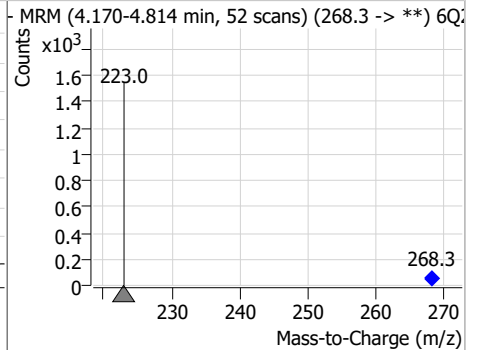
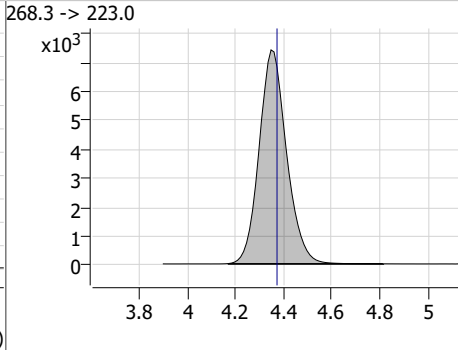
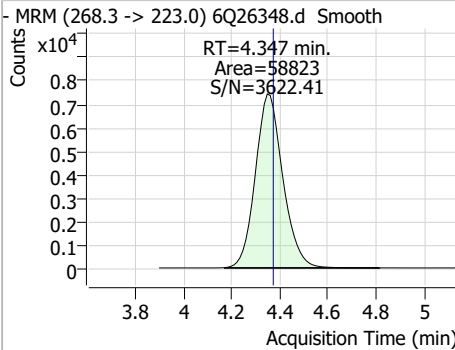


Perfluorinated Compounds by LC/MS/MS

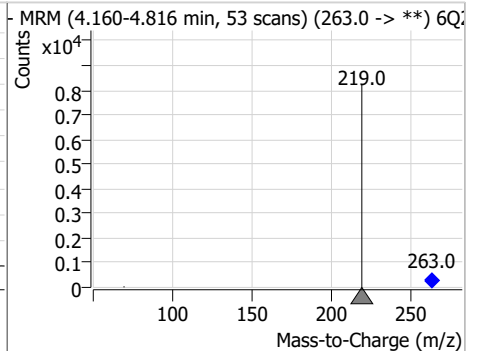
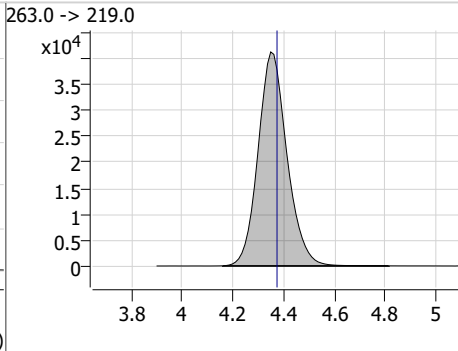
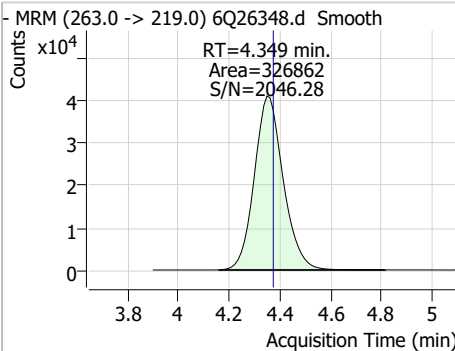
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
3:3FTCA	64.37	3.78	-0.02	55935	241.0 -> 117.0	13.6	6.7	20.2



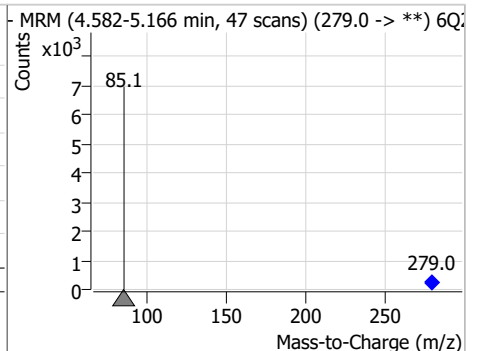
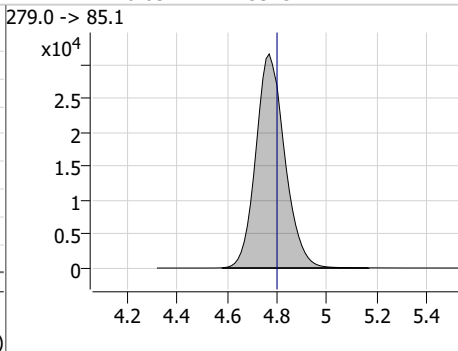
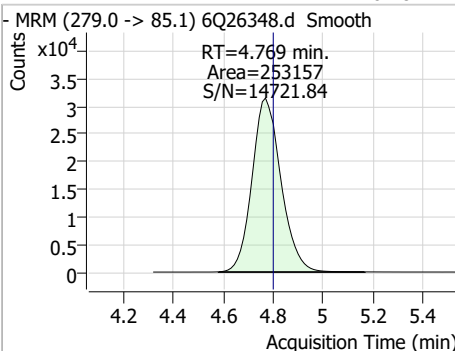
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFPeA	4.83	4.35	-0.02	58823				



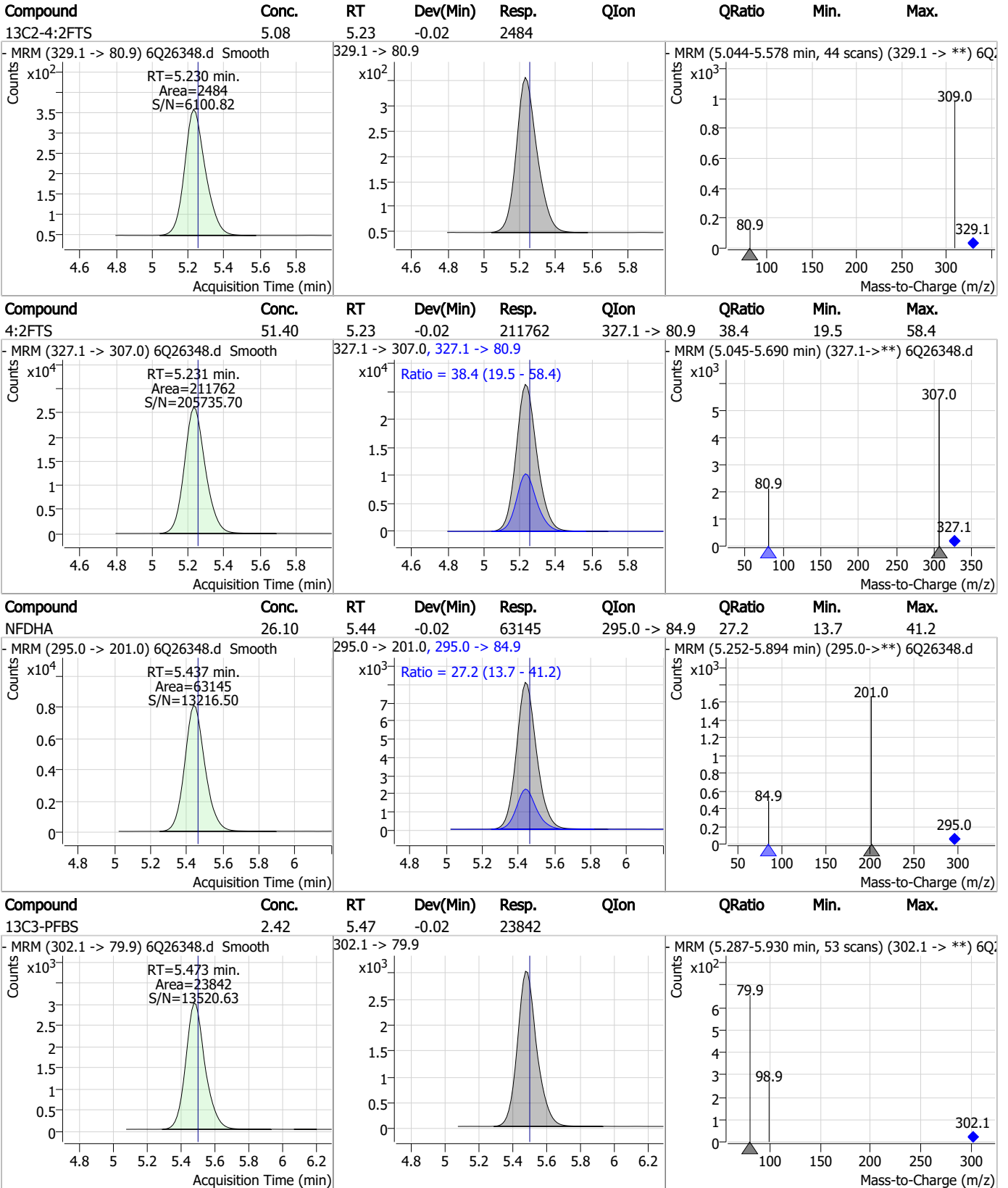
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeA	25.76	4.35	-0.02	326862				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFMBA	26.18	4.77	-0.03	253157				



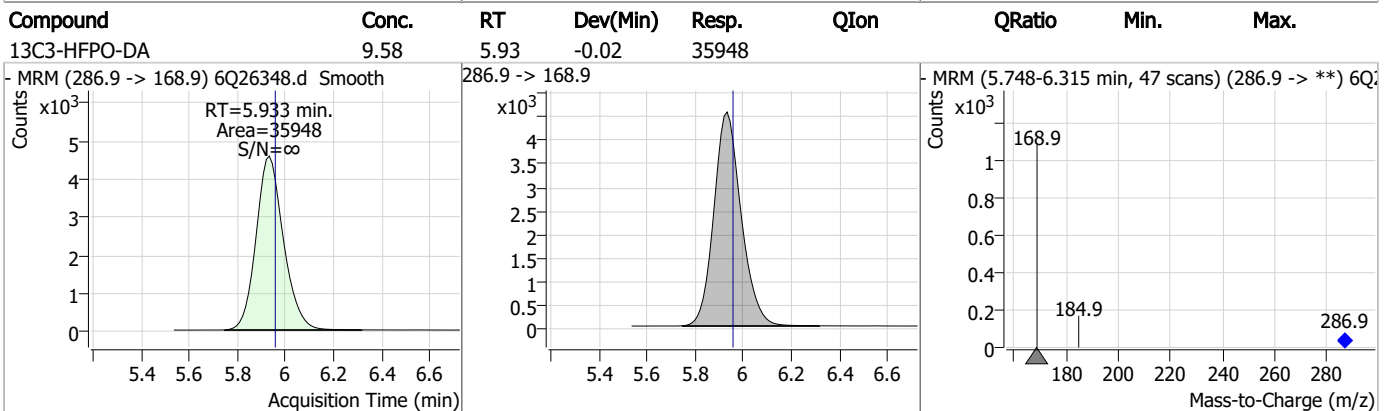
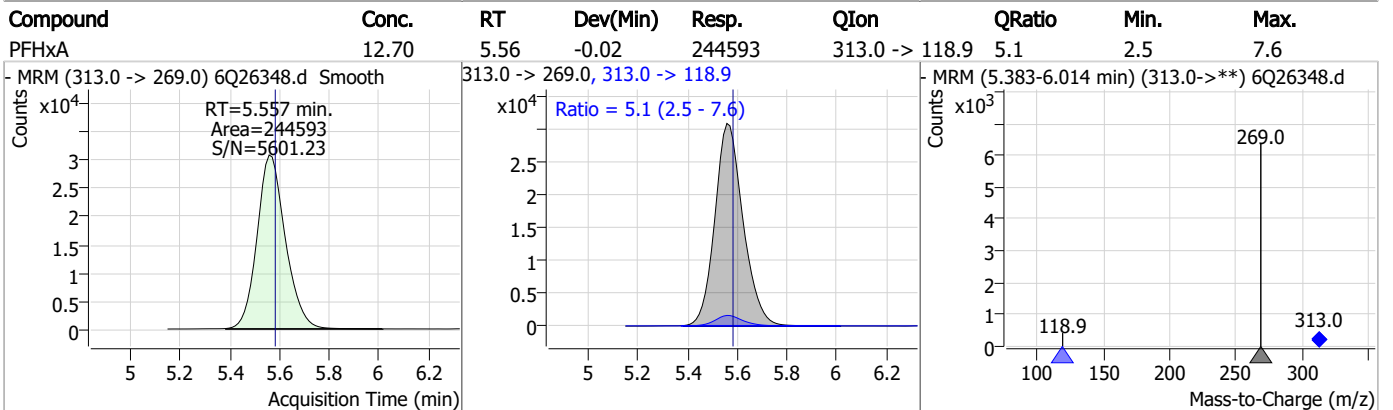
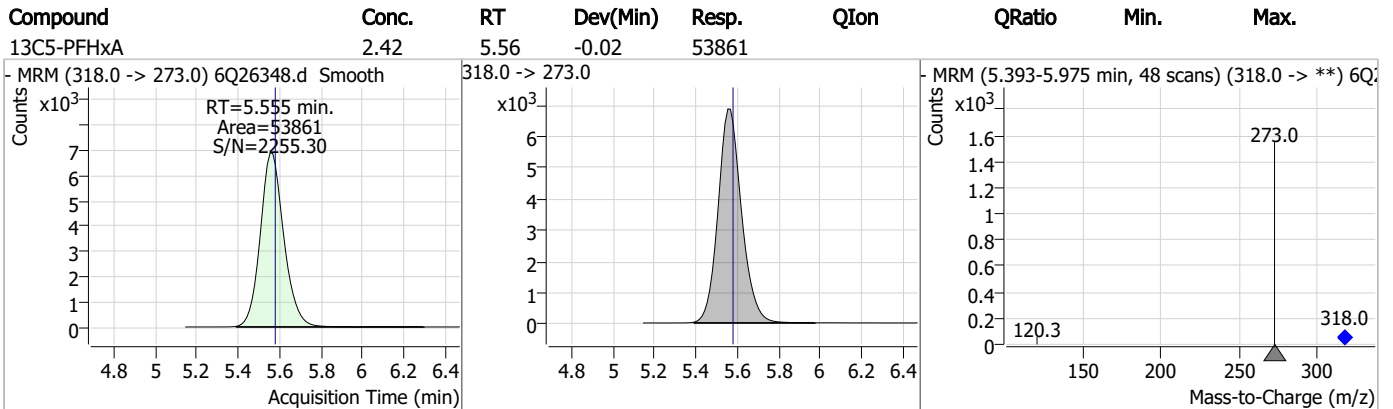
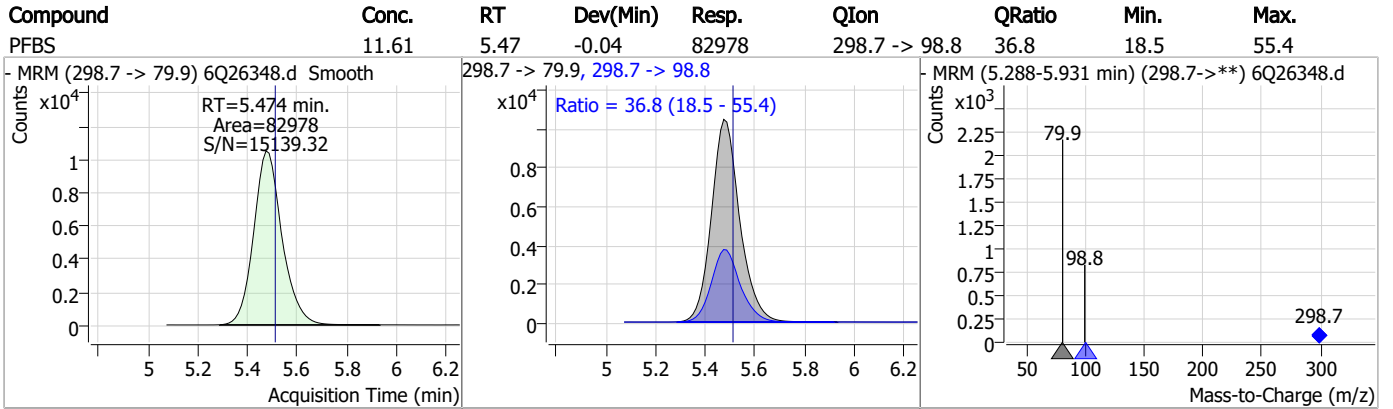
Perfluorinated Compounds by LC/MS/MS



7.6.6

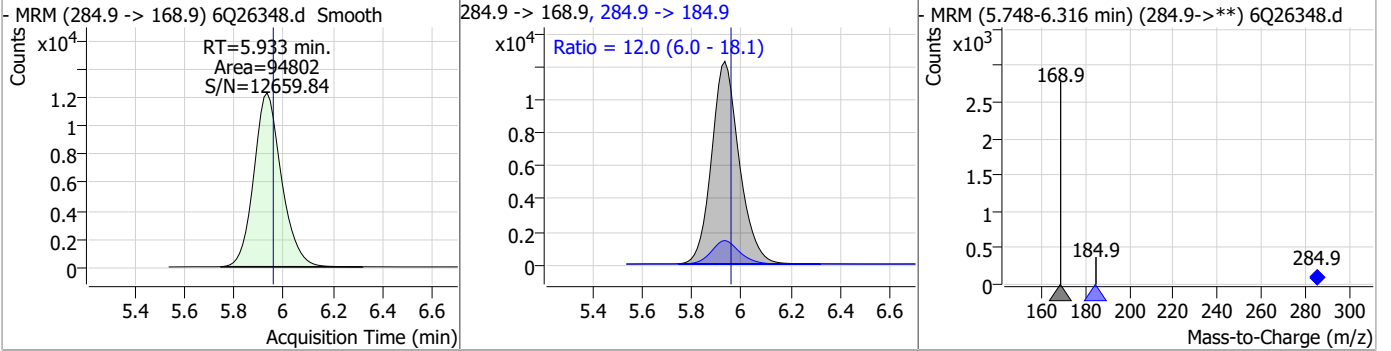
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Perfluorinated Compounds by LC/MS/MS

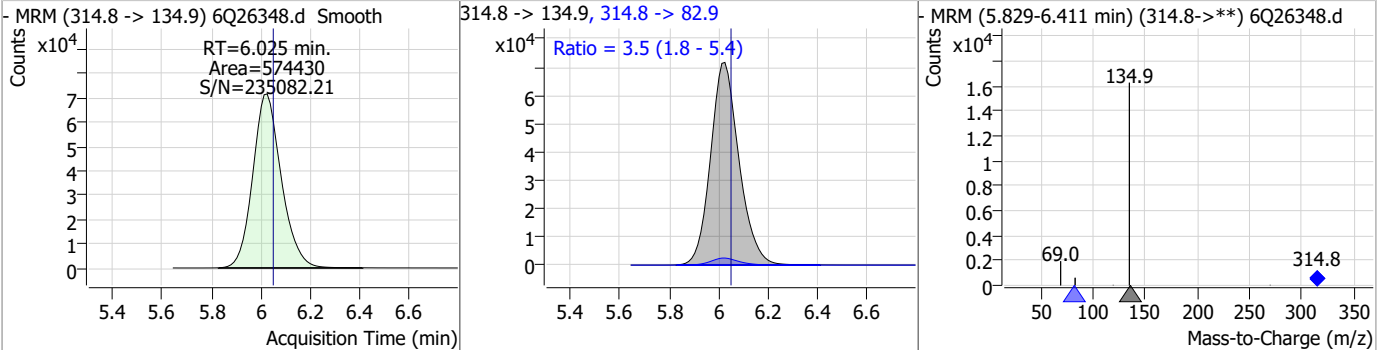


Perfluorinated Compounds by LC/MS/MS

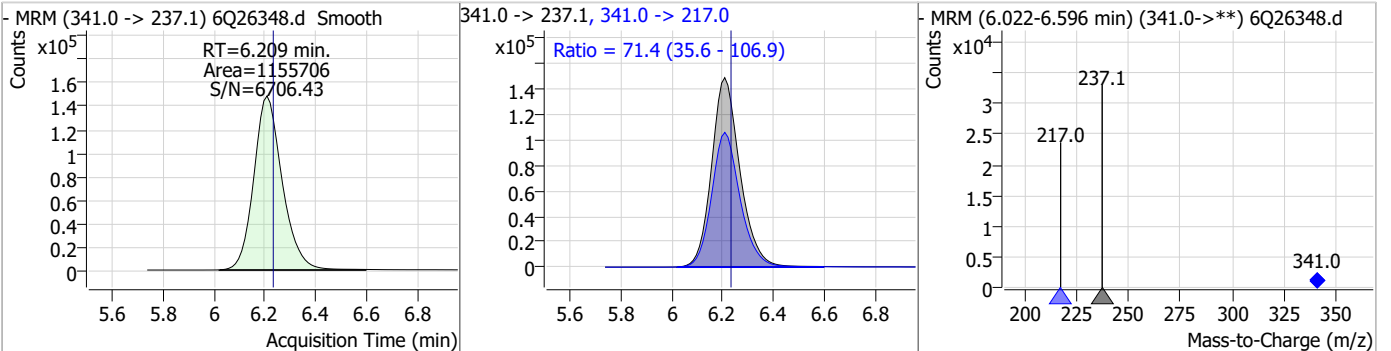
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
HFPO-DA	26.61	5.93	-0.02	94802	284.9 -> 184.9	12.0	6.0	18.1



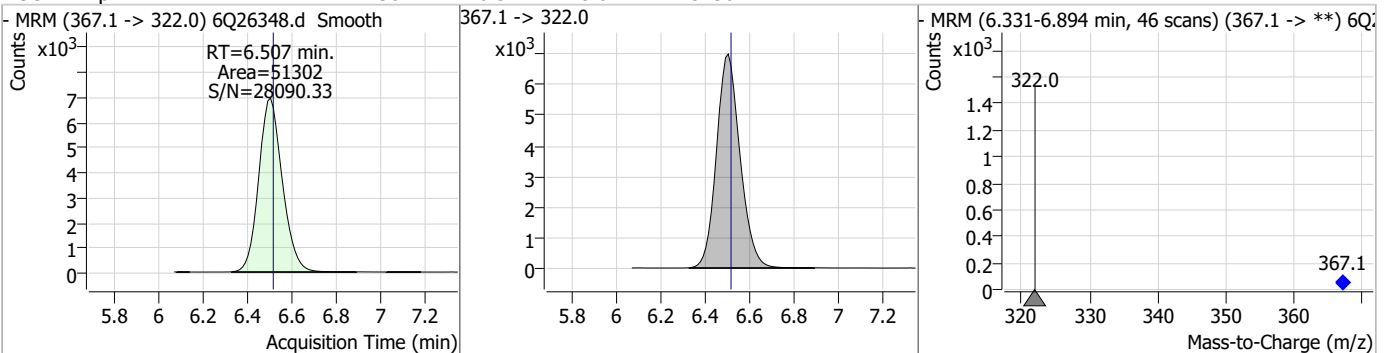
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFEESA	23.19	6.02	-0.02	574430	314.8 -> 82.9	3.5	1.8	5.4



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
5:3FTCA	320.17	6.21	-0.02	1155706	341.0 -> 217.0	71.4	35.6	106.9



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFHpA	2.36	6.51	-0.01	51302	367.1 -> 322.0	-	-	-



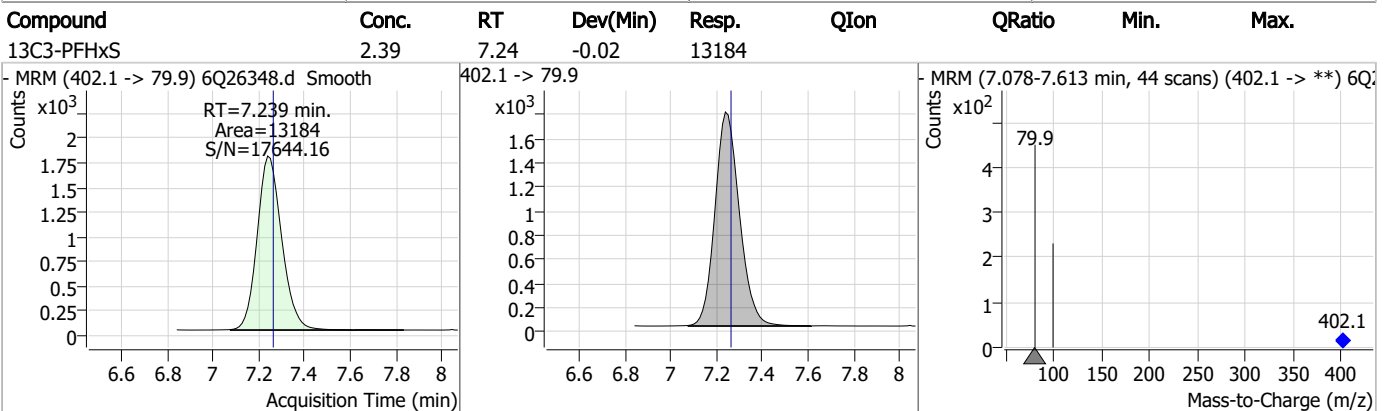
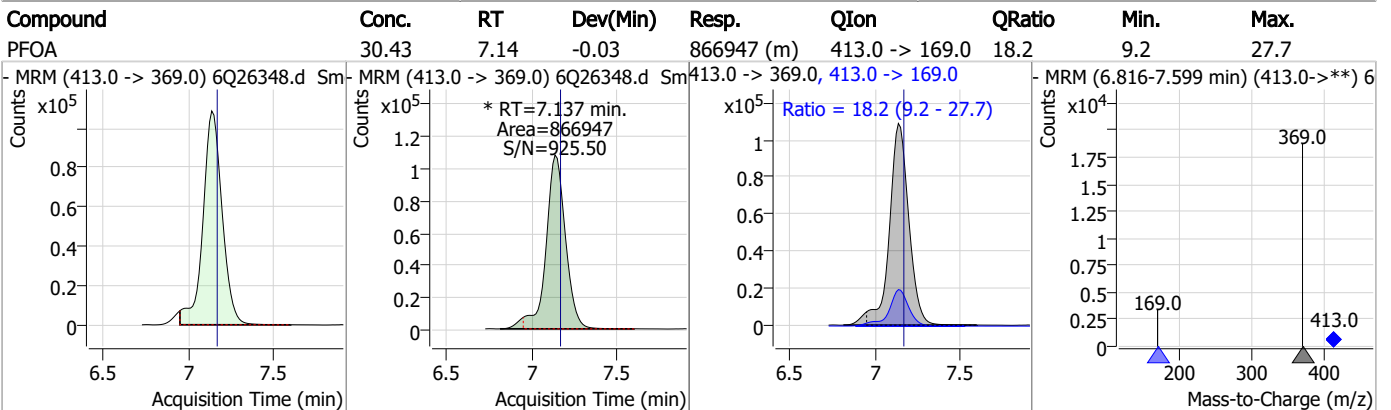
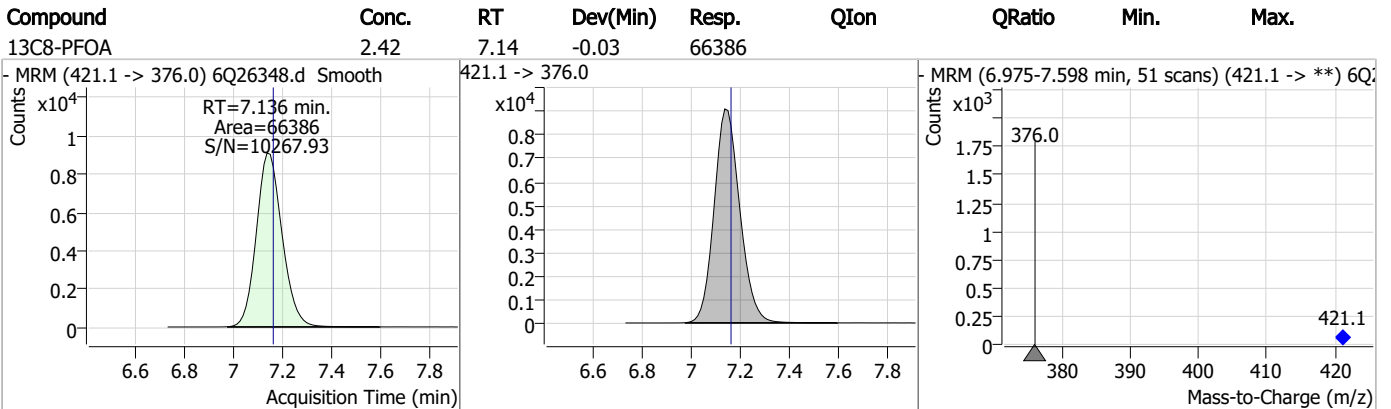
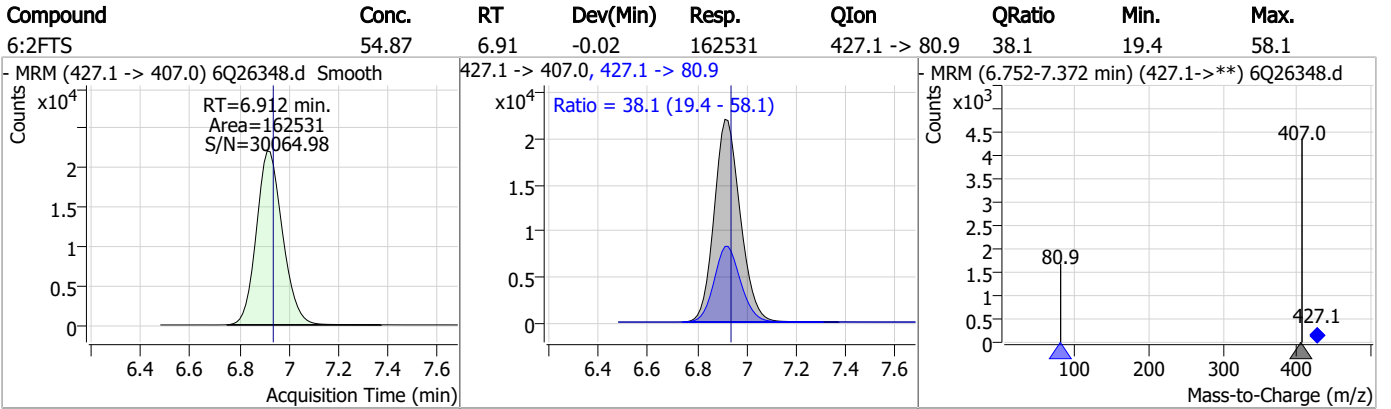
Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpA	13.62	6.51	-0.01	379102	363.1 -> 169.0	14.3	7.3	22.0
PFPeS	12.70	6.55	-0.02	90387	349.1 -> 98.9	44.3	21.9	65.6
ADONA	23.56	6.75	-0.01	1163173	376.9 -> 84.8	28.2	13.8	41.3
13C2-6:2FTS	4.48	6.91	-0.02	3259	429.1 -> 80.9			

7.6.6

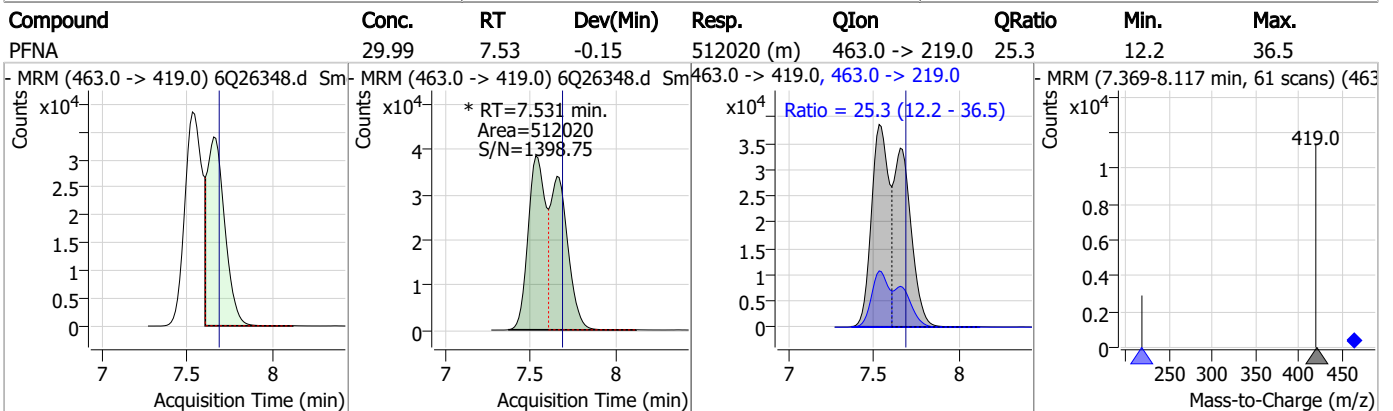
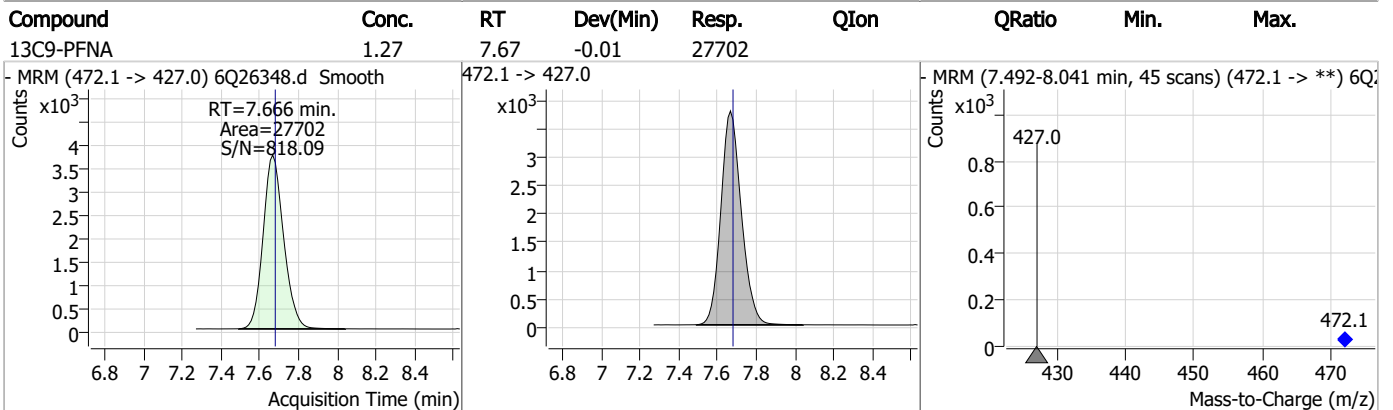
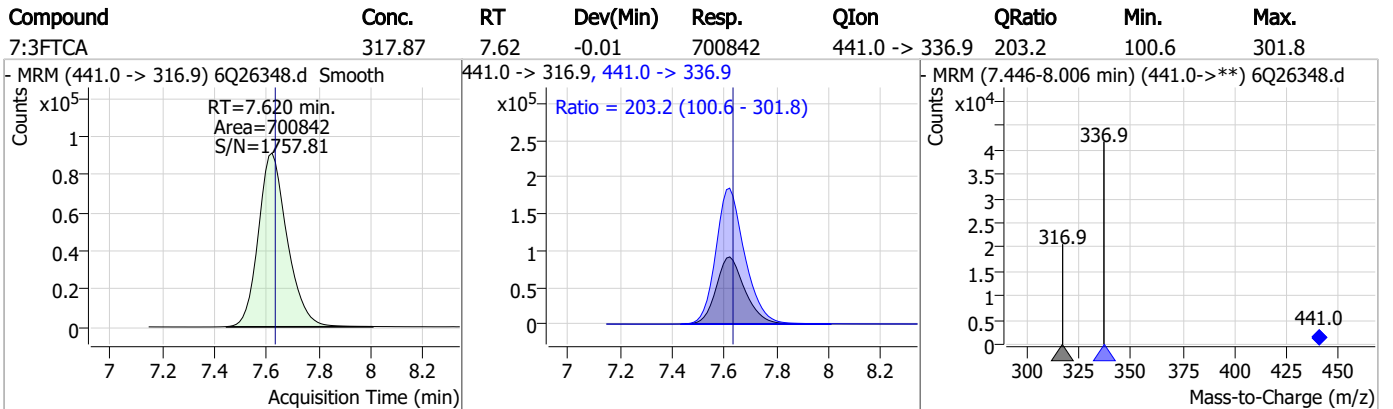
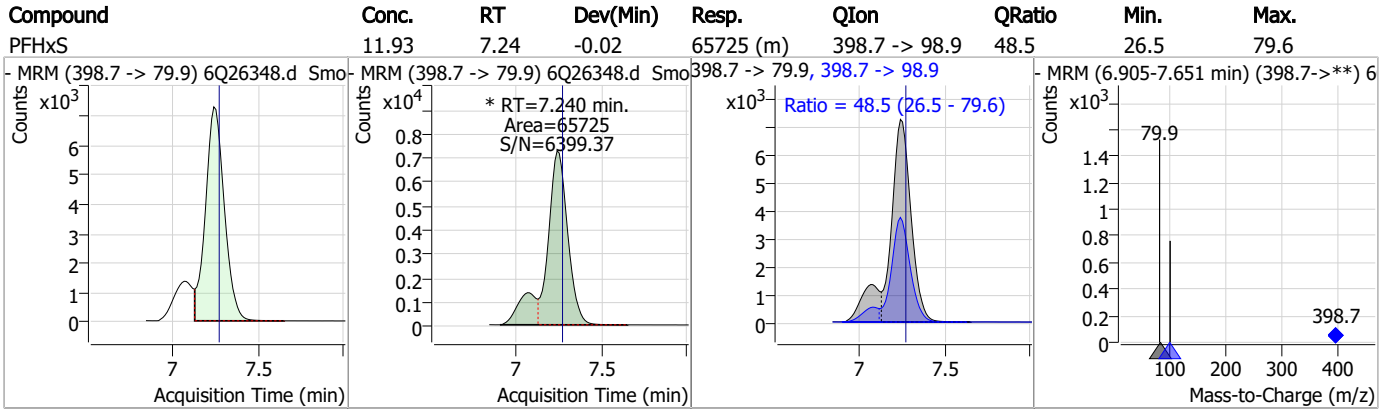
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Perfluorinated Compounds by LC/MS/MS

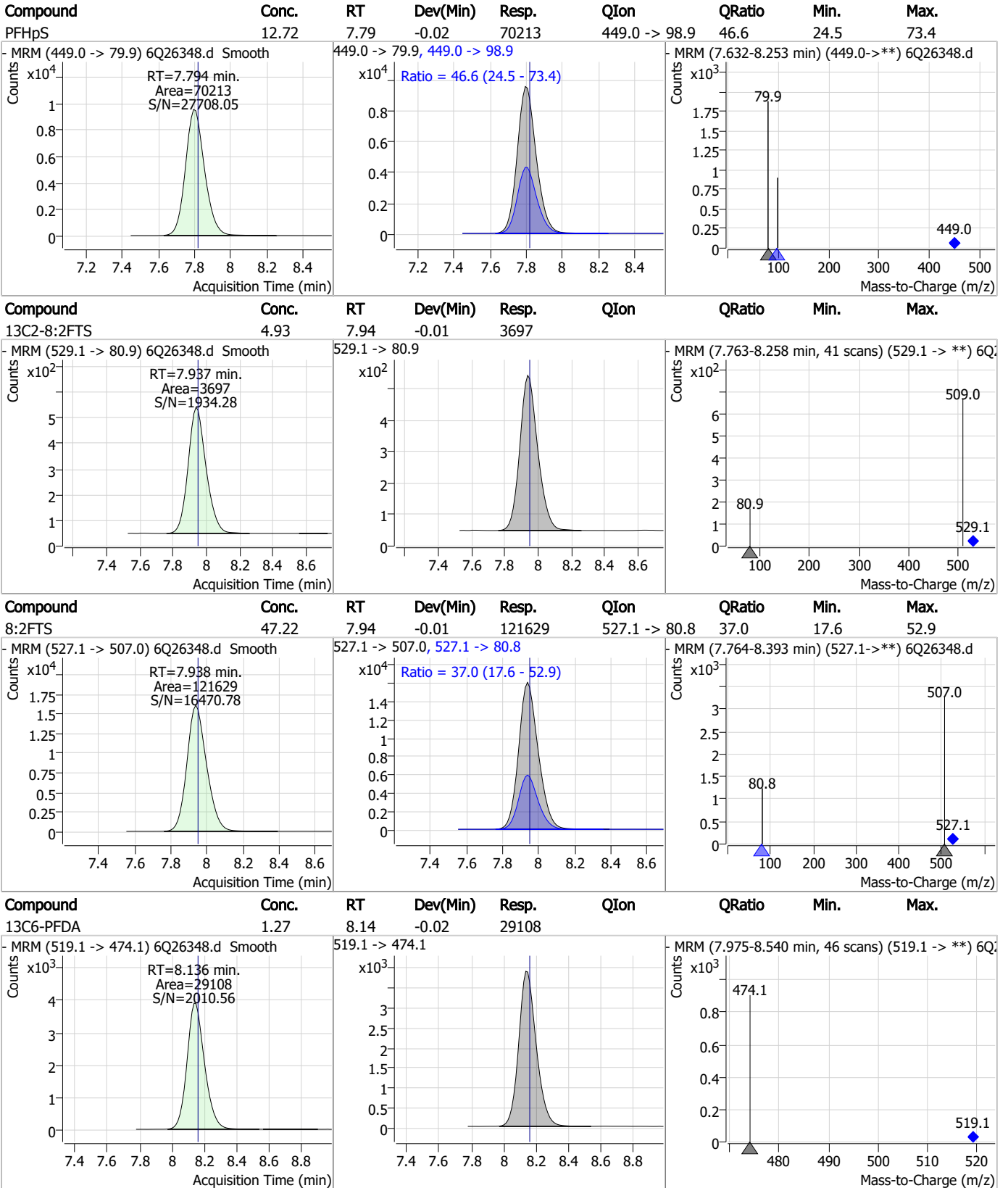


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Perfluorinated Compounds by LC/MS/MS



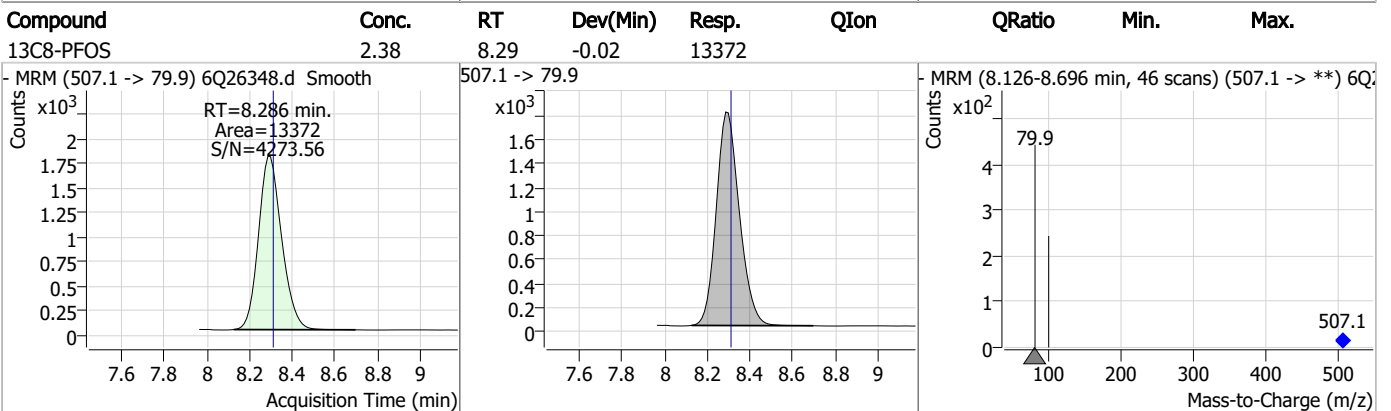
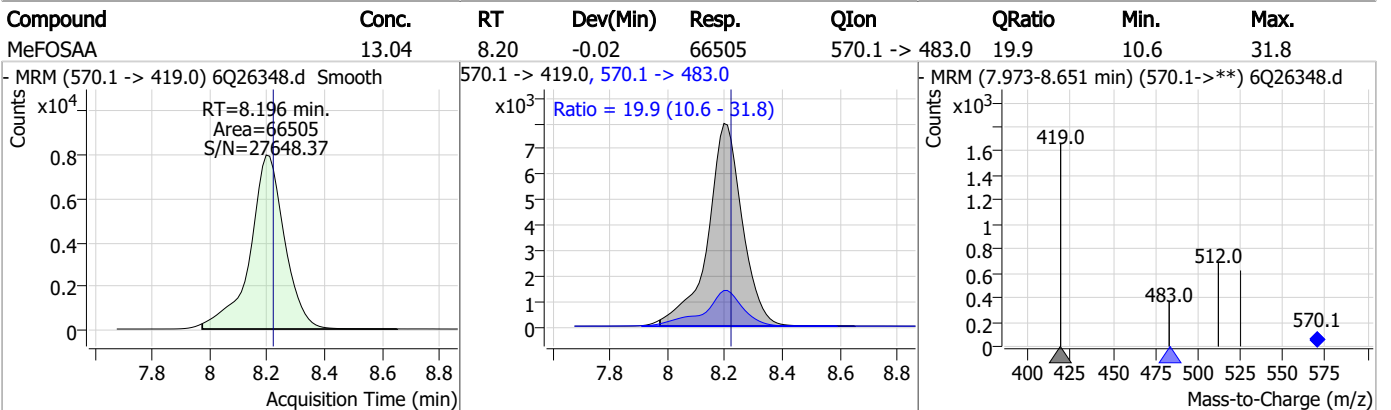
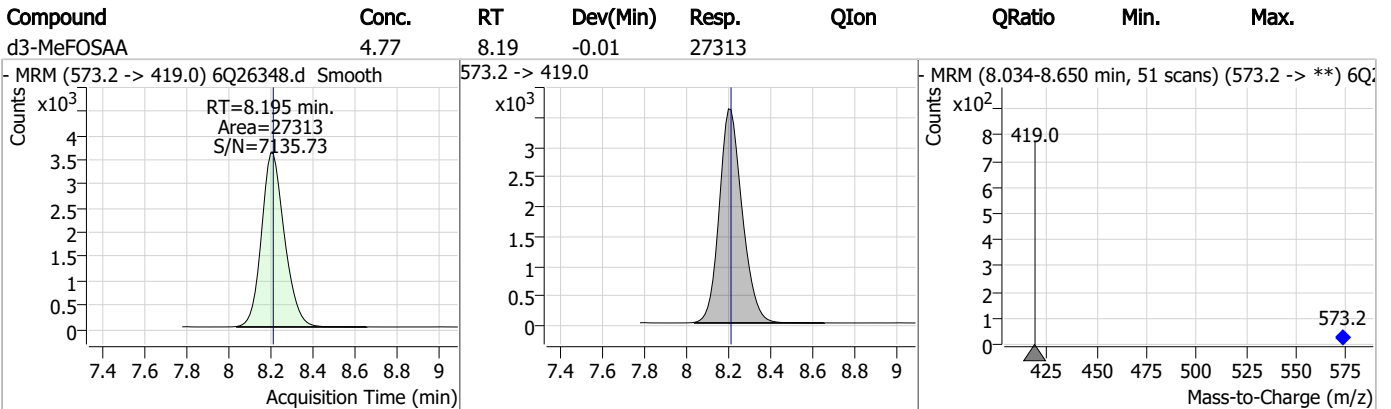
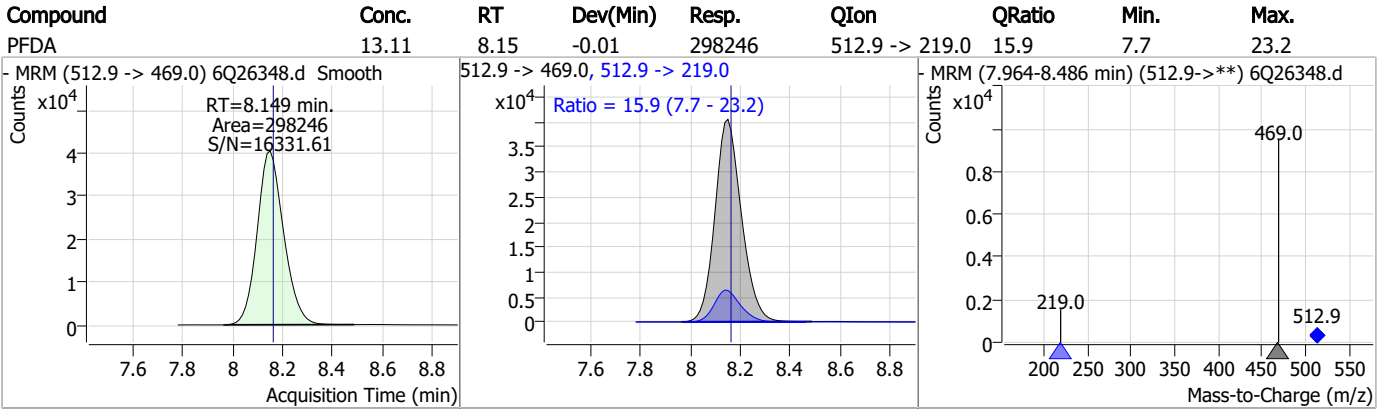
Perfluorinated Compounds by LC/MS/MS



7.6.6

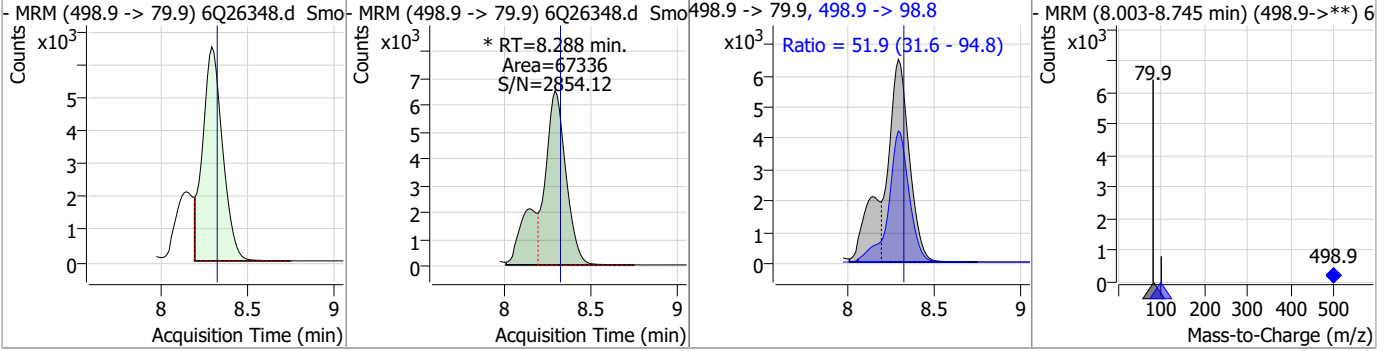
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Perfluorinated Compounds by LC/MS/MS

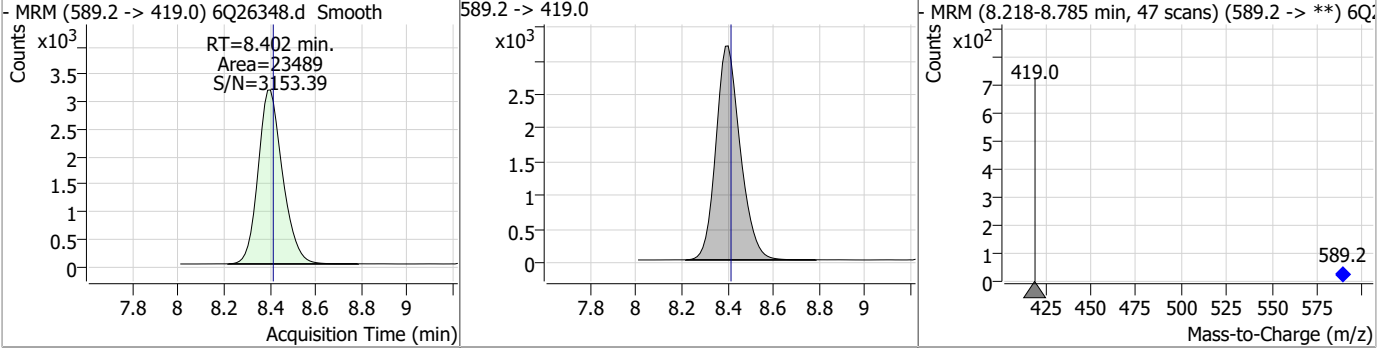


Perfluorinated Compounds by LC/MS/MS

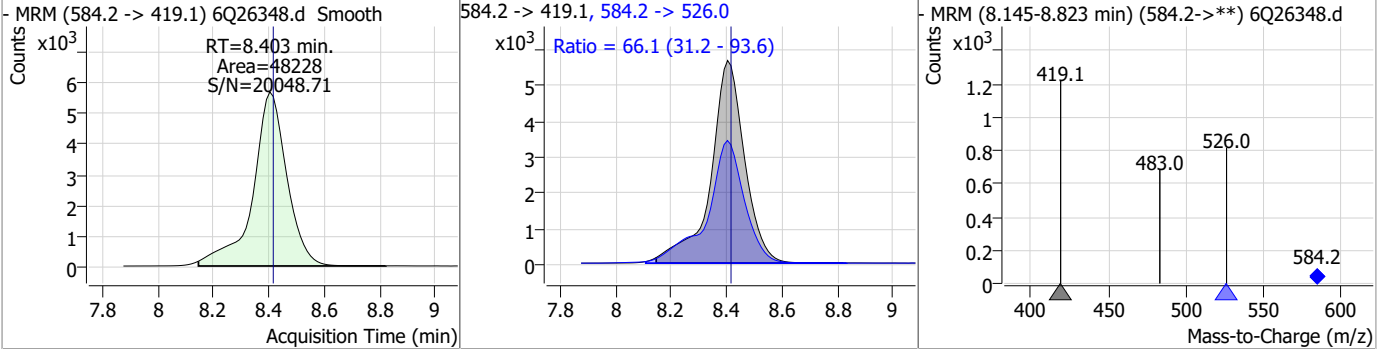
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOS	11.79	8.29	-0.02	67336 (m)	498.9 -> 98.8	51.9	31.6	94.8



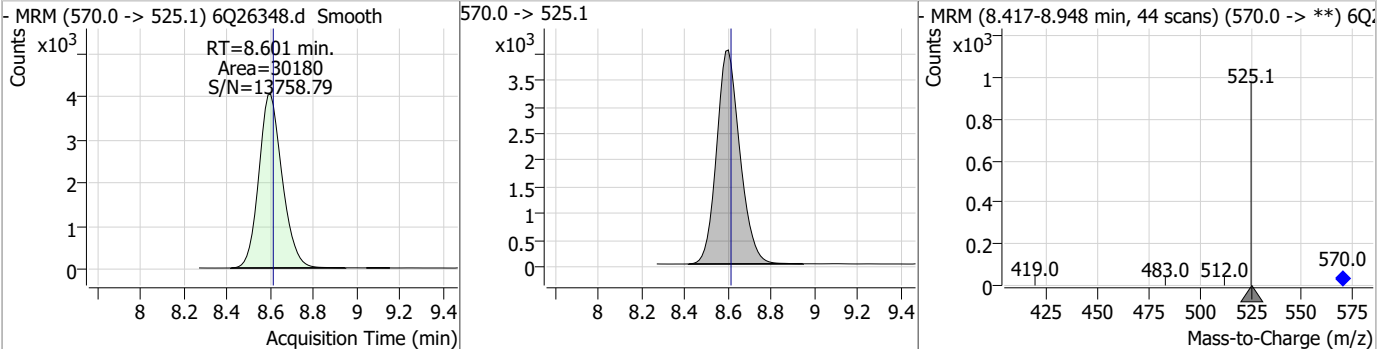
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSAA	4.79	8.40	-0.01	23489				



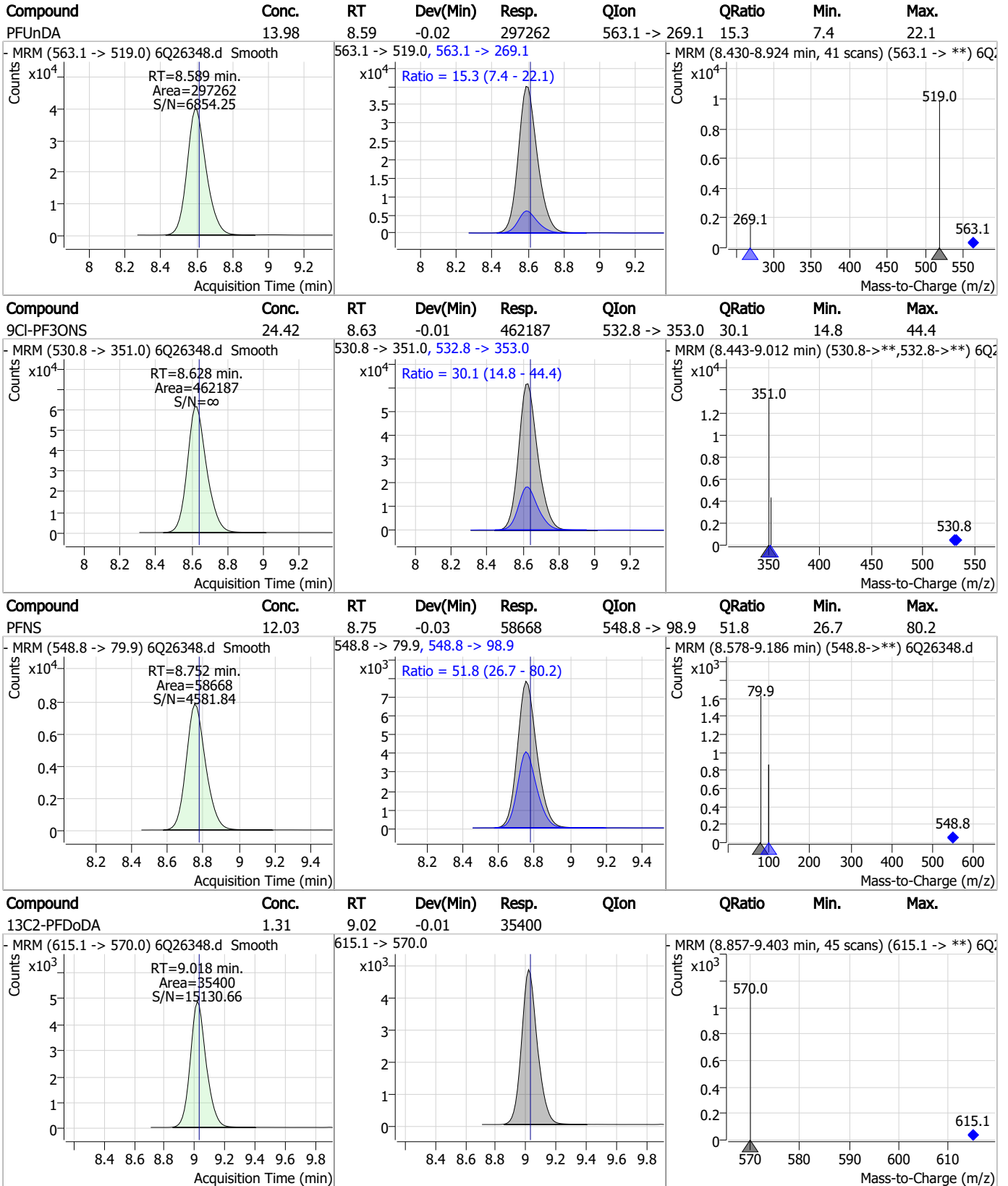
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSAA	12.64	8.40	-0.01	48228	584.2 -> 526.0	66.1	31.2	93.6



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C7-PFUnDA	1.22	8.60	-0.01	30180				



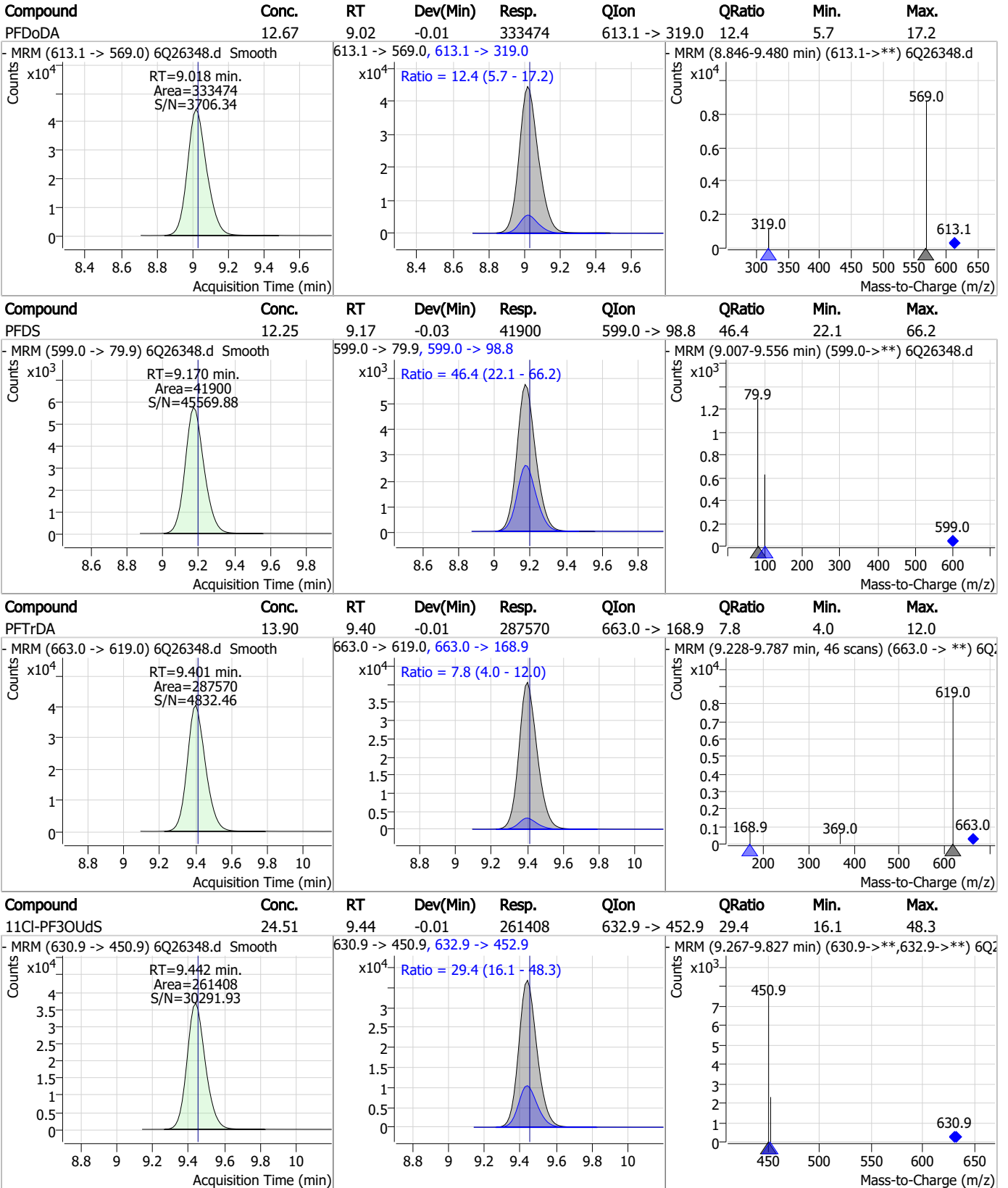
Perfluorinated Compounds by LC/MS/MS



7.6.6

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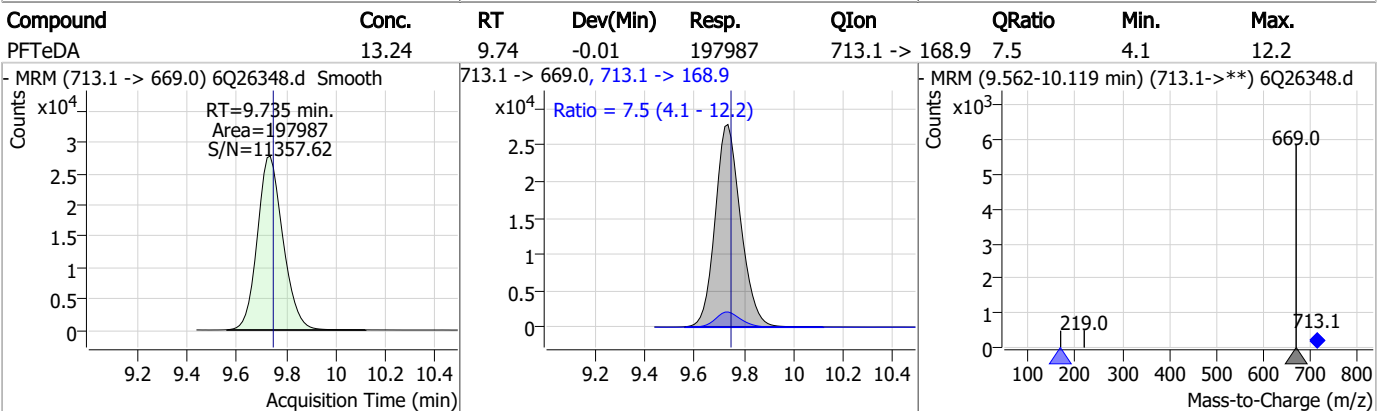
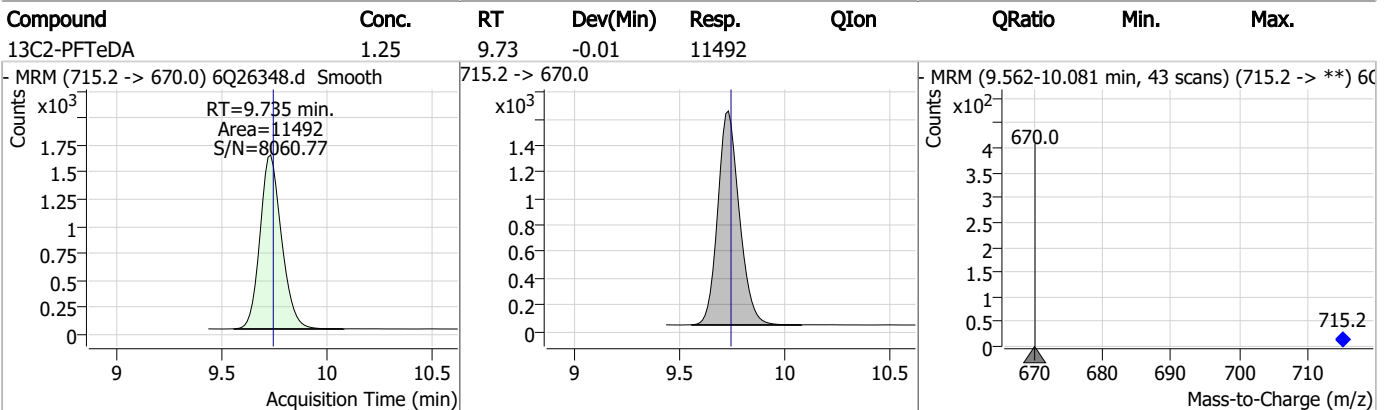
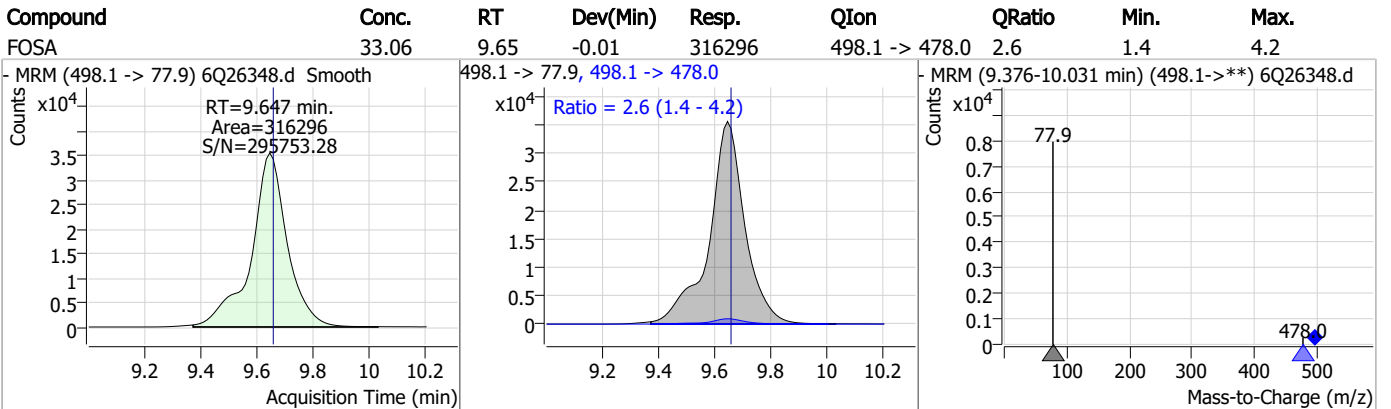
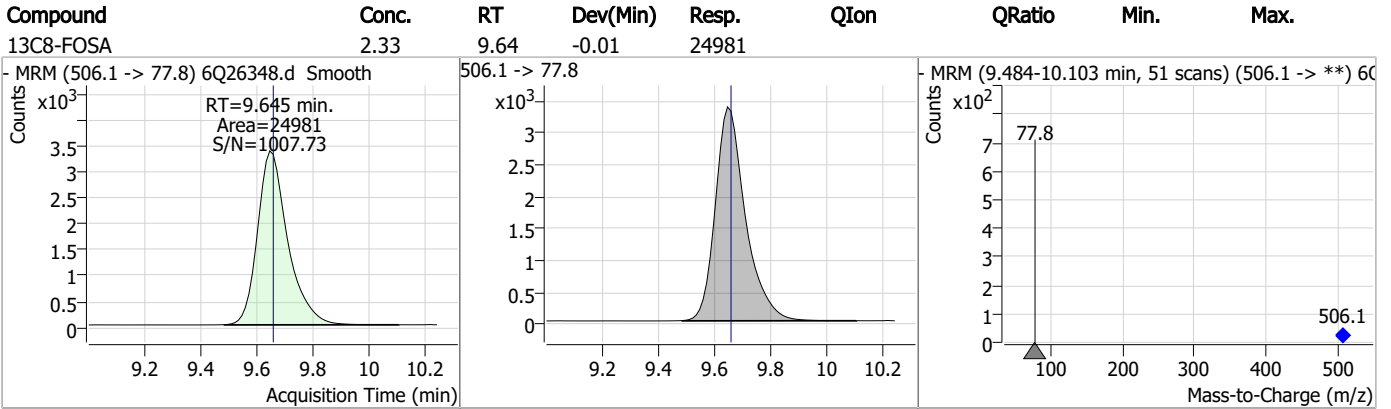
Perfluorinated Compounds by LC/MS/MS



7.6.6

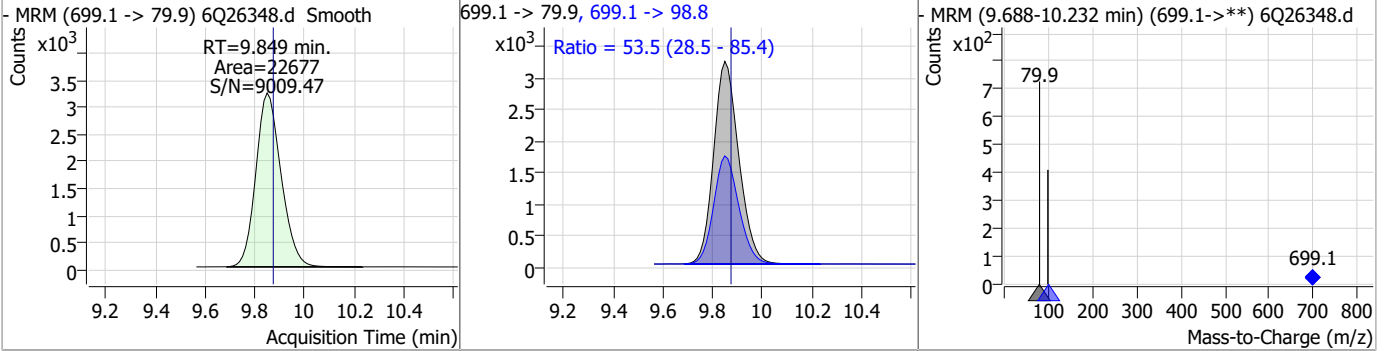
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Perfluorinated Compounds by LC/MS/MS

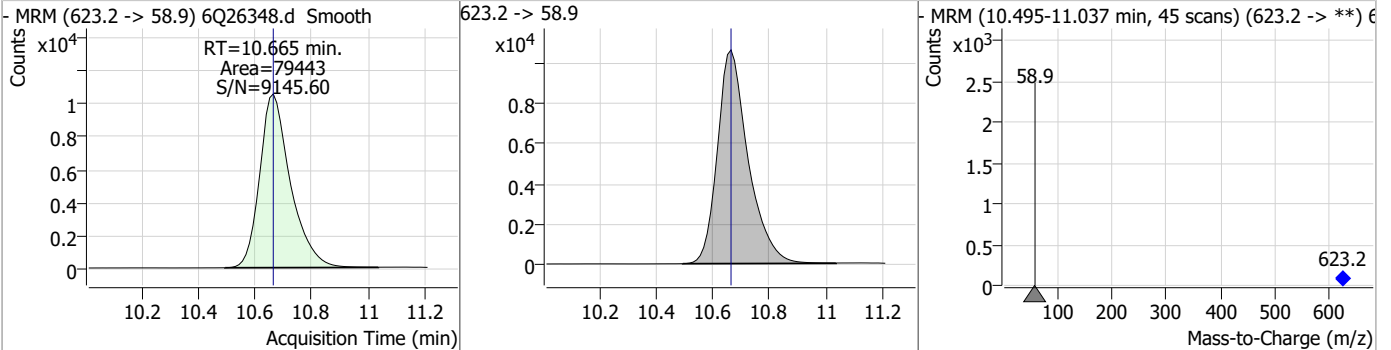


Perfluorinated Compounds by LC/MS/MS

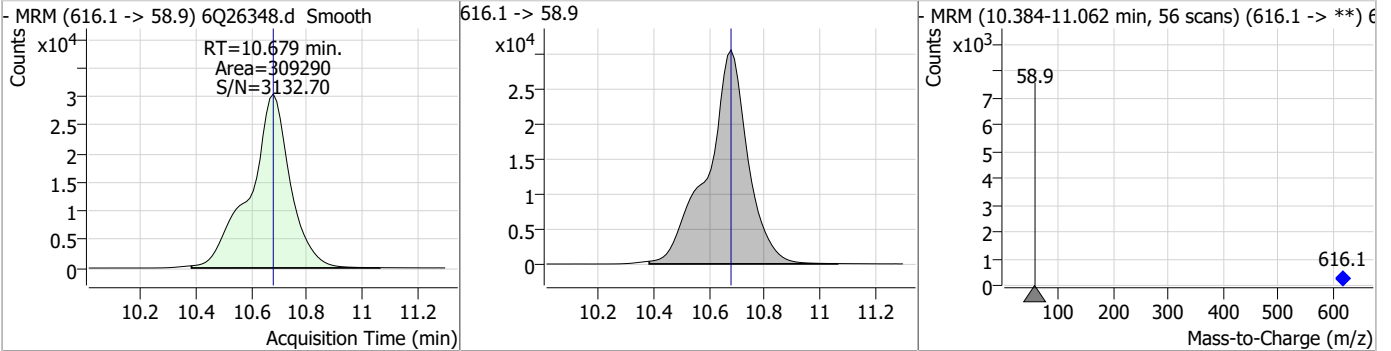
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoS	12.77	9.85	-0.02	22677	699.1 -> 98.8	53.5	28.5	85.4



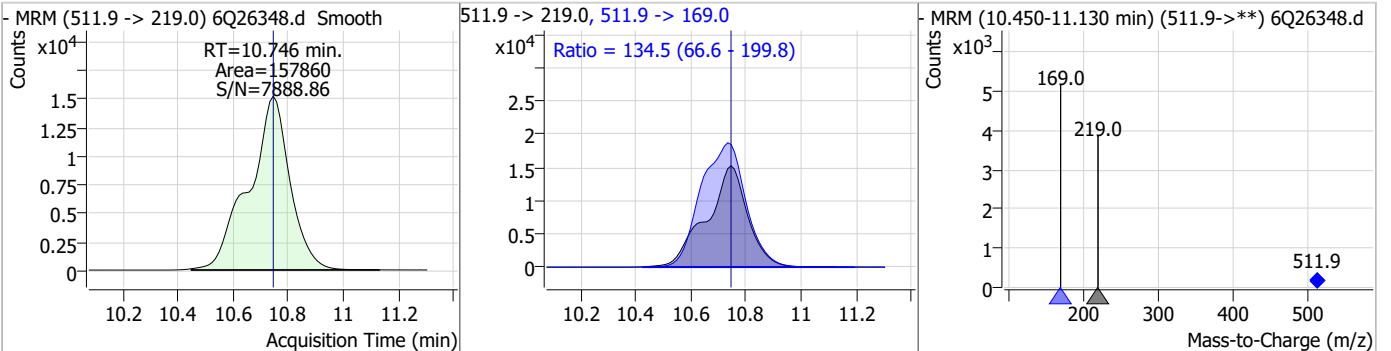
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d7-MeFOSE	22.91	10.67	0.00	79443				



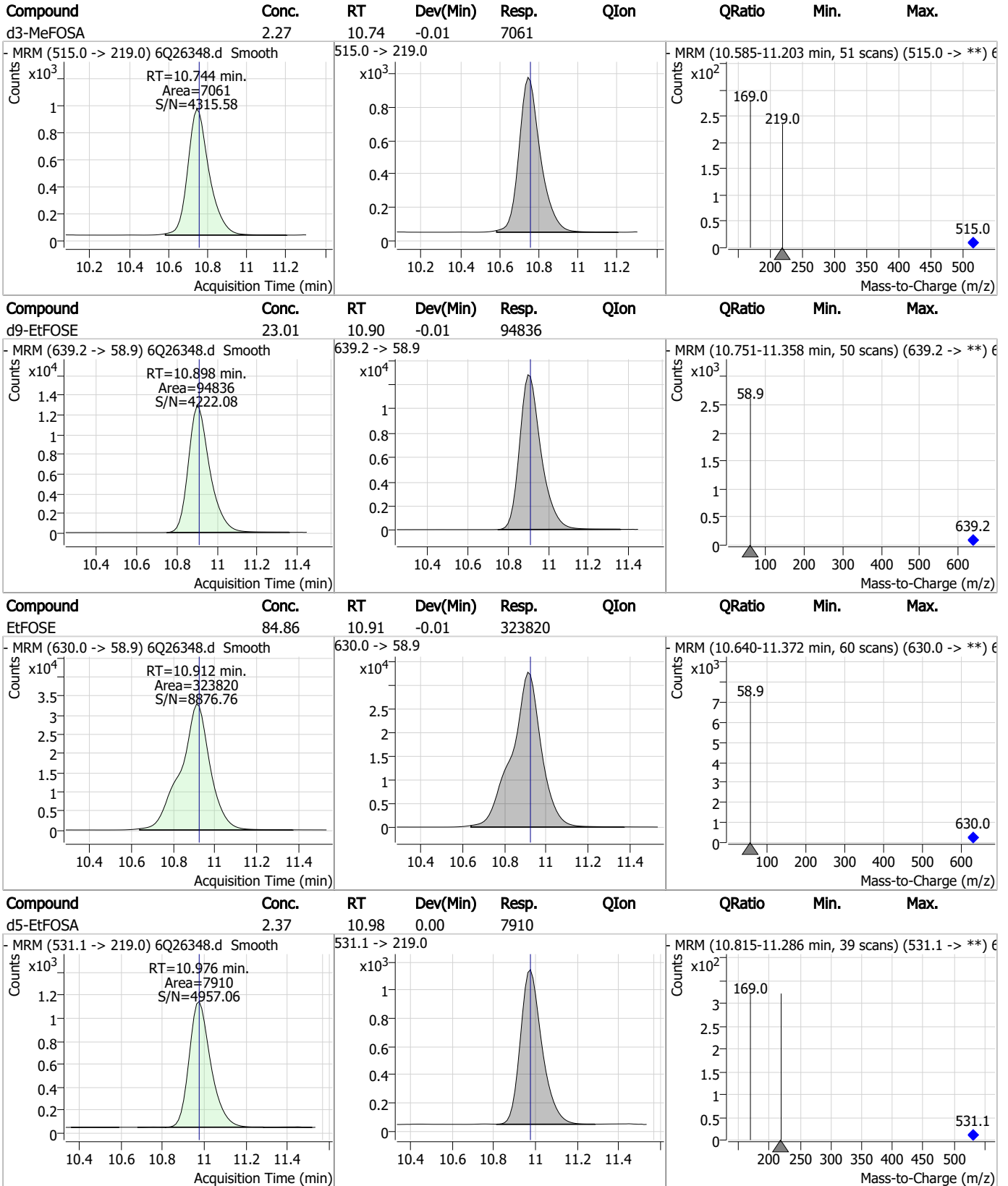
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSE	88.10	10.68	0.00	309290				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSA	48.23	10.75	0.00	157860	511.9 -> 169.0	134.5	66.6	199.8



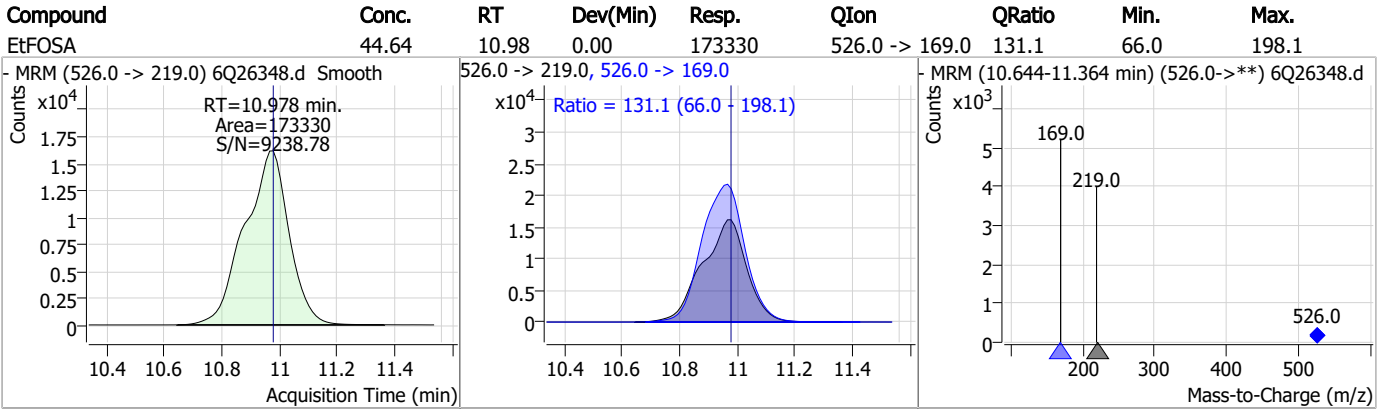
Perfluorinated Compounds by LC/MS/MS



7.6.6

7

Perfluorinated Compounds by LC/MS/MS



7.6.6
7

Manual Integration Approval Summary

Sample Number: S6Q370-RT Method: EPA DRAFT 1633
Lab FileID: 6Q26348.D Analyst approved: 10/16/23 10:56 Martha Valls
Injection Time: 10/13/23 08:02 Supervisor approved: 10/16/23 17:48 Natasha Gumtie

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorooctanoic acid	335-67-1		7.14	Split peak
Perfluorohexanesulfonic acid	355-46-4		7.24	Split peak
Perfluorononanoic acid	375-95-1		7.53	Split peak
Perfluorooctanesulfonic acid	1763-23-1		8.29	Split peak

7.6.6.1

7

QQQ Check Tune Report



Instrument Name LCMS Q6
MS Model G6495B
MS Instrument Serial SG1752D103
Software_Firmware Version 10.1.67, FW: A.00.08.112
Tune Date & Time 08 October 2023 11:07:24
File Path D:\MassHunter\Tune\QQQ\G6495B\atunes.TUNE.XML
Ion Source AJS ESI
Ionization Mode AJS ESI
Tuned Resolution All
Vacuum Pressure 1.77E+0 [R] (Torr); 2.88E-5 [H] (Torr)

Source Parameters

Parameter	Negative
Gas Temp (°C)	220
Gas Flow (l/min)	14
Nebulizer (psi)	20
Capillary (V)	3000
Nozzle Voltage (V)	1500
Sheath Gas Temp (°C)	250
Sheath Gas Flow (l/min)	11

7.7.1

7

QQQ Check Tune Report



Negative Results

Analyzer: MS1 Polarity: Negative Width: Unit

m/z	m/z	Delta	Result	FWHM	FWHM	Delta	Result	Abundance
Expected	Measured			Expected	Measured			
112.99	112.99	0.00	Pass	0.70	0.66	-0.04	Pass	442488
302.00	301.99	-0.01	Pass	0.70	0.67	-0.03	Pass	1288433
601.98	601.98	0.00	Pass	0.70	0.70	0.00	Pass	2753643
1033.99	1033.99	0.00	Pass	0.70	0.70	0.00	Pass	986048
1633.95	1633.99	0.04	Pass	0.70	0.65	-0.05	Pass	427305
2233.91	2233.84	-0.07	Pass	0.70	0.63	-0.07	Pass	134315

Analyzer: MS2 Polarity: Negative Width: Unit

m/z	m/z	Delta	Result	FWHM	FWHM	Delta	Result	Abundance
Expected	Measured			Expected	Measured			
69.00	69.06	0.06	Pass	0.70	0.65	-0.05	Pass	134525
112.99	113.00	0.01	Pass	0.70	0.71	0.01	Pass	552627
302.00	302.01	0.01	Pass	0.70	0.69	-0.01	Pass	1565351
601.98	602.02	0.04	Pass	0.70	0.71	0.01	Pass	1855074
1033.99	1034.02	0.03	Pass	0.70	0.66	-0.04	Pass	708286
1633.95	1634.00	0.05	Pass	0.70	0.67	-0.03	Pass	553053
2233.91	2233.90	-0.01	Pass	0.70	0.68	-0.02	Pass	200355

Analyzer: MS1 Polarity: Negative Width: Wide

m/z	m/z	Delta	Result	FWHM	FWHM	Delta	Result	Abundance
Expected	Measured			Expected	Measured			
112.99	112.88	-0.11	Pass	1.20	1.29	0.09	Pass	515764
302.00	301.71	-0.29	Pass	1.20	1.70	0.50	Pass	2294900
601.98	601.72	-0.26	Pass	1.20	1.73	0.53	Pass	4109171
1033.99	1033.77	-0.22	Pass	1.20	1.66	0.46	Pass	2198357
1633.95	1633.71	-0.24	Pass	1.20	1.65	0.45	Pass	1371765
2233.91	2233.56	-0.35	Pass	1.20	1.41	0.21	Pass	534744

Analyzer: MS2 Polarity: Negative Width: Wide

m/z	m/z	Delta	Result	FWHM	FWHM	Delta	Result	Abundance
Expected	Measured			Expected	Measured			
69.00	69.02	0.02	Pass	1.20	1.12	-0.08	Pass	193633
112.99	112.98	-0.01	Pass	1.20	1.26	0.06	Pass	784133
302.00	301.89	-0.11	Pass	1.20	1.30	0.10	Pass	2020136
601.98	602.03	0.05	Pass	1.20	1.23	0.03	Pass	2991019
1033.99	1033.96	-0.03	Pass	1.20	1.35	0.15	Pass	1336023
1633.95	1633.98	0.03	Pass	1.20	1.30	0.10	Pass	1287692
2233.91	2233.88	-0.03	Pass	1.20	1.11	-0.09	Pass	549388

Analyzer: MS1 Polarity: Negative Width: Widest

m/z	m/z	Delta	Result	FWHM	FWHM	Delta	Result	Abundance
Expected	Measured			Expected	Measured			
112.99	112.80	-0.19	Pass	2.50	2.61	0.11	Pass	623484
302.00	301.75	-0.25	Pass	2.50	2.93	0.43	Pass	2293656
601.98	601.67	-0.31	Pass	2.50	3.25	0.75	Pass	5058698
1033.99	1033.67	-0.32	Pass	2.50	2.88	0.38	Pass	3588935
1633.95	1633.66	-0.29	Pass	2.50	2.66	0.16	Pass	2885700
2233.91	2233.63	-0.28	Pass	2.50	2.54	0.04	Pass	1295431

Analyzer: MS2 Polarity: Negative Width: Widest

m/z	m/z	Delta	Result	FWHM	FWHM	Delta	Result	Abundance
Expected	Measured			Expected	Measured			
69.00	68.98	-0.02	Pass	2.50	2.52	0.02	Pass	224594
112.99	112.97	-0.02	Pass	2.50	2.52	0.02	Pass	945804
302.00	301.83	-0.17	Pass	2.50	2.54	0.04	Pass	3075361
601.98	602.04	0.06	Pass	2.50	2.82	0.32	Pass	3611926
1033.99	1034.00	0.01	Pass	2.50	2.54	0.04	Pass	2326775
1633.95	1633.96	0.01	Pass	2.50	2.78	0.28	Pass	2637574
2233.91	2233.88	-0.03	Pass	2.50	2.41	-0.09	Pass	1533682

7.7.1
7

Perfluorinated Compounds by LC/MS/MS

Data File : 6Q25940.d
 Operator : marthav
 Acq. Method : 1633full.m
 Acq. Date-Time : 10/8/2023 3:03:21 PM
 Sample Name : ic367-1
 Vial : P1-A2
 DA Method File : 1633_100823_S6Q367.quantmethod.xml
 Batch Name : S6Q367.batch.bin
 Sample Information : OP99308,S6Q367,500,,,,5.0,1,water

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Internal Standards					
M4-PFBA	2.947	216.8 -> 171.9	150169	10.00 µg/L	0.000
M5-PFPeA	4.372	268.3 -> 223.0	53448	5.00 µg/L	0.000
M5-PFHxA	5.580	318.0 -> 273.0	47819	2.50 µg/L	0.000
M4-PFHpA	6.519	367.1 -> 322.0	49685	2.50 µg/L	0.000
M8-PFOA	7.161	421.1 -> 376.0	61828	2.50 µg/L	0.000
M9-PFNA	7.680	472.1 -> 427.0	26054	1.25 µg/L	0.000
M6-PFDA	8.161	519.1 -> 474.1	26958	1.25 µg/L	0.000
M7-PFUnDA	8.601	570.0 -> 525.1	30029	1.25 µg/L	-0.012
M2-PFDoDA	9.030	615.1 -> 570.0	30837	1.25 µg/L	0.000
M2-PFTeDA	9.747	715.2 -> 670.0	10285	1.25 µg/L	0.000
M8-FOSA	9.657	506.1 -> 77.8	23164	2.50 µg/L	0.000
M3-PFBS	5.510	302.1 -> 79.9	22106	2.50 µg/L	0.012
M3-PFHxS	7.263	402.1 -> 79.9	12044	2.50 µg/L	0.000
M8-PFOS	8.311	507.1 -> 79.9	12381	2.50 µg/L	0.000
M2-4:2FTS	5.255	329.1 -> 80.9	2261	5.00 µg/L	0.000
M2-6:2FTS	6.936	429.1 -> 80.9	3393	5.00 µg/L	0.000
M2-8:2FTS	7.962	529.1 -> 80.9	3584	5.00 µg/L	0.012
M3-MeFOSAA	8.207	573.2 -> 419.0	25895	5.00 µg/L	0.000
M3-HFPO-DA	5.957	286.9 -> 168.9	31866	10.00 µg/L	0.000
M5-EtFOSAA	8.415	589.2 -> 419.0	22672	5.00 µg/L	0.000
M7-MeFOSE	10.665	623.2 -> 58.9	75246	25.00 µg/L	0.000
M9-EtFOSE	10.911	639.2 -> 58.9	91865	25.00 µg/L	0.000
M5-EtFOSA	10.976	531.1 -> 219.0	7260	2.50 µg/L	0.000
M3-MeFOSA	10.757	515.0 -> 219.0	6462	2.50 µg/L	0.000
13C4-PFOS	8.312	502.8 -> 79.9	11176	2.50 µg/L	0.000
13C3-PFBA	2.939	216.0 -> 172.0	62238	5.00 µg/L	-0.013
18O2-PFHxS	7.263	403.0 -> 83.9	8015	2.50 µg/L	0.000
13C4-PFOA	7.162	417.1 -> 372.0	70940	2.50 µg/L	0.000
13C2-PFDA	8.161	515.1 -> 470.1	25722	1.25 µg/L	0.000
13C5-PFNA	7.680	468.0 -> 423.0	26191	1.25 µg/L	0.000
13C2-PFHxA	5.593	315.1 -> 270.0	47052	2.50 µg/L	0.012
System Monitoring Compounds					
13C2-4:2FTS	5.255	329.1 -> 80.9	2261	5.01 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 100.2%		
13C2-6:2FTS	6.936	429.1 -> 80.9	3393	5.05 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 101.0%		
13C2-8:2FTS	7.962	529.1 -> 80.9	3584	5.18 µg/L	0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 103.7%		
13C2-PFDoDA	9.030	615.1 -> 570.0	30837	1.20 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 96.2%		
13C2-PFTeDA	9.747	715.2 -> 670.0	10285	1.18 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 94.6%		
13C3-PFBS	5.510	302.1 -> 79.9	22106	2.43 µg/L	0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 97.4%		
13C3-PFHxS	7.263	402.1 -> 79.9	12044	2.36 µg/L	0.000

Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 94.6%	
13C4-PFBA	2.947	216.8 -> 171.9	150169	10.00 µg/L	0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 100.0%	
13C4-PFHpA	6.519	367.1 -> 322.0	49685	2.61 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 104.4%	
13C5-PFHxA	5.580	318.0 -> 273.0	47819	2.46 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 98.3%	
13C5-PFPeA	4.372	268.3 -> 223.0	53448	5.02 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 100.4%	
13C6-PFDA	8.161	519.1 -> 474.1	26958	1.24 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 99.6%	
13C7-PFUnDA	8.601	570.0 -> 525.1	30029	1.28 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 102.6%	
13C8-FOSA	9.657	506.1 -> 77.8	23164	2.51 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 100.5%	
13C8-PFOA	7.161	421.1 -> 376.0	61828	2.51 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 100.5%	
13C8-PFOS	8.311	507.1 -> 79.9	12381	2.56 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 102.6%	
13C9-PFNA	7.680	472.1 -> 427.0	26054	1.21 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 96.7%	
d3-MeFOSAA	8.207	573.2 -> 419.0	25895	5.27 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 105.4%	
13C3-HFPO-DA	5.957	286.9 -> 168.9	31866	9.71 µg/L	0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 97.1%	
d3-MeFOSA	10.757	515.0 -> 219.0	6462	2.42 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 96.6%	
d5-EtFOSAA	8.415	589.2 -> 419.0	22672	5.38 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 107.7%	
d7-MeFOSE	10.665	623.2 -> 58.9	75246	25.28 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 101.1%	
d9-EtFOSE	10.911	639.2 -> 58.9	91865	25.96 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 103.9%	
d5-EtFOSA	10.976	531.1 -> 219.0	7260	2.54 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 101.5%	
Target Compounds					QValue
4:2FTS	5.255	327.1 -> 307.0	3027	0.81 µg/L	100
		327.1 -> 80.9	1181		
6:2FTS	6.937	427.1 -> 407.0	2466	0.80 µg/L	99
		427.1 -> 80.9	943		
8:2FTS	7.950	527.1 -> 507.0	2078	0.83 µg/L	98
		527.1 -> 80.8	759		
EtFOSAA	8.428	584.2 -> 419.1	755	0.21 µg/L	85
		584.2 -> 526.0	557		
FOSA	9.647	498.1 -> 77.9	1893	0.21 µg/L	99
		498.1 -> 478.0	49		
MeFOSAA	8.220	570.1 -> 419.0	1052	0.22 µg/L	97
		570.1 -> 483.0	206		
PFBA	2.943	212.8 -> 168.9	4644	0.83 µg/L	100
PFBS	5.511	298.7 -> 79.9	1162	0.18 µg/L	97
		298.7 -> 98.8	449		
PFDA	8.161	512.9 -> 469.0	4708	0.22 µg/L	97
		512.9 -> 219.0	664		
PFDODA	9.031	613.1 -> 569.0	4696	0.20 µg/L	96
		613.1 -> 319.0	602		
PFDS	9.195	599.0 -> 79.9	637	0.20 µg/L	89

Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
		599.0 -> 98.8	235			
PFHpA	6.532	363.1 -> 319.0	5251	0.19	µg/L	95
		363.1 -> 169.0	868			
PFHpS	7.819	449.0 -> 79.9	996	0.19	µg/L	95
		449.0 -> 98.9	454			
PFHxA	5.594	313.0 -> 269.0	3504	0.20	µg/L	98
		313.0 -> 118.9	151			
PFHxS	7.264	398.7 -> 79.9	1049	0.21	µg/L	94
		398.7 -> 98.9	514			
PFNA	7.680	463.0 -> 419.0	3465	0.22	µg/L	96
		463.0 -> 219.0	773			
PFNS	8.765	548.8 -> 79.9	928	0.21	µg/L	96
		548.8 -> 98.9	469			
PFOA	7.163	413.0 -> 369.0	5951	0.22	µg/L	97
		413.0 -> 169.0	1026			
PFOS	8.312	498.9 -> 79.9	974	0.18	µg/L	m
		498.9 -> 98.8	526			
PFPeA	4.374	263.0 -> 219.0	4816	0.42	µg/L	100
PFPeS	6.571	349.1 -> 79.9	1306	0.20	µg/L	92
		349.1 -> 98.9	638			
PFTeDA	9.747	713.1 -> 669.0	3143	0.23	µg/L	96
		713.1 -> 168.9	206			
PFTrDA	9.413	663.0 -> 619.0	3843	0.21	µg/L	96
		663.0 -> 168.9	362			
PFUnDA	8.614	563.1 -> 519.0	4324	0.20	µg/L	93
		563.1 -> 269.1	768			
11Cl-PF3OUdS	9.454	630.9 -> 450.9	3764	0.40	µg/L	100
		632.9 -> 452.9	1216			
9Cl-PF3ONS	8.641	530.8 -> 351.0	6815	0.41	µg/L	m
		532.8 -> 353.0	2191			
ADONA	6.780	376.9 -> 250.9	17837	0.41	µg/L	96
		376.9 -> 84.8	4535			
HFPO-DA	5.958	284.9 -> 168.9	1311	0.42	µg/L	96
		284.9 -> 184.9	139			
3:3FTCA	3.808	241.0 -> 177.0	804	1.00	µg/L	97
		241.0 -> 117.0	120			
5:3FTCA	6.233	341.0 -> 237.1	16723	5.22	µg/L	98
		341.0 -> 217.0	12258			
7:3FTCA	7.632	441.0 -> 316.9	10531	5.38	µg/L	91
		441.0 -> 336.9	19749			
EtFOSA	10.978	526.0 -> 219.0	1467	0.41	µg/L	97
		526.0 -> 169.0	1981			
EtFOSE	10.924	630.0 -> 58.9	3782	1.02	µg/L	100
MeFOSA	10.746	511.9 -> 219.0	1173	0.39	µg/L	84
		511.9 -> 169.0	1784			
MeFOSE	10.679	616.1 -> 58.9	3389	1.02	µg/L	100
PFDoDS	9.873	699.1 -> 79.9	314	0.19	µg/L	92
		699.1 -> 98.8	160			
NFDHA	5.462	295.0 -> 201.0	828	0.39	µg/L	88
		295.0 -> 84.9	278			
PFMBA	4.800	279.0 -> 85.1	3579	0.41	µg/L	100
PFMPA	3.501	229.0 -> 84.9	2943	0.41	µg/L	100
PFEESA	6.050	314.8 -> 134.9	8488	0.39	µg/L	98
		314.8 -> 82.9	262			

= Qualifier out of range, m = manually integrated, + = Area summed

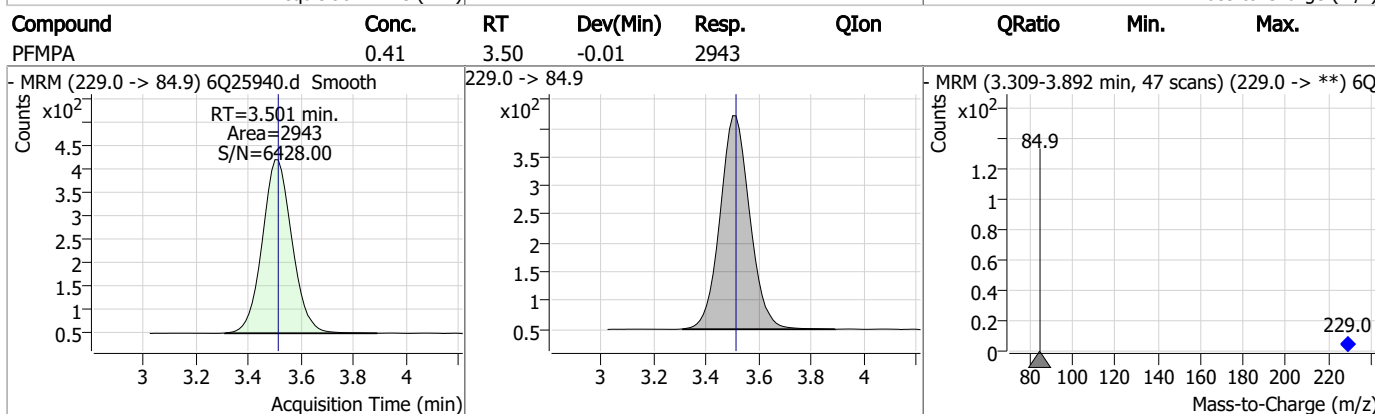
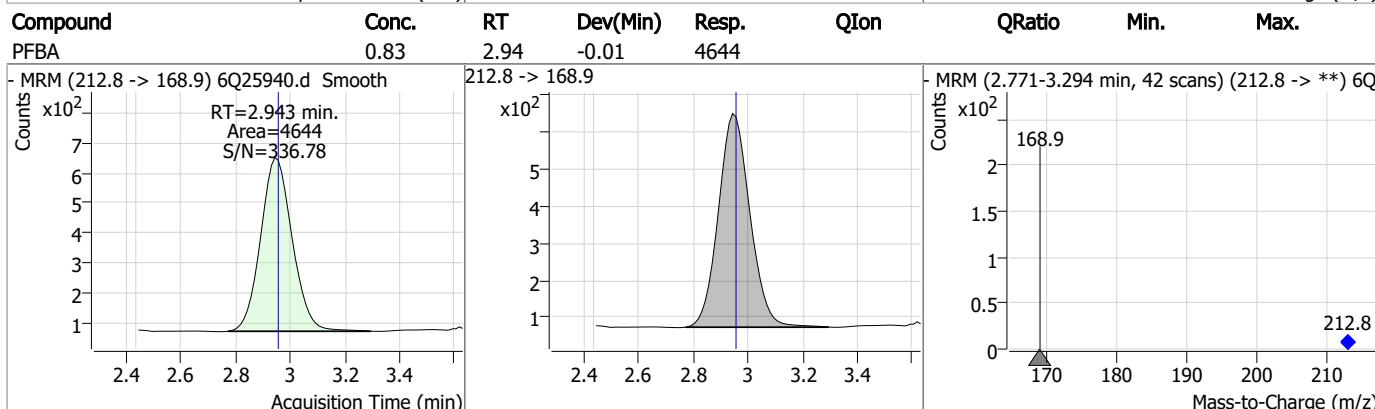
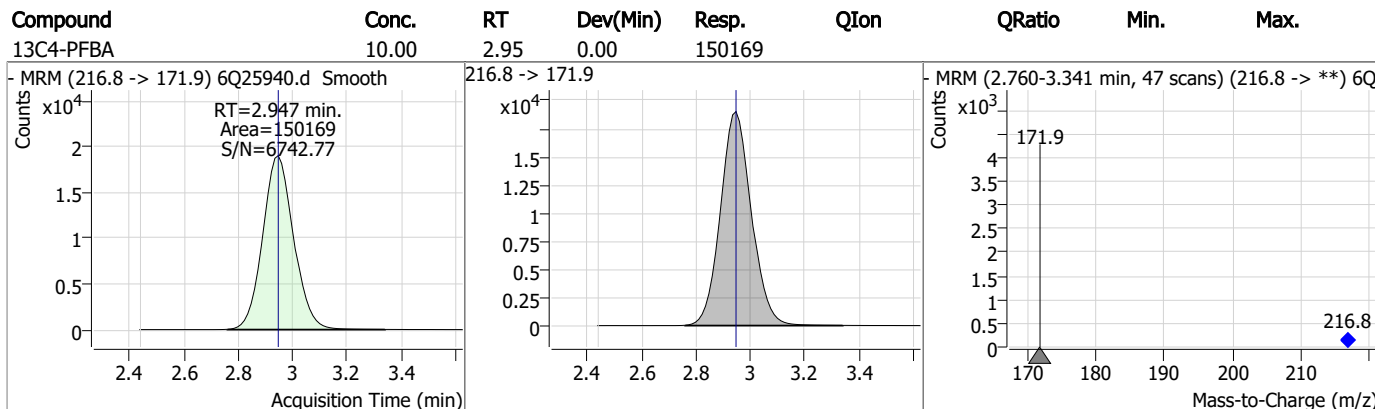
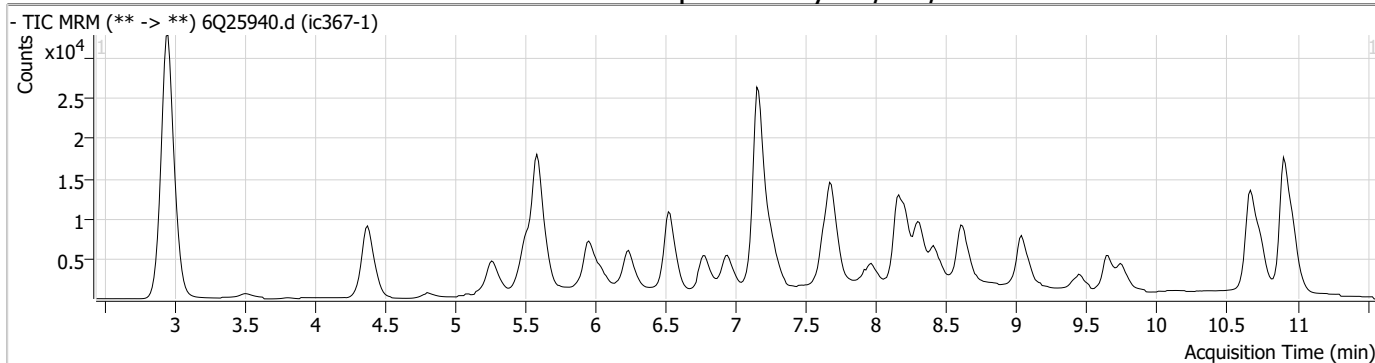
Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
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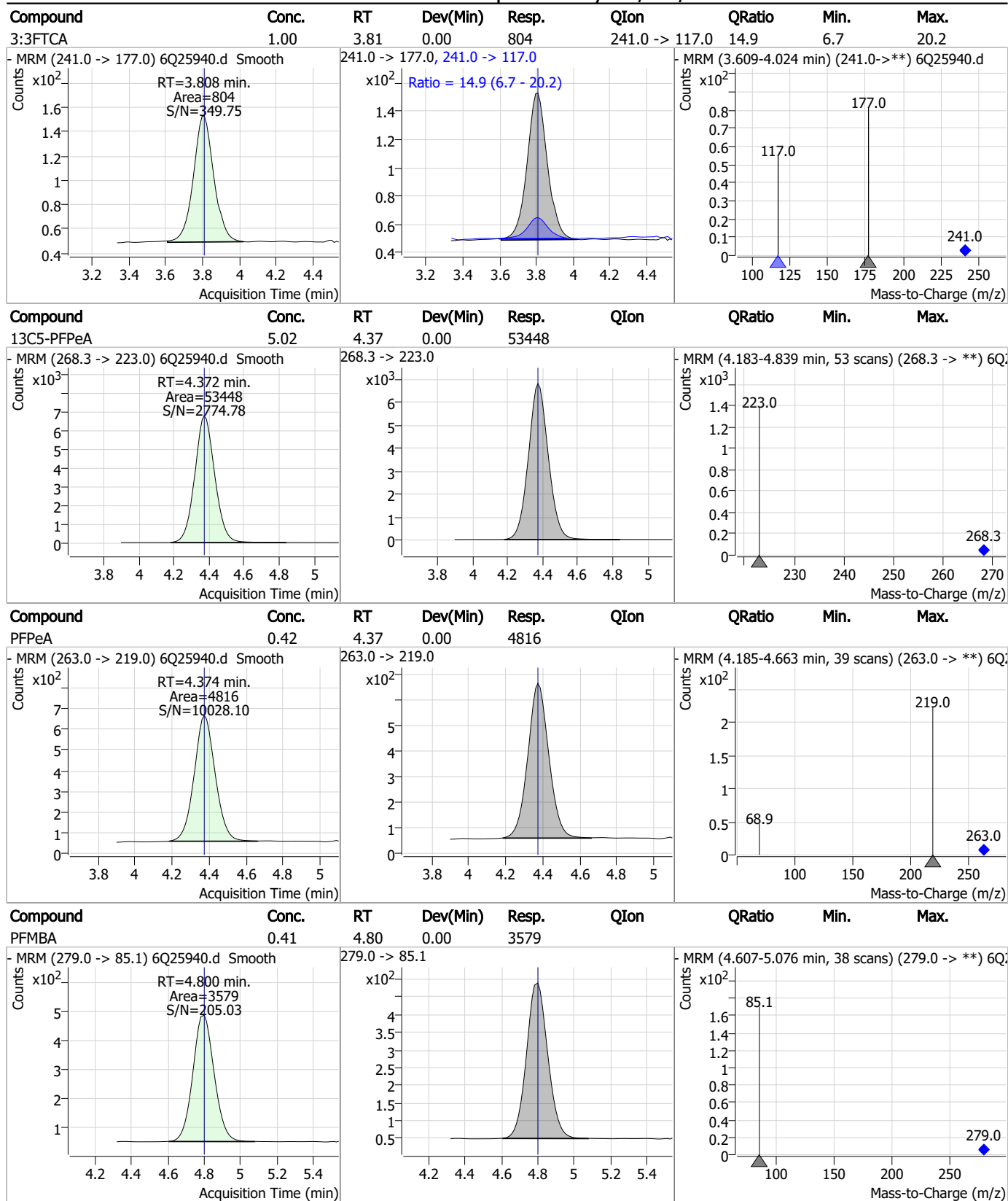
7.7.2
7



Perfluorinated Compounds by LC/MS/MS

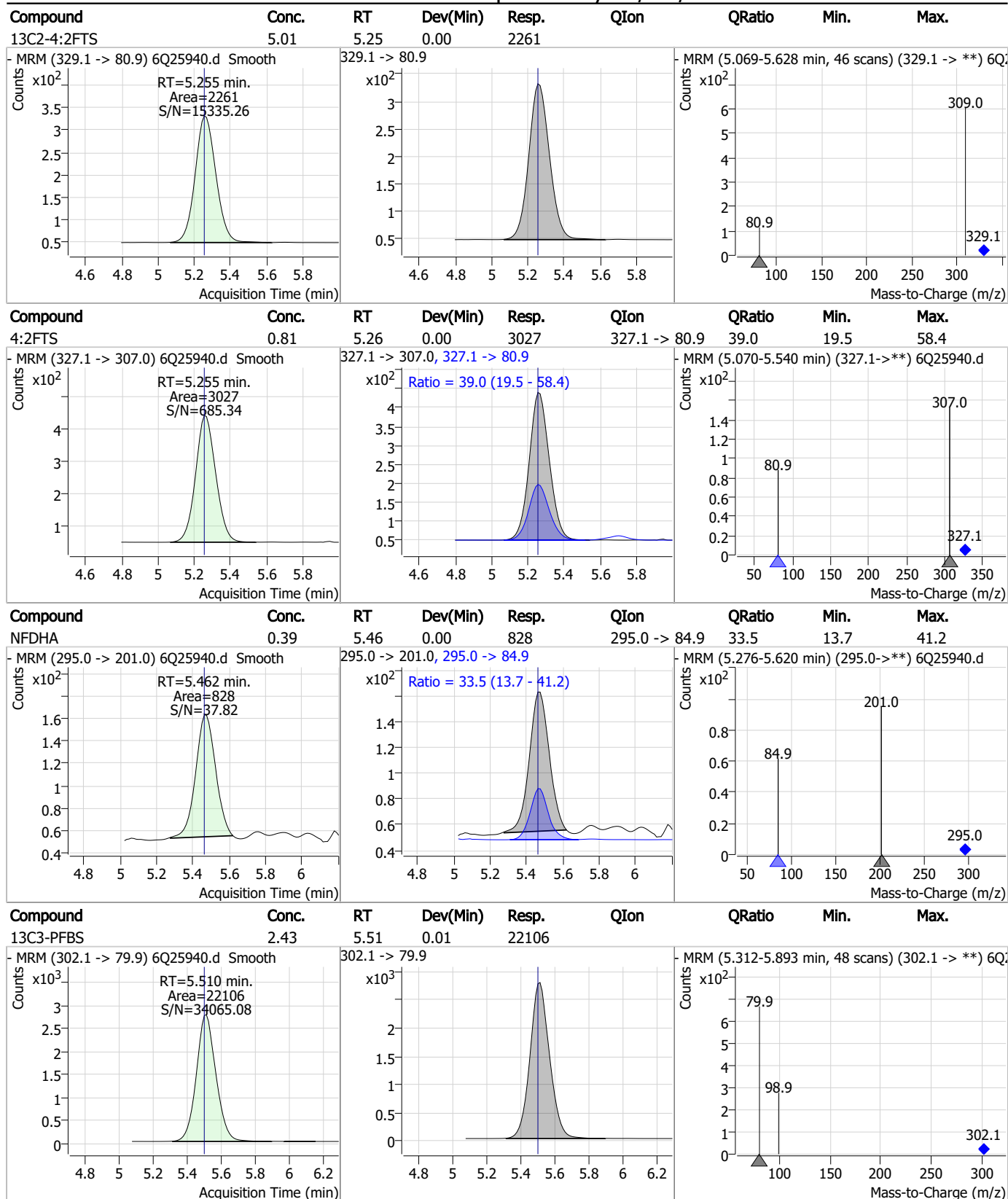


Perfluorinated Compounds by LC/MS/MS



7.7.2
7

Perfluorinated Compounds by LC/MS/MS

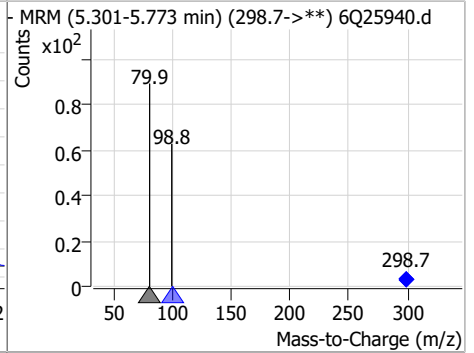
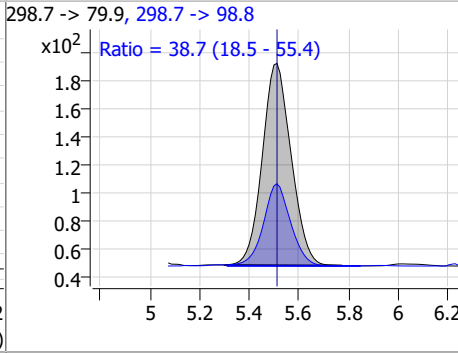
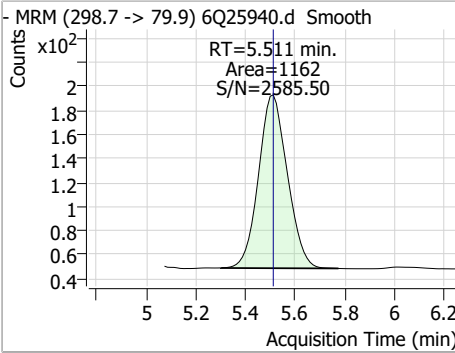


7.7.2
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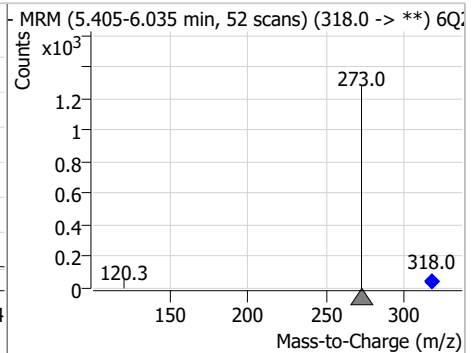
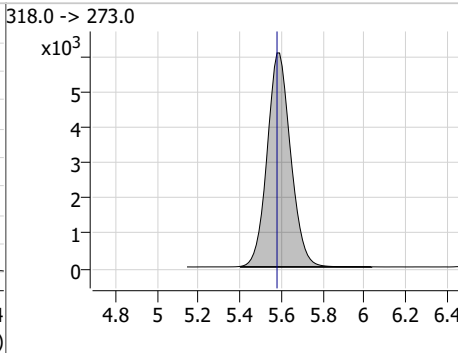
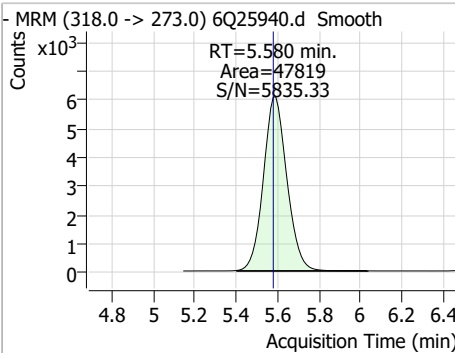


Perfluorinated Compounds by LC/MS/MS

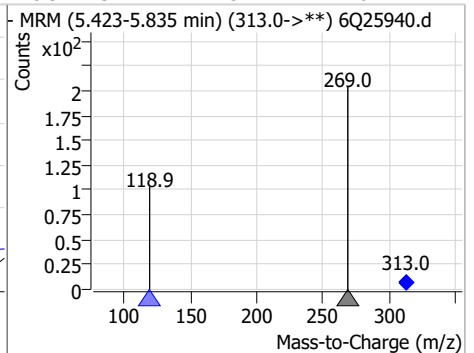
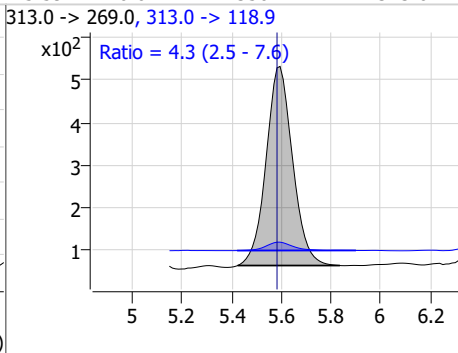
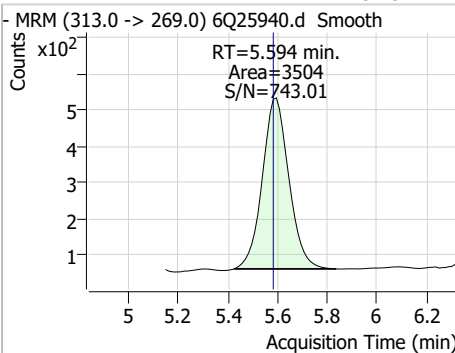
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBS	0.18	5.51	0.00	1162	298.7 -> 98.8	38.7	18.5	55.4



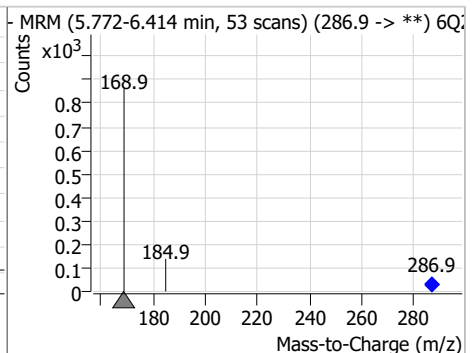
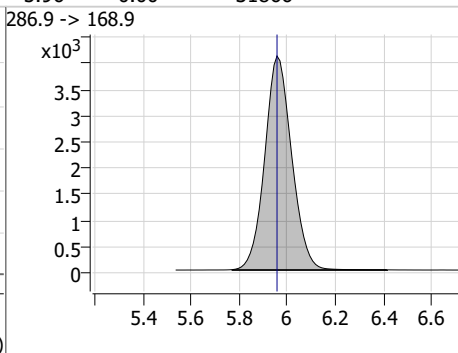
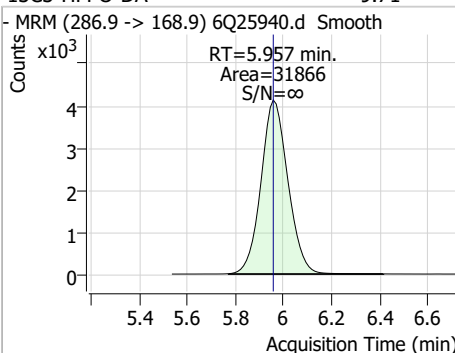
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFHxA	2.46	5.58	0.00	47819	318.0 -> 273.0			



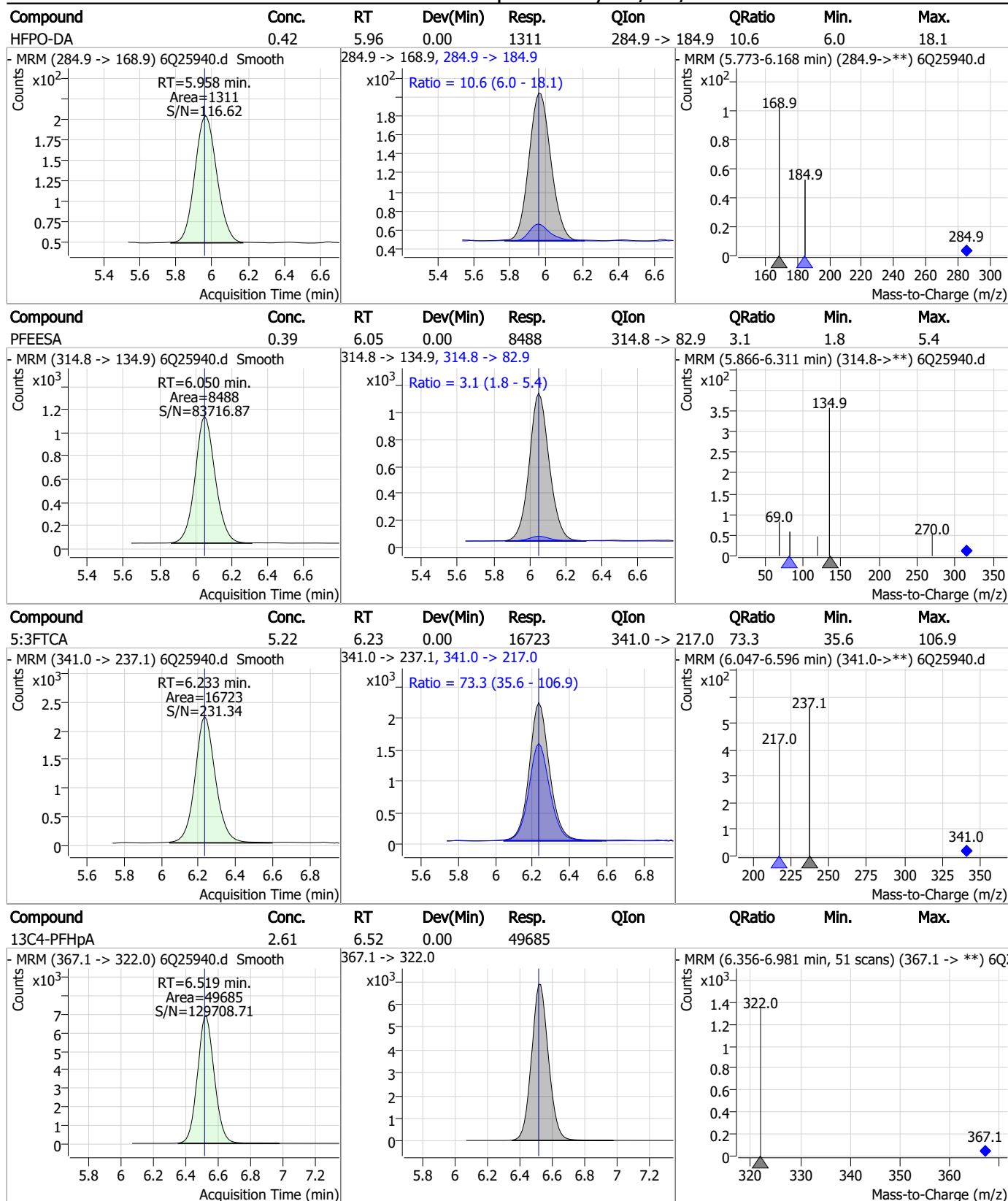
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxA	0.20	5.59	0.01	3504	313.0 -> 118.9	4.3	2.5	7.6



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-HFPO-DA	9.71	5.96	0.00	31866	286.9 -> 168.9			

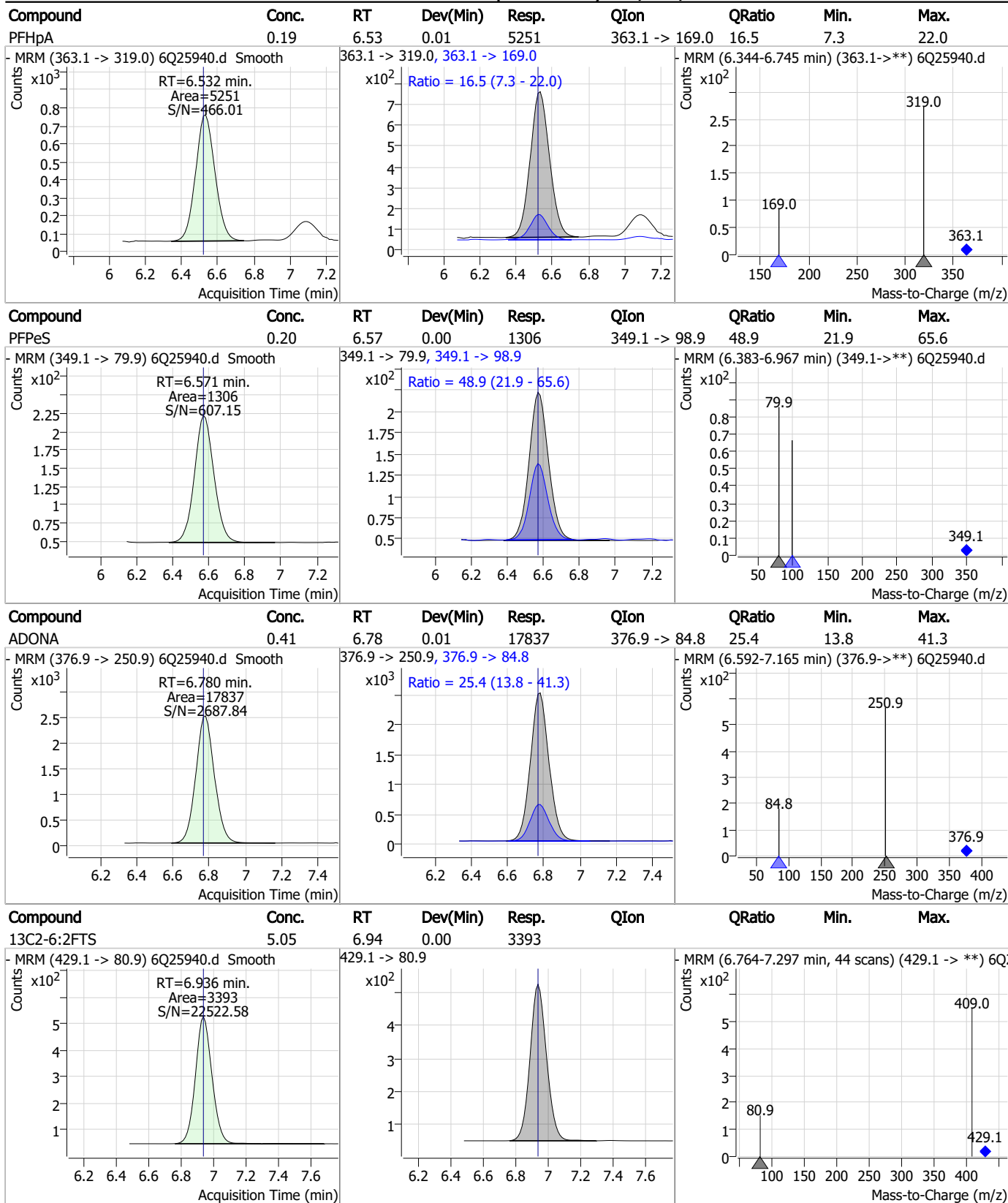


Perfluorinated Compounds by LC/MS/MS



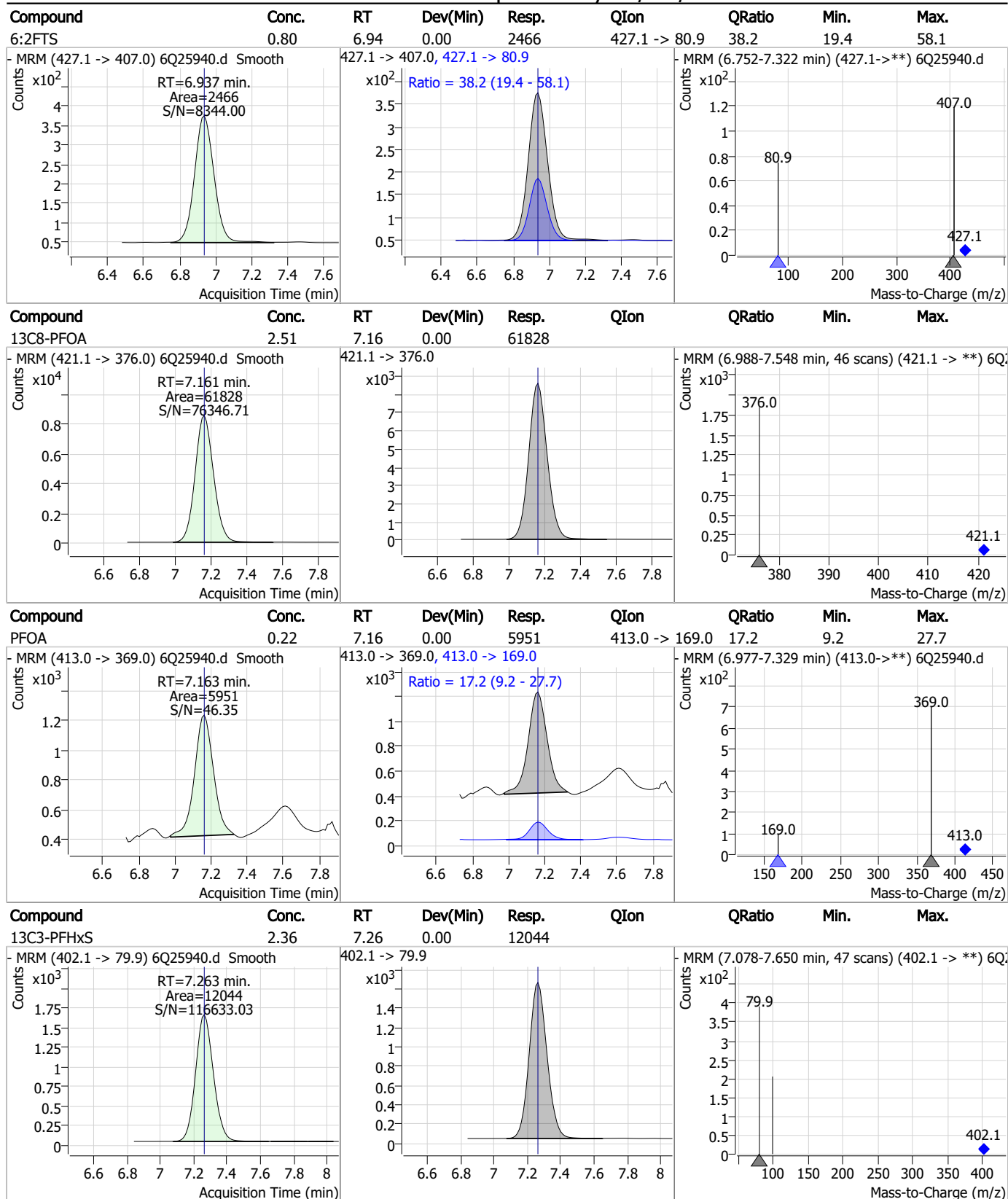
7.7.2
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Perfluorinated Compounds by LC/MS/MS



7.7.2
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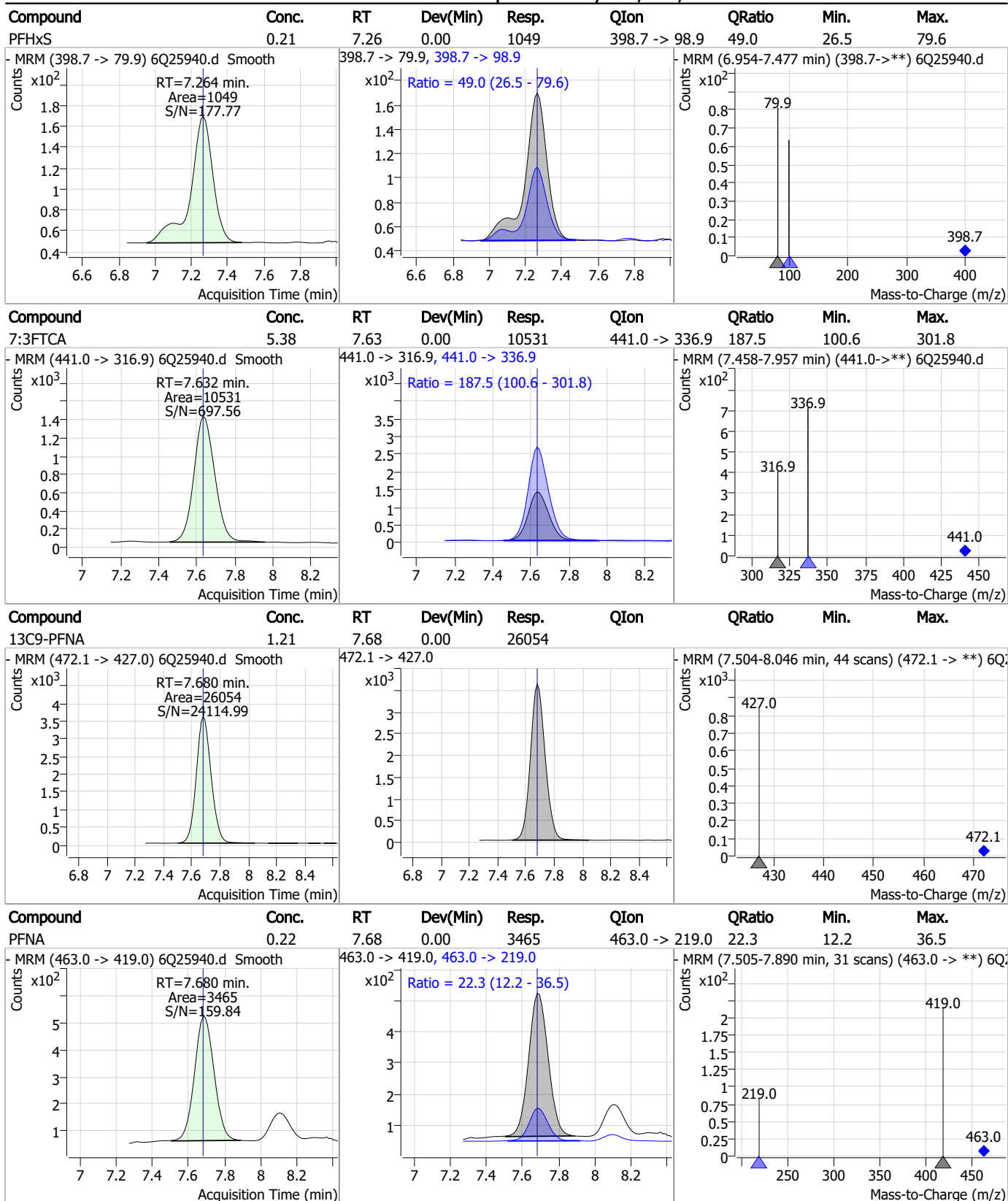
Perfluorinated Compounds by LC/MS/MS



7.7.2
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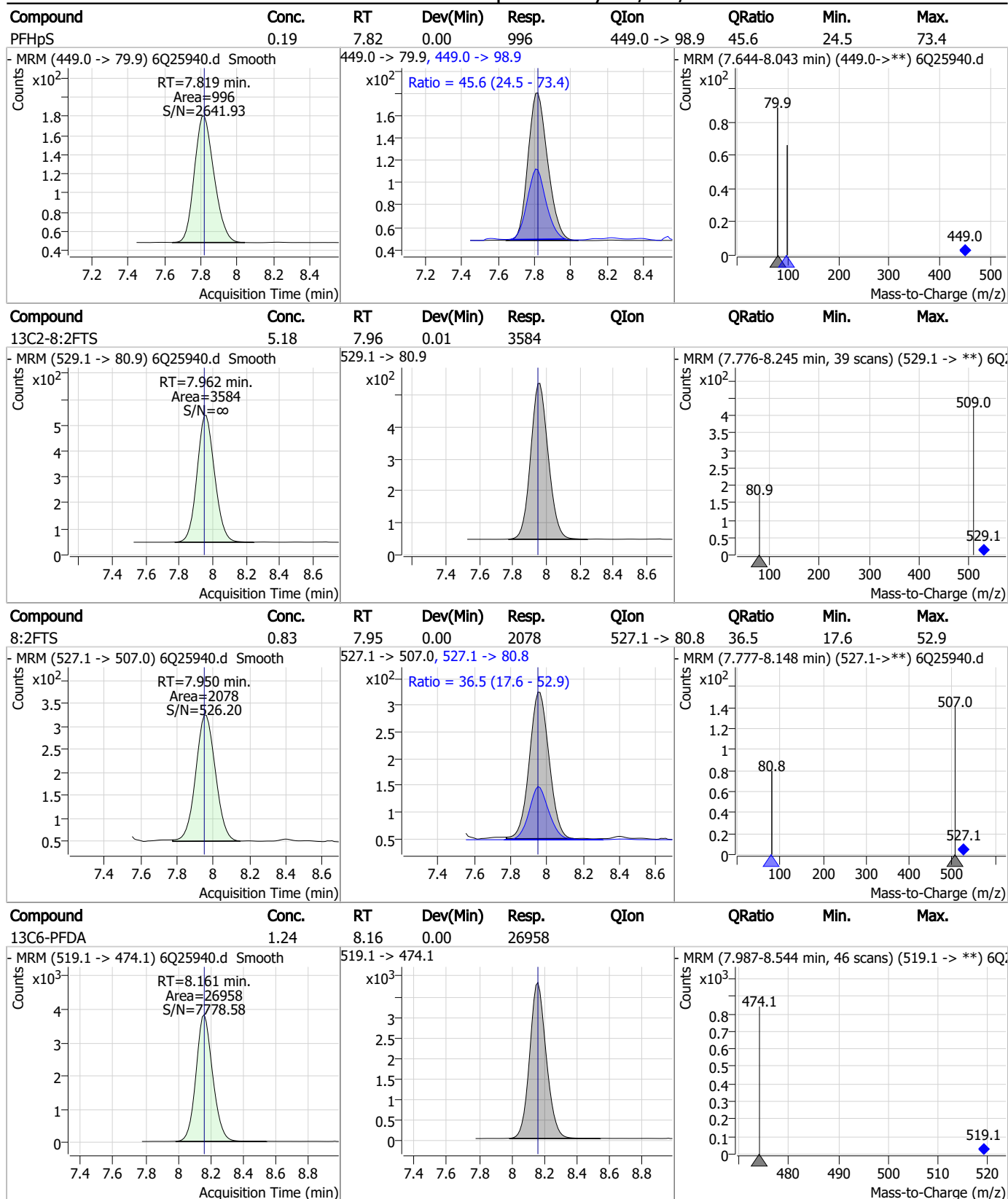


Perfluorinated Compounds by LC/MS/MS



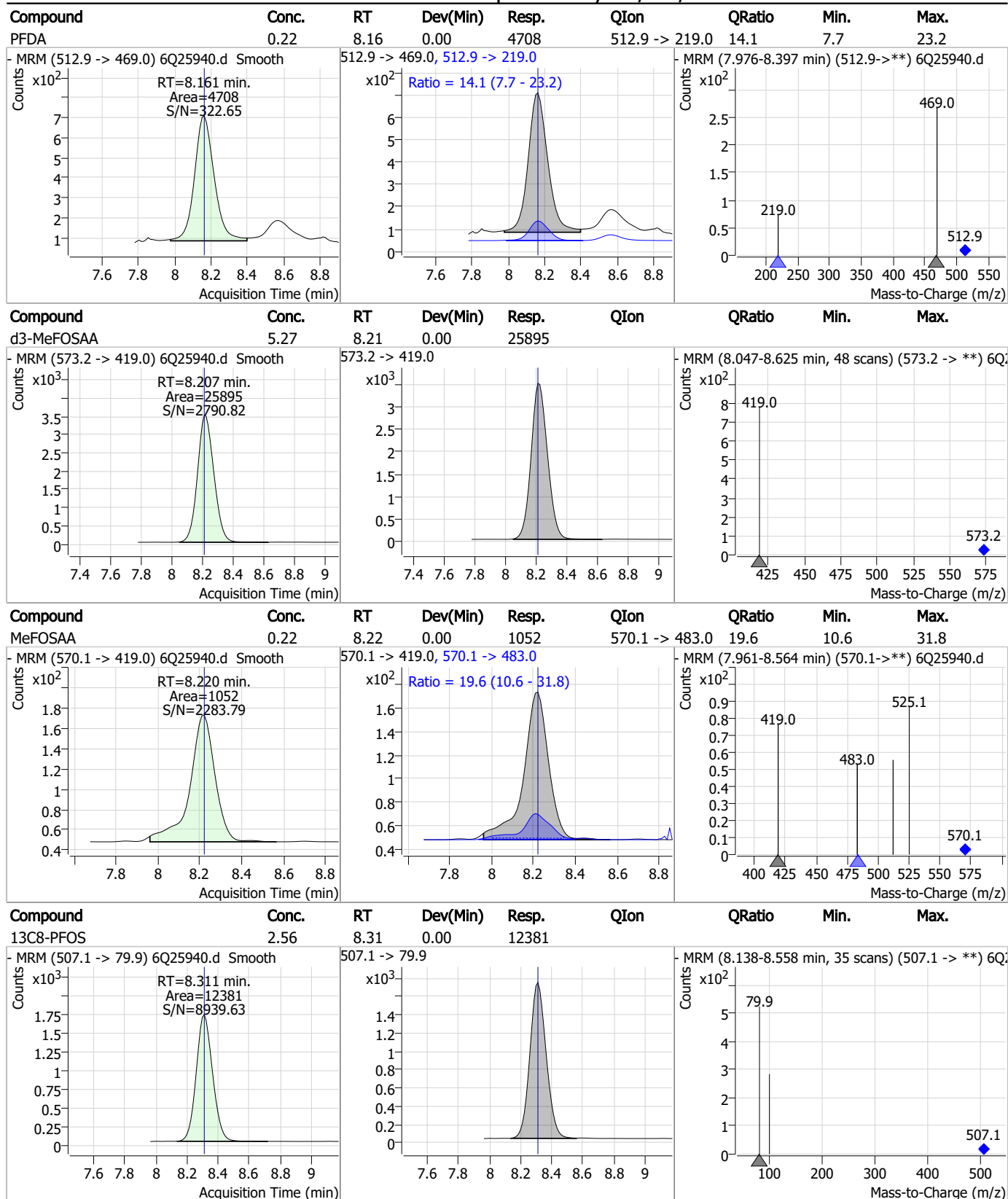
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Perfluorinated Compounds by LC/MS/MS



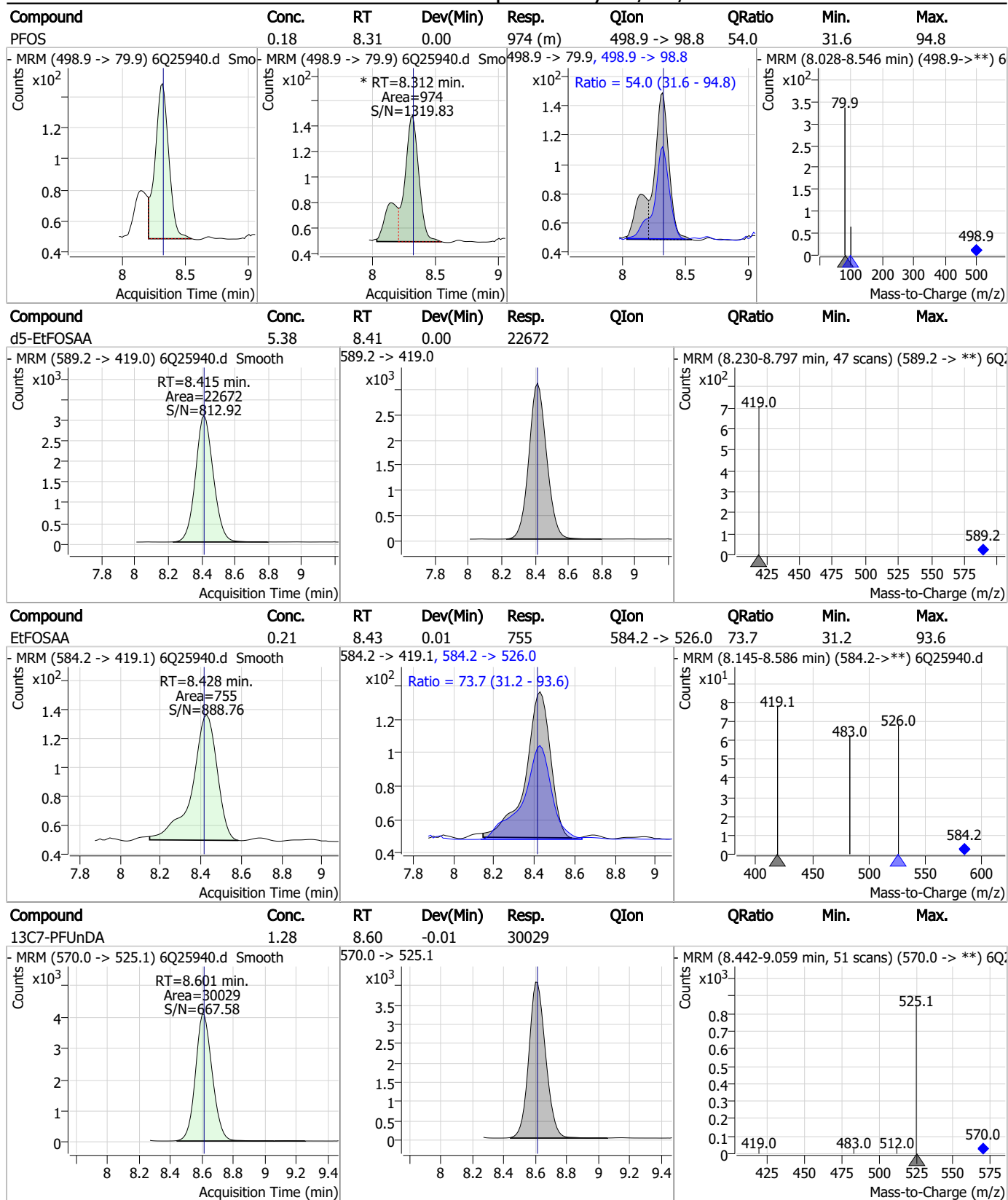
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Perfluorinated Compounds by LC/MS/MS



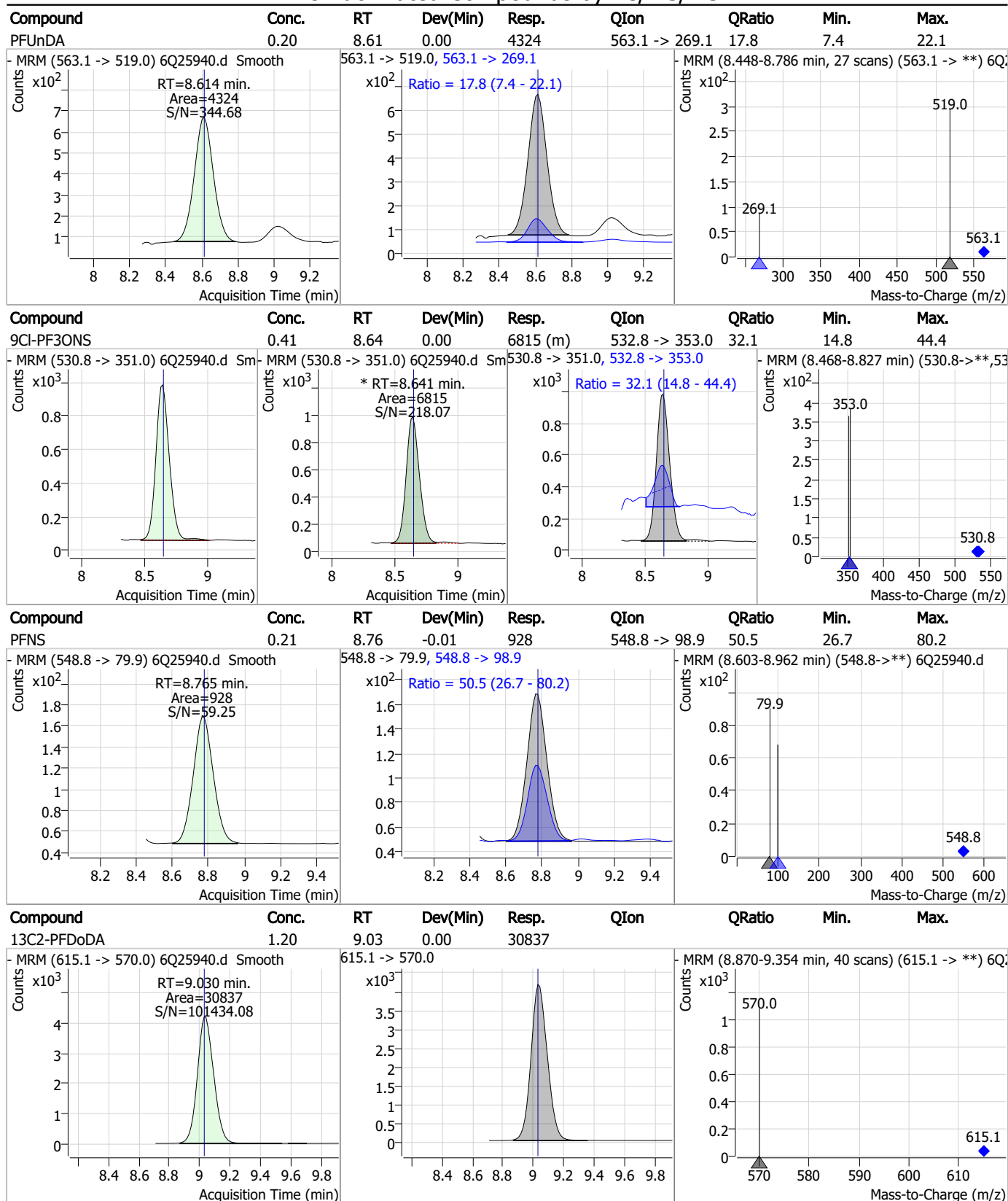
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Perfluorinated Compounds by LC/MS/MS



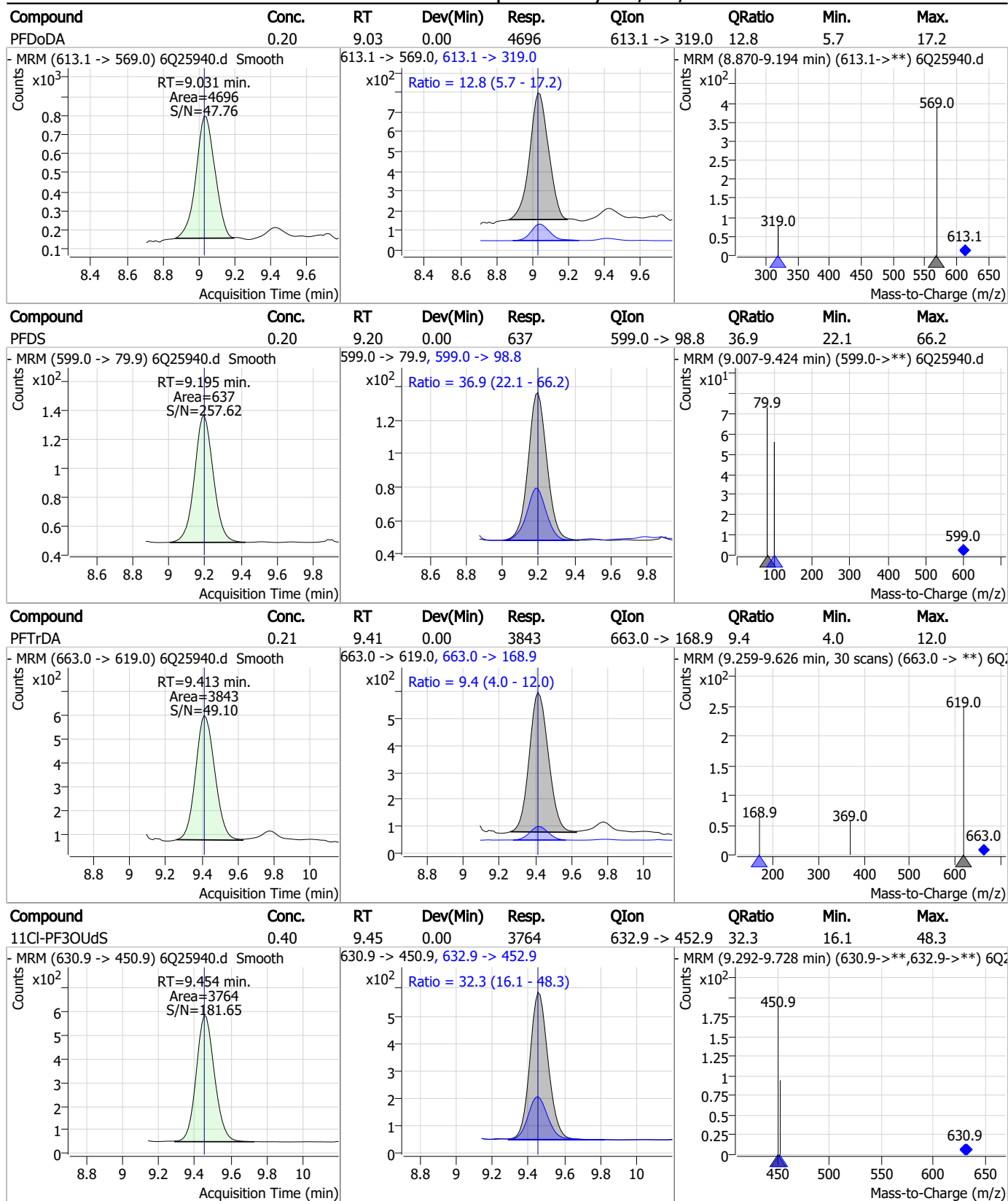
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Perfluorinated Compounds by LC/MS/MS



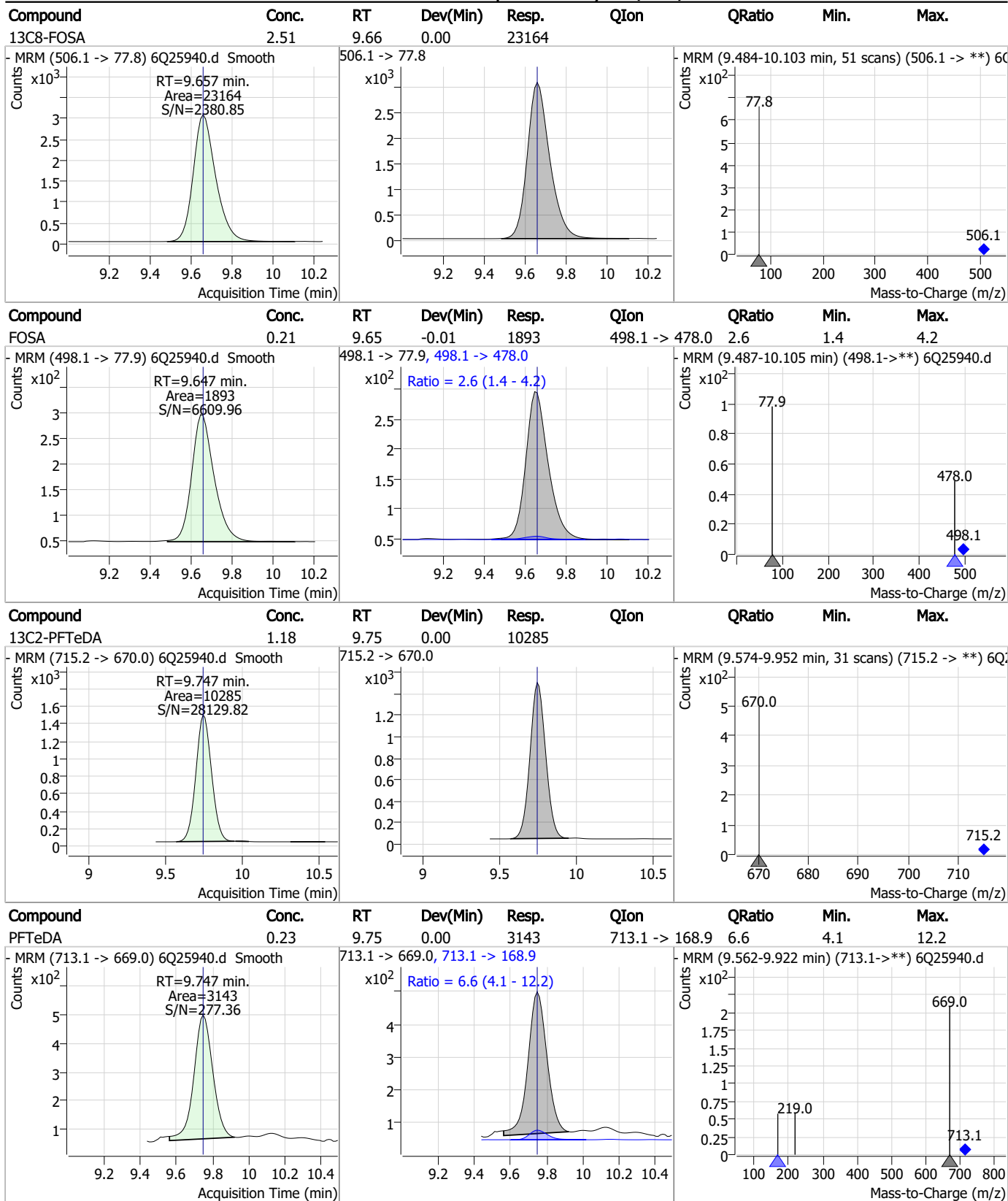
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Perfluorinated Compounds by LC/MS/MS



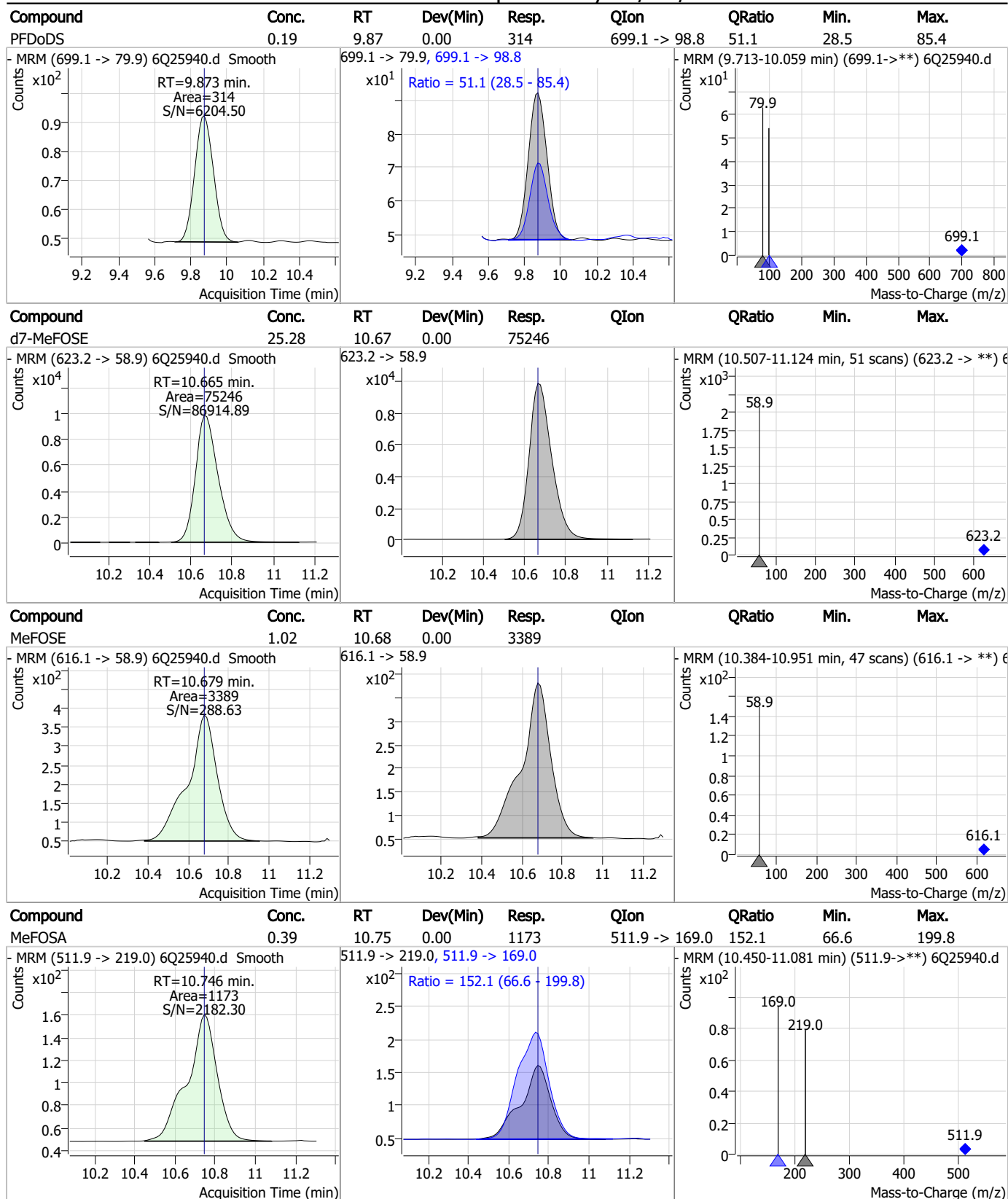
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Perfluorinated Compounds by LC/MS/MS



7.7.2
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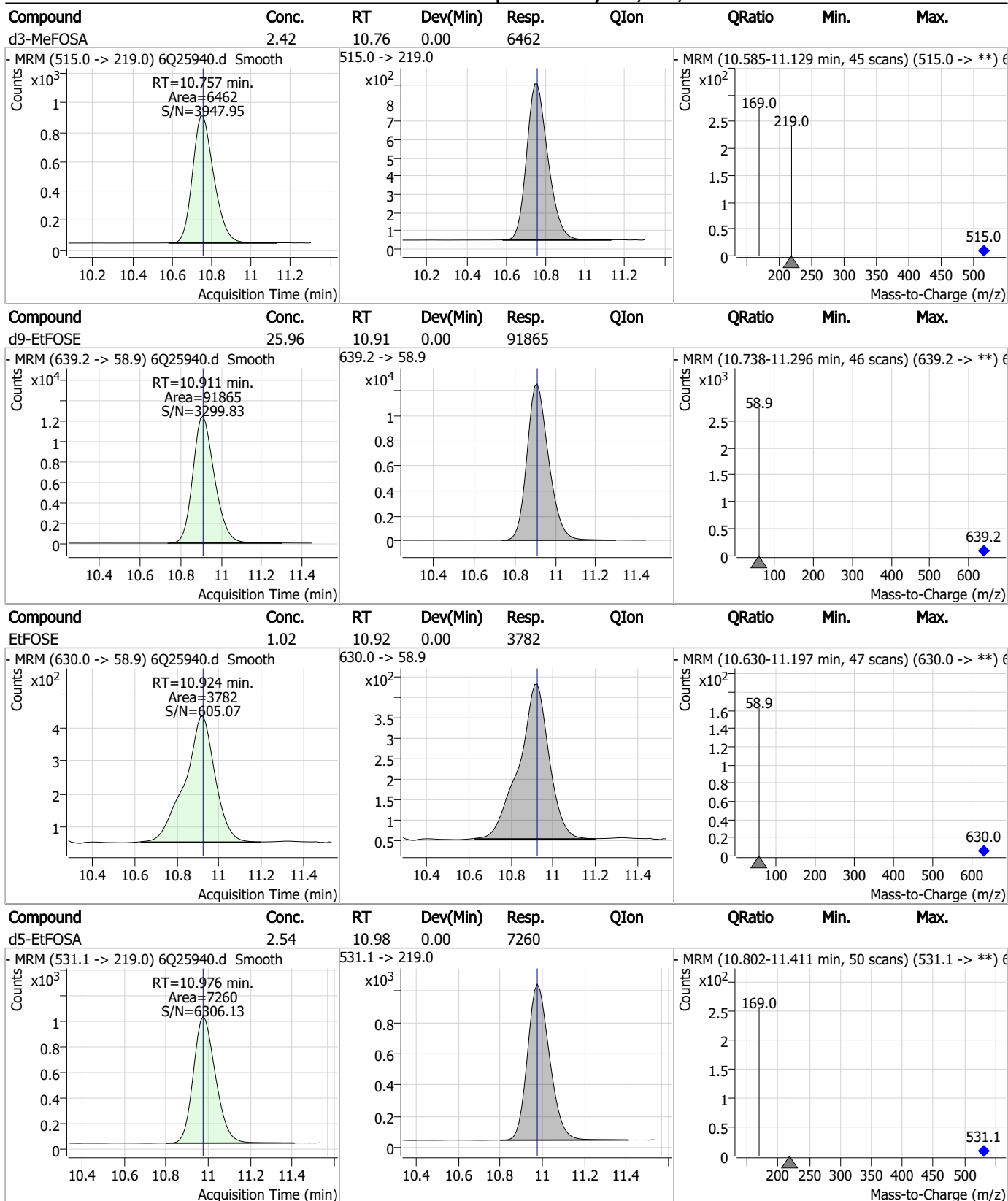
Perfluorinated Compounds by LC/MS/MS



7.7.2

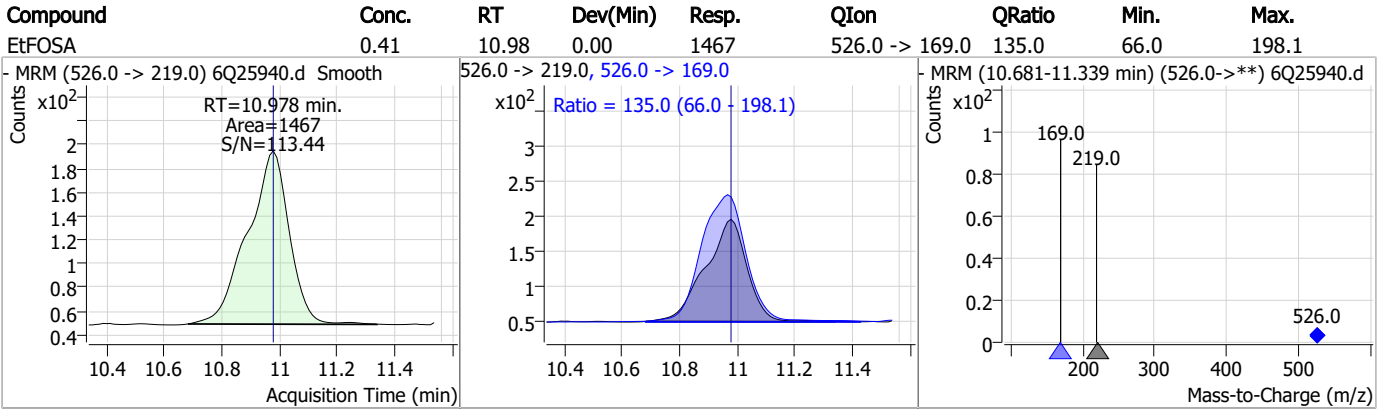
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Perfluorinated Compounds by LC/MS/MS



7.7.2
7

Perfluorinated Compounds by LC/MS/MS



7.7.2

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Manual Integration Approval Summary

Sample Number: S6Q367-IC367 Method: EPA DRAFT 1633
Lab FileID: 6Q25940.D Analyst approved: 10/09/23 13:30 Martha Valls
Injection Time: 10/08/23 15:03 Supervisor approved: 10/09/23 16:36 Natasha Gumtie

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorooctanesulfonic acid	1763-23-1		8.31	Split peak
9CI-PF3ONS (F-53B Major)	756426-58-1		8.64	Poorly defined baseline

7.7.2.1

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Perfluorinated Compounds by LC/MS/MS

Data File : 6Q25941.d
 Operator : marthav
 Acq. Method : 1633full.m
 Acq. Date-Time : 10/8/2023 3:17:40 PM
 Sample Name : ic367-2
 Vial : P1-A3
 DA Method File : 1633_100823_S6Q367.quantmethod.xml
 Batch Name : S6Q367.batch.bin
 Sample Information : OP99308,S6Q367,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Internal Standards					
M4-PFBA	2.947	216.8 -> 171.9	156331	10.00 µg/L	0.000
M5-PFPeA	4.372	268.3 -> 223.0	54388	5.00 µg/L	0.000
M5-PFHxA	5.592	318.0 -> 273.0	50781	2.50 µg/L	0.012
M4-PFHpA	6.519	367.1 -> 322.0	48851	2.50 µg/L	0.000
M8-PFOA	7.161	421.1 -> 376.0	63428	2.50 µg/L	0.000
M9-PFNA	7.680	472.1 -> 427.0	27161	1.25 µg/L	0.000
M6-PFDA	8.161	519.1 -> 474.1	29241	1.25 µg/L	0.000
M7-PFUnDA	8.614	570.0 -> 525.1	33221	1.25 µg/L	0.000
M2-PFDoDA	9.030	615.1 -> 570.0	33048	1.25 µg/L	0.000
M2-PFTeDA	9.747	715.2 -> 670.0	11800	1.25 µg/L	0.000
M8-FOSA	9.657	506.1 -> 77.8	24485	2.50 µg/L	0.000
M3-PFBS	5.510	302.1 -> 79.9	22870	2.50 µg/L	0.012
M3-PFHxS	7.263	402.1 -> 79.9	12454	2.50 µg/L	0.000
M8-PFOS	8.311	507.1 -> 79.9	12742	2.50 µg/L	0.000
M2-4:2FTS	5.255	329.1 -> 80.9	2452	5.00 µg/L	0.000
M2-6:2FTS	6.936	429.1 -> 80.9	3412	5.00 µg/L	0.000
M2-8:2FTS	7.950	529.1 -> 80.9	3603	5.00 µg/L	0.000
M3-MeFOSAA	8.219	573.2 -> 419.0	24813	5.00 µg/L	0.012
M3-HFPO-DA	5.957	286.9 -> 168.9	33223	10.00 µg/L	0.000
M5-EtFOSAA	8.415	589.2 -> 419.0	21472	5.00 µg/L	0.000
M7-MeFOSE	10.666	623.2 -> 58.9	79678	25.00 µg/L	0.000
M9-EtFOSE	10.911	639.2 -> 58.9	94033	25.00 µg/L	0.000
M5-EtFOSA	10.976	531.1 -> 219.0	7276	2.50 µg/L	0.000
M3-MeFOSA	10.744	515.0 -> 219.0	6667	2.50 µg/L	-0.012
13C4-PFOS	8.312	502.8 -> 79.9	12006	2.50 µg/L	0.000
13C3-PFBA	2.939	216.0 -> 172.0	64365	5.00 µg/L	-0.013
18O2-PFHxS	7.263	403.0 -> 83.9	8215	2.50 µg/L	0.000
13C4-PFOA	7.162	417.1 -> 372.0	73922	2.50 µg/L	0.000
13C2-PFDA	8.161	515.1 -> 470.1	26998	1.25 µg/L	0.000
13C5-PFNA	7.680	468.0 -> 423.0	27440	1.25 µg/L	0.000
13C2-PFHxA	5.593	315.1 -> 270.0	48193	2.50 µg/L	0.012
System Monitoring Compounds					
13C2-4:2FTS	5.255	329.1 -> 80.9	2452	5.30 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 106.0%		
13C2-6:2FTS	6.936	429.1 -> 80.9	3412	4.96 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 99.1%		
13C2-8:2FTS	7.950	529.1 -> 80.9	3603	5.08 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 101.7%		
13C2-PFDoDA	9.030	615.1 -> 570.0	33048	1.23 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 98.3%		
13C2-PFTeDA	9.747	715.2 -> 670.0	11800	1.29 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 103.5%		
13C3-PFBS	5.510	302.1 -> 79.9	22870	2.46 µg/L	0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 98.3%		
13C3-PFHxS	7.263	402.1 -> 79.9	12454	2.39 µg/L	0.000

Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 95.4%	
13C4-PFBA	2.947	216.8 -> 171.9	156331	10.06 µg/L	0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 100.6%	
13C4-PFHpA	6.519	367.1 -> 322.0	48851	2.50 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 100.2%	
13C5-PFHxA	5.592	318.0 -> 273.0	50781	2.55 µg/L	0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 101.9%	
13C5-PFPeA	4.372	268.3 -> 223.0	54388	4.99 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 99.7%	
13C6-PFDA	8.161	519.1 -> 474.1	29241	1.29 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 102.9%	
13C7-PFUnDA	8.614	570.0 -> 525.1	33221	1.35 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 108.1%	
13C8-FOSA	9.657	506.1 -> 77.8	24485	2.47 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 98.9%	
13C8-PFOA	7.161	421.1 -> 376.0	63428	2.47 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 99.0%	
13C8-PFOS	8.311	507.1 -> 79.9	12742	2.46 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 98.3%	
13C9-PFNA	7.680	472.1 -> 427.0	27161	1.20 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 96.3%	
d3-MeFOSAA	8.219	573.2 -> 419.0	24813	4.70 µg/L	0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 94.0%	
13C3-HFPO-DA	5.957	286.9 -> 168.9	33223	9.88 µg/L	0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 98.8%	
d3-MeFOSA	10.744	515.0 -> 219.0	6667	2.32 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 92.8%	
d5-EtFOSAA	8.415	589.2 -> 419.0	21472	4.75 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 94.9%	
d7-MeFOSE	10.666	623.2 -> 58.9	79678	24.92 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 99.7%	
d9-EtFOSE	10.911	639.2 -> 58.9	94033	24.74 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 99.0%	
d5-EtFOSA	10.976	531.1 -> 219.0	7276	2.37 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 94.7%	
Target Compounds					QValue
4:2FTS	5.255	327.1 -> 307.0	6251	1.54 µg/L	100
		327.1 -> 80.9	2434		
6:2FTS	6.937	427.1 -> 407.0	5439	1.75 µg/L	99
		427.1 -> 80.9	2130		
8:2FTS	7.950	527.1 -> 507.0	3836	1.53 µg/L	93
		527.1 -> 80.8	1510		
EtFOSAA	8.416	584.2 -> 419.1	1484	0.43 µg/L	90
		584.2 -> 526.0	807		
FOSA	9.660	498.1 -> 77.9	3969	0.42 µg/L	100
		498.1 -> 478.0	116		
MeFOSAA	8.220	570.1 -> 419.0	1872	0.40 µg/L	92
		570.1 -> 483.0	465		
PFBA	2.943	212.8 -> 168.9	9480	1.63 µg/L	100
PFBS	5.511	298.7 -> 79.9	2565	0.37 µg/L	99
		298.7 -> 98.8	961		
PFDA	8.161	512.9 -> 469.0	9233	0.40 µg/L	99
		512.9 -> 219.0	1455		
PFDODA	9.031	613.1 -> 569.0	10299	0.42 µg/L	95
		613.1 -> 319.0	1385		
PFDS	9.183	599.0 -> 79.9	1370	0.42 µg/L	99

Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
		599.0 -> 98.8	609			
PFHpA	6.532	363.1 -> 319.0	11225	0.42	µg/L	99
		363.1 -> 169.0	1585			
PFHpS	7.819	449.0 -> 79.9	2085	0.40	µg/L	98
		449.0 -> 98.9	1044			
PFHxA	5.582	313.0 -> 269.0	7478	0.41	µg/L	99
		313.0 -> 118.9	409			
PFHxS	7.264	398.7 -> 79.9	2103	0.40	µg/L	m 87
		398.7 -> 98.9	920			
PFNA	7.680	463.0 -> 419.0	7075	0.42	µg/L	96
		463.0 -> 219.0	1578			
PFNS	8.765	548.8 -> 79.9	1950	0.42	µg/L	88
		548.8 -> 98.9	877			
PFOA	7.163	413.0 -> 369.0	11655	0.43	µg/L	97
		413.0 -> 169.0	1979			
PFOS	8.312	498.9 -> 79.9	2024	0.37	µg/L	m 93
		498.9 -> 98.8	1171			
PFPeA	4.374	263.0 -> 219.0	9963	0.85	µg/L	100
PFPeS	6.571	349.1 -> 79.9	2528	0.38	µg/L	93
		349.1 -> 98.9	1215			
PFTeDA	9.747	713.1 -> 669.0	6282	0.41	µg/L	99
		713.1 -> 168.9	497			
PFTrDA	9.413	663.0 -> 619.0	8089	0.42	µg/L	97
		663.0 -> 168.9	732			
PFUnDA	8.614	563.1 -> 519.0	8971	0.38	µg/L	98
		563.1 -> 269.1	1385			
11CI-PF3OUdS	9.454	630.9 -> 450.9	7757	0.79	µg/L	99
		632.9 -> 452.9	2456			
9CI-PF3ONS	8.641	530.8 -> 351.0	14164	0.81	µg/L	82
		532.8 -> 353.0	5554			
ADONA	6.780	376.9 -> 250.9	35494	0.78	µg/L	99
		376.9 -> 84.8	9891			
HFPO-DA	5.958	284.9 -> 168.9	2840	0.86	µg/L	98
		284.9 -> 184.9	370			
3:3FTCA	3.808	241.0 -> 177.0	1720	2.05	µg/L	99
		241.0 -> 117.0	241			
5:3FTCA	6.233	341.0 -> 237.1	34542	10.15	µg/L	98
		341.0 -> 217.0	24148			
7:3FTCA	7.632	441.0 -> 316.9	20919	10.06	µg/L	99
		441.0 -> 336.9	41621			
EtFOSA	10.978	526.0 -> 219.0	3066	0.86	µg/L	99
		526.0 -> 169.0	4081			
EtFOSE	10.924	630.0 -> 58.9	8046	2.13	µg/L	100
MeFOSA	10.746	511.9 -> 219.0	2866	0.93	µg/L	99
		511.9 -> 169.0	3767			
MeFOSE	10.679	616.1 -> 58.9	7156	2.03	µg/L	100
PFDoDS	9.873	699.1 -> 79.9	693	0.41	µg/L	94
		699.1 -> 98.8	364			
NFDHA	5.462	295.0 -> 201.0	2016	0.88	µg/L	93
		295.0 -> 84.9	479			
PFMBA	4.800	279.0 -> 85.1	7495	0.84	µg/L	100
PFMPA	3.501	229.0 -> 84.9	6207	0.84	µg/L	100
PFEESA	6.050	314.8 -> 134.9	16588	0.71	µg/L	99
		314.8 -> 82.9	637			

= Qualifier out of range, m = manually integrated, + = Area summed

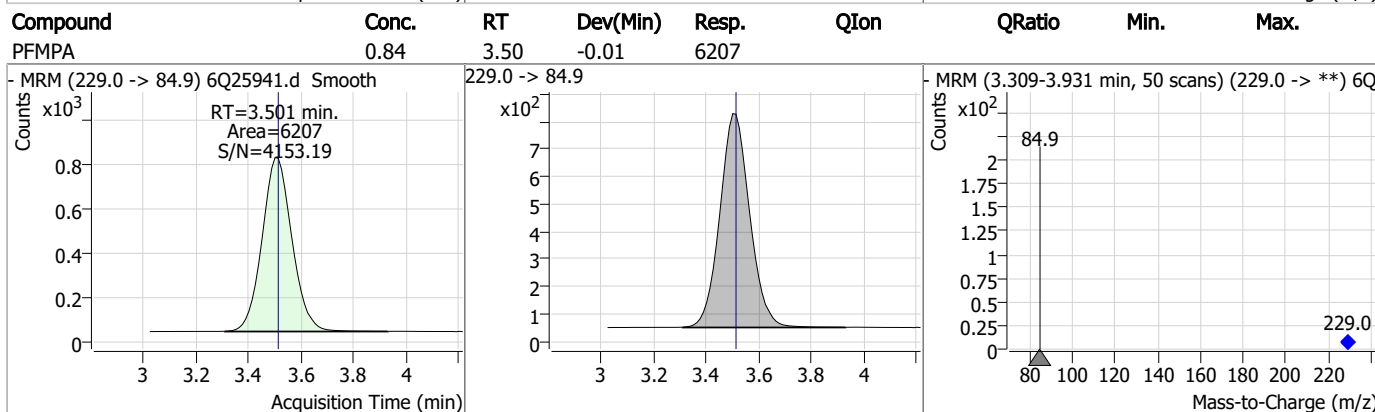
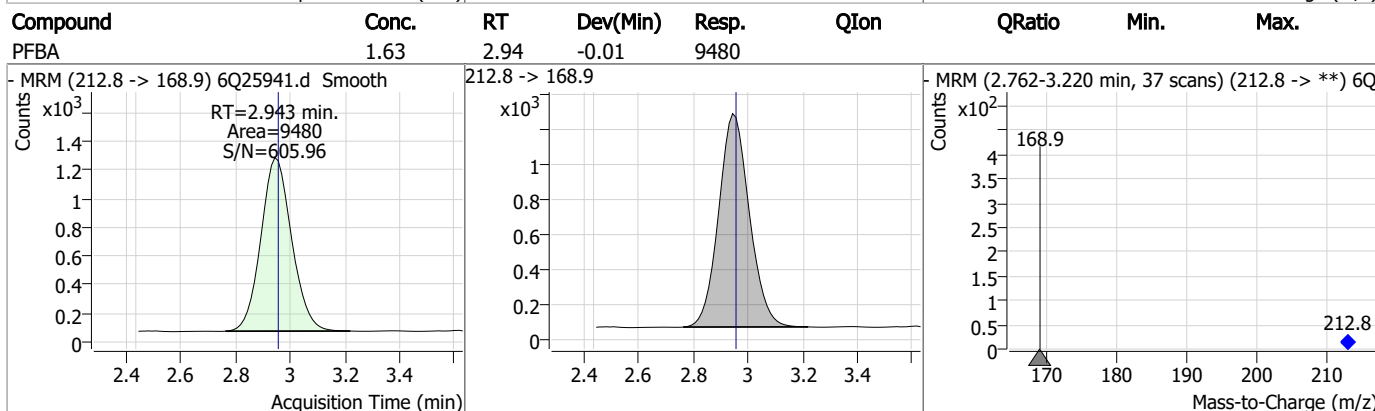
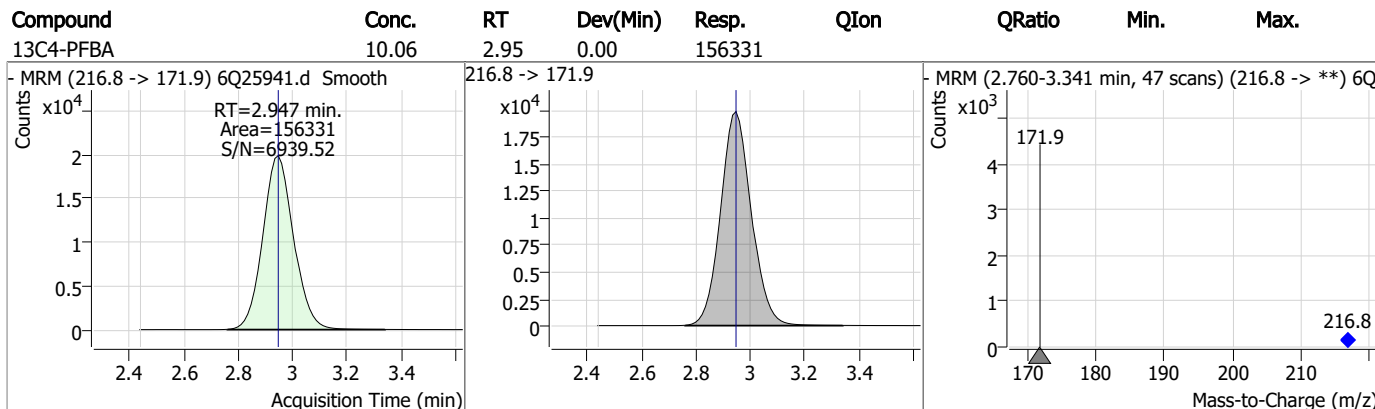
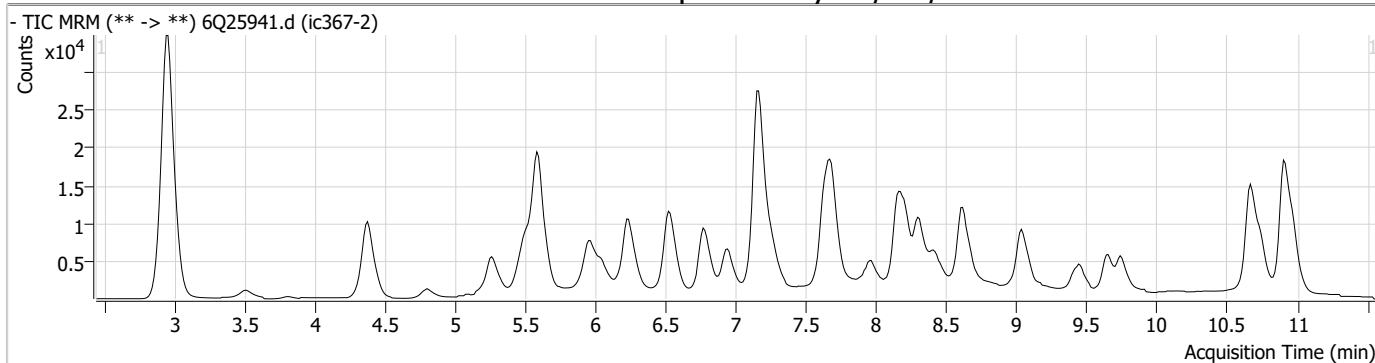
Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
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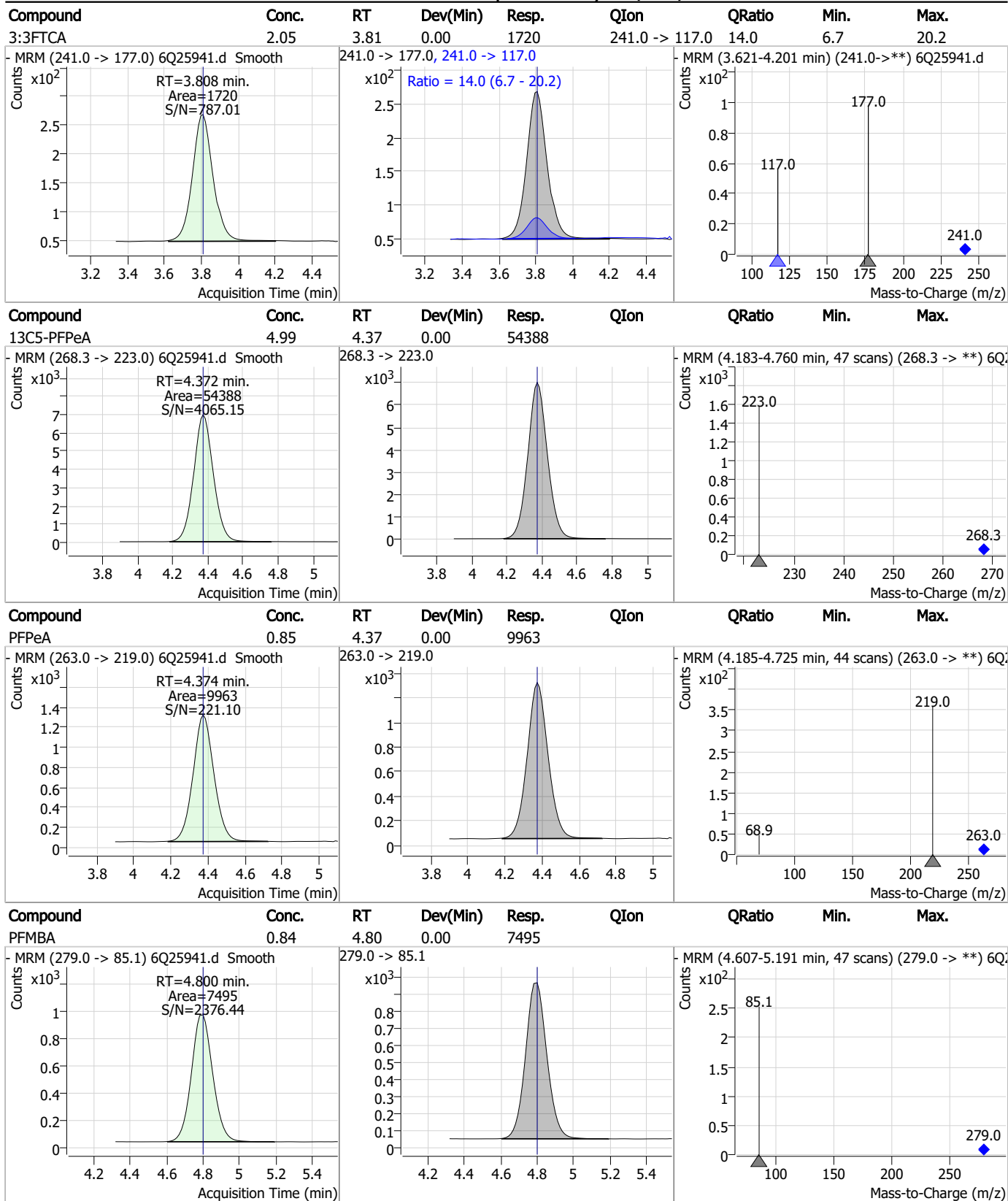
7.7.3

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Perfluorinated Compounds by LC/MS/MS

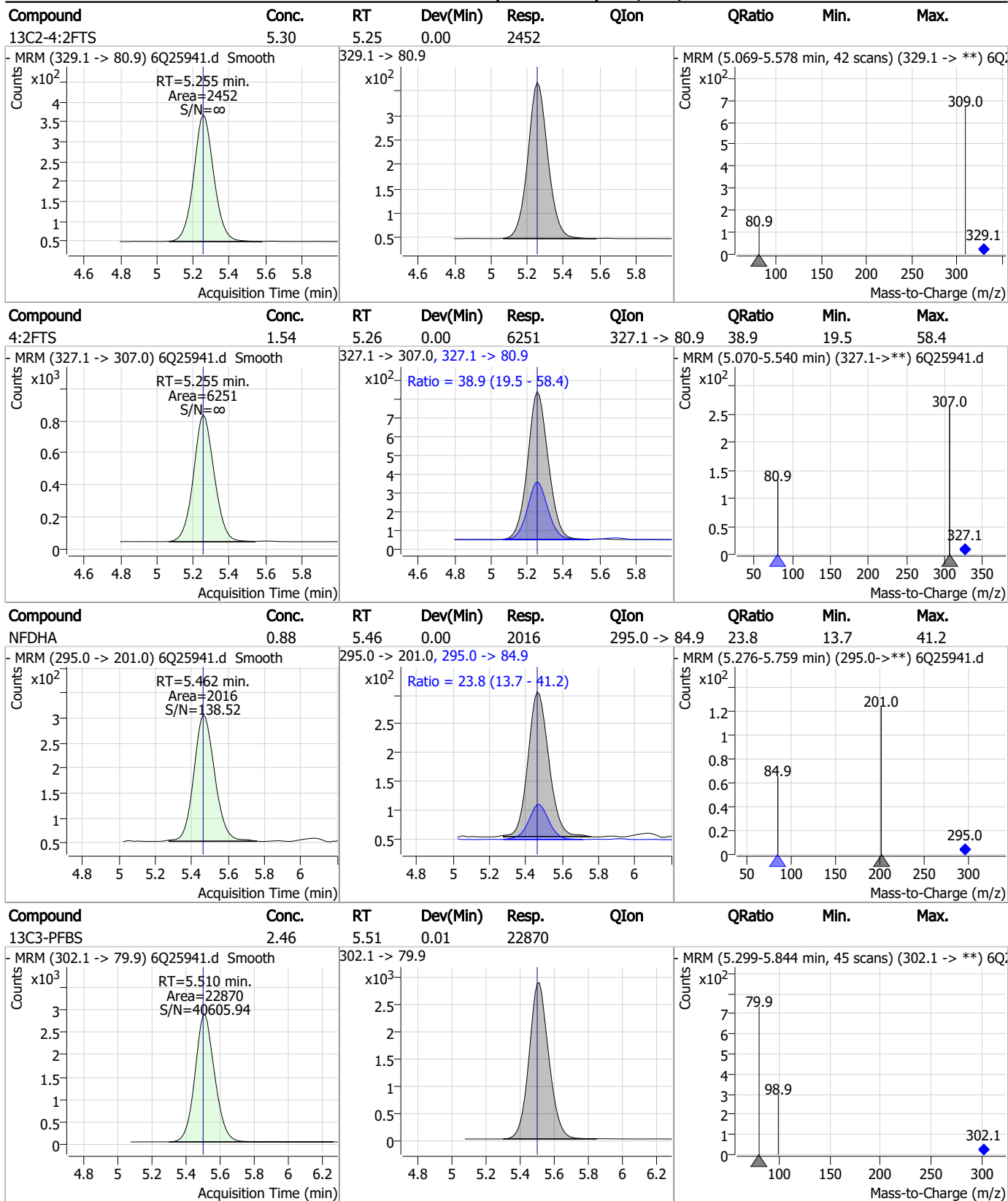


Perfluorinated Compounds by LC/MS/MS



7.7.3
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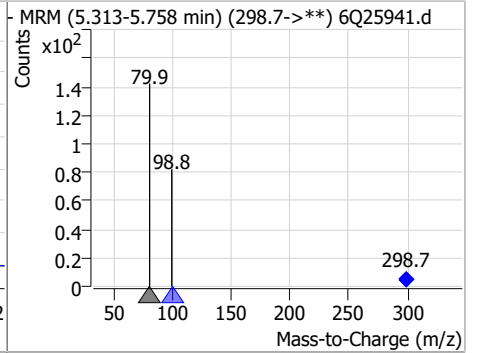
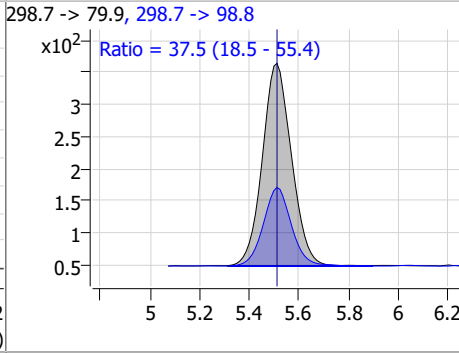
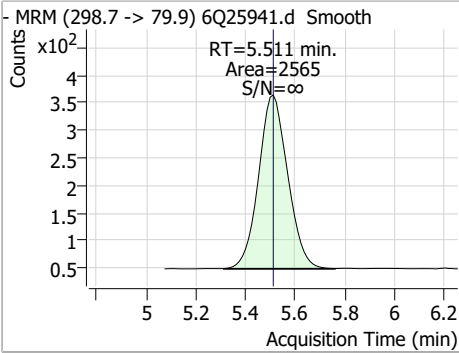
Perfluorinated Compounds by LC/MS/MS



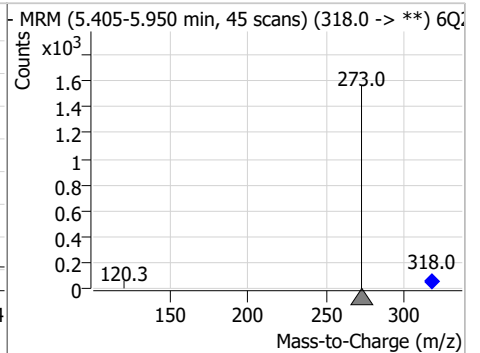
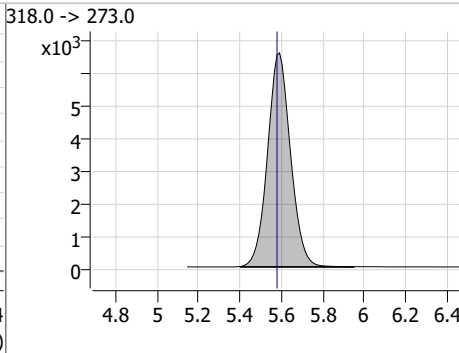
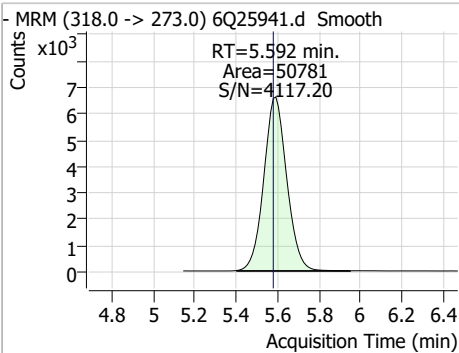
7.7.3
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Perfluorinated Compounds by LC/MS/MS

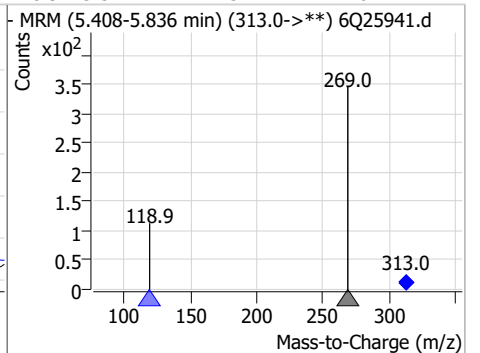
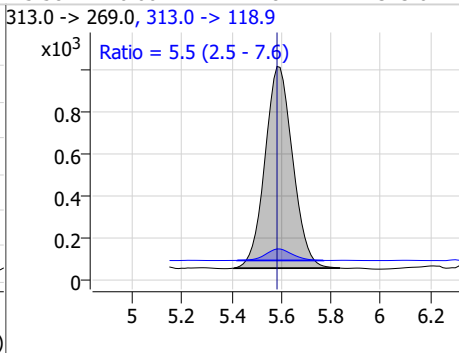
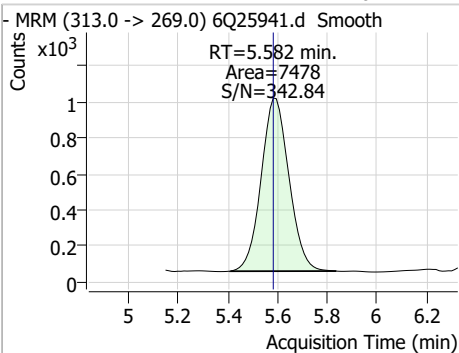
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBS	0.37	5.51	0.00	2565	298.7 -> 98.8	37.5	18.5	55.4



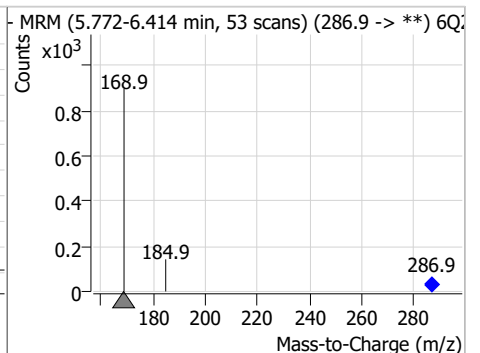
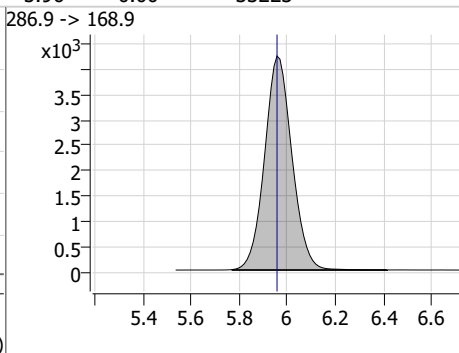
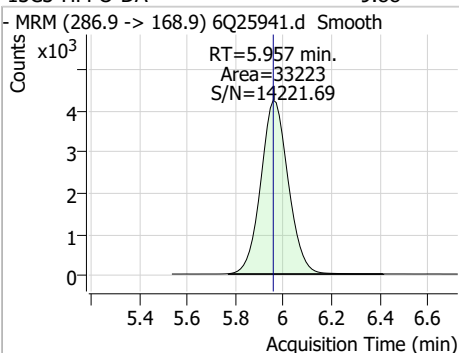
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFHxA	2.55	5.59	0.01	50781				



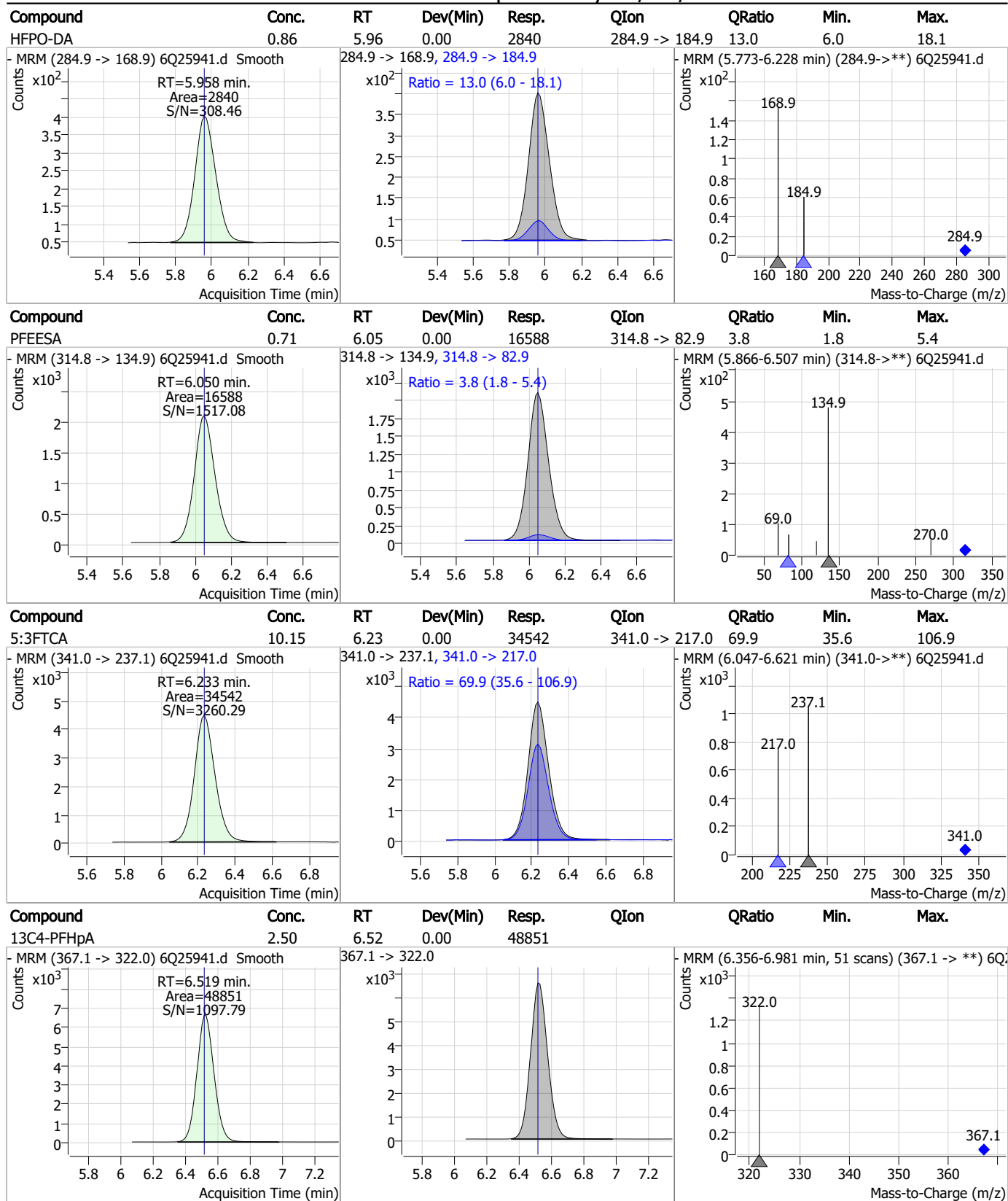
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxA	0.41	5.58	0.00	7478	313.0 -> 118.9	5.5	2.5	7.6



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-HFPO-DA	9.88	5.96	0.00	33223				



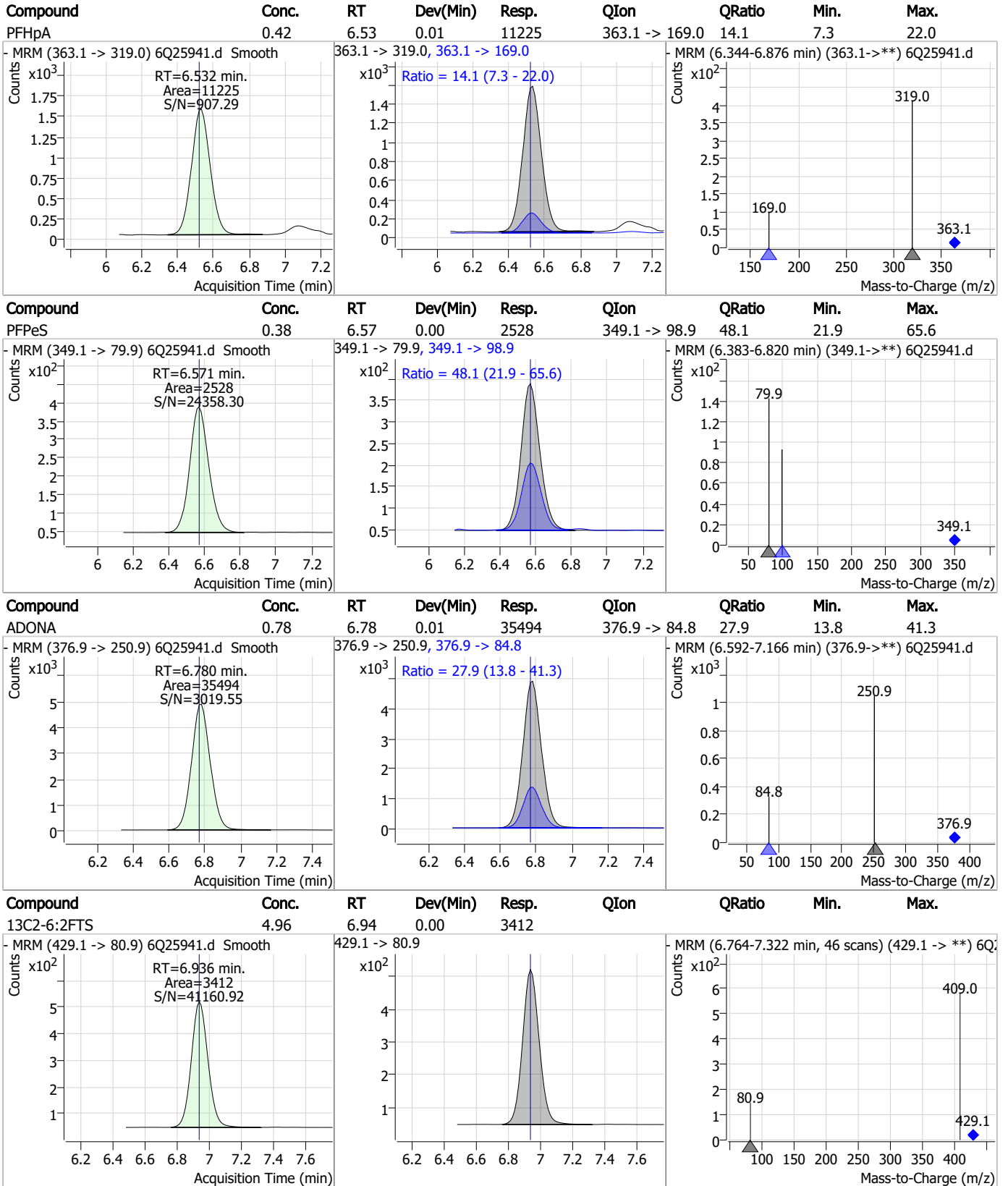
Perfluorinated Compounds by LC/MS/MS



7.7.3

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Perfluorinated Compounds by LC/MS/MS

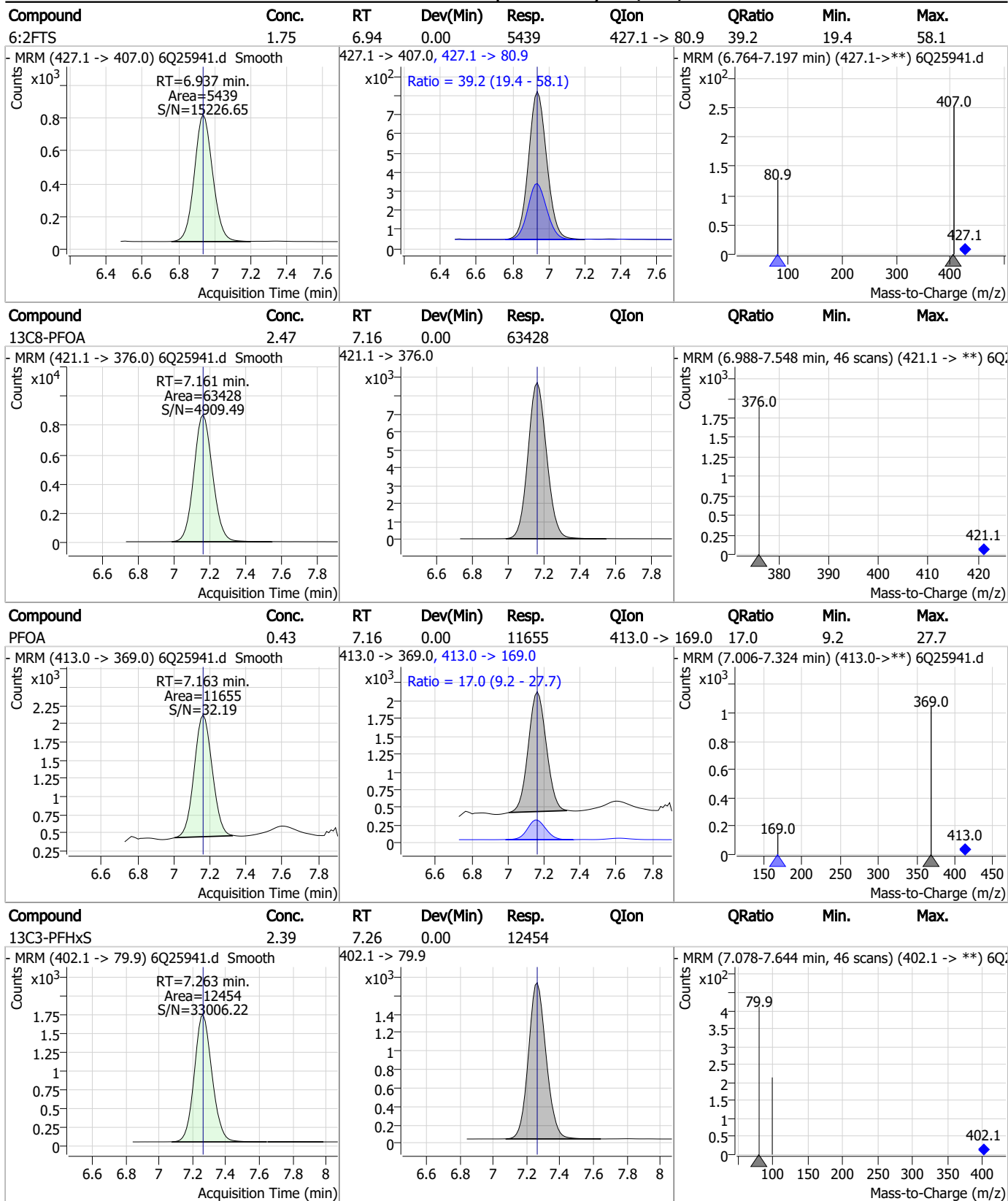


7.7.3

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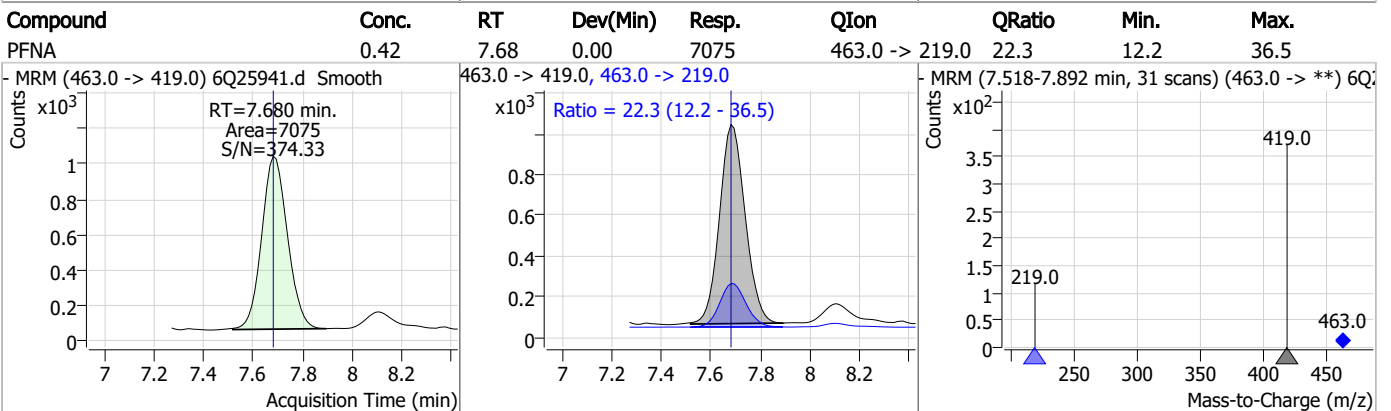
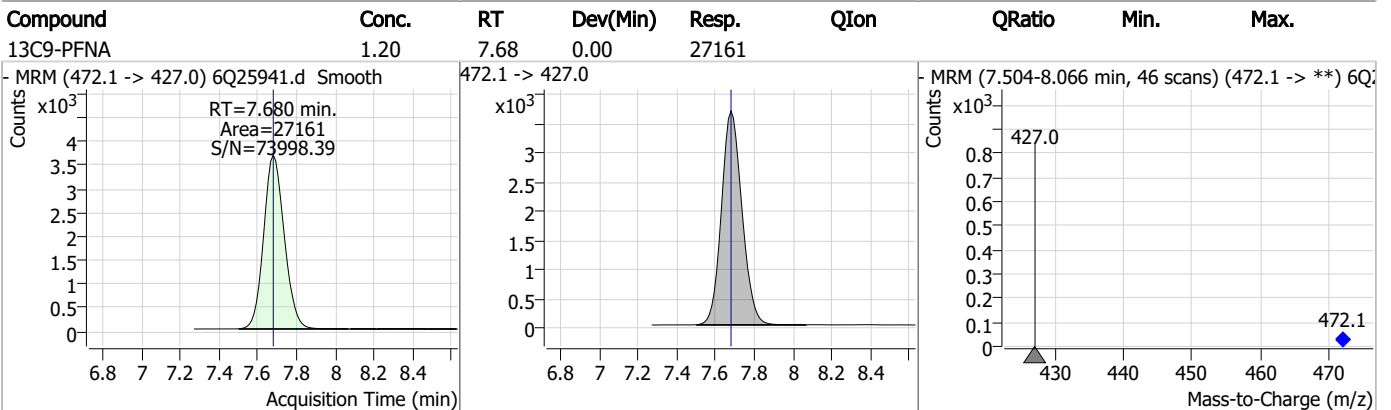
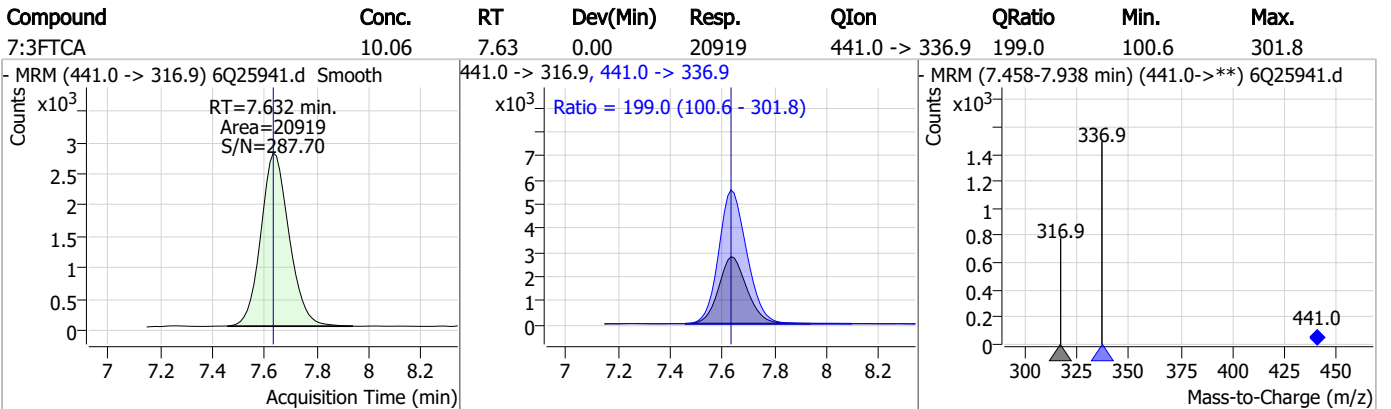
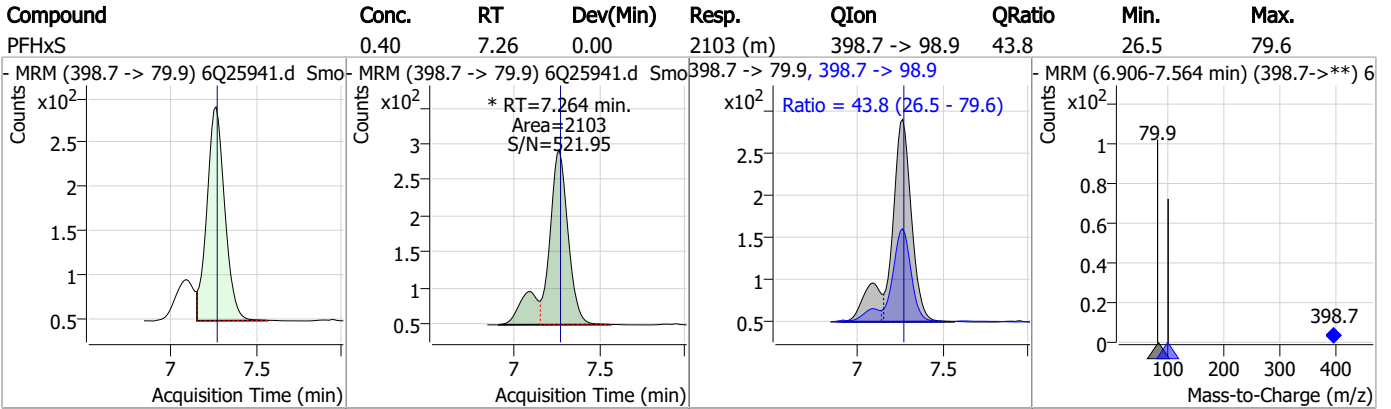


Perfluorinated Compounds by LC/MS/MS



7.7.3
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Perfluorinated Compounds by LC/MS/MS

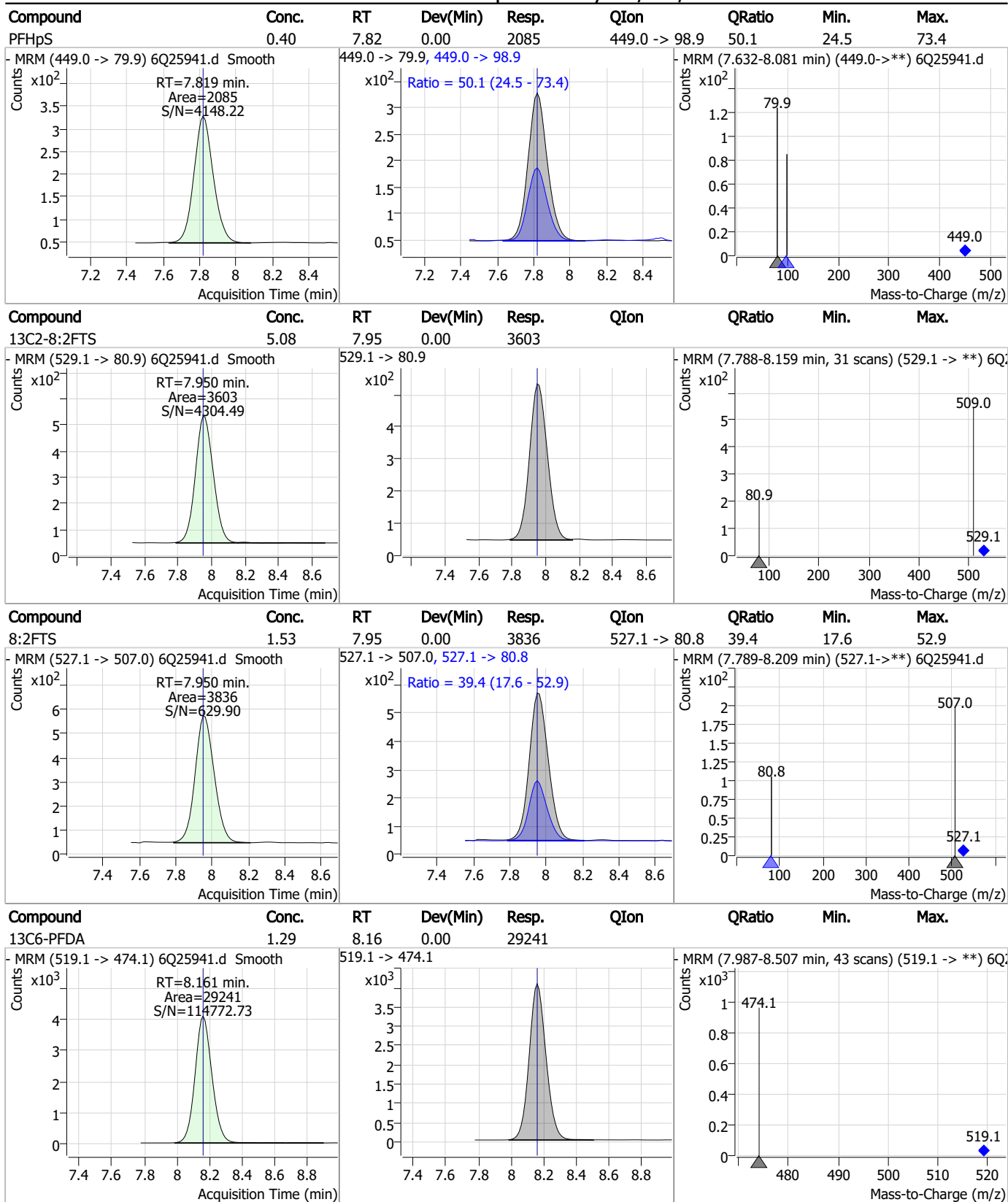


7.7.3

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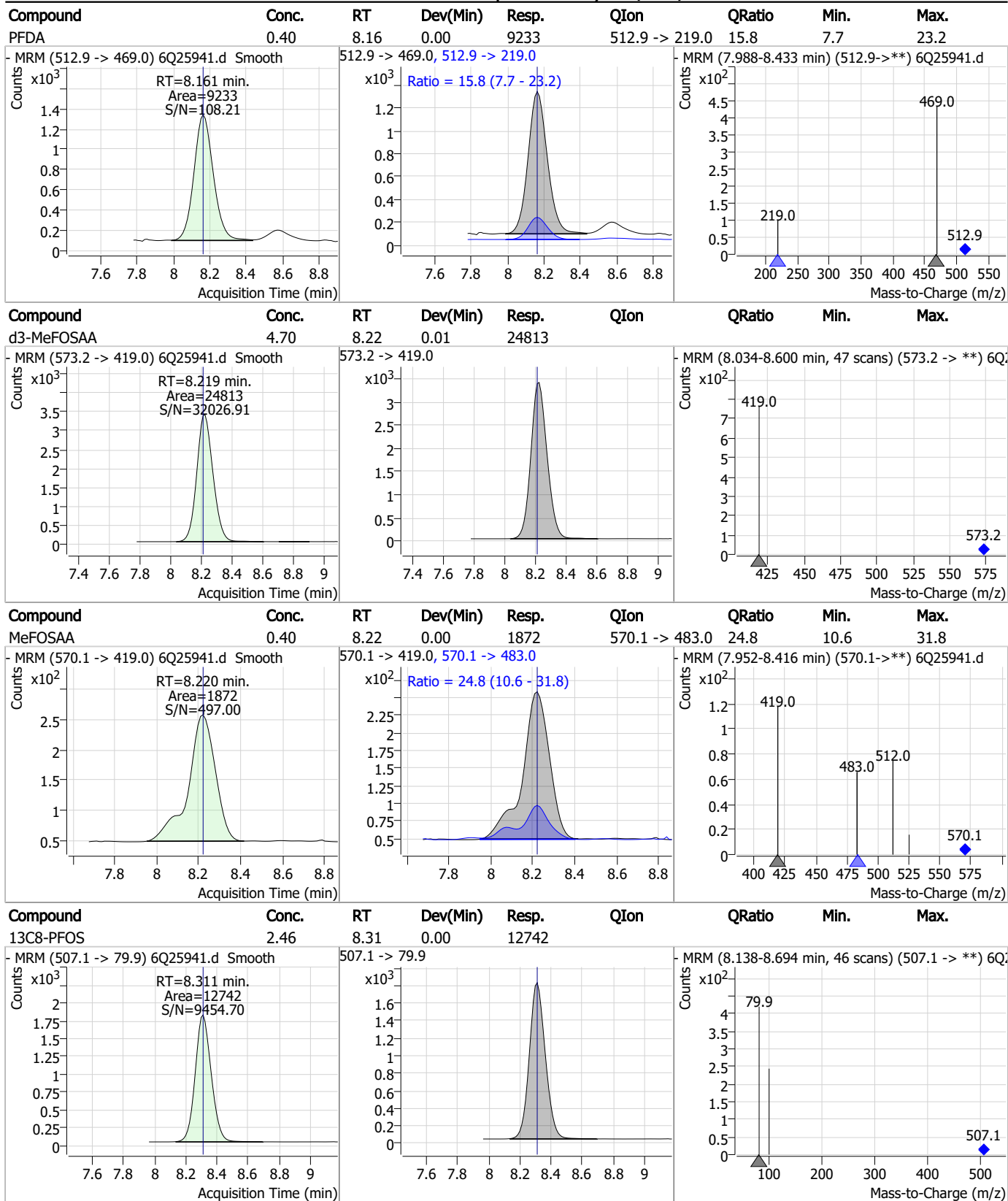
Perfluorinated Compounds by LC/MS/MS



7.7.3

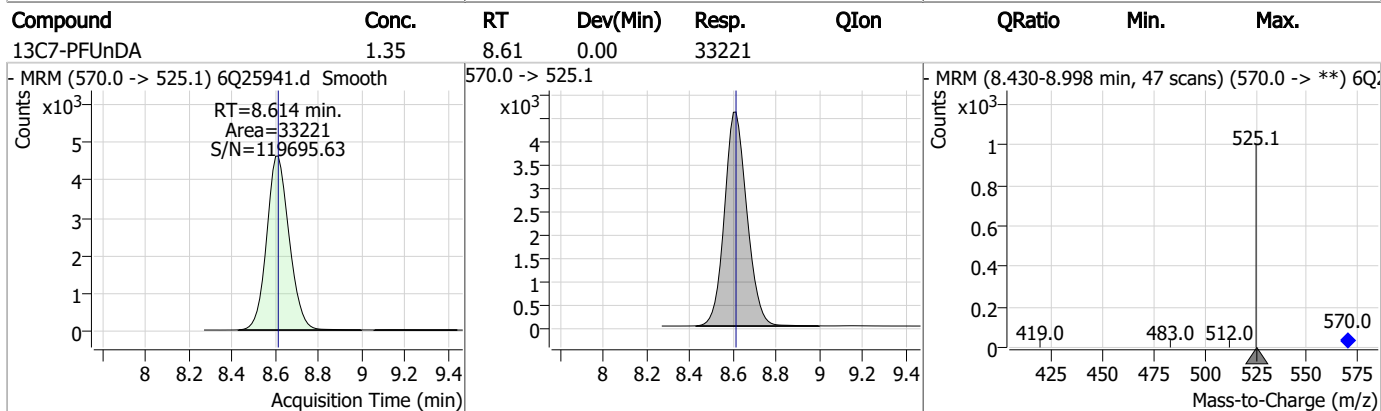
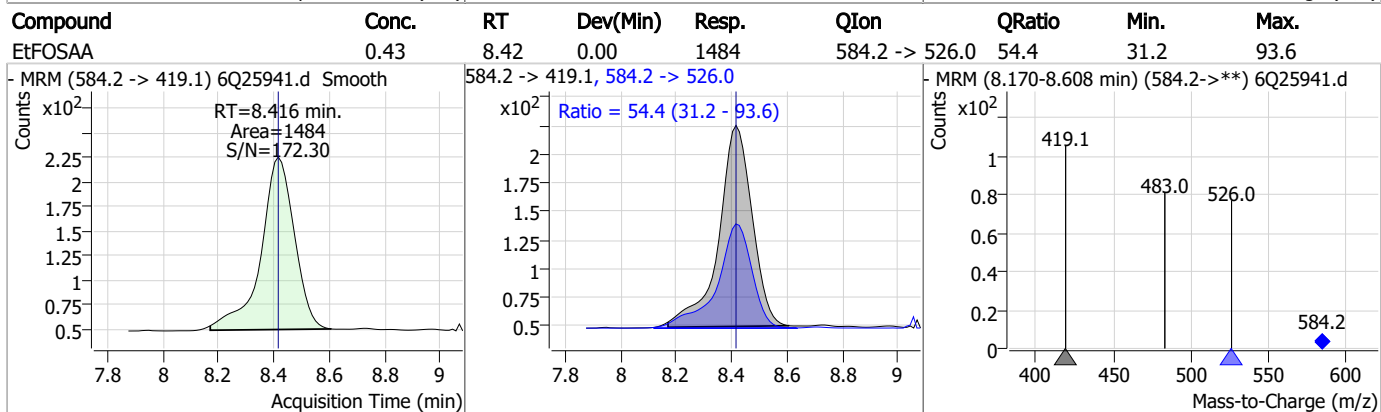
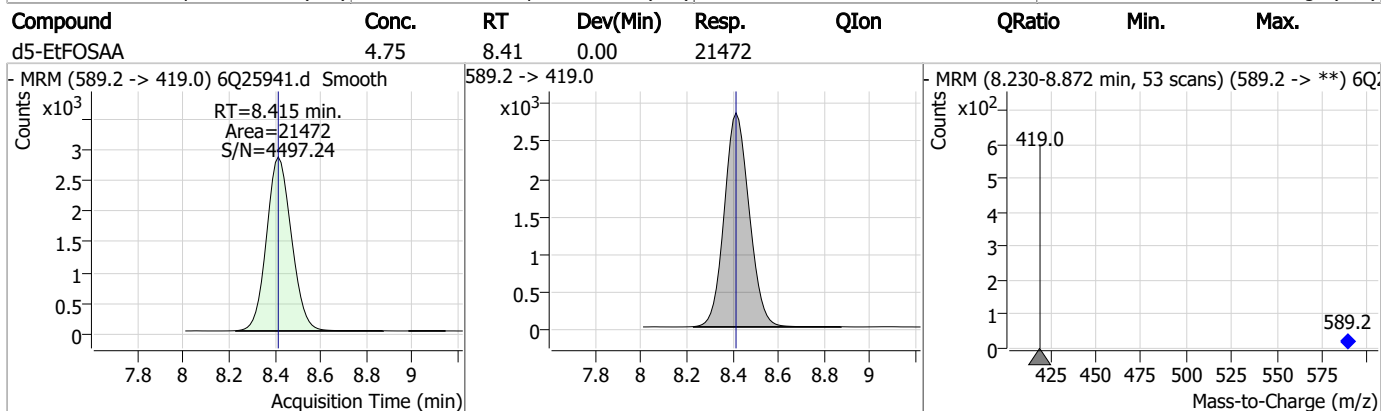
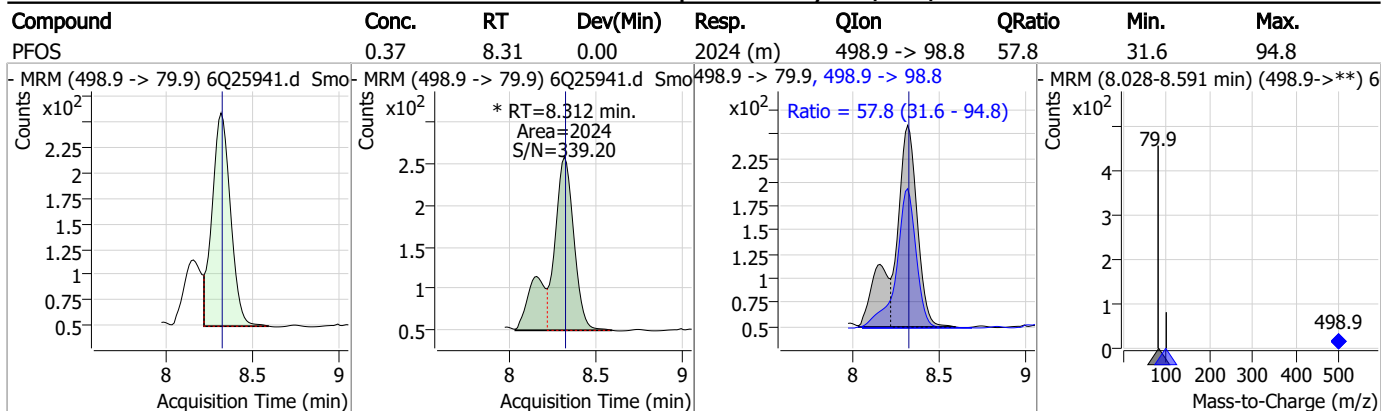
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Perfluorinated Compounds by LC/MS/MS

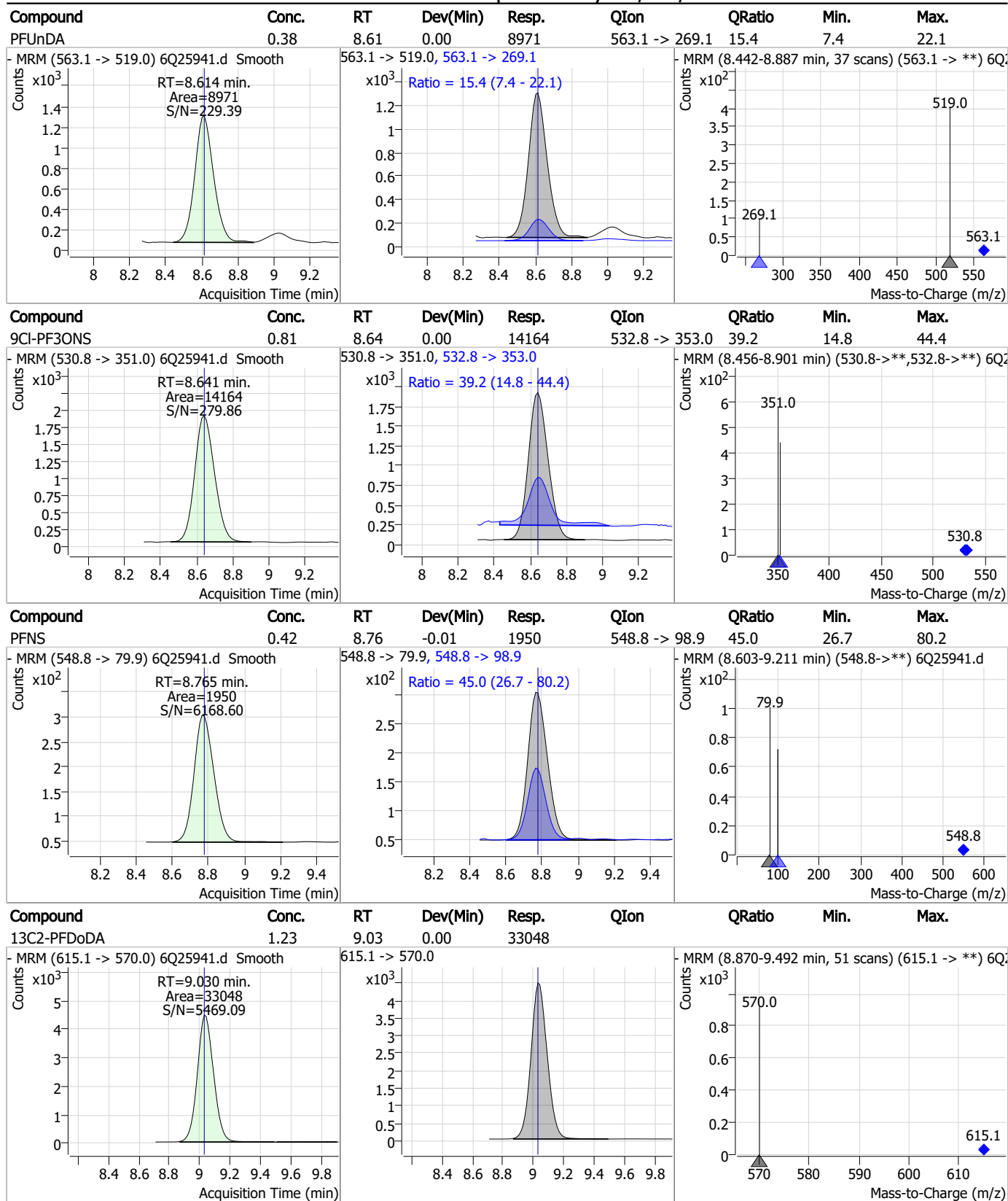


7.7.3
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Perfluorinated Compounds by LC/MS/MS



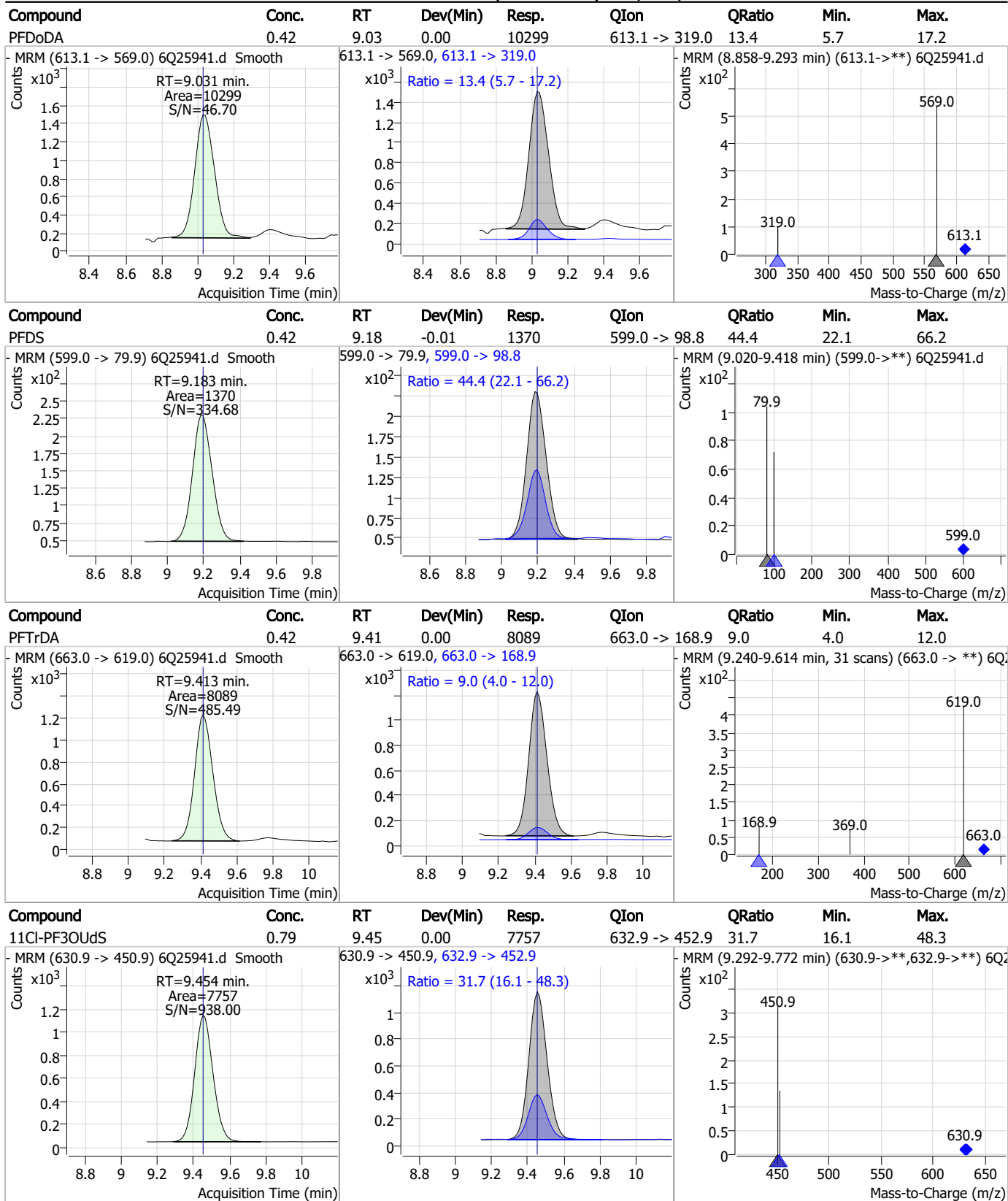
Perfluorinated Compounds by LC/MS/MS



7.7.3

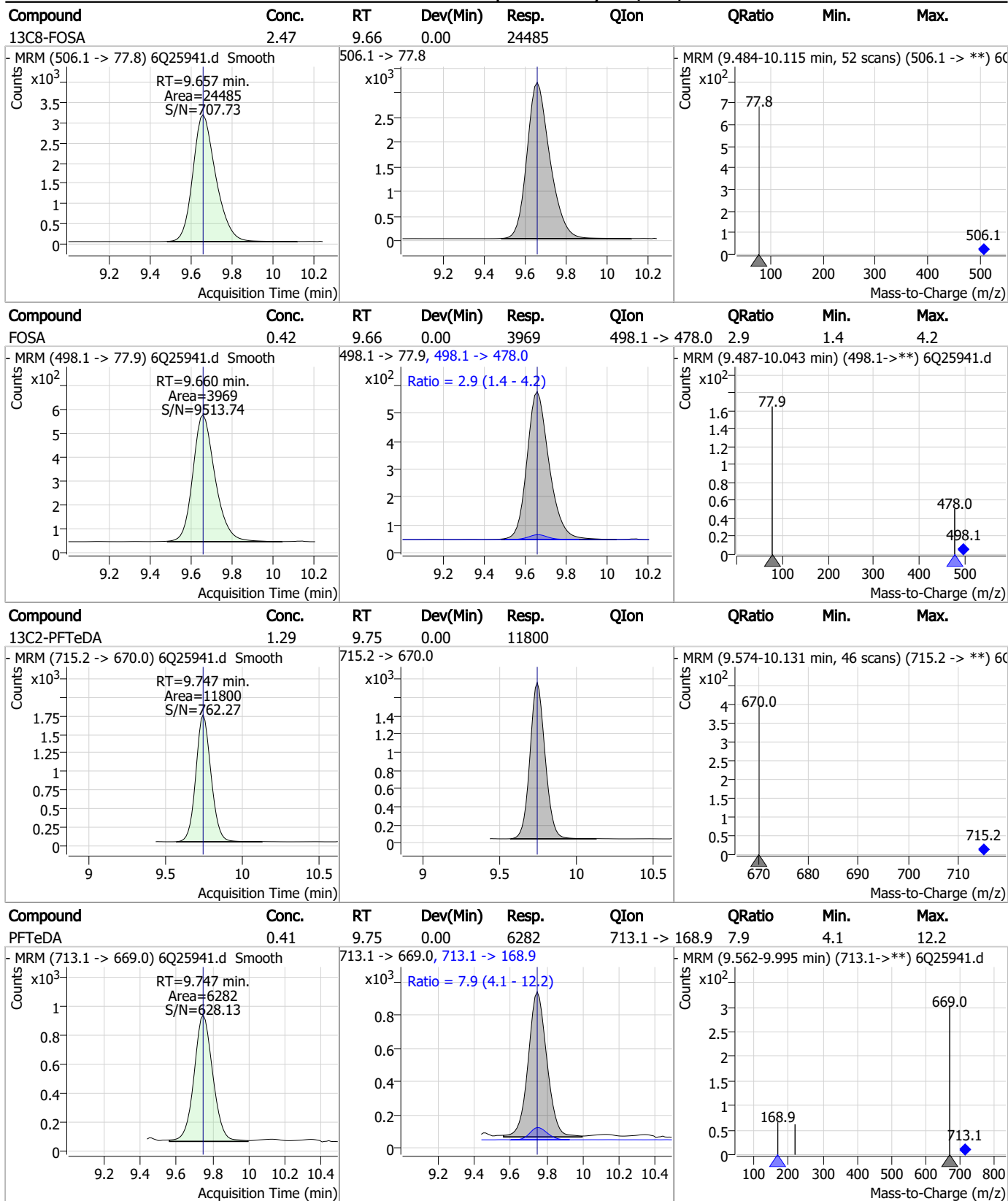
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Perfluorinated Compounds by LC/MS/MS



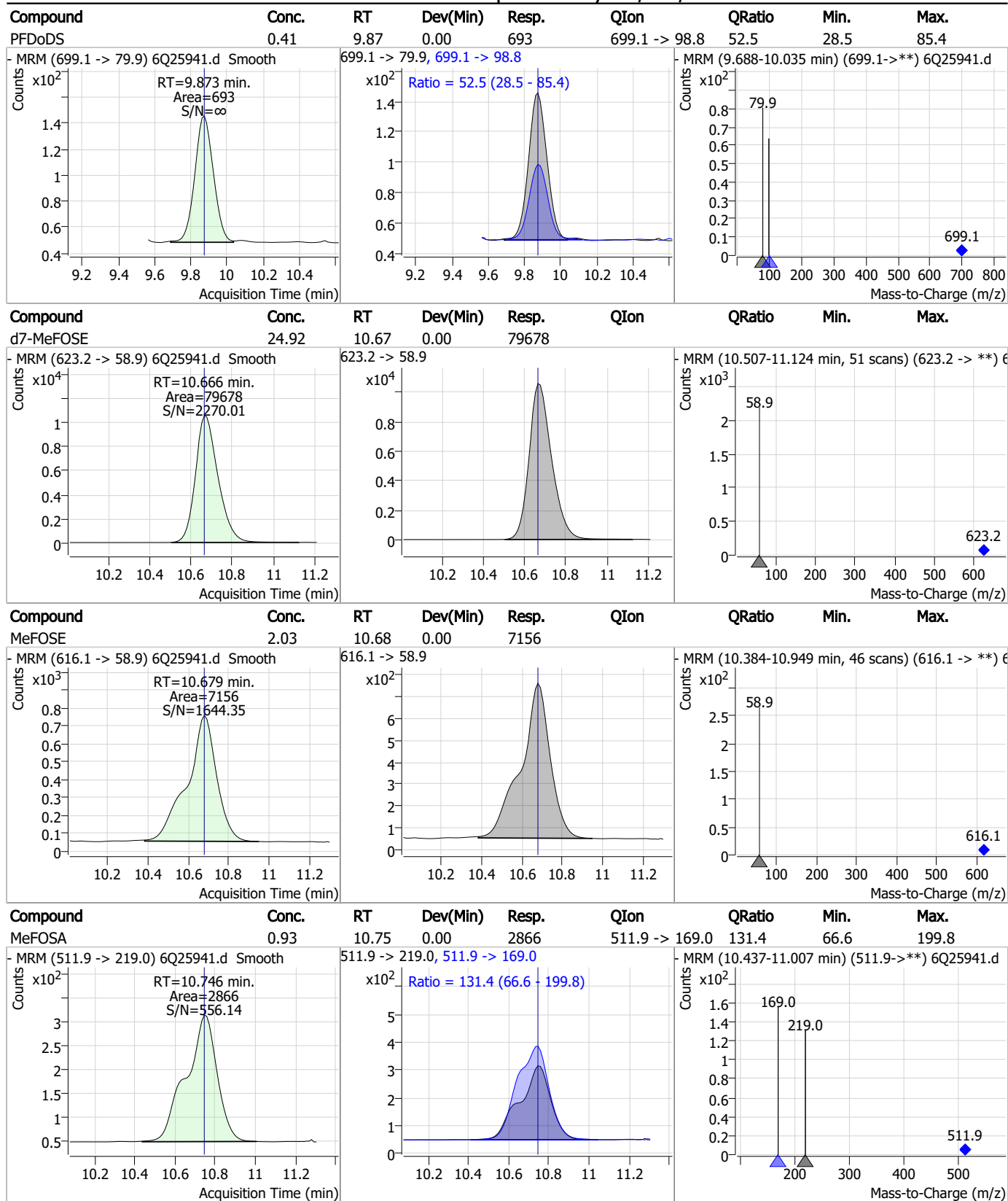
7.7.3
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Perfluorinated Compounds by LC/MS/MS



7.7.3
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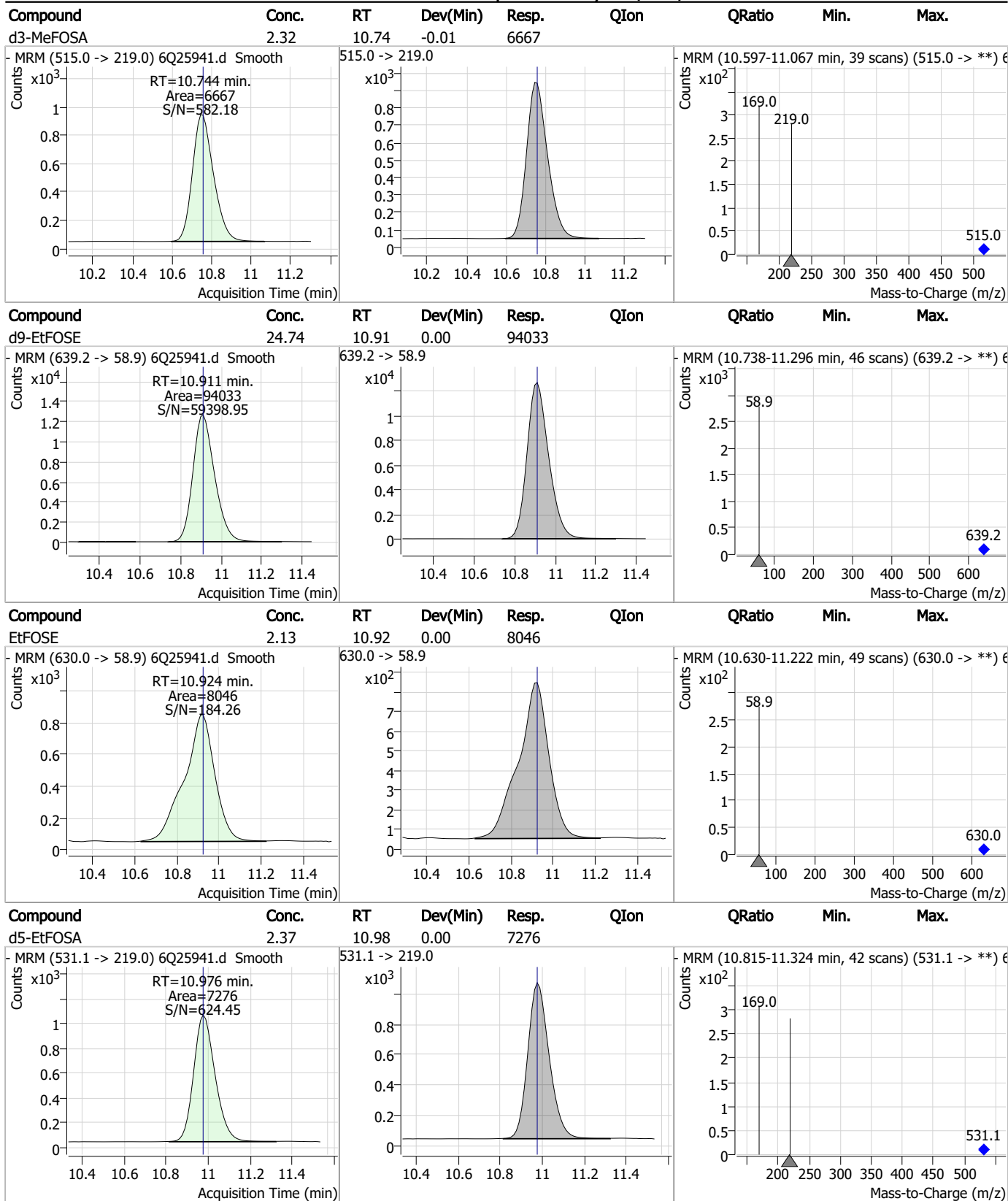
Perfluorinated Compounds by LC/MS/MS



7.7.3

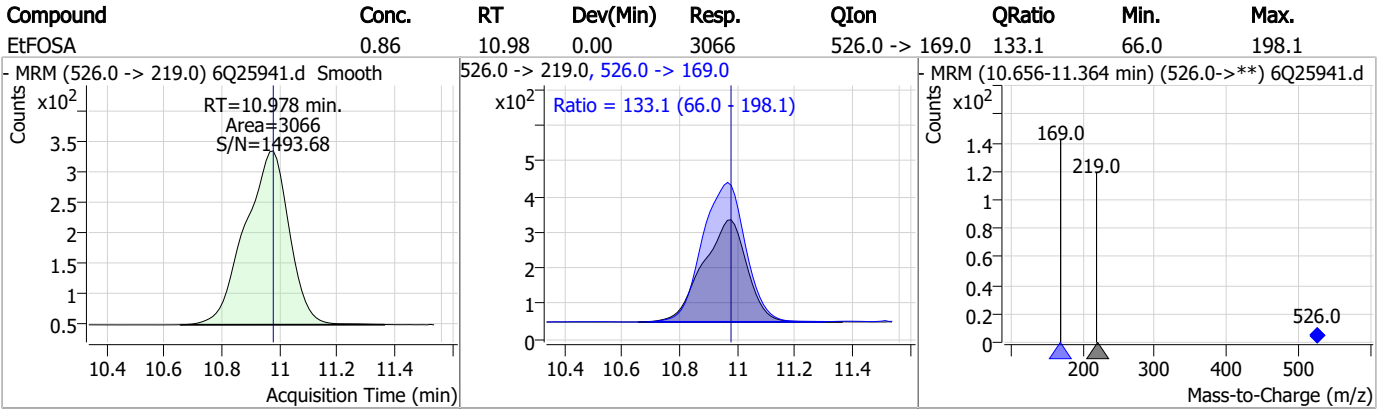
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Perfluorinated Compounds by LC/MS/MS



7.7.3
7

Perfluorinated Compounds by LC/MS/MS



7.7.3

7

Manual Integration Approval Summary

Sample Number: S6Q367-IC367 Method: EPA DRAFT 1633
Lab FileID: 6Q25941.D Analyst approved: 10/09/23 13:30 Martha Valls
Injection Time: 10/08/23 15:17 Supervisor approved: 10/09/23 16:36 Natasha Gumtie

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		7.26	Split peak
Perfluorooctanesulfonic acid	1763-23-1		8.31	Split peak

7.7.3.1

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Perfluorinated Compounds by LC/MS/MS

Data File : 6Q25942.d
 Operator : marthav
 Acq. Method : 1633full.m
 Acq. Date-Time : 10/8/2023 3:32:01 PM
 Sample Name : ic367-3
 Vial : P1-A4
 DA Method File : 1633_100823_S6Q367.quantmethod.xml
 Batch Name : S6Q367.batch.bin
 Sample Information : OP99308,S6Q367,500,,,,5.0,1,water

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Internal Standards					
M4-PFBA	2.947	216.8 -> 171.9	158629	10.00 µg/L	0.000
M5-PFPeA	4.372	268.3 -> 223.0	55895	5.00 µg/L	0.000
M5-PFHxA	5.580	318.0 -> 273.0	50655	2.50 µg/L	0.000
M4-PFHpA	6.519	367.1 -> 322.0	48952	2.50 µg/L	0.000
M8-PFOA	7.161	421.1 -> 376.0	64774	2.50 µg/L	0.000
M9-PFNA	7.680	472.1 -> 427.0	29368	1.25 µg/L	0.000
M6-PFDA	8.161	519.1 -> 474.1	26961	1.25 µg/L	0.000
M7-PFUnDA	8.614	570.0 -> 525.1	31431	1.25 µg/L	0.000
M2-PFDoDA	9.030	615.1 -> 570.0	34128	1.25 µg/L	0.000
M2-PFTeDA	9.747	715.2 -> 670.0	11040	1.25 µg/L	0.000
M8-FOSA	9.657	506.1 -> 77.8	23332	2.50 µg/L	0.000
M3-PFBS	5.497	302.1 -> 79.9	22497	2.50 µg/L	0.000
M3-PFHxS	7.263	402.1 -> 79.9	12518	2.50 µg/L	0.000
M8-PFOS	8.311	507.1 -> 79.9	11729	2.50 µg/L	0.000
M2-4:2FTS	5.255	329.1 -> 80.9	2407	5.00 µg/L	0.000
M2-6:2FTS	6.936	429.1 -> 80.9	3605	5.00 µg/L	0.000
M2-8:2FTS	7.950	529.1 -> 80.9	3665	5.00 µg/L	0.000
M3-MeFOSAA	8.219	573.2 -> 419.0	27476	5.00 µg/L	0.012
M3-HFPO-DA	5.957	286.9 -> 168.9	33117	10.00 µg/L	0.000
M5-EtFOSAA	8.415	589.2 -> 419.0	22312	5.00 µg/L	0.000
M7-MeFOSE	10.666	623.2 -> 58.9	77417	25.00 µg/L	0.000
M9-EtFOSE	10.911	639.2 -> 58.9	91902	25.00 µg/L	0.000
M5-EtFOSA	10.976	531.1 -> 219.0	7395	2.50 µg/L	0.000
M3-MeFOSA	10.744	515.0 -> 219.0	6805	2.50 µg/L	-0.012
13C4-PFOS	8.312	502.8 -> 79.9	11912	2.50 µg/L	0.000
13C3-PFBA	2.952	216.0 -> 172.0	65737	5.00 µg/L	0.000
18O2-PFHxS	7.263	403.0 -> 83.9	8189	2.50 µg/L	0.000
13C4-PFOA	7.162	417.1 -> 372.0	75051	2.50 µg/L	0.000
13C2-PFDA	8.161	515.1 -> 470.1	28179	1.25 µg/L	0.000
13C5-PFNA	7.680	468.0 -> 423.0	26439	1.25 µg/L	0.000
13C2-PFHxA	5.581	315.1 -> 270.0	50070	2.50 µg/L	0.000
System Monitoring Compounds					
13C2-4:2FTS	5.255	329.1 -> 80.9	2407	5.22 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 104.3%		
13C2-6:2FTS	6.936	429.1 -> 80.9	3605	5.25 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 105.1%		
13C2-8:2FTS	7.950	529.1 -> 80.9	3665	5.19 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 103.7%		
13C2-PFDoDA	9.030	615.1 -> 570.0	34128	1.22 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 97.2%		
13C2-PFTeDA	9.747	715.2 -> 670.0	11040	1.16 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 92.7%		
13C3-PFBS	5.497	302.1 -> 79.9	22497	2.42 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 97.0%		
13C3-PFHxS	7.263	402.1 -> 79.9	12518	2.41 µg/L	0.000

Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 96.2%		
13C4-PFBA	2.947	216.8 -> 171.9	158629	10.00 µg/L	0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%		Recovery = 100.0%		
13C4-PFHpA	6.519	367.1 -> 322.0	48952	2.42 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 96.6%		
13C5-PFHxA	5.580	318.0 -> 273.0	50655	2.45 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 97.9%		
13C5-PFPeA	4.372	268.3 -> 223.0	55895	4.93 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 98.7%		
13C6-PFDA	8.161	519.1 -> 474.1	26961	1.14 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 90.9%		
13C7-PFUnDA	8.614	570.0 -> 525.1	31431	1.23 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 98.0%		
13C8-FOSA	9.657	506.1 -> 77.8	23332	2.37 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 94.9%		
13C8-PFOA	7.161	421.1 -> 376.0	64774	2.49 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 99.6%		
13C8-PFOS	8.311	507.1 -> 79.9	11729	2.28 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 91.2%		
13C9-PFNA	7.680	472.1 -> 427.0	29368	1.35 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 108.0%		
d3-MeFOSAA	8.219	573.2 -> 419.0	27476	5.24 µg/L	0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 104.9%		
13C3-HFPO-DA	5.957	286.9 -> 168.9	33117	9.48 µg/L	0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%		Recovery = 94.8%		
d3-MeFOSA	10.744	515.0 -> 219.0	6805	2.39 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 95.5%		
d5-EtFOSAA	8.415	589.2 -> 419.0	22312	4.97 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 99.4%		
d7-MeFOSE	10.666	623.2 -> 58.9	77417	24.40 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%		Recovery = 97.6%		
d9-EtFOSE	10.911	639.2 -> 58.9	91902	24.37 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%		Recovery = 97.5%		
d5-EtFOSA	10.976	531.1 -> 219.0	7395	2.43 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 97.0%		
Target Compounds					QValue
4:2FTS	5.255	327.1 -> 307.0	17720	4.44 µg/L	97
		327.1 -> 80.9	7180		
6:2FTS	6.937	427.1 -> 407.0	14927	4.55 µg/L	98
		427.1 -> 80.9	5993		
8:2FTS	7.950	527.1 -> 507.0	11596	4.54 µg/L	95
		527.1 -> 80.8	4448		
EtFOSAA	8.416	584.2 -> 419.1	4142	1.14 µg/L	93
		584.2 -> 526.0	2793		
FOSA	9.660	498.1 -> 77.9	11124	1.24 µg/L	99
		498.1 -> 478.0	362		
MeFOSAA	8.220	570.1 -> 419.0	6215	1.21 µg/L	99
		570.1 -> 483.0	1289		
PFBA	2.943	212.8 -> 168.9	28164	4.77 µg/L	100
PFBS	5.499	298.7 -> 79.9	7446	1.10 µg/L	97
		298.7 -> 98.8	2876		
PFDA	8.161	512.9 -> 469.0	25010	1.19 µg/L	98
		512.9 -> 219.0	4045		
PFDODA	9.031	613.1 -> 569.0	30522	1.20 µg/L	97
		613.1 -> 319.0	3779		
PFDS	9.195	599.0 -> 79.9	3758	1.25 µg/L	91

Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
		599.0 -> 98.8	1879			
PFHpA	6.532	363.1 -> 319.0	31790	1.20	µg/L	98
		363.1 -> 169.0	4840			
PFHpS	7.819	449.0 -> 79.9	6087	1.26	µg/L	99
		449.0 -> 98.9	3023			
PFHxA	5.582	313.0 -> 269.0	21104	1.17	µg/L	99
		313.0 -> 118.9	1123			
PFHxS	7.264	398.7 -> 79.9	5673	1.08	µg/L	m 99
		398.7 -> 98.9	2981			
PFNA	7.680	463.0 -> 419.0	20487	1.13	µg/L	99
		463.0 -> 219.0	5060			
PFNS	8.777	548.8 -> 79.9	5578	1.30	µg/L	96
		548.8 -> 98.9	2835			
PFOA	7.163	413.0 -> 369.0	33763	1.21	µg/L	97
		413.0 -> 169.0	5801			
PFOS	8.312	498.9 -> 79.9	6731	1.34	µg/L	m 77
		498.9 -> 98.8	3076			
PFPeA	4.374	263.0 -> 219.0	28579	2.37	µg/L	100
PFPeS	6.571	349.1 -> 79.9	7943	1.18	µg/L	99
		349.1 -> 98.9	3534			
PFTeDA	9.747	713.1 -> 669.0	17890	1.25	µg/L	98
		713.1 -> 168.9	1300			
PFTrDA	9.413	663.0 -> 619.0	23172	1.16	µg/L	99
		663.0 -> 168.9	1959			
PFUnDA	8.614	563.1 -> 519.0	25816	1.17	µg/L	94
		563.1 -> 269.1	4461			
11Cl-PF3OUdS	9.454	630.9 -> 450.9	22761	2.32	µg/L	100
		632.9 -> 452.9	7376			
9Cl-PF3ONS	8.641	530.8 -> 351.0	38715	2.22	µg/L	94
		532.8 -> 353.0	12779			
ADONA	6.780	376.9 -> 250.9	105652	2.32	µg/L	99
		376.9 -> 84.8	28712			
HFPO-DA	5.958	284.9 -> 168.9	8113	2.47	µg/L	97
		284.9 -> 184.9	887			
3:3FTCA	3.808	241.0 -> 177.0	4983	5.85	µg/L	99
		241.0 -> 117.0	657			
5:3FTCA	6.233	341.0 -> 237.1	100421	29.58	µg/L	97
		341.0 -> 217.0	74430			
7:3FTCA	7.632	441.0 -> 316.9	63379	30.57	µg/L	99
		441.0 -> 336.9	126670			
EtFOSA	10.978	526.0 -> 219.0	8779	2.42	µg/L	100
		526.0 -> 169.0	11582			
EtFOSE	10.924	630.0 -> 58.9	23056	6.23	µg/L	100
MeFOSA	10.746	511.9 -> 219.0	7635	2.42	µg/L	93
		511.9 -> 169.0	10778			
MeFOSE	10.679	616.1 -> 58.9	20643	6.03	µg/L	100
PFDoDS	9.873	699.1 -> 79.9	1942	1.25	µg/L	99
		699.1 -> 98.8	1117			
NFDHA	5.462	295.0 -> 201.0	5582	2.45	µg/L	96
		295.0 -> 84.9	1421			
PFMBA	4.800	279.0 -> 85.1	22182	2.41	µg/L	100
PFMPA	3.501	229.0 -> 84.9	18116	2.39	µg/L	100
PFEESA	6.050	314.8 -> 134.9	49261	2.11	µg/L	99
		314.8 -> 82.9	1949			

= Qualifier out of range, m = manually integrated, + = Area summed

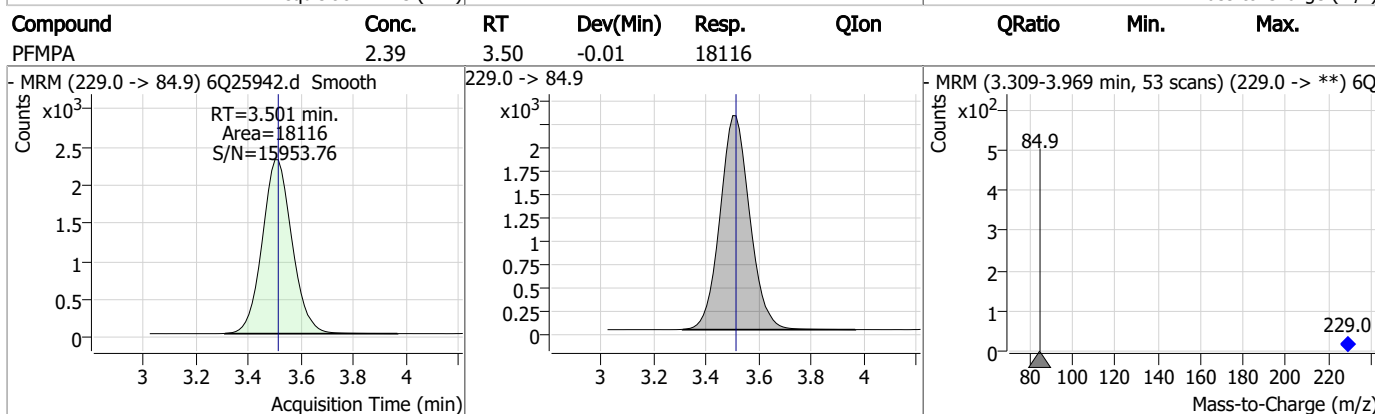
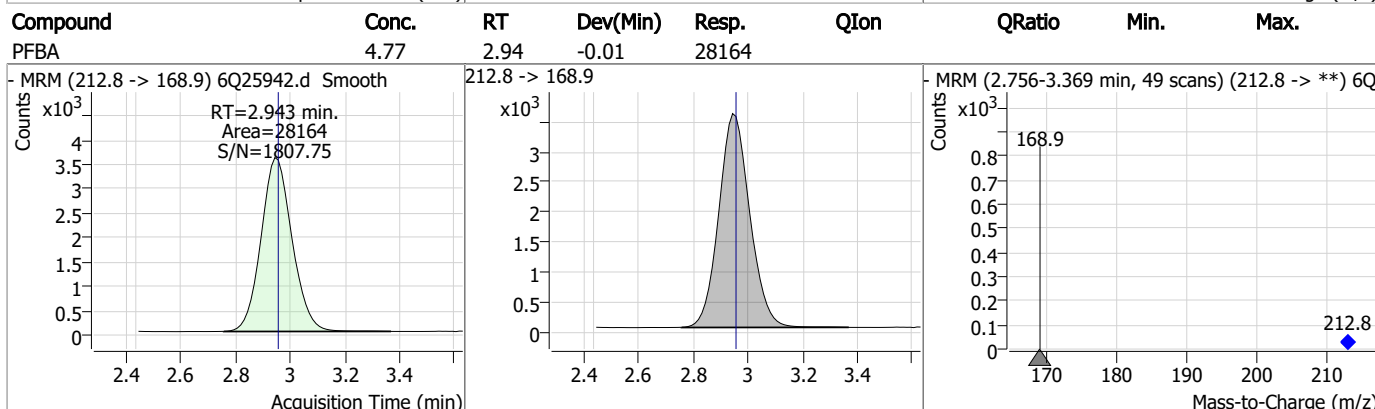
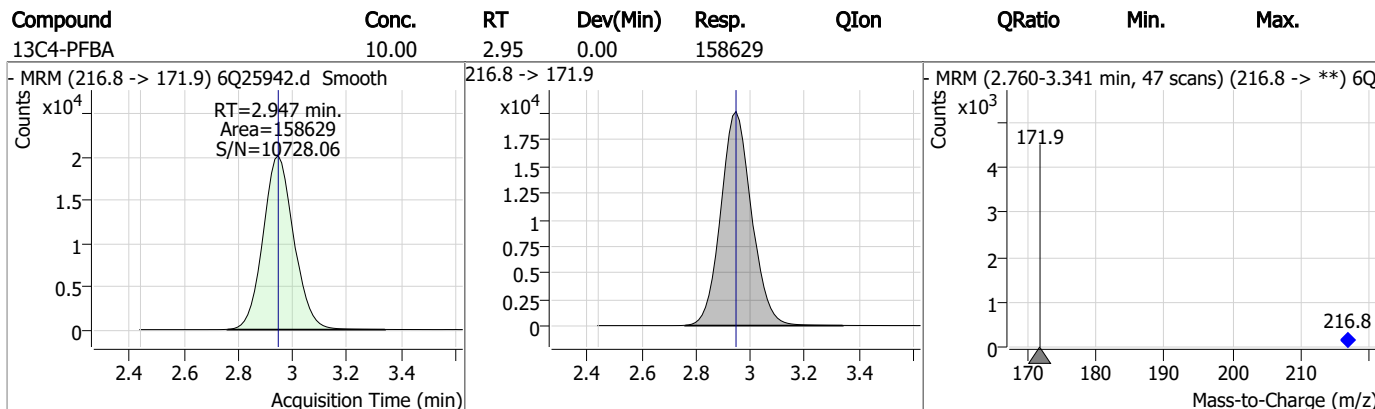
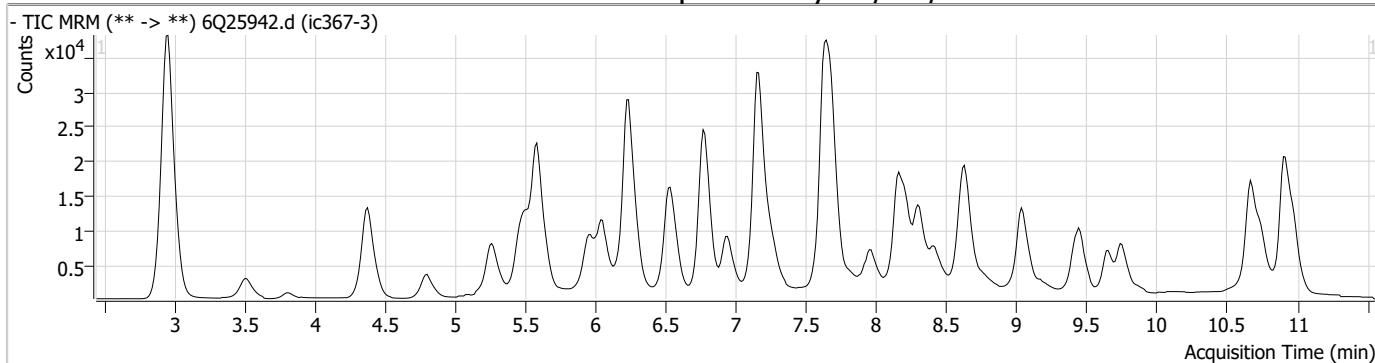
Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
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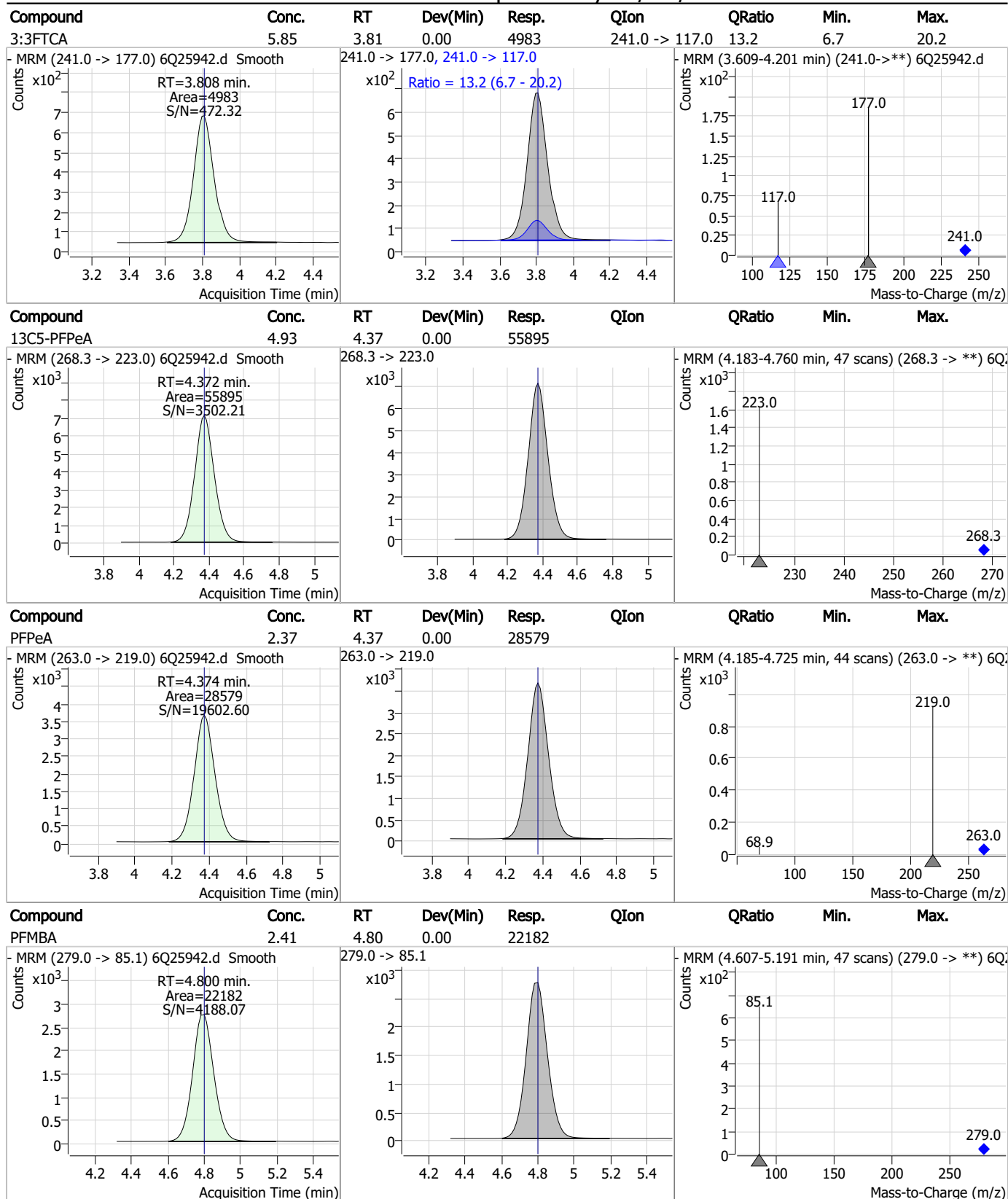
7.7.4

7

Perfluorinated Compounds by LC/MS/MS



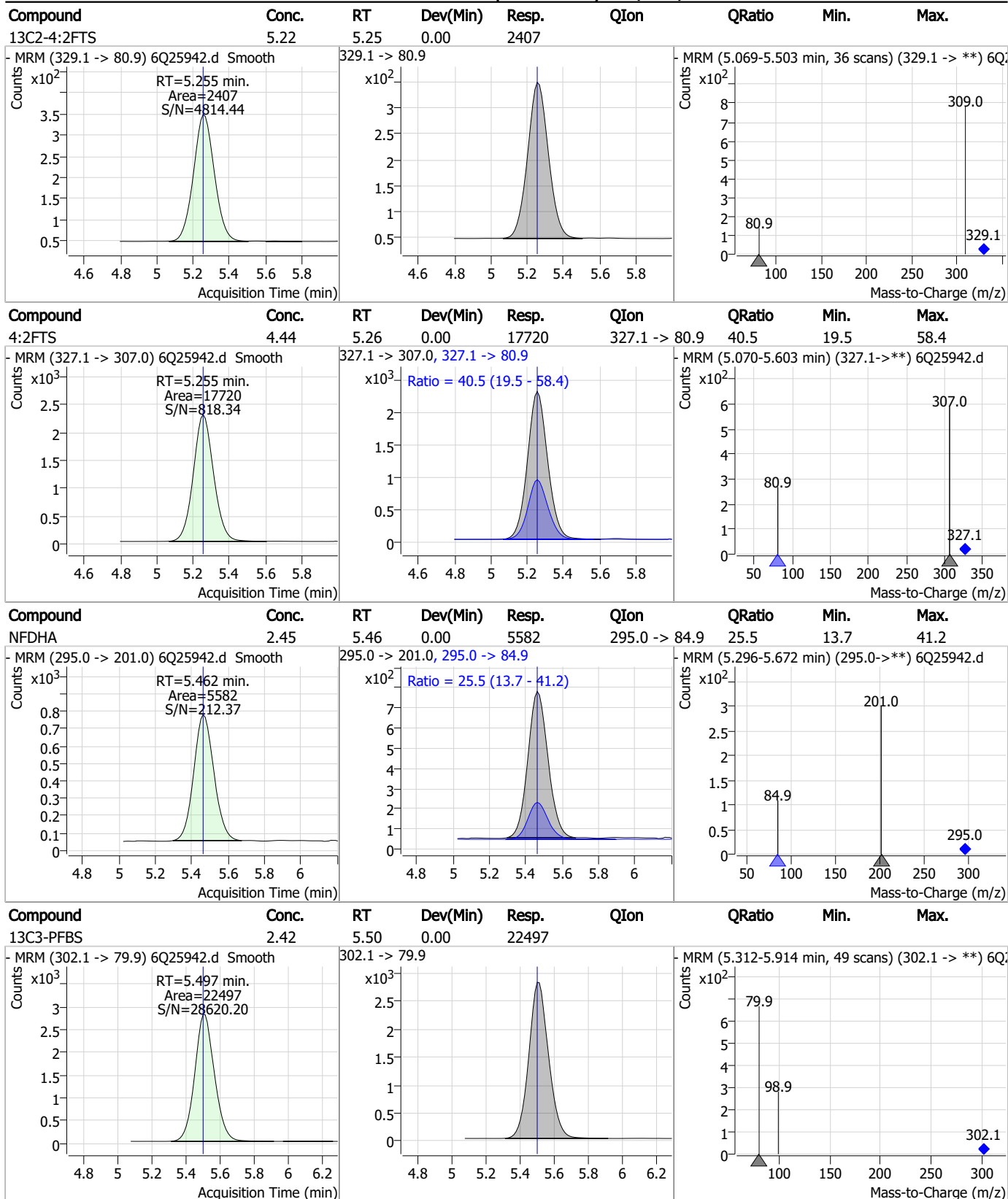
Perfluorinated Compounds by LC/MS/MS



7.7.4

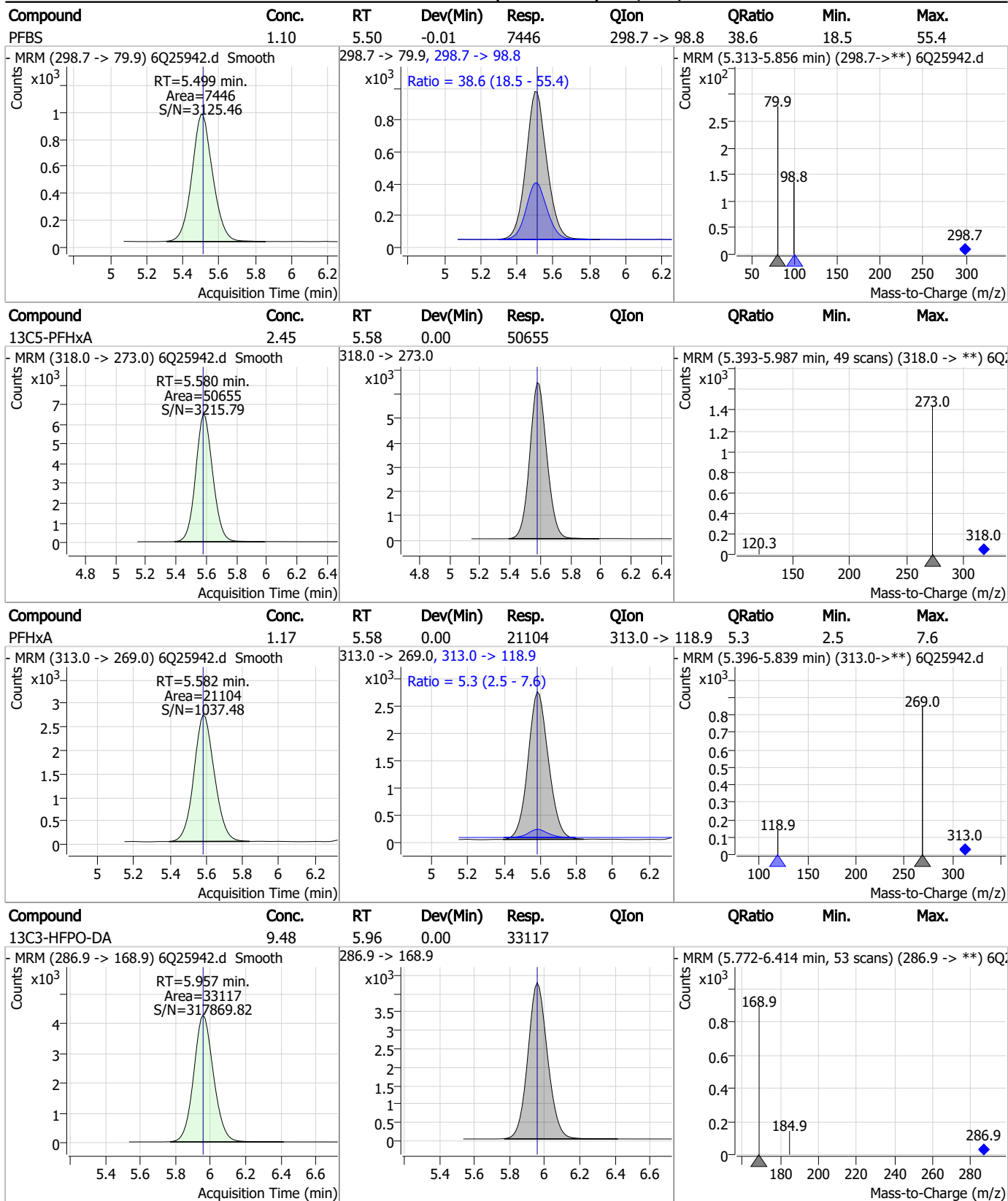
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Perfluorinated Compounds by LC/MS/MS



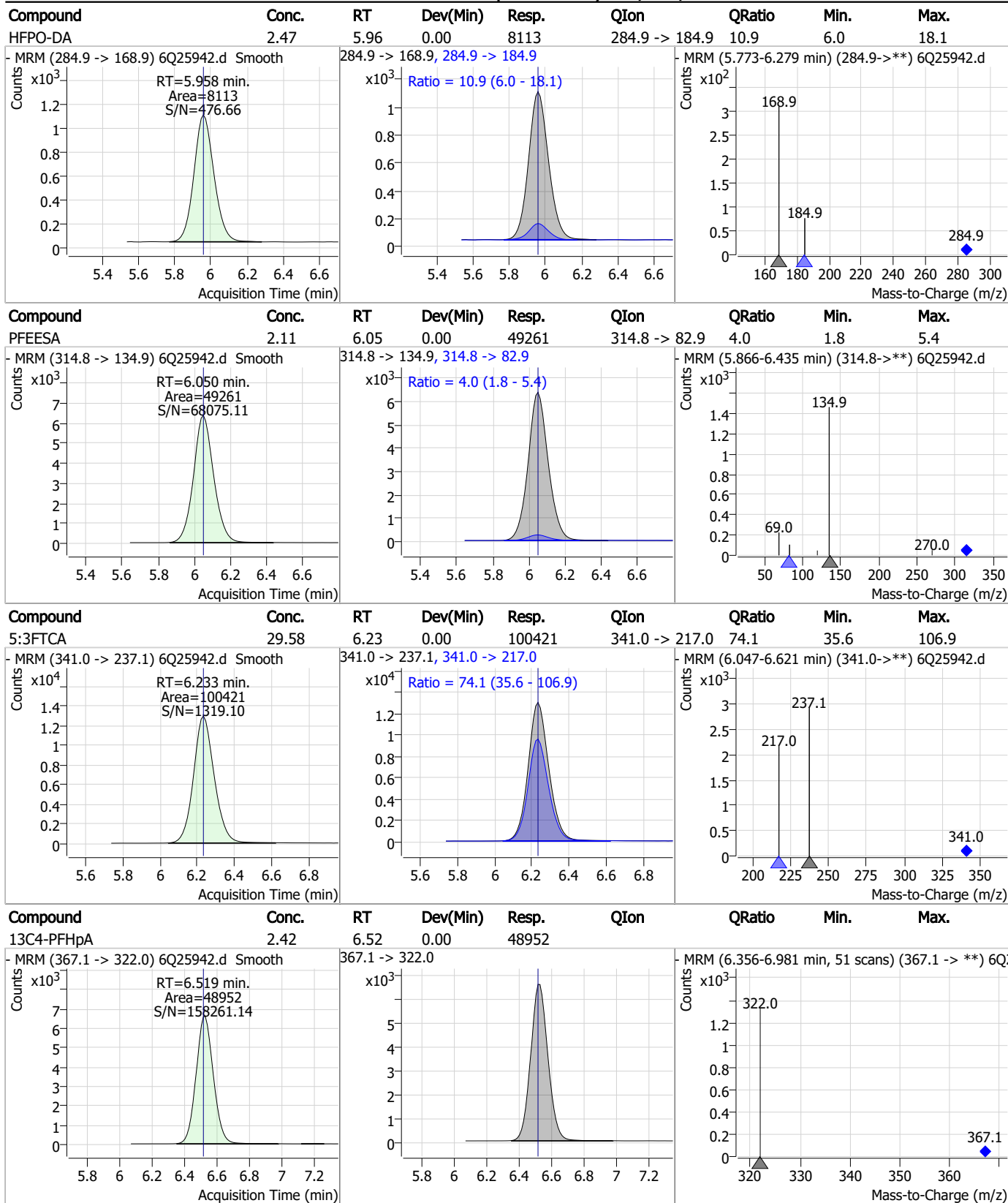
7.7.4
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Perfluorinated Compounds by LC/MS/MS



7.7.4
7

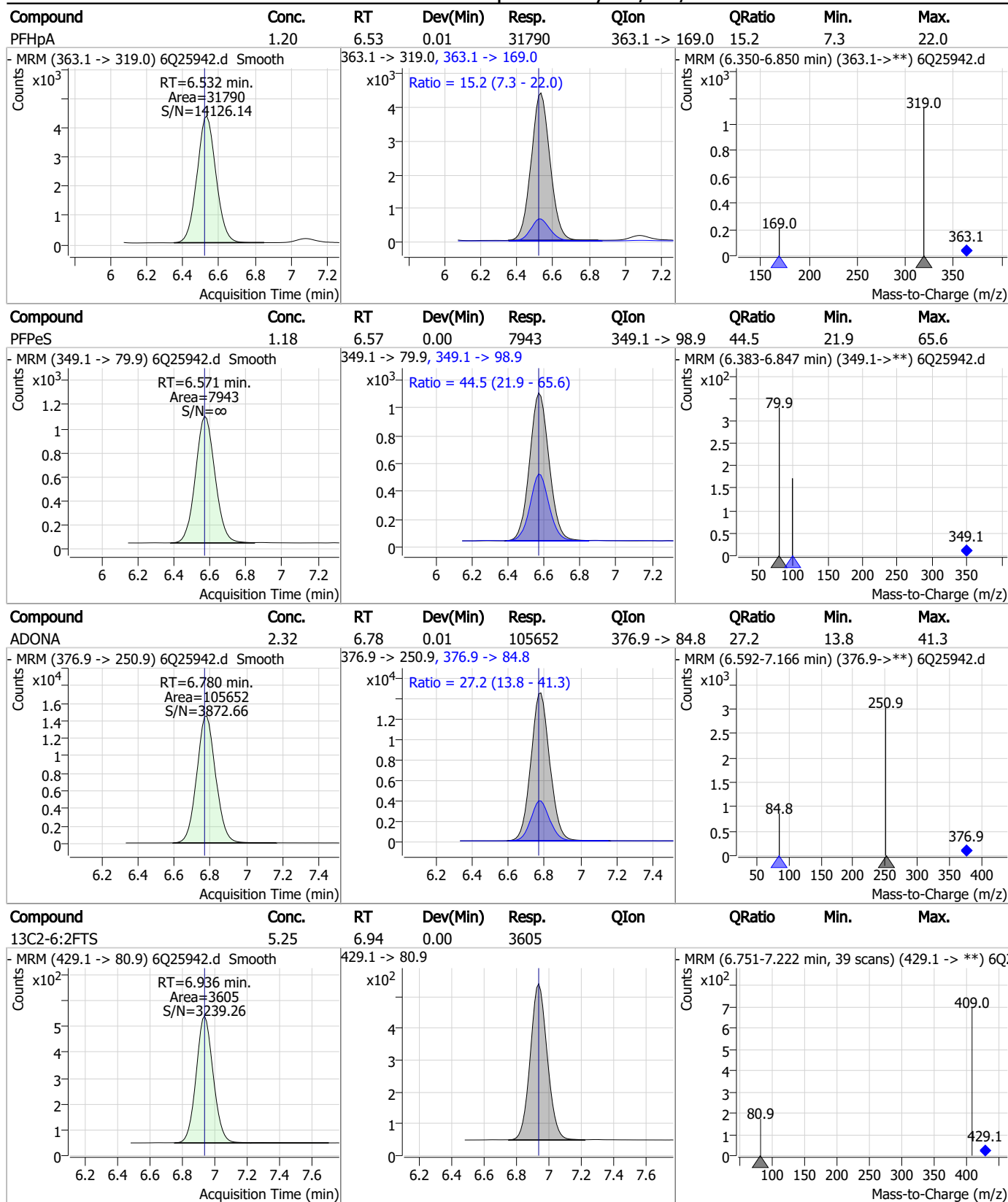
Perfluorinated Compounds by LC/MS/MS



7.7.4

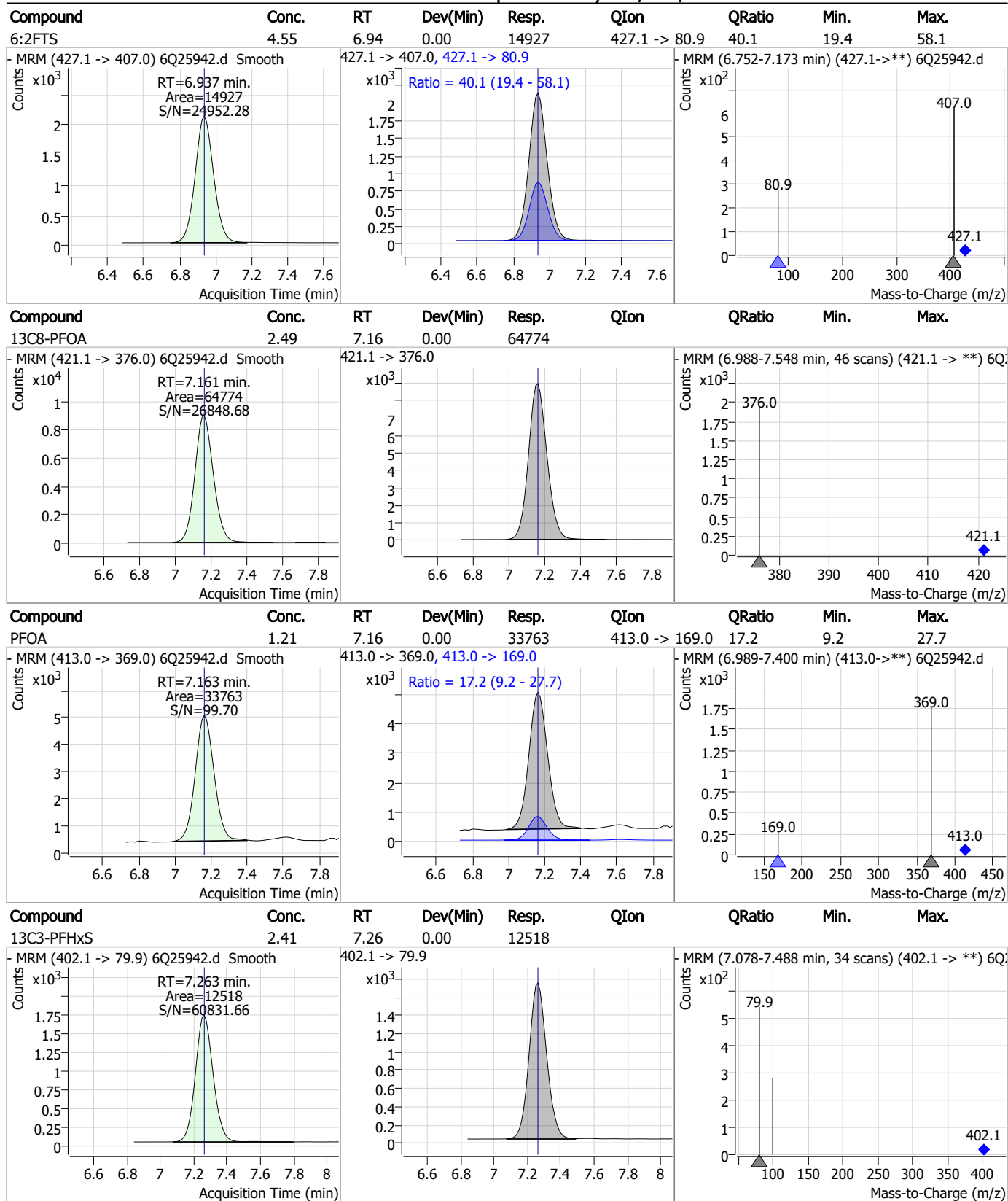
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Perfluorinated Compounds by LC/MS/MS



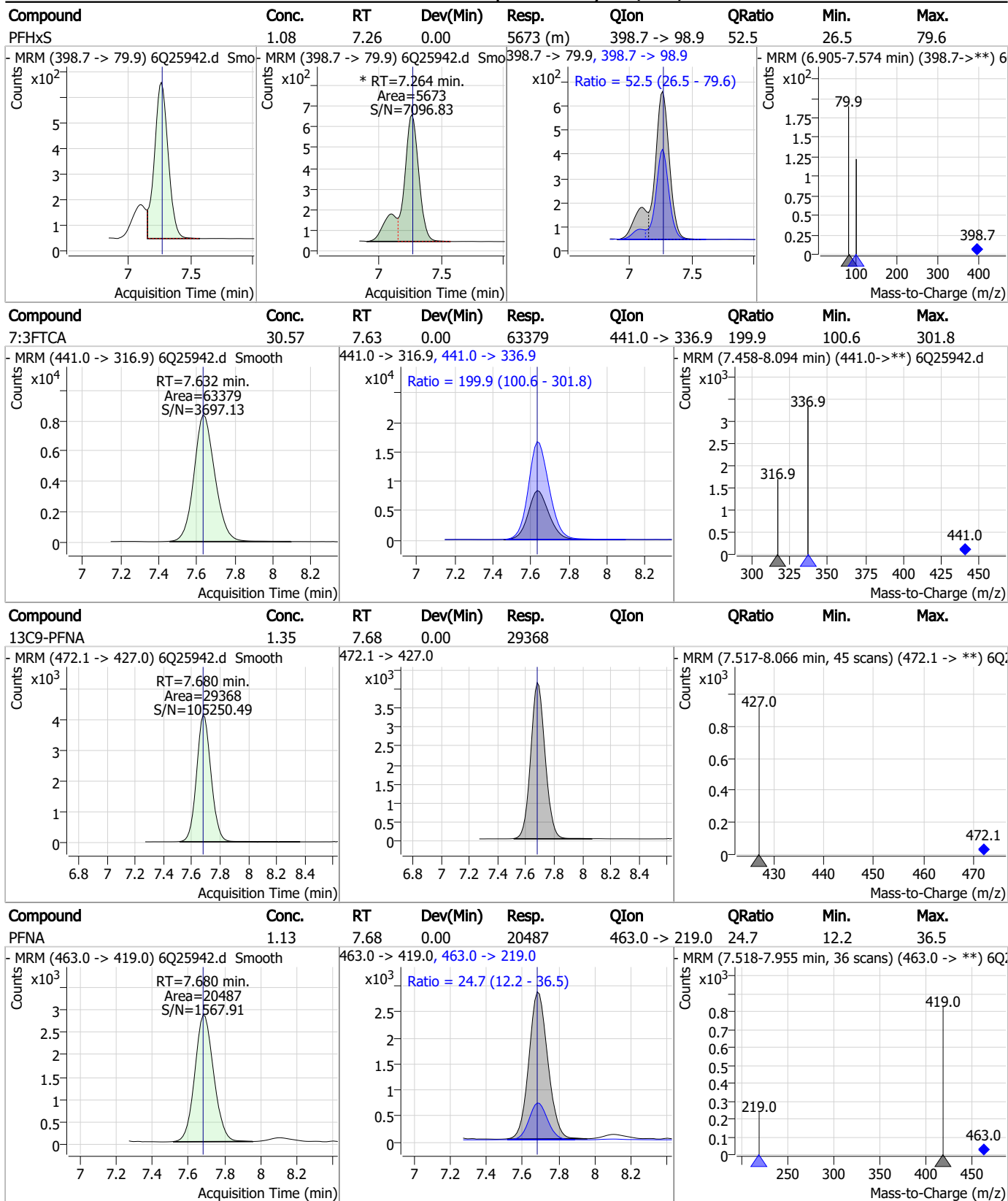
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Perfluorinated Compounds by LC/MS/MS



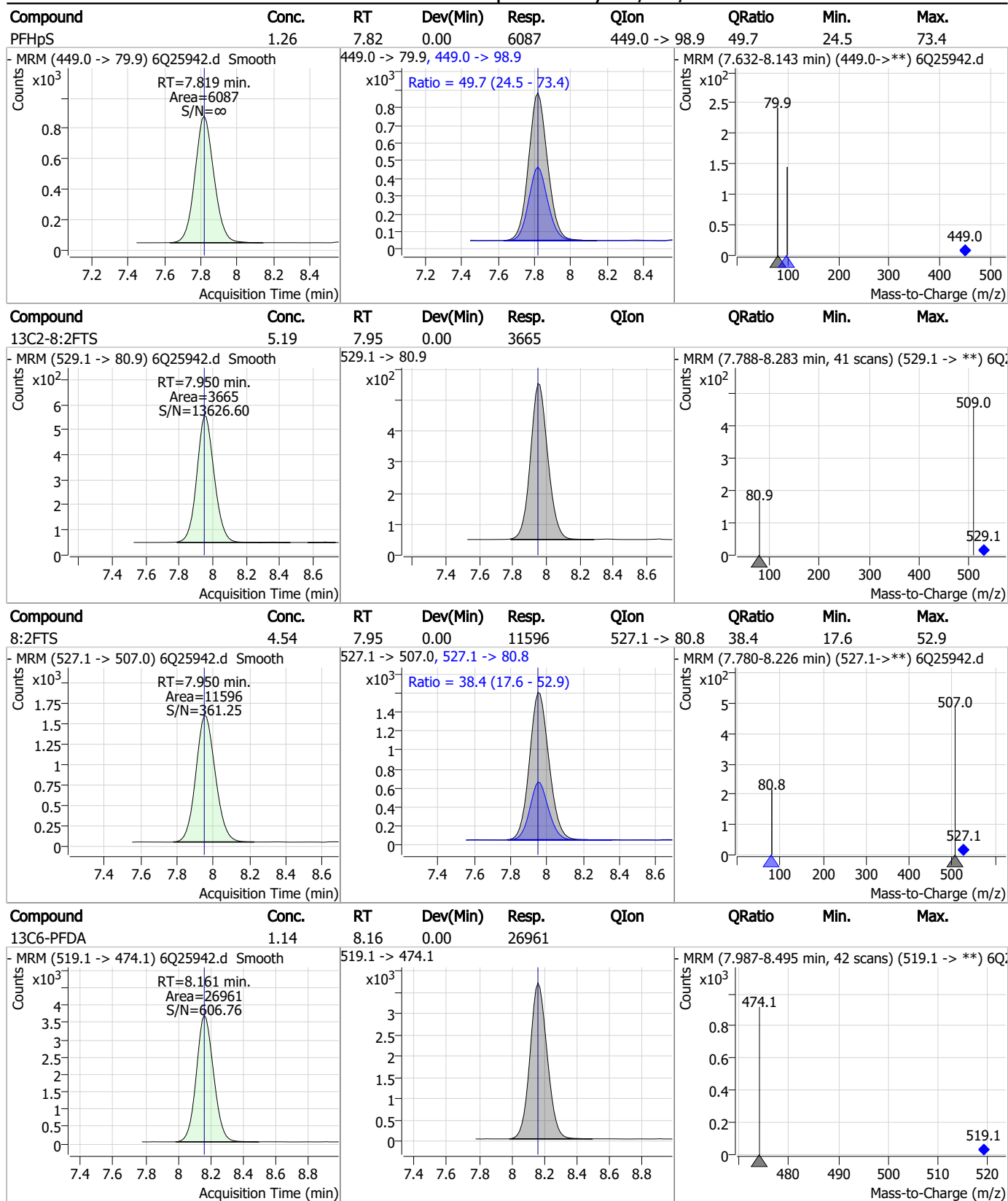
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Perfluorinated Compounds by LC/MS/MS



7.7.4
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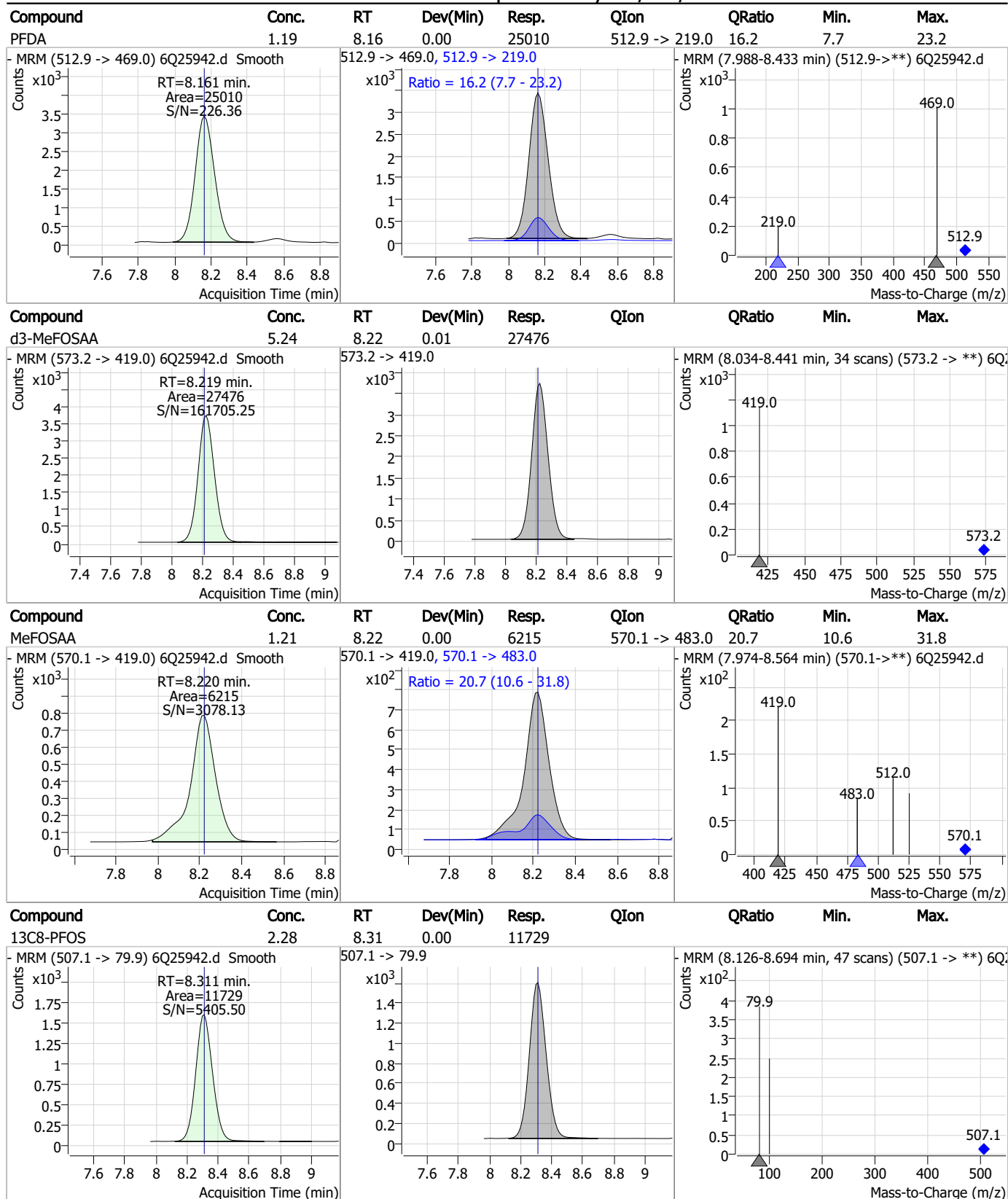
Perfluorinated Compounds by LC/MS/MS



7.7.4

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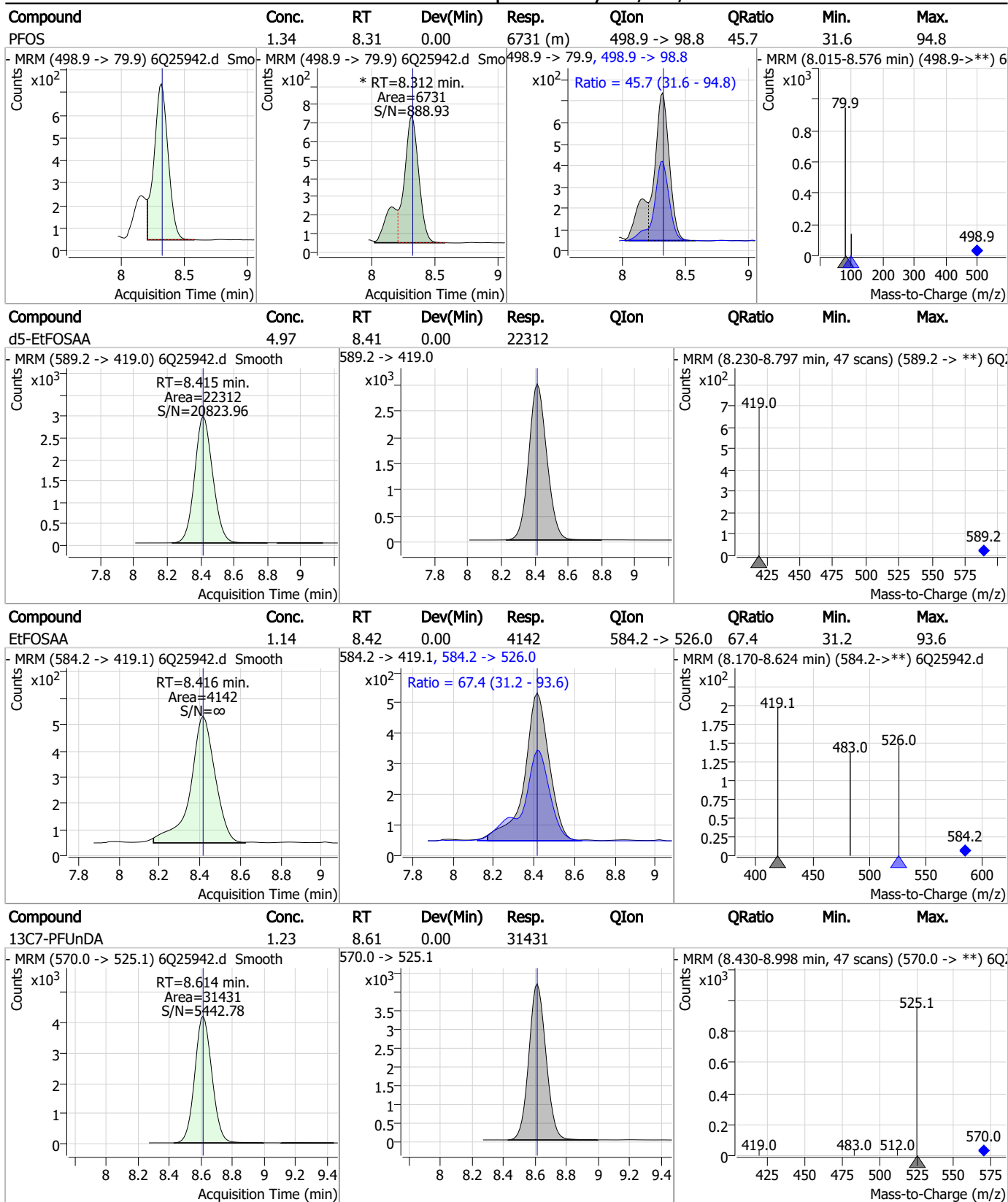
Perfluorinated Compounds by LC/MS/MS



7.7.4

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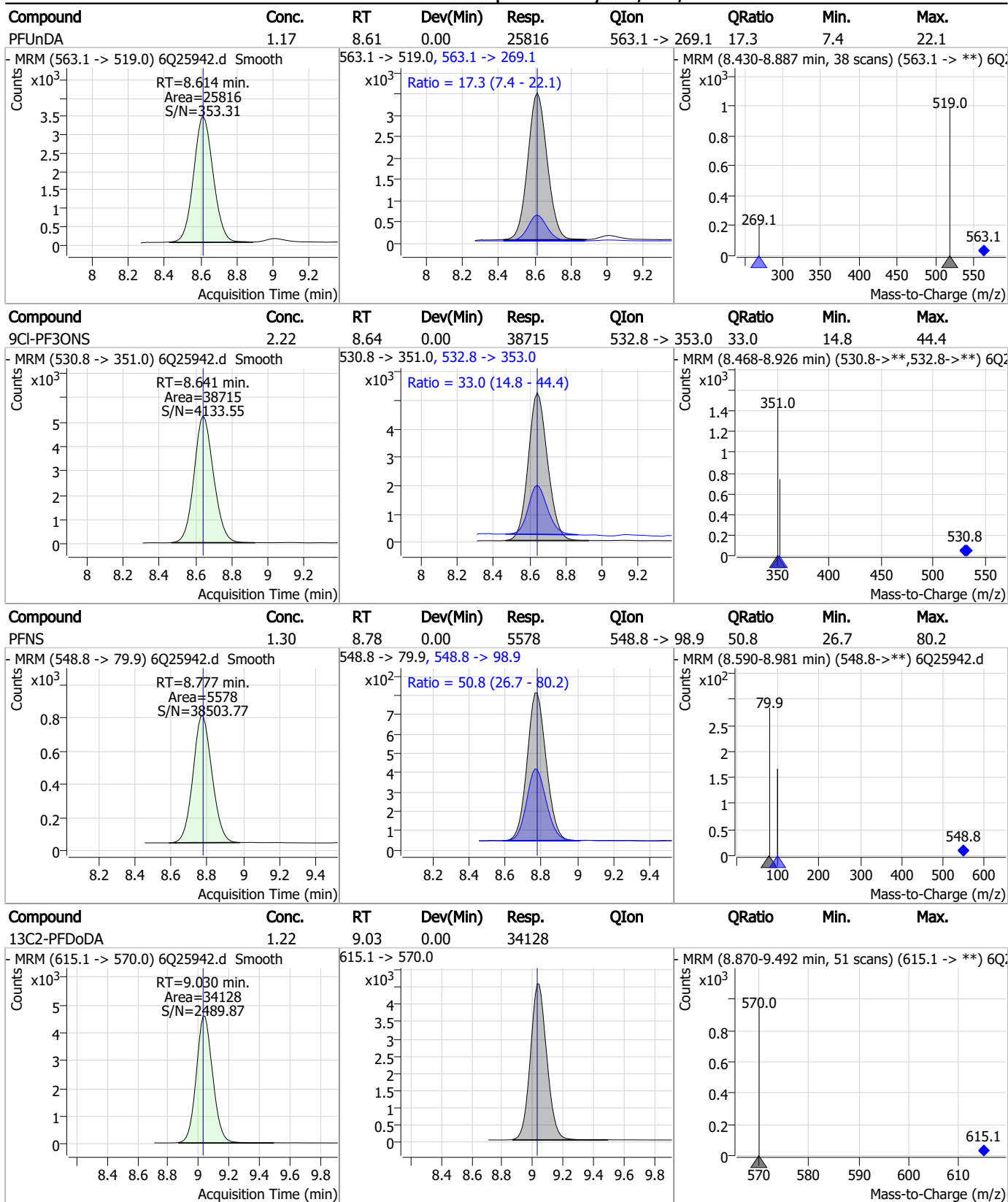
Perfluorinated Compounds by LC/MS/MS



7.7.4

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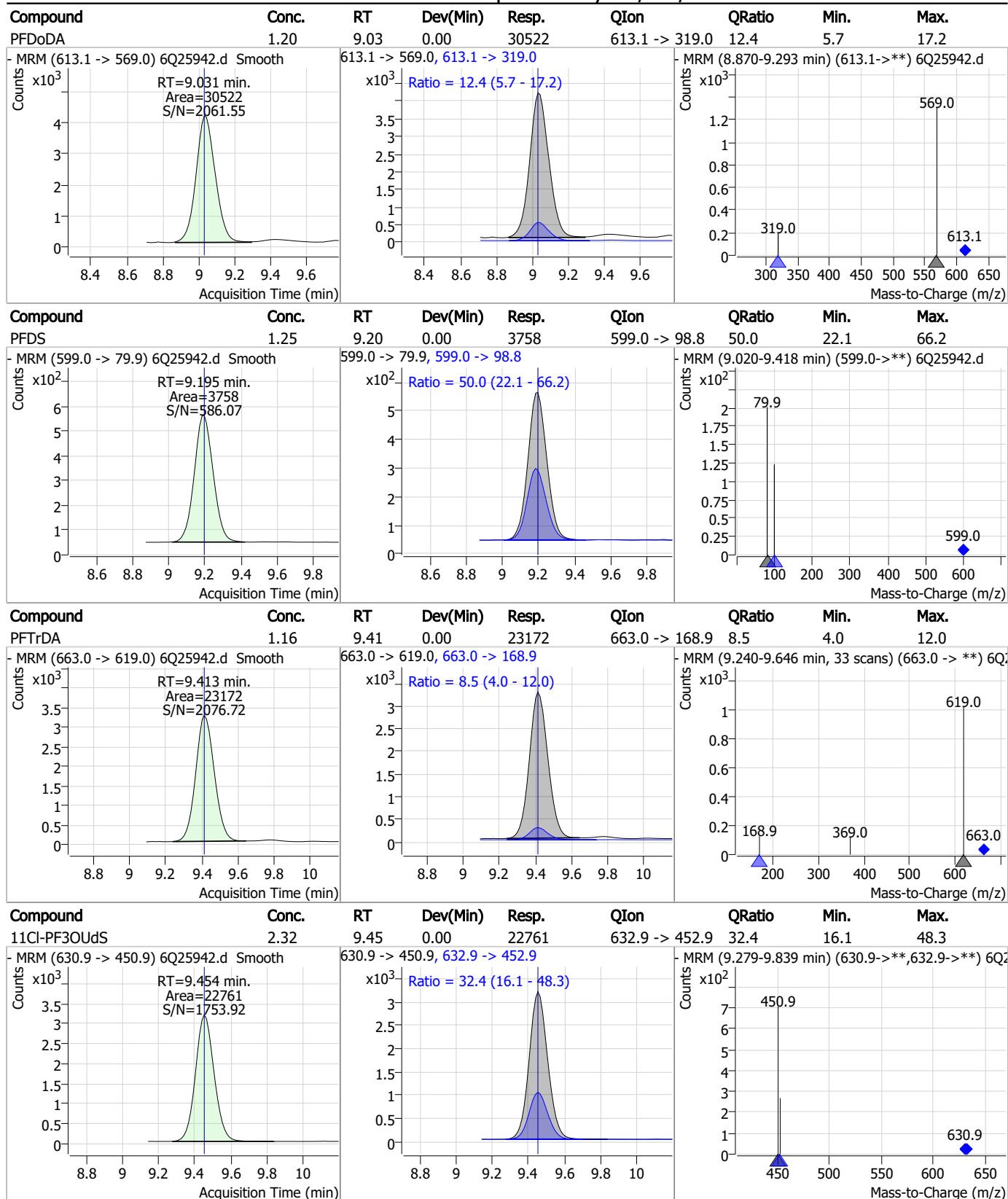
Perfluorinated Compounds by LC/MS/MS



7.7.4

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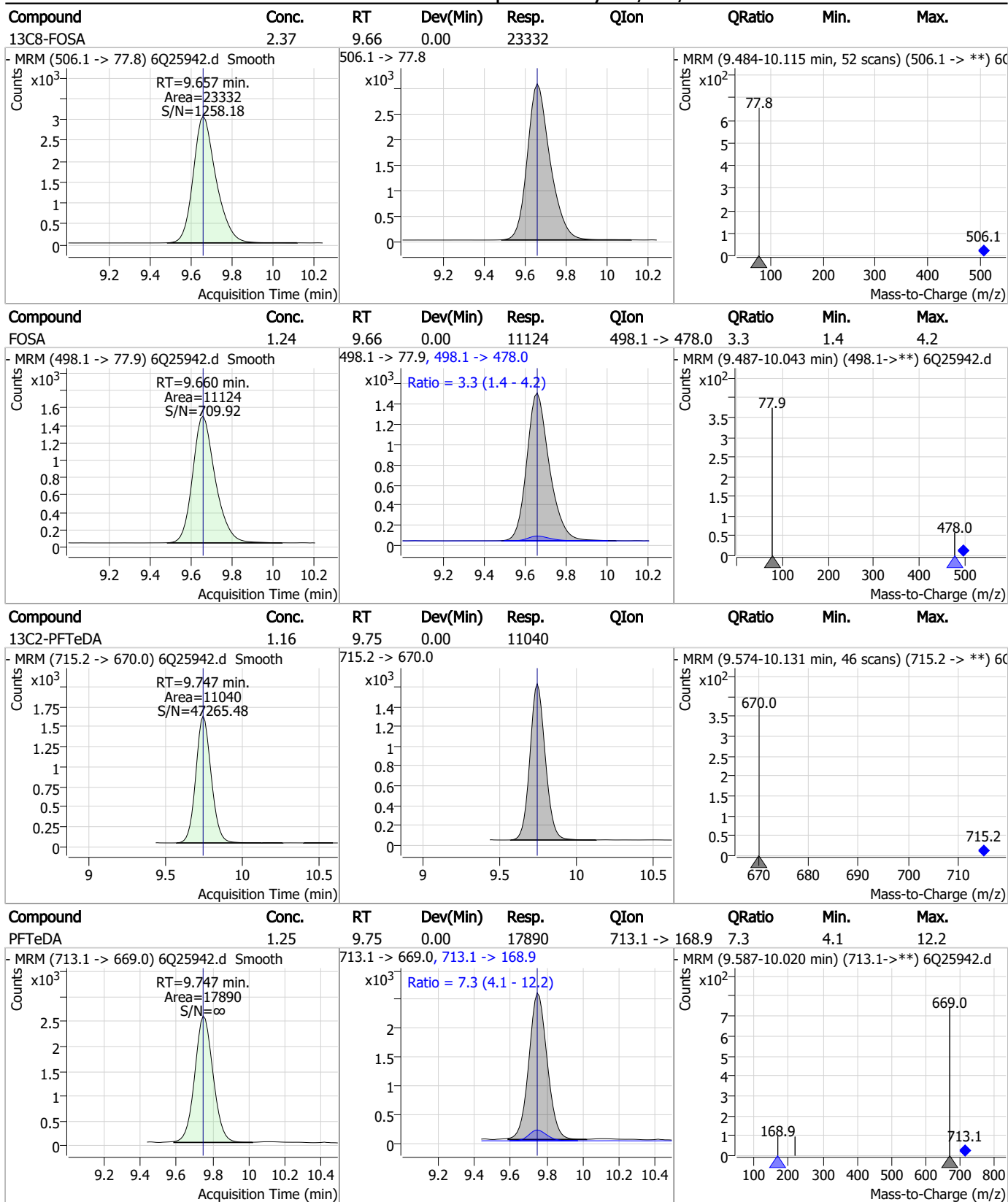
Perfluorinated Compounds by LC/MS/MS



7.7.4

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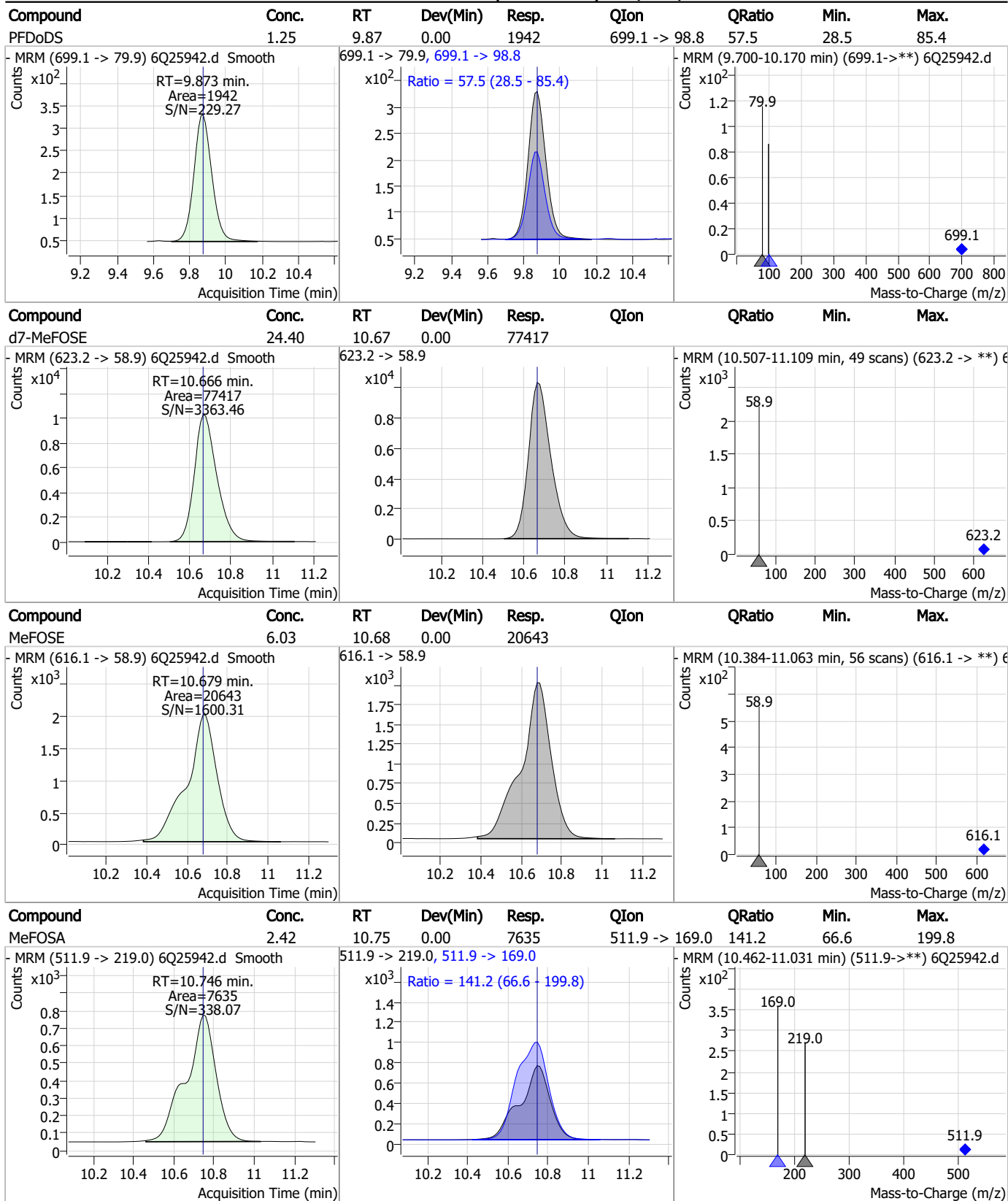
Perfluorinated Compounds by LC/MS/MS



7.7.4

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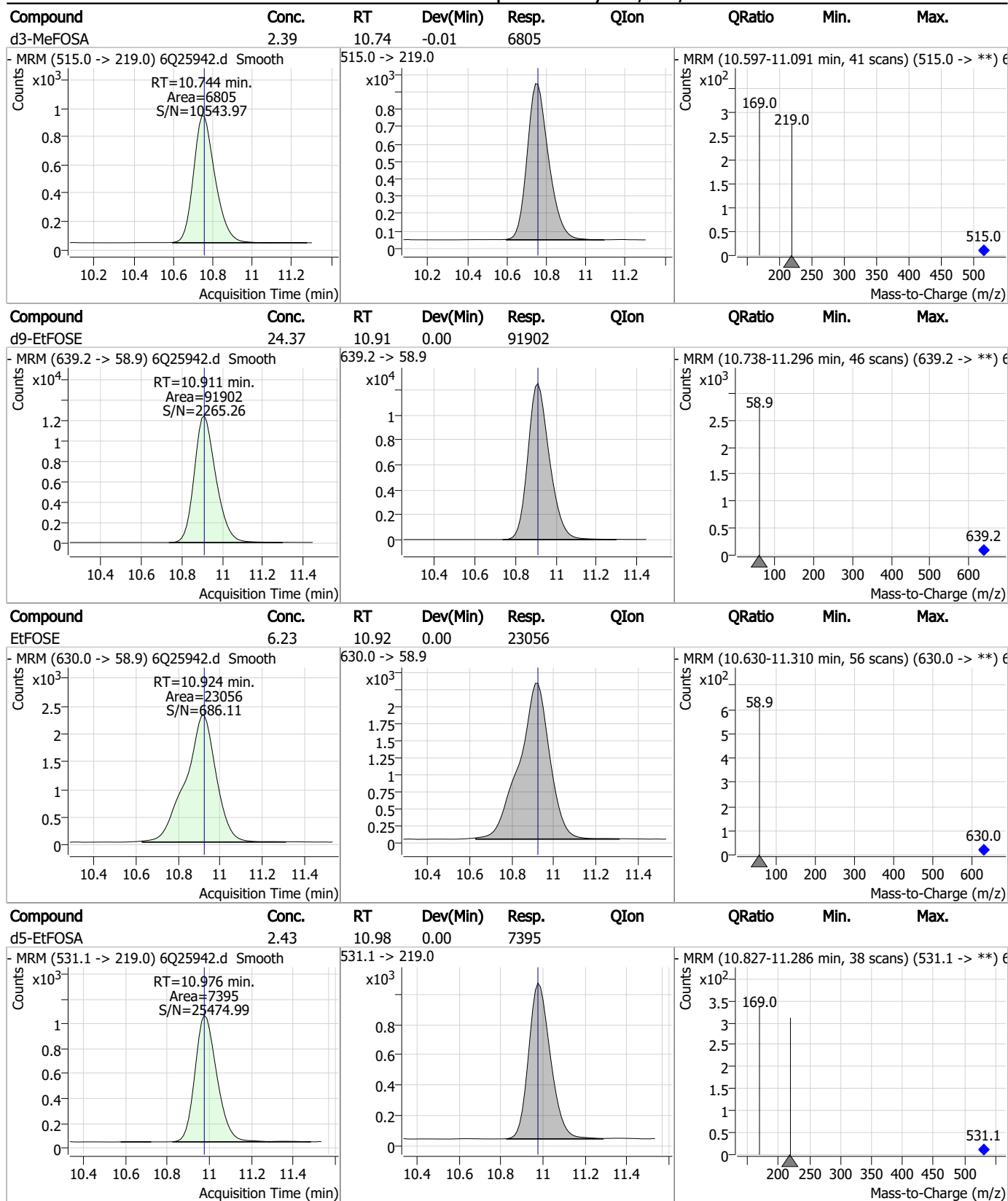
Perfluorinated Compounds by LC/MS/MS



7.7.4

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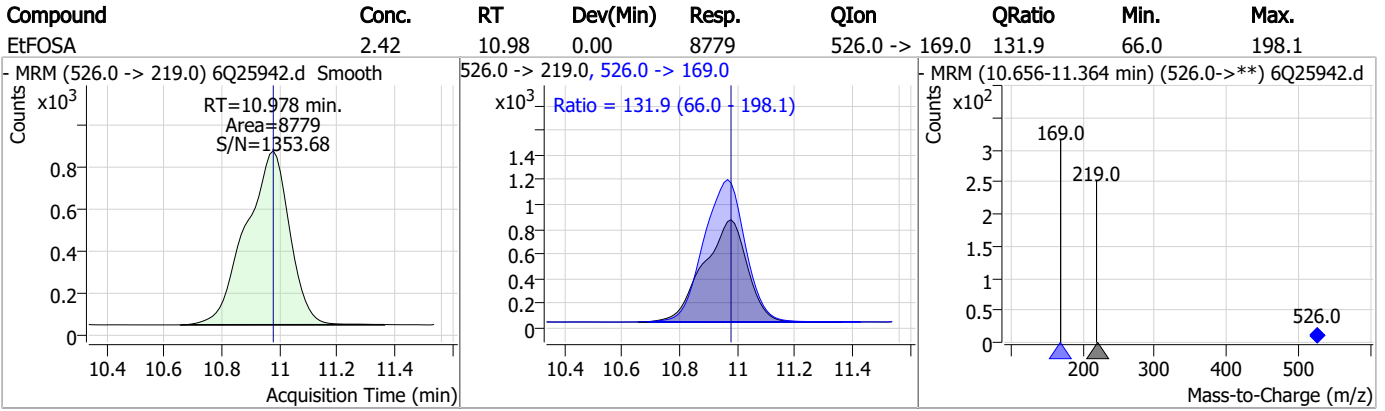
Perfluorinated Compounds by LC/MS/MS



7.7.4

7

Perfluorinated Compounds by LC/MS/MS



7.7.4

7

Manual Integration Approval Summary

Sample Number: S6Q367-IC367 Method: EPA DRAFT 1633
Lab FileID: 6Q25942.D Analyst approved: 10/09/23 13:30 Martha Valls
Injection Time: 10/08/23 15:32 Supervisor approved: 10/09/23 16:36 Natasha Gumtie

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		7.26	Split peak
Perfluorooctanesulfonic acid	1763-23-1		8.31	Split peak

7.7.4.1

7

Perfluorinated Compounds by LC/MS/MS

Data File : 6Q25943.d
 Operator : marthav
 Acq. Method : 1633full.m
 Acq. Date-Time : 10/8/2023 3:46:20 PM
 Sample Name : icc367-4
 Vial : P1-A5
 DA Method File : 1633_100823_S6Q367.quantmethod.xml
 Batch Name : S6Q367.batch.bin
 Sample Information : OP99308,S6Q367,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Internal Standards					
M4-PFBA	2.947	216.8 -> 171.9	152074	10.00 µg/L	0.000
M5-PFPeA	4.372	268.3 -> 223.0	52448	5.00 µg/L	0.000
M5-PFHxA	5.580	318.0 -> 273.0	46878	2.50 µg/L	0.000
M4-PFHpA	6.519	367.1 -> 322.0	48260	2.50 µg/L	0.000
M8-PFOA	7.161	421.1 -> 376.0	65453	2.50 µg/L	0.000
M9-PFNA	7.680	472.1 -> 427.0	26407	1.25 µg/L	0.000
M6-PFDA	8.161	519.1 -> 474.1	26972	1.25 µg/L	0.000
M7-PFUnDA	8.614	570.0 -> 525.1	28906	1.25 µg/L	0.000
M2-PFDoDA	9.030	615.1 -> 570.0	32080	1.25 µg/L	0.000
M2-PFTeDA	9.747	715.2 -> 670.0	11090	1.25 µg/L	0.000
M8-FOSA	9.657	506.1 -> 77.8	23752	2.50 µg/L	0.000
M3-PFBS	5.497	302.1 -> 79.9	22107	2.50 µg/L	0.000
M3-PFHxS	7.263	402.1 -> 79.9	12223	2.50 µg/L	0.000
M8-PFOS	8.311	507.1 -> 79.9	12836	2.50 µg/L	0.000
M2-4:2FTS	5.255	329.1 -> 80.9	2141	5.00 µg/L	0.000
M2-6:2FTS	6.936	429.1 -> 80.9	3056	5.00 µg/L	0.000
M2-8:2FTS	7.950	529.1 -> 80.9	3137	5.00 µg/L	0.000
M3-MeFOSAA	8.207	573.2 -> 419.0	25539	5.00 µg/L	0.000
M3-HFPO-DA	5.957	286.9 -> 168.9	33048	10.00 µg/L	0.000
M5-EtFOSAA	8.415	589.2 -> 419.0	20411	5.00 µg/L	0.000
M7-MeFOSE	10.666	623.2 -> 58.9	77717	25.00 µg/L	0.000
M9-EtFOSE	10.911	639.2 -> 58.9	90051	25.00 µg/L	0.000
M5-EtFOSA	10.976	531.1 -> 219.0	7609	2.50 µg/L	0.000
M3-MeFOSA	10.757	515.0 -> 219.0	6485	2.50 µg/L	0.000
13C4-PFOS	8.312	502.8 -> 79.9	10987	2.50 µg/L	0.000
13C3-PFBA	2.952	216.0 -> 172.0	63052	5.00 µg/L	0.000
18O2-PFHxS	7.263	403.0 -> 83.9	7147	2.50 µg/L	0.000
13C4-PFOA	7.162	417.1 -> 372.0	73710	2.50 µg/L	0.000
13C2-PFDA	8.161	515.1 -> 470.1	25576	1.25 µg/L	0.000
13C5-PFNA	7.680	468.0 -> 423.0	26303	1.25 µg/L	0.000
13C2-PFHxA	5.581	315.1 -> 270.0	46690	2.50 µg/L	0.000
System Monitoring Compounds					
13C2-4:2FTS	5.255	329.1 -> 80.9	2141	5.32 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 106.3%		
13C2-6:2FTS	6.936	429.1 -> 80.9	3056	5.10 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 102.1%		
13C2-8:2FTS	7.950	529.1 -> 80.9	3137	5.09 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 101.7%		
13C2-PFDoDA	9.030	615.1 -> 570.0	32080	1.26 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 100.7%		
13C2-PFTeDA	9.747	715.2 -> 670.0	11090	1.28 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 102.6%		
13C3-PFBS	5.497	302.1 -> 79.9	22107	2.73 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 109.2%		
13C3-PFHxS	7.263	402.1 -> 79.9	12223	2.69 µg/L	0.000

Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 107.7%	
13C4-PFBA	2.947	216.8 -> 171.9	152074	9.99 µg/L	0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 99.9%	
13C4-PFHpA	6.519	367.1 -> 322.0	48260	2.55 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 102.2%	
13C5-PFHxA	5.580	318.0 -> 273.0	46878	2.43 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 97.1%	
13C5-PFPeA	4.372	268.3 -> 223.0	52448	4.96 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 99.3%	
13C6-PFDA	8.161	519.1 -> 474.1	26972	1.25 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 100.2%	
13C7-PFUnDA	8.614	570.0 -> 525.1	28906	1.24 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 99.3%	
13C8-FOSA	9.657	506.1 -> 77.8	23752	2.62 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 104.8%	
13C8-PFOA	7.161	421.1 -> 376.0	65453	2.56 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 102.4%	
13C8-PFOS	8.311	507.1 -> 79.9	12836	2.70 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 108.2%	
13C9-PFNA	7.680	472.1 -> 427.0	26407	1.22 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 97.6%	
d3-MeFOSAA	8.207	573.2 -> 419.0	25539	5.28 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 105.7%	
13C3-HFPO-DA	5.957	286.9 -> 168.9	33048	10.15 µg/L	0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 101.5%	
d3-MeFOSA	10.757	515.0 -> 219.0	6485	2.47 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 98.7%	
d5-EtFOSAA	8.415	589.2 -> 419.0	20411	4.93 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 98.6%	
d7-MeFOSE	10.666	623.2 -> 58.9	77717	26.56 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 106.2%	
d9-EtFOSE	10.911	639.2 -> 58.9	90051	25.89 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 103.6%	
d5-EtFOSA	10.976	531.1 -> 219.0	7609	2.71 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 108.3%	
Target Compounds					QValue
4:2FTS	5.255	327.1 -> 307.0	33690	9.49 µg/L	100
		327.1 -> 80.9	13122		
6:2FTS	6.937	427.1 -> 407.0	29775	10.72 µg/L	100
		427.1 -> 80.9	11534		
8:2FTS	7.950	527.1 -> 507.0	22791	10.43 µg/L	100
		527.1 -> 80.8	8039		
EtFOSAA	8.416	584.2 -> 419.1	8640	2.60 µg/L	m 99
		584.2 -> 526.0	5347		
FOSA	9.660	498.1 -> 77.9	21147	2.33 µg/L	100
		498.1 -> 478.0	591		
MeFOSAA	8.220	570.1 -> 419.0	11298	2.37 µg/L	100
		570.1 -> 483.0	2394		
PFBA	2.956	212.8 -> 168.9	55102	9.73 µg/L	100
PFBS	5.511	298.7 -> 79.9	13994	2.11 µg/L	100
		298.7 -> 98.8	5165		
PFDA	8.161	512.9 -> 469.0	53534	2.54 µg/L	100
		512.9 -> 219.0	8270		
PFDODA	9.031	613.1 -> 569.0	59924	2.51 µg/L	100
		613.1 -> 319.0	6861		
PFDS	9.195	599.0 -> 79.9	7498	2.28 µg/L	100

Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
		599.0 -> 98.8	3310			
PFHpA	6.520	363.1 -> 319.0	62717	2.40	µg/L	100
		363.1 -> 169.0	9186			
PFHpS	7.819	449.0 -> 79.9	11231	2.12	µg/L	100
		449.0 -> 98.9	5497			
PFHxA	5.582	313.0 -> 269.0	40735	2.43	µg/L	100
		313.0 -> 118.9	2059			
PFHxS	7.264	398.7 -> 79.9	10871	2.13	µg/L	m 95
		398.7 -> 98.9	5425			
PFNA	7.680	463.0 -> 419.0	37937	2.33	µg/L	100
		463.0 -> 219.0	9235			
PFNS	8.777	548.8 -> 79.9	9913	2.12	µg/L	100
		548.8 -> 98.9	5302			
PFOA	7.163	413.0 -> 369.0	64026	2.28	µg/L	100
		413.0 -> 169.0	11828			
PFOS	8.312	498.9 -> 79.9	11710	2.14	µg/L	m 83
		498.9 -> 98.8	5848			
PFPeA	4.374	263.0 -> 219.0	55635	4.92	µg/L	100
PFPeS	6.571	349.1 -> 79.9	15362	2.33	µg/L	100
		349.1 -> 98.9	6719			
PFTeDA	9.747	713.1 -> 669.0	33418	2.32	µg/L	100
		713.1 -> 168.9	2717			
PFTrDA	9.413	663.0 -> 619.0	47404	2.53	µg/L	100
		663.0 -> 168.9	3786			
PFUnDA	8.614	563.1 -> 519.0	53091	2.61	µg/L	100
		563.1 -> 269.1	7818			
11Cl-PF3OUdS	9.454	630.9 -> 450.9	43817	4.47	µg/L	100
		632.9 -> 452.9	14104			
9Cl-PF3ONS	8.641	530.8 -> 351.0	78291	4.50	µg/L	100
		532.8 -> 353.0	23178			
ADONA	6.767	376.9 -> 250.9	204174	4.50	µg/L	100
		376.9 -> 84.8	56251			
HFPO-DA	5.958	284.9 -> 168.9	15677	4.79	µg/L	100
		284.9 -> 184.9	1894			
3:3FTCA	3.808	241.0 -> 177.0	9667	11.85	µg/L	100
		241.0 -> 117.0	1301			
5:3FTCA	6.233	341.0 -> 237.1	201201	64.04	µg/L	100
		341.0 -> 217.0	143441			
7:3FTCA	7.632	441.0 -> 316.9	119228	62.13	µg/L	100
		441.0 -> 336.9	239856			
EtFOSA	10.978	526.0 -> 219.0	17180	4.60	µg/L	100
		526.0 -> 169.0	22686			
EtFOSE	10.924	630.0 -> 58.9	43451	11.99	µg/L	100
MeFOSA	10.746	511.9 -> 219.0	15783	5.25	µg/L	100
		511.9 -> 169.0	21022			
MeFOSE	10.679	616.1 -> 58.9	40215	11.71	µg/L	100
PFDoDS	9.873	699.1 -> 79.9	3877	2.27	µg/L	100
		699.1 -> 98.8	2207			
NFDHA	5.462	295.0 -> 201.0	10804	5.13	µg/L	100
		295.0 -> 84.9	2967			
PFMBA	4.800	279.0 -> 85.1	43080	5.00	µg/L	100
PFMPA	3.513	229.0 -> 84.9	35121	4.93	µg/L	100
PFEESA	6.050	314.8 -> 134.9	94071	4.36	µg/L	100
		314.8 -> 82.9	3388			

= Qualifier out of range, m = manually integrated, + = Area summed

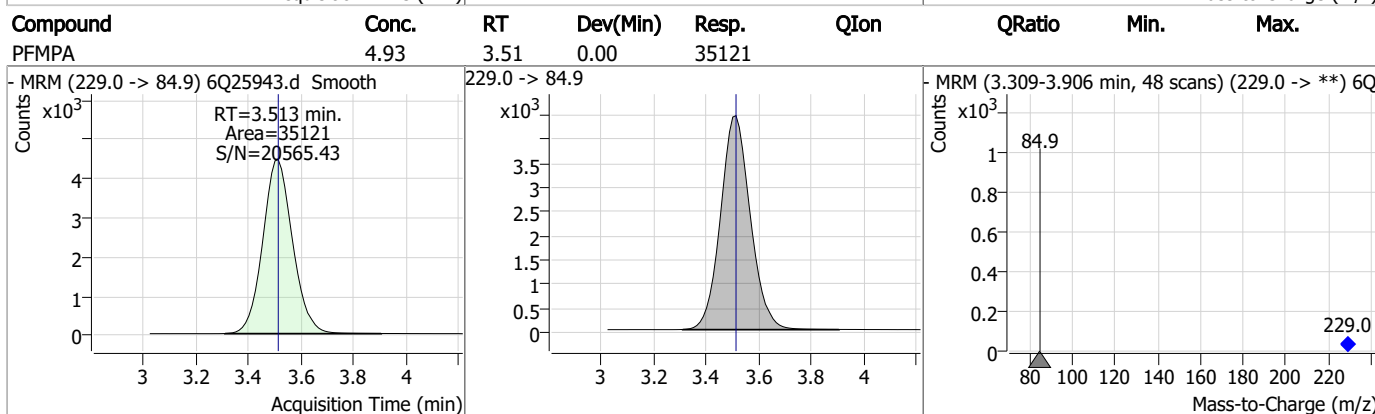
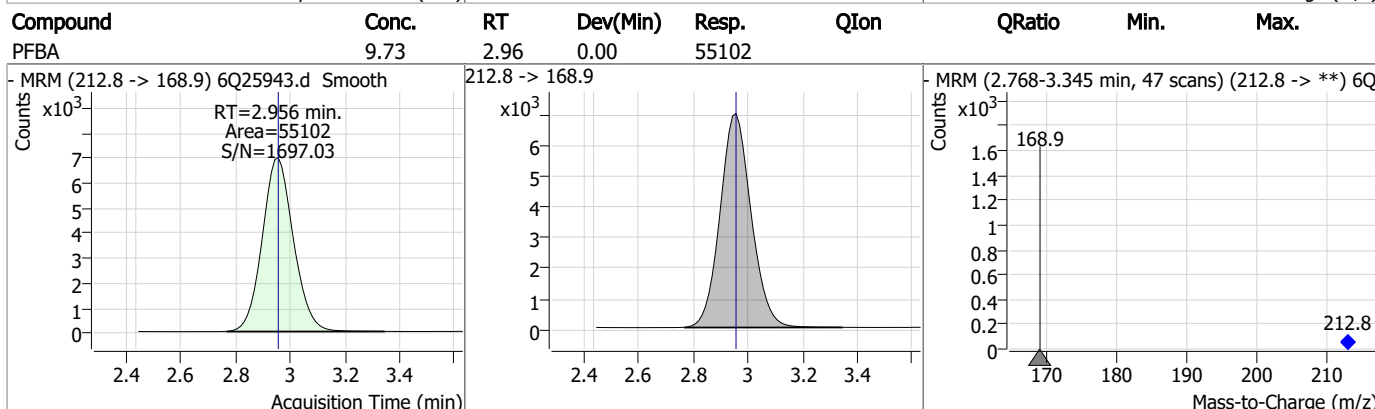
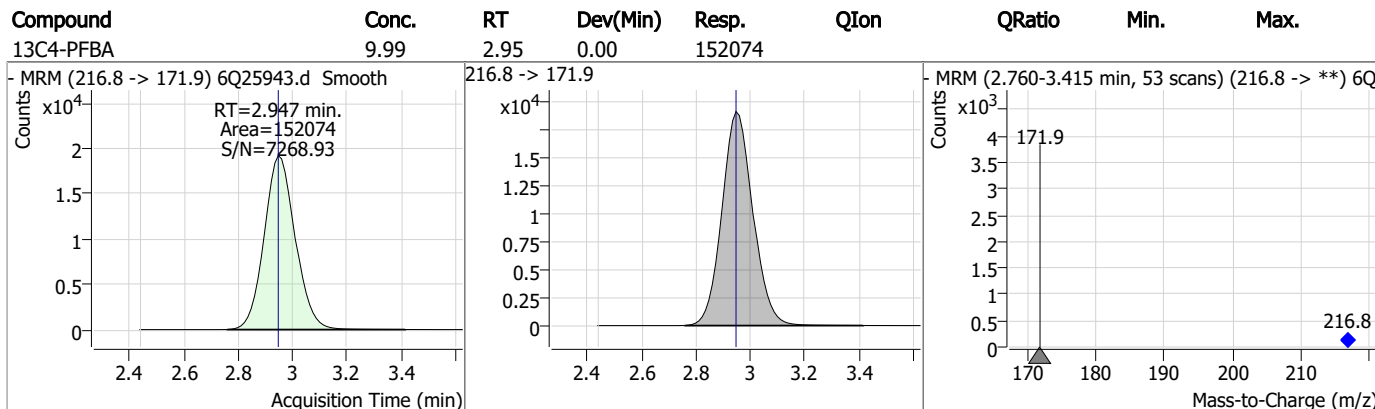
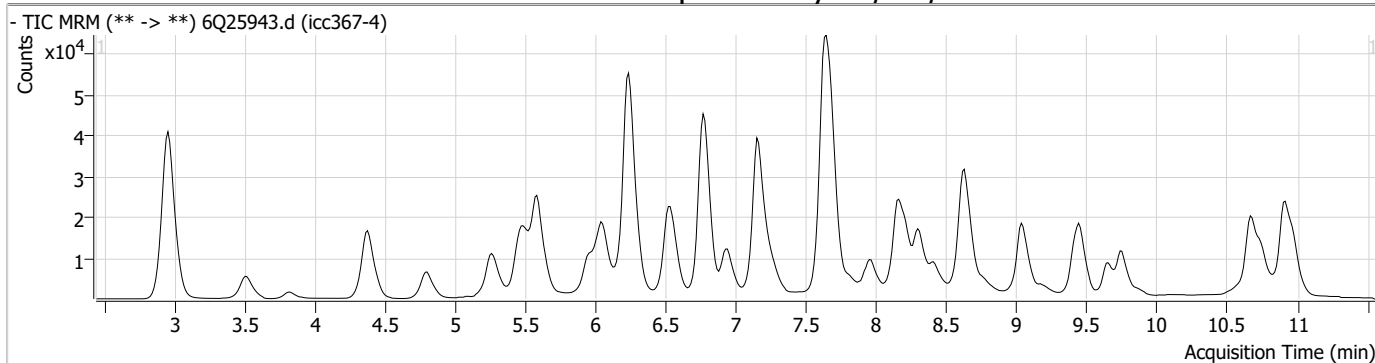
Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
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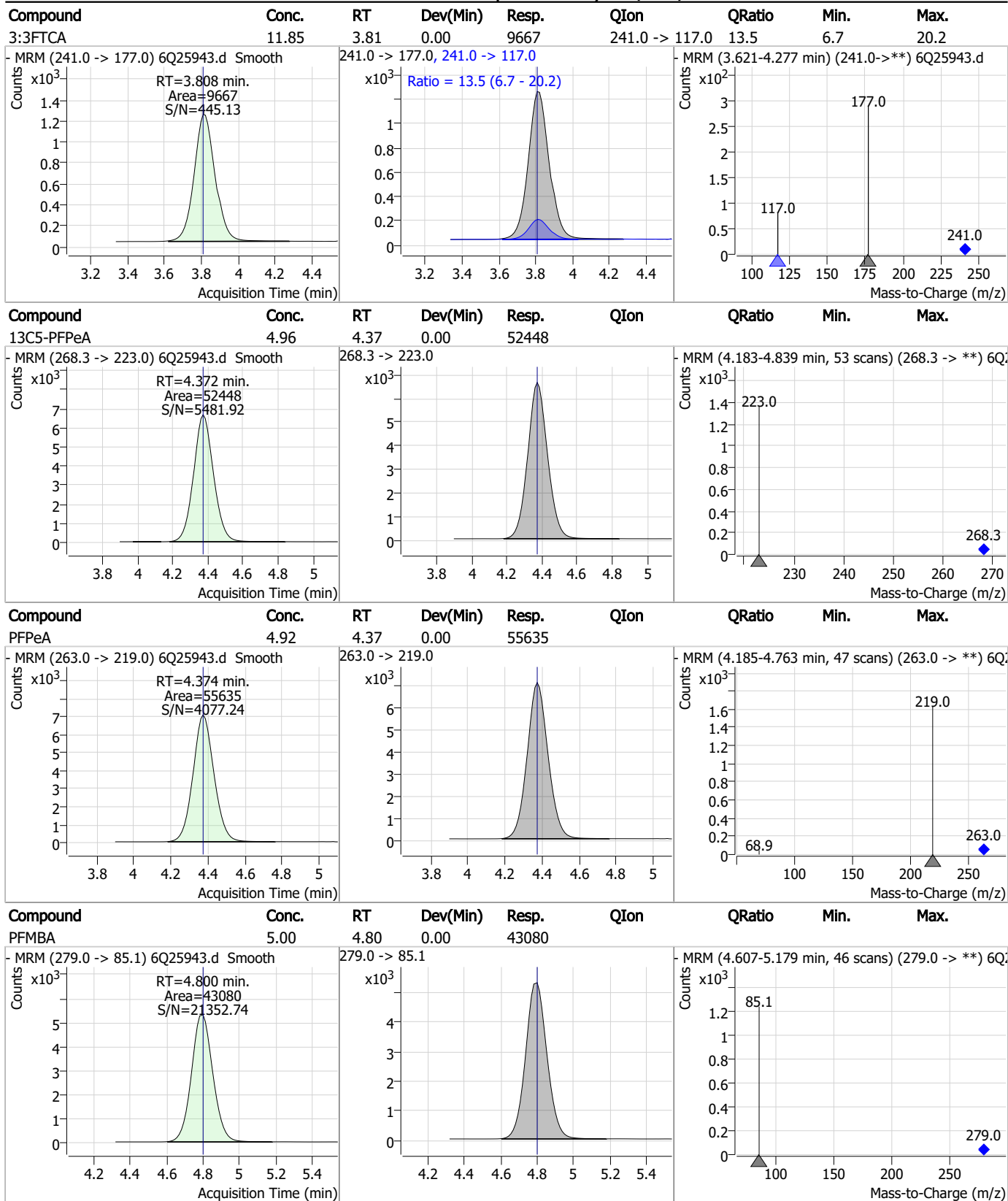
7.7.5

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Perfluorinated Compounds by LC/MS/MS

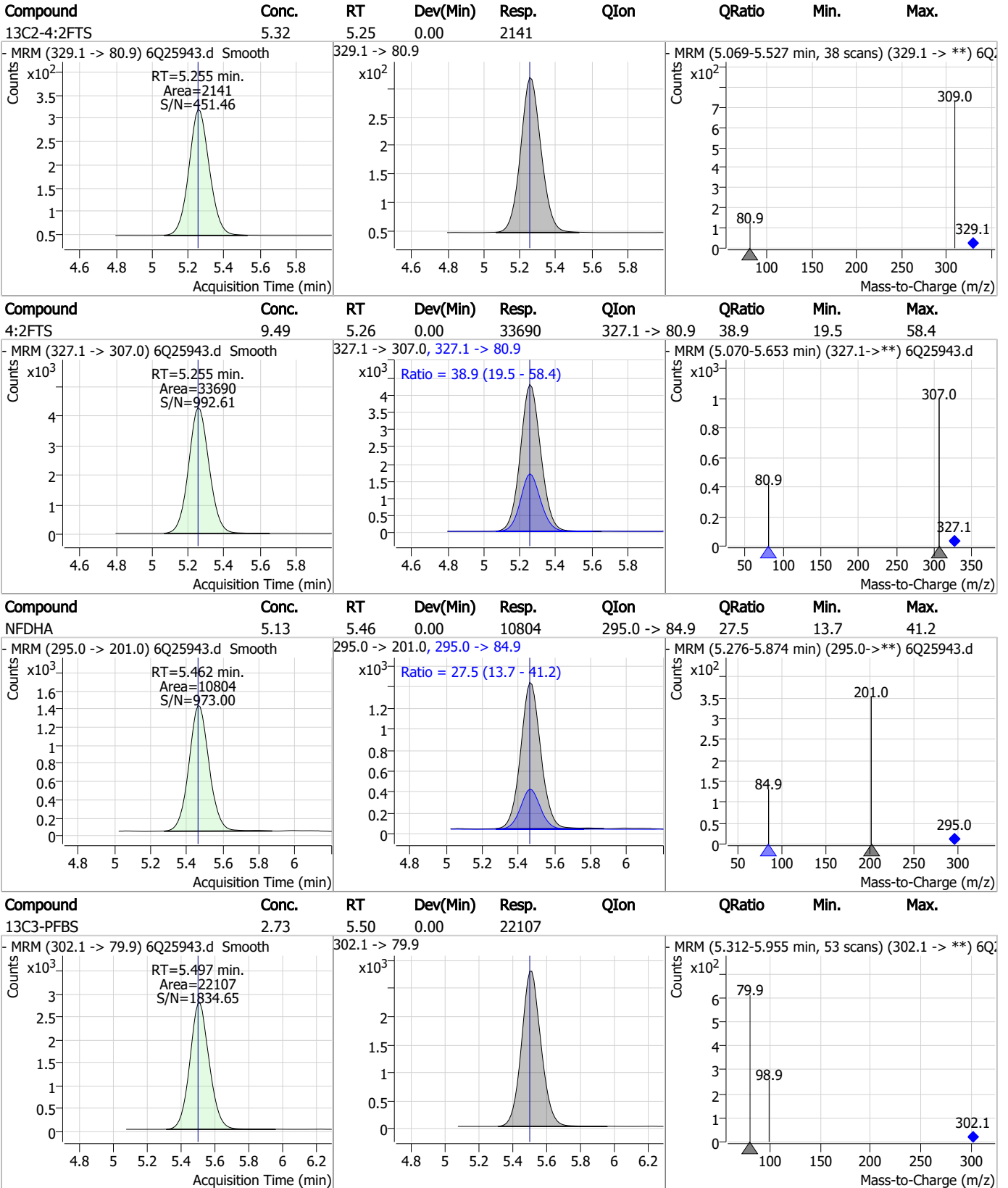


Perfluorinated Compounds by LC/MS/MS



7.7.5
7

Perfluorinated Compounds by LC/MS/MS

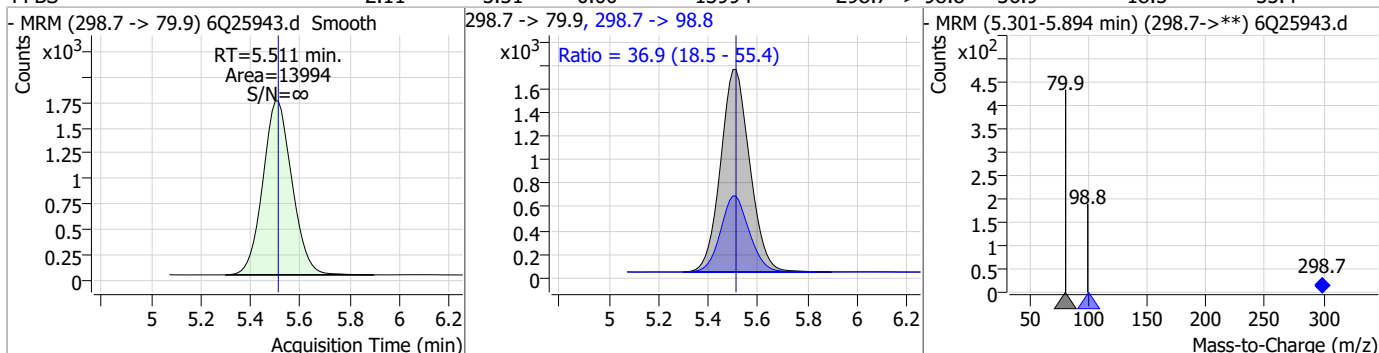


7.7.5

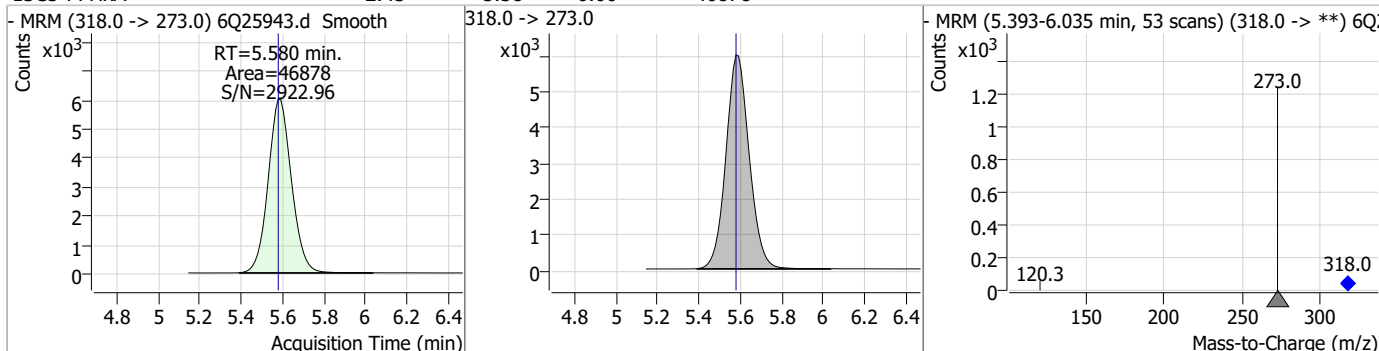
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Perfluorinated Compounds by LC/MS/MS

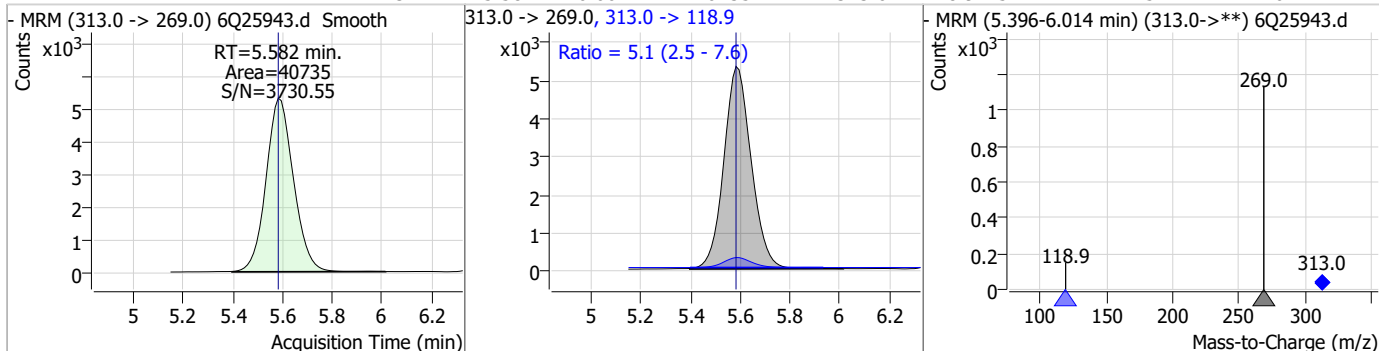
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBS	2.11	5.51	0.00	13994	298.7 -> 98.8	36.9	18.5	55.4



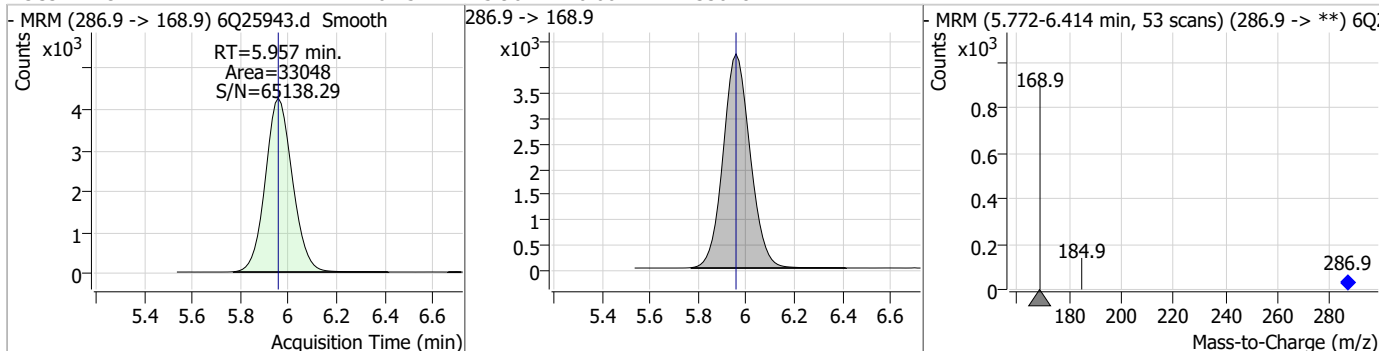
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFHxA	2.43	5.58	0.00	46878	318.0 -> 273.0	5.1	2.5	7.6



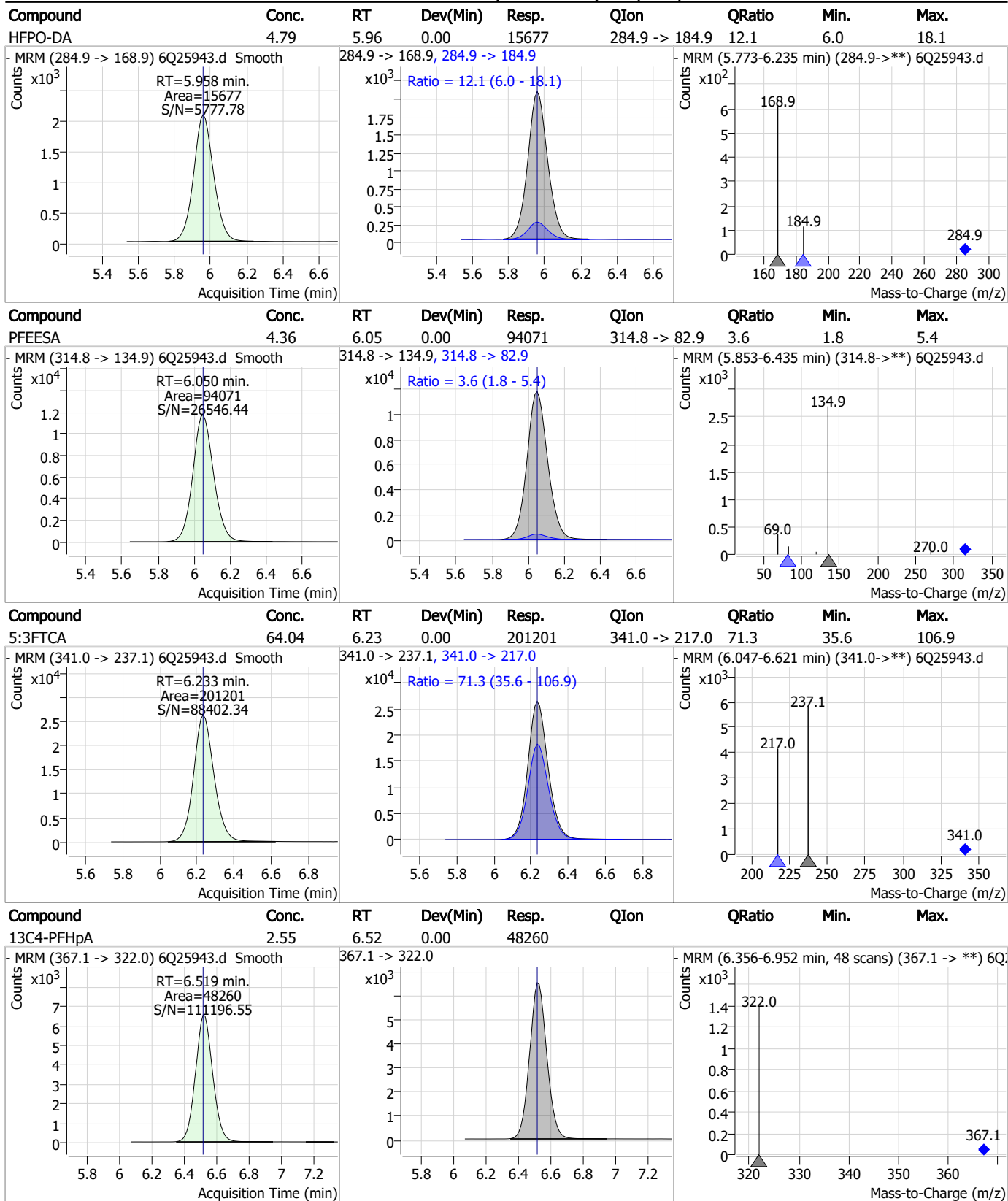
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxA	2.43	5.58	0.00	40735	313.0 -> 118.9	5.1	2.5	7.6



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-HFPO-DA	10.15	5.96	0.00	33048	286.9 -> 168.9	5.1	2.5	7.6

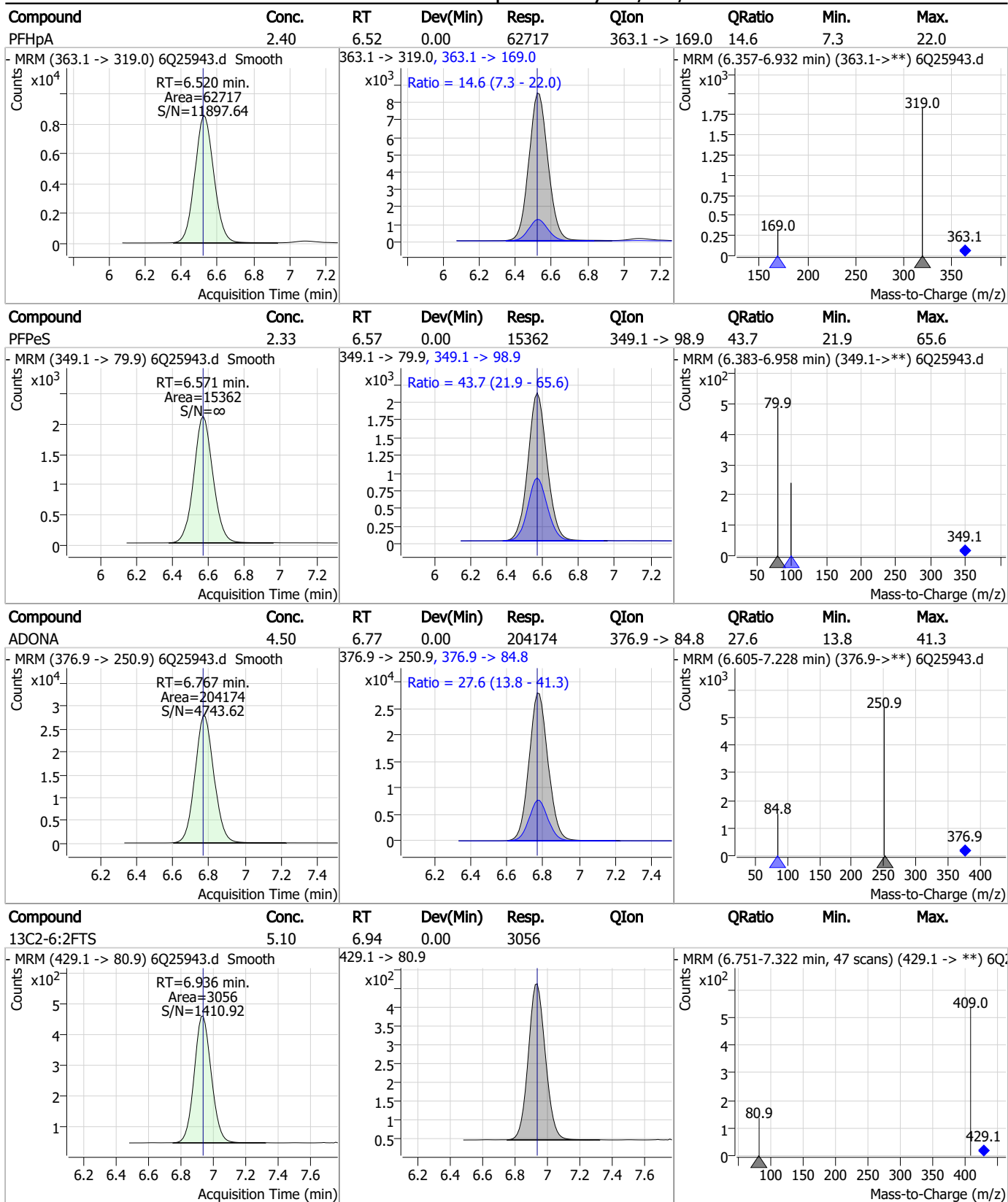


Perfluorinated Compounds by LC/MS/MS



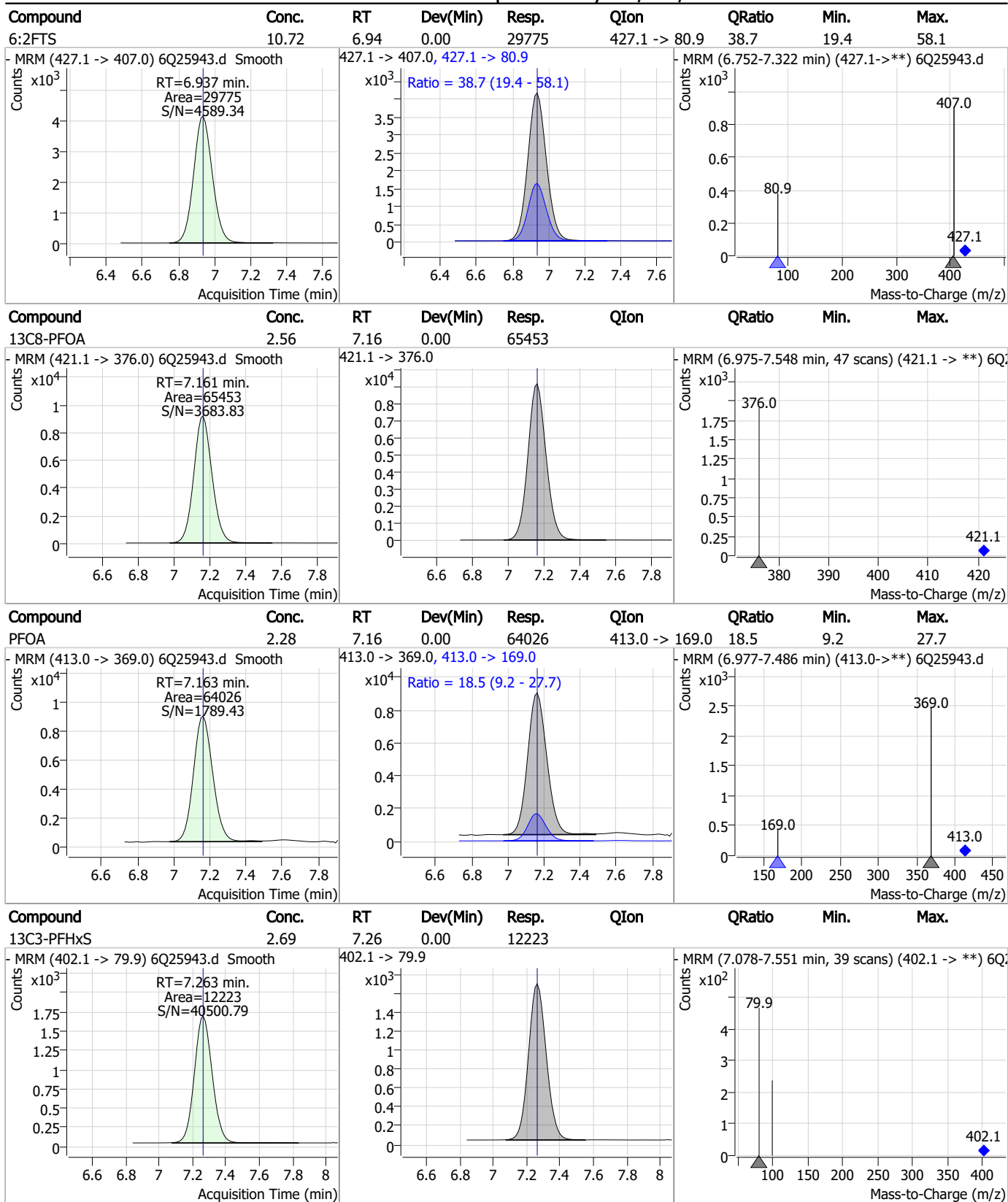
7.7.5
7

Perfluorinated Compounds by LC/MS/MS



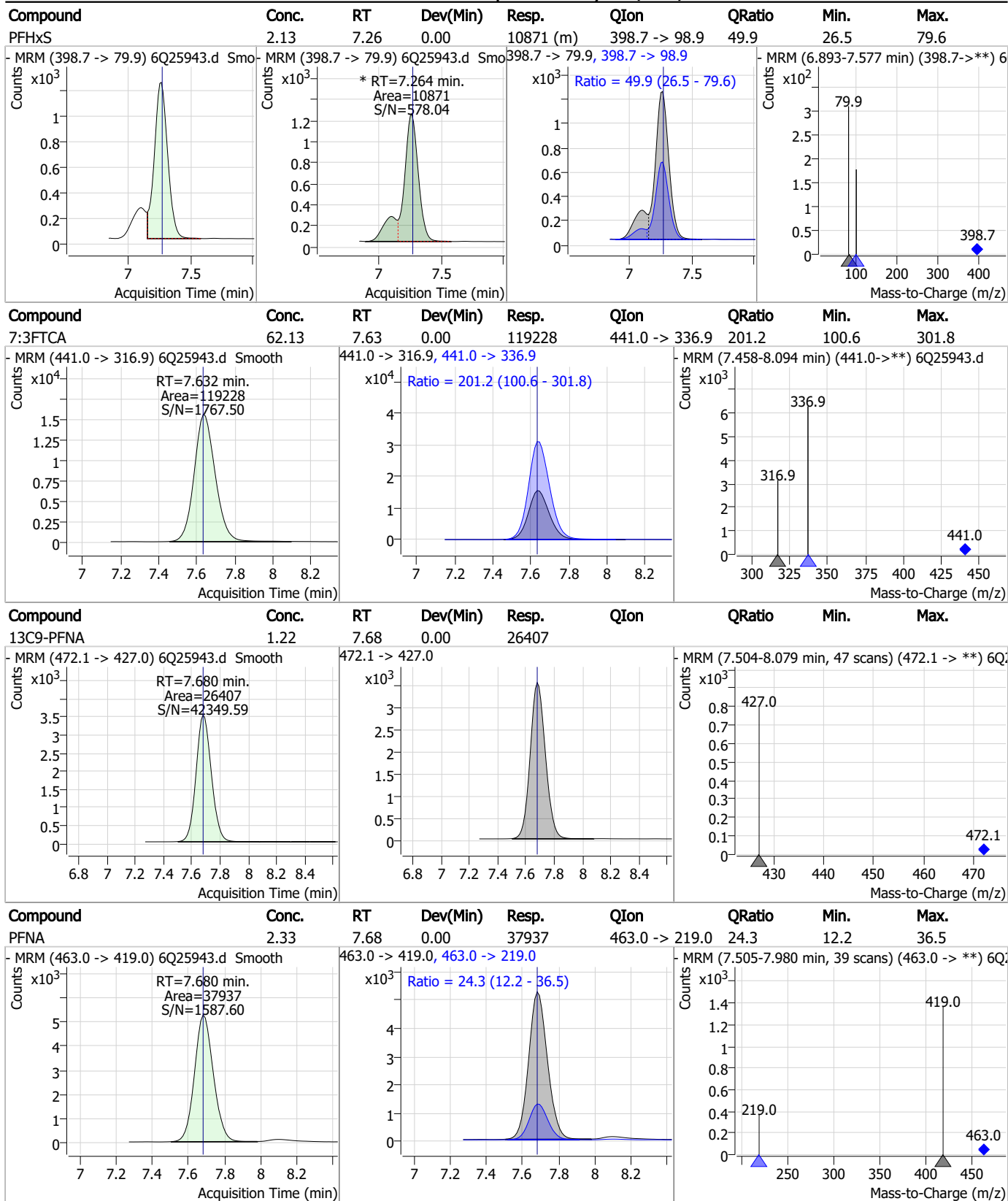
7.7.5
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Perfluorinated Compounds by LC/MS/MS



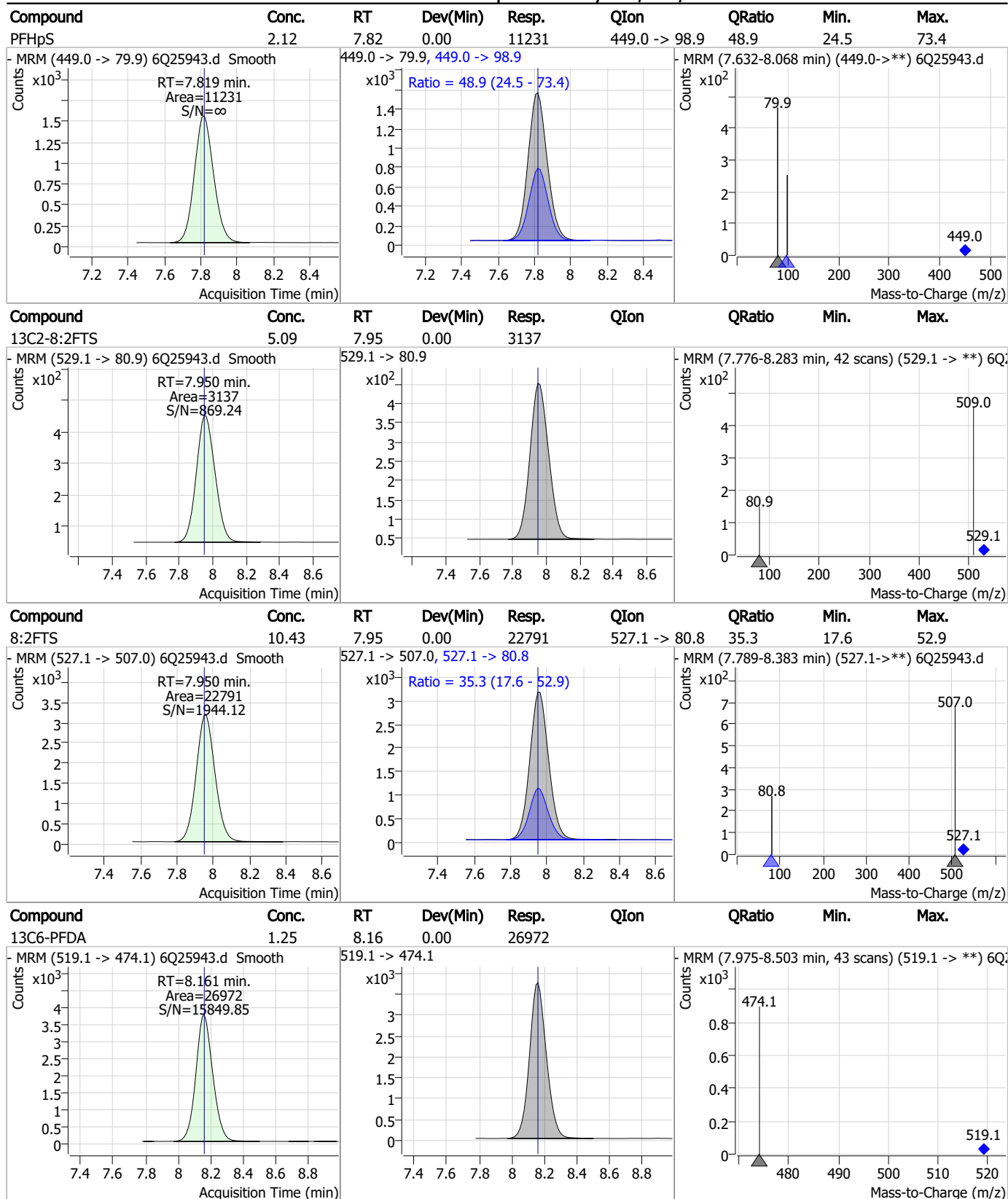
7.7.5
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Perfluorinated Compounds by LC/MS/MS



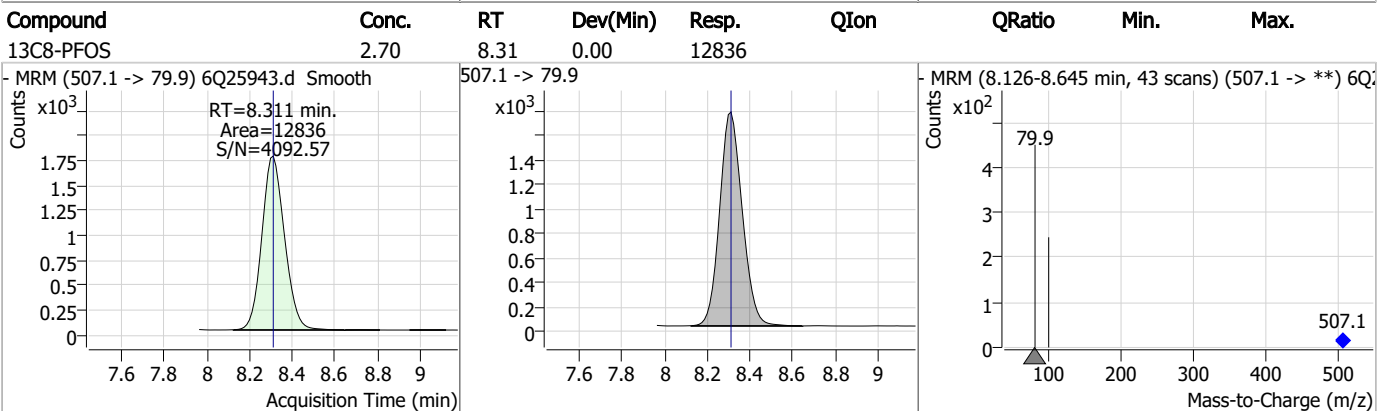
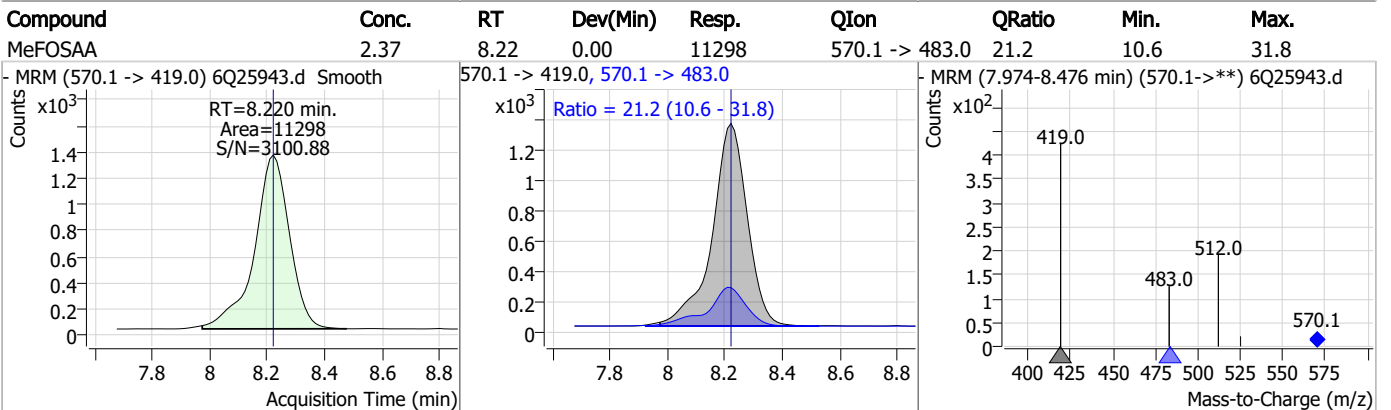
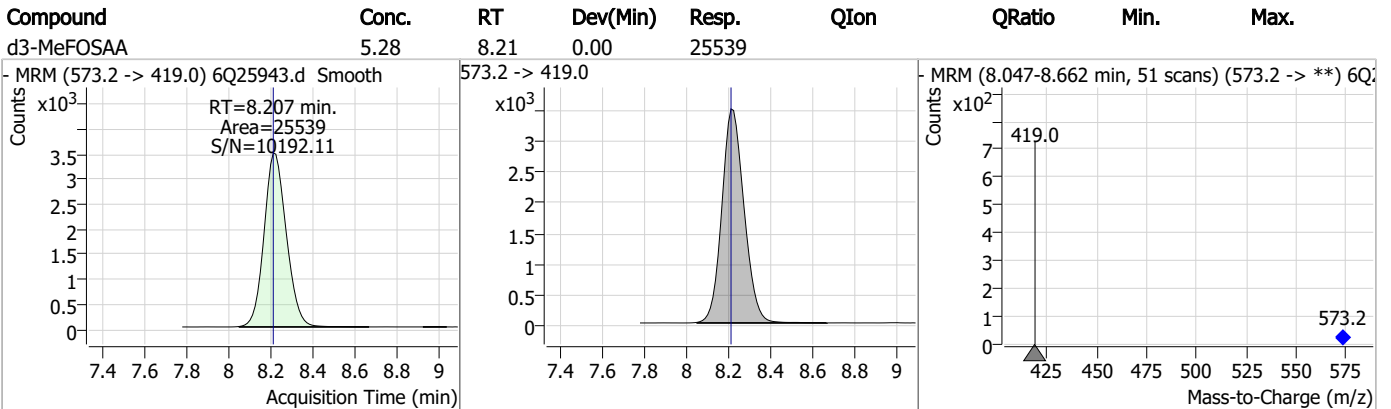
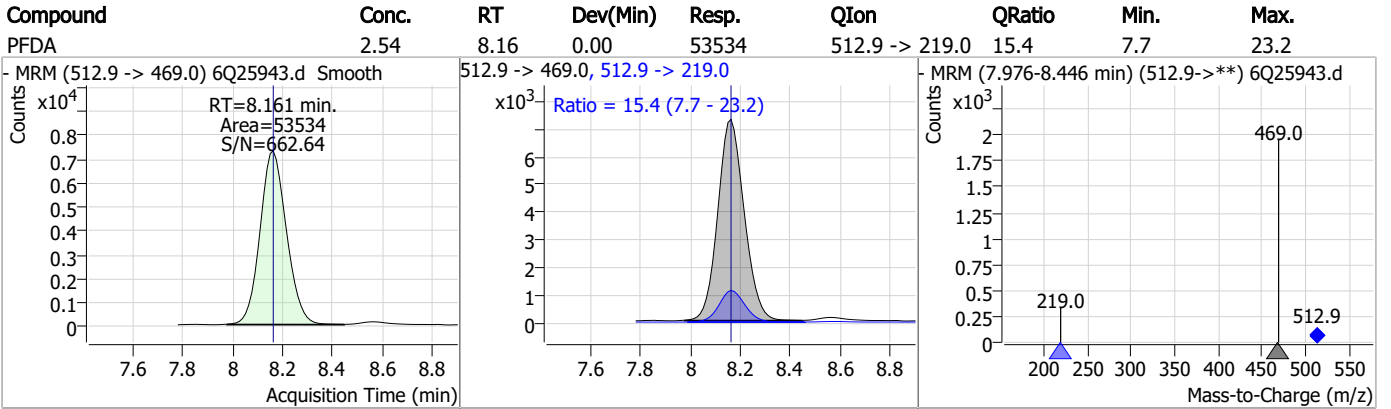
7.7.5
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Perfluorinated Compounds by LC/MS/MS



7.7.5
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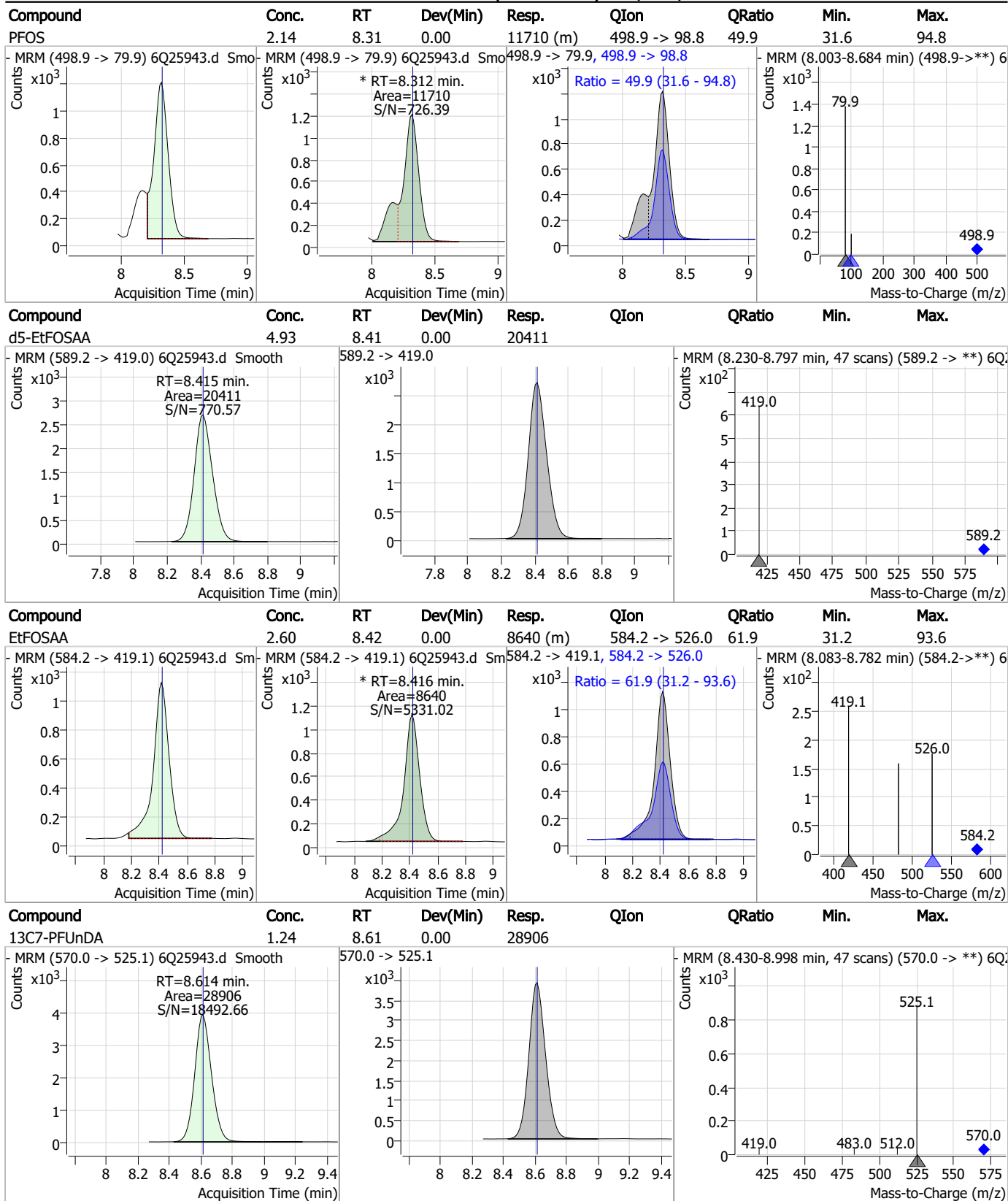
Perfluorinated Compounds by LC/MS/MS



7.7.5

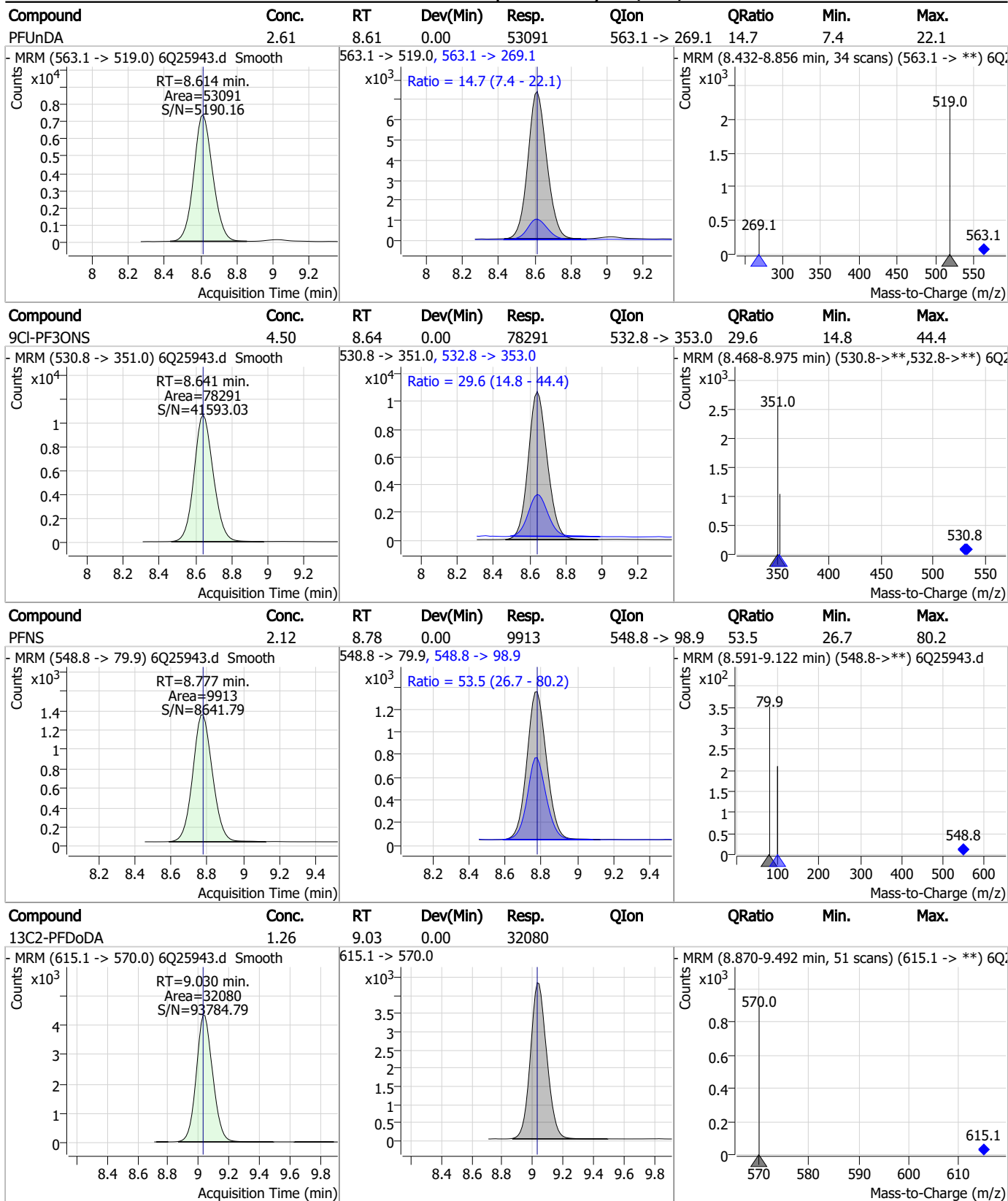
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Perfluorinated Compounds by LC/MS/MS



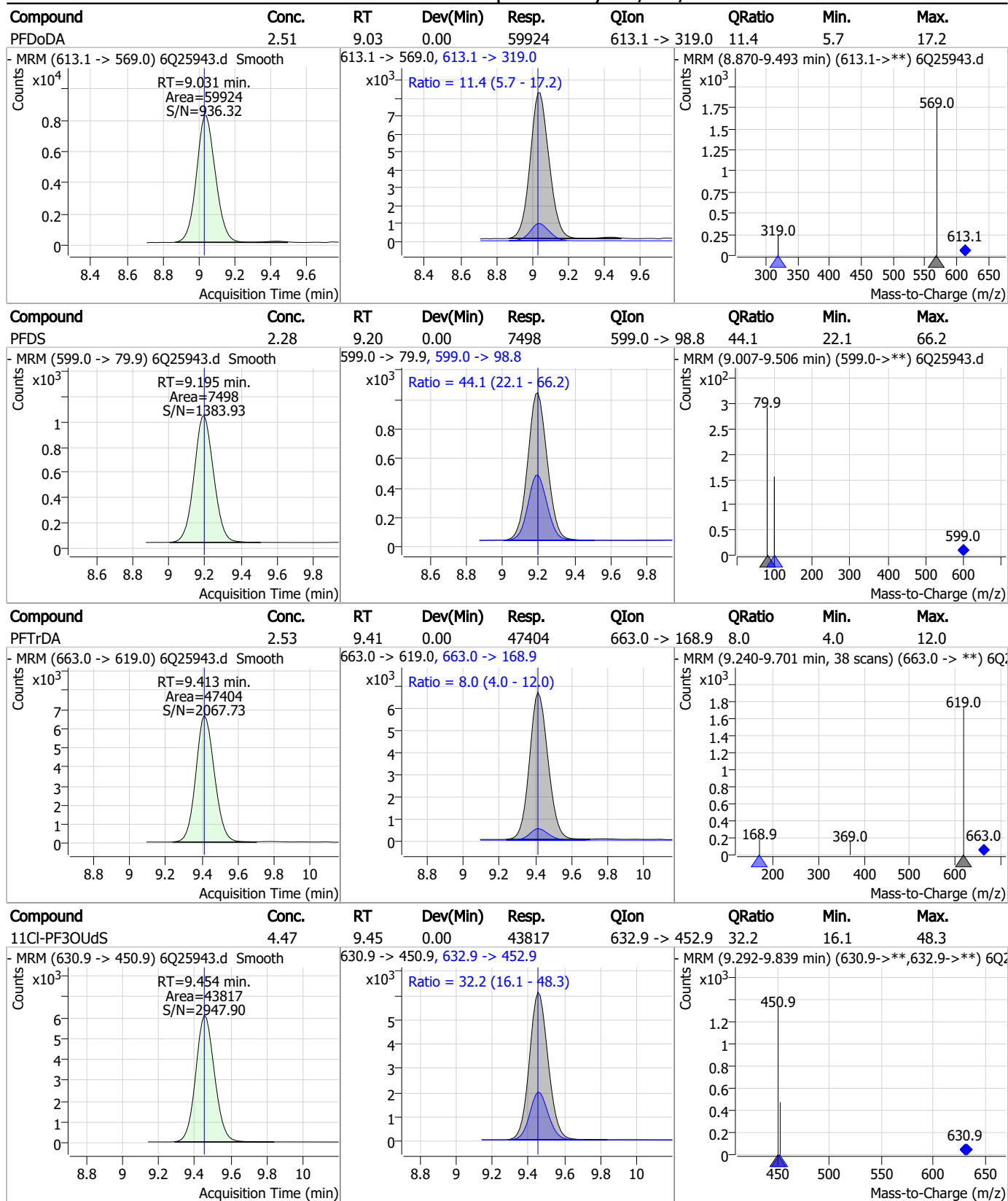
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Perfluorinated Compounds by LC/MS/MS



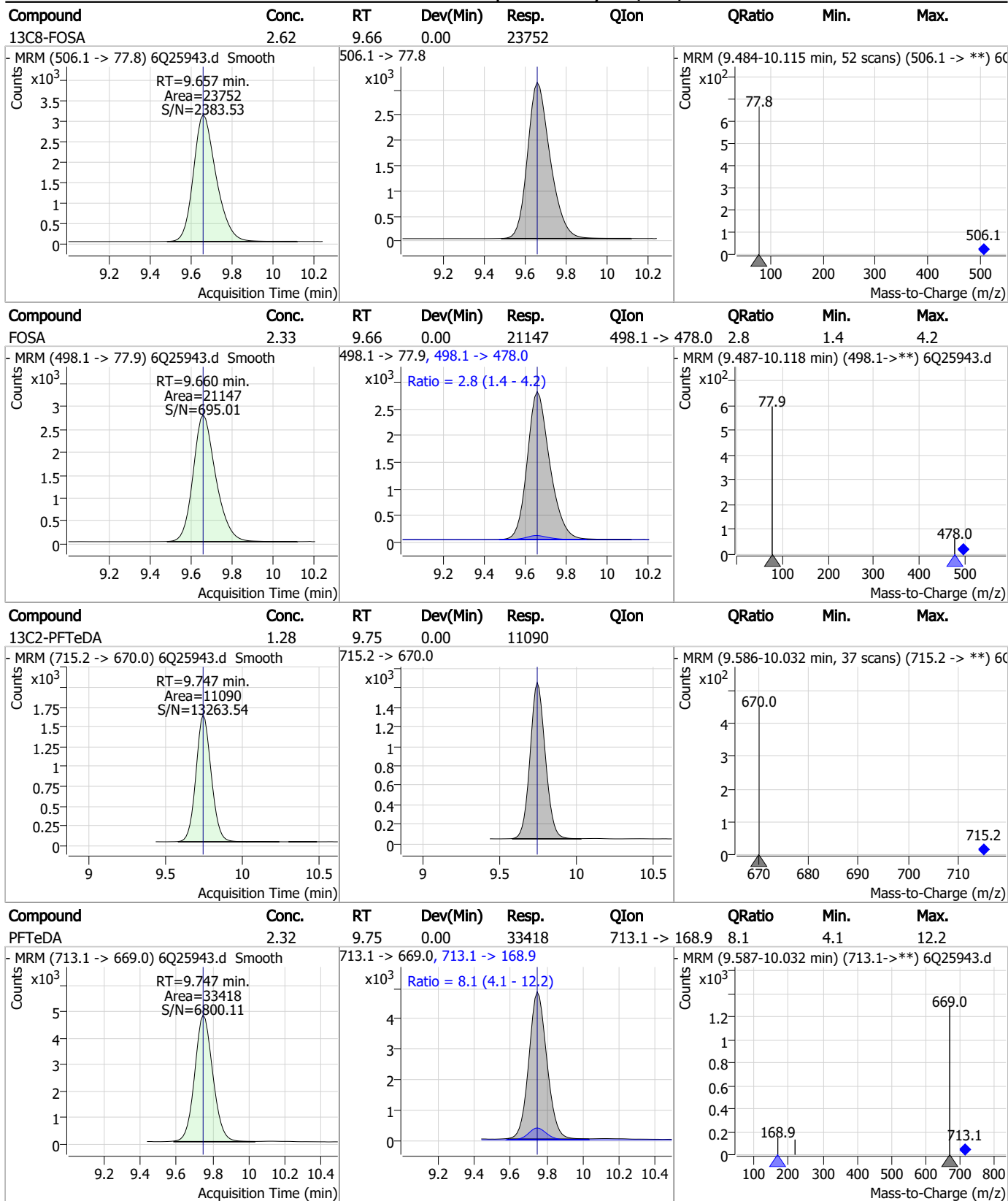
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Perfluorinated Compounds by LC/MS/MS



7.7.5
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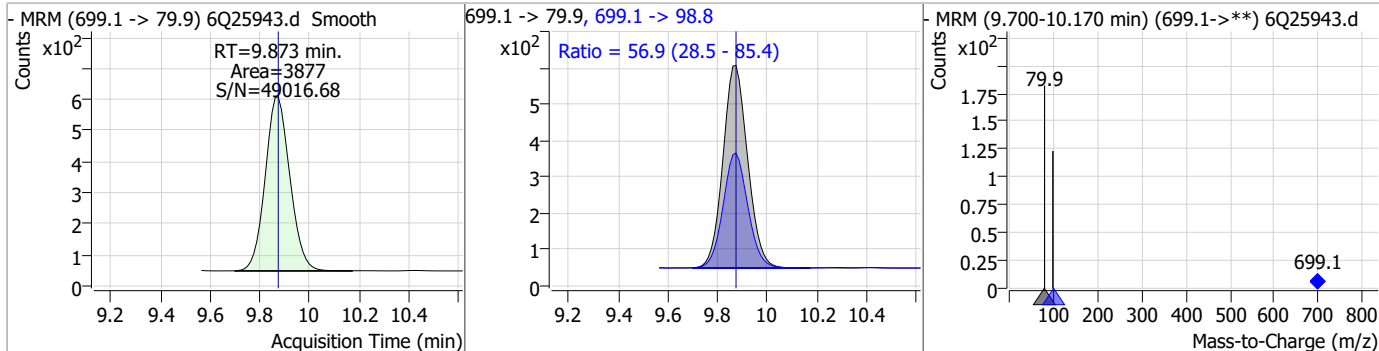
Perfluorinated Compounds by LC/MS/MS



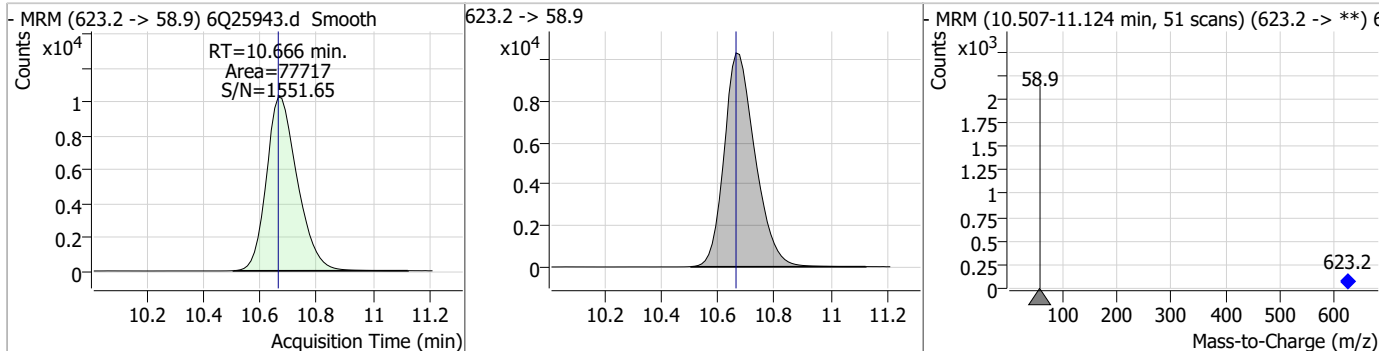
7.7.5
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Perfluorinated Compounds by LC/MS/MS

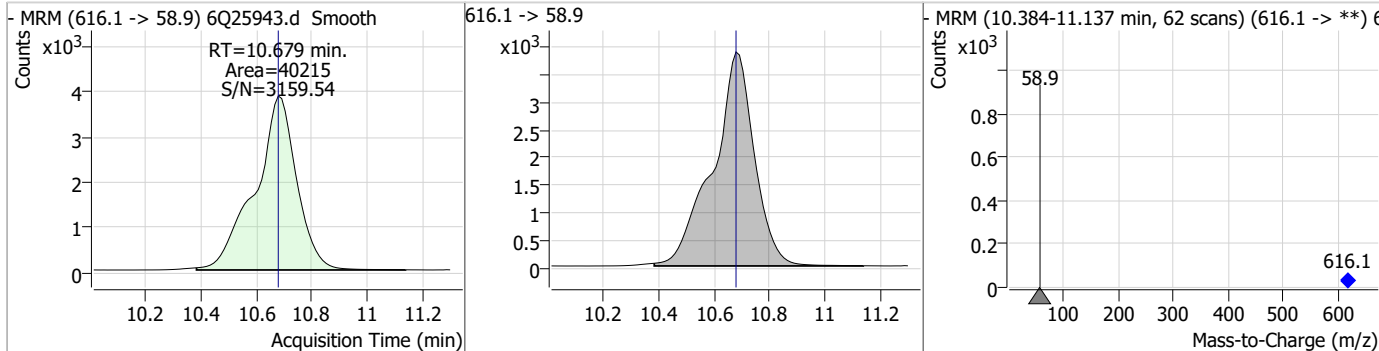
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoS	2.27	9.87	0.00	3877	699.1 -> 98.8	56.9	28.5	85.4



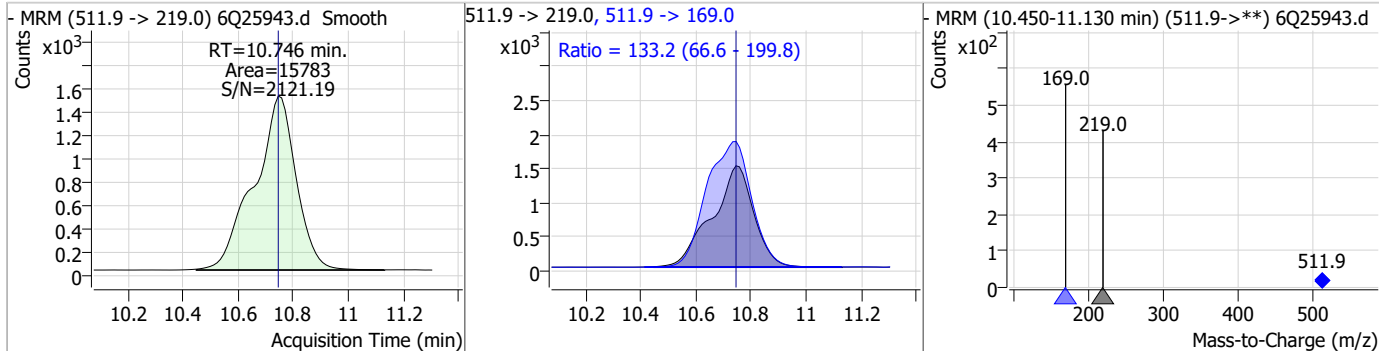
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d7-MeFOSE	26.56	10.67	0.00	77717				



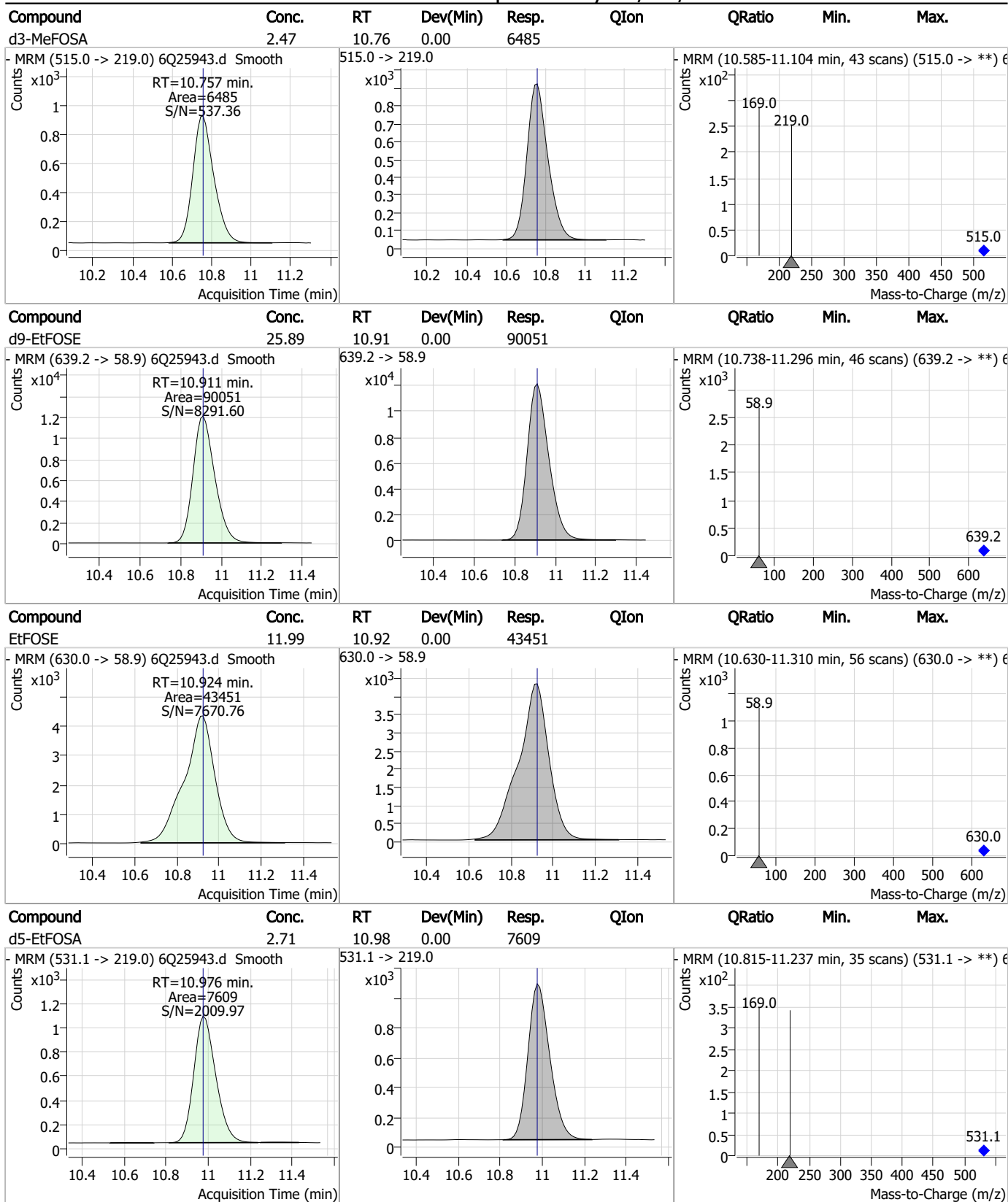
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSE	11.71	10.68	0.00	40215				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOFA	5.25	10.75	0.00	15783	511.9 -> 169.0	133.2	66.6	199.8

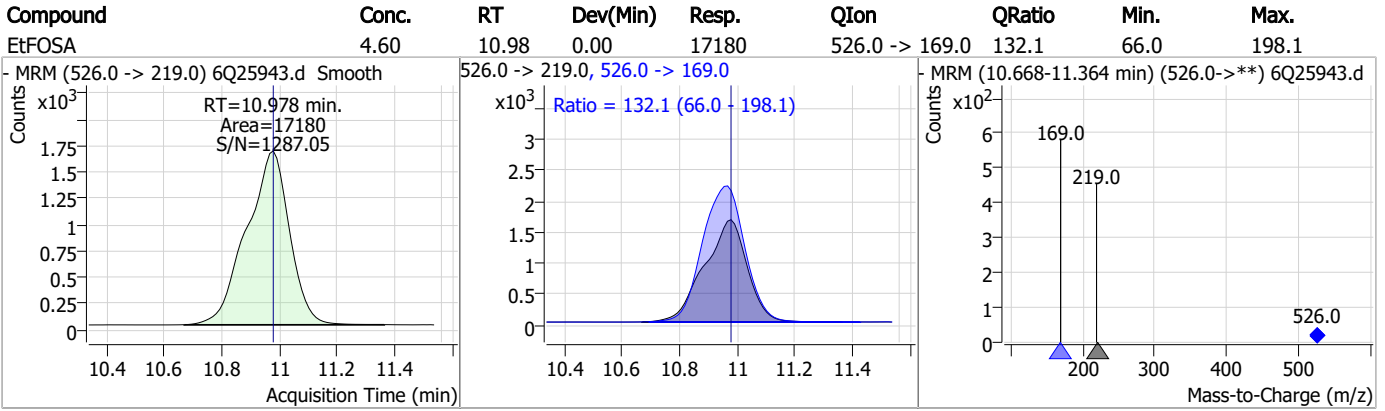


Perfluorinated Compounds by LC/MS/MS



7.7.5
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Perfluorinated Compounds by LC/MS/MS



7.7.5

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Manual Integration Approval Summary

Sample Number: S6Q367-ICC367 Method: EPA DRAFT 1633
Lab FileID: 6Q25943.D Analyst approved: 10/09/23 13:30 Martha Valls
Injection Time: 10/08/23 15:46 Supervisor approved: 10/09/23 16:36 Natasha Gumtie

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		7.26	Split peak
Perfluorooctanesulfonic acid	1763-23-1		8.31	Split peak
EtFOSAA	2991-50-6		8.42	Poorly defined baseline

7.7.5.1

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Manual Integrations
APPROVED
 (compounds with "m" flag)

Natasha Gumtje
 10/09/23 16:36

Perfluorinated Compounds by LC/MS/MS

Data File : 6Q25944.d
 Operator : marthav
 Acq. Method : 1633full.m
 Acq. Date-Time : 10/8/2023 4:00:41 PM
 Sample Name : ic367-5
 Vial : P1-A6
 DA Method File : 1633_100823_S6Q367.quantmethod.xml
 Batch Name : S6Q367.batch.bin
 Sample Information : OP99308,S6Q367,500,,,,5.0,1,water

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Internal Standards					
M4-PFBA	2.947	216.8 -> 171.9	153322	10.00 µg/L	0.000
M5-PFPeA	4.372	268.3 -> 223.0	54875	5.00 µg/L	0.000
M5-PFHxA	5.580	318.0 -> 273.0	51169	2.50 µg/L	0.000
M4-PFHpA	6.519	367.1 -> 322.0	47839	2.50 µg/L	0.000
M8-PFOA	7.161	421.1 -> 376.0	61585	2.50 µg/L	0.000
M9-PFNA	7.680	472.1 -> 427.0	25439	1.25 µg/L	0.000
M6-PFDA	8.161	519.1 -> 474.1	26887	1.25 µg/L	0.000
M7-PFUnDA	8.601	570.0 -> 525.1	29568	1.25 µg/L	-0.012
M2-PFDoDA	9.030	615.1 -> 570.0	31913	1.25 µg/L	0.000
M2-PFTeDA	9.747	715.2 -> 670.0	10769	1.25 µg/L	0.000
M8-FOSA	9.657	506.1 -> 77.8	23579	2.50 µg/L	0.000
M3-PFBS	5.510	302.1 -> 79.9	22201	2.50 µg/L	0.012
M3-PFHxS	7.263	402.1 -> 79.9	12232	2.50 µg/L	0.000
M8-PFOS	8.311	507.1 -> 79.9	12523	2.50 µg/L	0.000
M2-4:2FTS	5.255	329.1 -> 80.9	2181	5.00 µg/L	0.000
M2-6:2FTS	6.936	429.1 -> 80.9	3412	5.00 µg/L	0.000
M2-8:2FTS	7.950	529.1 -> 80.9	3620	5.00 µg/L	0.000
M3-MeFOSAA	8.207	573.2 -> 419.0	25819	5.00 µg/L	0.000
M3-HFPO-DA	5.957	286.9 -> 168.9	34012	10.00 µg/L	0.000
M5-EtFOSAA	8.415	589.2 -> 419.0	21791	5.00 µg/L	0.000
M7-MeFOSE	10.665	623.2 -> 58.9	77433	25.00 µg/L	0.000
M9-EtFOSE	10.911	639.2 -> 58.9	88662	25.00 µg/L	0.000
M5-EtFOSA	10.976	531.1 -> 219.0	7436	2.50 µg/L	0.000
M3-MeFOSA	10.757	515.0 -> 219.0	6717	2.50 µg/L	0.000
13C4-PFOS	8.312	502.8 -> 79.9	11448	2.50 µg/L	0.000
13C3-PFBA	2.952	216.0 -> 172.0	63366	5.00 µg/L	0.000
18O2-PFHxS	7.263	403.0 -> 83.9	7669	2.50 µg/L	0.000
13C4-PFOA	7.162	417.1 -> 372.0	76431	2.50 µg/L	0.000
13C2-PFDA	8.161	515.1 -> 470.1	27112	1.25 µg/L	0.000
13C5-PFNA	7.680	468.0 -> 423.0	25806	1.25 µg/L	0.000
13C2-PFHxA	5.581	315.1 -> 270.0	47073	2.50 µg/L	0.000
System Monitoring Compounds					
13C2-4:2FTS	5.255	329.1 -> 80.9	2181	5.05 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 101.0%		
13C2-6:2FTS	6.936	429.1 -> 80.9	3412	5.31 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 106.2%		
13C2-8:2FTS	7.950	529.1 -> 80.9	3620	5.47 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 109.4%		
13C2-PFDoDA	9.030	615.1 -> 570.0	31913	1.18 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 94.5%		
13C2-PFTeDA	9.747	715.2 -> 670.0	10769	1.18 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 94.0%		
13C3-PFBS	5.510	302.1 -> 79.9	22201	2.55 µg/L	0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 102.2%		
13C3-PFHxS	7.263	402.1 -> 79.9	12232	2.51 µg/L	0.000

7.7.6
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Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 100.4%	
13C4-PFBA	2.947	216.8 -> 171.9	153322	10.02 µg/L	0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 100.2%	
13C4-PFHpA	6.519	367.1 -> 322.0	47839	2.51 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 100.5%	
13C5-PFHxA	5.580	318.0 -> 273.0	51169	2.63 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 105.2%	
13C5-PFPeA	4.372	268.3 -> 223.0	54875	5.15 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 103.0%	
13C6-PFDA	8.161	519.1 -> 474.1	26887	1.18 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 94.2%	
13C7-PFUnDA	8.601	570.0 -> 525.1	29568	1.20 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 95.8%	
13C8-FOSA	9.657	506.1 -> 77.8	23579	2.50 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 99.8%	
13C8-PFOA	7.161	421.1 -> 376.0	61585	2.32 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 92.9%	
13C8-PFOS	8.311	507.1 -> 79.9	12523	2.53 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 101.3%	
13C9-PFNA	7.680	472.1 -> 427.0	25439	1.20 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 95.9%	
d3-MeFOSAA	8.207	573.2 -> 419.0	25819	5.13 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 102.6%	
13C3-HFPO-DA	5.957	286.9 -> 168.9	34012	10.36 µg/L	0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 103.6%	
d3-MeFOSA	10.757	515.0 -> 219.0	6717	2.45 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 98.1%	
d5-EtFOSAA	8.415	589.2 -> 419.0	21791	5.05 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 101.0%	
d7-MeFOSE	10.665	623.2 -> 58.9	77433	25.40 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 101.6%	
d9-EtFOSE	10.911	639.2 -> 58.9	88662	24.46 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 97.9%	
d5-EtFOSA	10.976	531.1 -> 219.0	7436	2.54 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 101.5%	
Target Compounds					QValue
4:2FTS	5.255	327.1 -> 307.0	68930	19.05 µg/L	99
		327.1 -> 80.9	26331		
6:2FTS	6.937	427.1 -> 407.0	53227	17.16 µg/L	96
		427.1 -> 80.9	21995		
8:2FTS	7.950	527.1 -> 507.0	45325	17.97 µg/L	100
		527.1 -> 80.8	15970		
EtFOSAA	8.416	584.2 -> 419.1	15692	4.43 µg/L	92
		584.2 -> 526.0	10746		
FOSA	9.660	498.1 -> 77.9	42546	4.71 µg/L	99
		498.1 -> 478.0	1082		
MeFOSAA	8.208	570.1 -> 419.0	22467	4.66 µg/L	99
		570.1 -> 483.0	4818		
PFBA	2.943	212.8 -> 168.9	110105	19.28 µg/L	100
PFBS	5.511	298.7 -> 79.9	28282	4.25 µg/L	99
		298.7 -> 98.8	10311		
PFDA	8.161	512.9 -> 469.0	100874	4.80 µg/L	100
		512.9 -> 219.0	15544		
PFDoDA	9.031	613.1 -> 569.0	115043	4.85 µg/L	98
		613.1 -> 319.0	14115		
PFDS	9.195	599.0 -> 79.9	14225	4.44 µg/L	97

Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
		599.0 -> 98.8	6572			
PFHpA	6.520	363.1 -> 319.0	125143	4.82	µg/L	100
		363.1 -> 169.0	18128			
PFHpS	7.819	449.0 -> 79.9	22864	4.42	µg/L	98
		449.0 -> 98.9	11554			
PFHxA	5.582	313.0 -> 269.0	84814	4.64	µg/L	99
		313.0 -> 118.9	4084			
PFHxS	7.264	398.7 -> 79.9	22447	4.39	µg/L	m 90
		398.7 -> 98.9	10345			
PFNA	7.680	463.0 -> 419.0	77785	4.96	µg/L	100
		463.0 -> 219.0	18905			
PFNS	8.777	548.8 -> 79.9	20287	4.44	µg/L	99
		548.8 -> 98.9	10665			
PFOA	7.163	413.0 -> 369.0	124677	4.72	µg/L	98
		413.0 -> 169.0	21876			
PFOS	8.300	498.9 -> 79.9	23572	4.41	µg/L	m 83
		498.9 -> 98.8	11702			
PFPeA	4.374	263.0 -> 219.0	110055	9.30	µg/L	100
PFPeS	6.571	349.1 -> 79.9	30218	4.58	µg/L	99
		349.1 -> 98.9	13333			
PFTeDA	9.747	713.1 -> 669.0	70041	5.00	µg/L	97
		713.1 -> 168.9	5038			
PFTrDA	9.413	663.0 -> 619.0	91240	4.89	µg/L	100
		663.0 -> 168.9	7438			
PFUnDA	8.614	563.1 -> 519.0	99190	4.76	µg/L	97
		563.1 -> 269.1	16013			
11Cl-PF3OUdS	9.454	630.9 -> 450.9	91144	9.03	µg/L	97
		632.9 -> 452.9	27695			
9Cl-PF3ONS	8.641	530.8 -> 351.0	155320	8.67	µg/L	98
		532.8 -> 353.0	47858			
ADONA	6.780	376.9 -> 250.9	400618	8.58	µg/L	98
		376.9 -> 84.8	114609			
HFPO-DA	5.958	284.9 -> 168.9	31119	9.23	µg/L	99
		284.9 -> 184.9	3589			
3:3FTCA	3.808	241.0 -> 177.0	19160	23.29	µg/L	99
		241.0 -> 117.0	2526			
5:3FTCA	6.233	341.0 -> 237.1	385185	112.32	µg/L	100
		341.0 -> 217.0	274999			
7:3FTCA	7.632	441.0 -> 316.9	239196	114.20	µg/L	99
		441.0 -> 336.9	485953			
EtFOSA	10.978	526.0 -> 219.0	34219	9.38	µg/L	96
		526.0 -> 169.0	43563			
EtFOSE	10.924	630.0 -> 58.9	88113	24.70	µg/L	100
MeFOSA	10.746	511.9 -> 219.0	30477	9.79	µg/L	96
		511.9 -> 169.0	42108			
MeFOSE	10.679	616.1 -> 58.9	79820	23.33	µg/L	100
PFDoDS	9.873	699.1 -> 79.9	7718	4.64	µg/L	94
		699.1 -> 98.8	4075			
NFDHA	5.462	295.0 -> 201.0	21628	9.41	µg/L	99
		295.0 -> 84.9	5823			
PFMBA	4.800	279.0 -> 85.1	84104	9.32	µg/L	100
PFMPA	3.501	229.0 -> 84.9	69944	9.39	µg/L	100
PFEESA	6.050	314.8 -> 134.9	191886	8.15	µg/L	100
		314.8 -> 82.9	6698			

= Qualifier out of range, m = manually integrated, + = Area summed

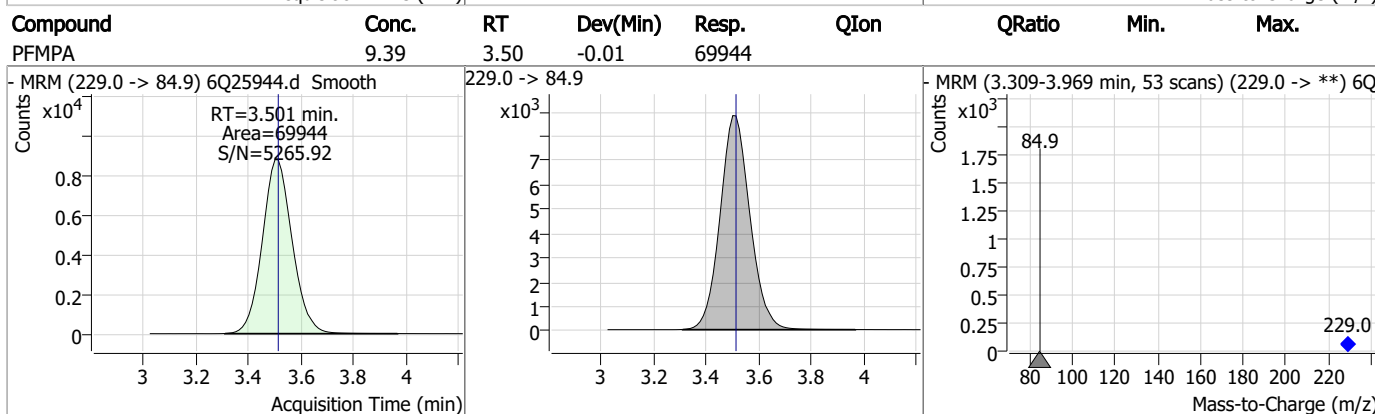
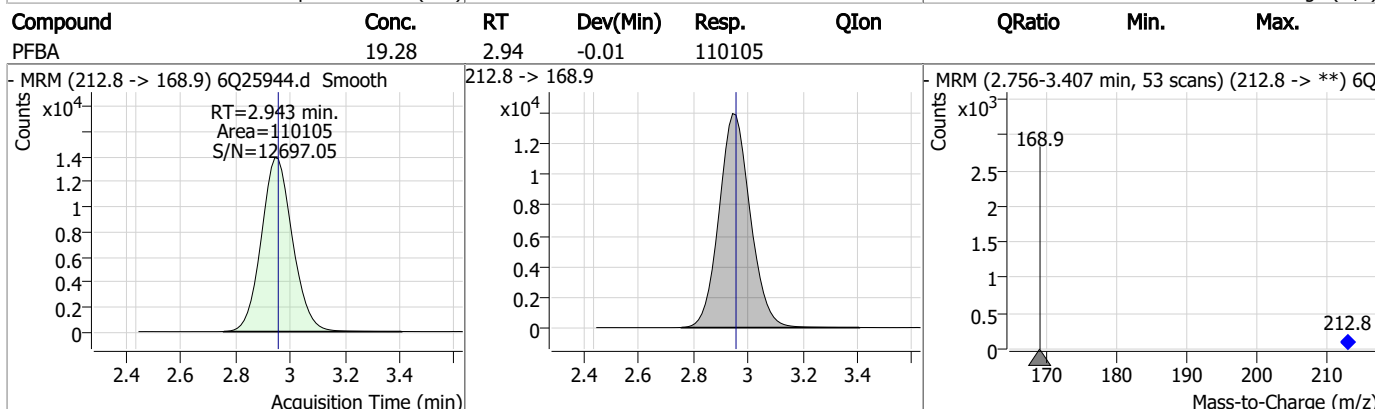
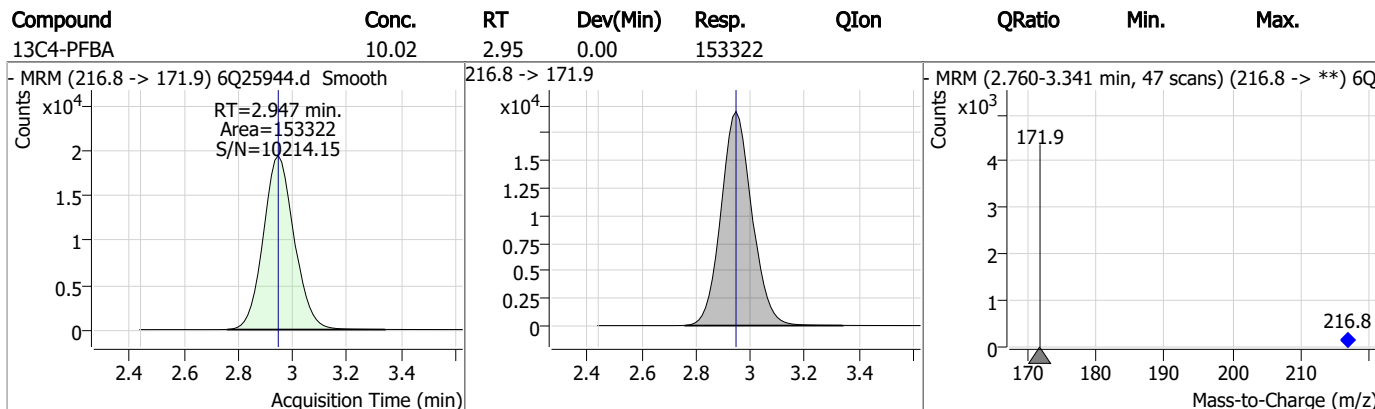
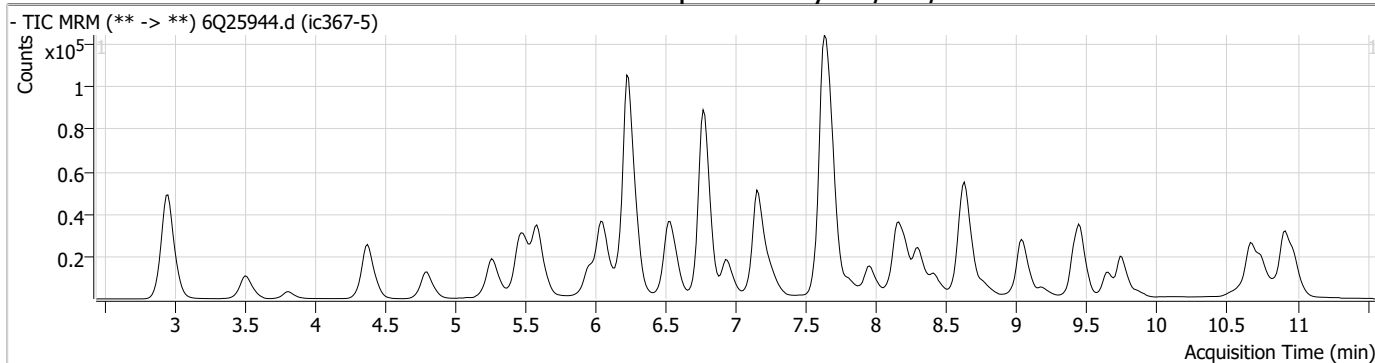
Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
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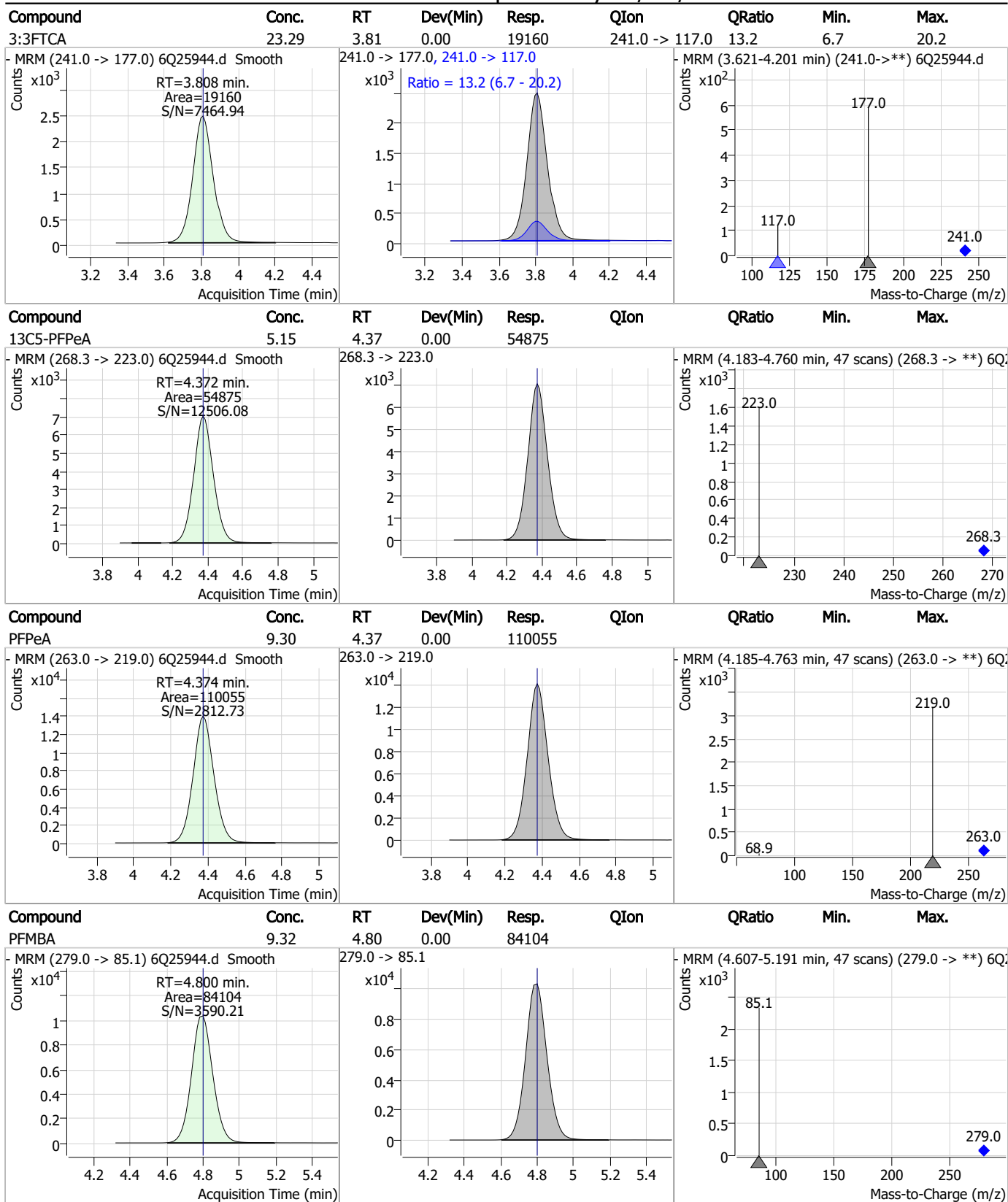
7.7.6

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Perfluorinated Compounds by LC/MS/MS

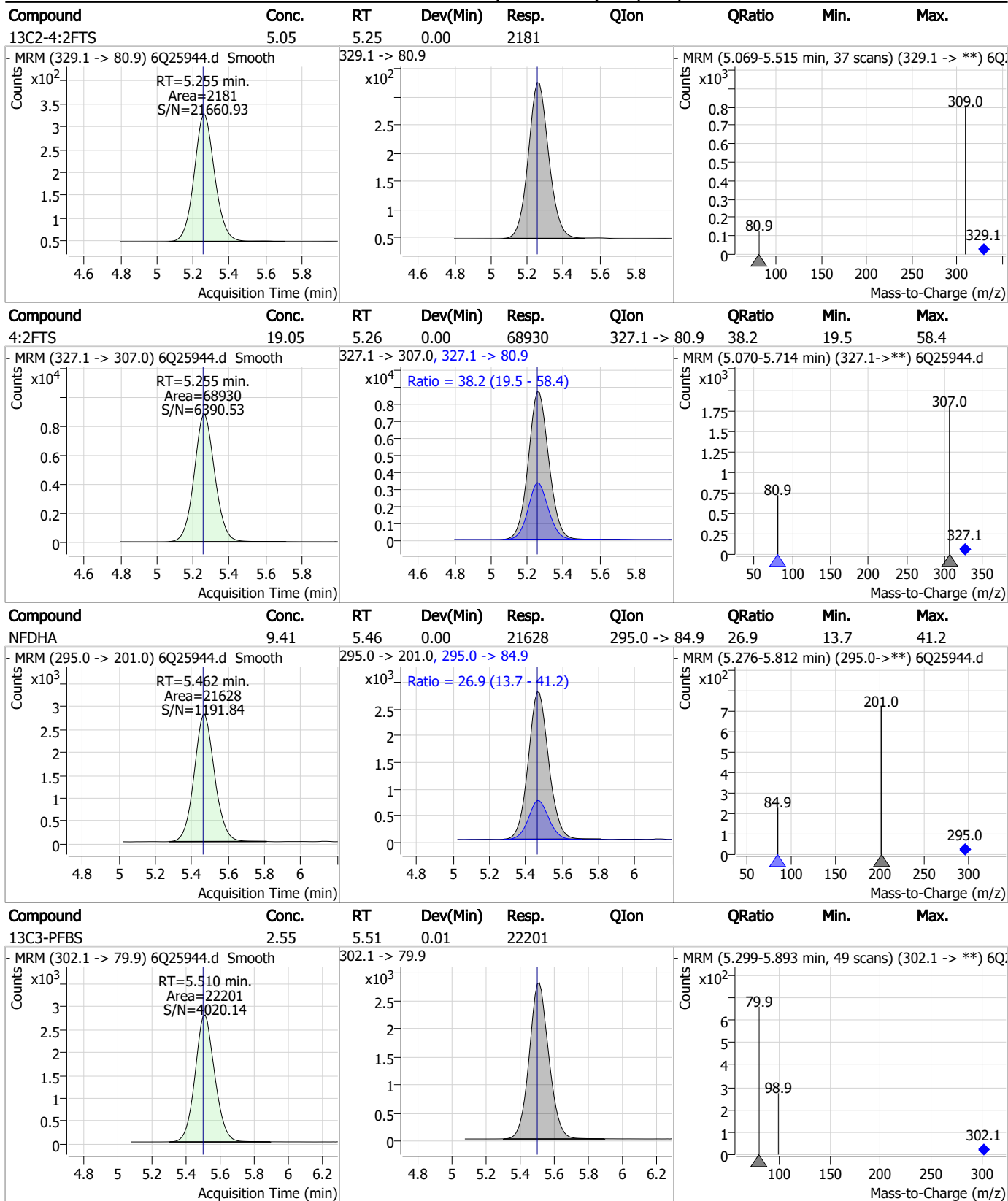


Perfluorinated Compounds by LC/MS/MS



7.7.6
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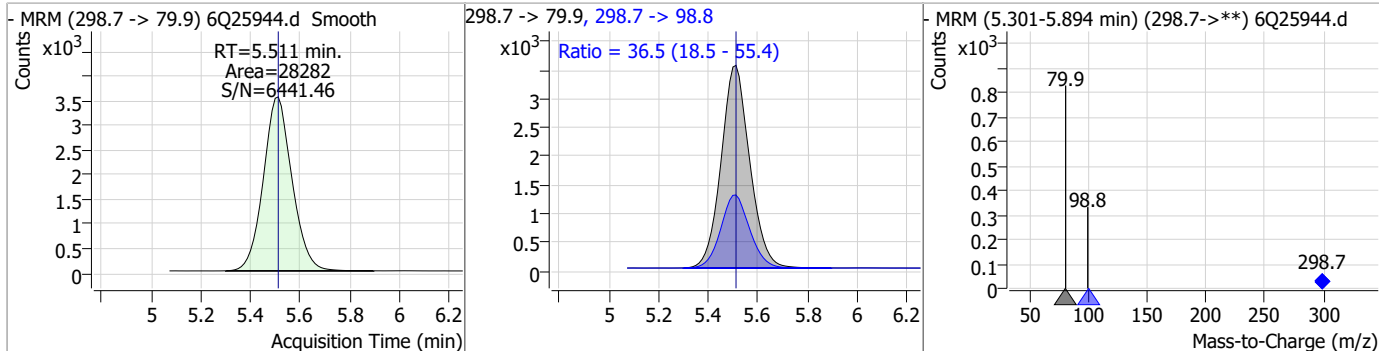
Perfluorinated Compounds by LC/MS/MS



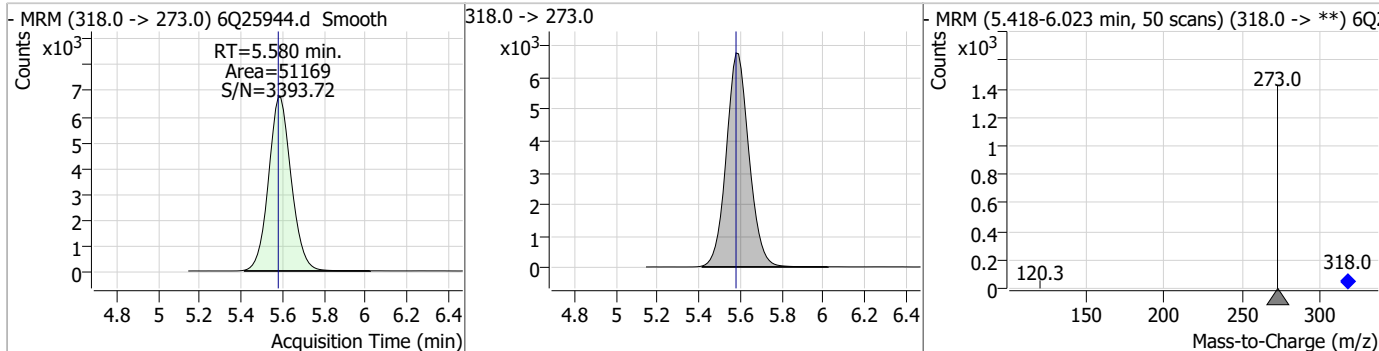
7.7.6
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Perfluorinated Compounds by LC/MS/MS

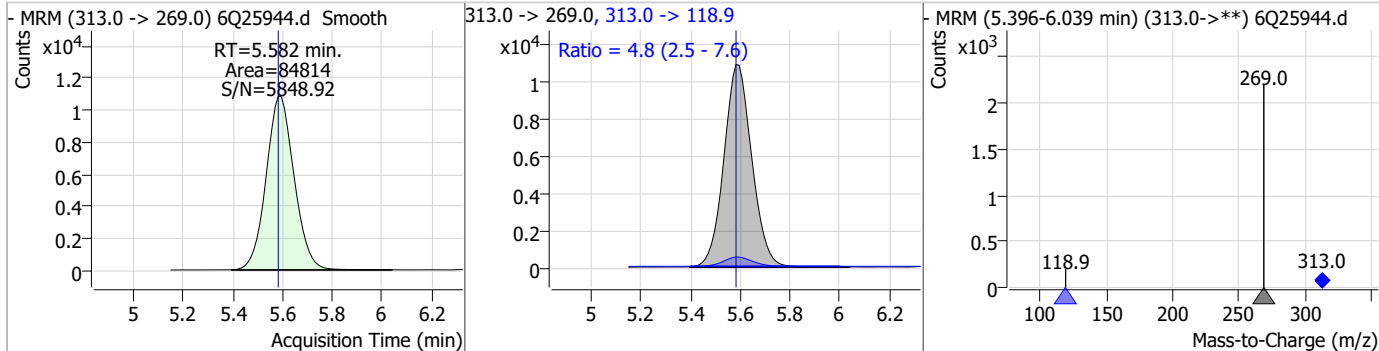
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBS	4.25	5.51	0.00	28282	298.7 -> 98.8	36.5	18.5	55.4



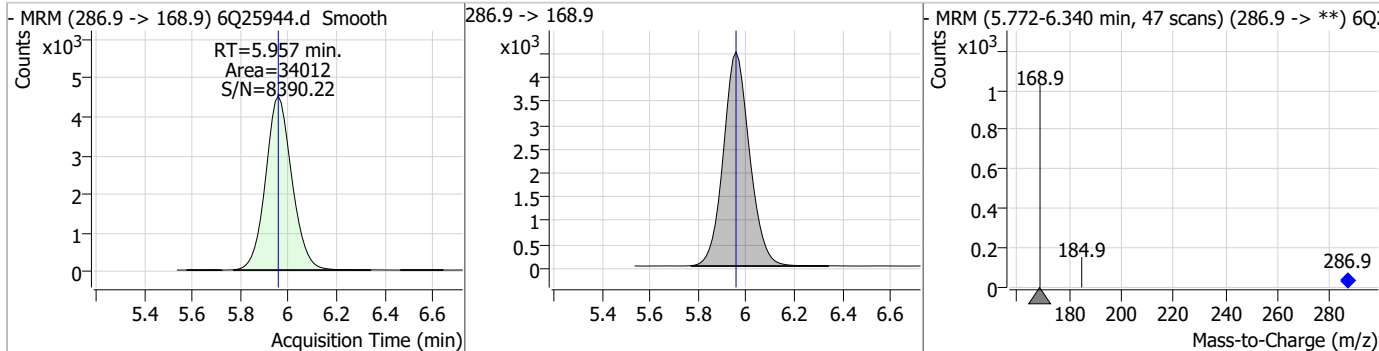
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFHxA	2.63	5.58	0.00	51169				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxA	4.64	5.58	0.00	84814	313.0 -> 118.9	4.8	2.5	7.6



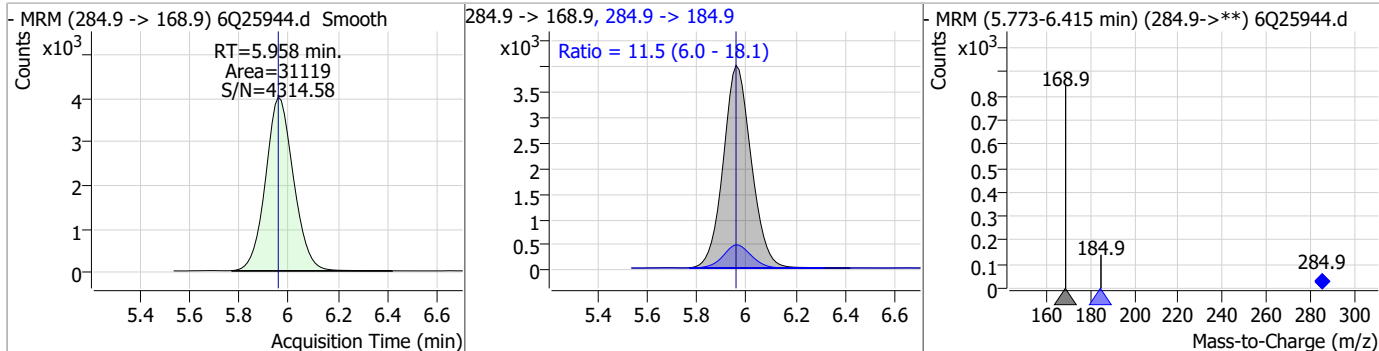
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-HFPO-DA	10.36	5.96	0.00	34012				



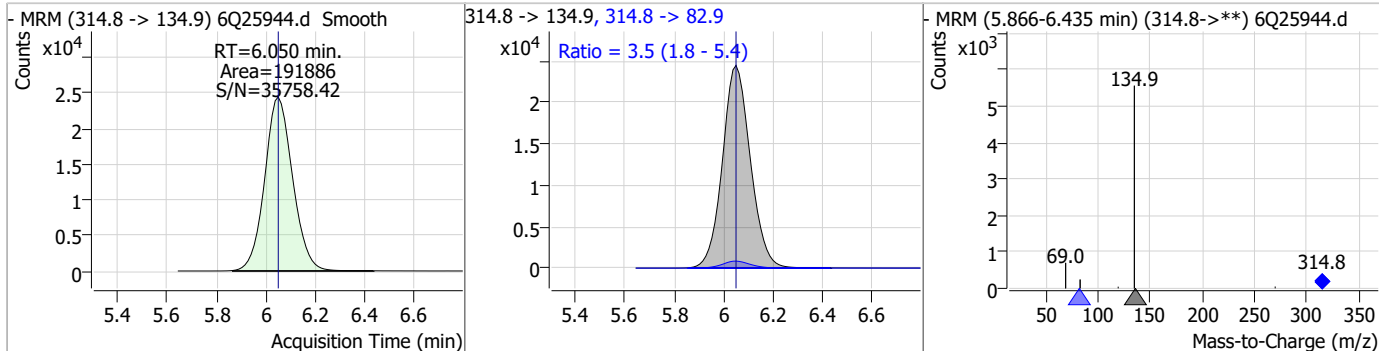
7.7.6
7

Perfluorinated Compounds by LC/MS/MS

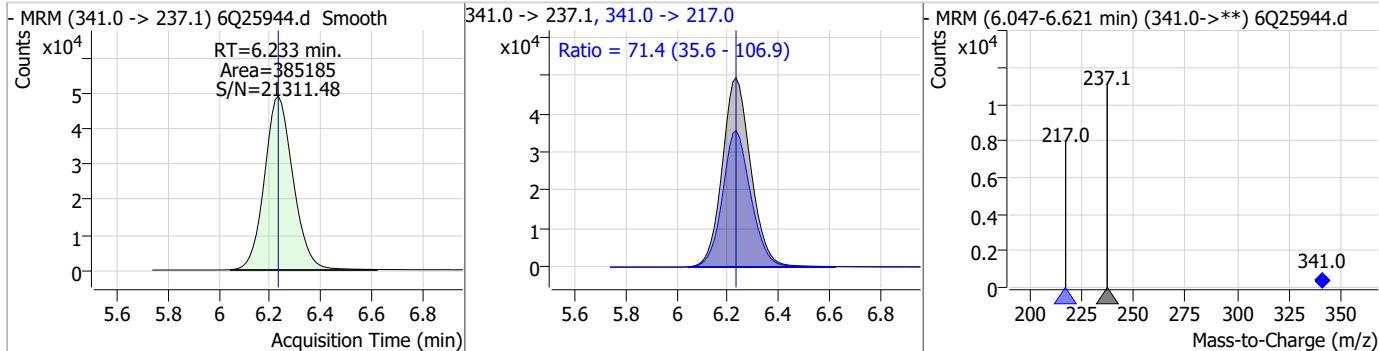
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
HFPO-DA	9.23	5.96	0.00	31119	284.9 -> 184.9	11.5	6.0	18.1



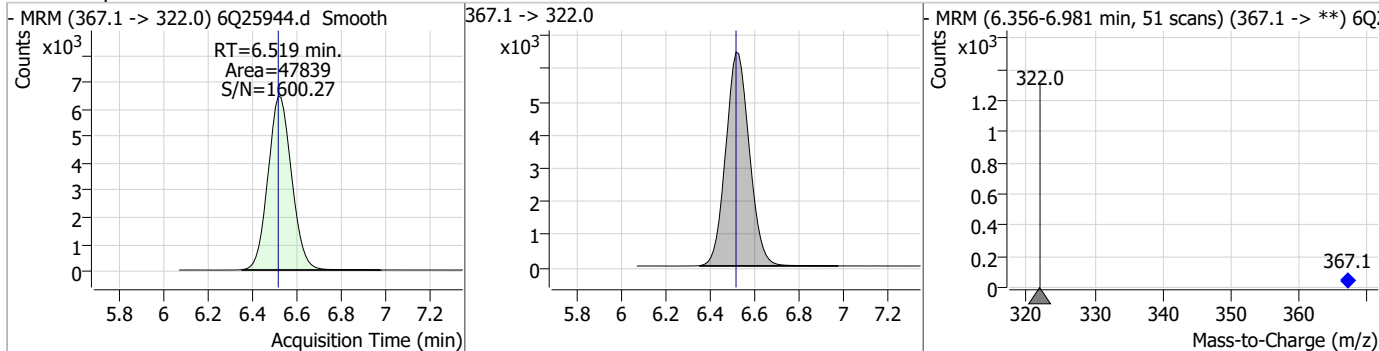
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFEESA	8.15	6.05	0.00	191886	314.8 -> 82.9	3.5	1.8	5.4



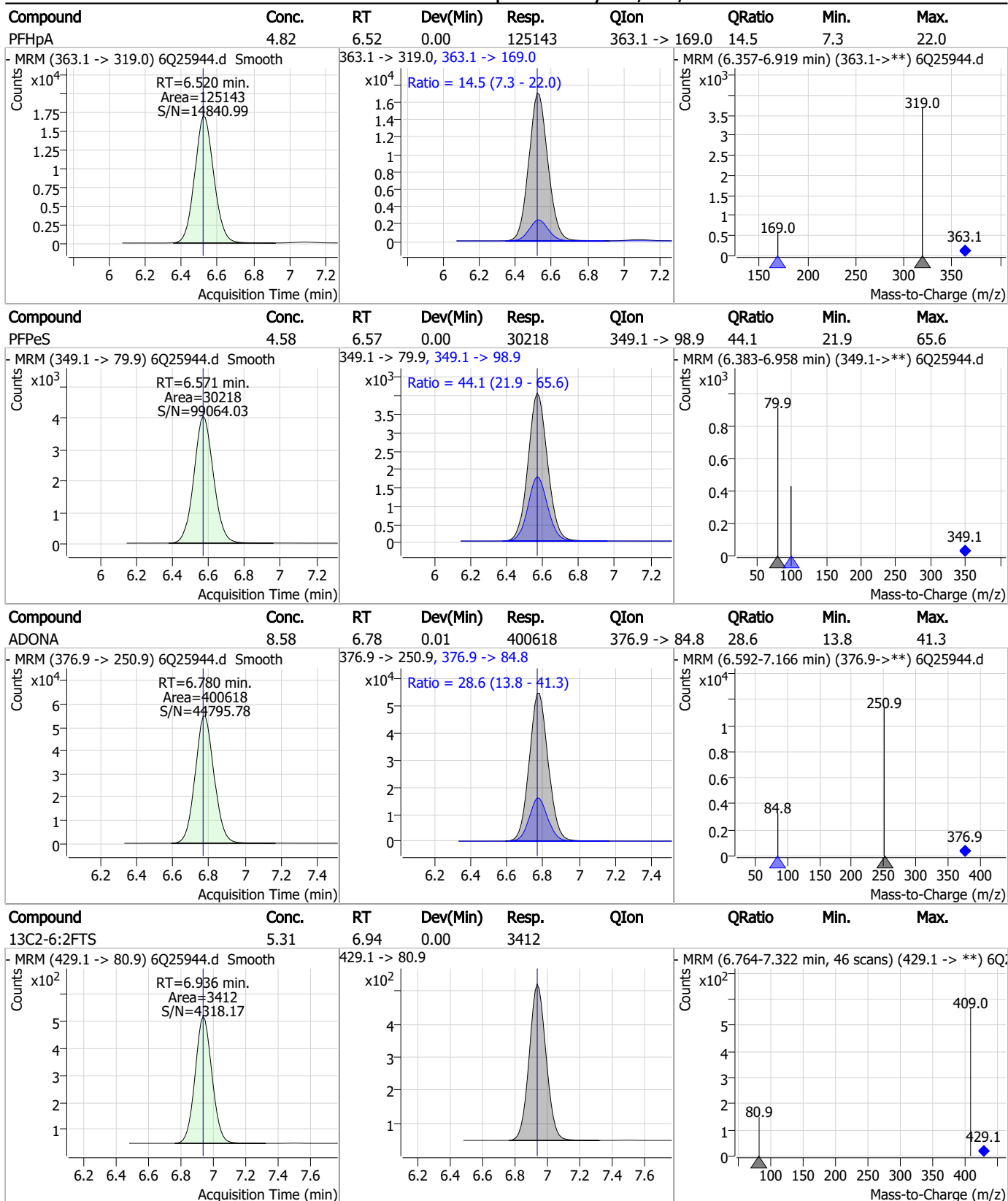
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
5:3FTCA	112.32	6.23	0.00	385185	341.0 -> 217.0	71.4	35.6	106.9



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFHpA	2.51	6.52	0.00	47839	367.1 -> 322.0			

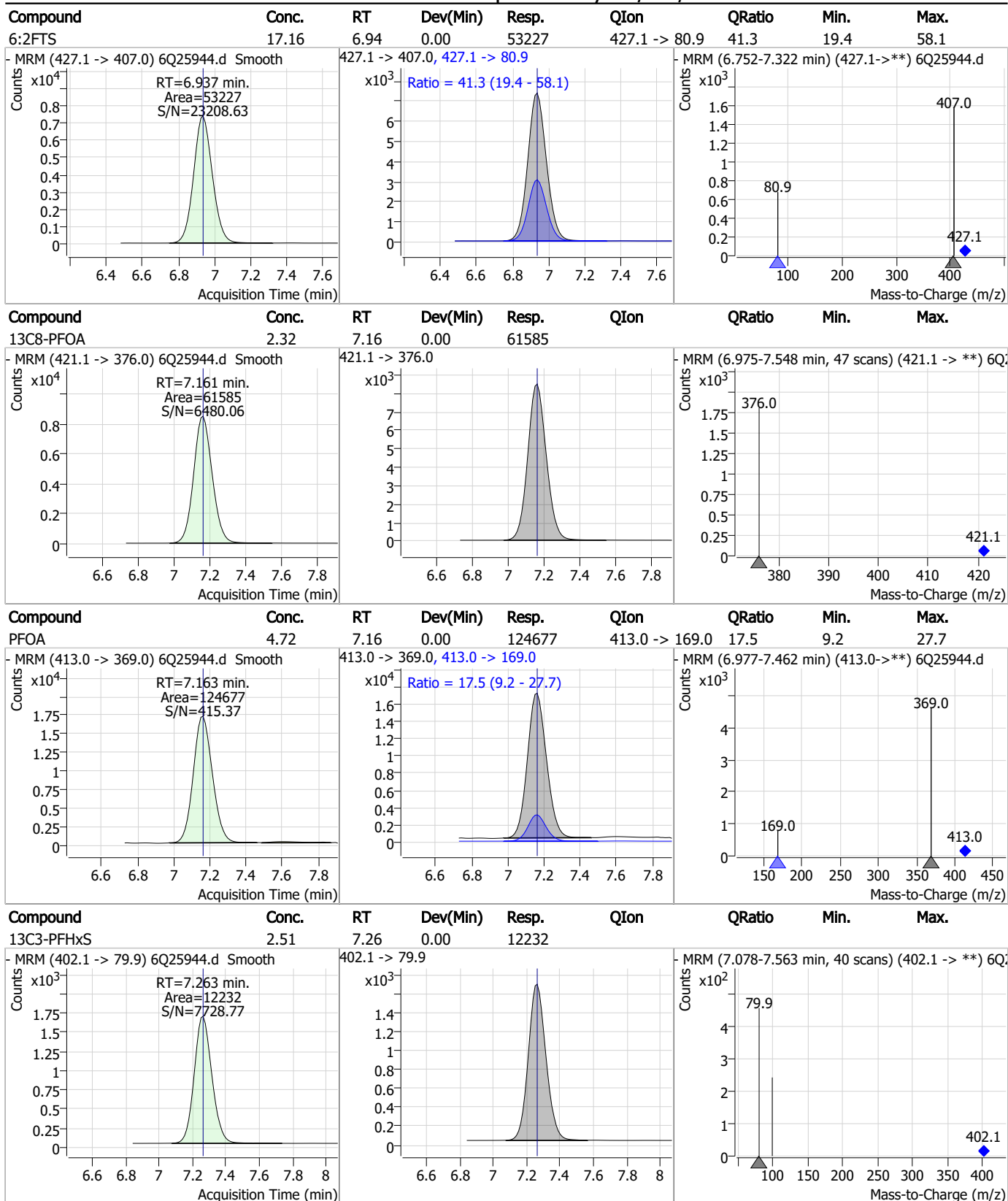


Perfluorinated Compounds by LC/MS/MS



7.7.6
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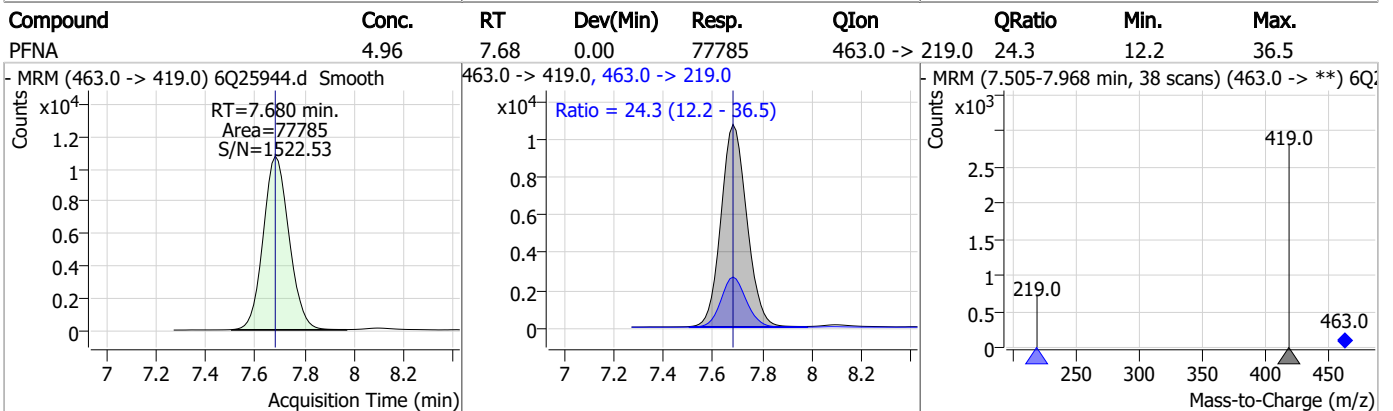
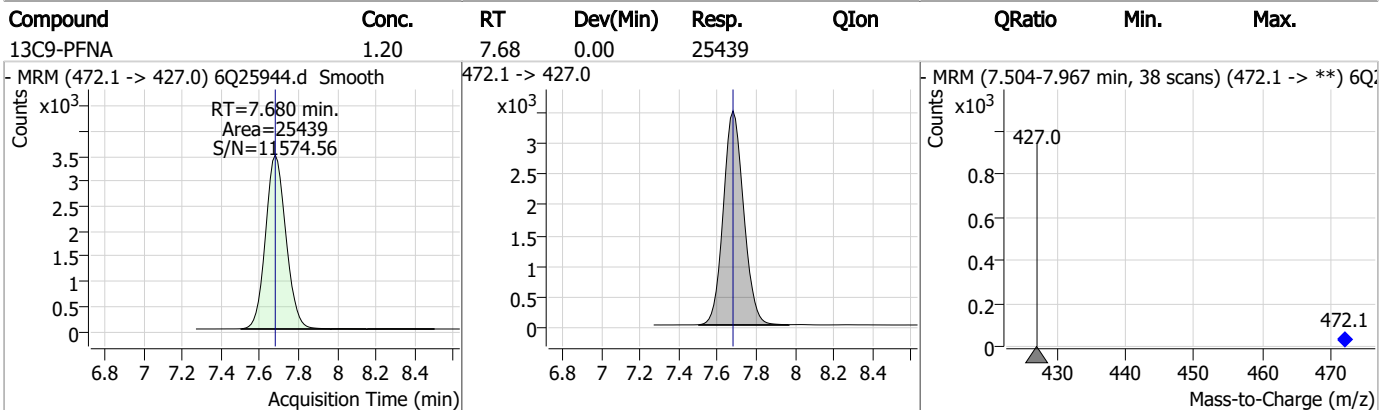
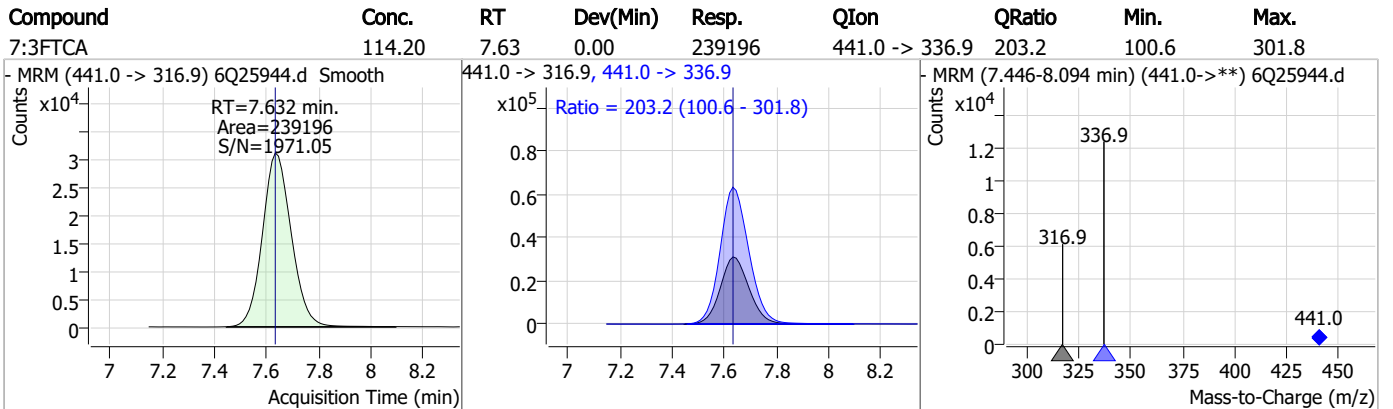
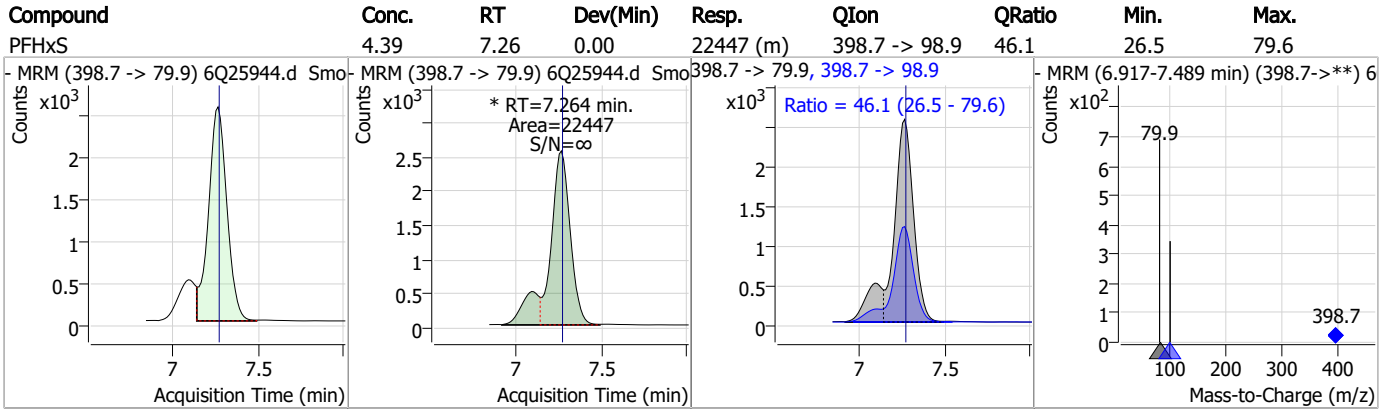
Perfluorinated Compounds by LC/MS/MS



7.7.6

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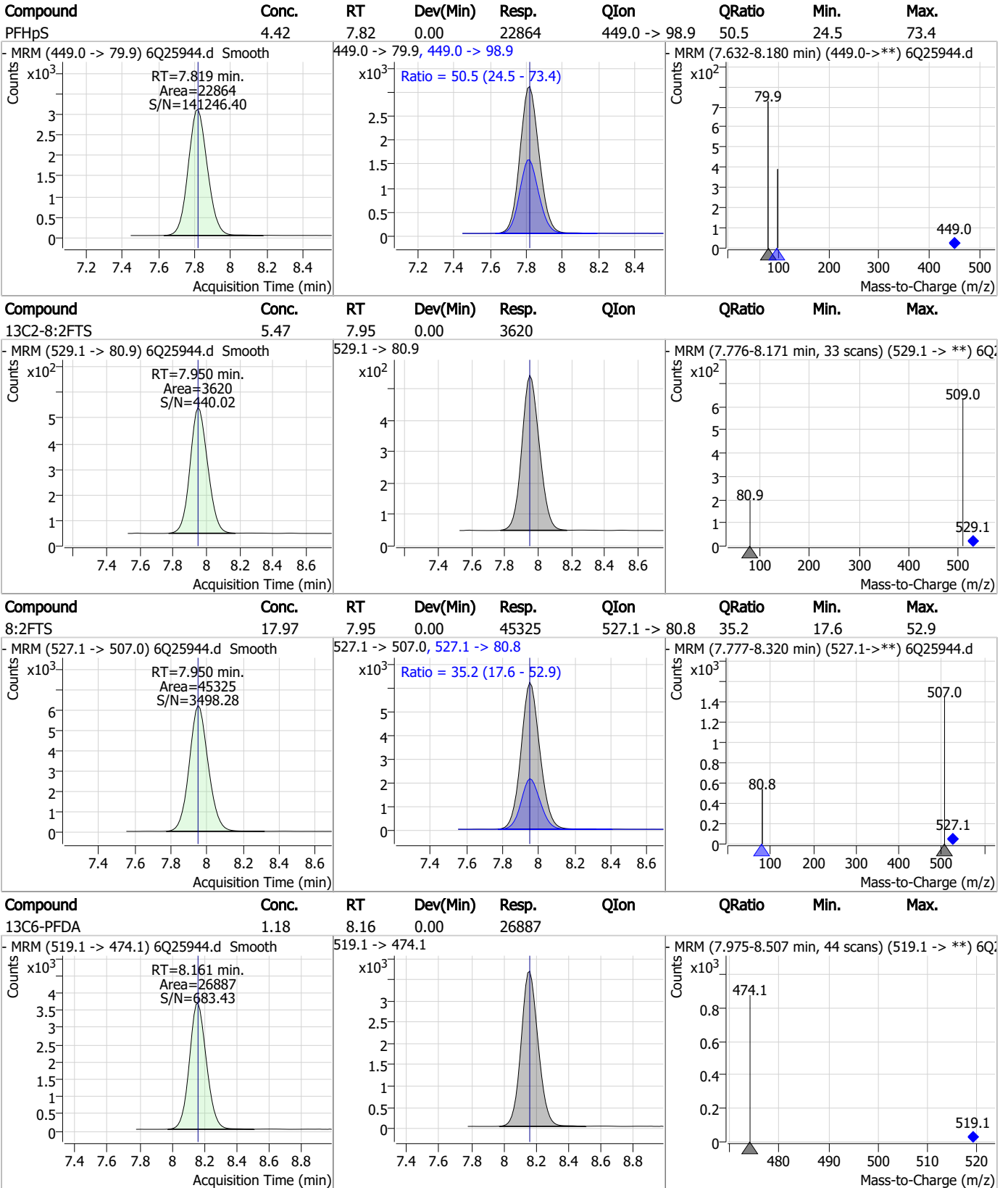
Perfluorinated Compounds by LC/MS/MS



7.7.6

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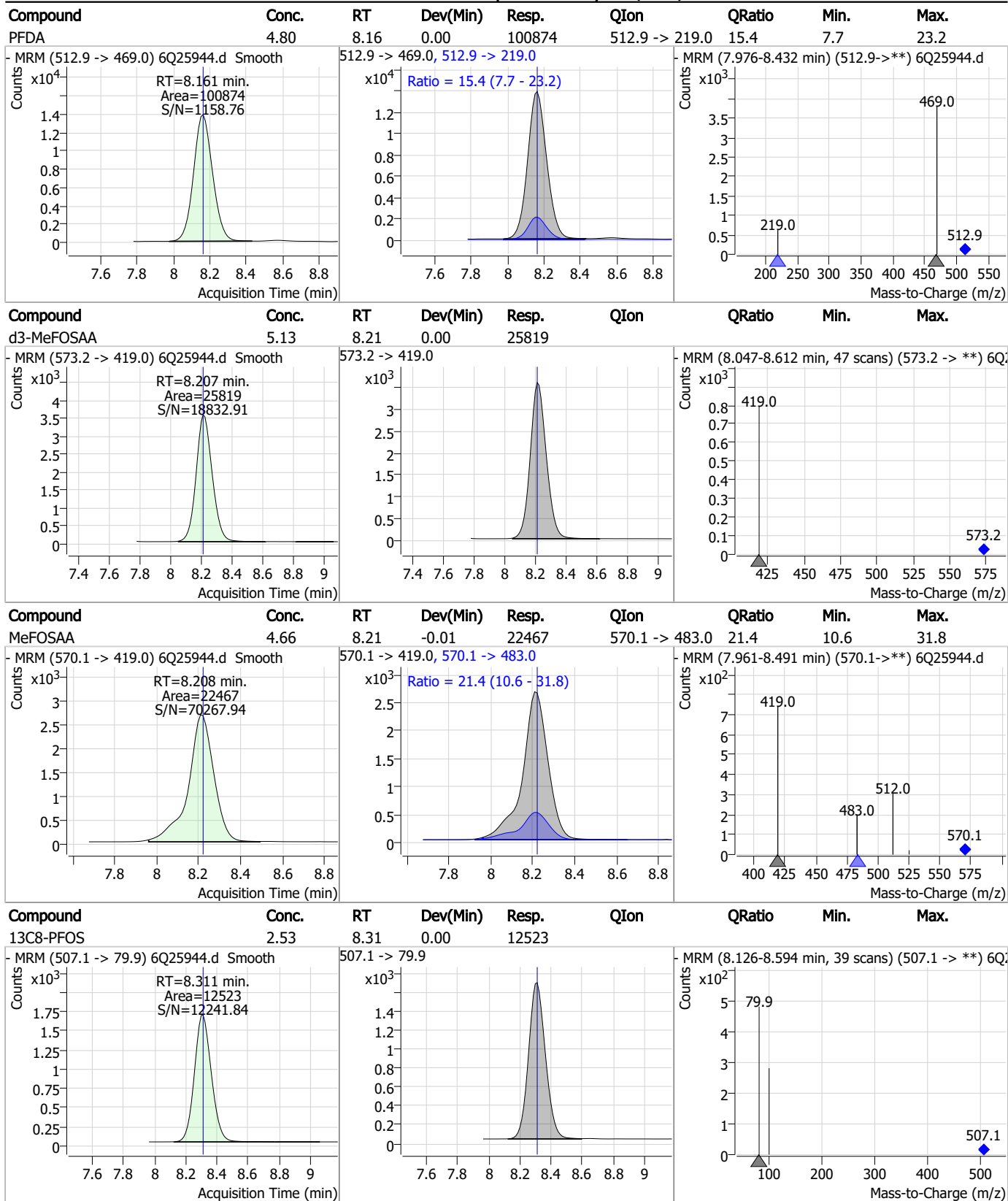
Perfluorinated Compounds by LC/MS/MS



7.7.6

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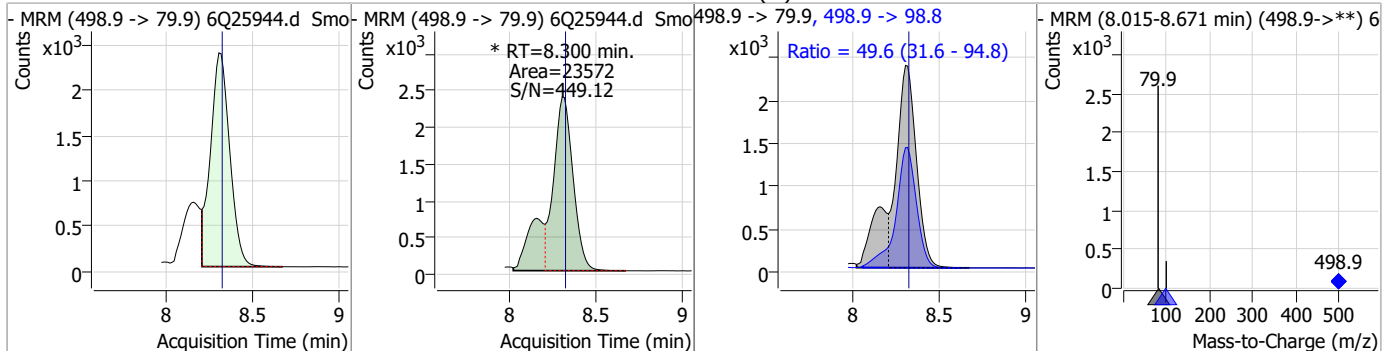
Perfluorinated Compounds by LC/MS/MS



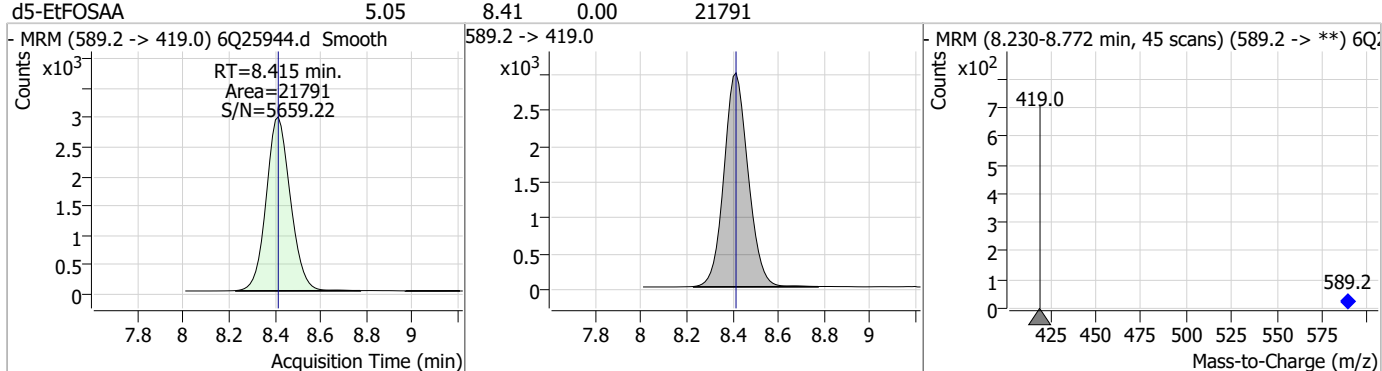
7.7.6
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Perfluorinated Compounds by LC/MS/MS

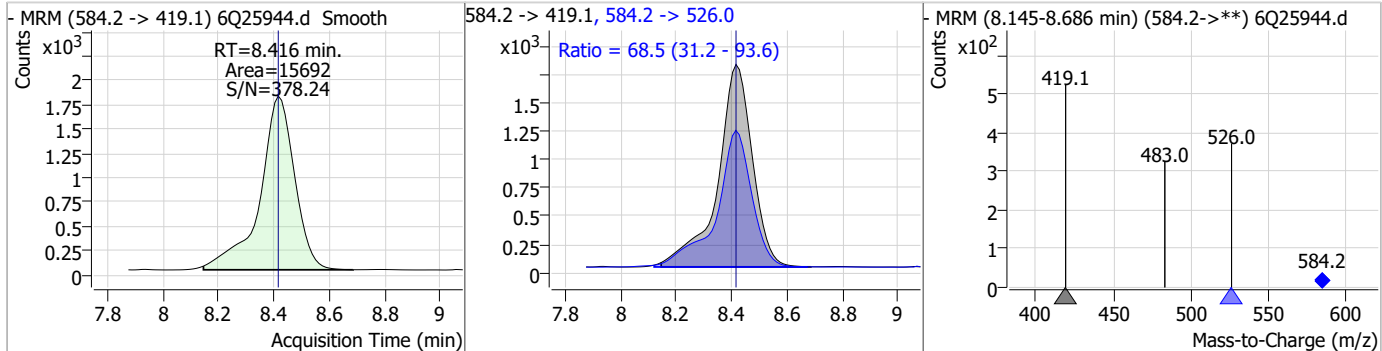
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOS	4.41	8.30	-0.01	23572 (m)	498.9 -> 98.8	49.6	31.6	94.8



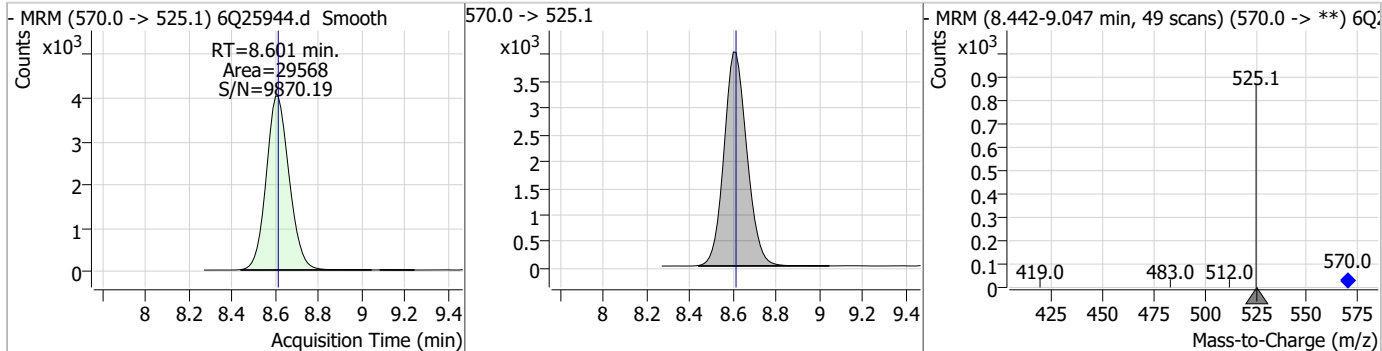
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSAA	5.05	8.41	0.00	21791				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSAA	4.43	8.42	0.00	15692	584.2 -> 526.0	68.5	31.2	93.6

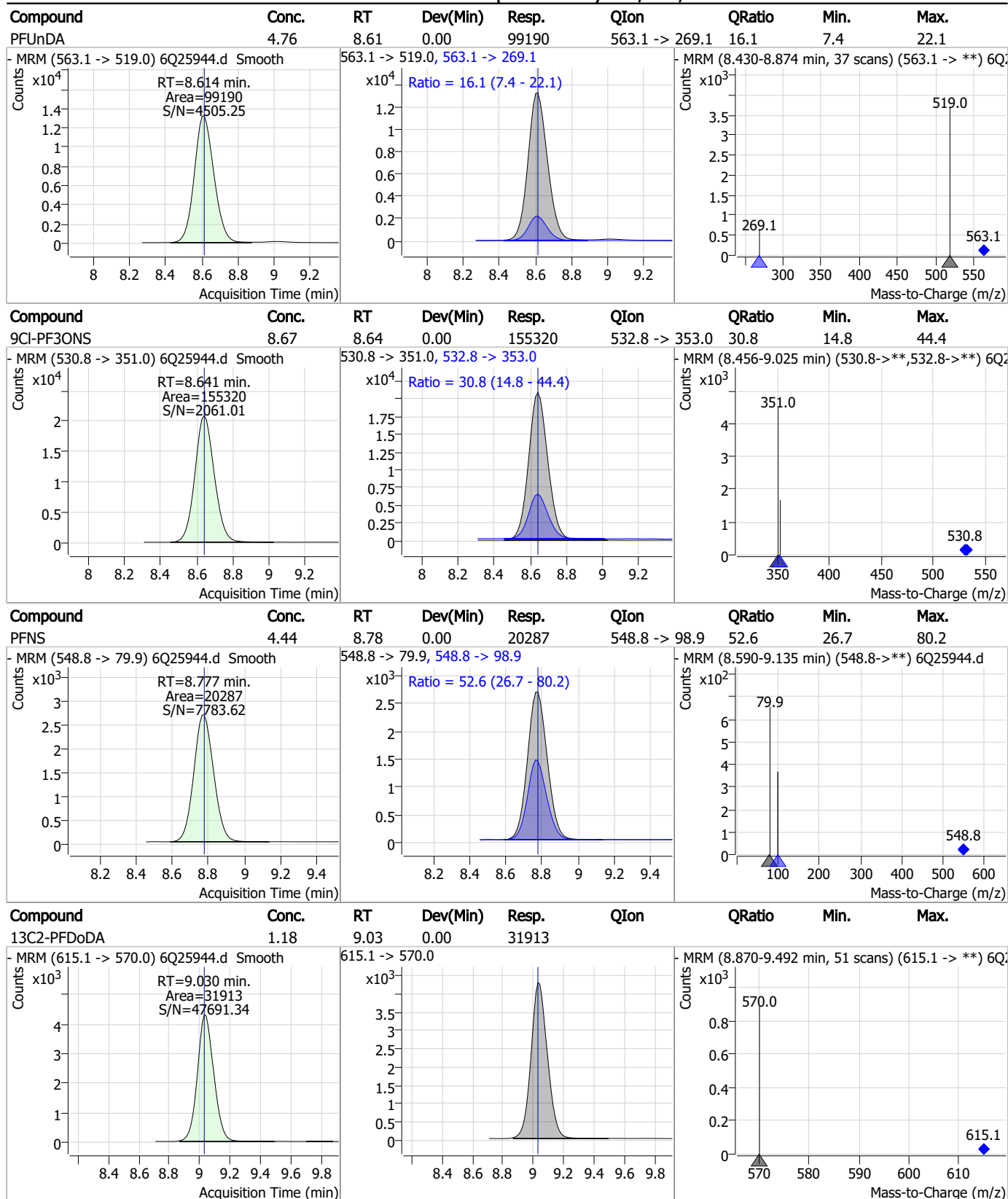


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C7-PFUnDA	1.20	8.60	-0.01	29568				



7.7.6
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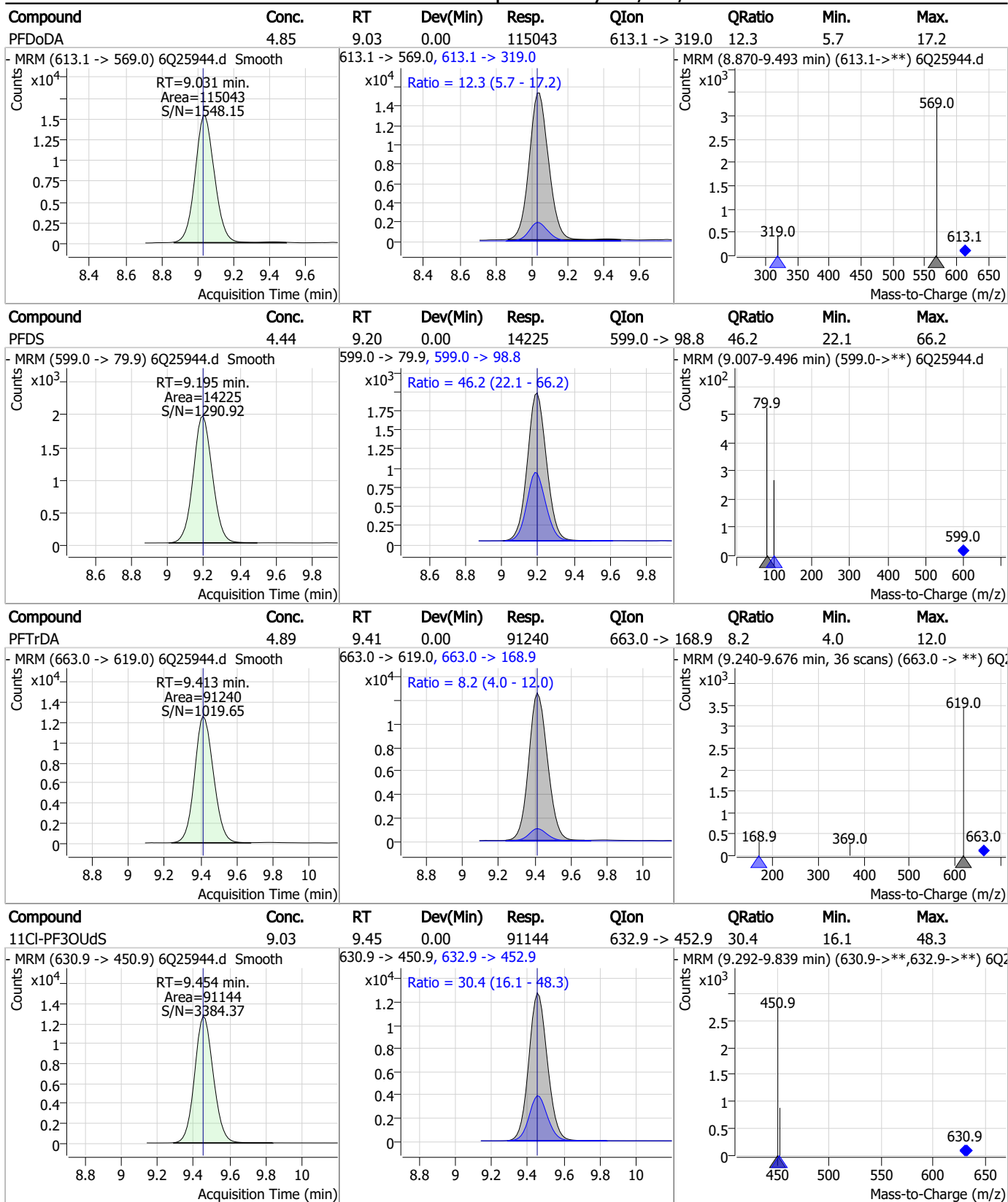
Perfluorinated Compounds by LC/MS/MS



7.7.6

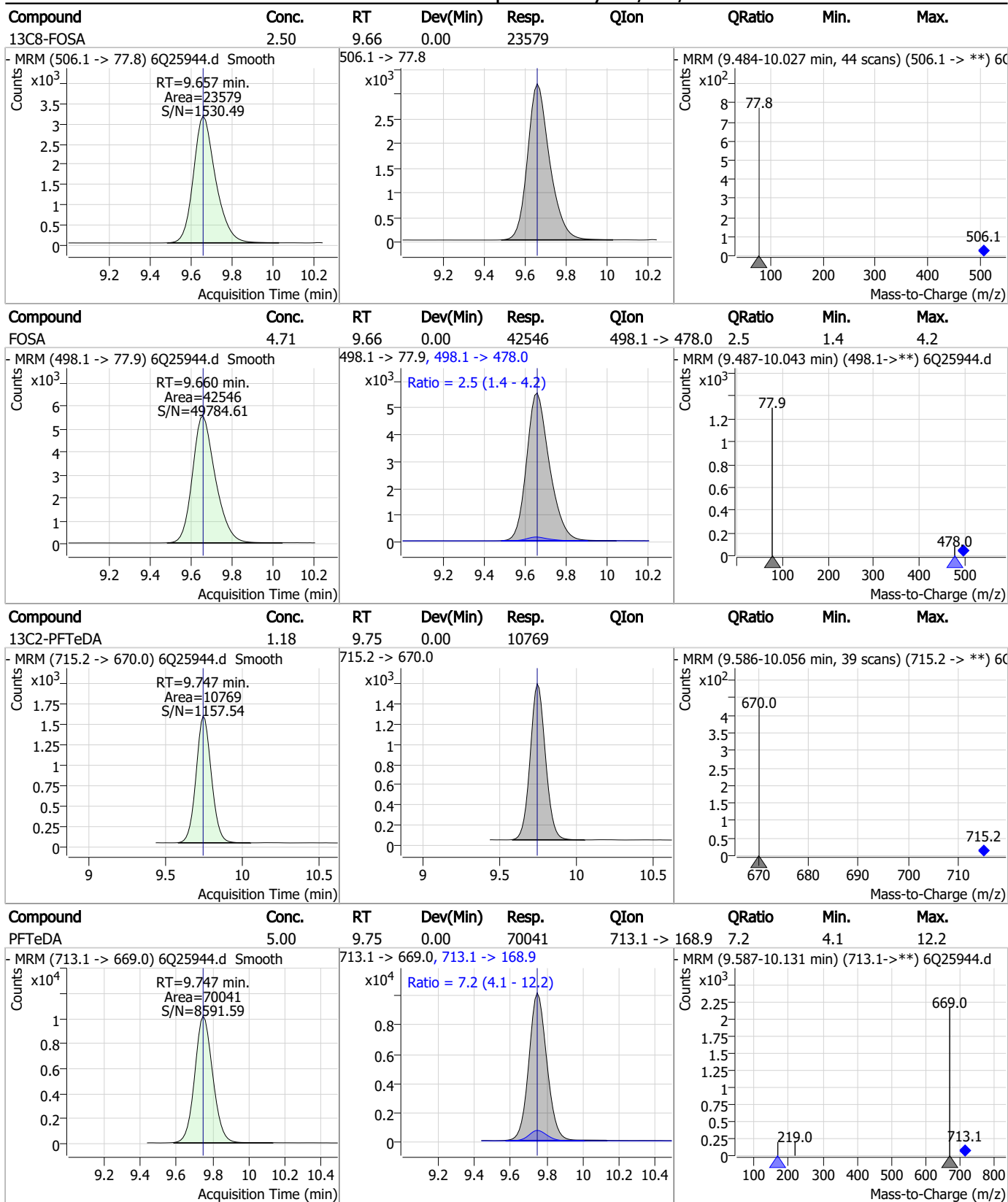
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Perfluorinated Compounds by LC/MS/MS



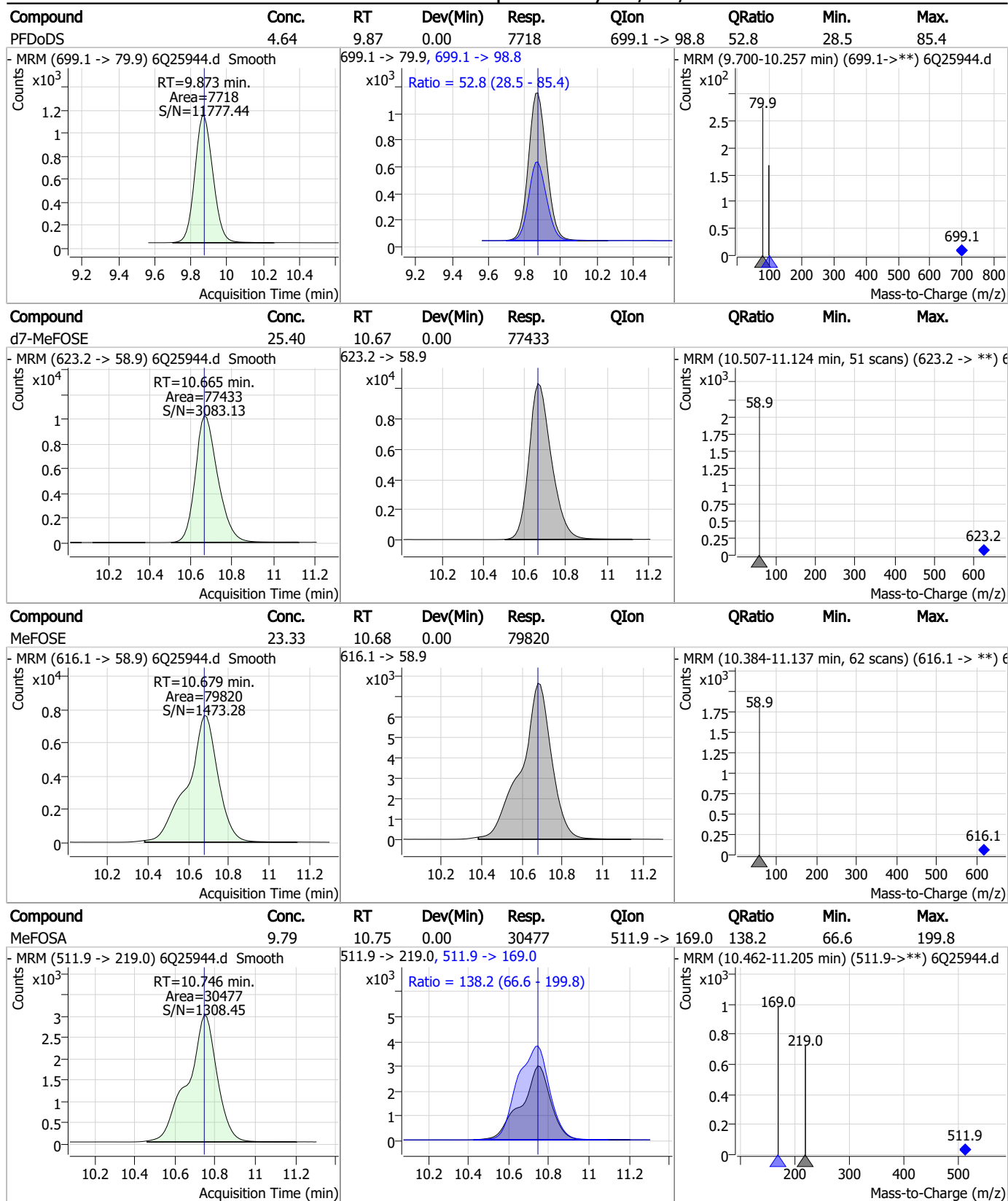
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Perfluorinated Compounds by LC/MS/MS



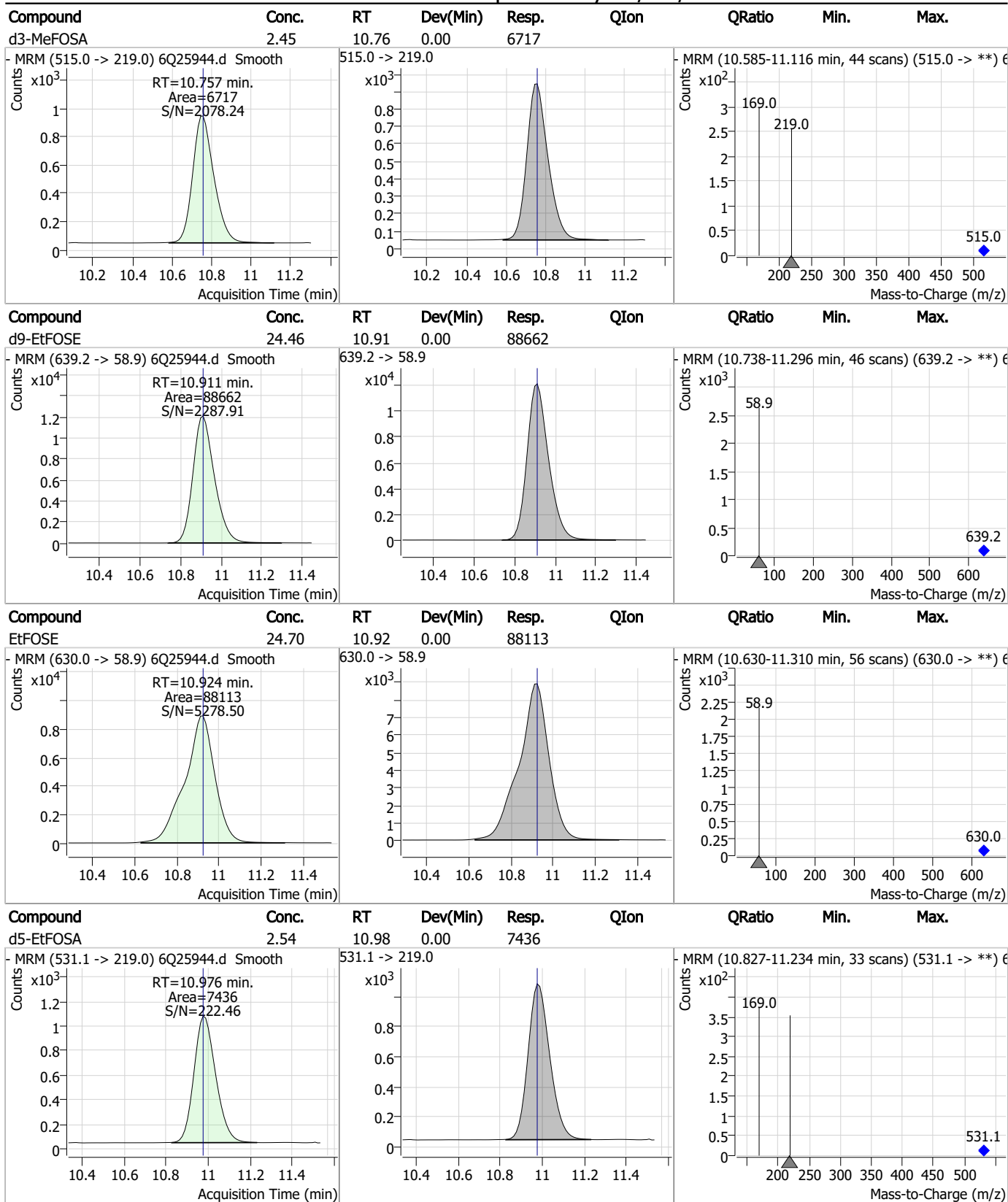
7.7.6
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Perfluorinated Compounds by LC/MS/MS



7.7.6
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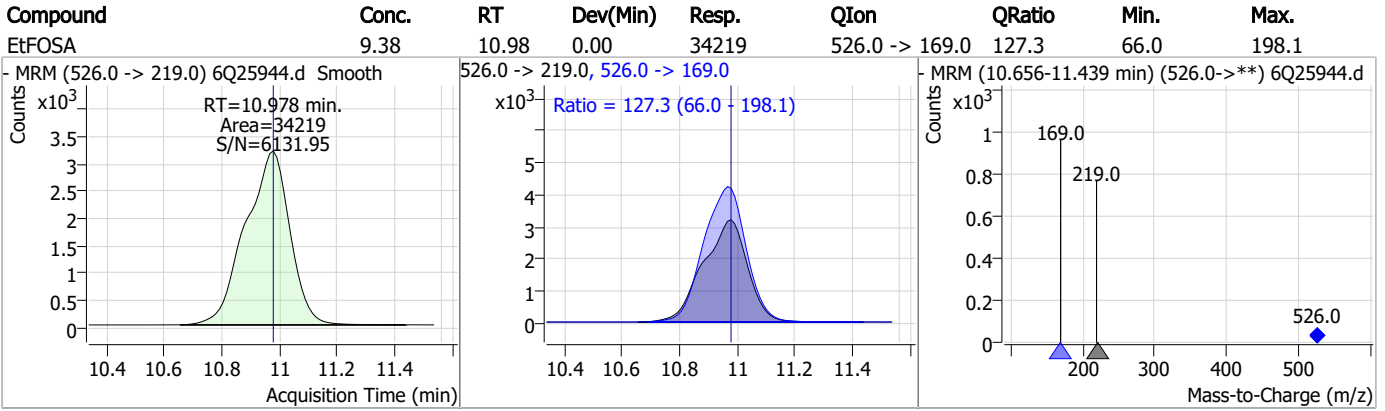
Perfluorinated Compounds by LC/MS/MS



7.7.6

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Perfluorinated Compounds by LC/MS/MS



7.7.6

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Manual Integration Approval Summary

Sample Number: S6Q367-IC367 Method: EPA DRAFT 1633
Lab FileID: 6Q25944.D Analyst approved: 10/09/23 13:30 Martha Valls
Injection Time: 10/08/23 16:00 Supervisor approved: 10/09/23 16:36 Natasha Gumtie

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		7.26	Split peak
Perfluorooctanesulfonic acid	1763-23-1		8.30	Split peak

7.7.6.1

7

Perfluorinated Compounds by LC/MS/MS

Data File : 6Q25945.d
 Operator : marthav
 Acq. Method : 1633full.m
 Acq. Date-Time : 10/8/2023 4:15:00 PM
 Sample Name : ic367-6
 Vial : P1-A7
 DA Method File : 1633_100823_S6Q367.quantmethod.xml
 Batch Name : S6Q367.batch.bin
 Sample Information : OP99308,S6Q367,500,,,,5.0,1,water

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Internal Standards					
M4-PFBA	2.947	216.8 -> 171.9	148446	10.00 µg/L	0.000
M5-PFPeA	4.372	268.3 -> 223.0	51708	5.00 µg/L	0.000
M5-PFHxA	5.592	318.0 -> 273.0	47577	2.50 µg/L	0.012
M4-PFHpA	6.519	367.1 -> 322.0	45332	2.50 µg/L	0.000
M8-PFOA	7.149	421.1 -> 376.0	63280	2.50 µg/L	-0.012
M9-PFNA	7.680	472.1 -> 427.0	26000	1.25 µg/L	0.000
M6-PFDA	8.161	519.1 -> 474.1	27322	1.25 µg/L	0.000
M7-PFUnDA	8.601	570.0 -> 525.1	28530	1.25 µg/L	-0.012
M2-PFDoDA	9.030	615.1 -> 570.0	32492	1.25 µg/L	0.000
M2-PFTeDA	9.747	715.2 -> 670.0	10596	1.25 µg/L	0.000
M8-FOSA	9.657	506.1 -> 77.8	22931	2.50 µg/L	0.000
M3-PFBS	5.510	302.1 -> 79.9	21850	2.50 µg/L	0.012
M3-PFHxS	7.263	402.1 -> 79.9	12088	2.50 µg/L	0.000
M8-PFOS	8.298	507.1 -> 79.9	12322	2.50 µg/L	-0.013
M2-4:2FTS	5.267	329.1 -> 80.9	2043	5.00 µg/L	0.012
M2-6:2FTS	6.936	429.1 -> 80.9	3268	5.00 µg/L	0.000
M2-8:2FTS	7.950	529.1 -> 80.9	2953	5.00 µg/L	0.000
M3-MeFOSAA	8.207	573.2 -> 419.0	25491	5.00 µg/L	0.000
M3-HFPO-DA	5.957	286.9 -> 168.9	33116	10.00 µg/L	0.000
M5-EtFOSAA	8.415	589.2 -> 419.0	21909	5.00 µg/L	0.000
M7-MeFOSE	10.665	623.2 -> 58.9	74623	25.00 µg/L	0.000
M9-EtFOSE	10.911	639.2 -> 58.9	88557	25.00 µg/L	0.000
M5-EtFOSA	10.976	531.1 -> 219.0	7067	2.50 µg/L	0.000
M3-MeFOSA	10.744	515.0 -> 219.0	6827	2.50 µg/L	-0.012
13C4-PFOS	8.299	502.8 -> 79.9	11207	2.50 µg/L	-0.013
13C3-PFBA	2.952	216.0 -> 172.0	61297	5.00 µg/L	0.000
18O2-PFHxS	7.263	403.0 -> 83.9	7639	2.50 µg/L	0.000
13C4-PFOA	7.150	417.1 -> 372.0	70126	2.50 µg/L	-0.012
13C2-PFDA	8.149	515.1 -> 470.1	24153	1.25 µg/L	-0.012
13C5-PFNA	7.680	468.0 -> 423.0	25952	1.25 µg/L	0.000
13C2-PFHxA	5.593	315.1 -> 270.0	44504	2.50 µg/L	0.012
System Monitoring Compounds					
13C2-4:2FTS	5.267	329.1 -> 80.9	2043	4.75 µg/L	0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 94.9%		
13C2-6:2FTS	6.936	429.1 -> 80.9	3268	5.10 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 102.1%		
13C2-8:2FTS	7.950	529.1 -> 80.9	2953	4.48 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 89.6%		
13C2-PFDoDA	9.030	615.1 -> 570.0	32492	1.35 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 108.0%		
13C2-PFTeDA	9.747	715.2 -> 670.0	10596	1.30 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 103.8%		
13C3-PFBS	5.510	302.1 -> 79.9	21850	2.52 µg/L	0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 101.0%		
13C3-PFHxS	7.263	402.1 -> 79.9	12088	2.49 µg/L	0.000

Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 99.6%	
13C4-PFBA	2.947	216.8 -> 171.9	148446	10.03 µg/L	0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 100.3%	
13C4-PFHpA	6.519	367.1 -> 322.0	45332	2.52 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 100.7%	
13C5-PFHxA	5.592	318.0 -> 273.0	47577	2.59 µg/L	0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 103.4%	
13C5-PFPeA	4.372	268.3 -> 223.0	51708	5.13 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 102.7%	
13C6-PFDA	8.161	519.1 -> 474.1	27322	1.34 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 107.5%	
13C7-PFUnDA	8.601	570.0 -> 525.1	28530	1.30 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 103.8%	
13C8-FOSA	9.657	506.1 -> 77.8	22931	2.48 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 99.2%	
13C8-PFOA	7.149	421.1 -> 376.0	63280	2.60 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 104.1%	
13C8-PFOS	8.298	507.1 -> 79.9	12322	2.55 µg/L	-0.013
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 101.8%	
13C9-PFNA	7.680	472.1 -> 427.0	26000	1.22 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 97.4%	
d3-MeFOSAA	8.207	573.2 -> 419.0	25491	5.17 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 103.4%	
13C3-HFPO-DA	5.957	286.9 -> 168.9	33116	10.67 µg/L	0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 106.7%	
d3-MeFOSA	10.744	515.0 -> 219.0	6827	2.55 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 101.8%	
d5-EtFOSAA	8.415	589.2 -> 419.0	21909	5.19 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 103.7%	
d7-MeFOSE	10.665	623.2 -> 58.9	74623	25.00 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 100.0%	
d9-EtFOSE	10.911	639.2 -> 58.9	88557	24.96 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 99.8%	
d5-EtFOSA	10.976	531.1 -> 219.0	7067	2.46 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 98.6%	
Target Compounds					QValue
4:2FTS	5.255	327.1 -> 307.0	166464	49.13 µg/L	99
		327.1 -> 80.9	65408		
6:2FTS	6.937	427.1 -> 407.0	135880	45.74 µg/L	98
		427.1 -> 80.9	54334		
8:2FTS	7.950	527.1 -> 507.0	106200	51.63 µg/L	91
		527.1 -> 80.8	42895		
EtFOSAA	8.416	584.2 -> 419.1	44023	12.37 µg/L	m 98
		584.2 -> 526.0	26687		
FOSA	9.660	498.1 -> 77.9	109582	12.48 µg/L	99
		498.1 -> 478.0	3286		
MeFOSAA	8.208	570.1 -> 419.0	59456	12.49 µg/L	99
		570.1 -> 483.0	12816		
PFBA	2.943	212.8 -> 168.9	283359	51.24 µg/L	100
PFBS	5.511	298.7 -> 79.9	73816	11.27 µg/L	99
		298.7 -> 98.8	26891		
PFDA	8.149	512.9 -> 469.0	270317	12.66 µg/L	100
		512.9 -> 219.0	42053		
PFDoDA	9.031	613.1 -> 569.0	314985	13.04 µg/L	99
		613.1 -> 319.0	37176		
PFDS	9.183	599.0 -> 79.9	39168	12.43 µg/L	99

Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
		599.0 -> 98.8	17436			
PFHpA	6.520	363.1 -> 319.0	327498	13.31	µg/L	100
		363.1 -> 169.0	47301			
PFHpS	7.807	449.0 -> 79.9	62077	12.20	µg/L	94
		449.0 -> 98.9	27930			
PFHxA	5.594	313.0 -> 269.0	221936	13.05	µg/L	99
		313.0 -> 118.9	10375			
PFHxS	7.252	398.7 -> 79.9	58009	11.48	µg/L	m 91
		398.7 -> 98.9	27044			
PFNA	7.680	463.0 -> 419.0	211890	13.22	µg/L	96
		463.0 -> 219.0	47583			
PFNS	8.765	548.8 -> 79.9	52771	11.74	µg/L	97
		548.8 -> 98.9	27121			
PFOA	7.150	413.0 -> 369.0	329113	12.12	µg/L	98
		413.0 -> 169.0	57778			
PFOS	8.300	498.9 -> 79.9	60408	11.48	µg/L	m 86
		498.9 -> 98.8	31414			
PFPeA	4.374	263.0 -> 219.0	288235	25.84	µg/L	100
PFPeS	6.571	349.1 -> 79.9	79899	12.24	µg/L	99
		349.1 -> 98.9	35537			
PFTeDA	9.747	713.1 -> 669.0	179644	13.03	µg/L	98
		713.1 -> 168.9	13419			
PFTrDA	9.413	663.0 -> 619.0	240071	12.64	µg/L	99
		663.0 -> 168.9	19738			
PFUnDA	8.602	563.1 -> 519.0	256592	12.76	µg/L	97
		563.1 -> 269.1	41404			
11CI-PF3OUdS	9.454	630.9 -> 450.9	246308	25.07	µg/L	93
		632.9 -> 452.9	69064			
9CI-PF3ONS	8.641	530.8 -> 351.0	426916	24.49	µg/L	98
		532.8 -> 353.0	121199			
ADONA	6.767	376.9 -> 250.9	1110596	24.42	µg/L	97
		376.9 -> 84.8	286448			
HFPO-DA	5.958	284.9 -> 168.9	80855	24.64	µg/L	98
		284.9 -> 184.9	9282			
3:3FTCA	3.808	241.0 -> 177.0	49715	62.41	µg/L	100
		241.0 -> 117.0	6661			
5:3FTCA	6.233	341.0 -> 237.1	1026946	322.08	µg/L	98
		341.0 -> 217.0	753151			
7:3FTCA	7.632	441.0 -> 316.9	629740	323.35	µg/L	99
		441.0 -> 336.9	1257362			
EtFOSA	10.978	526.0 -> 219.0	88920	25.63	µg/L	98
		526.0 -> 169.0	119610			
EtFOSE	10.912	630.0 -> 58.9	220896	61.99	µg/L	100
MeFOSA	10.746	511.9 -> 219.0	80294	25.37	µg/L	96
		511.9 -> 169.0	110351			
MeFOSE	10.679	616.1 -> 58.9	211349	64.09	µg/L	100
PFDoDS	9.873	699.1 -> 79.9	20501	12.53	µg/L	96
		699.1 -> 98.8	11075			
NFDHA	5.475	295.0 -> 201.0	54518	25.51	µg/L	99
		295.0 -> 84.9	15320			
PFMBA	4.800	279.0 -> 85.1	218859	25.75	µg/L	100
PFMPA	3.513	229.0 -> 84.9	181241	25.83	µg/L	100
PFEESA	6.050	314.8 -> 134.9	504743	23.07	µg/L	100
		314.8 -> 82.9	17809			

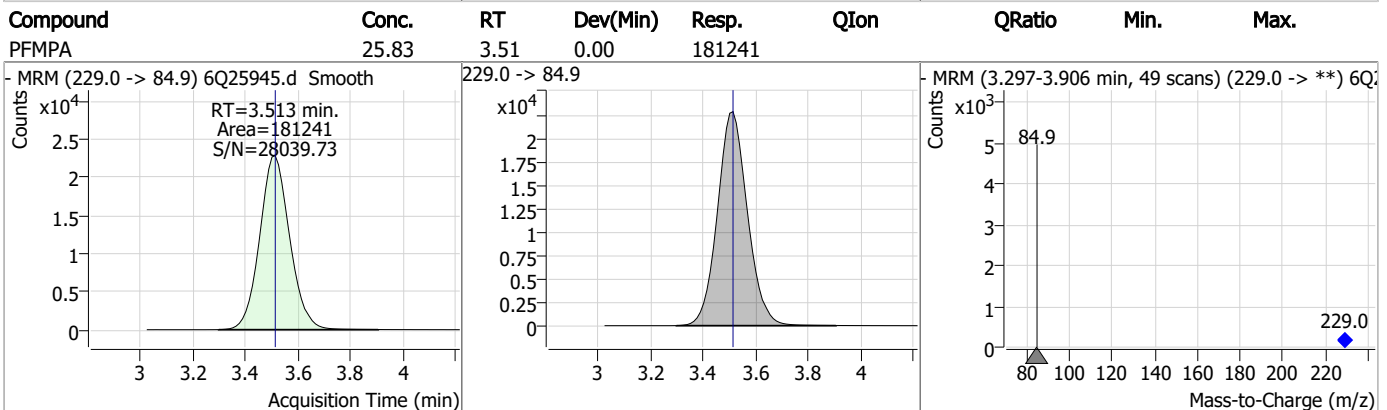
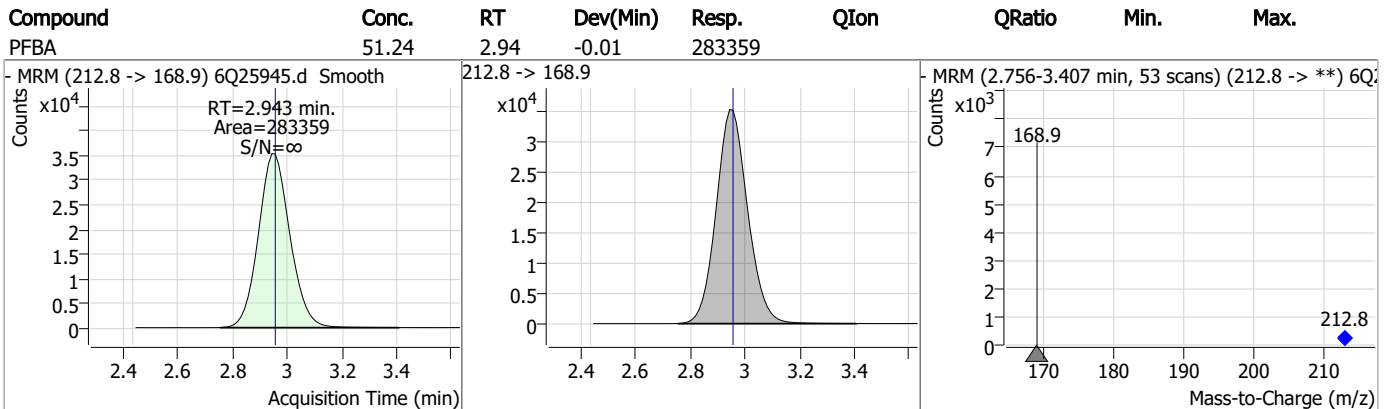
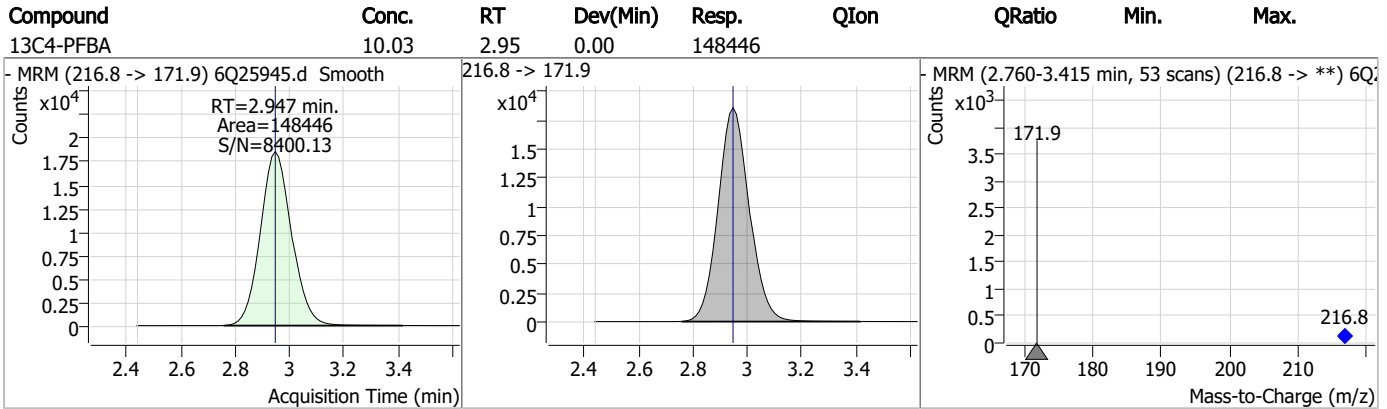
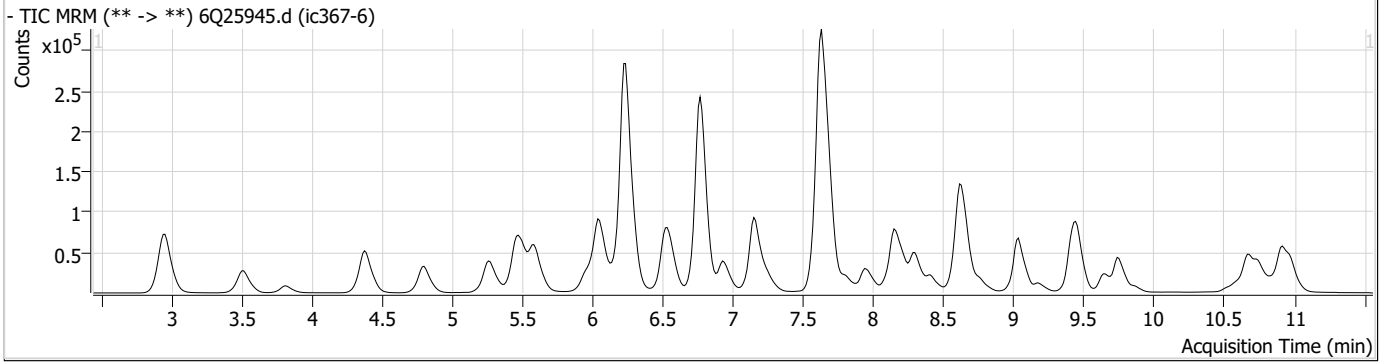
= Qualifier out of range, m = manually integrated, + = Area summed

Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
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7.7.7
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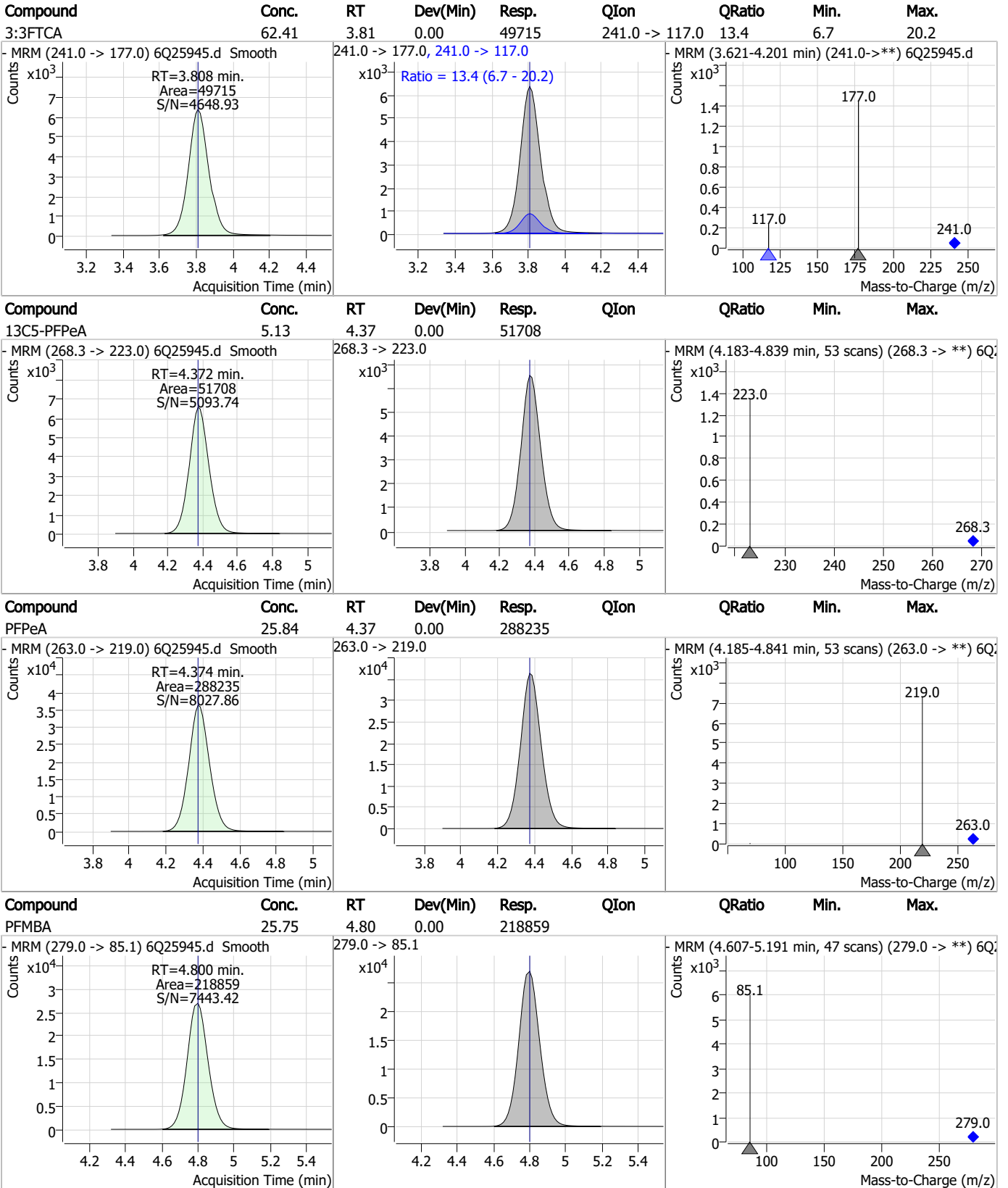
Perfluorinated Compounds by LC/MS/MS



7.7.7

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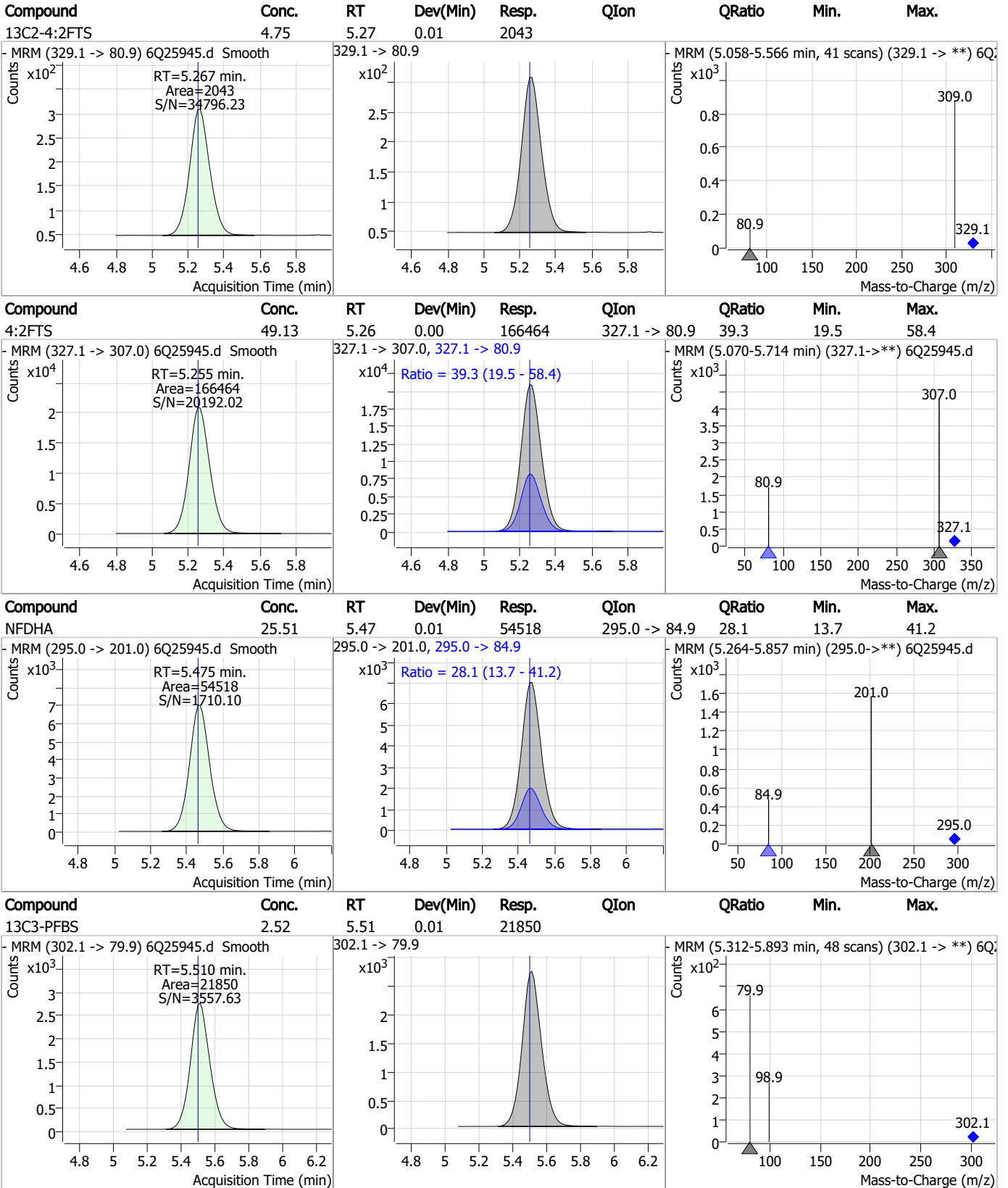
Perfluorinated Compounds by LC/MS/MS



7.7.7

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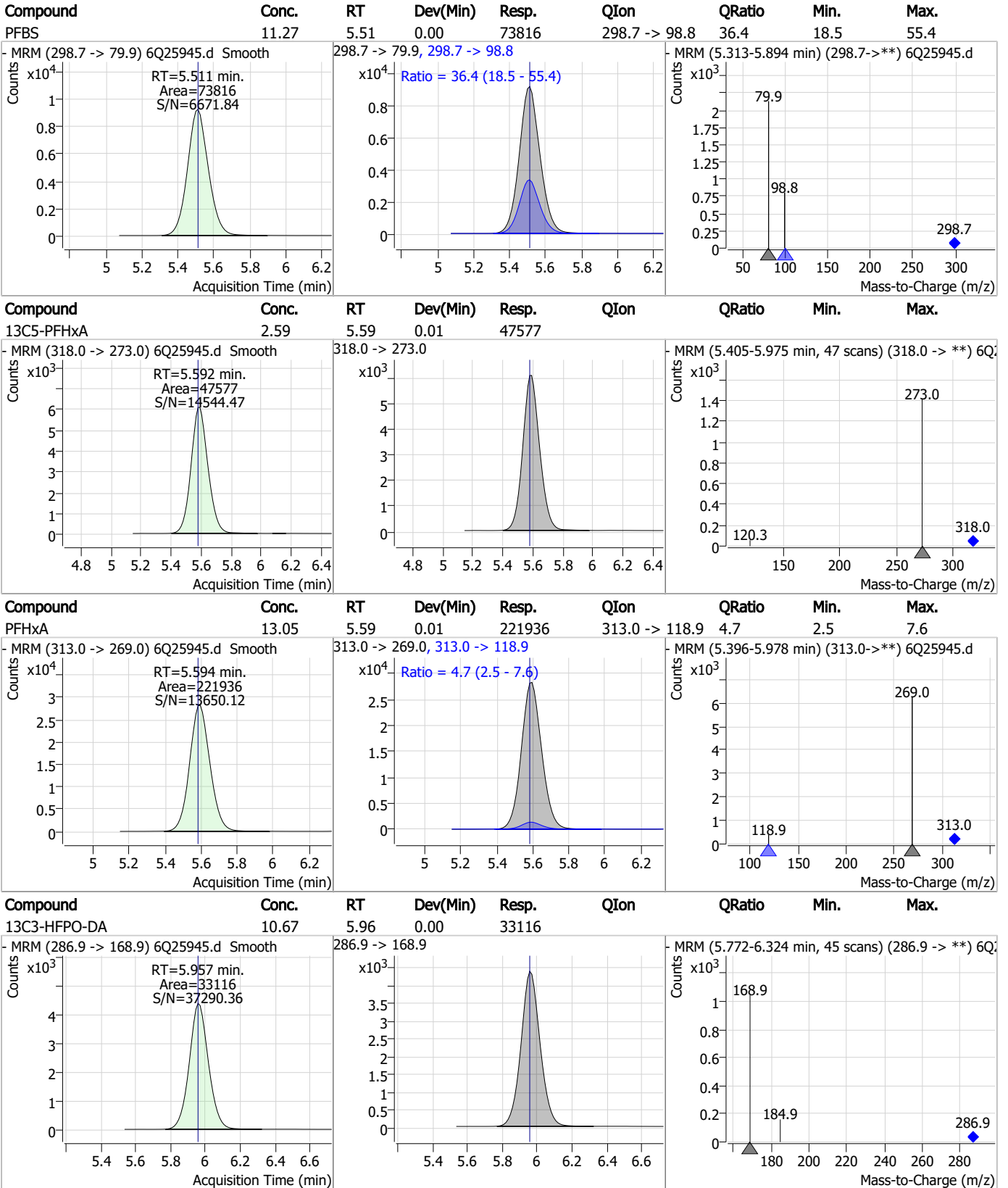
Perfluorinated Compounds by LC/MS/MS



7.7.7

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Perfluorinated Compounds by LC/MS/MS

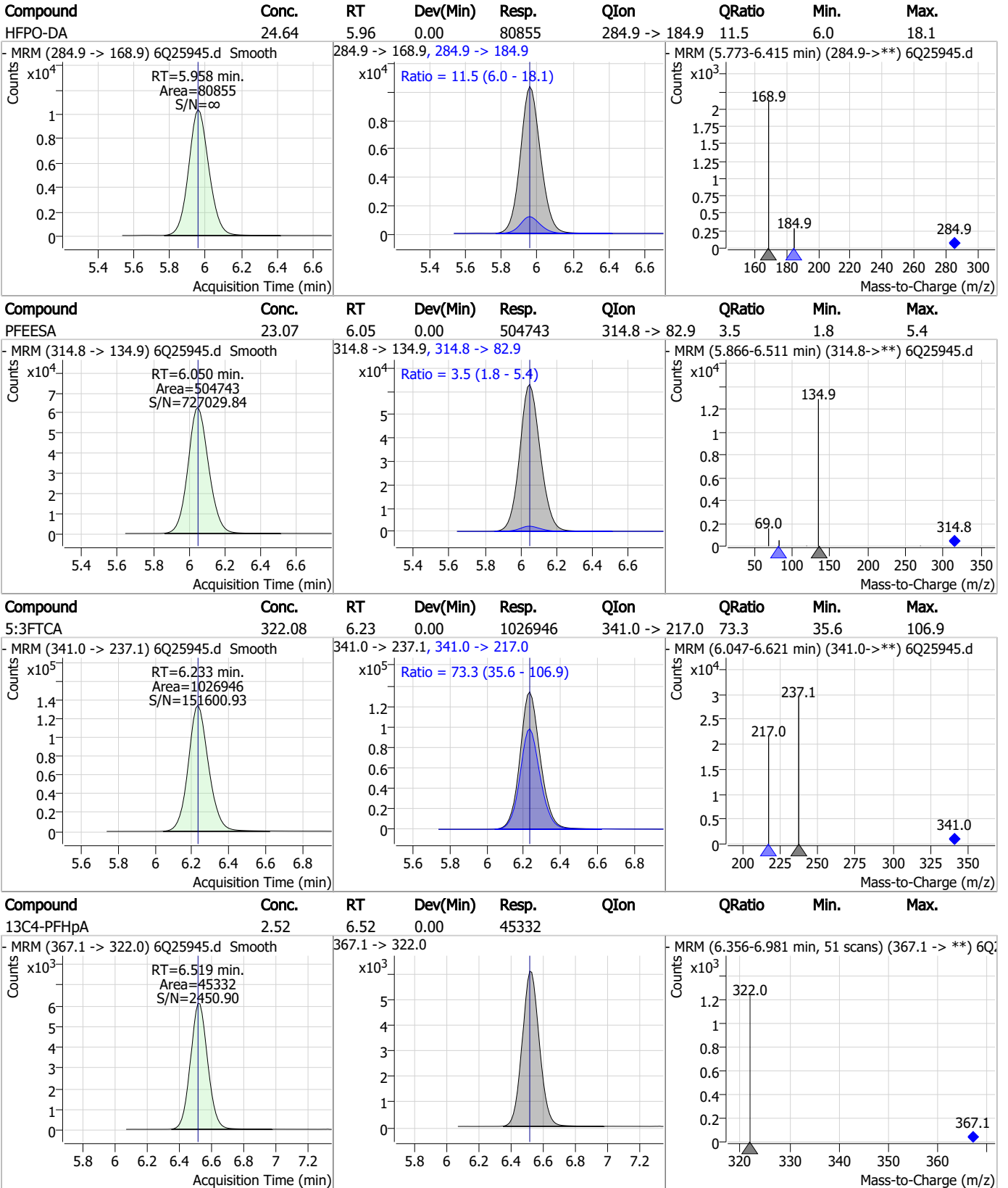


7.7.7

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Perfluorinated Compounds by LC/MS/MS

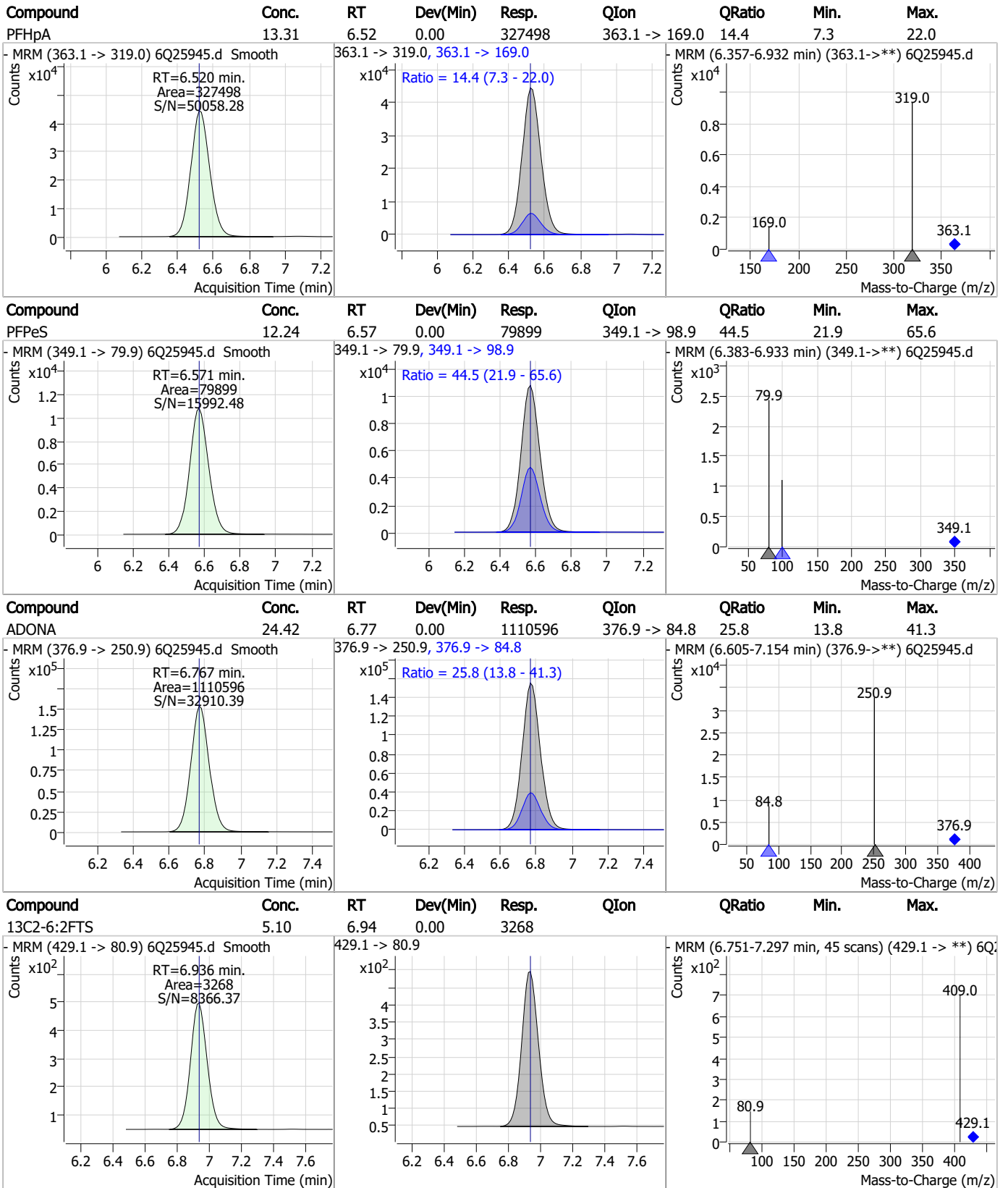


7.7.7

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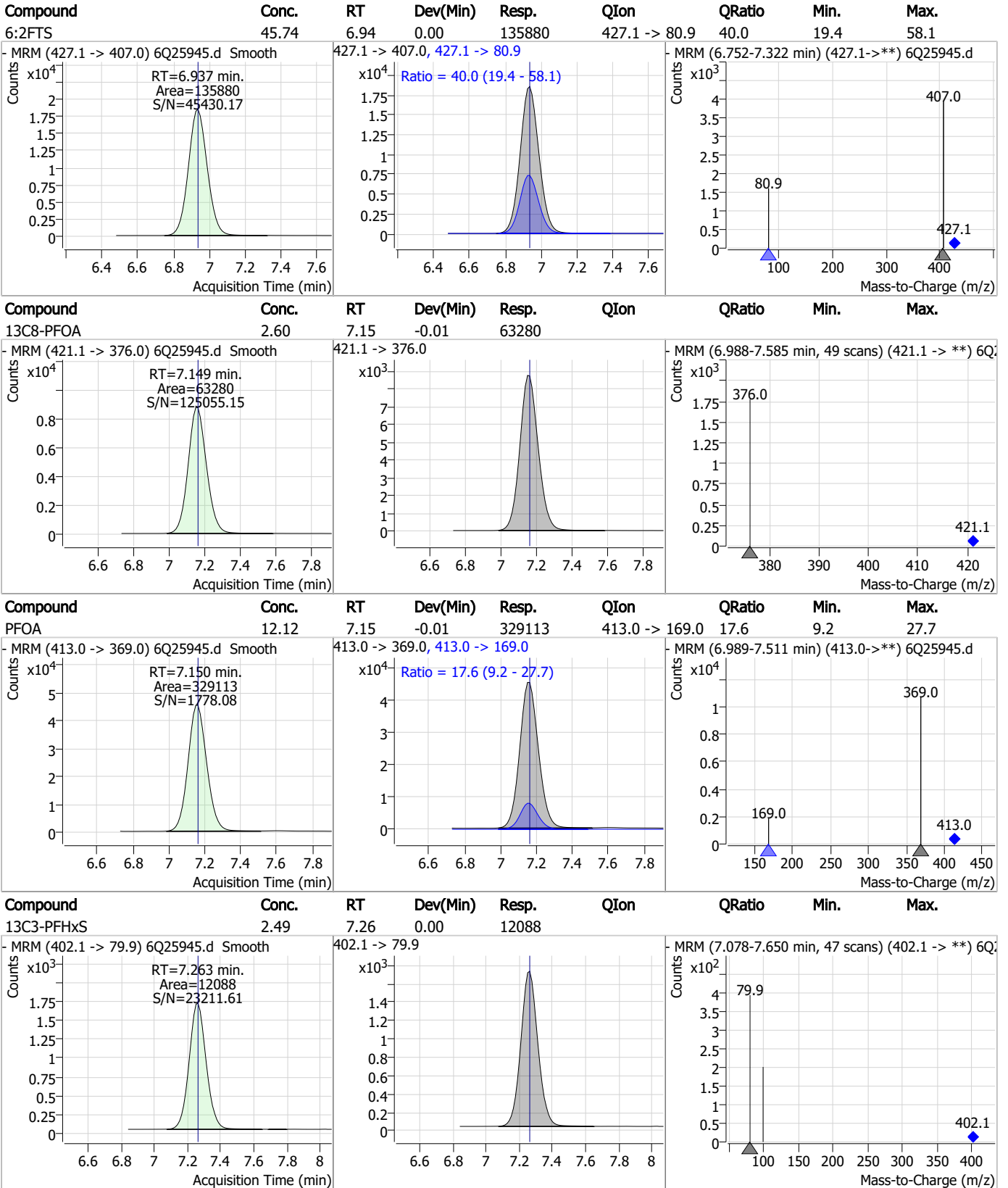
Perfluorinated Compounds by LC/MS/MS



7.7.7
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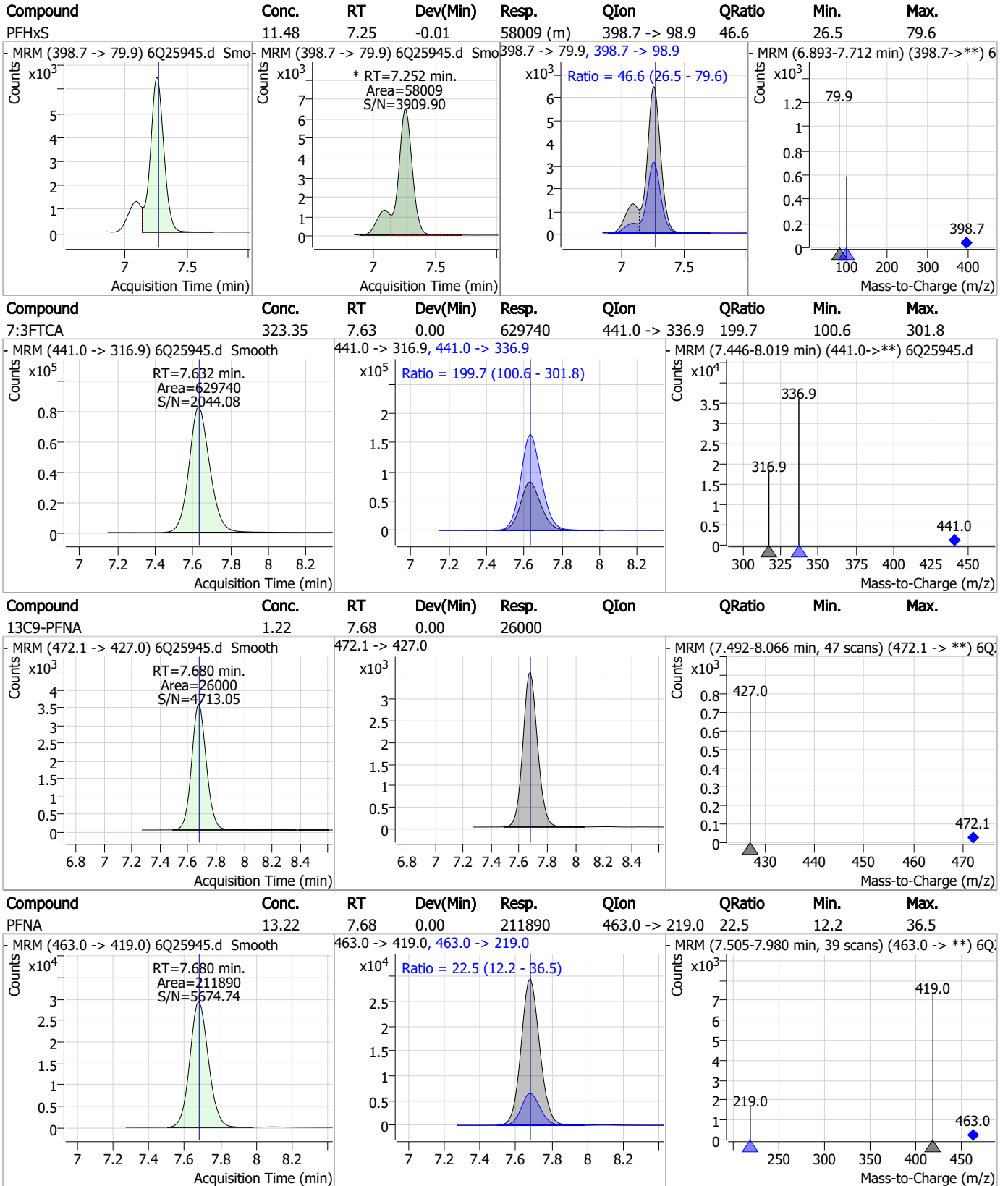
Perfluorinated Compounds by LC/MS/MS



7.7.7

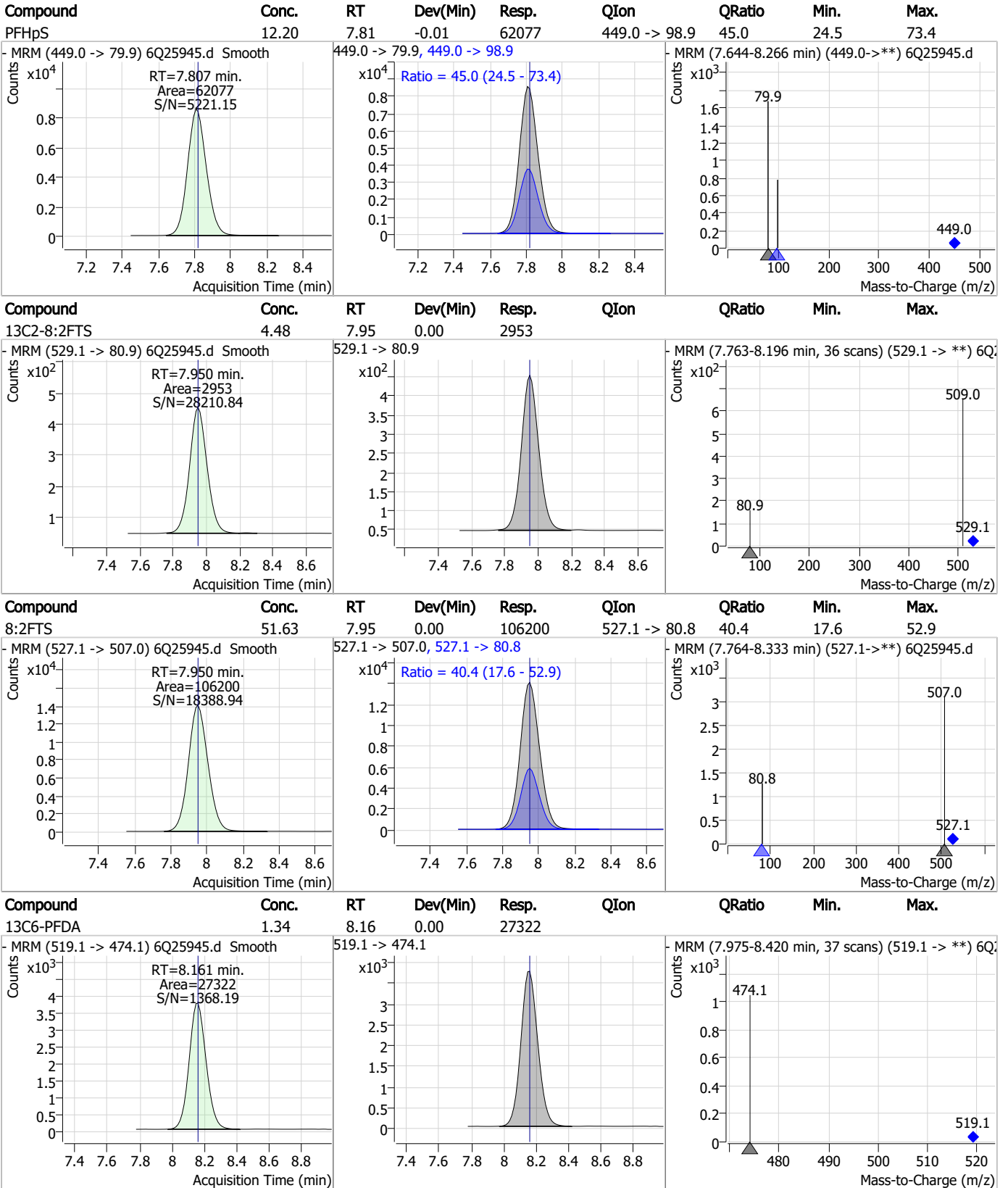
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Perfluorinated Compounds by LC/MS/MS



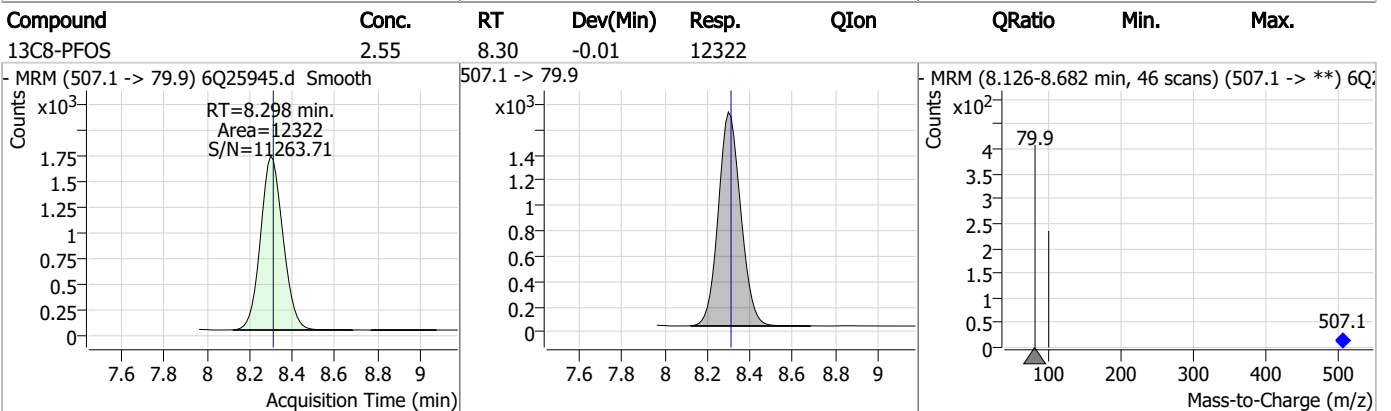
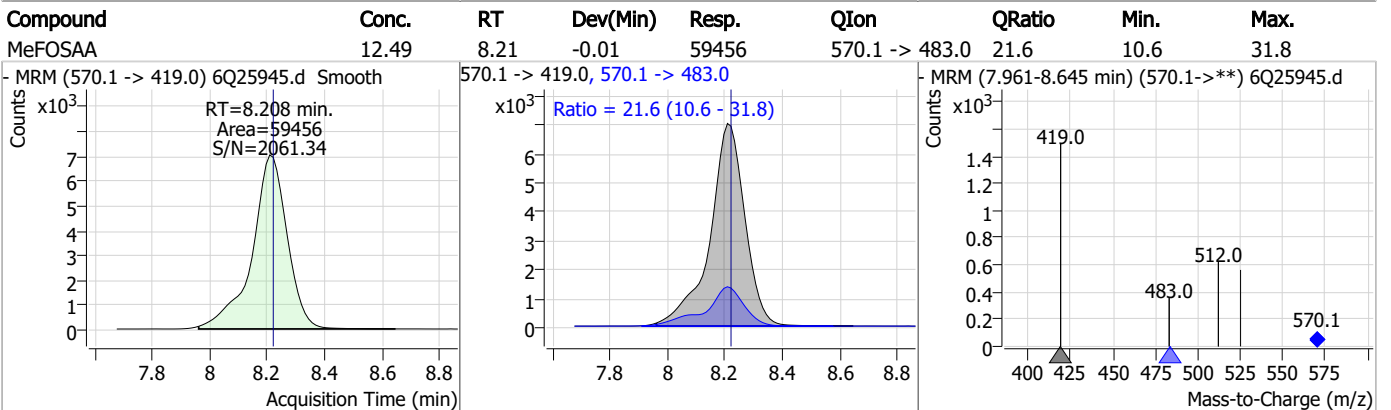
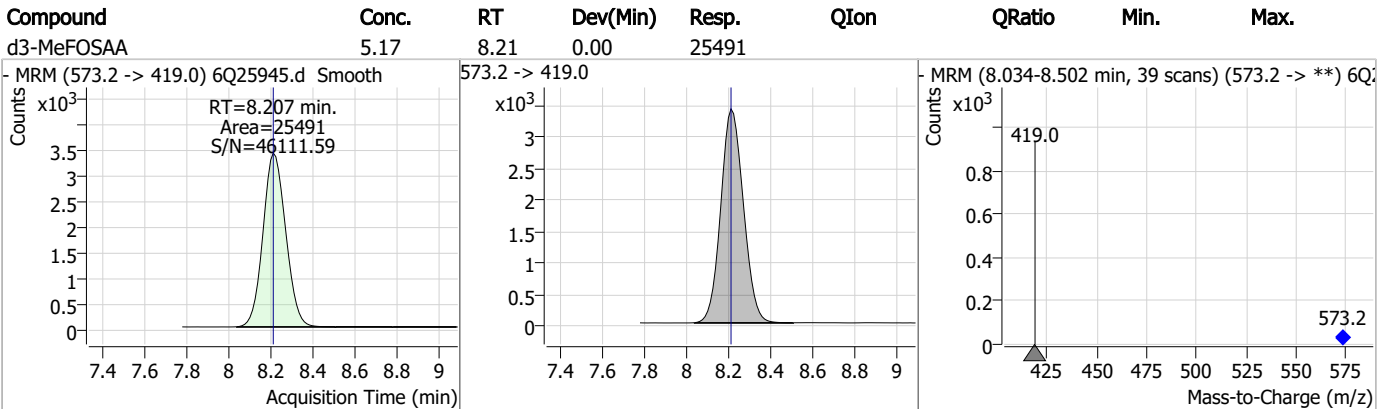
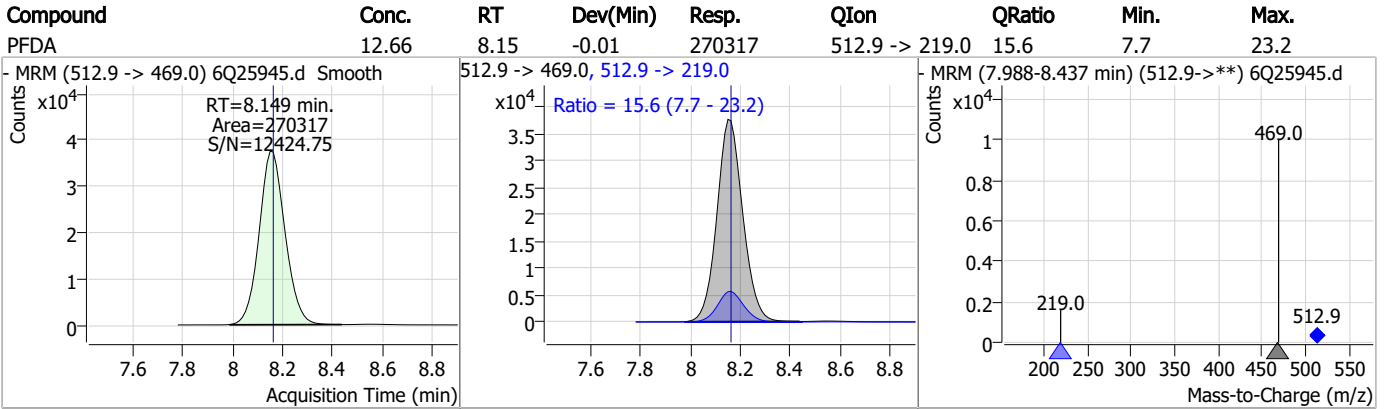
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Perfluorinated Compounds by LC/MS/MS

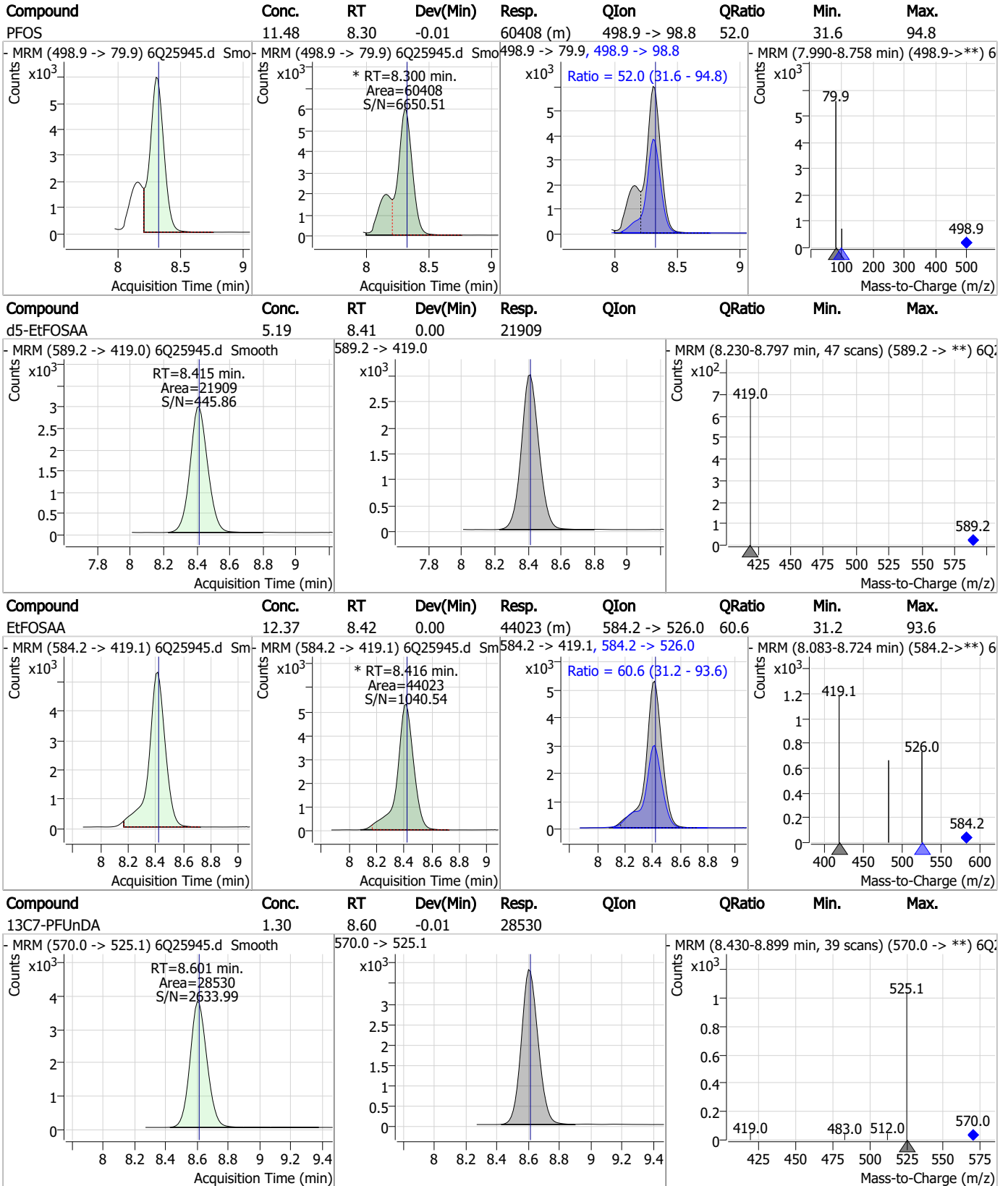


7.7.7
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Perfluorinated Compounds by LC/MS/MS



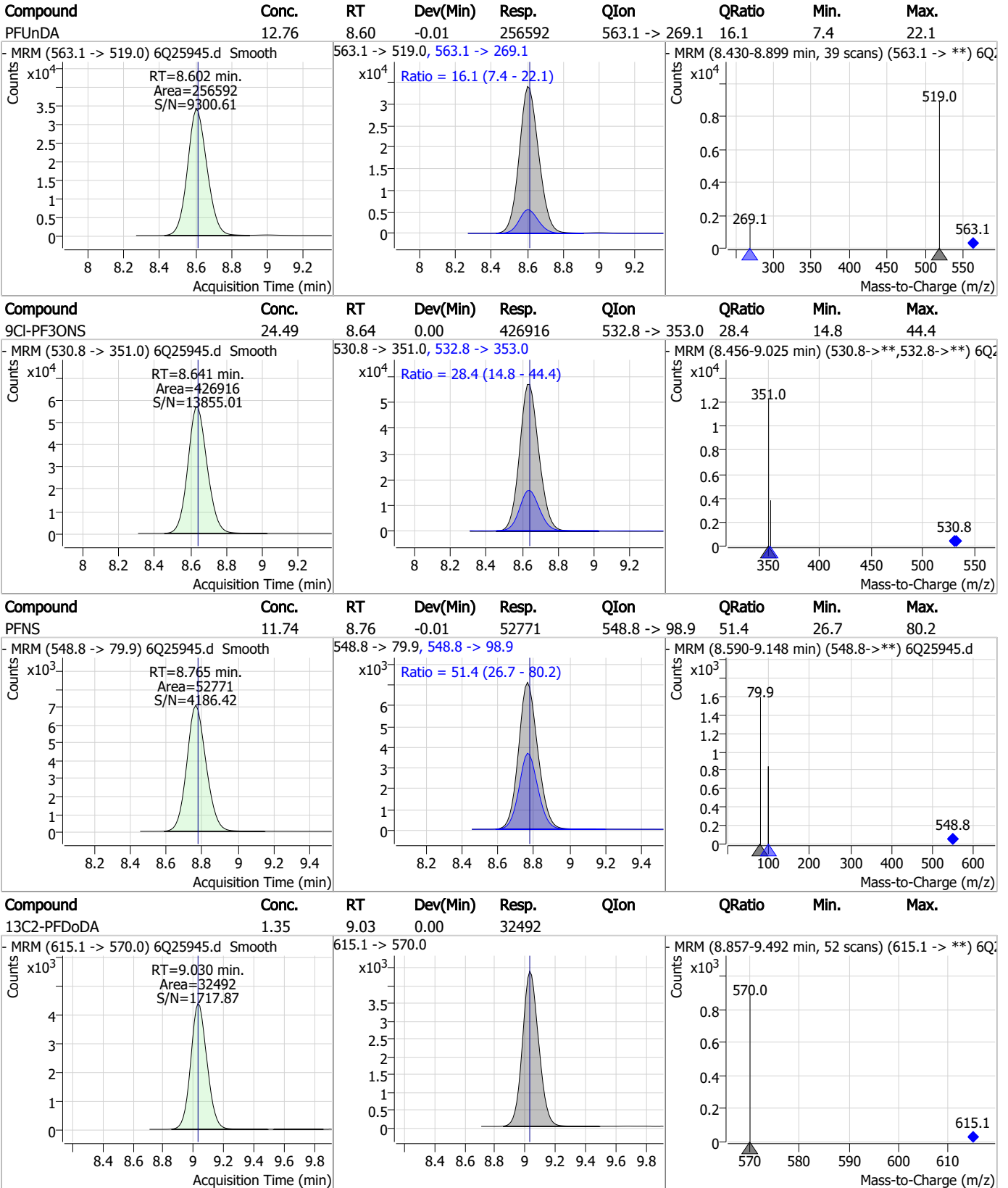
Perfluorinated Compounds by LC/MS/MS



7.7.7

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Perfluorinated Compounds by LC/MS/MS



7.7.7

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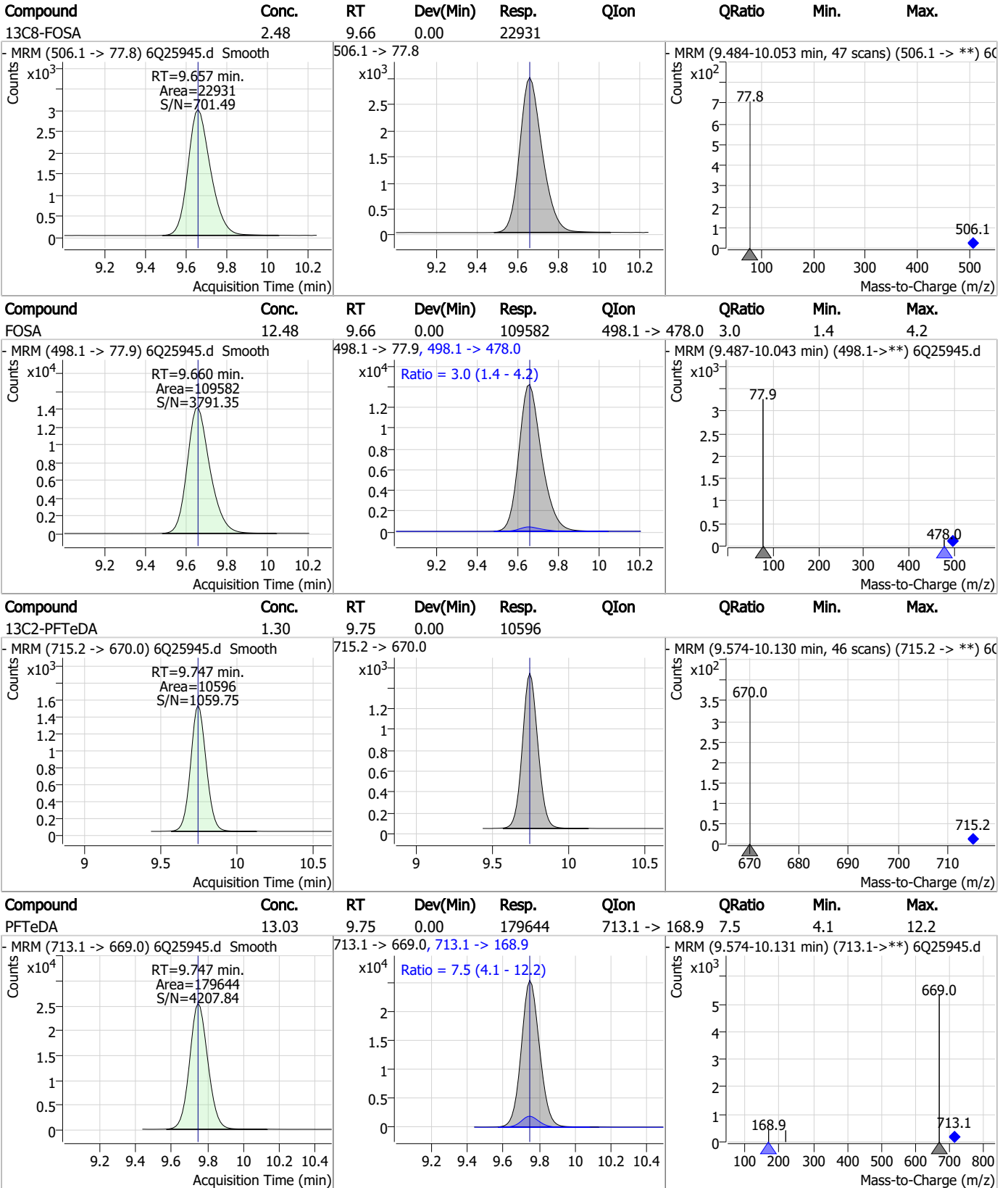
Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDODA	13.04	9.03	0.00	314985	613.1 -> 319.0	11.8	5.7	17.2
PFD5	12.43	9.18	-0.01	39168	599.0 -> 98.8	44.5	22.1	66.2
PFTrDA	12.64	9.41	0.00	240071	663.0 -> 168.9	8.2	4.0	12.0
11Cl-PF3OUds	25.07	9.45	0.00	246308	632.9 -> 452.9	28.0	16.1	48.3

7.7.7

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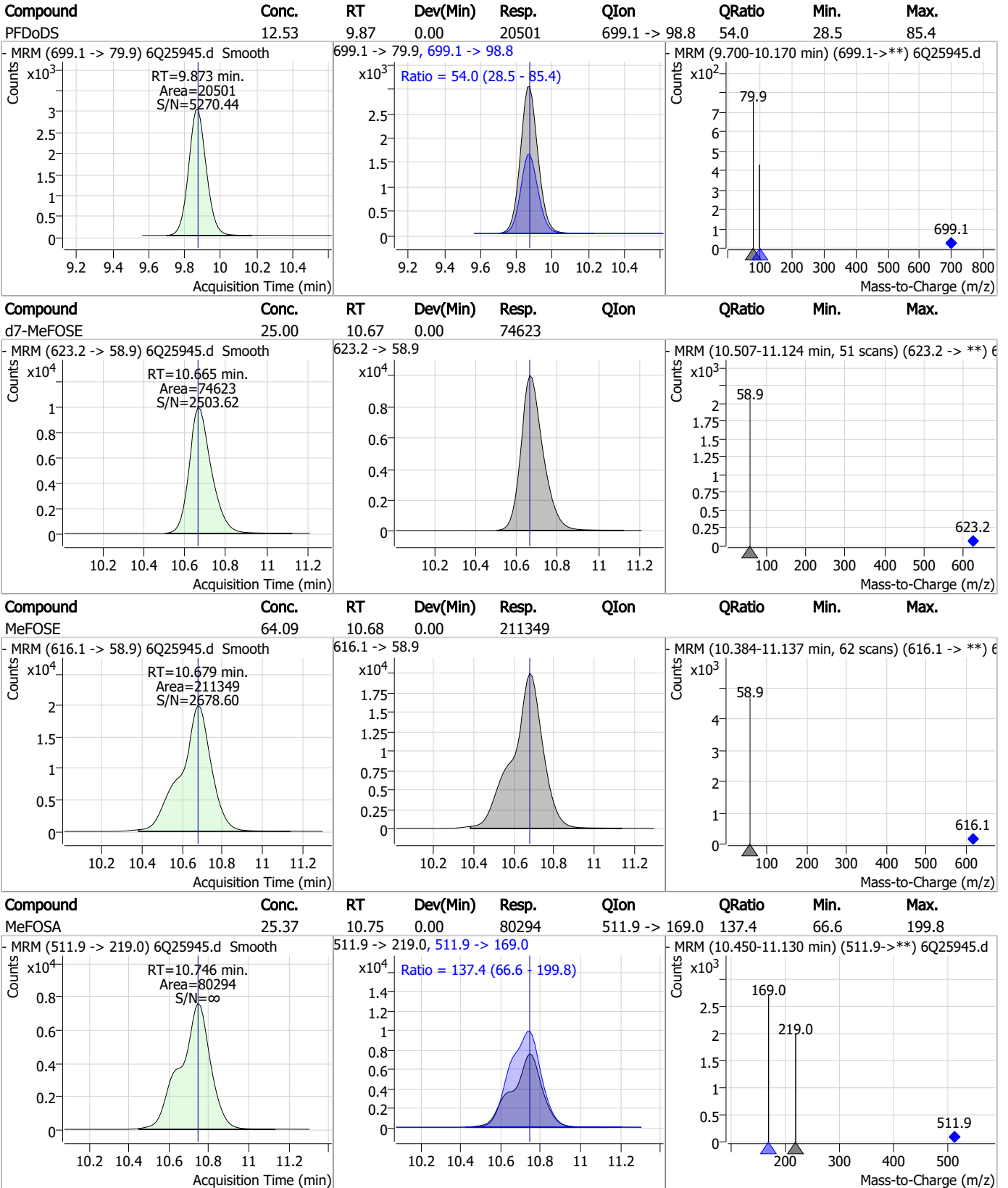
Perfluorinated Compounds by LC/MS/MS



7.7.7

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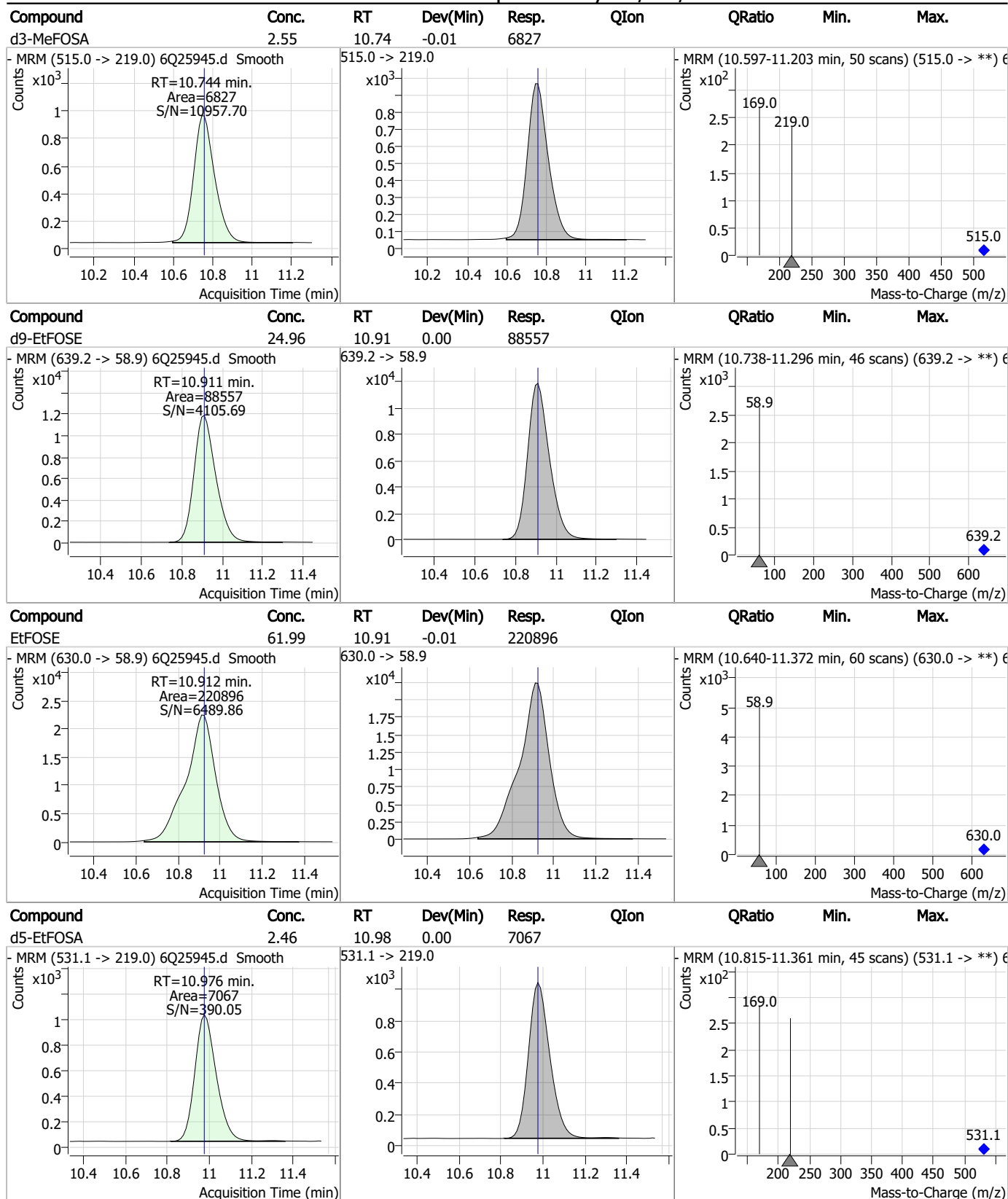
Perfluorinated Compounds by LC/MS/MS



7.7.7

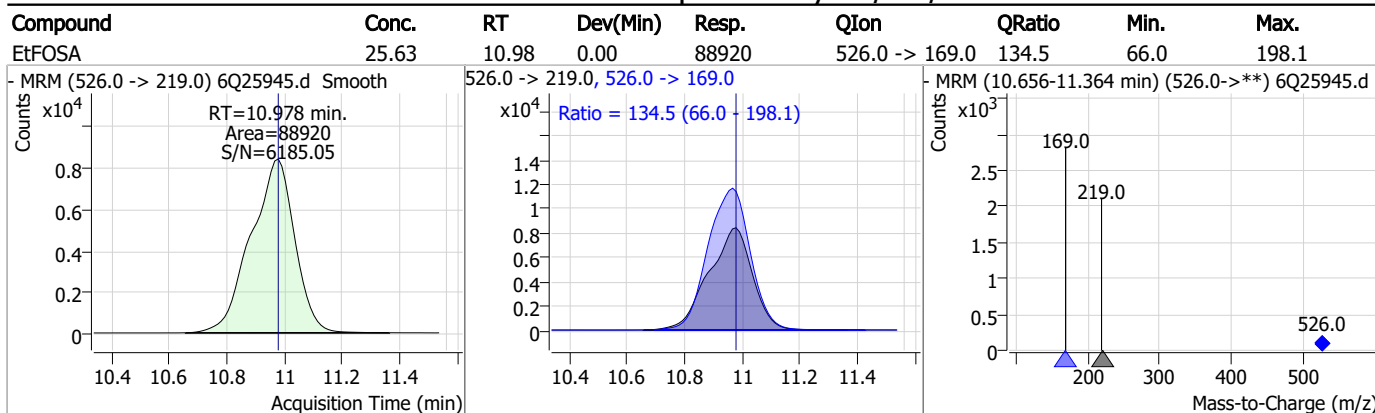
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Perfluorinated Compounds by LC/MS/MS



7.7.7

Perfluorinated Compounds by LC/MS/MS



7.7.7
7

Manual Integration Approval Summary

Sample Number: S6Q367-IC367 Method: EPA DRAFT 1633
Lab FileID: 6Q25945.D Analyst approved: 10/09/23 13:30 Martha Valls
Injection Time: 10/08/23 16:15 Supervisor approved: 10/09/23 16:36 Natasha Gumtie

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		7.25	Split peak
Perfluorooctanesulfonic acid	1763-23-1		8.30	Split peak
EtFOSAA	2991-50-6		8.42	Split peak

7.7.7.1

7

Manual Integrations
APPROVED
 (compounds with "m" flag)

Natasha Gumtje
 10/09/23 16:36

Perfluorinated Compounds by LC/MS/MS

Data File : 6Q25946.d
 Operator : marthav
 Acq. Method : 1633full.m
 Acq. Date-Time : 10/8/2023 4:29:19 PM
 Sample Name : ic367-7
 Vial : P1-A8
 DA Method File : 1633_100823_S6Q367.quantmethod.xml
 Batch Name : S6Q367.batch.bin
 Sample Information : OP99308,S6Q367,500,,,,5.0,1,water

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Internal Standards					
M4-PFBA	2.947	216.8 -> 171.9	143807	10.00 µg/L	0.000
M5-PFPeA	4.372	268.3 -> 223.0	51817	5.00 µg/L	0.000
M5-PFHxA	5.592	318.0 -> 273.0	47422	2.50 µg/L	0.012
M4-PFHpA	6.519	367.1 -> 322.0	47079	2.50 µg/L	0.000
M8-PFOA	7.161	421.1 -> 376.0	62339	2.50 µg/L	0.000
M9-PFNA	7.680	472.1 -> 427.0	26286	1.25 µg/L	0.000
M6-PFDA	8.161	519.1 -> 474.1	27847	1.25 µg/L	0.000
M7-PFUnDA	8.601	570.0 -> 525.1	28646	1.25 µg/L	-0.012
M2-PFDoDA	9.030	615.1 -> 570.0	32507	1.25 µg/L	0.000
M2-PFTeDA	9.747	715.2 -> 670.0	11132	1.25 µg/L	0.000
M8-FOSA	9.657	506.1 -> 77.8	23832	2.50 µg/L	0.000
M3-PFBS	5.510	302.1 -> 79.9	20925	2.50 µg/L	0.012
M3-PFHxS	7.263	402.1 -> 79.9	12697	2.50 µg/L	0.000
M8-PFOS	8.311	507.1 -> 79.9	12237	2.50 µg/L	0.000
M2-4:2FTS	5.267	329.1 -> 80.9	2006	5.00 µg/L	0.012
M2-6:2FTS	6.936	429.1 -> 80.9	2937	5.00 µg/L	0.000
M2-8:2FTS	7.962	529.1 -> 80.9	2948	5.00 µg/L	0.012
M3-MeFOSAA	8.207	573.2 -> 419.0	23289	5.00 µg/L	0.000
M3-HFPO-DA	5.957	286.9 -> 168.9	32033	10.00 µg/L	0.000
M5-EtFOSAA	8.415	589.2 -> 419.0	19808	5.00 µg/L	0.000
M7-MeFOSE	10.666	623.2 -> 58.9	73359	25.00 µg/L	0.000
M9-EtFOSE	10.911	639.2 -> 58.9	88372	25.00 µg/L	0.000
M5-EtFOSA	10.976	531.1 -> 219.0	7254	2.50 µg/L	0.000
M3-MeFOSA	10.744	515.0 -> 219.0	6893	2.50 µg/L	-0.012
13C4-PFOS	8.312	502.8 -> 79.9	11282	2.50 µg/L	0.000
13C3-PFBA	2.952	216.0 -> 172.0	59619	5.00 µg/L	0.000
18O2-PFHxS	7.263	403.0 -> 83.9	7450	2.50 µg/L	0.000
13C4-PFOA	7.162	417.1 -> 372.0	71336	2.50 µg/L	0.000
13C2-PFDA	8.161	515.1 -> 470.1	24987	1.25 µg/L	0.000
13C5-PFNA	7.680	468.0 -> 423.0	24074	1.25 µg/L	0.000
13C2-PFHxA	5.593	315.1 -> 270.0	45822	2.50 µg/L	0.012
System Monitoring Compounds					
13C2-4:2FTS	5.267	329.1 -> 80.9	2006	4.78 µg/L	0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 95.6%		
13C2-6:2FTS	6.936	429.1 -> 80.9	2937	4.70 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 94.1%		
13C2-8:2FTS	7.962	529.1 -> 80.9	2948	4.59 µg/L	0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 91.7%		
13C2-PFDoDA	9.030	615.1 -> 570.0	32507	1.31 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 104.4%		
13C2-PFTeDA	9.747	715.2 -> 670.0	11132	1.32 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 105.4%		
13C3-PFBS	5.510	302.1 -> 79.9	20925	2.48 µg/L	0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 99.2%		
13C3-PFHxS	7.263	402.1 -> 79.9	12697	2.68 µg/L	0.000

Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 107.3%	
13C4-PFBA	2.947	216.8 -> 171.9	143807	9.99 µg/L	0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 99.9%	
13C4-PFHpA	6.519	367.1 -> 322.0	47079	2.54 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 101.6%	
13C5-PFHxA	5.592	318.0 -> 273.0	47422	2.50 µg/L	0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 100.1%	
13C5-PFPeA	4.372	268.3 -> 223.0	51817	5.00 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 99.9%	
13C6-PFDA	8.161	519.1 -> 474.1	27847	1.32 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 105.9%	
13C7-PFUnDA	8.601	570.0 -> 525.1	28646	1.26 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 100.7%	
13C8-FOSA	9.657	506.1 -> 77.8	23832	2.56 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 102.4%	
13C8-PFOA	7.161	421.1 -> 376.0	62339	2.52 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 100.8%	
13C8-PFOS	8.311	507.1 -> 79.9	12237	2.51 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 100.5%	
13C9-PFNA	7.680	472.1 -> 427.0	26286	1.33 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 106.2%	
d3-MeFOSAA	8.207	573.2 -> 419.0	23289	4.69 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 93.9%	
13C3-HFPO-DA	5.957	286.9 -> 168.9	32033	10.02 µg/L	0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 100.2%	
d3-MeFOSA	10.744	515.0 -> 219.0	6893	2.55 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 102.1%	
d5-EtFOSAA	8.415	589.2 -> 419.0	19808	4.66 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 93.2%	
d7-MeFOSE	10.666	623.2 -> 58.9	73359	24.41 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 97.7%	
d9-EtFOSE	10.911	639.2 -> 58.9	88372	24.74 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 99.0%	
d5-EtFOSA	10.976	531.1 -> 219.0	7254	2.51 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 100.5%	
Target Compounds					QValue
4:2FTS	5.268	327.1 -> 307.0	299388	89.99 µg/L	98
		327.1 -> 80.9	120628		
6:2FTS	6.937	427.1 -> 407.0	246466	92.31 µg/L	97
		427.1 -> 80.9	99575		
8:2FTS	7.950	527.1 -> 507.0	203375	99.02 µg/L	98
		527.1 -> 80.8	73649		
EtFOSAA	8.416	584.2 -> 419.1	88544	27.51 µg/L	99
		584.2 -> 526.0	54308		
FOSA	9.660	498.1 -> 77.9	221067	24.22 µg/L	100
		498.1 -> 478.0	6378		
MeFOSAA	8.208	570.1 -> 419.0	108481	24.94 µg/L	95
		570.1 -> 483.0	25452		
PFBA	2.956	212.8 -> 168.9	545402	101.81 µg/L	100
PFBS	5.511	298.7 -> 79.9	143775	22.93 µg/L	99
		298.7 -> 98.8	51801		
PFDA	8.161	512.9 -> 469.0	524845	24.12 µg/L	99
		512.9 -> 219.0	83703		
PFDoDA	9.031	613.1 -> 569.0	582858	24.12 µg/L	98
		613.1 -> 319.0	71231		
PFDS	9.183	599.0 -> 79.9	71272	22.77 µg/L	89

Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
		599.0 -> 98.8	36404			
PFHpA	6.532	363.1 -> 319.0	637741	24.97	µg/L	98
		363.1 -> 169.0	88329			
PFHpS	7.819	449.0 -> 79.9	124642	24.67	µg/L	97
		449.0 -> 98.9	58068			
PFHxA	5.594	313.0 -> 269.0	436689	25.76	µg/L	99
		313.0 -> 118.9	20942			
PFHxS	7.264	398.7 -> 79.9	111537	21.02	µg/L	m 93
		398.7 -> 98.9	54028			
PFNA	7.680	463.0 -> 419.0	401525	24.78	µg/L	99
		463.0 -> 219.0	94833			
PFNS	8.765	548.8 -> 79.9	102995	23.08	µg/L	94
		548.8 -> 98.9	50434			
PFOA	7.163	413.0 -> 369.0	690537	25.81	µg/L	95
		413.0 -> 169.0	112516			
PFOS	8.300	498.9 -> 79.9	117988	22.57	µg/L	m 85
		498.9 -> 98.8	60780			
PFPeA	4.374	263.0 -> 219.0	563152	50.38	µg/L	100
PFPeS	6.571	349.1 -> 79.9	152945	22.31	µg/L	96
		349.1 -> 98.9	70620			
PFTeDA	9.747	713.1 -> 669.0	333585	23.03	µg/L	99
		713.1 -> 168.9	26356			
PFTrDA	9.413	663.0 -> 619.0	483579	25.45	µg/L	100
		663.0 -> 168.9	37973			
PFUnDA	8.602	563.1 -> 519.0	519955	25.76	µg/L	100
		563.1 -> 269.1	76024			
11CI-PF3OUdS	9.454	630.9 -> 450.9	446188	46.95	µg/L	100
		632.9 -> 452.9	142765			
9CI-PF3ONS	8.641	530.8 -> 351.0	788798	46.77	µg/L	98
		532.8 -> 353.0	241622			
ADONA	6.780	376.9 -> 250.9	2113602	48.04	µg/L	96
		376.9 -> 84.8	543600			
HFPO-DA	5.958	284.9 -> 168.9	165529	52.14	µg/L	96
		284.9 -> 184.9	17758			
3:3FTCA	3.808	241.0 -> 177.0	99761	129.26	µg/L	99
		241.0 -> 117.0	13085			
5:3FTCA	6.233	341.0 -> 237.1	2040408	642.02	µg/L	98
		341.0 -> 217.0	1417577			
7:3FTCA	7.632	441.0 -> 316.9	1197504	616.89	µg/L	91
		441.0 -> 336.9	2582112			
EtFOSA	10.978	526.0 -> 219.0	177837	49.94	µg/L	96
		526.0 -> 169.0	225694			
EtFOSE	10.912	630.0 -> 58.9	440231	123.80	µg/L	100
MeFOSA	10.746	511.9 -> 219.0	154817	48.46	µg/L	93
		511.9 -> 169.0	219349			
MeFOSE	10.679	616.1 -> 58.9	417383	128.74	µg/L	100
PFDoS	9.873	699.1 -> 79.9	38602	23.75	µg/L	96
		699.1 -> 98.8	20726			
NFDHA	5.475	295.0 -> 201.0	106456	49.98	µg/L	99
		295.0 -> 84.9	28487			
PFMBA	4.800	279.0 -> 85.1	430516	50.55	µg/L	100
PFMPA	3.513	229.0 -> 84.9	356493	50.70	µg/L	100
PFEESA	6.050	314.8 -> 134.9	985292	45.18	µg/L	100
		314.8 -> 82.9	34398			

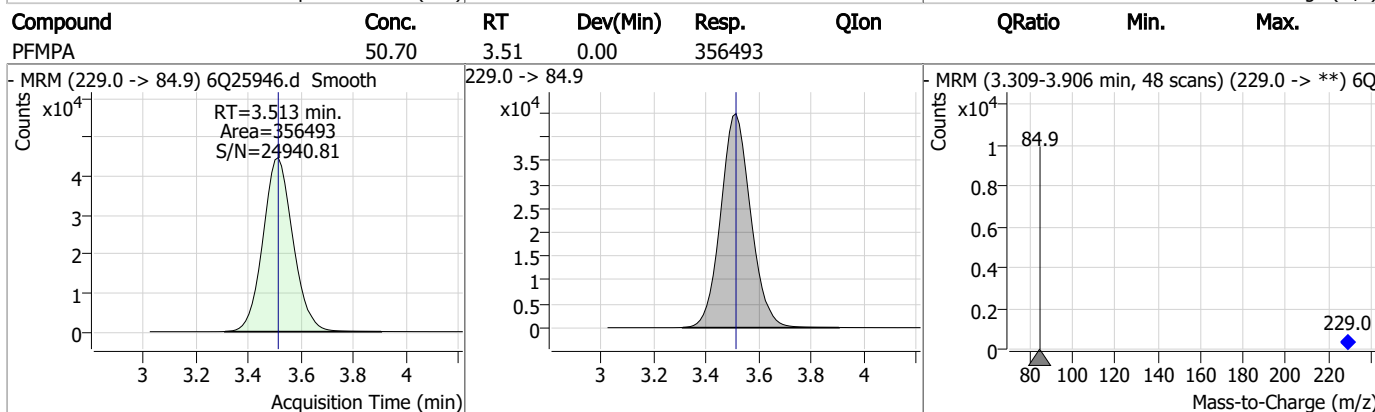
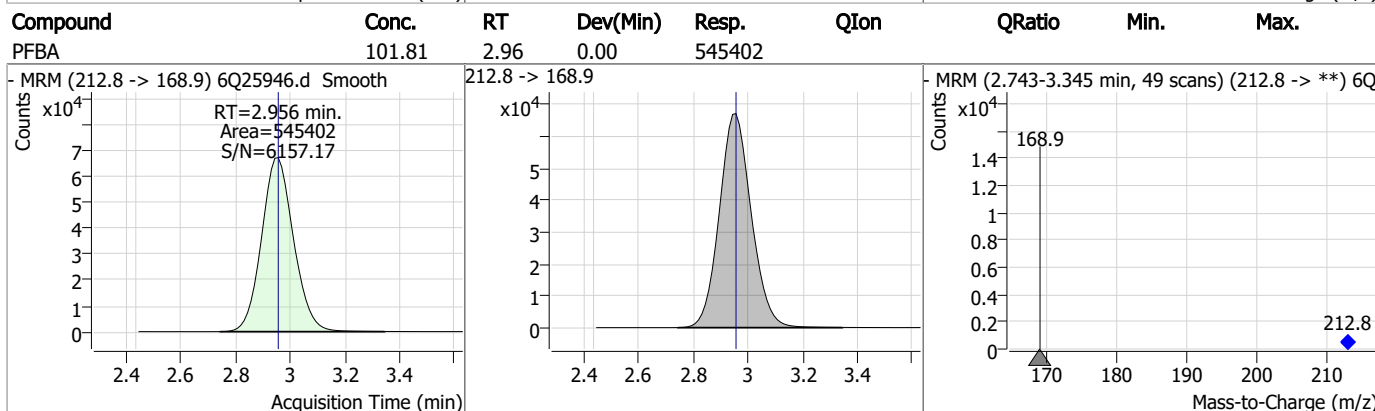
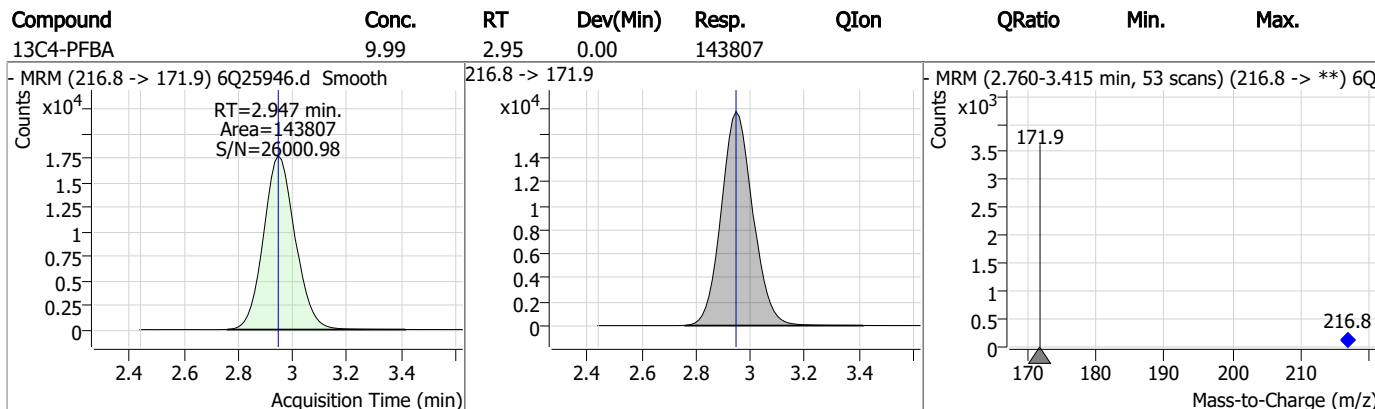
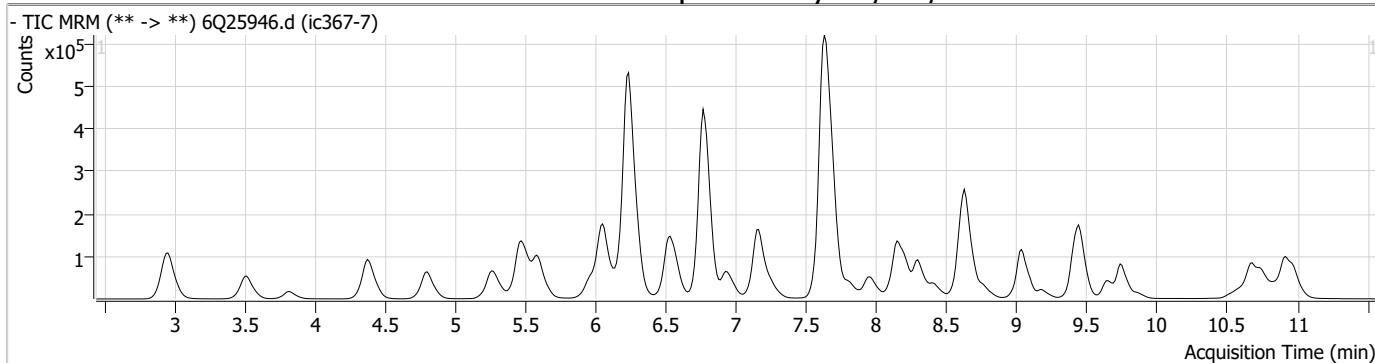
= Qualifier out of range, m = manually integrated, + = Area summed

Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
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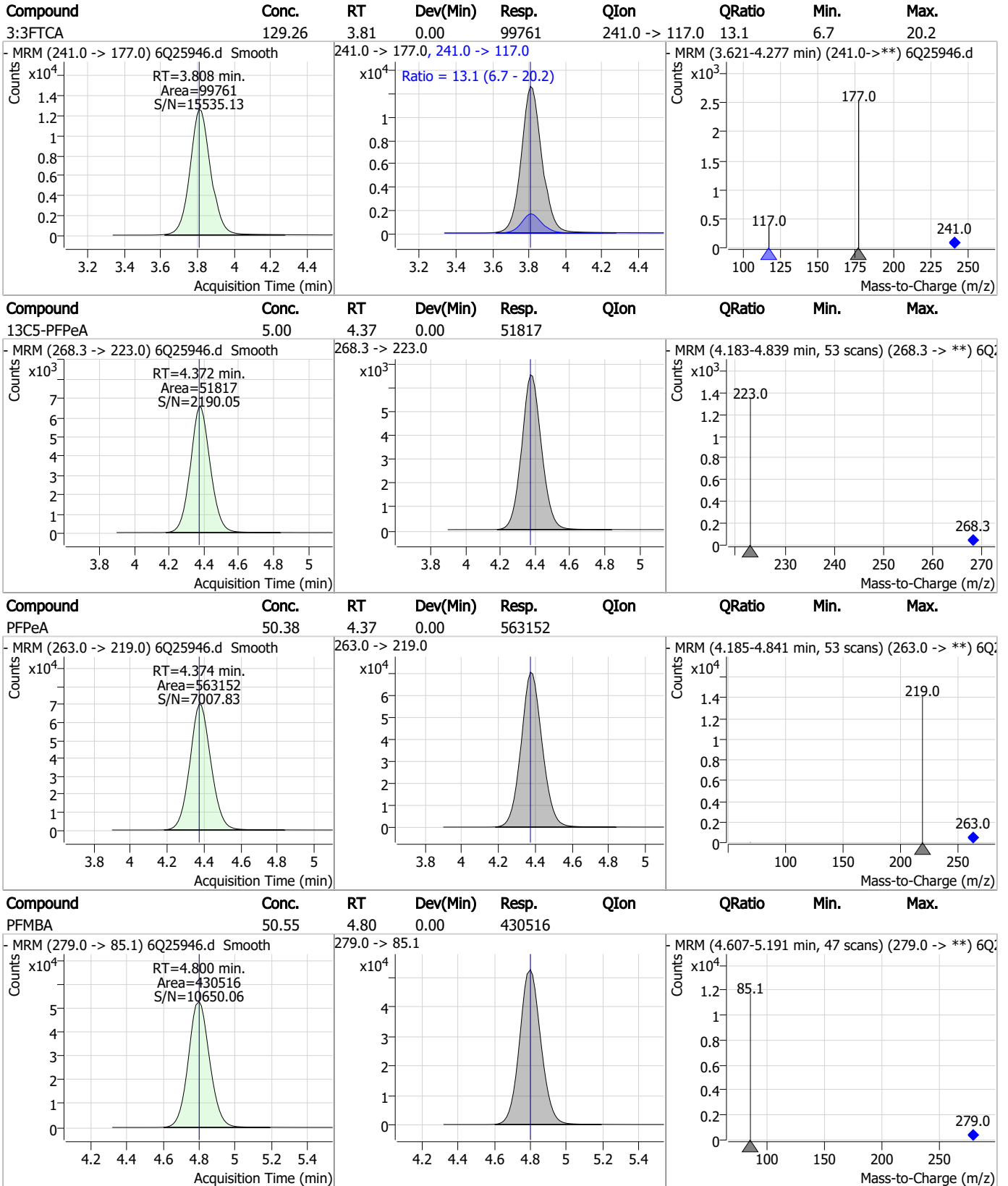
7.7.8
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Perfluorinated Compounds by LC/MS/MS



7.7.8
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Perfluorinated Compounds by LC/MS/MS

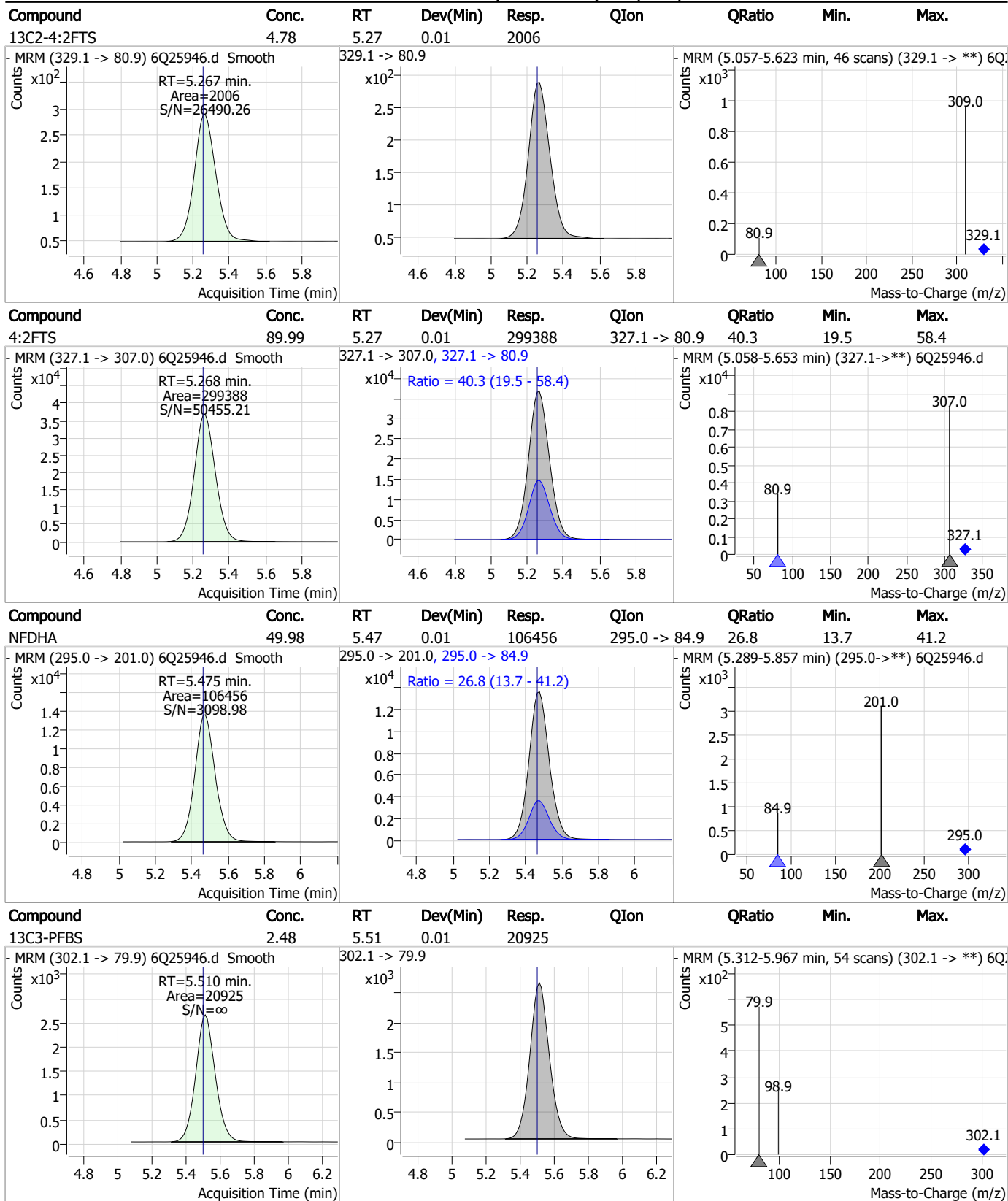


7.7.8

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Perfluorinated Compounds by LC/MS/MS



7.7.8
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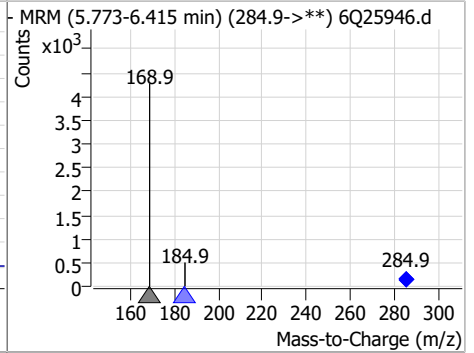
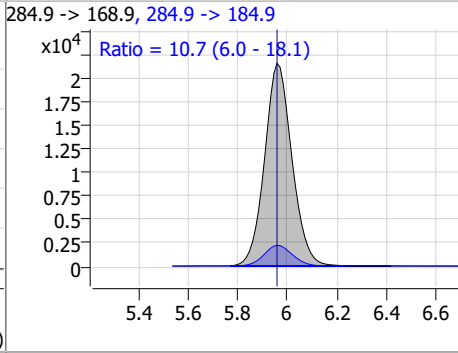
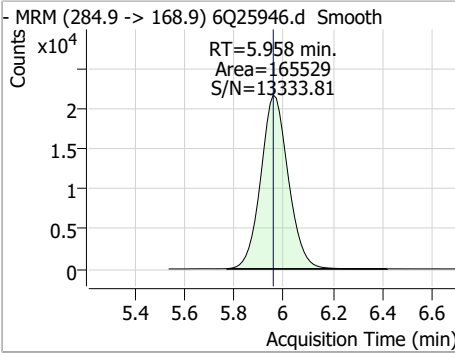
Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBS	22.93	5.51	0.00	143775	298.7 -> 98.8	36.0	18.5	55.4
13C5-PFHxA	2.50	5.59	0.01	47422	318.0 -> 273.0			
PFHxA	25.76	5.59	0.01	436689	313.0 -> 118.9	4.8	2.5	7.6
13C3-HFPO-DA	10.02	5.96	0.00	32033	286.9 -> 168.9			

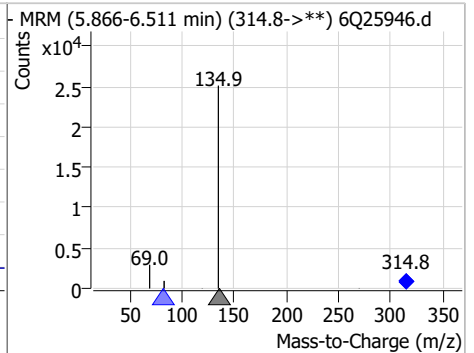
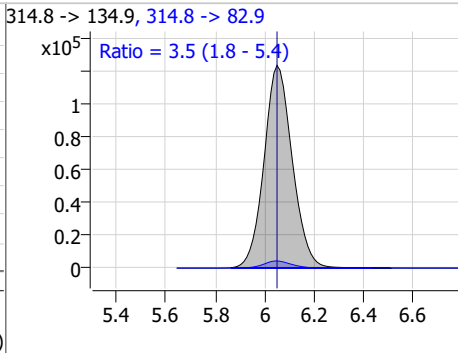
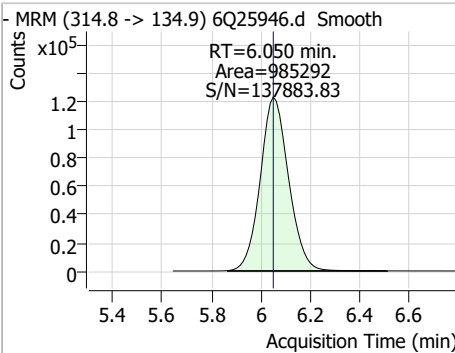
7.7.8
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Perfluorinated Compounds by LC/MS/MS

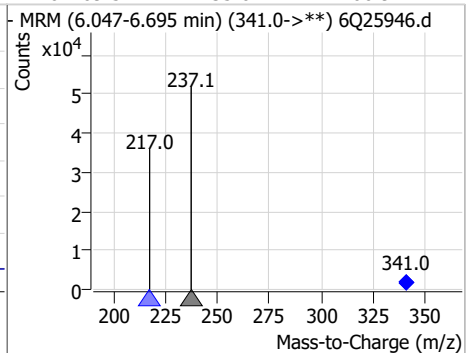
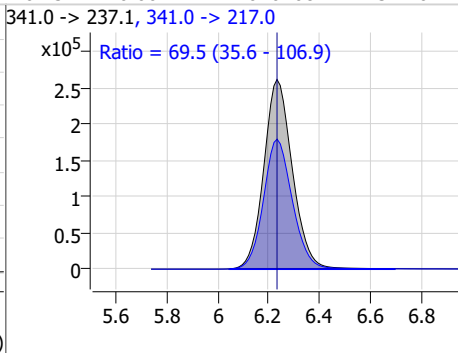
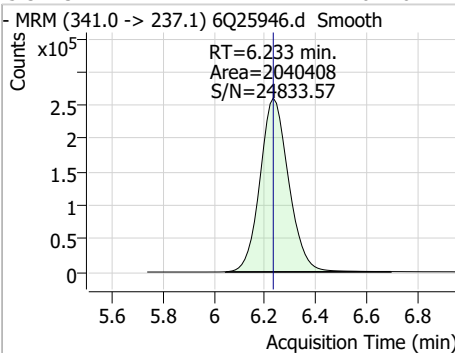
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
HFPO-DA	52.14	5.96	0.00	165529	284.9 -> 184.9	10.7	6.0	18.1



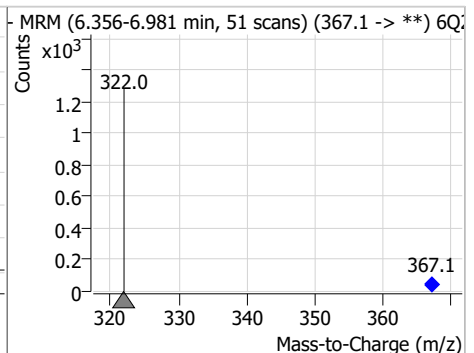
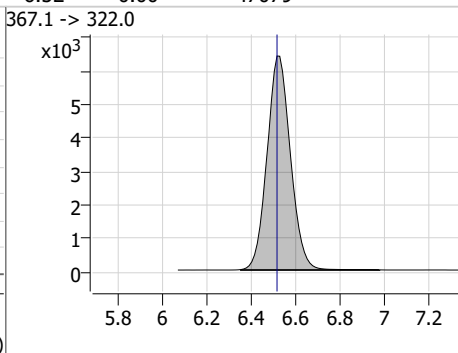
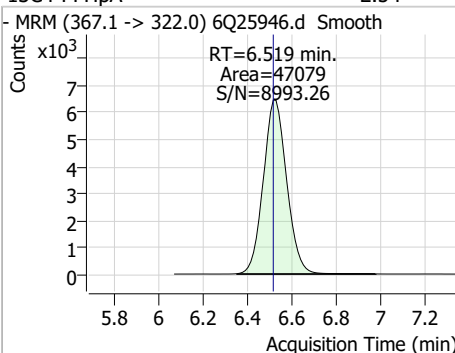
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFEESA	45.18	6.05	0.00	985292	314.8 -> 82.9	3.5	1.8	5.4



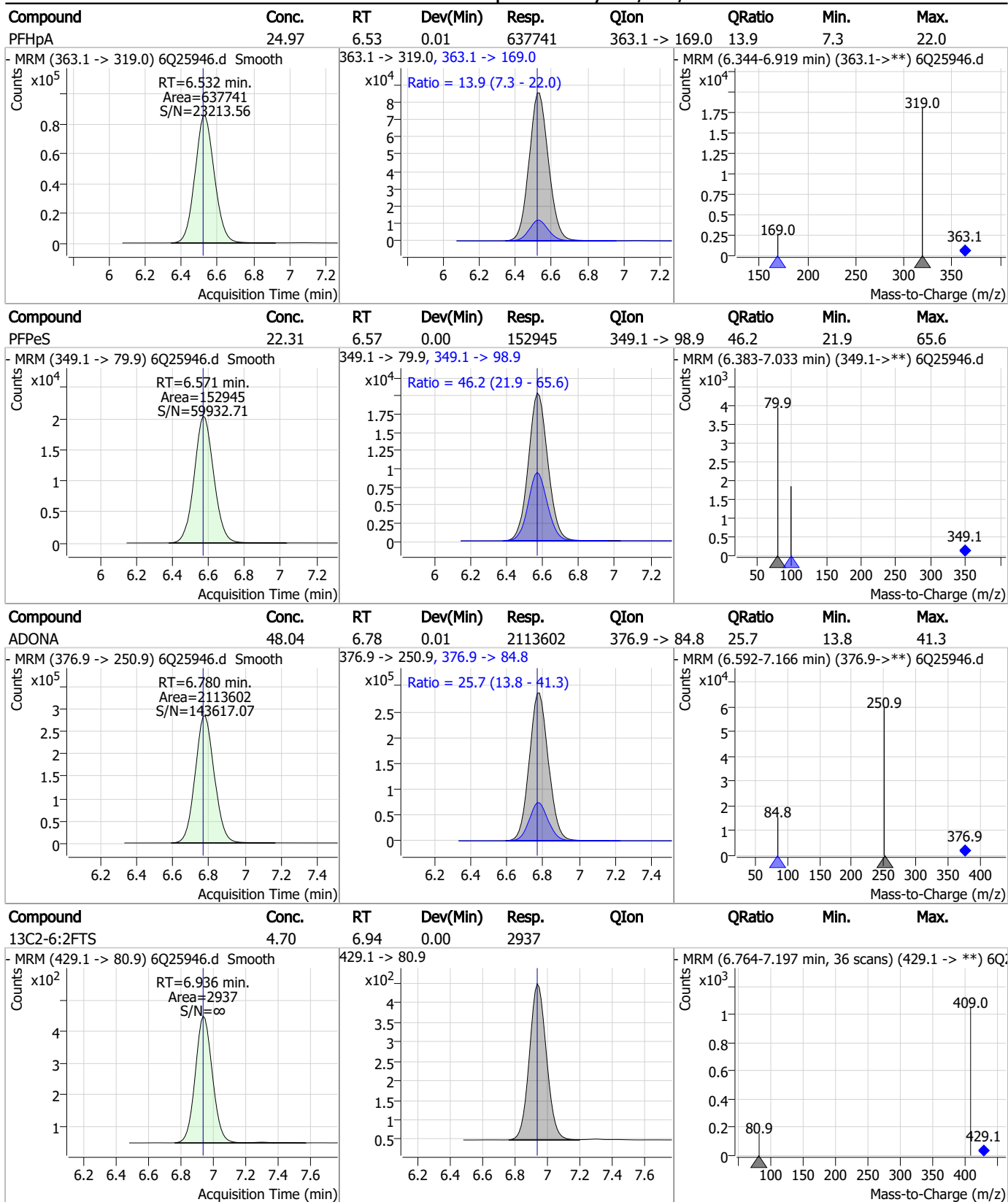
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
5:3FTCA	642.02	6.23	0.00	2040408	341.0 -> 217.0	69.5	35.6	106.9



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFHpa	2.54	6.52	0.00	47079	367.1 -> 322.0			

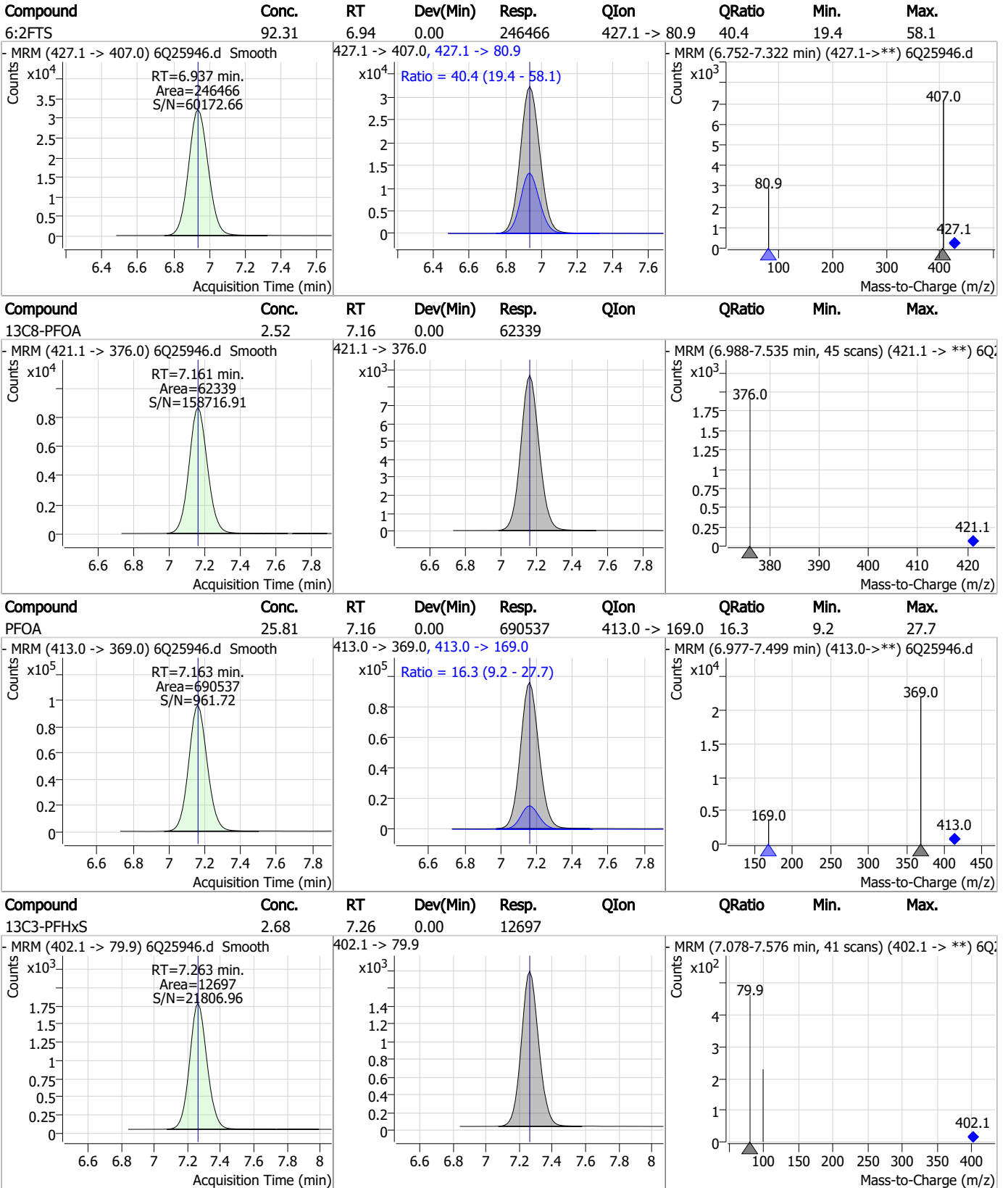


Perfluorinated Compounds by LC/MS/MS



7.7.8
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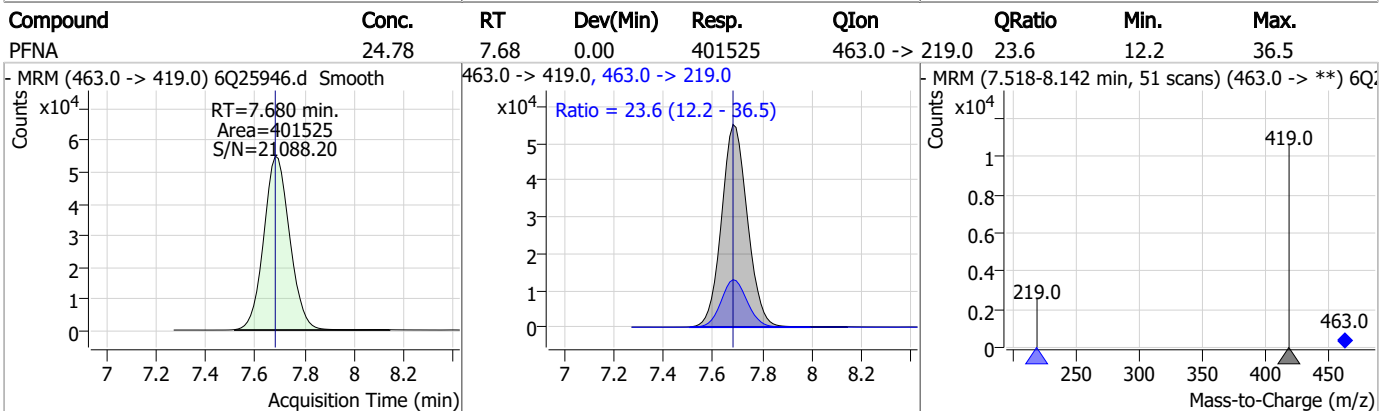
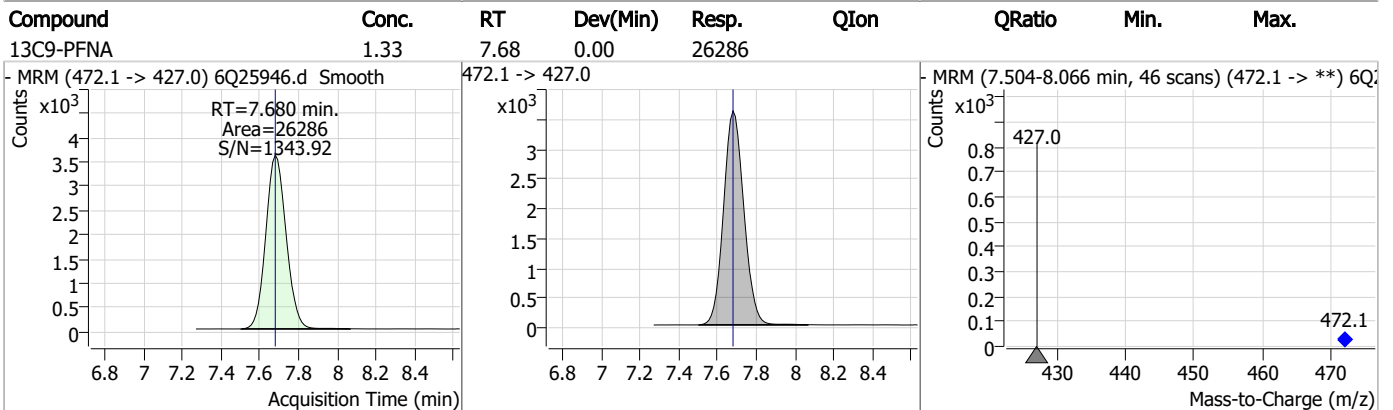
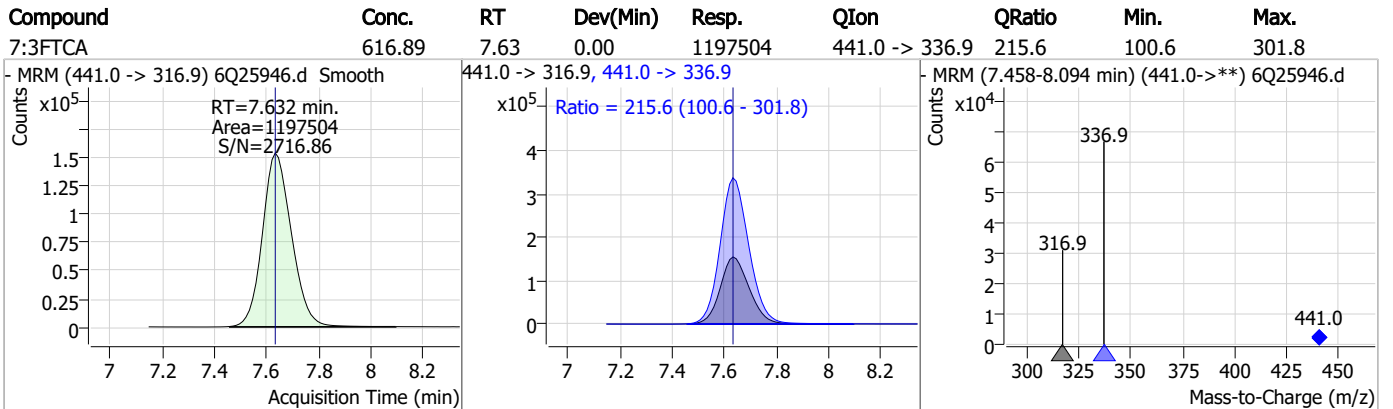
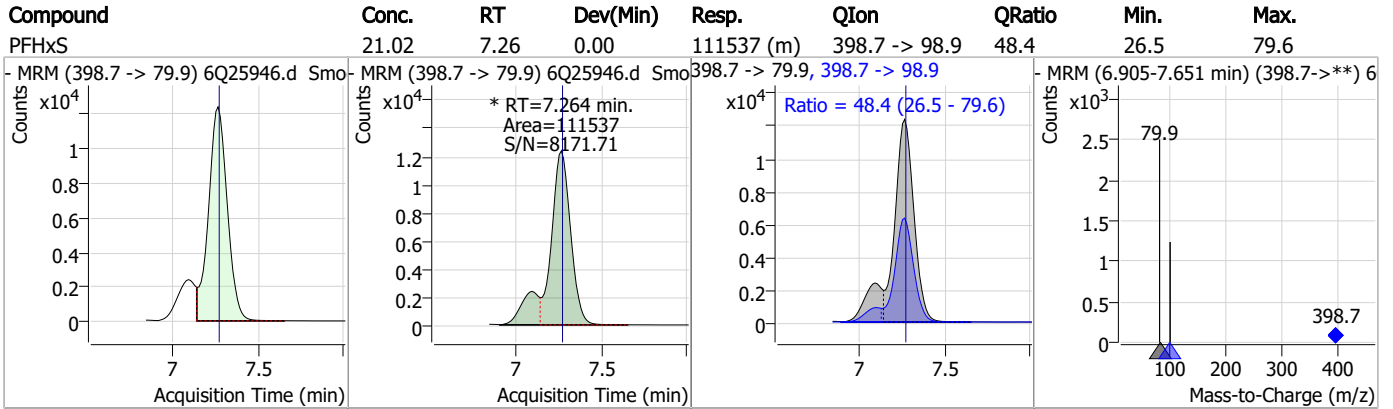
Perfluorinated Compounds by LC/MS/MS



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Perfluorinated Compounds by LC/MS/MS



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Perfluorinated Compounds by LC/MS/MS

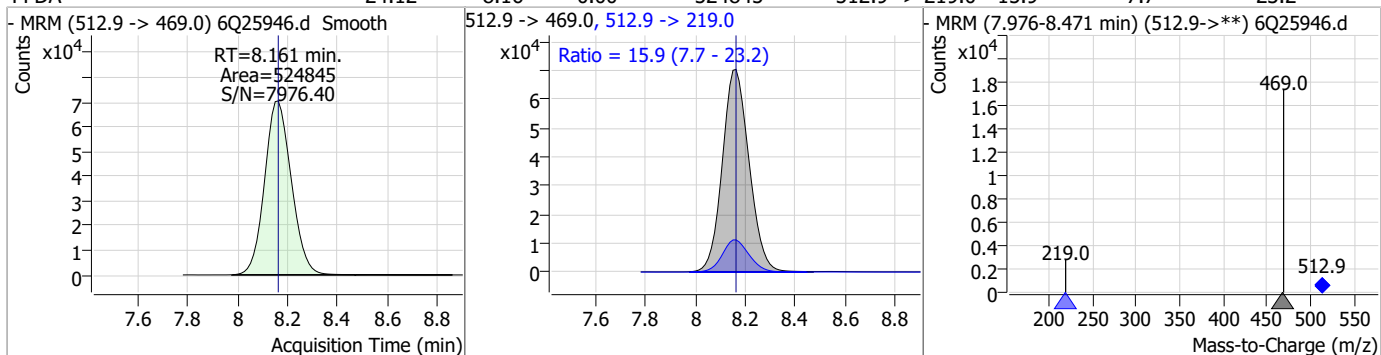
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpS	24.67	7.82	0.00	124642	449.0 -> 98.9	46.6	24.5	73.4
13C2-8:2FTS	4.59	7.96	0.01	2948				
8:2FTS	99.02	7.95	0.00	203375	527.1 -> 80.8	36.2	17.6	52.9
13C6-PFDA	1.32	8.16	0.00	27847				

7.7.8

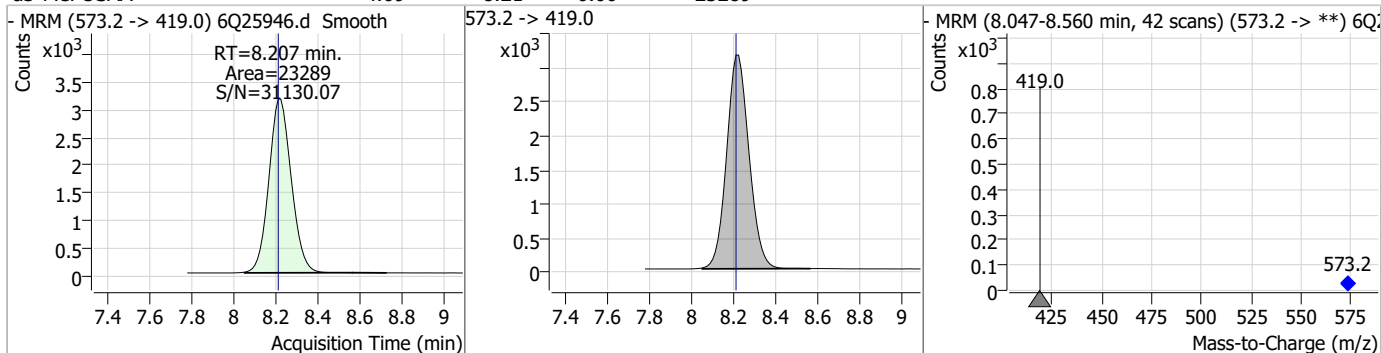
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Perfluorinated Compounds by LC/MS/MS

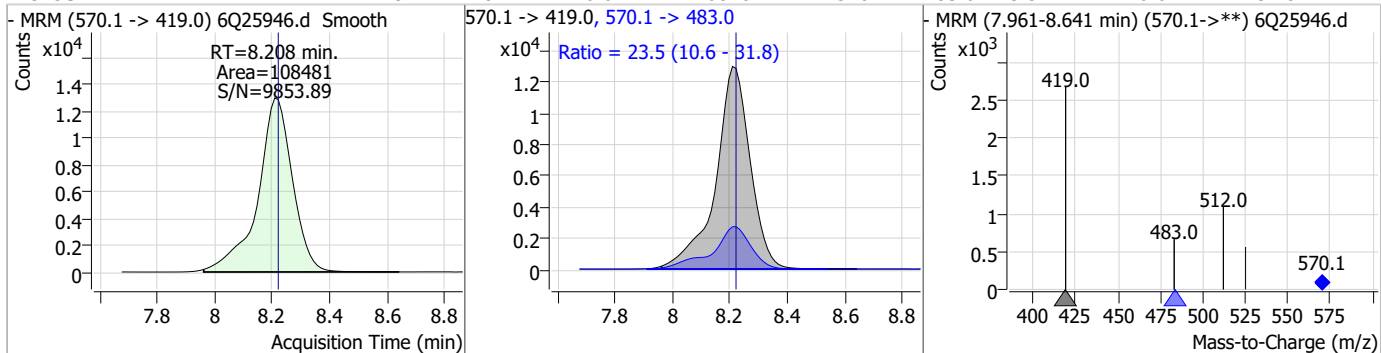
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDA	24.12	8.16	0.00	524845	512.9 -> 219.0	15.9	7.7	23.2



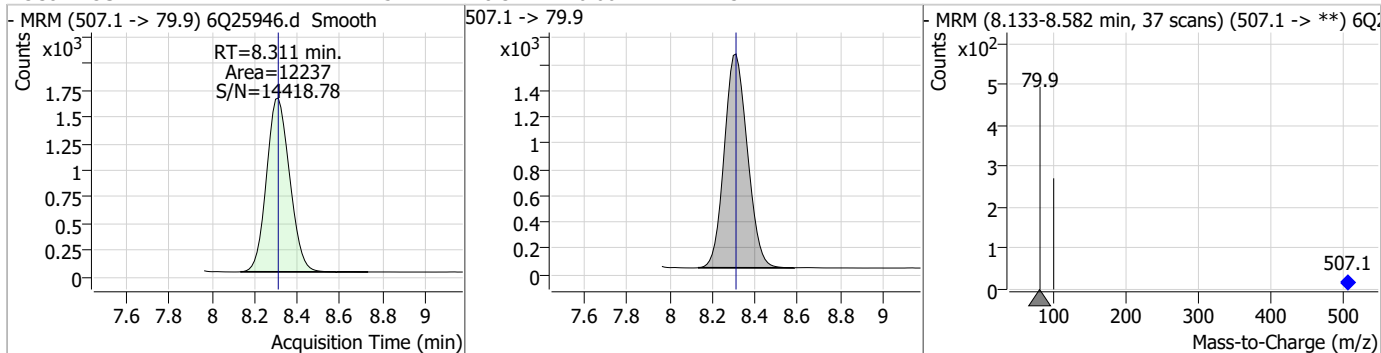
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSAA	4.69	8.21	0.00	23289				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSAA	24.94	8.21	-0.01	108481	570.1 -> 483.0	23.5	10.6	31.8



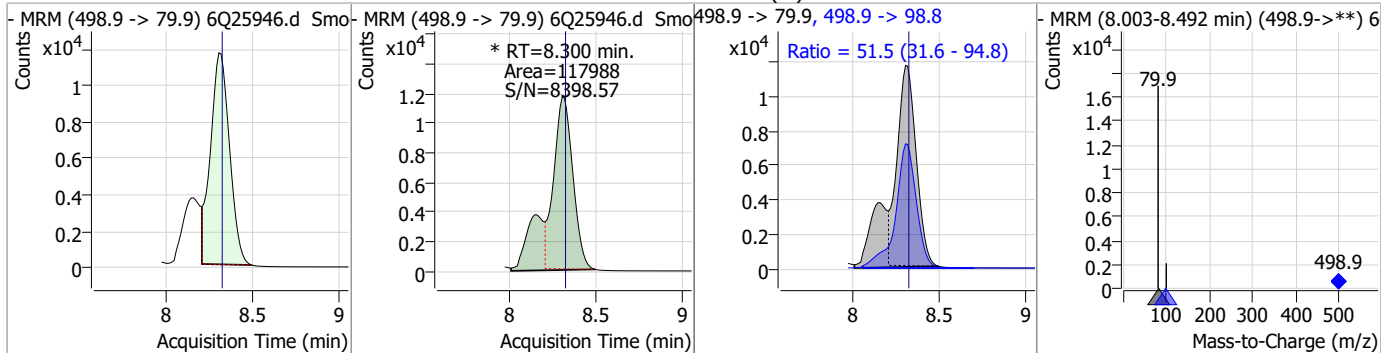
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOS	2.51	8.31	0.00	12237				



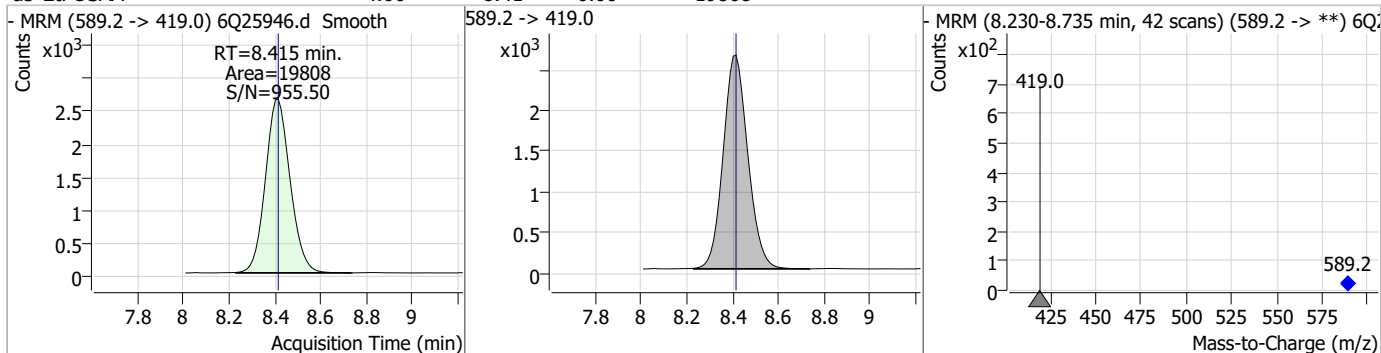
7.7.8
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Perfluorinated Compounds by LC/MS/MS

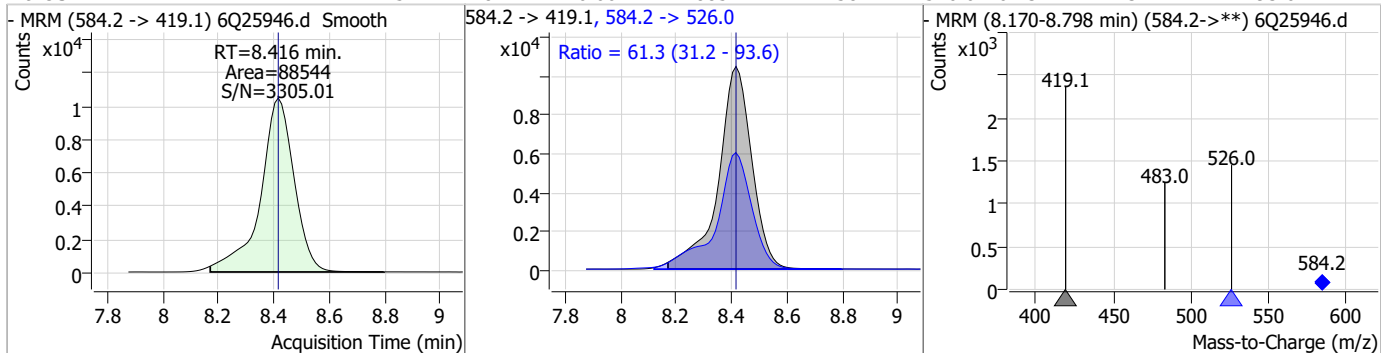
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOS	22.57	8.30	-0.01	117988 (m)	498.9 -> 98.8	51.5	31.6	94.8



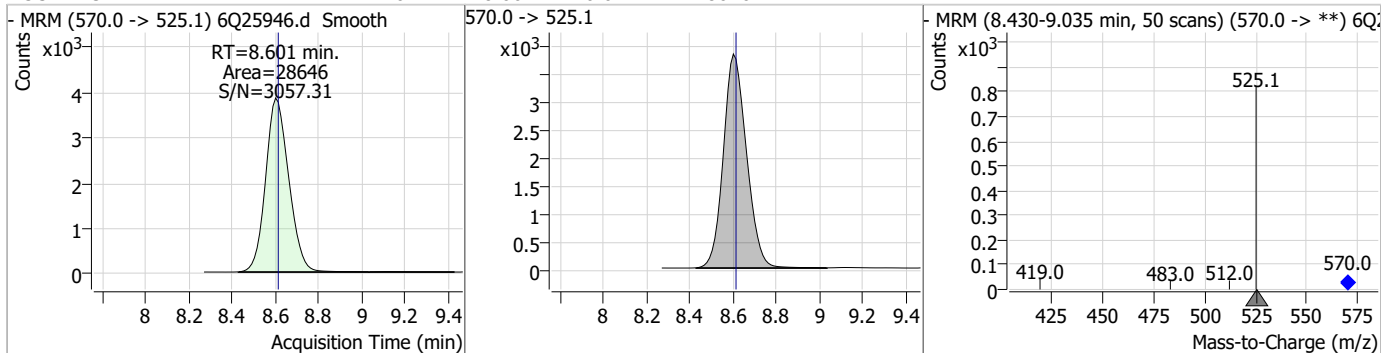
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSAA	4.66	8.41	0.00	19808				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSAA	27.51	8.42	0.00	88544	584.2 -> 526.0	61.3	31.2	93.6



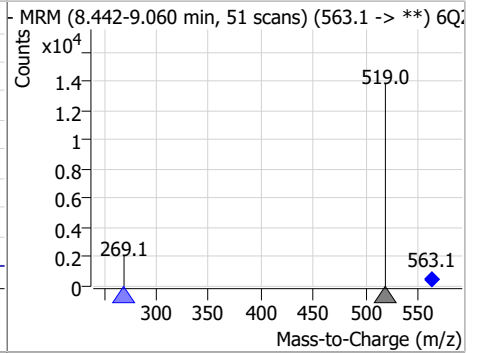
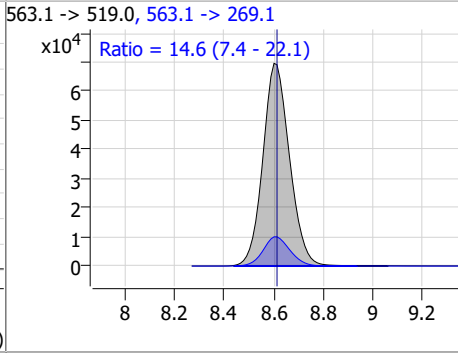
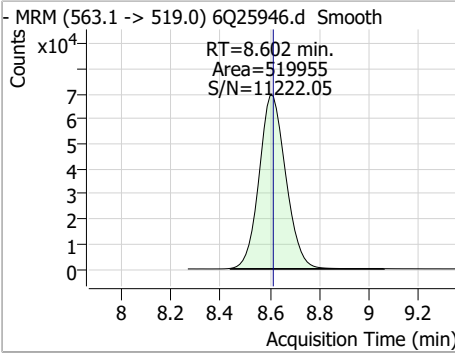
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C7-PFUnDA	1.26	8.60	-0.01	28646				



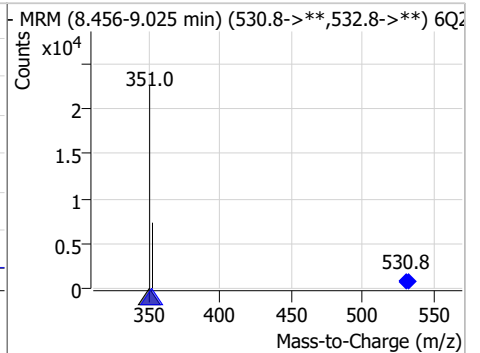
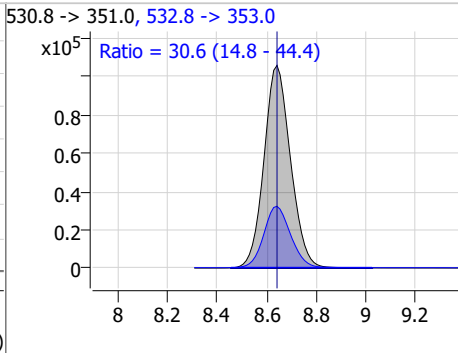
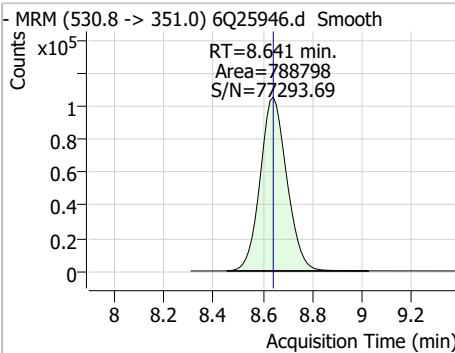
7.7.8
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Perfluorinated Compounds by LC/MS/MS

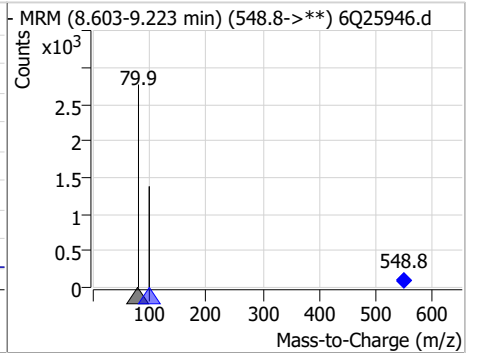
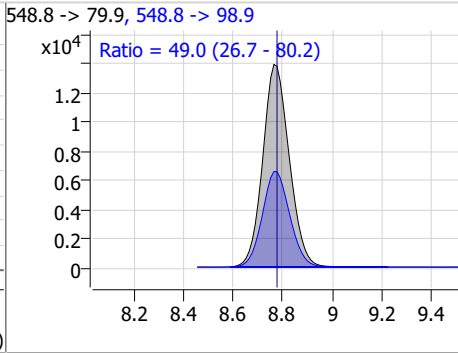
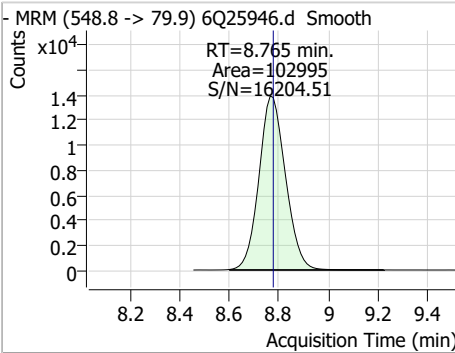
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFUnDA	25.76	8.60	-0.01	519955	563.1 -> 269.1	14.6	7.4	22.1



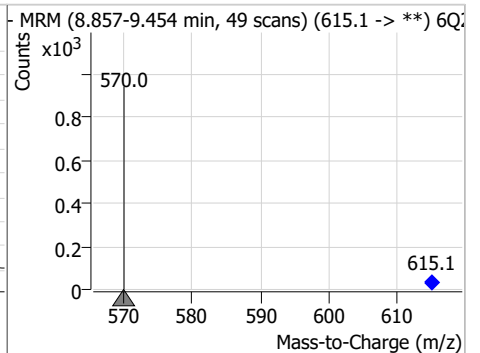
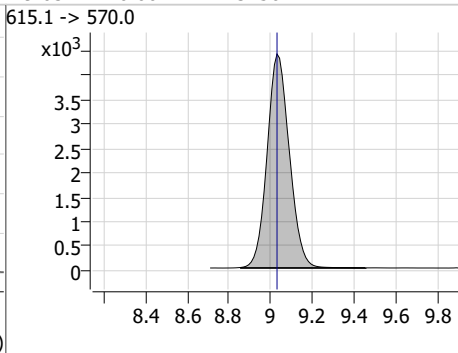
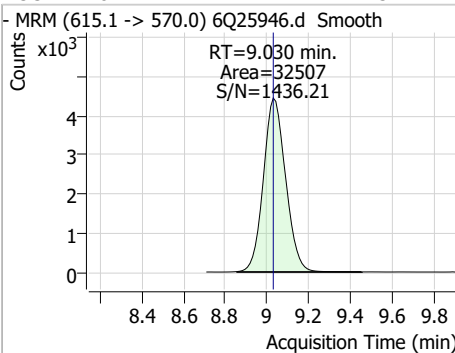
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
9CI-PF3ONS	46.77	8.64	0.00	788798	532.8 -> 353.0	30.6	14.8	44.4



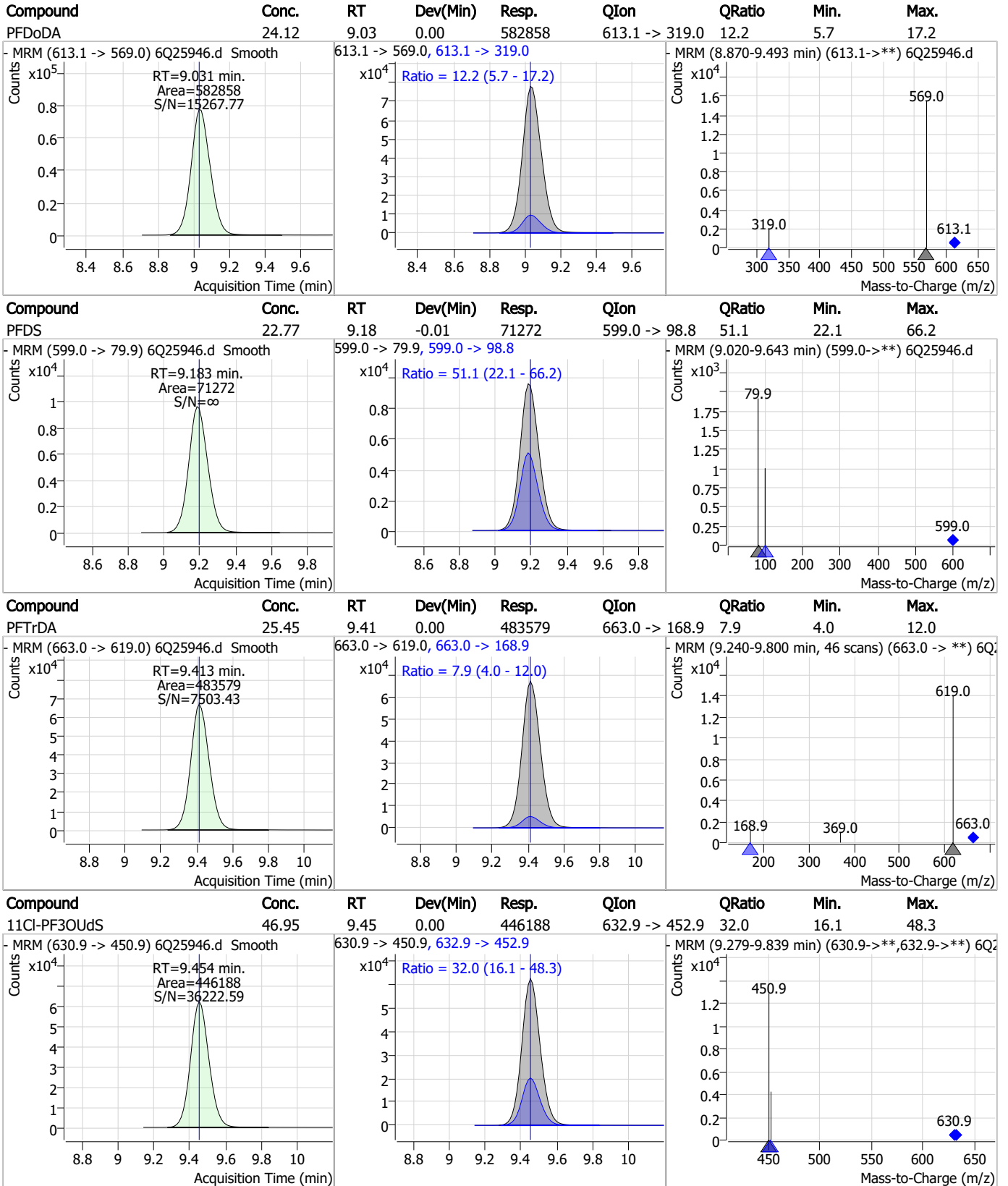
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNS	23.08	8.76	-0.01	102995	548.8 -> 98.9	49.0	26.7	80.2



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFDoDA	1.31	9.03	0.00	32507	615.1 -> 570.0			



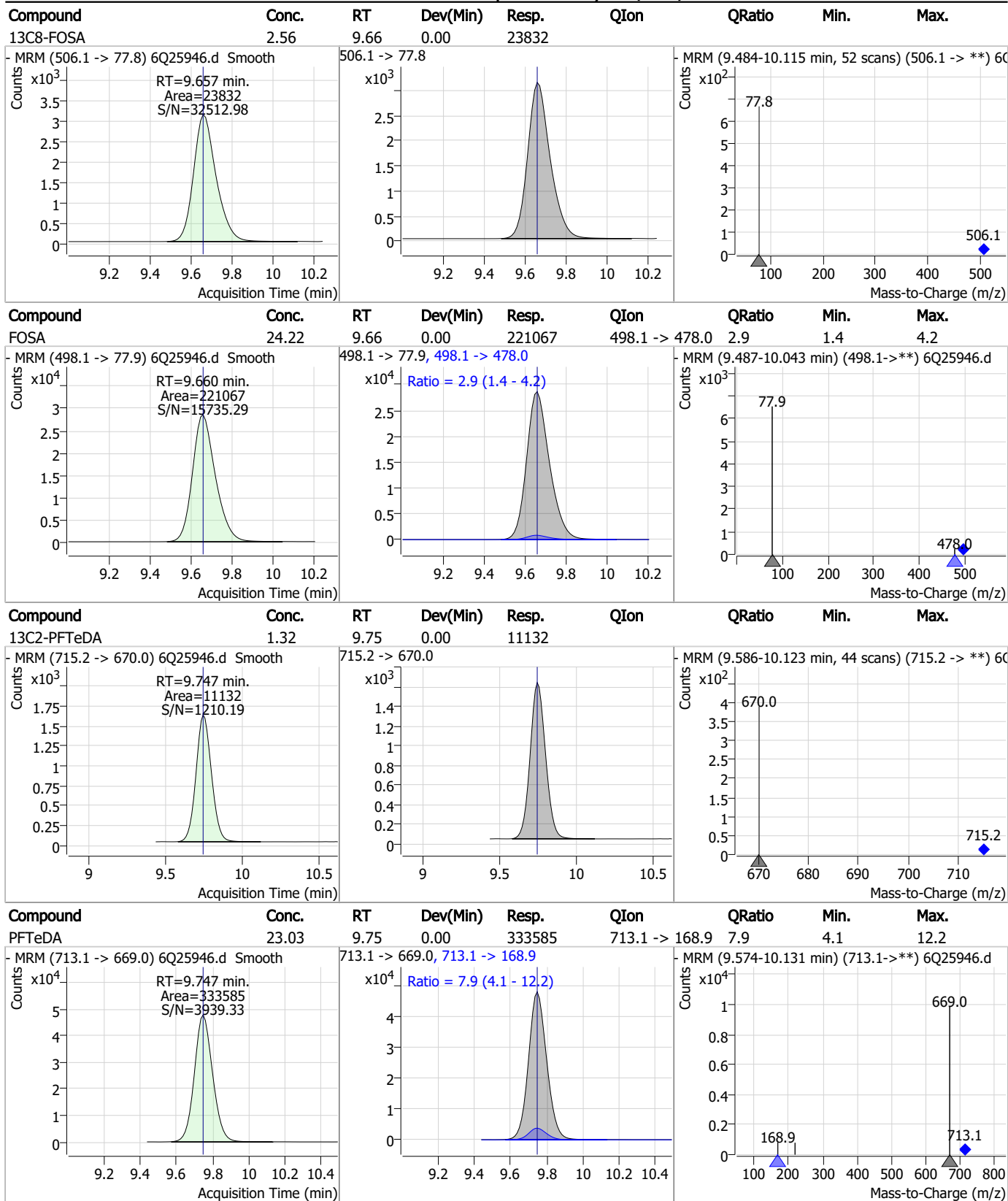
Perfluorinated Compounds by LC/MS/MS



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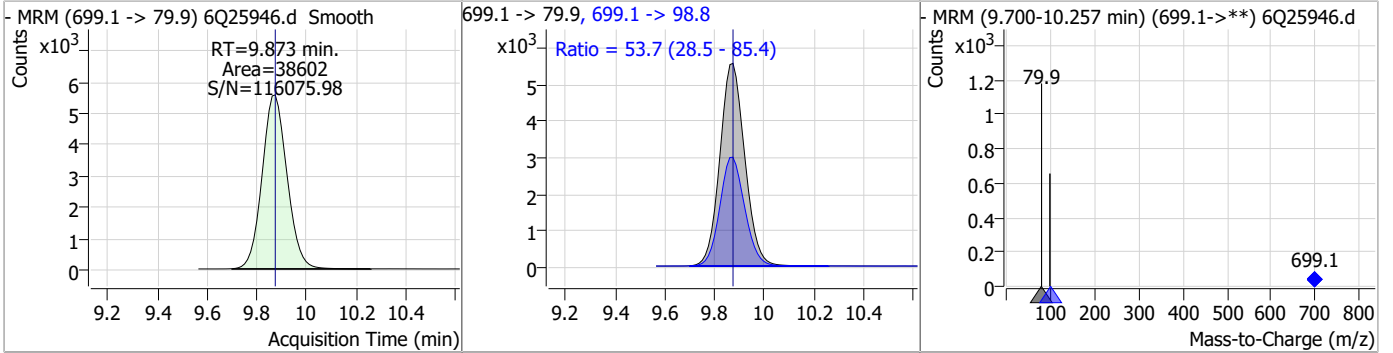
Perfluorinated Compounds by LC/MS/MS



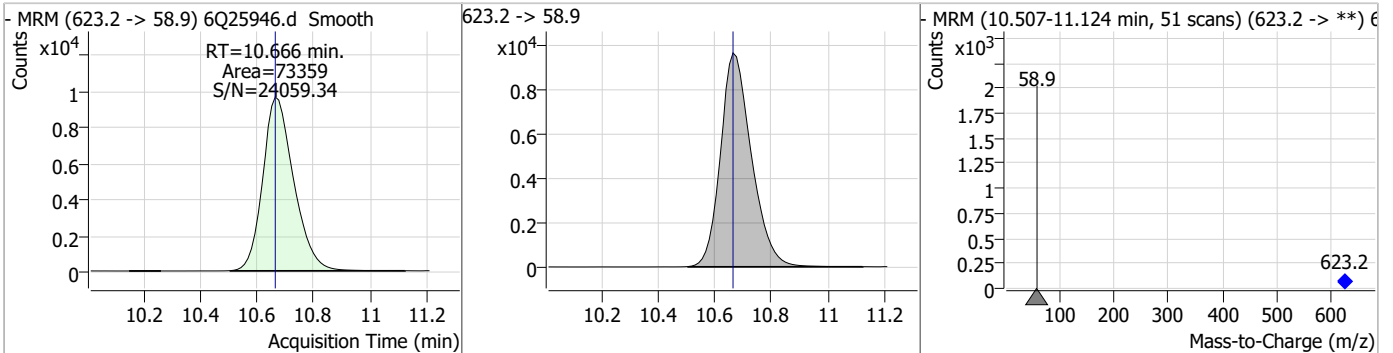
7.7.8
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Perfluorinated Compounds by LC/MS/MS

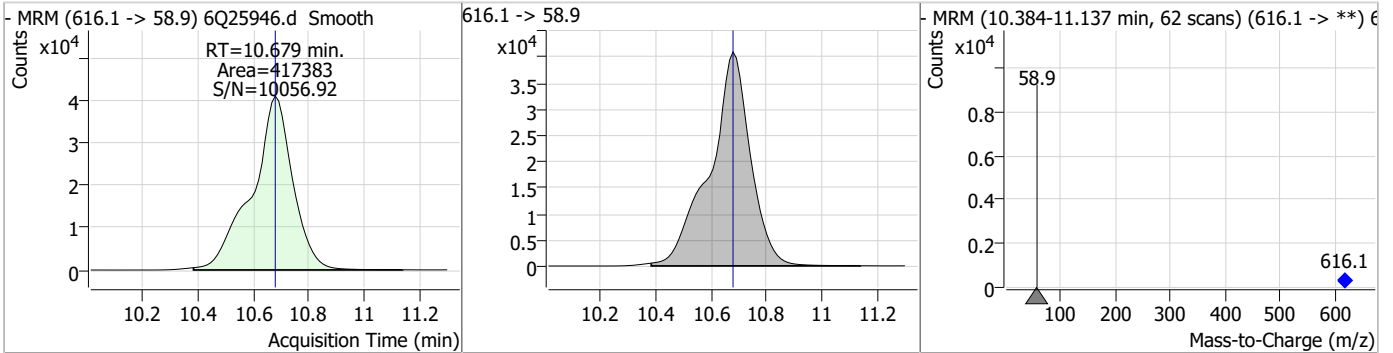
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFD _o DS	23.75	9.87	0.00	38602	699.1 -> 98.8	53.7	28.5	85.4



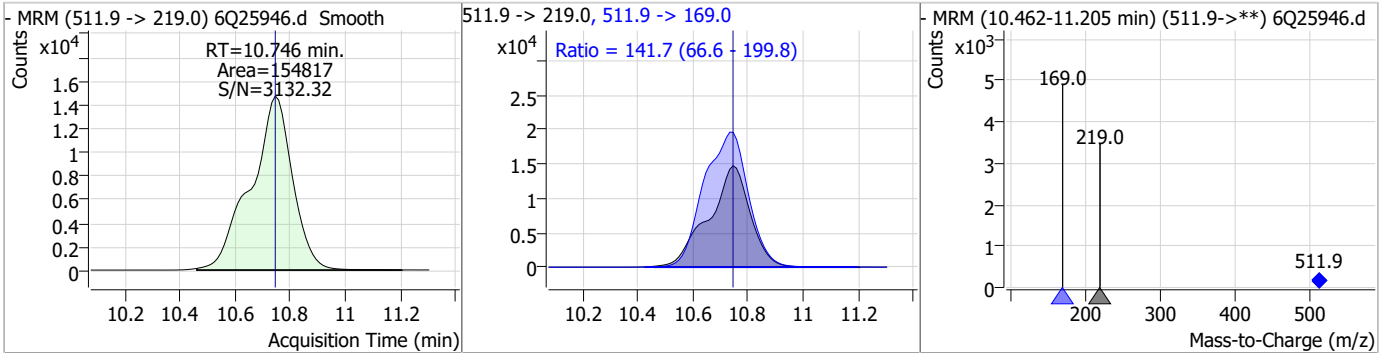
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d7-MeFOSE	24.41	10.67	0.00	73359				



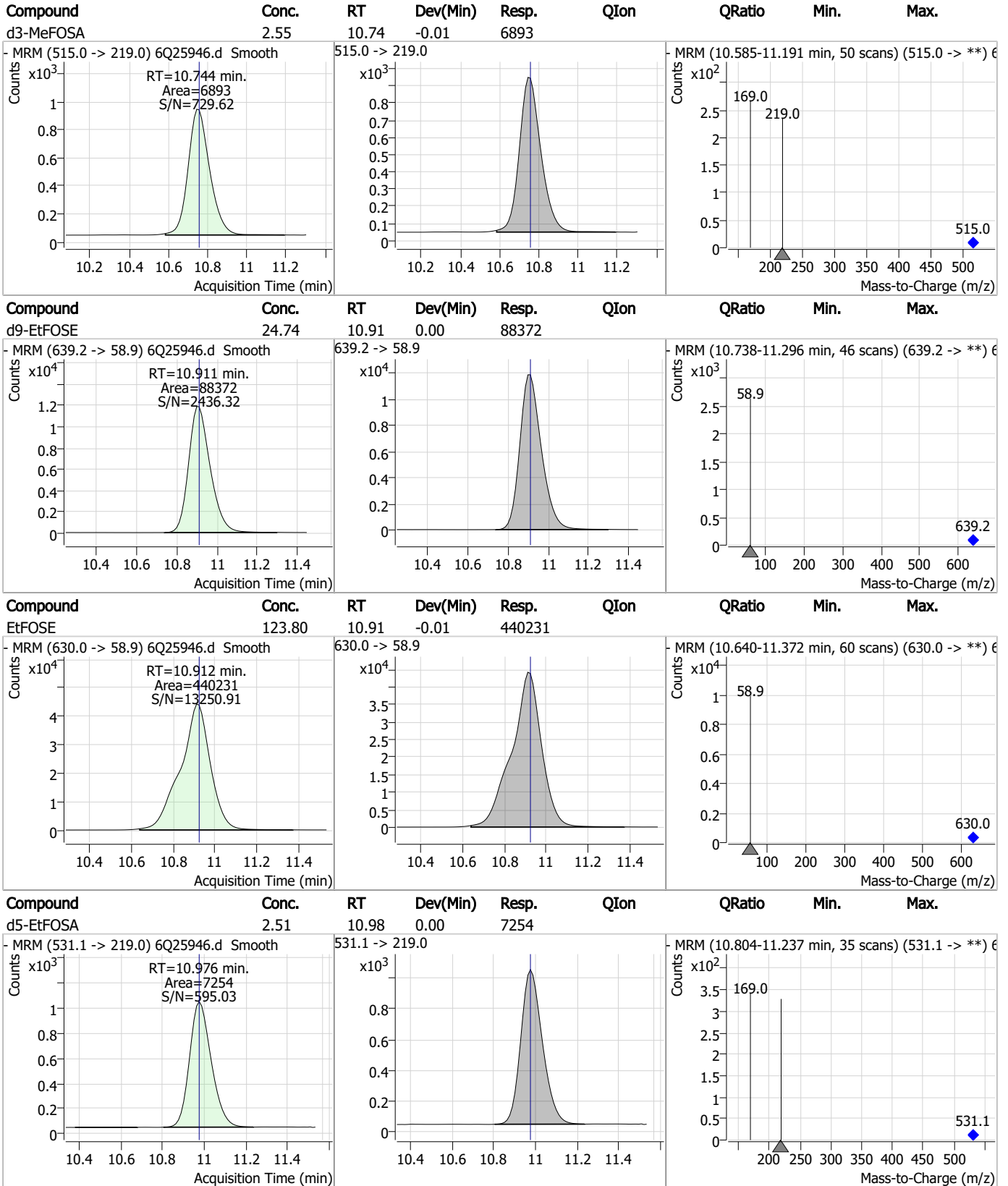
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSE	128.74	10.68	0.00	417383				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFO _{SA}	48.46	10.75	0.00	154817	511.9 -> 169.0	141.7	66.6	199.8



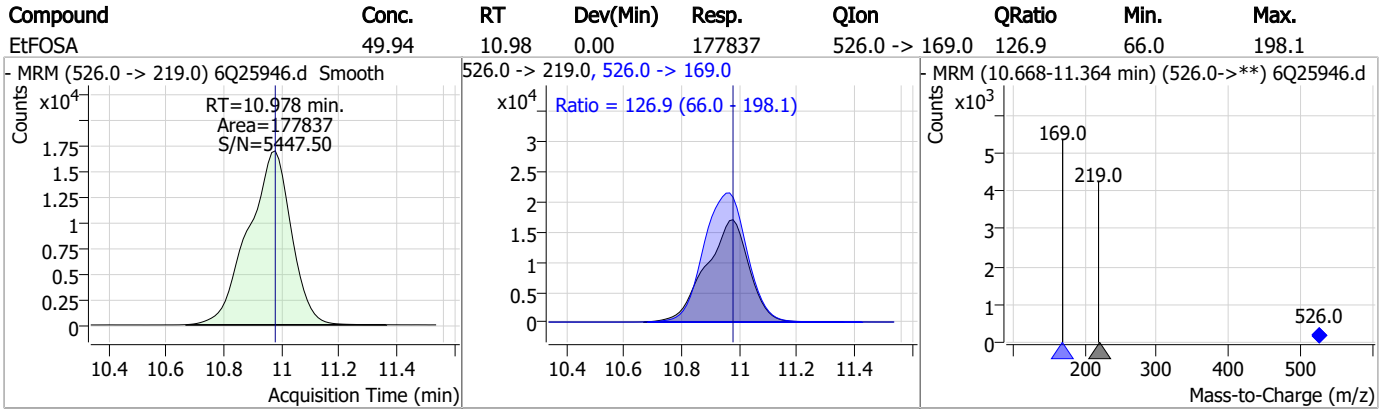
Perfluorinated Compounds by LC/MS/MS



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Perfluorinated Compounds by LC/MS/MS



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Manual Integration Approval Summary

Sample Number: S6Q367-IC367 Method: EPA DRAFT 1633
Lab FileID: 6Q25946.D Analyst approved: 10/09/23 13:30 Martha Valls
Injection Time: 10/08/23 16:29 Supervisor approved: 10/09/23 16:36 Natasha Gumtie

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		7.26	Split peak
Perfluorooctanesulfonic acid	1763-23-1		8.30	Split peak

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Perfluorinated Compounds by LC/MS/MS

Data File : 6Q25947.d
 Operator : marthav
 Acq. Method : 1633full.m
 Acq. Date-Time : 10/8/2023 4:43:38 PM
 Sample Name : ic367-8
 Vial : P1-A9
 DA Method File : 1633_100823_S6Q367.quantmethod.xml
 Batch Name : S6Q367.batch.bin
 Sample Information : OP99308,S6Q367,500,,,,5.0,1,water

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Internal Standards					
M4-PFBA	2.947	216.8 -> 171.9	128222	10.00 µg/L	0.000
M5-PFPeA	4.372	268.3 -> 223.0	48854	5.00 µg/L	0.000
M5-PFHxA	5.592	318.0 -> 273.0	44552	2.50 µg/L	0.012
M4-PFHpA	6.519	367.1 -> 322.0	42615	2.50 µg/L	0.000
M8-PFOA	7.161	421.1 -> 376.0	59388	2.50 µg/L	0.000
M9-PFNA	7.680	472.1 -> 427.0	24335	1.25 µg/L	0.000
M6-PFDA	8.161	519.1 -> 474.1	25619	1.25 µg/L	0.000
M7-PFUnDA	8.601	570.0 -> 525.1	25638	1.25 µg/L	-0.012
M2-PFDoDA	9.030	615.1 -> 570.0	30869	1.25 µg/L	0.000
M2-PFTeDA	9.747	715.2 -> 670.0	10731	1.25 µg/L	0.000
M8-FOSA	9.657	506.1 -> 77.8	21988	2.50 µg/L	0.000
M3-PFBS	5.510	302.1 -> 79.9	19302	2.50 µg/L	0.012
M3-PFHxS	7.263	402.1 -> 79.9	11157	2.50 µg/L	0.000
M8-PFOS	8.311	507.1 -> 79.9	11113	2.50 µg/L	0.000
M2-4:2FTS	5.255	329.1 -> 80.9	1836	5.00 µg/L	0.000
M2-6:2FTS	6.936	429.1 -> 80.9	2694	5.00 µg/L	0.000
M2-8:2FTS	7.950	529.1 -> 80.9	3017	5.00 µg/L	0.000
M3-MeFOSAA	8.207	573.2 -> 419.0	21249	5.00 µg/L	0.000
M3-HFPO-DA	5.957	286.9 -> 168.9	30484	10.00 µg/L	0.000
M5-EtFOSAA	8.415	589.2 -> 419.0	20482	5.00 µg/L	0.000
M7-MeFOSE	10.666	623.2 -> 58.9	68552	25.00 µg/L	0.000
M9-EtFOSE	10.898	639.2 -> 58.9	84301	25.00 µg/L	-0.012
M5-EtFOSA	10.976	531.1 -> 219.0	6699	2.50 µg/L	0.000
M3-MeFOSA	10.757	515.0 -> 219.0	7320	2.50 µg/L	0.000
13C4-PFOS	8.312	502.8 -> 79.9	10706	2.50 µg/L	0.000
13C3-PFBA	2.952	216.0 -> 172.0	53633	5.00 µg/L	0.000
18O2-PFHxS	7.263	403.0 -> 83.9	7108	2.50 µg/L	0.000
13C4-PFOA	7.162	417.1 -> 372.0	68074	2.50 µg/L	0.000
13C2-PFDA	8.161	515.1 -> 470.1	24598	1.25 µg/L	0.000
13C5-PFNA	7.680	468.0 -> 423.0	23234	1.25 µg/L	0.000
13C2-PFHxA	5.593	315.1 -> 270.0	44856	2.50 µg/L	0.012
System Monitoring Compounds					
13C2-4:2FTS	5.255	329.1 -> 80.9	1836	4.59 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 91.7%		
13C2-6:2FTS	6.936	429.1 -> 80.9	2694	4.52 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 90.4%		
13C2-8:2FTS	7.950	529.1 -> 80.9	3017	4.92 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 98.4%		
13C2-PFDoDA	9.030	615.1 -> 570.0	30869	1.26 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 100.7%		
13C2-PFTeDA	9.747	715.2 -> 670.0	10731	1.29 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 103.3%		
13C3-PFBS	5.510	302.1 -> 79.9	19302	2.40 µg/L	0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 95.9%		
13C3-PFHxS	7.263	402.1 -> 79.9	11157	2.47 µg/L	0.000

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Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 98.8%	
13C4-PFBA	2.947	216.8 -> 171.9	128222	9.90 µg/L	0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 99.0%	
13C4-PFHpA	6.519	367.1 -> 322.0	42615	2.35 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 93.9%	
13C5-PFHxA	5.592	318.0 -> 273.0	44552	2.40 µg/L	0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 96.1%	
13C5-PFPeA	4.372	268.3 -> 223.0	48854	4.81 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 96.3%	
13C6-PFDA	8.161	519.1 -> 474.1	25619	1.24 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 98.9%	
13C7-PFUnDA	8.601	570.0 -> 525.1	25638	1.14 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 91.6%	
13C8-FOSA	9.657	506.1 -> 77.8	21988	2.49 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 99.5%	
13C8-PFOA	7.161	421.1 -> 376.0	59388	2.52 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 100.6%	
13C8-PFOS	8.311	507.1 -> 79.9	11113	2.40 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 96.1%	
13C9-PFNA	7.680	472.1 -> 427.0	24335	1.27 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 101.9%	
d3-MeFOSAA	8.207	573.2 -> 419.0	21249	4.51 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 90.2%	
13C3-HFPO-DA	5.957	286.9 -> 168.9	30484	9.74 µg/L	0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 97.4%	
d3-MeFOSA	10.757	515.0 -> 219.0	7320	2.86 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 114.3%	
d5-EtFOSAA	8.415	589.2 -> 419.0	20482	5.08 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 101.5%	
d7-MeFOSE	10.666	623.2 -> 58.9	68552	24.04 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 96.2%	
d9-EtFOSE	10.898	639.2 -> 58.9	84301	24.87 µg/L	-0.012
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 99.5%	
d5-EtFOSA	10.976	531.1 -> 219.0	6699	2.45 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 97.8%	
Target Compounds					QValue
4:2FTS	5.255	327.1 -> 307.0	653882	214.71 µg/L	99
		327.1 -> 80.9	251393		
6:2FTS	6.937	427.1 -> 407.0	505650	206.49 µg/L	98
		427.1 -> 80.9	201625		
8:2FTS	7.950	527.1 -> 507.0	426591	202.95 µg/L	98
		527.1 -> 80.8	155520		
EtFOSAA	8.416	584.2 -> 419.1	203888	61.26 µg/L	99
		584.2 -> 526.0	125213		
FOSA	9.660	498.1 -> 77.9	546690	64.93 µg/L	100
		498.1 -> 478.0	15406		
MeFOSAA	8.220	570.1 -> 419.0	262672	66.18 µg/L	100
		570.1 -> 483.0	56114		
PFBA	2.943	212.8 -> 168.9	1208910	253.09 µg/L	100
PFBS	5.511	298.7 -> 79.9	320167	55.35 µg/L	98
		298.7 -> 98.8	122140		
PFDA	8.161	512.9 -> 469.0	1211660	60.53 µg/L	98
		512.9 -> 219.0	195610		
PFDoDA	9.031	613.1 -> 569.0	1411075	61.48 µg/L	97
		613.1 -> 319.0	176788		
PFDS	9.183	599.0 -> 79.9	169774	59.73 µg/L	92

7.7.9
7



Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
PFHpA	6.532	599.0 -> 98.8	83815	63.99	µg/L	99
		363.1 -> 319.0	1479718			
PFHpS	7.819	363.1 -> 169.0	211412	59.98	µg/L	99
		449.0 -> 79.9	275203			
PFHxA	5.594	449.0 -> 98.9	132480	64.91	µg/L	99
		313.0 -> 269.0	1033659			
PFHxS	7.264	313.0 -> 118.9	47967	56.64	µg/L	m
		398.7 -> 79.9	264130			
PFNA	7.680	398.7 -> 98.9	127056	61.62	µg/L	100
		463.0 -> 419.0	924343			
PFNS	8.765	463.0 -> 219.0	224137	61.02	µg/L	92
		548.8 -> 79.9	247289			
PFOA	7.163	548.8 -> 98.9	117890	61.21	µg/L	96
		413.0 -> 369.0	1559923			
PFOS	8.312	413.0 -> 169.0	260830	58.97	µg/L	m
		498.9 -> 79.9	279965			
PFPeA	4.374	498.9 -> 98.8	138881	124.00	µg/L	100
		263.0 -> 219.0	1306803			
PFPeS	6.571	349.1 -> 79.9	347632	57.71	µg/L	95
		349.1 -> 98.9	163329			
PFTeDA	9.748	713.1 -> 669.0	799175	57.24	µg/L	99
		713.1 -> 168.9	62291			
PFTrDA	9.413	663.0 -> 619.0	1058326	58.66	µg/L	100
		663.0 -> 168.9	85888			
PFUnDA	8.602	563.1 -> 519.0	1175327	65.06	µg/L	99
		563.1 -> 269.1	179583			
11Cl-PF3OUdS	9.454	630.9 -> 450.9	1034917	114.43	µg/L	99
		632.9 -> 452.9	324646			
9Cl-PF3ONS	8.641	530.8 -> 351.0	1768353	110.19	µg/L	93
		532.8 -> 353.0	592192			
ADONA	6.780	376.9 -> 250.9	4949141	118.19	µg/L	93
		376.9 -> 84.8	1196900			
HFPO-DA	5.958	284.9 -> 168.9	372486	123.30	µg/L	98
		284.9 -> 184.9	41977			
3:3FTCA	3.808	241.0 -> 177.0	240091	348.91	µg/L	99
		241.0 -> 117.0	31492			
5:3FTCA	6.233	341.0 -> 237.1	4638239	1553.46	µg/L	96
		341.0 -> 217.0	3460020			
7:3FTCA	7.632	441.0 -> 316.9	2823299	1548.11	µg/L	92
		441.0 -> 336.9	6010600			
EtFOSA	10.978	526.0 -> 219.0	430956	131.06	µg/L	98
		526.0 -> 169.0	557724			
EtFOSE	10.924	630.0 -> 58.9	1045981	308.35	µg/L	100
		511.9 -> 219.0	373615			
MeFOSA	10.746	511.9 -> 169.0	530963	110.11	µg/L	92
		616.1 -> 58.9	1017101			
MeFOSE	10.679	699.1 -> 79.9	91834	335.72	µg/L	100
		699.1 -> 98.8	48662			
PFDoDS	9.861	295.0 -> 201.0	241020	62.21	µg/L	95
		295.0 -> 84.9	64935			
NFDHA	5.462	279.0 -> 85.1	998607	120.44	µg/L	99
		229.0 -> 84.9	833048			
PFMBA	4.800	314.8 -> 134.9	2322660	124.36	µg/L	100
		314.8 -> 82.9	82554			
PFMPA	3.513			125.66	µg/L	100
PFEESA	6.050			113.36	µg/L	100

= Qualifier out of range, m = manually integrated, + = Area summed

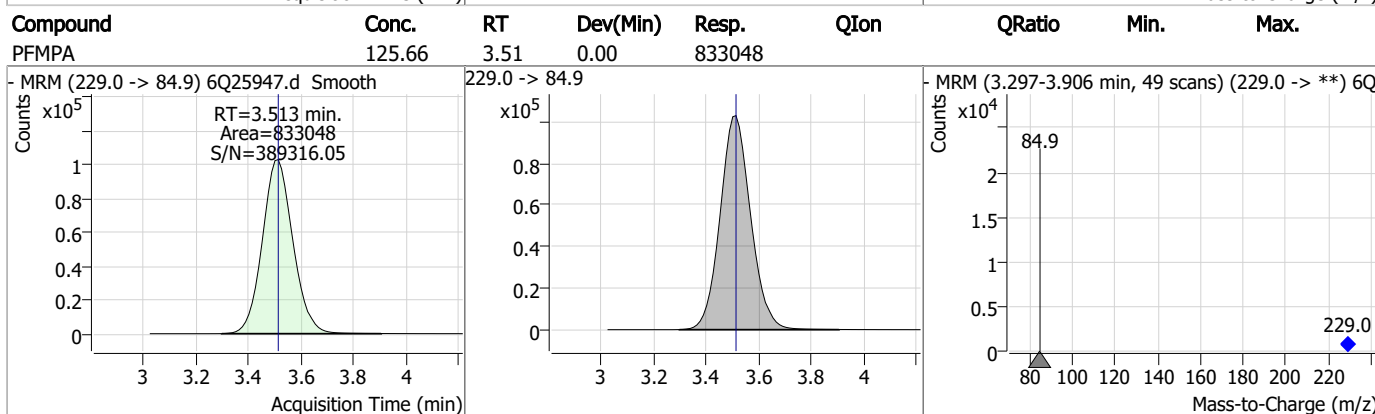
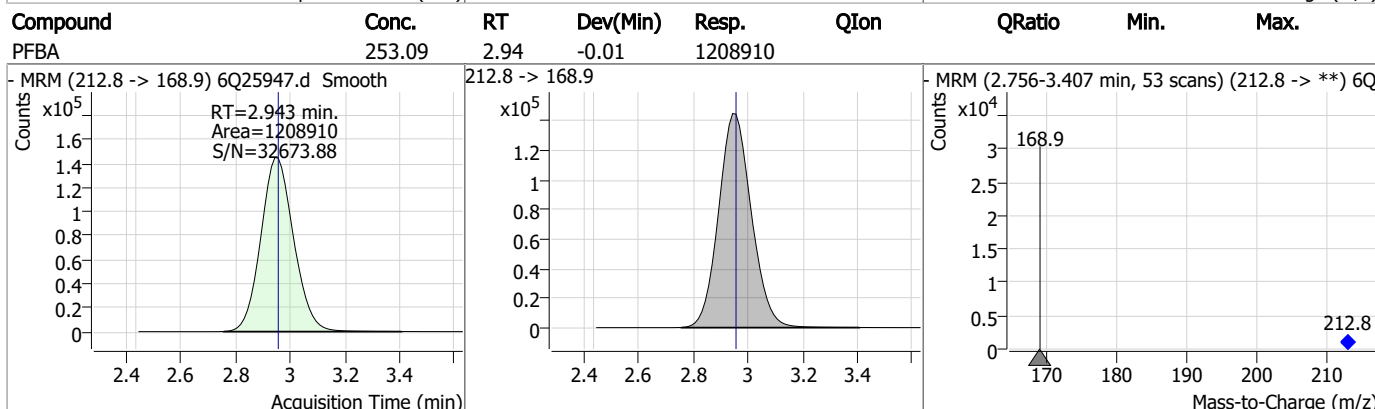
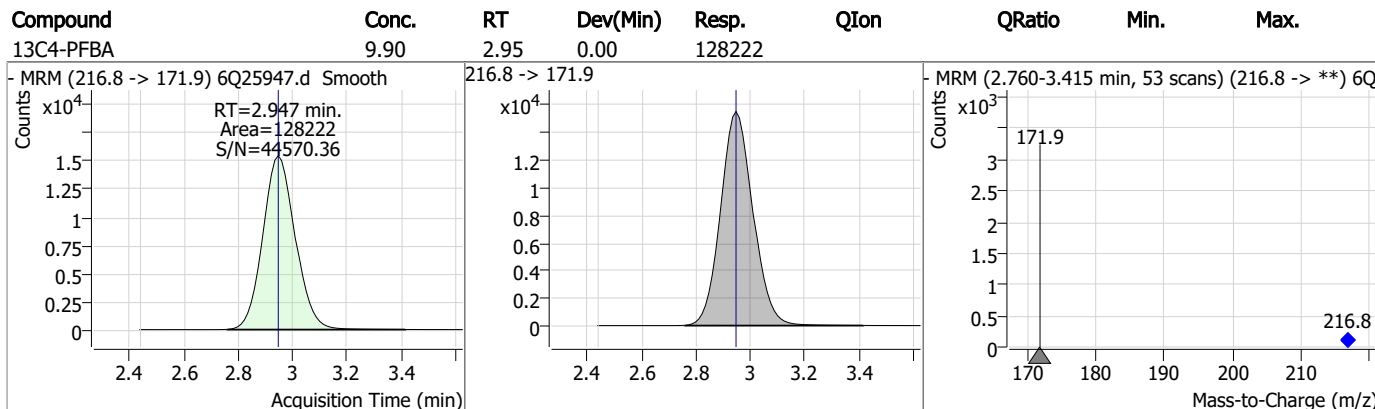
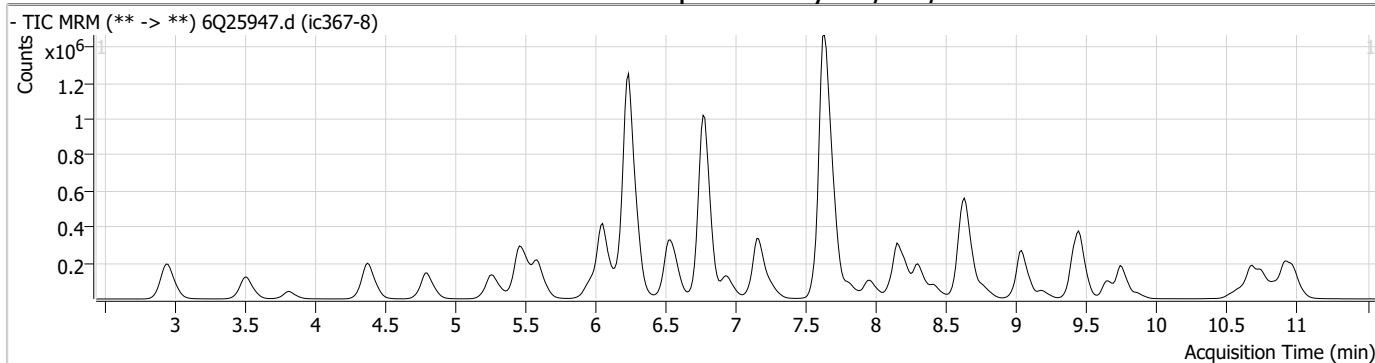
Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
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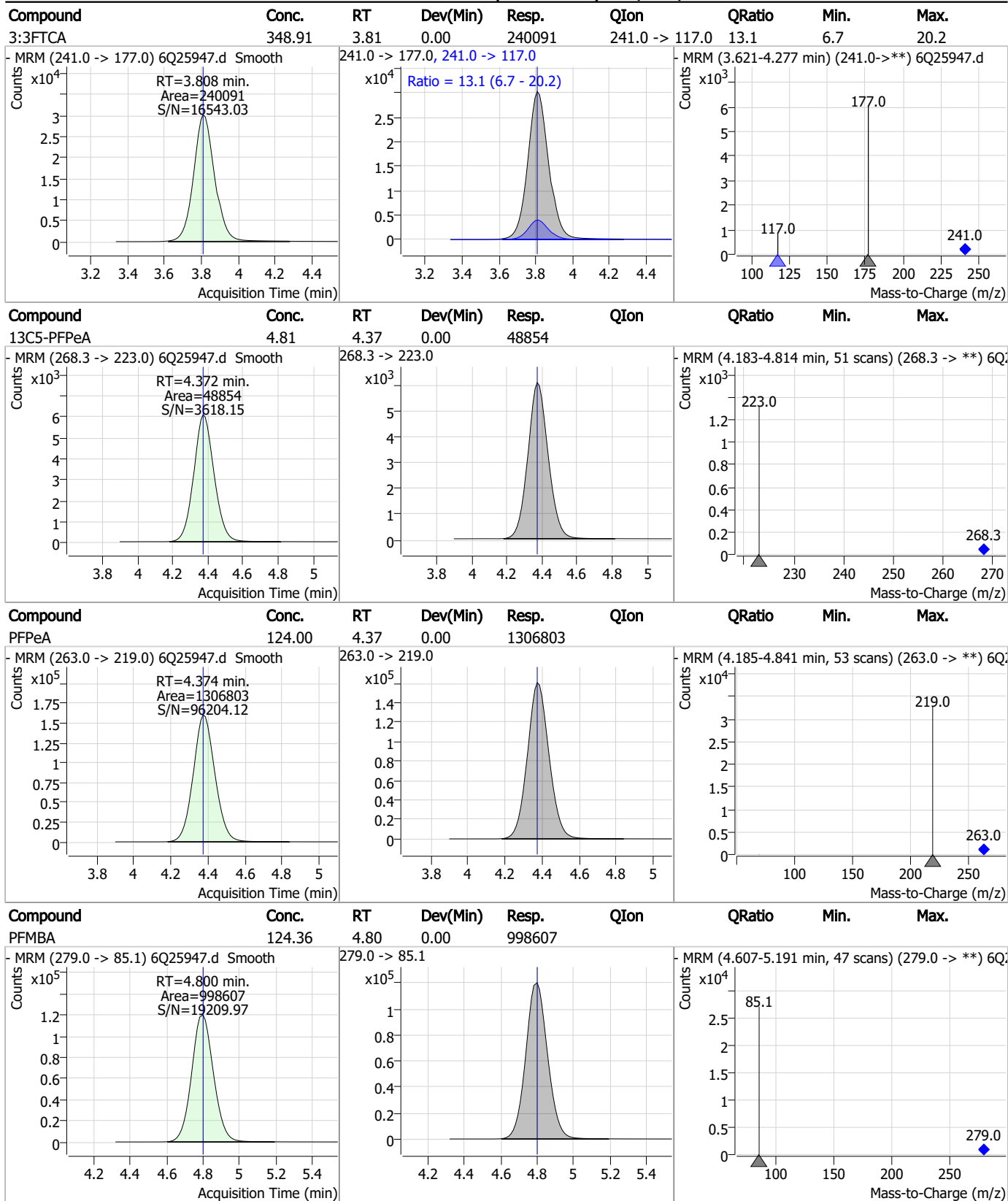
7.7.9

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Perfluorinated Compounds by LC/MS/MS

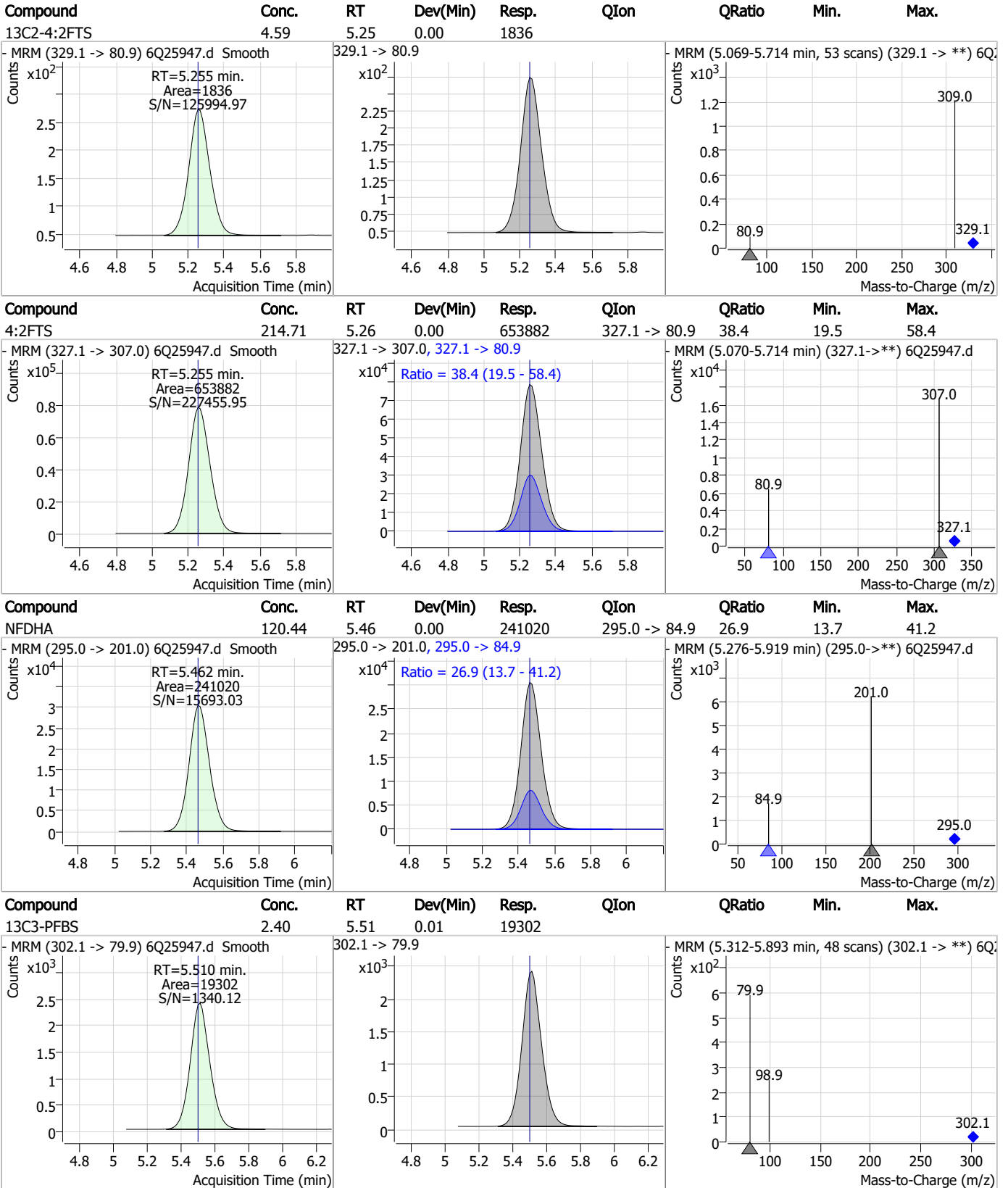


Perfluorinated Compounds by LC/MS/MS



7.7.9
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Perfluorinated Compounds by LC/MS/MS

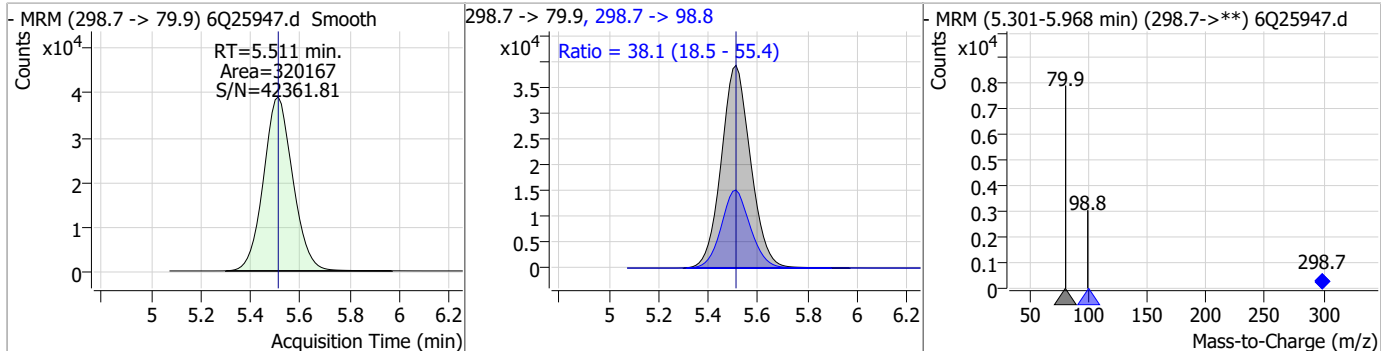


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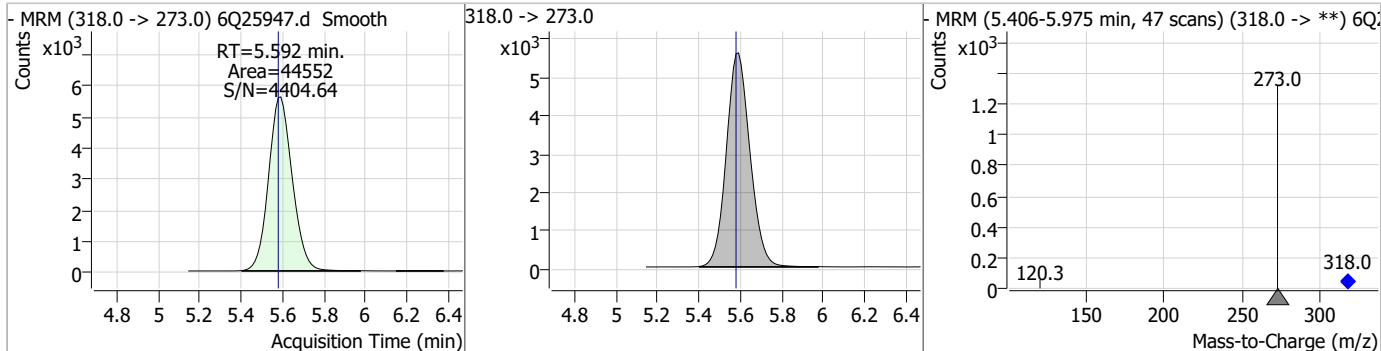
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Perfluorinated Compounds by LC/MS/MS

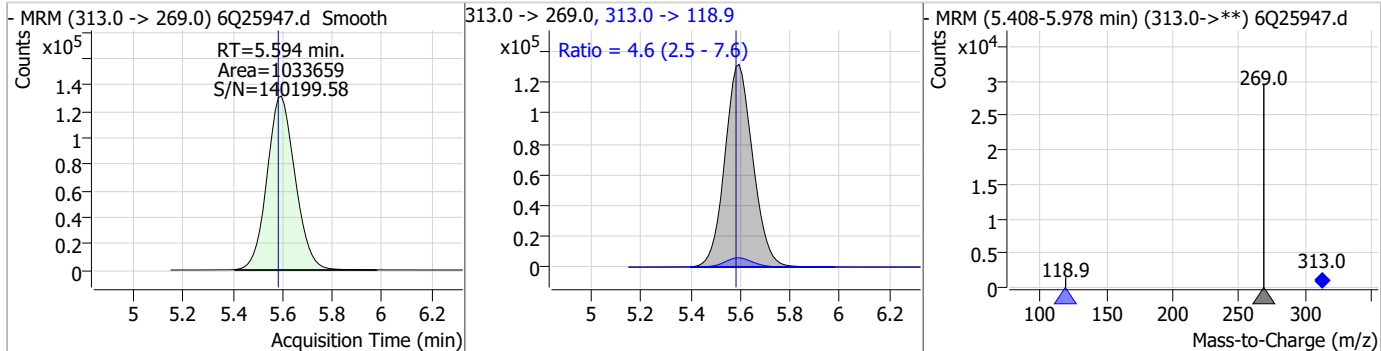
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBS	55.35	5.51	0.00	320167	298.7 -> 98.8	38.1	18.5	55.4



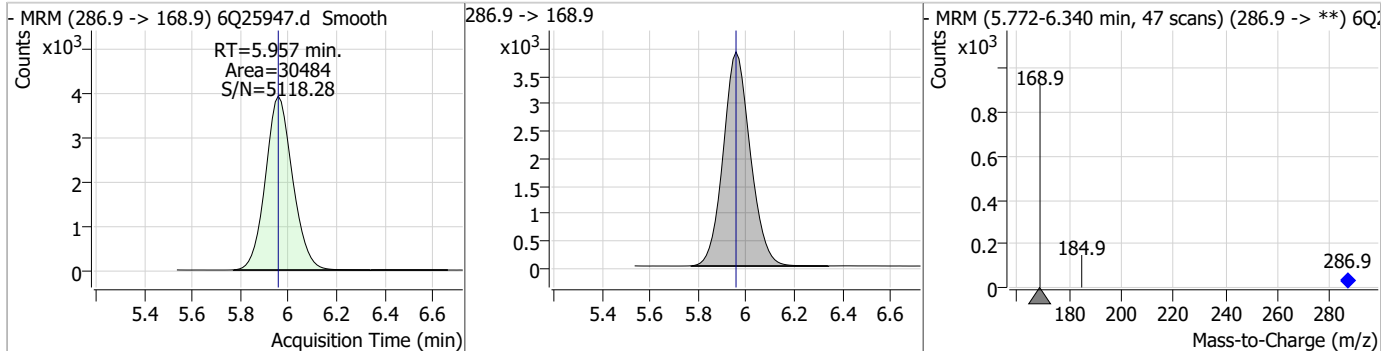
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFHxA	2.40	5.59	0.01	44552				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxA	64.91	5.59	0.01	1033659	313.0 -> 118.9	4.6	2.5	7.6



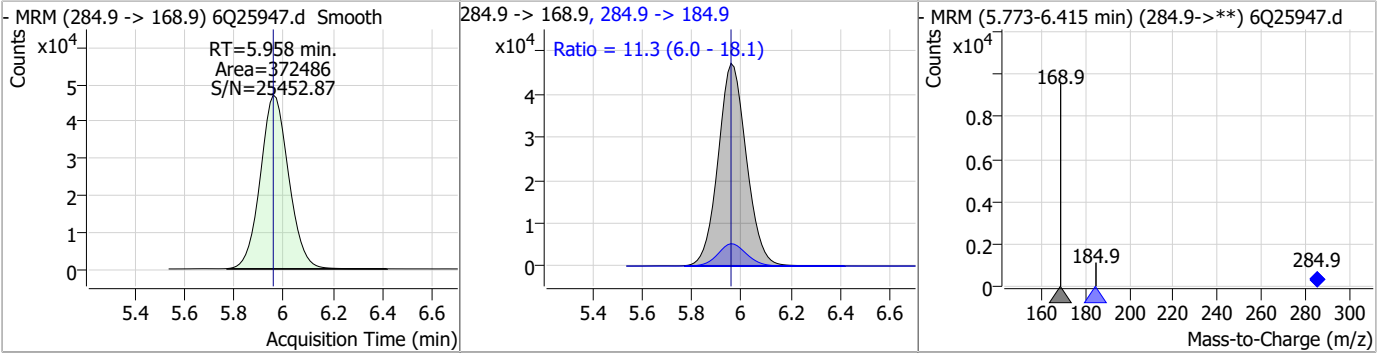
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-HFPO-DA	9.74	5.96	0.00	30484				



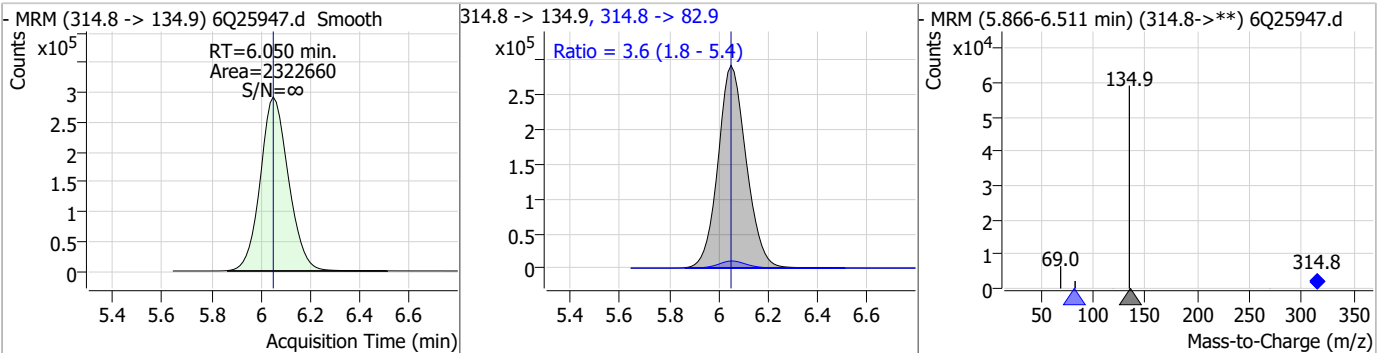
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Perfluorinated Compounds by LC/MS/MS

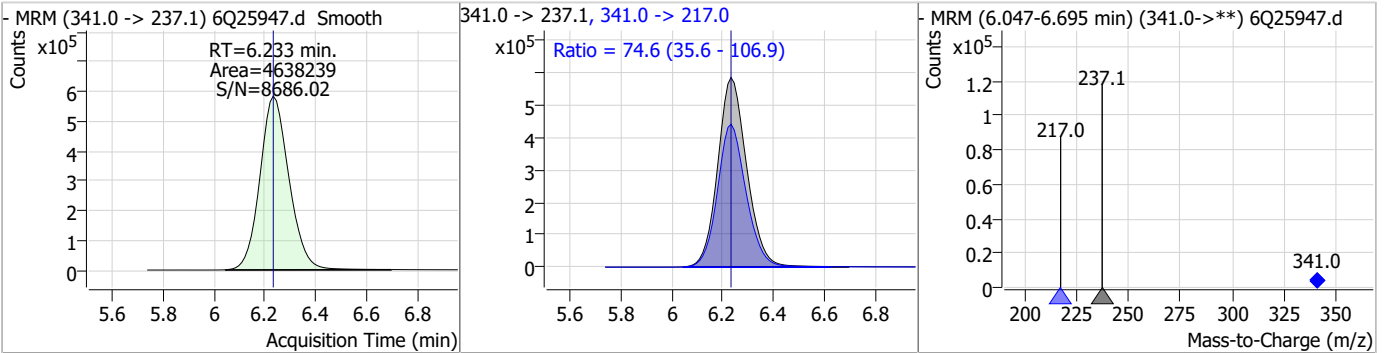
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
HFPO-DA	123.30	5.96	0.00	372486	284.9 -> 184.9	11.3	6.0	18.1



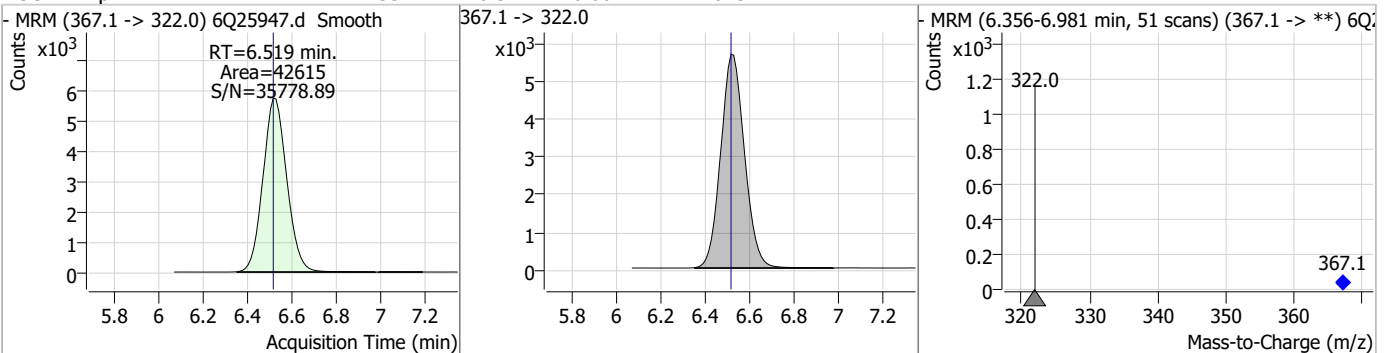
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFEESA	113.36	6.05	0.00	2322660	314.8 -> 82.9	3.6	1.8	5.4



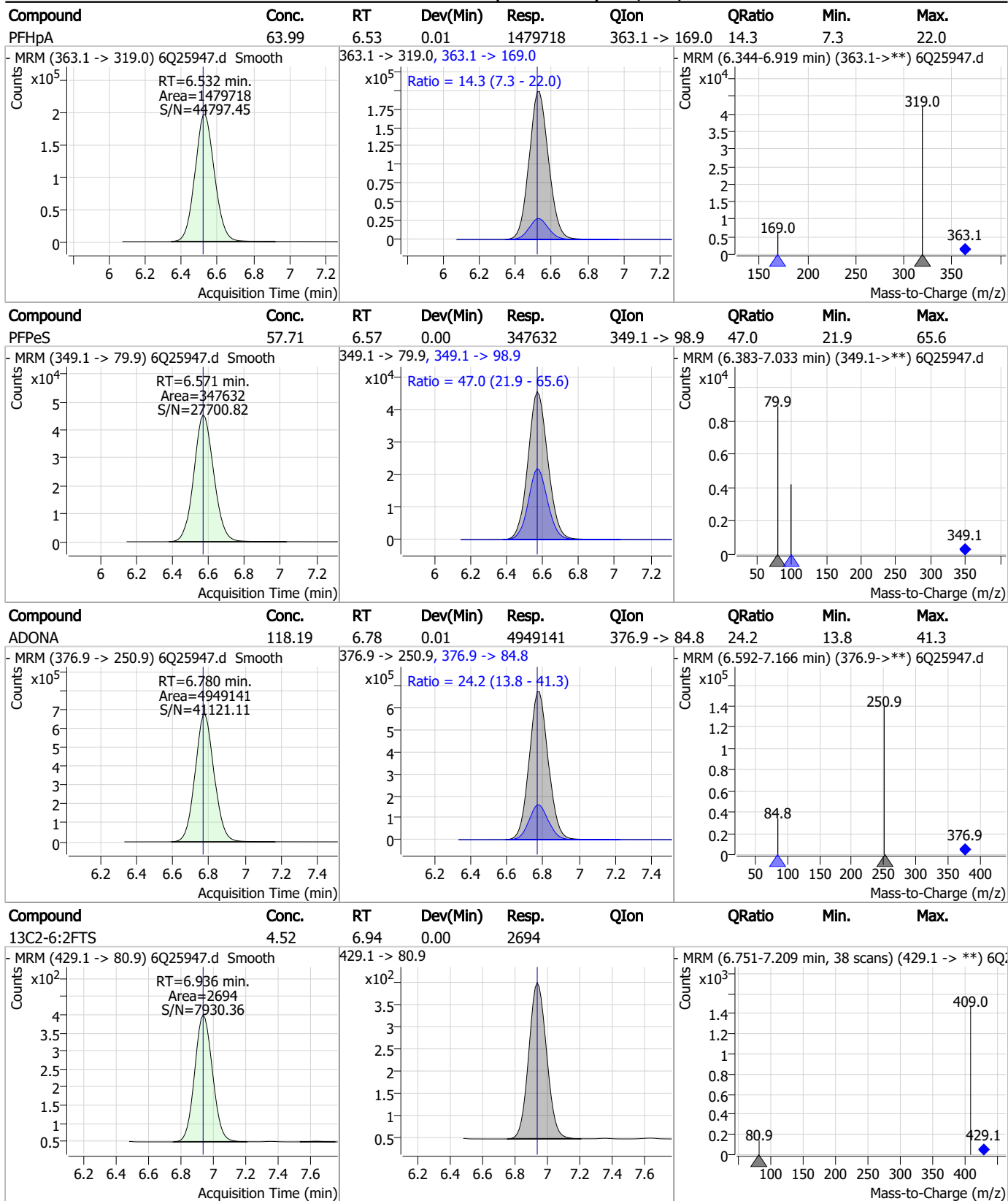
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
5:3FTCA	1553.46	6.23	0.00	4638239	341.0 -> 217.0	74.6	35.6	106.9



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFHpA	2.35	6.52	0.00	42615	367.1 -> 322.0			

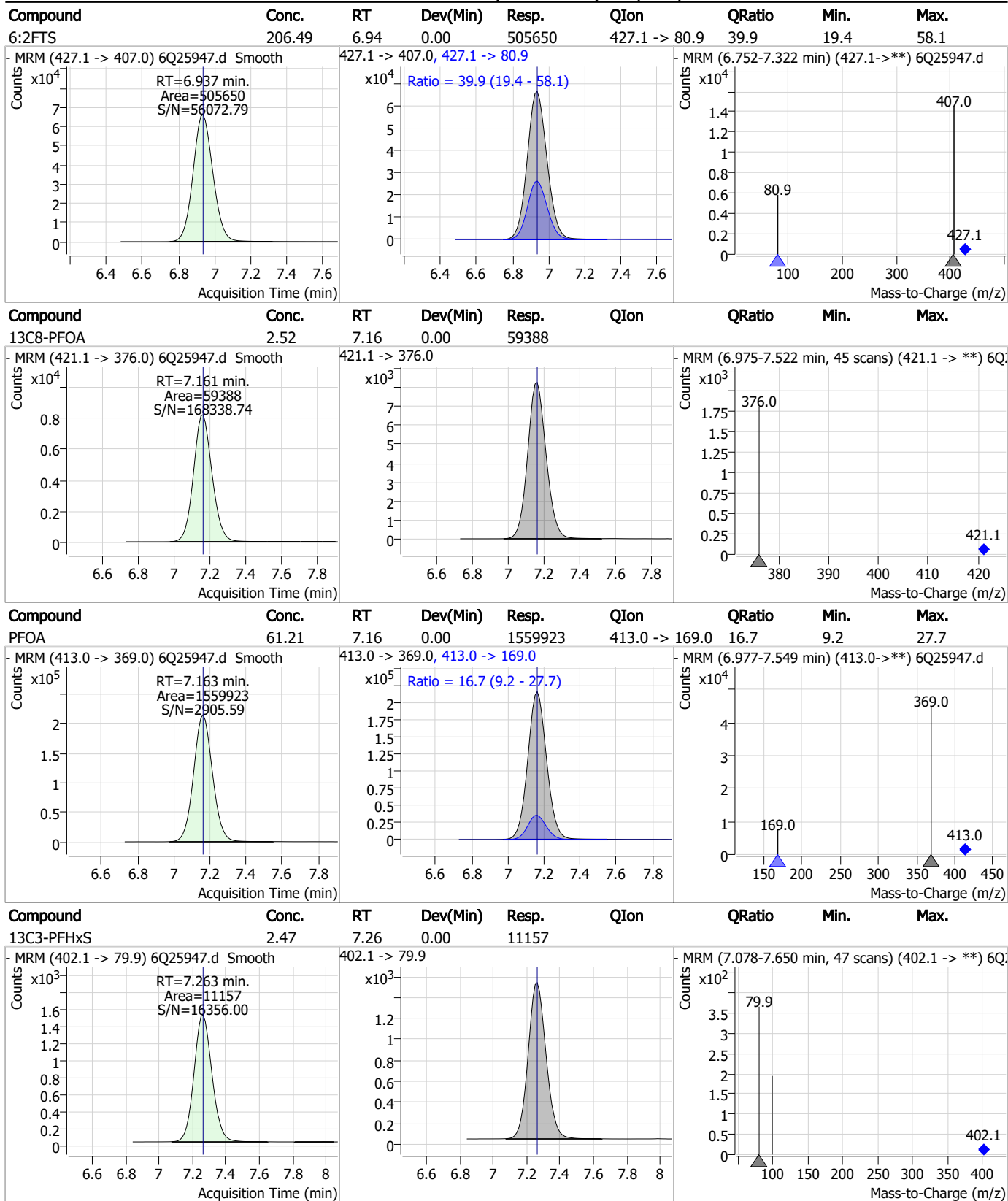


Perfluorinated Compounds by LC/MS/MS



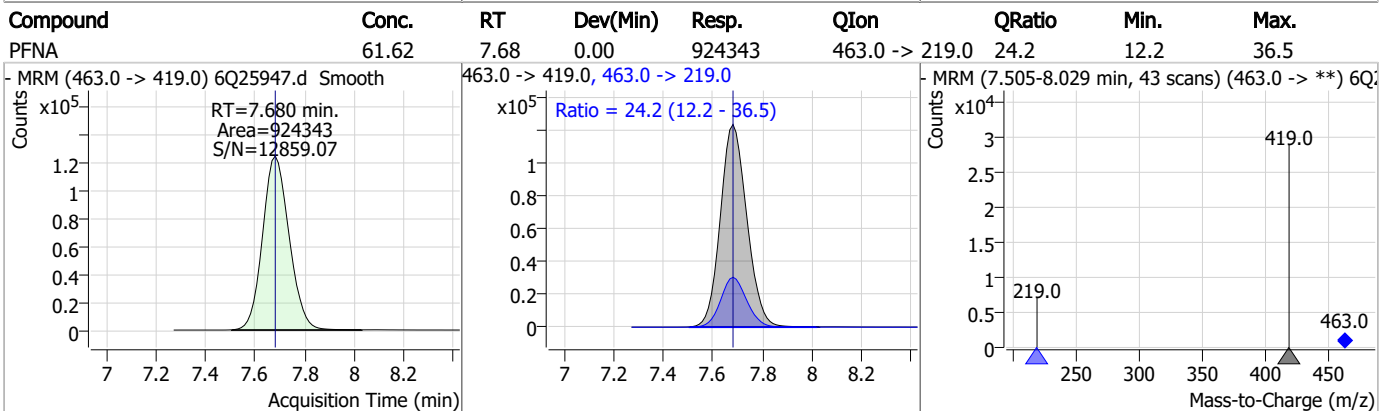
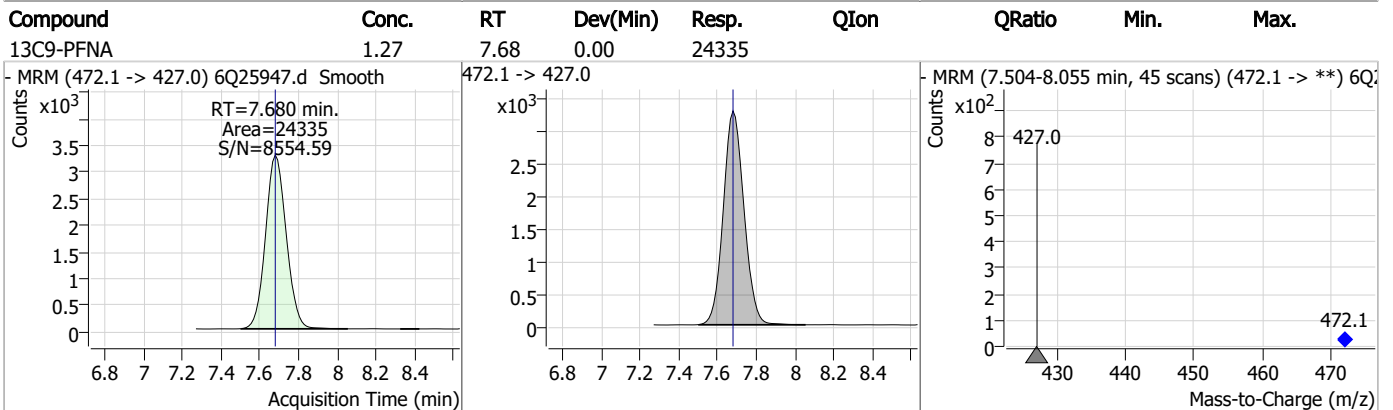
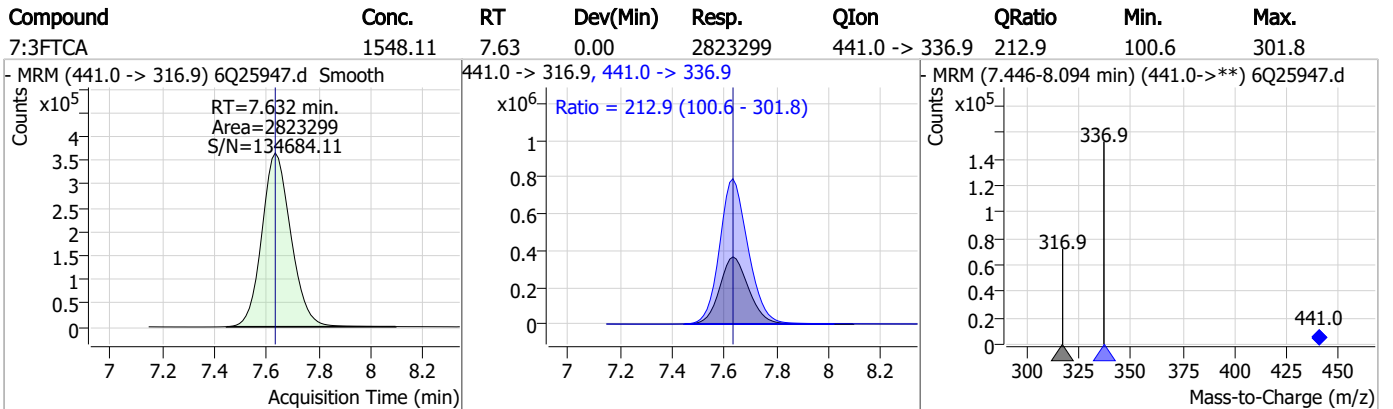
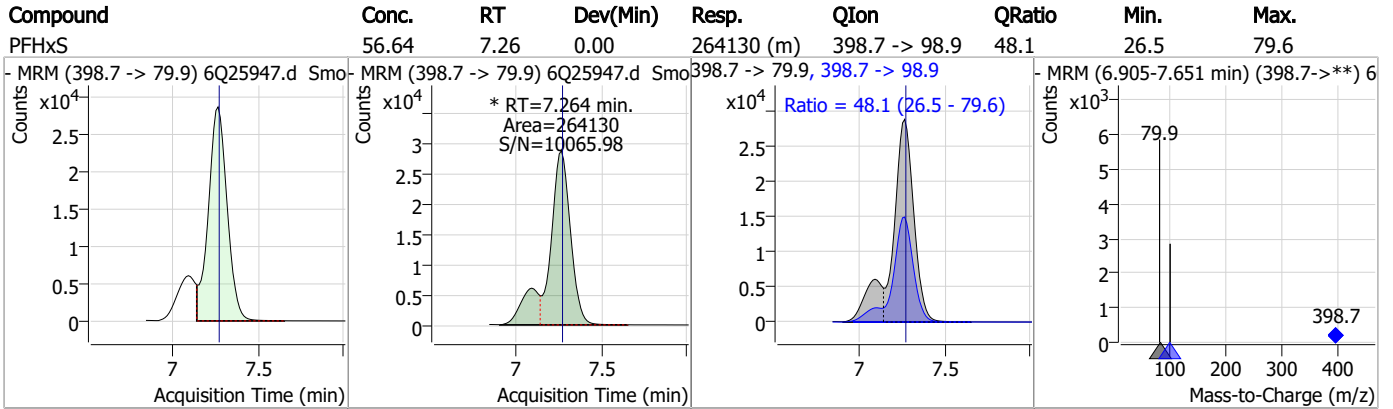
7.7.9
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Perfluorinated Compounds by LC/MS/MS



7.7.9
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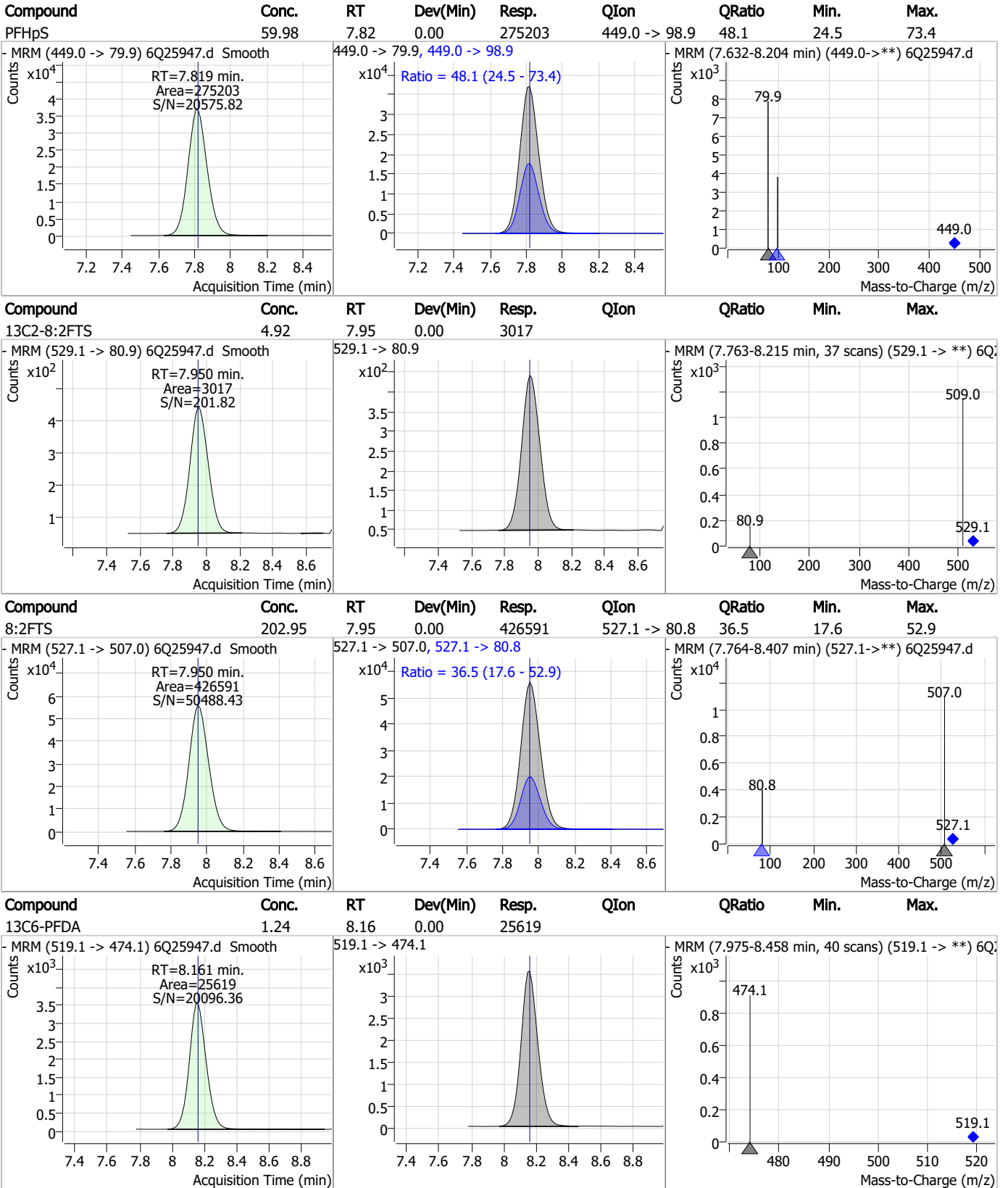
Perfluorinated Compounds by LC/MS/MS



7.7.9

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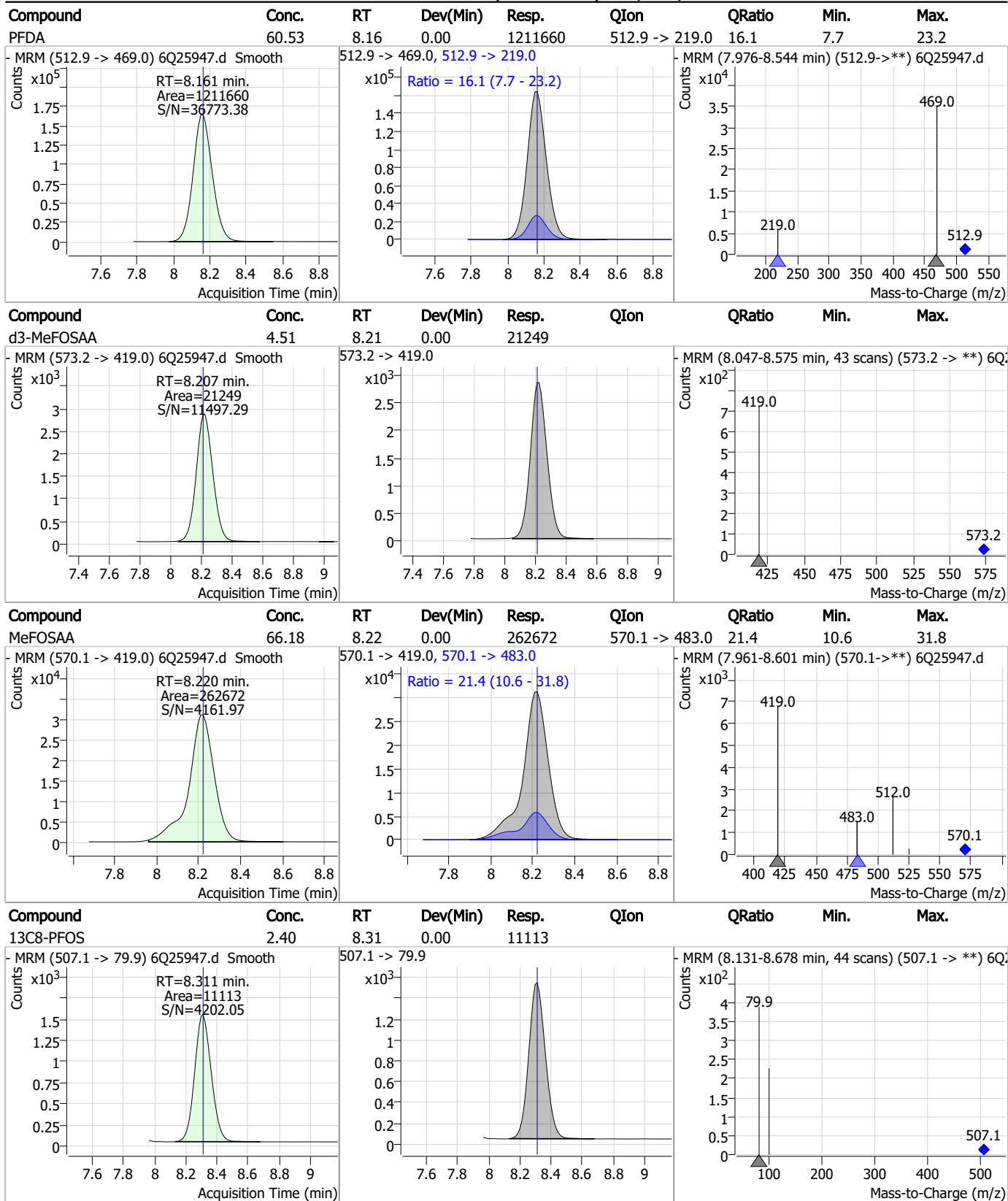
Perfluorinated Compounds by LC/MS/MS



7.7.9

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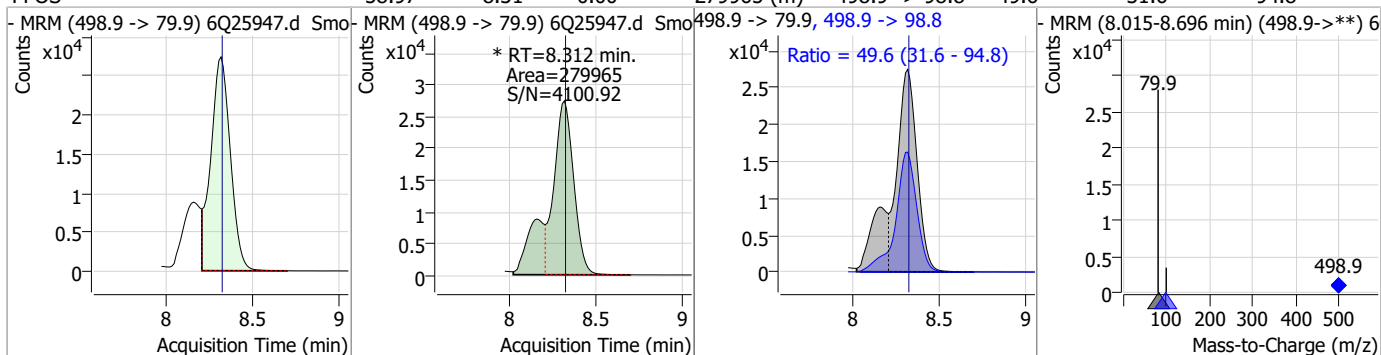
Perfluorinated Compounds by LC/MS/MS



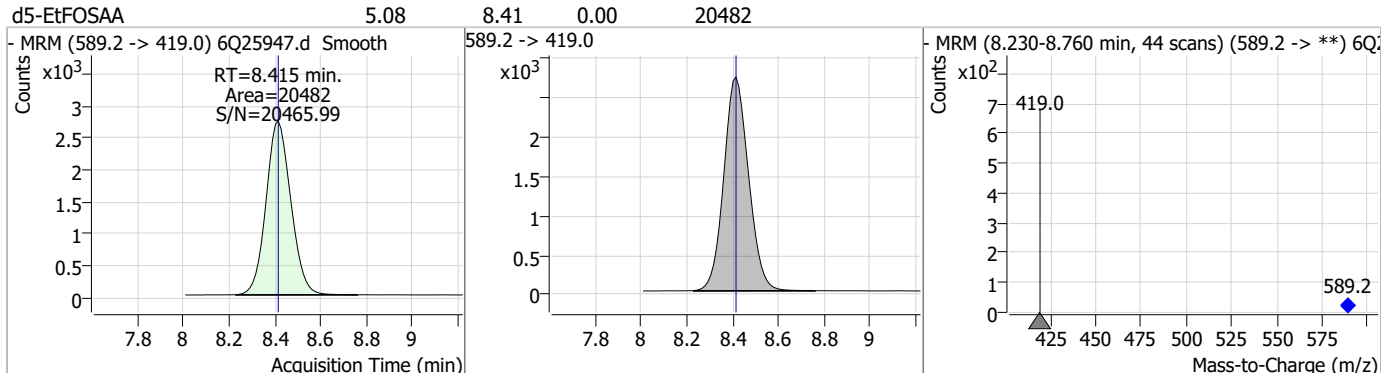
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Perfluorinated Compounds by LC/MS/MS

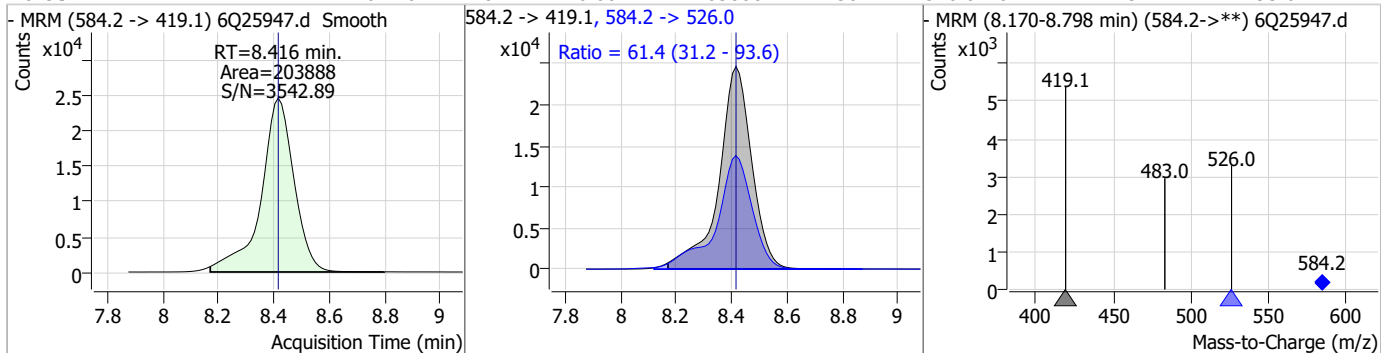
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOS	58.97	8.31	0.00	279965 (m)	498.9 -> 98.8	49.6	31.6	94.8



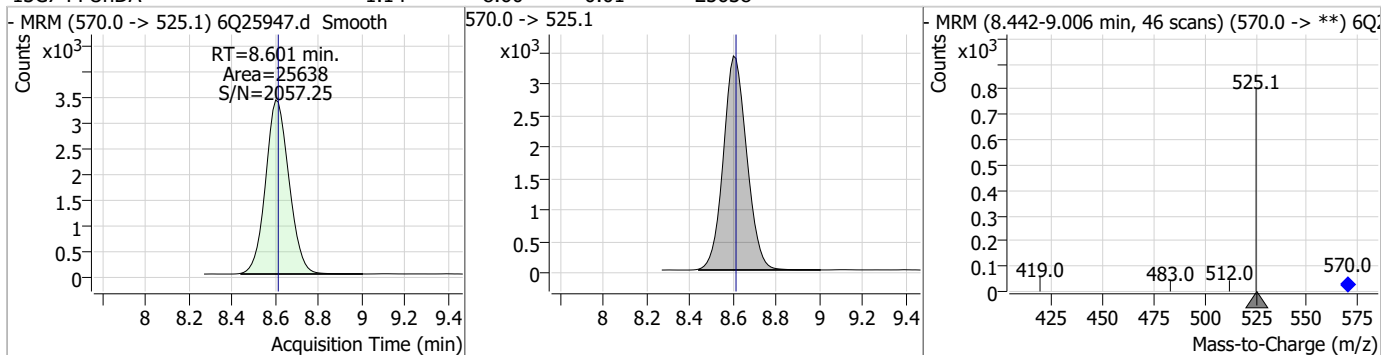
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSAA	5.08	8.41	0.00	20482				



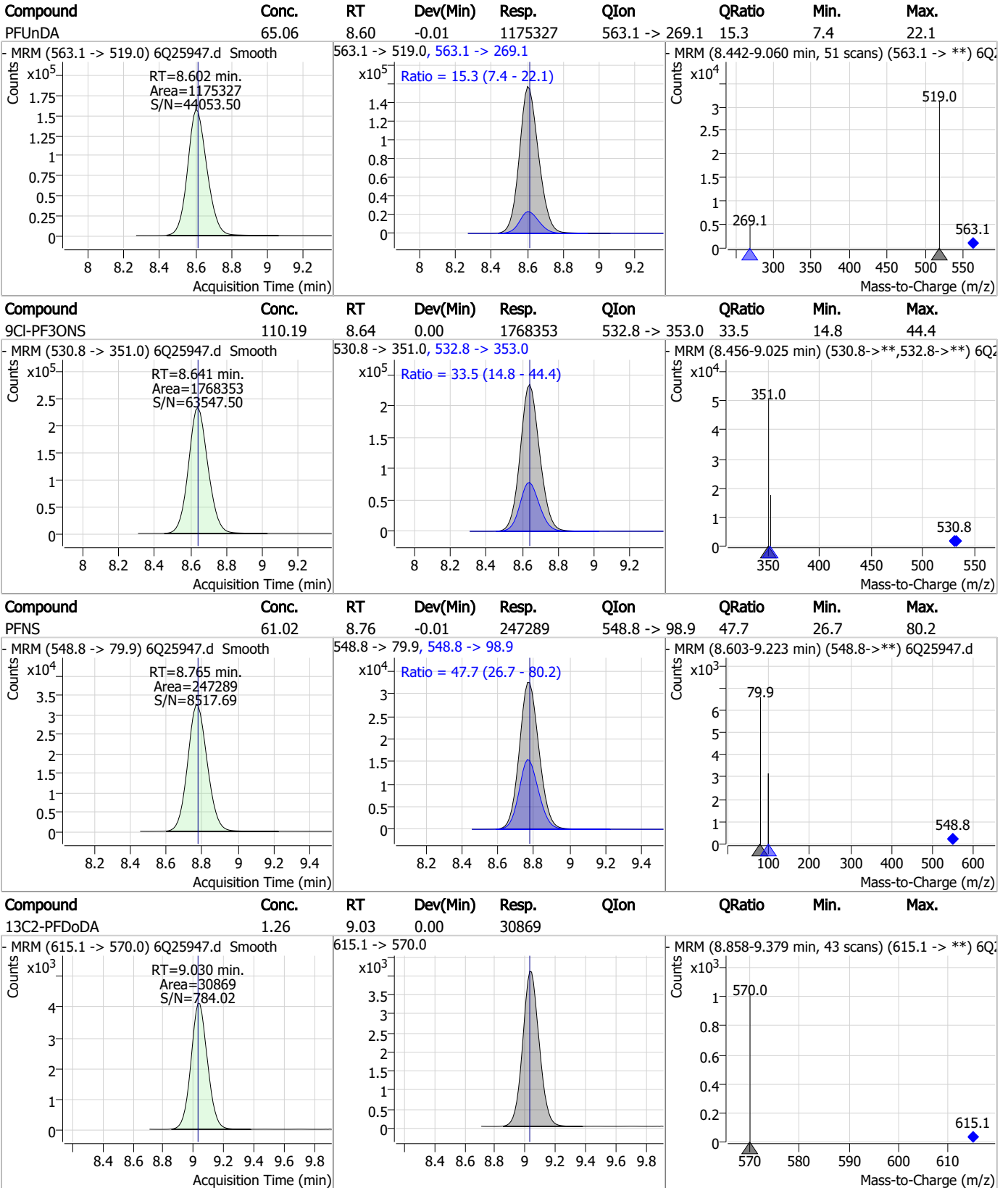
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSAA	61.26	8.42	0.00	203888	584.2 -> 526.0	61.4	31.2	93.6



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C7-PFUnDA	1.14	8.60	-0.01	25638				



Perfluorinated Compounds by LC/MS/MS

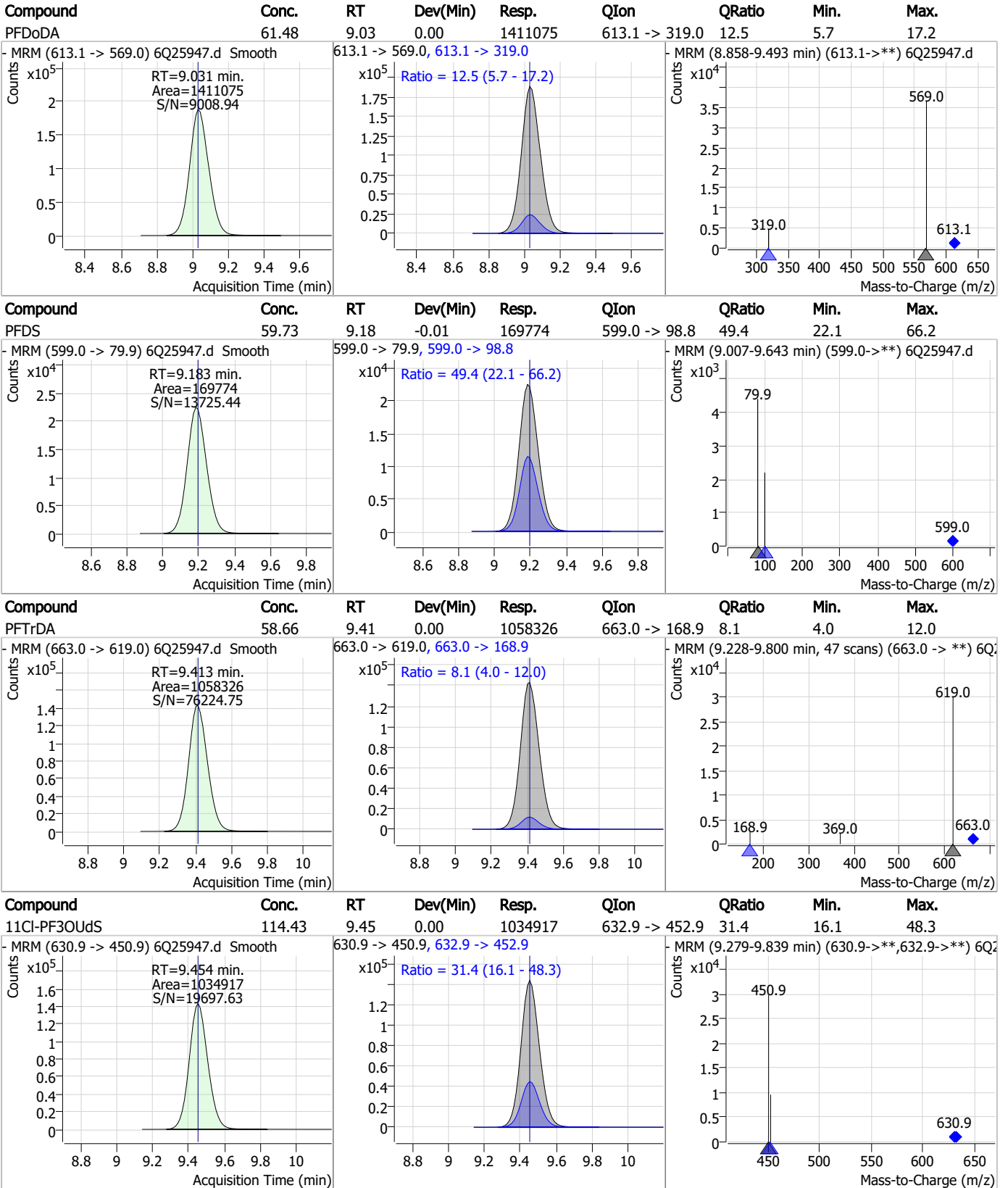


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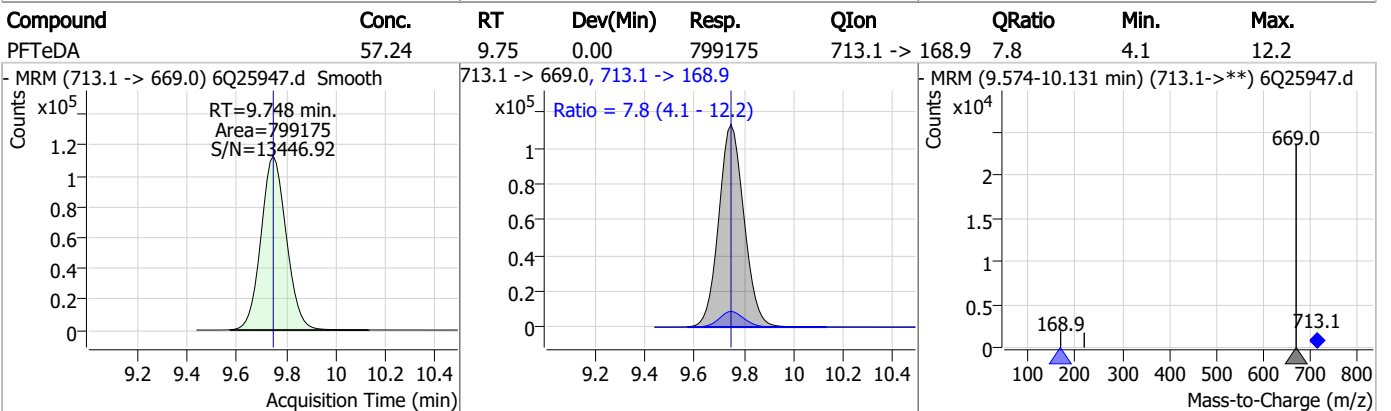
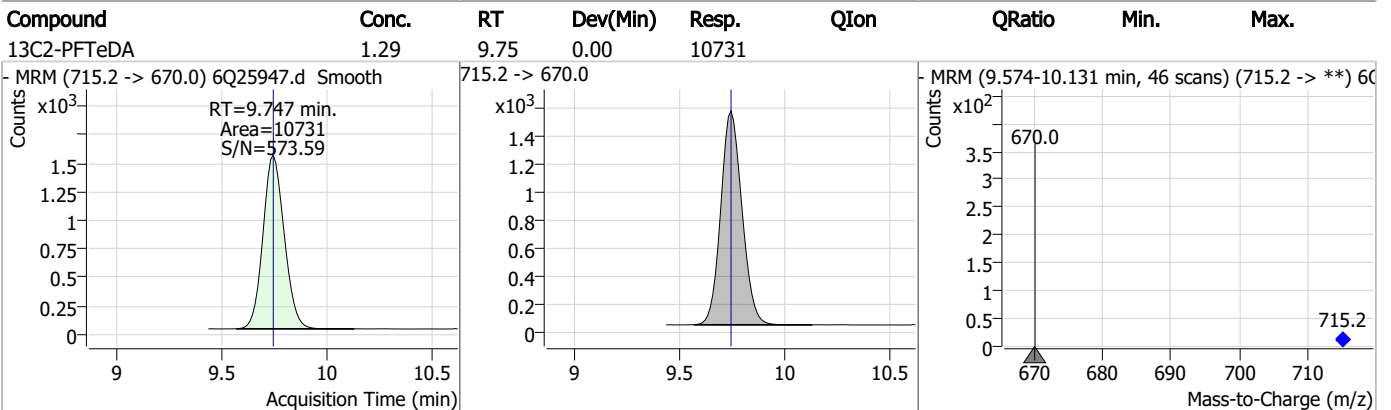
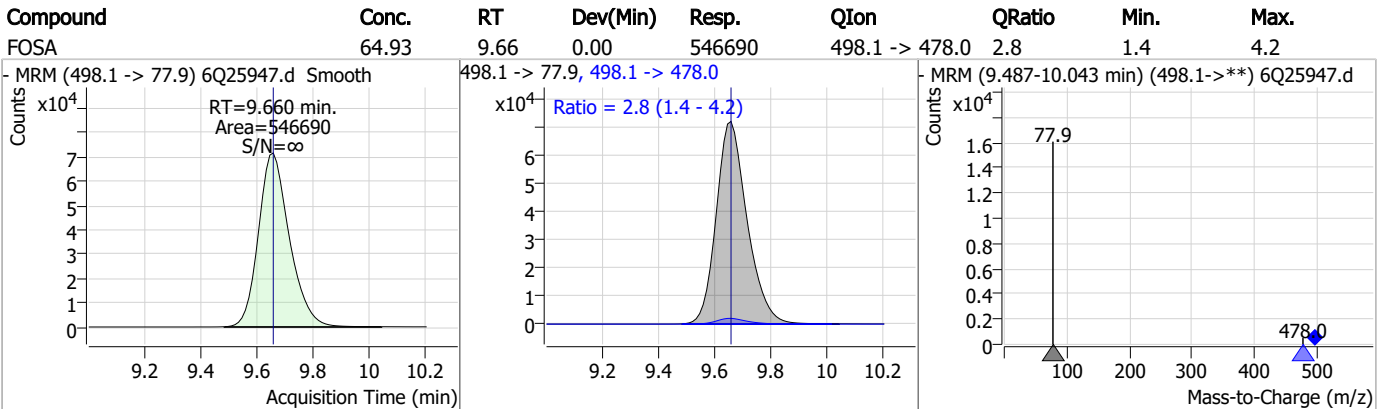
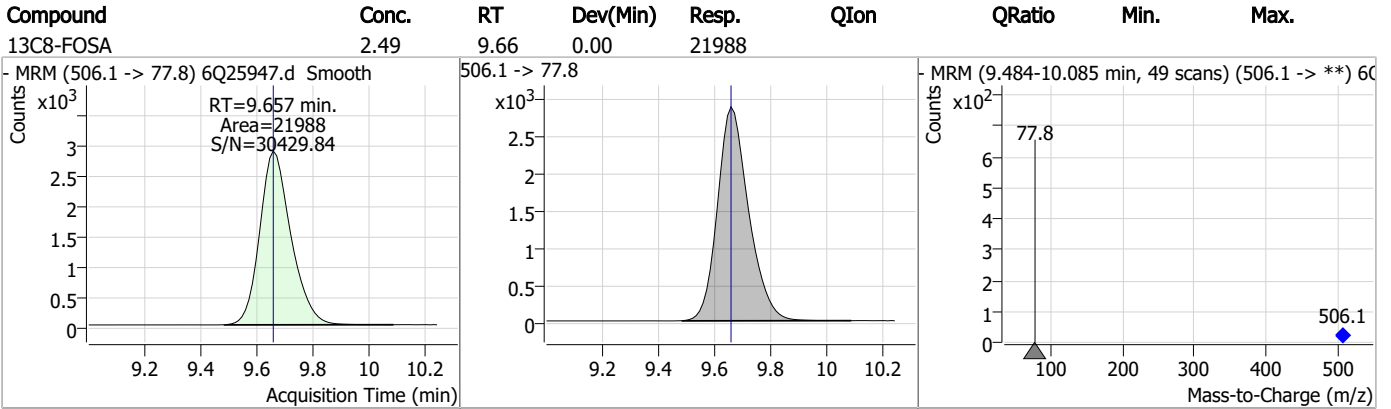


Perfluorinated Compounds by LC/MS/MS



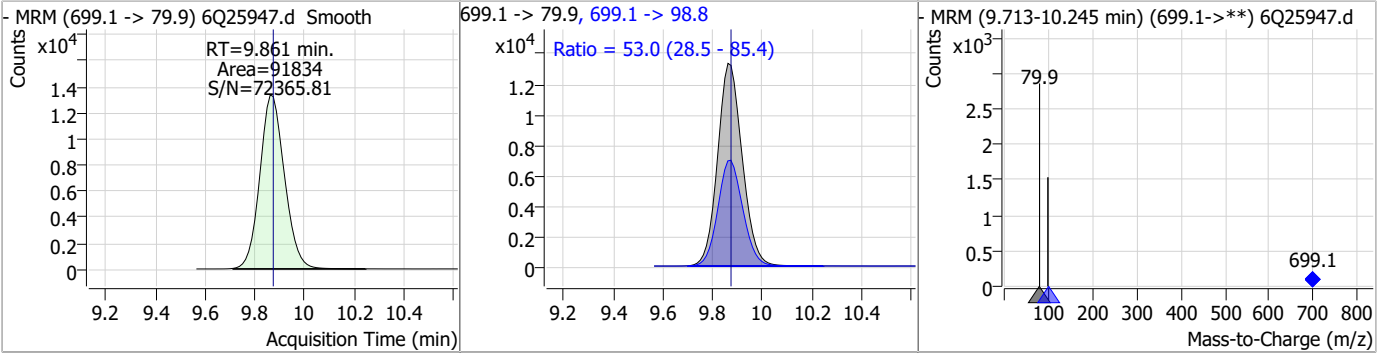
7.7.9
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Perfluorinated Compounds by LC/MS/MS

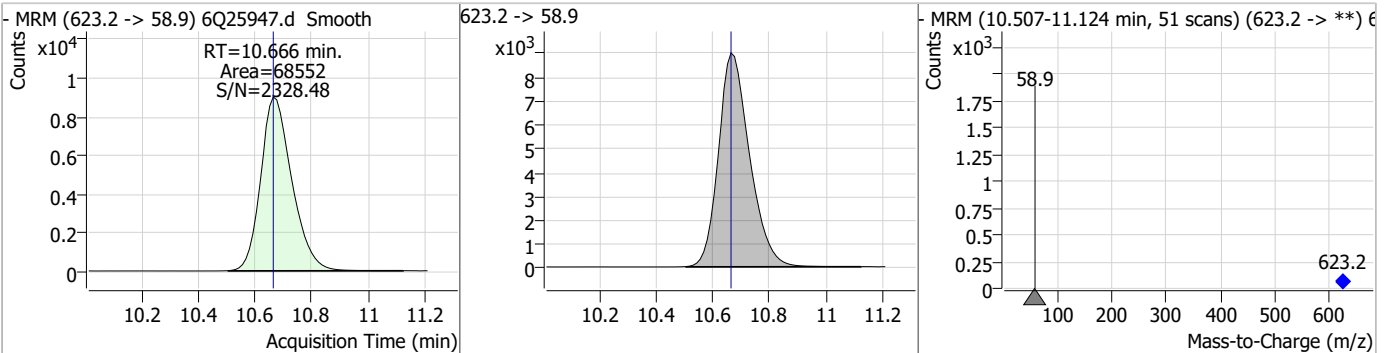


Perfluorinated Compounds by LC/MS/MS

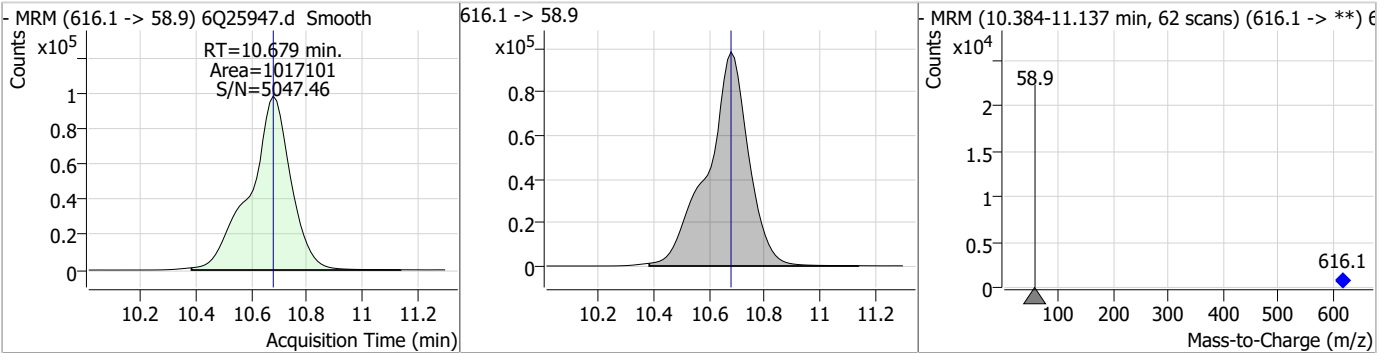
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFD _o DS	62.21	9.86	-0.01	91834	699.1 -> 98.8	53.0	28.5	85.4



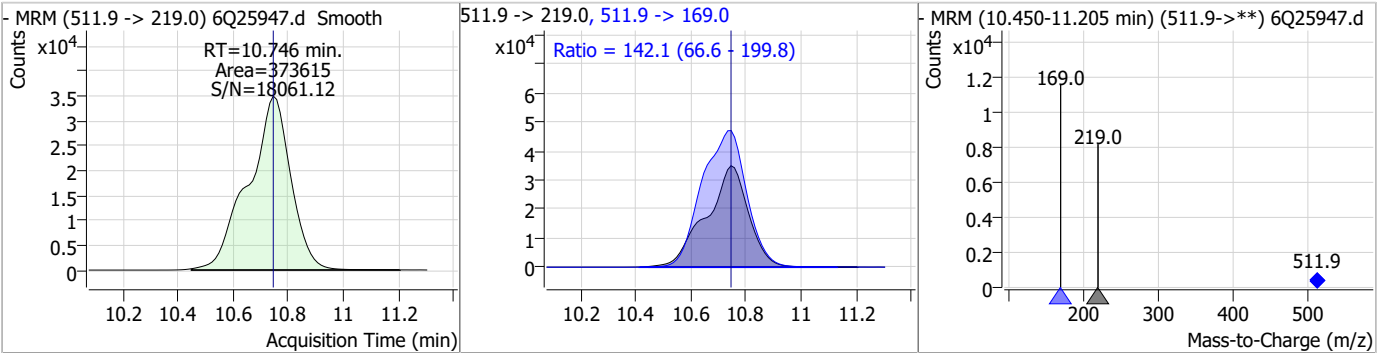
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d7-MeFOSE	24.04	10.67	0.00	68552				



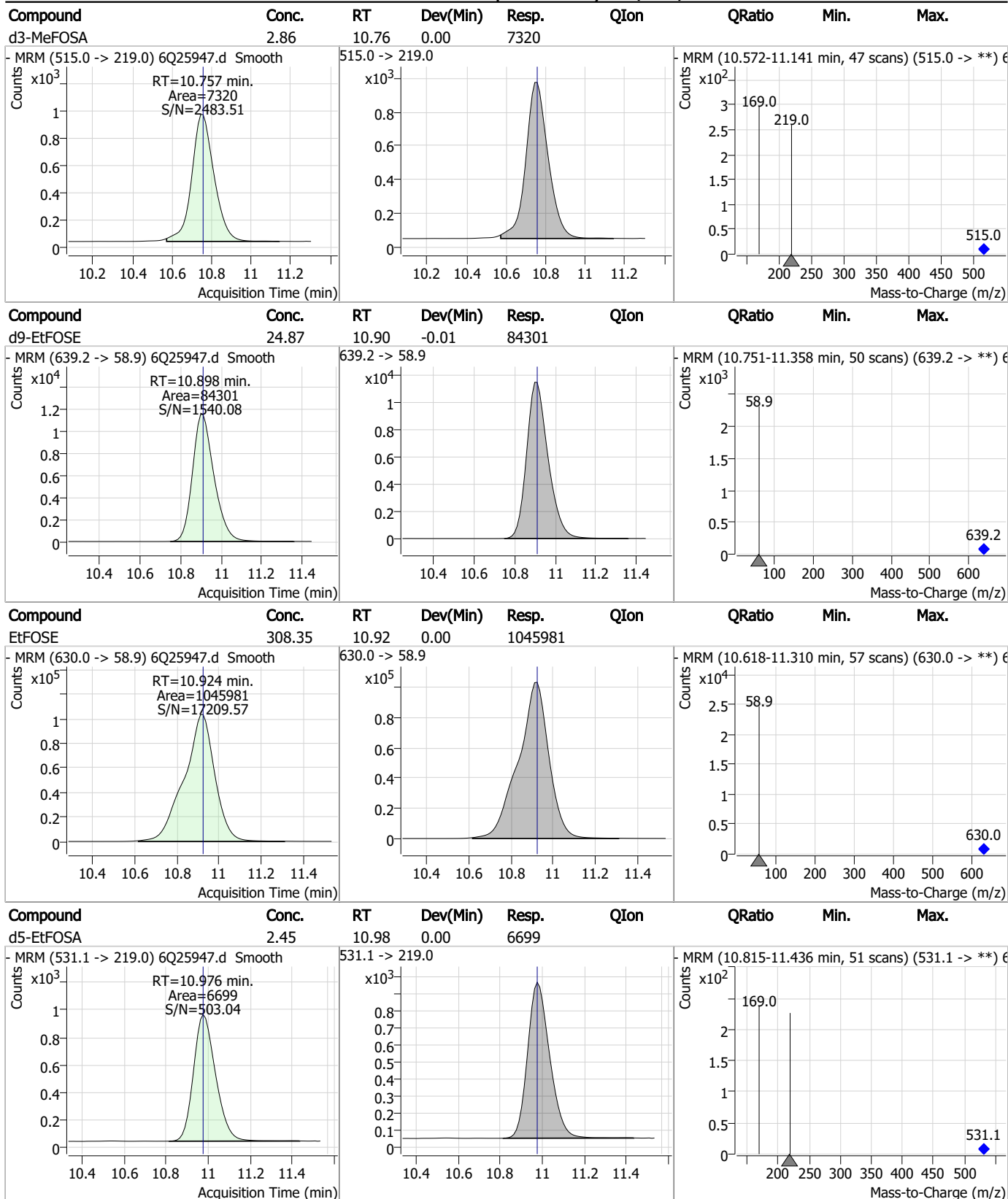
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSE	335.72	10.68	0.00	1017101				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSA	110.11	10.75	0.00	373615	511.9 -> 169.0	142.1	66.6	199.8

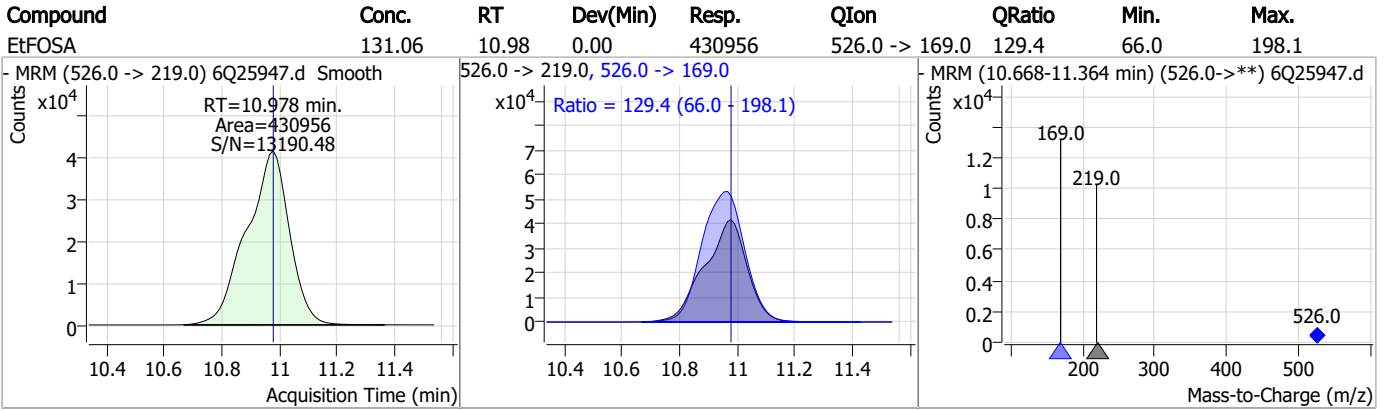


Perfluorinated Compounds by LC/MS/MS



7.7.9
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Perfluorinated Compounds by LC/MS/MS



7.7.9

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Manual Integration Approval Summary

Sample Number: S6Q367-IC367 Method: EPA DRAFT 1633
Lab FileID: 6Q25947.D Analyst approved: 10/09/23 13:30 Martha Valls
Injection Time: 10/08/23 16:43 Supervisor approved: 10/09/23 16:36 Natasha Gumtie

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		7.26	Split peak
Perfluorooctanesulfonic acid	1763-23-1		8.31	Split peak

7.7.9.1

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Perfluorinated Compounds by LC/MS/MS

Data File : 6Q25949.d
 Operator : marthav
 Acq. Method : 1633full.m
 Acq. Date-Time : 10/8/2023 5:12:19 PM
 Sample Name : icv367-4
 Vial : P1-B1
 DA Method File : 1633_100823_S6Q367.quantmethod.xml
 Batch Name : S6Q367.batch.bin
 Sample Information : OP99308,S6Q367,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Internal Standards					
M4-PFBA	2.947	216.8 -> 171.9	161350	10.00 µg/L	0.000
M5-PFPeA	4.372	268.3 -> 223.0	57224	5.00 µg/L	0.000
M5-PFHxA	5.592	318.0 -> 273.0	50802	2.50 µg/L	0.012
M4-PFHpA	6.531	367.1 -> 322.0	52095	2.50 µg/L	0.012
M8-PFOA	7.161	421.1 -> 376.0	69388	2.50 µg/L	0.000
M9-PFNA	7.680	472.1 -> 427.0	30126	1.25 µg/L	0.000
M6-PFDA	8.161	519.1 -> 474.1	27485	1.25 µg/L	0.000
M7-PFUnDA	8.614	570.0 -> 525.1	31782	1.25 µg/L	0.000
M2-PFDoDA	9.030	615.1 -> 570.0	33879	1.25 µg/L	0.000
M2-PFTeDA	9.747	715.2 -> 670.0	11321	1.25 µg/L	0.000
M8-FOSA	9.657	506.1 -> 77.8	25224	2.50 µg/L	0.000
M3-PFBS	5.510	302.1 -> 79.9	22959	2.50 µg/L	0.012
M3-PFHxS	7.263	402.1 -> 79.9	13033	2.50 µg/L	0.000
M8-PFOS	8.311	507.1 -> 79.9	12604	2.50 µg/L	0.000
M2-4:2FTS	5.255	329.1 -> 80.9	2467	5.00 µg/L	0.000
M2-6:2FTS	6.936	429.1 -> 80.9	3525	5.00 µg/L	0.000
M2-8:2FTS	7.950	529.1 -> 80.9	3492	5.00 µg/L	0.000
M3-MeFOSAA	8.207	573.2 -> 419.0	25734	5.00 µg/L	0.000
M3-HFPO-DA	5.957	286.9 -> 168.9	35865	10.00 µg/L	0.000
M5-EtFOSAA	8.402	589.2 -> 419.0	23082	5.00 µg/L	-0.012
M7-MeFOSE	10.665	623.2 -> 58.9	80688	25.00 µg/L	0.000
M9-EtFOSE	10.911	639.2 -> 58.9	92270	25.00 µg/L	0.000
M5-EtFOSA	10.976	531.1 -> 219.0	7880	2.50 µg/L	0.000
M3-MeFOSA	10.757	515.0 -> 219.0	6883	2.50 µg/L	0.000
13C4-PFOS	8.312	502.8 -> 79.9	12235	2.50 µg/L	0.000
13C3-PFBA	2.952	216.0 -> 172.0	67387	5.00 µg/L	0.000
18O2-PFHxS	7.263	403.0 -> 83.9	8162	2.50 µg/L	0.000
13C4-PFOA	7.162	417.1 -> 372.0	76209	2.50 µg/L	0.000
13C2-PFDA	8.161	515.1 -> 470.1	27161	1.25 µg/L	0.000
13C5-PFNA	7.680	468.0 -> 423.0	27131	1.25 µg/L	0.000
13C2-PFHxA	5.581	315.1 -> 270.0	49775	2.50 µg/L	0.000
System Monitoring Compounds					
13C2-4:2FTS	5.255	329.1 -> 80.9	2467	5.37 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 107.3%		
13C2-6:2FTS	6.936	429.1 -> 80.9	3525	5.15 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 103.1%		
13C2-8:2FTS	7.950	529.1 -> 80.9	3492	4.96 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 99.2%		
13C2-PFDoDA	9.030	615.1 -> 570.0	33879	1.25 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 100.1%		
13C2-PFTeDA	9.747	715.2 -> 670.0	11321	1.23 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 98.7%		
13C3-PFBS	5.510	302.1 -> 79.9	22959	2.48 µg/L	0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 99.3%		
13C3-PFHxS	7.263	402.1 -> 79.9	13033	2.51 µg/L	0.000

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Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 100.5%	
13C4-PFBA	2.947	216.8 -> 171.9	161350	9.92 µg/L	0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 99.2%	
13C4-PFHpA	6.531	367.1 -> 322.0	52095	2.59 µg/L	0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 103.5%	
13C5-PFHxA	5.592	318.0 -> 273.0	50802	2.47 µg/L	0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 98.7%	
13C5-PFPeA	4.372	268.3 -> 223.0	57224	5.08 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 101.6%	
13C6-PFDA	8.161	519.1 -> 474.1	27485	1.20 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 96.1%	
13C7-PFUnDA	8.614	570.0 -> 525.1	31782	1.29 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 102.8%	
13C8-FOSA	9.657	506.1 -> 77.8	25224	2.50 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 99.9%	
13C8-PFOA	7.161	421.1 -> 376.0	69388	2.63 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 105.0%	
13C8-PFOS	8.311	507.1 -> 79.9	12604	2.39 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 95.4%	
13C9-PFNA	7.680	472.1 -> 427.0	30126	1.35 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 108.0%	
d3-MeFOSAA	8.207	573.2 -> 419.0	25734	4.78 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 95.6%	
13C3-HFPO-DA	5.957	286.9 -> 168.9	35865	10.33 µg/L	0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 103.3%	
d3-MeFOSA	10.757	515.0 -> 219.0	6883	2.35 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 94.0%	
d5-EtFOSAA	8.402	589.2 -> 419.0	23082	5.01 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 100.1%	
d7-MeFOSE	10.665	623.2 -> 58.9	80688	24.76 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 99.0%	
d9-EtFOSE	10.911	639.2 -> 58.9	92270	23.82 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 95.3%	
d5-EtFOSA	10.976	531.1 -> 219.0	7880	2.52 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 100.7%	
Target Compounds					QValue
4:2FTS	5.255	327.1 -> 307.0	38894	9.50 µg/L	99
		327.1 -> 80.9	14867		
6:2FTS	6.937	427.1 -> 407.0	31747	9.91 µg/L	97
		427.1 -> 80.9	12955		
8:2FTS	7.950	527.1 -> 507.0	24588	10.11 µg/L	96
		527.1 -> 80.8	9310		
EtFOSAA	8.416	584.2 -> 419.1	9070	2.42 µg/L	99
		584.2 -> 526.0	5741		
FOSA	9.660	498.1 -> 77.9	24541	2.54 µg/L	99
		498.1 -> 478.0	794		
MeFOSAA	8.220	570.1 -> 419.0	12650	2.63 µg/L	96
		570.1 -> 483.0	2904		
PFBA	2.943	212.8 -> 168.9	61230	10.19 µg/L	100
PFBS	5.499	298.7 -> 79.9	15796	2.30 µg/L	96
		298.7 -> 98.8	6187		
PFDA	8.161	512.9 -> 469.0	57425	2.67 µg/L	100
		512.9 -> 219.0	8888		
PFDODA	9.031	613.1 -> 569.0	64705	2.57 µg/L	98
		613.1 -> 319.0	7877		
PFDS	9.183	599.0 -> 79.9	8361	2.59 µg/L	97

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Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
PFHpA	6.520	599.0 -> 98.8	3842	2.44	µg/L	100
		363.1 -> 319.0	68972			
PFHpS	7.819	363.1 -> 169.0	10001	2.56	µg/L	97
		449.0 -> 79.9	13333			
PFHxA	5.582	449.0 -> 98.9	6212	2.60	µg/L	99
		313.0 -> 269.0	47179			
PFHxS	7.264	313.0 -> 118.9	2262	2.25	µg/L	m 92
		398.7 -> 79.9	12234			
PFNA	7.680	398.7 -> 98.9	5767	2.45	µg/L	97
		463.0 -> 419.0	45562			
PFNS	8.777	463.0 -> 219.0	10286	2.40	µg/L	96
		548.8 -> 79.9	11027			
PFOA	7.163	548.8 -> 98.9	5605	2.39	µg/L	98
		413.0 -> 369.0	71225			
PFOS	8.312	413.0 -> 169.0	12429	2.36	µg/L	m 86
		498.9 -> 79.9	12705			
PFPeA	4.374	498.9 -> 98.8	6650	4.98	µg/L	100
		263.0 -> 219.0	61479			
PFPeS	6.571	349.1 -> 79.9	16718	2.38	µg/L	100
		349.1 -> 98.9	7345			
PFTeDA	9.747	713.1 -> 669.0	39299	2.67	µg/L	99
		713.1 -> 168.9	3000			
PFTrDA	9.413	663.0 -> 619.0	51502	2.60	µg/L	99
		663.0 -> 168.9	4260			
PFUnDA	8.614	563.1 -> 519.0	54526	2.43	µg/L	94
		563.1 -> 269.1	9280			
11CI-PF3OUdS	9.454	630.9 -> 450.9	49412	4.64	µg/L	98
		632.9 -> 452.9	15305			
9CI-PF3ONS	8.641	530.8 -> 351.0	89957	4.76	µg/L	99
		532.8 -> 353.0	27272			
ADONA	6.767	376.9 -> 250.9	227649	4.62	µg/L	100
		376.9 -> 84.8	62593			
HFPO-DA	5.958	284.9 -> 168.9	17848	5.02	µg/L	97
		284.9 -> 184.9	1956			
3:3FTCA	3.808	241.0 -> 177.0	10562	12.20	µg/L	99
		241.0 -> 117.0	1402			
5:3FTCA	6.233	341.0 -> 237.1	220601	64.79	µg/L	99
		341.0 -> 217.0	158987			
7:3FTCA	7.632	441.0 -> 316.9	129119	62.09	µg/L	96
		441.0 -> 336.9	268101			
EtFOSA	10.978	526.0 -> 219.0	18904	4.89	µg/L	98
		526.0 -> 169.0	24445			
EtFOSE	10.912	630.0 -> 58.9	48282	13.00	µg/L	100
		511.9 -> 219.0	17266			
MeFOSA	10.746	511.9 -> 169.0	23073	5.41	µg/L	100
		616.1 -> 58.9	43650			
MeFOSE	10.679	699.1 -> 79.9	4258	12.24	µg/L	100
		699.1 -> 98.8	2129			
PFDoDS	9.873	295.0 -> 201.0	11486	2.54	µg/L	91
		295.0 -> 84.9	3348			
NFDHA	5.462	279.0 -> 85.1	47268	5.03	µg/L	100
		229.0 -> 84.9	38810			
PFMBA	4.800	314.8 -> 134.9	107043	5.00	µg/L	100
		314.8 -> 82.9	3828			
PFMPA	3.513			4.58	µg/L	100
PFEESA	6.050					

7.7.10
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= Qualifier out of range, m = manually integrated, + = Area summed



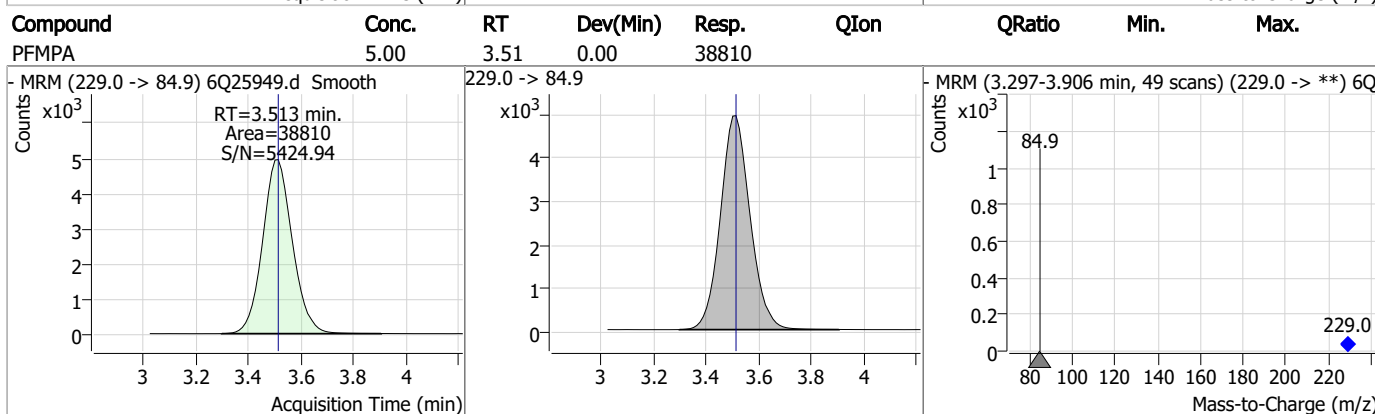
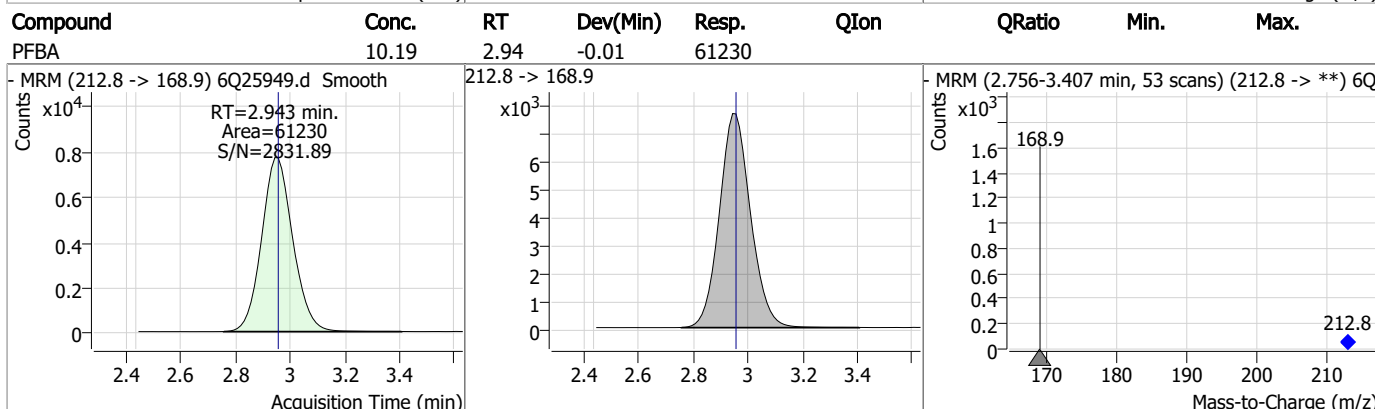
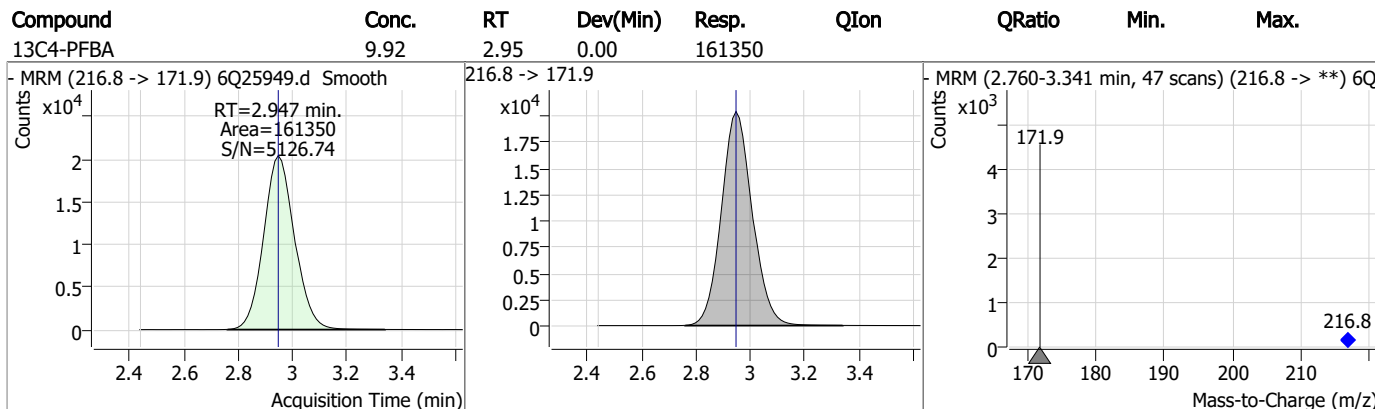
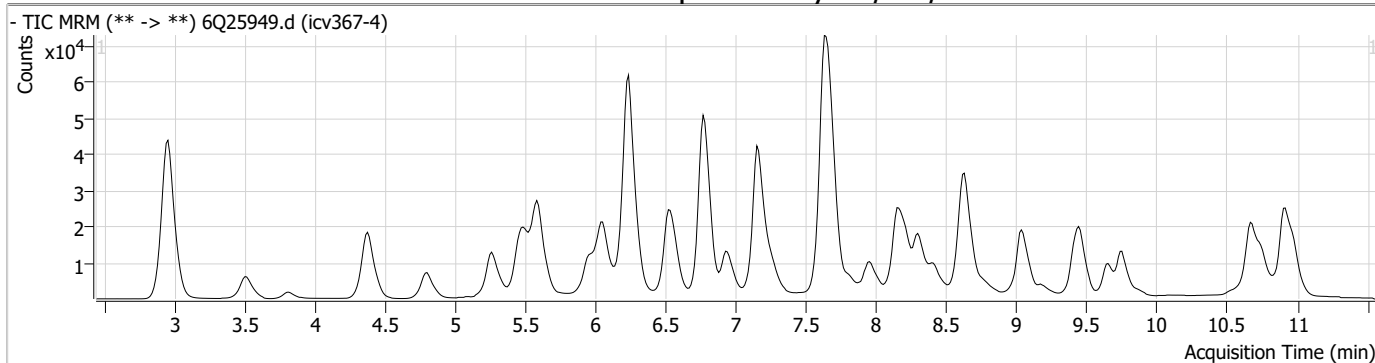
Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
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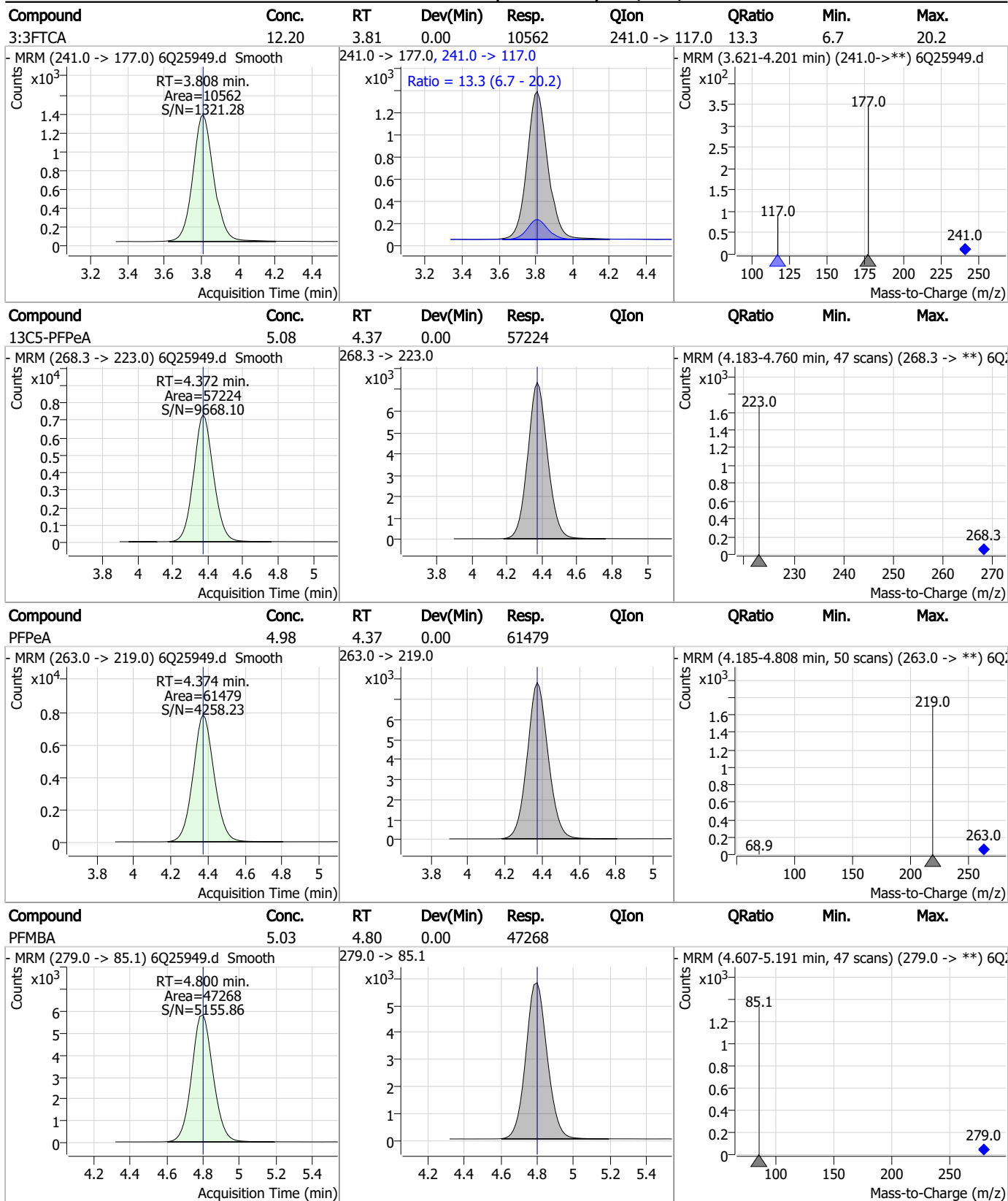
7.7.10

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Perfluorinated Compounds by LC/MS/MS

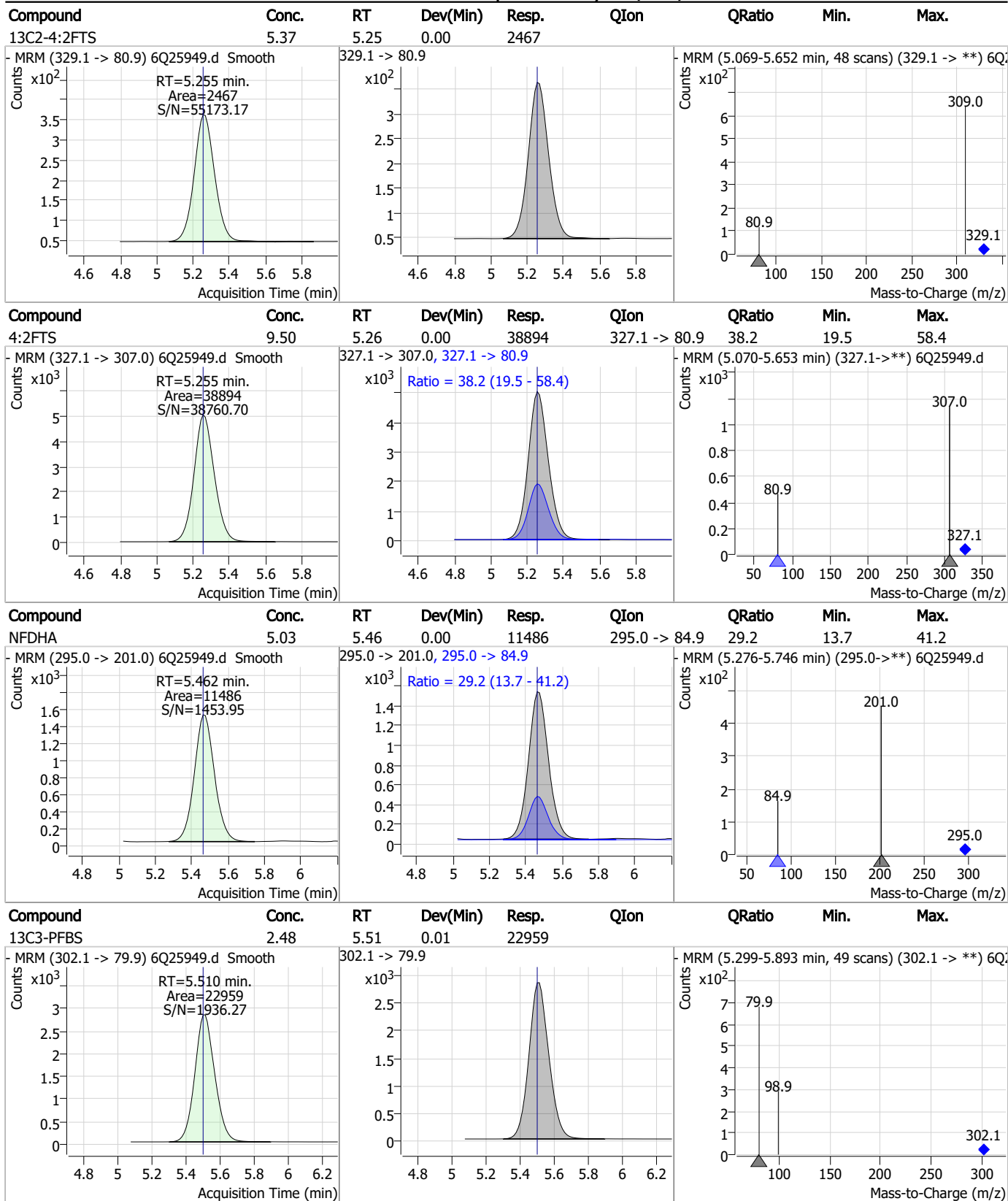


Perfluorinated Compounds by LC/MS/MS



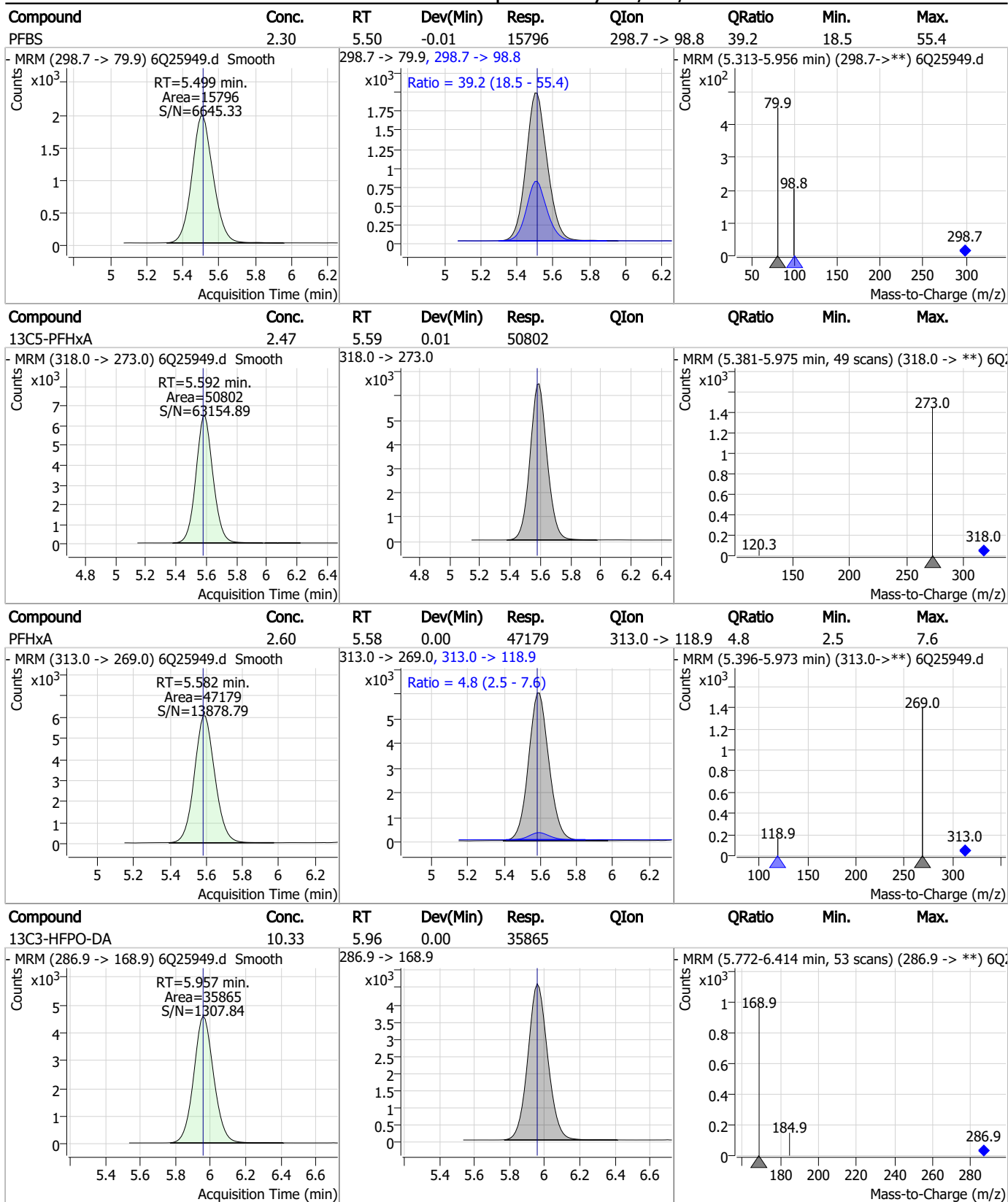
7.7.10 7

Perfluorinated Compounds by LC/MS/MS



7.7.10 7

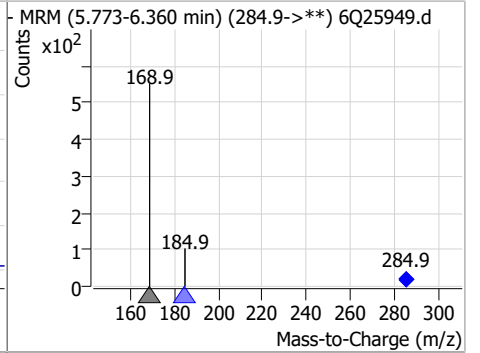
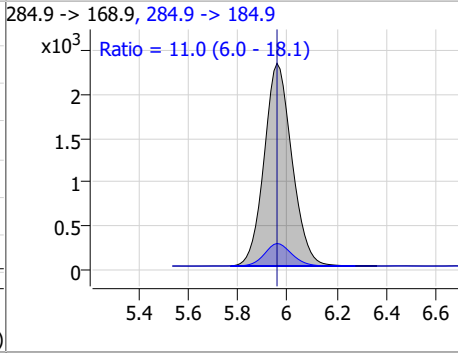
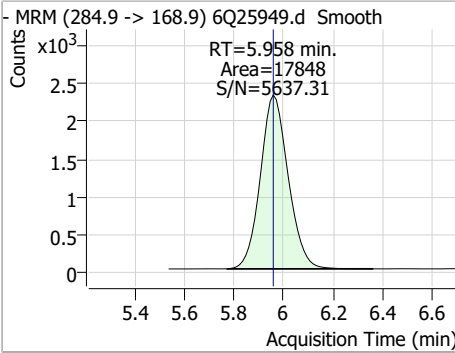
Perfluorinated Compounds by LC/MS/MS



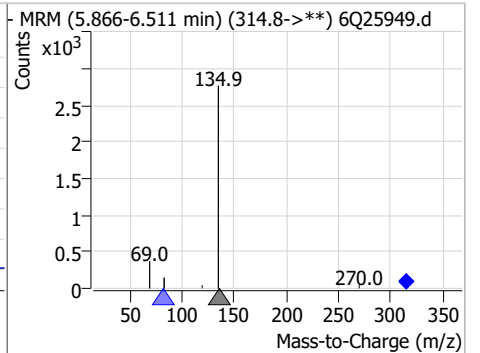
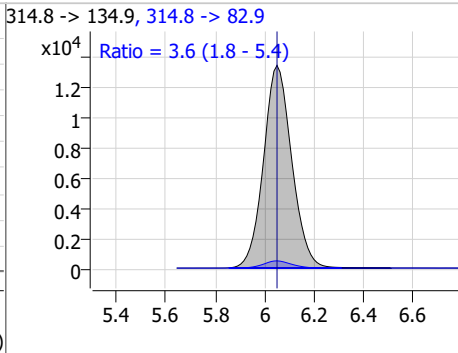
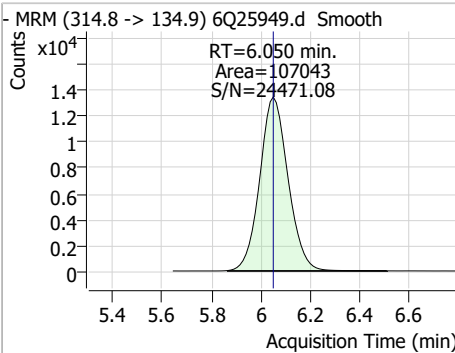
7.7.10 7

Perfluorinated Compounds by LC/MS/MS

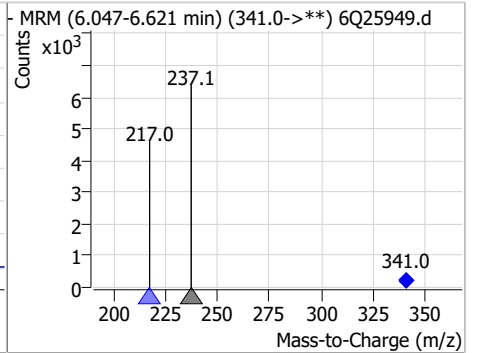
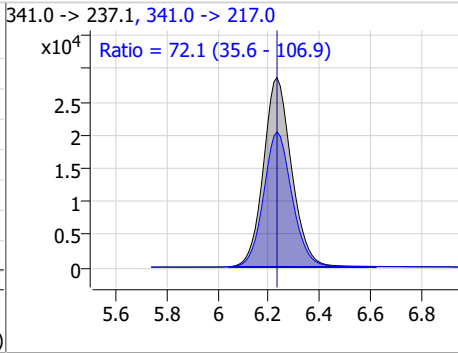
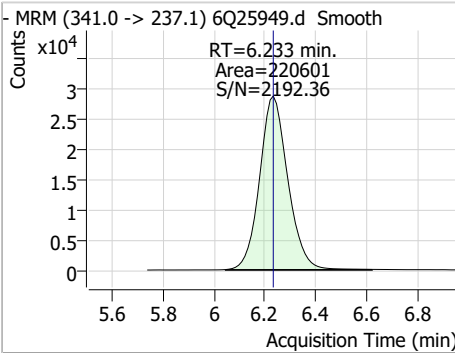
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
HFPO-DA	5.02	5.96	0.00	17848	284.9 -> 184.9	11.0	6.0	18.1



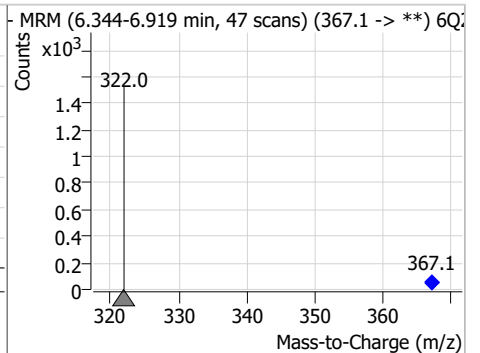
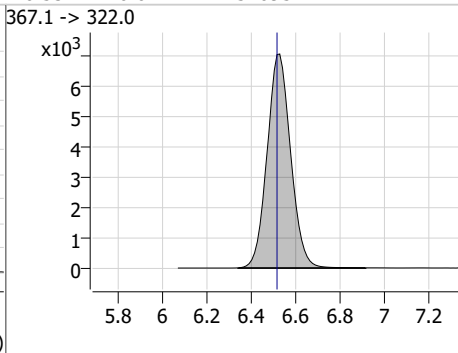
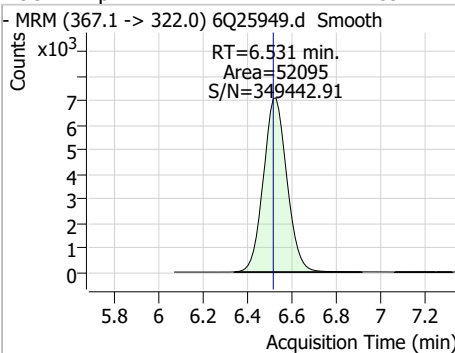
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFEESA	4.58	6.05	0.00	107043	314.8 -> 82.9	3.6	1.8	5.4



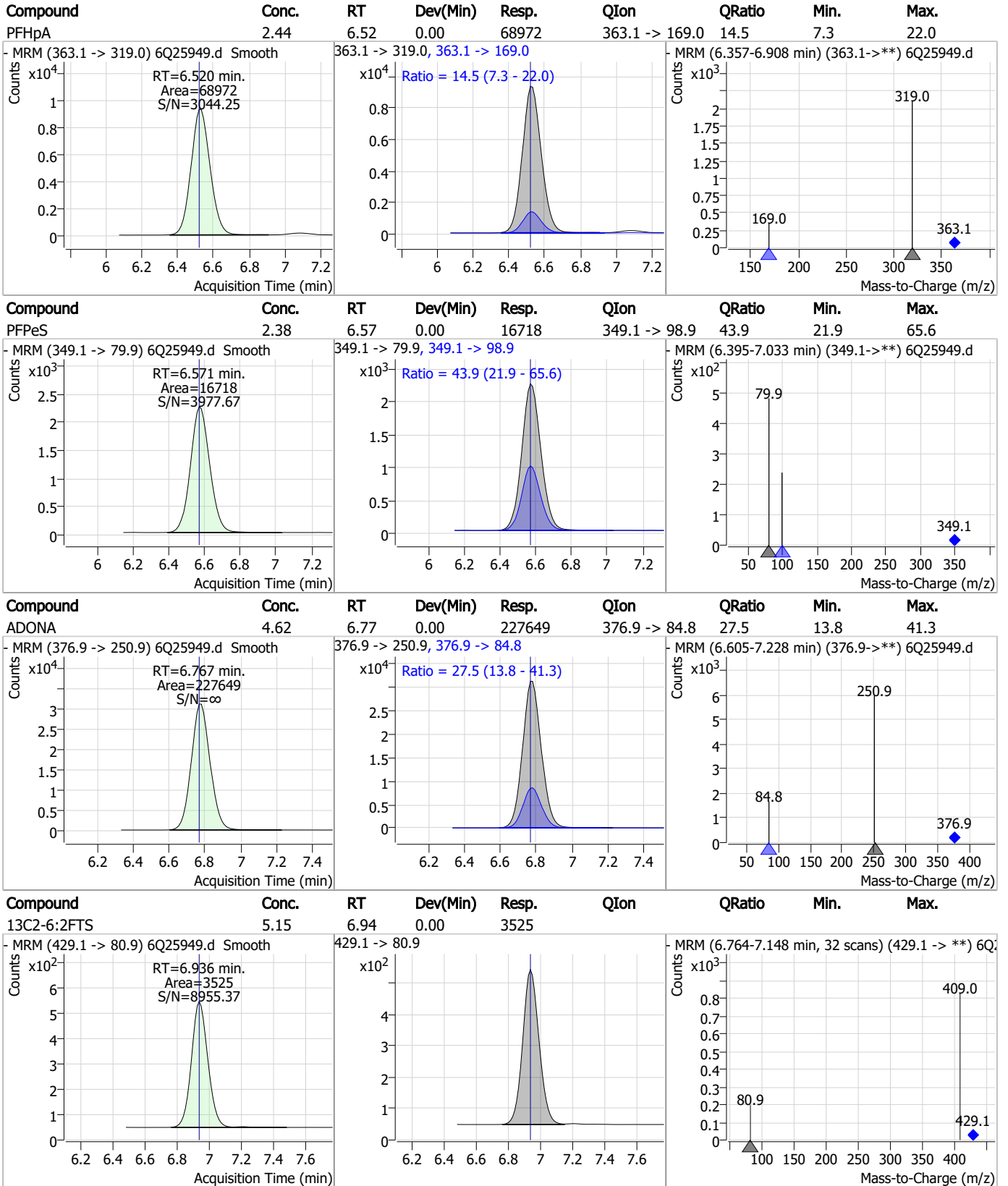
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
5:3FTCA	64.79	6.23	0.00	220601	341.0 -> 217.0	72.1	35.6	106.9



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFHpA	2.59	6.53	0.01	52095	367.1 -> 322.0			



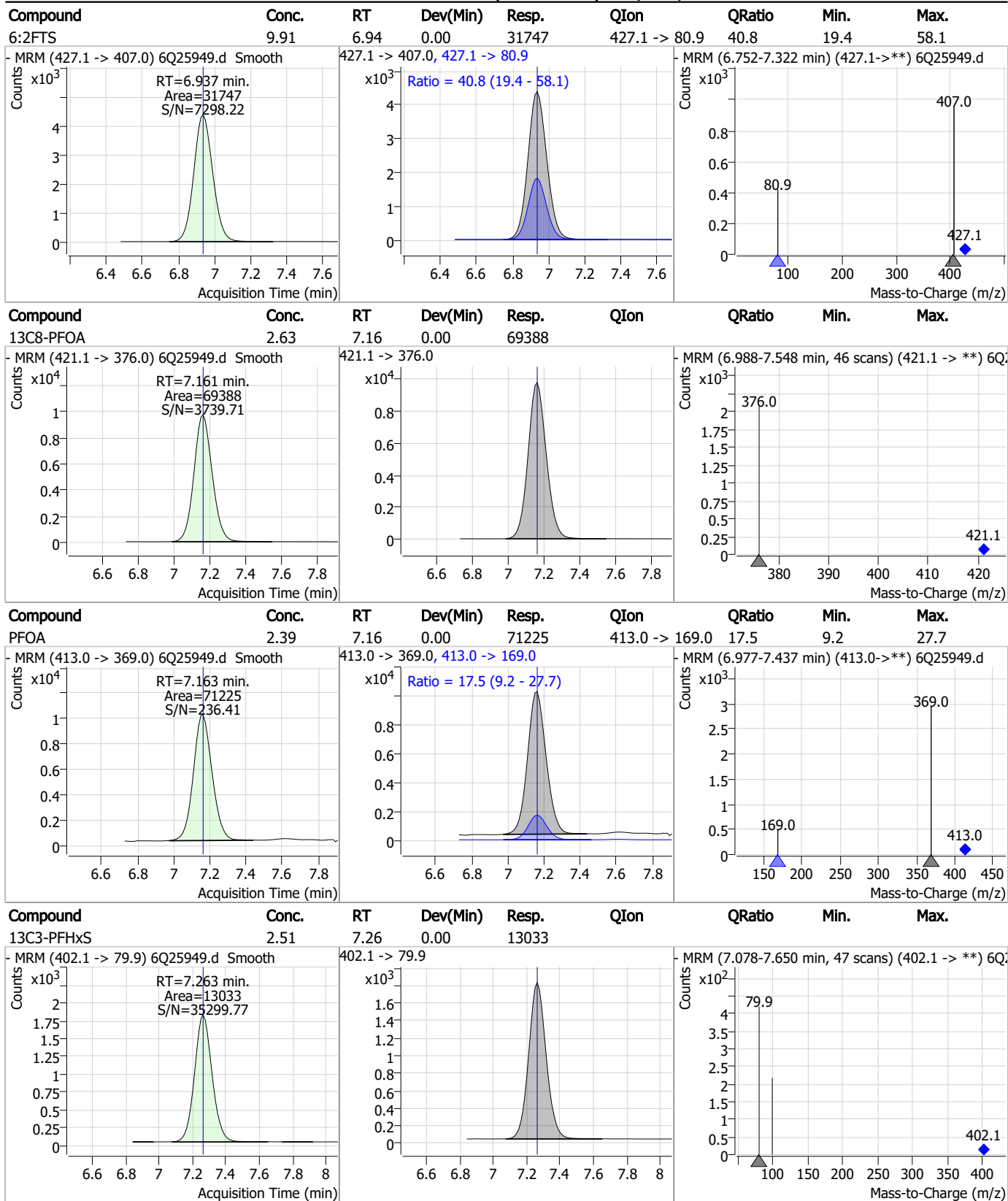
Perfluorinated Compounds by LC/MS/MS



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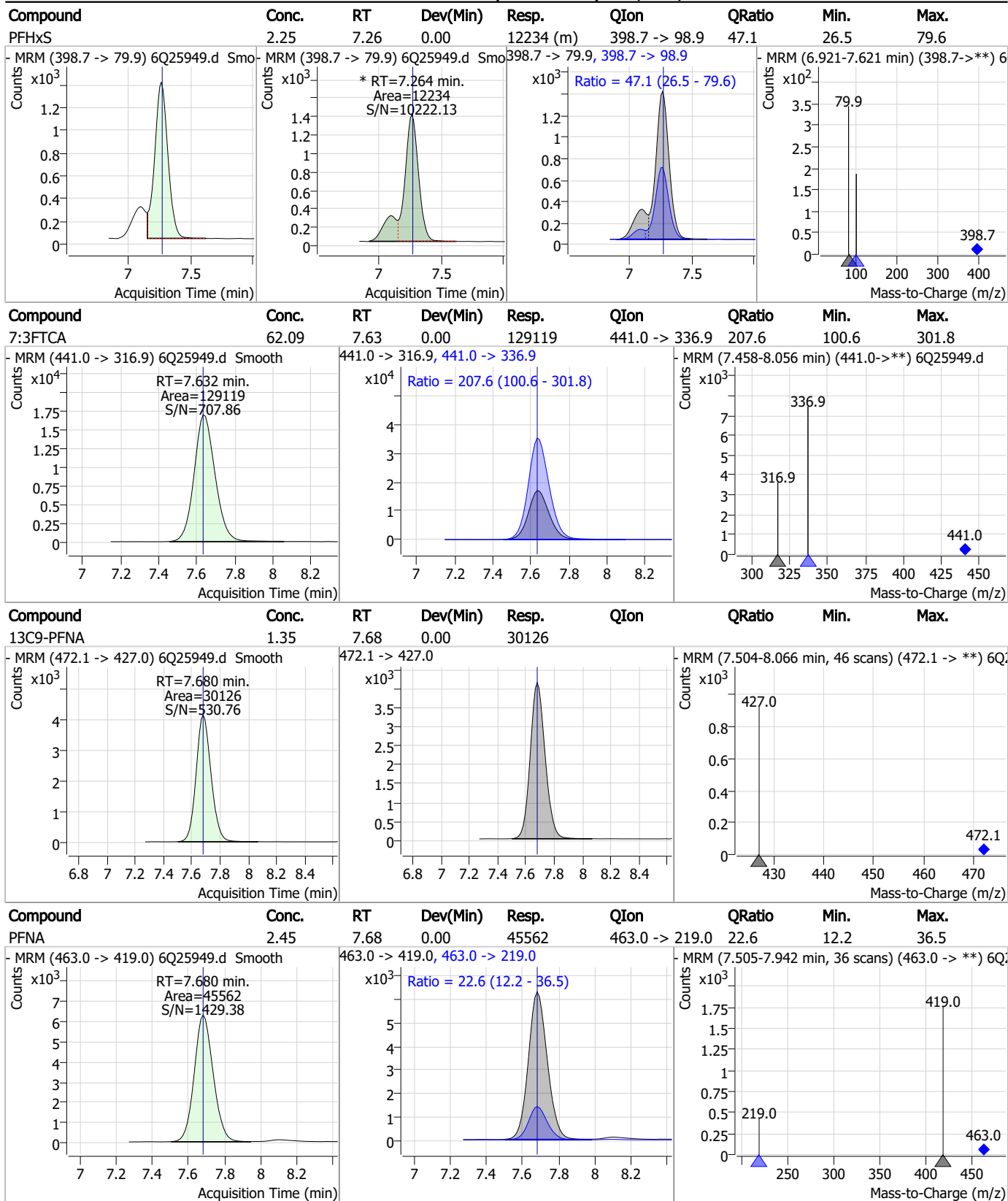


Perfluorinated Compounds by LC/MS/MS



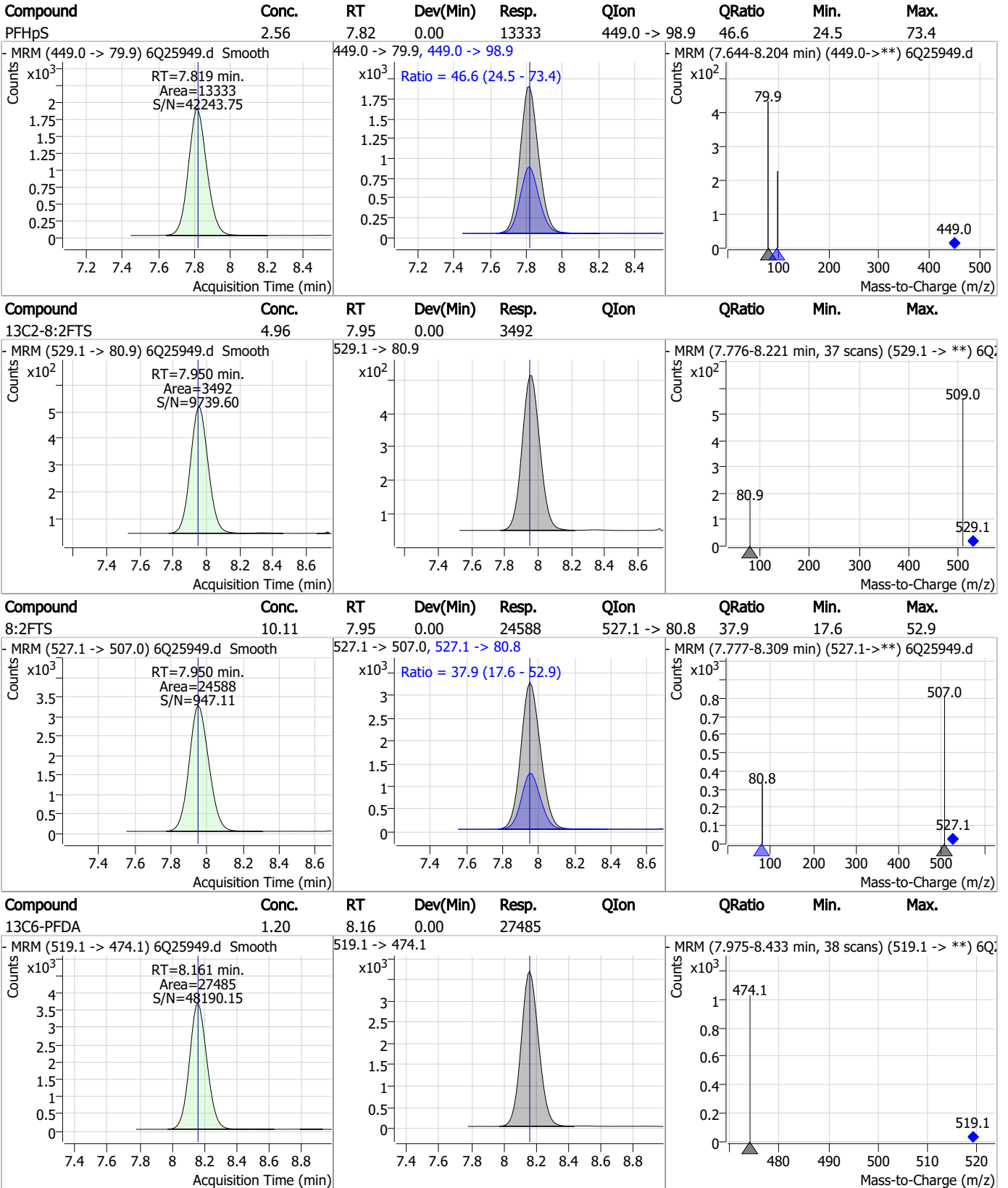
7.7.10 7

Perfluorinated Compounds by LC/MS/MS



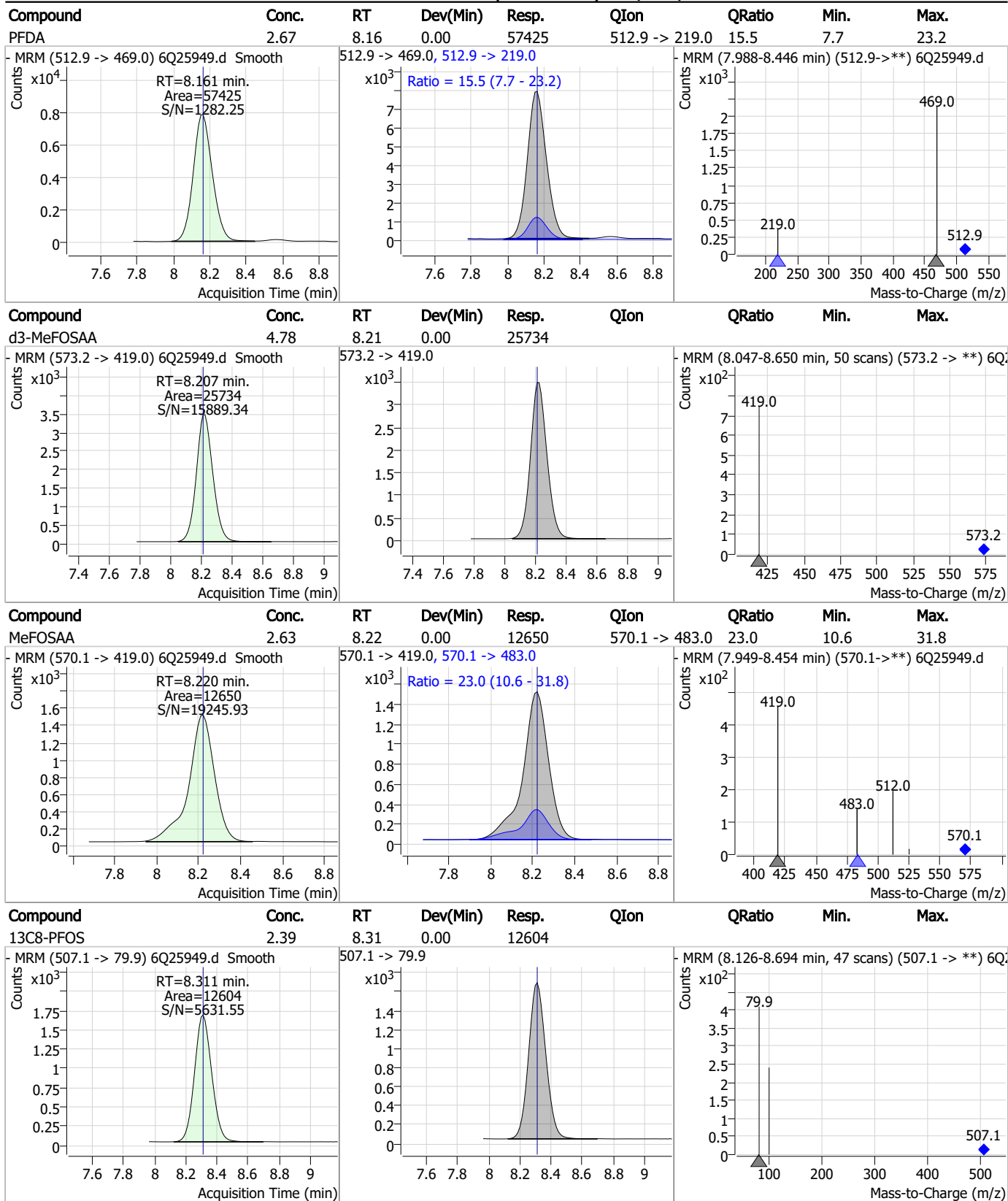
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Perfluorinated Compounds by LC/MS/MS



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Perfluorinated Compounds by LC/MS/MS

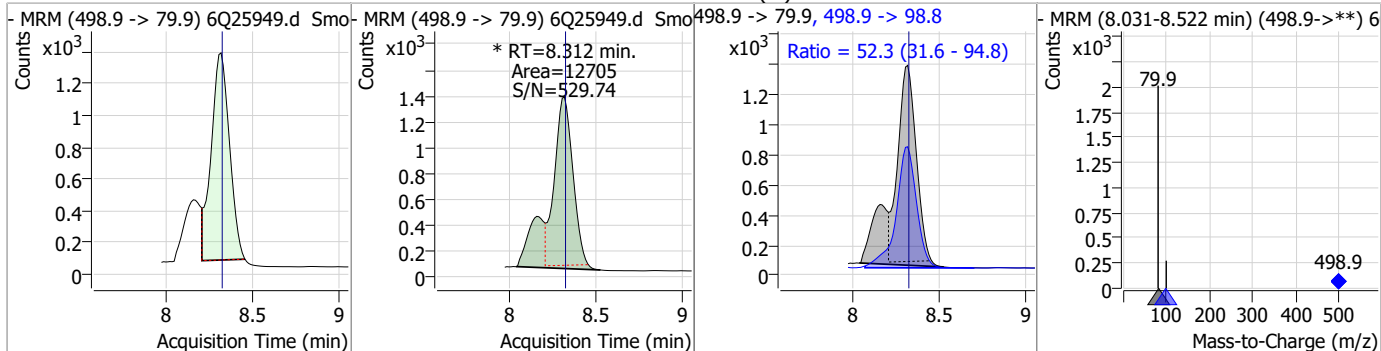


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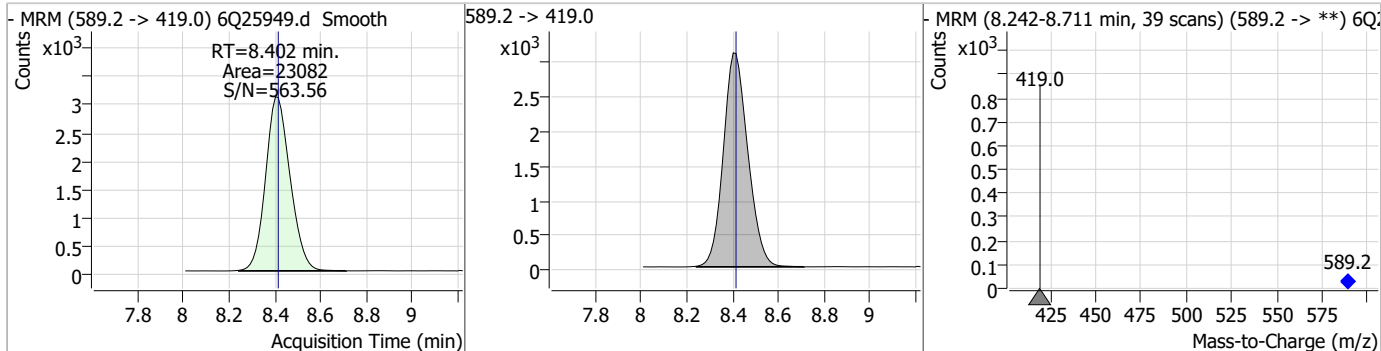
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Perfluorinated Compounds by LC/MS/MS

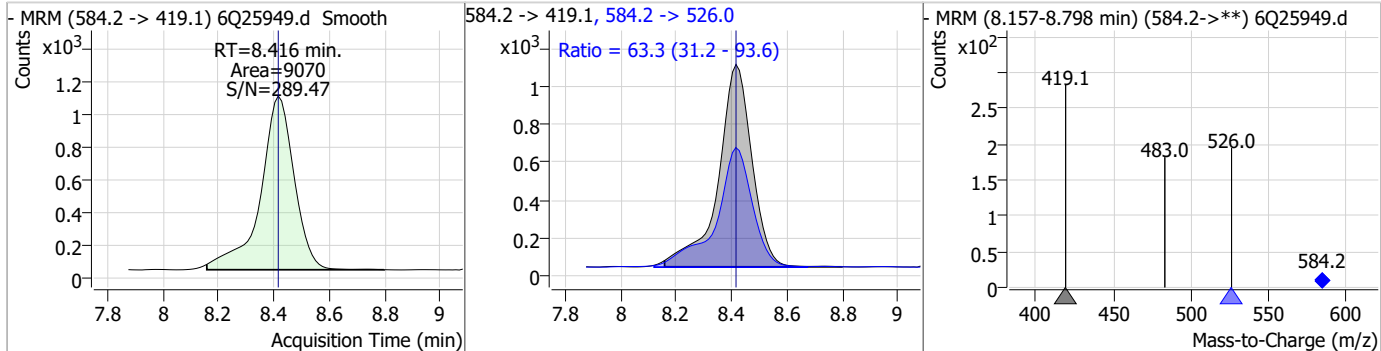
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOS	2.36	8.31	0.00	12705 (m)	498.9 -> 98.8	52.3	31.6	94.8



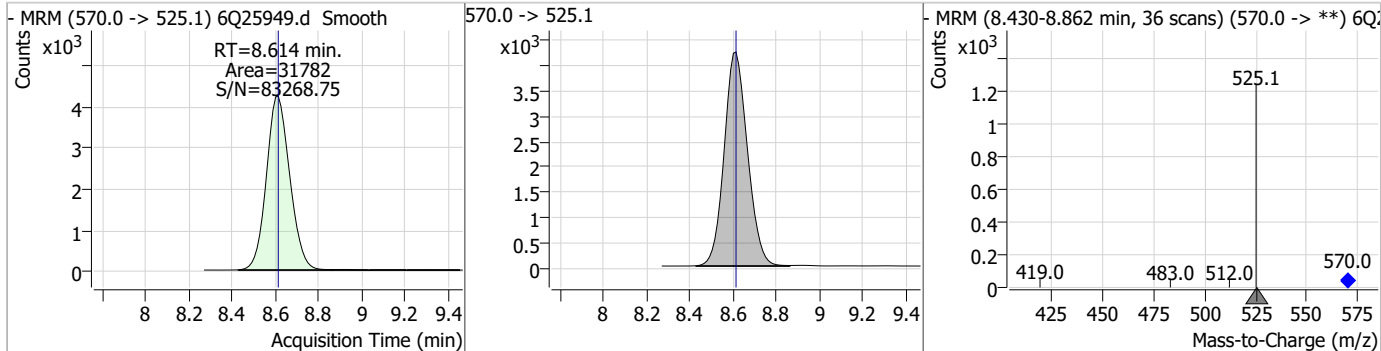
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSAA	5.01	8.40	-0.01	23082				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSAA	2.42	8.42	0.00	9070	584.2 -> 526.0	63.3	31.2	93.6

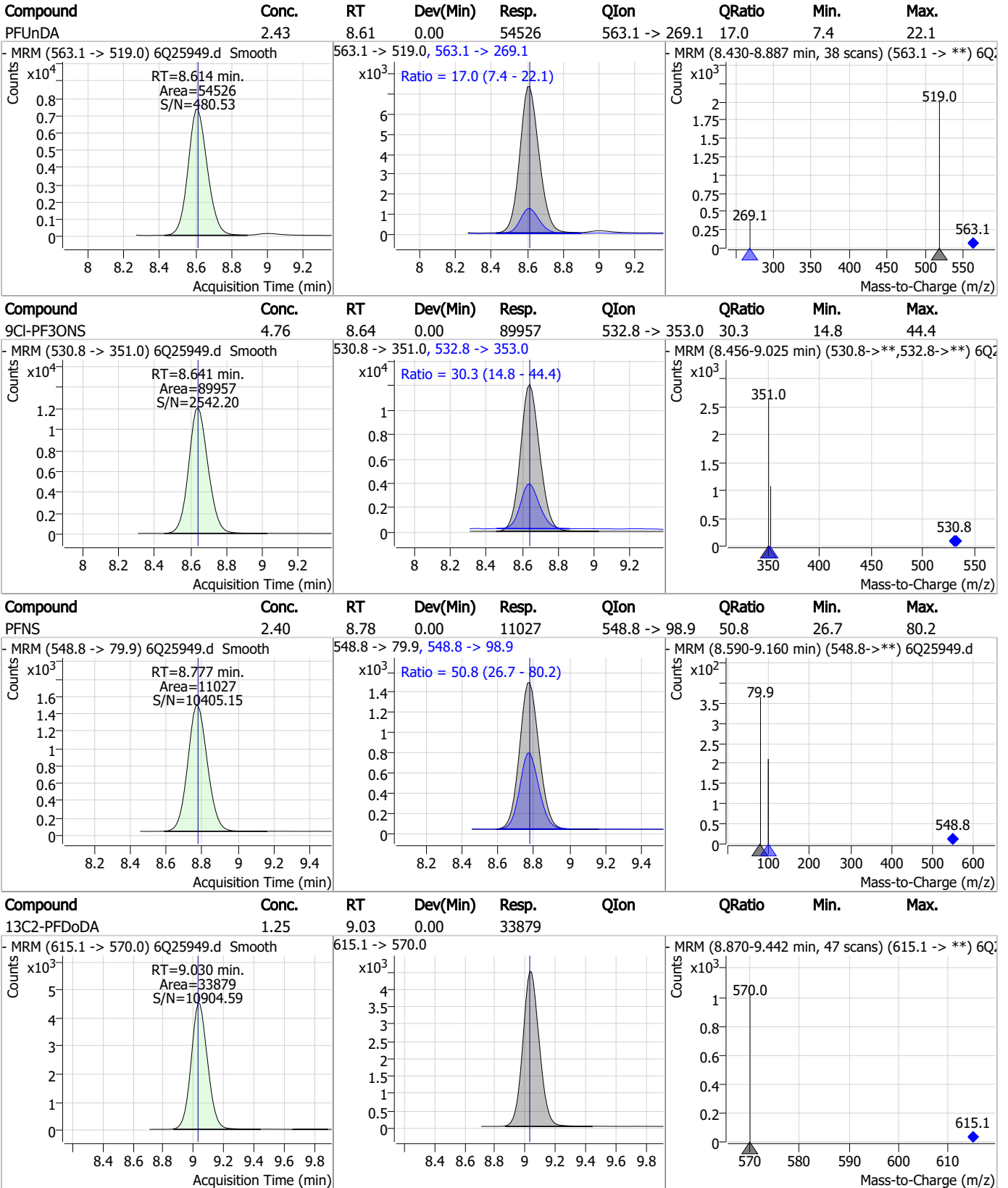


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C7-PFUnDA	1.29	8.61	0.00	31782				



7.7.10
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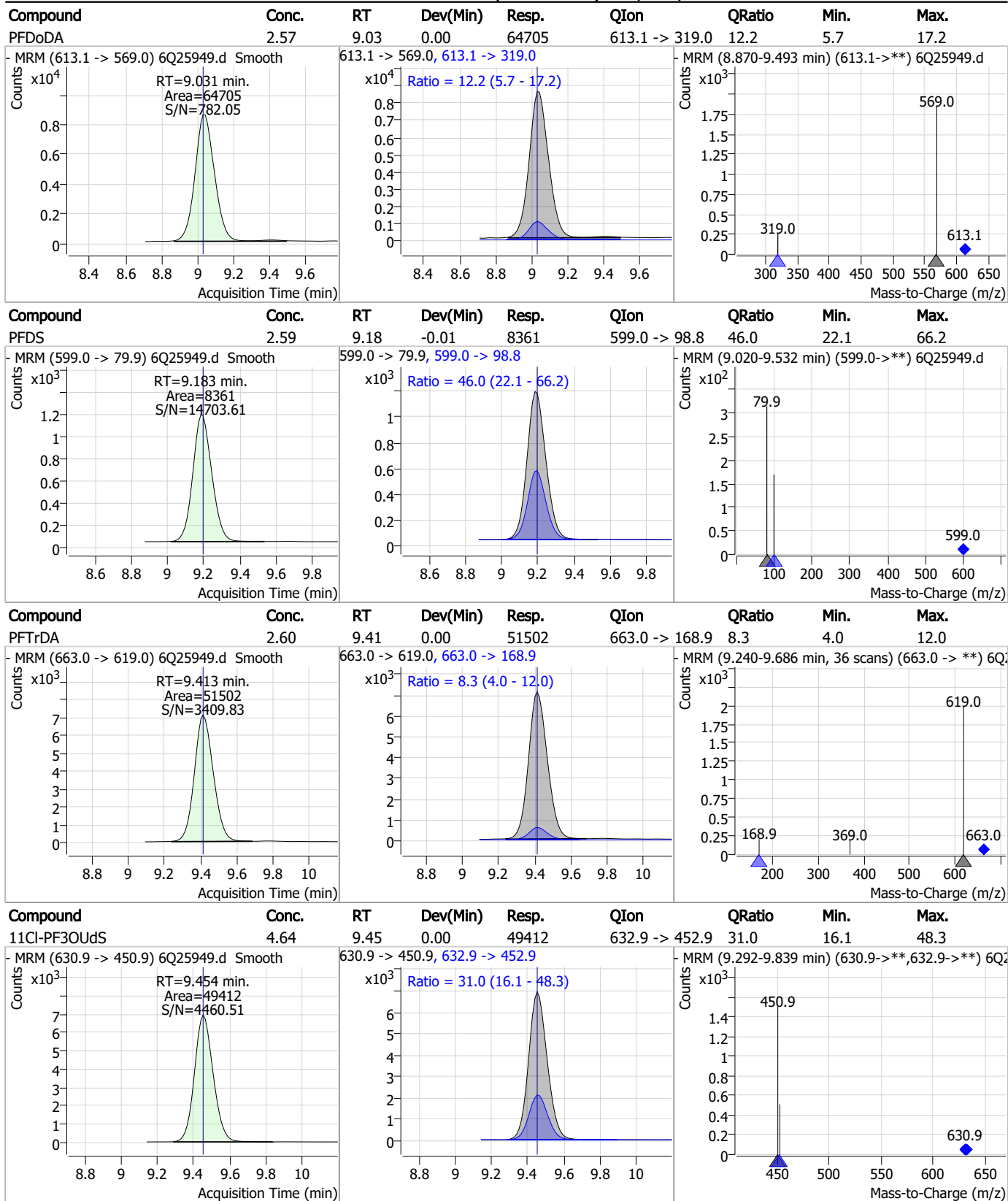
Perfluorinated Compounds by LC/MS/MS



7.7.10 7

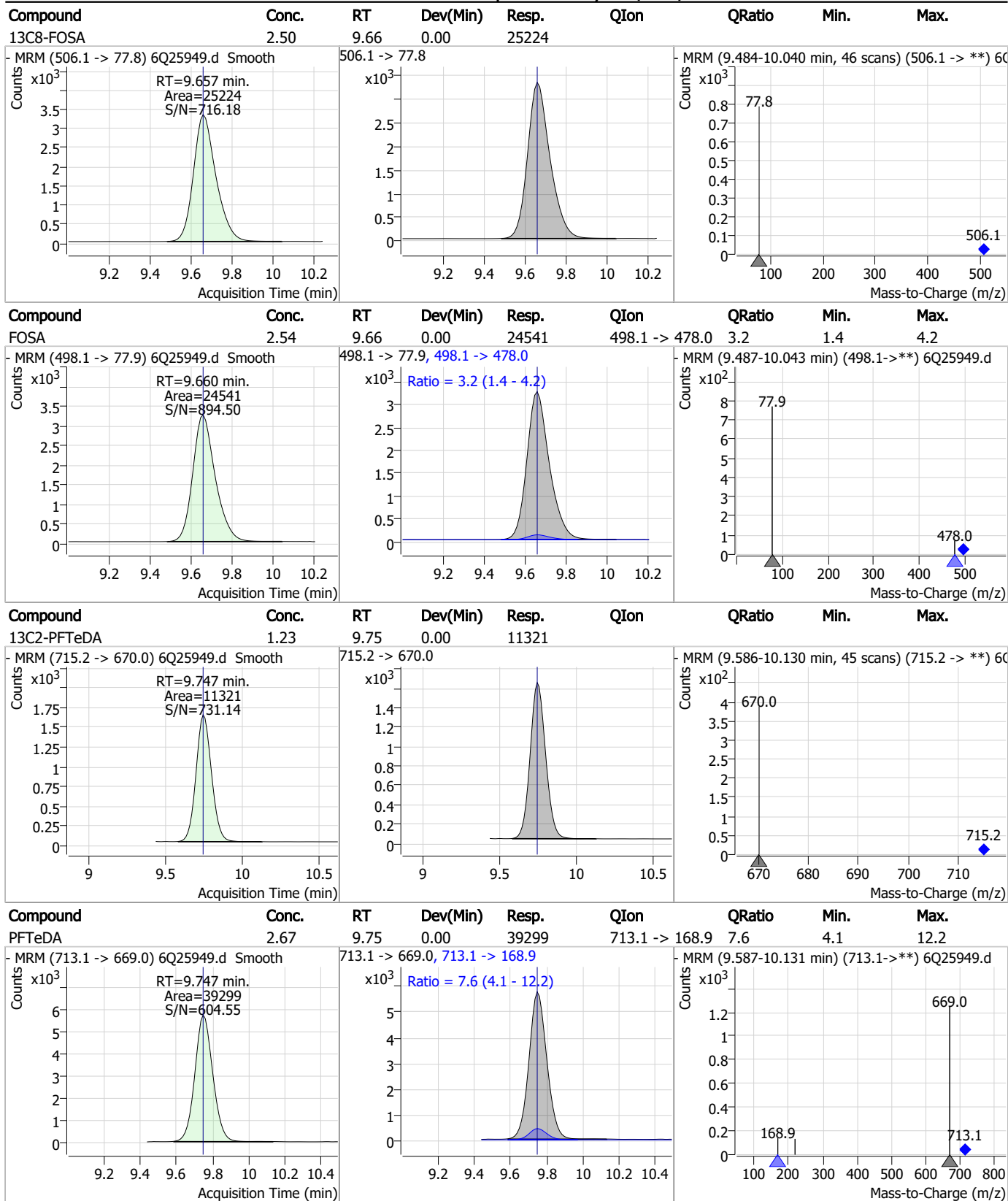


Perfluorinated Compounds by LC/MS/MS



7.7.10 7

Perfluorinated Compounds by LC/MS/MS



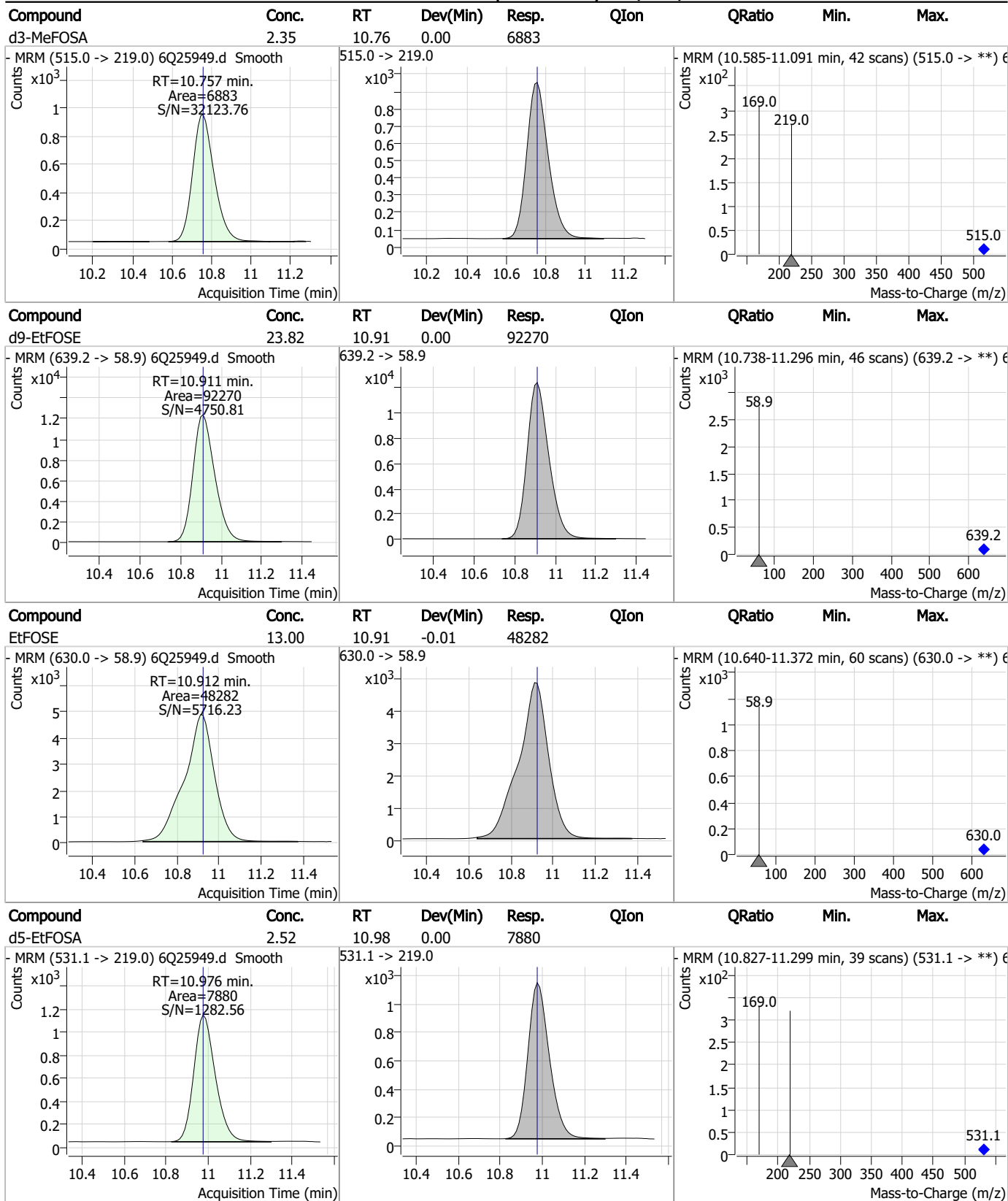
7.7.10
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Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoS	2.54	9.87	0.00	4258	699.1 -> 98.8	50.0	28.5	85.4
d7-MeFOSE	24.76	10.67	0.00	80688				
MeFOSE	12.24	10.68	0.00	43650				
MeFOSA	5.41	10.75	0.00	17266	511.9 -> 169.0	133.6	66.6	199.8

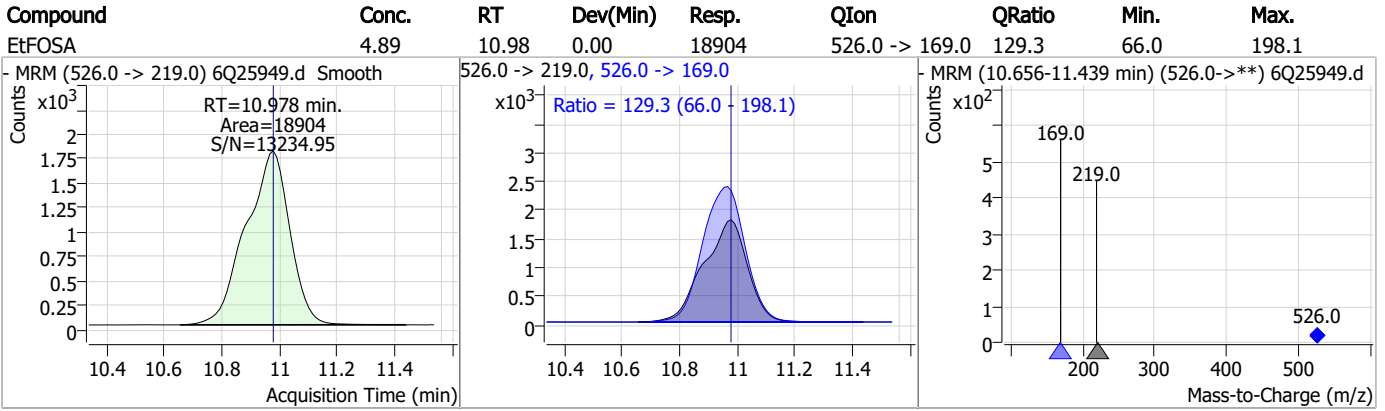
7.7.10
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Perfluorinated Compounds by LC/MS/MS



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Perfluorinated Compounds by LC/MS/MS



7.7.10 7

Manual Integration Approval Summary

Sample Number: S6Q367-ICV367 Method: EPA DRAFT 1633
Lab FileID: 6Q25949.D Analyst approved: 10/09/23 13:30 Martha Valls
Injection Time: 10/08/23 17:12 Supervisor approved: 10/09/23 16:36 Natasha Gumtie

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		7.26	Split peak
Perfluorooctanesulfonic acid	1763-23-1		8.31	Split peak

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Perfluorinated Compounds by LC/MS/MS

Data File : 6Q25950.d
 Operator : marthav
 Acq. Method : 1633full.m
 Acq. Date-Time : 10/8/2023 5:26:37 PM
 Sample Name : icv367-20
 Vial : P1-B2
 DA Method File : 1633_100823_S6Q367.quantmethod.xml
 Batch Name : S6Q367.batch.bin
 Sample Information : OP99308,S6Q367,500,,,,5.0,1,water

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Internal Standards					
M4-PFBA	2.947	216.8 -> 171.9	162431	10.00 µg/L	0.000
M5-PFPeA	4.372	268.3 -> 223.0	56743	5.00 µg/L	0.000
M5-PFHxA	5.580	318.0 -> 273.0	51660	2.50 µg/L	0.000
M4-PFHpA	6.519	367.1 -> 322.0	47861	2.50 µg/L	0.000
M8-PFOA	7.161	421.1 -> 376.0	64412	2.50 µg/L	0.000
M9-PFNA	7.680	472.1 -> 427.0	27285	1.25 µg/L	0.000
M6-PFDA	8.161	519.1 -> 474.1	27770	1.25 µg/L	0.000
M7-PFUnDA	8.601	570.0 -> 525.1	30589	1.25 µg/L	-0.012
M2-PFDoDA	9.030	615.1 -> 570.0	34778	1.25 µg/L	0.000
M2-PFTeDA	9.747	715.2 -> 670.0	11368	1.25 µg/L	0.000
M8-FOSA	9.657	506.1 -> 77.8	23568	2.50 µg/L	0.000
M3-PFBS	5.497	302.1 -> 79.9	22633	2.50 µg/L	0.000
M3-PFHxS	7.263	402.1 -> 79.9	12484	2.50 µg/L	0.000
M8-PFOS	8.298	507.1 -> 79.9	12699	2.50 µg/L	-0.013
M2-4:2FTS	5.255	329.1 -> 80.9	2424	5.00 µg/L	0.000
M2-6:2FTS	6.936	429.1 -> 80.9	3449	5.00 µg/L	0.000
M2-8:2FTS	7.950	529.1 -> 80.9	3627	5.00 µg/L	0.000
M3-MeFOSAA	8.219	573.2 -> 419.0	26497	5.00 µg/L	0.012
M3-HFPO-DA	5.957	286.9 -> 168.9	33488	10.00 µg/L	0.000
M5-EtFOSAA	8.402	589.2 -> 419.0	22465	5.00 µg/L	-0.012
M7-MeFOSE	10.665	623.2 -> 58.9	74082	25.00 µg/L	0.000
M9-EtFOSE	10.911	639.2 -> 58.9	93609	25.00 µg/L	0.000
M5-EtFOSA	10.976	531.1 -> 219.0	7528	2.50 µg/L	0.000
M3-MeFOSA	10.757	515.0 -> 219.0	6722	2.50 µg/L	0.000
13C4-PFOS	8.312	502.8 -> 79.9	12471	2.50 µg/L	0.000
13C3-PFBA	2.952	216.0 -> 172.0	67012	5.00 µg/L	0.000
18O2-PFHxS	7.263	403.0 -> 83.9	7706	2.50 µg/L	0.000
13C4-PFOA	7.162	417.1 -> 372.0	76443	2.50 µg/L	0.000
13C2-PFDA	8.161	515.1 -> 470.1	27554	1.25 µg/L	0.000
13C5-PFNA	7.680	468.0 -> 423.0	27640	1.25 µg/L	0.000
13C2-PFHxA	5.581	315.1 -> 270.0	49385	2.50 µg/L	0.000
System Monitoring Compounds					
13C2-4:2FTS	5.255	329.1 -> 80.9	2424	5.58 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 111.7%		
13C2-6:2FTS	6.936	429.1 -> 80.9	3449	5.34 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 106.8%		
13C2-8:2FTS	7.950	529.1 -> 80.9	3627	5.46 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 109.1%		
13C2-PFDoDA	9.030	615.1 -> 570.0	34778	1.27 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 101.3%		
13C2-PFTeDA	9.747	715.2 -> 670.0	11368	1.22 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 97.7%		
13C3-PFBS	5.497	302.1 -> 79.9	22633	2.59 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 103.7%		
13C3-PFHxS	7.263	402.1 -> 79.9	12484	2.55 µg/L	0.000

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Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 102.0%	
13C4-PFBA	2.947	216.8 -> 171.9	162431	10.04 µg/L	0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 100.4%	
13C4-PFHpA	6.519	367.1 -> 322.0	47861	2.39 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 95.8%	
13C5-PFHxA	5.580	318.0 -> 273.0	51660	2.53 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 101.2%	
13C5-PFPeA	4.372	268.3 -> 223.0	56743	5.08 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 101.5%	
13C6-PFDA	8.161	519.1 -> 474.1	27770	1.20 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 95.7%	
13C7-PFUnDA	8.601	570.0 -> 525.1	30589	1.22 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 97.6%	
13C8-FOSA	9.657	506.1 -> 77.8	23568	2.99 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 91.6%	
13C8-PFOA	7.161	421.1 -> 376.0	64412	2.43 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 97.2%	
13C8-PFOS	8.298	507.1 -> 79.9	12699	2.36 µg/L	-0.013
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 94.3%	
13C9-PFNA	7.680	472.1 -> 427.0	27285	1.20 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 96.0%	
d3-MeFOSAA	8.219	573.2 -> 419.0	26497	4.83 µg/L	0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 96.6%	
13C3-HFPO-DA	5.957	286.9 -> 168.9	33488	9.72 µg/L	0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 97.2%	
d3-MeFOSA	10.757	515.0 -> 219.0	6722	2.25 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 90.1%	
d5-EtFOSAA	8.402	589.2 -> 419.0	22465	4.78 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 95.6%	
d7-MeFOSE	10.665	623.2 -> 58.9	74082	22.30 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 89.2%	
d9-EtFOSE	10.911	639.2 -> 58.9	93609	23.71 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 94.8%	
d5-EtFOSA	10.976	531.1 -> 219.0	7528	2.36 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 94.4%	
Target Compounds					QValue
4:2FTS	5.255	327.1 -> 307.0	80072	19.91 µg/L	98
		327.1 -> 80.9	30107		
6:2FTS	6.937	427.1 -> 407.0	65897	21.02 µg/L	100
		427.1 -> 80.9	25376		
8:2FTS	7.950	527.1 -> 507.0	46825	18.53 µg/L	100
		527.1 -> 80.8	16550		
EtFOSAA	8.416	584.2 -> 419.1	67649	18.53 µg/L	98
		584.2 -> 526.0	41185		
FOSA	9.660	498.1 -> 77.9	174716	19.36 µg/L	100
		498.1 -> 478.0	4668		
MeFOSAA	8.208	570.1 -> 419.0	95624	19.32 µg/L	99
		570.1 -> 483.0	19623		
PFBA	2.943	212.8 -> 168.9	111603	18.44 µg/L	100
PFBS	5.499	298.7 -> 79.9	131741	19.42 µg/L	99
		298.7 -> 98.8	48059		
PFDA	8.161	512.9 -> 469.0	425832	19.62 µg/L	98
		512.9 -> 219.0	69736		
PFDoDA	9.031	613.1 -> 569.0	449845	17.40 µg/L	97
		613.1 -> 319.0	56424		
PFDS	9.183	599.0 -> 79.9	61292	18.87 µg/L	94

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Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
		599.0 -> 98.8	29473			
PFHpA	6.520	363.1 -> 319.0	510457	19.66	µg/L	99
		363.1 -> 169.0	72436			
PFHpS	7.819	449.0 -> 79.9	101174	19.30	µg/L	98
		449.0 -> 98.9	51195			
PFHxA	5.582	313.0 -> 269.0	359633	19.48	µg/L	99
		313.0 -> 118.9	16803			
PFHxS	7.264	398.7 -> 79.9	102029	19.55	µg/L	m 90
		398.7 -> 98.9	46722			
PFNA	7.680	463.0 -> 419.0	343566	20.43	µg/L	99
		463.0 -> 219.0	81932			
PFNS	8.765	548.8 -> 79.9	85375	18.43	µg/L	97
		548.8 -> 98.9	43577			
PFOA	7.163	413.0 -> 369.0	495171	17.91	µg/L	99
		413.0 -> 169.0	89690			
PFOS	8.312	498.9 -> 79.9	95947	17.69	µg/L	m 79
		498.9 -> 98.8	45072			
PFPeA	4.374	263.0 -> 219.0	235758	19.26	µg/L	100
PFPeS	6.571	349.1 -> 79.9	138877	20.60	µg/L	100
		349.1 -> 98.9	60800			
PFTeDA	9.747	713.1 -> 669.0	281415	19.03	µg/L	100
		713.1 -> 168.9	22611			
PFTrDA	9.413	663.0 -> 619.0	342668	16.86	µg/L	100
		663.0 -> 168.9	27601			
PFUnDA	8.614	563.1 -> 519.0	383445	17.79	µg/L	95
		563.1 -> 269.1	64433			
11Cl-PF3OUdS	9.454	630.9 -> 450.9	203042	20.44	µg/L	96
		632.9 -> 452.9	61221			
9Cl-PF3ONS	8.641	530.8 -> 351.0	330533	18.75	µg/L	93
		532.8 -> 353.0	110095			
ADONA	6.767	376.9 -> 250.9	840201	18.27	µg/L	97
		376.9 -> 84.8	217633			
HFPO-DA	5.958	284.9 -> 168.9	60935	18.36	µg/L	99
		284.9 -> 184.9	7553			
3:3FTCA	3.808	241.0 -> 177.0	15585	17.88	µg/L	100
		241.0 -> 117.0	2080			
5:3FTCA	6.233	341.0 -> 237.1	67206	19.41	µg/L	98
		341.0 -> 217.0	49043			
7:3FTCA	7.632	441.0 -> 316.9	37520	17.74	µg/L	98
		441.0 -> 336.9	76751			
EtFOSA	10.978	526.0 -> 219.0	59522	16.11	µg/L	78
		526.0 -> 169.0	63510			
EtFOSE	10.924	630.0 -> 58.9	375098	99.58	µg/L	100
MeFOSA	10.758	511.9 -> 219.0	57256	18.38	µg/L	82
		511.9 -> 169.0	64081			
MeFOSE	10.691	616.1 -> 58.9	354149	108.17	µg/L	100
PFDoS	9.873	699.1 -> 79.9	29713	17.61	µg/L	97
		699.1 -> 98.8	16147			
NFDHA	5.462	295.0 -> 201.0	43769	18.86	µg/L	99
		295.0 -> 84.9	11897			
PFMBA	4.800	279.0 -> 85.1	168746	18.09	µg/L	100
PFMPA	3.501	229.0 -> 84.9	138063	17.93	µg/L	100
PFEESA	6.050	314.8 -> 134.9	380675	16.02	µg/L	100
		314.8 -> 82.9	13751			

= Qualifier out of range, m = manually integrated, + = Area summed



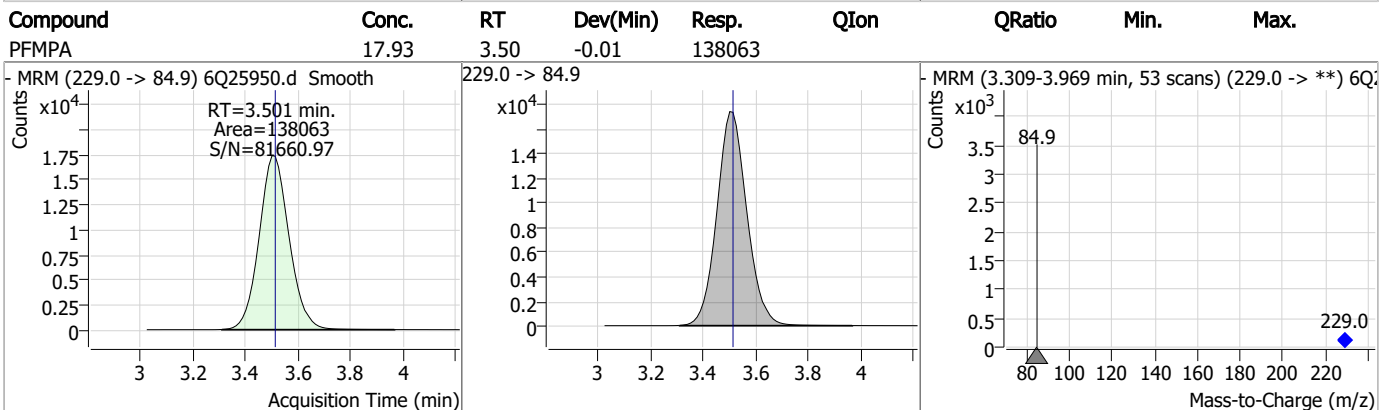
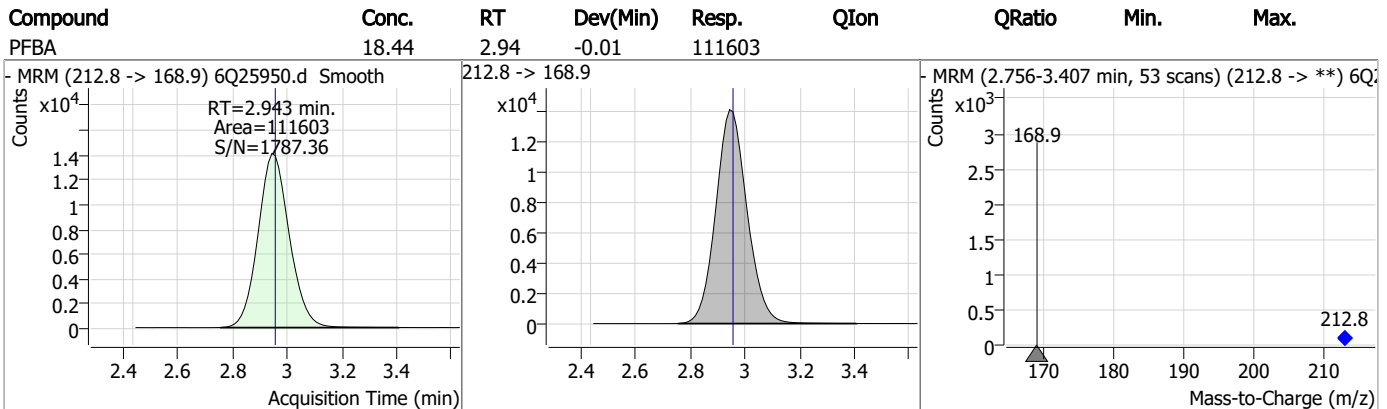
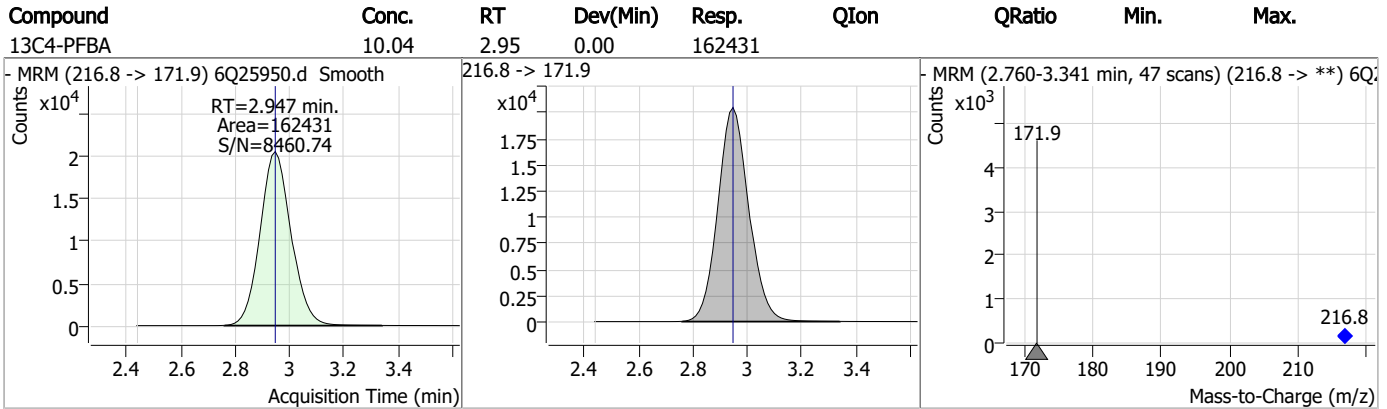
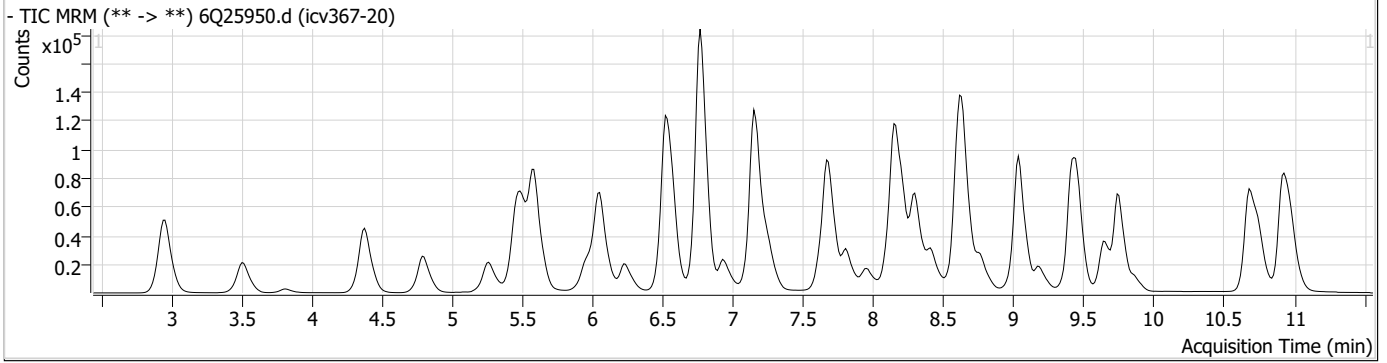
Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
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Perfluorinated Compounds by LC/MS/MS

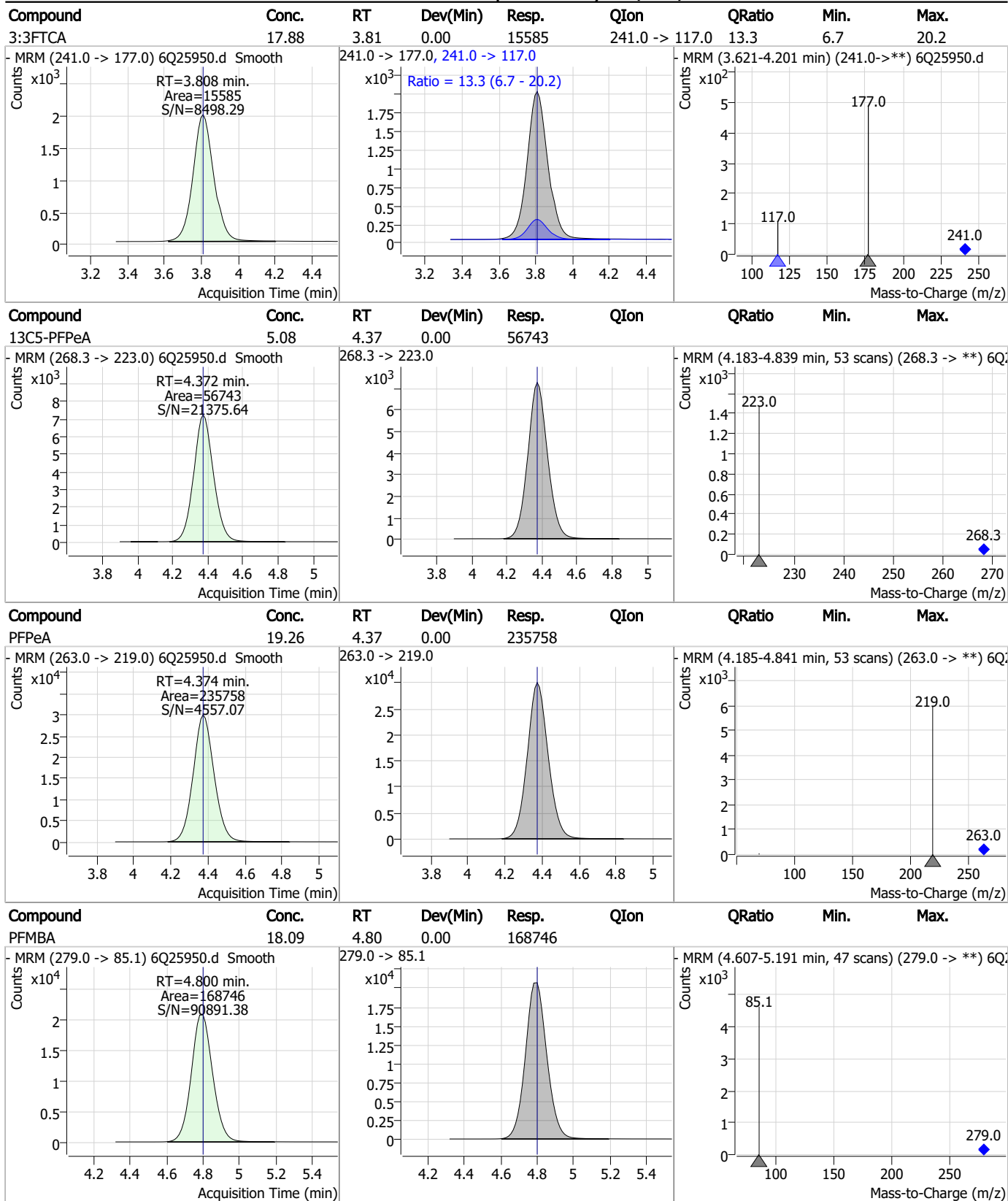


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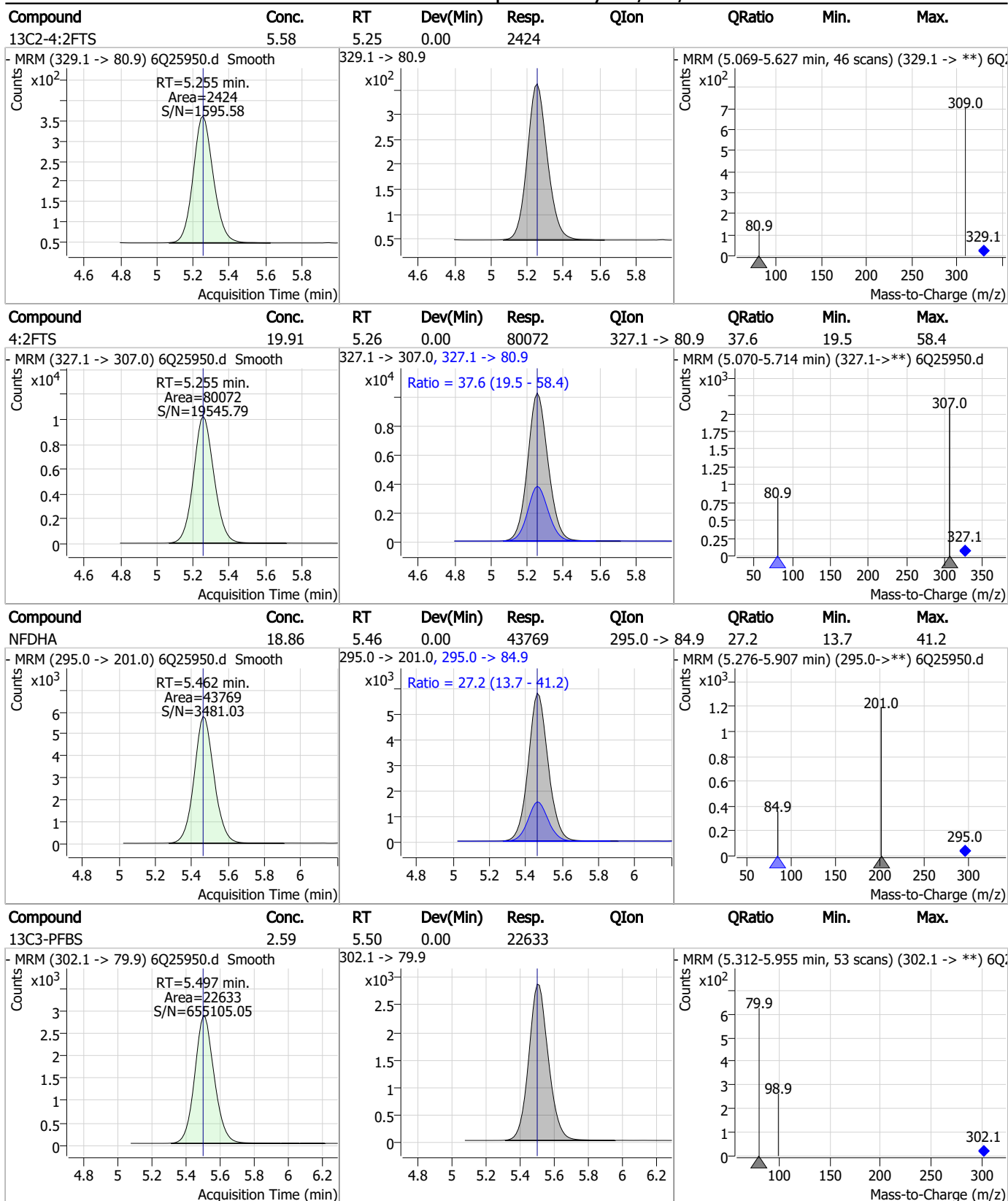


Perfluorinated Compounds by LC/MS/MS



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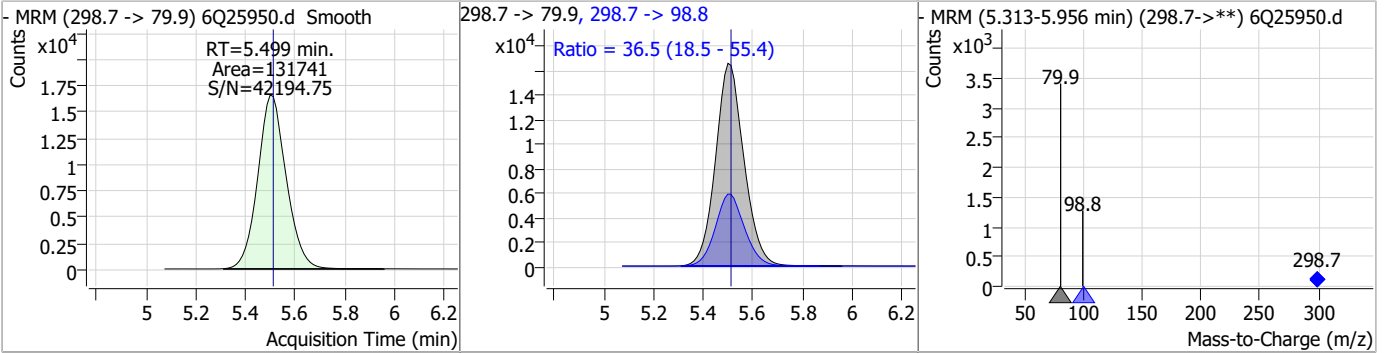
Perfluorinated Compounds by LC/MS/MS



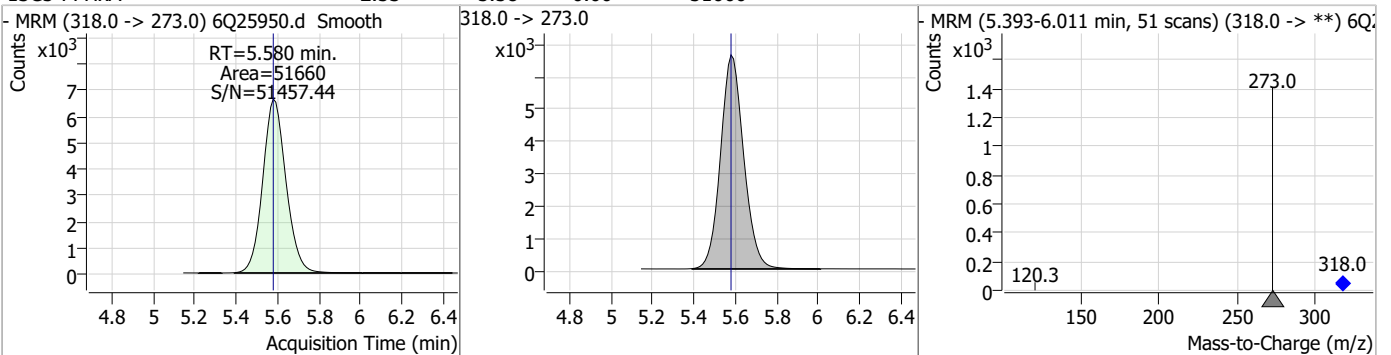
7.7.11
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Perfluorinated Compounds by LC/MS/MS

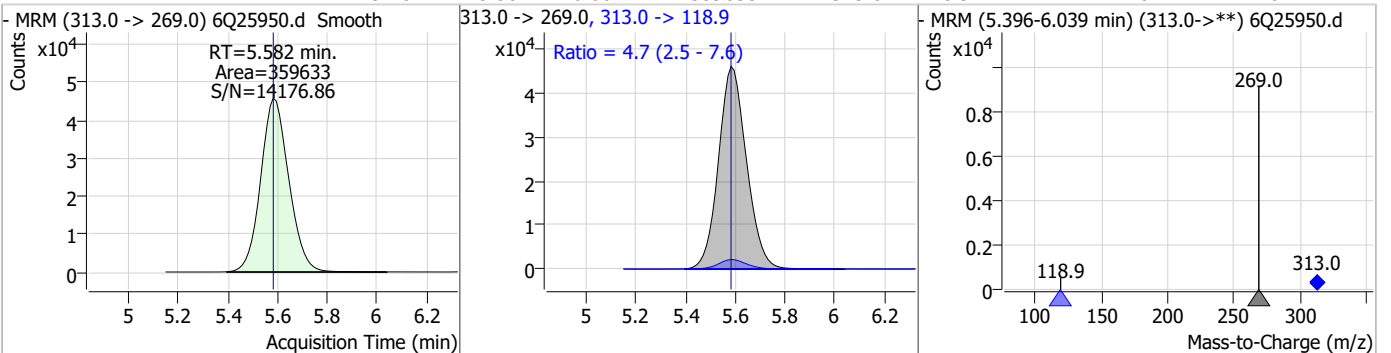
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBS	19.42	5.50	-0.01	131741	298.7 -> 98.8	36.5	18.5	55.4



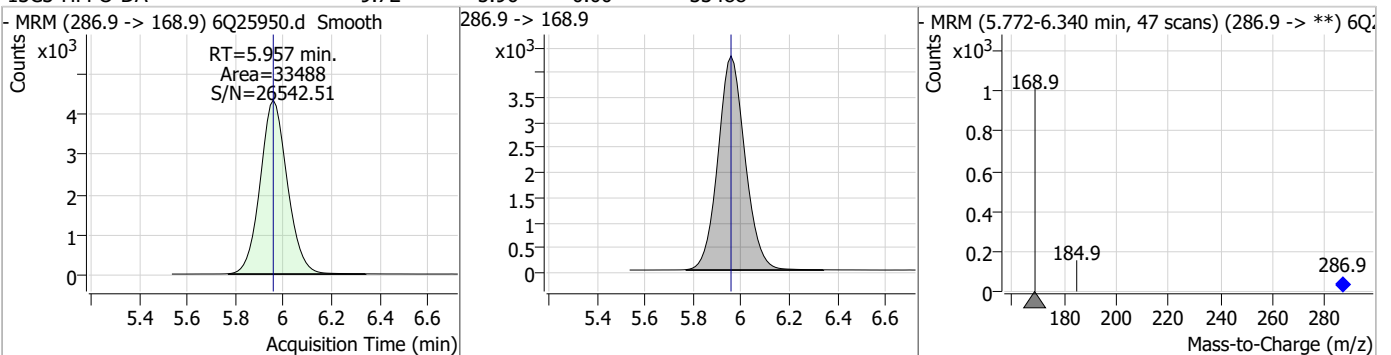
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFHxA	2.53	5.58	0.00	51660				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxA	19.48	5.58	0.00	359633	313.0 -> 118.9	4.7	2.5	7.6

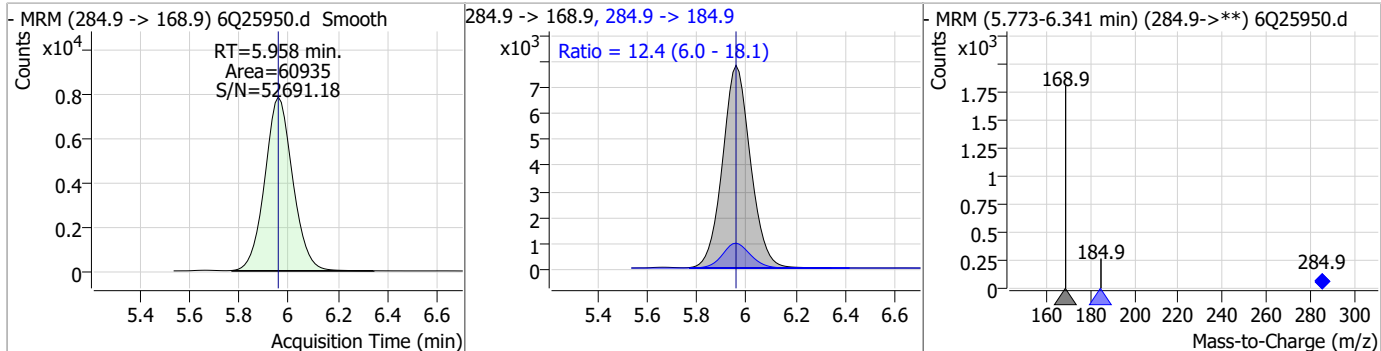


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-HFPO-DA	9.72	5.96	0.00	33488				

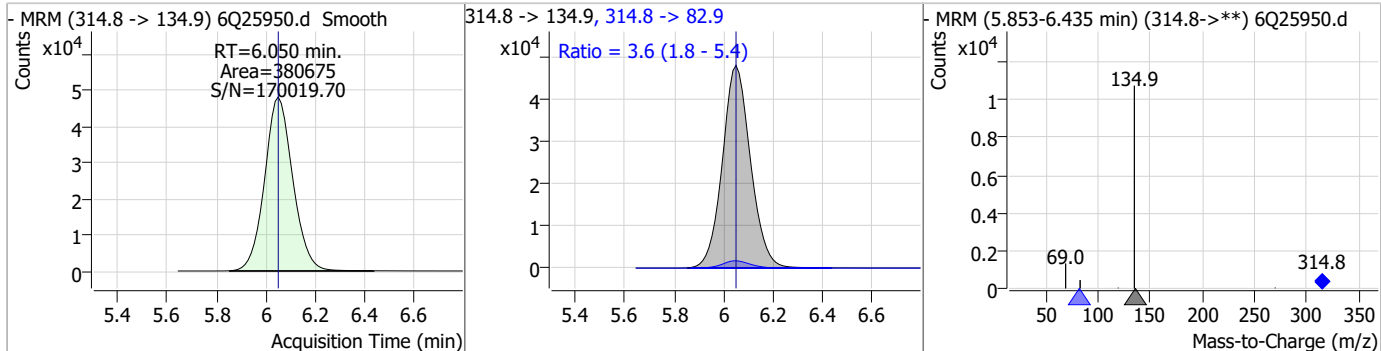


Perfluorinated Compounds by LC/MS/MS

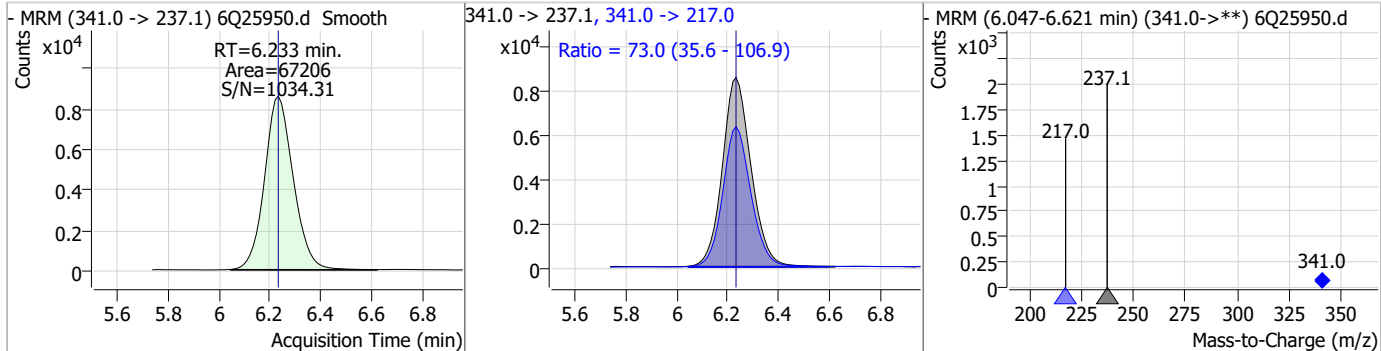
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
HFPO-DA	18.36	5.96	0.00	60935	284.9 -> 184.9	12.4	6.0	18.1



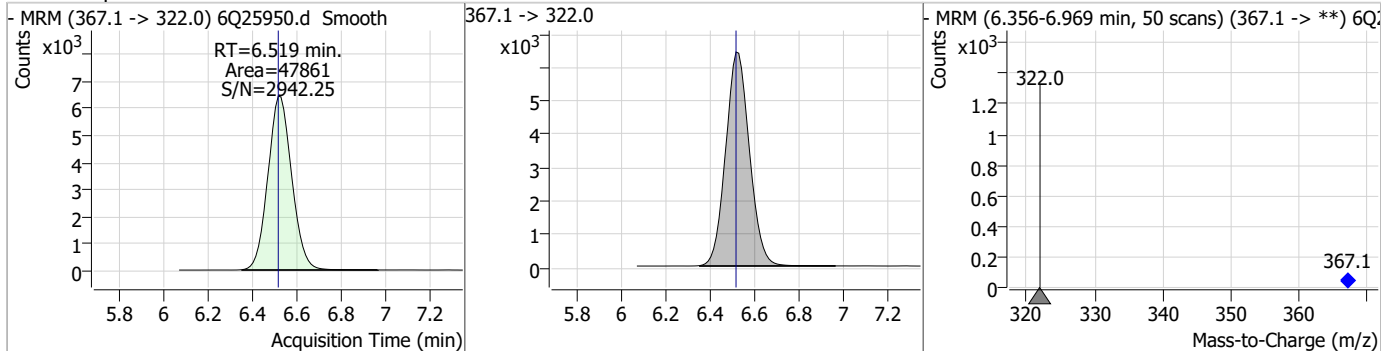
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFEESA	16.02	6.05	0.00	380675	314.8 -> 82.9	3.6	1.8	5.4



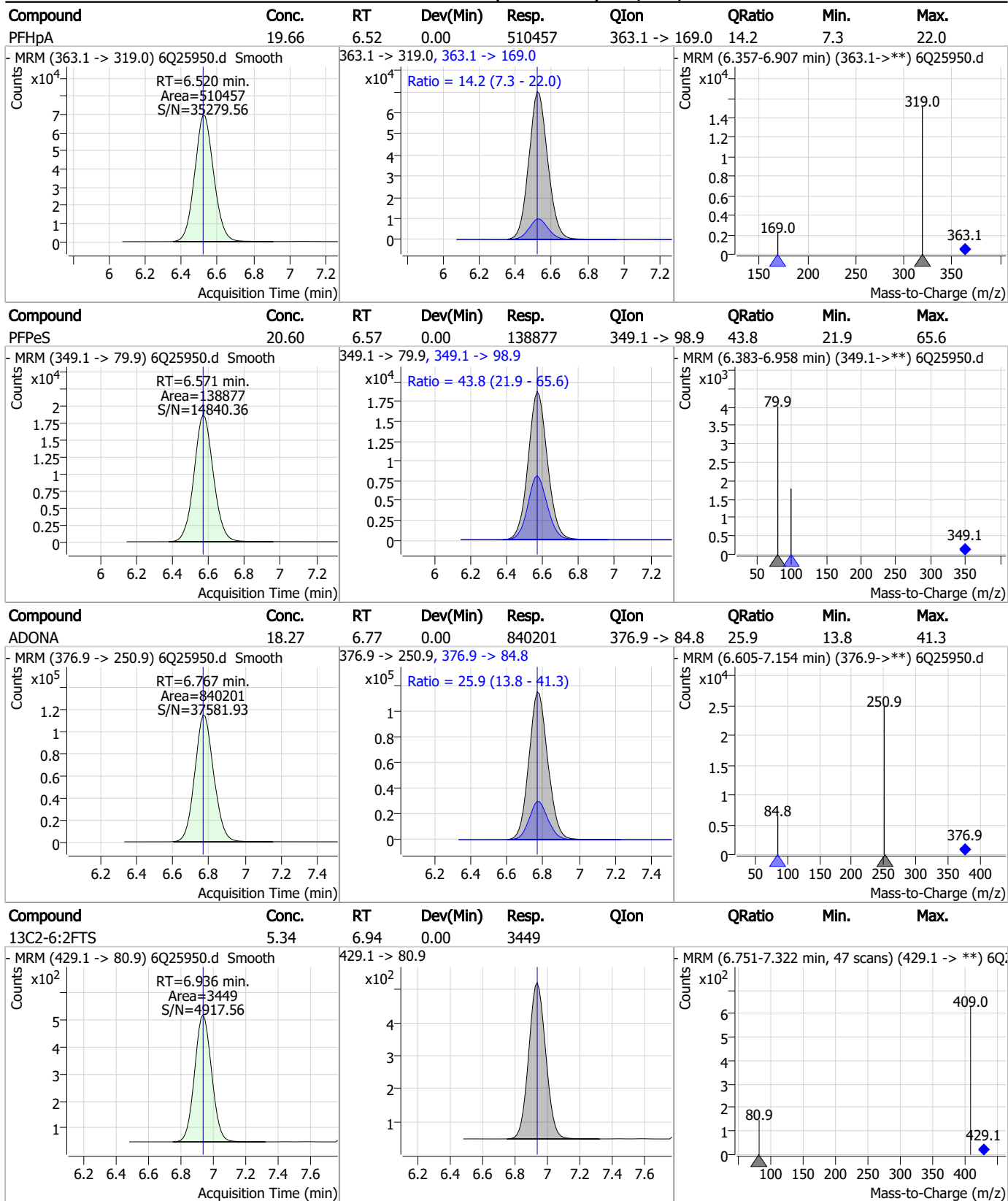
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
5:3FTCA	19.41	6.23	0.00	67206	341.0 -> 217.0	73.0	35.6	106.9



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFHpa	2.39	6.52	0.00	47861	367.1 -> 322.0			

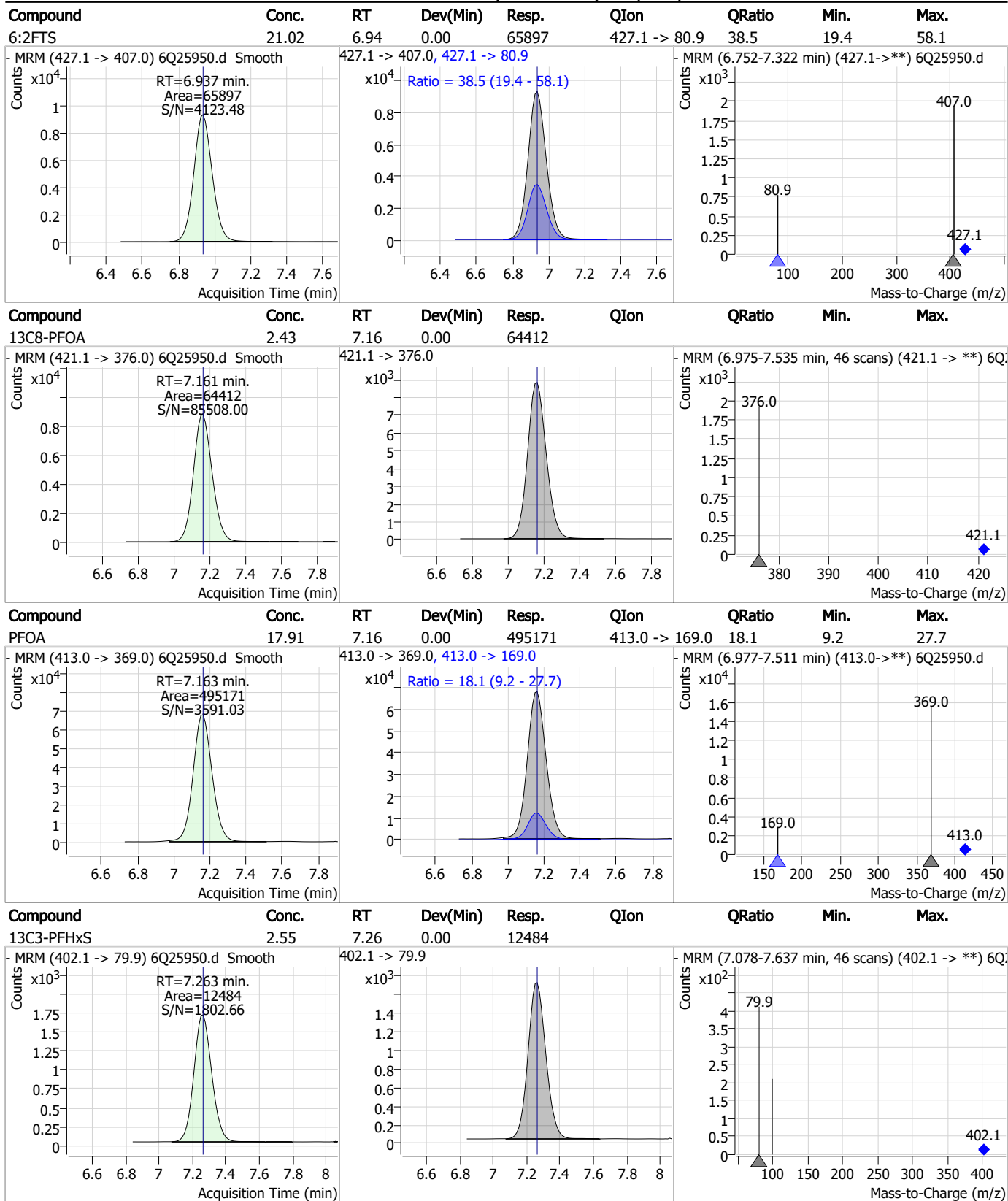


Perfluorinated Compounds by LC/MS/MS



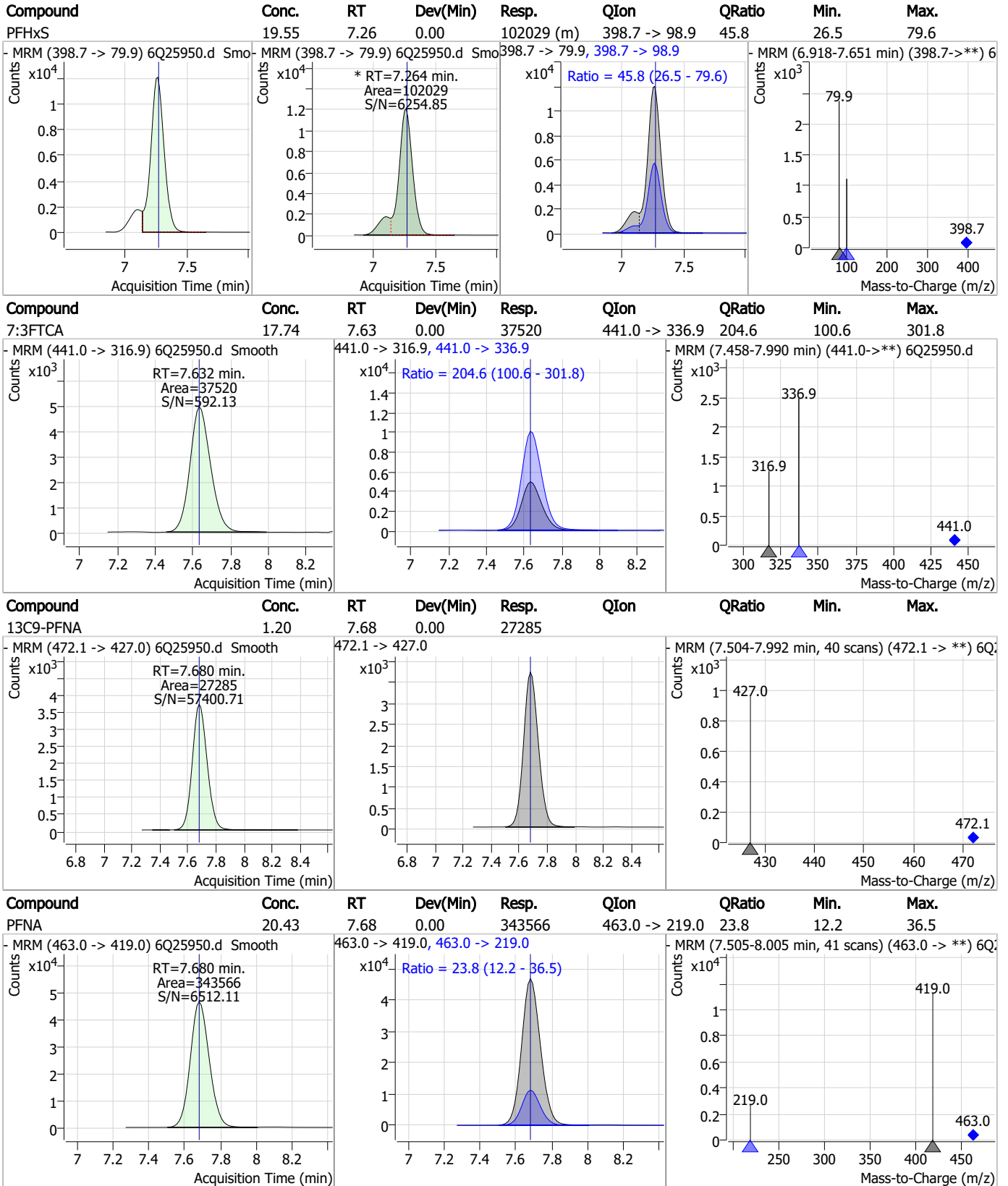
7.7.11
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Perfluorinated Compounds by LC/MS/MS



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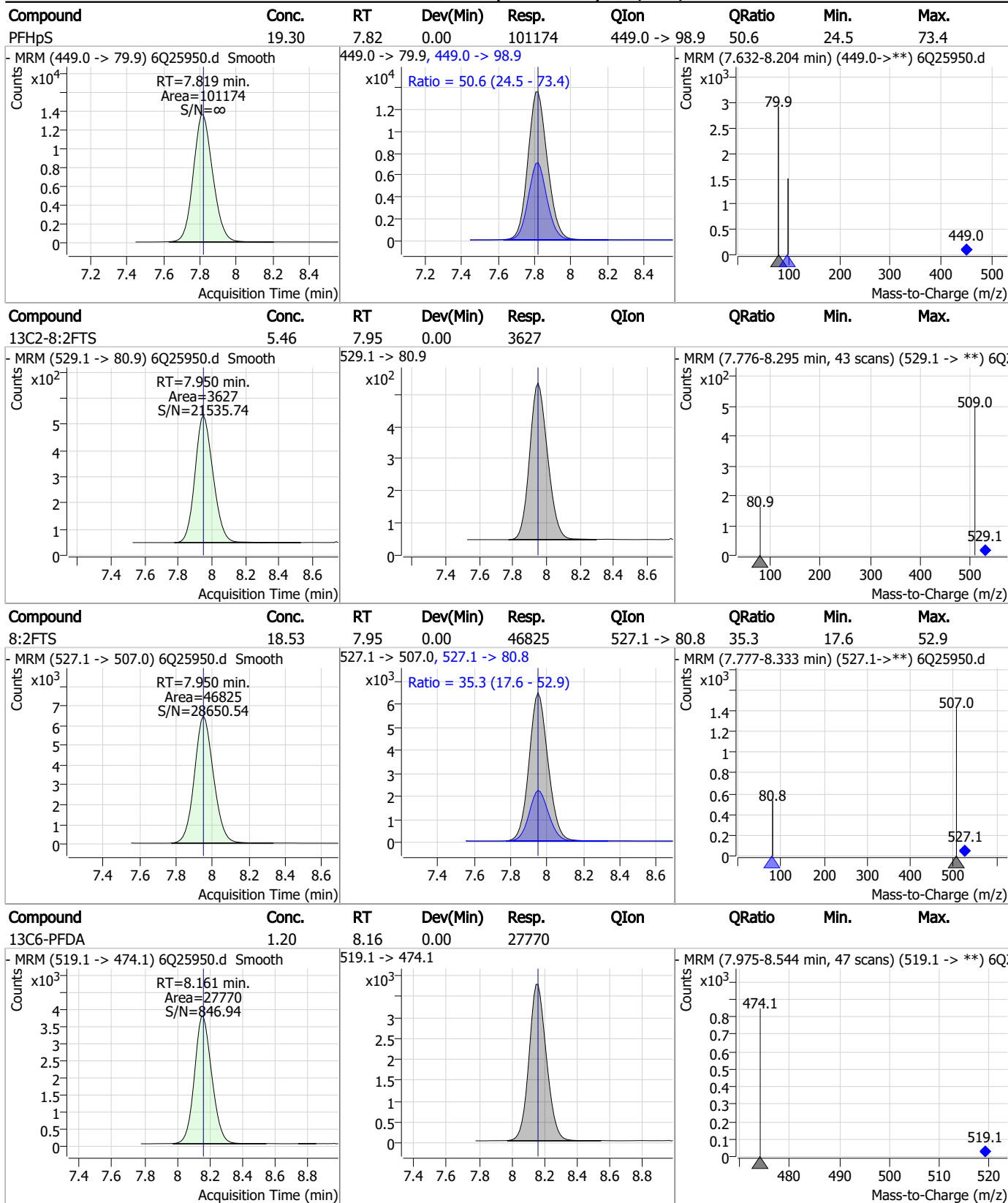
Perfluorinated Compounds by LC/MS/MS



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Perfluorinated Compounds by LC/MS/MS

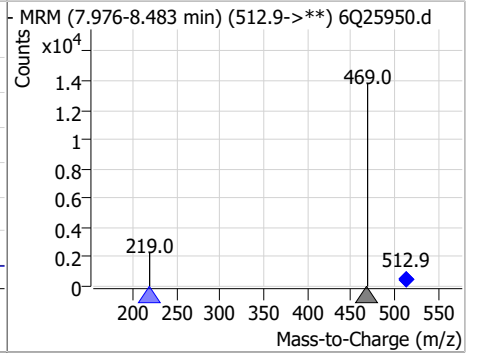
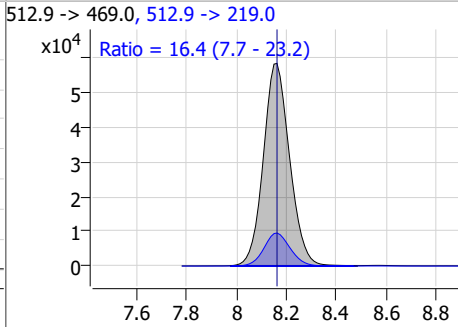
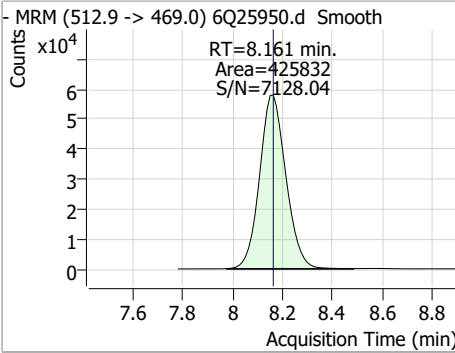


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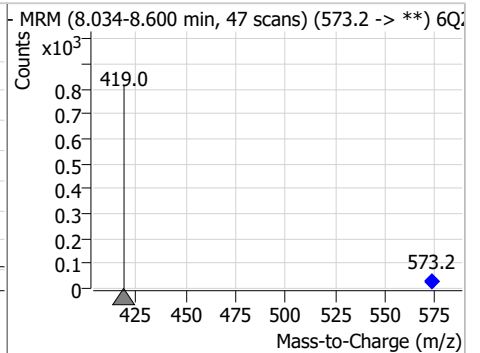
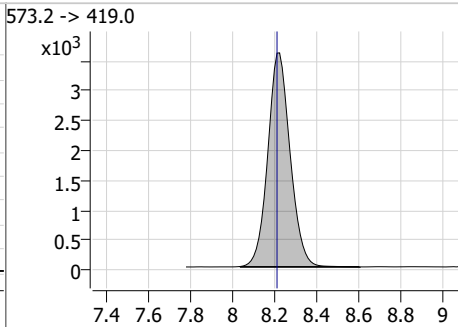
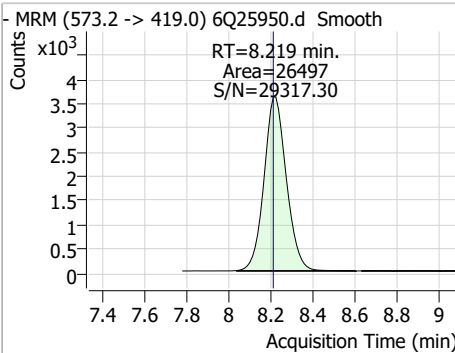
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Perfluorinated Compounds by LC/MS/MS

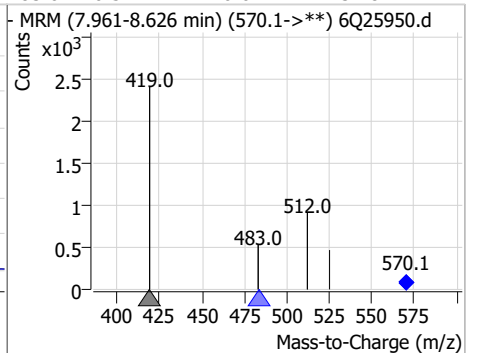
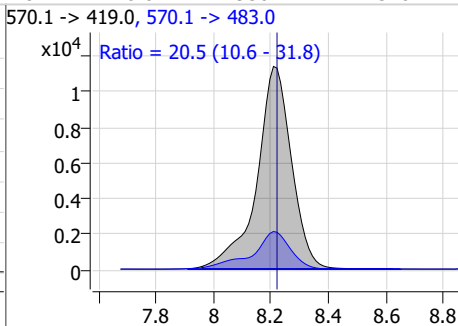
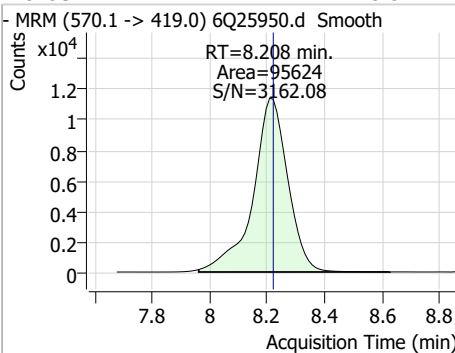
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDA	19.62	8.16	0.00	425832	512.9 -> 219.0	16.4	7.7	23.2



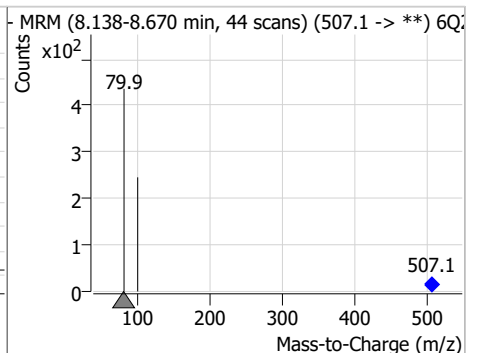
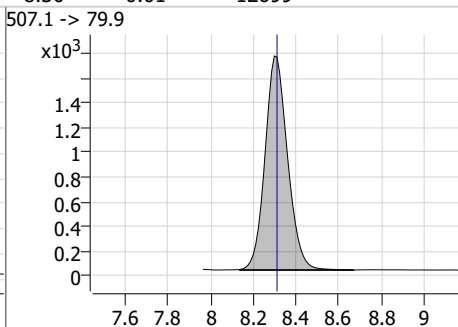
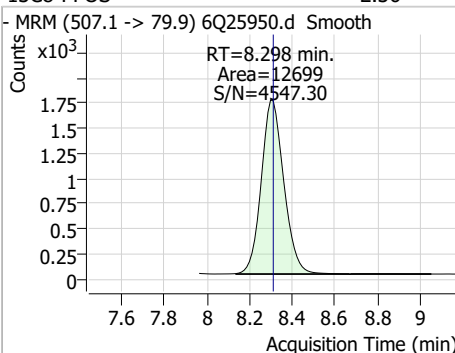
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSAA	4.83	8.22	0.01	26497	573.2 -> 419.0			



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSAA	19.32	8.21	-0.01	95624	570.1 -> 483.0	20.5	10.6	31.8

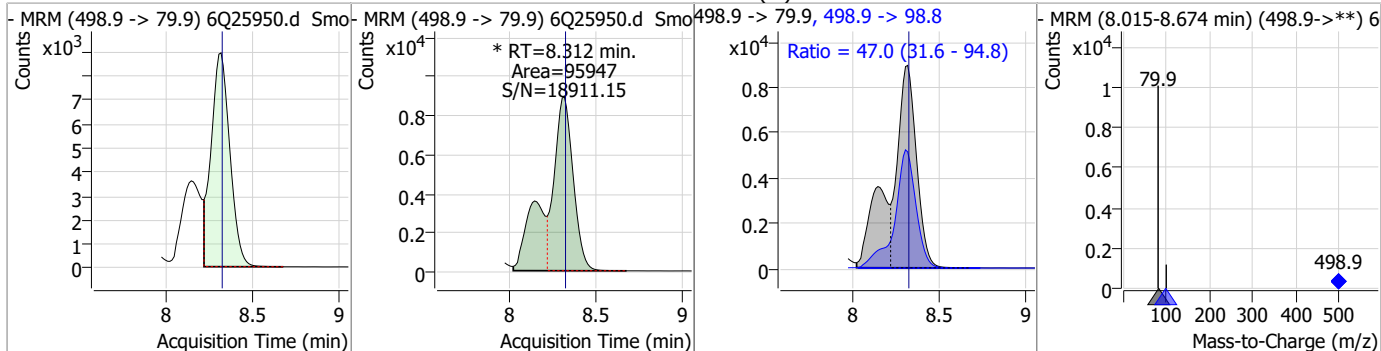


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOS	2.36	8.30	-0.01	12699	507.1 -> 79.9			

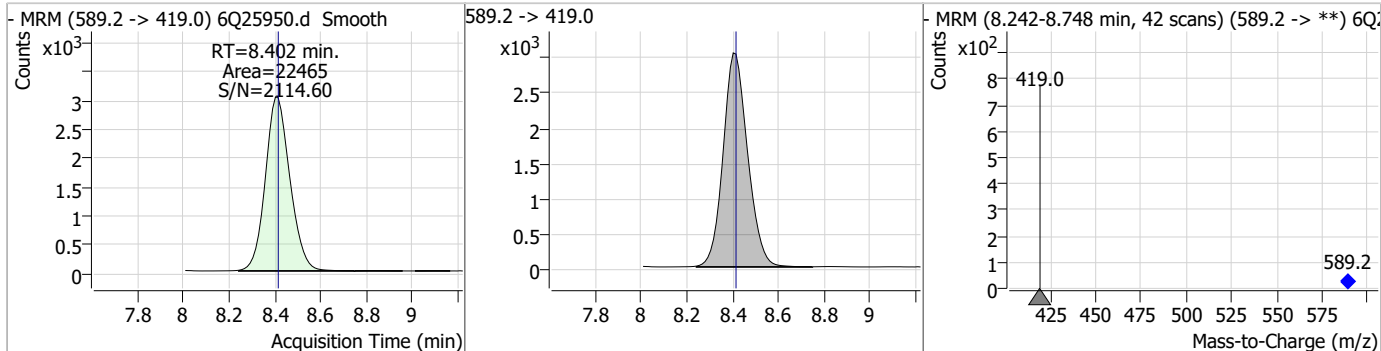


Perfluorinated Compounds by LC/MS/MS

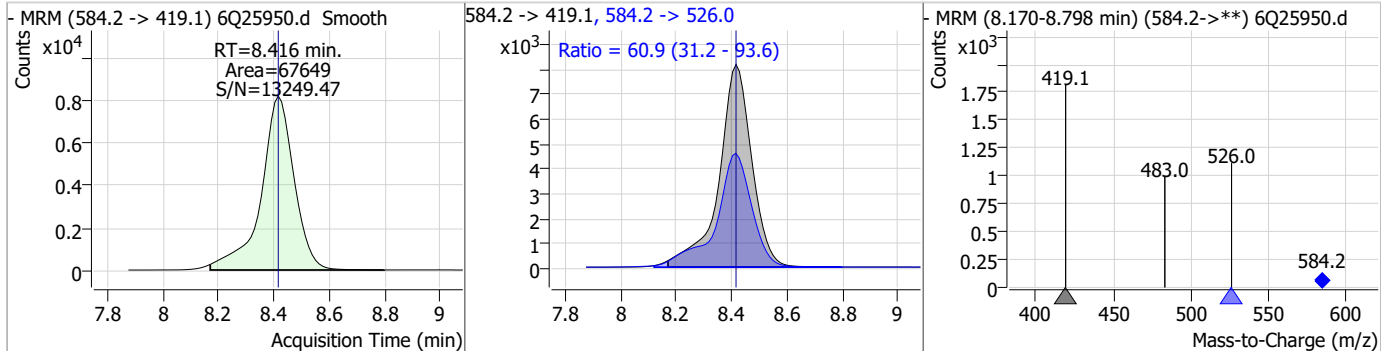
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOS	17.69	8.31	0.00	95947 (m)	498.9 -> 98.8	47.0	31.6	94.8



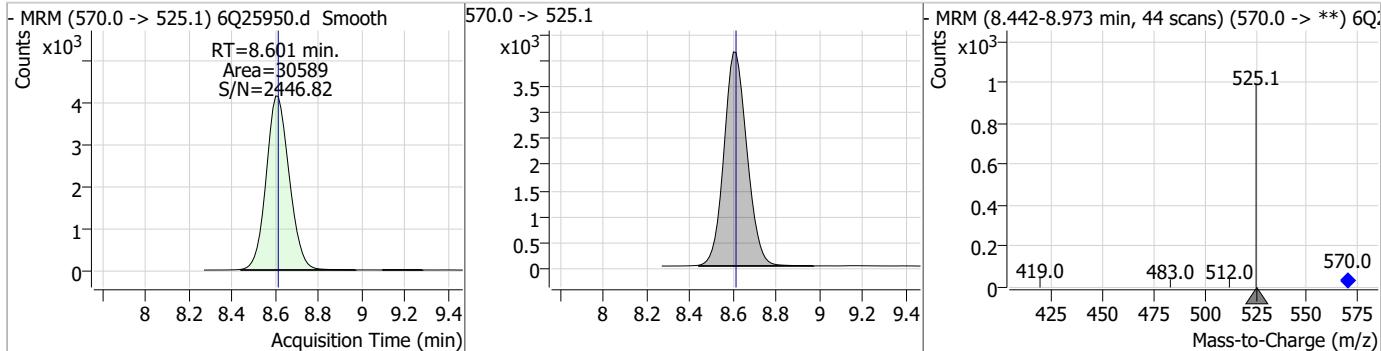
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSAA	4.78	8.40	-0.01	22465				



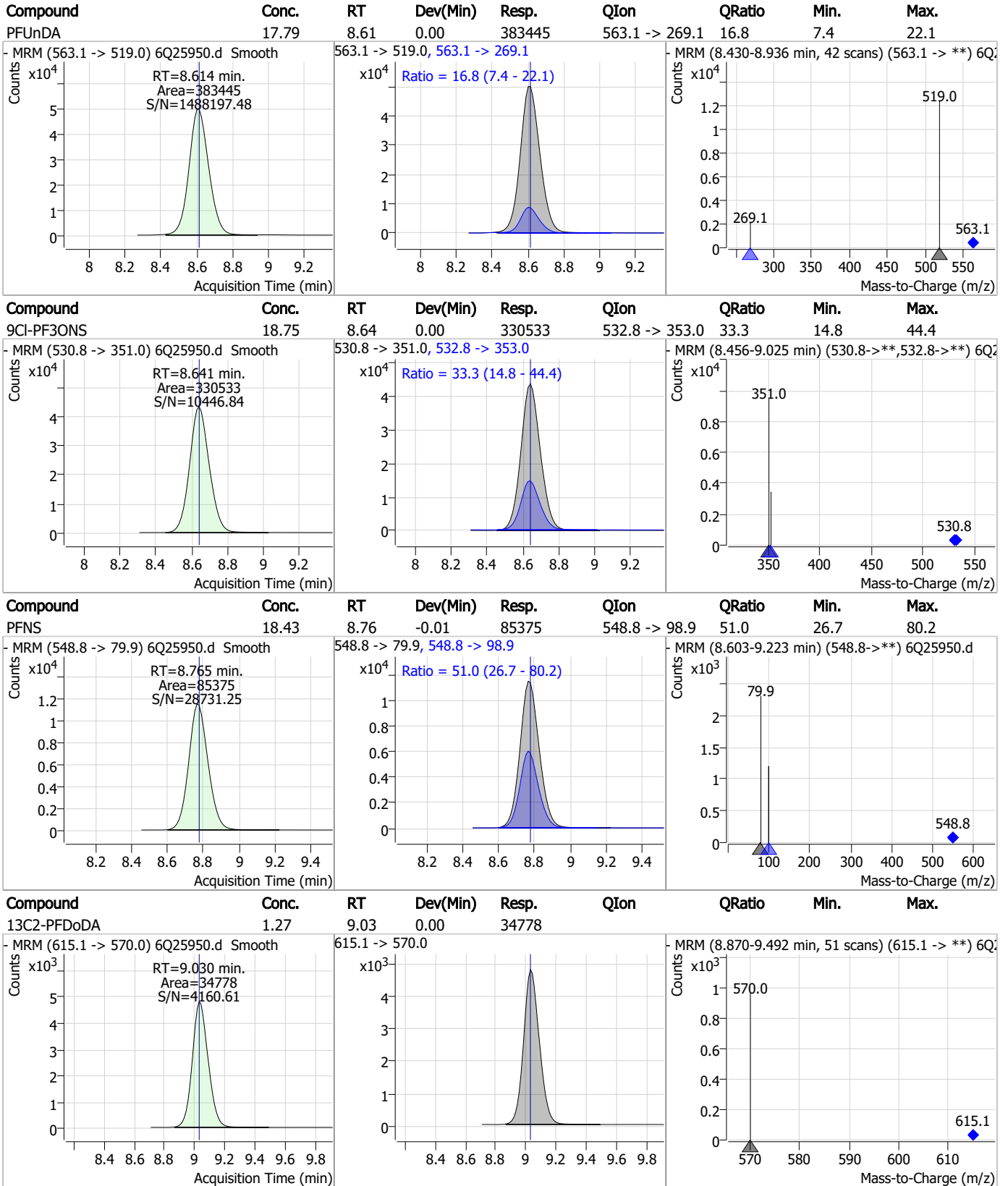
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSAA	18.53	8.42	0.00	67649	584.2 -> 526.0	60.9	31.2	93.6



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C7-PFUnDA	1.22	8.60	-0.01	30589				



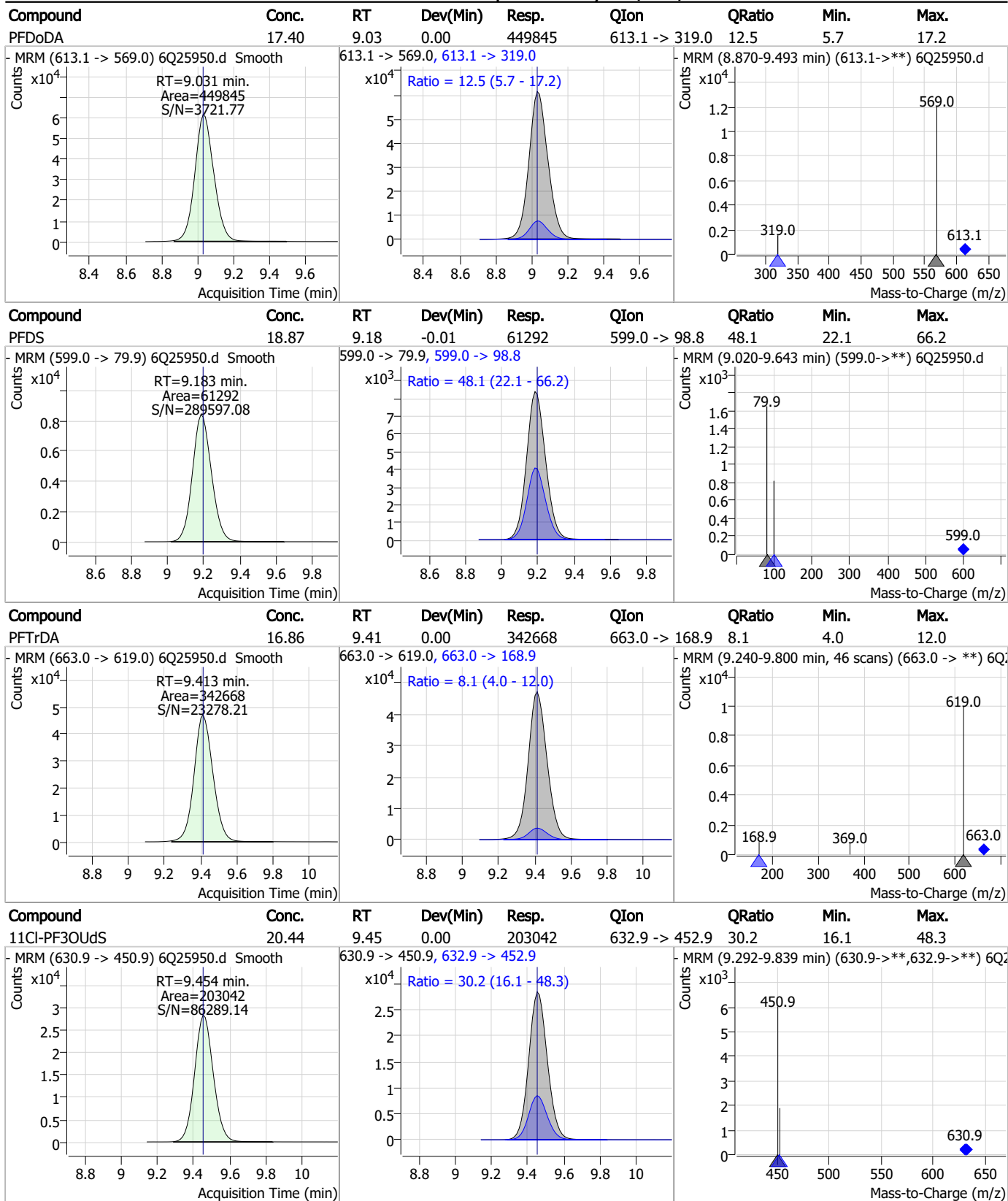
Perfluorinated Compounds by LC/MS/MS



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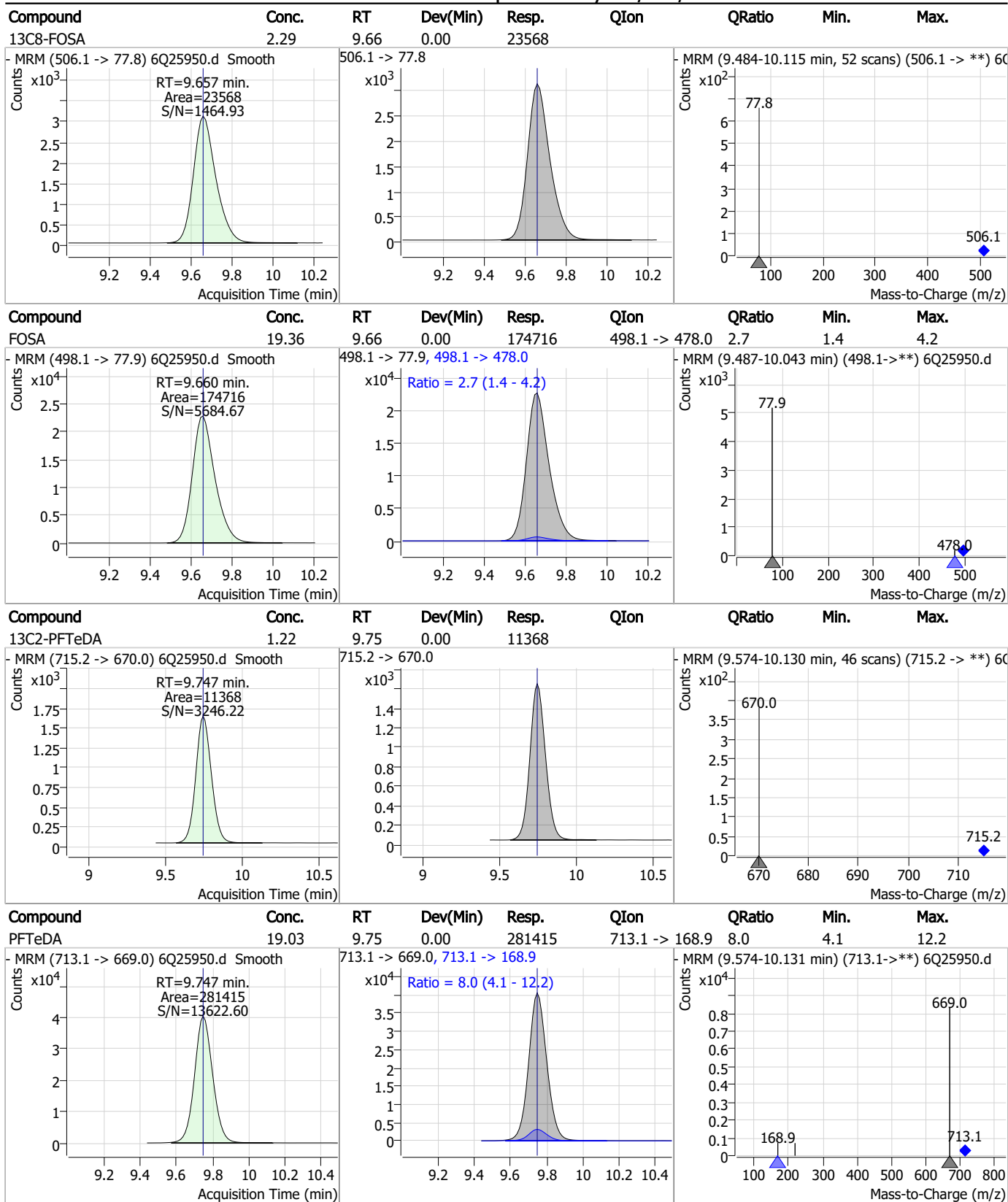
Perfluorinated Compounds by LC/MS/MS



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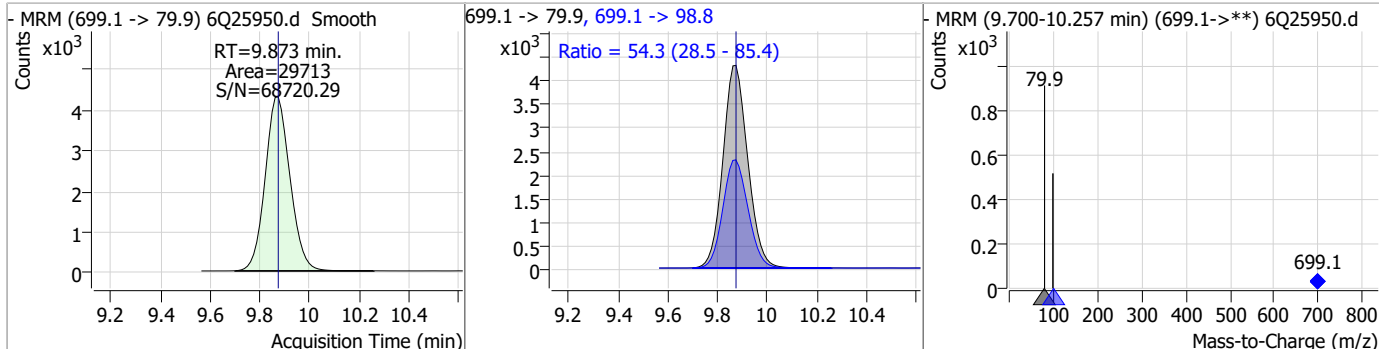
Perfluorinated Compounds by LC/MS/MS



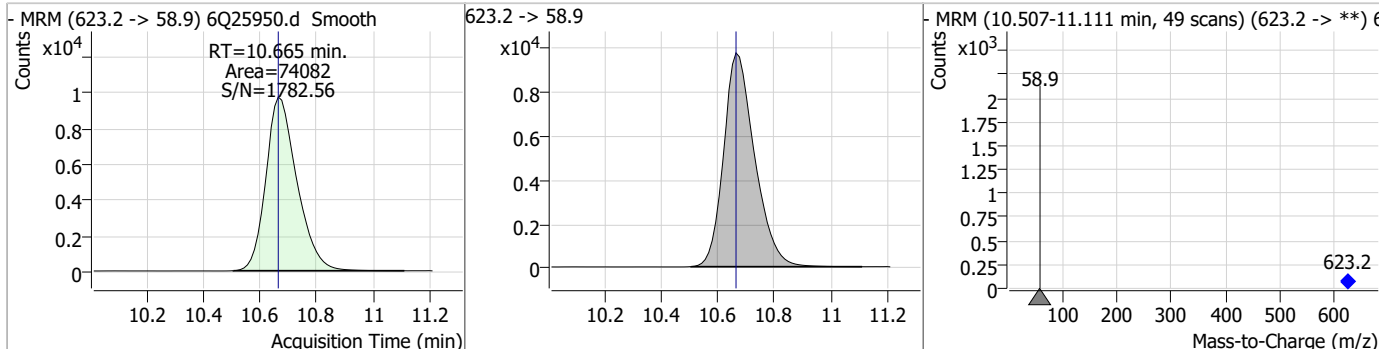
7.7.11
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Perfluorinated Compounds by LC/MS/MS

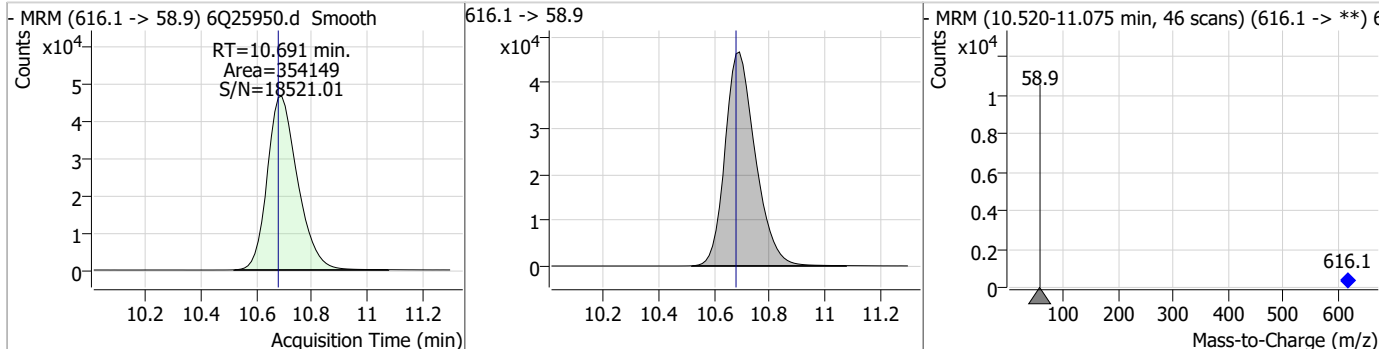
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFD _o DS	17.61	9.87	0.00	29713	699.1 -> 98.8	54.3	28.5	85.4



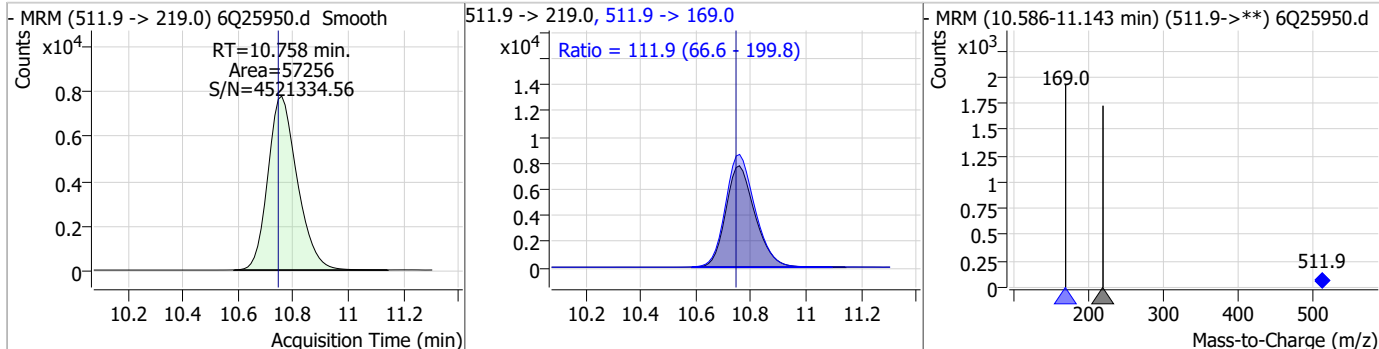
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d7-MeFOSE	22.30	10.67	0.00	74082				



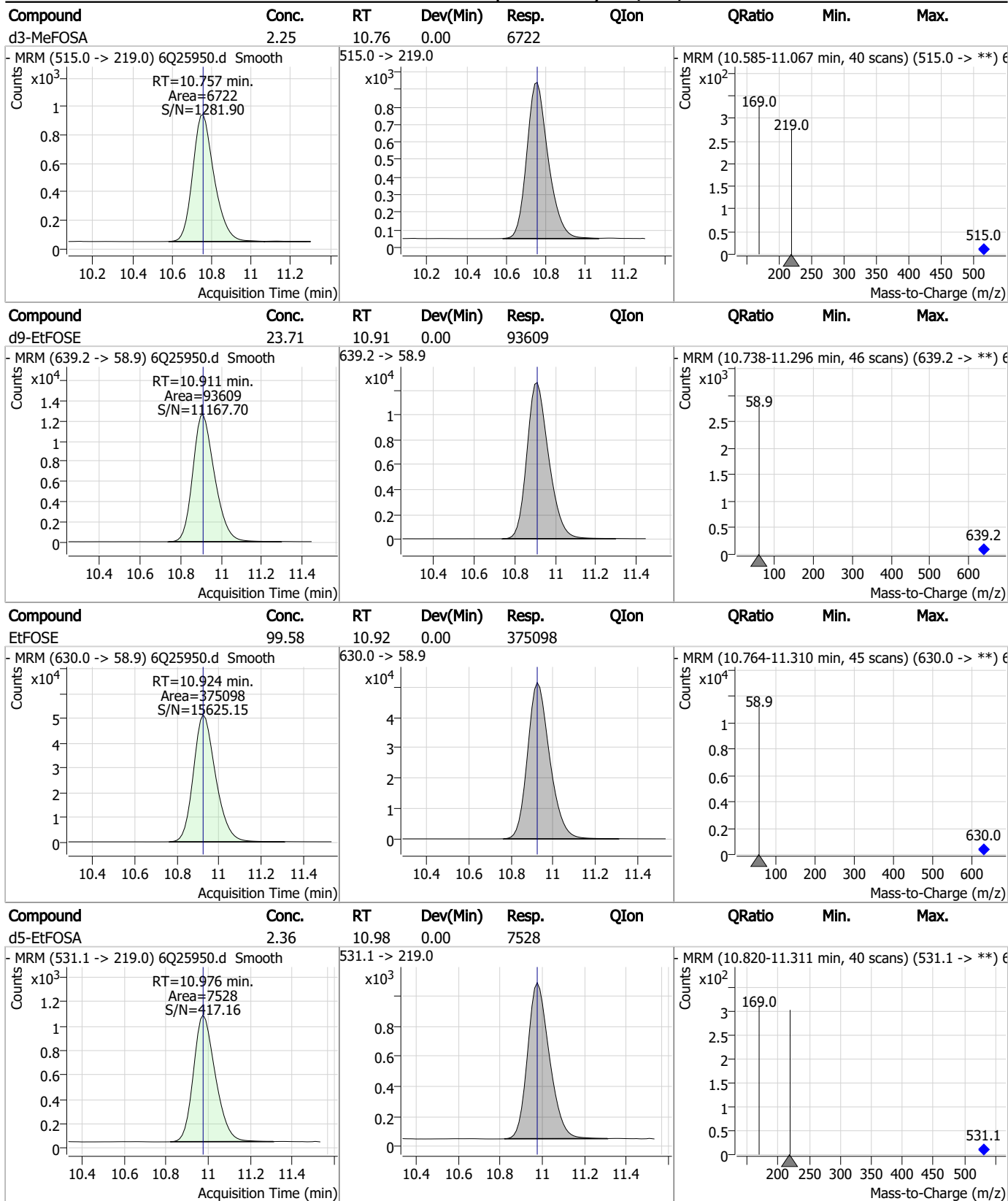
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSE	108.17	10.69	0.01	354149				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSA	18.38	10.76	0.01	57256	511.9 -> 169.0	111.9	66.6	199.8

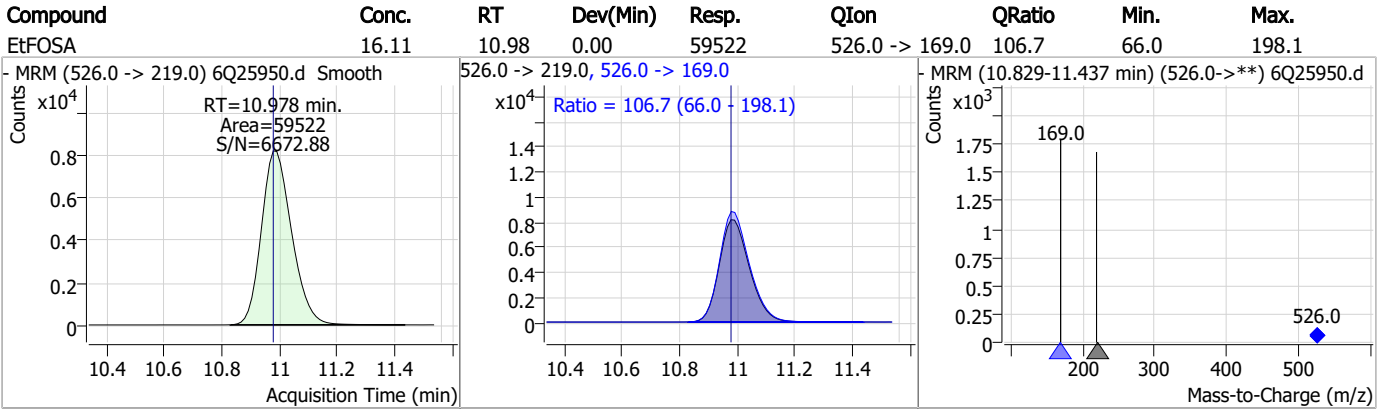


Perfluorinated Compounds by LC/MS/MS



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Perfluorinated Compounds by LC/MS/MS



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Manual Integration Approval Summary

Sample Number: S6Q367-ICV367 Method: EPA DRAFT 1633
Lab FileID: 6Q25950.D Analyst approved: 10/09/23 13:30 Martha Valls
Injection Time: 10/08/23 17:26 Supervisor approved: 10/09/23 16:36 Natasha Gumtie

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		7.26	Split peak
Perfluorooctanesulfonic acid	1763-23-1		8.31	Split peak

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Perfluorinated Compounds by LC/MS/MS

Data File : 6Q26260.d
 Operator : marthav
 Acq. Method : 1633full.m
 Acq. Date-Time : 10/12/2023 10:55:19 AM
 Sample Name : cc367-1.0LL
 Vial : P1-A2
 DA Method File : 1633_100823_S6Q367.quantmethod.xml
 Batch Name : s6q370.batch.bin
 Sample Information : OP99081,S6Q370,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Internal Standards					
M4-PFBA	2.935	216.8 -> 171.9	163854	10.00 µg/L	-0.013
M5-PFPeA	4.359	268.3 -> 223.0	57479	5.00 µg/L	-0.012
M5-PFHxA	5.567	318.0 -> 273.0	53414	2.50 µg/L	-0.012
M4-PFHpA	6.507	367.1 -> 322.0	51304	2.50 µg/L	-0.012
M8-PFOA	7.149	421.1 -> 376.0	67316	2.50 µg/L	-0.012
M9-PFNA	7.666	472.1 -> 427.0	26940	1.25 µg/L	-0.013
M6-PFDA	8.148	519.1 -> 474.1	28114	1.25 µg/L	-0.012
M7-PFUnDA	8.601	570.0 -> 525.1	30319	1.25 µg/L	-0.012
M2-PFDoDA	9.030	615.1 -> 570.0	30945	1.25 µg/L	0.000
M2-PFTeDA	9.735	715.2 -> 670.0	10757	1.25 µg/L	-0.012
M8-FOSA	9.645	506.1 -> 77.8	24049	2.50 µg/L	-0.012
M3-PFBS	5.485	302.1 -> 79.9	23932	2.50 µg/L	-0.012
M3-PFHxS	7.251	402.1 -> 79.9	12883	2.50 µg/L	-0.012
M8-PFOS	8.298	507.1 -> 79.9	12899	2.50 µg/L	-0.013
M2-4:2FTS	5.242	329.1 -> 80.9	2711	5.00 µg/L	-0.012
M2-6:2FTS	6.924	429.1 -> 80.9	3969	5.00 µg/L	-0.012
M2-8:2FTS	7.950	529.1 -> 80.9	3961	5.00 µg/L	0.000
M3-MeFOSAA	8.207	573.2 -> 419.0	26406	5.00 µg/L	0.000
M3-HFPO-DA	5.933	286.9 -> 168.9	35282	10.00 µg/L	-0.025
M5-EtFOSAA	8.402	589.2 -> 419.0	23414	5.00 µg/L	-0.012
M7-MeFOSE	10.665	623.2 -> 58.9	77944	25.00 µg/L	0.000
M9-EtFOSE	10.911	639.2 -> 58.9	91260	25.00 µg/L	0.000
M5-EtFOSA	10.976	531.1 -> 219.0	7545	2.50 µg/L	0.000
M3-MeFOSA	10.744	515.0 -> 219.0	6689	2.50 µg/L	-0.012
13C4-PFOS	8.299	502.8 -> 79.9	11741	2.50 µg/L	-0.013
13C3-PFBA	2.939	216.0 -> 172.0	68663	5.00 µg/L	-0.013
18O2-PFHxS	7.250	403.0 -> 83.9	8069	2.50 µg/L	-0.012
13C4-PFOA	7.150	417.1 -> 372.0	76846	2.50 µg/L	-0.012
13C2-PFDA	8.149	515.1 -> 470.1	27195	1.25 µg/L	-0.012
13C5-PFNA	7.667	468.0 -> 423.0	26941	1.25 µg/L	-0.013
13C2-PFHxA	5.568	315.1 -> 270.0	52216	2.50 µg/L	-0.012
System Monitoring Compounds					
13C2-4:2FTS	5.242	329.1 -> 80.9	2711	5.96 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 119.3%		
13C2-6:2FTS	6.924	429.1 -> 80.9	3969	5.87 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 117.4%		
13C2-8:2FTS	7.950	529.1 -> 80.9	3961	5.69 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 113.8%		
13C2-PFDoDA	9.030	615.1 -> 570.0	30945	1.14 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 91.3%		
13C2-PFTeDA	9.735	715.2 -> 670.0	10757	1.17 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 93.6%		
13C3-PFBS	5.485	302.1 -> 79.9	23932	2.62 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 104.7%		
13C3-PFHxS	7.251	402.1 -> 79.9	12883	2.51 µg/L	-0.012

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Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 100.5%	
13C4-PFBA	2.935	216.8 -> 171.9	163854	9.89 µg/L	-0.013
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 98.9%	
13C4-PFHpA	6.507	367.1 -> 322.0	51304	2.43 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 97.1%	
13C5-PFHxA	5.567	318.0 -> 273.0	53414	2.47 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 99.0%	
13C5-PFPeA	4.359	268.3 -> 223.0	57479	4.86 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 97.3%	
13C6-PFDA	8.148	519.1 -> 474.1	28114	1.23 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 98.2%	
13C7-PFUnDA	8.601	570.0 -> 525.1	30319	1.22 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 98.0%	
13C8-FOSA	9.645	506.1 -> 77.8	24049	2.48 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 99.3%	
13C8-PFOA	7.149	421.1 -> 376.0	67316	2.53 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 101.1%	
13C8-PFOS	8.298	507.1 -> 79.9	12899	2.54 µg/L	-0.013
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 101.7%	
13C9-PFNA	7.666	472.1 -> 427.0	26940	1.22 µg/L	-0.013
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 97.2%	
d3-MeFOSAA	8.207	573.2 -> 419.0	26406	5.11 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 102.3%	
13C3-HFPO-DA	5.933	286.9 -> 168.9	35282	9.69 µg/L	-0.025
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 96.9%	
d3-MeFOSA	10.744	515.0 -> 219.0	6689	2.38 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 95.2%	
d5-EtFOSAA	8.402	589.2 -> 419.0	23414	5.29 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 105.8%	
d7-MeFOSE	10.665	623.2 -> 58.9	77944	24.92 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 99.7%	
d9-EtFOSE	10.911	639.2 -> 58.9	91260	24.55 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 98.2%	
d5-EtFOSA	10.976	531.1 -> 219.0	7545	2.51 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 100.5%	
Target Compounds					QValue
4:2FTS	5.243	327.1 -> 307.0	3785	0.84 µg/L	100
		327.1 -> 80.9	1475		
6:2FTS	6.925	427.1 -> 407.0	2933	0.81 µg/L	95
		427.1 -> 80.9	1040		
8:2FTS	7.950	527.1 -> 507.0	2108	0.76 µg/L	89
		527.1 -> 80.8	874		
EtFOSAA	8.403	584.2 -> 419.1	828	0.22 µg/L	97
		584.2 -> 526.0	496		
FOSA	9.647	498.1 -> 77.9	2032	0.22 µg/L	97
		498.1 -> 478.0	80		
MeFOSAA	8.208	570.1 -> 419.0	995	0.20 µg/L	95
		570.1 -> 483.0	233		
PFBA	2.931	212.8 -> 168.9	5066	0.83 µg/L	100
PFBS	5.486	298.7 -> 79.9	1312	0.18 µg/L	96
		298.7 -> 98.8	514		
PFDA	8.149	512.9 -> 469.0	5133	0.23 µg/L	97
		512.9 -> 219.0	727		
PFDODA	9.031	613.1 -> 569.0	4890	0.21 µg/L	94
		613.1 -> 319.0	663		
PFDS	9.183	599.0 -> 79.9	628	0.19 µg/L	80

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Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
		599.0 -> 98.8	356			
PFHpA	6.507	363.1 -> 319.0	5994	0.22	µg/L	98
		363.1 -> 169.0	823			
PFHpS	7.807	449.0 -> 79.9	1123	0.21	µg/L	89
		449.0 -> 98.9	468			
PFHxA	5.569	313.0 -> 269.0	3940	0.21	µg/L	98
		313.0 -> 118.9	225			
PFHxS	7.252	398.7 -> 79.9	997	0.19	µg/L	m 99
		398.7 -> 98.9	536			
PFNA	7.667	463.0 -> 419.0	3528	0.21	µg/L	96
		463.0 -> 219.0	924			
PFNS	8.765	548.8 -> 79.9	896	0.19	µg/L	90
		548.8 -> 98.9	412			
PFOA	7.150	413.0 -> 369.0	7067	0.24	µg/L	93
		413.0 -> 169.0	1084			
PFOS	8.300	498.9 -> 79.9	902	0.16	µg/L	m 97
		498.9 -> 98.8	589			
PFPeA	4.361	263.0 -> 219.0	5127	0.41	µg/L	100
PFPeS	6.546	349.1 -> 79.9	1453	0.21	µg/L	99
		349.1 -> 98.9	641			
PFTeDA	9.735	713.1 -> 669.0	2873	0.21	µg/L	99
		713.1 -> 168.9	240			
PFTrDA	9.413	663.0 -> 619.0	3572	0.20	µg/L	95
		663.0 -> 168.9	351			
PFUnDA	8.602	563.1 -> 519.0	4396	0.21	µg/L	92
		563.1 -> 269.1	785			
11Cl-PF3OUdS	9.442	630.9 -> 450.9	4051	0.39	µg/L	98
		632.9 -> 452.9	1253			
9Cl-PF3ONS	8.628	530.8 -> 351.0	7186	0.39	µg/L	95
		532.8 -> 353.0	2333			
ADONA	6.755	376.9 -> 250.9	18486	0.38	µg/L	97
		376.9 -> 84.8	4854			
HFPO-DA	5.946	284.9 -> 168.9	1398	0.40	µg/L	97
		284.9 -> 184.9	184			
3:3FTCA	3.796	241.0 -> 177.0	829	0.94	µg/L	95
		241.0 -> 117.0	128			
5:3FTCA	6.221	341.0 -> 237.1	18147	5.07	µg/L	100
		341.0 -> 217.0	12874			
7:3FTCA	7.620	441.0 -> 316.9	10944	5.01	µg/L	96
		441.0 -> 336.9	21342			
EtFOSA	10.978	526.0 -> 219.0	1447	0.39	µg/L	99
		526.0 -> 169.0	1925			
EtFOSE	10.924	630.0 -> 58.9	3740	1.02	µg/L	100
MeFOSA	10.746	511.9 -> 219.0	1378	0.44	µg/L	98
		511.9 -> 169.0	1809			
MeFOSE	10.679	616.1 -> 58.9	3493	1.01	µg/L	100
PFDoDS	9.861	699.1 -> 79.9	347	0.20	µg/L	81
		699.1 -> 98.8	149			
NFDHA	5.450	295.0 -> 201.0	949	0.40	µg/L	89
		295.0 -> 84.9	316			
PFMBA	4.769	279.0 -> 85.1	3916	0.41	µg/L	100
PFMPA	3.488	229.0 -> 84.9	3065	0.39	µg/L	100
PFEESA	6.025	314.8 -> 134.9	8685	0.35	µg/L	100
		314.8 -> 82.9	305			

= Qualifier out of range, m = manually integrated, + = Area summed



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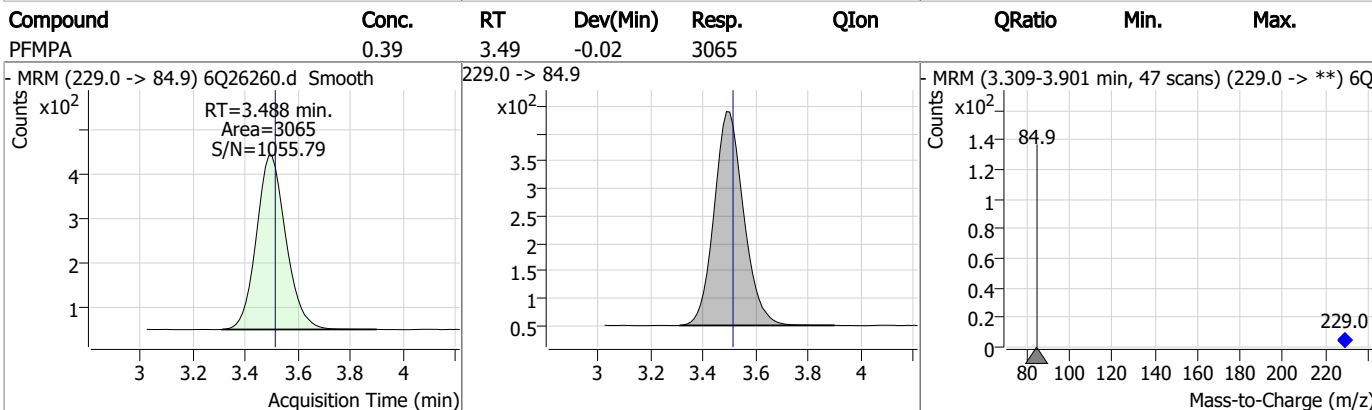
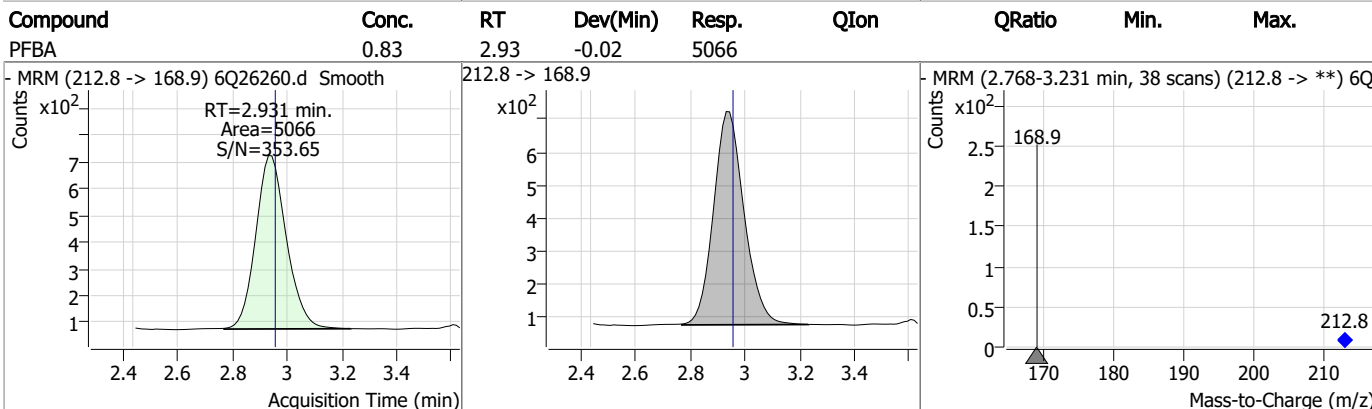
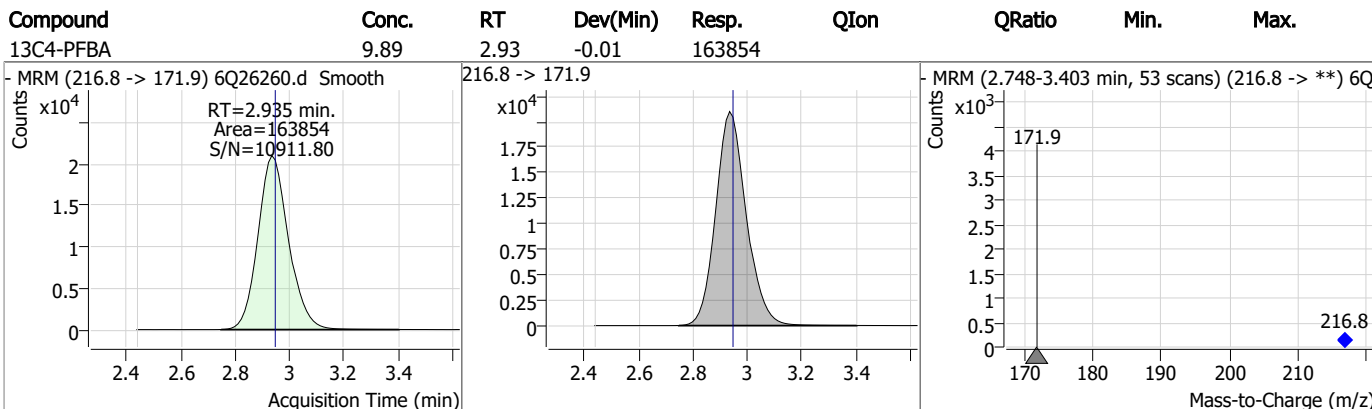
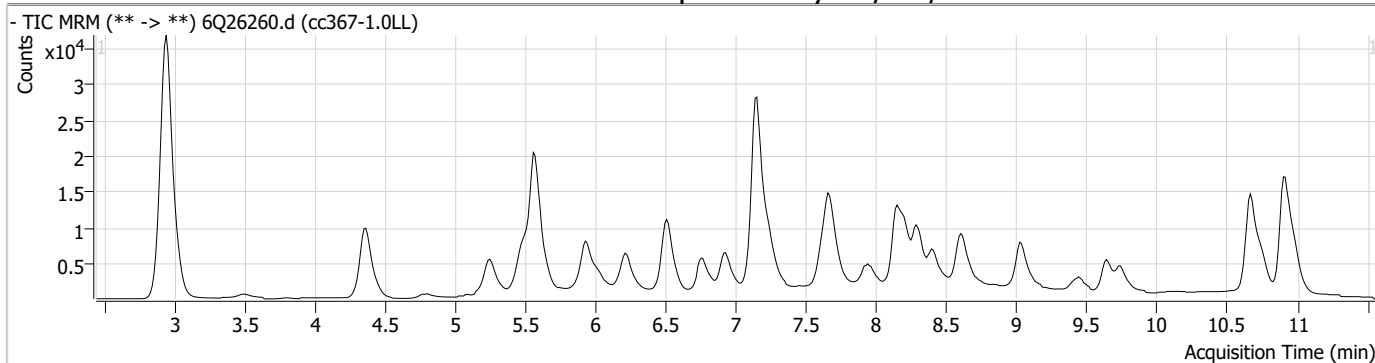
Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
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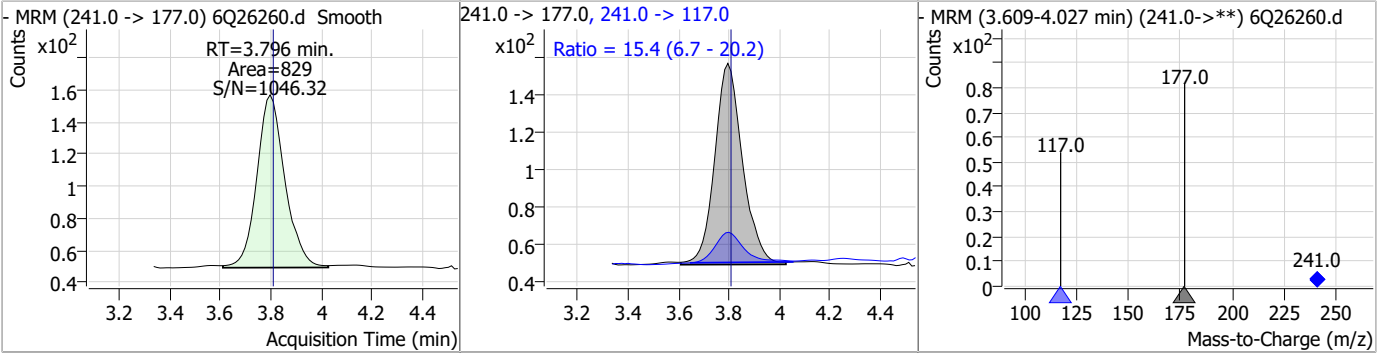
Perfluorinated Compounds by LC/MS/MS



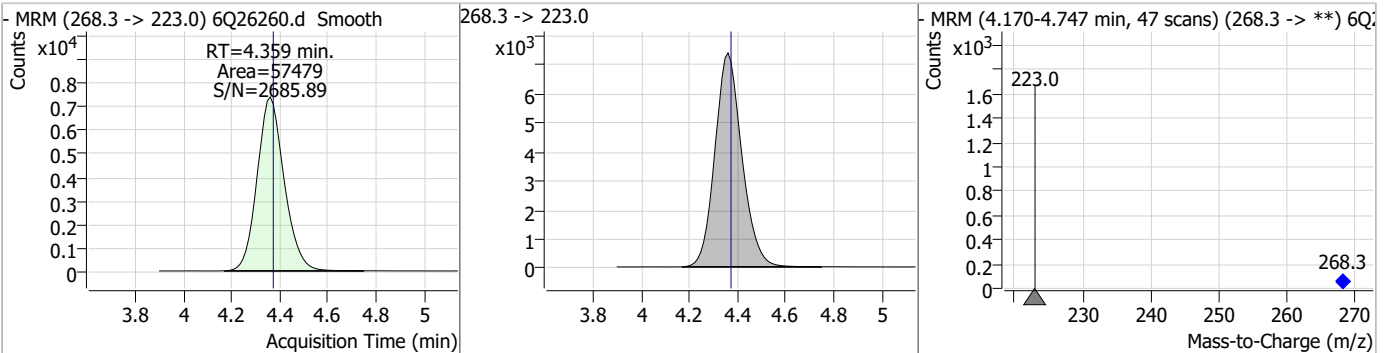
7.7.12
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Perfluorinated Compounds by LC/MS/MS

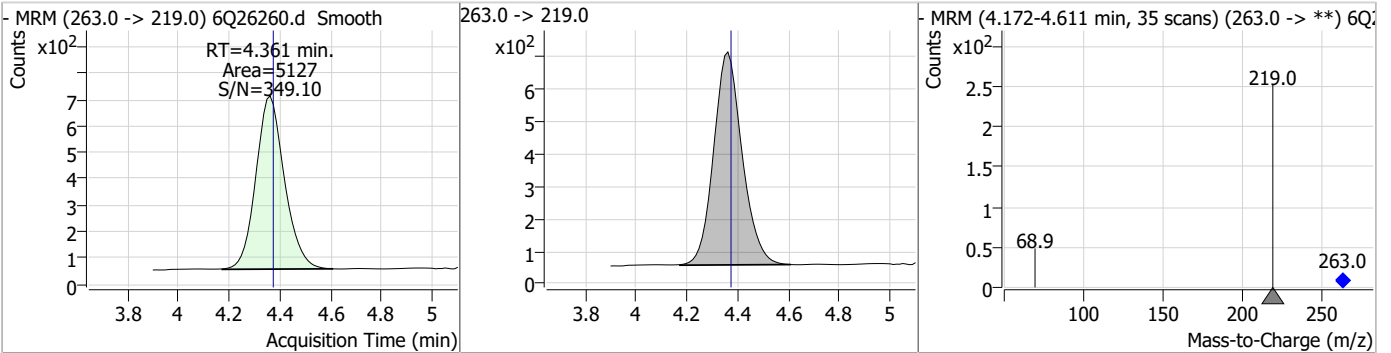
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
3:3FTCA	0.94	3.80	-0.01	829	241.0 -> 117.0	15.4	6.7	20.2



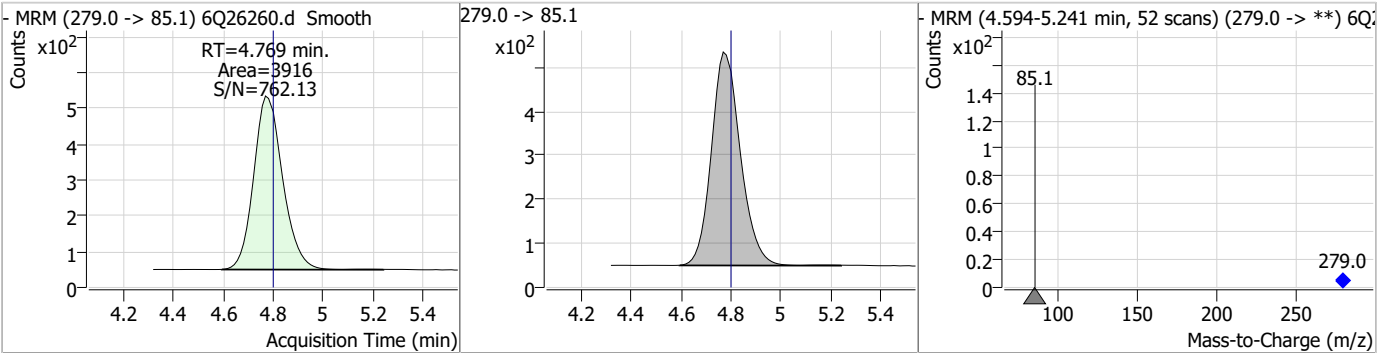
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFPeA	4.86	4.36	-0.01	57479				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeA	0.41	4.36	-0.01	5127				

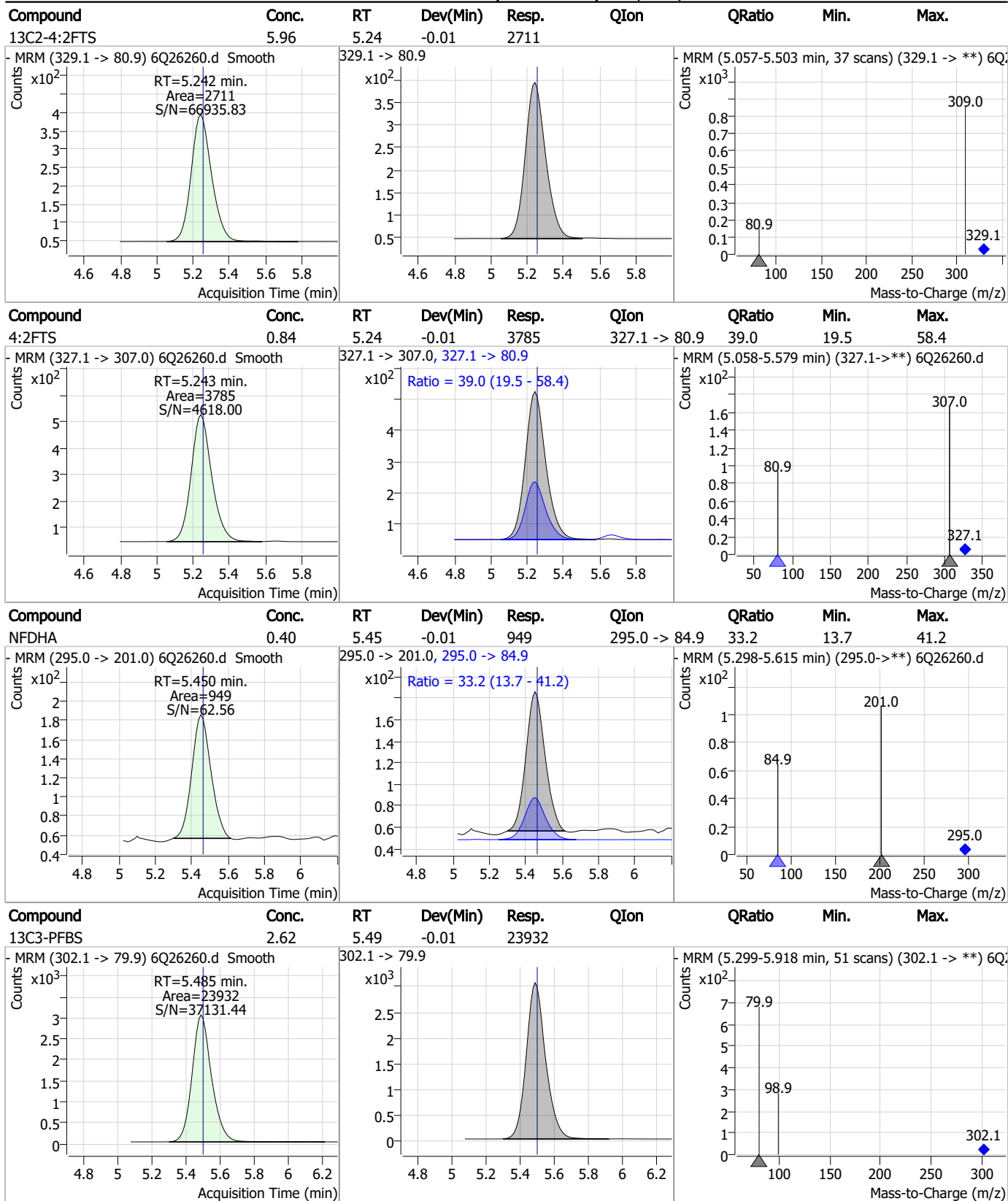


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFMBA	0.41	4.77	-0.03	3916				



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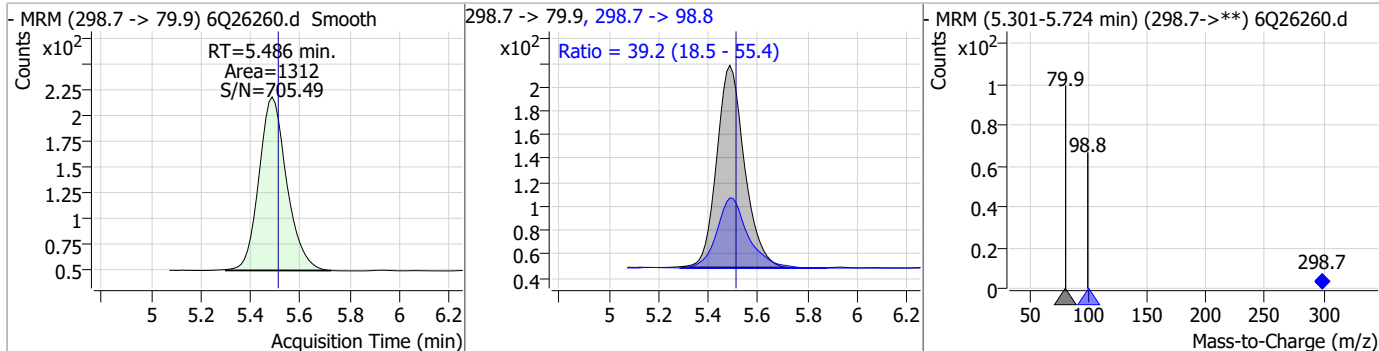
Perfluorinated Compounds by LC/MS/MS



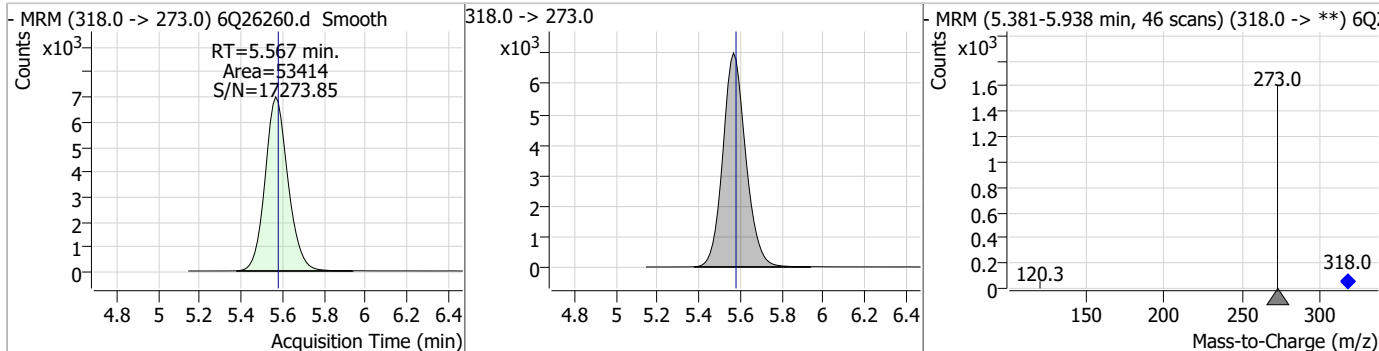
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Perfluorinated Compounds by LC/MS/MS

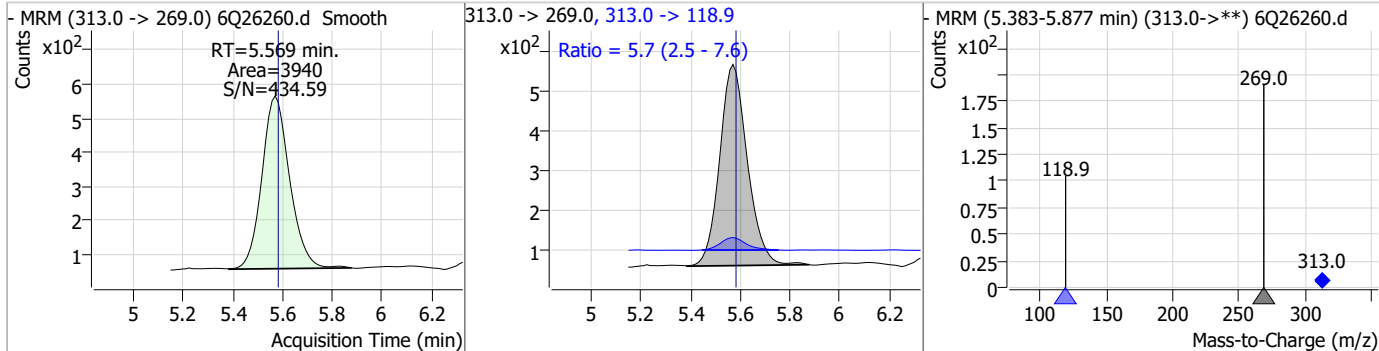
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBS	0.18	5.49	-0.02	1312	298.7 -> 98.8	39.2	18.5	55.4



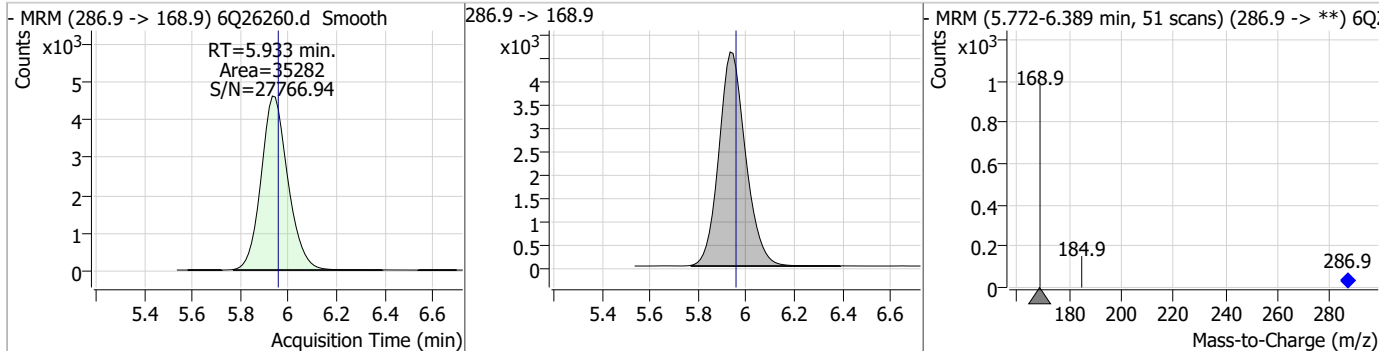
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFHxA	2.47	5.57	-0.01	53414				



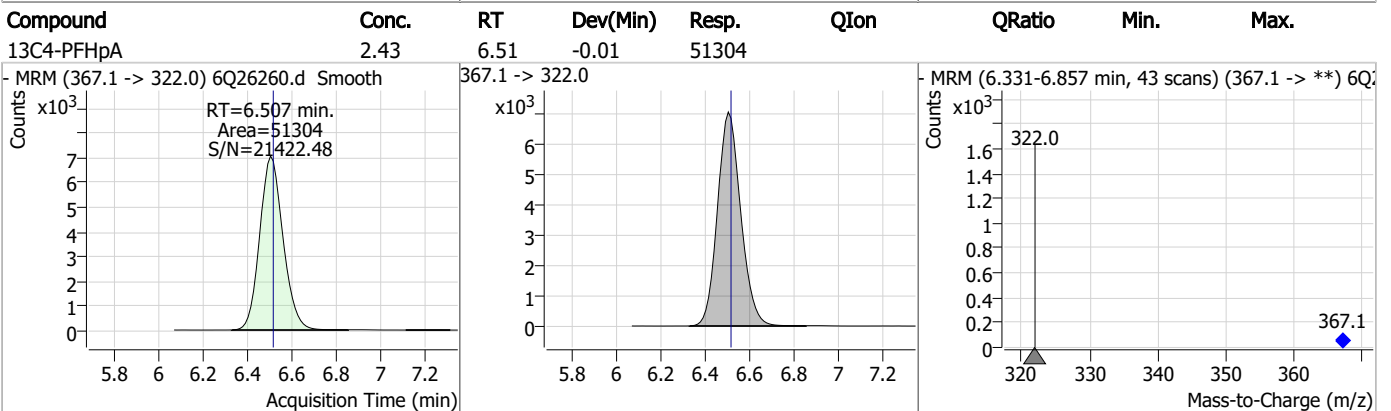
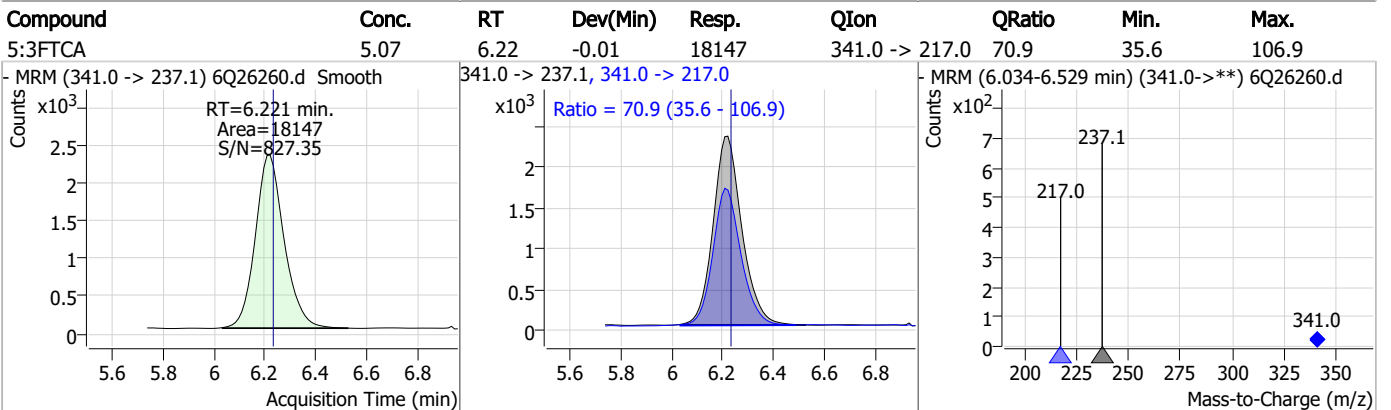
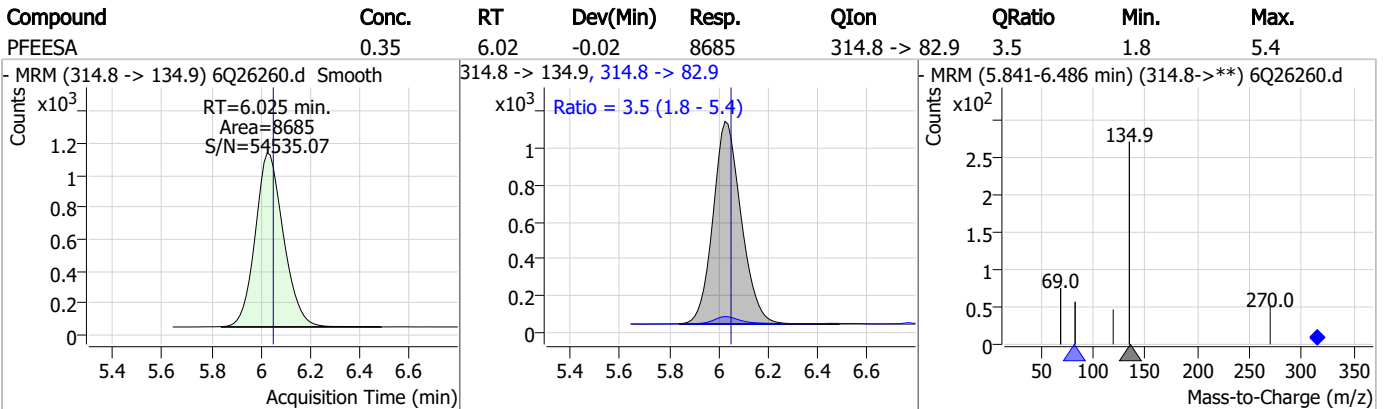
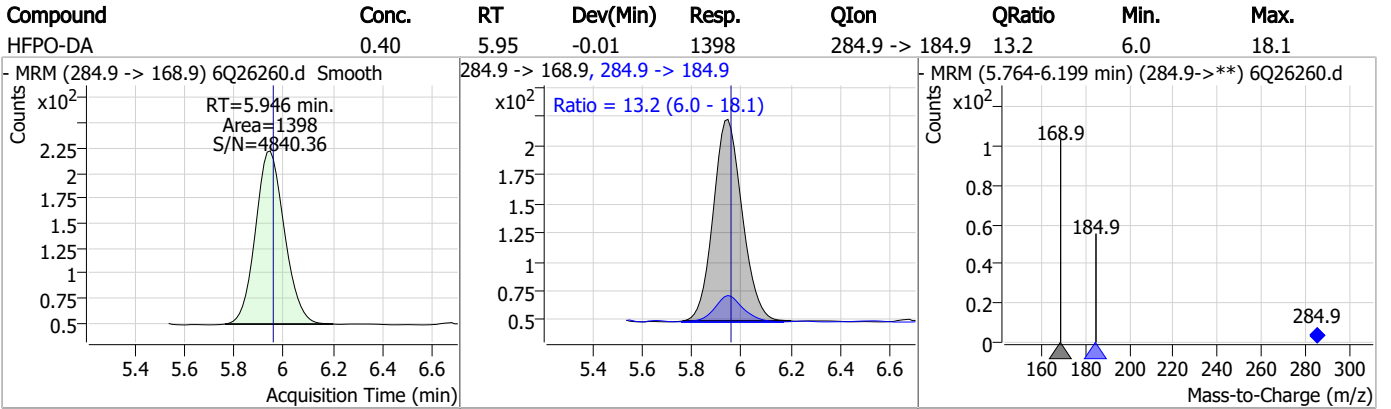
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxA	0.21	5.57	-0.01	3940	313.0 -> 118.9	5.7	2.5	7.6



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-HFPO-DA	9.69	5.93	-0.02	35282				



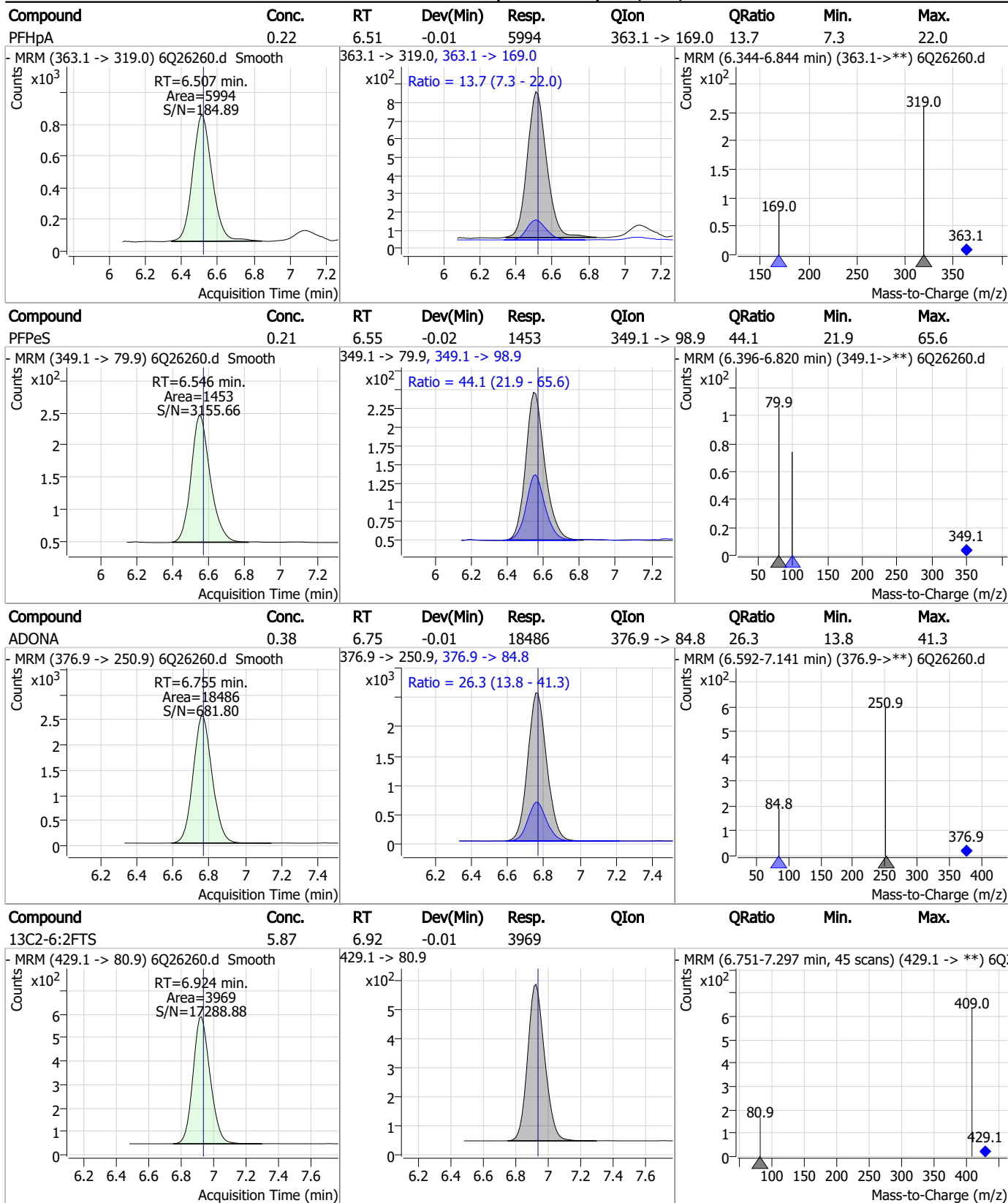
Perfluorinated Compounds by LC/MS/MS



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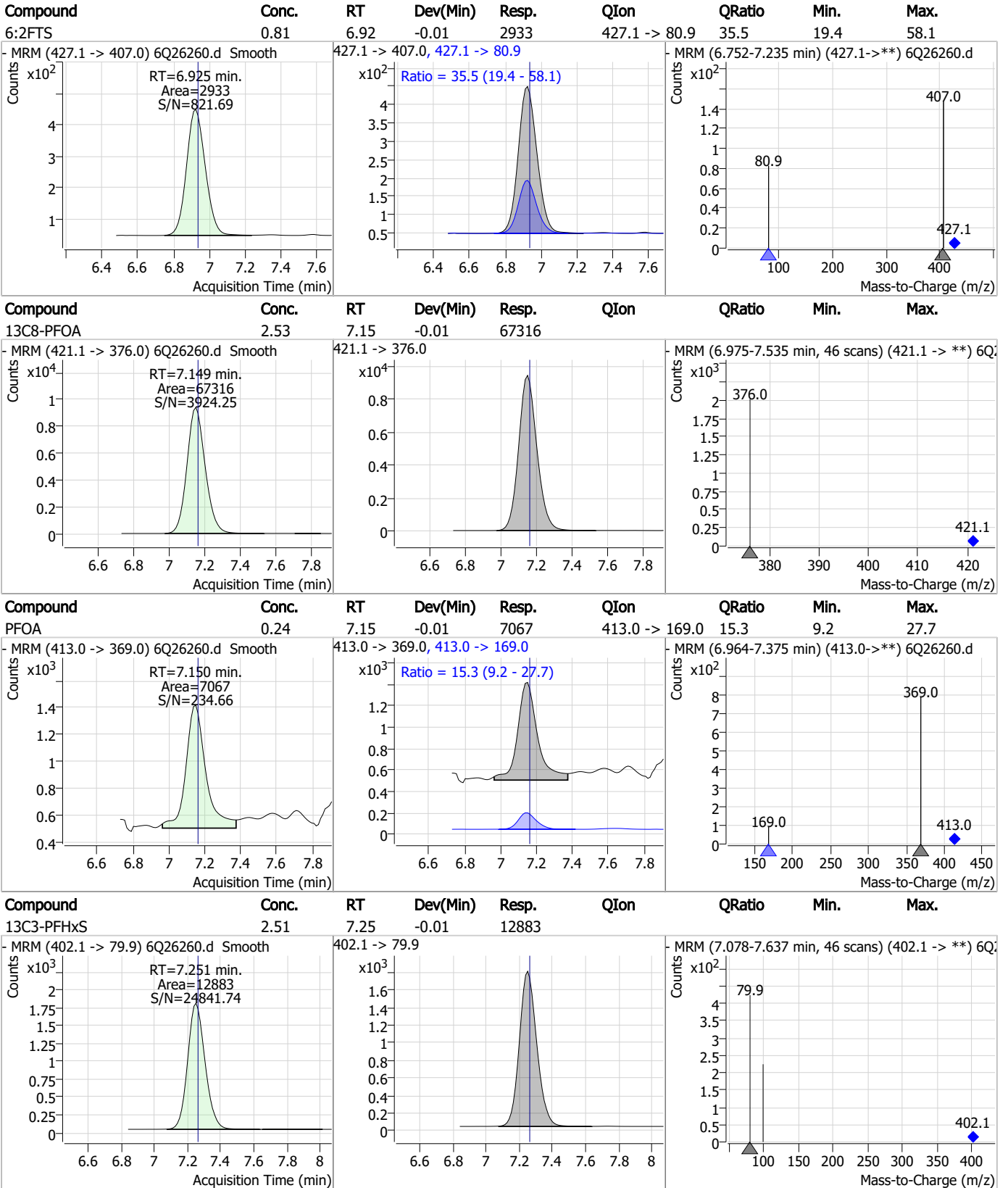


Perfluorinated Compounds by LC/MS/MS



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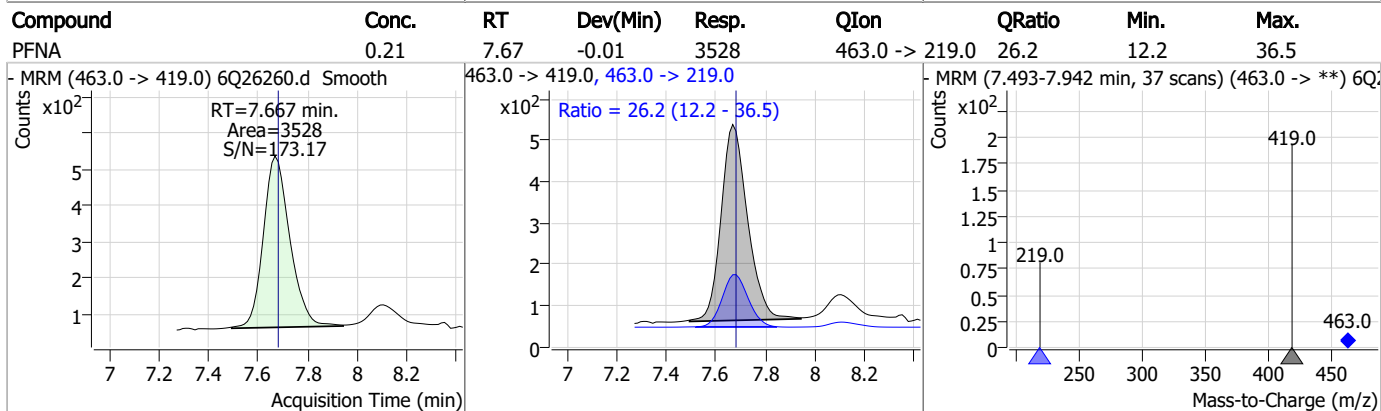
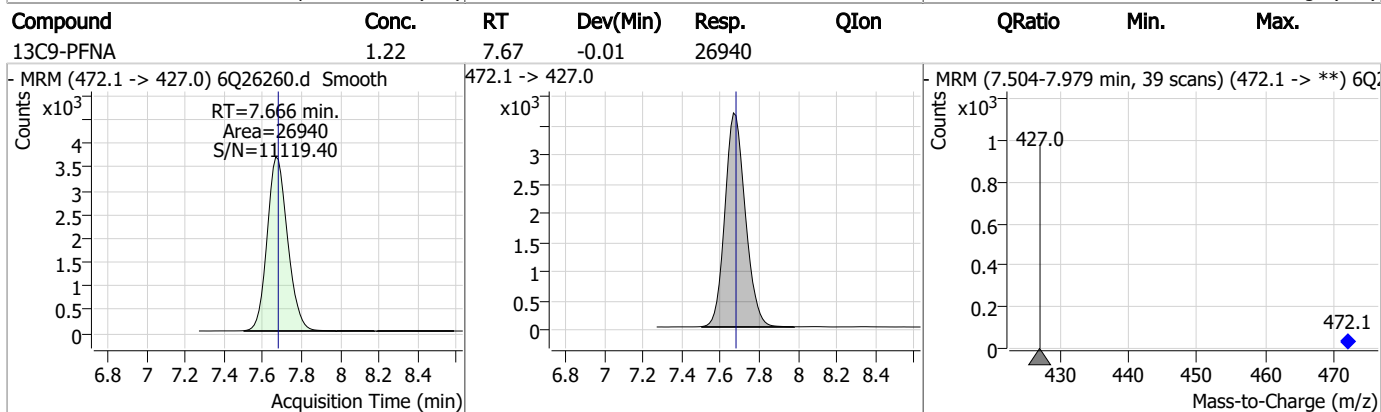
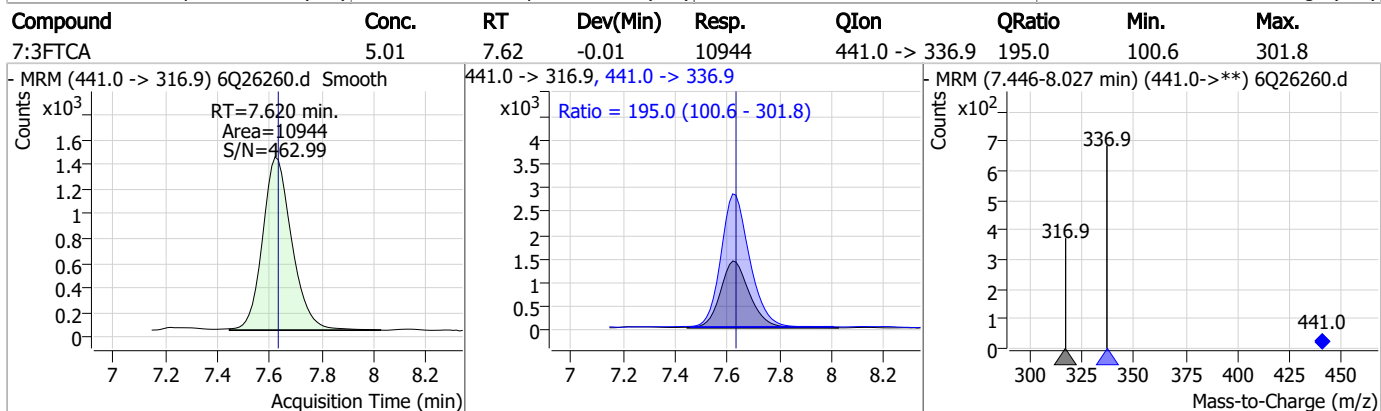
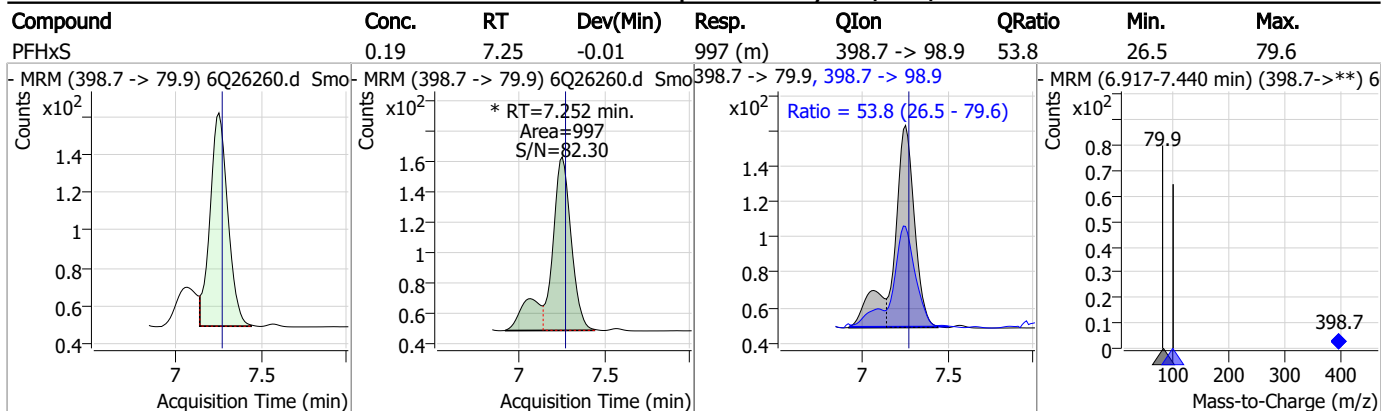
Perfluorinated Compounds by LC/MS/MS



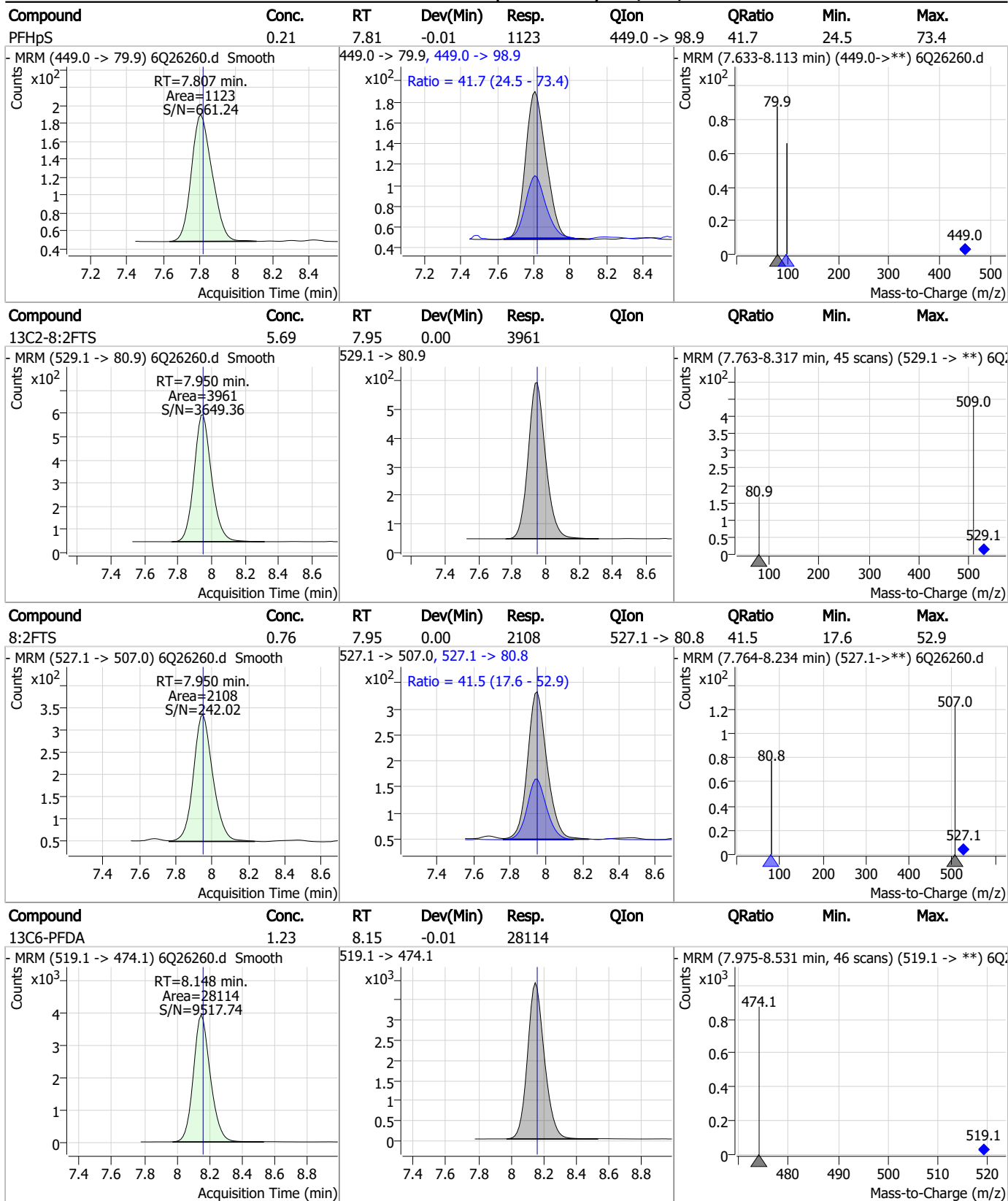
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Perfluorinated Compounds by LC/MS/MS

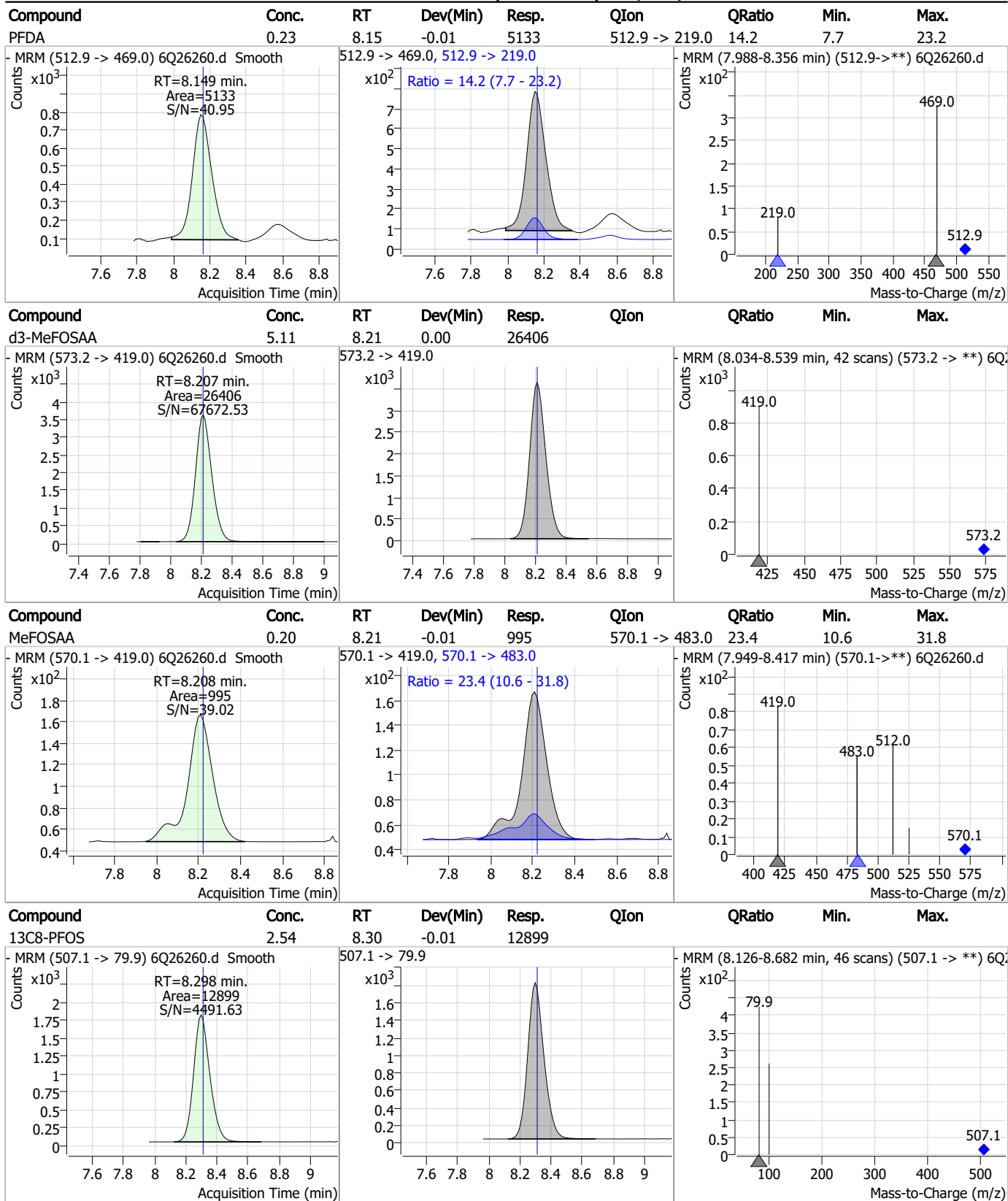


Perfluorinated Compounds by LC/MS/MS



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Perfluorinated Compounds by LC/MS/MS

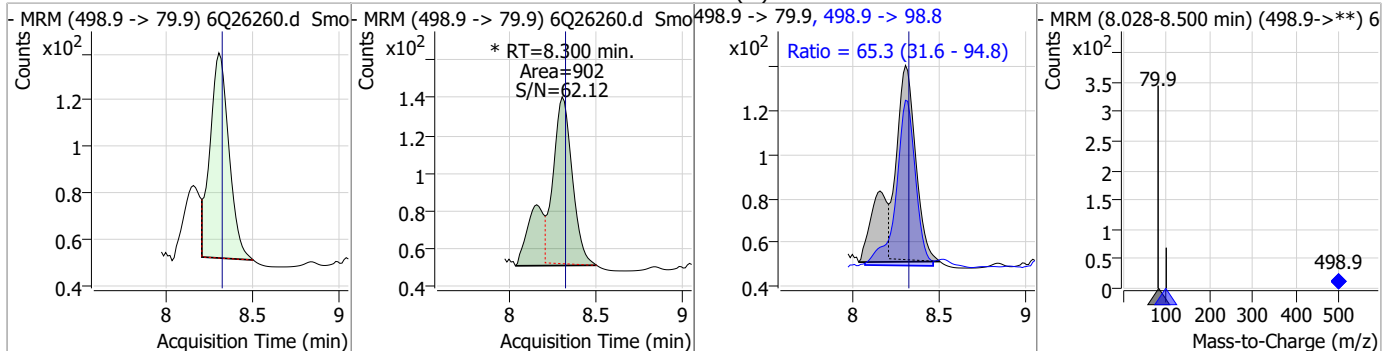


7.7.12

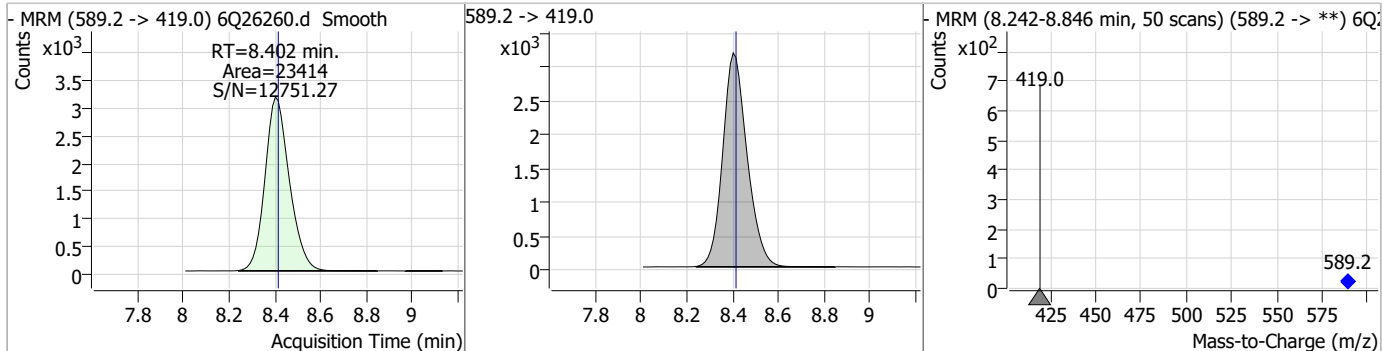
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Perfluorinated Compounds by LC/MS/MS

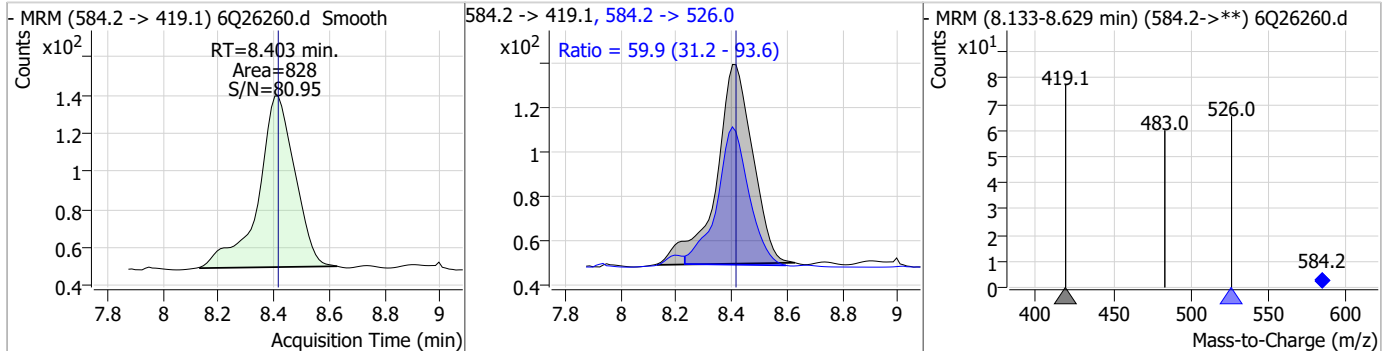
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOS	0.16	8.30	-0.01	902 (m)	498.9 -> 98.8	65.3	31.6	94.8



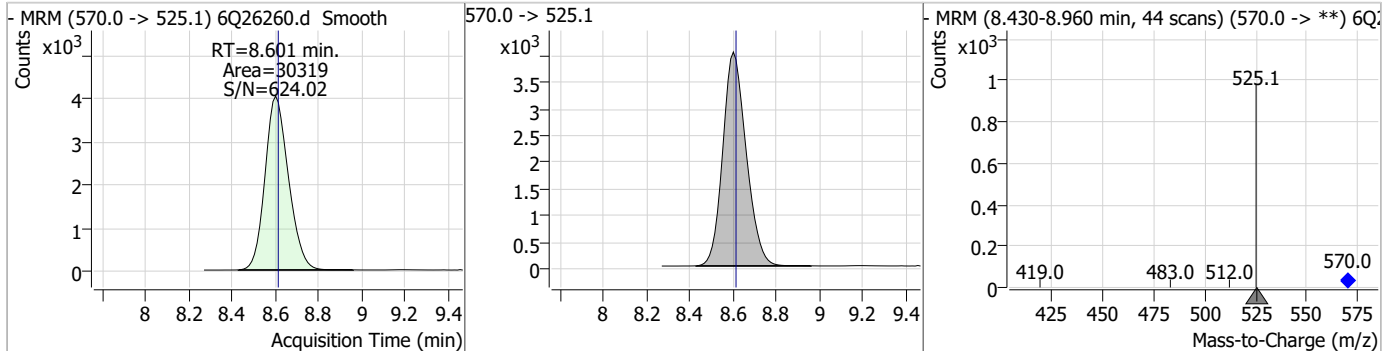
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSAA	5.29	8.40	-0.01	23414				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSAA	0.22	8.40	-0.01	828	584.2 -> 526.0	59.9	31.2	93.6

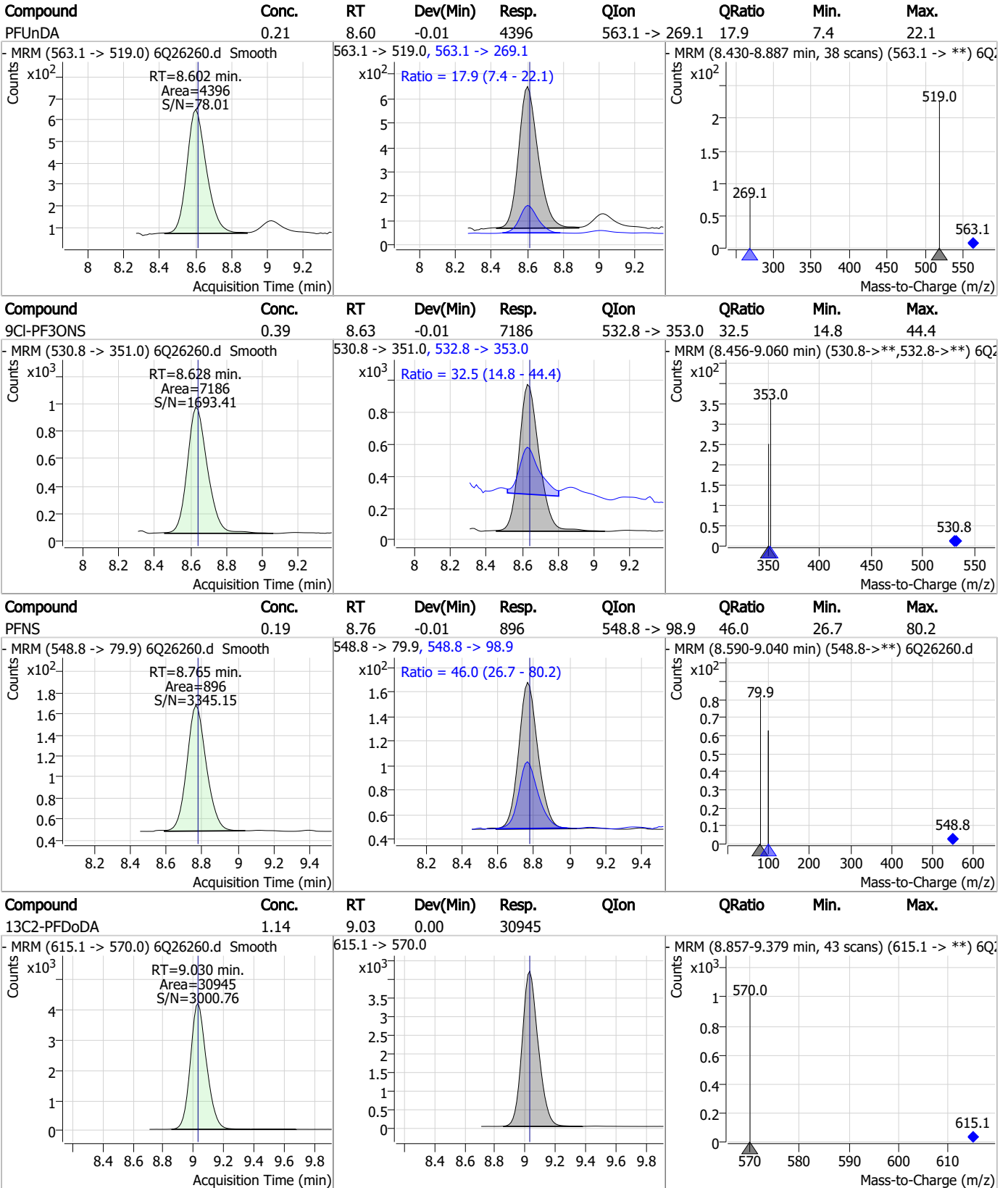


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C7-PFUnDA	1.22	8.60	-0.01	30319				



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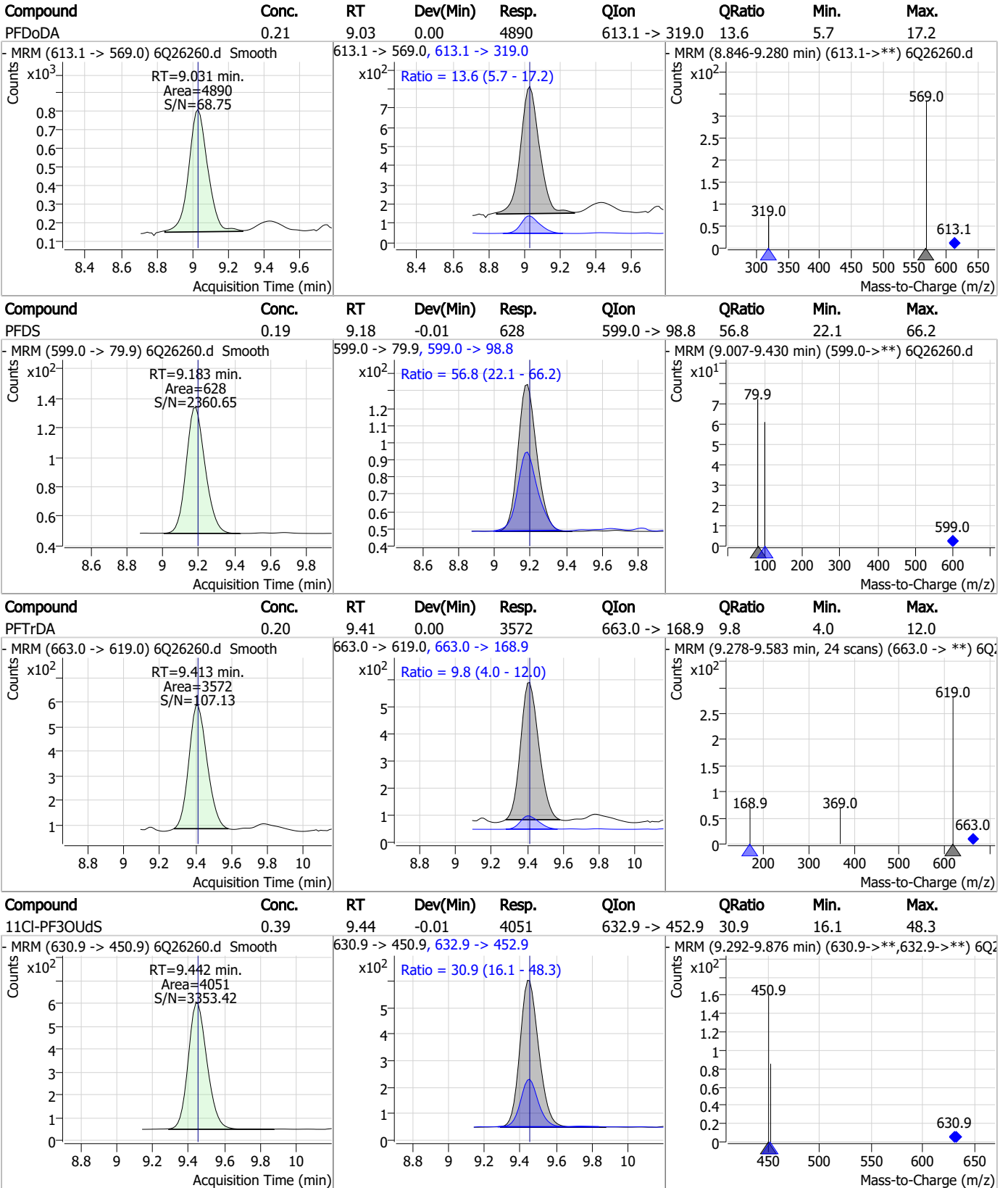
Perfluorinated Compounds by LC/MS/MS



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Perfluorinated Compounds by LC/MS/MS



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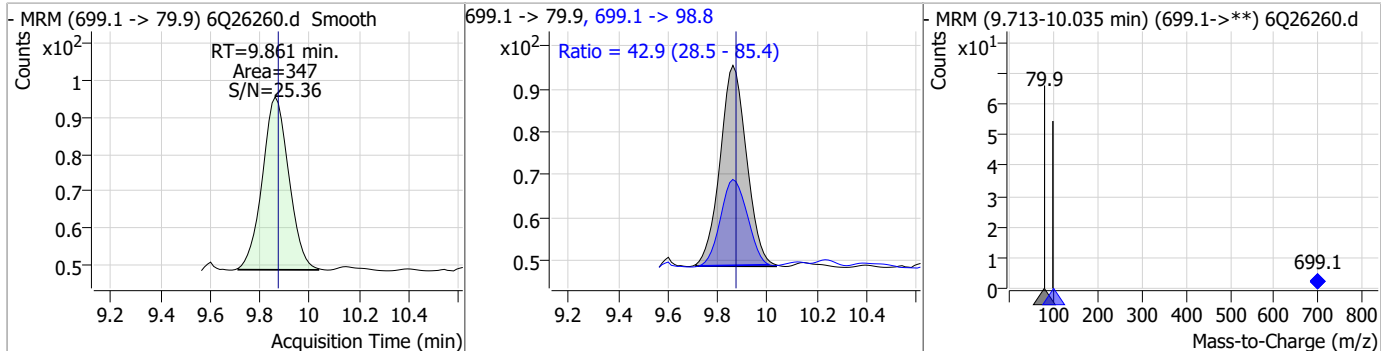
Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-FOSA	2.48	9.64	-0.01	24049				
FOSA	0.22	9.65	-0.01	2032	498.1 -> 478.0	3.9	1.4	4.2
13C2-PFTeDA	1.17	9.73	-0.01	10757				
PFTeDA	0.21	9.74	-0.01	2873	713.1 -> 168.9	8.4	4.1	12.2

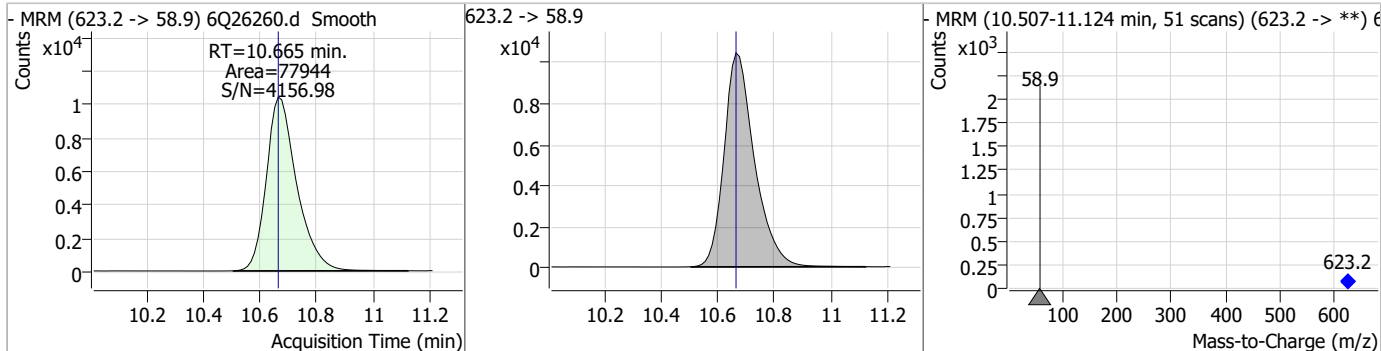
7.7.12
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Perfluorinated Compounds by LC/MS/MS

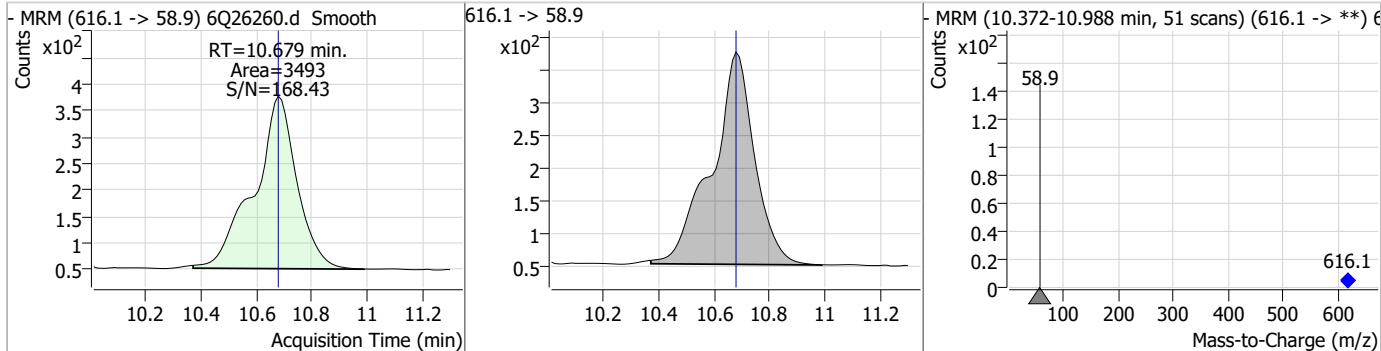
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFD _o DS	0.20	9.86	-0.01	347	699.1 -> 98.8	42.9	28.5	85.4



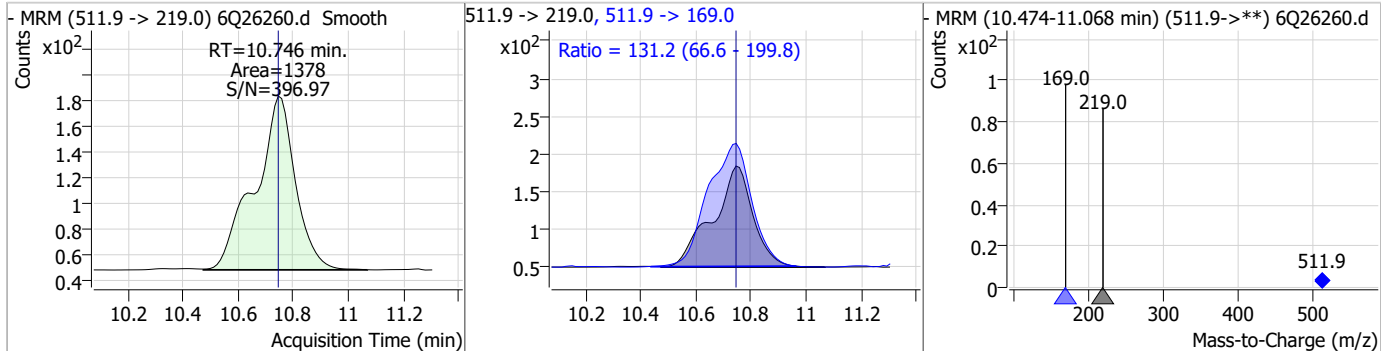
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d7-MeFOSE	24.92	10.67	0.00	77944				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSE	1.01	10.68	0.00	3493				

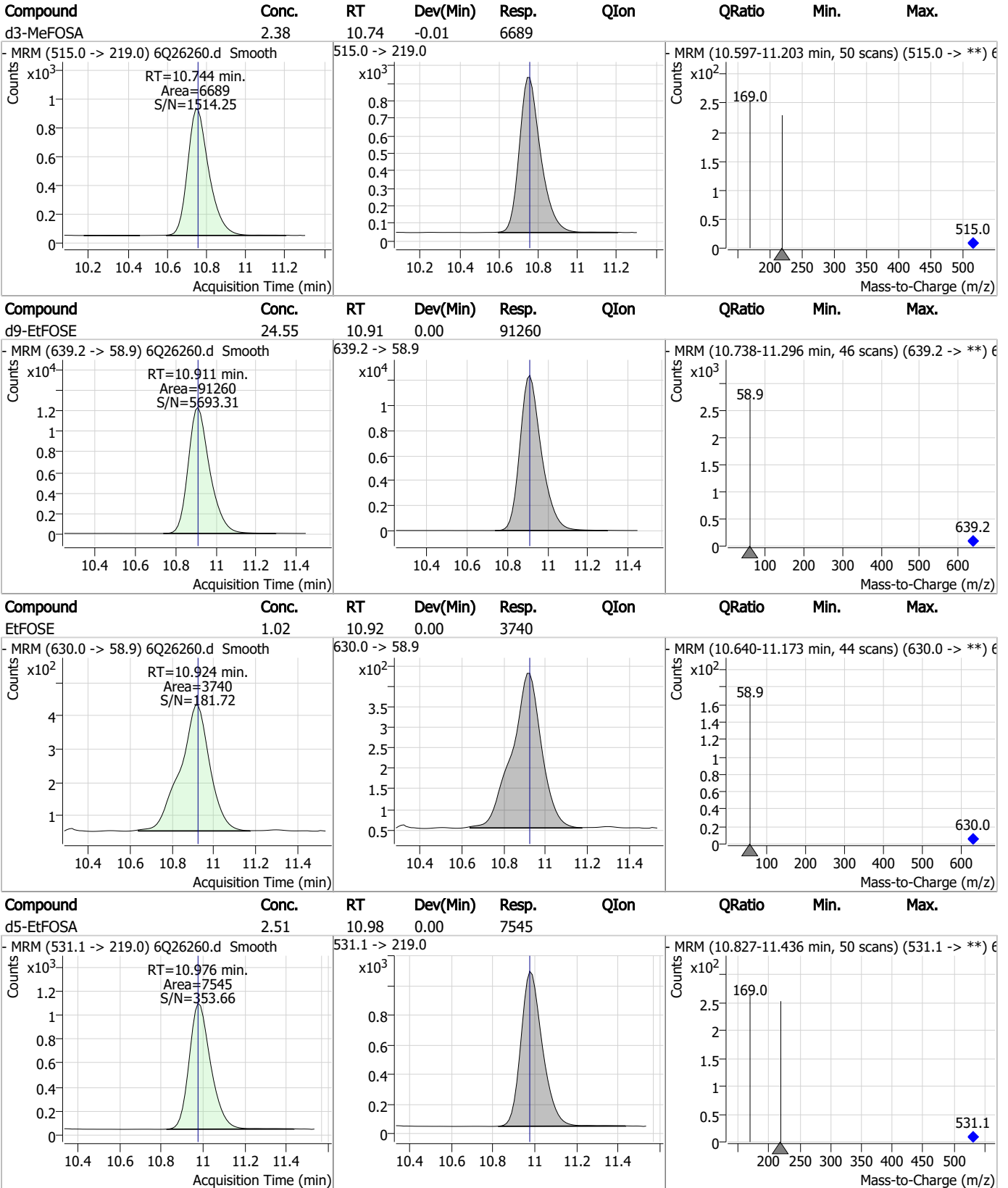


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSA	0.44	10.75	0.00	1378	511.9 -> 169.0	131.2	66.6	199.8



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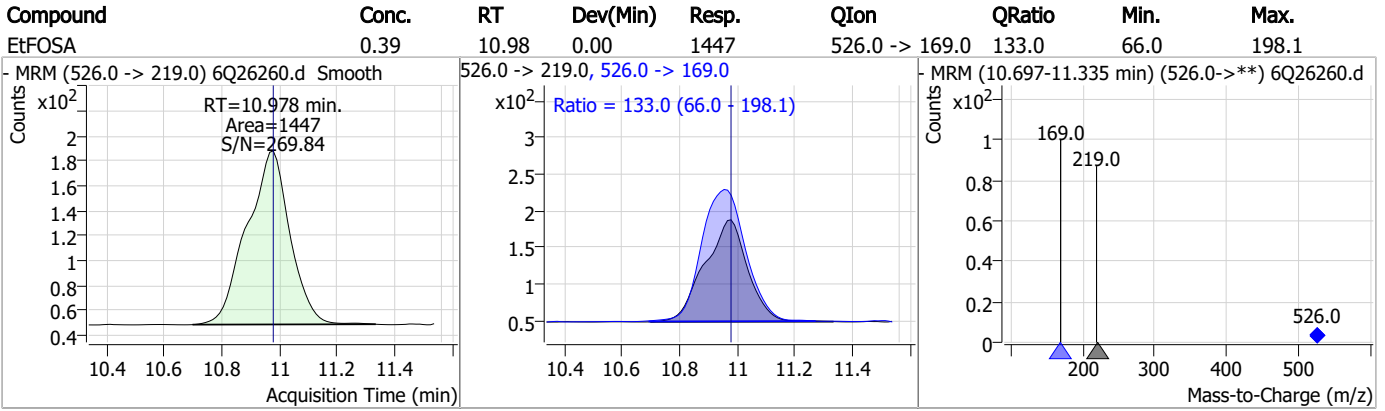
Perfluorinated Compounds by LC/MS/MS



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Perfluorinated Compounds by LC/MS/MS



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Manual Integration Approval Summary

Sample Number: S6Q370-CC367 Method: EPA DRAFT 1633
Lab FileID: 6Q26260.D Analyst approved: 10/16/23 10:56 Martha Valls
Injection Time: 10/12/23 10:55 Supervisor approved: 10/16/23 17:48 Natasha Gumtie

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		7.25	Split peak
Perfluorooctanesulfonic acid	1763-23-1		8.30	Split peak

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Perfluorinated Compounds by LC/MS/MS

Data File : 6Q26270.d
 Operator : marthav
 Acq. Method : 1633full.m
 Acq. Date-Time : 10/12/2023 1:19:58 PM
 Sample Name : cc367-4
 Vial : P1-A5
 DA Method File : 1633_100823_S6Q367.quantmethod.xml
 Batch Name : s6q370.batch.bin
 Sample Information : OP99081,S6Q370,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Internal Standards					
M4-PFBA	2.935	216.8 -> 171.9	168492	10.00 µg/L	-0.013
M5-PFPeA	4.359	268.3 -> 223.0	61546	5.00 µg/L	-0.012
M5-PFHxA	5.567	318.0 -> 273.0	55464	2.50 µg/L	-0.012
M4-PFHpA	6.507	367.1 -> 322.0	51238	2.50 µg/L	-0.012
M8-PFOA	7.149	421.1 -> 376.0	70602	2.50 µg/L	-0.012
M9-PFNA	7.680	472.1 -> 427.0	30241	1.25 µg/L	0.000
M6-PFDA	8.148	519.1 -> 474.1	30077	1.25 µg/L	-0.012
M7-PFUnDA	8.601	570.0 -> 525.1	32091	1.25 µg/L	-0.012
M2-PFDoDA	9.030	615.1 -> 570.0	32421	1.25 µg/L	0.000
M2-PFTeDA	9.735	715.2 -> 670.0	12155	1.25 µg/L	-0.012
M8-FOSA	9.657	506.1 -> 77.8	24968	2.50 µg/L	0.000
M3-PFBS	5.485	302.1 -> 79.9	24217	2.50 µg/L	-0.012
M3-PFHxS	7.251	402.1 -> 79.9	12922	2.50 µg/L	-0.012
M8-PFOS	8.298	507.1 -> 79.9	12702	2.50 µg/L	-0.013
M2-4:2FTS	5.242	329.1 -> 80.9	2800	5.00 µg/L	-0.012
M2-6:2FTS	6.924	429.1 -> 80.9	3985	5.00 µg/L	-0.012
M2-8:2FTS	7.950	529.1 -> 80.9	4109	5.00 µg/L	0.000
M3-MeFOSAA	8.207	573.2 -> 419.0	27931	5.00 µg/L	0.000
M3-HFPO-DA	5.945	286.9 -> 168.9	36804	10.00 µg/L	-0.012
M5-EtFOSAA	8.402	589.2 -> 419.0	22846	5.00 µg/L	-0.012
M7-MeFOSE	10.665	623.2 -> 58.9	75332	25.00 µg/L	0.000
M9-EtFOSE	10.911	639.2 -> 58.9	90337	25.00 µg/L	0.000
M5-EtFOSA	10.976	531.1 -> 219.0	7265	2.50 µg/L	0.000
M3-MeFOSA	10.744	515.0 -> 219.0	6648	2.50 µg/L	-0.012
13C4-PFOS	8.299	502.8 -> 79.9	12013	2.50 µg/L	-0.013
13C3-PFBA	2.939	216.0 -> 172.0	71487	5.00 µg/L	-0.013
18O2-PFHxS	7.250	403.0 -> 83.9	8394	2.50 µg/L	-0.012
13C4-PFOA	7.150	417.1 -> 372.0	80084	2.50 µg/L	-0.012
13C2-PFDA	8.149	515.1 -> 470.1	27506	1.25 µg/L	-0.012
13C5-PFNA	7.667	468.0 -> 423.0	27559	1.25 µg/L	-0.013
13C2-PFHxA	5.568	315.1 -> 270.0	55430	2.50 µg/L	-0.012
System Monitoring Compounds					
13C2-4:2FTS	5.242	329.1 -> 80.9	2800	5.92 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 118.4%		
13C2-6:2FTS	6.924	429.1 -> 80.9	3985	5.66 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 113.3%		
13C2-8:2FTS	7.950	529.1 -> 80.9	4109	5.67 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 113.5%		
13C2-PFDoDA	9.030	615.1 -> 570.0	32421	1.18 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 94.6%		
13C2-PFTeDA	9.735	715.2 -> 670.0	12155	1.31 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 104.6%		
13C3-PFBS	5.485	302.1 -> 79.9	24217	2.55 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 101.8%		
13C3-PFHxS	7.251	402.1 -> 79.9	12922	2.42 µg/L	-0.012

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Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 96.9%	
13C4-PFBA	2.935	216.8 -> 171.9	168492	9.76 µg/L	-0.013
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 97.6%	
13C4-PFHpA	6.507	367.1 -> 322.0	51238	2.28 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 91.4%	
13C5-PFHxA	5.567	318.0 -> 273.0	55464	2.42 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 96.8%	
13C5-PFPeA	4.359	268.3 -> 223.0	61546	4.91 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 98.1%	
13C6-PFDA	8.148	519.1 -> 474.1	30077	1.30 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 103.9%	
13C7-PFUnDA	8.601	570.0 -> 525.1	32091	1.28 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 102.5%	
13C8-FOSA	9.657	506.1 -> 77.8	24968	2.52 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 100.7%	
13C8-PFOA	7.149	421.1 -> 376.0	70602	2.54 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 101.7%	
13C8-PFOS	8.298	507.1 -> 79.9	12702	2.45 µg/L	-0.013
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 97.9%	
13C9-PFNA	7.680	472.1 -> 427.0	30241	1.33 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 106.7%	
d3-MeFOSAA	8.207	573.2 -> 419.0	27931	5.29 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 105.7%	
13C3-HFPO-DA	5.945	286.9 -> 168.9	36804	9.52 µg/L	-0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 95.2%	
d3-MeFOSA	10.744	515.0 -> 219.0	6648	2.31 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 92.5%	
d5-EtFOSAA	8.402	589.2 -> 419.0	22846	5.05 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 100.9%	
d7-MeFOSE	10.665	623.2 -> 58.9	75332	23.54 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 94.2%	
d9-EtFOSE	10.911	639.2 -> 58.9	90337	23.75 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 95.0%	
d5-EtFOSA	10.976	531.1 -> 219.0	7265	2.36 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 94.5%	
Target Compounds					QValue
4:2FTS	5.243	327.1 -> 307.0	33579	7.23 µg/L	96
		327.1 -> 80.9	13820		
6:2FTS	6.925	427.1 -> 407.0	27309	7.54 µg/L	98
		427.1 -> 80.9	10828		
8:2FTS	7.950	527.1 -> 507.0	21327	7.45 µg/L	94
		527.1 -> 80.8	8237		
EtFOSAA	8.416	584.2 -> 419.1	7565	2.04 µg/L	93
		584.2 -> 526.0	5128		
FOSA	9.647	498.1 -> 77.9	18260	1.91 µg/L	99
		498.1 -> 478.0	443		
MeFOSAA	8.208	570.1 -> 419.0	10162	1.95 µg/L	98
		570.1 -> 483.0	2240		
PFBA	2.931	212.8 -> 168.9	50552	8.05 µg/L	100
PFBS	5.486	298.7 -> 79.9	13209	1.82 µg/L	97
		298.7 -> 98.8	4662		
PFDA	8.149	512.9 -> 469.0	44128	1.88 µg/L	93
		512.9 -> 219.0	8116		
PFDODA	9.031	613.1 -> 569.0	49865	2.07 µg/L	97
		613.1 -> 319.0	6164		
PFDS	9.183	599.0 -> 79.9	6274	1.93 µg/L	95

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Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
		599.0 -> 98.8	2962			
PFHpA	6.507	363.1 -> 319.0	56451	2.03	µg/L	100
		363.1 -> 169.0	8337			
PFHpS	7.807	449.0 -> 79.9	10696	2.04	µg/L	97
		449.0 -> 98.9	4994			
PFHxA	5.569	313.0 -> 269.0	37575	1.90	µg/L	100
		313.0 -> 118.9	1926			
PFHxS	7.252	398.7 -> 79.9	9989	1.85	µg/L	m 93
		398.7 -> 98.9	4783			
PFNA	7.680	463.0 -> 419.0	34671	1.86	µg/L	98
		463.0 -> 219.0	8730			
PFNS	8.765	548.8 -> 79.9	8822	1.90	µg/L	96
		548.8 -> 98.9	4483			
PFOA	7.150	413.0 -> 369.0	60204	1.99	µg/L	96
		413.0 -> 169.0	10018			
PFOS	8.300	498.9 -> 79.9	10452	1.93	µg/L	m 83
		498.9 -> 98.8	5230			
PFPeA	4.361	263.0 -> 219.0	49828	3.75	µg/L	100
PFPeS	6.558	349.1 -> 79.9	13928	2.00	µg/L	96
		349.1 -> 98.9	6403			
PFTeDA	9.735	713.1 -> 669.0	26928	1.70	µg/L	99
		713.1 -> 168.9	2323			
PFTrDA	9.413	663.0 -> 619.0	39493	2.08	µg/L	99
		663.0 -> 168.9	3265			
PFUnDA	8.602	563.1 -> 519.0	43686	1.93	µg/L	94
		563.1 -> 269.1	7498			
11Cl-PF3OUdS	9.454	630.9 -> 450.9	37248	3.41	µg/L	94
		632.9 -> 452.9	10796			
9Cl-PF3ONS	8.628	530.8 -> 351.0	68675	3.54	µg/L	97
		532.8 -> 353.0	21611			
ADONA	6.755	376.9 -> 250.9	183779	3.64	µg/L	99
		376.9 -> 84.8	50034			
HFPO-DA	5.946	284.9 -> 168.9	14258	3.91	µg/L	99
		284.9 -> 184.9	1664			
3:3FTCA	3.796	241.0 -> 177.0	8431	9.32	µg/L	99
		241.0 -> 117.0	1096			
5:3FTCA	6.221	341.0 -> 237.1	172719	46.47	µg/L	99
		341.0 -> 217.0	122029			
7:3FTCA	7.620	441.0 -> 316.9	109948	48.43	µg/L	99
		441.0 -> 336.9	222798			
EtFOSA	10.978	526.0 -> 219.0	14059	3.94	µg/L	95
		526.0 -> 169.0	17668			
EtFOSE	10.912	630.0 -> 58.9	36243	9.97	µg/L	100
MeFOSA	10.746	511.9 -> 219.0	12721	4.13	µg/L	98
		511.9 -> 169.0	17177			
MeFOSE	10.679	616.1 -> 58.9	32029	9.62	µg/L	100
PFDoDS	9.861	699.1 -> 79.9	3273	1.94	µg/L	99
		699.1 -> 98.8	1834			
NFDHA	5.450	295.0 -> 201.0	9748	3.91	µg/L	98
		295.0 -> 84.9	2555			
PFMBA	4.769	279.0 -> 85.1	38002	3.76	µg/L	100
PFMPA	3.488	229.0 -> 84.9	31154	3.73	µg/L	100
PFEESA	6.025	314.8 -> 134.9	84320	3.31	µg/L	100
		314.8 -> 82.9	3046			

= Qualifier out of range, m = manually integrated, + = Area summed



7.7.13
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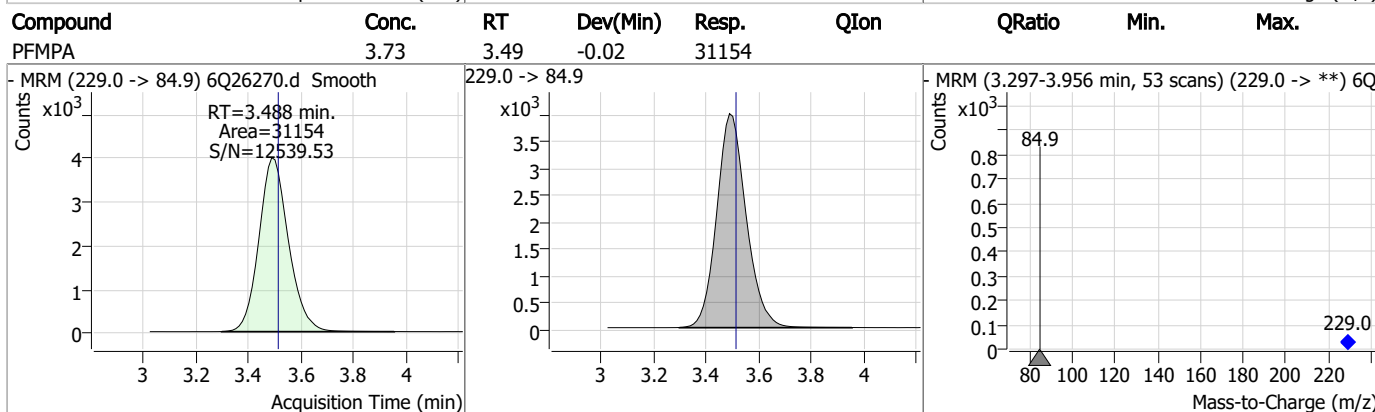
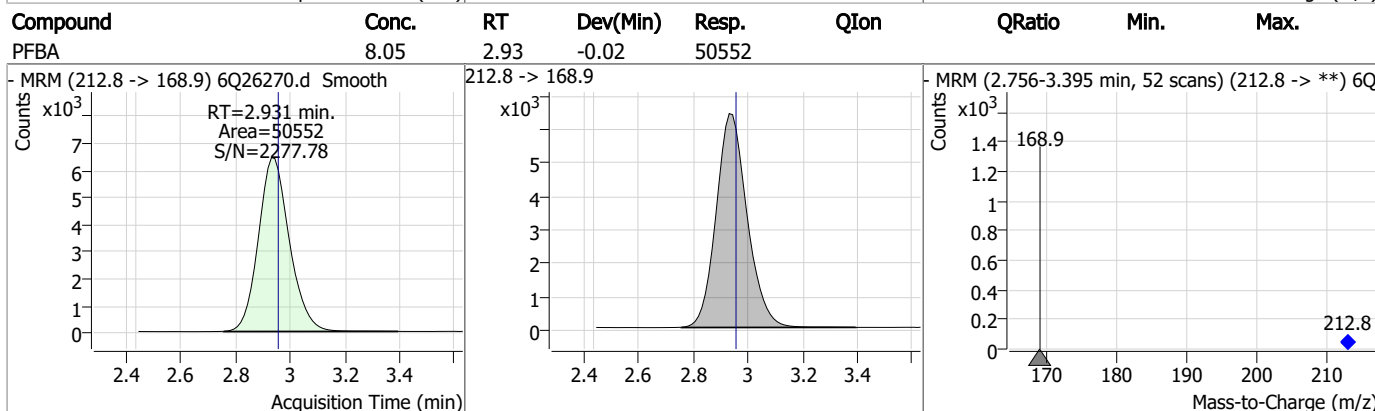
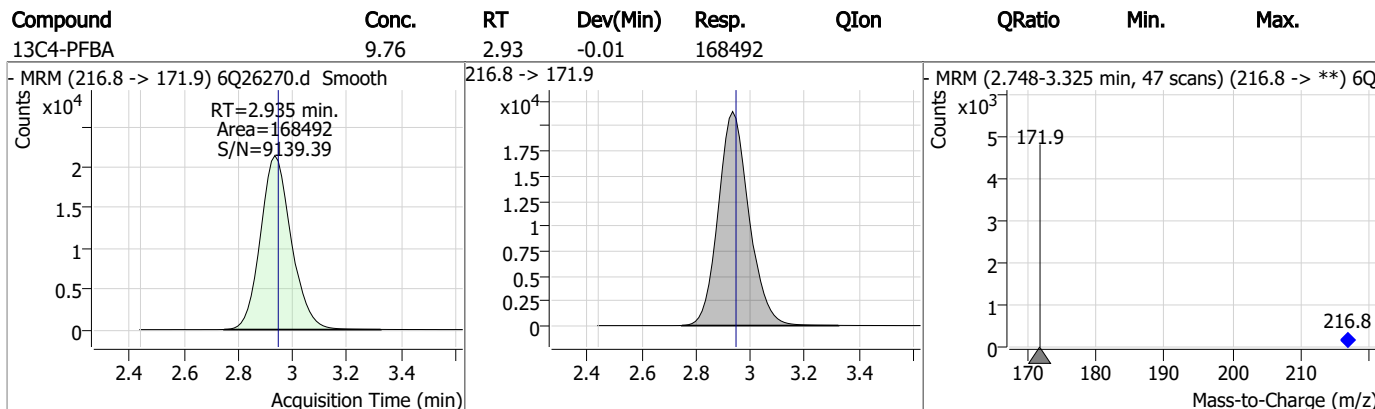
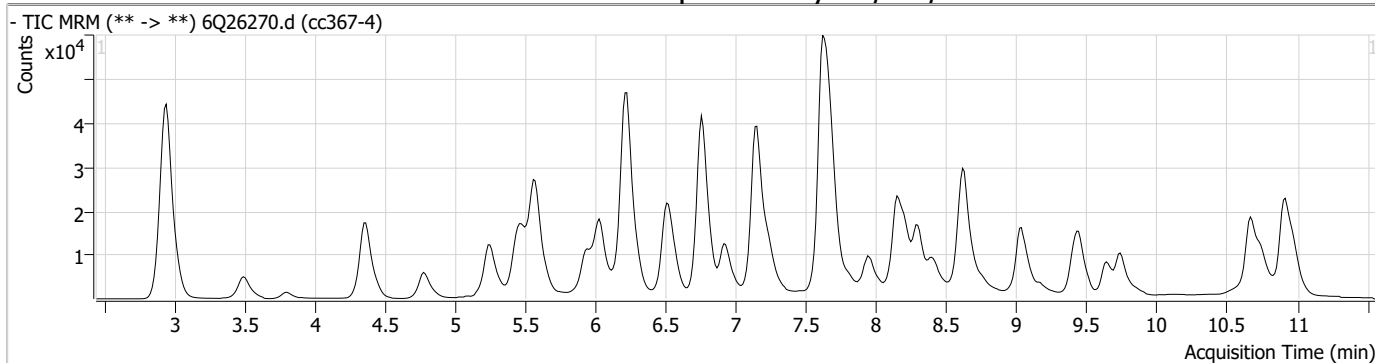
Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
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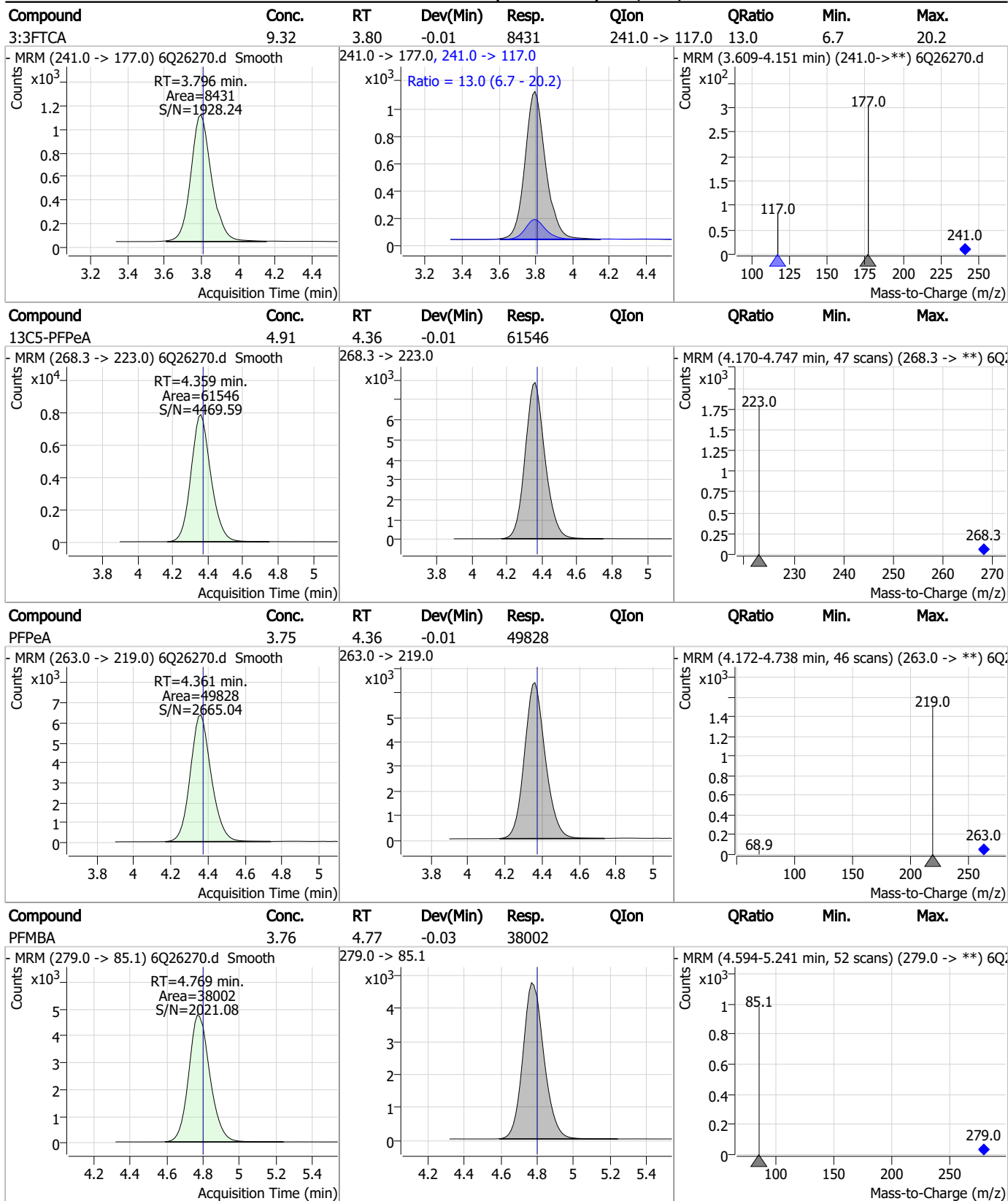
7.7.13

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Perfluorinated Compounds by LC/MS/MS



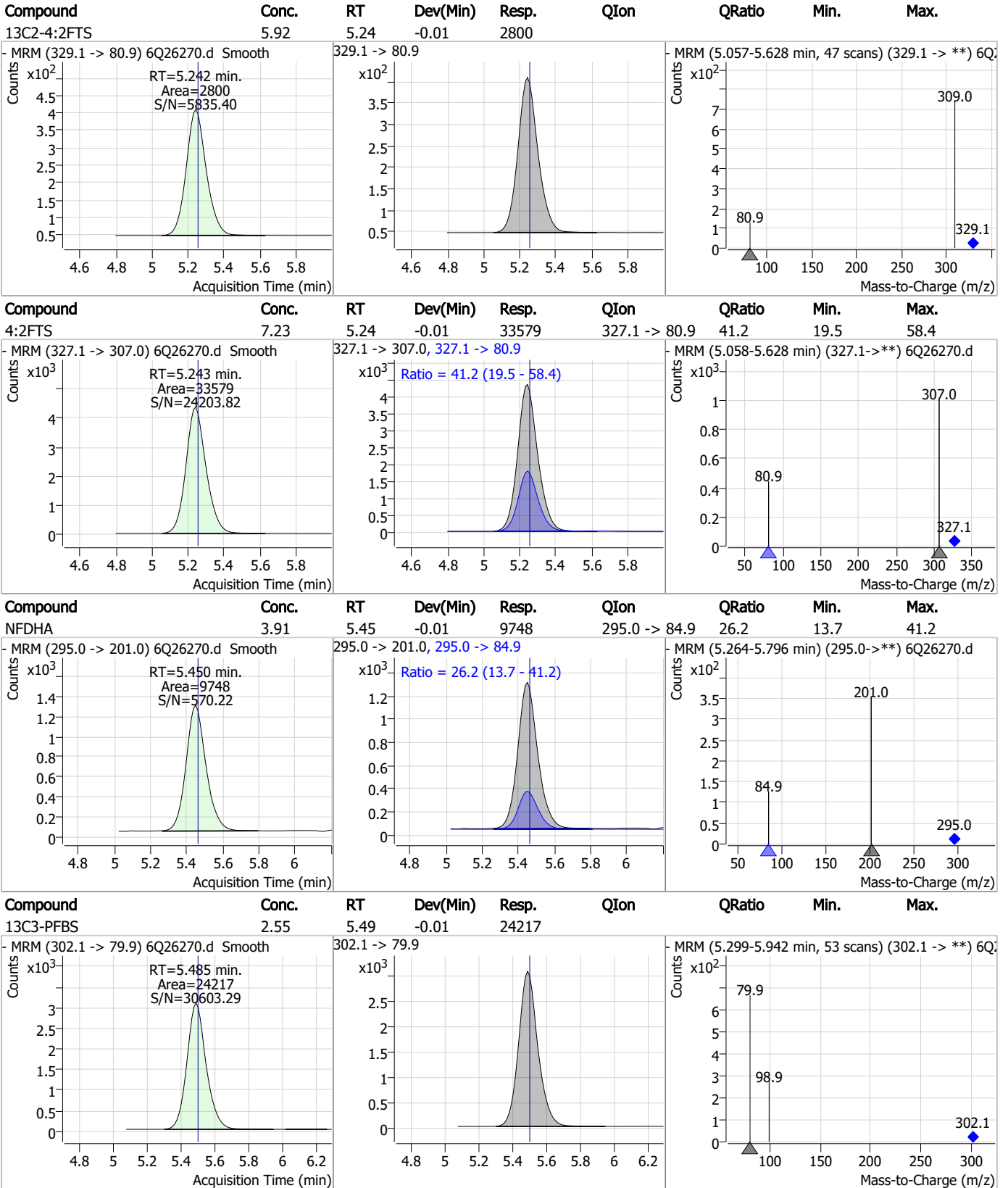
Perfluorinated Compounds by LC/MS/MS



7.7.13

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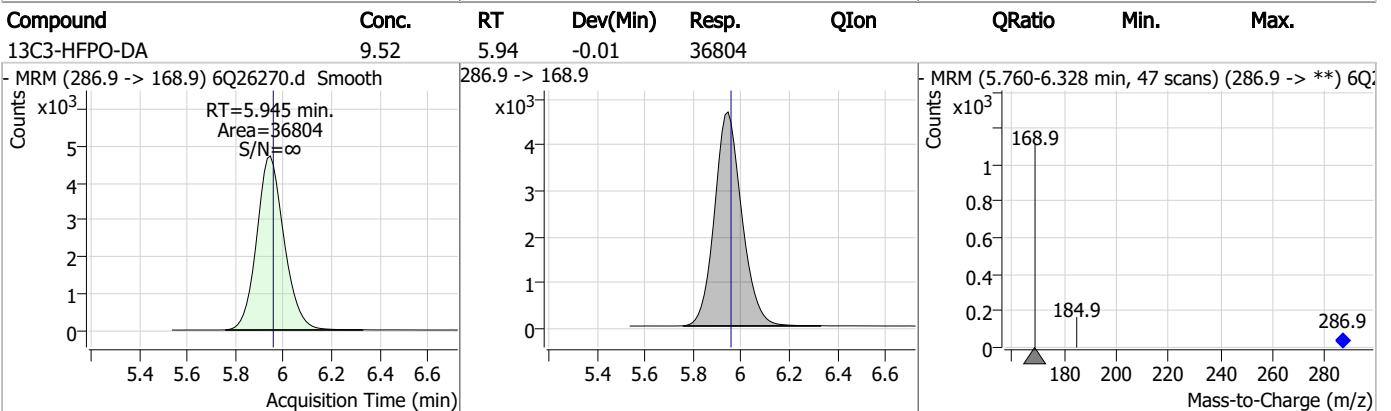
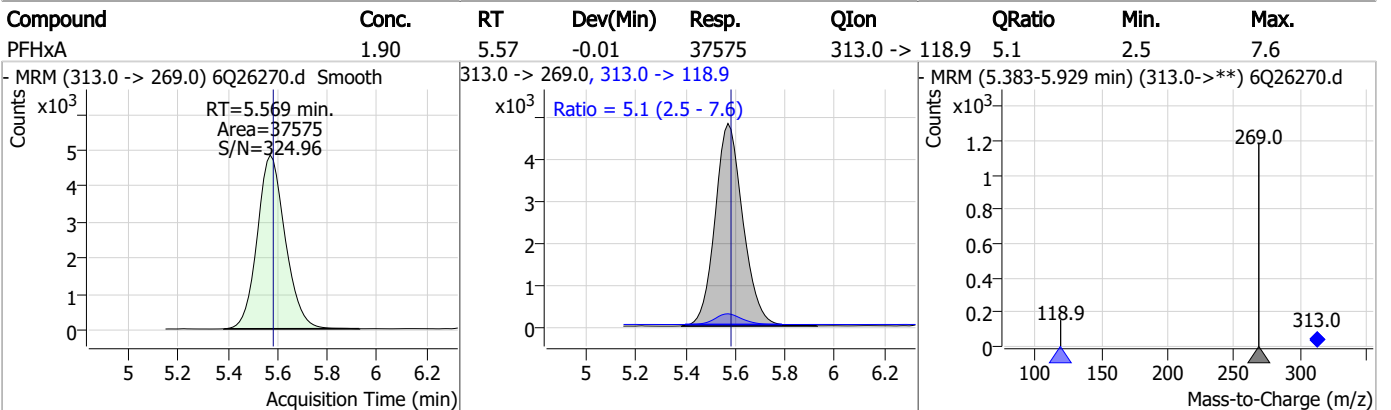
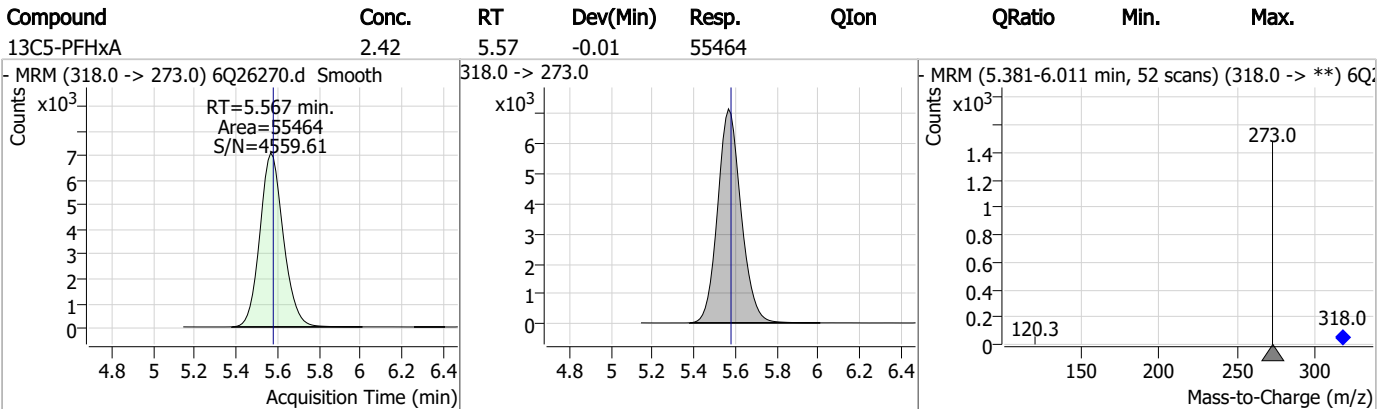
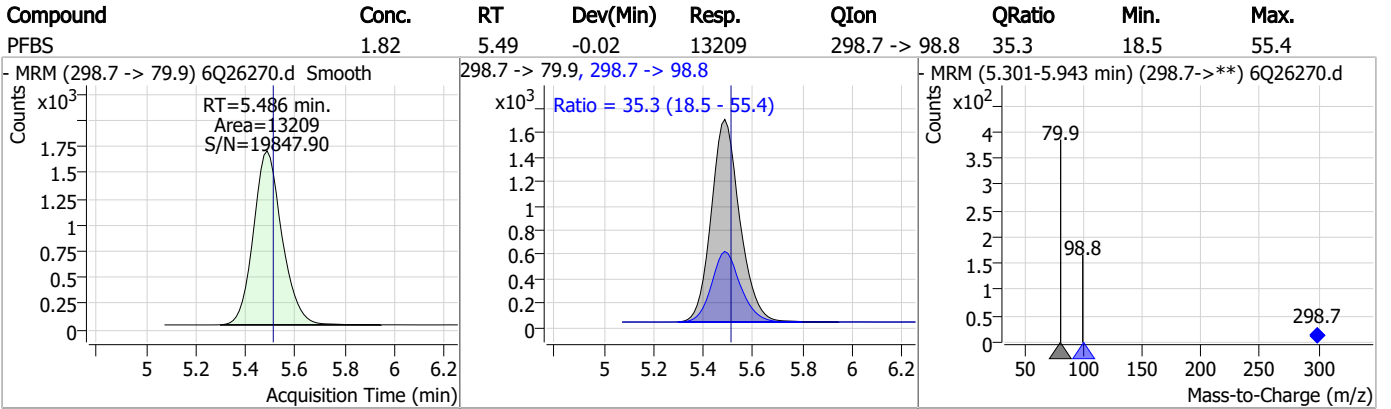
Perfluorinated Compounds by LC/MS/MS



7.7.13 7

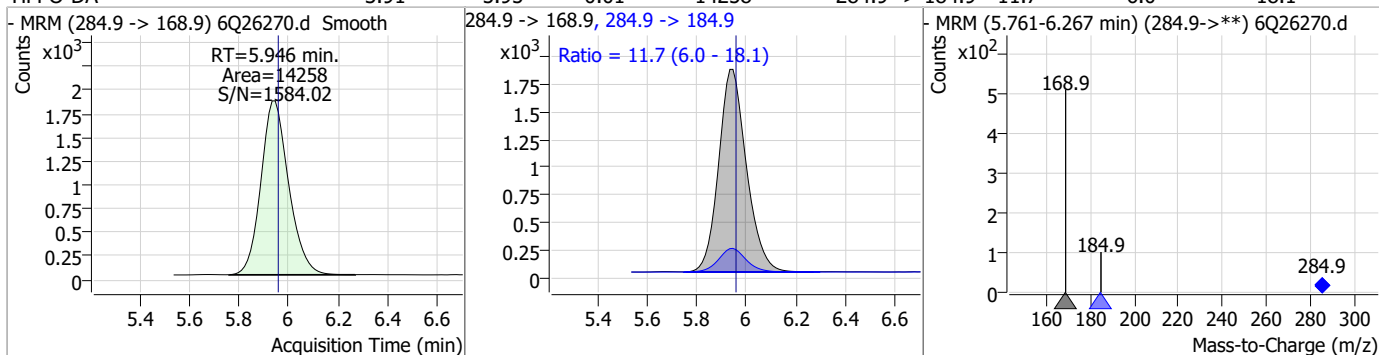


Perfluorinated Compounds by LC/MS/MS

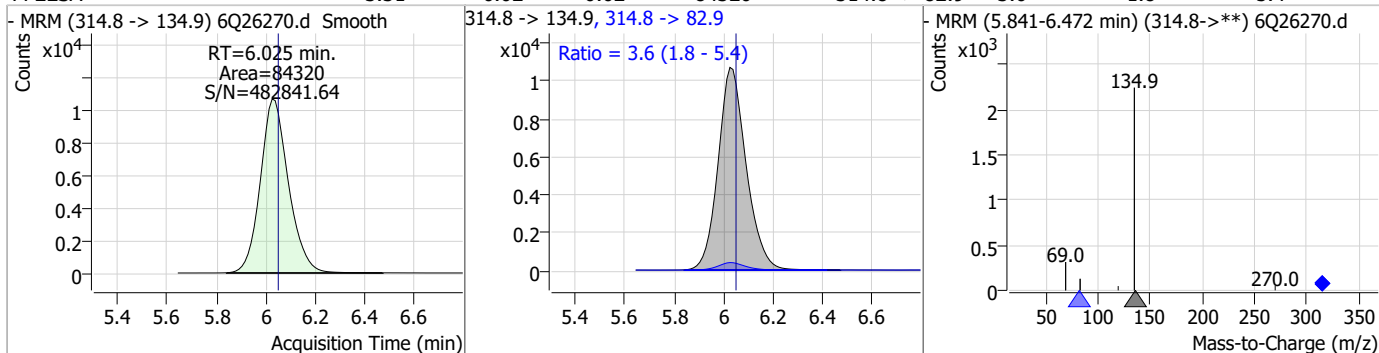


Perfluorinated Compounds by LC/MS/MS

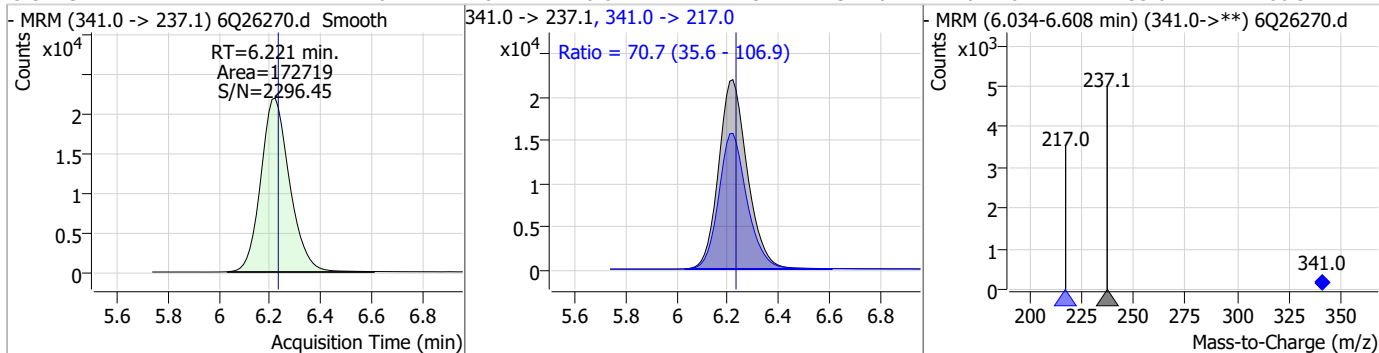
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
HFPO-DA	3.91	5.95	-0.01	14258	284.9 -> 184.9	11.7	6.0	18.1



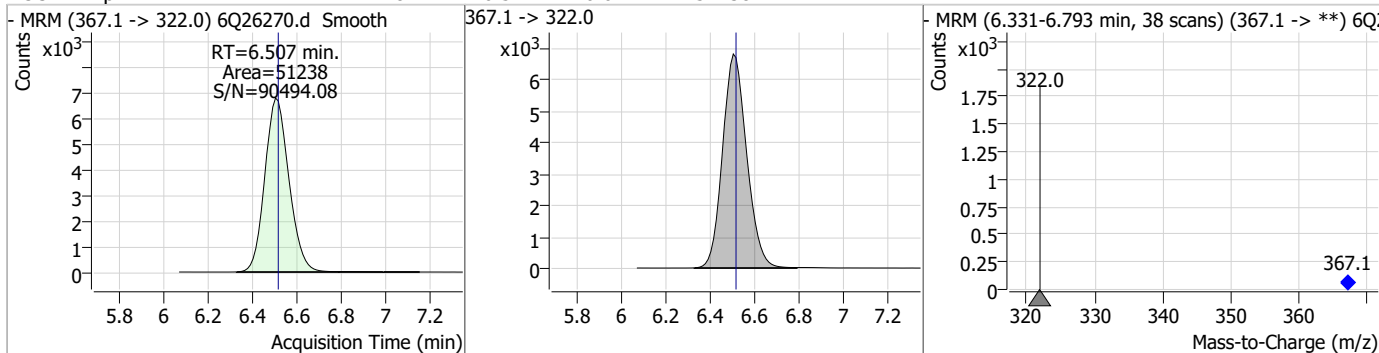
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFEESA	3.31	6.02	-0.02	84320	314.8 -> 82.9	3.6	1.8	5.4



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
5:3FTCA	46.47	6.22	-0.01	172719	341.0 -> 217.0	70.7	35.6	106.9

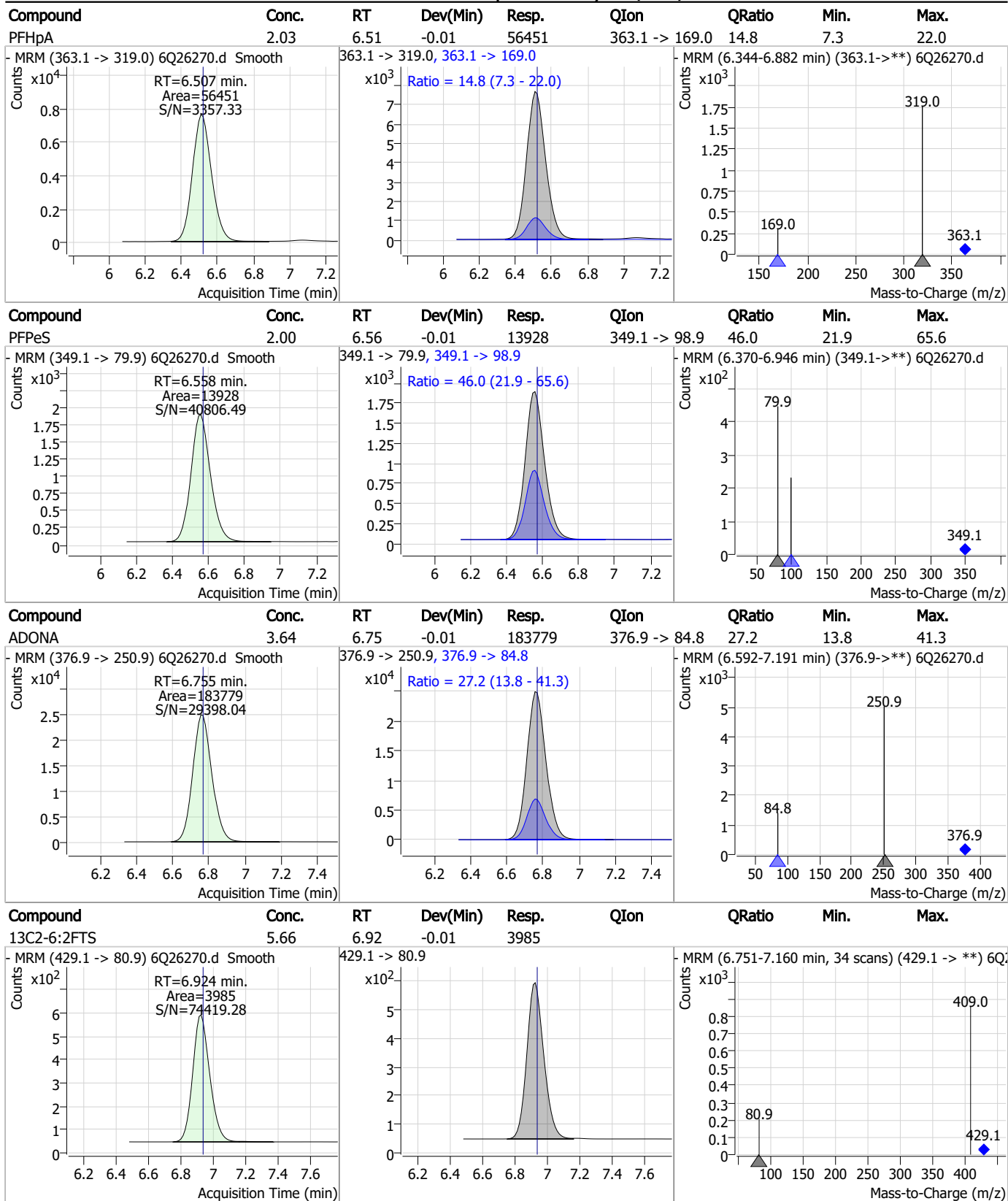


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFHpa	2.28	6.51	-0.01	51238	367.1 -> 322.0	-	-	-



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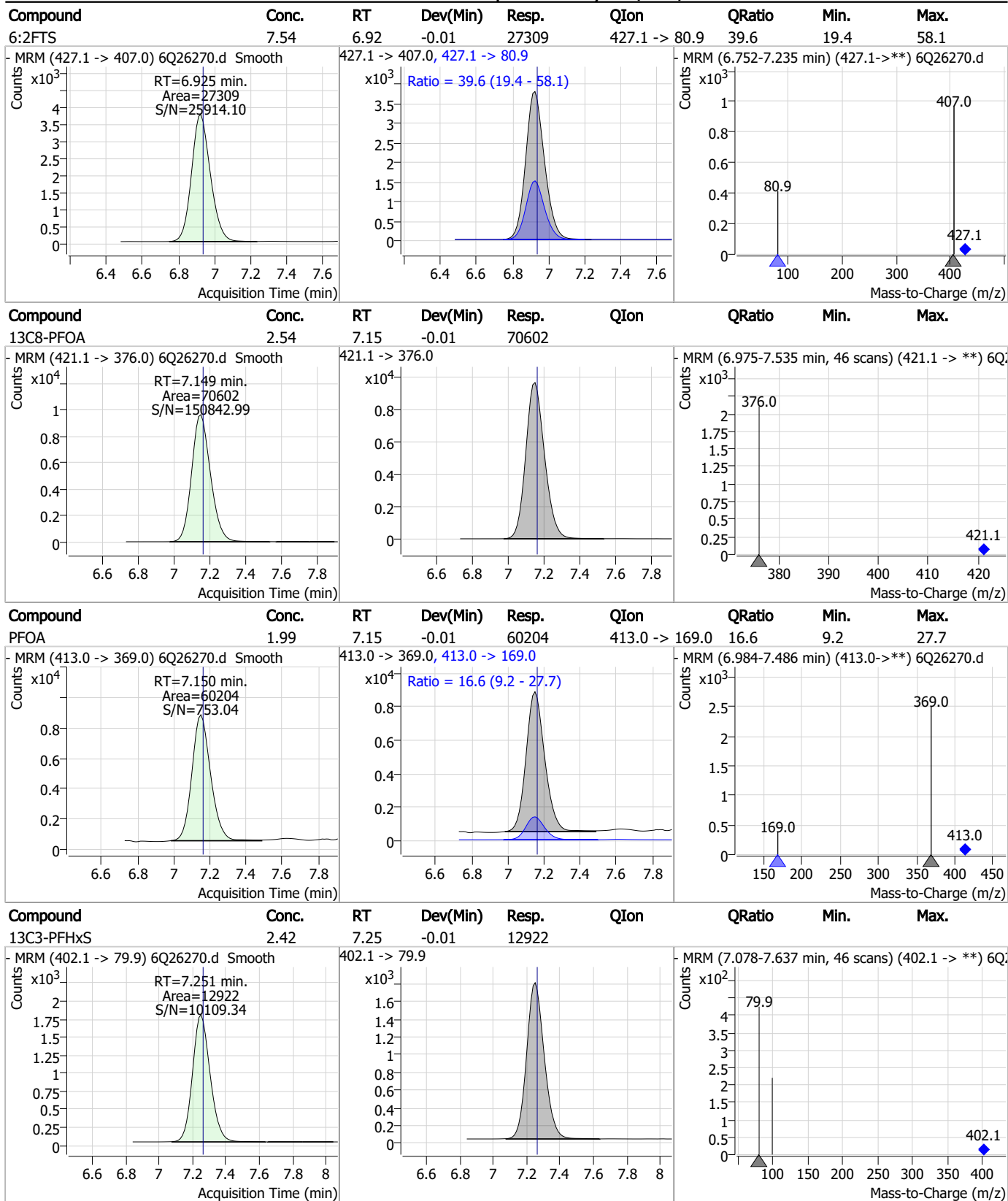
Perfluorinated Compounds by LC/MS/MS



7.7.13
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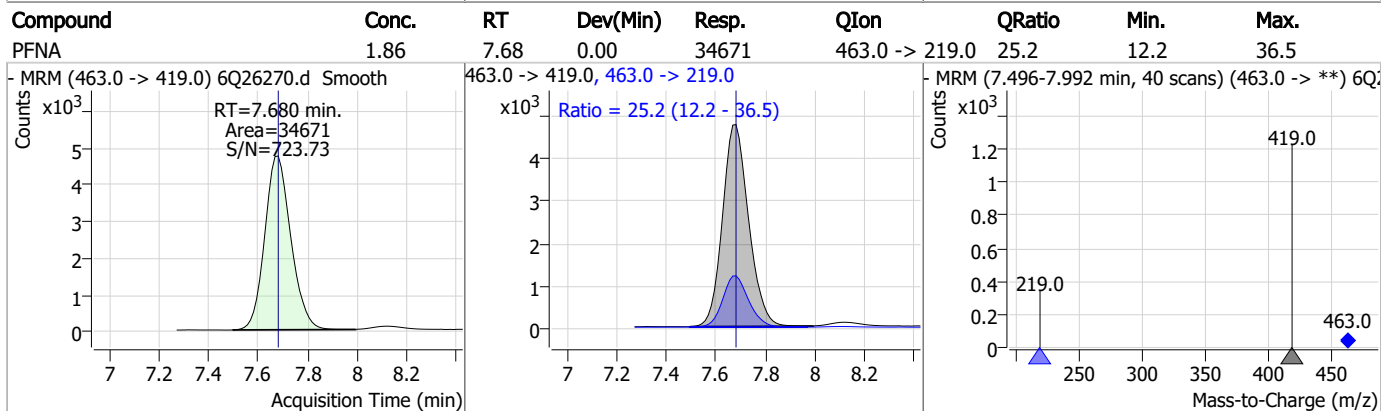
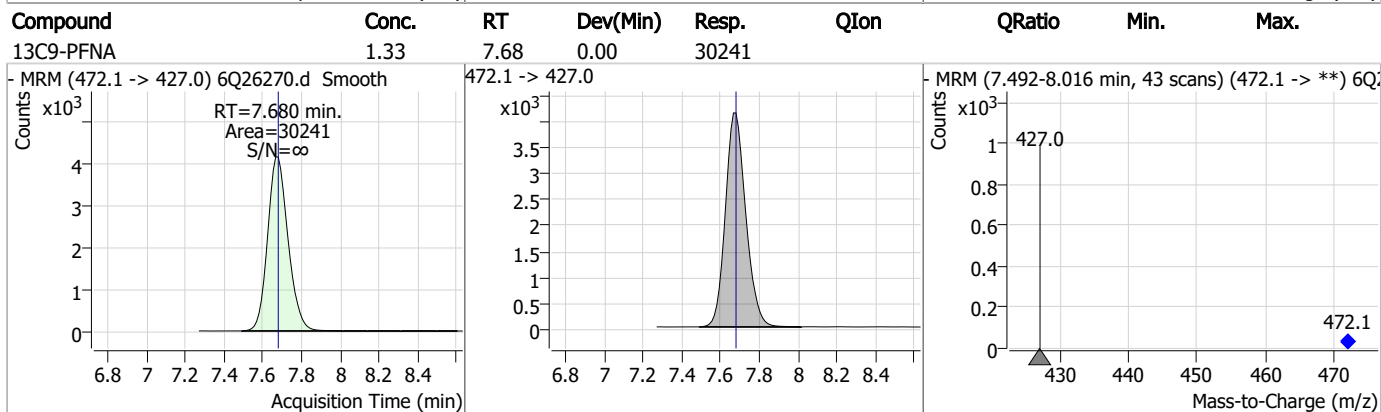
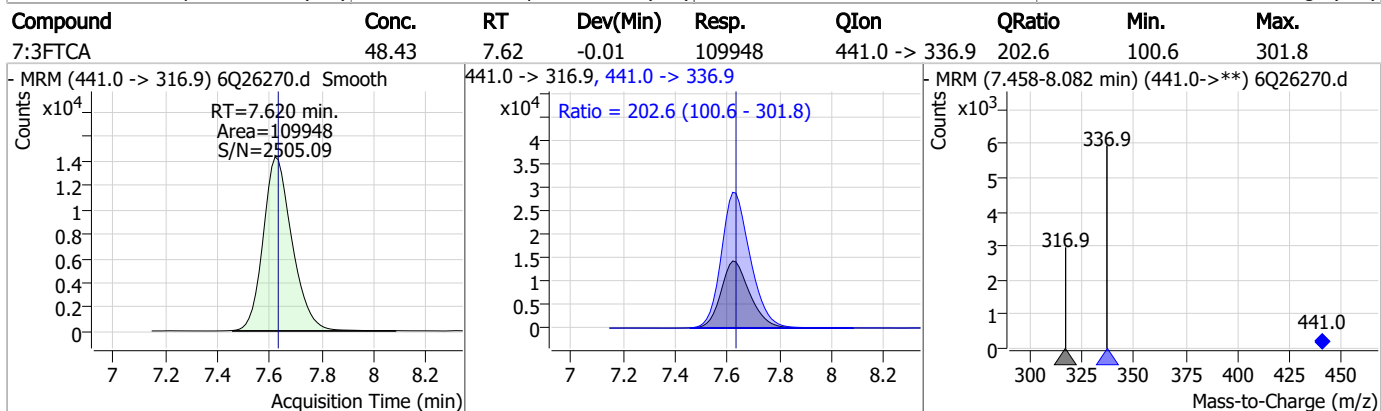
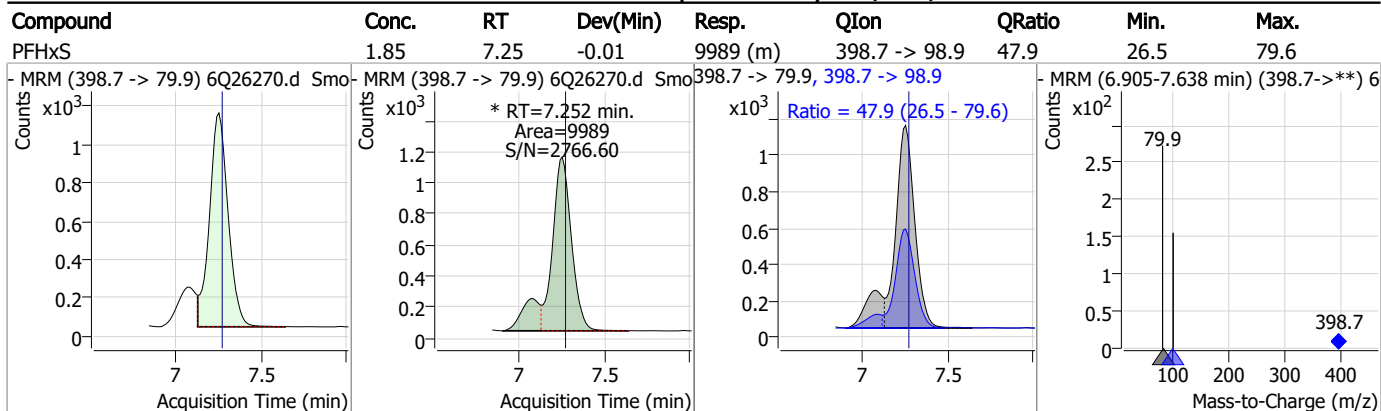
Perfluorinated Compounds by LC/MS/MS



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Perfluorinated Compounds by LC/MS/MS



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Perfluorinated Compounds by LC/MS/MS

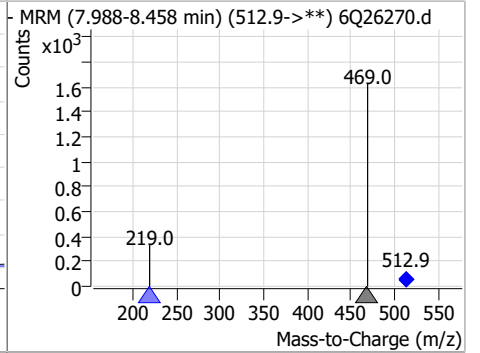
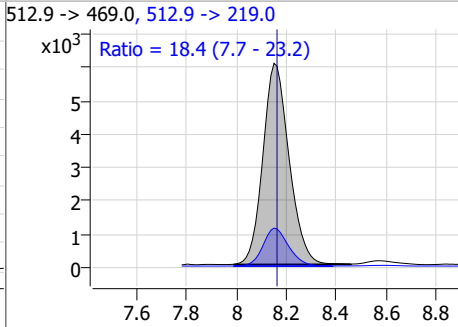
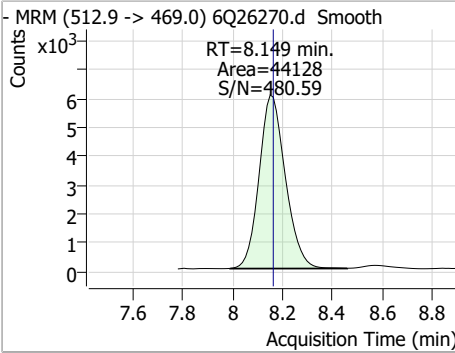
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpS	2.04	7.81	-0.01	10696	449.0 -> 98.9	46.7	24.5	73.4
13C2-8:2FTS	5.67	7.95	0.00	4109	529.1 -> 80.9			
8:2FTS	7.45	7.95	0.00	21327	527.1 -> 80.8	38.6	17.6	52.9
13C6-PFDA	1.30	8.15	-0.01	30077	519.1 -> 474.1			

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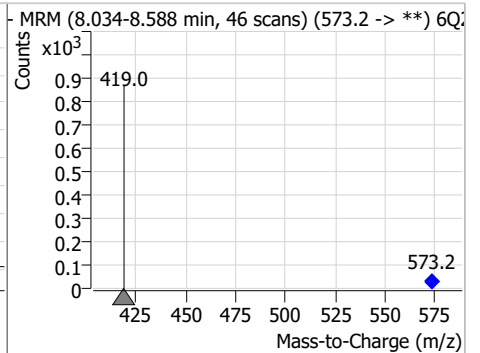
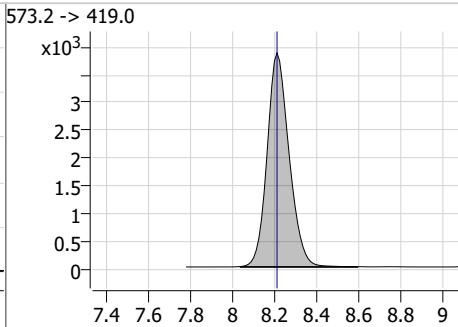
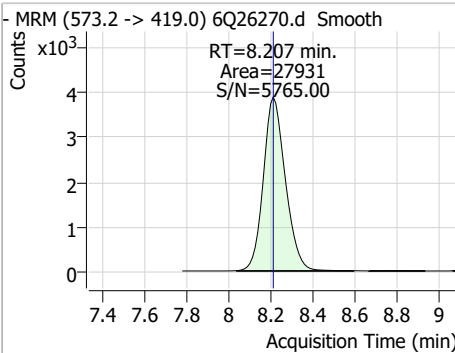


Perfluorinated Compounds by LC/MS/MS

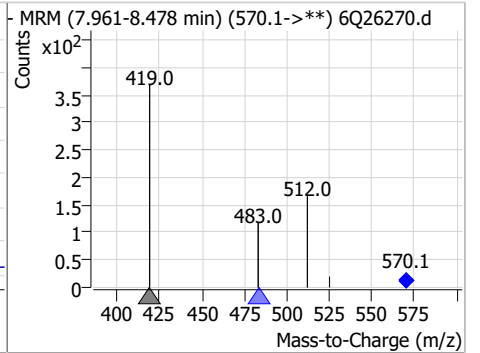
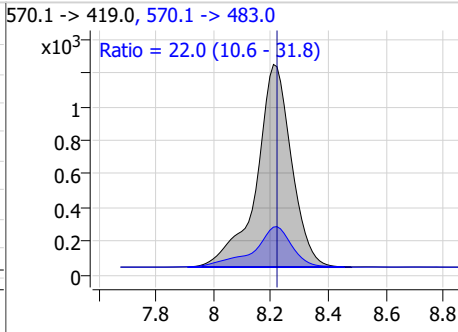
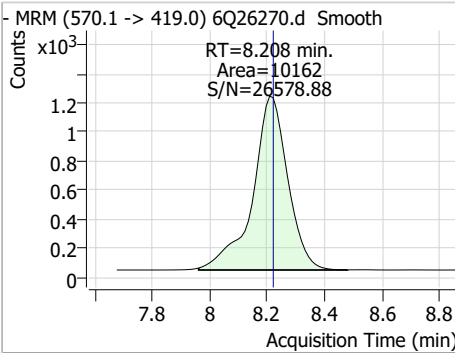
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDA	1.88	8.15	-0.01	44128	512.9 -> 219.0	18.4	7.7	23.2



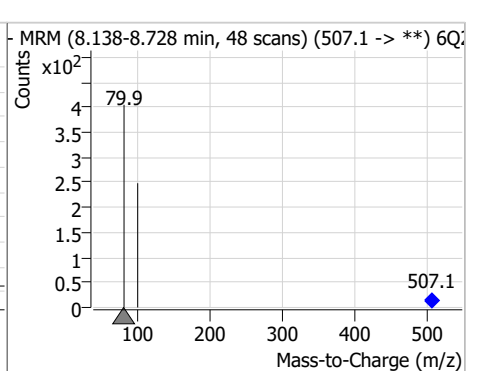
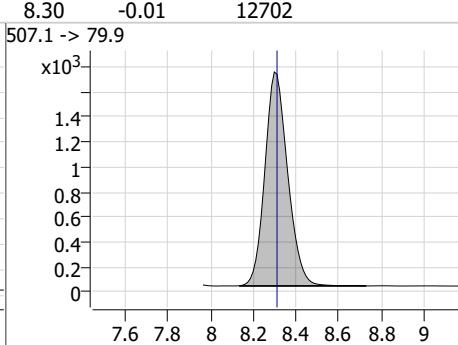
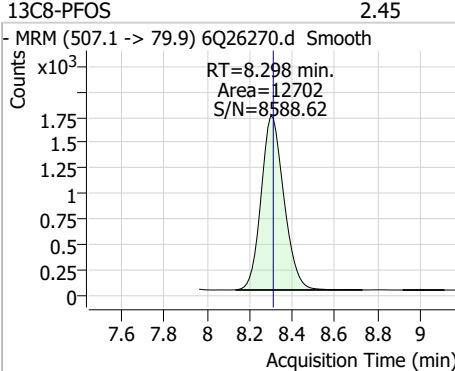
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSAA	5.29	8.21	0.00	27931				



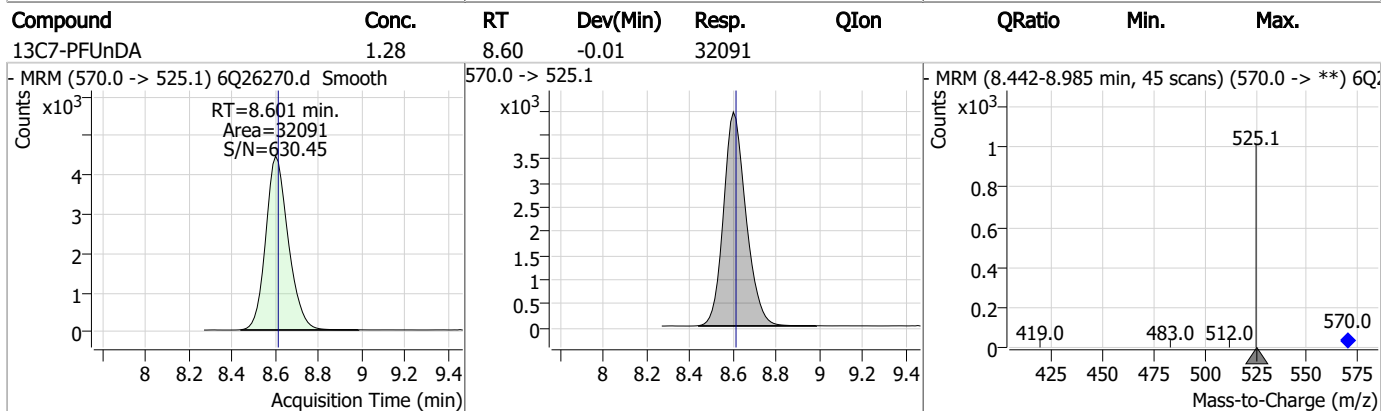
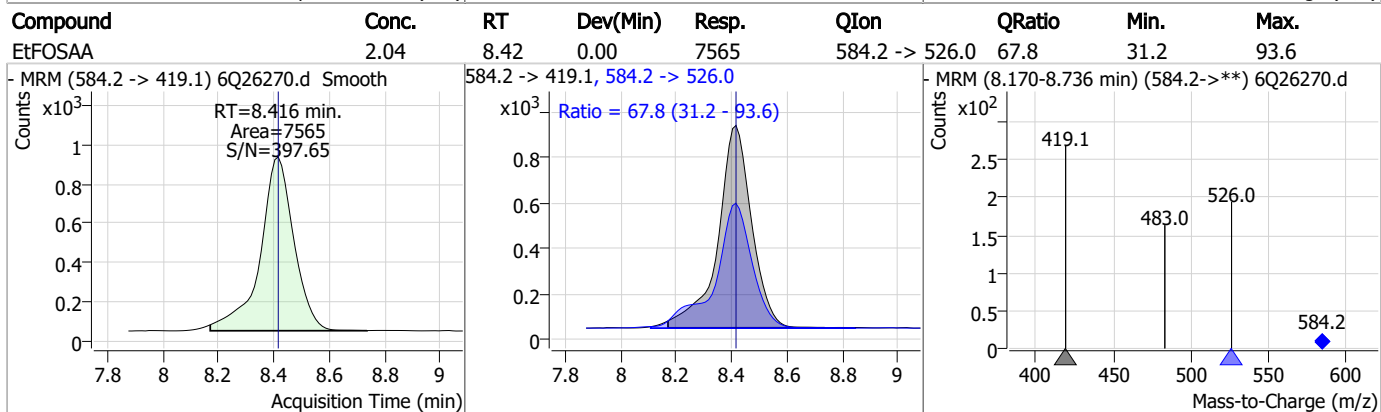
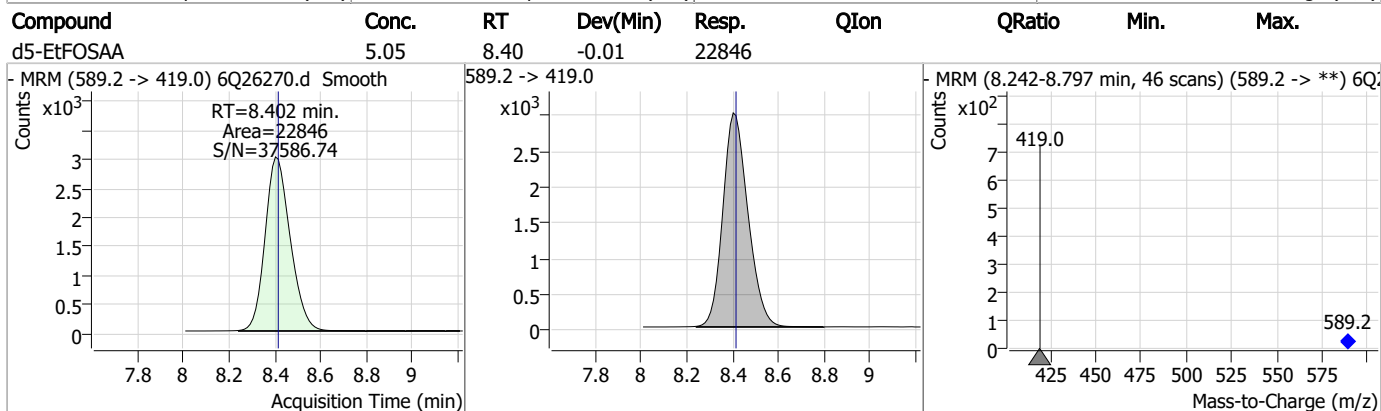
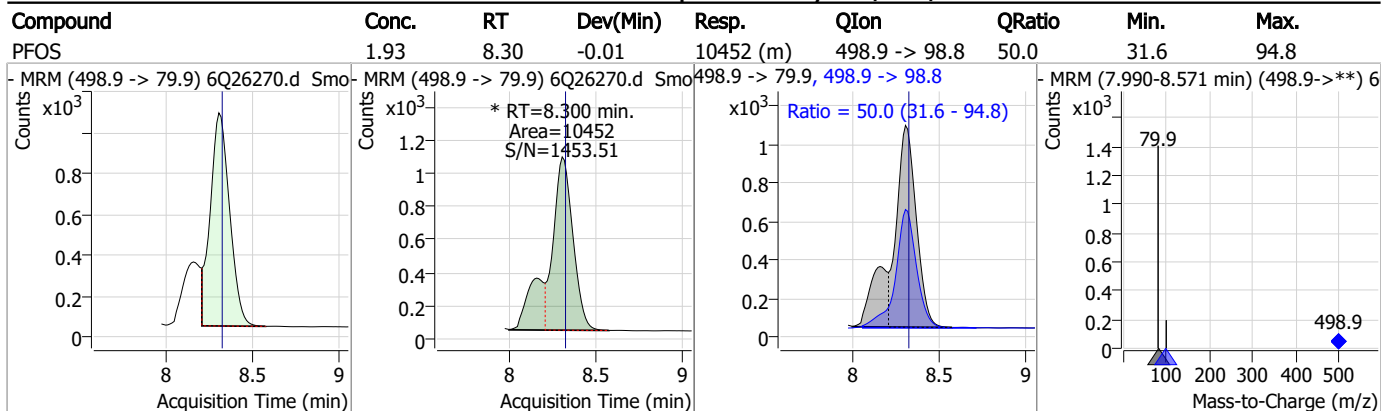
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSAA	1.95	8.21	-0.01	10162	570.1 -> 483.0	22.0	10.6	31.8



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOS	2.45	8.30	-0.01	12702				

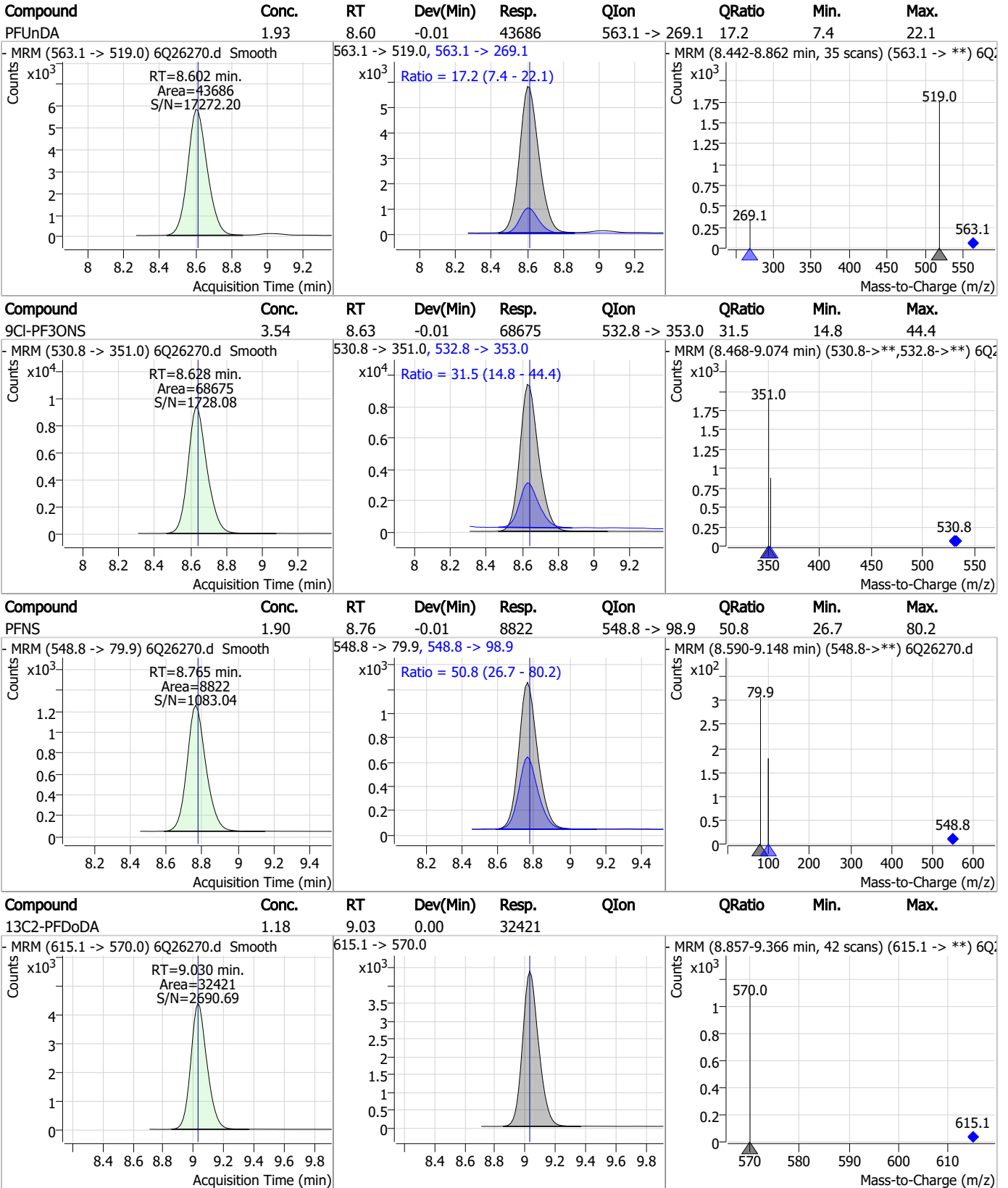


Perfluorinated Compounds by LC/MS/MS



7.7.13
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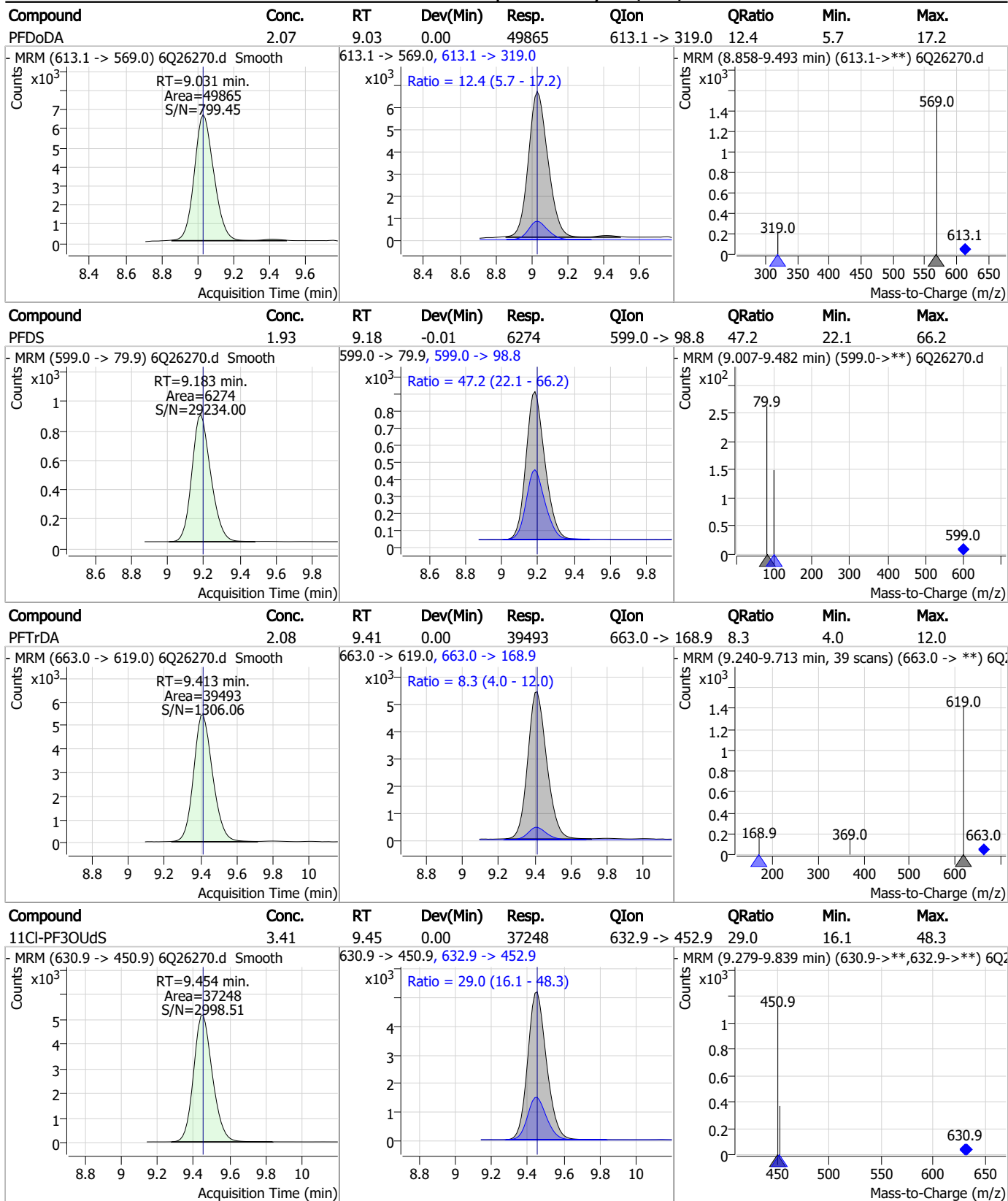
Perfluorinated Compounds by LC/MS/MS



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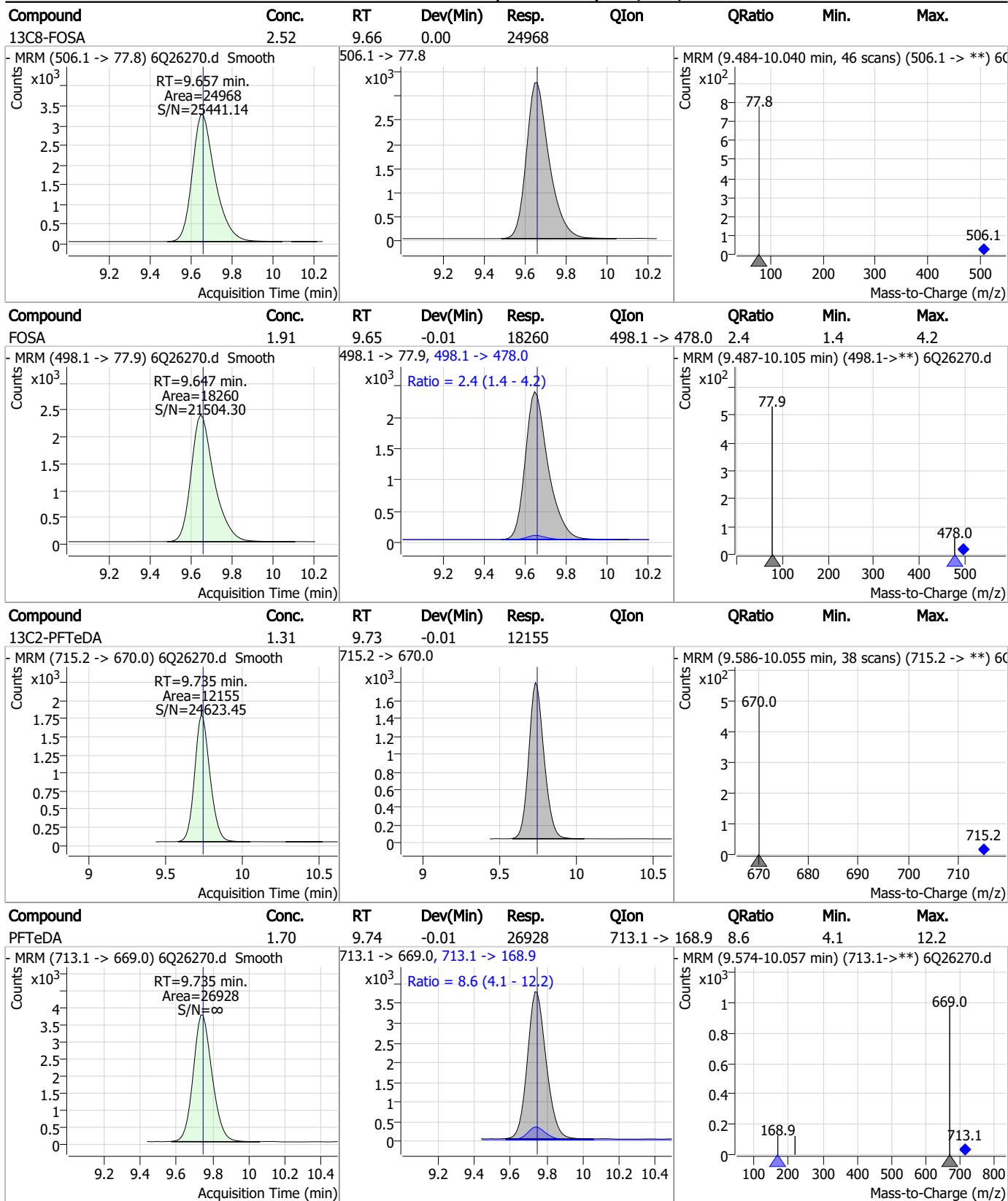
Perfluorinated Compounds by LC/MS/MS



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Perfluorinated Compounds by LC/MS/MS



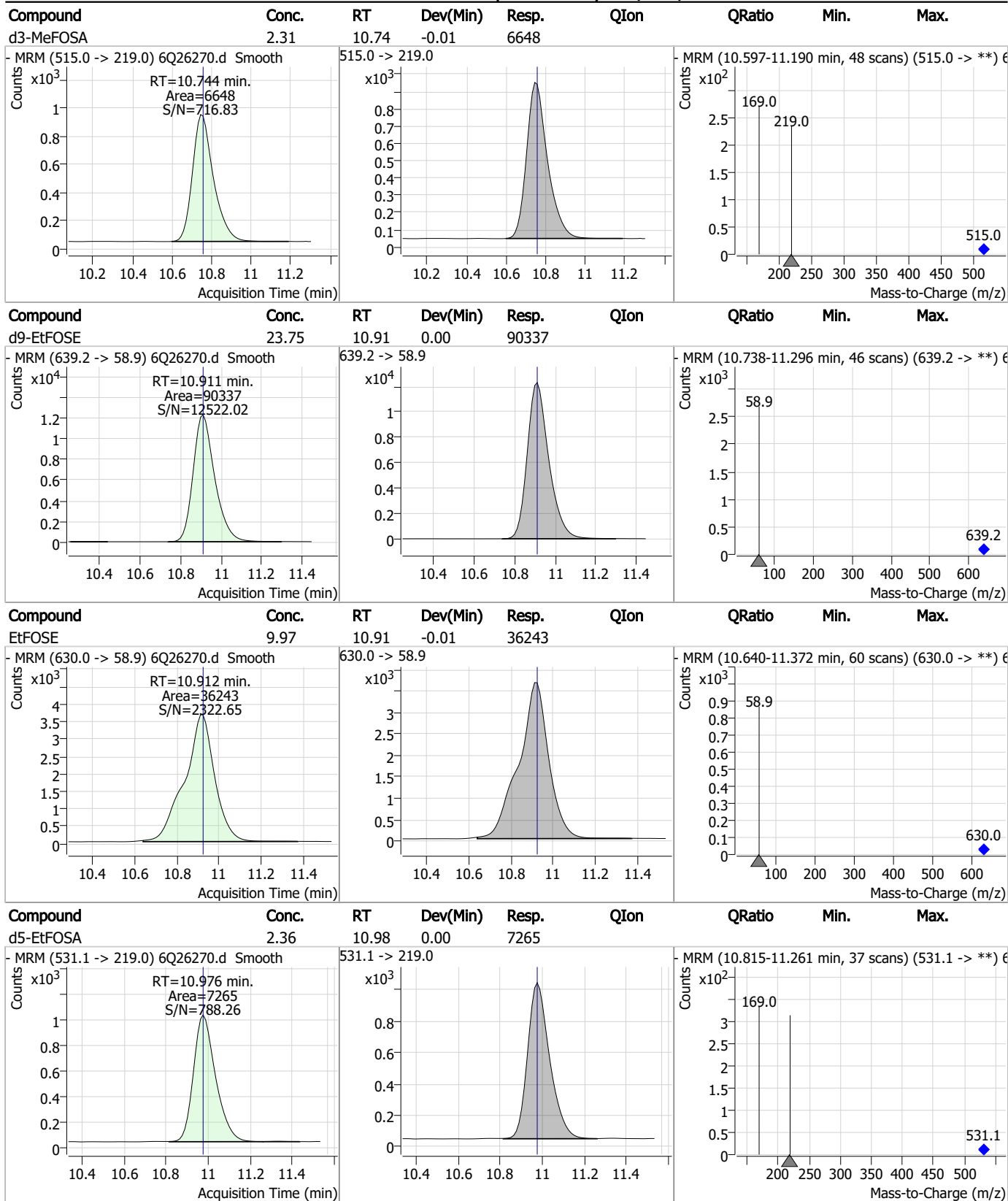
7.7.13
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Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoS	1.94	9.86	-0.01	3273	699.1 -> 98.8	56.0	28.5	85.4
d7-MeFOSE	23.54	10.67	0.00	75332				
MeFOSE	9.62	10.68	0.00	32029				
MeFOSA	4.13	10.75	0.00	12721	511.9 -> 169.0	135.0	66.6	199.8

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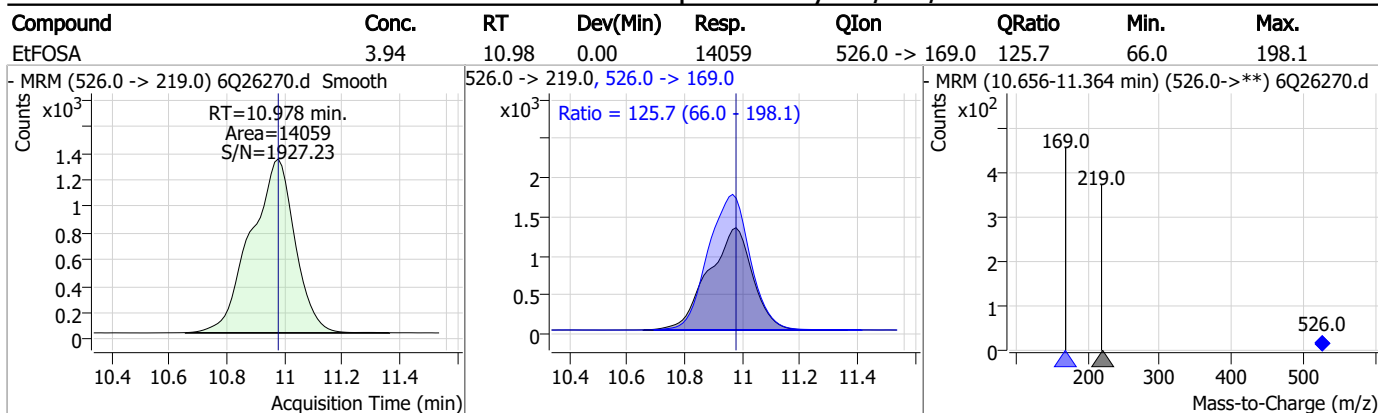
Perfluorinated Compounds by LC/MS/MS



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Perfluorinated Compounds by LC/MS/MS



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Manual Integration Approval Summary

Sample Number: S6Q370-CC367 Method: EPA DRAFT 1633
Lab FileID: 6Q26270.D Analyst approved: 10/16/23 10:56 Martha Valls
Injection Time: 10/12/23 13:19 Supervisor approved: 10/16/23 17:48 Natasha Gumtie

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		7.25	Split peak
Perfluorooctanesulfonic acid	1763-23-1		8.30	Split peak

7.7.13.1

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Perfluorinated Compounds by LC/MS/MS

Data File : 6Q26278.d
 Operator : marthav
 Acq. Method : 1633full.m
 Acq. Date-Time : 10/12/2023 3:16:18 PM
 Sample Name : cc367-4
 Vial : P1-A5
 DA Method File : 1633_100823_S6Q367.quantmethod.xml
 Batch Name : s6q370.batch.bin
 Sample Information : OP99081,S6Q370,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Internal Standards					
M4-PFBA	2.947	216.8 -> 171.9	174226	10.00 µg/L	0.000
M5-PFPeA	4.359	268.3 -> 223.0	61170	5.00 µg/L	-0.012
M5-PFHxA	5.567	318.0 -> 273.0	55418	2.50 µg/L	-0.012
M4-PFHpA	6.507	367.1 -> 322.0	54270	2.50 µg/L	-0.012
M8-PFOA	7.149	421.1 -> 376.0	69642	2.50 µg/L	-0.012
M9-PFNA	7.666	472.1 -> 427.0	29954	1.25 µg/L	-0.013
M6-PFDA	8.148	519.1 -> 474.1	31103	1.25 µg/L	-0.012
M7-PFUnDA	8.601	570.0 -> 525.1	31172	1.25 µg/L	-0.012
M2-PFDoDA	9.030	615.1 -> 570.0	33455	1.25 µg/L	0.000
M2-PFTeDA	9.735	715.2 -> 670.0	11604	1.25 µg/L	-0.012
M8-FOSA	9.657	506.1 -> 77.8	24762	2.50 µg/L	0.000
M3-PFBS	5.485	302.1 -> 79.9	25069	2.50 µg/L	-0.012
M3-PFHxS	7.251	402.1 -> 79.9	13554	2.50 µg/L	-0.012
M8-PFOS	8.298	507.1 -> 79.9	13702	2.50 µg/L	-0.013
M2-4:2FTS	5.242	329.1 -> 80.9	2875	5.00 µg/L	-0.012
M2-6:2FTS	6.924	429.1 -> 80.9	4092	5.00 µg/L	-0.012
M2-8:2FTS	7.950	529.1 -> 80.9	3922	5.00 µg/L	0.000
M3-MeFOSAA	8.207	573.2 -> 419.0	31049	5.00 µg/L	0.000
M3-HFPO-DA	5.945	286.9 -> 168.9	38906	10.00 µg/L	-0.012
M5-EtFOSAA	8.402	589.2 -> 419.0	23670	5.00 µg/L	-0.012
M7-MeFOSE	10.665	623.2 -> 58.9	80237	25.00 µg/L	0.000
M9-EtFOSE	10.911	639.2 -> 58.9	94212	25.00 µg/L	0.000
M5-EtFOSA	10.976	531.1 -> 219.0	7359	2.50 µg/L	0.000
M3-MeFOSA	10.744	515.0 -> 219.0	6919	2.50 µg/L	-0.012
13C4-PFOS	8.299	502.8 -> 79.9	12585	2.50 µg/L	-0.013
13C3-PFBA	2.952	216.0 -> 172.0	72275	5.00 µg/L	0.000
18O2-PFHxS	7.250	403.0 -> 83.9	8507	2.50 µg/L	-0.012
13C4-PFOA	7.150	417.1 -> 372.0	86064	2.50 µg/L	-0.012
13C2-PFDA	8.149	515.1 -> 470.1	26960	1.25 µg/L	-0.012
13C5-PFNA	7.667	468.0 -> 423.0	29532	1.25 µg/L	-0.013
13C2-PFHxA	5.568	315.1 -> 270.0	54889	2.50 µg/L	-0.012
System Monitoring Compounds					
13C2-4:2FTS	5.242	329.1 -> 80.9	2875	6.00 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 120.0%		
13C2-6:2FTS	6.924	429.1 -> 80.9	4092	5.74 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 114.8%		
13C2-8:2FTS	7.950	529.1 -> 80.9	3922	5.34 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 106.9%		
13C2-PFDoDA	9.030	615.1 -> 570.0	33455	1.25 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 99.6%		
13C2-PFTeDA	9.735	715.2 -> 670.0	11604	1.27 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 101.9%		
13C3-PFBS	5.485	302.1 -> 79.9	25069	2.60 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 104.0%		
13C3-PFHxS	7.251	402.1 -> 79.9	13554	2.51 µg/L	-0.012

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Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 100.3%	
13C4-PFBA	2.947	216.8 -> 171.9	174226	9.99 µg/L	0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 99.9%	
13C4-PFHpA	6.507	367.1 -> 322.0	54270	2.44 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 97.7%	
13C5-PFHxA	5.567	318.0 -> 273.0	55418	2.44 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 97.7%	
13C5-PFPeA	4.359	268.3 -> 223.0	61170	4.92 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 98.5%	
13C6-PFDA	8.148	519.1 -> 474.1	31103	1.37 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 109.6%	
13C7-PFUnDA	8.601	570.0 -> 525.1	31172	1.27 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 101.6%	
13C8-FOSA	9.657	506.1 -> 77.8	24762	2.38 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 95.4%	
13C8-PFOA	7.149	421.1 -> 376.0	69642	2.33 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 93.3%	
13C8-PFOS	8.298	507.1 -> 79.9	13702	2.52 µg/L	-0.013
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 100.8%	
13C9-PFNA	7.666	472.1 -> 427.0	29954	1.23 µg/L	-0.013
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 98.6%	
d3-MeFOSAA	8.207	573.2 -> 419.0	31049	5.61 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 112.2%	
13C3-HFPO-DA	5.945	286.9 -> 168.9	38906	10.16 µg/L	-0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 101.6%	
d3-MeFOSA	10.744	515.0 -> 219.0	6919	2.30 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 91.9%	
d5-EtFOSAA	8.402	589.2 -> 419.0	23670	4.99 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 99.8%	
d7-MeFOSE	10.665	623.2 -> 58.9	80237	23.94 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 95.7%	
d9-EtFOSE	10.911	639.2 -> 58.9	94212	23.65 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 94.6%	
d5-EtFOSA	10.976	531.1 -> 219.0	7359	2.29 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 91.4%	
Target Compounds					QValue
4:2FTS	5.243	327.1 -> 307.0	38162	8.00 µg/L	97
		327.1 -> 80.9	14096		
6:2FTS	6.925	427.1 -> 407.0	28738	7.73 µg/L	98
		427.1 -> 80.9	11527		
8:2FTS	7.938	527.1 -> 507.0	19409	7.10 µg/L	82
		527.1 -> 80.8	8906		
EtFOSAA	8.416	584.2 -> 419.1	7685	2.00 µg/L	98
		584.2 -> 526.0	4702		
FOSA	9.647	498.1 -> 77.9	20125	2.12 µg/L	100
		498.1 -> 478.0	592		
MeFOSAA	8.208	570.1 -> 419.0	10539	1.82 µg/L	99
		570.1 -> 483.0	2181		
PFBA	2.956	212.8 -> 168.9	53502	8.24 µg/L	100
PFBS	5.486	298.7 -> 79.9	14006	1.86 µg/L	99
		298.7 -> 98.8	5057		
PFDA	8.149	512.9 -> 469.0	46785	1.93 µg/L	99
		512.9 -> 219.0	7384		
PFDoDA	9.031	613.1 -> 569.0	48801	1.96 µg/L	95
		613.1 -> 319.0	6485		
PFDS	9.183	599.0 -> 79.9	6495	1.85 µg/L	91

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Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
		599.0 -> 98.8	3228			
PFHpA	6.507	363.1 -> 319.0	59023	2.00	µg/L	100
		363.1 -> 169.0	8720			
PFHpS	7.807	449.0 -> 79.9	11094	1.96	µg/L	98
		449.0 -> 98.9	5257			
PFHxA	5.569	313.0 -> 269.0	39905	2.01	µg/L	100
		313.0 -> 118.9	2070			
PFHxS	7.252	398.7 -> 79.9	10692	1.89	µg/L	m 89
		398.7 -> 98.9	4827			
PFNA	7.667	463.0 -> 419.0	38421	2.08	µg/L	95
		463.0 -> 219.0	8333			
PFNS	8.765	548.8 -> 79.9	9463	1.89	µg/L	89
		548.8 -> 98.9	4336			
PFOA	7.150	413.0 -> 369.0	60639	2.03	µg/L	99
		413.0 -> 169.0	11036			
PFOS	8.300	498.9 -> 79.9	10681	1.82	µg/L	m 88
		498.9 -> 98.8	5715			
PFPeA	4.361	263.0 -> 219.0	52878	4.01	µg/L	100
PFPeS	6.558	349.1 -> 79.9	14536	1.99	µg/L	99
		349.1 -> 98.9	6418			
PFTeDA	9.735	713.1 -> 669.0	30372	2.01	µg/L	99
		713.1 -> 168.9	2399			
PFTrDA	9.413	663.0 -> 619.0	40885	2.09	µg/L	97
		663.0 -> 168.9	3644			
PFUnDA	8.602	563.1 -> 519.0	45983	2.09	µg/L	95
		563.1 -> 269.1	7624			
11CI-PF3OUdS	9.454	630.9 -> 450.9	39248	3.40	µg/L	96
		632.9 -> 452.9	11786			
9CI-PF3ONS	8.628	530.8 -> 351.0	75035	3.66	µg/L	100
		532.8 -> 353.0	22177			
ADONA	6.767	376.9 -> 250.9	203883	3.82	µg/L	95
		376.9 -> 84.8	51237			
HFPO-DA	5.946	284.9 -> 168.9	15774	4.09	µg/L	96
		284.9 -> 184.9	1657			
3:3FTCA	3.821	241.0 -> 177.0	8873	9.49	µg/L	100
		241.0 -> 117.0	1191			
5:3FTCA	6.221	341.0 -> 237.1	193060	51.98	µg/L	97
		341.0 -> 217.0	133597			
7:3FTCA	7.632	441.0 -> 316.9	116336	51.28	µg/L	93
		441.0 -> 336.9	221656			
EtFOSA	10.978	526.0 -> 219.0	14937	4.13	µg/L	96
		526.0 -> 169.0	18973			
EtFOSE	10.924	630.0 -> 58.9	38398	10.13	µg/L	100
MeFOSA	10.746	511.9 -> 219.0	13789	4.30	µg/L	98
		511.9 -> 169.0	18751			
MeFOSE	10.679	616.1 -> 58.9	32975	9.30	µg/L	100
PFDoDS	9.861	699.1 -> 79.9	3630	1.99	µg/L	89
		699.1 -> 98.8	1777			
NFDHA	5.450	295.0 -> 201.0	10051	4.04	µg/L	99
		295.0 -> 84.9	2730			
PFMBA	4.781	279.0 -> 85.1	40257	4.00	µg/L	100
PFMPA	3.501	229.0 -> 84.9	33071	3.98	µg/L	100
PFEESA	6.025	314.8 -> 134.9	91199	3.58	µg/L	99
		314.8 -> 82.9	3095			

= Qualifier out of range, m = manually integrated, + = Area summed

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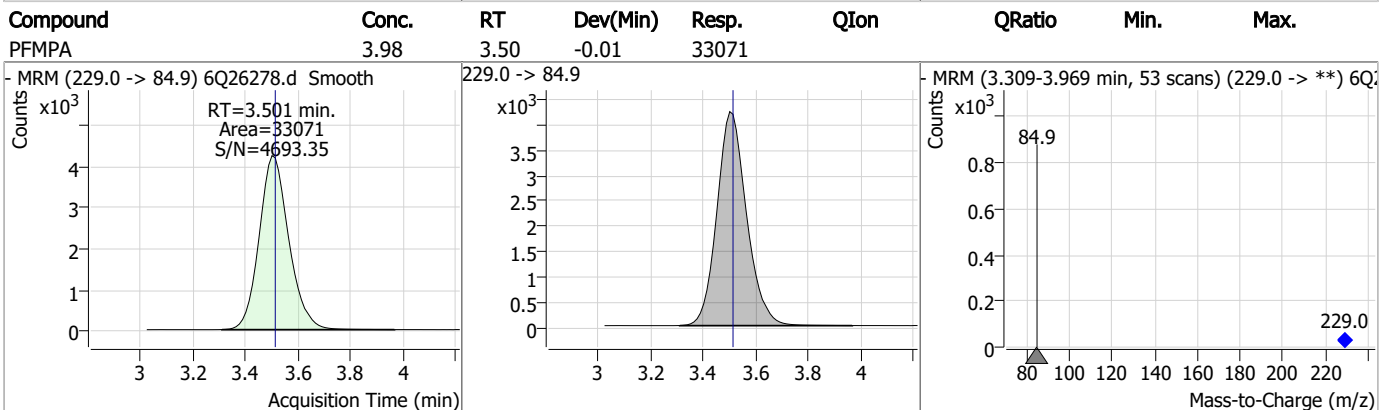
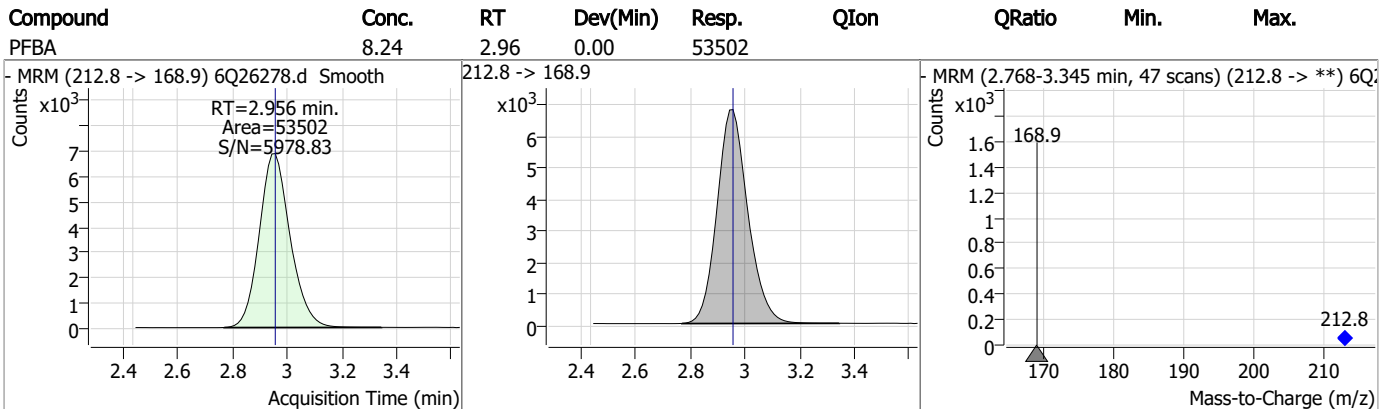
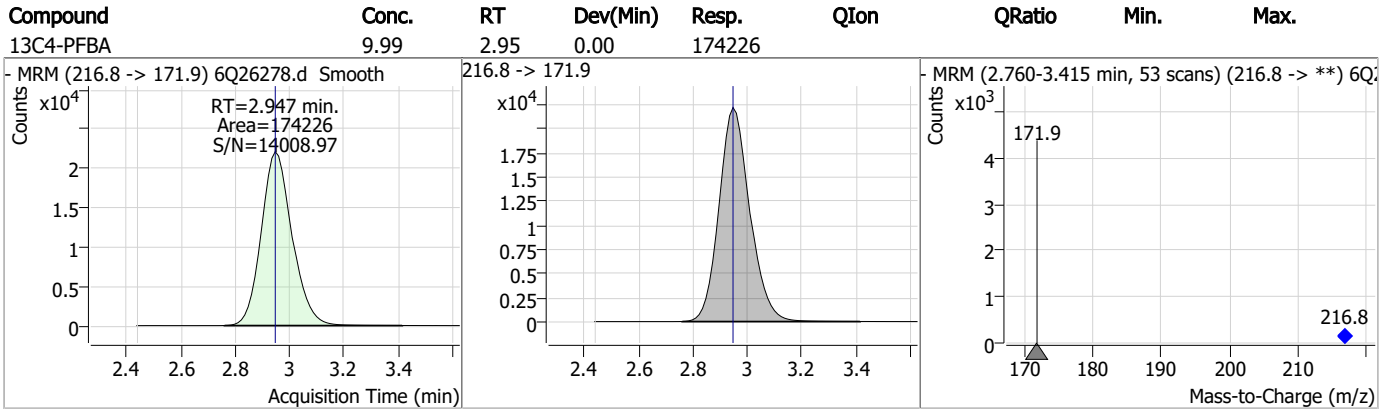
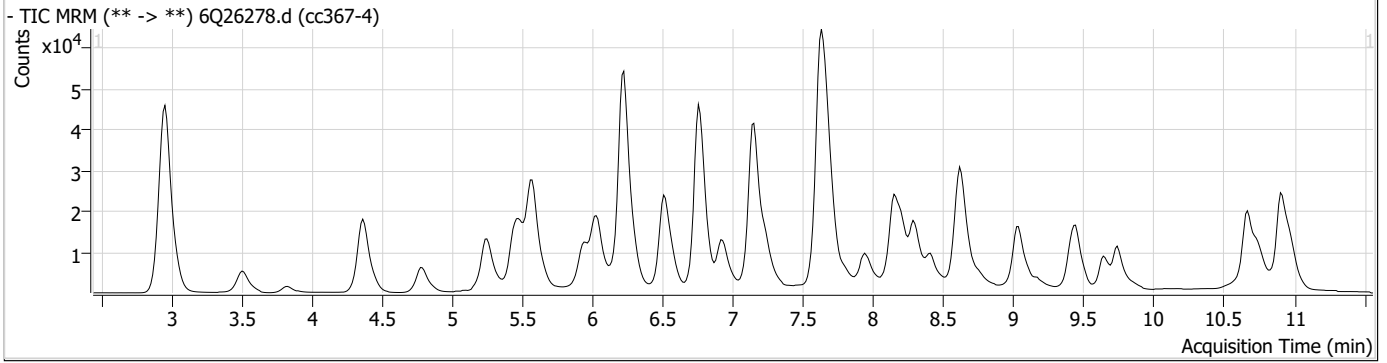
Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
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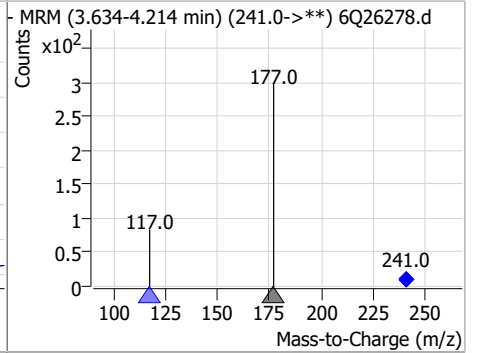
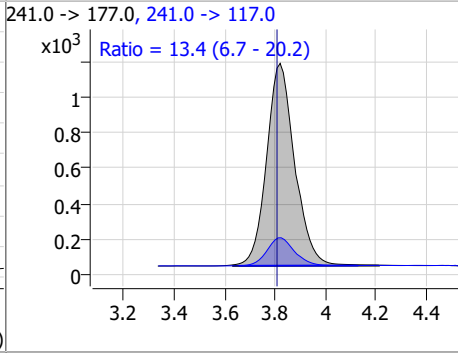
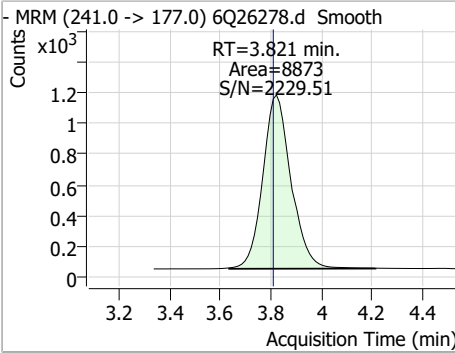
Perfluorinated Compounds by LC/MS/MS



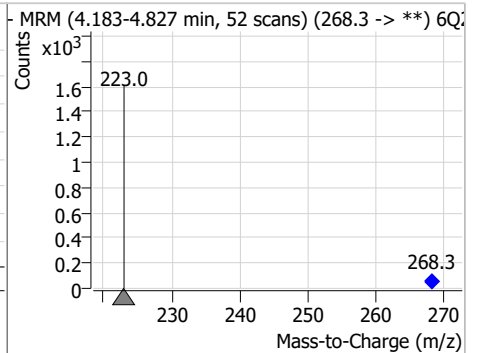
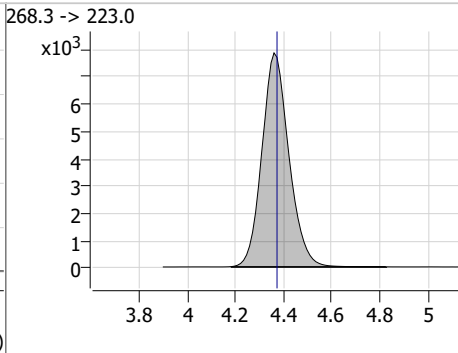
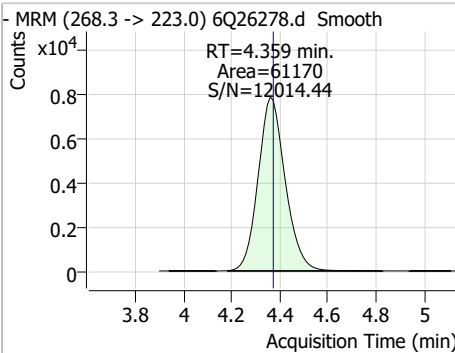
7.7.14
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Perfluorinated Compounds by LC/MS/MS

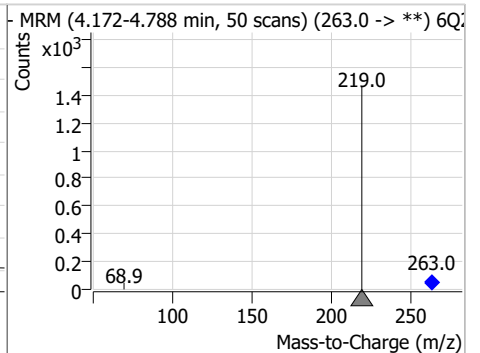
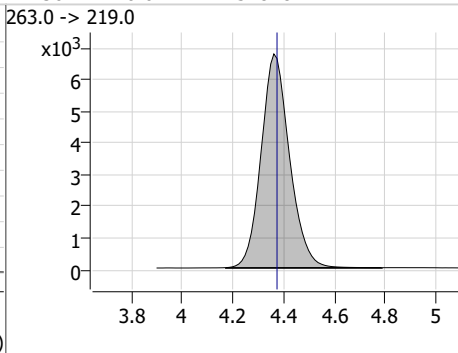
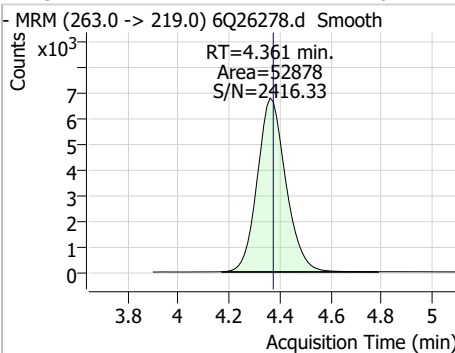
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
3:3FTCA	9.49	3.82	0.01	8873	241.0 -> 117.0	13.4	6.7	20.2



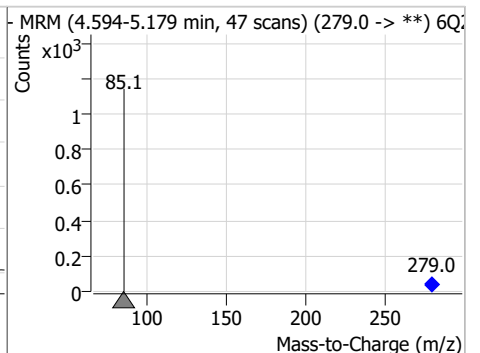
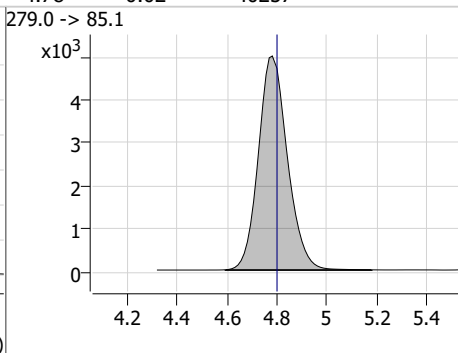
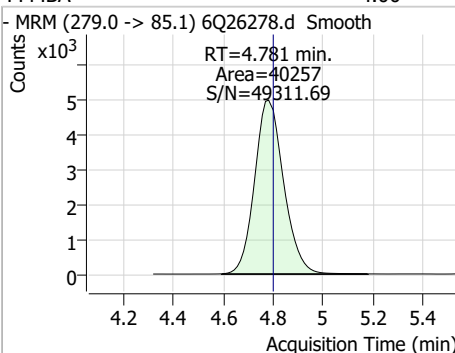
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFPeA	4.92	4.36	-0.01	61170				



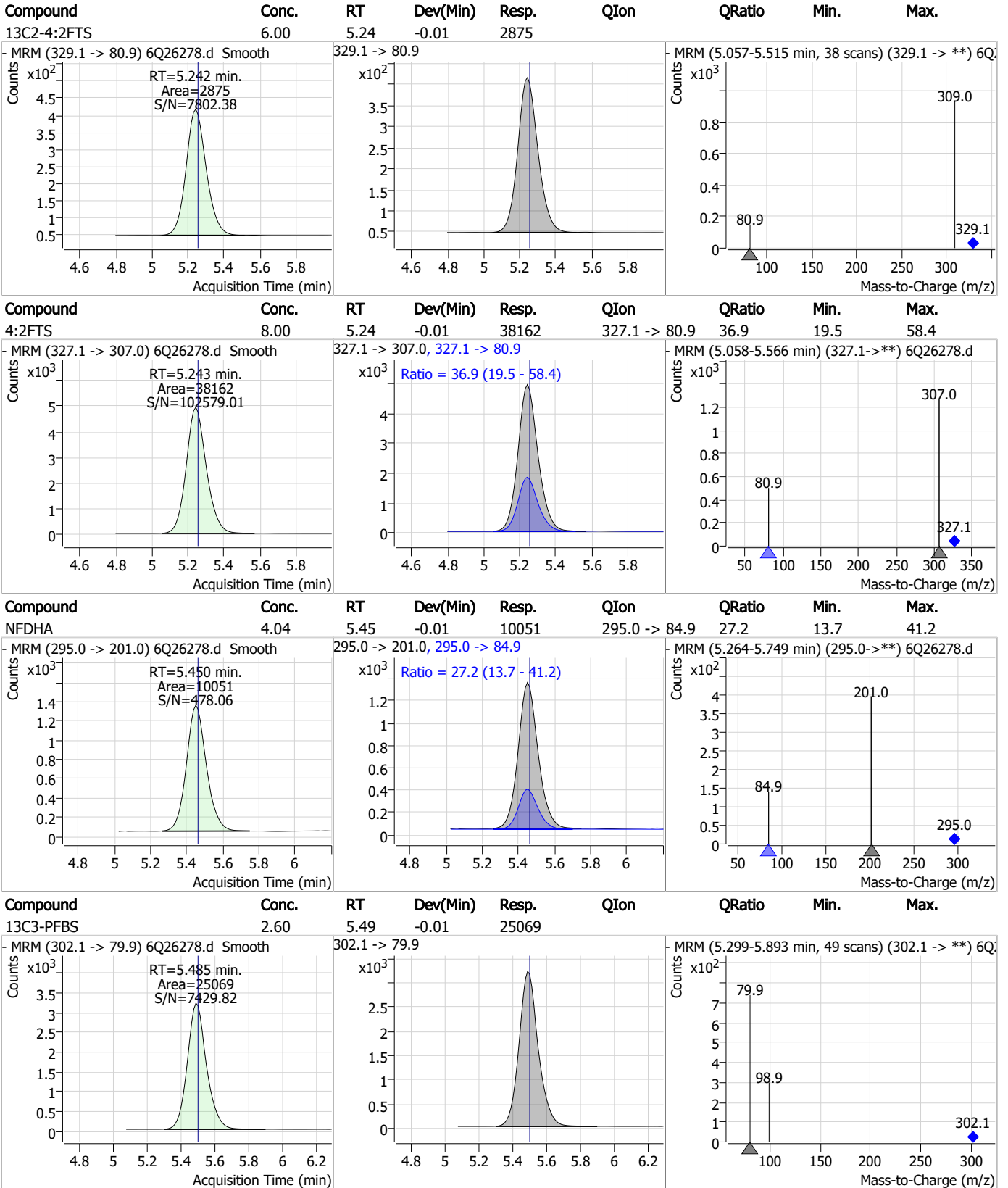
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeA	4.01	4.36	-0.01	52878				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFMBA	4.00	4.78	-0.02	40257				



Perfluorinated Compounds by LC/MS/MS

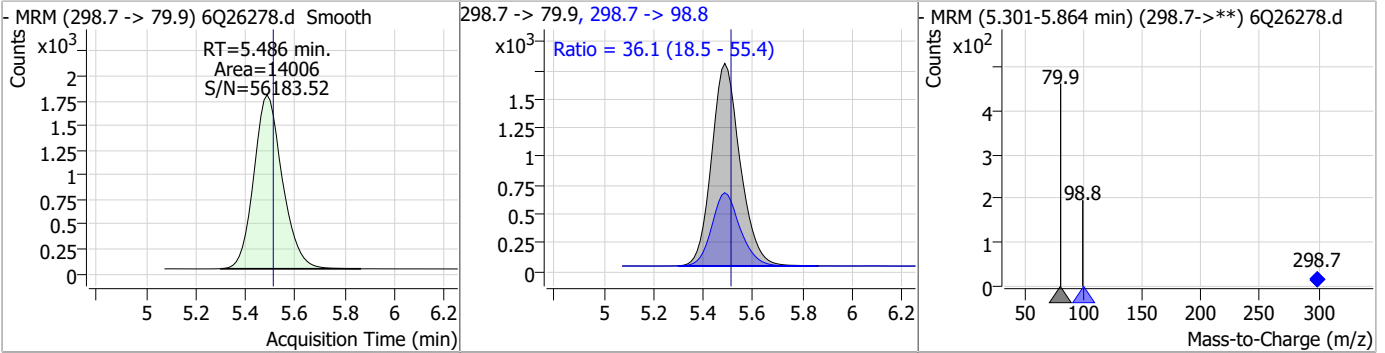


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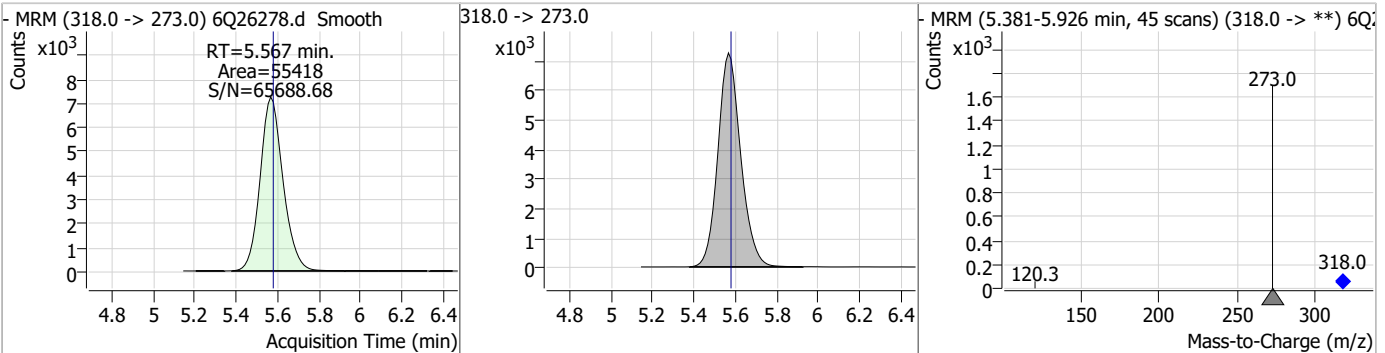


Perfluorinated Compounds by LC/MS/MS

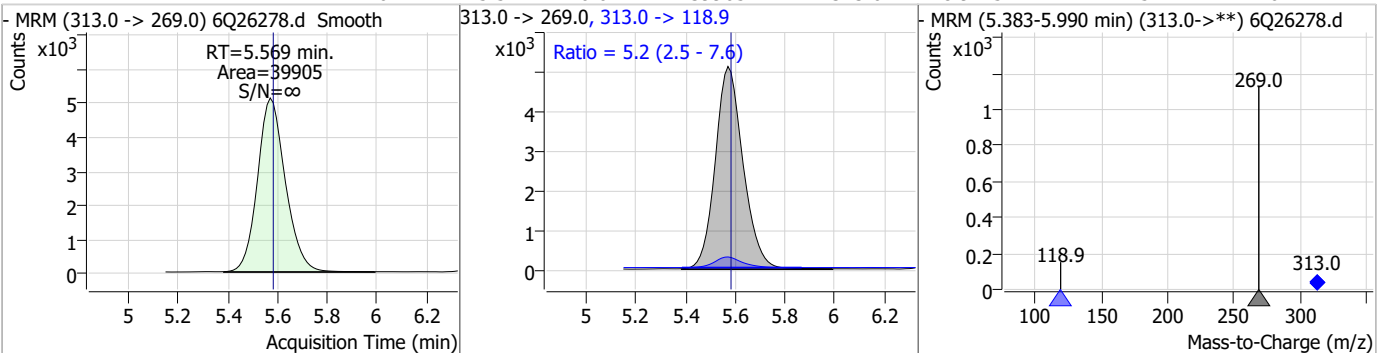
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBS	1.86	5.49	-0.02	14006	298.7 -> 98.8	36.1	18.5	55.4



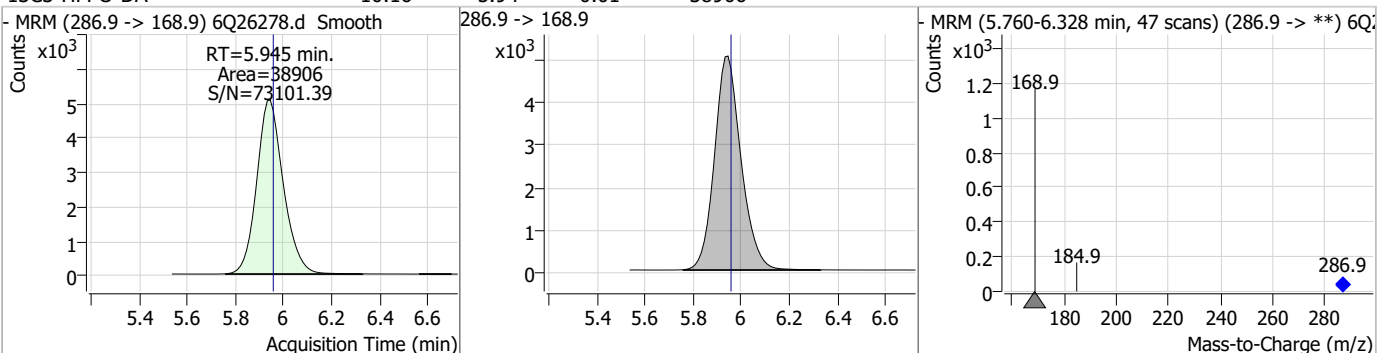
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFHxA	2.44	5.57	-0.01	55418				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxA	2.01	5.57	-0.01	39905	313.0 -> 118.9	5.2	2.5	7.6

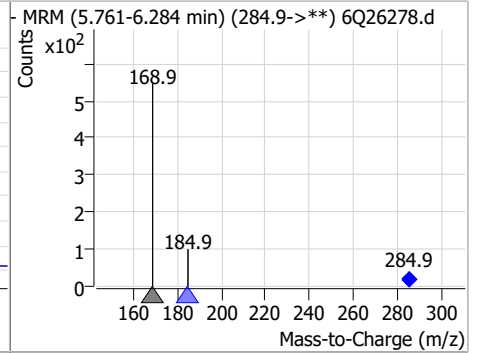
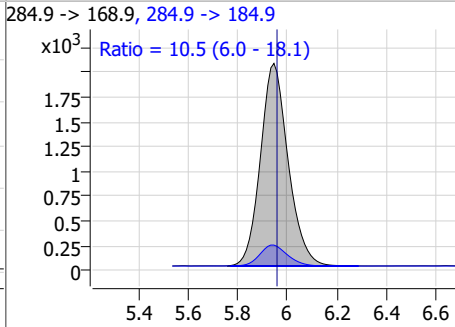
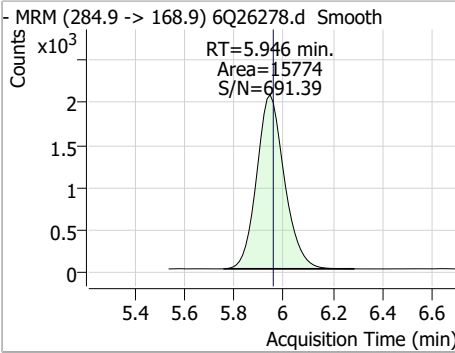


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-HFPO-DA	10.16	5.94	-0.01	38906				

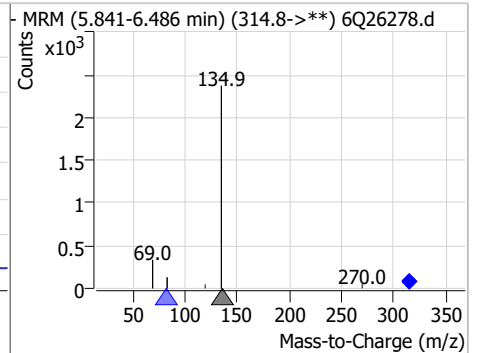
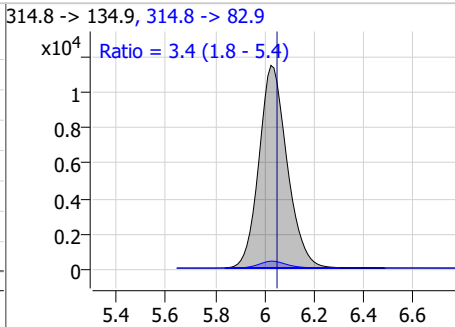
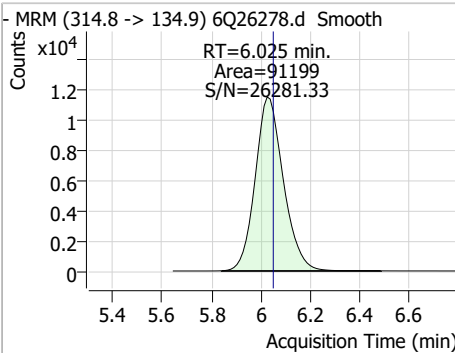


Perfluorinated Compounds by LC/MS/MS

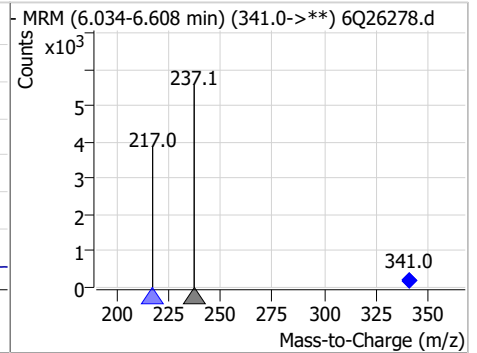
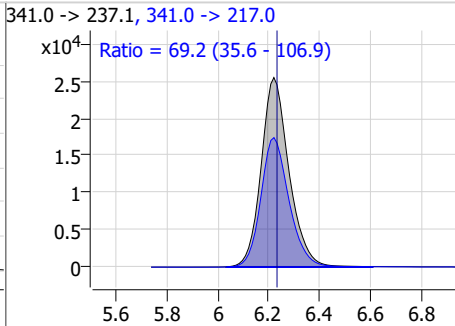
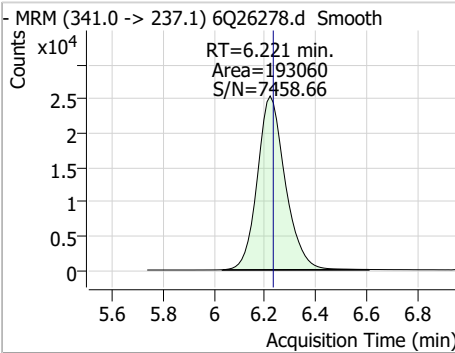
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
HFPO-DA	4.09	5.95	-0.01	15774	284.9 -> 184.9	10.5	6.0	18.1



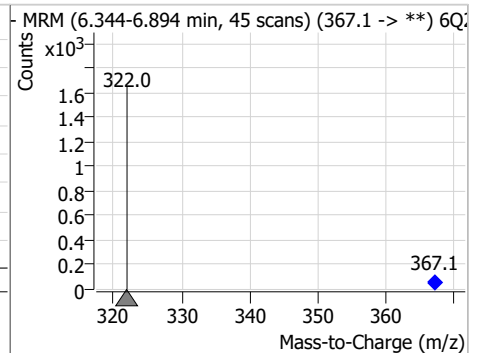
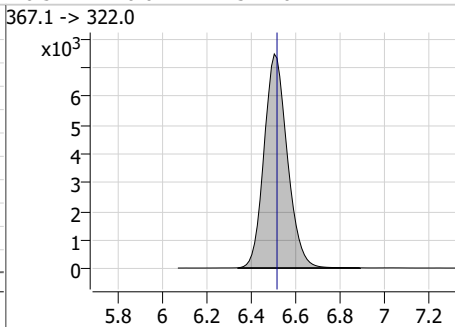
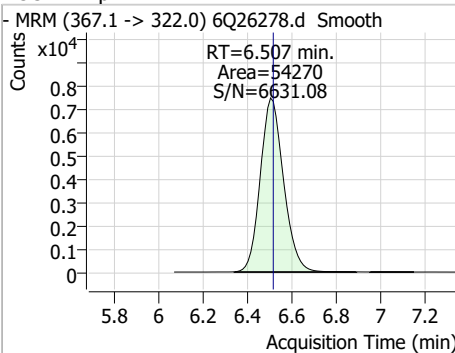
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFEESA	3.58	6.02	-0.02	91199	314.8 -> 82.9	3.4	1.8	5.4



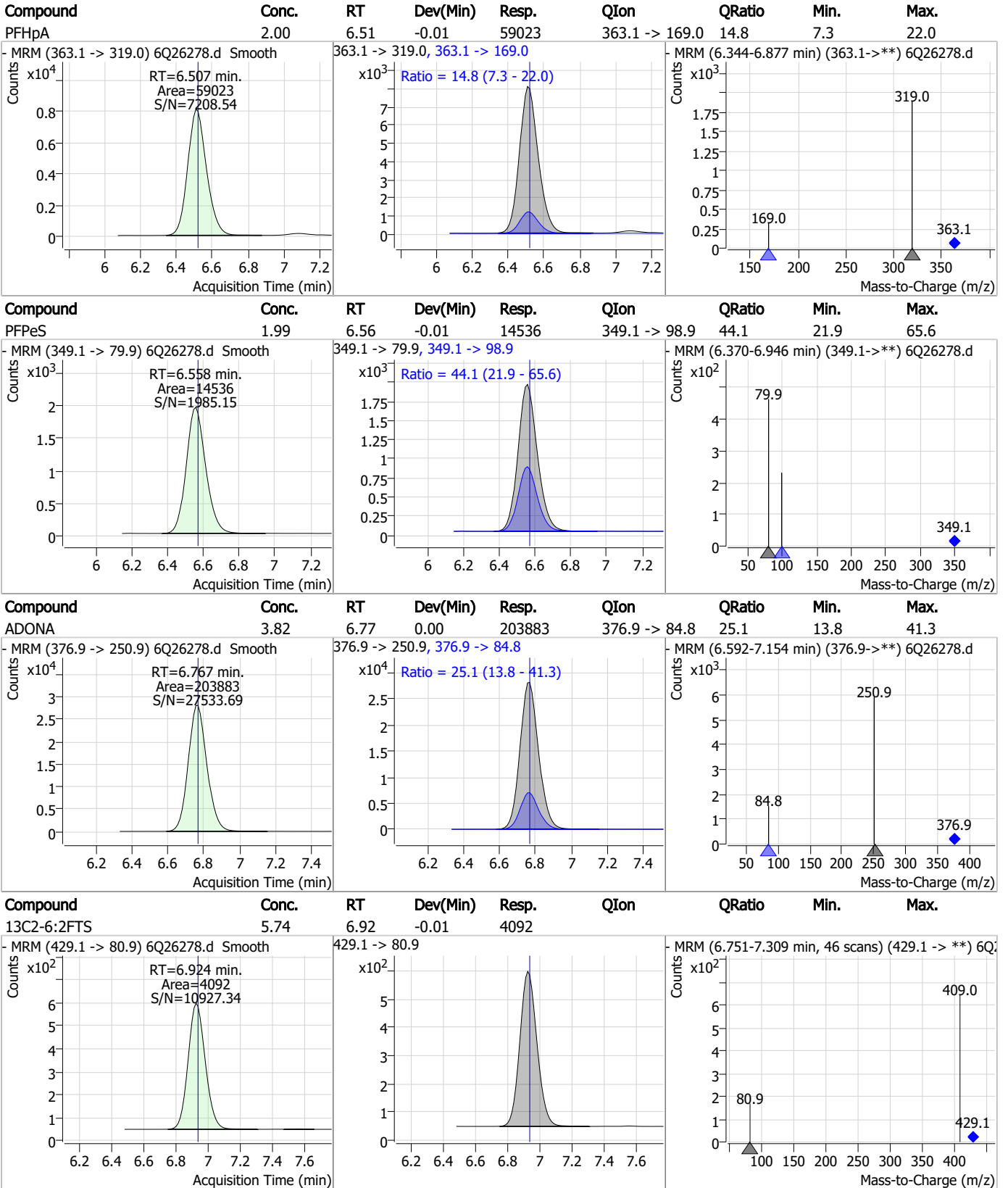
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
5:3FTCA	51.98	6.22	-0.01	193060	341.0 -> 217.0	69.2	35.6	106.9



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFHpA	2.44	6.51	-0.01	54270	367.1 -> 322.0			



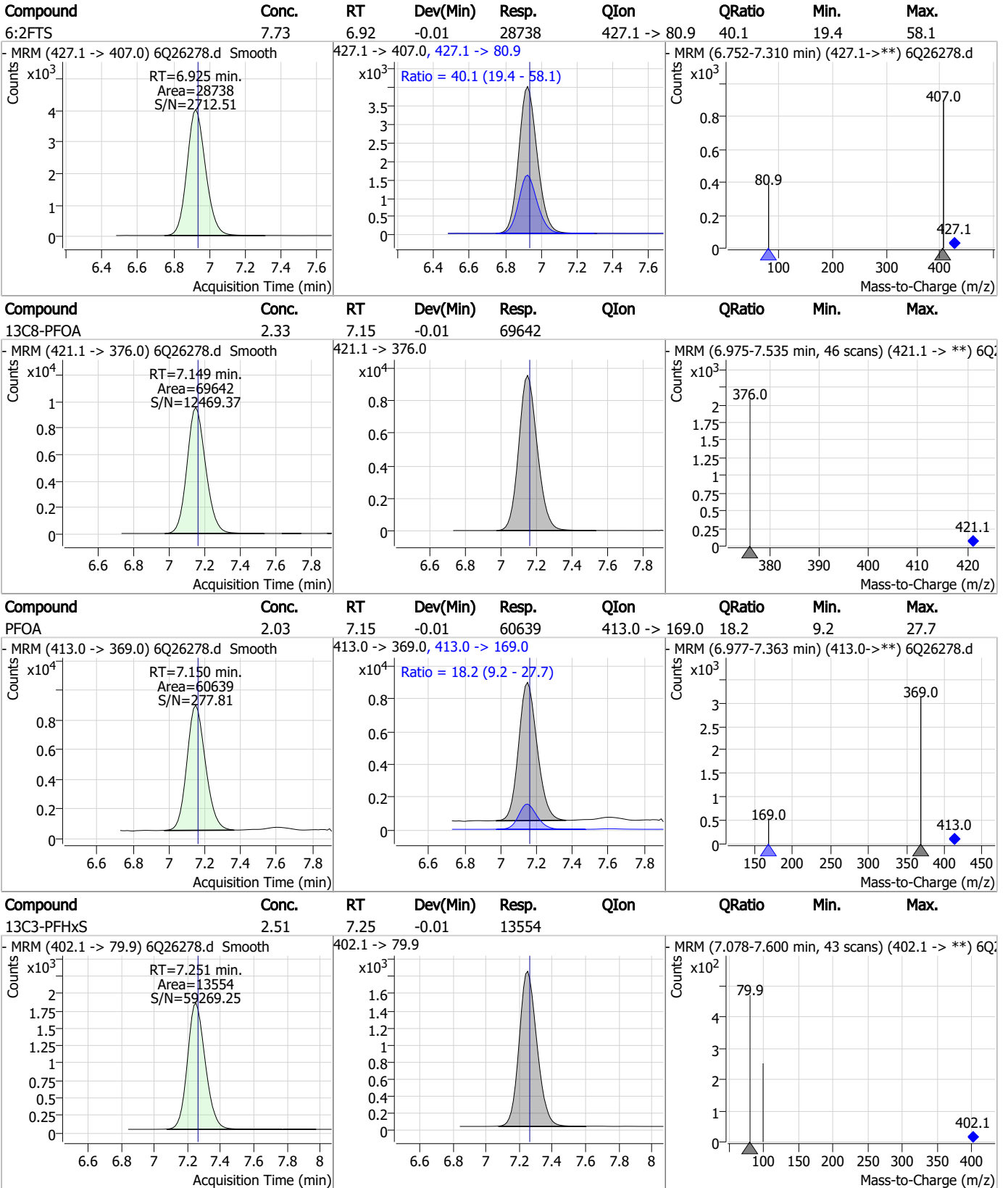
Perfluorinated Compounds by LC/MS/MS



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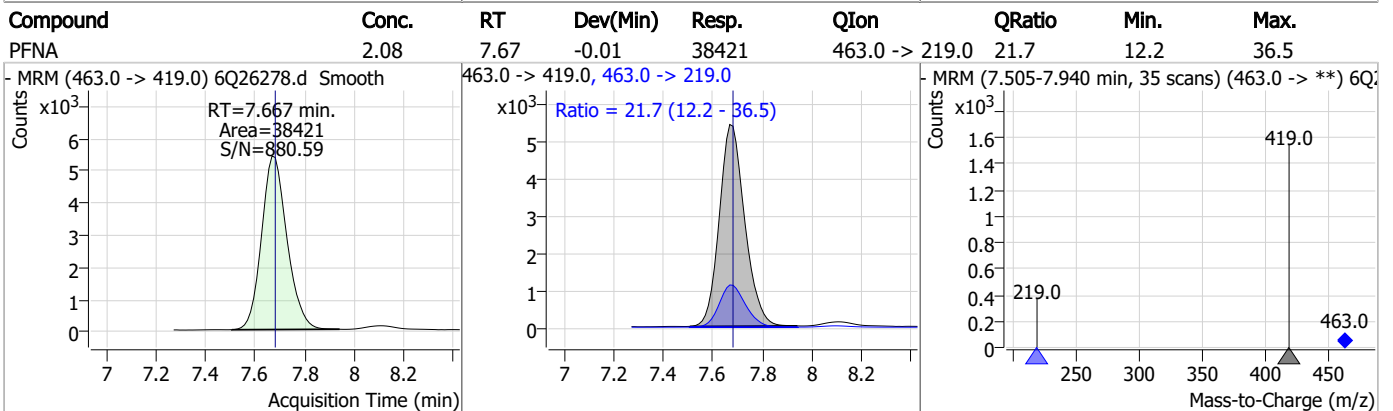
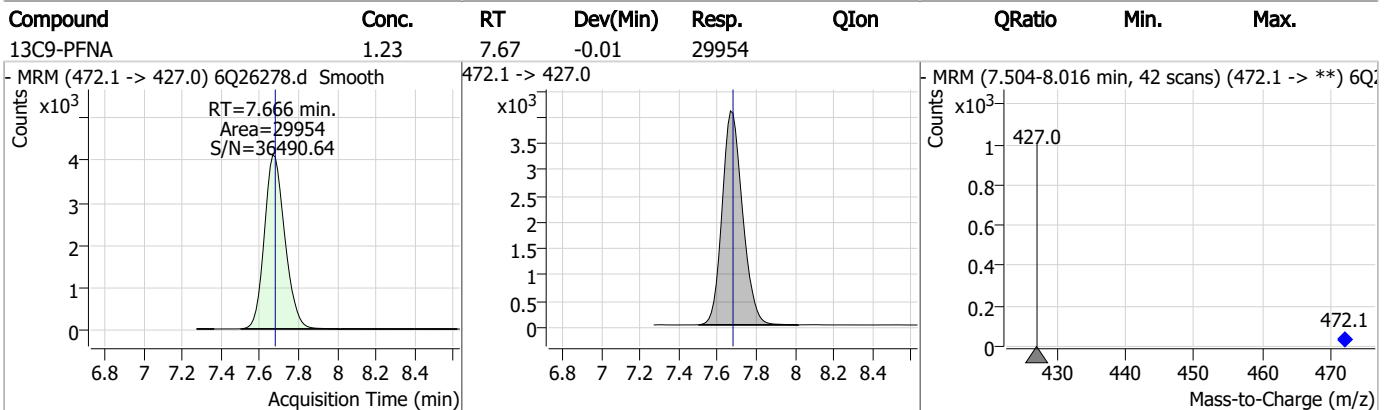
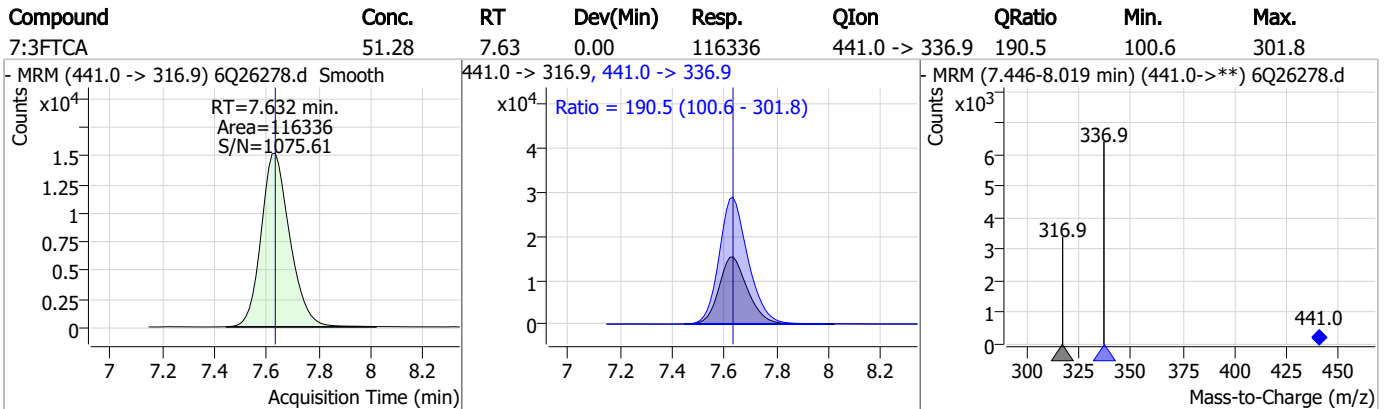
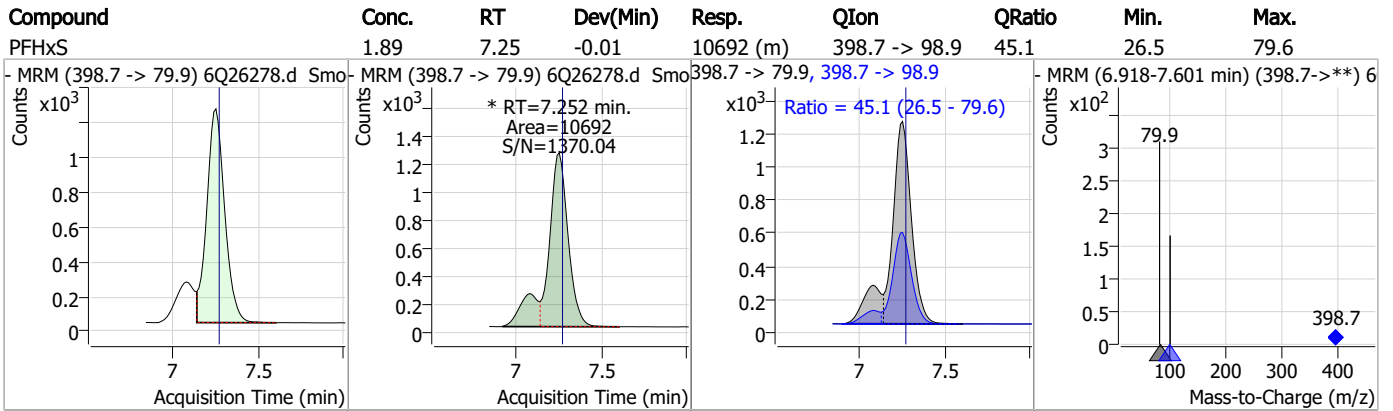
Perfluorinated Compounds by LC/MS/MS



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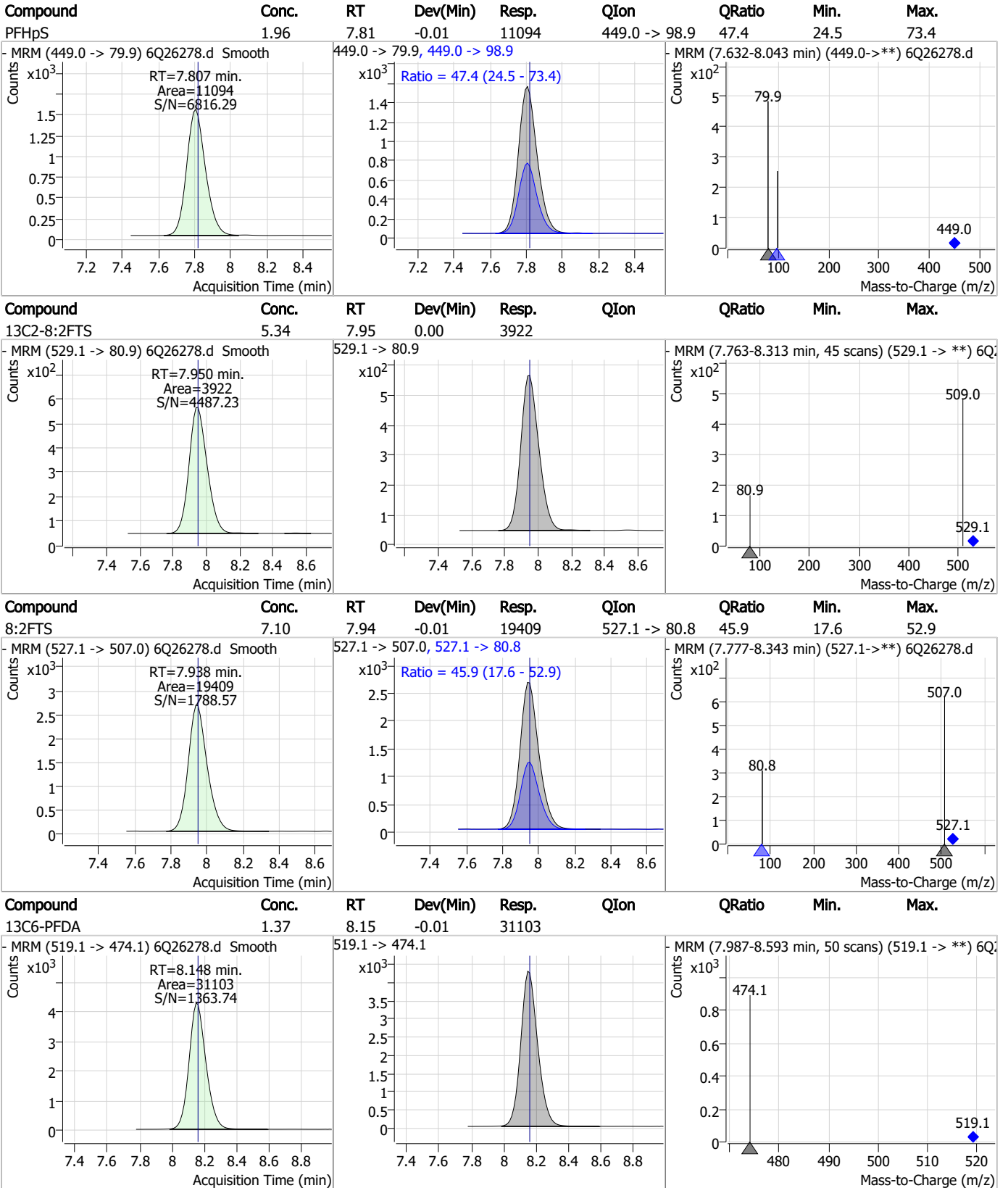


Perfluorinated Compounds by LC/MS/MS



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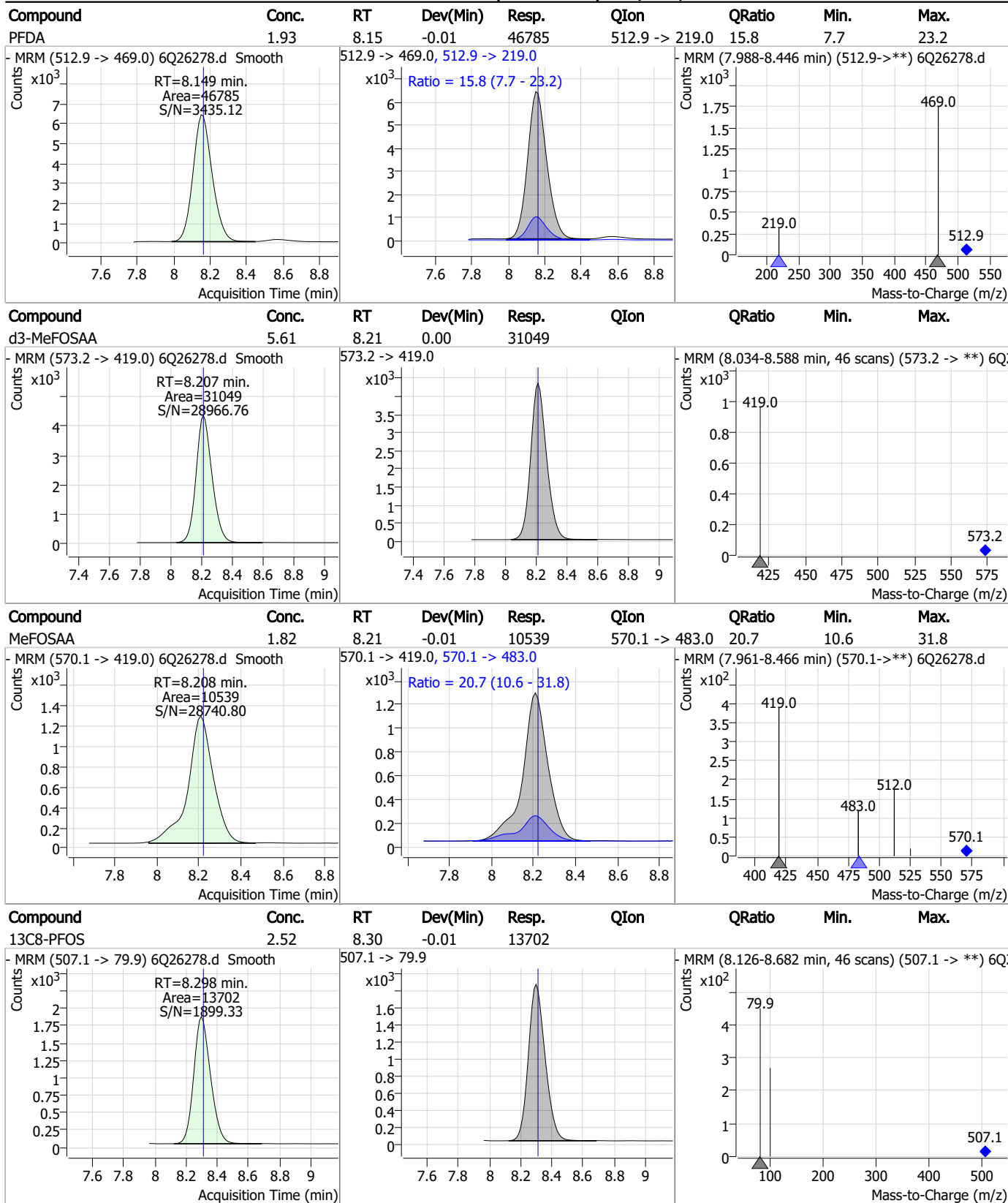
Perfluorinated Compounds by LC/MS/MS



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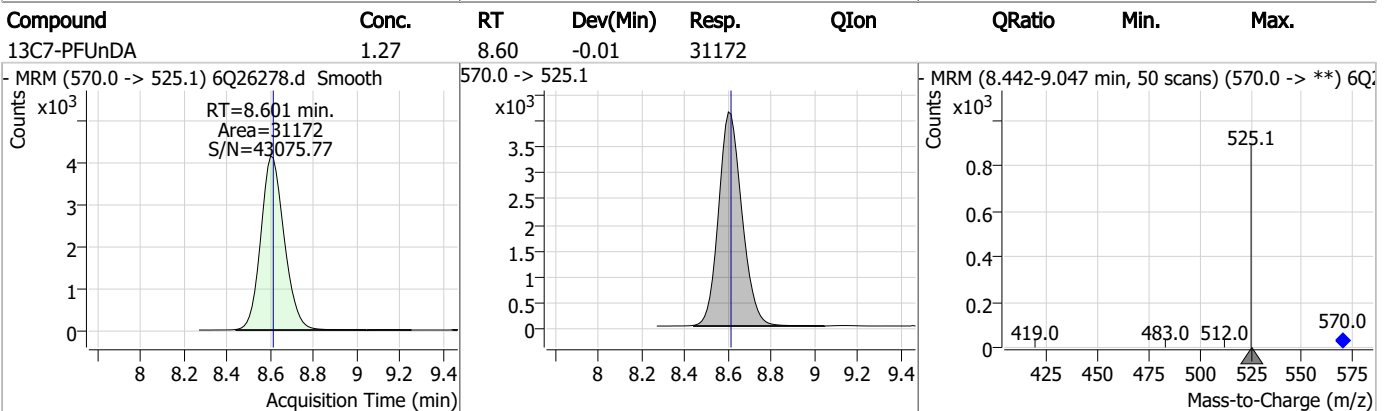
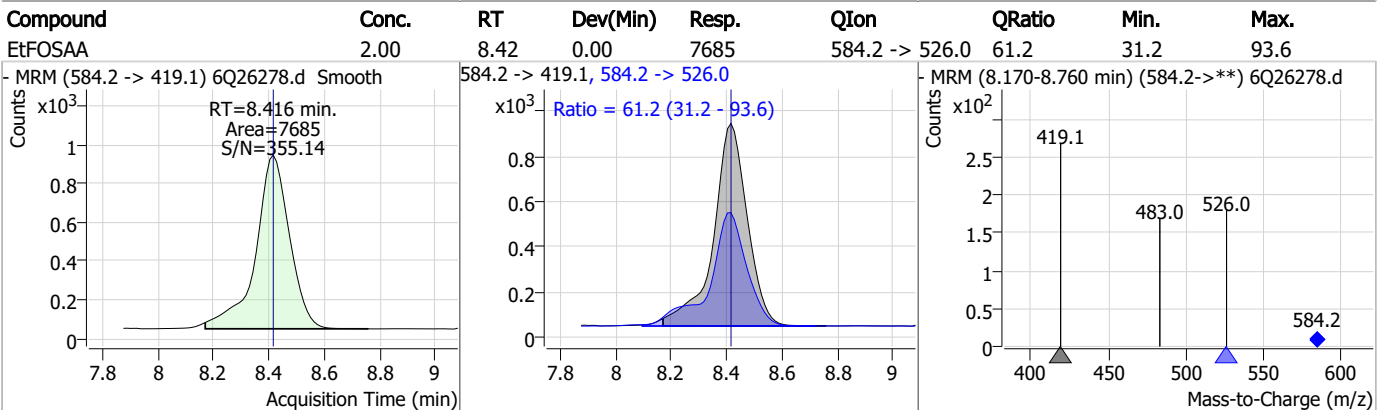
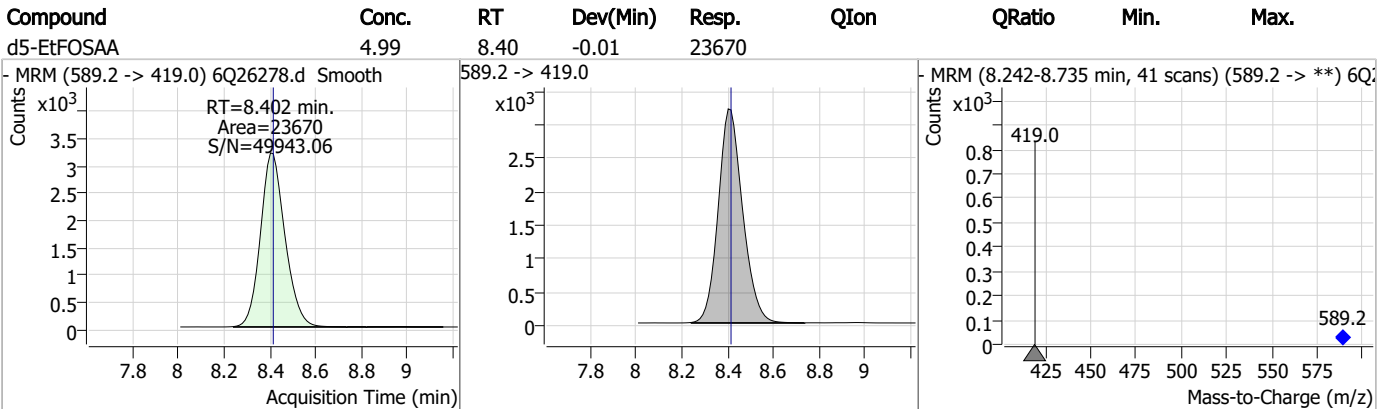
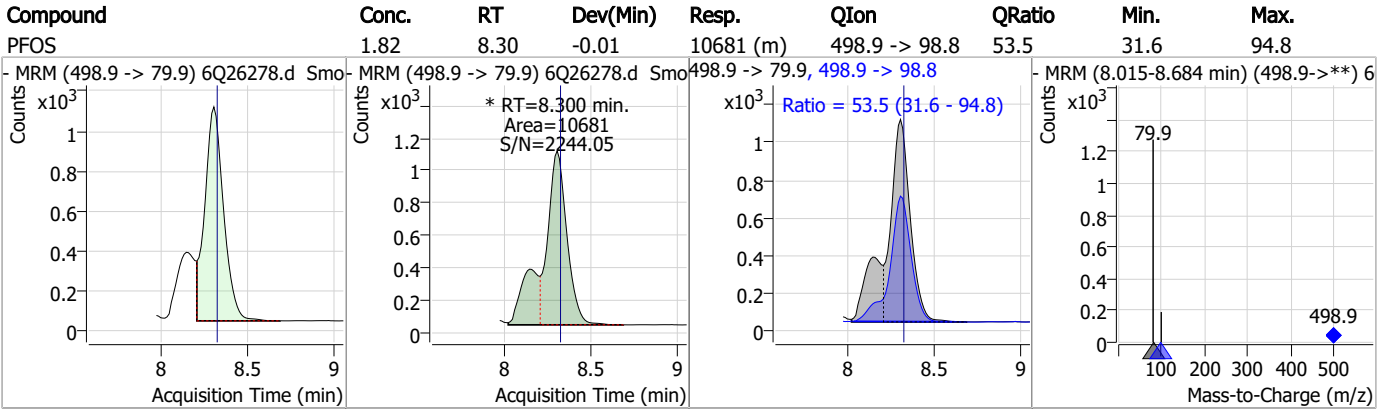


Perfluorinated Compounds by LC/MS/MS



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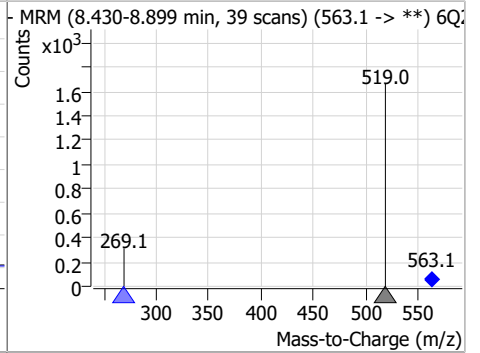
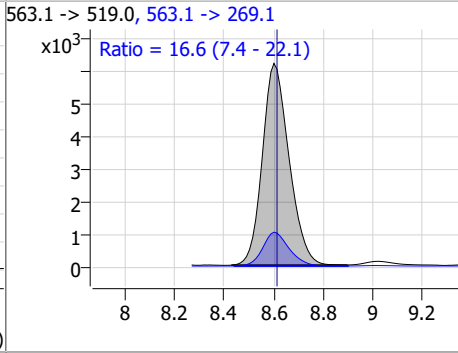
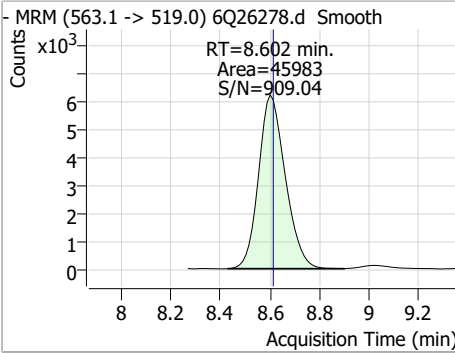
Perfluorinated Compounds by LC/MS/MS



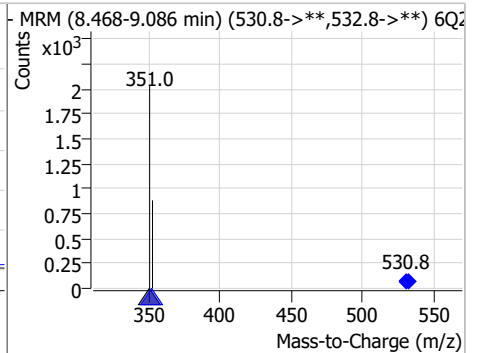
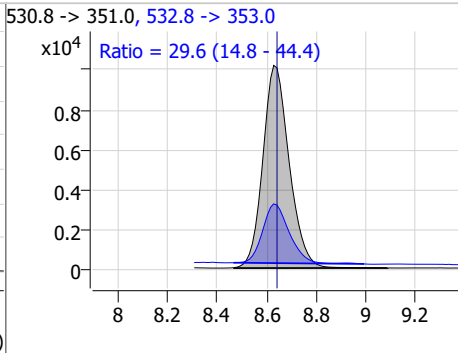
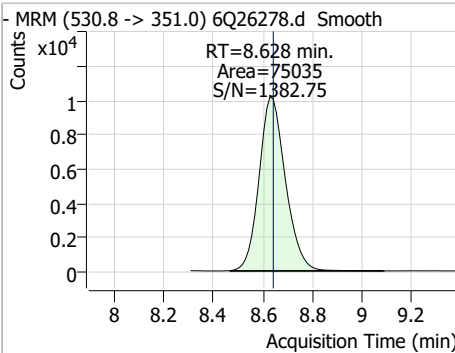
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Perfluorinated Compounds by LC/MS/MS

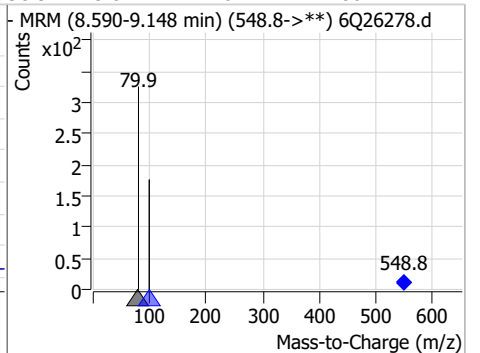
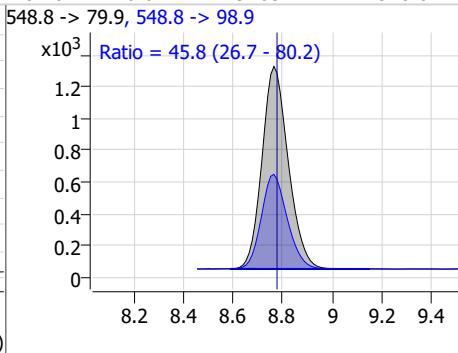
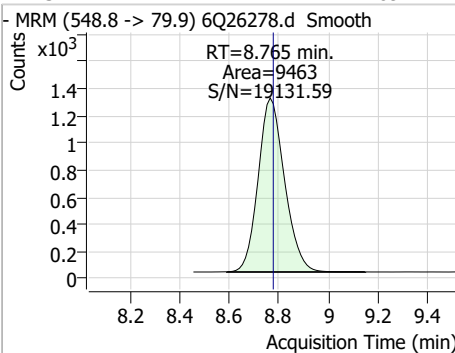
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFUnDA	2.09	8.60	-0.01	45983	563.1 -> 269.1	16.6	7.4	22.1



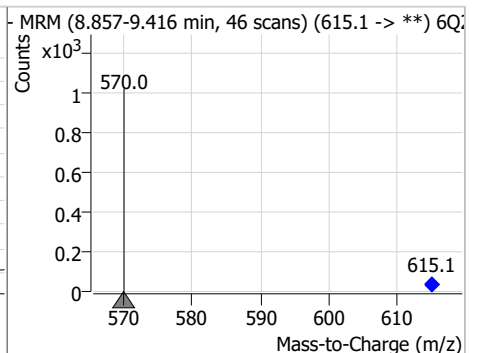
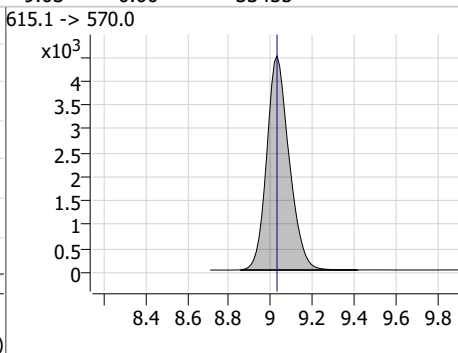
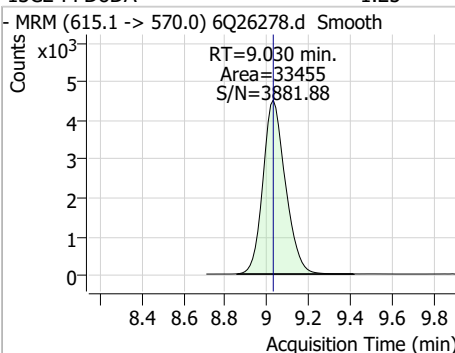
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
9CI-PF3ONS	3.66	8.63	-0.01	75035	532.8 -> 353.0	29.6	14.8	44.4



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNS	1.89	8.76	-0.01	9463	548.8 -> 98.9	45.8	26.7	80.2

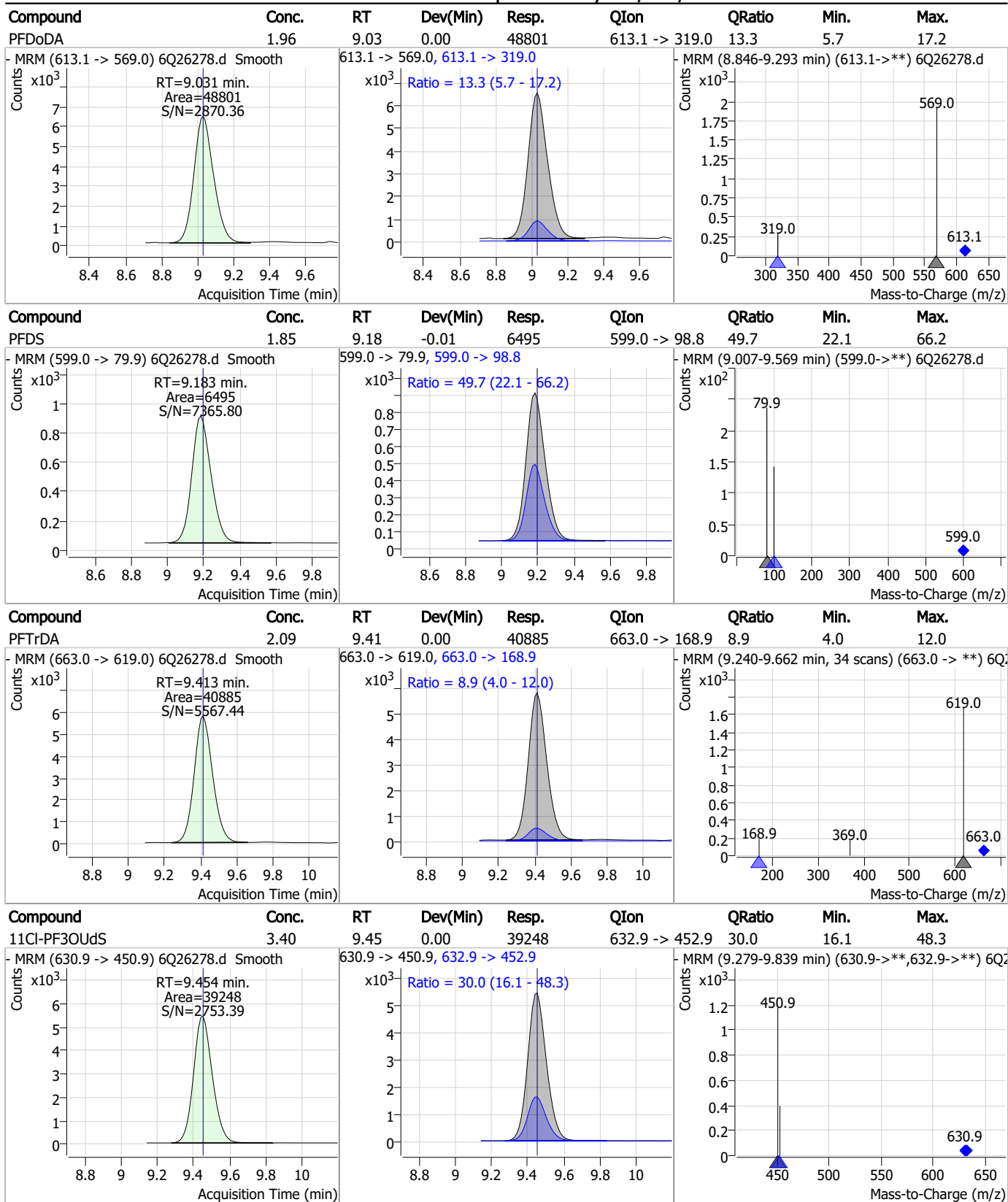


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFDoDA	1.25	9.03	0.00	33455	615.1 -> 570.0			



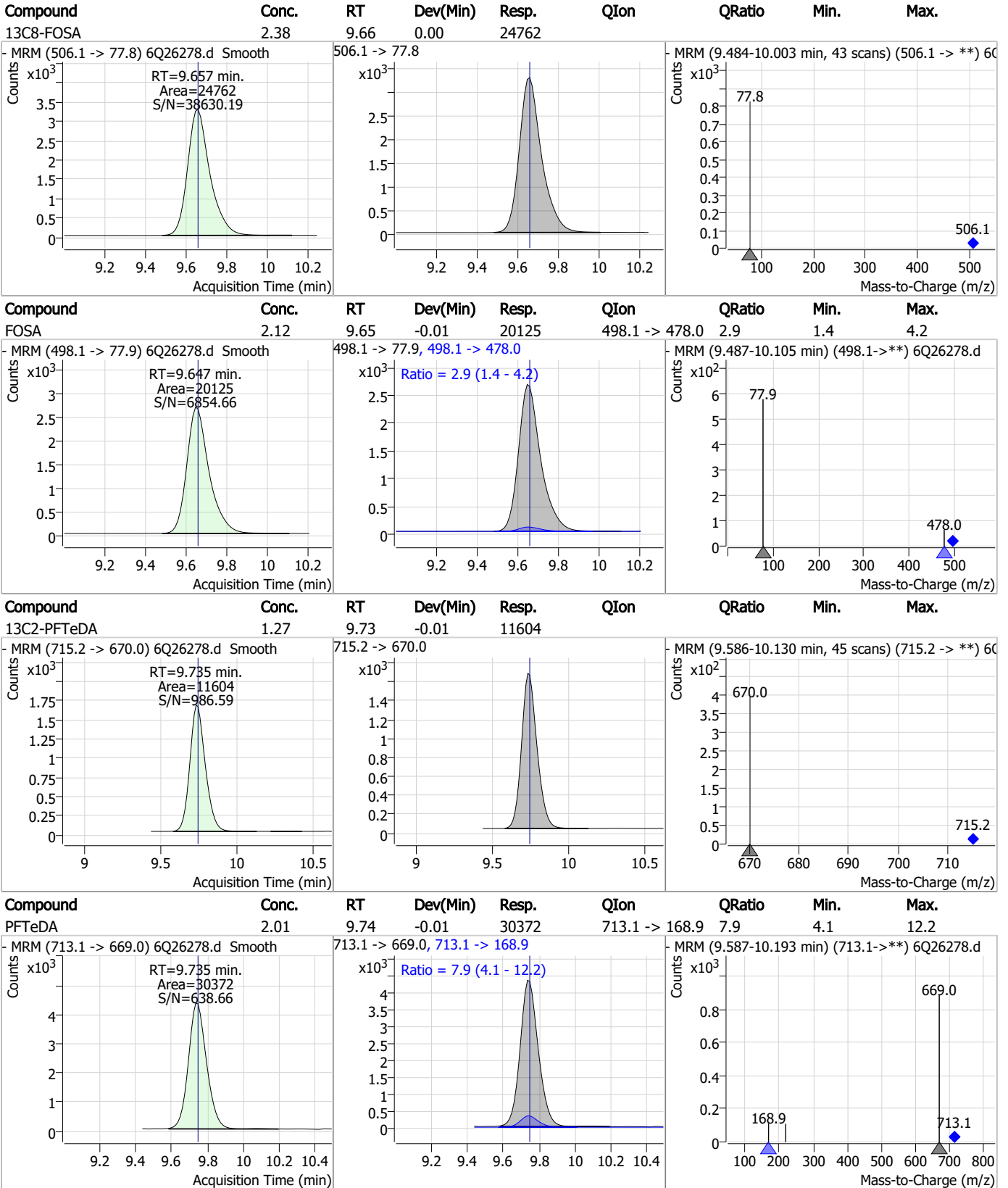
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Perfluorinated Compounds by LC/MS/MS



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Perfluorinated Compounds by LC/MS/MS



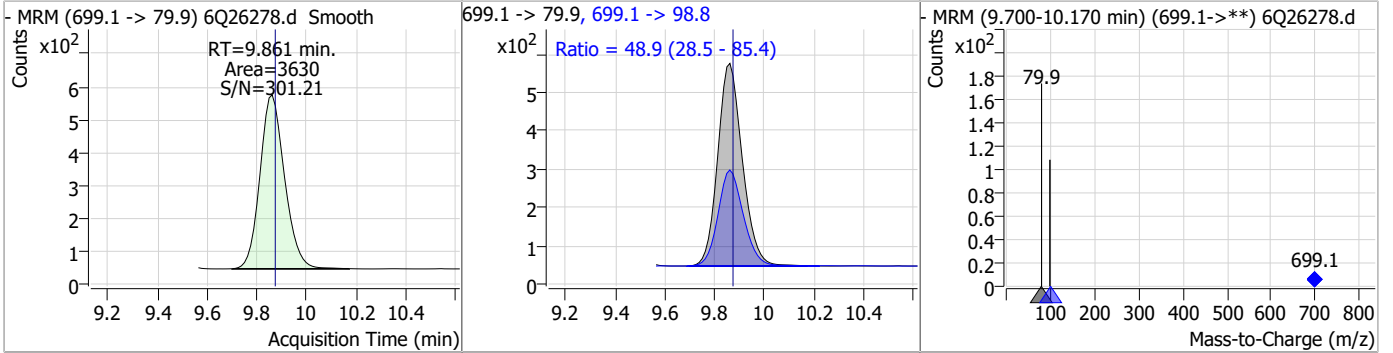
7.7.14

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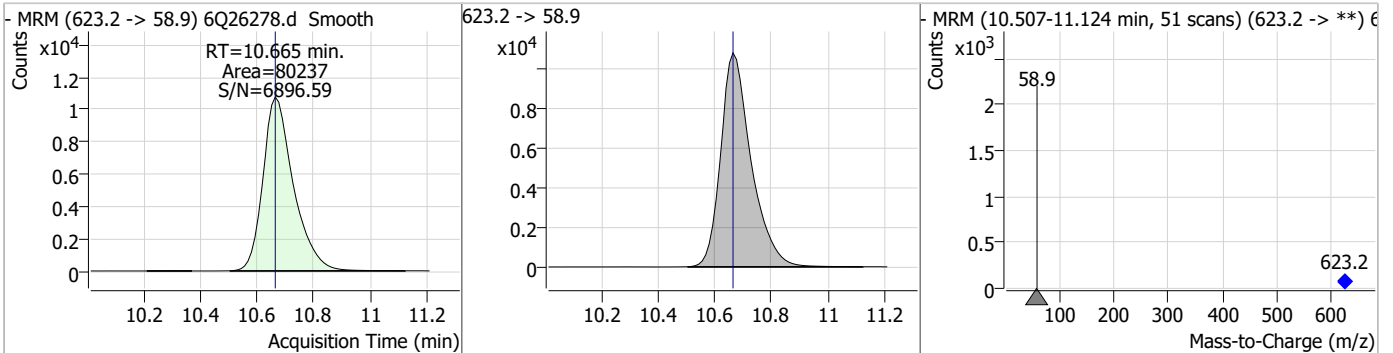


Perfluorinated Compounds by LC/MS/MS

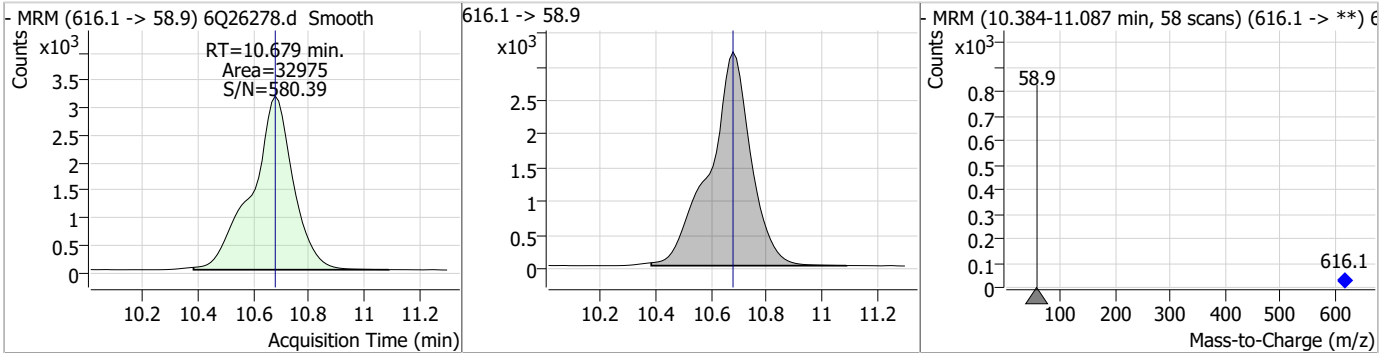
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoS	1.99	9.86	-0.01	3630	699.1 -> 98.8	48.9	28.5	85.4



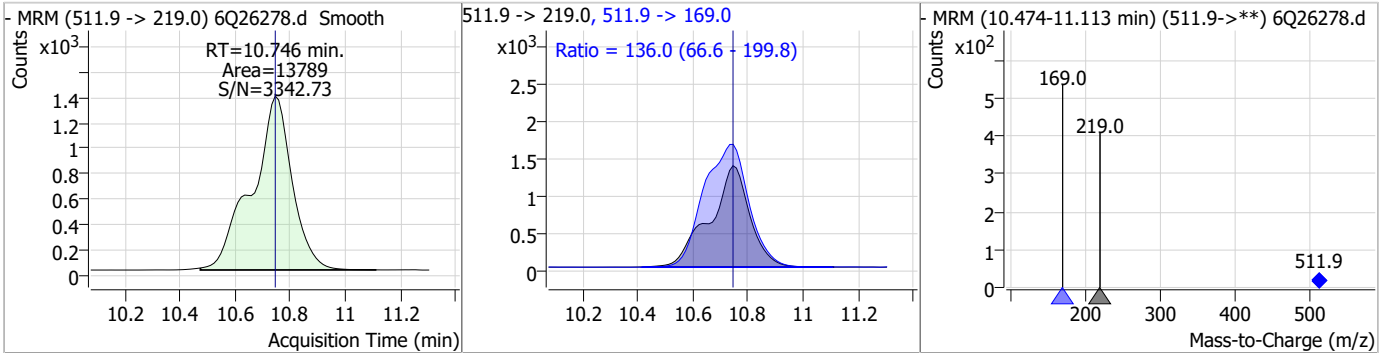
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d7-MeFOSE	23.94	10.67	0.00	80237				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSE	9.30	10.68	0.00	32975				

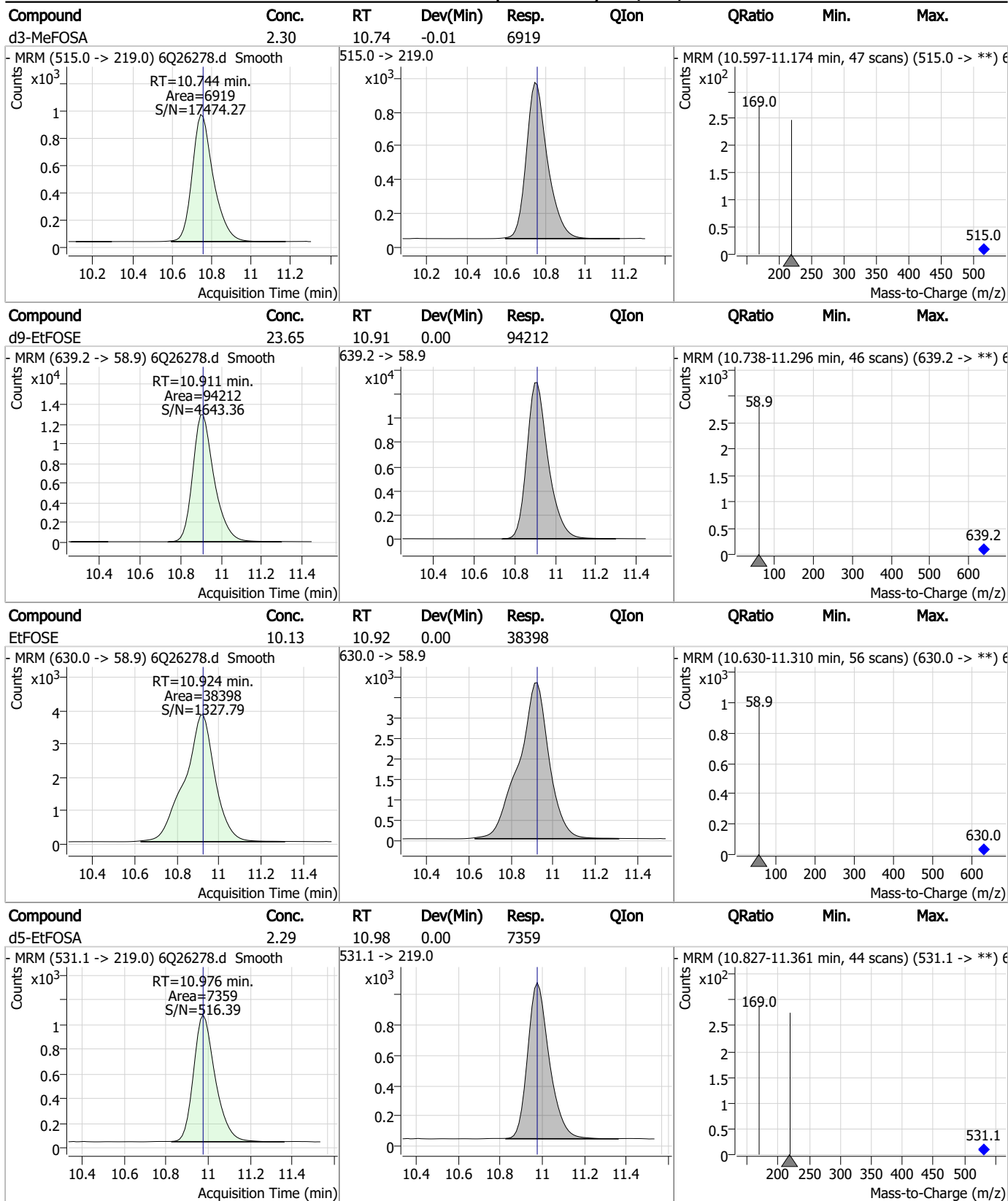


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSA	4.30	10.75	0.00	13789	511.9 -> 169.0	136.0	66.6	199.8



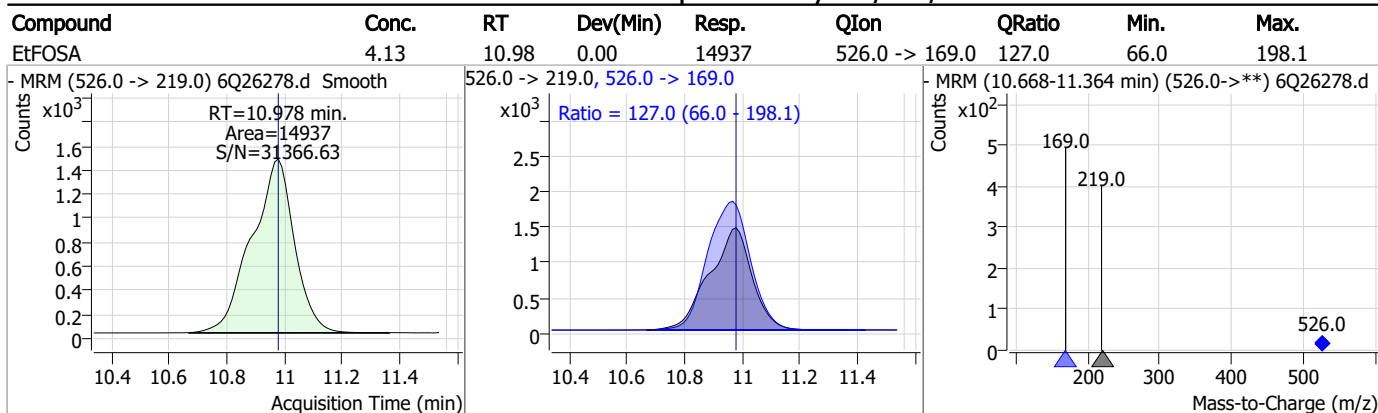
7.7.14
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Perfluorinated Compounds by LC/MS/MS



7.7.14

Perfluorinated Compounds by LC/MS/MS



7.7.14

7

Manual Integration Approval Summary

Sample Number: S6Q370-CC367 Method: EPA DRAFT 1633
Lab FileID: 6Q26278.D Analyst approved: 10/16/23 10:56 Martha Valls
Injection Time: 10/12/23 15:16 Supervisor approved: 10/16/23 17:48 Natasha Gumtie

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		7.25	Split peak
Perfluorooctanesulfonic acid	1763-23-1		8.30	Split peak

7.7.14.1

7

Perfluorinated Compounds by LC/MS/MS

Data File : 6Q26289.d
 Operator : marthav
 Acq. Method : 1633full.m
 Acq. Date-Time : 10/12/2023 5:56:59 PM
 Sample Name : cc367-4
 Vial : P1-A5
 DA Method File : 1633_100823_S6Q367.quantmethod.xml
 Batch Name : s6q370.batch.bin
 Sample Information : OP99081,S6Q370,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Internal Standards					
M4-PFBA	2.935	216.8 -> 171.9	173223	10.00 µg/L	-0.013
M5-PFPeA	4.359	268.3 -> 223.0	62923	5.00 µg/L	-0.012
M5-PFHxA	5.567	318.0 -> 273.0	56457	2.50 µg/L	-0.012
M4-PFHpA	6.507	367.1 -> 322.0	56215	2.50 µg/L	-0.012
M8-PFOA	7.149	421.1 -> 376.0	70598	2.50 µg/L	-0.012
M9-PFNA	7.666	472.1 -> 427.0	30491	1.25 µg/L	-0.013
M6-PFDA	8.148	519.1 -> 474.1	30596	1.25 µg/L	-0.012
M7-PFUnDA	8.601	570.0 -> 525.1	32407	1.25 µg/L	-0.012
M2-PFDoDA	9.030	615.1 -> 570.0	33320	1.25 µg/L	0.000
M2-PFTeDA	9.735	715.2 -> 670.0	11223	1.25 µg/L	-0.012
M8-FOSA	9.645	506.1 -> 77.8	25776	2.50 µg/L	-0.012
M3-PFBS	5.485	302.1 -> 79.9	24980	2.50 µg/L	-0.012
M3-PFHxS	7.251	402.1 -> 79.9	14239	2.50 µg/L	-0.012
M8-PFOS	8.298	507.1 -> 79.9	13063	2.50 µg/L	-0.013
M2-4:2FTS	5.242	329.1 -> 80.9	2834	5.00 µg/L	-0.012
M2-6:2FTS	6.924	429.1 -> 80.9	4240	5.00 µg/L	-0.012
M2-8:2FTS	7.937	529.1 -> 80.9	4184	5.00 µg/L	-0.012
M3-MeFOSAA	8.207	573.2 -> 419.0	28933	5.00 µg/L	0.000
M3-HFPO-DA	5.945	286.9 -> 168.9	38658	10.00 µg/L	-0.012
M5-EtFOSAA	8.402	589.2 -> 419.0	23621	5.00 µg/L	-0.012
M7-MeFOSE	10.665	623.2 -> 58.9	77883	25.00 µg/L	0.000
M9-EtFOSE	10.911	639.2 -> 58.9	91416	25.00 µg/L	0.000
M5-EtFOSA	10.976	531.1 -> 219.0	7380	2.50 µg/L	0.000
M3-MeFOSA	10.757	515.0 -> 219.0	6820	2.50 µg/L	0.000
13C4-PFOS	8.299	502.8 -> 79.9	12564	2.50 µg/L	-0.013
13C3-PFBA	2.939	216.0 -> 172.0	73164	5.00 µg/L	-0.013
18O2-PFHxS	7.250	403.0 -> 83.9	8607	2.50 µg/L	-0.012
13C4-PFOA	7.150	417.1 -> 372.0	82511	2.50 µg/L	-0.012
13C2-PFDA	8.149	515.1 -> 470.1	28746	1.25 µg/L	-0.012
13C5-PFNA	7.667	468.0 -> 423.0	28465	1.25 µg/L	-0.013
13C2-PFHxA	5.568	315.1 -> 270.0	55367	2.50 µg/L	-0.012
System Monitoring Compounds					
13C2-4:2FTS	5.242	329.1 -> 80.9	2834	5.84 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 116.9%		
13C2-6:2FTS	6.924	429.1 -> 80.9	4240	5.88 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 117.6%		
13C2-8:2FTS	7.937	529.1 -> 80.9	4184	5.63 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 112.7%		
13C2-PFDoDA	9.030	615.1 -> 570.0	33320	1.16 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 93.0%		
13C2-PFTeDA	9.735	715.2 -> 670.0	11223	1.16 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 92.4%		
13C3-PFBS	5.485	302.1 -> 79.9	24980	2.56 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 102.5%		
13C3-PFHxS	7.251	402.1 -> 79.9	14239	2.60 µg/L	-0.012

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Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 104.1%	
13C4-PFBA	2.935	216.8 -> 171.9	173223	9.81 µg/L	-0.013
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 98.1%	
13C4-PFHpA	6.507	367.1 -> 322.0	56215	2.51 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 100.4%	
13C5-PFHxA	5.567	318.0 -> 273.0	56457	2.47 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 98.6%	
13C5-PFPeA	4.359	268.3 -> 223.0	62923	5.02 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 100.4%	
13C6-PFDA	8.148	519.1 -> 474.1	30596	1.26 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 101.1%	
13C7-PFUnDA	8.601	570.0 -> 525.1	32407	1.24 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 99.1%	
13C8-FOSA	9.645	506.1 -> 77.8	25776	2.49 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 99.4%	
13C8-PFOA	7.149	421.1 -> 376.0	70598	2.47 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 98.7%	
13C8-PFOS	8.298	507.1 -> 79.9	13063	2.41 µg/L	-0.013
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 96.3%	
13C9-PFNA	7.666	472.1 -> 427.0	30491	1.30 µg/L	-0.013
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 104.2%	
d3-MeFOSAA	8.207	573.2 -> 419.0	28933	5.24 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 104.7%	
13C3-HFPO-DA	5.945	286.9 -> 168.9	38658	10.01 µg/L	-0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 100.1%	
d3-MeFOSA	10.757	515.0 -> 219.0	6820	2.27 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 90.7%	
d5-EtFOSAA	8.402	589.2 -> 419.0	23621	4.99 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 99.8%	
d7-MeFOSE	10.665	623.2 -> 58.9	77883	23.27 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 93.1%	
d9-EtFOSE	10.911	639.2 -> 58.9	91416	22.98 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 91.9%	
d5-EtFOSA	10.976	531.1 -> 219.0	7380	2.30 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 91.8%	
Target Compounds					QValue
4:2FTS	5.243	327.1 -> 307.0	36562	7.78 µg/L	99
		327.1 -> 80.9	14400		
6:2FTS	6.925	427.1 -> 407.0	29018	7.53 µg/L	100
		427.1 -> 80.9	11264		
8:2FTS	7.950	527.1 -> 507.0	21442	7.36 µg/L	93
		527.1 -> 80.8	8442		
EtFOSAA	8.403	584.2 -> 419.1	8624	2.25 µg/L	91
		584.2 -> 526.0	4804		
FOSA	9.647	498.1 -> 77.9	19518	1.98 µg/L	100
		498.1 -> 478.0	538		
MeFOSAA	8.208	570.1 -> 419.0	10778	1.99 µg/L	100
		570.1 -> 483.0	2294		
PFBA	2.943	212.8 -> 168.9	53445	8.28 µg/L	100
PFBS	5.486	298.7 -> 79.9	13606	1.82 µg/L	100
		298.7 -> 98.8	5000		
PFDA	8.149	512.9 -> 469.0	47889	2.00 µg/L	97
		512.9 -> 219.0	8018		
PFDODA	9.031	613.1 -> 569.0	52473	2.12 µg/L	98
		613.1 -> 319.0	6410		
PFDS	9.183	599.0 -> 79.9	6504	1.95 µg/L	95

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Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
		599.0 -> 98.8	3062			
PFHpA	6.507	363.1 -> 319.0	58939	1.93	µg/L	99
		363.1 -> 169.0	8867			
PFHpS	7.807	449.0 -> 79.9	10880	2.02	µg/L	98
		449.0 -> 98.9	5483			
PFHxA	5.569	313.0 -> 269.0	41489	2.06	µg/L	100
		313.0 -> 118.9	2075			
PFHxS	7.252	398.7 -> 79.9	10561	1.77	µg/L	m 87
		398.7 -> 98.9	4650			
PFNA	7.667	463.0 -> 419.0	38144	2.03	µg/L	97
		463.0 -> 219.0	8749			
PFNS	8.765	548.8 -> 79.9	9683	2.03	µg/L	94
		548.8 -> 98.9	4739			
PFOA	7.150	413.0 -> 369.0	63243	2.09	µg/L	96
		413.0 -> 169.0	10506			
PFOS	8.300	498.9 -> 79.9	10858	1.95	µg/L	m 86
		498.9 -> 98.8	5669			
PFPeA	4.361	263.0 -> 219.0	53184	3.92	µg/L	100
PFPeS	6.558	349.1 -> 79.9	14856	1.93	µg/L	100
		349.1 -> 98.9	6531			
PFTeDA	9.735	713.1 -> 669.0	29808	2.04	µg/L	100
		713.1 -> 168.9	2437			
PFTrDA	9.401	663.0 -> 619.0	43077	2.21	µg/L	100
		663.0 -> 168.9	3519			
PFUnDA	8.602	563.1 -> 519.0	46081	2.02	µg/L	97
		563.1 -> 269.1	7325			
11CI-PF3OUdS	9.442	630.9 -> 450.9	41214	3.59	µg/L	98
		632.9 -> 452.9	12715			
9CI-PF3ONS	8.628	530.8 -> 351.0	74784	3.67	µg/L	97
		532.8 -> 353.0	23366			
ADONA	6.755	376.9 -> 250.9	191253	3.60	µg/L	99
		376.9 -> 84.8	53602			
HFPO-DA	5.946	284.9 -> 168.9	14716	3.84	µg/L	99
		284.9 -> 184.9	1708			
3:3FTCA	3.796	241.0 -> 177.0	9001	9.68	µg/L	99
		241.0 -> 117.0	1189			
5:3FTCA	6.221	341.0 -> 237.1	178860	47.27	µg/L	87
		341.0 -> 217.0	146385			
7:3FTCA	7.620	441.0 -> 316.9	117950	51.04	µg/L	100
		441.0 -> 336.9	238079			
EtFOSA	10.978	526.0 -> 219.0	14411	3.98	µg/L	97
		526.0 -> 169.0	19494			
EtFOSE	10.912	630.0 -> 58.9	38570	10.49	µg/L	100
MeFOSA	10.746	511.9 -> 219.0	13871	4.39	µg/L	99
		511.9 -> 169.0	18236			
MeFOSE	10.679	616.1 -> 58.9	33558	9.75	µg/L	100
PFDoDS	9.861	699.1 -> 79.9	3486	2.01	µg/L	96
		699.1 -> 98.8	1882			
NFDHA	5.450	295.0 -> 201.0	10208	4.03	µg/L	98
		295.0 -> 84.9	2690			
PFMBA	4.769	279.0 -> 85.1	40295	3.90	µg/L	100
PFMPA	3.488	229.0 -> 84.9	33025	3.87	µg/L	100
PFEESA	6.025	314.8 -> 134.9	91557	3.53	µg/L	100
		314.8 -> 82.9	3245			

= Qualifier out of range, m = manually integrated, + = Area summed



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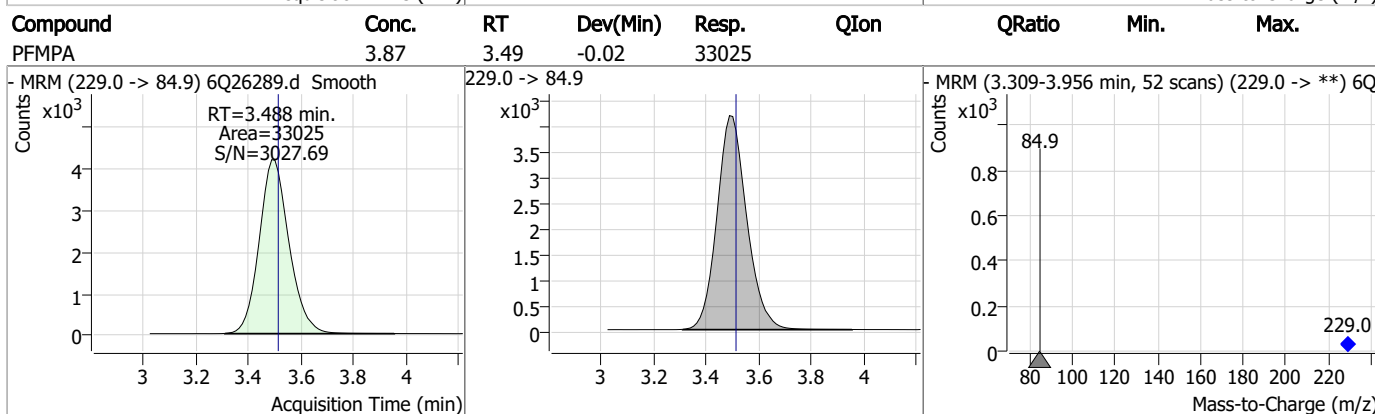
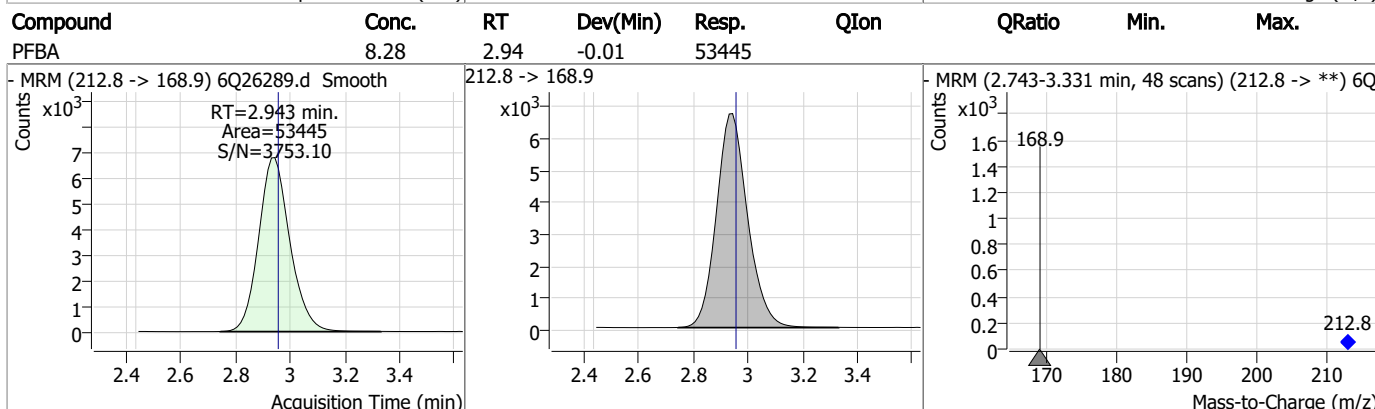
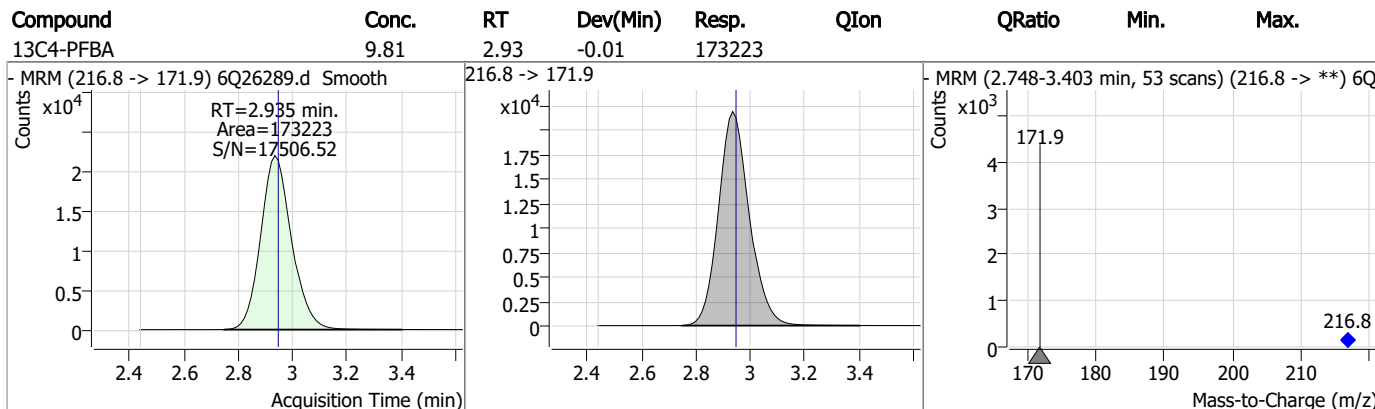
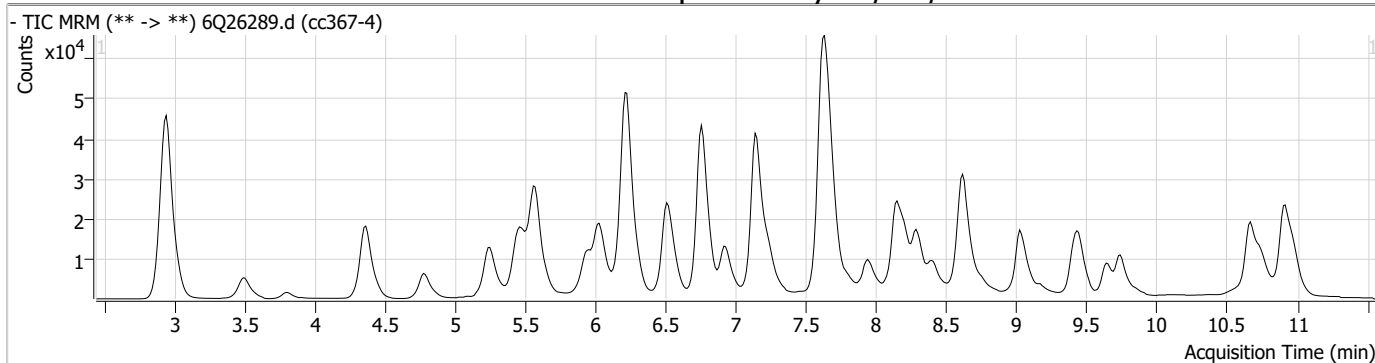
Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
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7.7.15

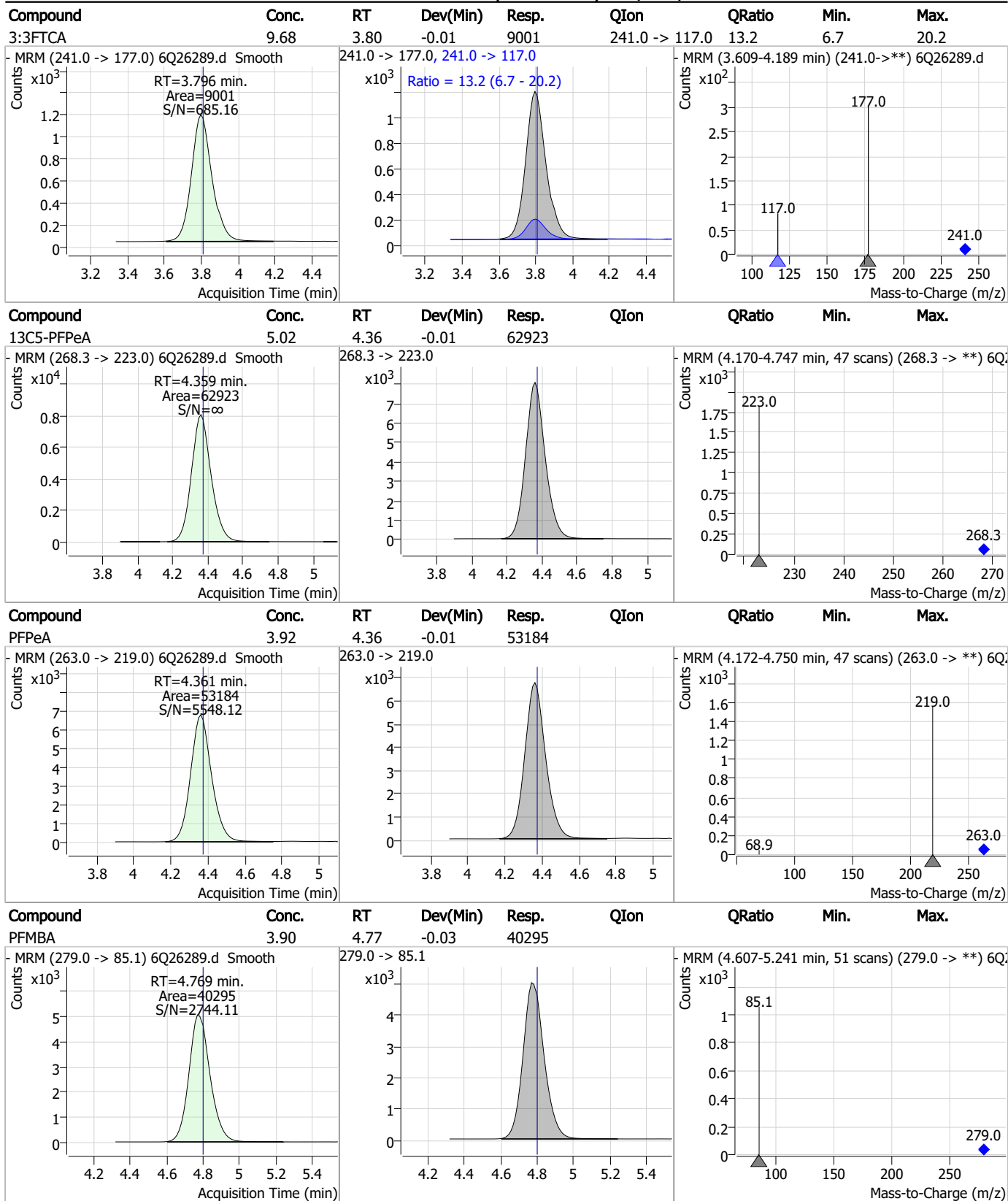
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Perfluorinated Compounds by LC/MS/MS



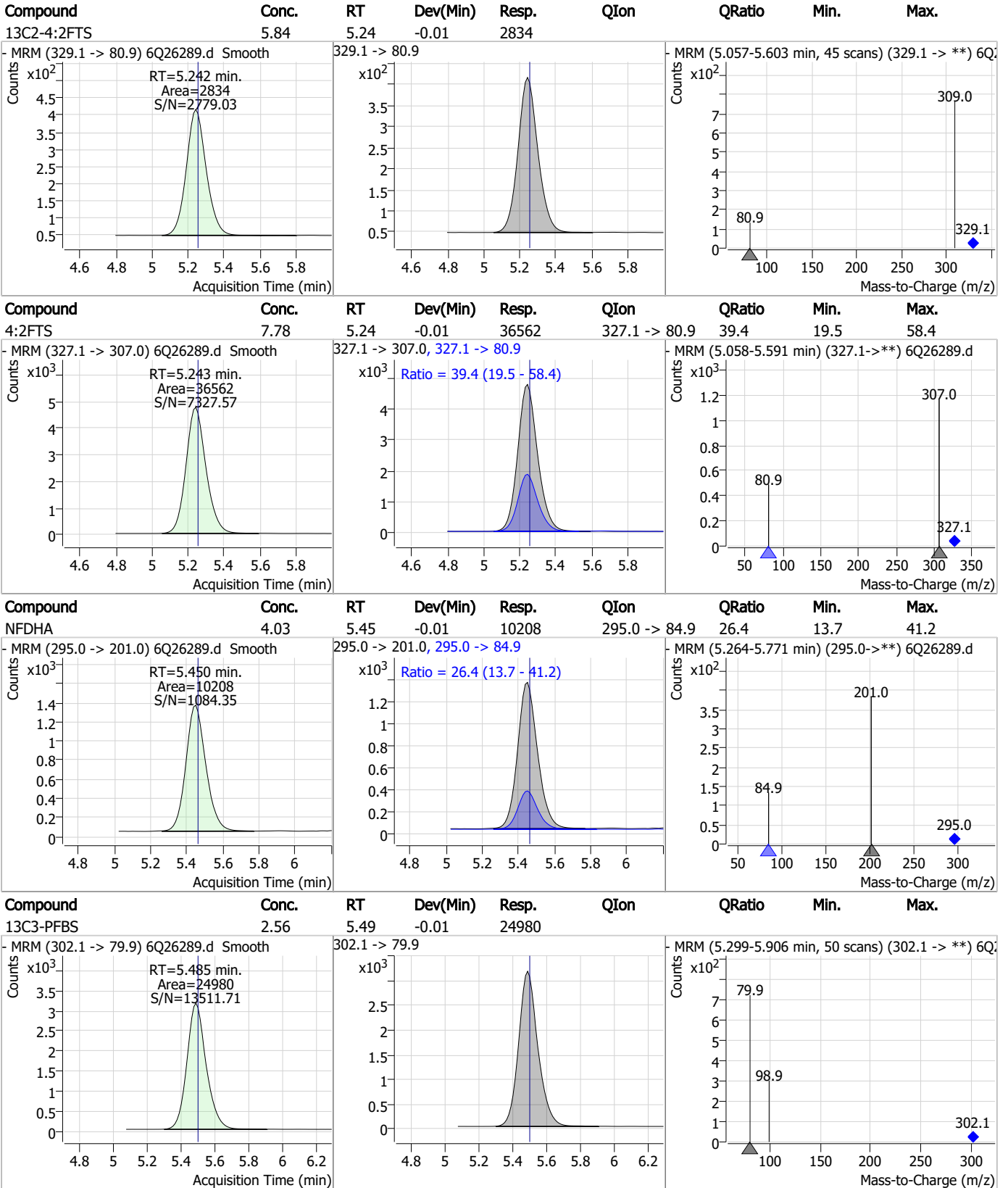
7.7.15
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Perfluorinated Compounds by LC/MS/MS



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Perfluorinated Compounds by LC/MS/MS

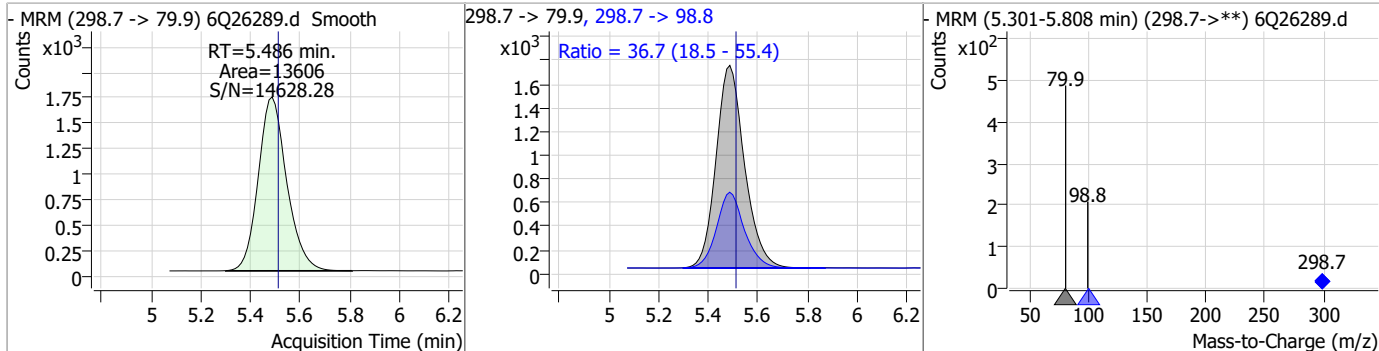


7.7.15 7

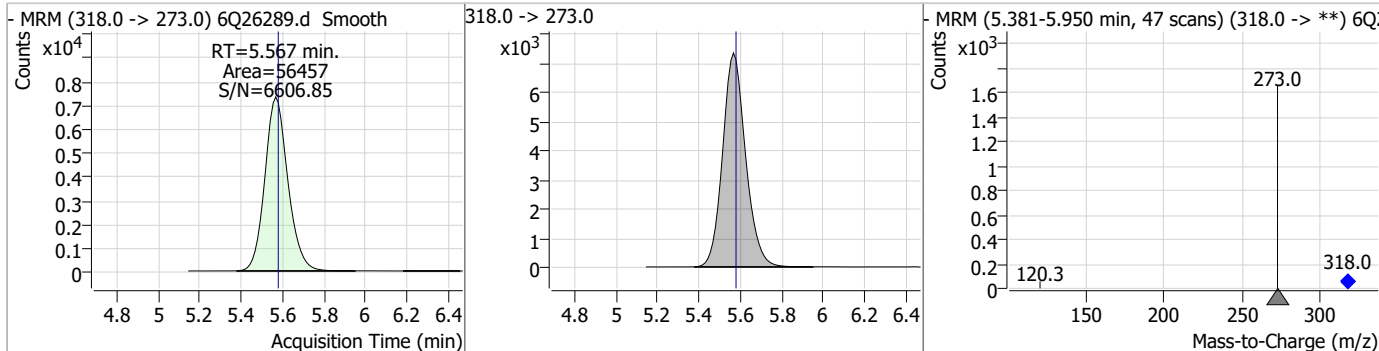


Perfluorinated Compounds by LC/MS/MS

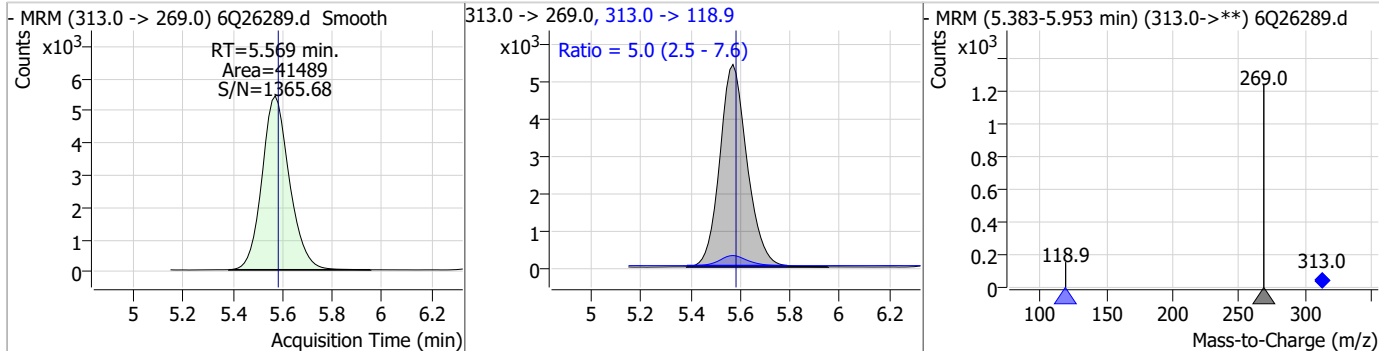
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBS	1.82	5.49	-0.02	13606	298.7 -> 98.8	36.7	18.5	55.4



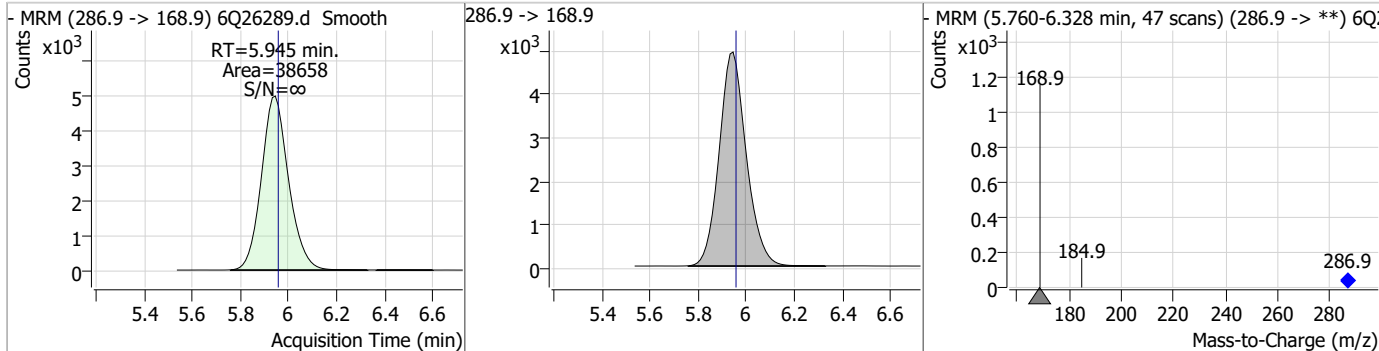
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFHxA	2.47	5.57	-0.01	56457	318.0 -> 273.0	5.0	2.5	7.6



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxA	2.06	5.57	-0.01	41489	313.0 -> 118.9	5.0	2.5	7.6

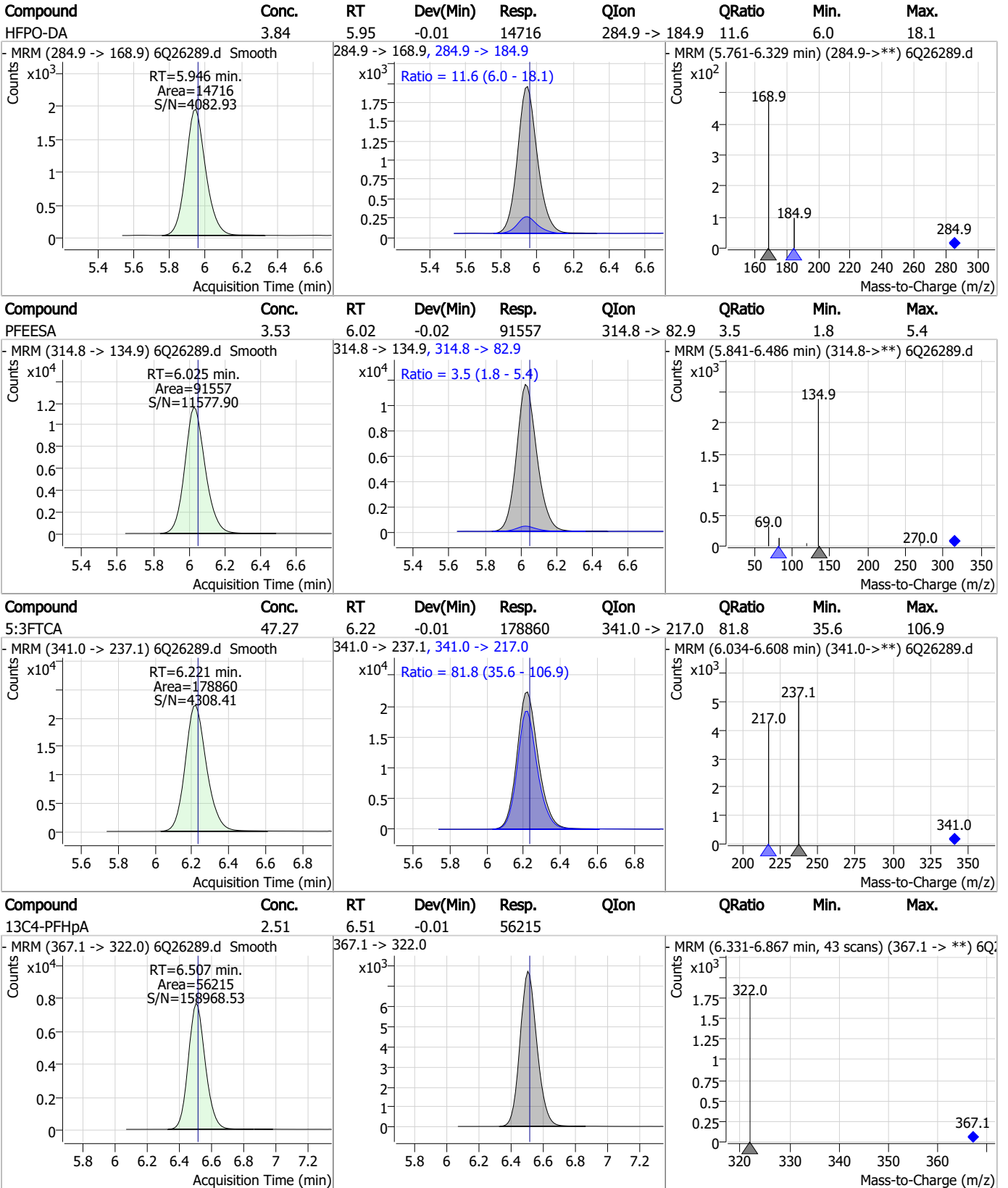


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-HFPO-DA	10.01	5.94	-0.01	38658	286.9 -> 168.9	5.0	2.5	7.6



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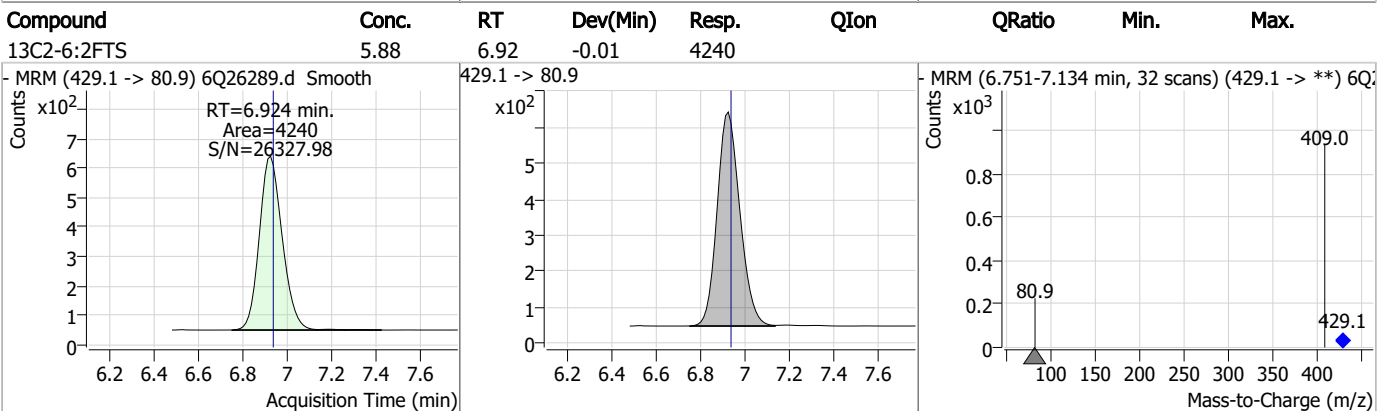
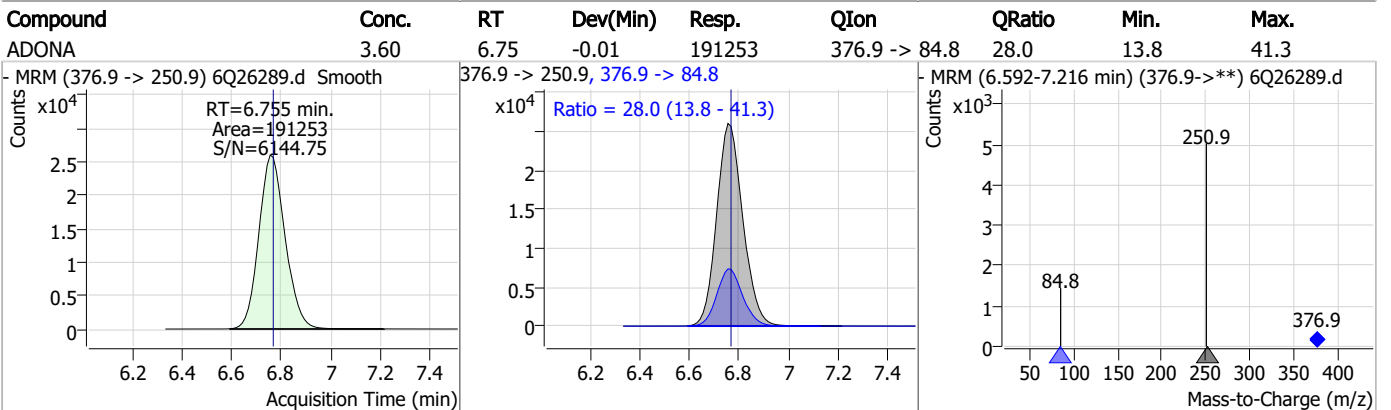
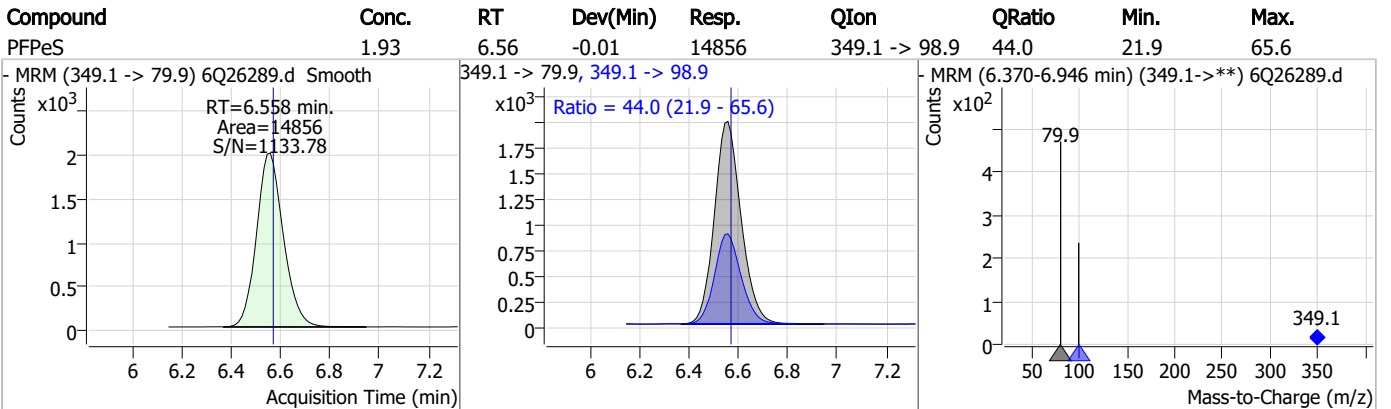
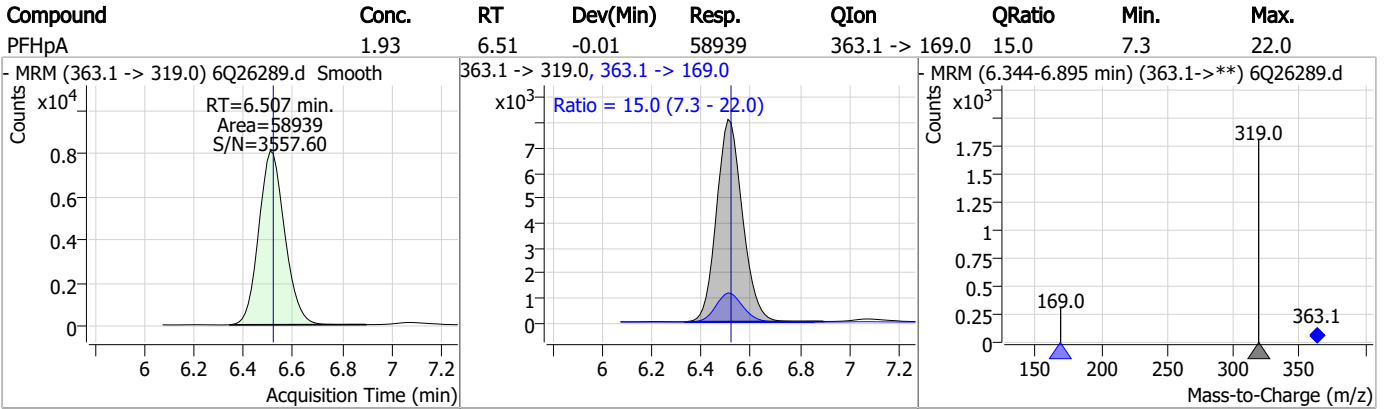
Perfluorinated Compounds by LC/MS/MS



7.7.15

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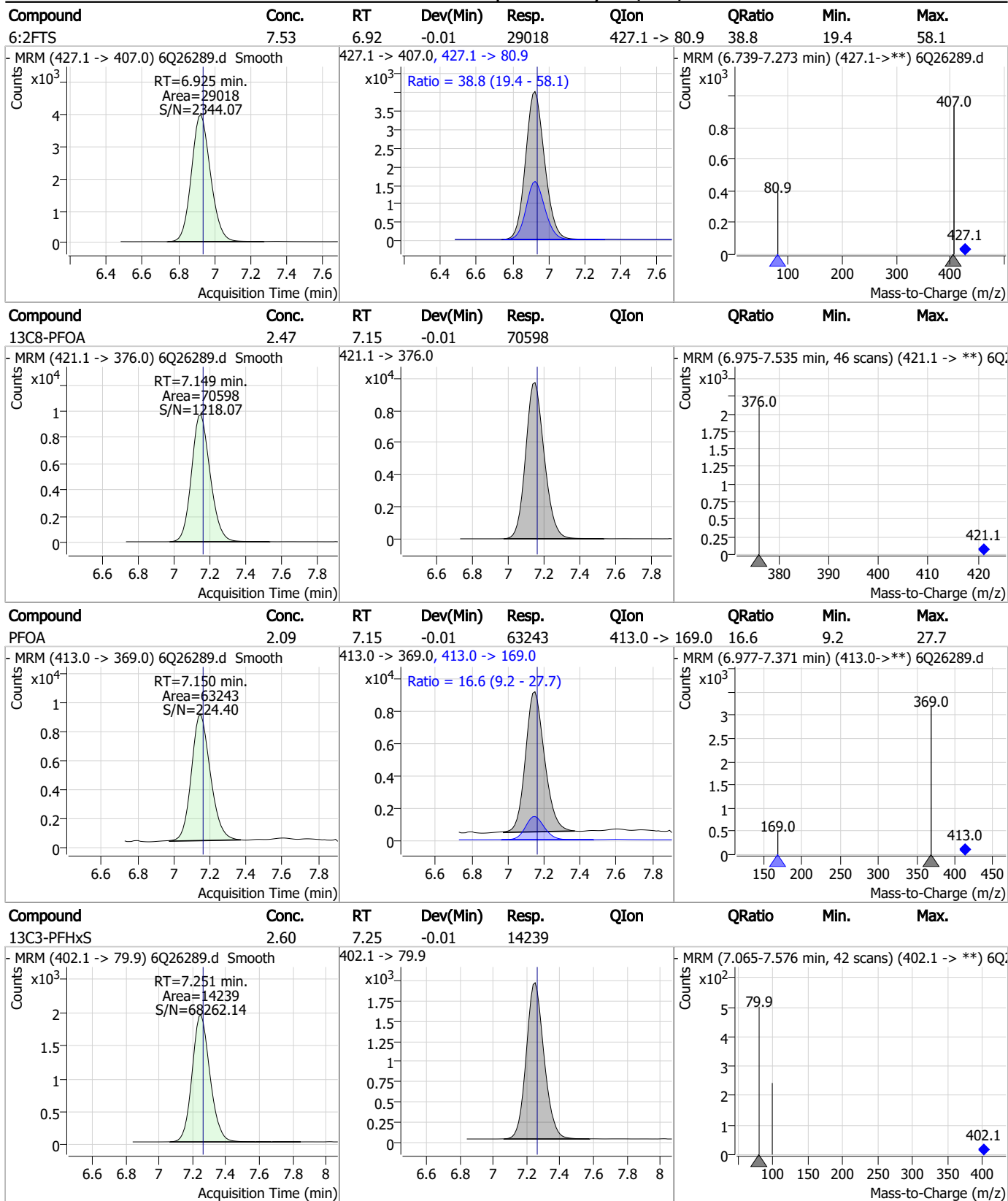
Perfluorinated Compounds by LC/MS/MS



7.7.15
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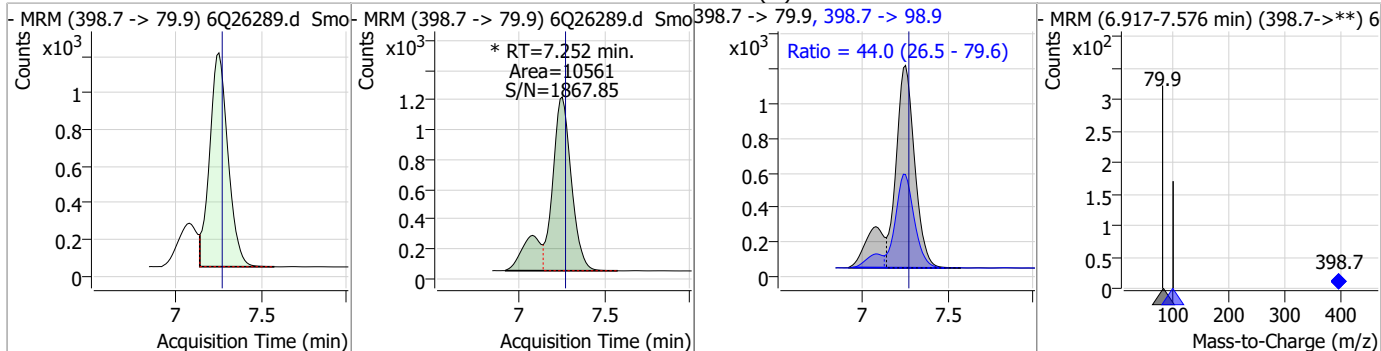
Perfluorinated Compounds by LC/MS/MS



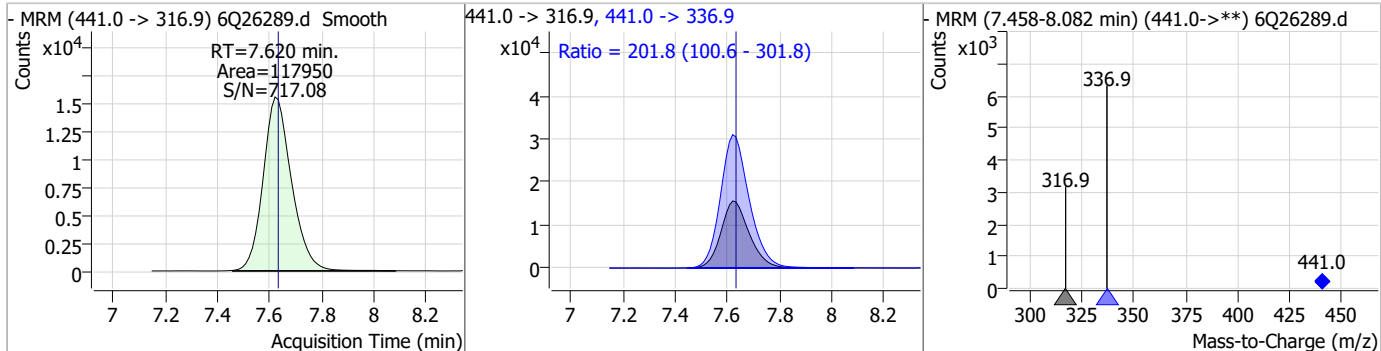
7.7.15
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Perfluorinated Compounds by LC/MS/MS

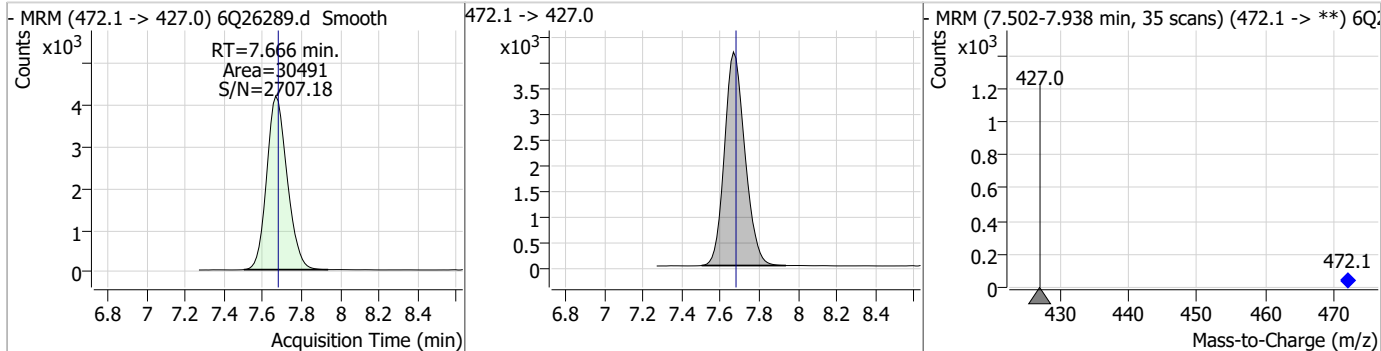
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxS	1.77	7.25	-0.01	10561 (m)	398.7 -> 98.9	44.0	26.5	79.6



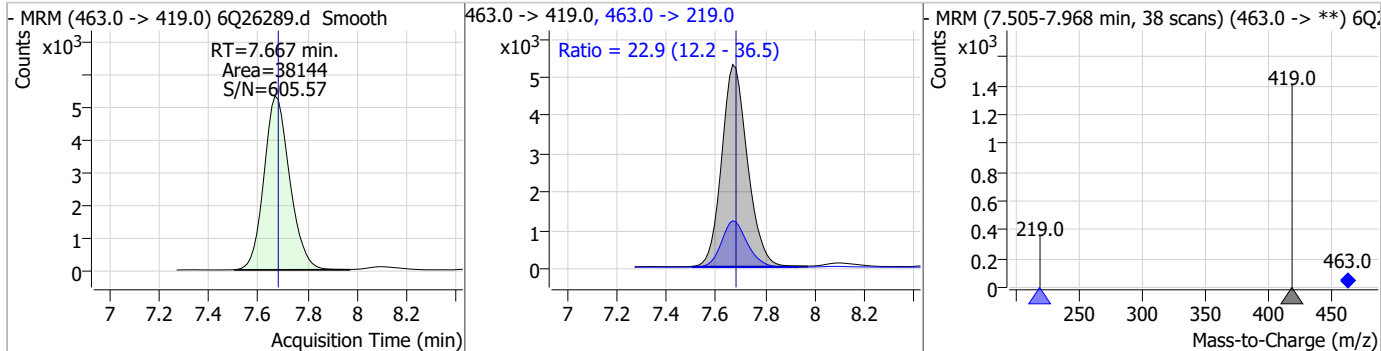
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
7:3FTCA	51.04	7.62	-0.01	117950	441.0 -> 336.9	201.8	100.6	301.8



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C9-PFNA	1.30	7.67	-0.01	30491	472.1 -> 427.0			

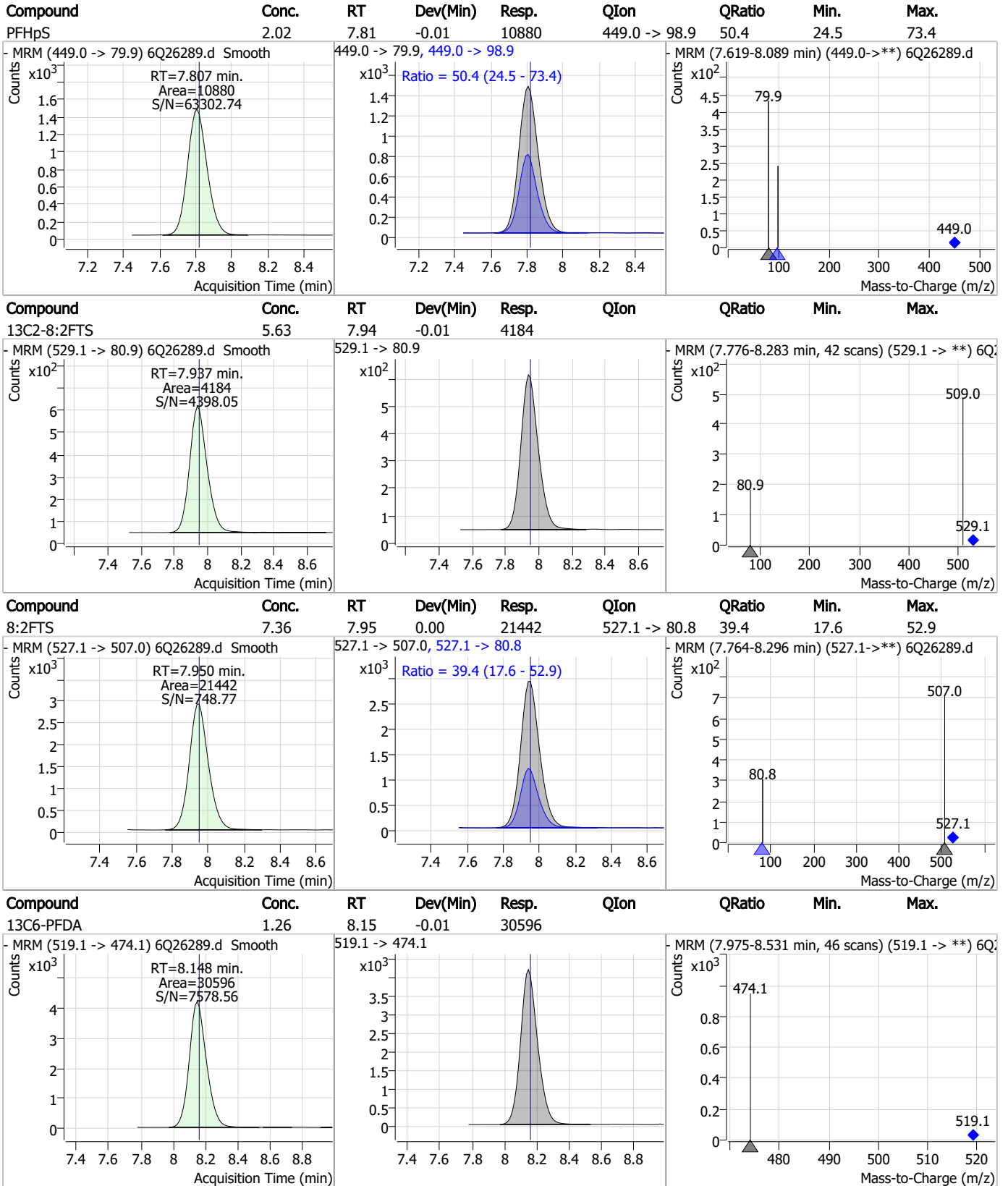


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNA	2.03	7.67	-0.01	38144	463.0 -> 219.0	22.9	12.2	36.5



7.7.15
7

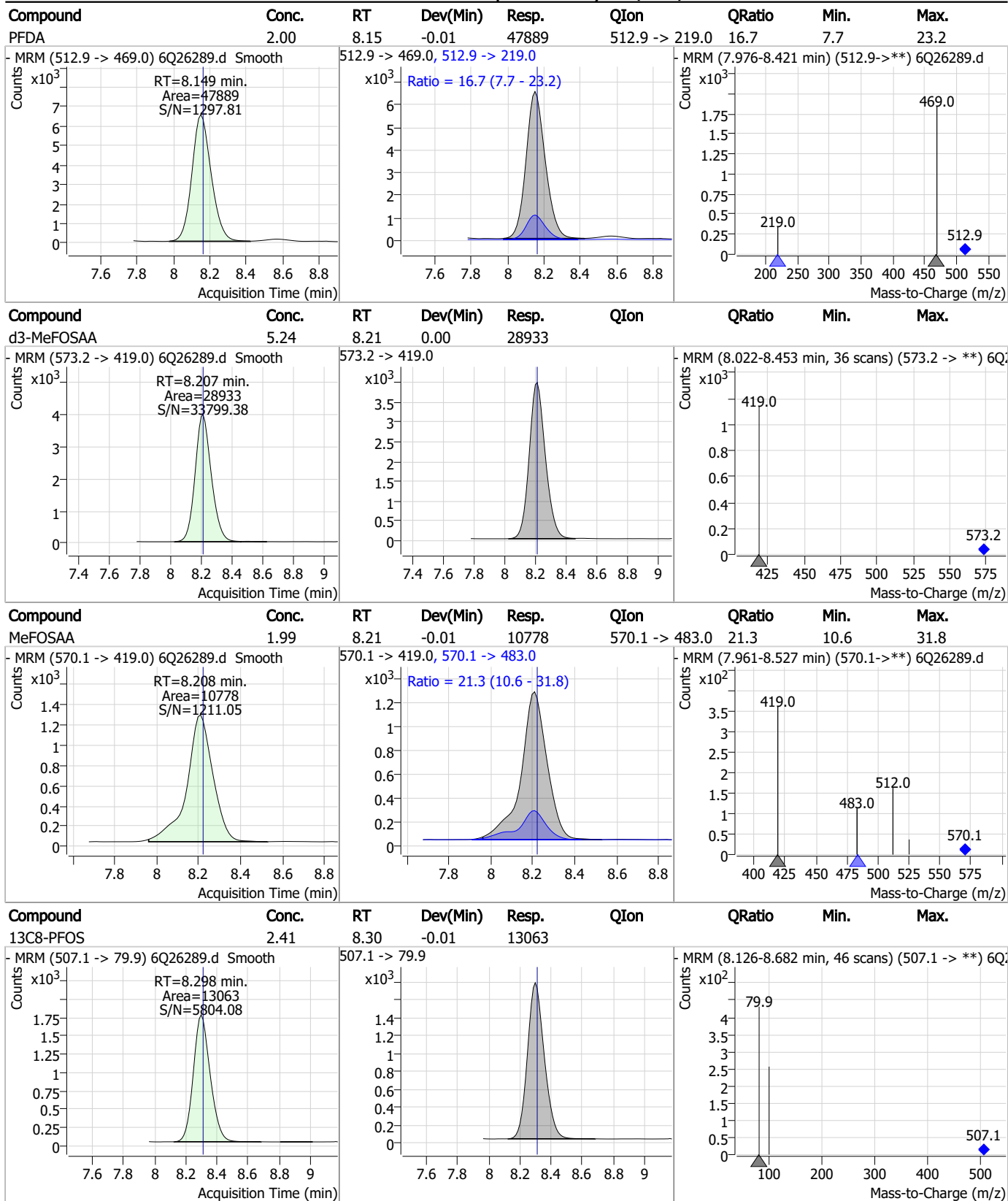
Perfluorinated Compounds by LC/MS/MS



7.7.15
7



Perfluorinated Compounds by LC/MS/MS

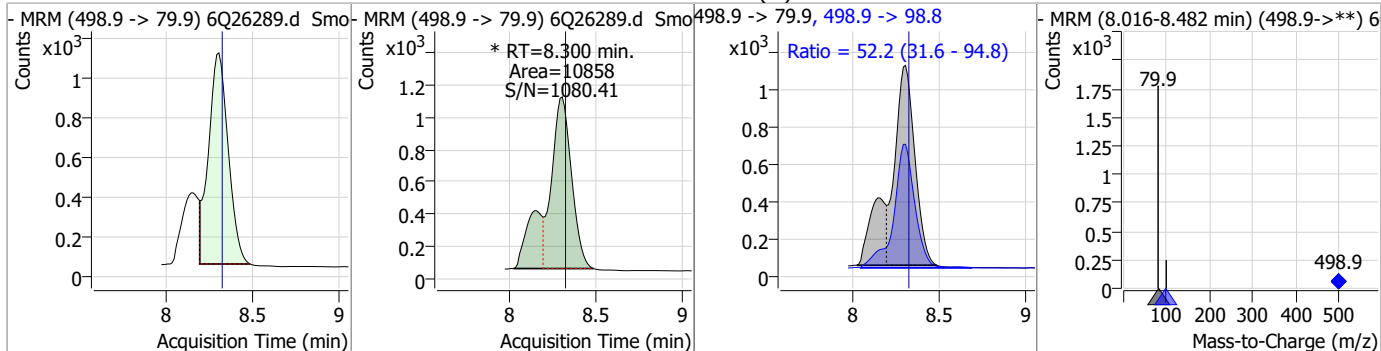


7.7.15

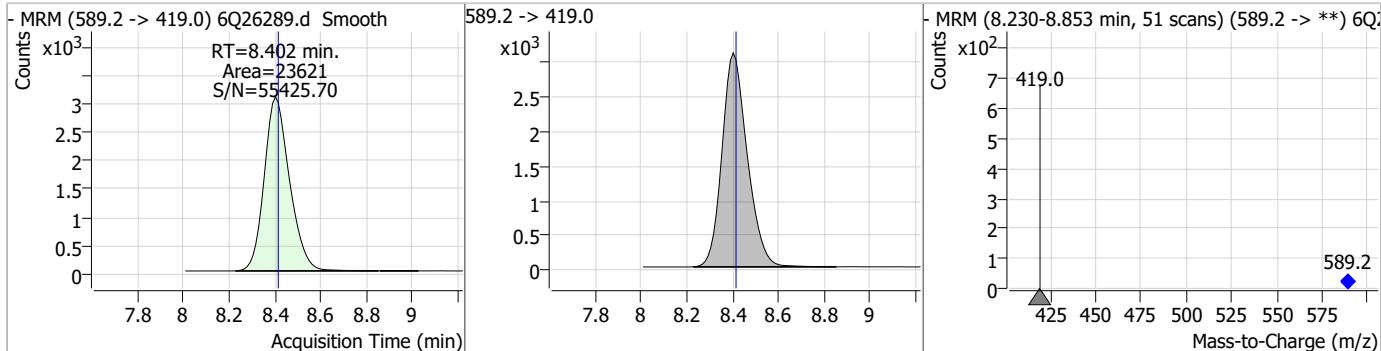
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Perfluorinated Compounds by LC/MS/MS

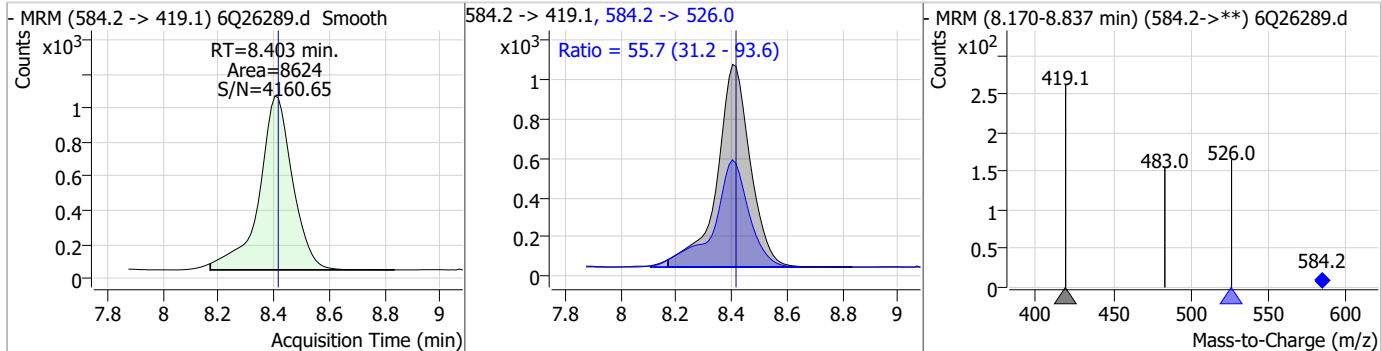
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOS	1.95	8.30	-0.01	10858 (m)	498.9 -> 98.8	52.2	31.6	94.8



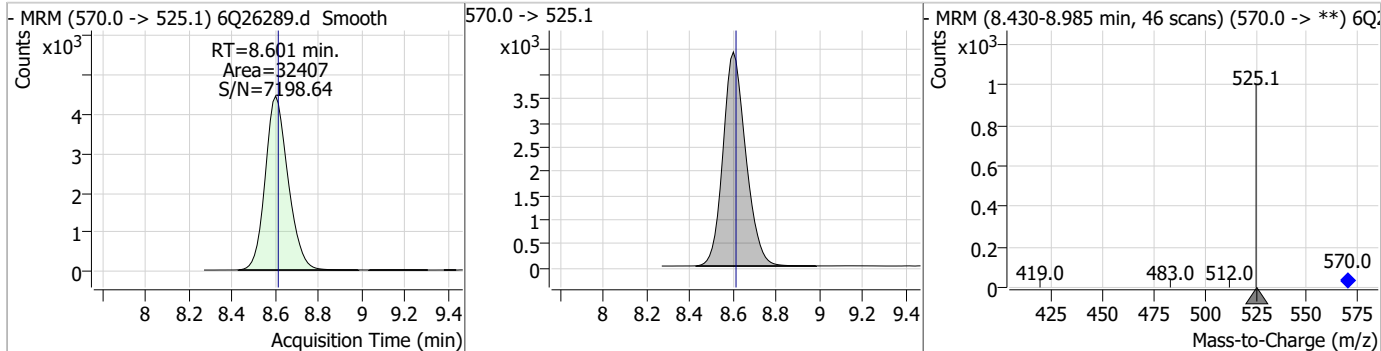
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSAA	4.99	8.40	-0.01	23621				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSAA	2.25	8.40	-0.01	8624	584.2 -> 526.0	55.7	31.2	93.6

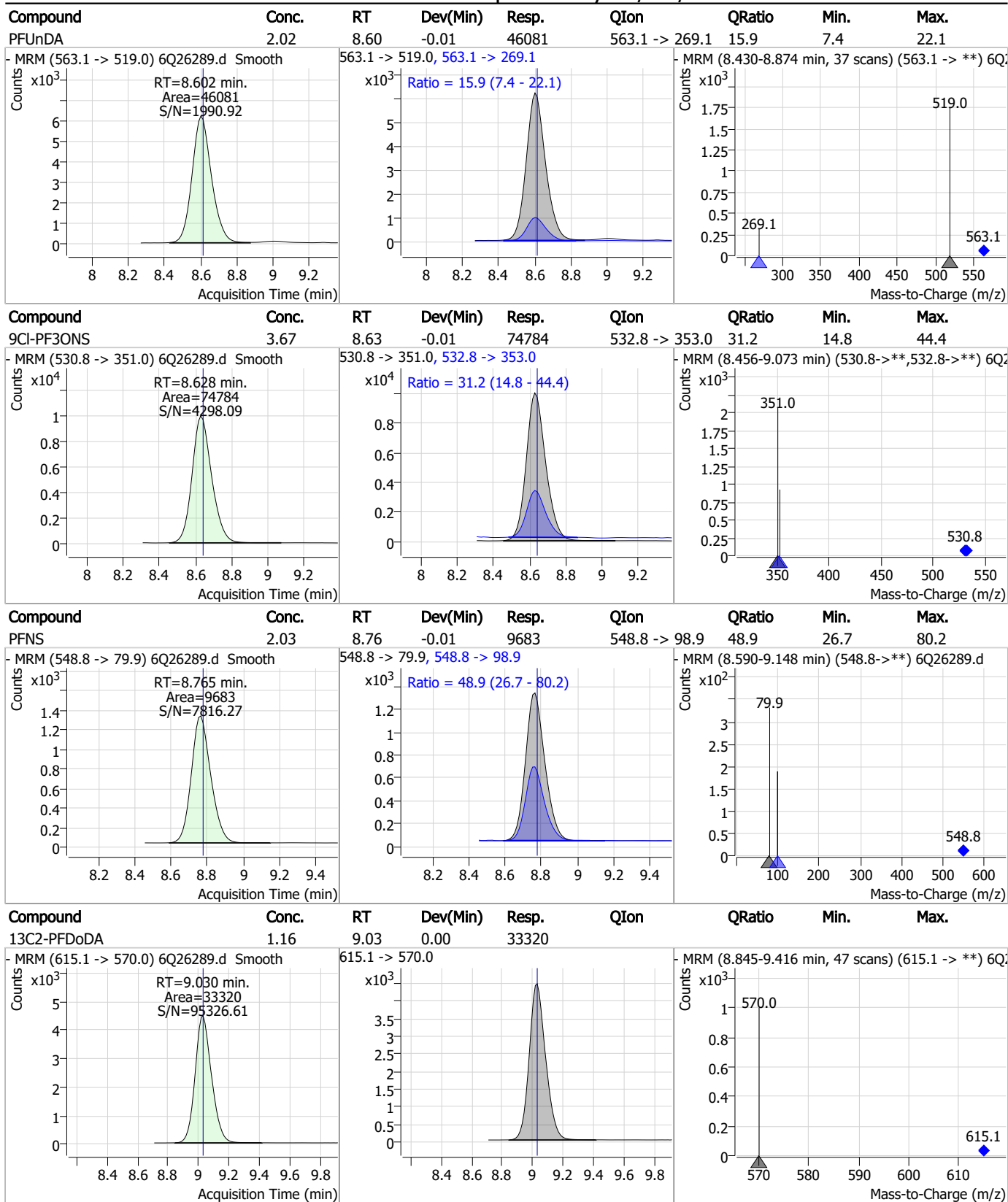


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C7-PFUnDA	1.24	8.60	-0.01	32407				



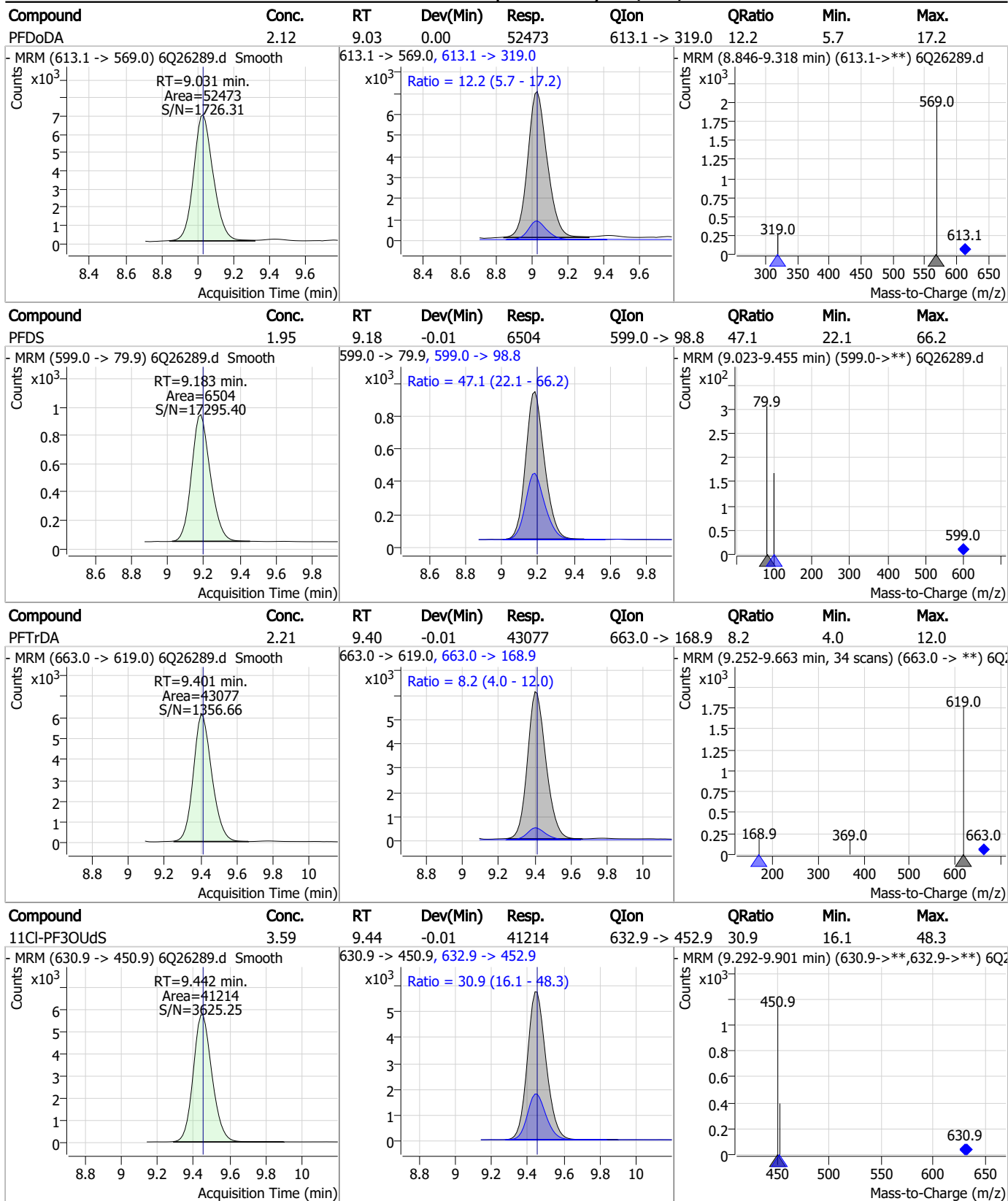
7.7.15
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Perfluorinated Compounds by LC/MS/MS



7.7.15
7

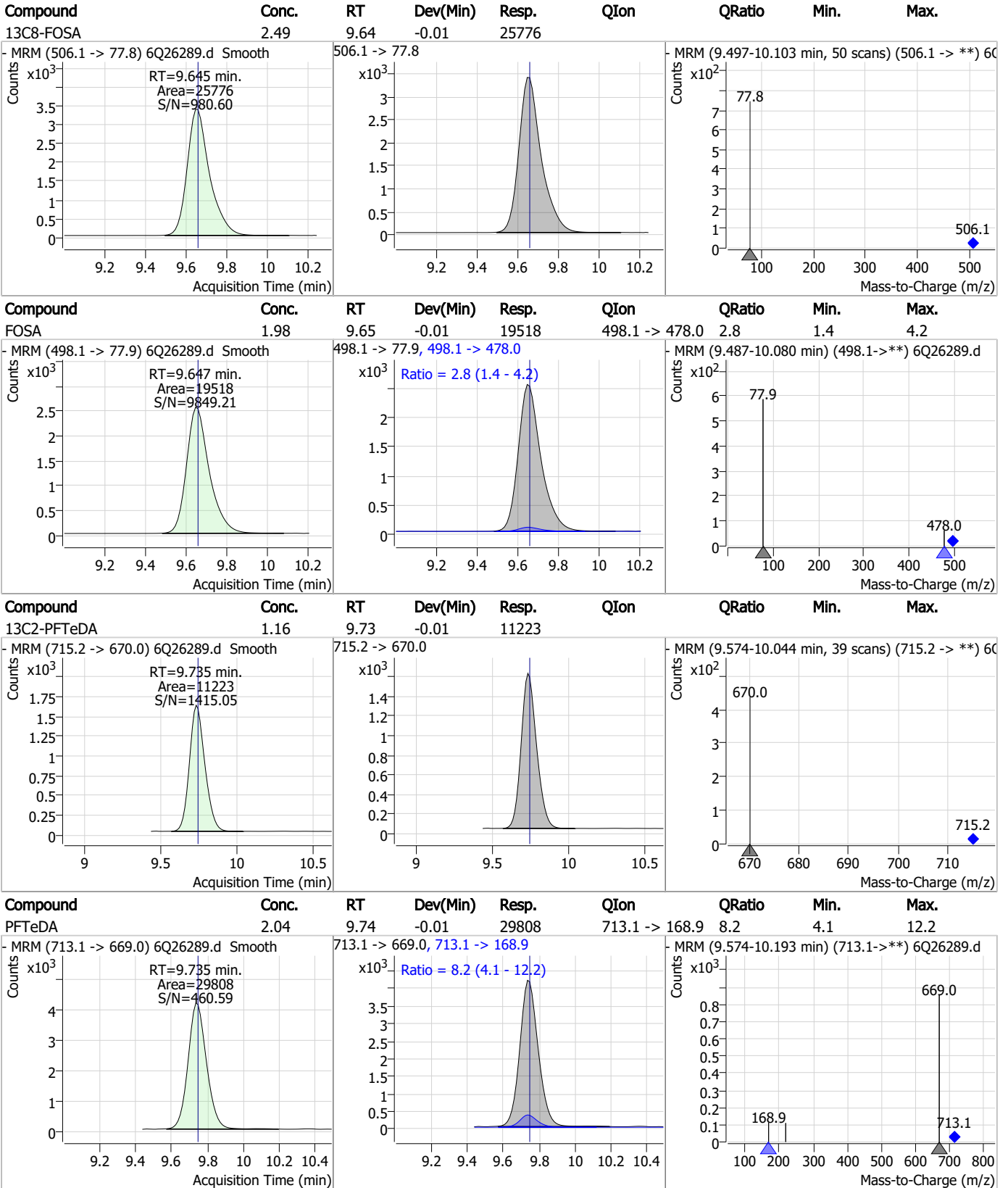
Perfluorinated Compounds by LC/MS/MS



7.7.15

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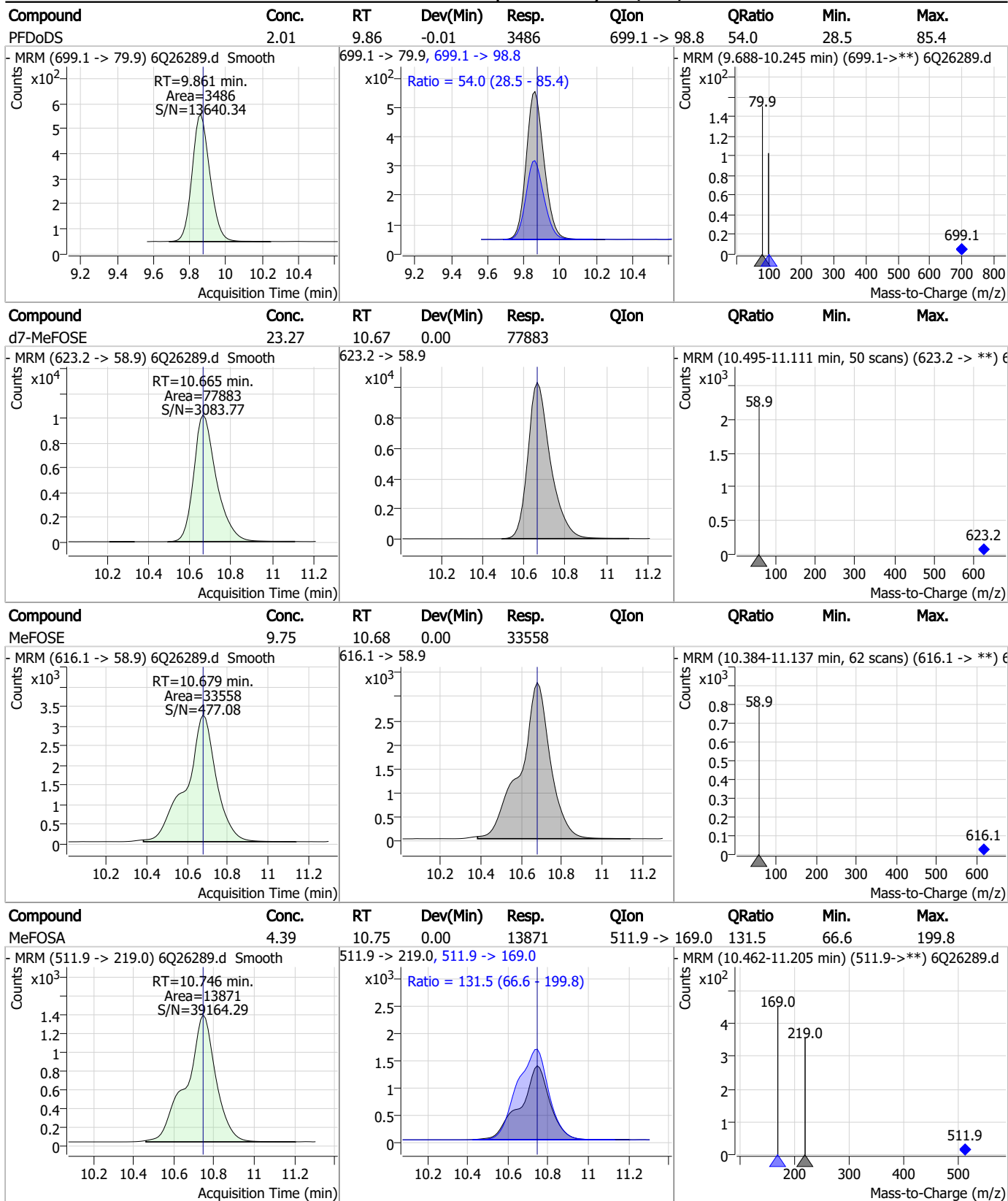
Perfluorinated Compounds by LC/MS/MS



7.7.15 7

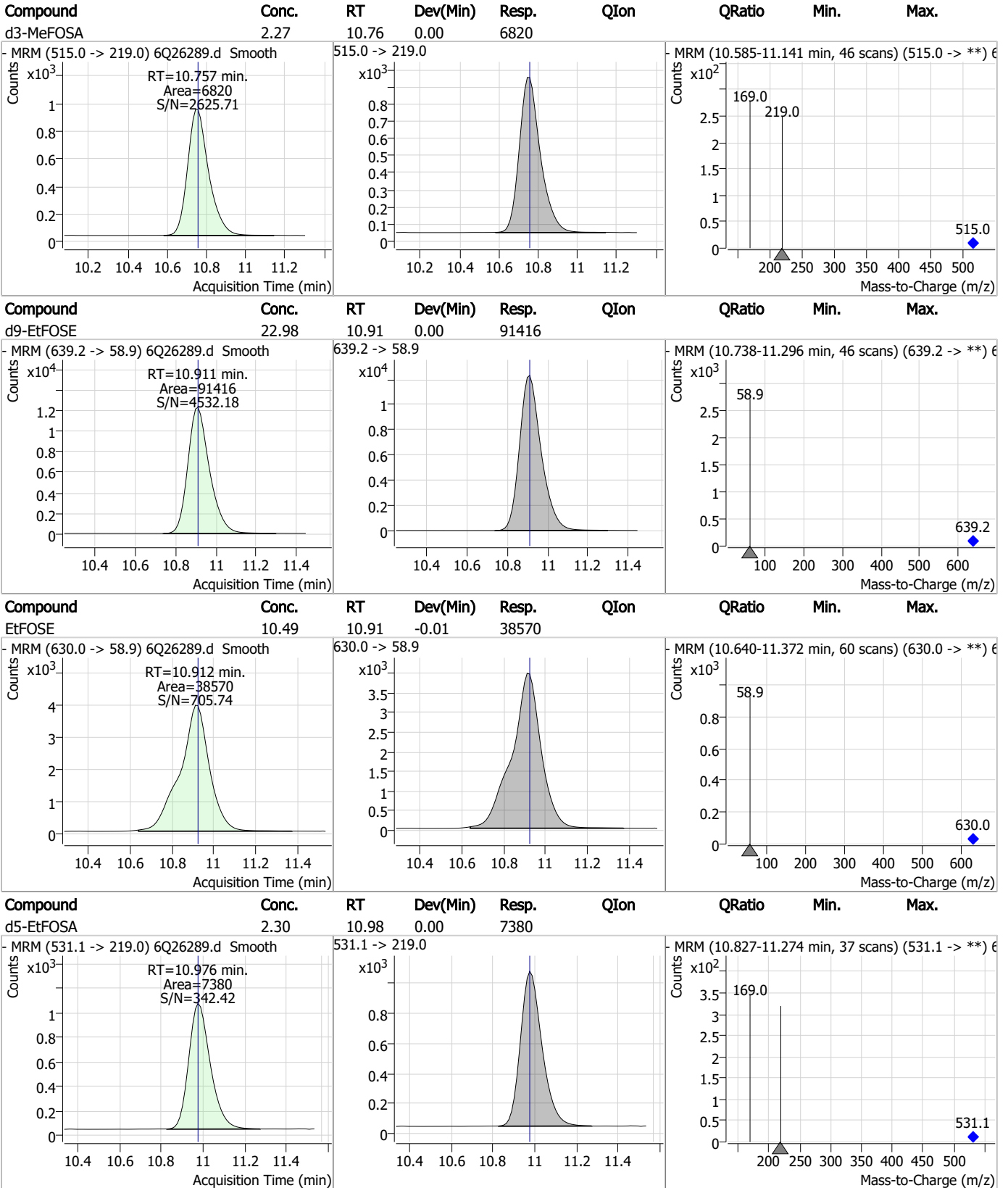


Perfluorinated Compounds by LC/MS/MS



7.7.15
7

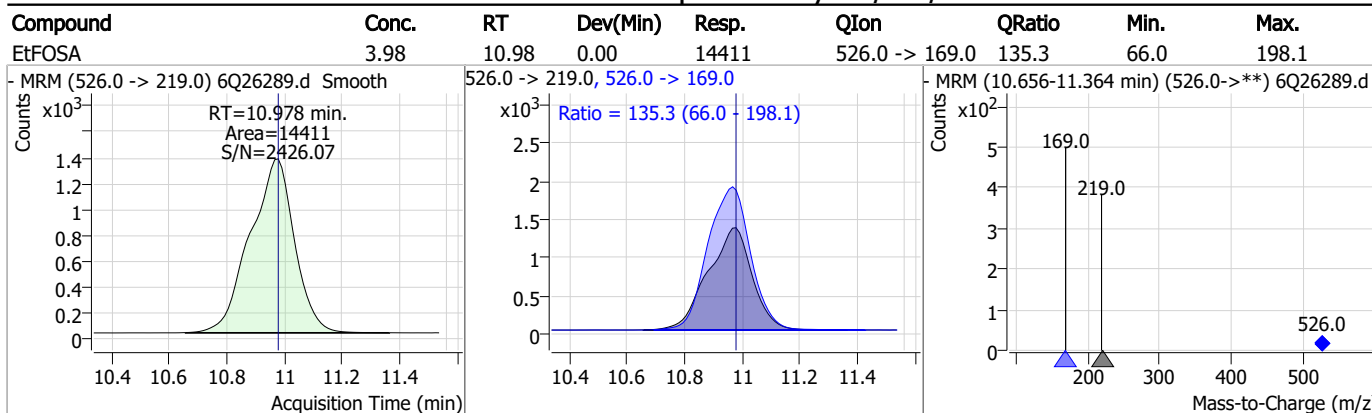
Perfluorinated Compounds by LC/MS/MS



7.7.15
7



Perfluorinated Compounds by LC/MS/MS



7.7.15
7

Manual Integration Approval Summary

Sample Number: S6Q370-CC367 Method: EPA DRAFT 1633
Lab FileID: 6Q26289.D Analyst approved: 10/16/23 10:56 Martha Valls
Injection Time: 10/12/23 17:56 Supervisor approved: 10/16/23 17:48 Natasha Gumtie

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		7.25	Split peak
Perfluorooctanesulfonic acid	1763-23-1		8.30	Split peak

7.7.15.1

7

Perfluorinated Compounds by LC/MS/MS

Data File : 6Q26297.d
 Operator : marthav
 Acq. Method : 1633full.m
 Acq. Date-Time : 10/12/2023 7:51:36 PM
 Sample Name : cc367-4
 Vial : P1-A5
 DA Method File : 1633_100823_S6Q367.quantmethod.xml
 Batch Name : s6q370.batch.bin
 Sample Information : OP99081,S6Q370,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Internal Standards					
M4-PFBA	2.935	216.8 -> 171.9	173669	10.00 µg/L	-0.013
M5-PFPeA	4.359	268.3 -> 223.0	62322	5.00 µg/L	-0.012
M5-PFHxA	5.567	318.0 -> 273.0	55326	2.50 µg/L	-0.012
M4-PFHpA	6.507	367.1 -> 322.0	55219	2.50 µg/L	-0.012
M8-PFOA	7.149	421.1 -> 376.0	74105	2.50 µg/L	-0.012
M9-PFNA	7.666	472.1 -> 427.0	31313	1.25 µg/L	-0.013
M6-PFDA	8.148	519.1 -> 474.1	29677	1.25 µg/L	-0.012
M7-PFUnDA	8.601	570.0 -> 525.1	30851	1.25 µg/L	-0.012
M2-PFDoDA	9.018	615.1 -> 570.0	34959	1.25 µg/L	-0.012
M2-PFTeDA	9.735	715.2 -> 670.0	11198	1.25 µg/L	-0.012
M8-FOSA	9.645	506.1 -> 77.8	26690	2.50 µg/L	-0.012
M3-PFBS	5.485	302.1 -> 79.9	25586	2.50 µg/L	-0.012
M3-PFHxS	7.251	402.1 -> 79.9	13457	2.50 µg/L	-0.012
M8-PFOS	8.298	507.1 -> 79.9	13757	2.50 µg/L	-0.013
M2-4:2FTS	5.242	329.1 -> 80.9	2831	5.00 µg/L	-0.012
M2-6:2FTS	6.924	429.1 -> 80.9	4101	5.00 µg/L	-0.012
M2-8:2FTS	7.937	529.1 -> 80.9	4281	5.00 µg/L	-0.012
M3-MeFOSAA	8.207	573.2 -> 419.0	29471	5.00 µg/L	0.000
M3-HFPO-DA	5.945	286.9 -> 168.9	37643	10.00 µg/L	-0.012
M5-EtFOSAA	8.402	589.2 -> 419.0	23770	5.00 µg/L	-0.012
M7-MeFOSE	10.665	623.2 -> 58.9	79904	25.00 µg/L	0.000
M9-EtFOSE	10.898	639.2 -> 58.9	93869	25.00 µg/L	-0.012
M5-EtFOSA	10.976	531.1 -> 219.0	7840	2.50 µg/L	0.000
M3-MeFOSA	10.744	515.0 -> 219.0	6900	2.50 µg/L	-0.012
13C4-PFOS	8.299	502.8 -> 79.9	13132	2.50 µg/L	-0.013
13C3-PFBA	2.939	216.0 -> 172.0	72992	5.00 µg/L	-0.013
18O2-PFHxS	7.250	403.0 -> 83.9	8614	2.50 µg/L	-0.012
13C4-PFOA	7.150	417.1 -> 372.0	84621	2.50 µg/L	-0.012
13C2-PFDA	8.149	515.1 -> 470.1	26865	1.25 µg/L	-0.012
13C5-PFNA	7.667	468.0 -> 423.0	30453	1.25 µg/L	-0.013
13C2-PFHxA	5.568	315.1 -> 270.0	54380	2.50 µg/L	-0.012
System Monitoring Compounds					
13C2-4:2FTS	5.242	329.1 -> 80.9	2831	5.83 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 116.7%		
13C2-6:2FTS	6.924	429.1 -> 80.9	4101	5.68 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 113.6%		
13C2-8:2FTS	7.937	529.1 -> 80.9	4281	5.76 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 115.2%		
13C2-PFDoDA	9.018	615.1 -> 570.0	34959	1.31 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 104.5%		
13C2-PFTeDA	9.735	715.2 -> 670.0	11198	1.23 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 98.7%		
13C3-PFBS	5.485	302.1 -> 79.9	25586	2.62 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 104.9%		
13C3-PFHxS	7.251	402.1 -> 79.9	13457	2.46 µg/L	-0.012

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Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 98.3%	
13C4-PFBA	2.935	216.8 -> 171.9	173669	9.86 µg/L	-0.013
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 98.6%	
13C4-PFHpA	6.507	367.1 -> 322.0	55219	2.51 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 100.4%	
13C5-PFHxA	5.567	318.0 -> 273.0	55326	2.46 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 98.4%	
13C5-PFPeA	4.359	268.3 -> 223.0	62322	5.06 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 101.3%	
13C6-PFDA	8.148	519.1 -> 474.1	29677	1.31 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 104.9%	
13C7-PFUnDA	8.601	570.0 -> 525.1	30851	1.26 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 100.9%	
13C8-FOSA	9.645	506.1 -> 77.8	26690	2.46 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 98.5%	
13C8-PFOA	7.149	421.1 -> 376.0	74105	2.53 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 101.0%	
13C8-PFOS	8.298	507.1 -> 79.9	13757	2.43 µg/L	-0.013
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 97.0%	
13C9-PFNA	7.666	472.1 -> 427.0	31313	1.25 µg/L	-0.013
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 100.0%	
d3-MeFOSAA	8.207	573.2 -> 419.0	29471	5.10 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 102.0%	
13C3-HFPO-DA	5.945	286.9 -> 168.9	37643	9.92 µg/L	-0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 99.2%	
d3-MeFOSA	10.744	515.0 -> 219.0	6900	2.20 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 87.8%	
d5-EtFOSAA	8.402	589.2 -> 419.0	23770	4.80 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 96.1%	
d7-MeFOSE	10.665	623.2 -> 58.9	79904	22.85 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 91.4%	
d9-EtFOSE	10.898	639.2 -> 58.9	93869	22.58 µg/L	-0.012
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 90.3%	
d5-EtFOSA	10.976	531.1 -> 219.0	7840	2.33 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 93.3%	
Target Compounds					QValue
4:2FTS	5.243	327.1 -> 307.0	37140	7.91 µg/L	98
		327.1 -> 80.9	14097		
6:2FTS	6.925	427.1 -> 407.0	29302	7.86 µg/L	100
		427.1 -> 80.9	11362		
8:2FTS	7.938	527.1 -> 507.0	21172	7.10 µg/L	93
		527.1 -> 80.8	8384		
EtFOSAA	8.403	584.2 -> 419.1	7395	1.91 µg/L	94
		584.2 -> 526.0	4934		
FOSA	9.647	498.1 -> 77.9	20164	1.97 µg/L	99
		498.1 -> 478.0	518		
MeFOSAA	8.208	570.1 -> 419.0	11097	2.02 µg/L	99
		570.1 -> 483.0	2413		
PFBA	2.943	212.8 -> 168.9	52872	8.17 µg/L	100
PFBS	5.486	298.7 -> 79.9	13502	1.76 µg/L	99
		298.7 -> 98.8	5103		
PFDA	8.149	512.9 -> 469.0	47153	2.03 µg/L	100
		512.9 -> 219.0	7356		
PFDODA	9.018	613.1 -> 569.0	54134	2.08 µg/L	98
		613.1 -> 319.0	6673		
PFDS	9.170	599.0 -> 79.9	6385	1.81 µg/L	90

7.7.16
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Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
		599.0 -> 98.8	3220			
PFHpA	6.507	363.1 -> 319.0	59456	1.98	µg/L	100
		363.1 -> 169.0	8720			
PFHpS	7.807	449.0 -> 79.9	11209	1.97	µg/L	97
		449.0 -> 98.9	5251			
PFHxA	5.569	313.0 -> 269.0	39743	2.01	µg/L	100
		313.0 -> 118.9	1963			
PFHxS	7.252	398.7 -> 79.9	10583	1.88	µg/L	m 95
		398.7 -> 98.9	5262			
PFNA	7.667	463.0 -> 419.0	37392	1.94	µg/L	100
		463.0 -> 219.0	9093			
PFNS	8.765	548.8 -> 79.9	9304	1.85	µg/L	98
		548.8 -> 98.9	4853			
PFOA	7.150	413.0 -> 369.0	62339	1.96	µg/L	98
		413.0 -> 169.0	10966			
PFOS	8.300	498.9 -> 79.9	11214	1.91	µg/L	m 78
		498.9 -> 98.8	5138			
PFPeA	4.361	263.0 -> 219.0	53443	3.98	µg/L	100
PFPeS	6.558	349.1 -> 79.9	14805	2.04	µg/L	100
		349.1 -> 98.9	6447			
PFTeDA	9.735	713.1 -> 669.0	30438	2.09	µg/L	99
		713.1 -> 168.9	2563			
PFTrDA	9.401	663.0 -> 619.0	39954	1.96	µg/L	97
		663.0 -> 168.9	3621			
PFUnDA	8.602	563.1 -> 519.0	45235	2.08	µg/L	94
		563.1 -> 269.1	7813			
11CI-PF3OUdS	9.442	630.9 -> 450.9	38058	3.41	µg/L	99
		632.9 -> 452.9	12535			
9CI-PF3ONS	8.628	530.8 -> 351.0	75176	3.79	µg/L	99
		532.8 -> 353.0	22711			
ADONA	6.755	376.9 -> 250.9	196644	3.80	µg/L	98
		376.9 -> 84.8	52685			
HFPO-DA	5.946	284.9 -> 168.9	15897	4.26	µg/L	97
		284.9 -> 184.9	1735			
3:3FTCA	3.796	241.0 -> 177.0	8957	9.61	µg/L	99
		241.0 -> 117.0	1236			
5:3FTCA	6.221	341.0 -> 237.1	193207	52.11	µg/L	100
		341.0 -> 217.0	138425			
7:3FTCA	7.620	441.0 -> 316.9	118876	52.49	µg/L	98
		441.0 -> 336.9	234930			
EtFOSA	10.966	526.0 -> 219.0	14719	3.82	µg/L	99
		526.0 -> 169.0	19296			
EtFOSE	10.912	630.0 -> 58.9	38560	10.21	µg/L	100
MeFOSA	10.746	511.9 -> 219.0	13216	4.13	µg/L	93
		511.9 -> 169.0	18643			
MeFOSE	10.679	616.1 -> 58.9	33522	9.49	µg/L	100
PFDoDS	9.861	699.1 -> 79.9	3449	1.89	µg/L	100
		699.1 -> 98.8	1966			
NFDHA	5.450	295.0 -> 201.0	10402	4.19	µg/L	96
		295.0 -> 84.9	2655			
PFMBA	4.769	279.0 -> 85.1	40739	3.98	µg/L	100
PFMPA	3.501	229.0 -> 84.9	33085	3.91	µg/L	100
PFEESA	6.025	314.8 -> 134.9	93141	3.66	µg/L	99
		314.8 -> 82.9	3120			

= Qualifier out of range, m = manually integrated, + = Area summed



7.7.16
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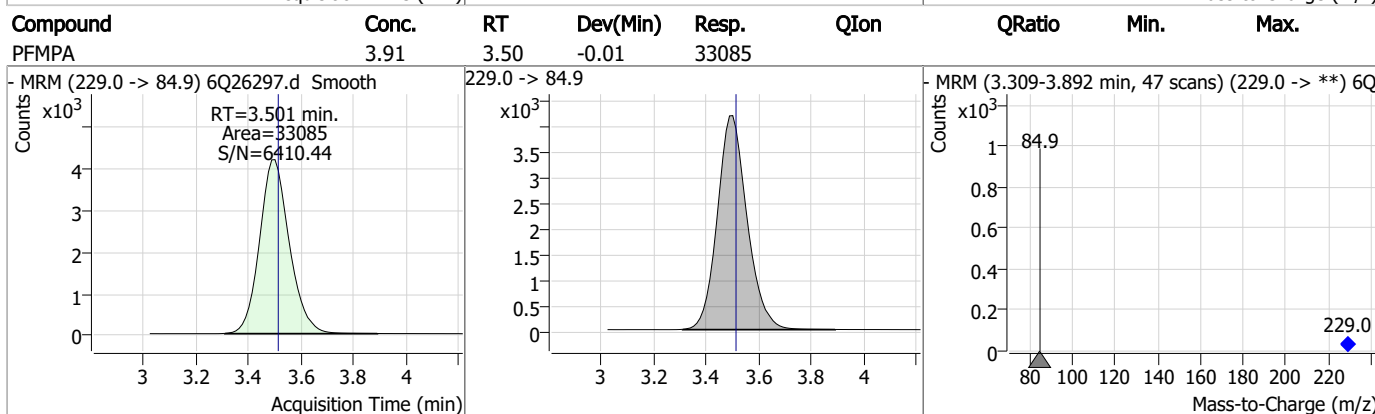
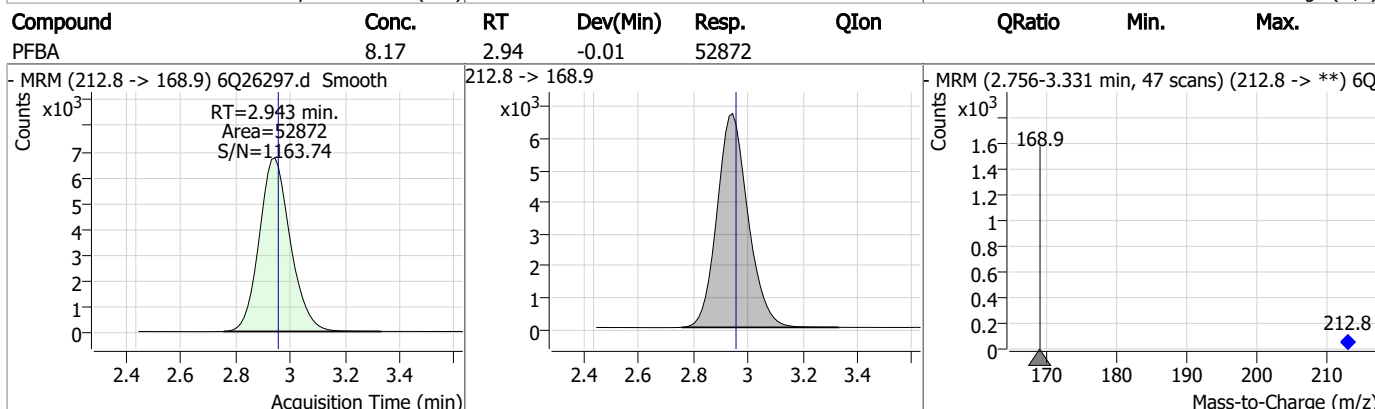
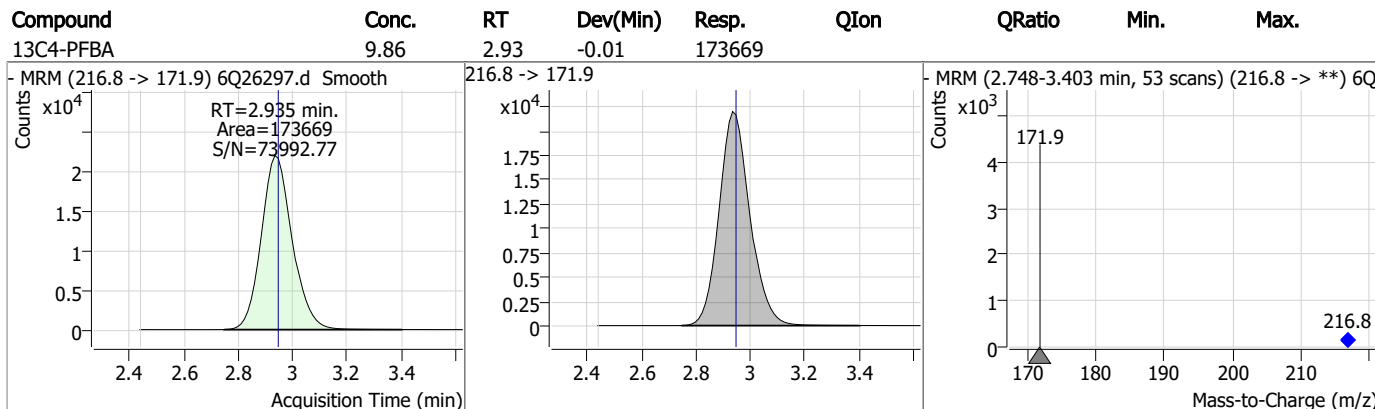
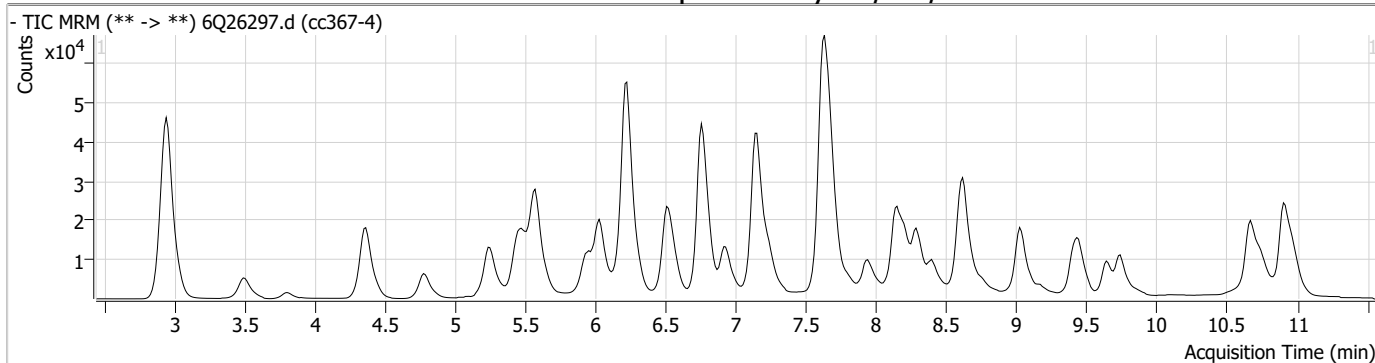
Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
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7.7.16

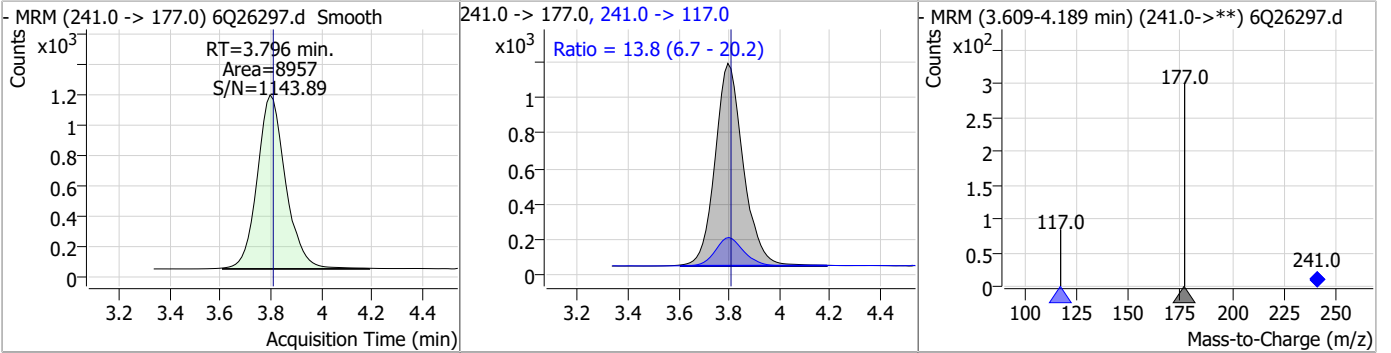
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Perfluorinated Compounds by LC/MS/MS

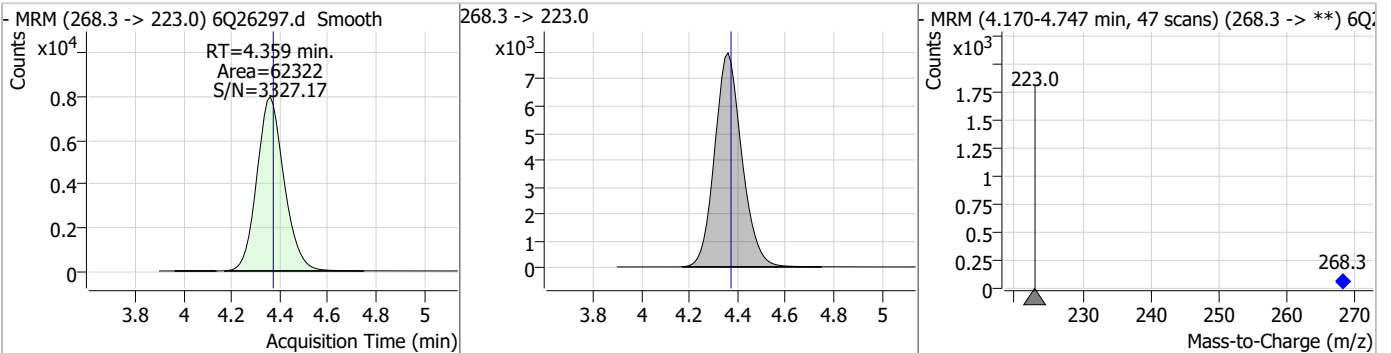


Perfluorinated Compounds by LC/MS/MS

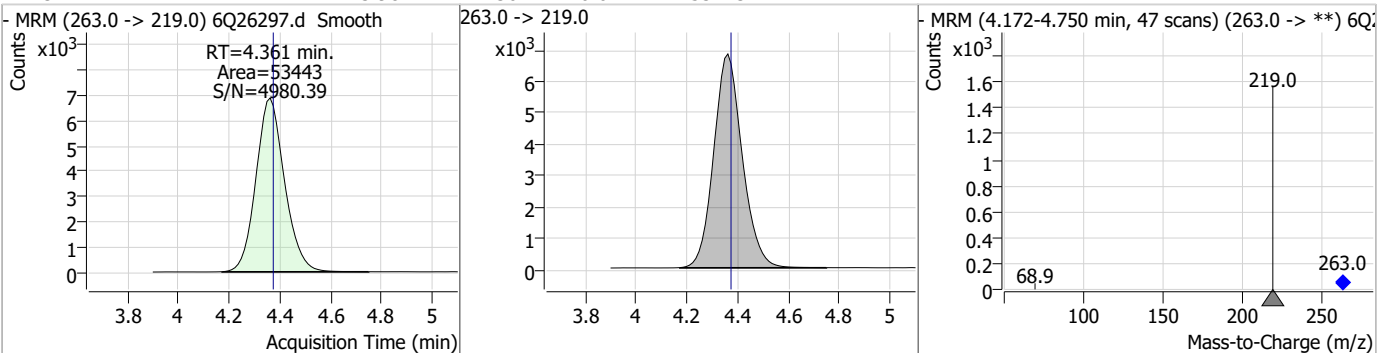
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
3:3FTCA	9.61	3.80	-0.01	8957	241.0 -> 117.0	13.8	6.7	20.2



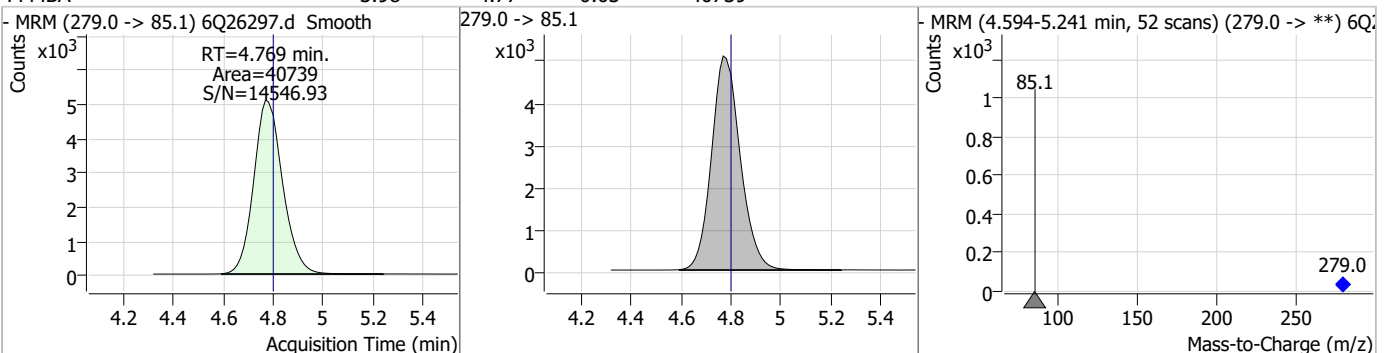
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFPeA	5.06	4.36	-0.01	62322				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeA	3.98	4.36	-0.01	53443				

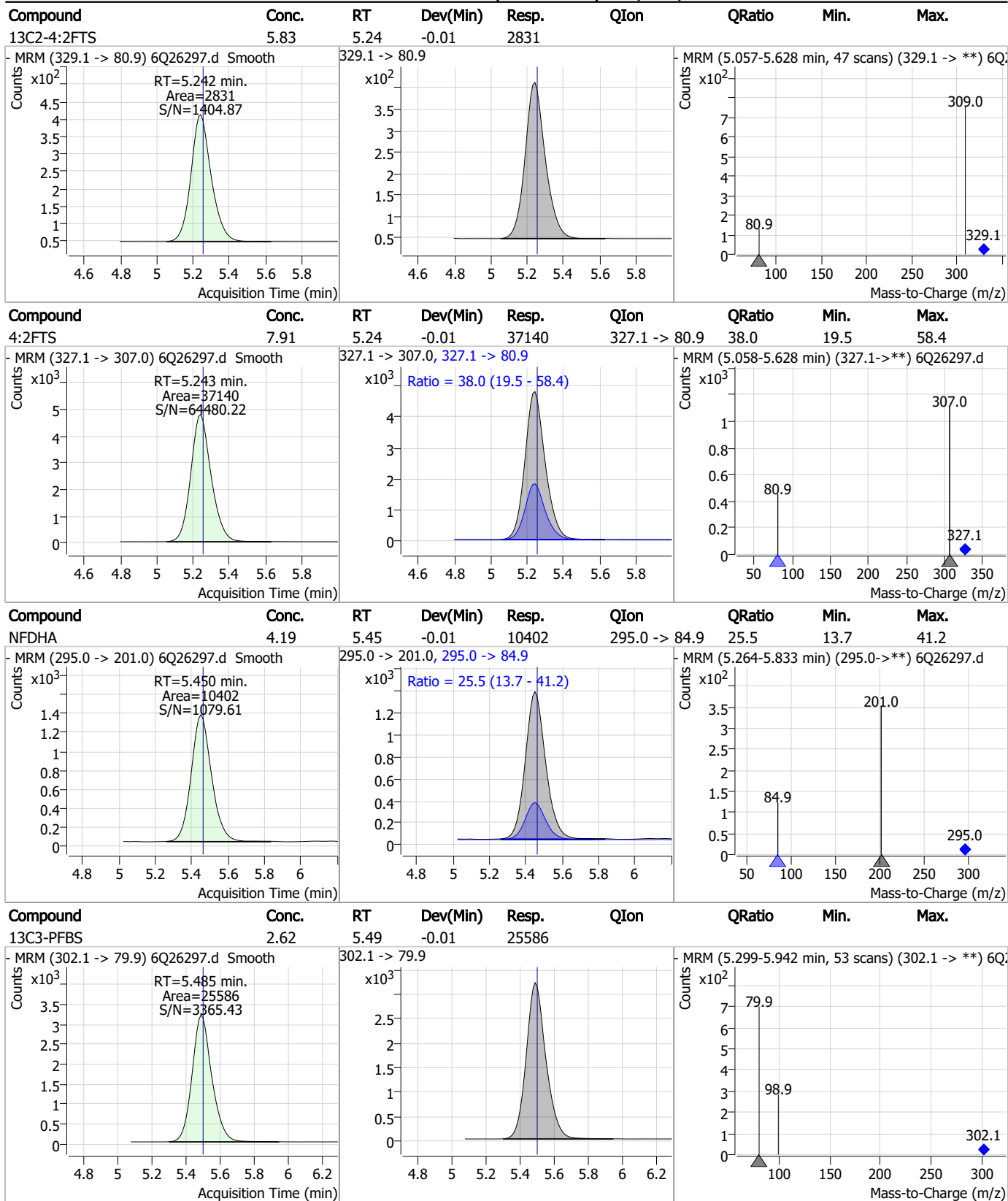


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFMBA	3.98	4.77	-0.03	40739				



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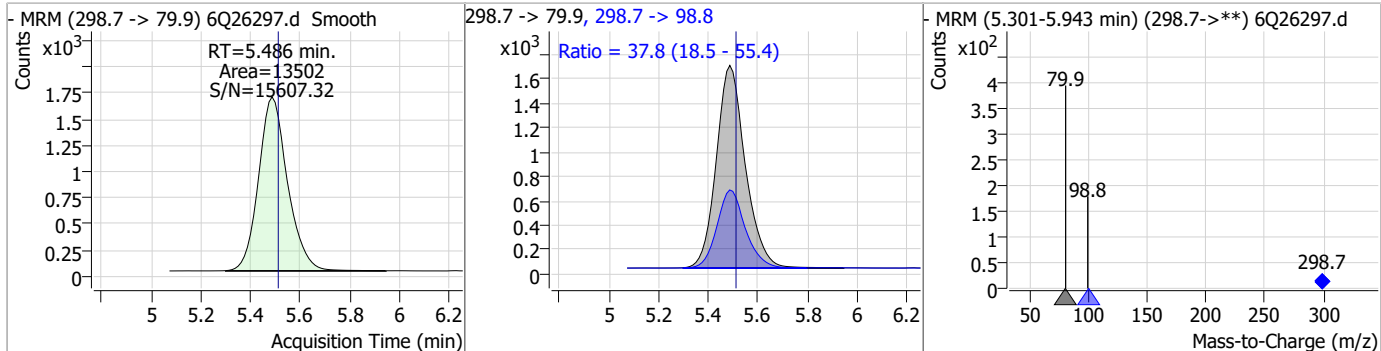
Perfluorinated Compounds by LC/MS/MS



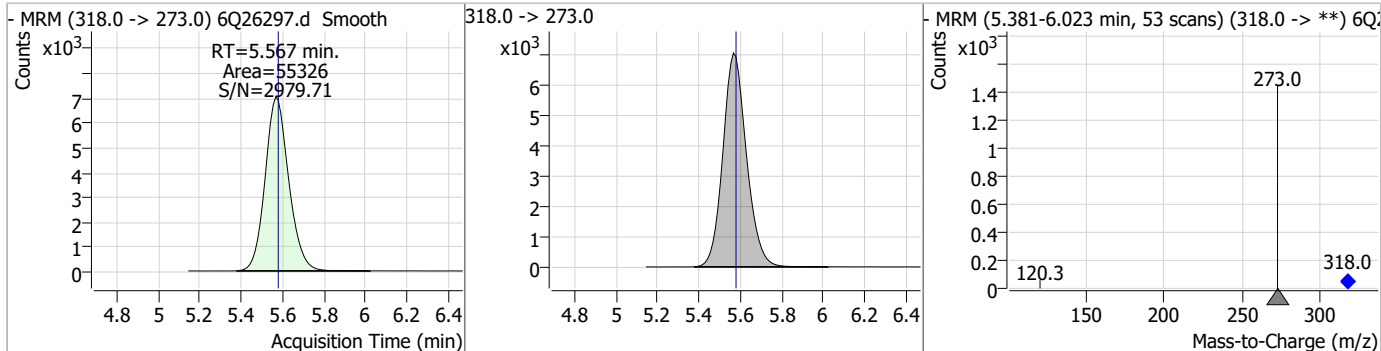
7.7.16
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Perfluorinated Compounds by LC/MS/MS

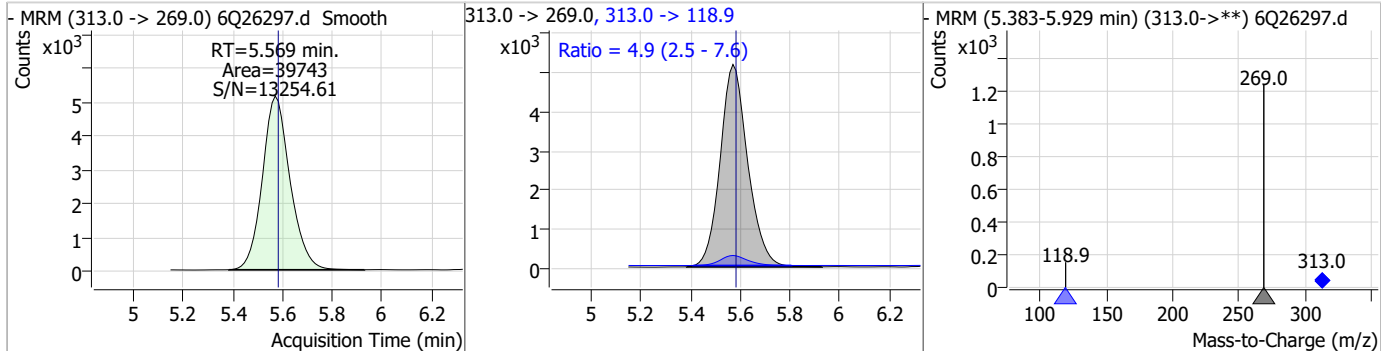
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBS	1.76	5.49	-0.02	13502	298.7 -> 98.8	37.8	18.5	55.4



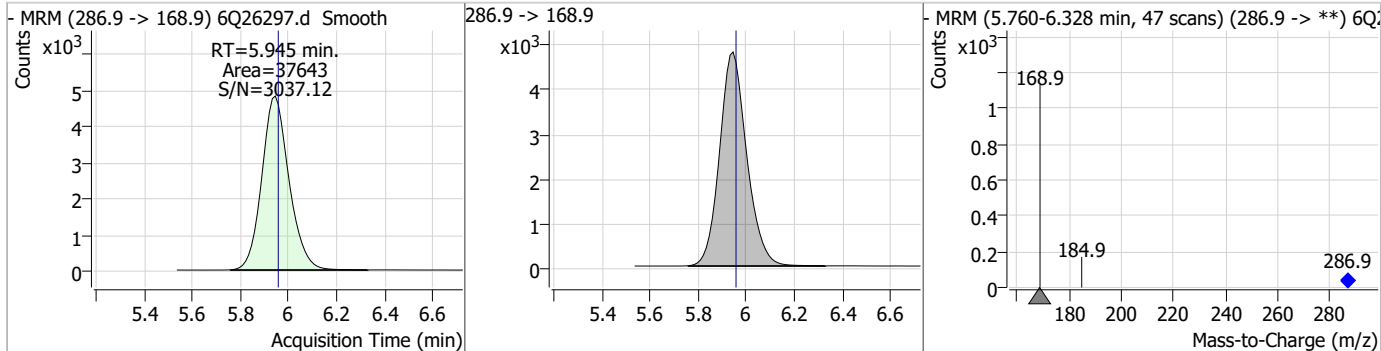
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFHxA	2.46	5.57	-0.01	55326	318.0 -> 273.0	4.9	2.5	7.6



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxA	2.01	5.57	-0.01	39743	313.0 -> 118.9	4.9	2.5	7.6



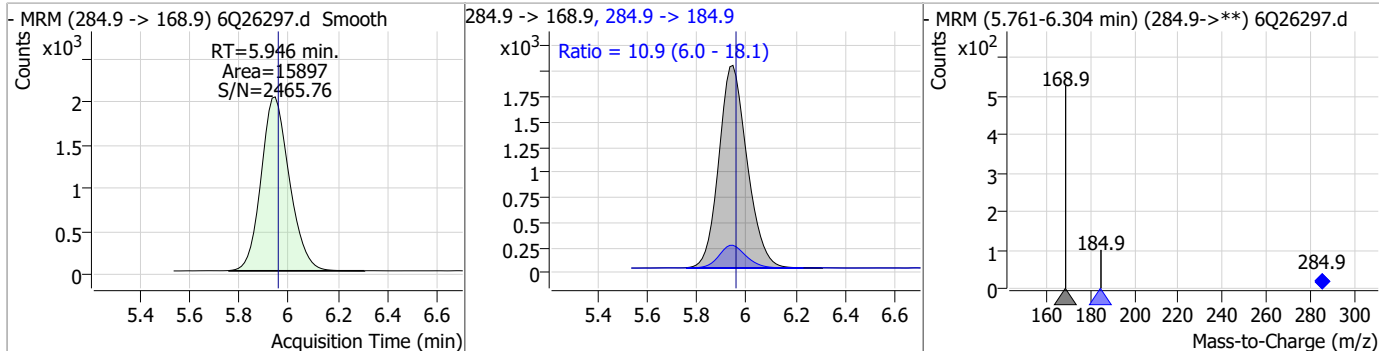
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-HFPO-DA	9.92	5.94	-0.01	37643	286.9 -> 168.9	4.9	2.5	7.6



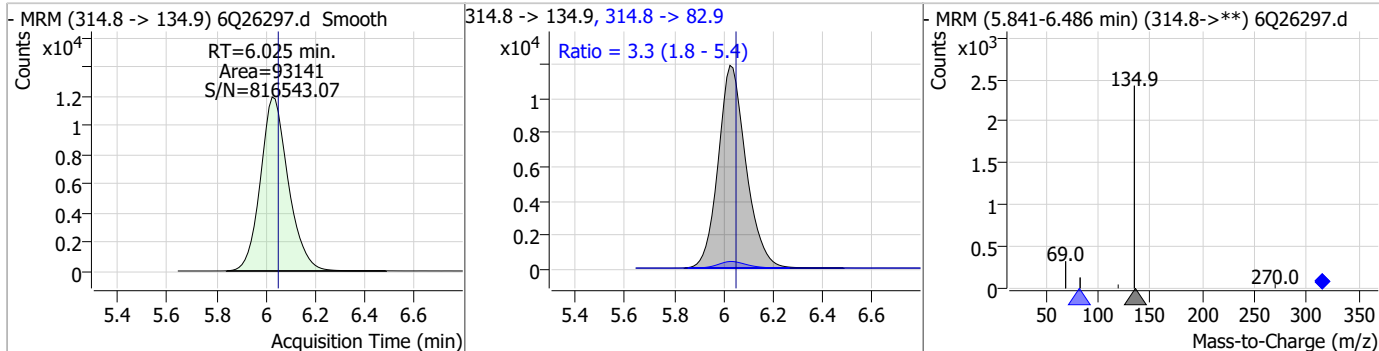
7.7.16
7

Perfluorinated Compounds by LC/MS/MS

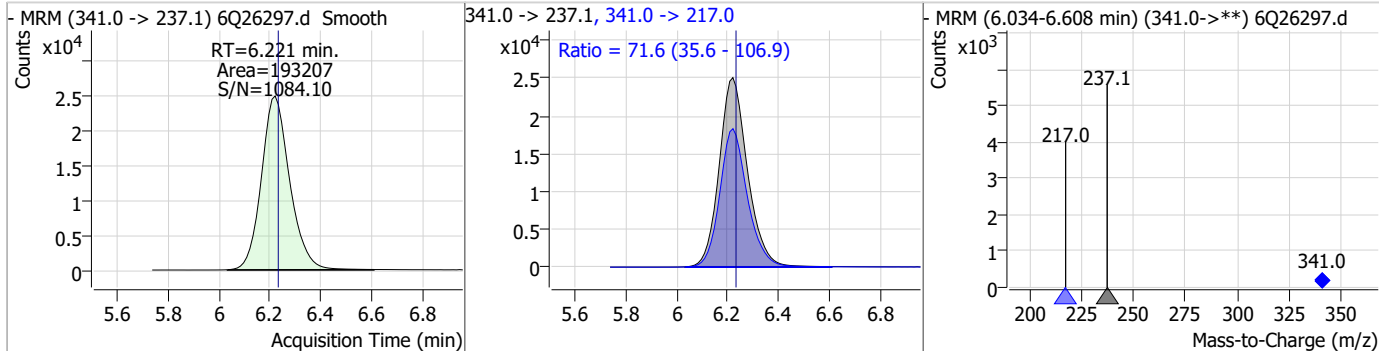
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
HFPO-DA	4.26	5.95	-0.01	15897	284.9 -> 184.9	10.9	6.0	18.1



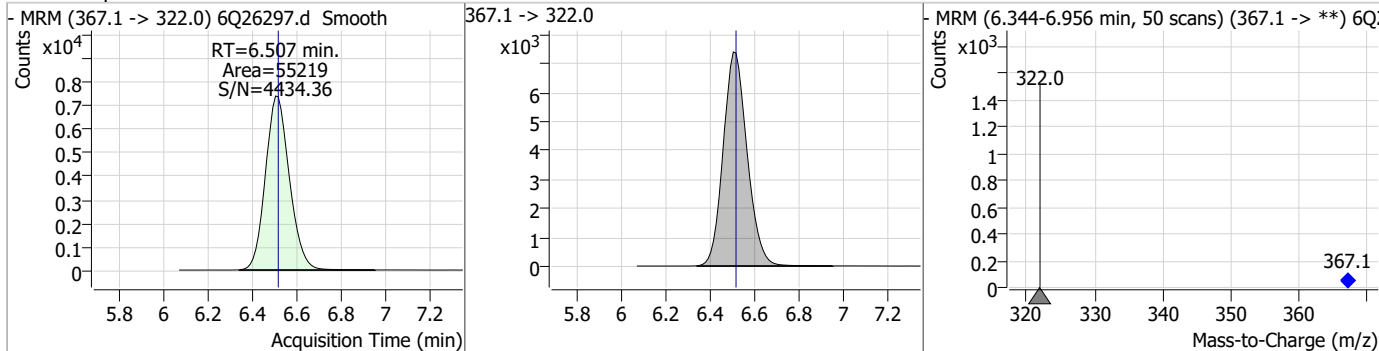
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFEESA	3.66	6.02	-0.02	93141	314.8 -> 82.9	3.3	1.8	5.4



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
5:3FTCA	52.11	6.22	-0.01	193207	341.0 -> 217.0	71.6	35.6	106.9

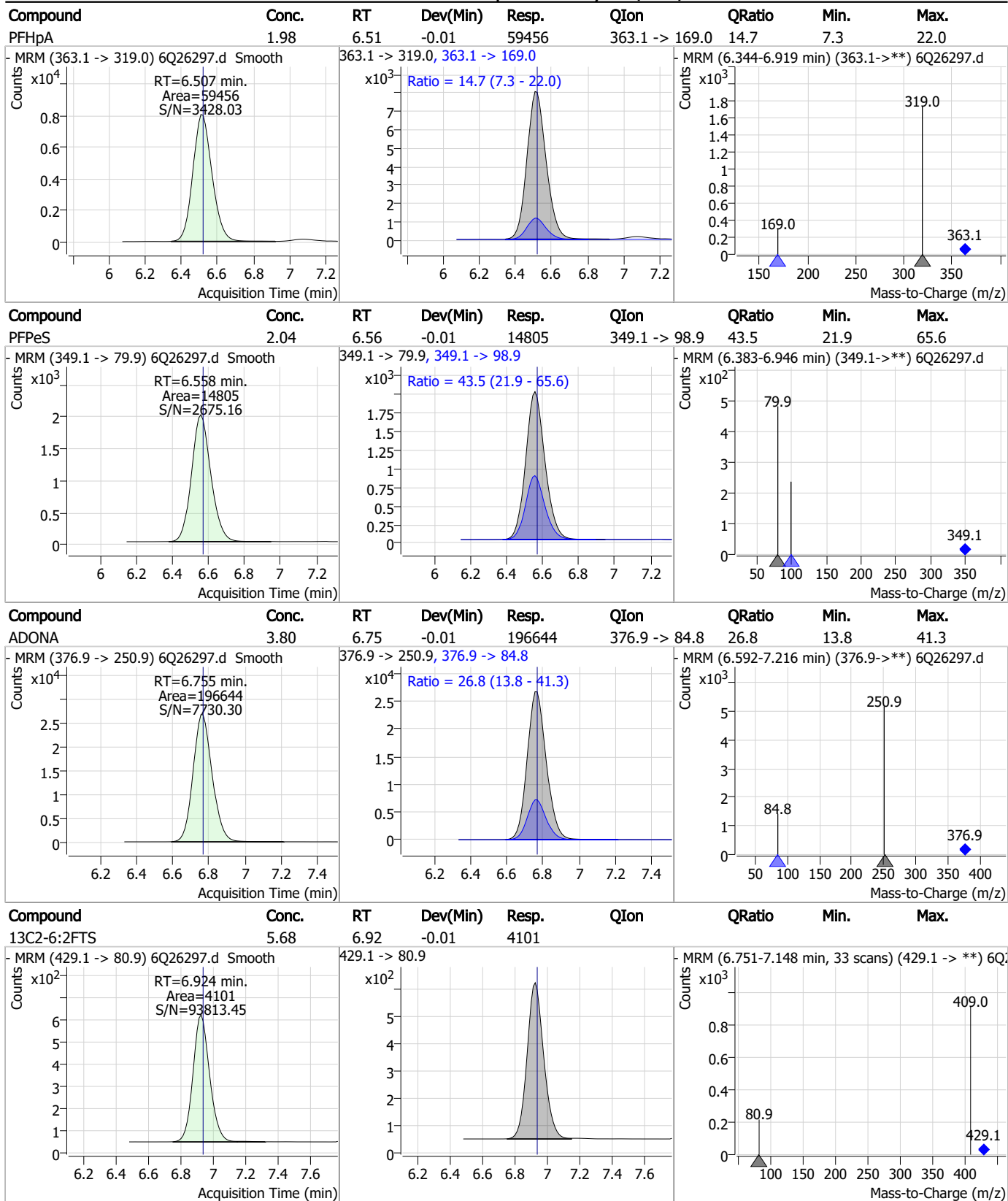


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFHpA	2.51	6.51	-0.01	55219	367.1 -> 322.0			



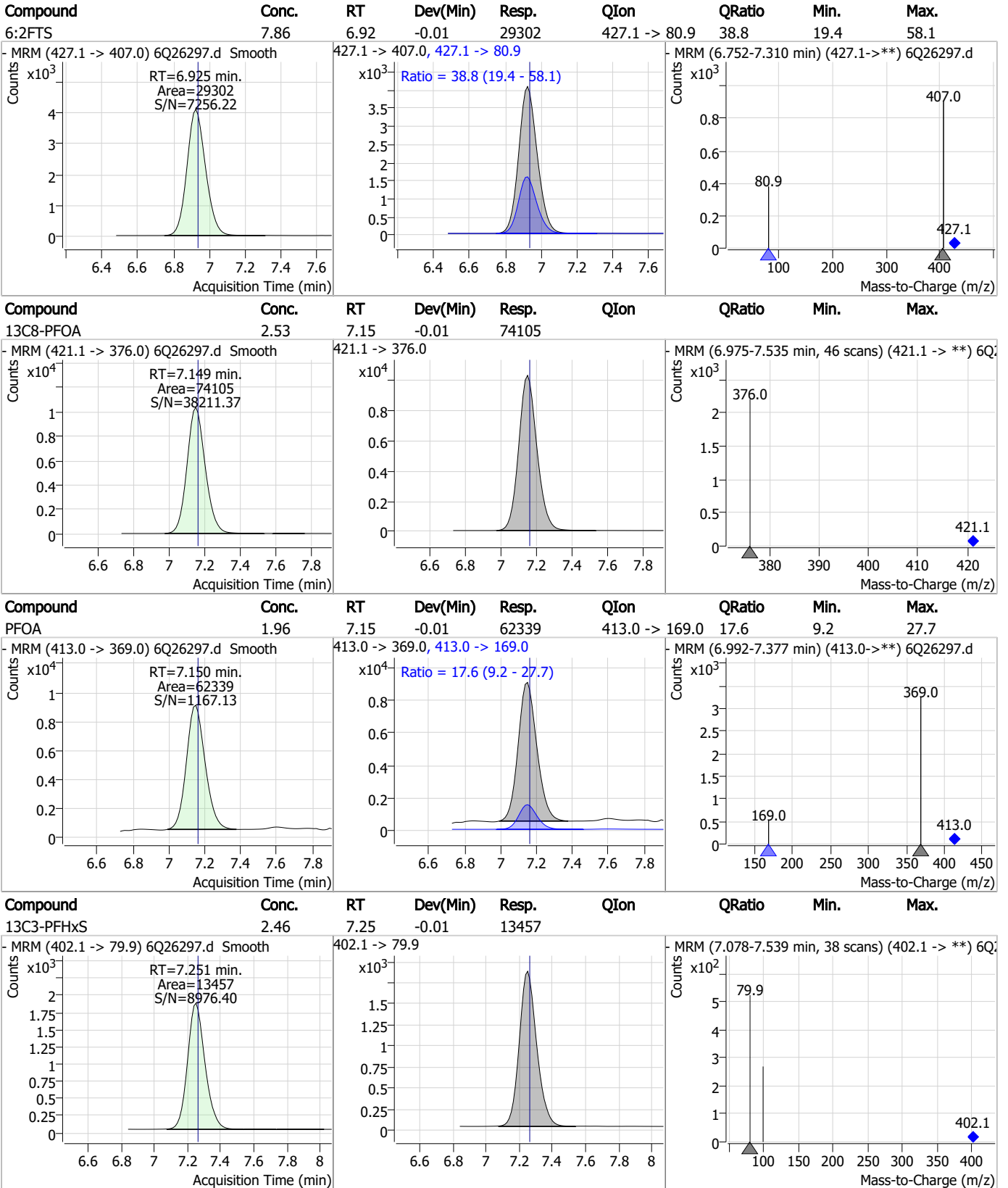
7.7.16
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Perfluorinated Compounds by LC/MS/MS



7.7.16
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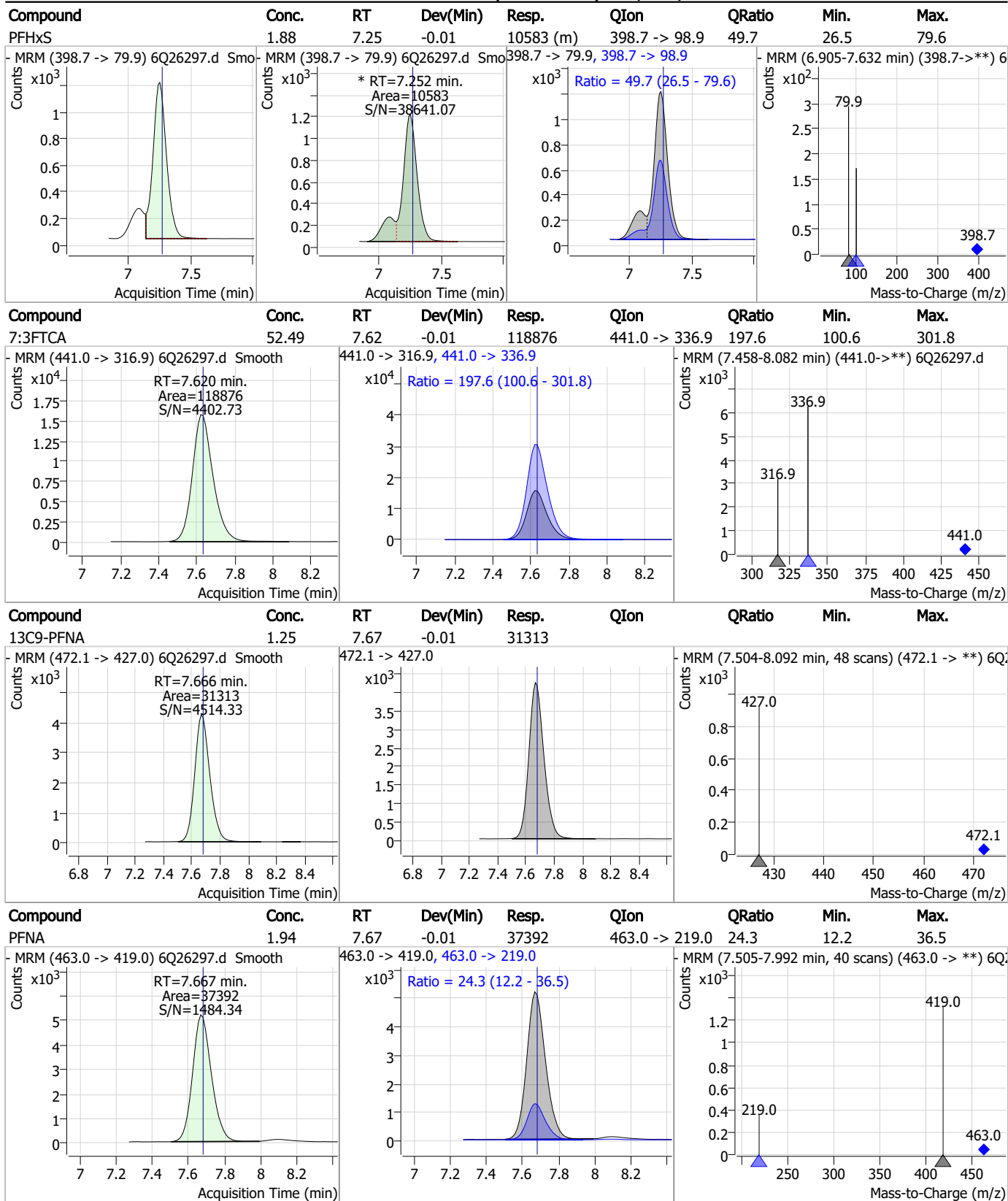
Perfluorinated Compounds by LC/MS/MS



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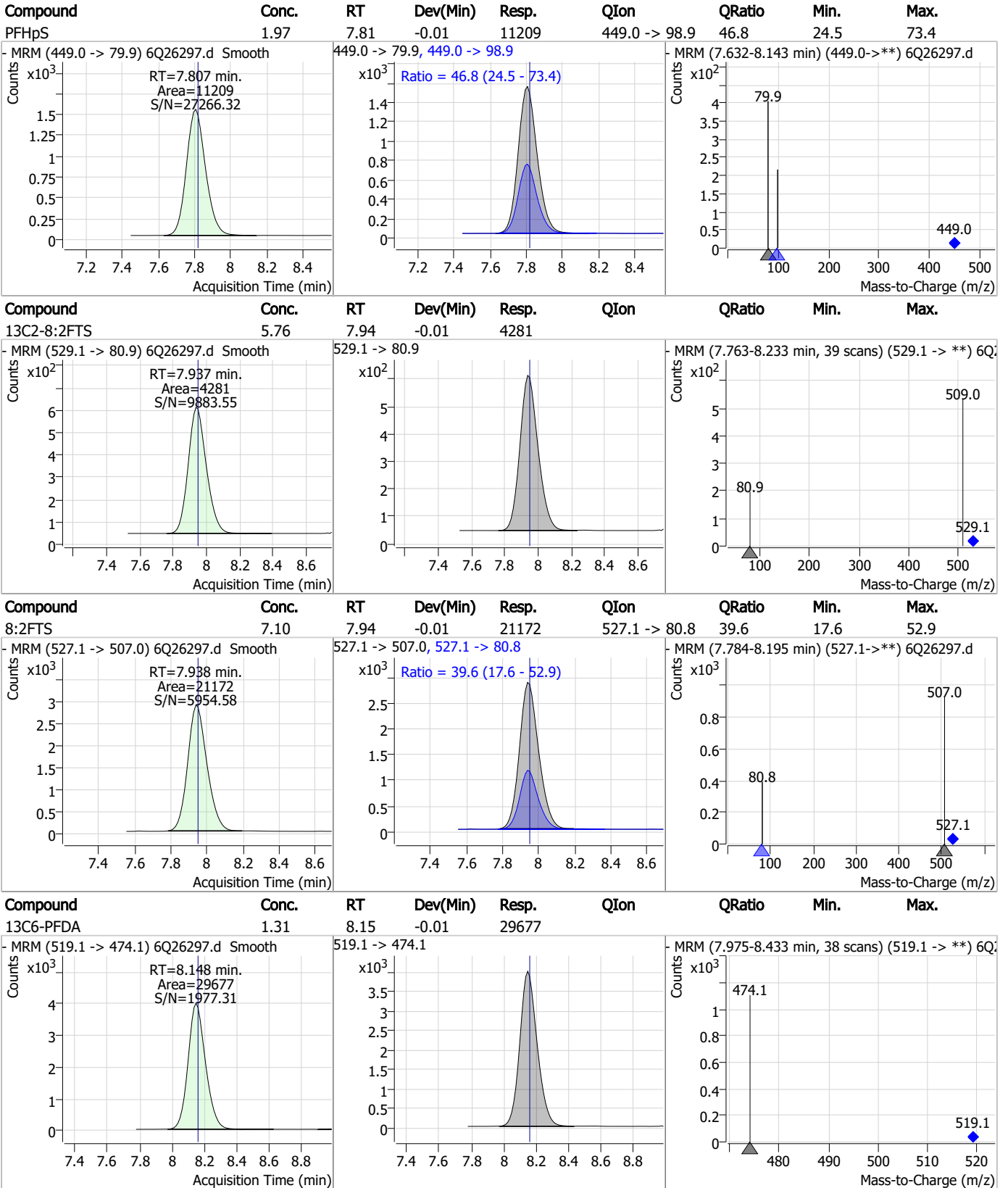


Perfluorinated Compounds by LC/MS/MS



7.7.16
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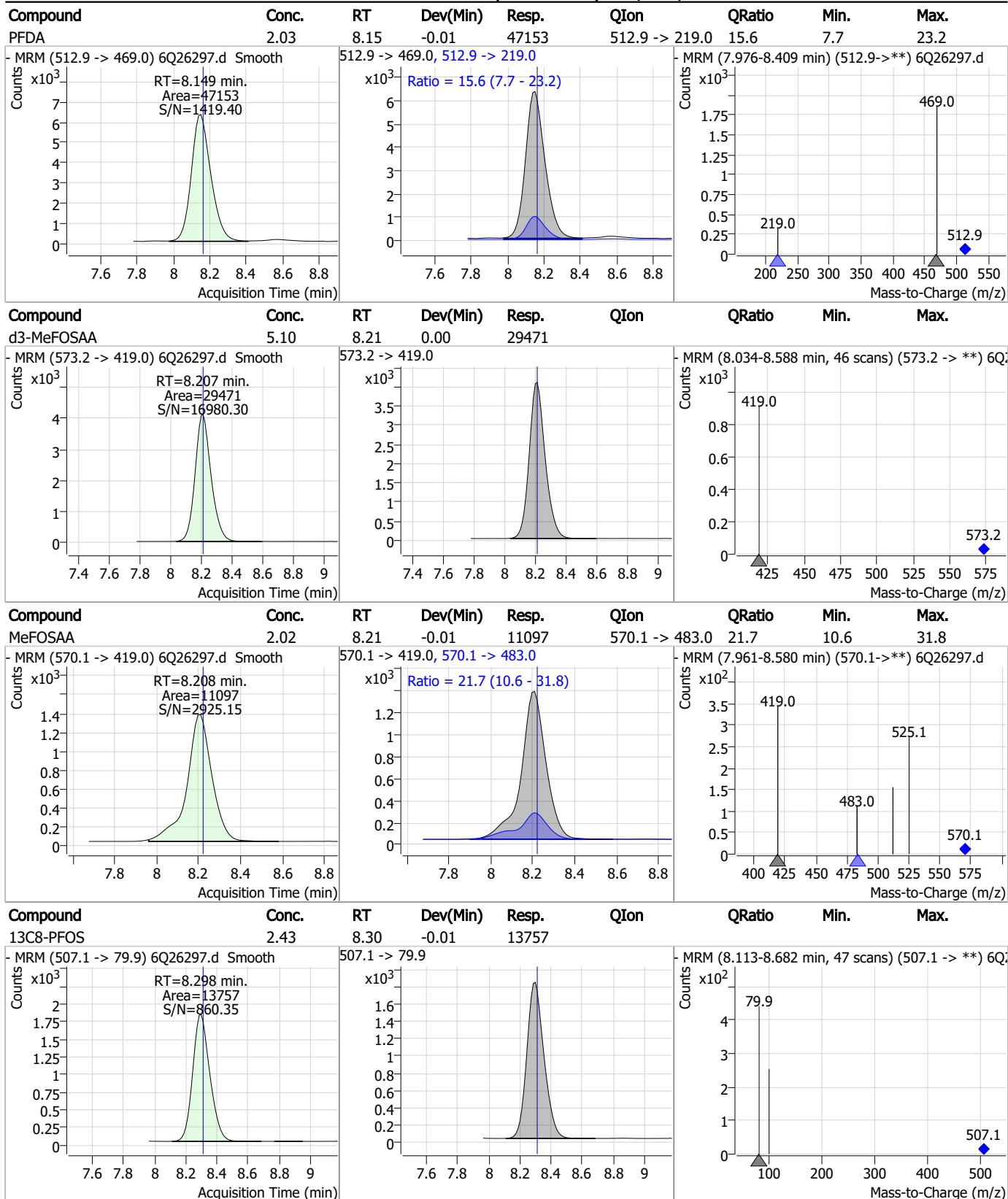
Perfluorinated Compounds by LC/MS/MS



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Perfluorinated Compounds by LC/MS/MS

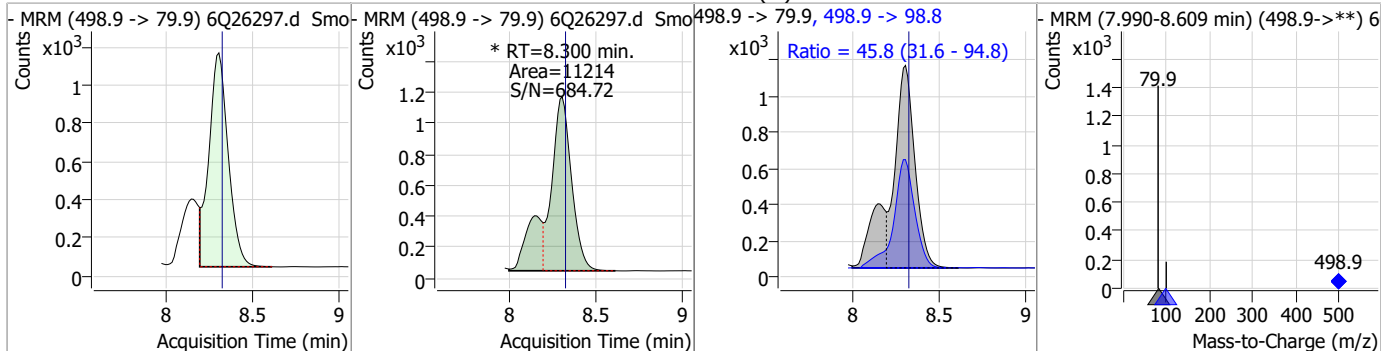


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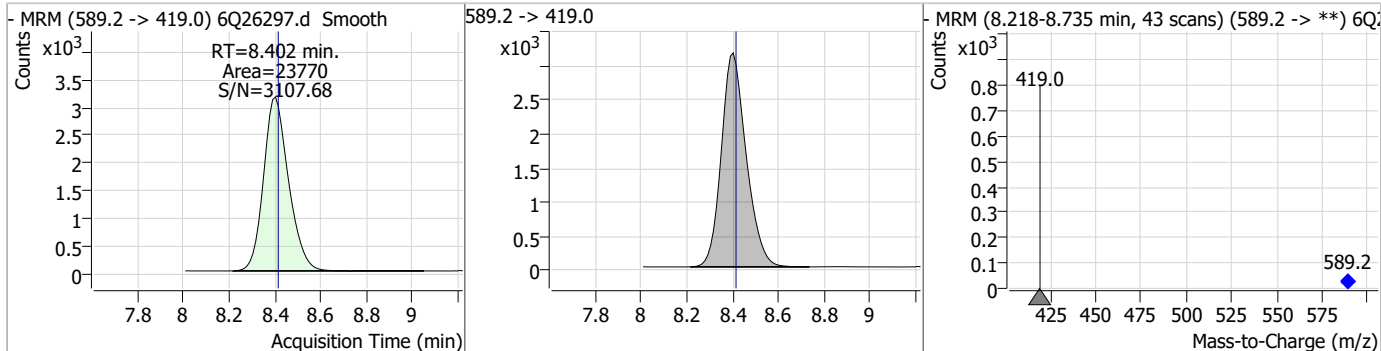
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Perfluorinated Compounds by LC/MS/MS

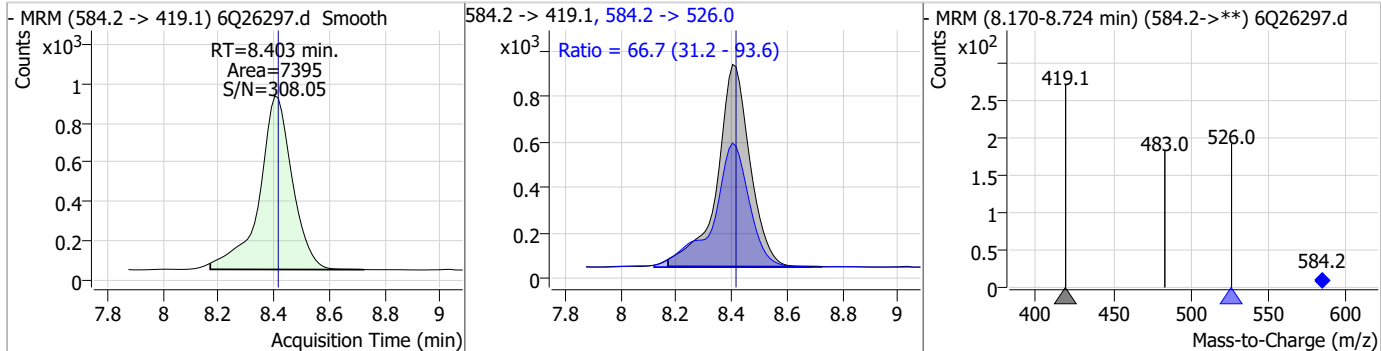
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOS	1.91	8.30	-0.01	11214 (m)	498.9 -> 98.8	45.8	31.6	94.8



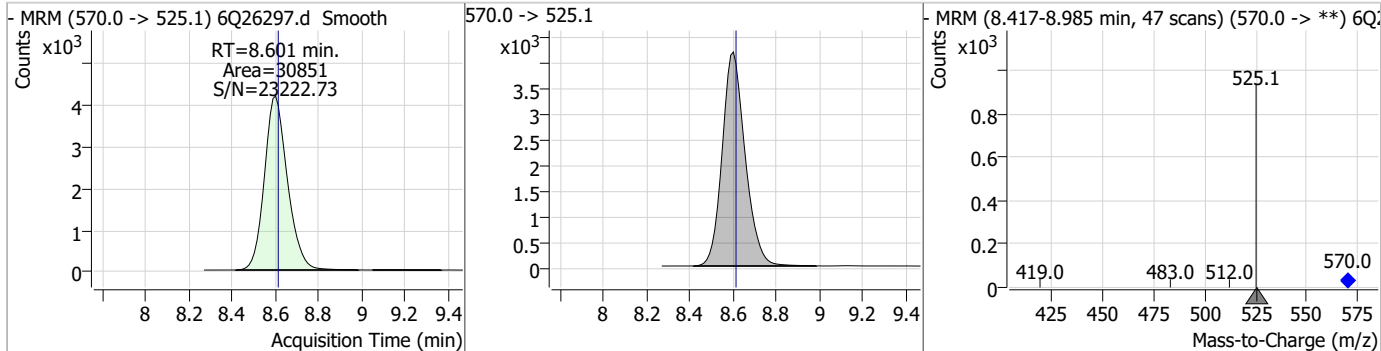
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSAA	4.80	8.40	-0.01	23770				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSAA	1.91	8.40	-0.01	7395	584.2 -> 526.0	66.7	31.2	93.6

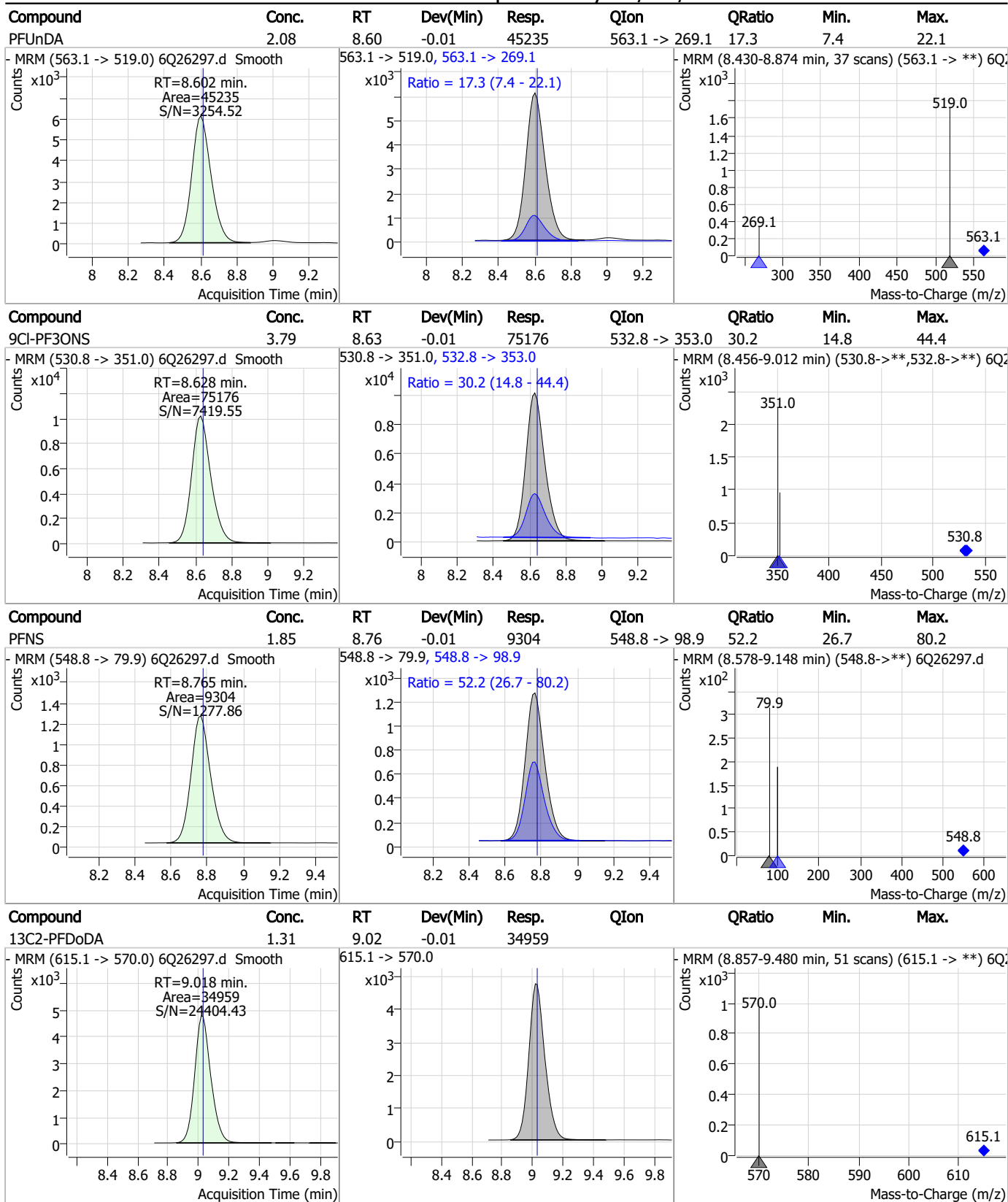


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C7-PFUnDA	1.26	8.60	-0.01	30851				



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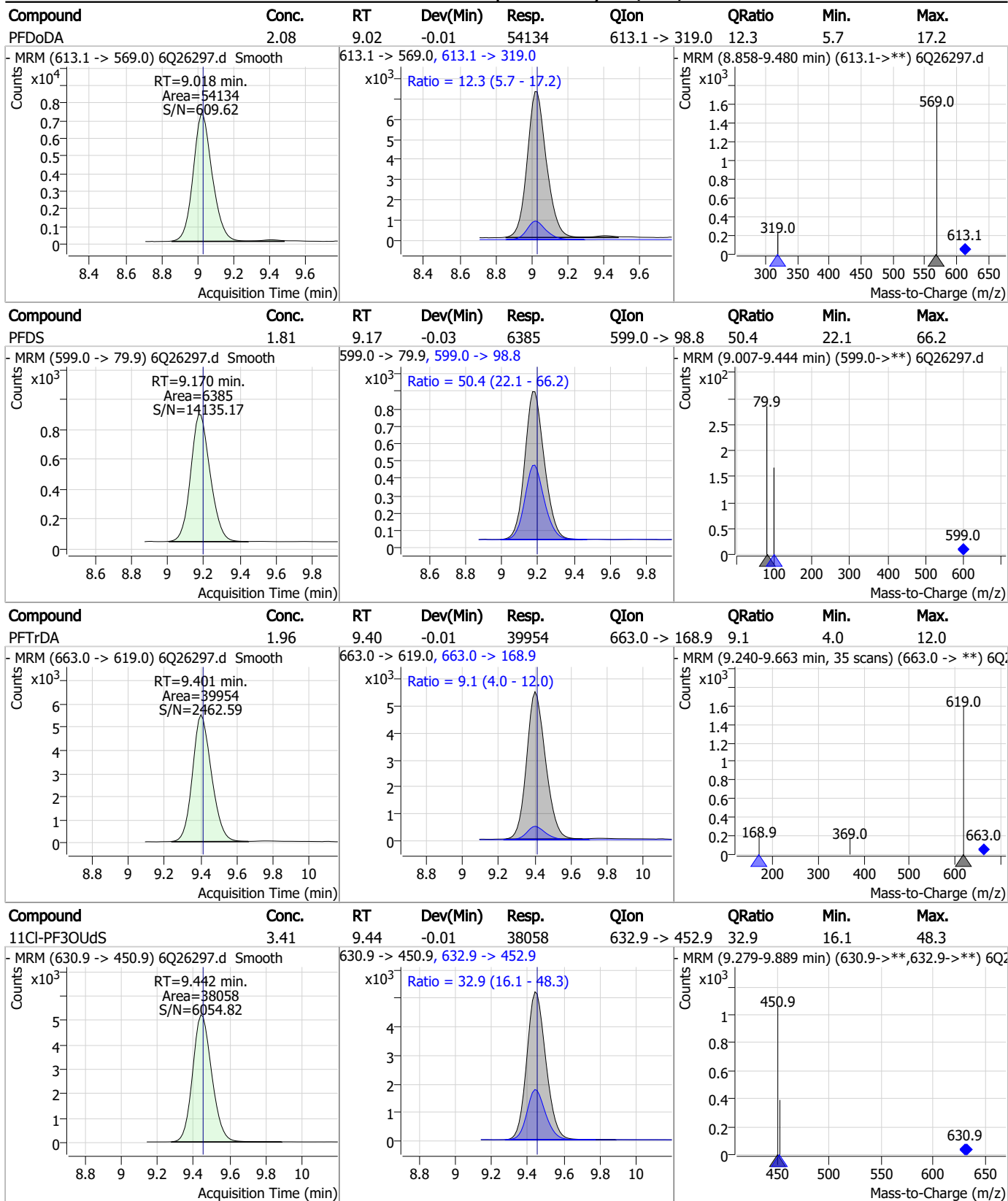
Perfluorinated Compounds by LC/MS/MS



7.7.16

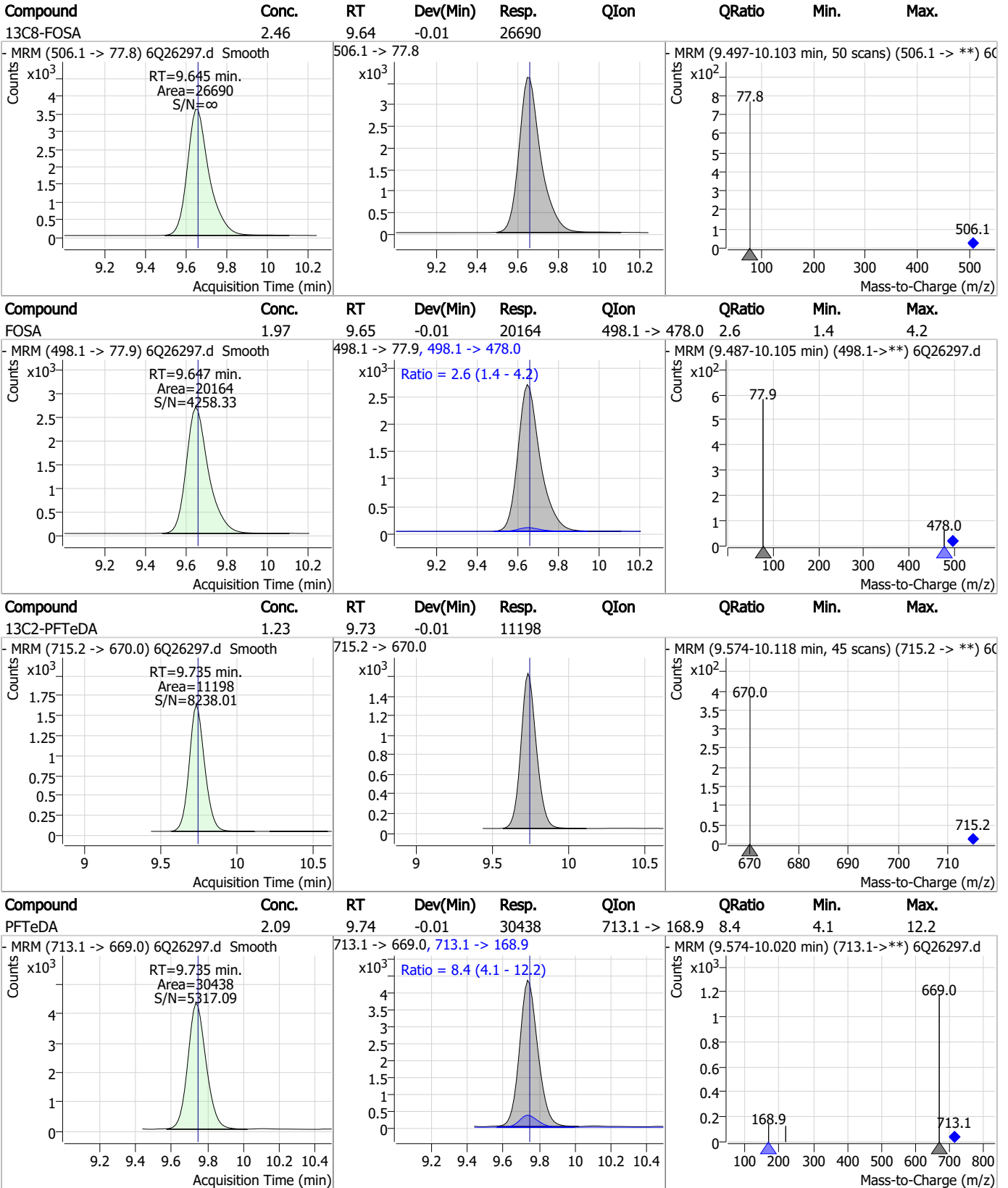
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Perfluorinated Compounds by LC/MS/MS



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Perfluorinated Compounds by LC/MS/MS

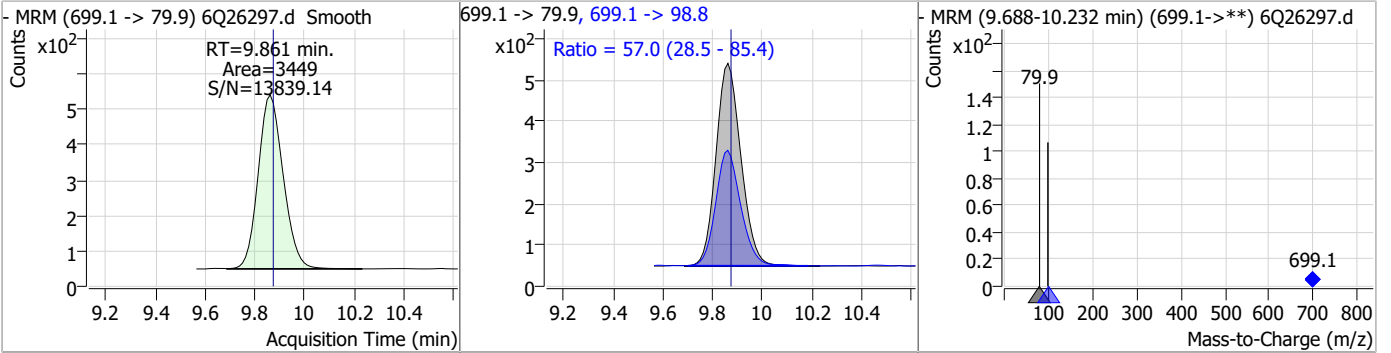


7.7.16
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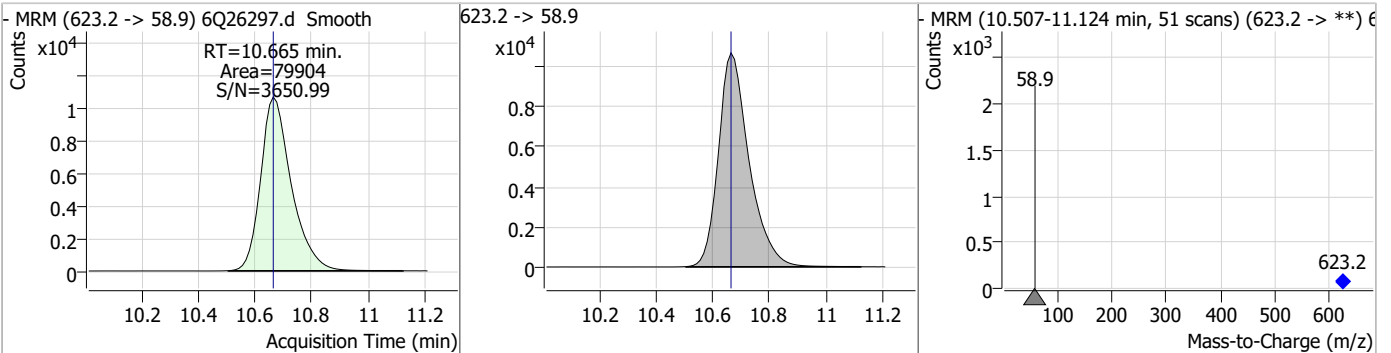


Perfluorinated Compounds by LC/MS/MS

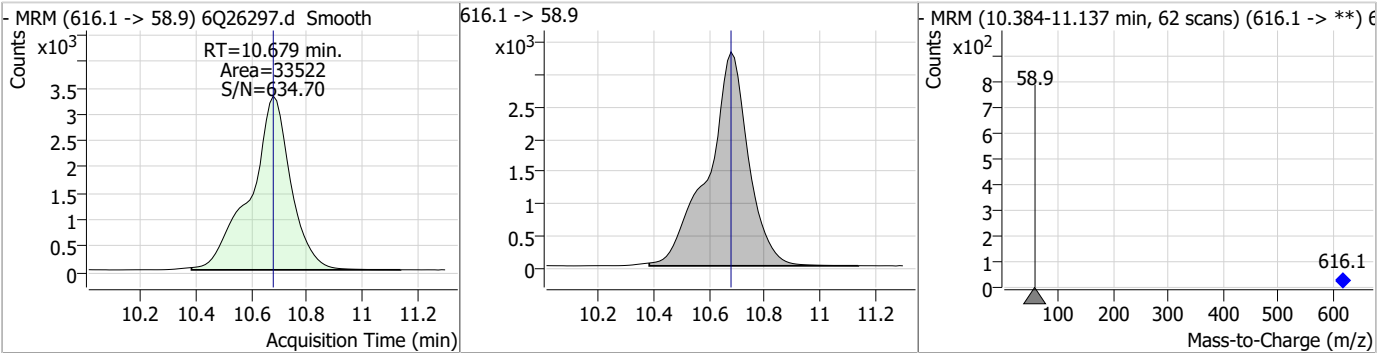
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoS	1.89	9.86	-0.01	3449	699.1 -> 98.8	57.0	28.5	85.4



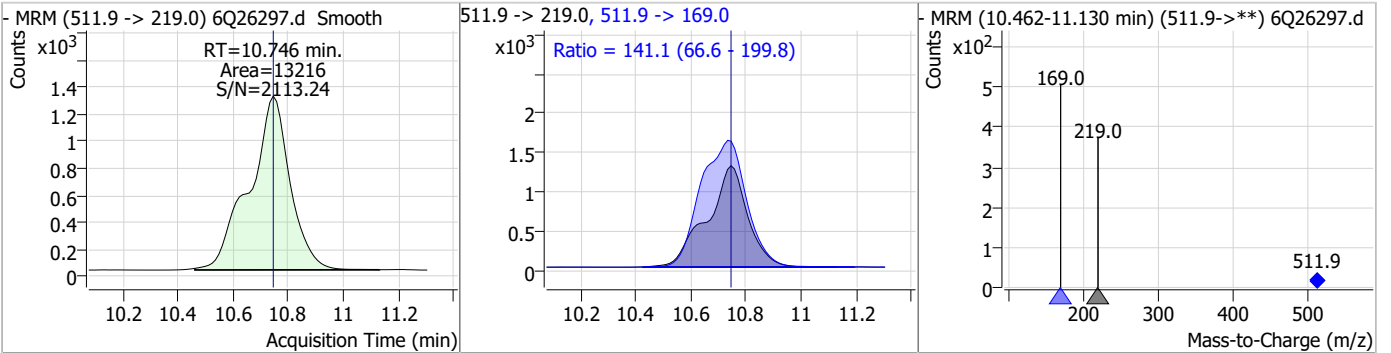
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d7-MeFOSE	22.85	10.67	0.00	79904				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSE	9.49	10.68	0.00	33522				

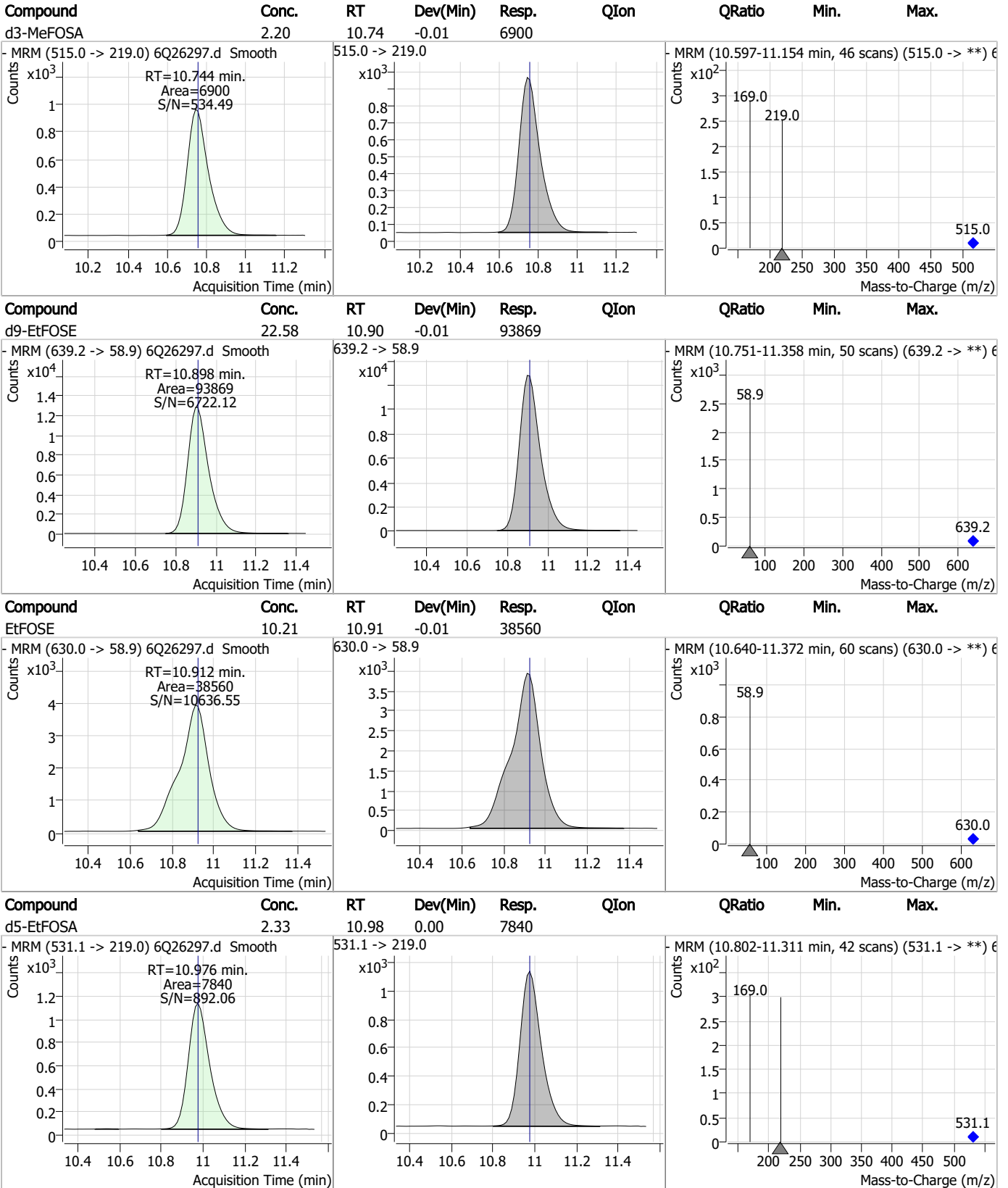


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSA	4.13	10.75	0.00	13216	511.9 -> 169.0	141.1	66.6	199.8



7.7.16
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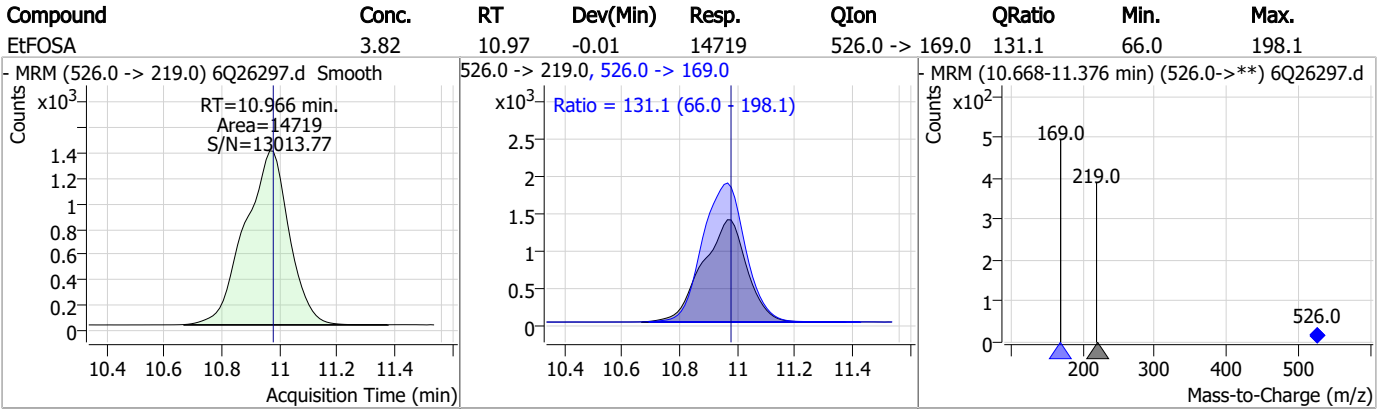
Perfluorinated Compounds by LC/MS/MS



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Perfluorinated Compounds by LC/MS/MS



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Manual Integration Approval Summary

Sample Number: S6Q370-CC367 Method: EPA DRAFT 1633
Lab FileID: 6Q26297.D Analyst approved: 10/16/23 10:56 Martha Valls
Injection Time: 10/12/23 19:51 Supervisor approved: 10/16/23 17:48 Natasha Gumtie

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		7.25	Split peak
Perfluorooctanesulfonic acid	1763-23-1		8.30	Split peak

7.7.16.1

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Perfluorinated Compounds by LC/MS/MS

Data File : 6Q26345.d
 Operator : marthav
 Acq. Method : 1633full.m
 Acq. Date-Time : 10/13/2023 7:19:11 AM
 Sample Name : cc367-4
 Vial : P1-A5
 DA Method File : 1633_100823_S6Q367.quantmethod.xml
 Batch Name : s6q370.batch.bin
 Sample Information : OP99081,S6Q370,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Internal Standards					
M4-PFBA	2.935	216.8 -> 171.9	174193	10.00 µg/L	-0.013
M5-PFPeA	4.347	268.3 -> 223.0	63321	5.00 µg/L	-0.025
M5-PFHxA	5.567	318.0 -> 273.0	58765	2.50 µg/L	-0.012
M4-PFHpA	6.507	367.1 -> 322.0	53454	2.50 µg/L	-0.012
M8-PFOA	7.136	421.1 -> 376.0	73690	2.50 µg/L	-0.025
M9-PFNA	7.666	472.1 -> 427.0	31717	1.25 µg/L	-0.013
M6-PFDA	8.136	519.1 -> 474.1	31872	1.25 µg/L	-0.025
M7-PFUnDA	8.589	570.0 -> 525.1	35405	1.25 µg/L	-0.025
M2-PFDoDA	9.018	615.1 -> 570.0	39502	1.25 µg/L	-0.012
M2-PFTeDA	9.735	715.2 -> 670.0	13112	1.25 µg/L	-0.012
M8-FOSA	9.645	506.1 -> 77.8	28365	2.50 µg/L	-0.012
M3-PFBS	5.485	302.1 -> 79.9	25338	2.50 µg/L	-0.012
M3-PFHxS	7.239	402.1 -> 79.9	14137	2.50 µg/L	-0.025
M8-PFOS	8.286	507.1 -> 79.9	14088	2.50 µg/L	-0.025
M2-4:2FTS	5.230	329.1 -> 80.9	2972	5.00 µg/L	-0.025
M2-6:2FTS	6.912	429.1 -> 80.9	3902	5.00 µg/L	-0.025
M2-8:2FTS	7.937	529.1 -> 80.9	4201	5.00 µg/L	-0.012
M3-MeFOSAA	8.195	573.2 -> 419.0	32619	5.00 µg/L	-0.012
M3-HFPO-DA	5.933	286.9 -> 168.9	37954	10.00 µg/L	-0.025
M5-EtFOSAA	8.390	589.2 -> 419.0	27712	5.00 µg/L	-0.025
M7-MeFOSE	10.665	623.2 -> 58.9	89711	25.00 µg/L	0.000
M9-EtFOSE	10.898	639.2 -> 58.9	104744	25.00 µg/L	-0.012
M5-EtFOSA	10.976	531.1 -> 219.0	7763	2.50 µg/L	0.000
M3-MeFOSA	10.744	515.0 -> 219.0	6995	2.50 µg/L	-0.012
13C4-PFOS	8.287	502.8 -> 79.9	12808	2.50 µg/L	-0.025
13C3-PFBA	2.927	216.0 -> 172.0	73805	5.00 µg/L	-0.025
18O2-PFHxS	7.238	403.0 -> 83.9	9027	2.50 µg/L	-0.025
13C4-PFOA	7.136	417.1 -> 372.0	87680	2.50 µg/L	-0.025
13C2-PFDA	8.136	515.1 -> 470.1	30452	1.25 µg/L	-0.025
13C5-PFNA	7.667	468.0 -> 423.0	29915	1.25 µg/L	-0.013
13C2-PFHxA	5.568	315.1 -> 270.0	56237	2.50 µg/L	-0.012
System Monitoring Compounds					
13C2-4:2FTS	5.230	329.1 -> 80.9	2972	5.84 µg/L	-0.025
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 116.9%		
13C2-6:2FTS	6.912	429.1 -> 80.9	3902	5.16 µg/L	-0.025
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 103.2%		
13C2-8:2FTS	7.937	529.1 -> 80.9	4201	5.39 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 107.9%		
13C2-PFDoDA	9.018	615.1 -> 570.0	39502	1.30 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 104.1%		
13C2-PFTeDA	9.735	715.2 -> 670.0	13112	1.27 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 101.9%		
13C3-PFBS	5.485	302.1 -> 79.9	25338	2.48 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 99.1%		
13C3-PFHxS	7.239	402.1 -> 79.9	14137	2.46 µg/L	-0.025

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Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 98.6%	
13C4-PFBA	2.935	216.8 -> 171.9	174193	9.78 µg/L	-0.013
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 97.8%	
13C4-PFHpA	6.507	367.1 -> 322.0	53454	2.35 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 94.0%	
13C5-PFHxA	5.567	318.0 -> 273.0	58765	2.53 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 101.1%	
13C5-PFPeA	4.347	268.3 -> 223.0	63321	4.98 µg/L	-0.025
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 99.5%	
13C6-PFDA	8.136	519.1 -> 474.1	31872	1.24 µg/L	-0.025
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 99.4%	
13C7-PFUnDA	8.589	570.0 -> 525.1	35405	1.28 µg/L	-0.025
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 102.2%	
13C8-FOSA	9.645	506.1 -> 77.8	28365	2.68 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 107.3%	
13C8-PFOA	7.136	421.1 -> 376.0	73690	2.42 µg/L	-0.025
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 96.9%	
13C8-PFOS	8.286	507.1 -> 79.9	14088	2.55 µg/L	-0.025
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 101.9%	
13C9-PFNA	7.666	472.1 -> 427.0	31717	1.29 µg/L	-0.013
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 103.1%	
d3-MeFOSAA	8.195	573.2 -> 419.0	32619	5.79 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 115.8%	
13C3-HFPO-DA	5.933	286.9 -> 168.9	37954	9.67 µg/L	-0.025
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 96.7%	
d3-MeFOSA	10.744	515.0 -> 219.0	6995	2.28 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 91.3%	
d5-EtFOSAA	8.390	589.2 -> 419.0	27712	5.74 µg/L	-0.025
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 114.8%	
d7-MeFOSE	10.665	623.2 -> 58.9	89711	26.30 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 105.2%	
d9-EtFOSE	10.898	639.2 -> 58.9	104744	25.83 µg/L	-0.012
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 103.3%	
d5-EtFOSA	10.976	531.1 -> 219.0	7763	2.37 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 94.8%	
Target Compounds					QValue
4:2FTS	5.231	327.1 -> 307.0	36598	7.42 µg/L	98
		327.1 -> 80.9	14604		
6:2FTS	6.912	427.1 -> 407.0	28865	8.14 µg/L	97
		427.1 -> 80.9	11612		
8:2FTS	7.938	527.1 -> 507.0	22749	7.77 µg/L	96
		527.1 -> 80.8	8591		
EtFOSAA	8.403	584.2 -> 419.1	8138	1.81 µg/L	98
		584.2 -> 526.0	5225		
FOSA	9.647	498.1 -> 77.9	21832	2.01 µg/L	99
		498.1 -> 478.0	568		
MeFOSAA	8.196	570.1 -> 419.0	11324	1.86 µg/L	99
		570.1 -> 483.0	2454		
PFBA	2.931	212.8 -> 168.9	53276	8.21 µg/L	100
PFBS	5.474	298.7 -> 79.9	14107	1.86 µg/L	100
		298.7 -> 98.8	5238		
PFDA	8.137	512.9 -> 469.0	50620	2.03 µg/L	99
		512.9 -> 219.0	8069		
PFDODA	9.018	613.1 -> 569.0	56692	1.93 µg/L	96
		613.1 -> 319.0	7314		
PFDS	9.170	599.0 -> 79.9	6890	1.91 µg/L	93

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Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
		599.0 -> 98.8	3351			
PFHpA	6.507	363.1 -> 319.0	61971	2.14	µg/L	99
		363.1 -> 169.0	8844			
PFHpS	7.794	449.0 -> 79.9	11362	1.95	µg/L	98
		449.0 -> 98.9	5429			
PFHxA	5.557	313.0 -> 269.0	41585	1.98	µg/L	99
		313.0 -> 118.9	2019			
PFHxS	7.240	398.7 -> 79.9	11040	1.87	µg/L	m 86
		398.7 -> 98.9	4775			
PFNA	7.667	463.0 -> 419.0	38792	1.98	µg/L	98
		463.0 -> 219.0	9094			
PFNS	8.752	548.8 -> 79.9	9152	1.78	µg/L	99
		548.8 -> 98.9	4978			
PFOA	7.137	413.0 -> 369.0	62607	1.98	µg/L	100
		413.0 -> 169.0	11585			
PFOS	8.288	498.9 -> 79.9	11475	1.91	µg/L	m 86
		498.9 -> 98.8	6023			
PFPeA	4.349	263.0 -> 219.0	54406	3.98	µg/L	100
PFPeS	6.546	349.1 -> 79.9	15115	1.98	µg/L	97
		349.1 -> 98.9	6934			
PFTeDA	9.735	713.1 -> 669.0	36854	2.16	µg/L	100
		713.1 -> 168.9	2998			
PFTrDA	9.401	663.0 -> 619.0	47837	2.07	µg/L	99
		663.0 -> 168.9	4038			
PFUnDA	8.589	563.1 -> 519.0	50417	2.02	µg/L	98
		563.1 -> 269.1	7838			
11CI-PF3OUdS	9.442	630.9 -> 450.9	41329	3.67	µg/L	100
		632.9 -> 452.9	13320			
9CI-PF3ONS	8.616	530.8 -> 351.0	76649	3.84	µg/L	96
		532.8 -> 353.0	24491			
ADONA	6.755	376.9 -> 250.9	202260	3.88	µg/L	97
		376.9 -> 84.8	53063			
HFPO-DA	5.933	284.9 -> 168.9	15153	4.03	µg/L	99
		284.9 -> 184.9	1779			
3:3FTCA	3.796	241.0 -> 177.0	9067	9.70	µg/L	99
		241.0 -> 117.0	1276			
5:3FTCA	6.209	341.0 -> 237.1	192806	48.96	µg/L	96
		341.0 -> 217.0	144227			
7:3FTCA	7.620	441.0 -> 316.9	122383	50.88	µg/L	92
		441.0 -> 336.9	230672			
EtFOSA	10.966	526.0 -> 219.0	15278	4.01	µg/L	98
		526.0 -> 169.0	19833			
EtFOSE	10.912	630.0 -> 58.9	43273	10.27	µg/L	100
MeFOSA	10.746	511.9 -> 219.0	14409	4.44	µg/L	96
		511.9 -> 169.0	19874			
MeFOSE	10.679	616.1 -> 58.9	35980	9.08	µg/L	100
PFDoDS	9.849	699.1 -> 79.9	3718	1.99	µg/L	95
		699.1 -> 98.8	1967			
NFDHA	5.437	295.0 -> 201.0	10276	3.89	µg/L	97
		295.0 -> 84.9	2662			
PFMBA	4.769	279.0 -> 85.1	41212	3.96	µg/L	100
PFMPA	3.488	229.0 -> 84.9	33420	3.89	µg/L	100
PFEESA	6.025	314.8 -> 134.9	93717	3.47	µg/L	100
		314.8 -> 82.9	3298			

= Qualifier out of range, m = manually integrated, + = Area summed



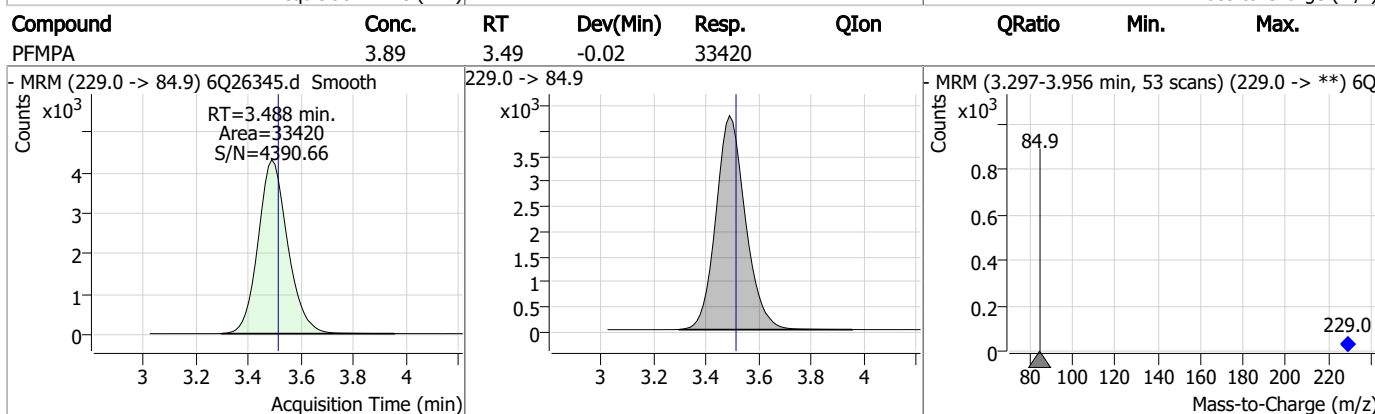
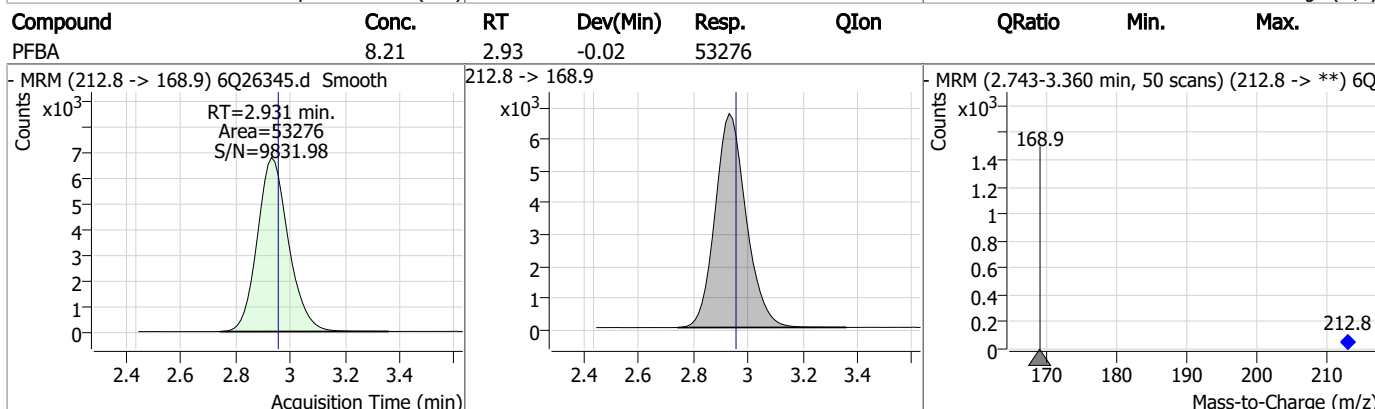
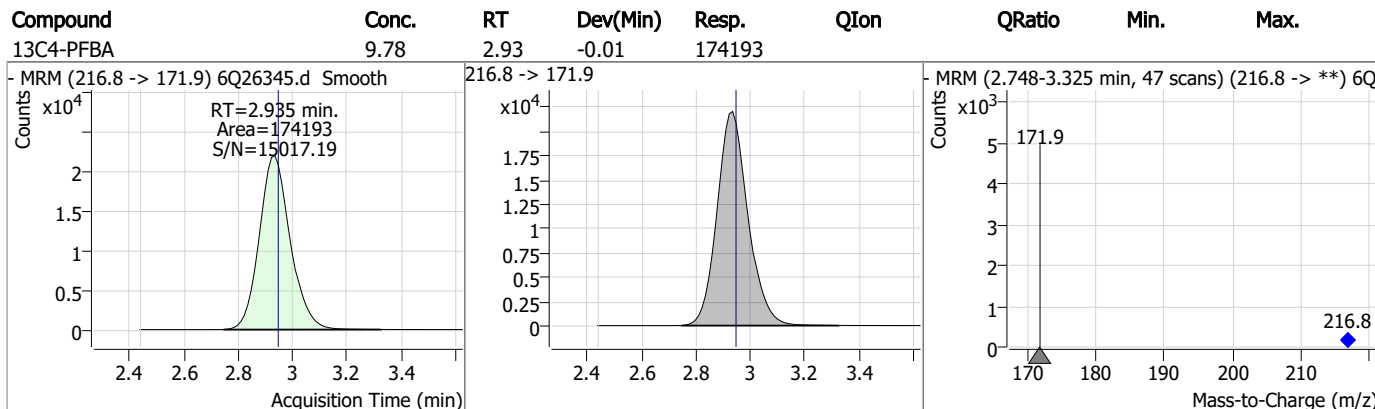
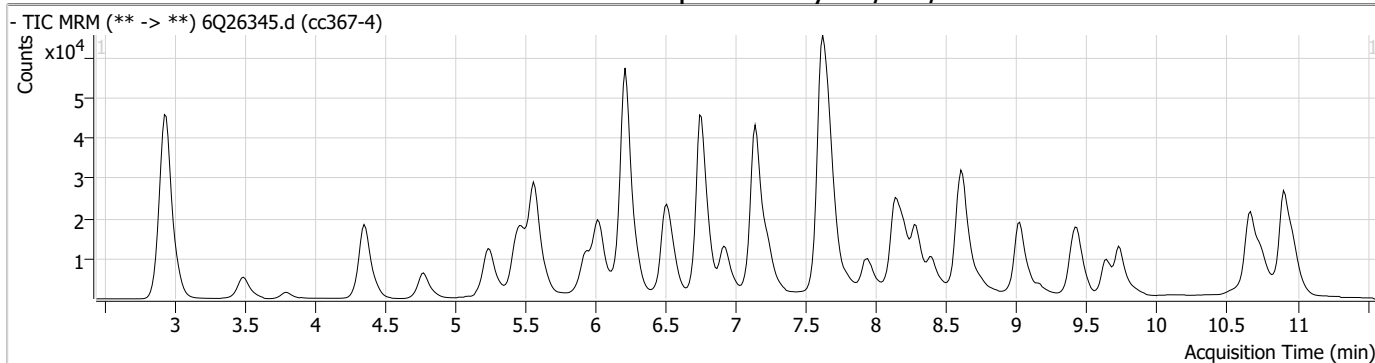
Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
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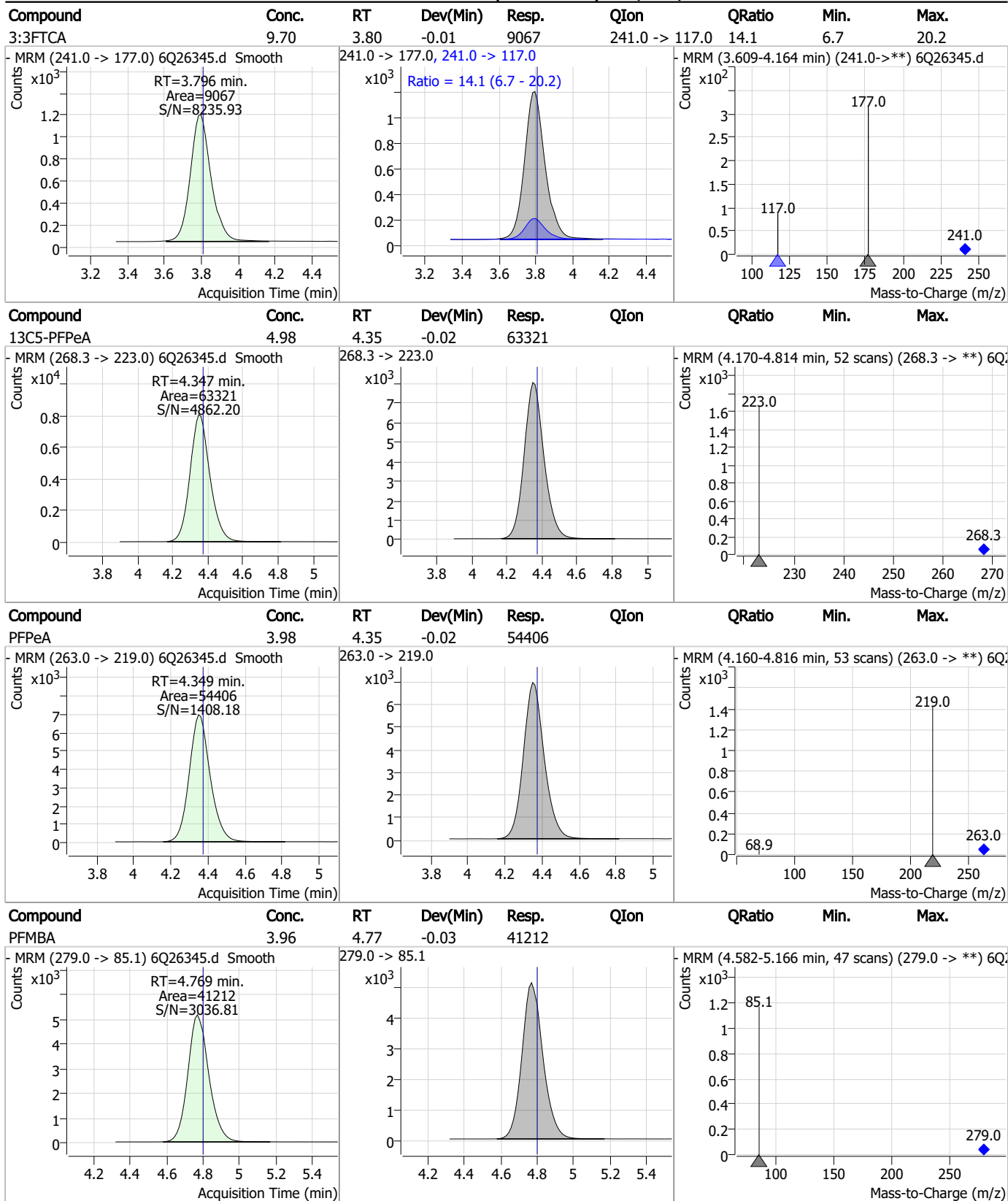
7.7.17
7



Perfluorinated Compounds by LC/MS/MS

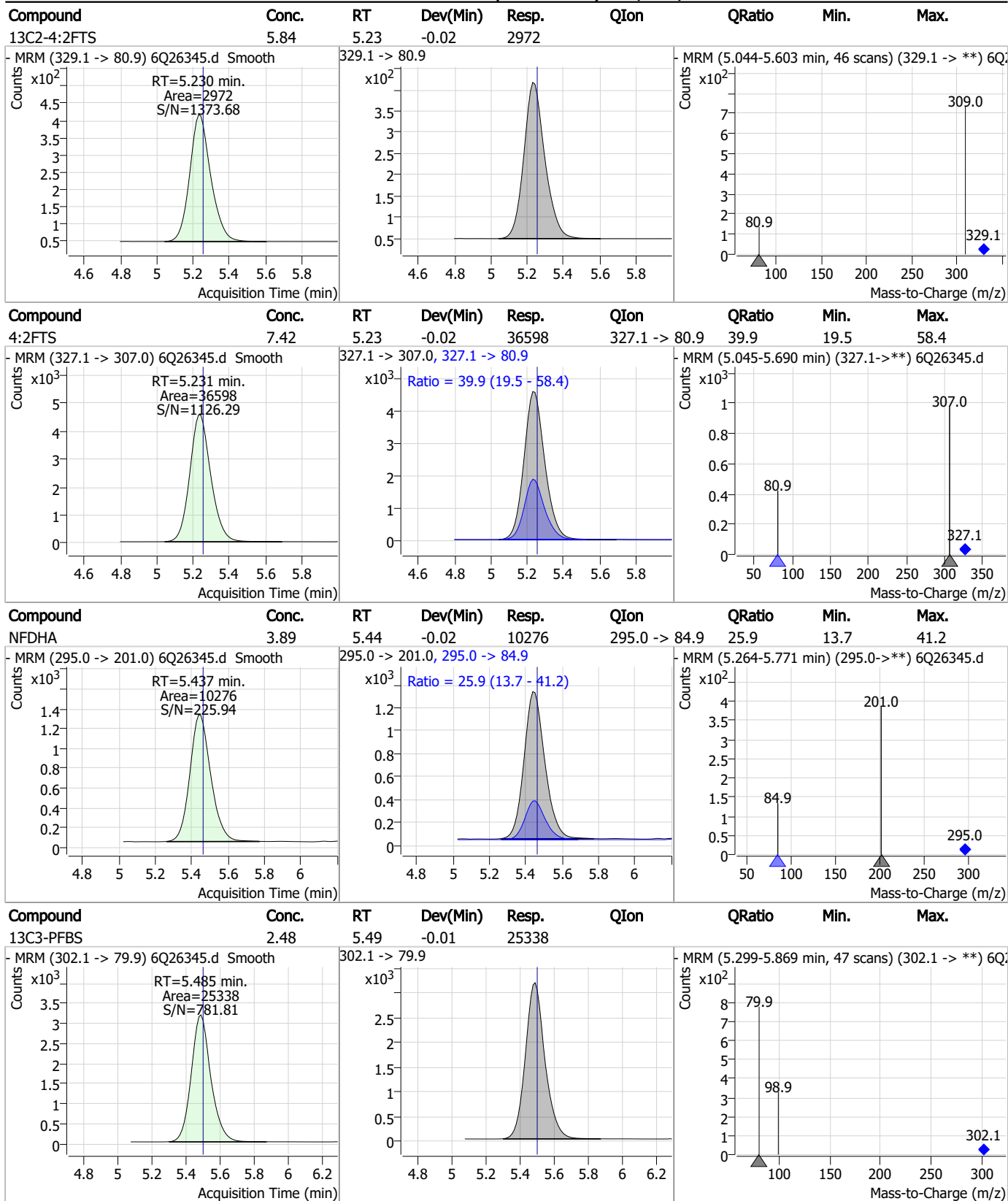


Perfluorinated Compounds by LC/MS/MS



7.7.17

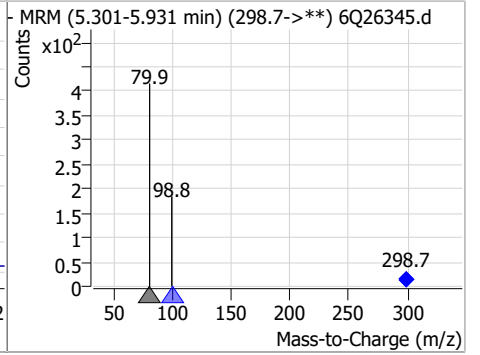
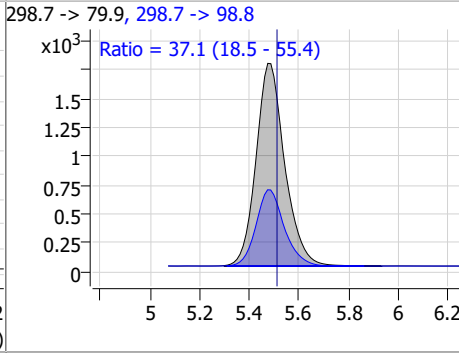
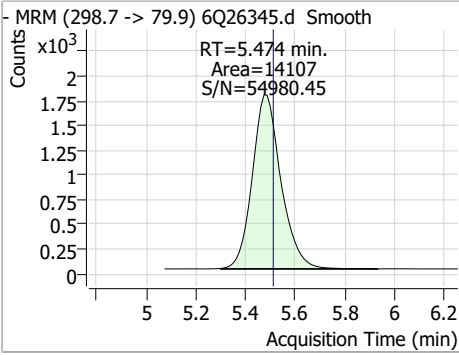
Perfluorinated Compounds by LC/MS/MS



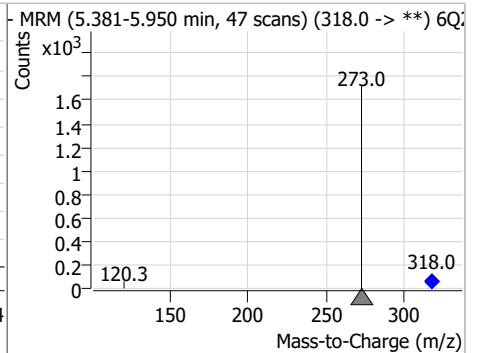
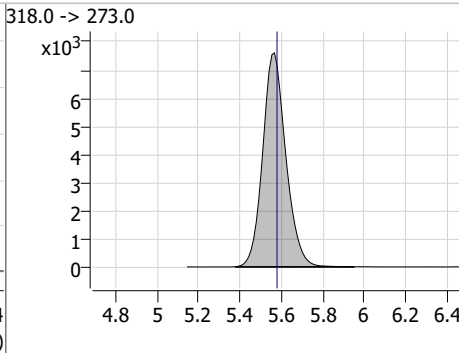
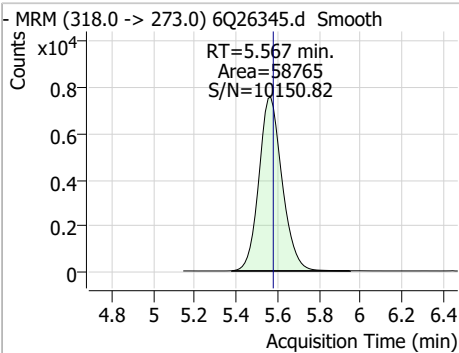
7.7.17

Perfluorinated Compounds by LC/MS/MS

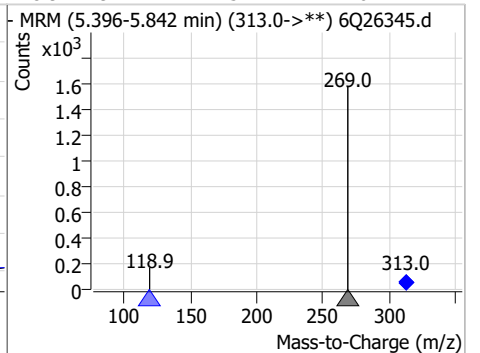
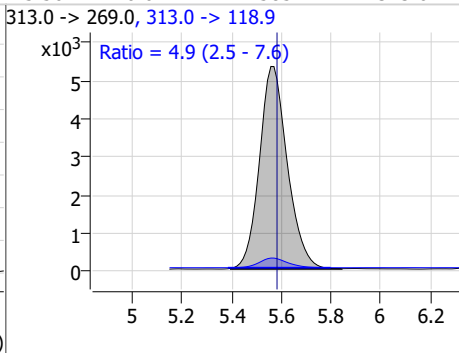
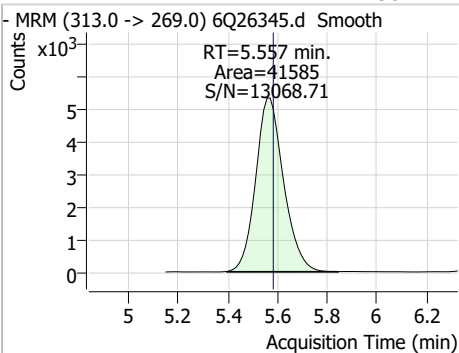
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBS	1.86	5.47	-0.04	14107	298.7 -> 98.8	37.1	18.5	55.4



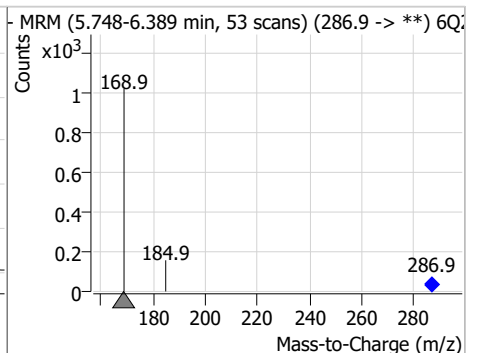
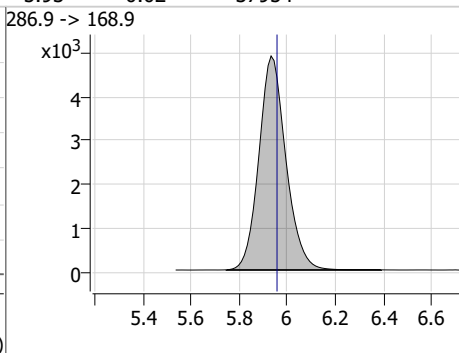
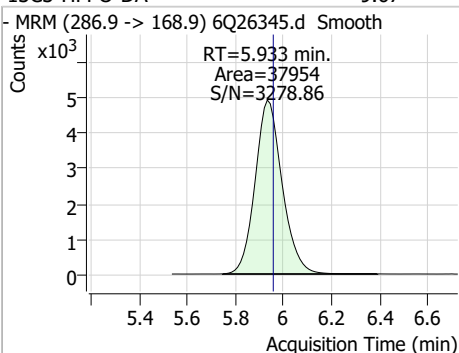
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFHxA	2.53	5.57	-0.01	58765	318.0 -> 273.0	4.9	2.5	7.6



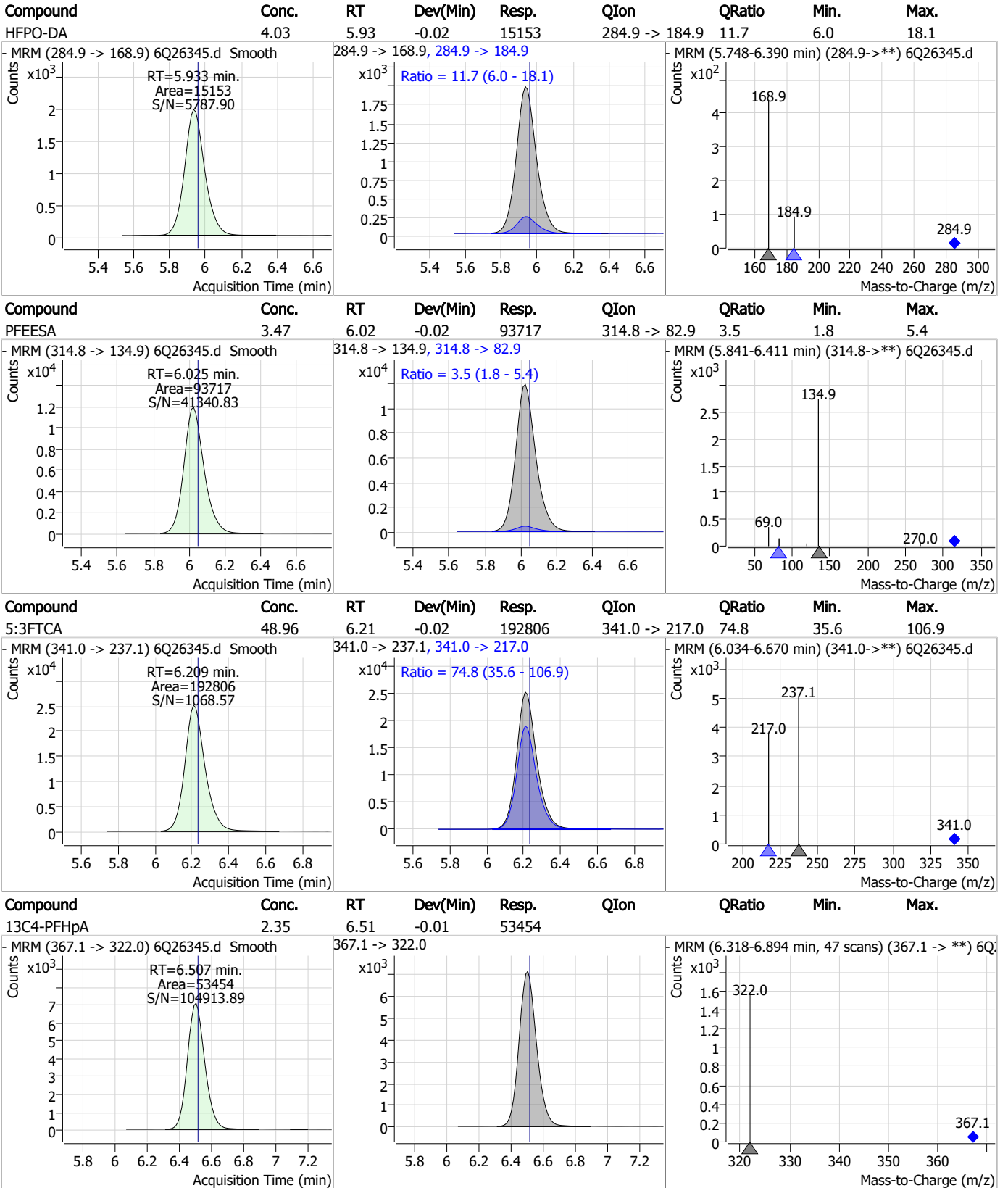
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxA	1.98	5.56	-0.02	41585	313.0 -> 118.9	4.9	2.5	7.6



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-HFPO-DA	9.67	5.93	-0.02	37954	286.9 -> 168.9	4.9	2.5	7.6



Perfluorinated Compounds by LC/MS/MS

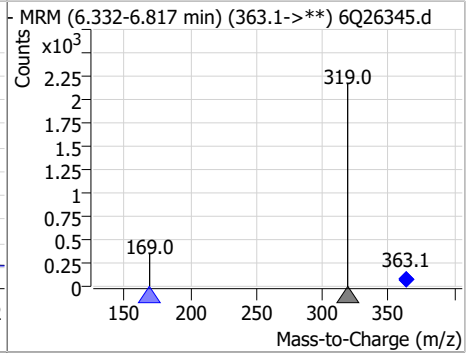
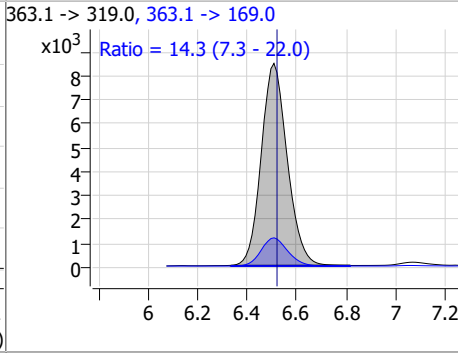
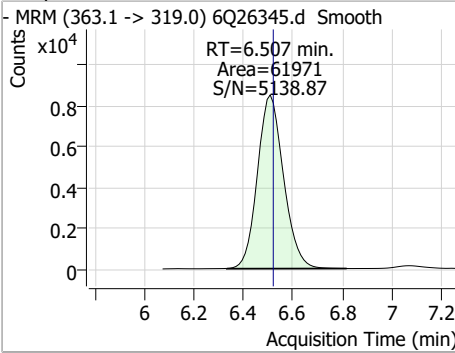


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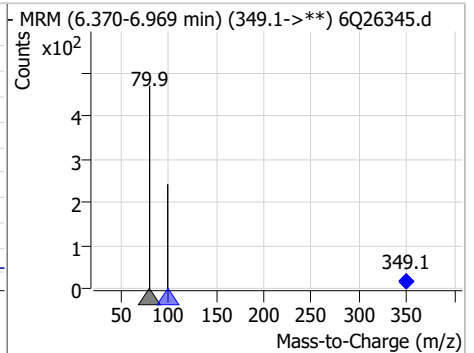
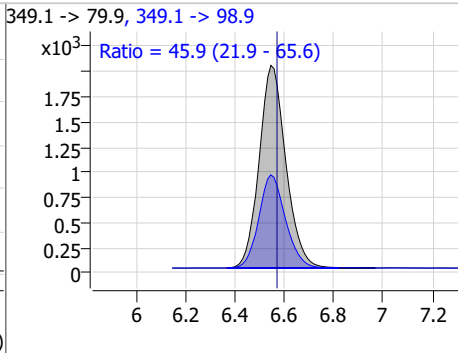
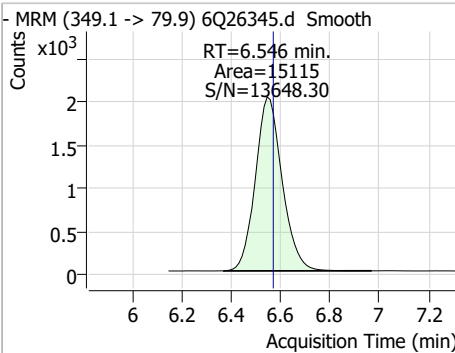


Perfluorinated Compounds by LC/MS/MS

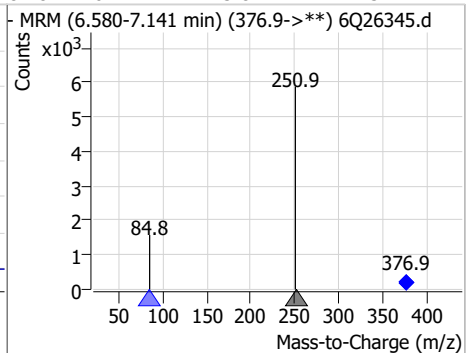
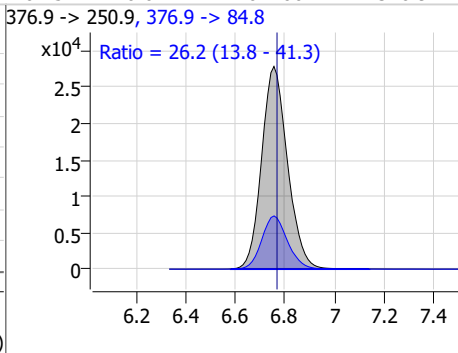
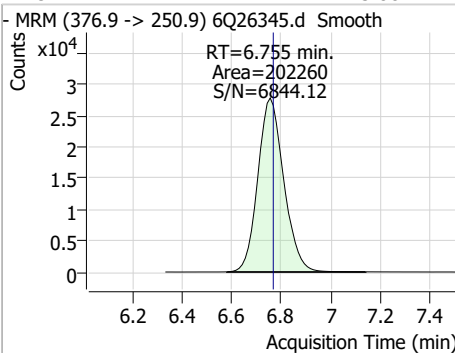
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpA	2.14	6.51	-0.01	61971	363.1 -> 169.0	14.3	7.3	22.0



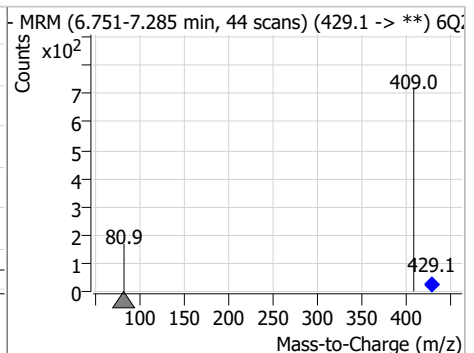
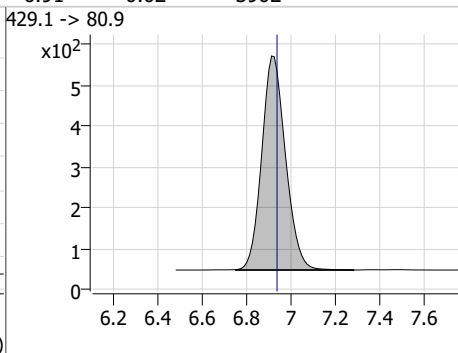
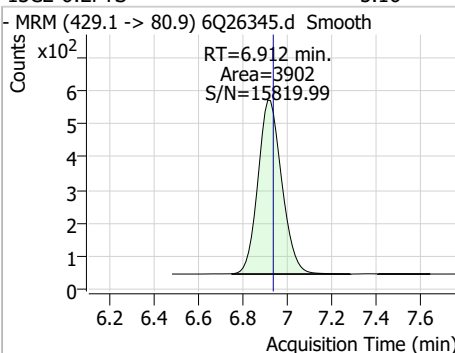
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeS	1.98	6.55	-0.02	15115	349.1 -> 98.9	45.9	21.9	65.6



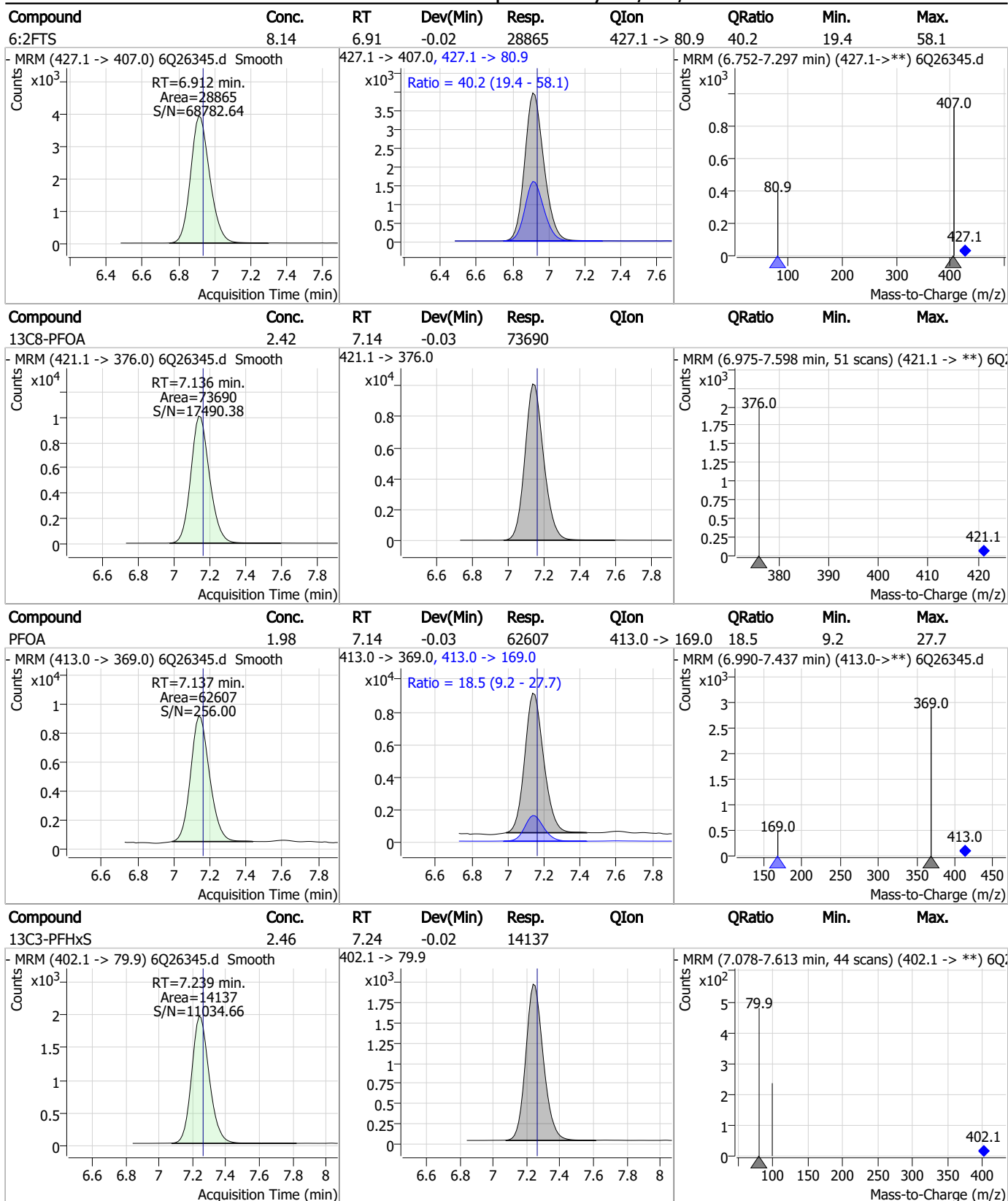
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
ADONA	3.88	6.75	-0.01	202260	376.9 -> 84.8	26.2	13.8	41.3



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-6:2FTS	5.16	6.91	-0.02	3902	429.1 -> 80.9			



Perfluorinated Compounds by LC/MS/MS

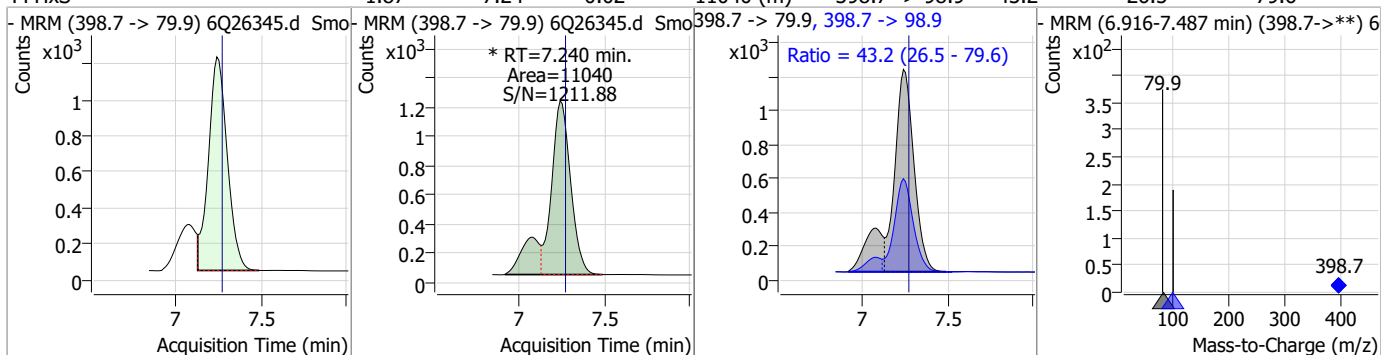


7.7.17

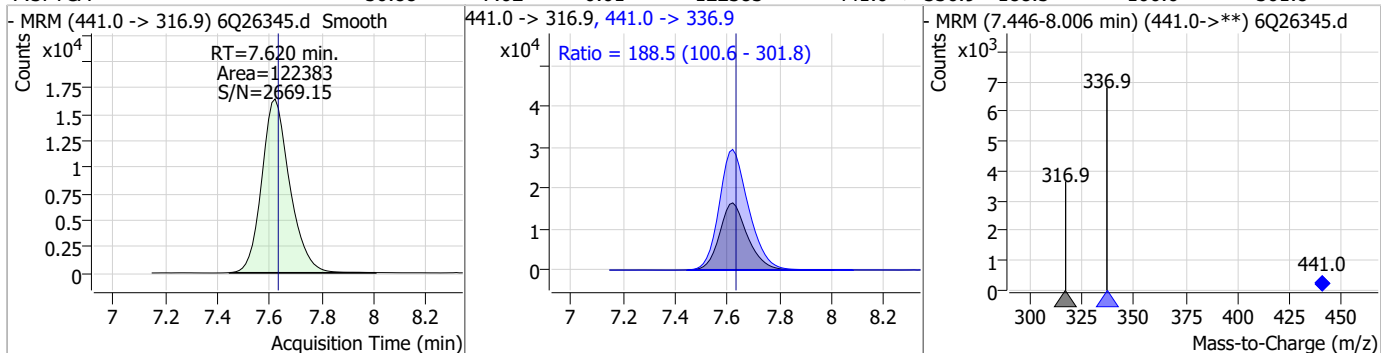


Perfluorinated Compounds by LC/MS/MS

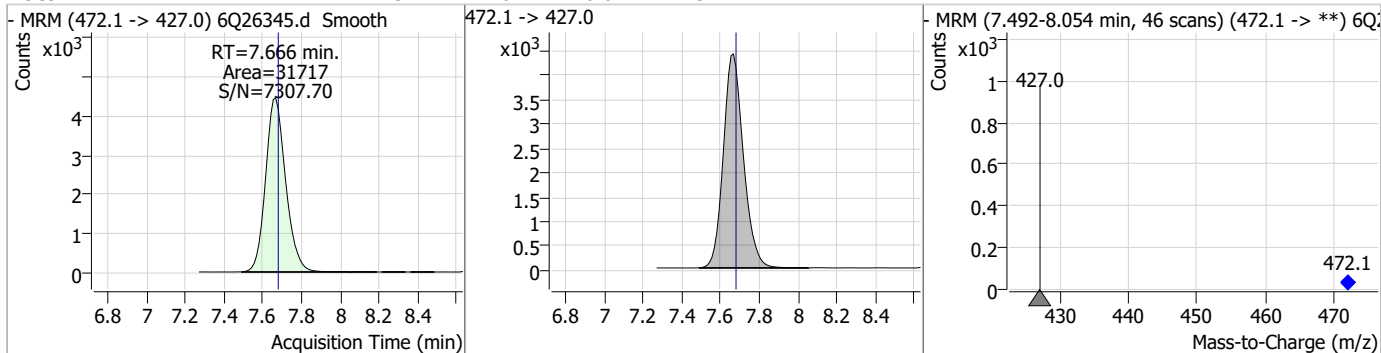
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxS	1.87	7.24	-0.02	11040 (m)	398.7 -> 98.9	43.2	26.5	79.6



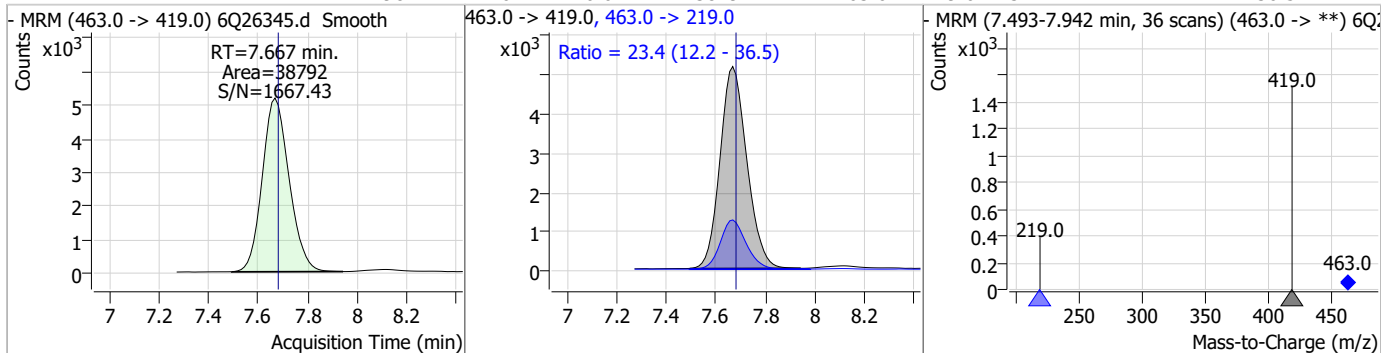
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
7:3FTCA	50.88	7.62	-0.01	122383	441.0 -> 336.9	188.5	100.6	301.8



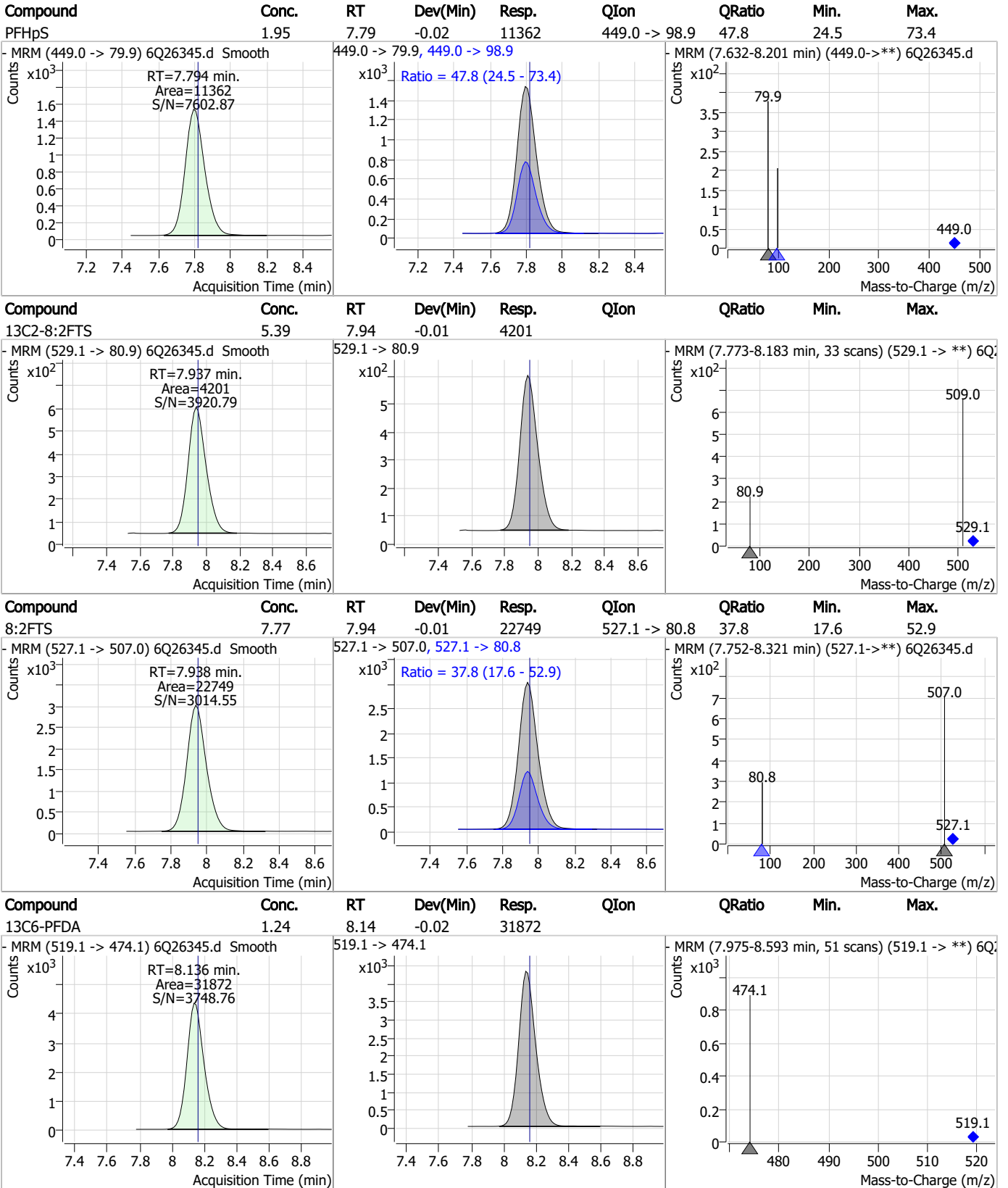
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C9-PFNA	1.29	7.67	-0.01	31717	472.1 -> 427.0			



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNA	1.98	7.67	-0.01	38792	463.0 -> 219.0	23.4	12.2	36.5



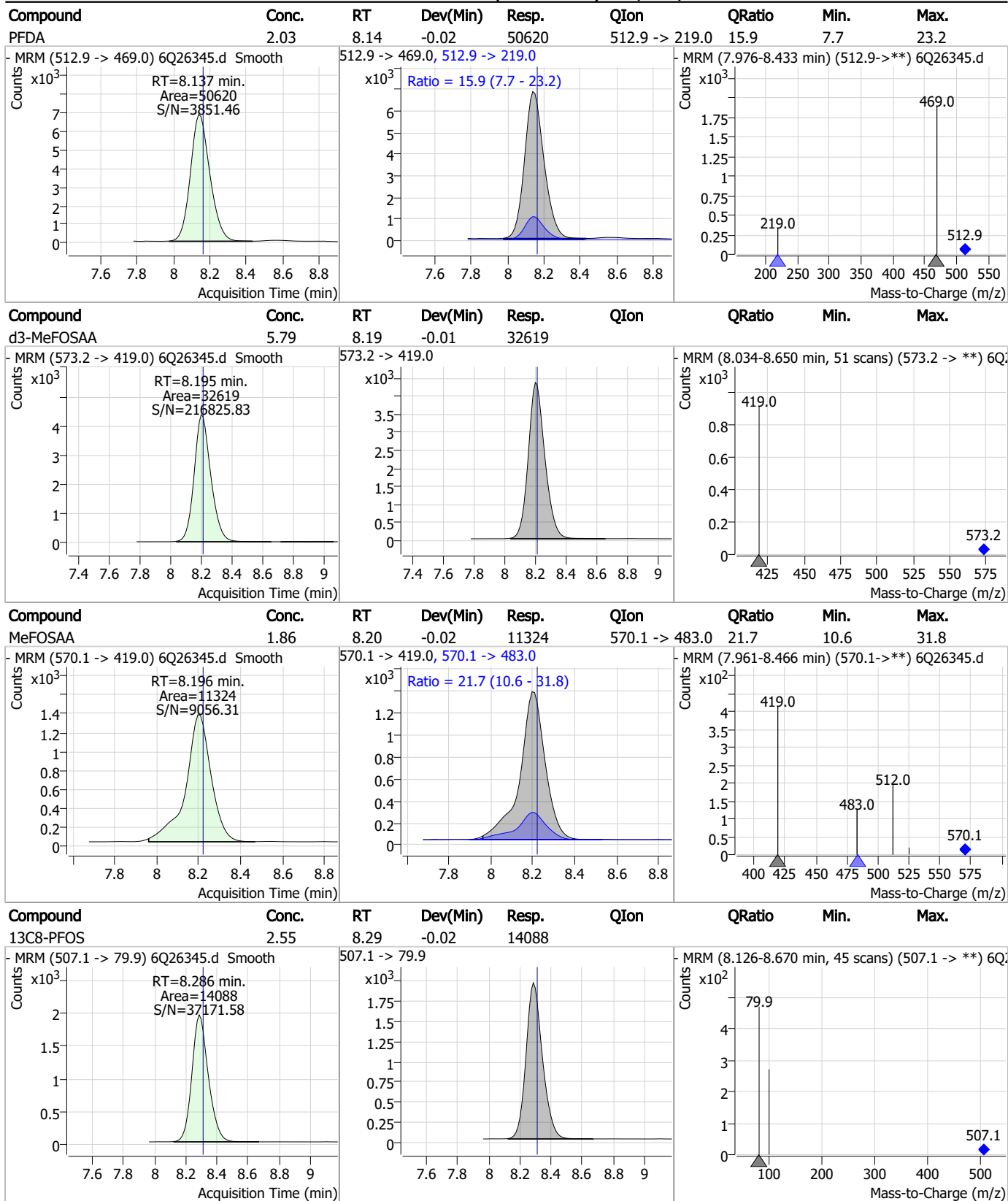
Perfluorinated Compounds by LC/MS/MS



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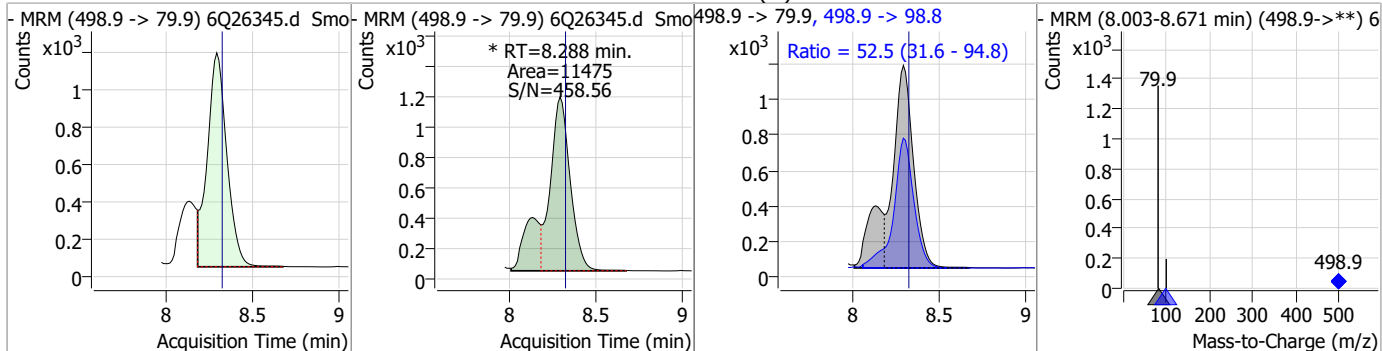
Perfluorinated Compounds by LC/MS/MS



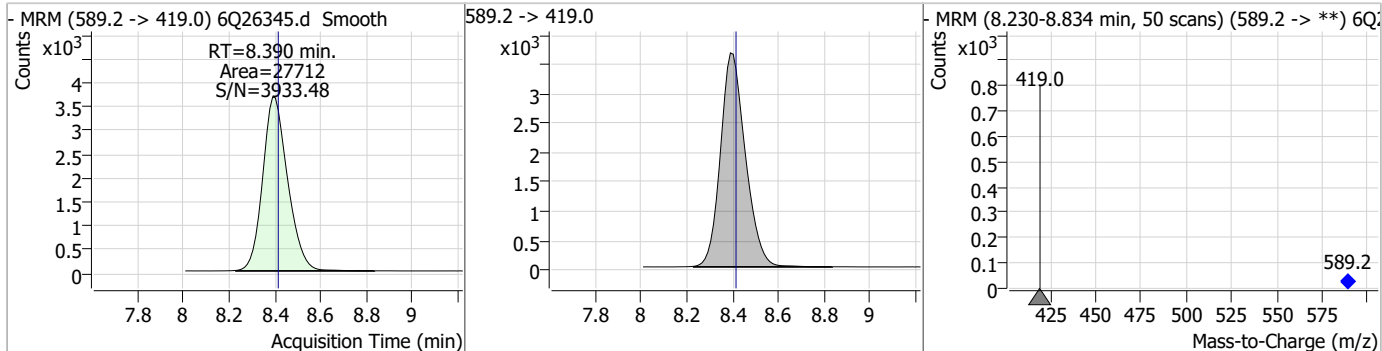
7.7.17

Perfluorinated Compounds by LC/MS/MS

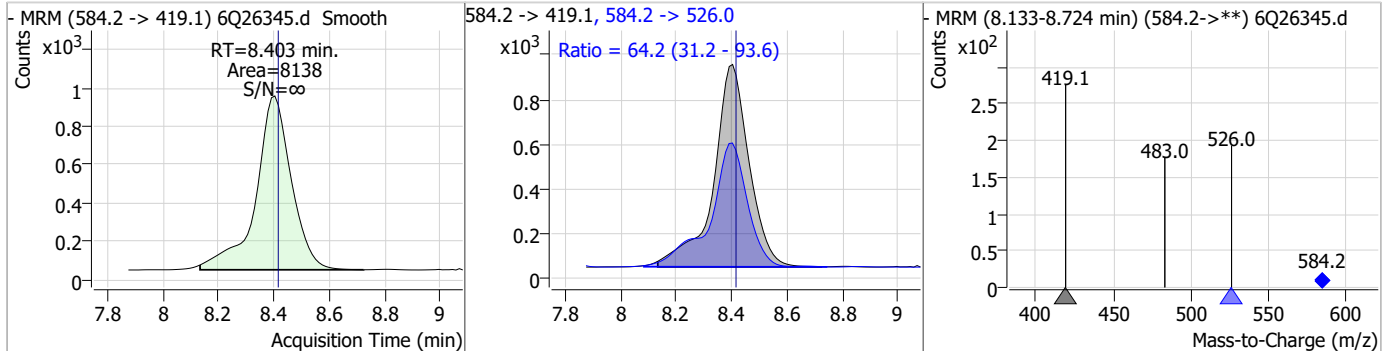
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOS	1.91	8.29	-0.02	11475 (m)	498.9 -> 98.8	52.5	31.6	94.8



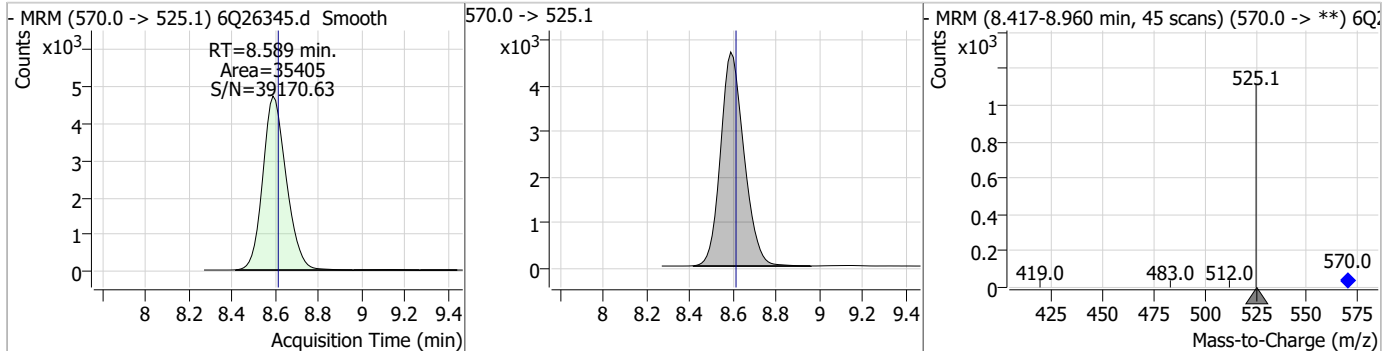
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSAA	5.74	8.39	-0.02	27712				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSAA	1.81	8.40	-0.01	8138	584.2 -> 526.0	64.2	31.2	93.6

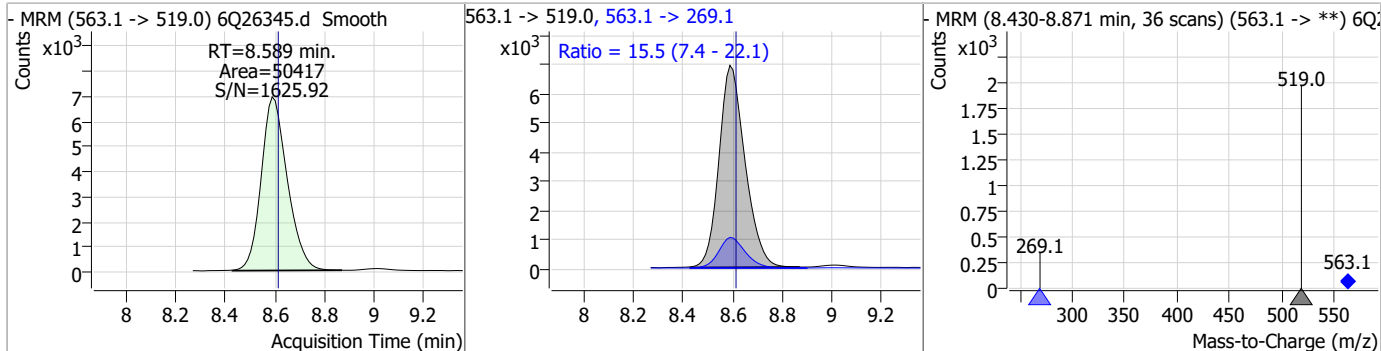


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C7-PFUnDA	1.28	8.59	-0.02	35405				

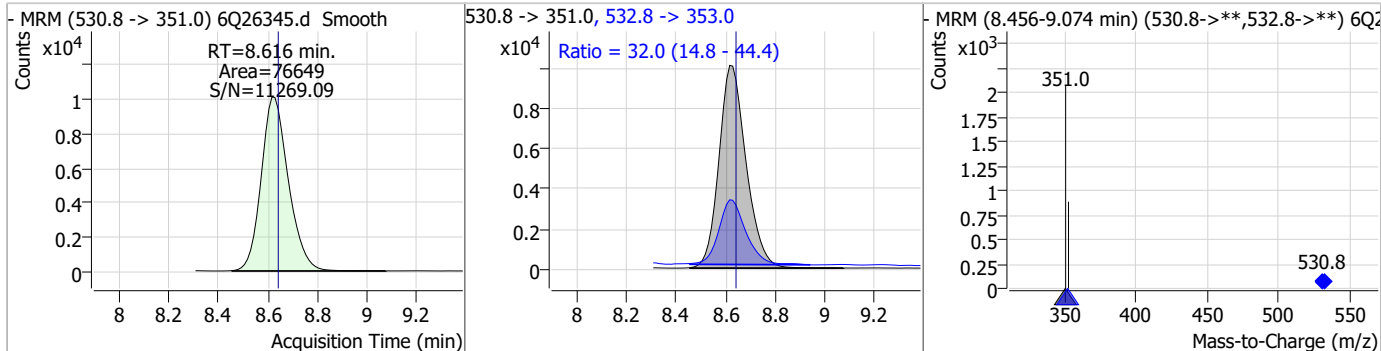


Perfluorinated Compounds by LC/MS/MS

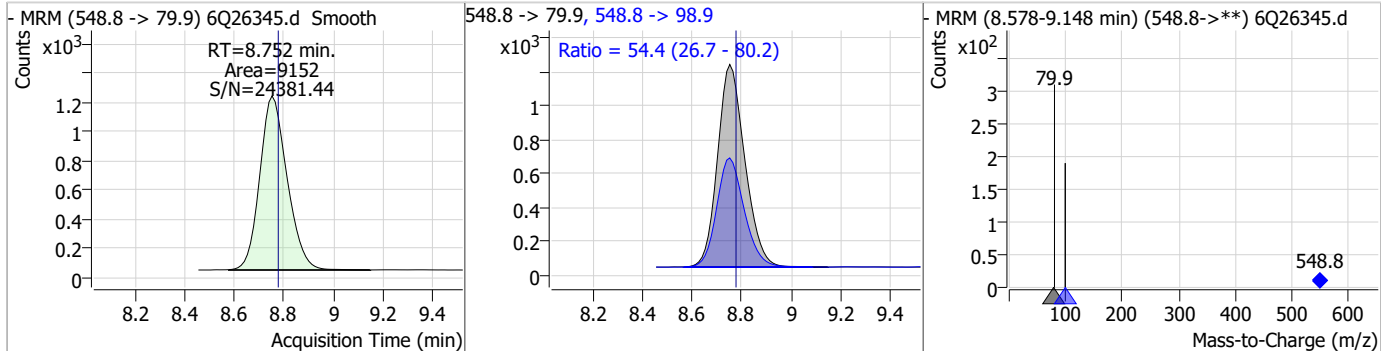
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFUnDA	2.02	8.59	-0.02	50417	563.1 -> 269.1	15.5	7.4	22.1



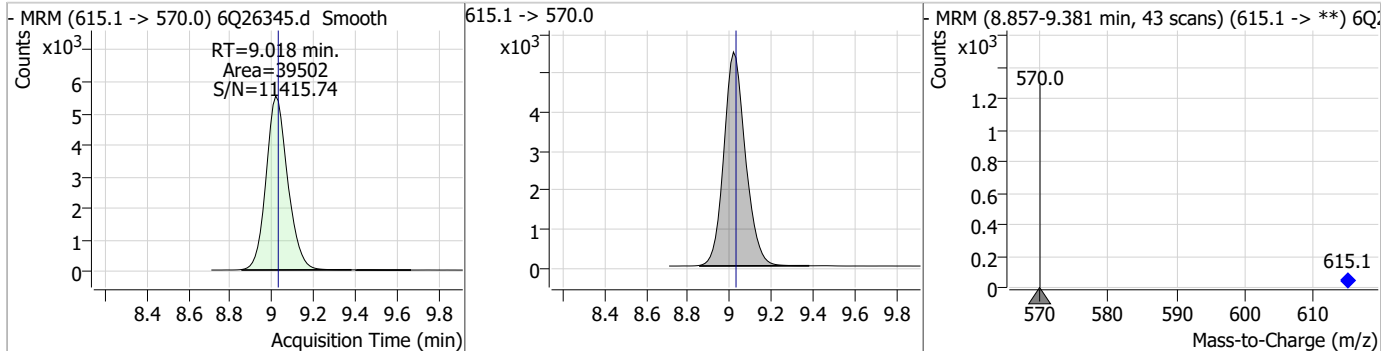
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
9CI-PF3ONS	3.84	8.62	-0.03	76649	532.8 -> 353.0	32.0	14.8	44.4



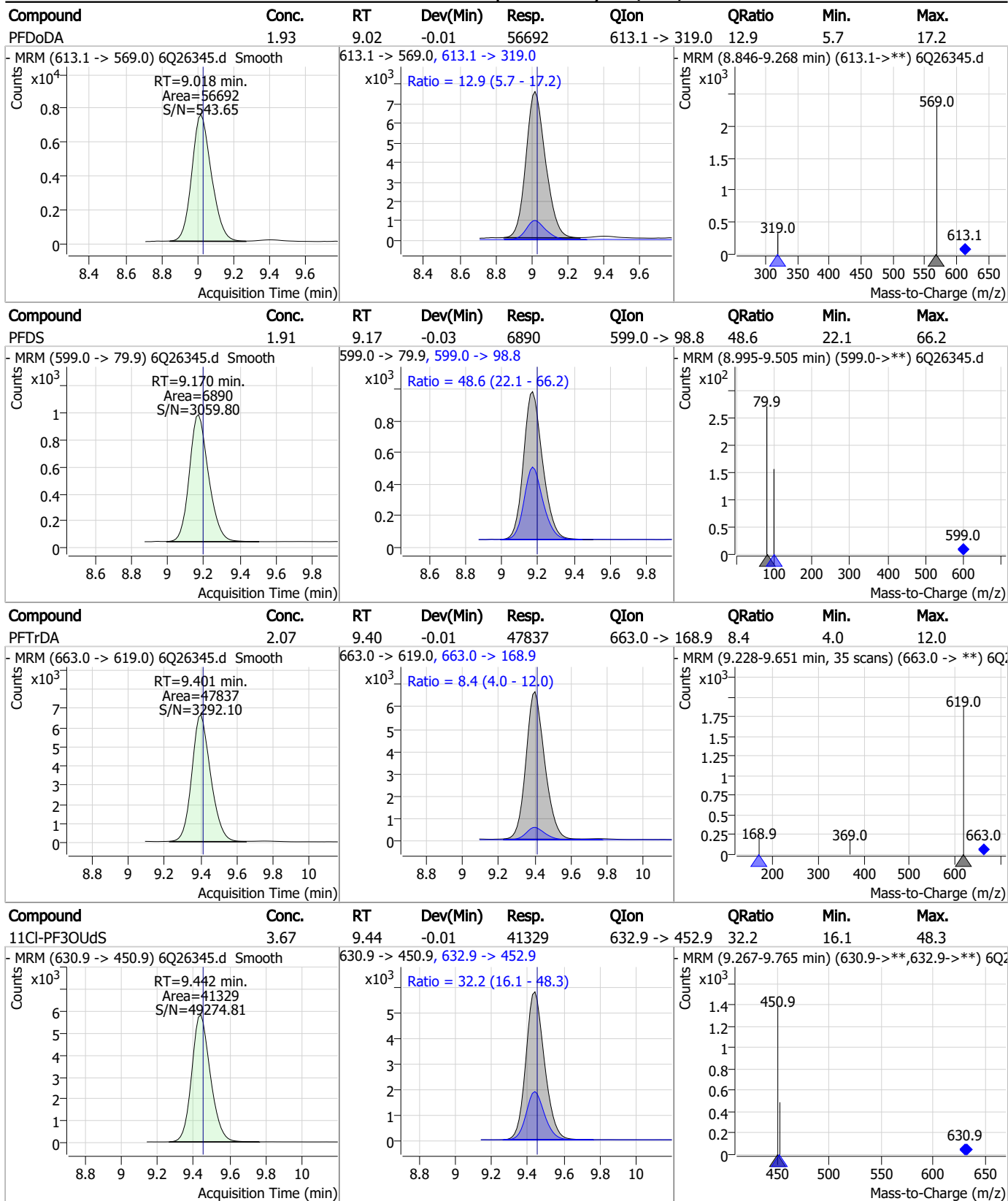
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNS	1.78	8.75	-0.03	9152	548.8 -> 98.9	54.4	26.7	80.2



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFDoDA	1.30	9.02	-0.01	39502	615.1 -> 570.0			



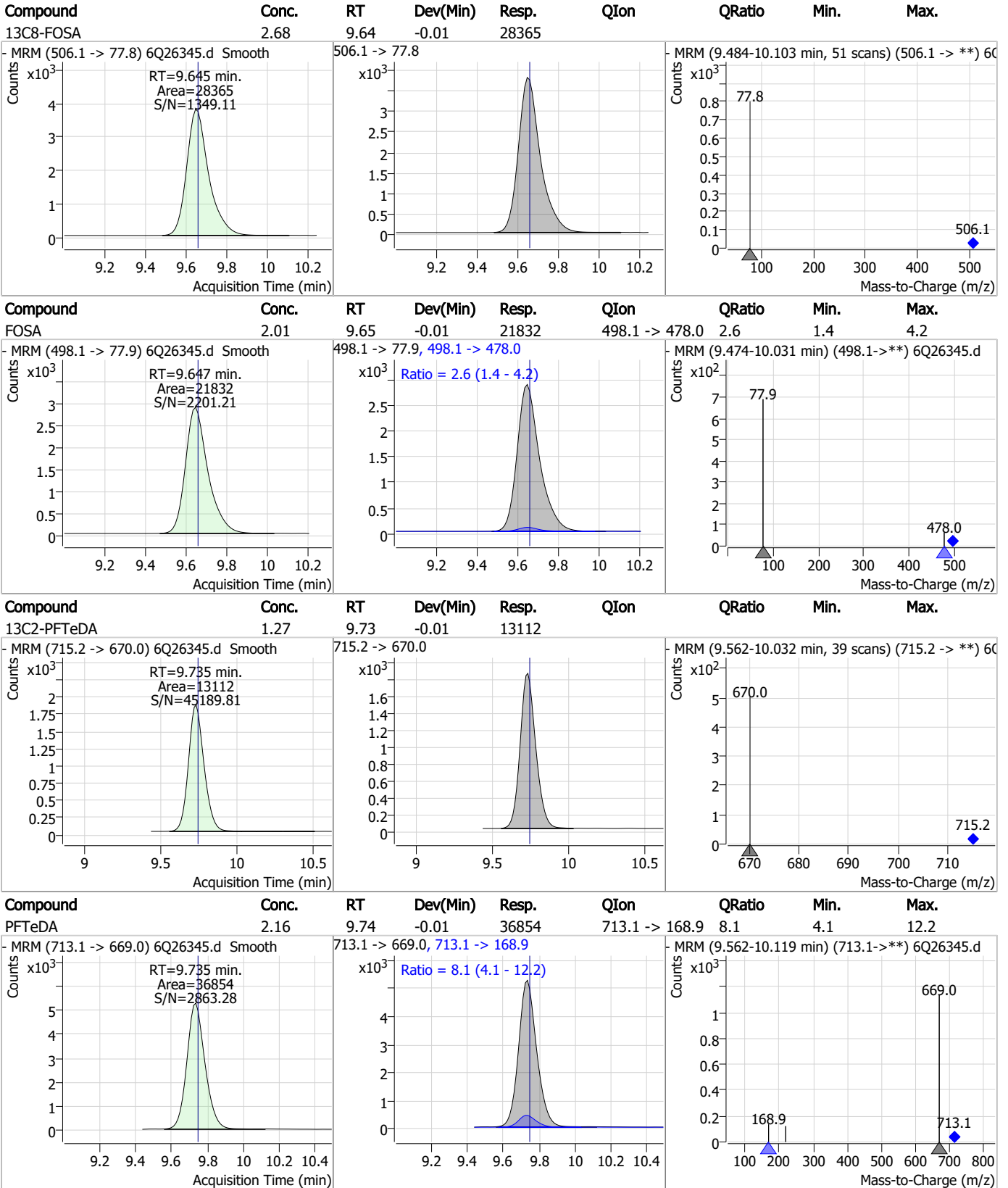
Perfluorinated Compounds by LC/MS/MS



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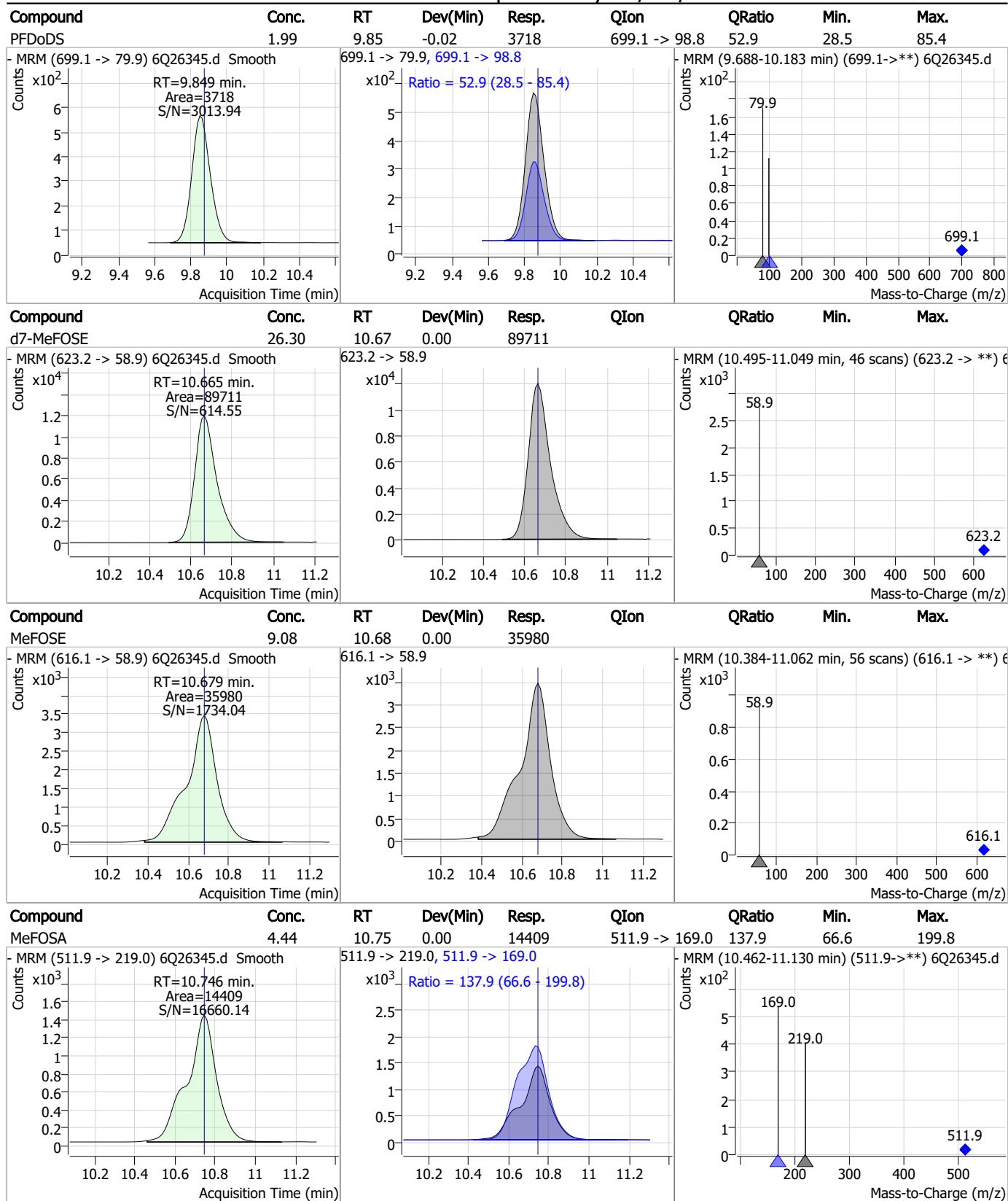
Perfluorinated Compounds by LC/MS/MS



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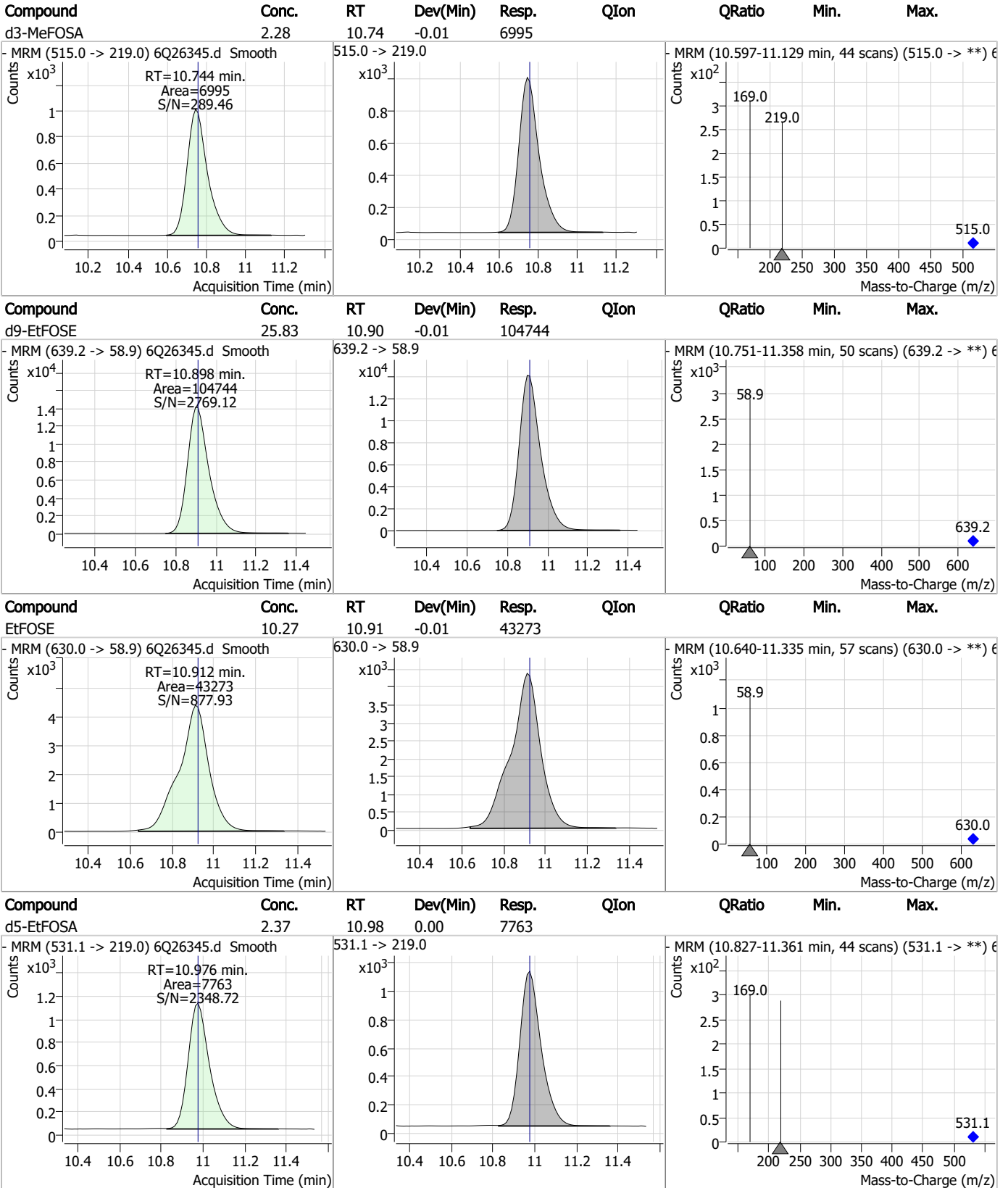


Perfluorinated Compounds by LC/MS/MS



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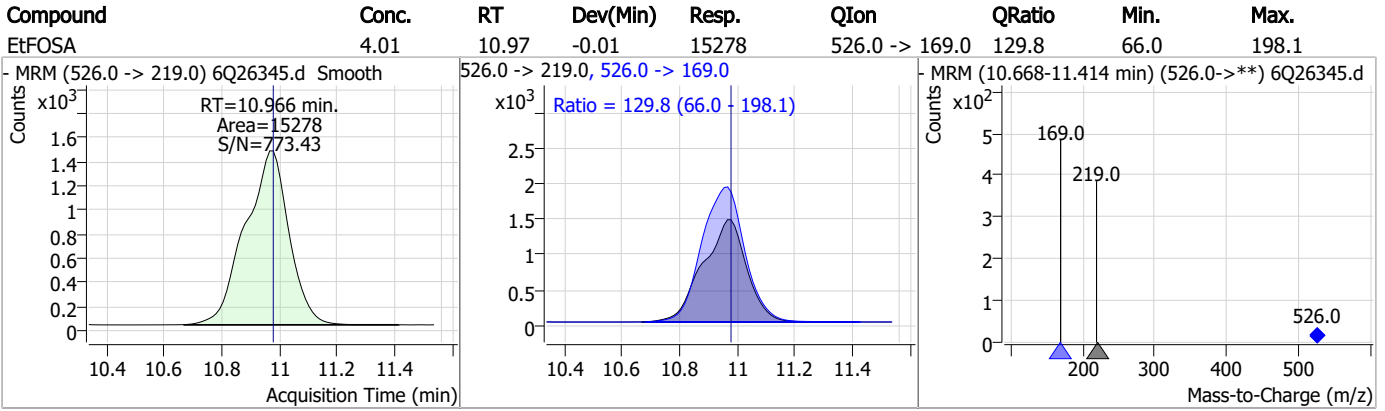
Perfluorinated Compounds by LC/MS/MS



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Perfluorinated Compounds by LC/MS/MS



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Manual Integration Approval Summary

Sample Number: S6Q370-CC367 Method: EPA DRAFT 1633
Lab FileID: 6Q26345.D Analyst approved: 10/16/23 10:56 Martha Valls
Injection Time: 10/13/23 07:19 Supervisor approved: 10/16/23 17:48 Natasha Gumtie

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		7.24	Split peak
Perfluorooctanesulfonic acid	1763-23-1		8.29	Split peak

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Perfluorinated Compounds by LC/MS/MS

Data File : 6Q26351.d
 Operator : marthav
 Acq. Method : 1633full.m
 Acq. Date-Time : 10/13/2023 8:45:06 AM
 Sample Name : cc367-4
 Vial : P1-A5
 DA Method File : 1633_100823_S6Q367.quantmethod.xml
 Batch Name : s6q370.batch.bin
 Sample Information : OP99081,S6Q370,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Internal Standards					
M4-PFBA	2.935	216.8 -> 171.9	172988	10.00 µg/L	-0.013
M5-PFPeA	4.347	268.3 -> 223.0	61730	5.00 µg/L	-0.025
M5-PFHxA	5.555	318.0 -> 273.0	56929	2.50 µg/L	-0.025
M4-PFHpA	6.507	367.1 -> 322.0	53789	2.50 µg/L	-0.012
M8-PFOA	7.136	421.1 -> 376.0	74220	2.50 µg/L	-0.025
M9-PFNA	7.666	472.1 -> 427.0	31828	1.25 µg/L	-0.013
M6-PFDA	8.136	519.1 -> 474.1	30991	1.25 µg/L	-0.025
M7-PFUnDA	8.589	570.0 -> 525.1	32181	1.25 µg/L	-0.025
M2-PFDoDA	9.018	615.1 -> 570.0	34422	1.25 µg/L	-0.012
M2-PFTeDA	9.735	715.2 -> 670.0	12542	1.25 µg/L	-0.012
M8-FOSA	9.645	506.1 -> 77.8	26826	2.50 µg/L	-0.012
M3-PFBS	5.473	302.1 -> 79.9	25224	2.50 µg/L	-0.025
M3-PFHxS	7.239	402.1 -> 79.9	14236	2.50 µg/L	-0.025
M8-PFOS	8.286	507.1 -> 79.9	13879	2.50 µg/L	-0.025
M2-4:2FTS	5.230	329.1 -> 80.9	2799	5.00 µg/L	-0.025
M2-6:2FTS	6.912	429.1 -> 80.9	3784	5.00 µg/L	-0.025
M2-8:2FTS	7.937	529.1 -> 80.9	4205	5.00 µg/L	-0.012
M3-MeFOSAA	8.195	573.2 -> 419.0	29233	5.00 µg/L	-0.012
M3-HFPO-DA	5.933	286.9 -> 168.9	38373	10.00 µg/L	-0.025
M5-EtFOSAA	8.402	589.2 -> 419.0	24684	5.00 µg/L	-0.012
M7-MeFOSE	10.665	623.2 -> 58.9	82704	25.00 µg/L	0.000
M9-EtFOSE	10.898	639.2 -> 58.9	96204	25.00 µg/L	-0.012
M5-EtFOSA	10.976	531.1 -> 219.0	7954	2.50 µg/L	0.000
M3-MeFOSA	10.744	515.0 -> 219.0	6897	2.50 µg/L	-0.012
13C4-PFOS	8.287	502.8 -> 79.9	12268	2.50 µg/L	-0.025
13C3-PFBA	2.927	216.0 -> 172.0	72428	5.00 µg/L	-0.025
18O2-PFHxS	7.238	403.0 -> 83.9	8589	2.50 µg/L	-0.025
13C4-PFOA	7.136	417.1 -> 372.0	82106	2.50 µg/L	-0.025
13C2-PFDA	8.136	515.1 -> 470.1	29664	1.25 µg/L	-0.025
13C5-PFNA	7.667	468.0 -> 423.0	28959	1.25 µg/L	-0.013
13C2-PFHxA	5.556	315.1 -> 270.0	54685	2.50 µg/L	-0.025
System Monitoring Compounds					
13C2-4:2FTS	5.230	329.1 -> 80.9	2799	5.78 µg/L	-0.025
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 115.7%		
13C2-6:2FTS	6.912	429.1 -> 80.9	3784	5.26 µg/L	-0.025
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 105.1%		
13C2-8:2FTS	7.937	529.1 -> 80.9	4205	5.68 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 113.5%		
13C2-PFDoDA	9.018	615.1 -> 570.0	34422	1.16 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 93.1%		
13C2-PFTeDA	9.735	715.2 -> 670.0	12542	1.25 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 100.1%		
13C3-PFBS	5.473	302.1 -> 79.9	25224	2.59 µg/L	-0.025
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 103.7%		
13C3-PFHxS	7.239	402.1 -> 79.9	14236	2.61 µg/L	-0.025

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Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 104.3%	
13C4-PFBA	2.935	216.8 -> 171.9	172988	9.89 µg/L	-0.013
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 98.9%	
13C4-PFHpA	6.507	367.1 -> 322.0	53789	2.43 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 97.2%	
13C5-PFHxA	5.555	318.0 -> 273.0	56929	2.52 µg/L	-0.025
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 100.7%	
13C5-PFPeA	4.347	268.3 -> 223.0	61730	4.99 µg/L	-0.025
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 99.8%	
13C6-PFDA	8.136	519.1 -> 474.1	30991	1.24 µg/L	-0.025
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 99.2%	
13C7-PFUnDA	8.589	570.0 -> 525.1	32181	1.19 µg/L	-0.025
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 95.3%	
13C8-FOSA	9.645	506.1 -> 77.8	26826	2.65 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 106.0%	
13C8-PFOA	7.136	421.1 -> 376.0	74220	2.61 µg/L	-0.025
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 104.3%	
13C8-PFOS	8.286	507.1 -> 79.9	13879	2.62 µg/L	-0.025
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 104.8%	
13C9-PFNA	7.666	472.1 -> 427.0	31828	1.34 µg/L	-0.013
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 106.9%	
d3-MeFOSAA	8.195	573.2 -> 419.0	29233	5.42 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 108.4%	
13C3-HFPO-DA	5.933	286.9 -> 168.9	38373	10.06 µg/L	-0.025
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 100.6%	
d3-MeFOSA	10.744	515.0 -> 219.0	6897	2.35 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 94.0%	
d5-EtFOSAA	8.402	589.2 -> 419.0	24684	5.34 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 106.8%	
d7-MeFOSE	10.665	623.2 -> 58.9	82704	25.31 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 101.2%	
d9-EtFOSE	10.898	639.2 -> 58.9	96204	24.77 µg/L	-0.012
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 99.1%	
d5-EtFOSA	10.976	531.1 -> 219.0	7954	2.53 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 101.3%	
Target Compounds					QValue
4:2FTS	5.231	327.1 -> 307.0	36291	7.82 µg/L	98
		327.1 -> 80.9	14527		
6:2FTS	6.912	427.1 -> 407.0	29860	8.68 µg/L	99
		427.1 -> 80.9	11748		
8:2FTS	7.938	527.1 -> 507.0	20556	7.02 µg/L	94
		527.1 -> 80.8	7957		
EtFOSAA	8.403	584.2 -> 419.1	7757	1.93 µg/L	93
		584.2 -> 526.0	4396		
FOSA	9.647	498.1 -> 77.9	20796	2.02 µg/L	100
		498.1 -> 478.0	595		
MeFOSAA	8.196	570.1 -> 419.0	11276	2.06 µg/L	95
		570.1 -> 483.0	2142		
PFBA	2.931	212.8 -> 168.9	52524	8.15 µg/L	100
PFBS	5.474	298.7 -> 79.9	14023	1.85 µg/L	100
		298.7 -> 98.8	5147		
PFDA	8.137	512.9 -> 469.0	48705	2.01 µg/L	98
		512.9 -> 219.0	7859		
PFDoDA	9.018	613.1 -> 569.0	54174	2.12 µg/L	97
		613.1 -> 319.0	6832		
PFDS	9.170	599.0 -> 79.9	6786	1.91 µg/L	97

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Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
PFHpA	6.507	599.0 -> 98.8	3130	2.08	µg/L	99
		363.1 -> 319.0	60571			
PFHpS	7.794	363.1 -> 169.0	8482	2.14	µg/L	96
		449.0 -> 79.9	12277			
PFHxA	5.569	449.0 -> 98.9	5636	2.03	µg/L	99
		313.0 -> 269.0	41271			
PFHxS	7.240	313.0 -> 118.9	1961	1.76	µg/L	93
		398.7 -> 79.9	10497			
PFNA	7.667	398.7 -> 98.9	5083	1.94	µg/L	99
		463.0 -> 419.0	38021			
PFNS	8.752	463.0 -> 219.0	8967	1.99	µg/L	92
		548.8 -> 79.9	10071			
PFOA	7.137	548.8 -> 98.9	4842	1.92	µg/L	99
		413.0 -> 369.0	61022			
PFOS	8.288	413.0 -> 169.0	11099	1.82	µg/L	88
		498.9 -> 79.9	10773			
PFPeA	4.349	498.9 -> 98.8	5769	4.03	µg/L	100
		263.0 -> 219.0	53608			
PFPeS	6.546	349.1 -> 79.9	14886	1.94	µg/L	97
		349.1 -> 98.9	6828			
PFTeDA	9.735	713.1 -> 669.0	31866	1.95	µg/L	99
		713.1 -> 168.9	2466			
PFTrDA	9.401	663.0 -> 619.0	43734	2.17	µg/L	100
		663.0 -> 168.9	3563			
PFUnDA	8.589	563.1 -> 519.0	47202	2.08	µg/L	97
		563.1 -> 269.1	7597			
11CI-PF3OUdS	9.442	630.9 -> 450.9	39515	3.47	µg/L	100
		632.9 -> 452.9	12723			
9CI-PF3ONS	8.616	530.8 -> 351.0	73213	3.62	µg/L	94
		532.8 -> 353.0	24145			
ADONA	6.755	376.9 -> 250.9	200483	3.80	µg/L	99
		376.9 -> 84.8	54053			
HFPO-DA	5.933	284.9 -> 168.9	15514	4.08	µg/L	100
		284.9 -> 184.9	1904			
3:3FTCA	3.783	241.0 -> 177.0	8980	9.67	µg/L	99
		241.0 -> 117.0	1233			
5:3FTCA	6.209	341.0 -> 237.1	180937	47.43	µg/L	98
		341.0 -> 217.0	132583			
7:3FTCA	7.620	441.0 -> 316.9	119563	51.31	µg/L	97
		441.0 -> 336.9	245897			
EtFOSA	10.978	526.0 -> 219.0	15109	3.87	µg/L	99
		526.0 -> 169.0	19711			
EtFOSE	10.912	630.0 -> 58.9	39774	10.27	µg/L	100
		511.9 -> 219.0	13694			
MeFOSA	10.746	511.9 -> 169.0	19378	4.28	µg/L	93
		616.1 -> 58.9	34116			
MeFOSE	10.679	699.1 -> 79.9	3493	9.33	µg/L	100
		699.1 -> 98.8	2087			
PFDoDS	9.849	295.0 -> 201.0	10175	1.89	µg/L	96
		295.0 -> 84.9	2979			
NFDHA	5.437	279.0 -> 85.1	40266	3.97	µg/L	100
		229.0 -> 84.9	32993			
PFMBA	4.769	314.8 -> 134.9	91667	3.94	µg/L	100
		314.8 -> 82.9	3393			
PFMPA	3.488			3.50	µg/L	100
PFEESA	6.025					

= Qualifier out of range, m = manually integrated, + = Area summed



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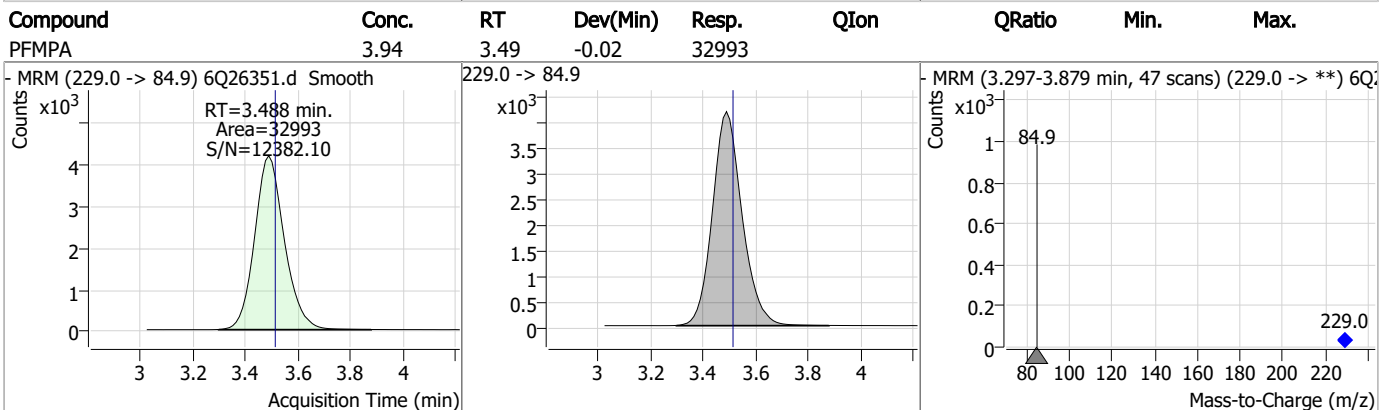
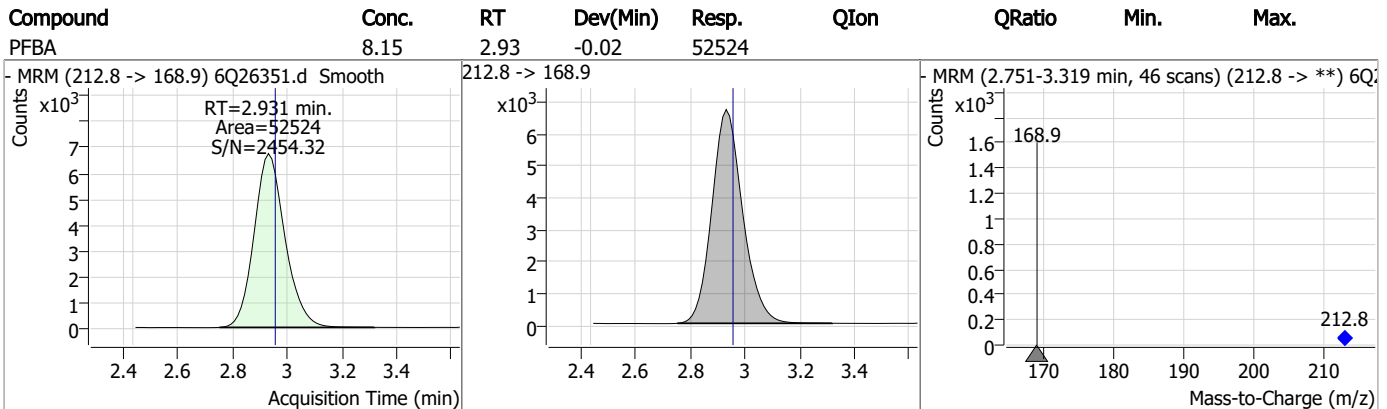
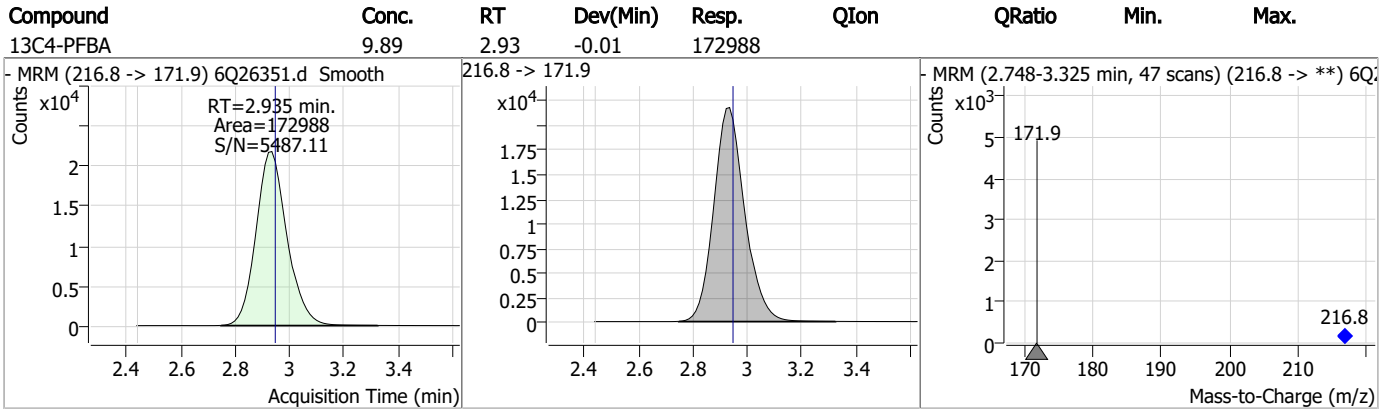
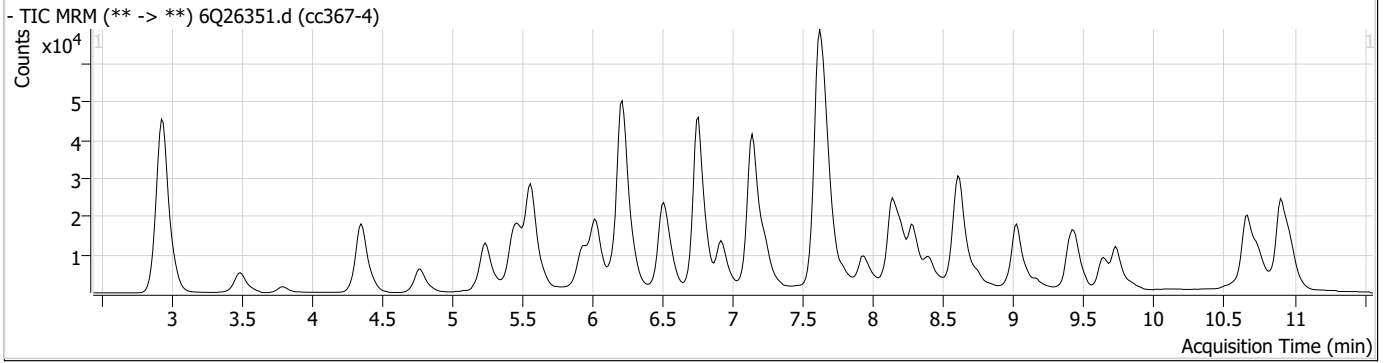
Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
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Perfluorinated Compounds by LC/MS/MS

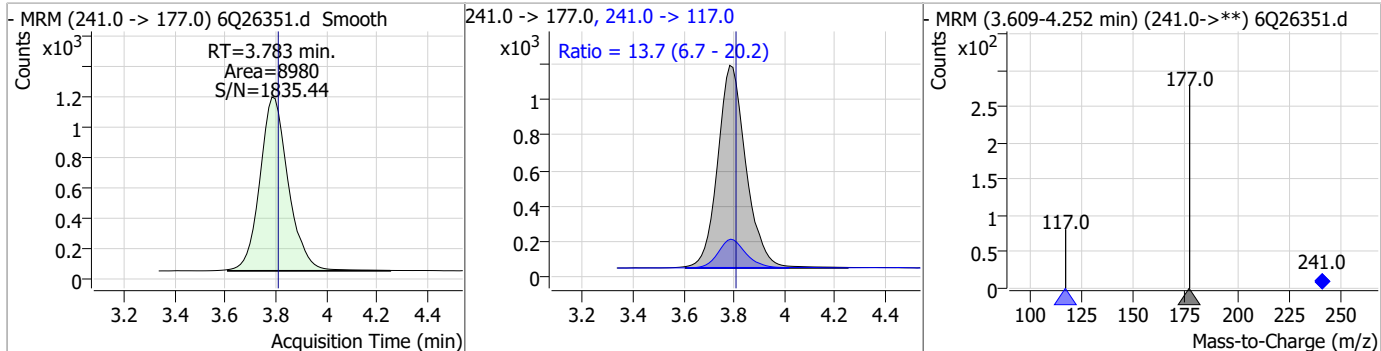


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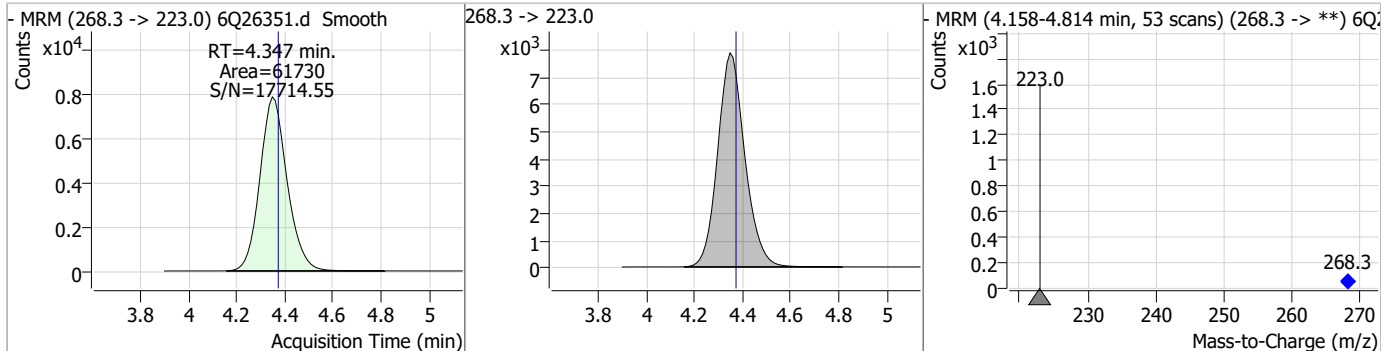


Perfluorinated Compounds by LC/MS/MS

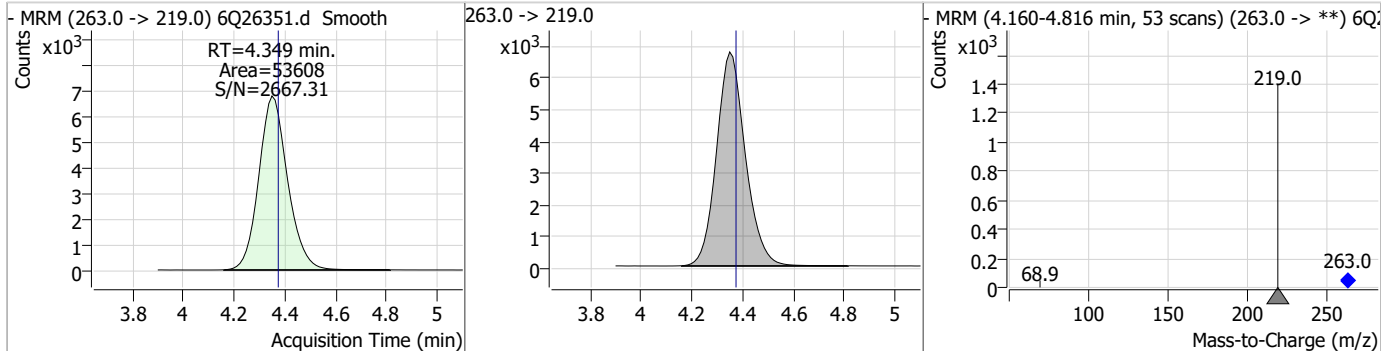
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
3:3FTCA	9.67	3.78	-0.02	8980	241.0 -> 117.0	13.7	6.7	20.2



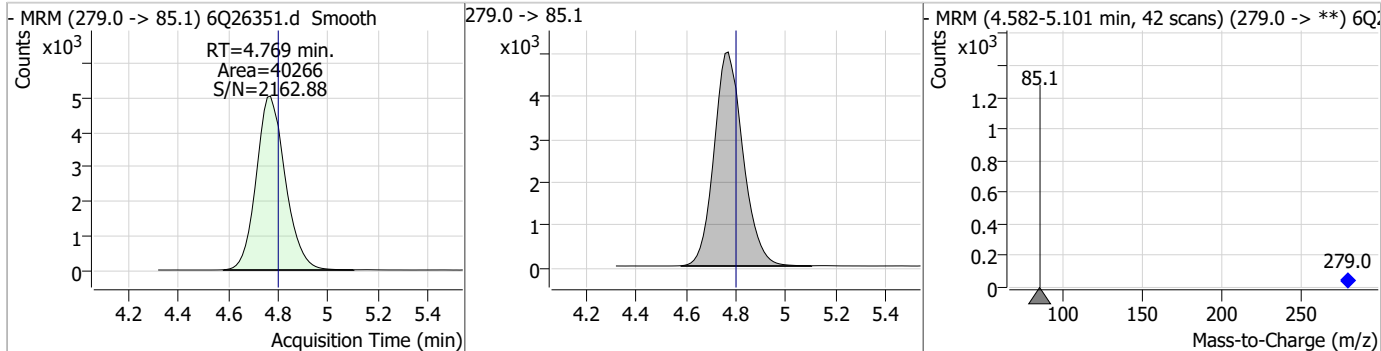
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFPeA	4.99	4.35	-0.02	61730				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeA	4.03	4.35	-0.02	53608				

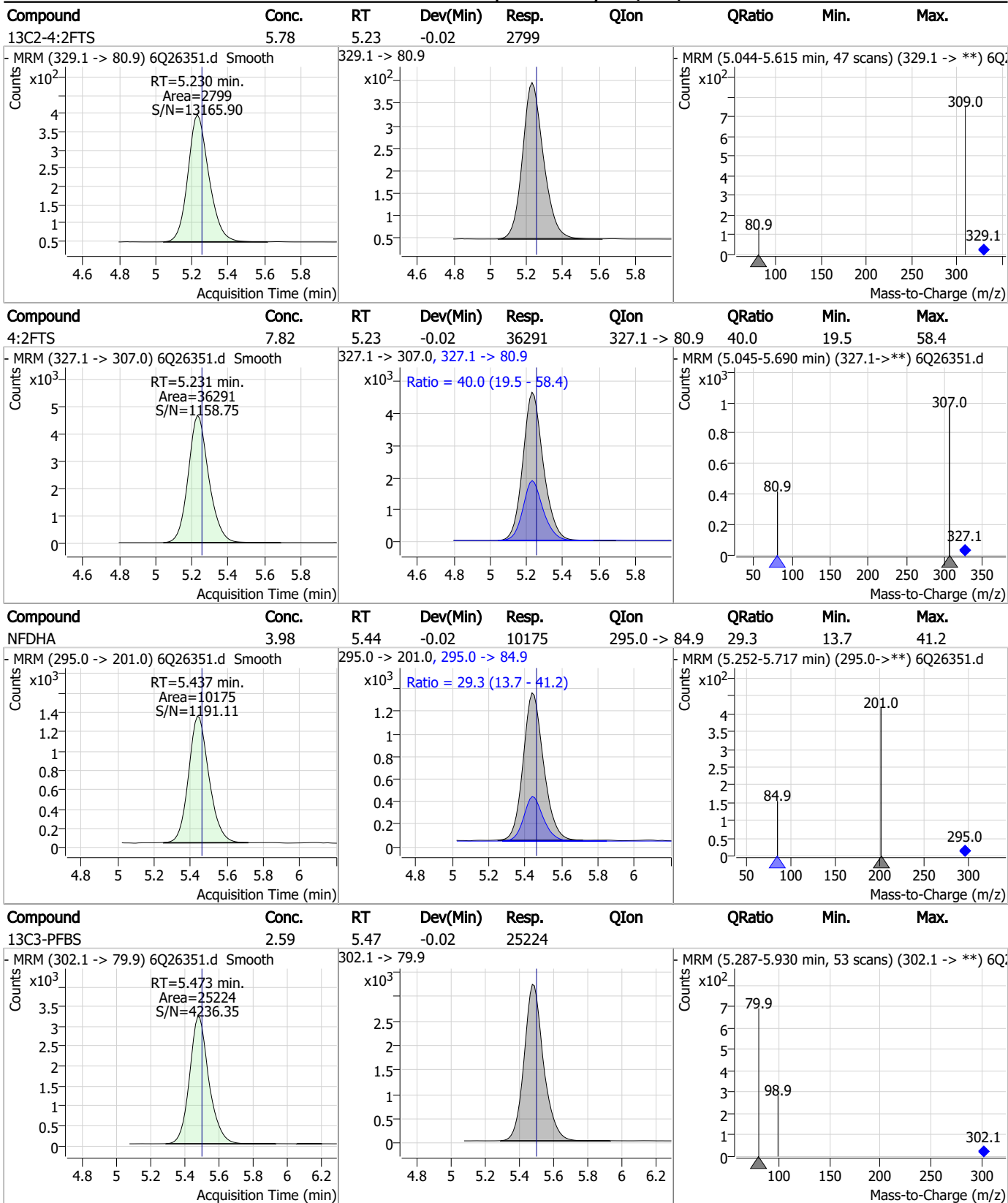


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFMBA	3.97	4.77	-0.03	40266				



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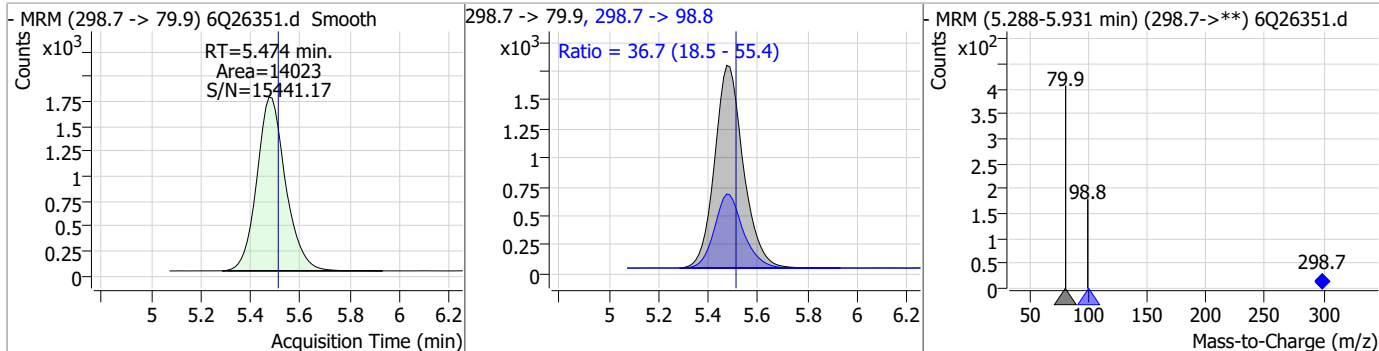
Perfluorinated Compounds by LC/MS/MS



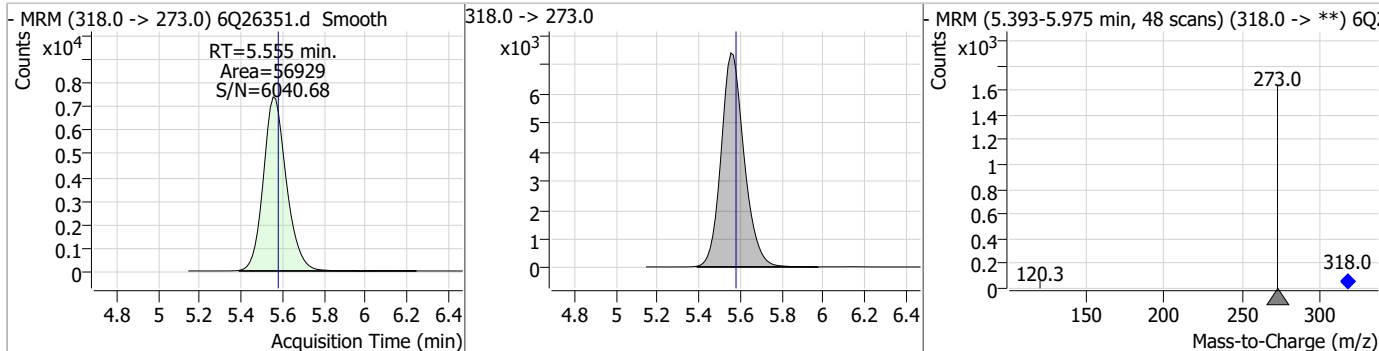
7.7.18 7

Perfluorinated Compounds by LC/MS/MS

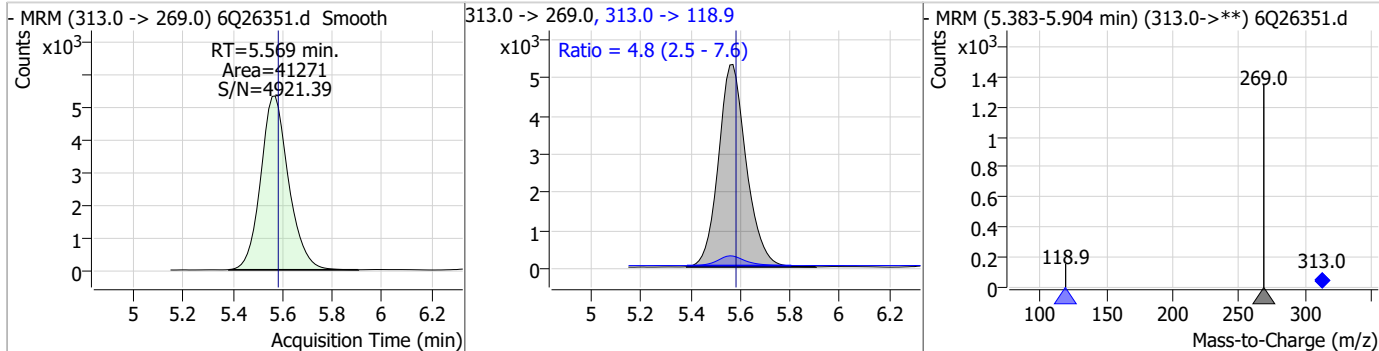
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBS	1.85	5.47	-0.04	14023	298.7 -> 98.8	36.7	18.5	55.4



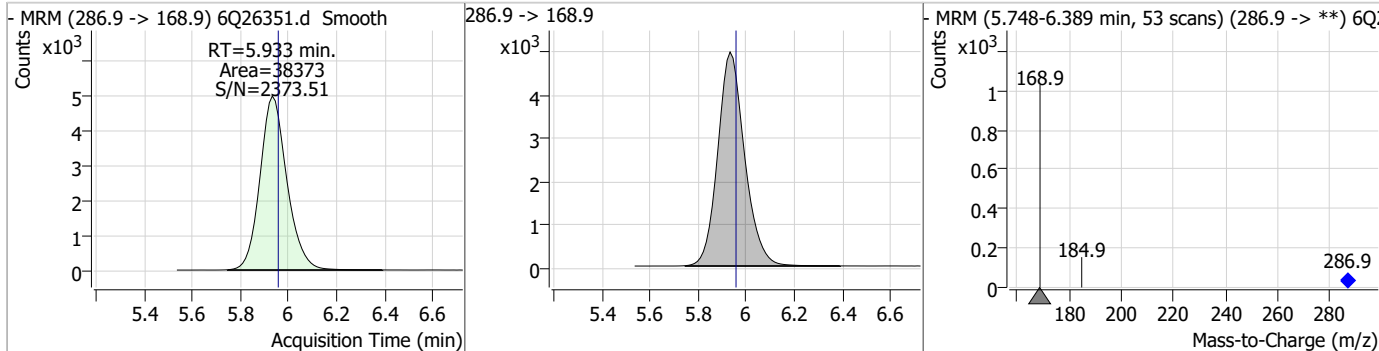
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFHxA	2.52	5.56	-0.02	56929				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxA	2.03	5.57	-0.01	41271	313.0 -> 118.9	4.8	2.5	7.6

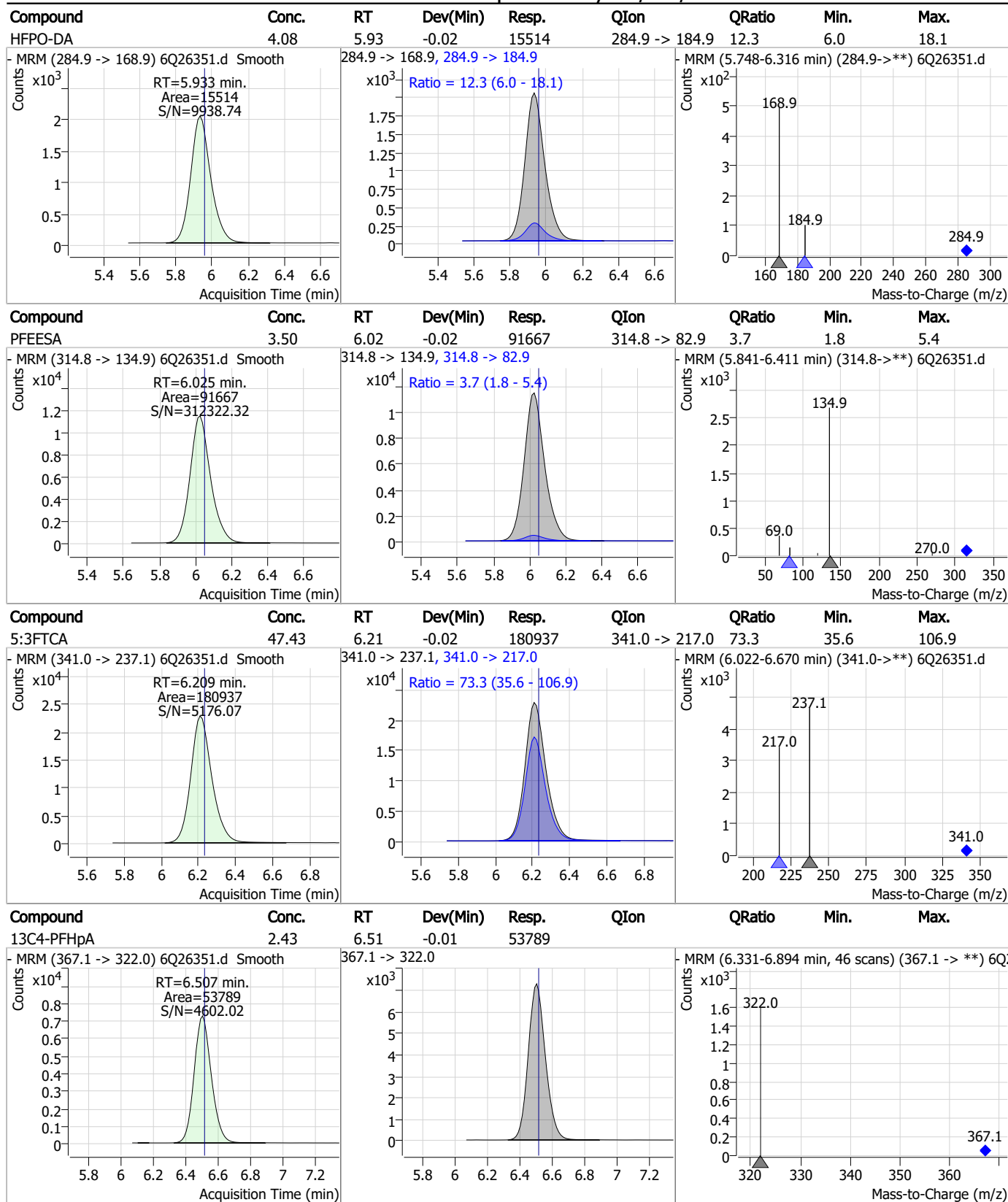


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-HFPO-DA	10.06	5.93	-0.02	38373				



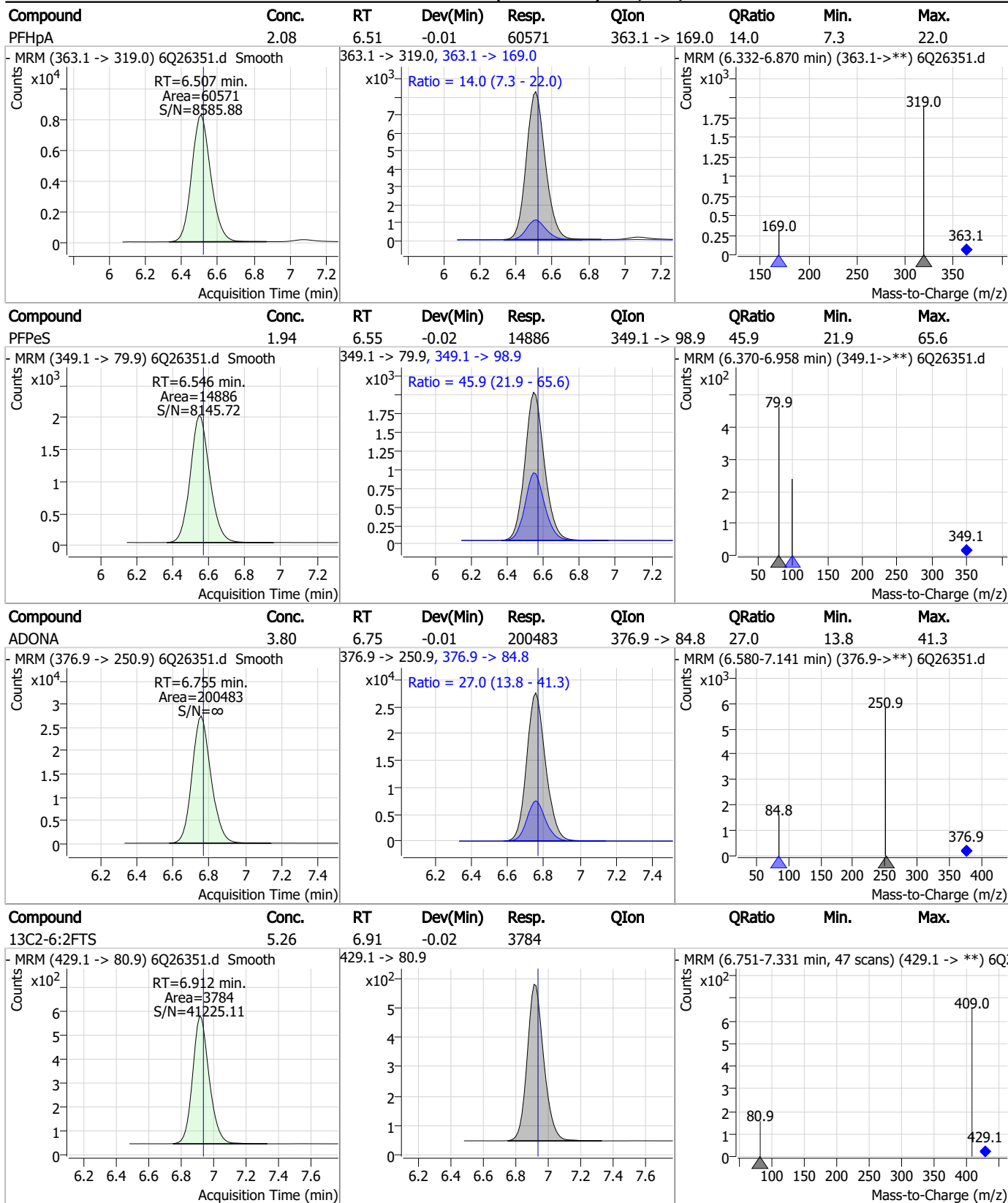
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Perfluorinated Compounds by LC/MS/MS



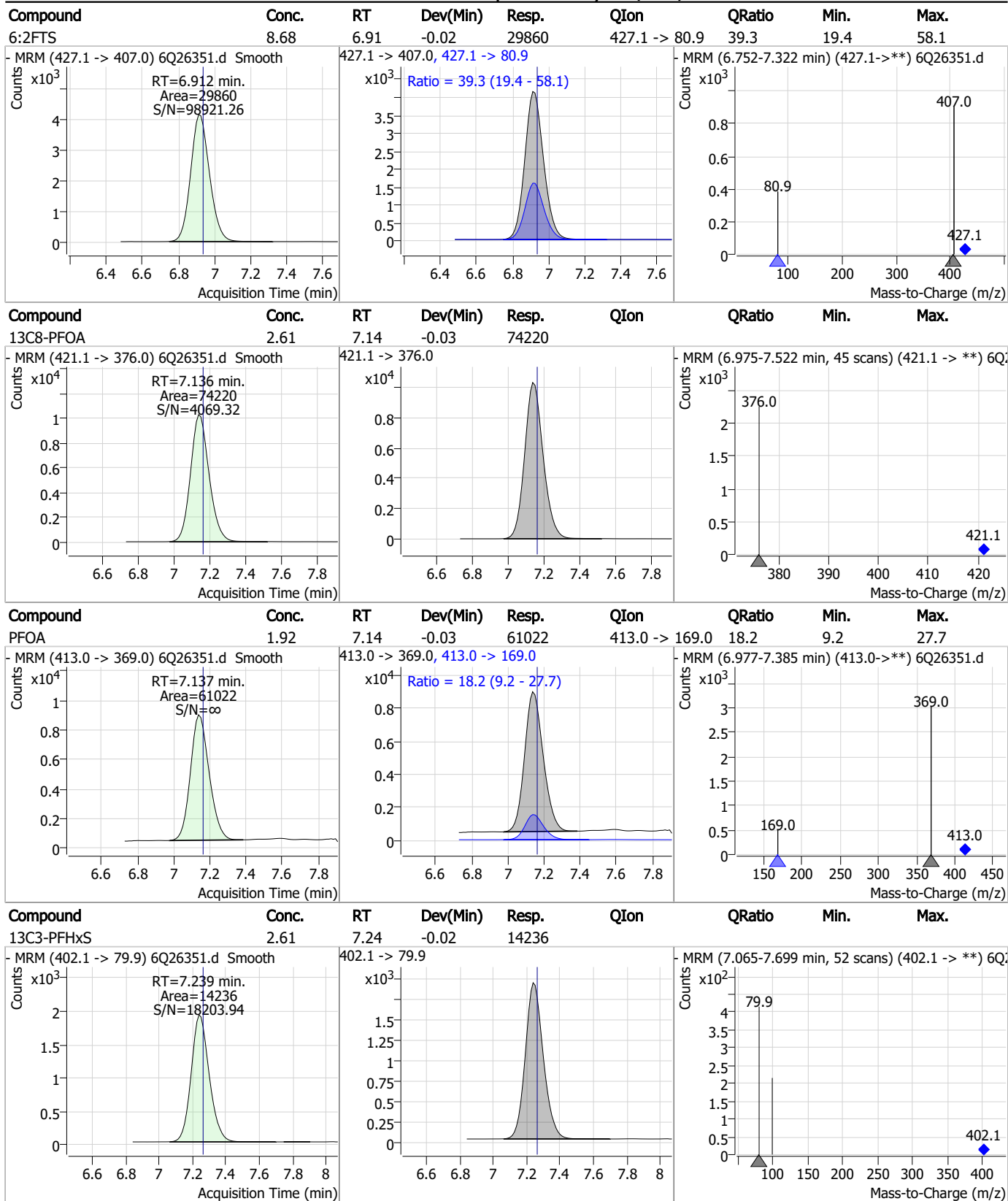
7.7.18 7

Perfluorinated Compounds by LC/MS/MS



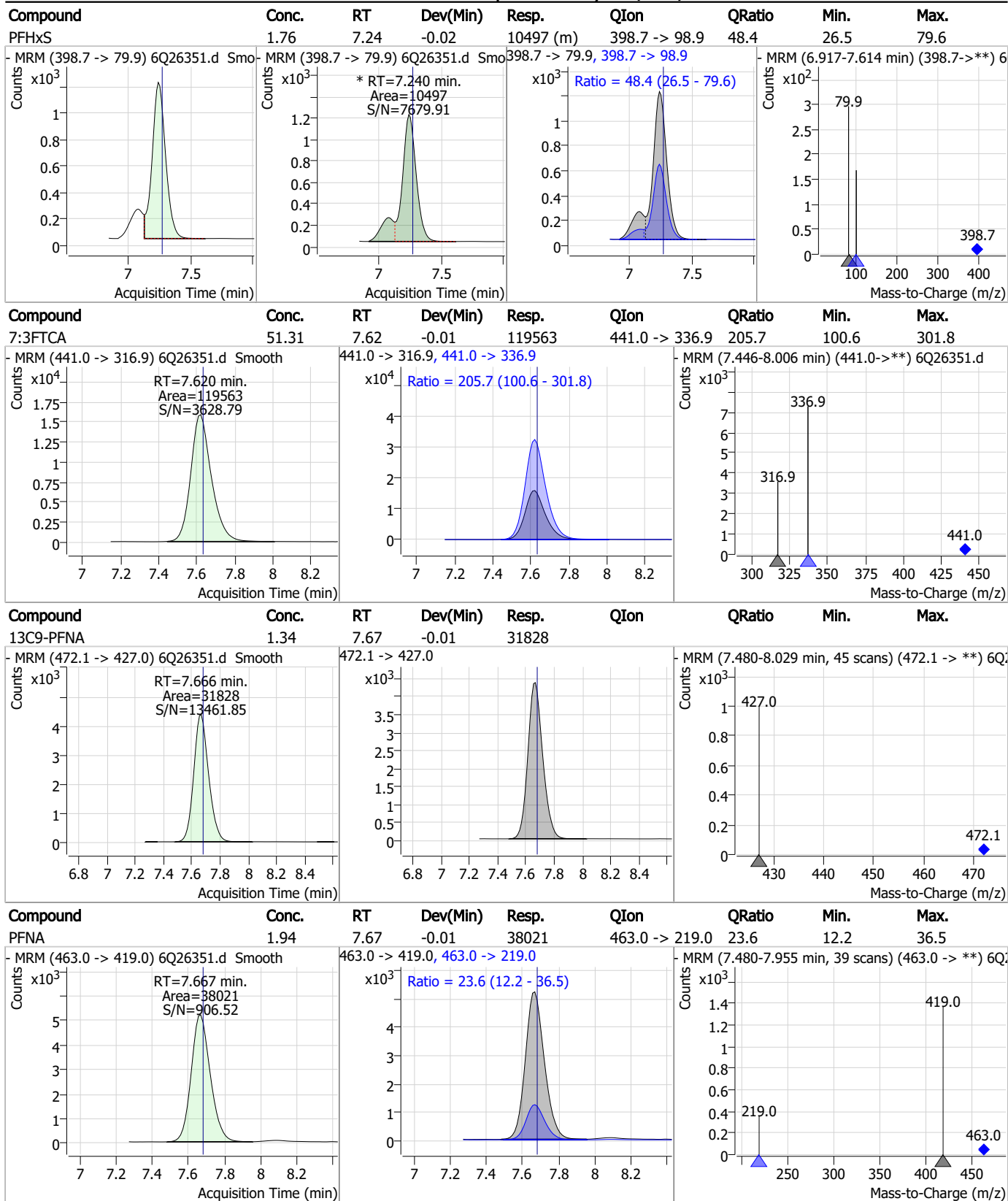
7.7.18 7

Perfluorinated Compounds by LC/MS/MS



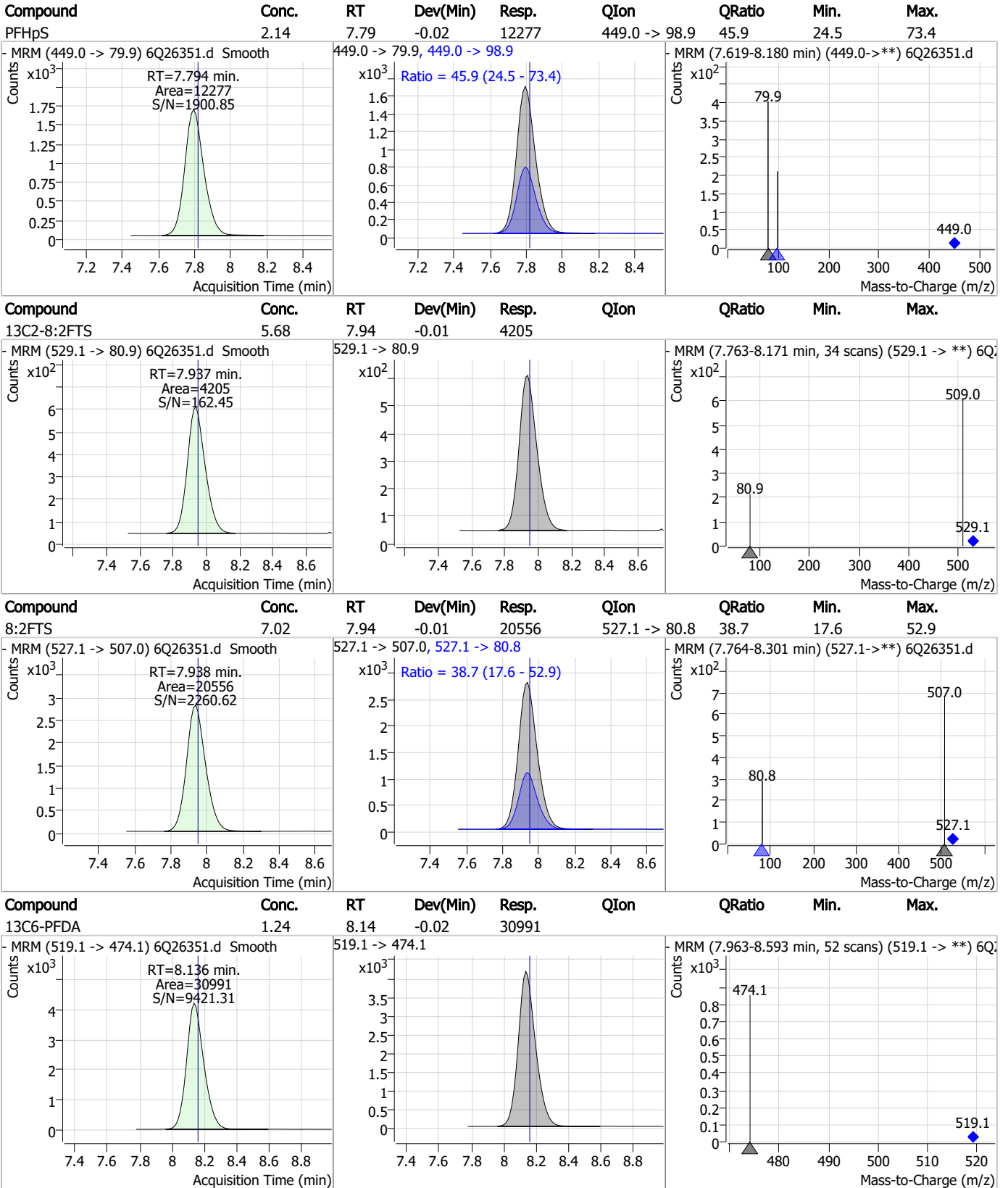
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Perfluorinated Compounds by LC/MS/MS



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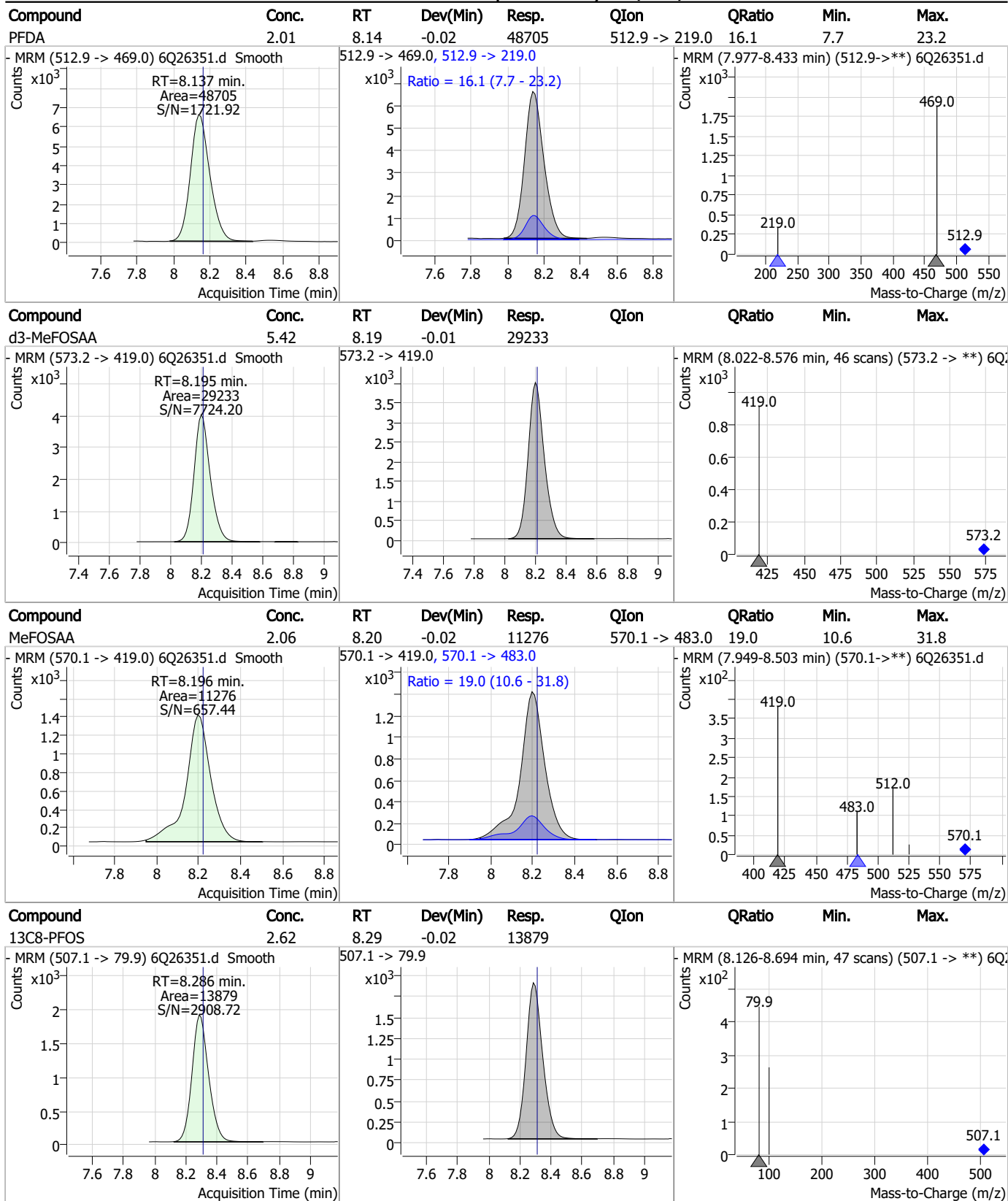
Perfluorinated Compounds by LC/MS/MS



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Perfluorinated Compounds by LC/MS/MS

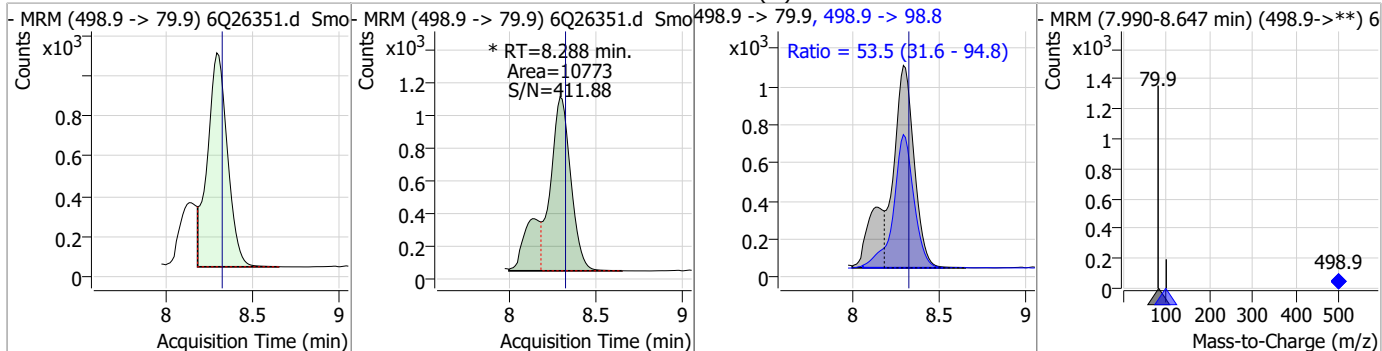


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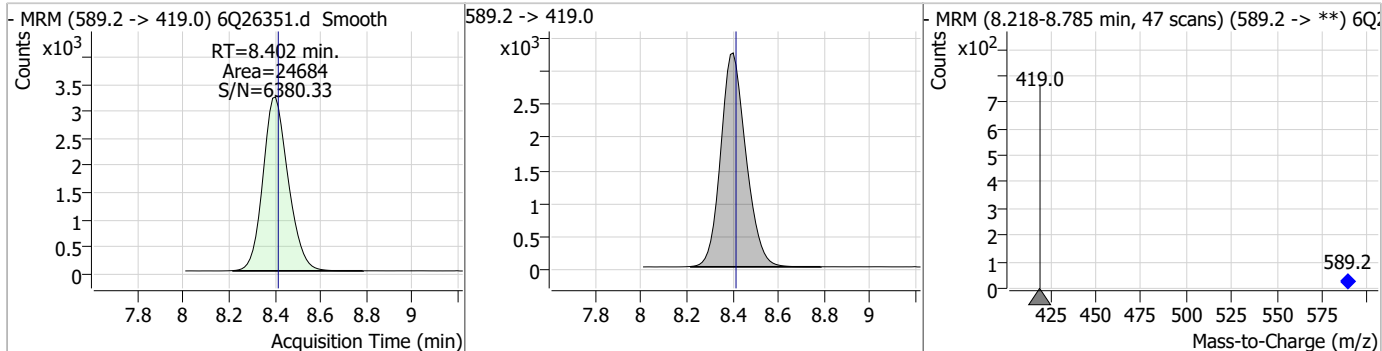
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Perfluorinated Compounds by LC/MS/MS

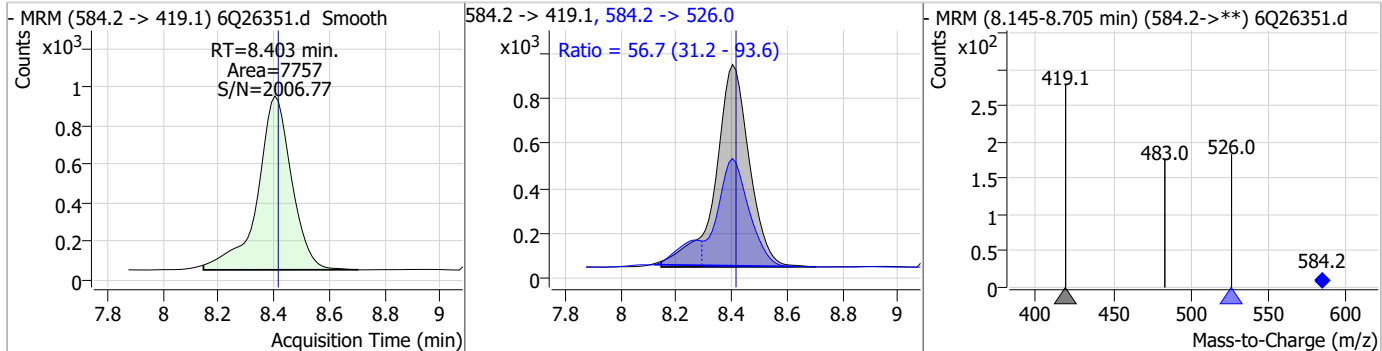
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOS	1.82	8.29	-0.02	10773 (m)	498.9 -> 98.8	53.5	31.6	94.8



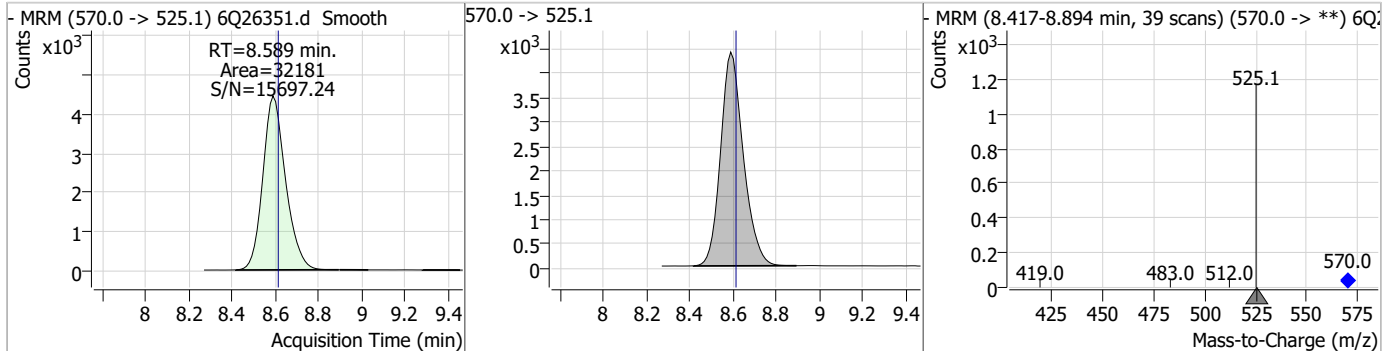
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSAA	5.34	8.40	-0.01	24684				



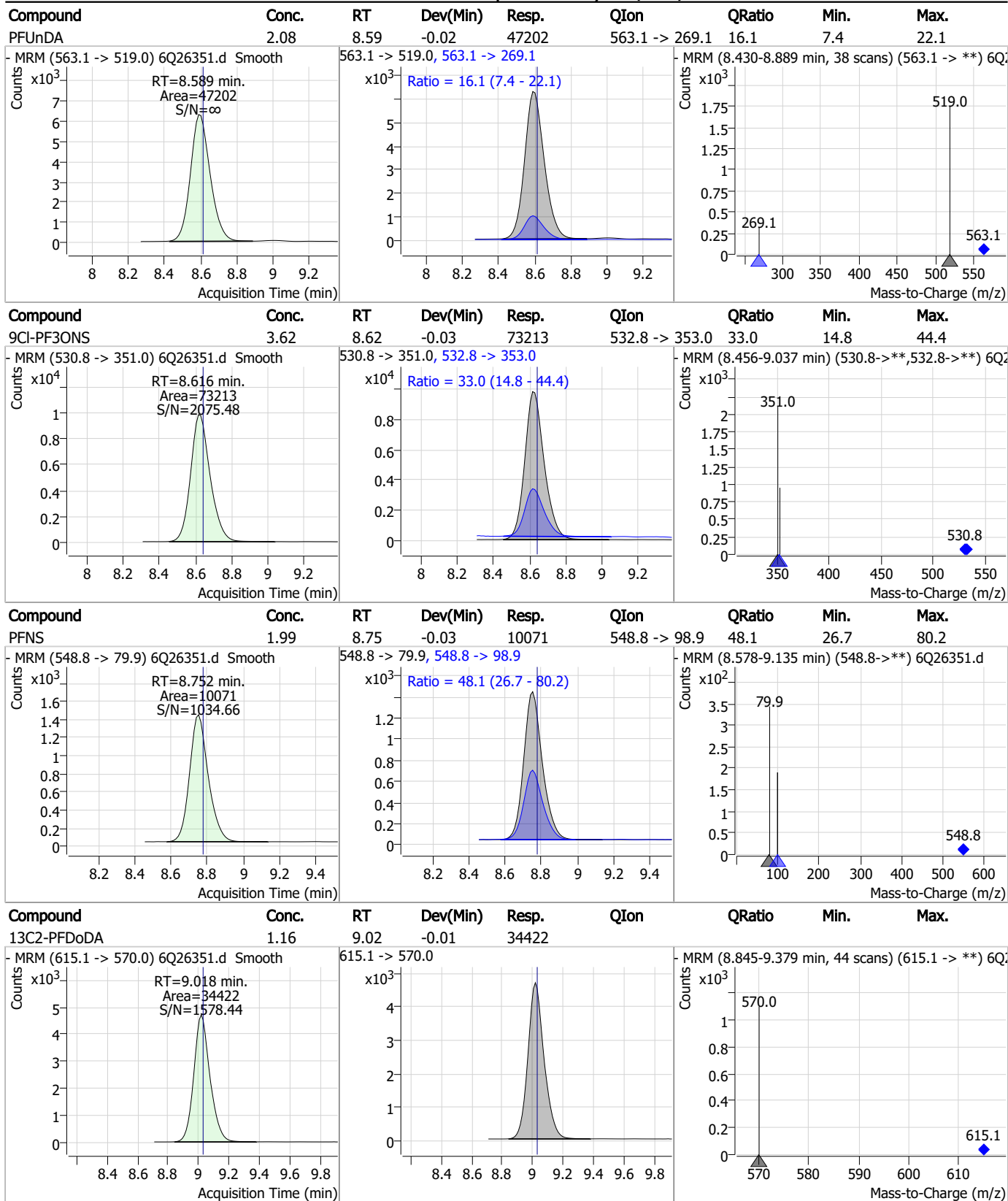
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSAA	1.93	8.40	-0.01	7757	584.2 -> 526.0	56.7	31.2	93.6



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C7-PFUnDA	1.19	8.59	-0.02	32181				

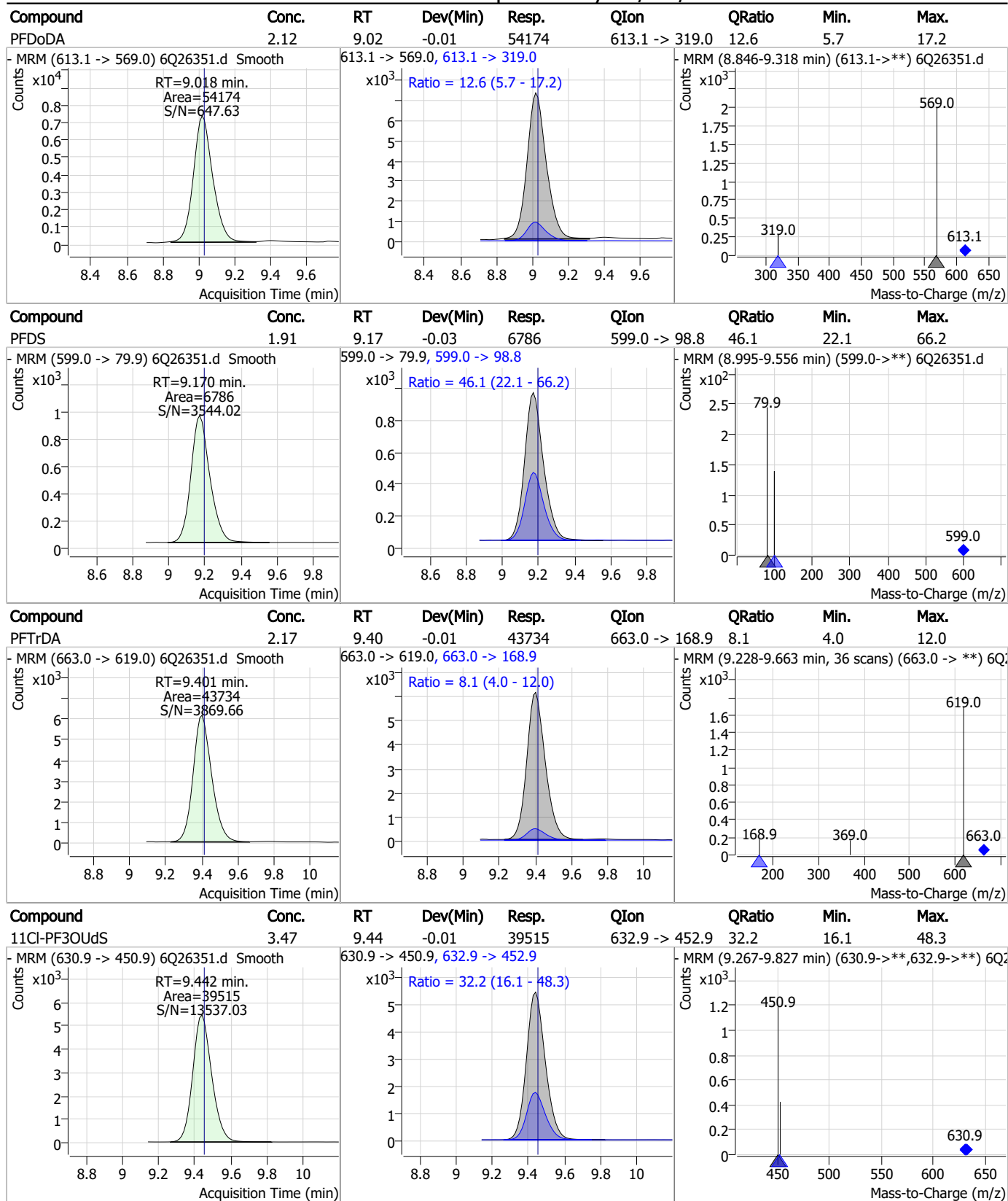


Perfluorinated Compounds by LC/MS/MS



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Perfluorinated Compounds by LC/MS/MS

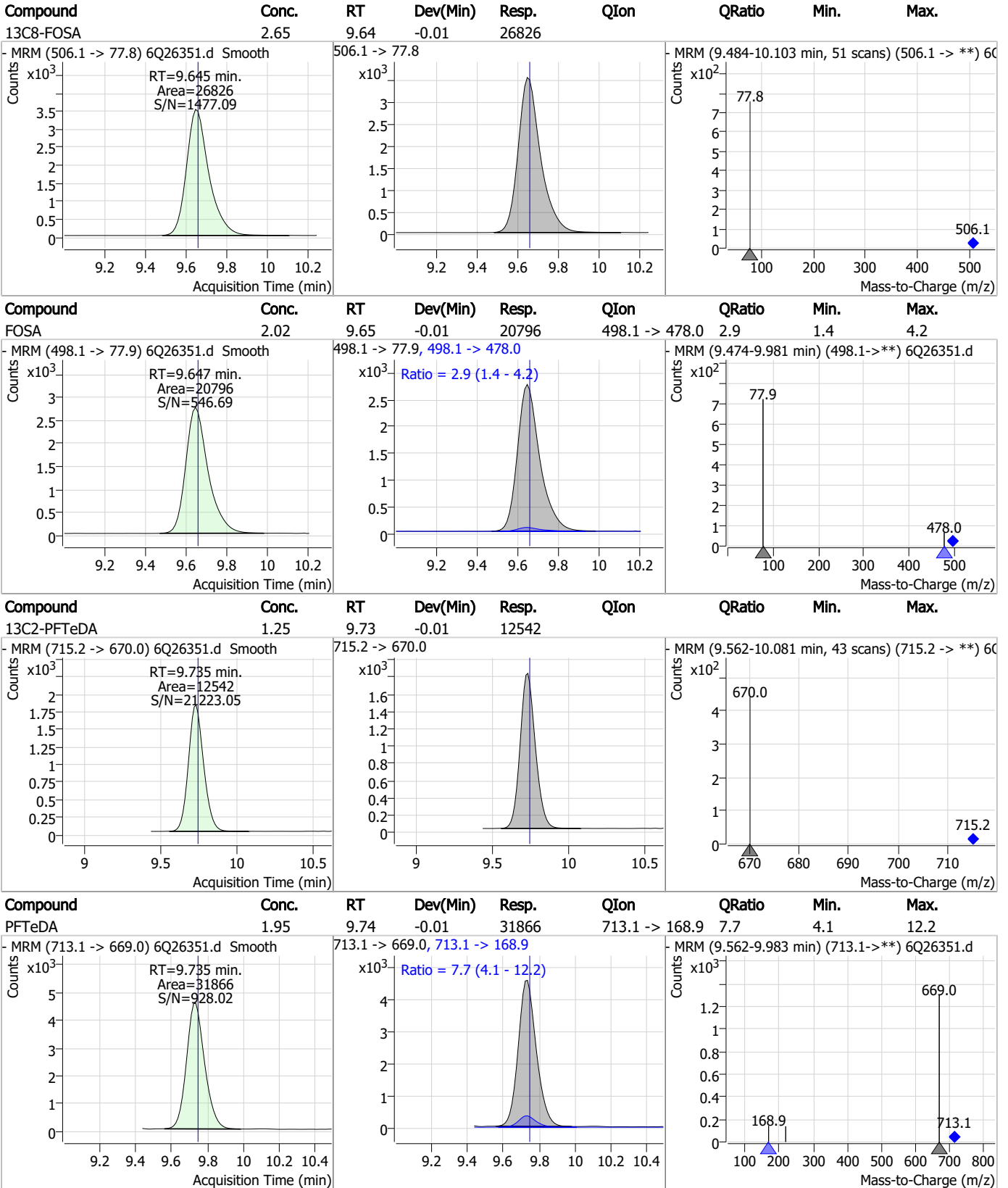


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Perfluorinated Compounds by LC/MS/MS

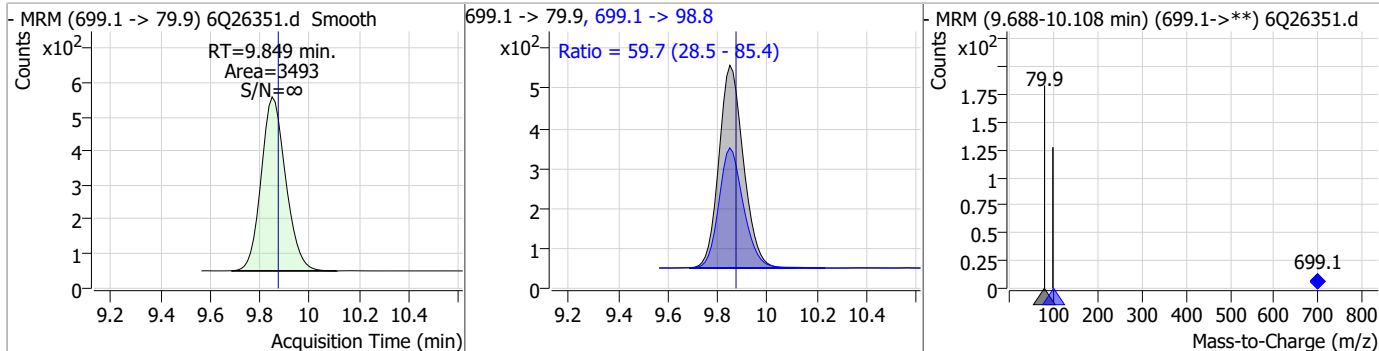


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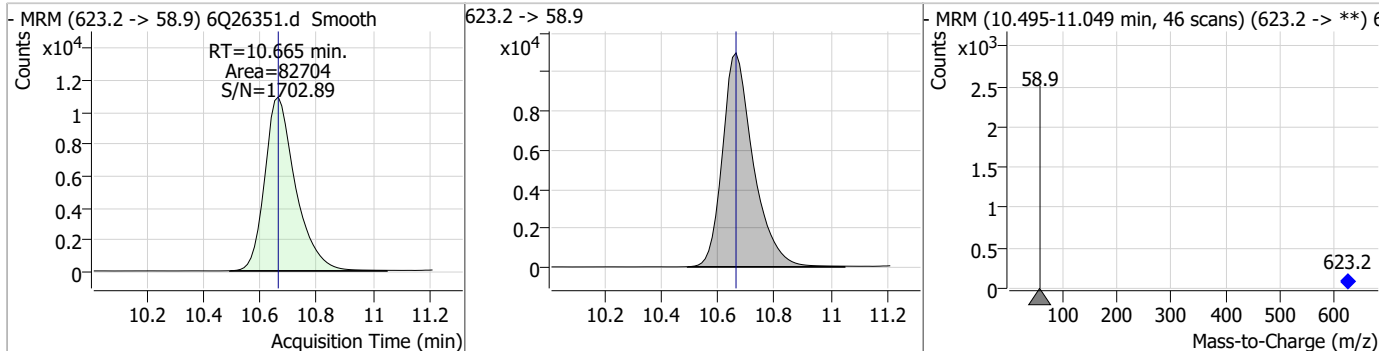


Perfluorinated Compounds by LC/MS/MS

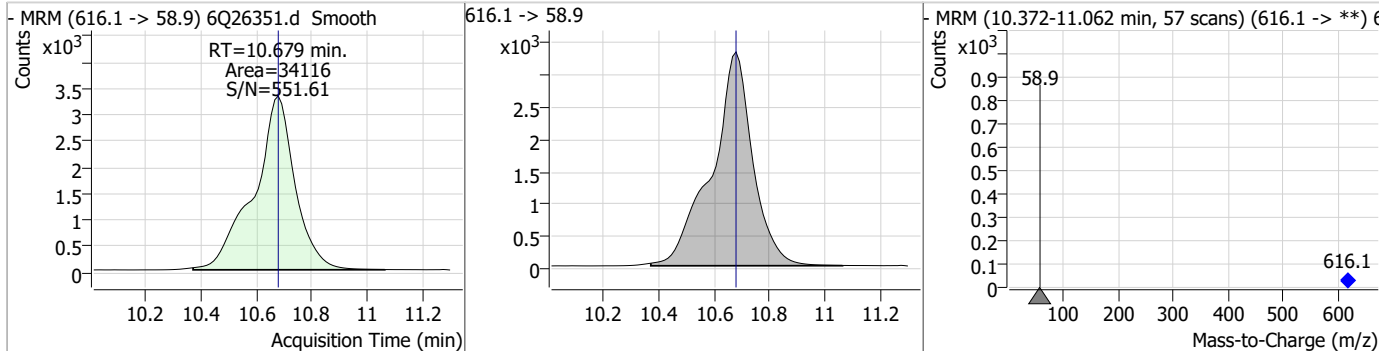
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoS	1.89	9.85	-0.02	3493	699.1 -> 98.8	59.7	28.5	85.4



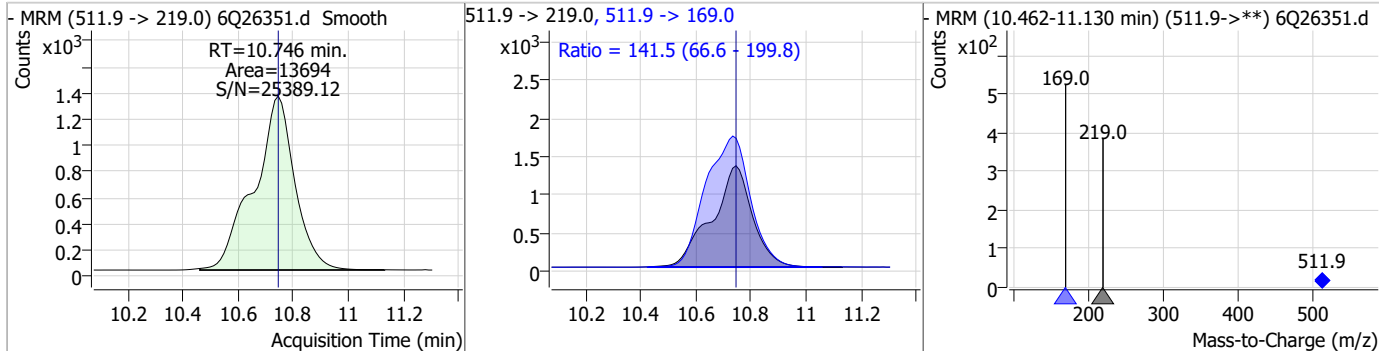
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d7-MeFOSE	25.31	10.67	0.00	82704				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSE	9.33	10.68	0.00	34116				

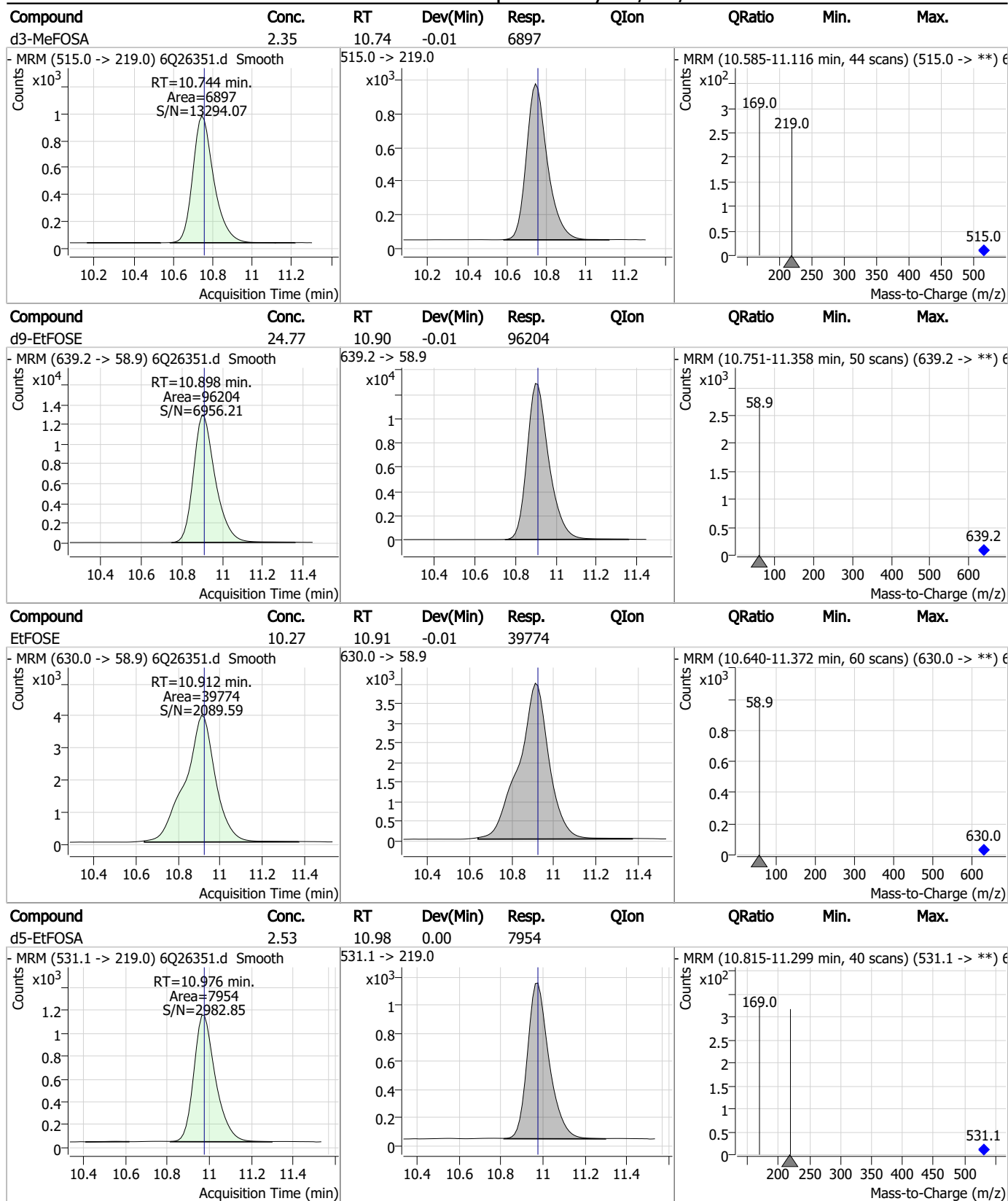


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSA	4.28	10.75	0.00	13694	511.9 -> 169.0	141.5	66.6	199.8



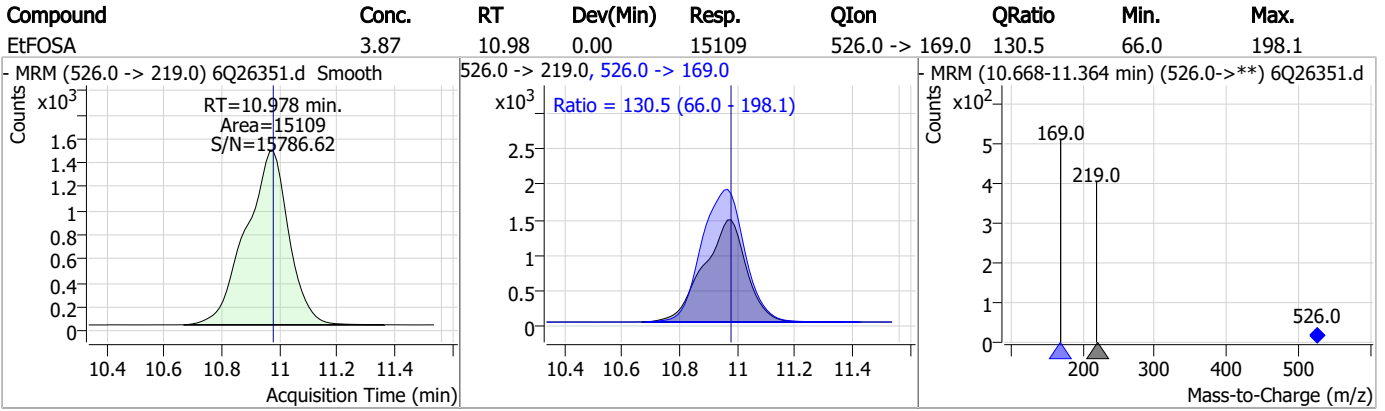
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Perfluorinated Compounds by LC/MS/MS



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Perfluorinated Compounds by LC/MS/MS



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Manual Integration Approval Summary

Sample Number: S6Q370-CC367 Method: EPA DRAFT 1633
Lab FileID: 6Q26351.D Analyst approved: 10/16/23 10:56 Martha Valls
Injection Time: 10/13/23 08:45 Supervisor approved: 10/16/23 17:48 Natasha Gumtie

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		7.24	Split peak
Perfluorooctanesulfonic acid	1763-23-1		8.29	Split peak

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Perfluorinated Compounds by LC/MS/MS

Data File : 6Q26352.d
 Operator : marthav
 Acq. Method : 1633full.m
 Acq. Date-Time : 10/13/2023 8:59:25 AM
 Sample Name : cc367-1.0LL
 Vial : P1-A2
 DA Method File : 1633_100823_S6Q367.quantmethod.xml
 Batch Name : s6q370.batch.bin
 Sample Information : OP99081,S6Q370,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Internal Standards					
M4-PFBA	2.935	216.8 -> 171.9	159697	10.00 µg/L	-0.013
M5-PFPeA	4.347	268.3 -> 223.0	58325	5.00 µg/L	-0.025
M5-PFHxA	5.567	318.0 -> 273.0	53557	2.50 µg/L	-0.012
M4-PFHpA	6.507	367.1 -> 322.0	50412	2.50 µg/L	-0.012
M8-PFOA	7.136	421.1 -> 376.0	66141	2.50 µg/L	-0.025
M9-PFNA	7.666	472.1 -> 427.0	29122	1.25 µg/L	-0.013
M6-PFDA	8.136	519.1 -> 474.1	29992	1.25 µg/L	-0.025
M7-PFUnDA	8.589	570.0 -> 525.1	30368	1.25 µg/L	-0.025
M2-PFDoDA	9.018	615.1 -> 570.0	34010	1.25 µg/L	-0.012
M2-PFTeDA	9.722	715.2 -> 670.0	11823	1.25 µg/L	-0.025
M8-FOSA	9.645	506.1 -> 77.8	24791	2.50 µg/L	-0.012
M3-PFBS	5.485	302.1 -> 79.9	23321	2.50 µg/L	-0.012
M3-PFHxS	7.239	402.1 -> 79.9	13253	2.50 µg/L	-0.025
M8-PFOS	8.286	507.1 -> 79.9	12506	2.50 µg/L	-0.025
M2-4:2FTS	5.230	329.1 -> 80.9	2811	5.00 µg/L	-0.025
M2-6:2FTS	6.912	429.1 -> 80.9	3869	5.00 µg/L	-0.025
M2-8:2FTS	7.937	529.1 -> 80.9	3704	5.00 µg/L	-0.012
M3-MeFOSAA	8.195	573.2 -> 419.0	28200	5.00 µg/L	-0.012
M3-HFPO-DA	5.933	286.9 -> 168.9	36120	10.00 µg/L	-0.025
M5-EtFOSAA	8.390	589.2 -> 419.0	21988	5.00 µg/L	-0.025
M7-MeFOSE	10.665	623.2 -> 58.9	78308	25.00 µg/L	0.000
M9-EtFOSE	10.898	639.2 -> 58.9	90530	25.00 µg/L	-0.012
M5-EtFOSA	10.976	531.1 -> 219.0	7554	2.50 µg/L	0.000
M3-MeFOSA	10.744	515.0 -> 219.0	6826	2.50 µg/L	-0.012
13C4-PFOS	8.287	502.8 -> 79.9	12266	2.50 µg/L	-0.025
13C3-PFBA	2.927	216.0 -> 172.0	67722	5.00 µg/L	-0.025
18O2-PFHxS	7.238	403.0 -> 83.9	7916	2.50 µg/L	-0.025
13C4-PFOA	7.136	417.1 -> 372.0	79239	2.50 µg/L	-0.025
13C2-PFDA	8.149	515.1 -> 470.1	24875	1.25 µg/L	-0.012
13C5-PFNA	7.667	468.0 -> 423.0	27392	1.25 µg/L	-0.013
13C2-PFHxA	5.556	315.1 -> 270.0	51588	2.50 µg/L	-0.025
System Monitoring Compounds					
13C2-4:2FTS	5.230	329.1 -> 80.9	2811	6.30 µg/L	-0.025
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 126.0%		
13C2-6:2FTS	6.912	429.1 -> 80.9	3869	5.83 µg/L	-0.025
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 116.6%		
13C2-8:2FTS	7.937	529.1 -> 80.9	3704	5.42 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 108.5%		
13C2-PFDoDA	9.018	615.1 -> 570.0	34010	1.37 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 109.7%		
13C2-PFTeDA	9.722	715.2 -> 670.0	11823	1.41 µg/L	-0.025
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 112.5%		
13C3-PFBS	5.485	302.1 -> 79.9	23321	2.60 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 104.0%		
13C3-PFHxS	7.239	402.1 -> 79.9	13253	2.63 µg/L	-0.025

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Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 105.4%	
13C4-PFBA	2.935	216.8 -> 171.9	159697	9.77 µg/L	-0.013
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 97.7%	
13C4-PFHpA	6.507	367.1 -> 322.0	50412	2.41 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 96.6%	
13C5-PFHxA	5.567	318.0 -> 273.0	53557	2.51 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 100.4%	
13C5-PFPeA	4.347	268.3 -> 223.0	58325	5.00 µg/L	-0.025
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 99.9%	
13C6-PFDA	8.136	519.1 -> 474.1	29992	1.43 µg/L	-0.025
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 114.5%	
13C7-PFUnDA	8.589	570.0 -> 525.1	30368	1.34 µg/L	-0.025
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 107.3%	
13C8-FOSA	9.645	506.1 -> 77.8	24791	2.45 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 98.0%	
13C8-PFOA	7.136	421.1 -> 376.0	66141	2.41 µg/L	-0.025
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 96.3%	
13C8-PFOS	8.286	507.1 -> 79.9	12506	2.36 µg/L	-0.025
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 94.4%	
13C9-PFNA	7.666	472.1 -> 427.0	29122	1.29 µg/L	-0.013
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 103.4%	
d3-MeFOSAA	8.195	573.2 -> 419.0	28200	5.23 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 104.5%	
13C3-HFPO-DA	5.933	286.9 -> 168.9	36120	10.04 µg/L	-0.025
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 100.4%	
d3-MeFOSA	10.744	515.0 -> 219.0	6826	2.33 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 93.0%	
d5-EtFOSAA	8.390	589.2 -> 419.0	21988	4.76 µg/L	-0.025
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 95.1%	
d7-MeFOSE	10.665	623.2 -> 58.9	78308	23.97 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 95.9%	
d9-EtFOSE	10.898	639.2 -> 58.9	90530	23.31 µg/L	-0.012
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 93.2%	
d5-EtFOSA	10.976	531.1 -> 219.0	7554	2.41 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 96.3%	
Target Compounds					QValue
4:2FTS	5.231	327.1 -> 307.0	3751	0.80 µg/L	98
		327.1 -> 80.9	1410		
6:2FTS	6.925	427.1 -> 407.0	2747	0.78 µg/L	94
		427.1 -> 80.9	1163		
8:2FTS	7.938	527.1 -> 507.0	2138	0.83 µg/L	99
		527.1 -> 80.8	736		
EtFOSAA	8.403	584.2 -> 419.1	769	0.22 µg/L	97
		584.2 -> 526.0	464		
FOSA	9.647	498.1 -> 77.9	1948	0.21 µg/L	98
		498.1 -> 478.0	69		
MeFOSAA	8.196	570.1 -> 419.0	1015	0.19 µg/L	89
		570.1 -> 483.0	268		
PFBA	2.931	212.8 -> 168.9	4818	0.81 µg/L	100
PFBS	5.474	298.7 -> 79.9	1349	0.19 µg/L	96
		298.7 -> 98.8	468		
PFDA	8.137	512.9 -> 469.0	5060	0.22 µg/L	96
		512.9 -> 219.0	690		
PFDODA	9.018	613.1 -> 569.0	4493	0.18 µg/L	98
		613.1 -> 319.0	540		
PFDS	9.170	599.0 -> 79.9	589	0.18 µg/L	87

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Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
		599.0 -> 98.8	310			
PFHpA	6.507	363.1 -> 319.0	5385	0.20	µg/L	99
		363.1 -> 169.0	804			
PFHpS	7.794	449.0 -> 79.9	1059	0.21	µg/L	88
		449.0 -> 98.9	604			
PFHxA	5.569	313.0 -> 269.0	3828	0.20	µg/L	98
		313.0 -> 118.9	218			
PFHxS	7.240	398.7 -> 79.9	1053	0.19	µg/L	m 89
		398.7 -> 98.9	475			
PFNA	7.667	463.0 -> 419.0	3800	0.21	µg/L	98
		463.0 -> 219.0	891			
PFNS	8.752	548.8 -> 79.9	859	0.19	µg/L	98
		548.8 -> 98.9	470			
PFOA	7.137	413.0 -> 369.0	5567	0.20	µg/L	99
		413.0 -> 169.0	1044			
PFOS	8.288	498.9 -> 79.9	1047	0.20	µg/L	m 90
		498.9 -> 98.8	583			
PFPeA	4.349	263.0 -> 219.0	5097	0.41	µg/L	100
PFPeS	6.546	349.1 -> 79.9	1395	0.19	µg/L	93
		349.1 -> 98.9	673			
PFTeDA	9.735	713.1 -> 669.0	2870	0.19	µg/L	100
		713.1 -> 168.9	234			
PFTrDA	9.401	663.0 -> 619.0	4183	0.21	µg/L	98
		663.0 -> 168.9	362			
PFUnDA	8.589	563.1 -> 519.0	4534	0.21	µg/L	93
		563.1 -> 269.1	789			
11CI-PF3OUdS	9.442	630.9 -> 450.9	3979	0.37	µg/L	94
		632.9 -> 452.9	1150			
9CI-PF3ONS	8.628	530.8 -> 351.0	6643	0.35	µg/L	91
		532.8 -> 353.0	2280			
ADONA	6.755	376.9 -> 250.9	19120	0.39	µg/L	95
		376.9 -> 84.8	4734			
HFPO-DA	5.933	284.9 -> 168.9	1509	0.42	µg/L	92
		284.9 -> 184.9	136			
3:3FTCA	3.783	241.0 -> 177.0	855	1.00	µg/L	96
		241.0 -> 117.0	130			
5:3FTCA	6.209	341.0 -> 237.1	18677	5.20	µg/L	93
		341.0 -> 217.0	12277			
7:3FTCA	7.620	441.0 -> 316.9	10642	4.85	µg/L	95
		441.0 -> 336.9	22147			
EtFOSA	10.978	526.0 -> 219.0	1487	0.40	µg/L	95
		526.0 -> 169.0	1877			
EtFOSE	10.912	630.0 -> 58.9	3760	1.03	µg/L	100
MeFOSA	10.746	511.9 -> 219.0	1328	0.42	µg/L	96
		511.9 -> 169.0	1834			
MeFOSE	10.679	616.1 -> 58.9	3446	1.00	µg/L	100
PFDoDS	9.849	699.1 -> 79.9	371	0.22	µg/L	94
		699.1 -> 98.8	195			
NFDHA	5.450	295.0 -> 201.0	941	0.39	µg/L	96
		295.0 -> 84.9	279			
PFMBA	4.769	279.0 -> 85.1	3753	0.39	µg/L	100
PFMPA	3.488	229.0 -> 84.9	3172	0.40	µg/L	100
PFEESA	6.025	314.8 -> 134.9	8367	0.34	µg/L	100
		314.8 -> 82.9	314			

= Qualifier out of range, m = manually integrated, + = Area summed



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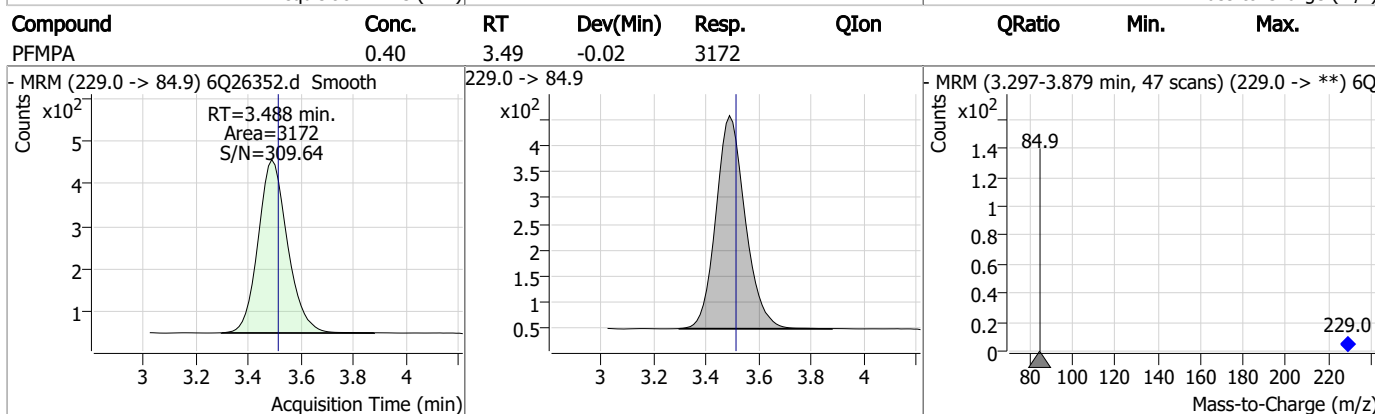
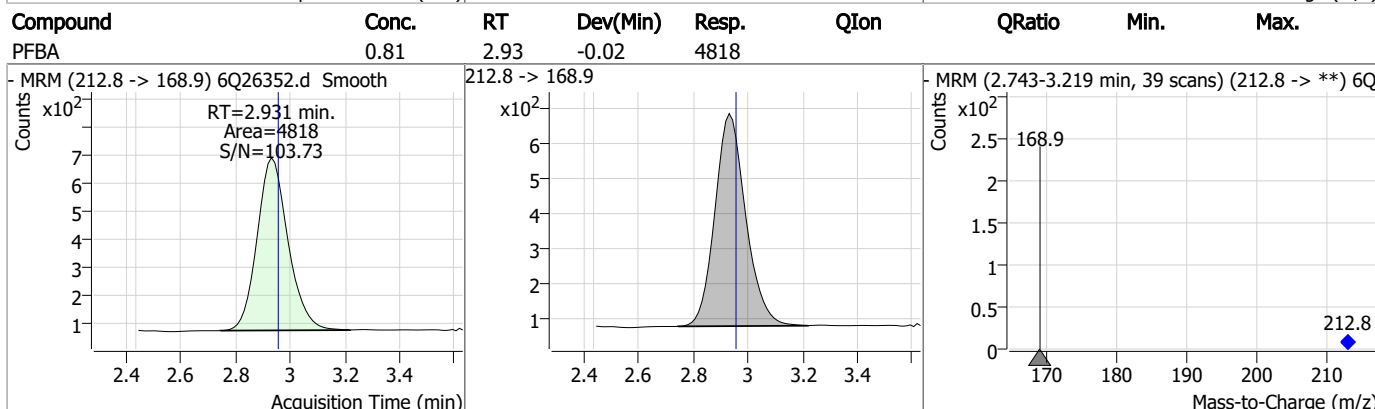
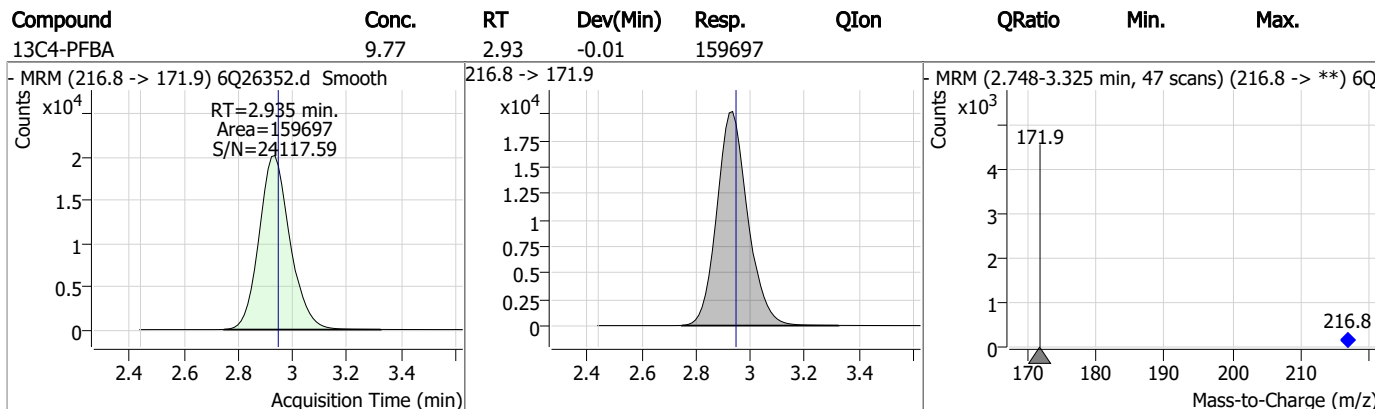
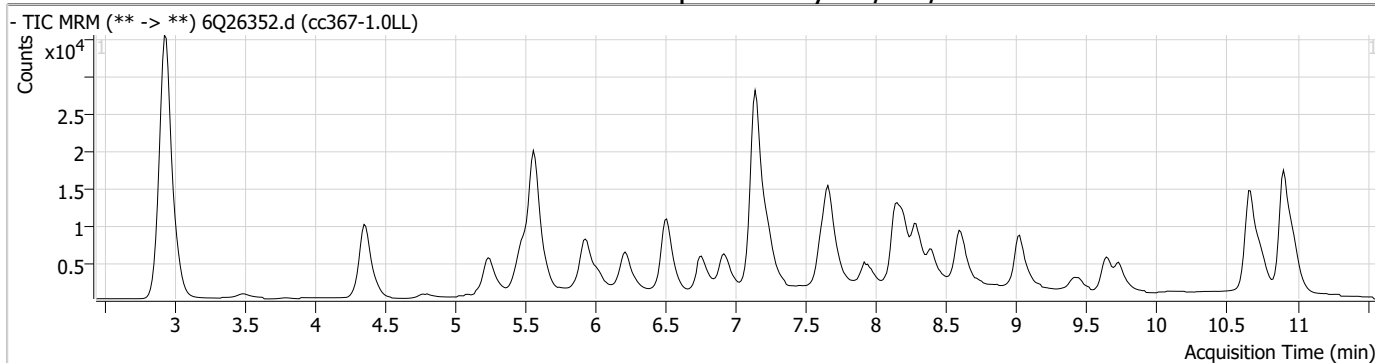
Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
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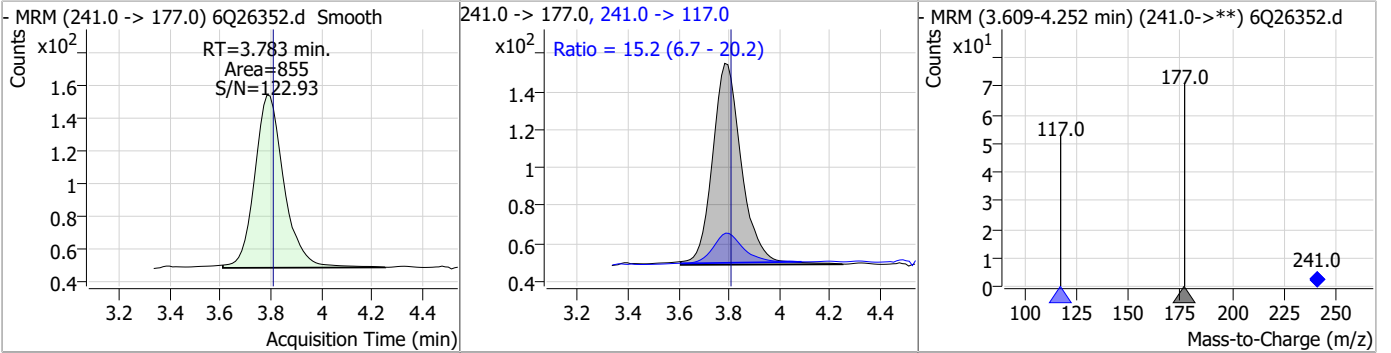
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Perfluorinated Compounds by LC/MS/MS

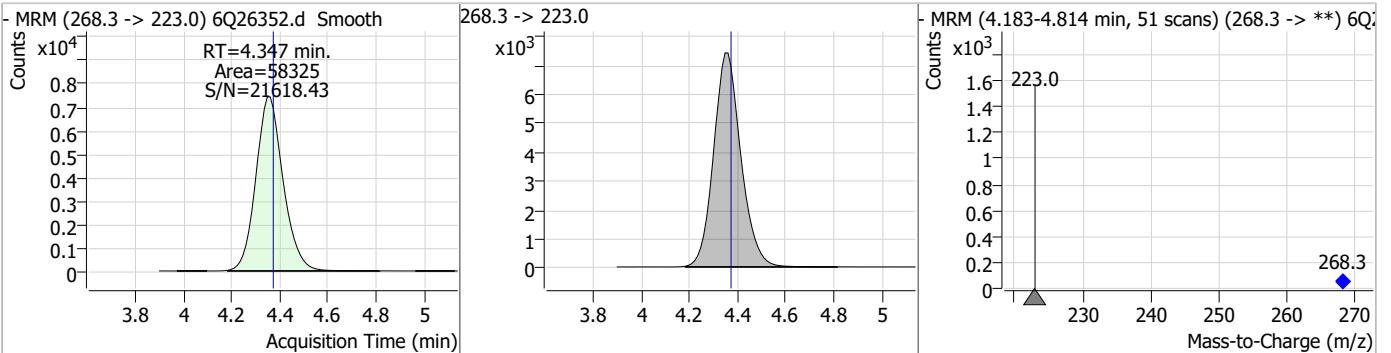


Perfluorinated Compounds by LC/MS/MS

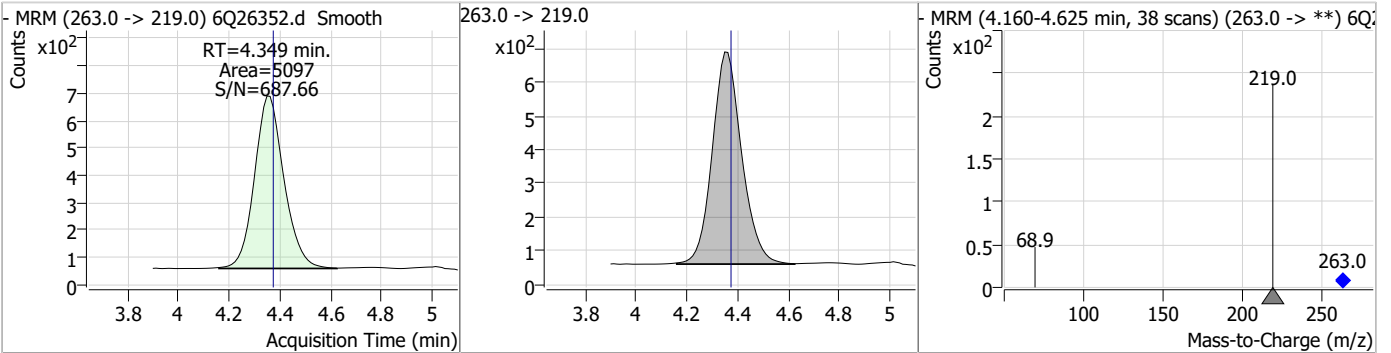
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
3:3FTCA	1.00	3.78	-0.02	855	241.0 -> 117.0	15.2	6.7	20.2



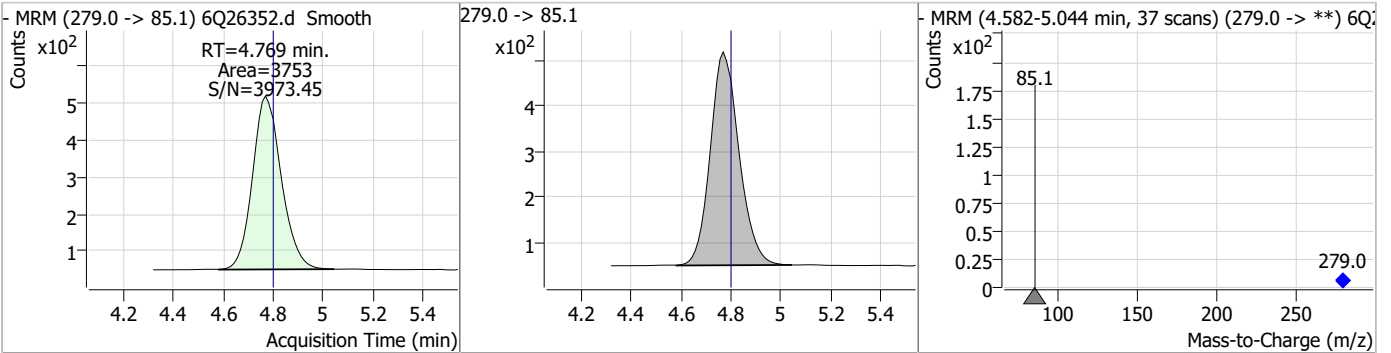
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFPeA	5.00	4.35	-0.02	58325				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeA	0.41	4.35	-0.02	5097				

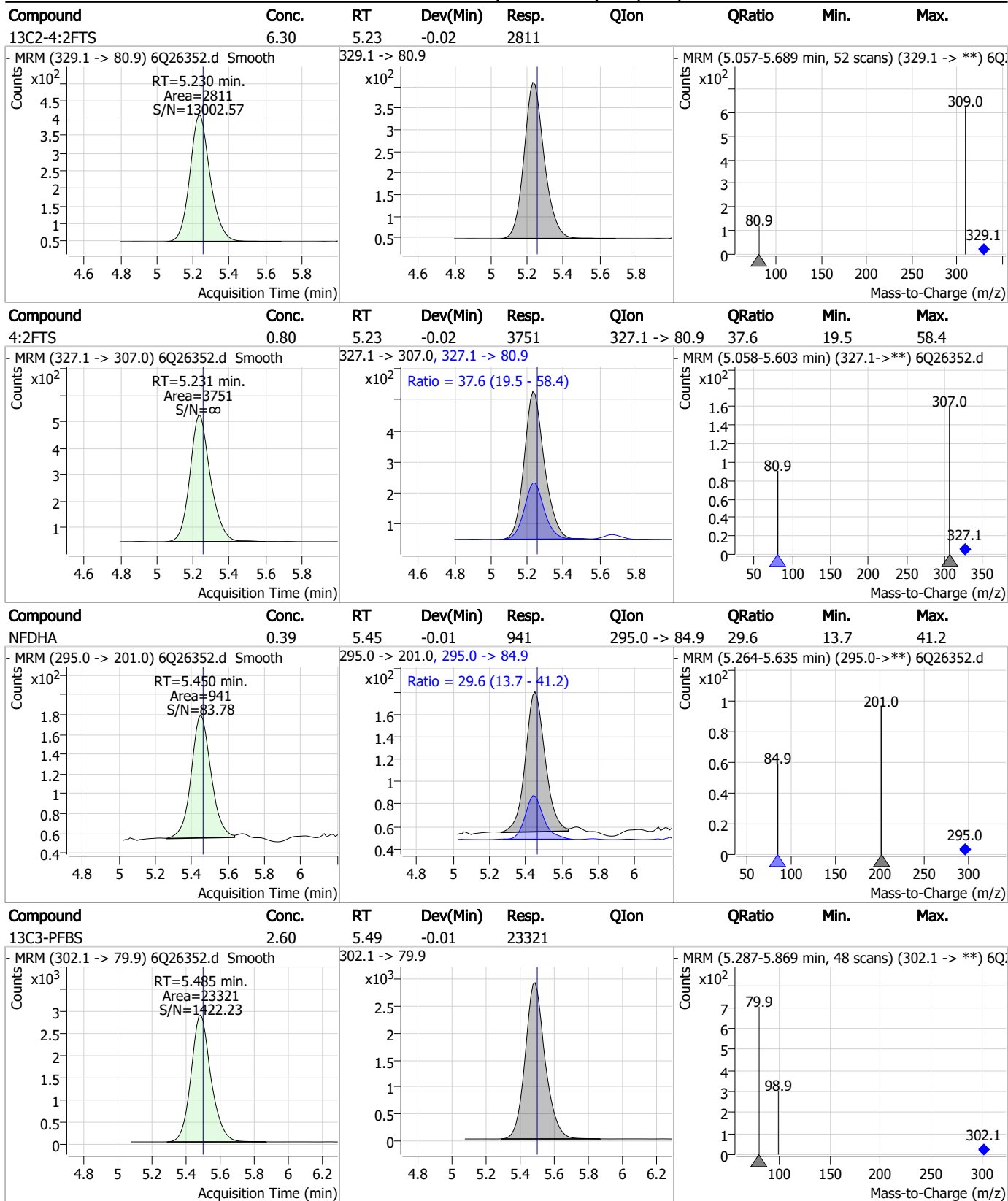


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFMBA	0.39	4.77	-0.03	3753				



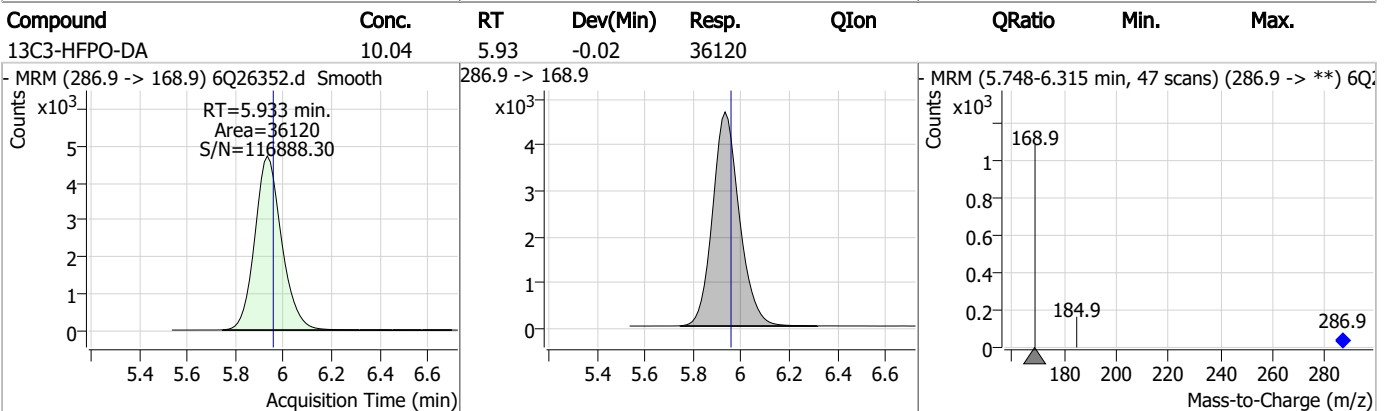
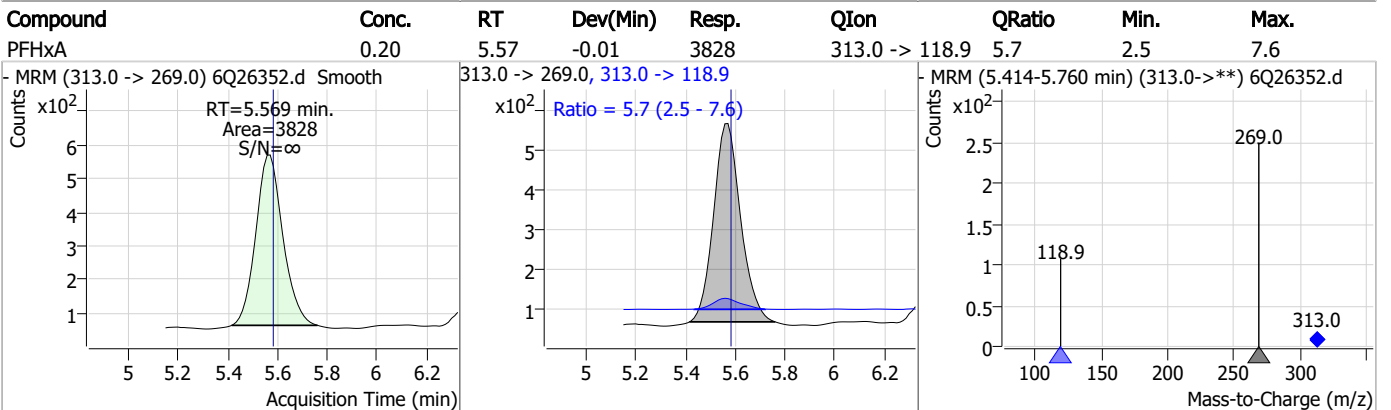
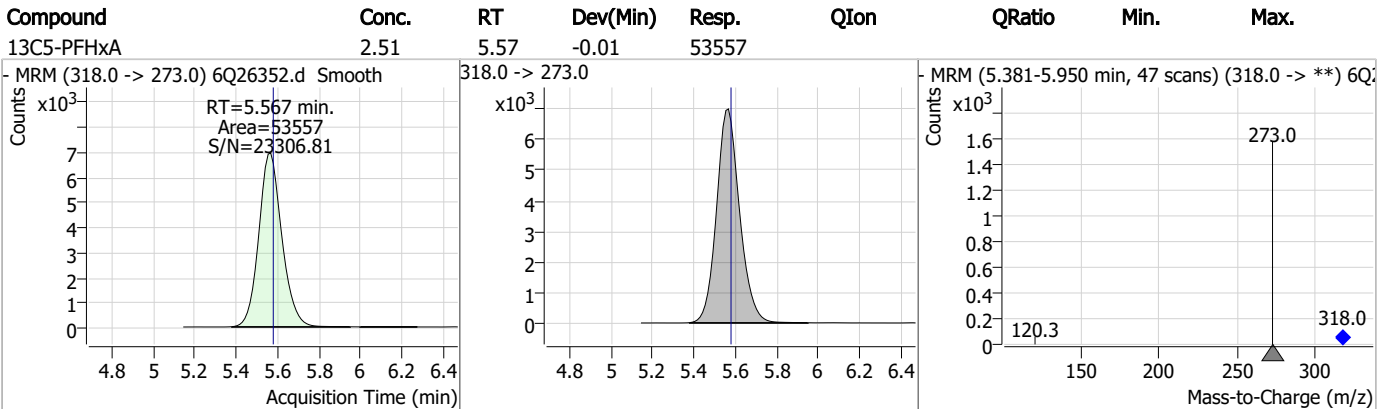
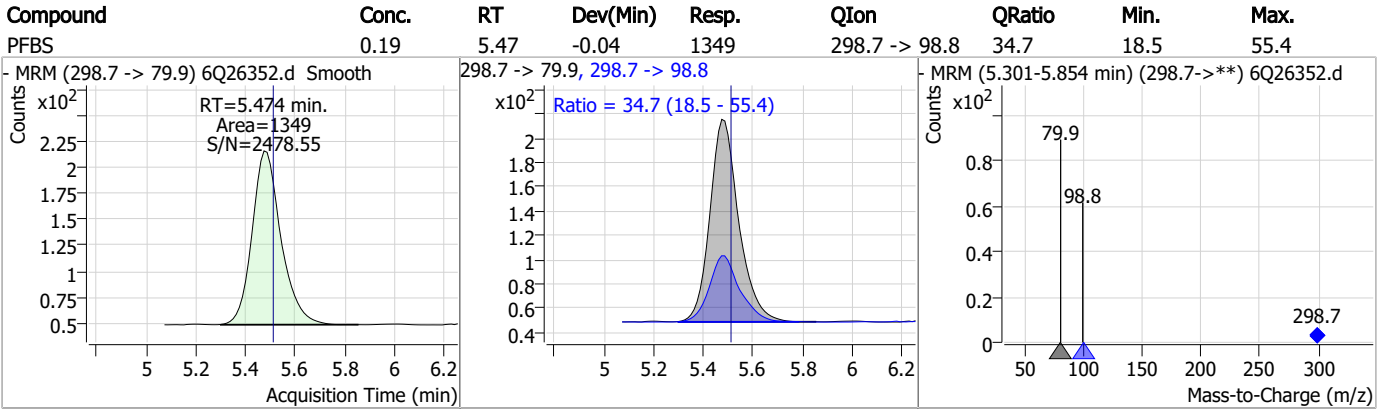
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Perfluorinated Compounds by LC/MS/MS



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Perfluorinated Compounds by LC/MS/MS

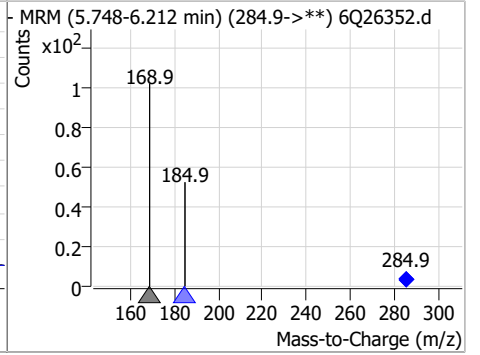
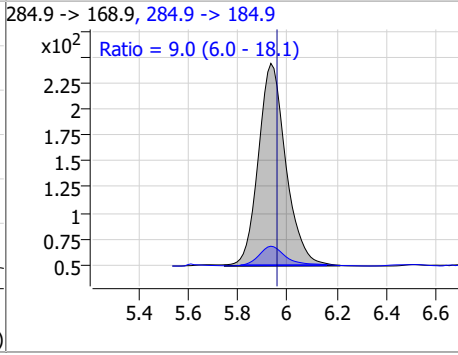
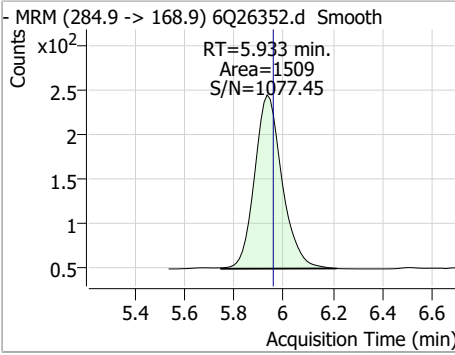


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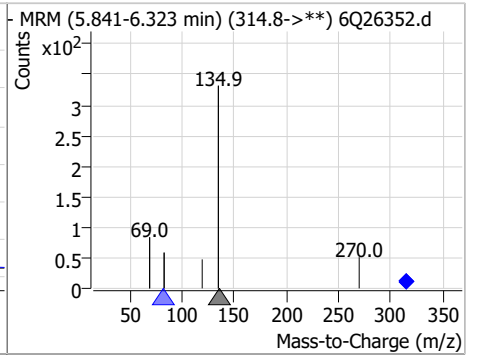
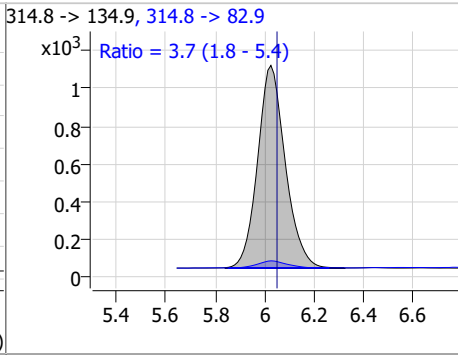
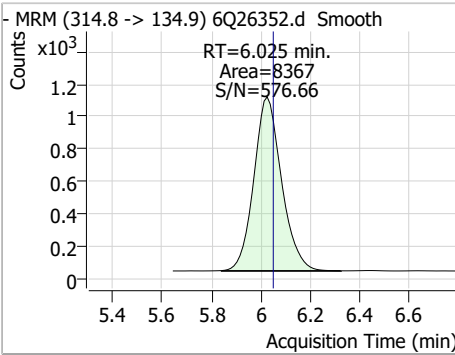


Perfluorinated Compounds by LC/MS/MS

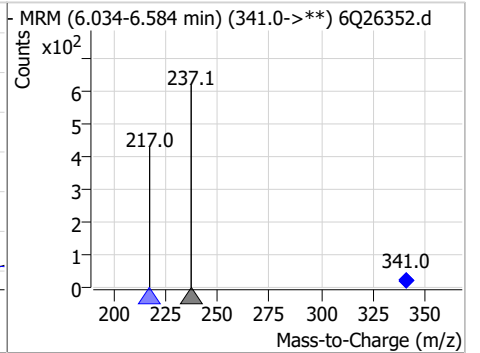
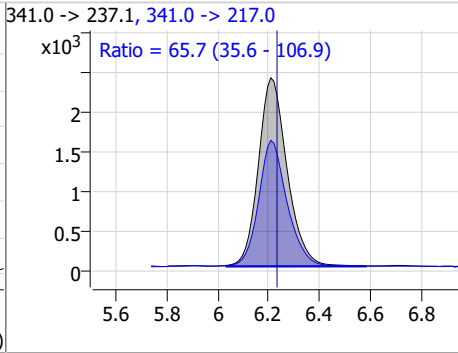
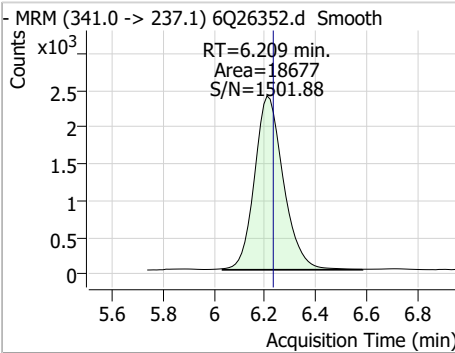
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
HFPO-DA	0.42	5.93	-0.02	1509	284.9 -> 184.9	9.0	6.0	18.1



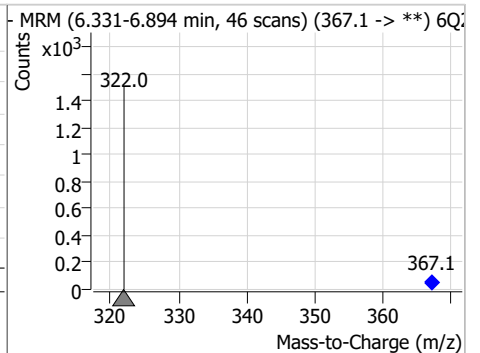
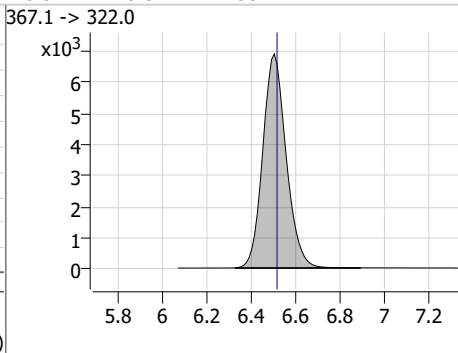
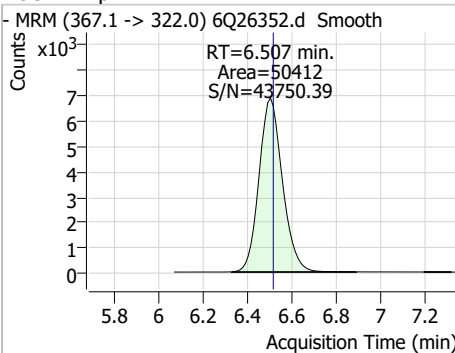
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFEESA	0.34	6.02	-0.02	8367	314.8 -> 82.9	3.7	1.8	5.4



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
5:3FTCA	5.20	6.21	-0.02	18677	341.0 -> 217.0	65.7	35.6	106.9

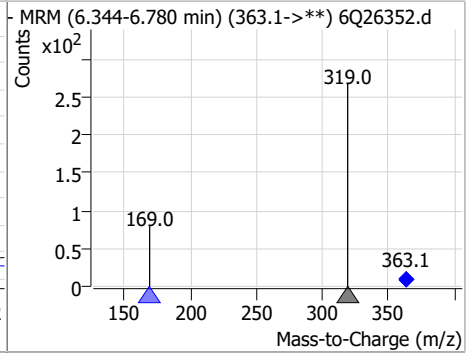
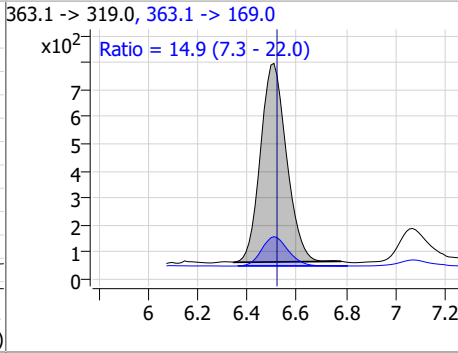
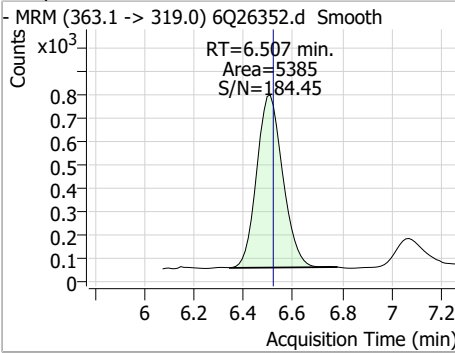


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFHpA	2.41	6.51	-0.01	50412	367.1 -> 322.0			

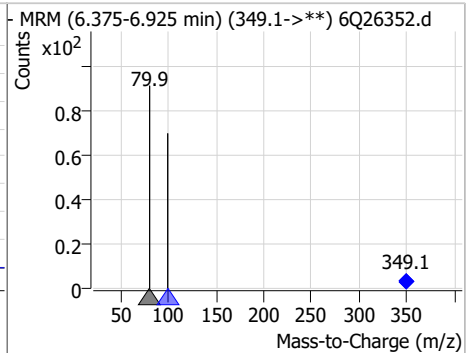
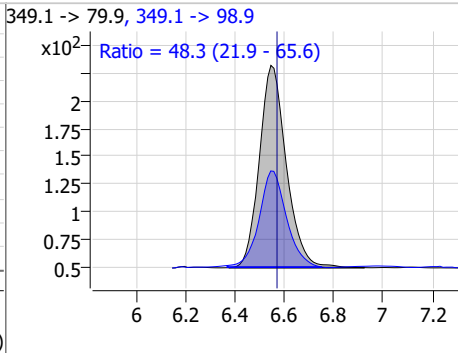
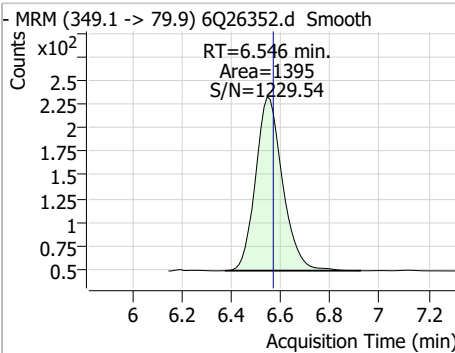


Perfluorinated Compounds by LC/MS/MS

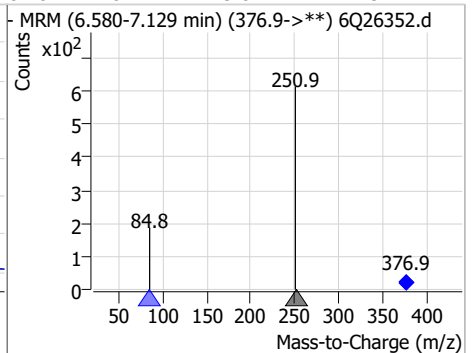
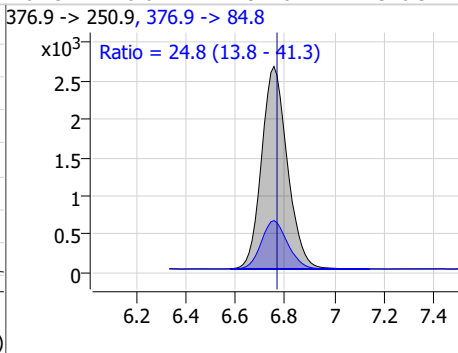
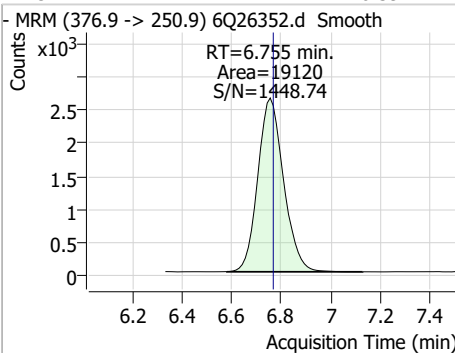
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpA	0.20	6.51	-0.01	5385	363.1 -> 169.0	14.9	7.3	22.0



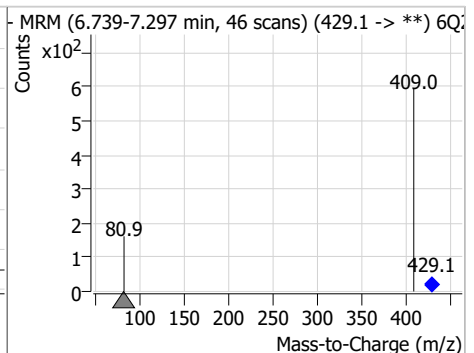
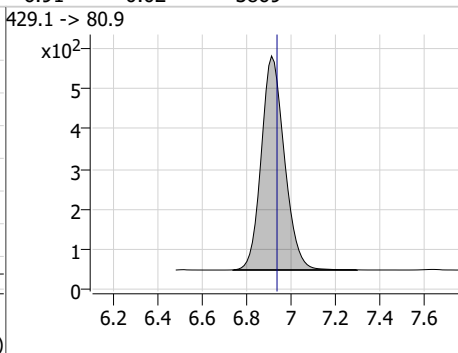
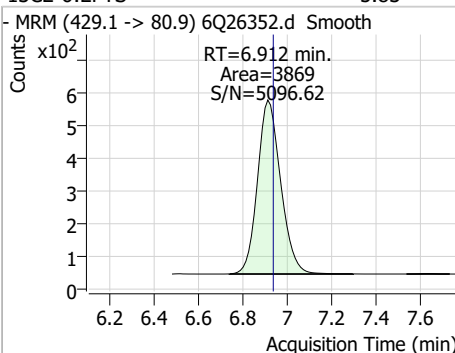
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeS	0.19	6.55	-0.02	1395	349.1 -> 98.9	48.3	21.9	65.6



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
ADONA	0.39	6.75	-0.01	19120	376.9 -> 84.8	24.8	13.8	41.3

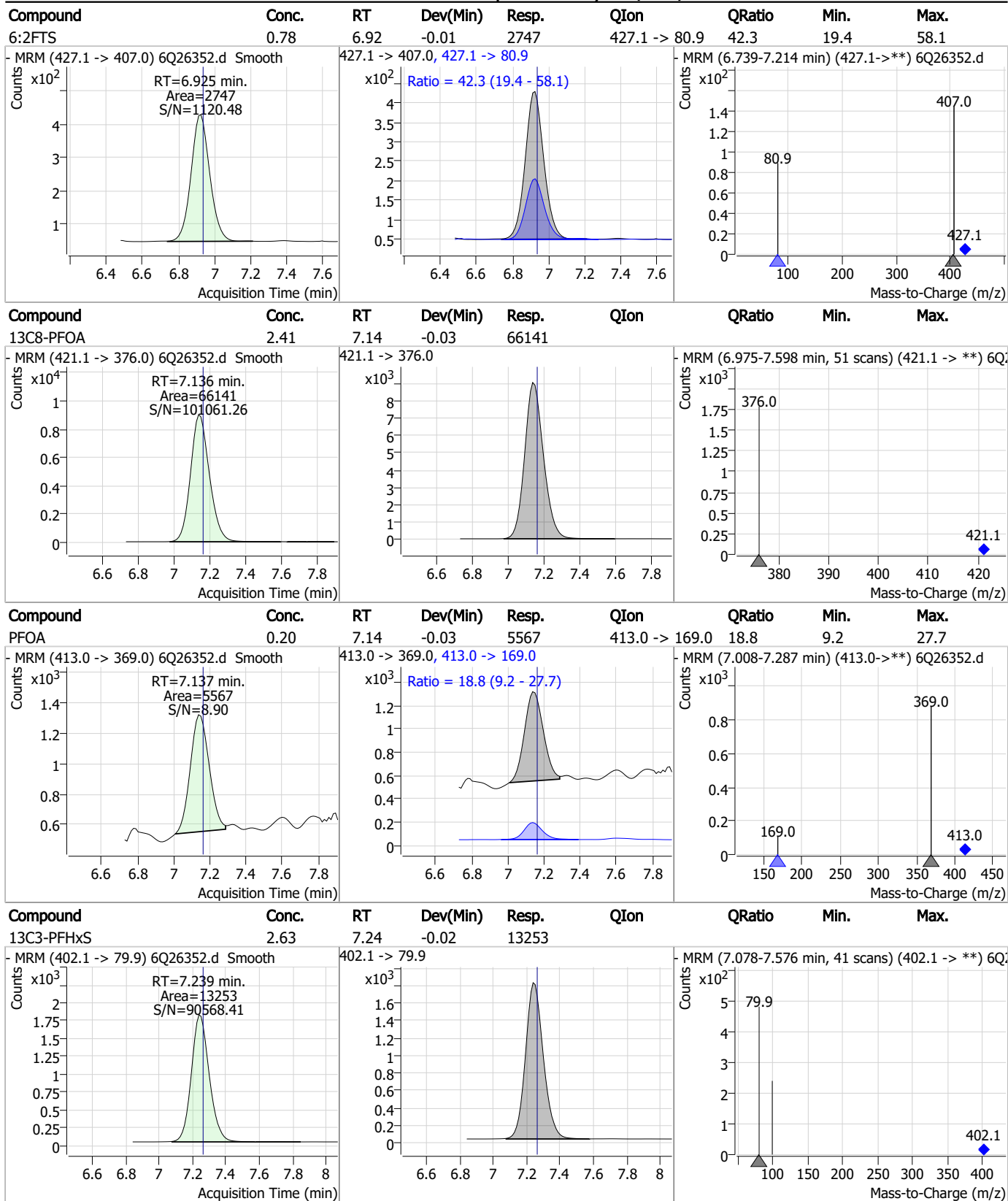


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-6:2FTS	5.83	6.91	-0.02	3869	429.1 -> 80.9			



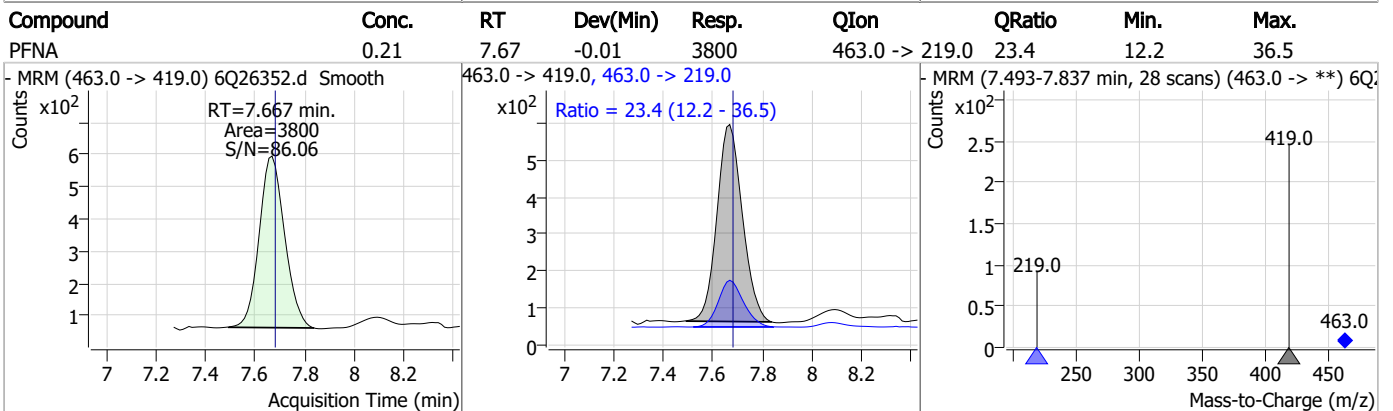
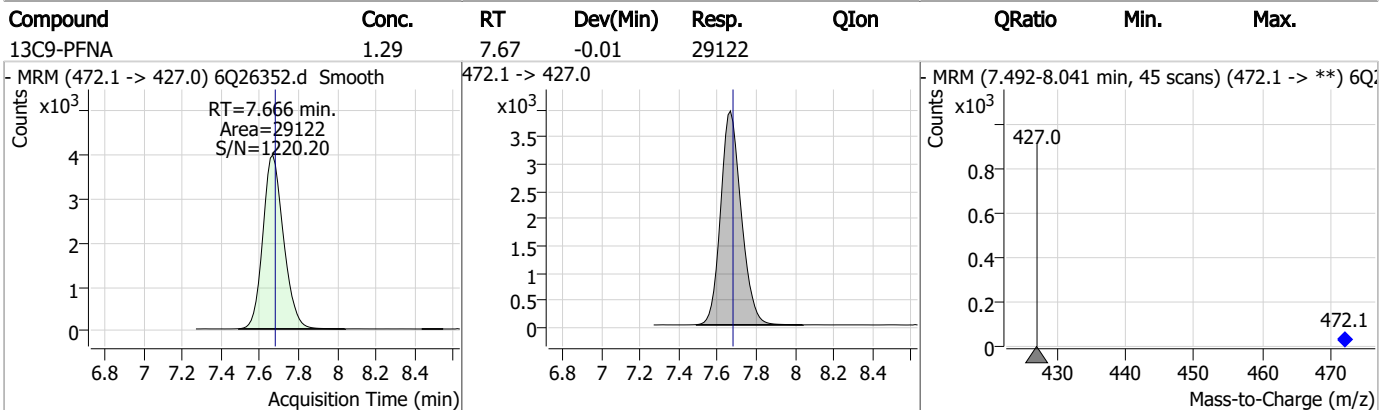
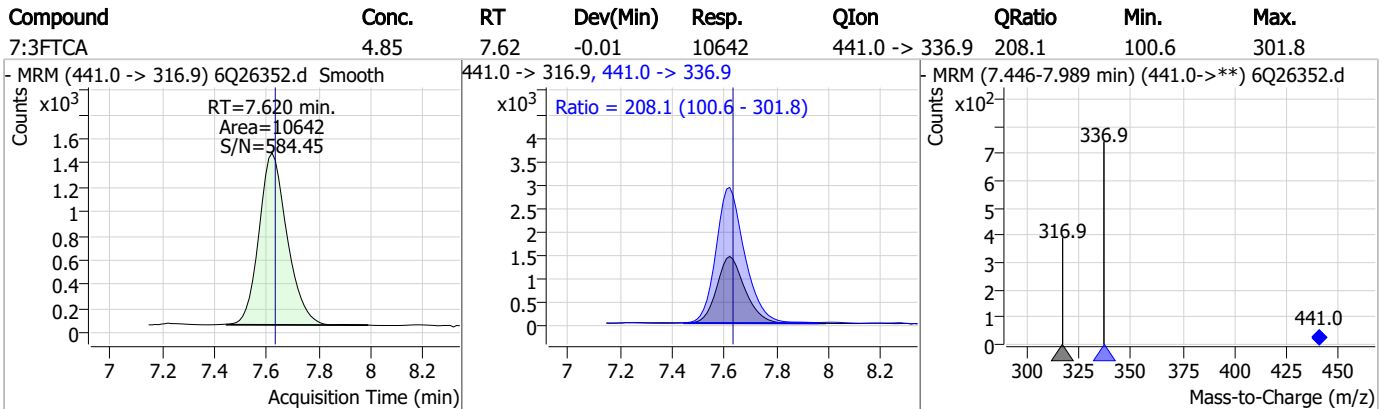
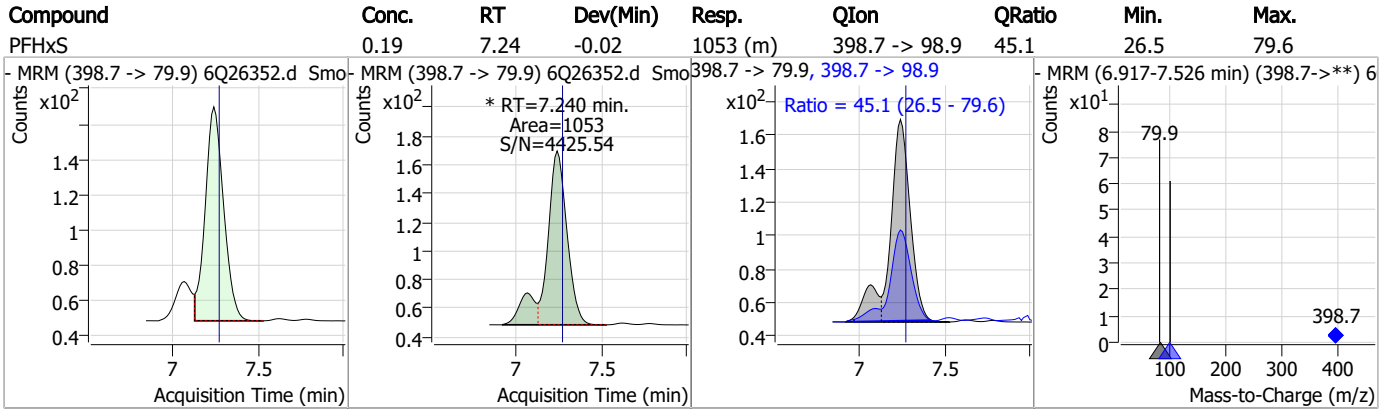
7.7.19
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Perfluorinated Compounds by LC/MS/MS



7.7.19

Perfluorinated Compounds by LC/MS/MS



7.7.19 7

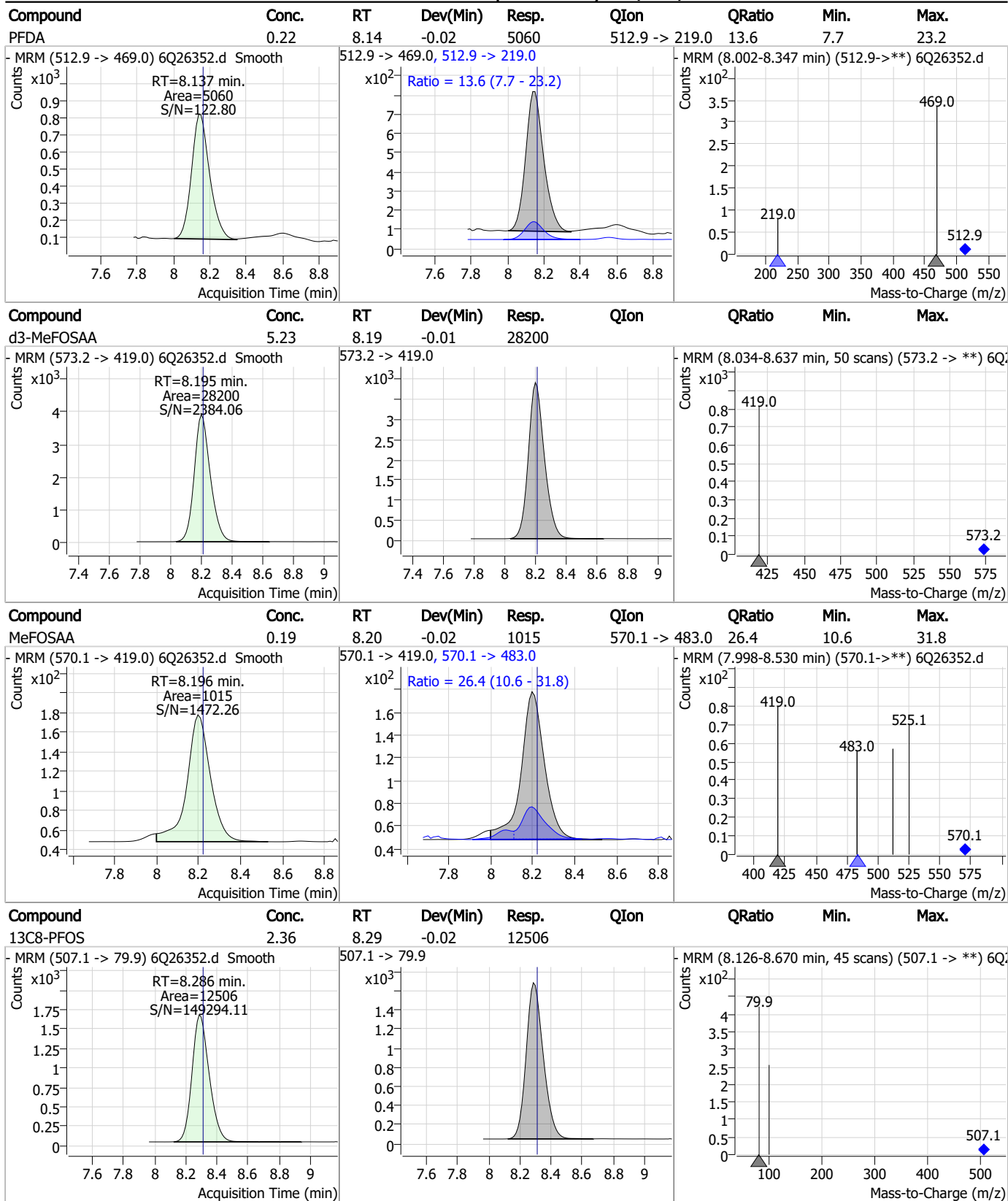
Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpS	0.21	7.79	-0.02	1059	449.0 -> 98.9	57.1	24.5	73.4
13C2-8:2FTS	5.42	7.94	-0.01	3704	529.1 -> 80.9			
8:2FTS	0.83	7.94	-0.01	2138	527.1 -> 80.8	34.4	17.6	52.9
13C6-PFDA	1.43	8.14	-0.02	29992	519.1 -> 474.1			

7.7.19

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Perfluorinated Compounds by LC/MS/MS

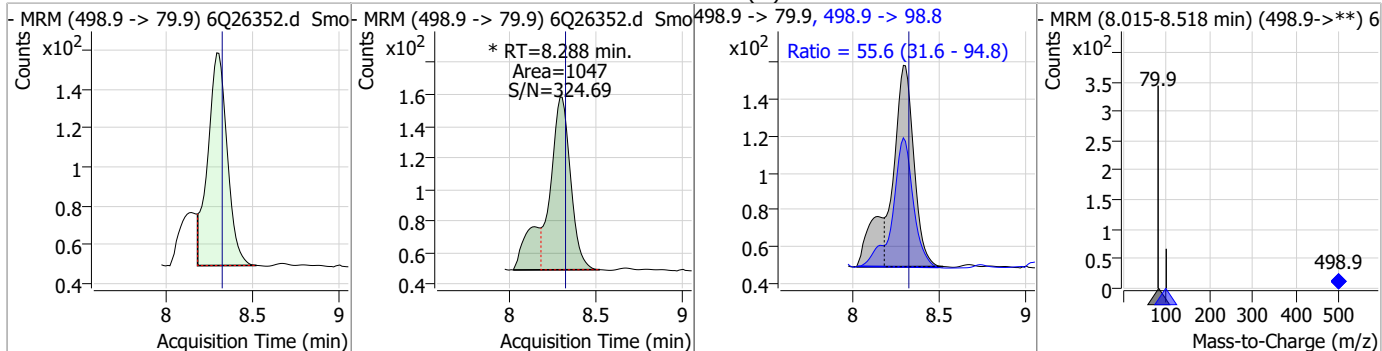


7.7.19

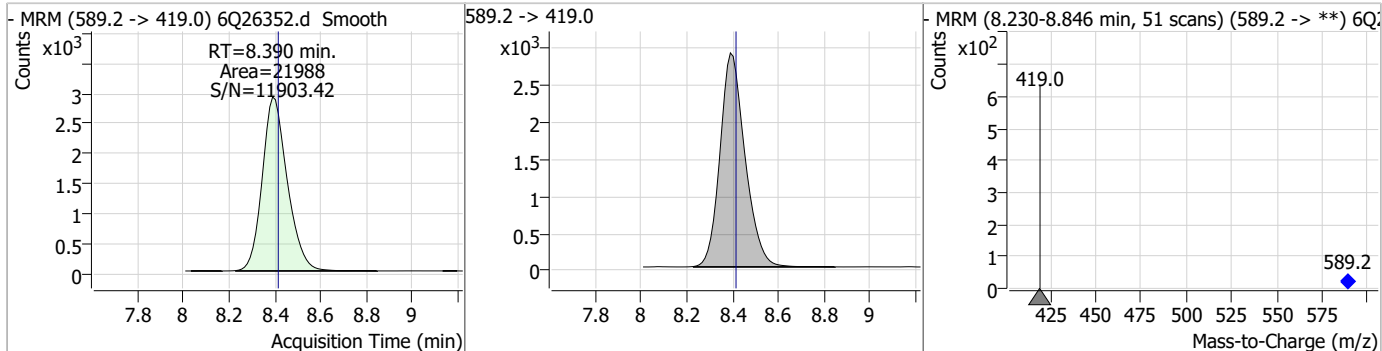
7

Perfluorinated Compounds by LC/MS/MS

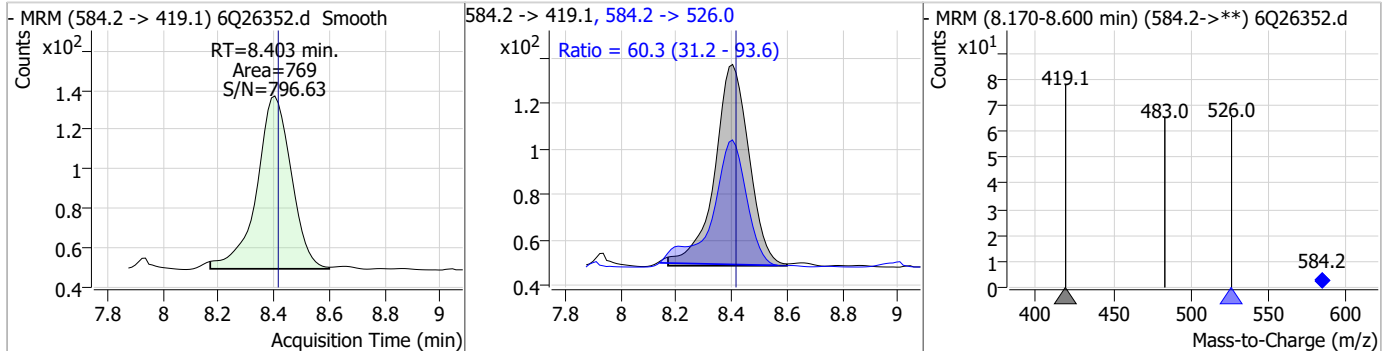
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOS	0.20	8.29	-0.02	1047 (m)	498.9 -> 98.8	55.6	31.6	94.8



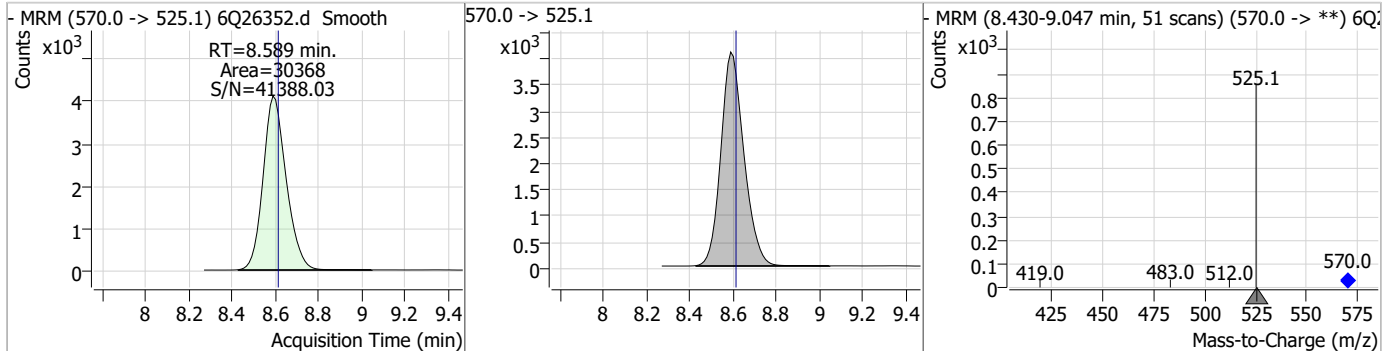
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSAA	4.76	8.39	-0.02	21988				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSAA	0.22	8.40	-0.01	769	584.2 -> 526.0	60.3	31.2	93.6

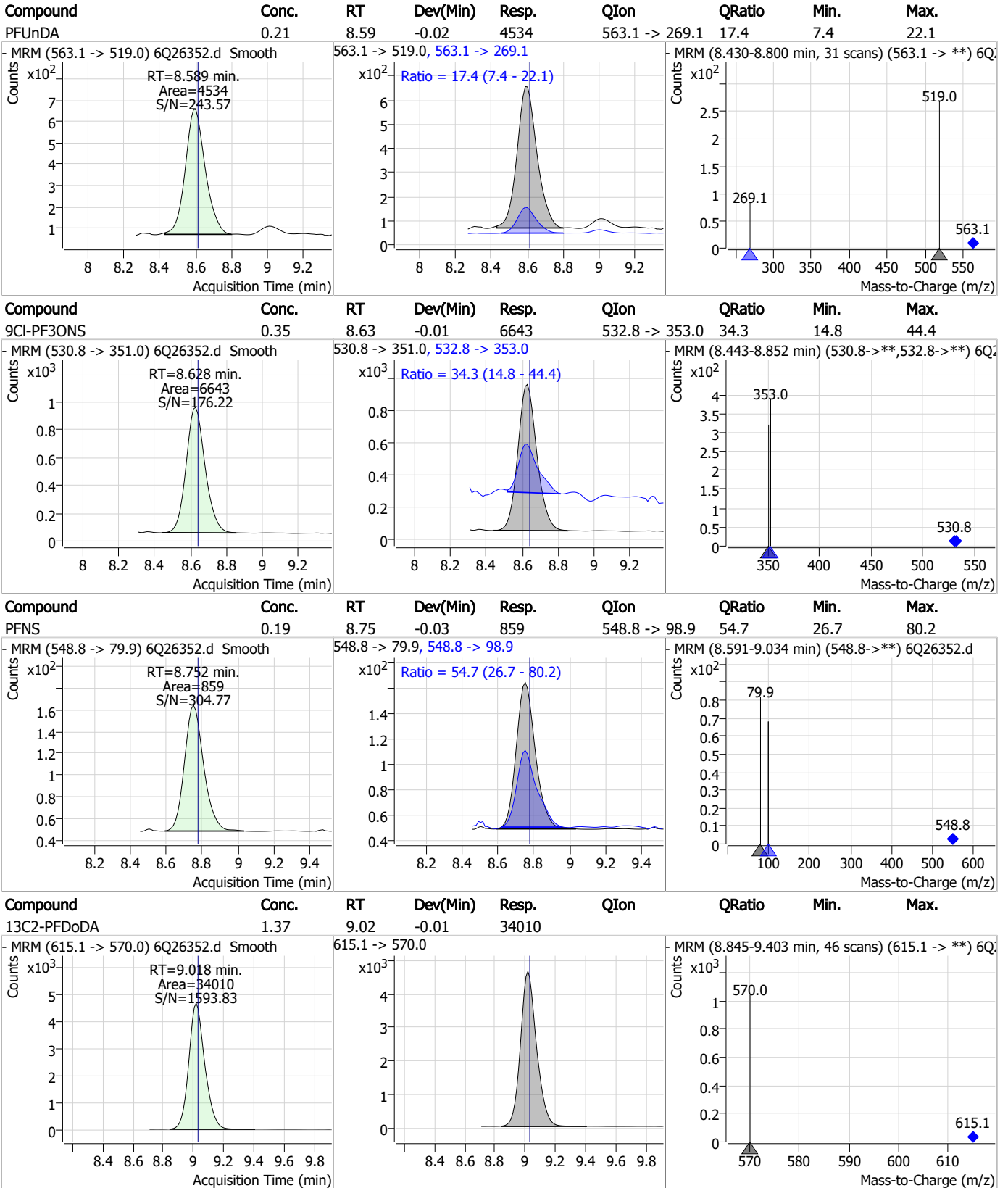


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C7-PFUnDA	1.34	8.59	-0.02	30368				



7.7.19
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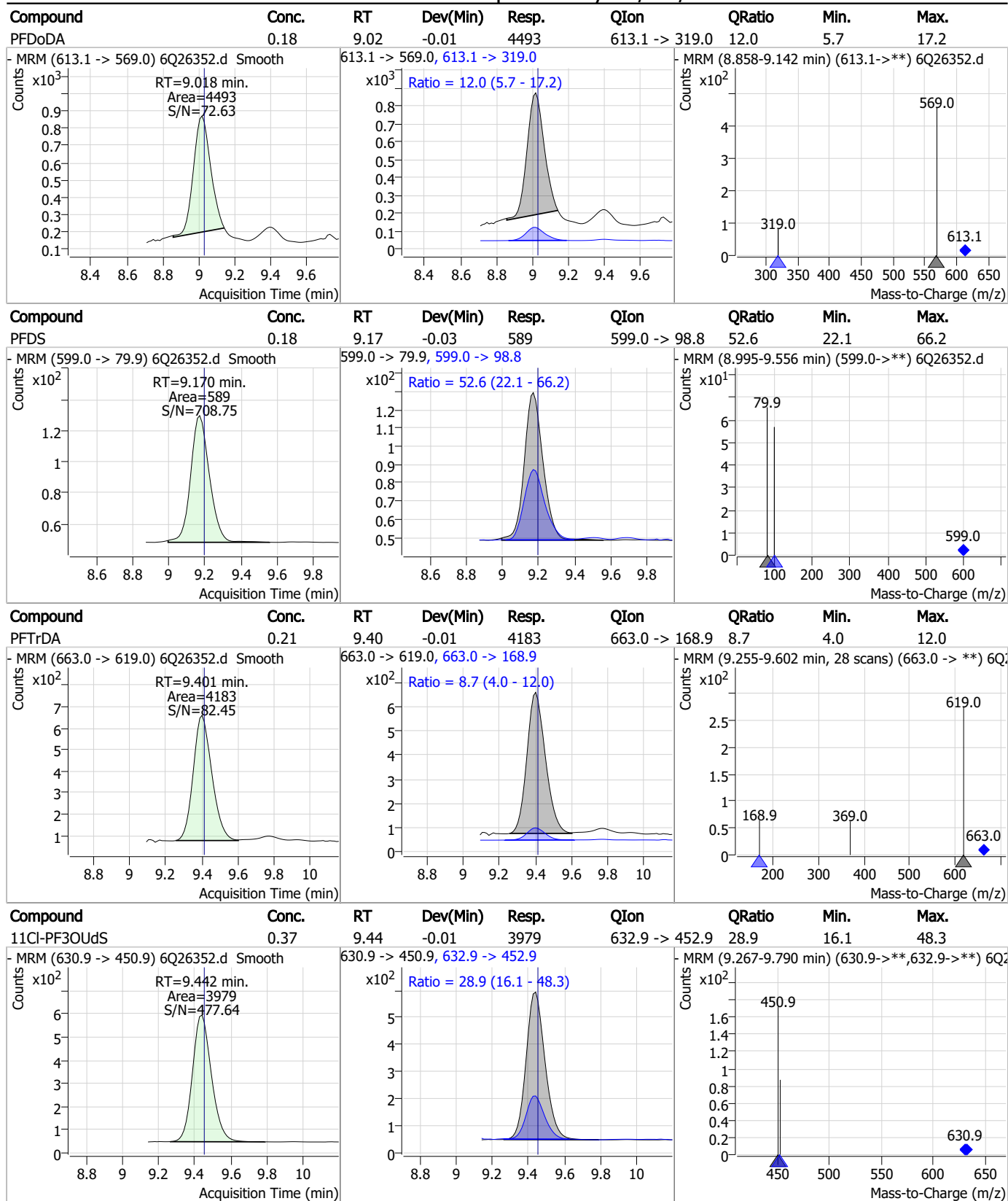
Perfluorinated Compounds by LC/MS/MS



7.7.19 7



Perfluorinated Compounds by LC/MS/MS



7.7.19

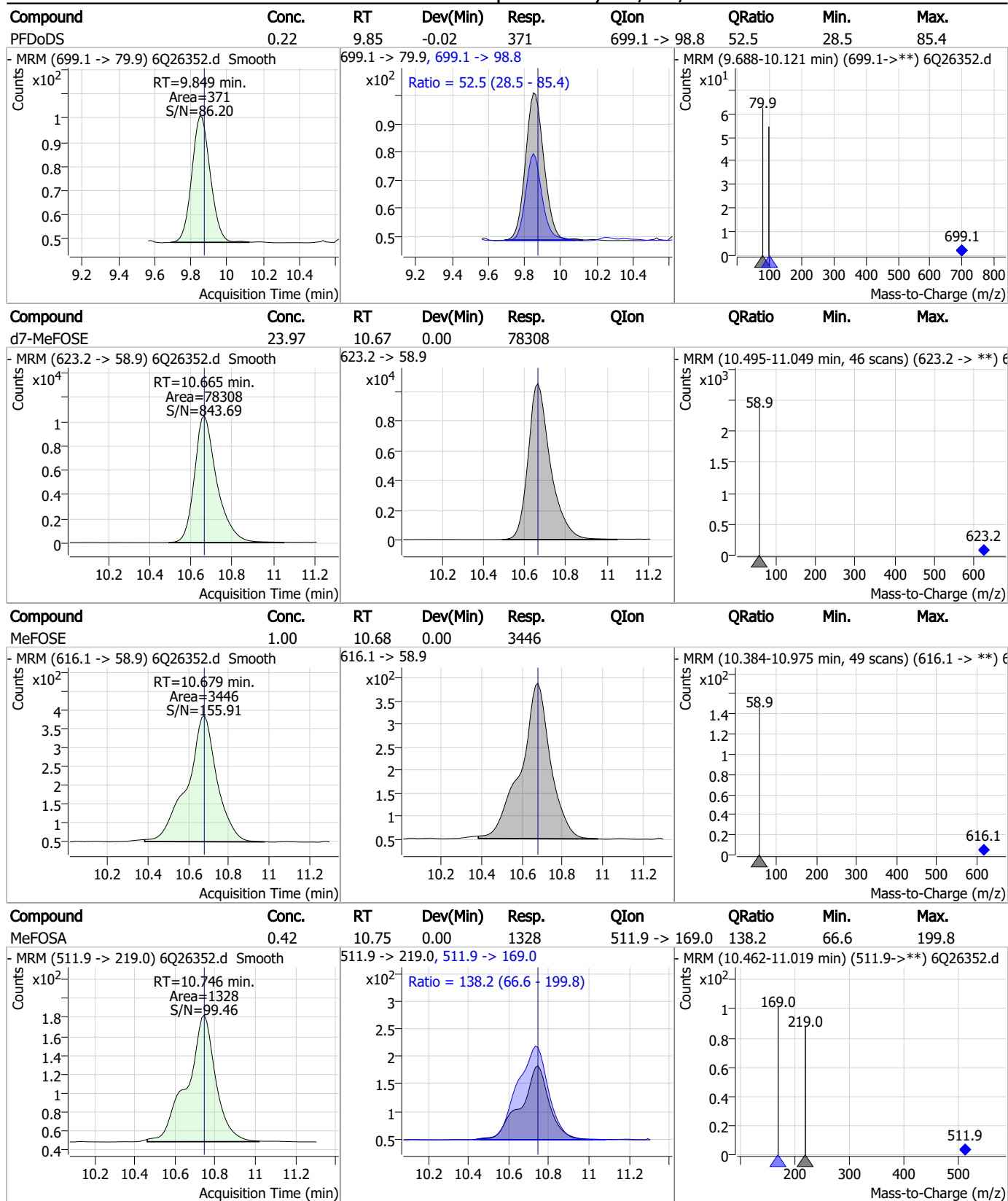
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Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-FOSA	2.45	9.64	-0.01	24791				
FOSA	0.21	9.65	-0.01	1948	498.1 -> 478.0	3.5	1.4	4.2
13C2-PFTeDA	1.41	9.72	-0.02	11823				
PFTeDA	0.19	9.74	-0.01	2870	713.1 -> 168.9	8.2	4.1	12.2

7.7.19
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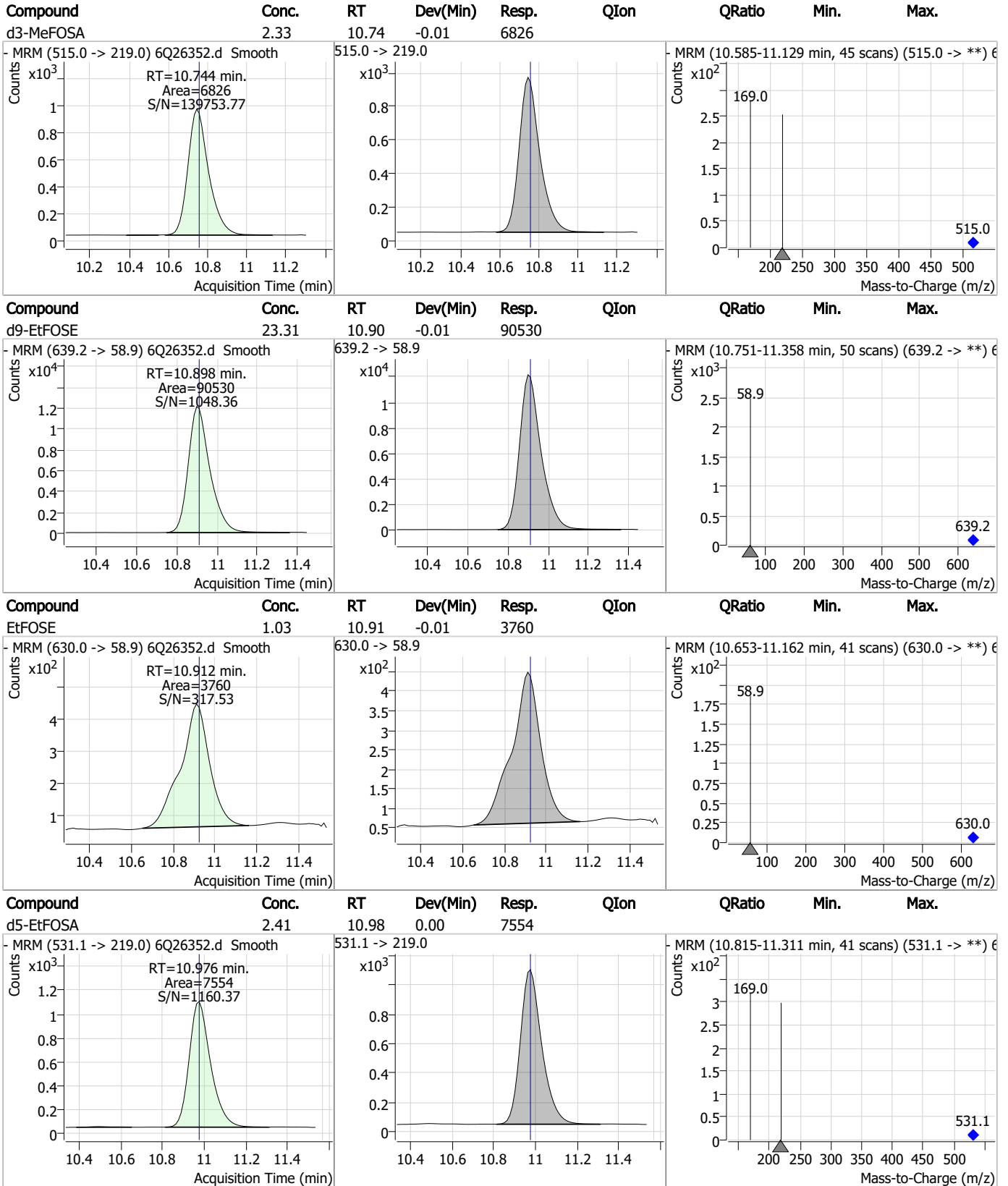
Perfluorinated Compounds by LC/MS/MS



7.7.19

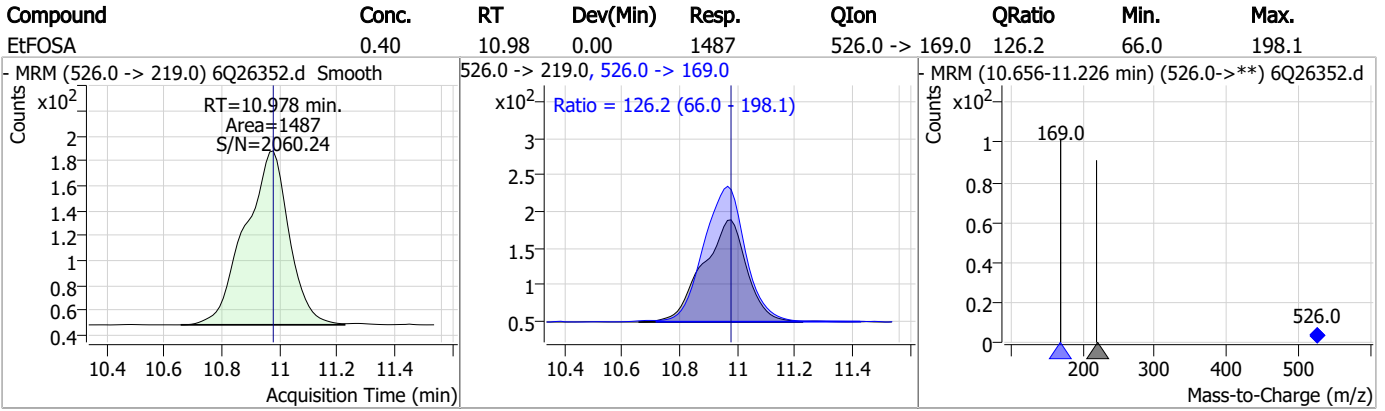
7

Perfluorinated Compounds by LC/MS/MS



7.7.19 7

Perfluorinated Compounds by LC/MS/MS



7.7.19

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Manual Integration Approval Summary

Sample Number: S6Q370-CC367 Method: EPA DRAFT 1633
Lab FileID: 6Q26352.D Analyst approved: 10/16/23 10:56 Martha Valls
Injection Time: 10/13/23 08:59 Supervisor approved: 10/16/23 17:48 Natasha Gumtie

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		7.24	Split peak
Perfluorooctanesulfonic acid	1763-23-1		8.29	Split peak

7.7.19.1

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DATE:	10/08/23
COLUMN TYPE:	Poroshell EC18
AMOUNT INJ:	4 uI
INSTRUMENT:	LCMS6-6Q

LCMS6-6Q ANALYSIS LOG

METHODS:	1633
PROC. METH:	1633_100823_S6Q367
CAL DATE:	10/08/23
ANALYST:	M. Valls
RUN BATCH:	S6Q367

ELUENT A LOT #:	ACN 232980
ELUENT B LOT #:	HPLC WATER: 232305 W5% Acetonitrile: 232980 2mM AMAC.
IC/CC STD LOT #:	LCMS 2192-E
ICV STD LOT #:	LCMS 2192E/2180
ISTD/D STD LOT #:	11987F/11988-I

	Data File	Sample	Sample Name	Method	Sample Type	Level	Misc. Info	Comments
1	6Q25926.d	P1-B9	CCB	1633full.m	Sample		OP99308.S6Q367.500,,,5.0,1,water	✓
2	6Q25927.d	P1-A2	Test	1633full.m	Sample		OP99308.S6Q367.500,,,5.0,1,water	✓
3	6Q25928.d	P1-B9	CCB	1633full.m	Sample		OP99308.S6Q367.500,,,5.0,1,water	✓
4	6Q25929.d	P1-B3	RT TDCA	1633full.m	Sample		OP99308.S6Q367.500,,,5.0,1,water	✓
5	6Q25930.d	P1-B4	RT BR-LN	1633full.m	Sample		OP99308.S6Q367.500,,,5.0,1,water	✓
6	6Q25931.d	P1-A9	High Std	1633full.m	Sample		OP99308.S6Q367.500,,,5.0,1,water	✓
7	6Q25932.d	P1-A1	IBLK	1633full.m	Sample		OP99308.S6Q367.500,,,5.0,1,water	✓
8	6Q25933.d	P1-A5	cc361-4	1633full.m	QC	20/500	OP99308.S6Q367.500,,,5.0,1,water	Recalibrate
9	6Q25934.d	P1-A2	cc361-1.0LL	1633full.m	QC	1.6/500	OP99308.S6Q367.500,,,5.0,1,water	↓
10	6Q25935.d	P1-B9	CCB	1633full.m	Sample		OP99308.S6Q367.500,,,5.0,1,water	✓
11	6Q25936.d	P1-B9	CCB	1633full.m	Sample		OP99308.S6Q367.500,,,5.0,1,water	✓
12	6Q25937.d	P1-B3	RT TDCA	1633full.m	Sample		OP99308.S6Q367.500,,,5.0,1,water	✓
13	6Q25938.d	P1-B4	RT BR-LN	1633full.m	Sample		OP99308.S6Q367.500,,,5.0,1,water	✓
14	6Q25939.d	P1-A1	ic367-0	1633full.m	Sample		OP99308.S6Q367.500,,,5.0,1,water	✓
15	6Q25940.d	P1-A2	ic367-1	1633full.m	Calibration	1.6/500	OP99308.S6Q367.500,,,5.0,1,water	✓
16	6Q25941.d	P1-A3	ic367-2	1633full.m	Calibration	3.2/500	OP99308.S6Q367.500,,,5.0,1,water	✓
17	6Q25942.d	P1-A4	ic367-3	1633full.m	Calibration	10/500	OP99308.S6Q367.500,,,5.0,1,water	✓
18	6Q25943.d	P1-A5	ic367-4	1633full.m	Calibration	20/500	OP99308.S6Q367.500,,,5.0,1,water	✓
19	6Q25944.d	P1-A6	ic367-5	1633full.m	Calibration	40/500	OP99308.S6Q367.500,,,5.0,1,water	✓
20	6Q25945.d	P1-A7	ic367-6	1633full.m	Calibration	100/500	OP99308.S6Q367.500,,,5.0,1,water	✓
21	6Q25946.d	P1-A8	ic367-7	1633full.m	Calibration	200/500	OP99308.S6Q367.500,,,5.0,1,water	✓
22	6Q25947.d	P1-A9	ic367-8	1633full.m	Calibration	1x	OP99308.S6Q367.500,,,5.0,1,water	✓
23	6Q25948.d	P1-A1	IBLK	1633full.m	Sample		OP99308.S6Q367.500,,,5.0,1,water	✓
24	6Q25949.d	P1-B1	icv367-4	1633full.m	QC	20/500	OP99308.S6Q367.500,,,5.0,1,water	✓
25	6Q25950.d	P1-B2	icv367-20	1633full.m	QC	100/500	OP99308.S6Q367.500,,,5.0,1,water	✓
26	6Q25951.d	P1-A5	cc367-4	1633full.m	QC	20/500	OP99308.S6Q367.500,,,5.0,1,water	Pass
27	6Q25952.d	P1-A2	cc367-1.0LL	1633full.m	QC	1.6/500	OP99308.S6Q367.500,,,5.0,1,water	Pass
28	6Q25953.d	P2-A1	OP99404-BS	1633full.m	Sample		OP99404.S6Q367.500,,,5.0,1,water	✓
29	6Q25954.d	P2-A2	OP99404-LLBS:3	1633full.m	Sample		OP99404.S6Q367.500,,,5.0,1,water	✓
30	6Q25955.d	P2-A3	OP99404-MB	1633full.m	Sample		OP99404.S6Q367.500,,,5.0,1,water	✓
31	6Q25956.d	P2-A4	FC10192-1	1633full.m	Sample		OP99404.S6Q367.520,,,5.0,1,water	✓
32	6Q25957.d	P2-A5	OP99404-MS	1633full.m	Sample		OP99404.S6Q367.520,,,5.0,1,water	✓
33	6Q25958.d	P2-A6	FC10192-2	1633full.m	Sample		OP99404.S6Q367.570,,,5.0,1,water	✓
34	6Q25959.d	P2-A7	OP99404-DUP	1633full.m	Sample		OP99404.S6Q367.550,,,5.0,1,water	✓
35	6Q25960.d	P2-A8	FC10192-3	1633full.m	Sample		OP99404.S6Q367.550,,,5.0,1,water	✓



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LCMS6-6Q ANALYSIS LOG

36	6Q25961.d	P1-A5	cc367-4	1633full.m	QC	20/500	OP99081.S6Q367.500,,,5.0,1,water	Pass
37	6Q25962.d	P1-A1	iccb	1633full.m	Sample		OP99081.S6Q367.500,,,5.0,1,water	ND
38	6Q25963.d	P2-B1	OP99393-BS	1633full.m	Sample		OP99393.S6Q367.500,,,5.0,1,water	✓
39	6Q25964.d	P2-B2	OP99393-LLBS:3	1633full.m	Sample		OP99393.S6Q367.500,,,5.0,1,water	✓
40	6Q25965.d	P2-B3	OP99393-MB	1633full.m	Sample		OP99393.S6Q367.500,,,5.0,1,water	✓
41	6Q25966.d	P2-B4	FC9772-1	1633full.m	Sample		OP99393.S6Q367.505,,,5.0,1,water	✓
42	6Q25967.d	P2-B5	FC9697-6	1633full.m	Sample		OP99393.S6Q367.515,,,5.0,1,water	cf
43	6Q25968.d	P2-B6	FC9701-5	1633full.m	Sample		OP99393.S6Q367.505,,,5.0,1,water	cf
44	6Q25969.d	P2-B7	FC9701-14	1633full.m	Sample		OP99393.S6Q367.510,,,5.0,1,water	cf
45	6Q25970.d	P2-B8	FC9741-1	1633full.m	Sample		OP99393.S6Q367.510,,,5.0,1,water	cf
46	6Q25971.d	P2-B9	FC9741-5	1633full.m	Sample		OP99393.S6Q367.510,,,5.0,1,water	cf
47	6Q25972.d	P1-A5	cc367-4	1633full.m	QC	20/500	OP99081.S6Q367.500,,,5.0,1,water	Pass
48	6Q25973.d	P1-A1	iccb	1633full.m	Sample		OP99081.S6Q367.500,,,5.0,1,water	ND
49	6Q25974.d	P3-C4	OP99405-BS	1633full.m	Sample		OP99405.S6Q367.500,,,5.0,1,water	Data files skip, RR batch
50	6Q25975.d	P3-C5	OP99405-LLBS:2	1633full.m	Sample		OP99405.S6Q367.500,,,5.0,1,water	↓
51	6Q25976.d	P3-C6	OP99405-MB	1633full.m	Sample		OP99405.S6Q367.500,,,5.0,1,water	↓
52	6Q25977.d	P3-C7	FC10063-2	1633full.m	Sample		OP99405.S6Q367.550,,,5.0,1,water	↓
53	6Q25978.d	P3-C8	OP99405-MS	1633full.m	Sample		OP99405.S6Q367.510,,,5.0,1,water	↓
54	6Q25979.d	P3-C9	FC10063-3	1633full.m	Sample		OP99405.S6Q367.550,,,5.0,1,water	↓
55	6Q25980.d	P3-D1	OP99405-DUP	1633full.m	Sample		OP99405.S6Q367.550,,,5.0,1,water	↓
56	6Q25981.d	P3-D2	FC10134-1	1633full.m	Sample		OP99405.S6Q367.65,,,5.0,1,water	↓
57	6Q25982.d	P3-D3	FC10134-1	1633full.m	Sample	50/500	OP99405.S6Q367.65,,,5.0,10,water	↓
58	6Q25983.d	P1-A5	cc367-4	1633full.m	QC	20/500	OP99081.S6Q367.500,,,5.0,1,water	↓
59	6Q25984.d	P1-A1	iccb	1633full.m	Sample		OP99081.S6Q367.500,,,5.0,1,water	↓
60	6Q25985.d	P3-D4	OP99394-BS	1633full.m	Sample		OP99394.S6Q367.500,,,5.0,1,water	↓
61	6Q25986.d	P3-D5	OP99394-LLBS:3	1633full.m	Sample		OP99394.S6Q367.500,,,5.0,1,water	↓
62	6Q25987.d	P3-D6	OP99394-MB	1633full.m	Sample		OP99394.S6Q367.500,,,5.0,1,water	↓
63	6Q25988.d	P3-D7	FC10147-1	1633full.m	Sample		OP99394.S6Q367.525,,,5.0,1,water	↓
64	6Q25989.d	P3-D8	FC9961-3	1633full.m	Sample		OP99394.S6Q367.515,,,5.0,1,water	↓
65	6Q25990.d	P3-D9	OP99394-MS	1633full.m	Sample		OP99394.S6Q367.520,,,5.0,1,water	↓
66	6Q25991.d	P3-E1	OP99394-MSD	1633full.m	Sample		OP99394.S6Q367.500,,,5.0,1,water	↓
67	6Q25992.d	P1-A5	cc367-4	1633full.m	QC	20/500	OP99081.S6Q367.500,,,5.0,1,water	Pass
68	6Q25993.d	P1-A1	iccb	1633full.m	Sample		OP99081.S6Q367.500,,,5.0,1,water	ND
69	6Q25994.d	P2-C1	OP99269-BS	1633full.m	Sample		OP99269.S6Q367.500,,,5.0,1,water	✓
70	6Q25995.d	P2-C2	OP99269-LLBS:3	1633full.m	Sample		OP99269.S6Q367.500,,,5.0,1,water	✓
71	6Q25996.d	P2-C3	OP99269-MB	1633full.m	Sample		OP99269.S6Q367.500,,,5.0,1,water	✓
72	6Q25997.d	P2-C4	FC9868-1	1633full.m	Sample		OP99269.S6Q367.515,,,5.0,1,water	✓
73	6Q25998.d	P2-C5	FC9869-1	1633full.m	Sample		OP99269.S6Q367.495,,,5.0,1,water	✓
74	6Q25999.d	P2-C6	FC9870-1	1633full.m	Sample		OP99269.S6Q367.530,,,5.0,1,water	✓
75	6Q26000.d	P2-C7	FC9870-2	1633full.m	Sample		OP99269.S6Q367.555,,,5.0,1,water	✓
76	6Q26001.d	P2-C8	FC9870-3	1633full.m	Sample		OP99269.S6Q367.550,,,5.0,1,water	✓
77	6Q26002.d	P2-C9	OP99269-MS	1633full.m	Sample		OP99269.S6Q367.545,,,5.0,1,water	✓
78	6Q26003.d	P2-D1	OP99269-MSD	1633full.m	Sample		OP99269.S6Q367.550,,,5.0,1,water	✓



SGS ORLANDO LCMS6-6Q ANALYSIS LOG

79	6Q26004.d	P1-A5	cc367-4	1633full.m	QC	20/500	OP99081.S6Q367.500,,,5.0,1,water	✓
80	6Q26005.d	P1-A1	iccb	1633full.m	Sample		OP99081.S6Q367.500,,,5.0,1,water	✓
81	6Q26006.d	P2-D2	FC9870-4	1633full.m	Sample		OP99269.S6Q367.520,,,5.0,1,water	✓
82	6Q26007.d	P2-D3	FC9870-5	1633full.m	Sample		OP99269.S6Q367.510,,,5.0,1,water	✓
83	6Q26008.d	P2-D4	FC9870-6	1633full.m	Sample		OP99269.S6Q367.555,,,5.0,1,water	✓
84	6Q26009.d	P2-D5	FC9911-1	1633full.m	Sample		OP99269.S6Q367.420,,,5.0,1,water	rr5x pfba low
85	6Q26010.d	P1-A5	cc367-4	1633full.m	QC	20/500	OP99081.S6Q367.500,,,5.0,1,water	Pass
86	6Q26011.d	P1-A1	iccb	1633full.m	Sample		OP99081.S6Q367.500,,,5.0,1,water	ND
87	6Q26012.d	P2-D6	OP99272-BS	1633full.m	Sample		OP99272.S6Q367.500,,,5.0,1,water	✓
88	6Q26013.d	P2-D7	OP99272-LLBS:3	1633full.m	Sample		OP99272.S6Q367.500,,,5.0,1,water	✓
89	6Q26014.d	P2-D8	OP99272-MB	1633full.m	Sample		OP99272.S6Q367.500,,,5.0,1,water	✓
90	6Q26015.d	P2-D9	FC9871-1	1633full.m	Sample		OP99272.S6Q367.565,,,5.0,1,water	✓
91	6Q26016.d	P2-E1	FC9871-2	1633full.m	Sample		OP99272.S6Q367.485,,,5.0,1,water	✓
92	6Q26017.d	P2-E2	FC9871-3	1633full.m	Sample		OP99272.S6Q367.585,,,5.0,1,water	✓
93	6Q26018.d	P2-E3	FC9871-4	1633full.m	Sample		OP99272.S6Q367.560,,,5.0,1,water	✓ + rr10x
94	6Q26019.d	P2-E4	FC9871-5	1633full.m	Sample		OP99272.S6Q367.565,,,5.0,1,water	✓ + rr10x
95	6Q26020.d	P2-E5	OP99272-MS	1633full.m	Sample		OP99272.S6Q367.535,,,5.0,1,water	rr10x
96	6Q26021.d	P2-E6	OP99272-MSD	1633full.m	Sample		OP99272.S6Q367.585,,,5.0,1,water	rr10x
97	6Q26022.d	P1-A5	cc367-4	1633full.m	QC	20/500	OP99081.S6Q367.500,,,5.0,1,water	Pass
98	6Q26023.d	P1-A1	iccb	1633full.m	Sample		OP99081.S6Q367.500,,,5.0,1,water	ND
99	6Q26024.d	P2-E7	FC9871-6	1633full.m	Sample		OP99272.S6Q367.585,,,5.0,1,water	✓ + rr5x
100	6Q26025.d	P3-C4	OP99405-BS	1633full.m	Sample		OP99405.S6Q367.500,,,5.0,1,water	✓
101	6Q26026.d	P3-C5	OP99405-LLBS:2	1633full.m	Sample		OP99405.S6Q367.500,,,5.0,1,water	✓
102	6Q26027.d	P3-C6	OP99405-MB	1633full.m	Sample		OP99405.S6Q367.500,,,5.0,1,water	✓
103	6Q26028.d	P3-C7	FC10063-2	1633full.m	Sample		OP99405.S6Q367.550,,,5.0,1,water	✓
104	6Q26029.d	P3-C8	OP99405-MS	1633full.m	Sample		OP99405.S6Q367.510,,,5.0,1,water	✓
105	6Q26030.d	P3-C9	FC10063-3	1633full.m	Sample		OP99405.S6Q367.550,,,5.0,1,water	✓
106	6Q26031.d	P3-D1	OP99405-DUP	1633full.m	Sample		OP99405.S6Q367.550,,,5.0,1,water	✓
107	6Q26032.d	P3-D2	FC10134-1	1633full.m	Sample		OP99405.S6Q367.65,,,5.0,1,water	✓
108	6Q26033.d	P3-D3	FC10134-1	1633full.m	Sample		OP99405.S6Q367.65,,,5.0,1,water	✓
109	6Q26034.d	P1-A5	cc367-4	1633full.m	QC	20/500	OP99081.S6Q367.500,,,5.0,1,water	Pass
110	6Q26035.d	P1-A1	iccb	1633full.m	Sample		OP99081.S6Q367.500,,,5.0,1,water	ND
111	6Q26036.d	P3-D4	OP99394-BS	1633full.m	Sample		OP99394.S6Q367.500,,,5.0,1,water	✓
112	6Q26037.d	P3-D5	OP99394-LLBS:3	1633full.m	Sample		OP99394.S6Q367.500,,,5.0,1,water	✓
113	6Q26038.d	P3-D6	OP99394-MB	1633full.m	Sample		OP99394.S6Q367.500,,,5.0,1,water	✓
114	6Q26039.d	P3-D7	FC10147-1	1633full.m	Sample		OP99394.S6Q367.525,,,5.0,1,water	✓
115	6Q26040.d	P3-D8	FC9961-3	1633full.m	Sample		OP99394.S6Q367.515,,,5.0,1,water	✓
116	6Q26041.d	P3-D9	OP99394-MS	1633full.m	Sample		OP99394.S6Q367.520,,,5.0,1,water	✓
117	6Q26042.d	P3-E1	OP99394-MSD	1633full.m	Sample		OP99394.S6Q367.500,,,5.0,1,water	✓
118	6Q26043.d	P1-A5	cc367-4	1633full.m	QC	20/500	OP99081.S6Q367.500,,,5.0,1,water	Pass
119	6Q26044.d	P1-A1	iccb	1633full.m	Sample		OP99081.S6Q367.500,,,5.0,1,water	ND
120	6Q26045.d	P1-B3	RT TDCA	1633full.m	Sample		OP99308.S6Q367.500,,,5.0,1,water	✓
121	6Q26046.d	P1-B4	RT BR-LN	1633full.m	Sample		OP99308.S6Q367.500,,,5.0,1,water	✓



SGS ORLANDO LCMS6-6Q ANALYSIS LOG

122	6Q26047.d	P1-A9	High Std	1633full.m	Sample	OP99308,S6Q367,500,,,5.0,1,water	✓
123	6Q26048.d	P1-A1	IBLK	1633full.m	Sample	OP99308,S6Q367,500,,,5.0,1,water	✓
124	6Q26049.d	P1-A5	cc367-4	1633full.m	QC	OP99308,S6Q367,500,,,5.0,1,water	Pass
125	6Q26050.d	P1-A2	cc367-1,0LL	1633full.m	QC	OP99308,S6Q367,500,,,5.0,1,water	Pass
126	6Q26051.d	P2-E8	FC9871-7	1633full.m	Sample	OP99272,S6Q367,585,,,5.0,1,water	✓ + rr2x
127	6Q26052.d	P2-E9	FC9871-8	1633full.m	Sample	OP99272,S6Q367,585,,,5.0,1,water	rr1x co
128	6Q26053.d	P2-F1	FC9871-9	1633full.m	Sample	OP99272,S6Q367,585,,,5.0,1,water	✓
129	6Q26054.d	P2-F2	FC9871-10	1633full.m	Sample	OP99272,S6Q367,560,,,5.0,1,water	✓
130	6Q26055.d	P2-F3	FC9871-11	1633full.m	Sample	OP99272,S6Q367,565,,,5.0,1,water	✓
131	6Q26056.d	P2-F4	FC9871-12	1633full.m	Sample	OP99272,S6Q367,480,,,5.0,1,water	rr10x
132	6Q26057.d	P2-F5	FC9871-13	1633full.m	Sample	OP99272,S6Q367,485,,,5.0,1,water	rr1x co + rr2x
133	6Q26058.d	P2-F6	FC9871-14	1633full.m	Sample	OP99272,S6Q367,585,,,5.0,1,water	✓ + rr5x
134	6Q26059.d	P2-F7	FC9871-15	1633full.m	Sample	OP99272,S6Q367,585,,,5.0,1,water	✓ + rr5x
135	6Q26060.d	P1-A5	cc367-4	1633full.m	QC	OP99081,S6Q367,500,,,5.0,1,water	Pass
136	6Q26061.d	P1-A1	iccb	1633full.m	Sample	OP99081,S6Q367,500,,,5.0,1,water	ND
137	6Q26062.d	P2-F8	FC9871-16	1633full.m	Sample	OP99272,S6Q367,510,,,5.0,1,water	✓ + rr2x
138	6Q26063.d	P2-F9	FC9871-17	1633full.m	Sample	OP99272,S6Q367,500,,,5.0,1,water	✓
139	6Q26064.d	P3-A1	FC9871-18	1633full.m	Sample	OP99272,S6Q367,485,,,5.0,1,water	✓ + rr5x
140	6Q26065.d	P3-A2	FC9871-19	1633full.m	Sample	OP99272,S6Q367,585,,,5.0,1,water	✓ + rr5x
141	6Q26066.d	P3-A3	FC9871-20	1633full.m	Sample	OP99272,S6Q367,585,,,5.0,1,water	✓
142	6Q26067.d	P1-A5	cc367-4	1633full.m	QC	OP99081,S6Q367,500,,,5.0,1,water	Pass
143	6Q26068.d	P1-A1	iccb	1633full.m	Sample	OP99081,S6Q367,500,,,5.0,1,water	ND
144	6Q26069.d	P3-A4	FC9804-9	1633full.m	Sample	OP99300,S6Q367,501,,,5.0,10,soil	✓
145	6Q26070.d	P3-A5	FC9804-10	1633full.m	Sample	OP99300,S6Q367,4,99,,,5.0,1,soil	✓
146	6Q26071.d	P3-A6	FC9804-10	1633full.m	Sample	OP99300,S6Q367,4,99,,,5.0,5,soil	✓
147	6Q26072.d	P3-A7	FC9742-9	1633full.m	Sample	OP99227,S6Q367,550,,,5.0,5,water	✓
148	6Q26073.d	P3-A8	FC9763-3	1633full.m	Sample	OP99203,S6Q367,115,,,5.0,1,water	✓
149	6Q26074.d	P3-A9	FC9776-4	1633full.m	Sample	OP99251,S6Q367,515,,,5.0,5,water	✓
150	6Q26075.d	P3-B1	FC9776-5	1633full.m	Sample	OP99251,S6Q367,515,,,5.0,5,water	✓
151	6Q26076.d	P3-B2	FC9776-9	1633full.m	Sample	OP99251,S6Q367,530,,,5.0,2,water	✓
152	6Q26077.d	P3-B3	FC9804-4	1633full.m	Sample	OP99300,S6Q367,5,02,,,5.0,10,soil	✓ + Redo at 1.0g
153	6Q26078.d	P3-B4	FC9804-5	1633full.m	Sample	OP99300,S6Q367,4,98,,,5.0,10,soil	✓ + Redo at 1.0g
154	6Q26079.d	P1-A5	cc367-4	1633full.m	QC	OP99081,S6Q367,500,,,5.0,1,water	Pass
155	6Q26080.d	P1-A1	iccb	1633full.m	Sample	OP99081,S6Q367,500,,,5.0,1,water	ND
156	6Q26081.d	P3-B5	FC9804-6	1633full.m	Sample	OP99300,S6Q367,5,00,,,5.0,10,soil	✓ + Redo at 1.0g
157	6Q26082.d	P3-B6	FC9804-8	1633full.m	Sample	OP99300,S6Q367,5,05,,,5.0,10,soil	✓ + Redo at 1.0g
158	6Q26083.d	P3-B7	FC9804-1	1633full.m	Sample	OP99300,S6Q367,4,98,,,5.0,10,soil	✓ + Redo at 1.0g
159	6Q26084.d	P3-B8	FC9804-2	1633full.m	Sample	OP99300,S6Q367,5,00,,,5.0,10,soil	✓ + Redo at 1.0g
160	6Q26085.d	P3-B9	FC9804-3	1633full.m	Sample	OP99300,S6Q367,5,00,,,5.0,10,soil	✓ + Redo at 1.0g
161	6Q26086.d	P3-C1	FC9804-7	1633full.m	Sample	OP99300,S6Q367,5,02,,,5.0,10,soil	✓ + Redo at 1.0g
162	6Q26087.d	P3-C2	FC9763-1	1633full.m	Sample	OP99203,S6Q367,120,,,5.0,10,water	✓
163	6Q26088.d	P3-C3	FC9763-2	1633full.m	Sample	OP99203,S6Q367,120,,,5.0,10,water	✓
164	6Q26089.d	P1-A5	Ecc367-4	1633full.m	QC	OP99081,S6Q367,500,,,5.0,1,water	Pass



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165	6Q26090.d	P1-A1	iccb	1633full.m	Sample	CP99081,S6Q367,500,,,5.0,1,water	ND
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DATE:	10/12/23
COLUMN TYPE:	Poroshell EC18
AMOUNT INJ:	4 uI
INSTRUMENT:	LCMS6-6Q

LCMS6-6Q ANALYSIS LOG

METHODS:	1633
PROC. METH:	1633_100823_S6Q367
CAL DATE:	10/08/23
ANALYST:	M. Valls
RUN BATCH:	S6Q370

ELUENT A LOT #:	ACN 232980
ELUENT B LOT #:	HPLC WATER:232305 W5% Acetonitrile: 232980 2mM AMAC.
IC/CC STD LOT #:	LCMS 2192-E
ICV STD LOT #:	LCMS 2192E/2180
ISTD/ID STD LOT #:	11987F/11988-I

	Data File	Sample	Sample Name	Method	Sample Type	Level	Misc. Info	Comments
1	6Q26253.d	P1-B9	CCB	1633full.m	Sample		OP99081,S6Q370,500,,,5.0,1,water	✓
2	6Q26254.d	P1-B9	CCB	1633full.m	Sample		OP99081,S6Q370,500,,,5.0,1,water	✓
3	6Q26255.d	P1-B3	RT TDCA	1633full.m	Sample		OP99081,S6Q370,500,,,5.0,1,water	✓
4	6Q26256.d	P1-B4	RT BR-LN	1633full.m	Sample		OP99081,S6Q370,500,,,5.0,1,water	✓
5	6Q26257.d	P1-A9	High Std	1633full.m	Sample		OP99081,S6Q370,500,,,5.0,1,water	✓
6	6Q26258.d	P1-A1	IBLK	1633full.m	Sample		OP99081,S6Q370,500,,,5.0,1,water	✓
7	6Q26259.d	P1-A5	cc367-4	1633full.m	QC	20/500	OP99081,S6Q370,500,,,5.0,1,water	Pass
8	6Q26260.d	P1-A2	cc367-1,0LL	1633full.m	QC	1.6/500	OP99081,S6Q370,500,,,5.0,1,water	Pass
9	6Q26261.d	P6-A1	OP99445-BS	1633full.m	Sample		OP99445,S6Q370,500,,,5.0,1,water	Screen run, RR
10	6Q26262.d	P6-A2	OP99445-LLBS:3	1633full.m	Sample		OP99445,S6Q370,500,,,5.0,1,water	↓
11	6Q26263.d	P6-A3	OP99445-MB	1633full.m	Sample		OP99445,S6Q370,500,,,5.0,1,water	↓
12	6Q26264.d	P6-A4	FC9775-2	1633full.m	Sample		OP99445,S6Q370,520,,,5.0,1,water	↓
13	6Q26265.d	P6-A5	FC9776-6	1633full.m	Sample		OP99445,S6Q370,550,,,5.0,1,water	↓
14	6Q26266.d	P6-A6	FC10290-1	1633full.m	Sample		OP99445,S6Q370,540,,,5.0,1,water	↓
15	6Q26267.d	P6-A7	FC10290-2	1633full.m	Sample		OP99445,S6Q370,550,,,5.0,1,water	↓
16	6Q26268.d	P6-A8	FC10290-3	1633full.m	Sample		OP99445,S6Q370,530,,,5.0,1,water	↓
17	6Q26269.d	P6-A9	FC10290-4	1633full.m	Sample		OP99445,S6Q370,520,,,5.0,1,water	↓
18	6Q26270.d	P1-A5	cc367-4	1633full.m	QC	20/500	OP99081,S6Q370,500,,,5.0,1,water	Teda Fall low, RR batch
19	6Q26271.d	P1-A1	iccb	1633full.m	Sample		OP99081,S6Q370,500,,,5.0,1,water	ND
20	6Q26272.d	P6-B1	FC10290-5	1633full.m	Sample		OP99445,S6Q370,540,,,5.0,1,water	Screen run, RR
21	6Q26273.d	P6-B2	OP99445-MS	1633full.m	Sample		OP99445,S6Q370,560,,,5.0,1,water	↓
22	6Q26274.d	P6-B3	FC10290-6	1633full.m	Sample		OP99445,S6Q370,530,,,5.0,1,water	↓
23	6Q26275.d	P6-B4	OP99445-DUP	1633full.m	Sample		OP99445,S6Q370,540,,,5.0,1,water	↓
24	6Q26276.d	P6-B5	FC10290-7	1633full.m	Sample		OP99445,S6Q370,550,,,5.0,1,water	↓
25	6Q26277.d	P6-B6	FC10247-1	1633full.m	Sample		OP99445,S6Q370,540,,,5.0,1,water	↓
26	6Q26278.d	P1-A5	cc367-4	1633full.m	QC	20/500	OP99081,S6Q370,500,,,5.0,1,water	Pass
27	6Q26279.d	P1-A1	iccb	1633full.m	Sample		OP99081,S6Q370,500,,,5.0,1,water	ND
28	6Q26280.d	P6-A1	OP99445-BS	1633full.m	Sample		OP99445,S6Q370,500,,,5.0,1,water	✓
29	6Q26281.d	P6-A2	OP99445-LLBS:3	1633full.m	Sample		OP99445,S6Q370,500,,,5.0,1,water	✓
30	6Q26282.d	P6-A3	OP99445-MB	1633full.m	Sample		OP99445,S6Q370,500,,,5.0,1,water	✓
31	6Q26283.d	P6-A4	FC9775-2	1633full.m	Sample		OP99445,S6Q370,520,,,5.0,1,water	✓
32	6Q26284.d	P6-A5	FC9776-6	1633full.m	Sample		OP99445,S6Q370,550,,,5.0,1,water	✓
33	6Q26285.d	P6-A6	FC10290-1	1633full.m	Sample		OP99445,S6Q370,540,,,5.0,1,water	Redo surr high
34	6Q26286.d	P6-A7	FC10290-2	1633full.m	Sample		OP99445,S6Q370,550,,,5.0,1,water	✓
35	6Q26287.d	P6-A8	FC10290-3	1633full.m	Sample		OP99445,S6Q370,530,,,5.0,1,water	✓

LCMS6-6Q ANALYSIS LOG

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36	6Q26288.d	P6-A9	FC10290-4	1633full.m	Sample		OP99445,S6Q370,520,,,5.0,1,water	✓
37	6Q26289.d	P1-A5	cc367-4	1633full.m	QC	20/500	OP99081,S6Q370,500,,,5.0,1,water	Pass
38	6Q26290.d	P1-A1	iccb	1633full.m	Sample		OP99081,S6Q370,500,,,5.0,1,water	ND
39	6Q26291.d	P6-B1	FC10290-5	1633full.m	Sample		OP99445,S6Q370,540,,,5.0,1,water	✓
40	6Q26292.d	P6-B2	OP99445-MS	1633full.m	Sample		OP99445,S6Q370,560,,,5.0,1,water	✓
41	6Q26293.d	P6-B3	FC10290-6	1633full.m	Sample		OP99445,S6Q370,530,,,5.0,1,water	✓
42	6Q26294.d	P6-B4	OP99445-DJP	1633full.m	Sample		OP99445,S6Q370,530,,,5.0,1,water	✓
43	6Q26295.d	P6-B5	FC10290-7	1633full.m	Sample		OP99445,S6Q370,540,,,5.0,1,water	✓
44	6Q26296.d	P6-B6	FC10247-1	1633full.m	Sample		OP99445,S6Q370,540,,,5.0,1,water	✓
45	6Q26297.d	P1-A5	cc367-4	1633full.m	QC	20/500	OP99081,S6Q370,500,,,5.0,1,water	Pass
46	6Q26298.d	P1-A1	iccb	1633full.m	Sample		OP99081,S6Q370,500,,,5.0,1,water	ND
47	6Q26299.d	P6-C1	OP99405-BS	1633full.m	Sample		OP99405,S6Q370,500,,,5.0,1,water	✓
48	6Q26300.d	P6-C2	OP99405-LLBS:2	1633full.m	Sample		OP99405,S6Q370,500,,,5.0,1,water	✓
49	6Q26301.d	P6-C3	OP99405-MB	1633full.m	Sample		OP99405,S6Q370,500,,,5.0,1,water	✓
50	6Q26302.d	P6-C4	JD74007-1	1633full.m	Sample		OP99405,S6Q370,540,,,5.0,1,water	✓
51	6Q26303.d	P6-C5	JD74007-2	1633full.m	Sample		OP99405,S6Q370,520,,,5.0,1,water	✓
52	6Q26304.d	P6-C6	FC10063-1	1633full.m	Sample		OP99405,S6Q370,550,,,5.0,1,water	✓
53	6Q26305.d	P6-C7	FC10063-4	1633full.m	Sample		OP99405,S6Q370,550,,,5.0,1,water	✓
54	6Q26306.d	P6-C8	FC10063-5	1633full.m	Sample		OP99405,S6Q370,540,,,5.0,1,water	✓
55	6Q26307.d	P6-C9	FC10063-6	1633full.m	Sample		OP99405,S6Q370,510,,,5.0,1,water	✓
56	6Q26308.d	P6-D1	FC10065-1	1633full.m	Sample		OP99405,S6Q370,510,,,5.0,1,water	✓
57	6Q26309.d	P1-A5	cc367-4	1633full.m	QC	20/500	OP99081,S6Q370,500,,,5.0,1,water	Pass
58	6Q26310.d	P1-A1	iccb	1633full.m	Sample		OP99081,S6Q370,500,,,5.0,1,water	ND
59	6Q26311.d	P6-D6	OP99330-BS	1633full.m	Sample		OP99330,S6Q370,5,00,,,5.0,1,soil	✓
60	6Q26312.d	P6-D7	OP99330-LLBS:3	1633full.m	Sample		OP99330,S6Q370,5,00,,,5.0,1,soil	✓
61	6Q26313.d	P6-D8	OP99330-MB	1633full.m	Sample		OP99330,S6Q370,5,00,,,5.0,1,soil	✓
62	6Q26314.d	P6-D9	FC9836-1	1633full.m	Sample		OP99330,S6Q370,4,95,,,5.0,1,soil	✓
63	6Q26315.d	P6-E1	OP99330-MS	1633full.m	Sample		OP99330,S6Q370,4,95,,,5.0,1,soil	✓
64	6Q26316.d	P6-E2	OP99330-MSD	1633full.m	Sample		OP99330,S6Q370,5,00,,,5.0,1,soil	✓
65	6Q26317.d	P6-E3	FC9836-2	1633full.m	Sample		OP99330,S6Q370,5,02,,,5.0,1,soil	✓
66	6Q26318.d	P6-E4	FC9836-3	1633full.m	Sample		OP99330,S6Q370,4,96,,,5.0,1,soil	✓
67	6Q26319.d	P6-E5	FC9836-4	1633full.m	Sample		OP99330,S6Q370,5,00,,,5.0,1,soil	✓
68	6Q26320.d	P6-E6	FC9836-5	1633full.m	Sample		OP99330,S6Q370,5,00,,,5.0,1,soil	✓
69	6Q26321.d	P1-A5	cc367-4	1633full.m	QC	20/500	OP99081,S6Q370,500,,,5.0,1,water	Pass
70	6Q26322.d	P1-A1	iccb	1633full.m	Sample		OP99081,S6Q370,500,,,5.0,1,water	ND
71	6Q26323.d	P6-E7	FC9836-6	1633full.m	Sample		OP99330,S6Q370,5,03,,,5.0,1,soil	✓
72	6Q26324.d	P6-E8	FC9836-7	1633full.m	Sample		OP99330,S6Q370,4,96,,,5.0,1,soil	rr2x fosa
73	6Q26325.d	P6-E9	FC9874-1	1633full.m	Sample		OP99330,S6Q370,4,97,,,5.0,1,soil	rr1x co
74	6Q26326.d	P6-F1	FC9874-2	1633full.m	Sample		OP99330,S6Q370,4,99,,,5.0,1,soil	✓
75	6Q26327.d	P6-F2	FC9874-4	1633full.m	Sample		OP99330,S6Q370,5,00,,,5.0,1,soil	✓
76	6Q26328.d	P6-F3	FC9874-5	1633full.m	Sample		OP99330,S6Q370,5,02,,,5.0,1,soil	✓
77	6Q26329.d	P6-F4	FC9874-6	1633full.m	Sample		OP99330,S6Q370,4,95,,,5.0,1,soil	rr2x pfos
78	6Q26330.d	P6-F5	FC9874-7	1633full.m	Sample		OP99330,S6Q370,4,99,,,5.0,1,soil	rr1x co

SGS ORLANDO LCMS6-6Q ANALYSIS LOG

79	6Q26331.d	P6-F6	FC9874-8	1633full.m	Sample	OP99330,S6Q370.500,,,5.0,1,soil	✓
80	6Q26332.d	P6-F7	FC9874-9	1633full.m	Sample	OP99330,S6Q370.501,,,5.0,1,soil	✓
81	6Q26333.d	P1-A5	cc367-4	1633full.m	QC	OP99081,S6Q370.500,,,5.0,1,water	Pass
82	6Q26334.d	P1-A1	iccb	1633full.m	Sample	OP99081,S6Q370.500,,,5.0,1,water	ND
83	6Q26335.d	P5-F1	OP99345-BS	1633full.m	Sample	OP99345,S6Q370.500,,,5.0,1,water	✓
84	6Q26336.d	P5-F2	OP99345-LLBS:2	1633full.m	Sample	OP99345,S6Q370.500,,,5.0,1,water	✓
85	6Q26337.d	P5-F3	OP99345-MB	1633full.m	Sample	OP99345,S6Q370.500,,,5.0,1,water	✓
86	6Q26338.d	P5-F4	FC9829-1	1633full.m	Sample	OP99345,S6Q370.405,,,5.0,1,water	✓
87	6Q26339.d	P5-F5	OP99345-MS	1633full.m	Sample	OP99345,S6Q370.410,,,5.0,1,water	✓
88	6Q26340.d	P5-F6	FC9830-1	1633full.m	Sample	OP99345,S6Q370.525,,,5.0,1,water	✓
89	6Q26341.d	P5-F7	OP99345-DUP	1633full.m	Sample	OP99345,S6Q370.540,,,5.0,1,water	✓
90	6Q26342.d	P5-F8	FC9830-2	1633full.m	Sample	OP99345,S6Q370.495,,,5.0,1,water	rr1x to verify + 10x matrix
91	6Q26343.d	P6-F8	FC9809-5	1633full.m	Sample	OP99254,S6Q370.510,,,5.0,1,water	✓
92	6Q26344.d	P6-F9	FC9809-5	1633full.m	Sample	OP99254,S6Q370.510,,,5.0,5,water	Reported 1x
93	6Q26345.d	P1-A5	cc367-4	1633full.m	QC	OP99081,S6Q370.500,,,5.0,1,water	Pass
94	6Q26346.d	P1-A1	iccb	1633full.m	Sample	OP99081,S6Q370.500,,,5.0,1,water	ND
95	6Q26347.d	P1-B3	RT TDCA	1633full.m	Sample	OP99081,S6Q370.500,,,5.0,1,water	✓
96	6Q26348.d	P1-B4	RT BR-LN	1633full.m	Sample	OP99081,S6Q370.500,,,5.0,1,water	✓
97	6Q26349.d	P1-A9	High Std	1633full.m	Sample	OP99081,S6Q370.500,,,5.0,1,water	✓
98	6Q26350.d	P1-A1	IBLK	1633full.m	Sample	OP99081,S6Q370.500,,,5.0,1,water	✓
99	6Q26351.d	P1-A5	cc367-4	1633full.m	QC	OP99081,S6Q370.500,,,5.0,1,water	Pass
100	6Q26352.d	P1-A2	cc367-1,0LL	1633full.m	QC	OP99081,S6Q370.500,,,5.0,1,water	Pass
101	6Q26353.d	P2-A1	OP99347-BS	1633full.m	Sample	OP99347,S6Q370.500,,,5.0,1,water	✓
102	6Q26354.d	P2-A2	OP99347-LLBS:3	1633full.m	Sample	OP99347,S6Q370.500,,,5.0,1,water	✓
103	6Q26355.d	P2-A3	OP99347-MB	1633full.m	Sample	OP99347,S6Q370.500,,,5.0,1,water	✓
104	6Q26356.d	P2-A4	FC9904-2	1633full.m	Sample	OP99347,S6Q370.485,,,5.0,1,water	Etfosea high, rr1x + 5x
105	6Q26357.d	P2-A5	OP99347-MS	1633full.m	Sample	OP99347,S6Q370.495,,,5.0,1,water	✓
106	6Q26358.d	P2-A6	FC9904-3	1633full.m	Sample	OP99347,S6Q370.505,,,5.0,1,water	✓
107	6Q26359.d	P2-A7	OP99347-DUP	1633full.m	Sample	OP99347,S6Q370.505,,,5.0,1,water	✓
108	6Q26360.d	P2-A8	FC9904-4	1633full.m	Sample	OP99347,S6Q370.515,,,5.0,1,water	✓
109	6Q26361.d	P2-A9	FC9904-5	1633full.m	Sample	OP99347,S6Q370.510,,,5.0,1,water	✓
110	6Q26362.d	P2-B1	FC9904-6	1633full.m	Sample	OP99347,S6Q370.450,,,5.0,1,water	✓
111	6Q26363.d	P1-A5	cc367-4	1633full.m	QC	OP99081,S6Q370.500,,,5.0,1,water	Pass
112	6Q26364.d	P1-A1	iccb	1633full.m	Sample	OP99081,S6Q370.500,,,5.0,1,water	ND
113	6Q26365.d	P2-B2	FC9914-17	1633full.m	Sample	OP99347,S6Q370.485,,,5.0,1,water	✓
114	6Q26366.d	P2-B3	FC9914-18	1633full.m	Sample	OP99347,S6Q370.490,,,5.0,1,water	✓
115	6Q26367.d	P2-B4	FC9915-1	1633full.m	Sample	OP99347,S6Q370.515,,,5.0,1,water	✓
116	6Q26368.d	P2-B5	FC9915-2	1633full.m	Sample	OP99347,S6Q370.520,,,5.0,1,water	✓
117	6Q26369.d	P2-B6	FC9918-1	1633full.m	Sample	OP99347,S6Q370.520,,,5.0,1,water	✓
118	6Q26370.d	P6-B7	FC9810-5	1633full.m	Sample	OP99268,S6Q370.510,,,5.0,1,water	✓
119	6Q26371.d	P6-B8	FC9810-6	1633full.m	Sample	OP99268,S6Q370.550,,,5.0,1,water	✓
120	6Q26372.d	P6-B9	FC9810-7	1633full.m	Sample	OP99268,S6Q370.530,,,5.0,1,water	✓
121	6Q26373.d	P1-A5	Ecc367-4	1633full.m	QC	OP99081,S6Q370.500,,,5.0,1,water	Pass

SGS ORLANDO LCMS6-6Q ANALYSIS LOG

122	6Q26374.d	P1-B9	iccb	1633full.m	Sample	CP99081,S6Q370,500,,,5.0,1,water	ND
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Organic Standards Preparation Log

SGS - Orlando Std. #	Name Description	Parent Std. #	Parent Name	Parent Vendor	Vendor Exp. Date	Lab* Exp. Date	Parent Conc.	Vol. Used	Final Vol.	Final Conc.	Diluent Lot	Prep. Date	Exp. Date	Initials
LCMS 2192A-E	1033 Cal. Std. (Spike)	LCMS 2191	PFAC Bx-Me	Sgs Labs	M/A	12/28/23	2 ppm	250 uL	4 mL	125	1033 M/A	9/29/23	12/28/23	MW
		11940	PFAC	Wellington	4-19-28	9/24/23	1-4 ppm	250 uL		125				
		11908	MXH			9/24/23				250 ppb				
		11947B	PFAC		3-24-26	9/15/24	2 ppm	250 uL		125 ppb				
		11943A	MXF		12-1-27	9/24/24	2 ppm	250 uL		125 ppb				
		11948A	PFAC		3-28-28	9/15/24	4-20 ppm	312 uL		312				
		11948B	MXG			9/24/24				1100 ppb				
		11971	PFAC		05/13/27	09/25/24	50 ppm	200 uL	2.0 mL	5 ppb	95% MeOH 5% H ₂ O	09/25/23	03/25/24	JR
		11992	MXJ			09/25/24								
		12016A	N-ET-FOSE	Wellington Labs										
LCMS 2193	FOSE Std	11409	FOSE											
		11410	N-Me-FOSE		05/13/27	09/25/24								
		11904/12006	PFAC-DOB (25 concs)	Absolute	03/13/28	09/11/24	1.0 ppm	400 uL	4.0 mL	100 ppb	95% MeOH 5% H ₂ O	09/25/23	10/16/23	JR
LCMS 2194	Full List 40 Spike (cal std)	LCMS 2179	40 List Add-on#1	Sgs Std	-	10/18/23								
		LCMS 2156	40 List Add-on#2		-	02/07/24								
		LCMS 2193	FOSE Std.		-	03/25/24	5.0 ppm			500 ppb				

* based on date opened as specified in each SGS - Orlando SOP.

Organic Standards Preparation Log

SGS - Orlando Std. #	Name Description	Parent Std. #	Parent Name	Parent Vendor	Vendor Exp. Date	Lab* Exp. Date	Parent Conc.	Vol. Used	Final Vol.	Final Conc.	Diluent Lot	Prep. Date	Exp. Date	Initials
LCMS 2188A-J	PFC 1D Surr (10ppb)	11986 A-J	MPFAC-24ES	Wellington Labs	06/08/28	09/19/24	1.0 ppm	1.2 mL	~2.5 mL	0.5 ppm	95% MeOH 5% H ₂ O	9/19/23	03/19/24	JP
		11811	M3HFO-DA		04/03/26	09/06/24	50 ppm	24 mL						
		11709	2-N-Me FOSA-M		11/11/27	08/12/24								
LCMS 2189A	T-PFOA Std. (RT)	10818	T-PFOA	Wellington Labs	01/08/26	10/27/23	50 ppm	8 µL	4 mL	100 ppb	95% MeOH 5% H ₂ O	09/21/23	10/27/23	AL
LCMS 2190	PFMS 1033 Cal Std (CapikE)	11946B	PFAC MxH	Wellington Labs	4/19/28	9/21/24	1-4 ppm	250 µL	4 mL	02.5 125 250 ppb	1033 mix (200544)	9/21/23	12/8/23	MW
		LCMS 2154	BR-LN Et+Me	Sgs labs	MA	12/8/23	2 ppm	250 µL		312 ppb				
		11947B	PFAC Mx F	Wellington Labs	3/24/26	9/15/24	2 ppm	250 µL		125 ppb				
		11947C	PFAC Mx J		3/28/28	9/15/24	4-20 ppm	312 µL		3121160 ppb				
		11948	PFAC Mx G		12/1/27	9/15/24	2 ppm	250 µL		125 ppb				
LCMS 2191	1033 BR-LN Me+EtFosa	11497	br-N Me fosa	Wellington Labs	8/23/27	12/28/23	50 ppm	100 µL	2.5 mL	2 ppm	1033 mix (180246)	9/24/23	12/28/23	MW
		11498	br-N Et fosa		10/17/27	12/28/23		100 µL		2 ppm				
		11795	br-N Me fosa		10/17/27	06/28/24		250 µL		5 ppm				
		11796	br-N Et fosa		10/17/27	06/28/24		250 µL		5 ppm				
						Continue next page								

Organic Standards Preparation Log

SGS - Orlando Std. #	Name Description	Parent Std. #	Parent Name	Parent Vendor	Vendor Exp. Date	Lab* Exp. Date	Parent Conc.	Vol. Used	Final Vol.	Final Conc.	Diluent Lot	Prep. Date	Exp. Date	Initials
LCMS 2180	List 40 Spike (Cal Std)	11940	PFA-POP (25 Comp)	Absolute	03/13/28	08/29/24	1.0 ppm	400 µL	4.0 mL	100 ppb	95% MeOH 5% H2O	09/09/23	07/19/23	JR
		68MS 2179	40 list Add-on #1	-	-	10/18/23								
		LCMS 2156	40 list Add-on #2	-	-	02/07/24								
		LCMS 2176	PGE Std	-	-	09/19/23	5.0 ppm							
LCMS 2181	537.1 DW Spike	11811	MCHPPO DA	Wellington Labs	04/03/26	09/16/24	50 ppm	200 µL	5 mL	2.0 ppm	91% MeOH 4% H2O	09/16/23	03/06/24	NG
		11337	05-EA-N ROSAA		05/11/27	09/16/24		200 µL						NG
		99926	MPFDA		09/05/24	03/06/24		100 µL		1.0 ppm				NG
		99938	MPFAA		10/11/24	03/06/24		100 µL						NG
LCMS 2182	537.1 DW Spike	11940	PFA-DND (25 Comp)	Absolute	03/13/28	08/29/24	1.0 ppm	1 mL	5 mL	200 ppb	91% MeOH 4% H2O	09/16/23	03/06/24	NG
LCMS 2183	537.1 DW Std.	11940	PFA-DND (25 Comp)	Absolute	03/13/28	08/29/24	1.0 ppm	400 µL	4 mL	100 ppb	91% MeOH 4% H2O	09/16/23	03/06/24	NG
		LCMS 2181	DW Spike	-	-	03/06/24	10/20 ppm	400 µL		100/200 ppb				NG
LCMS 2184	PFC Spike	11940/11964	PFA-POP (25 Comp)	Absolute	03/13/28	08/29/24	1.0 ppm	2 mL	5 mL	400 ppb	95% MeOH 5% H2O	09/11/23	03/11/24	JR
		11432	N-Me-EFA	Wellington Labs	02/28/27	03/13/24	50 ppm	40 µL						
		11793	FBSA-1		02/01/28	08/08/24								
		11792	FHSA-1		12/01/27	08/08/24								
		11332	PFECHS		03/29/27	04/18/24								

* based on date opened as specified in each SGS - Orlando SOP.

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Organic Standards Preparation Log

SGS - Orlando Std. #	Name Description	Parent Std. #	Parent Name	Parent Vendor	Vendor Exp. Date	Lab* Exp. Date	Parent Conc.	Vol. Used	Final Vol.	Final Conc.	Diluent Lot	Prep. Date	Exp. Date	Initials
LEMS 2179	List 70 std Add-on #1	11649	10:2 FTS	Williamson Labs	12/01/27	08/07/24	50.0 ppm	80 µL	4.0 mL	1.0 ppm	95% MeOH 5% H2O	09/07/23	10/18/23	JR
		10840	L ⁻ PFDOS		07/09/26	10/18/23								
		11710	N-MeFSA -M		11/11/27	08/07/24								
		10637	N-EtFSA -M		08/03/26	08/23/23								
		10842	PFHxDA		09/03/26	10/18/23								
		10841	PFODA		05/07/26	10/18/23								
		11168	3:3 FTCA FP-PA		02/03/27	02/08/24								
		11994	5:3 FTCA M3 PFA		08/02/27	09/07/24								
		1116A	7:3 FTCA FHPA		11/12/25	02/08/24								
		11794	PFECHS		03/14/28	05/07/24								
		10762B	PFESA		05/13/25	10/18/23								
		11465	PMBA PF50HxA		08/02/27	08/07/24								
		11648	PFMPA PF40PzA		08/02/27	09/07/24								
		10765B	NFHDA 36-OPFA		03/31/25	10/18/23								

* based on date opened as specified in each SGS - Orlando SOP.



Organic Standards Preparation Log

SGS - Orlando Std. #	Name Description	Parent Std. #	Parent Name	Parent Vendor	Vendor Exp. Date	Lab* Exp. Date	Parent Conc.	Vol. Used	Final Vol.	Final Conc.	Diluent Lot	Prep. Date	Exp. Date	Initials
LCMS 2156	L15440 ADD ON #2	11513	FBSA-1	Wellington	11/10/26	4/18/24	50 ppm	80NL	4.0ml	1ppm	95% methanol 5% H2O (3760)	8/7/23	2/7/24	MW
		11514	FHSA1		12/29/26	4/18/24								
		11140B	L-PFAS		7/12/26	5/9/24								
LCMS 2157	1033 RT BR-LN	11496	br-Fosa	Wellington	10/7/27	12/28/23	50 ppm	10NL 5ml	5ml	100ppb	1033 mix (4930)	8/7/23	12/28/23	MW
		11497	br-N mefosa		8/23/27			10NL						
		11498	br-N EFfosa		10/7/27									
		11494	br-N mefosa		10/7/27									
		11495	br-N EFfosa		10/7/27									
		11502	T-PFOA		01/27/27									
		11527	IP PFNA		01/10/27									
LCMS 2158 A-E	1033 Cal std. Spike	LCMS 2159A (2190)	Br-LN ET-ME	SGS LABO	N/A	12/28/23	2ppm 5ppm	250NL	4ml	125 912.5ppb	1033 mix 2088NL	8/7/23	12/28/23	MW
		11930	PFAC MXH	Wellington	4/19/28	7/31/24	1-4 ppm			62.5 125 250ppb				
		11931A	PFAC MXF		3/24/26	7-31-24	2ppm			125ppb				
		11931B	PFAC MXF		3/24/26	8-7-24	2ppm			125ppb				
		11907	PFAC MXG		12/1/27	7-31-24	2ppm			125ppb				
		11932A	PFAC MXG		8-7-24	8-7-24	2ppm			312				
		11933A	PFAC MXJ		3-28-28	7-31-24	4-20 ppm	312 NL		1160ppb				
		11933B	PFAC MXJ		3-28-28	8-7-24	4-20 ppm							
						MA Continue next page 8/9/23								

* based on date opened as specified in each SGS - Orlando SOP.

ORLD-QAC-0017-6-03-FORM-icms std prep log.xls 030819

Organic Standards Preparation Log

SGS - Orlando Std. #	Parent Std. #	Parent Name	Parent Vendor	Vendor Exp. Date	Lab* Exp. Date	Parent Conc.	Vol. Used	Final Vol.	Final Conc.	Diluent Lot	Prep. Date	Exp. Date	Initials
LCMS 2175 A-F	LCMS 2154	Br-LW EtMe	SGS LABS	NA	12/28/23	2ppm	250uL	400L	125 312.5ppb	1033 MIX (2000uL)	9/5/23	12/18/23	MJ
	11953	PFAC MXH	Wellington	4/19/28	8/20/24	1-4 ppm			62.5 125 250ppb				
	11947A	PFAC MXF		3/24/26	8/31/24	2ppm			125ppb				
	11947B	PFAC MXG		12/1/27	8/31/24	2ppm			125ppb				
	11948A	PFAC MXG		5/28/28	9/15/24	4-20 ppm	312uL		312 1100ppb				
	11949B	PFAC MXJ											
	11971	PFAC MXJ											
LCMS 2176	11330	N-Et-FOSE Std	Wellington Labs	5/13/27	9/19/23	50ppm	100 200uL	2.0mL	5 ppm	95% MeOH 5% H2O	9/05/23	9/19/23	JR
	11338	N-Me-FOSE											
LCMS 2177	11940	PFA-DND (28comp)	Absolute	3/13/28	8/29/24	1.0 ppm	400 mL	4.0 mL	100 ppb	95% MeOH 5% H2O	9/05/23	03/05/24	JR
	11432	N-Me-OSA-M	Wellington Labs	02/28/27	3/13/24	50 ppm	8 mL						
	11793	FBGA-1		02/01/28	8/08/24								
	11792	PHISA-1		12/01/27	8/08/24								
	11332	PFECHS		3/28/27	4/18/24								
LCMS 2178 A-J	11965 A-J	MPAC-2MES	Wellington Labs	9/08/28	8/10/24	1.0 ppm	1.2 mL	~2.5 mL	0.5 ppm	75% MeOH 5% H2O	8/04/23	03/06/24	JR
	11811	H3HFO-DA		4/03/26	9/09/24	50 ppm	24 mL						
	11709	d-N-Me POSA-M		11/1/27	8/12/24								

Ended 09/06/23

* based on date opened as specified in each SGS - Orlando SOP.

ORLD-CAC-0017-6-03-FORM-lcms std prep log.xls 030819



10762 A-B



WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE:

PFEESA

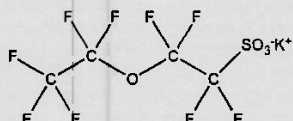
LOT NUMBER:

PFEESA0520

COMPOUND:

Potassium perfluoro(2-ethoxyethane)sulfonate

STRUCTURE:



CAS #:

117205-07-9

MOLECULAR FORMULA:

C₄F₈SO₄K

MOLECULAR WEIGHT:

354.19

CONCENTRATION:

50.0 ± 2.5 µg/ml (K salt)
44.6 ± 2.2 µg/ml (PFEESA acid)
44.5 ± 2.2 µg/ml (PFEESA anion)

SOLVENT(S):

Methanol

CHEMICAL PURITY:

>98%

LAST TESTED: (mm/dd/yyyy)

05/13/2020

EXPIRY DATE: (mm/dd/yyyy)

05/13/2025

RECOMMENDED STORAGE:

Store ampoule in a cool, dark place

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)

Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains ~ 0.2% of perfluoro-n-octanoic acid (PFOA).

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By:

B.G. Chittim, General Manager

Date: 05/29/2020
(mm/dd/yyyy)

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

Form#:27, Issued 2004-11-10
Revision#:7, Revised 2020-01-09

PFEESA0520 (1 of 4)
rev0

7.9.1

7

10765 A-13



WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE:

3,6-OPFHpA

*rec'd
WPH
8/20/21*

LOT NUMBER:

36OPFHpA0320

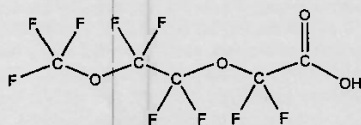
COMPOUND:

Perfluoro-3,6-dioxaheptanoic acid

STRUCTURE:

CAS #:

151772-58-6



MOLECULAR FORMULA:

C₆H_F₉O₄

MOLECULAR WEIGHT:

296.04

CONCENTRATION:

50.0 ± 2.5 µg/ml

SOLVENT(S):

Methanol
Water (<1%)

CHEMICAL PURITY:

>98%

LAST TESTED: (mm/dd/yyyy)

03/31/2020

EXPIRY DATE: (mm/dd/yyyy)

03/31/2025

RECOMMENDED STORAGE:

Store ampoule in a cool, dark place

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)

Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By:

B.G. Chittim, General Manager

Date: 05/27/2020
(mm/dd/yyyy)

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com



WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE:

N-EtFOSA-M

10837

LOT NUMBER:

NEtFOSA0821M

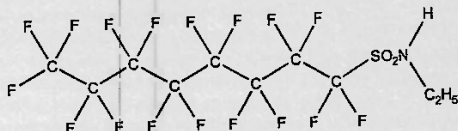
COMPOUND:

N-ethylperfluoro-1-octanesulfonamide

STRUCTURE:

CAS #:

4151-50-2



MOLECULAR FORMULA:

C₁₀H₉F₁₇NO₂S

MOLECULAR WEIGHT:

527.20

CONCENTRATION:

50.0 ± 2.5 µg/mL

SOLVENT(S):

Methanol

CHEMICAL PURITY:

>98%

LAST TESTED: (mm/dd/yyyy)

08/12/2021

EXPIRY DATE: (mm/dd/yyyy)

08/12/2026

RECOMMENDED STORAGE:

Store ampoule in a cool, dark place

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (Full Scan and Mass Spectrum)

Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.

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Certified By:

B.G. Chittim, General Manager

Date: 08/16/2021

(mm/dd/yyyy)

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7.9.1
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10



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CERTIFICATE OF ANALYSIS DOCUMENTATION

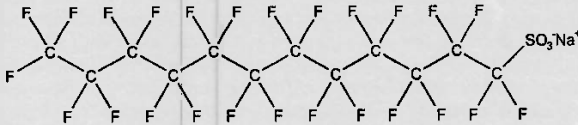
10840

PRODUCT CODE: L-PFDoS
COMPOUND: Sodium perfluoro-1-dodecanesulfonate

LOT NUMBER: LPFDoS0721

STRUCTURE:

CAS #: 1260224-54-1



MOLECULAR FORMULA: C₁₂F₂₅SO₃Na
CONCENTRATION: 50.0 ± 2.5 µg/mL (Na salt)
48.5 ± 2.4 µg/mL (PFDoS acid)
48.4 ± 2.4 µg/mL (PFDoS anion)
CHEMICAL PURITY: >98%
LAST TESTED: (mm/dd/yyyy) 07/09/2021
EXPIRY DATE: (mm/dd/yyyy) 07/09/2026
RECOMMENDED STORAGE: Store ampoule in a cool, dark place

MOLECULAR WEIGHT: 722.14
SOLVENT(S): Methanol


DOCUMENTATION/ DATA ATTACHED:

- Figure 1: LC/MS Data (Full Scan and Mass Spectrum)
- Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains ~0.2% of perfluoro-n-dodecanoic acid (PFDoA).

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Certified By: 
B.G. Chittim, General Manager
Date: 07/16/2021
(mm/dd/yyyy)

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Revision#: 9, Revised 2020-12-23

LPFDoS0721 (1 of 4)
rev0

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10847 NS 01/18/23

PRODUCT CODE:

PFODA

LOT NUMBER:

PFODA0821

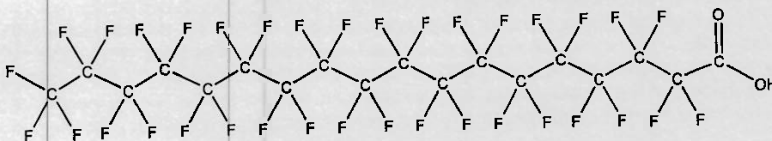
COMPOUND:

Perfluoro-n-octadecanoic acid

STRUCTURE:

CAS #:

16517-11-6



MOLECULAR FORMULA:

C₁₈H₃₅O₂

MOLECULAR WEIGHT:

914.14

CONCENTRATION:

50.0 ± 2.5 µg/mL

SOLVENT(S):

Methanol

Water (<1%)

CHEMICAL PURITY:

>98%

LAST TESTED: (mm/dd/yyyy)

09/03/2021

EXPIRY DATE: (mm/dd/yyyy)

09/03/2026

RECOMMENDED STORAGE:

Store ampoule at ambient temperature in a dark place

DOCUMENTATION/ DATA ATTACHED:

- Figure 1: LC/MS Data (Full Scan and Mass Spectrum)
- Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.
- The solubility of this product in methanol is very sensitive to storage conditions and solvent composition. The stated validity period applies to the sealed ampoules stored at ambient temperature.

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Certified By:

B.G. Chittim, General Manager

Date: 09/28/2021

(mm/dd/yyyy)

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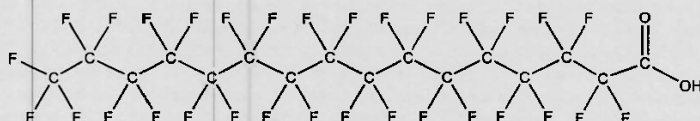
CERTIFICATE OF ANALYSIS
DOCUMENTATION

10842 * NG 01/18/23

PRODUCT CODE: PFHxDA **LOT NUMBER:** PFHxDA0421

COMPOUND: Perfluoro-n-hexadecanoic acid

STRUCTURE: **CAS #:** 67905-19-5



MOLECULAR FORMULA: C₁₆HF₃₁O₂ **MOLECULAR WEIGHT:** 814.13
CONCENTRATION: 50.0 ± 2.5 µg/mL **SOLVENT(S):** Methanol
 Water (<1%)

CHEMICAL PURITY: >98%
LAST TESTED: (mm/dd/yyyy) 05/07/2021
EXPIRY DATE: (mm/dd/yyyy) 05/07/2026
RECOMMENDED STORAGE: Store ampoule in a cool, dark place

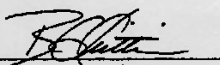
DOCUMENTATION/ DATA ATTACHED:

- Figure 1: LC/MS Data (Full Scan and Mass Spectrum)
- Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.

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Certified By:  **Date:** 05/25/2021
 B.G. Chittim, General Manager (mm/dd/yyyy)

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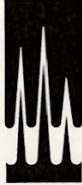
Form#:27, Issued 2004-11-10
 Revision#:9, Revised 2020-12-23

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 rev0

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7

1116 A/B NW

1116B on the back NW



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PRODUCT CODE:

FHpPA

LOT NUMBER:

FHpPA1020

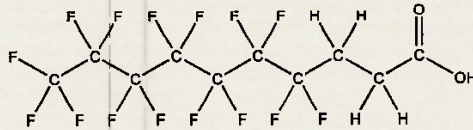
COMPOUND:

3-Perfluoroheptyl propanoic acid

STRUCTURE:

CAS #:

812-70-4



MOLECULAR FORMULA:

C₁₀H₅F₁₅O₂

MOLECULAR WEIGHT:

442.12

CONCENTRATION:

50.0 ± 2.5 µg/mL

SOLVENT(S):

Methanol

CHEMICAL PURITY:

>98%

LAST TESTED: (mm/dd/yyyy)

11/12/2020

EXPIRY DATE: (mm/dd/yyyy)

11/12/2025

RECOMMENDED STORAGE:

Refrigerate ampoule

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)

Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.

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Certified By:

B.G. Chittim, General Manager

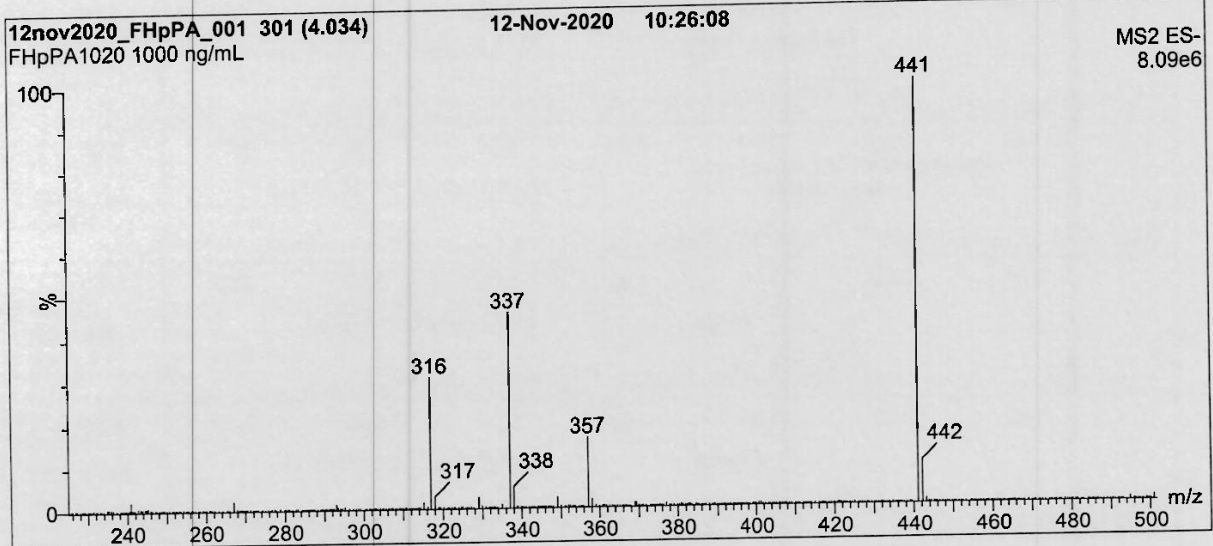
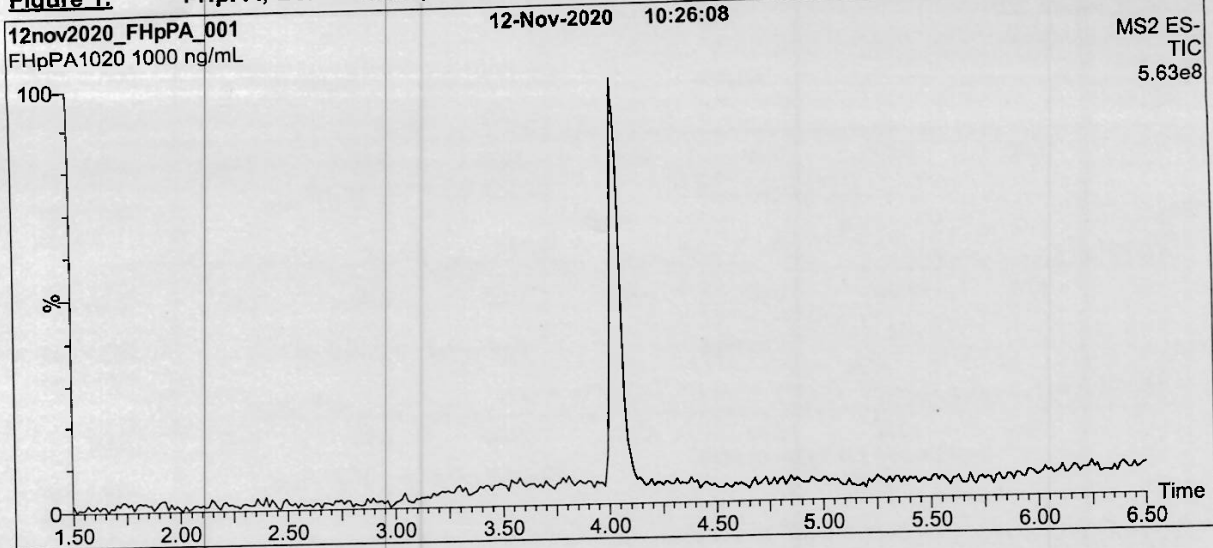
Date: 11/27/2020

(mm/dd/yyyy)

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Revision#: 8, Revised 2020-09-10

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rev0

Figure 1: FHpPA; LC/MS Data (TIC and Mass Spectrum)**Conditions for Figure 1:**

Waters Acquity Ultra Performance LC
Waters Xevo TQ-S micro MS

Chromatographic Conditions:

Column: Acquity UPLC BEH Shield RP₁₈
1.7 μ m, 2.1 x 100 mm

Mobile phase: Gradient
Start: 45% H₂O / 55% (80:20 MeOH:ACN)
(both with 10 mM NH₄OAc buffer)
Ramp to 90% organic over 8 min and hold for
2 min before returning to initial conditions in 0.75 min.
Time: 12 min

Flow: 300 μ L/min

MS Parameters:

Experiment: Full Scan (225 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 0.50
Cone Voltage (V) = 28.50
Desolvation Temperature ($^{\circ}$ C) = 500
Desolvation Gas Flow (L/hr) = 1000

FPPrPA(3:3FTCA) 1116 B



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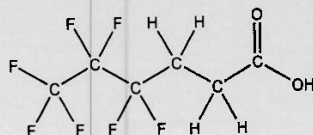
CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE: FPPrPA
COMPOUND: 3-Perfluoropropyl propanoic acid

LOT NUMBER: FPPrPA0122

STRUCTURE:

CAS #: 356-02-5



MOLECULAR FORMULA: C₆H₅F₇O₂
CONCENTRATION: 50.0 ± 2.5 µg/mL
CHEMICAL PURITY: >98%
LAST TESTED: (mm/dd/yyyy) 02/03/2022
EXPIRY DATE: (mm/dd/yyyy) 02/03/2027
RECOMMENDED STORAGE: Refrigerate ampoule

MOLECULAR WEIGHT: 242.09
SOLVENT(S): Methanol

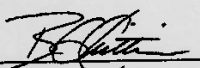
DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (Full Scan and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains <1% of the unsaturated 3:3 telomer acid (C₆H₃F₇O₂) as an impurity determined by ¹⁹F NMR.

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Certified By: 
B.G. Chittim, General Manager

Date: 02/04/2022
(mm/dd/yyyy)

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PRODUCT CODE:

L-PFPrS

LOT NUMBER:

LPFPrS0721

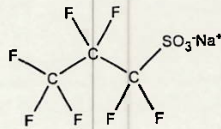
COMPOUND:

Sodium perfluoro-1-propanesulfonate

STRUCTURE:

CAS #:

Not available



MOLECULAR FORMULA:

C₃F₇SO₃Na

MOLECULAR WEIGHT:

272.07

CONCENTRATION:

50.0 ± 2.5 µg/mL (Na salt)
 46.0 ± 2.3 µg/mL (PFPrS acid)
 45.8 ± 2.3 µg/mL (PFPrS anion)

SOLVENT(S):

Methanol

CHEMICAL PURITY:

>98%

LAST TESTED: (mm/dd/yyyy)

07/12/2021

EXPIRY DATE: (mm/dd/yyyy)

07/12/2026

RECOMMENDED STORAGE:

Store ampoule in a cool, dark place

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (Full Scan and Mass Spectrum)

Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.

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Certified By:

B.G. Chittim, General Manager

Date: 08/04/2021

(mm/dd/yyyy)

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11336



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PRODUCT CODE:

N-EtFOSE-M

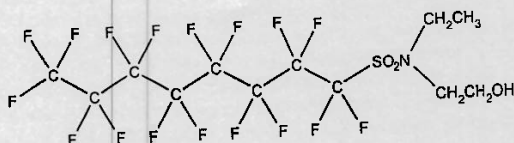
LOT NUMBER: NEtFOSE0622M

COMPOUND:

2-(N-ethylperfluoro-1-octanesulfonamido)ethanol

CAS #: 1691-99-2

STRUCTURE:



MOLECULAR FORMULA:

C₁₂H₁₀F₁₇NO₃S

MOLECULAR WEIGHT: 571.25

CONCENTRATION:

50.0 ± 2.5 µg/mL

SOLVENT(S):

Methanol

CHEMICAL PURITY:

>98%

LAST TESTED: (mm/dd/yyyy)

05/13/2022 (HRGC/LRMS)
05/13/2022 (LC/MS)

EXPIRY DATE: (mm/dd/yyyy)

05/13/2027

RECOMMENDED STORAGE:

Store ampoule in a cool, dark place

DOCUMENTATION/ DATA ATTACHED:

- Figure 1: HRGC/LRMS Data (Full Scan and Mass Spectrum)
- Figure 2: LC/MS Data (Full Scan and Mass Spectrum)
- Figure 3: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- In order to see the molecular ion (adduct free), the LC mobile phase should be free of ammonium acetate buffer.

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Certified By:

B.G. Chittim, General Manager

Date: 07/13/2022
(mm/dd/yyyy)

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NEtFOSE0622M (1 of 5)
rev0

Form#:27, Issued 2004-11-10
Revision#:9, Revised 2020-12-23

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CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE:

N-MeFOSE-M

LOT NUMBER:

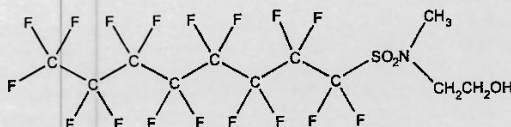
NMeFOSE0522M

COMPOUND:

2-(N-methylperfluoro-1-octanesulfonamido)ethanol

STRUCTURE:**CAS #:**

24448-09-7

**MOLECULAR FORMULA:**C₁₁H₈F₁₇NO₃S**MOLECULAR WEIGHT:**

557.22

CONCENTRATION:

50.0 ± 2.5 µg/mL

SOLVENT(S):

Methanol

CHEMICAL PURITY:

>98%

LAST TESTED: (mm/dd/yyyy)

05/13/2022 (HRGC/LRMS)

05/13/2022 (LC/MS)

EXPIRY DATE: (mm/dd/yyyy)

05/13/2027

RECOMMENDED STORAGE:

Store ampoule in a cool, dark place

DOCUMENTATION/ DATA ATTACHED:

Figure 1: HRGC/LRMS Data (Full Scan and Mass Spectrum)

Figure 2: LC/MS Data (Full Scan and Mass Spectrum)

Figure 3: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- In order to see the molecular ion (adduct free), the LC mobile phase should be free of ammonium acetate buffer.

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Certified By:

B.G. Chittim, General Manager
Date: 06/14/2022
(mm/dd/yyyy)

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11497



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br-NMeFOSA

**N-Methylperfluorooctanesulfonamide
Isomeric Mix**

<u>PRODUCT CODE:</u>	br-NMeFOSA
<u>LOT NUMBER:</u>	brNMeFOSA0822
<u>CONCENTRATION:</u>	50.0 ± 2.5 µg/mL
<u>SOLVENT(S):</u>	Methanol
<u>DATE PREPARED:</u> (mm/dd/yyyy)	08/18/2022
<u>LAST TESTED:</u> (mm/dd/yyyy)	08/23/2022
<u>EXPIRY DATE:</u> (mm/dd/yyyy)	08/23/2027
<u>RECOMMENDED STORAGE:</u>	Store ampoule in a cool, dark place

DESCRIPTION:

The chemical purity has been determined to be ≥98% N-methylperfluorooctanesulfonamide (linear and branched isomers). The full name, structure, and percent composition for each of the identified isomeric components are given in Table A.

DOCUMENTATION/ DATA ATTACHED:

Table A: Isomeric Components and Percent Composition by ¹⁹F-NMR
 Figure 1: LC/MS Data (Full Scan and Mass Spectrum)
 Figure 2: LC/MS Data (SIR)
 Figure 3: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- CAS #: 31506-32-8 (for linear isomer).

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brNMeFOSA0822 (1 of 6)
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br-NEtFOSA

N-Ethylperfluorooctanesulfonamide Isomeric Mix

<u>PRODUCT CODE:</u>	br-NEtFOSA
<u>LOT NUMBER:</u>	brNEtFOSA0922
<u>CONCENTRATION:</u>	50.0 ± 2.5 µg/mL
<u>SOLVENT(S):</u>	Methanol
<u>DATE PREPARED:</u> (mm/dd/yyyy)	08/23/2022
<u>LAST TESTED:</u> (mm/dd/yyyy)	10/07/2022
<u>EXPIRY DATE:</u> (mm/dd/yyyy)	10/07/2027
<u>RECOMMENDED STORAGE:</u>	Store ampoule in a cool, dark place

DESCRIPTION:

The chemical purity has been determined to be ≥98% N-ethylperfluorooctanesulfonamide (linear and branched isomers). The full name, structure, and percent composition for each of the identified isomeric components are given in Table A.

DOCUMENTATION/ DATA ATTACHED:

- Table A: Isomeric Components and Percent Composition by ¹⁹F-NMR
- Figure 1: LC/MS Data (Full Scan and Mass Spectrum)
- Figure 2: LC/MS Data (SIR)
- Figure 3: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- CAS #: 4151-50-2 (for linear isomer).

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Revision#:9, Revised 2020-12-23

brNEtFOSA0922 (1 of 6)
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1513 rec'd 11/14/22



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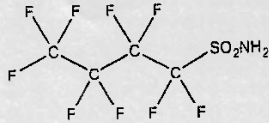
CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE: FBSA-I
COMPOUND: Perfluoro-1-butanefulfonamide

LOT NUMBER: FBSA11211

STRUCTURE:

CAS #: 30334-69-1



MOLECULAR FORMULA: C₄H₂F₉NO₂S
CONCENTRATION: 50.0 ± 2.5 µg/mL
CHEMICAL PURITY: >98%
LAST TESTED: (mm/dd/yyyy) 11/10/2021
EXPIRY DATE: (mm/dd/yyyy) 11/10/2026
RECOMMENDED STORAGE: Refrigerate ampoule

MOLECULAR WEIGHT: 299.11
SOLVENT(S): Isopropanol

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (Full Scan and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.

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Certified By: 
B.G. Chittim, General Manager

Date: 11/10/2021
(mm/dd/yyyy)

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11514 rec'd 11/14/22

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PRODUCT CODE:

FHxSA-I

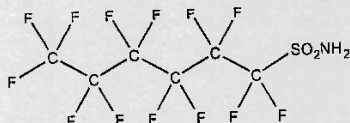
LOT NUMBER: FHxSA1221I

COMPOUND:

Perfluoro-1-hexanesulfonamide

CAS #: 41997-13-1

STRUCTURE:



MOLECULAR FORMULA:

C₆H₂F₁₃NO₂S

MOLECULAR WEIGHT: 399.13

CONCENTRATION:

50.0 ± 2.5 µg/mL

SOLVENT(S):

Isopropanol

CHEMICAL PURITY:

>98%

LAST TESTED: (mm/dd/yyyy)

12/29/2021

EXPIRY DATE: (mm/dd/yyyy)

12/29/2026

RECOMMENDED STORAGE:

Refrigerate ampoule

DOCUMENTATION/ DATA ATTACHED:

- Figure 1: LC/MS Data (Full Scan and Mass Spectrum)
- Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By:

B.G. Chittim, General Manager

Date: 01/10/2022
(mm/dd/yyyy)

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FHxSA1221I (1 of 4)

SGS

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11649 Rec. 02/13/23

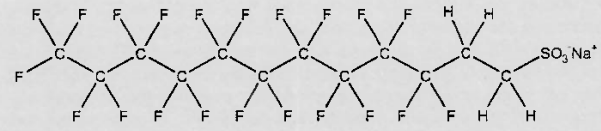


WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE: 10:2FTS **LOT NUMBER:** 102FTS1122
COMPOUND: Sodium 1H,1H,2H,2H-perfluorododecanesulfonate

STRUCTURE: **CAS #:** 108026-35-3



MOLECULAR FORMULA: C₁₂H₄F₂₁SO₃Na **MOLECULAR WEIGHT:** 650.18
CONCENTRATION: 50.0 ± 2.5 µg/mL (Na salt) **SOLVENT(S):** Methanol
 48.3 ± 2.4 µg/mL (10:2FTS acid)
 48.2 ± 2.4 µg/mL (10:2FTS anion)
CHEMICAL PURITY: >98%
LAST TESTED: (mm/dd/yyyy) 12/01/2022
EXPIRY DATE: (mm/dd/yyyy) 12/01/2027
RECOMMENDED STORAGE: Refrigerate ampoule

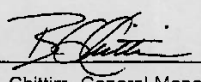
DOCUMENTATION/ DATA ATTACHED:

- Figure 1: LC/MS Data (Full Scan and Mass Spectrum)
- Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.

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Certified By:  Date: 12/09/2022
 B.G. Chittim, General Manager (mm/dd/yyyy)

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Form# 27, Issued 2004-11-10
Revision# 9, Revised 2020-12-23

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11710
rec'd: 03/17/23



WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE:

N-MeFOSA-M

LOT NUMBER:

NMeFOSA1122M

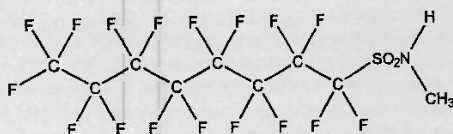
COMPOUND:

N-Methylperfluoro-1-octanesulfonamide

STRUCTURE:

CAS #:

31506-32-8



MOLECULAR FORMULA:

C₉H₄F₁₇NO₂S

MOLECULAR WEIGHT:

513.17

CONCENTRATION:

50.0 ± 2.5 µg/mL

SOLVENT(S):

Methanol

CHEMICAL PURITY:

>98%

LAST TESTED: (mm/dd/yyyy)

11/11/2022

EXPIRY DATE: (mm/dd/yyyy)

11/11/2027

RECOMMENDED STORAGE:

Store ampoule in a cool, dark place

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (Full Scan and Mass Spectrum)

Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.

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Certified By:

B.G. Chittim, General Manager

Date: 11/25/2022

(mm/dd/yyyy)

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11794
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CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE:

PFECHS

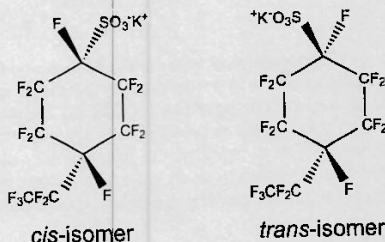
LOT NUMBER: PFECHS0223

COMPOUND:

Potassium perfluoro-4-ethylcyclohexanesulfonate (isomeric mixture)

STRUCTURE:

CAS #: 335-24-0



MOLECULAR FORMULA:

C₉F₁₅SO₃K

MOLECULAR WEIGHT: 500.22

CONCENTRATION:

50.0 ± 2.5 µg/mL (K salt)
46.2 ± 2.3 µg/mL (PFECHS acid)
46.1 ± 2.3 µg/mL (PFECHS anion)

SOLVENT(S):

Methanol

CHEMICAL PURITY:

>98%

LAST TESTED: (mm/dd/yyyy)

03/14/2023

EXPIRY DATE: (mm/dd/yyyy)

03/14/2028

RECOMMENDED STORAGE:

Store ampoule in a cool, dark place

DOCUMENTATION/ DATA ATTACHED:

- Figure 1: LC/MS Data (Full Scan and Mass Spectrum)
- Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains a mixture of the *cis/trans* isomers of PFECHS at a ratio of 1:1.27 (*cis:trans*, by ¹⁹F NMR).

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Certified By:

B.G. Chittim, General Manager

Date: 03/16/2023
(mm/dd/yyyy)

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11795
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WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

br-NMeFOSE

2-(N-Methylperfluorooctanesulfonamido)ethanol
Isomeric Mix

PRODUCT CODE: br-NMeFOSE
LOT NUMBER: brNMeFOSE0922
CONCENTRATION: 50.0 ± 2.5 µg/mL
SOLVENT(S): Methanol
DATE PREPARED: (mm/dd/yyyy) 09/02/2022
LAST TESTED: (mm/dd/yyyy) 09/07/2022 (HRGC/LRMS)
 10/07/2022 (LC/MS)
EXPIRY DATE: (mm/dd/yyyy) 10/07/2027
RECOMMENDED STORAGE: Store ampoule in a cool, dark place

DESCRIPTION:

The chemical purity has been determined to be ≥98% 2-(N-methylperfluorooctanesulfonamido)ethanol linear and branched isomers. The full name, structure, and percent composition for each of the isomeric components are given in Table A.

DOCUMENTATION/ DATA ATTACHED:

- Table A: Isomeric Components and Percent Composition by ¹⁹F-NMR
- Figure 1: HRGC/LRMS Data (Full Scan and Mass Spectrum)
- Figure 2: LC/MS Data (Full Scan and Mass Spectrum)
- Figure 3: LC/MS Data (SIR)
- Figure 4: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- CAS #: 24448-09-7 (for linear isomer).

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brNMeFOSE0922 (1 of 7)
rev1

7.9.1
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11796
rec'd: 05/15/23



WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

br-NEtFOSE

2-(N-Ethylperfluorooctanesulfonamido)ethanol
Isomeric Mix

PRODUCT CODE:	br-NEtFOSE
LOT NUMBER:	brNEtFOSE1022
CONCENTRATION:	50.0 ± 2.5 µg/mL
SOLVENT(S):	Methanol
DATE PREPARED: (mm/dd/yyyy)	09/12/2022
LAST TESTED: (mm/dd/yyyy)	09/12/2022 (HRGC/LRMS) 10/07/2022 (LC/MS)
EXPIRY DATE: (mm/dd/yyyy)	10/07/2027
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place

DESCRIPTION:

The chemical purity has been determined to be ≥98% 2-(N-ethylperfluorooctanesulfonamido)ethanol linear and branched isomers. The full name, structure, and percent composition for each of the isomeric components are given in Table A.

DOCUMENTATION/ DATA ATTACHED:

Table A: Isomeric Components and Percent Composition by ¹⁹F-NMR
Figure 1: HRGC/LRMS Data (Full Scan and Mass Spectrum)
Figure 2: LC/MS Data (Full Scan and Mass Spectrum)
Figure 3: LC/MS Data (SIR)
Figure 4: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- CAS #: 1691-99-2 (for linear isomer).

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brNEtFOSE1022 (1 of 7)
rev1

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11946 A-B
rec'd: 08/09/23



WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PFAC-MXH

Native PFAS
Solution/Mixture

PRODUCT CODE: PFAC-MXH
LOT NUMBER: PFACMXH0423
SOLVENT(S): Methanol/Isopropanol (2%)/Water (<1%)
DATE PREPARED: (mm/dd/yyyy) 04/06/2023
LAST TESTED: (mm/dd/yyyy) 04/19/2023
EXPIRY DATE: (mm/dd/yyyy) 04/19/2028
RECOMMENDED STORAGE: Refrigerate ampoule

DESCRIPTION:

PFAC-MXH is a solution/mixture of 11 native linear perfluoroalkylcarboxylic acids (C₄-C₁₄), eight native perfluoroalkanesulfonates (C₄, C₆, C₇, C₈, C₉, C₁₀ and C₁₂ linear; C₆ and C₈ linear and branched), three native fluorotelomer sulfonates (4:2, 6:2, and 8:2), two native linear and branched perfluorooctanesulfonamidoacetic acids, and perfluoro-1-octanesulfonamide. The components and their concentrations are given in Table A.

The individual components of this mixture all have chemical purities of >98%.

DOCUMENTATION/ DATA ATTACHED:

- Table A: Components and Concentrations of the Solution/Mixture
- Table B: Isomeric Components and Percent Composition of N-MeFOSAA
- Table C: Isomeric Components and Percent Composition of N-EtFOSAA
- Table D: Isomeric Components and Percent Composition of PFHxSK
- Table E: Isomeric Components and Percent Composition of PFOSK
- Figure 1: LC/MS Data (SIR)
- Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acids to their respective methyl esters.

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Table A: PFAC-MXH; Components and Concentrations (ng/mL, ± 5% in methanol/isopropanol (2%)/water (<1%))

Compound	Acronym	Concentration* (ng/mL)		Peak Assignment in Figure 1
		as the salt	as the acid	
Perfluoro-n-butanoic acid	PFBA	4000		1
Perfluoro-n-pentanoic acid	PFPeA	2000		2
Perfluoro-n-hexanoic acid	PFHxA	1000		5
Perfluoro-n-heptanoic acid	PFHpA	1000		7
Perfluoro-n-octanoic acid	PFOA	1000		11
Perfluoro-n-nonanoic acid	PFNA	1000		14
Perfluoro-n-decanoic acid	PFDA	1000		18
Perfluoro-n-undecanoic acid	PFUdA	1000		23
Perfluoro-n-dodecanoic acid	PFDoA	1000		26
Perfluoro-n-tridecanoic acid	PFTrDA	1000		27
Perfluoro-n-tetradecanoic acid	PFTeDA	1000		29
Perfluoro-1-octanesulfonamide	FOSA	1000		24
N-Methylperfluorooctanesulfonamidoacetic acid ^a	N-MeFOSAA: linear isomer	760		20
	N-MeFOSAA: ∑ branched isomers	240		17
N-Ethylperfluorooctanesulfonamidoacetic acid ^b	N-EtFOSAA: linear isomer	775		22
	N-EtFOSAA: ∑ branched isomers	225		21
Compound	Acronym	Concentration* (ng/mL)		Peak Assignment in Figure 1
		as the salt	as the acid	
Potassium perfluoro-1-butanedisulfonate	L-PFBS	1000	887	3
Sodium perfluoro-1-pentadisulfonate	L-PFPeS	1000	941	6
Potassium perfluorohexadisulfonate ^c	PFHxSK: linear isomer	811	741	9
	PFHxSK: ∑ branched isomers	189	173	8
Sodium perfluoro-1-heptadisulfonate	L-PFHpS	1000	953	12
Potassium perfluorooctadisulfonate ^d	PFOSK: linear isomer	788	732	15
	PFOSK: ∑ branched isomers	211	196	13
Sodium perfluoro-1-nonadisulfonate	L-PFNS	1000	962	19
Sodium perfluoro-1-decadisulfonate	L-PFDS	1000	965	25
Sodium perfluoro-1-dodecadisulfonate	L-PFDoS	1000	970	28
Sodium 1H,1H,2H,2H-perfluorohexanesulfonate	4:2FTS	4000	3750	4
Sodium 1H,1H,2H,2H-perfluorooctanesulfonate	6:2FTS	4000	3800	10
Sodium 1H,1H,2H,2H-perfluorodecane sulfonate	8:2FTS	4000	3840	16

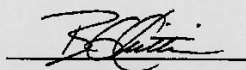
^a See Table B for percent composition of linear and branched N-MeFOSAA isomers.

^b See Table C for percent composition of linear and branched N-EtFOSAA isomers.

^c See Table D for percent composition of linear and branched PFHxSK isomers.

^d See Table E for percent composition of linear and branched PFOSK isomers.

* Concentrations have been rounded to three significant figures.

Certified By: 
B.G. Chittim, General Manager

Date: 05/11/2023
(mm/dd/yyyy)

11947A-B
rec'd: 08/09/23



WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PFAC-MXF

Native Replacement PFAS Solution/Mixture

PRODUCT CODE: PFAC-MXF
LOT NUMBER: PFACMXF0323
SOLVENT(S): Methanol / Water (<1%)
DATE PREPARED: (mm/dd/yyyy) 03/23/2023
LAST TESTED: (mm/dd/yyyy) 03/24/2023
EXPIRY DATE: (mm/dd/yyyy) 03/24/2026
RECOMMENDED STORAGE: Refrigerate ampoule

DESCRIPTION:

PFAC-MXF is a solution/mixture of sodium dodecafluoro-3H-4,8-dioxanonanoate (NaDONA), the major and minor components of F-53B (9Cl-PF3ONS and 11Cl-PF3OUdS), and hexafluoropropylene oxide dimer acid (GenX, HFPO-DA). The components and their concentrations are given in Table A.

The individual components of this mixture all have chemical purities of >98%.

DOCUMENTATION/ DATA ATTACHED:

Table A: Components and Concentrations of the Solution/Mixture
Figure 1: LC/MS Data (SIR)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.

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Revision#: 9, Revised 2020-12-23

PFACMXF0323 (1 of 5)
rev0

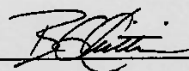
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Table A: PFAC-MXF; Components and Concentrations (ng/mL; ± 5% in Methanol/Water (<1%))

Compound	Acronym	Concentration* (ng/mL)		Peak Assignment in Figure 1
		as the salt	as the acid	
2,3,3,3-Tetrafluoro-2-(1,1,2,2,3,3,3-heptafluoropropoxy)propanoic acid	HFPO-DA	2000		A
Sodium dodecafluoro-3H-4,8-dioxanonoate	NaDONA	2000	1890	B
Potassium 9-chlorohexadecafluoro-3-oxanonane-1-sulfonate	9Cl-PF3ONS	2000	1870	C
Potassium 11-chloroeicosafluoro-3-oxaundecane-1-sulfonate	11Cl-PF3OUdS	2000	1890	D

* Concentrations have been rounded to three significant figures.

Certified By: 
 B.G. Chittim, General Manager

Date: 03/29/2023
(mm/dd/yyyy)

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11948 A-B
rec'd: 08/09/23



WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PFAC-MXG

Native Perfluoroalkyl Ether Carboxylic
Acids and Sulfonate Solution/Mixture

<u>PRODUCT CODE:</u>	PFAC-MXG
<u>LOT NUMBER:</u>	PFACMXG1122
<u>SOLVENT(S):</u>	Methanol/Water (<1%)
<u>DATE PREPARED:</u> (mm/dd/yyyy)	11/30/2022
<u>LAST TESTED:</u> (mm/dd/yyyy)	12/01/2022
<u>EXPIRY DATE:</u> (mm/dd/yyyy)	12/01/2027
<u>RECOMMENDED STORAGE:</u>	Store ampoule in a cool, dark place

DESCRIPTION:

PFAC-MXG is a solution/mixture of three native perfluoroalkyl ether carboxylic acids and a native perfluoroalkyl ether sulfonate. The components and their concentrations are given in Table A.

The individual components all have chemical purities of >98%.

DOCUMENTATION/ DATA ATTACHED:

- Table A: Components and Concentrations of the Solution/Mixture
- Figure 1: LC/MS Data (SIR)
- Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acids to their respective methyl esters.

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Revision#: 9, Revised 2020-12-23

PFACMXG1122 (1 of 5)
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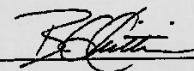
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Table A: PFAC-MXG; Components and Concentrations (ng/mL; ± 5% in methanol/water (<1%))

Compound	Acronym	Concentration (ng/mL)		Peak Assignment in Figure 1
		as the salt	as the acid	
Perfluoro-4-oxapentanoic acid	PF4OPeA	2000		A
Perfluoro-5-oxahexanoic acid	PF5OHxA	2000		B
Perfluoro-3,6-dioxahexanoic acid	3,6-OPFHxA	2000		D
Compound	Acronym	Concentration* (ng/mL)		Peak Assignment in Figure 1
		as the salt	as the acid	
Potassium perfluoro(2-ethoxyethane)sulfonate	PFEESA	2000	1780	C

* Concentrations have been rounded to three significant figures.

Certified By: 
 B.G. Chittim, General Manager

Date: 12/09/2022
(mm/dd/yyyy)

11968
rec'd 08/22/23



WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PFAC-MXH

Native PFAS
Solution/Mixture

PRODUCT CODE: PFAC-MXH
LOT NUMBER: PFACMXH0423
SOLVENT(S): Methanol/Isopropanol (2%)/Water (<1%)
DATE PREPARED: (mm/dd/yyyy) 04/06/2023
LAST TESTED: (mm/dd/yyyy) 04/19/2023
EXPIRY DATE: (mm/dd/yyyy) 04/19/2028
RECOMMENDED STORAGE: Refrigerate ampoule

DESCRIPTION:

PFAC-MXH is a solution/mixture of 11 native linear perfluoroalkylcarboxylic acids (C₄-C₁₄), eight native perfluoroalkanesulfonates (C₄, C₆, C₇, C₈, C₁₀ and C₁₂ linear; C₆ and C₈ linear and branched), three native fluorotelomer sulfonates (4:2, 6:2, and 8:2), two native linear and branched perfluorooctanesulfonamidoacetic acids, and perfluoro-1-octanesulfonamide. The components and their concentrations are given in Table A.

The individual components of this mixture all have chemical purities of >98%.

DOCUMENTATION/ DATA ATTACHED:

- Table A: Components and Concentrations of the Solution/Mixture
- Table B: Isomeric Components and Percent Composition of N-MeFOSAA
- Table C: Isomeric Components and Percent Composition of N-EtFOSAA
- Table D: Isomeric Components and Percent Composition of PFHxSK
- Table E: Isomeric Components and Percent Composition of PFOSK
- Figure 1: LC/MS Data (SIR)
- Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acids to their respective methyl esters.

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Revision#:9, Revised 2020-12-23

PFACMXH0423 (1 of 11)
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e A:

**PFAC-MXH; Components and Concentrations
(ng/mL, ± 5% in methanol/isopropanol (2%)/water (<1%))**

Compound	Acronym	Concentration* (ng/mL)		Peak Assignment in Figure 1
		as the salt	as the acid	
Perfluoro-n-butanoic acid	PFBA	4000		1
Perfluoro-n-pentanoic acid	PFPeA	2000		2
Perfluoro-n-hexanoic acid	PFHxA	1000		5
Perfluoro-n-heptanoic acid	PFHpA	1000		7
Perfluoro-n-octanoic acid	PFOA	1000		11
Perfluoro-n-nonanoic acid	PFNA	1000		14
Perfluoro-n-decanoic acid	PFDA	1000		18
Perfluoro-n-undecanoic acid	PFUdA	1000		23
Perfluoro-n-dodecanoic acid	PFDoA	1000		26
Perfluoro-n-tridecanoic acid	PFTrDA	1000		27
Perfluoro-n-tetradecanoic acid	PFTeDA	1000		29
Perfluoro-1-octanesulfonamide	FOSA	1000		24
N-Methylperfluorooctanesulfonamidoacetic acid ^a	N-MeFOSAA: linear isomer	760		20
	N-MeFOSAA: ∑ branched isomers	240		17
N-Ethylperfluorooctanesulfonamidoacetic acid ^b	N-EtFOSAA: linear isomer	775		22
	N-EtFOSAA: ∑ branched isomers	225		21
Compound	Acronym	Concentration* (ng/mL)		Peak Assignment in Figure 1
		as the salt	as the acid	
Potassium perfluoro-1-butanedisulfonate	L-PFBS	1000	887	3
Sodium perfluoro-1-pentadisulfonate	L-PFPeS	1000	941	6
Potassium perfluorohexadisulfonate ^c	PFHxSK: linear isomer	811	741	9
	PFHxSK: ∑ branched isomers	189	173	8
Sodium perfluoro-1-heptadisulfonate	L-PFHpS	1000	953	12
Potassium perfluorooctadisulfonate ^d	PFOSK: linear isomer	788	732	15
	PFOSK: ∑ branched isomers	211	196	13
Sodium perfluoro-1-nonadisulfonate	L-PFNS	1000	962	19
Sodium perfluoro-1-decadisulfonate	L-PFDS	1000	965	25
Sodium perfluoro-1-dodecadisulfonate	L-PFDoS	1000	970	28
Sodium 1H,1H,2H,2H-perfluorohexanesulfonate	4:2FTS	4000	3750	4
Sodium 1H,1H,2H,2H-perfluorooctanesulfonate	6:2FTS	4000	3800	10
Sodium 1H,1H,2H,2H-perfluorodecane sulfonate	8:2FTS	4000	3840	16

^a See Table B for percent composition of linear and branched N-MeFOSAA isomers.

^b See Table C for percent composition of linear and branched N-EtFOSAA isomers.

^c See Table D for percent composition of linear and branched PFHxSK isomers.

^d See Table E for percent composition of linear and branched PFOSK isomers.

* Concentrations have been rounded to three significant figures.

Certified By: 
B.G. Chittim, General Manager

Date: 05/11/2023
(mm/dd/yyyy)

11971
rec'd: 08/22/23



WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PFAC-MXJ

Native X:3 Fluorotelomer Carboxylic
Acid Solution/Mixture

PRODUCT CODE: PFAC-MXJ
LOT NUMBER: PFACMXJ0323
SOLVENT(S): Methanol
DATE PREPARED: (mm/dd/yyyy) 03/27/2023
LAST TESTED: (mm/dd/yyyy) 03/28/2023
EXPIRY DATE: (mm/dd/yyyy) 03/28/2028
RECOMMENDED STORAGE: Refrigerate ampoule

DESCRIPTION:

PFAC-MXJ is a solution/mixture of three native X:3 fluorotelomer carboxylic acids. The components and their concentrations are given in Table A.

The individual components have a chemical purity of >98%.

DOCUMENTATION/ DATA ATTACHED:

Table A: Components and Concentrations of the Solution/Mixture
Figure 1: LC/MS Data (SIR)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.

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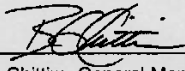
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Table A:

PFAC-MXJ; Components and Concentrations (µg/mL; ± 5% in methanol)

Compound	Acronym	Concentration (µg/mL)
3-Perfluoropropyl propanoic acid	FPrPA	4.00
3-Perfluoropentyl propanoic acid	FPePA	20.0
3-Perfluoroheptyl propanoic acid	FHpPA	20.0

Certified By: 
B.G. Chittim, General Manager

Date: 04/12/2023
(mm/dd/yyyy)

11992
rec'd 08/13/23



WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PFAC-MXJ

Native X:3 Fluorotelomer Carboxylic
Acid Solution/Mixture

PRODUCT CODE: PFAC-MXJ
LOT NUMBER: PFACMXJ0323
SOLVENT(S): Methanol
DATE PREPARED: (mm/dd/yyyy) 03/27/2023
LAST TESTED: (mm/dd/yyyy) 03/28/2023
EXPIRY DATE: (mm/dd/yyyy) 03/28/2028
RECOMMENDED STORAGE: Refrigerate ampoule

DESCRIPTION:

PFAC-MXJ is a solution/mixture of three native X:3 fluorotelomer carboxylic acids. The components and their concentrations are given in Table A.

The individual components have a chemical purity of >98%.

DOCUMENTATION/ DATA ATTACHED:

Table A: Components and Concentrations of the Solution/Mixture
Figure 1: LC/MS Data (SIR)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:


- See page 2 for further details.

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Table A: PFAC-MXJ; Components and Concentrations ($\mu\text{g}/\text{mL}$; $\pm 5\%$ in methanol)

Compound	Acronym	Concentration ($\mu\text{g}/\text{mL}$)
3-Perfluoropropyl propanoic acid	FPrPA	4.00
3-Perfluoropentyl propanoic acid	FPePA	20.0
3-Perfluoroheptyl propanoic acid	FHpPA	20.0

Certified By: 
B.G. Chittim, General Manager

Date: 04/12/2023
(mm/dd/yyyy)

11994
rec'd: 08/13/22



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CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE:

FPePA (5:3)

LOT NUMBER:

FPePA0722

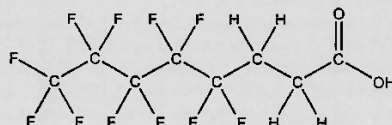
COMPOUND:

3-Perfluoropentyl propanoic acid

STRUCTURE:

CAS #:

914637-49-3



MOLECULAR FORMULA:

$C_8H_5F_{11}O_2$

MOLECULAR WEIGHT:

342.11

CONCENTRATION:

$50.0 \pm 2.5 \mu\text{g/mL}$

SOLVENT(S):

Methanol

CHEMICAL PURITY:

>98%

LAST TESTED: (mm/dd/yyyy)

08/02/2022

EXPIRY DATE: (mm/dd/yyyy)

08/02/2027

RECOMMENDED STORAGE:

Refrigerate ampoule

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (Full Scan and Mass Spectrum)

Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains <0.5% of the unsaturated 5:3 telomer acid ($C_8H_3F_{11}O_2$) as an impurity determined by $^1\text{H NMR}$.

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Certified By:

B.G. Chittim, General Manager

Date: 08/10/2022

(mm/dd/yyyy)

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12016 A-B
rec'd: 09/11/23



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CERTIFICATE OF ANALYSIS DOCUMENTATION

PFAC-MXJ

Native X:3 Fluorotelomer Carboxylic
Acid Solution/Mixture

PRODUCT CODE: PFAC-MXJ
LOT NUMBER: PFACMXJ0323
SOLVENT(S): Methanol
DATE PREPARED: (mm/dd/yyyy) 03/27/2023
LAST TESTED: (mm/dd/yyyy) 03/28/2023
EXPIRY DATE: (mm/dd/yyyy) 03/28/2028
RECOMMENDED STORAGE: Refrigerate ampoule

DESCRIPTION:

PFAC-MXJ is a solution/mixture of three native X:3 fluorotelomer carboxylic acids. The components and their concentrations are given in Table A.

The individual components have a chemical purity of >98%.

DOCUMENTATION/ DATA ATTACHED:

Table A: Components and Concentrations of the Solution/Mixture
Figure 1: LC/MS Data (SIR)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.

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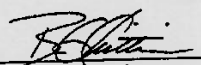
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A:

PFAC-MXJ; Components and Concentrations ($\mu\text{g/mL}$; $\pm 5\%$ in methanol)

Compound	Acronym	Concentration ($\mu\text{g/mL}$)
3-Perfluoropropyl propanoic acid	FPrPA	4.00
3-Perfluoropentyl propanoic acid	FPePA	20.0
3-Perfluoroheptyl propanoic acid	FHpPA	20.0

Certified By:


B.G. Chittim, General Manager

Date: 04/12/2023
(mm/dd/yyyy)

Form#: 13, Issued 2004-11-10
Revision#: 9, Revised 2020-12-23

PFACMXJ0323 (3 of 5)
rev0

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11988 A-5
rec'd: 08/13/23



WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

MPFAC-HIF-ES

Mass-Labelled PFAS Extraction Standard Solution/Mixture

<u>PRODUCT CODE:</u>	MPFAC-HIF-ES
<u>LOT NUMBER:</u>	MPFACHIFES0623
<u>SOLVENT(S):</u>	Methanol/Isopropanol (1%)/Water (<1%)
<u>DATE PREPARED:</u> (mm/dd/yyyy)	06/19/2023
<u>LAST TESTED:</u> (mm/dd/yyyy)	06/20/2023
<u>EXPIRY DATE:</u> (mm/dd/yyyy)	06/20/2026
<u>RECOMMENDED STORAGE:</u>	Refrigerate ampoule

DESCRIPTION:

MPFAC-HIF-ES is a solution/mixture of ten mass-labelled (¹³C) perfluoroalkylcarboxylic acids (C₄-C₁₂, C₁₄), three mass-labelled (¹³C) perfluoroalkanesulfonates (C₄, C₆, and C₈), three mass-labelled (one ¹³C and two ²H) perfluoro-1-octanesulfonamides, three mass-labelled (¹³C) fluorotelomer sulfonates (4:2, 6:2, and 8:2), two mass-labelled (²H) perfluorooctanesulfonamidoacetic acids, two mass-labelled (²H) perfluorooctanesulfonamidoethanols, and mass-labelled (¹³C) hexafluoropropylene oxide dimer acid (¹³C₃-GenX, M3HFPO-DA). The components and their concentrations are given in Table A.

The individual ¹³C-labelled components all have chemical purities >98% and isotopic purities of ≥99%. The individual ²H-labelled components all have chemical purities >98% and isotopic purities of ≥98%.

DOCUMENTATION/ DATA ATTACHED:

- Table A: Components and Concentrations of the Solution/Mixture
- Figure 1: LC/MS Data (SIR)
- Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acids to their respective methyl esters.

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Form#: 13, Issued 2004-11-10
Revision#: 9, Revised 2020-12-23

MPFACHIFES0623 (1 of 7)
rev0

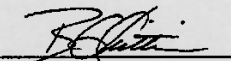
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Table A: MPFAC-HIF-ES; Components and Concentrations (ng/mL, ± 5% in methanol/isopropanol (1%)/water (<1%))

Compound	Acronym	Concentration (ng/mL)		Peak Assignment in Figure 1
		as the salt	as the acid	
Perfluoro-n-(¹³ C ₄)butanoic acid	MPFBA	2000		1
Perfluoro-n-(¹³ C ₅)pentanoic acid	M5PFPeA	1000		2
Perfluoro-n-(1,2,3,4,6- ¹³ C ₅)hexanoic acid	M5PFHxA	500		5
Perfluoro-n-(1,2,3,4- ¹³ C ₆)heptanoic acid	M4PFHpA	500		7
Perfluoro-n-(¹³ C ₈)octanoic acid	M8PFOA	500		10
Perfluoro-n-(¹³ C ₉)nonanoic acid	M9PFNA	250		11
Perfluoro-n-(1,2,3,4,5,6- ¹³ C ₆)decanoic acid	M6PFDA	250		14
Perfluoro-n-(1,2,3,4,5,6,7- ¹³ C ₇)undecanoic acid	M7PFUdA	250		18
Perfluoro-n-(1,2- ¹³ C ₂)dodecanoic acid	MPFDoA	250		19
Perfluoro-n-(1,2- ¹³ C ₂)tetradecanoic acid	M2PFTeDA	250		24
Perfluoro-1-(¹³ C ₈)octanesulfonamide	M8FOSA	500		16
N-Methyl-d ₃ -perfluoro-1-octanesulfonamide	d-N-MeFOSA	500		21
N-Ethyl-d ₅ -perfluoro-1-octanesulfonamide	d-N-EtFOSA	500		23
N-Methyl-d ₃ -perfluoro-1-octanesulfonamidoacetic acid	d3-N-MeFOSAA	1000		15
N-Ethyl-d ₅ -perfluoro-1-octanesulfonamidoacetic acid	d5-N-EtFOSAA	1000		17
2-(N-Methyl-d ₃ -perfluoro-1-octanesulfonamido)ethan-d ₄ -ol	d7-N-MeFOSE	5000		20
2-(N-Ethyl-d ₅ -perfluoro-1-octanesulfonamido)ethan-d ₄ -ol	d9-N-EtFOSE	5000		22
2,3,3,3-Tetrafluoro-2-(1,1,2,2,3,3,3-heptafluoropropoxy)(¹³ C ₃)propanoic acid	M3HFPO-DA	2000		6
Compound	Acronym	Concentration* (ng/mL)		Peak Assignment in Figure 1
		as the salt	as the acid	
Sodium perfluoro-1-(2,3,4- ¹³ C ₃)butanesulfonate	M3PFBS	500	466	3
Sodium perfluoro-1-(1,2,3- ¹³ C ₃)hexanesulfonate	M3PFHxS	500	474	8
Sodium perfluoro-1-(¹³ C ₈)octanesulfonate	M8PFOS	500	479	12
Sodium 1H,1H,2H,2H-perfluoro-(1,2- ¹³ C ₂)hexanesulfonate	M2-4:2FTS	1000	938	4
Sodium 1H,1H,2H,2H-perfluoro-(1,2- ¹³ C ₂)octanesulfonate	M2-6:2FTS	1000	951	9
Sodium 1H,1H,2H,2H-perfluoro-(1,2- ¹³ C ₂)decanesulfonate	M2-8:2FTS	1000	960	13

* Concentrations have been rounded to three significant figures.

Certified By: 
B.G. Chittim, General Manager

Date: 06/22/2023
(mm/dd/yyyy)

11987A-J
rec'd: 08/13/23



WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

MPFAC-HIF-IS

**Mass-Labelled PFAS Injection
Standard Solution/Mixture**

PRODUCT CODE: MPFAC-HIF-IS
LOT NUMBER: MPFACHIFIS0723
SOLVENT(S): Methanol/Water (<1%)
DATE PREPARED: (mm/dd/yyyy) 07/05/2023
LAST TESTED: (mm/dd/yyyy) 07/05/2023
EXPIRY DATE: (mm/dd/yyyy) 07/05/2028
RECOMMENDED STORAGE: Store ampoule in a cool, dark place

DESCRIPTION:

MPFAC-HIF-IS is a solution/mixture of five mass-labelled (¹³C) perfluoroalkylcarboxylic acids (C₄, C₆, C₈-C₁₀) and two mass-labelled (¹⁸O and ¹³C) perfluoroalkanesulfonates (C₆ and C₈). The components and their concentrations are given in Table A.

The individual mass-labelled perfluoroalkylcarboxylic acids and perfluoroalkanesulfonates all have chemical purities of >98% and isotopic purities of ≥99% per ¹³C or >94% per ¹⁸O.

DOCUMENTATION/ DATA ATTACHED:

Table A: Components and Concentrations of the Solution/Mixture
Figure 1: LC/MS Data (SIR)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acids to their respective methyl esters.

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Form#:13, Issued 2004-11-10
Revision#:9, Revised 2020-12-23

MPFACHIFIS0723 (1 of 5)
rev0

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Table A: MPFAC-HIF-IS; Components and Concentrations (ng/mL, ± 5% in methanol/water (<1%))

Compound	Acronym	Concentration (ng/mL)		Peak Assignment in Figure 1
		as the salt	as the acid	
Perfluoro-n-(2,3,4- ¹³ C ₃)butanoic acid	M3PFBA	1000		1
Perfluoro-n-(1,2- ¹³ C ₂)hexanoic acid	MPFHxA	500		2
Perfluoro-n-(1,2,3,4- ¹³ C ₄)octanoic acid	MPFOA	500		4
Perfluoro-n-(1,2,3,4,5- ¹³ C ₅)nonanoic acid	MPFNA	250		5
Perfluoro-n-(1,2- ¹³ C ₂)decanoic acid	MPFDA	250		7
Compound	Acronym	Concentration* (ng/mL)		Peak Assignment in Figure 1
		as the salt	as the acid	
Sodium perfluoro-1-hexane(¹⁸ O ₂)sulfonate	MPFHxS	500	474	3
Sodium perfluoro-1-(1,2,3,4- ¹³ C ₄)octanesulfonate	MPFOS	500	479	6

* Concentrations have been rounded to three significant figures.

Certified By: 
B.G. Chittim, General Manager

Date: 07/07/2023
(mm/dd/yyyy)

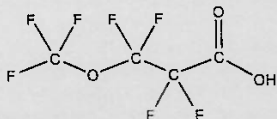
11648 Rec. 02/13/23



WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE: PF4OPeA **LOT NUMBER:** PF4OPeA0722
COMPOUND: Perfluoro-4-oxapentanoic acid
SYNONYM: Perfluoro-3-methoxypropanoic acid (PFMPA) **CAS #:** 377-73-1
STRUCTURE:



MOLECULAR FORMULA: C₄HF₇O₃ **MOLECULAR WEIGHT:** 230.04
CONCENTRATION: 50.0 ± 2.5 µg/mL **SOLVENT(S):** Methanol
Water (<1%)
CHEMICAL PURITY: >98%
LAST TESTED: (mm/dd/yyyy) 08/02/2022
EXPIRY DATE: (mm/dd/yyyy) 08/02/2027
RECOMMENDED STORAGE: Store ampoule in a cool, dark place

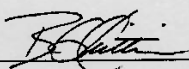
DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (Full Scan and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: 
B.G. Chittim, General Manager Date: 08/15/2022
(mm/dd/yyyy)

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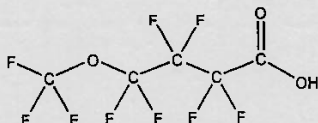
11465



WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE: PF5OHxA **LOT NUMBER:** PF5OHxA0722
COMPOUND: Perfluoro-5-oxahexanoic acid
SYNONYM: Perfluoro-4-methoxybutanoic acid (PFMBA)
STRUCTURE: **CAS #:** 863090-89-5



MOLECULAR FORMULA: C₆H₂F₉O₃ **MOLECULAR WEIGHT:** 280.05
CONCENTRATION: 50.0 ± 2.5 µg/mL **SOLVENT(S):** Methanol
 Water (<1%)
CHEMICAL PURITY: >98%
LAST TESTED: (mm/dd/yyyy) 08/02/2022
EXPIRY DATE: (mm/dd/yyyy) 08/02/2027
RECOMMENDED STORAGE: Store ampoule in a cool, dark place

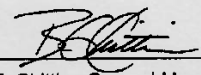
DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (Full Scan and Mass Spectrum)
 Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: 
 B.G. Chittim, General Manager

Date: 08/26/2022
 (mm/dd/yyyy)

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SGS - ORLANDO

SPE LIQUID SAMPLE PREP REPORT

Date/Time: 10/10/23 09:30
 Started (mm/dd/yy 24:00)

Method: EPA 1633 Draft (QSM)

Date/Time: 10/10/23 12:38
 Finished (mm/dd/yy 24:00)

Balance ID: _____

Batch#: OP 99445 Ext. By: GH

Conc. By: _____ Viald By: _____

GH
10/10/23

Sample ID	Bottle Number	Amount Extracted (ml)	Initial pH	Adjusted pH	Surrogate Amount (ul)	Spike Amount (ul)	Final Volume (ml)	Manifold ID	Comments
OP 99445 MB		500	7	N/A	25		5	A4	
OP 99445 BS		500	7			200			
OP 99445 LLBS		500	7			60			
FC 9775-2 Re	18	520	7	✓					
FC 9776-6 Re	2	550	7	N/A					
FC 10247-1									
FC 10290-1	2	540	8	6					
	2	550	7	N/A					
	3	530							
	4	520							
	5	540							
	6	530						A4	
	7	540	✓	✓	25		5	A6	
FC 10247-1	2	540	7	N/A	25		5	A6	
GH 10/10/23									
OPFC10290-5MS	3	560	7	N/A	25	200	5	A4	
OP MSD									
OPFC10290-6DUP	3	530	7	N/A	25		5	A4	

Comments:

EIS (SURR) ID: 12031C-E Conc: 250-500 ng/ml Exp. Date: 09/24/24 Inj. By: GH Ver. By: KG
 SPIKE.1 ID: LCMS2202B Conc: VARIED Exp. Date: 04/04/24 Inj. By: GH Ver. By: KG
 SPIKE.2 ID: _____ Conc: _____ Exp. Date: _____ Inj. By: _____ Ver. By: _____
 NIS (ISTD) ID: 12030D-E Conc: 250-1000 ng/ml Exp. Date: 10/10/24 Inj. By: MMJ Ver. By: _____

TurboVap Temp (Therm ID): _____ N-Evap Temp (Therm ID): _____
 Observed Temp °C: _____ Corr. Temp °C: _____ Observed Temp °C: _____ Corr. Temp °C: _____

Methanol Lot # 232031 1% NH4OH MeOH PF651 SPE Lot # 6752453-01
 Water Lot # OP99443 0.3M Formic Acid PF652 Syringe filter Lot # _____
 Acetic Acid # 194003 3% NH4OH Sol _____ pH paper Lot # 205423
 0.1M Formic PF649 5% Formic Acid PF490 Carbon Lot # 99687

Relinquished By: [Signature]
 Accepted By: [Signature]

Date: 10/10/23
 Date: 10/11/23

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