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*Automated Report*

## Technical Report for

**AECOM, INC.**

**N6274223F0104 RH Fire Suppression System**

**60697810**

**SGS Job Number: FC10290**

**Sampling Dates: 10/04/23 - 10/05/23**



### Report to:

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**Total number of pages in report: 1473**



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**

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

**AECOM, INC.**

**Job No: FC10290**

**N6274223F0104 RH Fire Suppression System  
Project No: 60697810**

Sample Number	Collected		Received	Matrix		Client Sample ID
	Date	Time By		Code	Type	
FC10290-1	10/04/23	15:30 MD	10/07/23	AQ	Ground Water	AF-RHMW17D-WGN01LF-2310
FC10290-2	10/04/23	14:55 MD	10/07/23	AQ	Field Blank Water	AF-RHMW17D-WQFB01-2310
FC10290-3	10/04/23	16:55 MD	10/07/23	AQ	Ground Water	AF-RHMW17S-WGN01LF-2310
FC10290-4	10/04/23	17:15 MD	10/07/23	AQ	Equipment Blank	AF-RHMW17S-WQEB01-2310
FC10290-5	10/05/23	10:15 AA	10/07/23	AQ	Ground Water	AF-RHMW10-WGN01LF-2310
FC10290-6	10/05/23	12:20 CH	10/07/23	AQ	Ground Water	AF-RHMW225401-WGN01B-2310
FC10290-7	10/05/23	13:30 AA	10/07/23	AQ	Ground Water	AF-RHMW16-WGN01LF-2310

## SAMPLE DELIVERY GROUP CASE NARRATIVE

**Client:** AECOM, INC.

**Job No:** FC10290

**Site:** N6274223F0104 RH Fire Suppression System

**Report Date:** 10/19/2023 2:40:31

On 10/07/2023, 5 Sample(s) and 1 Field Blank(s) and 1 Equipment Blank were received at SGS North America Inc - Orlando. at a maximum corrected temperature of 4.8 C. Samples were intact and chemically preserved, unless noted below. A SGS North America Inc. - Orlando Job Number of FC10290 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.

Sample(s) FC10290-1 have surrogates outside control limits.

FC10290-1: Dilution required (ID recovery standard failure).

FC10290-1 for 13C2-4:2FTS: Outside control limits.

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:

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

## Summary of Hits

Job Number: FC10290  
Account: AECOM, INC.  
Project: N6274223F0104 RH Fire Suppression System  
Collected: 10/04/23 thru 10/05/23



Lab Sample ID	Client Sample ID	Result/ Qual	LOQ	LOD	Units	Method
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FC10290-1 AF-RHMW17D-WGN01LF-2310

No hits reported in this sample.

FC10290-2 AF-RHMW17D-WQFB01-2310

No hits reported in this sample.

FC10290-3 AF-RHMW17S-WGN01LF-2310

Perfluorobutanoic acid	6.1 J	15	3.8	ng/l	EPA DRAFT 1633
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FC10290-4 AF-RHMW17S-WQEB01-2310

No hits reported in this sample.

FC10290-5 AF-RHMW10-WGN01LF-2310

No hits reported in this sample.

FC10290-6 AF-RHMW225401-WGN01B-2310

Perfluorohexanoic acid	0.74 J	3.8	1.9	ng/l	EPA DRAFT 1633
Perfluorooctanoic acid	0.74 J	3.8	0.94	ng/l	EPA DRAFT 1633
Perfluorobutanesulfonic acid	0.61 J	3.8	1.9	ng/l	EPA DRAFT 1633

FC10290-7 AF-RHMW16-WGN01LF-2310

No hits reported in this sample.

**Sample Results**

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**Report of Analysis**

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SGS North America Inc.

## Report of Analysis

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Client Sample ID:	AF-RHMW17D-WGN01LF-2310		
Lab Sample ID:	FC10290-1	Date Sampled:	10/04/23
Matrix:	AQ - Ground Water	Date Received:	10/07/23
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	6Q26285.D	1	10/12/23 16:59	MV	10/10/23 09:30	OP99445	S6Q370
Run #2 <sup>a</sup>	6Q26618.D	10	10/18/23 04:56	MV	10/10/23 09:30	OP99445	S6Q373

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

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	74 U <sup>b</sup>	190	74	30	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-RHMW17D-WGN01LF-2310		
Lab Sample ID:	FC10290-1	Date Sampled:	10/04/23
Matrix:	AQ - Ground Water	Date Received:	10/07/23
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	111%	93%	20-150%
	13C5-PFPeA	111%	89%	20-150%
	13C5-PFHxA	110%	88%	20-150%
	13C4-PFHpA	110%	95%	20-150%
	13C8-PFOA	113%	95%	20-150%
	13C9-PFNA	118%	82%	20-150%
	13C6-PFDA	117%	84%	20-150%
	13C7-PFUnDA	105%	80%	20-150%
	13C2-PFDoDA	94%	80%	20-150%
	13C2-PFTeDA	84%	80%	20-150%
	13C3-PFBS	123%	95%	20-150%
	13C3-PFHxS	113%	85%	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-RHMW17D-WGN01LF-2310		
Lab Sample ID:	FC10290-1	Date Sampled:	10/04/23
Matrix:	AQ - Ground Water	Date Received:	10/07/23
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	121%	46%	20-150%
	13C8-FOSA	89%	29%	20-150%
	d3-MeFOSA	83%	31%	20-150%
	d5-EtFOSA	88%	24%	20-150%
	d3-MeFOSAA	141%	40%	20-150%
	d5-EtFOSAA	149%	39%	20-150%
	d7-MeFOSE	89%	28%	20-150%
	d9-EtFOSE	93%	30%	20-150%
	13C2-4:2FTS	286% <sup>c</sup>	105%	20-180%
	13C2-6:2FTS	128%	123%	20-180%
	13C2-8:2FTS	132%	86%	20-180%
	13C3-HFPO-DA	101%	84%	20-150%

(a) Dilution required (ID recovery standard failure).

(b) Result is from Run# 2

(c) Outside control limits.

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

SGS North America Inc.

## Report of Analysis

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Client Sample ID:	AF-RHMW17D-WQFB01-2310		
Lab Sample ID:	FC10290-2	Date Sampled:	10/04/23
Matrix:	AQ - Field Blank Water	Date Received:	10/07/23
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	6Q26286.D	1	10/12/23 17:13	MV	10/10/23 09:30	OP99445	S6Q370
Run #2							

Run #	Initial Volume	Final Volume
Run #1	550 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	3.6 U	15	3.6	1.7	ng/l	
2706-90-3	Perfluoropentanoic acid	1.8 U	7.3	1.8	0.85	ng/l	
307-24-4	Perfluorohexanoic acid	1.8 U	3.6	1.8	0.45	ng/l	
375-85-9	Perfluoroheptanoic acid	1.8 U	3.6	1.8	0.45	ng/l	
335-67-1	Perfluorooctanoic acid	0.91 U	3.6	0.91	0.45	ng/l	
375-95-1	Perfluorononanoic acid	1.8 U	3.6	1.8	0.55	ng/l	
335-76-2	Perfluorodecanoic acid	1.8 U	3.6	1.8	0.45	ng/l	
2058-94-8	Perfluoroundecanoic acid	1.8 U	3.6	1.8	0.55	ng/l	
307-55-1	Perfluorododecanoic acid	1.8 U	3.6	1.8	0.55	ng/l	
72629-94-8	Perfluorotridecanoic acid	1.8 U	3.6	1.8	0.76	ng/l	
376-06-7	Perfluorotetradecanoic acid	1.8 U	3.6	1.8	0.45	ng/l	

## PERFLUOROALKYL SULFONIC ACIDS

375-73-5	Perfluorobutanesulfonic acid	1.8 U	3.6	1.8	0.45	ng/l	
2706-91-4	Perfluoropentanesulfonic acid	3.6 U	4.5	3.6	1.0	ng/l	
355-46-4	Perfluorohexanesulfonic acid	1.8 U	3.6	1.8	0.64	ng/l	
375-92-8	Perfluoroheptanesulfonic acid	1.8 U	3.6	1.8	0.45	ng/l	
1763-23-1	Perfluorooctanesulfonic acid	1.8 U	3.6	1.8	0.49	ng/l	
68259-12-1	Perfluorononanesulfonic acid	1.8 U	3.6	1.8	0.52	ng/l	
335-77-3	Perfluorodecanesulfonic acid	1.8 U	3.6	1.8	0.58	ng/l	
79780-39-5	Perfluorododecanesulfonic aci	3.6 U	4.5	3.6	1.0	ng/l	

## FLUOROTELOMER SULFONIC ACIDS

757124-72-4	4:2 Fluorotelomer sulfonate	7.3 U	18	7.3	2.9	ng/l	
27619-97-2	6:2 Fluorotelomer sulfonate	7.3 U	18	7.3	3.2	ng/l	
39108-34-4	8:2 Fluorotelomer sulfonate	7.3 U	18	7.3	3.7	ng/l	

## PERFLUOROOCCTANE SULFONAMIDES

754-91-6	PFOSA	1.8 U	3.6	1.8	0.61	ng/l	
31506-32-8	MeFOSA	3.6 U	7.3	3.6	0.91	ng/l	
4151-50-2	EtFOSA	3.6 U	7.3	3.6	0.91	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-RHMW17D-WQFB01-2310		
Lab Sample ID:	FC10290-2	Date Sampled:	10/04/23
Matrix:	AQ - Field Blank Water	Date Received:	10/07/23
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	3.6 U	4.5	3.6	0.91	ng/l	
2991-50-6	EtFOSAA	3.6 U	4.5	3.6	1.2	ng/l	

**PERFLUOROOCCTANE SULFONAMIDO ETHANOLS**

24448-09-7	MeFOSE	18 U	36	18	4.0	ng/l	
1691-99-2	EtFOSE	18 U	36	18	6.7	ng/l	

**PER and POLYFLUOROETHER CARBOXYLIC ACIDS**

13252-13-6	HFPO-DA (GenX)	1.8 U	3.6	1.8	0.91	ng/l	
919005-14-4	ADONA	3.6 U	7.3	3.6	1.7	ng/l	
377-73-1	PFMPA	1.8 U	7.3	1.8	0.91	ng/l	
863090-89-5	PFMBA	3.6 U	7.3	3.6	1.0	ng/l	
151772-58-6	NFDHA	3.6 U	7.3	3.6	1.1	ng/l	

**PER and POLYFLUOROETHER SULFONIC ACIDS**

756426-58-1	9Cl-PF3ONS (F-53B Major)	3.6 U	7.3	3.6	1.3	ng/l	
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	3.6 U	7.3	3.6	1.6	ng/l	
113507-82-7	PFEESA	1.8 U	7.3	1.8	0.71	ng/l	

**FLUOROTELOMER CARBOXYLIC ACIDS**

356-02-5	3:3 Fluorotelomer carboxylate	9.1 U	18	9.1	4.1	ng/l	
914637-49-3	5:3 Fluorotelomer carboxylate	18 U	91	18	7.9	ng/l	
812-70-4	7:3 Fluorotelomer carboxylate	18 U	91	18	7.1	ng/l	

CAS No.	ID Standard Recoveries	Run# 1	Run# 2	Limits
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	13C4-PFBA	110%		20-150%
	13C5-PFPeA	114%		20-150%
	13C5-PFHxA	112%		20-150%
	13C4-PFHpA	113%		20-150%
	13C8-PFOA	102%		20-150%
	13C9-PFNA	104%		20-150%
	13C6-PFDA	106%		20-150%
	13C7-PFUnDA	91%		20-150%
	13C2-PFDoDA	83%		20-150%
	13C2-PFTeDA	67%		20-150%
	13C3-PFBS	114%		20-150%
	13C3-PFHxS	106%		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

<b>Client Sample ID:</b>	AF-RHMW17D-WQFB01-2310	
<b>Lab Sample ID:</b>	FC10290-2	<b>Date Sampled:</b> 10/04/23
<b>Matrix:</b>	AQ - Field Blank Water	<b>Date Received:</b> 10/07/23
<b>Method:</b>	EPA DRAFT 1633 EPA 1633 DRAFT	<b>Percent Solids:</b> n/a
<b>Project:</b>	N6274223F0104 RH Fire Suppression System	

CAS No.	ID Standard Recoveries	Run# 1	Run# 2	Limits
	13C8-PFOS	91%		20-150%
	13C8-FOSA	75%		20-150%
	d3-MeFOSA	75%		20-150%
	d5-EtFOSA	82%		20-150%
	d3-MeFOSAA	98%		20-150%
	d5-EtFOSAA	91%		20-150%
	d7-MeFOSE	79%		20-150%
	d9-EtFOSE	79%		20-150%
	13C2-4:2FTS	133%		20-180%
	13C2-6:2FTS	114%		20-180%
	13C2-8:2FTS	104%		20-180%
	13C3-HFPO-DA	109%		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

SGS North America Inc.

## Report of Analysis

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Client Sample ID:	AF-RHMW17S-WGN01LF-2310		
Lab Sample ID:	FC10290-3	Date Sampled:	10/04/23
Matrix:	AQ - Ground Water	Date Received:	10/07/23
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	6Q26287.D	1	10/12/23 17:28	MV	10/10/23 09:30	OP99445	S6Q370
Run #2							

Run #	Initial Volume	Final Volume
Run #1	530 ml	5.0 ml
Run #2		

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
<b>PERFLUOROALKYL CARBOXYLIC ACIDS</b>							
375-22-4	Perfluorobutanoic acid	6.1	15	3.8	1.8	ng/l	J
2706-90-3	Perfluoropentanoic acid	1.9 U	7.5	1.9	0.89	ng/l	
307-24-4	Perfluorohexanoic acid	1.9 U	3.8	1.9	0.47	ng/l	
375-85-9	Perfluoroheptanoic acid	1.9 U	3.8	1.9	0.47	ng/l	
335-67-1	Perfluorooctanoic acid	0.94 U	3.8	0.94	0.47	ng/l	
375-95-1	Perfluorononanoic acid	1.9 U	3.8	1.9	0.58	ng/l	
335-76-2	Perfluorodecanoic acid	1.9 U	3.8	1.9	0.47	ng/l	
2058-94-8	Perfluoroundecanoic acid	1.9 U	3.8	1.9	0.57	ng/l	
307-55-1	Perfluorododecanoic acid	1.9 U	3.8	1.9	0.57	ng/l	
72629-94-8	Perfluorotridecanoic acid	1.9 U	3.8	1.9	0.79	ng/l	
376-06-7	Perfluorotetradecanoic acid	1.9 U	3.8	1.9	0.47	ng/l	
<b>PERFLUOROALKYL SULFONIC ACIDS</b>							
375-73-5	Perfluorobutanesulfonic acid	1.9 U	3.8	1.9	0.47	ng/l	
2706-91-4	Perfluoropentanesulfonic acid	3.8 U	4.7	3.8	1.1	ng/l	
355-46-4	Perfluorohexanesulfonic acid	1.9 U	3.8	1.9	0.66	ng/l	
375-92-8	Perfluoroheptanesulfonic acid	1.9 U	3.8	1.9	0.47	ng/l	
1763-23-1	Perfluorooctanesulfonic acid	1.9 U	3.8	1.9	0.51	ng/l	
68259-12-1	Perfluorononanesulfonic acid	1.9 U	3.8	1.9	0.54	ng/l	
335-77-3	Perfluorodecanesulfonic acid	1.9 U	3.8	1.9	0.60	ng/l	
79780-39-5	Perfluorododecanesulfonic aci	3.8 U	4.7	3.8	1.1	ng/l	
<b>FLUOROTELOMER SULFONIC ACIDS</b>							
757124-72-4	4:2 Fluorotelomer sulfonate	7.5 U	19	7.5	3.0	ng/l	
27619-97-2	6:2 Fluorotelomer sulfonate	7.5 U	19	7.5	3.3	ng/l	
39108-34-4	8:2 Fluorotelomer sulfonate	7.5 U	19	7.5	3.9	ng/l	
<b>PERFLUOROOCCTANE SULFONAMIDES</b>							
754-91-6	PFOSA	1.9 U	3.8	1.9	0.63	ng/l	
31506-32-8	MeFOSA	3.8 U	7.5	3.8	0.94	ng/l	
4151-50-2	EtFOSA	3.8 U	7.5	3.8	0.94	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-RHMW17S-WGN01LF-2310		
Lab Sample ID:	FC10290-3	Date Sampled:	10/04/23
Matrix:	AQ - Ground Water	Date Received:	10/07/23
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

**PERFLUOROOCCTANE SULFONAMIDOACETIC ACIDS**

2355-31-9	MeFOSAA	3.8 U	4.7	3.8	0.94	ng/l
2991-50-6	EtFOSAA	3.8 U	4.7	3.8	1.3	ng/l

**PERFLUOROOCCTANE SULFONAMIDO ETHANOLS**

24448-09-7	MeFOSE	19 U	38	19	4.1	ng/l
1691-99-2	EtFOSE	19 U	38	19	7.0	ng/l

**PER and POLYFLUOROETHER CARBOXYLIC ACIDS**

13252-13-6	HFPO-DA (GenX)	1.9 U	3.8	1.9	0.94	ng/l
919005-14-4	ADONA	3.8 U	7.5	3.8	1.8	ng/l
377-73-1	PFMPA	1.9 U	7.5	1.9	0.94	ng/l
863090-89-5	PFMBA	3.8 U	7.5	3.8	1.1	ng/l
151772-58-6	NFDHA	3.8 U	7.5	3.8	1.1	ng/l

**PER and POLYFLUOROETHER SULFONIC ACIDS**

756426-58-1	9Cl-PF3ONS (F-53B Major)	3.8 U	7.5	3.8	1.3	ng/l
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	3.8 U	7.5	3.8	1.7	ng/l
113507-82-7	PFEESA	1.9 U	7.5	1.9	0.74	ng/l

**FLUOROTELOMER CARBOXYLIC ACIDS**

356-02-5	3:3 Fluorotelomer carboxylate	9.4 U	19	9.4	4.3	ng/l
914637-49-3	5:3 Fluorotelomer carboxylate	19 U	94	19	8.2	ng/l
812-70-4	7:3 Fluorotelomer carboxylate	19 U	94	19	7.4	ng/l

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

13C4-PFBA	85%	20-150%
13C5-PFPeA	114%	20-150%
13C5-PFHxA	110%	20-150%
13C4-PFHpA	114%	20-150%
13C8-PFOA	116%	20-150%
13C9-PFNA	113%	20-150%
13C6-PFDA	109%	20-150%
13C7-PFUnDA	92%	20-150%
13C2-PFDoDA	70%	20-150%
13C2-PFTeDA	58%	20-150%
13C3-PFBS	114%	20-150%
13C3-PFHxS	119%	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

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## Report of Analysis

<b>Client Sample ID:</b>	AF-RHMW17S-WGN01LF-2310	
<b>Lab Sample ID:</b>	FC10290-3	<b>Date Sampled:</b> 10/04/23
<b>Matrix:</b>	AQ - Ground Water	<b>Date Received:</b> 10/07/23
<b>Method:</b>	EPA DRAFT 1633 EPA 1633 DRAFT	<b>Percent Solids:</b> n/a
<b>Project:</b>	N6274223F0104 RH Fire Suppression System	

CAS No.	ID Standard Recoveries	Run# 1	Run# 2	Limits
	13C8-PFOS	105%		20-150%
	13C8-FOSA	86%		20-150%
	d3-MeFOSA	71%		20-150%
	d5-EtFOSA	71%		20-150%
	d3-MeFOSAA	92%		20-150%
	d5-EtFOSAA	80%		20-150%
	d7-MeFOSE	72%		20-150%
	d9-EtFOSE	69%		20-150%
	13C2-4:2FTS	121%		20-180%
	13C2-6:2FTS	115%		20-180%
	13C2-8:2FTS	108%		20-180%
	13C3-HFPO-DA	109%		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

SGS North America Inc.

## Report of Analysis

Page 1 of 3

Client Sample ID:	AF-RHMW17S-WQEB01-2310		
Lab Sample ID:	FC10290-4	Date Sampled:	10/04/23
Matrix:	AQ - Equipment Blank	Date Received:	10/07/23
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	6Q26288.D	1	10/12/23 17:42	MV	10/10/23 09:30	OP99445	S6Q370
Run #2							

Run #	Initial Volume	Final Volume
Run #1	520 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	3.8 U	15	3.8	1.8	ng/l	
2706-90-3	Perfluoropentanoic acid	1.9 U	7.7	1.9	0.90	ng/l	
307-24-4	Perfluorohexanoic acid	1.9 U	3.8	1.9	0.48	ng/l	
375-85-9	Perfluoroheptanoic acid	1.9 U	3.8	1.9	0.48	ng/l	
335-67-1	Perfluorooctanoic acid	0.96 U	3.8	0.96	0.48	ng/l	
375-95-1	Perfluorononanoic acid	1.9 U	3.8	1.9	0.59	ng/l	
335-76-2	Perfluorodecanoic acid	1.9 U	3.8	1.9	0.48	ng/l	
2058-94-8	Perfluoroundecanoic acid	1.9 U	3.8	1.9	0.58	ng/l	
307-55-1	Perfluorododecanoic acid	1.9 U	3.8	1.9	0.58	ng/l	
72629-94-8	Perfluorotridecanoic acid	1.9 U	3.8	1.9	0.81	ng/l	
376-06-7	Perfluorotetradecanoic acid	1.9 U	3.8	1.9	0.48	ng/l	

## PERFLUOROALKYL SULFONIC ACIDS

375-73-5	Perfluorobutanesulfonic acid	1.9 U	3.8	1.9	0.48	ng/l	
2706-91-4	Perfluoropentanesulfonic acid	3.8 U	4.8	3.8	1.1	ng/l	
355-46-4	Perfluorohexanesulfonic acid	1.9 U	3.8	1.9	0.67	ng/l	
375-92-8	Perfluoroheptanesulfonic acid	1.9 U	3.8	1.9	0.48	ng/l	
1763-23-1	Perfluorooctanesulfonic acid	1.9 U	3.8	1.9	0.52	ng/l	
68259-12-1	Perfluorononanesulfonic acid	1.9 U	3.8	1.9	0.55	ng/l	
335-77-3	Perfluorodecanesulfonic acid	1.9 U	3.8	1.9	0.62	ng/l	
79780-39-5	Perfluorododecanesulfonic aci	3.8 U	4.8	3.8	1.1	ng/l	

## FLUOROTELOMER SULFONIC ACIDS

757124-72-4	4:2 Fluorotelomer sulfonate	7.7 U	19	7.7	3.1	ng/l	
27619-97-2	6:2 Fluorotelomer sulfonate	7.7 U	19	7.7	3.3	ng/l	
39108-34-4	8:2 Fluorotelomer sulfonate	7.7 U	19	7.7	4.0	ng/l	

## PERFLUOROOCCTANE SULFONAMIDES

754-91-6	PFOSA	1.9 U	3.8	1.9	0.64	ng/l	
31506-32-8	MeFOSA	3.8 U	7.7	3.8	0.96	ng/l	
4151-50-2	EtFOSA	3.8 U	7.7	3.8	0.96	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-RHMW17S-WQEB01-2310		
Lab Sample ID:	FC10290-4	Date Sampled:	10/04/23
Matrix:	AQ - Equipment Blank	Date Received:	10/07/23
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	3.8 U	4.8	3.8	0.96	ng/l	
2991-50-6	EtFOSAA	3.8 U	4.8	3.8	1.3	ng/l	

**PERFLUOROOCCTANE SULFONAMIDO ETHANOLS**

24448-09-7	MeFOSE	19 U	38	19	4.2	ng/l	
1691-99-2	EtFOSE	19 U	38	19	7.1	ng/l	

**PER and POLYFLUOROETHER CARBOXYLIC ACIDS**

13252-13-6	HFPO-DA (GenX)	1.9 U	3.8	1.9	0.96	ng/l	
919005-14-4	ADONA	3.8 U	7.7	3.8	1.8	ng/l	
377-73-1	PFMPA	1.9 U	7.7	1.9	0.96	ng/l	
863090-89-5	PFMBA	3.8 U	7.7	3.8	1.1	ng/l	
151772-58-6	NFDHA	3.8 U	7.7	3.8	1.2	ng/l	

**PER and POLYFLUOROETHER SULFONIC ACIDS**

756426-58-1	9Cl-PF3ONS (F-53B Major)	3.8 U	7.7	3.8	1.3	ng/l	
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	3.8 U	7.7	3.8	1.7	ng/l	
113507-82-7	PFEESA	1.9 U	7.7	1.9	0.75	ng/l	

**FLUOROTELOMER CARBOXYLIC ACIDS**

356-02-5	3:3 Fluorotelomer carboxylate	9.6 U	19	9.6	4.3	ng/l	
914637-49-3	5:3 Fluorotelomer carboxylate	19 U	96	19	8.4	ng/l	
812-70-4	7:3 Fluorotelomer carboxylate	19 U	96	19	7.5	ng/l	

CAS No.	ID Standard Recoveries	Run# 1	Run# 2	Limits
	13C4-PFBA	108%		20-150%
	13C5-PFPeA	107%		20-150%
	13C5-PFHxA	107%		20-150%
	13C4-PFHpA	108%		20-150%
	13C8-PFOA	110%		20-150%
	13C9-PFNA	117%		20-150%
	13C6-PFDA	116%		20-150%
	13C7-PFUnDA	106%		20-150%
	13C2-PFDoDA	102%		20-150%
	13C2-PFTeDA	85%		20-150%
	13C3-PFBS	110%		20-150%
	13C3-PFHxS	111%		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

<b>Client Sample ID:</b>	AF-RHMW17S-WQEB01-2310	
<b>Lab Sample ID:</b>	FC10290-4	<b>Date Sampled:</b> 10/04/23
<b>Matrix:</b>	AQ - Equipment Blank	<b>Date Received:</b> 10/07/23
<b>Method:</b>	EPA DRAFT 1633 EPA 1633 DRAFT	<b>Percent Solids:</b> n/a
<b>Project:</b>	N6274223F0104 RH Fire Suppression System	

CAS No.	ID Standard Recoveries	Run# 1	Run# 2	Limits
	13C8-PFOS	106%		20-150%
	13C8-FOSA	87%		20-150%
	d3-MeFOSA	89%		20-150%
	d5-EtFOSA	89%		20-150%
	d3-MeFOSAA	106%		20-150%
	d5-EtFOSAA	103%		20-150%
	d7-MeFOSE	91%		20-150%
	d9-EtFOSE	90%		20-150%
	13C2-4:2FTS	135%		20-180%
	13C2-6:2FTS	128%		20-180%
	13C2-8:2FTS	111%		20-180%
	13C3-HFPO-DA	108%		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



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## Report of Analysis

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Client Sample ID:	AF-RHMW10-WGN01LF-2310		
Lab Sample ID:	FC10290-5	Date Sampled:	10/05/23
Matrix:	AQ - Ground Water	Date Received:	10/07/23
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	6Q26291.D	1	10/12/23 18:25	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-RHMW10-WGN01LF-2310		
Lab Sample ID:	FC10290-5	Date Sampled:	10/05/23
Matrix:	AQ - Ground Water	Date Received:	10/07/23
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
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	13C4-PFBA	106%		20-150%
	13C5-PFPeA	111%		20-150%
	13C5-PFHxA	106%		20-150%
	13C4-PFHpA	108%		20-150%
	13C8-PFOA	112%		20-150%
	13C9-PFNA	110%		20-150%
	13C6-PFDA	116%		20-150%
	13C7-PFUnDA	108%		20-150%
	13C2-PFDoDA	108%		20-150%
	13C2-PFTeDA	102%		20-150%
	13C3-PFBS	115%		20-150%
	13C3-PFHxS	113%		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

4.5  
4

## Report of Analysis

<b>Client Sample ID:</b>	AF-RHMW10-WGN01LF-2310		
<b>Lab Sample ID:</b>	FC10290-5	<b>Date Sampled:</b>	10/05/23
<b>Matrix:</b>	AQ - Ground Water	<b>Date Received:</b>	10/07/23
<b>Method:</b>	EPA DRAFT 1633 EPA 1633 DRAFT	<b>Percent Solids:</b>	n/a
<b>Project:</b>	N6274223F0104 RH Fire Suppression System		

CAS No.	ID Standard Recoveries	Run# 1	Run# 2	Limits
	13C8-PFOS	115%		20-150%
	13C8-FOSA	84%		20-150%
	d3-MeFOSA	86%		20-150%
	d5-EtFOSA	87%		20-150%
	d3-MeFOSAA	126%		20-150%
	d5-EtFOSAA	104%		20-150%
	d7-MeFOSE	88%		20-150%
	d9-EtFOSE	95%		20-150%
	13C2-4:2FTS	138%		20-180%
	13C2-6:2FTS	132%		20-180%
	13C2-8:2FTS	129%		20-180%
	13C3-HFPO-DA	109%		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

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## Report of Analysis

Page 1 of 3

Client Sample ID:	AF-RHMW225401-WGN01B-2310		
Lab Sample ID:	FC10290-6	Date Sampled:	10/05/23
Matrix:	AQ - Ground Water	Date Received:	10/07/23
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	6Q26293.D	1	10/12/23 18:54	MV	10/10/23 09:30	OP99445	S6Q370
Run #2							

Run #	Initial Volume	Final Volume
Run #1	530 ml	5.0 ml
Run #2		

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
<b>PERFLUOROALKYL CARBOXYLIC ACIDS</b>							
375-22-4	Perfluorobutanoic acid	3.8 U	15	3.8	1.8	ng/l	
2706-90-3	Perfluoropentanoic acid	1.9 U	7.5	1.9	0.89	ng/l	
307-24-4	Perfluorohexanoic acid	0.74	3.8	1.9	0.47	ng/l	J
375-85-9	Perfluoroheptanoic acid	1.9 U	3.8	1.9	0.47	ng/l	
335-67-1	Perfluorooctanoic acid	0.74	3.8	0.94	0.47	ng/l	J
375-95-1	Perfluorononanoic acid	1.9 U	3.8	1.9	0.58	ng/l	
335-76-2	Perfluorodecanoic acid	1.9 U	3.8	1.9	0.47	ng/l	
2058-94-8	Perfluoroundecanoic acid	1.9 U	3.8	1.9	0.57	ng/l	
307-55-1	Perfluorododecanoic acid	1.9 U	3.8	1.9	0.57	ng/l	
72629-94-8	Perfluorotridecanoic acid	1.9 U	3.8	1.9	0.79	ng/l	
376-06-7	Perfluorotetradecanoic acid	1.9 U	3.8	1.9	0.47	ng/l	
<b>PERFLUOROALKYL SULFONIC ACIDS</b>							
375-73-5	Perfluorobutanesulfonic acid	0.61	3.8	1.9	0.47	ng/l	J
2706-91-4	Perfluoropentanesulfonic acid	3.8 U	4.7	3.8	1.1	ng/l	
355-46-4	Perfluorohexanesulfonic acid	1.9 U	3.8	1.9	0.66	ng/l	
375-92-8	Perfluoroheptanesulfonic acid	1.9 U	3.8	1.9	0.47	ng/l	
1763-23-1	Perfluorooctanesulfonic acid	1.9 U	3.8	1.9	0.51	ng/l	
68259-12-1	Perfluorononanesulfonic acid	1.9 U	3.8	1.9	0.54	ng/l	
335-77-3	Perfluorodecanesulfonic acid	1.9 U	3.8	1.9	0.60	ng/l	
79780-39-5	Perfluorododecanesulfonic aci	3.8 U	4.7	3.8	1.1	ng/l	
<b>FLUOROTELOMER SULFONIC ACIDS</b>							
757124-72-4	4:2 Fluorotelomer sulfonate	7.5 U	19	7.5	3.0	ng/l	
27619-97-2	6:2 Fluorotelomer sulfonate	7.5 U	19	7.5	3.3	ng/l	
39108-34-4	8:2 Fluorotelomer sulfonate	7.5 U	19	7.5	3.9	ng/l	
<b>PERFLUOROOCCTANE SULFONAMIDES</b>							
754-91-6	PFOSA	1.9 U	3.8	1.9	0.63	ng/l	
31506-32-8	MeFOSA	3.8 U	7.5	3.8	0.94	ng/l	
4151-50-2	EtFOSA	3.8 U	7.5	3.8	0.94	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-RHMW225401-WGN01B-2310		
Lab Sample ID:	FC10290-6	Date Sampled:	10/05/23
Matrix:	AQ - Ground Water	Date Received:	10/07/23
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	3.8 U	4.7	3.8	0.94	ng/l	
2991-50-6	EtFOSAA	3.8 U	4.7	3.8	1.3	ng/l	

**PERFLUOROOCCTANE SULFONAMIDO ETHANOLS**

24448-09-7	MeFOSE	19 U	38	19	4.1	ng/l	
1691-99-2	EtFOSE	19 U	38	19	7.0	ng/l	

**PER and POLYFLUOROETHER CARBOXYLIC ACIDS**

13252-13-6	HFPO-DA (GenX)	1.9 U	3.8	1.9	0.94	ng/l	
919005-14-4	ADONA	3.8 U	7.5	3.8	1.8	ng/l	
377-73-1	PFMPA	1.9 U	7.5	1.9	0.94	ng/l	
863090-89-5	PFMBA	3.8 U	7.5	3.8	1.1	ng/l	
151772-58-6	NFDHA	3.8 U	7.5	3.8	1.1	ng/l	

**PER and POLYFLUOROETHER SULFONIC ACIDS**

756426-58-1	9Cl-PF3ONS (F-53B Major)	3.8 U	7.5	3.8	1.3	ng/l	
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	3.8 U	7.5	3.8	1.7	ng/l	
113507-82-7	PFEESA	1.9 U	7.5	1.9	0.74	ng/l	

**FLUOROTELOMER CARBOXYLIC ACIDS**

356-02-5	3:3 Fluorotelomer carboxylate	9.4 U	19	9.4	4.3	ng/l	
914637-49-3	5:3 Fluorotelomer carboxylate	19 U	94	19	8.2	ng/l	
812-70-4	7:3 Fluorotelomer carboxylate	19 U	94	19	7.4	ng/l	

CAS No.	ID Standard Recoveries	Run# 1	Run# 2	Limits
	13C4-PFBA	99%		20-150%
	13C5-PFPeA	108%		20-150%
	13C5-PFHxA	107%		20-150%
	13C4-PFHpA	105%		20-150%
	13C8-PFOA	112%		20-150%
	13C9-PFNA	105%		20-150%
	13C6-PFDA	109%		20-150%
	13C7-PFUnDA	103%		20-150%
	13C2-PFDoDA	95%		20-150%
	13C2-PFTeDA	95%		20-150%
	13C3-PFBS	118%		20-150%
	13C3-PFHxS	109%		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

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## Report of Analysis

<b>Client Sample ID:</b>	AF-RHMW225401-WGN01B-2310	
<b>Lab Sample ID:</b>	FC10290-6	<b>Date Sampled:</b> 10/05/23
<b>Matrix:</b>	AQ - Ground Water	<b>Date Received:</b> 10/07/23
<b>Method:</b>	EPA DRAFT 1633 EPA 1633 DRAFT	<b>Percent Solids:</b> n/a
<b>Project:</b>	N6274223F0104 RH Fire Suppression System	

CAS No.	ID Standard Recoveries	Run# 1	Run# 2	Limits
	13C8-PFOS	100%		20-150%
	13C8-FOSA	85%		20-150%
	d3-MeFOSA	81%		20-150%
	d5-EtFOSA	83%		20-150%
	d3-MeFOSAA	105%		20-150%
	d5-EtFOSAA	109%		20-150%
	d7-MeFOSE	83%		20-150%
	d9-EtFOSE	82%		20-150%
	13C2-4:2FTS	156%		20-180%
	13C2-6:2FTS	124%		20-180%
	13C2-8:2FTS	117%		20-180%
	13C3-HFPO-DA	106%		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

SGS North America Inc.

## Report of Analysis

Page 1 of 3

Client Sample ID:	AF-RHMW16-WGN01LF-2310		
Lab Sample ID:	FC10290-7	Date Sampled:	10/05/23
Matrix:	AQ - Ground Water	Date Received:	10/07/23
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	6Q26295.D	1	10/12/23 19:22	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-RHMW16-WGN01LF-2310		
Lab Sample ID:	FC10290-7	Date Sampled:	10/05/23
Matrix:	AQ - Ground Water	Date Received:	10/07/23
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	93%		20-150%
	13C5-PFPeA	113%		20-150%
	13C5-PFHxA	112%		20-150%
	13C4-PFHpA	112%		20-150%
	13C8-PFOA	120%		20-150%
	13C9-PFNA	119%		20-150%
	13C6-PFDA	106%		20-150%
	13C7-PFUnDA	97%		20-150%
	13C2-PFDoDA	89%		20-150%
	13C2-PFTeDA	79%		20-150%
	13C3-PFBS	120%		20-150%
	13C3-PFHxS	125%		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

4.7  
4



## Report of Analysis

<b>Client Sample ID:</b>	AF-RHMW16-WGN01LF-2310	
<b>Lab Sample ID:</b>	FC10290-7	<b>Date Sampled:</b> 10/05/23
<b>Matrix:</b>	AQ - Ground Water	<b>Date Received:</b> 10/07/23
<b>Method:</b>	EPA DRAFT 1633 EPA 1633 DRAFT	<b>Percent Solids:</b> n/a
<b>Project:</b>	N6274223F0104 RH Fire Suppression System	

CAS No.	ID Standard Recoveries	Run# 1	Run# 2	Limits
	13C8-PFOS	106%		20-150%
	13C8-FOSA	88%		20-150%
	d3-MeFOSA	88%		20-150%
	d5-EtFOSA	90%		20-150%
	d3-MeFOSAA	108%		20-150%
	d5-EtFOSAA	107%		20-150%
	d7-MeFOSE	85%		20-150%
	d9-EtFOSE	89%		20-150%
	13C2-4:2FTS	146%		20-180%
	13C2-6:2FTS	129%		20-180%
	13C2-8:2FTS	124%		20-180%
	13C3-HFPO-DA	106%		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**

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**Includes the following where applicable:**

- Chain of Custody
- QC Evaluation: DOD QSM5.x Limits



SGS North America Inc - Orlando  
Chain of Custody

4405 Vineland Road, Suite C-15 Orlando, FL 32811  
TEL 407-425-6700 FAX 407-425-0707  
www.sgs.com

FC10290

COC #: 2310AFSG11

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						*PFAS EPA Draft 1633 M.D. 10/14/23											DW - Drinking Water GW - Ground Water WW - Water SW - Surface Water SO - Soil SL - Sludge OI - Oil LIQ - Other Liquid AIR - Air SOL - 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 # CTO CVI23F0104																	
Project Manager: Watson Tanji Email: watson.tanji@aecom.com		Fax #						INITIAL ASSESSMENT: SP  LABEL VERIFICATION											LAB USE ONLY
Phone #: 303-796-4624 / 808-954-4512		Client Purchase Order # 151253																	
Sampler(s) Name(s) (Printed)																			
Sampler 1: MDN+JD Sampler 2:																			
SGS Orlando Sample #	Field ID / Point of Collection	COLLECTION			CONTAINER INFORMATION														
		DATE	TIME	SAMPLED BY:	MATRIX	TOTAL # OF BOTTLES	OTHER	NOVE	HCl	NOCH	HNO3	H2SO4	NACH2OAC	DIWATER	MICH				
1	AF-RHMW17D-WGN01F-2310	10/4/23	1530	MD	GW	7		X										X	
2	AF-RHMW17D-WQFB01-2310	10/4/23	1455	MD	WW	3		X										X	
Turnaround Time ( Business days)		Data Deliverable Information						Comments / Remarks											
10 Day (Business) 7 Day <b>5 Day</b> 3 Day RUSH 2 Day RUSH 1 Day RUSH Other		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 *Extra bottles were used for on MS/MSB 10/5/23 AURAT 016-9741890											
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:		Received By/Affiliation									
1. Miranda DeArmas/AECOM		1800 10/4/23		2. Eli Martin/AECOM				1957		UC									
Relinquished by/Affiliation		Date Time:		Received By/Affiliation				Date Time:		Received By/Affiliation									
5. UC				6. M/C 10/7/23 900						8									

Lab Use Only: Cooler Temperature (s) Celsius (corrected): 4.4 / 10/11

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# FC10290

COC #: 2310AFSG12

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				PFAS EPA Draft 1633										DW - Drinking Water GW - Ground Water WW - Water SW - Surface Water SO - Soil SL - Sludge OL - Oil LIQ - Other Liquid AIR - Air SOL - Other Solid WP - Wipe
Address: 1001 Bishop St. ste 1600			Street				Matrix Codes										
City: Honolulu State: HI Zip: 96813			City Honolulu State Hawaii				LAB USE ONLY										
Project Contact: Katie Abbott Email: katie.abbott@aecom.com			Project # CTO CVI23F0104														
Project Manager: Watson Tanji Email: watson.tanji@aecom.com			Fax #														
Phone #: 303-796-4624 / 808-954-4512			Client Purchase Order # 151253														
Sampler(s) Name(s) (Printed)			Sampler 1: Jorge Vilalba Sampler 2: Miriana Degarmo														
SGS Orlando Sample #	Field ID / Point of Collection	COLLECTION				CONTAINER INFORMATION											
		DATE	TIME	SAMPLED BY:	MATRIX	TOTAL # OF BOTTLES	OTHER	NONE	HCl	NH4Cl	PHOS	PBSCA	NACH-PZAC	D1 WATER	MECH		
3	AF-RHMW17S-WGN01LF-2310	10/4/23	1055	MD	GW	3	X								X		
4	AF-RHMW17S-WQEB01-2310	10/4/23	1715	MD	WW	3	X								X		
Turnaround Time (Business days)		Data Deliverable Information				Comments / Remarks											
10 Day (Business) Approved By: / Date: 7 Day <input checked="" type="checkbox"/> 5 Day 3 Day RUSH 2 Day RUSH 1 Day RUSH Other		<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: AFF Assessment Sampling GW  <b>AWB# 016-97418090</b>											
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:	Received By/Affiliation				Date Time:	Received By/Affiliation					
1 Miriana Degarmo / AECOM	10/4/23 180	2 Eli Martin / AECOM				10/27/23 900	3 Eli Martin / AECOM				10/27/23	4					
Relinquished by/Affiliation	Date Time:	Received By/Affiliation				Date Time:	Received By/Affiliation				Date Time:	Received By/Affiliation					
5		6					7					8					

Lab Use Only: Cooler Temperature (s) Celsius (corrected): <http://www.sgs.com/en/terms-and-conditions>

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**Chain of Custody**

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**FC10290**

COC #: 2310AFSG03

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 style="writing-mode: vertical-rl; transform: rotate(180deg);">PFAS EPA Draft 1633</div> <div style="border: 1px solid black; padding: 5px;"> <p>2310AFSG03</p> </div> </div>												DW - Drinking Water GW - Ground Water WW - Water SW - Surface Water SO - Soil SL - Sludge OL - Oil LIQ - Other Liquid AIR - Air SOL - Other Solid WP - Wipe			
Address: 1001 Bishop St. sle 1600		Street																	
City: Honolulu State: HI Zip: 96813		City Honolulu State Hawaii																	
Project Contact: Katie Abbott Email: katie.abbott@aecom.com		Project # 23F0104 - 60897810																	
Project Manager: Watson Tanji Email: watson.tanji@aecom.com		Fax #																	
Phone #: 303-796-4624 / 808-954-4512		Client Purchase Order # 151253																	
Sampler(s) Name(s) (Printed) Sampler 1: <i>Alex Aspin</i> Sampler 2:																			
SGS Orlando Sample #	Field ID / Point of Collection	COLLECTION			CONTAINER INFORMATION												LAB USE ONLY		
		DATE	TIME	SAMPLED BY	MATRIX	TOTAL # OF BOTTLES	OTHER	NONE	ICL	NACH	PAND3	PERCH	WACH+2UAC	IN WATER	RECH				
5	AF-RHMW10-WGN01LF-2310	10/12/23	1015	AA	GW	3		X											
Turnaround Time ( Business days)				Data Deliverable Information				Comments / Remarks											
10 Day (Business) 7 Day <input checked="" type="checkbox"/> 5 Day 3 Day RUSH 2 Day RUSH 1 Day RUSH Other _____		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>AWBT# 016-97418090</i>											
Rush TIA Data Available VIA Email or Lablink																			
Sample Custody must be documented below each time samples change possession, including courier delivery.																			
Relinquished by Sampler/Affiliation 1 <i>Alex Aspin AECOM</i>	Date Time <i>10/15/23</i>	Received By/Affiliation 2 <i>Alex Edmond AECOM</i>	Relinquished By/Affiliation 3 <i>Alex Edmond AECOM</i>	Date Time <i>10/15/23</i>	Received By/Affiliation 4 <i>UC</i>										Received By/Affiliation 8				
Relinquished by/Affiliation 5 <i>UC</i>	Date Time	Received By/Affiliation <i>UC</i>	Relinquished By/Affiliation 7	Date Time <i>10/17/23</i>										Received By/Affiliation					
Lab Use Only : Cooler Temperature (s) Celsius (corrected):																			

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**FC10290: Chain of Custody**

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# FC10290

COC #: 2310AFSG07



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Chain of Custody

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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																DW - Drinking Water GW - Ground Water WW - Water SW - Surface Water SO - Soil SL - Sludge OI - Oil LIQ - Other Liquid AIR - Air SOL - 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 Manager: Watson Tanji Email: watson.tanji@aecom.com		Project # 23FO104 - 60697810															Fax #	
Phone #: 303-796-4624 / 808-954-4512		Client Purchase Order # 151253																		
Sampler(s) Name(s) (Printed) Sampler 1: <i>C. HAST</i> Sampler 2: <i>Heardle</i>						PFAS EPA Draft 1633												LAB USE ONLY		
SGS Orlando Sample #		COLLECTION		CONTAINER INFORMATION																
Field ID / Point of Collection		DATE	TIME	SAMPLED BY:	MATRIX	TOTAL # OF BOTTLES	OTHER	NONE	ICI	INCH	INCH3	INCH3	PEEK	INCH-ZNAC	DI WATER	MECH				
6	AF-RHMW225401-WGN01B-2310	10/5/23	1220	<i>CH</i>	GW	3		X									X			
Turnaround Time ( Business days)		Data Deliverable Information				Comments / Remarks														
10 Day (Business) Approved By: / Date: _____ 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		<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>AWB# 016-97418096</i>														
Relinquished by Sampler/Affiliation		Date Time		Received By/Affiliation				Relinquished By/Affiliation				Date Time		Received By/Affiliation						
<i>W.C. AECOM</i>		<i>11/5/23</i>		<i>Alex Edmonds AECOM</i>				<i>Alex Edmonds AECOM</i>				<i>10/5/23</i>		<i>W.C.</i>						
Relinquished by/Affiliation		Date Time		Received By/Affiliation				Relinquished By/Affiliation				Date Time		Received By/Affiliation						
<i>W.C.</i>		<i>10/7/23</i>		<i>W.C.</i>				<i>W.C.</i>				<i>10/7/23</i>		<i>W.C.</i>						
Lab Use Only : Cooler Temperature (s) Celsius (corrected):																	http://www.sgs.com/en/terms-and-conditions			

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FC10290: Chain of Custody

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Chain of Custody

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**FC10290**

COC #: 2310AFSG06

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; align-items: center;"> <div style="writing-mode: vertical-rl; transform: rotate(180deg); font-size: small;">PPAS EPA Draft 1633</div> <div style="flex-grow: 1;"> </div> </div>													DW - Drinking Water GW - Ground Water WW - Water SW - Surface Water SO - Soil SL - Sludge OI - Oil LIQ - Other Liquid AIR - Air SOL - 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		Fax #																		
Phone #: 303-796-4624 / 808-954-4512		Client Purchase Order # 151253															LAB USE ONLY			
Sampler(s) Name(s) (Printed) Sampler 1: <u>Ave Aspin</u> Sampler 2:																				
SGS Orlando Sample #	Field ID / Point of Collection	COLLECTION			CONTAINER INFORMATION													LAB USE ONLY		
		DATE	TIME	SAMPLED BY	MATRIX	TOTAL # OF BOTTLES	OTHER	NOTE	ICI	RUSH	PHOS	PERCH	MOCH-ZINC	SI WATER	RECH					
7	AF-RHMW16-WGN01LF-2310	10/15/23	1330	AA	GW	3		X												
Turnaround Time ( Business days)		Data Deliverable Information				Comments / Remarks														
<input type="checkbox"/> 10 Day (Business) <input type="checkbox"/> 7 Day <input checked="" type="checkbox"/> 5 Day <input type="checkbox"/> 3 Day RUSH <input type="checkbox"/> 2 Day RUSH <input type="checkbox"/> 1 Day RUSH <input type="checkbox"/> Other		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 AMB: 016-97418090														
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		Relinquished By/Affiliation		Date Time:		Received By/Affiliation		Relinquished By/Affiliation		Date Time:		Received By/Affiliation				
1 Ave Aspin / AECOM		10/15/23		Alex Edmond / AECOM		Alex Edmond / AECOM		10/15/23		Alex Edmond / AECOM		Alex Edmond / AECOM		10/15/23		Alex Edmond / AECOM				
5 _____		_____		6 _____		7 _____		_____		8 _____		_____		_____		_____				
Lab Use Only: Cooler Temperature (s) Celsius (corrected):				http://www.sgs.com/en/terms-and-conditions																

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FC10290: Chain of Custody

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SGS Sample Receipt Summary

Job Number: fc10290

Client: AECOM

Project: N6274223F0104 RH Fire Suppression Syst

Date / Time Received: 10/7/2023 9:00:00 AM

Delivery Method: United Cargo/Airspace

Airbill #'s: United Cargo AWB #: 016-97418090

Cooler Temps (Raw Measured) °C: Cooler 1: (4.4);

Cooler Temps (Corrected) °C: Cooler 1: (4.8);

Cooler Informatio

Y or N

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

Trip Blank Information

Y or N N/A

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

W or S N/A

- 3. Type of TB Received [ ] [ ] [checked]

Sample Information

Y or N N/A

- 1. Sample labels present on bottles: [checked] [ ]
2. Samples presented properly [checked] [ ]
3. Suffiient volume/containers recv'd for analysi [checked] [ ]
4. Condition of sample: Intact
5. Sample recv'd within HT [checked] [ ]
6. Dates/Times/IDs on COC match sample labe [checked] [ ]
7. VOCs have headspace [ ] [ ] [checked]
8. Bottles received for unspecified tests [ ] [checked] [ ]
9. Compositing instructions clear [ ] [ ] [checked]
10. Voa Soil Kits/Jars received past 48hrs? [ ] [ ] [checked]
11. % Solids Jar Received? [ ] [ ] [checked]
12. Residual Chlorine Present? [ ] [ ] [ ]

Misc Information

Number of Encores: 25 Gram 5 Gram Number of Lab Filtered Metals
Test Strip Lot #: pH 0-3: pH 10-12: Other: (Specify)

Comments

SM001

Rev. Date 05/04/17

Technician: SHAYLAP

Date: 10/7/2023 09:00:00 AM

Reviewer: SP

Date: 10/07/2023

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# QC Evaluation: DOD QSM5.x Limits

**Job Number:** FC10290  
**Account:** AECOM, INC.  
**Project:** N6274223F0104 RH Fire Suppression System  
**Collected:** 10/04/23 thru 10/05/23

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 FC10290

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## MS Semi-volatiles

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### QC Data Summaries

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#### Includes the following where applicable:

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

**Instrument Blank**

Job Number: FC10290  
 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

FC10290-1, FC10290-2, FC10290-3, FC10290-4, FC10290-5, FC10290-6, FC10290-7

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: FC10290  
 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

FC10290-1, FC10290-2, FC10290-3, FC10290-4, FC10290-5, FC10290-6, FC10290-7

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: FC10290  
 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

FC10290-1, FC10290-2, FC10290-3, FC10290-4, FC10290-5, FC10290-6, FC10290-7

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	

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Job Number: FC10290  
 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

FC10290-1, FC10290-2, FC10290-3, FC10290-4, FC10290-5, FC10290-6, FC10290-7

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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**Instrument Blank**

Job Number: FC10290  
 Account: AECOMCOD AECOM, INC.  
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S6Q373-IBLK	6Q26581.D	1	10/17/23	MV	n/a	n/a	S6Q373

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC10290-1

CAS No.	Compound	Result	RL	MDL	Units	Q
757124-72-44:2	Fluorotelomer sulfonate	ND	0.020	0.0032	ug/l	

CAS No.	ID Standard Recoveries	Limits
	13C4-PFBA	100% 20-150%
	13C5-PFPeA	106% 20-150%
	13C5-PFHxA	103% 20-150%
	13C4-PFHpA	102% 20-150%
	13C8-PFOA	98% 20-150%
	13C9-PFNA	96% 20-150%
	13C6-PFDA	106% 20-150%
	13C7-PFUnDA	108% 20-150%
	13C2-PFDoDA	104% 20-150%
	13C2-PFTeDA	102% 20-150%
	13C3-PFBS	98% 20-150%
	13C3-PFHxS	96% 20-150%
	13C8-PFOS	99% 20-150%
	13C8-FOSA	98% 20-150%
	d3-MeFOSAA	96% 20-150%
	d5-EtFOSAA	99% 20-150%
	13C2-4:2FTS	107% 20-180%
	13C2-6:2FTS	96% 20-180%
	13C2-8:2FTS	99% 20-180%

**Instrument Blank**

Job Number: FC10290  
 Account: AECOMCOD AECOM, INC.  
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S6Q373-IBLK	6Q26675.D	1	10/18/23	MV	n/a	n/a	S6Q373

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC10290-1

CAS No.	Compound	Result	RL	MDL	Units	Q
757124-72-44:2	Fluorotelomer sulfonate	ND	0.020	0.0032	ug/l	

CAS No.	ID Standard Recoveries	Limits
	13C4-PFBA	99% 20-150%
	13C5-PFPeA	101% 20-150%
	13C5-PFHxA	103% 20-150%
	13C4-PFHpA	99% 20-150%
	13C8-PFOA	97% 20-150%
	13C9-PFNA	94% 20-150%
	13C6-PFDA	92% 20-150%
	13C7-PFUnDA	98% 20-150%
	13C2-PFDoDA	93% 20-150%
	13C2-PFTeDA	92% 20-150%
	13C3-PFBS	98% 20-150%
	13C3-PFHxS	92% 20-150%
	13C8-PFOS	100% 20-150%
	13C8-FOSA	96% 20-150%
	d3-MeFOSAA	95% 20-150%
	d5-EtFOSAA	101% 20-150%
	13C2-4:2FTS	105% 20-180%
	13C2-6:2FTS	101% 20-180%
	13C2-8:2FTS	102% 20-180%



## Continuing Calibration Blank

Job Number: FC10290  
 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

FC10290-1, FC10290-2, FC10290-3, FC10290-4

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: FC10290  
 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

FC10290-1, FC10290-2, FC10290-3, FC10290-4

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: FC10290  
 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

FC10290-5, FC10290-6, FC10290-7

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: FC10290  
 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

FC10290-5, FC10290-6, FC10290-7

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%

**Continuing Calibration Blank**

Job Number: FC10290  
 Account: AECOMCOD AECOM, INC.  
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S6Q373-ICCB	6Q26608.D	1	10/18/23	MV	n/a	n/a	S6Q373

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC10290-1

CAS No.	Compound	Result	RL	MDL	Units	Q
757124-72-44:2	Fluorotelomer sulfonate	ND	0.020	0.0032	ug/l	

CAS No.	ID Standard Recoveries	Limits
	13C4-PFBA	100% 20-150%
	13C5-PFPeA	101% 20-150%
	13C5-PFHxA	105% 20-150%
	13C4-PFHpA	101% 20-150%
	13C8-PFOA	109% 20-150%
	13C9-PFNA	91% 20-150%
	13C6-PFDA	109% 20-150%
	13C7-PFUnDA	103% 20-150%
	13C2-PFDoDA	105% 20-150%
	13C2-PFTeDA	106% 20-150%
	13C3-PFBS	100% 20-150%
	13C3-PFHxS	101% 20-150%
	13C8-PFOS	97% 20-150%
	13C8-FOSA	97% 20-150%
	d3-MeFOSAA	98% 20-150%
	d5-EtFOSAA	100% 20-150%
	13C2-4:2FTS	109% 20-180%
	13C2-6:2FTS	116% 20-180%
	13C2-8:2FTS	107% 20-180%

**Method Blank Summary**

Job Number: FC10290  
 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

FC10290-1, FC10290-2, FC10290-3, FC10290-4, FC10290-5, FC10290-6, FC10290-7

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: FC10290  
 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

FC10290-1, FC10290-2, FC10290-3, FC10290-4, FC10290-5, FC10290-6, FC10290-7

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: FC10290  
 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: FC10290  
 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%

**Continuing Calibration Blank**

Job Number: FC10290  
 Account: AECOMCOD AECOM, INC.  
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S6Q373-ICCB	6Q26671.D	1	10/18/23	MV	n/a	n/a	S6Q373

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

S6Q373-IBLK

CAS No.	Compound	Result	RL	MDL	Units	Q
757124-72-44:2	Fluorotelomer sulfonate	ND	0.020	0.0032	ug/l	

CAS No.	ID Standard Recoveries	Limits
	13C4-PFBA	99% 20-150%
	13C5-PFPeA	104% 20-150%
	13C5-PFHxA	107% 20-150%
	13C4-PFHpA	105% 20-150%
	13C8-PFOA	107% 20-150%
	13C9-PFNA	96% 20-150%
	13C6-PFDA	98% 20-150%
	13C7-PFUnDA	104% 20-150%
	13C2-PFDoDA	101% 20-150%
	13C2-PFTeDA	106% 20-150%
	13C3-PFBS	102% 20-150%
	13C3-PFHxS	107% 20-150%
	13C8-PFOS	98% 20-150%
	13C8-FOSA	99% 20-150%
	d3-MeFOSAA	98% 20-150%
	d5-EtFOSAA	101% 20-150%
	13C2-4:2FTS	108% 20-180%
	13C2-6:2FTS	121% 20-180%
	13C2-8:2FTS	105% 20-180%

**Continuing Calibration Blank**

Job Number: FC10290  
 Account: AECOMCOD AECOM, INC.  
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S6Q373-ICCB	6Q26686.D	1	10/18/23	MV	n/a	n/a	S6Q373

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

S6Q373-IBLK

CAS No.	Compound	Result	RL	MDL	Units	Q
757124-72-44:2	Fluorotelomer sulfonate	ND	0.020	0.0032	ug/l	

CAS No.	ID Standard Recoveries	Limits
	13C4-PFBA	99% 20-150%
	13C5-PFPeA	101% 20-150%
	13C5-PFHxA	103% 20-150%
	13C4-PFHpA	99% 20-150%
	13C8-PFOA	104% 20-150%
	13C9-PFNA	101% 20-150%
	13C6-PFDA	105% 20-150%
	13C7-PFUnDA	104% 20-150%
	13C2-PFDoDA	102% 20-150%
	13C2-PFTeDA	99% 20-150%
	13C3-PFBS	102% 20-150%
	13C3-PFHxS	106% 20-150%
	13C8-PFOS	95% 20-150%
	13C8-FOSA	95% 20-150%
	d3-MeFOSAA	95% 20-150%
	d5-EtFOSAA	101% 20-150%
	13C2-4:2FTS	103% 20-180%
	13C2-6:2FTS	109% 20-180%
	13C2-8:2FTS	101% 20-180%

**Blank Spike Summary**

Job Number: FC10290  
 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

FC10290-1, FC10290-2, FC10290-3, FC10290-4, FC10290-5, FC10290-6, FC10290-7

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: FC10290  
 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

FC10290-1, FC10290-2, FC10290-3, FC10290-4, FC10290-5, FC10290-6, FC10290-7

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: FC10290  
 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

FC10290-1, FC10290-2, FC10290-3, FC10290-4, FC10290-5, FC10290-6, FC10290-7

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: FC10290  
 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

FC10290-1, FC10290-2, FC10290-3, FC10290-4, FC10290-5, FC10290-6, FC10290-7

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: FC10290  
 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

FC10290-1, FC10290-2, FC10290-3, FC10290-4, FC10290-5, FC10290-6, FC10290-7

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: FC10290  
 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

FC10290-1, FC10290-2, FC10290-3, FC10290-4, FC10290-5, FC10290-6, FC10290-7

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: FC10290  
 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

FC10290-1, FC10290-2, FC10290-3, FC10290-4, FC10290-5, FC10290-6, FC10290-7

CAS No.	Compound	FC10290-6 ug/l	DUP Q	ug/l	Q	RPD	Limits
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: FC10290  
 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

FC10290-1, FC10290-2, FC10290-3, FC10290-4, FC10290-5, FC10290-6, FC10290-7

CAS No.	Compound	FC10290-6 ug/l	DUP Q	ug/l	Q	RPD	Limits
113507-82-7	PFEESA	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: FC10290  
 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 <sup>b</sup>	61663	2.95	46783	5.58	72449	7.16	25680	7.68	25916	8.16
Check Std <sup>c</sup>	72275	2.95	54889	5.57	86064	7.15	29532	7.67	26960	8.15
Upper Limit <sup>d</sup>	123326	3.35	93566	5.97	144898	7.55	51360	8.07	51832	8.55
Lower Limit <sup>e</sup>	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 <sup>a</sup>
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
FC10290-1	49825	2.96	40088	5.57	59899	7.15	20917	7.67	21657	8.15	1
FC10290-2	54583	2.96	39350	5.57	61868	7.15	21245	7.67	20791	8.15	1
FC10290-3	47673	2.96	38500	5.57	57466	7.15	19910	7.68	19788	8.15	1
FC10290-4	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: FC10290  
 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 <sup>b</sup>	7679	7.26	11341	8.31
Check Std <sup>c</sup>	8507	7.25	12585	8.30
Upper Limit <sup>d</sup>	15358	7.65	22682	8.70
Lower Limit <sup>e</sup>	3072	6.85	4536	7.90

Lab Sample ID	IS 6 AREA	RT	IS 7 AREA	RT	DF <sup>a</sup>
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
FC10290-1	5897	7.25	8498	8.29	1
FC10290-2	6359	7.25	9643	8.30	1
FC10290-3	6108	7.25	8804	8.30	1
FC10290-4	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.

# Injection Standard Area Summary

Job Number: FC10290  
 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 <sup>b</sup>	61663	2.95	46783	5.58	72449	7.16	25680	7.68	25916	8.16
Check Std <sup>c</sup>	73164	2.94	55367	5.57	82511	7.15	28465	7.67	28746	8.15
Upper Limit <sup>d</sup>	123326	3.34	93566	5.97	144898	7.55	51360	8.07	51832	8.55
Lower Limit <sup>e</sup>	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 <sup>a</sup>
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
FC10290-7	53584	2.96	40627	5.57	57469	7.15	20728	7.67	20480	8.15	1
ZZZZZZ	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: FC10290  
 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 <sup>b</sup>	7679	7.26	11341	8.31
Check Std <sup>c</sup>	8607	7.25	12564	8.30
Upper Limit <sup>d</sup>	15358	7.65	22682	8.70
Lower Limit <sup>e</sup>	3072	6.85	4536	7.90

Lab Sample ID	IS 6 AREA	RT	IS 7 AREA	RT	DF <sup>a</sup>
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
FC10290-7	6050	7.25	8787	8.30	1
ZZZZZZ	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

# Injection Standard Area Summary

Job Number: FC10290  
 Account: AECOMCOD AECOM, INC.  
 Project: N6274223F0104 RH Fire Suppression System

Check Std:	S6Q373-CC373	Injection Date:	10/18/23
Lab File ID:	6Q26607.D	Injection Time:	02:18
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 <sup>b</sup>	55794	2.92	45304	5.55	69775	7.12	22167	7.65	25331	8.12
Check Std <sup>c</sup>	58324	2.92	46895	5.55	74111	7.12	22389	7.64	25883	8.12
Upper Limit <sup>d</sup>	111588	3.32	90608	5.95	139550	7.52	44334	8.04	50662	8.52
Lower Limit <sup>e</sup>	22318	2.52	18122	5.15	27910	6.72	8867	7.24	10132	7.72

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT	DF <sup>a</sup>
S6Q373-ICCB	58476	2.92	47048	5.55	72048	7.12	25114	7.64	25593	8.12	1
ZZZZZZ	60695	2.95	49331	5.57	77207	7.12	24467	7.65	28682	8.12	1
ZZZZZZ	60216	2.95	45846	5.57	72401	7.14	22530	7.65	27243	8.12	1
ZZZZZZ	63203	2.95	50055	5.57	77570	7.12	24424	7.65	28616	8.12	1
ZZZZZZ	61497	2.95	48246	5.57	76115	7.12	24211	7.65	27722	8.12	1
ZZZZZZ	57405	2.95	44987	5.57	69149	7.12	22444	7.65	24022	8.12	1
ZZZZZZ	61829	2.95	48352	5.55	74951	7.12	24718	7.65	25757	8.12	1
ZZZZZZ	58584	2.95	44004	5.55	74374	7.12	21717	7.65	29763	8.11	1
ZZZZZZ	62099	2.95	50278	5.57	74288	7.12	23882	7.64	28192	8.12	1
ZZZZZZ	62374	2.95	48288	5.57	66730	7.12	24383	7.64	25096	8.12	1
FC10290-1 <sup>f</sup>	63720	2.93	52410	5.55	78870	7.12	28200	7.65	30210	8.12	10

- 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: S6Q373-ICC373 6Q26576.D 10/17/23 18:54. 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.
- (f) Dilution required (ID recovery standard failure).

6.5.3  
6



# Injection Standard Area Summary

Job Number: FC10290  
 Account: AECOMCOD AECOM, INC.  
 Project: N6274223F0104 RH Fire Suppression System

Check Std:	S6Q373-CC373	Injection Date:	10/18/23
Lab File ID:	6Q26607.D	Injection Time:	02:18
Instrument ID:	GCMS6Q	Method:	EPA DRAFT 1633

	IS 6 AREA	RT	IS 7 AREA	RT
Initial Cal <sup>b</sup>	7110	7.23	10369	8.27
Check Std <sup>c</sup>	7633	7.23	10810	8.27
Upper Limit <sup>d</sup>	14220	7.63	20738	8.67
Lower Limit <sup>e</sup>	2844	6.83	4148	7.87

Lab Sample ID	IS 6 AREA	RT	IS 7 AREA	RT	DF <sup>a</sup>
S6Q373-ICCB	7255	7.23	10957	8.26	1
ZZZZZZ	7293	7.23	11448	8.27	1
ZZZZZZ	7228	7.23	11183	8.27	1
ZZZZZZ	7974	7.24	11596	8.27	1
ZZZZZZ	7754	7.24	11192	8.27	1
ZZZZZZ	7318	7.23	10954	8.27	1
ZZZZZZ	7695	7.23	10945	8.27	1
ZZZZZZ	7819	7.23	10878	8.26	1
ZZZZZZ	7988	7.23	11963	8.26	1
ZZZZZZ	7752	7.23	11274	8.27	1
FC10290-1 <sup>f</sup>	8290	7.23	28610 <sup>g</sup>	8.26	10

IS 6 = 1802-PFHXS  
 IS 7 = 13C4-PFOS

- (a) Sample areas corrected for dilution where applicable.
- (b) Initial Cal is: S6Q373-ICC373 6Q26576.D 10/17/23 18:54. 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.
- (f) Dilution required (ID recovery standard failure).
- (g) Outside control limits.

6.5.3  
6

**TDCA Retention Time Check**

Job Number: FC10290  
 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 FC10290)
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 FC10290)
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: FC10290  
 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 FC10290)
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 FC10290)
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 FC10290)
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 FC10290)
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: FC10290  
 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 FC10290)
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

6

## TDCA Retention Time Check

Job Number: FC10290  
 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)
FC10290-1	6Q26285.D	10/12/23	16:59	07:16	AF-RHMW17D-WGN01LF-2310
FC10290-2	6Q26286.D	10/12/23	17:13	07:30	AF-RHMW17D-WQFB01-2310
FC10290-3	6Q26287.D	10/12/23	17:28	07:45	AF-RHMW17S-WGN01LF-2310
FC10290-4	6Q26288.D	10/12/23	17:42	07:59	AF-RHMW17S-WQEB01-2310
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	AF-RHMW10-WGN01LF-2310
OP99445-MS	6Q26292.D	10/12/23	18:39	08:56	Matrix Spike
FC10290-6	6Q26293.D	10/12/23	18:54	09:11	AF-RHMW225401-WGN01B-2310
OP99445-DUP	6Q26294.D	10/12/23	19:08	09:25	Duplicate
FC10290-7	6Q26295.D	10/12/23	19:22	09:39	AF-RHMW16-WGN01LF-2310
ZZZZZZ	6Q26296.D	10/12/23	19:37	09:54	(unrelated sample)
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: FC10290  
 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 FC10290)
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	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	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 FC10290)
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 FC10290)
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: FC10290  
 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
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 FC10290)
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



**TDCA Retention Time Check**

Job Number: FC10290  
 Account: AECOMCOD AECOM, INC.  
 Project: N6274223F0104 RH Fire Suppression System

Sample:	S6Q373-RT	Injection Date:	10/17/23
Lab File ID:	6Q26570.D	Injection Time:	17:28
Instrument ID:	GCMS6Q		

Compound	RT (min)	RT Difference	Low Limit
PFOS	8.274	--	--
TDCA	6.871	1.403	1.000
TCDCA	6.723	1.551	1.000
TUDCA	5.883	2.391	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
S6Q373-IC373	6Q26572.D	10/17/23	17:57	00:29	Mass Calibration Verification
S6Q373-IC373	6Q26573.D	10/17/23	18:11	00:43	Initial cal 1
S6Q373-IC373	6Q26574.D	10/17/23	18:26	00:58	Initial cal 2
S6Q373-IC373	6Q26575.D	10/17/23	18:40	01:12	Initial cal 3
S6Q373-ICC373	6Q26576.D	10/17/23	18:54	01:26	Initial cal 4
S6Q373-IC373	6Q26577.D	10/17/23	19:09	01:41	Initial cal 5
S6Q373-IC373	6Q26578.D	10/17/23	19:23	01:55	Initial cal 6
S6Q373-IC373	6Q26579.D	10/17/23	19:37	02:09	Initial cal 7
S6Q373-IC373	6Q26580.D	10/17/23	19:52	02:24	Initial cal 8
S6Q373-IBLK	6Q26581.D	10/17/23	20:06	02:38	Instrument Blank
S6Q373-IBLK	6Q26581.D	10/17/23	20:06	02:38	Instrument Blank
S6Q373-ICV373	6Q26582.D	10/17/23	20:20	02:52	Initial cal verification 4
S6Q373-ICV373	6Q26583.D	10/17/23	20:35	03:07	Initial cal verification 20
S6Q373-CC373	6Q26584.D	10/17/23	20:49	03:21	Continuing cal 4
S6Q373-CC373	6Q26585.D	10/17/23	21:03	03:35	Continuing cal 1.0LL
OP99369-BS	6Q26586.D	10/17/23	21:18	03:50	Blank Spike
OP99369-LLBS	6Q26587.D	10/17/23	21:32	04:04	Blank Spike
OP99369-MB	6Q26588.D	10/17/23	21:46	04:18	Method Blank
ZZZZZZ	6Q26589.D	10/17/23	22:00	04:32	(unrelated sample)
ZZZZZZ	6Q26590.D	10/17/23	22:15	04:47	(unrelated sample)
ZZZZZZ	6Q26591.D	10/17/23	22:29	05:01	(unrelated sample)
ZZZZZZ	6Q26592.D	10/17/23	22:44	05:16	(unrelated sample)
ZZZZZZ	6Q26593.D	10/17/23	22:58	05:30	(unrelated sample)
ZZZZZZ	6Q26594.D	10/17/23	23:12	05:44	(unrelated sample)
S6Q373-CC373	6Q26595.D	10/17/23	23:26	05:58	Continuing cal 4
S6Q373-ICCB	6Q26596.D	10/17/23	23:41	06:13	Continuing Calibration Blank
OP99394-BS	6Q26597.D	10/17/23	23:55	06:27	Blank Spike
OP99394-LLBS	6Q26598.D	10/18/23	00:09	06:41	Blank Spike
OP99394-MB	6Q26599.D	10/18/23	00:24	06:56	Method Blank
ZZZZZZ	6Q26600.D	10/18/23	00:38	07:10	(unrelated sample)
ZZZZZZ	6Q26601.D	10/18/23	00:52	07:24	(unrelated sample)
ZZZZZZ	6Q26602.D	10/18/23	01:07	07:39	(unrelated sample)
ZZZZZZ	6Q26603.D	10/18/23	01:21	07:53	(unrelated sample)
ZZZZZZ	6Q26604.D	10/18/23	01:35	08:07	(unrelated sample)



# TDCA Retention Time Check

Job Number: FC10290  
 Account: AECOMCOD AECOM, INC.  
 Project: N6274223F0104 RH Fire Suppression System

Sample:	S6Q373-RT	Injection Date:	10/17/23
Lab File ID:	6Q26570.D	Injection Time:	17:28
Instrument ID:	GCMS6Q		

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
ZZZZZZ	6Q26605.D	10/18/23	01:50	08:22	(unrelated sample)
S6Q373-CC373	6Q26607.D	10/18/23	02:18	08:50	Continuing cal 4
S6Q373-ICCB	6Q26608.D	10/18/23	02:33	09:05	Continuing Calibration Blank
ZZZZZZ	6Q26609.D	10/18/23	02:47	09:19	(unrelated sample)
ZZZZZZ	6Q26610.D	10/18/23	03:01	09:33	(unrelated sample)
ZZZZZZ	6Q26611.D	10/18/23	03:16	09:48	(unrelated sample)
ZZZZZZ	6Q26612.D	10/18/23	03:30	10:02	(unrelated sample)
ZZZZZZ	6Q26613.D	10/18/23	03:44	10:16	(unrelated sample)
ZZZZZZ	6Q26614.D	10/18/23	03:59	10:31	(unrelated sample)
ZZZZZZ	6Q26615.D	10/18/23	04:13	10:45	(unrelated sample)
ZZZZZZ	6Q26616.D	10/18/23	04:27	10:59	(unrelated sample)
ZZZZZZ	6Q26617.D	10/18/23	04:42	11:14	(unrelated sample)
FC10290-1	6Q26618.D	10/18/23	04:56	11:28	AF-RHMW17D-WGN01LF-2310
S6Q373-CC373	6Q26619.D	10/18/23	05:10	11:42	Continuing cal 4
S6Q373-ICCB	6Q26620.D	10/18/23	05:25	11:57	Continuing Calibration Blank
S6Q373-ICCB	6Q26620.D	10/18/23	05:25	11:57	Continuing Calibration Blank
OP99398-BS	6Q26621.D	10/18/23	05:39	12:11	Blank Spike
OP99398-LLBS	6Q26622.D	10/18/23	05:53	12:25	Blank Spike
OP99398-MB	6Q26623.D	10/18/23	06:08	12:40	Method Blank
FC9914-1	6Q26624.D	10/18/23	06:22	12:54	(used for QC only; not part of job FC10290)
OP99398-MS	6Q26625.D	10/18/23	06:36	13:08	Matrix Spike
OP99398-MSD	6Q26626.D	10/18/23	06:51	13:23	Matrix Spike Duplicate
ZZZZZZ	6Q26627.D	10/18/23	07:05	13:37	(unrelated sample)
ZZZZZZ	6Q26628.D	10/18/23	07:19	13:51	(unrelated sample)
ZZZZZZ	6Q26629.D	10/18/23	07:34	14:06	(unrelated sample)
ZZZZZZ	6Q26630.D	10/18/23	07:48	14:20	(unrelated sample)
S6Q373-CC373	6Q26631.D	10/18/23	08:02	14:34	Continuing cal 4
S6Q373-ICCB	6Q26632.D	10/18/23	08:17	14:49	Continuing Calibration Blank
S6Q373-ICCB	6Q26632.D	10/18/23	08:17	14:49	Continuing Calibration Blank
ZZZZZZ	6Q26633.D	10/18/23	08:31	15:03	(unrelated sample)
ZZZZZZ	6Q26634.D	10/18/23	08:45	15:17	(unrelated sample)
ZZZZZZ	6Q26635.D	10/18/23	09:00	15:32	(unrelated sample)
ZZZZZZ	6Q26636.D	10/18/23	09:14	15:46	(unrelated sample)
ZZZZZZ	6Q26637.D	10/18/23	09:28	16:00	(unrelated sample)
ZZZZZZ	6Q26638.D	10/18/23	09:43	16:15	(unrelated sample)
ZZZZZZ	6Q26639.D	10/18/23	09:57	16:29	(unrelated sample)
ZZZZZZ	6Q26640.D	10/18/23	10:11	16:43	(unrelated sample)
ZZZZZZ	6Q26641.D	10/18/23	10:26	16:58	(unrelated sample)
ZZZZZZ	6Q26642.D	10/18/23	10:40	17:12	(unrelated sample)
S6Q373-CC373	6Q26643.D	10/18/23	10:54	17:26	Continuing cal 4
S6Q373-ICCB	6Q26644.D	10/18/23	11:09	17:41	Continuing Calibration Blank
S6Q373-ICCB	6Q26644.D	10/18/23	11:09	17:41	Continuing Calibration Blank
ZZZZZZ	6Q26645.D	10/18/23	11:23	17:55	(unrelated sample)
ZZZZZZ	6Q26646.D	10/18/23	11:37	18:09	(unrelated sample)

# TDCA Retention Time Check

Job Number: FC10290  
 Account: AECOMCOD AECOM, INC.  
 Project: N6274223F0104 RH Fire Suppression System

Sample:	S6Q373-RT	Injection Date:	10/17/23
Lab File ID:	6Q26570.D	Injection Time:	17:28
Instrument ID:	GCMS6Q		

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
ZZZZZZ	6Q26647.D	10/18/23	11:52	18:24	(unrelated sample)
ZZZZZZ	6Q26648.D	10/18/23	12:06	18:38	(unrelated sample)
ZZZZZZ	6Q26649.D	10/18/23	12:20	18:52	(unrelated sample)
S6Q373-CC373	6Q26650.D	10/18/23	12:35	19:07	Continuing cal 4
S6Q373-ICCB	6Q26651.D	10/18/23	12:49	19:21	Continuing Calibration Blank
S6Q373-ICCB	6Q26651.D	10/18/23	12:49	19:21	Continuing Calibration Blank
OP99425-BS	6Q26652.D	10/18/23	13:03	19:35	Blank Spike
OP99425-LLBS	6Q26653.D	10/18/23	13:18	19:50	Blank Spike
OP99425-MB	6Q26654.D	10/18/23	13:32	20:04	Method Blank
ZZZZZZ	6Q26655.D	10/18/23	13:46	20:18	(unrelated sample)
ZZZZZZ	6Q26656.D	10/18/23	14:01	20:33	(unrelated sample)
ZZZZZZ	6Q26657.D	10/18/23	14:15	20:47	(unrelated sample)
ZZZZZZ	6Q26658.D	10/18/23	14:29	21:01	(unrelated sample)
ZZZZZZ	6Q26659.D	10/18/23	14:44	21:16	(unrelated sample)
ZZZZZZ	6Q26660.D	10/18/23	14:58	21:30	(unrelated sample)
S6Q373-CC373	6Q26661.D	10/18/23	15:12	21:44	Continuing cal 4
S6Q373-ICCB	6Q26662.D	10/18/23	15:27	21:59	Continuing Calibration Blank
S6Q373-ICCB	6Q26662.D	10/18/23	15:27	21:59	Continuing Calibration Blank
FC9956-5	6Q26663.D	10/18/23	15:41	22:13	(used for QC only; not part of job FC10290)
OP99425-MS	6Q26664.D	10/18/23	15:55	22:27	Matrix Spike
OP99425-MSD	6Q26665.D	10/18/23	16:10	22:42	Matrix Spike Duplicate
ZZZZZZ	6Q26666.D	10/18/23	16:24	22:56	(unrelated sample)
ZZZZZZ	6Q26667.D	10/18/23	16:38	23:10	(unrelated sample)
ZZZZZZ	6Q26668.D	10/18/23	17:11	23:43	(unrelated sample)
ZZZZZZ	6Q26669.D	10/18/23	17:25	23:57	(unrelated sample)
S6Q373-CC373	6Q26670.D	10/18/23	17:39	24:11	Continuing cal 4
S6Q373-ICCB	6Q26671.D	10/18/23	17:54	24:26	Continuing Calibration Blank
S6Q373-ICCB	6Q26671.D	10/18/23	17:54	24:26	Continuing Calibration Blank

6.6.4  
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**TDCA Retention Time Check**

Job Number: FC10290  
 Account: AECOMCOD AECOM, INC.  
 Project: N6274223F0104 RH Fire Suppression System

Sample:	S6Q373-RT	Injection Date:	10/18/23
Lab File ID:	6Q26672.D	Injection Time:	18:08
Instrument ID:	GCMS6Q		

Compound	RT (min)	RT Difference	Low Limit
PFOS	8.274	--	--
TDCA	6.859	1.415	1.000
TCDCA	6.723	1.551	1.000
TUDCA	5.883	2.391	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
S6Q373-IBLK	6Q26675.D	10/18/23	18:51	00:43	Instrument Blank
S6Q373-IBLK	6Q26675.D	10/18/23	18:51	00:43	Instrument Blank
S6Q373-CC373	6Q26676.D	10/18/23	19:05	00:57	Continuing cal 1.0LL
ZZZZZZ	6Q26677.D	10/18/23	19:19	01:11	(unrelated sample)
ZZZZZZ	6Q26678.D	10/18/23	19:34	01:26	(unrelated sample)
ZZZZZZ	6Q26679.D	10/18/23	19:48	01:40	(unrelated sample)
ZZZZZZ	6Q26680.D	10/18/23	20:02	01:54	(unrelated sample)
ZZZZZZ	6Q26681.D	10/18/23	20:17	02:09	(unrelated sample)
ZZZZZZ	6Q26682.D	10/18/23	20:31	02:23	(unrelated sample)
ZZZZZZ	6Q26683.D	10/18/23	20:45	02:37	(unrelated sample)
ZZZZZZ	6Q26684.D	10/18/23	21:00	02:52	(unrelated sample)
S6Q373-ECC373	6Q26685.D	10/18/23	21:14	03:06	Ending cal 4
S6Q373-ICCB	6Q26686.D	10/18/23	21:28	03:20	Continuing Calibration Blank
S6Q373-ICCB	6Q26686.D	10/18/23	21:28	03:20	Continuing Calibration Blank

# Ion Ratio Summary

Job Number: FC10290  
Account: AECOMCOD AECOM, INC.  
Project: N6274223F0104 RH Fire Suppression System

Run ID: S6Q370	Method: EPA DRAFT 1633
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Lab Sample ID	Lab File ID	Ion Ratios			
		PFBA	PFHxA	PFOA	PFBS
S6Q367-ICC367	6Q25943.D	0	5.1	18.5	36.9
FC10290-1	6Q26285.D				
FC10290-2	6Q26286.D				
FC10290-3	6Q26287.D	0			
FC10290-4	6Q26288.D				
FC10290-5	6Q26291.D				
FC10290-6	6Q26293.D		3.7	14	39.1
FC10290-7	6Q26295.D				

6.7.1

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# Isotope Dilution Standard Recovery Summary

Job Number: FC10290  
 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
FC10290-1	6Q26285.D	111	111	110	110	113	118	117	105
FC10290-1	6Q26618.D	93	89	88	95	95	82	84	80
FC10290-2	6Q26286.D	110	114	112	113	102	104	106	91
FC10290-3	6Q26287.D	85	114	110	114	116	113	109	92
FC10290-4	6Q26288.D	108	107	107	108	110	117	116	106
FC10290-5	6Q26291.D	106	111	106	108	112	110	116	108
FC10290-6	6Q26293.D	99	108	107	105	112	105	109	103
FC10290-7	6Q26295.D	93	113	112	112	120	119	106	97
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	6Q26279.D	99	97	97	101	99	103	105	94
S6Q370-ICCB	6Q26290.D	98	97	94	95	100	96	105	96
S6Q373-IBLK	6Q26581.D	100	106	103	102	98	96	106	108
S6Q373-IBLK	6Q26675.D	99	101	103	99	97	94	92	98
S6Q373-ICCB	6Q26608.D	100	101	105	101	109	91	109	103
S6Q370-ICCB	6Q26346.D	98	97	94	96	106	102	107	102
S6Q373-ICCB	6Q26671.D	99	104	107	105	107	96	98	104
S6Q373-ICCB	6Q26686.D	99	101	103	99	104	101	105	104

Isotope Dilution Standards	Recovery Limits
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%

6.8.1  
6

# Isotope Dilution Standard Recovery Summary

Job Number: FC10290  
 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
FC10290-1	6Q26285.D	94	84	123	113	121	89	83	88
FC10290-1	6Q26618.D	80	80	95	85	46	29	31	24
FC10290-2	6Q26286.D	83	67	114	106	91	75	75	82
FC10290-3	6Q26287.D	70	58	114	119	105	86	71	71
FC10290-4	6Q26288.D	102	85	110	111	106	87	89	89
FC10290-5	6Q26291.D	108	102	115	113	115	84	86	87
FC10290-6	6Q26293.D	95	95	118	109	100	85	81	83
FC10290-7	6Q26295.D	89	79	120	125	106	88	88	90
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	6Q26279.D	97	95	106	103	97	99		
S6Q370-ICCB	6Q26290.D	101	105	102	98	99	96		
S6Q373-IBLK	6Q26581.D	104	102	98	96	99	98		
S6Q373-IBLK	6Q26675.D	93	92	98	92	100	96		
S6Q373-ICCB	6Q26608.D	105	106	100	101	97	97		
S6Q370-ICCB	6Q26346.D	104	105	102	102	100	100		
S6Q373-ICCB	6Q26671.D	101	106	102	107	98	99		
S6Q373-ICCB	6Q26686.D	102	99	102	106	95	95		

**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%

6.8.1  
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# Isotope Dilution Standard Recovery Summary

Job Number: FC10290  
 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
FC10290-1	6Q26285.D	141	149	89	93	286* a	128	132	101
FC10290-1	6Q26618.D	40	39	28	30	105	123	86	84
FC10290-2	6Q26286.D	98	91	79	79	133	114	104	109
FC10290-3	6Q26287.D	92	80	72	69	121	115	108	109
FC10290-4	6Q26288.D	106	103	91	90	135	128	111	108
FC10290-5	6Q26291.D	126	104	88	95	138	132	129	109
FC10290-6	6Q26293.D	105	109	83	82	156	124	117	106
FC10290-7	6Q26295.D	108	107	85	89	146	129	124	106
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	6Q26279.D	106	104			130	116	113	
S6Q370-ICCB	6Q26290.D	102	101			119	116	111	
S6Q373-IBLK	6Q26581.D	96	99			107	96	99	
S6Q373-IBLK	6Q26675.D	95	101			105	101	102	
S6Q373-ICCB	6Q26608.D	98	100			109	116	107	
S6Q370-ICCB	6Q26346.D	106	96			113	112	109	
S6Q373-ICCB	6Q26671.D	98	101			108	121	105	
S6Q373-ICCB	6Q26686.D	95	101			103	109	101	

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%

(a) Outside control limits.

# Initial Calibration Summary

Job Number: FC10290  
Account: AECOMCOD AECOM, INC.  
Project: N6274223F0104 RH Fire Suppression System

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

## Initial Calibration Report

Method Path	Method File	Batch Name	Last Calib Update	Calibration Files	Level Name	1	2	3	4	5	6	7	8	Avg RF	%RSD
D:\MassHunter\Methods	1633_100823_S6Q367.quantmethod.xml	D:\MassHunter\Data\100823_1633_S6Q367	10/9/2023 9:08:36 AM	D:\MassHunter\Data\100823_1633_S6Q367\QuantResults\S6Q367.batch.bin	1										
D:\MassHunter\Data\100823_1633_S6Q367	1633_S6Q367	1633_S6Q367	10/9/2023 9:08:36 AM	D:\MassHunter\Data\100823_1633_S6Q367	2										
D:\MassHunter\Data\100823_1633_S6Q367	1633_S6Q367	1633_S6Q367	10/9/2023 9:08:36 AM	D:\MassHunter\Data\100823_1633_S6Q367	3										
D:\MassHunter\Data\100823_1633_S6Q367	1633_S6Q367	1633_S6Q367	10/9/2023 9:08:36 AM	D:\MassHunter\Data\100823_1633_S6Q367	4										
D:\MassHunter\Data\100823_1633_S6Q367	1633_S6Q367	1633_S6Q367	10/9/2023 9:08:36 AM	D:\MassHunter\Data\100823_1633_S6Q367	5										
D:\MassHunter\Data\100823_1633_S6Q367	1633_S6Q367	1633_S6Q367	10/9/2023 9:08:36 AM	D:\MassHunter\Data\100823_1633_S6Q367	6										
D:\MassHunter\Data\100823_1633_S6Q367	1633_S6Q367	1633_S6Q367	10/9/2023 9:08:36 AM	D:\MassHunter\Data\100823_1633_S6Q367	7										
D:\MassHunter\Data\100823_1633_S6Q367	1633_S6Q367	1633_S6Q367	10/9/2023 9:08:36 AM	D:\MassHunter\Data\100823_1633_S6Q367	8										
<b>Compound</b>	<b>Curve Fit</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>Avg RF</b>	<b>%RSD</b>				
I M4-PFBA															
T PFBA	Avg RF	0.3866	0.3790	0.3551	0.3623	0.3591	0.3818	0.3793	0.3771	0.3725	3.176				
T 3:3FTCA	Avg RF	0.0536	0.0551	0.0503	0.0509	0.0501	0.0537	0.0556	0.0600	0.0537	6.200				
I M5-PFPeA															
T PFMPA	Avg RF	0.6884	0.7133	0.6482	0.6696	0.6373	0.7010	0.6880	0.6821	0.6785	3.782				
T PFPeA	Avg RF	1.1263	1.1449	1.0226	1.0608	1.0028	1.1148	1.0868	1.0700	1.0786	4.611				
T PFMBA	Avg RF	0.8371	0.8613	0.7937	0.8214	0.7663	0.8465	0.8308	0.8176	0.8219	3.671				
I M5-PFHxA															
T NFDHA	Avg RF	0.1082	0.1240	0.1102	0.1152	0.1057	0.1146	0.1122	0.1082	0.1123	5.152				
T PFHxA	Avg RF	0.9160	0.9204	0.8332	0.8690	0.8288	0.9330	0.9208	0.9280	0.8936	4.850				
T PFEEA	Avg RF	1.2465	1.1470	1.0927	1.1274	1.0534	1.1920	1.1672	1.1715	1.1497	5.197				
T 5:3FTCA	Avg RF	0.1751	0.1714	0.1588	0.1720	0.1508	0.1730	0.1724	0.1668	0.1675	5.052				
T 7:3FTCA	Avg RF	0.1103	0.1038	0.1003	0.1019	0.0936	0.1061	0.1012	0.1016	0.1023	4.693				
I M4-PFHpA															
T PFHpA	Avg RF	1.3210	1.4361	1.2988	1.2996	1.3080	1.4449	1.3546	1.3889	1.3565	4.440				
I M8-PFOA															
T PFOA	Avg RF	1.2031	1.1485	1.0425	0.9782	1.0122	1.0402	1.1077	1.0507	1.0729	6.959				
I M9-PFNA															
T PFNA	Avg RF	0.8311	0.8140	0.6976	0.7183	0.7644	0.8150	0.7638	0.7597	0.7705	6.163				
I M6-PFDA															
T PFDA	Avg RF	1.0914	0.9867	0.9276	0.9924	0.9379	0.9894	0.9424	0.9459	0.9767	5.432				
I M7-PFUDA															
T PFUDA	Avg RF	0.9000	0.8438	0.8214	0.9183	0.8387	0.8994	0.9076	0.9169	0.8807	4.462				
I M2-PFDODA															



# Initial Calibration Summary

Job Number: FC10290  
 Account: AECOMCOD 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 PFTIDA	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	1.0216	1.0132	0.9535	0.8903	0.9022	0.9557	0.9276	0.9945	0.9573	5.157
I M8-FOSA	Avg RF	0.7422	0.7898	0.7461	0.7135	0.7181	0.7617	0.7746	0.7480	0.7493	3.478
T FOSA	Avg RF	1.4422	1.3496	1.3490	1.3353	1.3127	1.4048	1.2801	1.3245	1.3498	3.823
I M3-PFBS	Avg RF	1.1903	1.1533	0.9913	0.9731	1.0039	1.0501	0.9611	1.0361	1.0449	8.066
T PFBS	Avg RF	1.0526	1.0735	1.0894	0.9180	0.9579	1.0572	1.0688	1.0394	1.0321	5.902
I M3-PFHxS	Avg RF	1.0577	1.0705	1.2369	0.9831	1.0142	1.0565	1.0390	1.0859	1.0680	7.081
T PFPeS	Avg RF	0.9764	0.9936	0.9884	0.8029	0.8420	0.8903	0.8749	0.9253	0.9117	7.808
T PFHxS	Avg RF	0.6660	0.6961	0.6642	0.6053	0.5886	0.6587	0.6035	0.6332	0.6395	5.907
I M8-PFOS	Avg RF	0.3267	0.3506	0.3412	0.3114	0.3177	0.3430	0.3252	0.3408	0.3321	4.154
T PFHpS	Avg RF	8.9245	8.4980	7.8526	8.3928	8.4266	8.6910	7.9604	7.5969	8.2928	5.424
T PFOS	Avg RF	4.7826	5.2431	4.3586	5.1275	4.1057	4.3768	4.4165	3.9518	4.5453	10.210
T PFNS	Avg RF	3.7748	3.4657	3.2963	3.7842	3.2603	3.7467	3.5928	2.9455	3.4833	8.620
I M2-8:2FTS	Avg RF	1.0153	0.9432	0.9047	0.8848	0.8702	0.9330	0.9316	0.9889	0.9340	5.289
T 8:2FTS	Avg RF	1.0284	1.0684	0.9800	0.9488	0.9150	0.9766	1.0335	0.9775	0.9910	5.012
I M3-MeFOSAA	Avg RF	14.81	14.13	13.50	13.08	12.46	14.20	13.96	13.74	13.74	5.276
T MeFOSAA	Avg RF	5.7183	5.6995	5.0011	5.0675	4.8841	5.5151	5.2672	4.9633	5.2645	6.428
I M3-HFO-DA	Avg RF	3.1245	3.0883	2.9091	2.8061	2.8358	3.1482	2.9479	2.8740	2.9667	4.555
T HFO-DA	Avg RF	0.8329	0.8637	0.7425	0.8466	0.7201	0.8037	0.8940	0.7963	0.8125	7.297
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	1.0292	1.0696	1.0035	0.9650	0.9938	0.9978	0.9963	0.9926	1.0060	3.089
I M9-ERFOSE	Avg RF										
T ERFOSE	Avg RF										

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

Page 2 of 3

# Initial Calibration Summary

Job Number: FC10290  
 Account: AECOMCOD 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 EFOSA											
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	1.0380	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-MeFOSA	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: FC10290  
 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: FC10290  
 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
PFTrDA	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: FC10290  
 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: FC10290  
 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: FC10290  
 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: FC10290  
 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: FC10290  
 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: FC10290  
 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: FC10290  
 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: FC10290  
 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
PFTTrDA	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: FC10290  
 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: FC10290  
 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--		
PFEEESA	4.450	3.526	-20.8	79.2

CC Criteria: +/- 30%

**Continuing Calibration Summary**

Job Number: FC10290  
 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: FC10290  
 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: FC10290  
 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: FC10290  
 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: FC10290  
 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: FC10290  
 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: FC10290  
 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: FC10290  
 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%

# Initial Calibration Summary

Job Number: FC10290  
 Account: AECOMCOD AECOM, INC.  
 Project: N6274223F0104 RH Fire Suppression System

Sample: S6Q373-ICC373  
 Lab FileID: 6Q26576.D

## Initial Calibration Report

Method Path	Method File	Batch Name	Last Calib Update	Calibration Files	Curve Fit	1	2	3	4	5	6	7	8	Avg RF	%RSD	Level Last Update Time
D:\MassHunter\Methods	1633_101723_S6Q373.quantmethod.xml	D:\MassHunter\Data\101723_1633_S6Q373	10/18/2023 11:38:04 AM	D:\MassHunter\Data\101723_1633_S6Q373\6Q26573.d												10/18/2023 11:38:04 AM
D:\MassHunter\Data\101723_1633_S6Q373				D:\MassHunter\Data\101723_1633_S6Q373\6Q26574.d												10/18/2023 11:38:04 AM
D:\MassHunter\Data\101723_1633_S6Q373				D:\MassHunter\Data\101723_1633_S6Q373\6Q26575.d												10/18/2023 11:38:04 AM
D:\MassHunter\Data\101723_1633_S6Q373				D:\MassHunter\Data\101723_1633_S6Q373\6Q26576.d												10/18/2023 11:38:04 AM
D:\MassHunter\Data\101723_1633_S6Q373				D:\MassHunter\Data\101723_1633_S6Q373\6Q26577.d												10/18/2023 11:38:04 AM
D:\MassHunter\Data\101723_1633_S6Q373				D:\MassHunter\Data\101723_1633_S6Q373\6Q26578.d												10/18/2023 11:38:04 AM
D:\MassHunter\Data\101723_1633_S6Q373				D:\MassHunter\Data\101723_1633_S6Q373\6Q26579.d												10/18/2023 11:38:04 AM
D:\MassHunter\Data\101723_1633_S6Q373				D:\MassHunter\Data\101723_1633_S6Q373\6Q26580.d												10/18/2023 11:38:04 AM
<b>Compound</b>	<b>Curve Fit</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>Avg RF</b>	<b>%RSD</b>	<b>Level Last Update Time</b>				
I M4-PFBA																
T PFBA	Avg RF	0.3397	0.4015	0.3833	0.3756	0.3825	0.3886	0.4059	0.3962	0.3842	5.377	10/18/2023 11:38:04 AM				
T 3:3FTCA	Avg RF	0.0467	0.0573	0.0549	0.0539	0.0557	0.0565	0.0601	0.0648	0.0562	9.249	10/18/2023 11:38:04 AM				
I M5-PFPeA																
T PFMPA	Avg RF	0.6577	0.7523	0.7515	0.7140	0.7332	0.7604	0.7659	0.7518	0.7359	4.835	10/18/2023 11:38:04 AM				
T PFPeA	Avg RF	1.0633	1.2319	1.1897	1.1468	1.1575	1.2188	1.2374	1.1932	1.1798	4.856	10/18/2023 11:38:04 AM				
T PFMBa	Avg RF	0.7635	0.9170	0.9242	0.8660	0.8965	0.9373	0.9459	0.9230	0.8967	6.614	10/18/2023 11:38:04 AM				
I M5-PFHxA																
T NFDHA	Avg RF	0.1071	0.1238	0.1196	0.1122	0.1208	0.1125	0.1172	0.1097	0.1154	5.089	10/18/2023 11:38:04 AM				
T PFHxA	Avg RF	0.8166	0.9760	0.9369	0.9045	0.9424	0.9314	0.9794	0.9786	0.9332	5.805	10/18/2023 11:38:04 AM				
T PFEEA	Avg RF	1.0563	1.1325	1.1921	1.1462	1.1824	1.1883	1.2723	1.2012	1.1714	5.332	10/18/2023 11:38:04 AM				
T 5:3FTCA	Avg RF	0.1688	0.1944	0.1946	0.1787	0.1888	0.1830	0.1918	0.1922	0.1865	4.878	10/18/2023 11:38:04 AM				
T 7:3FTCA	Avg RF	0.1014	0.1152	0.1132	0.1090	0.1083	0.1202	0.1180	0.1096	0.1119	5.422	10/18/2023 11:38:04 AM				
I M4-PFHpA																
T PFHpA	Avg RF	1.1904	1.3503	1.4131	1.3689	1.4179	1.4130	1.4829	1.4143	1.3813	6.260	10/18/2023 11:38:04 AM				
I M8-PFOA																
T PFOA	Avg RF	1.0914	1.1013	1.0485	1.1029	1.0713	1.1276	1.0789	1.0674	1.0862	2.282	10/18/2023 11:38:04 AM				
I M9-PFNA																
T PFNA	Avg RF	0.7063	0.7008	0.8358	0.7494	0.7174	0.7717	0.8375	0.7789	0.7622	7.104	10/18/2023 11:38:04 AM				
I M6-PFDA																
T PFDA	Avg RF	0.9040	1.1171	0.9833	0.9934	1.0325	0.9968	1.1046	1.0365	1.0210	6.728	10/18/2023 11:38:04 AM				
I M7-PFUnDA																
T PFUnDA	Avg RF	0.8838	1.0058	0.9612	1.0131	0.9524	0.9432	1.0349	1.0493	0.9805	5.627	10/18/2023 11:38:04 AM				
I M2-PFDaDA																

Generated at 11:38 AM on 10/18/2023

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9:12

# Initial Calibration Summary

Job Number: FC10290  
 Account: AECOM AECOM, INC.  
 Project: N6274223F0104 RH Fire Suppression System

Sample: S6Q373-ICC373  
 Lab FileID: 6Q26576.D

## Initial Calibration Report

Compound	Curve Fit	1	2	3	4	5	6	7	8	Avg RF	%RSD
T PFDoDA	Avg RF	0.8895	1.0465	0.9917	0.9748	0.9388	1.0278	1.0598	0.9178	0.9808	6.331
T PFTfDA	Avg RF	0.7221	0.8526	0.7993	0.8152	0.7739	0.8671	0.8490	0.6970	0.7970	7.818
I M2-PFTeDA	Avg RF	1.4123	1.7736	1.7421	1.6502	1.7587	1.7313	1.6591	1.6570	1.6730	6.947
T PFTeDA											
I M8-FOSA	Avg RF	0.9523	1.0792	1.0597	1.0008	0.9895	1.0282	1.0692	1.0690	1.0310	4.473
T FOSA											
I M3-PFBS	Avg RF	0.7016	0.8515	0.8558	0.8010	0.8272	0.7680	0.9167	0.8002	0.8153	7.891
T PFBS											
I M3-PFHxS	Avg RF	1.2076	1.4342	1.4290	1.3370	1.3165	1.3426	1.3351	1.3730	1.3469	5.296
T PFPeS	Avg RF	0.9639	1.1034	1.1246	1.0158	1.0153	1.0508	1.0986	1.1443	1.0646	5.915
T PFHxS											
I M8-PFOS	Avg RF	0.8761	1.1586	0.9589	1.0566	1.0017	1.0549	1.1388	1.1608	1.0508	9.710
T PFHpS	Avg RF	1.0838	1.1666	1.0767	1.1309	1.0203	1.1224	1.1338	1.2206	1.1194	5.416
T PFOS	Avg RF	0.8815	1.0044	0.8809	0.9779	0.9742	0.9062	1.0068	0.9656	0.9497	5.511
T PFNS	Avg RF	0.6437	0.7780	0.6744	0.6459	0.6989	0.6846	0.6569	0.7202	0.6878	6.537
T PFDS	Avg RF	0.3642	0.4168	0.3658	0.3932	0.3847	0.3826	0.3952	0.3939	0.3870	4.406
T PFDoDS											
I M2-4:2FTS	Avg RF	8.2965	9.4172	9.1884	8.0979	9.1072	9.1217	8.3184	8.7460	8.7867	5.624
T 4:2FTS											
I M2-6:2FTS	Avg RF	5.5298	7.2829	5.2642	5.6918	5.2904	5.2516	5.6004	5.1329	5.6305	12.353
T 6:2FTS											
I M2-8:2FTS	Avg RF	3.7360	3.9915	3.9619	3.8405	4.0601	3.3670	4.0126	3.1280	3.7622	9.037
T 8:2FTS											
I M3-MeFOSAA	Avg RF	0.8653	1.0875	1.0839	0.9105	0.9955	1.0330	1.0070	0.9945	0.9971	7.766
T MeFOSAA											
I M3-HFO-DA	Avg RF	0.8937	1.1106	1.0581	1.0065	1.0489	1.0623	1.0897	1.0502	1.0400	6.398
T HFO-DA	Avg RF	12.99	15.71	15.06	15.32	15.17	15.47	15.77	14.97	14.97	6.200
T ADONA	Avg RF	5.3919	6.1190	5.7316	5.9557	6.1820	5.8281	6.0487	5.6670	5.8630	4.494
T 9Cl-PF3ONS	Avg RF	3.1091	3.5096	3.5812	3.2289	3.4747	3.6153	3.7394	3.3265	3.4481	6.130
T 11Cl-PF3OUds											
I M5-EFOSAA	Avg RF	0.7344	0.8277	0.8813	0.7900	0.8442	0.8123	0.8372	0.9175	0.8306	6.688
T EFOSAA											
I M7-MeFOSE	Avg RF	0.9625	1.0923	1.0588	1.0341	1.0387	1.0391	1.1285	1.1344	1.0611	5.323
T MeFOSE											
I M9-EFOSE	Avg RF	0.9017	1.0351	1.0444	1.0566	1.0568	1.0407	1.0965	1.0453	1.0347	5.505
T EFOSE											

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 Generated at 11:38 AM on 10/18/2023



# Initial Calibration Summary

Job Number: FC10290  
 Account: AECOM AECOM, INC.  
 Project: N6274223F0104 RH Fire Suppression System

Sample: S6Q373-ICC373  
 Lab FileID: 6Q26576.D

## Initial Calibration Report

Compound	Curve Fit	1	2	3	4	5	6	7	8	Avg RF	%RSD
I M5-EFOSA	Avg RF	1.1263	1.3078	1.1572	1.1803	1.1683	1.2241	1.2497	1.1960	1.2012	4.807
T EFOSA						ISTD					
I M3-MeFOSA	Avg RF	1.1606	1.3077	1.2487	1.1864	1.2315	1.2889	1.2652	1.1430	1.2290	4.899
T MeFOSA						ISTD					
I 13C4-PFOS						ISTD					
S d3-MeFOSAA	Avg RF	1.1611	1.1640	1.2031	1.1599	1.1380	1.1129	1.2414	1.0966	1.1596	4.023
S 13C8-PFOS	Avg RF	1.0576	1.0556	1.2731	1.0597	1.0699	1.1119	1.1632	1.0524	1.1054	7.045
S d5-EFOSAA	Avg RF	0.9661	0.9265	1.0296	0.9799	0.9419	0.9713	1.0398	0.8688	0.9655	5.713
S 13C8-FOSA	Avg RF	2.2064	2.2568	2.3811	2.2944	2.3291	2.2595	2.4295	2.2400	2.2996	3.292
S d7-MeFOSE	Avg RF	0.7790	0.7965	0.8783	0.7847	0.7848	0.8154	0.8476	0.7800	0.8083	4.534
S d3-MeFOSA	Avg RF	0.6470	0.6487	0.7338	0.6832	0.6710	0.6636	0.7450	0.7666	0.6949	6.724
S d9-EFOSE	Avg RF	0.9836	1.0166	1.0830	0.9605	0.9591	0.9984	1.0337	0.9576	0.9991	4.411
S d5-EFOSA	Avg RF	0.7692	0.7809	0.9030	0.7738	0.7807	0.7710	0.8618	0.7949	0.8044	6.217
I 13C3-PFBA						ISTD					
S 13C4-PFBA	Avg RF	1.2302	1.2315	1.2394	1.2109	1.2401	1.2529	1.2265	1.2242	1.2320	1.015
I 1802-PFHxS						ISTD					
S 13C2-4:2FTS	Avg RF	0.1592	0.1700	0.1623	0.1676	0.1625	0.1459	0.1522	0.1297	0.1562	8.477
S 13C3-PBBS	Avg RF	2.8745	2.9018	2.8144	2.7893	2.8586	2.7166	2.5523	2.6298	2.7672	4.496
S 13C2-6:2FTS	Avg RF	0.2472	0.2150	0.2483	0.2178	0.2358	0.2110	0.2011	0.1877	0.2205	9.837
S 13C3-PFHxS	Avg RF	1.6192	1.6577	1.6318	1.5948	1.7688	1.5902	1.6640	1.5644	1.6364	3.873
S 13C2-8:2FTS	Avg RF	0.2677	0.2736	0.2490	0.2528	0.2645	0.2742	0.2280	0.2561	0.2582	5.948
I 13C4-PFOA						ISTD					
S 13C8-PFOA	Avg RF	0.8867	0.8939	0.9571	0.8984	0.8833	0.8426	0.9249	0.8680	0.8944	3.881
I 13C2-PFDA						ISTD					
S 13C6-PFDA	Avg RF	1.0146	1.1294	1.0837	0.9820	1.0593	1.1417	1.1781	0.9330	1.0652	7.940
S 13C7-PFUnDA	Avg RF	1.1555	1.2768	1.1523	1.1156	1.1424	1.2548	1.1821	0.9538	1.1542	8.523
S 13C2-PFDODA	Avg RF	1.3225	1.3903	1.2920	1.2780	1.3661	1.4127	1.3789	1.3624	1.3503	3.552
S 13C2-PFTeDA	Avg RF	0.5028	0.5292	0.4916	0.4879	0.4800	0.5266	0.5587	0.4754	0.5065	5.724
I 13C5-PFNA						ISTD					
S 13C9-PFNA	Avg RF	1.0993	1.0528	1.0908	1.1325	1.0722	1.0086	1.0900	1.0505	1.0746	3.497
I 13C2-PFHxA						ISTD					
S 13C5-PPeA	Avg RF	0.5058	0.5187	0.5000	0.5241	0.4954	0.4848	0.5239	0.4758	0.5035	3.576
S 13C5-PFHxA	Avg RF	0.9914	1.0371	1.0038	1.0482	0.9584	0.9784	1.0506	0.9479	1.0020	3.998
S 13C3-HPOD-A	Avg RF	0.1633	0.1712	0.1637	0.1694	0.1564	0.1580	0.1684	0.1646	0.1644	3.199
S 13C4-PFHxA	Avg RF	1.0435	1.0619	1.0100	1.0264	0.9836	1.0076	1.0277	0.9497	1.0138	3.460

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

**Initial Calibration Verification**

Job Number: FC10290  
 Account: AECOMCOD AECOM, INC.  
 Project: N6274223F0104 RH Fire Suppression System

Sample: S6Q373-ICV373  
 Lab FileID: 6Q26582.D

## Continuing Calibration Report

Batch: D:\MassHunter\Data\101723\_1633\_S6Q373\S6Q373.batch.bin

## Level ID: Calibration File

1:D:\MassHunter\Data\101723\_1633\_S6Q373\6Q26573.d  
 2:D:\MassHunter\Data\101723\_1633\_S6Q373\6Q26574.d  
 3:D:\MassHunter\Data\101723\_1633\_S6Q373\6Q26575.d  
 4:D:\MassHunter\Data\101723\_1633\_S6Q373\6Q26576.d  
 5:D:\MassHunter\Data\101723\_1633\_S6Q373\6Q26577.d  
 6:D:\MassHunter\Data\101723\_1633\_S6Q373\6Q26578.d  
 7:D:\MassHunter\Data\101723\_1633\_S6Q373\6Q26579.d  
 8:D:\MassHunter\Data\101723\_1633\_S6Q373\6Q26580.d

Data File: 6Q26582  
 Type : QC  
 Level : 4

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
13C2-4:2FTS	5.000	4.996	-0.1	99.9
13C2-6:2FTS	5.000	5.155	3.1	103.1
13C2-8:2FTS	5.000	4.980	-0.4	99.6
13C2-PFDoDA	1.250	1.183	-5.4	94.6
13C2-PFTeDA	1.250	1.269	1.6	101.6
13C3-PFBS	2.500	2.473	-1.1	98.9
13C3-PFHxS	2.500	2.432	-2.7	97.3
13C4-PFBA	10.000	10.173	1.7	101.7
13C4-PFHpA	2.500	2.634	5.3	105.3
13C5-PFHxA	2.500	2.536	1.4	101.4
13C5-PFPeA	5.000	5.118	2.4	102.4
13C6-PFDA	1.250	1.195	-4.4	95.6
13C7-PFUnDA	1.250	1.247	-0.2	99.8
13C8-FOSA	2.500	2.376	-5.0	95.0
13C8-PFOA	2.500	2.602	4.1	104.1
13C8-PFOS	2.500	2.303	-7.9	92.1
13C9-PFNA	1.250	1.209	-3.3	96.7
4:2FTS	9.375	9.693	3.4	103.4
6:2FTS	9.500	9.348	-1.6	98.4
8:2FTS	9.600	9.661	0.6	100.6
d3-MeFOSAA	5.000	4.548	-9.0	91.0
EtFOSAA	2.500	2.567	2.7	102.7
FOSA	2.500	2.463	-1.5	98.5
MeFOSAA	2.500	2.580	3.2	103.2
PFBA	10.000	9.804	-2.0	98.0
PFBS	2.218	2.270	2.4	102.4
PFDA	2.500	2.459	-1.6	98.4
PFDoDA	2.500	2.377	-4.9	95.1
PFDS	2.413	2.644	9.6	109.6
PFHpA	2.500	2.463	-1.5	98.5
PFHpS	2.383	2.526	6.0	106.0
PFHxA	2.500	2.410	-3.6	96.4
PFHxS	2.285	2.301	0.7	100.7
PFNA	2.500	2.653	6.1	106.1
PFNS	2.405	2.502	4.0	104.0
PFOA	2.500	2.339	-6.4	93.6
PFOS	2.320	2.250	-3.0	97.0

# Initial Calibration Verification

Job Number: FC10290  
 Account: AECOMCOD AECOM, INC.  
 Project: N6274223F0104 RH Fire Suppression System

Sample: S6Q373-ICV373  
 Lab FileID: 6Q26582.D

PFPeA	5.000	4.897	-2.1	97.9
PFPeS	2.353	2.362	0.4	100.4
PFTeDA	2.500	2.329	-6.8	93.2
PFTTrDA	2.500	2.549	2.0	102.0
PFUnDA	2.500	2.401	-4.0	96.0
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	4.725	4.717	-0.2	99.8
13C3-HFPO-DA	10.000	10.279	2.8	102.8
9C1-PF3ONS	4.675	4.592	-1.8	98.2
ADONA	4.725	4.483	-5.1	94.9
HFPO-DA	5.000	4.992	-0.2	99.8
M3-HFPO-DA	---	--ISTD--		
3:3FTCA	12.480	11.857	-5.0	95.0
5:3FTCA	62.400	60.329	-3.3	96.7
7:3FTCA	62.400	62.940	0.9	100.9
d3-MeFOSA	2.500	2.392	-4.3	95.7
M5-EtFOSAA	---	--ISTD--		
M7-MeFOSE	---	--ISTD--		
M9-EtFOSE	---	--ISTD--		
M5-EtFOSA	---	--ISTD--		
EtFOSA	5.000	5.087	1.7	101.7
EtFOSE	12.500	12.303	-1.6	98.4
MeFOSA	5.000	4.977	-0.5	99.5
MeFOSE	12.500	12.507	0.1	100.1
PFDoDS	2.425	2.281	-5.9	94.1
M3-MeFOSA	---	--ISTD--		
d5-EtFOSAA	5.000	4.710	-5.8	94.2
d7-MeFOSE	25.000	23.977	-4.1	95.9
d9-EtFOSE	25.000	23.877	-4.5	95.5
d5-EtFOSA	2.500	2.377	-4.9	95.1
NFDHA	5.000	4.937	-1.3	98.7
PFMBA	5.000	5.045	0.9	100.9
PFMPA	5.000	4.856	-2.9	97.1
13C4-PFOS	---	--ISTD--		
13C3-PFBA	---	--ISTD--		
18O2-PFHxS	---	--ISTD--		
13C4-PFOA	---	--ISTD--		
13C2-PFDA	---	--ISTD--		
13C5-PFNA	---	--ISTD--		
13C2-PFHxA	---	--ISTD--		
PFEESA	4.450	4.378	-1.6	98.4

CC Criteria: +/- 30%

**Initial Calibration Verification**

Job Number: FC10290  
 Account: AECOMCOD AECOM, INC.  
 Project: N6274223F0104 RH Fire Suppression System

Sample: S6Q373-ICV373  
 Lab FileID: 6Q26583.D

## Continuing Calibration Report

Batch: D:\MassHunter\Data\101723\_1633\_S6Q373\S6Q373.batch.bin

## Level ID: Calibration File

1:D:\MassHunter\Data\101723\_1633\_S6Q373\6Q26573.d  
 2:D:\MassHunter\Data\101723\_1633\_S6Q373\6Q26574.d  
 3:D:\MassHunter\Data\101723\_1633\_S6Q373\6Q26575.d  
 4:D:\MassHunter\Data\101723\_1633\_S6Q373\6Q26576.d  
 5:D:\MassHunter\Data\101723\_1633\_S6Q373\6Q26577.d  
 6:D:\MassHunter\Data\101723\_1633\_S6Q373\6Q26578.d  
 7:D:\MassHunter\Data\101723\_1633\_S6Q373\6Q26579.d  
 8:D:\MassHunter\Data\101723\_1633\_S6Q373\6Q26580.d

Data File: 6Q26583  
 Type : QC  
 Level : 20

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
13C2-4:2FTS	5.000	4.967	-0.7	99.3
13C2-6:2FTS	5.000	5.394	7.9	107.9
13C2-8:2FTS	5.000	4.833	-3.3	96.7
13C2-PFDoDA	1.250	1.251	0.0	100.0
13C2-PFTeDA	1.250	1.299	3.9	103.9
13C3-PFBS	2.500	2.315	-7.4	92.6
13C3-PFHxS	2.500	2.577	3.1	103.1
13C4-PFBA	10.000	10.002	0.0	100.0
13C4-PFHpA	2.500	2.523	0.9	100.9
13C5-PFHxA	2.500	2.524	1.0	101.0
13C5-PFPeA	5.000	5.110	2.2	102.2
13C6-PFDA	1.250	1.260	0.8	100.8
13C7-PFUnDA	1.250	1.267	1.3	101.3
13C8-FOSA	2.500	2.313	-7.5	92.5
13C8-PFOA	2.500	2.709	8.4	108.4
13C8-PFOS	2.500	2.202	-11.9	88.1
13C9-PFNA	1.250	1.266	1.3	101.3
4:2FTS	20.000	20.283	1.4	101.4
6:2FTS	20.000	18.101	-9.5	90.5
8:2FTS	20.000	20.418	2.1	102.1
d3-MeFOSAA	5.000	4.555	-8.9	91.1
EtFOSAA	20.000	20.219	1.1	101.1
FOSA	20.000	18.994	-5.0	95.0
MeFOSAA	20.000	20.619	3.1	103.1
PFBA	20.000	18.752	-6.2	93.8
PFBS	20.000	20.200	1.0	101.0
PFDA	20.000	19.708	-1.5	98.5
PFDoDA	20.000	16.993	-15.0	85.0
PFDS	20.000	21.296	6.5	106.5
PFHpA	20.000	20.047	0.2	100.2
PFHpS	20.000	20.301	1.5	101.5
PFHxA	20.000	20.798	4.0	104.0
PFHxS	20.000	19.526	-2.4	97.6
PFNA	20.000	21.091	5.5	105.5
PFNS	20.000	19.190	-4.0	96.0
PFOA	20.000	18.692	-6.5	93.5
PFOS	20.000	19.751	-1.2	98.8

# Initial Calibration Verification

Job Number: FC10290  
 Account: AECOMCOD AECOM, INC.  
 Project: N6274223F0104 RH Fire Suppression System

Sample: S6Q373-ICV373  
 Lab FileID: 6Q26583.D

PFPeA	20.000	19.700	-1.5	98.5
PFPeS	20.000	18.882	-5.6	94.4
PFTeDA	20.000	20.654	3.3	103.3
PFTTrDA	20.000	18.168	-9.2	90.8
PFUnDA	20.000	17.240	-13.8	86.2
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	20.000	19.567	-2.2	97.8
13C3-HFPO-DA	10.000	10.188	1.9	101.9
9C1-PF3ONS	20.000	19.133	-4.3	95.7
ADONA	20.000	18.920	-5.4	94.6
HFPO-DA	20.000	19.503	-2.5	97.5
M3-HFPO-DA	---	--ISTD--		
3:3FTCA	20.000	18.794	-6.0	94.0
5:3FTCA	20.000	21.348	6.7	106.7
7:3FTCA	20.000	19.394	-3.0	97.0
d3-MeFOSA	2.500	2.244	-10.3	89.7
M5-EtFOSAA	---	--ISTD--		
M7-MeFOSE	---	--ISTD--		
M9-EtFOSE	---	--ISTD--		
M5-EtFOSA	---	--ISTD--		
EtFOSA	20.000	18.432	-7.8	92.2
EtFOSE	100.000	99.598	-0.4	99.6
MeFOSA	20.000	18.488	-7.6	92.4
MeFOSE	100.000	97.963	-2.0	98.0
PFDoDS	20.000	19.664	-1.7	98.3
M3-MeFOSA	---	--ISTD--		
d5-EtFOSAA	5.000	4.714	-5.7	94.3
d7-MeFOSE	25.000	23.570	-5.7	94.3
d9-EtFOSE	25.000	22.896	-8.4	91.6
d5-EtFOSA	2.500	2.234	-10.6	89.4
NFDHA	20.000	19.647	-1.8	98.2
PFMBA	20.000	19.484	-2.6	97.4
PFMPA	20.000	19.097	-4.5	95.5
13C4-PFOS	---	--ISTD--		
13C3-PFBA	---	--ISTD--		
18O2-PFHxS	---	--ISTD--		
13C4-PFOA	---	--ISTD--		
13C2-PFDA	---	--ISTD--		
13C5-PFNA	---	--ISTD--		
13C2-PFHxA	---	--ISTD--		
PFEESA	20.000	17.938	-10.3	89.7

CC Criteria: +/- 30%

6.9.14  
6

**Continuing Calibration Summary**

Job Number: FC10290  
 Account: AECOMCOD AECOM, INC.  
 Project: N6274223F0104 RH Fire Suppression System

Sample: S6Q373-CC373  
 Lab FileID: 6Q26584.D

## Continuing Calibration Report

Batch: D:\MassHunter\Data\101723\_1633\_S6Q373\S6Q373.batch.bin

## Level ID: Calibration File

1:D:\MassHunter\Data\101723\_1633\_S6Q373\6Q26573.d  
 2:D:\MassHunter\Data\101723\_1633\_S6Q373\6Q26574.d  
 3:D:\MassHunter\Data\101723\_1633\_S6Q373\6Q26575.d  
 4:D:\MassHunter\Data\101723\_1633\_S6Q373\6Q26576.d  
 5:D:\MassHunter\Data\101723\_1633\_S6Q373\6Q26577.d  
 6:D:\MassHunter\Data\101723\_1633\_S6Q373\6Q26578.d  
 7:D:\MassHunter\Data\101723\_1633\_S6Q373\6Q26579.d  
 8:D:\MassHunter\Data\101723\_1633\_S6Q373\6Q26580.d

Data File: 6Q26584  
 Type : QC  
 Level : 4

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
13C2-4:2FTS	5.000	5.594	11.9	111.9
13C2-6:2FTS	5.000	5.333	6.7	106.7
13C2-8:2FTS	5.000	4.726	-5.5	94.5
13C2-PFDoDA	1.250	1.240	-0.8	99.2
13C2-PFTeDA	1.250	1.240	-0.8	99.2
13C3-PFBS	2.500	2.644	5.8	105.8
13C3-PFHxS	2.500	2.635	5.4	105.4
13C4-PFBA	10.000	10.012	0.1	100.1
13C4-PFHpA	2.500	2.717	8.7	108.7
13C5-PFHxA	2.500	2.611	4.5	104.5
13C5-PFPeA	5.000	5.308	6.2	106.2
13C6-PFDA	1.250	1.275	2.0	102.0
13C7-PFUnDA	1.250	1.221	-2.3	97.7
13C8-FOSA	2.500	2.566	2.6	102.6
13C8-PFOA	2.500	2.490	-0.4	99.6
13C8-PFOS	2.500	2.648	5.9	105.9
13C9-PFNA	1.250	1.119	-10.5	89.5
4:2FTS	9.375	8.903	-5.0	95.0
6:2FTS	9.500	8.901	-6.3	93.7
8:2FTS	9.600	10.256	6.8	106.8
d3-MeFOSAA	5.000	5.139	2.8	102.8
EtFOSAA	2.500	2.624	5.0	105.0
FOSA	2.500	2.381	-4.8	95.2
MeFOSAA	2.500	2.397	-4.1	95.9
PFBA	10.000	9.811	-1.9	98.1
PFBS	2.218	2.075	-6.4	93.6
PFDA	2.500	2.310	-7.6	92.4
PFDoDA	2.500	2.408	-3.7	96.3
PFDS	2.413	2.269	-6.0	94.0
PFHpA	2.500	2.293	-8.3	91.7
PFHpS	2.383	2.341	-1.8	98.2
PFHxA	2.500	2.496	-0.2	99.8
PFHxS	2.285	2.174	-4.9	95.1
PFNA	2.500	2.770	10.8	110.8
PFNS	2.405	2.244	-6.7	93.3
PFOA	2.500	2.488	-0.5	99.5
PFOS	2.320	2.175	-6.3	93.7

# Continuing Calibration Summary

Job Number: FC10290  
 Account: AECOMCOD AECOM, INC.  
 Project: N6274223F0104 RH Fire Suppression System

Sample: S6Q373-CC373  
 Lab FileID: 6Q26584.D

PFPeA	5.000	4.845	-3.1	96.9
PFPeS	2.353	2.240	-4.8	95.2
PFTeDA	2.500	2.453	-1.9	98.1
PFTTrDA	2.500	2.418	-3.3	96.7
PFUnDA	2.500	2.355	-5.8	94.2
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	4.533	-4.1	95.9
13C3-HFPO-DA	10.000	10.607	6.1	106.1
9C1-PF3ONS	4.675	4.761	1.8	101.8
ADONA	4.725	4.718	-0.1	99.9
HFPO-DA	5.000	4.790	-4.2	95.8
M3-HFPO-DA	---	--ISTD--		
3:3FTCA	12.480	12.063	-3.3	96.7
5:3FTCA	62.400	62.311	-0.1	99.9
7:3FTCA	62.400	61.824	-0.9	99.1
d3-MeFOSA	2.500	2.496	-0.1	99.9
M5-EtFOSAA	---	--ISTD--		
M7-MeFOSE	---	--ISTD--		
M9-EtFOSE	---	--ISTD--		
M5-EtFOSA	---	--ISTD--		
EtFOSA	5.000	4.785	-4.3	95.7
EtFOSE	12.500	12.885	3.1	103.1
MeFOSA	5.000	5.134	2.7	102.7
MeFOSE	12.500	12.500	0.0	100.0
PFDODS	2.425	2.219	-8.5	91.5
M3-MeFOSA	---	--ISTD--		
d5-EtFOSAA	5.000	5.122	2.4	102.4
d7-MeFOSE	25.000	25.840	3.4	103.4
d9-EtFOSE	25.000	25.701	2.8	102.8
d5-EtFOSA	2.500	2.649	5.9	105.9
NFDHA	5.000	4.868	-2.6	97.4
PFMBA	5.000	4.929	-1.4	98.6
PFMPA	5.000	4.861	-2.8	97.2
13C4-PFOS	---	--ISTD--		
13C3-PFBA	---	--ISTD--		
18O2-PFHxS	---	--ISTD--		
13C4-PFOA	---	--ISTD--		
13C2-PFDA	---	--ISTD--		
13C5-PFNA	---	--ISTD--		
13C2-PFHxA	---	--ISTD--		
PFEESA	4.450	4.250	-4.5	95.5

CC Criteria: +/- 30%

**Continuing Calibration Summary**

Job Number: FC10290  
 Account: AECOMCOD AECOM, INC.  
 Project: N6274223F0104 RH Fire Suppression System

Sample: S6Q373-CC373  
 Lab FileID: 6Q26585.D

## Continuing Calibration Report

Batch: D:\MassHunter\Data\101723\_1633\_S6Q373\S6Q373.batch.bin

## Level ID: Calibration File

1:D:\MassHunter\Data\101723\_1633\_S6Q373\6Q26573.d  
 2:D:\MassHunter\Data\101723\_1633\_S6Q373\6Q26574.d  
 3:D:\MassHunter\Data\101723\_1633\_S6Q373\6Q26575.d  
 4:D:\MassHunter\Data\101723\_1633\_S6Q373\6Q26576.d  
 5:D:\MassHunter\Data\101723\_1633\_S6Q373\6Q26577.d  
 6:D:\MassHunter\Data\101723\_1633\_S6Q373\6Q26578.d  
 7:D:\MassHunter\Data\101723\_1633\_S6Q373\6Q26579.d  
 8:D:\MassHunter\Data\101723\_1633\_S6Q373\6Q26580.d

Data File: 6Q26585  
 Type : QC  
 Level : 1

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
13C2-4:2FTS	5.000	5.375	7.5	107.5
13C2-6:2FTS	5.000	5.751	15.0	115.0
13C2-8:2FTS	5.000	5.187	3.7	103.7
13C2-PFDoDA	1.250	1.264	1.1	101.1
13C2-PFTeDA	1.250	1.269	1.5	101.5
13C3-PFBS	2.500	2.630	5.2	105.2
13C3-PFHxS	2.500	2.568	2.7	102.7
13C4-PFBA	10.000	9.992	-0.1	99.9
13C4-PFHpA	2.500	2.500	0.0	100.0
13C5-PFHxA	2.500	2.644	5.8	105.8
13C5-PFPeA	5.000	5.148	3.0	103.0
13C6-PFDA	1.250	1.206	-3.5	96.5
13C7-PFUnDA	1.250	1.371	9.7	109.7
13C8-FOSA	2.500	2.418	-3.3	96.7
13C8-PFOA	2.500	2.455	-1.8	98.2
13C8-PFOS	2.500	2.426	-3.0	97.0
13C9-PFNA	1.250	1.265	1.2	101.2
4:2FTS	0.750	0.662	-11.8	88.2
6:2FTS	0.760	0.769	1.2	101.2
8:2FTS	0.768	0.760	-1.1	98.9
d3-MeFOSAA	5.000	4.570	-8.6	91.4
EtFOSAA	0.200	0.157	-21.4	78.6
FOSA	0.200	0.188	-6.1	93.9
MeFOSAA	0.200	0.229	14.7	114.7
PFBA	0.800	0.731	-8.7	91.3
PFBS	0.177	0.161	-9.2	90.8
PFDA	0.200	0.188	-5.8	94.2
PFDoDA	0.200	0.176	-11.9	88.1
PFDS	0.193	0.192	-0.4	99.6
PFHpA	0.200	0.174	-13.2	86.8
PFHpS	0.191	0.179	-6.2	93.8
PFHxA	0.200	0.167	-16.6	83.4
PFHxS	0.183	0.173	-5.3	94.7
PFNA	0.200	0.166	-17.2	82.8
PFNS	0.192	0.152	-21.1	78.9
PFOA	0.200	0.160	-19.8	80.2
PFOS	0.186	0.180	-3.4	96.6



# Continuing Calibration Summary

Job Number: FC10290  
 Account: AECOMCOD AECOM, INC.  
 Project: N6274223F0104 RH Fire Suppression System

Sample: S6Q373-CC373  
 Lab FileID: 6Q26585.D

PFPeA	0.400	0.370	-7.6	92.4
PFPeS	0.188	0.171	-9.1	90.9
PFTeDA	0.200	0.168	-15.8	84.2
PFTTrDA	0.200	0.185	-7.6	92.4
PFUnDA	0.200	0.146	-26.8	73.2
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	0.378	0.348	-8.0	92.0
13C3-HFPO-DA	10.000	10.525	5.2	105.2
9C1-PF3ONS	0.374	0.311	-16.8	83.2
ADONA	0.378	0.339	-10.4	89.6
HFPO-DA	0.400	0.335	-16.4	83.6
M3-HFPO-DA	---	--ISTD--		
3:3FTCA	0.998	0.872	-12.7	87.3
5:3FTCA	4.992	4.485	-10.2	89.8
7:3FTCA	4.992	4.235	-15.2	84.8
d3-MeFOSA	2.500	2.298	-8.1	91.9
M5-EtFOSAA	---	--ISTD--		
M7-MeFOSE	---	--ISTD--		
M9-EtFOSE	---	--ISTD--		
M5-EtFOSA	---	--ISTD--		
EtFOSA	0.400	0.370	-7.4	92.6
EtFOSE	1.000	0.914	-8.6	91.4
MeFOSA	0.400	0.390	-2.5	97.5
MeFOSE	1.000	0.937	-6.3	93.7
PFDoDS	0.194	0.183	-5.8	94.2
M3-MeFOSA	---	--ISTD--		
d5-EtFOSAA	5.000	5.170	3.4	103.4
d7-MeFOSE	25.000	23.797	-4.8	95.2
d9-EtFOSE	25.000	24.652	-1.4	98.6
d5-EtFOSA	2.500	2.378	-4.9	95.1
NFDHA	0.400	0.284	-28.9	71.1
PFMBA	0.400	0.358	-10.5	89.5
PFMPA	0.400	0.350	-12.5	87.5
13C4-PFOS	---	--ISTD--		
13C3-PFBA	---	--ISTD--		
18O2-PFHxS	---	--ISTD--		
13C4-PFOA	---	--ISTD--		
13C2-PFDA	---	--ISTD--		
13C5-PFNA	---	--ISTD--		
13C2-PFHxA	---	--ISTD--		
PFEEESA	0.356	0.299	-16.0	84.0

CC Criteria: +/- 30%

6.9.16  
6

## Continuing Calibration Summary

Job Number: FC10290  
 Account: AECOMCOD AECOM, INC.  
 Project: N6274223F0104 RH Fire Suppression System

Sample: S6Q373-CC373  
 Lab FileID: 6Q26595.D

## Continuing Calibration Report

Batch: D:\MassHunter\Data\101723\_1633\_S6Q373\S6Q373.batch.bin

## Level ID: Calibration File

1:D:\MassHunter\Data\101723\_1633\_S6Q373\6Q26573.d  
 2:D:\MassHunter\Data\101723\_1633\_S6Q373\6Q26574.d  
 3:D:\MassHunter\Data\101723\_1633\_S6Q373\6Q26575.d  
 4:D:\MassHunter\Data\101723\_1633\_S6Q373\6Q26576.d  
 5:D:\MassHunter\Data\101723\_1633\_S6Q373\6Q26577.d  
 6:D:\MassHunter\Data\101723\_1633\_S6Q373\6Q26578.d  
 7:D:\MassHunter\Data\101723\_1633\_S6Q373\6Q26579.d  
 8:D:\MassHunter\Data\101723\_1633\_S6Q373\6Q26580.d

Data File: 6Q26595  
 Type : QC  
 Level : 4

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
13C2-4:2FTS	5.000	4.828	-3.4	96.6
13C2-6:2FTS	5.000	5.398	8.0	108.0
13C2-8:2FTS	5.000	4.710	-5.8	94.2
13C2-PFDoDA	1.250	1.185	-5.2	94.8
13C2-PFTeDA	1.250	1.282	2.6	102.6
13C3-PFBS	2.500	2.393	-4.3	95.7
13C3-PFHxS	2.500	2.459	-1.6	98.4
13C4-PFBA	10.000	9.916	-0.8	99.2
13C4-PFHpA	2.500	2.557	2.3	102.3
13C5-PFHxA	2.500	2.596	3.9	103.9
13C5-PFPeA	5.000	5.117	2.3	102.3
13C6-PFDA	1.250	1.241	-0.7	99.3
13C7-PFUnDA	1.250	1.227	-1.8	98.2
13C8-FOSA	2.500	2.339	-6.4	93.6
13C8-PFOA	2.500	2.556	2.2	102.2
13C8-PFOS	2.500	2.330	-6.8	93.2
13C9-PFNA	1.250	1.300	4.0	104.0
4:2FTS	9.375	9.679	3.2	103.2
6:2FTS	9.500	8.928	-6.0	94.0
8:2FTS	9.600	10.094	5.1	105.1
d3-MeFOSAA	5.000	4.533	-9.3	90.7
EtFOSAA	2.500	2.447	-2.1	97.9
FOSA	2.500	2.394	-4.2	95.8
MeFOSAA	2.500	2.569	2.8	102.8
PFBA	10.000	9.785	-2.1	97.9
PFBS	2.218	2.233	0.7	100.7
PFDA	2.500	2.384	-4.6	95.4
PFDoDA	2.500	2.519	0.7	100.7
PFDS	2.413	2.498	3.5	103.5
PFHpA	2.500	2.443	-2.3	97.7
PFHpS	2.383	2.476	3.9	103.9
PFHxA	2.500	2.351	-6.0	94.0
PFHxS	2.285	2.245	-1.8	98.2
PFNA	2.500	2.515	0.6	100.6
PFNS	2.405	2.321	-3.5	96.5
PFOA	2.500	2.426	-3.0	97.0
PFOS	2.320	2.332	0.5	100.5

# Continuing Calibration Summary

Job Number: FC10290  
 Account: AECOMCOD AECOM, INC.  
 Project: N6274223F0104 RH Fire Suppression System

Sample: S6Q373-CC373  
 Lab FileID: 6Q26595.D

PFPeA	5.000	4.901	-2.0	98.0
PFPeS	2.353	2.178	-7.4	92.6
PFTeDA	2.500	2.409	-3.6	96.4
PFTTrDA	2.500	2.554	2.2	102.2
PFUnDA	2.500	2.585	3.4	103.4
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	4.575	-3.2	96.8
13C3-HFPO-DA	10.000	10.052	0.5	100.5
9C1-PF3ONS	4.675	4.623	-1.1	98.9
ADONA	4.725	4.795	1.5	101.5
HFPO-DA	5.000	4.679	-6.4	93.6
M3-HFPO-DA	---	--ISTD--		
3:3FTCA	12.480	12.200	-2.2	97.8
5:3FTCA	62.400	60.089	-3.7	96.3
7:3FTCA	62.400	62.613	0.3	100.3
d3-MeFOSA	2.500	2.369	-5.3	94.7
M5-EtFOSAA	---	--ISTD--		
M7-MeFOSE	---	--ISTD--		
M9-EtFOSE	---	--ISTD--		
M5-EtFOSA	---	--ISTD--		
EtFOSA	5.000	4.826	-3.5	96.5
EtFOSE	12.500	12.394	-0.8	99.2
MeFOSA	5.000	4.928	-1.4	98.6
MeFOSE	12.500	12.207	-2.3	97.7
PFDODS	2.425	2.378	-2.0	98.0
M3-MeFOSA	---	--ISTD--		
d5-EtFOSAA	5.000	4.943	-1.1	98.9
d7-MeFOSE	25.000	23.689	-5.2	94.8
d9-EtFOSE	25.000	22.923	-8.3	91.7
d5-EtFOSA	2.500	2.320	-7.2	92.8
NFDHA	5.000	4.972	-0.6	99.4
PFMBA	5.000	4.912	-1.8	98.2
PFMPA	5.000	4.832	-3.4	96.6
13C4-PFOS	---	--ISTD--		
13C3-PFBA	---	--ISTD--		
18O2-PFHxS	---	--ISTD--		
13C4-PFOA	---	--ISTD--		
13C2-PFDA	---	--ISTD--		
13C5-PFNA	---	--ISTD--		
13C2-PFHxA	---	--ISTD--		
PFEESA	4.450	4.532	1.9	101.9

CC Criteria: +/- 30%

**Continuing Calibration Summary**

Job Number: FC10290  
 Account: AECOMCOD AECOM, INC.  
 Project: N6274223F0104 RH Fire Suppression System

Sample: S6Q373-CC373  
 Lab FileID: 6Q26607.D

## Continuing Calibration Report

Batch: D:\MassHunter\Data\101723\_1633\_S6Q373\S6Q373.batch.bin

## Level ID: Calibration File

1:D:\MassHunter\Data\101723\_1633\_S6Q373\6Q26573.d  
 2:D:\MassHunter\Data\101723\_1633\_S6Q373\6Q26574.d  
 3:D:\MassHunter\Data\101723\_1633\_S6Q373\6Q26575.d  
 4:D:\MassHunter\Data\101723\_1633\_S6Q373\6Q26576.d  
 5:D:\MassHunter\Data\101723\_1633\_S6Q373\6Q26577.d  
 6:D:\MassHunter\Data\101723\_1633\_S6Q373\6Q26578.d  
 7:D:\MassHunter\Data\101723\_1633\_S6Q373\6Q26579.d  
 8:D:\MassHunter\Data\101723\_1633\_S6Q373\6Q26580.d

Data File: 6Q26607  
 Type : QC  
 Level : 4

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
13C2-4:2FTS	5.000	5.125	2.5	102.5
13C2-6:2FTS	5.000	5.285	5.7	105.7
13C2-8:2FTS	5.000	4.693	-6.1	93.9
13C2-PFDoDA	1.250	1.318	5.4	105.4
13C2-PFTeDA	1.250	1.389	11.1	111.1
13C3-PFBS	2.500	2.430	-2.8	97.2
13C3-PFHxS	2.500	2.396	-4.2	95.8
13C4-PFBA	10.000	10.058	0.6	100.6
13C4-PFHpA	2.500	2.485	-0.6	99.4
13C5-PFHxA	2.500	2.537	1.5	101.5
13C5-PFPeA	5.000	5.029	0.6	100.6
13C6-PFDA	1.250	1.367	9.4	109.4
13C7-PFUnDA	1.250	1.269	1.5	101.5
13C8-FOSA	2.500	2.593	3.7	103.7
13C8-PFOA	2.500	2.516	0.6	100.6
13C8-PFOS	2.500	2.616	4.6	104.6
13C9-PFNA	1.250	1.303	4.2	104.2
4:2FTS	9.375	9.448	0.8	100.8
6:2FTS	9.500	8.545	-10.1	89.9
8:2FTS	9.600	10.114	5.4	105.4
d3-MeFOSAA	5.000	5.288	5.8	105.8
EtFOSAA	2.500	2.384	-4.6	95.4
FOSA	2.500	2.384	-4.6	95.4
MeFOSAA	2.500	2.458	-1.7	98.3
PFBA	10.000	9.809	-1.9	98.1
PFBS	2.218	2.159	-2.7	97.3
PFDA	2.500	2.255	-9.8	90.2
PFDoDA	2.500	2.310	-7.6	92.4
PFDS	2.413	2.253	-6.6	93.4
PFHpA	2.500	2.460	-1.6	98.4
PFHpS	2.383	2.285	-4.1	95.9
PFHxA	2.500	2.350	-6.0	94.0
PFHxS	2.285	2.352	2.9	102.9
PFNA	2.500	2.550	2.0	102.0
PFNS	2.405	2.267	-5.8	94.2
PFOA	2.500	2.290	-8.4	91.6
PFOS	2.320	2.111	-9.0	91.0

# Continuing Calibration Summary

Job Number: FC10290  
 Account: AECOMCOD AECOM, INC.  
 Project: N6274223F0104 RH Fire Suppression System

Sample: S6Q373-CC373  
 Lab FileID: 6Q26607.D

PFPeA	5.000	4.916	-1.7	98.3
PFPeS	2.353	2.267	-3.7	96.3
PFTeDA	2.500	2.333	-6.7	93.3
PFTTrDA	2.500	2.550	2.0	102.0
PFUnDA	2.500	2.537	1.5	101.5
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	4.691	-0.7	99.3
13C3-HFPO-DA	10.000	9.616	-3.8	96.2
9C1-PF3ONS	4.675	4.655	-0.4	99.6
ADONA	4.725	5.018	6.2	106.2
HFPO-DA	5.000	5.120	2.4	102.4
M3-HFPO-DA	---	--ISTD--		
3:3FTCA	12.480	11.699	-6.3	93.7
5:3FTCA	62.400	61.952	-0.7	99.3
7:3FTCA	62.400	60.503	-3.0	97.0
d3-MeFOSA	2.500	2.325	-7.0	93.0
M5-EtFOSAA	---	--ISTD--		
M7-MeFOSE	---	--ISTD--		
M9-EtFOSE	---	--ISTD--		
M5-EtFOSA	---	--ISTD--		
EtFOSA	5.000	4.575	-8.5	91.5
EtFOSE	12.500	13.141	5.1	105.1
MeFOSA	5.000	5.052	1.0	101.0
MeFOSE	12.500	12.055	-3.6	96.4
PFDoDS	2.425	2.195	-9.5	90.5
M3-MeFOSA	---	--ISTD--		
d5-EtFOSAA	5.000	5.269	5.4	105.4
d7-MeFOSE	25.000	24.714	-1.1	98.9
d9-EtFOSE	25.000	24.281	-2.9	97.1
d5-EtFOSA	2.500	2.645	5.8	105.8
NFDHA	5.000	4.966	-0.7	99.3
PFMBA	5.000	4.956	-0.9	99.1
PFMPA	5.000	4.811	-3.8	96.2
13C4-PFOS	---	--ISTD--		
13C3-PFBA	---	--ISTD--		
18O2-PFHxS	---	--ISTD--		
13C4-PFOA	---	--ISTD--		
13C2-PFDA	---	--ISTD--		
13C5-PFNA	---	--ISTD--		
13C2-PFHxA	---	--ISTD--		
PFEESA	4.450	4.288	-3.6	96.4

CC Criteria: +/- 30%

6.9.18

6

**Continuing Calibration Summary**

Job Number: FC10290  
 Account: AECOMCOD AECOM, INC.  
 Project: N6274223F0104 RH Fire Suppression System

Sample: S6Q373-CC373  
 Lab FileID: 6Q26619.D

## Continuing Calibration Report

Batch: D:\MassHunter\Data\101723\_1633\_S6Q373\S6Q373.batch.bin

## Level ID: Calibration File

1:D:\MassHunter\Data\101723\_1633\_S6Q373\6Q26573.d  
 2:D:\MassHunter\Data\101723\_1633\_S6Q373\6Q26574.d  
 3:D:\MassHunter\Data\101723\_1633\_S6Q373\6Q26575.d  
 4:D:\MassHunter\Data\101723\_1633\_S6Q373\6Q26576.d  
 5:D:\MassHunter\Data\101723\_1633\_S6Q373\6Q26577.d  
 6:D:\MassHunter\Data\101723\_1633\_S6Q373\6Q26578.d  
 7:D:\MassHunter\Data\101723\_1633\_S6Q373\6Q26579.d  
 8:D:\MassHunter\Data\101723\_1633\_S6Q373\6Q26580.d

Data File: 6Q26619  
 Type : QC  
 Level : 4

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
13C2-4:2FTS	5.000	5.130	2.6	102.6
13C2-6:2FTS	5.000	5.033	0.7	100.7
13C2-8:2FTS	5.000	4.652	-7.0	93.0
13C2-PFDoDA	1.250	1.287	2.9	102.9
13C2-PFTeDA	1.250	1.363	9.0	109.0
13C3-PFBS	2.500	2.473	-1.1	98.9
13C3-PFHxS	2.500	2.317	-7.3	92.7
13C4-PFBA	10.000	9.889	-1.1	98.9
13C4-PFHpA	2.500	2.544	1.8	101.8
13C5-PFHxA	2.500	2.509	0.4	100.4
13C5-PFPeA	5.000	5.324	6.5	106.5
13C6-PFDA	1.250	1.423	13.8	113.8
13C7-PFUnDA	1.250	1.327	6.2	106.2
13C8-FOSA	2.500	2.507	0.3	100.3
13C8-PFOA	2.500	2.503	0.1	100.1
13C8-PFOS	2.500	2.389	-4.4	95.6
13C9-PFNA	1.250	1.212	-3.1	96.9
4:2FTS	9.375	9.284	-1.0	99.0
6:2FTS	9.500	8.953	-5.8	94.2
8:2FTS	9.600	9.630	0.3	100.3
d3-MeFOSAA	5.000	4.582	-8.4	91.6
EtFOSAA	2.500	2.466	-1.4	98.6
FOSA	2.500	2.389	-4.4	95.6
MeFOSAA	2.500	2.881	15.2	115.2
PFBA	10.000	9.744	-2.6	97.4
PFBS	2.218	2.178	-1.8	98.2
PFDA	2.500	2.171	-13.2	86.8
PFDoDA	2.500	2.440	-2.4	97.6
PFDS	2.413	2.422	0.4	100.4
PFHpA	2.500	2.520	0.8	100.8
PFHpS	2.383	2.485	4.3	104.3
PFHxA	2.500	2.437	-2.5	97.5
PFHxS	2.285	2.179	-4.6	95.4
PFNA	2.500	2.645	5.8	105.8
PFNS	2.405	2.404	0.0	100.0
PFOA	2.500	2.475	-1.0	99.0
PFOS	2.320	2.253	-2.9	97.1

# Continuing Calibration Summary

Job Number: FC10290  
 Account: AECOMCOD AECOM, INC.  
 Project: N6274223F0104 RH Fire Suppression System

Sample: S6Q373-CC373  
 Lab FileID: 6Q26619.D

PFPeA	5.000	4.661	-6.8	93.2
PFPeS	2.353	2.438	3.6	103.6
PFTeDA	2.500	2.407	-3.7	96.3
PFTTrDA	2.500	2.680	7.2	107.2
PFUnDA	2.500	2.459	-1.6	98.4
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	4.619	-2.3	97.7
13C3-HFPO-DA	10.000	10.211	2.1	102.1
9C1-PF3ONS	4.675	4.651	-0.5	99.5
ADONA	4.725	4.711	-0.3	99.7
HFPO-DA	5.000	4.832	-3.4	96.6
M3-HFPO-DA	---	--ISTD--		
3:3FTCA	12.480	11.953	-4.2	95.8
5:3FTCA	62.400	61.808	-0.9	99.1
7:3FTCA	62.400	63.439	1.7	101.7
d3-MeFOSA	2.500	2.388	-4.5	95.5
M5-EtFOSAA	---	--ISTD--		
M7-MeFOSE	---	--ISTD--		
M9-EtFOSE	---	--ISTD--		
M5-EtFOSA	---	--ISTD--		
EtFOSA	5.000	4.865	-2.7	97.3
EtFOSE	12.500	11.984	-4.1	95.9
MeFOSA	5.000	5.085	1.7	101.7
MeFOSE	12.500	11.685	-6.5	93.5
PFDoDS	2.425	2.507	3.4	103.4
M3-MeFOSA	---	--ISTD--		
d5-EtFOSAA	5.000	5.114	2.3	102.3
d7-MeFOSE	25.000	25.788	3.2	103.2
d9-EtFOSE	25.000	24.992	0.0	100.0
d5-EtFOSA	2.500	2.416	-3.4	96.6
NFDHA	5.000	4.958	-0.8	99.2
PFMBA	5.000	4.758	-4.8	95.2
PFMPA	5.000	4.704	-5.9	94.1
13C4-PFOS	---	--ISTD--		
13C3-PFBA	---	--ISTD--		
18O2-PFHxS	---	--ISTD--		
13C4-PFOA	---	--ISTD--		
13C2-PFDA	---	--ISTD--		
13C5-PFNA	---	--ISTD--		
13C2-PFHxA	---	--ISTD--		
PFEEESA	4.450	4.515	1.5	101.5

CC Criteria: +/- 30%

**Continuing Calibration Summary**

Job Number: FC10290  
 Account: AECOMCOD AECOM, INC.  
 Project: N6274223F0104 RH Fire Suppression System

Sample: S6Q373-CC373  
 Lab FileID: 6Q26670.D

## Continuing Calibration Report

Batch: D:\MassHunter\Data\101723\_1633\_S6Q373\S6Q373.batch.bin

## Level ID: Calibration File

1:D:\MassHunter\Data\101723\_1633\_S6Q373\6Q26573.d  
 2:D:\MassHunter\Data\101723\_1633\_S6Q373\6Q26574.d  
 3:D:\MassHunter\Data\101723\_1633\_S6Q373\6Q26575.d  
 4:D:\MassHunter\Data\101723\_1633\_S6Q373\6Q26576.d  
 5:D:\MassHunter\Data\101723\_1633\_S6Q373\6Q26577.d  
 6:D:\MassHunter\Data\101723\_1633\_S6Q373\6Q26578.d  
 7:D:\MassHunter\Data\101723\_1633\_S6Q373\6Q26579.d  
 8:D:\MassHunter\Data\101723\_1633\_S6Q373\6Q26580.d

Data File: 6Q26670  
 Type : QC  
 Level : 4

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
13C2-4:2FTS	5.000	5.792	15.8	115.8
13C2-6:2FTS	5.000	5.727	14.5	114.5
13C2-8:2FTS	5.000	5.127	2.5	102.5
13C2-PFDoDA	1.250	1.250	0.0	100.0
13C2-PFTeDA	1.250	1.319	5.5	105.5
13C3-PFBS	2.500	2.732	9.3	109.3
13C3-PFHxS	2.500	2.628	5.1	105.1
13C4-PFBA	10.000	10.080	0.8	100.8
13C4-PFHpA	2.500	2.577	3.1	103.1
13C5-PFHxA	2.500	2.479	-0.9	99.1
13C5-PFPeA	5.000	5.157	3.1	103.1
13C6-PFDA	1.250	1.329	6.3	106.3
13C7-PFUnDA	1.250	1.237	-1.1	98.9
13C8-FOSA	2.500	2.505	0.2	100.2
13C8-PFOA	2.500	2.339	-6.5	93.5
13C8-PFOS	2.500	2.610	4.4	104.4
13C9-PFNA	1.250	1.354	8.3	108.3
4:2FTS	9.375	9.467	1.0	101.0
6:2FTS	9.500	9.046	-4.8	95.2
8:2FTS	9.600	10.072	4.9	104.9
d3-MeFOSAA	5.000	4.862	-2.8	97.2
EtFOSAA	2.500	2.463	-1.5	98.5
FOSA	2.500	2.304	-7.9	92.1
MeFOSAA	2.500	2.606	4.2	104.2
PFBA	10.000	9.767	-2.3	97.7
PFBS	2.218	2.116	-4.6	95.4
PFDA	2.500	2.296	-8.2	91.8
PFDoDA	2.500	2.573	2.9	102.9
PFDS	2.413	2.190	-9.2	90.8
PFHpA	2.500	2.384	-4.6	95.4
PFHpS	2.383	2.260	-5.2	94.8
PFHxA	2.500	2.297	-8.1	91.9
PFHxS	2.285	2.284	-0.1	99.9
PFNA	2.500	2.364	-5.4	94.6
PFNS	2.405	2.216	-7.9	92.1
PFOA	2.500	2.445	-2.2	97.8
PFOS	2.320	2.154	-7.1	92.9



# Continuing Calibration Summary

Job Number: FC10290  
 Account: AECOMCOD AECOM, INC.  
 Project: N6274223F0104 RH Fire Suppression System

Sample: S6Q373-CC373  
 Lab FileID: 6Q26670.D

PFPeA	5.000	4.798	-4.0	96.0
PFPeS	2.353	2.341	-0.5	99.5
PFTeDA	2.500	2.393	-4.3	95.7
PFTTrDA	2.500	2.471	-1.1	98.9
PFUnDA	2.500	2.517	0.7	100.7
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	4.597	-2.7	97.3
13C3-HFPO-DA	10.000	10.116	1.2	101.2
9C1-PF3ONS	4.675	4.694	0.4	100.4
ADONA	4.725	4.621	-2.2	97.8
HFPO-DA	5.000	4.835	-3.3	96.7
M3-HFPO-DA	---	--ISTD--		
3:3FTCA	12.480	11.755	-5.8	94.2
5:3FTCA	62.400	61.591	-1.3	98.7
7:3FTCA	62.400	62.585	0.3	100.3
d3-MeFOSA	2.500	2.334	-6.6	93.4
M5-EtFOSAA	---	--ISTD--		
M7-MeFOSE	---	--ISTD--		
M9-EtFOSE	---	--ISTD--		
M5-EtFOSA	---	--ISTD--		
EtFOSA	5.000	4.501	-10.0	90.0
EtFOSE	12.500	12.188	-2.5	97.5
MeFOSA	5.000	5.105	2.1	102.1
MeFOSE	12.500	12.064	-3.5	96.5
PFDoDS	2.425	2.188	-9.8	90.2
M3-MeFOSA	---	--ISTD--		
d5-EtFOSAA	5.000	5.148	3.0	103.0
d7-MeFOSE	25.000	24.835	-0.7	99.3
d9-EtFOSE	25.000	25.147	0.6	100.6
d5-EtFOSA	2.500	2.537	1.5	101.5
NFDHA	5.000	4.952	-1.0	99.0
PFMBA	5.000	4.928	-1.4	98.6
PFMPA	5.000	4.771	-4.6	95.4
13C4-PFOS	---	--ISTD--		
13C3-PFBA	---	--ISTD--		
18O2-PFHxS	---	--ISTD--		
13C4-PFOA	---	--ISTD--		
13C2-PFDA	---	--ISTD--		
13C5-PFNA	---	--ISTD--		
13C2-PFHxA	---	--ISTD--		
PFEEESA	4.450	4.288	-3.6	96.4

CC Criteria: +/- 30%

**Continuing Calibration Summary**

Job Number: FC10290  
 Account: AECOMCOD AECOM, INC.  
 Project: N6274223F0104 RH Fire Suppression System

Sample: S6Q373-CC373  
 Lab FileID: 6Q26676.D

## Continuing Calibration Report

Batch: D:\MassHunter\Data\101723\_1633\_S6Q373\S6Q373.batch.bin

## Level ID: Calibration File

1:D:\MassHunter\Data\101723\_1633\_S6Q373\6Q26573.d  
 2:D:\MassHunter\Data\101723\_1633\_S6Q373\6Q26574.d  
 3:D:\MassHunter\Data\101723\_1633\_S6Q373\6Q26575.d  
 4:D:\MassHunter\Data\101723\_1633\_S6Q373\6Q26576.d  
 5:D:\MassHunter\Data\101723\_1633\_S6Q373\6Q26577.d  
 6:D:\MassHunter\Data\101723\_1633\_S6Q373\6Q26578.d  
 7:D:\MassHunter\Data\101723\_1633\_S6Q373\6Q26579.d  
 8:D:\MassHunter\Data\101723\_1633\_S6Q373\6Q26580.d

Data File: 6Q26676  
 Type : QC  
 Level : 1

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
13C2-4:2FTS	5.000	5.583	11.7	111.7
13C2-6:2FTS	5.000	5.466	9.3	109.3
13C2-8:2FTS	5.000	5.440	8.8	108.8
13C2-PFDoDA	1.250	1.181	-5.5	94.5
13C2-PFTeDA	1.250	1.238	-1.0	99.0
13C3-PFBS	2.500	2.661	6.4	106.4
13C3-PFHxS	2.500	2.681	7.2	107.2
13C4-PFBA	10.000	9.965	-0.4	99.6
13C4-PFHpA	2.500	2.492	-0.3	99.7
13C5-PFHxA	2.500	2.491	-0.4	99.6
13C5-PFPeA	5.000	4.988	-0.2	99.8
13C6-PFDA	1.250	1.196	-4.3	95.7
13C7-PFUnDA	1.250	1.231	-1.5	98.5
13C8-FOSA	2.500	2.424	-3.1	96.9
13C8-PFOA	2.500	2.465	-1.4	98.6
13C8-PFOS	2.500	2.485	-0.6	99.4
13C9-PFNA	1.250	1.205	-3.6	96.4
4:2FTS	0.750	0.656	-12.6	87.4
6:2FTS	0.760	0.728	-4.2	95.8
8:2FTS	0.768	0.777	1.2	101.2
d3-MeFOSAA	5.000	4.793	-4.1	95.9
EtFOSAA	0.200	0.202	0.9	100.9
FOSA	0.200	0.168	-15.8	84.2
MeFOSAA	0.200	0.239	19.3	119.3
PFBA	0.800	0.720	-10.0	90.0
PFBS	0.177	0.167	-5.5	94.5
PFDA	0.200	0.163	-18.5	81.5
PFDoDA	0.200	0.176	-11.9	88.1
PFDS	0.193	0.195	0.9	100.9
PFHpA	0.200	0.159	-20.7	79.3
PFHpS	0.191	0.171	-10.4	89.6
PFHxA	0.200	0.176	-12.1	87.9
PFHxS	0.183	0.177	-3.1	96.9
PFNA	0.200	0.180	-10.0	90.0
PFNS	0.192	0.185	-3.4	96.6
PFOA	0.200	0.168	-16.0	84.0
PFOS	0.186	0.180	-3.2	96.8

# Continuing Calibration Summary

Job Number: FC10290  
 Account: AECOMCOD AECOM, INC.  
 Project: N6274223F0104 RH Fire Suppression System

Sample: S6Q373-CC373  
 Lab FileID: 6Q26676.D

PFPeA	0.400	0.361	-9.8	90.2
PFPeS	0.188	0.174	-7.5	92.5
PFTeDA	0.200	0.183	-8.5	91.5
PFTTrDA	0.200	0.190	-5.0	95.0
PFUnDA	0.200	0.162	-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	0.378	0.327	-13.5	86.5
13C3-HFPO-DA	10.000	9.981	-0.2	99.8
9C1-PF3ONS	0.374	0.337	-9.8	90.2
ADONA	0.378	0.330	-12.6	87.4
HFPO-DA	0.400	0.358	-10.4	89.6
M3-HFPO-DA	---	--ISTD--		
3:3FTCA	0.998	0.855	-14.4	85.6
5:3FTCA	4.992	4.417	-11.5	88.5
7:3FTCA	4.992	4.502	-9.8	90.2
d3-MeFOSA	2.500	2.423	-3.1	96.9
M5-EtFOSAA	---	--ISTD--		
M7-MeFOSE	---	--ISTD--		
M9-EtFOSE	---	--ISTD--		
M5-EtFOSA	---	--ISTD--		
EtFOSA	0.400	0.348	-13.0	87.0
EtFOSE	1.000	0.886	-11.4	88.6
MeFOSA	0.400	0.383	-4.2	95.8
MeFOSE	1.000	0.921	-7.9	92.1
PFDODS	0.194	0.158	-18.5	81.5
M3-MeFOSA	---	--ISTD--		
d5-EtFOSAA	5.000	5.260	5.2	105.2
d7-MeFOSE	25.000	25.412	1.6	101.6
d9-EtFOSE	25.000	26.354	5.4	105.4
d5-EtFOSA	2.500	2.502	0.1	100.1
NFDHA	0.400	0.339	-15.2	84.8
PFMBA	0.400	0.352	-12.1	87.9
PFMPA	0.400	0.344	-14.0	86.0
13C4-PFOS	---	--ISTD--		
13C3-PFBA	---	--ISTD--		
18O2-PFHxS	---	--ISTD--		
13C4-PFOA	---	--ISTD--		
13C2-PFDA	---	--ISTD--		
13C5-PFNA	---	--ISTD--		
13C2-PFHxA	---	--ISTD--		
PFEESA	0.356	0.317	-10.8	89.2

CC Criteria: +/- 30%

**Continuing Calibration Summary**

Job Number: FC10290  
 Account: AECOMCOD AECOM, INC.  
 Project: N6274223F0104 RH Fire Suppression System

Sample: S6Q373-ECC373  
 Lab FileID: 6Q26685.D

## Continuing Calibration Report

Batch: D:\MassHunter\Data\101723\_1633\_S6Q373\S6Q373.batch.bin

## Level ID: Calibration File

1:D:\MassHunter\Data\101723\_1633\_S6Q373\6Q26573.d  
 2:D:\MassHunter\Data\101723\_1633\_S6Q373\6Q26574.d  
 3:D:\MassHunter\Data\101723\_1633\_S6Q373\6Q26575.d  
 4:D:\MassHunter\Data\101723\_1633\_S6Q373\6Q26576.d  
 5:D:\MassHunter\Data\101723\_1633\_S6Q373\6Q26577.d  
 6:D:\MassHunter\Data\101723\_1633\_S6Q373\6Q26578.d  
 7:D:\MassHunter\Data\101723\_1633\_S6Q373\6Q26579.d  
 8:D:\MassHunter\Data\101723\_1633\_S6Q373\6Q26580.d

Data File: 6Q26685  
 Type : QC  
 Level : 4

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
13C2-4:2FTS	5.000	5.207	4.1	104.1
13C2-6:2FTS	5.000	5.128	2.6	102.6
13C2-8:2FTS	5.000	5.023	0.5	100.5
13C2-PFDoDA	1.250	1.230	-1.6	98.4
13C2-PFTeDA	1.250	1.289	3.1	103.1
13C3-PFBS	2.500	2.509	0.4	100.4
13C3-PFHxS	2.500	2.516	0.7	100.7
13C4-PFBA	10.000	9.957	-0.4	99.6
13C4-PFHpA	2.500	2.367	-5.3	94.7
13C5-PFHxA	2.500	2.435	-2.6	97.4
13C5-PFPeA	5.000	4.878	-2.4	97.6
13C6-PFDA	1.250	1.325	6.0	106.0
13C7-PFUnDA	1.250	1.313	5.1	105.1
13C8-FOSA	2.500	2.331	-6.8	93.2
13C8-PFOA	2.500	2.413	-3.5	96.5
13C8-PFOS	2.500	2.290	-8.4	91.6
13C9-PFNA	1.250	1.230	-1.6	98.4
4:2FTS	9.375	9.670	3.1	103.1
6:2FTS	9.500	9.340	-1.7	98.3
8:2FTS	9.600	10.188	6.1	106.1
d3-MeFOSAA	5.000	4.570	-8.6	91.4
EtFOSAA	2.500	2.330	-6.8	93.2
FOSA	2.500	2.316	-7.4	92.6
MeFOSAA	2.500	2.708	8.3	108.3
PFBA	10.000	9.838	-1.6	98.4
PFBS	2.218	2.213	-0.2	99.8
PFDA	2.500	2.588	3.5	103.5
PFDoDA	2.500	2.511	0.4	100.4
PFDS	2.413	2.378	-1.4	98.6
PFHpA	2.500	2.557	2.3	102.3
PFHpS	2.383	2.422	1.7	101.7
PFHxA	2.500	2.404	-3.8	96.2
PFHxS	2.285	2.205	-3.5	96.5
PFNA	2.500	2.484	-0.7	99.3
PFNS	2.405	2.300	-4.4	95.6
PFOA	2.500	2.633	5.3	105.3
PFOS	2.320	2.354	1.4	101.4

# Continuing Calibration Summary

Job Number: FC10290  
 Account: AECOMCOD AECOM, INC.  
 Project: N6274223F0104 RH Fire Suppression System

Sample: S6Q373-ECC373  
 Lab FileID: 6Q26685.D

PFPeA	5.000	4.823	-3.5	96.5
PFPeS	2.353	2.347	-0.3	99.7
PFTeDA	2.500	2.603	4.1	104.1
PFTTrDA	2.500	2.775	11.0	111.0
PFUnDA	2.500	2.385	-4.6	95.4
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	4.640	-1.8	98.2
13C3-HFPO-DA	10.000	9.387	-6.1	93.9
9C1-PF3ONS	4.675	4.517	-3.4	96.6
ADONA	4.725	4.677	-1.0	99.0
HFPO-DA	5.000	4.906	-1.9	98.1
M3-HFPO-DA	---	--ISTD--		
3:3FTCA	12.480	11.967	-4.1	95.9
5:3FTCA	62.400	59.329	-4.9	95.1
7:3FTCA	62.400	60.734	-2.7	97.3
d3-MeFOSA	2.500	2.247	-10.1	89.9
M5-EtFOSAA	---	--ISTD--		
M7-MeFOSE	---	--ISTD--		
M9-EtFOSE	---	--ISTD--		
M5-EtFOSA	---	--ISTD--		
EtFOSA	5.000	5.024	0.5	100.5
EtFOSE	12.500	12.790	2.3	102.3
MeFOSA	5.000	4.986	-0.3	99.7
MeFOSE	12.500	11.731	-6.1	93.9
PFDoDS	2.425	2.338	-3.6	96.4
M3-MeFOSA	---	--ISTD--		
d5-EtFOSAA	5.000	4.860	-2.8	97.2
d7-MeFOSE	25.000	24.461	-2.2	97.8
d9-EtFOSE	25.000	22.953	-8.2	91.8
d5-EtFOSA	2.500	2.295	-8.2	91.8
NFDHA	5.000	5.167	3.3	103.3
PFMBA	5.000	4.868	-2.6	97.4
PFMPA	5.000	4.718	-5.6	94.4
13C4-PFOS	---	--ISTD--		
13C3-PFBA	---	--ISTD--		
18O2-PFHxS	---	--ISTD--		
13C4-PFOA	---	--ISTD--		
13C2-PFDA	---	--ISTD--		
13C5-PFNA	---	--ISTD--		
13C2-PFHxA	---	--ISTD--		
PFEEESA	4.450	4.200	-5.6	94.4

CC Criteria: +/- 30%

## Run Sequence Report

Job Number: FC10290  
 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-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 FC10290)
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 FC10290)
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: FC10290  
 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 FC10290)
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 FC10290)
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 FC10290)
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 FC10290)
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 FC10290)
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

6-10-1

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# Run Sequence Report

Job Number: FC10290  
 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

6.10.1

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## Run Sequence Report

Job Number: FC10290  
 Account: AECOMCOD AECOM, INC.  
 Project: N6274223F0104 RH Fire Suppression System

Run ID: S6Q370	Method: EPA DRAFT 1633	Instrument ID: GCMS6Q		
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)
FC10290-1	6Q26285.D	10/12/23 16:59	OP99445	AF-RHMW17D-WGN01LF-2310
FC10290-2	6Q26286.D	10/12/23 17:13	OP99445	AF-RHMW17D-WQFB01-2310
FC10290-3	6Q26287.D	10/12/23 17:28	OP99445	AF-RHMW17S-WGN01LF-2310
FC10290-4	6Q26288.D	10/12/23 17:42	OP99445	AF-RHMW17S-WQEB01-2310
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	AF-RHMW10-WGN01LF-2310
OP99445-MS	6Q26292.D	10/12/23 18:39	OP99445	Matrix Spike
FC10290-6	6Q26293.D	10/12/23 18:54	OP99445	AF-RHMW225401-WGN01B-2310
OP99445-DUP	6Q26294.D	10/12/23 19:08	OP99445	Duplicate
FC10290-7	6Q26295.D	10/12/23 19:22	OP99445	AF-RHMW16-WGN01LF-2310
ZZZZZZ	6Q26296.D	10/12/23 19:37	OP99445	(unrelated sample)
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 FC10290)

# Run Sequence Report

Job Number: FC10290  
 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	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	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 FC10290)
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 FC10290)
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
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 FC10290)
OP99347-DUP	6Q26359.D	10/13/23 10:39	OP99347	Duplicate
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)

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# Run Sequence Report

Job Number: FC10290  
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-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

6.10.2  
6

## Run Sequence Report

Job Number: FC10290  
 Account: AECOMCOD AECOM, INC.  
 Project: N6274223F0104 RH Fire Suppression System

Run ID: S6Q373	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
S6Q373-RT	6Q26570.D	10/17/23 17:28	n/a	Retention Time Marker
S6Q373-RT	6Q26571.D	10/17/23 17:43	n/a	Retention Time Marker
S6Q373-IC373	6Q26572.D	10/17/23 17:57	n/a	Mass Calibration Verification
S6Q373-IC373	6Q26573.D	10/17/23 18:11	n/a	Initial cal 1
S6Q373-IC373	6Q26574.D	10/17/23 18:26	n/a	Initial cal 2
S6Q373-IC373	6Q26575.D	10/17/23 18:40	n/a	Initial cal 3
S6Q373-ICC373	6Q26576.D	10/17/23 18:54	n/a	Initial cal 4
S6Q373-IC373	6Q26577.D	10/17/23 19:09	n/a	Initial cal 5
S6Q373-IC373	6Q26578.D	10/17/23 19:23	n/a	Initial cal 6
S6Q373-IC373	6Q26579.D	10/17/23 19:37	n/a	Initial cal 7
S6Q373-IC373	6Q26580.D	10/17/23 19:52	n/a	Initial cal 8
S6Q373-IBLK	6Q26581.D	10/17/23 20:06	n/a	Instrument Blank
S6Q373-IBLK	6Q26581.D	10/17/23 20:06	n/a	Instrument Blank
S6Q373-ICV373	6Q26582.D	10/17/23 20:20	n/a	Initial cal verification 4
S6Q373-ICV373	6Q26583.D	10/17/23 20:35	n/a	Initial cal verification 20
S6Q373-CC373	6Q26584.D	10/17/23 20:49	n/a	Continuing cal 4
S6Q373-CC373	6Q26585.D	10/17/23 21:03	n/a	Continuing cal 1.0LL
OP99369-BS	6Q26586.D	10/17/23 21:18	OP99369	Blank Spike
OP99369-LLBS	6Q26587.D	10/17/23 21:32	OP99369	Blank Spike
OP99369-MB	6Q26588.D	10/17/23 21:46	OP99369	Method Blank
ZZZZZZ	6Q26589.D	10/17/23 22:00	OP99369	(unrelated sample)
ZZZZZZ	6Q26590.D	10/17/23 22:15	OP99369	(unrelated sample)
ZZZZZZ	6Q26591.D	10/17/23 22:29	OP99369	(unrelated sample)
ZZZZZZ	6Q26592.D	10/17/23 22:44	OP99369	(unrelated sample)
ZZZZZZ	6Q26593.D	10/17/23 22:58	OP99369	(unrelated sample)
ZZZZZZ	6Q26594.D	10/17/23 23:12	OP99369	(unrelated sample)
S6Q373-CC373	6Q26595.D	10/17/23 23:26	n/a	Continuing cal 4
S6Q373-ICCB	6Q26596.D	10/17/23 23:41	n/a	Continuing Calibration Blank
OP99394-BS	6Q26597.D	10/17/23 23:55	OP99394	Blank Spike
OP99394-LLBS	6Q26598.D	10/18/23 00:09	OP99394	Blank Spike
OP99394-MB	6Q26599.D	10/18/23 00:24	OP99394	Method Blank
ZZZZZZ	6Q26600.D	10/18/23 00:38	OP99394	(unrelated sample)
ZZZZZZ	6Q26601.D	10/18/23 00:52	OP99394	(unrelated sample)
ZZZZZZ	6Q26602.D	10/18/23 01:07	OP99394	(unrelated sample)
ZZZZZZ	6Q26603.D	10/18/23 01:21	OP99394	(unrelated sample)
ZZZZZZ	6Q26604.D	10/18/23 01:35	OP99394	(unrelated sample)
ZZZZZZ	6Q26605.D	10/18/23 01:50	OP99394	(unrelated sample)
S6Q373-CC373	6Q26607.D	10/18/23 02:18	n/a	Continuing cal 4
S6Q373-ICCB	6Q26608.D	10/18/23 02:33	n/a	Continuing Calibration Blank
ZZZZZZ	6Q26609.D	10/18/23 02:47	OP99394	(unrelated sample)
ZZZZZZ	6Q26610.D	10/18/23 03:01	OP99394	(unrelated sample)
ZZZZZZ	6Q26611.D	10/18/23 03:16	OP99394	(unrelated sample)
ZZZZZZ	6Q26612.D	10/18/23 03:30	OP99394	(unrelated sample)
ZZZZZZ	6Q26613.D	10/18/23 03:44	OP99394	(unrelated sample)
ZZZZZZ	6Q26614.D	10/18/23 03:59	OP99394	(unrelated sample)
ZZZZZZ	6Q26615.D	10/18/23 04:13	OP99394	(unrelated sample)

# Run Sequence Report

Job Number: FC10290  
 Account: AECOMCOD AECOM, INC.  
 Project: N6274223F0104 RH Fire Suppression System

Run ID: S6Q373	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	6Q26616.D	10/18/23 04:27	OP99394	(unrelated sample)
ZZZZZZ	6Q26617.D	10/18/23 04:42	OP99394	(unrelated sample)
FC10290-1	6Q26618.D	10/18/23 04:56	OP99445	AF-RHMW17D-WGN01LF-2310
S6Q373-CC373	6Q26619.D	10/18/23 05:10	n/a	Continuing cal 4
S6Q373-ICCB	6Q26620.D	10/18/23 05:25	n/a	Continuing Calibration Blank
S6Q373-ICCB	6Q26620.D	10/18/23 05:25	n/a	Continuing Calibration Blank
OP99398-BS	6Q26621.D	10/18/23 05:39	OP99398	Blank Spike
OP99398-LLBS	6Q26622.D	10/18/23 05:53	OP99398	Blank Spike
OP99398-MB	6Q26623.D	10/18/23 06:08	OP99398	Method Blank
FC9914-1	6Q26624.D	10/18/23 06:22	OP99398	(used for QC only; not part of job FC10290)
OP99398-MS	6Q26625.D	10/18/23 06:36	OP99398	Matrix Spike
OP99398-MSD	6Q26626.D	10/18/23 06:51	OP99398	Matrix Spike Duplicate
ZZZZZZ	6Q26627.D	10/18/23 07:05	OP99398	(unrelated sample)
ZZZZZZ	6Q26628.D	10/18/23 07:19	OP99398	(unrelated sample)
ZZZZZZ	6Q26629.D	10/18/23 07:34	OP99398	(unrelated sample)
ZZZZZZ	6Q26630.D	10/18/23 07:48	OP99398	(unrelated sample)
S6Q373-CC373	6Q26631.D	10/18/23 08:02	n/a	Continuing cal 4
S6Q373-ICCB	6Q26632.D	10/18/23 08:17	n/a	Continuing Calibration Blank
S6Q373-ICCB	6Q26632.D	10/18/23 08:17	n/a	Continuing Calibration Blank
ZZZZZZ	6Q26633.D	10/18/23 08:31	OP99398	(unrelated sample)
ZZZZZZ	6Q26634.D	10/18/23 08:45	OP99398	(unrelated sample)
ZZZZZZ	6Q26635.D	10/18/23 09:00	OP99398	(unrelated sample)
ZZZZZZ	6Q26636.D	10/18/23 09:14	OP99398	(unrelated sample)
ZZZZZZ	6Q26637.D	10/18/23 09:28	OP99398	(unrelated sample)
ZZZZZZ	6Q26638.D	10/18/23 09:43	OP99398	(unrelated sample)
ZZZZZZ	6Q26639.D	10/18/23 09:57	OP99398	(unrelated sample)
ZZZZZZ	6Q26640.D	10/18/23 10:11	OP99398	(unrelated sample)
ZZZZZZ	6Q26641.D	10/18/23 10:26	OP99398	(unrelated sample)
ZZZZZZ	6Q26642.D	10/18/23 10:40	OP99398	(unrelated sample)
S6Q373-CC373	6Q26643.D	10/18/23 10:54	n/a	Continuing cal 4
S6Q373-ICCB	6Q26644.D	10/18/23 11:09	n/a	Continuing Calibration Blank
S6Q373-ICCB	6Q26644.D	10/18/23 11:09	n/a	Continuing Calibration Blank
ZZZZZZ	6Q26645.D	10/18/23 11:23	OP99398	(unrelated sample)
ZZZZZZ	6Q26646.D	10/18/23 11:37	OP99398	(unrelated sample)
ZZZZZZ	6Q26647.D	10/18/23 11:52	OP99398	(unrelated sample)
ZZZZZZ	6Q26648.D	10/18/23 12:06	OP99398	(unrelated sample)
ZZZZZZ	6Q26649.D	10/18/23 12:20	OP99330	(unrelated sample)
S6Q373-CC373	6Q26650.D	10/18/23 12:35	n/a	Continuing cal 4
S6Q373-ICCB	6Q26651.D	10/18/23 12:49	n/a	Continuing Calibration Blank
S6Q373-ICCB	6Q26651.D	10/18/23 12:49	n/a	Continuing Calibration Blank
OP99425-BS	6Q26652.D	10/18/23 13:03	OP99425	Blank Spike
OP99425-LLBS	6Q26653.D	10/18/23 13:18	OP99425	Blank Spike
OP99425-MB	6Q26654.D	10/18/23 13:32	OP99425	Method Blank
ZZZZZZ	6Q26655.D	10/18/23 13:46	OP99425	(unrelated sample)
ZZZZZZ	6Q26656.D	10/18/23 14:01	OP99425	(unrelated sample)
ZZZZZZ	6Q26657.D	10/18/23 14:15	OP99425	(unrelated sample)

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# Run Sequence Report

Job Number: FC10290  
 Account: AECOMCOD AECOM, INC.  
 Project: N6274223F0104 RH Fire Suppression System

Run ID: S6Q373	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	6Q26658.D	10/18/23 14:29	OP99425	(unrelated sample)
ZZZZZZ	6Q26659.D	10/18/23 14:44	OP99425	(unrelated sample)
ZZZZZZ	6Q26660.D	10/18/23 14:58	OP99425	(unrelated sample)
S6Q373-CC373	6Q26661.D	10/18/23 15:12	n/a	Continuing cal 4
S6Q373-ICCB	6Q26662.D	10/18/23 15:27	n/a	Continuing Calibration Blank
S6Q373-ICCB	6Q26662.D	10/18/23 15:27	n/a	Continuing Calibration Blank
FC9956-5	6Q26663.D	10/18/23 15:41	OP99425	(used for QC only; not part of job FC10290)
OP99425-MS	6Q26664.D	10/18/23 15:55	OP99425	Matrix Spike
OP99425-MSD	6Q26665.D	10/18/23 16:10	OP99425	Matrix Spike Duplicate
ZZZZZZ	6Q26666.D	10/18/23 16:24	OP99425	(unrelated sample)
ZZZZZZ	6Q26667.D	10/18/23 16:38	OP99425	(unrelated sample)
ZZZZZZ	6Q26668.D	10/18/23 17:11	OP99425	(unrelated sample)
ZZZZZZ	6Q26669.D	10/18/23 17:25	OP99425	(unrelated sample)
S6Q373-CC373	6Q26670.D	10/18/23 17:39	n/a	Continuing cal 4
S6Q373-ICCB	6Q26671.D	10/18/23 17:54	n/a	Continuing Calibration Blank
S6Q373-ICCB	6Q26671.D	10/18/23 17:54	n/a	Continuing Calibration Blank
S6Q373-RT	6Q26672.D	10/18/23 18:08	n/a	Retention Time Marker
S6Q373-RT	6Q26673.D	10/18/23 18:22	n/a	Retention Time Marker
S6Q373-IBLK	6Q26675.D	10/18/23 18:51	n/a	Instrument Blank
S6Q373-IBLK	6Q26675.D	10/18/23 18:51	n/a	Instrument Blank
S6Q373-CC373	6Q26676.D	10/18/23 19:05	n/a	Continuing cal 1.0LL
ZZZZZZ	6Q26677.D	10/18/23 19:19	OP99425	(unrelated sample)
ZZZZZZ	6Q26678.D	10/18/23 19:34	OP99425	(unrelated sample)
ZZZZZZ	6Q26679.D	10/18/23 19:48	OP99425	(unrelated sample)
ZZZZZZ	6Q26680.D	10/18/23 20:02	OP99425	(unrelated sample)
ZZZZZZ	6Q26681.D	10/18/23 20:17	OP99425	(unrelated sample)
ZZZZZZ	6Q26682.D	10/18/23 20:31	OP99425	(unrelated sample)
ZZZZZZ	6Q26683.D	10/18/23 20:45	OP99425	(unrelated sample)
ZZZZZZ	6Q26684.D	10/18/23 21:00	OP99425	(unrelated sample)
S6Q373-ECC373	6Q26685.D	10/18/23 21:14	n/a	Ending cal 4
S6Q373-ICCB	6Q26686.D	10/18/23 21:28	n/a	Continuing Calibration Blank
S6Q373-ICCB	6Q26686.D	10/18/23 21:28	n/a	Continuing Calibration Blank

6.10.3  
6

**MS Semi-volatiles**

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**Raw Data**

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### Perfluorinated Compounds by LC/MS/MS

Data File : 6Q26285.d  
 Operator : marthav  
 Acq. Method : 1633full.m  
 Acq. Date-Time : 10/12/2023 4:59:39 PM  
 Sample Name : FC10290-1  
 Vial : P6-A6  
 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)
<b>Internal Standards</b>					
M4-PFBA	2.960	216.8 -> 171.9	133282	10.00 µg/L	0.012
M5-PFPeA	4.359	268.3 -> 223.0	50126	5.00 µg/L	-0.012
M5-PFHxA	5.567	318.0 -> 273.0	45491	2.50 µg/L	-0.012
M4-PFHpA	6.507	367.1 -> 322.0	44720	2.50 µg/L	-0.012
M8-PFOA	7.149	421.1 -> 376.0	58785	2.50 µg/L	-0.012
M9-PFNA	7.666	472.1 -> 427.0	25480	1.25 µg/L	-0.013
M6-PFDA	8.148	519.1 -> 474.1	26649	1.25 µg/L	-0.012
M7-PFUnDA	8.601	570.0 -> 525.1	25962	1.25 µg/L	-0.012
M2-PFDoDA	9.030	615.1 -> 570.0	25250	1.25 µg/L	0.000
M2-PFTeDA	9.735	715.2 -> 670.0	7712	1.25 µg/L	-0.012
M8-FOSA	9.657	506.1 -> 77.8	15528	2.50 µg/L	0.000
M3-PFBS	5.485	302.1 -> 79.9	20547	2.50 µg/L	-0.012
M3-PFHxS	7.251	402.1 -> 79.9	10575	2.50 µg/L	-0.012
M8-PFOS	8.286	507.1 -> 79.9	11101	2.50 µg/L	-0.025
M2-4:2FTS	5.242	329.1 -> 80.9	4757	5.00 µg/L	-0.012
M2-6:2FTS	6.924	429.1 -> 80.9	3161	5.00 µg/L	-0.012
M2-8:2FTS	7.937	529.1 -> 80.9	3364	5.00 µg/L	-0.012
M3-MeFOSAA	8.195	573.2 -> 419.0	26419	5.00 µg/L	-0.012
M3-HFPO-DA	5.945	286.9 -> 168.9	28120	10.00 µg/L	-0.012
M5-EtFOSAA	8.390	589.2 -> 419.0	23863	5.00 µg/L	-0.025
M7-MeFOSE	10.665	623.2 -> 58.9	50218	25.00 µg/L	0.000
M9-EtFOSE	10.911	639.2 -> 58.9	62714	25.00 µg/L	0.000
M5-EtFOSA	10.976	531.1 -> 219.0	4800	2.50 µg/L	0.000
M3-MeFOSA	10.744	515.0 -> 219.0	4238	2.50 µg/L	-0.012
13C4-PFOS	8.287	502.8 -> 79.9	8498	2.50 µg/L	-0.025
13C3-PFBA	2.964	216.0 -> 172.0	49825	5.00 µg/L	0.012
18O2-PFHxS	7.250	403.0 -> 83.9	5897	2.50 µg/L	-0.012
13C4-PFOA	7.150	417.1 -> 372.0	59899	2.50 µg/L	-0.012
13C2-PFDA	8.149	515.1 -> 470.1	21657	1.25 µg/L	-0.012
13C5-PFNA	7.667	468.0 -> 423.0	20917	1.25 µg/L	-0.013
13C2-PFHxA	5.568	315.1 -> 270.0	40088	2.50 µg/L	-0.012
<b>System Monitoring Compounds</b>					
13C2-4:2FTS	5.242	329.1 -> 80.9	4757	14.32 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 286.4%		
13C2-6:2FTS	6.924	429.1 -> 80.9	3161	6.40 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 127.9%		
13C2-8:2FTS	7.937	529.1 -> 80.9	3364	6.61 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 132.3%		
13C2-PFDoDA	9.030	615.1 -> 570.0	25250	1.17 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 93.6%		
13C2-PFTeDA	9.735	715.2 -> 670.0	7712	1.05 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 84.3%		
13C3-PFBS	5.485	302.1 -> 79.9	20547	3.08 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 123.0%		
13C3-PFHxS	7.251	402.1 -> 79.9	10575	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 = 112.9%	
13C4-PFBA	2.960	216.8 -> 171.9	133282	11.08 µg/L	0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 110.8%	
13C4-PFHpA	6.507	367.1 -> 322.0	44720	2.76 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 110.3%	
13C5-PFHxA	5.567	318.0 -> 273.0	45491	2.74 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 109.8%	
13C5-PFPeA	4.359	268.3 -> 223.0	50126	5.53 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 110.5%	
13C6-PFDA	8.148	519.1 -> 474.1	26649	1.46 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 116.9%	
13C7-PFUnDA	8.601	570.0 -> 525.1	25962	1.32 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 105.3%	
13C8-FOSA	9.657	506.1 -> 77.8	15528	2.21 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 88.6%	
13C8-PFOA	7.149	421.1 -> 376.0	58785	2.83 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 113.2%	
13C8-PFOS	8.286	507.1 -> 79.9	11101	3.02 µg/L	-0.025
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 121.0%	
13C9-PFNA	7.666	472.1 -> 427.0	25480	1.48 µg/L	-0.013
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 118.5%	
d3-MeFOSAA	8.195	573.2 -> 419.0	26419	7.07 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 141.4%	
13C3-HFPO-DA	5.945	286.9 -> 168.9	28120	10.05 µg/L	-0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 100.5%	
d3-MeFOSA	10.744	515.0 -> 219.0	4238	2.08 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 83.4%	
d5-EtFOSAA	8.390	589.2 -> 419.0	23863	7.45 µg/L	-0.025
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 149.0%	
d7-MeFOSE	10.665	623.2 -> 58.9	50218	22.19 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 88.7%	
d9-EtFOSE	10.911	639.2 -> 58.9	62714	23.31 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 93.2%	
d5-EtFOSA	10.976	531.1 -> 219.0	4800	2.21 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 88.3%	

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	9.132	599.0 -> 79.9	0	µg/L m	1

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Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
		599.0 -> 98.8	0			
PFHpA	-	363.1 -> 319.0	-	N.D.		
		363.1 -> 169.0				
PFHpS	7.794	449.0 -> 79.9	0	µg/L	m	1
		449.0 -> 98.9	0			
PFHxA	-	313.0 -> 269.0	-	N.D.		
		313.0 -> 118.9				
PFHxS	-	398.7 -> 79.9	-	N.D.		
		398.7 -> 98.9				
PFNA	8.105	463.0 -> 419.0	0	µg/L	m	1
		463.0 -> 219.0	0			
PFNS	8.653	548.8 -> 79.9	0	µg/L	m	1
		548.8 -> 98.9				
PFOA	7.175	413.0 -> 369.0	0	µg/L	m	1
		413.0 -> 169.0	0			
PFOS	8.164	498.9 -> 79.9	0	µg/L	m	1
		498.9 -> 98.8	0			
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

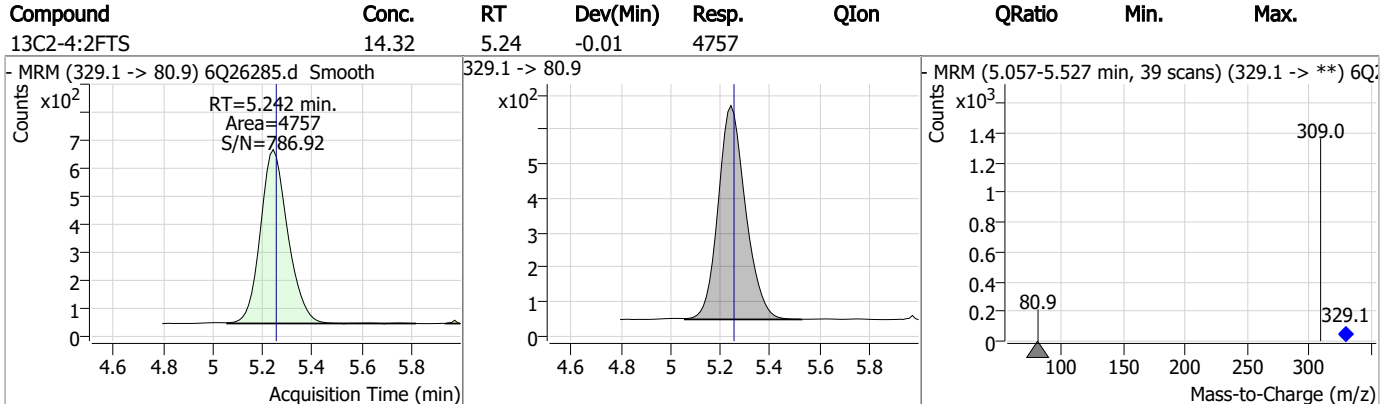
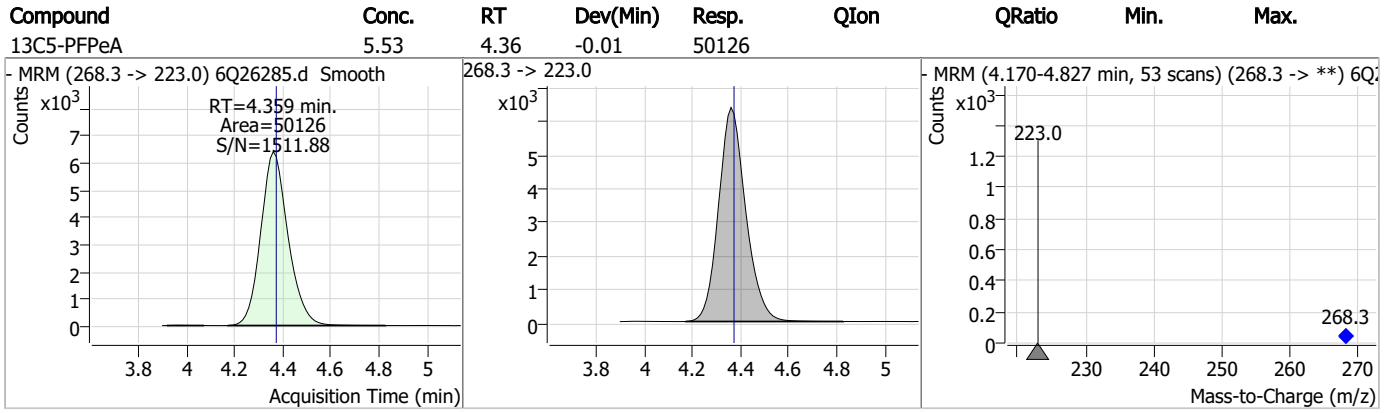
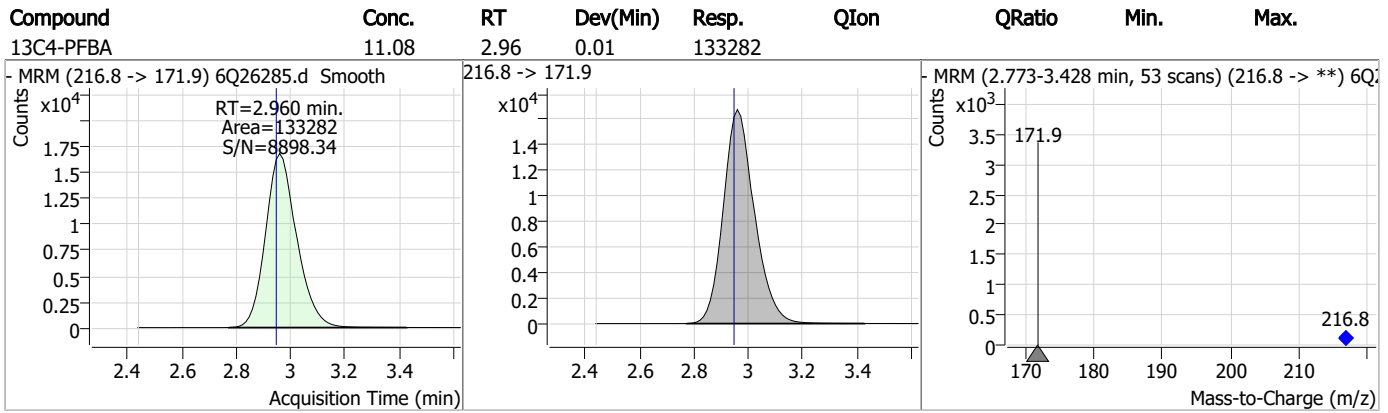
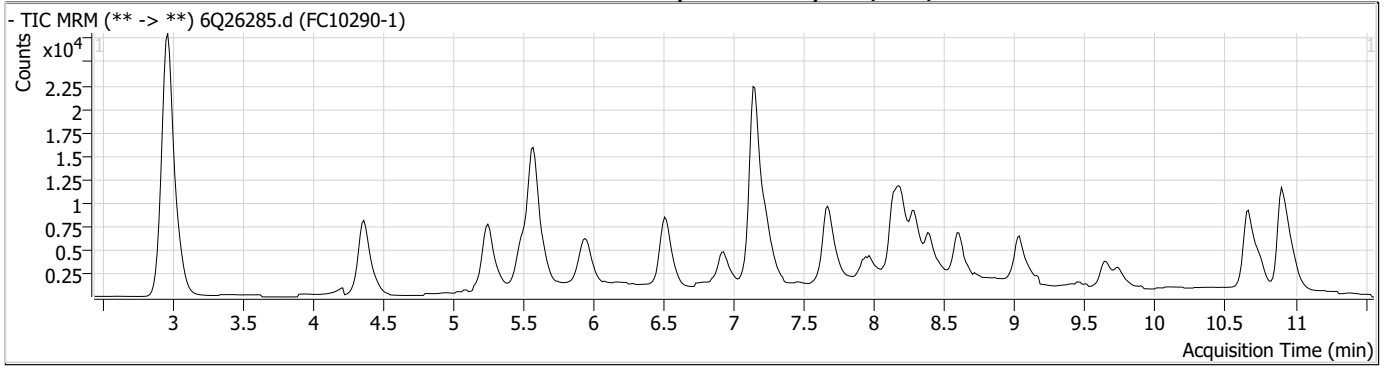
### Perfluorinated Compounds by LC/MS/MS

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



### Perfluorinated Compounds by LC/MS/MS

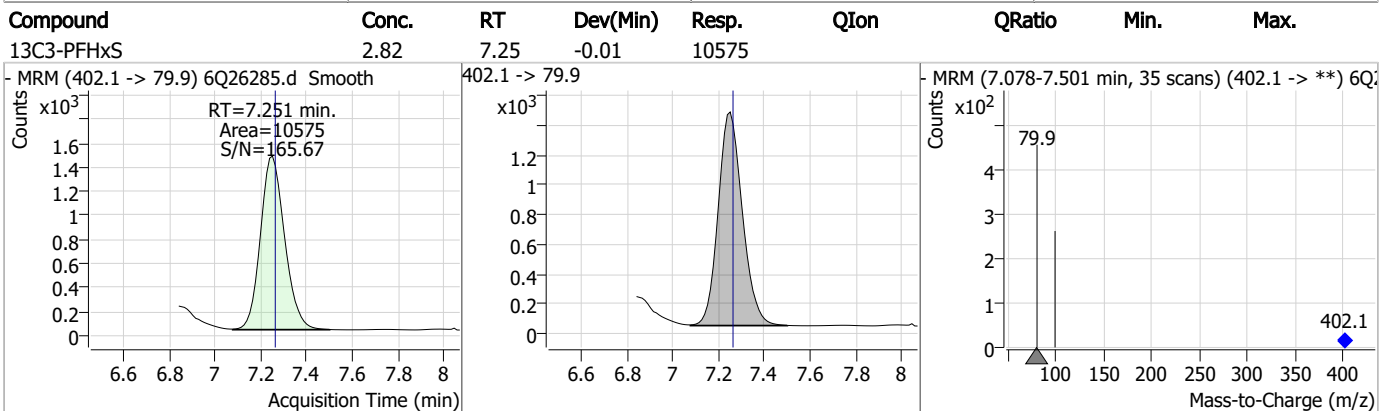
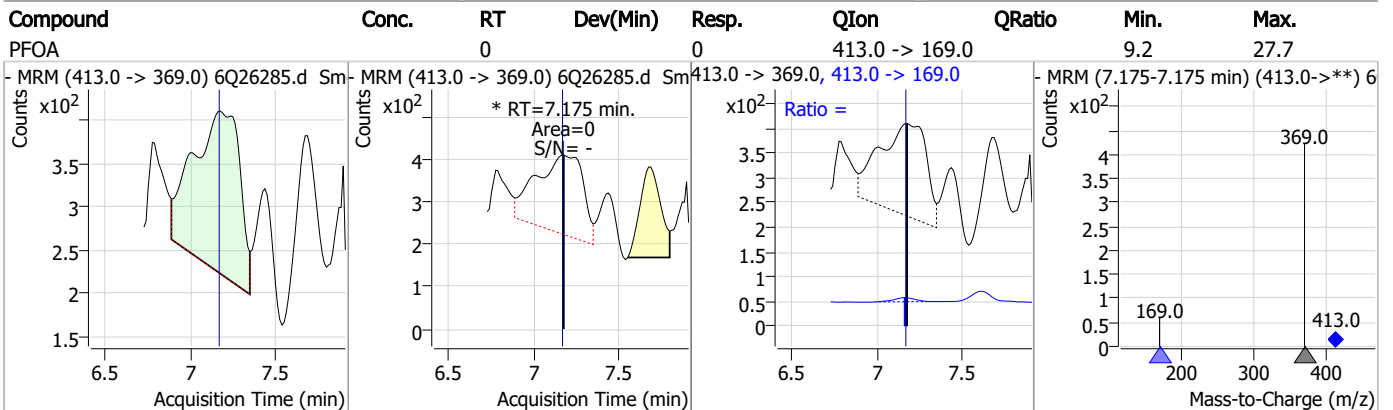
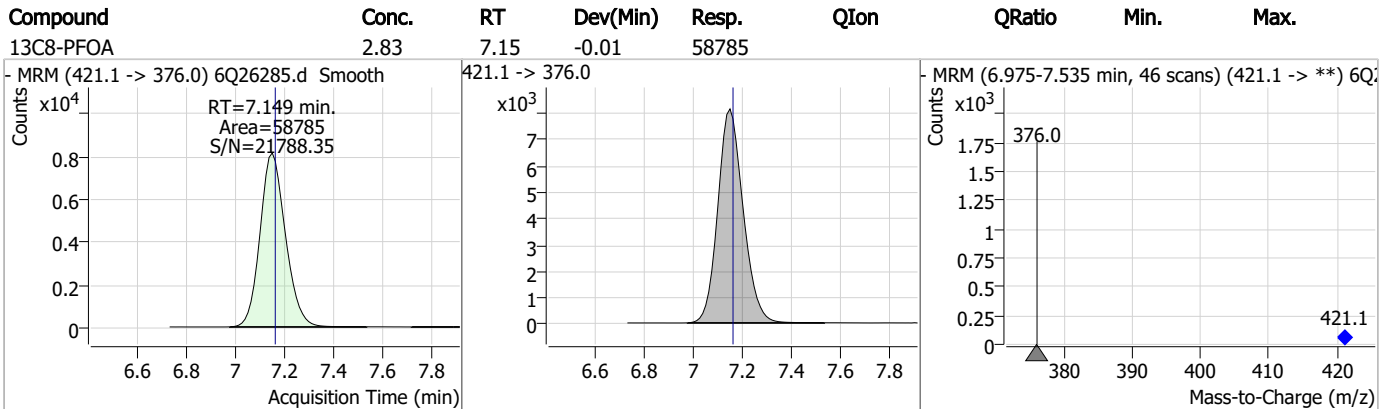
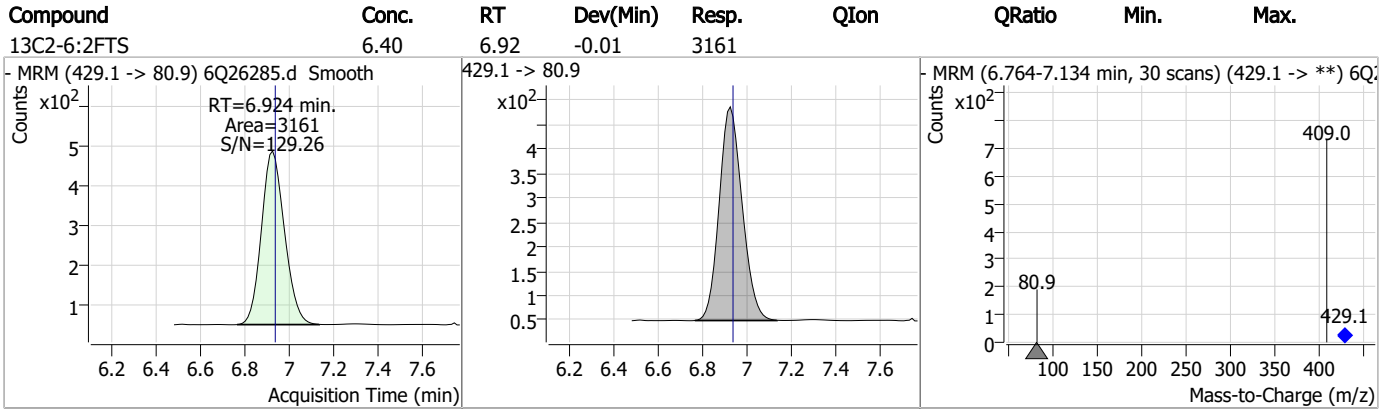


### Perfluorinated Compounds by LC/MS/MS

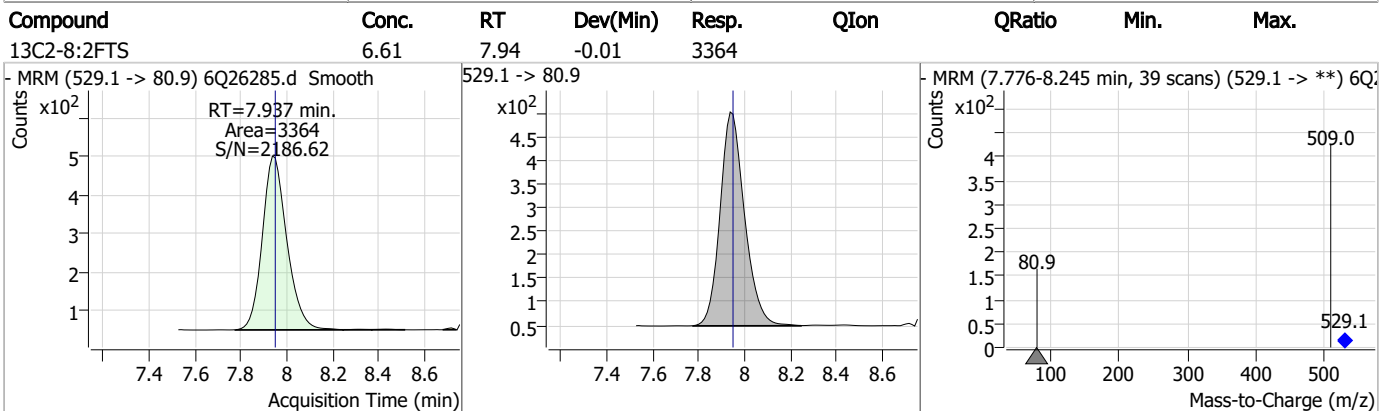
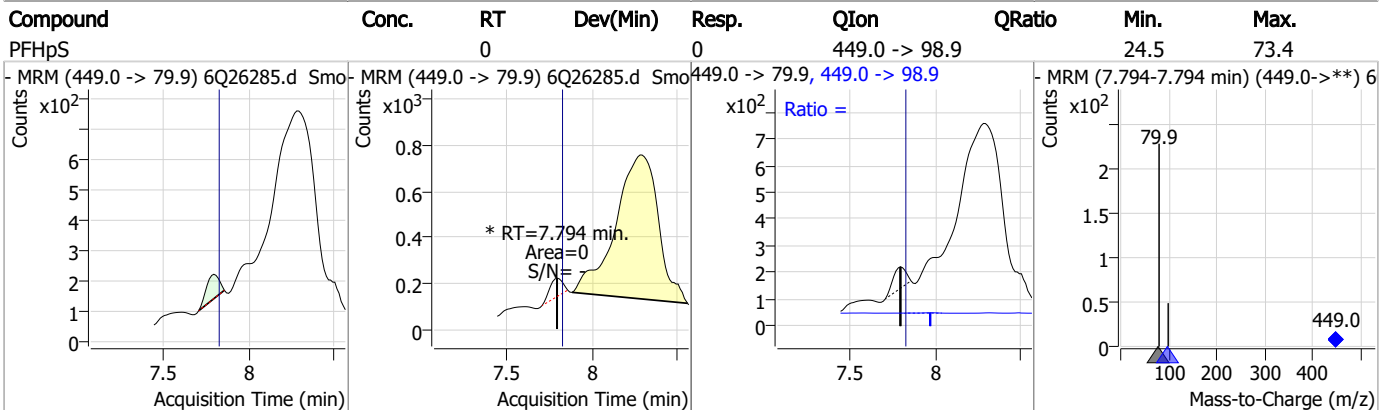
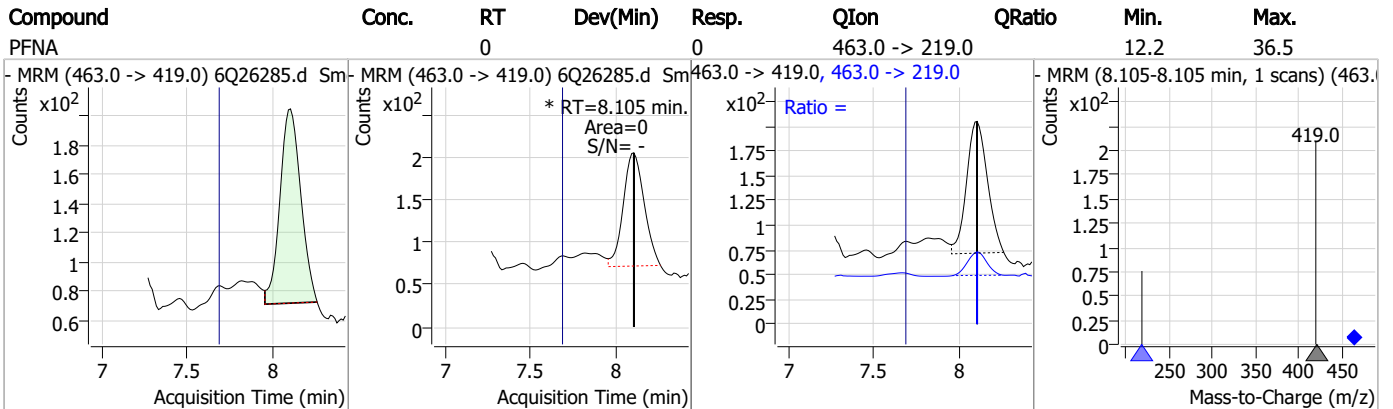
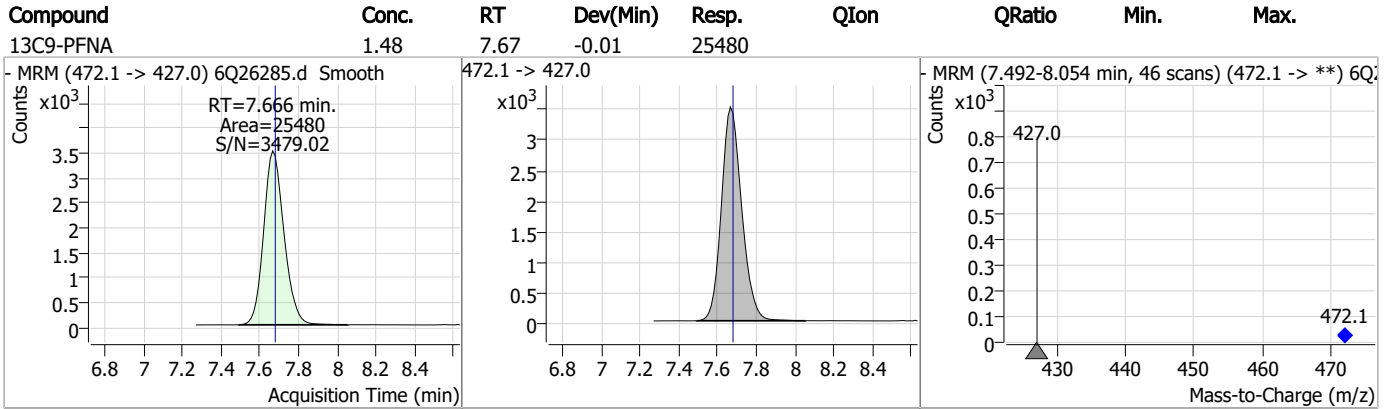
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFBS	3.08	5.49	-0.01	20547				
13C5-PFHxA	2.74	5.57	-0.01	45491				
13C3-HFPO-DA	10.05	5.94	-0.01	28120				
13C4-PFHpA	2.76	6.51	-0.01	44720				

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### Perfluorinated Compounds by LC/MS/MS

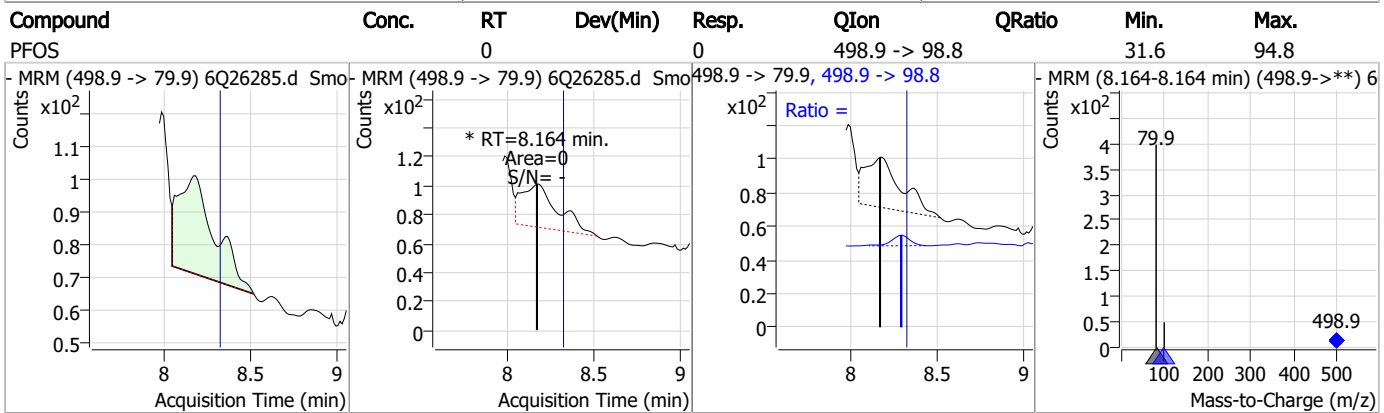
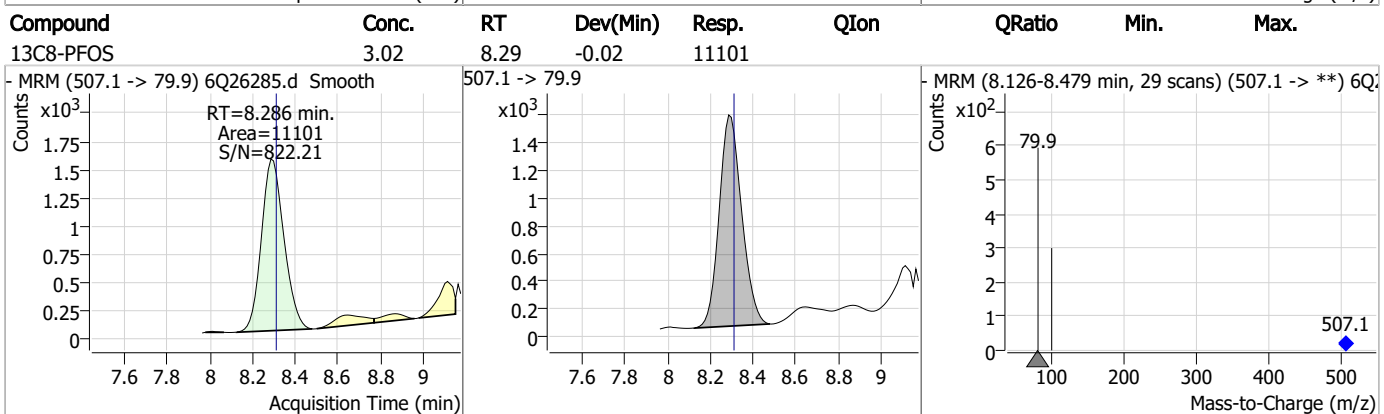
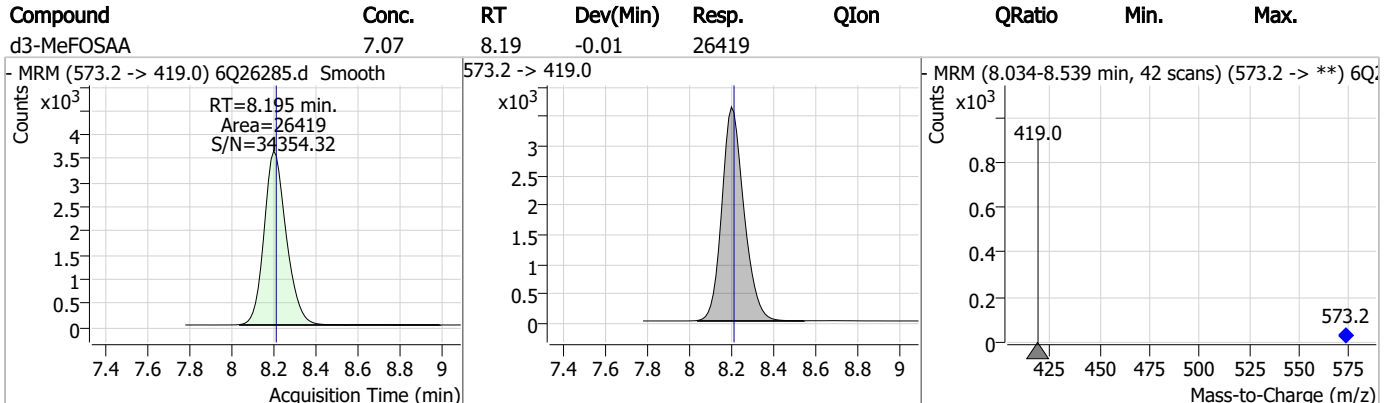
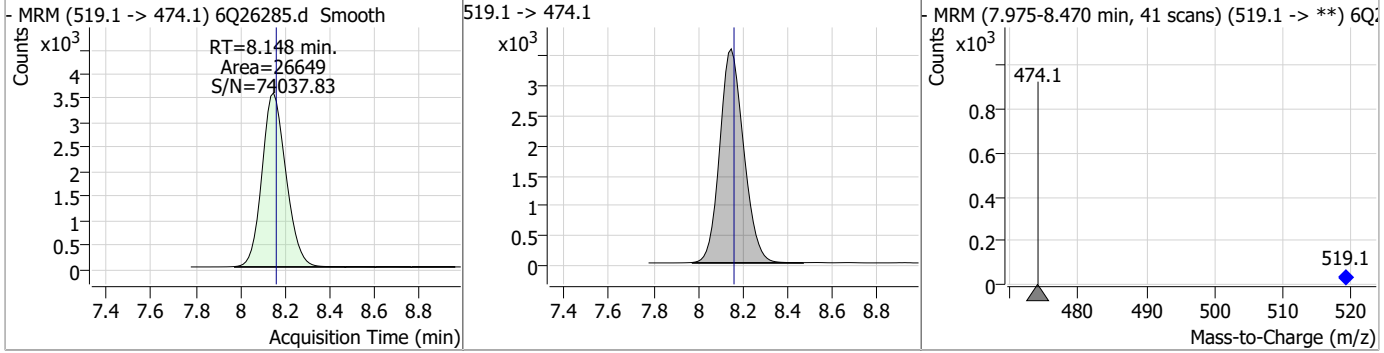


### Perfluorinated Compounds by LC/MS/MS



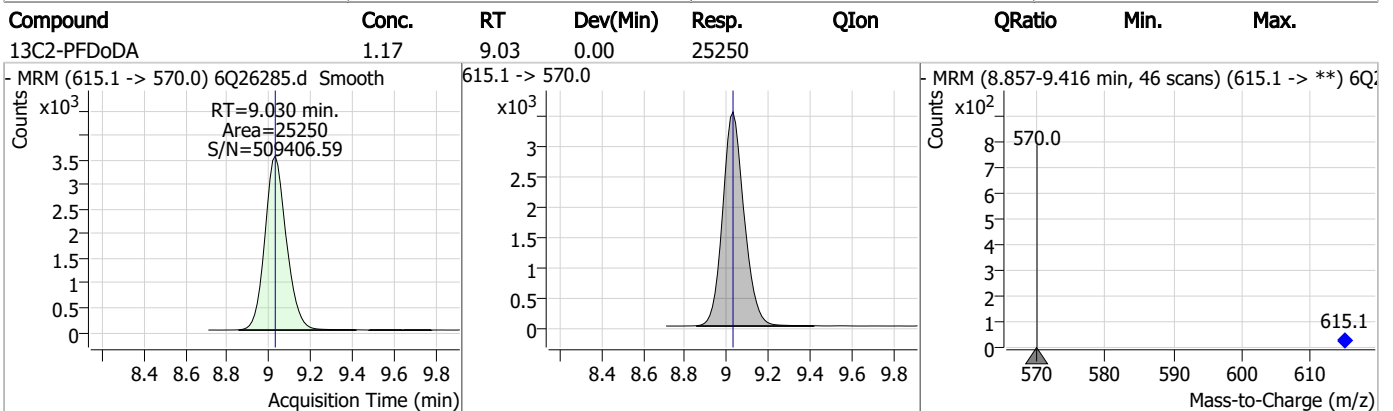
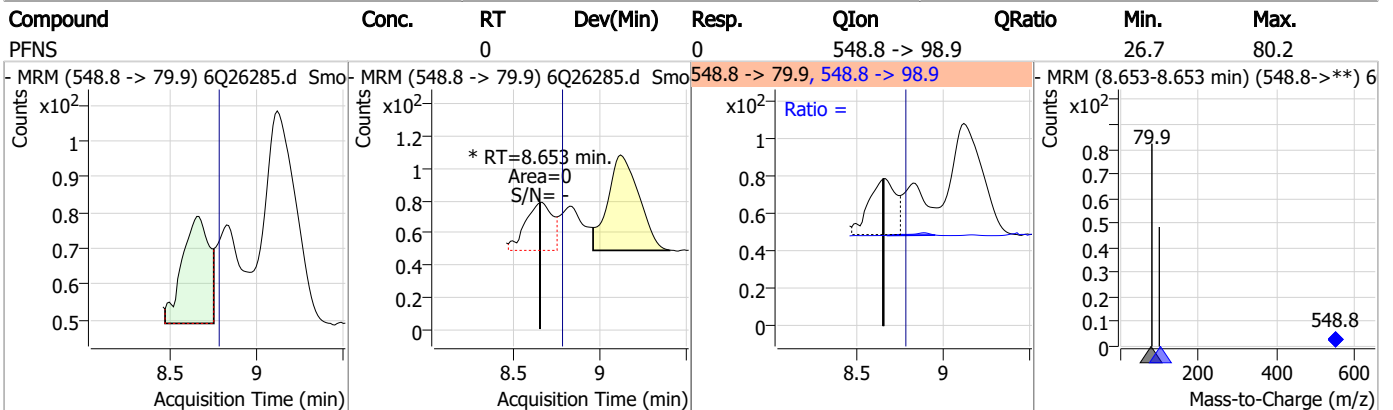
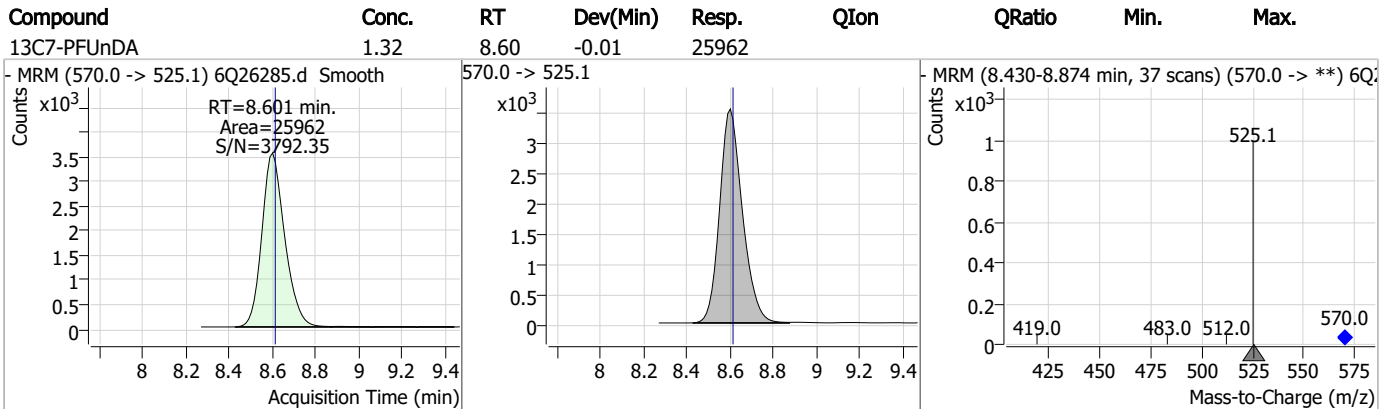
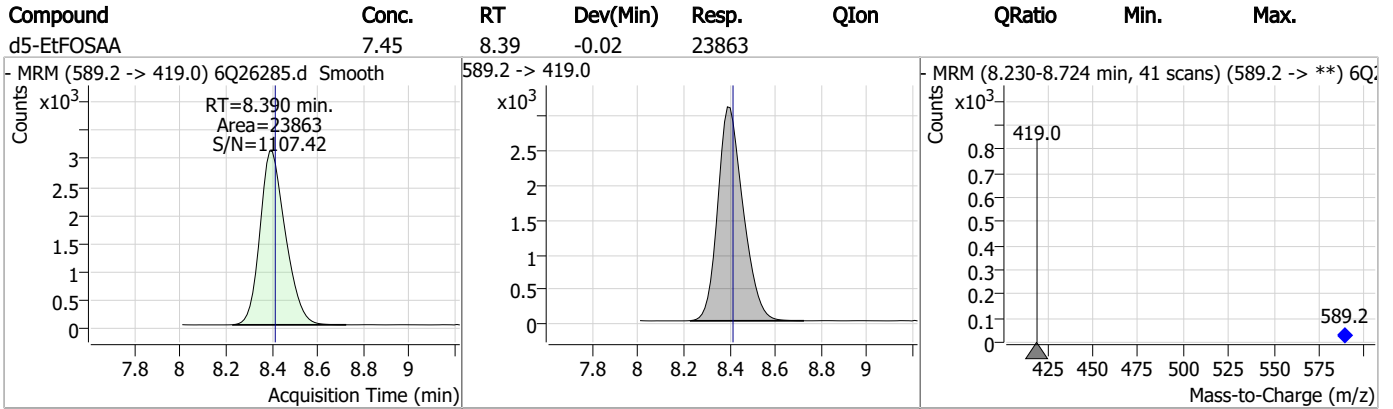
### Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
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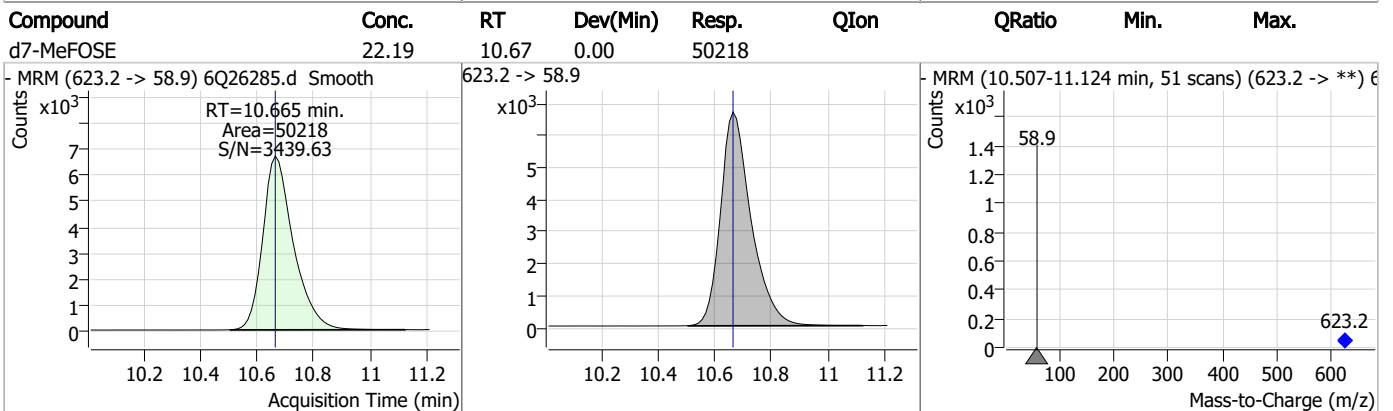
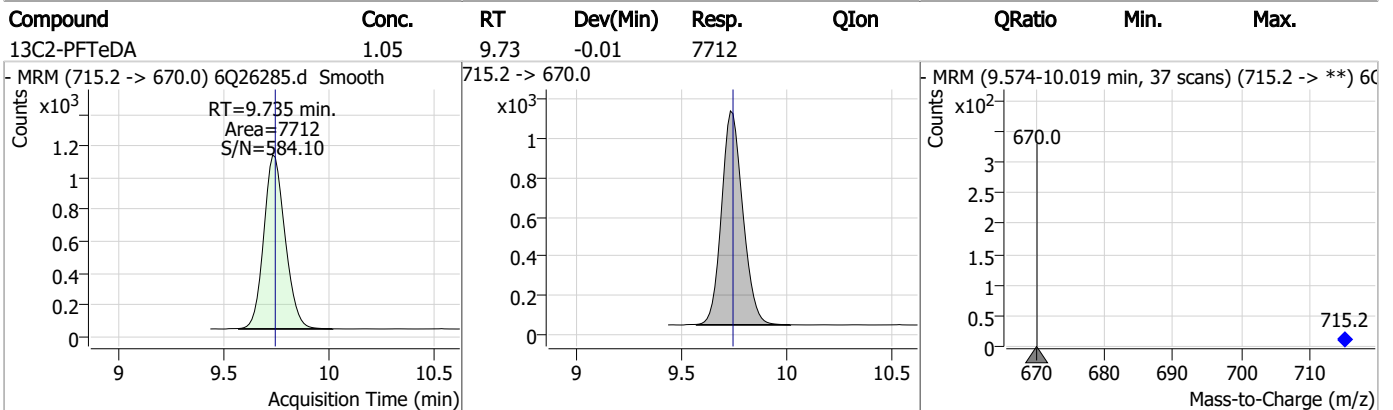
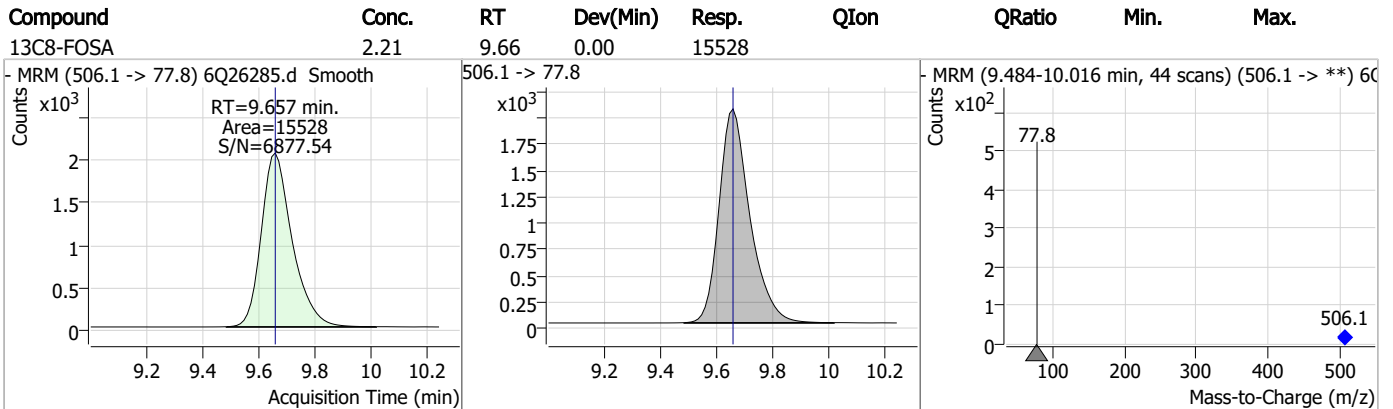
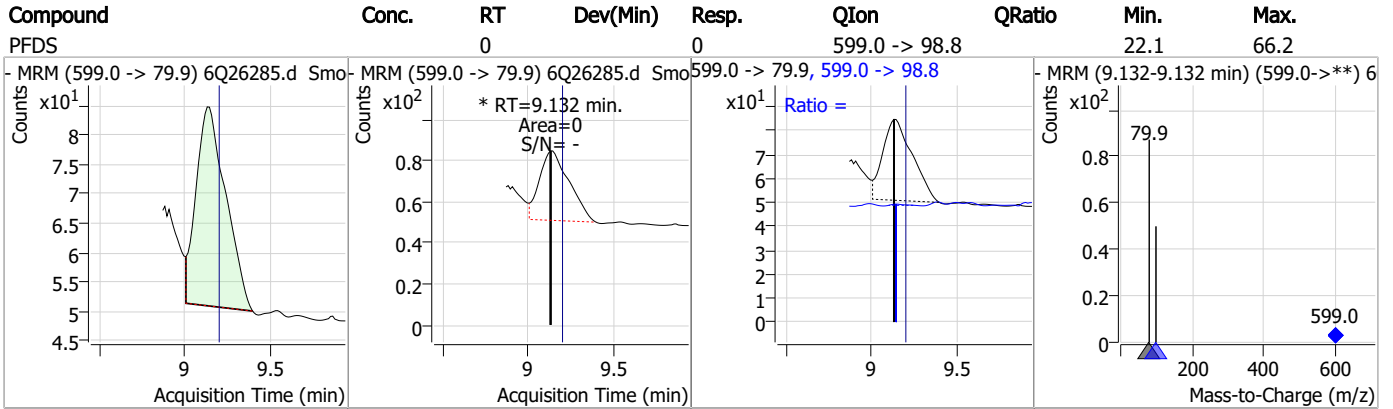




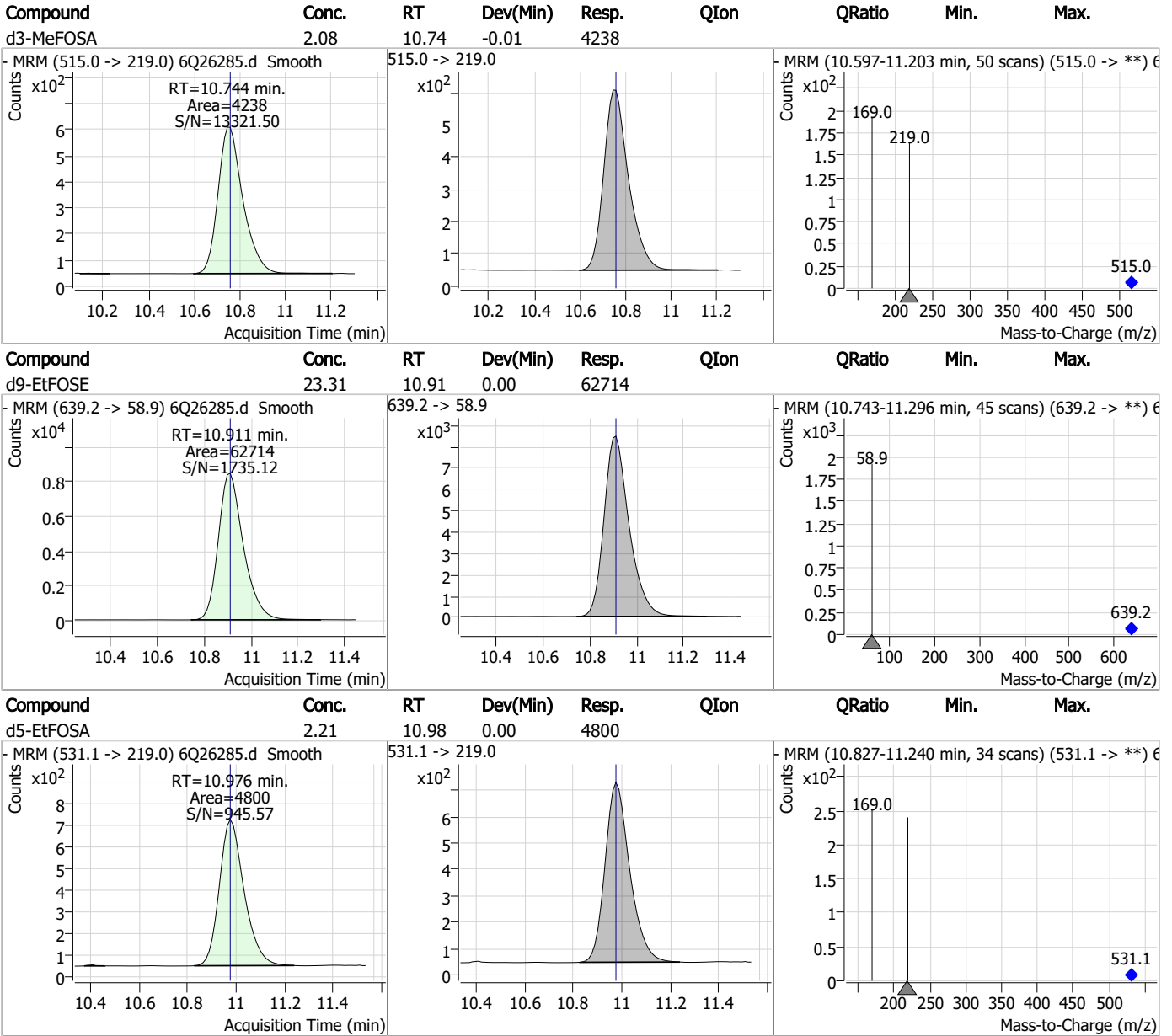
### Perfluorinated Compounds by LC/MS/MS



### Perfluorinated Compounds by LC/MS/MS



Perfluorinated Compounds by LC/MS/MS



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## Perfluorinated Compounds by LC/MS/MS

Data File : 6Q26618.d  
 Operator : marthav  
 Acq. Method : 1633full.m  
 Acq. Date-Time : 10/18/2023 4:56:31 AM  
 Sample Name : FC10290-1  
 Vial : P5-A7  
 DA Method File : 1633\_101723\_S6Q373.quantmethod.xml  
 Batch Name : S6Q373.batch.bin  
 Sample Information : OP99445,S6Q373,525,,,5.0,10,water

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
<b>Internal Standards</b>					
M4-PFBA	2.926	216.8 -> 171.9	14622	1.00 µg/L	0.012
M5-PFPeA	4.346	268.3 -> 223.0	4694	0.50 µg/L	0.000
M5-PFHxA	5.565	318.0 -> 273.0	4623	0.25 µg/L	0.012
M4-PFHpA	6.493	367.1 -> 322.0	5070	0.25 µg/L	0.000
M8-PFOA	7.124	421.1 -> 376.0	6677	0.25 µg/L	-0.012
M9-PFNA	7.654	472.1 -> 427.0	2497	0.13 µg/L	0.000
M6-PFDA	8.121	519.1 -> 474.1	2697	0.13 µg/L	0.000
M7-PFUnDA	8.564	570.0 -> 525.1	2806	0.13 µg/L	-0.012
M2-PFDoDA	8.993	615.1 -> 570.0	3257	0.13 µg/L	0.000
M2-PFTeDA	9.708	715.2 -> 670.0	1225	0.13 µg/L	0.000
M8-FOSA	9.642	506.1 -> 77.8	1940	0.25 µg/L	0.000
M3-PFBS	5.471	302.1 -> 79.9	2186	0.25 µg/L	0.000
M3-PFHxS	7.227	402.1 -> 79.9	1153	0.25 µg/L	0.000
M8-PFOS	8.272	507.1 -> 79.9	1466	0.25 µg/L	0.000
M2-4:2FTS	5.228	329.1 -> 80.9	272	0.50 µg/L	0.000
M2-6:2FTS	6.910	429.1 -> 80.9	450	0.50 µg/L	0.000
M2-8:2FTS	7.922	529.1 -> 80.9	370	0.50 µg/L	0.000
M3-MeFOSAA	8.178	573.2 -> 419.0	2664	0.50 µg/L	0.000
M3-HFPO-DA	5.930	286.9 -> 168.9	2899	1.00 µg/L	0.012
M5-EtFOSAA	8.374	589.2 -> 419.0	2160	0.50 µg/L	0.000
M7-MeFOSE	10.665	623.2 -> 58.9	6560	2.50 µg/L	0.000
M9-EtFOSE	10.899	639.2 -> 58.9	8464	2.50 µg/L	0.000
M5-EtFOSA	10.977	531.1 -> 219.0	552	0.25 µg/L	0.000
M3-MeFOSA	10.745	515.0 -> 219.0	610	0.25 µg/L	0.000
13C4-PFOS	8.261	502.8 -> 79.9	2861	0.25 µg/L	-0.012
13C3-PFBA	2.929	216.0 -> 172.0	6372	0.50 µg/L	0.012
18O2-PFHxS	7.226	403.0 -> 83.9	829	0.25 µg/L	0.000
13C4-PFOA	7.125	417.1 -> 372.0	7887	0.25 µg/L	0.000
13C2-PFDA	8.122	515.1 -> 470.1	3021	0.13 µg/L	0.000
13C5-PFNA	7.654	468.0 -> 423.0	2820	0.13 µg/L	0.000
13C2-PFHxA	5.553	315.1 -> 270.0	5241	0.25 µg/L	0.000
<b>System Monitoring Compounds</b>					
13C2-4:2FTS	5.228	329.1 -> 80.9	272	0.52 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 10.5%		
13C2-6:2FTS	6.910	429.1 -> 80.9	450	0.62 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 12.3%		
13C2-8:2FTS	7.922	529.1 -> 80.9	370	0.43 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 8.6%		
13C2-PFDoDA	8.993	615.1 -> 570.0	3257	0.10 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 8.0%		
13C2-PFTeDA	9.708	715.2 -> 670.0	1225	0.10 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 8.0%		
13C3-PFBS	5.471	302.1 -> 79.9	2186	0.24 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 9.5%		
13C3-PFHxS	7.227	402.1 -> 79.9	1153	0.21 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 = 8.5%		
13C4-PFBA	2.926	216.8 -> 171.9	14622	0.93	µg/L	0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 9.3%		
13C4-PFHpA	6.493	367.1 -> 322.0	5070	0.24	µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 9.5%		
13C5-PFHxA	5.565	318.0 -> 273.0	4623	0.22	µg/L	0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 8.8%		
13C5-PFPeA	4.346	268.3 -> 223.0	4694	0.44	µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 8.9%		
13C6-PFDA	8.121	519.1 -> 474.1	2697	0.10	µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 8.4%		
13C7-PFUnDA	8.564	570.0 -> 525.1	2806	0.10	µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 8.0%		
13C8-FOSA	9.642	506.1 -> 77.8	1940	0.07	µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 2.9%		
13C8-PFOA	7.124	421.1 -> 376.0	6677	0.24	µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 9.5%		
13C8-PFOS	8.272	507.1 -> 79.9	1466	0.12	µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 4.6%		
13C9-PFNA	7.654	472.1 -> 427.0	2497	0.10	µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 8.2%		
d3-MeFOSAA	8.178	573.2 -> 419.0	2664	0.20	µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 4.0%		
13C3-HFPO-DA	5.930	286.9 -> 168.9	2899	0.84	µg/L	0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 8.4%		
d3-MeFOSA	10.745	515.0 -> 219.0	610	0.08	µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 3.1%		
d5-EtFOSAA	8.374	589.2 -> 419.0	2160	0.20	µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 3.9%		
d7-MeFOSE	10.665	623.2 -> 58.9	6560	0.71	µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 2.8%		
d9-EtFOSE	10.899	639.2 -> 58.9	8464	0.74	µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 3.0%		
d5-EtFOSA	10.977	531.1 -> 219.0	552	0.06	µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 2.4%		

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	8.530	512.9 -> 469.0	0	µg/L	m	1
		512.9 -> 219.0	0			
PFDODA	-	613.1 -> 569.0	-	N.D.		
		613.1 -> 319.0				
PFDS	9.145	599.0 -> 79.9	0	µg/L	m	1



7.12

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## Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
		599.0 -> 98.8	0			
PFHpA	-	363.1 -> 319.0	-	N.D.		
		363.1 -> 169.0				
PFHpS	8.238	449.0 -> 79.9	0	µg/L	m	1
		449.0 -> 98.9	0			
PFHxA	-	313.0 -> 269.0	-	N.D.		
		313.0 -> 118.9				
PFHxS	-	398.7 -> 79.9	-	N.D.		
		398.7 -> 98.9				
PFNA	8.065	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	-	413.0 -> 369.0	-	N.D.		
		413.0 -> 169.0				
PFOS	8.248	498.9 -> 79.9	0	µg/L	m	1
		498.9 -> 98.8	0			
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	8.291	563.1 -> 519.0	0	µg/L	m	1
		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

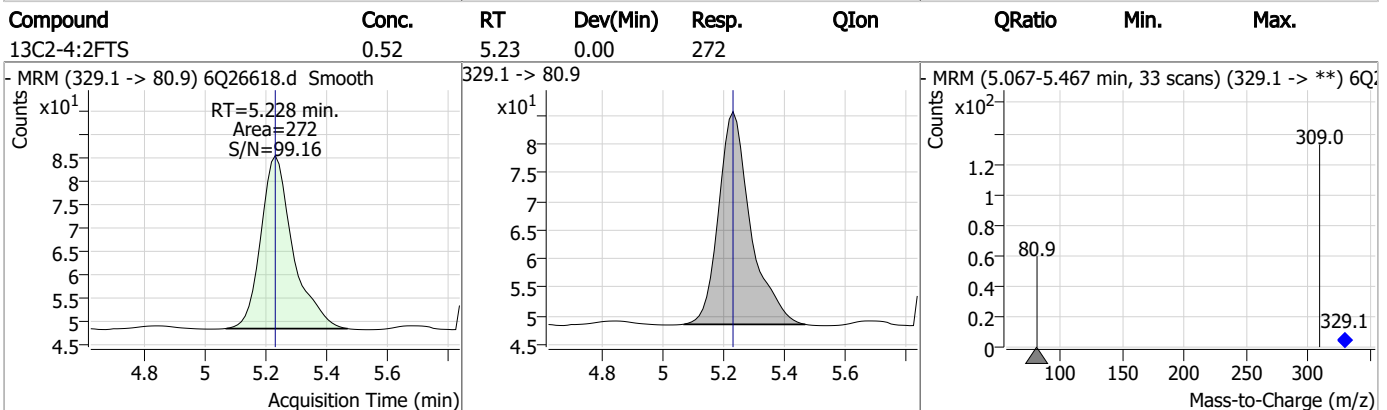
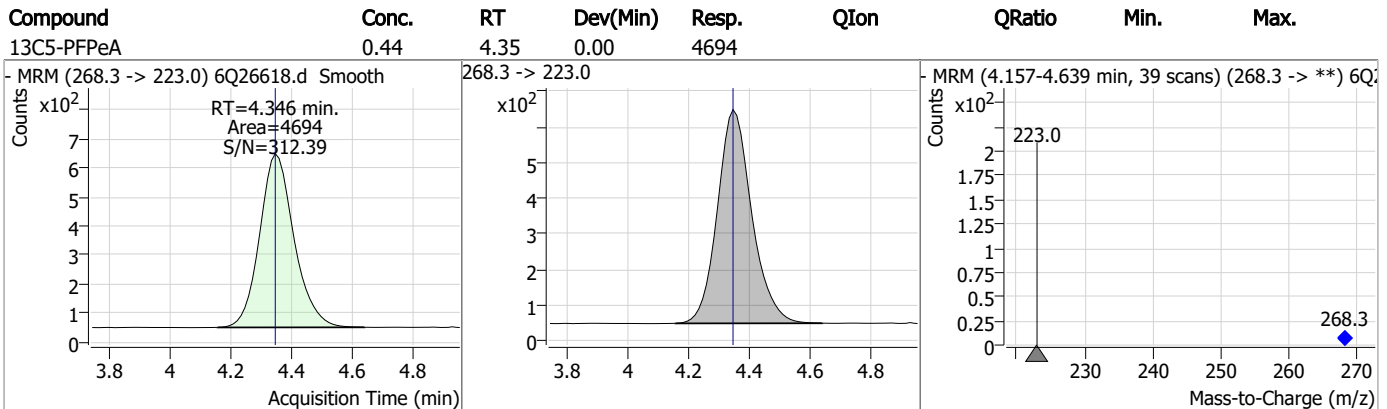
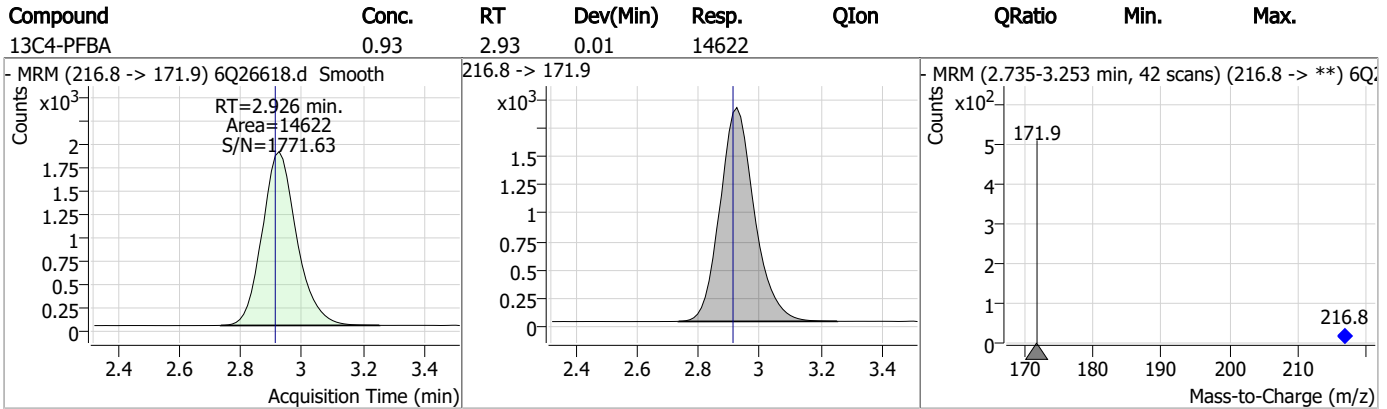
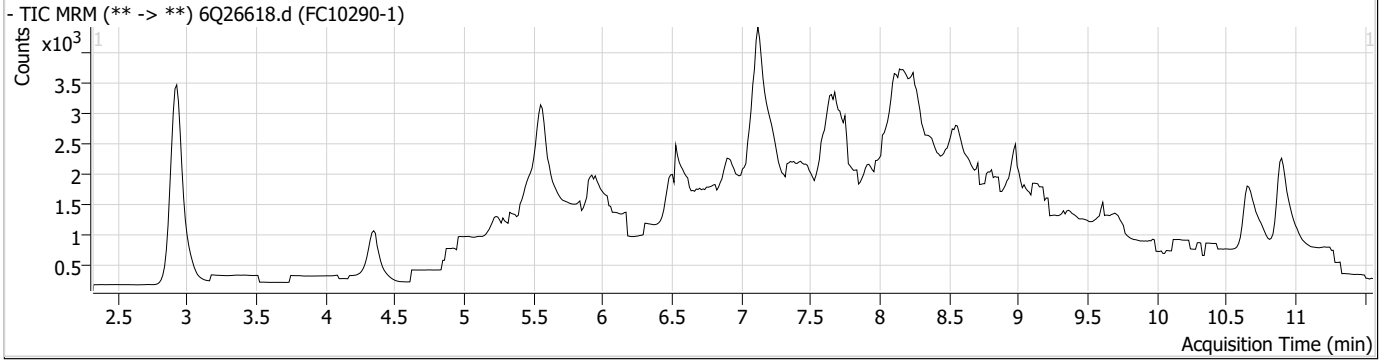
Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
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7.1.2  
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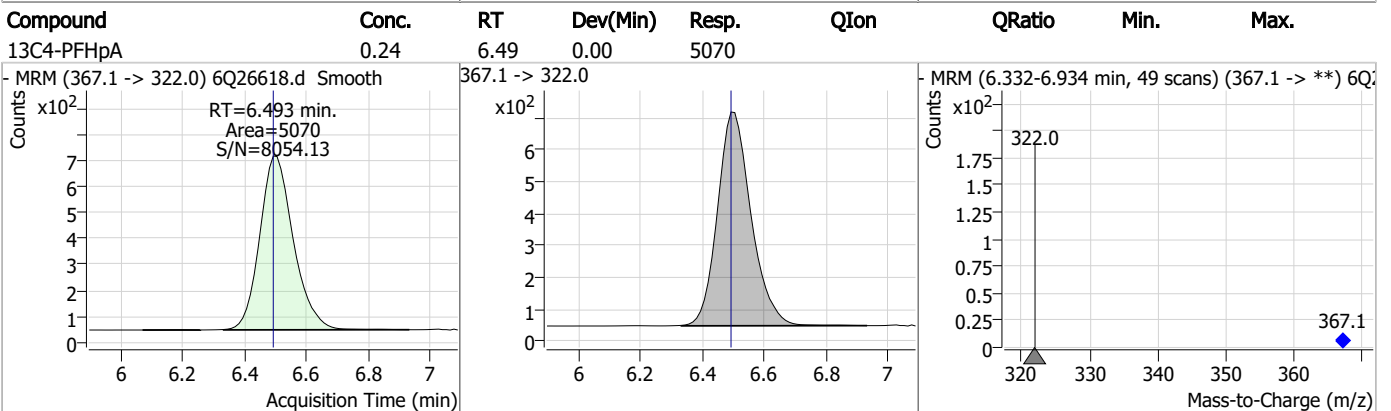
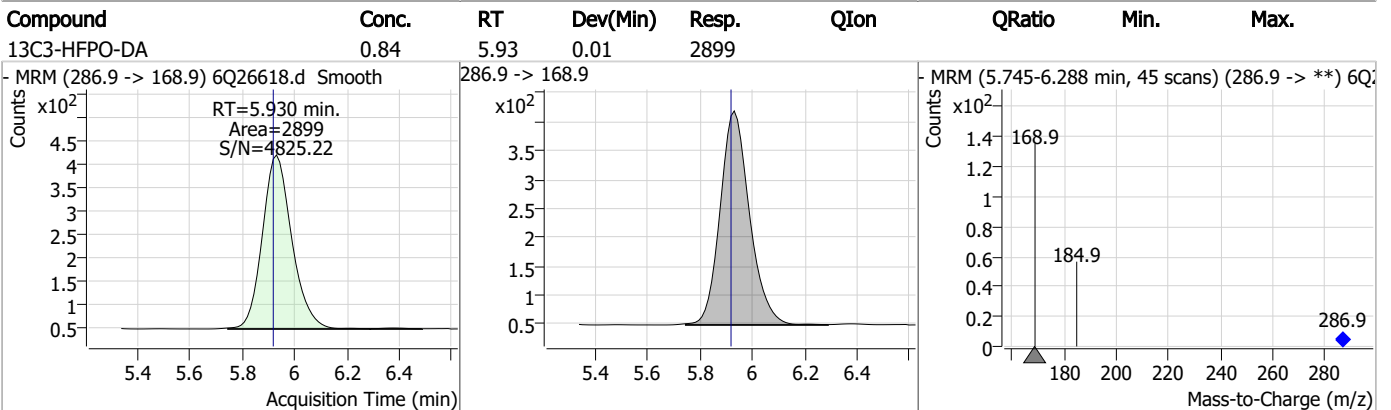
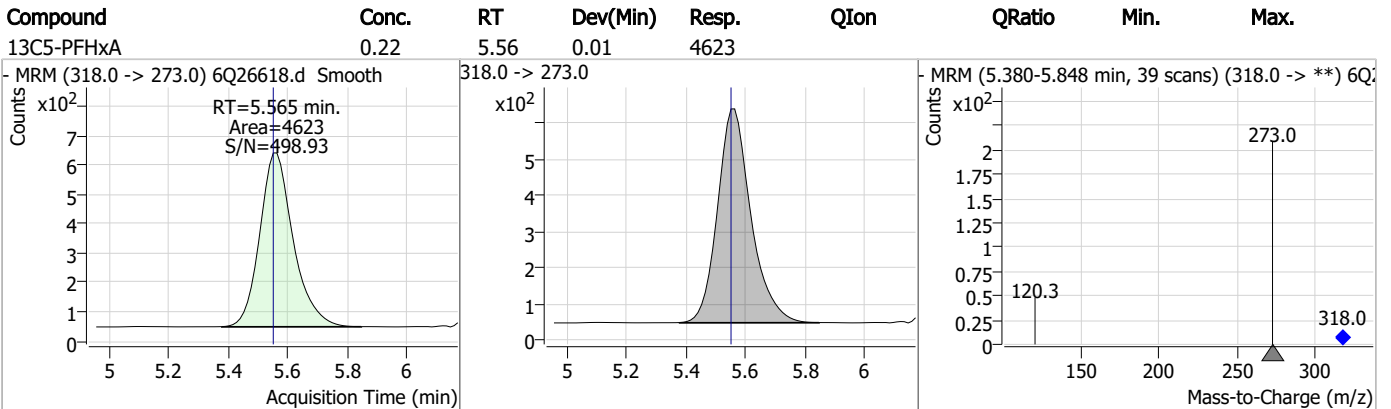
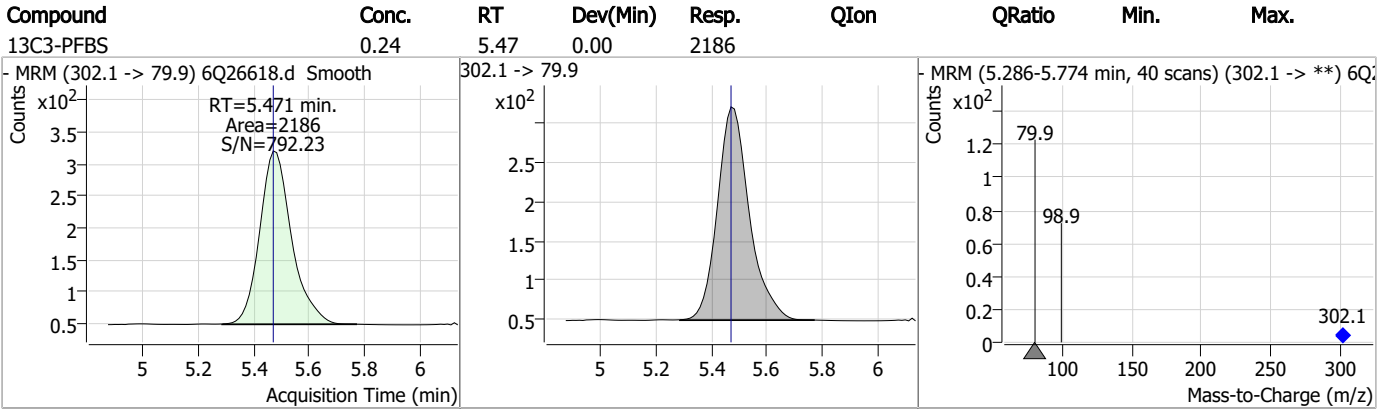


### Perfluorinated Compounds by LC/MS/MS

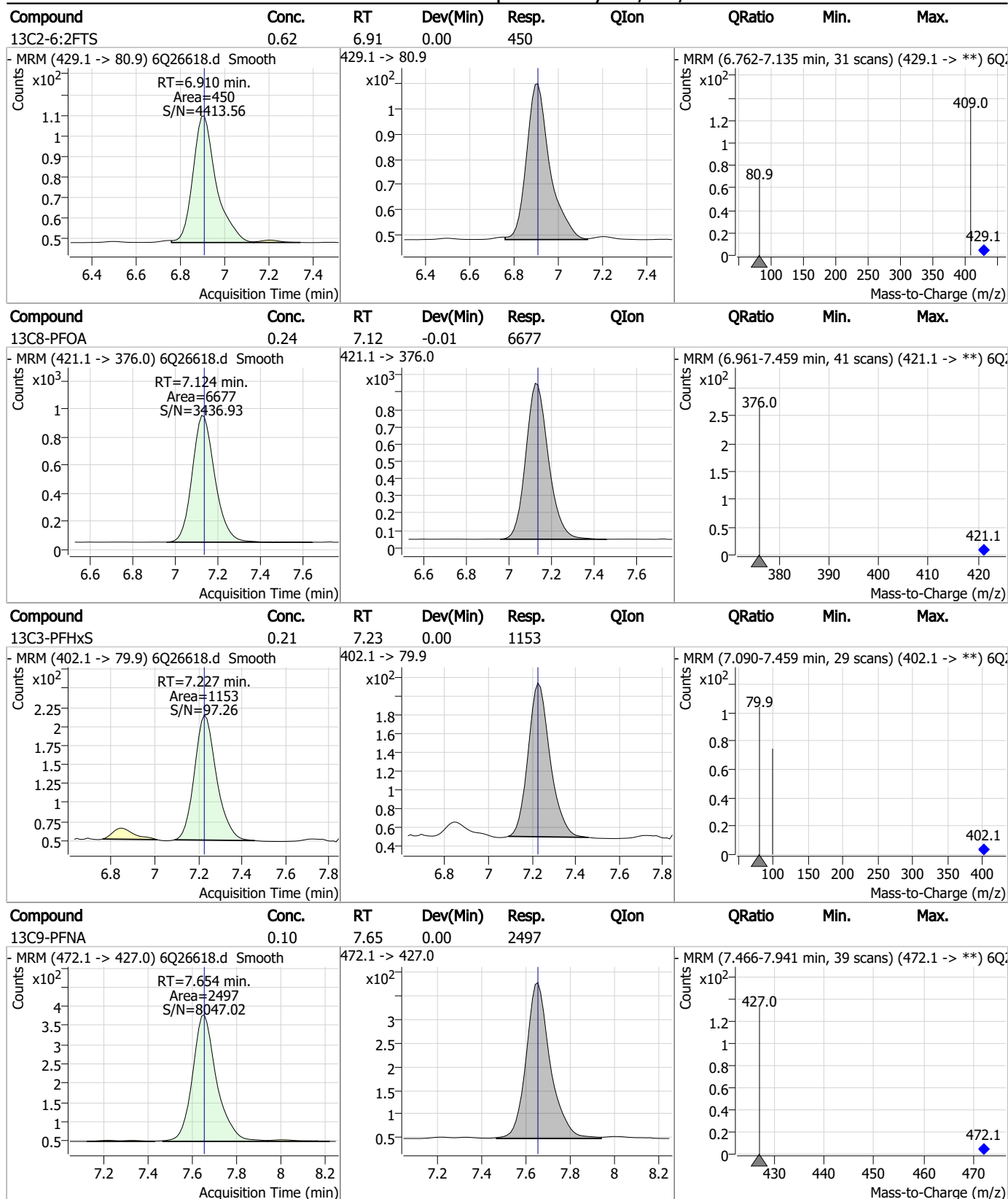




Perfluorinated Compounds by LC/MS/MS



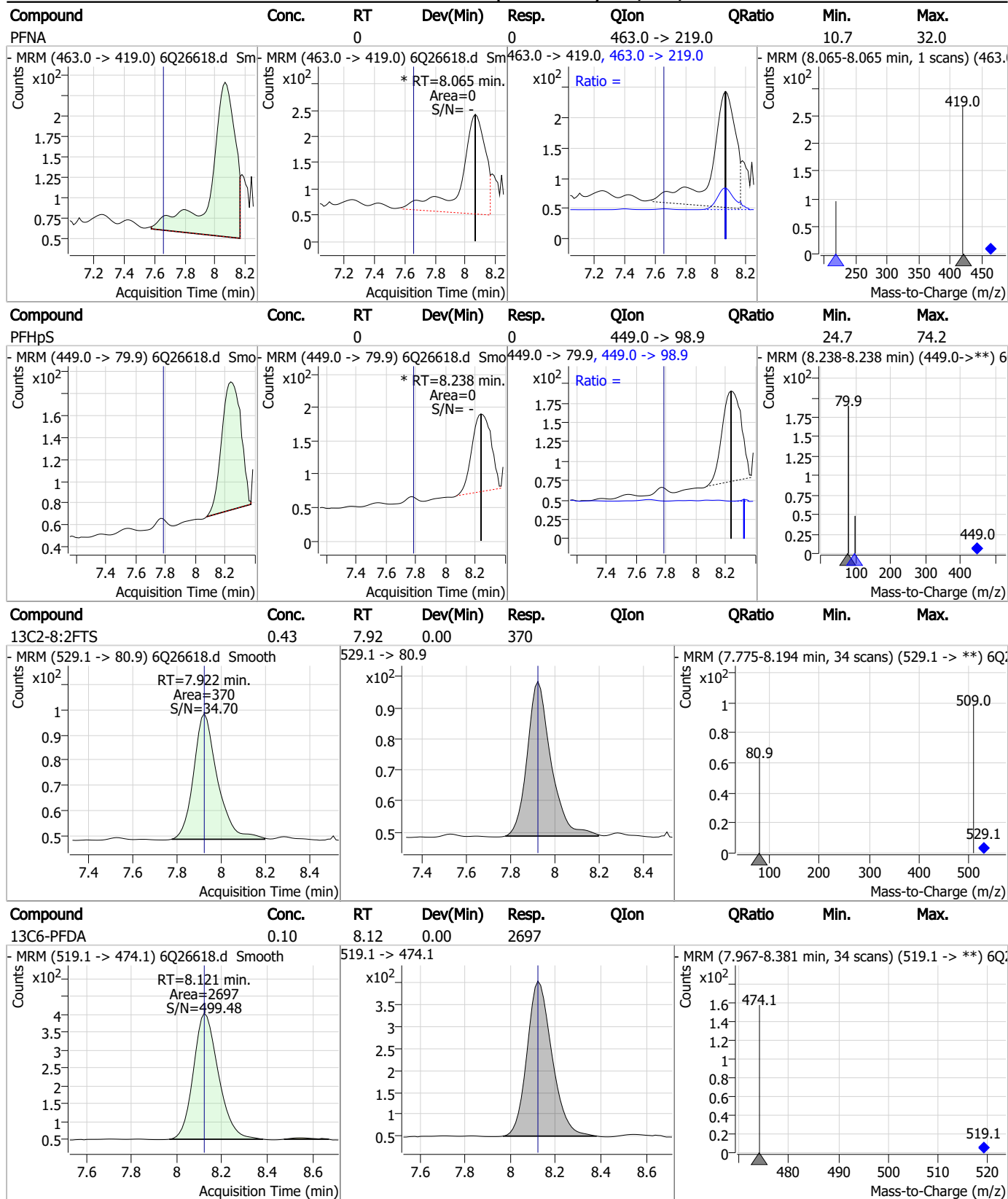
### Perfluorinated Compounds by LC/MS/MS



7.1.2

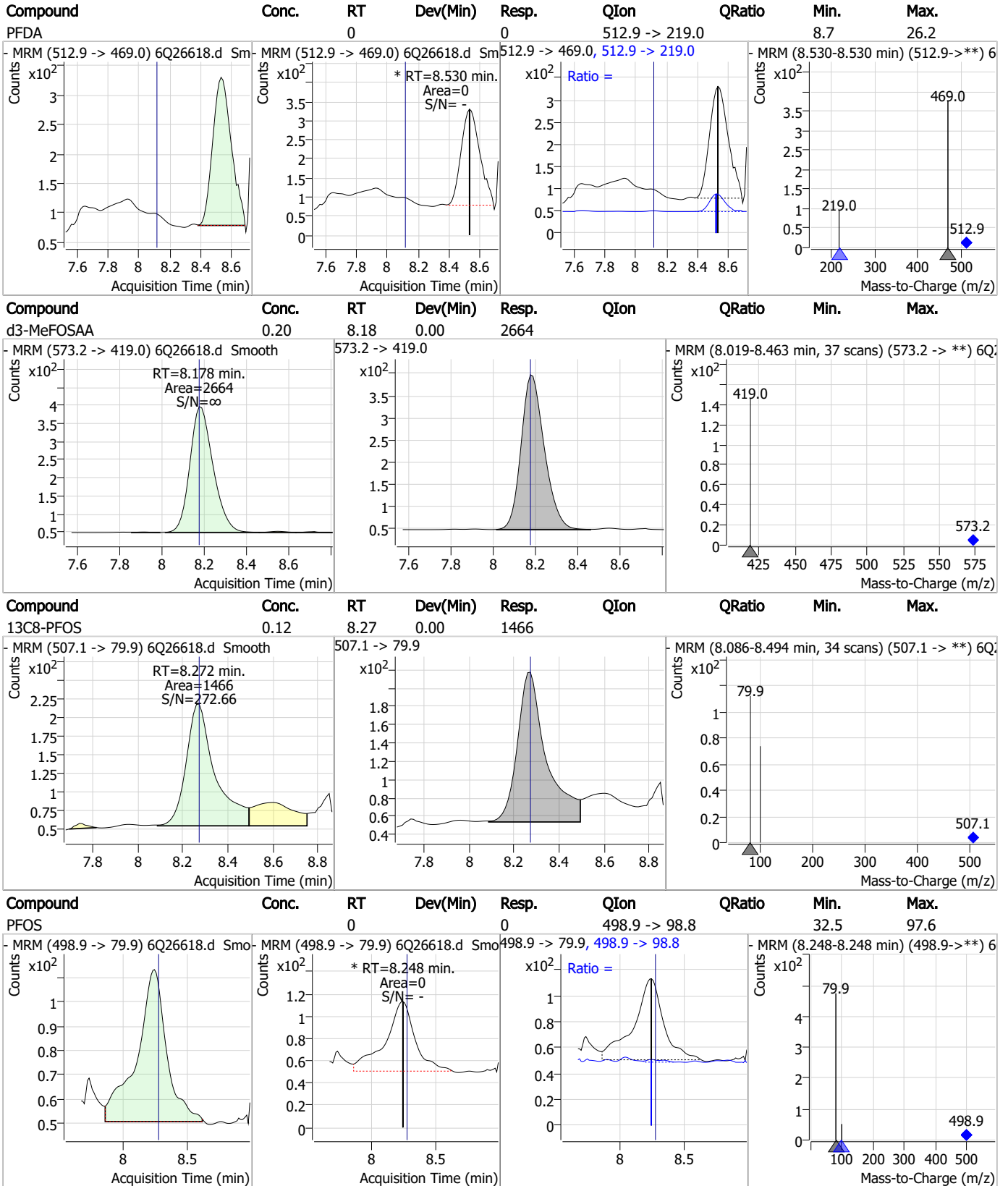
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### Perfluorinated Compounds by LC/MS/MS

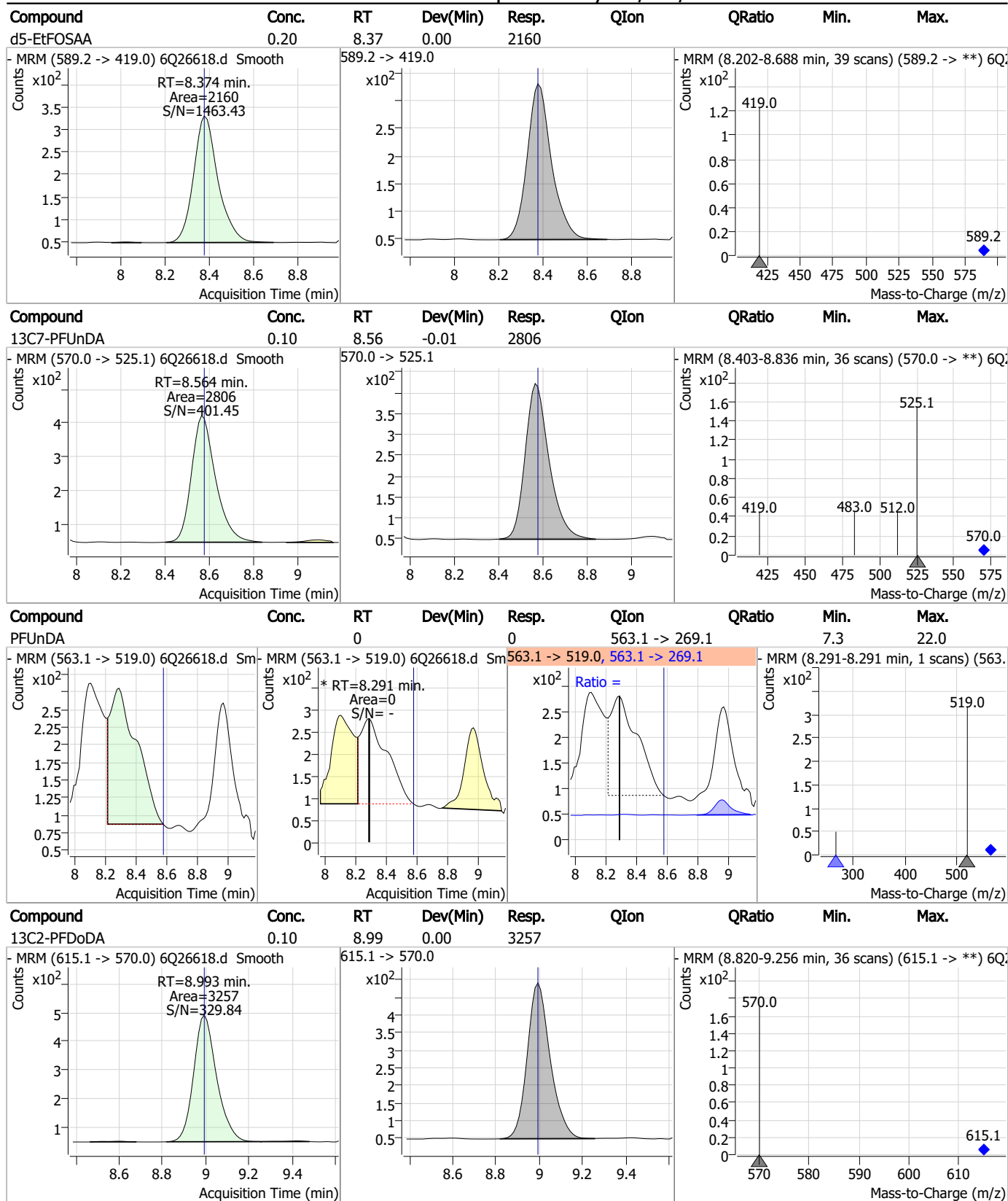


7.1.2  
7

### Perfluorinated Compounds by LC/MS/MS

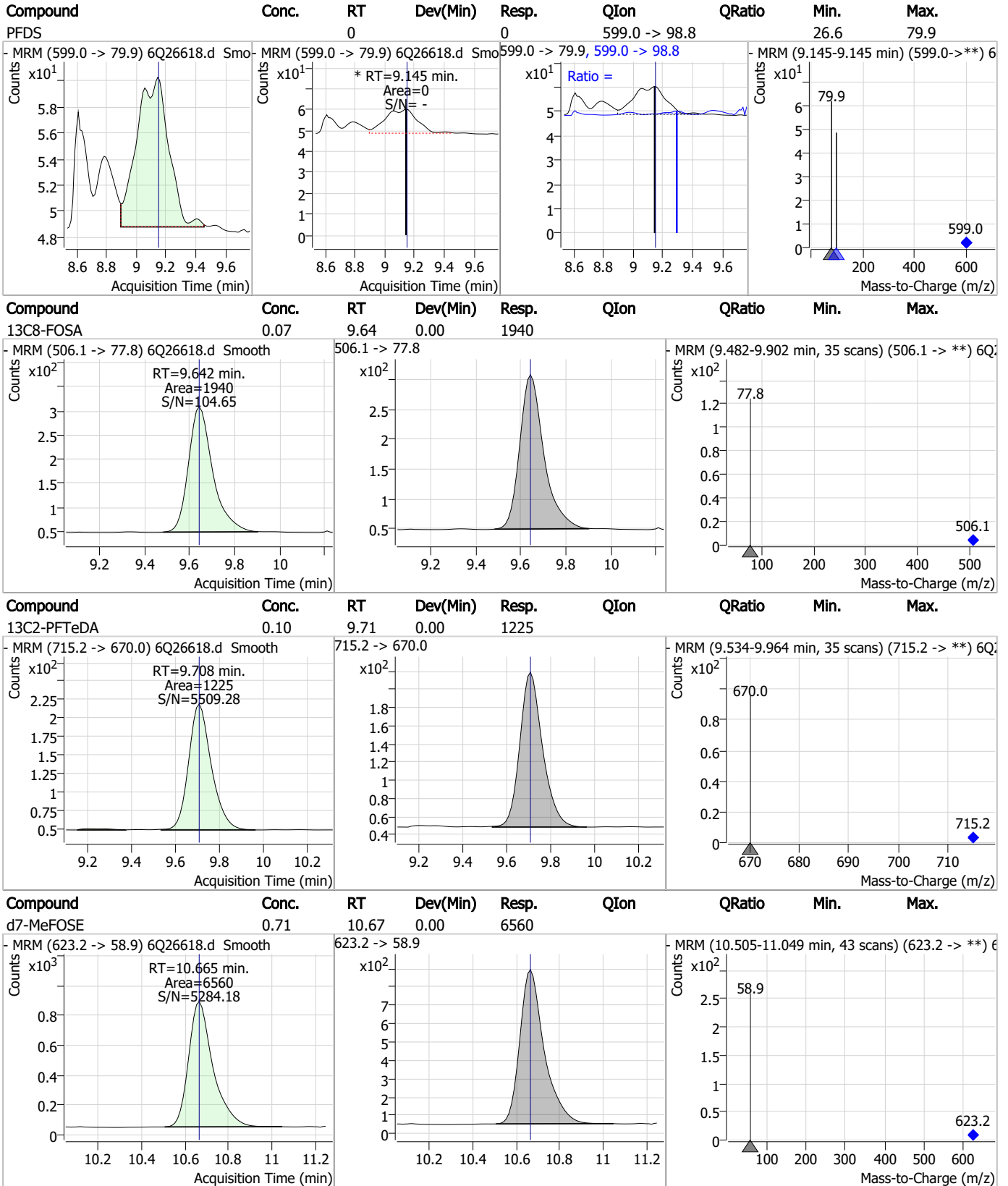


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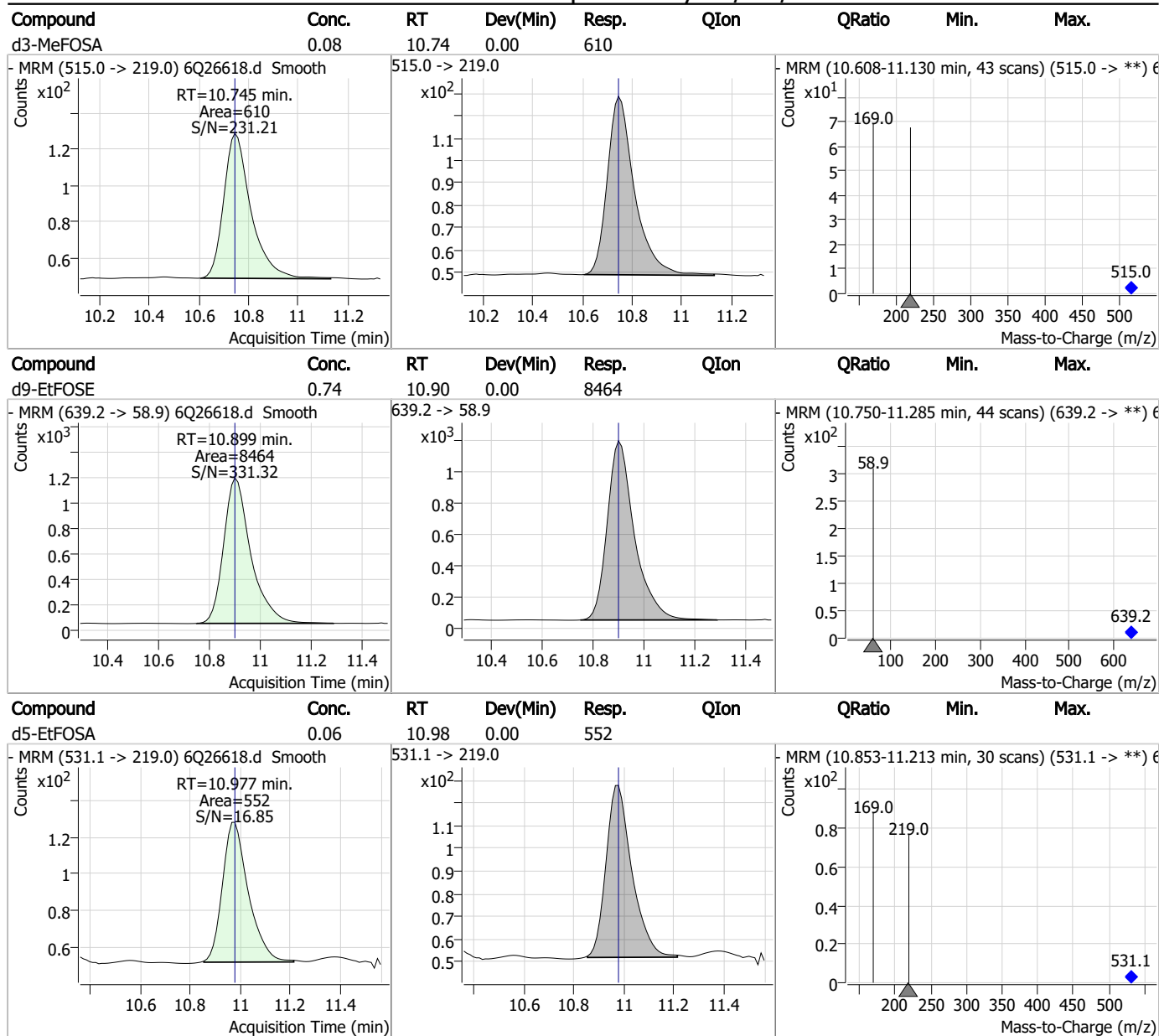


7.1.2  
7

Perfluorinated Compounds by LC/MS/MS



### Perfluorinated Compounds by LC/MS/MS



7.1.2  
7

### Perfluorinated Compounds by LC/MS/MS

Data File : 6Q26286.d  
 Operator : marthav  
 Acq. Method : 1633full.m  
 Acq. Date-Time : 10/12/2023 5:13:58 PM  
 Sample Name : FC10290-2  
 Vial : P6-A7  
 DA Method File : 1633\_100823\_S6Q367.quantmethod.xml  
 Batch Name : s6q370.batch.bin  
 Sample Information : OP99445,S6Q370,550,,,5.0,1,water

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
<b>Internal Standards</b>					
M4-PFBA	2.960	216.8 -> 171.9	144348	10.00 µg/L	0.012
M5-PFPeA	4.359	268.3 -> 223.0	50585	5.00 µg/L	-0.012
M5-PFHxA	5.567	318.0 -> 273.0	45509	2.50 µg/L	-0.012
M4-PFHpA	6.507	367.1 -> 322.0	44964	2.50 µg/L	-0.012
M8-PFOA	7.149	421.1 -> 376.0	54614	2.50 µg/L	-0.012
M9-PFNA	7.666	472.1 -> 427.0	22783	1.25 µg/L	-0.013
M6-PFDA	8.148	519.1 -> 474.1	23177	1.25 µg/L	-0.012
M7-PFUnDA	8.601	570.0 -> 525.1	21604	1.25 µg/L	-0.012
M2-PFDoDA	9.030	615.1 -> 570.0	21546	1.25 µg/L	0.000
M2-PFTeDA	9.735	715.2 -> 670.0	5864	1.25 µg/L	-0.012
M8-FOSA	9.657	506.1 -> 77.8	14857	2.50 µg/L	0.000
M3-PFBS	5.485	302.1 -> 79.9	20576	2.50 µg/L	-0.012
M3-PFHxS	7.251	402.1 -> 79.9	10750	2.50 µg/L	-0.012
M8-PFOS	8.298	507.1 -> 79.9	9450	2.50 µg/L	-0.013
M2-4:2FTS	5.242	329.1 -> 80.9	2383	5.00 µg/L	-0.012
M2-6:2FTS	6.924	429.1 -> 80.9	3051	5.00 µg/L	-0.012
M2-8:2FTS	7.950	529.1 -> 80.9	2841	5.00 µg/L	0.000
M3-MeFOSAA	8.207	573.2 -> 419.0	20792	5.00 µg/L	0.000
M3-HFPO-DA	5.945	286.9 -> 168.9	29855	10.00 µg/L	-0.012
M5-EtFOSAA	8.402	589.2 -> 419.0	16500	5.00 µg/L	-0.012
M7-MeFOSE	10.665	623.2 -> 58.9	50644	25.00 µg/L	0.000
M9-EtFOSE	10.911	639.2 -> 58.9	60401	25.00 µg/L	0.000
M5-EtFOSA	10.976	531.1 -> 219.0	5039	2.50 µg/L	0.000
M3-MeFOSA	10.757	515.0 -> 219.0	4331	2.50 µg/L	0.000
13C4-PFOS	8.299	502.8 -> 79.9	9643	2.50 µg/L	-0.013
13C3-PFBA	2.964	216.0 -> 172.0	54583	5.00 µg/L	0.012
18O2-PFHxS	7.250	403.0 -> 83.9	6359	2.50 µg/L	-0.012
13C4-PFOA	7.150	417.1 -> 372.0	61868	2.50 µg/L	-0.012
13C2-PFDA	8.149	515.1 -> 470.1	20791	1.25 µg/L	-0.012
13C5-PFNA	7.667	468.0 -> 423.0	21245	1.25 µg/L	-0.013
13C2-PFHxA	5.568	315.1 -> 270.0	39350	2.50 µg/L	-0.012
<b>System Monitoring Compounds</b>					
13C2-4:2FTS	5.242	329.1 -> 80.9	2383	6.65 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 133.0%		
13C2-6:2FTS	6.924	429.1 -> 80.9	3051	5.72 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	2841	5.18 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 103.6%		
13C2-PFDoDA	9.030	615.1 -> 570.0	21546	1.04 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 83.2%		
13C2-PFTeDA	9.735	715.2 -> 670.0	5864	0.83 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 66.8%		
13C3-PFBS	5.485	302.1 -> 79.9	20576	2.86 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 114.2%		
13C3-PFHxS	7.251	402.1 -> 79.9	10750	2.66 µg/L	-0.012

7.1.3  
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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	144348	10.96 µg/L	0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 109.6%	
13C4-PFHpA	6.507	367.1 -> 322.0	44964	2.82 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 112.9%	
13C5-PFHxA	5.567	318.0 -> 273.0	45509	2.80 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 111.9%	
13C5-PFPeA	4.359	268.3 -> 223.0	50585	5.68 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 113.6%	
13C6-PFDA	8.148	519.1 -> 474.1	23177	1.32 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 105.9%	
13C7-PFUnDA	8.601	570.0 -> 525.1	21604	1.14 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 91.3%	
13C8-FOSA	9.657	506.1 -> 77.8	14857	1.87 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 74.7%	
13C8-PFOA	7.149	421.1 -> 376.0	54614	2.55 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 101.8%	
13C8-PFOS	8.298	507.1 -> 79.9	9450	2.27 µg/L	-0.013
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 90.8%	
13C9-PFNA	7.666	472.1 -> 427.0	22783	1.30 µg/L	-0.013
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 104.3%	
d3-MeFOSAA	8.207	573.2 -> 419.0	20792	4.90 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 98.0%	
13C3-HFPO-DA	5.945	286.9 -> 168.9	29855	10.88 µg/L	-0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 108.8%	
d3-MeFOSA	10.757	515.0 -> 219.0	4331	1.88 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 75.1%	
d5-EtFOSAA	8.402	589.2 -> 419.0	16500	4.54 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 90.8%	
d7-MeFOSE	10.665	623.2 -> 58.9	50644	19.72 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 78.9%	
d9-EtFOSE	10.911	639.2 -> 58.9	60401	19.78 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 79.1%	
d5-EtFOSA	10.976	531.1 -> 219.0	5039	2.04 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 81.7%	

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.	



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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	7.599	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

7.1.3  
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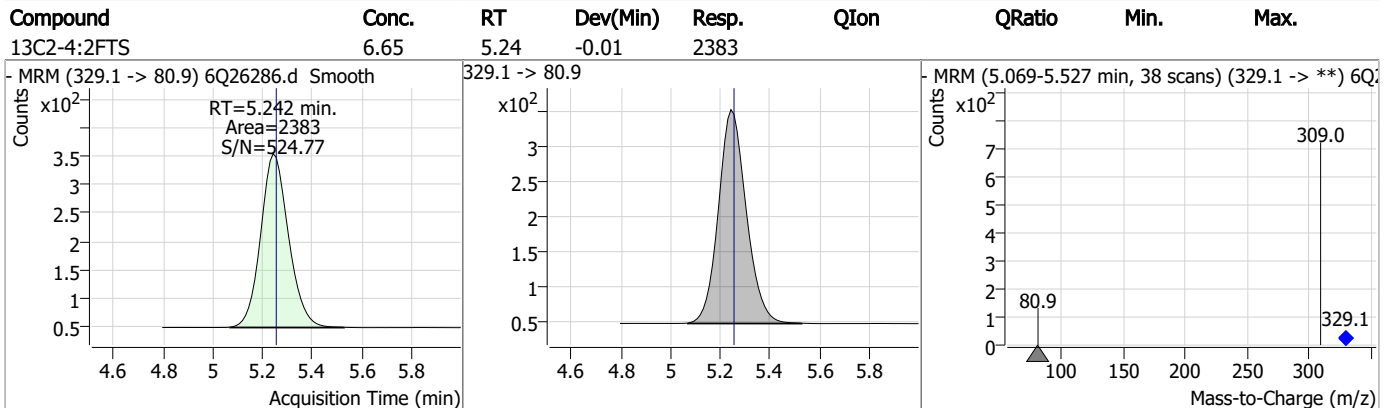
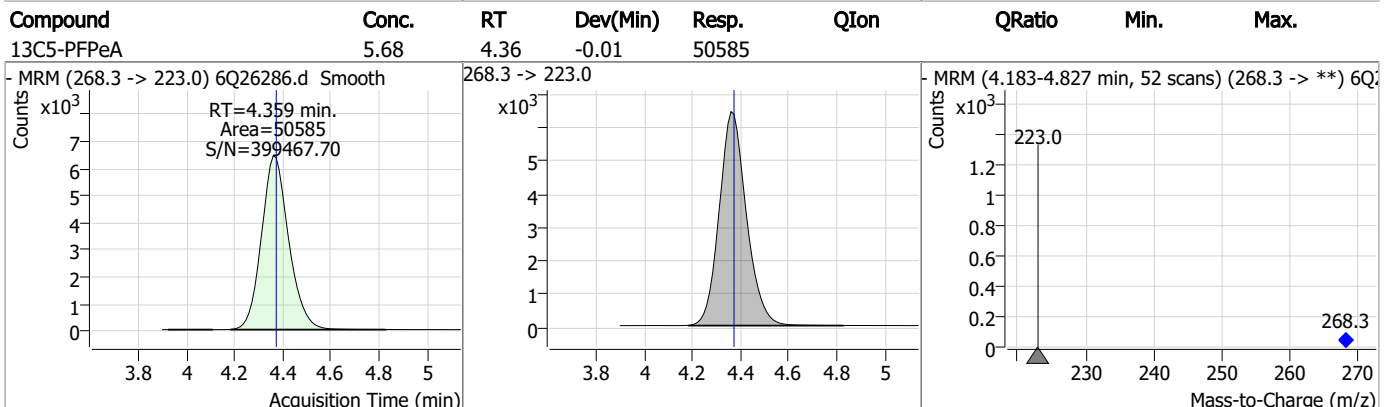
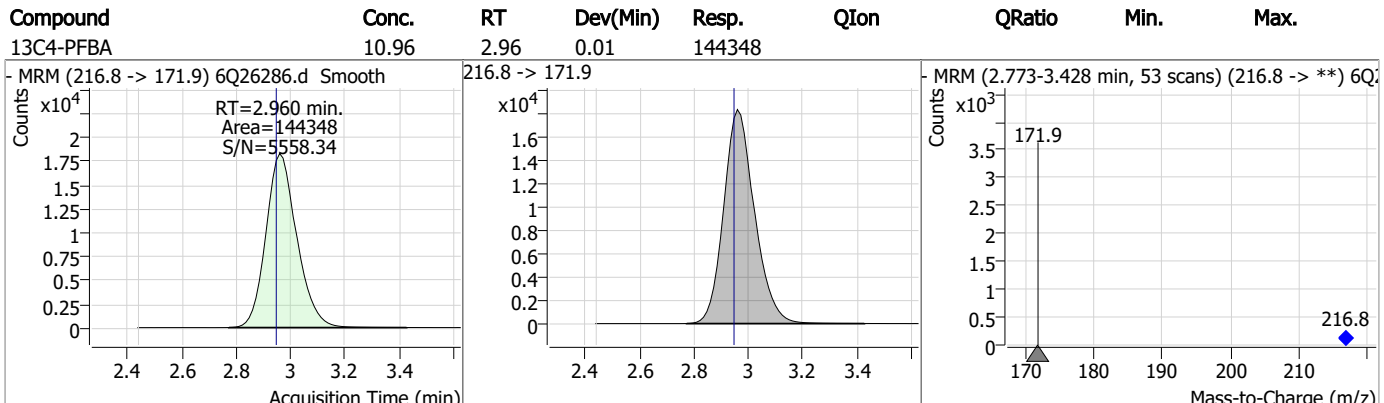
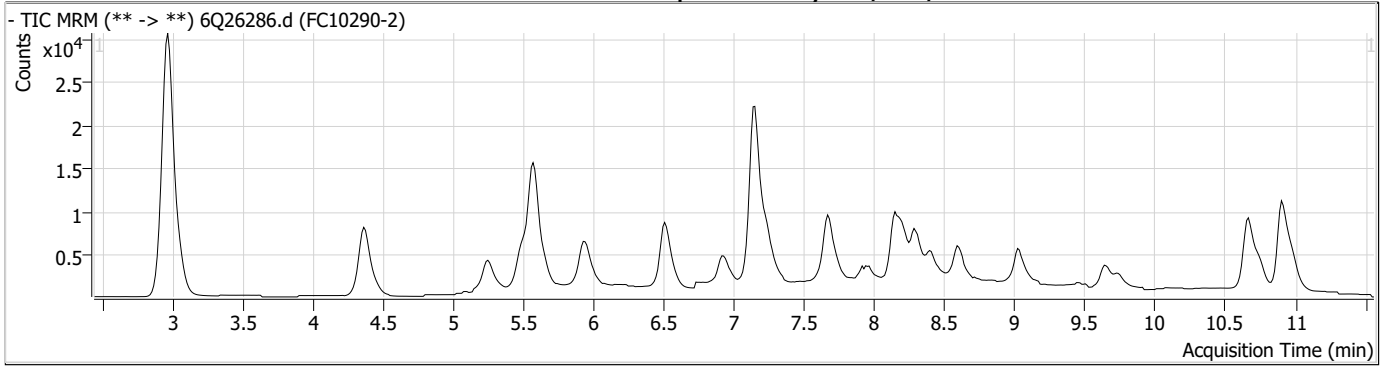
### Perfluorinated Compounds by LC/MS/MS

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

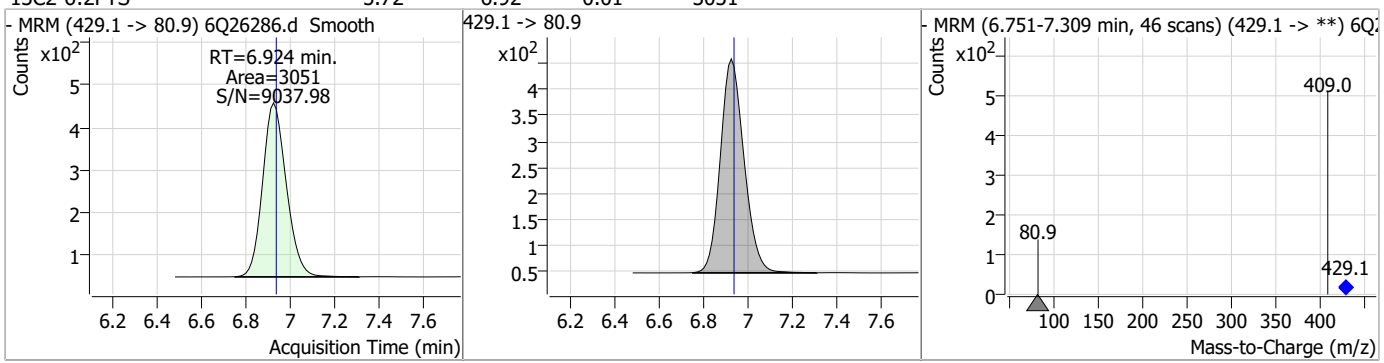


### Perfluorinated Compounds by LC/MS/MS

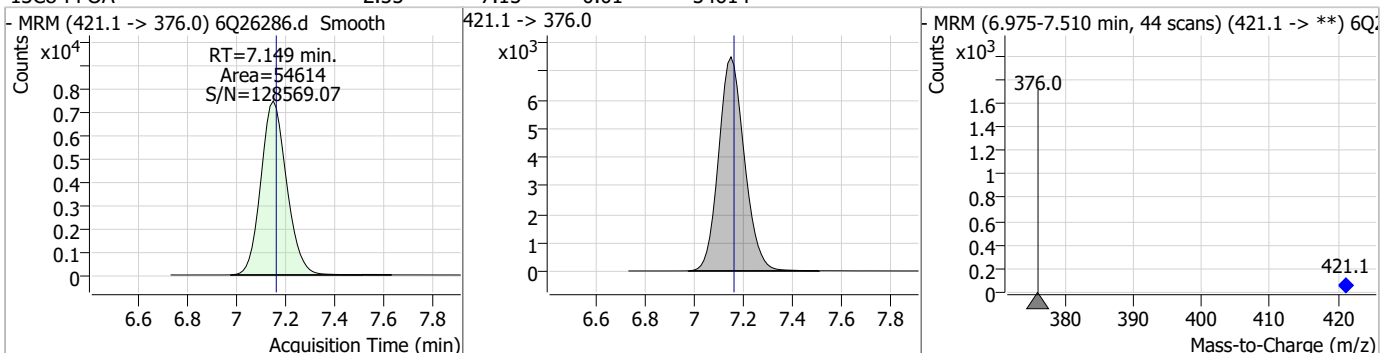
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFBS	2.86	5.49	-0.01	20576				
13C5-PFHxA	2.80	5.57	-0.01	45509				
13C3-HFPO-DA	10.88	5.94	-0.01	29855				
13C4-PFHpA	2.82	6.51	-0.01	44964				

### Perfluorinated Compounds by LC/MS/MS

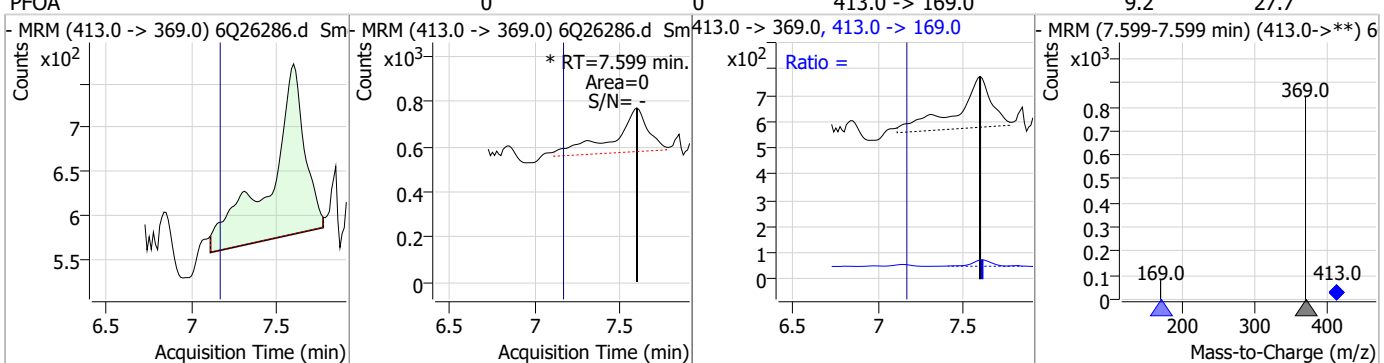
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
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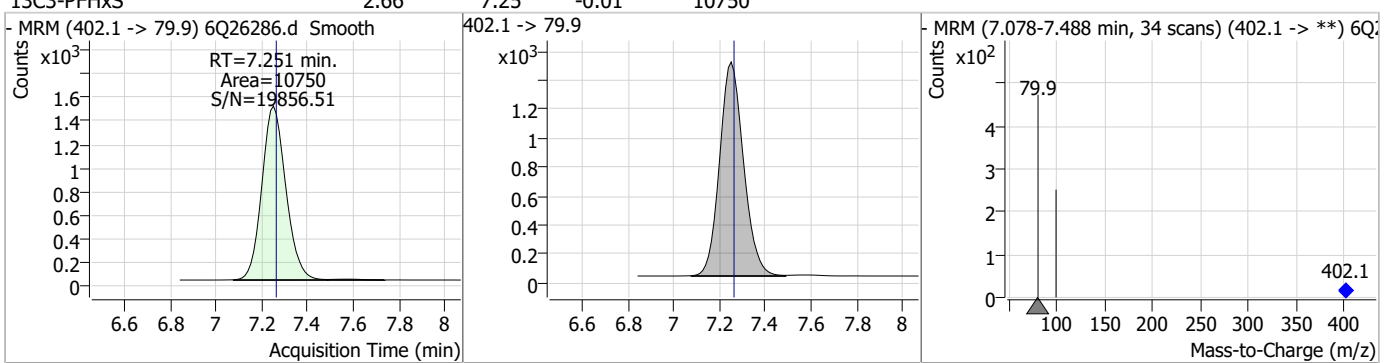
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
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Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
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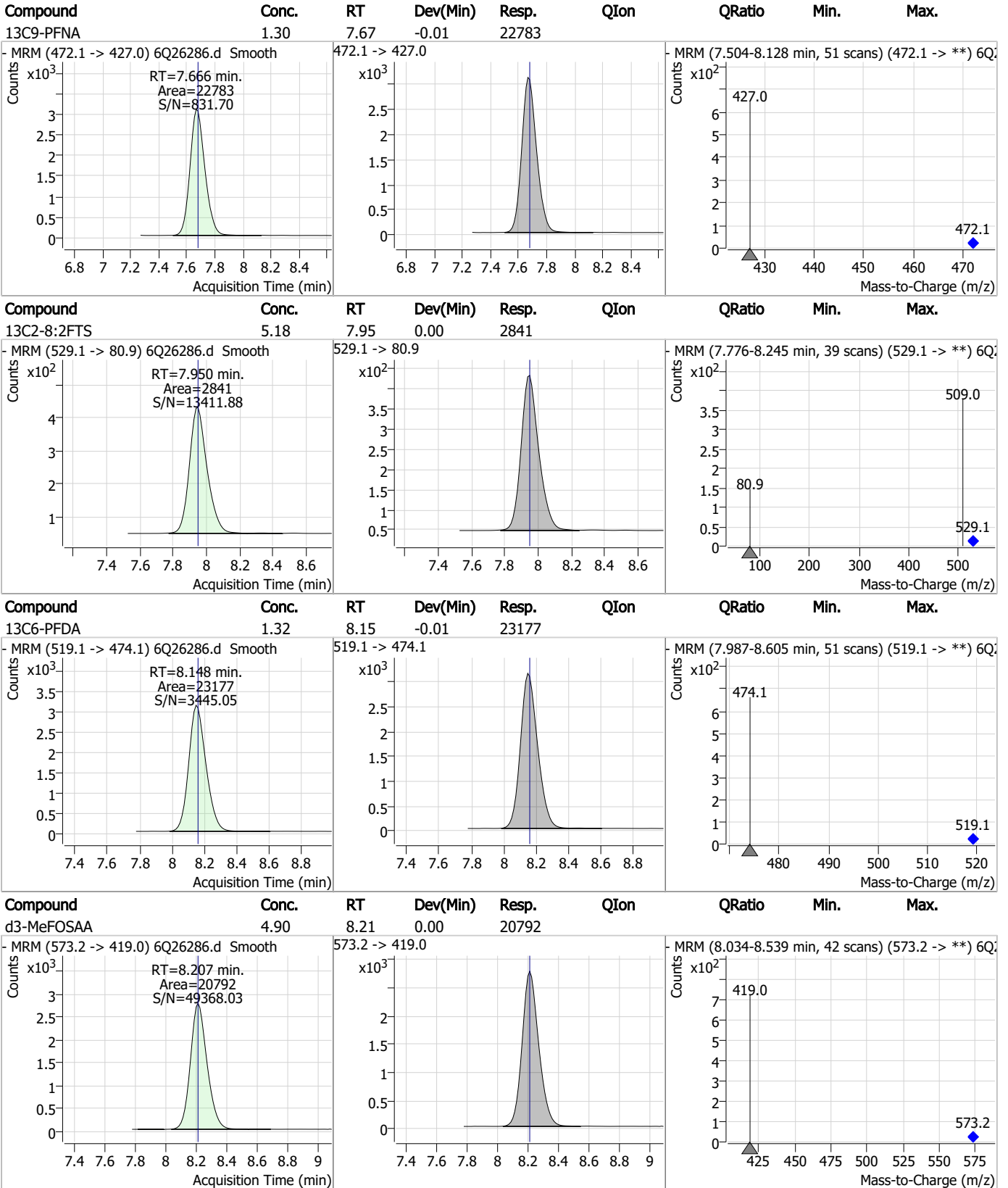


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
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7.1.3  
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### Perfluorinated Compounds by LC/MS/MS



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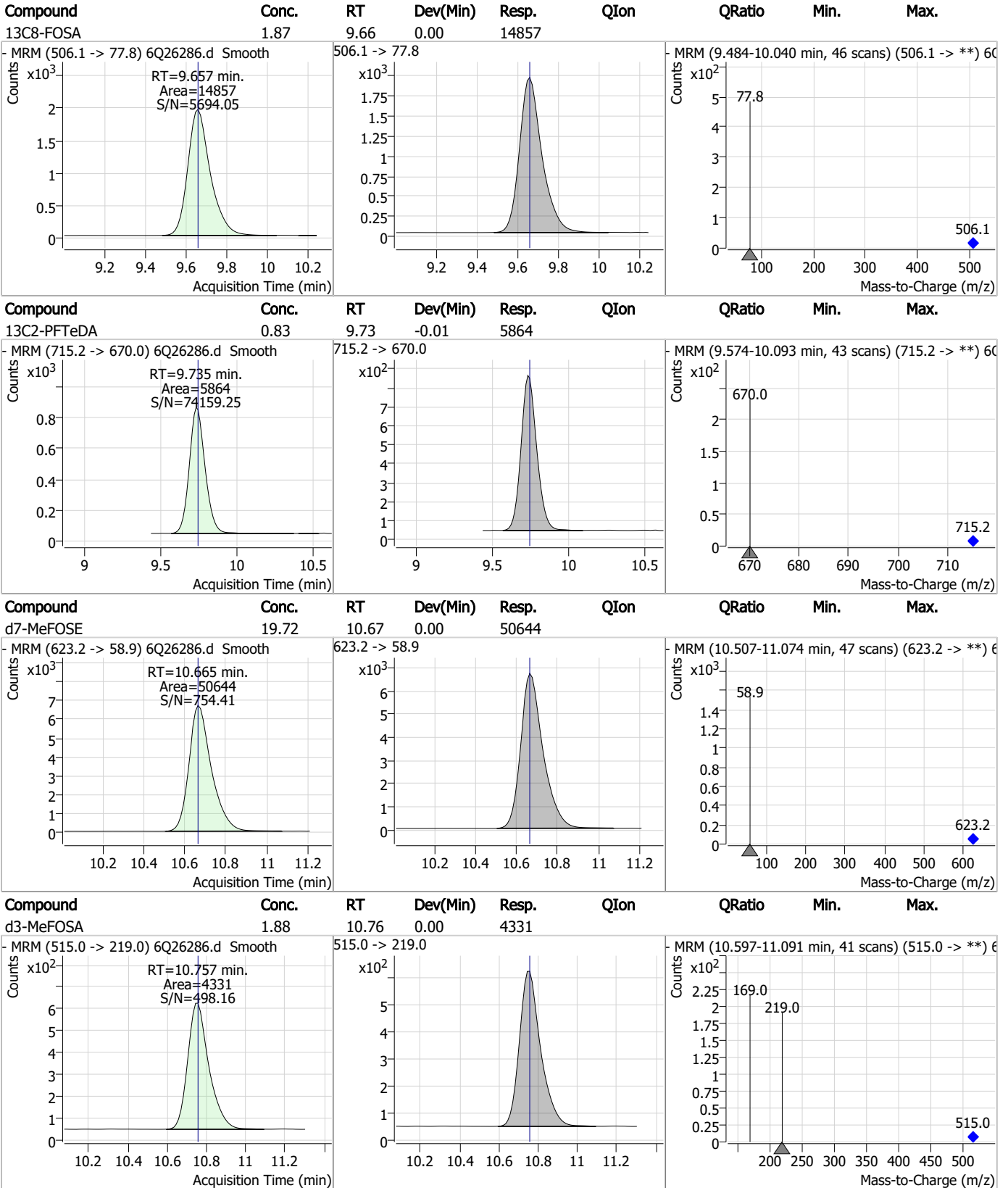
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### Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOS	2.27	8.30	-0.01	9450				
d5-EtFOSAA	4.54	8.40	-0.01	16500				
13C7-PFUnDA	1.14	8.60	-0.01	21604				
13C2-PFDoDA	1.04	9.03	0.00	21546				



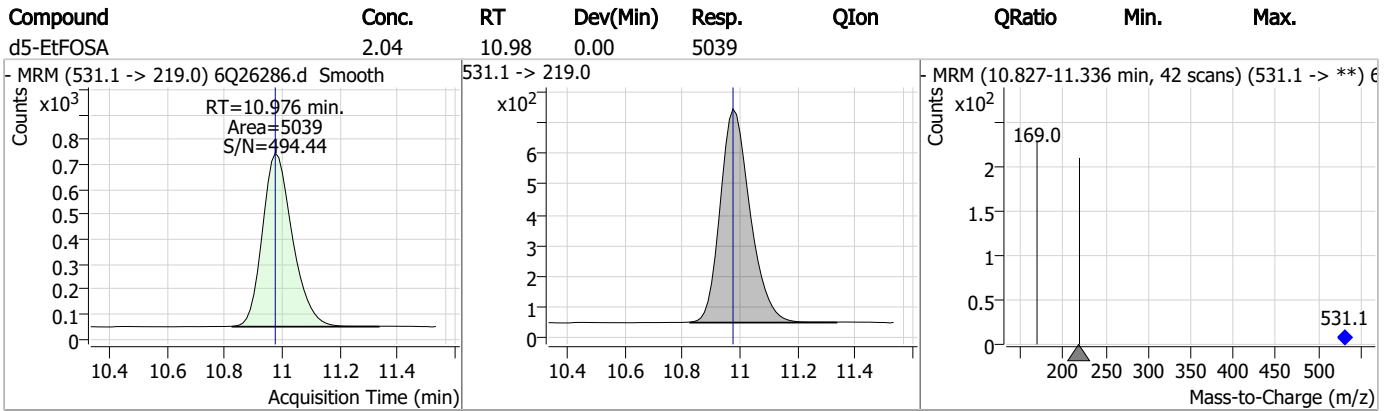
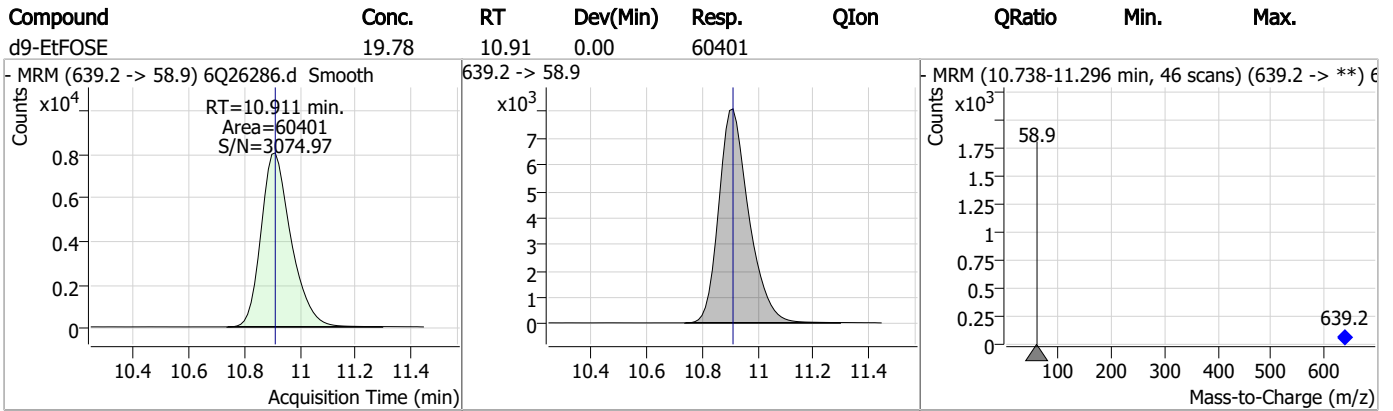
### Perfluorinated Compounds by LC/MS/MS



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### Perfluorinated Compounds by LC/MS/MS



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Manual Integrations  
**APPROVED**  
 (compounds with "m" flag)  
 Natasha Gumtie  
 10/16/23 17:58

### Perfluorinated Compounds by LC/MS/MS

Data File : 6Q26287.d  
 Operator : marthav  
 Acq. Method : 1633full.m  
 Acq. Date-Time : 10/12/2023 5:28:19 PM  
 Sample Name : FC10290-3  
 Vial : P6-A8  
 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)
<b>Internal Standards</b>					
M4-PFBA	2.960	216.8 -> 171.9	97478	10.00 µg/L	0.012
M5-PFPeA	4.359	268.3 -> 223.0	49516	5.00 µg/L	-0.012
M5-PFHxA	5.567	318.0 -> 273.0	43906	2.50 µg/L	-0.012
M4-PFHpA	6.507	367.1 -> 322.0	44206	2.50 µg/L	-0.012
M8-PFOA	7.149	421.1 -> 376.0	57762	2.50 µg/L	-0.012
M9-PFNA	7.666	472.1 -> 427.0	23178	1.25 µg/L	-0.013
M6-PFDA	8.148	519.1 -> 474.1	22614	1.25 µg/L	-0.012
M7-PFUnDA	8.601	570.0 -> 525.1	20730	1.25 µg/L	-0.012
M2-PFDoDA	9.030	615.1 -> 570.0	17377	1.25 µg/L	0.000
M2-PFTeDA	9.735	715.2 -> 670.0	4860	1.25 µg/L	-0.012
M8-FOSA	9.657	506.1 -> 77.8	15629	2.50 µg/L	0.000
M3-PFBS	5.485	302.1 -> 79.9	19806	2.50 µg/L	-0.012
M3-PFHxS	7.251	402.1 -> 79.9	11532	2.50 µg/L	-0.012
M8-PFOS	8.298	507.1 -> 79.9	9998	2.50 µg/L	-0.013
M2-4:2FTS	5.242	329.1 -> 80.9	2090	5.00 µg/L	-0.012
M2-6:2FTS	6.924	429.1 -> 80.9	2942	5.00 µg/L	-0.012
M2-8:2FTS	7.950	529.1 -> 80.9	2854	5.00 µg/L	0.000
M3-MeFOSAA	8.207	573.2 -> 419.0	17856	5.00 µg/L	0.000
M3-HFPO-DA	5.945	286.9 -> 168.9	29209	10.00 µg/L	-0.012
M5-EtFOSAA	8.402	589.2 -> 419.0	13316	5.00 µg/L	-0.012
M7-MeFOSE	10.665	623.2 -> 58.9	42314	25.00 µg/L	0.000
M9-EtFOSE	10.911	639.2 -> 58.9	48097	25.00 µg/L	0.000
M5-EtFOSA	10.976	531.1 -> 219.0	4002	2.50 µg/L	0.000
M3-MeFOSA	10.744	515.0 -> 219.0	3725	2.50 µg/L	-0.012
13C4-PFOS	8.299	502.8 -> 79.9	8804	2.50 µg/L	-0.013
13C3-PFBA	2.964	216.0 -> 172.0	47673	5.00 µg/L	0.012
18O2-PFHxS	7.250	403.0 -> 83.9	6108	2.50 µg/L	-0.012
13C4-PFOA	7.150	417.1 -> 372.0	57466	2.50 µg/L	-0.012
13C2-PFDA	8.149	515.1 -> 470.1	19788	1.25 µg/L	-0.012
13C5-PFNA	7.680	468.0 -> 423.0	19910	1.25 µg/L	0.000
13C2-PFHxA	5.568	315.1 -> 270.0	38500	2.50 µg/L	-0.012
<b>System Monitoring Compounds</b>					
13C2-4:2FTS	5.242	329.1 -> 80.9	2090	6.07 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 121.4%		
13C2-6:2FTS	6.924	429.1 -> 80.9	2942	5.75 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 115.0%		
13C2-8:2FTS	7.950	529.1 -> 80.9	2854	5.42 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 108.3%		
13C2-PFDoDA	9.030	615.1 -> 570.0	17377	0.88 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 70.5%		
13C2-PFTeDA	9.735	715.2 -> 670.0	4860	0.73 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 58.1%		
13C3-PFBS	5.485	302.1 -> 79.9	19806	2.86 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 114.5%		
13C3-PFHxS	7.251	402.1 -> 79.9	11532	2.97 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 = 118.8%	
13C4-PFBA	2.960	216.8 -> 171.9	97478	8.47 µg/L	0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 84.7%	
13C4-PFHpA	6.507	367.1 -> 322.0	44206	2.84 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 113.5%	
13C5-PFHxA	5.567	318.0 -> 273.0	43906	2.76 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 110.3%	
13C5-PFPeA	4.359	268.3 -> 223.0	49516	5.68 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 113.7%	
13C6-PFDA	8.148	519.1 -> 474.1	22614	1.36 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 108.6%	
13C7-PFUnDA	8.601	570.0 -> 525.1	20730	1.15 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 92.1%	
13C8-FOSA	9.657	506.1 -> 77.8	15629	2.15 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 86.0%	
13C8-PFOA	7.149	421.1 -> 376.0	57762	2.90 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 115.9%	
13C8-PFOS	8.298	507.1 -> 79.9	9998	2.63 µg/L	-0.013
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 105.2%	
13C9-PFNA	7.666	472.1 -> 427.0	23178	1.42 µg/L	-0.013
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 113.2%	
d3-MeFOSAA	8.207	573.2 -> 419.0	17856	4.61 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 92.2%	
13C3-HFPO-DA	5.945	286.9 -> 168.9	29209	10.87 µg/L	-0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 108.7%	
d3-MeFOSA	10.744	515.0 -> 219.0	3725	1.77 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 70.7%	
d5-EtFOSAA	8.402	589.2 -> 419.0	13316	4.01 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 80.3%	
d7-MeFOSE	10.665	623.2 -> 58.9	42314	18.05 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 72.2%	
d9-EtFOSE	10.911	639.2 -> 58.9	48097	17.26 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 69.0%	
d5-EtFOSA	10.976	531.1 -> 219.0	4002	1.78 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 71.1%	

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	2.943	212.8 -> 168.9	2344	0.65 µg/L	m 100
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)
PFHpA	-	599.0 -> 98.8	-	N.D.		
		363.1 -> 319.0				
PFHpS	-	363.1 -> 169.0	-	N.D.		
		449.0 -> 79.9				
PFHxA	5.569	449.0 -> 98.9	0	µg/L	m	1
		313.0 -> 269.0				
PFHxS	-	313.0 -> 118.9	0	N.D.		
		398.7 -> 79.9				
PFNA	8.142	398.7 -> 98.9	0	µg/L	m	1
		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	4.700	498.9 -> 98.8	0	µg/L	m	1
		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

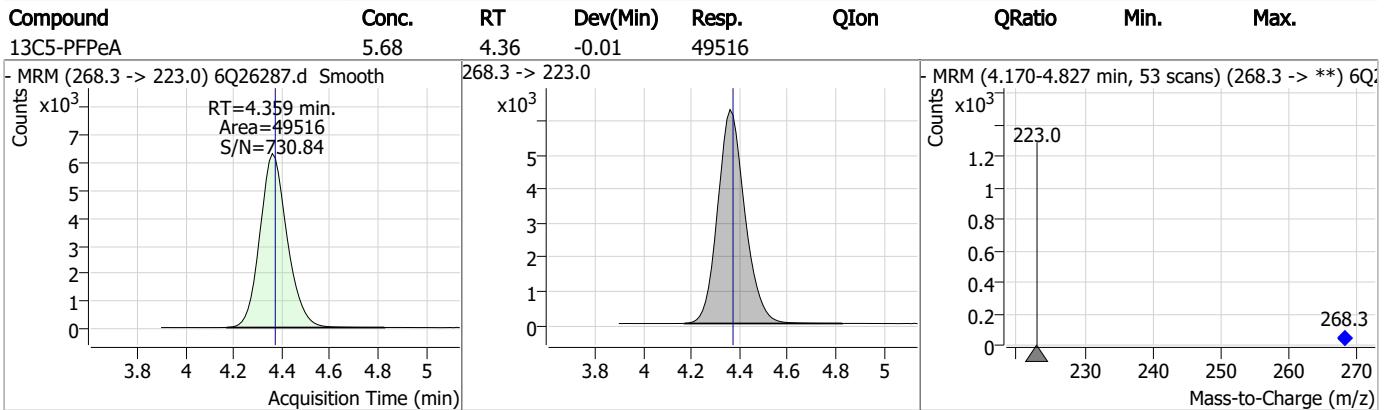
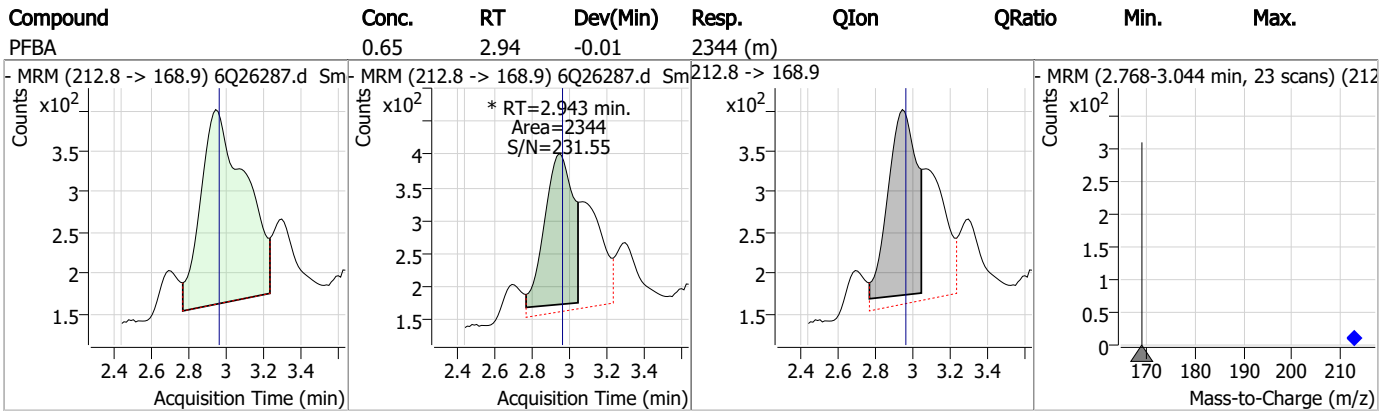
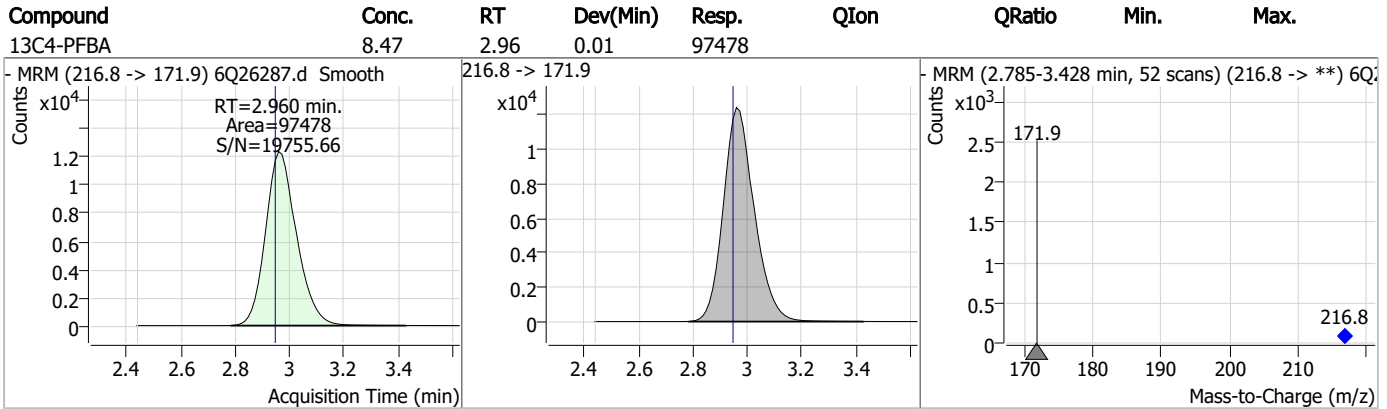
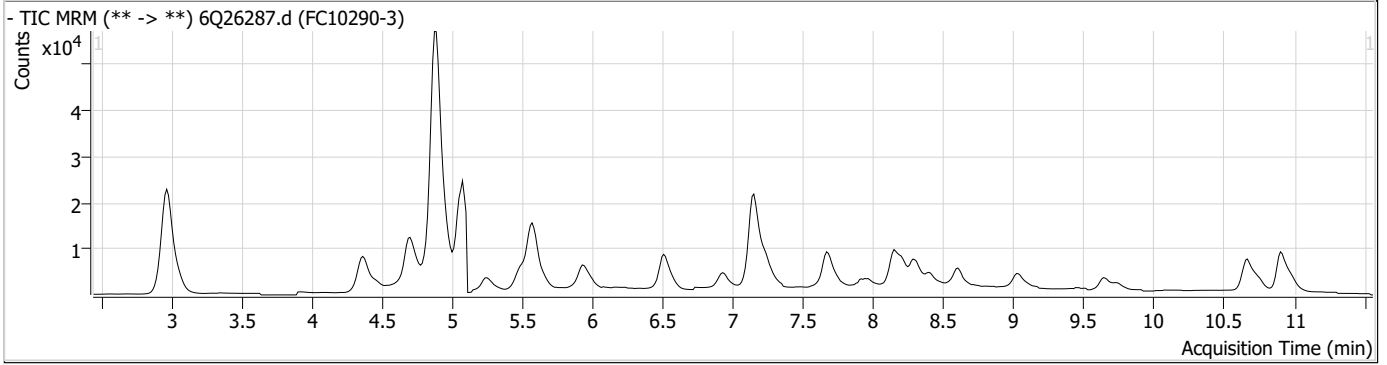
### Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
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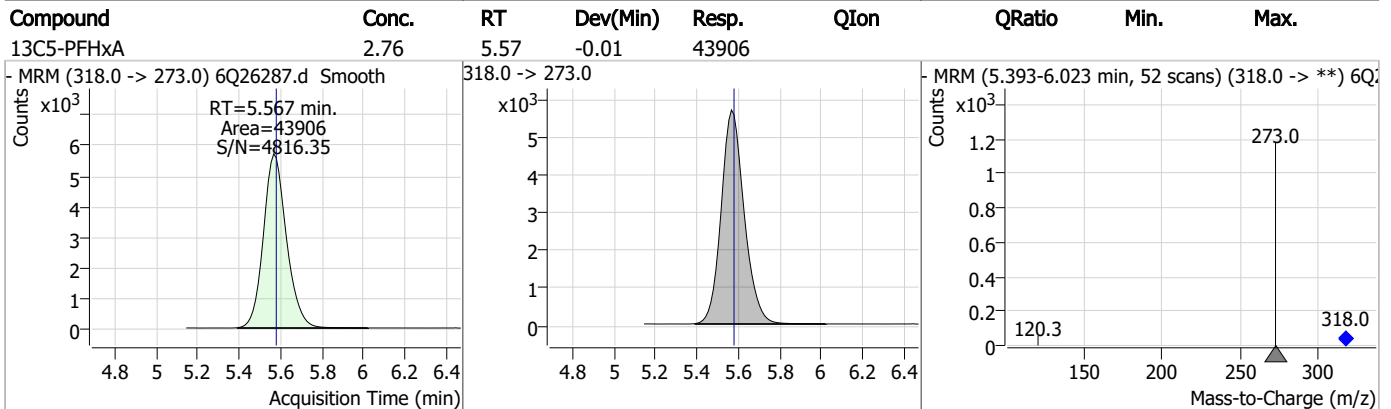
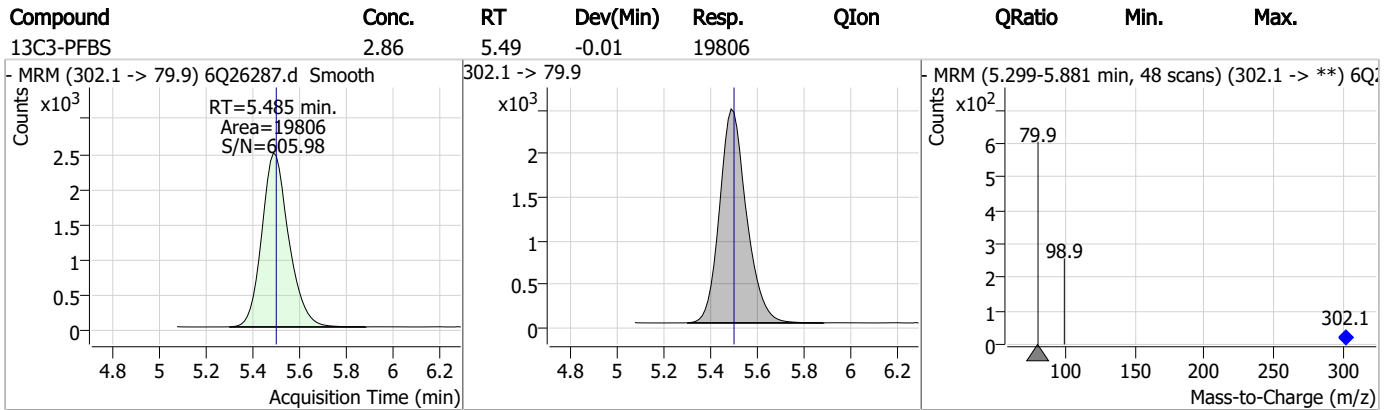
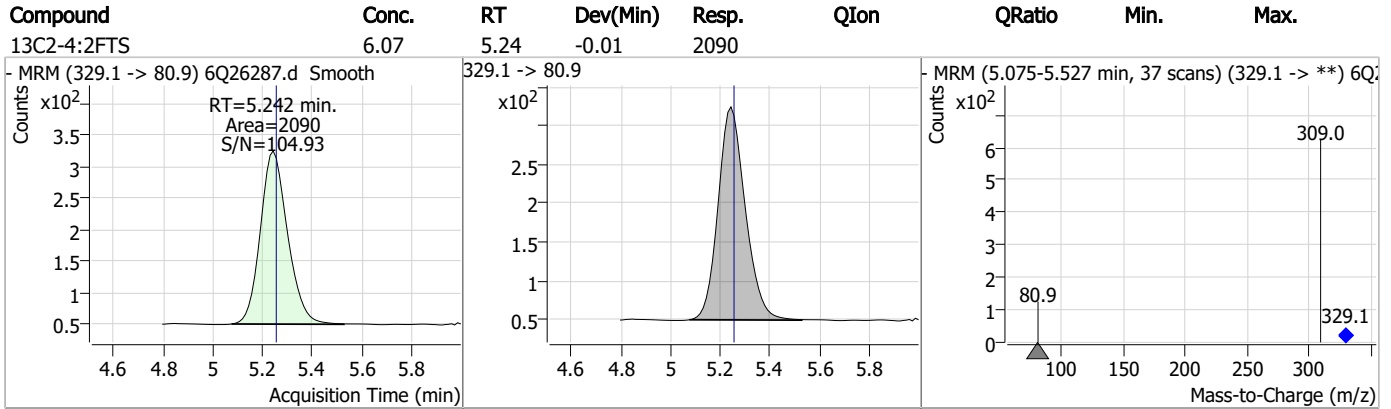
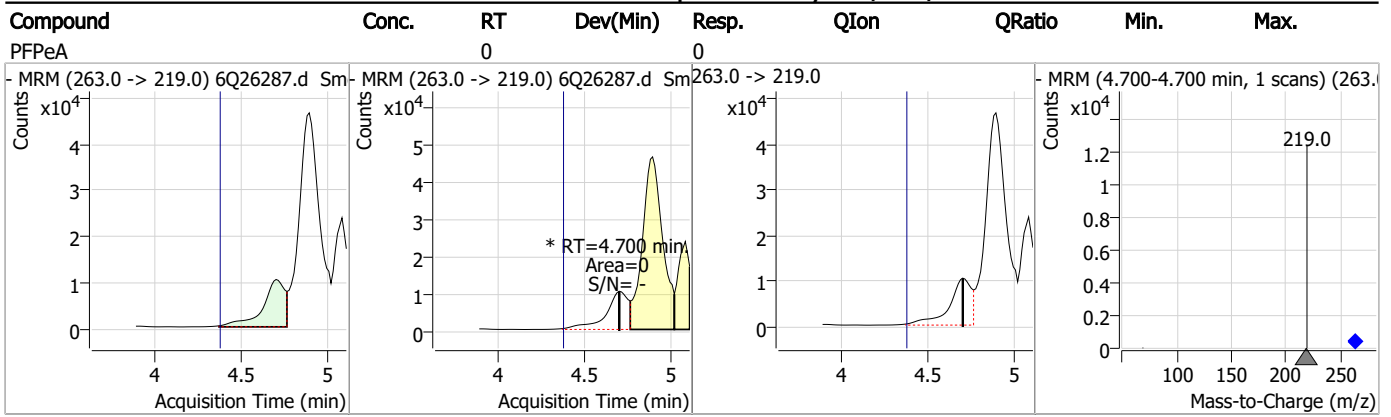
7.1.4  
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### Perfluorinated Compounds by LC/MS/MS



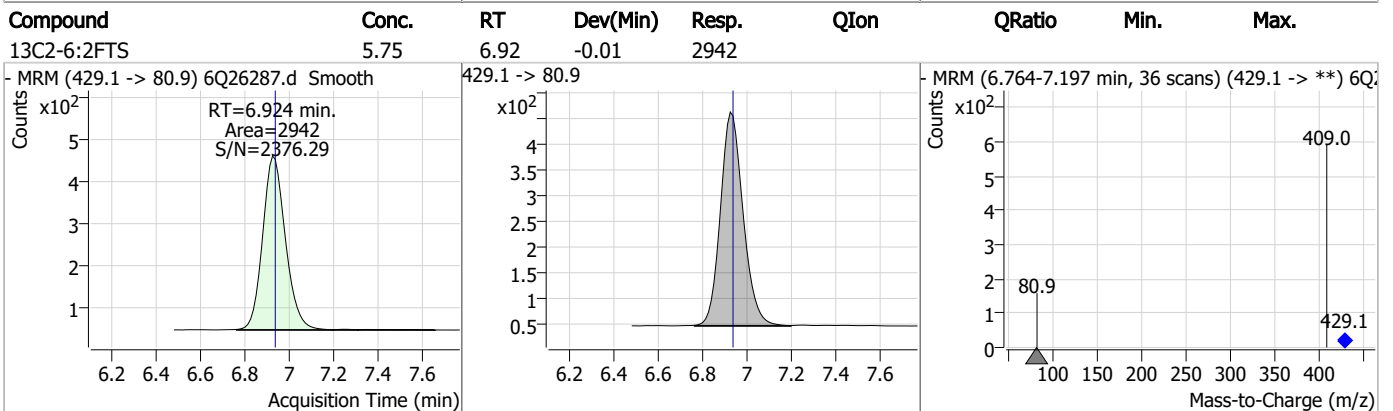
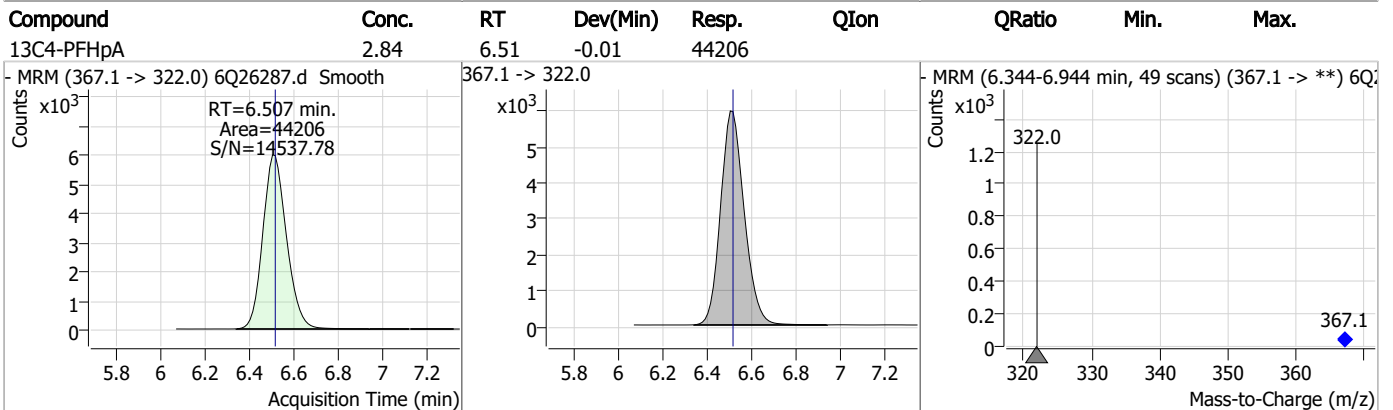
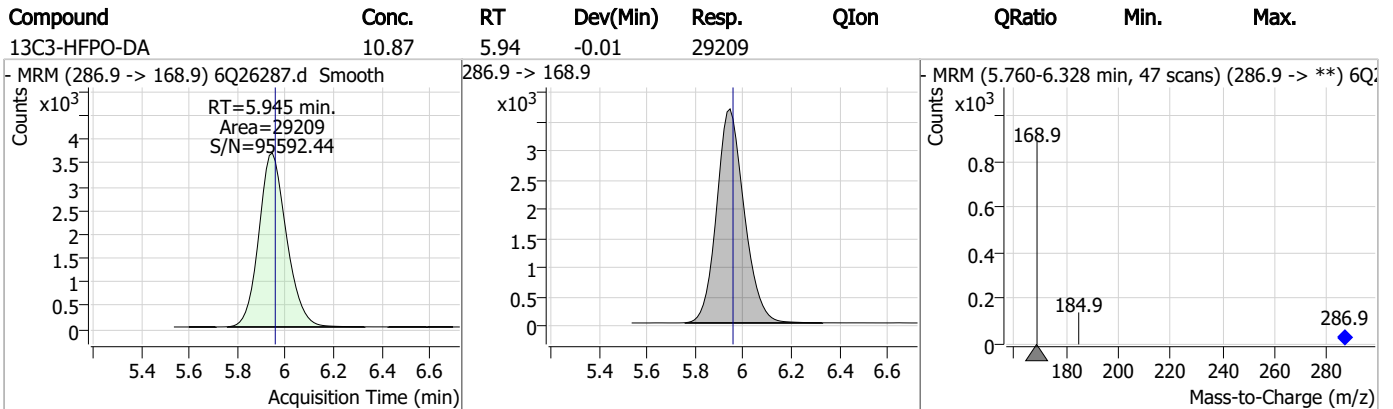
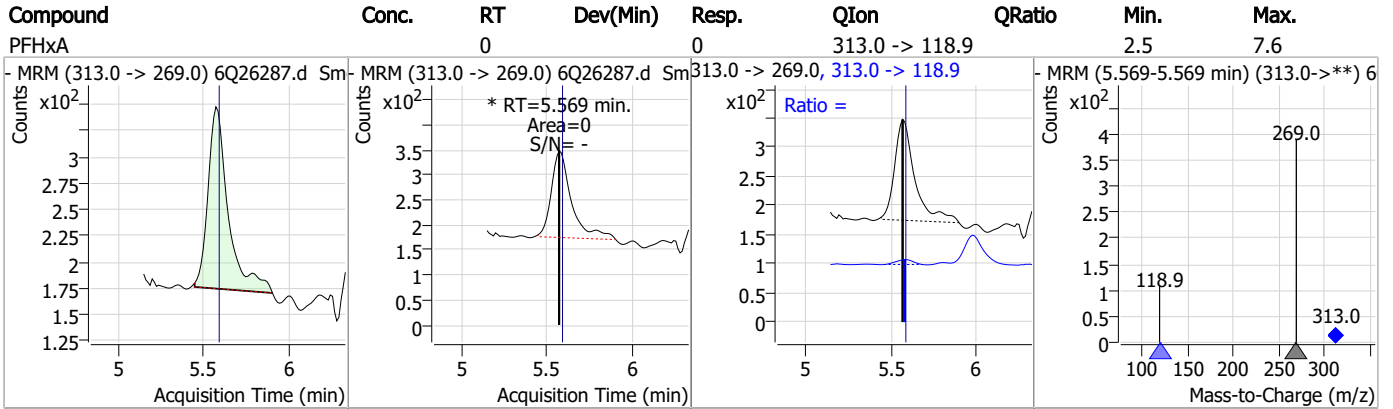
### Perfluorinated Compounds by LC/MS/MS



7.14  
7

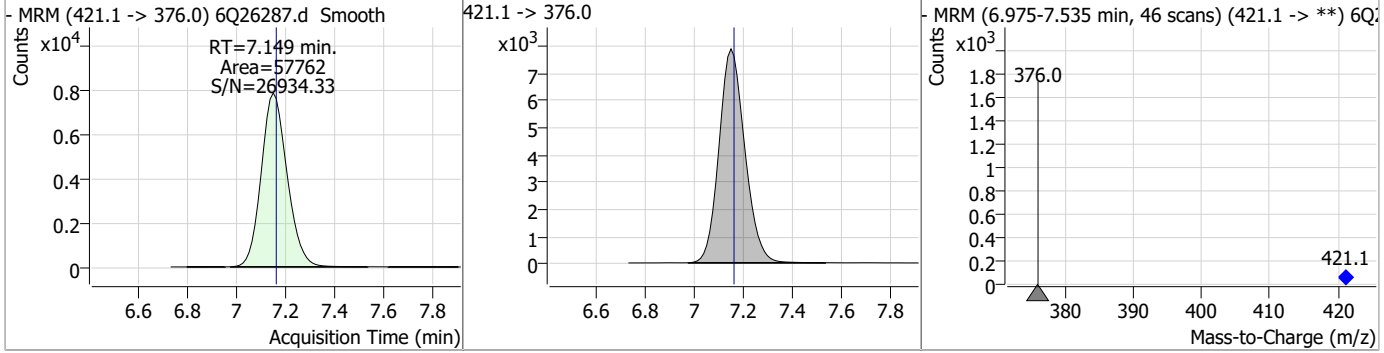


### Perfluorinated Compounds by LC/MS/MS

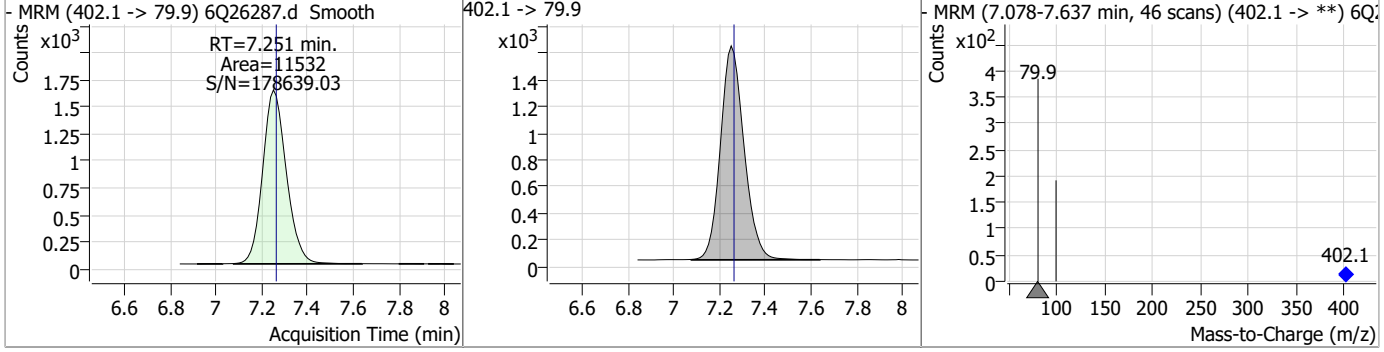


### Perfluorinated Compounds by LC/MS/MS

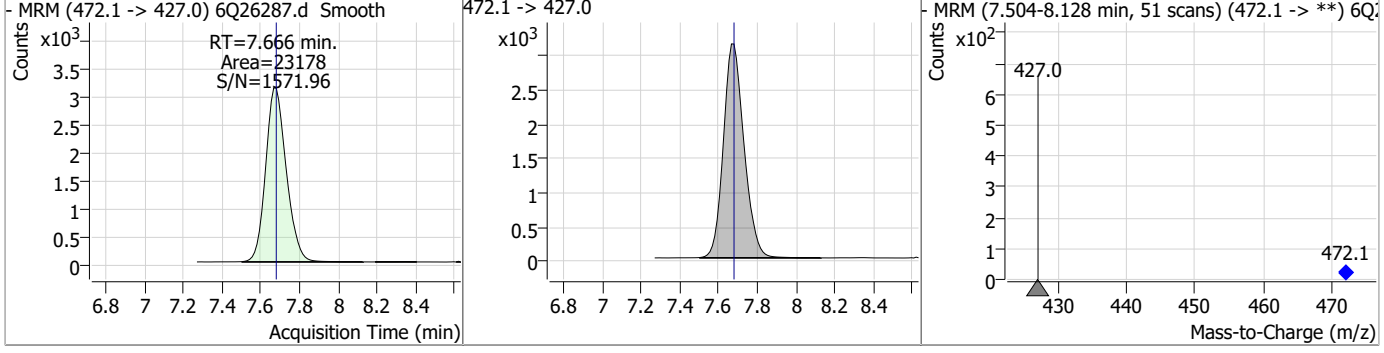
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
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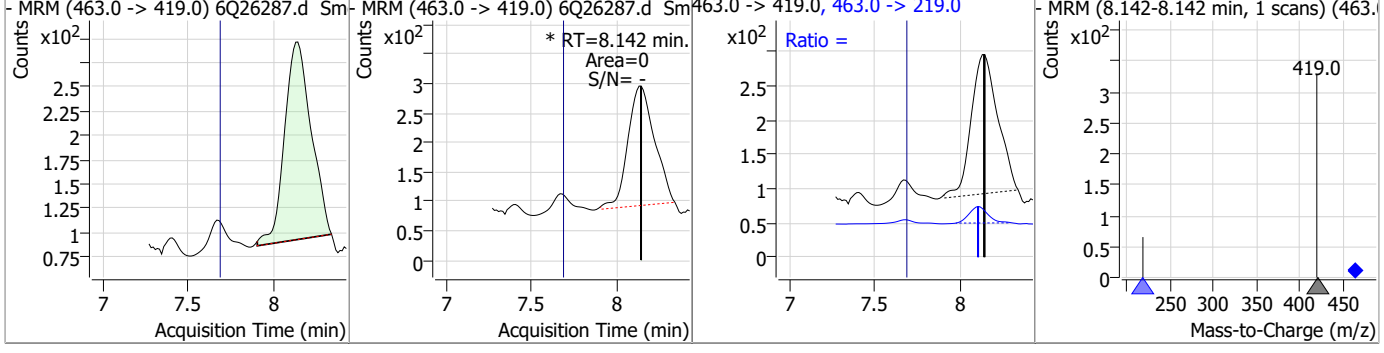
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
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Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
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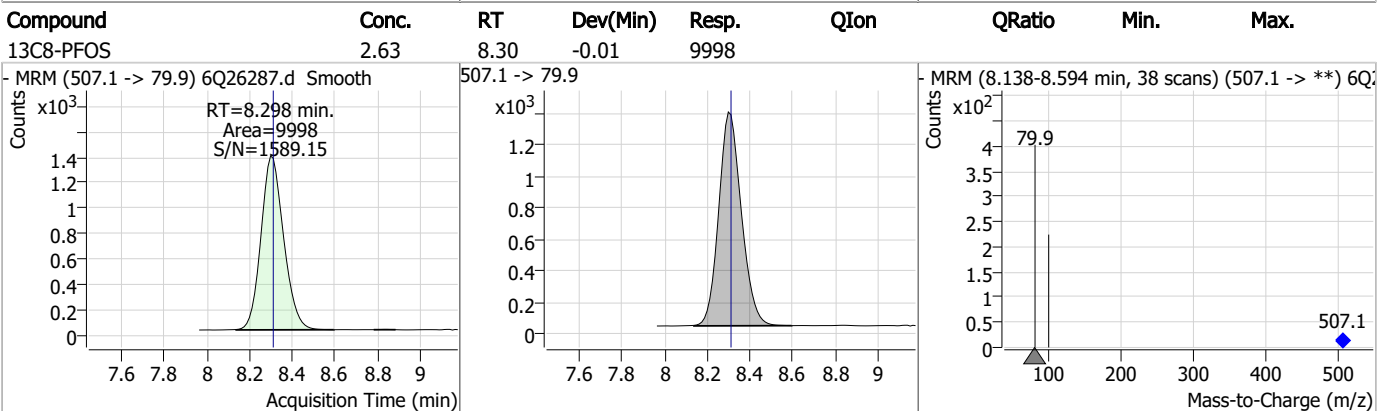
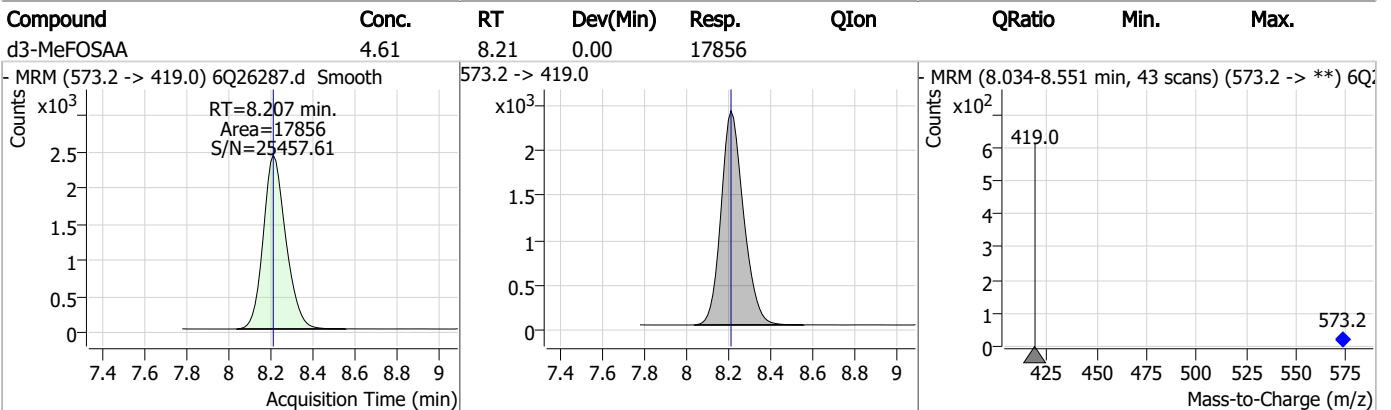
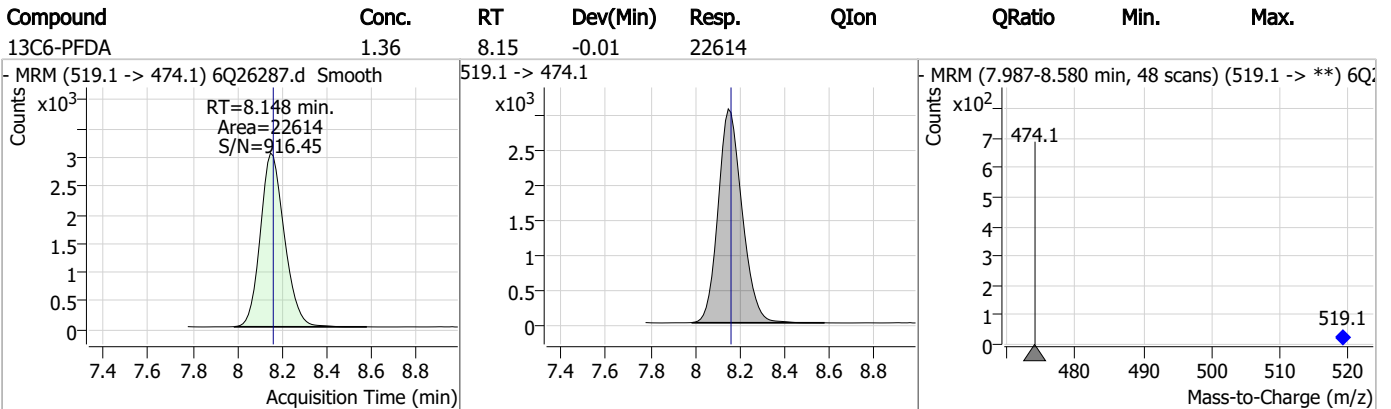
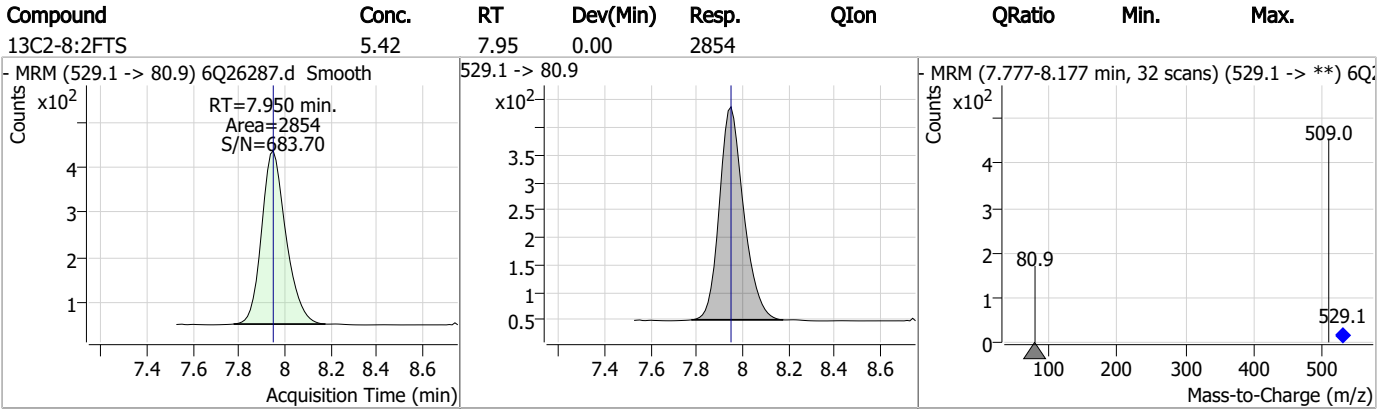


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
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7.1.4

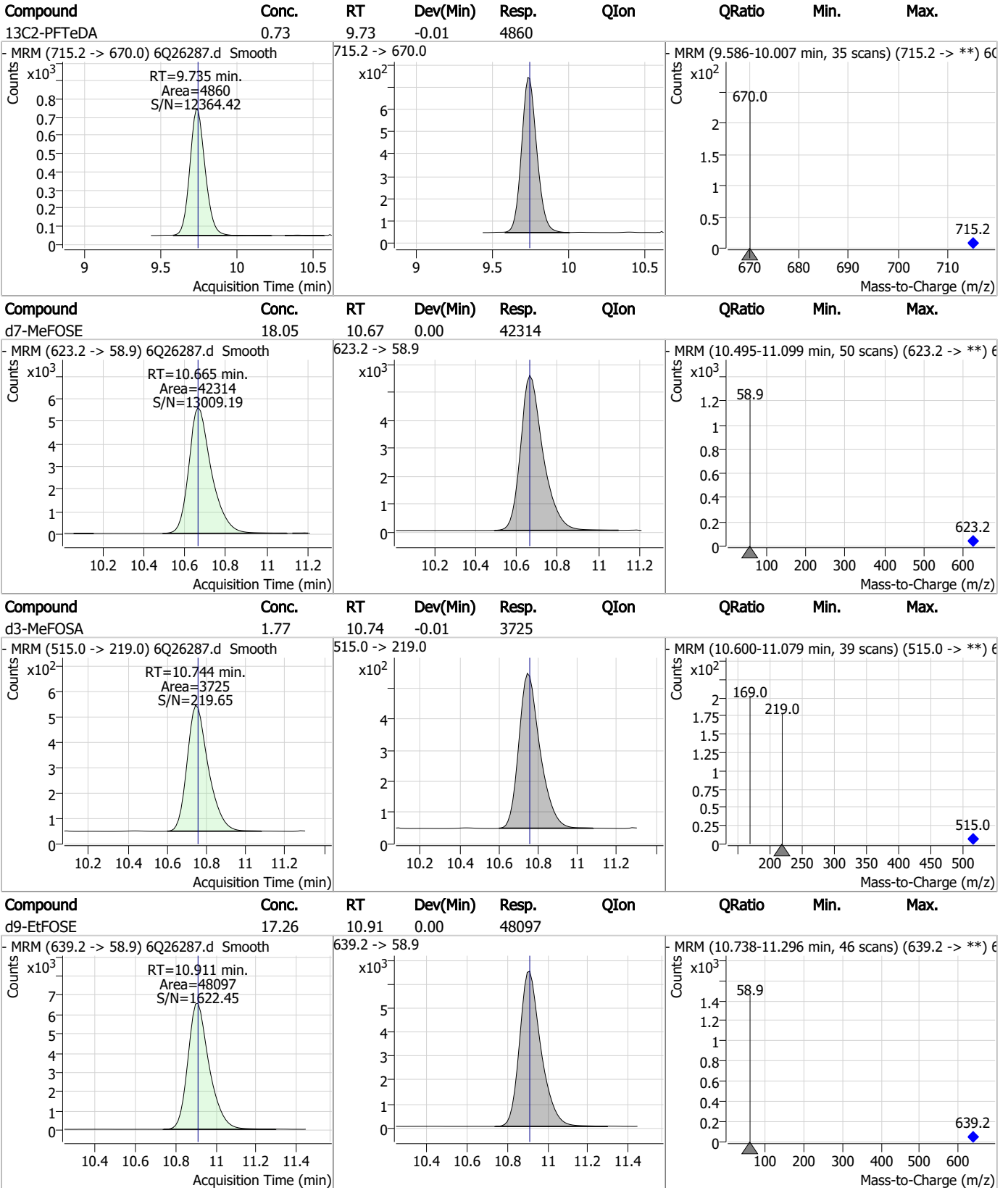
Perfluorinated Compounds by LC/MS/MS



### Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSAA	4.01	8.40	-0.01	13316				
- MRM (589.2 -> 419.0) 6Q26287.d Smooth			589.2 -> 419.0		- MRM (8.242-8.792 min, 45 scans) (589.2 -> **) 6Q26287.d Smooth			
13C7-PFUnDA	1.15	8.60	-0.01	20730				
- MRM (570.0 -> 525.1) 6Q26287.d Smooth			570.0 -> 525.1		- MRM (8.430-8.911 min, 40 scans) (570.0 -> **) 6Q26287.d Smooth			
13C2-PFDoDA	0.88	9.03	0.00	17377				
- MRM (615.1 -> 570.0) 6Q26287.d Smooth			615.1 -> 570.0		- MRM (8.857-9.416 min, 46 scans) (615.1 -> **) 6Q26287.d Smooth			
13C8-FOSA	2.15	9.66	0.00	15629				
- MRM (506.1 -> 77.8) 6Q26287.d Smooth			506.1 -> 77.8		- MRM (9.484-10.110 min, 51 scans) (506.1 -> **) 6Q26287.d Smooth			

### Perfluorinated Compounds by LC/MS/MS

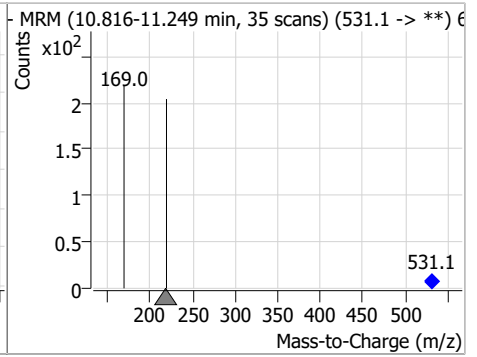
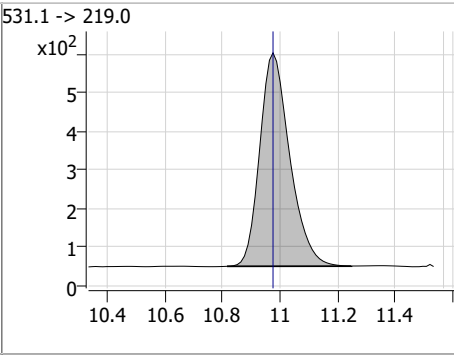
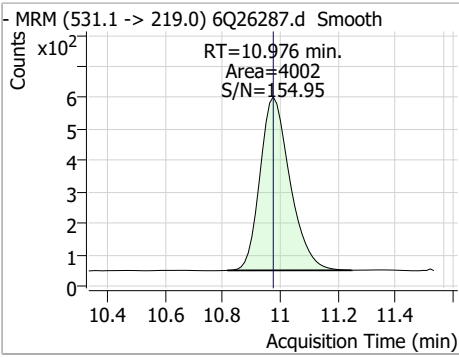


7.1.4

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Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSA	1.78	10.98	0.00	4002				



7.14  
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# Manual Integration Approval Summary

Sample Number: FC10290-3                      Method: EPA DRAFT 1633  
Lab FileID: 6Q26287.D                      Analyst approved: 10/16/23 11:42 Martha Valls  
Injection Time: 10/12/23 17:28                      Supervisor approved: 10/16/23 17:58 Natasha Gumtie

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorobutanoic acid	375-22-4		2.94	Split peak

7.1.4.1

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### Perfluorinated Compounds by LC/MS/MS

Data File : 6Q26288.d  
 Operator : marthav  
 Acq. Method : 1633full.m  
 Acq. Date-Time : 10/12/2023 5:42:39 PM  
 Sample Name : FC10290-4  
 Vial : P6-A9  
 DA Method File : 1633\_100823\_S6Q367.quantmethod.xml  
 Batch Name : s6q370.batch.bin  
 Sample Information : OP99445,S6Q370,520,,,5.0,1,water

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
<b>Internal Standards</b>					
M4-PFBA	2.960	216.8 -> 171.9	142412	10.00 µg/L	0.012
M5-PFPeA	4.359	268.3 -> 223.0	49550	5.00 µg/L	-0.012
M5-PFHxA	5.567	318.0 -> 273.0	45481	2.50 µg/L	-0.012
M4-PFHpA	6.507	367.1 -> 322.0	44626	2.50 µg/L	-0.012
M8-PFOA	7.149	421.1 -> 376.0	57646	2.50 µg/L	-0.012
M9-PFNA	7.680	472.1 -> 427.0	25330	1.25 µg/L	0.000
M6-PFDA	8.148	519.1 -> 474.1	24121	1.25 µg/L	-0.012
M7-PFUnDA	8.601	570.0 -> 525.1	23921	1.25 µg/L	-0.012
M2-PFDoDA	9.030	615.1 -> 570.0	25036	1.25 µg/L	0.000
M2-PFTeDA	9.735	715.2 -> 670.0	7109	1.25 µg/L	-0.012
M8-FOSA	9.657	506.1 -> 77.8	16405	2.50 µg/L	0.000
M3-PFBS	5.485	302.1 -> 79.9	19562	2.50 µg/L	-0.012
M3-PFHxS	7.251	402.1 -> 79.9	11124	2.50 µg/L	-0.012
M8-PFOS	8.298	507.1 -> 79.9	10461	2.50 µg/L	-0.013
M2-4:2FTS	5.242	329.1 -> 80.9	2395	5.00 µg/L	-0.012
M2-6:2FTS	6.924	429.1 -> 80.9	3378	5.00 µg/L	-0.012
M2-8:2FTS	7.950	529.1 -> 80.9	2999	5.00 µg/L	0.000
M3-MeFOSAA	8.207	573.2 -> 419.0	21330	5.00 µg/L	0.000
M3-HFPO-DA	5.945	286.9 -> 168.9	30786	10.00 µg/L	-0.012
M5-EtFOSAA	8.415	589.2 -> 419.0	17782	5.00 µg/L	0.000
M7-MeFOSE	10.665	623.2 -> 58.9	55280	25.00 µg/L	0.000
M9-EtFOSE	10.911	639.2 -> 58.9	65546	25.00 µg/L	0.000
M5-EtFOSA	10.976	531.1 -> 219.0	5223	2.50 µg/L	0.000
M3-MeFOSA	10.744	515.0 -> 219.0	4907	2.50 µg/L	-0.012
13C4-PFOS	8.299	502.8 -> 79.9	9170	2.50 µg/L	-0.013
13C3-PFBA	2.964	216.0 -> 172.0	54490	5.00 µg/L	0.012
18O2-PFHxS	7.250	403.0 -> 83.9	6282	2.50 µg/L	-0.012
13C4-PFOA	7.150	417.1 -> 372.0	60205	2.50 µg/L	-0.012
13C2-PFDA	8.149	515.1 -> 470.1	19786	1.25 µg/L	-0.012
13C5-PFNA	7.667	468.0 -> 423.0	21055	1.25 µg/L	-0.013
13C2-PFHxA	5.568	315.1 -> 270.0	40975	2.50 µg/L	-0.012
<b>System Monitoring Compounds</b>					
13C2-4:2FTS	5.242	329.1 -> 80.9	2395	6.77 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 135.4%		
13C2-6:2FTS	6.924	429.1 -> 80.9	3378	6.42 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 128.3%		
13C2-8:2FTS	7.950	529.1 -> 80.9	2999	5.53 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 110.6%		
13C2-PFDoDA	9.030	615.1 -> 570.0	25036	1.27 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 101.6%		
13C2-PFTeDA	9.735	715.2 -> 670.0	7109	1.06 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 85.0%		
13C3-PFBS	5.485	302.1 -> 79.9	19562	2.75 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 109.9%		
13C3-PFHxS	7.251	402.1 -> 79.9	11124	2.79 µg/L	-0.012

7.15  
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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 = 111.5%	
13C4-PFBA	2.960	216.8 -> 171.9	142412	10.83 µg/L	0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 108.3%	
13C4-PFHpA	6.507	367.1 -> 322.0	44626	2.69 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 107.7%	
13C5-PFHxA	5.567	318.0 -> 273.0	45481	2.68 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 107.4%	
13C5-PFPeA	4.359	268.3 -> 223.0	49550	5.34 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 106.9%	
13C6-PFDA	8.148	519.1 -> 474.1	24121	1.45 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 115.8%	
13C7-PFUnDA	8.601	570.0 -> 525.1	23921	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	16405	2.17 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 86.7%	
13C8-PFOA	7.149	421.1 -> 376.0	57646	2.76 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 110.5%	
13C8-PFOS	8.298	507.1 -> 79.9	10461	2.64 µg/L	-0.013
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 105.7%	
13C9-PFNA	7.680	472.1 -> 427.0	25330	1.46 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 117.0%	
d3-MeFOSAA	8.207	573.2 -> 419.0	21330	5.29 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 105.8%	
13C3-HFPO-DA	5.945	286.9 -> 168.9	30786	10.77 µg/L	-0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 107.7%	
d3-MeFOSA	10.744	515.0 -> 219.0	4907	2.24 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 89.5%	
d5-EtFOSAA	8.415	589.2 -> 419.0	17782	5.15 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 102.9%	
d7-MeFOSE	10.665	623.2 -> 58.9	55280	22.63 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 90.5%	
d9-EtFOSE	10.911	639.2 -> 58.9	65546	22.58 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 90.3%	
d5-EtFOSA	10.976	531.1 -> 219.0	5223	2.23 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 89.0%	

7.15  
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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.	



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	8.129	398.7 -> 98.9	0	μg/L	m	1
		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

7.1.5  
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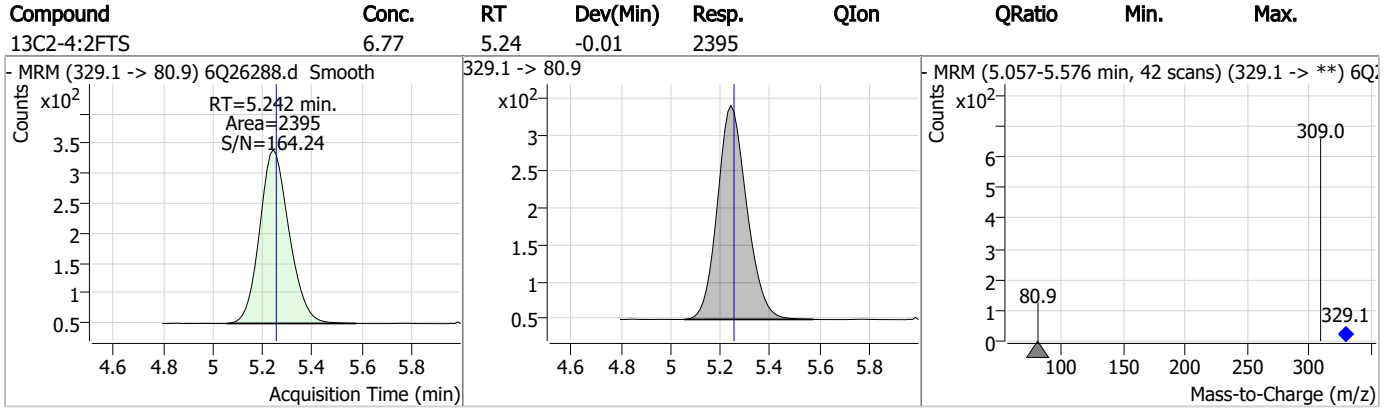
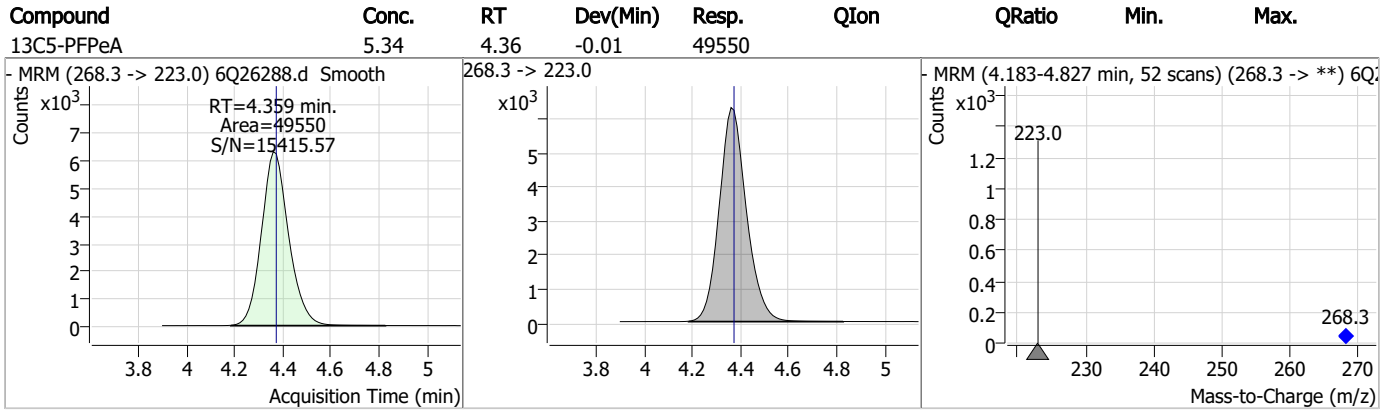
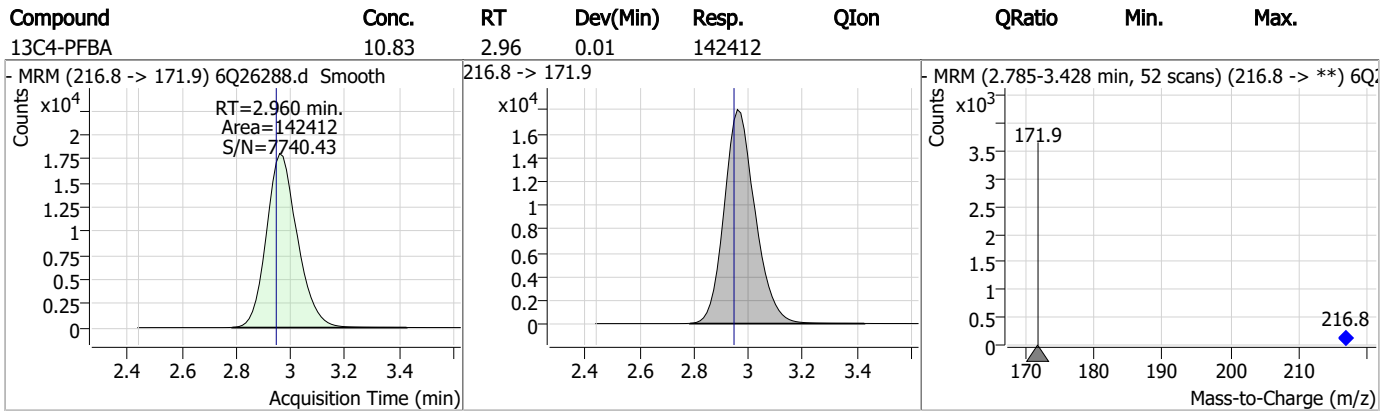
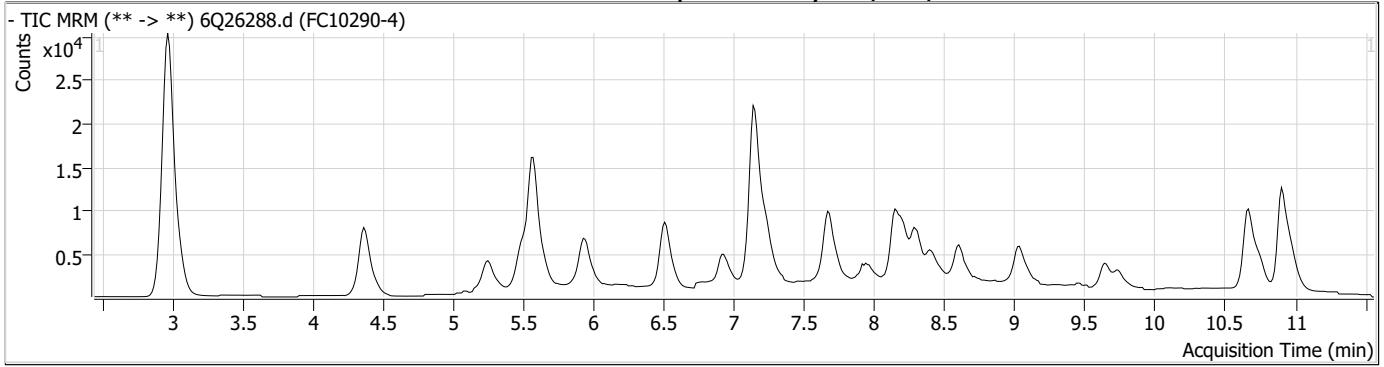
### Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
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7.1.5  
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### Perfluorinated Compounds by LC/MS/MS



7.1.5  
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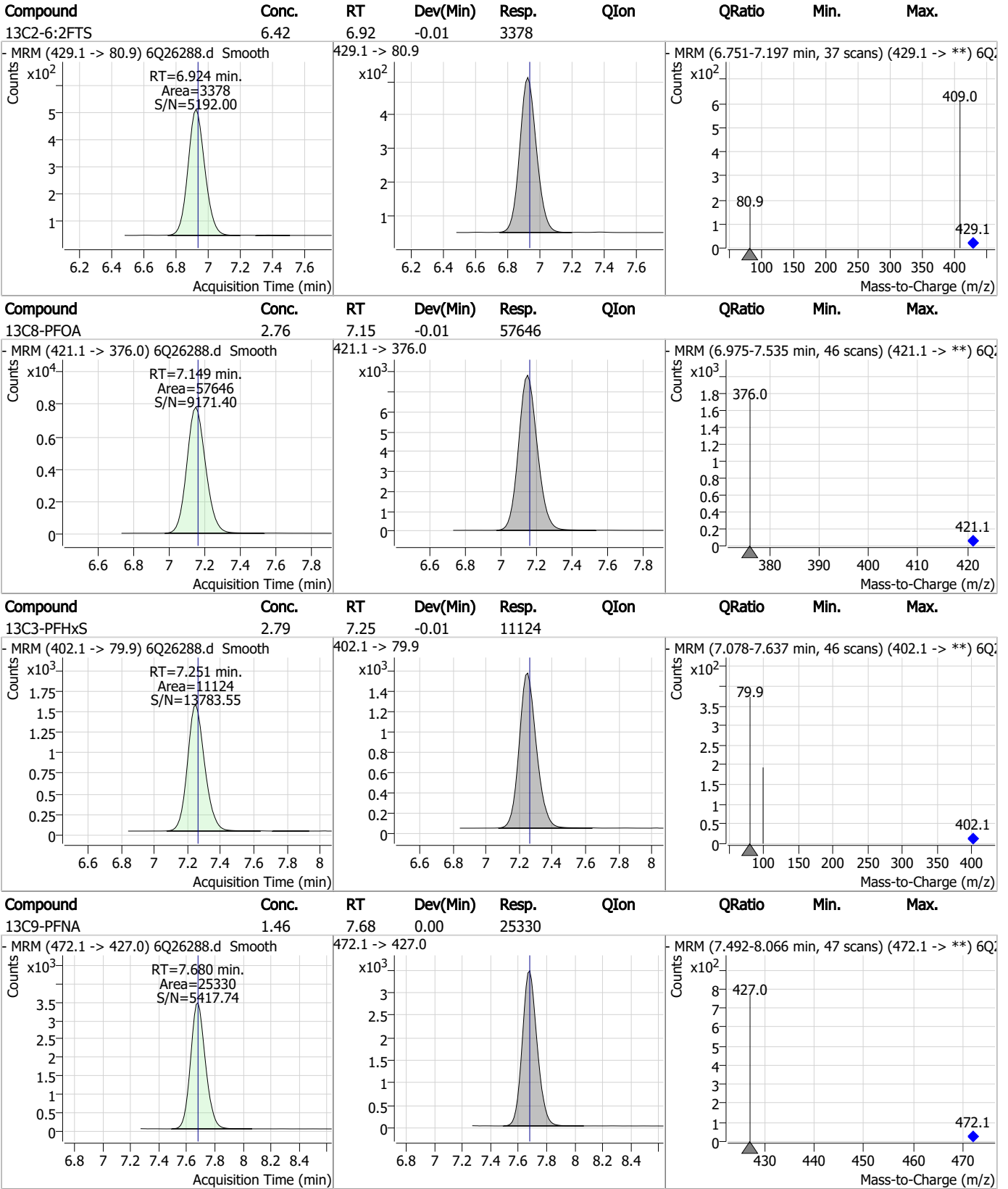
### Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFBS	2.75	5.49	-0.01	19562				
13C5-PFHxA	2.68	5.57	-0.01	45481				
13C3-HFPO-DA	10.77	5.94	-0.01	30786				
13C4-PFHpA	2.69	6.51	-0.01	44626				

7.1.5

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### Perfluorinated Compounds by LC/MS/MS

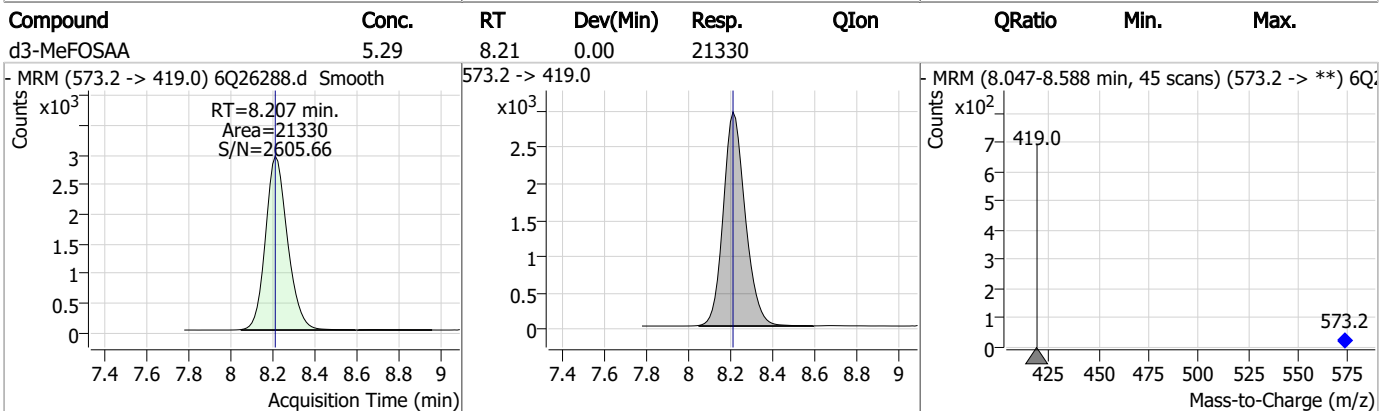
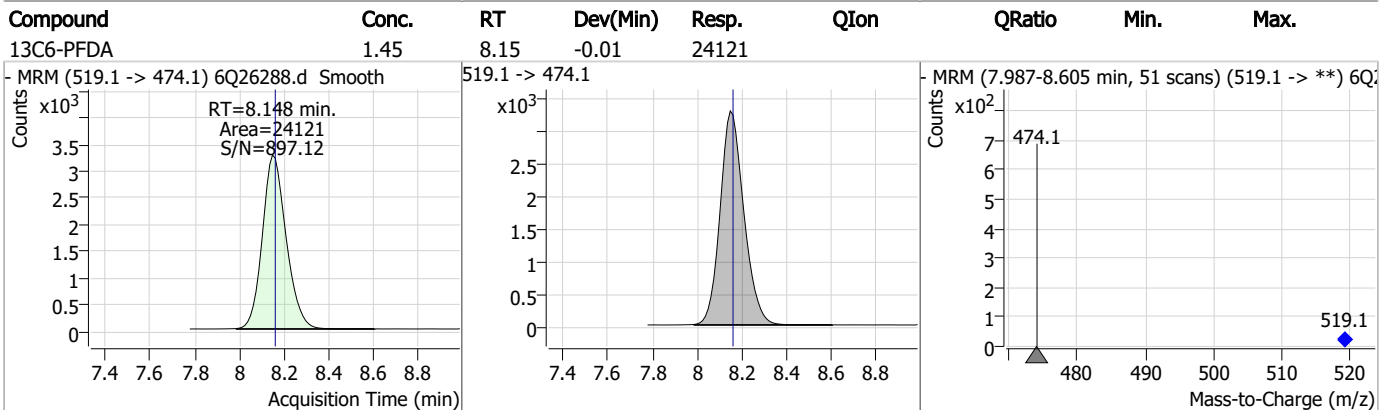
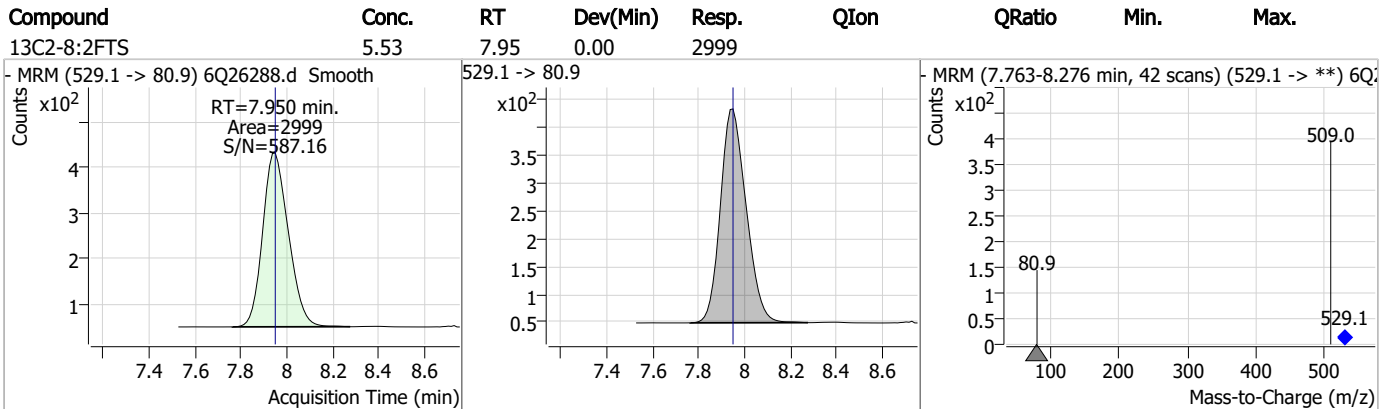
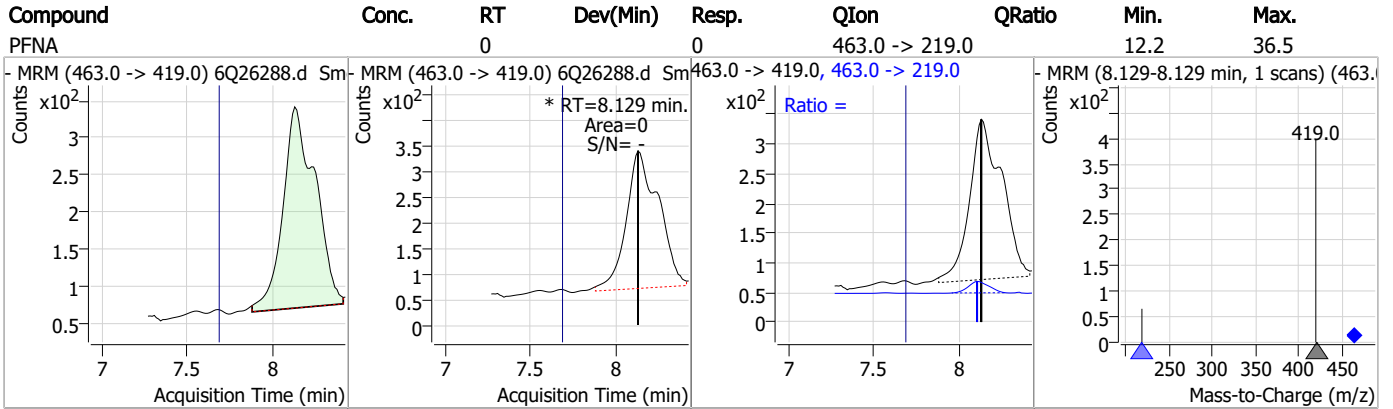


7.1.5

7



### Perfluorinated Compounds by LC/MS/MS



7.1.5

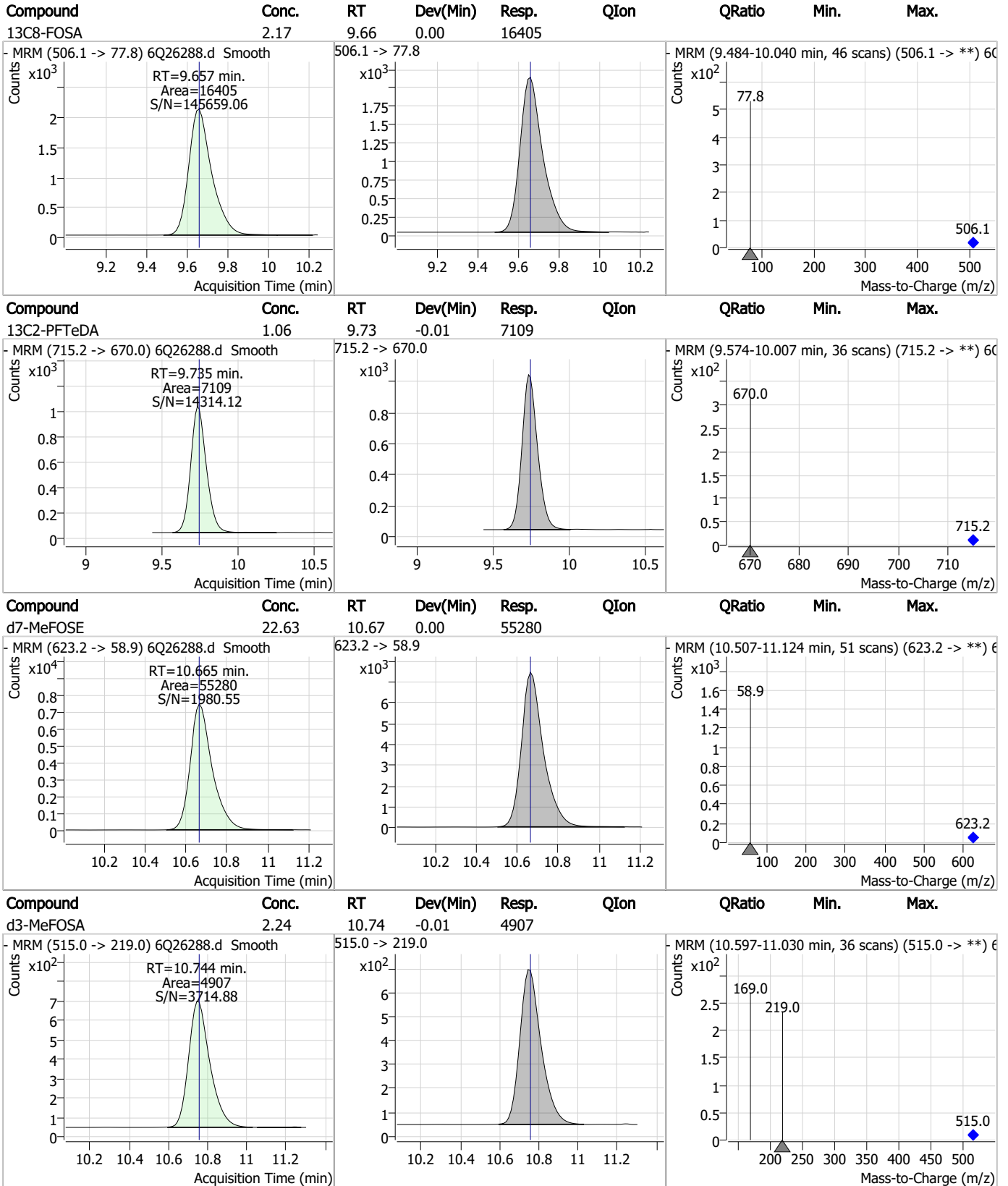
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### Perfluorinated Compounds by LC/MS/MS

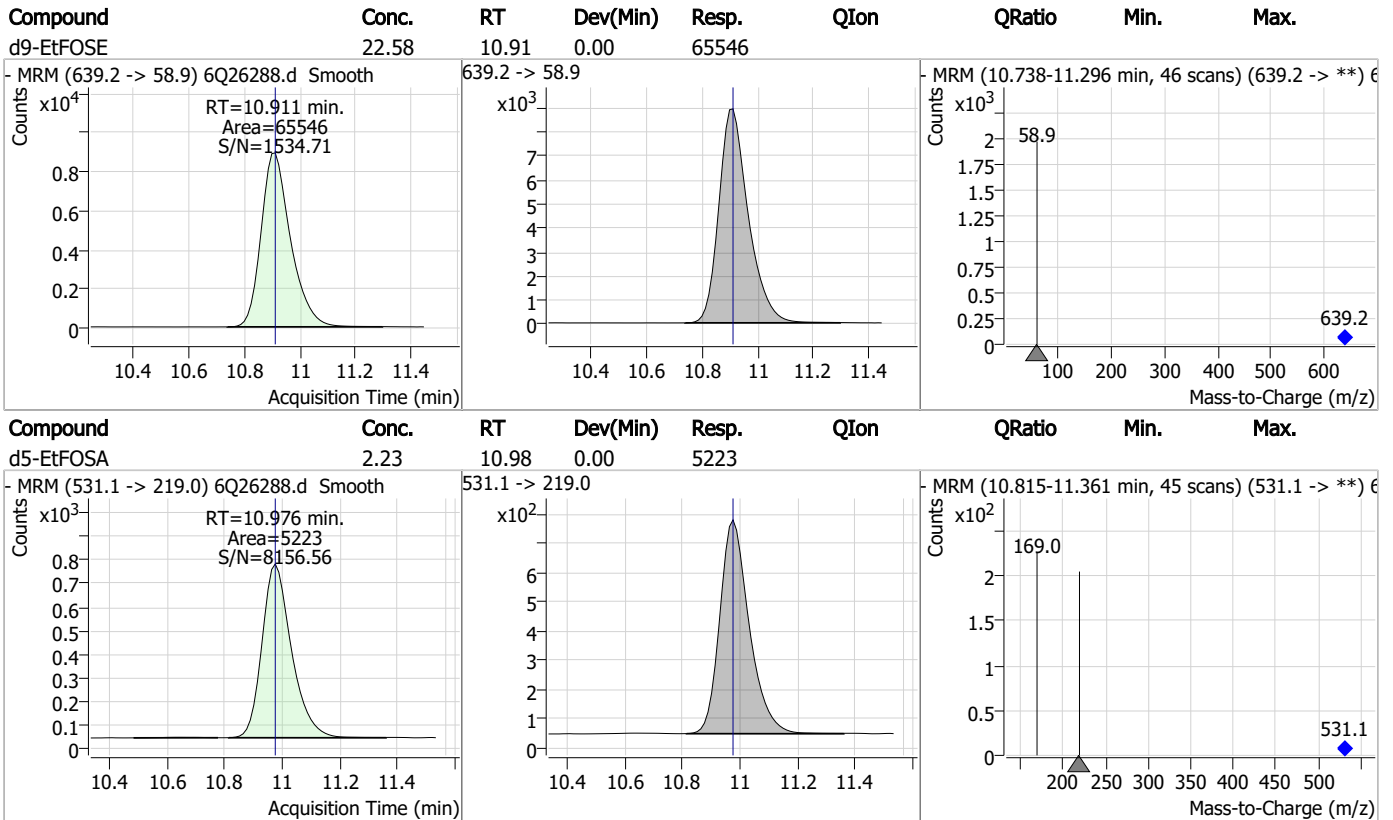
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOS	2.64	8.30	-0.01	10461				
d5-EtFOSAA	5.15	8.41	0.00	17782				
13C7-PFUnDA	1.33	8.60	-0.01	23921				
13C2-PFDoDA	1.27	9.03	0.00	25036				



### Perfluorinated Compounds by LC/MS/MS



### Perfluorinated Compounds by LC/MS/MS



7.1.5

7

Perfluorinated Compounds by LC/MS/MS

Data File : 6Q26291.d  
 Operator : marthav  
 Acq. Method : 1633full.m  
 Acq. Date-Time : 10/12/2023 6:25:37 PM  
 Sample Name : FC10290-5  
 Vial : P6-B1  
 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)
<b>Internal Standards</b>					
M4-PFBA	2.960	216.8 -> 171.9	136059	10.00 µg/L	0.012
M5-PFPeA	4.359	268.3 -> 223.0	50695	5.00 µg/L	-0.012
M5-PFHxA	5.567	318.0 -> 273.0	44366	2.50 µg/L	-0.012
M4-PFHpA	6.507	367.1 -> 322.0	44153	2.50 µg/L	-0.012
M8-PFOA	7.149	421.1 -> 376.0	57480	2.50 µg/L	-0.012
M9-PFNA	7.666	472.1 -> 427.0	24532	1.25 µg/L	-0.013
M6-PFDA	8.148	519.1 -> 474.1	25178	1.25 µg/L	-0.012
M7-PFUnDA	8.601	570.0 -> 525.1	25369	1.25 µg/L	-0.012
M2-PFDoDA	9.030	615.1 -> 570.0	27774	1.25 µg/L	0.000
M2-PFTeDA	9.735	715.2 -> 670.0	8846	1.25 µg/L	-0.012
M8-FOSA	9.657	506.1 -> 77.8	15568	2.50 µg/L	0.000
M3-PFBS	5.485	302.1 -> 79.9	20212	2.50 µg/L	-0.012
M3-PFHxS	7.251	402.1 -> 79.9	11150	2.50 µg/L	-0.012
M8-PFOS	8.298	507.1 -> 79.9	11204	2.50 µg/L	-0.013
M2-4:2FTS	5.242	329.1 -> 80.9	2412	5.00 µg/L	-0.012
M2-6:2FTS	6.924	429.1 -> 80.9	3436	5.00 µg/L	-0.012
M2-8:2FTS	7.937	529.1 -> 80.9	3443	5.00 µg/L	-0.012
M3-MeFOSAA	8.207	573.2 -> 419.0	24947	5.00 µg/L	0.000
M3-HFPO-DA	5.945	286.9 -> 168.9	30654	10.00 µg/L	-0.012
M5-EtFOSAA	8.402	589.2 -> 419.0	17671	5.00 µg/L	-0.012
M7-MeFOSE	10.665	623.2 -> 58.9	52782	25.00 µg/L	0.000
M9-EtFOSE	10.911	639.2 -> 58.9	67960	25.00 µg/L	0.000
M5-EtFOSA	10.976	531.1 -> 219.0	4982	2.50 µg/L	0.000
M3-MeFOSA	10.744	515.0 -> 219.0	4634	2.50 µg/L	-0.012
13C4-PFOS	8.299	502.8 -> 79.9	8992	2.50 µg/L	-0.013
13C3-PFBA	2.964	216.0 -> 172.0	53302	5.00 µg/L	0.012
18O2-PFHxS	7.250	403.0 -> 83.9	6206	2.50 µg/L	-0.012
13C4-PFOA	7.150	417.1 -> 372.0	59073	2.50 µg/L	-0.012
13C2-PFDA	8.149	515.1 -> 470.1	20624	1.25 µg/L	-0.012
13C5-PFNA	7.667	468.0 -> 423.0	21720	1.25 µg/L	-0.013
13C2-PFHxA	5.568	315.1 -> 270.0	40458	2.50 µg/L	-0.012
<b>System Monitoring Compounds</b>					
13C2-4:2FTS	5.242	329.1 -> 80.9	2412	6.90 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 138.0%		
13C2-6:2FTS	6.924	429.1 -> 80.9	3436	6.61 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 132.1%		
13C2-8:2FTS	7.937	529.1 -> 80.9	3443	6.43 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 128.6%		
13C2-PFDoDA	9.030	615.1 -> 570.0	27774	1.35 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 108.1%		
13C2-PFTeDA	9.735	715.2 -> 670.0	8846	1.27 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 101.5%		
13C3-PFBS	5.485	302.1 -> 79.9	20212	2.87 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 115.0%		
13C3-PFHxS	7.251	402.1 -> 79.9	11150	2.83 µg/L	-0.012



7.1.6  
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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 = 113.1%	
13C4-PFBA	2.960	216.8 -> 171.9	136059	10.57 µg/L	0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 105.7%	
13C4-PFHpA	6.507	367.1 -> 322.0	44153	2.70 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 107.9%	
13C5-PFHxA	5.567	318.0 -> 273.0	44366	2.65 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 106.1%	
13C5-PFPeA	4.359	268.3 -> 223.0	50695	5.54 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 110.7%	
13C6-PFDA	8.148	519.1 -> 474.1	25178	1.45 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 116.0%	
13C7-PFUnDA	8.601	570.0 -> 525.1	25369	1.35 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 108.1%	
13C8-FOSA	9.657	506.1 -> 77.8	15568	2.10 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 83.9%	
13C8-PFOA	7.149	421.1 -> 376.0	57480	2.81 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 112.2%	
13C8-PFOS	8.298	507.1 -> 79.9	11204	2.88 µg/L	-0.013
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 115.4%	
13C9-PFNA	7.666	472.1 -> 427.0	24532	1.37 µg/L	-0.013
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 109.8%	
d3-MeFOSAA	8.207	573.2 -> 419.0	24947	6.31 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 126.2%	
13C3-HFPO-DA	5.945	286.9 -> 168.9	30654	10.86 µg/L	-0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 108.6%	
d3-MeFOSA	10.744	515.0 -> 219.0	4634	2.15 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 86.2%	
d5-EtFOSAA	8.402	589.2 -> 419.0	17671	5.21 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 104.3%	
d7-MeFOSE	10.665	623.2 -> 58.9	52782	22.04 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 88.2%	
d9-EtFOSE	10.911	639.2 -> 58.9	67960	23.87 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 95.5%	
d5-EtFOSA	10.976	531.1 -> 219.0	4982	2.17 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 86.6%	

7.16  
7

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.	



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	8.105	398.7 -> 98.9	0	µg/L	m	1
		463.0 -> 419.0				
PFNS	-	463.0 -> 219.0	0	N.D.		
		548.8 -> 79.9				
PFOA	7.623	548.8 -> 98.9	0	µg/L	m	1
		413.0 -> 369.0				
PFOS	-	413.0 -> 169.0	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

7.1.6  
7

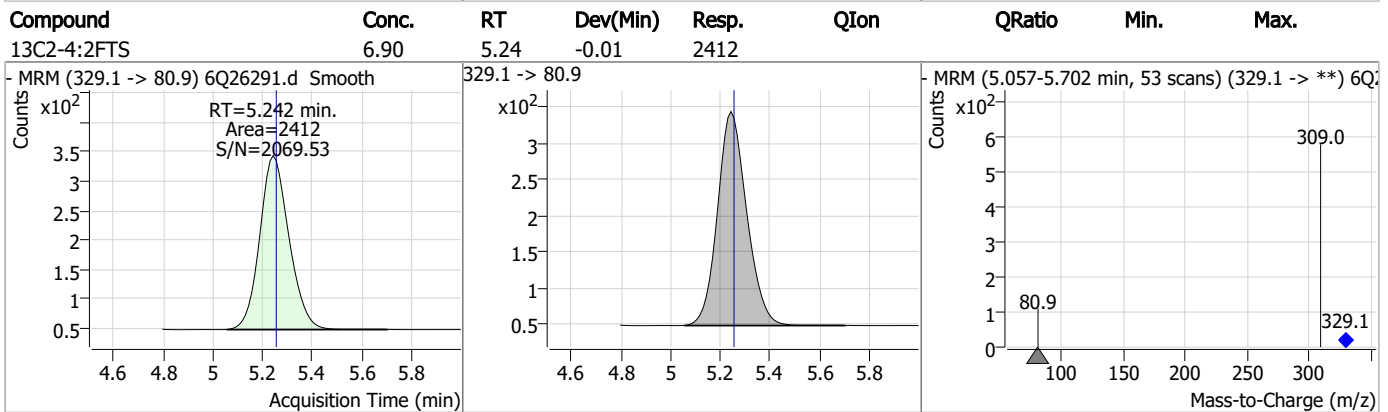
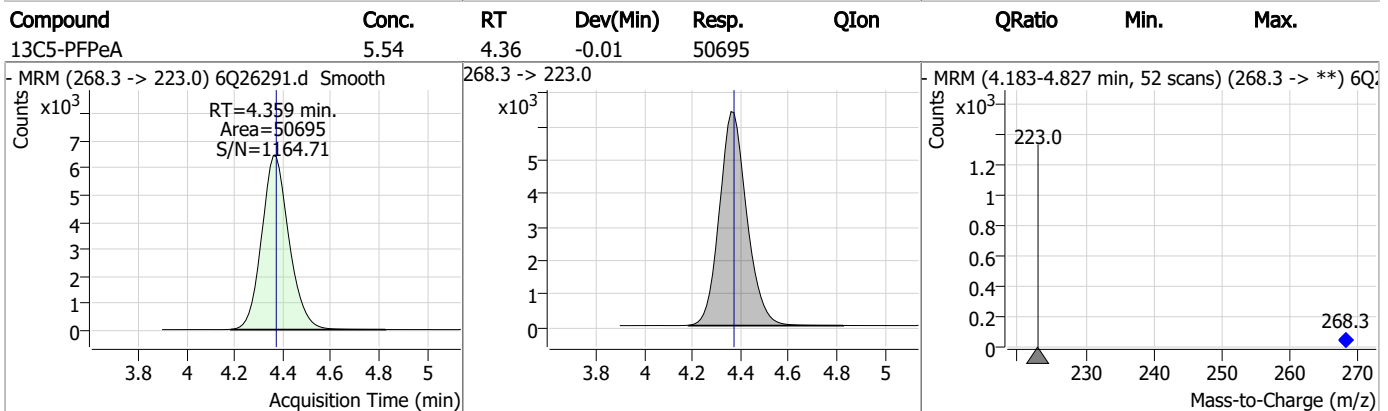
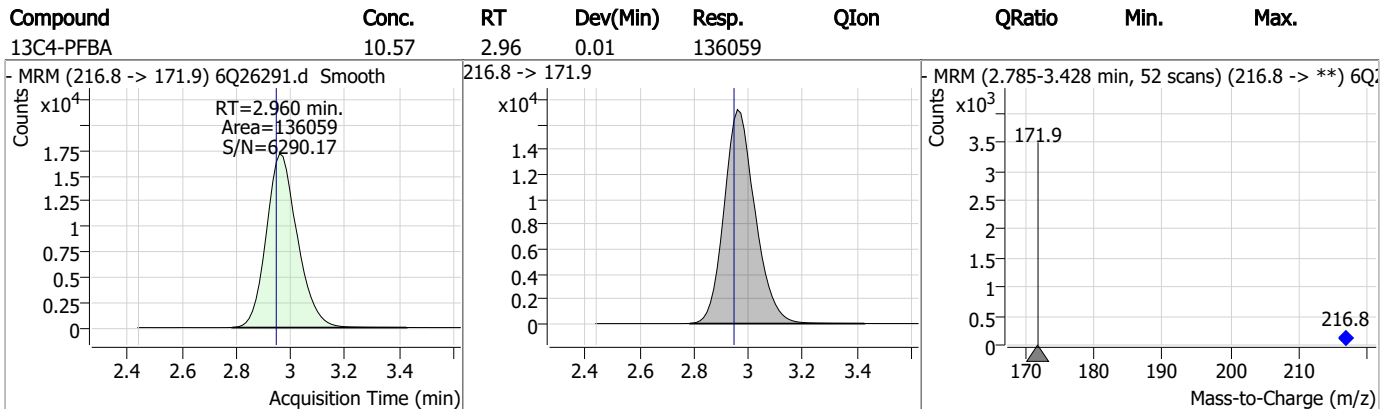
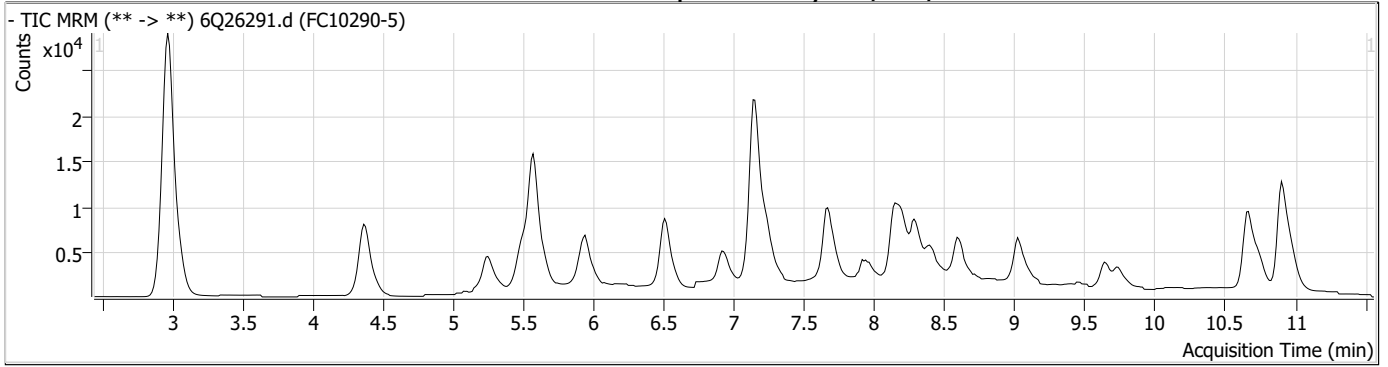
### Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
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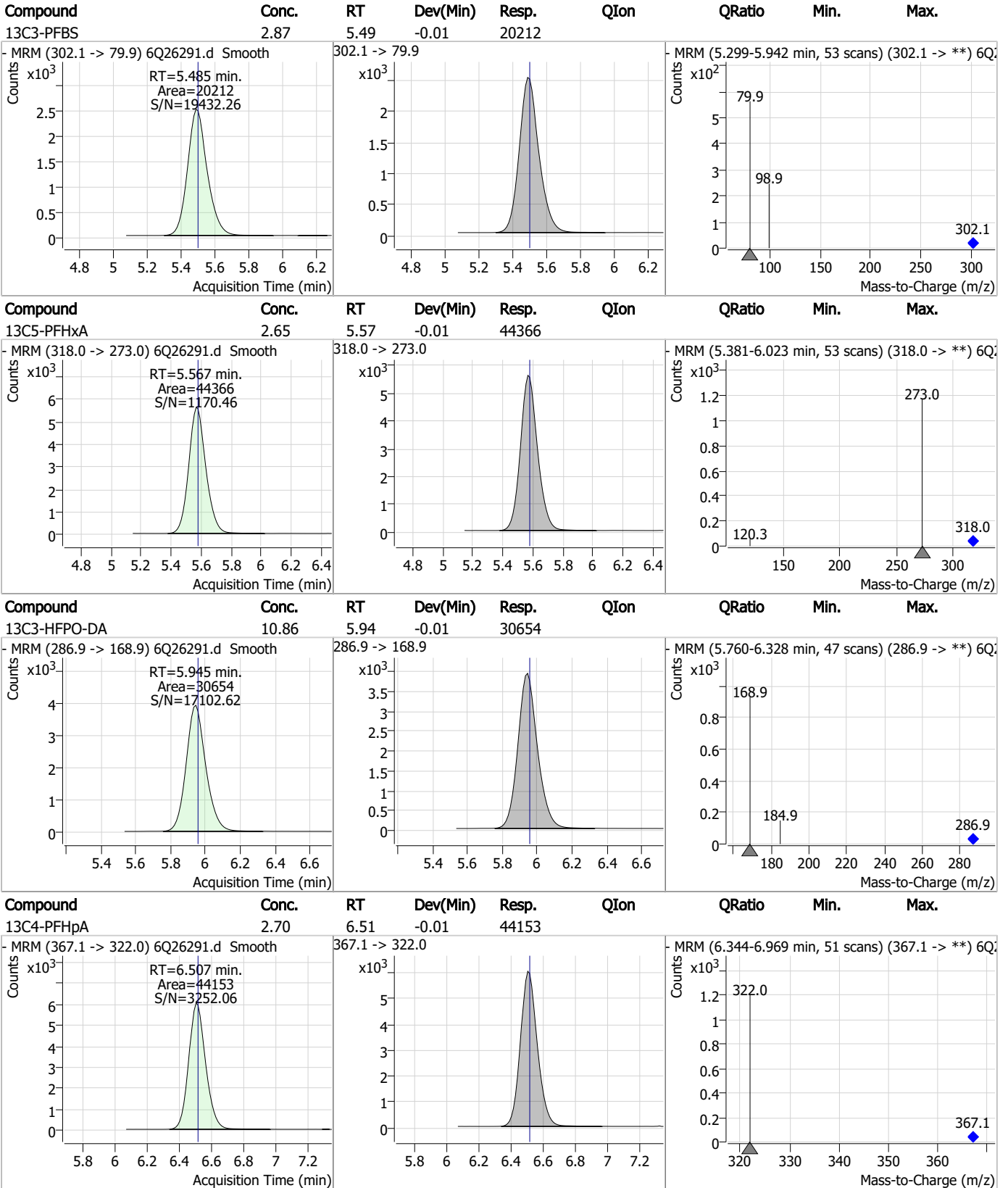
7.1.6  
7



### Perfluorinated Compounds by LC/MS/MS



### Perfluorinated Compounds by LC/MS/MS



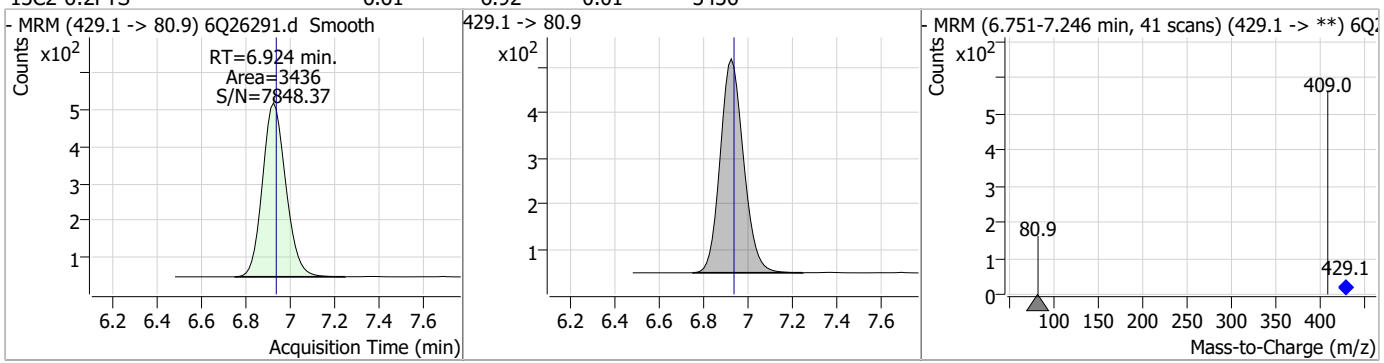
7.1.6

7

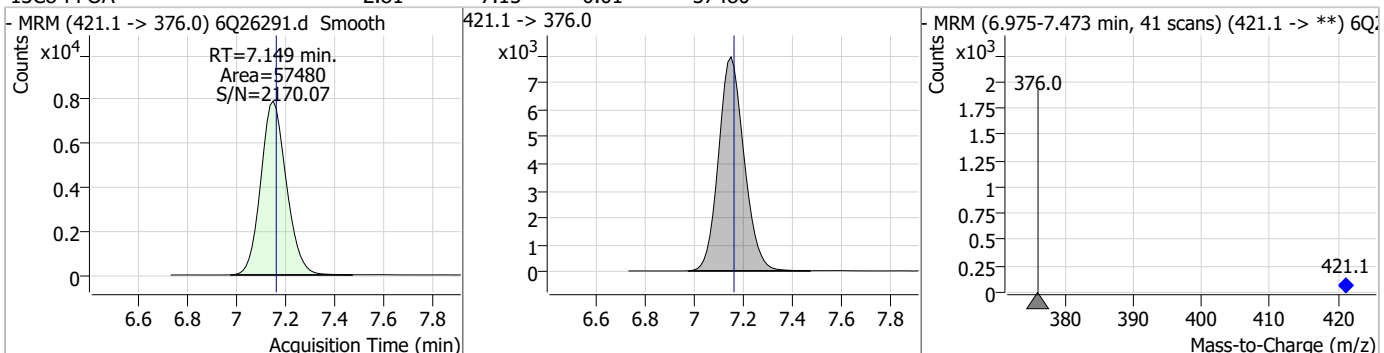


### Perfluorinated Compounds by LC/MS/MS

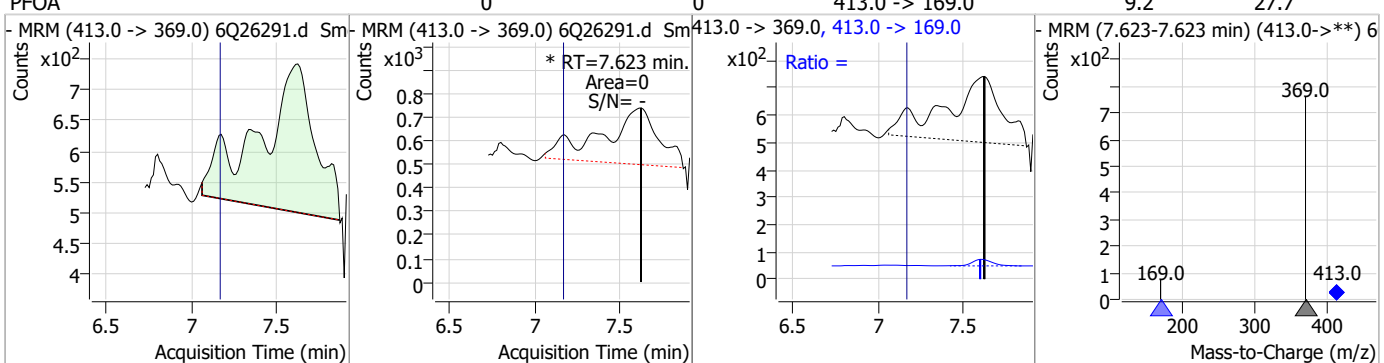
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
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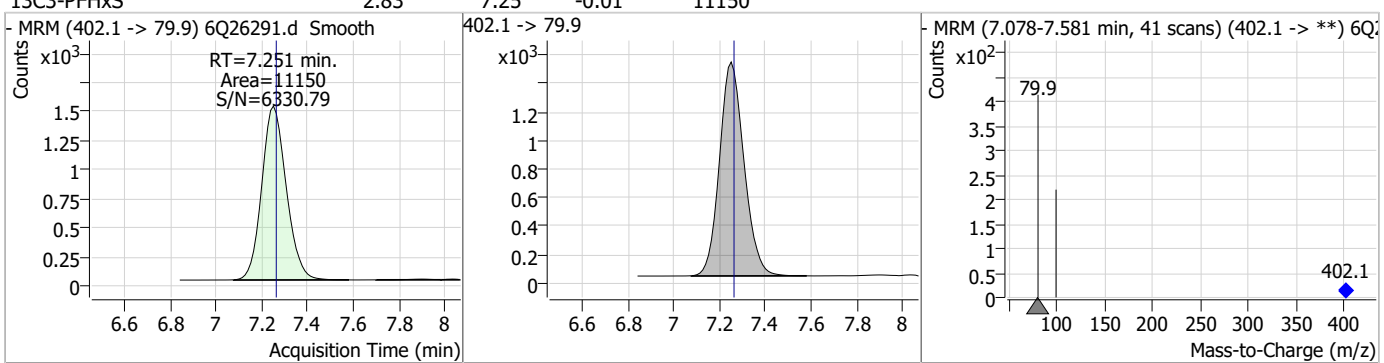
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
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Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
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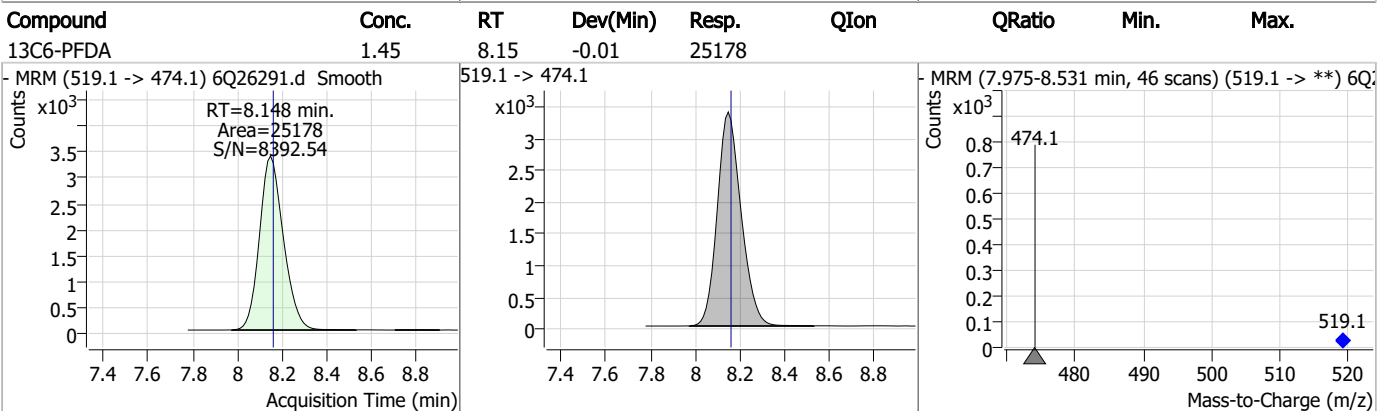
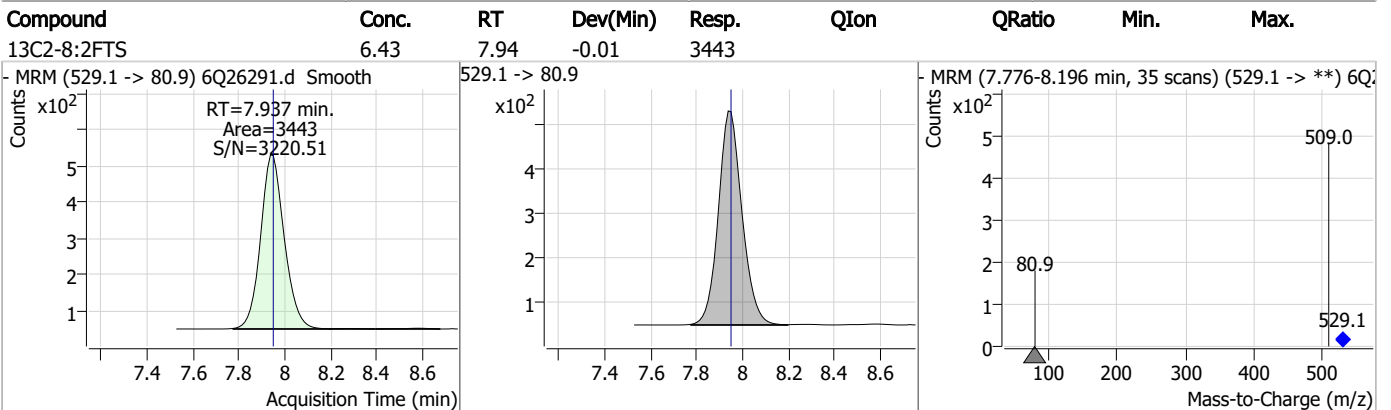
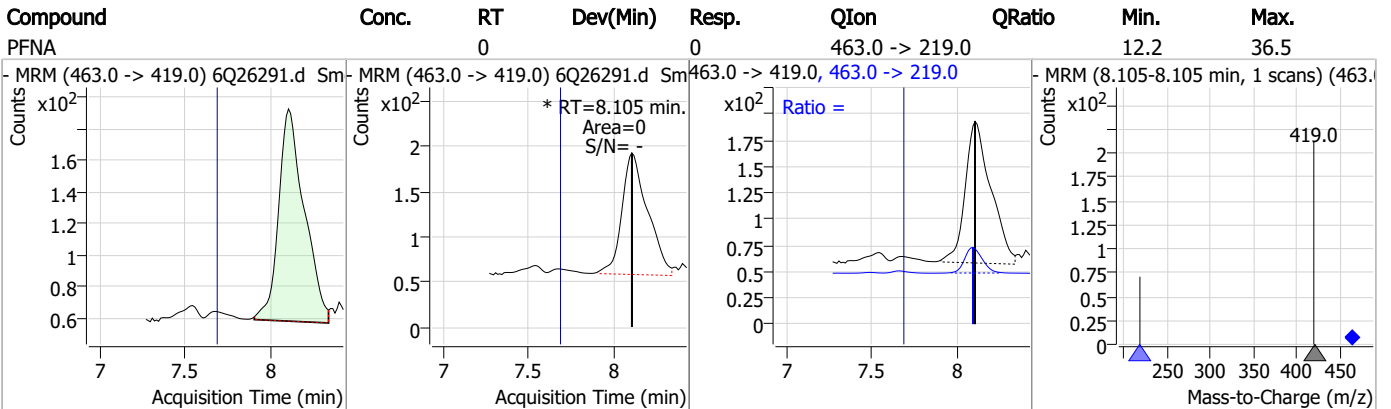
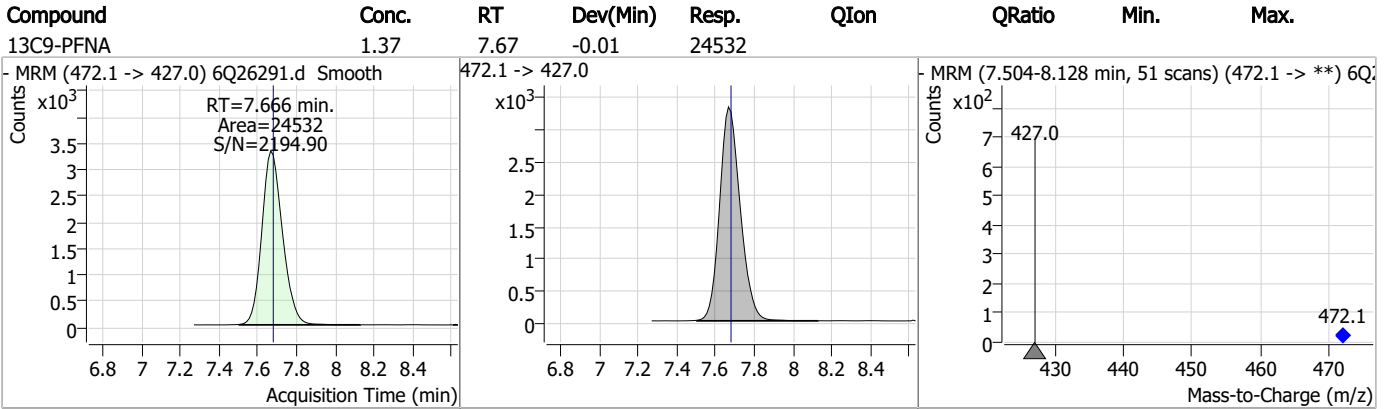


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
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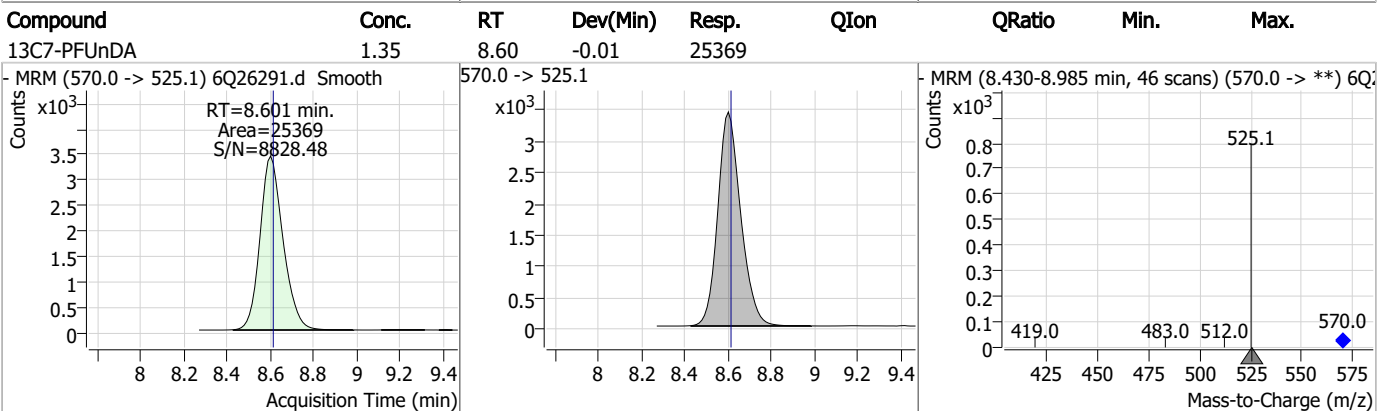
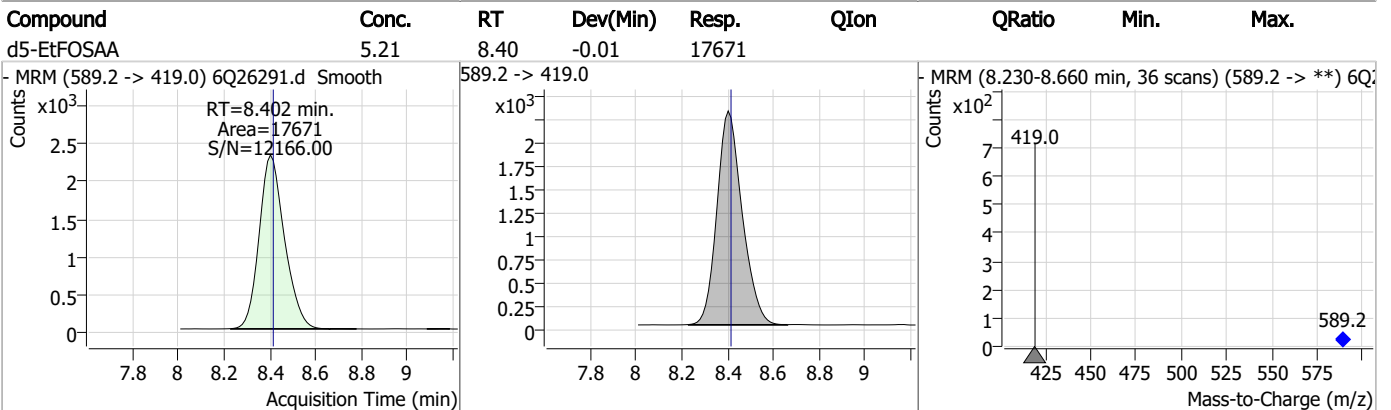
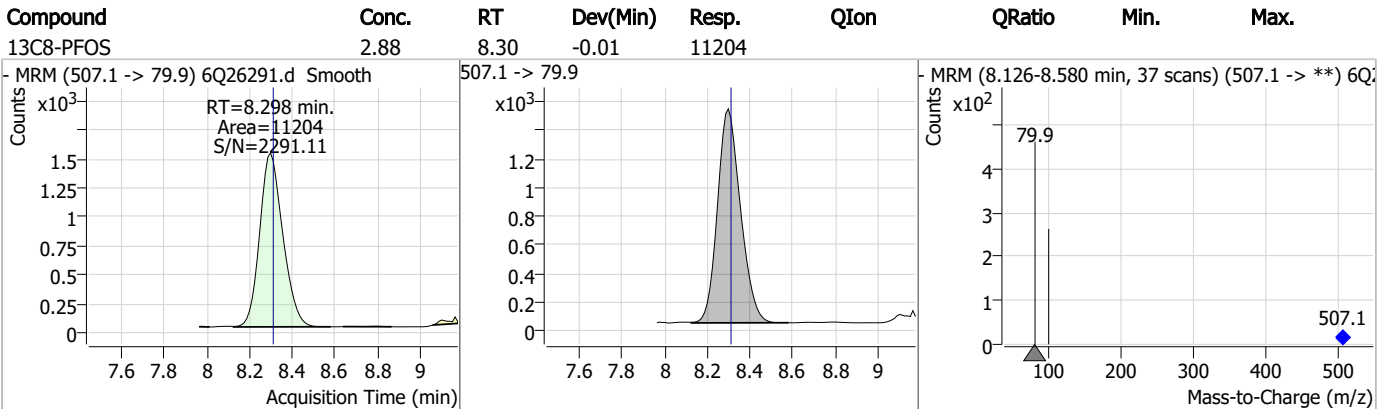
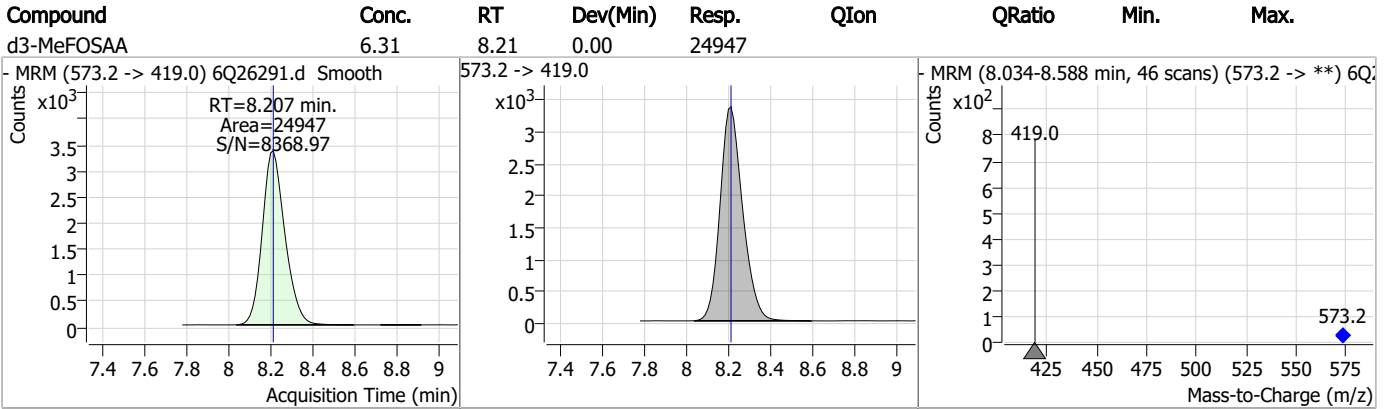


7.1.6  
7

### Perfluorinated Compounds by LC/MS/MS



### Perfluorinated Compounds by LC/MS/MS



7.1.6

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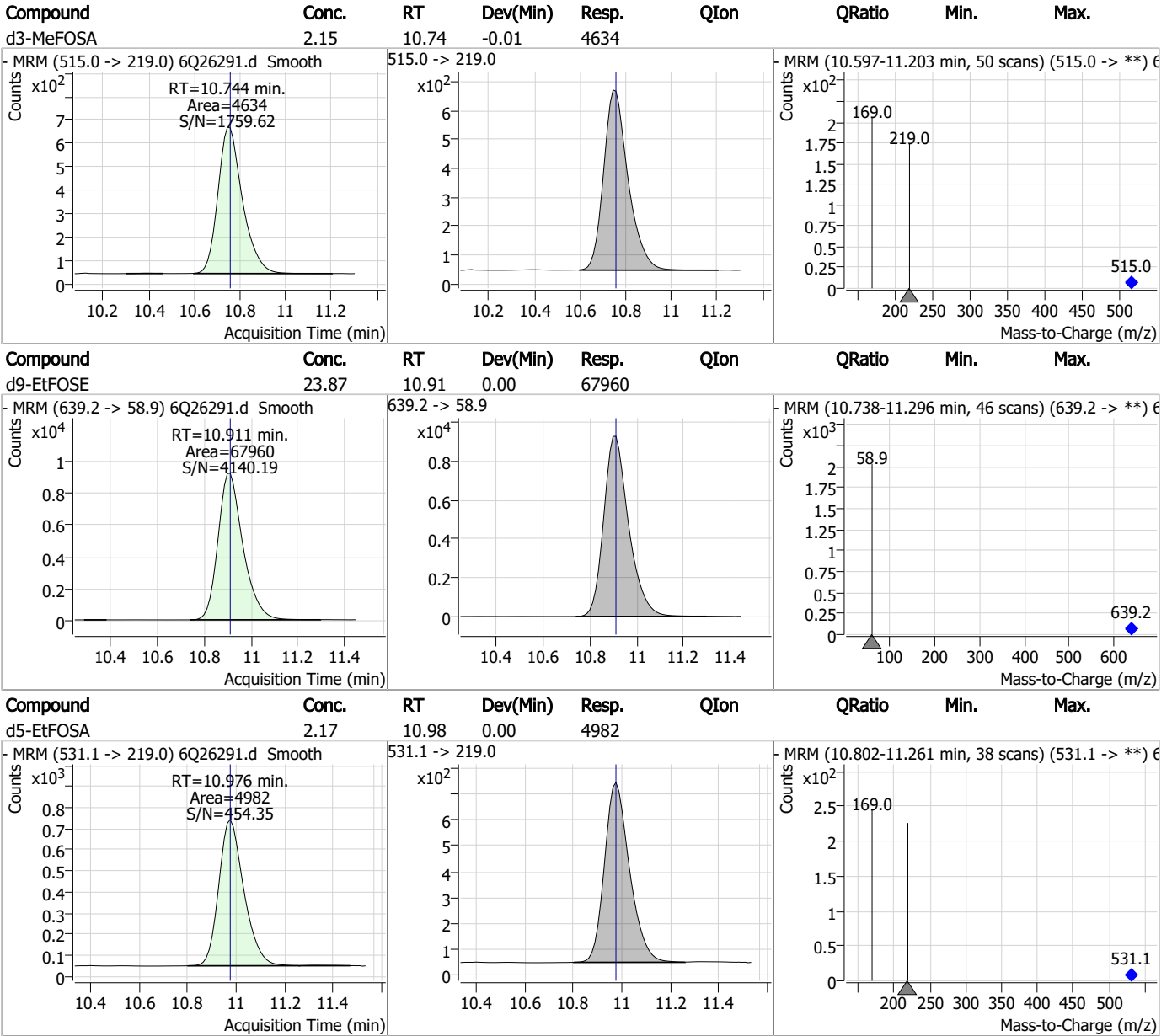
### Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFDoDA	1.35	9.03	0.00	27774				
13C8-FOSA	2.10	9.66	0.00	15568				
13C2-PFTeDA	1.27	9.73	-0.01	8846				
d7-MeFOSE	22.04	10.67	0.00	52782				

7.1.6

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Perfluorinated Compounds by LC/MS/MS



7.1.6

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Manual Integrations  
**APPROVED**  
 (compounds with "m" flag)  
 Natasha Gumtie  
 10/16/23 17:58

### Perfluorinated Compounds by LC/MS/MS

Data File : 6Q26293.d  
 Operator : marthav  
 Acq. Method : 1633full.m  
 Acq. Date-Time : 10/12/2023 6:54:16 PM  
 Sample Name : FC10290-6  
 Vial : P6-B3  
 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)
<b>Internal Standards</b>					
M4-PFBA	2.960	216.8 -> 171.9	126128	10.00 µg/L	0.012
M5-PFPeA	4.359	268.3 -> 223.0	48357	5.00 µg/L	-0.012
M5-PFHxA	5.567	318.0 -> 273.0	44073	2.50 µg/L	-0.012
M4-PFHpA	6.507	367.1 -> 322.0	42326	2.50 µg/L	-0.012
M8-PFOA	7.149	421.1 -> 376.0	57399	2.50 µg/L	-0.012
M9-PFNA	7.666	472.1 -> 427.0	23171	1.25 µg/L	-0.013
M6-PFDA	8.148	519.1 -> 474.1	23227	1.25 µg/L	-0.012
M7-PFUnDA	8.601	570.0 -> 525.1	23742	1.25 µg/L	-0.012
M2-PFDoDA	9.030	615.1 -> 570.0	23881	1.25 µg/L	0.000
M2-PFTeDA	9.735	715.2 -> 670.0	8070	1.25 µg/L	-0.012
M8-FOSA	9.657	506.1 -> 77.8	15994	2.50 µg/L	0.000
M3-PFBS	5.485	302.1 -> 79.9	20112	2.50 µg/L	-0.012
M3-PFHxS	7.251	402.1 -> 79.9	10454	2.50 µg/L	-0.012
M8-PFOS	8.298	507.1 -> 79.9	9897	2.50 µg/L	-0.013
M2-4:2FTS	5.242	329.1 -> 80.9	2645	5.00 µg/L	-0.012
M2-6:2FTS	6.924	429.1 -> 80.9	3138	5.00 µg/L	-0.012
M2-8:2FTS	7.937	529.1 -> 80.9	3037	5.00 µg/L	-0.012
M3-MeFOSAA	8.207	573.2 -> 419.0	21067	5.00 µg/L	0.000
M3-HFPO-DA	5.933	286.9 -> 168.9	29336	10.00 µg/L	-0.025
M5-EtFOSAA	8.402	589.2 -> 419.0	18775	5.00 µg/L	-0.012
M7-MeFOSE	10.665	623.2 -> 58.9	50774	25.00 µg/L	0.000
M9-EtFOSE	10.911	639.2 -> 58.9	59102	25.00 µg/L	0.000
M5-EtFOSA	10.976	531.1 -> 219.0	4854	2.50 µg/L	0.000
M3-MeFOSA	10.744	515.0 -> 219.0	4441	2.50 µg/L	-0.012
13C4-PFOS	8.299	502.8 -> 79.9	9142	2.50 µg/L	-0.013
13C3-PFBA	2.964	216.0 -> 172.0	52853	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	59129	2.50 µg/L	-0.012
13C2-PFDA	8.149	515.1 -> 470.1	20196	1.25 µg/L	-0.012
13C5-PFNA	7.667	468.0 -> 423.0	21460	1.25 µg/L	-0.013
13C2-PFHxA	5.568	315.1 -> 270.0	39685	2.50 µg/L	-0.012
<b>System Monitoring Compounds</b>					
13C2-4:2FTS	5.242	329.1 -> 80.9	2645	7.80 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 156.1%		
13C2-6:2FTS	6.924	429.1 -> 80.9	3138	6.22 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 124.5%		
13C2-8:2FTS	7.937	529.1 -> 80.9	3037	5.85 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 117.0%		
13C2-PFDoDA	9.030	615.1 -> 570.0	23881	1.19 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 94.9%		
13C2-PFTeDA	9.735	715.2 -> 670.0	8070	1.18 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 94.6%		
13C3-PFBS	5.485	302.1 -> 79.9	20112	2.95 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 118.0%		
13C3-PFHxS	7.251	402.1 -> 79.9	10454	2.73 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 = 109.4%		
13C4-PFBA	2.960	216.8 -> 171.9	126128	9.89 µg/L	0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%		Recovery = 98.9%		
13C4-PFHpA	6.507	367.1 -> 322.0	42326	2.64 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 105.4%		
13C5-PFHxA	5.567	318.0 -> 273.0	44073	2.69 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 107.4%		
13C5-PFPeA	4.359	268.3 -> 223.0	48357	5.38 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 107.7%		
13C6-PFDA	8.148	519.1 -> 474.1	23227	1.37 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 109.3%		
13C7-PFUnDA	8.601	570.0 -> 525.1	23742	1.29 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 103.3%		
13C8-FOSA	9.657	506.1 -> 77.8	15994	2.12 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 84.8%		
13C8-PFOA	7.149	421.1 -> 376.0	57399	2.80 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 112.0%		
13C8-PFOS	8.298	507.1 -> 79.9	9897	2.51 µg/L	-0.013
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 100.3%		
13C9-PFNA	7.666	472.1 -> 427.0	23171	1.31 µg/L	-0.013
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 105.0%		
d3-MeFOSAA	8.207	573.2 -> 419.0	21067	5.24 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 104.8%		
13C3-HFPO-DA	5.933	286.9 -> 168.9	29336	10.60 µg/L	-0.025
Spiked Amount: 10.00	Range: 50.0 - 150.0%		Recovery = 106.0%		
d3-MeFOSA	10.744	515.0 -> 219.0	4441	2.03 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 81.2%		
d5-EtFOSAA	8.402	589.2 -> 419.0	18775	5.45 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 109.0%		
d7-MeFOSE	10.665	623.2 -> 58.9	50774	20.85 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%		Recovery = 83.4%		
d9-EtFOSE	10.911	639.2 -> 58.9	59102	20.42 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%		Recovery = 81.7%		
d5-EtFOSA	10.976	531.1 -> 219.0	4854	2.07 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 83.0%		

Target Compounds						QValue
4:2FTS	-	327.1 -> 307.0	-	N.D.		
		327.1 -> 80.9				
6:2FTS	6.912	427.1 -> 407.0	189	0.07 µg/L	m	82
		427.1 -> 80.9	94			
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	5.499	298.7 -> 79.9	390	0.06 µg/L		96
		298.7 -> 98.8	153			
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	5.569	449.0 -> 98.9	1239	0.08	µg/L	96
		313.0 -> 269.0				
PFHxS	7.252	313.0 -> 118.9	293	0.07	µg/L	94
		398.7 -> 79.9				
PFNA	8.117	398.7 -> 98.9	169		µg/L	m
		463.0 -> 419.0				
PFNS	-	463.0 -> 219.0	0	N.D.		
		548.8 -> 79.9				
PFOA	7.137	548.8 -> 98.9	1933	0.08	µg/L	90
		413.0 -> 369.0				
PFOS	-	413.0 -> 169.0	270	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



7.1.7  
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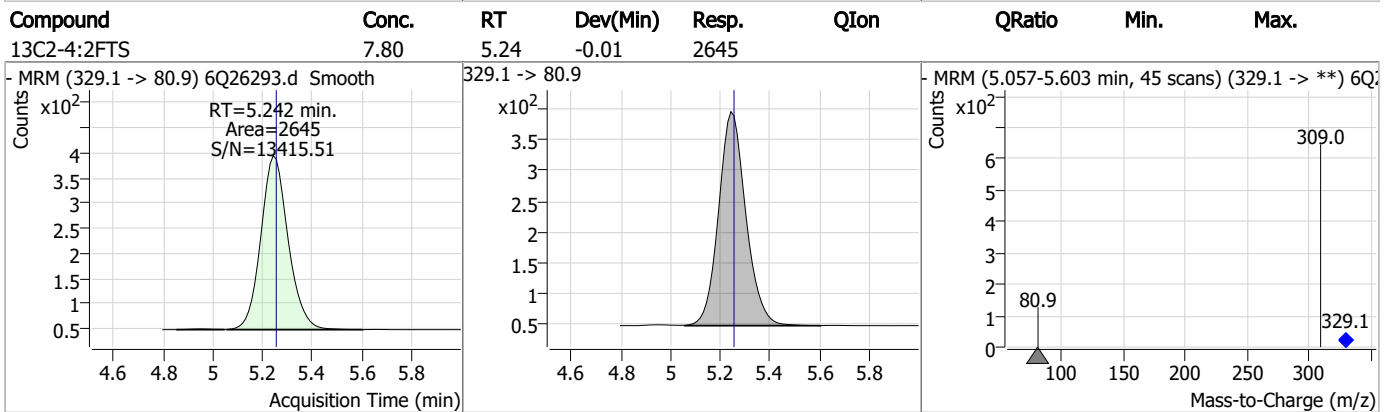
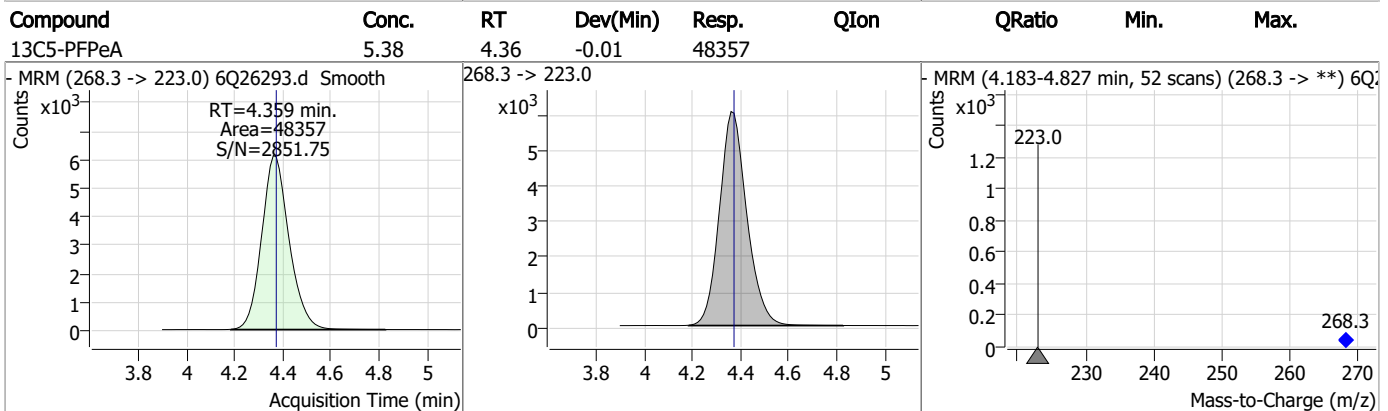
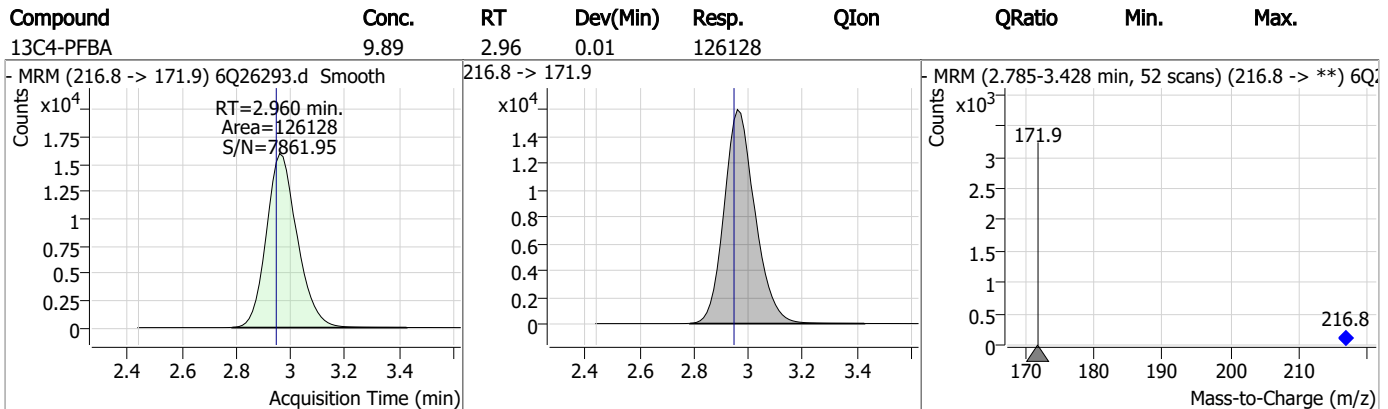
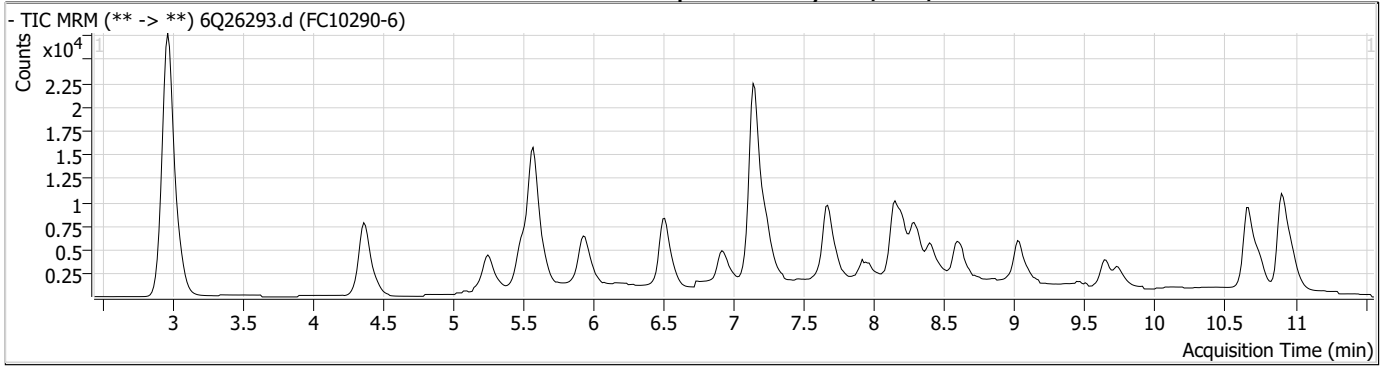
### Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
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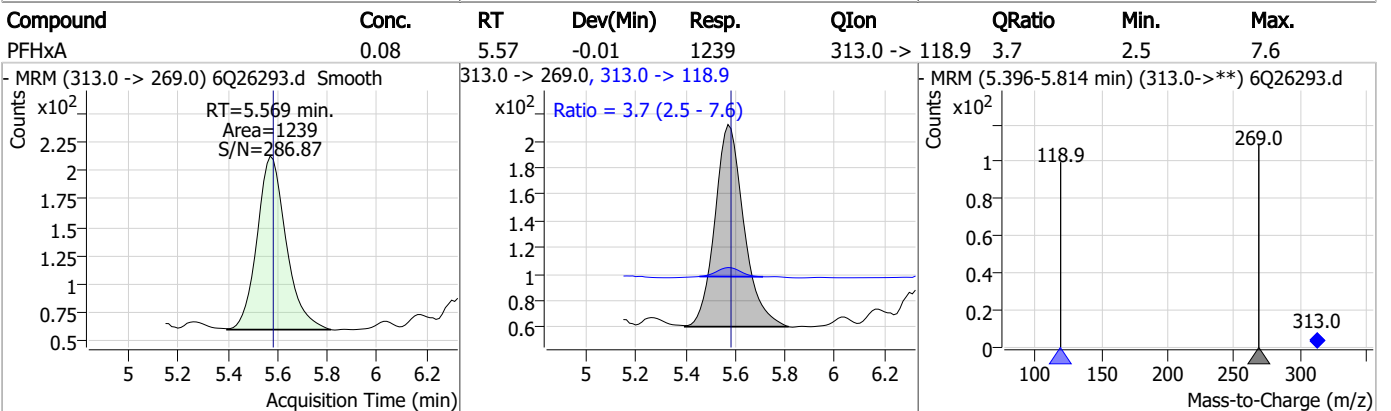
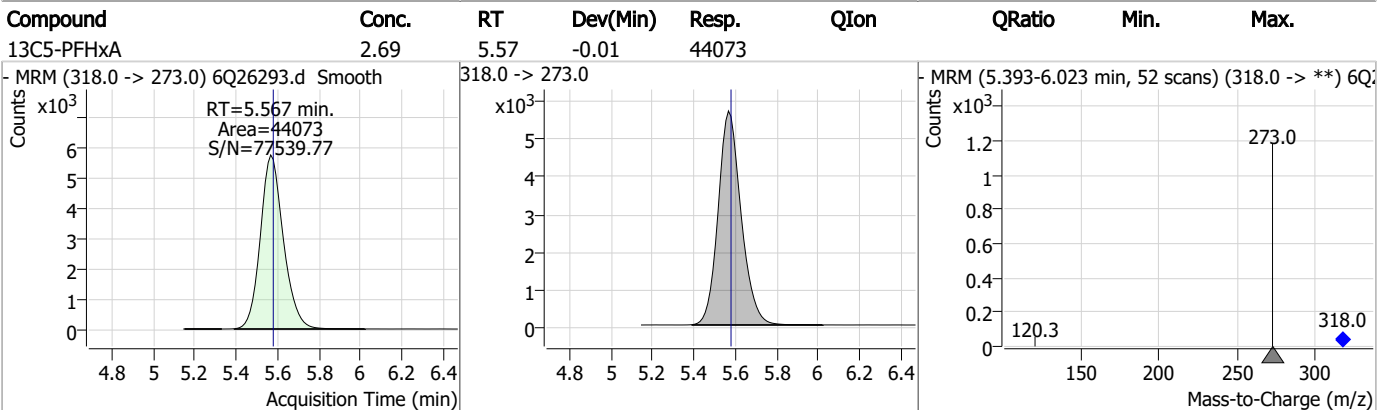
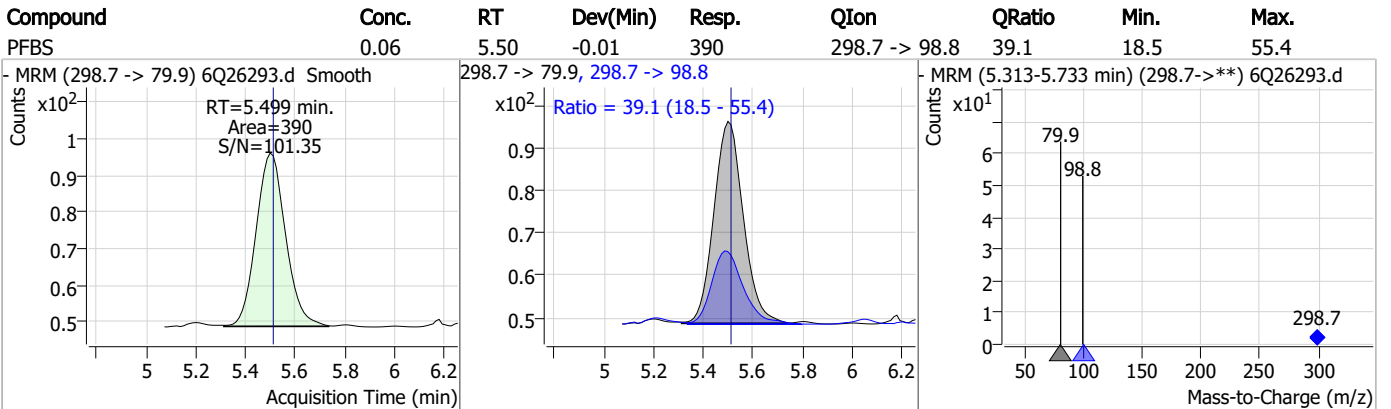
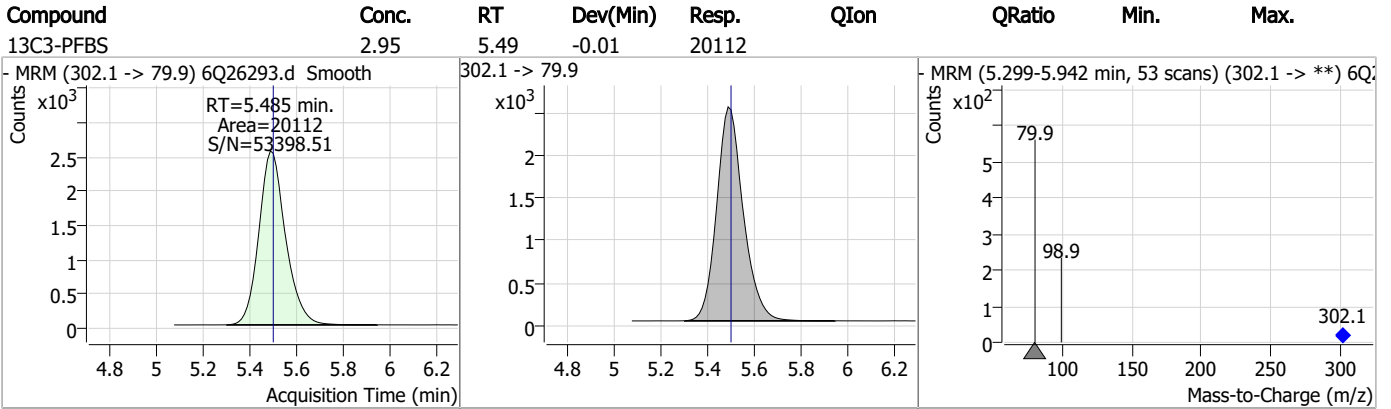
7.1.7  
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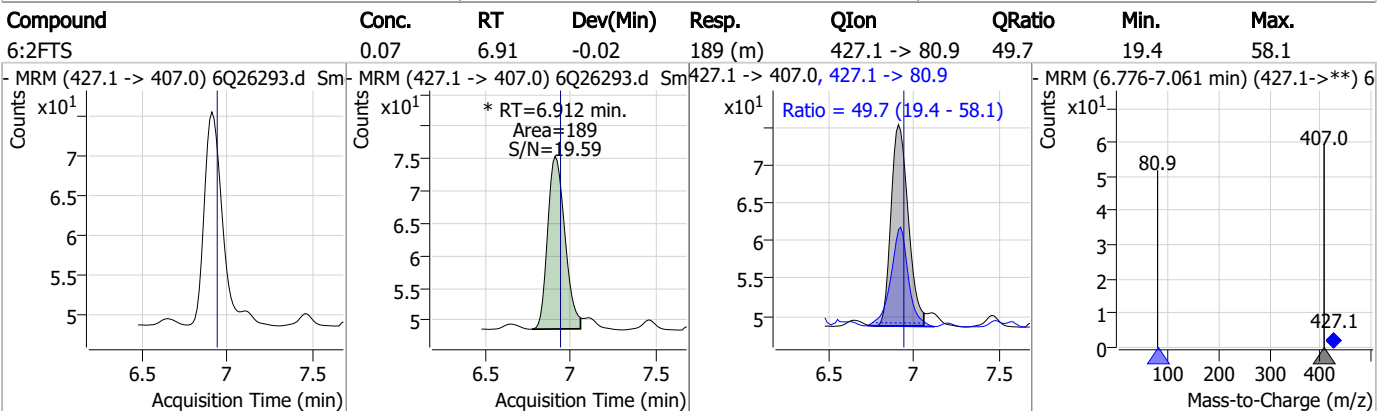
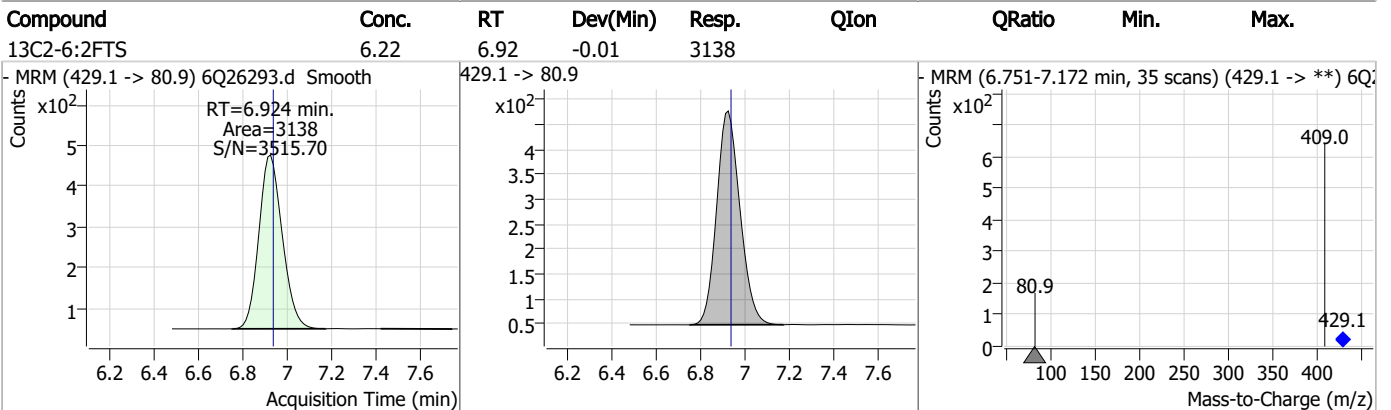
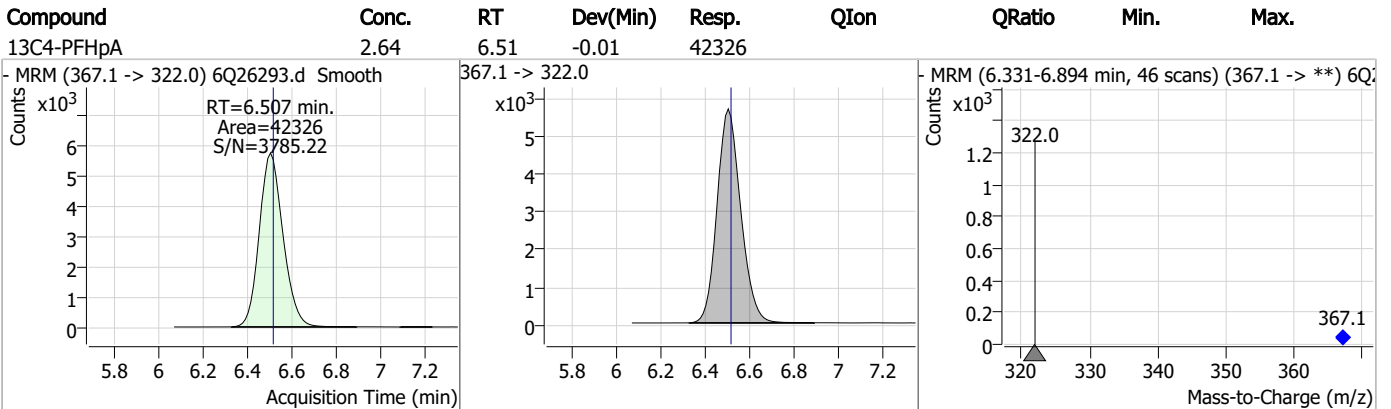
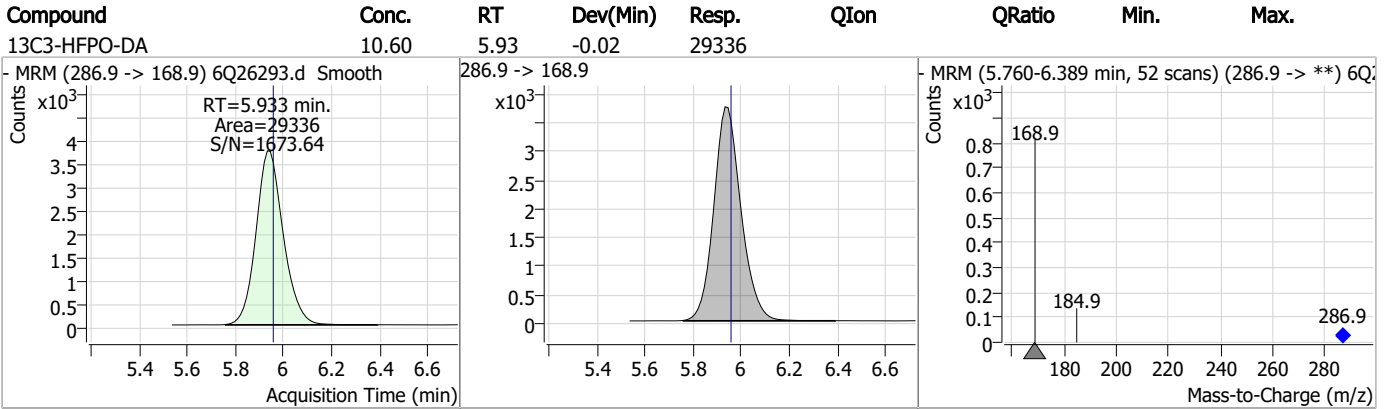
### Perfluorinated Compounds by LC/MS/MS



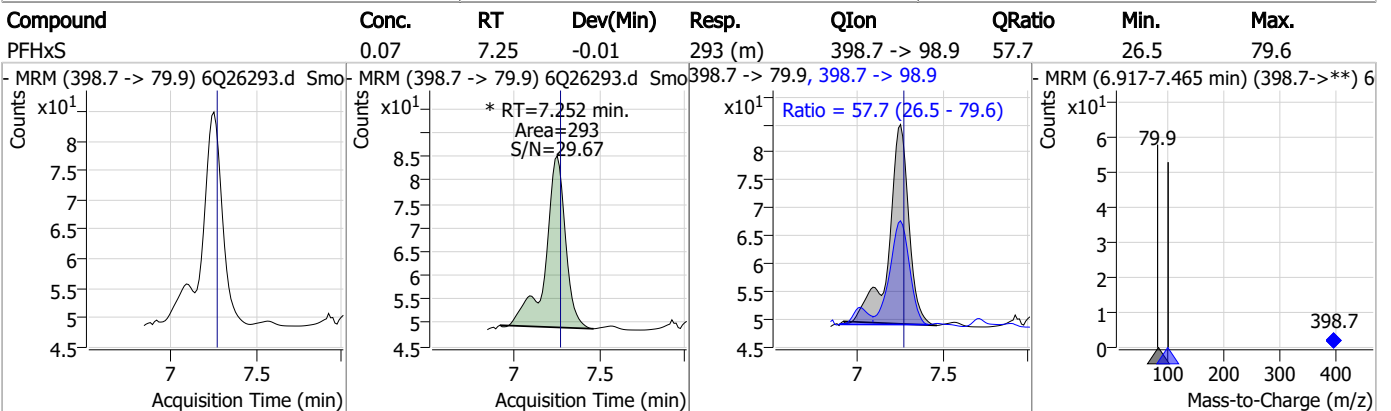
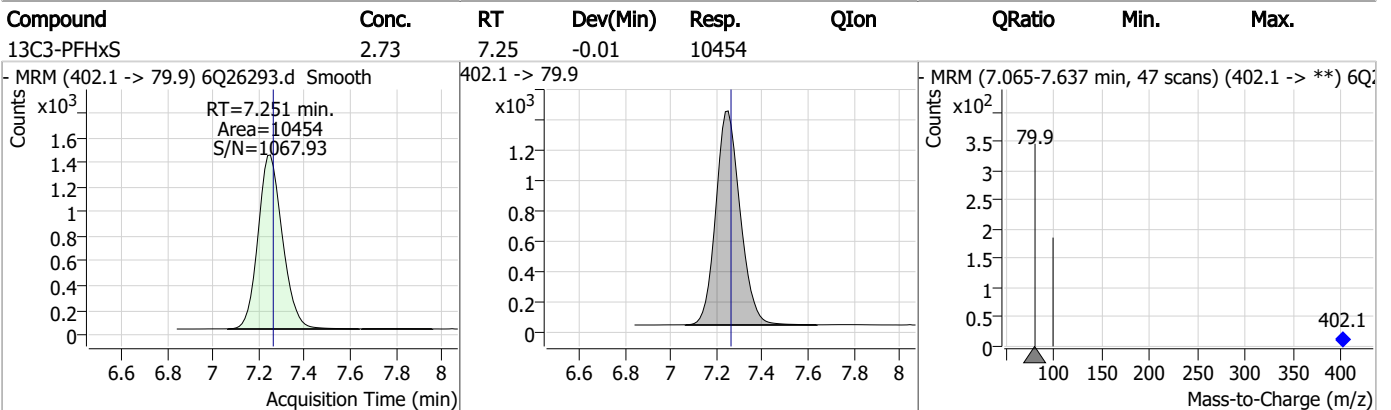
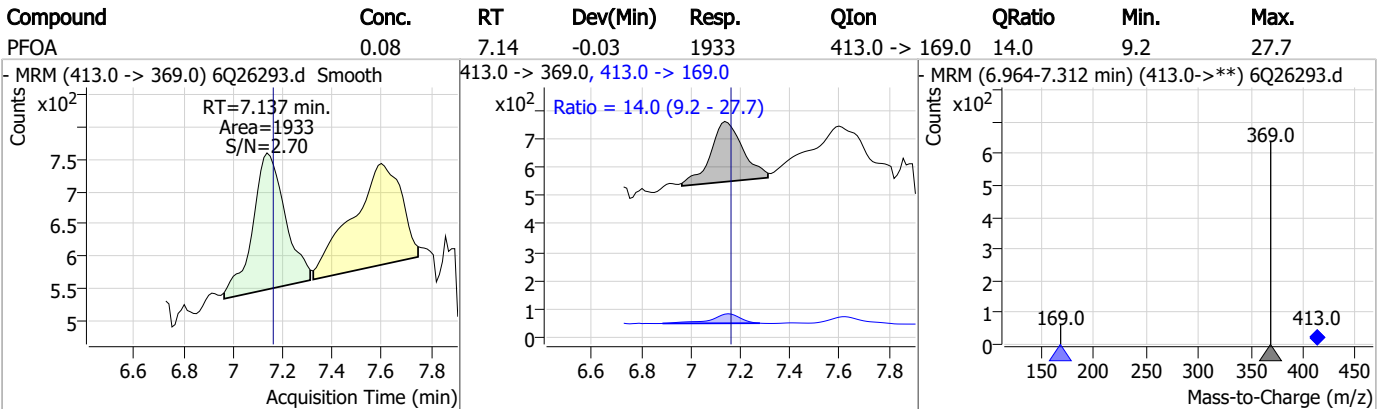
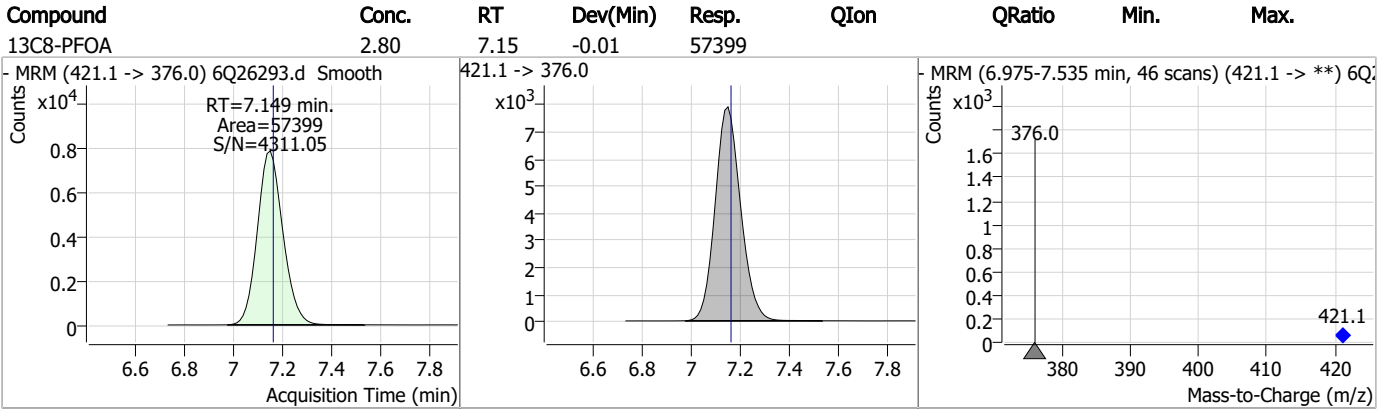
### Perfluorinated Compounds by LC/MS/MS



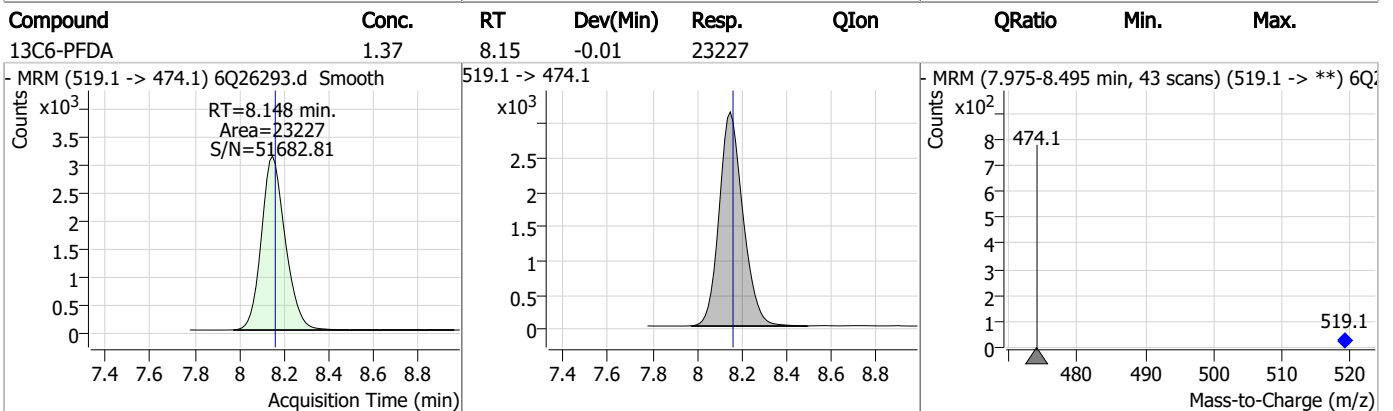
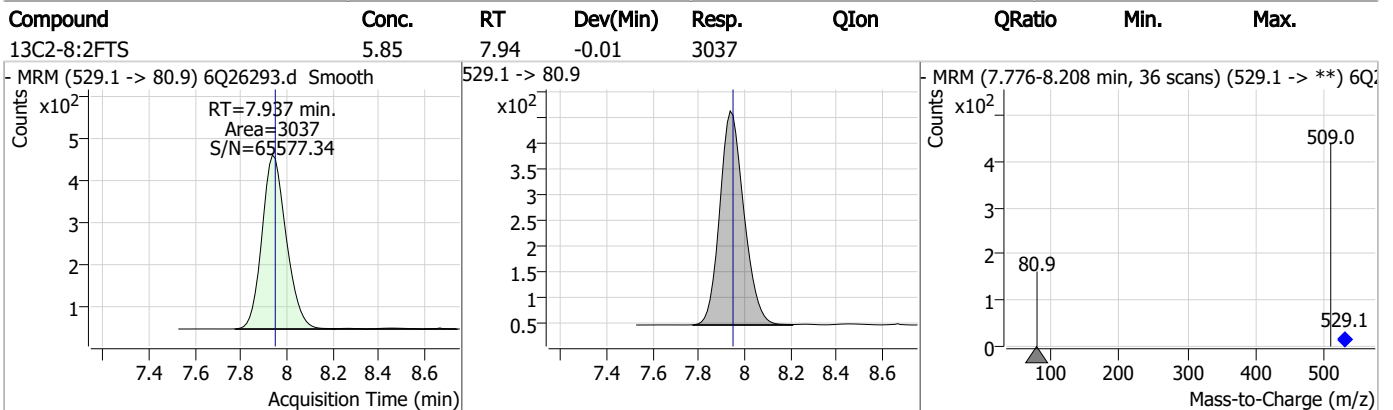
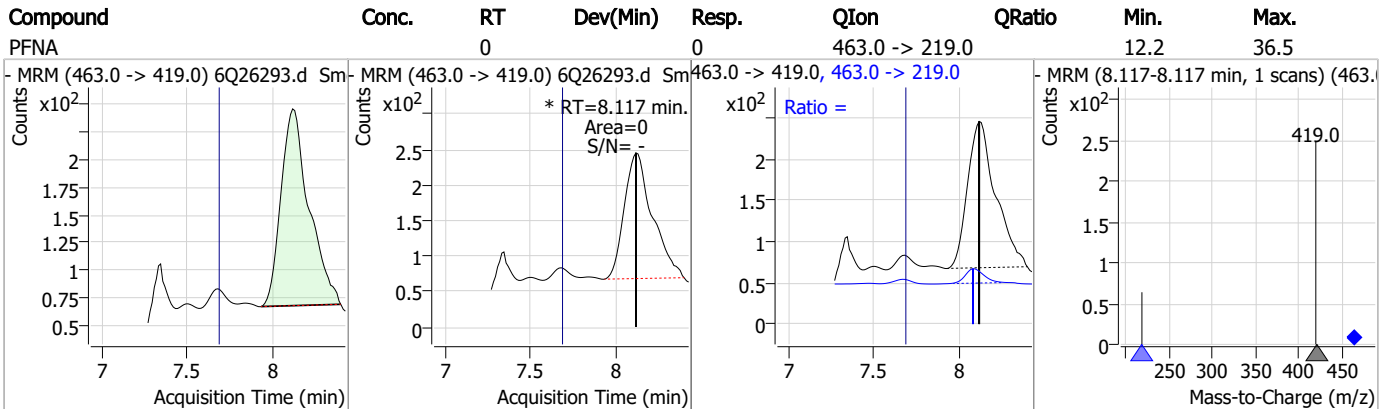
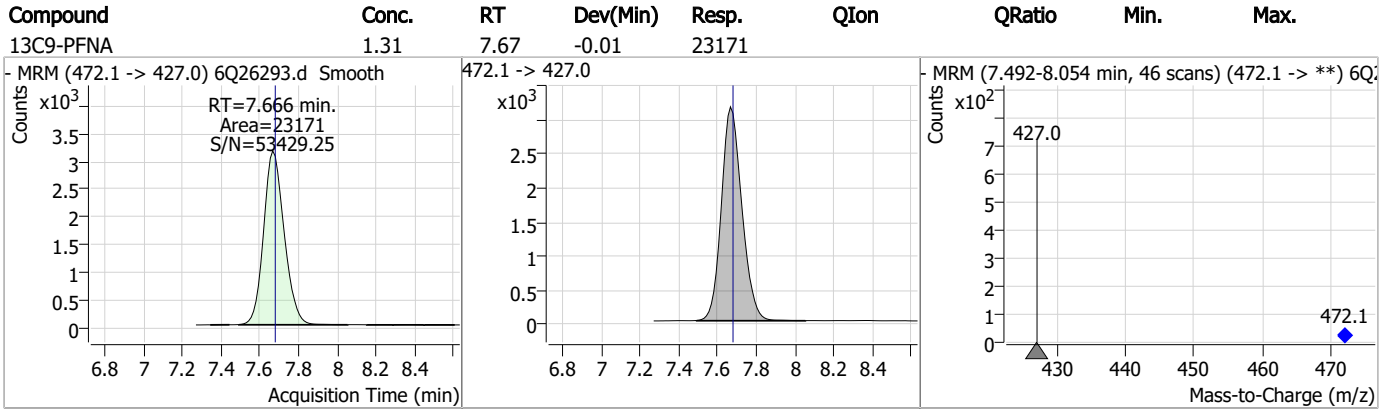
### Perfluorinated Compounds by LC/MS/MS



### Perfluorinated Compounds by LC/MS/MS



### Perfluorinated Compounds by LC/MS/MS



### Perfluorinated Compounds by LC/MS/MS

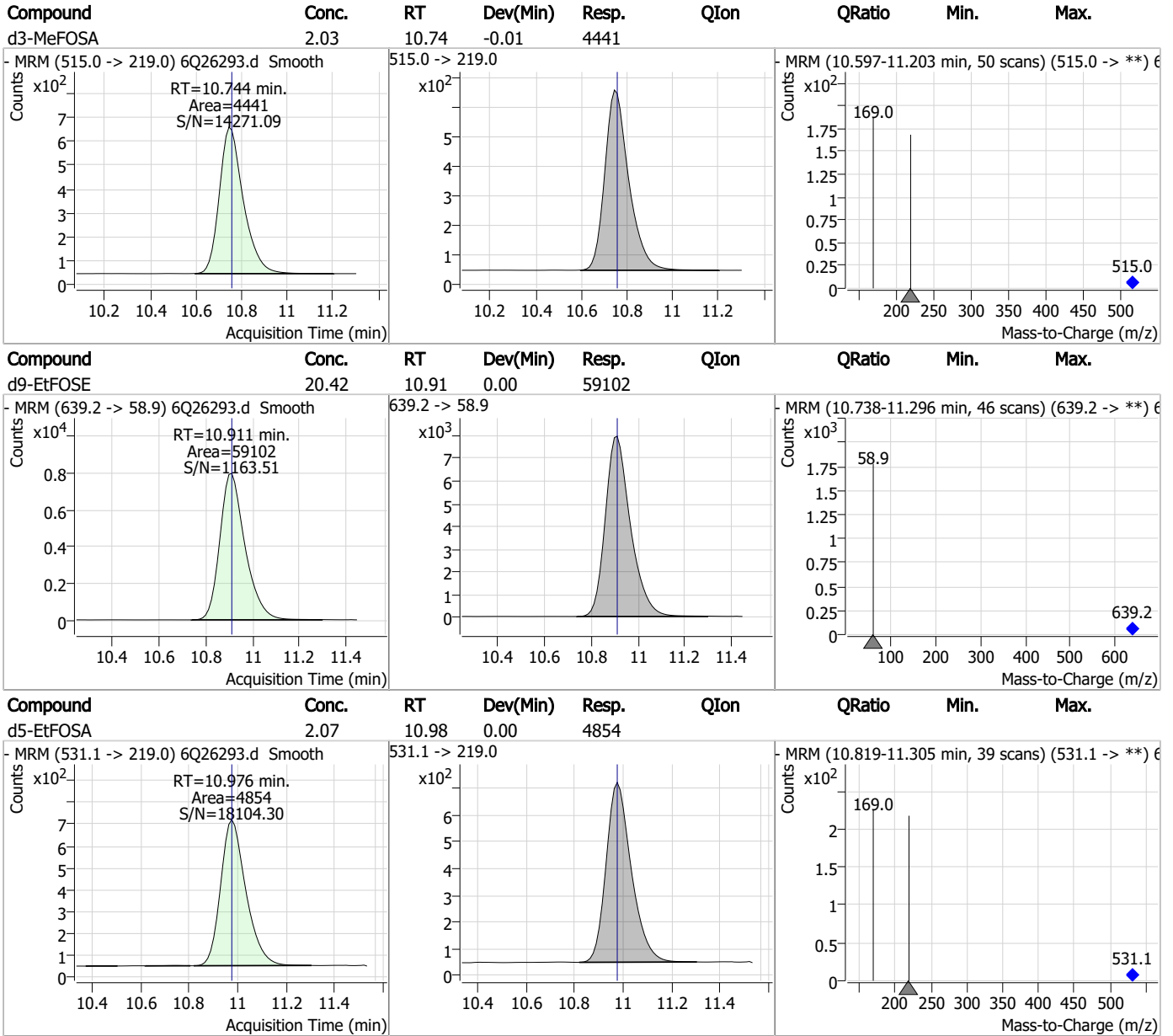
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSAA	5.24	8.21	0.00	21067				
- MRM (573.2 -> 419.0) 6Q26293.d Smooth			573.2 -> 419.0		- MRM (8.022-8.588 min, 47 scans) (573.2 -> **) 6Q2			
13C8-PFOS	2.51	8.30	-0.01	9897				
- MRM (507.1 -> 79.9) 6Q26293.d Smooth			507.1 -> 79.9		- MRM (8.113-8.629 min, 42 scans) (507.1 -> **) 6Q2			
d5-EtFOSAA	5.45	8.40	-0.01	18775				
- MRM (589.2 -> 419.0) 6Q26293.d Smooth			589.2 -> 419.0		- MRM (8.230-8.772 min, 45 scans) (589.2 -> **) 6Q2			
13C7-PFUnDA	1.29	8.60	-0.01	23742				
- MRM (570.0 -> 525.1) 6Q26293.d Smooth			570.0 -> 525.1		- MRM (8.430-8.960 min, 44 scans) (570.0 -> **) 6Q2			

### Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFDoDA	1.19	9.03	0.00	23881				
13C8-FOSA	2.12	9.66	0.00	15994				
13C2-PFTeDA	1.18	9.73	-0.01	8070				
d7-MeFOSE	20.85	10.67	0.00	50774				



Perfluorinated Compounds by LC/MS/MS



7.1.7

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# Manual Integration Approval Summary

Sample Number: FC10290-6                      Method: EPA DRAFT 1633  
Lab FileID: 6Q26293.D                      Analyst approved: 10/16/23 11:42 Martha Valls  
Injection Time: 10/12/23 18:54                      Supervisor approved: 10/16/23 17:58 Natasha Gumtie

Parameter	CAS	Sig#	R.T. (min.)	Reason
6:2 Fluorotelomer sulfonate	27619-97-2		6.91	Missed peak
Perfluorohexanesulfonic acid	355-46-4		7.25	Missed peak

7.1.7.1

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### Perfluorinated Compounds by LC/MS/MS

Data File : 6Q26295.d  
 Operator : marthav  
 Acq. Method : 1633full.m  
 Acq. Date-Time : 10/12/2023 7:22:56 PM  
 Sample Name : FC10290-7  
 Vial : P6-B5  
 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)
<b>Internal Standards</b>					
M4-PFBA	2.960	216.8 -> 171.9	120862	10.00 µg/L	0.012
M5-PFPeA	4.359	268.3 -> 223.0	51905	5.00 µg/L	-0.012
M5-PFHxA	5.567	318.0 -> 273.0	47170	2.50 µg/L	-0.012
M4-PFHpA	6.507	367.1 -> 322.0	46044	2.50 µg/L	-0.012
M8-PFOA	7.149	421.1 -> 376.0	59566	2.50 µg/L	-0.012
M9-PFNA	7.666	472.1 -> 427.0	25319	1.25 µg/L	-0.013
M6-PFDA	8.148	519.1 -> 474.1	22945	1.25 µg/L	-0.012
M7-PFUnDA	8.601	570.0 -> 525.1	22634	1.25 µg/L	-0.012
M2-PFDoDA	9.030	615.1 -> 570.0	22729	1.25 µg/L	0.000
M2-PFTeDA	9.735	715.2 -> 670.0	6835	1.25 µg/L	-0.012
M8-FOSA	9.657	506.1 -> 77.8	15952	2.50 µg/L	0.000
M3-PFBS	5.485	302.1 -> 79.9	20617	2.50 µg/L	-0.012
M3-PFHxS	7.251	402.1 -> 79.9	11996	2.50 µg/L	-0.012
M8-PFOS	8.298	507.1 -> 79.9	10045	2.50 µg/L	-0.013
M2-4:2FTS	5.242	329.1 -> 80.9	2485	5.00 µg/L	-0.012
M2-6:2FTS	6.924	429.1 -> 80.9	3269	5.00 µg/L	-0.012
M2-8:2FTS	7.950	529.1 -> 80.9	3229	5.00 µg/L	0.000
M3-MeFOSAA	8.207	573.2 -> 419.0	20789	5.00 µg/L	0.000
M3-HFPO-DA	5.945	286.9 -> 168.9	30137	10.00 µg/L	-0.012
M5-EtFOSAA	8.402	589.2 -> 419.0	17644	5.00 µg/L	-0.012
M7-MeFOSE	10.665	623.2 -> 58.9	49539	25.00 µg/L	0.000
M9-EtFOSE	10.911	639.2 -> 58.9	61933	25.00 µg/L	0.000
M5-EtFOSA	10.976	531.1 -> 219.0	5066	2.50 µg/L	0.000
M3-MeFOSA	10.744	515.0 -> 219.0	4650	2.50 µg/L	-0.012
13C4-PFOS	8.299	502.8 -> 79.9	8787	2.50 µg/L	-0.013
13C3-PFBA	2.964	216.0 -> 172.0	53584	5.00 µg/L	0.012
18O2-PFHxS	7.250	403.0 -> 83.9	6050	2.50 µg/L	-0.012
13C4-PFOA	7.150	417.1 -> 372.0	57469	2.50 µg/L	-0.012
13C2-PFDA	8.149	515.1 -> 470.1	20480	1.25 µg/L	-0.012
13C5-PFNA	7.667	468.0 -> 423.0	20728	1.25 µg/L	-0.013
13C2-PFHxA	5.568	315.1 -> 270.0	40627	2.50 µg/L	-0.012
<b>System Monitoring Compounds</b>					
13C2-4:2FTS	5.242	329.1 -> 80.9	2485	7.29 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 145.8%		
13C2-6:2FTS	6.924	429.1 -> 80.9	3269	6.45 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 128.9%		
13C2-8:2FTS	7.950	529.1 -> 80.9	3229	6.19 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 123.7%		
13C2-PFDoDA	9.030	615.1 -> 570.0	22729	1.11 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 89.1%		
13C2-PFTeDA	9.735	715.2 -> 670.0	6835	0.99 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 79.0%		
13C3-PFBS	5.485	302.1 -> 79.9	20617	3.01 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 120.3%		
13C3-PFHxS	7.251	402.1 -> 79.9	11996	3.12 µg/L	-0.012

7.1.8  
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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 = 124.8%	
13C4-PFBA	2.960	216.8 -> 171.9	120862	9.34 µg/L	0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 93.4%	
13C4-PFHpA	6.507	367.1 -> 322.0	46044	2.80 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 112.0%	
13C5-PFHxA	5.567	318.0 -> 273.0	47170	2.81 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 112.3%	
13C5-PFPeA	4.359	268.3 -> 223.0	51905	5.65 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 112.9%	
13C6-PFDA	8.148	519.1 -> 474.1	22945	1.33 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 106.4%	
13C7-PFUnDA	8.601	570.0 -> 525.1	22634	1.21 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 97.1%	
13C8-FOSA	9.657	506.1 -> 77.8	15952	2.20 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 88.0%	
13C8-PFOA	7.149	421.1 -> 376.0	59566	2.99 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 119.6%	
13C8-PFOS	8.298	507.1 -> 79.9	10045	2.65 µg/L	-0.013
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 105.9%	
13C9-PFNA	7.666	472.1 -> 427.0	25319	1.48 µg/L	-0.013
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 118.8%	
d3-MeFOSAA	8.207	573.2 -> 419.0	20789	5.38 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 107.6%	
13C3-HFPO-DA	5.945	286.9 -> 168.9	30137	10.63 µg/L	-0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 106.3%	
d3-MeFOSA	10.744	515.0 -> 219.0	4650	2.21 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 88.5%	
d5-EtFOSAA	8.402	589.2 -> 419.0	17644	5.33 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 106.5%	
d7-MeFOSE	10.665	623.2 -> 58.9	49539	21.17 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 84.7%	
d9-EtFOSE	10.911	639.2 -> 58.9	61933	22.26 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 89.0%	
d5-EtFOSA	10.976	531.1 -> 219.0	5066	2.25 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 90.1%	

**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.	



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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	7.586	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

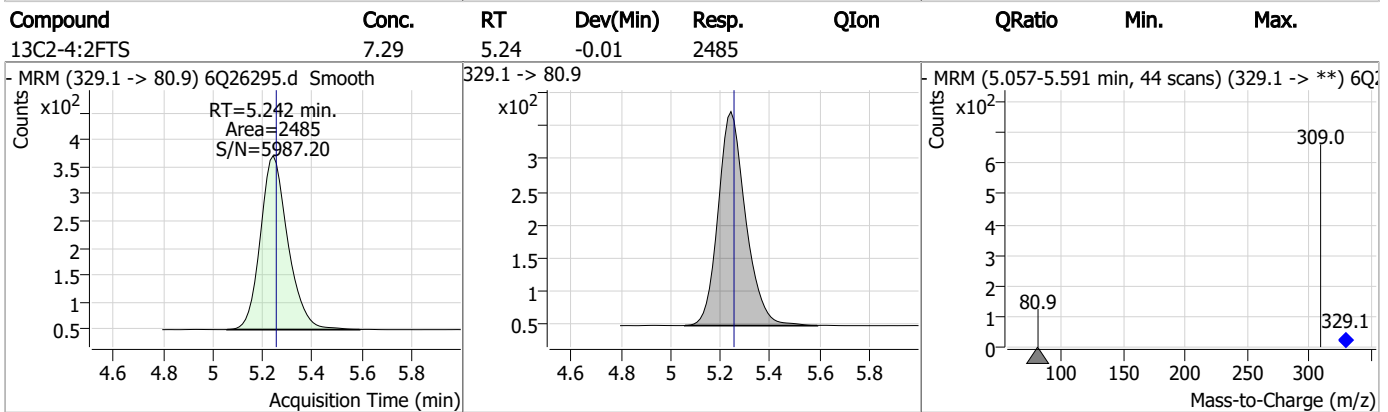
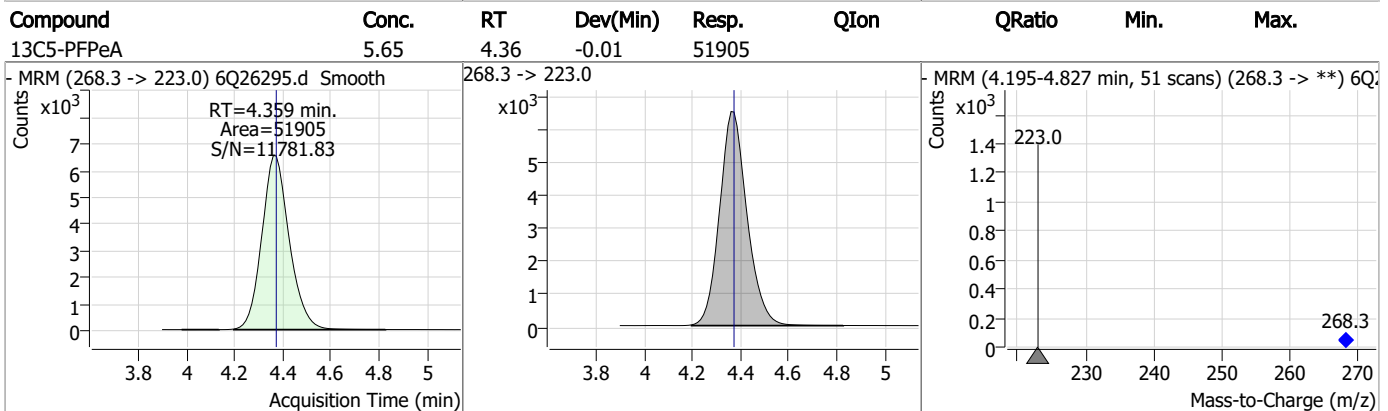
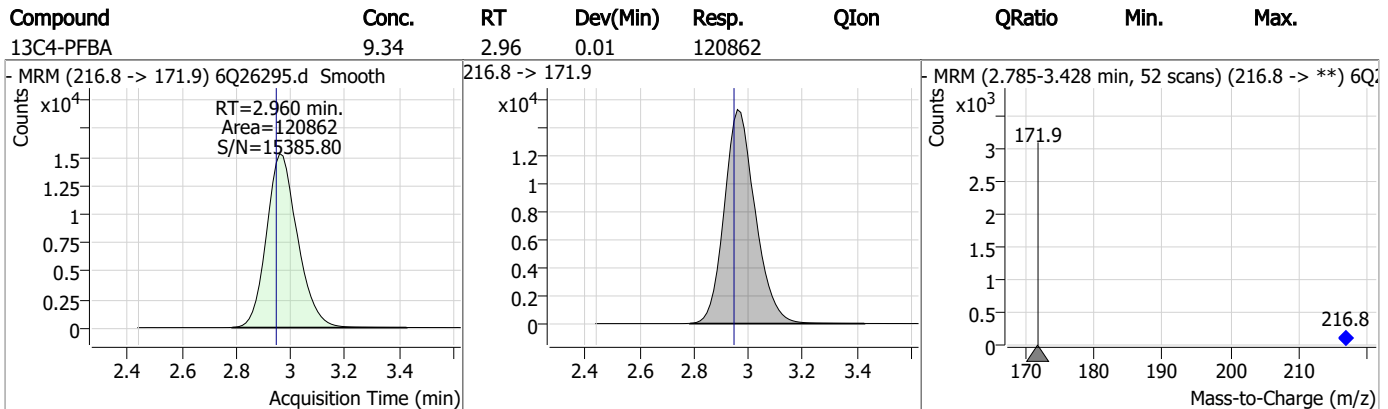
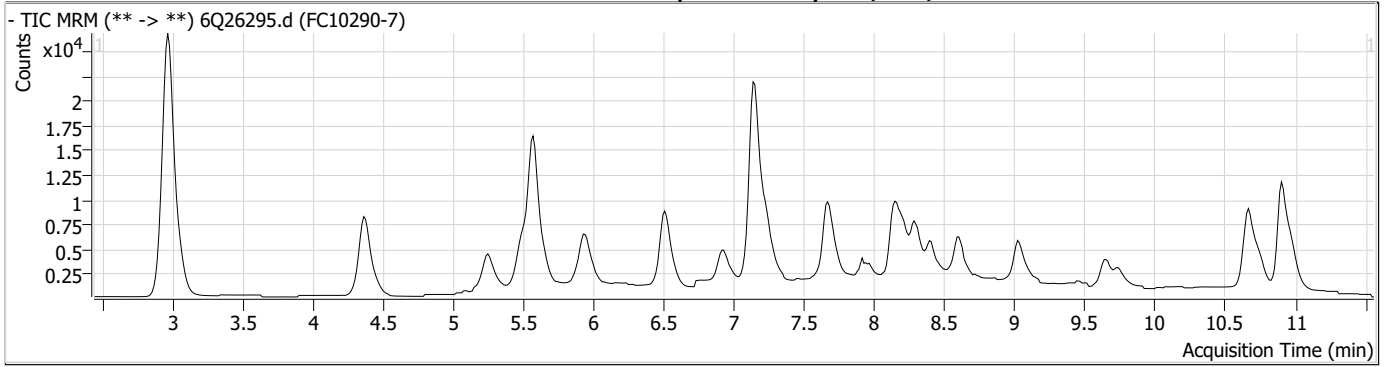
### Perfluorinated Compounds by LC/MS/MS

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

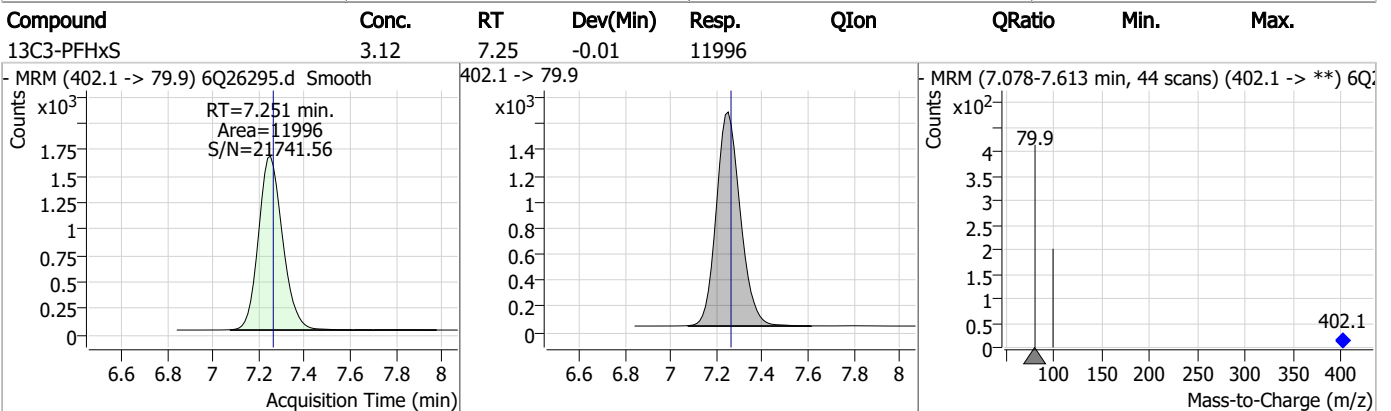
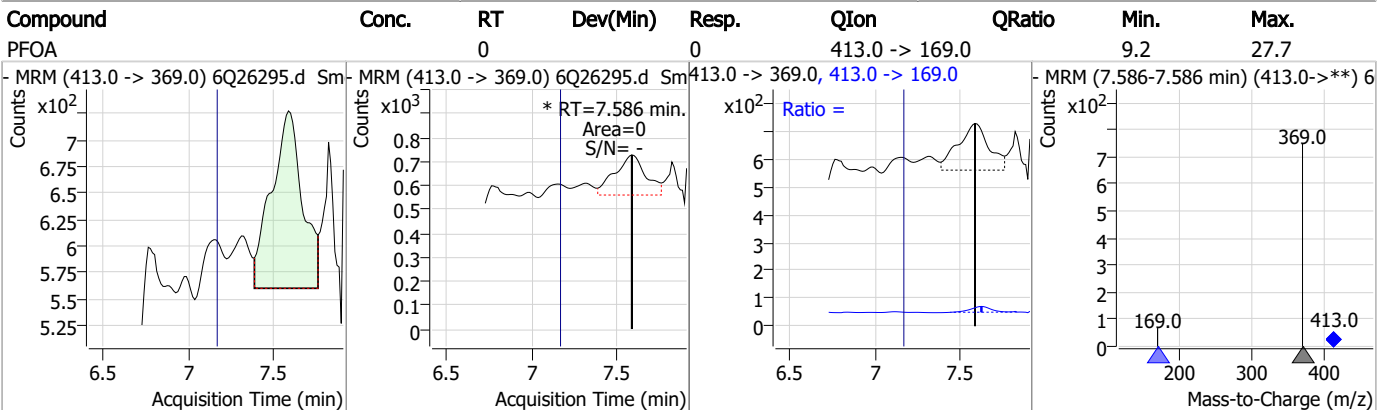
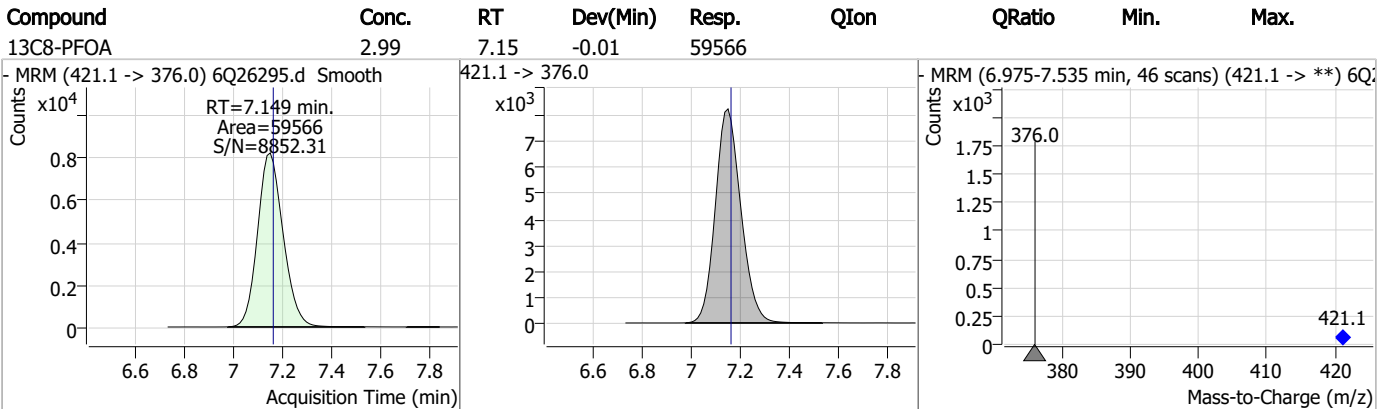
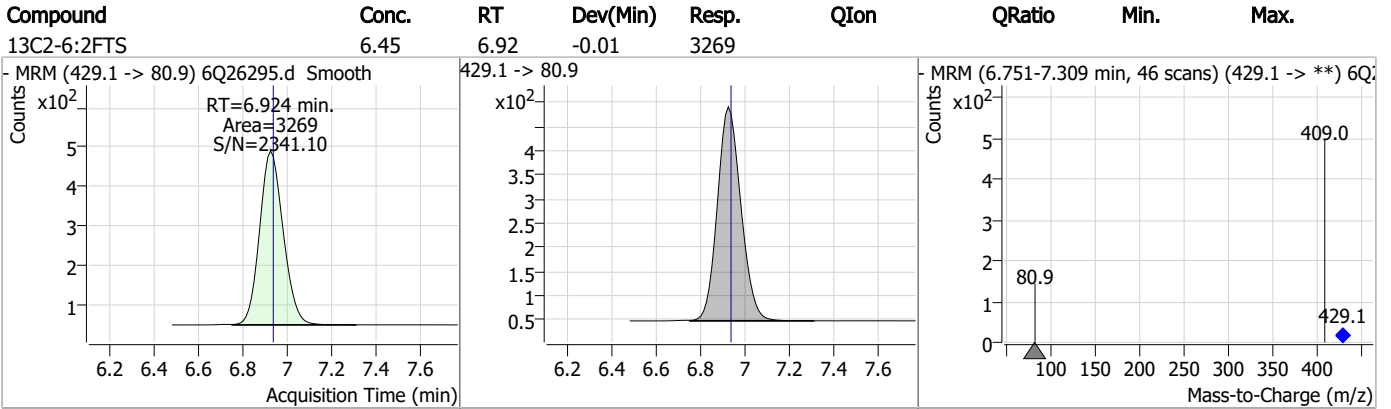


### Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFBS	3.01	5.49	-0.01	20617				
13C5-PFHxA	2.81	5.57	-0.01	47170				
13C3-HFPO-DA	10.63	5.94	-0.01	30137				
13C4-PFHpA	2.80	6.51	-0.01	46044				



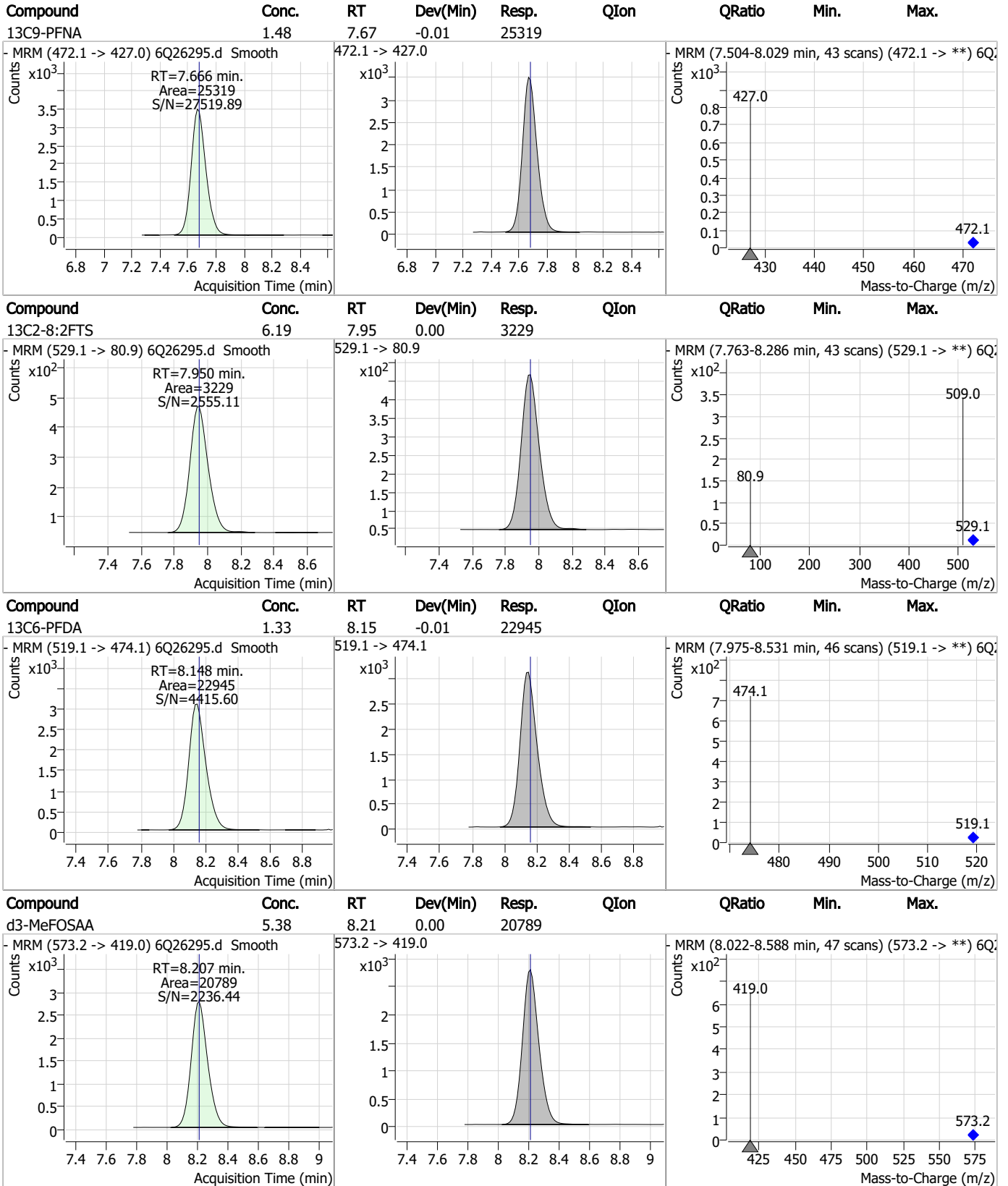
### Perfluorinated Compounds by LC/MS/MS



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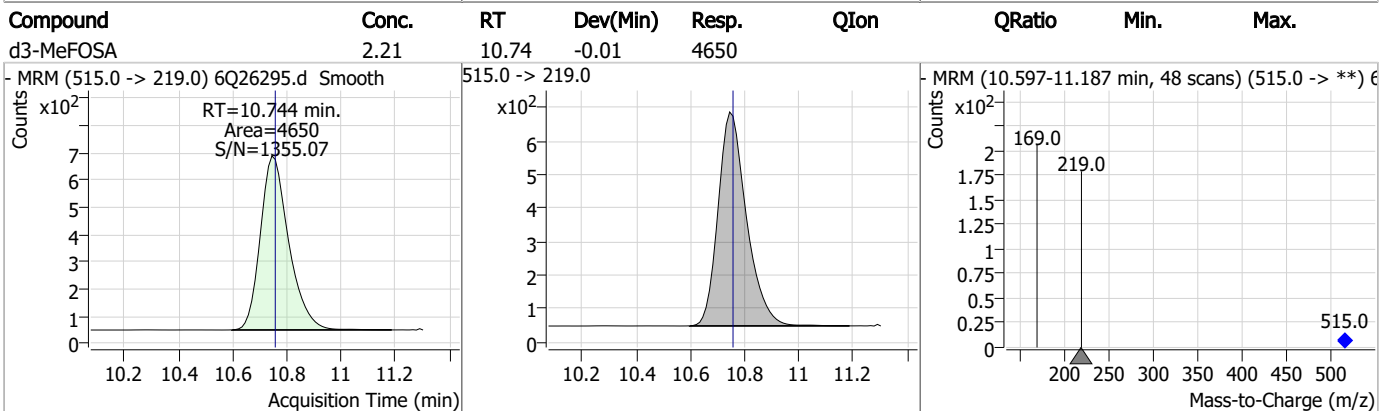
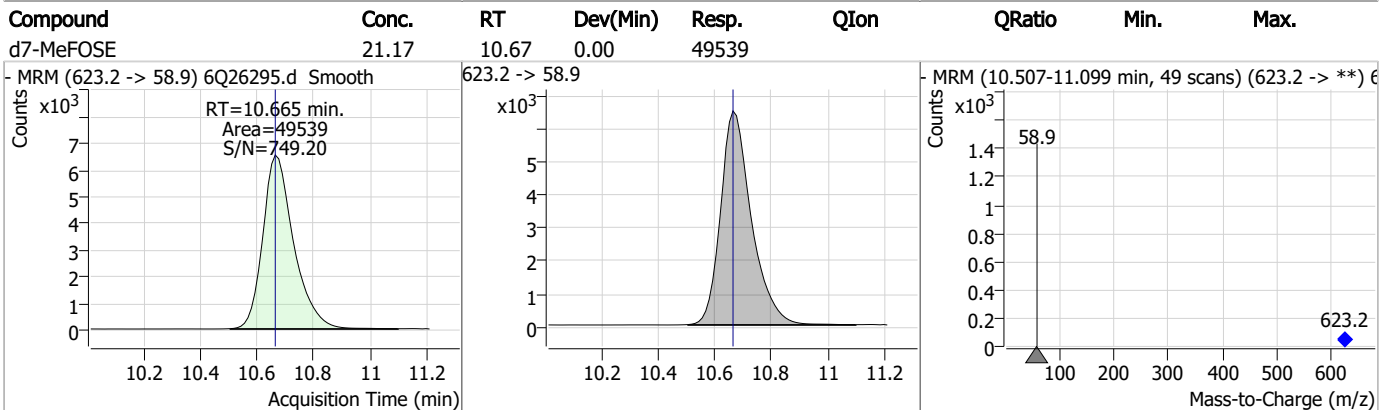
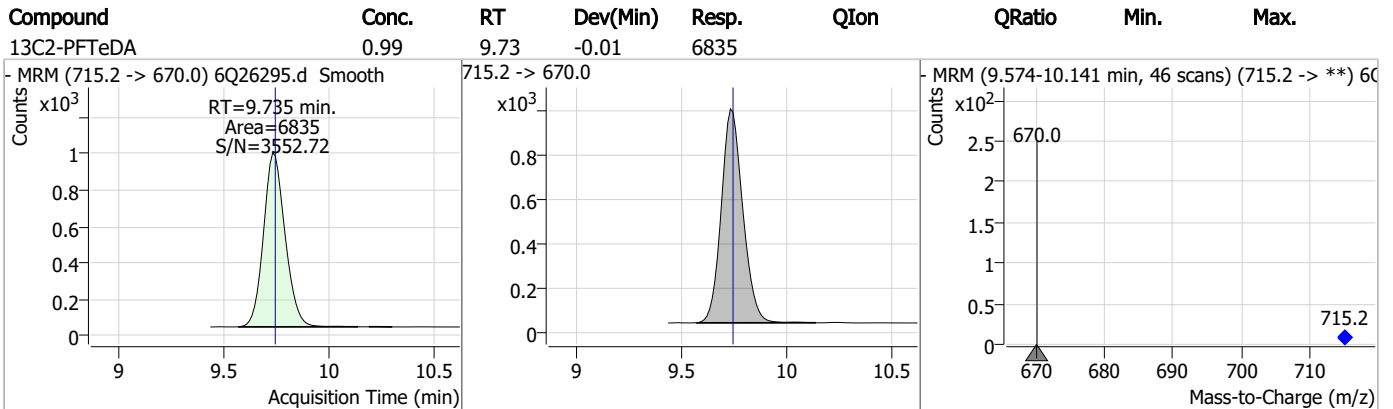
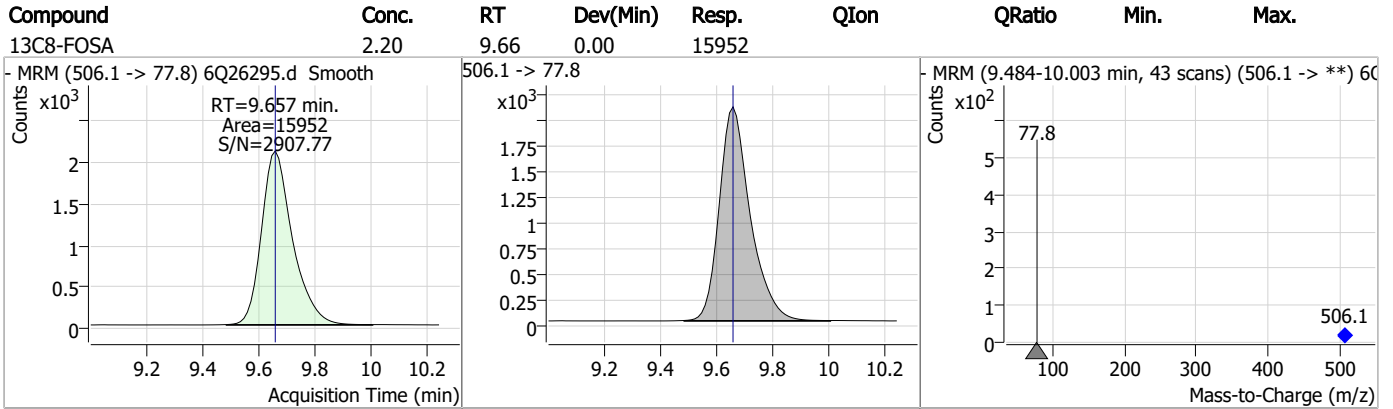
Perfluorinated Compounds by LC/MS/MS



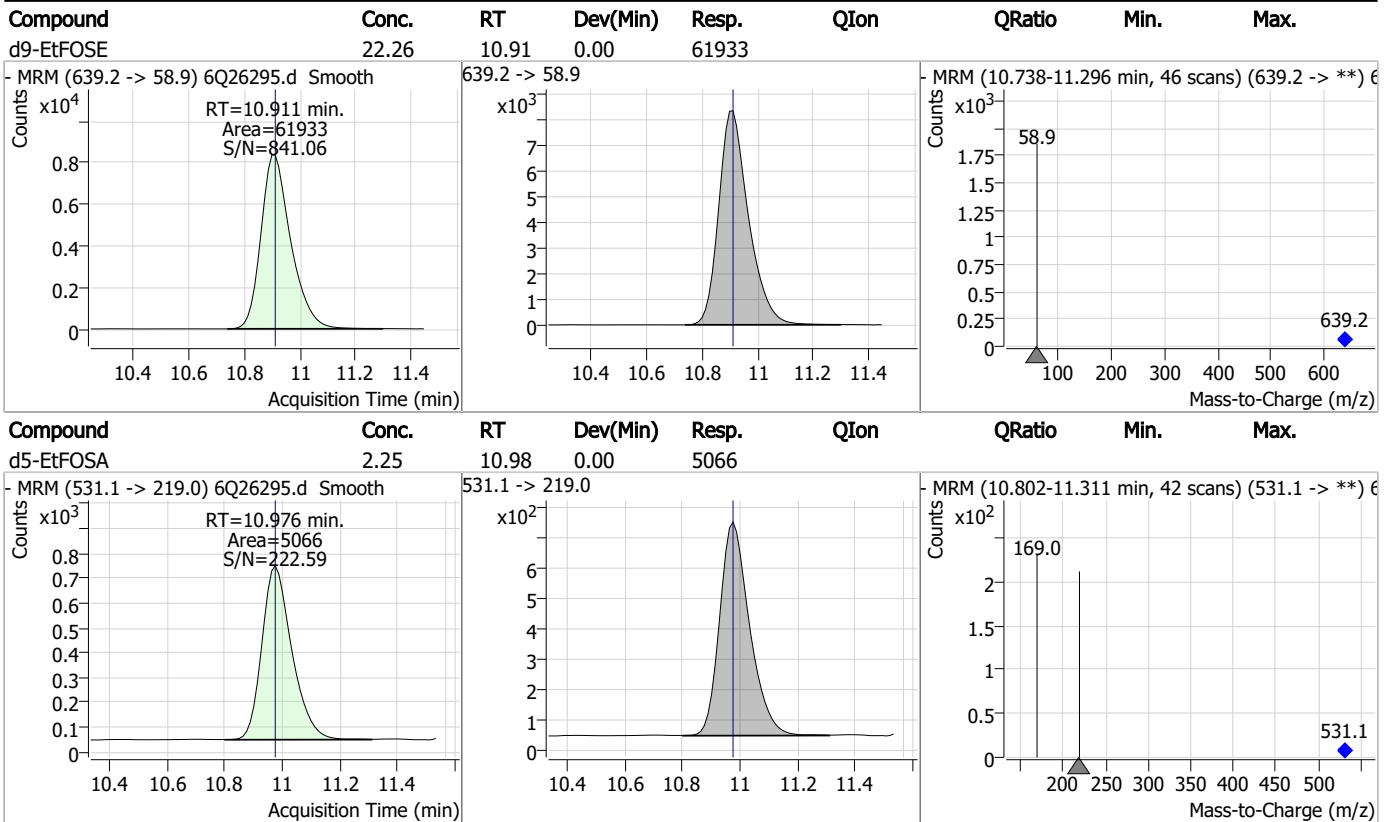
### Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOS	2.65	8.30	-0.01	10045				
- MRM (507.1 -> 79.9) 6Q26295.d Smooth Counts x10 <sup>3</sup> RT=8.298 min. Area=10045 S/N=6743.91			507.1 -> 79.9 Counts x10 <sup>3</sup>			- MRM (8.126-8.545 min, 35 scans) (507.1 -> **) 6Q26295.d Smooth Counts x10 <sup>2</sup> 79.9 507.1		
d5-EtFOSAA	5.33	8.40	-0.01	17644				
- MRM (589.2 -> 419.0) 6Q26295.d Smooth Counts x10 <sup>3</sup> RT=8.402 min. Area=17644 S/N=32959.06			589.2 -> 419.0 Counts x10 <sup>3</sup>			- MRM (8.230-8.785 min, 46 scans) (589.2 -> **) 6Q26295.d Smooth Counts x10 <sup>2</sup> 419.0 589.2		
13C7-PFUnDA	1.21	8.60	-0.01	22634				
- MRM (570.0 -> 525.1) 6Q26295.d Smooth Counts x10 <sup>3</sup> RT=8.601 min. Area=22634 S/N=32761.03			570.0 -> 525.1 Counts x10 <sup>3</sup>			- MRM (8.430-8.923 min, 41 scans) (570.0 -> **) 6Q26295.d Smooth Counts x10 <sup>3</sup> 525.1 570.0		
13C2-PFDoDA	1.11	9.03	0.00	22729				
- MRM (615.1 -> 570.0) 6Q26295.d Smooth Counts x10 <sup>3</sup> RT=9.030 min. Area=22729 S/N=524.47			615.1 -> 570.0 Counts x10 <sup>3</sup>			- MRM (8.857-9.416 min, 46 scans) (615.1 -> **) 6Q26295.d Smooth Counts x10 <sup>2</sup> 570.0 615.1		

Perfluorinated Compounds by LC/MS/MS



### Perfluorinated Compounds by LC/MS/MS



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### 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)
<b>Internal Standards</b>					
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
<b>System Monitoring Compounds</b>					
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

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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 = 102.3%	
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%	
<b>Target Compounds</b>					<b>QValue</b>
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  
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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



7.2.1  
7



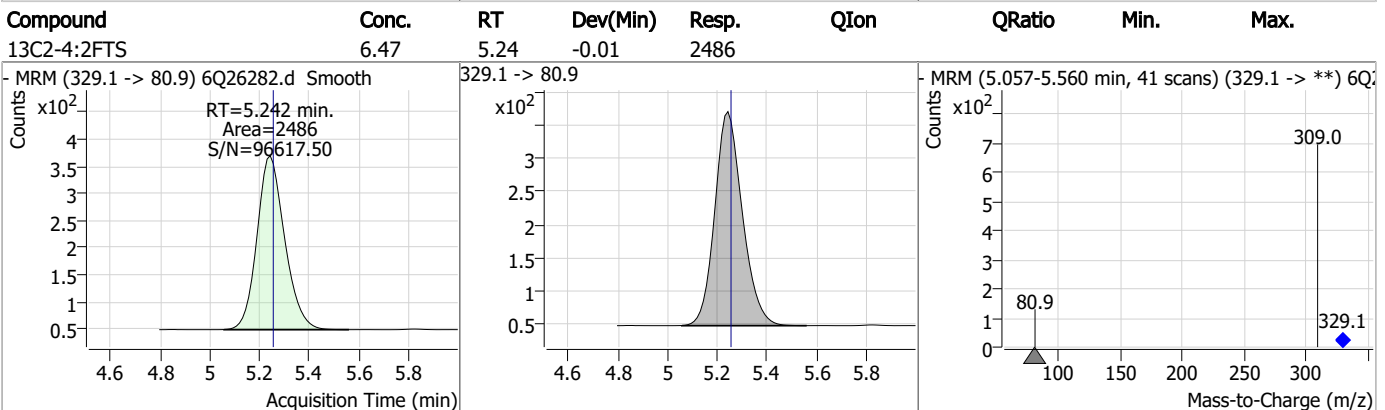
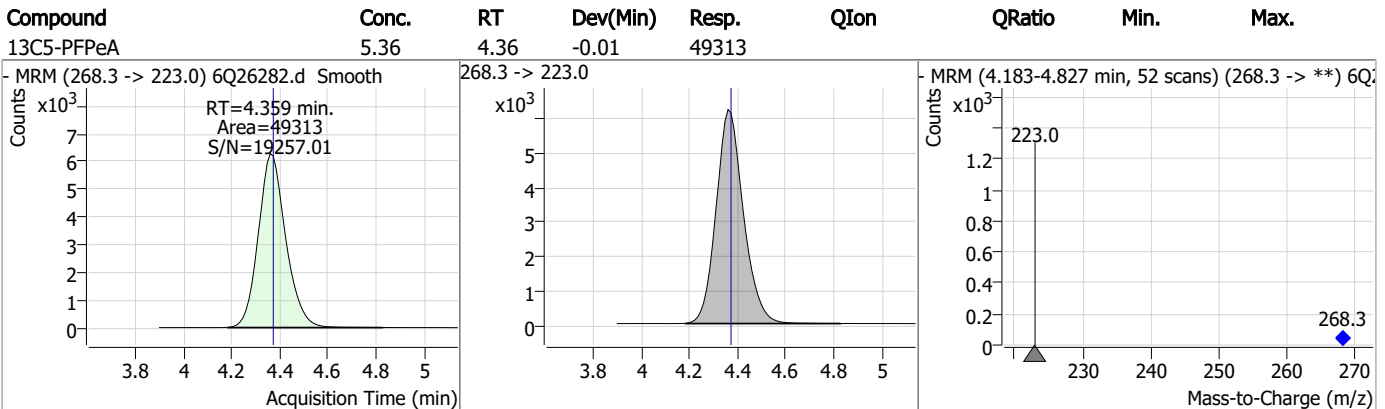
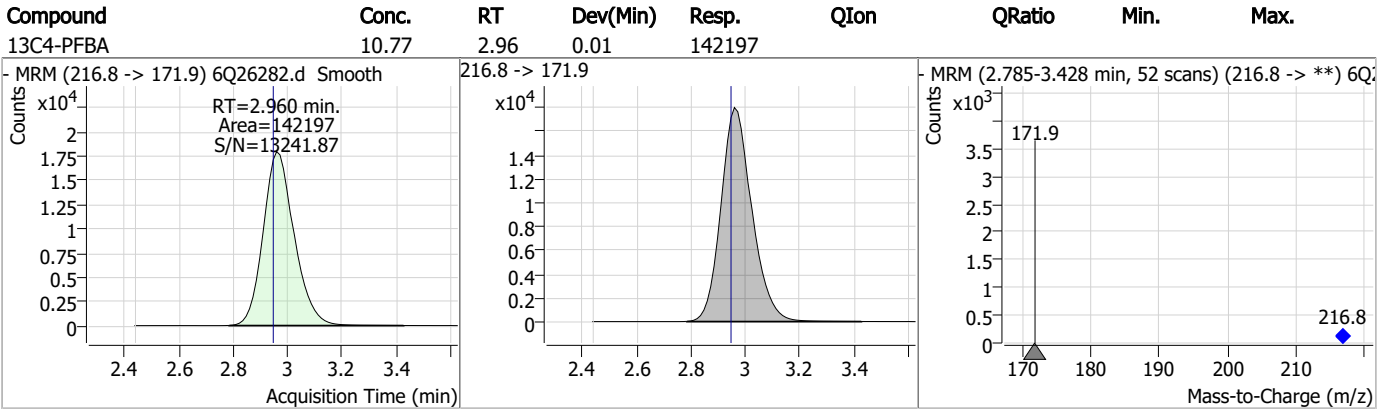
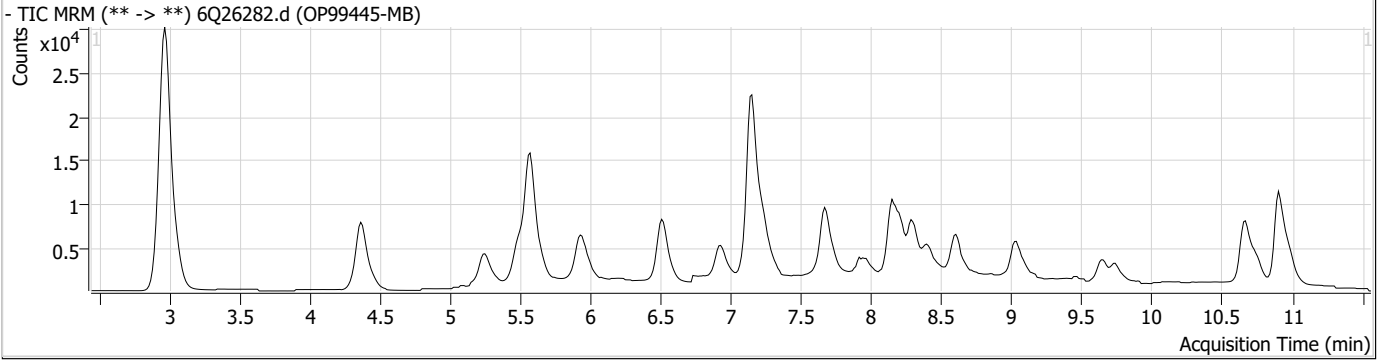
### Perfluorinated Compounds by LC/MS/MS

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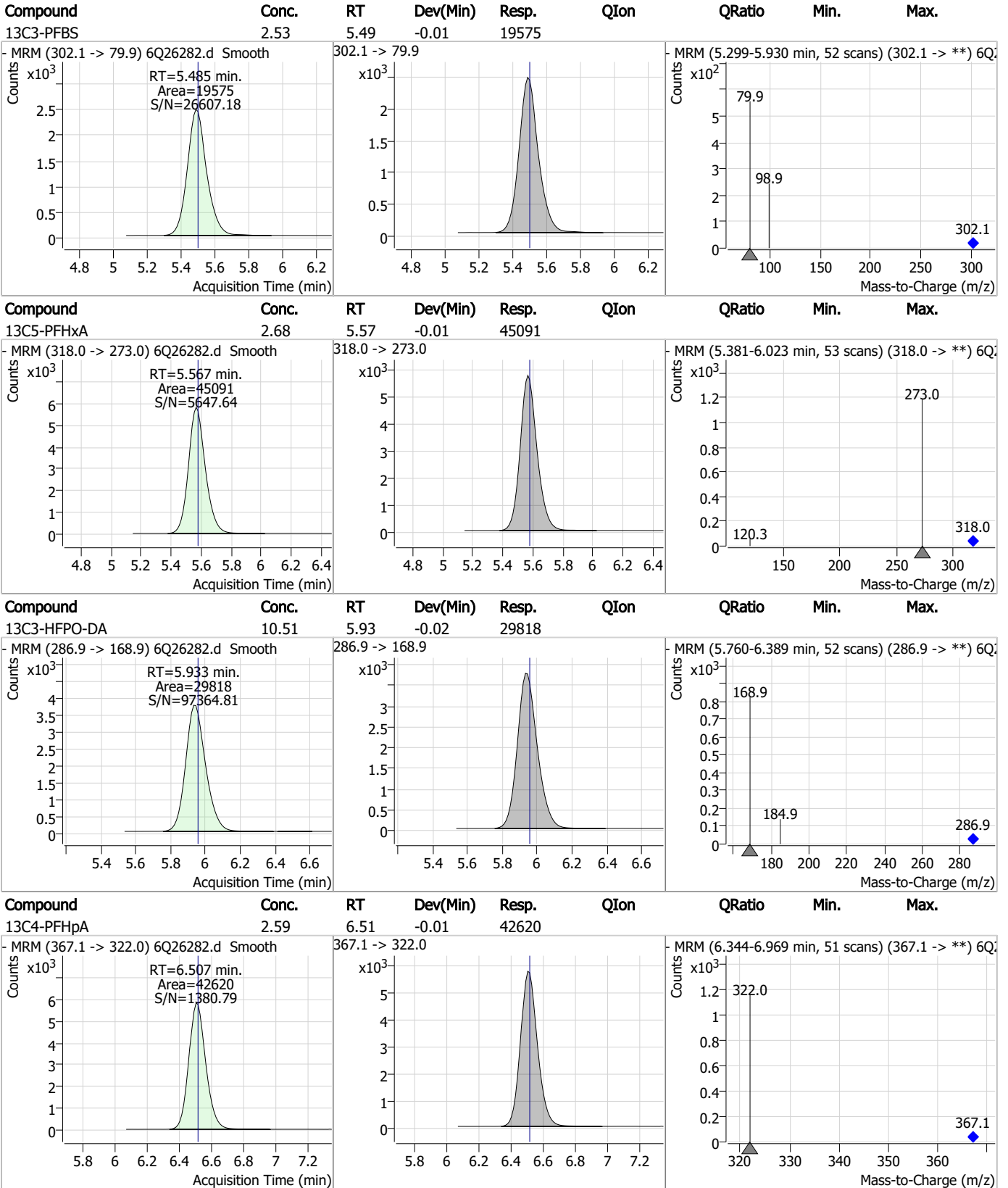
7.2.1

7

### Perfluorinated Compounds by LC/MS/MS



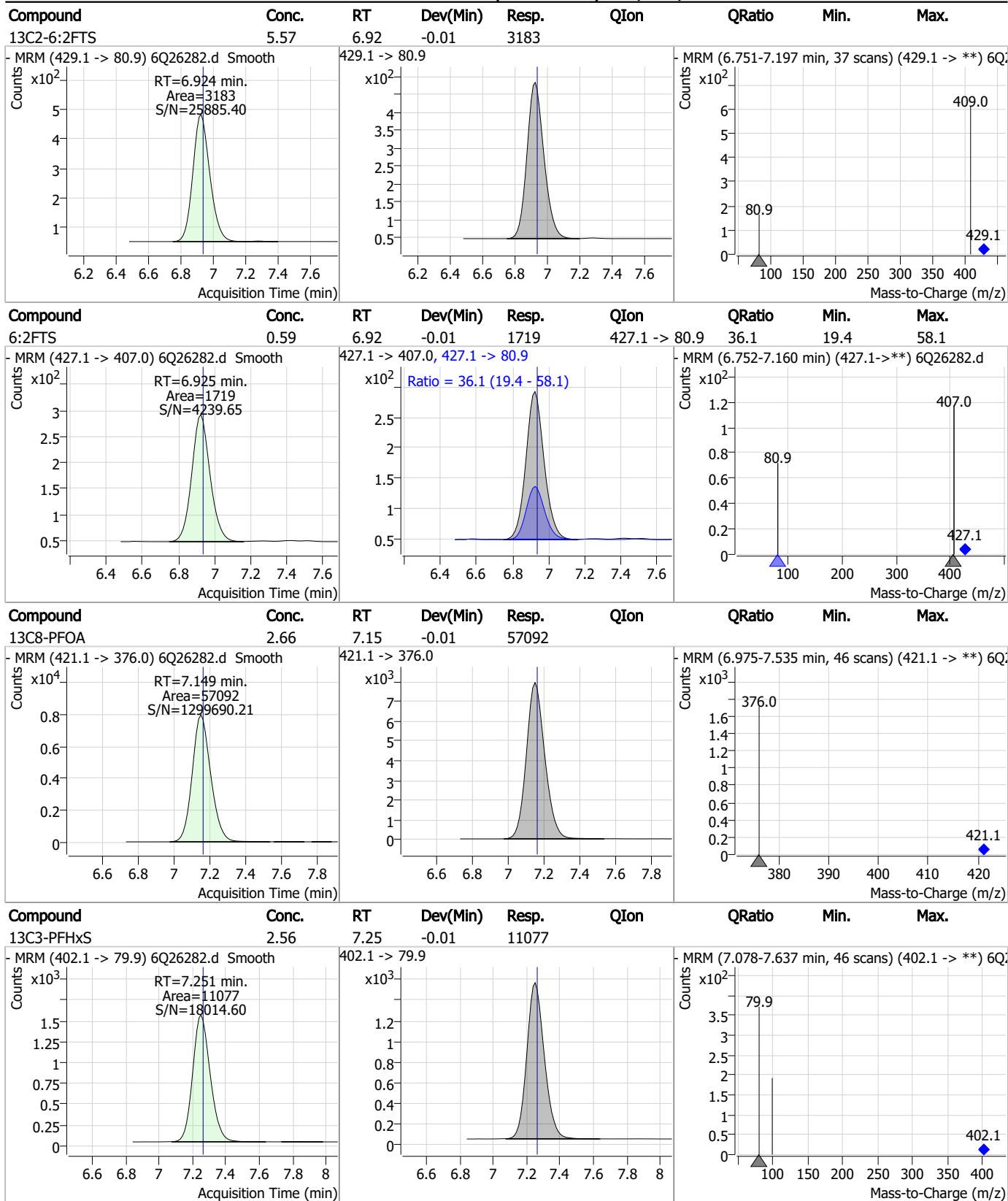
### Perfluorinated Compounds by LC/MS/MS



7.2.1

7

### Perfluorinated Compounds by LC/MS/MS



7.2.1  
7



### Perfluorinated Compounds by LC/MS/MS

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

7

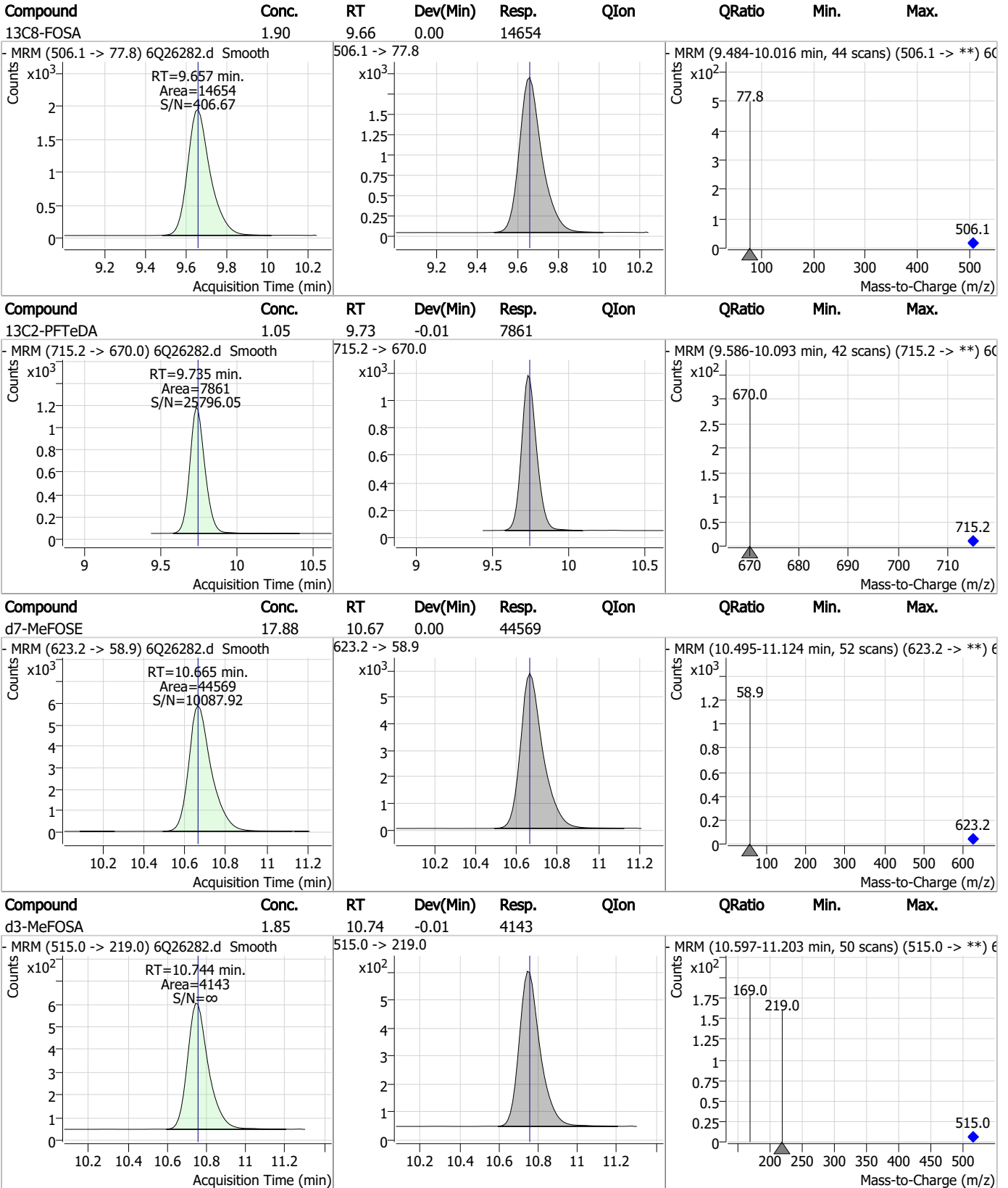
### Perfluorinated Compounds by LC/MS/MS

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

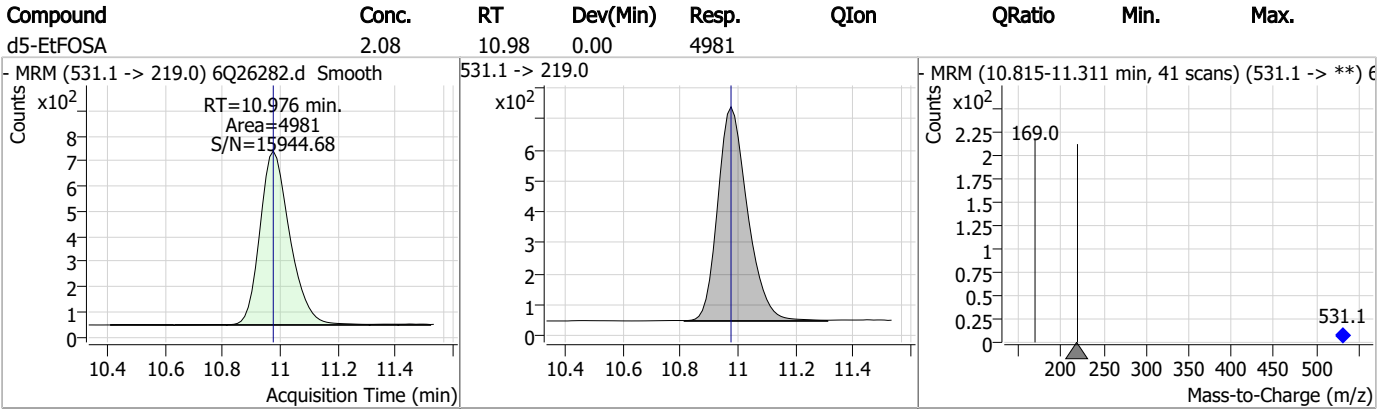
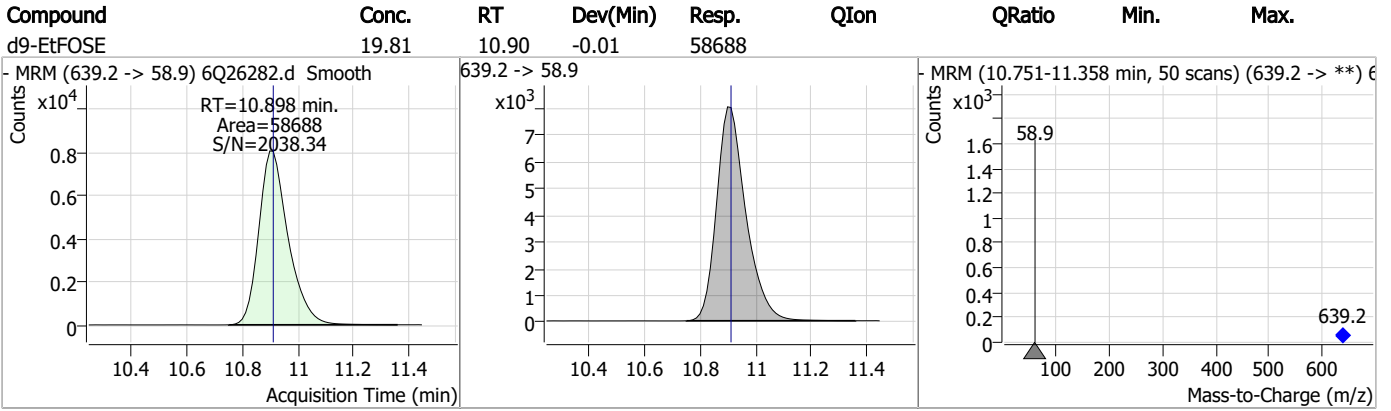
### Perfluorinated Compounds by LC/MS/MS



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)
<b>Internal Standards</b>					
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
<b>System Monitoring Compounds</b>					
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%	

7.2.2  
7

**Target Compounds**

**QValue**

4:2FTS	-	327.1 -> 307.0 327.1 -> 80.9	-	N.D.	
6:2FTS	-	427.1 -> 407.0 427.1 -> 80.9	-	N.D.	
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.	



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

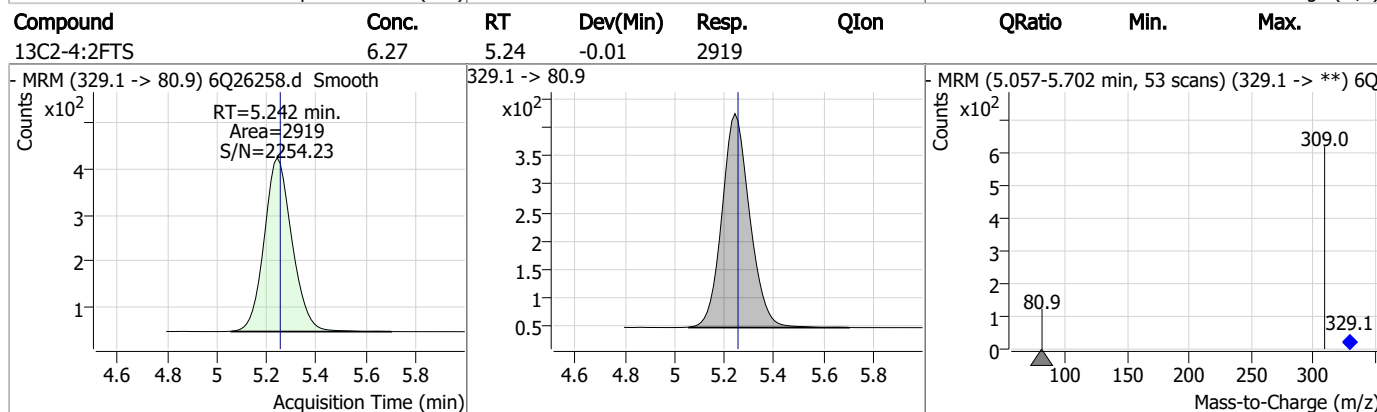
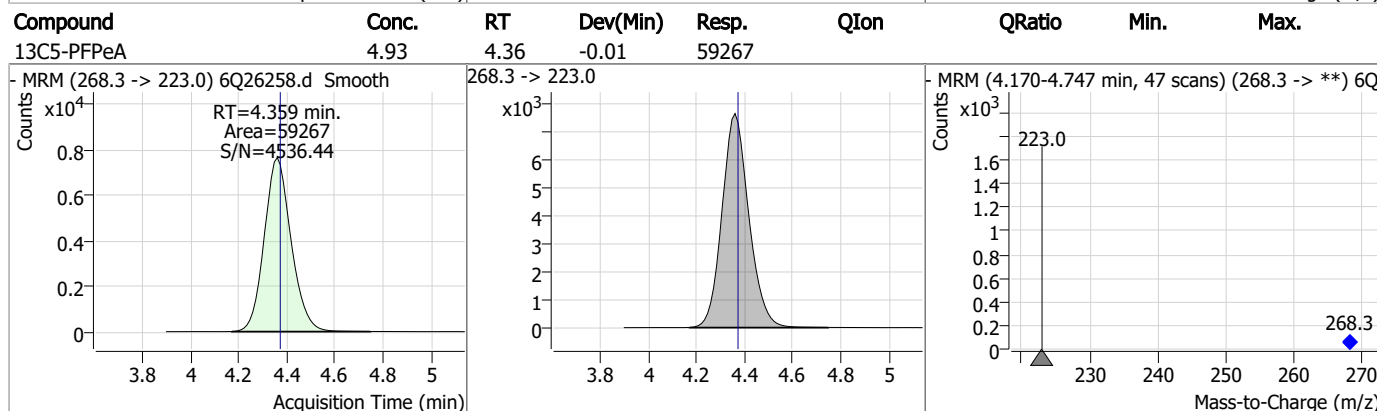
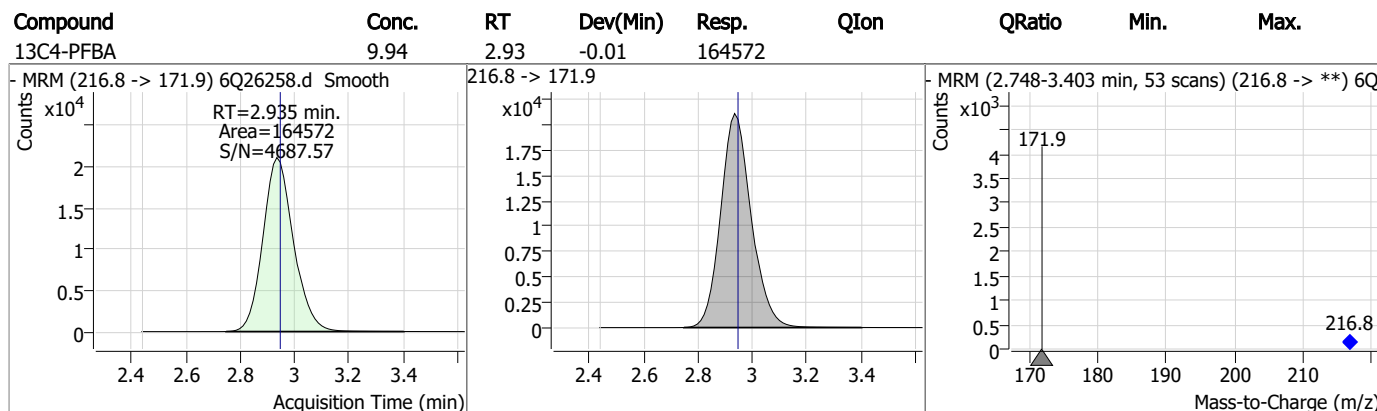
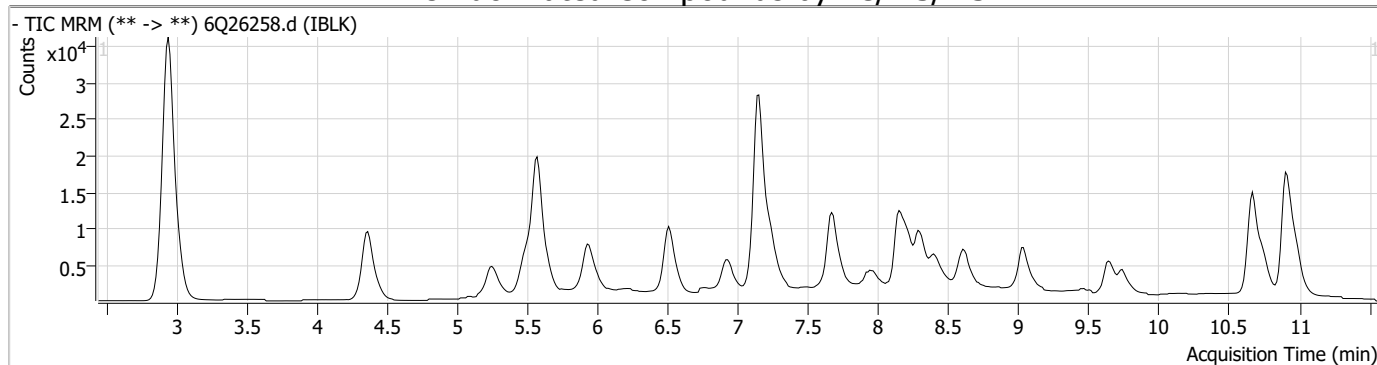
### Perfluorinated Compounds by LC/MS/MS

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  
7

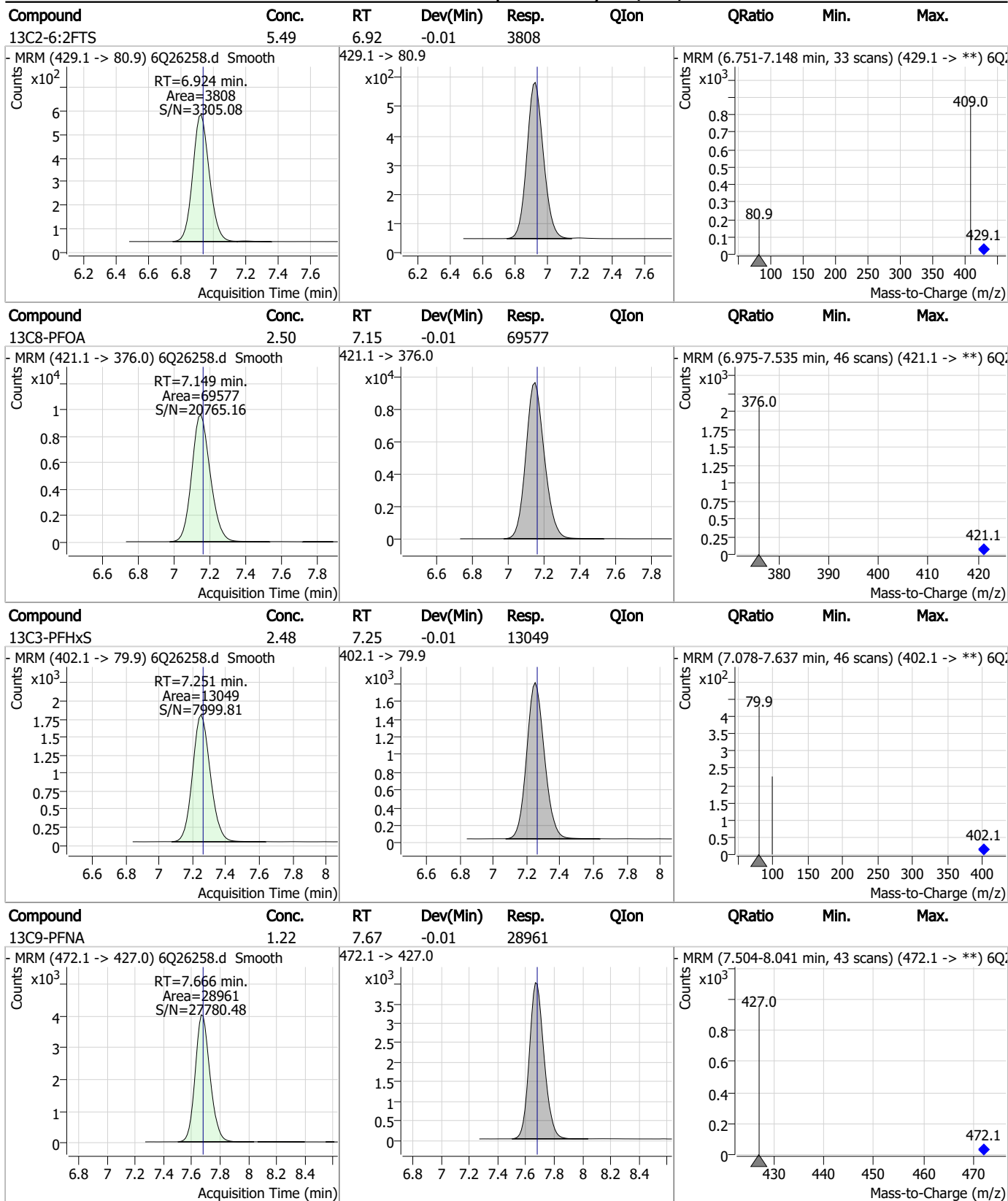
### Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFBS	2.50	5.49	-0.01	23439				
13C5-PFHxA	2.49	5.57	-0.01	54739				
13C3-HFPO-DA	9.85	5.94	-0.01	36480				
13C4-PFHpA	2.46	6.51	-0.01	52805				

7.2.2  
7

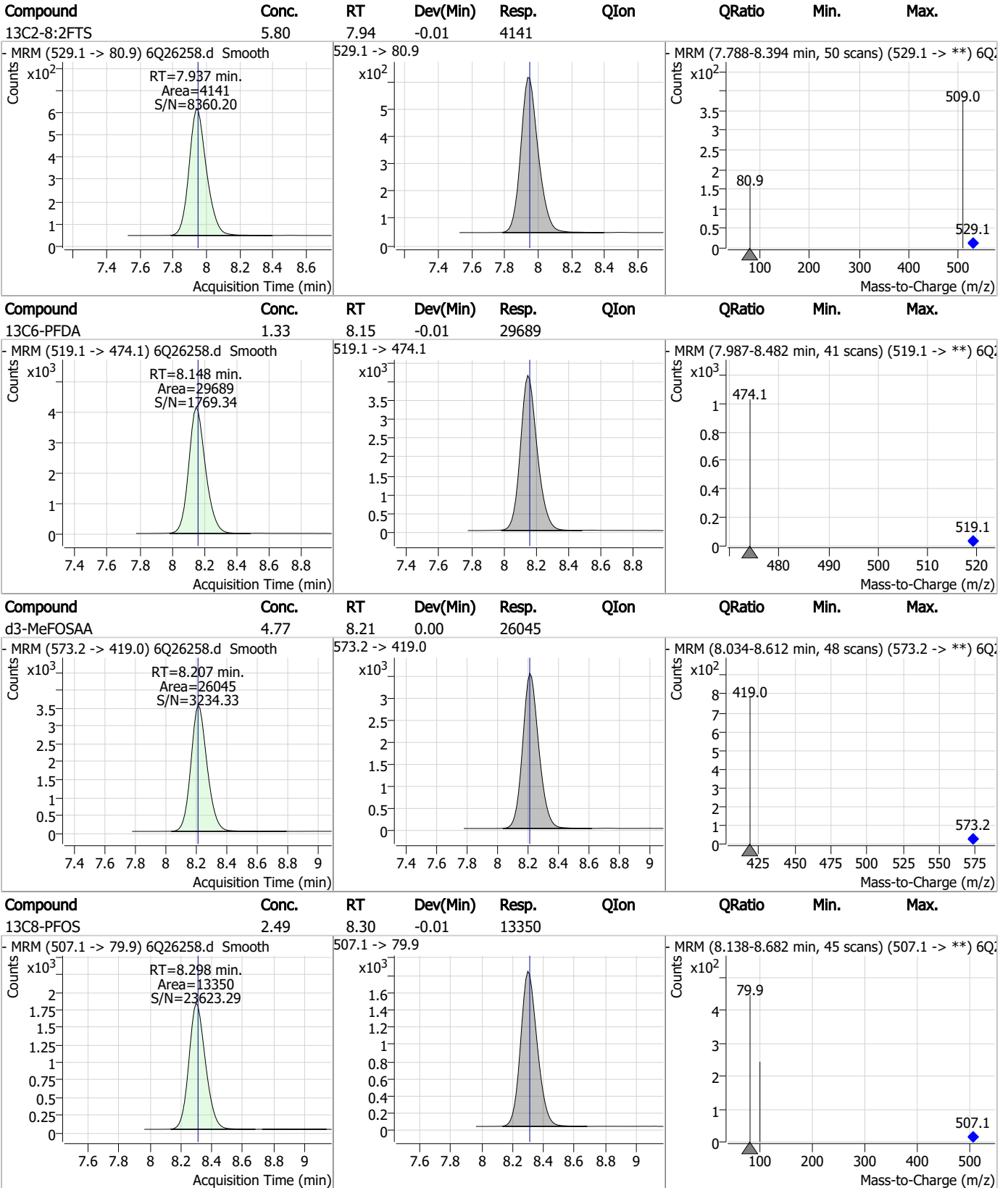


### Perfluorinated Compounds by LC/MS/MS



7.2.2  
7

### Perfluorinated Compounds by LC/MS/MS



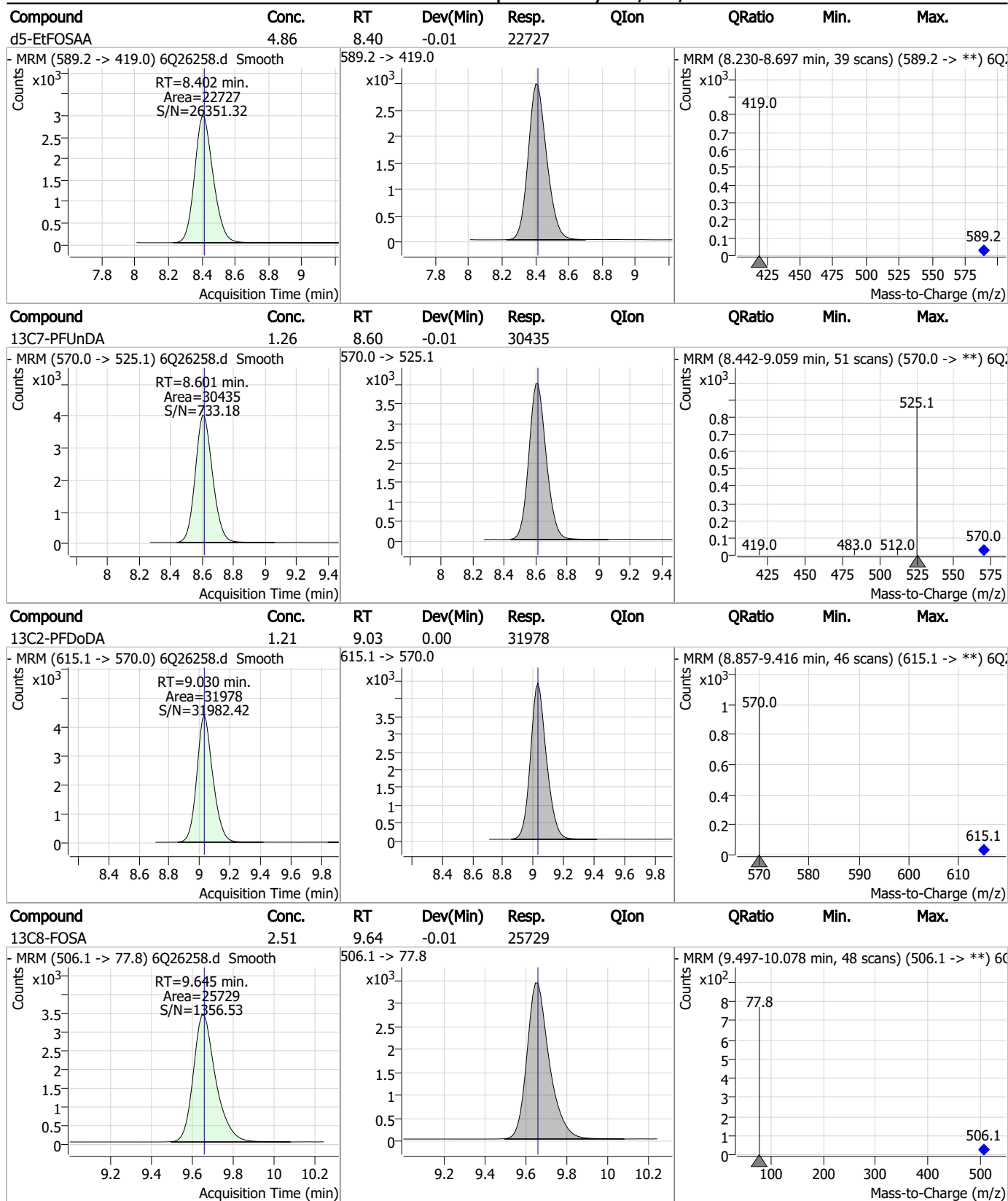
7.2.2

7



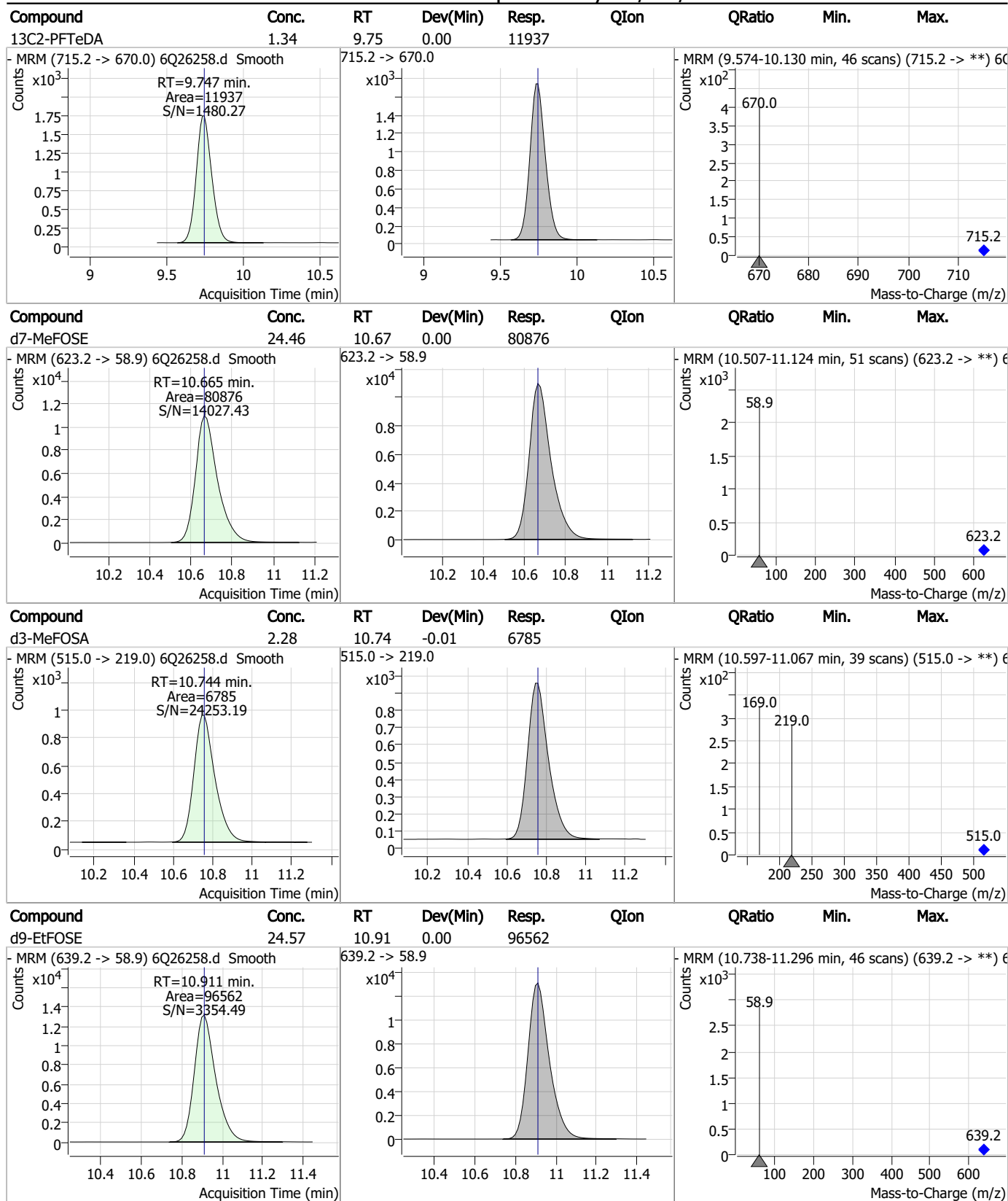


### Perfluorinated Compounds by LC/MS/MS



7.2.2  
7

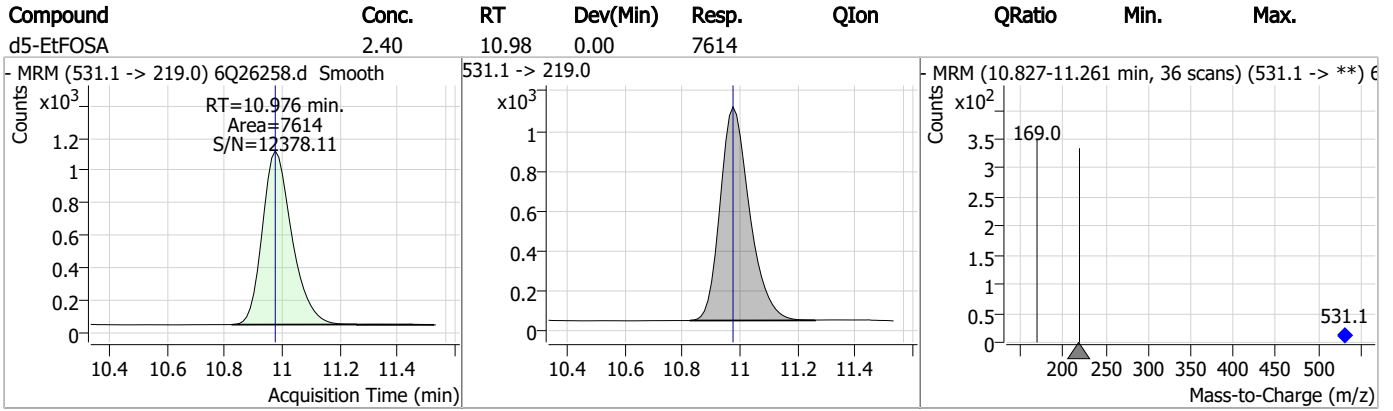
### Perfluorinated Compounds by LC/MS/MS



7.2.2  
7



Perfluorinated Compounds by LC/MS/MS



7.2.2

7

## Perfluorinated Compounds by LC/MS/MS

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)
<b>Internal Standards</b>					
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
<b>System Monitoring Compounds</b>					
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

7.2.3  
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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 = 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.	



7.2.3  
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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

7.2.3  
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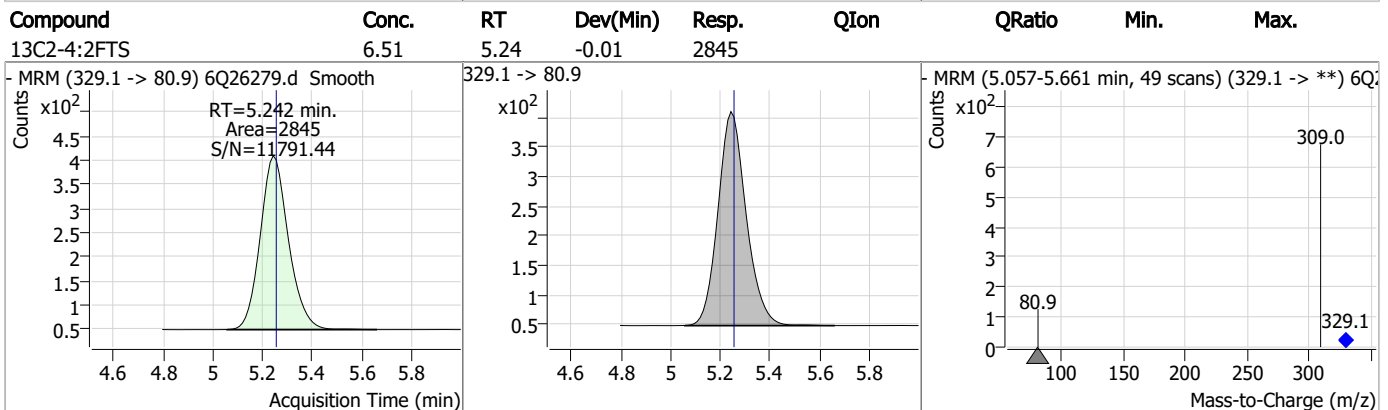
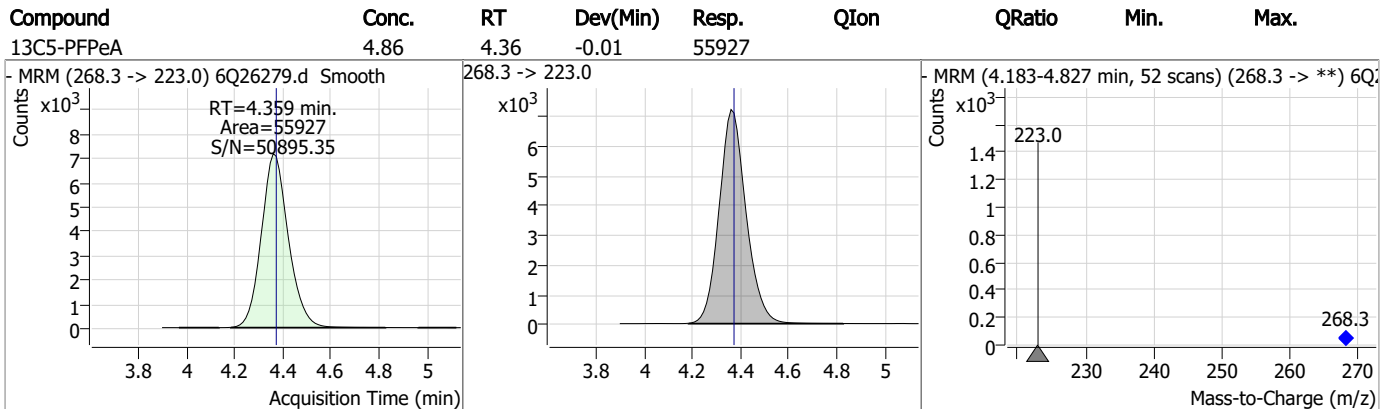
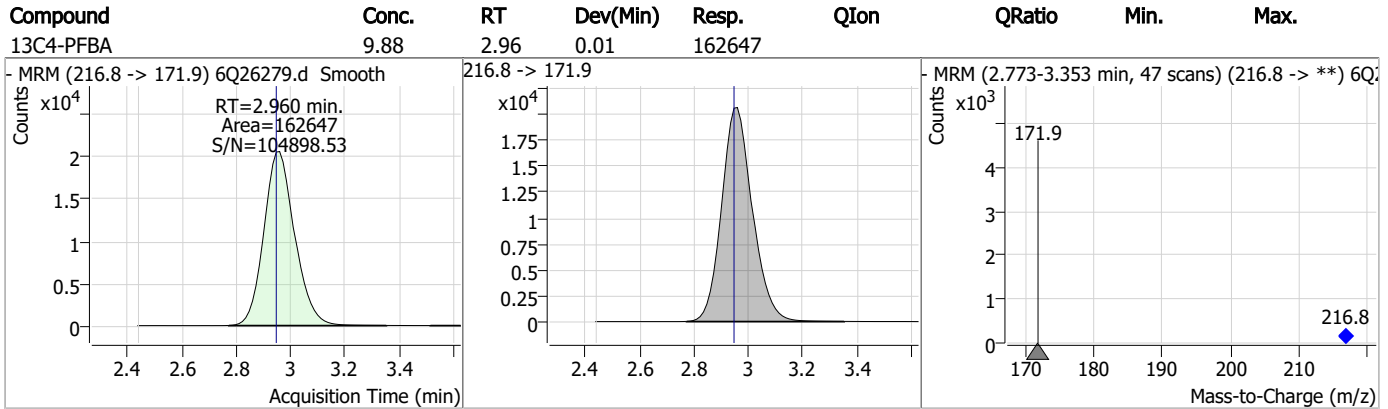
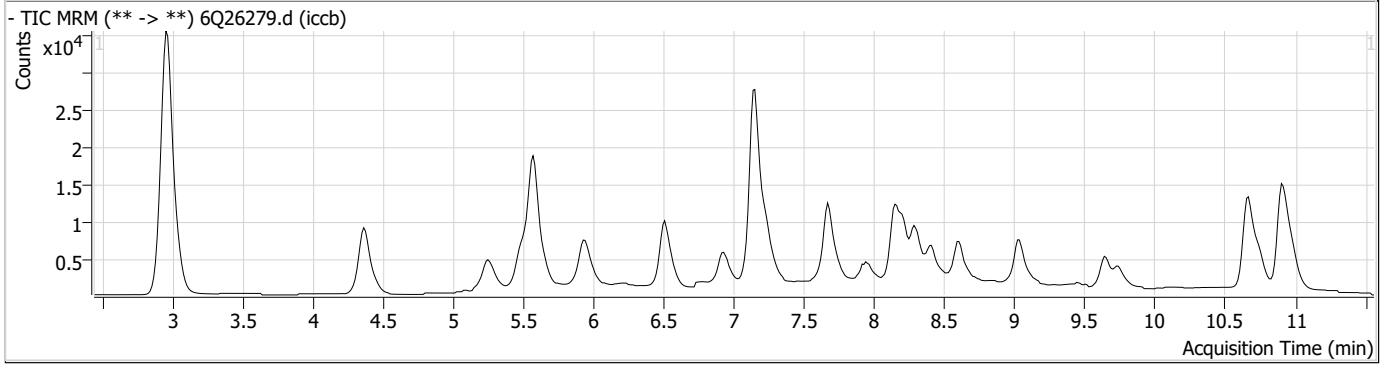
### Perfluorinated Compounds by LC/MS/MS

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

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### Perfluorinated Compounds by LC/MS/MS





### Perfluorinated Compounds by LC/MS/MS

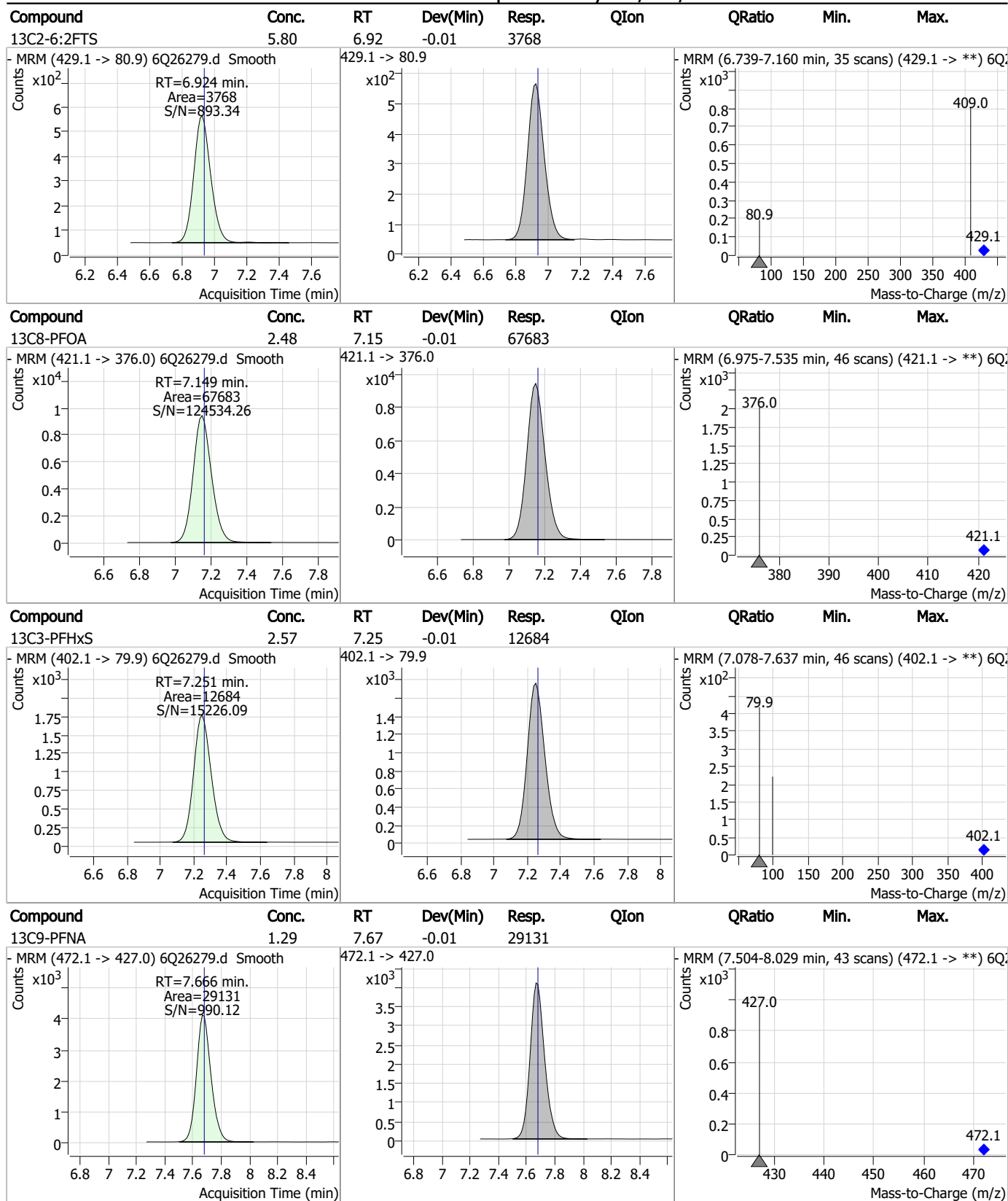
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFBS	2.64	5.49	-0.01	23226				
13C5-PFHxA	2.43	5.57	-0.01	51190				
13C3-HFPO-DA	9.90	5.94	-0.01	35128				
13C4-PFHpA	2.53	6.51	-0.01	52135				

7.2.3

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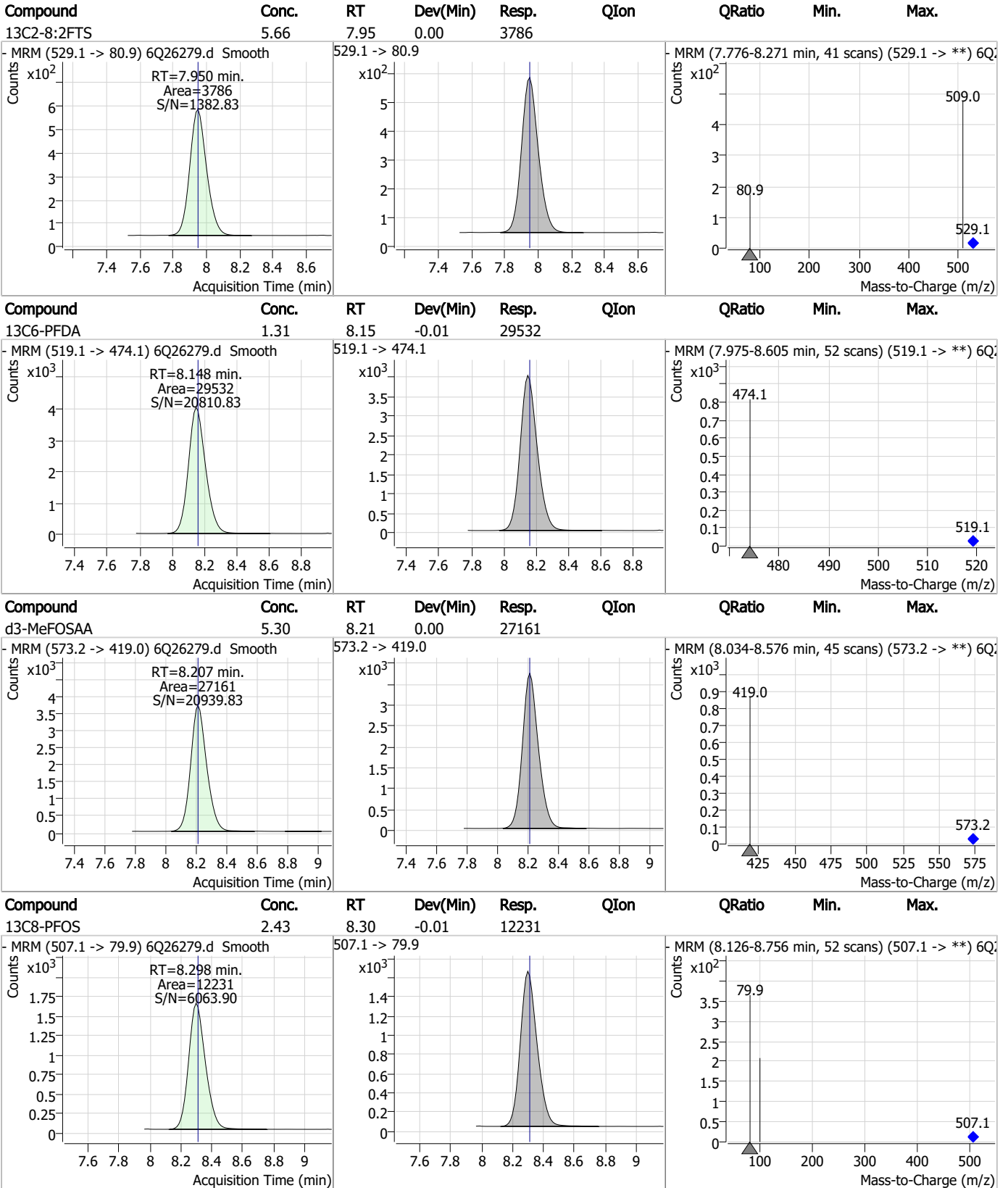


### Perfluorinated Compounds by LC/MS/MS



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### Perfluorinated Compounds by LC/MS/MS

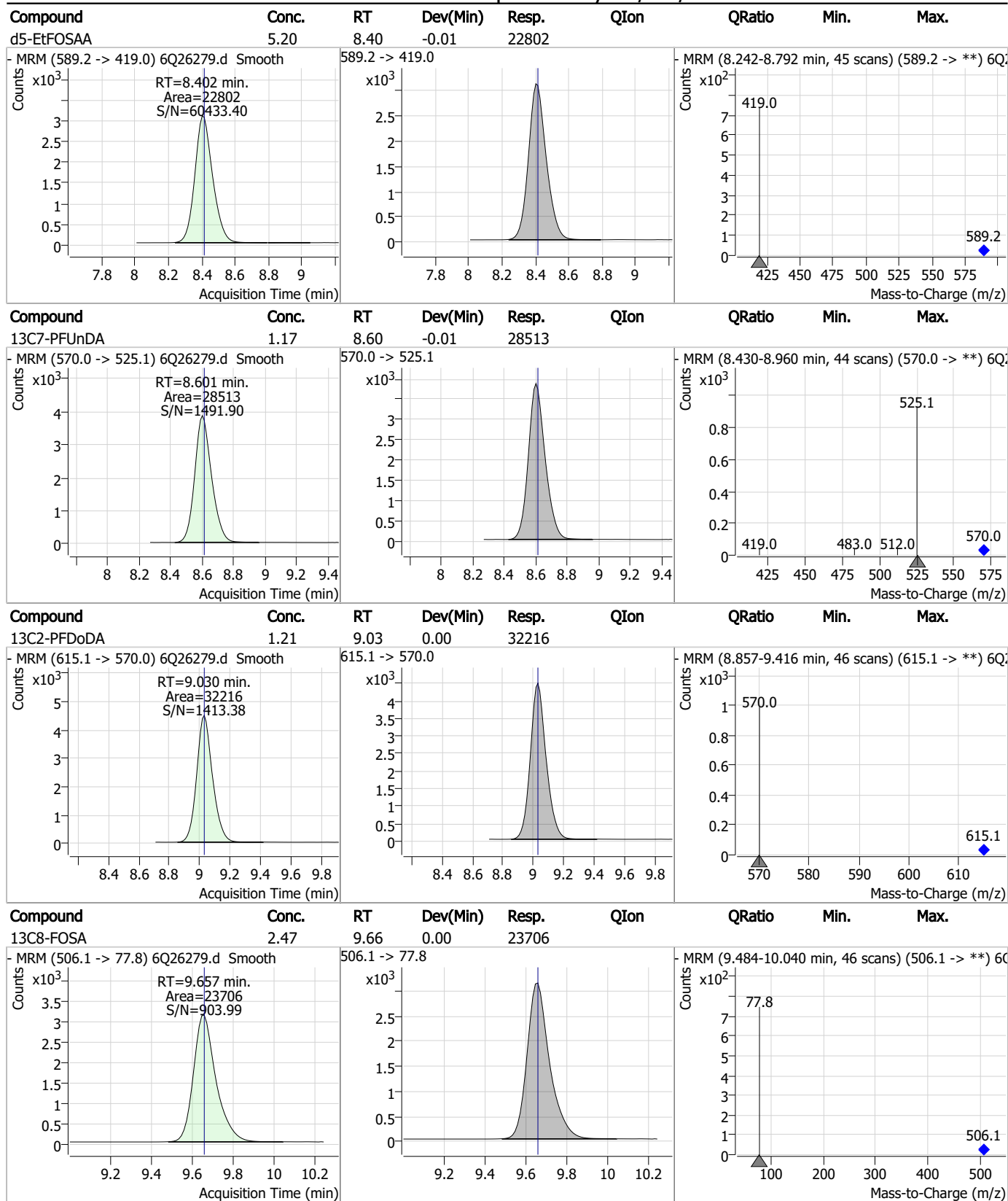


7.2.3

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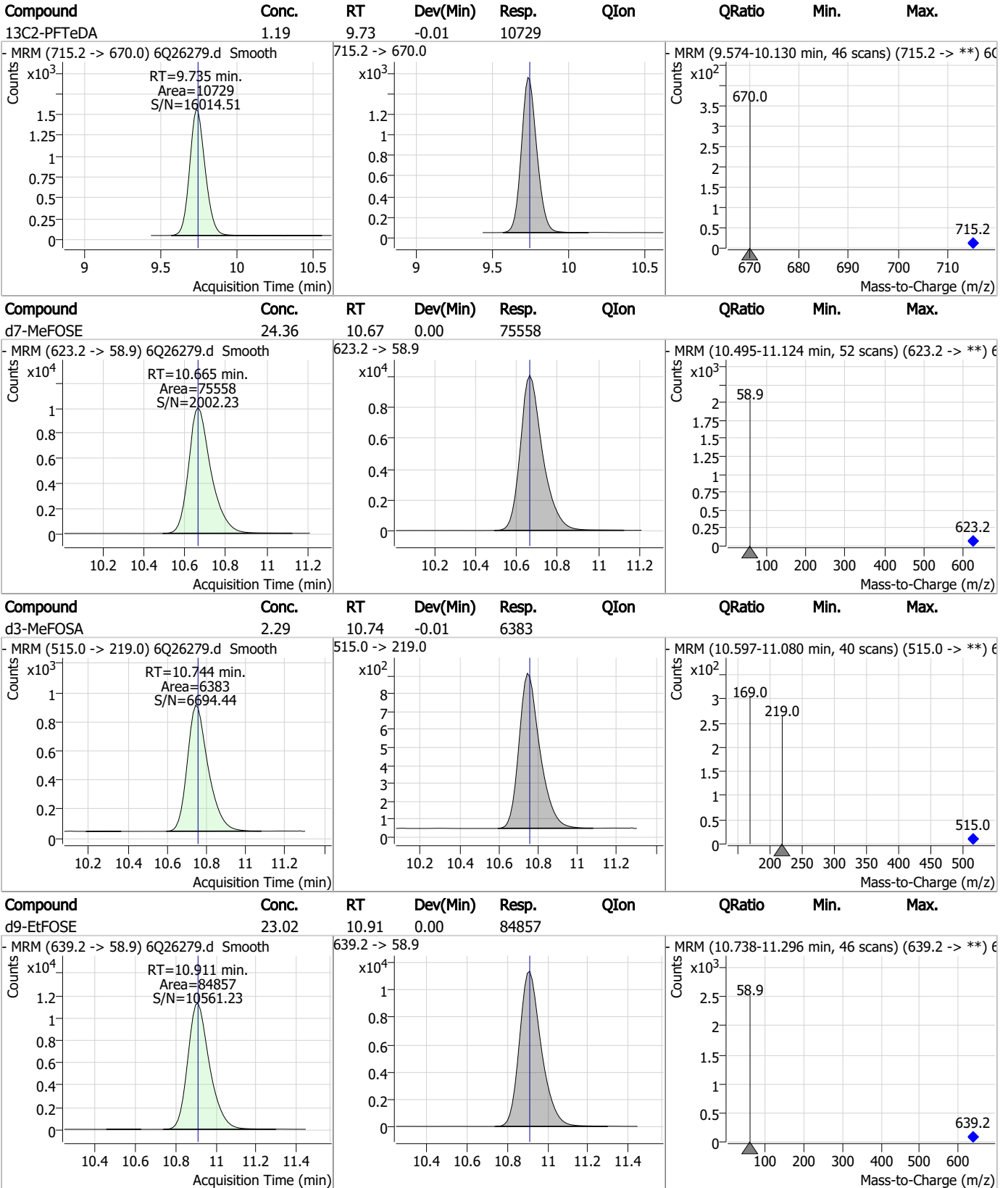


### Perfluorinated Compounds by LC/MS/MS



7.2.3  
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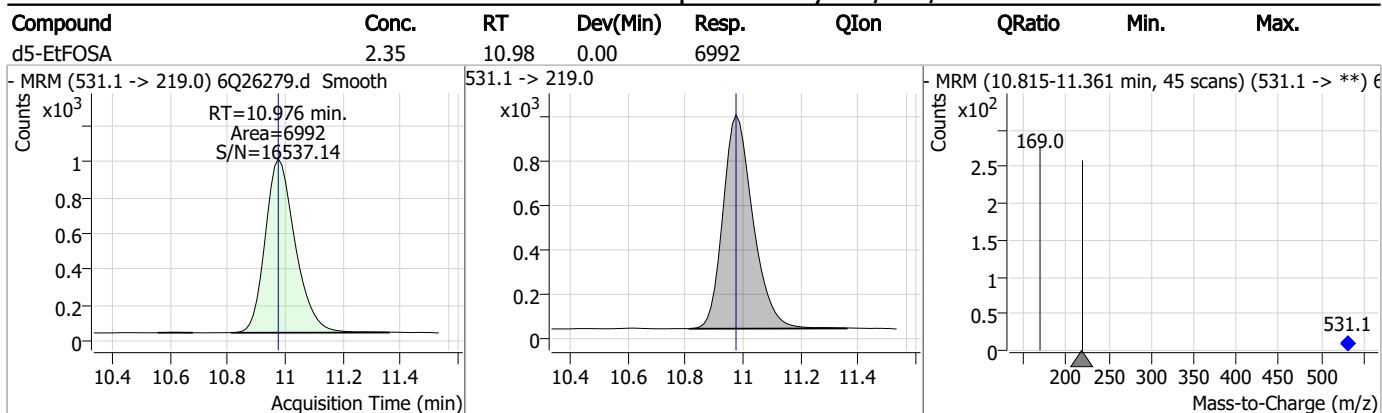
### Perfluorinated Compounds by LC/MS/MS



7.2.3

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### Perfluorinated Compounds by LC/MS/MS



7.2.3  
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### 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)
<b>Internal Standards</b>					
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
<b>System Monitoring Compounds</b>					
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

7.2.4  
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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 = 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%	

7.2.4  
7

**Target Compounds**

**QValue**

4:2FTS	-	327.1 -> 307.0 327.1 -> 80.9	-	N.D.	
6:2FTS	-	427.1 -> 407.0 427.1 -> 80.9	-	N.D.	
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.	





### 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

7.2.4  
7

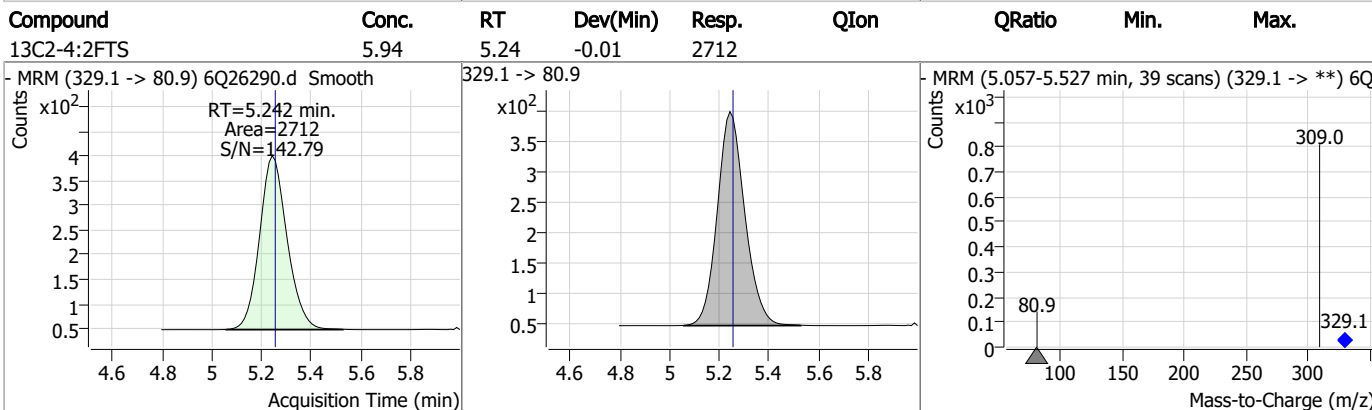
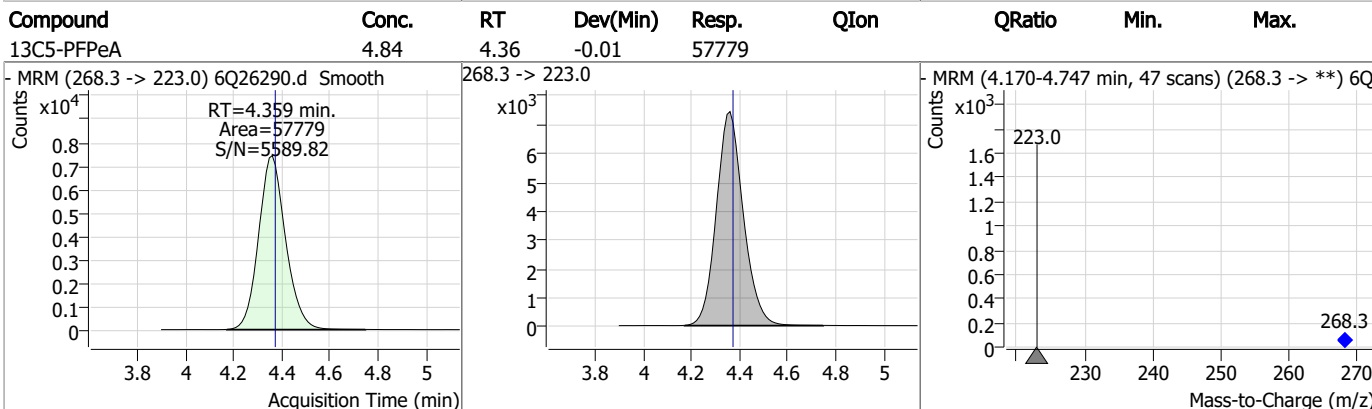
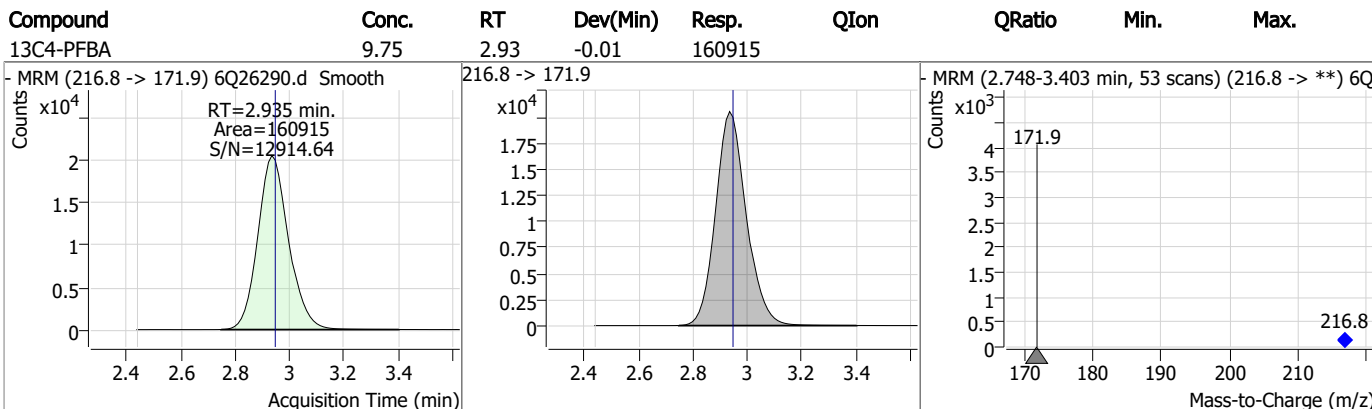
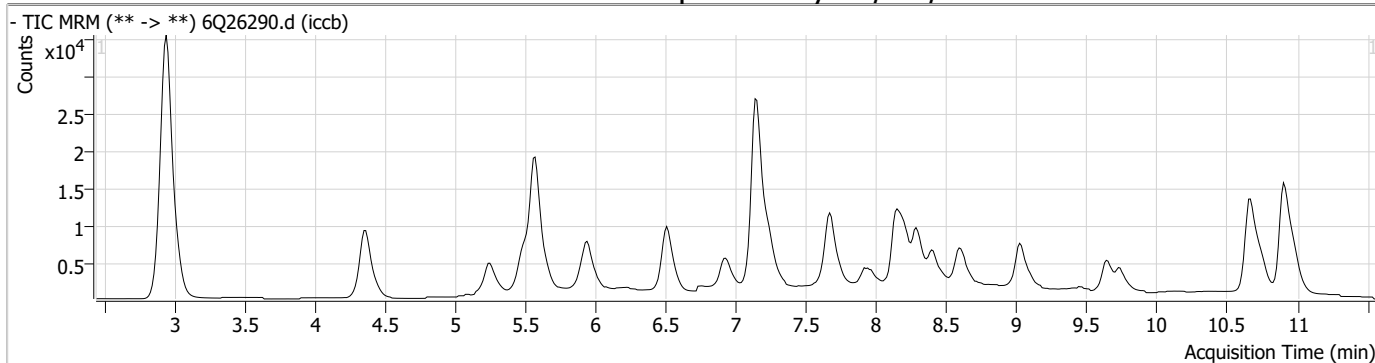
### Perfluorinated Compounds by LC/MS/MS

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

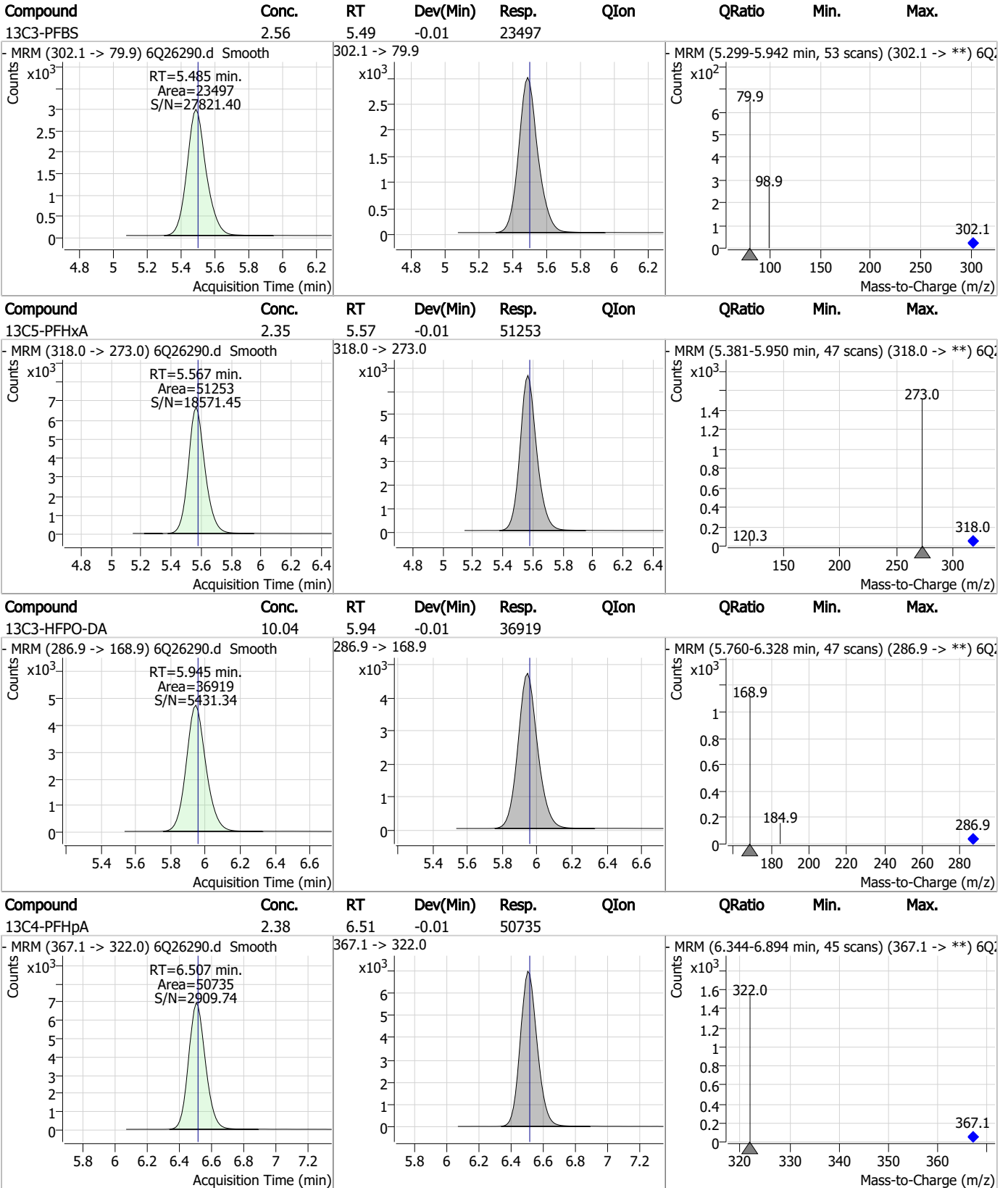
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### Perfluorinated Compounds by LC/MS/MS



7.2.4  
7

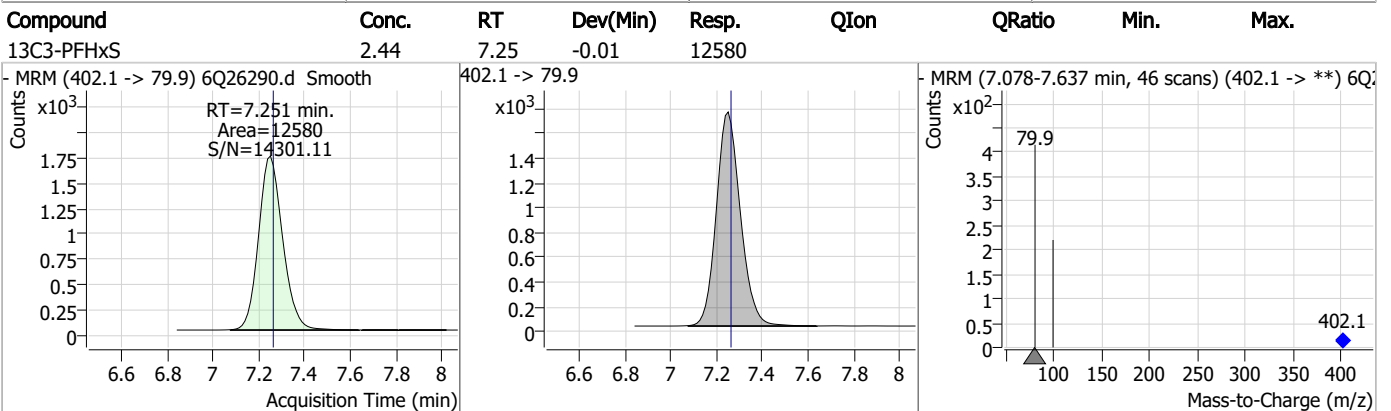
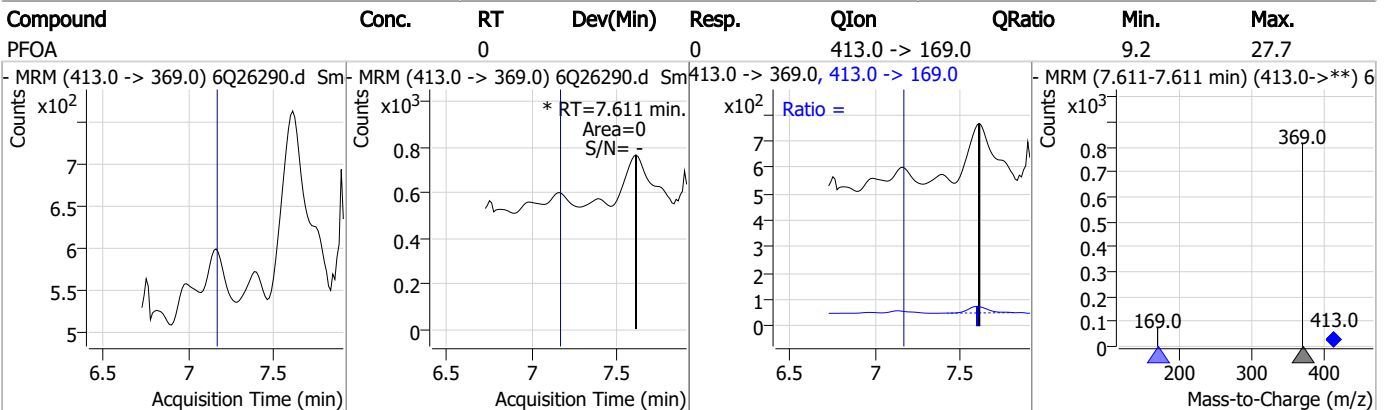
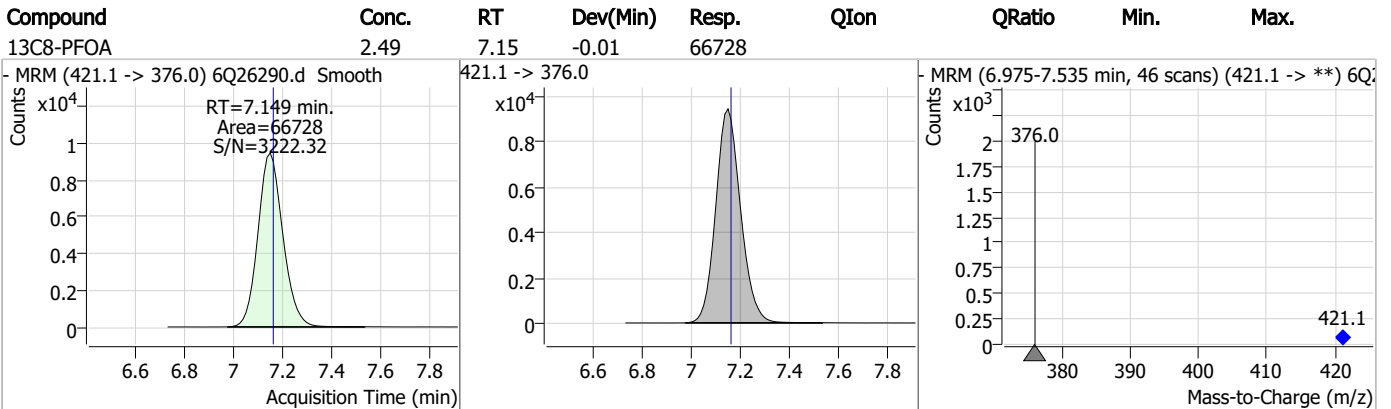
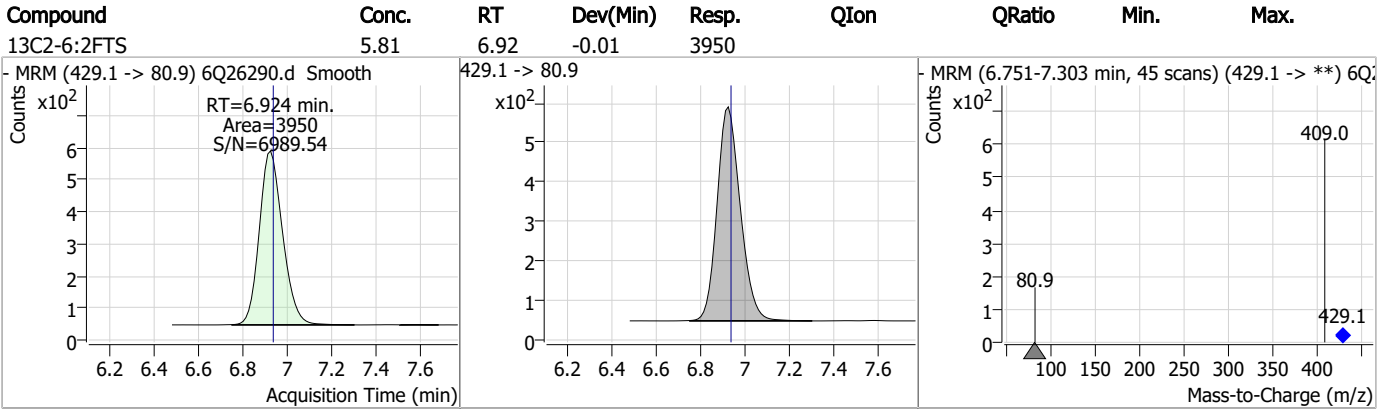
### Perfluorinated Compounds by LC/MS/MS



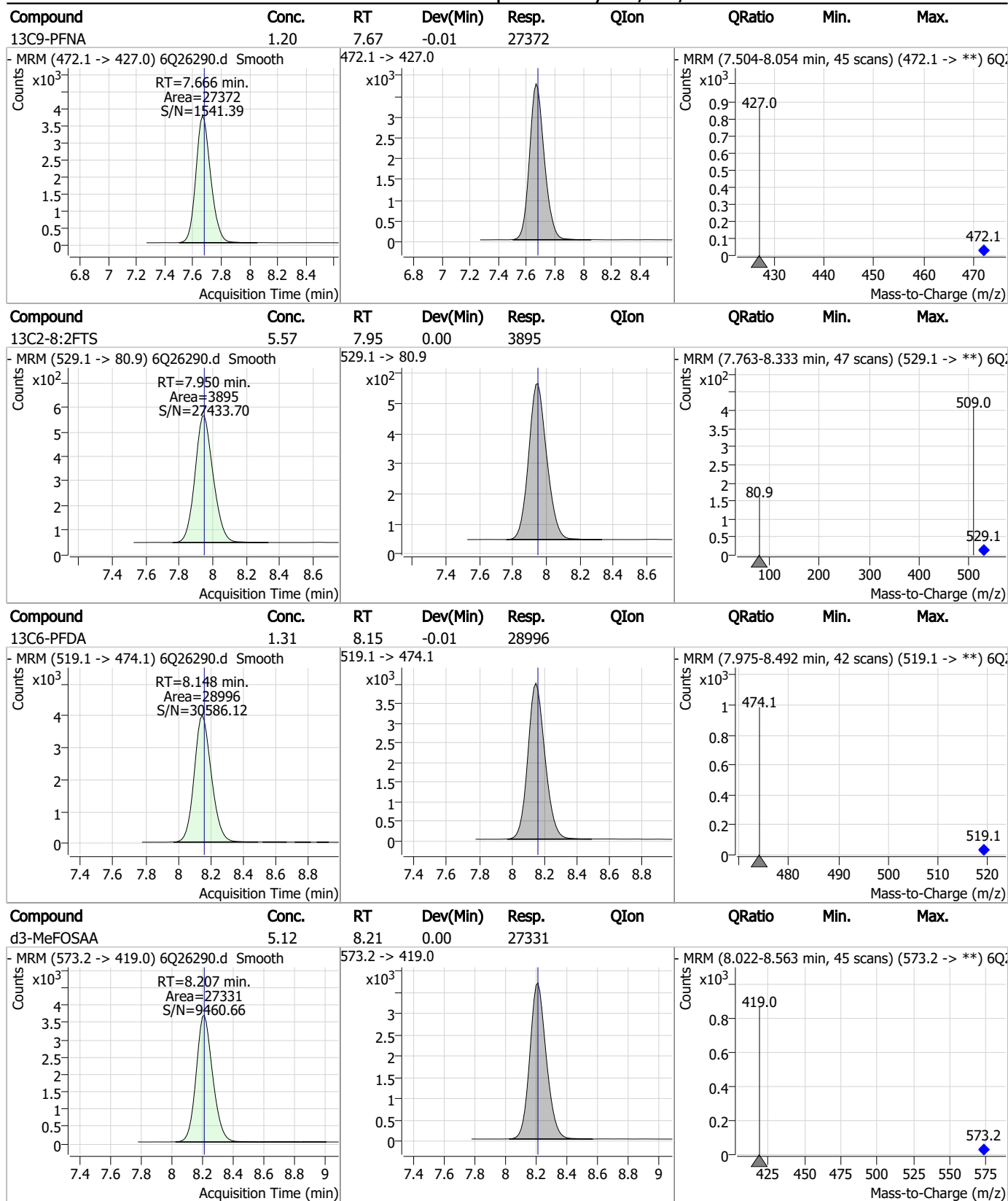
7.2.4

7

### Perfluorinated Compounds by LC/MS/MS



### Perfluorinated Compounds by LC/MS/MS



7.2.4  
7

### 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				

7.2.4  
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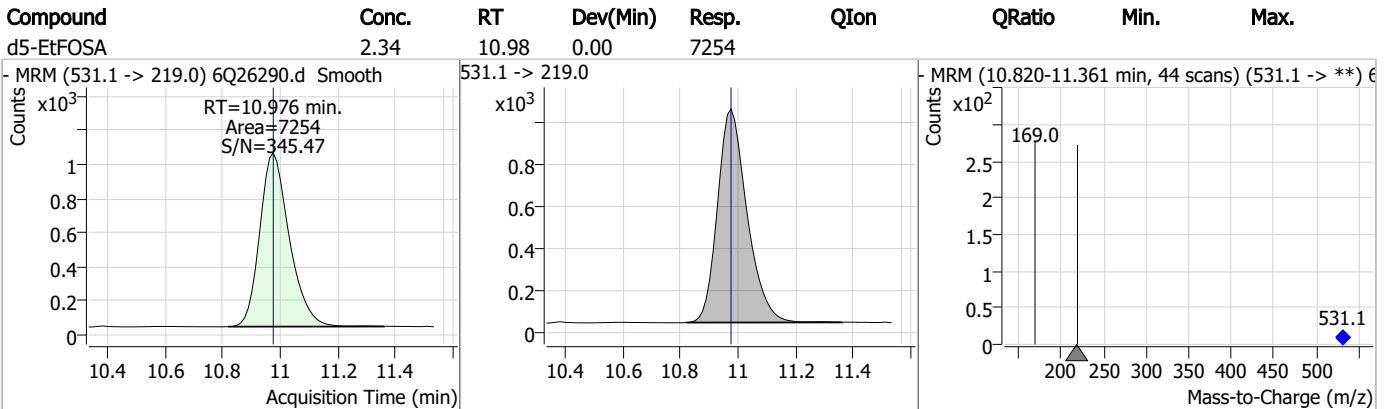
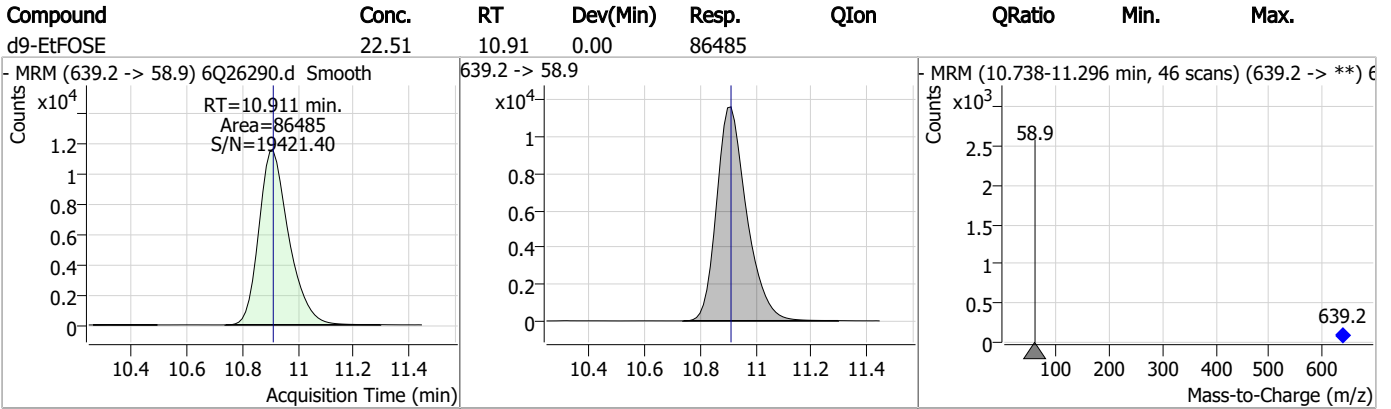
### Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-FOSA	2.39	9.66	0.00	23912				
13C2-PFTeDA	1.31	9.73	-0.01	11584				
d7-MeFOSE	23.80	10.67	0.00	76950				
d3-MeFOSA	2.07	10.74	-0.01	6012				

7.2.4  
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### Perfluorinated Compounds by LC/MS/MS



7.2.4

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)
<b>Internal Standards</b>					
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
<b>System Monitoring Compounds</b>					
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

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.	

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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

7.2.5  
7

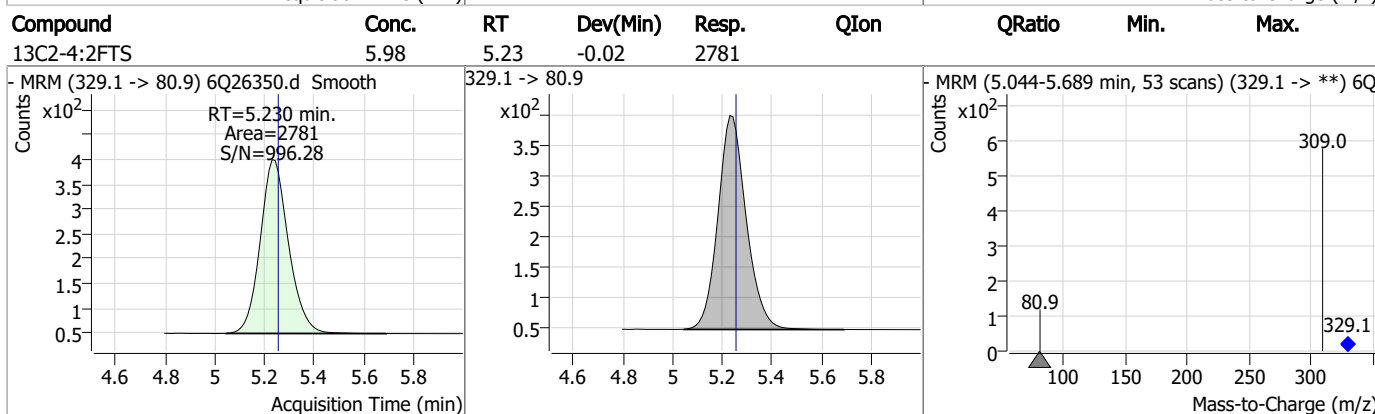
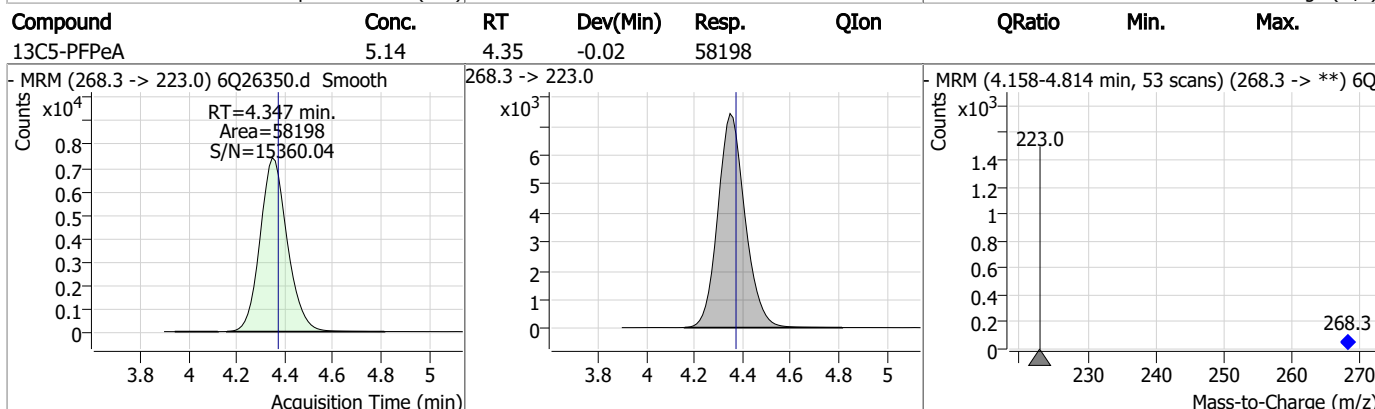
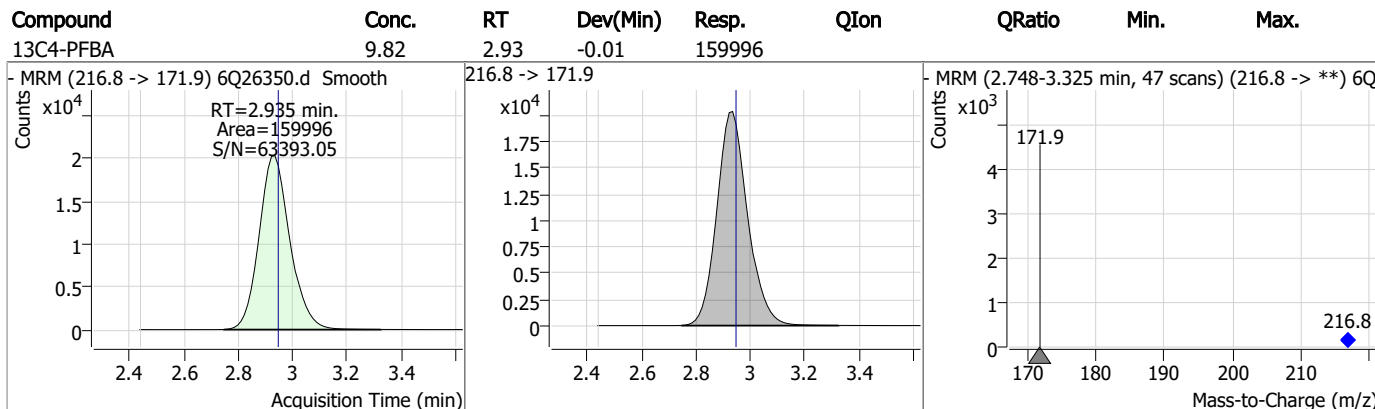
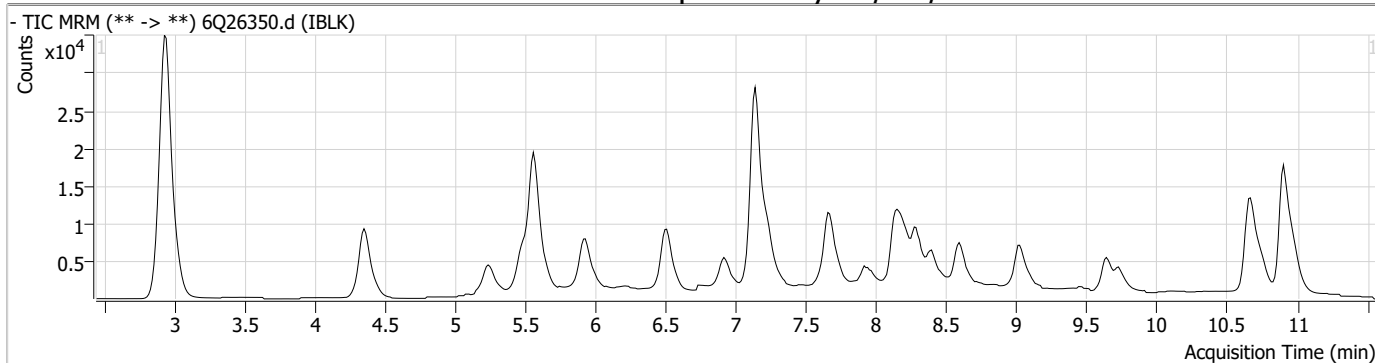
### Perfluorinated Compounds by LC/MS/MS

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

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### Perfluorinated Compounds by LC/MS/MS



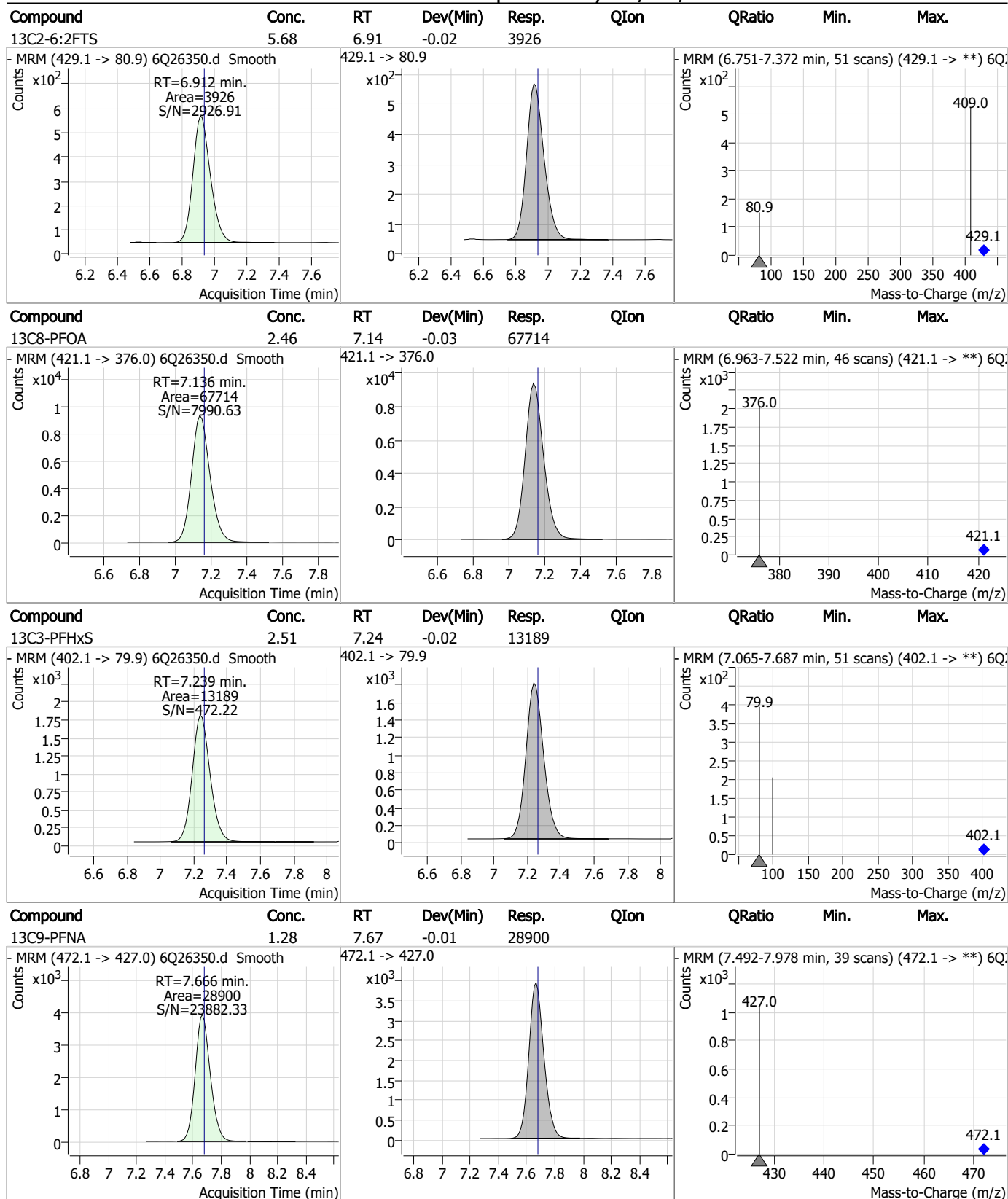
7.2.5  
7

### 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				

7.2.5  
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### Perfluorinated Compounds by LC/MS/MS



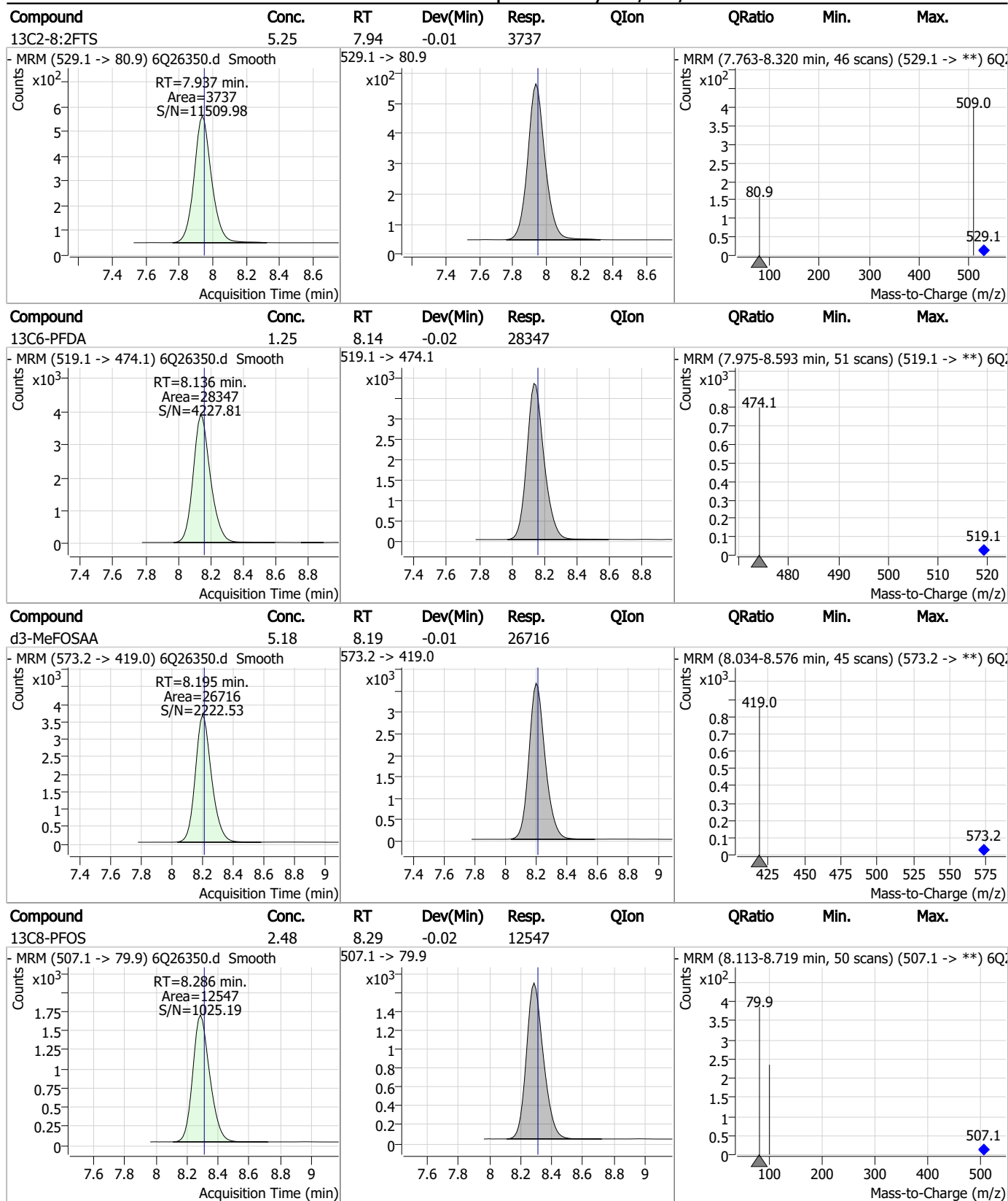
7.25

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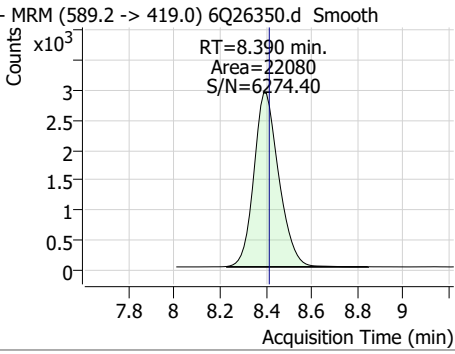
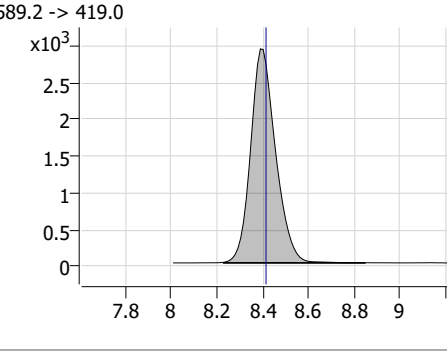
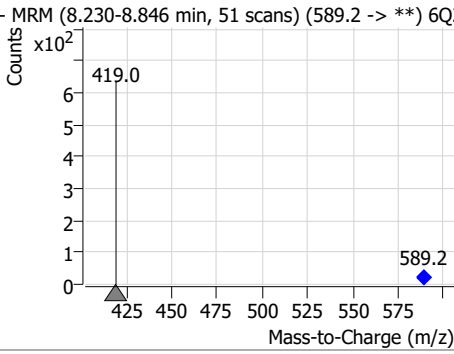
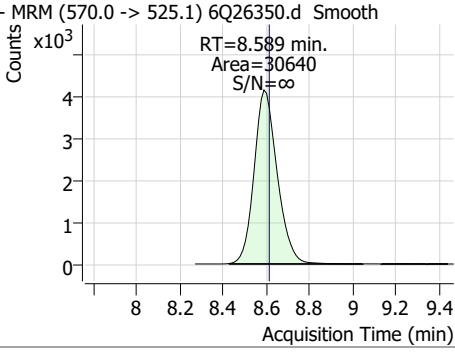
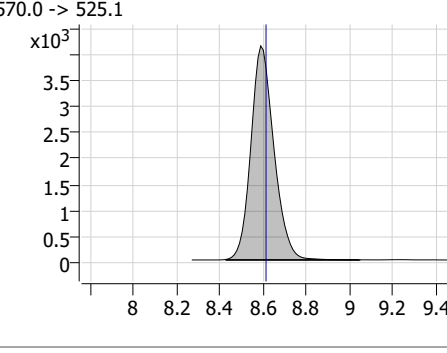
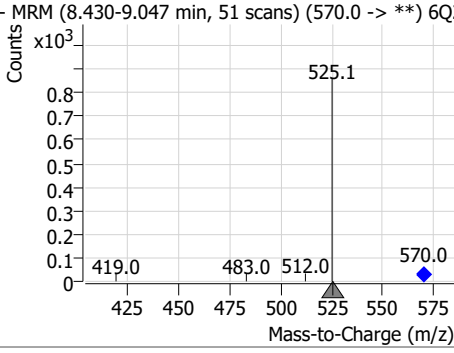
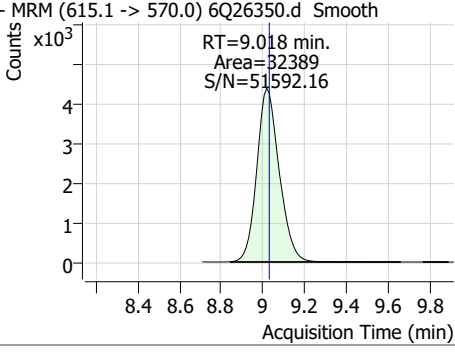
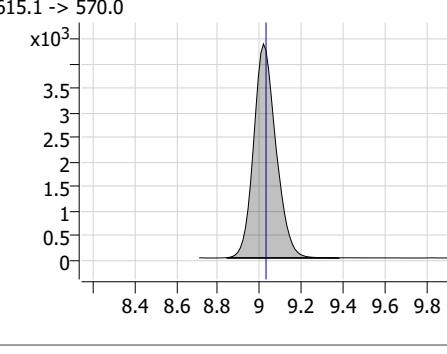
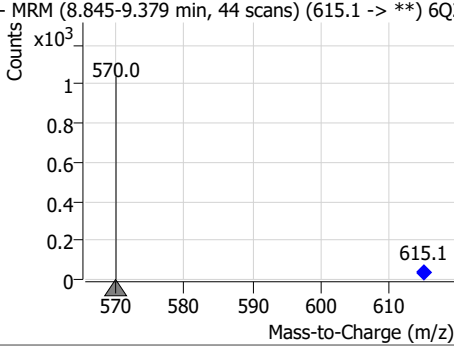
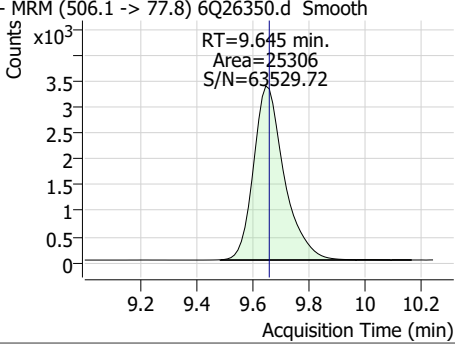
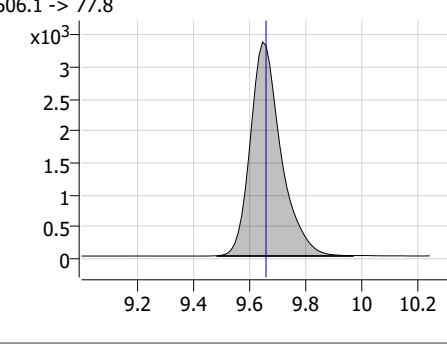
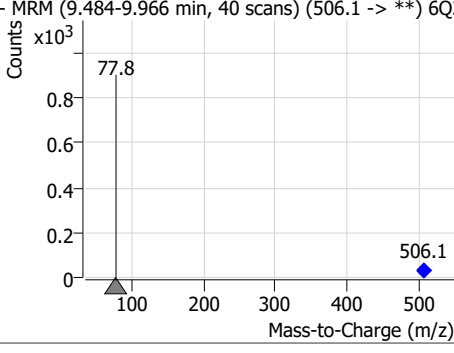
### Perfluorinated Compounds by LC/MS/MS



7.25  
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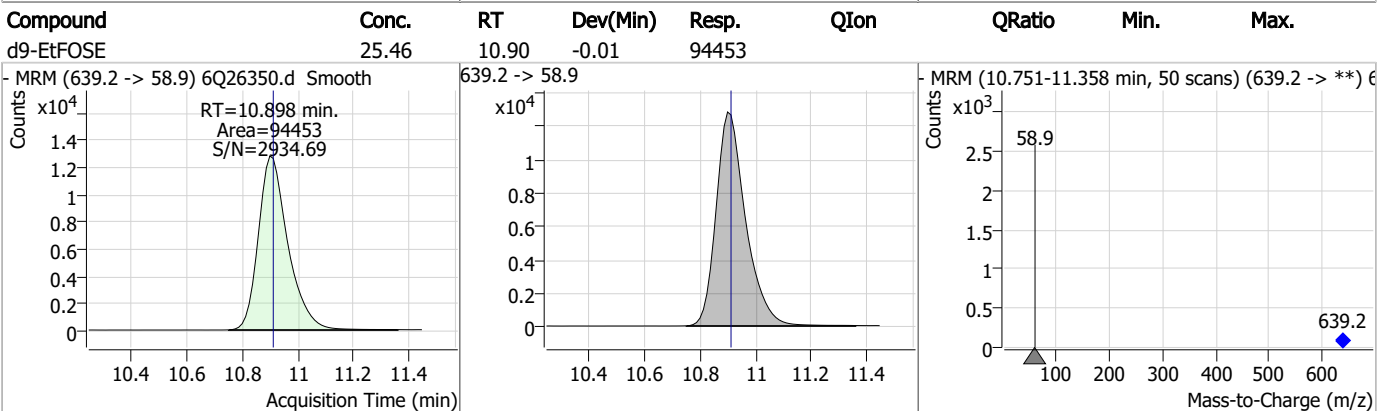
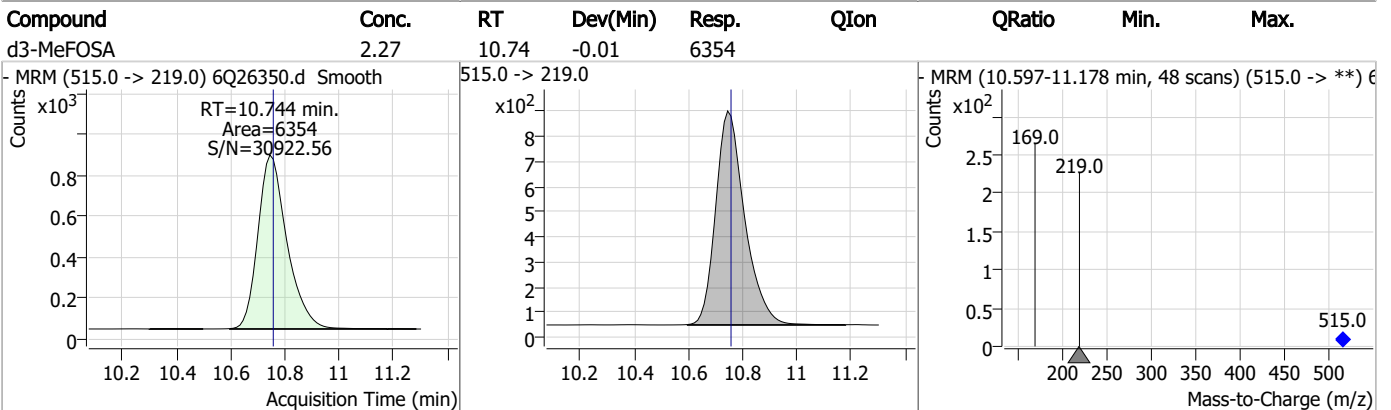
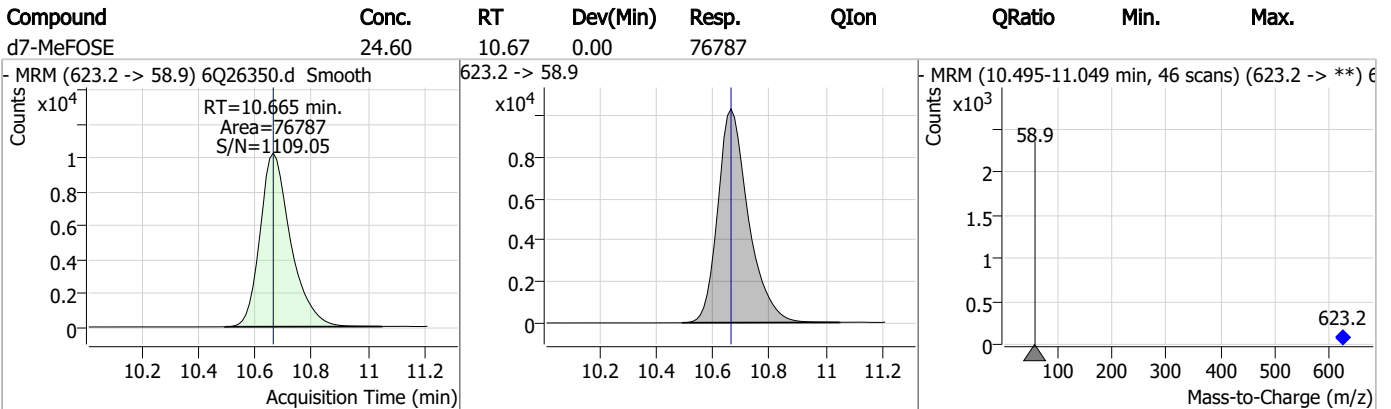
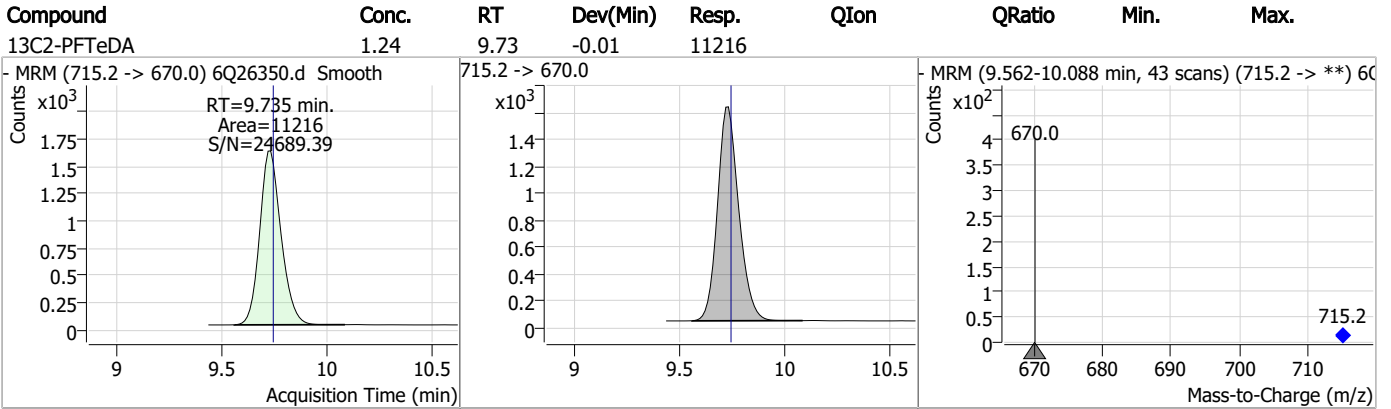
### Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSAA	5.00	8.39	-0.02	22080				
- MRM (589.2 -> 419.0) 6Q26350.d Smooth 			589.2 -> 419.0 			- MRM (8.230-8.846 min, 51 scans) (589.2 -> **) 6Q26350.d 		
13C7-PFUnDA	1.25	8.59	-0.02	30640				
- MRM (570.0 -> 525.1) 6Q26350.d Smooth 			570.0 -> 525.1 			- MRM (8.430-9.047 min, 51 scans) (570.0 -> **) 6Q26350.d 		
13C2-PFDoDA	1.21	9.02	-0.01	32389				
- MRM (615.1 -> 570.0) 6Q26350.d Smooth 			615.1 -> 570.0 			- MRM (8.845-9.379 min, 44 scans) (615.1 -> **) 6Q26350.d 		
13C8-FOSA	2.62	9.64	-0.01	25306				
- MRM (506.1 -> 77.8) 6Q26350.d Smooth 			506.1 -> 77.8 			- MRM (9.484-9.966 min, 40 scans) (506.1 -> **) 6Q26350.d 		

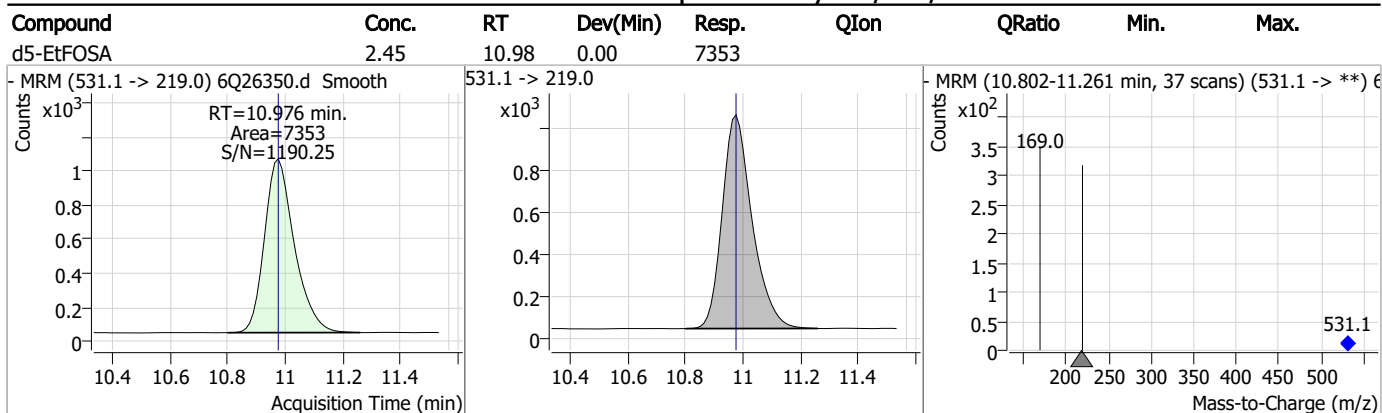
7.25  
7



### Perfluorinated Compounds by LC/MS/MS



### Perfluorinated Compounds by LC/MS/MS



7.2.5  
7

### Perfluorinated Compounds by LC/MS/MS

Data File : 6Q26581.d  
 Operator : marthav  
 Acq. Method : 1633full.m  
 Acq. Date-Time : 10/17/2023 8:06:24 PM  
 Sample Name : IBLK  
 Vial : P1-A1  
 DA Method File : 1633\_101723\_S6Q373.quantmethod.xml  
 Batch Name : S6Q373.batch.bin  
 Sample Information : OP99081,S6Q373,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
<b>Internal Standards</b>					
M4-PFBA	2.913	216.8 -> 171.9	142351	10.00 µg/L	0.000
M5-PFPeA	4.346	268.3 -> 223.0	47950	5.00 µg/L	0.000
M5-PFHxA	5.552	318.0 -> 273.0	46236	2.50 µg/L	0.000
M4-PFHpA	6.493	367.1 -> 322.0	46250	2.50 µg/L	0.000
M8-PFOA	7.124	421.1 -> 376.0	63519	2.50 µg/L	-0.012
M9-PFNA	7.654	472.1 -> 427.0	23621	1.25 µg/L	0.000
M6-PFDA	8.121	519.1 -> 474.1	28246	1.25 µg/L	0.000
M7-PFUnDA	8.564	570.0 -> 525.1	31188	1.25 µg/L	-0.012
M2-PFDoDA	8.993	615.1 -> 570.0	35245	1.25 µg/L	0.000
M2-PFTeDA	9.708	715.2 -> 670.0	12939	1.25 µg/L	0.000
M8-FOSA	9.642	506.1 -> 77.8	24688	2.50 µg/L	0.000
M3-PFBS	5.471	302.1 -> 79.9	20161	2.50 µg/L	0.000
M3-PFHxS	7.227	402.1 -> 79.9	11687	2.50 µg/L	0.000
M8-PFOS	8.272	507.1 -> 79.9	12004	2.50 µg/L	0.000
M2-4:2FTS	5.228	329.1 -> 80.9	2486	5.00 µg/L	0.000
M2-6:2FTS	6.910	429.1 -> 80.9	3141	5.00 µg/L	0.000
M2-8:2FTS	7.910	529.1 -> 80.9	3803	5.00 µg/L	-0.012
M3-MeFOSAA	8.178	573.2 -> 419.0	24374	5.00 µg/L	0.000
M3-HFPO-DA	5.918	286.9 -> 168.9	30126	10.00 µg/L	0.000
M5-EtFOSAA	8.374	589.2 -> 419.0	21010	5.00 µg/L	0.000
M7-MeFOSE	10.665	623.2 -> 58.9	84167	25.00 µg/L	0.000
M9-EtFOSE	10.899	639.2 -> 58.9	101990	25.00 µg/L	0.000
M5-EtFOSA	10.977	531.1 -> 219.0	8504	2.50 µg/L	0.000
M3-MeFOSA	10.745	515.0 -> 219.0	7020	2.50 µg/L	0.000
13C4-PFOS	8.273	502.8 -> 79.9	10961	2.50 µg/L	0.000
13C3-PFBA	2.916	216.0 -> 172.0	57596	5.00 µg/L	0.000
18O2-PFHxS	7.226	403.0 -> 83.9	7426	2.50 µg/L	0.000
13C4-PFOA	7.125	417.1 -> 372.0	72350	2.50 µg/L	0.000
13C2-PFDA	8.122	515.1 -> 470.1	25065	1.25 µg/L	0.000
13C5-PFNA	7.642	468.0 -> 423.0	22920	1.25 µg/L	-0.012
13C2-PFHxA	5.553	315.1 -> 270.0	44791	2.50 µg/L	0.000
<b>System Monitoring Compounds</b>					
13C2-4:2FTS	5.228	329.1 -> 80.9	2486	5.36 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 107.2%		
13C2-6:2FTS	6.910	429.1 -> 80.9	3141	4.80 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 95.9%		
13C2-8:2FTS	7.910	529.1 -> 80.9	3803	4.96 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 99.2%		
13C2-PFDoDA	8.993	615.1 -> 570.0	35245	1.30 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 104.1%		
13C2-PFTeDA	9.708	715.2 -> 670.0	12939	1.27 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 101.9%		
13C3-PFBS	5.471	302.1 -> 79.9	20161	2.45 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 98.1%		
13C3-PFHxS	7.227	402.1 -> 79.9	11687	2.40 µg/L	0.000

7.2.6  
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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 = 96.2%	
13C4-PFBA	2.913	216.8 -> 171.9	142351	10.03 µg/L	0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 100.3%	
13C4-PFHpA	6.493	367.1 -> 322.0	46250	2.55 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 101.8%	
13C5-PFHxA	5.552	318.0 -> 273.0	46236	2.58 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 103.0%	
13C5-PFPeA	4.346	268.3 -> 223.0	47950	5.31 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 106.3%	
13C6-PFDA	8.121	519.1 -> 474.1	28246	1.32 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 105.8%	
13C7-PFUnDA	8.564	570.0 -> 525.1	31188	1.35 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 107.8%	
13C8-FOSA	9.642	506.1 -> 77.8	24688	2.45 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 97.9%	
13C8-PFOA	7.124	421.1 -> 376.0	63519	2.45 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 98.2%	
13C8-PFOS	8.272	507.1 -> 79.9	12004	2.48 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 99.1%	
13C9-PFNA	7.654	472.1 -> 427.0	23621	1.20 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 95.9%	
d3-MeFOSAA	8.178	573.2 -> 419.0	24374	4.79 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 95.9%	
13C3-HFPO-DA	5.918	286.9 -> 168.9	30126	10.23 µg/L	0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 102.3%	
d3-MeFOSA	10.745	515.0 -> 219.0	7020	2.30 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 92.2%	
d5-EtFOSAA	8.374	589.2 -> 419.0	21010	4.96 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 99.3%	
d7-MeFOSE	10.665	623.2 -> 58.9	84167	23.75 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 95.0%	
d9-EtFOSE	10.899	639.2 -> 58.9	101990	23.28 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 93.1%	
d5-EtFOSA	10.977	531.1 -> 219.0	8504	2.41 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 96.4%	

**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	8.518	512.9 -> 469.0	0	µg/L m	1
		512.9 -> 219.0	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	8.065	398.7 -> 98.9	0	µg/L	m	1
		463.0 -> 419.0				
PFNS	-	463.0 -> 219.0	-	N.D.		
		548.8 -> 79.9				
PFOA	7.744	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	8.973	563.1 -> 519.0	0	µg/L	m	1
		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

7.2.6  
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### Perfluorinated Compounds by LC/MS/MS

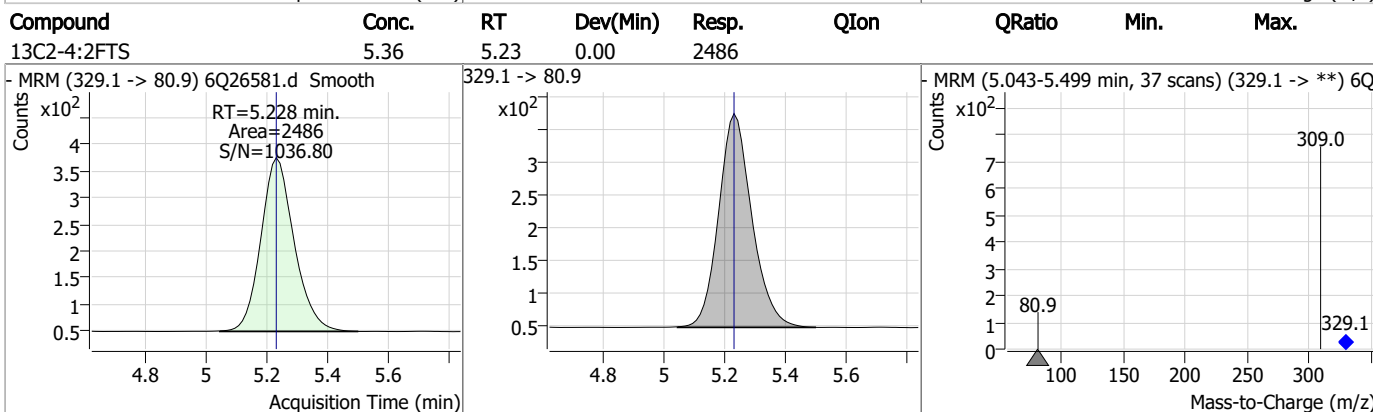
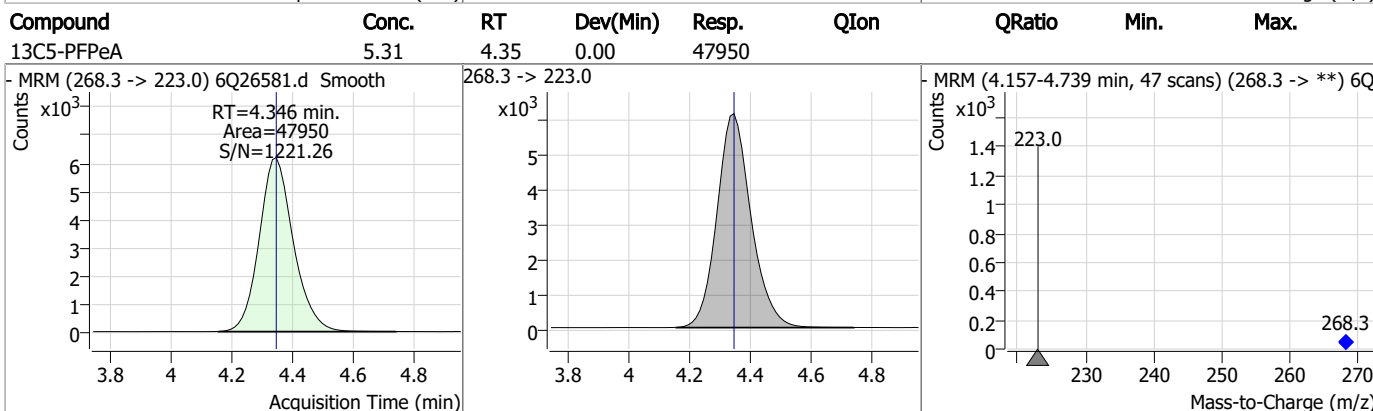
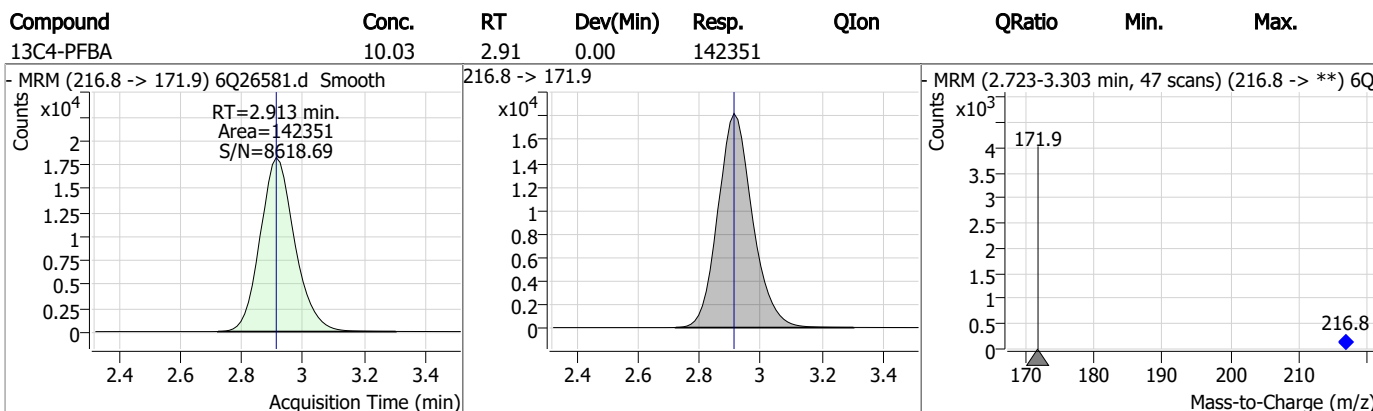
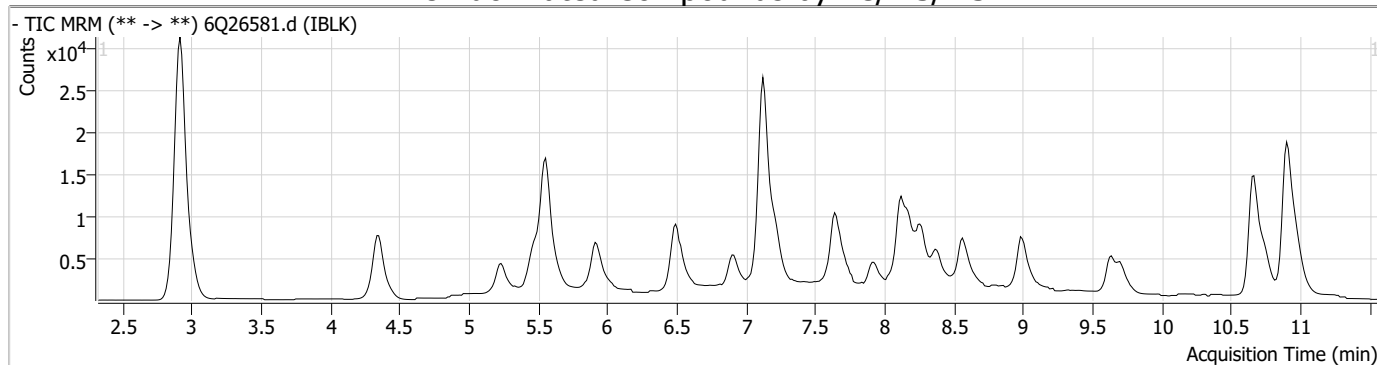
Compound	RT	Transition	Response	Conc. Units	Dev(Min)
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7.2.6

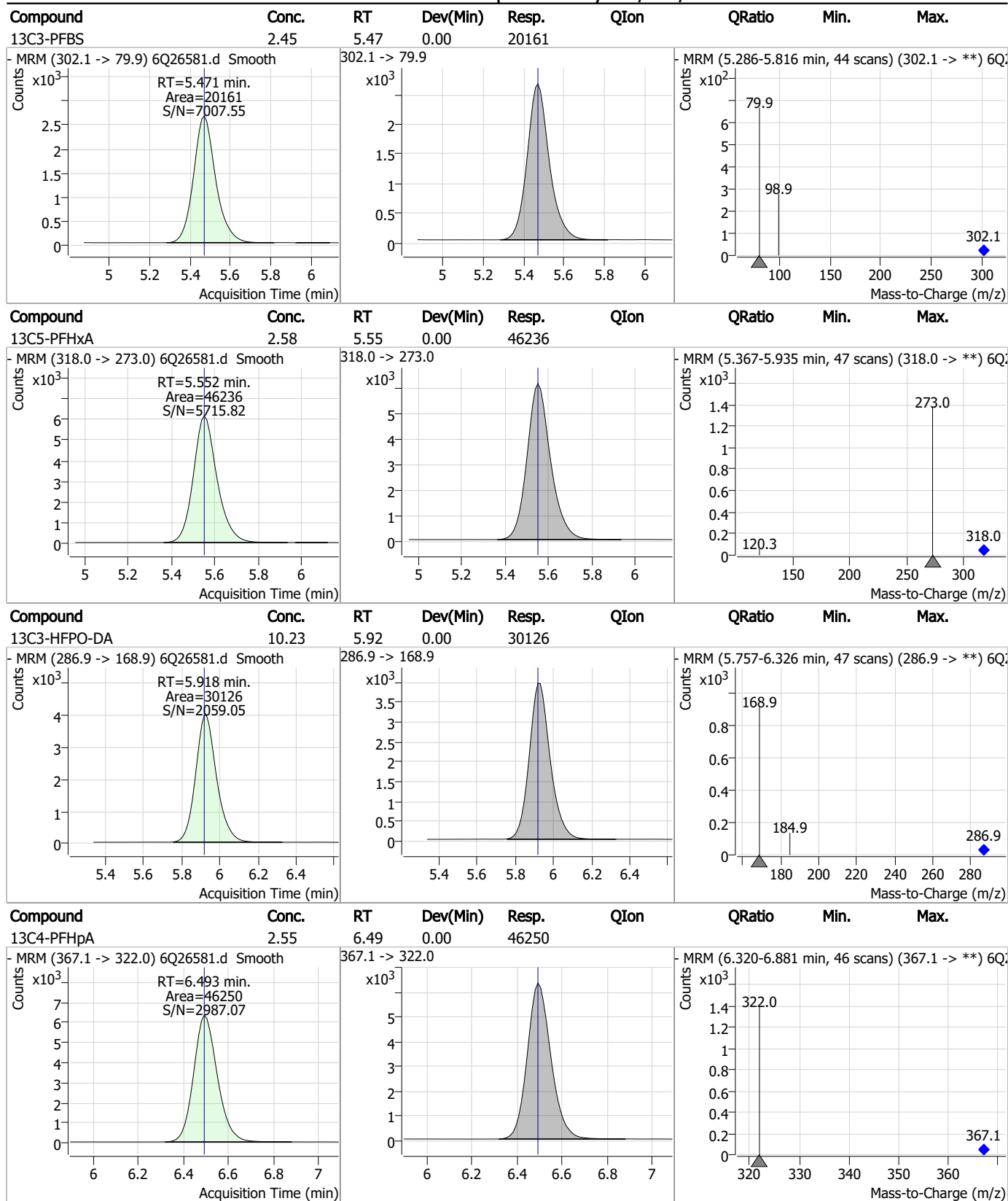
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### Perfluorinated Compounds by LC/MS/MS

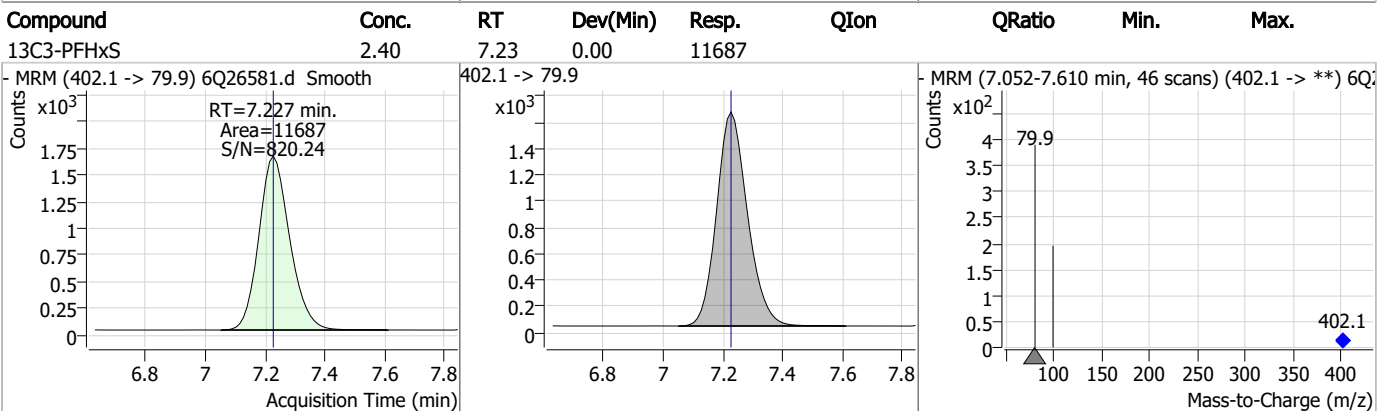
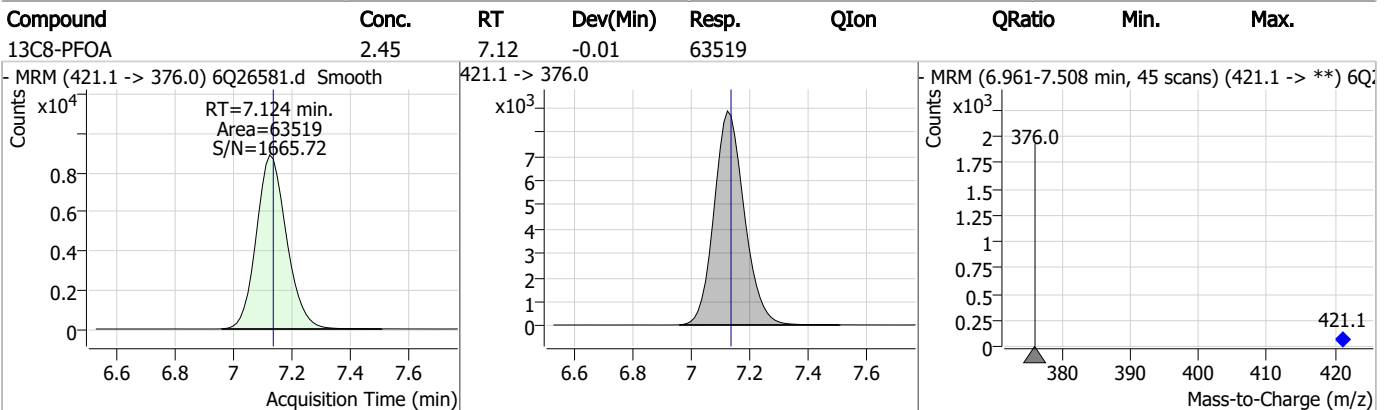
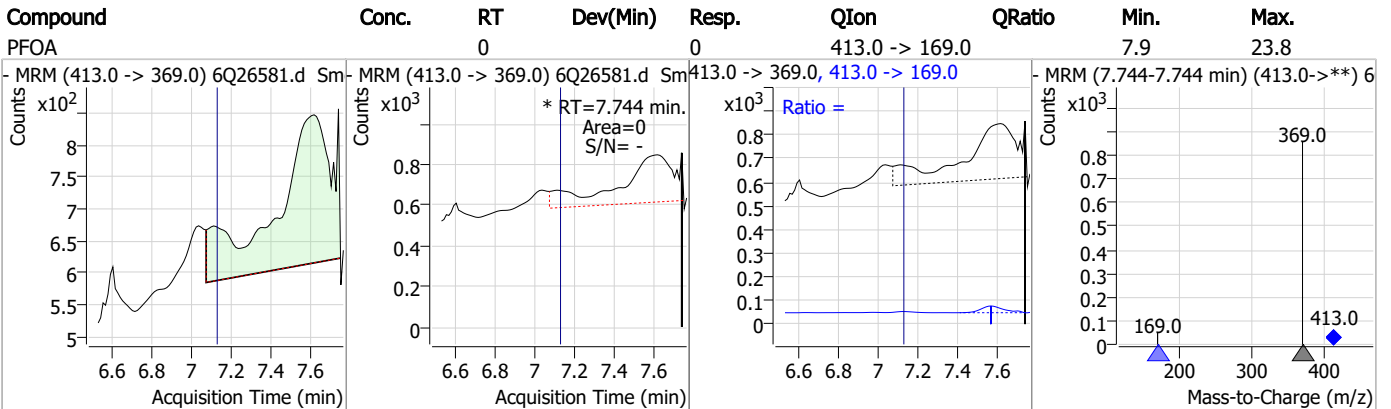
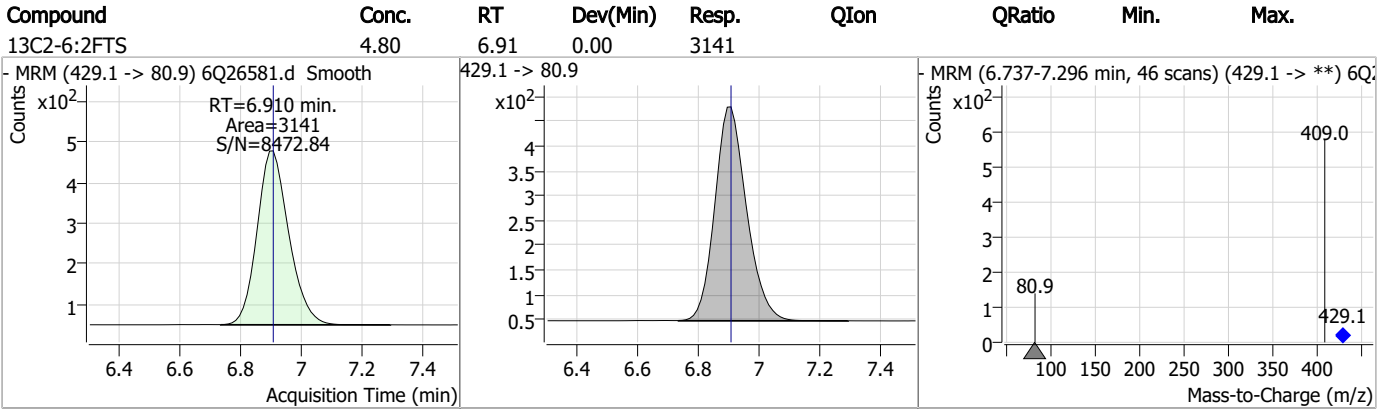


### Perfluorinated Compounds by LC/MS/MS



7.2.6  
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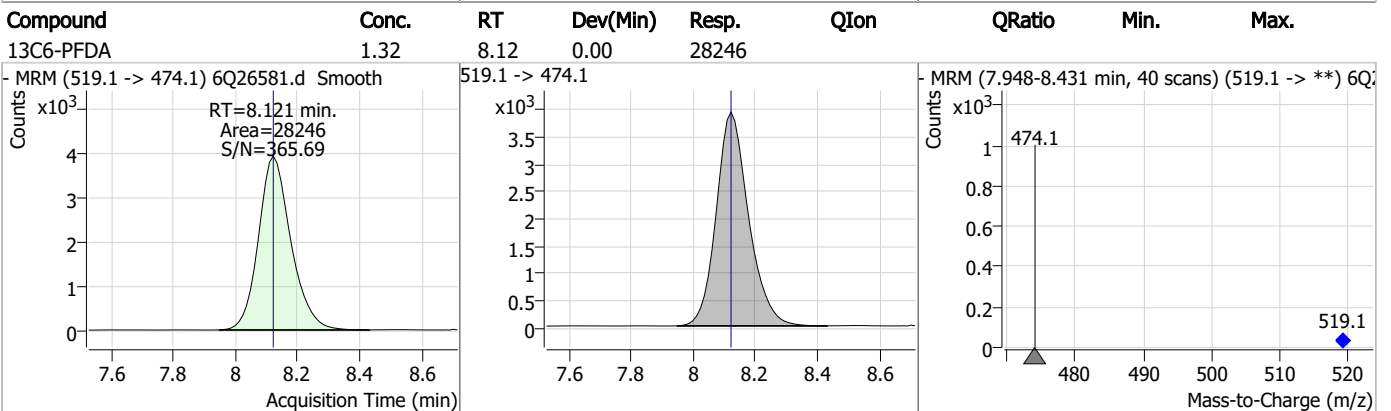
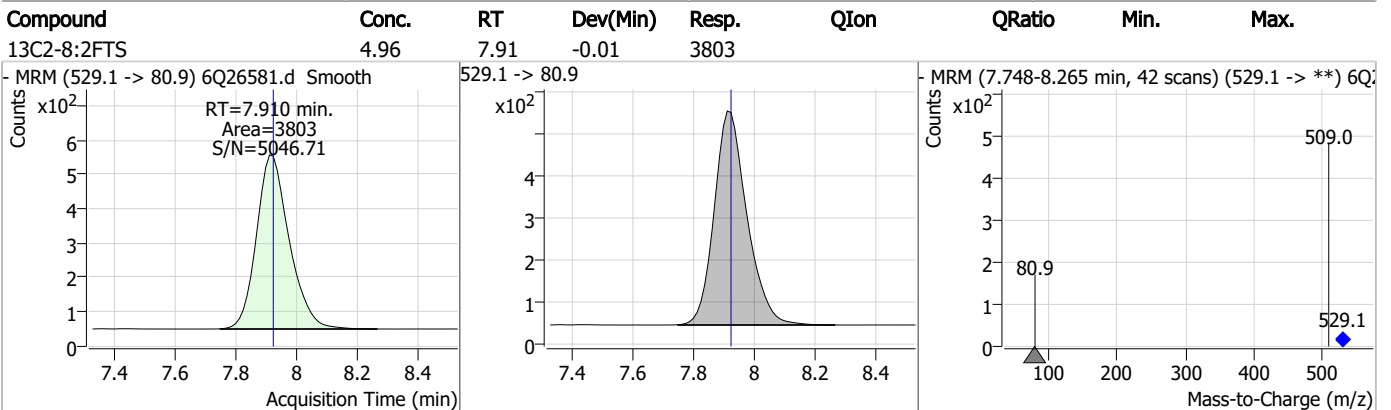
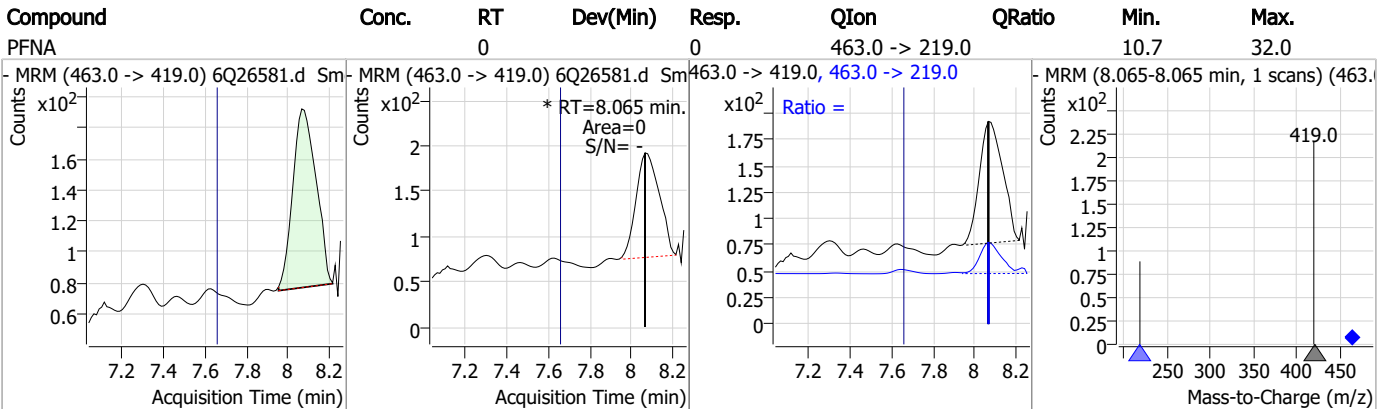
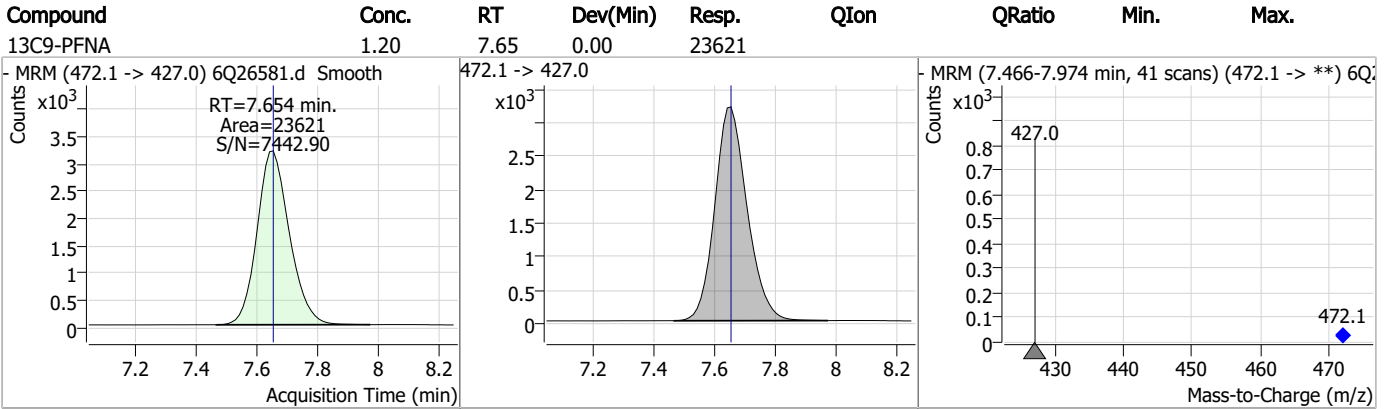
### Perfluorinated Compounds by LC/MS/MS



7.2.6

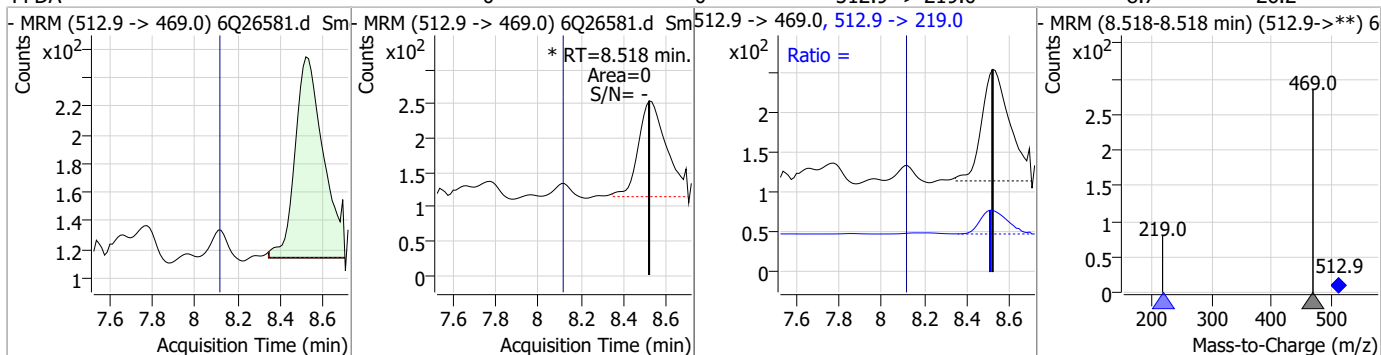
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### Perfluorinated Compounds by LC/MS/MS

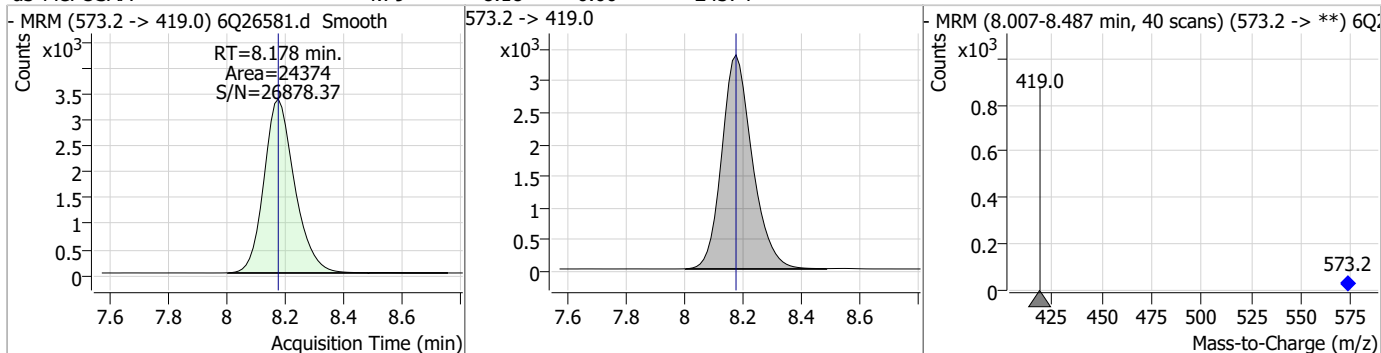


### Perfluorinated Compounds by LC/MS/MS

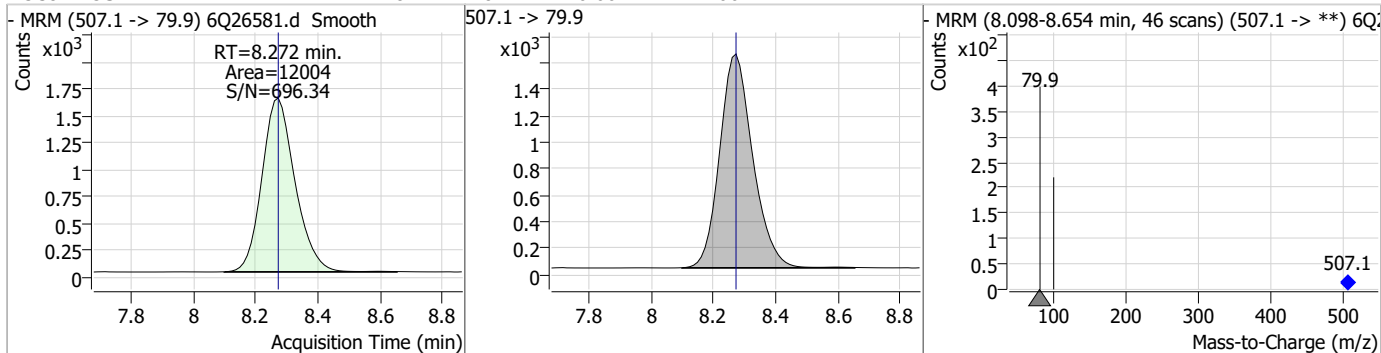
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDA	0	0		0	512.9 -> 219.0		8.7	26.2



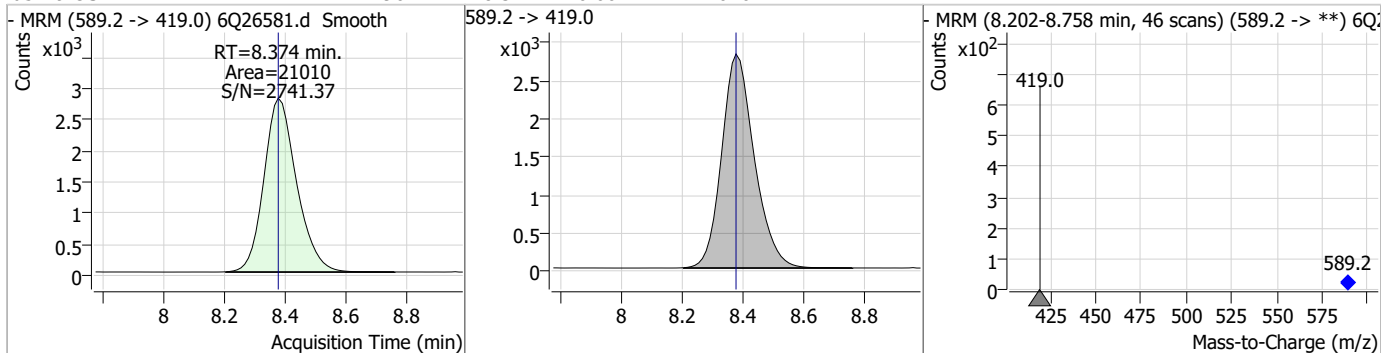
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSAA	4.79	8.18	0.00	24374				



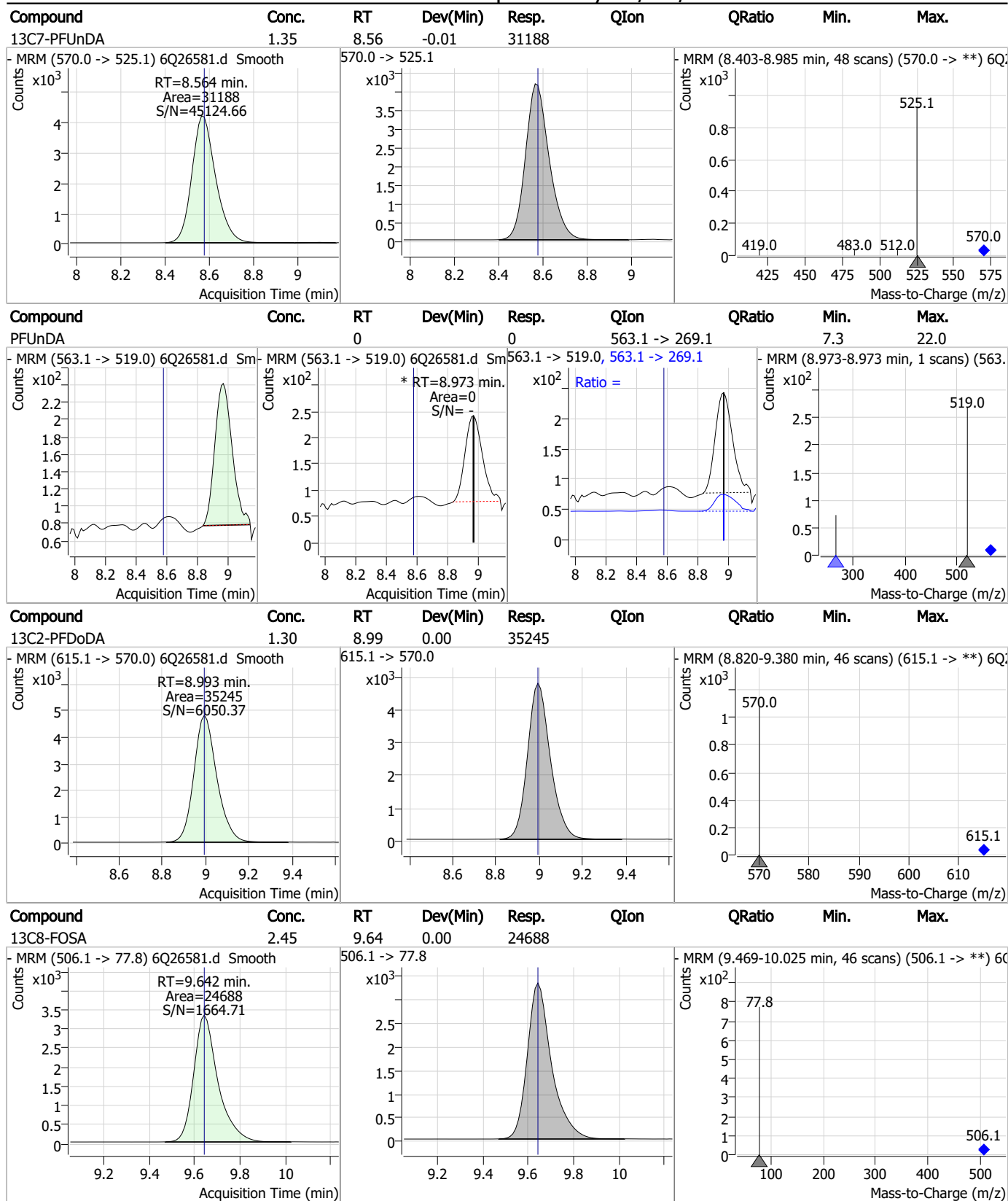
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOS	2.48	8.27	0.00	12004				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSAA	4.96	8.37	0.00	21010				



### Perfluorinated Compounds by LC/MS/MS



7.2.6  
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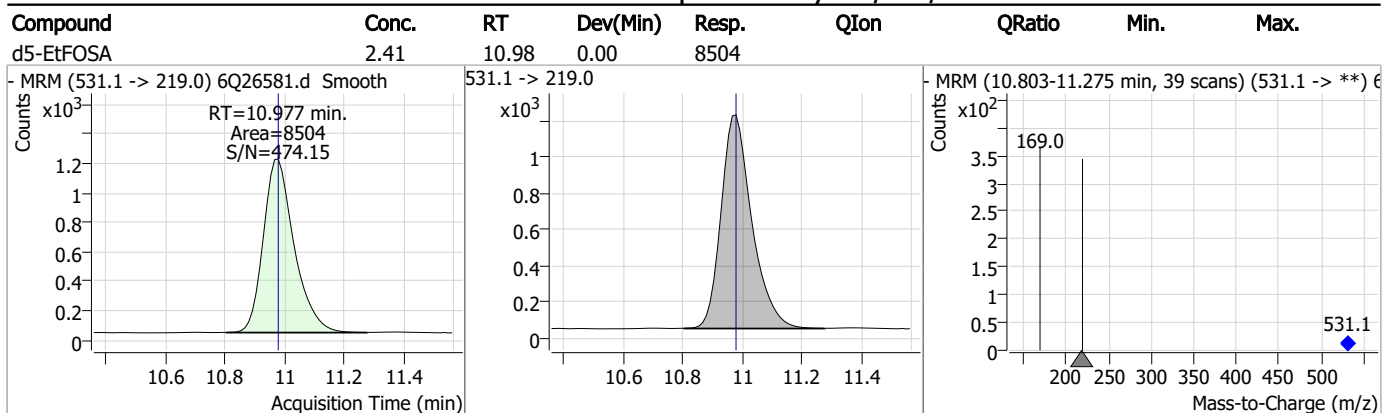
### Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFTeDA	1.27	9.71	0.00	12939				
- MRM (715.2 -> 670.0) 6Q26581.d Smooth Counts x10 <sup>3</sup> RT=9.708 min. Area=12939 S/N=16137.16 Acquisition Time (min)			715.2 -> 670.0 Counts x10 <sup>3</sup> Acquisition Time (min)			- MRM (9.534-10.042 min, 42 scans) (715.2 -> **) 6Q26581.d Smooth Counts x10 <sup>2</sup> 670.0 715.2 Mass-to-Charge (m/z)		
d7-MeFOSE	23.75	10.67	0.00	84167				
- MRM (623.2 -> 58.9) 6Q26581.d Smooth Counts x10 <sup>4</sup> RT=10.665 min. Area=84167 S/N=11397.82 Acquisition Time (min)			623.2 -> 58.9 Counts x10 <sup>4</sup> Acquisition Time (min)			- MRM (10.491-11.050 min, 46 scans) (623.2 -> **) 6Q26581.d Smooth Counts x10 <sup>3</sup> 58.9 623.2 Mass-to-Charge (m/z)		
d3-MeFOSA	2.30	10.74	0.00	7020				
- MRM (515.0 -> 219.0) 6Q26581.d Smooth Counts x10 <sup>3</sup> RT=10.745 min. Area=7020 S/N=633.71 Acquisition Time (min)			515.0 -> 219.0 Counts x10 <sup>3</sup> Acquisition Time (min)			- MRM (10.583-11.130 min, 45 scans) (515.0 -> **) 6Q26581.d Smooth Counts x10 <sup>2</sup> 169.0 219.0 515.0 Mass-to-Charge (m/z)		
d9-EtFOSE	23.28	10.90	0.00	101990				
- MRM (639.2 -> 58.9) 6Q26581.d Smooth Counts x10 <sup>4</sup> RT=10.899 min. Area=101990 S/N=6310.20 Acquisition Time (min)			639.2 -> 58.9 Counts x10 <sup>4</sup> Acquisition Time (min)			- MRM (10.750-11.359 min, 50 scans) (639.2 -> **) 6Q26581.d Smooth Counts x10 <sup>3</sup> 58.9 639.2 Mass-to-Charge (m/z)		

7.2.6

7

### Perfluorinated Compounds by LC/MS/MS



7.2.6  
7



### Perfluorinated Compounds by LC/MS/MS

Data File : 6Q26608.d  
 Operator : marthav  
 Acq. Method : 1633full.m  
 Acq. Date-Time : 10/18/2023 2:33:14 AM  
 Sample Name : iccb  
 Vial : P1-A1  
 DA Method File : 1633\_101723\_S6Q373.quantmethod.xml  
 Batch Name : S6Q373.batch.bin  
 Sample Information : OP99081,S6Q373,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
<b>Internal Standards</b>					
M4-PFBA	2.913	216.8 -> 171.9	144244	10.00 µg/L	0.000
M5-PFPeA	4.346	268.3 -> 223.0	47849	5.00 µg/L	0.000
M5-PFHxA	5.552	318.0 -> 273.0	49399	2.50 µg/L	0.000
M4-PFHpA	6.493	367.1 -> 322.0	47952	2.50 µg/L	0.000
M8-PFOA	7.124	421.1 -> 376.0	70449	2.50 µg/L	-0.012
M9-PFNA	7.642	472.1 -> 427.0	24542	1.25 µg/L	-0.012
M6-PFDA	8.121	519.1 -> 474.1	29828	1.25 µg/L	0.000
M7-PFUnDA	8.564	570.0 -> 525.1	30554	1.25 µg/L	-0.012
M2-PFDoDA	8.993	615.1 -> 570.0	36152	1.25 µg/L	0.000
M2-PFTeDA	9.708	715.2 -> 670.0	13795	1.25 µg/L	0.000
M8-FOSA	9.642	506.1 -> 77.8	24563	2.50 µg/L	0.000
M3-PFBS	5.471	302.1 -> 79.9	20107	2.50 µg/L	0.000
M3-PFHxS	7.227	402.1 -> 79.9	12033	2.50 µg/L	0.000
M8-PFOS	8.272	507.1 -> 79.9	11720	2.50 µg/L	0.000
M2-4:2FTS	5.228	329.1 -> 80.9	2481	5.00 µg/L	0.000
M2-6:2FTS	6.898	429.1 -> 80.9	3720	5.00 µg/L	-0.012
M2-8:2FTS	7.922	529.1 -> 80.9	4008	5.00 µg/L	0.000
M3-MeFOSAA	8.178	573.2 -> 419.0	24984	5.00 µg/L	0.000
M3-HFPO-DA	5.930	286.9 -> 168.9	30227	10.00 µg/L	0.012
M5-EtFOSAA	8.374	589.2 -> 419.0	21258	5.00 µg/L	0.000
M7-MeFOSE	10.665	623.2 -> 58.9	91008	25.00 µg/L	0.000
M9-EtFOSE	10.899	639.2 -> 58.9	106195	25.00 µg/L	0.000
M5-EtFOSA	10.977	531.1 -> 219.0	8519	2.50 µg/L	0.000
M3-MeFOSA	10.745	515.0 -> 219.0	7284	2.50 µg/L	0.000
13C4-PFOS	8.261	502.8 -> 79.9	10957	2.50 µg/L	-0.012
13C3-PFBA	2.916	216.0 -> 172.0	58476	5.00 µg/L	0.000
18O2-PFHxS	7.226	403.0 -> 83.9	7255	2.50 µg/L	0.000
13C4-PFOA	7.125	417.1 -> 372.0	72048	2.50 µg/L	0.000
13C2-PFDA	8.122	515.1 -> 470.1	25593	1.25 µg/L	0.000
13C5-PFNA	7.642	468.0 -> 423.0	25114	1.25 µg/L	-0.012
13C2-PFHxA	5.553	315.1 -> 270.0	47048	2.50 µg/L	0.000
<b>System Monitoring Compounds</b>					
13C2-4:2FTS	5.228	329.1 -> 80.9	2481	5.47 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 109.5%		
13C2-6:2FTS	6.898	429.1 -> 80.9	3720	5.81 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 116.3%		
13C2-8:2FTS	7.922	529.1 -> 80.9	4008	5.35 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 107.0%		
13C2-PFDoDA	8.993	615.1 -> 570.0	36152	1.31 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 104.6%		
13C2-PFTeDA	9.708	715.2 -> 670.0	13795	1.33 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 106.4%		
13C3-PFBS	5.471	302.1 -> 79.9	20107	2.50 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 100.2%		
13C3-PFHxS	7.227	402.1 -> 79.9	12033	2.53 µg/L	0.000

7.27  
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 = 101.4%	
13C4-PFBA	2.913	216.8 -> 171.9	144244	10.01 µg/L	0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 100.1%	
13C4-PFHpA	6.493	367.1 -> 322.0	47952	2.51 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 100.5%	
13C5-PFHxA	5.552	318.0 -> 273.0	49399	2.62 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 104.8%	
13C5-PFPeA	4.346	268.3 -> 223.0	47849	5.05 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 101.0%	
13C6-PFDA	8.121	519.1 -> 474.1	29828	1.37 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 109.4%	
13C7-PFUnDA	8.564	570.0 -> 525.1	30554	1.29 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 103.4%	
13C8-FOSA	9.642	506.1 -> 77.8	24563	2.44 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 97.5%	
13C8-PFOA	7.124	421.1 -> 376.0	70449	2.73 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 109.3%	
13C8-PFOS	8.272	507.1 -> 79.9	11720	2.42 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 96.8%	
13C9-PFNA	7.642	472.1 -> 427.0	24542	1.14 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 90.9%	
d3-MeFOSAA	8.178	573.2 -> 419.0	24984	4.92 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 98.3%	
13C3-HFPO-DA	5.930	286.9 -> 168.9	30227	9.77 µg/L	0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 97.7%	
d3-MeFOSA	10.745	515.0 -> 219.0	7284	2.39 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 95.7%	
d5-EtFOSAA	8.374	589.2 -> 419.0	21258	5.02 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 100.5%	
d7-MeFOSE	10.665	623.2 -> 58.9	91008	25.69 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 102.8%	
d9-EtFOSE	10.899	639.2 -> 58.9	106195	24.25 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 97.0%	
d5-EtFOSA	10.977	531.1 -> 219.0	8519	2.42 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 96.7%	

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	8.530	512.9 -> 469.0	0	µg/L m	1
		512.9 -> 219.0	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	7.597	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	8.973	563.1 -> 519.0	0	µg/L	m	1
		563.1 -> 269.1				
11CI-PF3OUdS	-	630.9 -> 450.9	-	N.D.		
		632.9 -> 452.9				
9CI-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

7.27  
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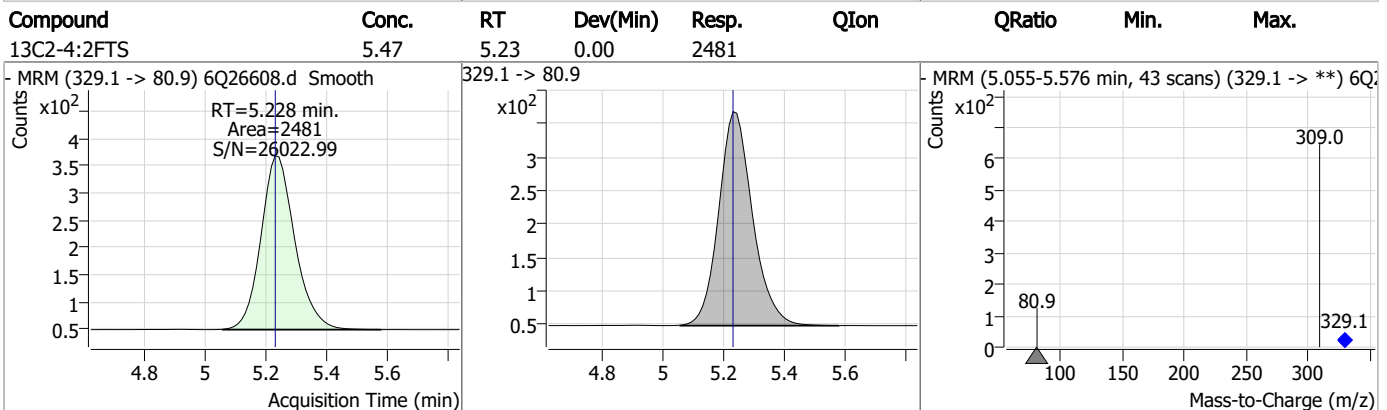
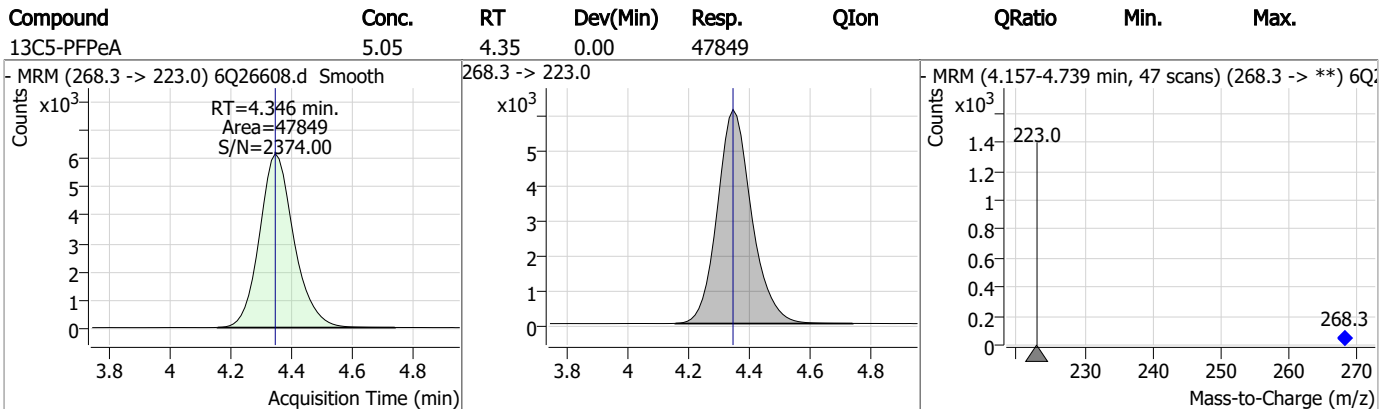
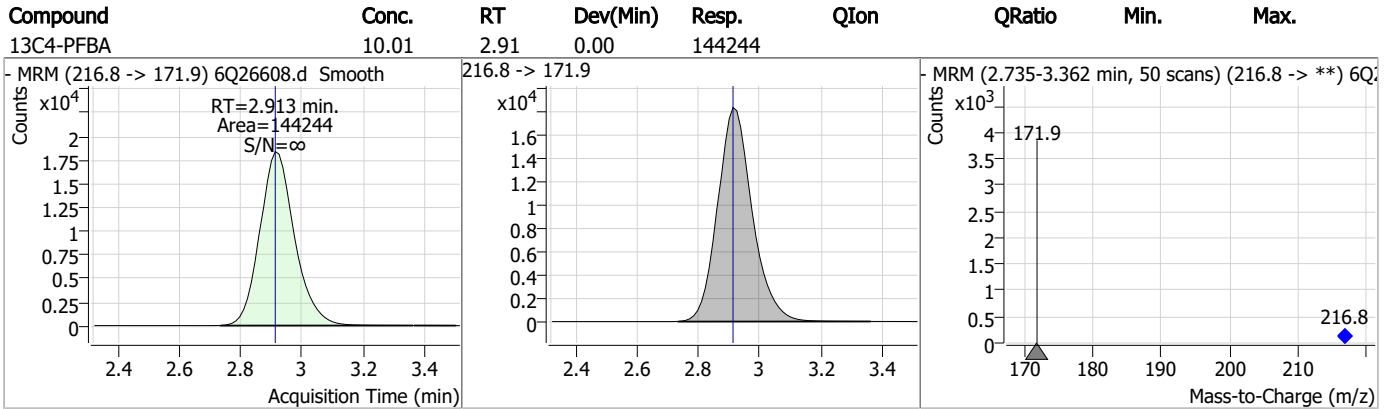
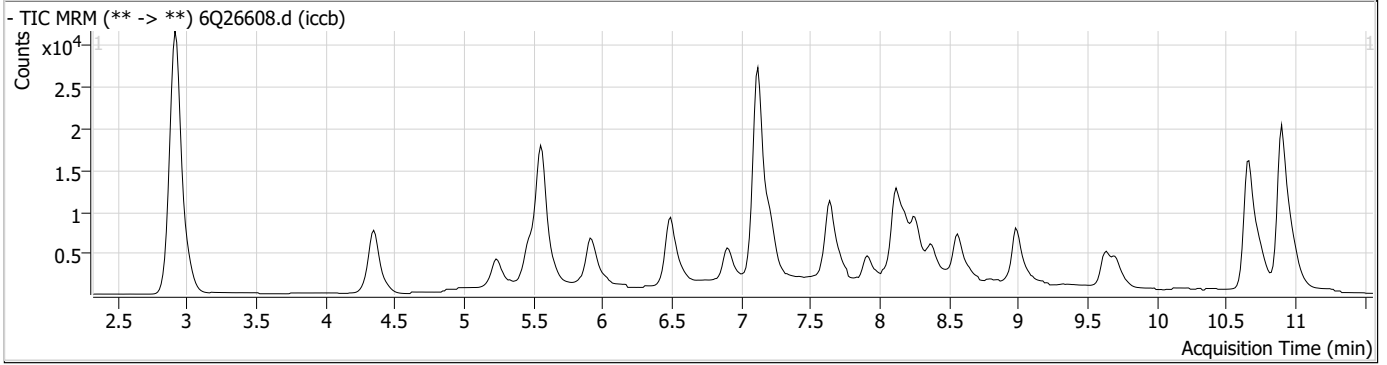
### Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
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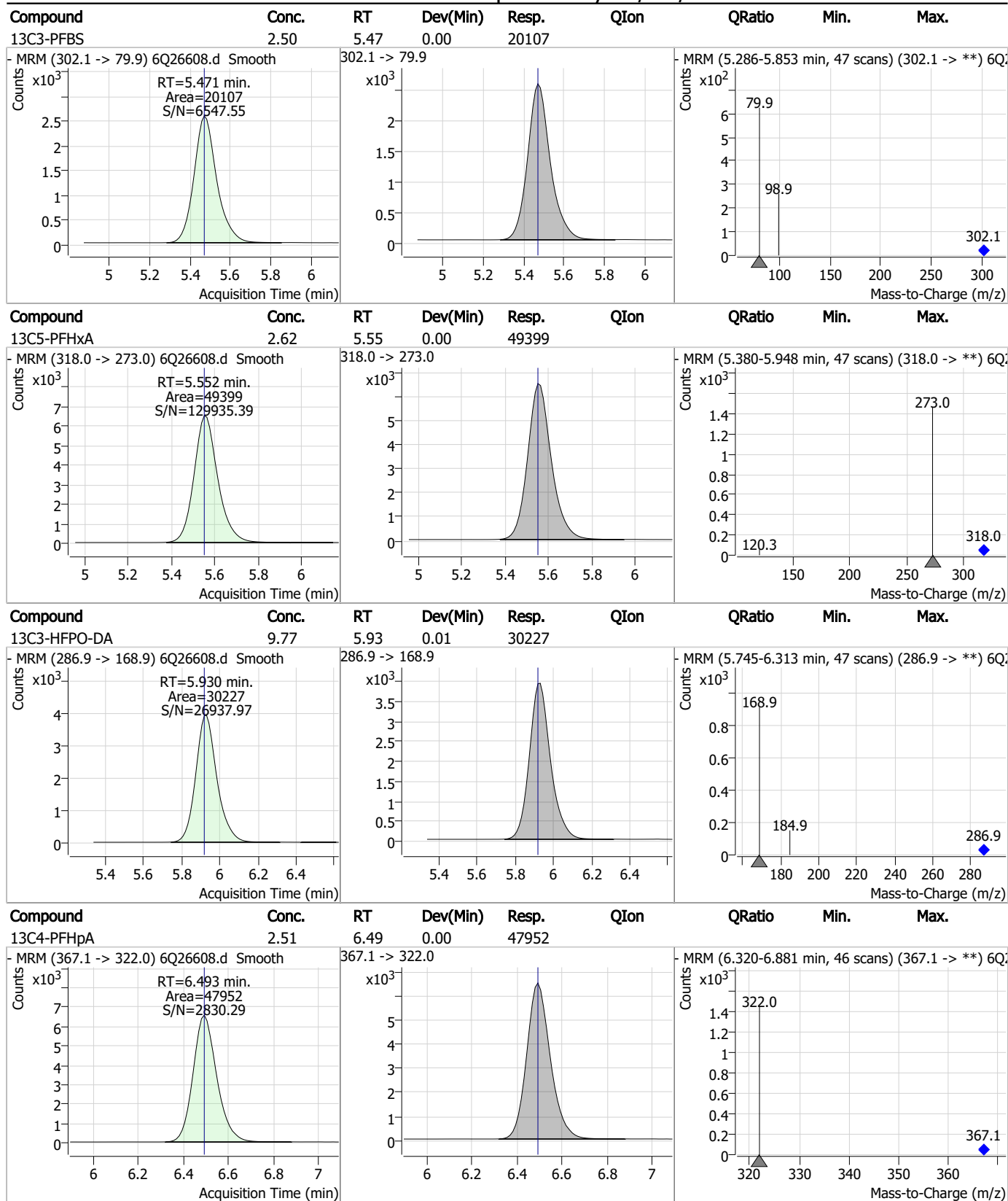
7.2.7

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### Perfluorinated Compounds by LC/MS/MS

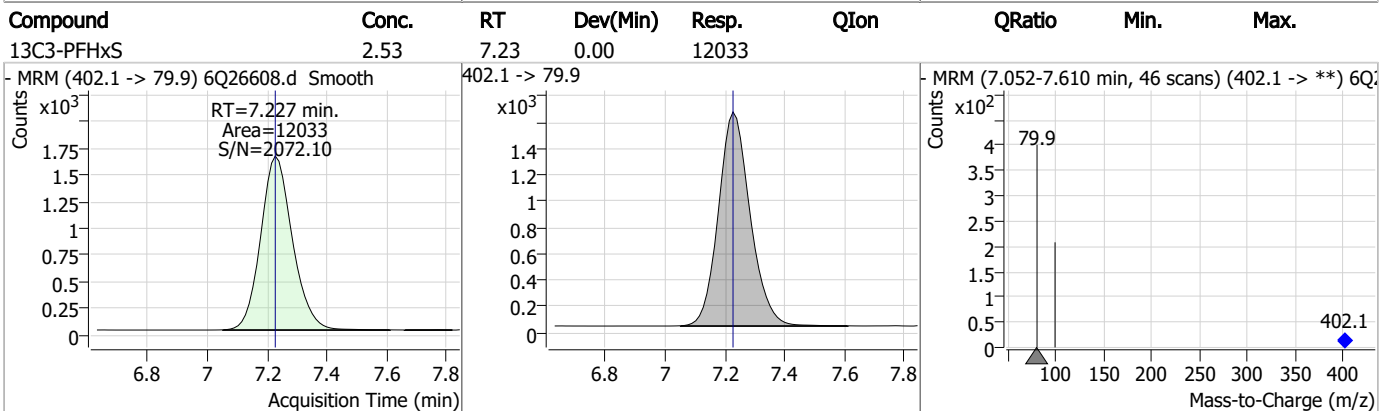
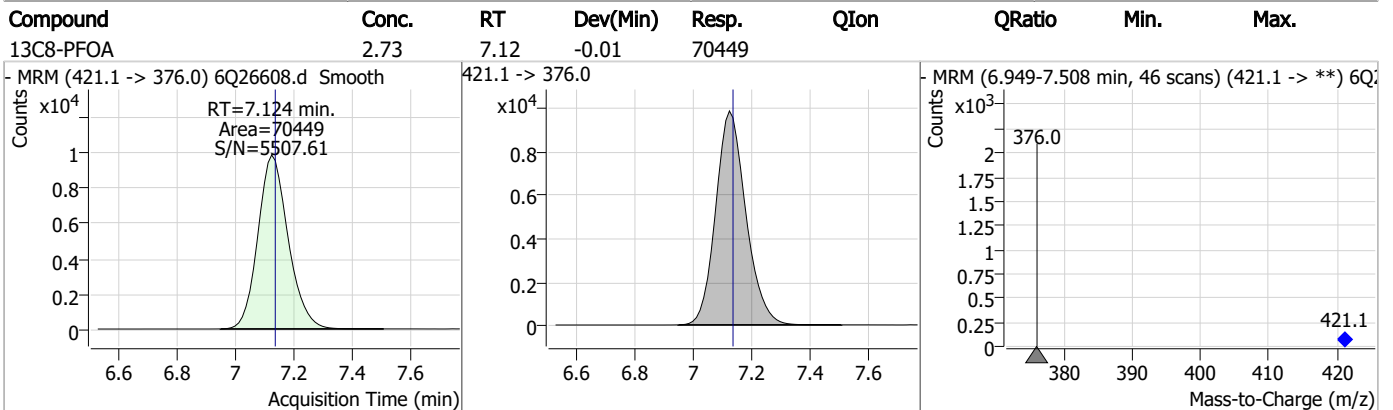
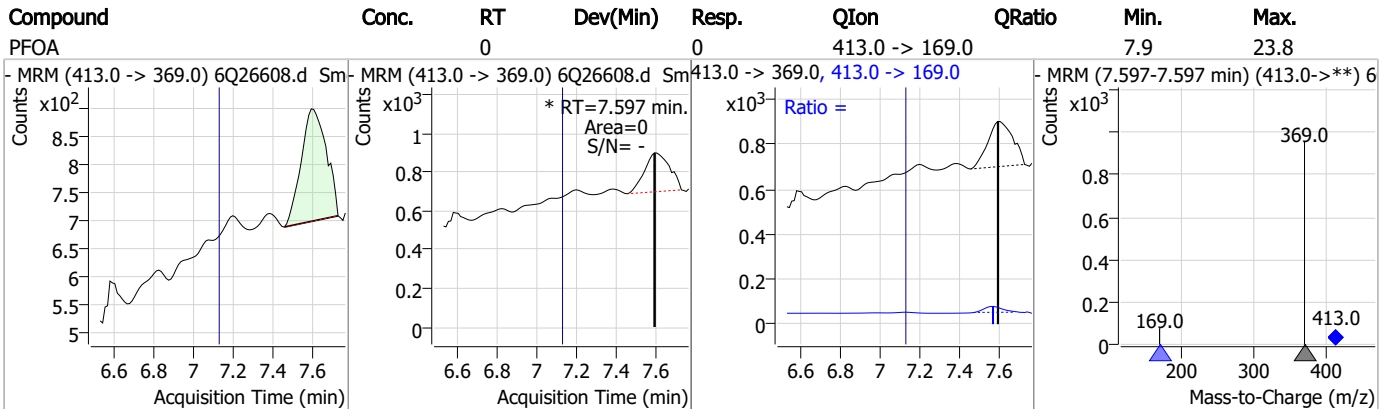
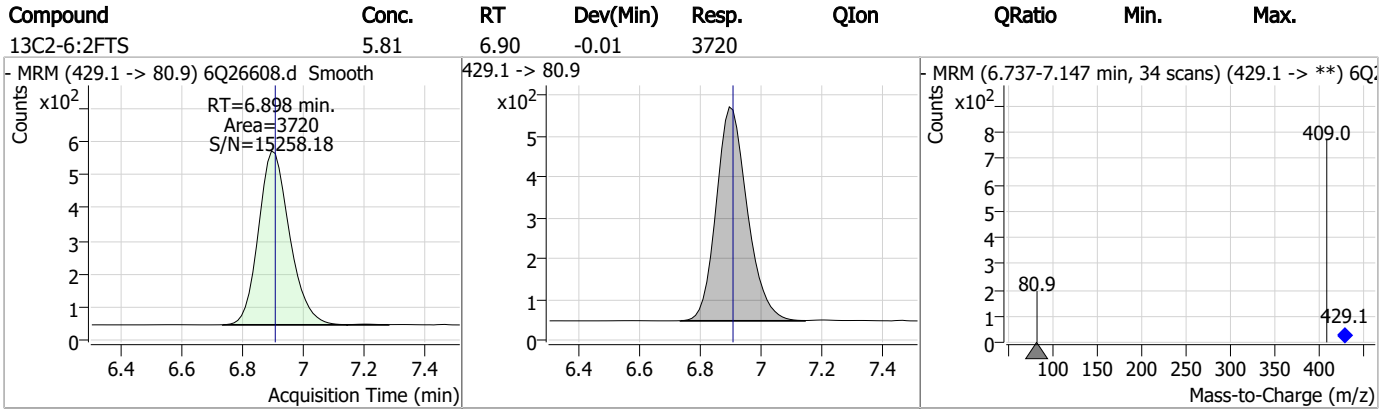


### Perfluorinated Compounds by LC/MS/MS

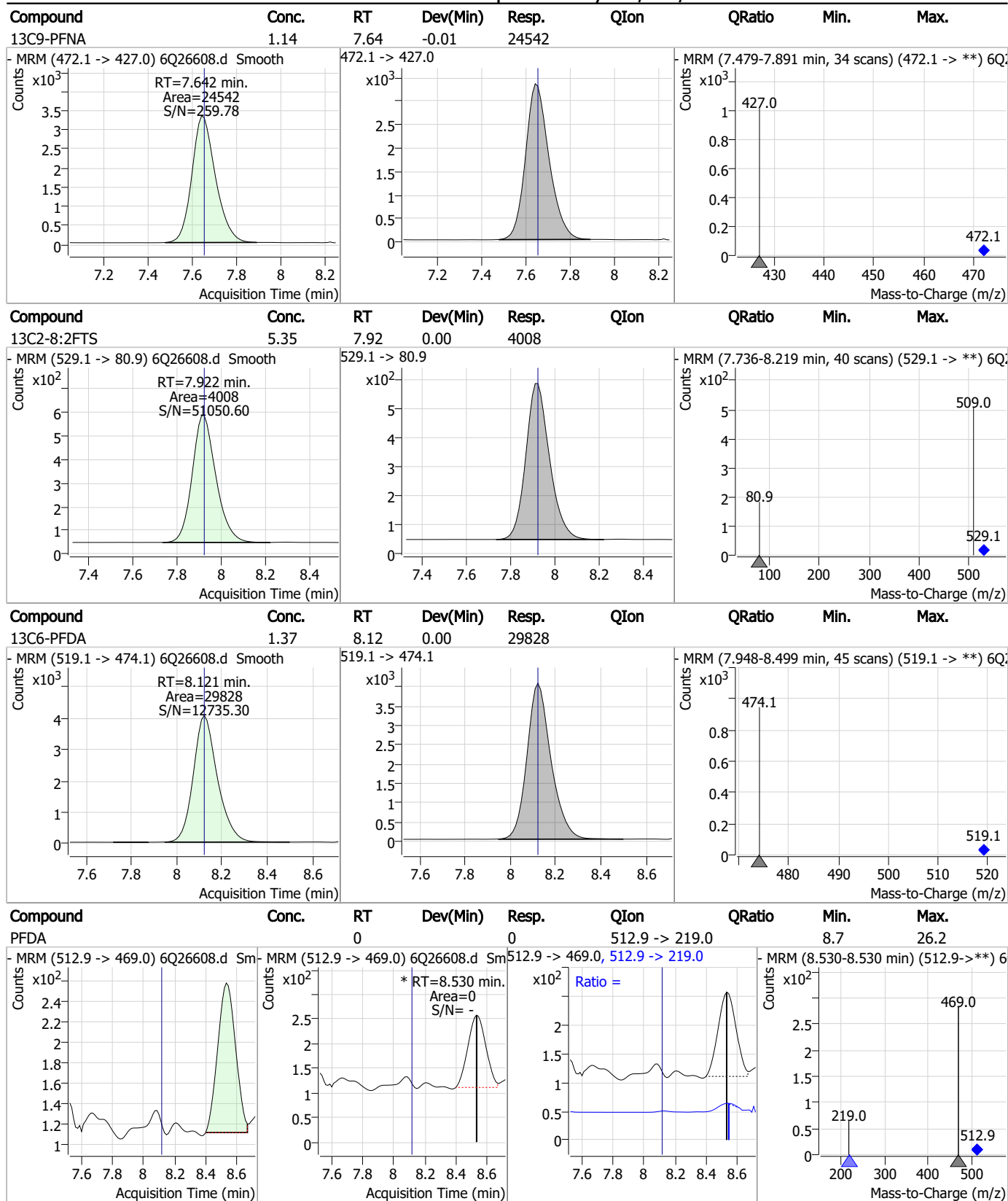


7.2.7

### Perfluorinated Compounds by LC/MS/MS



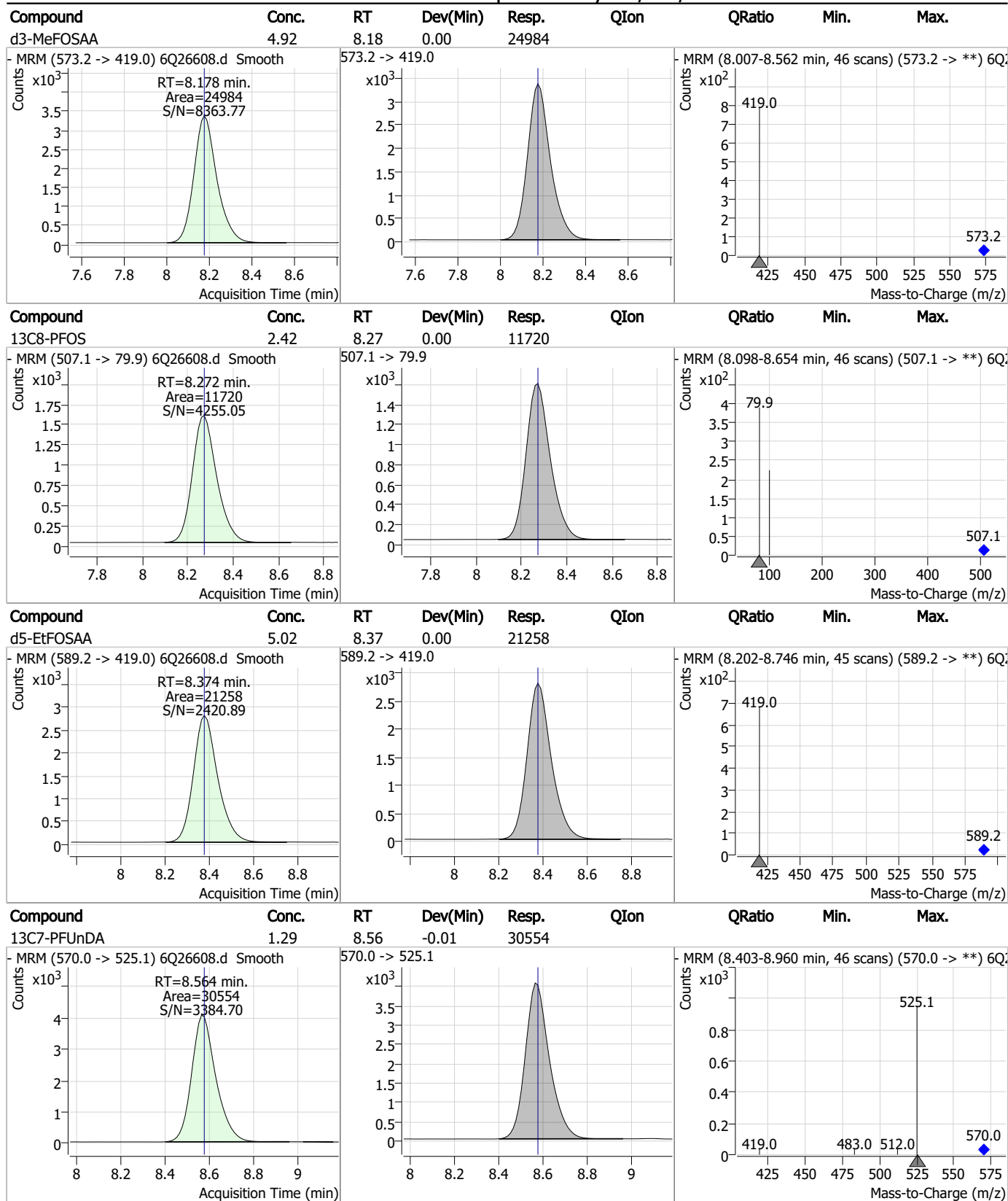
### Perfluorinated Compounds by LC/MS/MS



7.27  
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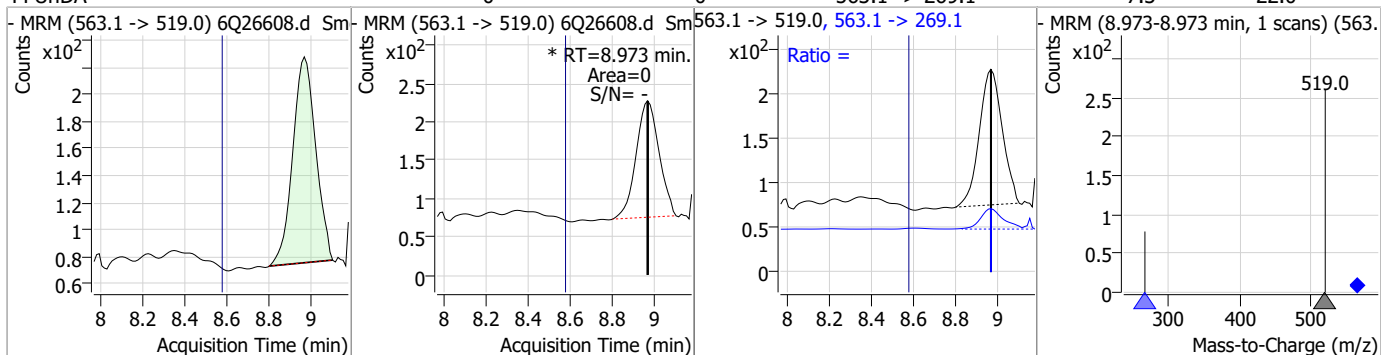
### Perfluorinated Compounds by LC/MS/MS



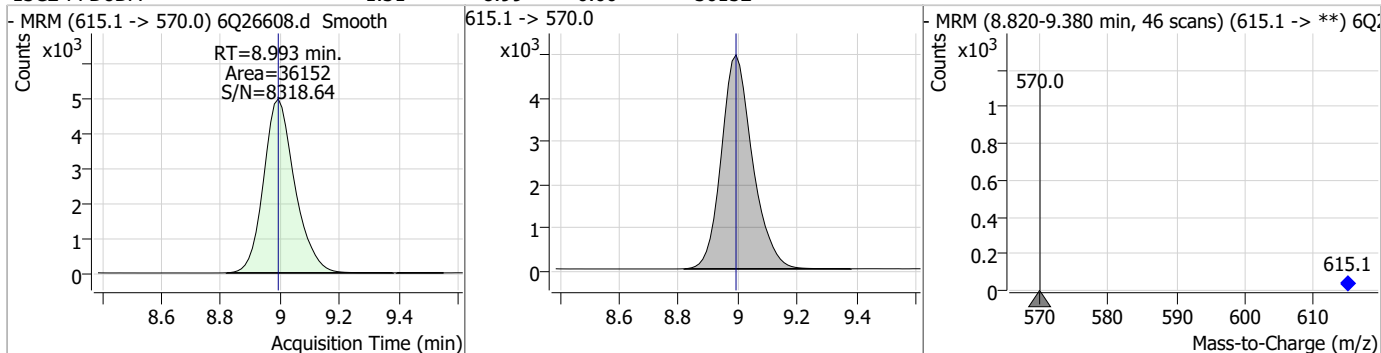
7.2.7  
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### Perfluorinated Compounds by LC/MS/MS

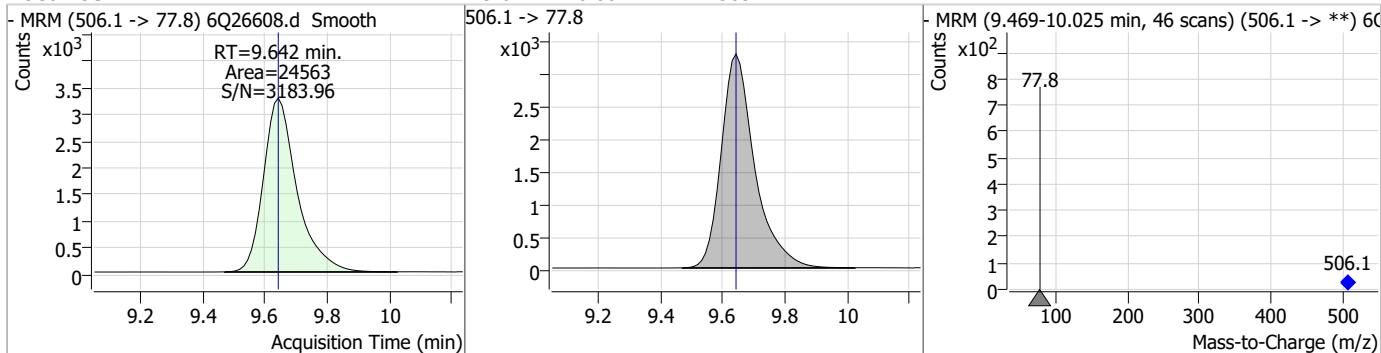
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFUnDA	0	0		0	563.1 -> 269.1		7.3	22.0



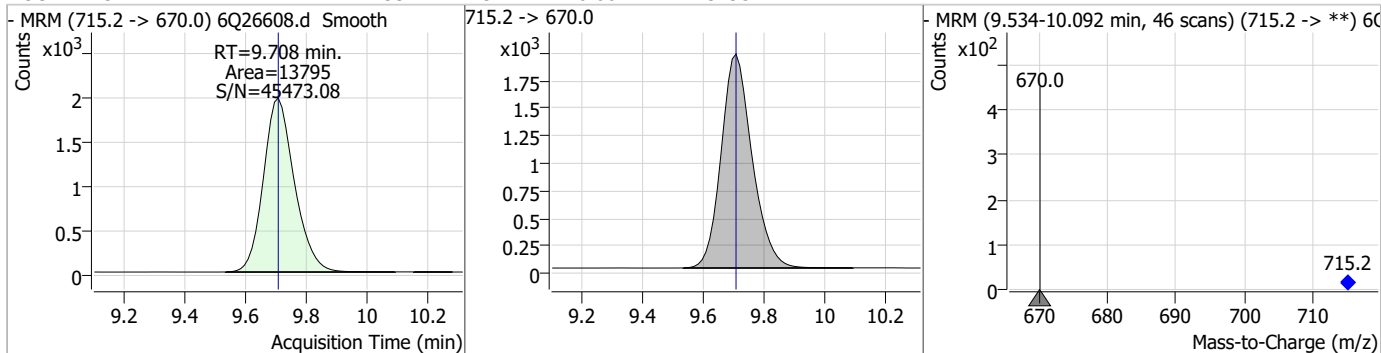
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFDoDA	1.31	8.99	0.00	36152				



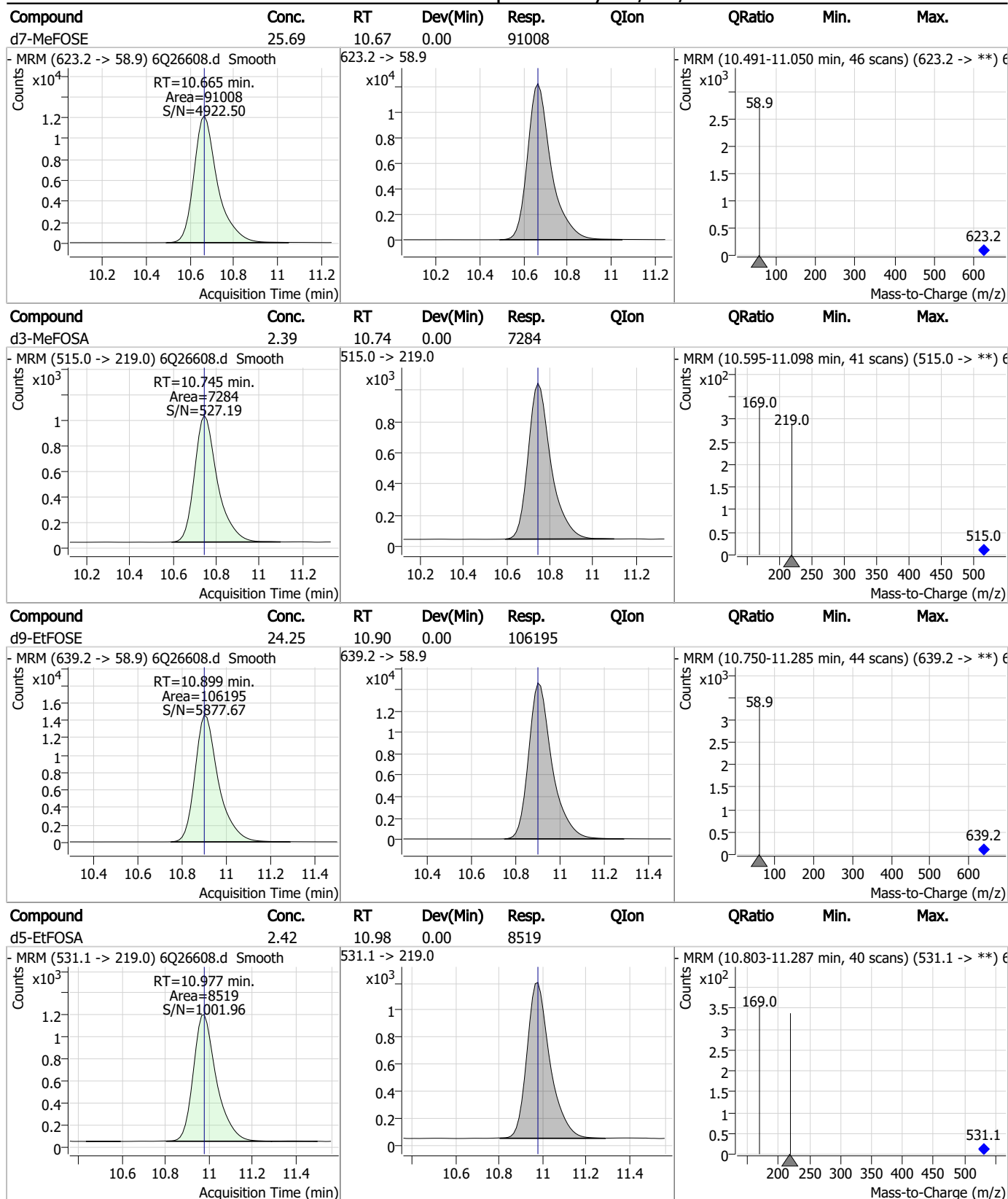
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-FOSA	2.44	9.64	0.00	24563				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFTeDA	1.33	9.71	0.00	13795				



### Perfluorinated Compounds by LC/MS/MS



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## Perfluorinated Compounds by LC/MS/MS

Data File : 6Q26675.d  
 Operator : marthav  
 Acq. Method : 1633full.m  
 Acq. Date-Time : 10/18/2023 6:51:20 PM  
 Sample Name : IBLK  
 Vial : P1-A1  
 DA Method File : 1633\_101723\_S6Q373.quantmethod.xml  
 Batch Name : S6Q373.batch.bin  
 Sample Information : OP99081,S6Q373,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
<b>Internal Standards</b>					
M4-PFBA	2.913	216.8 -> 171.9	142192	10.00 µg/L	0.000
M5-PFPeA	4.346	268.3 -> 223.0	48403	5.00 µg/L	0.000
M5-PFHxA	5.552	318.0 -> 273.0	49066	2.50 µg/L	0.000
M4-PFHpA	6.493	367.1 -> 322.0	47775	2.50 µg/L	0.000
M8-PFOA	7.124	421.1 -> 376.0	62749	2.50 µg/L	-0.012
M9-PFNA	7.642	472.1 -> 427.0	24931	1.25 µg/L	-0.012
M6-PFDA	8.121	519.1 -> 474.1	26847	1.25 µg/L	0.000
M7-PFUnDA	8.564	570.0 -> 525.1	30935	1.25 µg/L	-0.012
M2-PFDoDA	8.993	615.1 -> 570.0	34357	1.25 µg/L	0.000
M2-PFTeDA	9.708	715.2 -> 670.0	12780	1.25 µg/L	0.000
M8-FOSA	9.642	506.1 -> 77.8	24538	2.50 µg/L	0.000
M3-PFBS	5.471	302.1 -> 79.9	20580	2.50 µg/L	0.000
M3-PFHxS	7.227	402.1 -> 79.9	11423	2.50 µg/L	0.000
M8-PFOS	8.272	507.1 -> 79.9	12227	2.50 µg/L	0.000
M2-4:2FTS	5.228	329.1 -> 80.9	2479	5.00 µg/L	0.000
M2-6:2FTS	6.898	429.1 -> 80.9	3364	5.00 µg/L	-0.012
M2-8:2FTS	7.922	529.1 -> 80.9	3983	5.00 µg/L	0.000
M3-MeFOSAA	8.178	573.2 -> 419.0	24412	5.00 µg/L	0.000
M3-HFPO-DA	5.918	286.9 -> 168.9	31632	10.00 µg/L	0.000
M5-EtFOSAA	8.374	589.2 -> 419.0	21646	5.00 µg/L	0.000
M7-MeFOSE	10.665	623.2 -> 58.9	88684	25.00 µg/L	0.000
M9-EtFOSE	10.899	639.2 -> 58.9	110873	25.00 µg/L	0.000
M5-EtFOSA	10.977	531.1 -> 219.0	8619	2.50 µg/L	0.000
M3-MeFOSA	10.745	515.0 -> 219.0	7579	2.50 µg/L	0.000
13C4-PFOS	8.273	502.8 -> 79.9	11093	2.50 µg/L	0.000
13C3-PFBA	2.916	216.0 -> 172.0	58501	5.00 µg/L	0.000
18O2-PFHxS	7.226	403.0 -> 83.9	7580	2.50 µg/L	0.000
13C4-PFOA	7.125	417.1 -> 372.0	72317	2.50 µg/L	0.000
13C2-PFDA	8.122	515.1 -> 470.1	27348	1.25 µg/L	0.000
13C5-PFNA	7.642	468.0 -> 423.0	24624	1.25 µg/L	-0.012
13C2-PFHxA	5.553	315.1 -> 270.0	47635	2.50 µg/L	0.000
<b>System Monitoring Compounds</b>					
13C2-4:2FTS	5.228	329.1 -> 80.9	2479	5.24 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 104.7%		
13C2-6:2FTS	6.898	429.1 -> 80.9	3364	5.03 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 100.6%		
13C2-8:2FTS	7.922	529.1 -> 80.9	3983	5.09 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 101.7%		
13C2-PFDoDA	8.993	615.1 -> 570.0	34357	1.16 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 93.0%		
13C2-PFTeDA	9.708	715.2 -> 670.0	12780	1.15 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 92.3%		
13C3-PFBS	5.471	302.1 -> 79.9	20580	2.45 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 98.1%		
13C3-PFHxS	7.227	402.1 -> 79.9	11423	2.30 µg/L	0.000

7.2.8  
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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 = 92.1%		
13C4-PFBA	2.913	216.8 -> 171.9	142192	9.86	µg/L	0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 98.6%		
13C4-PFHpA	6.493	367.1 -> 322.0	47775	2.47	µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 98.9%		
13C5-PFHxA	5.552	318.0 -> 273.0	49066	2.57	µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 102.8%		
13C5-PFPeA	4.346	268.3 -> 223.0	48403	5.04	µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 100.9%		
13C6-PFDA	8.121	519.1 -> 474.1	26847	1.15	µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 92.2%		
13C7-PFUnDA	8.564	570.0 -> 525.1	30935	1.23	µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 98.0%		
13C8-FOSA	9.642	506.1 -> 77.8	24538	2.40	µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 96.2%		
13C8-PFOA	7.124	421.1 -> 376.0	62749	2.43	µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 97.0%		
13C8-PFOS	8.272	507.1 -> 79.9	12227	2.49	µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 99.7%		
13C9-PFNA	7.642	472.1 -> 427.0	24931	1.18	µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 94.2%		
d3-MeFOSAA	8.178	573.2 -> 419.0	24412	4.74	µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 94.9%		
13C3-HFPO-DA	5.918	286.9 -> 168.9	31632	10.10	µg/L	0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 101.0%		
d3-MeFOSA	10.745	515.0 -> 219.0	7579	2.46	µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 98.3%		
d5-EtFOSAA	8.374	589.2 -> 419.0	21646	5.05	µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 101.1%		
d7-MeFOSE	10.665	623.2 -> 58.9	88684	24.73	µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 98.9%		
d9-EtFOSE	10.899	639.2 -> 58.9	110873	25.01	µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 100.0%		
d5-EtFOSA	10.977	531.1 -> 219.0	8619	2.41	µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 96.6%		

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	8.530	512.9 -> 469.0	0	µg/L	m	1
		512.9 -> 219.0	0			
PFDODA	9.380	613.1 -> 569.0	0	µg/L	m	1
		613.1 -> 319.0	0			
PFDS	-	599.0 -> 79.9	-	N.D.		

Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
PFHpA	7.042	599.0 -> 98.8				
		363.1 -> 319.0	0	µg/L	m	1
PFHpS	-	363.1 -> 169.0	0			
		449.0 -> 79.9	-	N.D.		
PFHxA	-	449.0 -> 98.9				
		313.0 -> 269.0	-	N.D.		
PFHxS	-	313.0 -> 118.9				
		398.7 -> 79.9	-	N.D.		
PFNA	8.052	398.7 -> 98.9				
		463.0 -> 419.0	0	µg/L	m	1
PFNS	-	463.0 -> 219.0	0			
		548.8 -> 79.9	-	N.D.		
PFOA	7.572	548.8 -> 98.9				
		413.0 -> 369.0	0	µg/L	m	1
PFOS	-	413.0 -> 169.0	0			
		498.9 -> 79.9	-	N.D.		
PFPeA	-	498.9 -> 98.8				
		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	8.973	563.1 -> 519.0	0	µg/L	m	1
		563.1 -> 269.1	0			
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	-	N.D.		
MeFOSA	-	511.9 -> 169.0				
		616.1 -> 58.9	-	N.D.		
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	-	N.D.		
PFMBA	-	314.8 -> 134.9	-	N.D.		
		314.8 -> 82.9				
PFMBA	-	279.0 -> 85.1	-	N.D.		
		229.0 -> 84.9	-	N.D.		
PFMPA	-	314.8 -> 134.9	-	N.D.		
		314.8 -> 82.9				
PFEESA	-	279.0 -> 85.1	-	N.D.		
		229.0 -> 84.9	-	N.D.		

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

7.2.8  
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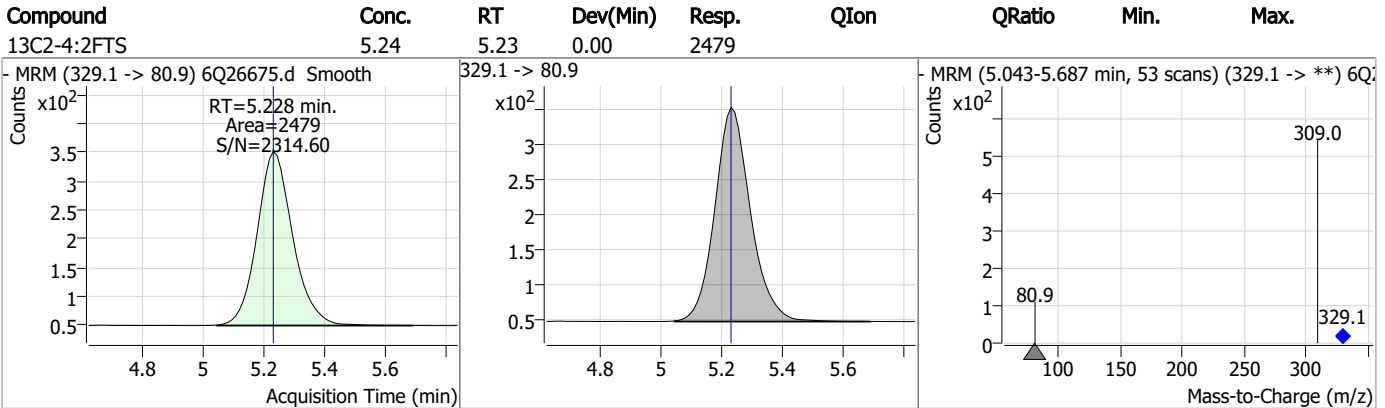
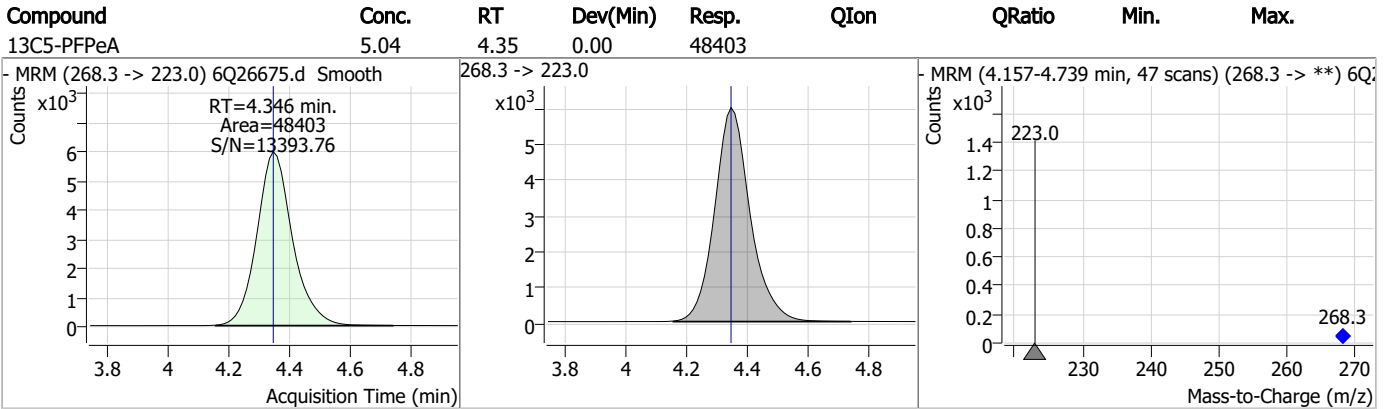
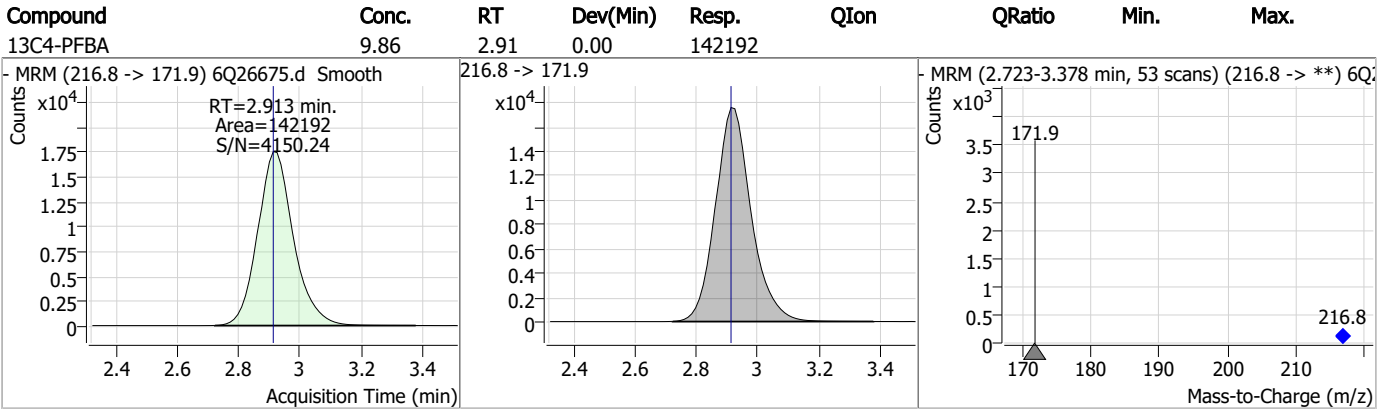
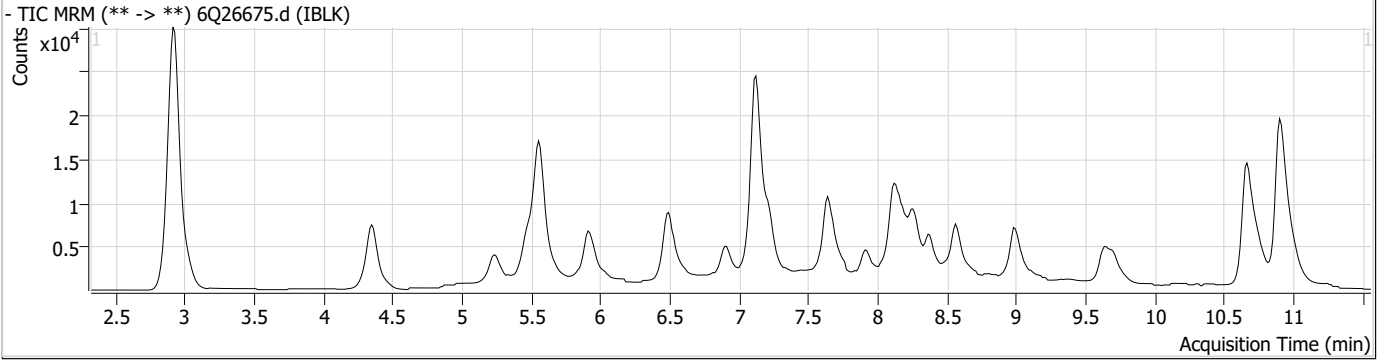
### Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
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7.2.8

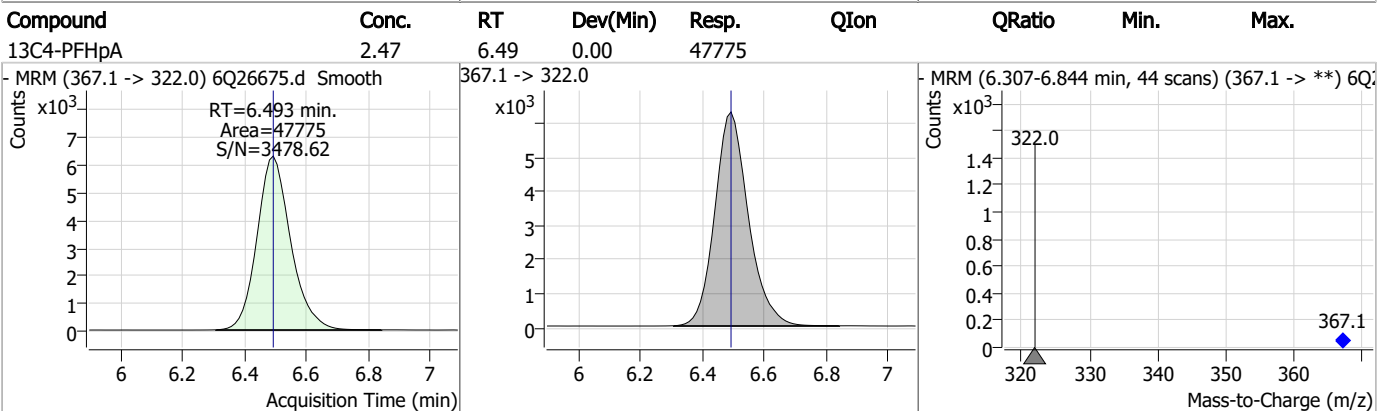
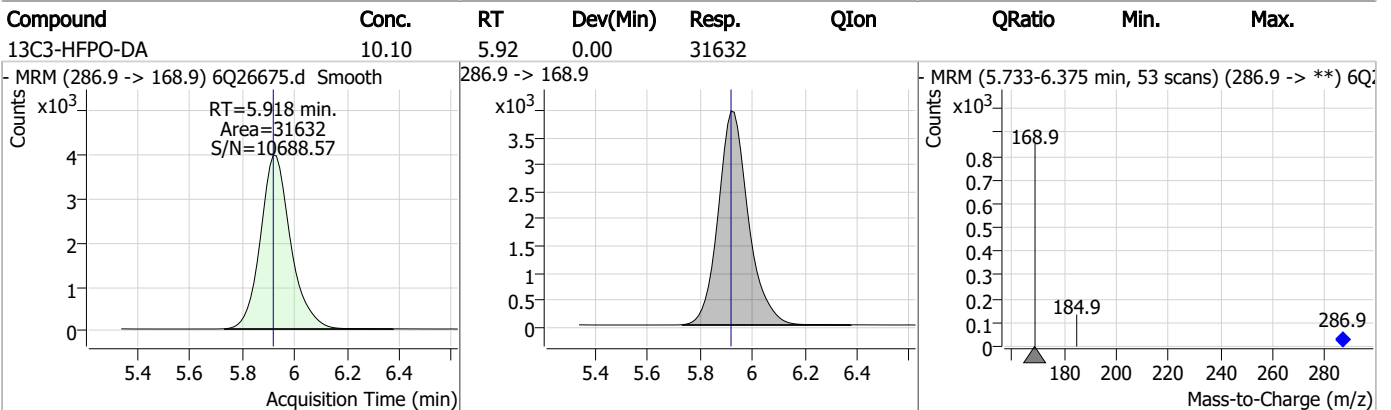
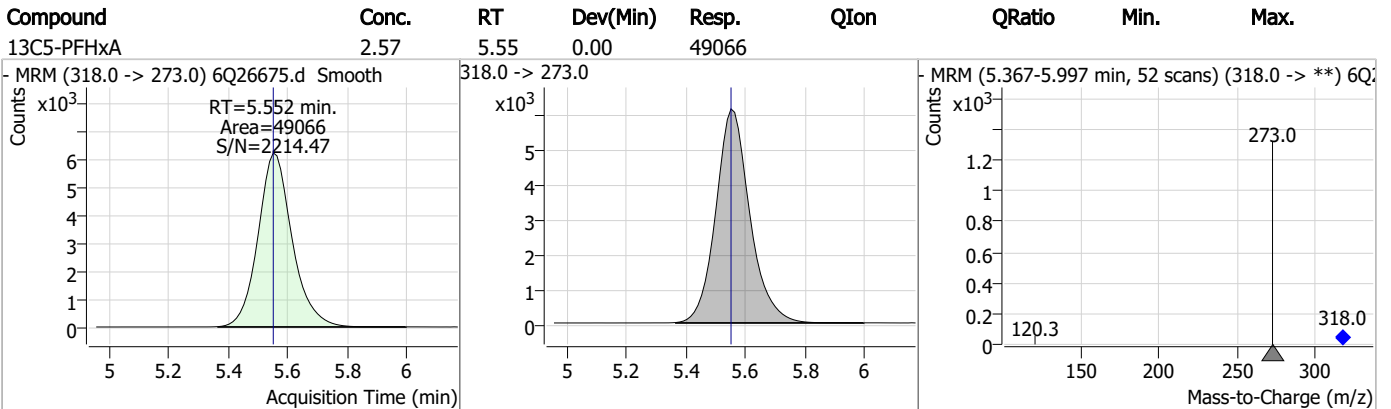
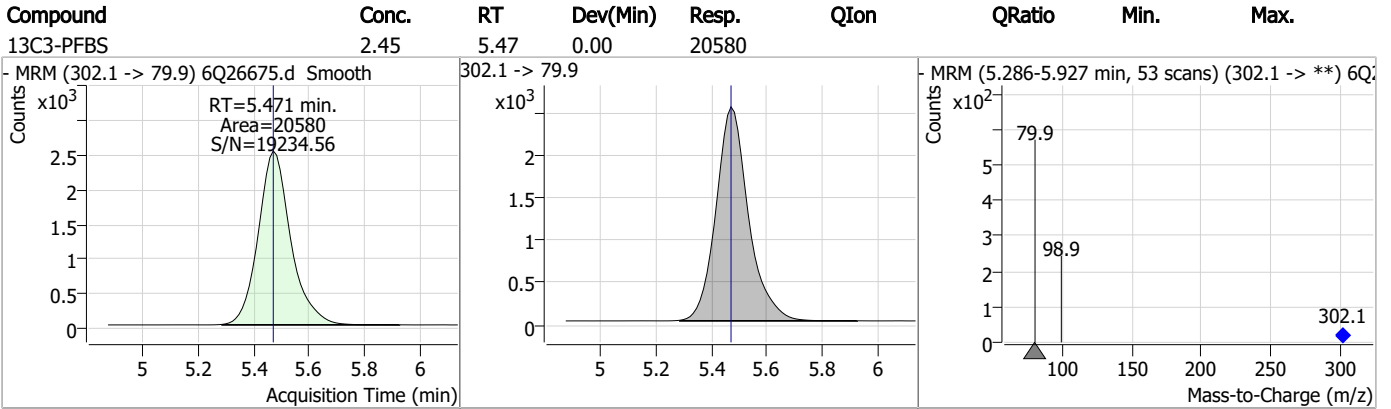
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### Perfluorinated Compounds by LC/MS/MS

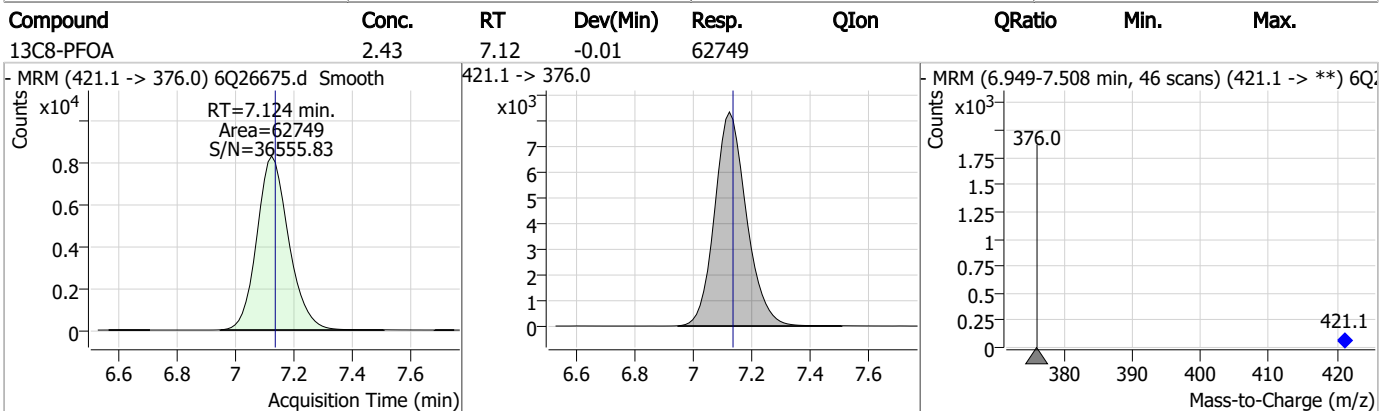
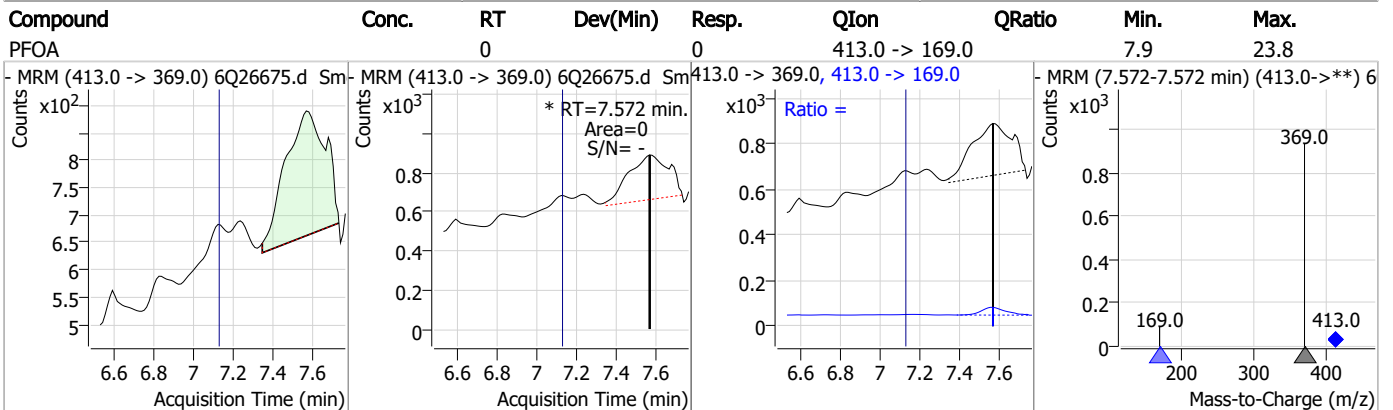
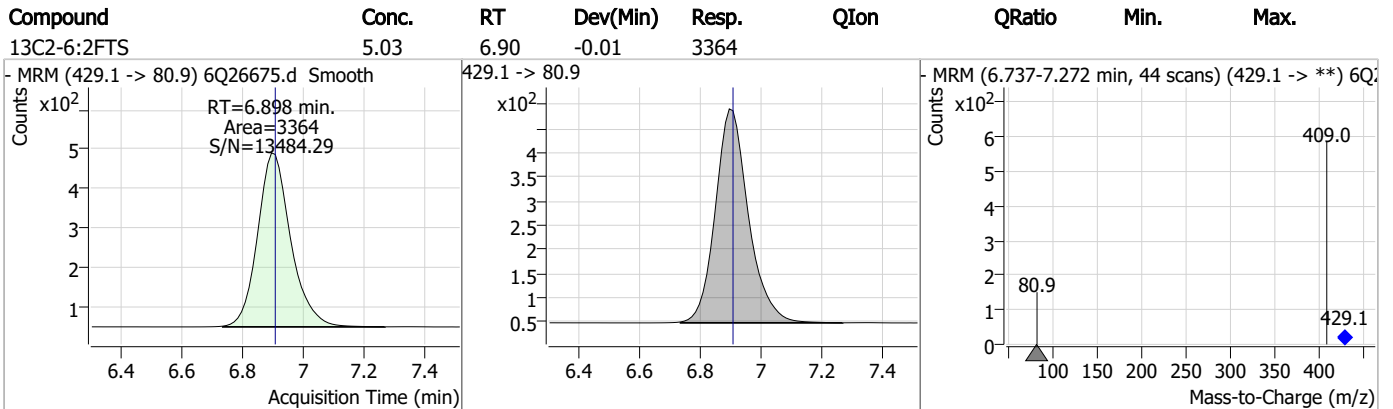
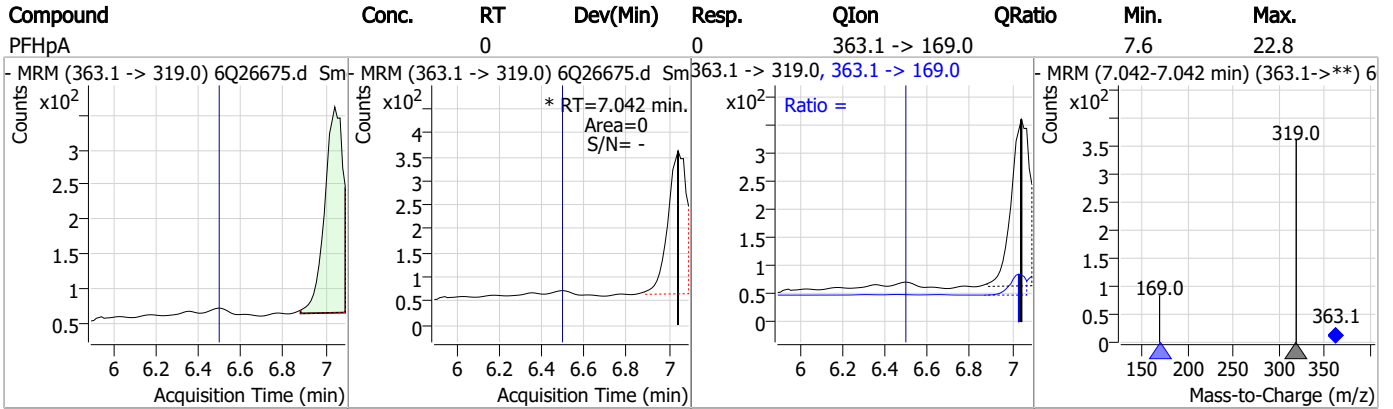




### Perfluorinated Compounds by LC/MS/MS



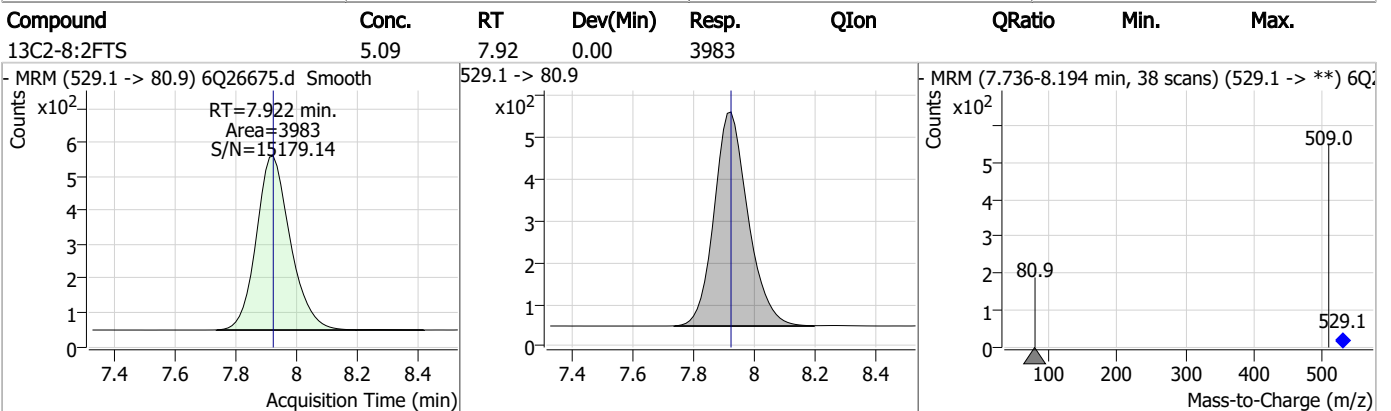
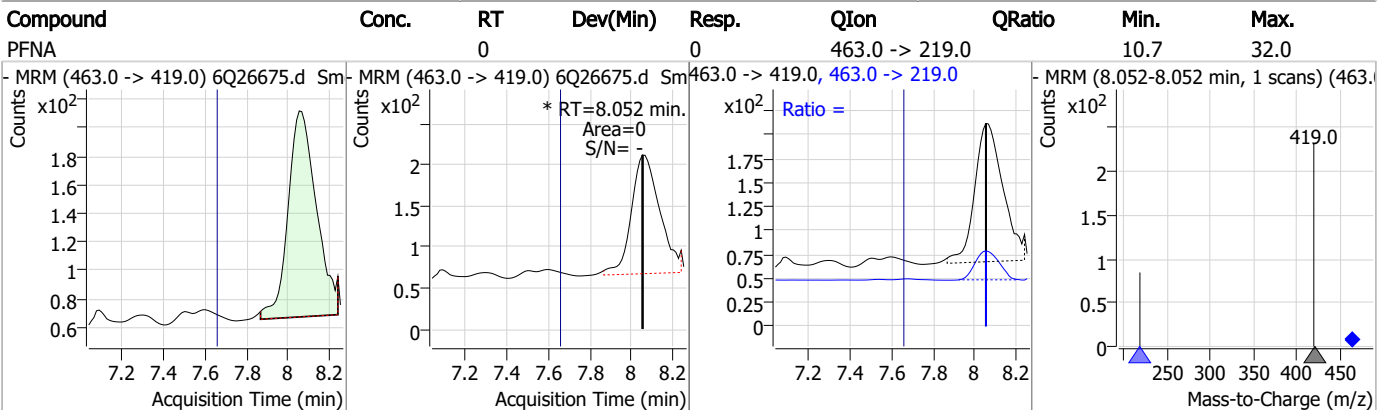
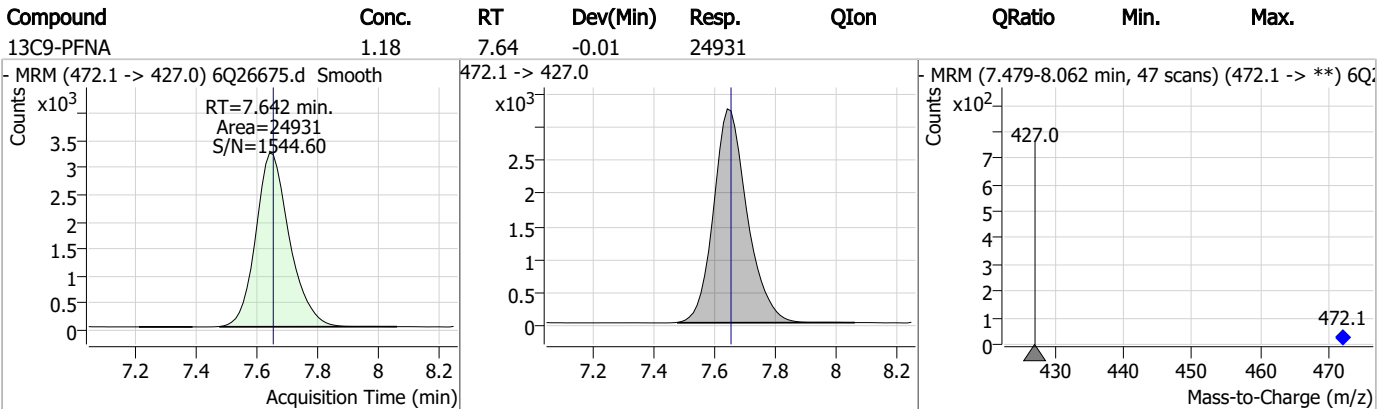
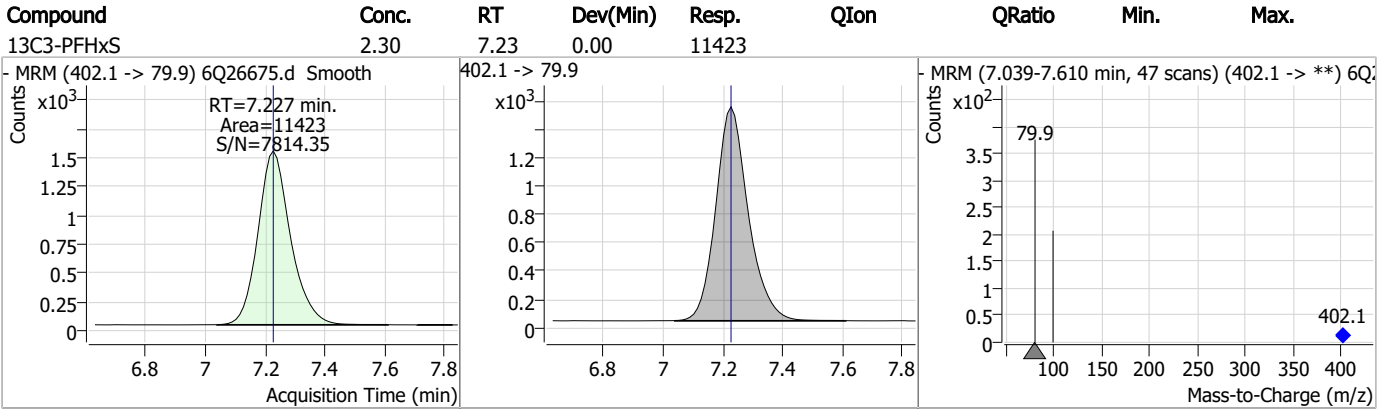
### Perfluorinated Compounds by LC/MS/MS



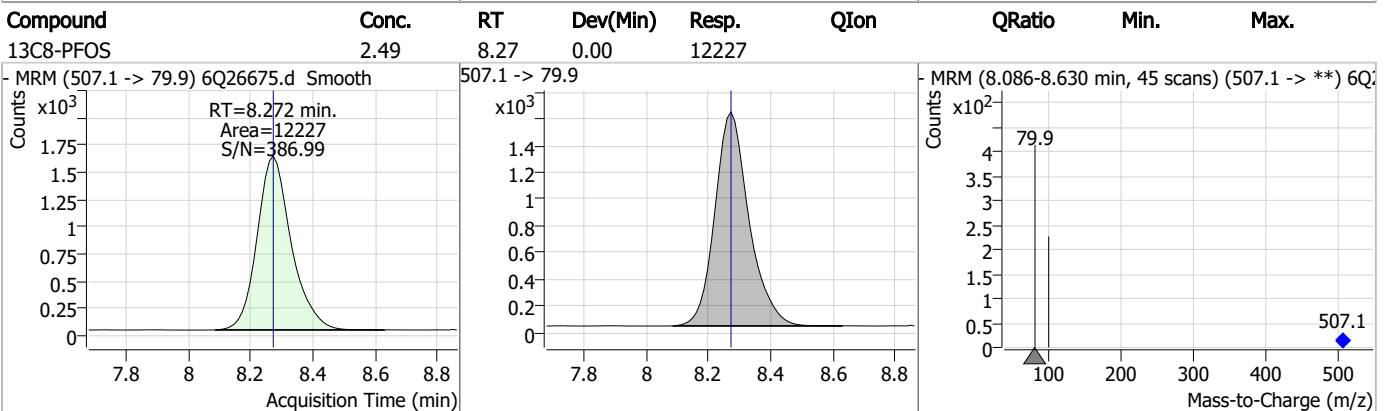
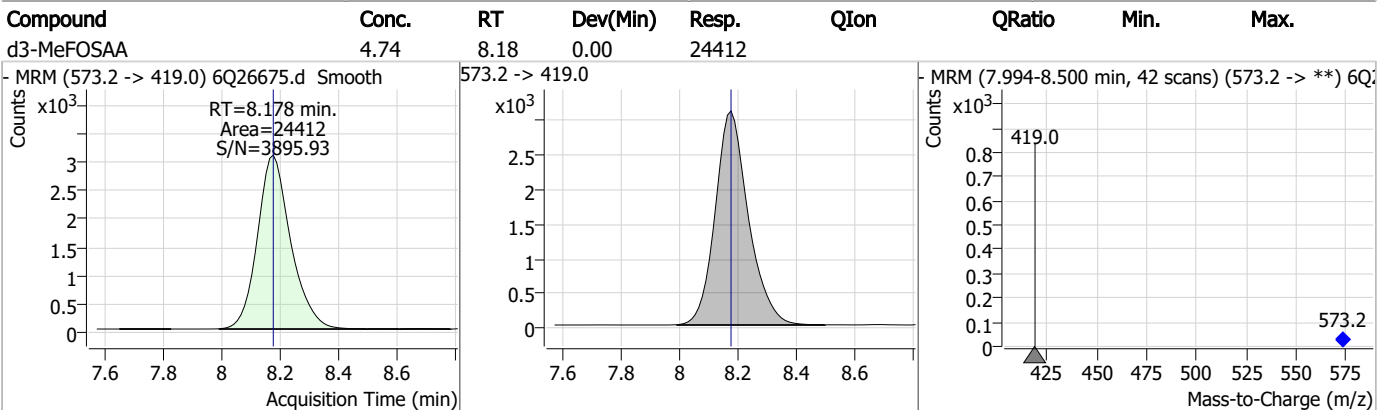
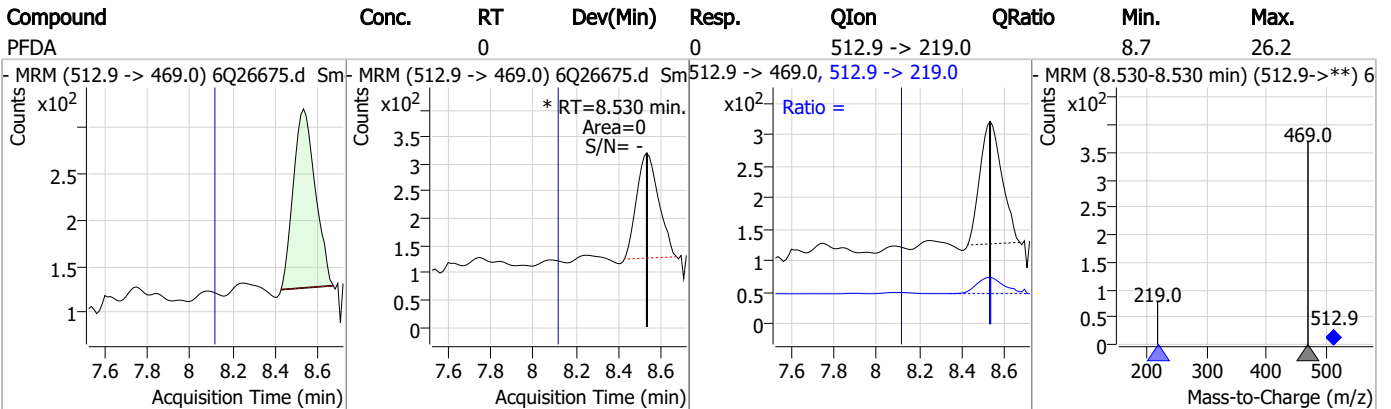
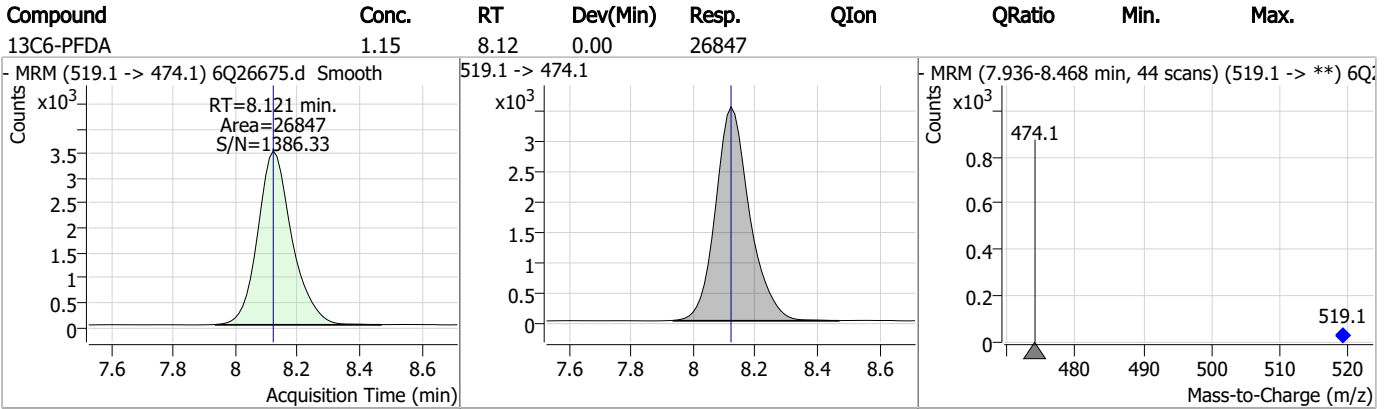
7.2.8

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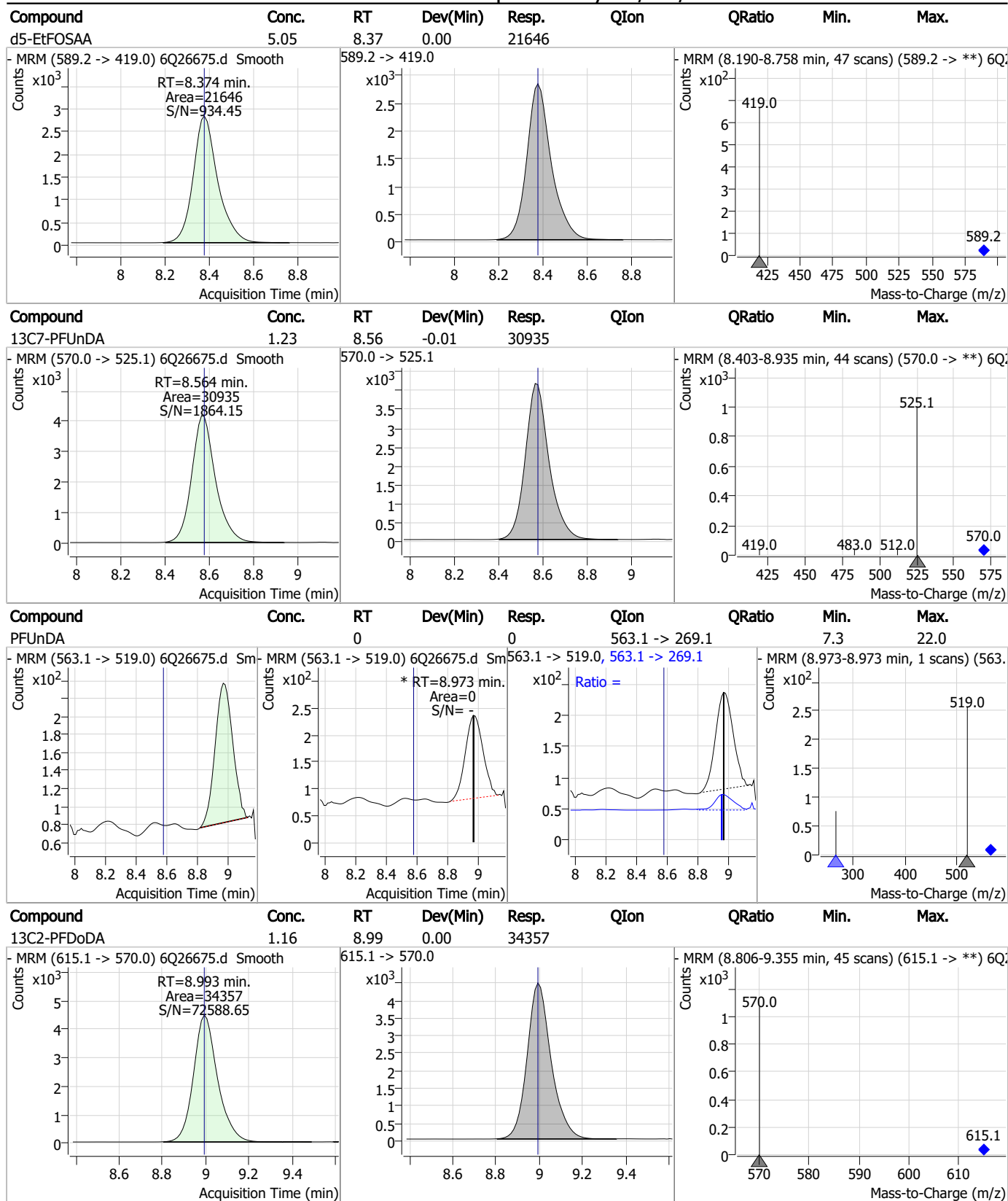
### Perfluorinated Compounds by LC/MS/MS



### Perfluorinated Compounds by LC/MS/MS



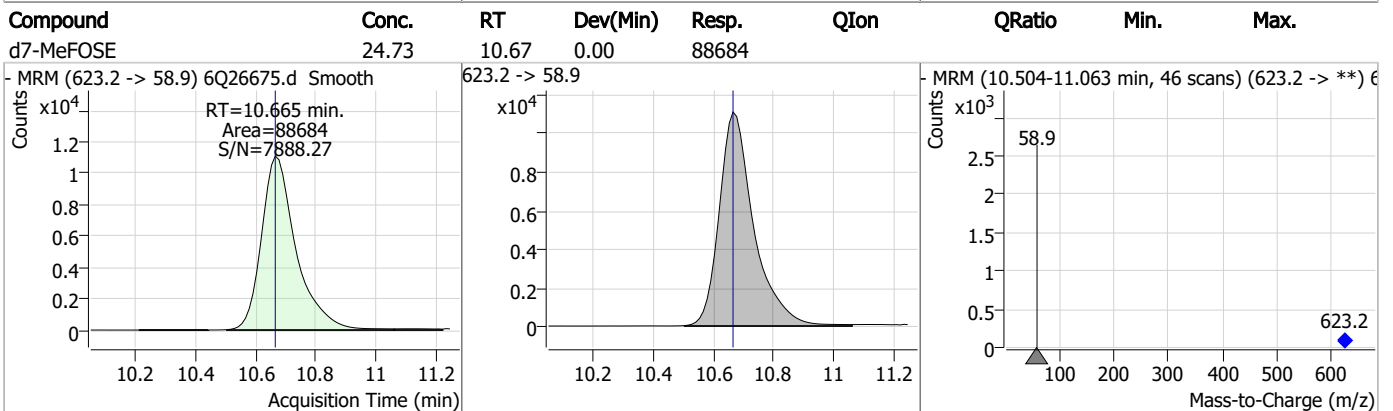
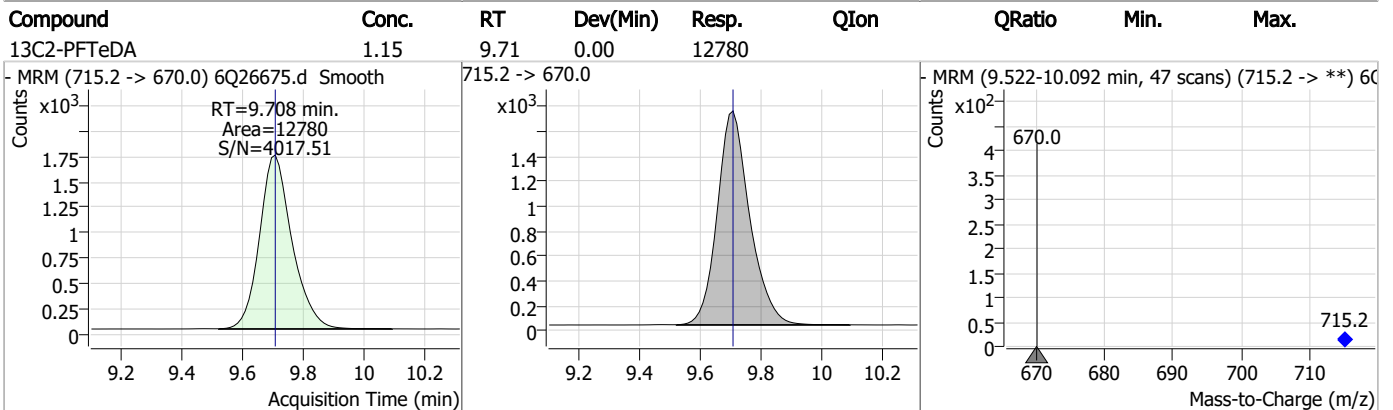
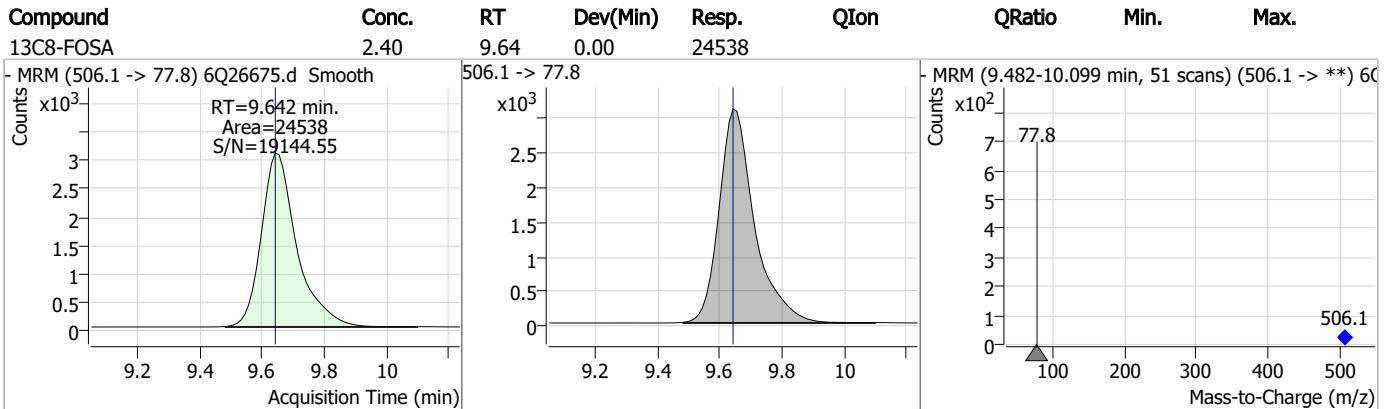
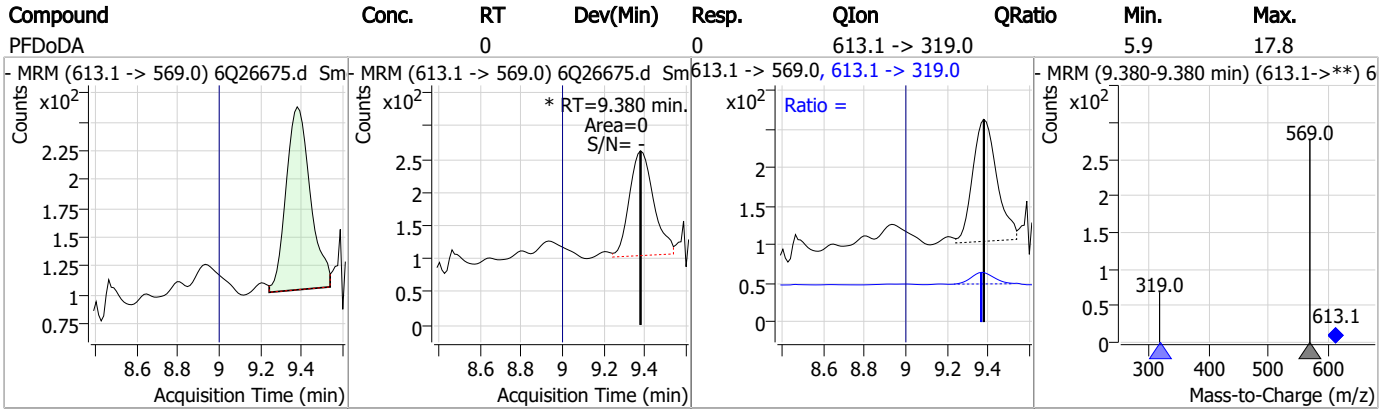
### Perfluorinated Compounds by LC/MS/MS



7.2.8  
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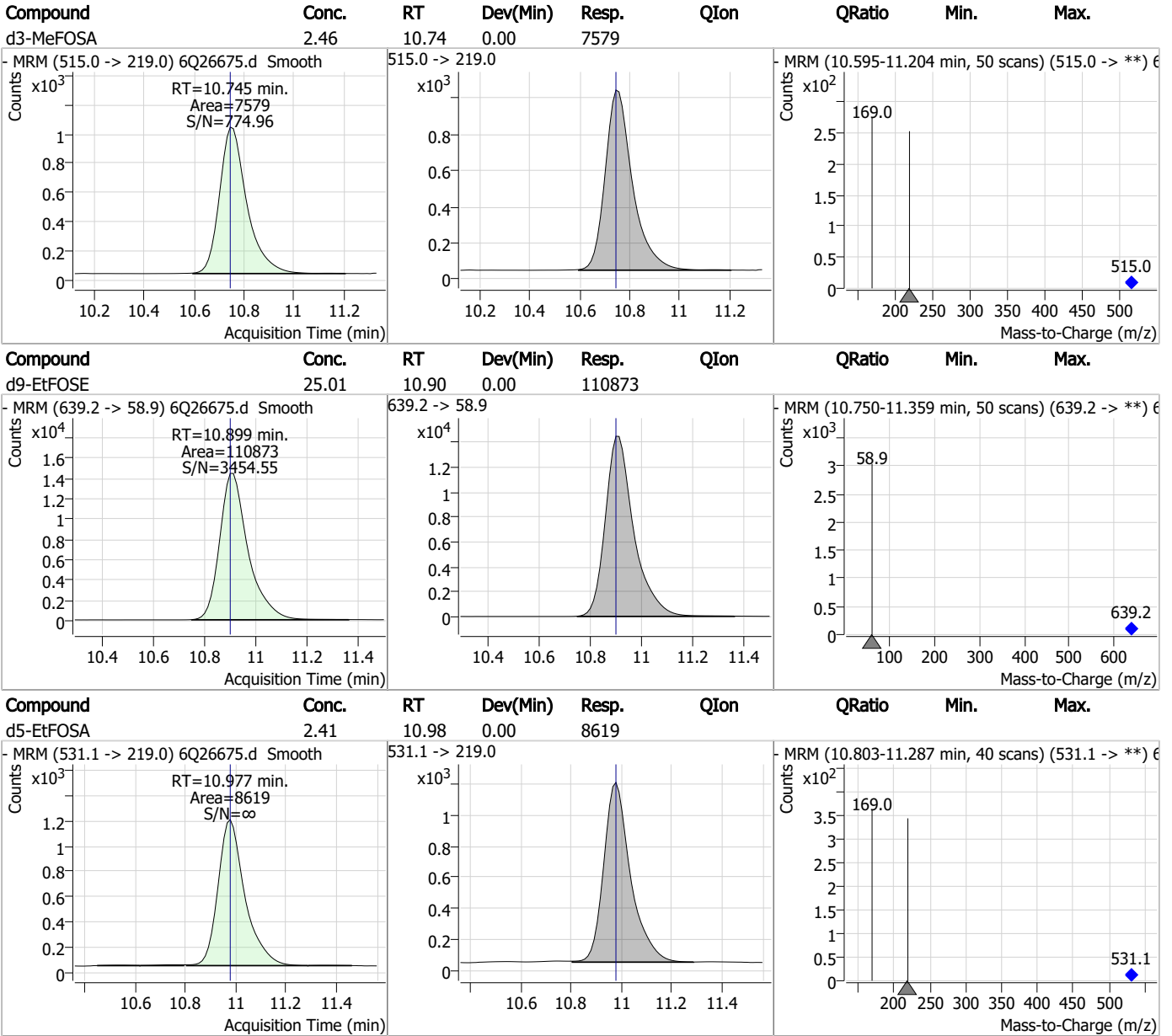
### Perfluorinated Compounds by LC/MS/MS



7.2.8

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### Perfluorinated Compounds by LC/MS/MS



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### Perfluorinated Compounds by LC/MS/MS

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 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)
<b>Internal Standards</b>					
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
<b>System Monitoring Compounds</b>					
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.	



7.2.9  
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



7.2.9  
7

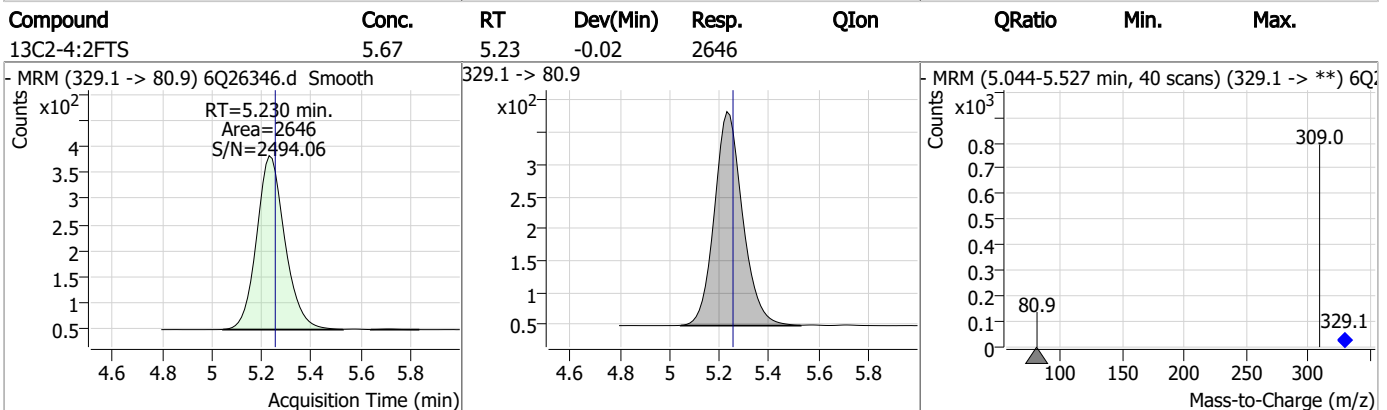
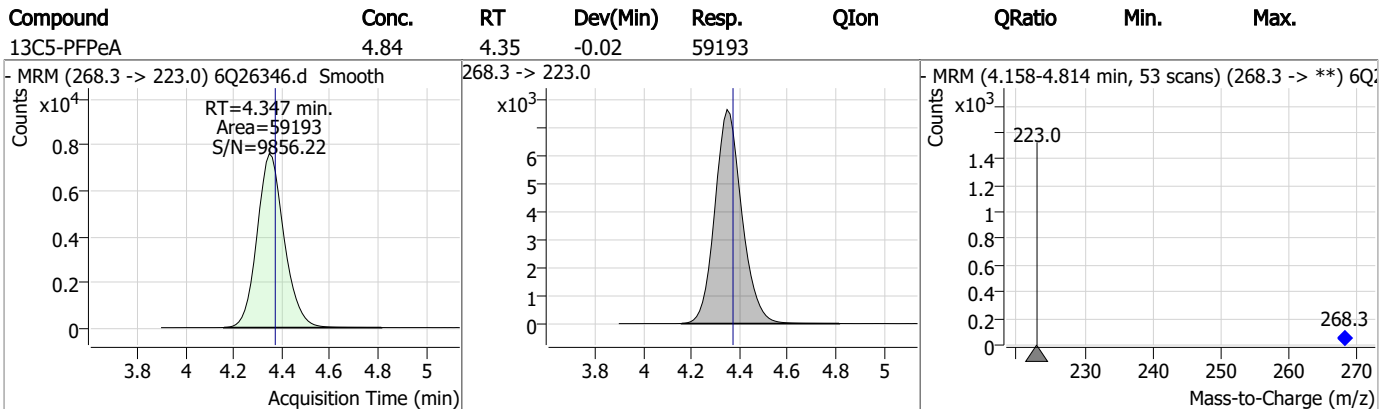
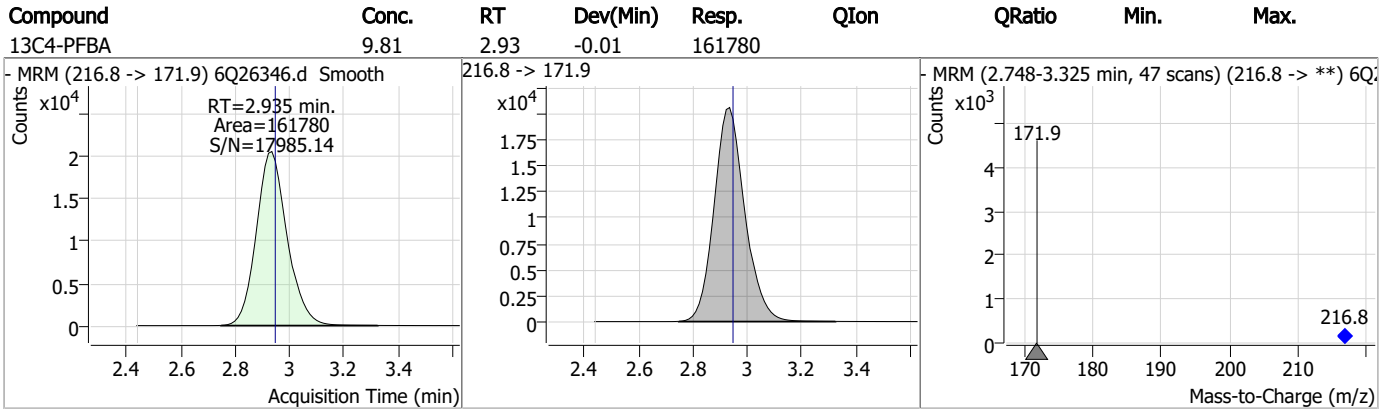
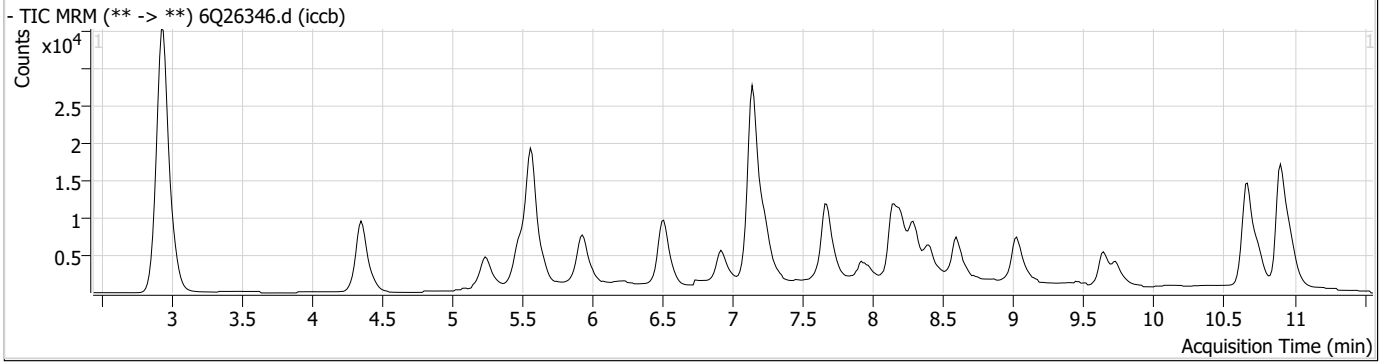
### Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
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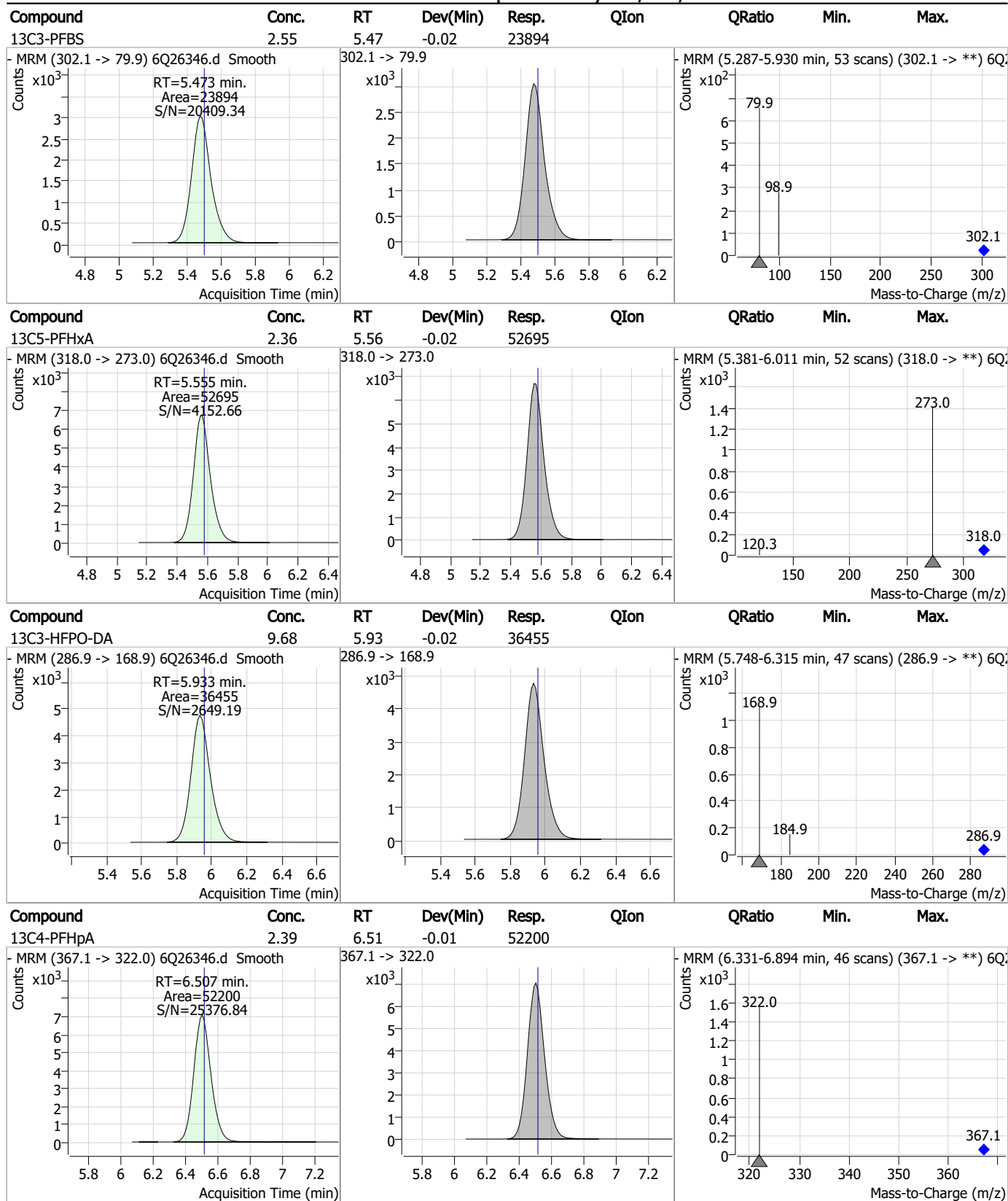
7.2.9

7

### Perfluorinated Compounds by LC/MS/MS

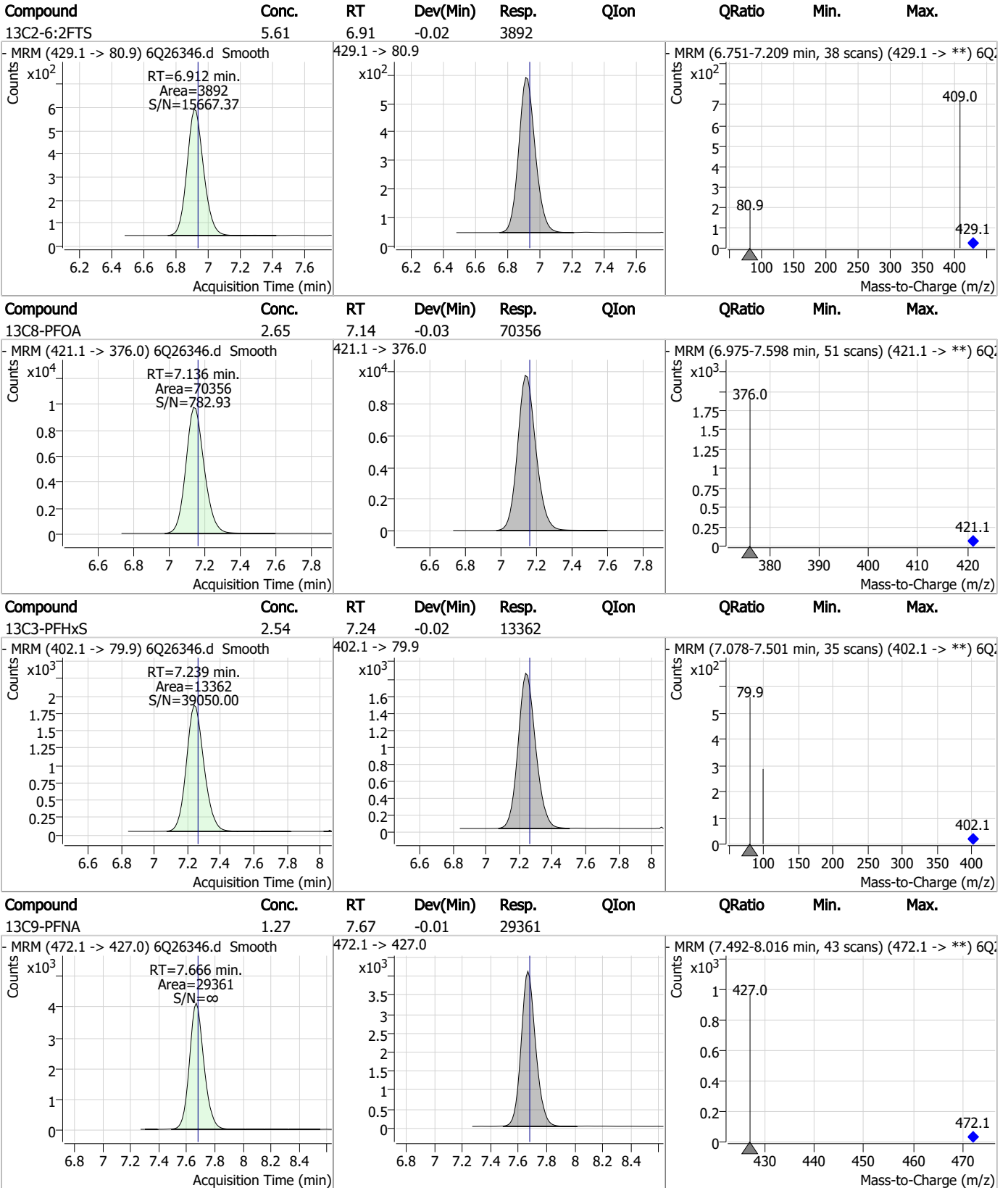


### Perfluorinated Compounds by LC/MS/MS



7.2.9  
7

Perfluorinated Compounds by LC/MS/MS

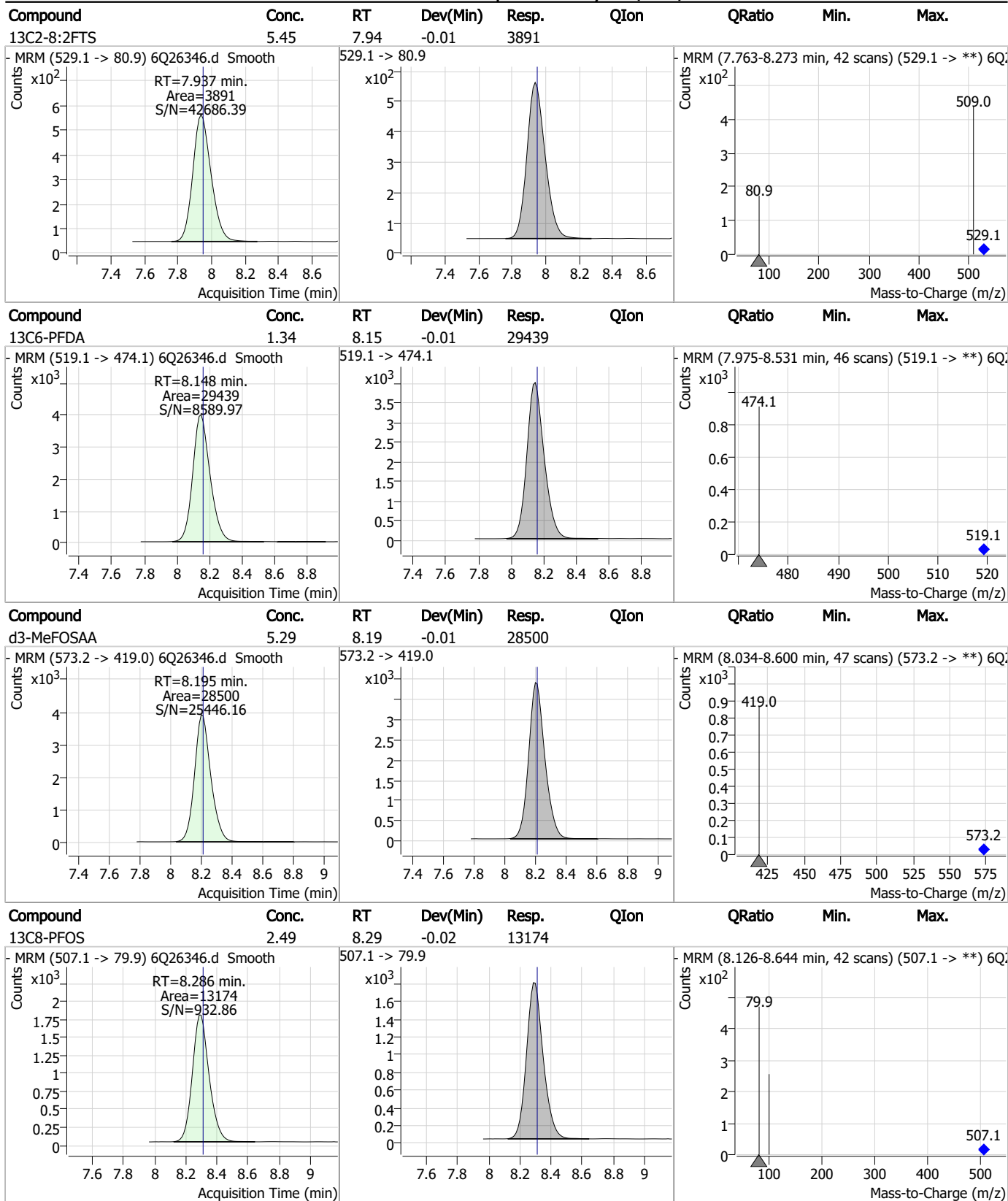


7.2.9

7

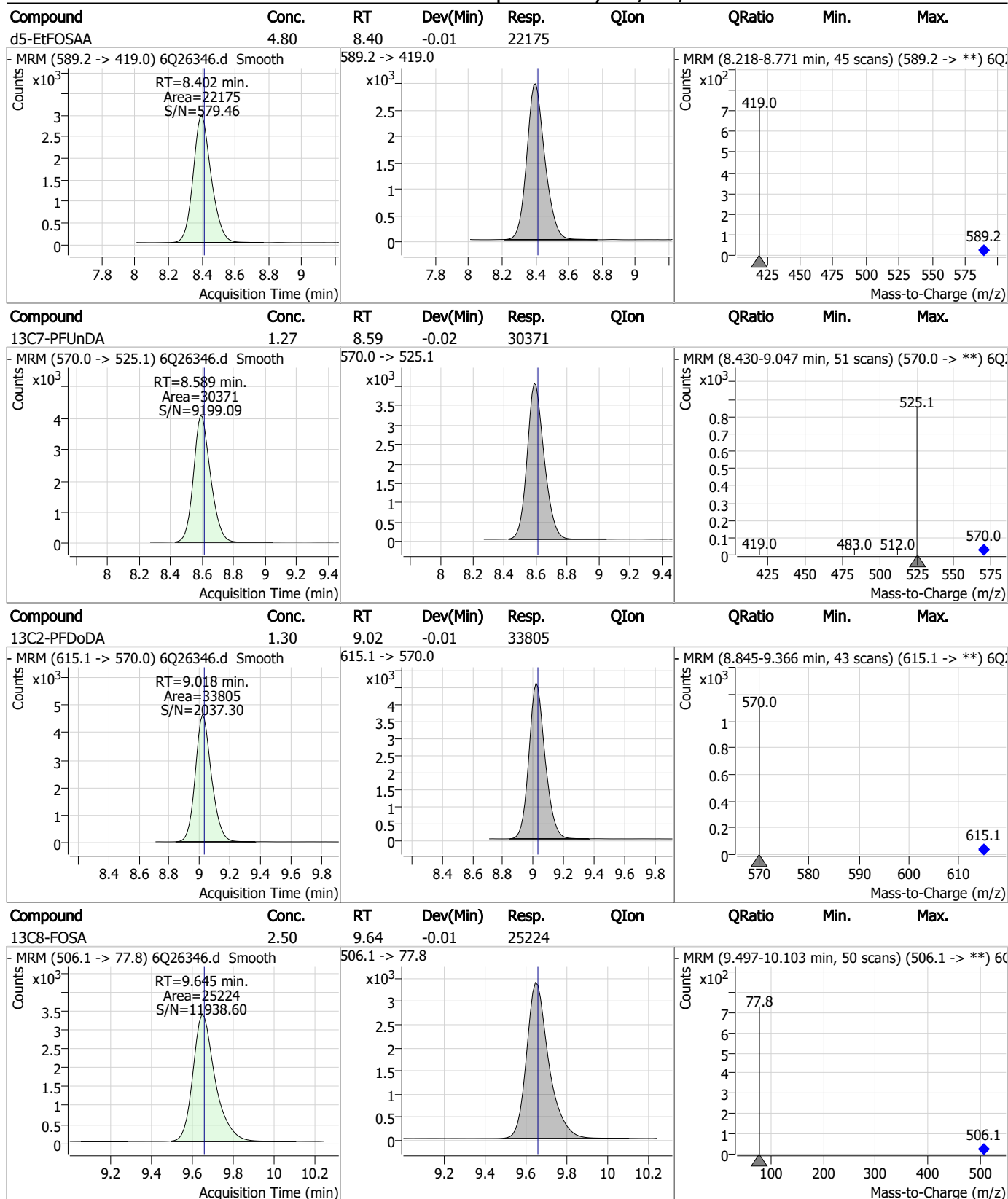


### Perfluorinated Compounds by LC/MS/MS



7.29  
7

### Perfluorinated Compounds by LC/MS/MS



7.29  
7

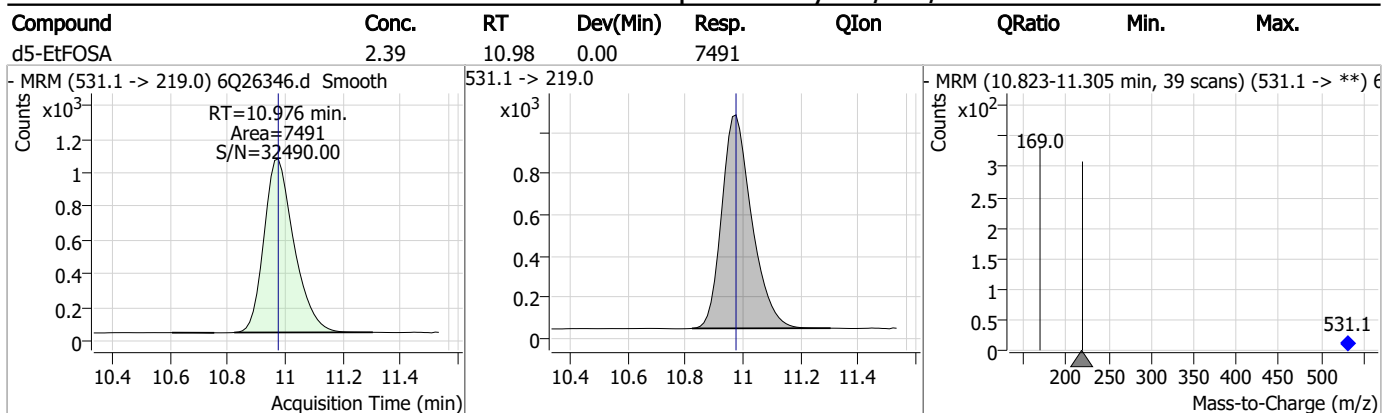


### Perfluorinated Compounds by LC/MS/MS

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				

7.2.9  
7

### Perfluorinated Compounds by LC/MS/MS



7.2.9  
7

### Perfluorinated Compounds by LC/MS/MS

Data File : 6Q26671.d  
 Operator : marthav  
 Acq. Method : 1633full.m  
 Acq. Date-Time : 10/18/2023 5:54:01 PM  
 Sample Name : iccb  
 Vial : P1-A1  
 DA Method File : 1633\_101723\_S6Q373.quantmethod.xml  
 Batch Name : S6Q373.batch.bin  
 Sample Information : OP99081,S6Q373,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
<b>Internal Standards</b>					
M4-PFBA	2.926	216.8 -> 171.9	144598	10.00 µg/L	0.012
M5-PFPeA	4.346	268.3 -> 223.0	48285	5.00 µg/L	0.000
M5-PFHxA	5.565	318.0 -> 273.0	49557	2.50 µg/L	0.012
M4-PFHpA	6.493	367.1 -> 322.0	49278	2.50 µg/L	0.000
M8-PFOA	7.136	421.1 -> 376.0	67544	2.50 µg/L	0.000
M9-PFNA	7.642	472.1 -> 427.0	23756	1.25 µg/L	-0.012
M6-PFDA	8.121	519.1 -> 474.1	27279	1.25 µg/L	0.000
M7-PFUnDA	8.564	570.0 -> 525.1	31123	1.25 µg/L	-0.012
M2-PFDoDA	8.993	615.1 -> 570.0	35327	1.25 µg/L	0.000
M2-PFTeDA	9.708	715.2 -> 670.0	13897	1.25 µg/L	0.000
M8-FOSA	9.642	506.1 -> 77.8	25656	2.50 µg/L	0.000
M3-PFBS	5.483	302.1 -> 79.9	20309	2.50 µg/L	0.012
M3-PFHxS	7.227	402.1 -> 79.9	12610	2.50 µg/L	0.000
M8-PFOS	8.272	507.1 -> 79.9	12235	2.50 µg/L	0.000
M2-4:2FTS	5.228	329.1 -> 80.9	2448	5.00 µg/L	0.000
M2-6:2FTS	6.910	429.1 -> 80.9	3848	5.00 µg/L	0.000
M2-8:2FTS	7.922	529.1 -> 80.9	3937	5.00 µg/L	0.000
M3-MeFOSAA	8.178	573.2 -> 419.0	25738	5.00 µg/L	0.000
M3-HFPO-DA	5.930	286.9 -> 168.9	30906	10.00 µg/L	0.012
M5-EtFOSAA	8.374	589.2 -> 419.0	21884	5.00 µg/L	0.000
M7-MeFOSE	10.665	623.2 -> 58.9	85626	25.00 µg/L	0.000
M9-EtFOSE	10.899	639.2 -> 58.9	110328	25.00 µg/L	0.000
M5-EtFOSA	10.977	531.1 -> 219.0	8978	2.50 µg/L	0.000
M3-MeFOSA	10.745	515.0 -> 219.0	7189	2.50 µg/L	0.000
13C4-PFOS	8.273	502.8 -> 79.9	11276	2.50 µg/L	0.000
13C3-PFBA	2.916	216.0 -> 172.0	59199	5.00 µg/L	0.000
18O2-PFHxS	7.226	403.0 -> 83.9	7230	2.50 µg/L	0.000
13C4-PFOA	7.137	417.1 -> 372.0	70806	2.50 µg/L	0.012
13C2-PFDA	8.122	515.1 -> 470.1	26002	1.25 µg/L	0.000
13C5-PFNA	7.642	468.0 -> 423.0	23006	1.25 µg/L	-0.012
13C2-PFHxA	5.565	315.1 -> 270.0	46256	2.50 µg/L	0.012
<b>System Monitoring Compounds</b>					
13C2-4:2FTS	5.228	329.1 -> 80.9	2448	5.42 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 108.4%		
13C2-6:2FTS	6.910	429.1 -> 80.9	3848	6.03 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 120.7%		
13C2-8:2FTS	7.922	529.1 -> 80.9	3937	5.27 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 105.4%		
13C2-PFDoDA	8.993	615.1 -> 570.0	35327	1.26 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 100.6%		
13C2-PFTeDA	9.708	715.2 -> 670.0	13897	1.32 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 105.5%		
13C3-PFBS	5.483	302.1 -> 79.9	20309	2.54 µg/L	0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 101.5%		
13C3-PFHxS	7.227	402.1 -> 79.9	12610	2.66 µg/L	0.000

7.2.10  
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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 = 106.6%	
13C4-PFBA	2.926	216.8 -> 171.9	144598	9.91 µg/L	0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 99.1%	
13C4-PFHpA	6.493	367.1 -> 322.0	49278	2.63 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 105.1%	
13C5-PFHxA	5.565	318.0 -> 273.0	49557	2.67 µg/L	0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 106.9%	
13C5-PFPeA	4.346	268.3 -> 223.0	48285	5.18 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 103.7%	
13C6-PFDA	8.121	519.1 -> 474.1	27279	1.23 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 98.5%	
13C7-PFUnDA	8.564	570.0 -> 525.1	31123	1.30 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 103.7%	
13C8-FOSA	9.642	506.1 -> 77.8	25656	2.47 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 98.9%	
13C8-PFOA	7.136	421.1 -> 376.0	67544	2.67 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 106.7%	
13C8-PFOS	8.272	507.1 -> 79.9	12235	2.45 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 98.2%	
13C9-PFNA	7.642	472.1 -> 427.0	23756	1.20 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 96.1%	
d3-MeFOSAA	8.178	573.2 -> 419.0	25738	4.92 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 98.4%	
13C3-HFPO-DA	5.930	286.9 -> 168.9	30906	10.16 µg/L	0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 101.6%	
d3-MeFOSA	10.745	515.0 -> 219.0	7189	2.29 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 91.7%	
d5-EtFOSAA	8.374	589.2 -> 419.0	21884	5.03 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 100.5%	
d7-MeFOSE	10.665	623.2 -> 58.9	85626	23.49 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 93.9%	
d9-EtFOSE	10.899	639.2 -> 58.9	110328	24.48 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 97.9%	
d5-EtFOSA	10.977	531.1 -> 219.0	8978	2.47 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 99.0%	

7.2.10  
7

**Target Compounds**

**QValue**

4:2FTS	-	327.1 -> 307.0 327.1 -> 80.9	-	N.D.	
6:2FTS	-	427.1 -> 407.0 427.1 -> 80.9	-	N.D.	
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	8.518	512.9 -> 469.0 512.9 -> 219.0	0 0	µg/L	m 1
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)
PFHpA	7.042	599.0 -> 98.8				
		363.1 -> 319.0	0	µg/L	m	1
PFHpS	-	363.1 -> 169.0	0			
		449.0 -> 79.9	-	N.D.		
PFHxA	-	449.0 -> 98.9				
		313.0 -> 269.0	-	N.D.		
PFHxS	-	313.0 -> 118.9				
		398.7 -> 79.9	-	N.D.		
PFNA	8.052	398.7 -> 98.9				
		463.0 -> 419.0	0	µg/L	m	1
PFNS	-	463.0 -> 219.0	0			
		548.8 -> 79.9	-	N.D.		
PFOA	7.584	548.8 -> 98.9				
		413.0 -> 369.0	0	µg/L	m	1
PFOS	-	413.0 -> 169.0	0			
		498.9 -> 79.9	-	N.D.		
PFPeA	-	498.9 -> 98.8				
		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	8.973	563.1 -> 519.0	0	µg/L	m	1
		563.1 -> 269.1	0			
11CI-PF3OUdS	-	630.9 -> 450.9	-	N.D.		
		632.9 -> 452.9				
9CI-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	-	N.D.		
MeFOSA	-	511.9 -> 169.0				
		616.1 -> 58.9	-	N.D.		
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	-	N.D.		
PFMBA	-	314.8 -> 134.9	-	N.D.		
		314.8 -> 82.9				
PFMPA	-					
PFEESA	-					

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

7.2.10  
7

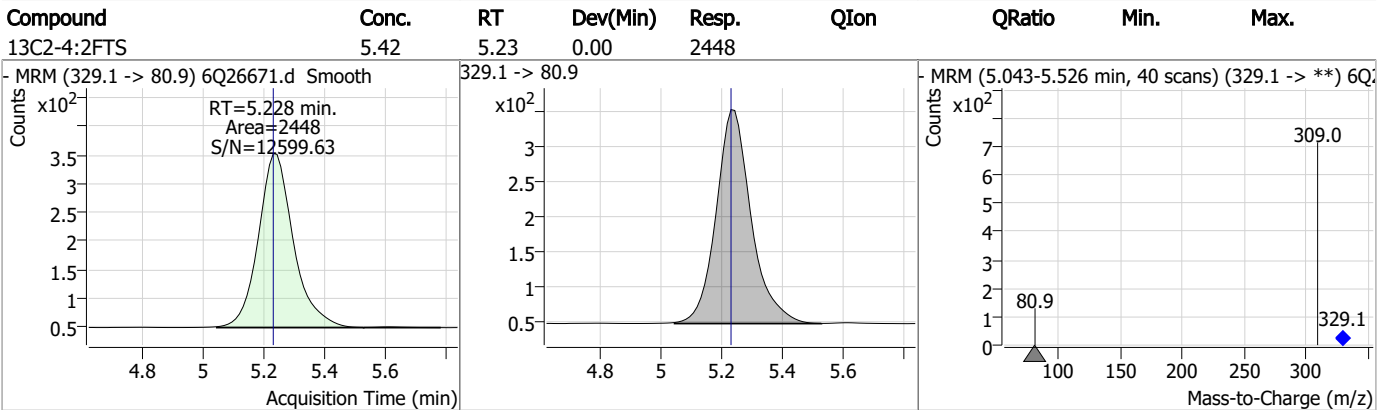
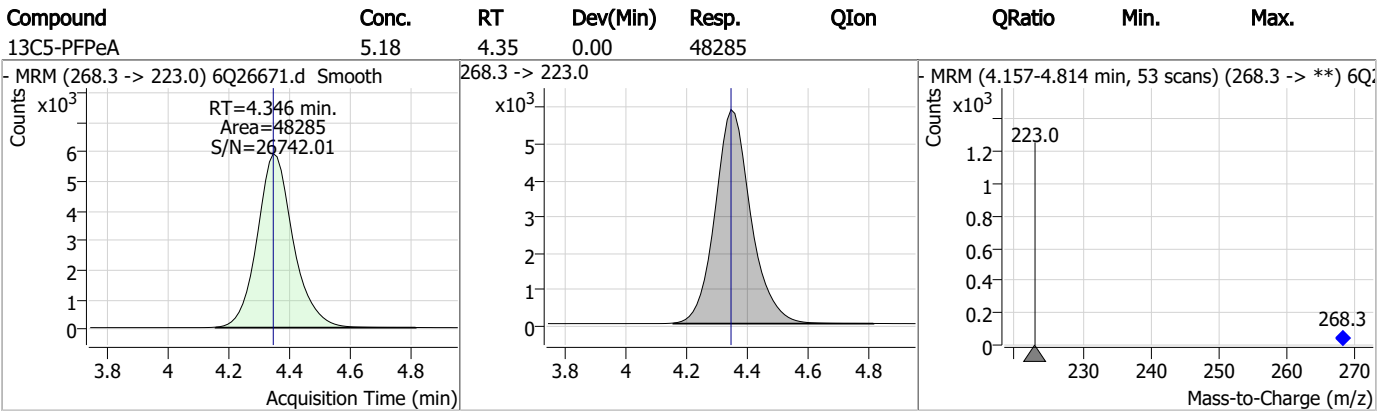
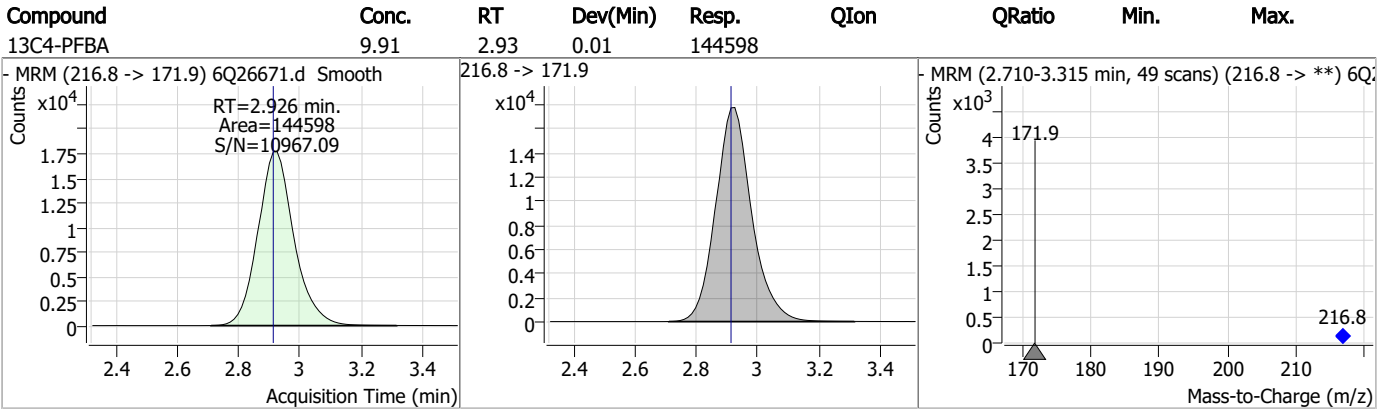
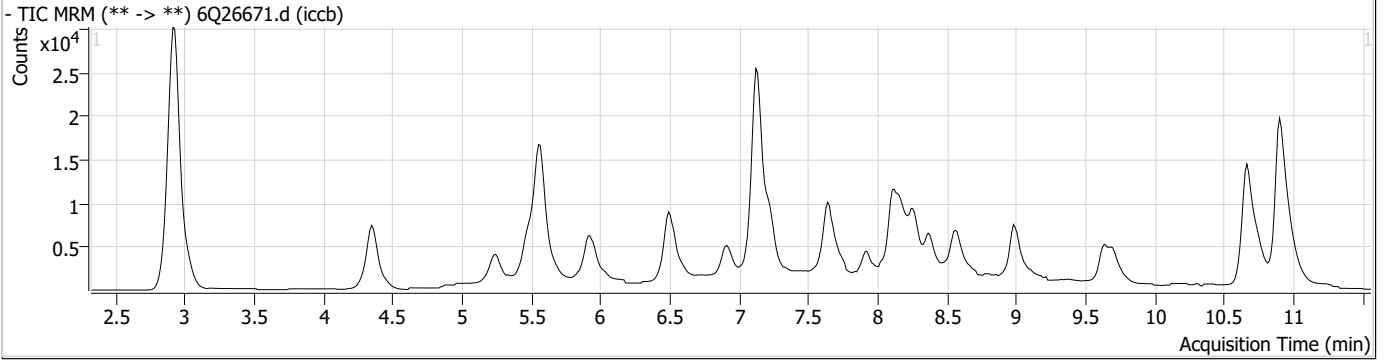
### Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
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7.2.10

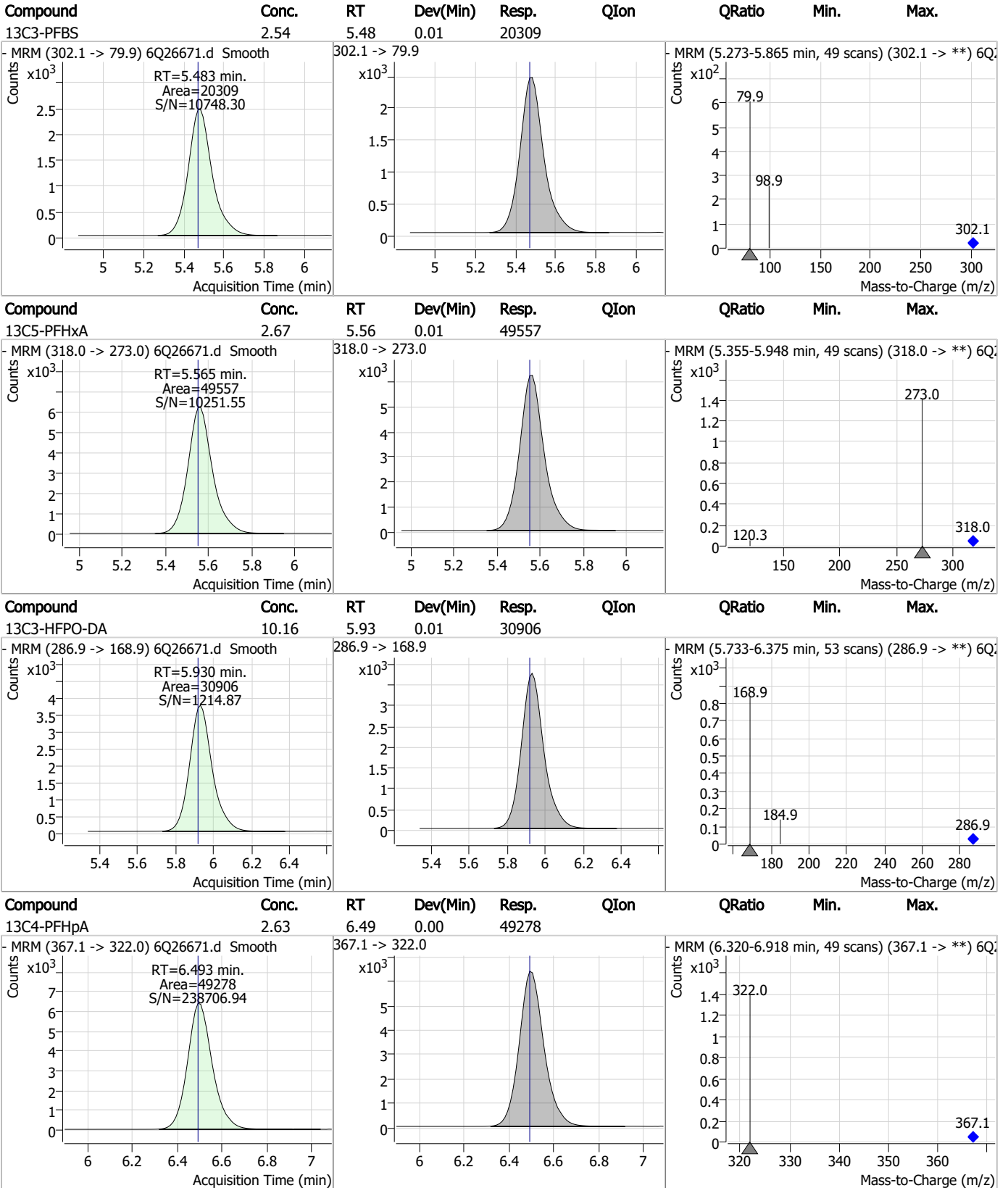
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### Perfluorinated Compounds by LC/MS/MS



7.2.10  
7

### Perfluorinated Compounds by LC/MS/MS



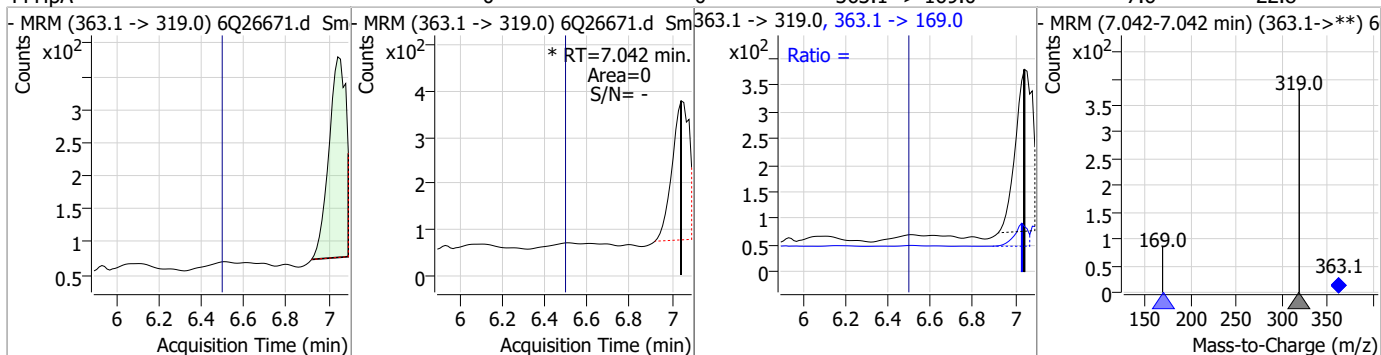
7.2.10  
7



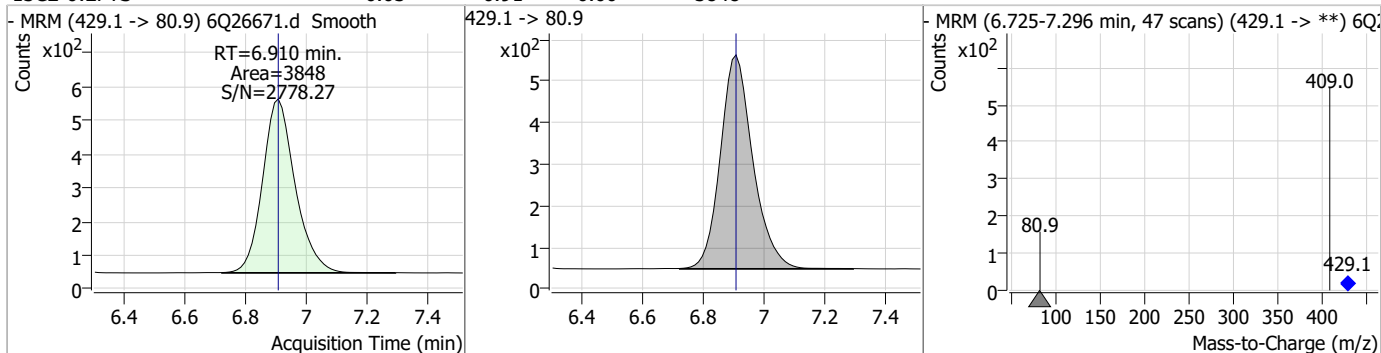


### Perfluorinated Compounds by LC/MS/MS

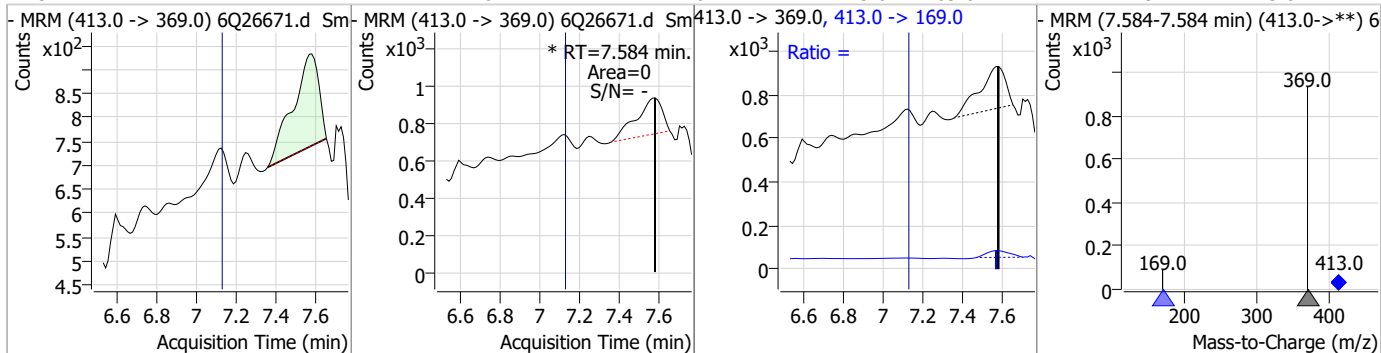
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpA	0	0		0	363.1 -> 169.0		7.6	22.8



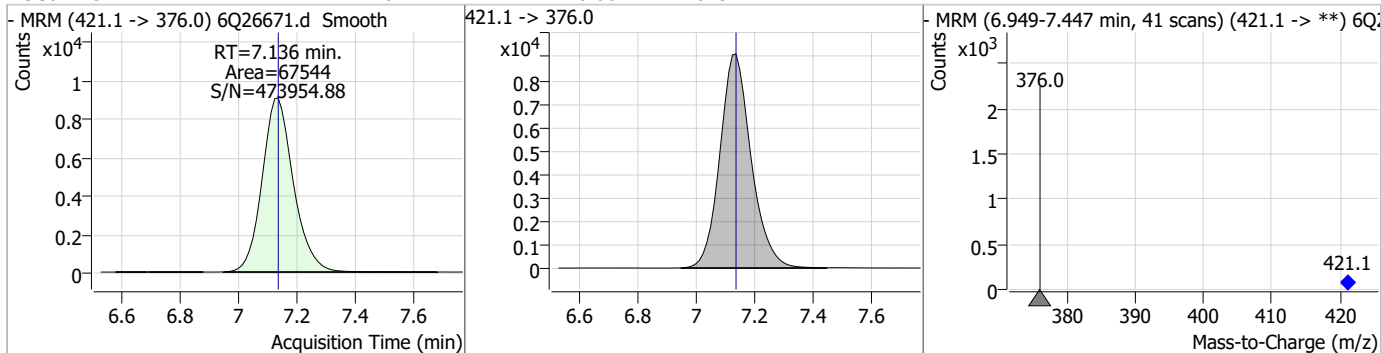
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-6:2FTS	6.03	6.91	0.00	3848				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOA	0	0		0	413.0 -> 169.0		7.9	23.8

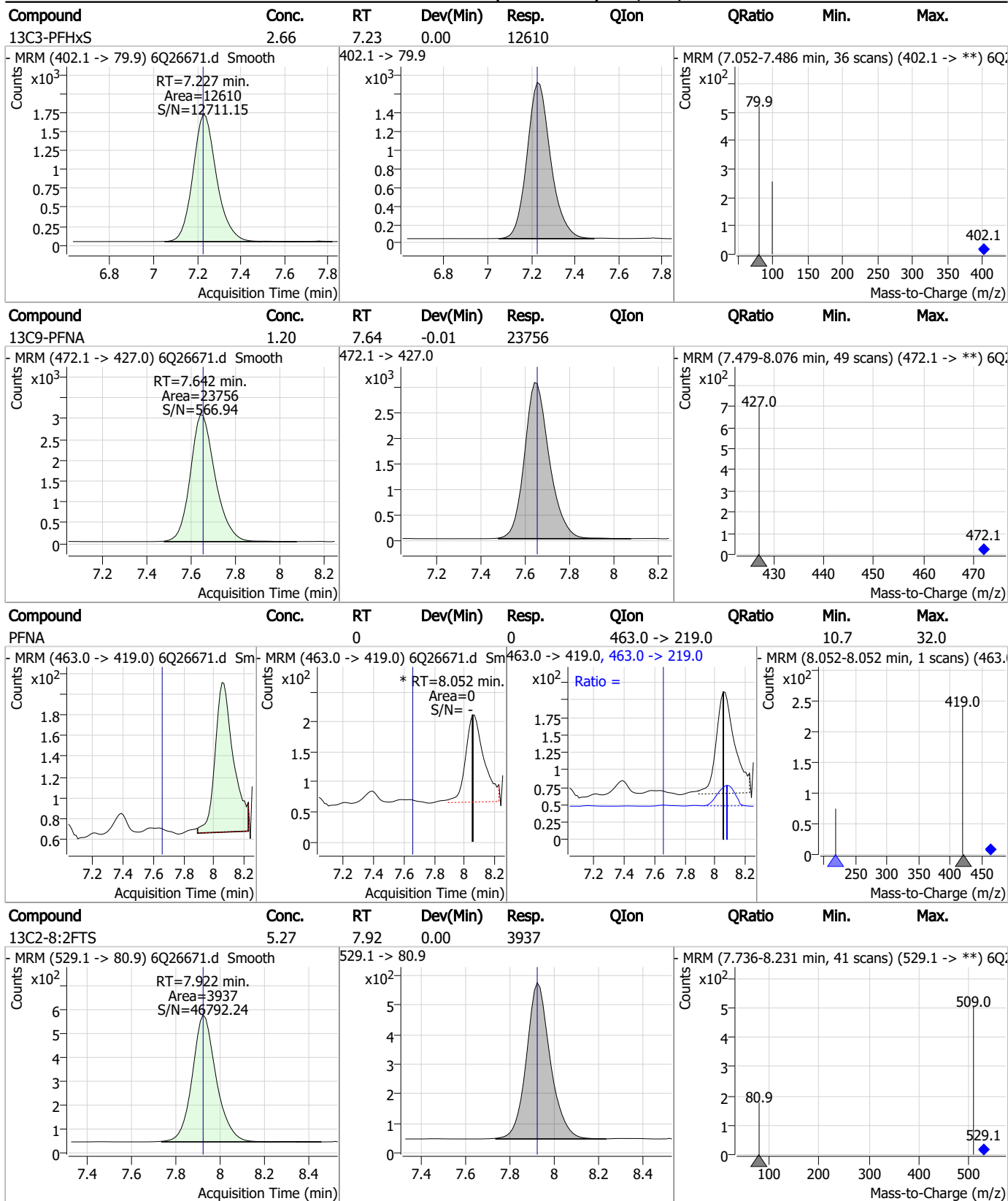


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOA	2.67	7.14	0.00	67544				



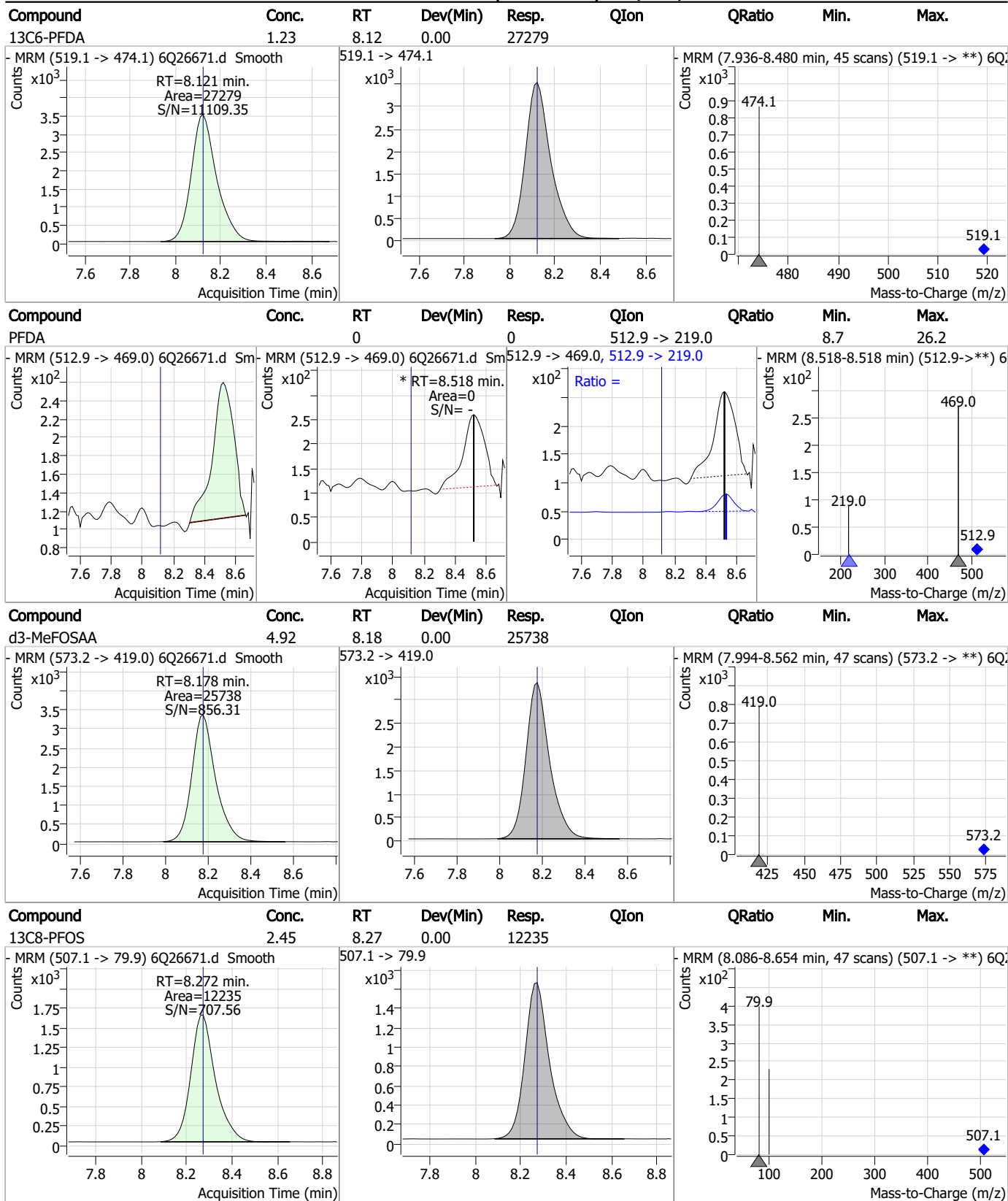
7.2.10  
7

### Perfluorinated Compounds by LC/MS/MS



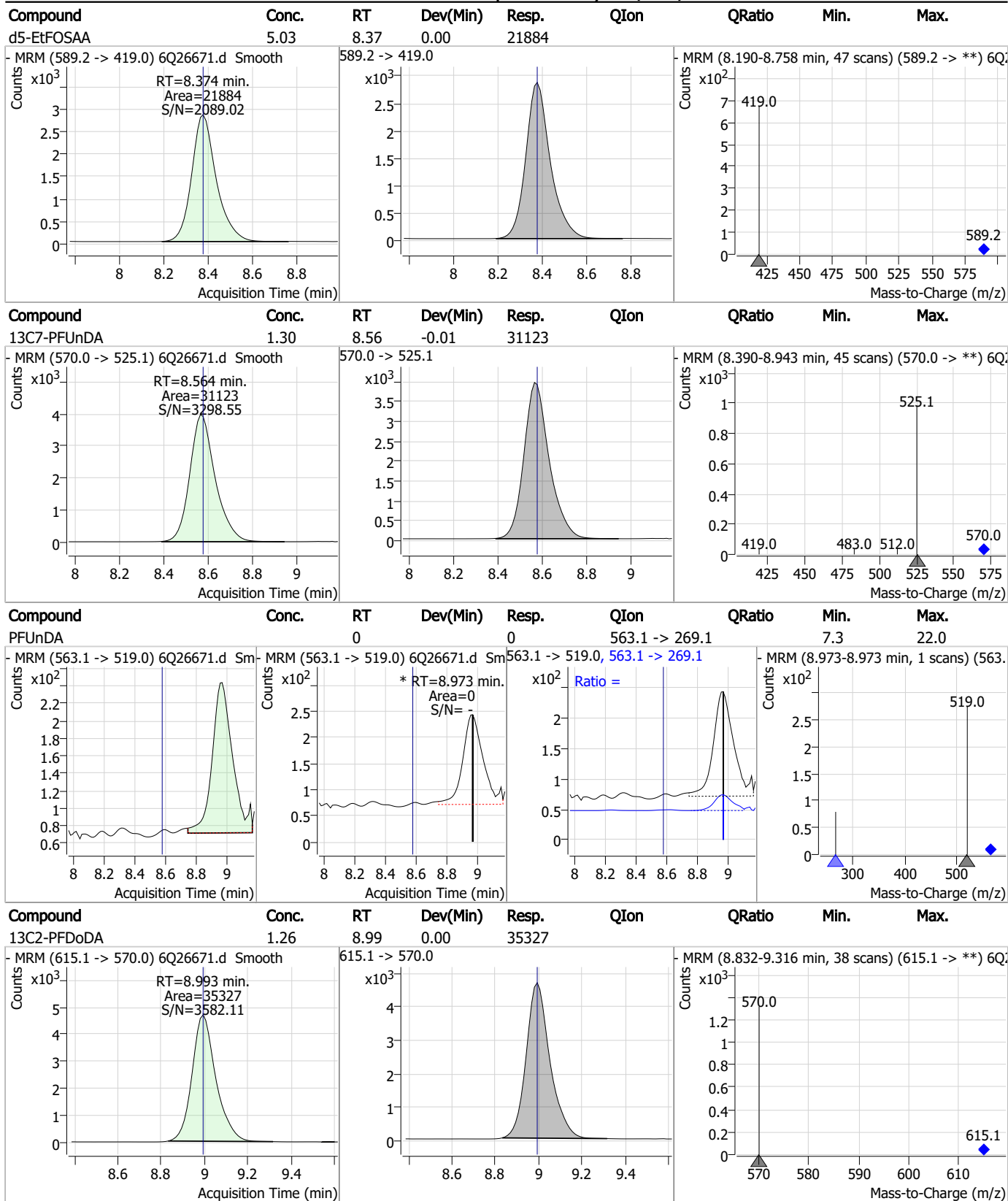
7.2.10  
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### Perfluorinated Compounds by LC/MS/MS



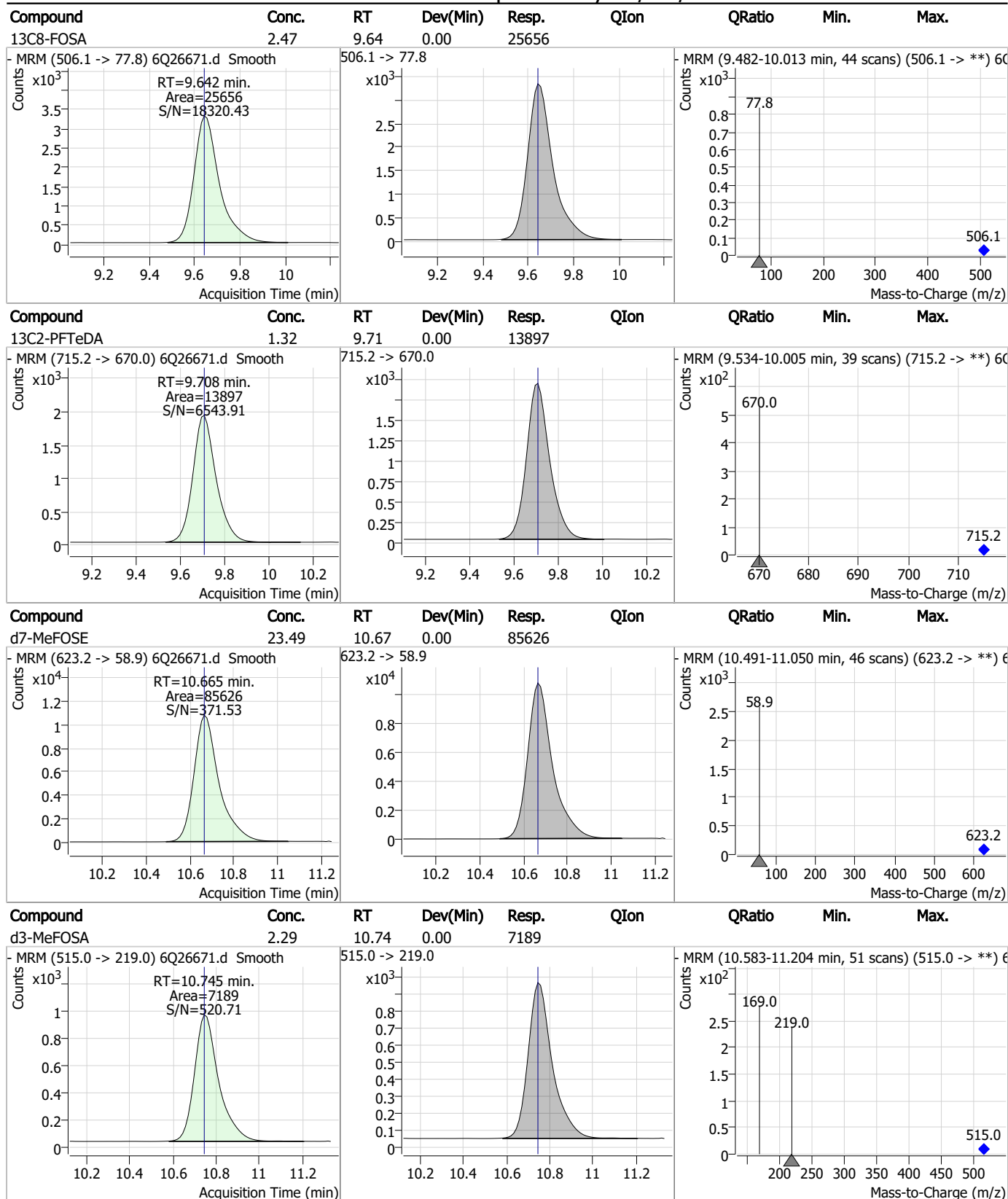
7.2.10  
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### Perfluorinated Compounds by LC/MS/MS



7.2.10 7

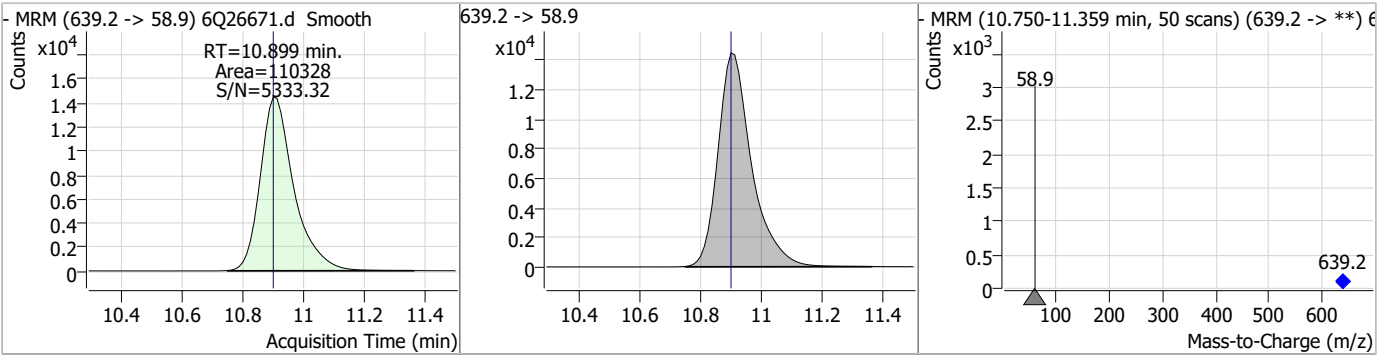
### Perfluorinated Compounds by LC/MS/MS



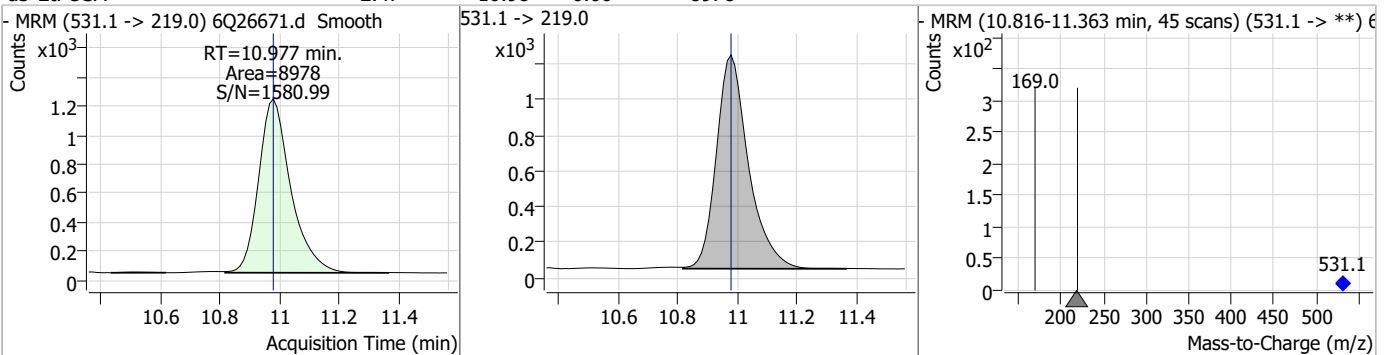
7.2.10 7

### Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d9-EtFOSE	24.48	10.90	0.00	110328				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSA	2.47	10.98	0.00	8978				



7.2.10  
7



## Perfluorinated Compounds by LC/MS/MS

Data File : 6Q26686.d  
 Operator : marthav  
 Acq. Method : 1633full.m  
 Acq. Date-Time : 10/18/2023 9:28:54 PM  
 Sample Name : iccb  
 Vial : P1-A1  
 DA Method File : 1633\_101723\_S6Q373.quantmethod.xml  
 Batch Name : S6Q373.batch.bin  
 Sample Information : OP99081,S6Q373,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
<b>Internal Standards</b>					
M4-PFBA	2.913	216.8 -> 171.9	144343	10.00 µg/L	0.000
M5-PFPeA	4.346	268.3 -> 223.0	47936	5.00 µg/L	0.000
M5-PFHxA	5.565	318.0 -> 273.0	48226	2.50 µg/L	0.012
M4-PFHpA	6.493	367.1 -> 322.0	47111	2.50 µg/L	0.000
M8-PFOA	7.124	421.1 -> 376.0	68762	2.50 µg/L	-0.012
M9-PFNA	7.642	472.1 -> 427.0	25670	1.25 µg/L	-0.012
M6-PFDA	8.121	519.1 -> 474.1	29497	1.25 µg/L	0.000
M7-PFUnDA	8.564	570.0 -> 525.1	31738	1.25 µg/L	-0.012
M2-PFDoDA	8.993	615.1 -> 570.0	36503	1.25 µg/L	0.000
M2-PFTeDA	9.708	715.2 -> 670.0	13271	1.25 µg/L	0.000
M8-FOSA	9.642	506.1 -> 77.8	24880	2.50 µg/L	0.000
M3-PFBS	5.483	302.1 -> 79.9	20384	2.50 µg/L	0.012
M3-PFHxS	7.227	402.1 -> 79.9	12562	2.50 µg/L	0.000
M8-PFOS	8.272	507.1 -> 79.9	11968	2.50 µg/L	0.000
M2-4:2FTS	5.228	329.1 -> 80.9	2320	5.00 µg/L	0.000
M2-6:2FTS	6.910	429.1 -> 80.9	3475	5.00 µg/L	0.000
M2-8:2FTS	7.922	529.1 -> 80.9	3765	5.00 µg/L	0.000
M3-MeFOSAA	8.178	573.2 -> 419.0	25122	5.00 µg/L	0.000
M3-HFPO-DA	5.930	286.9 -> 168.9	30713	10.00 µg/L	0.012
M5-EtFOSAA	8.374	589.2 -> 419.0	22180	5.00 µg/L	0.000
M7-MeFOSE	10.665	623.2 -> 58.9	86221	25.00 µg/L	0.000
M9-EtFOSE	10.899	639.2 -> 58.9	109200	25.00 µg/L	0.000
M5-EtFOSA	10.977	531.1 -> 219.0	8393	2.50 µg/L	0.000
M3-MeFOSA	10.745	515.0 -> 219.0	7135	2.50 µg/L	0.000
13C4-PFOS	8.273	502.8 -> 79.9	11370	2.50 µg/L	0.000
13C3-PFBA	2.916	216.0 -> 172.0	59067	5.00 µg/L	0.000
18O2-PFHxS	7.226	403.0 -> 83.9	7235	2.50 µg/L	0.000
13C4-PFOA	7.125	417.1 -> 372.0	73743	2.50 µg/L	0.000
13C2-PFDA	8.122	515.1 -> 470.1	26376	1.25 µg/L	0.000
13C5-PFNA	7.654	468.0 -> 423.0	23673	1.25 µg/L	0.000
13C2-PFHxA	5.553	315.1 -> 270.0	46942	2.50 µg/L	0.000
<b>System Monitoring Compounds</b>					
13C2-4:2FTS	5.228	329.1 -> 80.9	2320	5.13 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 102.7%		
13C2-6:2FTS	6.910	429.1 -> 80.9	3475	5.45 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 108.9%		
13C2-8:2FTS	7.922	529.1 -> 80.9	3765	5.04 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 100.8%		
13C2-PFDoDA	8.993	615.1 -> 570.0	36503	1.28 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 102.5%		
13C2-PFTeDA	9.708	715.2 -> 670.0	13271	1.24 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 99.3%		
13C3-PFBS	5.483	302.1 -> 79.9	20384	2.55 µg/L	0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 101.8%		
13C3-PFHxS	7.227	402.1 -> 79.9	12562	2.65 µg/L	0.000

7.2.11  
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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 = 106.1%	
13C4-PFBA	2.913	216.8 -> 171.9	144343	9.92 µg/L	0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 99.2%	
13C4-PFHpA	6.493	367.1 -> 322.0	47111	2.47 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 99.0%	
13C5-PFHxA	5.565	318.0 -> 273.0	48226	2.56 µg/L	0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 102.5%	
13C5-PFPeA	4.346	268.3 -> 223.0	47936	5.07 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 101.4%	
13C6-PFDA	8.121	519.1 -> 474.1	29497	1.31 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 105.0%	
13C7-PFUnDA	8.564	570.0 -> 525.1	31738	1.30 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 104.3%	
13C8-FOSA	9.642	506.1 -> 77.8	24880	2.38 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 95.2%	
13C8-PFOA	7.124	421.1 -> 376.0	68762	2.61 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 104.3%	
13C8-PFOS	8.272	507.1 -> 79.9	11968	2.38 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 95.2%	
13C9-PFNA	7.642	472.1 -> 427.0	25670	1.26 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 100.9%	
d3-MeFOSAA	8.178	573.2 -> 419.0	25122	4.76 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 95.3%	
13C3-HFPO-DA	5.930	286.9 -> 168.9	30713	9.95 µg/L	0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 99.5%	
d3-MeFOSA	10.745	515.0 -> 219.0	7135	2.26 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 90.3%	
d5-EtFOSAA	8.374	589.2 -> 419.0	22180	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	86221	23.45 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 93.8%	
d9-EtFOSE	10.899	639.2 -> 58.9	109200	24.03 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 96.1%	
d5-EtFOSA	10.977	531.1 -> 219.0	8393	2.29 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 91.8%	

**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	8.530	512.9 -> 469.0	0	µg/L m	1
		512.9 -> 219.0	0		
PFDODA	-	613.1 -> 569.0	-	N.D.	
		613.1 -> 319.0			
PFDS	-	599.0 -> 79.9	-	N.D.	



7.2.11  
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Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
PFHpA	7.055	599.0 -> 98.8				
		363.1 -> 319.0	0	µg/L	m	1
PFHpS	-	363.1 -> 169.0	0			
		449.0 -> 79.9	-	N.D.		
PFHxA	-	449.0 -> 98.9				
		313.0 -> 269.0	-	N.D.		
PFHxS	-	313.0 -> 118.9				
		398.7 -> 79.9	-	N.D.		
PFNA	8.065	398.7 -> 98.9				
		463.0 -> 419.0	0	µg/L	m	1
PFNS	-	463.0 -> 219.0	0			
		548.8 -> 79.9	-	N.D.		
PFOA	7.324	548.8 -> 98.9				
		413.0 -> 369.0	0	µg/L	m	1
PFOS	-	413.0 -> 169.0	0			
		498.9 -> 79.9	-	N.D.		
PFPeA	-	498.9 -> 98.8				
		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	8.973	563.1 -> 519.0	0	µg/L	m	1
		563.1 -> 269.1	0			
11CI-PF3OUdS	-	630.9 -> 450.9	-	N.D.		
		632.9 -> 452.9				
9CI-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	-	N.D.		
MeFOSA	-	511.9 -> 169.0				
		616.1 -> 58.9	-	N.D.		
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	-	N.D.		
PFMBA	-	314.8 -> 134.9	-	N.D.		
		314.8 -> 82.9				
PFMPA	-					
PFEESA	-					

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

7.2.11  
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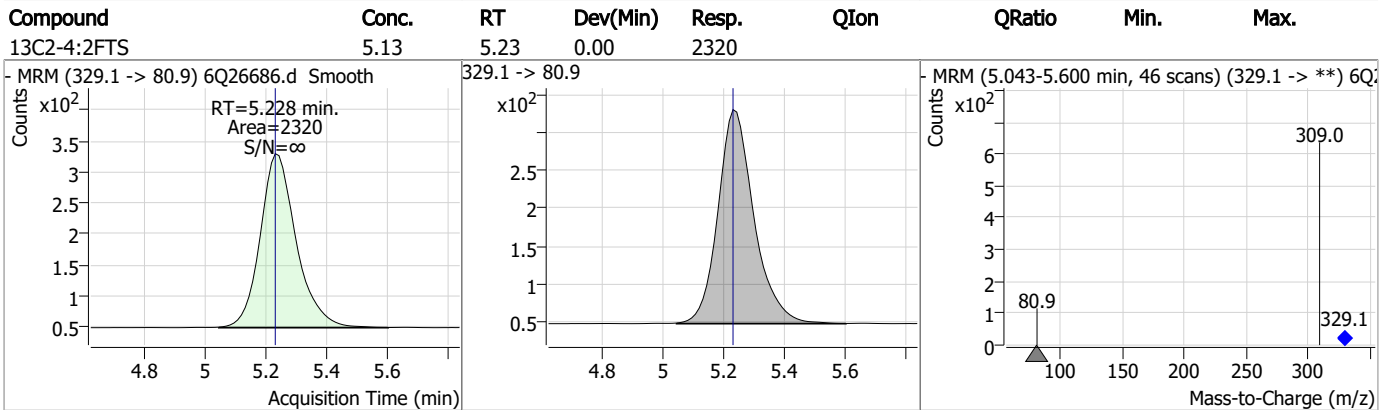
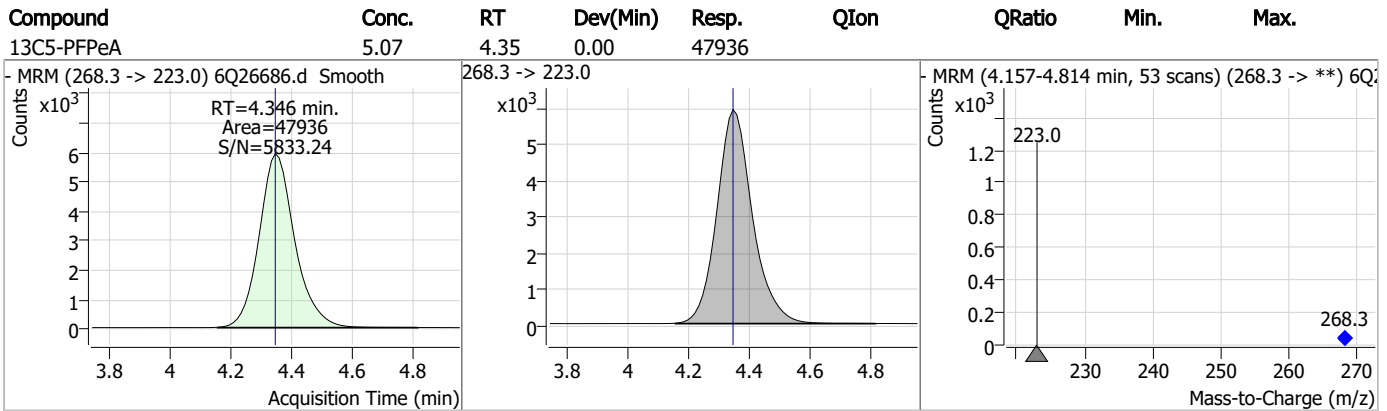
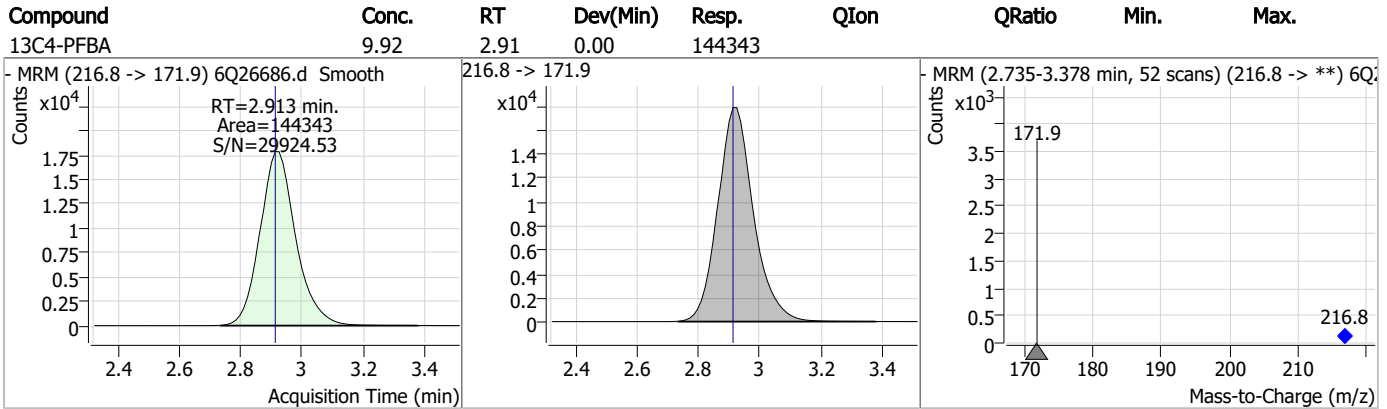
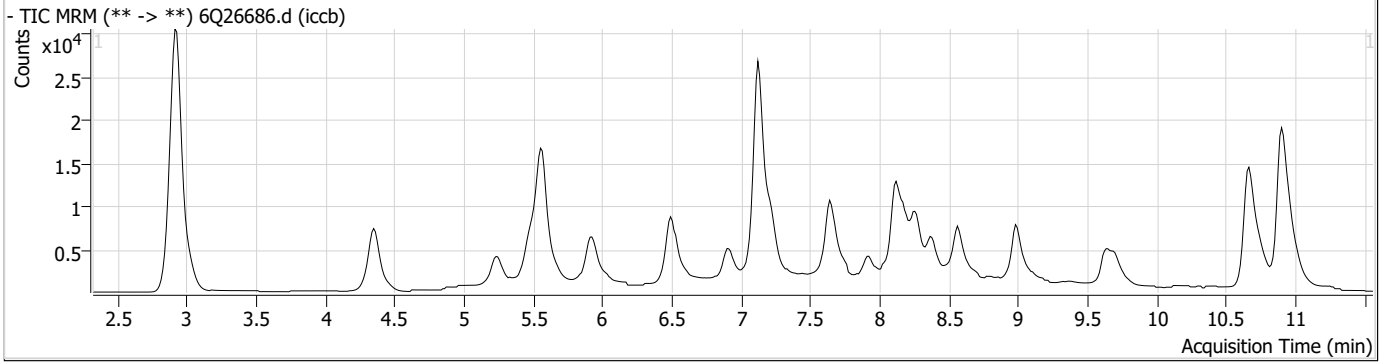
### Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
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7.2.11

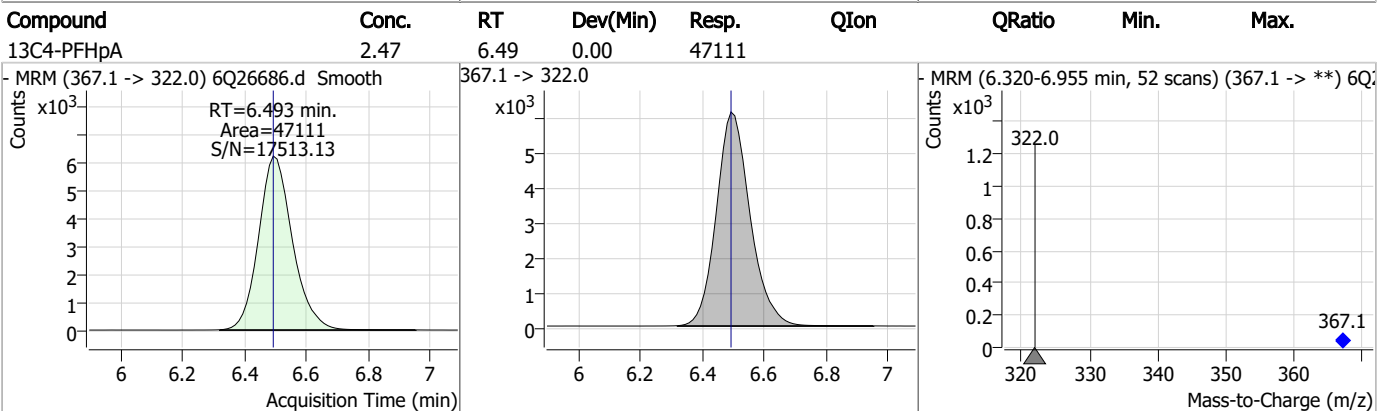
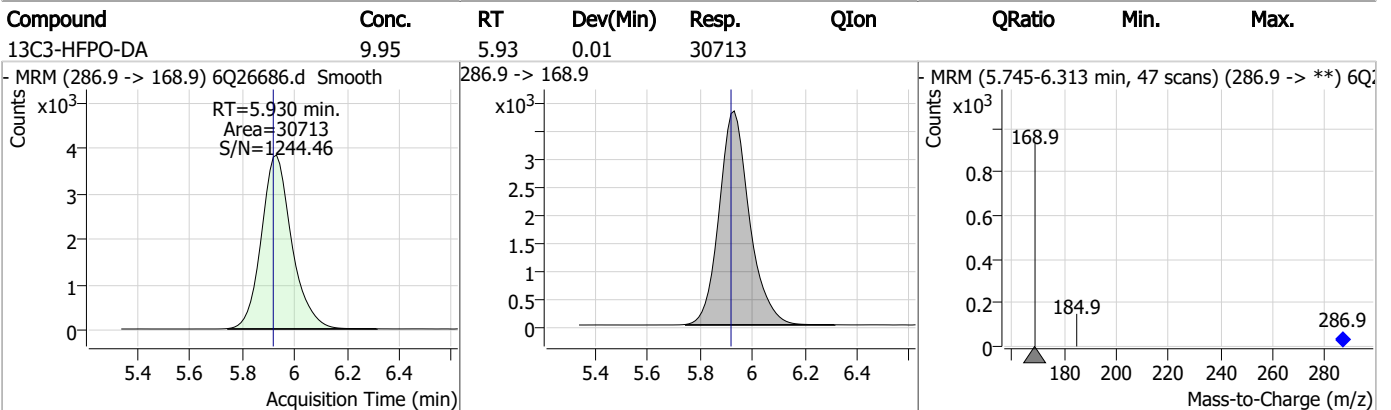
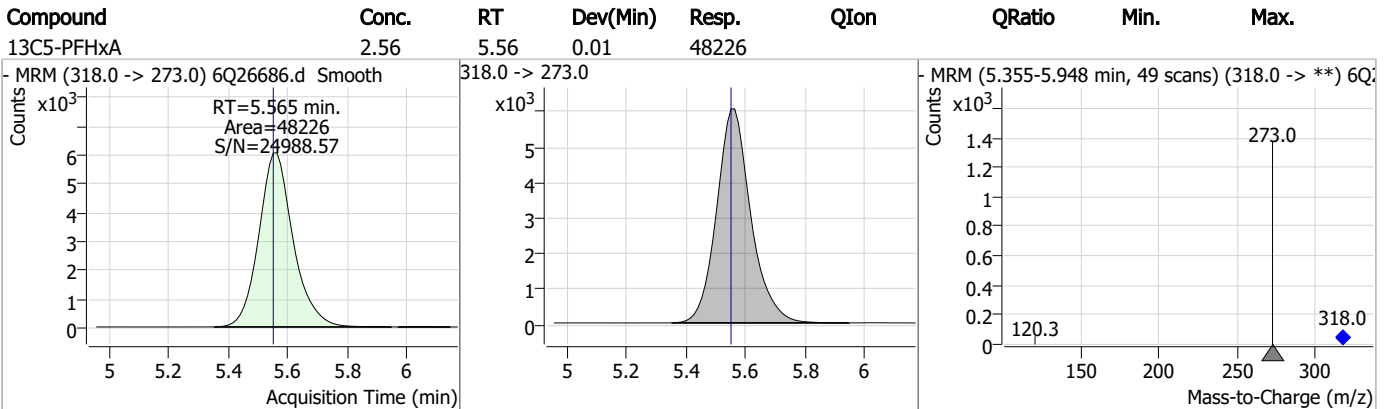
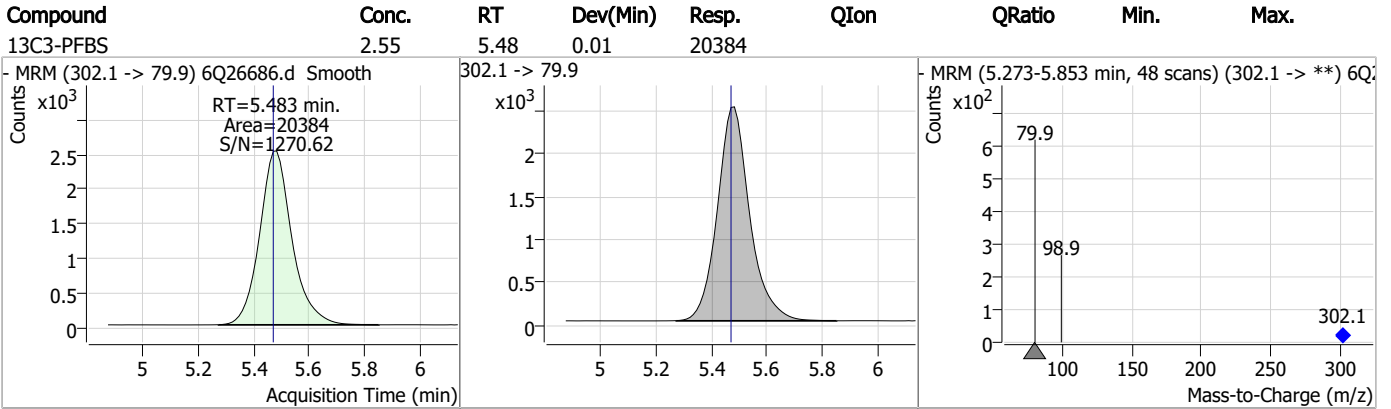
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### Perfluorinated Compounds by LC/MS/MS



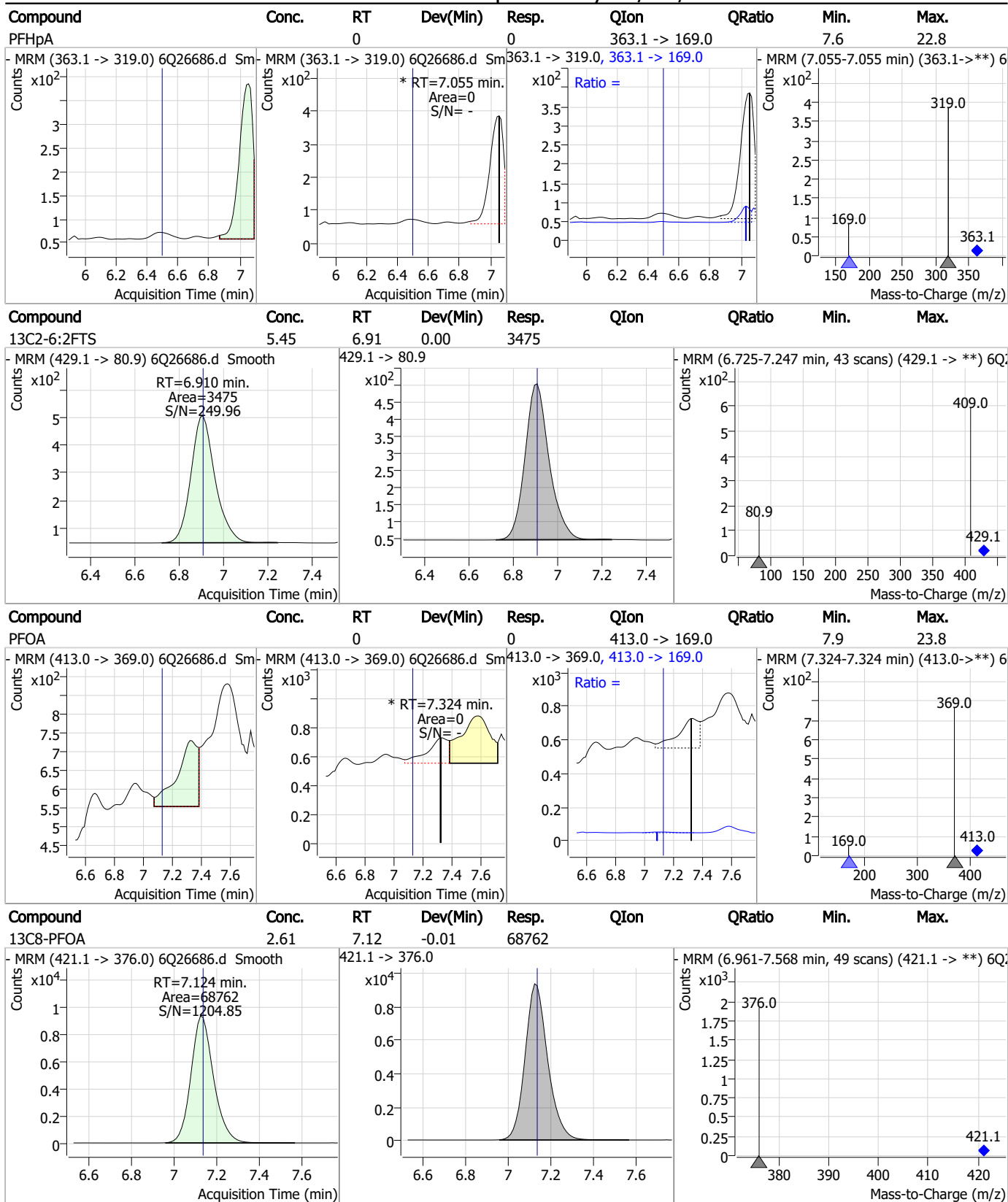
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### Perfluorinated Compounds by LC/MS/MS



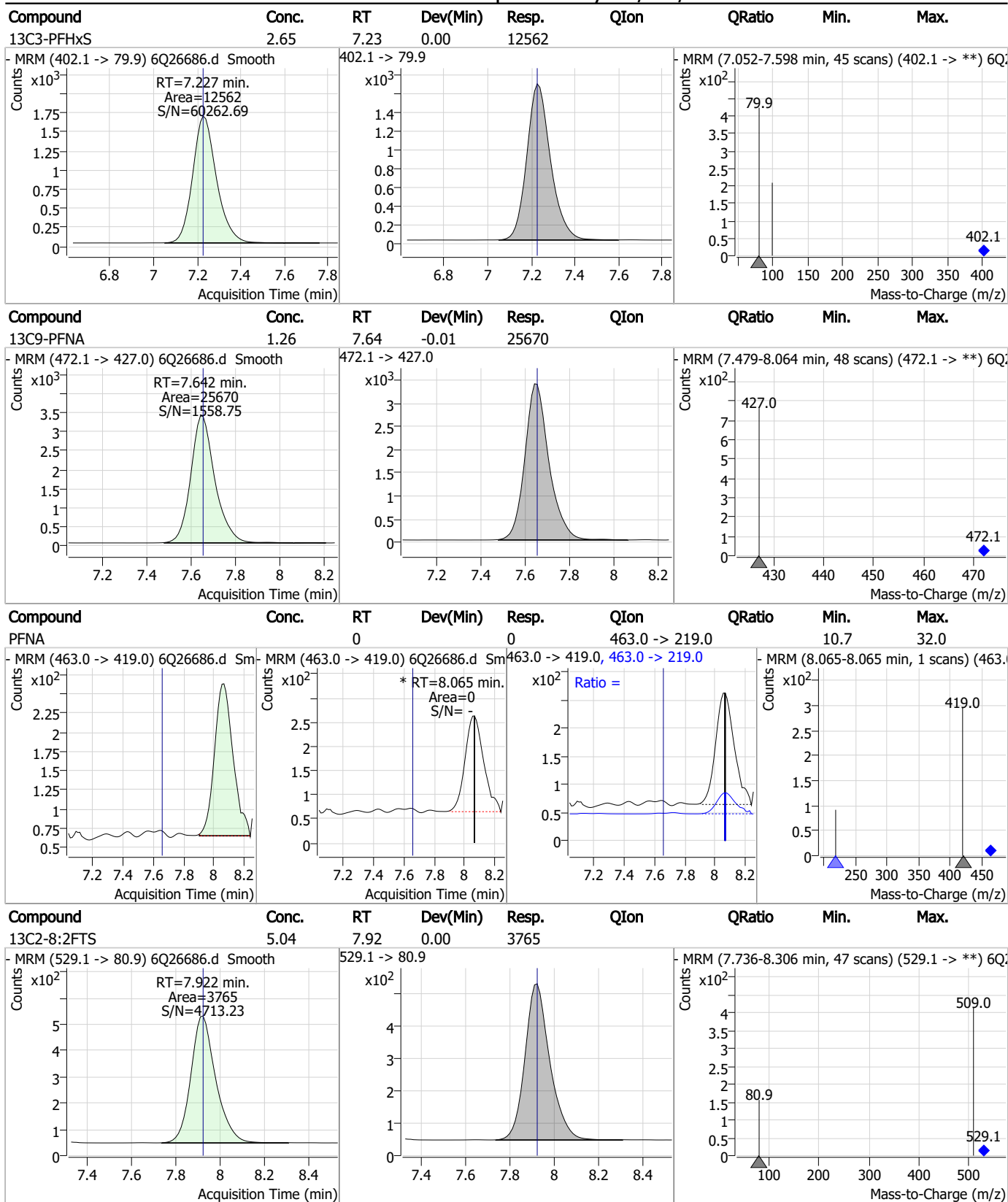
7.2.11 7

### Perfluorinated Compounds by LC/MS/MS



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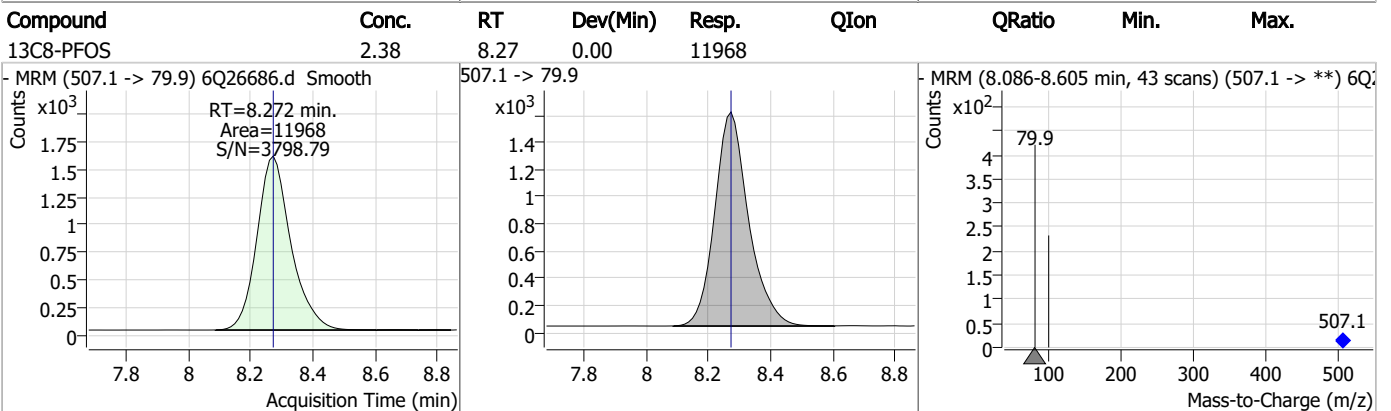
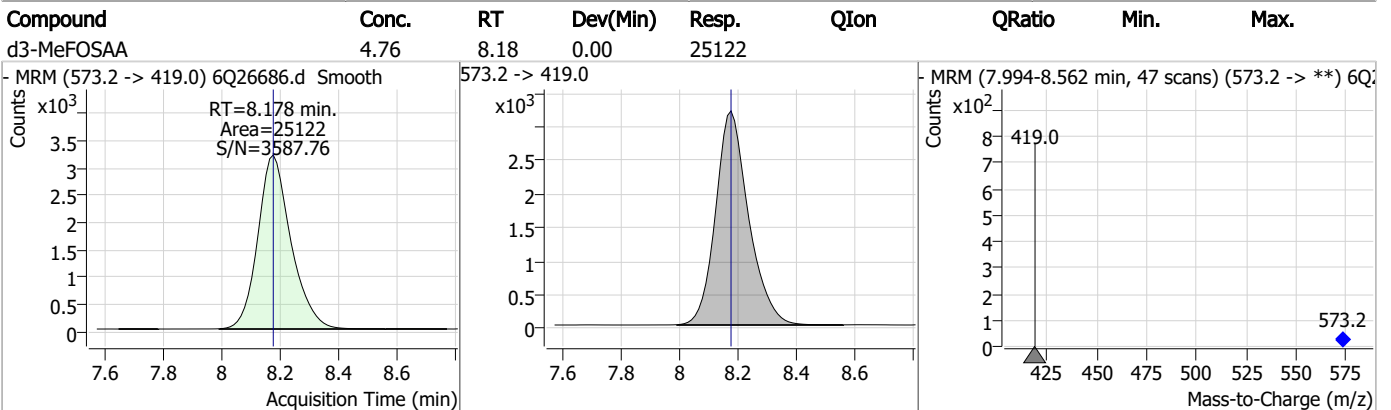
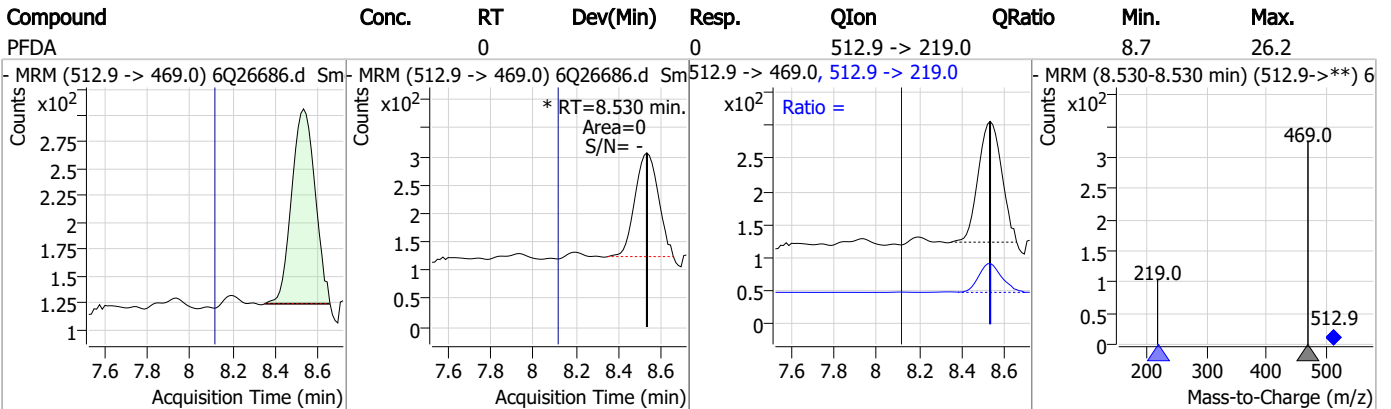
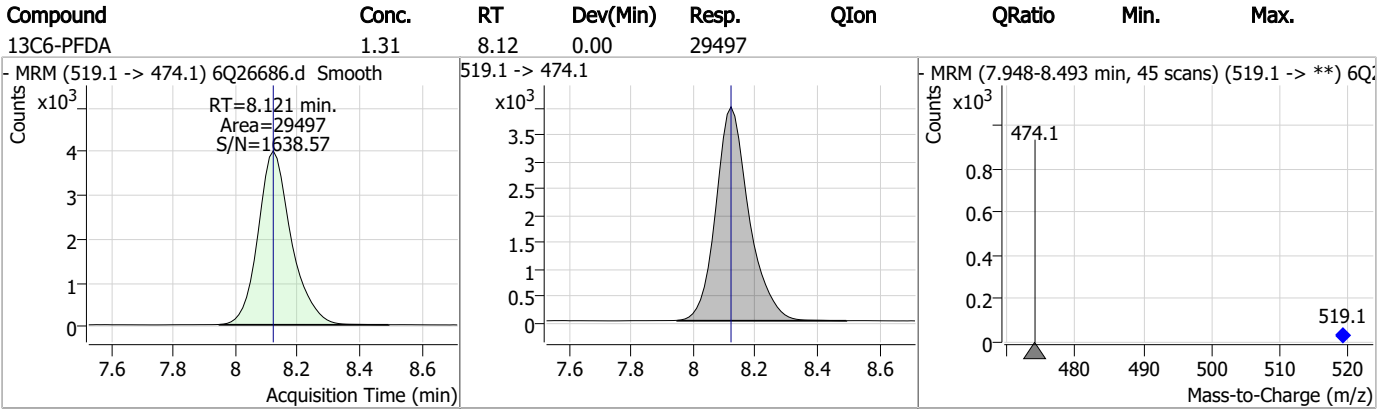
### Perfluorinated Compounds by LC/MS/MS



7.2.11

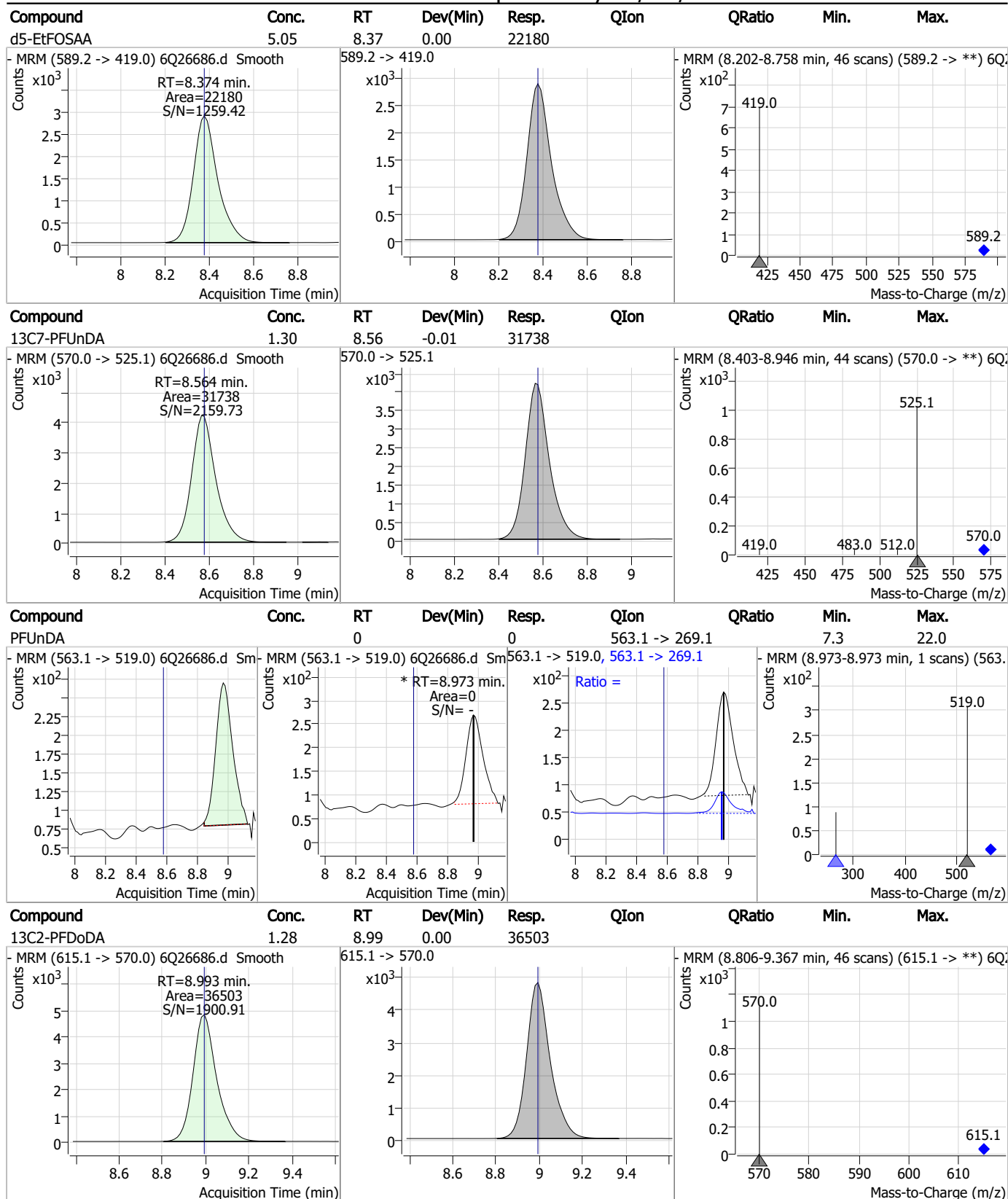
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### Perfluorinated Compounds by LC/MS/MS



7.2.11  
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### Perfluorinated Compounds by LC/MS/MS



7.2.11  
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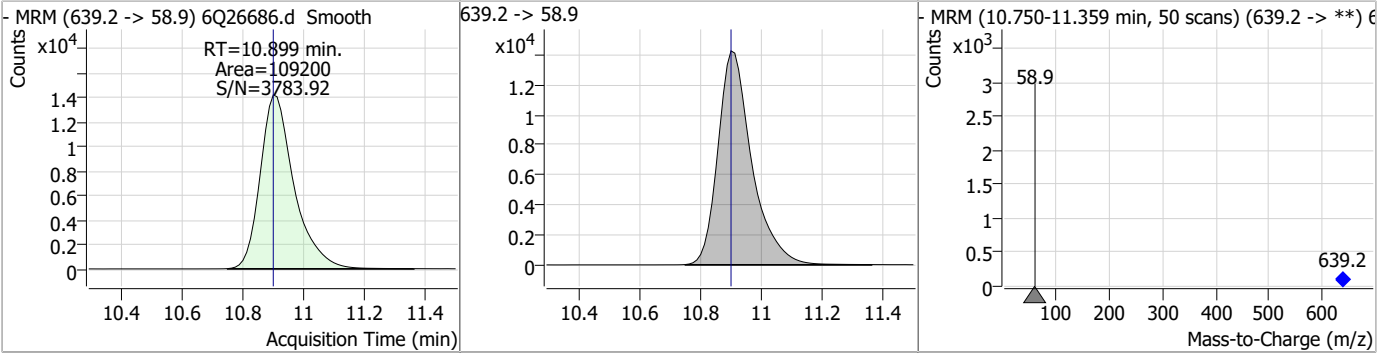
### Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-FOSA	2.38	9.64	0.00	24880				
13C2-PFTeDA	1.24	9.71	0.00	13271				
d7-MeFOSE	23.45	10.67	0.00	86221				
d3-MeFOSA	2.26	10.74	0.00	7135				

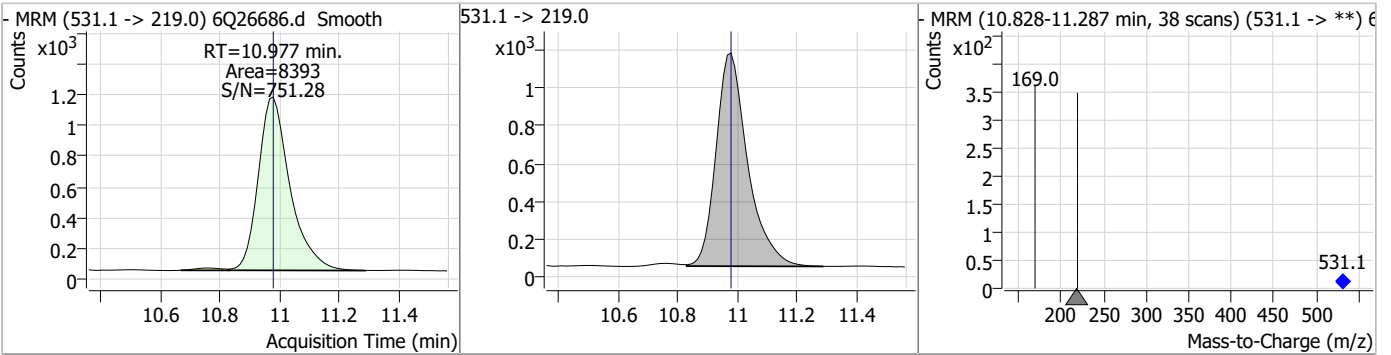
7.2.11  
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### Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d9-EtFOSE	24.03	10.90	0.00	109200				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOFA	2.29	10.98	0.00	8393				



7.2.11

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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)
<b>Internal Standards</b>					
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
<b>System Monitoring Compounds</b>					
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

7.31  
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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%		
<b>Target Compounds</b>					<b>QValue</b>
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  
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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	2805	2.52	µg/L	99
		363.1 -> 319.0	56172			
PFHpS	7.807	363.1 -> 169.0	8021	2.37	µg/L	96
		449.0 -> 79.9	10389			
PFHxA	5.569	449.0 -> 98.9	4762	2.36	µg/L	100
		313.0 -> 269.0	37662			
PFHxS	7.252	313.0 -> 118.9	1943	2.15	µg/L	94
		398.7 -> 79.9	9485			
PFNA	7.667	398.7 -> 98.9	4657	2.18	µg/L	99
		463.0 -> 419.0	33984			
PFNS	8.765	463.0 -> 219.0	8473	2.24	µg/L	95
		548.8 -> 79.9	8674			
PFOA	7.150	548.8 -> 98.9	4354	2.48	µg/L	95
		413.0 -> 369.0	58391			
PFOS	8.300	413.0 -> 169.0	9421	2.25	µg/L	85
		498.9 -> 79.9	10208			
PFPeA	4.361	498.9 -> 98.8	5284	4.71	µg/L	100
		263.0 -> 219.0	49675			
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			
11CI-PF3OUdS	9.442	630.9 -> 450.9	32164	3.57	µg/L	100
		632.9 -> 452.9	10370			
9CI-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
		511.9 -> 219.0	10390			
MeFOSA	10.746	511.9 -> 169.0	13943	5.05	µg/L	99
		616.1 -> 58.9	22647			
MeFOSE	10.679	699.1 -> 79.9	3035	10.79	µg/L	100
		699.1 -> 98.8	1555			
PFDoDS	9.861	295.0 -> 201.0	9051	2.16	µg/L	92
		295.0 -> 84.9	2387			
NFDHA	5.450	279.0 -> 85.1	36243	4.51	µg/L	100
		229.0 -> 84.9	24203			
PFMBA	4.781	314.8 -> 134.9	84108	3.65	µg/L	100
		314.8 -> 82.9	2822			
PFMPA	3.501			4.09	µg/L	99
PFEESA	6.025					

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

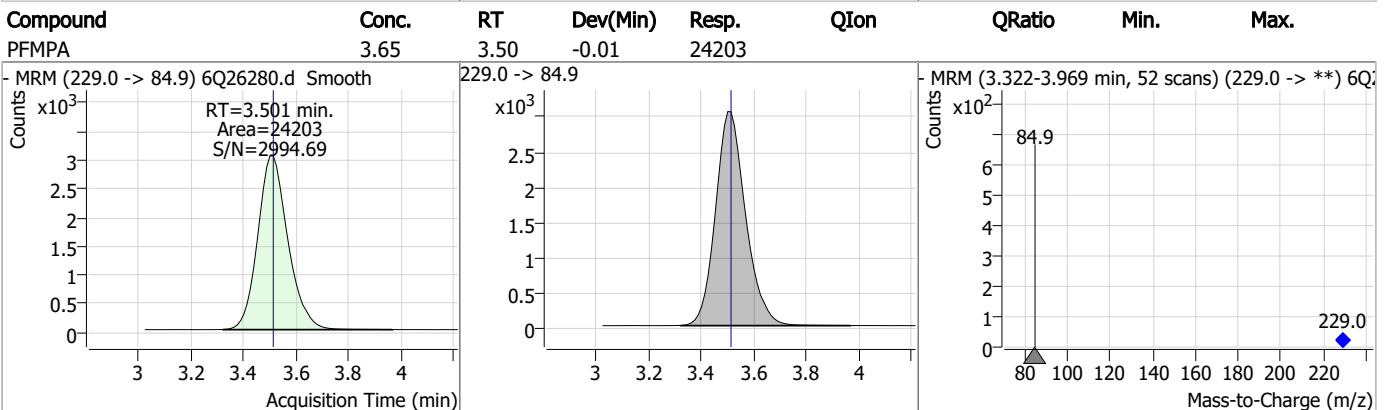
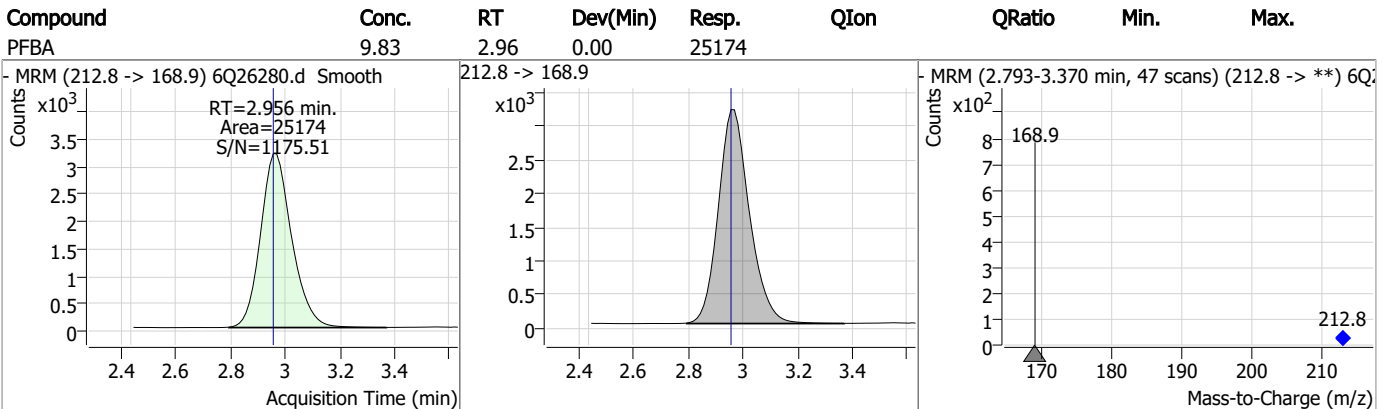
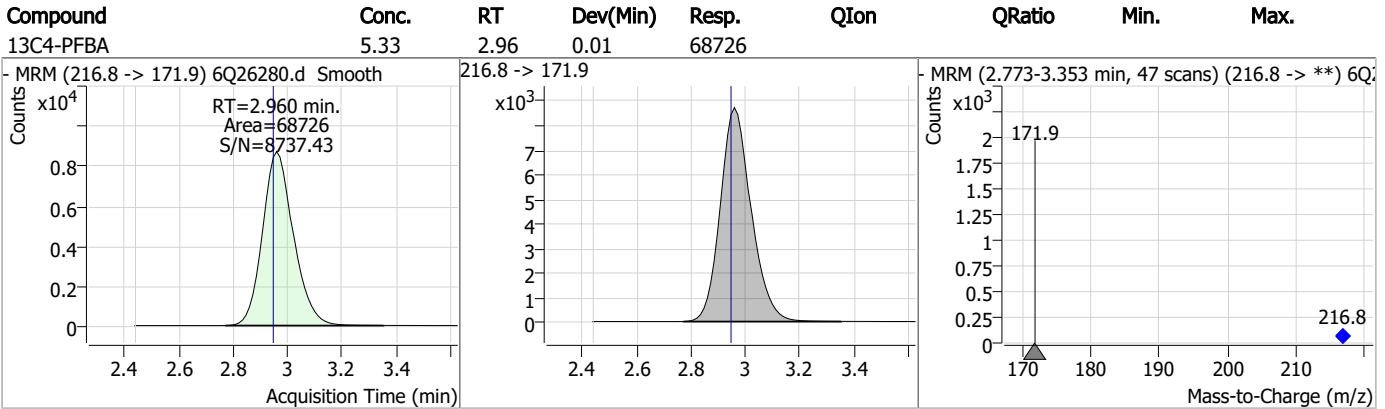
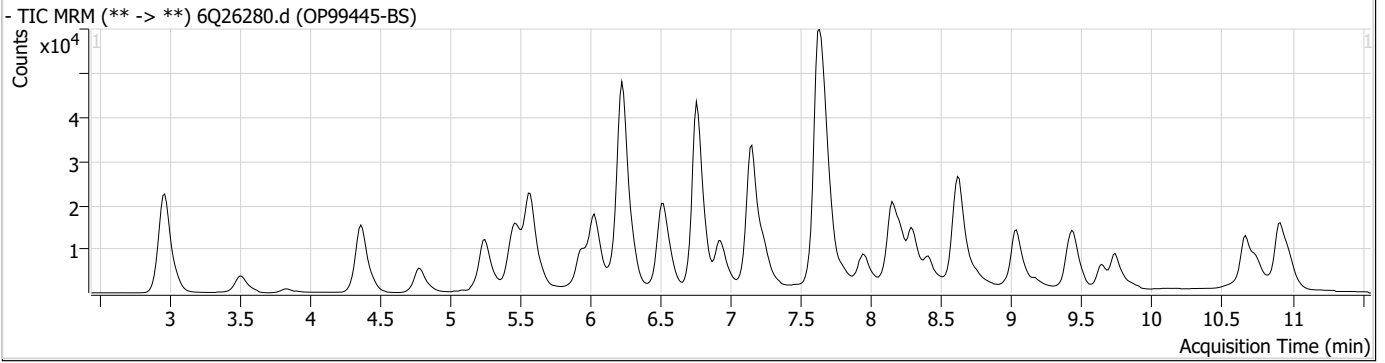
### Perfluorinated Compounds by LC/MS/MS

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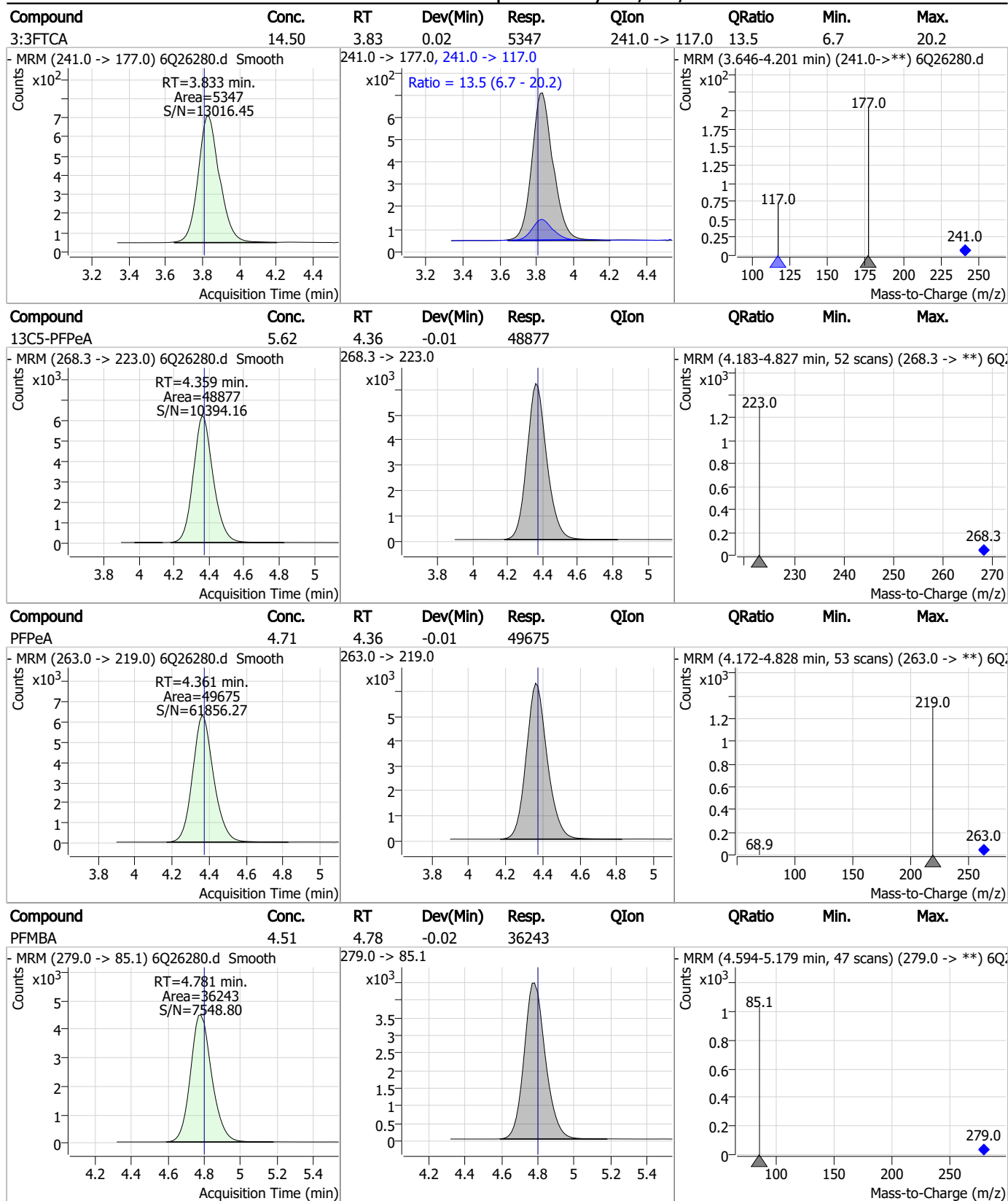
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### Perfluorinated Compounds by LC/MS/MS



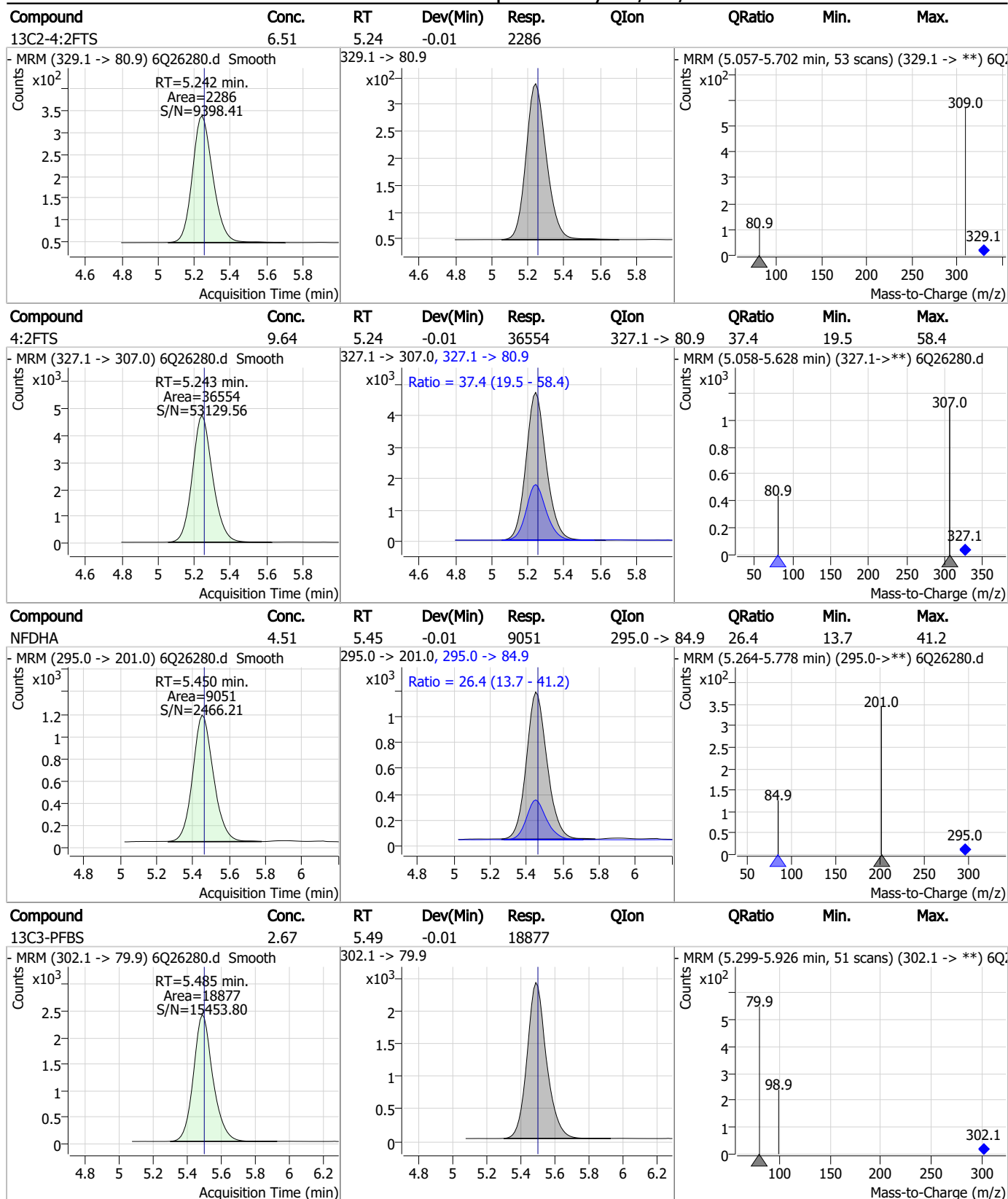
### Perfluorinated Compounds by LC/MS/MS



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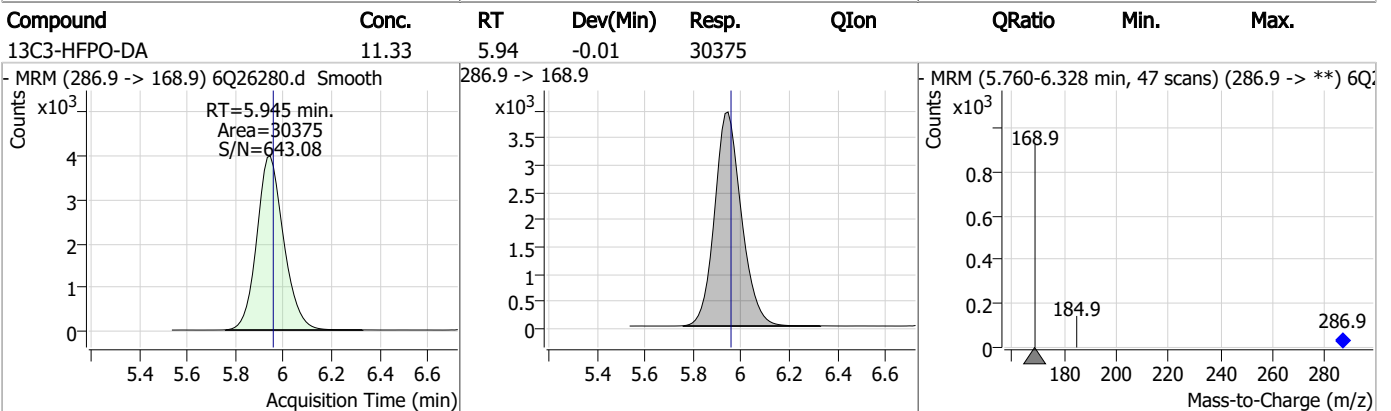
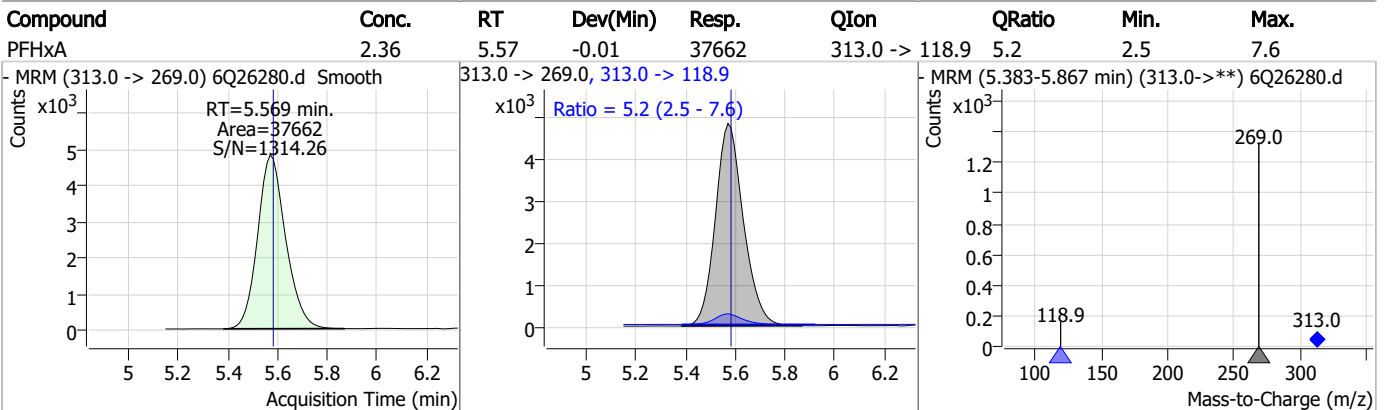
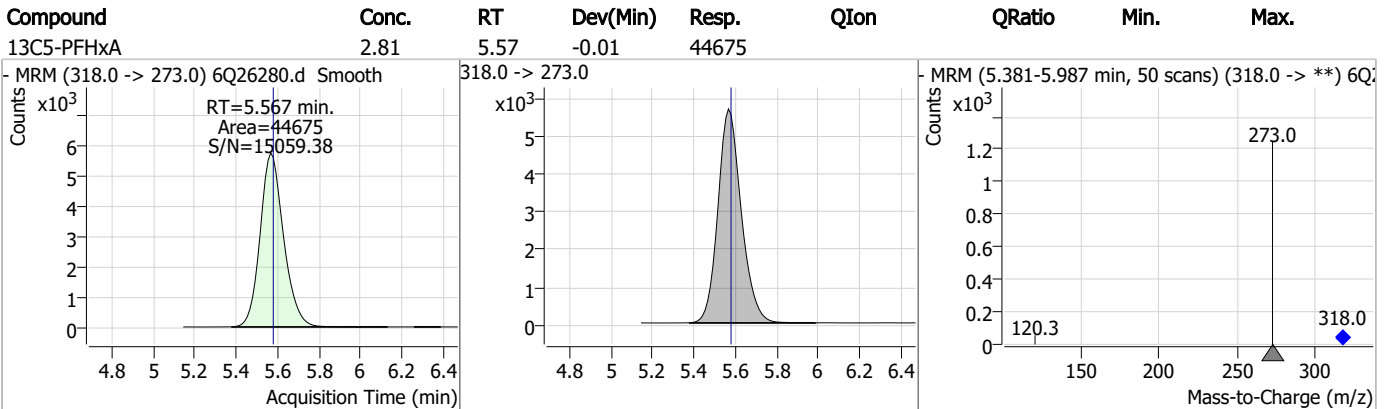
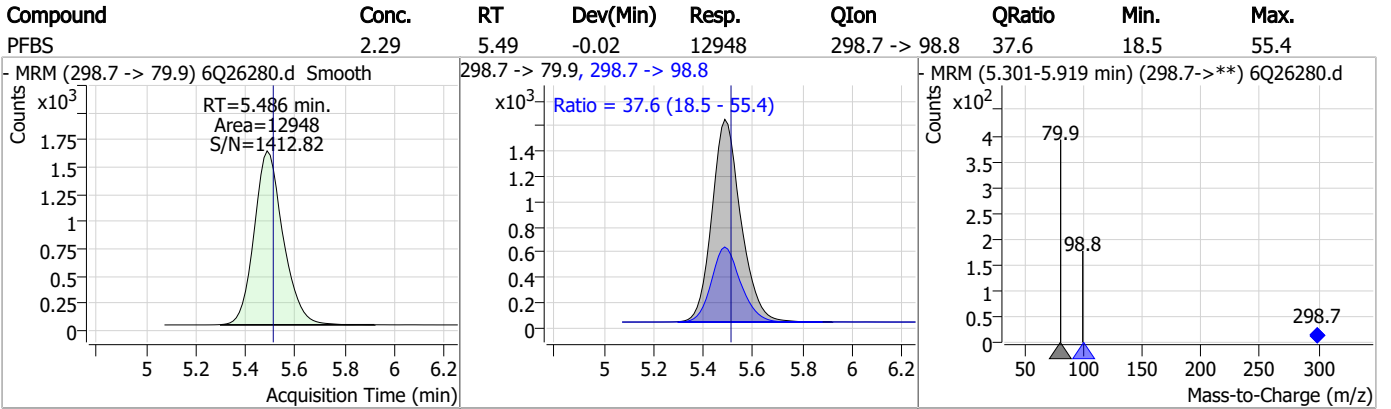
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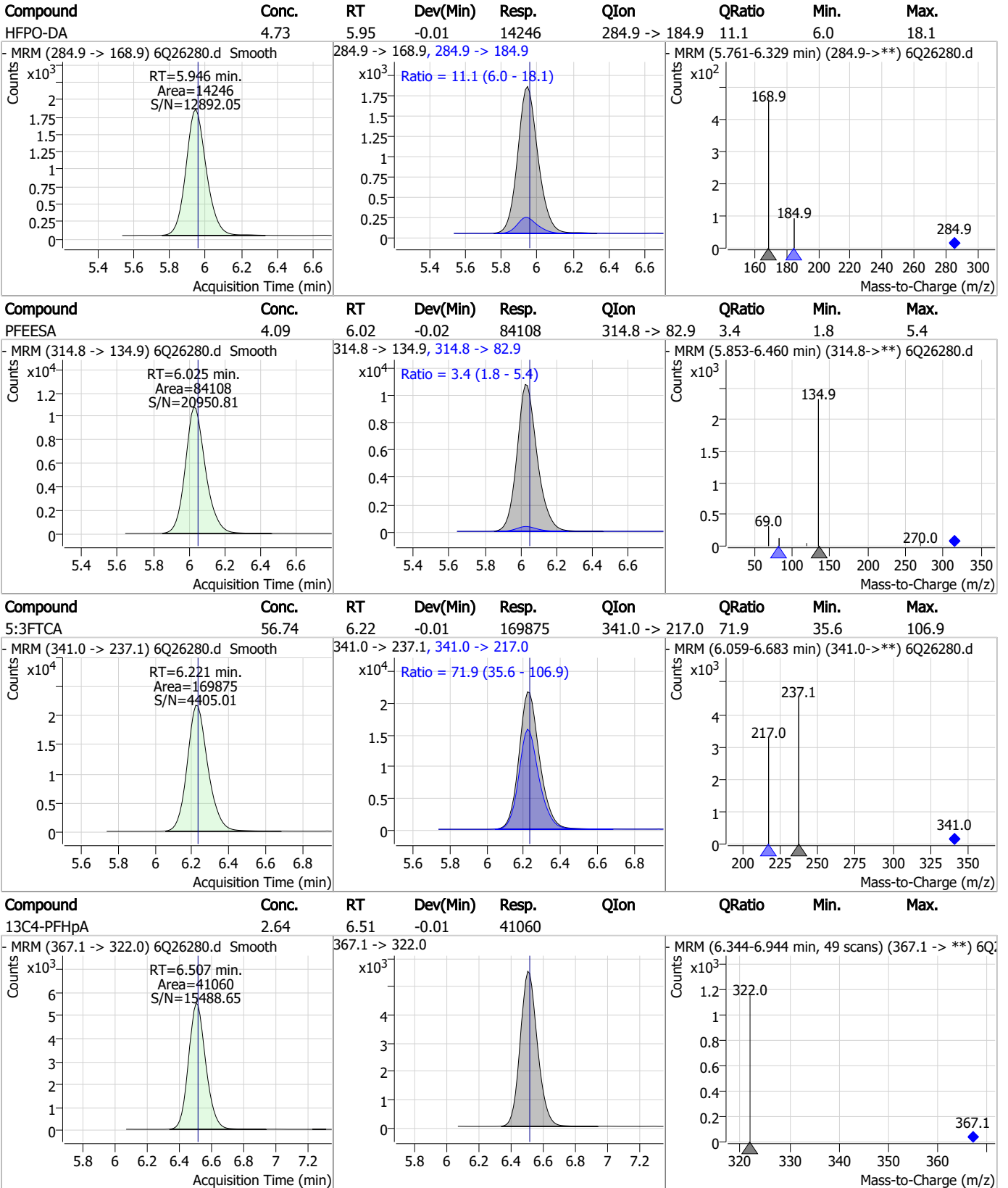
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### Perfluorinated Compounds by LC/MS/MS



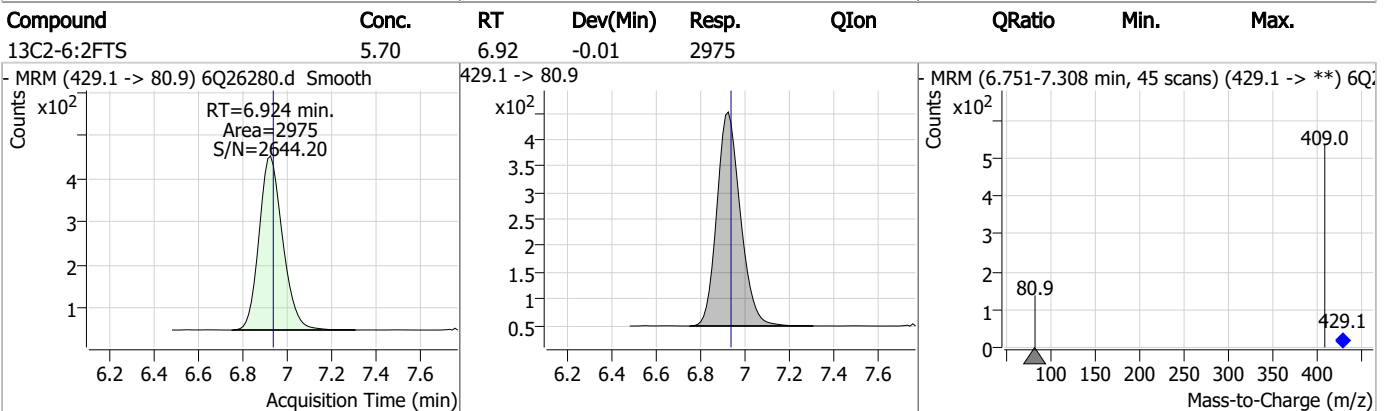
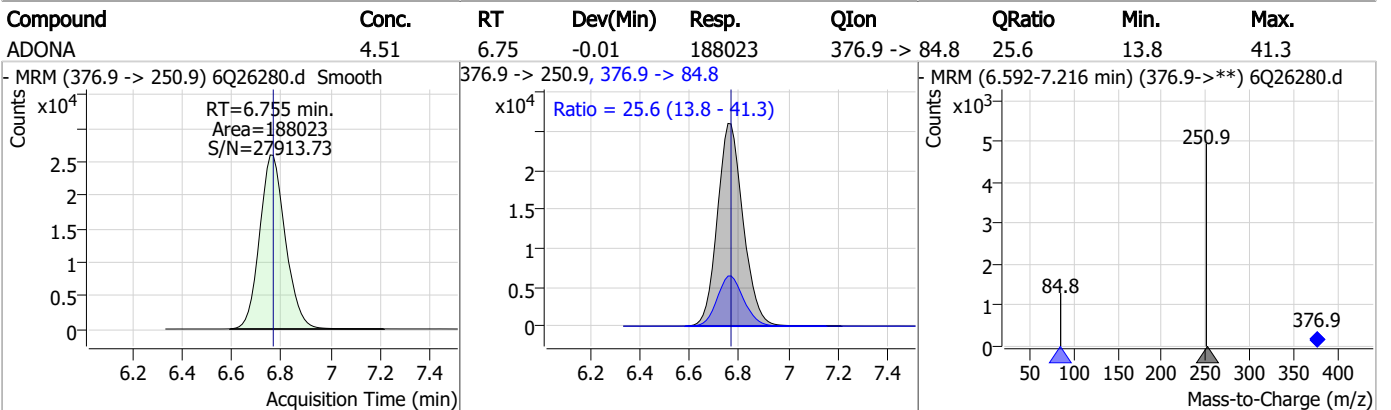
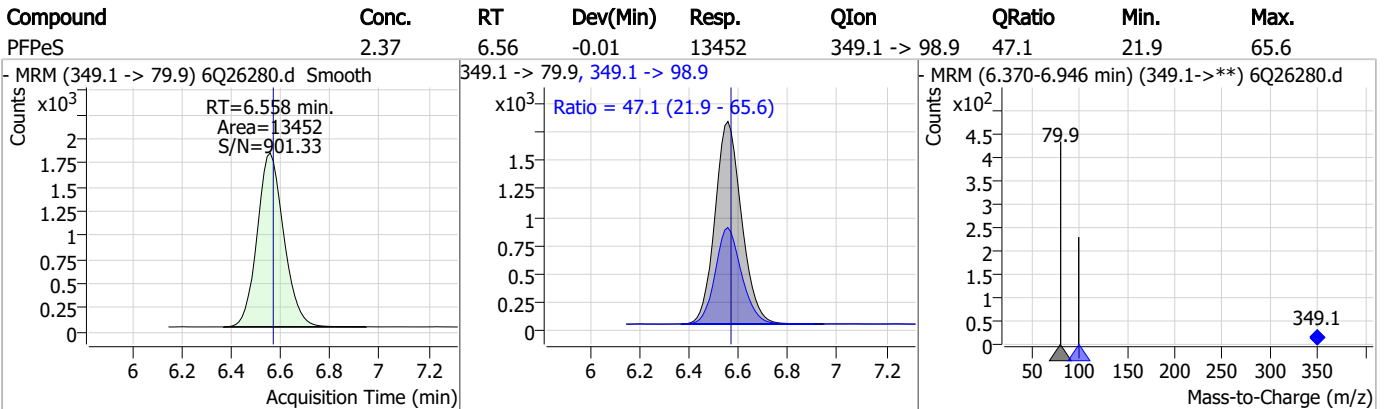
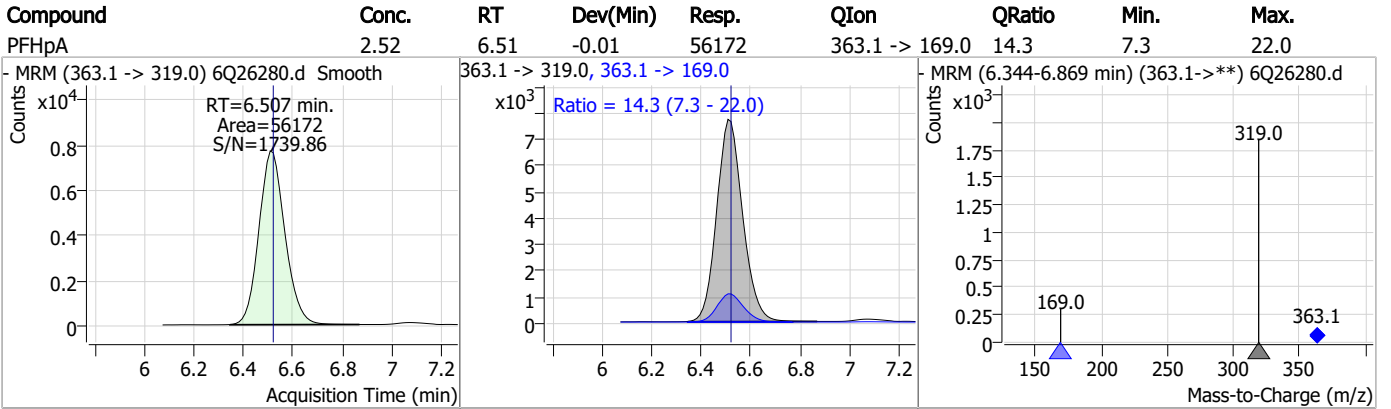
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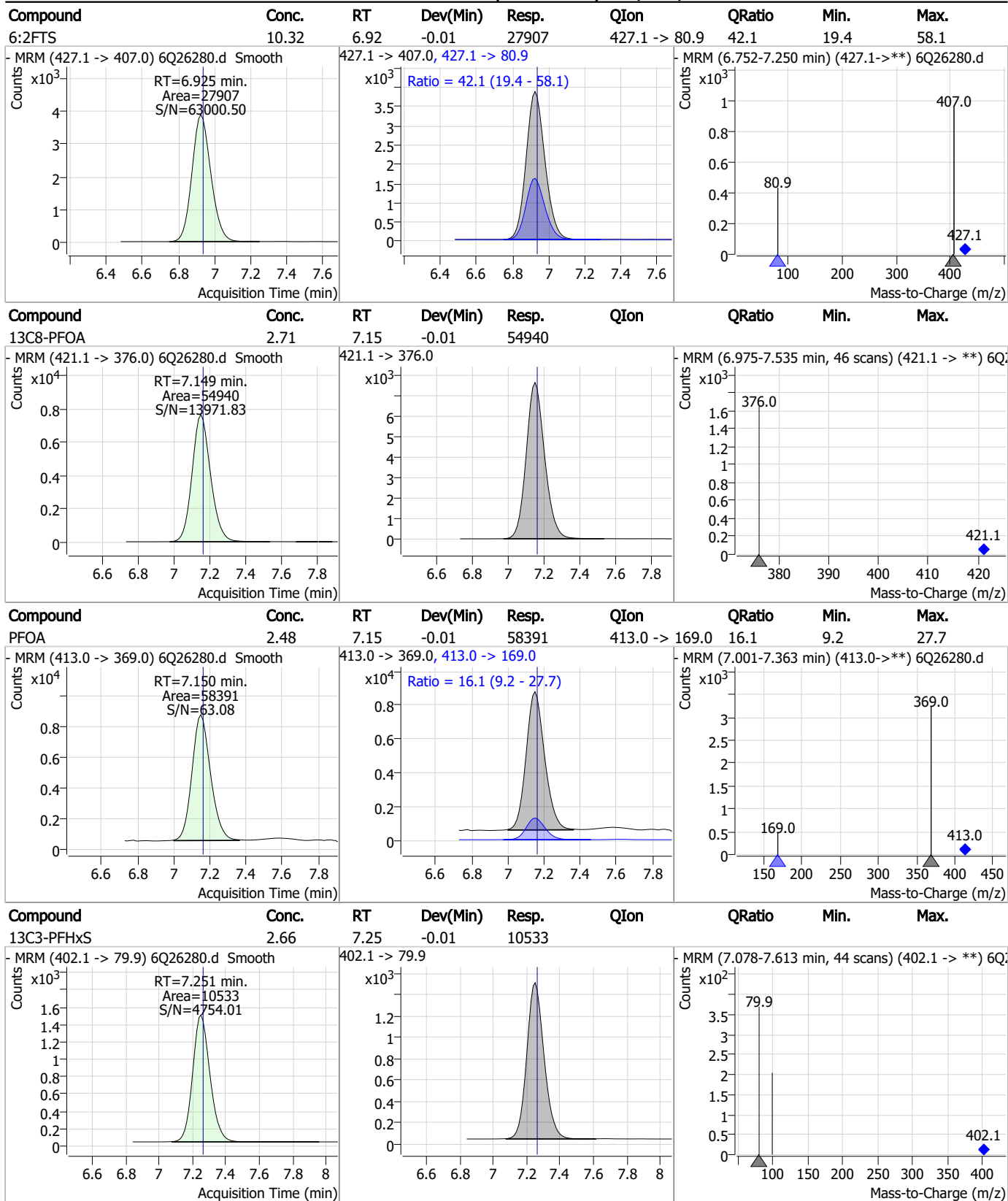
### Perfluorinated Compounds by LC/MS/MS



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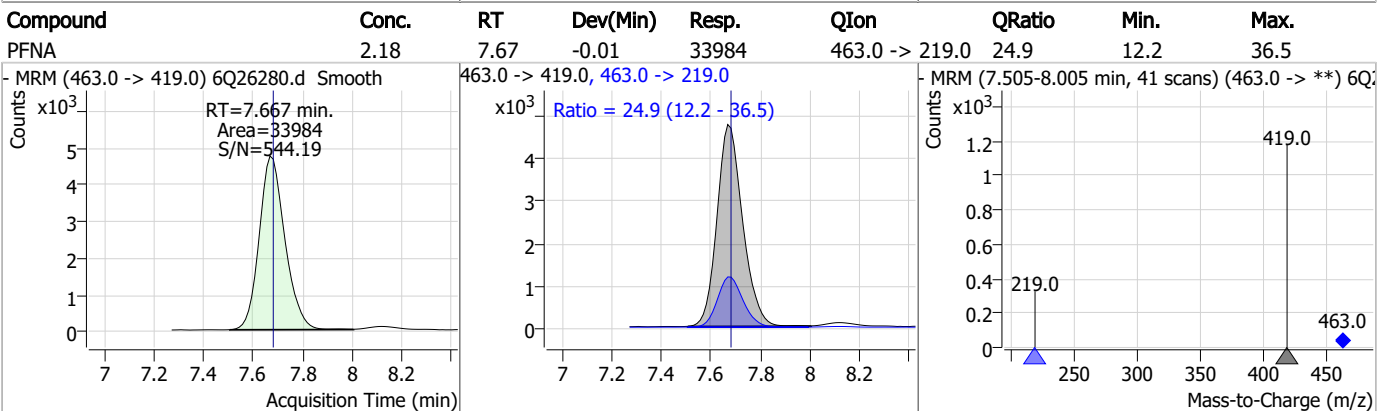
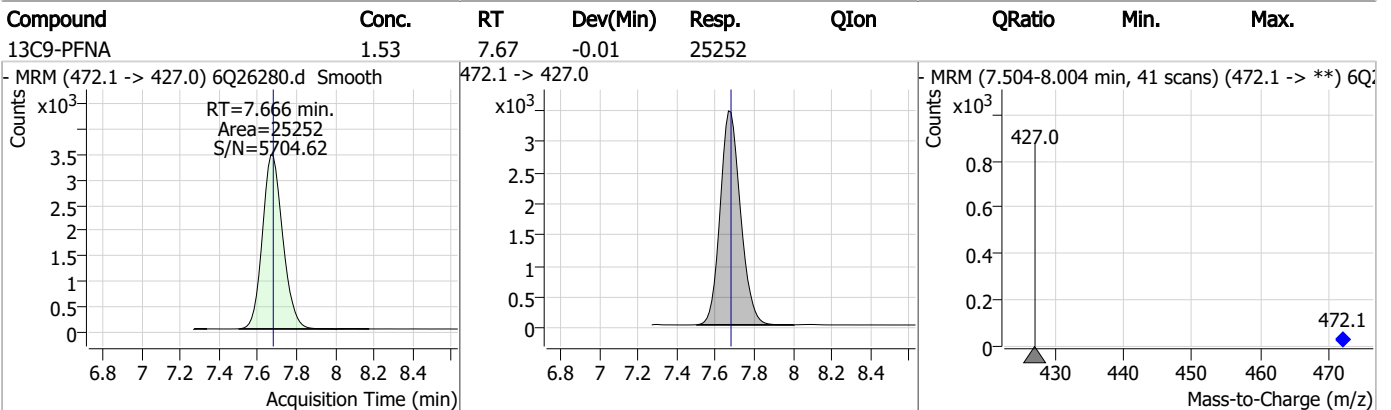
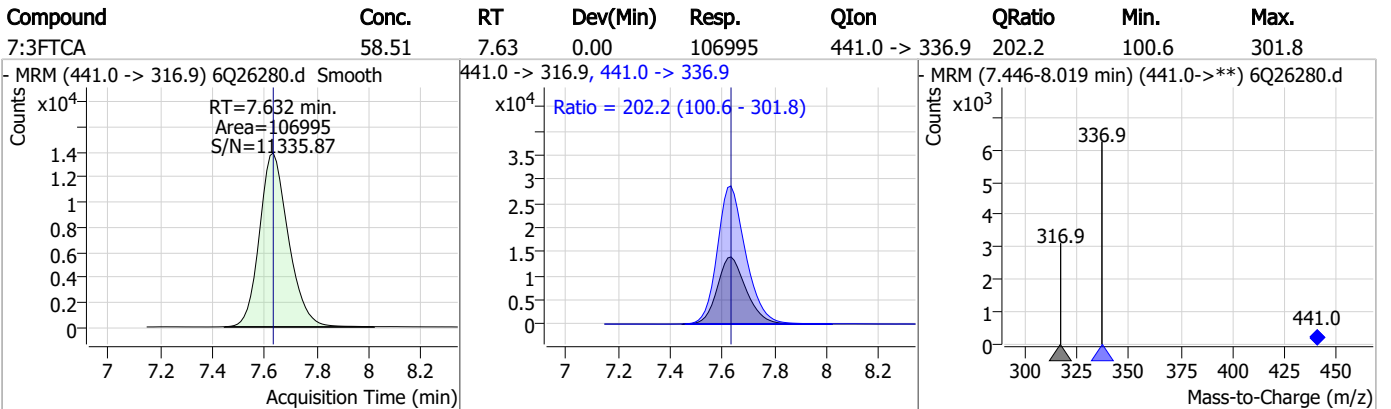
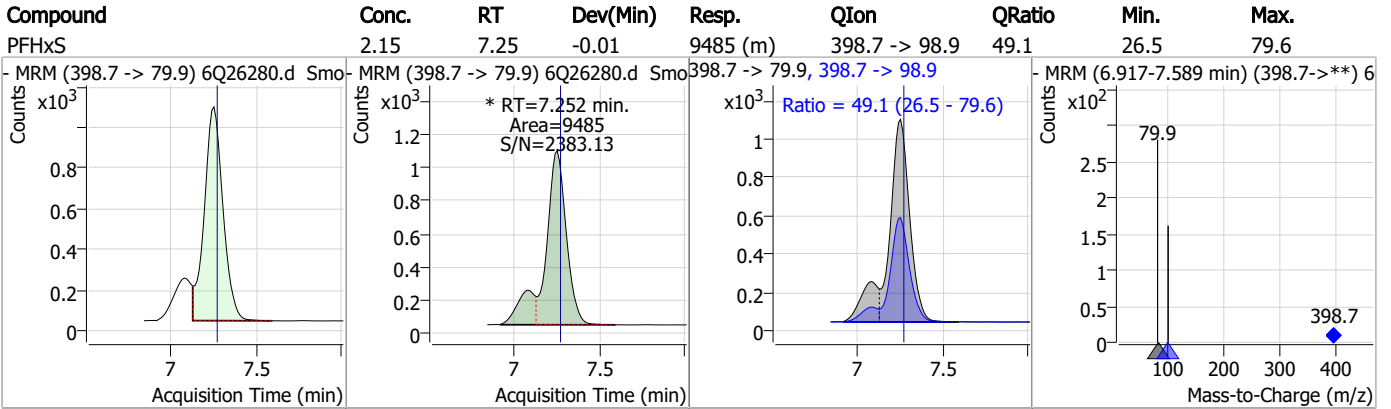
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### Perfluorinated Compounds by LC/MS/MS

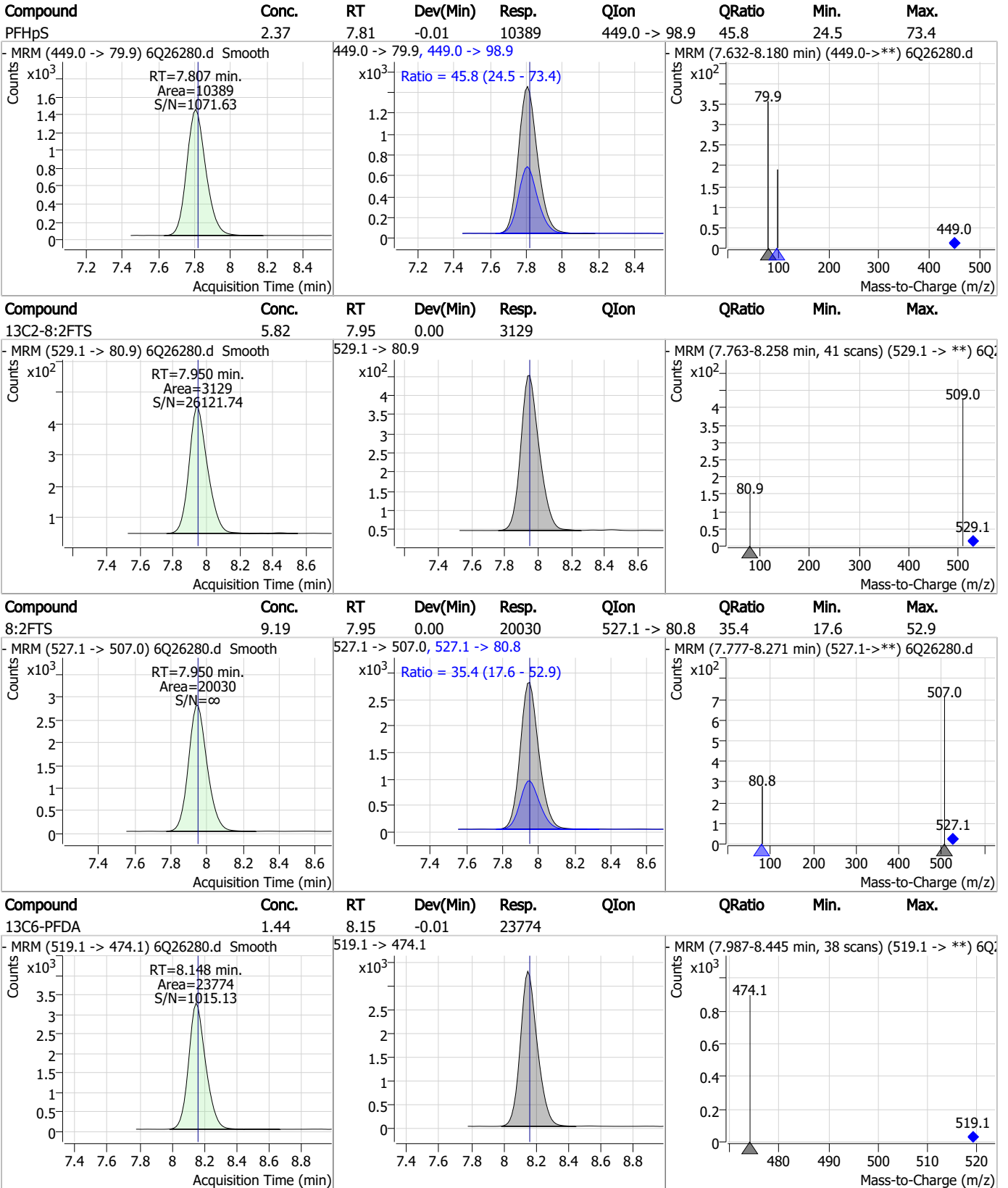


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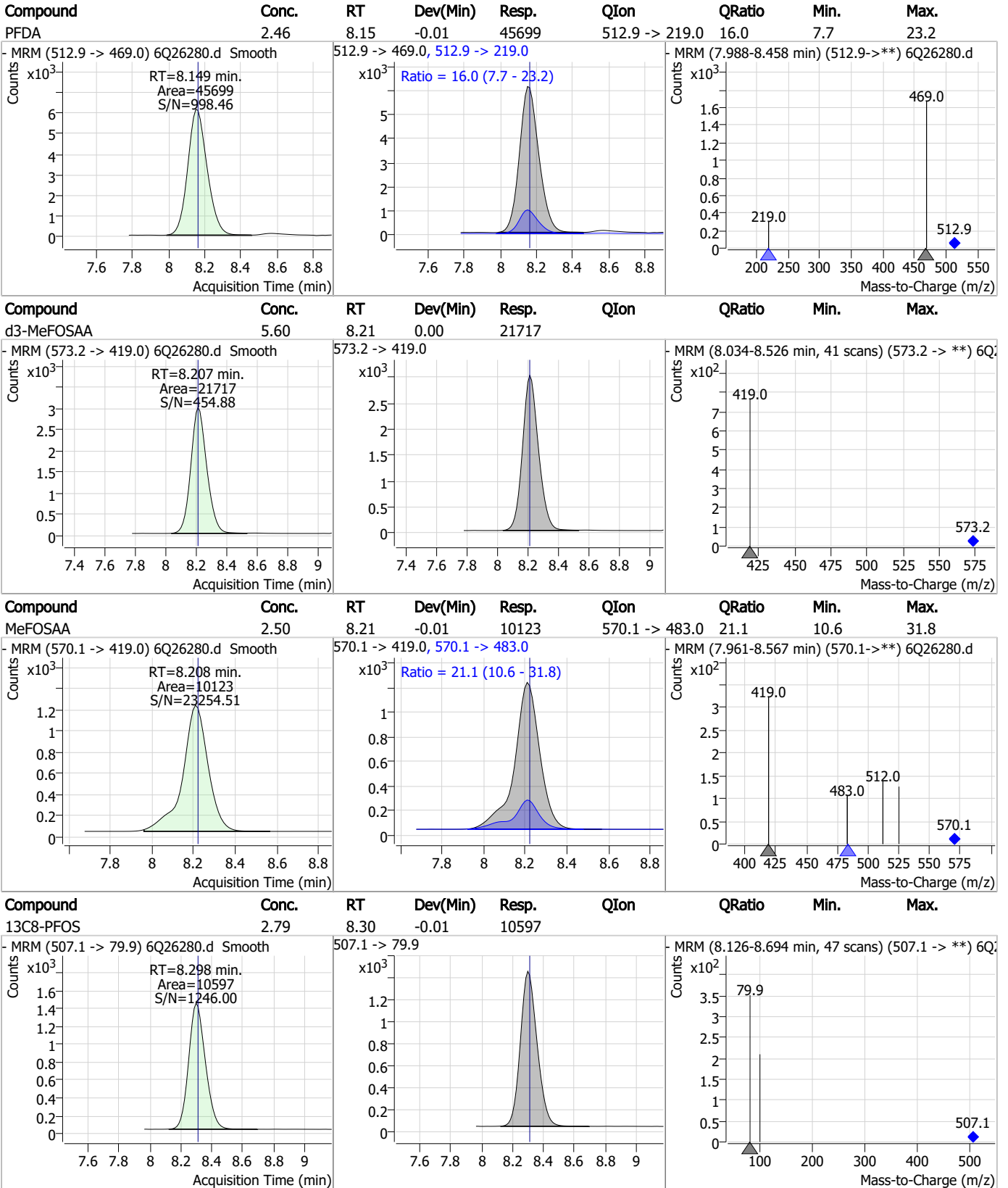
### Perfluorinated Compounds by LC/MS/MS



7.3.1

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### Perfluorinated Compounds by LC/MS/MS



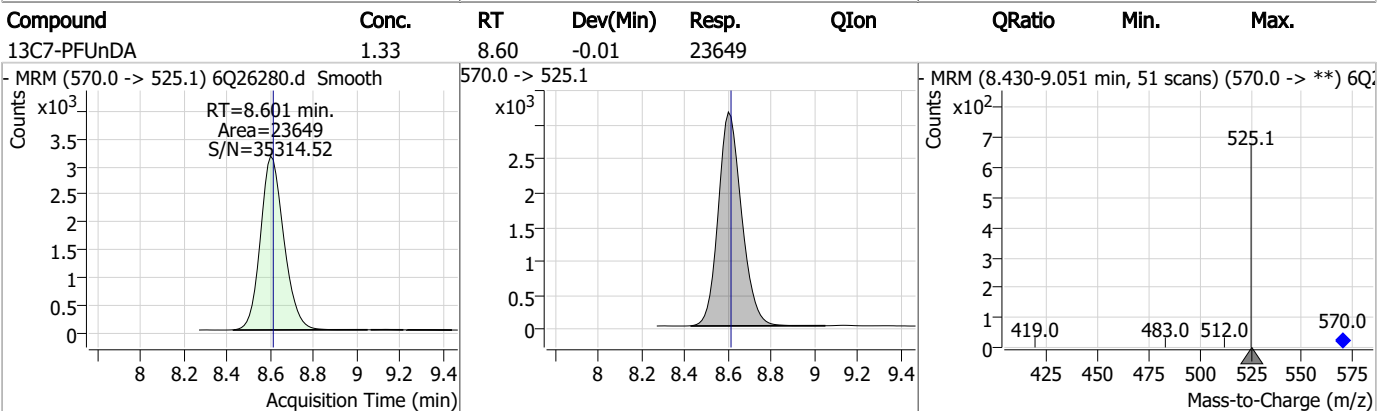
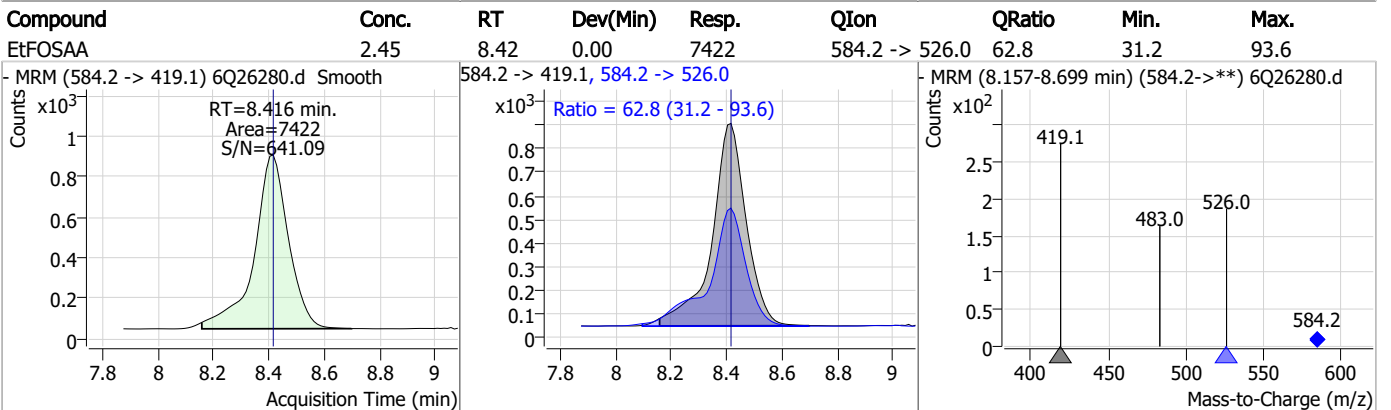
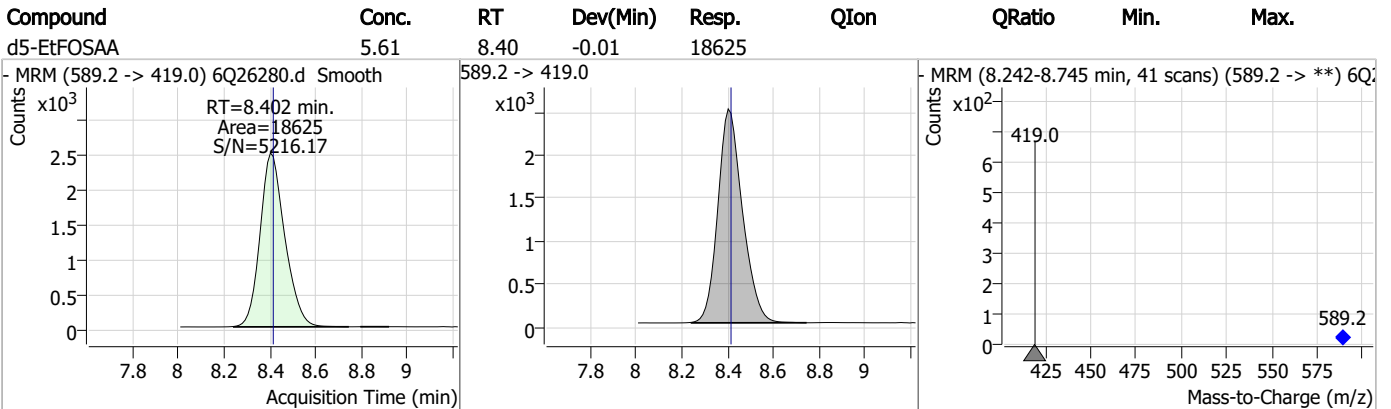
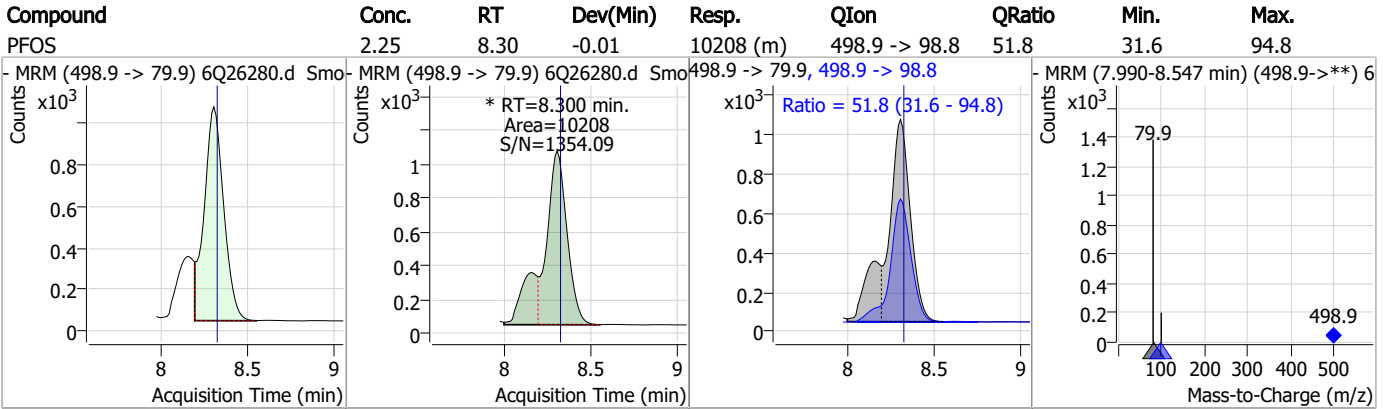
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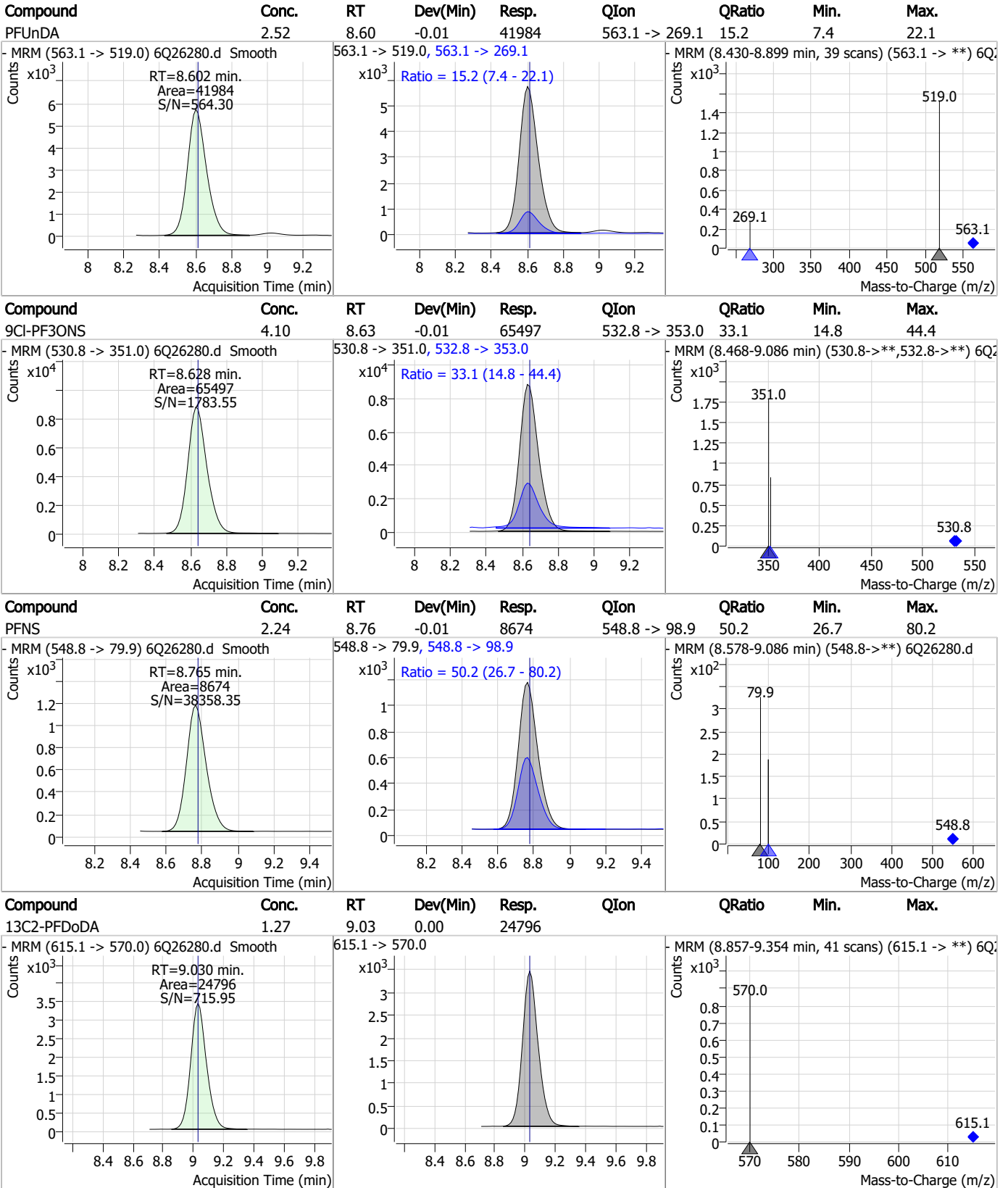
### Perfluorinated Compounds by LC/MS/MS



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### Perfluorinated Compounds by LC/MS/MS

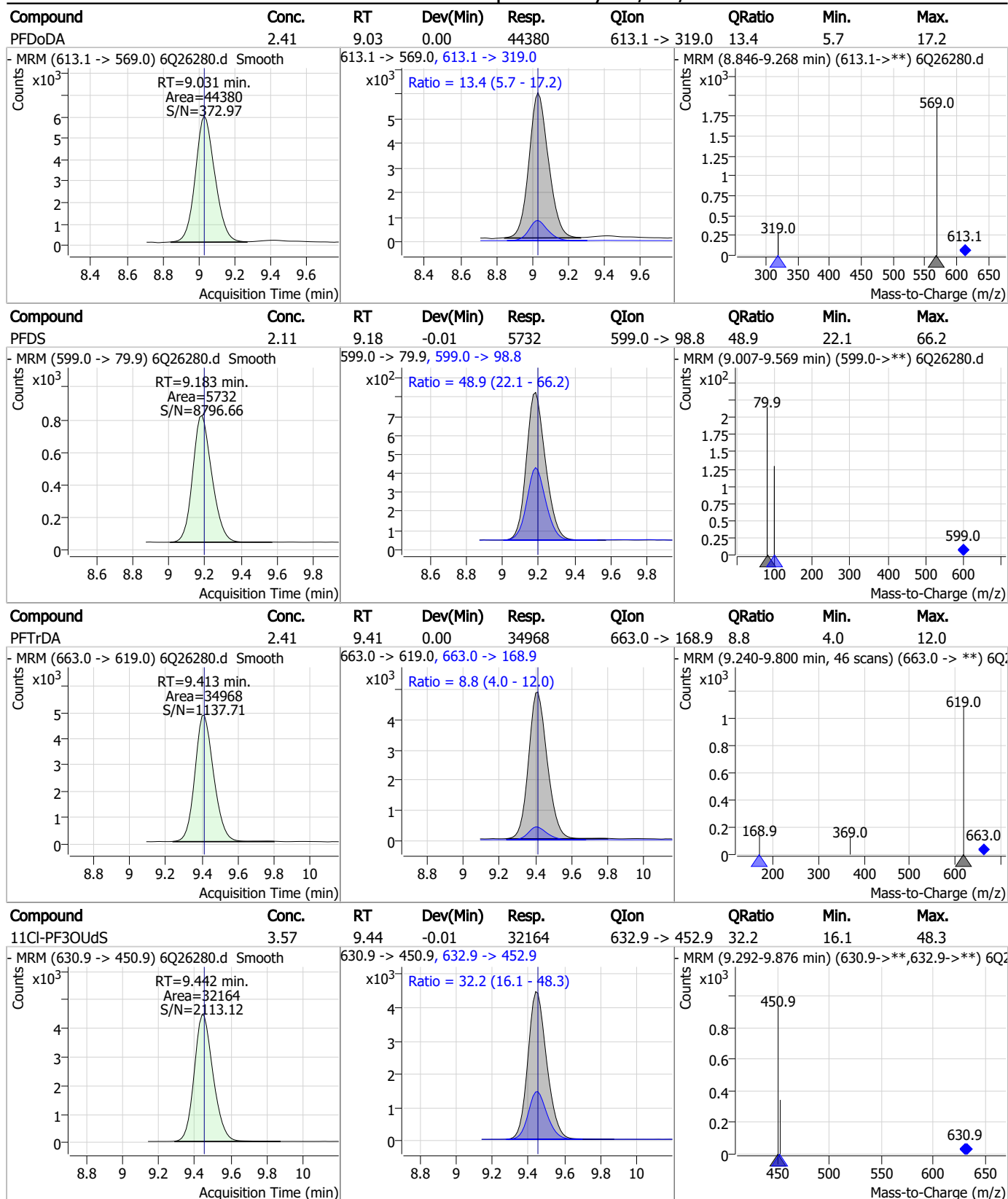


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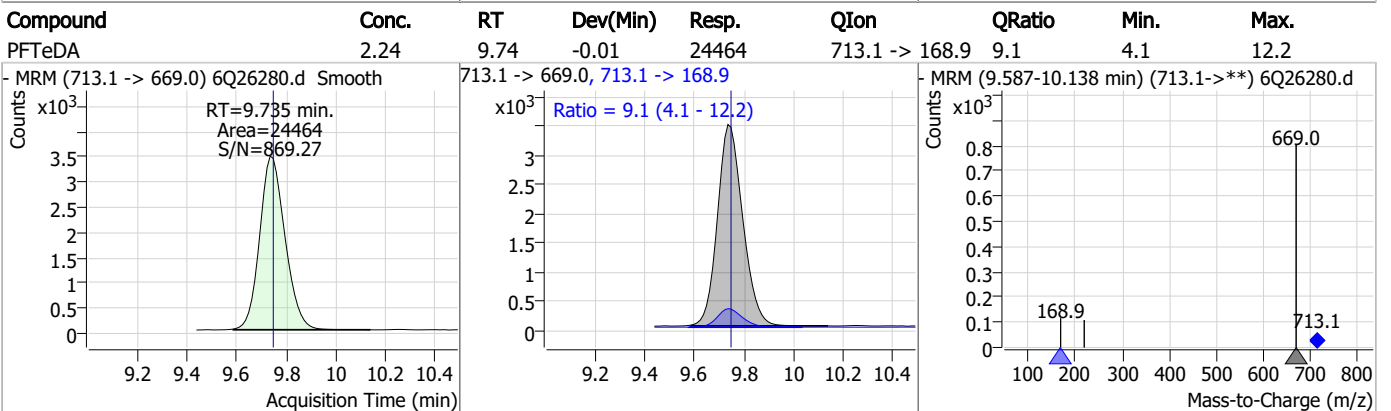
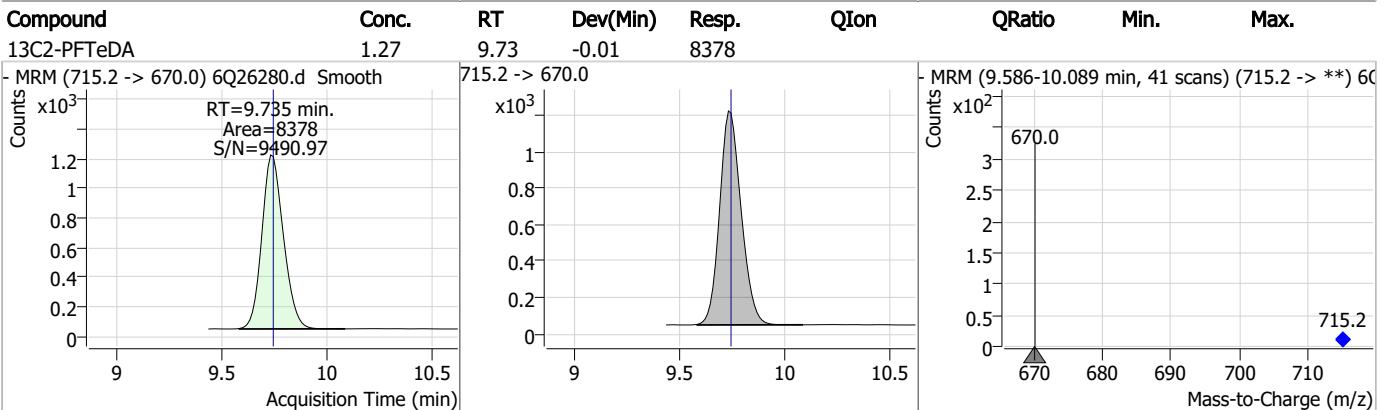
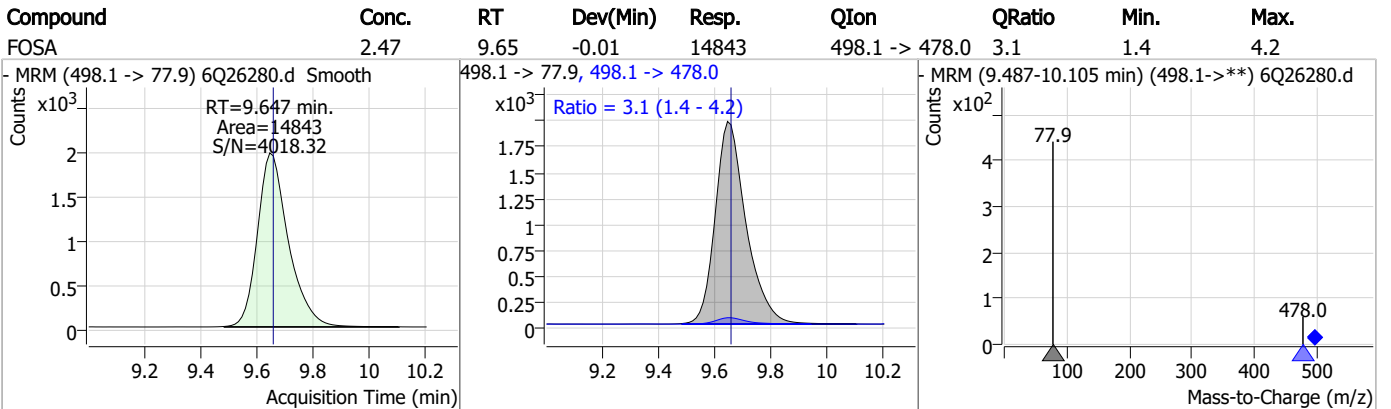
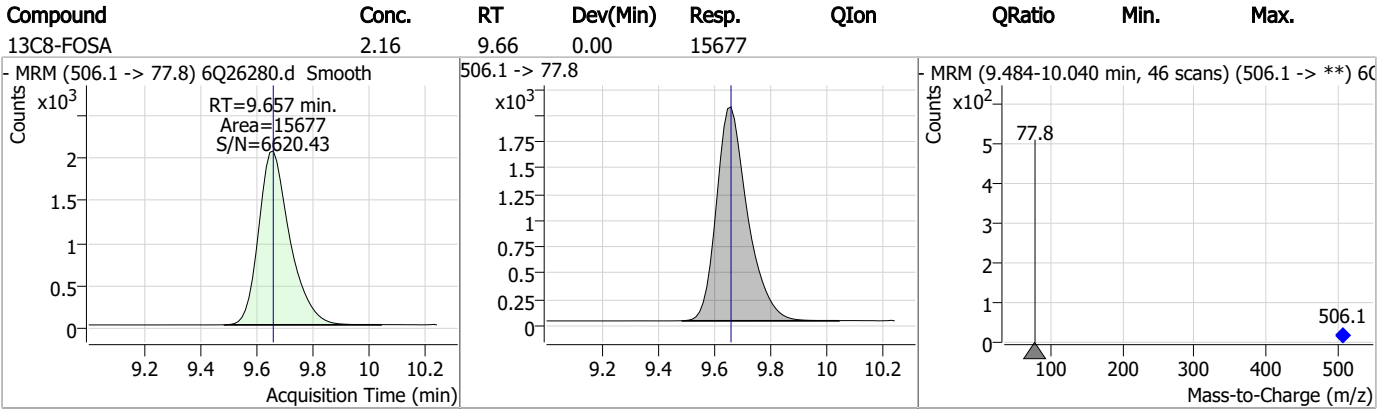


### Perfluorinated Compounds by LC/MS/MS

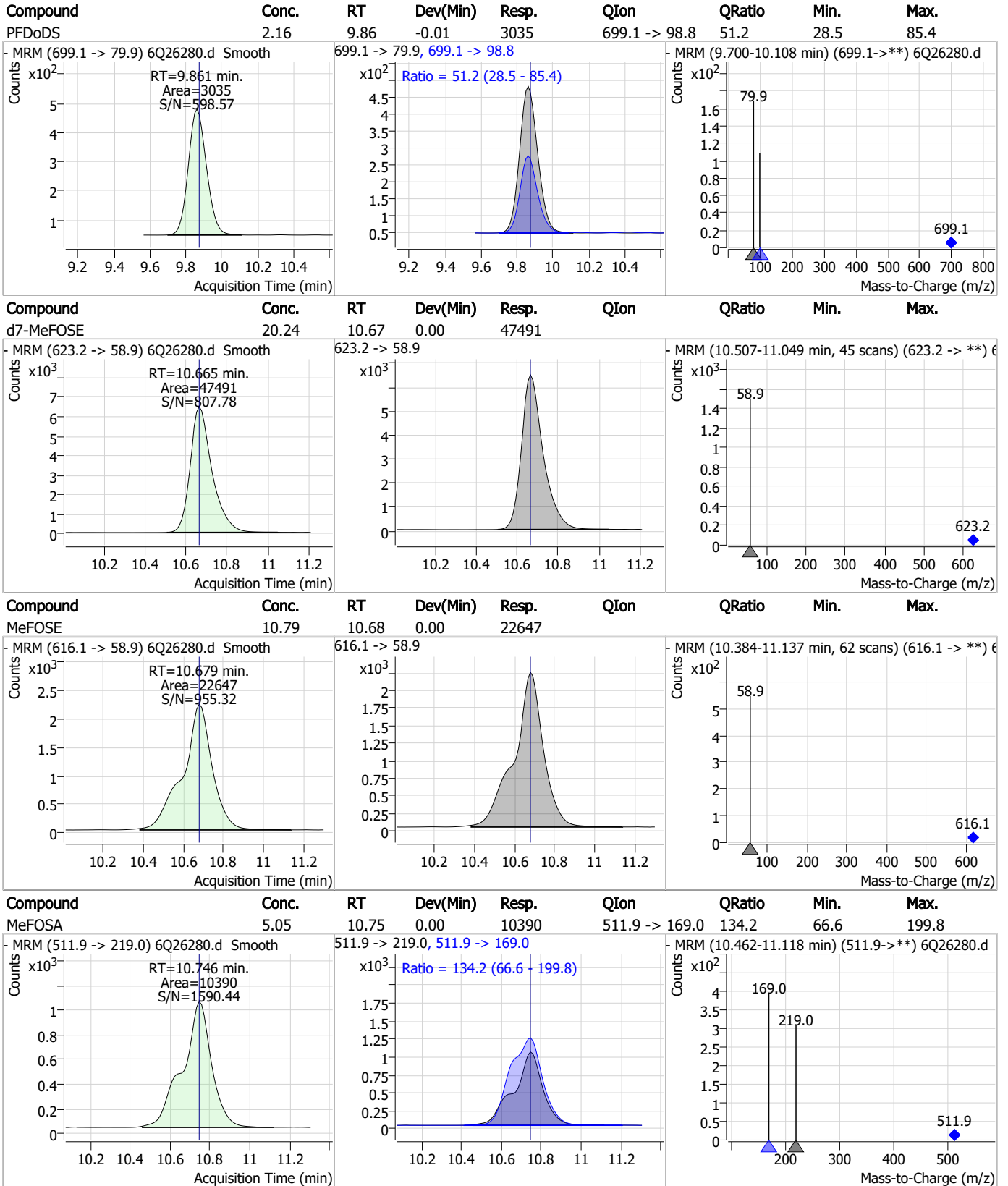


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### Perfluorinated Compounds by LC/MS/MS



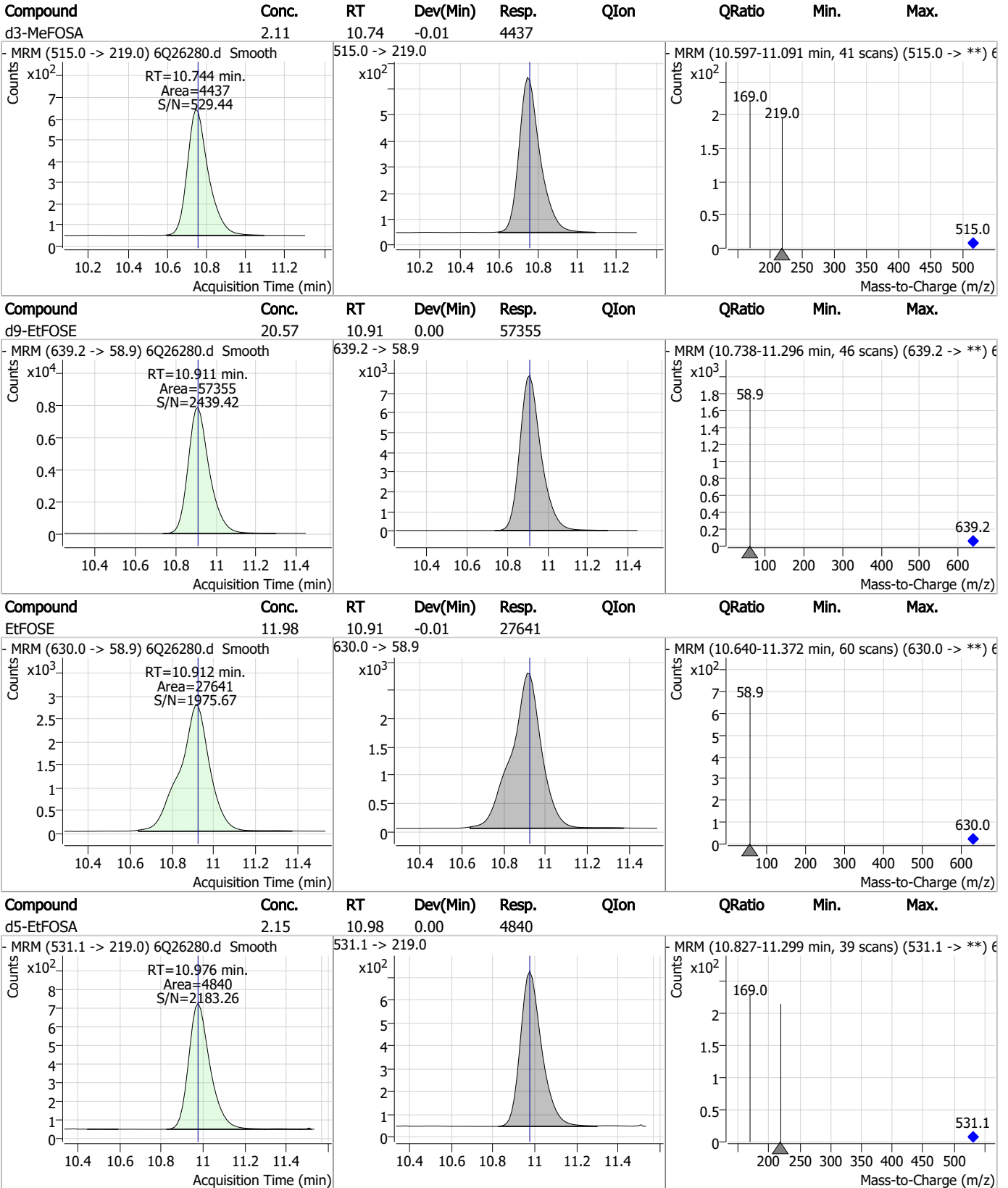
### Perfluorinated Compounds by LC/MS/MS



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### Perfluorinated Compounds by LC/MS/MS

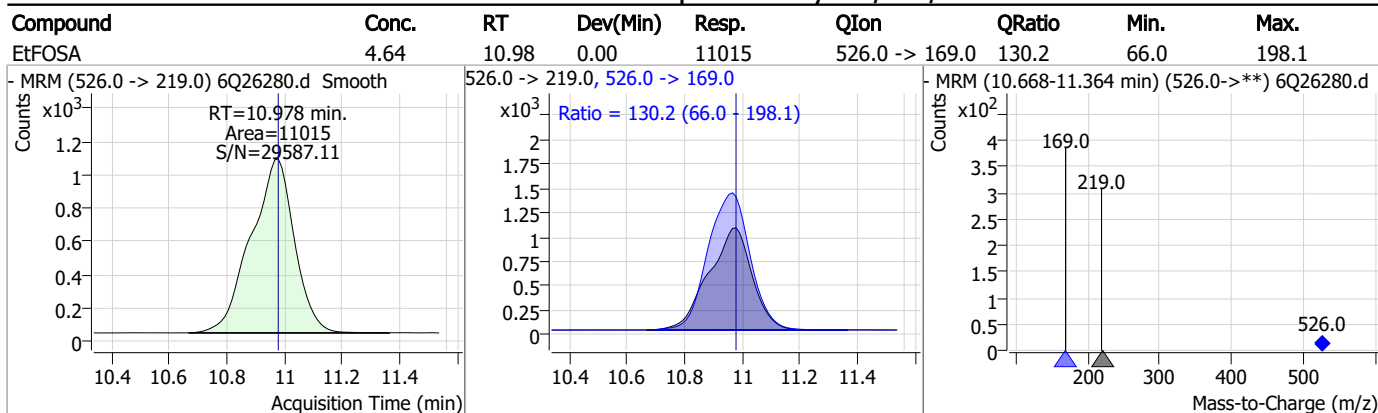


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### Perfluorinated Compounds by LC/MS/MS



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

7.3.1.1

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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)
<b>Internal Standards</b>					
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
<b>System Monitoring Compounds</b>					
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

7.32  
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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%	
<b>Target Compounds</b>					<b>QValue</b>
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  
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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	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

7.3.2  
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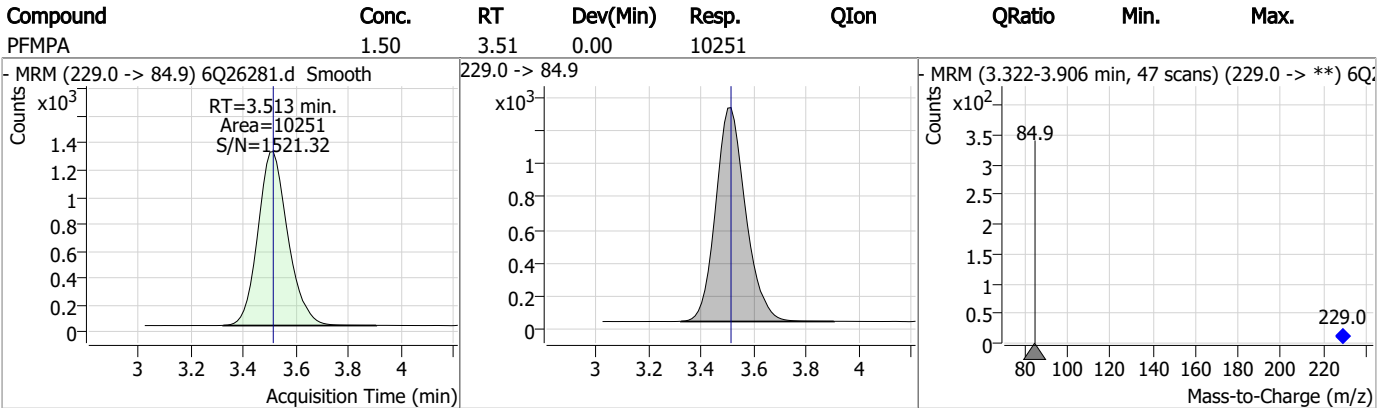
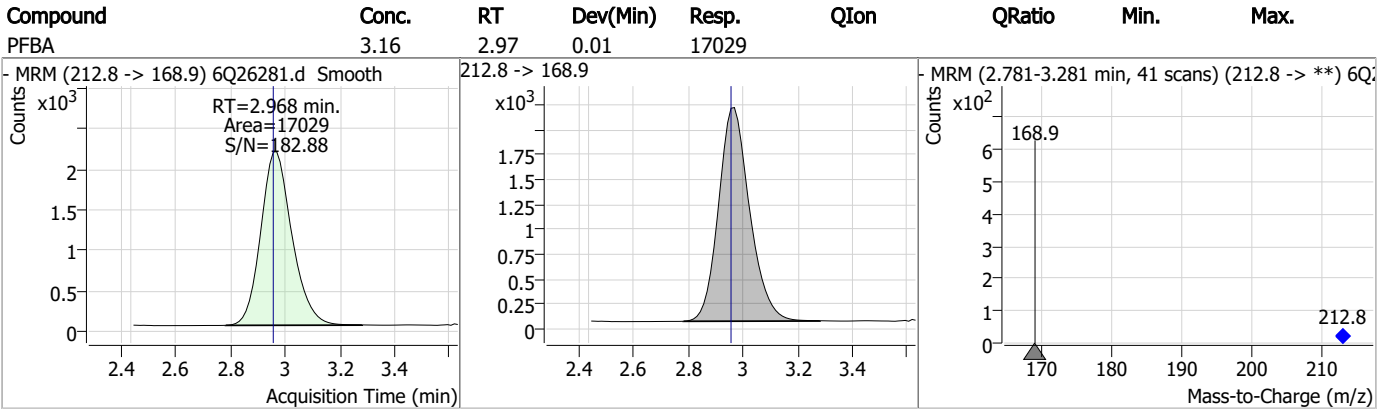
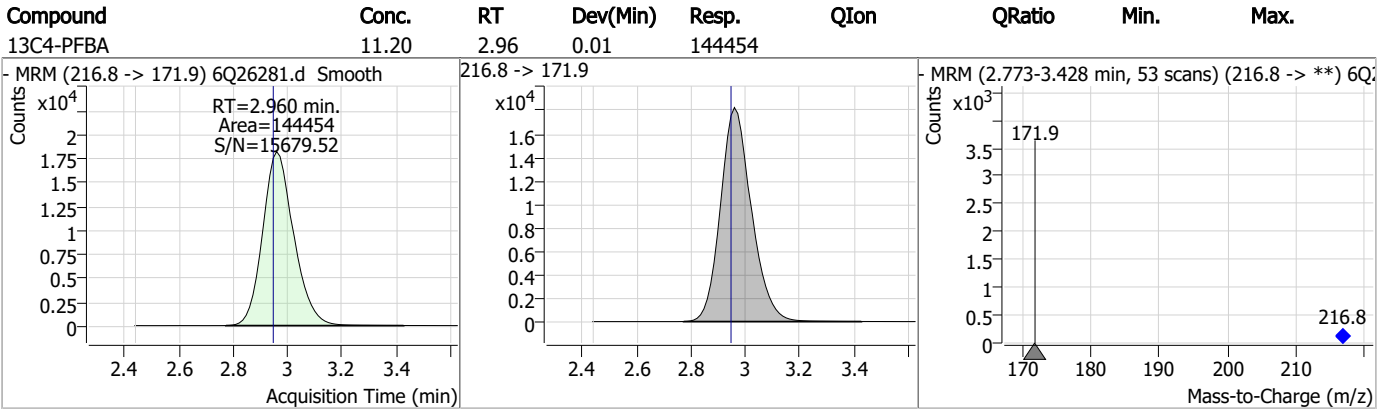
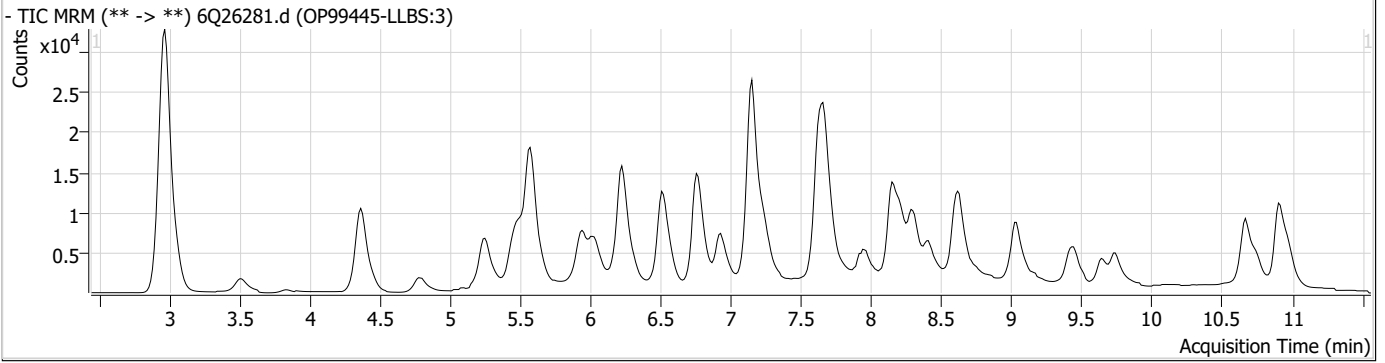
### Perfluorinated Compounds by LC/MS/MS

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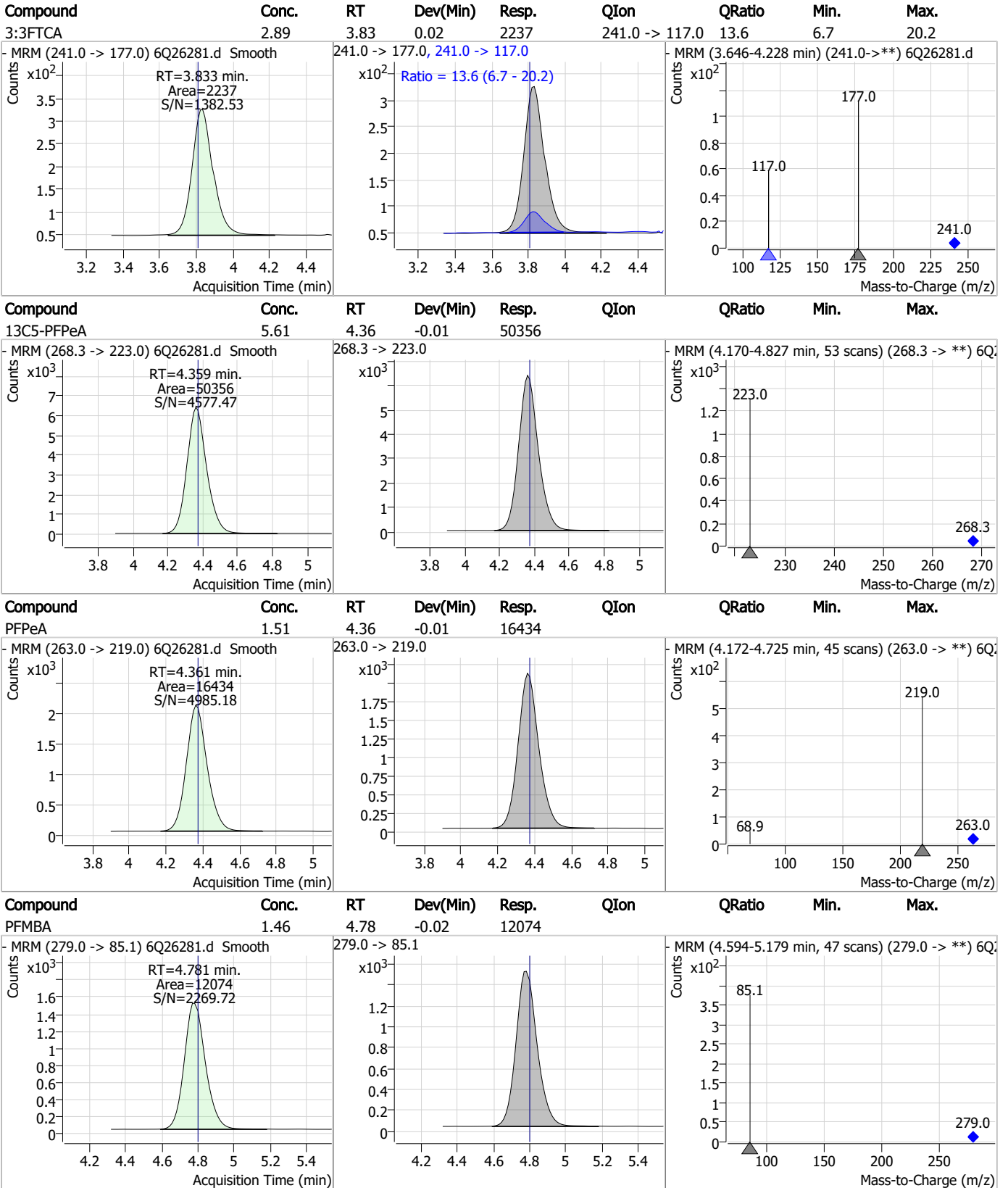
7.3.2

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### Perfluorinated Compounds by LC/MS/MS



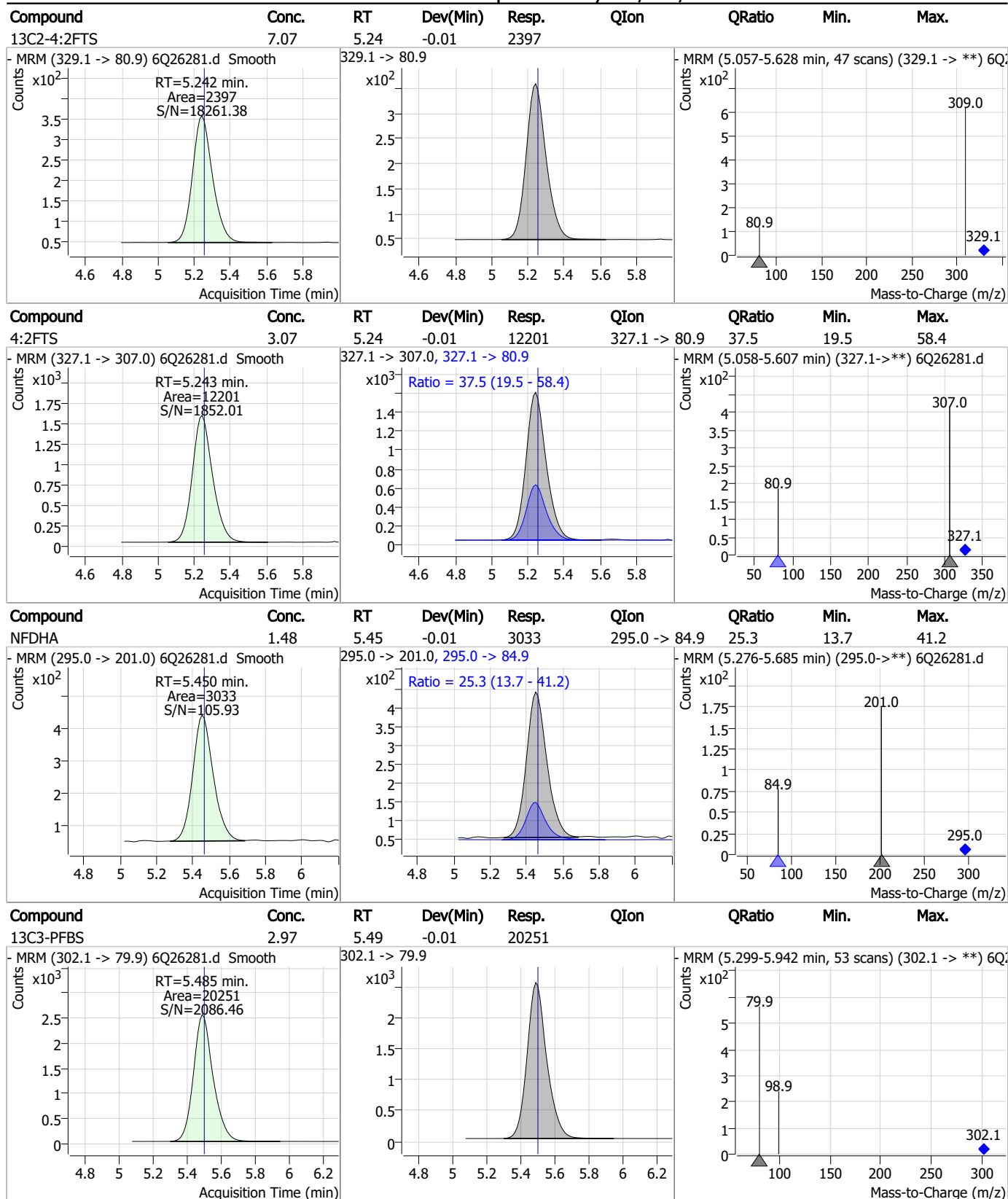
### Perfluorinated Compounds by LC/MS/MS



7.3.2  
7



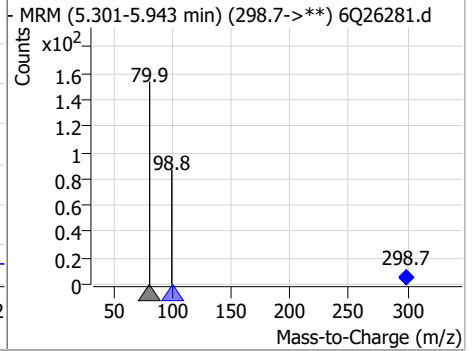
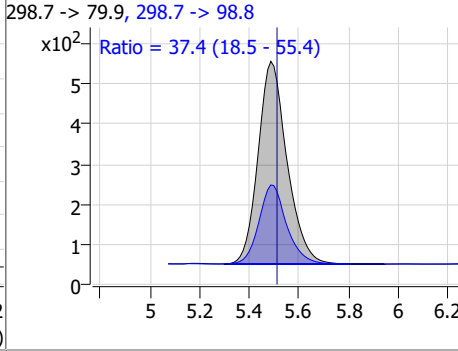
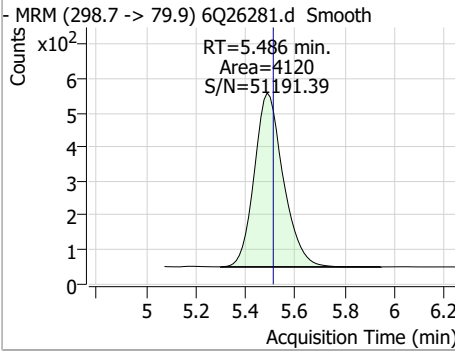
### Perfluorinated Compounds by LC/MS/MS



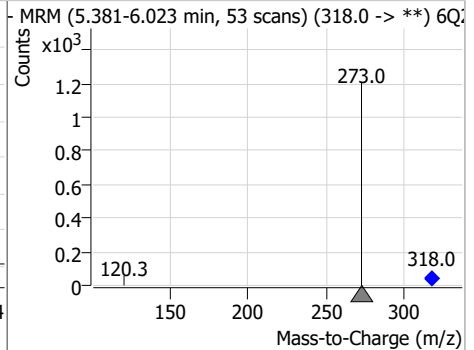
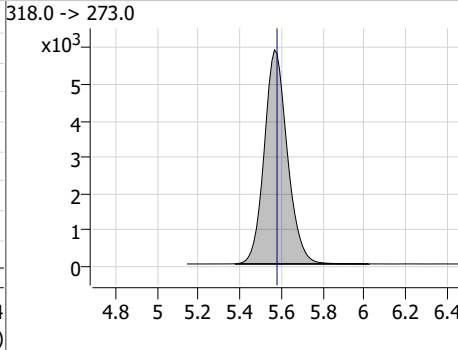
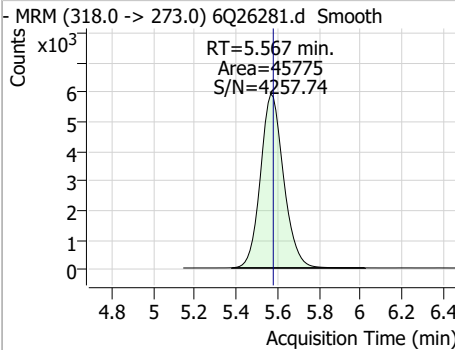
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### Perfluorinated Compounds by LC/MS/MS

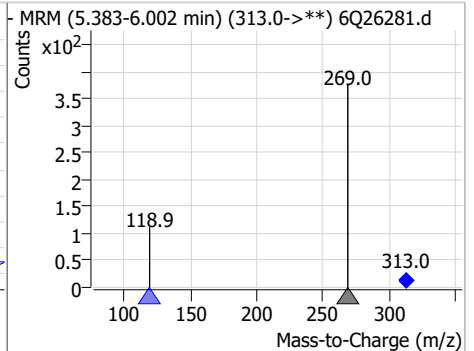
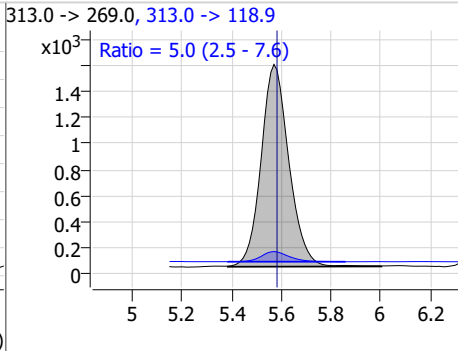
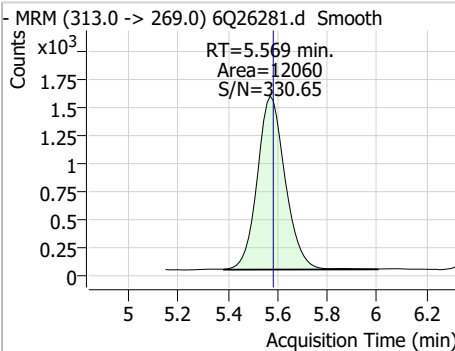
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBS	0.68	5.49	-0.02	4120	298.7 -> 98.8	37.4	18.5	55.4



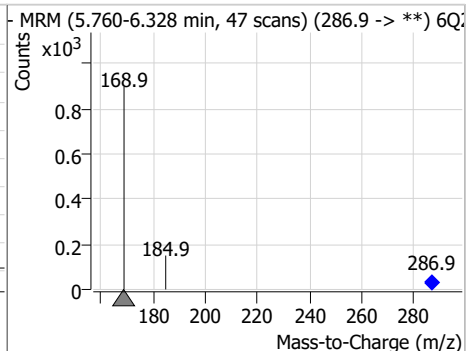
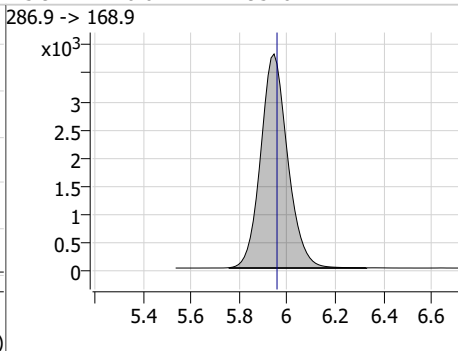
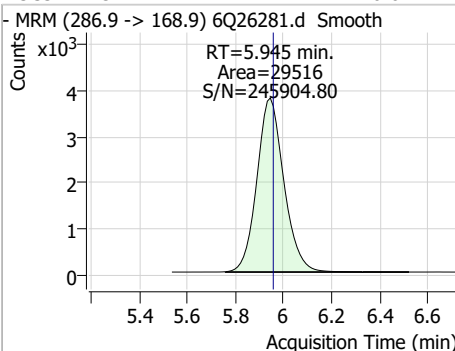
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFHxA	2.79	5.57	-0.01	45775	318.0 -> 273.0	5.0	2.5	7.6



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxA	0.74	5.57	-0.01	12060	313.0 -> 118.9	5.0	2.5	7.6

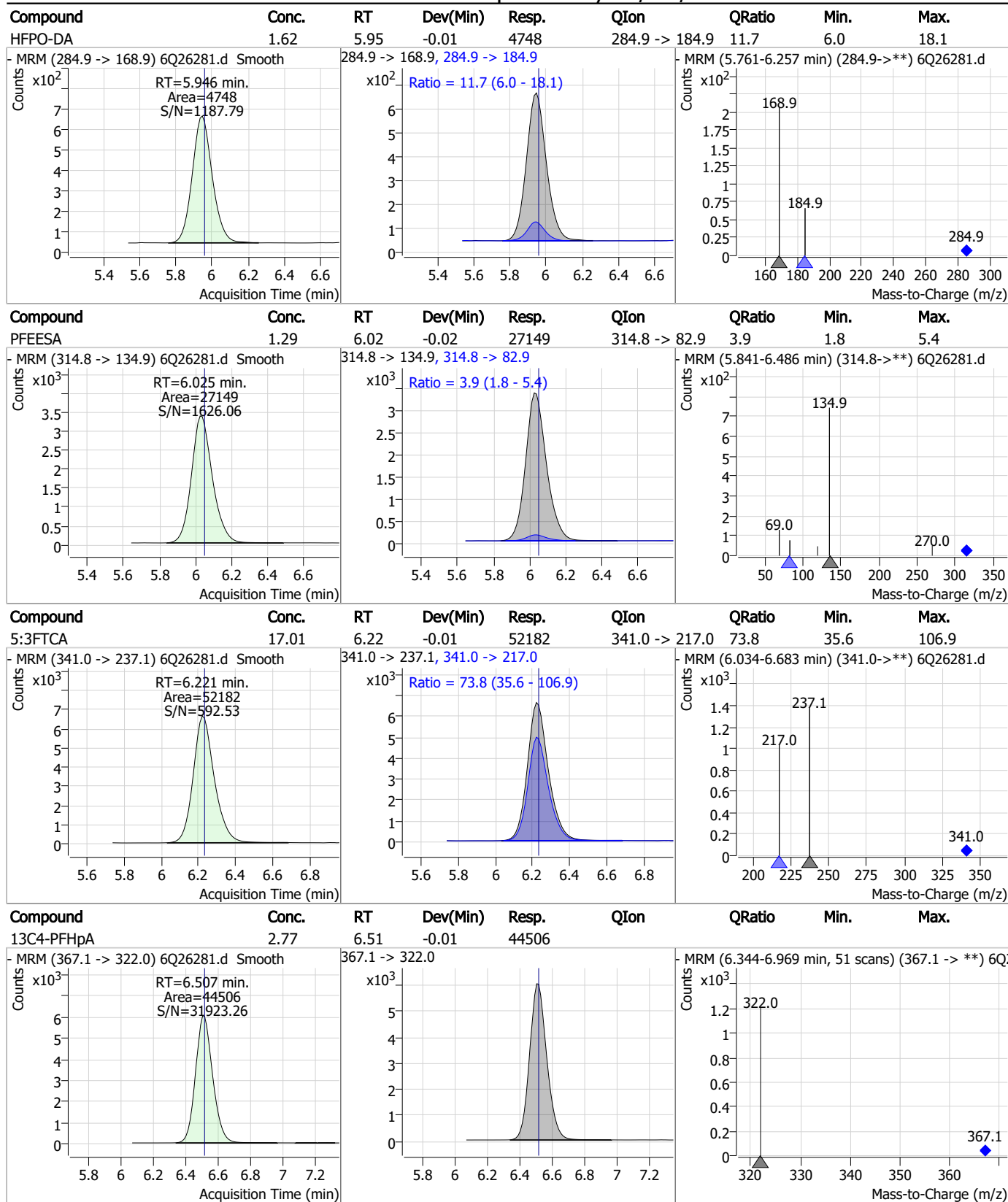


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-HFPO-DA	10.67	5.94	-0.01	29516	286.9 -> 168.9	5.0	2.5	7.6



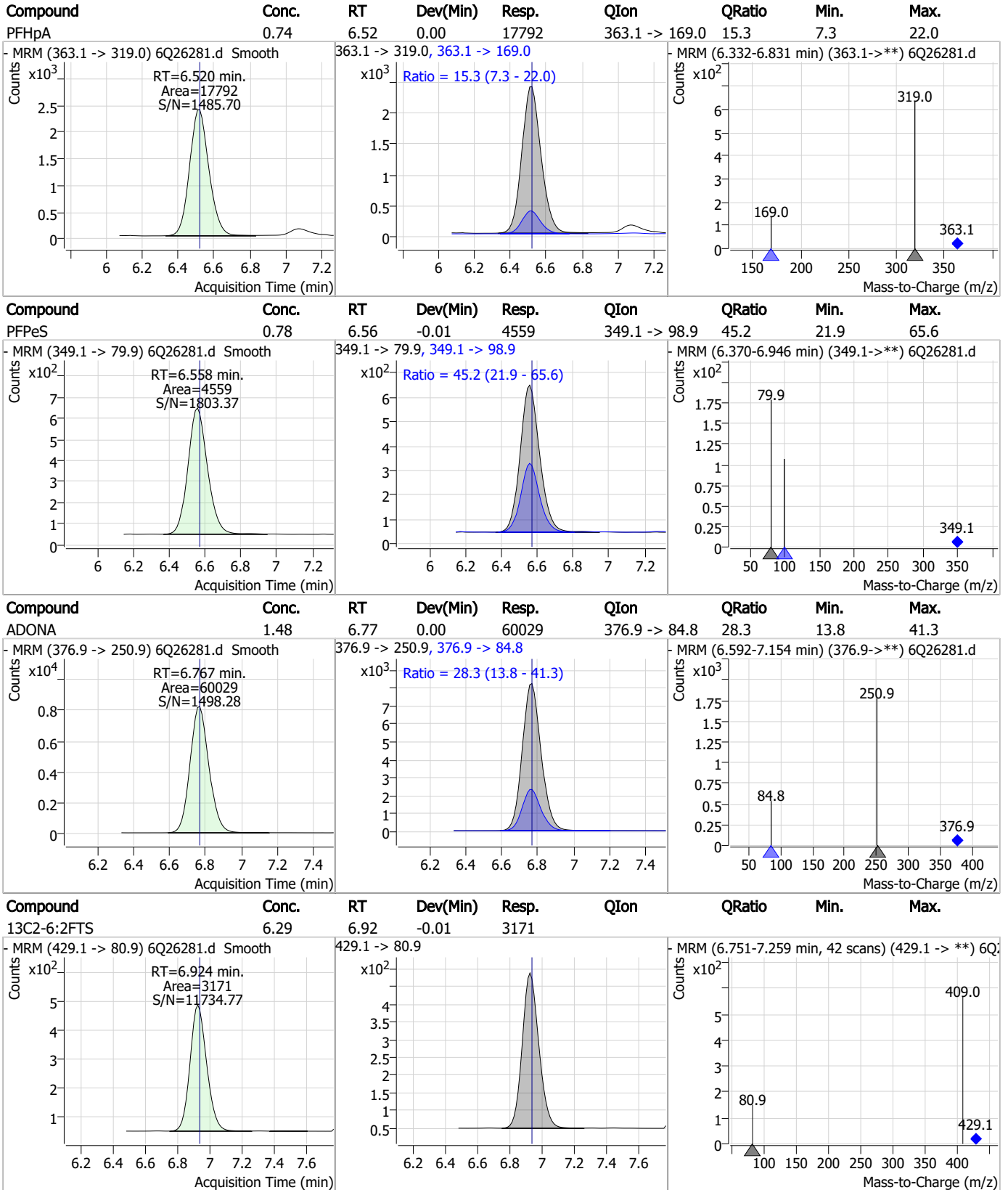


### Perfluorinated Compounds by LC/MS/MS



7.3.2  
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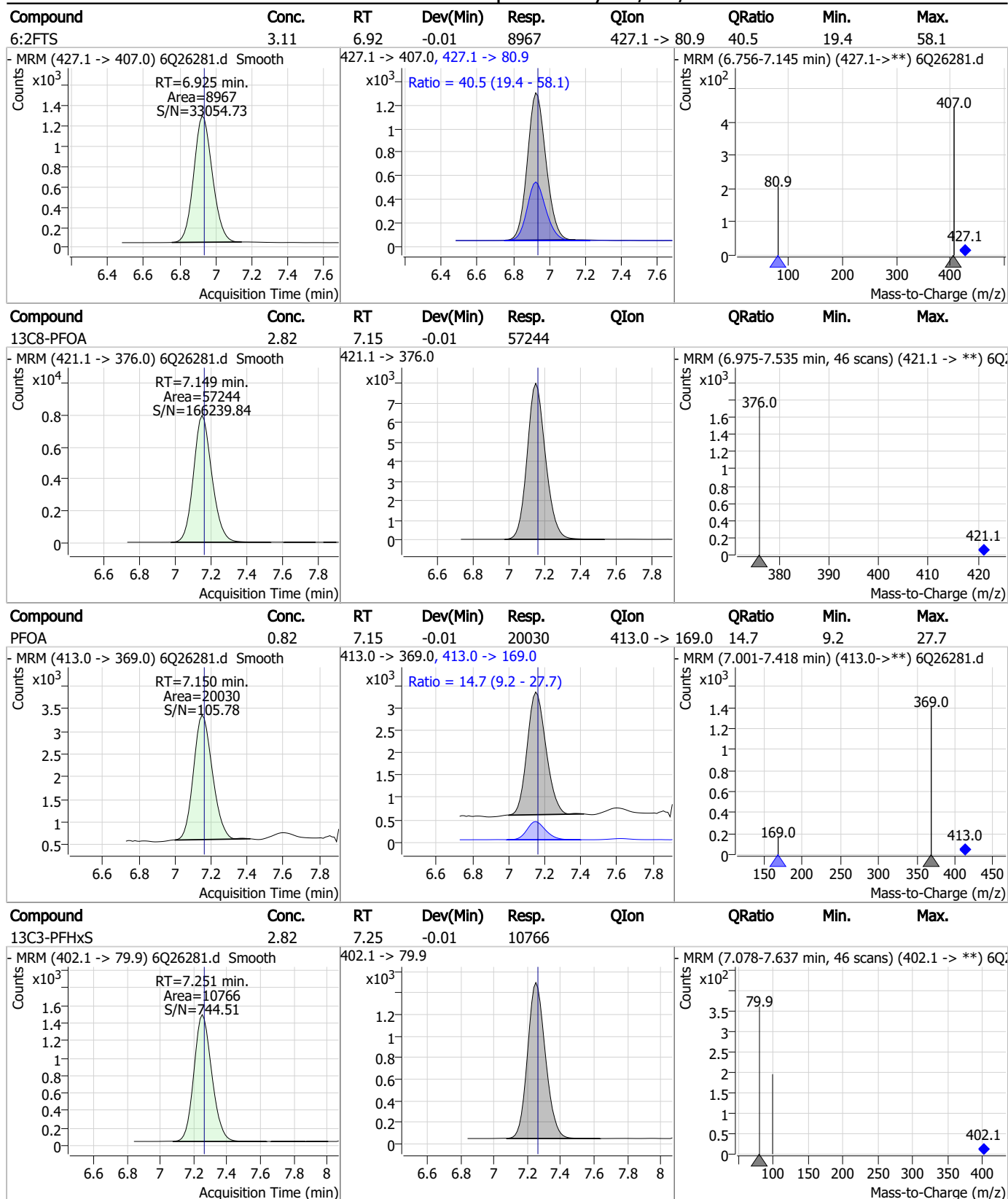
### Perfluorinated Compounds by LC/MS/MS



7.3.2  
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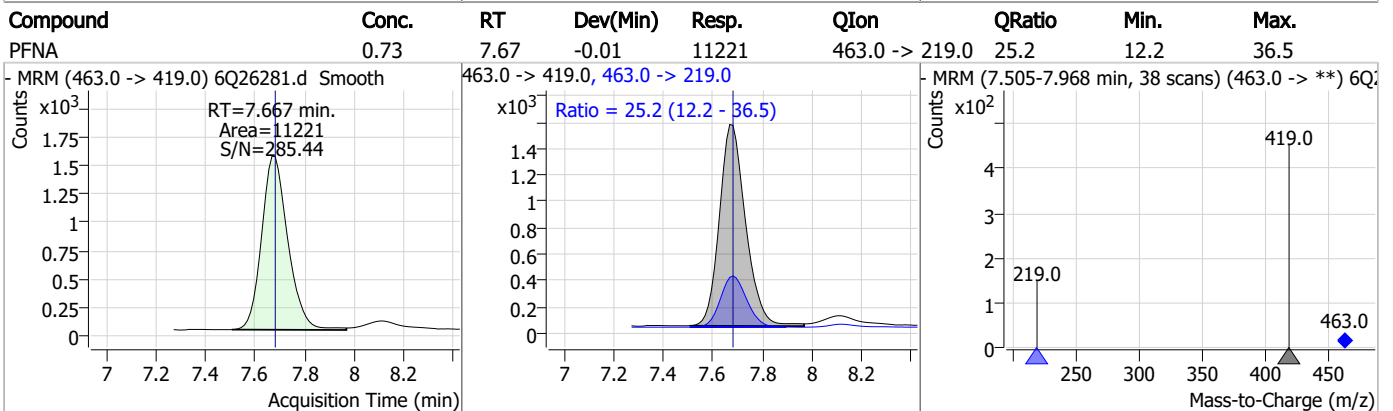
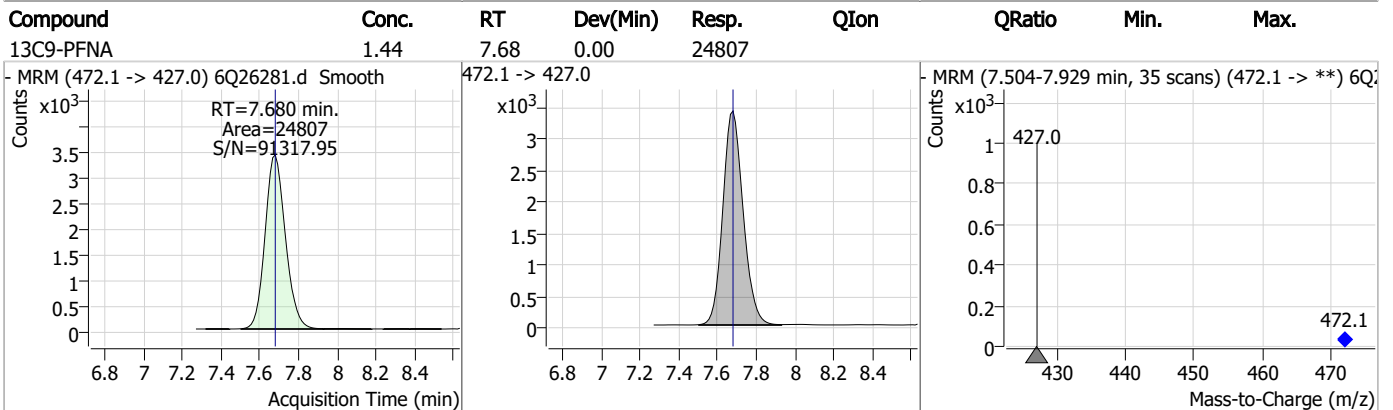
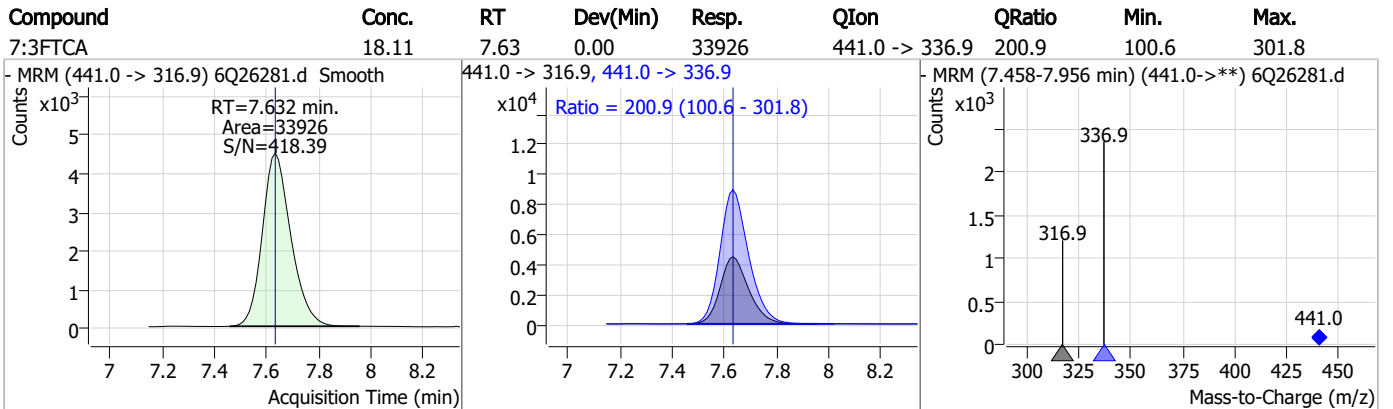
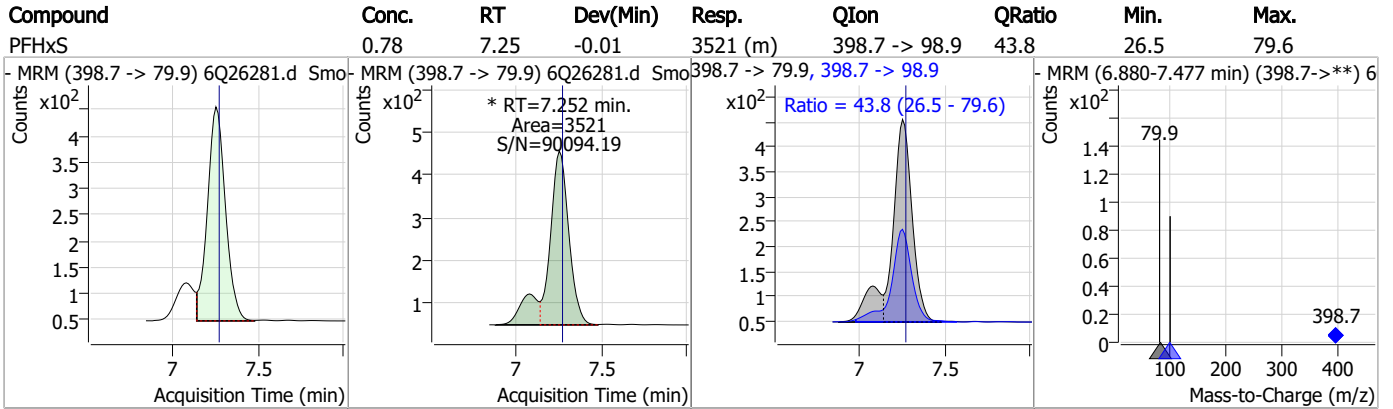
### Perfluorinated Compounds by LC/MS/MS



7.3.2  
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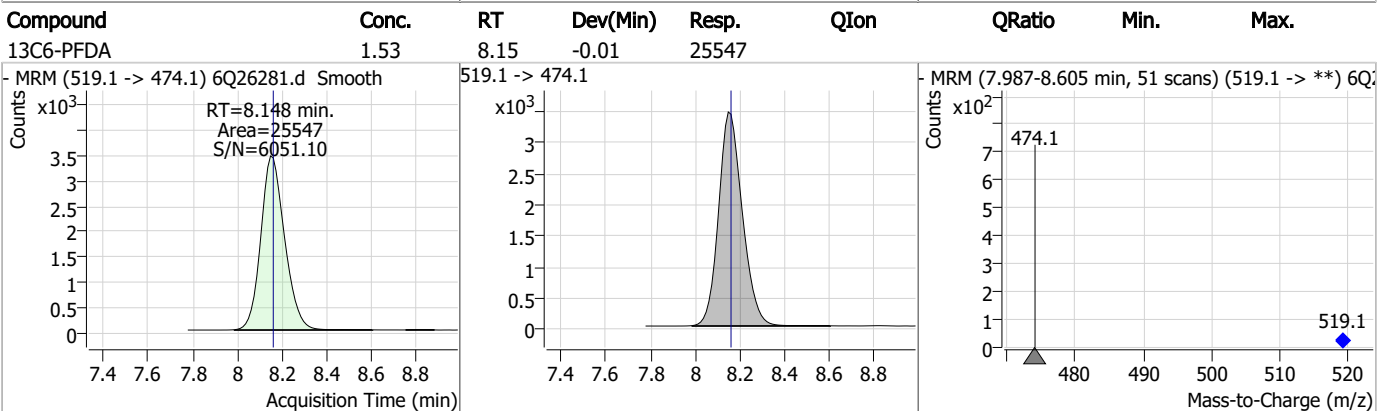
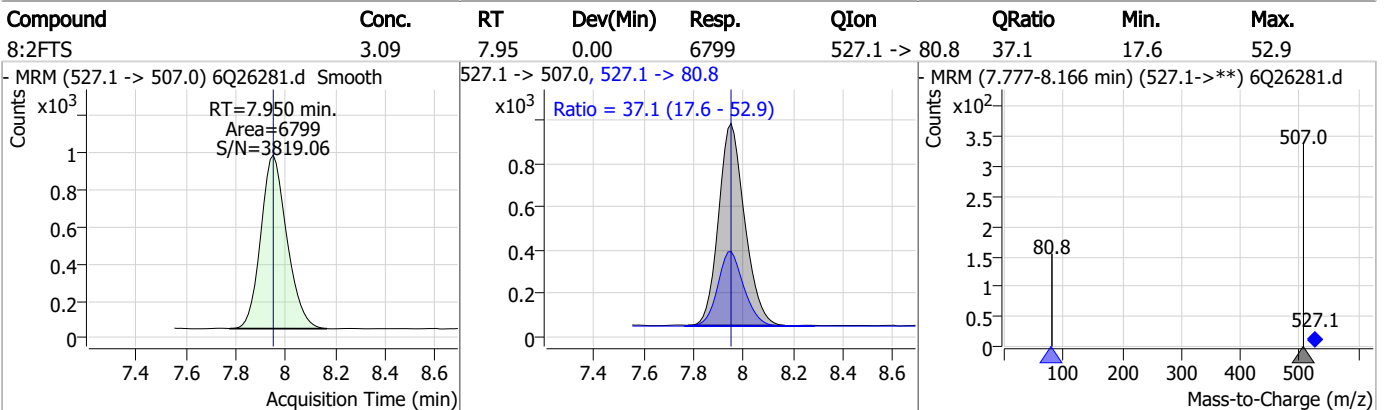
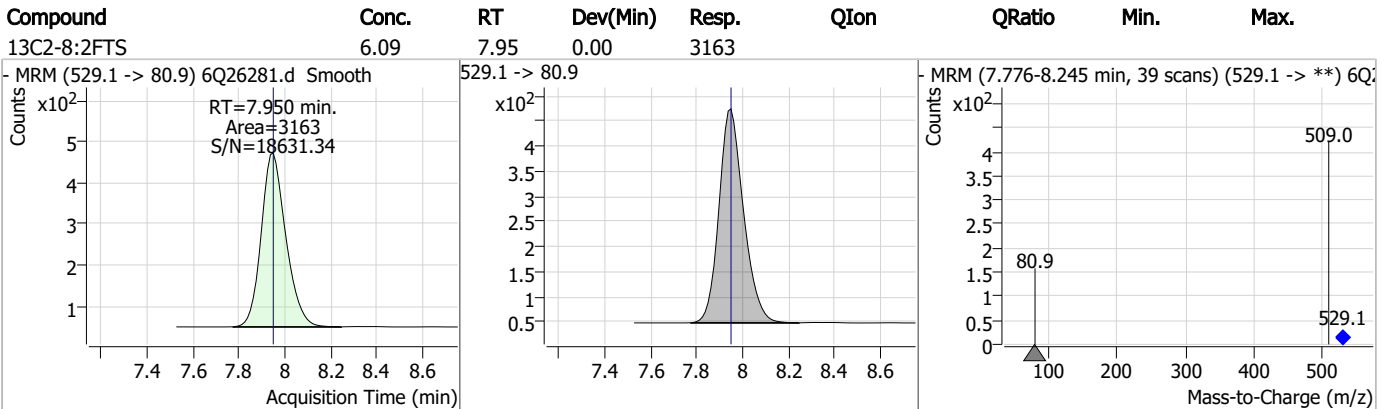
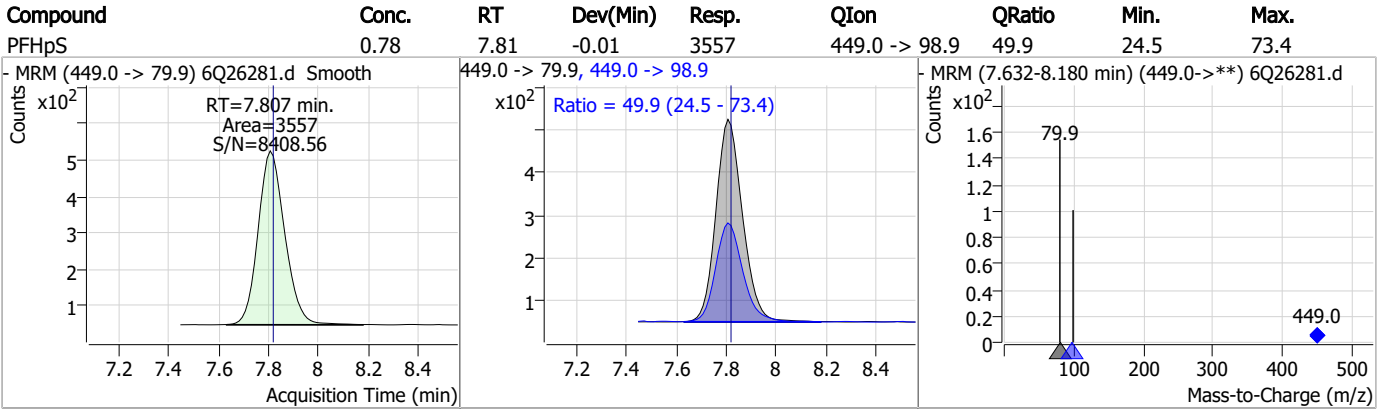
### Perfluorinated Compounds by LC/MS/MS



7.3.2

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### Perfluorinated Compounds by LC/MS/MS

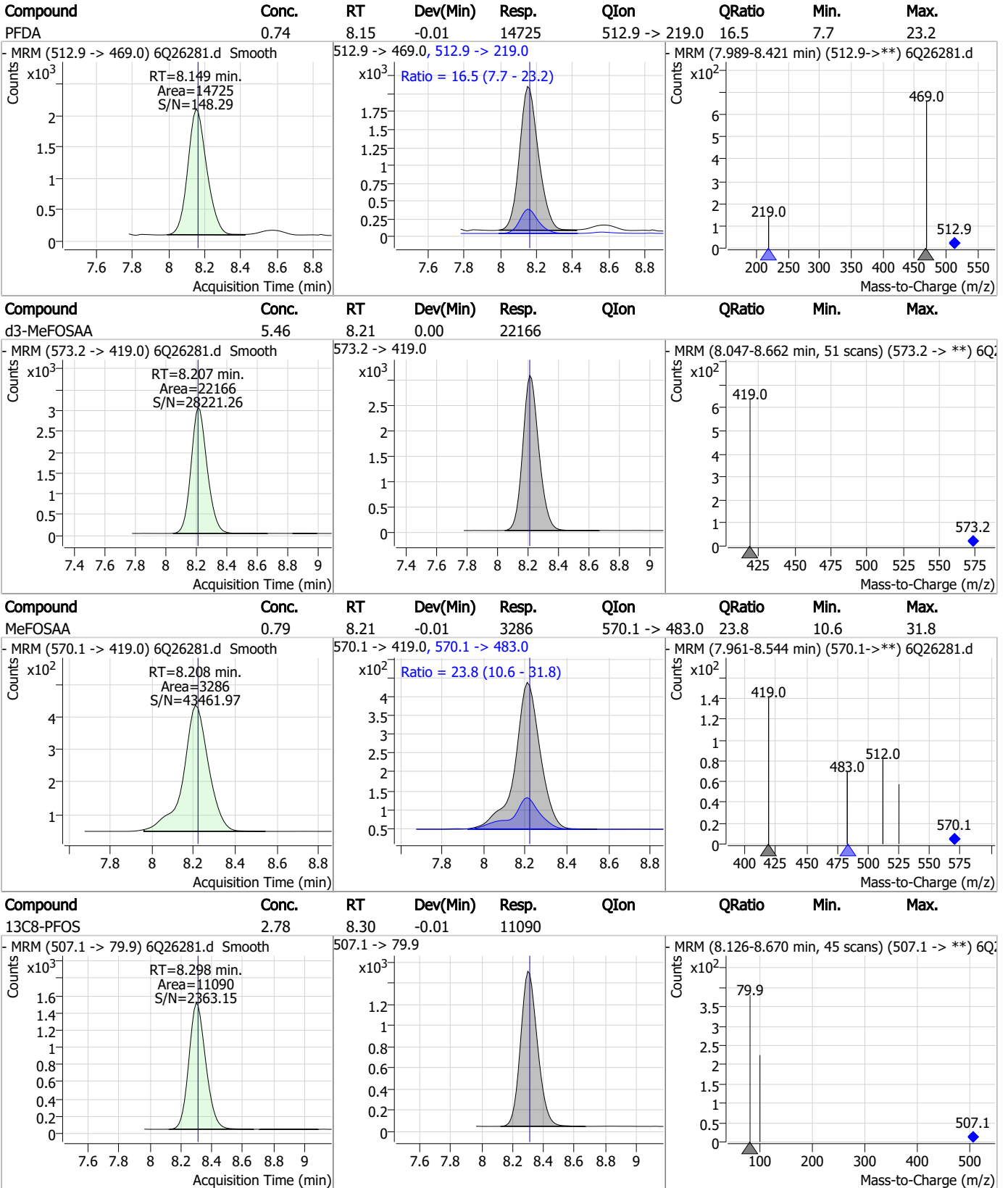


7.3.2

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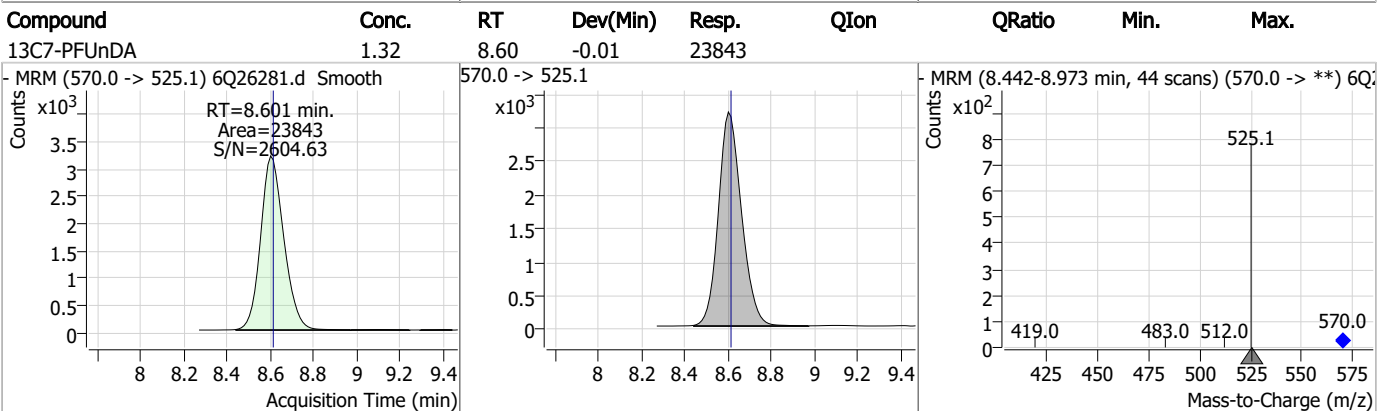
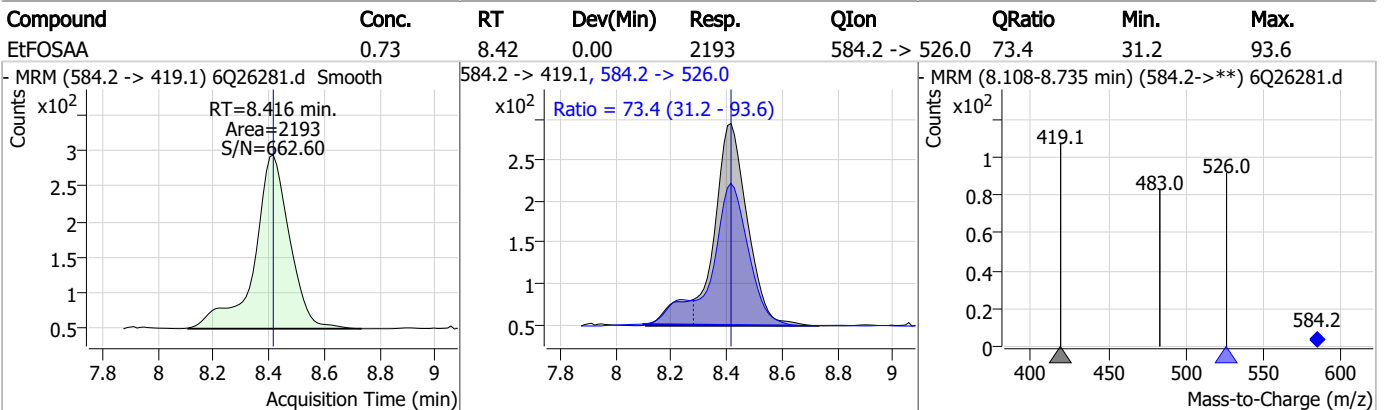
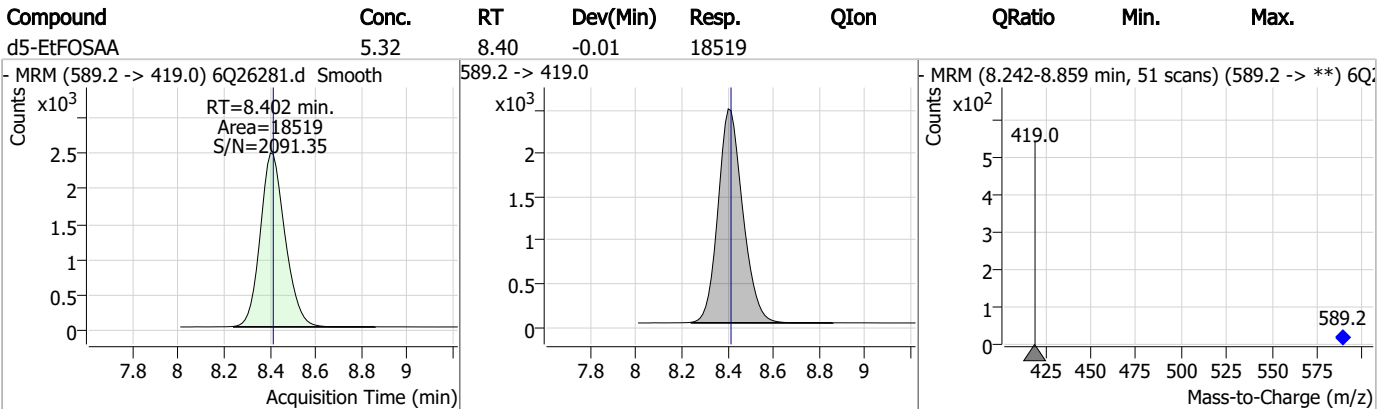
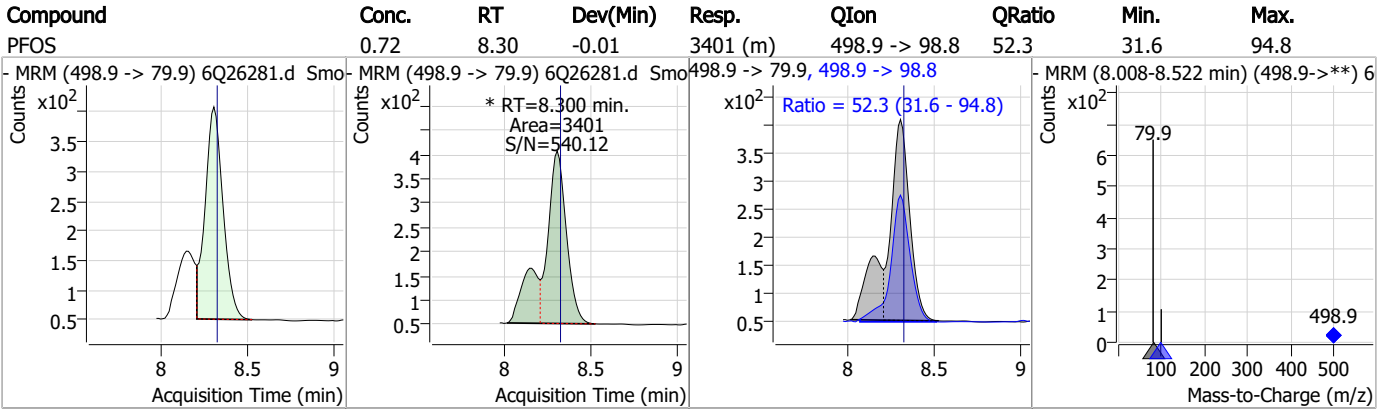
### Perfluorinated Compounds by LC/MS/MS



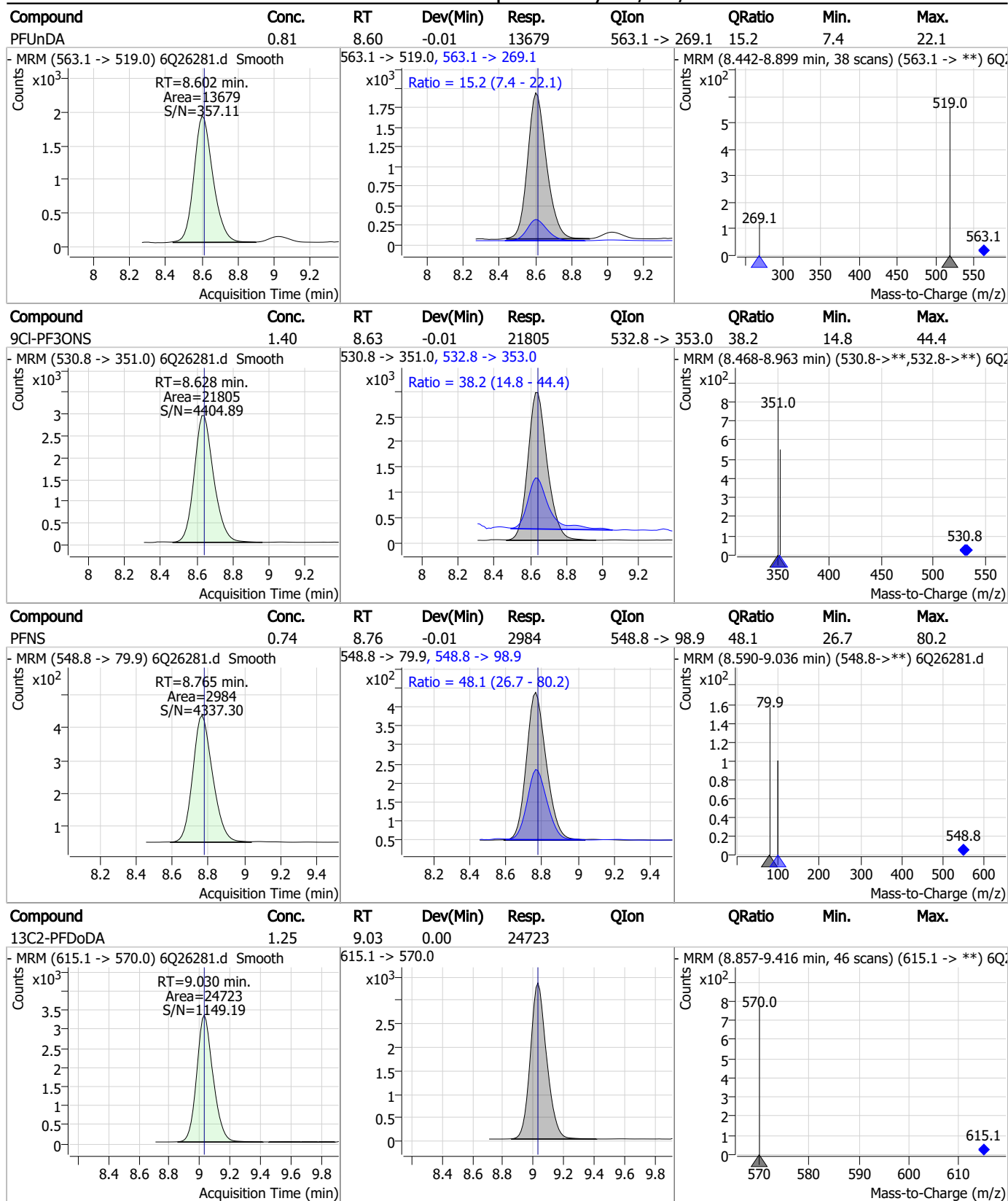
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### Perfluorinated Compounds by LC/MS/MS



### Perfluorinated Compounds by LC/MS/MS

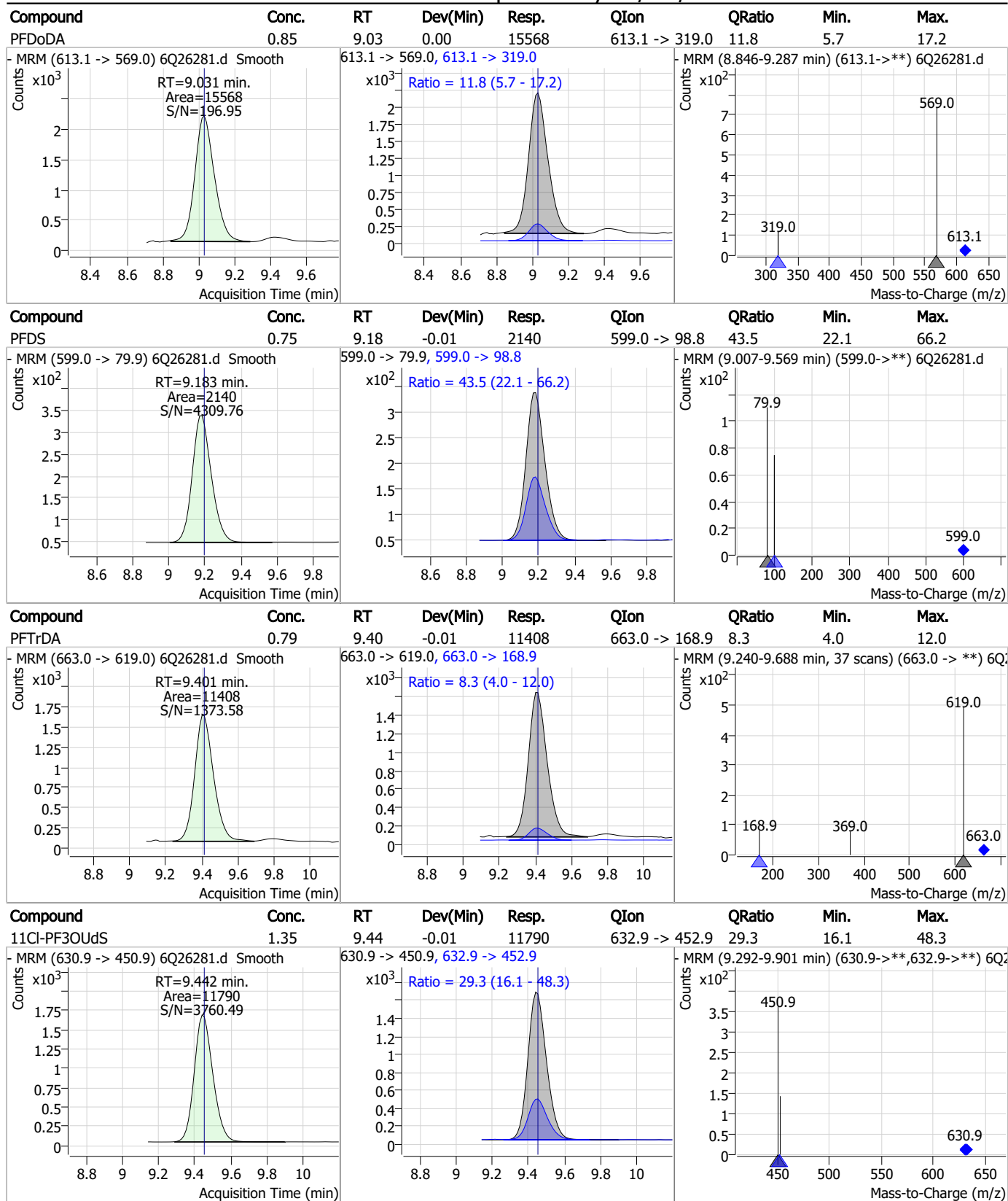


7.3.2  
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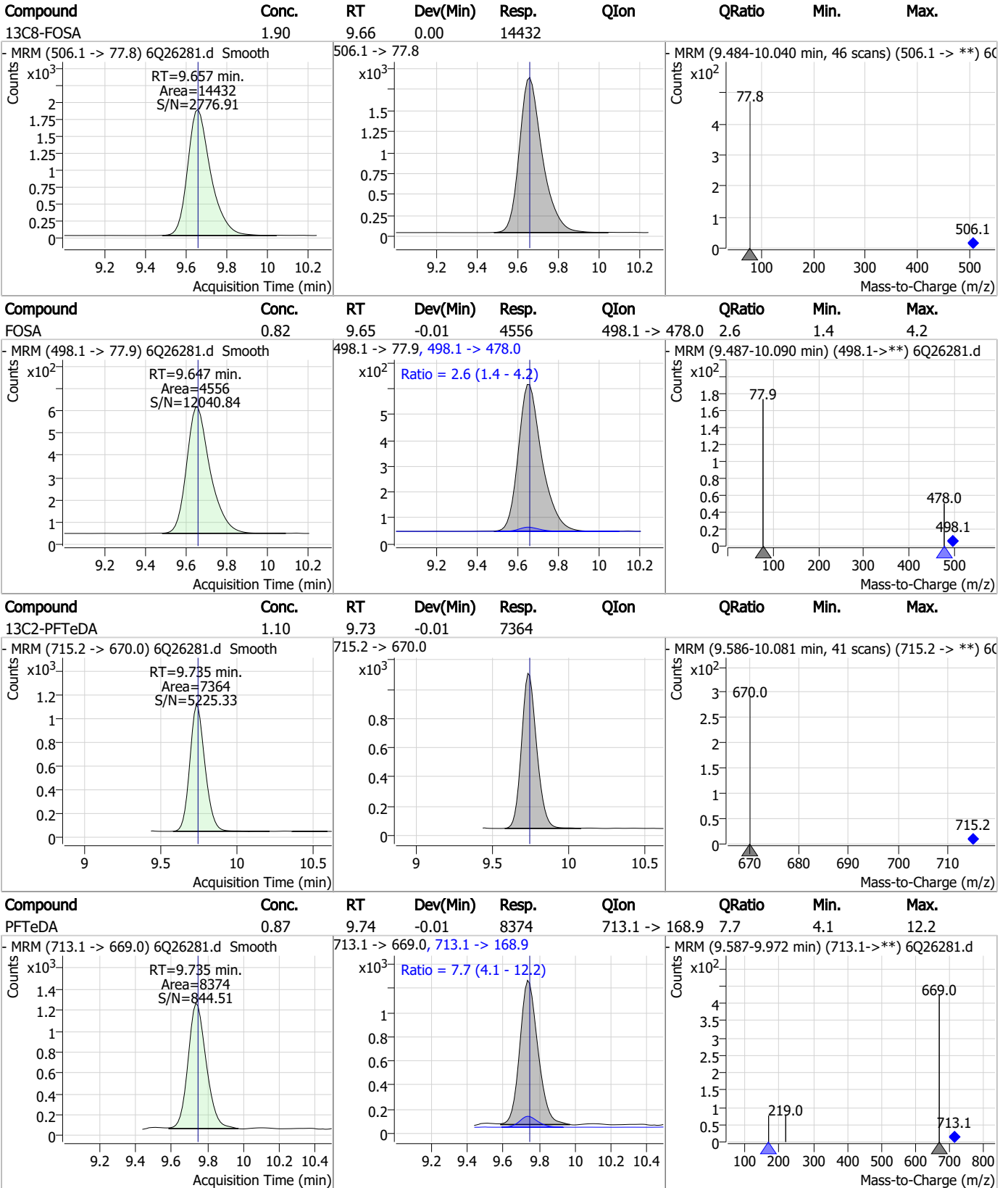


### Perfluorinated Compounds by LC/MS/MS



7.3.2  
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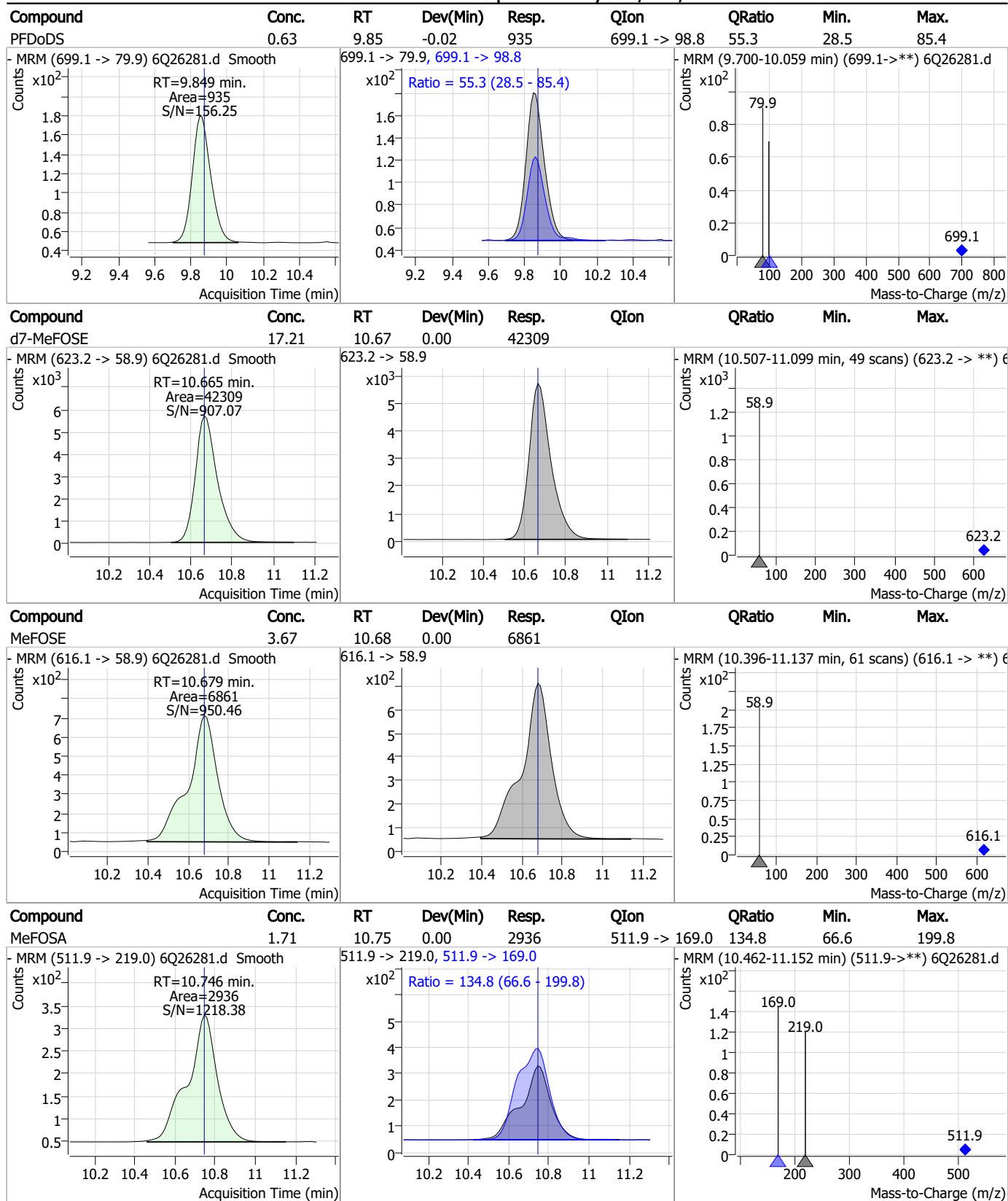
### Perfluorinated Compounds by LC/MS/MS



7.3.2

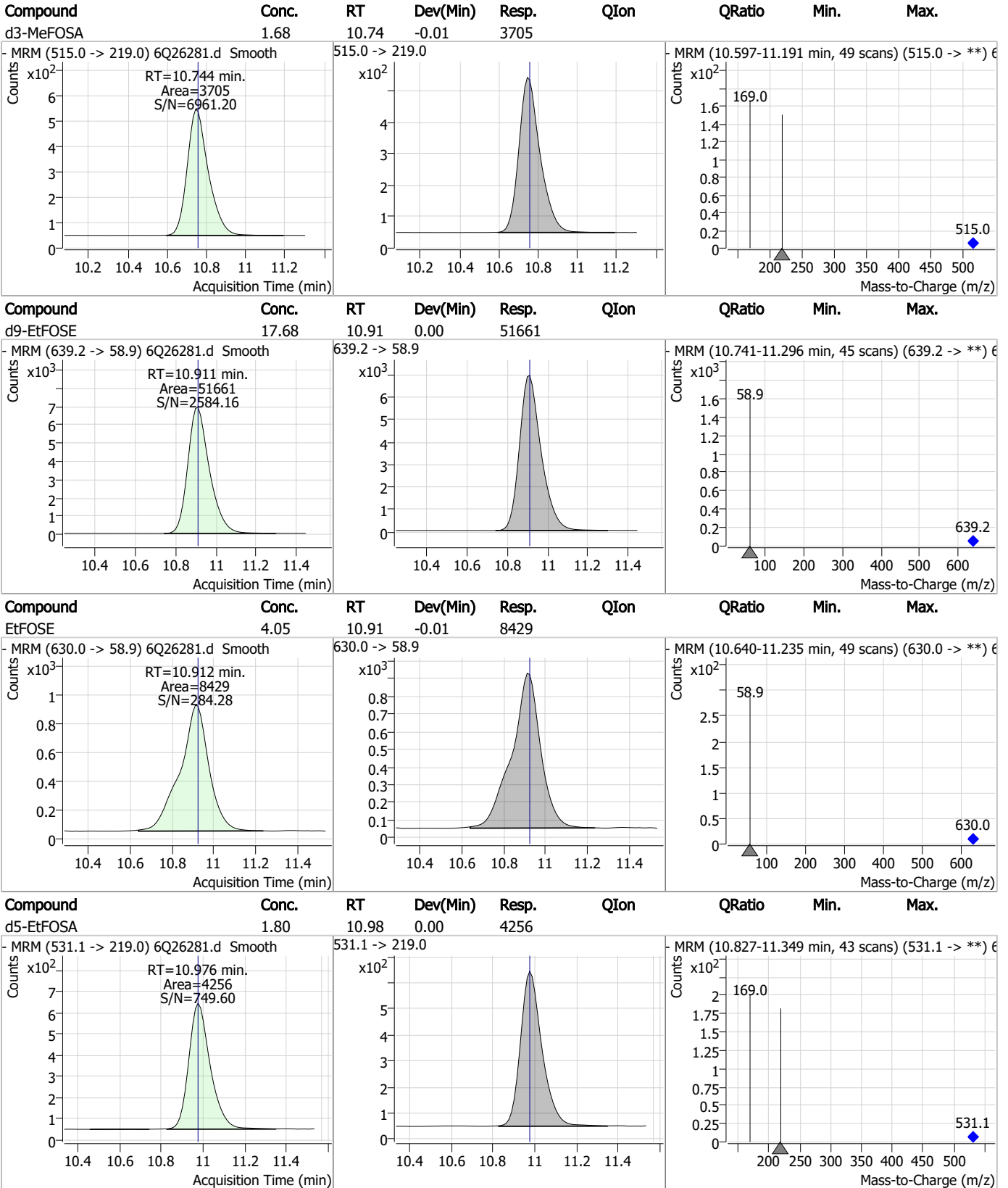
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### Perfluorinated Compounds by LC/MS/MS



7.3.2  
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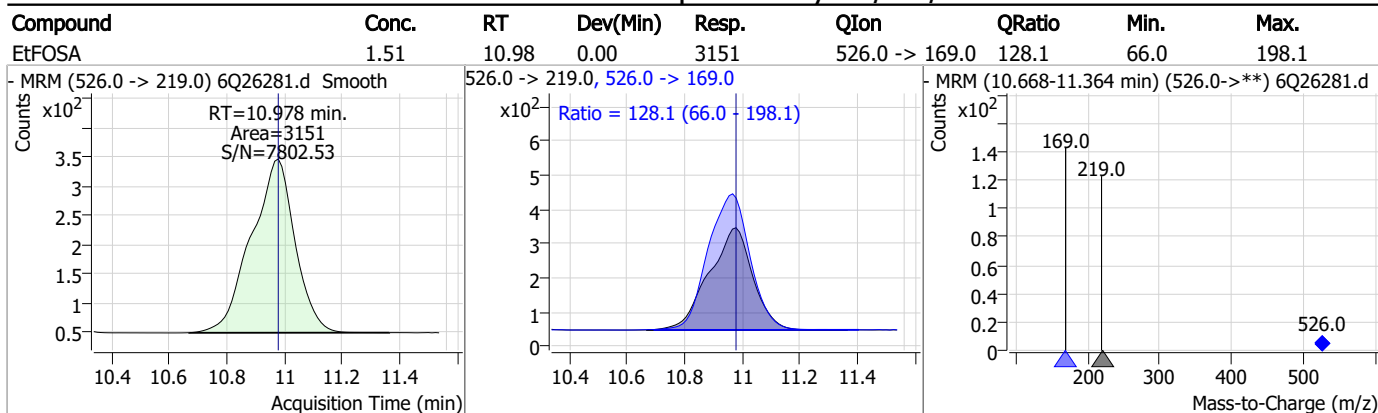
### Perfluorinated Compounds by LC/MS/MS



7.3.2

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### Perfluorinated Compounds by LC/MS/MS



7.3.2  
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

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### 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)
<b>Internal Standards</b>					
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
<b>System Monitoring Compounds</b>					
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

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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 = 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%	
<b>Target Compounds</b>					<b>QValue</b>
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

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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

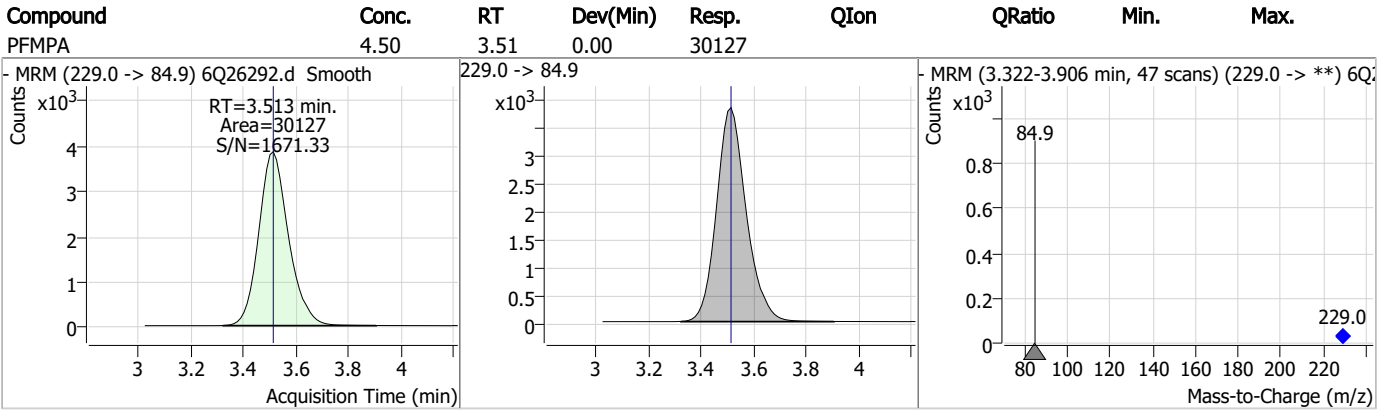
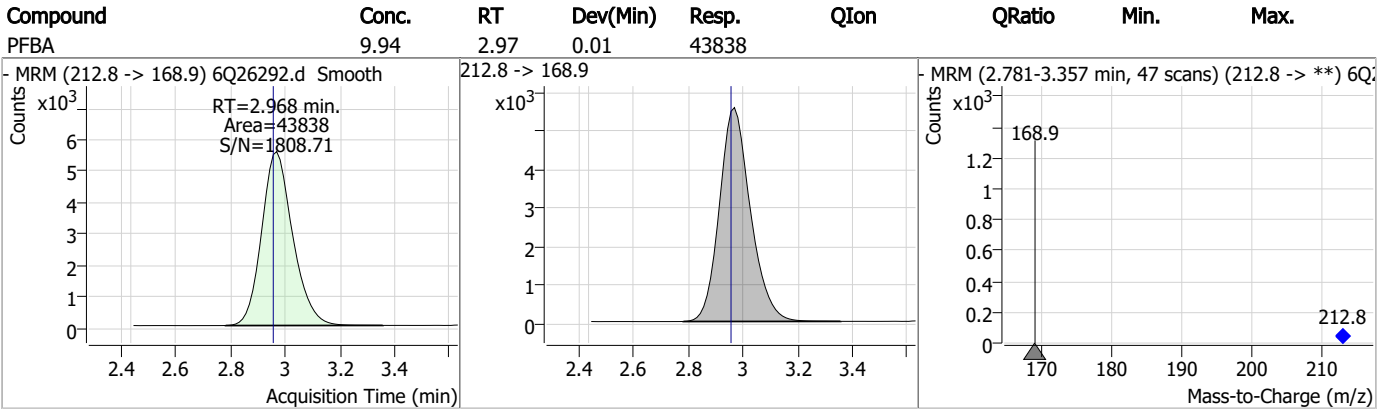
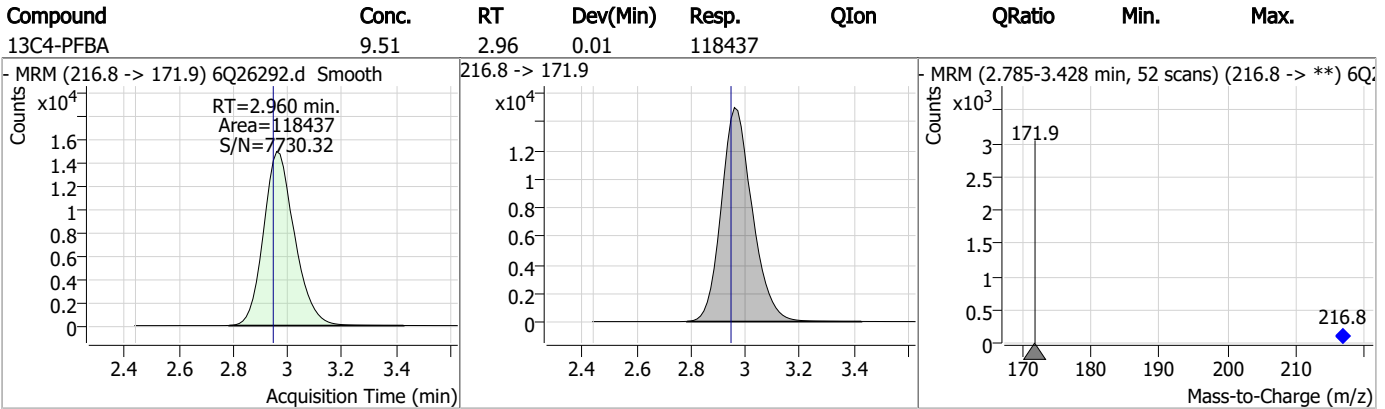
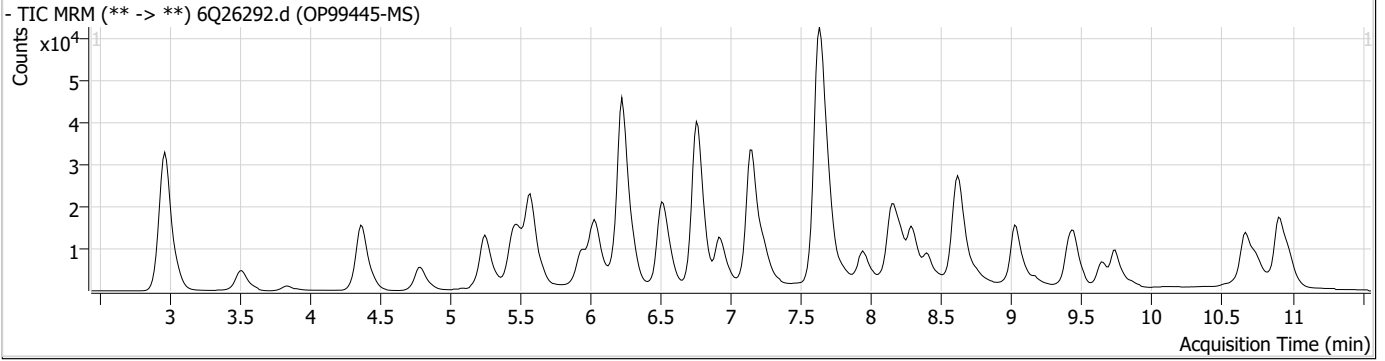
### Perfluorinated Compounds by LC/MS/MS

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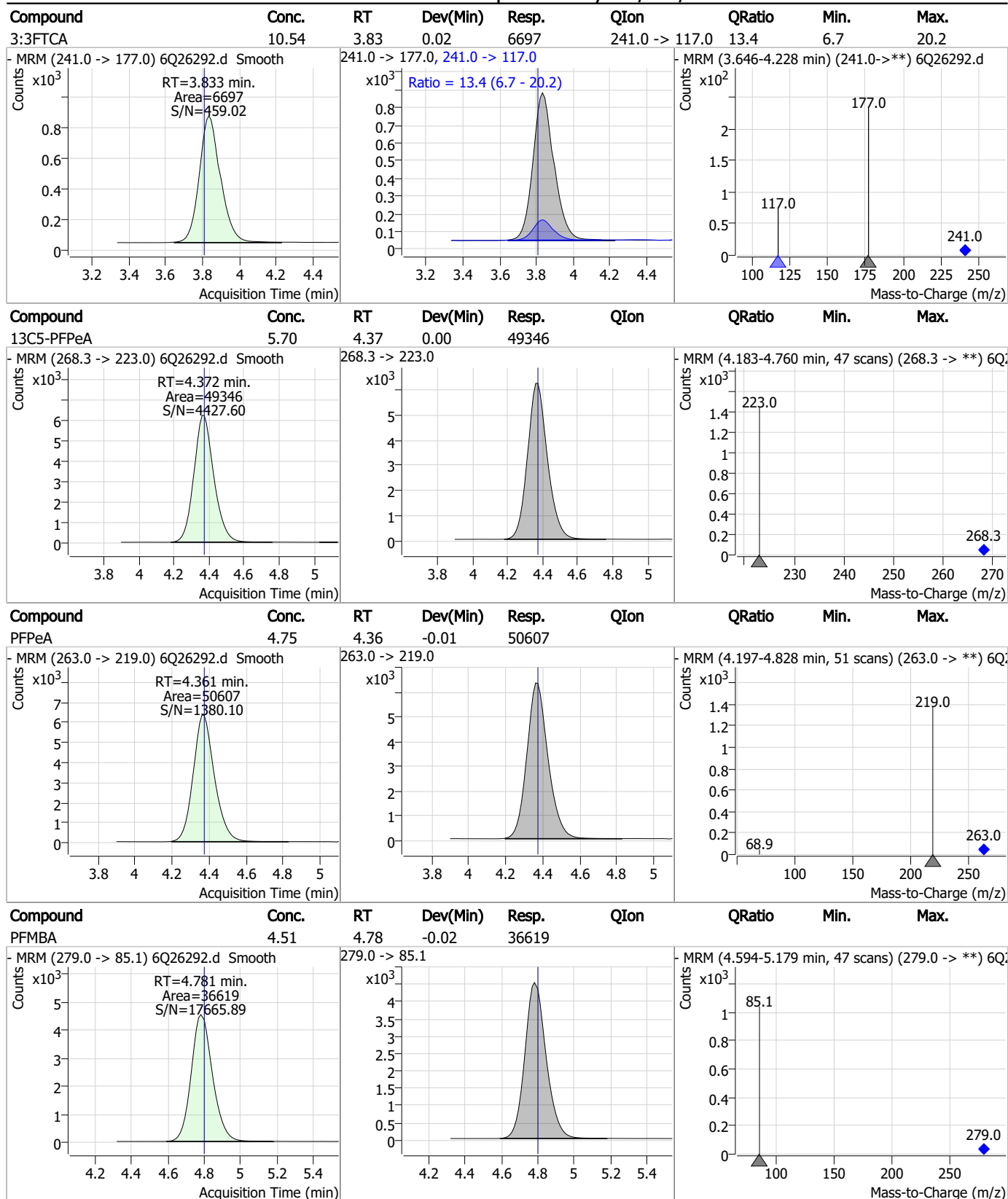
7.4.1

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### Perfluorinated Compounds by LC/MS/MS

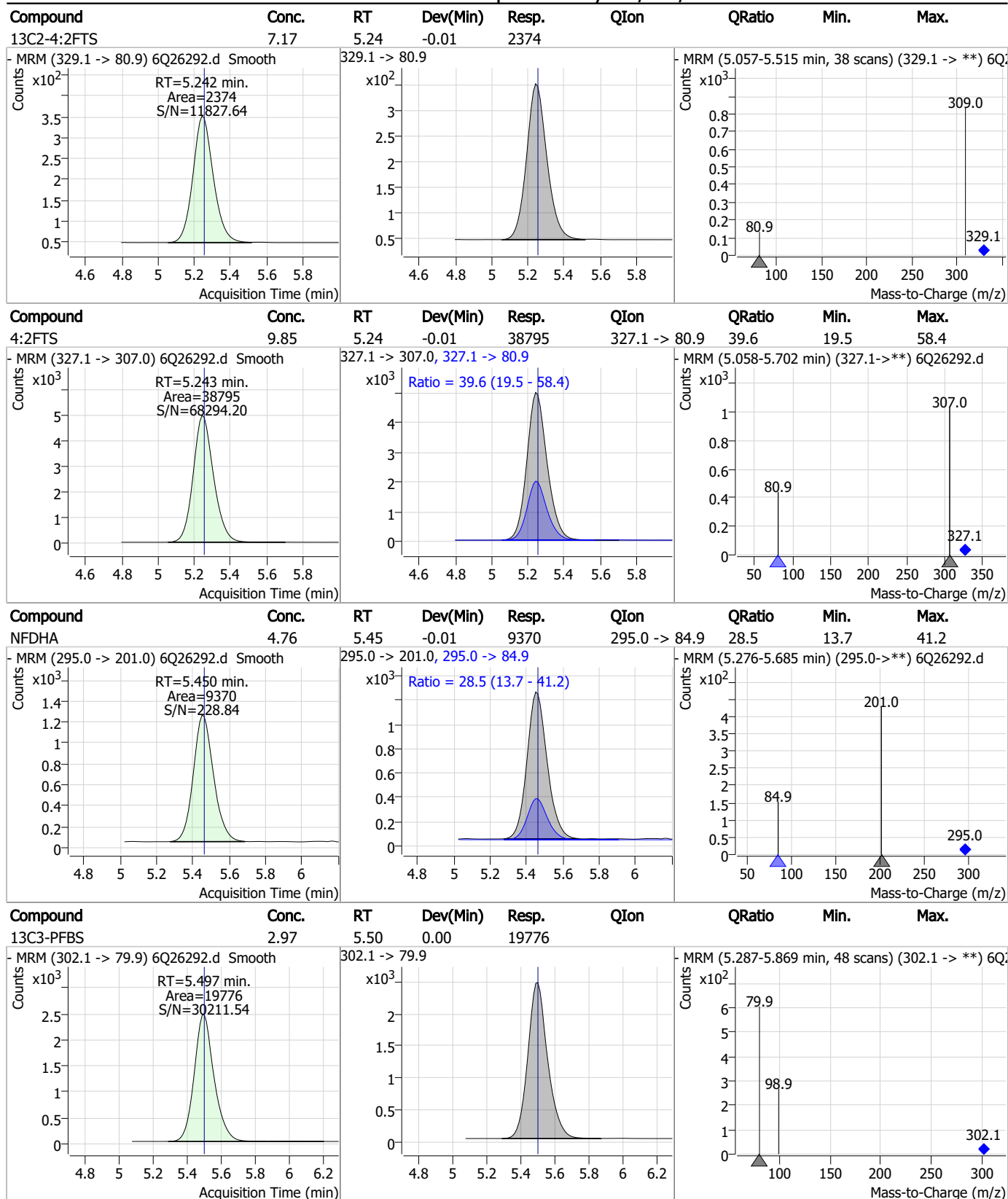


### Perfluorinated Compounds by LC/MS/MS



7.4.1  
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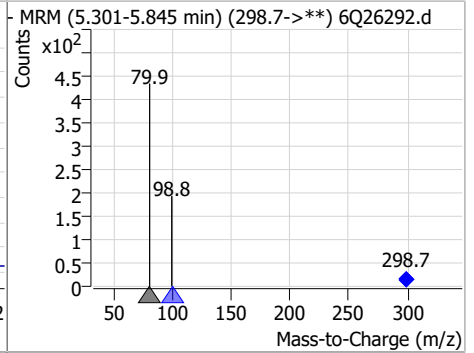
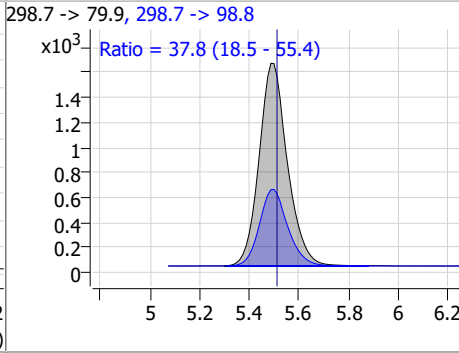
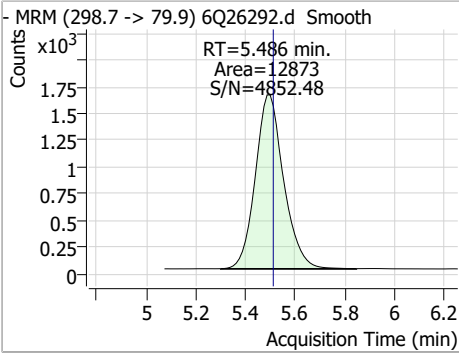
### Perfluorinated Compounds by LC/MS/MS



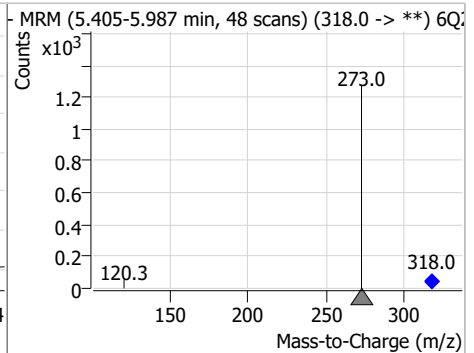
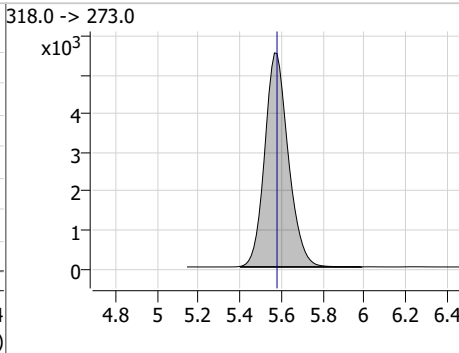
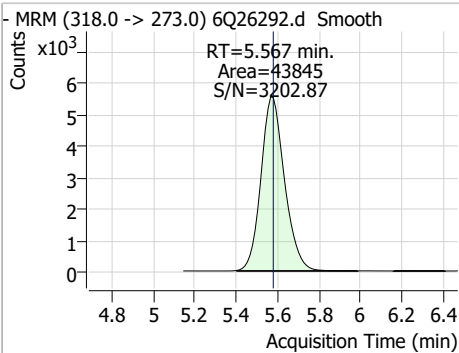
7.4.1  
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### Perfluorinated Compounds by LC/MS/MS

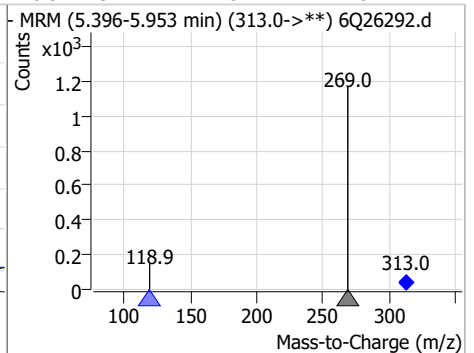
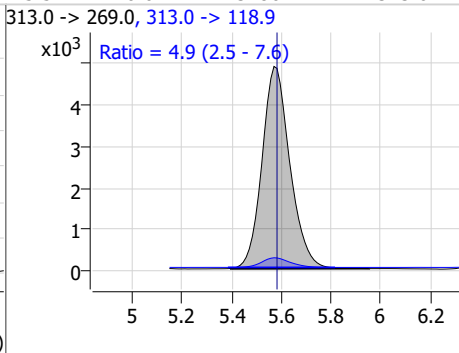
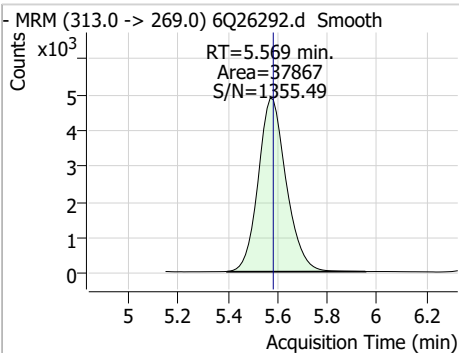
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBS	2.17	5.49	-0.02	12873	298.7 -> 98.8	37.8	18.5	55.4



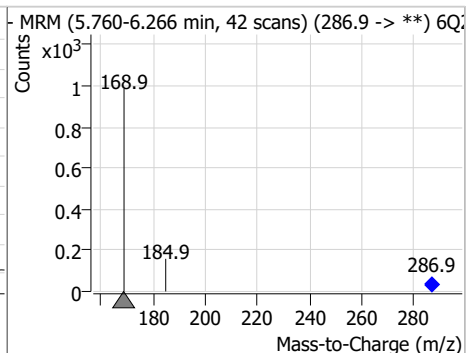
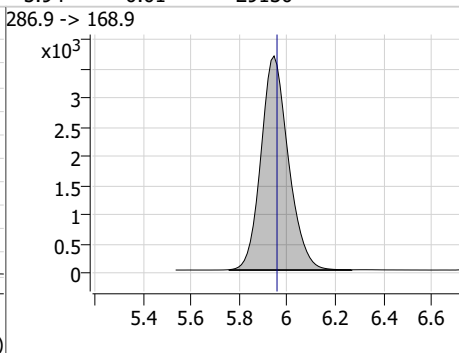
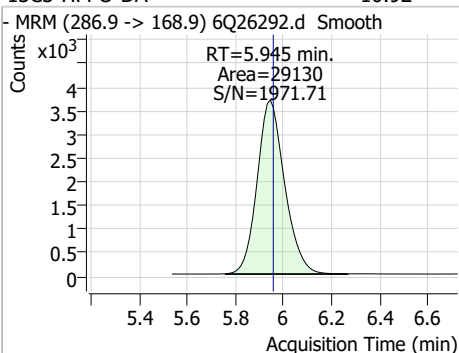
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFHxA	2.77	5.57	-0.01	43845	318.0 -> 273.0	4.9	2.5	7.6



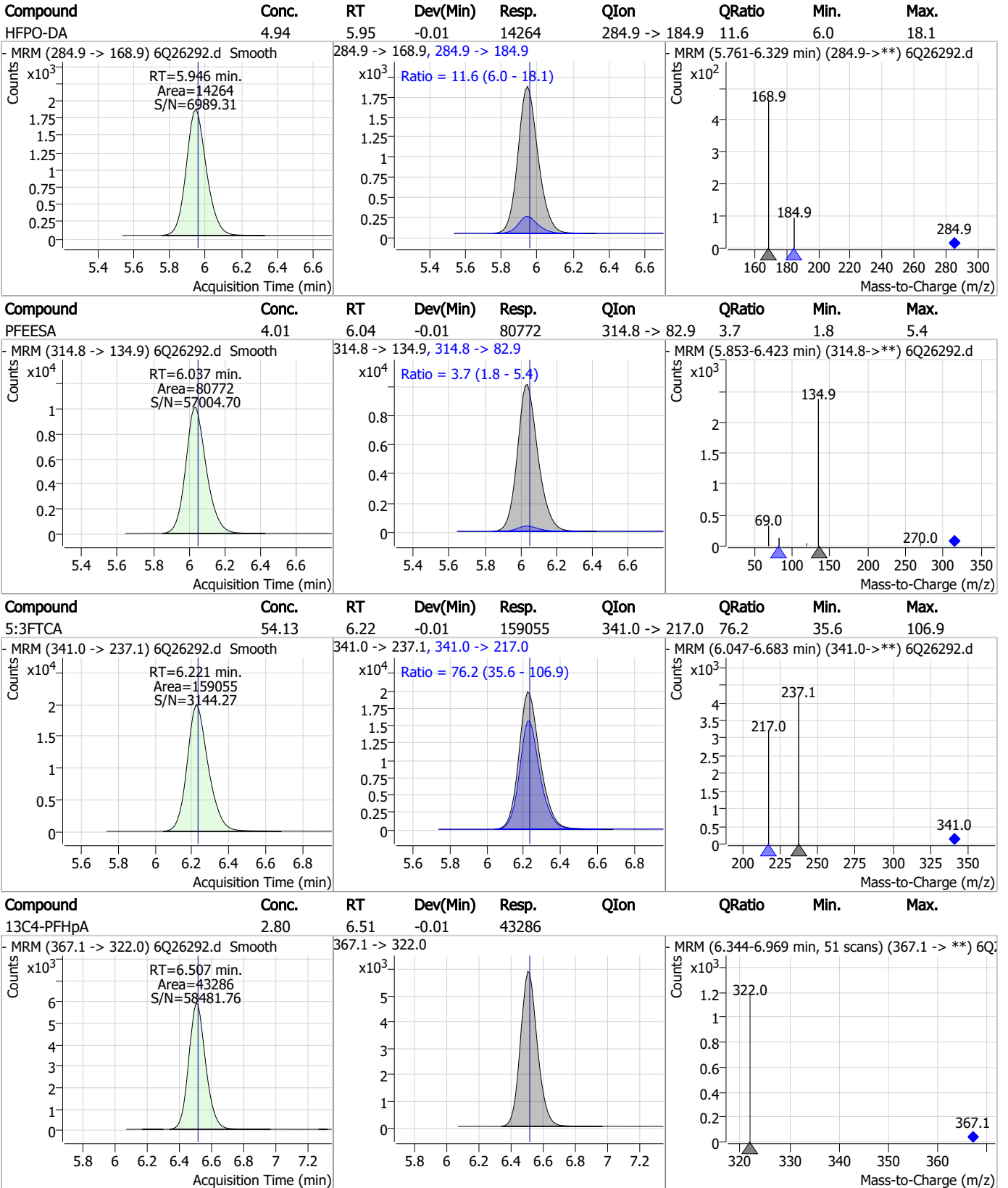
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxA	2.42	5.57	-0.01	37867	313.0 -> 118.9	4.9	2.5	7.6



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-HFPO-DA	10.92	5.94	-0.01	29130	286.9 -> 168.9	4.9	2.5	7.6



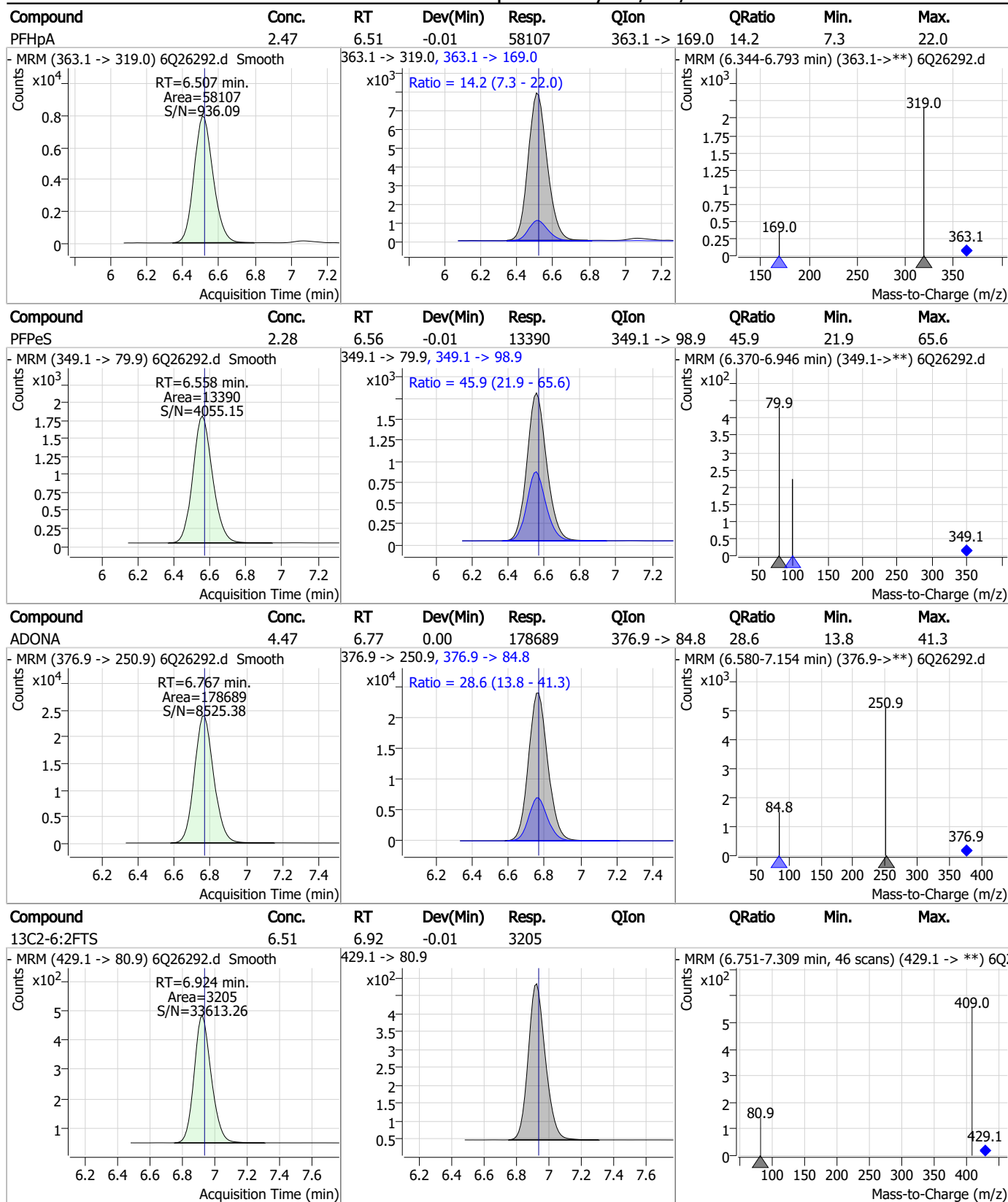
### Perfluorinated Compounds by LC/MS/MS



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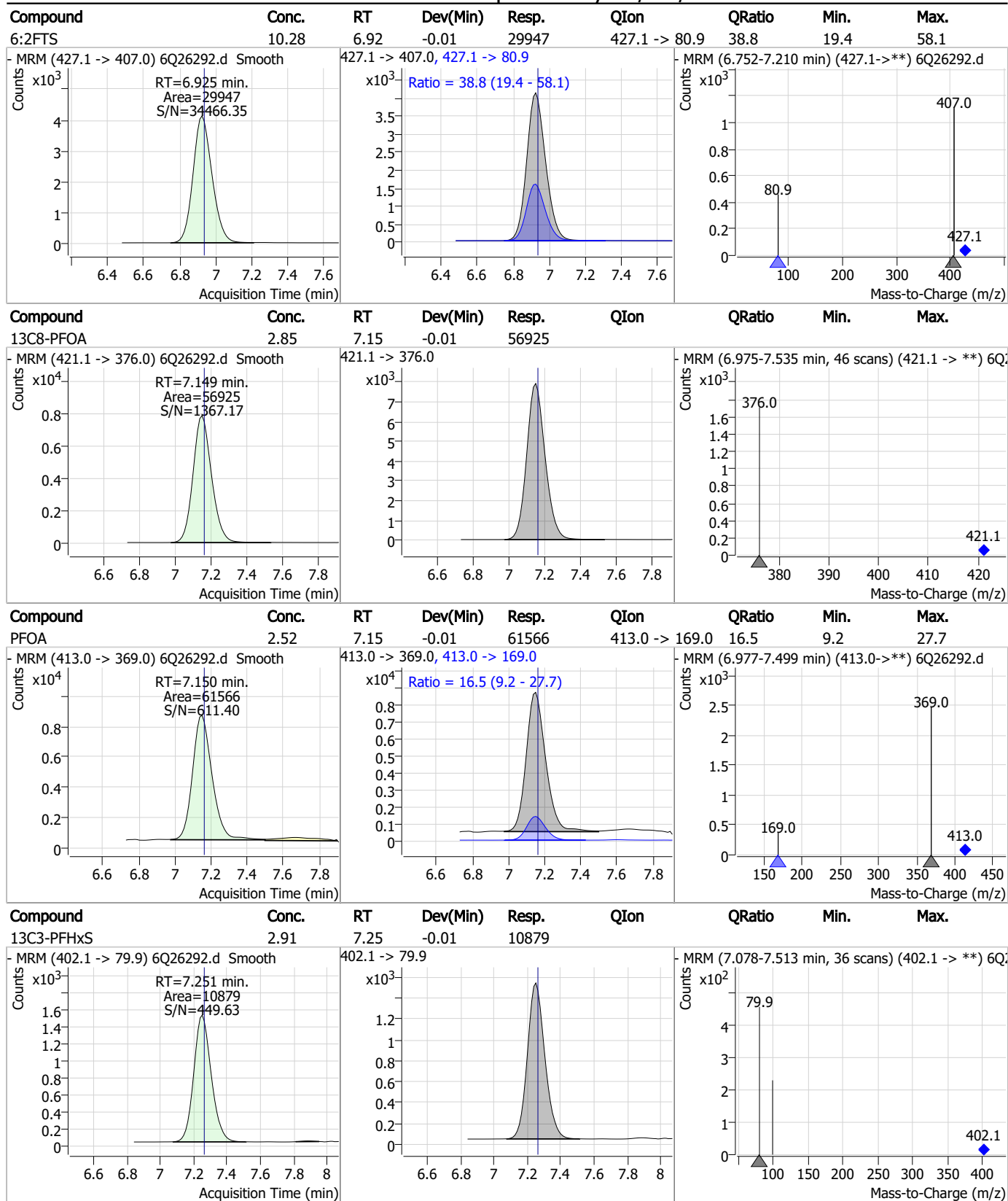
### Perfluorinated Compounds by LC/MS/MS



7.4.1  
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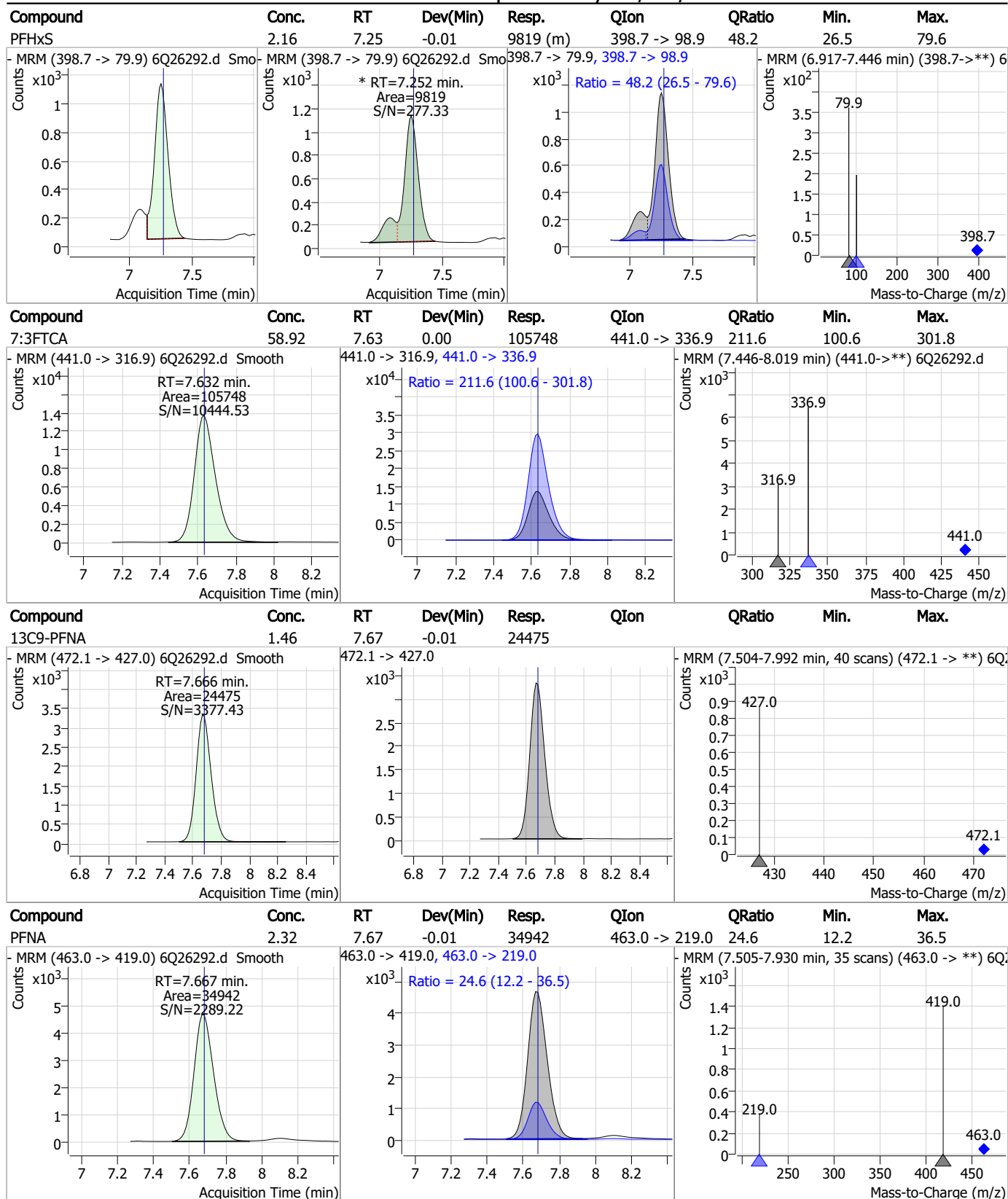
### Perfluorinated Compounds by LC/MS/MS



7.4.1  
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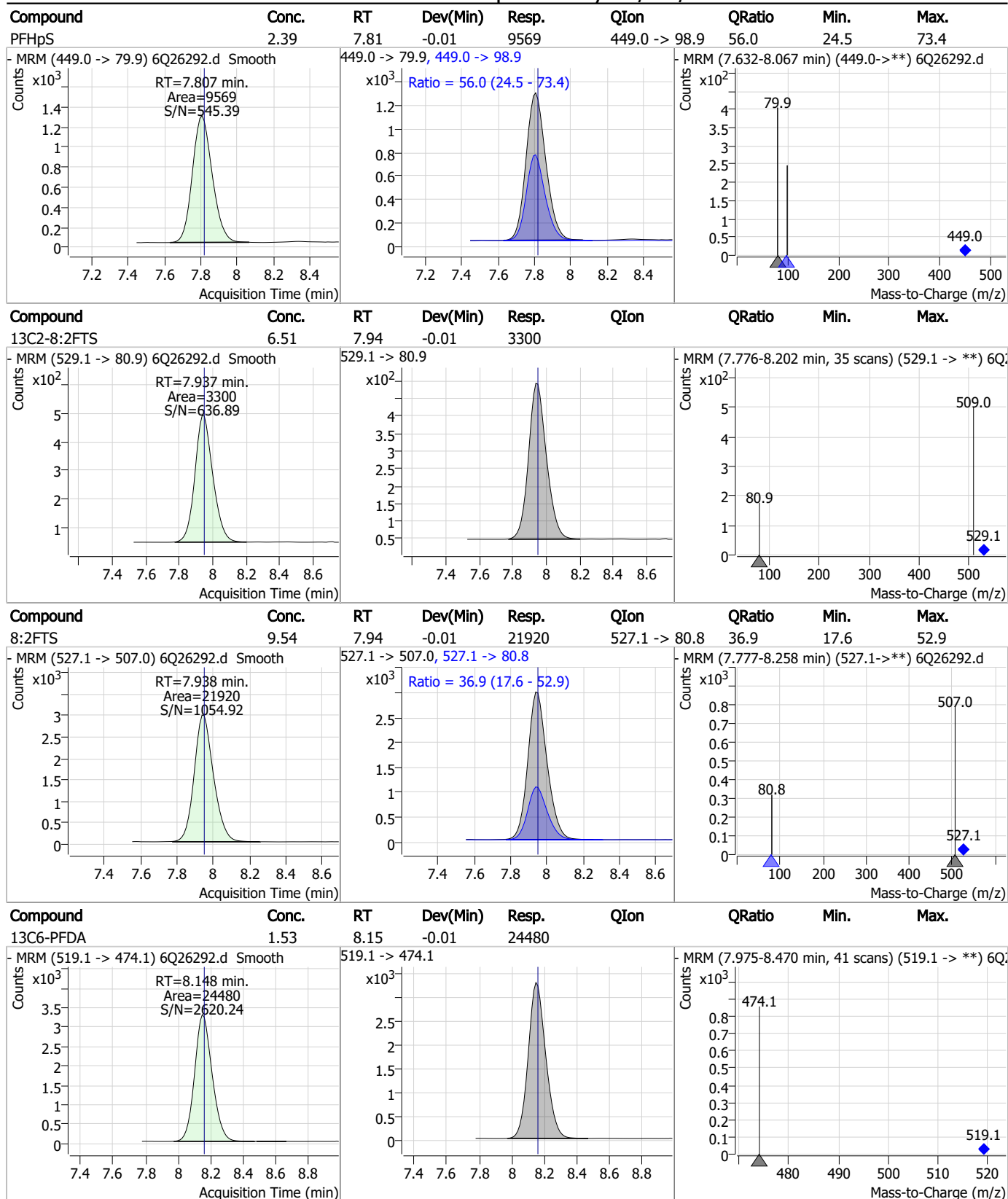


### Perfluorinated Compounds by LC/MS/MS



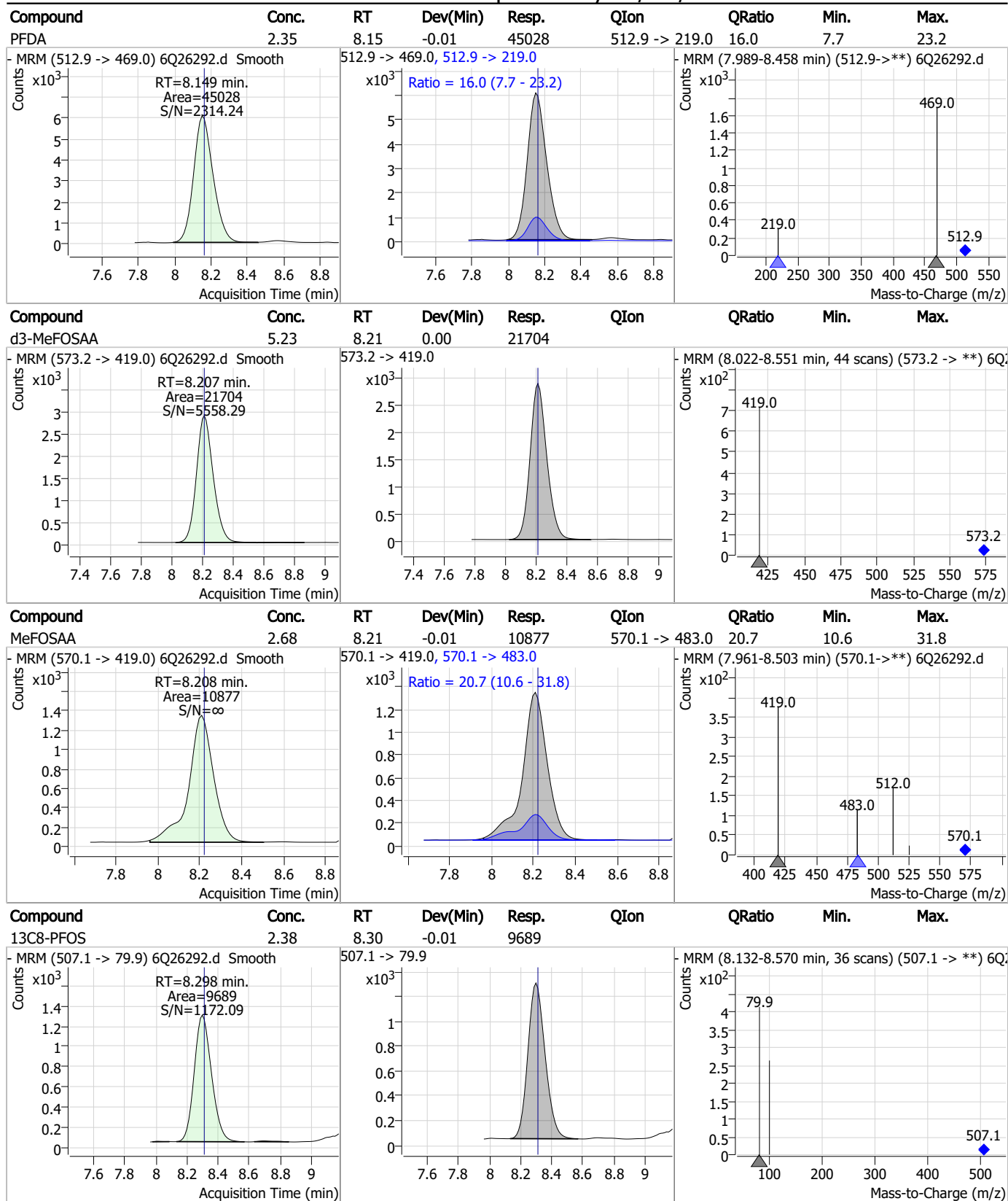
7.4.1  
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### Perfluorinated Compounds by LC/MS/MS



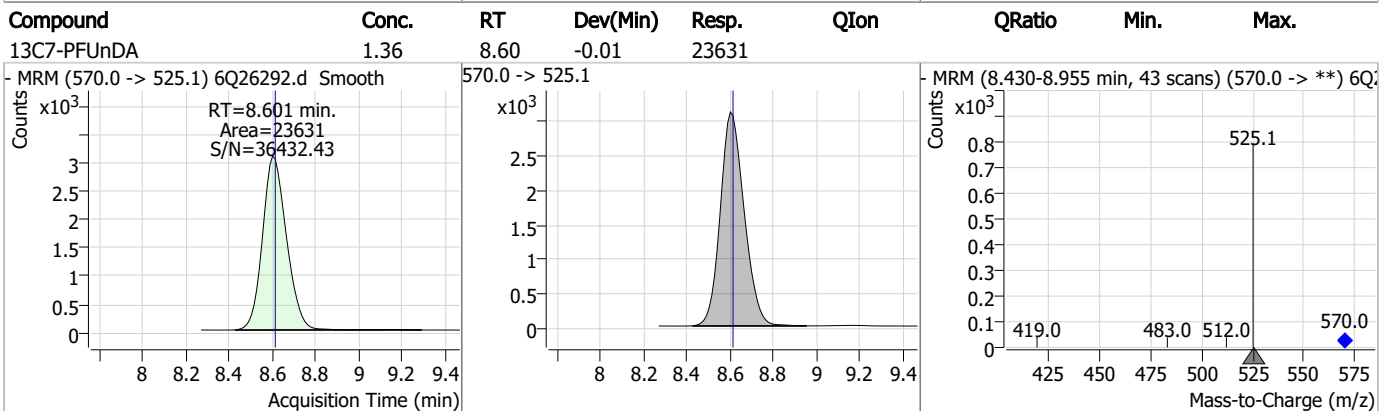
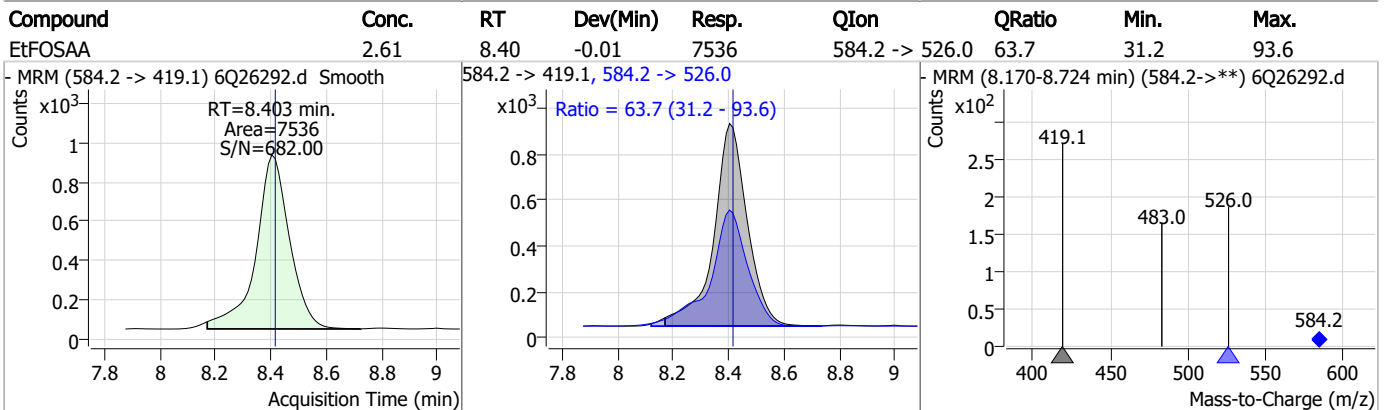
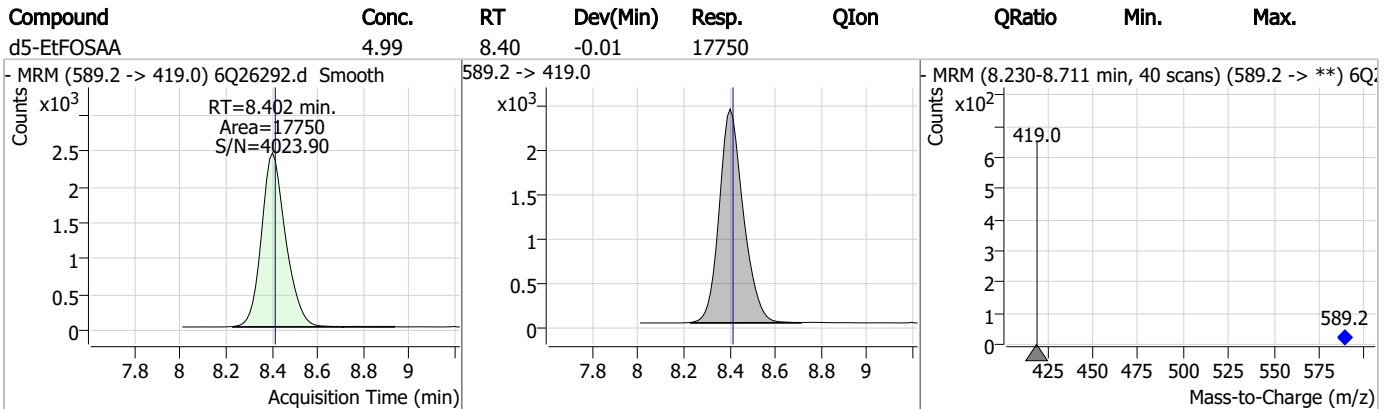
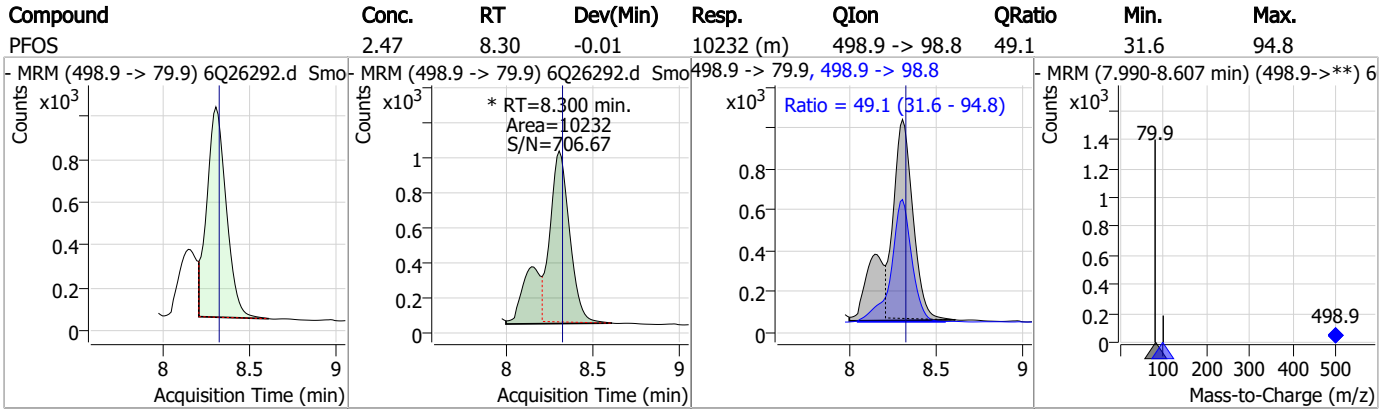
7.4.1  
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### Perfluorinated Compounds by LC/MS/MS

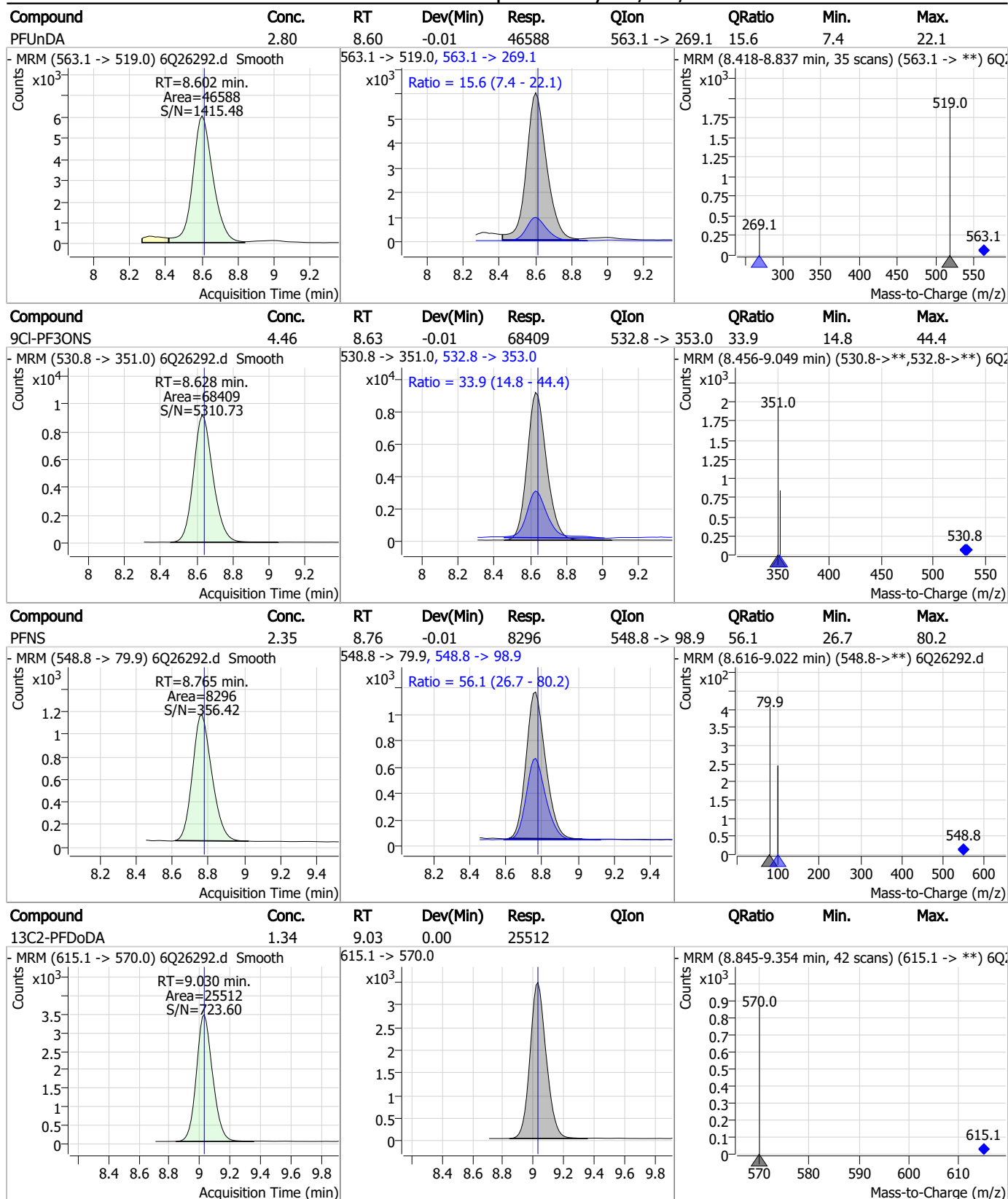


7.4.1  
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### Perfluorinated Compounds by LC/MS/MS

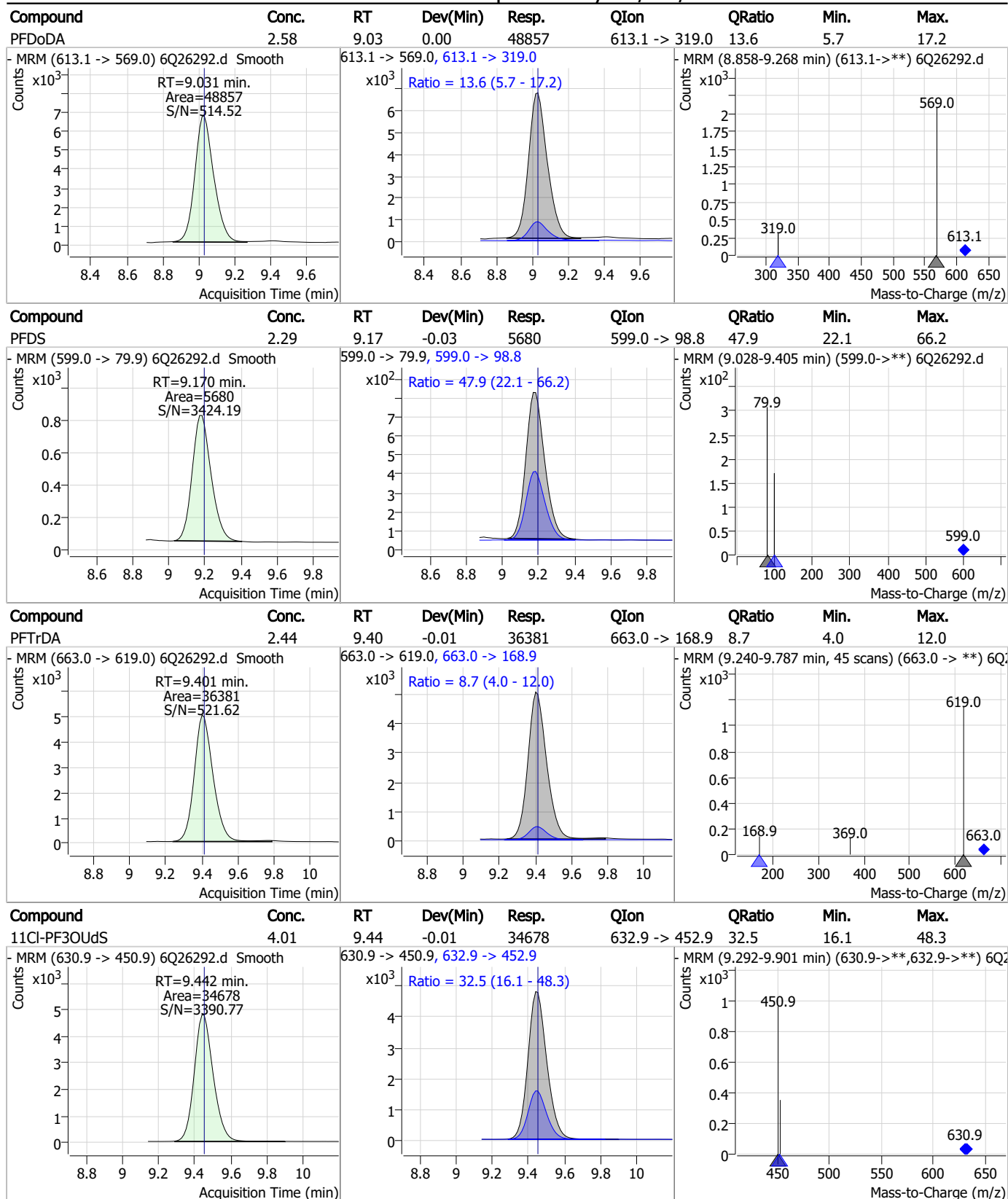


### Perfluorinated Compounds by LC/MS/MS



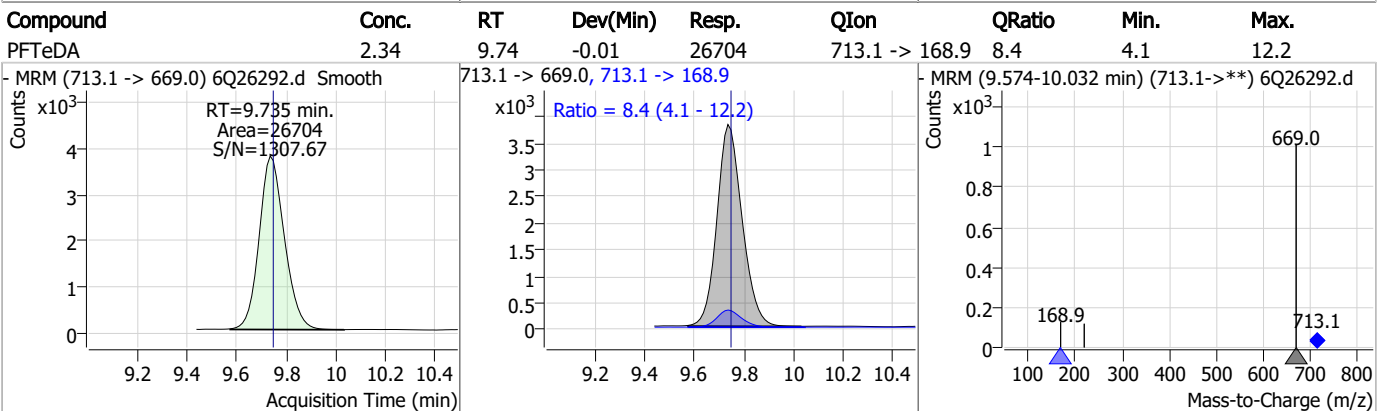
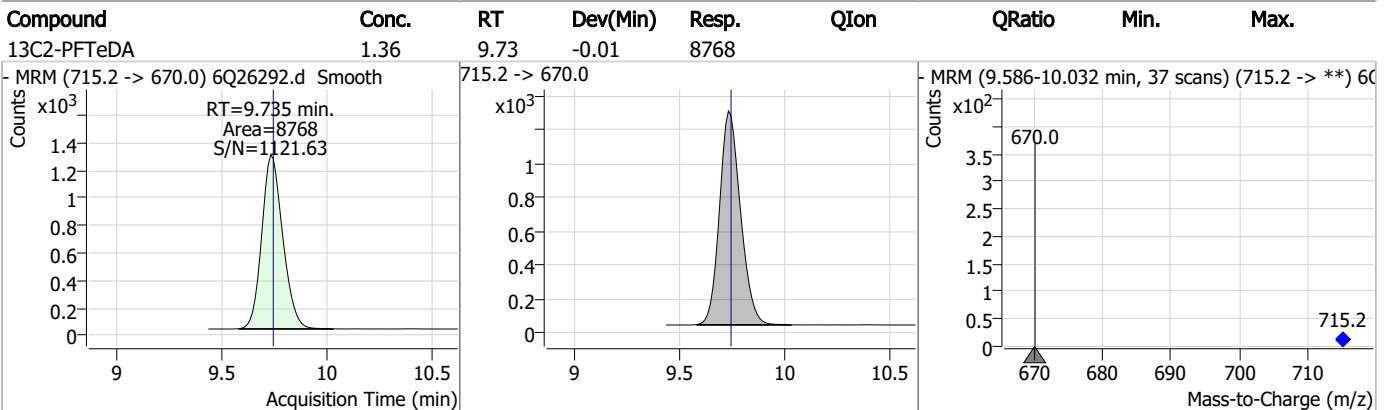
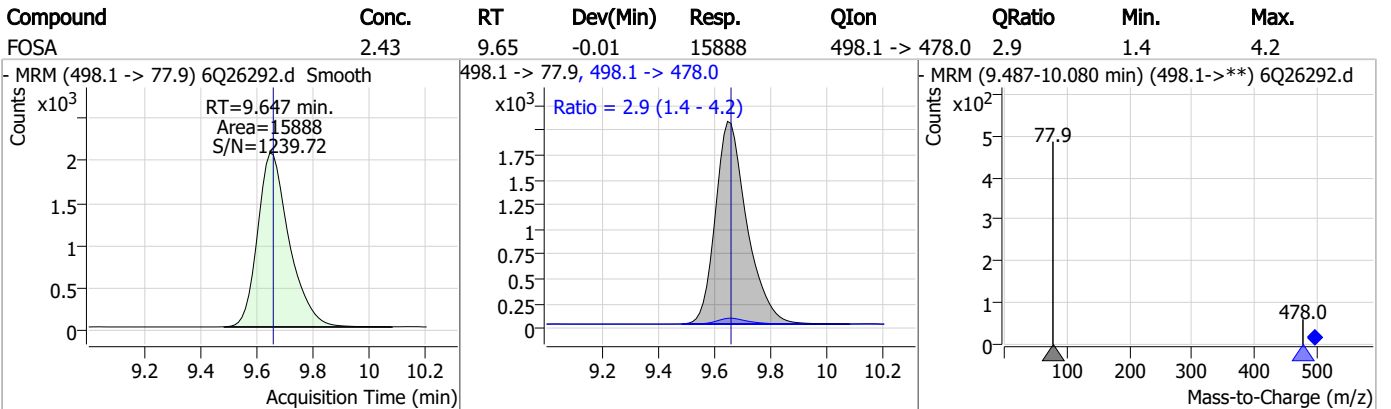
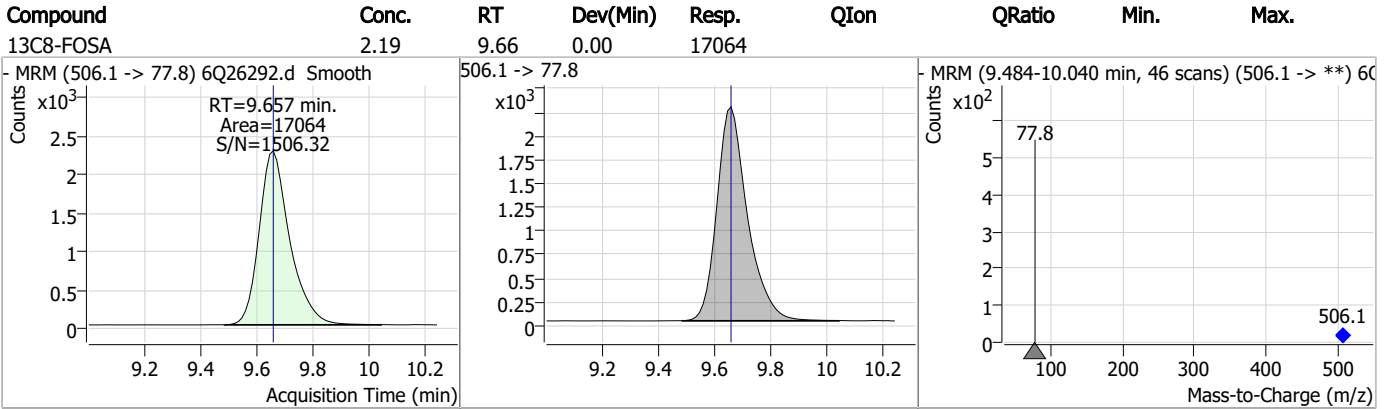
7.4.1  
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### Perfluorinated Compounds by LC/MS/MS



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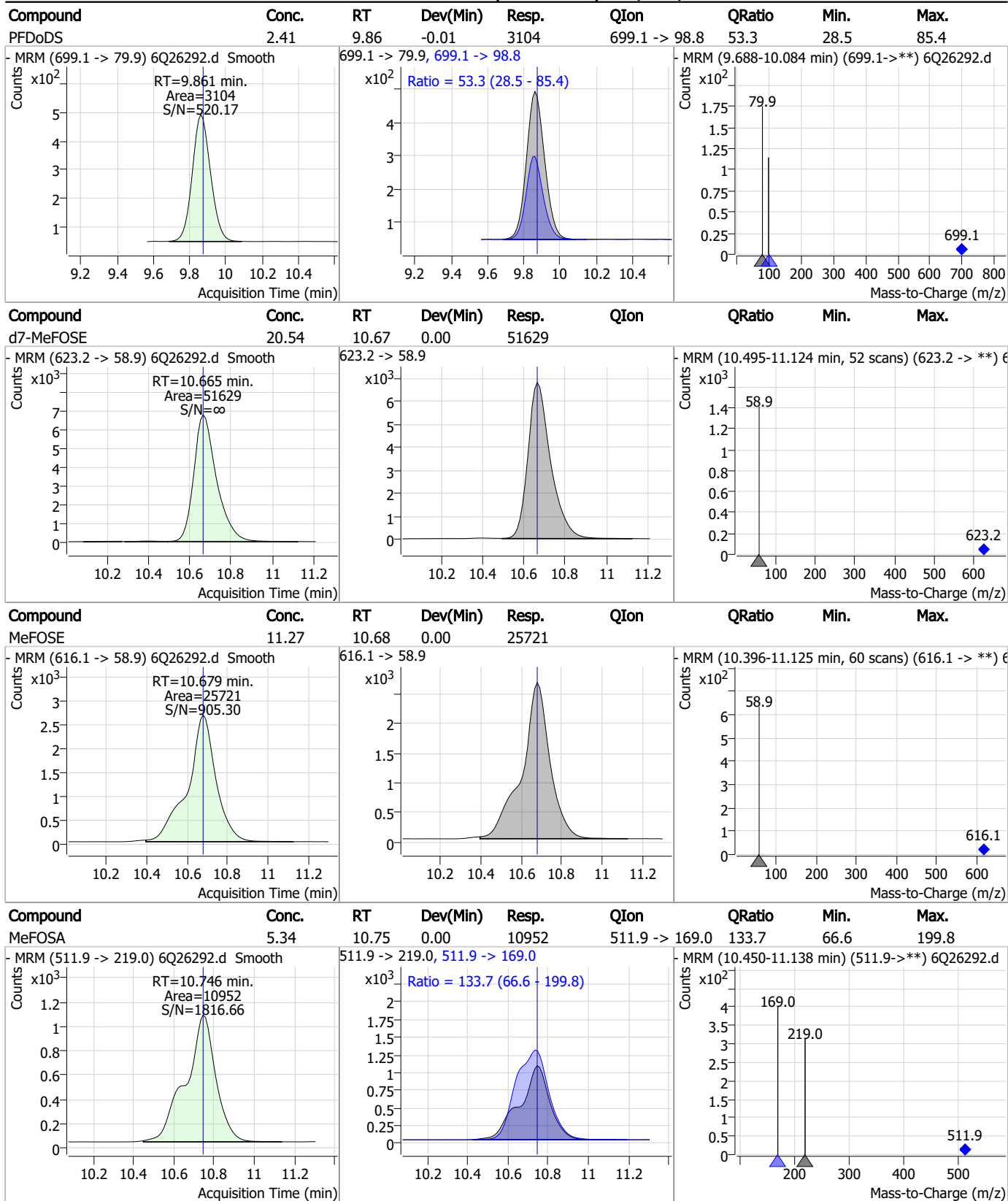
### Perfluorinated Compounds by LC/MS/MS



7.4.1  
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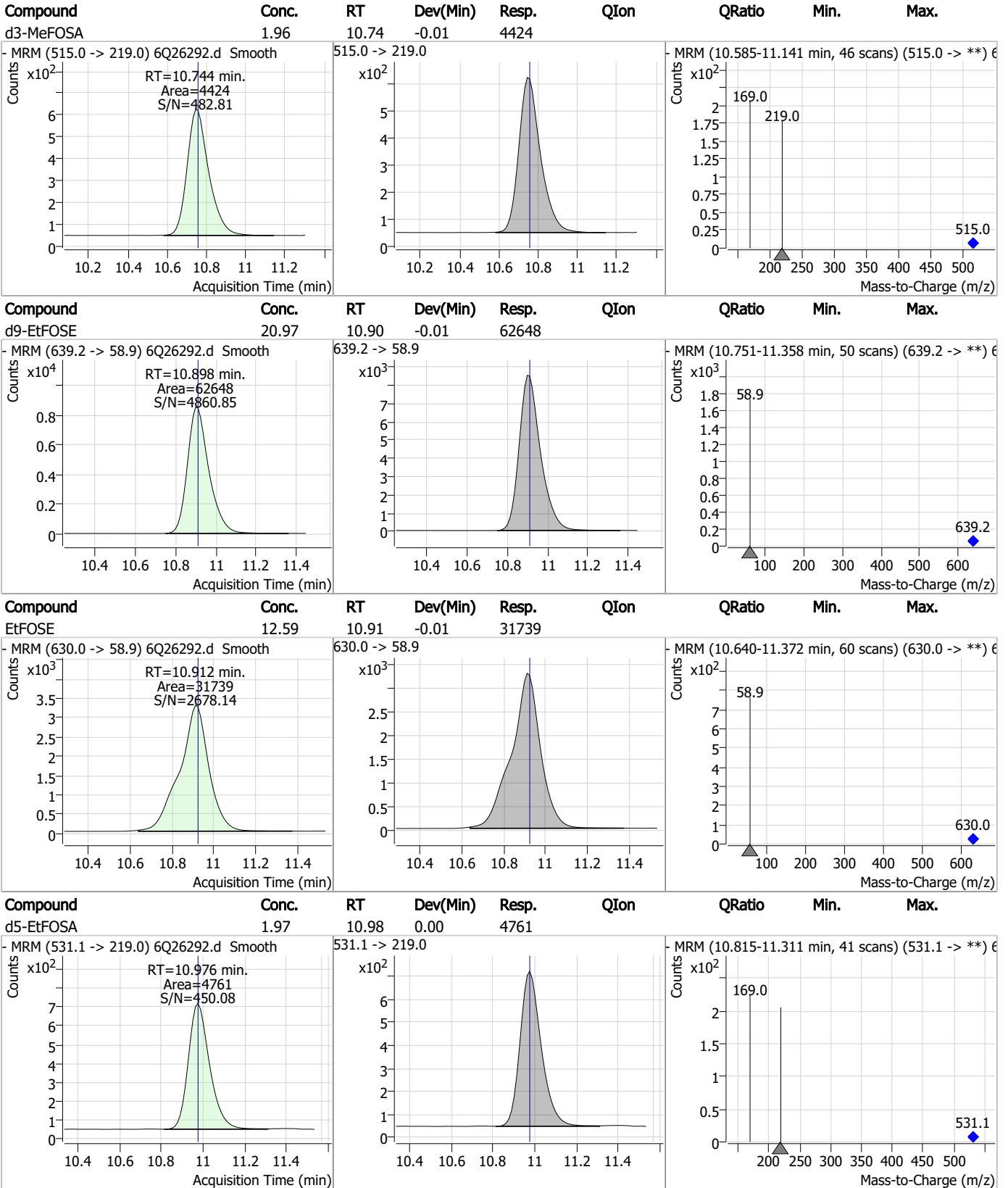


### Perfluorinated Compounds by LC/MS/MS



7.4.1  
7

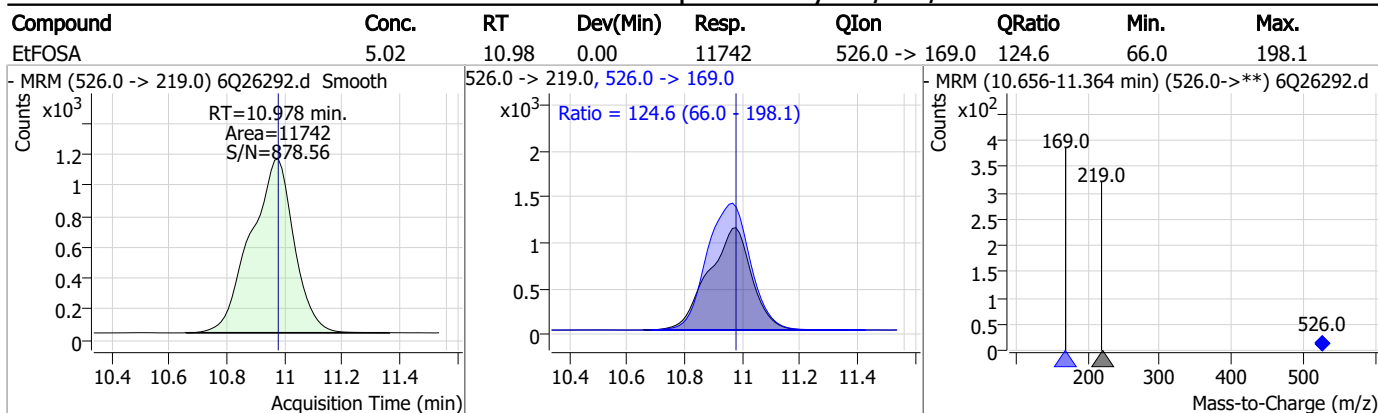
### Perfluorinated Compounds by LC/MS/MS



7.4.1

7

### 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

7

### 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)
<b>Internal Standards</b>					
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
<b>System Monitoring Compounds</b>					
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%	
<b>Target Compounds</b>					<b>QValue</b>
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.	

7.5.1  
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	5.569	449.0 -> 98.9	1481	0.09	µg/L	100
		313.0 -> 269.0				
PFHxS	7.240	313.0 -> 118.9	394	0.08	µg/L	96
		398.7 -> 79.9				
PFNA	8.117	398.7 -> 98.9	198			
		463.0 -> 419.0				
PFNS	-	463.0 -> 219.0	0		µg/L	m
		463.0 -> 219.0				
PFOA	7.163	548.8 -> 79.9	-	N.D.		
		548.8 -> 98.9				
PFOS	-	413.0 -> 369.0	2216	0.09	µg/L	m
		413.0 -> 169.0				
PFPeA	-	498.9 -> 79.9	-	N.D.		
		498.9 -> 98.8				
PFPeS	-	263.0 -> 219.0	-	N.D.		
		349.1 -> 79.9				
PFTeDA	-	349.1 -> 98.9	-	N.D.		
		713.1 -> 669.0				
PFTrDA	-	713.1 -> 168.9	-	N.D.		
		663.0 -> 619.0				
PFUnDA	-	663.0 -> 168.9	-	N.D.		
		563.1 -> 519.0				
11Cl-PF3OUdS	-	563.1 -> 269.1	-	N.D.		
		630.9 -> 450.9				
9Cl-PF3ONS	-	632.9 -> 452.9	-	N.D.		
		530.8 -> 351.0				
ADONA	-	532.8 -> 353.0	-	N.D.		
		376.9 -> 250.9				
HFPO-DA	-	376.9 -> 84.8	-	N.D.		
		284.9 -> 168.9				
3:3FTCA	-	284.9 -> 184.9	-	N.D.		
		241.0 -> 177.0				
5:3FTCA	-	241.0 -> 117.0	-	N.D.		
		341.0 -> 237.1				
7:3FTCA	-	341.0 -> 217.0	-	N.D.		
		441.0 -> 316.9				
EtFOSA	-	441.0 -> 336.9	-	N.D.		
		526.0 -> 219.0				
EtFOSE	-	526.0 -> 169.0	-	N.D.		
		630.0 -> 58.9				
MeFOSA	-	511.9 -> 219.0	-	N.D.		
		511.9 -> 169.0				
MeFOSE	-	616.1 -> 58.9	-	N.D.		
		699.1 -> 79.9				
PFDoDS	-	699.1 -> 98.8	-	N.D.		
		295.0 -> 201.0				
NFDHA	-	295.0 -> 84.9	-	N.D.		
		279.0 -> 85.1				
PFMBA	-	229.0 -> 84.9	-	N.D.		
		314.8 -> 134.9				
PFEESA	-	314.8 -> 82.9	-	N.D.		

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



7.5.1  
7

### Perfluorinated Compounds by LC/MS/MS

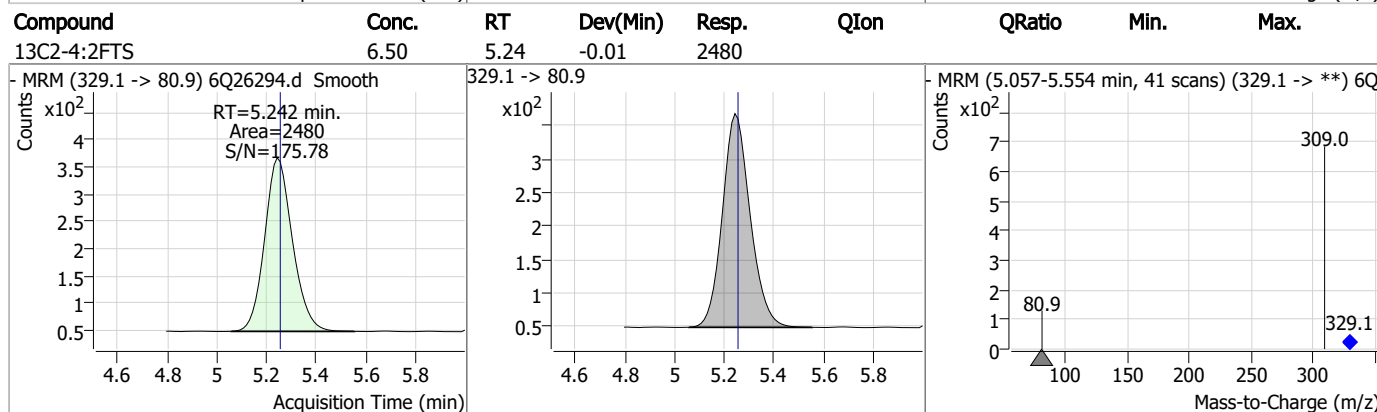
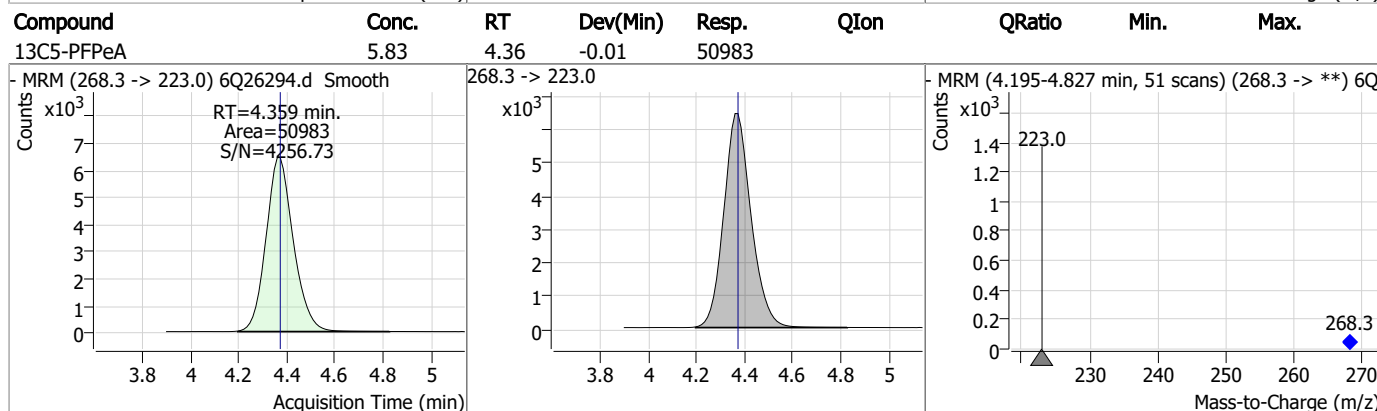
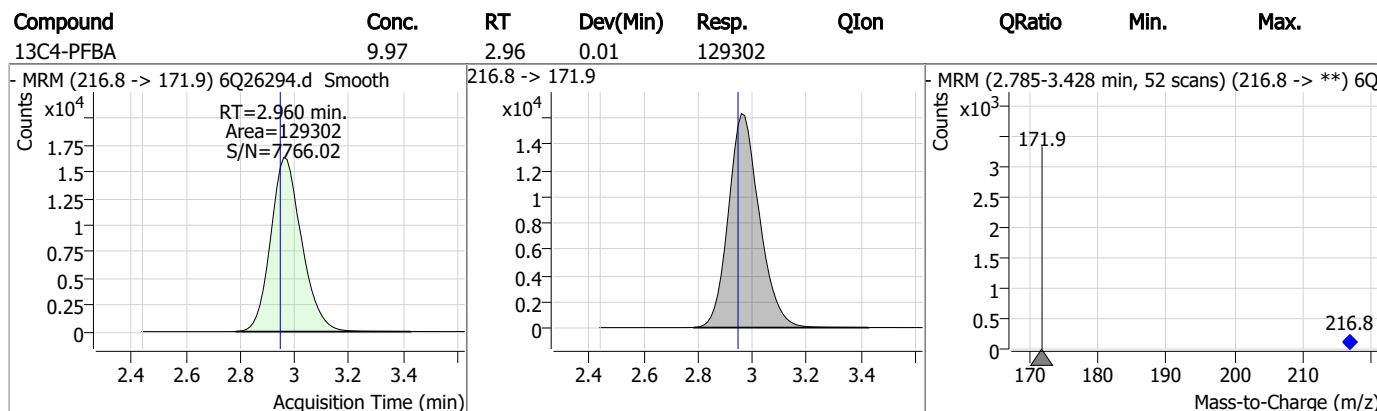
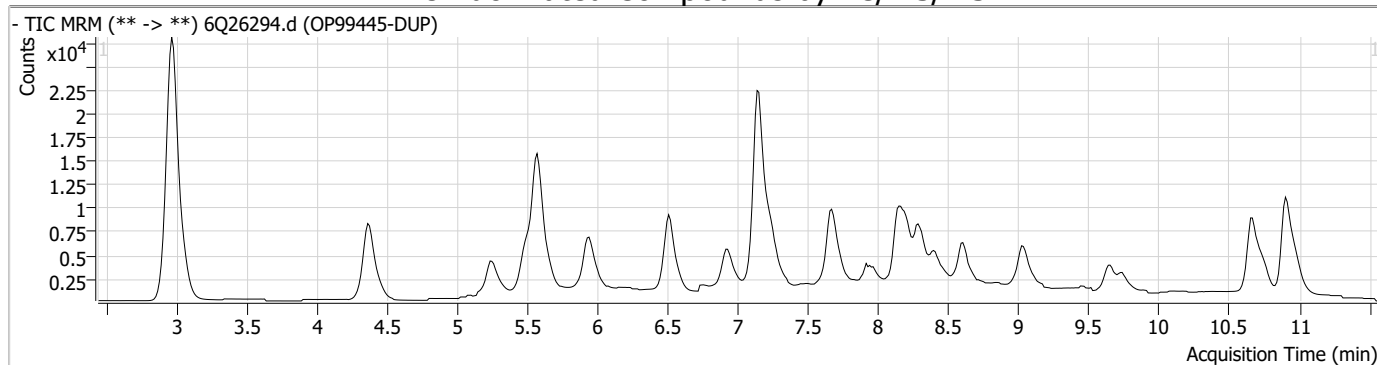
Compound	RT	Transition	Response	Conc. Units	Dev(Min)
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7.5.1

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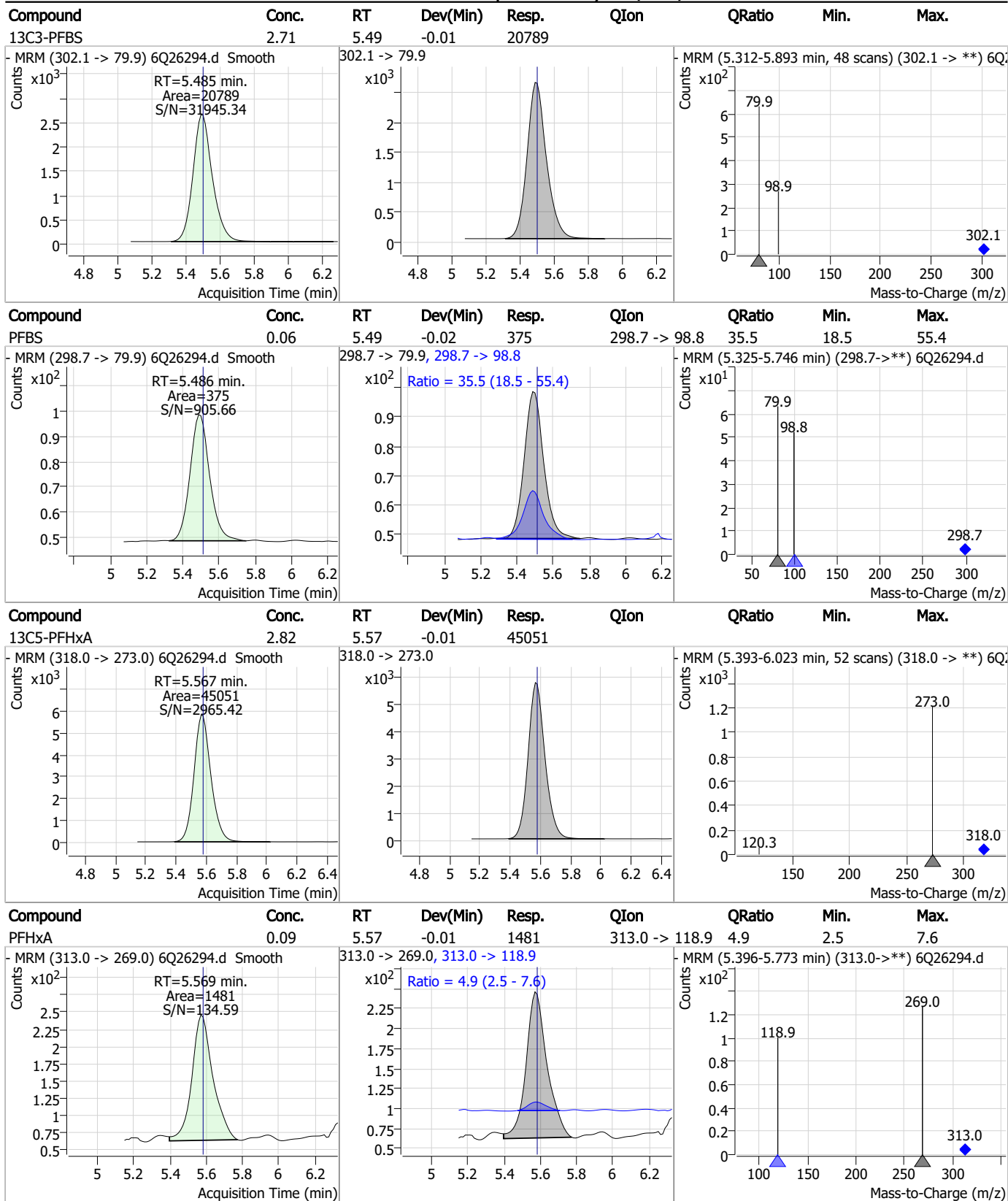


### Perfluorinated Compounds by LC/MS/MS



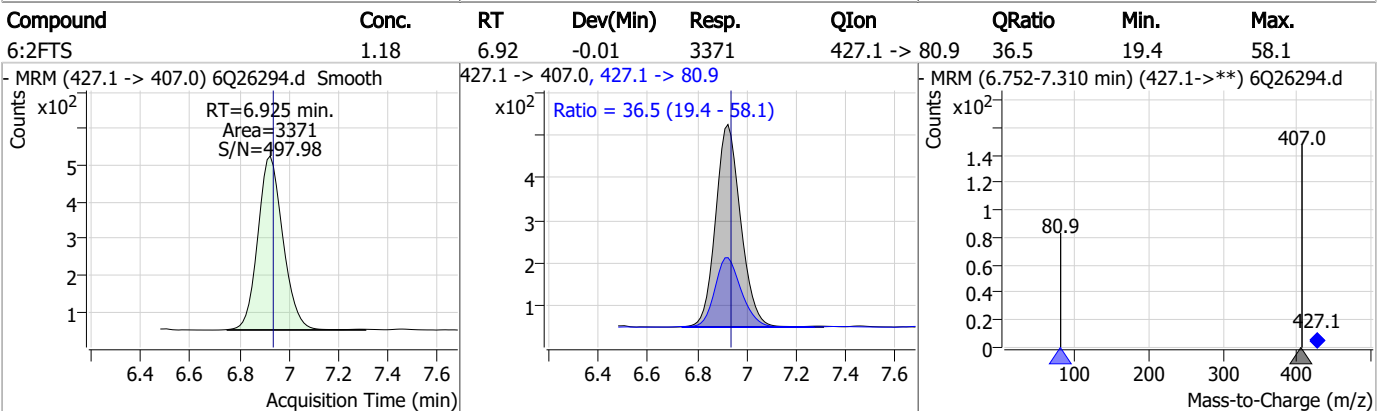
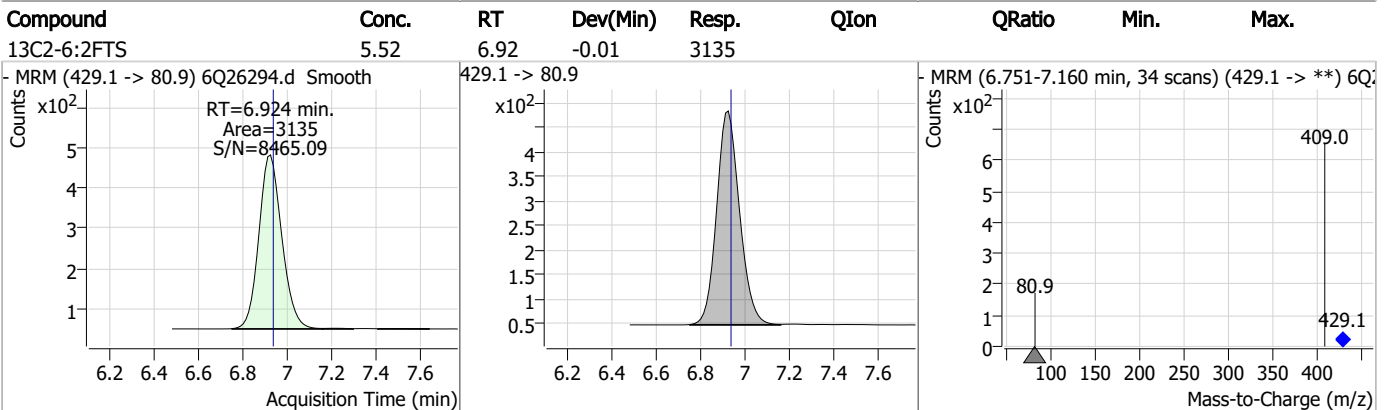
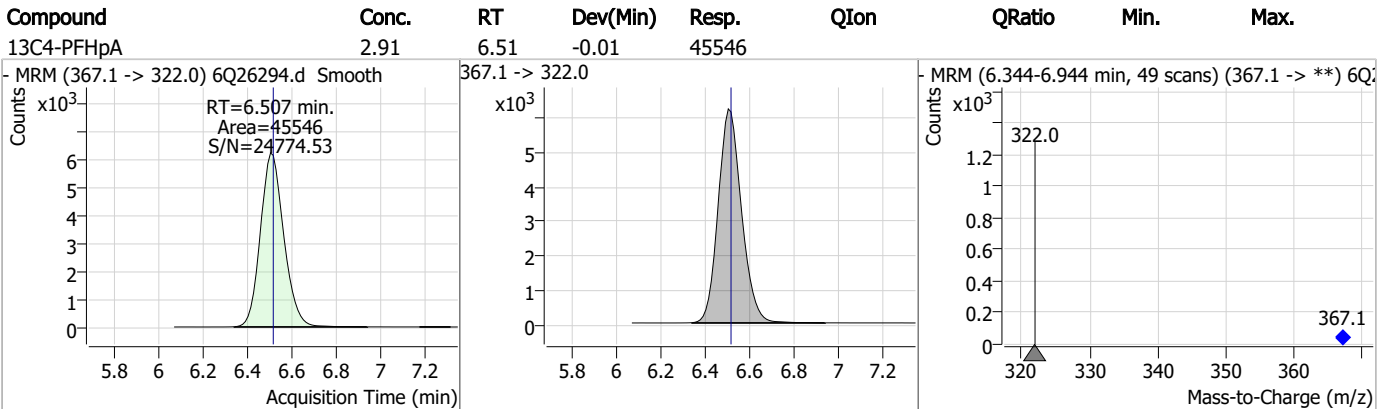
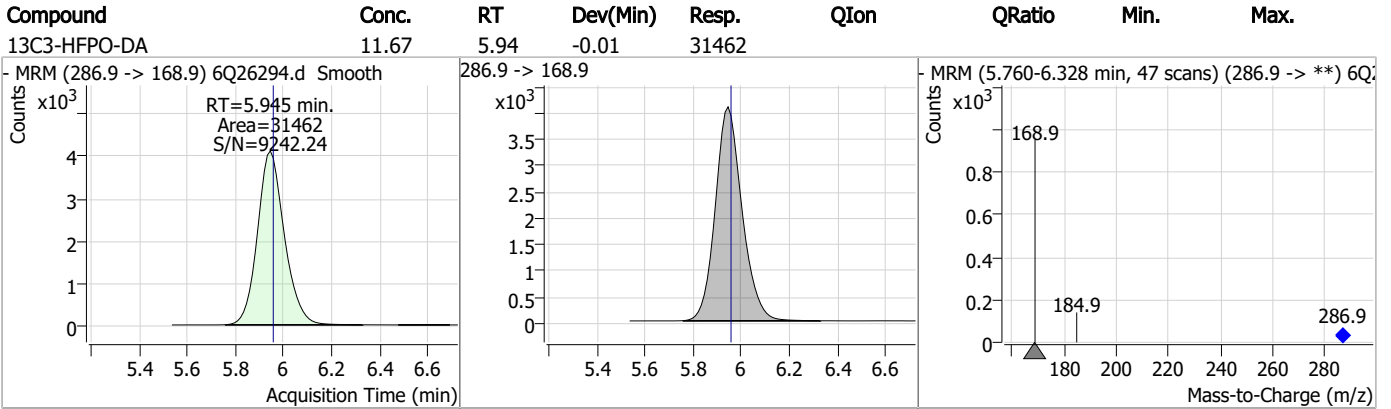
7.5.1  
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### Perfluorinated Compounds by LC/MS/MS

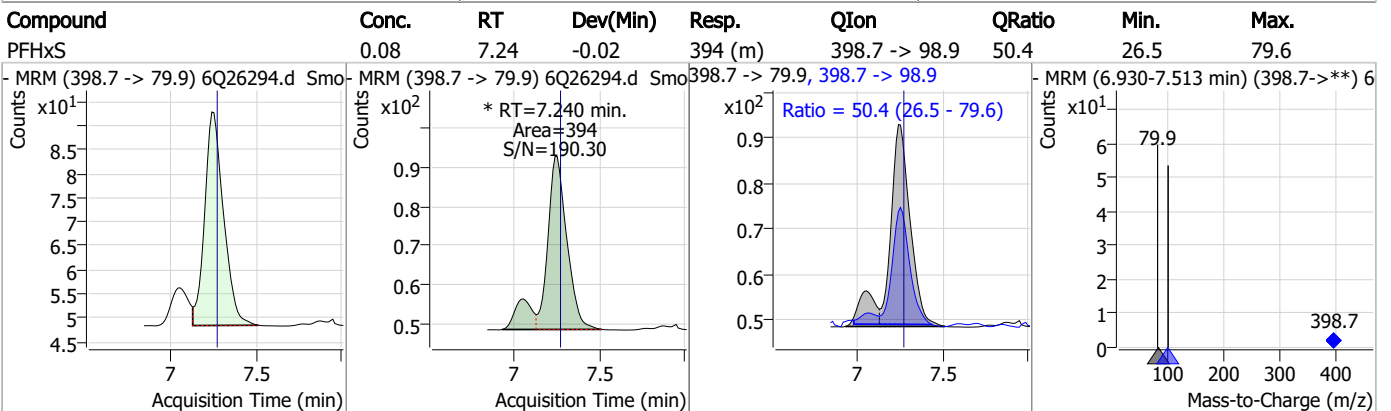
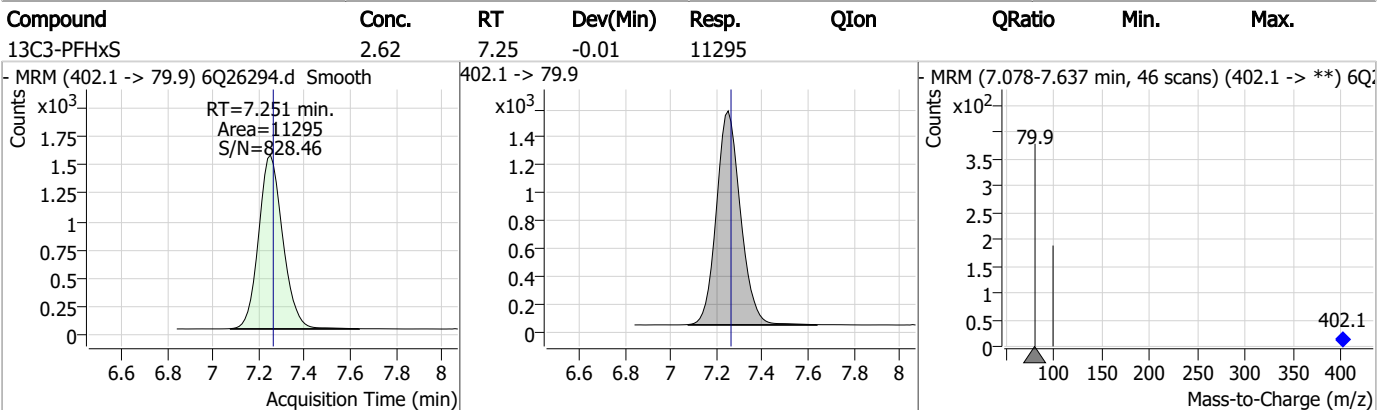
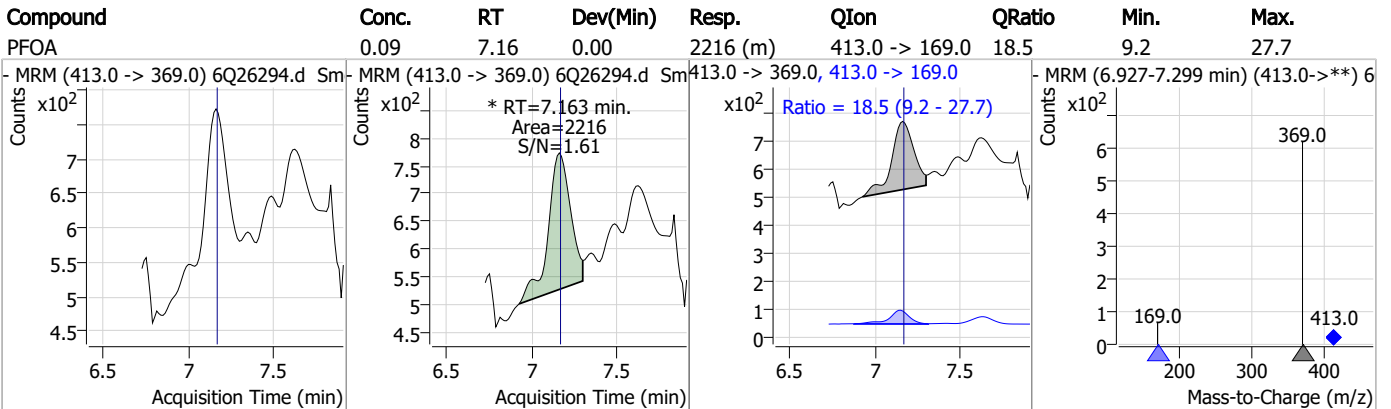
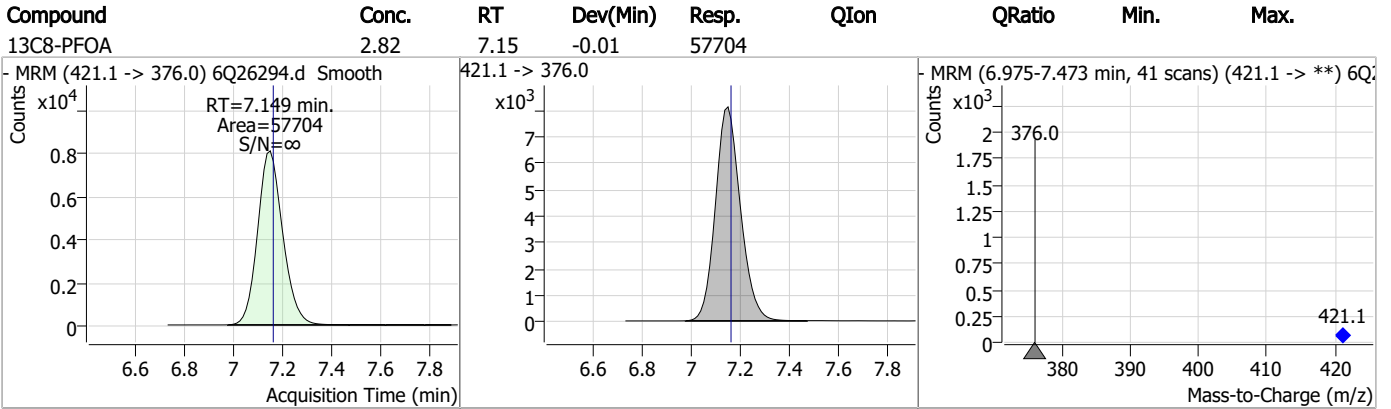


7.5.1  
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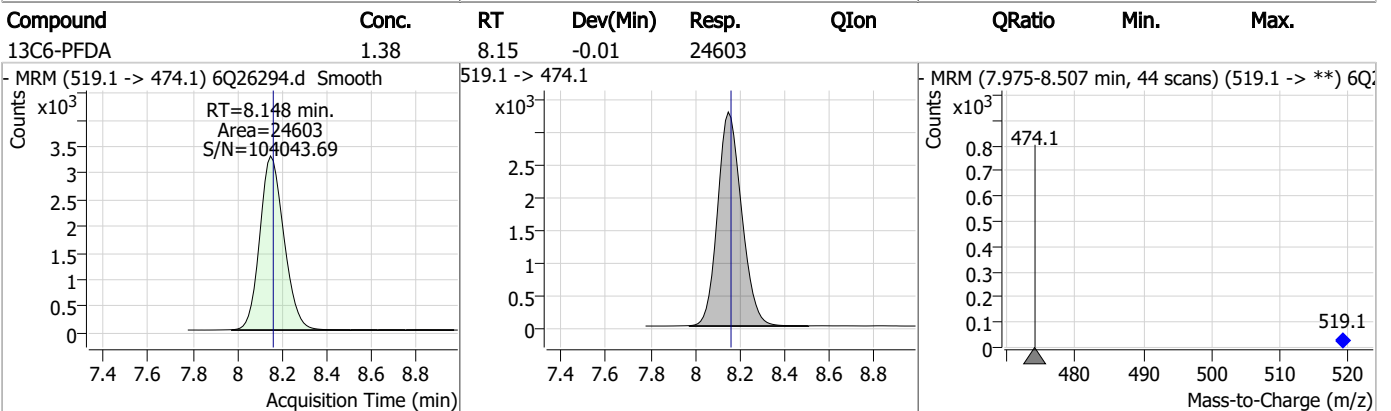
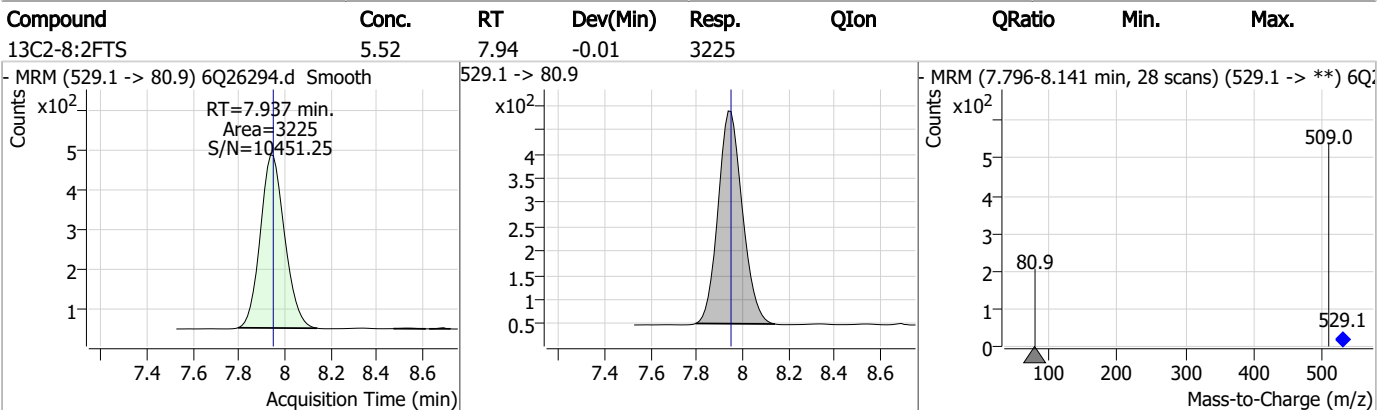
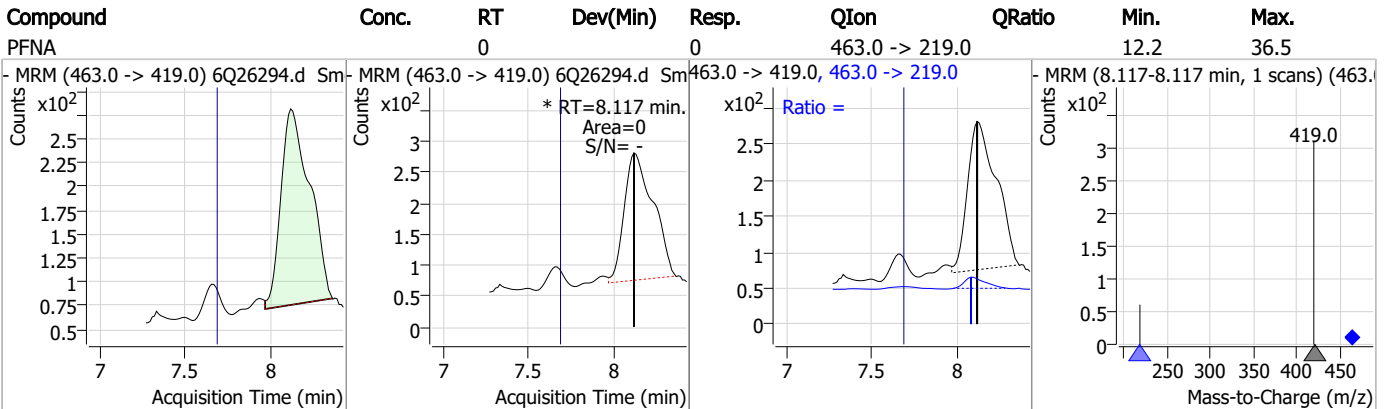
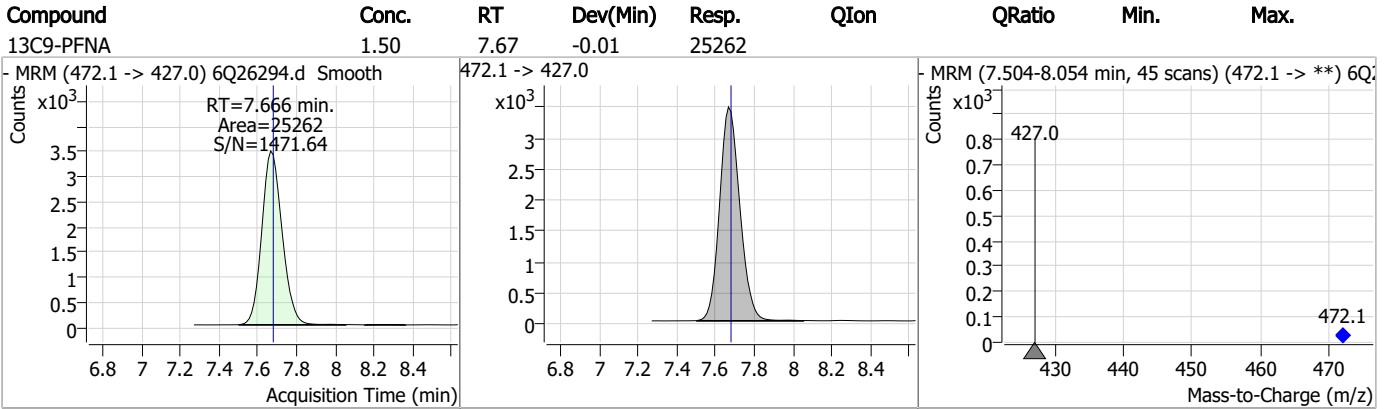
### Perfluorinated Compounds by LC/MS/MS



### Perfluorinated Compounds by LC/MS/MS



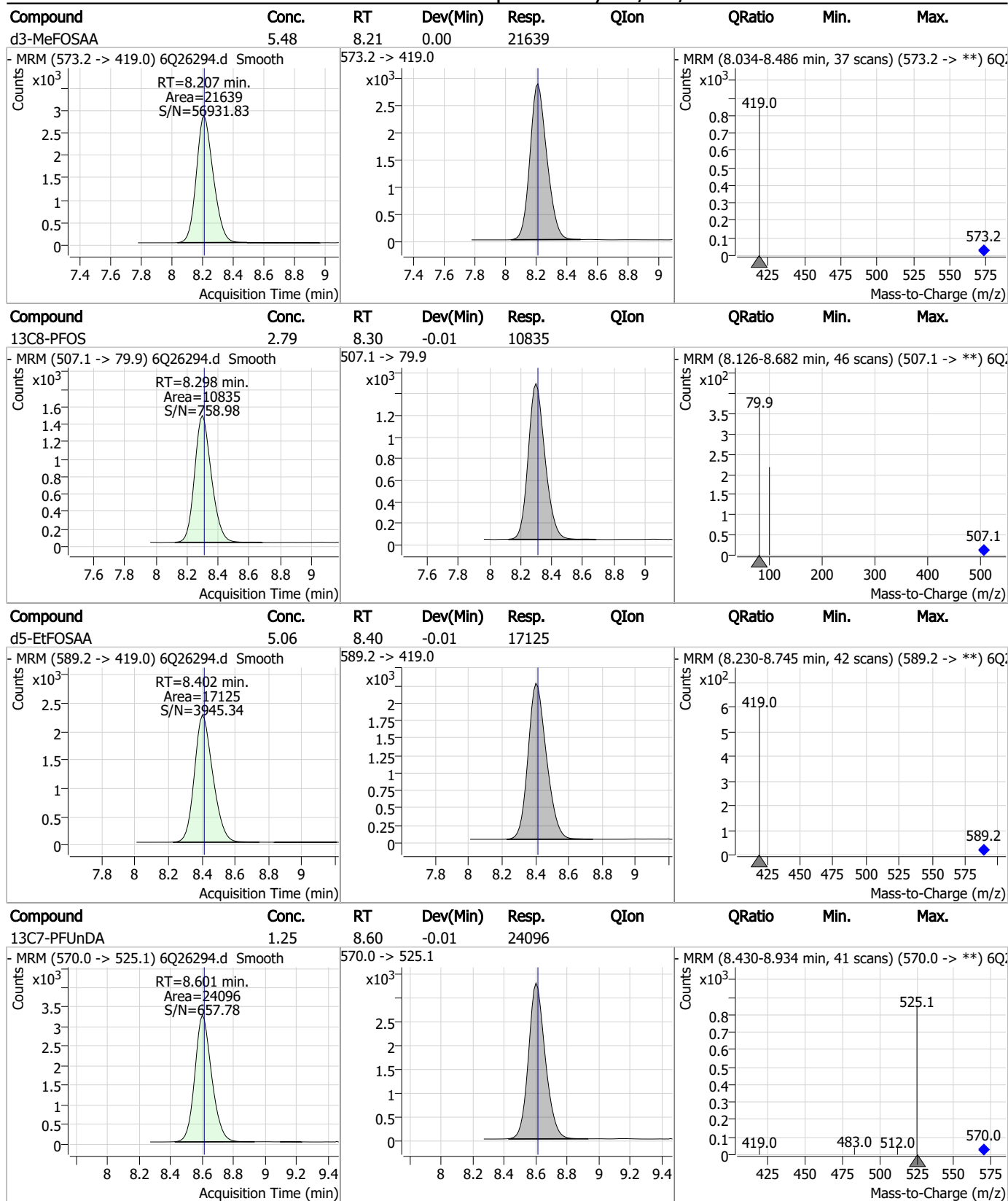
### Perfluorinated Compounds by LC/MS/MS



7.5.1

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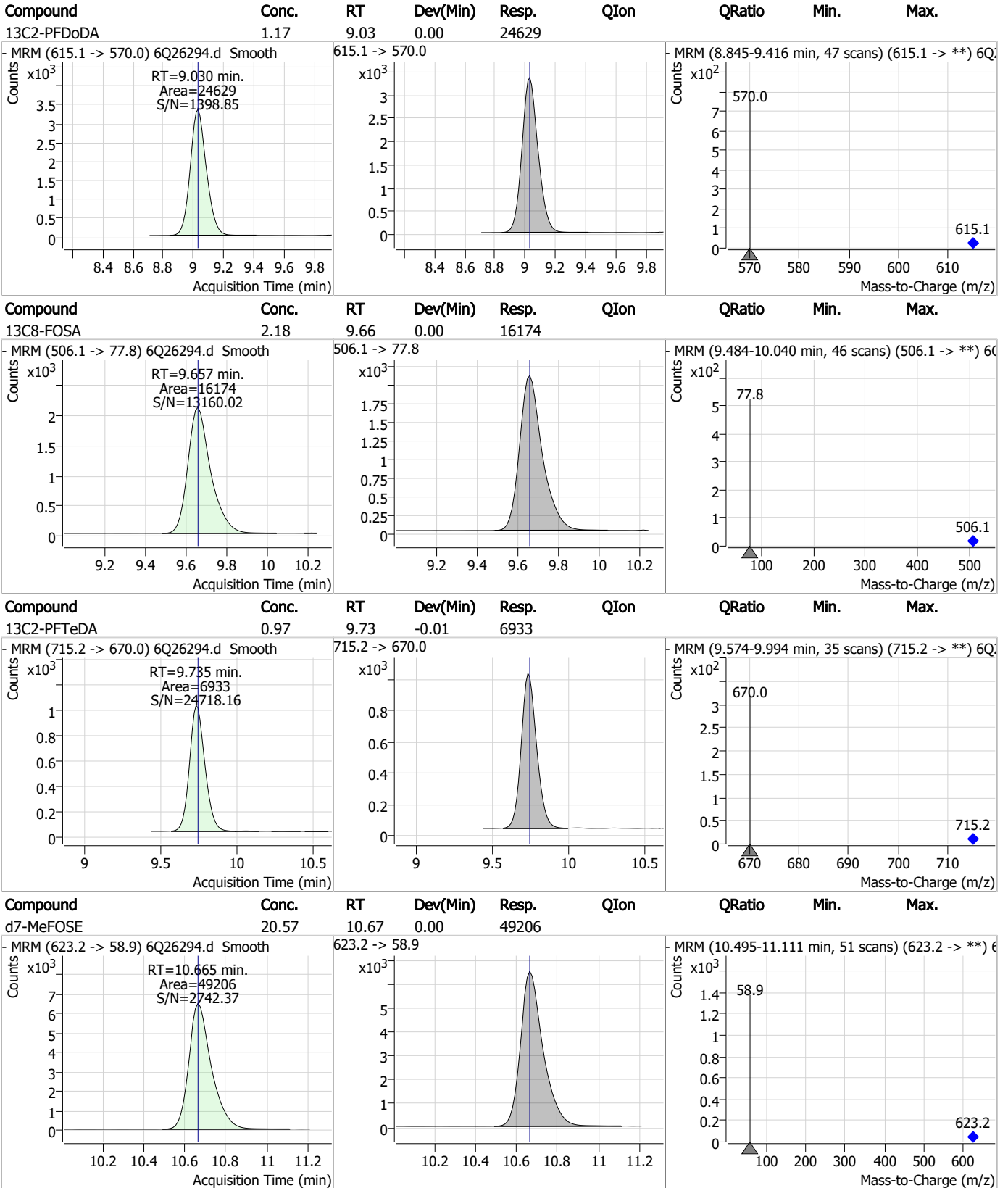
### Perfluorinated Compounds by LC/MS/MS



7.5.1  
7



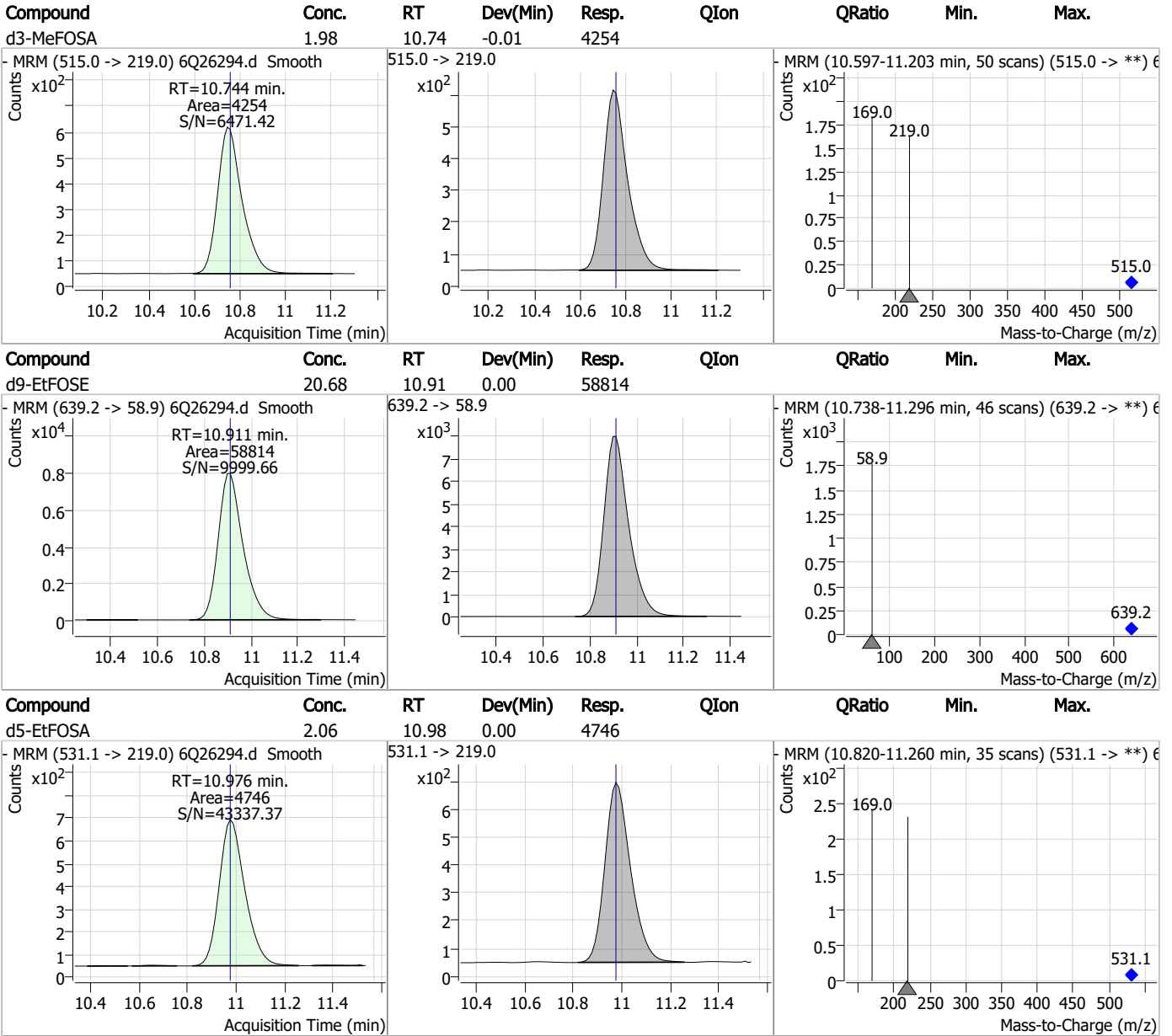
### Perfluorinated Compounds by LC/MS/MS



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

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Manual Integrations  
**APPROVED**  
 (compounds with "m" flag)  
 Natasha Gumtie  
 10/09/23 16:36

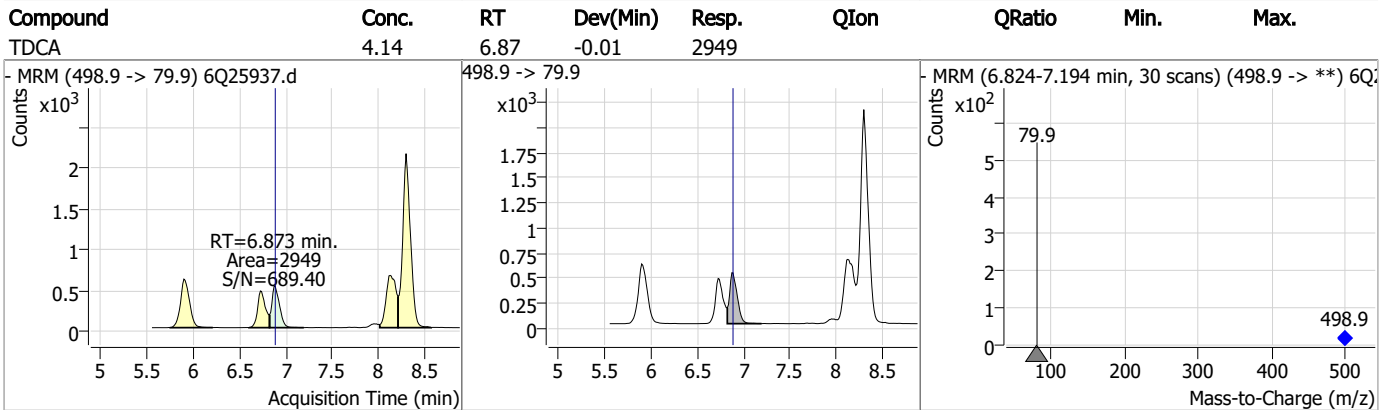
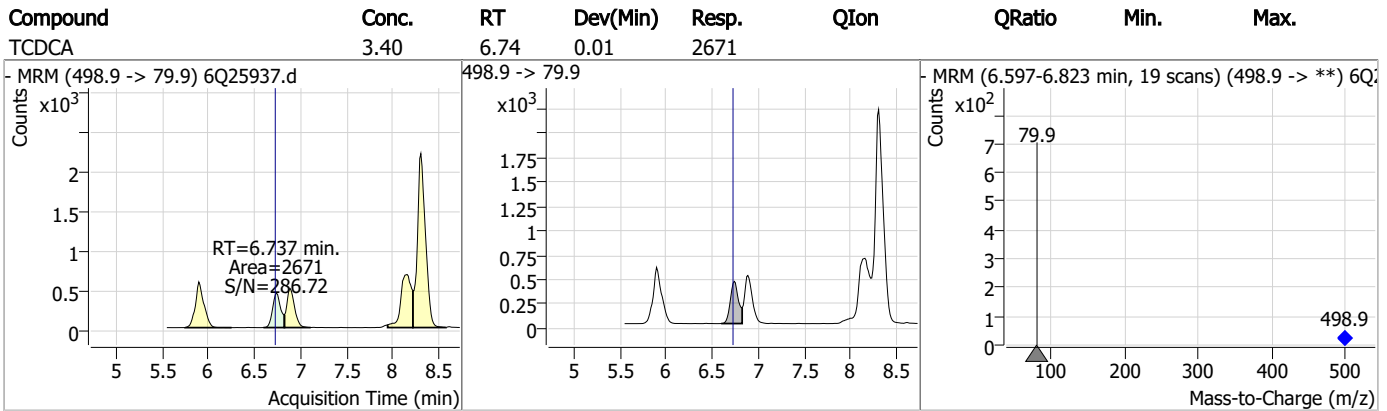
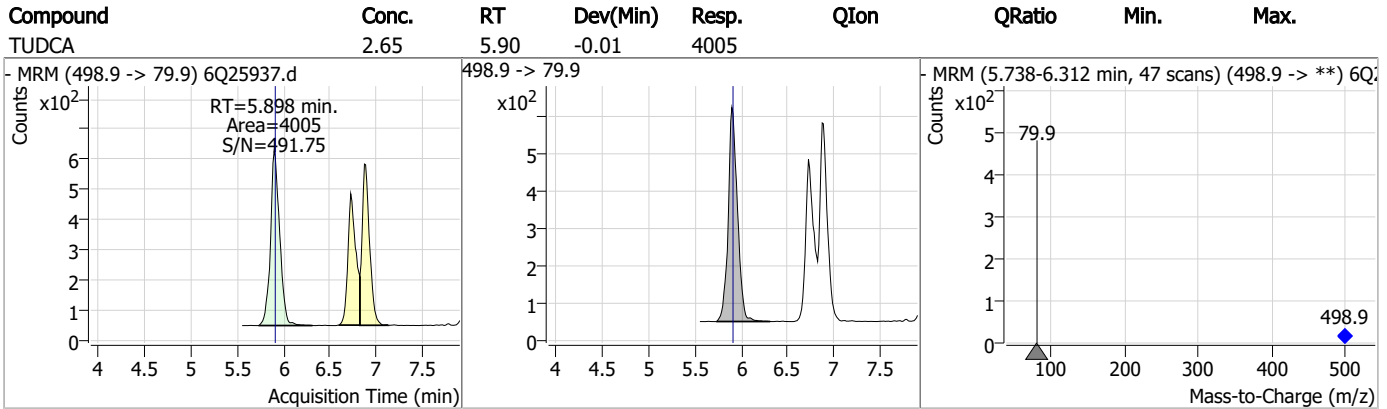
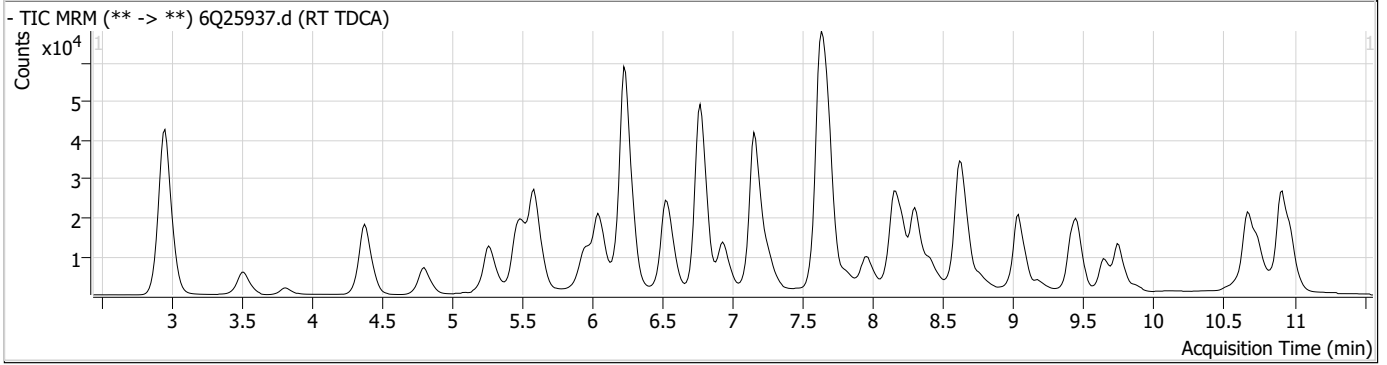
Perfluorinated Compounds by LC/MS/MS

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)	
<b>Internal Standards</b>						
M8-PFOS	8.311	507.1 -> 79.9	17039	2.50 µg/L	-0.012	7.6.1
13C4-PFOS	8.299	502.8 -> 79.9	16928	2.50 µg/L	-0.025	
<b>System Monitoring Compounds</b>						
13C8-PFOS	8.311	507.1 -> 79.9	17039	2.55 µg/L	-0.012	7
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 102.1%			
<b>Target Compounds</b>						
PFOS	8.300	498.9 -> 79.9	17310	2.97 µg/L #m	73	QValue
		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	

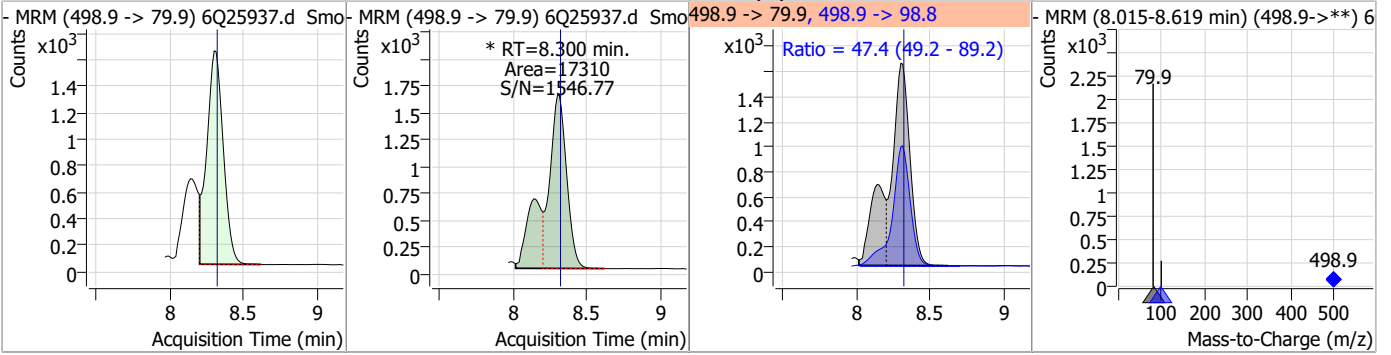
# = Qualifier out of range, m = manually integrated, + = Area summed

### Perfluorinated Compounds by LC/MS/MS

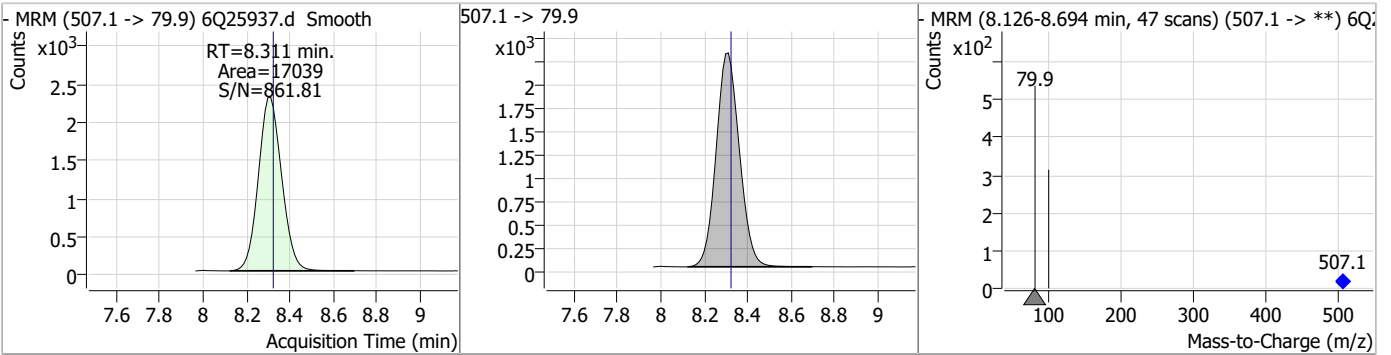


### Perfluorinated Compounds by LC/MS/MS

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

7.6.1.1

7

## 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)
<b>Internal Standards</b>					
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
<b>System Monitoring Compounds</b>					
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%	
<b>Target Compounds</b>					<b>QValue</b>
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	27.74	µg/L	100
		314.8 -> 82.9	18706			
PFMPA	3.526			25.17	µg/L	100
PFEESA	6.050					

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



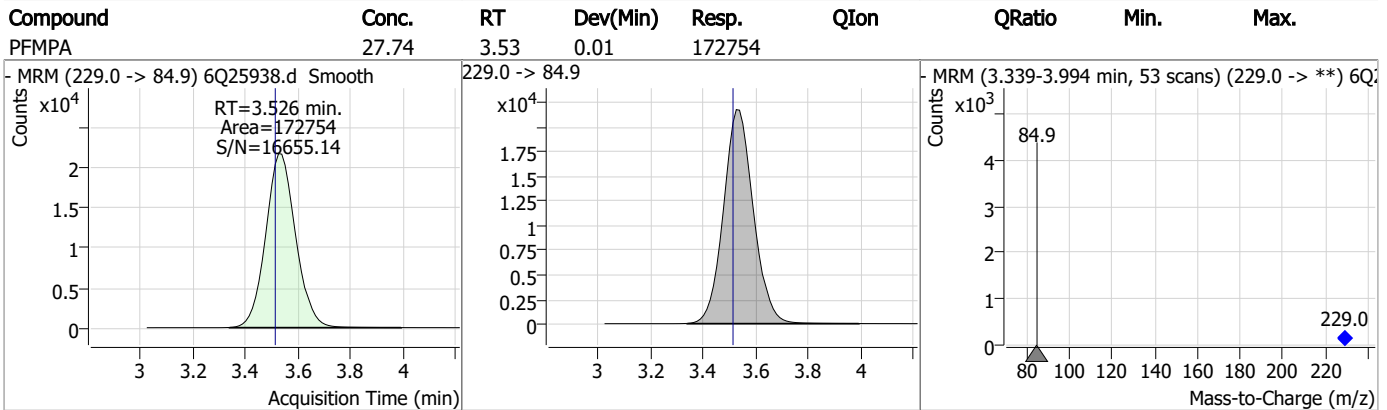
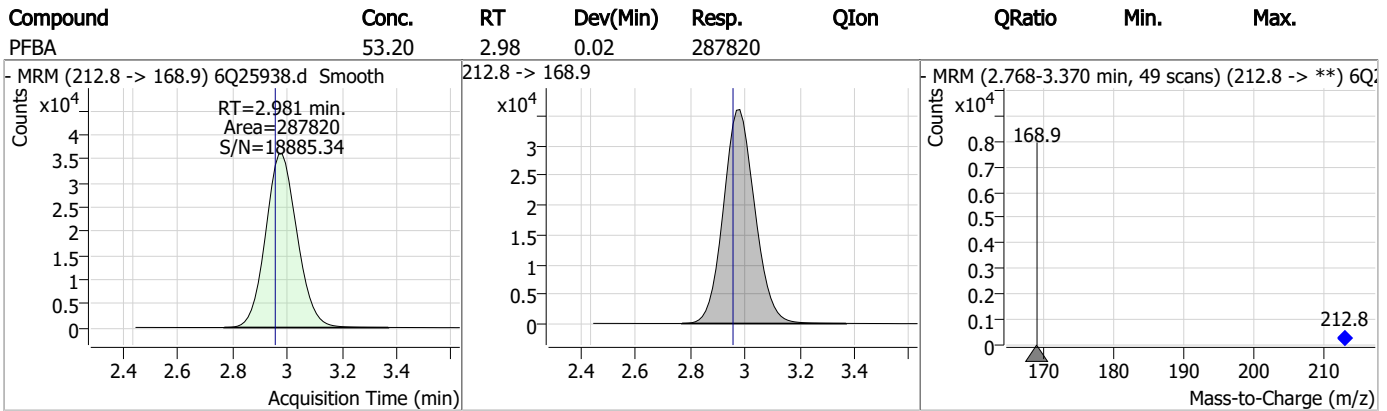
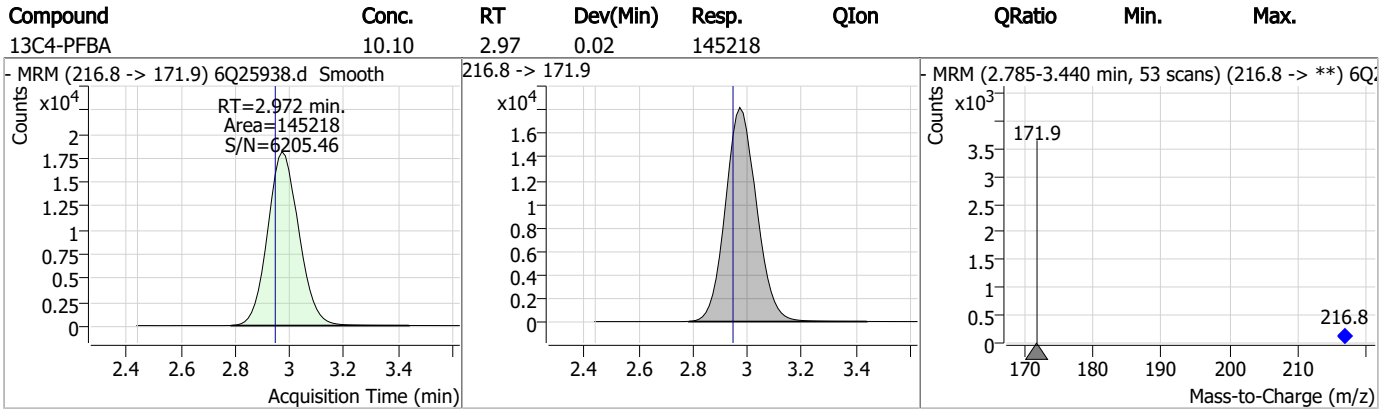
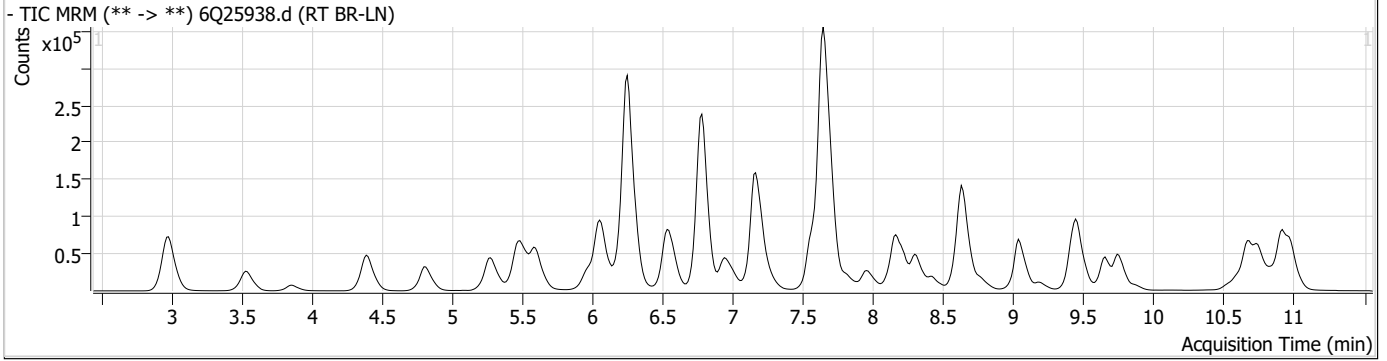
# Perfluorinated Compounds by LC/MS/MS

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

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# Perfluorinated Compounds by LC/MS/MS



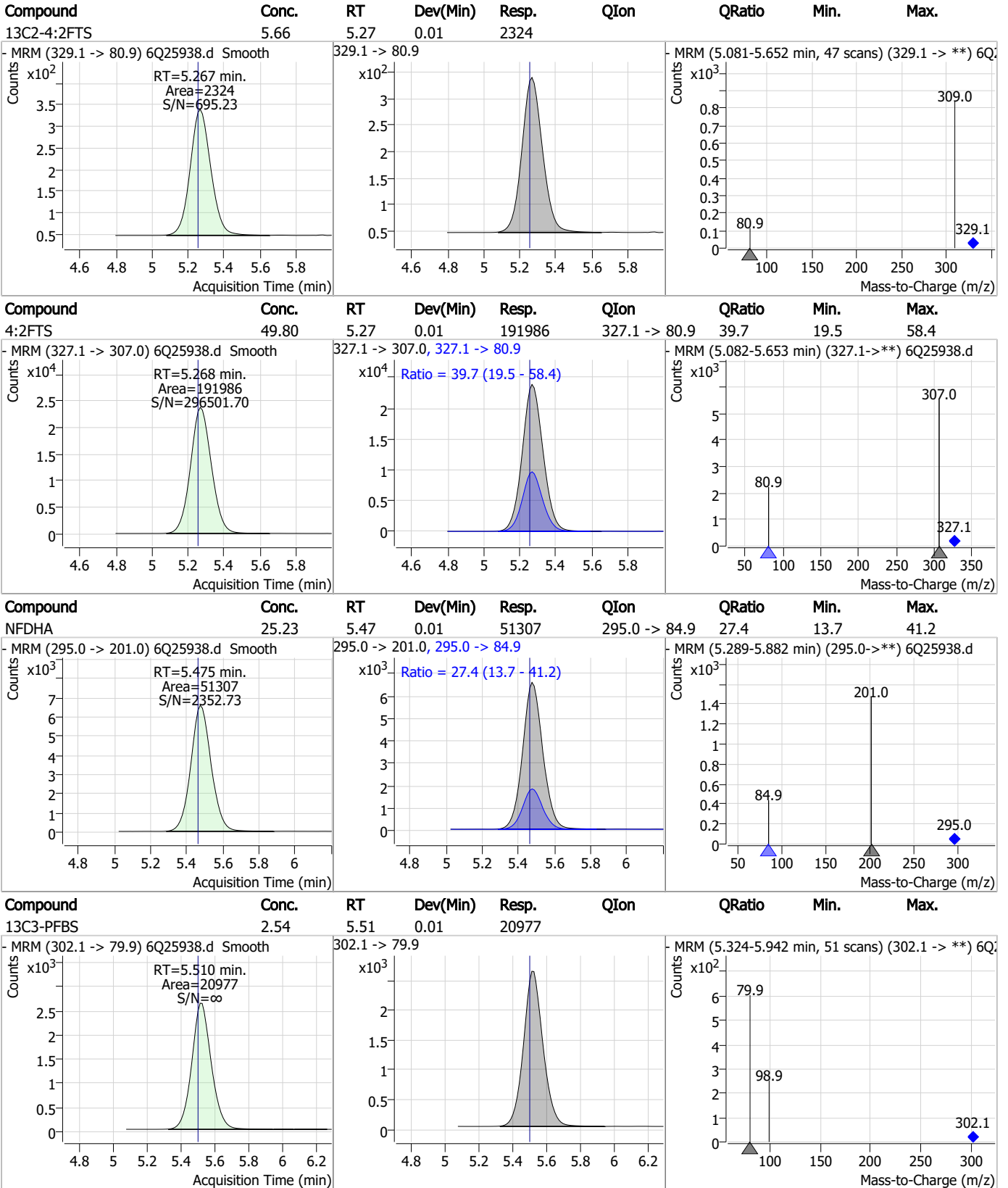
# Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
3:3FTCA	57.25	3.85	0.04	44618	241.0 -> 117.0	13.7	6.7	20.2
13C5-PFPeA	4.39	4.38	0.01	45891	268.3 -> 223.0	-	-	-
PFPeA	27.07	4.39	0.01	268016	263.0 -> 219.0	-	-	-
PFMBA	28.72	4.81	0.01	216627	279.0 -> 85.1	-	-	-

7.6.2

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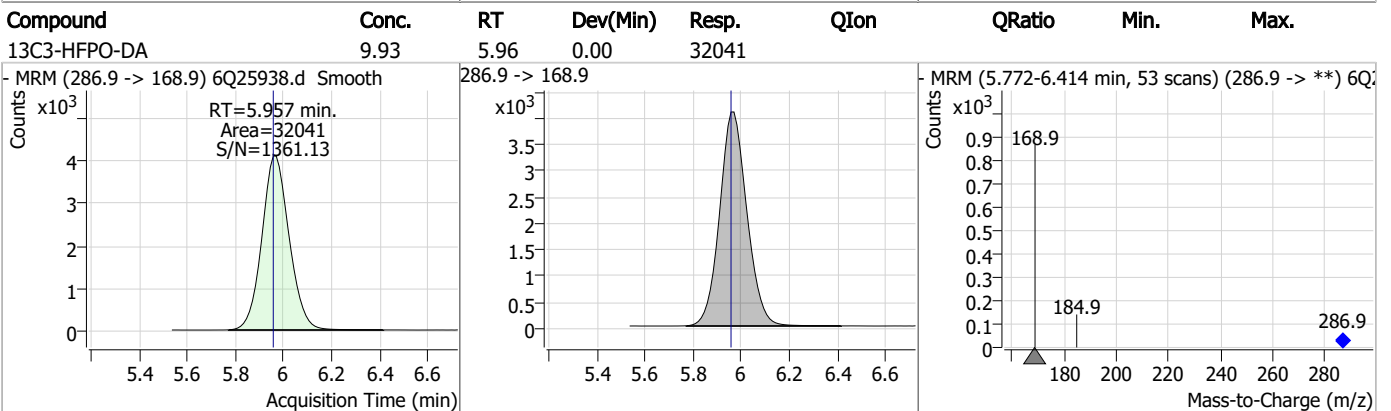
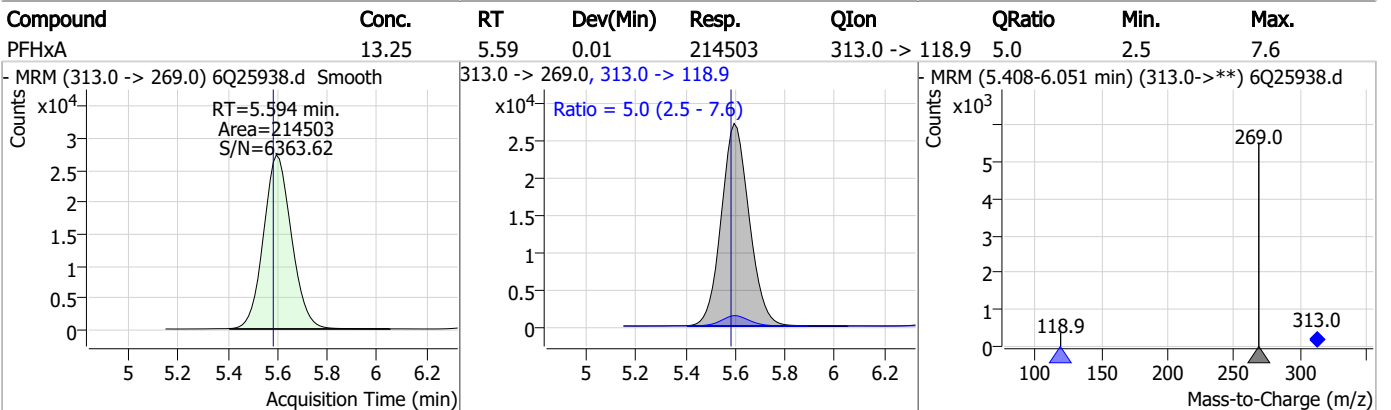
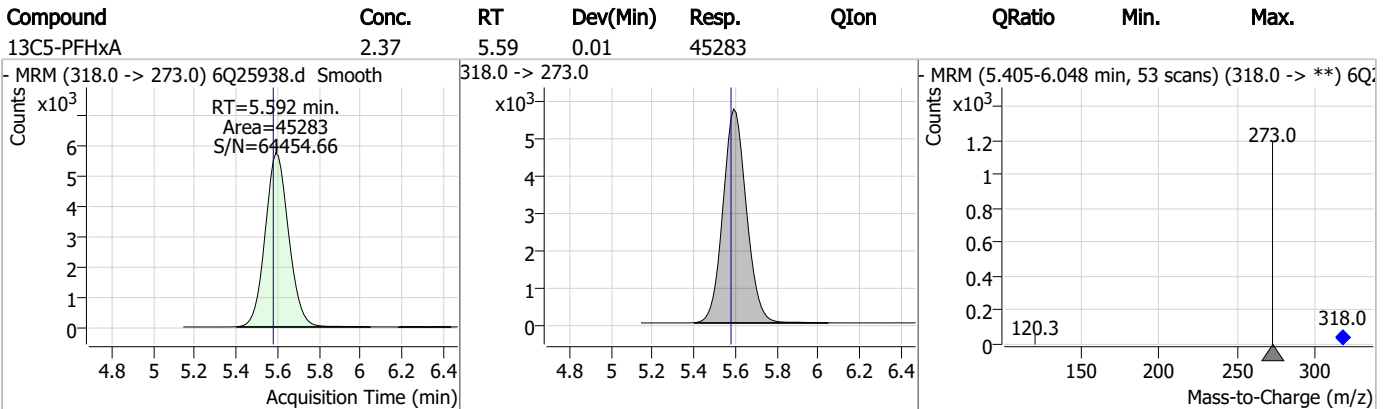
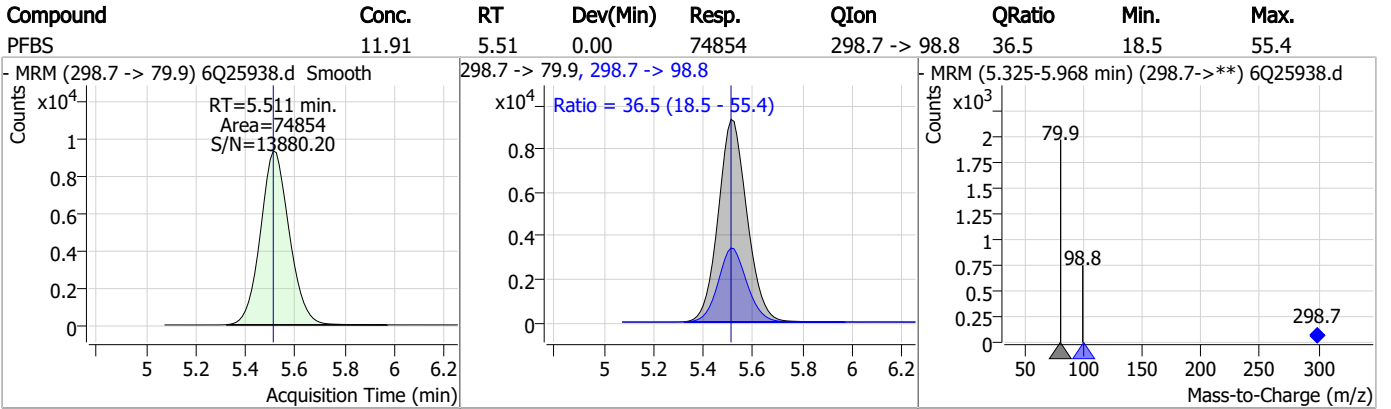
# Perfluorinated Compounds by LC/MS/MS



7.6.2

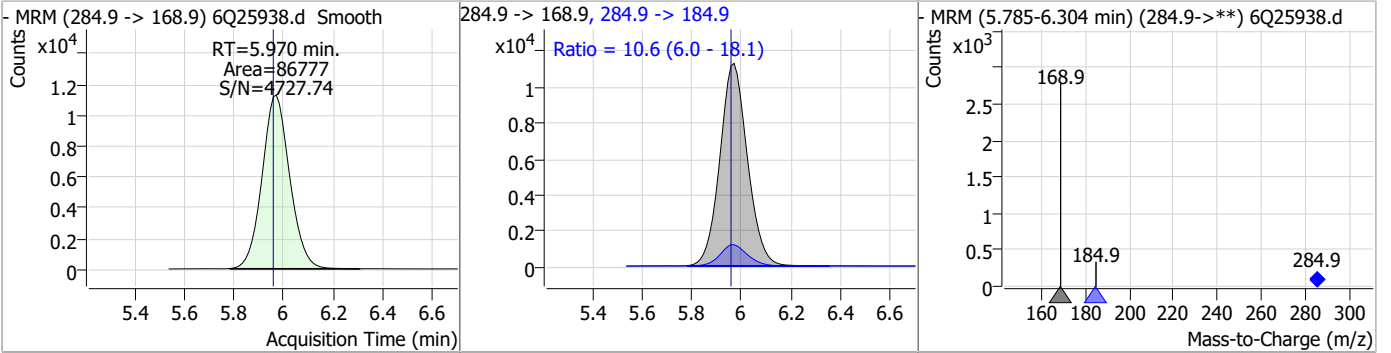
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# Perfluorinated Compounds by LC/MS/MS

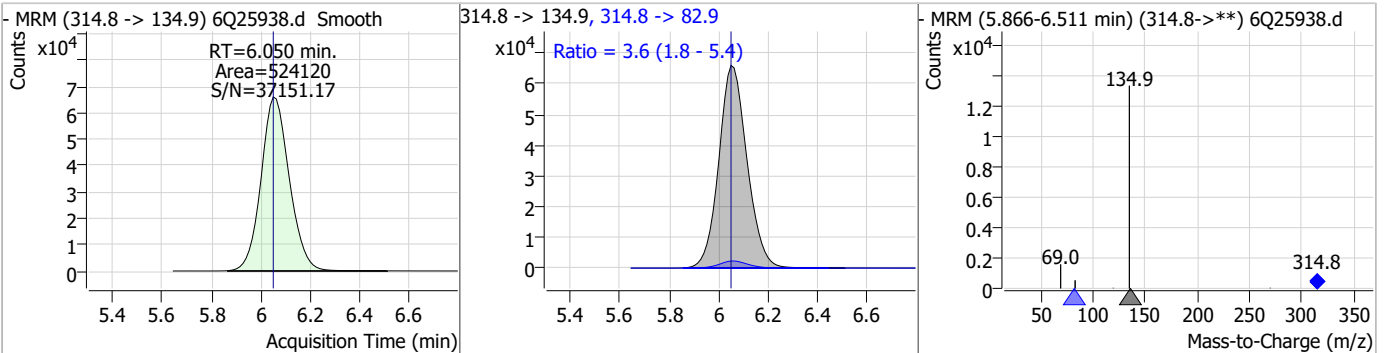


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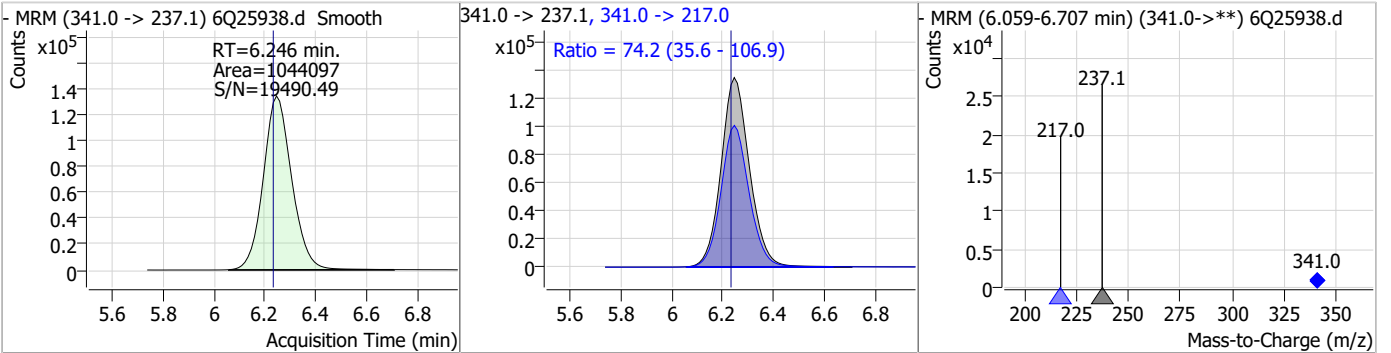
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
HFPO-DA	27.33	5.97	0.01	86777	284.9 -> 184.9	10.6	6.0	18.1



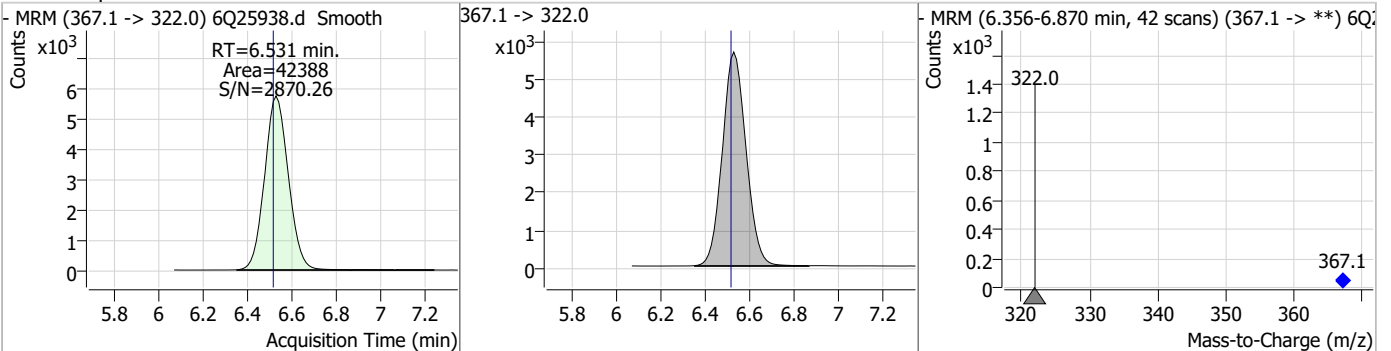
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFEESA	25.17	6.05	0.00	524120	314.8 -> 82.9	3.6	1.8	5.4



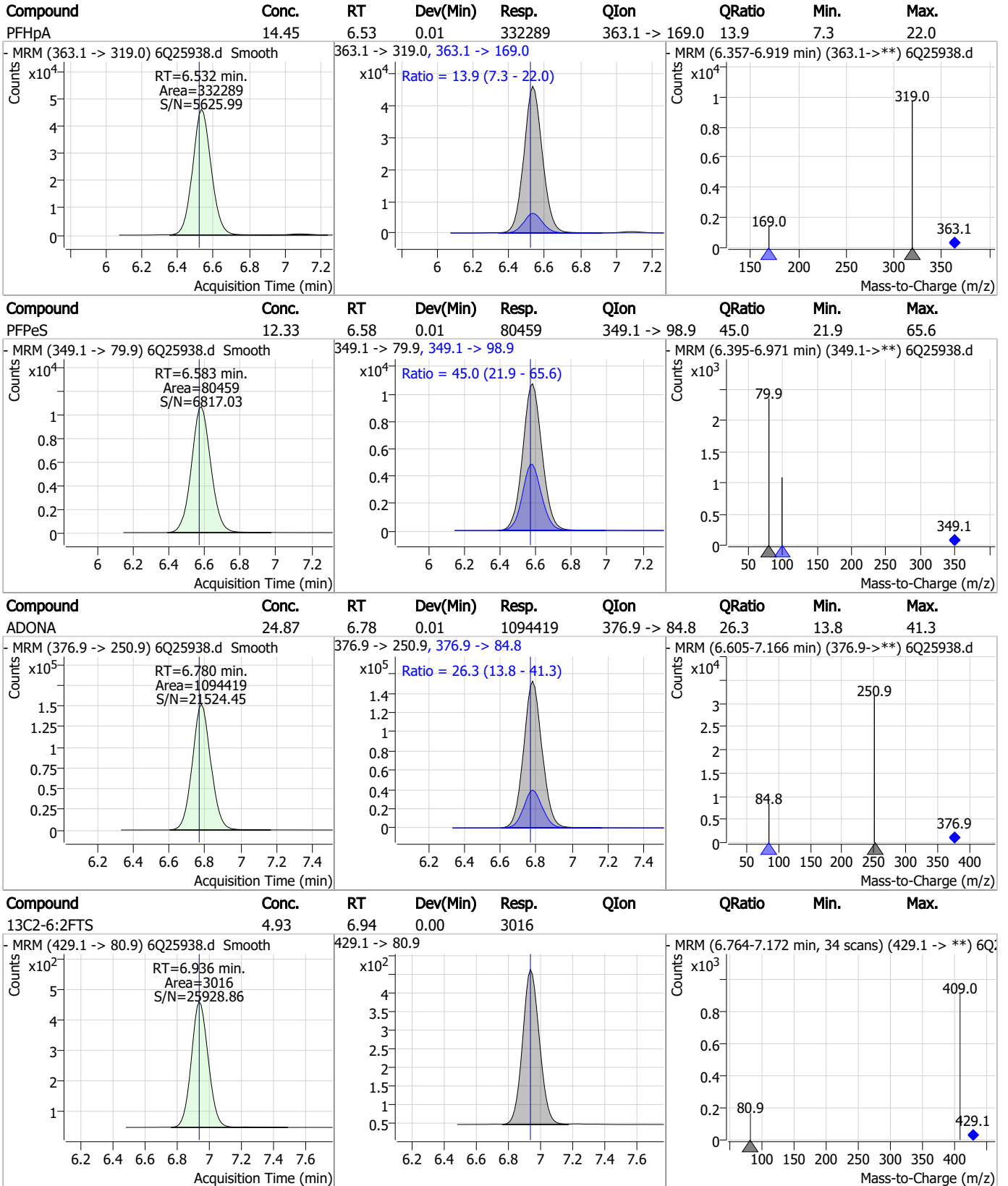
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
5:3FTCA	344.05	6.25	0.01	1044097	341.0 -> 217.0	74.2	35.6	106.9



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

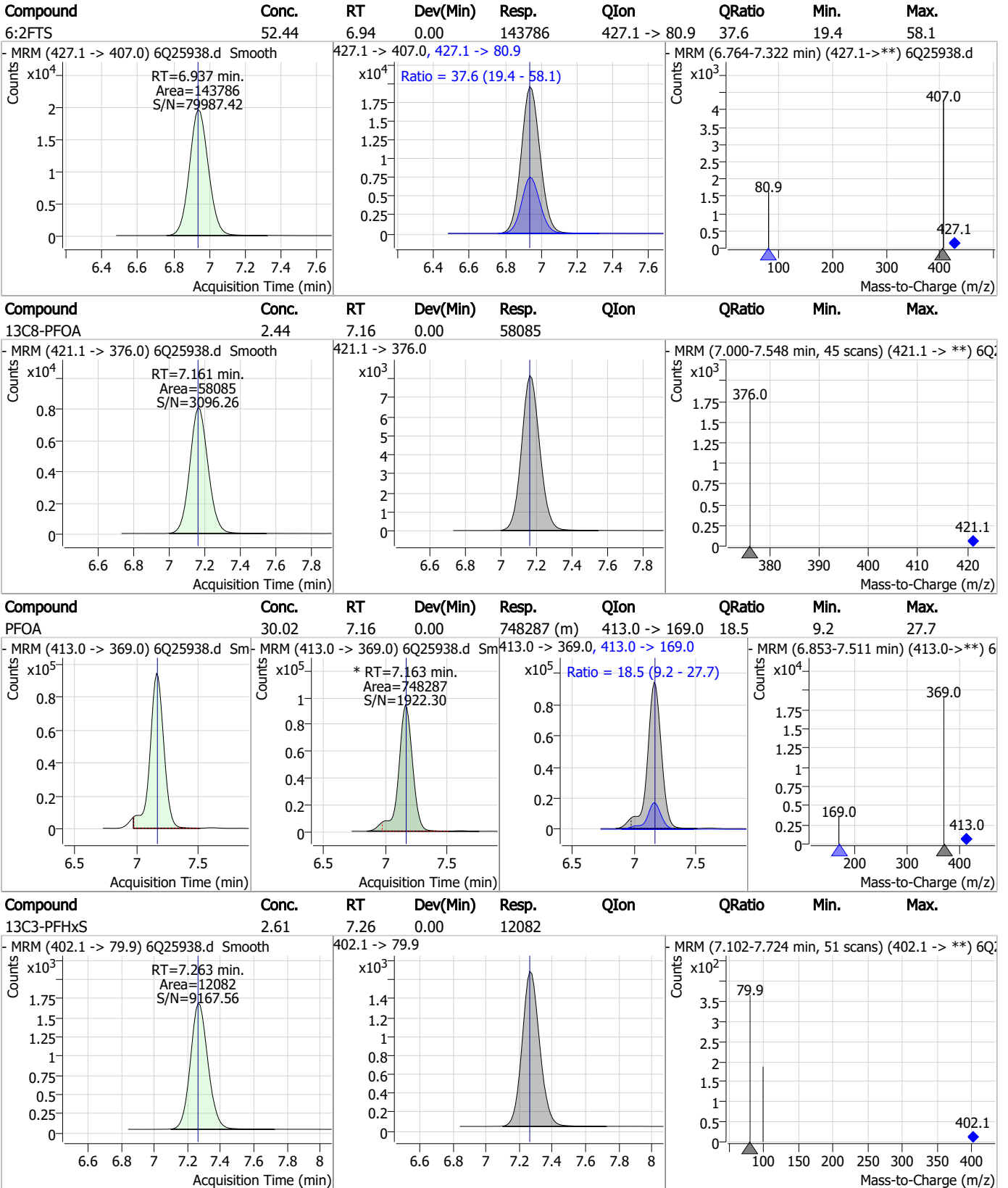


7.6.2

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# Perfluorinated Compounds by LC/MS/MS

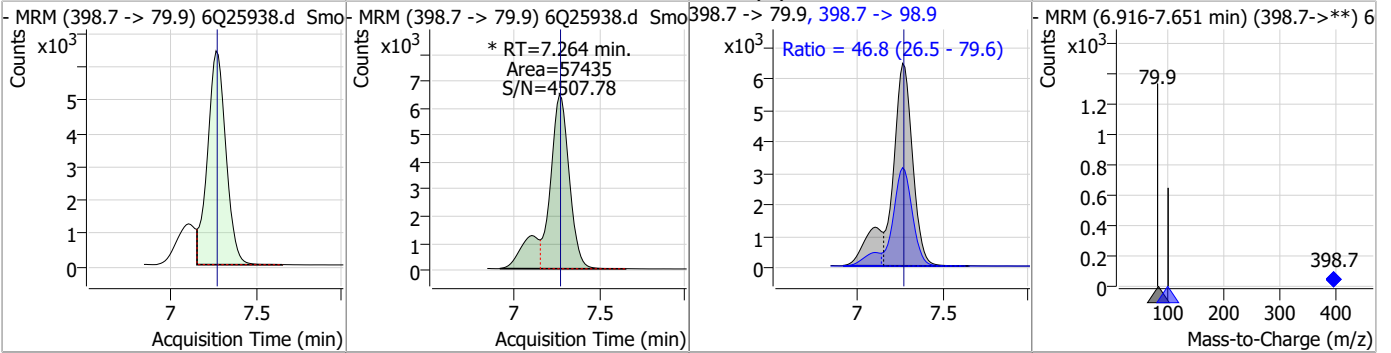


7.6.2

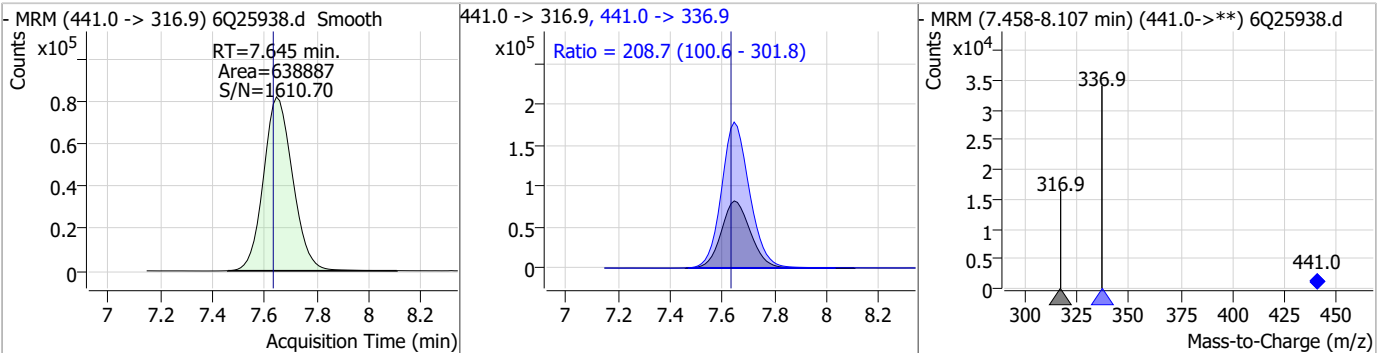


# Perfluorinated Compounds by LC/MS/MS

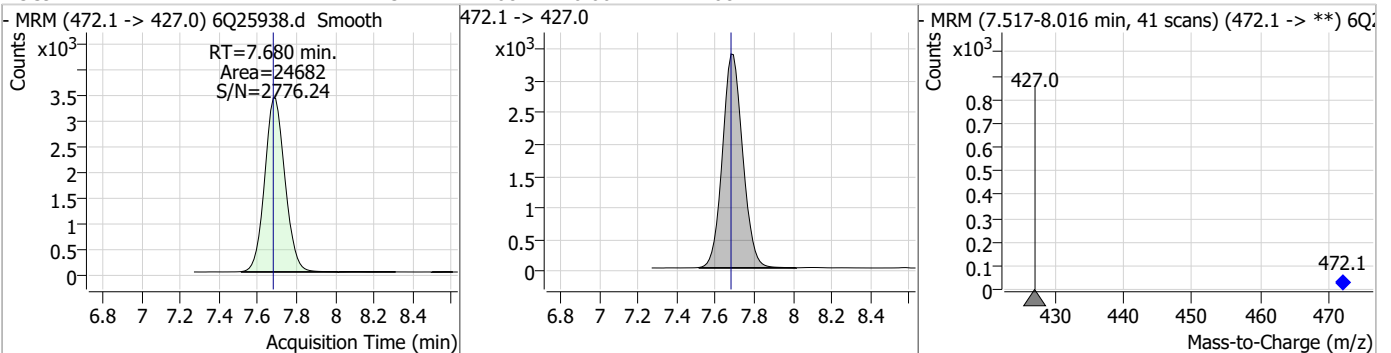
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxS	11.37	7.26	0.00	57435 (m)	398.7 -> 98.9	46.8	26.5	79.6



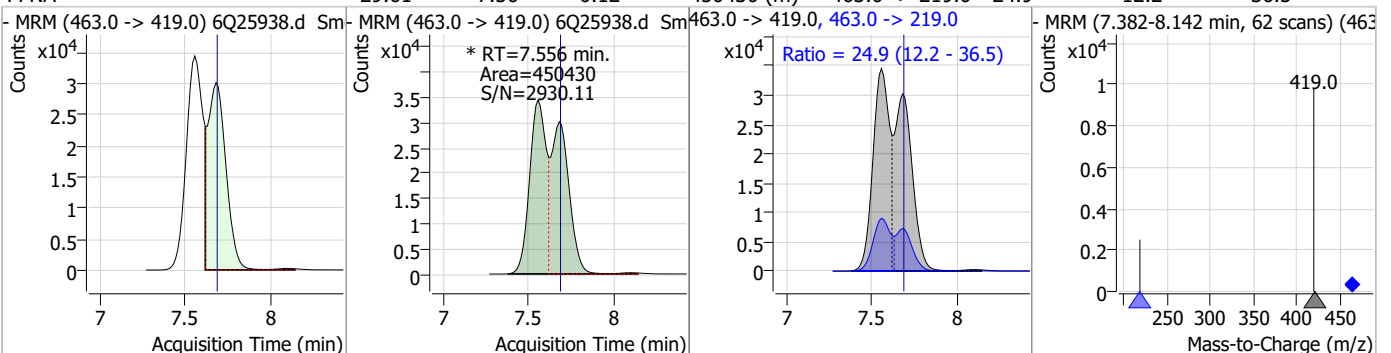
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
7:3FTCA	344.67	7.64	0.01	638887	441.0 -> 336.9	208.7	100.6	301.8



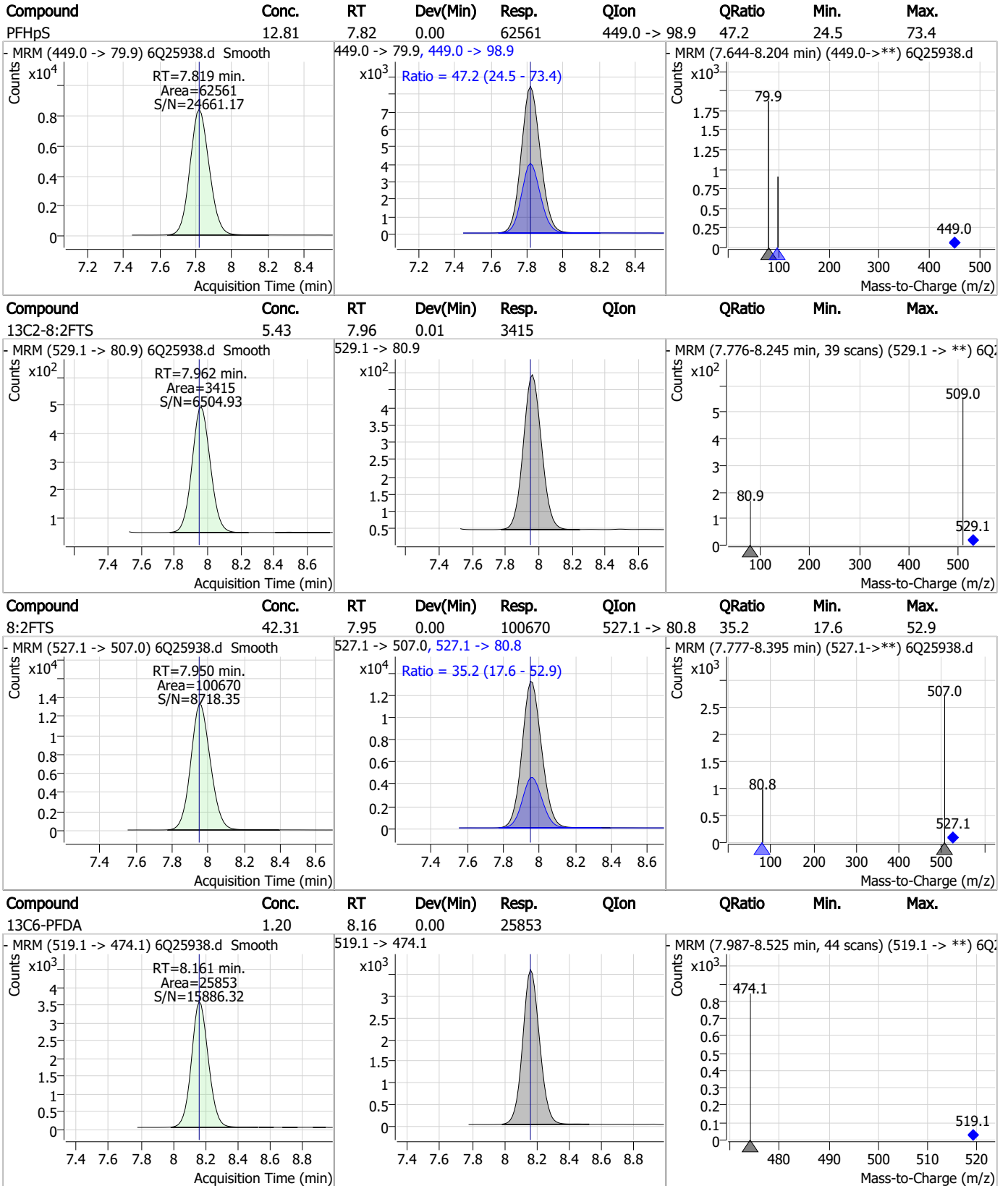
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C9-PFNA	1.23	7.68	0.00	24682	472.1 -> 427.0	-	-	-



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNA	29.61	7.56	-0.12	450430 (m)	463.0 -> 219.0	24.9	12.2	36.5



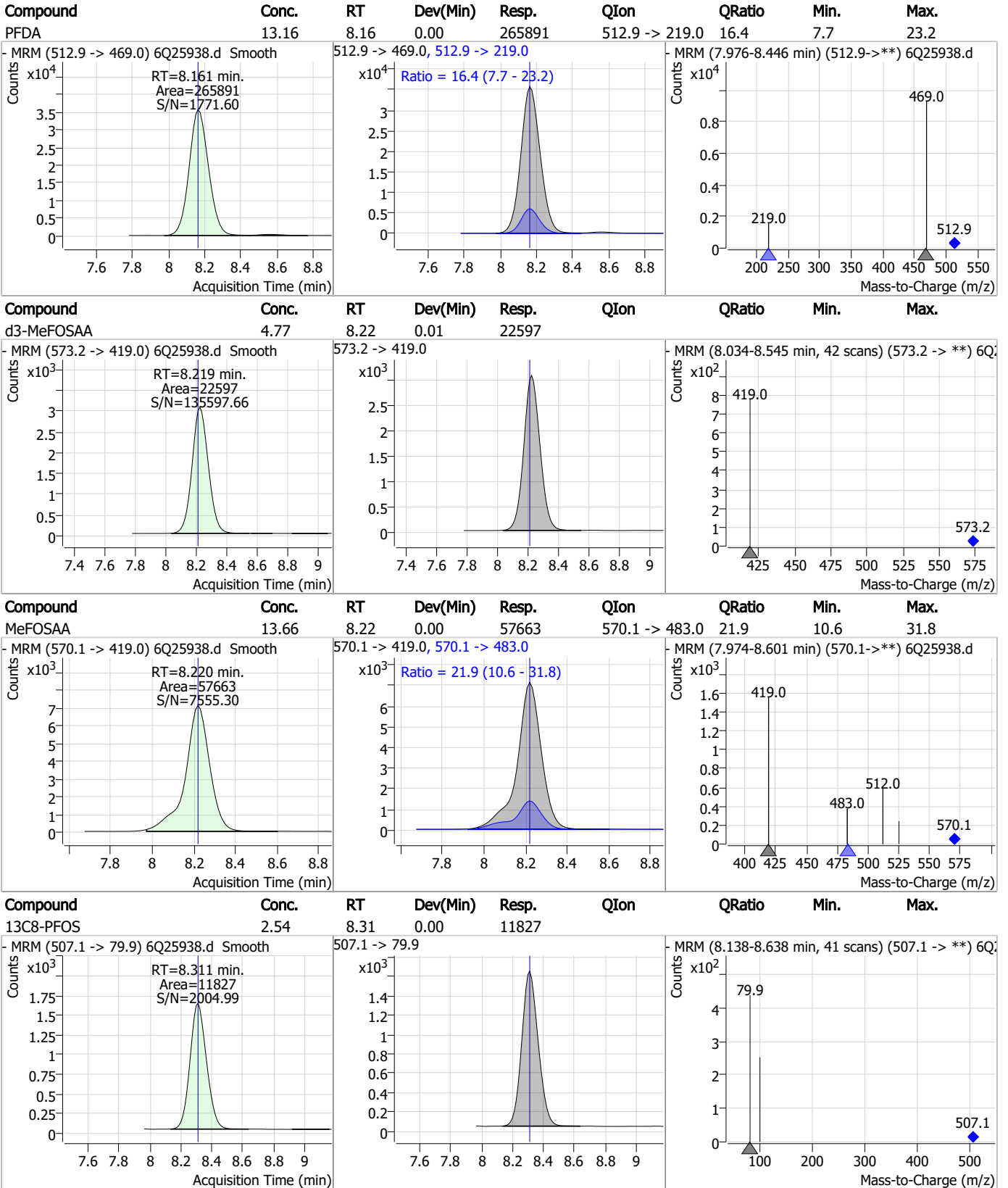
# Perfluorinated Compounds by LC/MS/MS



7.6.2

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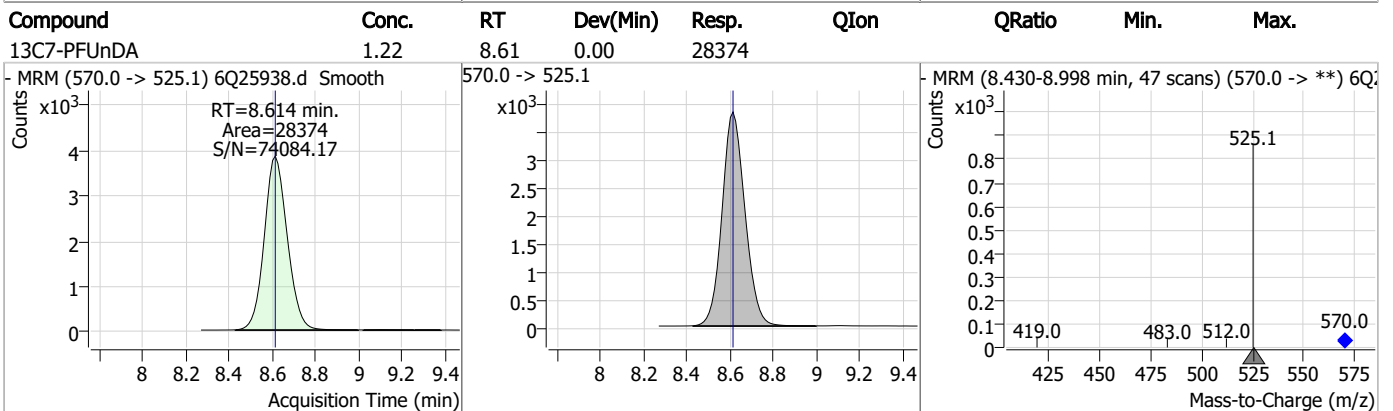
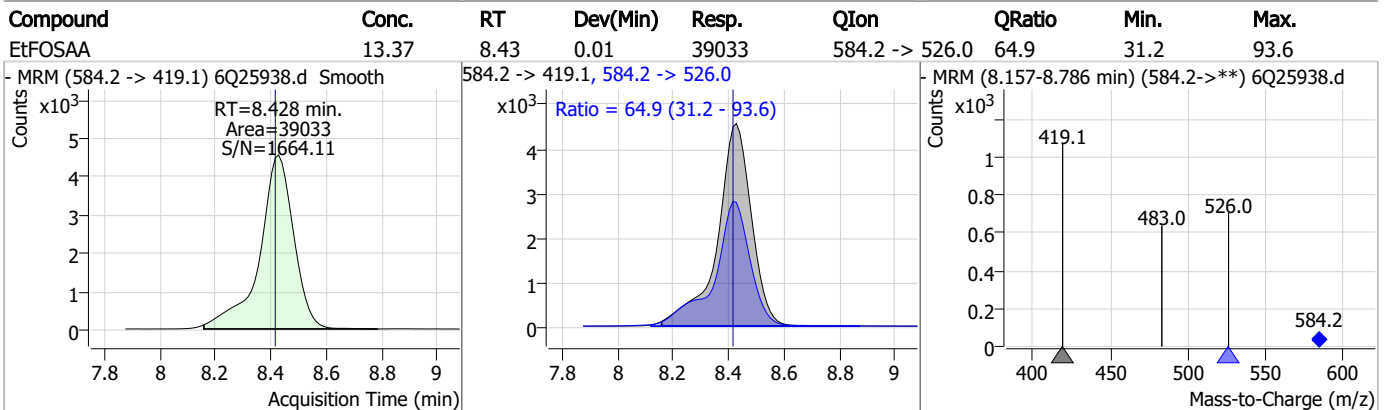
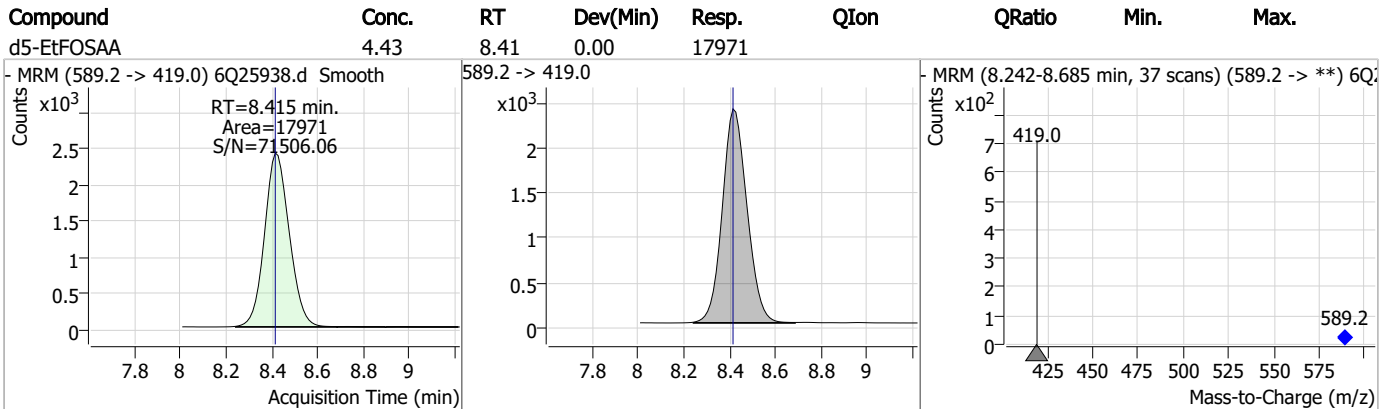
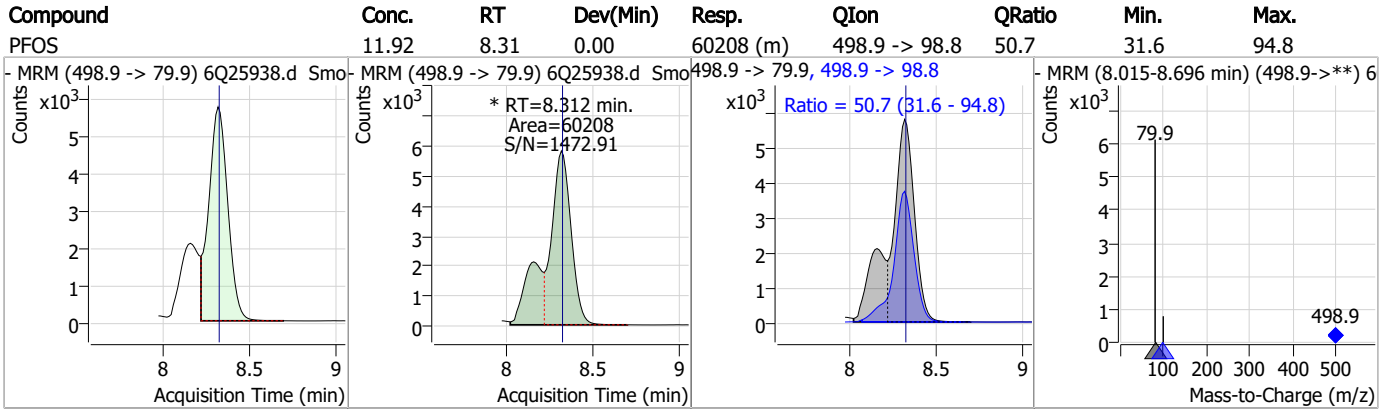
# Perfluorinated Compounds by LC/MS/MS



7.6.2

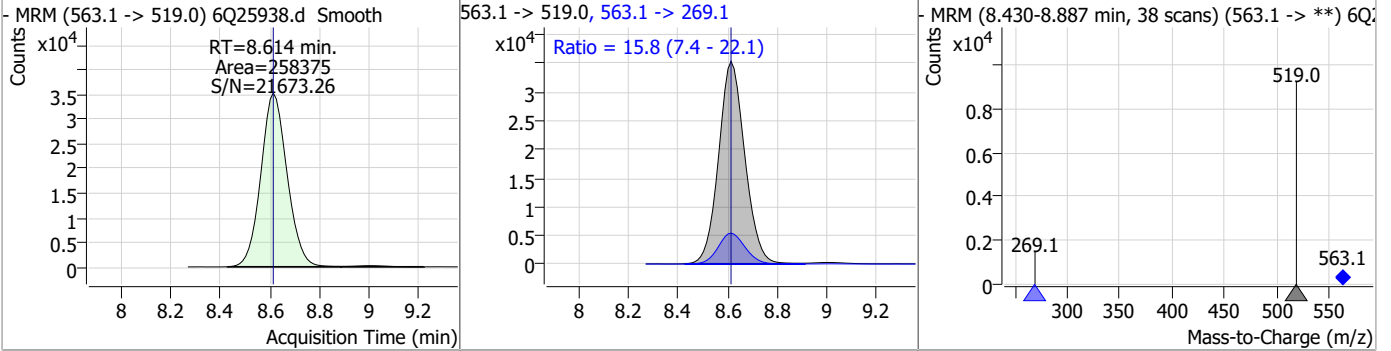
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# Perfluorinated Compounds by LC/MS/MS

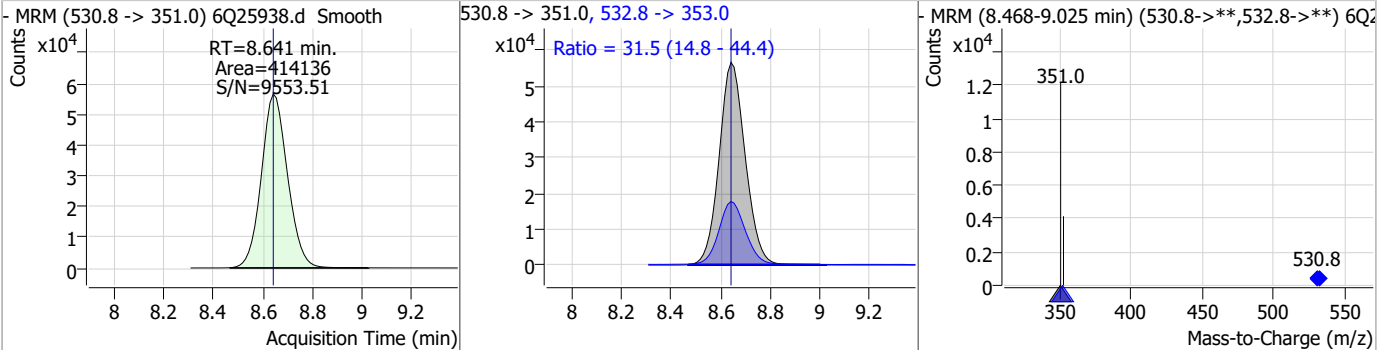


# Perfluorinated Compounds by LC/MS/MS

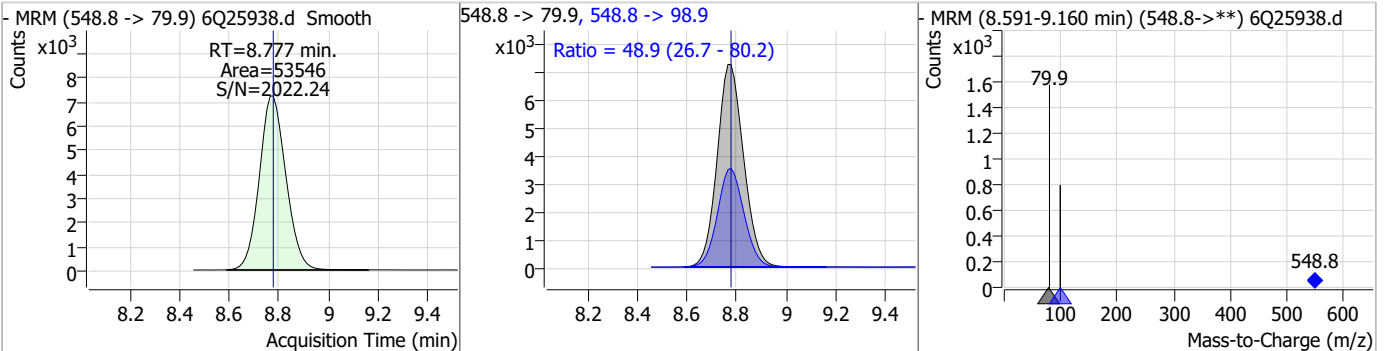
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFUnDA	12.92	8.61	0.00	258375	563.1 -> 269.1	15.8	7.4	22.1



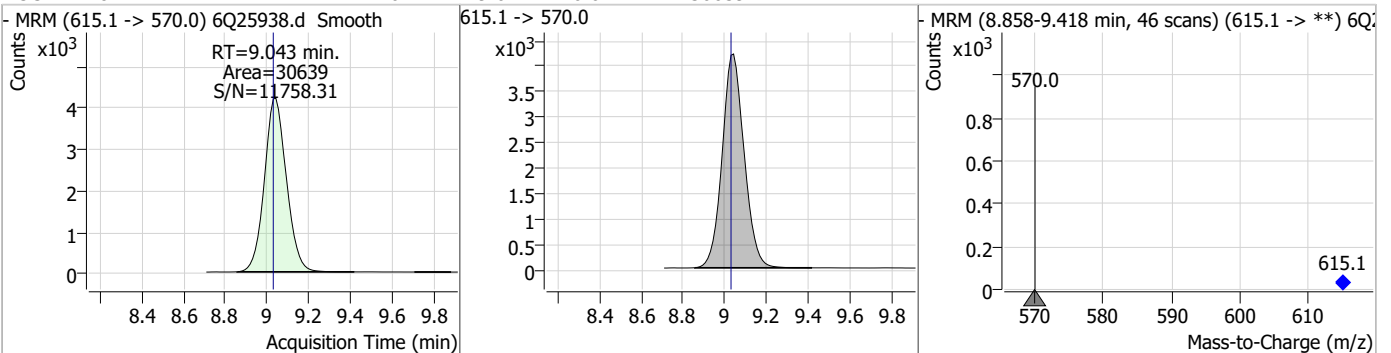
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
9CI-PF3ONS	24.55	8.64	0.00	414136	532.8 -> 353.0	31.5	14.8	44.4



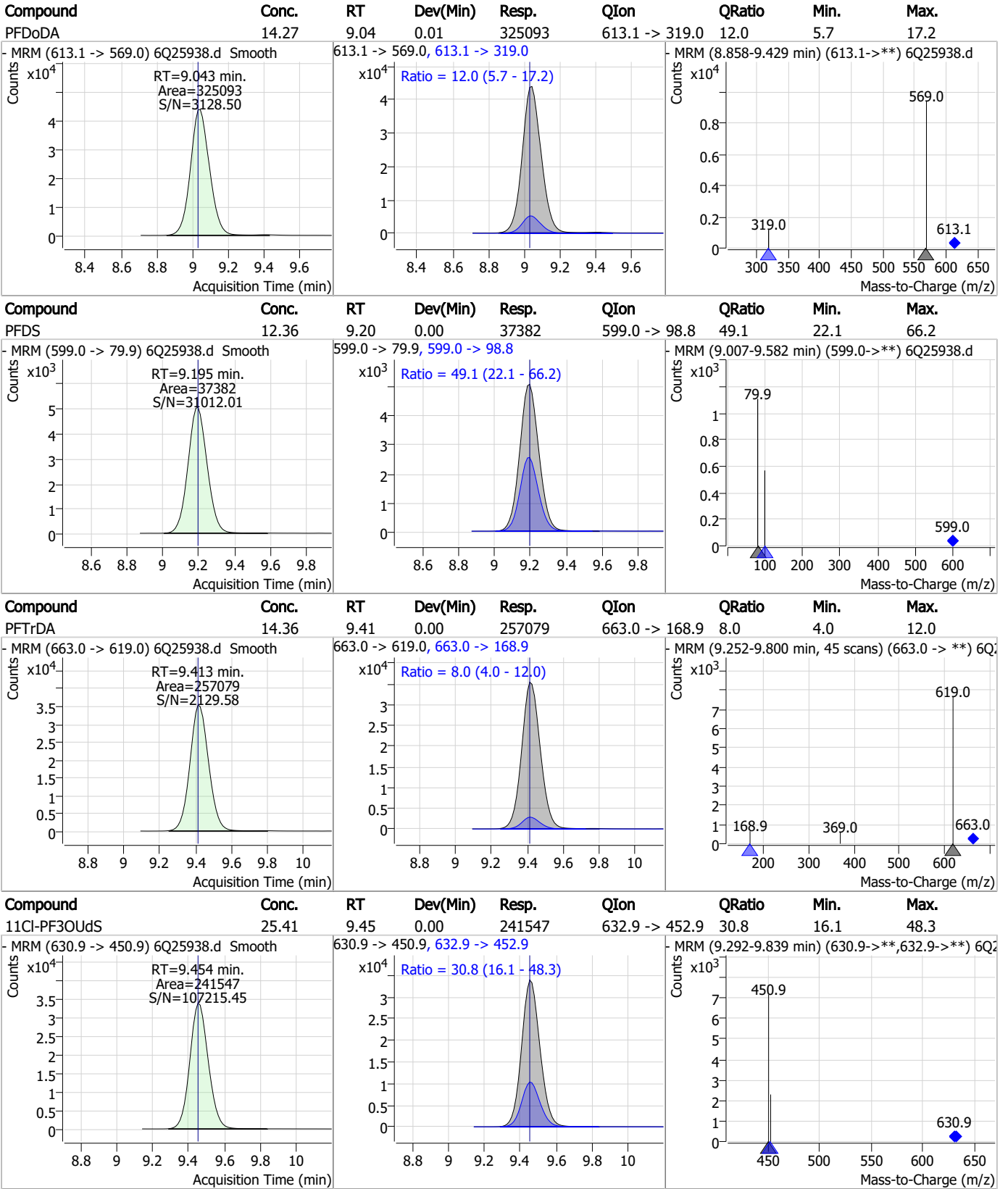
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNS	12.41	8.78	0.00	53546	548.8 -> 98.9	48.9	26.7	80.2



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



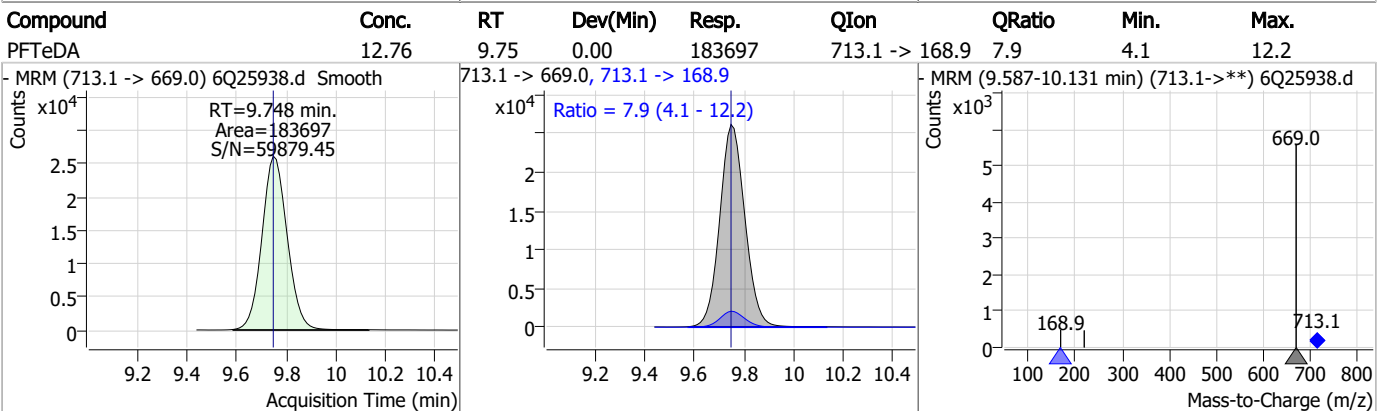
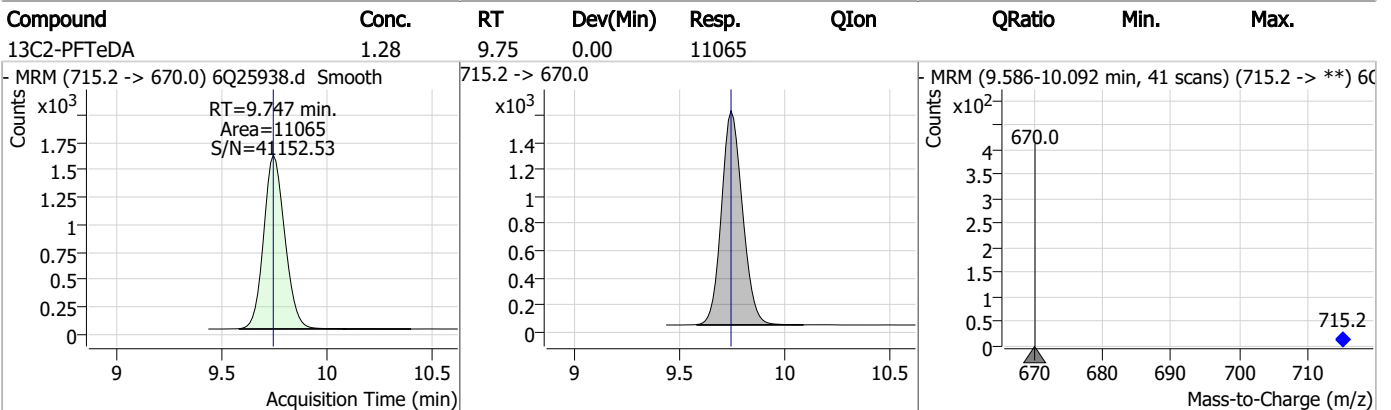
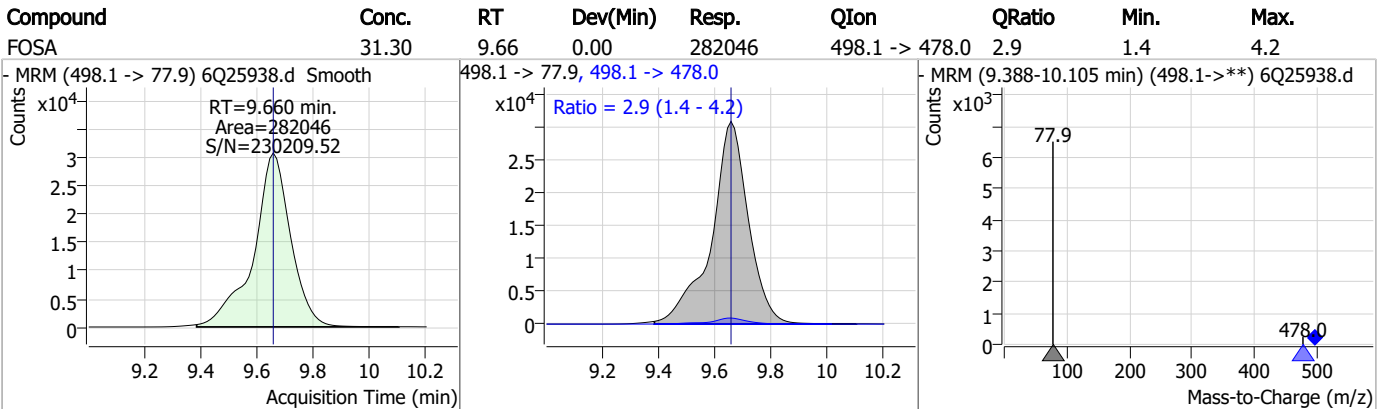
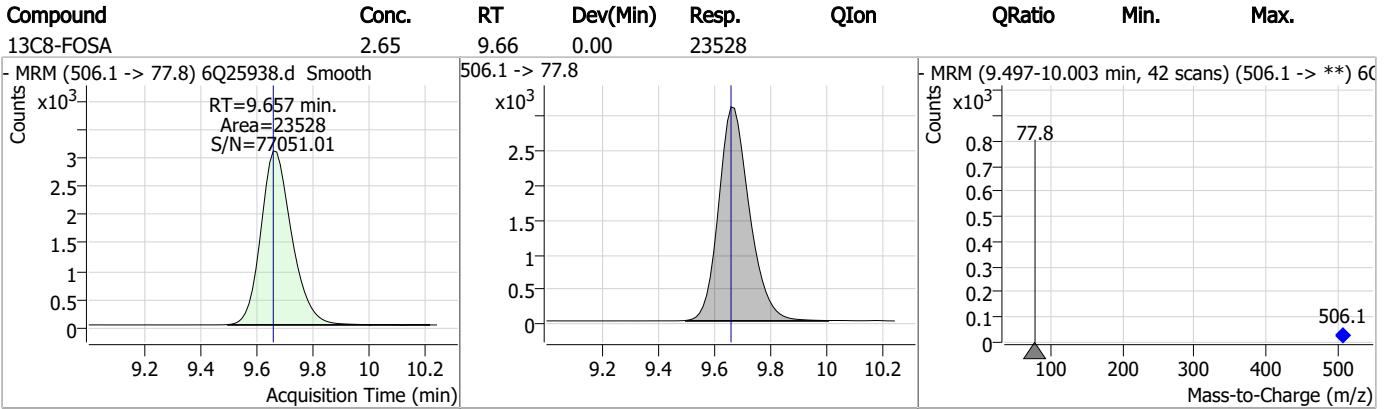
# Perfluorinated Compounds by LC/MS/MS



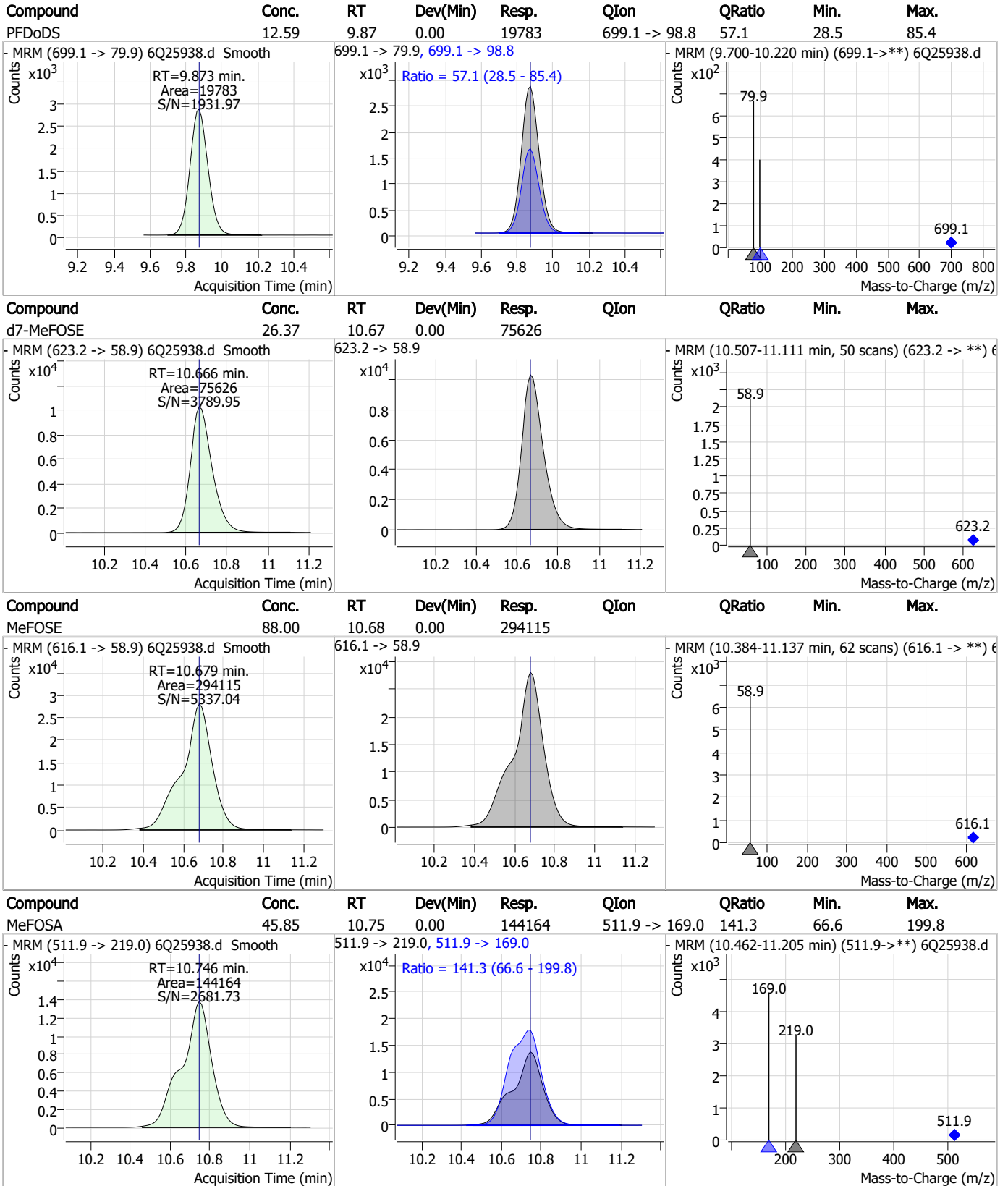
7.6.2

7

# Perfluorinated Compounds by LC/MS/MS



# Perfluorinated Compounds by LC/MS/MS

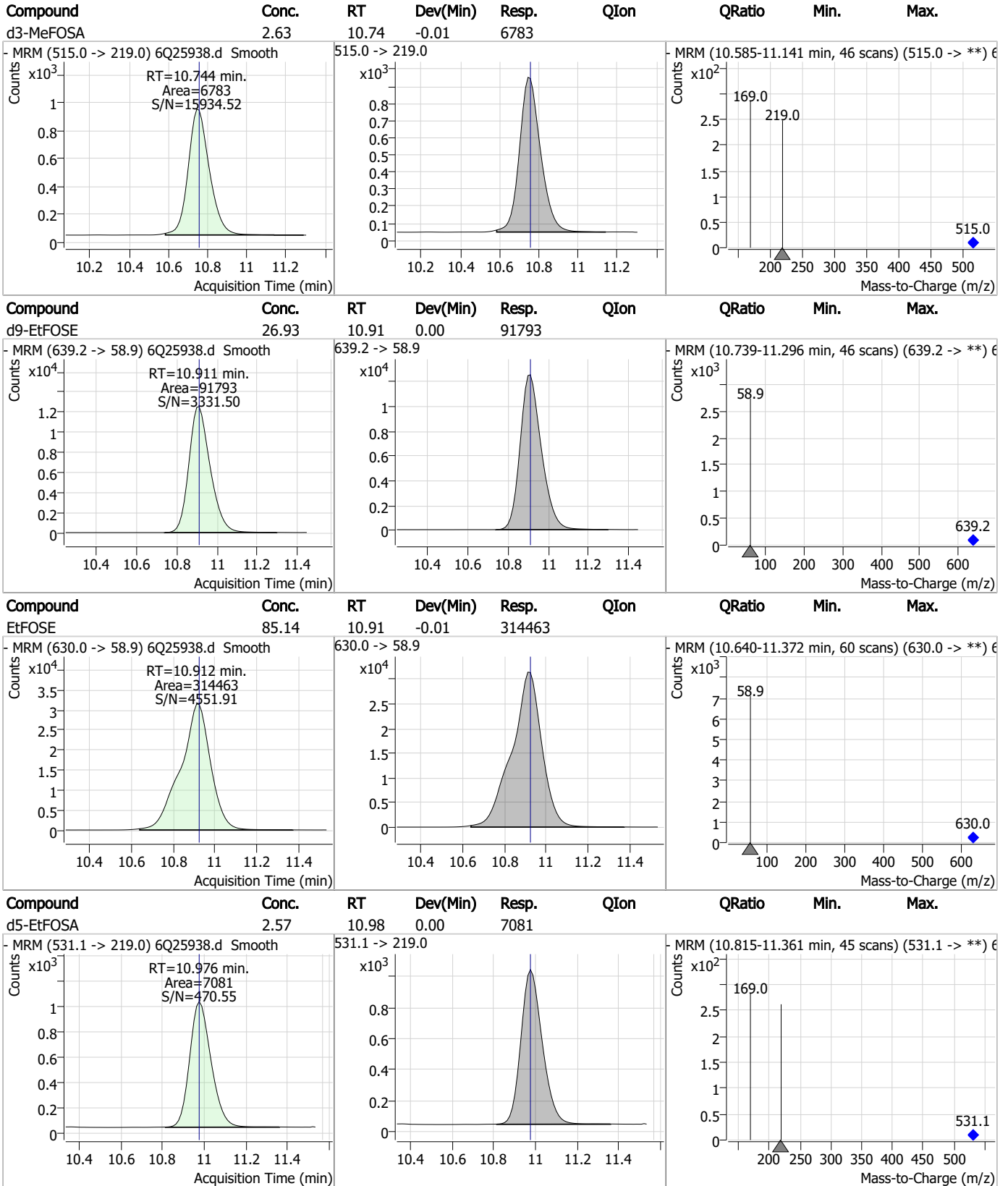


7.6.2

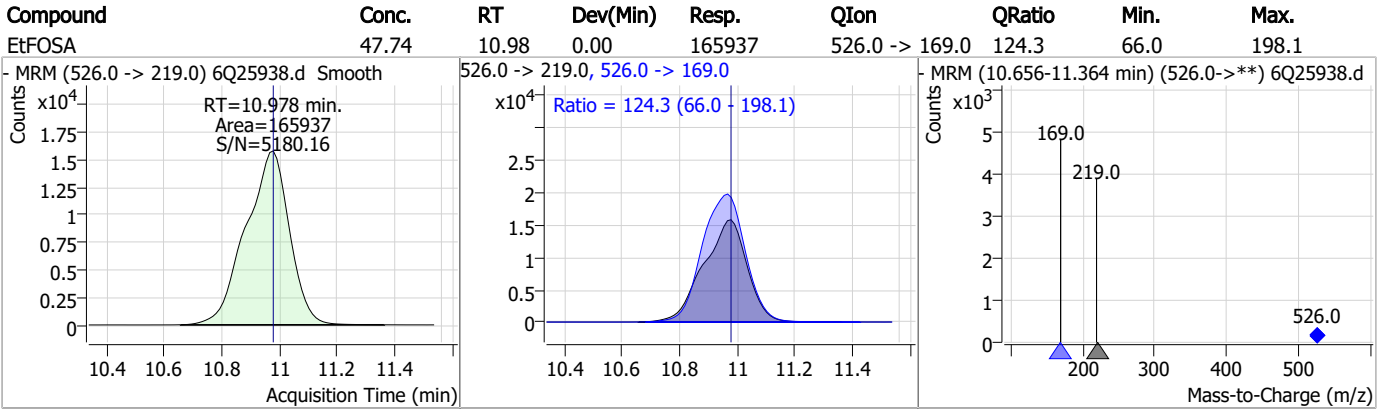
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# Perfluorinated Compounds by LC/MS/MS



# 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

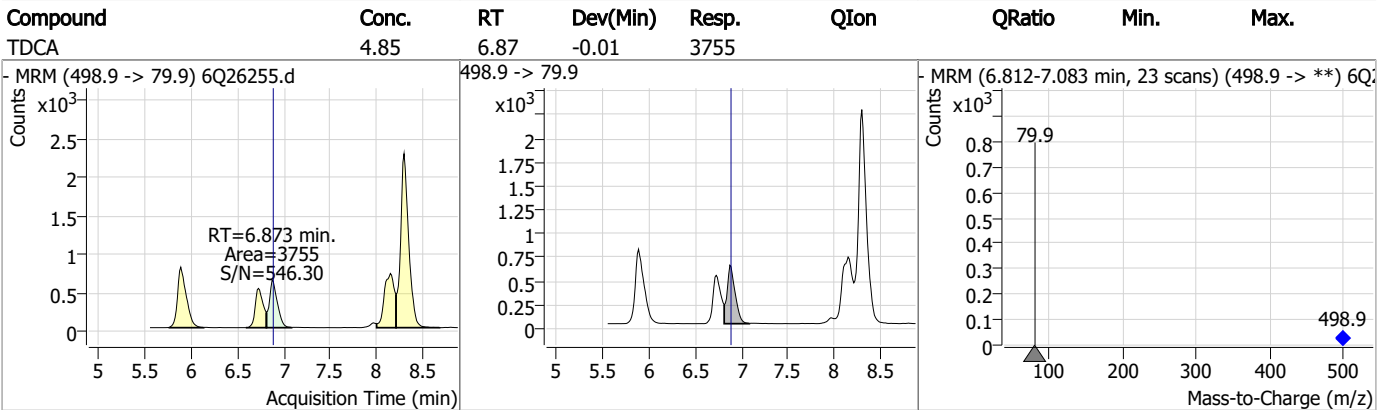
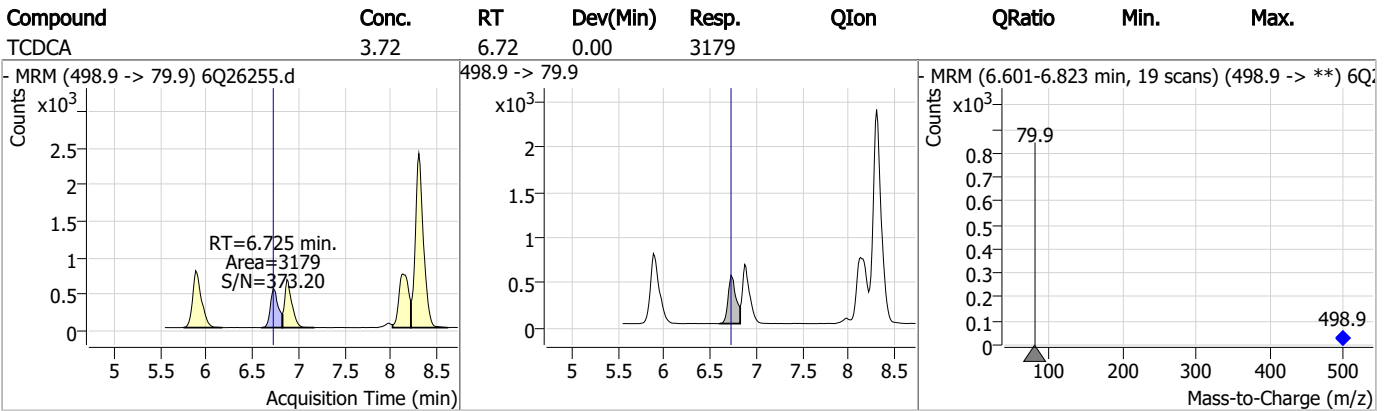
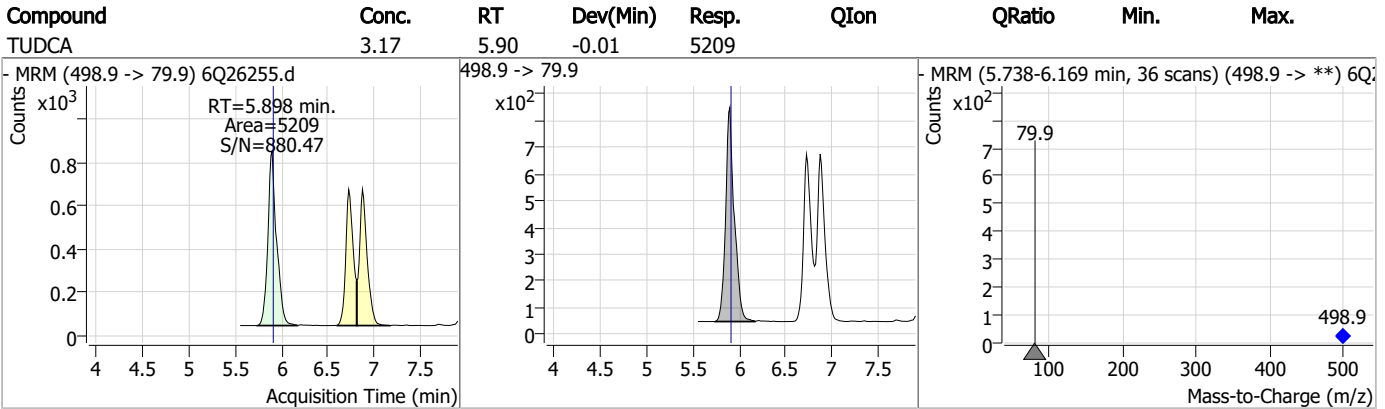
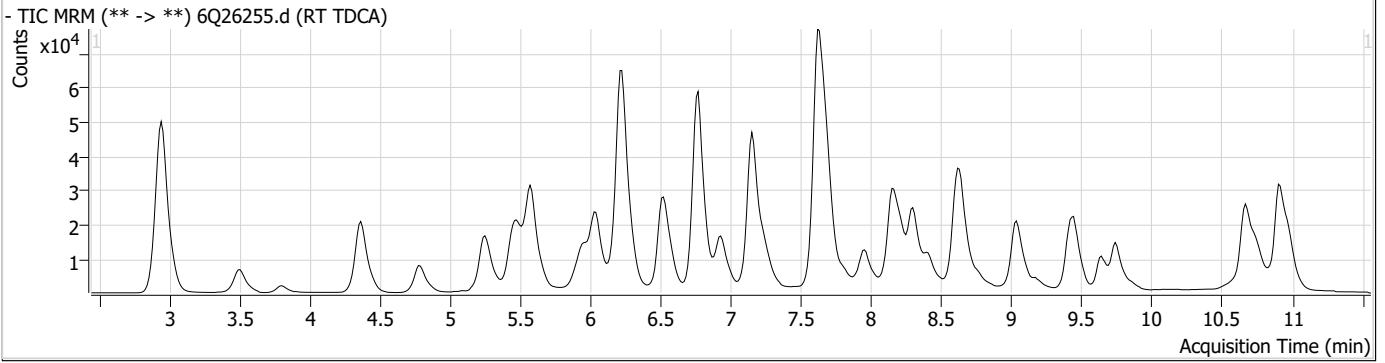
Compound	RT	Transition	Response	Conc.	Units	Dev(Min)	QValue
<b>Internal Standards</b>							
M8-PFOS	8.311	507.1 -> 79.9	18545	2.50	µg/L	-0.012	
13C4-PFOS	8.299	502.8 -> 79.9	18110	2.50	µg/L	-0.025	
<b>System Monitoring Compounds</b>							
13C8-PFOS	8.311	507.1 -> 79.9	18545	2.60	µg/L	-0.012	
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 103.9%				
<b>Target Compounds</b>							
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

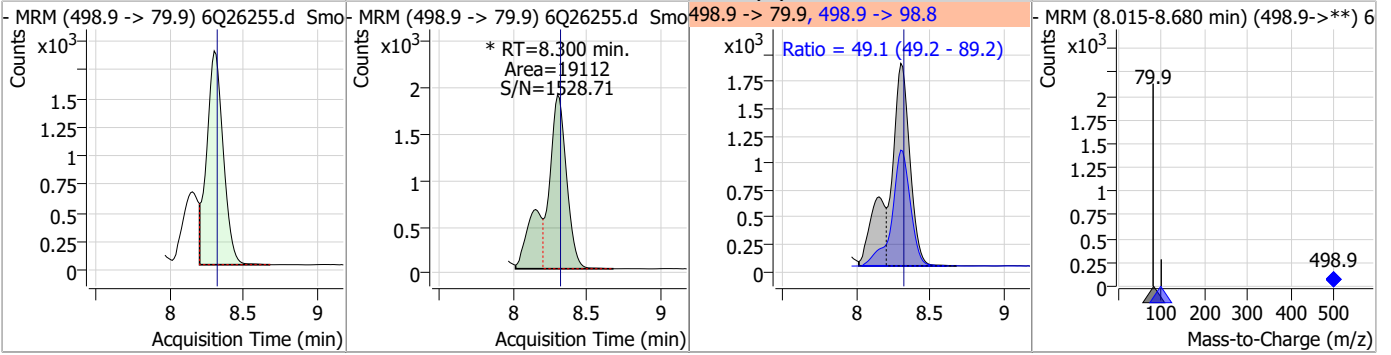
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### Perfluorinated Compounds by LC/MS/MS

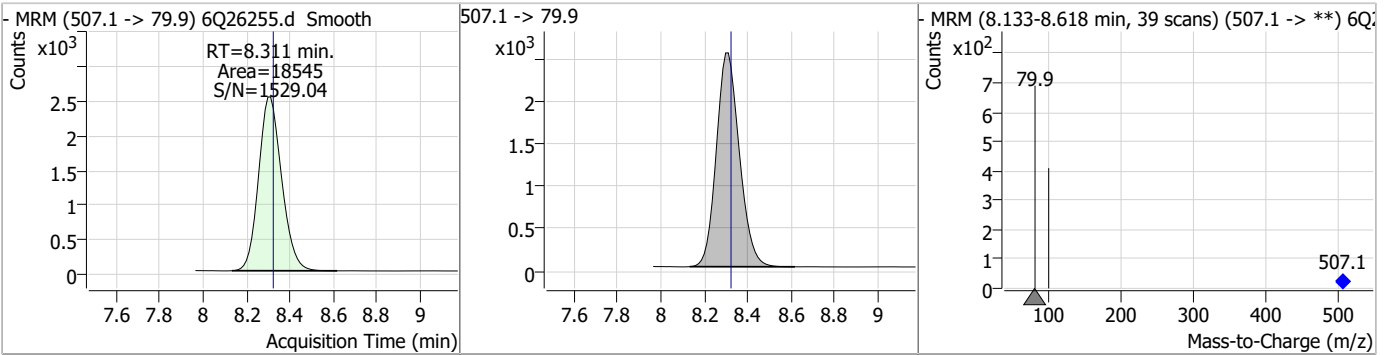


### Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOS	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)
<b>Internal Standards</b>					
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
<b>System Monitoring Compounds</b>					
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

7.64  
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%	
<b>Target Compounds</b>					<b>QValue</b>
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

7.6.4  
7



## 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
PFDoDS	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

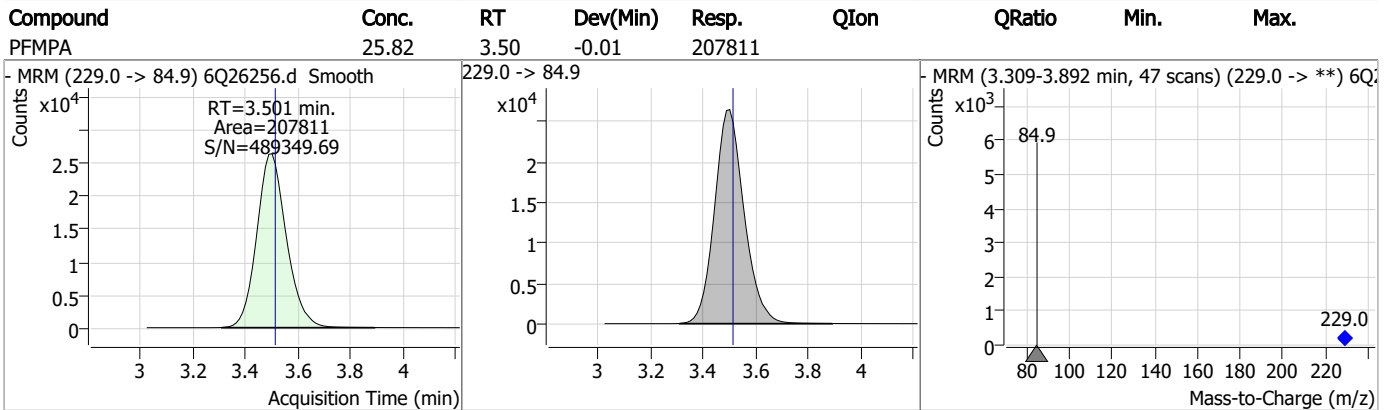
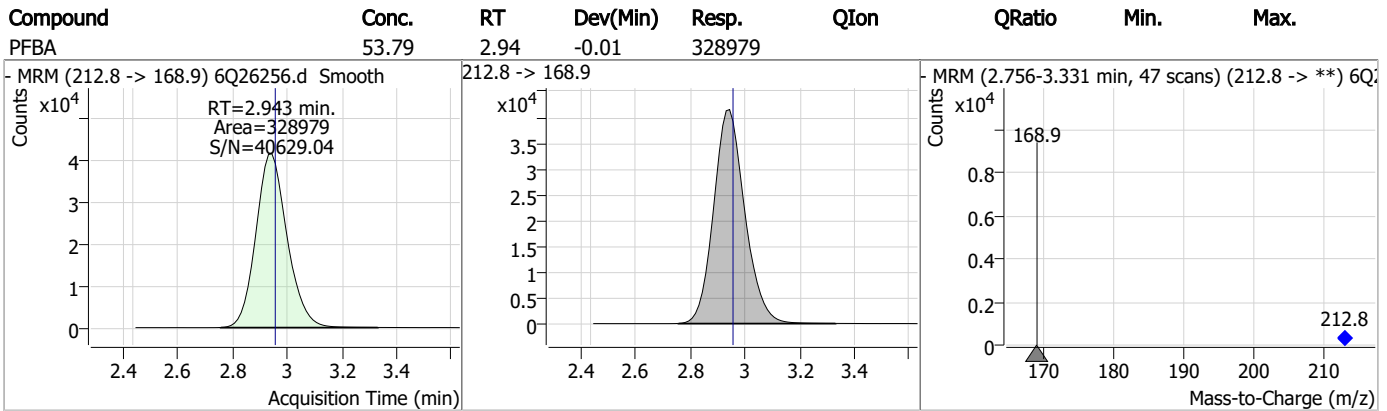
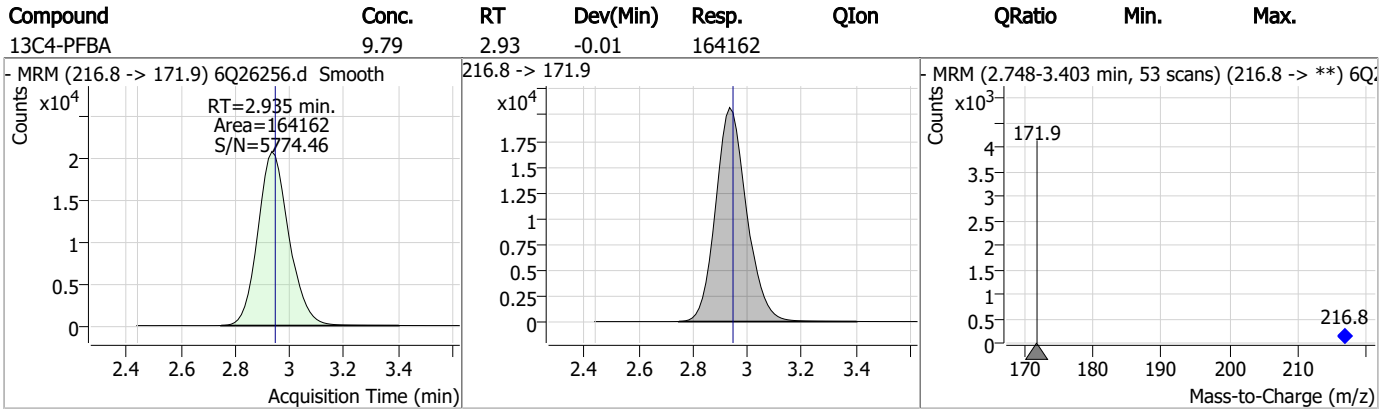
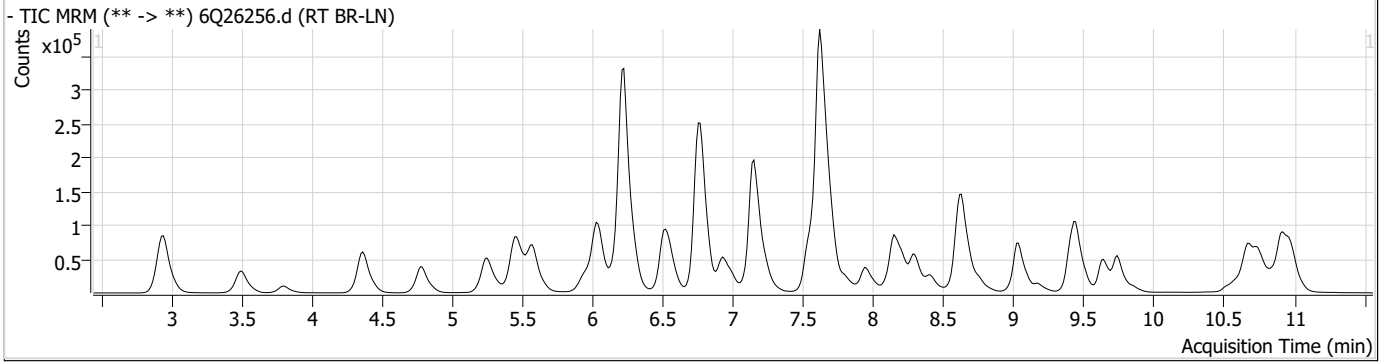
# Perfluorinated Compounds by LC/MS/MS

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

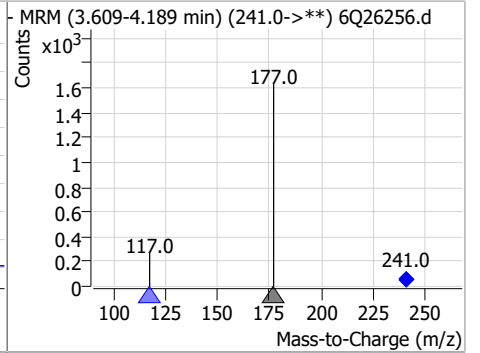
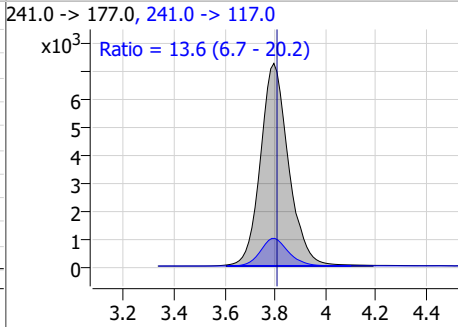
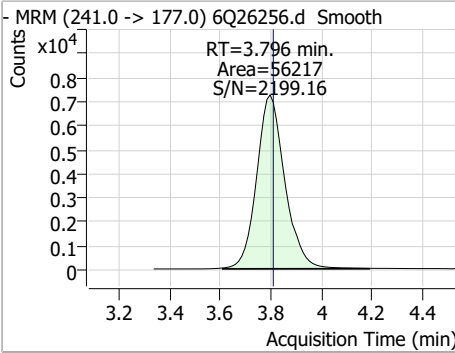
7

# Perfluorinated Compounds by LC/MS/MS

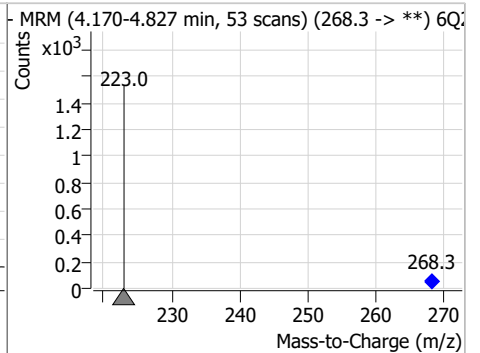
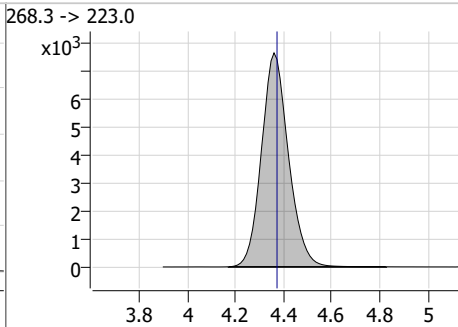
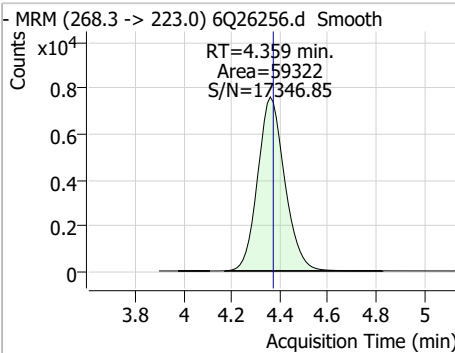


# Perfluorinated Compounds by LC/MS/MS

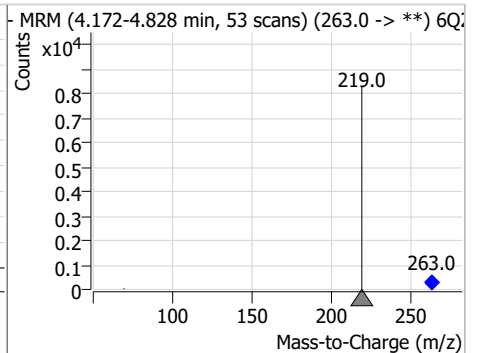
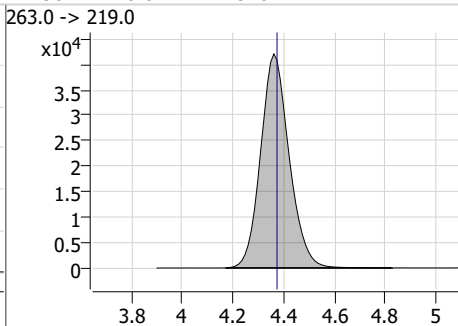
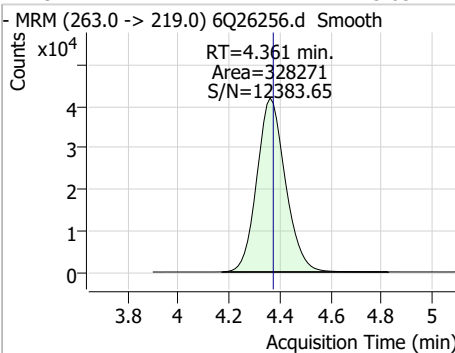
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
3:3FTCA	63.81	3.80	-0.01	56217	241.0 -> 117.0	13.6	6.7	20.2



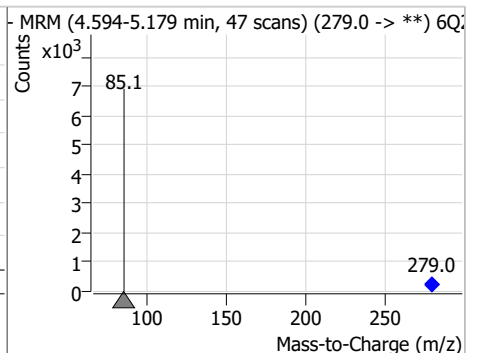
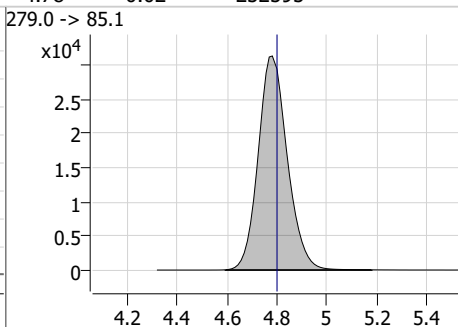
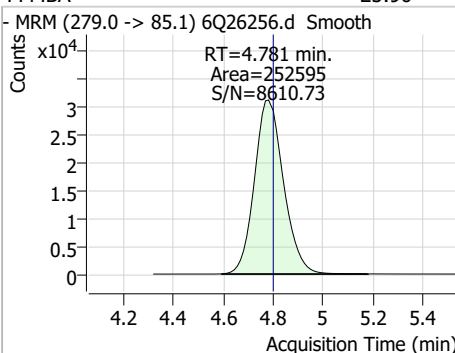
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFPeA	4.93	4.36	-0.01	59322				



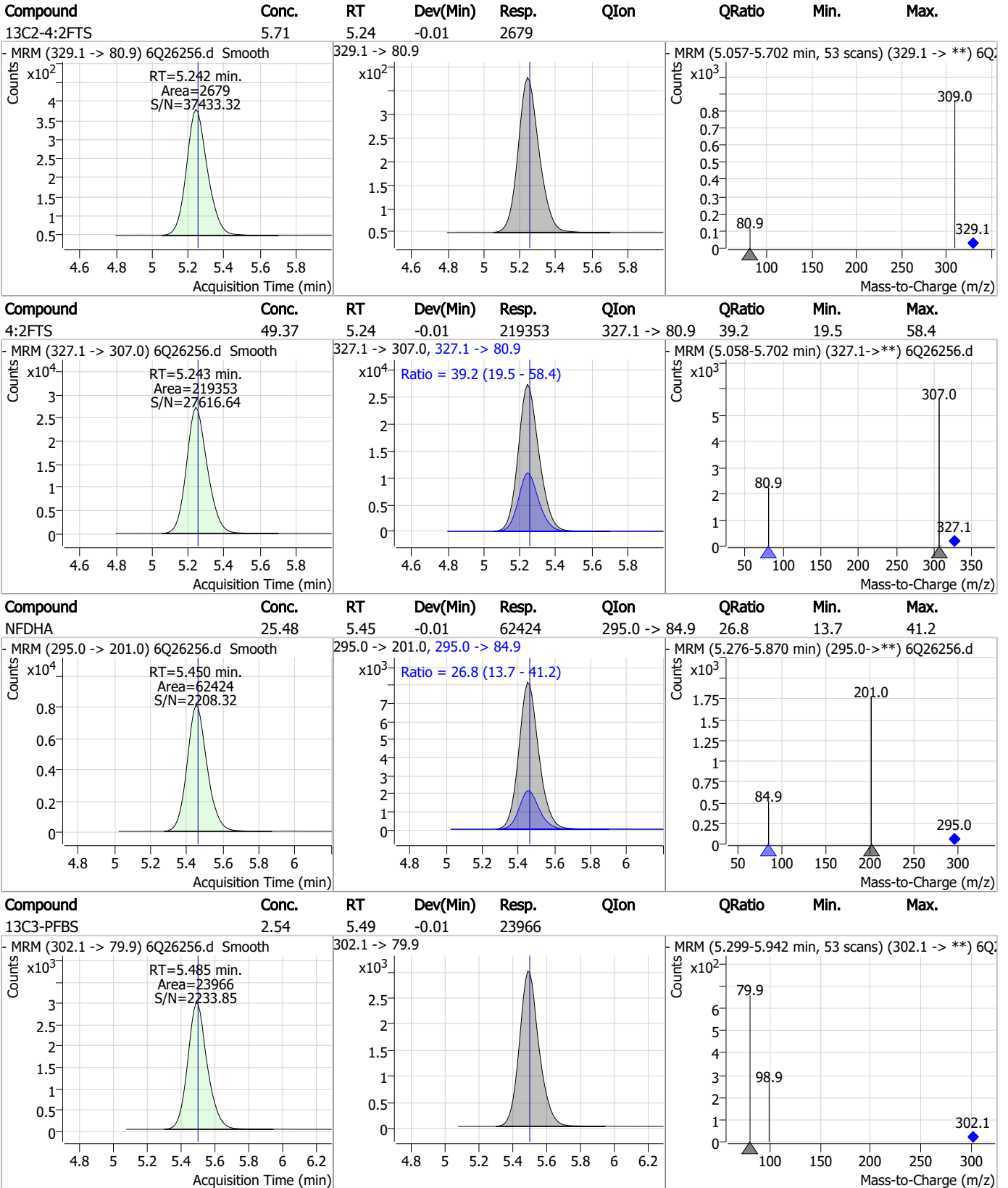
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeA	25.65	4.36	-0.01	328271				



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



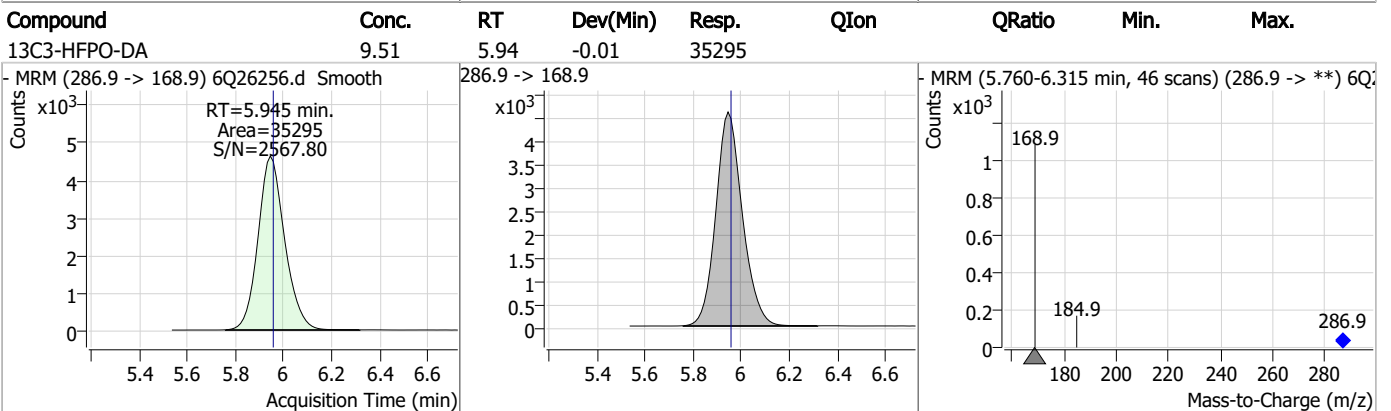
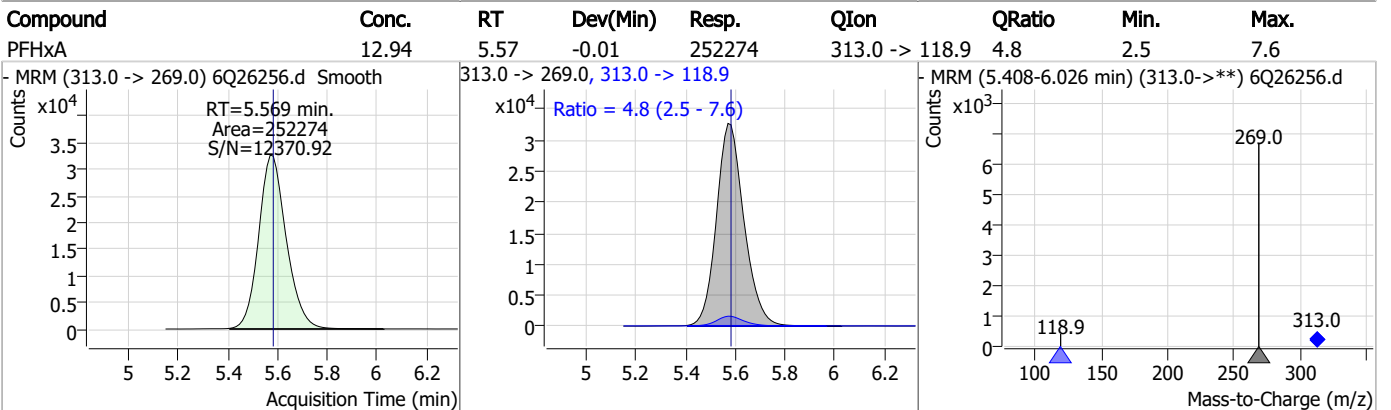
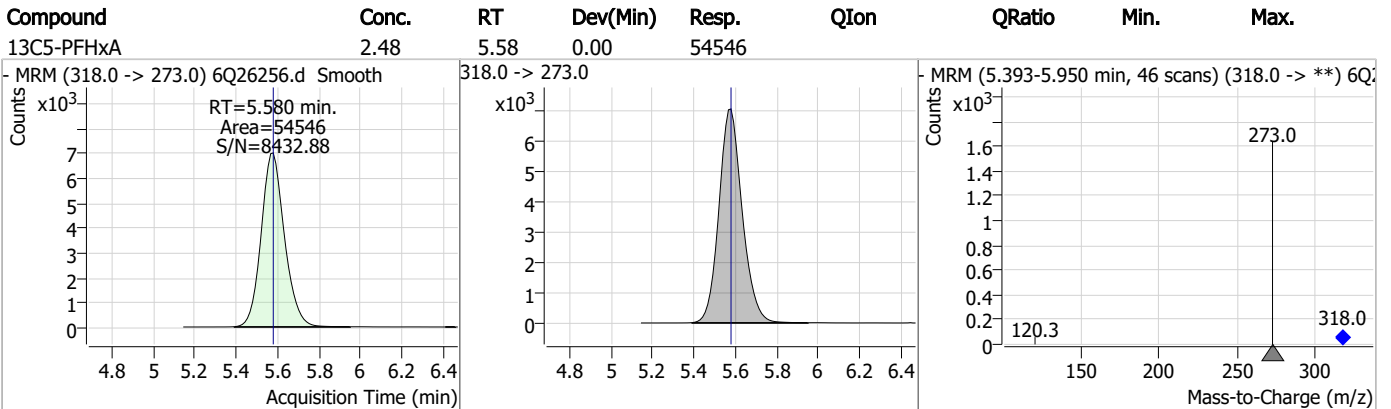
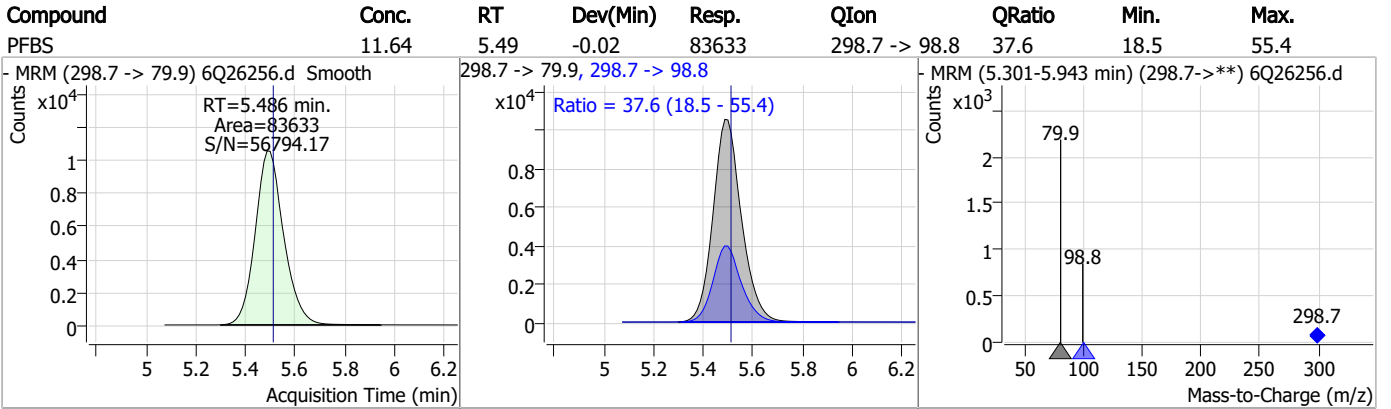
# Perfluorinated Compounds by LC/MS/MS



7.6.4

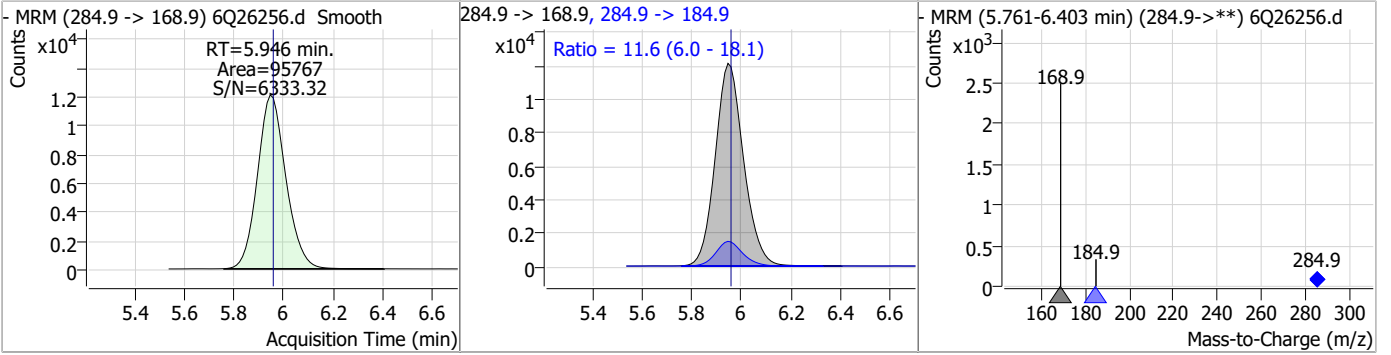
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# Perfluorinated Compounds by LC/MS/MS

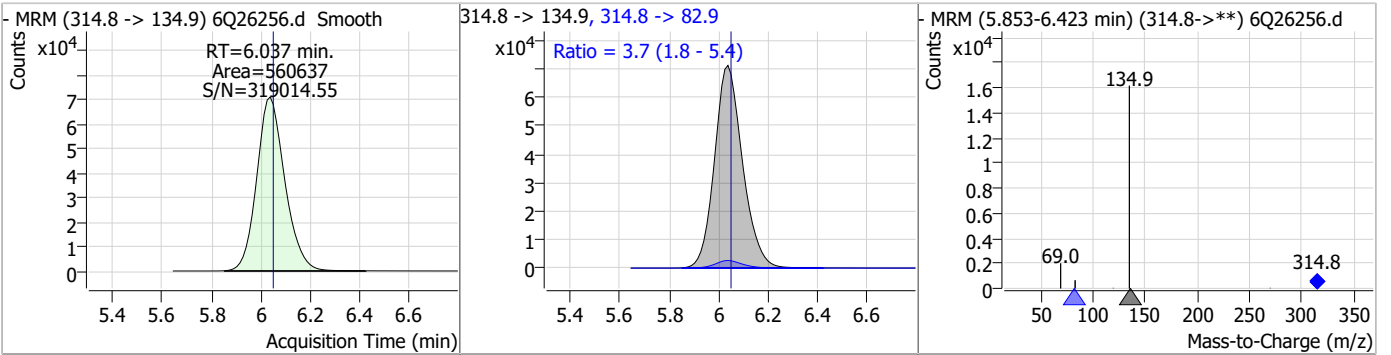


# Perfluorinated Compounds by LC/MS/MS

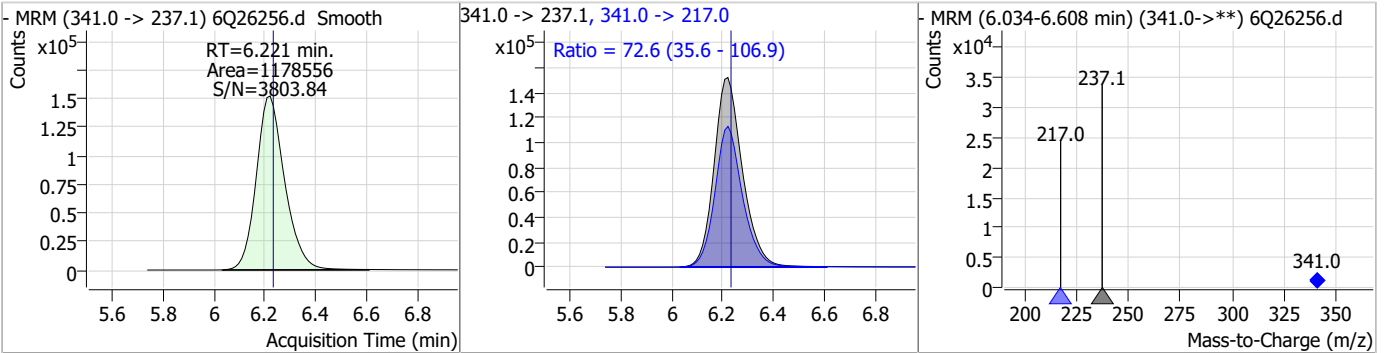
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
HFPO-DA	27.38	5.95	-0.01	95767	284.9 -> 184.9	11.6	6.0	18.1



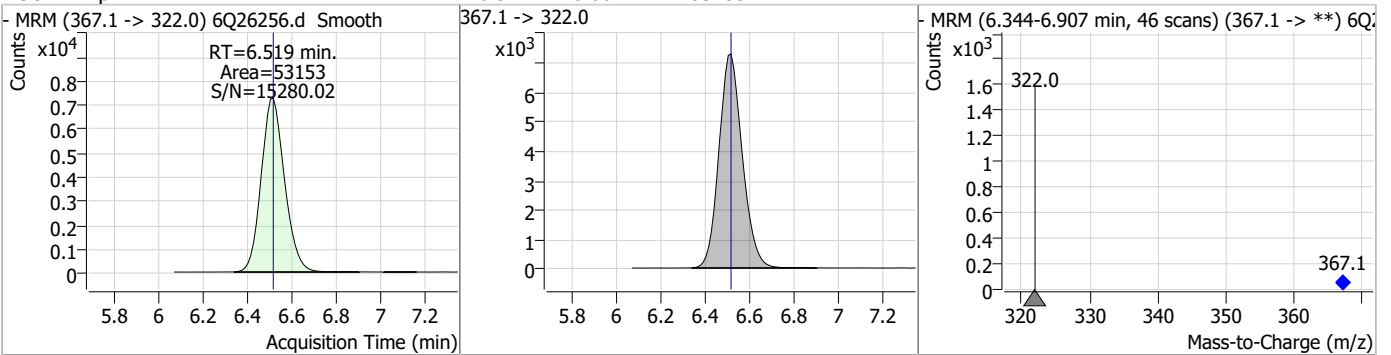
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFEESA	22.35	6.04	-0.01	560637	314.8 -> 82.9	3.7	1.8	5.4



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

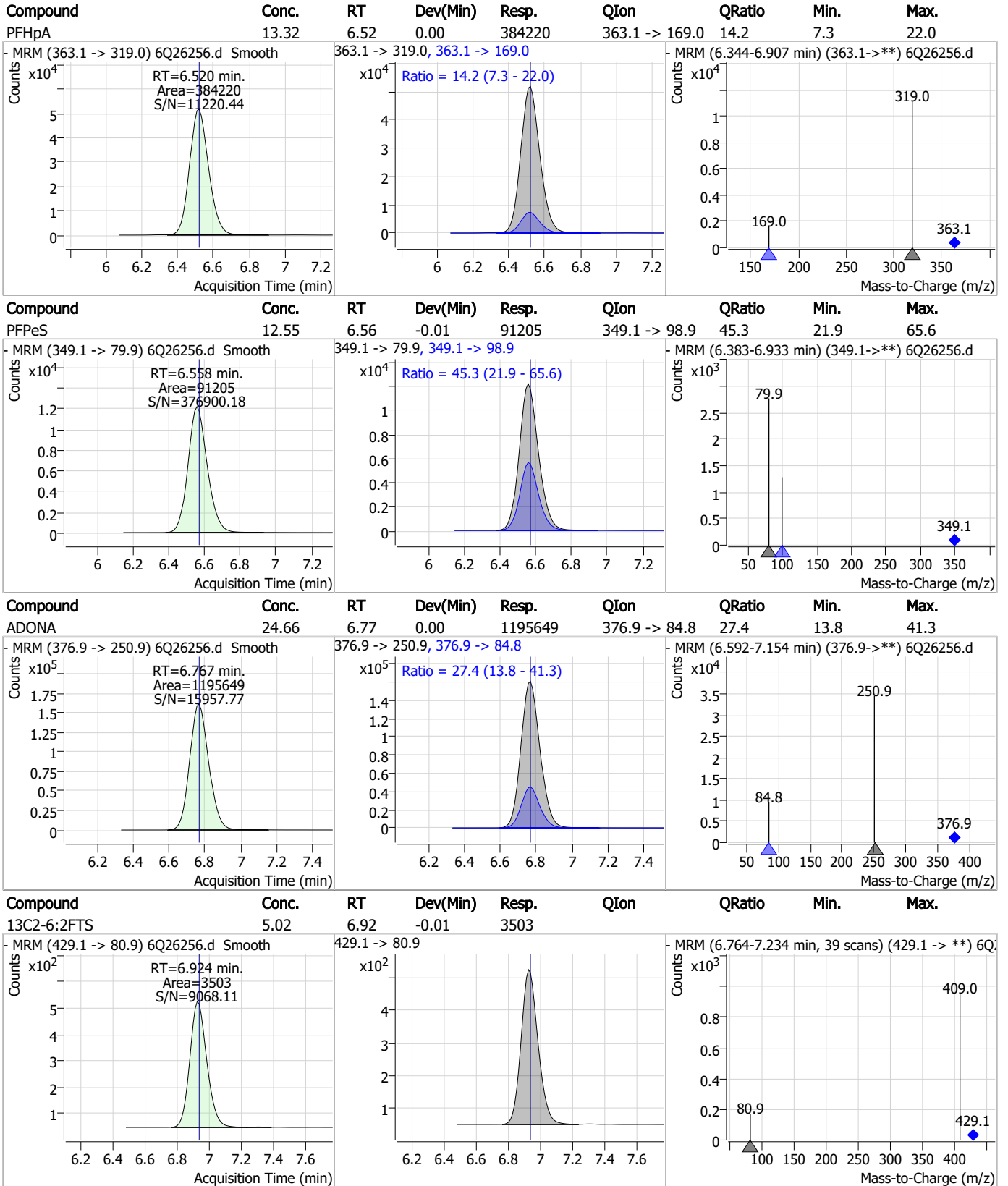


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFHpA	2.47	6.52	0.00	53153	367.1 -> 322.0			





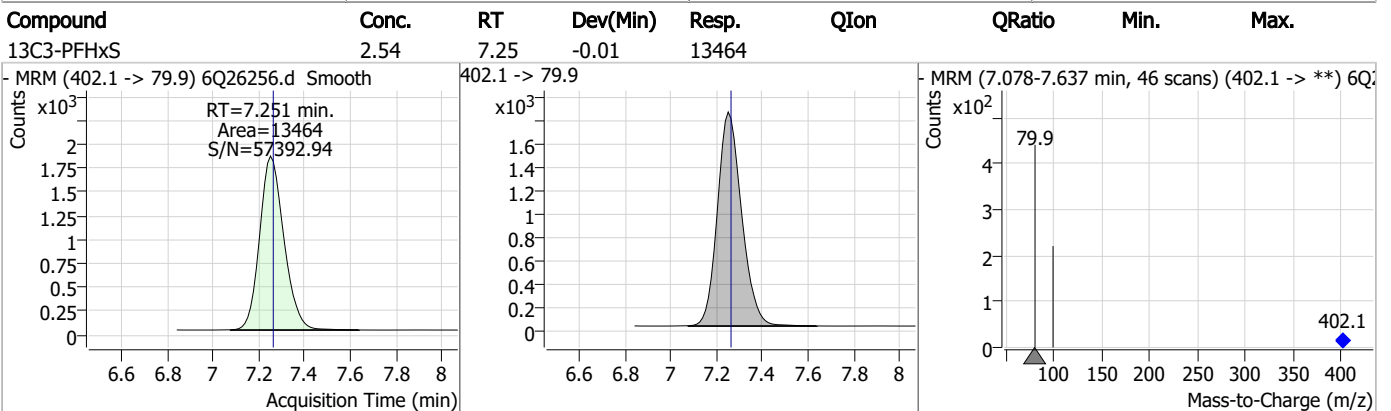
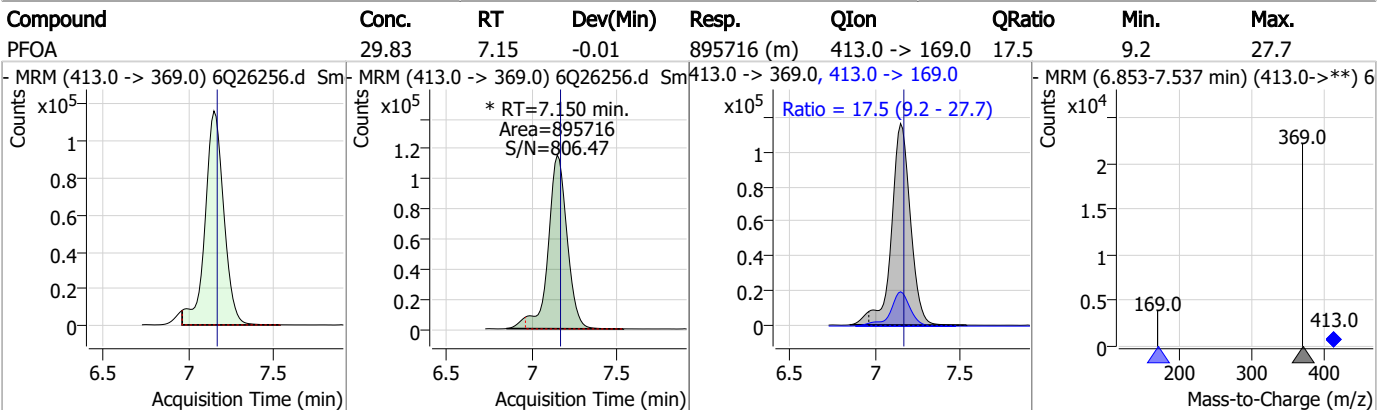
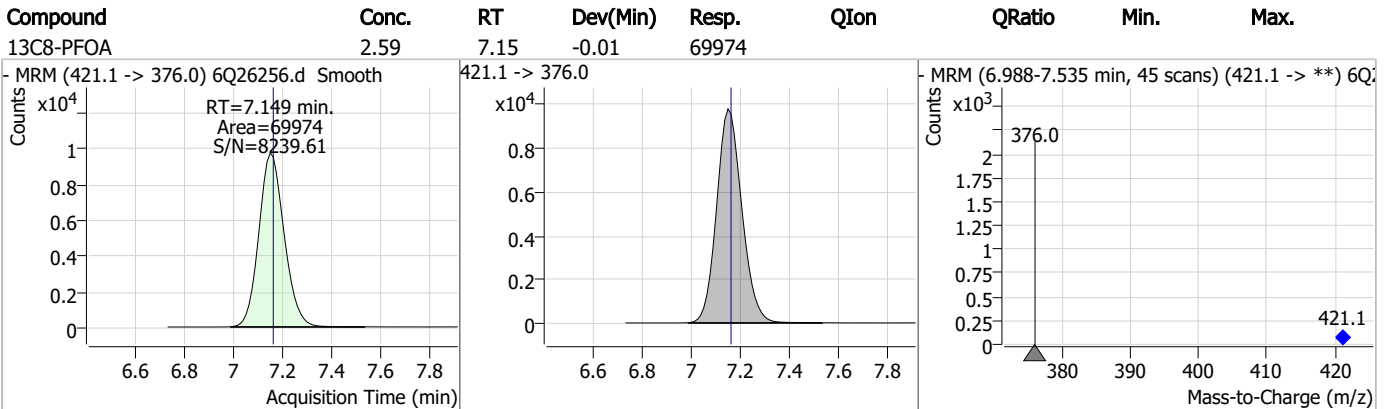
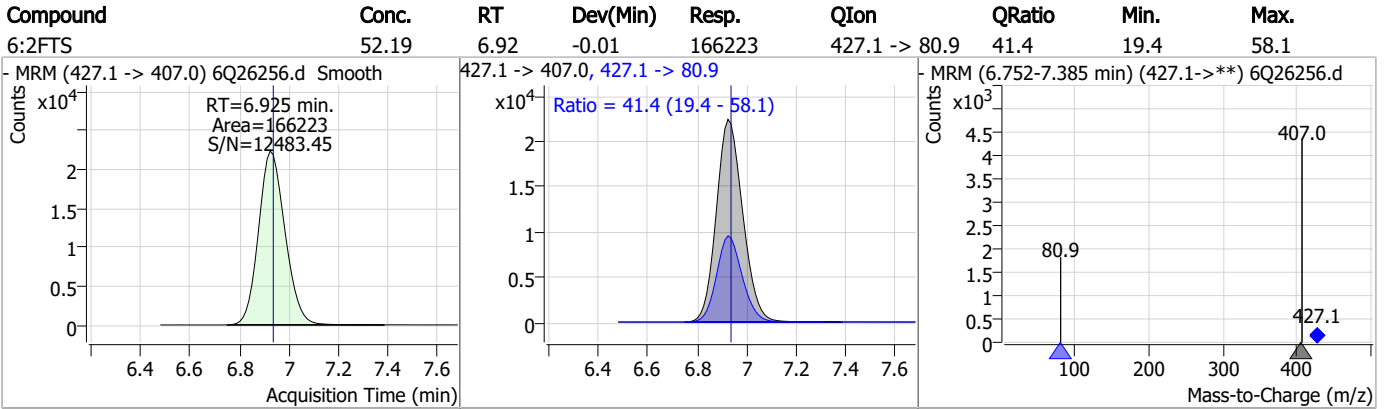
# Perfluorinated Compounds by LC/MS/MS



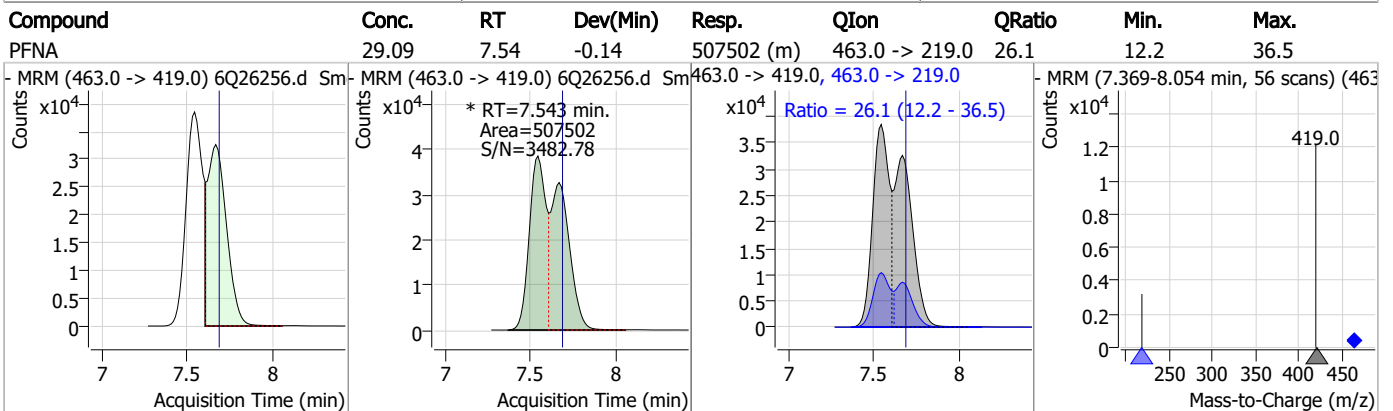
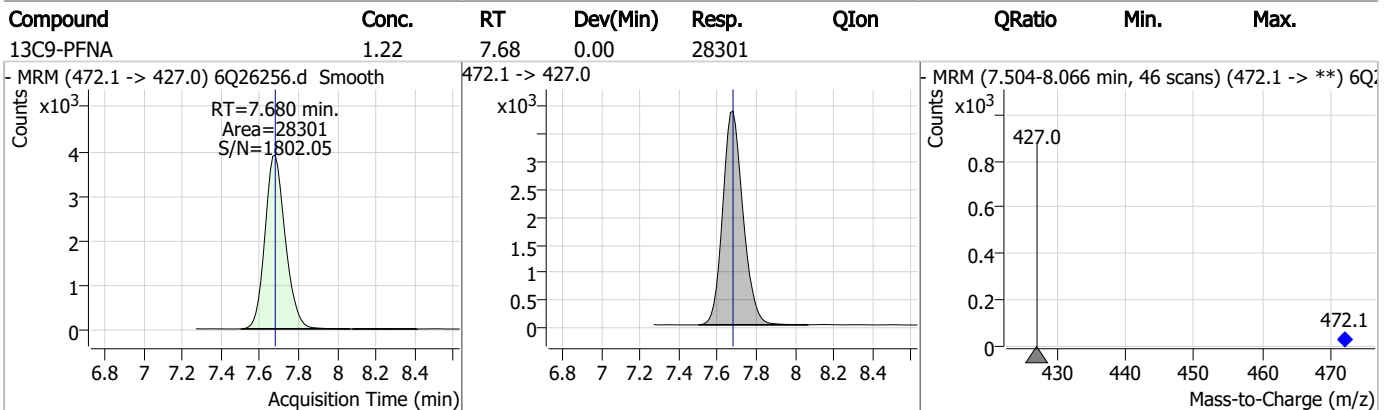
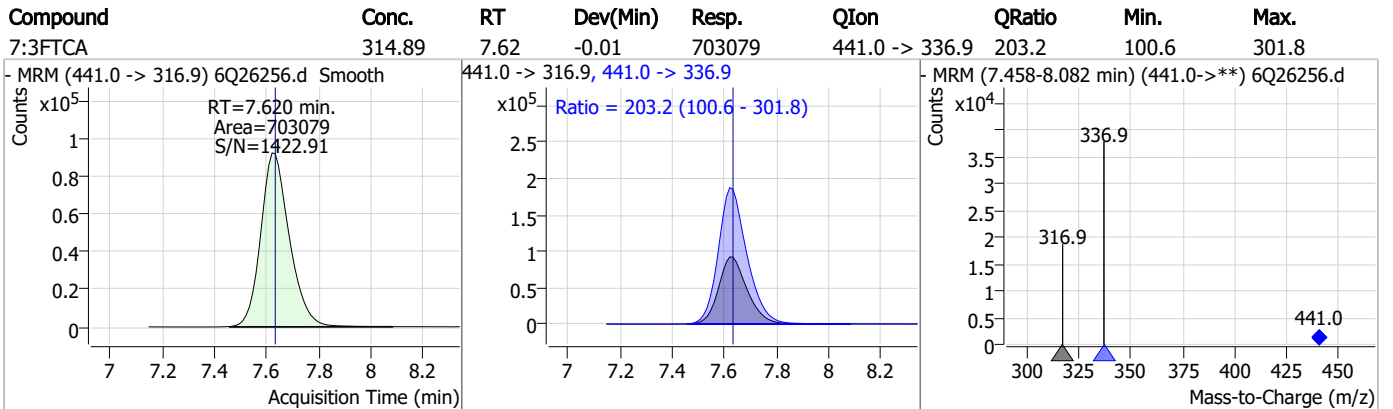
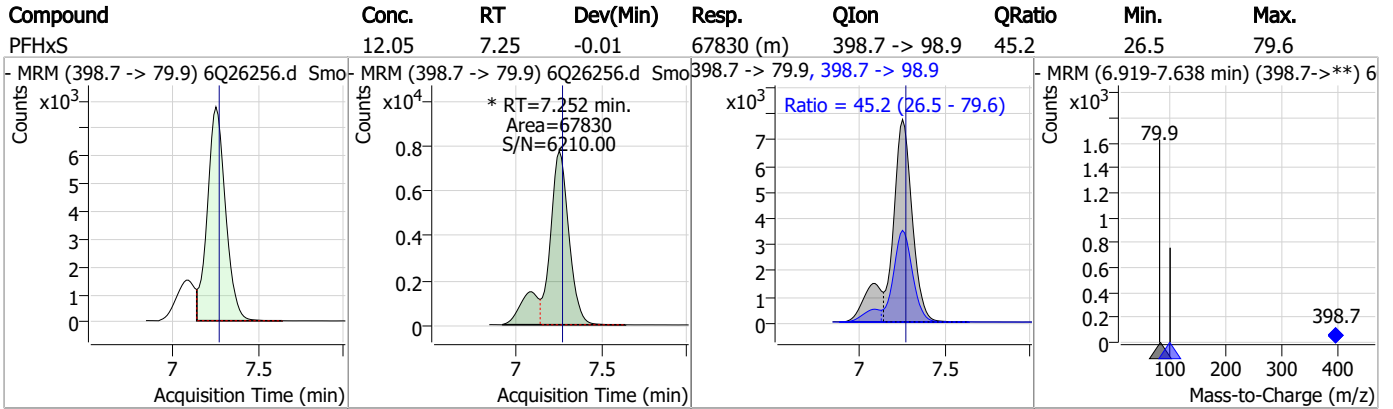
7.6.4

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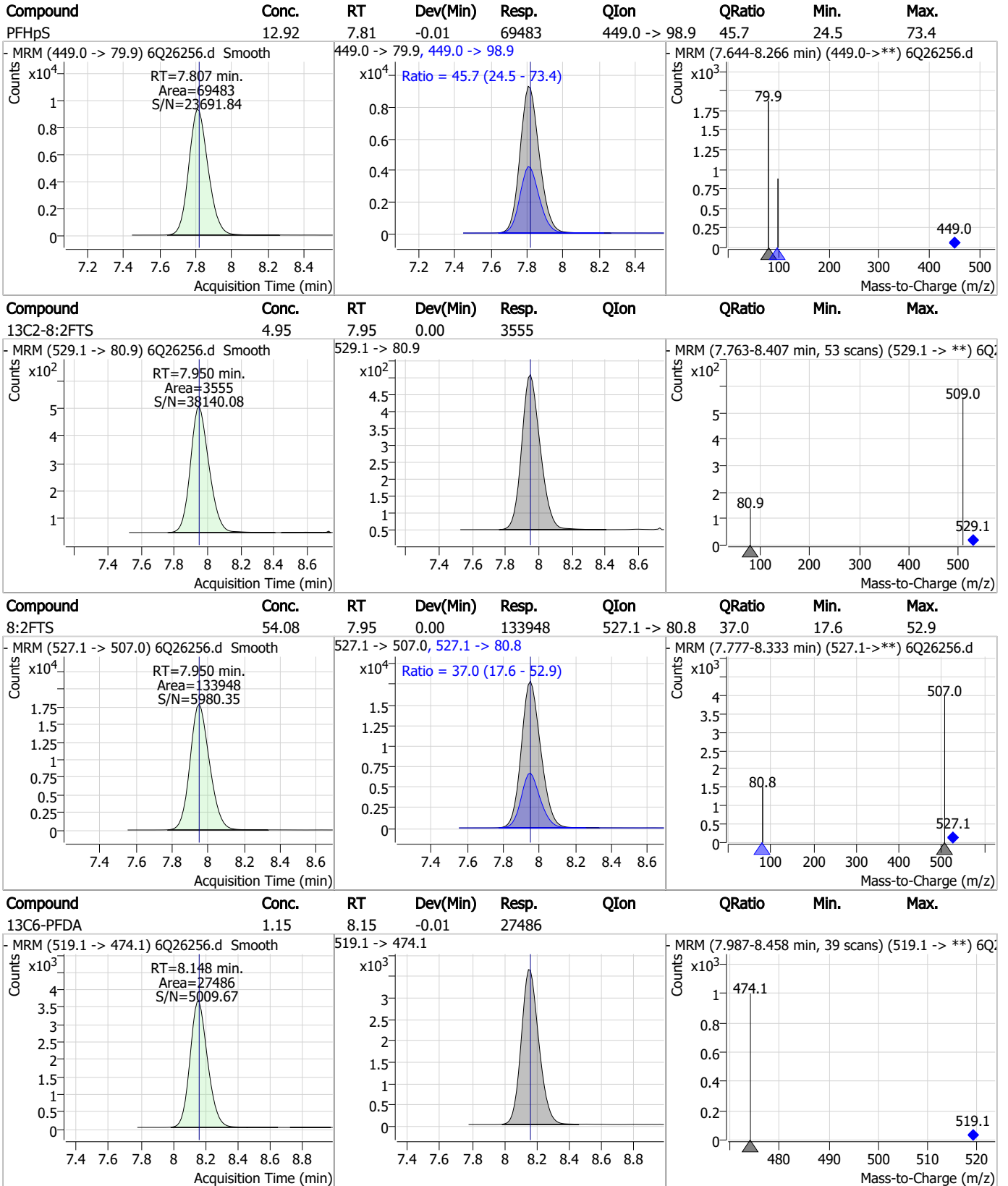
# Perfluorinated Compounds by LC/MS/MS



# Perfluorinated Compounds by LC/MS/MS



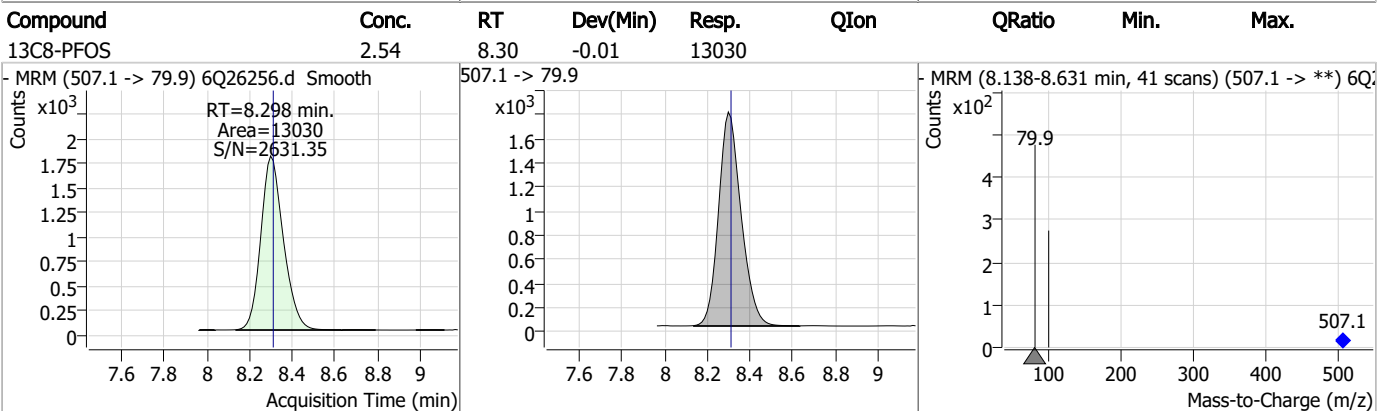
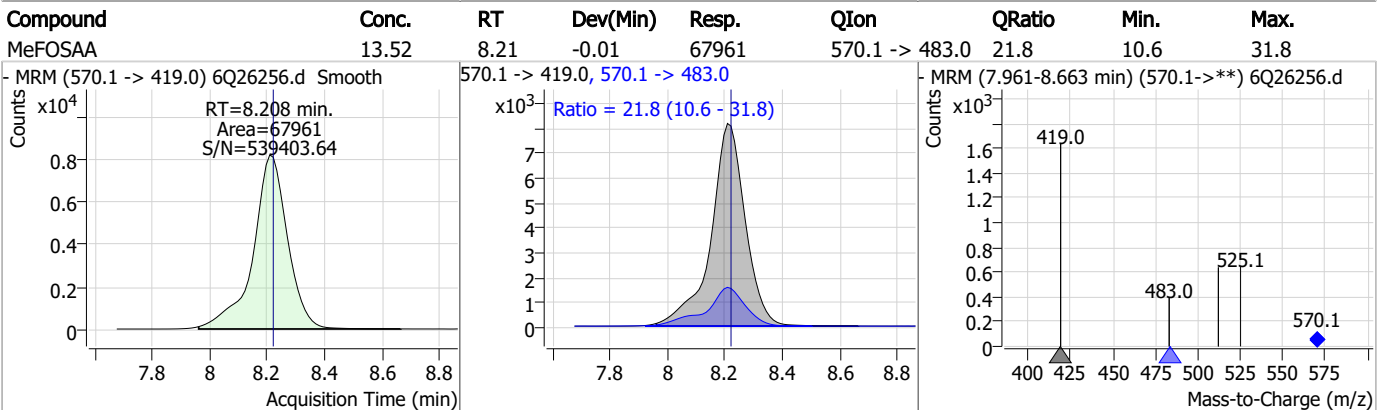
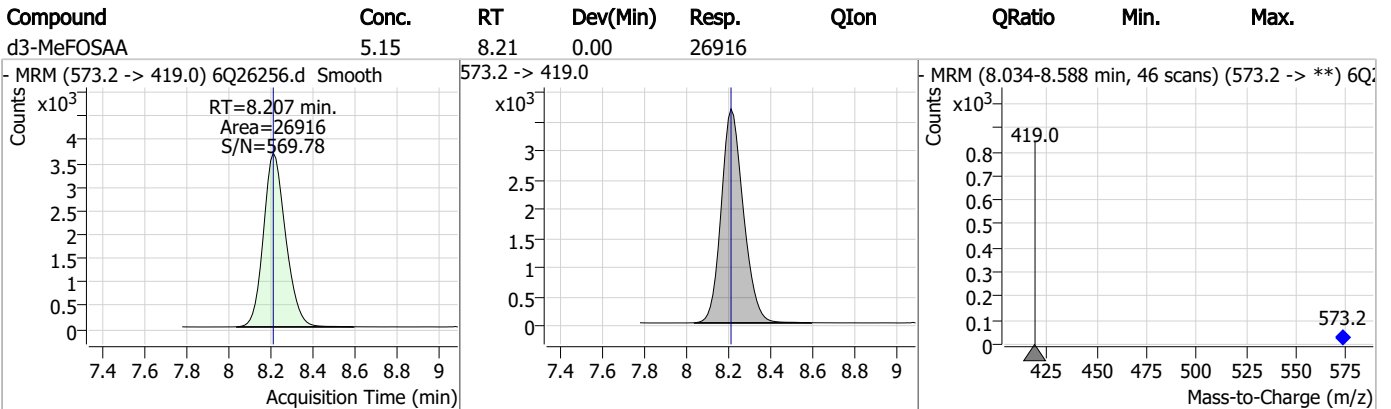
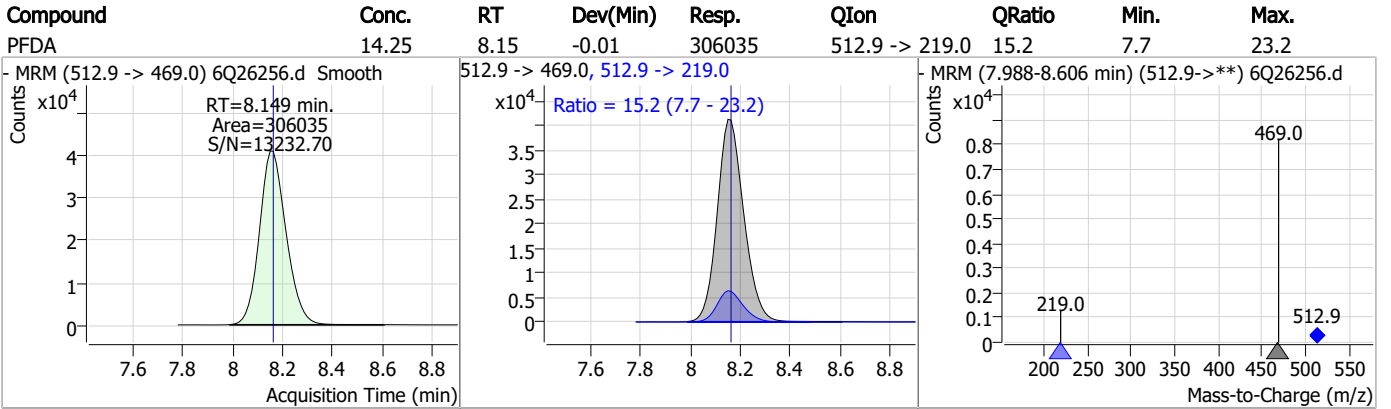
# Perfluorinated Compounds by LC/MS/MS



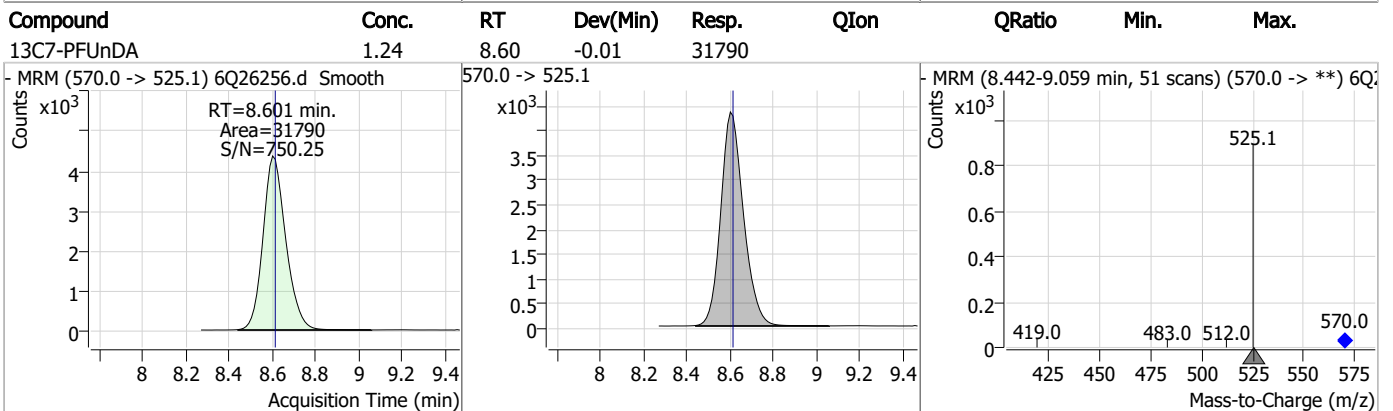
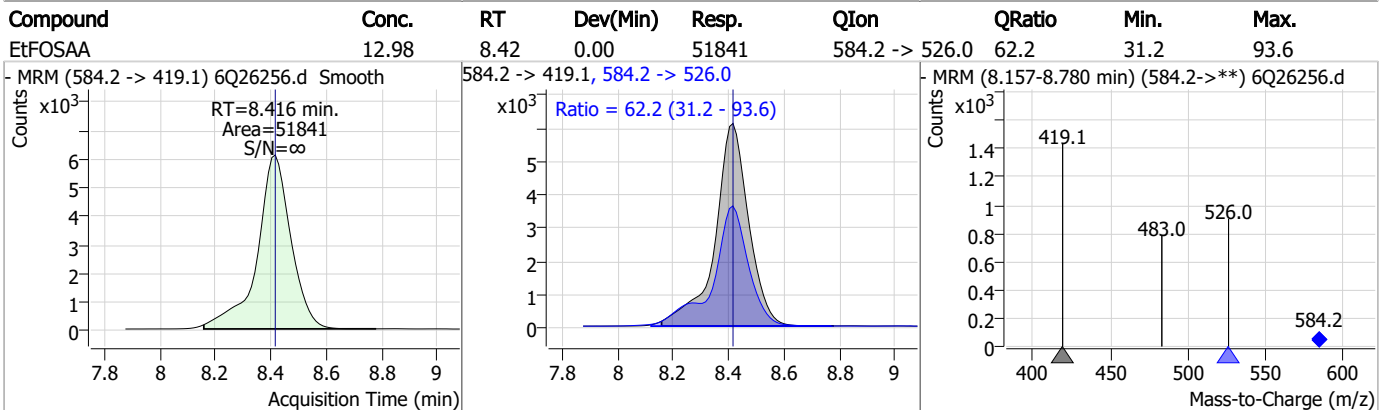
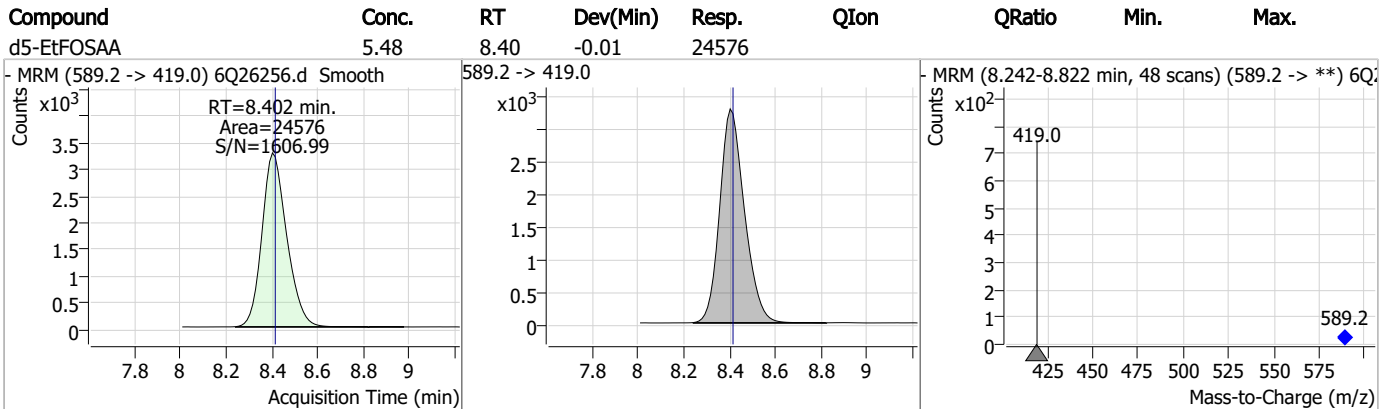
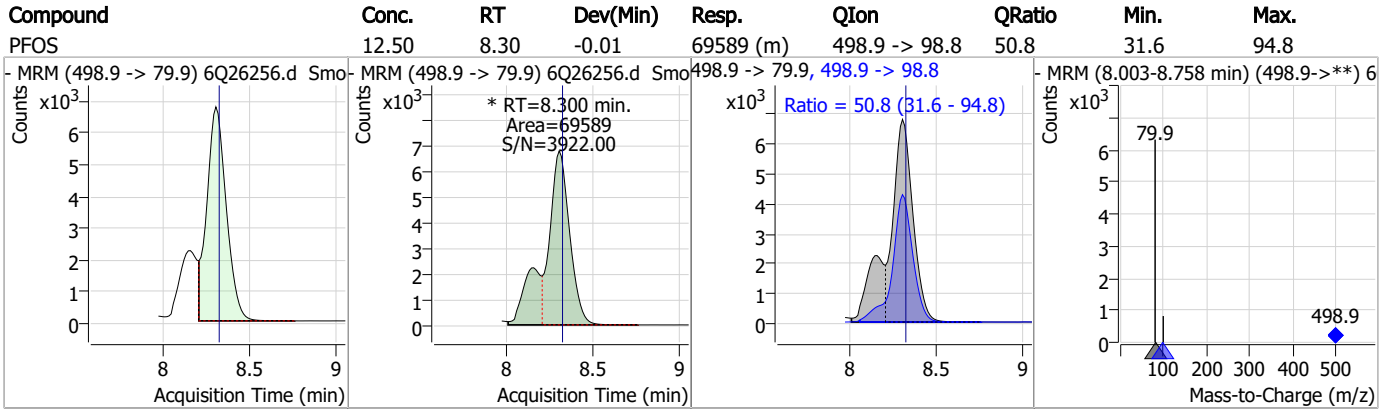
7.6.4

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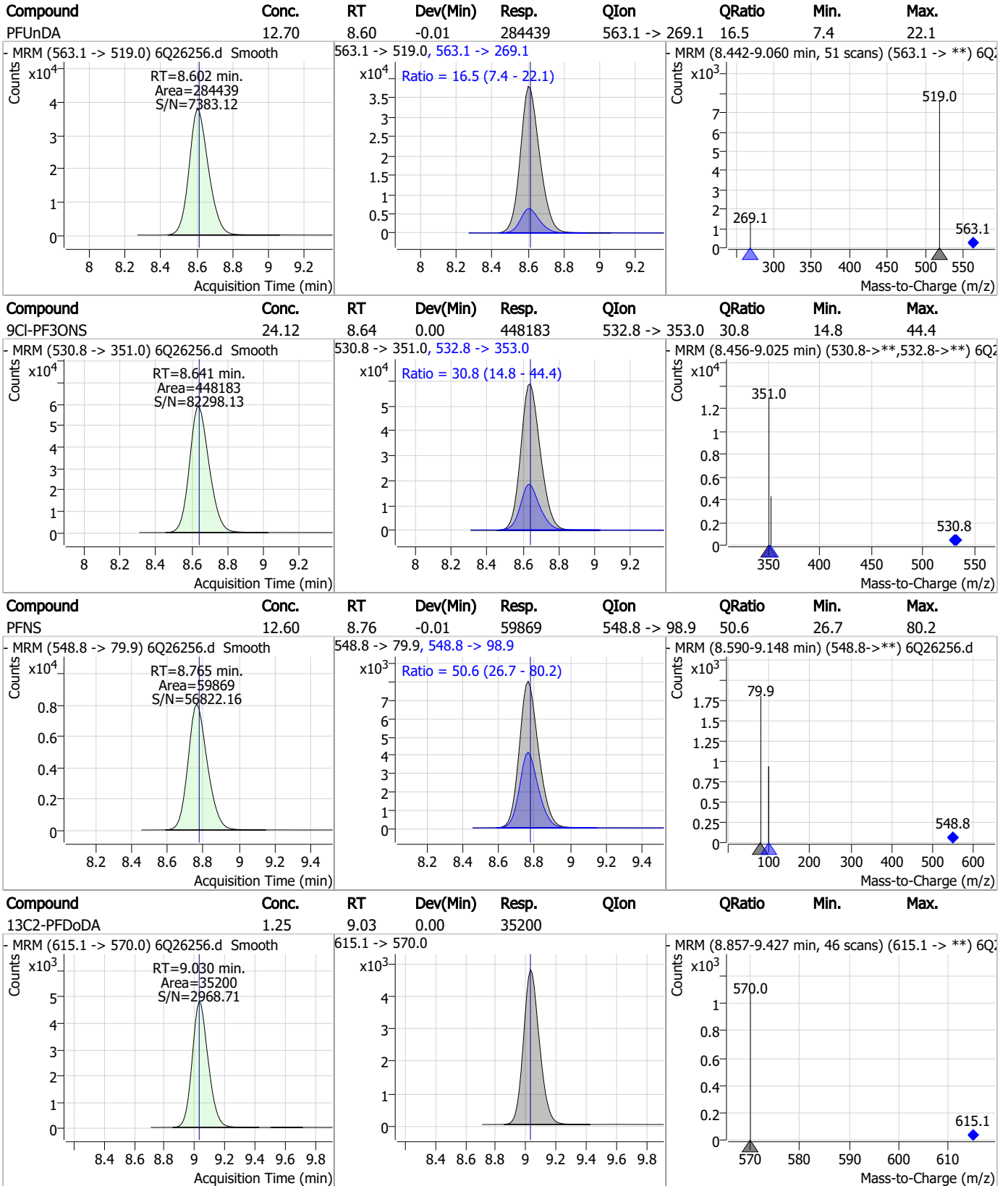
# Perfluorinated Compounds by LC/MS/MS



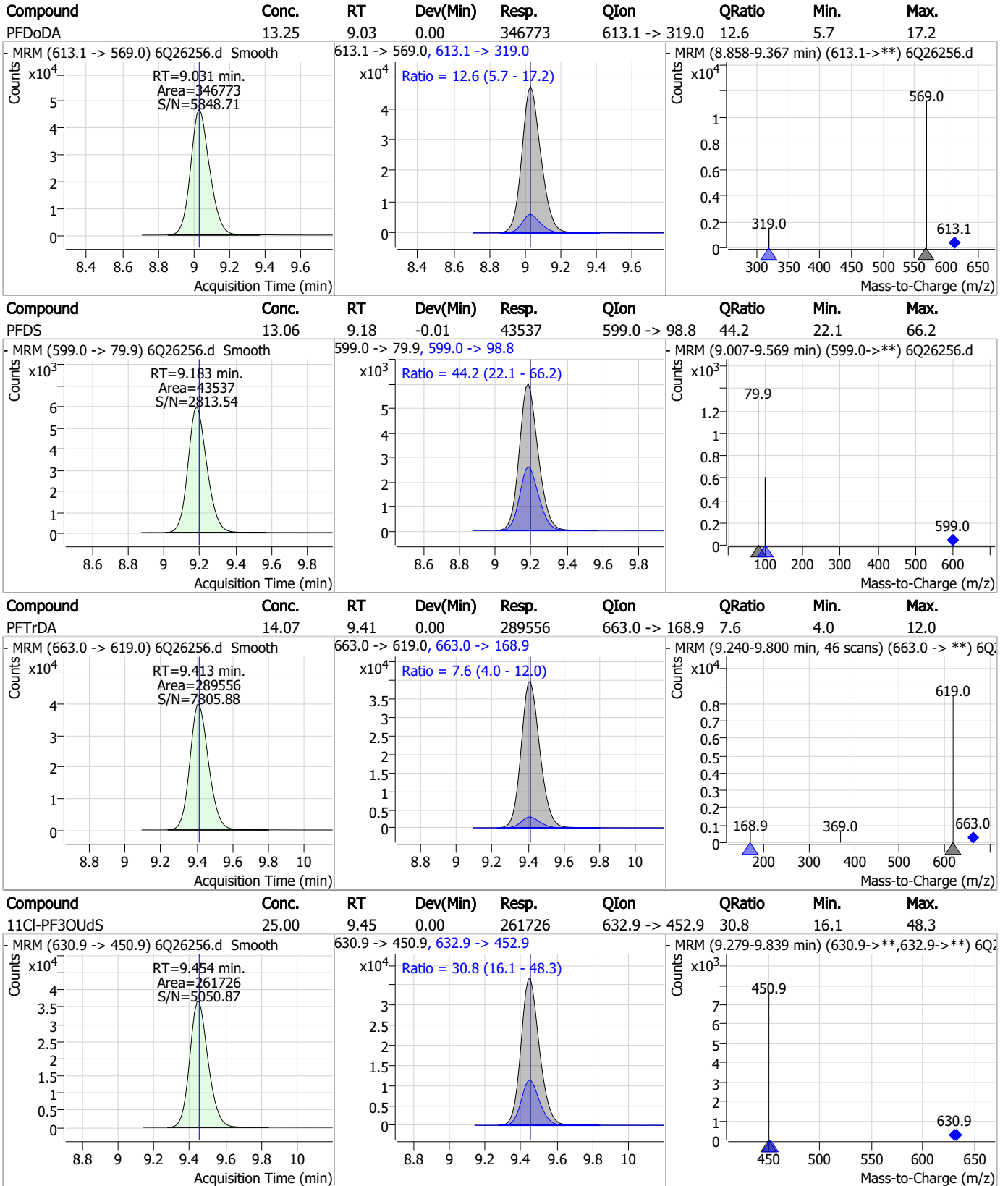
# Perfluorinated Compounds by LC/MS/MS



# Perfluorinated Compounds by LC/MS/MS



# Perfluorinated Compounds by LC/MS/MS



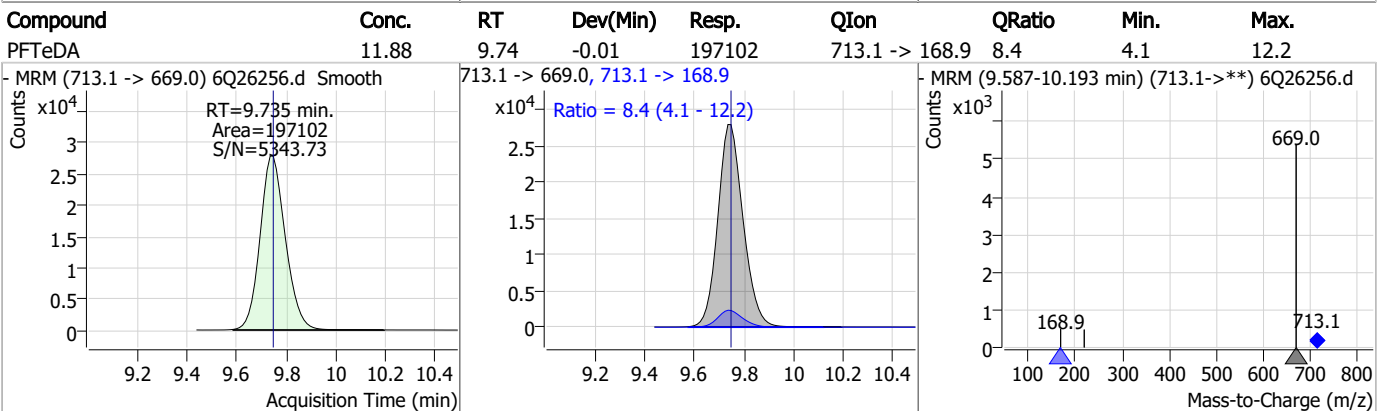
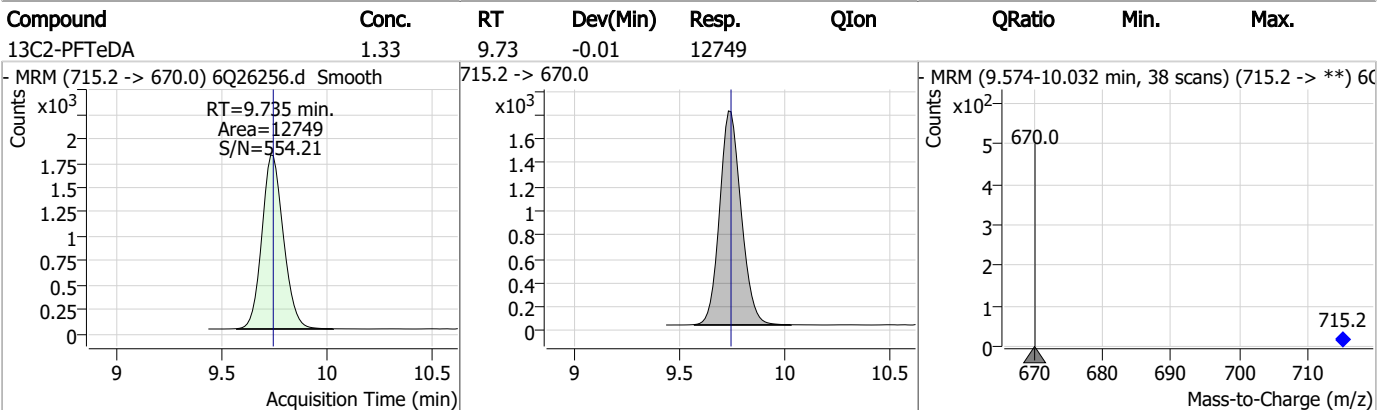
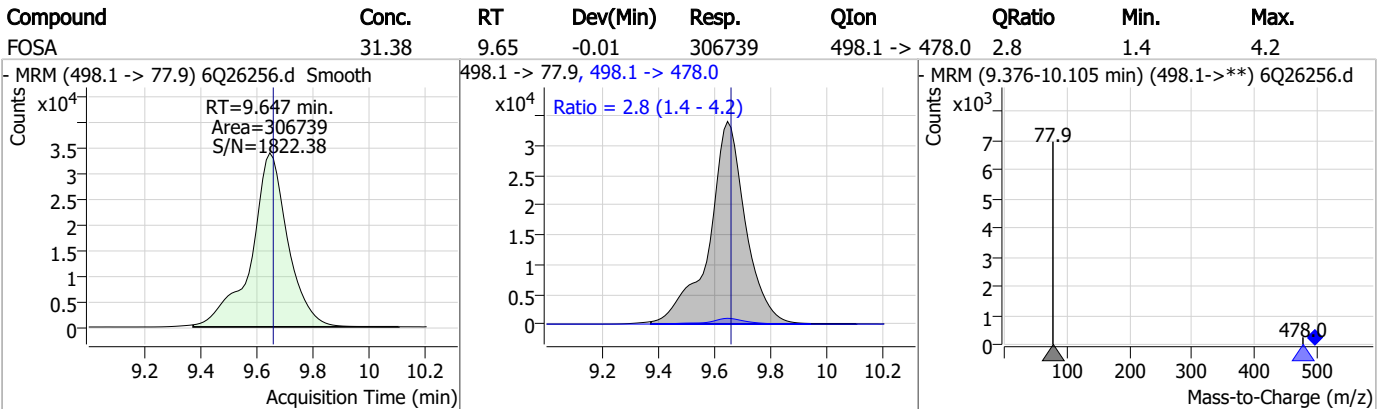
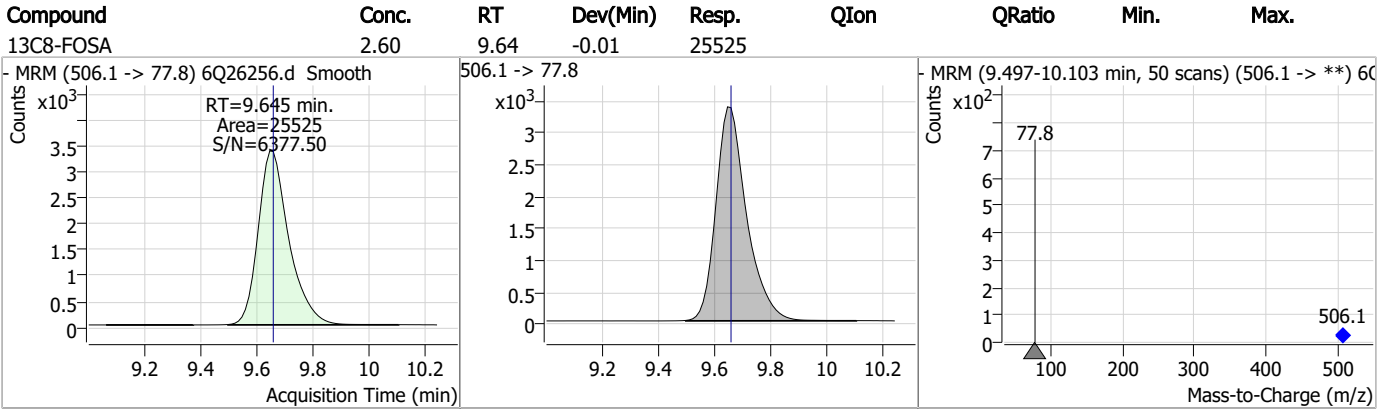
7.6.4

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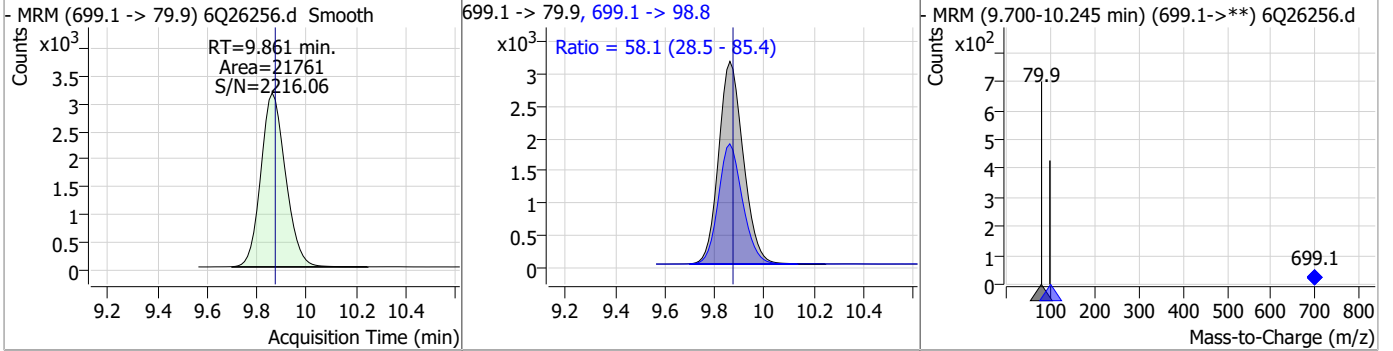


# Perfluorinated Compounds by LC/MS/MS

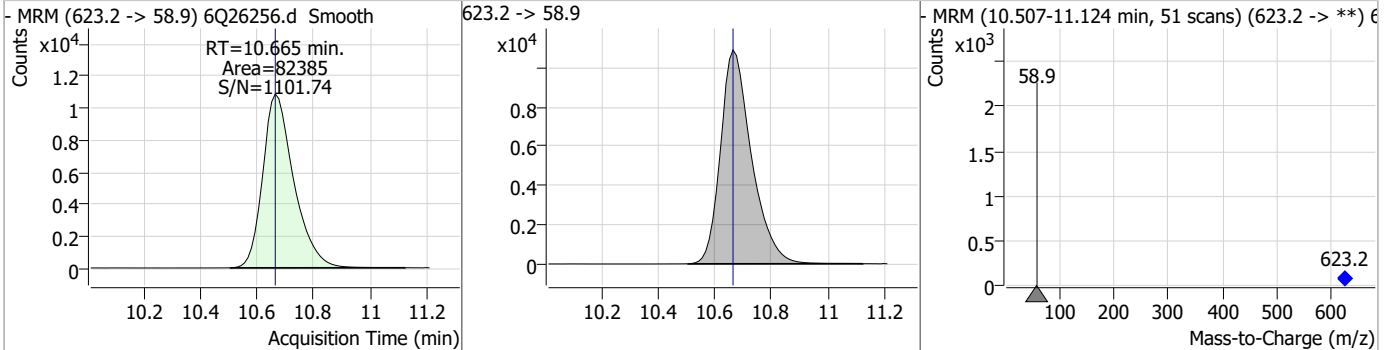


# Perfluorinated Compounds by LC/MS/MS

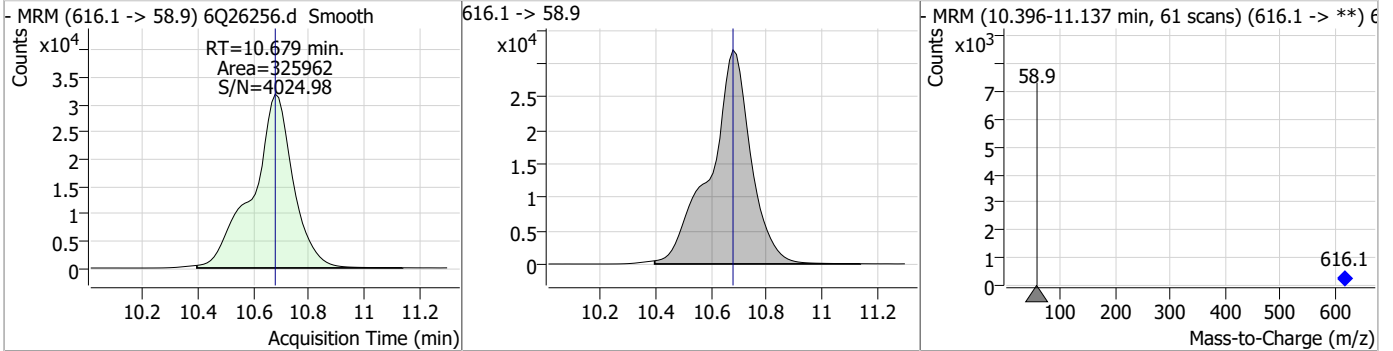
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoS	12.57	9.86	-0.01	21761	699.1 -> 98.8	58.1	28.5	85.4



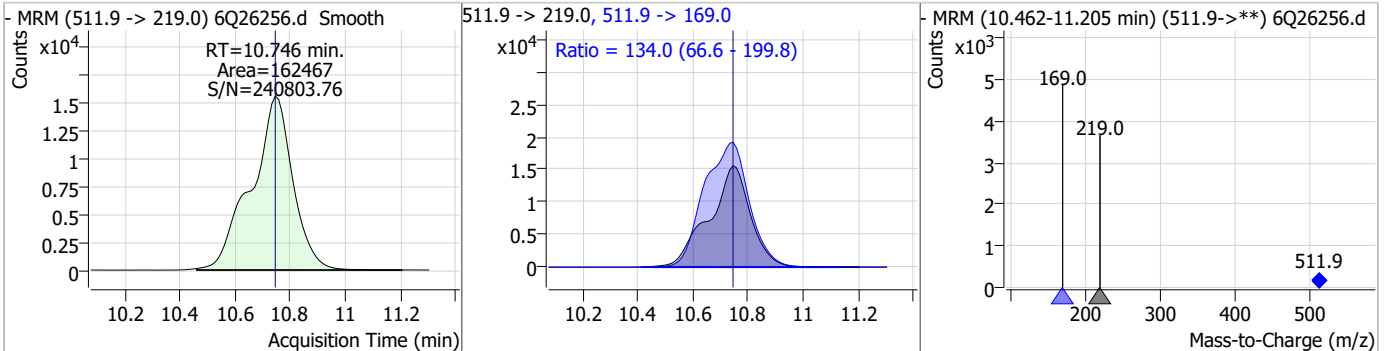
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d7-MeFOSE	26.01	10.67	0.00	82385				



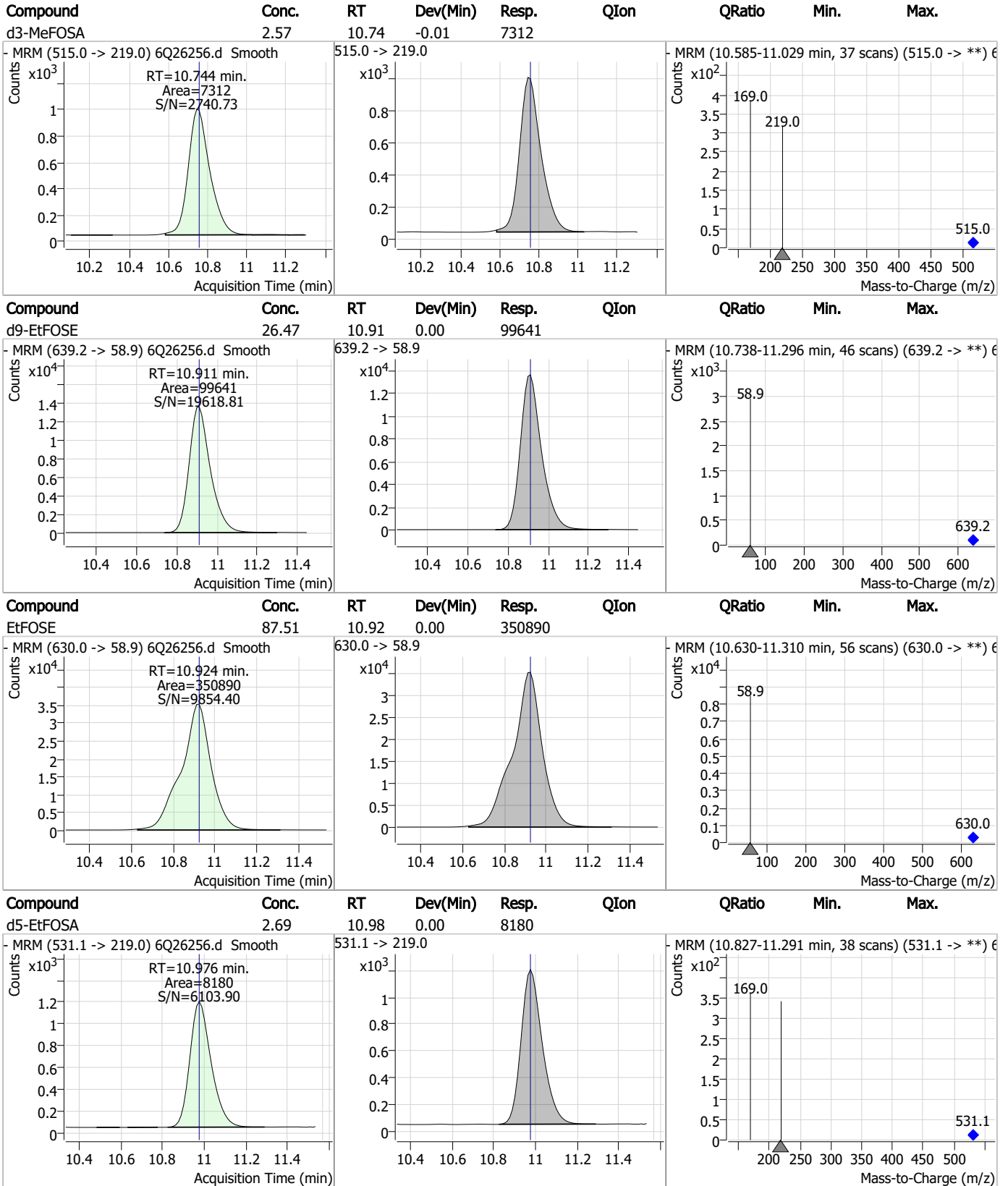
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSE	89.53	10.68	0.00	325962				



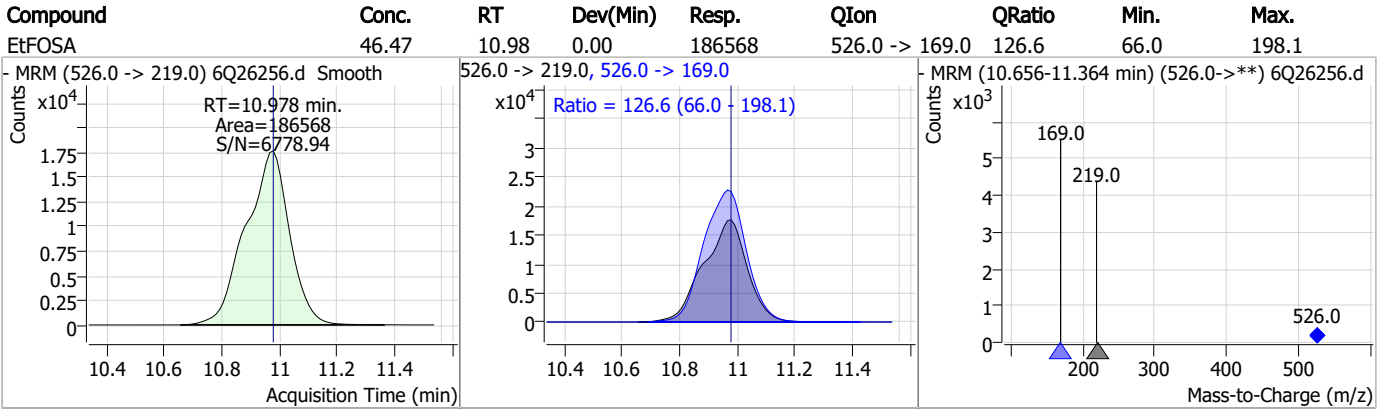
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSA	47.93	10.75	0.00	162467	511.9 -> 169.0	134.0	66.6	199.8



# Perfluorinated Compounds by LC/MS/MS



# 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

Manual Integrations  
**APPROVED**  
 (compounds with "m" flag)  
 Natasha Gumtie  
 10/16/23 17:48

### 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

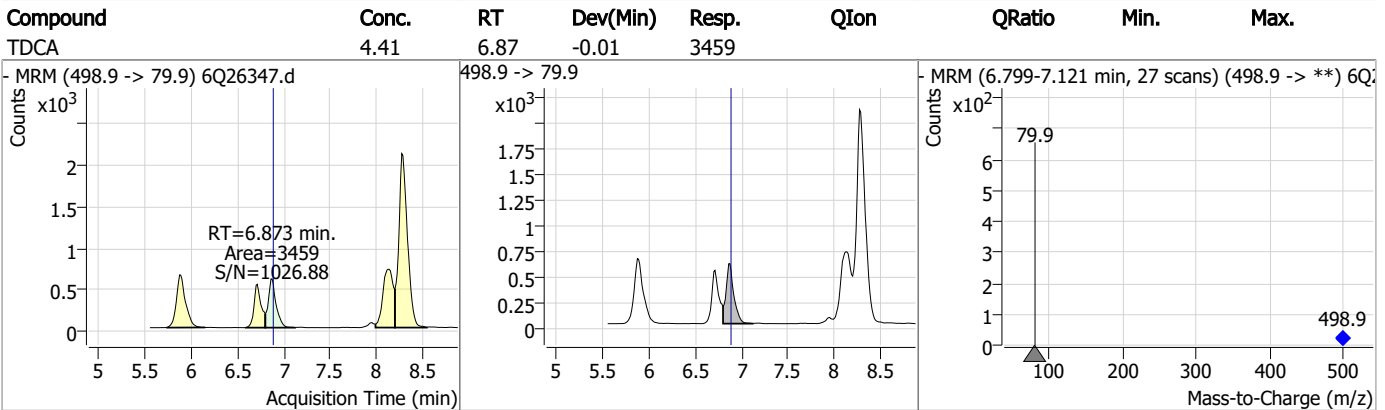
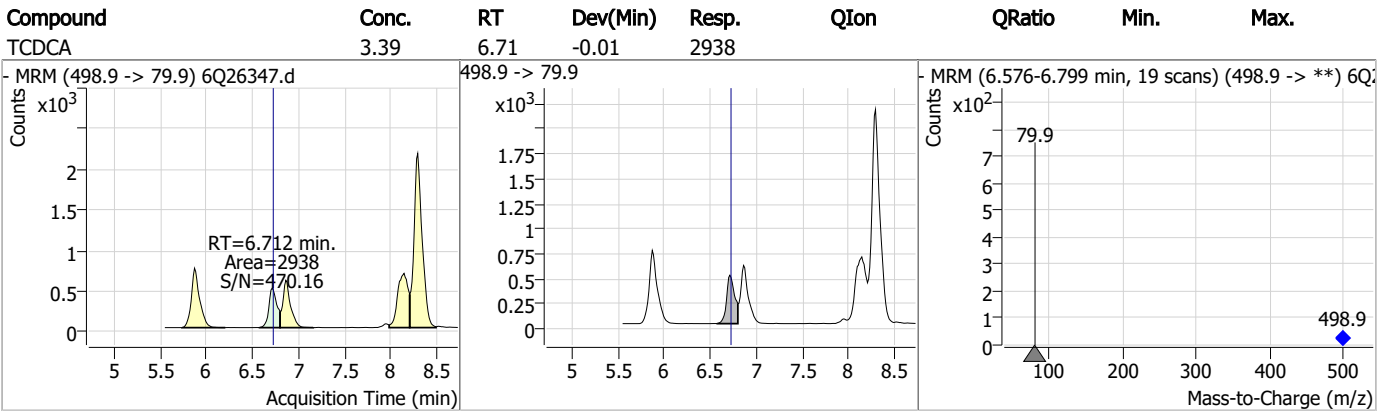
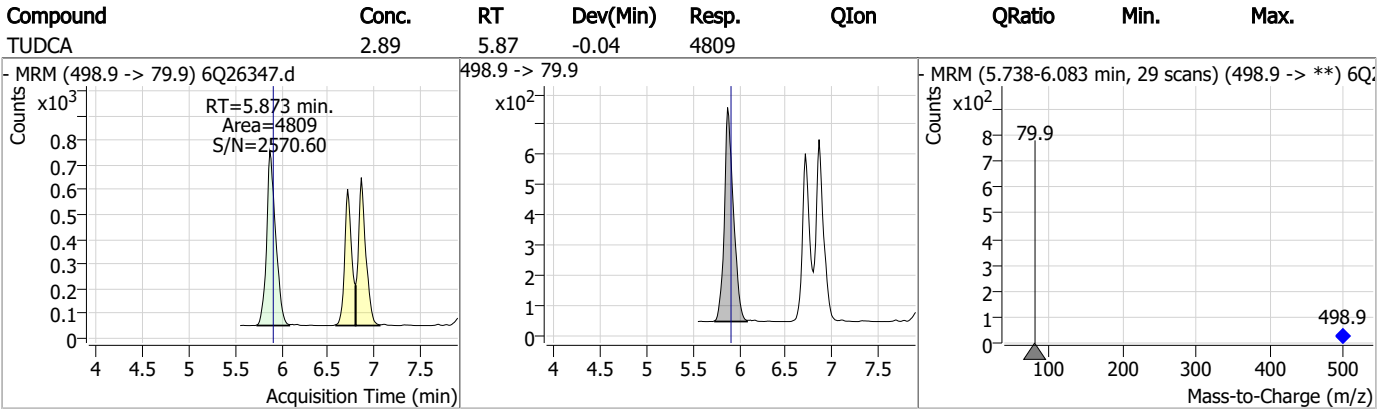
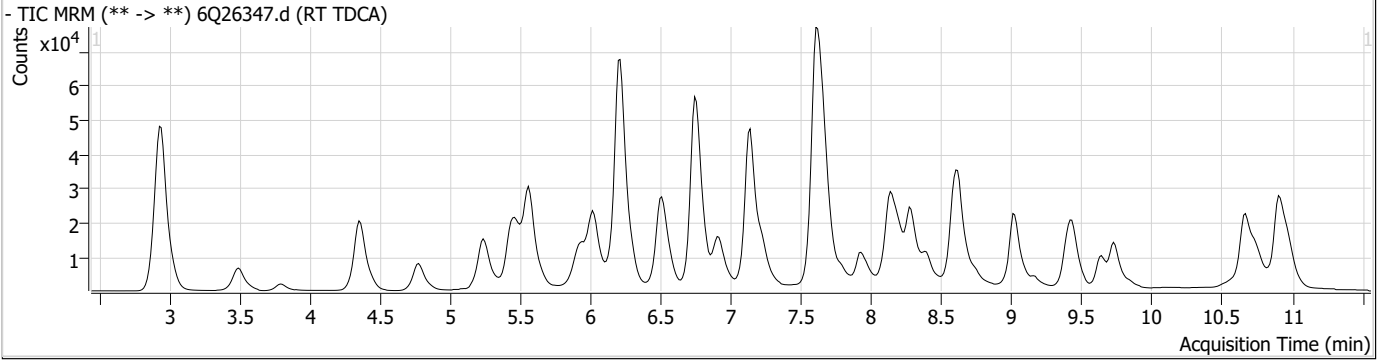
Compound	RT	Transition	Response	Conc. Units	Dev(Min)	QValue
<b>Internal Standards</b>						
M8-PFOS	8.286	507.1 -> 79.9	18760	2.50 µg/L	-0.037	
13C4-PFOS	8.287	502.8 -> 79.9	18644	2.50 µg/L	-0.037	
<b>System Monitoring Compounds</b>						
13C8-PFOS	8.286	507.1 -> 79.9	18760	2.55 µg/L	-0.037	
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 102.1%			
<b>Target Compounds</b>						
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  
7

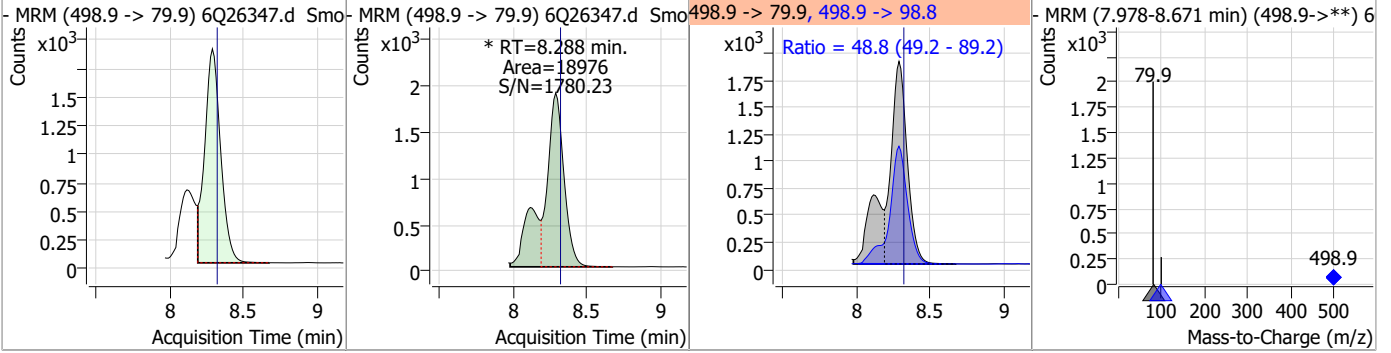


### Perfluorinated Compounds by LC/MS/MS

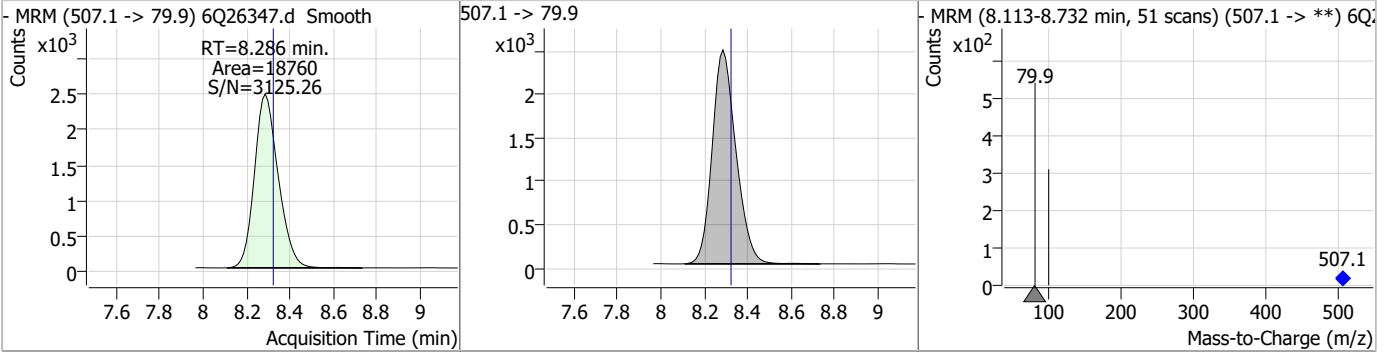


### Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOS	2.96	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  
7





# 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

7.6.5.1

7

## 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)
<b>Internal Standards</b>					
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
<b>System Monitoring Compounds</b>					
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  
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 = 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%	
<b>Target Compounds</b>					<b>QValue</b>
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

7.6.6  
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## Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
		599.0 -> 98.8	19458			
PFHpA	6.507	363.1 -> 319.0	379102	13.62	µg/L	99
		363.1 -> 169.0	54112			
PFHpS	7.794	449.0 -> 79.9	70213	12.72	µg/L	97
		449.0 -> 98.9	32711			
PFHxA	5.557	313.0 -> 269.0	244593	12.70	µg/L	100
		313.0 -> 118.9	12454			
PFHxS	7.240	398.7 -> 79.9	65725	11.93	µg/L	m 93
		398.7 -> 98.9	31857			
PFNA	7.531	463.0 -> 419.0	512020	29.99	µg/L	m 98
		463.0 -> 219.0	129731			
PFNS	8.752	548.8 -> 79.9	58668	12.03	µg/L	98
		548.8 -> 98.9	30396			
PFOA	7.137	413.0 -> 369.0	866947	30.43	µg/L	m 99
		413.0 -> 169.0	157526			
PFOS	8.288	498.9 -> 79.9	67336	11.79	µg/L	m 85
		498.9 -> 98.8	34921			
PFPeA	4.349	263.0 -> 219.0	326862	25.76	µg/L	100
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
MeFOSA	10.746	511.9 -> 219.0	157860	48.23	µg/L	99
		511.9 -> 169.0	212323			
MeFOSE	10.679	616.1 -> 58.9	309290	88.10	µg/L	100
PFDoDS	9.849	699.1 -> 79.9	22677	12.77	µg/L	95
		699.1 -> 98.8	12126			
NFDHA	5.437	295.0 -> 201.0	63145	26.10	µg/L	99
		295.0 -> 84.9	17177			
PFMBA	4.769	279.0 -> 85.1	253157	26.18	µg/L	100
PFMPA	3.488	229.0 -> 84.9	208313	26.10	µg/L	100
PFEESA	6.025	314.8 -> 134.9	574430	23.19	µg/L	100
		314.8 -> 82.9	19879			

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

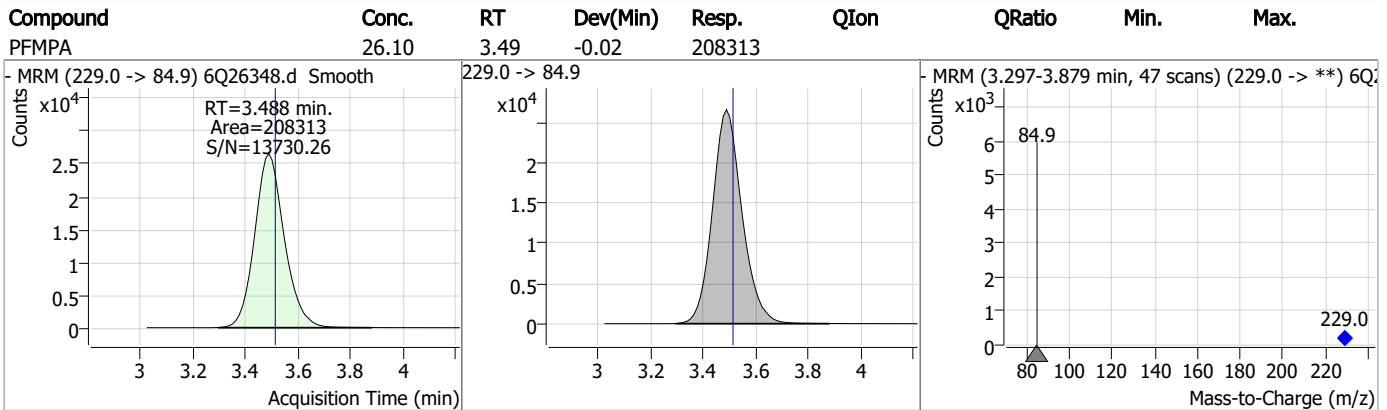
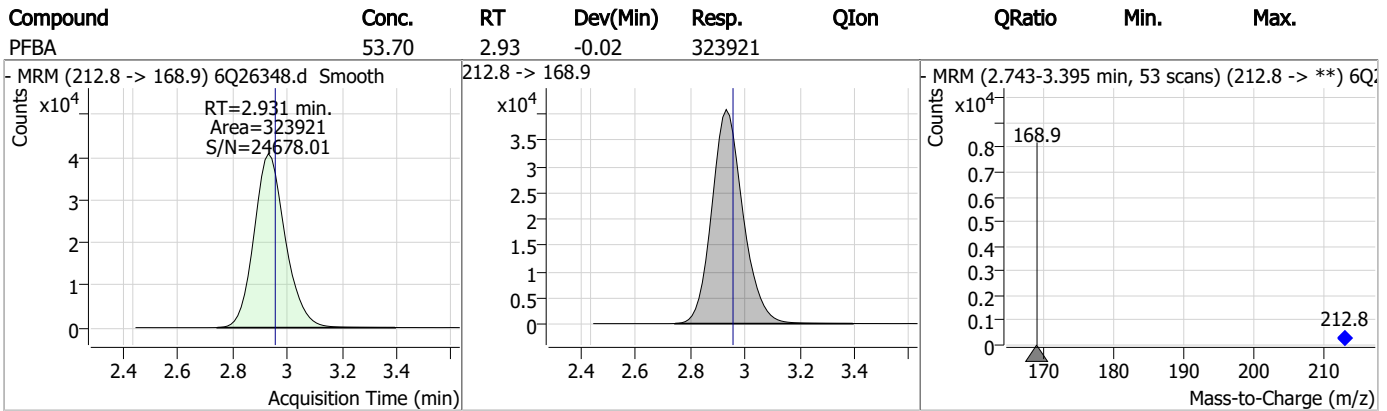
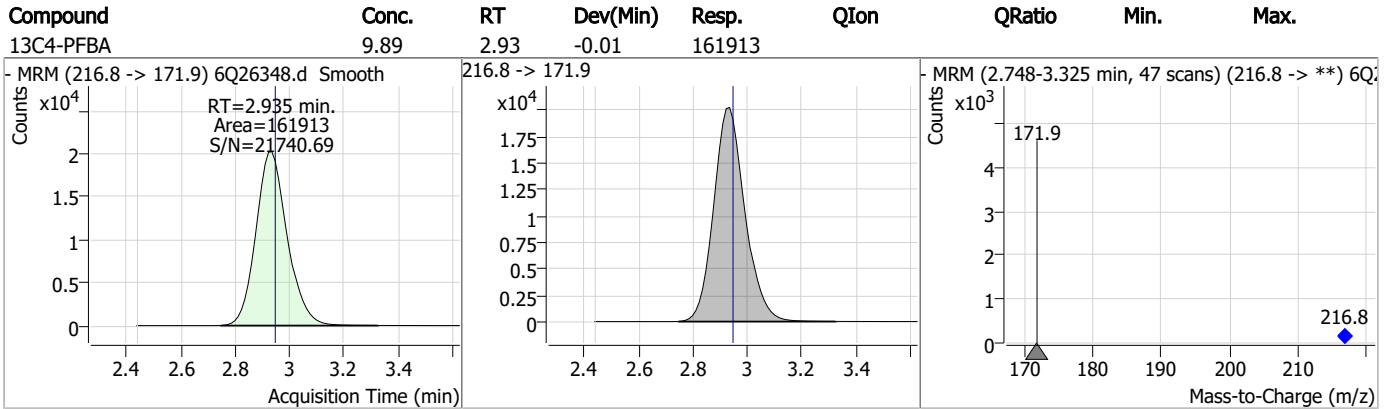
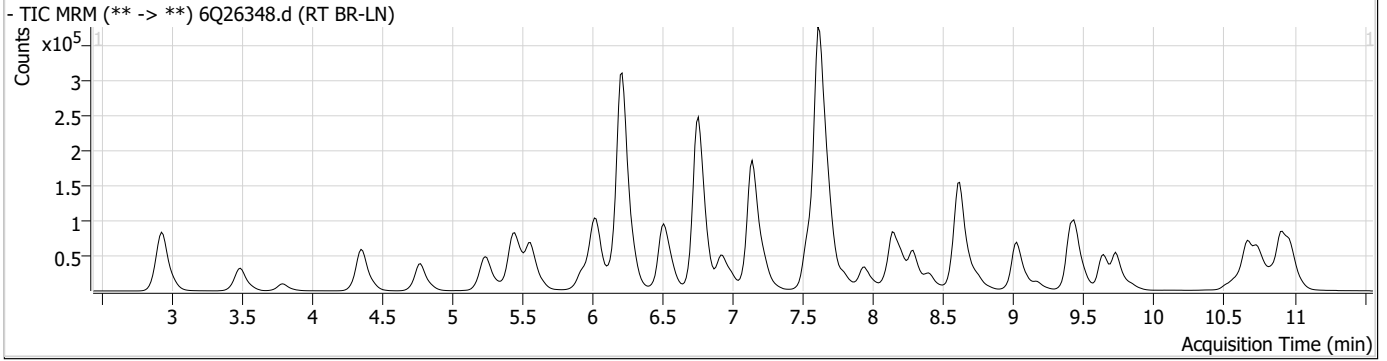
# Perfluorinated Compounds by LC/MS/MS

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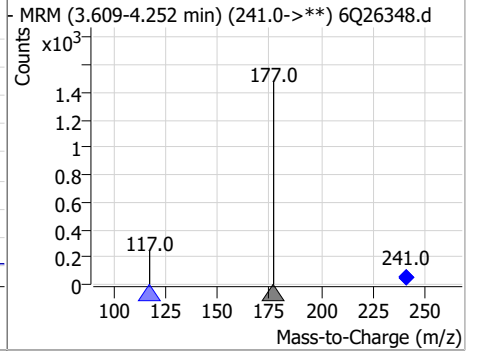
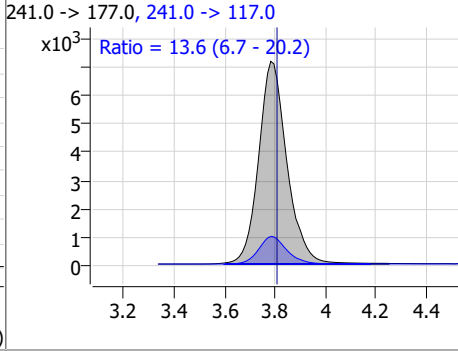
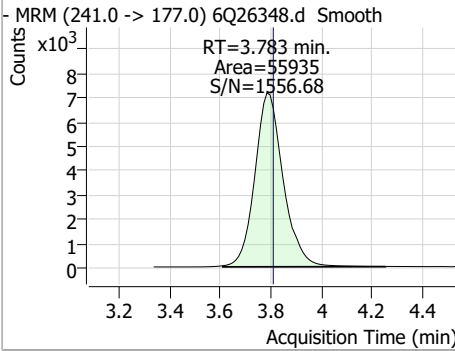
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# Perfluorinated Compounds by LC/MS/MS

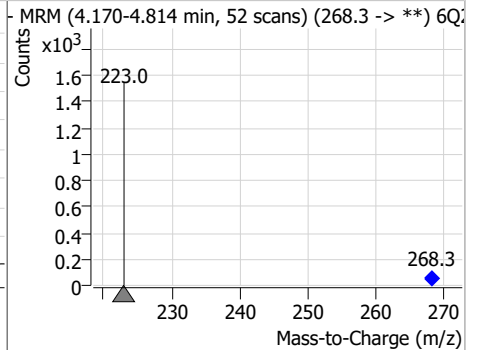
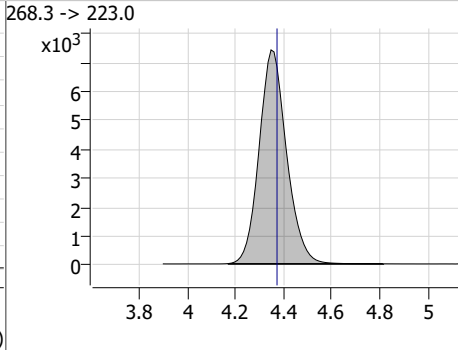
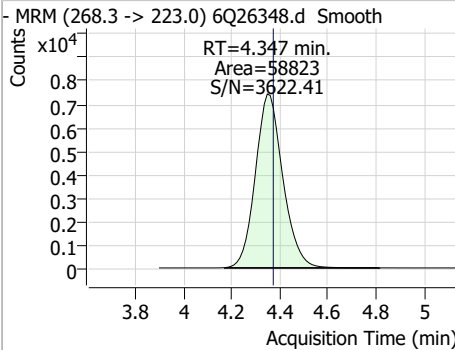


# Perfluorinated Compounds by LC/MS/MS

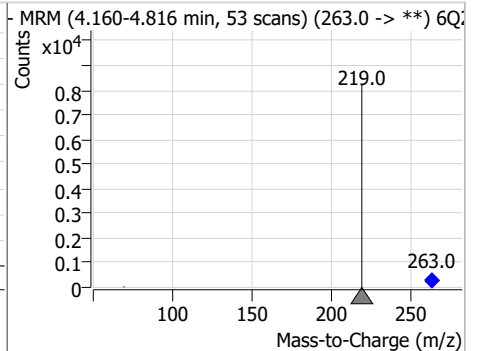
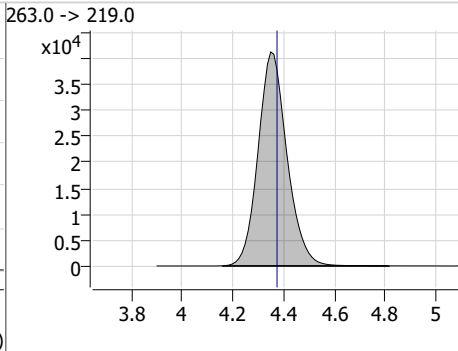
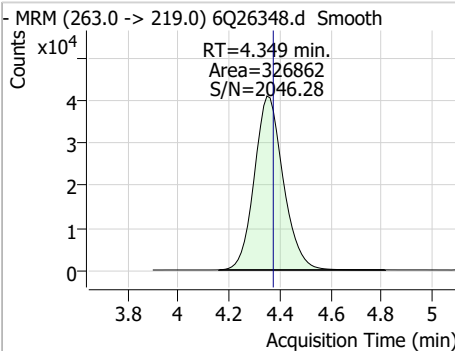
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
3:3FTCA	64.37	3.78	-0.02	55935	241.0 -> 117.0	13.6	6.7	20.2



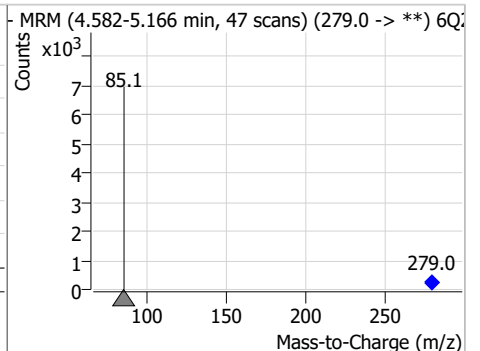
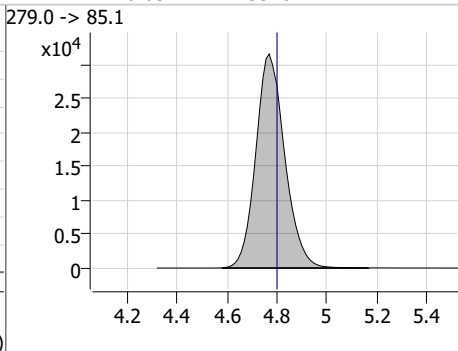
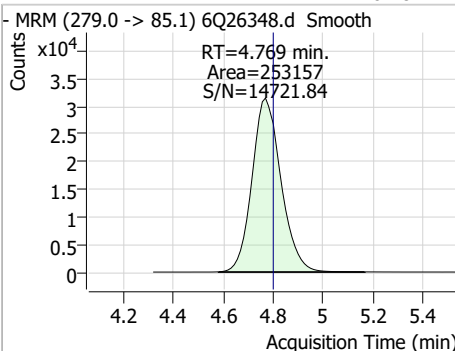
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFPeA	4.83	4.35	-0.02	58823				



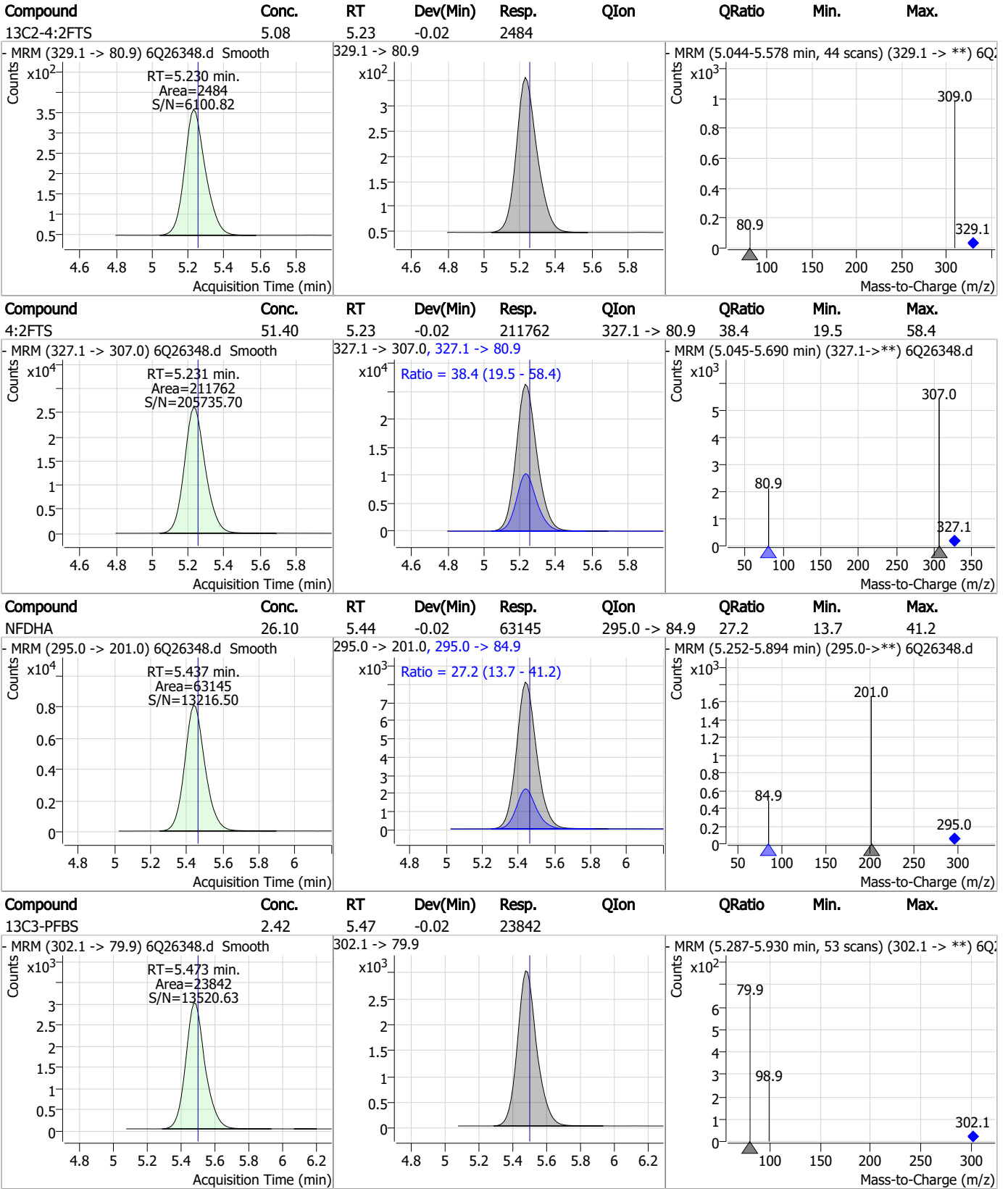
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeA	25.76	4.35	-0.02	326862				



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



# Perfluorinated Compounds by LC/MS/MS

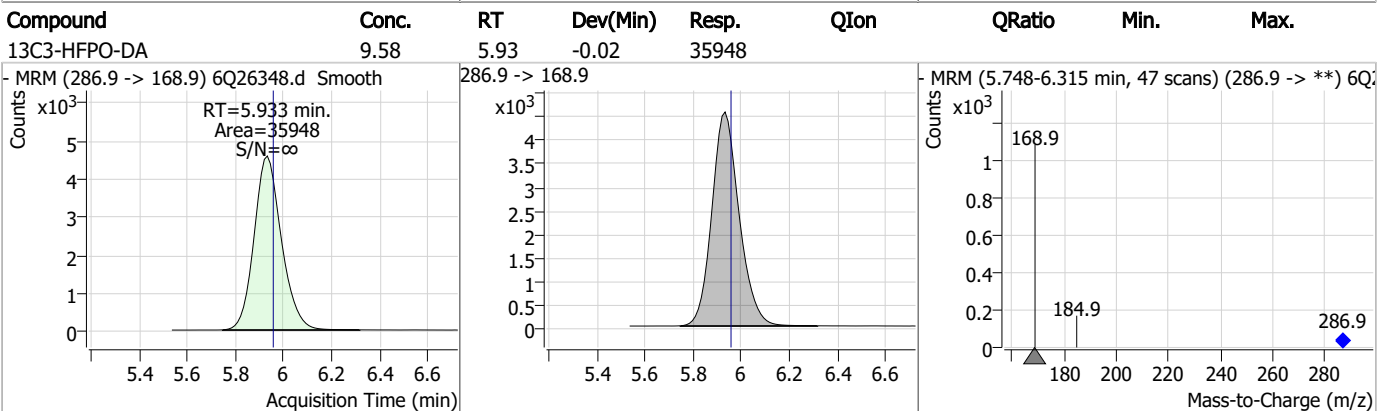
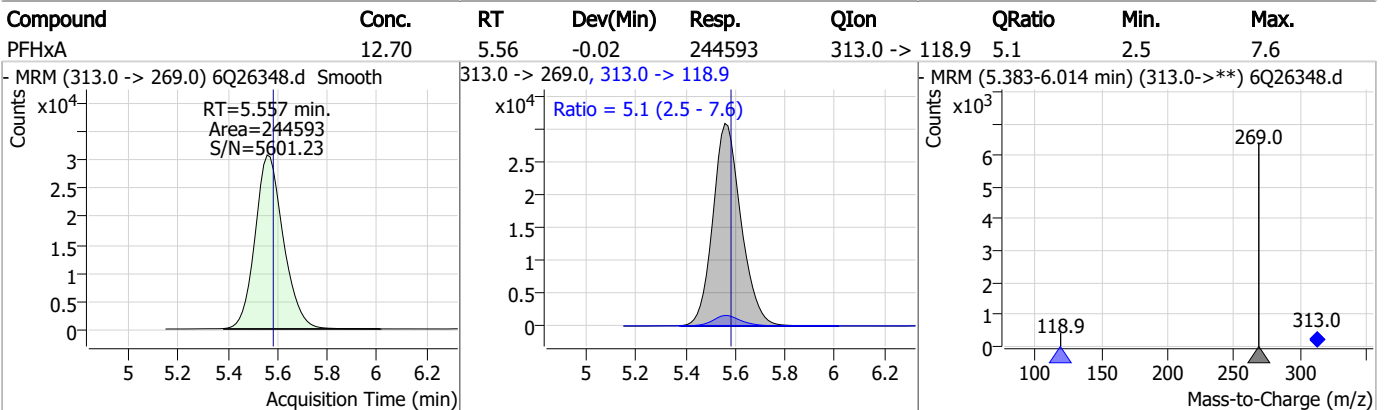
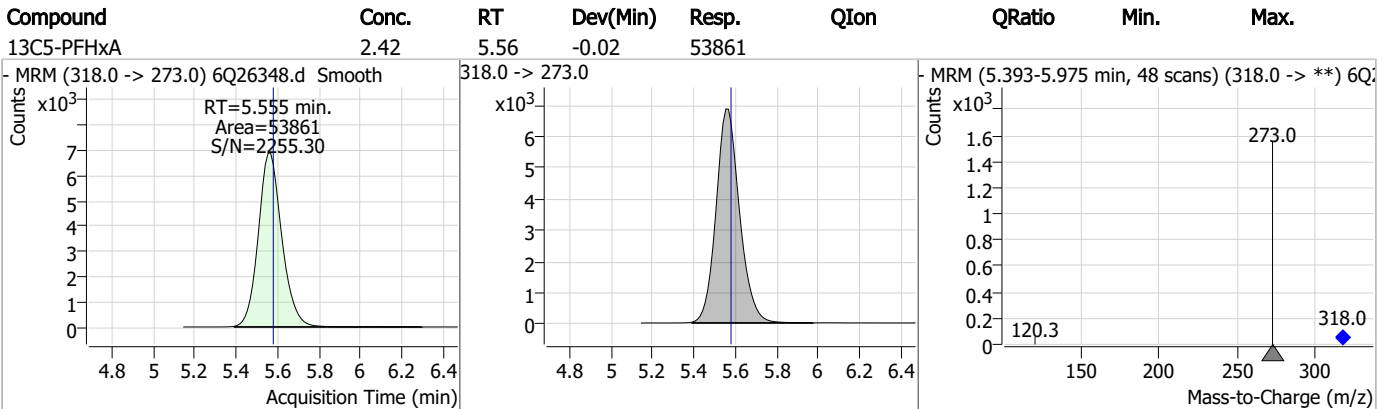
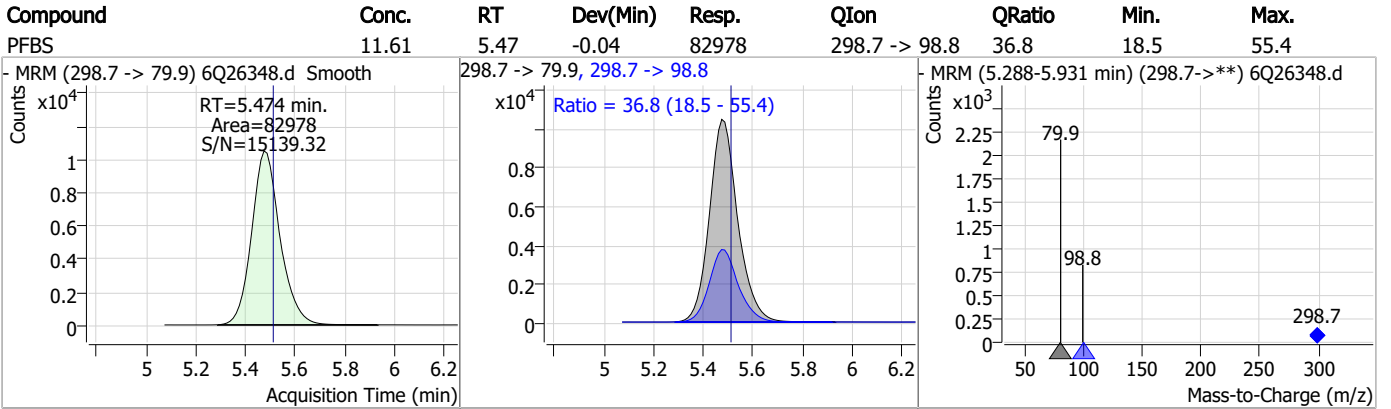


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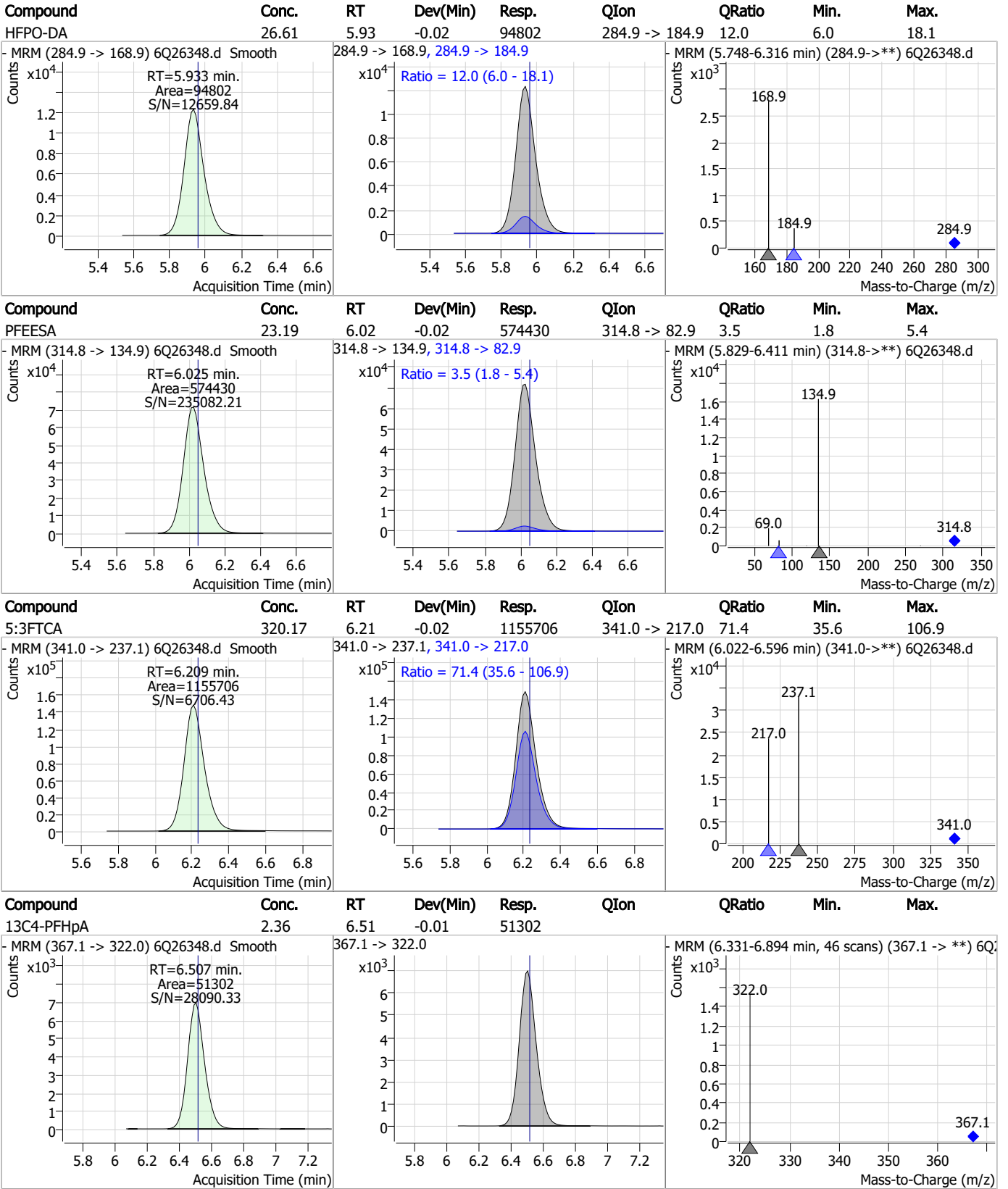
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# Perfluorinated Compounds by LC/MS/MS

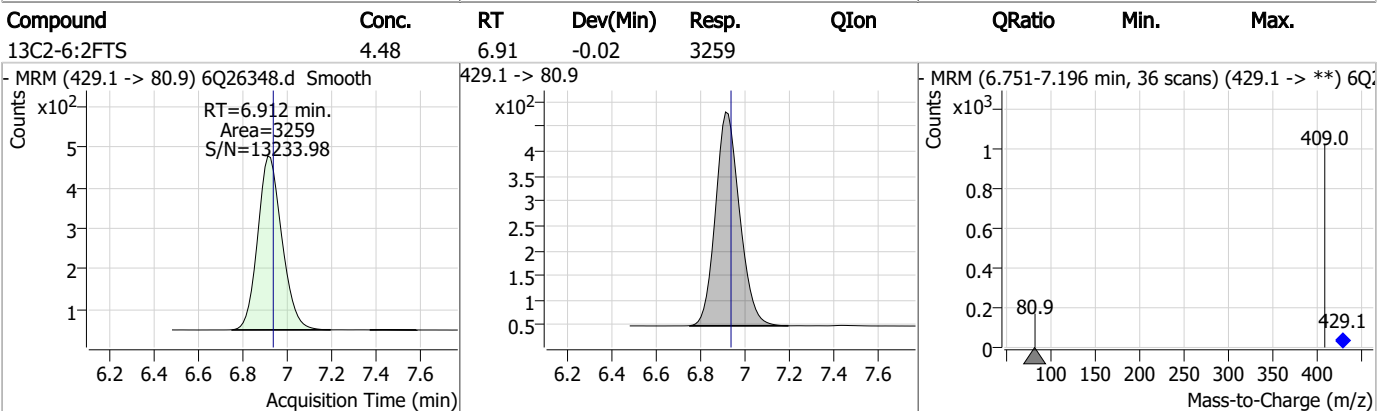
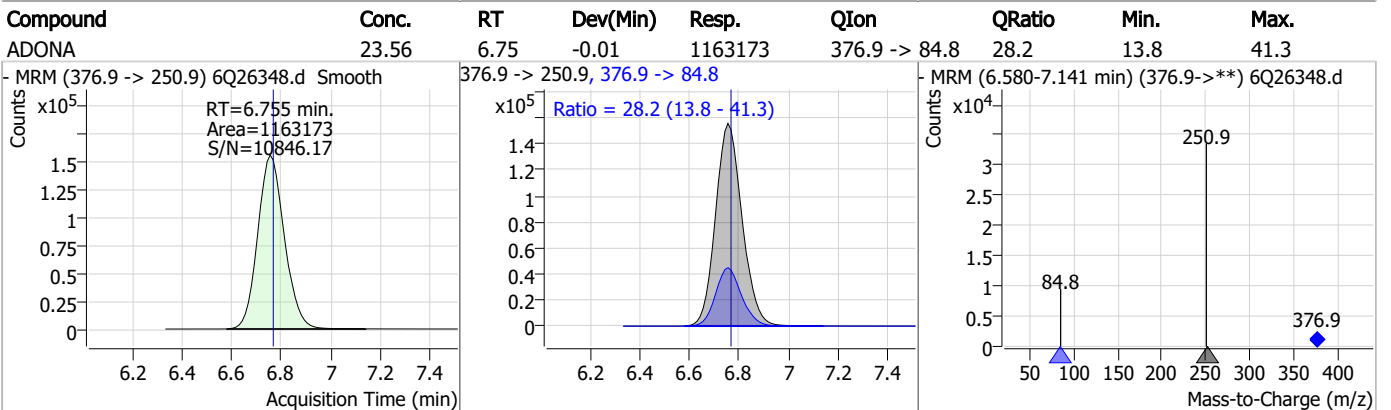
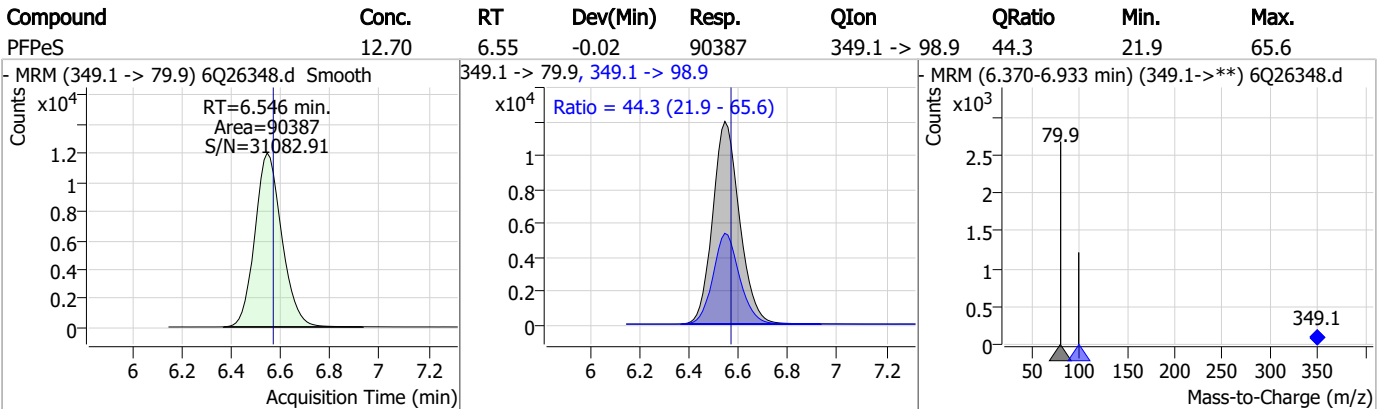
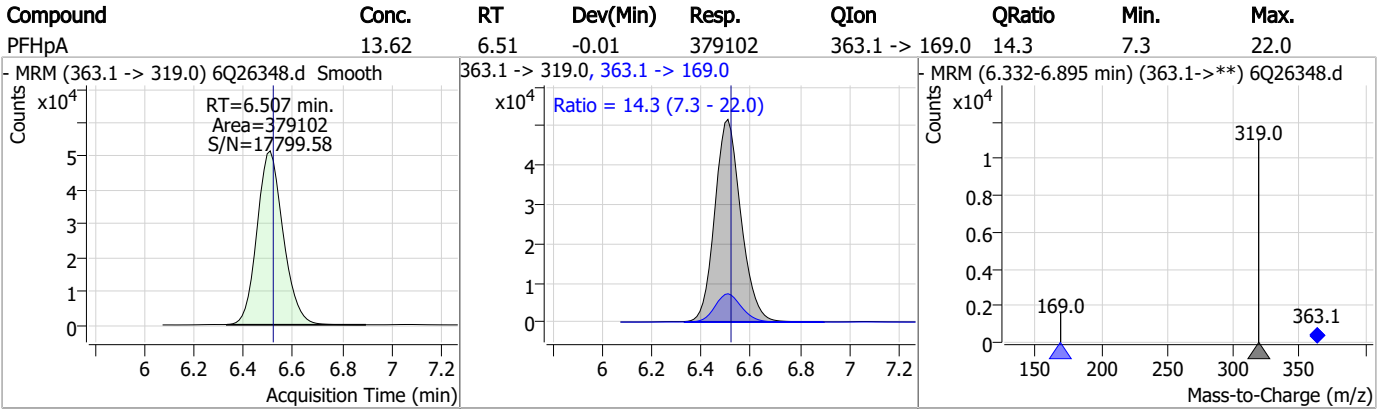


# Perfluorinated Compounds by LC/MS/MS

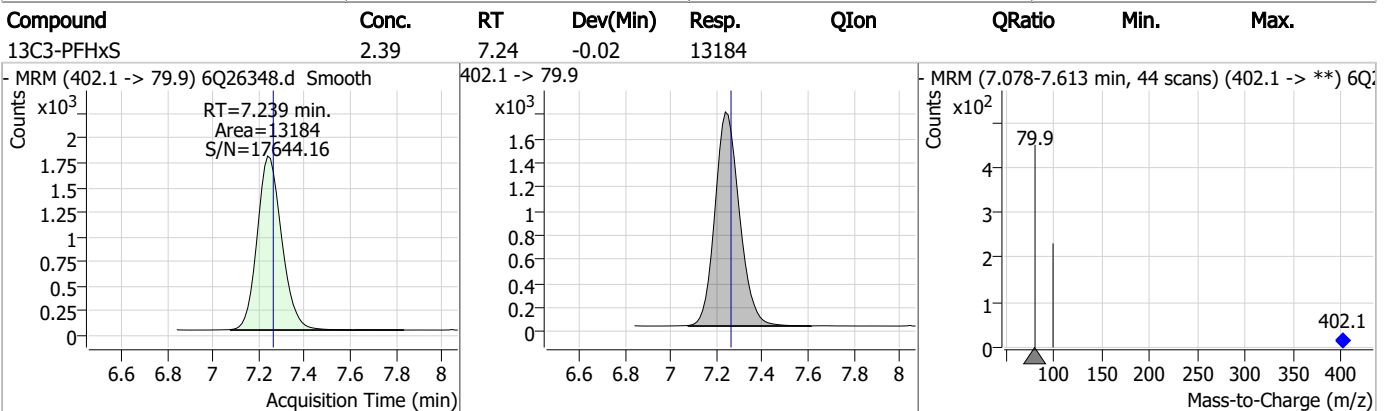
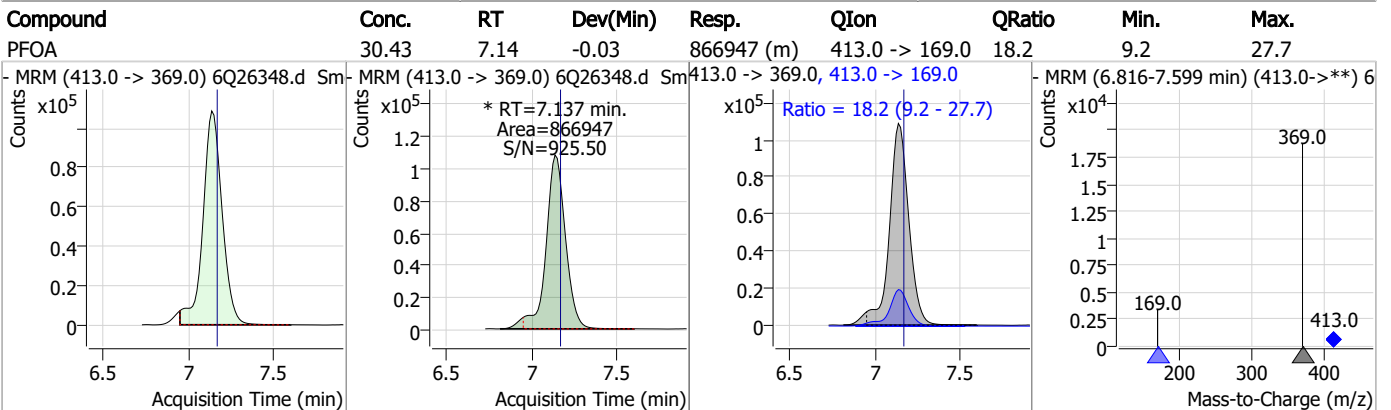
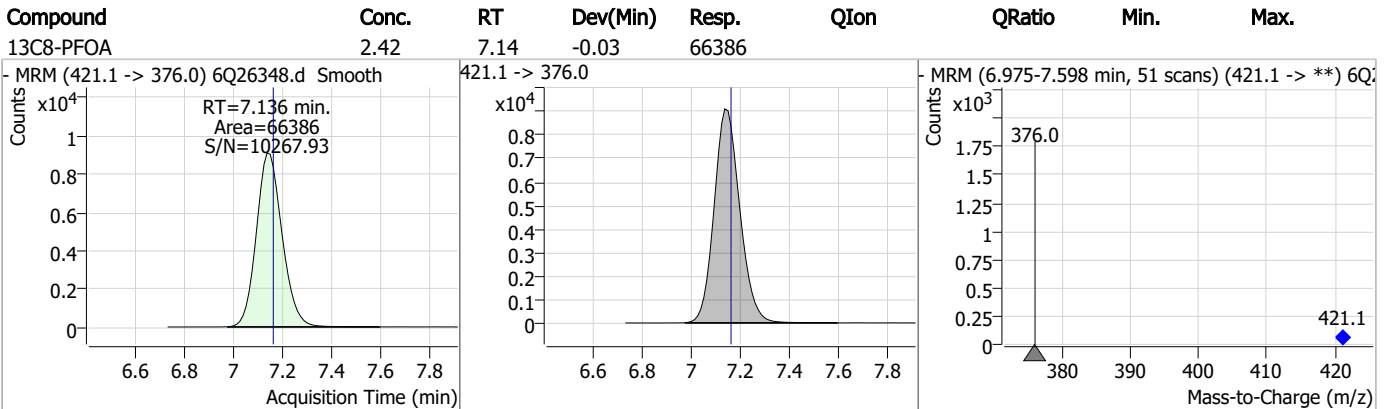
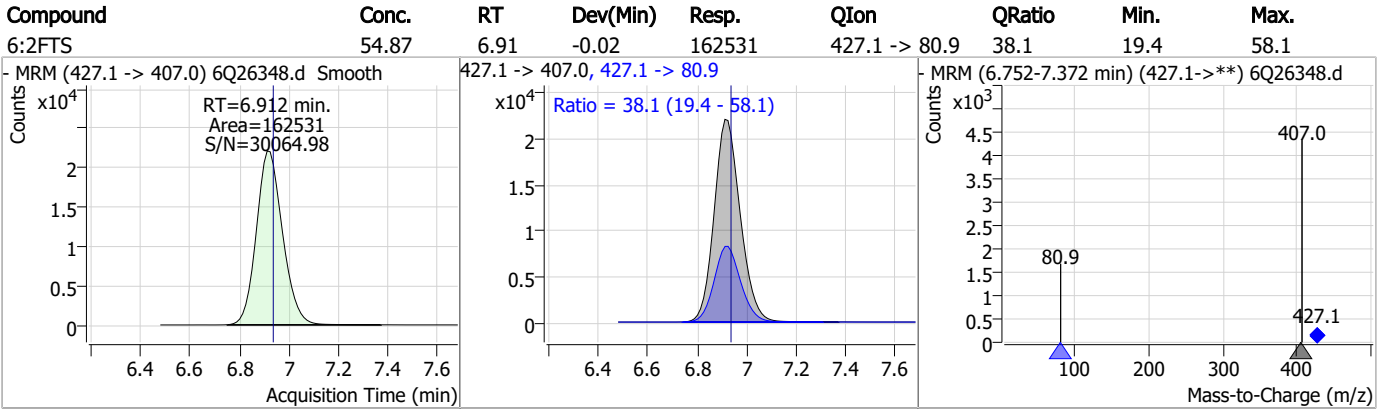


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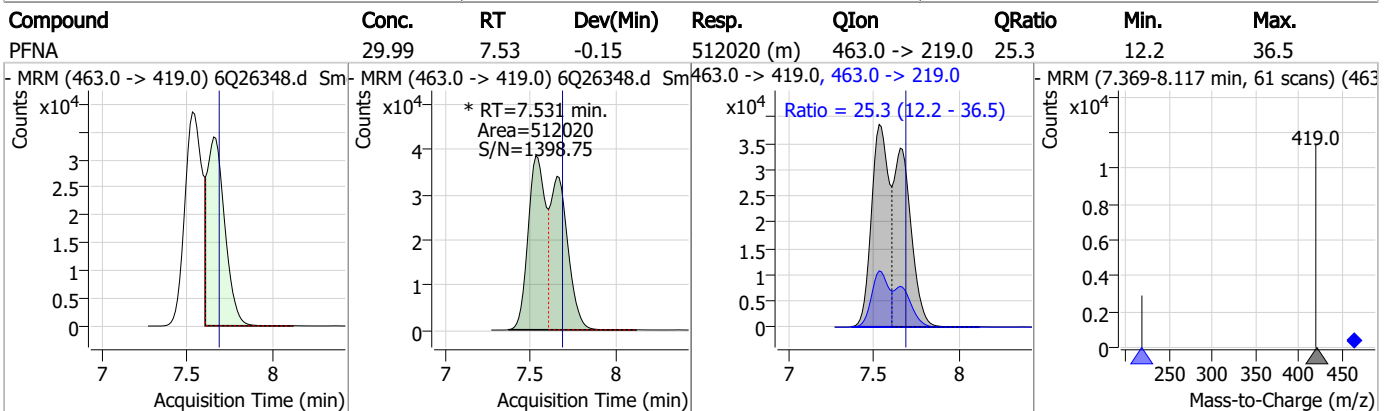
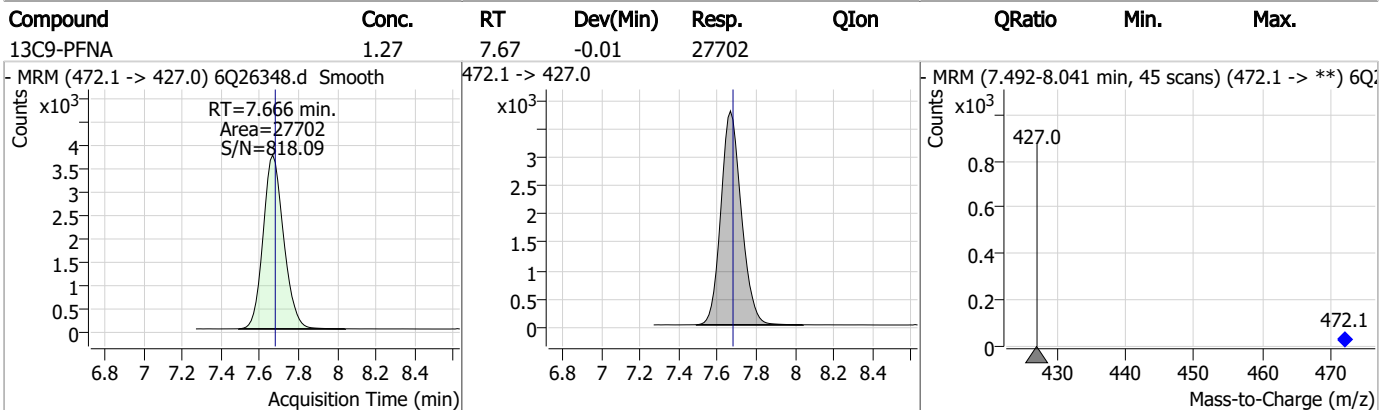
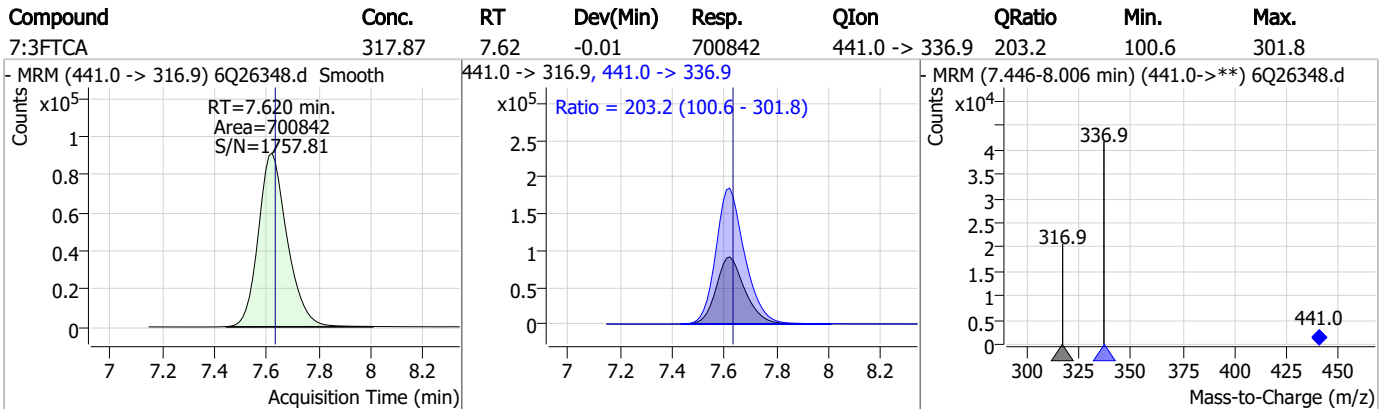
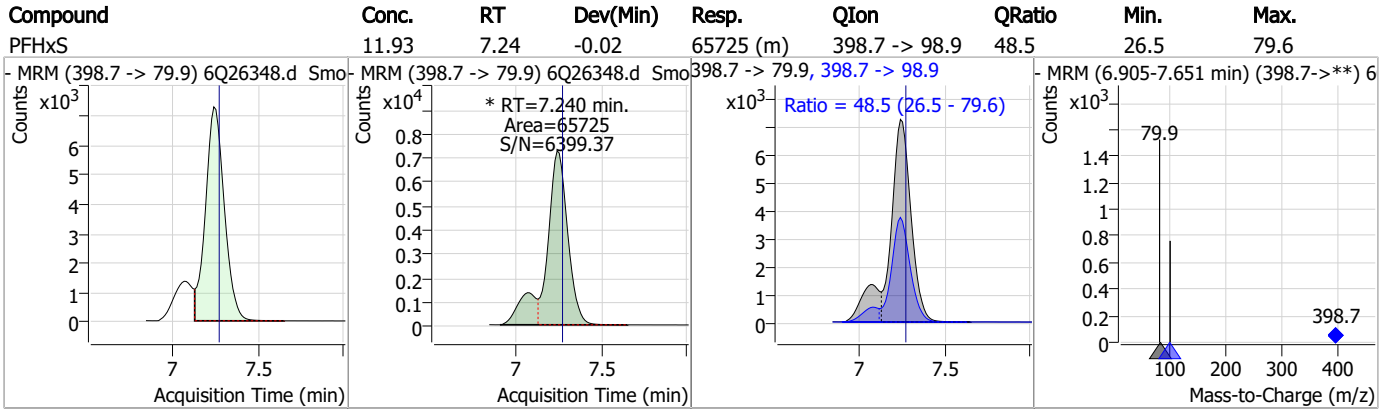
# Perfluorinated Compounds by LC/MS/MS



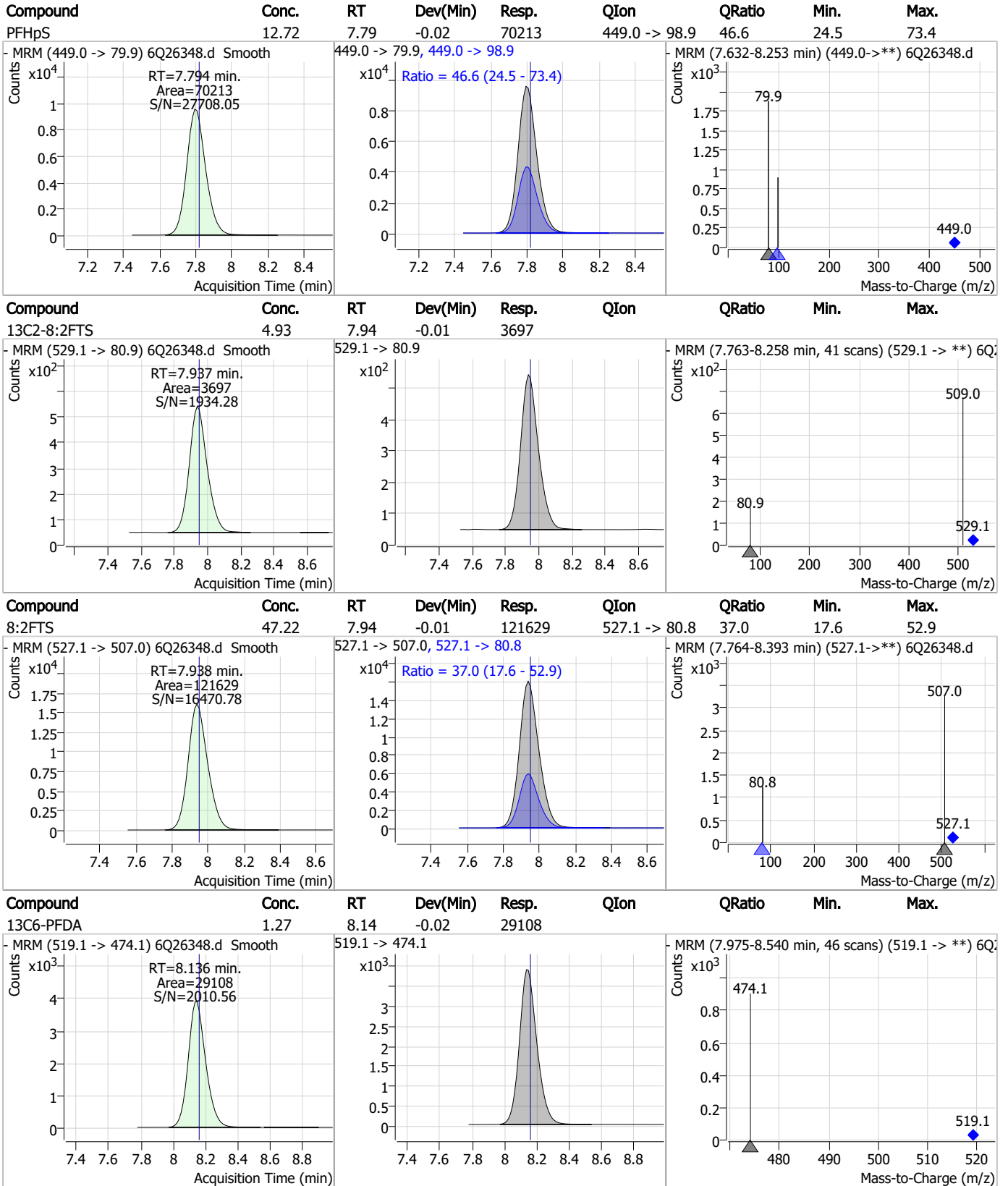
# Perfluorinated Compounds by LC/MS/MS



# Perfluorinated Compounds by LC/MS/MS



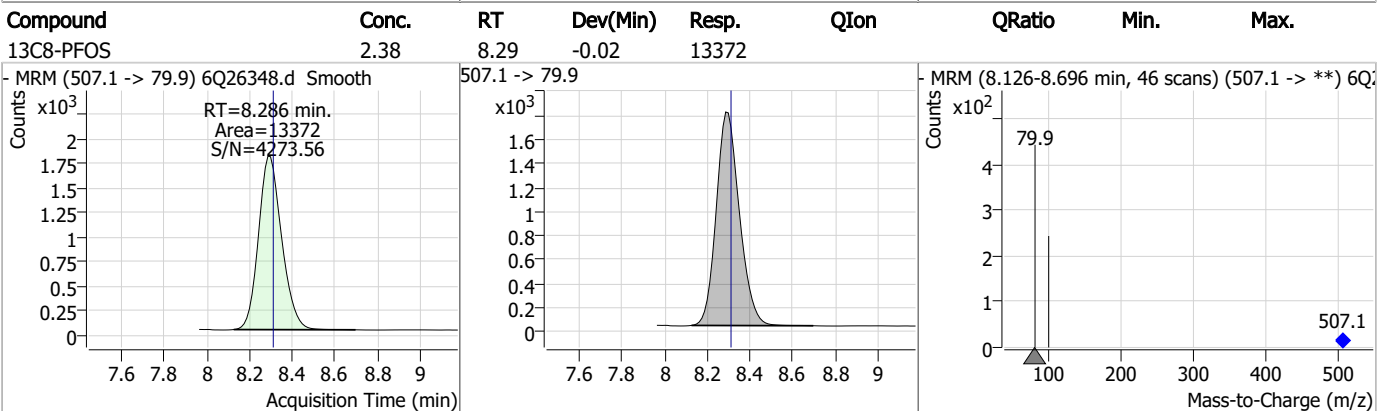
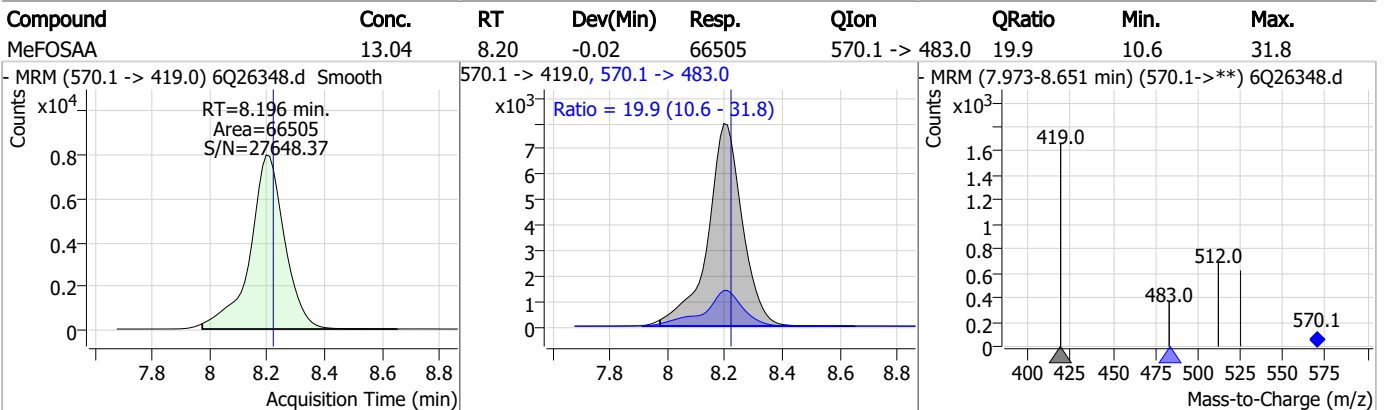
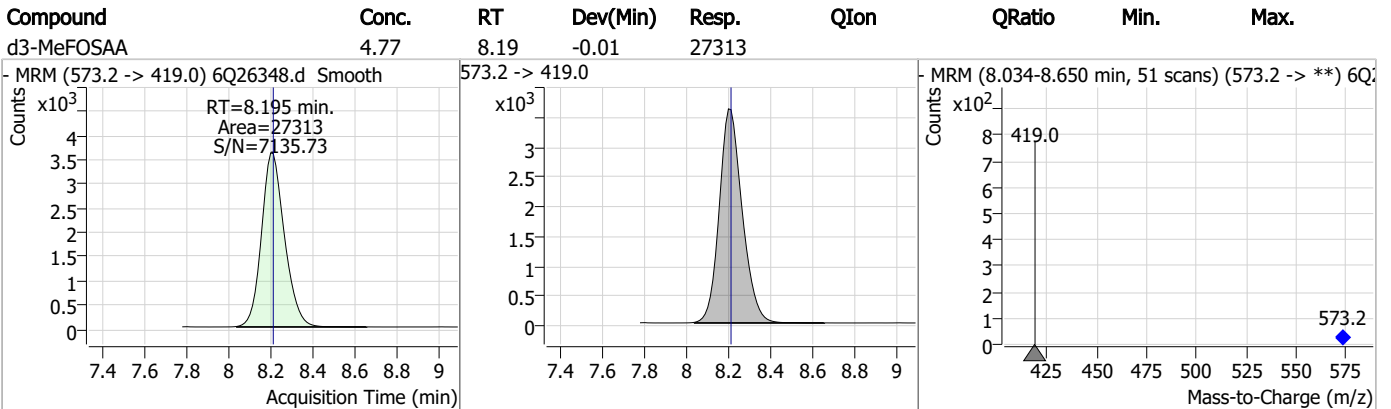
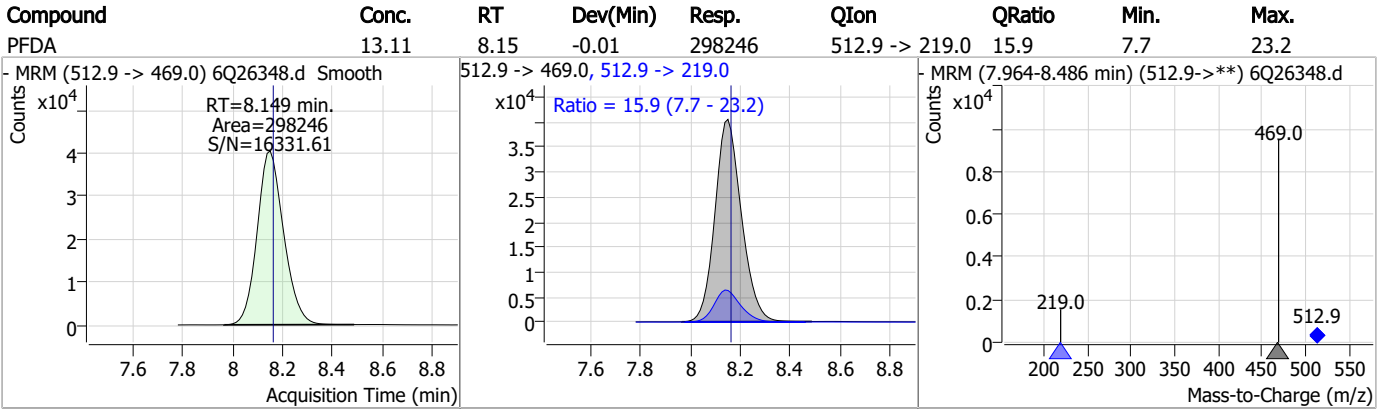
# Perfluorinated Compounds by LC/MS/MS



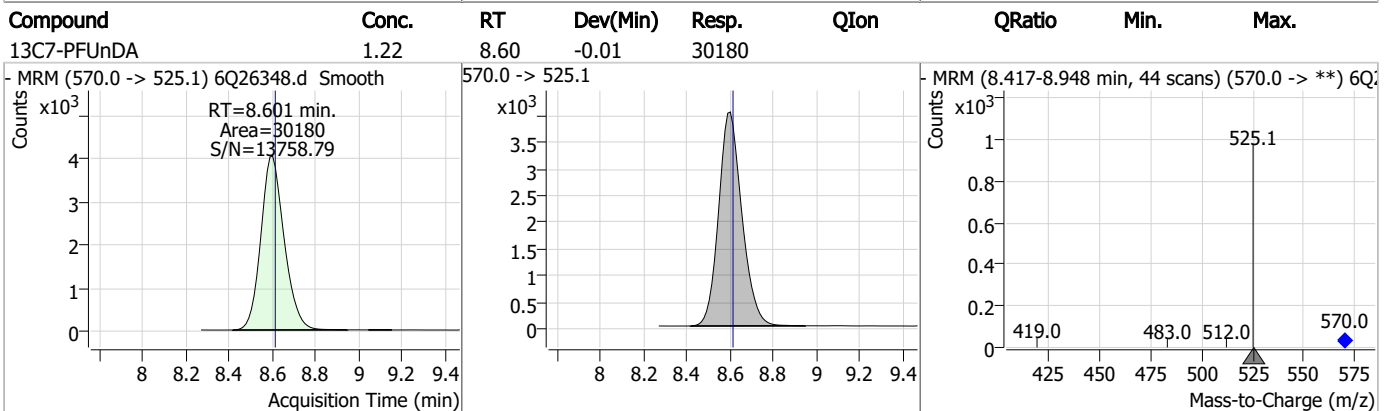
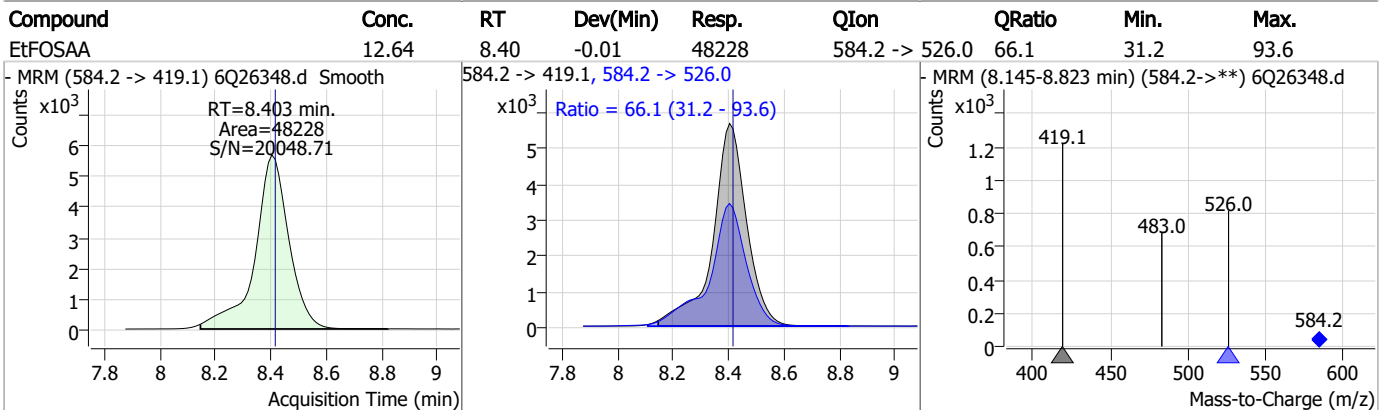
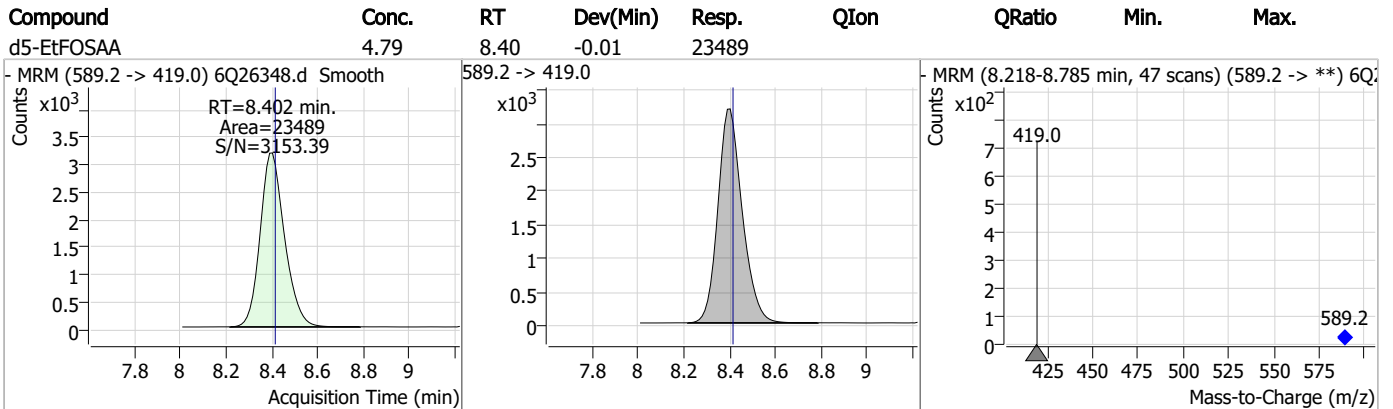
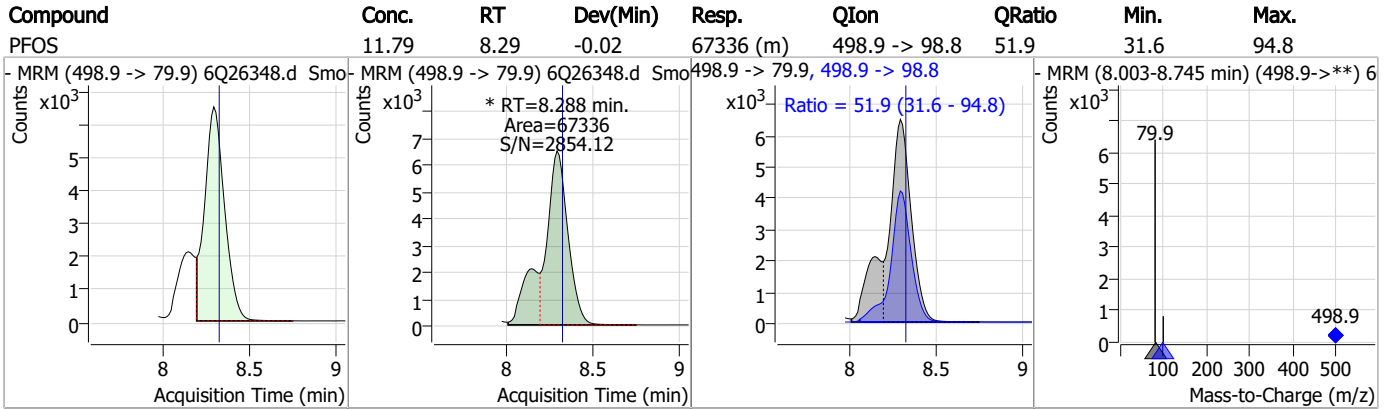
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# Perfluorinated Compounds by LC/MS/MS

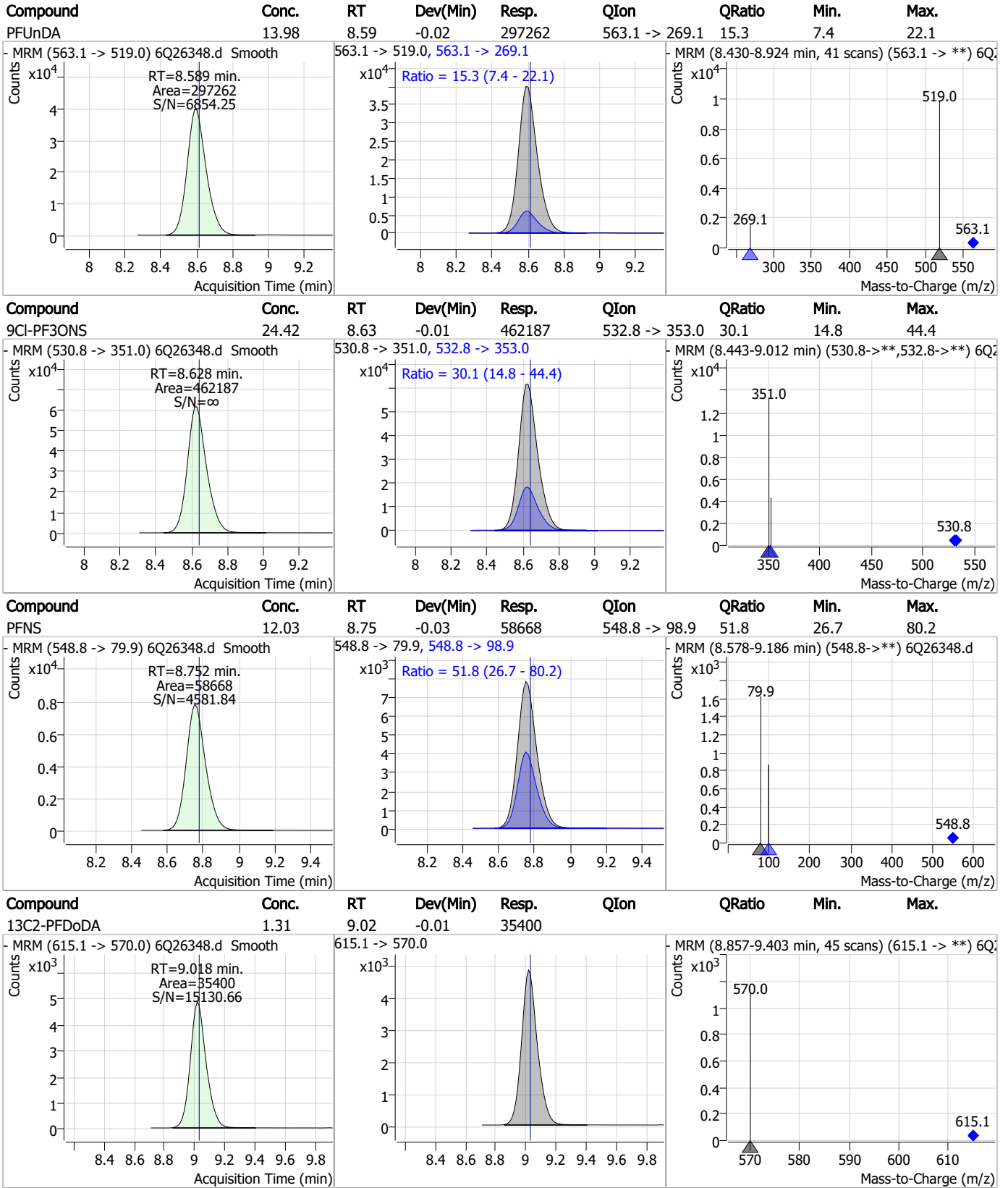


# Perfluorinated Compounds by LC/MS/MS





# Perfluorinated Compounds by LC/MS/MS

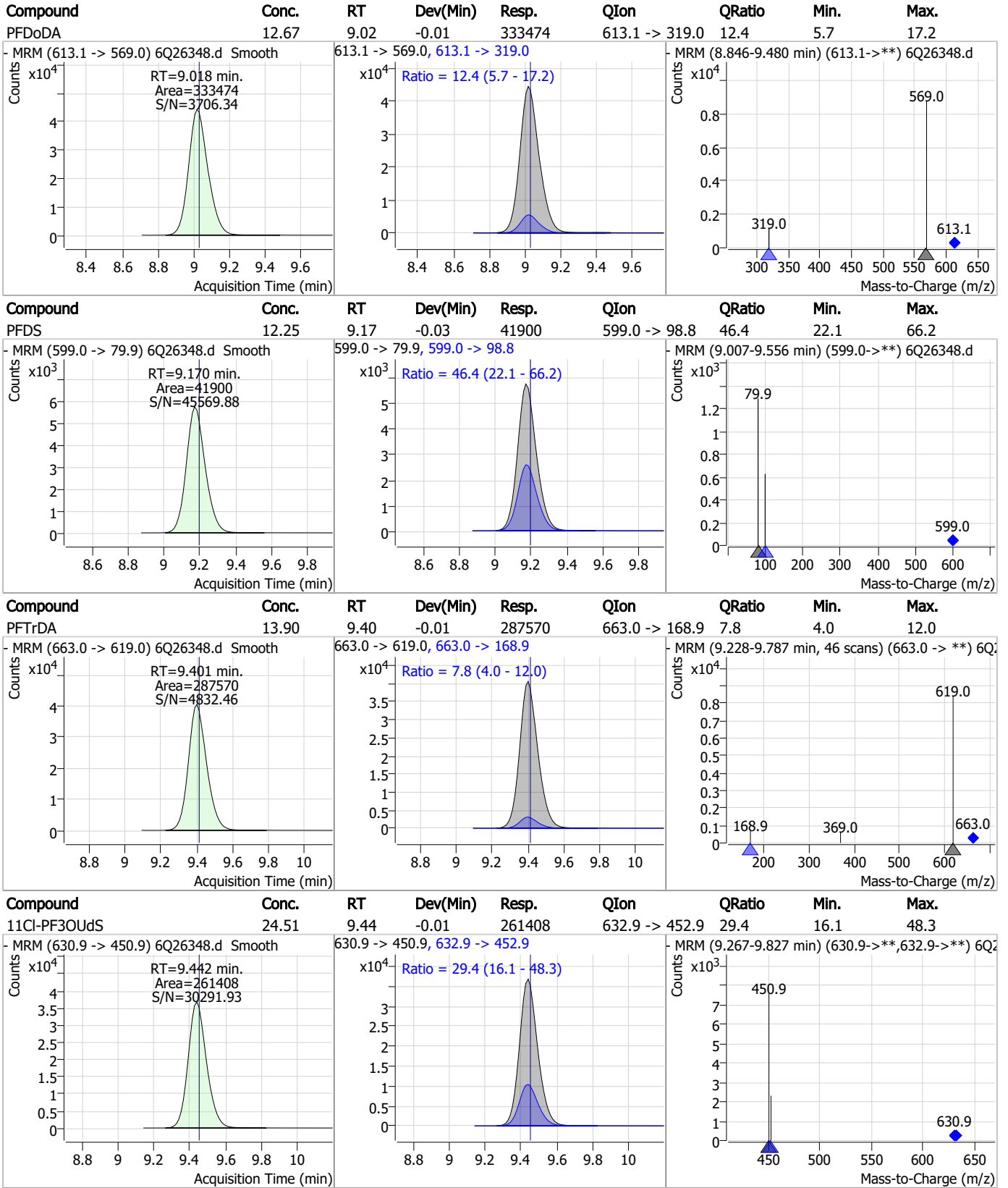


7.6.6

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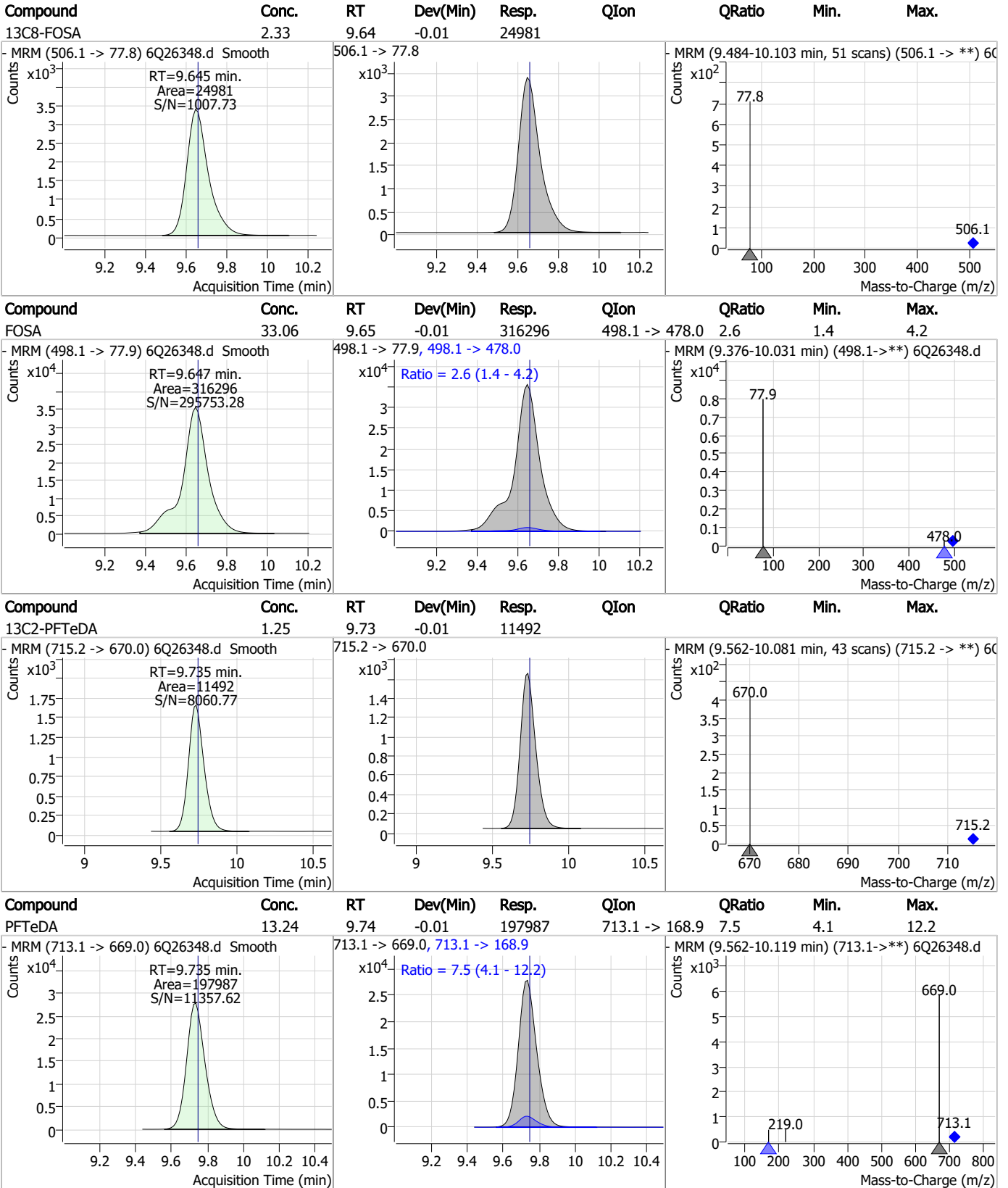
# Perfluorinated Compounds by LC/MS/MS



7.6.6

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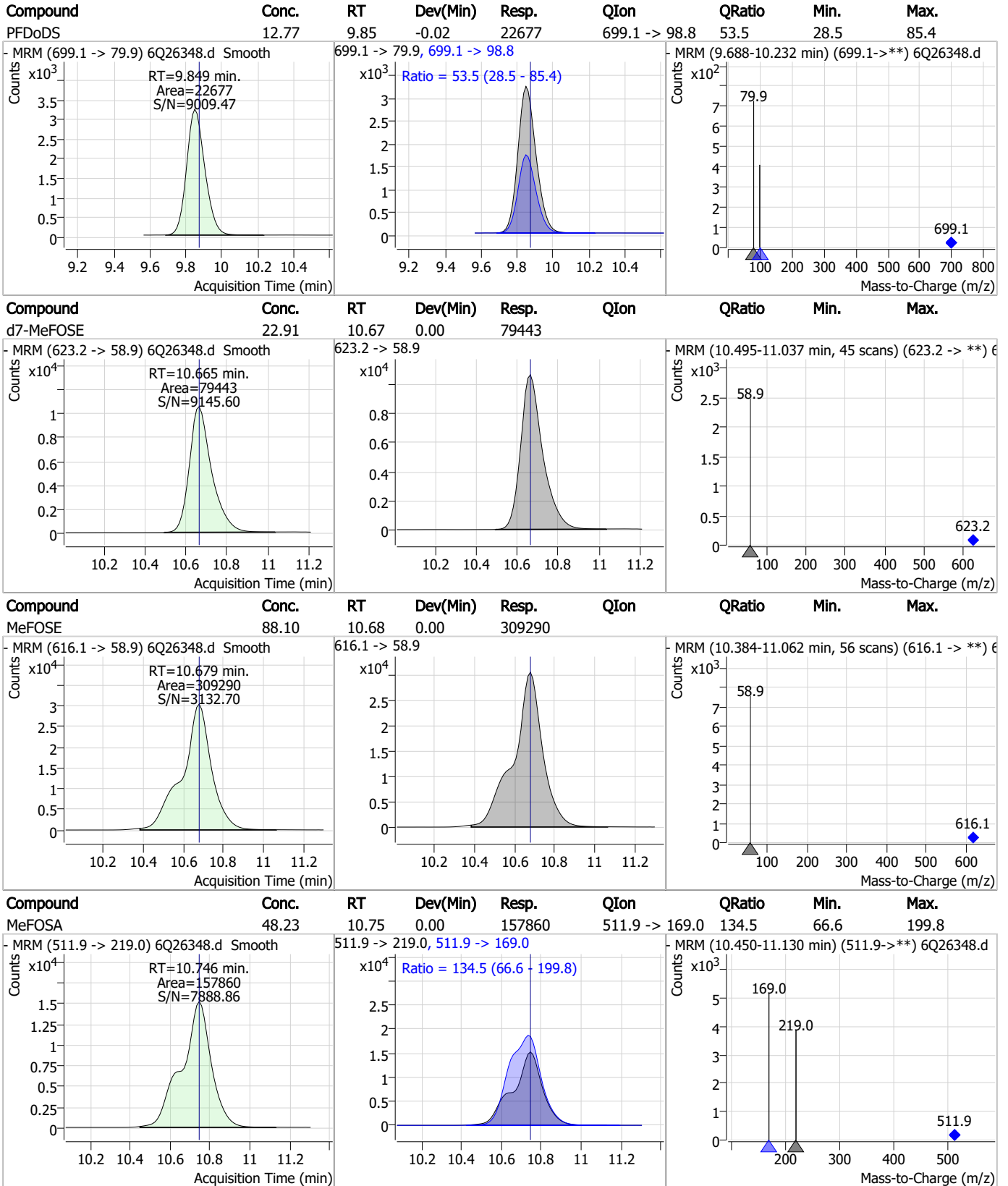
# Perfluorinated Compounds by LC/MS/MS



7.6.6

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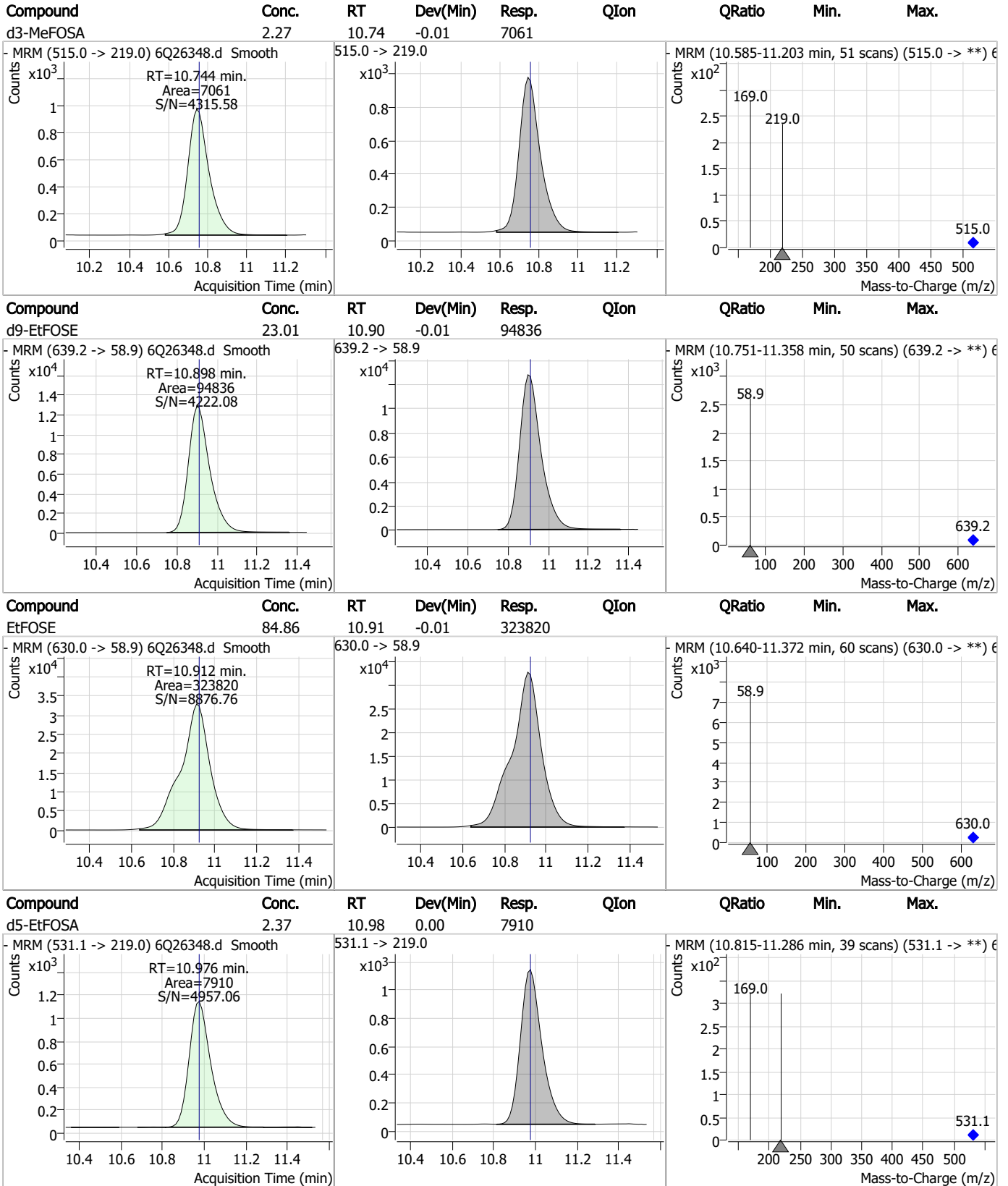
# Perfluorinated Compounds by LC/MS/MS



7.6.6

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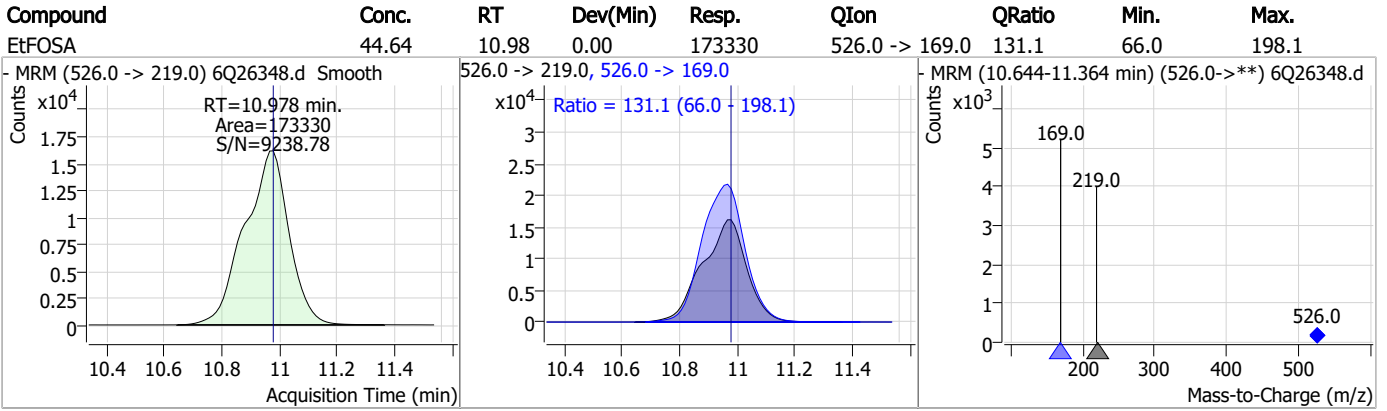
# Perfluorinated Compounds by LC/MS/MS



7.6.6

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# Perfluorinated Compounds by LC/MS/MS



7.6.6

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# 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  
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Manual Integrations  
**APPROVED**  
 (compounds with "m" flag)  
 Natasha Gumtie  
 10/19/23 09:36

Perfluorinated Compounds by LC/MS/MS

Data File : 6Q26570.d  
 Operator : marthav  
 Acq. Method : 1633full.m  
 Acq. Date-Time : 10/17/2023 5:28:47 PM  
 Sample Name : RT TDCA  
 Vial : P1-B3  
 DA Method File : TDCA.quantmethod.xml  
 Batch Name : s6q373\_TDCA.batch.bin  
 Sample Information : OP99081,S6Q373,500,,,5.0,1,water

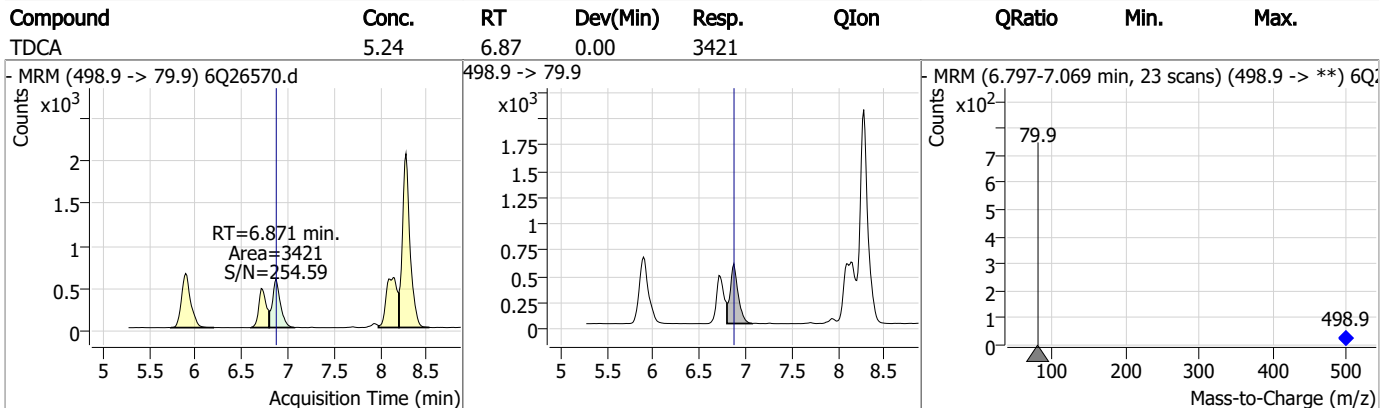
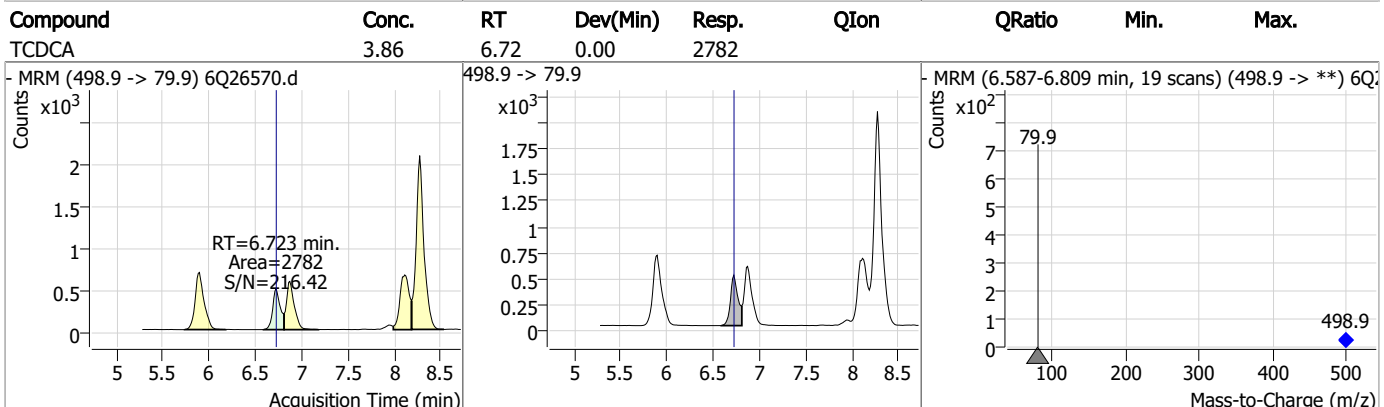
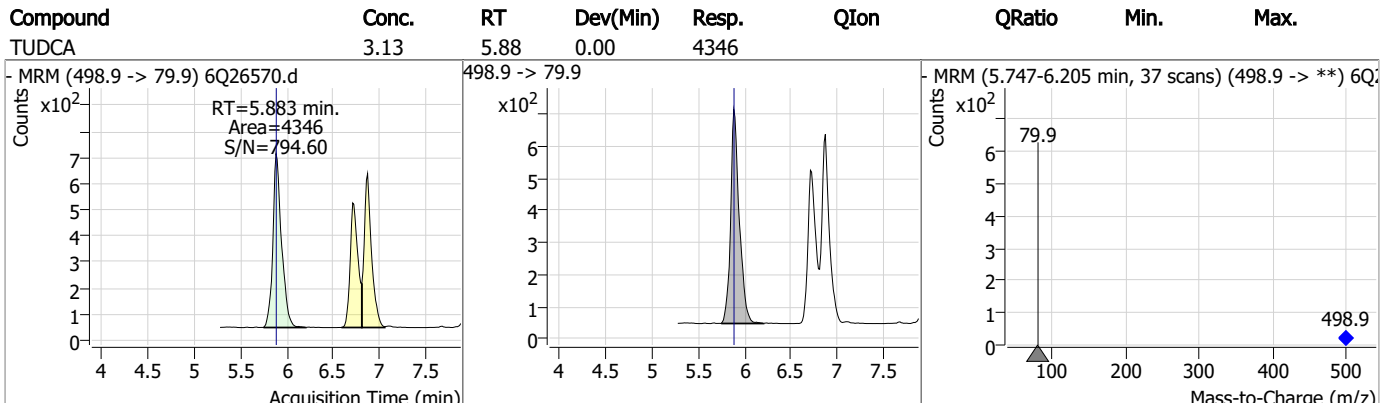
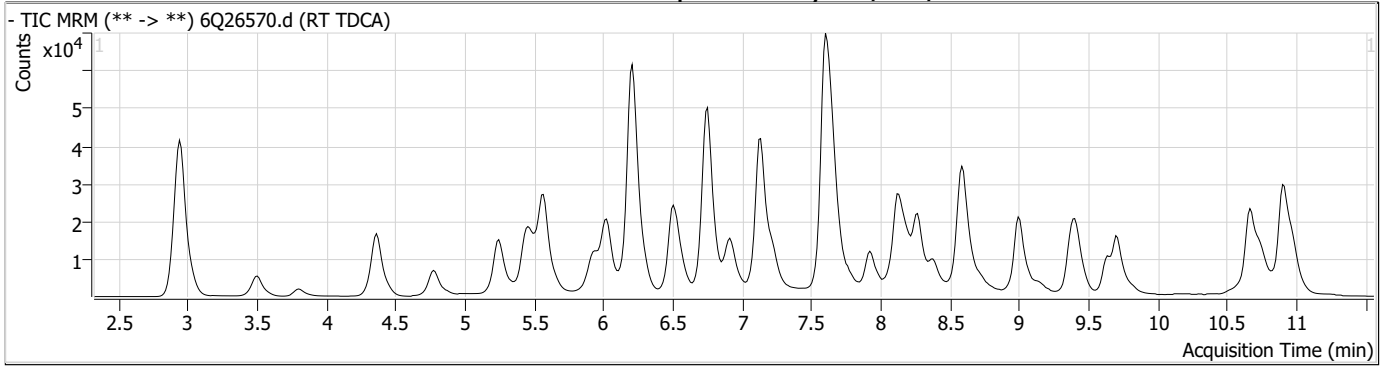
Compound	RT	Transition	Response	Conc.	Units	Dev(Min)	QValue
<b>Internal Standards</b>							
M8-PFOS	8.272	507.1 -> 79.9	15634	2.50	µg/L	-0.014	
13C4-PFOS	8.273	502.8 -> 79.9	16184	2.50	µg/L	-0.014	
<b>System Monitoring Compounds</b>							
13C8-PFOS	8.272	507.1 -> 79.9	15634	2.45	µg/L	-0.014	
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 98.0%				
<b>Target Compounds</b>							
PFOS	8.274	498.9 -> 79.9 498.9 -> 98.8	16730 8527	3.13	µg/L m		96
TCDCa	6.723	498.9 -> 79.9	2782	3.86	ng/ml		100
TDCA	6.871	498.9 -> 79.9	3421	5.24	ng/ml		100
TUDCA	5.883	498.9 -> 79.9	4346	3.13	ng/ml		100

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

7.6.7  
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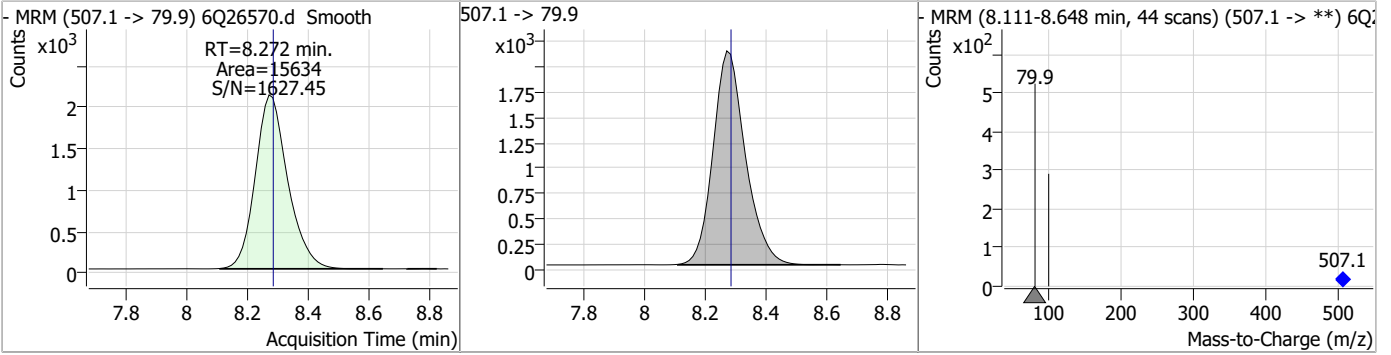
### Perfluorinated Compounds by LC/MS/MS



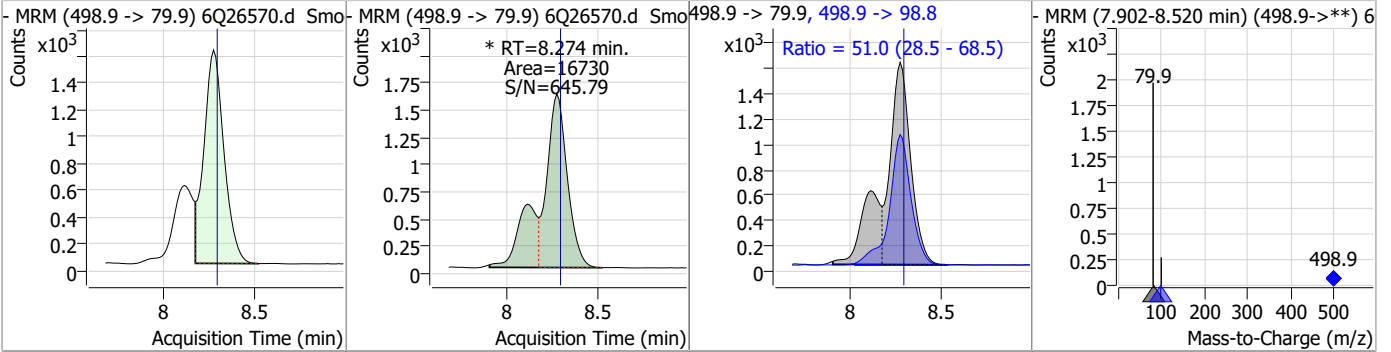
7.6.7  
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### Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOS	2.45	8.27	-0.01	15634				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOS	3.13	8.27	-0.01	16730 (m)	498.9 -> 98.8	51.0	28.5	68.5



# Manual Integration Approval Summary

Sample Number: S6Q373-RT                      Method: EPA DRAFT 1633  
Lab FileID: 6Q26570.D                      Analyst approved: 10/18/23 16:28 Anna Ludwig  
Injection Time: 10/17/23 17:28                      Supervisor approved: 10/19/23 09:36 Natasha Guntie

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorooctanesulfonic acid	1763-23-1		8.27	Split peak

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## Perfluorinated Compounds by LC/MS/MS

Data File : 6Q26571.d  
 Operator : marthav  
 Acq. Method : 1633full.m  
 Acq. Date-Time : 10/17/2023 5:43:06 PM  
 Sample Name : RT BR-LN  
 Vial : P1-B4  
 DA Method File : 1633\_101723\_S6Q373.quantmethod.xml  
 Batch Name : S6Q373.batch.bin  
 Sample Information : OP99081,S6Q373,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
<b>Internal Standards</b>					
M4-PFBA	2.913	216.8 -> 171.9	135577	10.00 µg/L	0.000
M5-PFPeA	4.346	268.3 -> 223.0	44572	5.00 µg/L	0.000
M5-PFHxA	5.565	318.0 -> 273.0	45633	2.50 µg/L	0.012
M4-PFHpA	6.493	367.1 -> 322.0	43895	2.50 µg/L	0.000
M8-PFOA	7.136	421.1 -> 376.0	63281	2.50 µg/L	0.000
M9-PFNA	7.654	472.1 -> 427.0	24174	1.25 µg/L	0.000
M6-PFDA	8.134	519.1 -> 474.1	27323	1.25 µg/L	0.012
M7-PFUnDA	8.576	570.0 -> 525.1	26819	1.25 µg/L	0.000
M2-PFDoDA	8.993	615.1 -> 570.0	32531	1.25 µg/L	0.000
M2-PFTeDA	9.708	715.2 -> 670.0	12686	1.25 µg/L	0.000
M8-FOSA	9.642	506.1 -> 77.8	22204	2.50 µg/L	0.000
M3-PFBS	5.471	302.1 -> 79.9	19866	2.50 µg/L	0.000
M3-PFHxS	7.239	402.1 -> 79.9	11609	2.50 µg/L	0.012
M8-PFOS	8.272	507.1 -> 79.9	11322	2.50 µg/L	0.000
M2-4:2FTS	5.228	329.1 -> 80.9	2282	5.00 µg/L	0.000
M2-6:2FTS	6.910	429.1 -> 80.9	3120	5.00 µg/L	0.000
M2-8:2FTS	7.922	529.1 -> 80.9	3725	5.00 µg/L	0.000
M3-MeFOSAA	8.178	573.2 -> 419.0	24327	5.00 µg/L	0.000
M3-HFPO-DA	5.930	286.9 -> 168.9	29089	10.00 µg/L	0.012
M5-EtFOSAA	8.388	589.2 -> 419.0	19147	5.00 µg/L	0.013
M7-MeFOSE	10.665	623.2 -> 58.9	81539	25.00 µg/L	0.000
M9-EtFOSE	10.912	639.2 -> 58.9	99570	25.00 µg/L	0.012
M5-EtFOSA	10.977	531.1 -> 219.0	7928	2.50 µg/L	0.000
M3-MeFOSA	10.745	515.0 -> 219.0	7006	2.50 µg/L	0.000
13C4-PFOS	8.273	502.8 -> 79.9	10168	2.50 µg/L	0.000
13C3-PFBA	2.916	216.0 -> 172.0	55189	5.00 µg/L	0.000
18O2-PFHxS	7.238	403.0 -> 83.9	7103	2.50 µg/L	0.012
13C4-PFOA	7.137	417.1 -> 372.0	64316	2.50 µg/L	0.012
13C2-PFDA	8.134	515.1 -> 470.1	25372	1.25 µg/L	0.012
13C5-PFNA	7.654	468.0 -> 423.0	20403	1.25 µg/L	0.000
13C2-PFHxA	5.553	315.1 -> 270.0	44543	2.50 µg/L	0.000
<b>System Monitoring Compounds</b>					
13C2-4:2FTS	5.228	329.1 -> 80.9	2282	5.14 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 102.9%		
13C2-6:2FTS	6.910	429.1 -> 80.9	3120	4.98 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 99.6%		
13C2-8:2FTS	7.922	529.1 -> 80.9	3725	5.08 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 101.5%		
13C2-PFDoDA	8.993	615.1 -> 570.0	32531	1.19 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 94.9%		
13C2-PFTeDA	9.708	715.2 -> 670.0	12686	1.23 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 98.7%		
13C3-PFBS	5.471	302.1 -> 79.9	19866	2.53 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 101.1%		
13C3-PFHxS	7.239	402.1 -> 79.9	11609	2.50 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 = 99.9%	
13C4-PFBA	2.913	216.8 -> 171.9	135577	9.97 µg/L	0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 99.7%	
13C4-PFHpA	6.493	367.1 -> 322.0	43895	2.43 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 97.2%	
13C5-PFHxA	5.565	318.0 -> 273.0	45633	2.56 µg/L	0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 102.2%	
13C5-PFPeA	4.346	268.3 -> 223.0	44572	4.97 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 99.4%	
13C6-PFDA	8.134	519.1 -> 474.1	27323	1.26 µg/L	0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 101.1%	
13C7-PFUnDA	8.576	570.0 -> 525.1	26819	1.14 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 91.6%	
13C8-FOSA	9.642	506.1 -> 77.8	22204	2.37 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 95.0%	
13C8-PFOA	7.136	421.1 -> 376.0	63281	2.75 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 110.0%	
13C8-PFOS	8.272	507.1 -> 79.9	11322	2.52 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 100.7%	
13C9-PFNA	7.654	472.1 -> 427.0	24174	1.38 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 110.3%	
d3-MeFOSAA	8.178	573.2 -> 419.0	24327	5.16 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 103.2%	
13C3-HFPO-DA	5.930	286.9 -> 168.9	29089	9.93 µg/L	0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 99.3%	
d3-MeFOSA	10.745	515.0 -> 219.0	7006	2.48 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 99.2%	
d5-EtFOSAA	8.388	589.2 -> 419.0	19147	4.88 µg/L	0.013
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 97.5%	
d7-MeFOSE	10.665	623.2 -> 58.9	81539	24.80 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 99.2%	
d9-EtFOSE	10.912	639.2 -> 58.9	99570	24.50 µg/L	0.012
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 98.0%	
d5-EtFOSA	10.977	531.1 -> 219.0	7928	2.42 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 96.9%	
<b>Target Compounds</b>					<b>QValue</b>
4:2FTS	5.229	327.1 -> 307.0	203140	50.66 µg/L	96
		327.1 -> 80.9	76131		
6:2FTS	6.911	427.1 -> 407.0	169068	48.12 µg/L	96
		427.1 -> 80.9	62207		
8:2FTS	7.923	527.1 -> 507.0	140590	50.16 µg/L	98
		527.1 -> 80.8	49835		
EtFOSAA	8.389	584.2 -> 419.1	46055	14.48 µg/L	m 92
		584.2 -> 526.0	28916		
FOSA	9.645	498.1 -> 77.9	307047	33.53 µg/L	100
		498.1 -> 478.0	8946		
MeFOSAA	8.192	570.1 -> 419.0	62143	12.81 µg/L	96
		570.1 -> 483.0	13663		
PFBA	2.919	212.8 -> 168.9	279865	53.73 µg/L	100
PFBS	5.472	298.7 -> 79.9	72176	11.14 µg/L	99
		298.7 -> 98.8	27625		
PFDA	8.122	512.9 -> 469.0	289568	12.97 µg/L	97
		512.9 -> 219.0	46579		
PFDoDA	9.007	613.1 -> 569.0	355615	13.93 µg/L	98
		613.1 -> 319.0	40118		
PFDS	9.157	599.0 -> 79.9	39295	12.62 µg/L	92

## Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
		599.0 -> 98.8	18811			
PFHpA	6.493	363.1 -> 319.0	345013	14.23	µg/L	98
		363.1 -> 169.0	48906			
PFHpS	7.781	449.0 -> 79.9	59498	12.50	µg/L	98
		449.0 -> 98.9	28477			
PFHxA	5.555	313.0 -> 269.0	226605	13.30	µg/L	99
		313.0 -> 118.9	11181			
PFHxS	7.240	398.7 -> 79.9	58903	11.91	µg/L	m 88
		398.7 -> 98.9	26817			
PFNA	7.516	463.0 -> 419.0	440601	29.89	µg/L	m 93
		463.0 -> 219.0	108619			
PFNS	8.738	548.8 -> 79.9	52383	12.18	µg/L	89
		548.8 -> 98.9	28092			
PFOA	7.138	413.0 -> 369.0	828807	30.15	µg/L	m 97
		413.0 -> 169.0	143075			
PFOS	8.274	498.9 -> 79.9	60522	11.94	µg/L	m 82
		498.9 -> 98.8	30771			
PFPeA	4.349	263.0 -> 219.0	285582	27.15	µg/L	100
PFPeS	6.545	349.1 -> 79.9	77726	12.43	µg/L	98
		349.1 -> 98.9	36057			
PFTeDA	9.708	713.1 -> 669.0	229410	13.51	µg/L	100
		713.1 -> 168.9	16838			
PFTrDA	9.377	663.0 -> 619.0	292146	14.08	µg/L	99
		663.0 -> 168.9	21919			
PFUnDA	8.576	563.1 -> 519.0	289589	13.77	µg/L	98
		563.1 -> 269.1	45448			
11Cl-PF3OUdS	9.416	630.9 -> 450.9	255108	25.43	µg/L	94
		632.9 -> 452.9	77738			
9Cl-PF3ONS	8.603	530.8 -> 351.0	438011	25.68	µg/L	95
		532.8 -> 353.0	136124			
ADONA	6.755	376.9 -> 250.9	1136672	26.10	µg/L	98
		376.9 -> 84.8	299550			
HFPO-DA	5.931	284.9 -> 168.9	82714	27.34	µg/L	98
		284.9 -> 184.9	9261			
3:3FTCA	3.764	241.0 -> 177.0	51315	67.29	µg/L	99
		241.0 -> 117.0	7067			
5:3FTCA	6.197	341.0 -> 237.1	1113617	327.06	µg/L	97
		341.0 -> 217.0	834024			
7:3FTCA	7.607	441.0 -> 316.9	673497	329.85	µg/L	95
		441.0 -> 336.9	1336973			
EtFOSA	10.979	526.0 -> 219.0	182342	47.87	µg/L	98
		526.0 -> 169.0	235960			
EtFOSE	10.913	630.0 -> 58.9	361799	87.80	µg/L	100
MeFOSA	10.746	511.9 -> 219.0	161499	46.89	µg/L	98
		511.9 -> 169.0	221365			
MeFOSE	10.678	616.1 -> 58.9	312883	90.41	µg/L	100
PFDoDS	9.835	699.1 -> 79.9	21834	12.46	µg/L	98
		699.1 -> 98.8	12113			
NFDHA	5.435	295.0 -> 201.0	51200	24.31	µg/L	96
		295.0 -> 84.9	14921			
PFMBA	4.762	279.0 -> 85.1	220313	27.56	µg/L	100
PFMPA	3.475	229.0 -> 84.9	178422	27.20	µg/L	100
PFEESA	6.011	314.8 -> 134.9	493621	23.09	µg/L	100
		314.8 -> 82.9	17591			

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

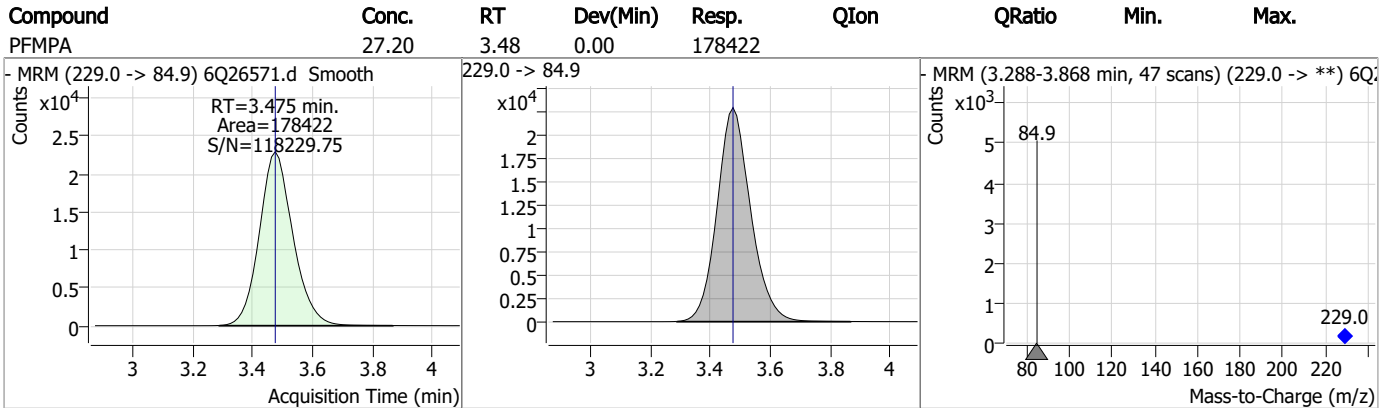
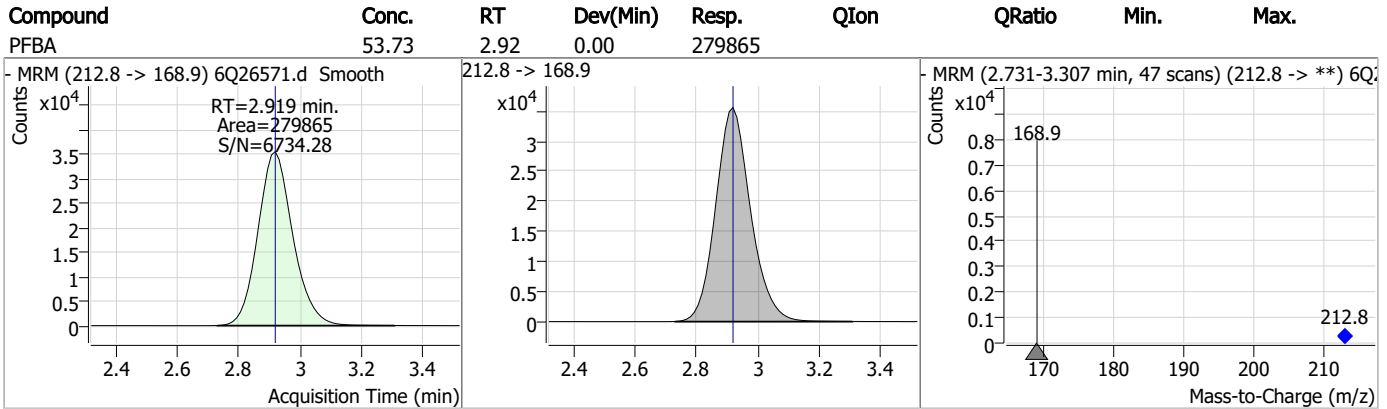
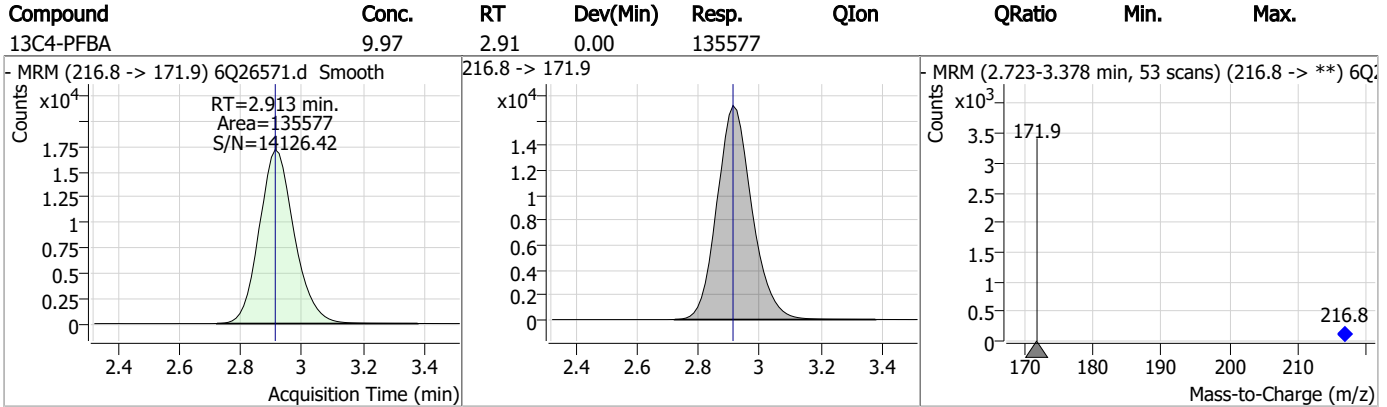
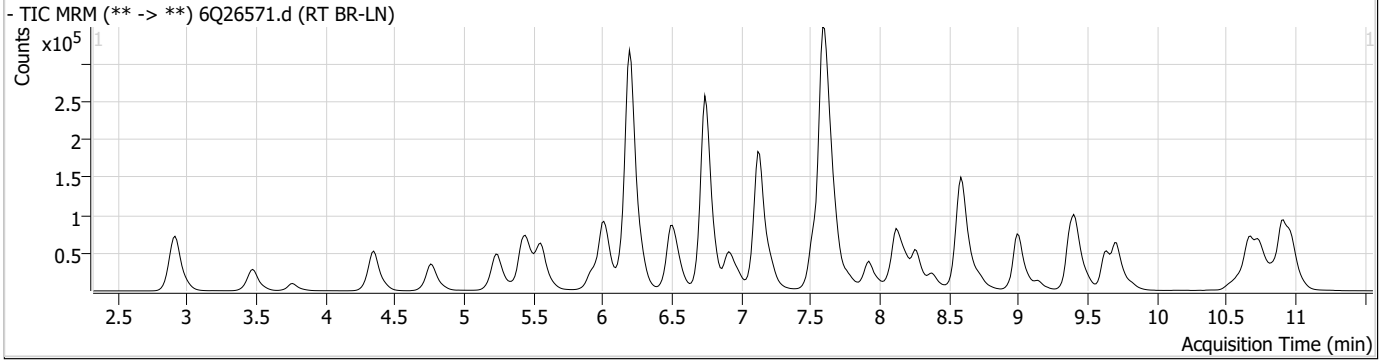
# Perfluorinated Compounds by LC/MS/MS

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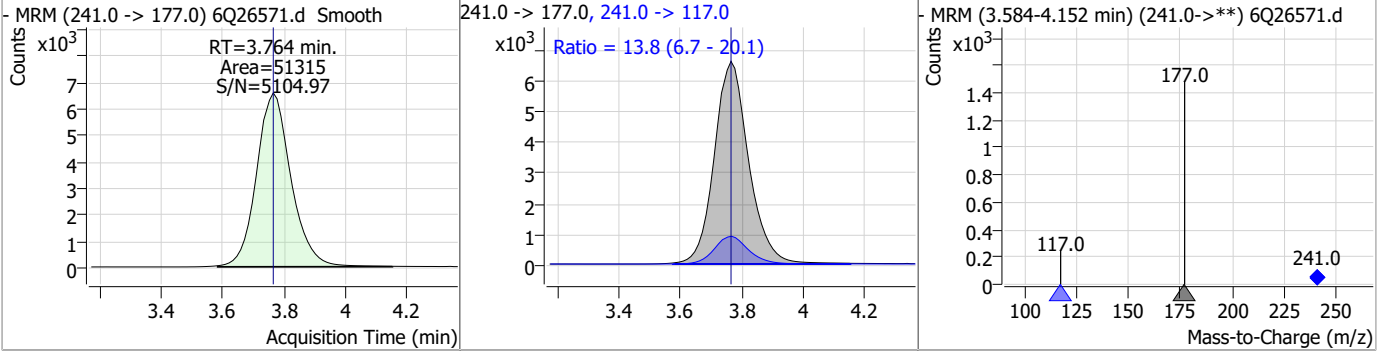
# Perfluorinated Compounds by LC/MS/MS



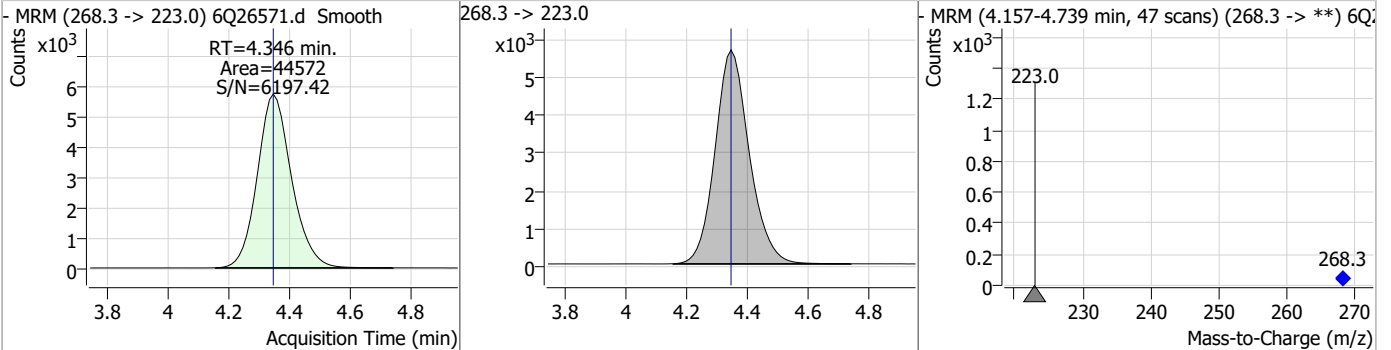


# Perfluorinated Compounds by LC/MS/MS

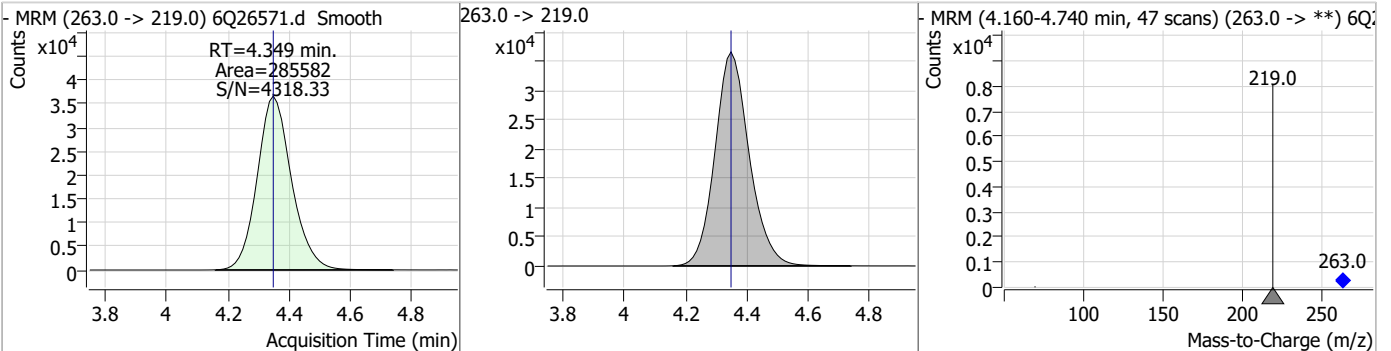
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
3:3FTCA	67.29	3.76	0.00	51315	241.0 -> 117.0	13.8	6.7	20.1



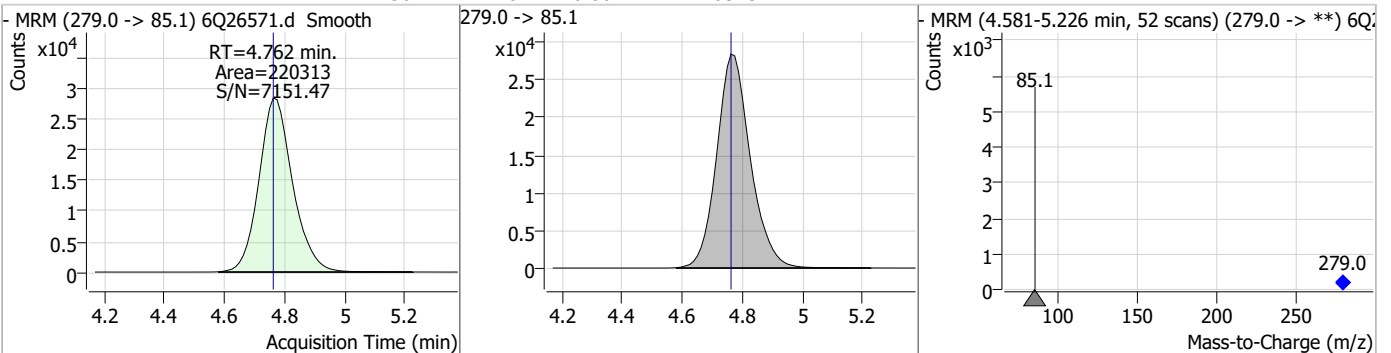
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFPeA	4.97	4.35	0.00	44572				



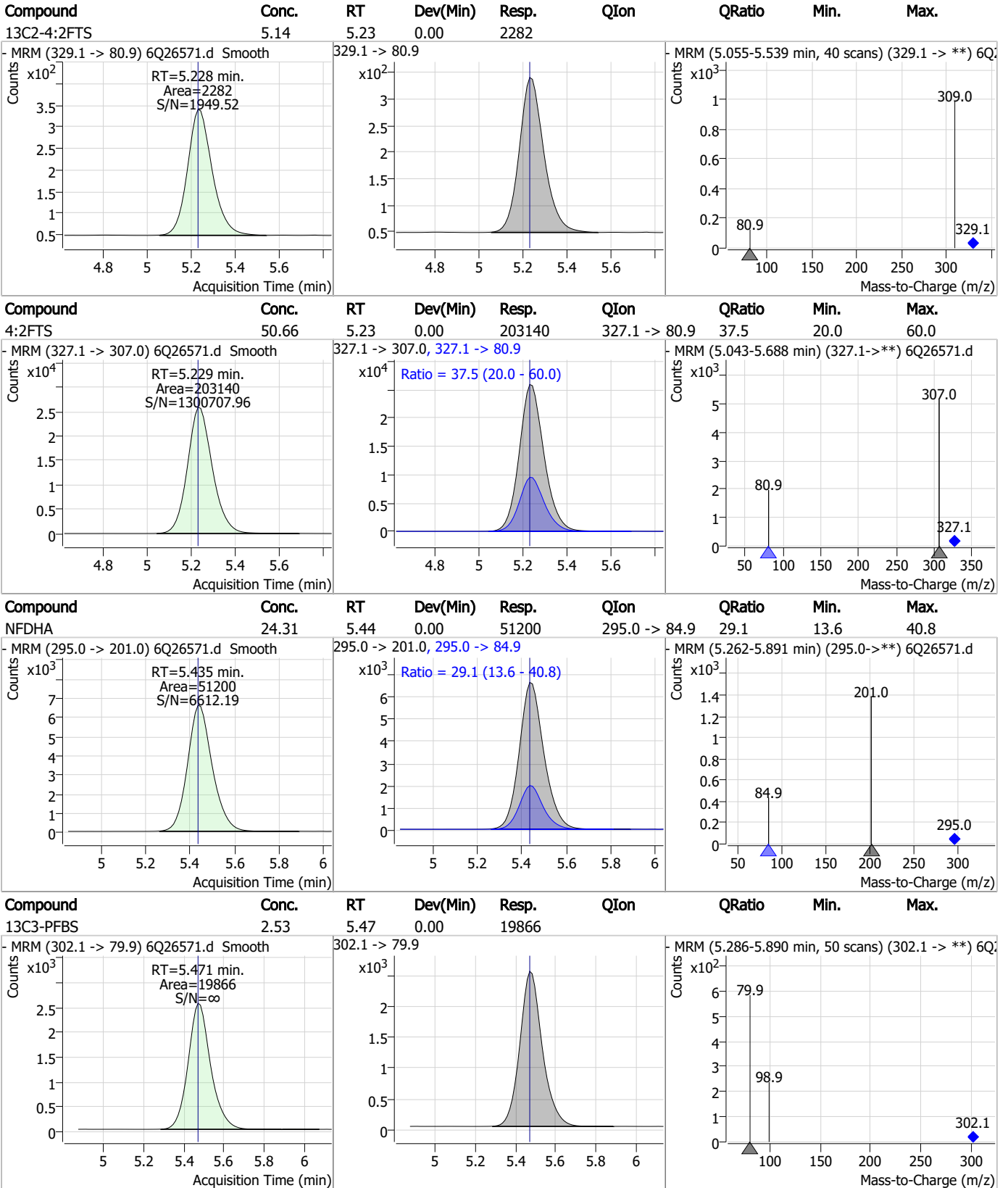
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeA	27.15	4.35	0.00	285582				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFMBA	27.56	4.76	0.00	220313				



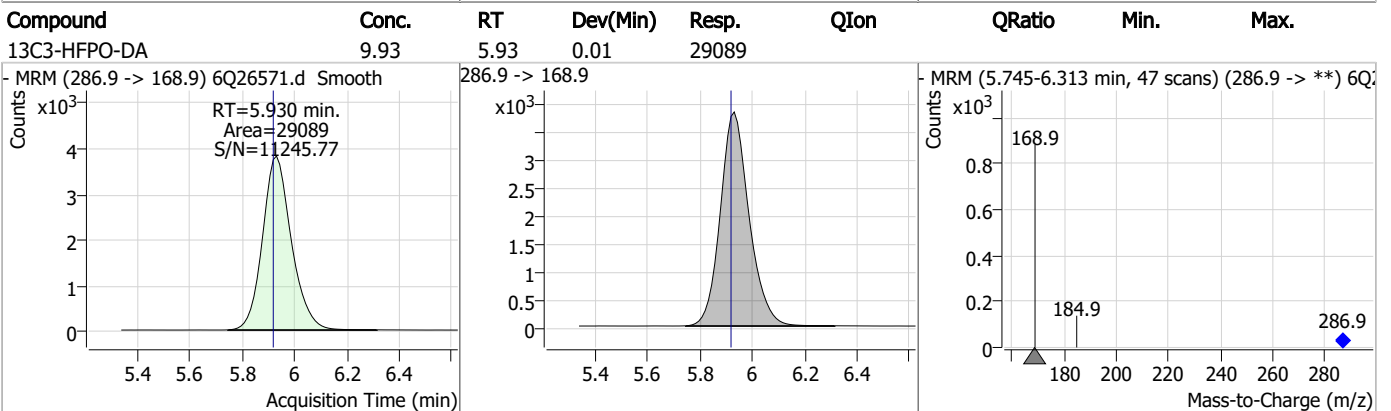
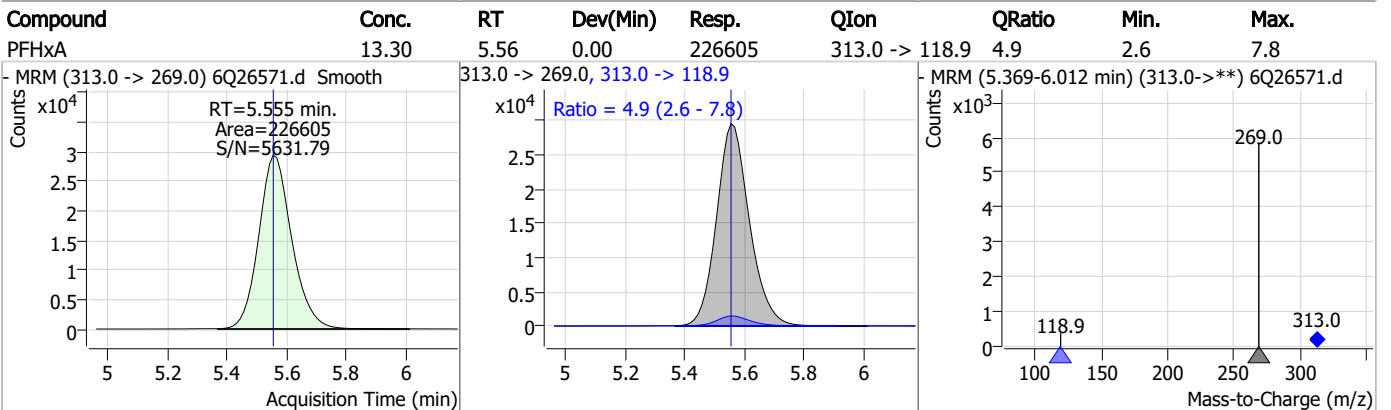
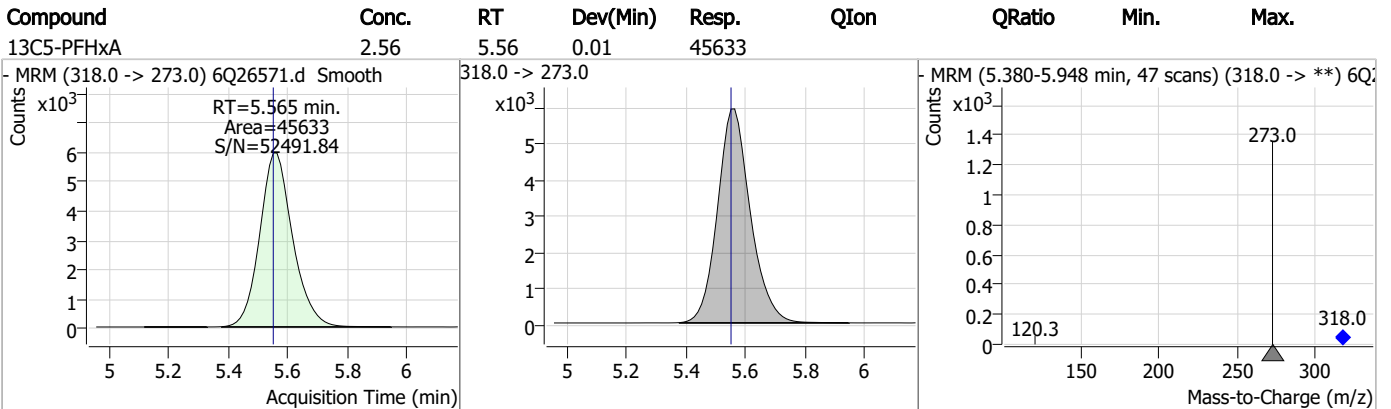
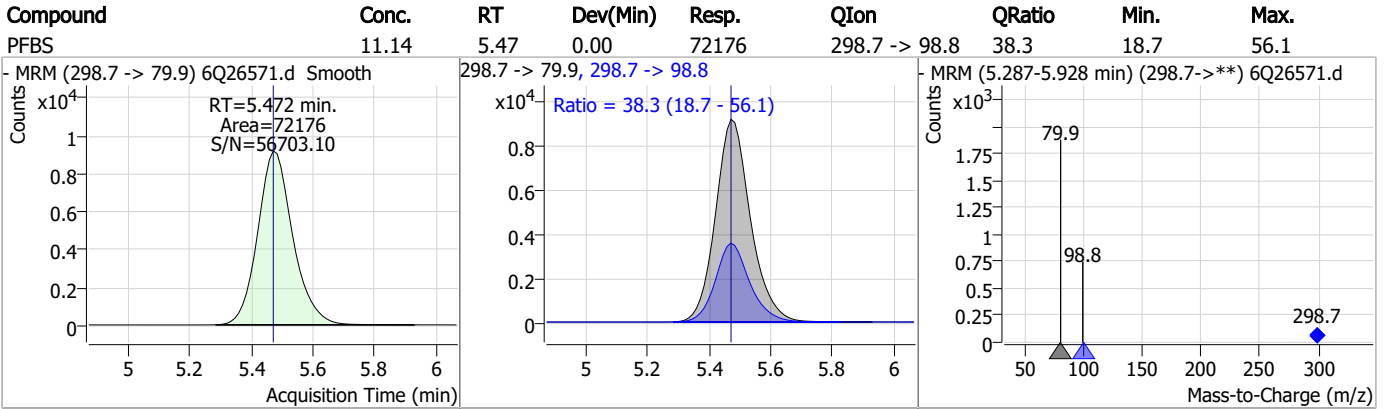
# Perfluorinated Compounds by LC/MS/MS



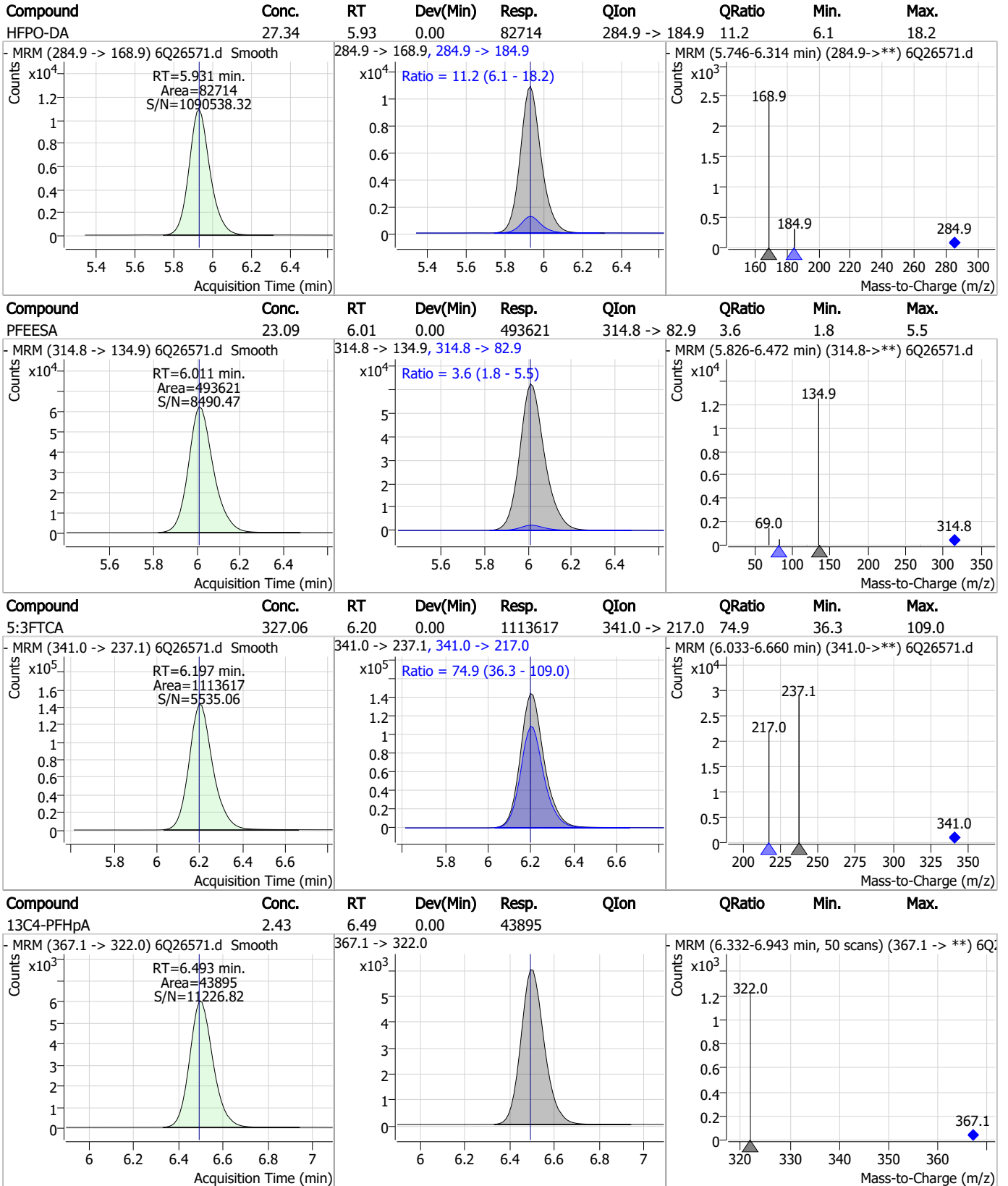
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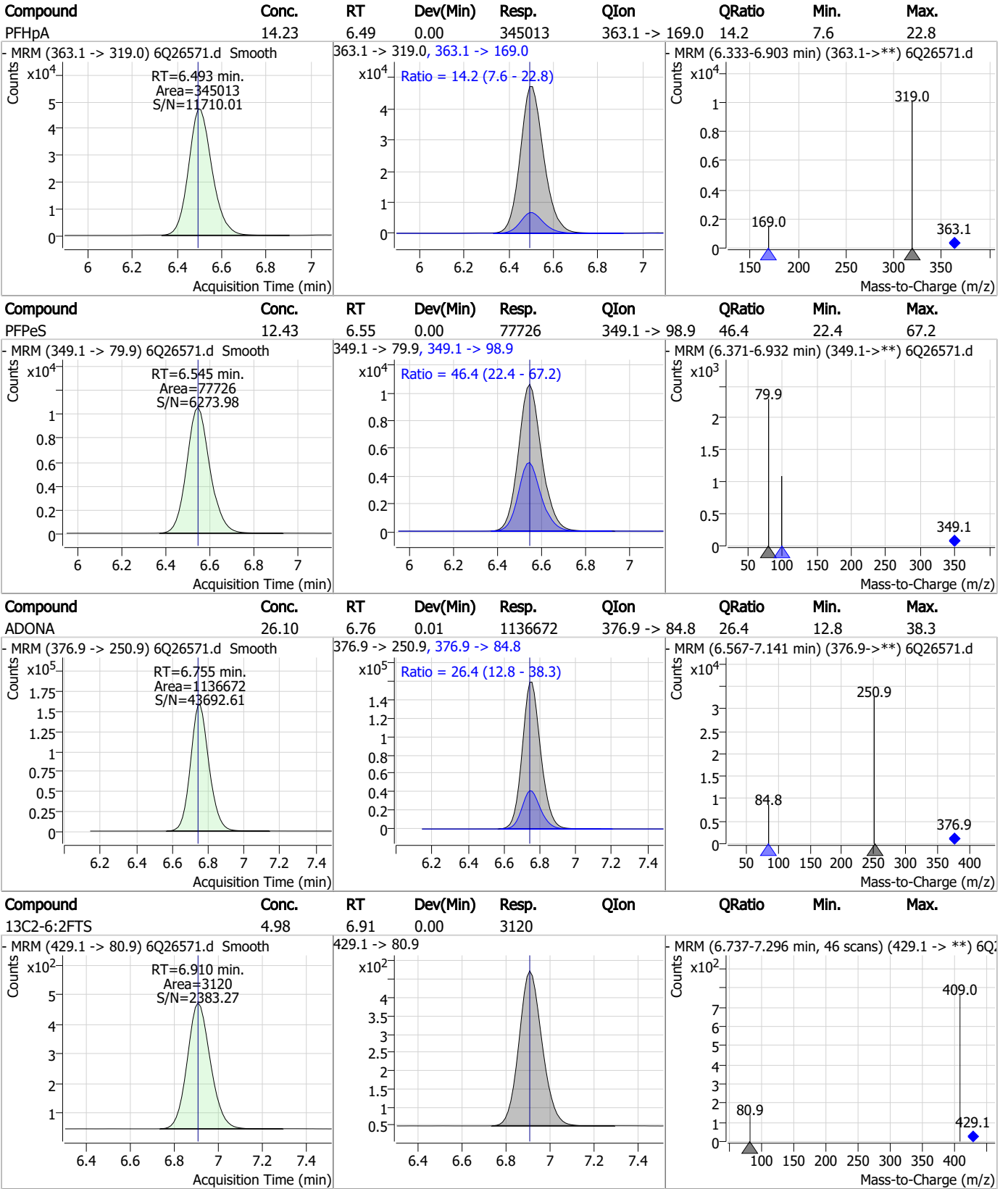
# Perfluorinated Compounds by LC/MS/MS



# Perfluorinated Compounds by LC/MS/MS



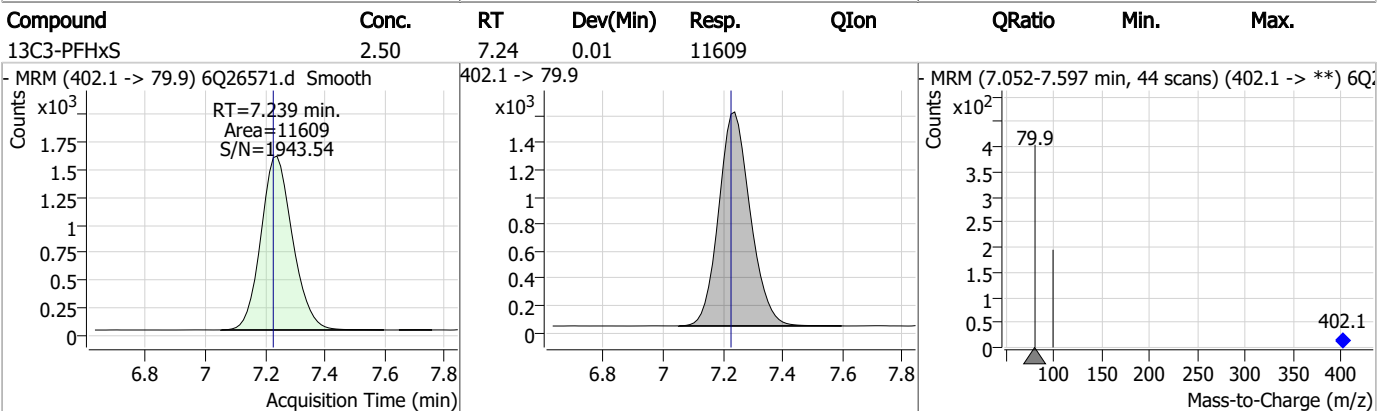
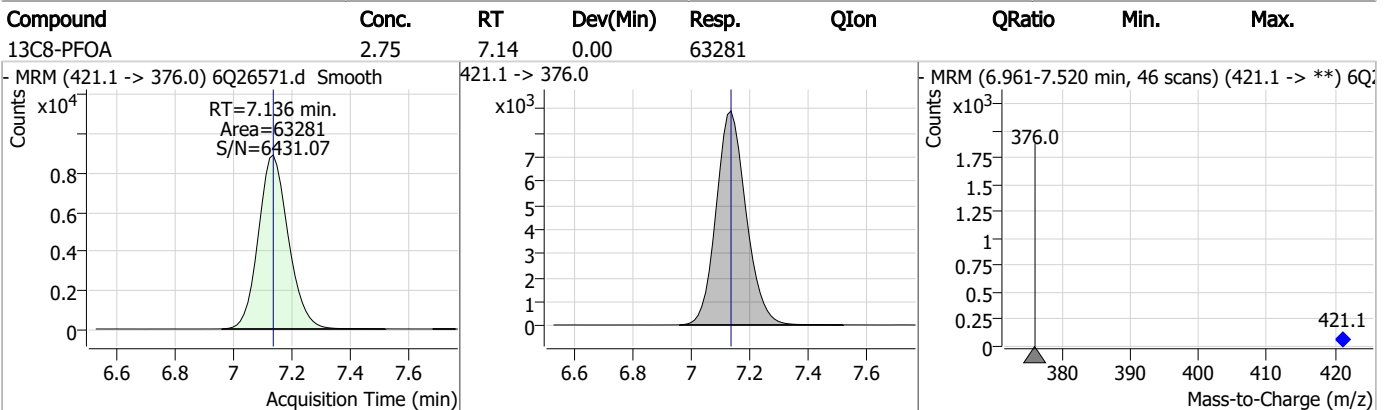
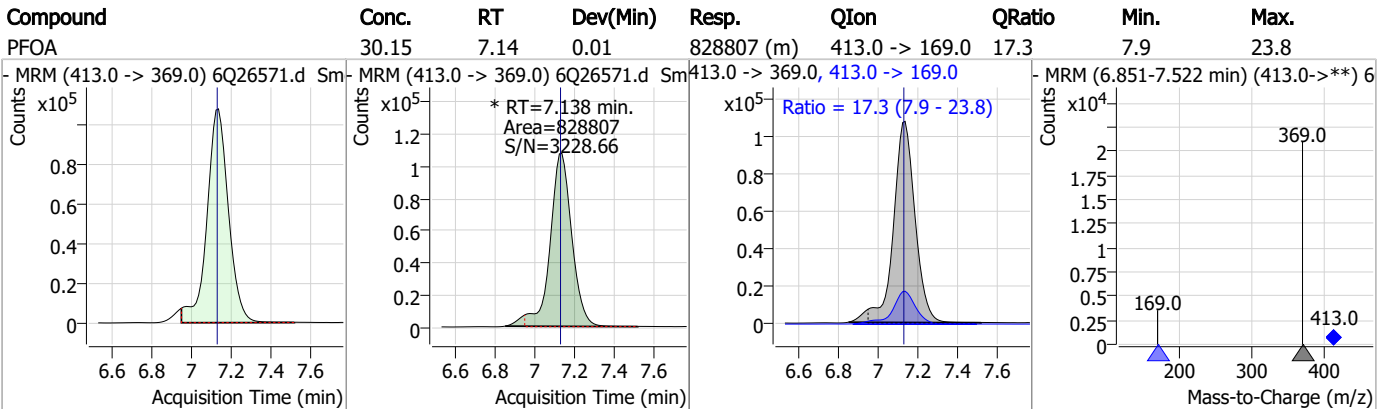
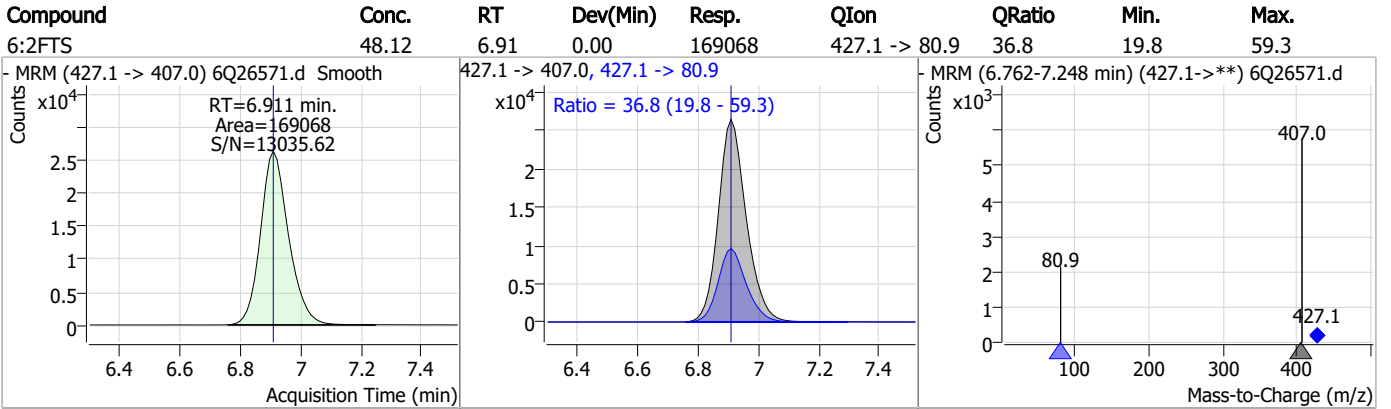
# Perfluorinated Compounds by LC/MS/MS



7.6.8

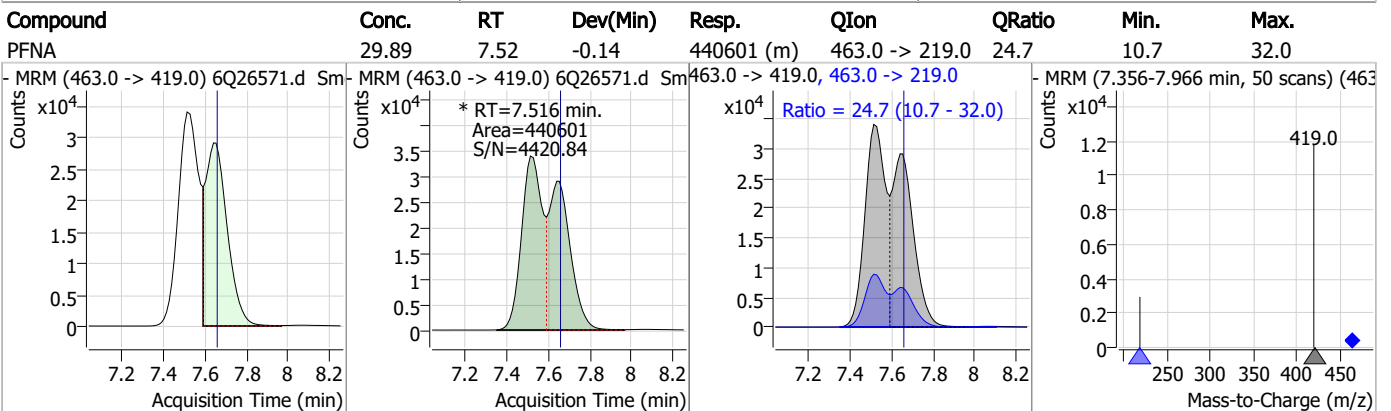
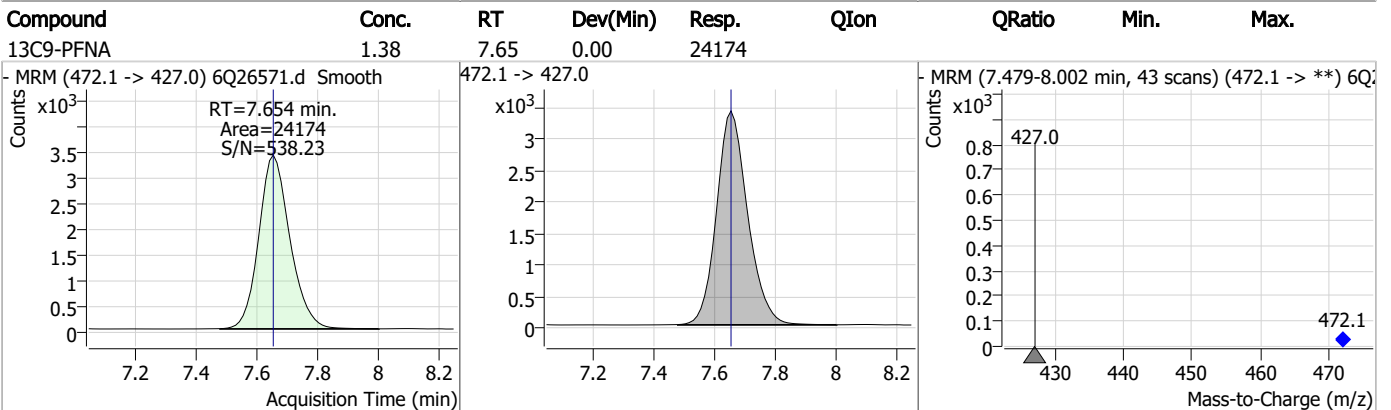
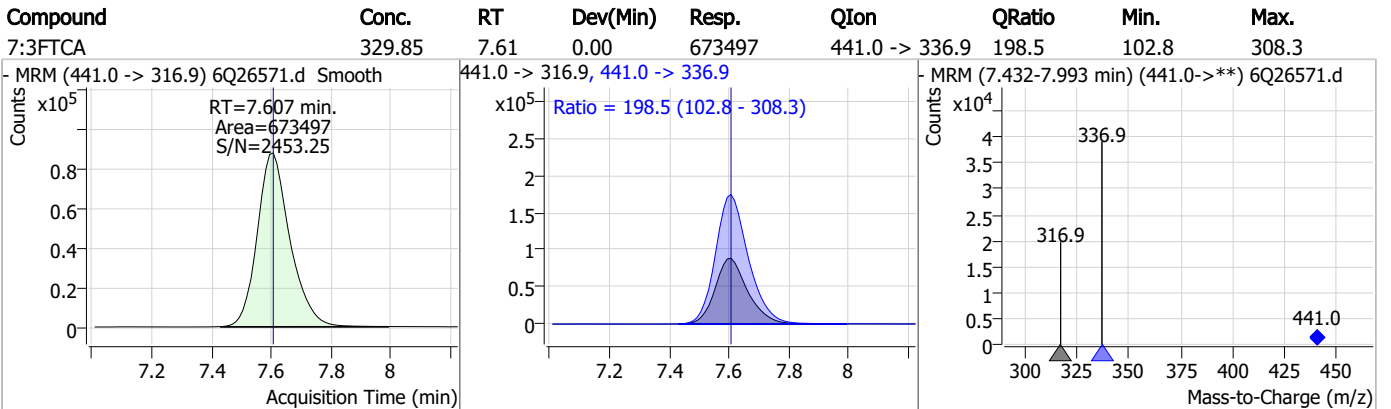
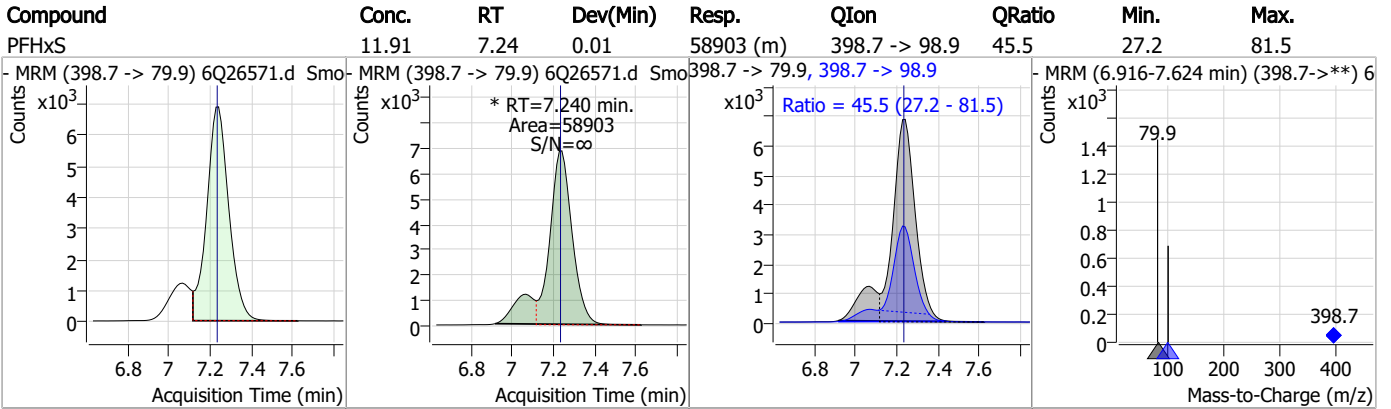
7

# Perfluorinated Compounds by LC/MS/MS

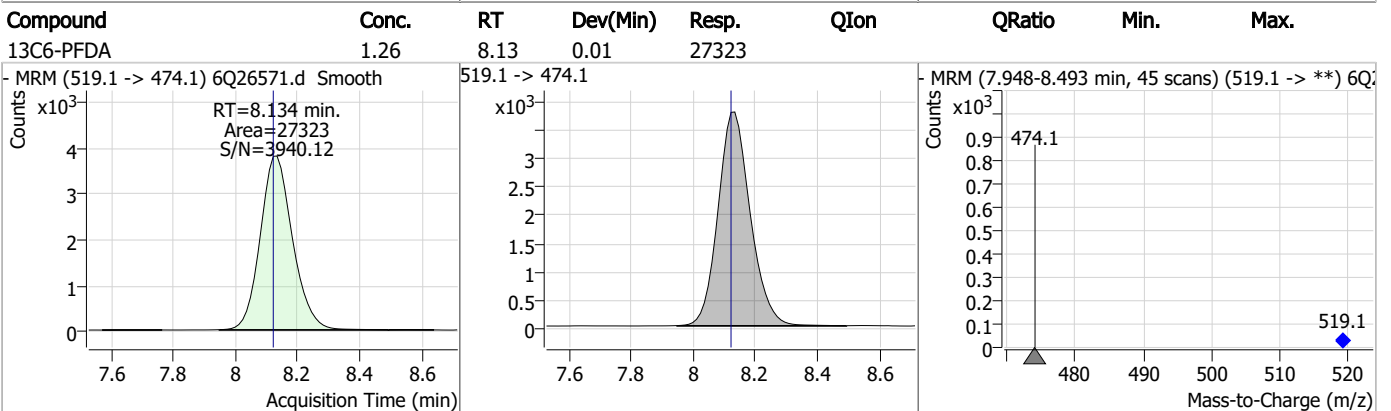
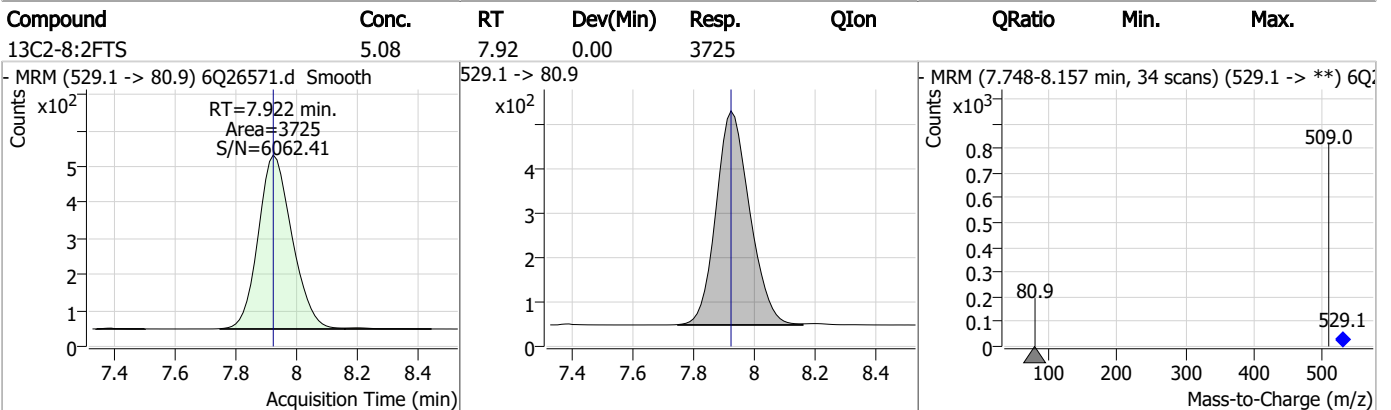
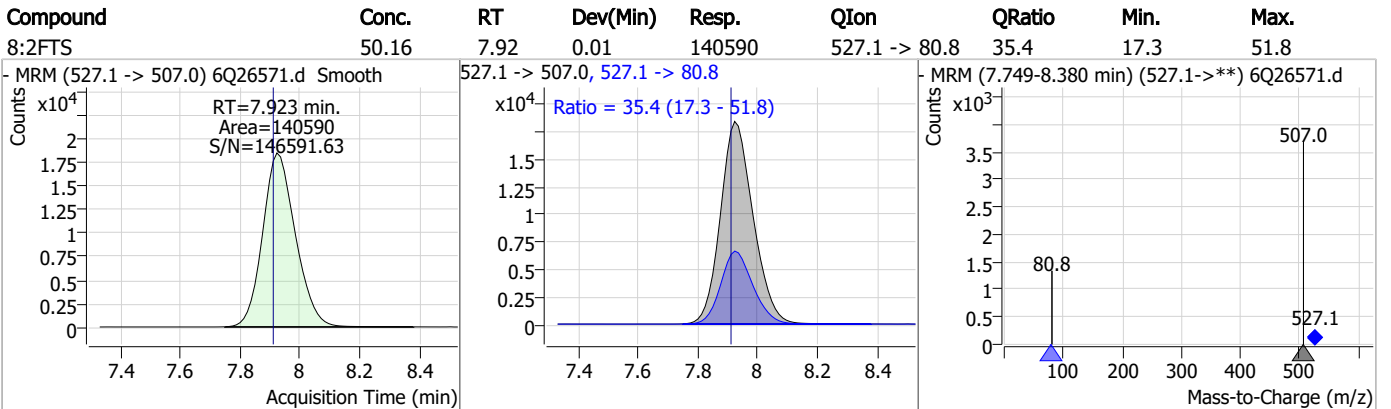
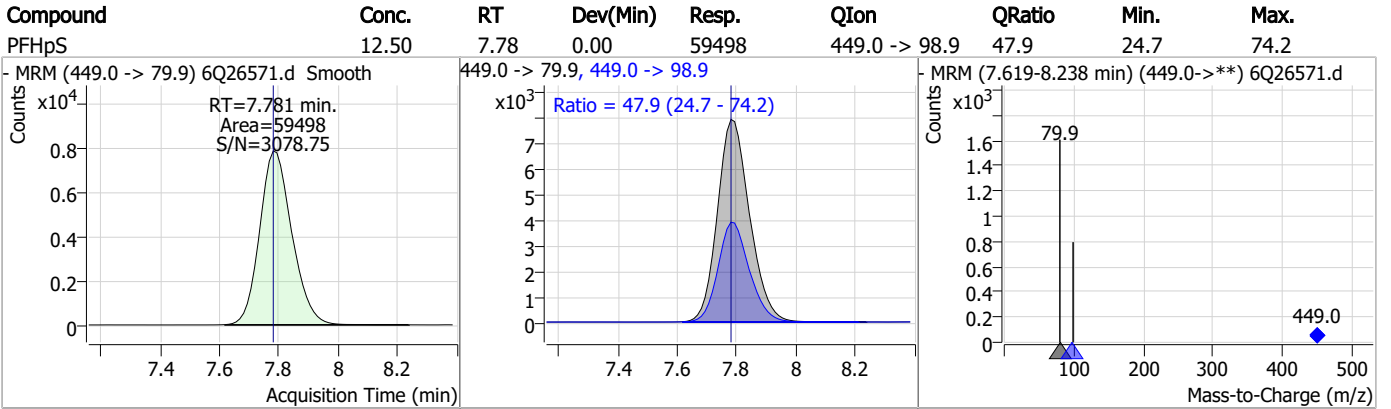


7.6.8  
7

# Perfluorinated Compounds by LC/MS/MS

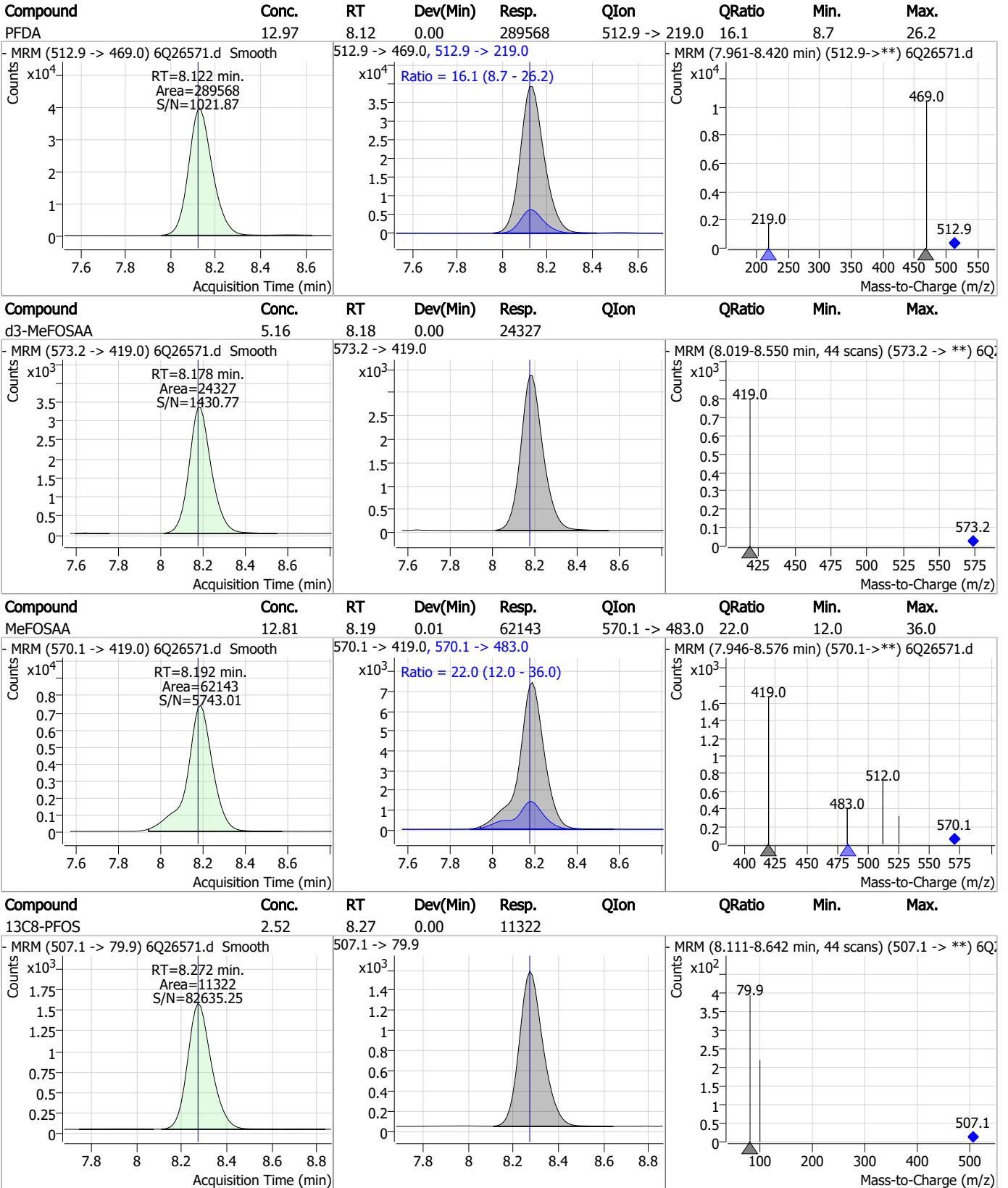


# Perfluorinated Compounds by LC/MS/MS





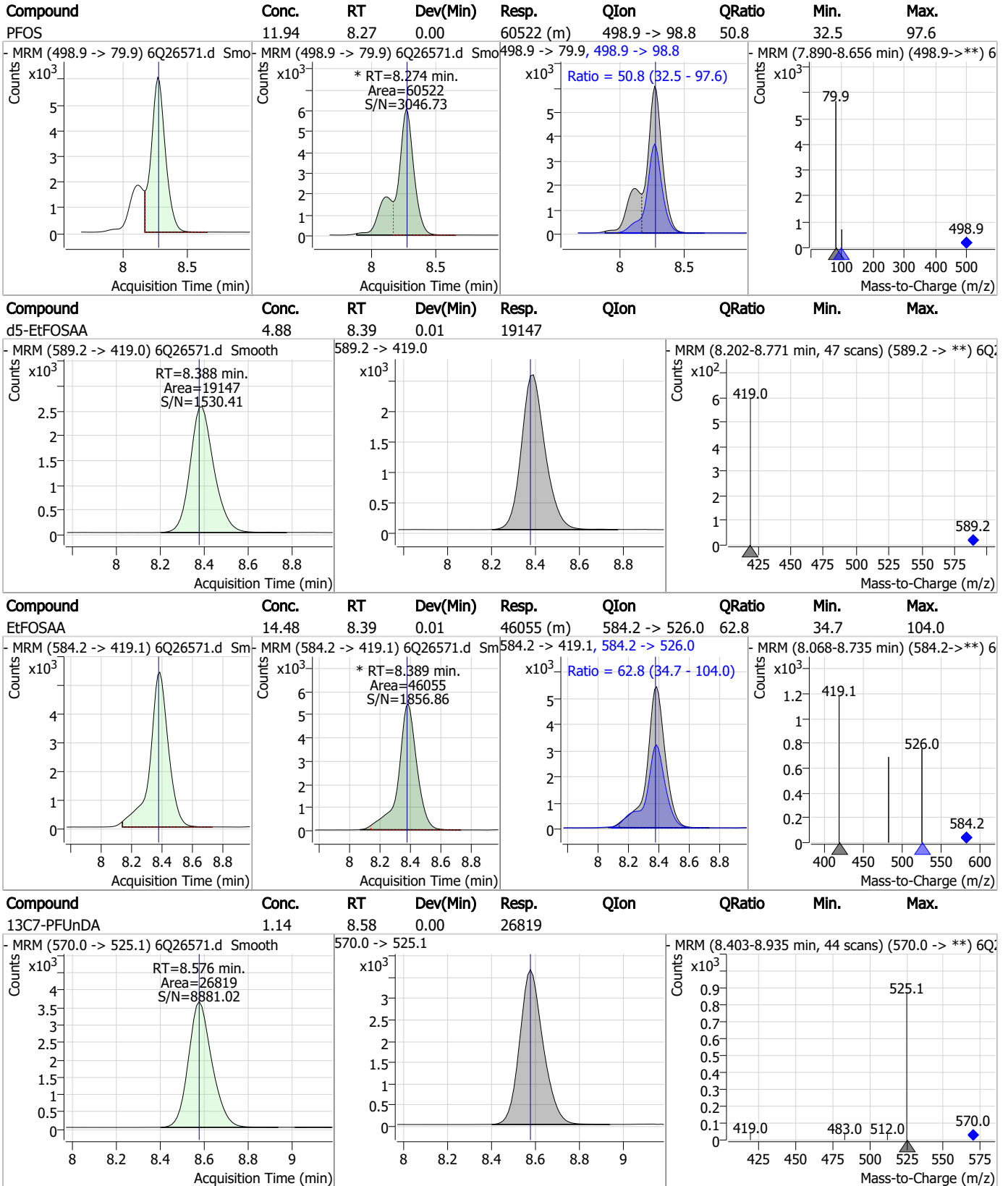
# Perfluorinated Compounds by LC/MS/MS



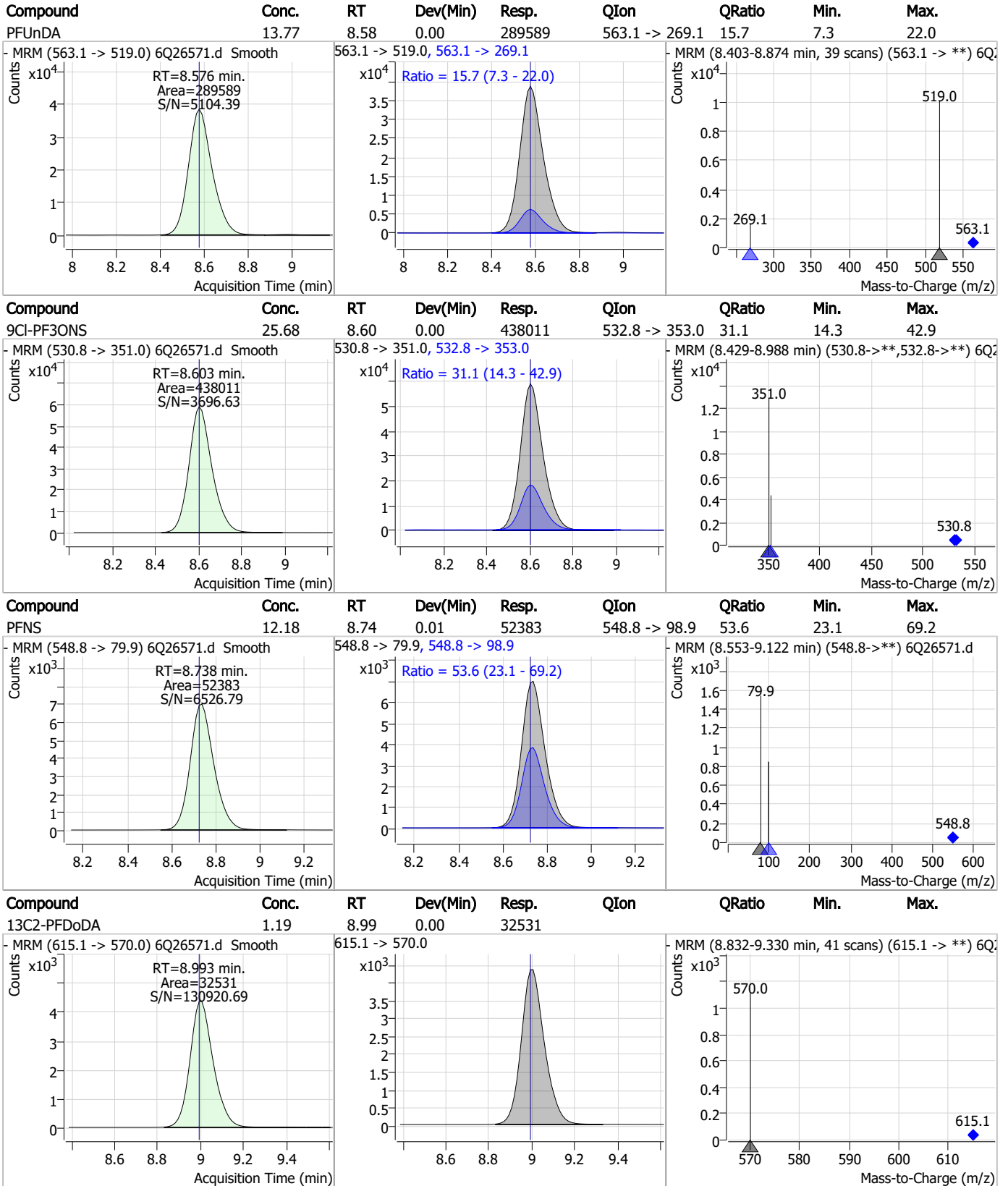
7.6.8

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# Perfluorinated Compounds by LC/MS/MS



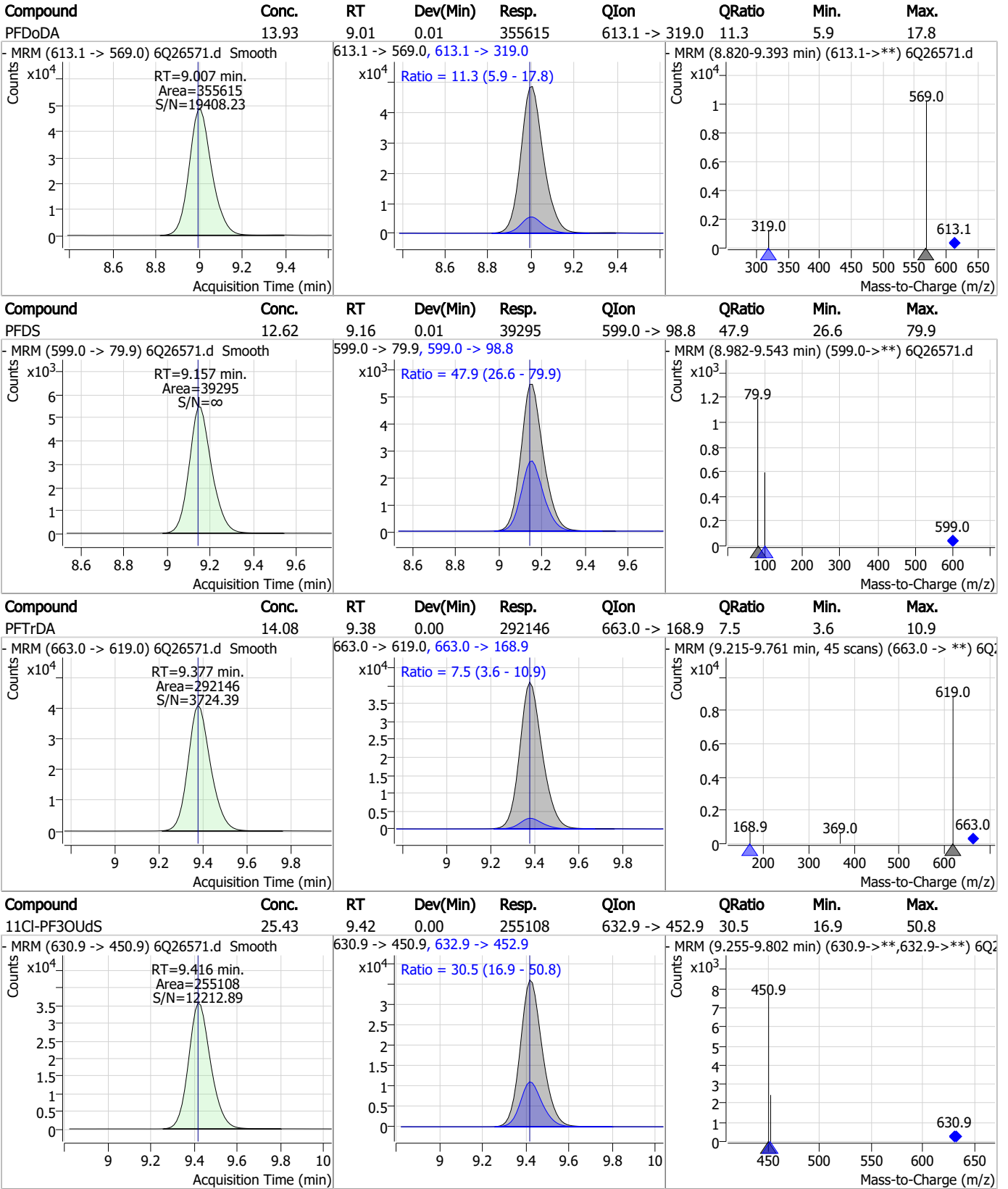
# Perfluorinated Compounds by LC/MS/MS



7.6.8

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# Perfluorinated Compounds by LC/MS/MS

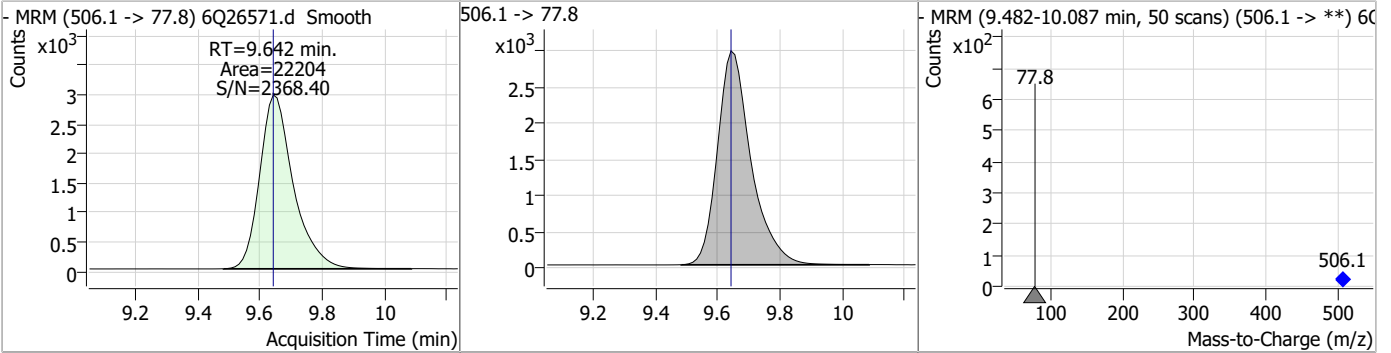


7.6.8

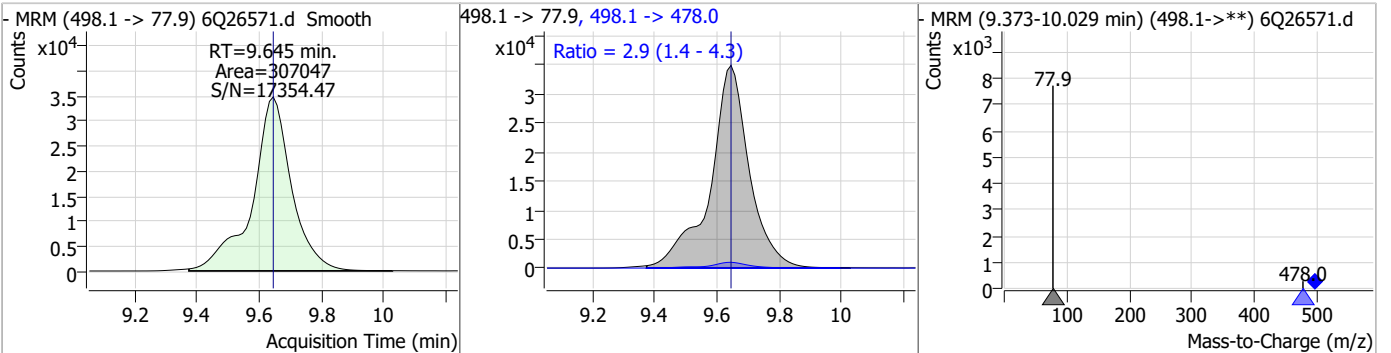
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# Perfluorinated Compounds by LC/MS/MS

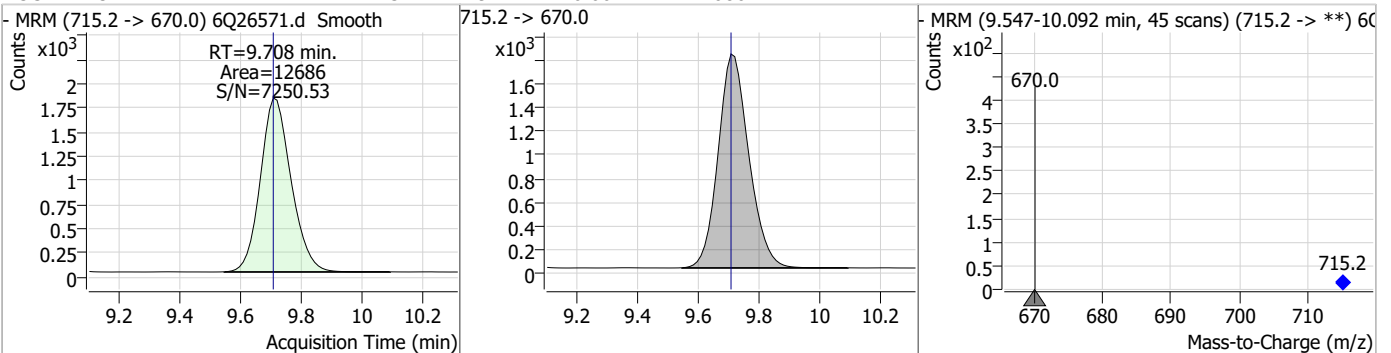
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-FOSA	2.37	9.64	0.00	22204				



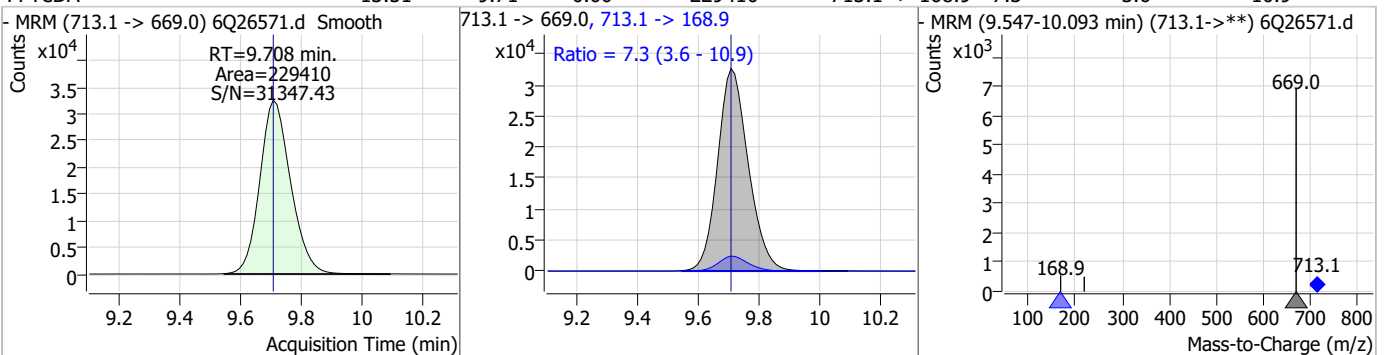
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
FOSA	33.53	9.64	0.00	307047	498.1 -> 478.0	2.9	1.4	4.3



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFTeDA	1.23	9.71	0.00	12686				

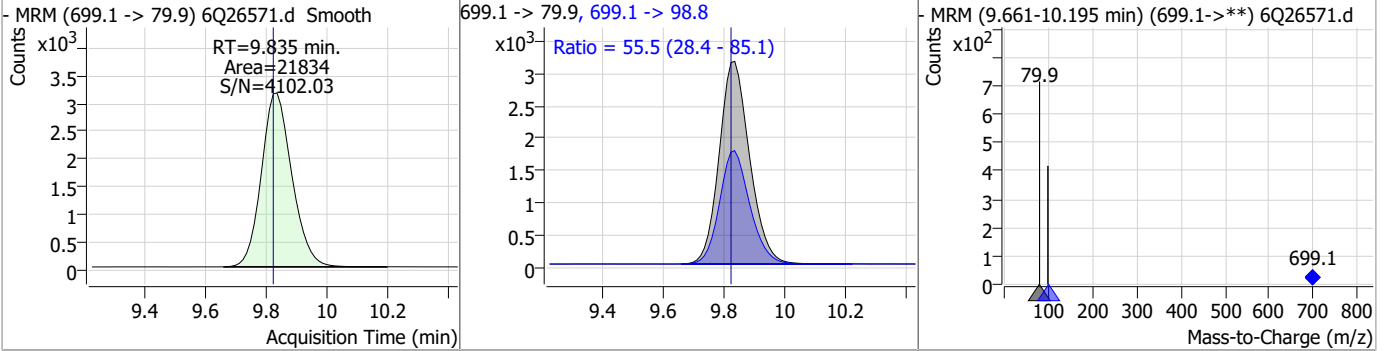


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTeDA	13.51	9.71	0.00	229410	713.1 -> 168.9	7.3	3.6	10.9

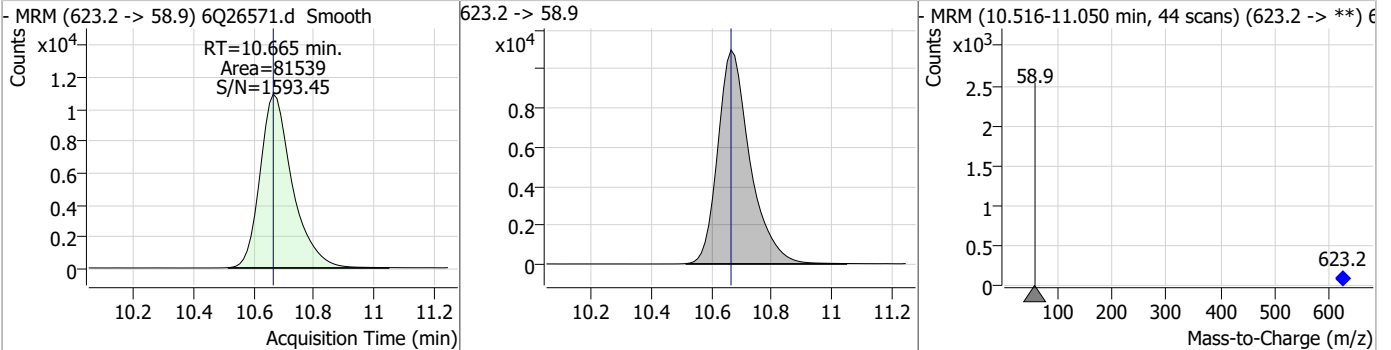


# Perfluorinated Compounds by LC/MS/MS

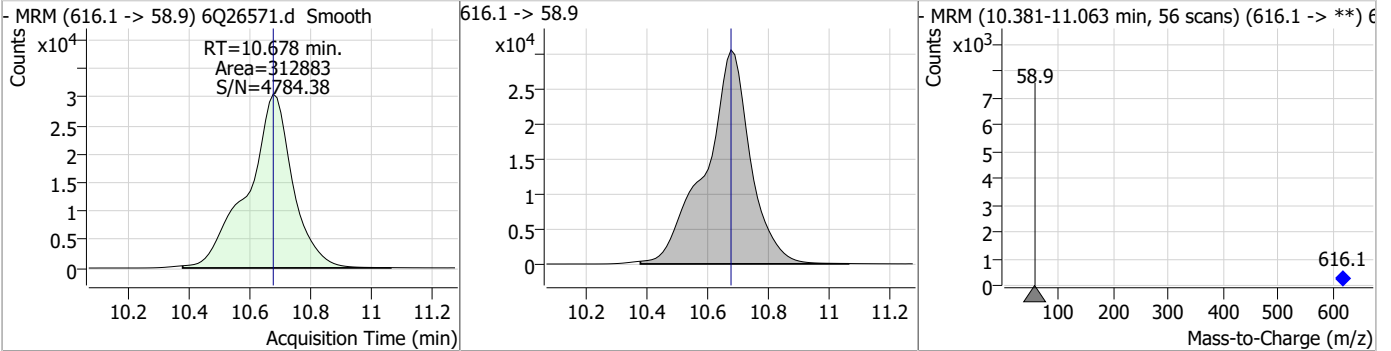
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoS	12.46	9.84	0.01	21834	699.1 -> 98.8	55.5	28.4	85.1



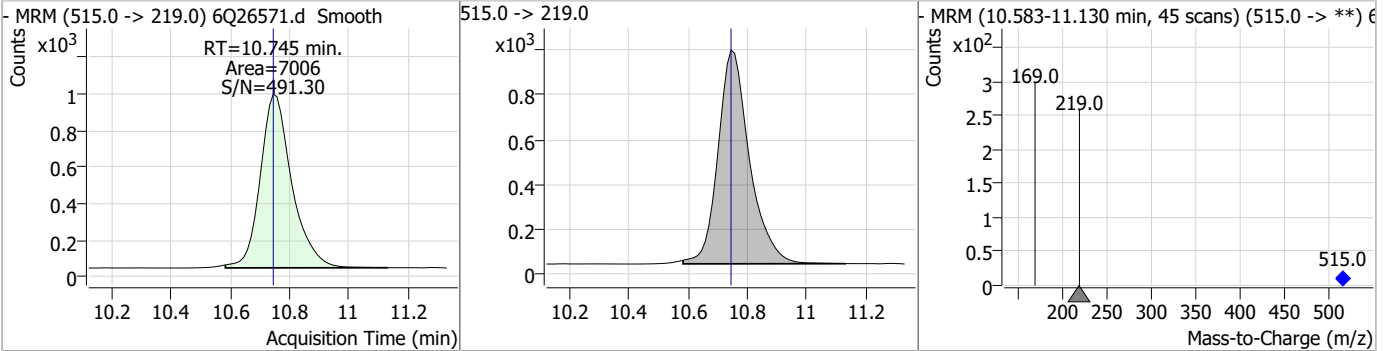
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d7-MeFOSE	24.80	10.67	0.00	81539				



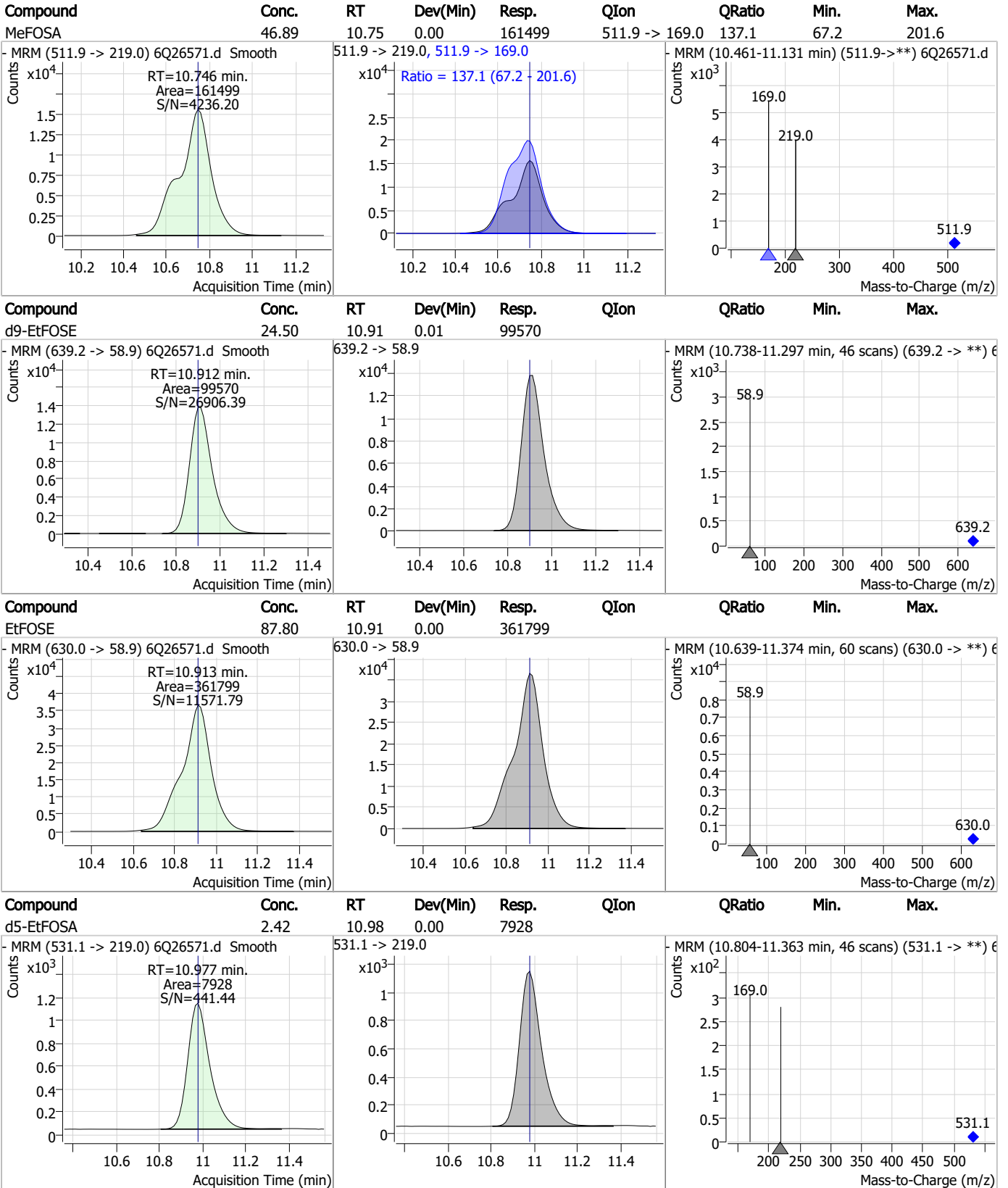
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSE	90.41	10.68	0.00	312883				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSA	2.48	10.74	0.00	7006				



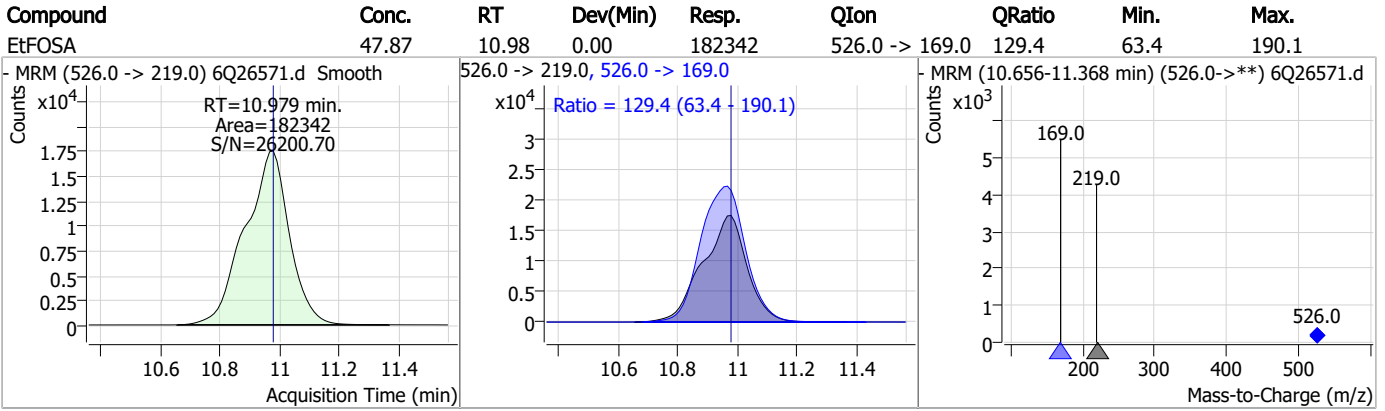
# Perfluorinated Compounds by LC/MS/MS



7.6.8

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# Perfluorinated Compounds by LC/MS/MS



7.6.8

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# Manual Integration Approval Summary

Sample Number: S6Q373-RT                      Method: EPA DRAFT 1633  
Lab FileID: 6Q26571.D                      Analyst approved: 10/18/23 16:28 Anna Ludwig  
Injection Time: 10/17/23 17:43                      Supervisor approved: 10/19/23 09:36 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		7.52	Split peak
Perfluorooctanesulfonic acid	1763-23-1		8.27	Split peak
EtFOSAA	2991-50-6		8.39	Split peak

7.6.8.1  
7

Manual Integrations  
**APPROVED**  
 (compounds with "m" flag)

Natasha Gumtie  
 10/19/23 14:22

Perfluorinated Compounds by LC/MS/MS

Data File : 6Q26672.d  
 Operator : marthav  
 Acq. Method : 1633full.m  
 Acq. Date-Time : 10/18/2023 6:08:22 PM  
 Sample Name : RT TDCA  
 Vial : P1-B3  
 DA Method File : TDCA.quantmethod.xml  
 Batch Name : s6q373\_TDCA.batch.bin  
 Sample Information : OP99081,S6Q373,500,,,5.0,1,water

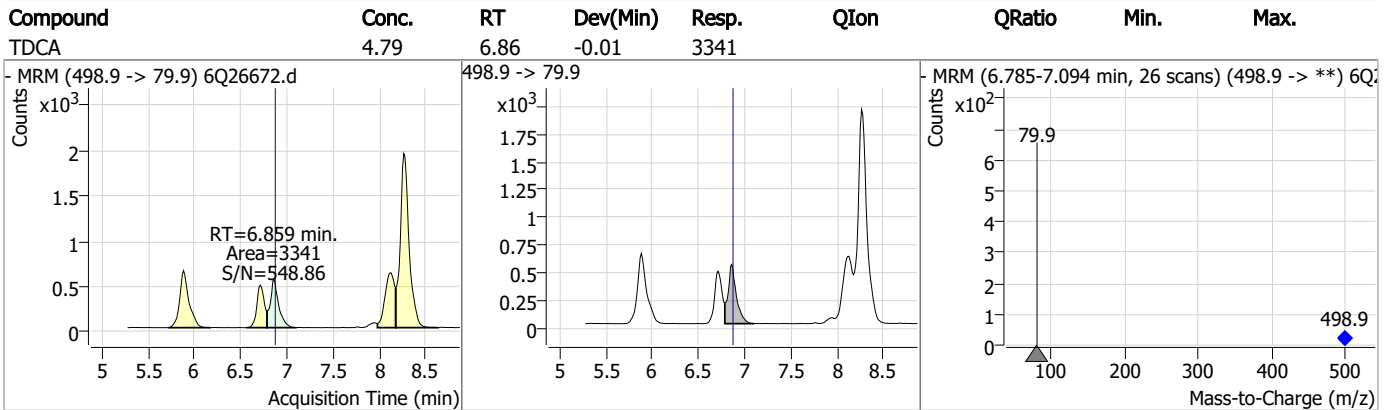
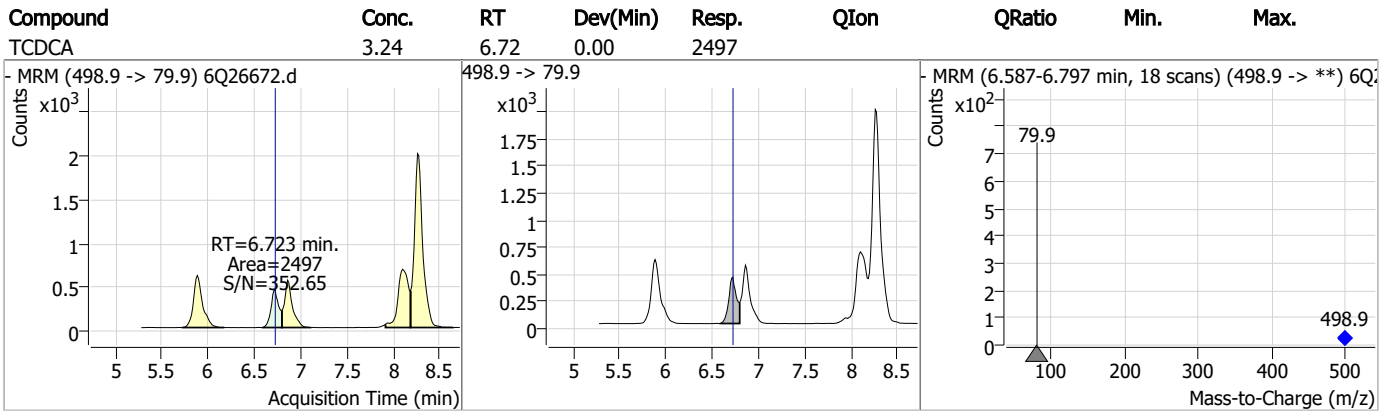
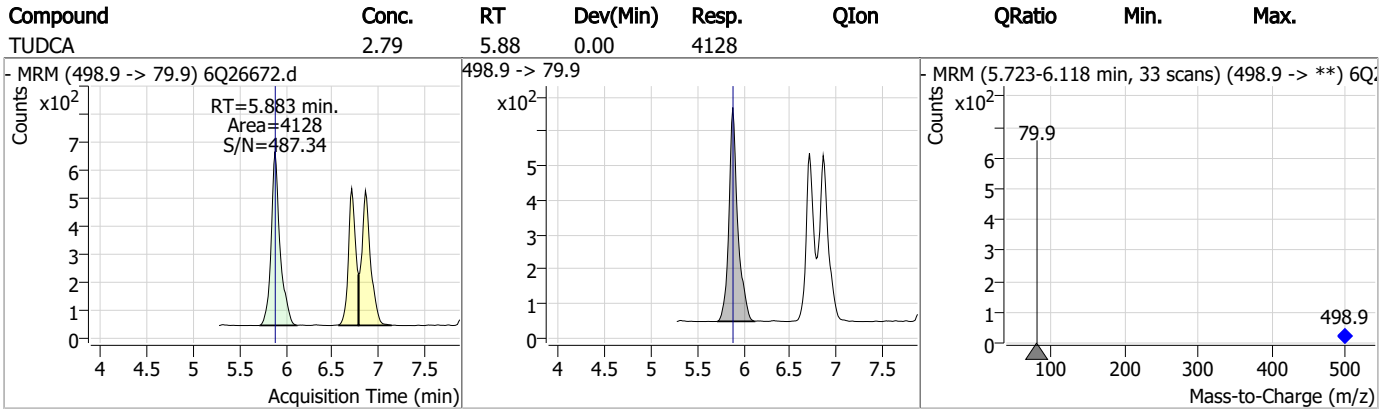
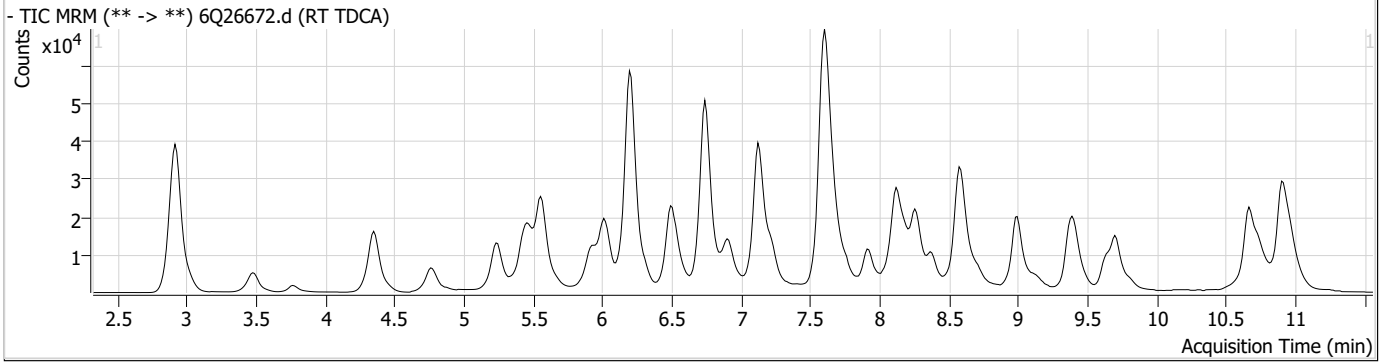
Compound	RT	Transition	Response	Conc. Units	Dev(Min)
<b>Internal Standards</b>					
M8-PFOS	8.272	507.1 -> 79.9	16708	2.50 µg/L	-0.014
13C4-PFOS	8.273	502.8 -> 79.9	16168	2.50 µg/L	-0.014
<b>System Monitoring Compounds</b>					
13C8-PFOS	8.272	507.1 -> 79.9	16708	2.62 µg/L	-0.014
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 104.8%		
<b>Target Compounds</b>					
PFOS	8.274	498.9 -> 79.9 498.9 -> 98.8	16042 8378	2.81 µg/L m	95
TCDCa	6.723	498.9 -> 79.9	2497	3.24 ng/ml	100
TDCA	6.859	498.9 -> 79.9	3341	4.79 ng/ml	100
TUDCA	5.883	498.9 -> 79.9	4128	2.79 ng/ml	100

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

7.6.9

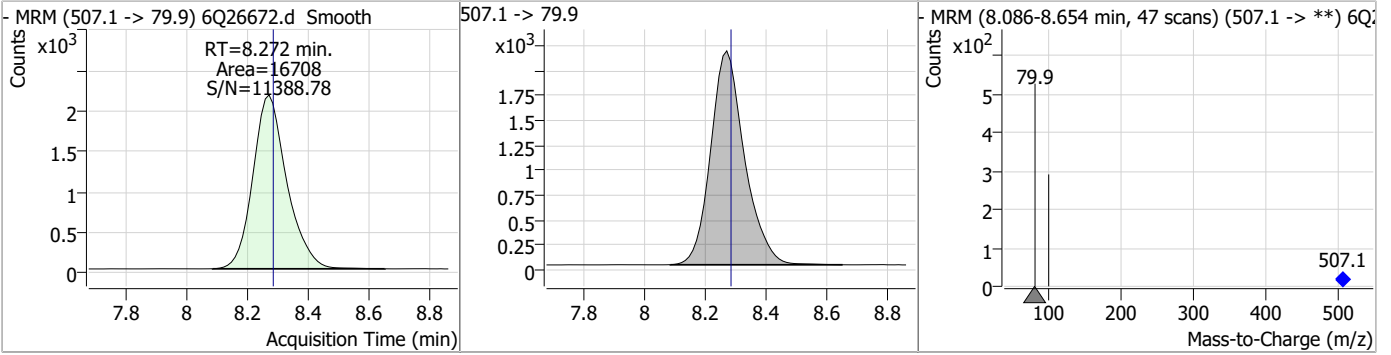
7

### Perfluorinated Compounds by LC/MS/MS

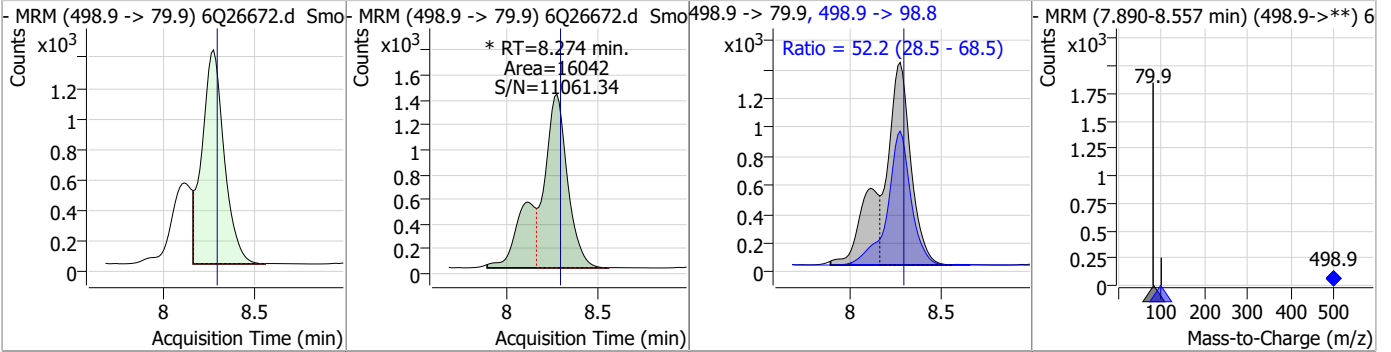


### Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOS	2.62	8.27	-0.01	16708				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOS	2.81	8.27	-0.01	16042 (m)	498.9 -> 98.8	52.2	28.5	68.5



7.6.9

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# Manual Integration Approval Summary

Sample Number: S6Q373-RT                      Method: EPA DRAFT 1633  
Lab FileID: 6Q26672.D                      Analyst approved: 10/19/23 11:33 Martha Valls  
Injection Time: 10/18/23 18:08                      Supervisor approved: 10/19/23 14:22 Natasha Gumtie

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorooctanesulfonic acid	1763-23-1		8.27	Split peak

7.6.9.1

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## Perfluorinated Compounds by LC/MS/MS

Data File : 6Q26673.d  
 Operator : marthav  
 Acq. Method : 1633full.m  
 Acq. Date-Time : 10/18/2023 6:22:41 PM  
 Sample Name : RT BR-LN  
 Vial : P1-B4  
 DA Method File : 1633\_101723\_S6Q373.quantmethod.xml  
 Batch Name : S6Q373.batch.bin  
 Sample Information : OP99081,S6Q373,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
<b>Internal Standards</b>					
M4-PFBA	2.913	216.8 -> 171.9	135809	10.00 µg/L	0.000
M5-PFPeA	4.346	268.3 -> 223.0	46601	5.00 µg/L	0.000
M5-PFHxA	5.552	318.0 -> 273.0	44308	2.50 µg/L	0.000
M4-PFHpA	6.493	367.1 -> 322.0	44215	2.50 µg/L	0.000
M8-PFOA	7.124	421.1 -> 376.0	60572	2.50 µg/L	-0.012
M9-PFNA	7.654	472.1 -> 427.0	22859	1.25 µg/L	0.000
M6-PFDA	8.121	519.1 -> 474.1	26448	1.25 µg/L	0.000
M7-PFUnDA	8.564	570.0 -> 525.1	28522	1.25 µg/L	-0.012
M2-PFDoDA	8.993	615.1 -> 570.0	33389	1.25 µg/L	0.000
M2-PFTeDA	9.708	715.2 -> 670.0	12760	1.25 µg/L	0.000
M8-FOSA	9.642	506.1 -> 77.8	23564	2.50 µg/L	0.000
M3-PFBS	5.471	302.1 -> 79.9	19514	2.50 µg/L	0.000
M3-PFHxS	7.227	402.1 -> 79.9	11587	2.50 µg/L	0.000
M8-PFOS	8.272	507.1 -> 79.9	11269	2.50 µg/L	0.000
M2-4:2FTS	5.241	329.1 -> 80.9	2188	5.00 µg/L	0.012
M2-6:2FTS	6.910	429.1 -> 80.9	3155	5.00 µg/L	0.000
M2-8:2FTS	7.922	529.1 -> 80.9	3695	5.00 µg/L	0.000
M3-MeFOSAA	8.178	573.2 -> 419.0	23559	5.00 µg/L	0.000
M3-HFPO-DA	5.930	286.9 -> 168.9	30962	10.00 µg/L	0.012
M5-EtFOSAA	8.374	589.2 -> 419.0	20320	5.00 µg/L	0.000
M7-MeFOSE	10.665	623.2 -> 58.9	81517	25.00 µg/L	0.000
M9-EtFOSE	10.899	639.2 -> 58.9	102298	25.00 µg/L	0.000
M5-EtFOSA	10.977	531.1 -> 219.0	8264	2.50 µg/L	0.000
M3-MeFOSA	10.745	515.0 -> 219.0	7218	2.50 µg/L	0.000
13C4-PFOS	8.273	502.8 -> 79.9	9956	2.50 µg/L	0.000
13C3-PFBA	2.916	216.0 -> 172.0	54998	5.00 µg/L	0.000
18O2-PFHxS	7.226	403.0 -> 83.9	6686	2.50 µg/L	0.000
13C4-PFOA	7.125	417.1 -> 372.0	65863	2.50 µg/L	0.000
13C2-PFDA	8.122	515.1 -> 470.1	25444	1.25 µg/L	0.000
13C5-PFNA	7.642	468.0 -> 423.0	20266	1.25 µg/L	-0.012
13C2-PFHxA	5.553	315.1 -> 270.0	43881	2.50 µg/L	0.000
<b>System Monitoring Compounds</b>					
13C2-4:2FTS	5.241	329.1 -> 80.9	2188	5.24 µg/L	0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 104.8%		
13C2-6:2FTS	6.910	429.1 -> 80.9	3155	5.35 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 107.0%		
13C2-8:2FTS	7.922	529.1 -> 80.9	3695	5.35 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 107.0%		
13C2-PFDoDA	8.993	615.1 -> 570.0	33389	1.21 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 97.2%		
13C2-PFTeDA	9.708	715.2 -> 670.0	12760	1.24 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 99.0%		
13C3-PFBS	5.471	302.1 -> 79.9	19514	2.64 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 105.5%		
13C3-PFHxS	7.227	402.1 -> 79.9	11587	2.65 µg/L	0.000

7.6.10  
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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 = 105.9%	
13C4-PFBA	2.913	216.8 -> 171.9	135809	10.02 µg/L	0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 100.2%	
13C4-PFHpA	6.493	367.1 -> 322.0	44215	2.48 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 99.4%	
13C5-PFHxA	5.552	318.0 -> 273.0	44308	2.52 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 100.8%	
13C5-PFPeA	4.346	268.3 -> 223.0	46601	5.27 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 105.5%	
13C6-PFDA	8.121	519.1 -> 474.1	26448	1.22 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 97.6%	
13C7-PFUnDA	8.564	570.0 -> 525.1	28522	1.21 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 97.1%	
13C8-FOSA	9.642	506.1 -> 77.8	23564	2.57 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 102.9%	
13C8-PFOA	7.124	421.1 -> 376.0	60572	2.57 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 102.8%	
13C8-PFOS	8.272	507.1 -> 79.9	11269	2.56 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 102.4%	
13C9-PFNA	7.654	472.1 -> 427.0	22859	1.31 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 105.0%	
d3-MeFOSAA	8.178	573.2 -> 419.0	23559	5.10 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 102.0%	
13C3-HFPO-DA	5.930	286.9 -> 168.9	30962	10.73 µg/L	0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 107.3%	
d3-MeFOSA	10.745	515.0 -> 219.0	7218	2.61 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 104.3%	
d5-EtFOSAA	8.374	589.2 -> 419.0	20320	5.28 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 105.7%	
d7-MeFOSE	10.665	623.2 -> 58.9	81517	25.32 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 101.3%	
d9-EtFOSE	10.899	639.2 -> 58.9	102298	25.71 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 102.8%	
d5-EtFOSA	10.977	531.1 -> 219.0	8264	2.58 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 103.2%	
<b>Target Compounds</b>					<b>QValue</b>
4:2FTS	5.229	327.1 -> 307.0	191544	49.81 µg/L	97
		327.1 -> 80.9	72777		
6:2FTS	6.911	427.1 -> 407.0	158236	44.53 µg/L	99
		427.1 -> 80.9	63365		
8:2FTS	7.923	527.1 -> 507.0	135869	48.87 µg/L	97
		527.1 -> 80.8	49522		
EtFOSAA	8.375	584.2 -> 419.1	45816	13.57 µg/L	99
		584.2 -> 526.0	31955		
FOSA	9.645	498.1 -> 77.9	306330	31.52 µg/L	100
		498.1 -> 478.0	9050		
MeFOSAA	8.179	570.1 -> 419.0	66011	14.05 µg/L	95
		570.1 -> 483.0	14056		
PFBA	2.919	212.8 -> 168.9	284555	54.54 µg/L	100
PFBS	5.472	298.7 -> 79.9	72865	11.45 µg/L	97
		298.7 -> 98.8	28747		
PFDA	8.122	512.9 -> 469.0	285572	13.22 µg/L	95
		512.9 -> 219.0	43361		
PFDoDA	8.994	613.1 -> 569.0	357984	13.66 µg/L	97
		613.1 -> 319.0	39047		
PFDS	9.145	599.0 -> 79.9	40065	12.92 µg/L	91

7.6.10

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## Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
		599.0 -> 98.8	18919			
PFHpA	6.493	363.1 -> 319.0	340602	13.94	µg/L	100
		363.1 -> 169.0	51152			
PFHpS	7.781	449.0 -> 79.9	59873	12.64	µg/L	98
		449.0 -> 98.9	30341			
PFHxA	5.555	313.0 -> 269.0	218321	13.20	µg/L	100
		313.0 -> 118.9	11295			
PFHxS	7.228	398.7 -> 79.9	60306	12.22	µg/L	m 86
		398.7 -> 98.9	26626			
PFNA	7.516	463.0 -> 419.0	445099	31.93	µg/L	m 91
		463.0 -> 219.0	113410			
PFNS	8.726	548.8 -> 79.9	54952	12.84	µg/L	95
		548.8 -> 98.9	27000			
PFOA	7.125	413.0 -> 369.0	788621	29.97	µg/L	m 94
		413.0 -> 169.0	145709			
PFOS	8.274	498.9 -> 79.9	63397	12.56	µg/L	m 83
		498.9 -> 98.8	32606			
PFPeA	4.349	263.0 -> 219.0	286442	26.05	µg/L	100
PFPeS	6.545	349.1 -> 79.9	78357	12.55	µg/L	99
		349.1 -> 98.9	35455			
PFTeDA	9.708	713.1 -> 669.0	228557	13.38	µg/L	99
		713.1 -> 168.9	17260			
PFTrDA	9.377	663.0 -> 619.0	288079	13.53	µg/L	99
		663.0 -> 168.9	21950			
PFUnDA	8.564	563.1 -> 519.0	302902	13.54	µg/L	100
		563.1 -> 269.1	44590			
11CI-PF3OUdS	9.416	630.9 -> 450.9	266347	24.95	µg/L	95
		632.9 -> 452.9	82203			
9CI-PF3ONS	8.603	530.8 -> 351.0	430174	23.70	µg/L	92
		532.8 -> 353.0	141746			
ADONA	6.743	376.9 -> 250.9	1088283	23.48	µg/L	96
		376.9 -> 84.8	297758			
HFPO-DA	5.931	284.9 -> 168.9	79551	24.71	µg/L	99
		284.9 -> 184.9	9443			
3:3FTCA	3.764	241.0 -> 177.0	51677	67.65	µg/L	100
		241.0 -> 117.0	6879			
5:3FTCA	6.197	341.0 -> 237.1	1089867	329.65	µg/L	97
		341.0 -> 217.0	815212			
7:3FTCA	7.595	441.0 -> 316.9	662546	334.19	µg/L	97
		441.0 -> 336.9	1332969			
EtFOSA	10.966	526.0 -> 219.0	186035	46.85	µg/L	99
		526.0 -> 169.0	238749			
EtFOSE	10.913	630.0 -> 58.9	385178	90.98	µg/L	100
MeFOSA	10.746	511.9 -> 219.0	163196	45.99	µg/L	97
		511.9 -> 169.0	224380			
MeFOSE	10.678	616.1 -> 58.9	321602	92.95	µg/L	100
PFDoDS	9.823	699.1 -> 79.9	22505	12.90	µg/L	95
		699.1 -> 98.8	12009			
NFDHA	5.435	295.0 -> 201.0	56770	27.76	µg/L	97
		295.0 -> 84.9	14480			
PFMBA	4.762	279.0 -> 85.1	220705	26.41	µg/L	100
PFMPA	3.475	229.0 -> 84.9	177437	25.87	µg/L	100
PFEESA	6.011	314.8 -> 134.9	490300	23.62	µg/L	100
		314.8 -> 82.9	17718			

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



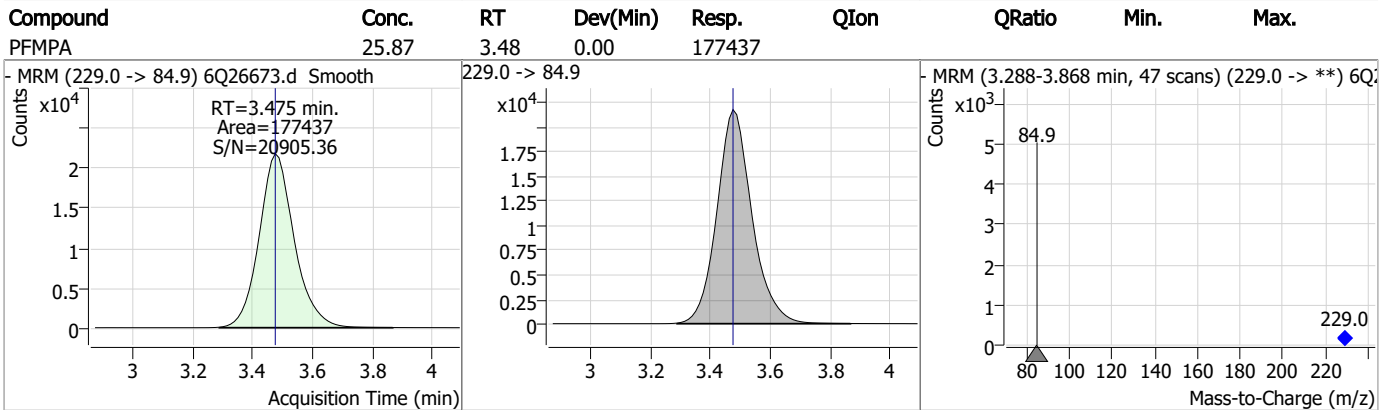
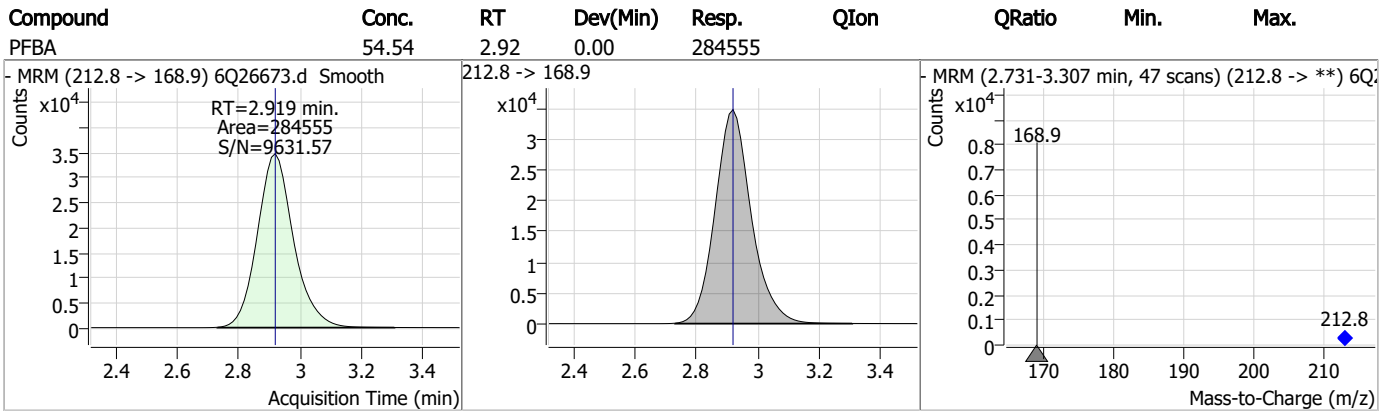
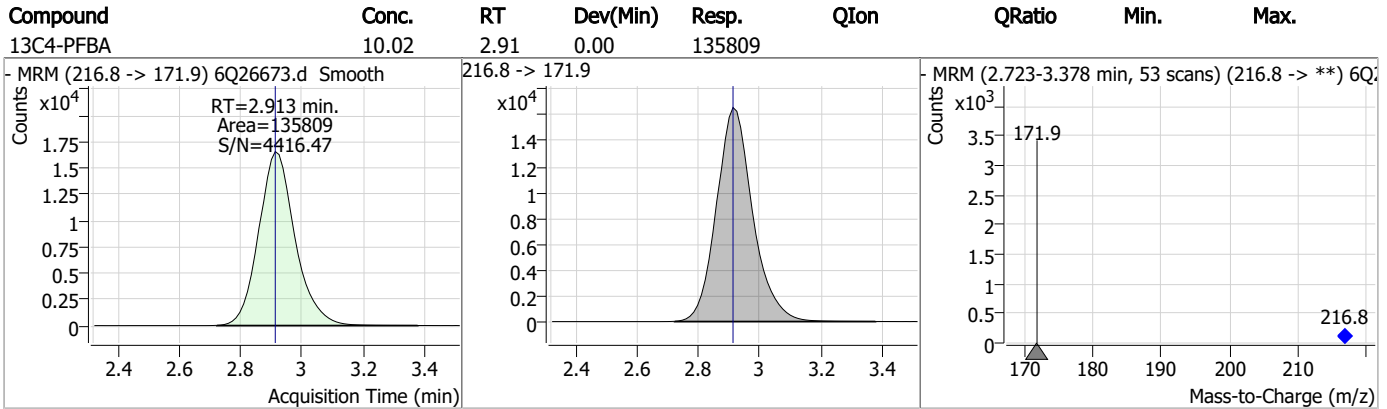
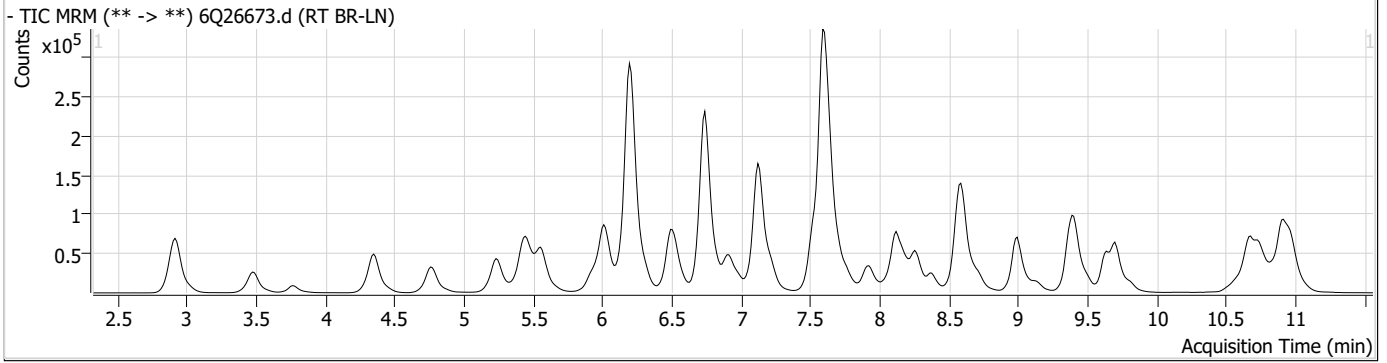
# Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
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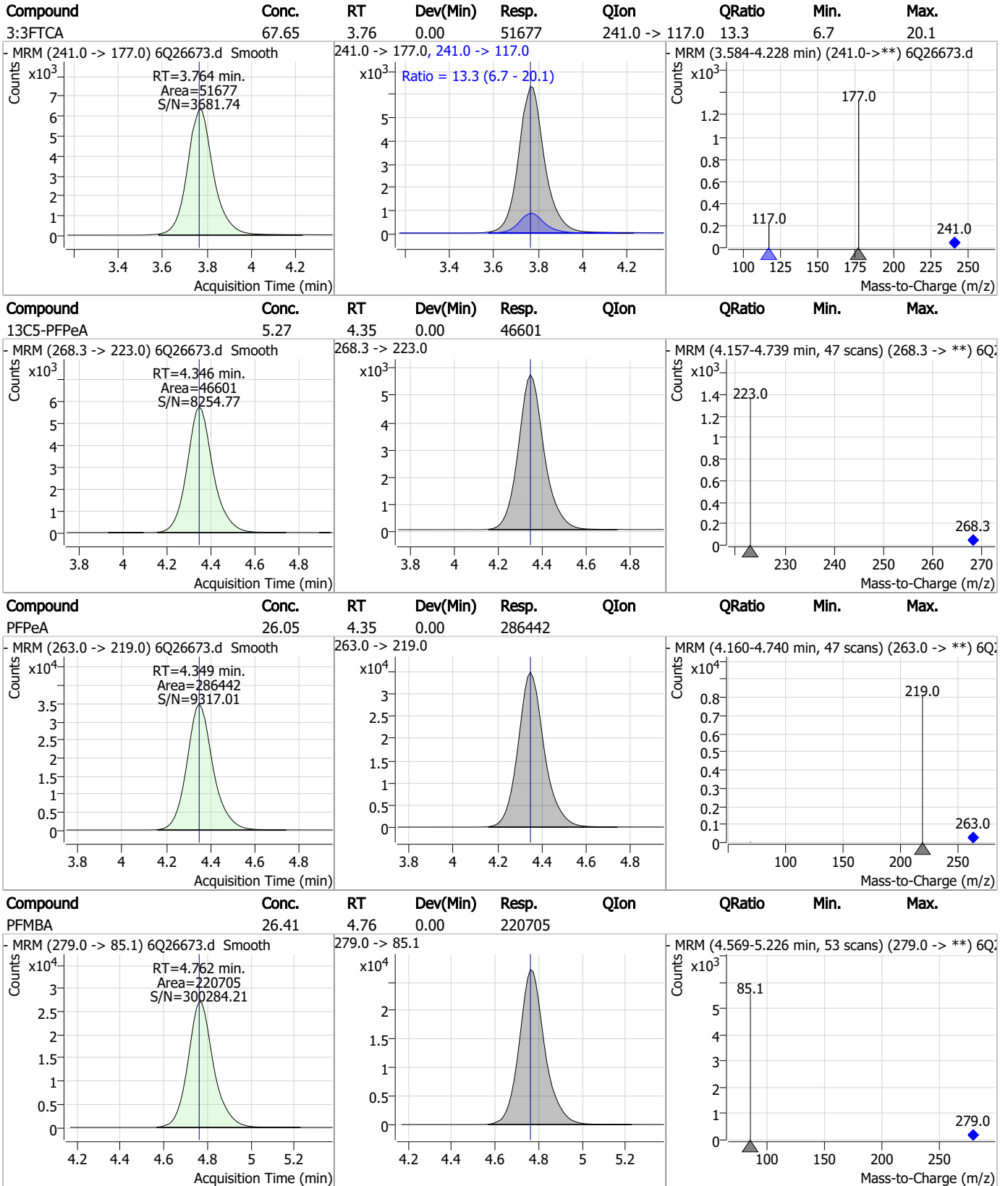
7.6.10

7

# Perfluorinated Compounds by LC/MS/MS



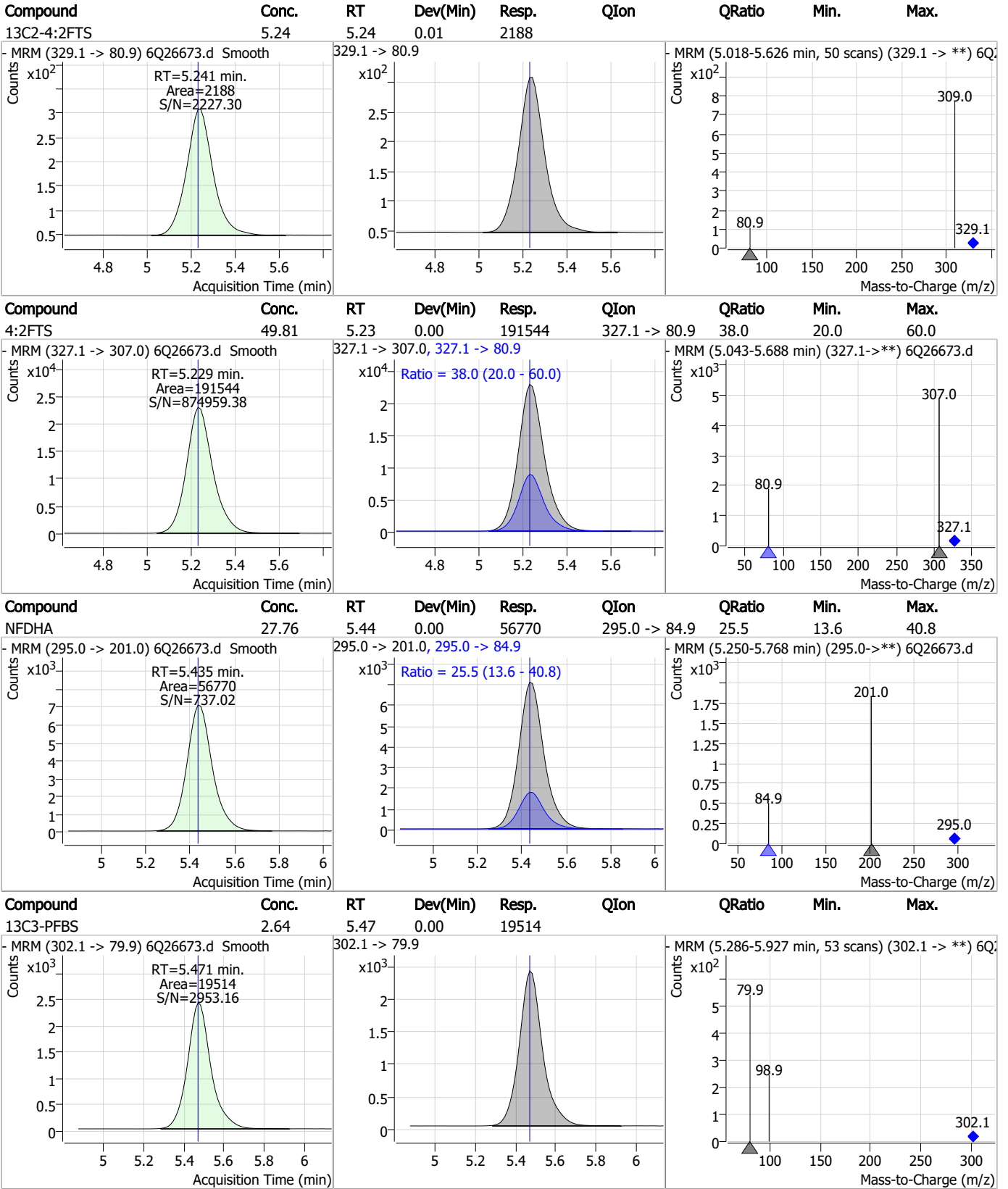
# Perfluorinated Compounds by LC/MS/MS



7.6.10 7

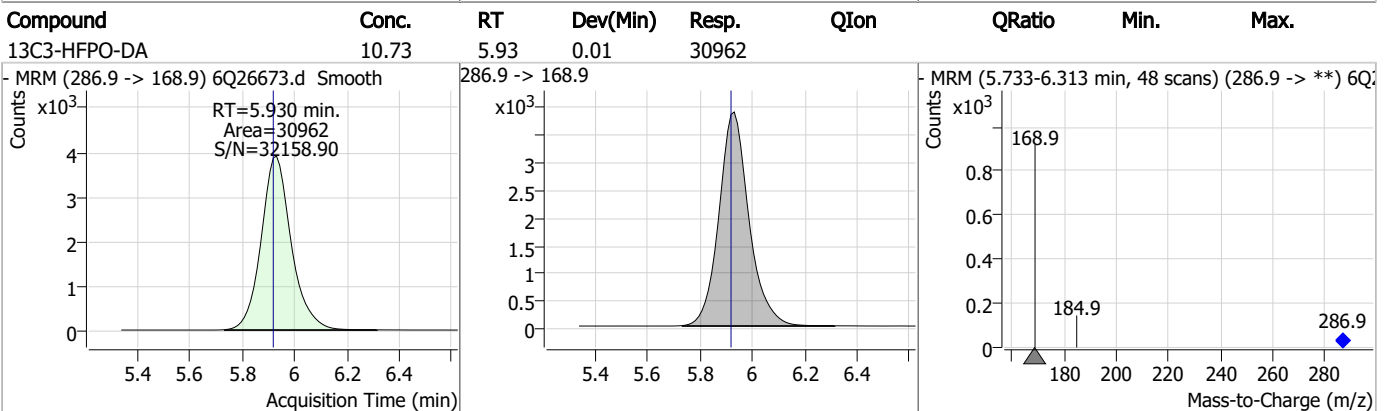
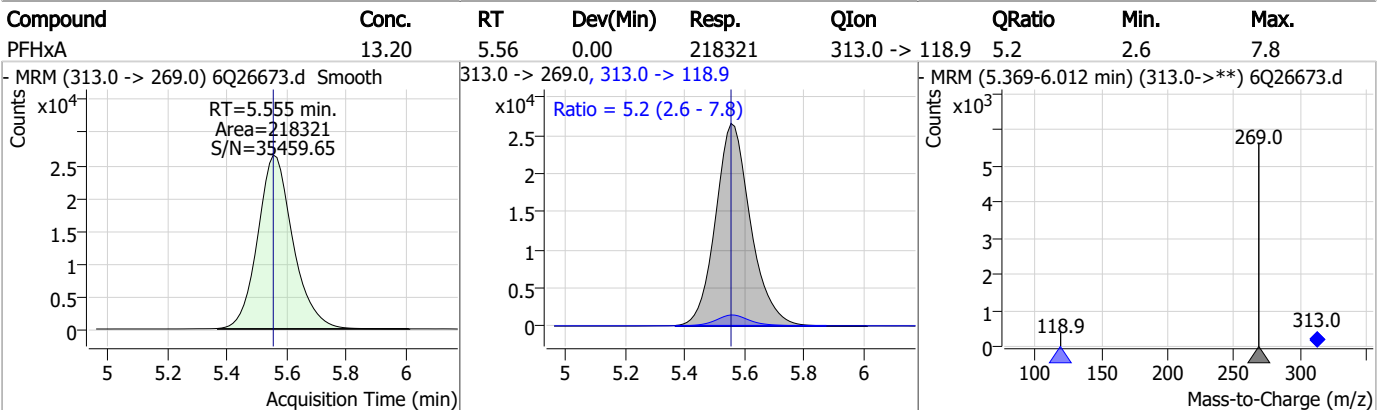
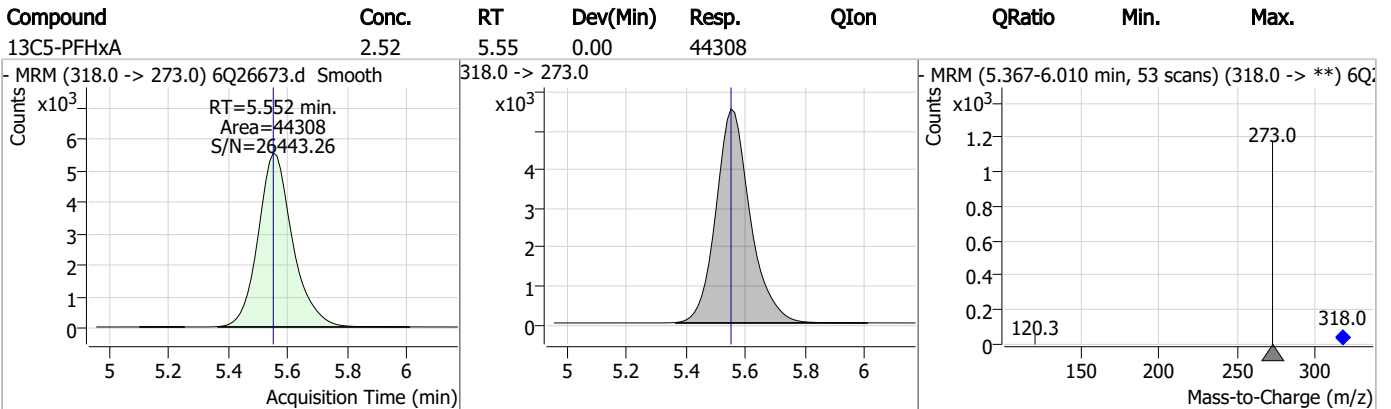
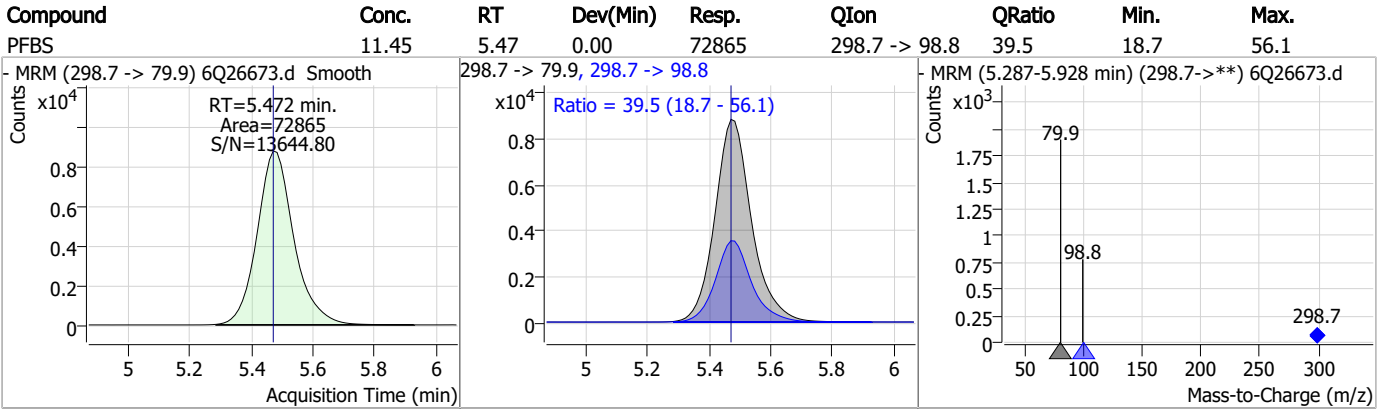


# Perfluorinated Compounds by LC/MS/MS

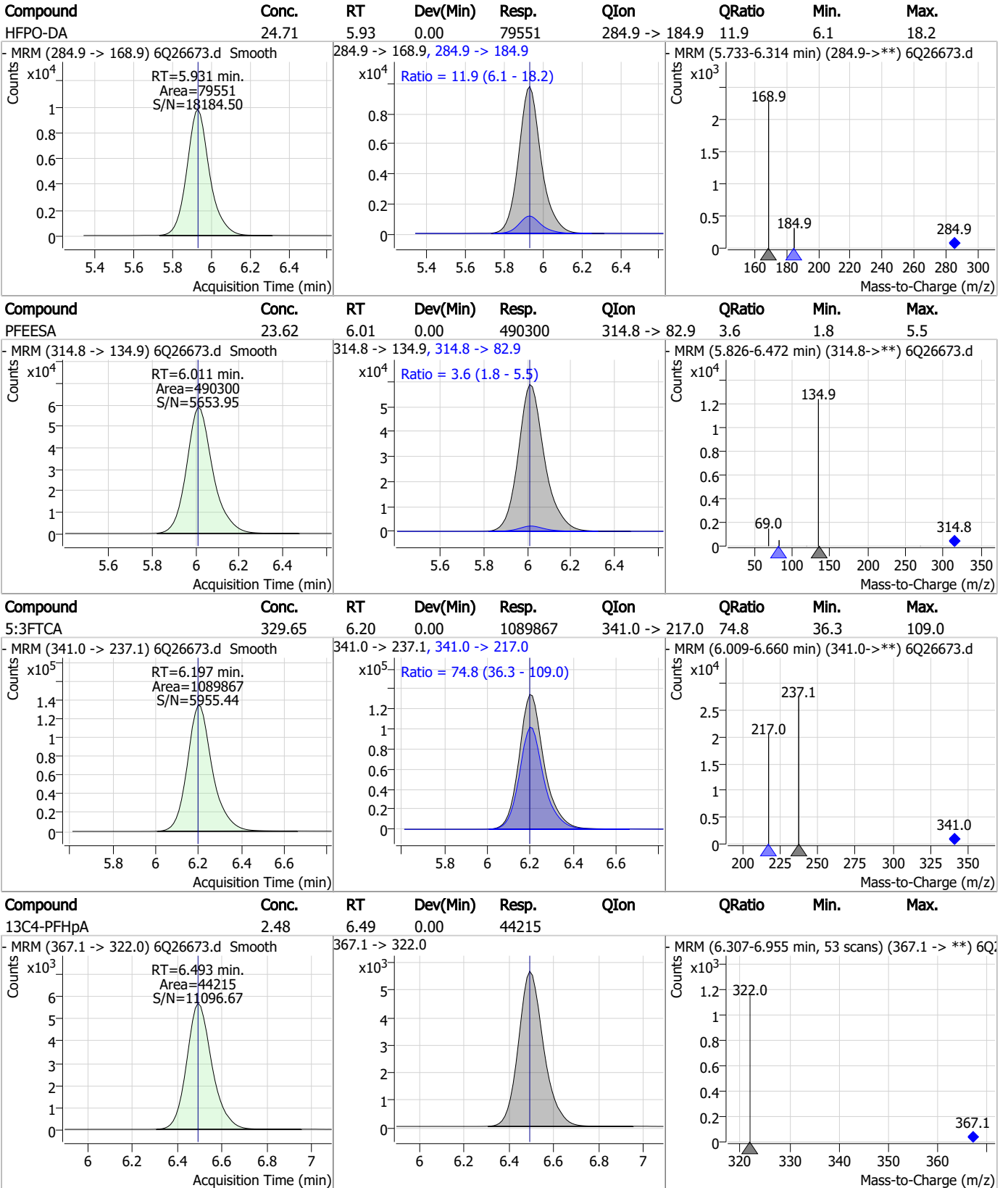


7.6.10 7

# Perfluorinated Compounds by LC/MS/MS

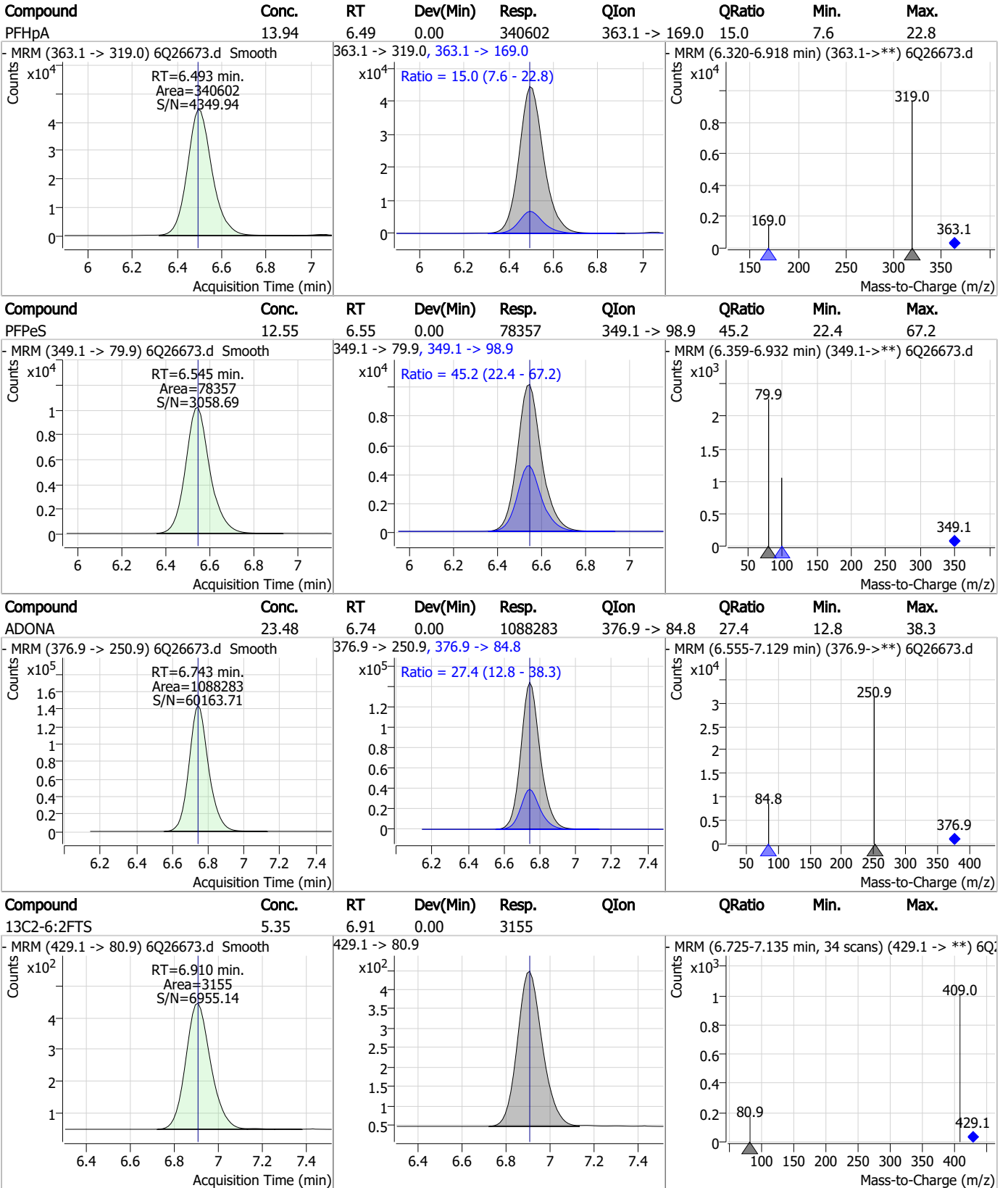


# Perfluorinated Compounds by LC/MS/MS



7.6.10 7

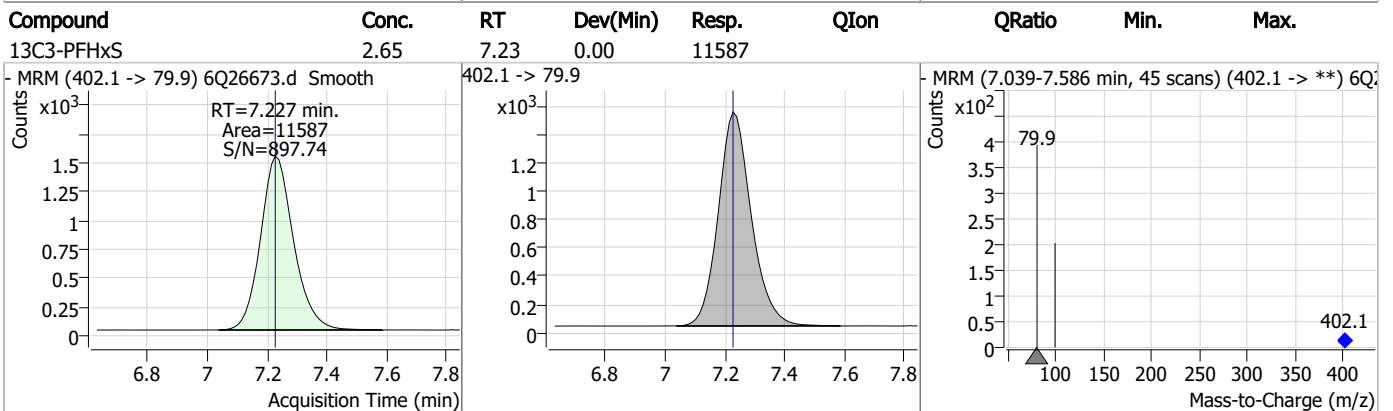
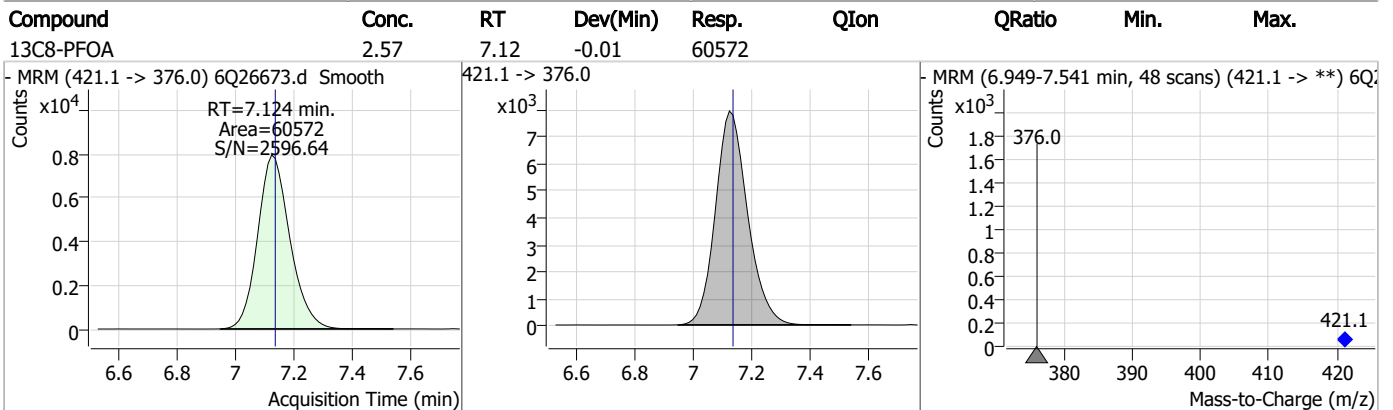
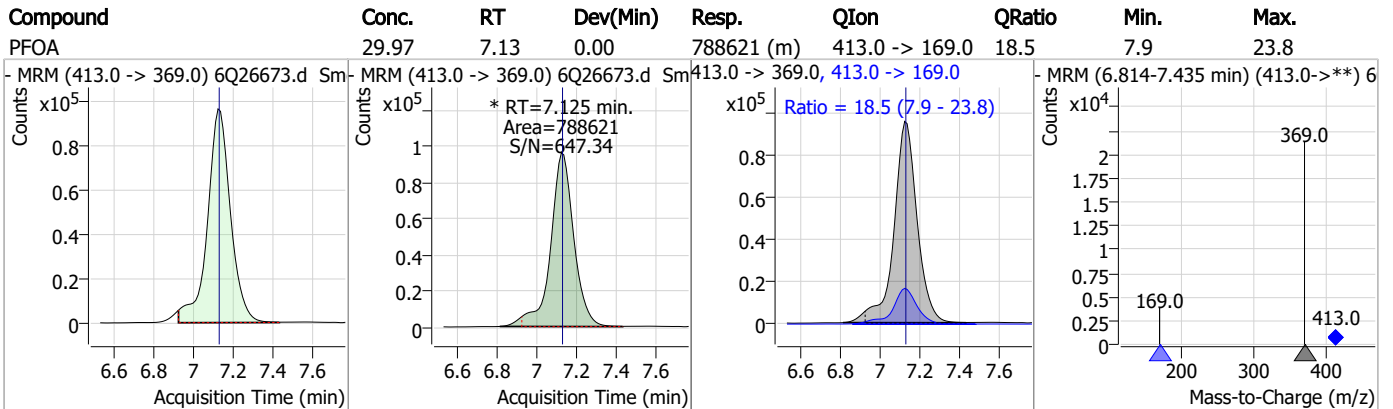
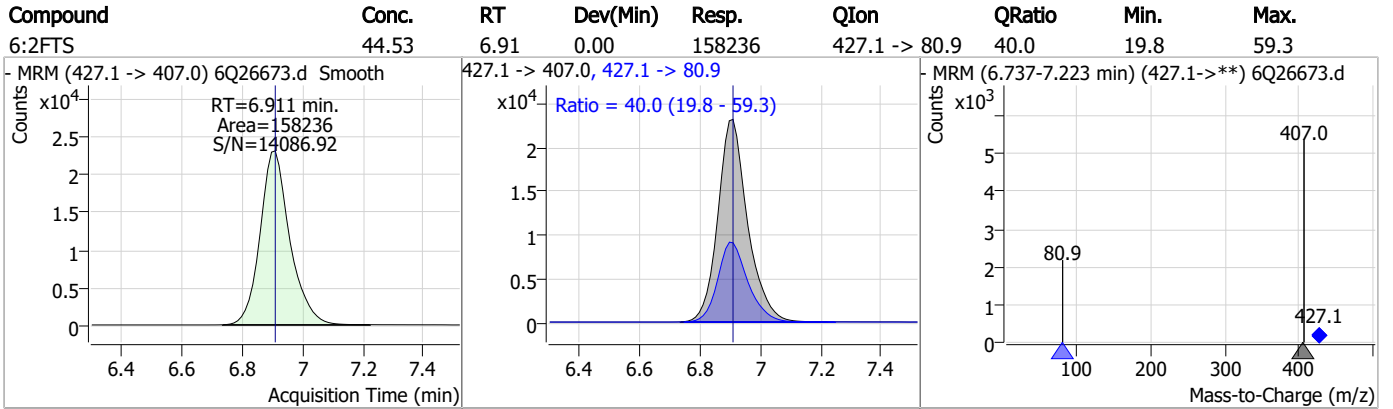
# Perfluorinated Compounds by LC/MS/MS



7.6.10

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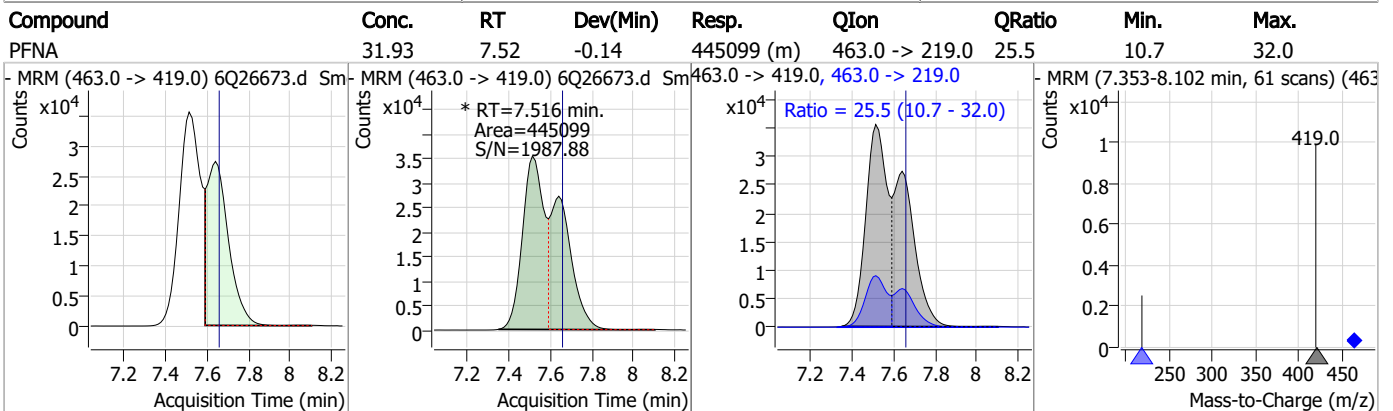
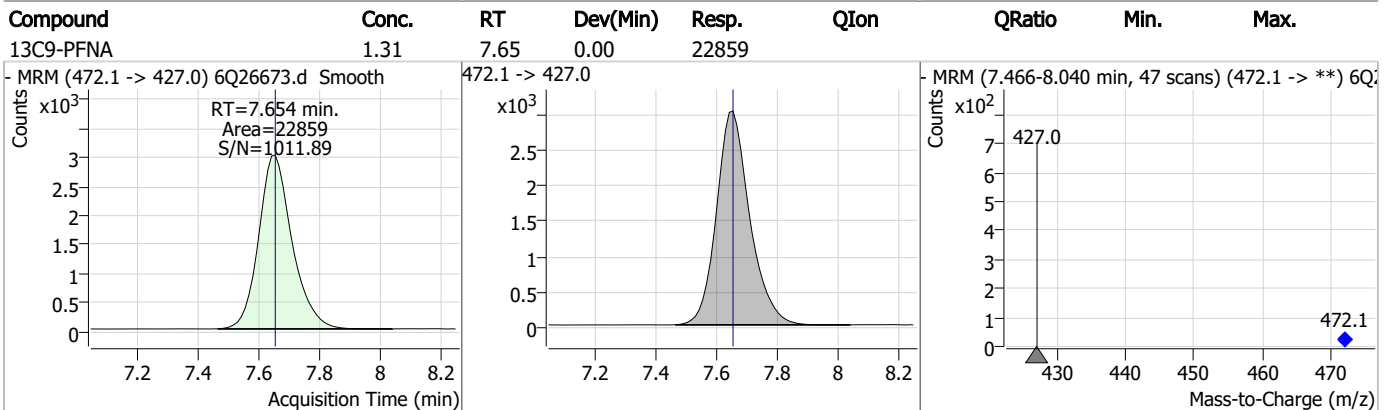
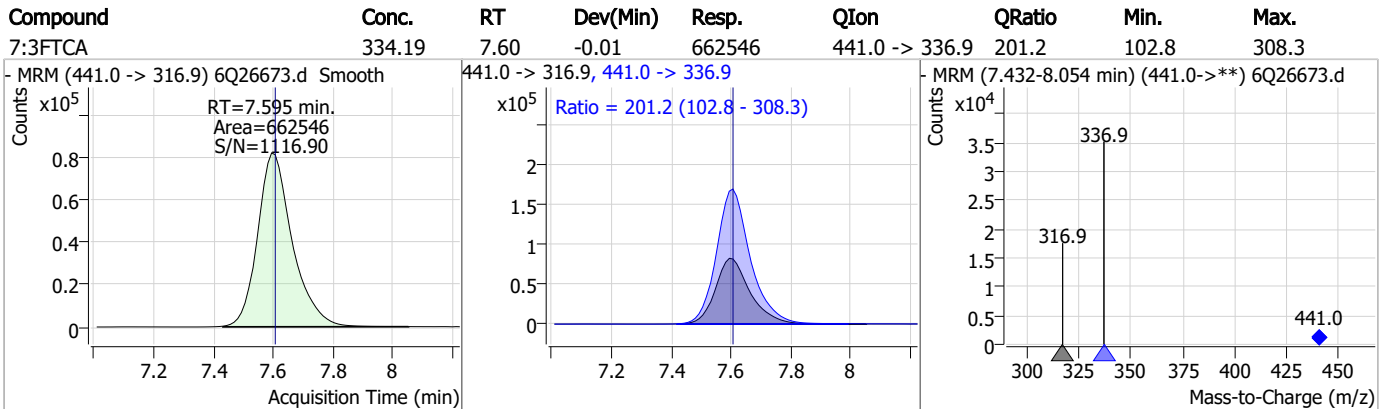
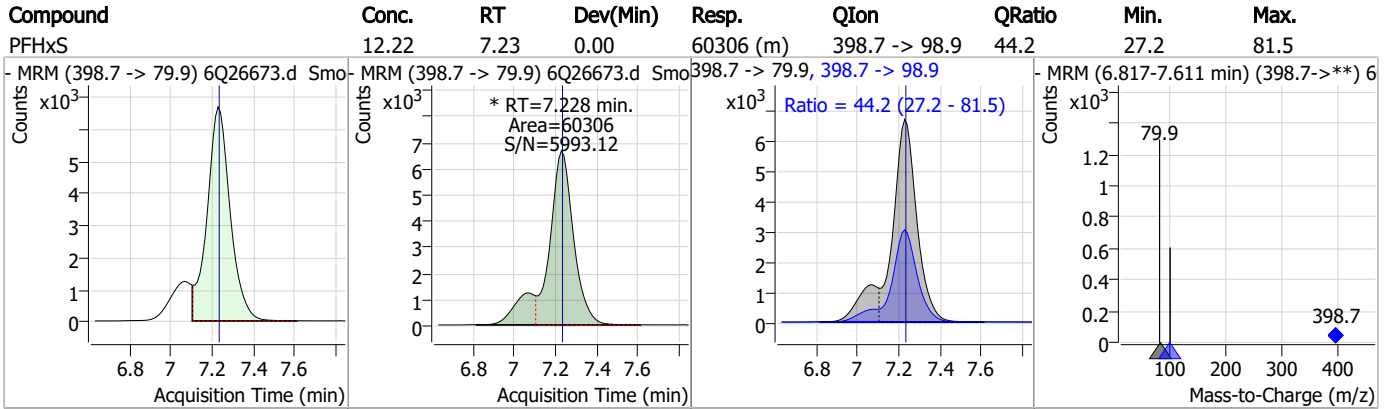
# Perfluorinated Compounds by LC/MS/MS



7.6.10 7



# Perfluorinated Compounds by LC/MS/MS



7.6.10 7

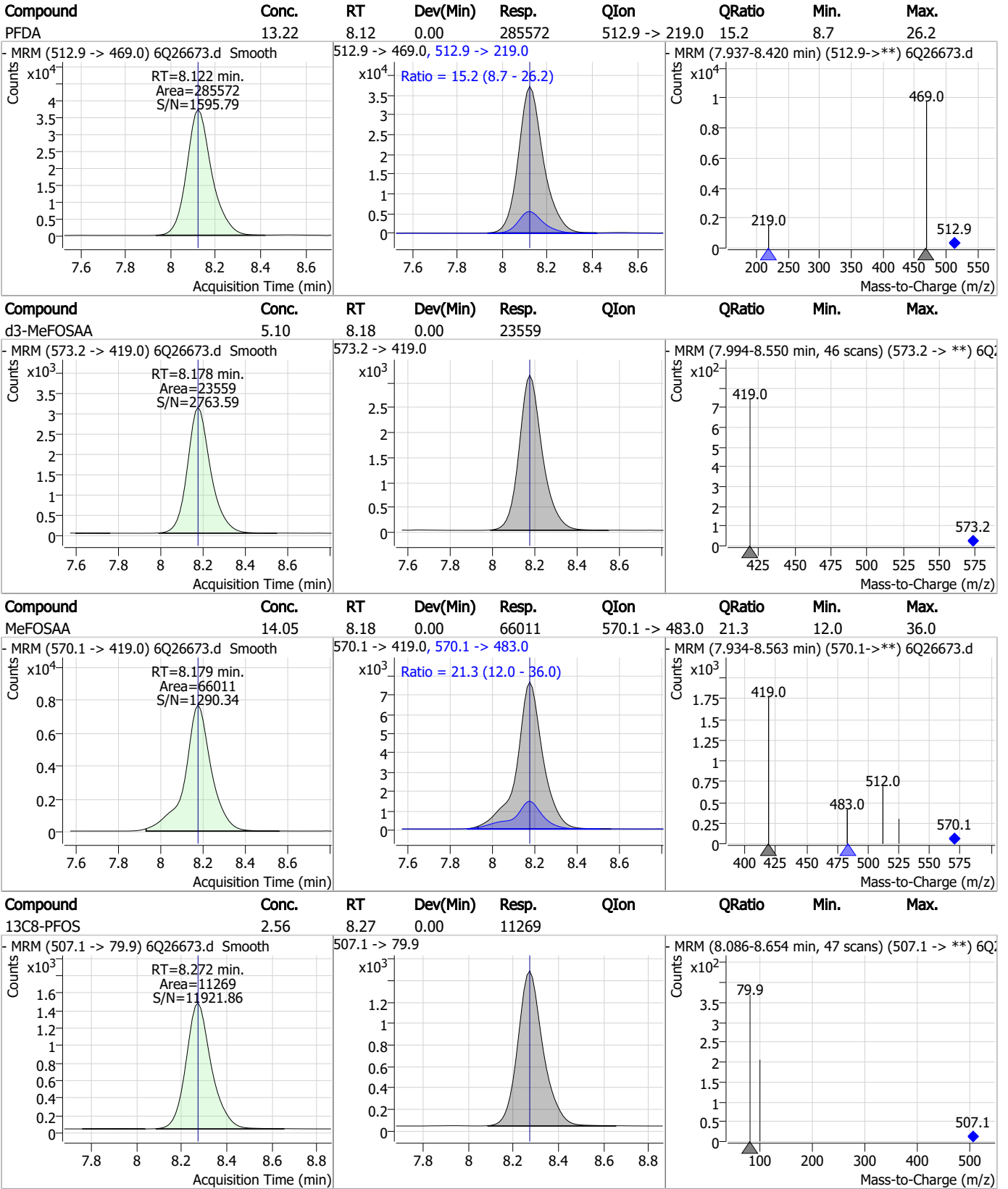
# Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpS	12.64	7.78	0.00	59873	449.0 -> 98.9	50.7	24.7	74.2
8:2FTS	48.87	7.92	0.01	135869	527.1 -> 80.8	36.4	17.3	51.8
13C2-8:2FTS	5.35	7.92	0.00	3695	529.1 -> 80.9			
13C6-PFDA	1.22	8.12	0.00	26448	519.1 -> 474.1			

7.6.10

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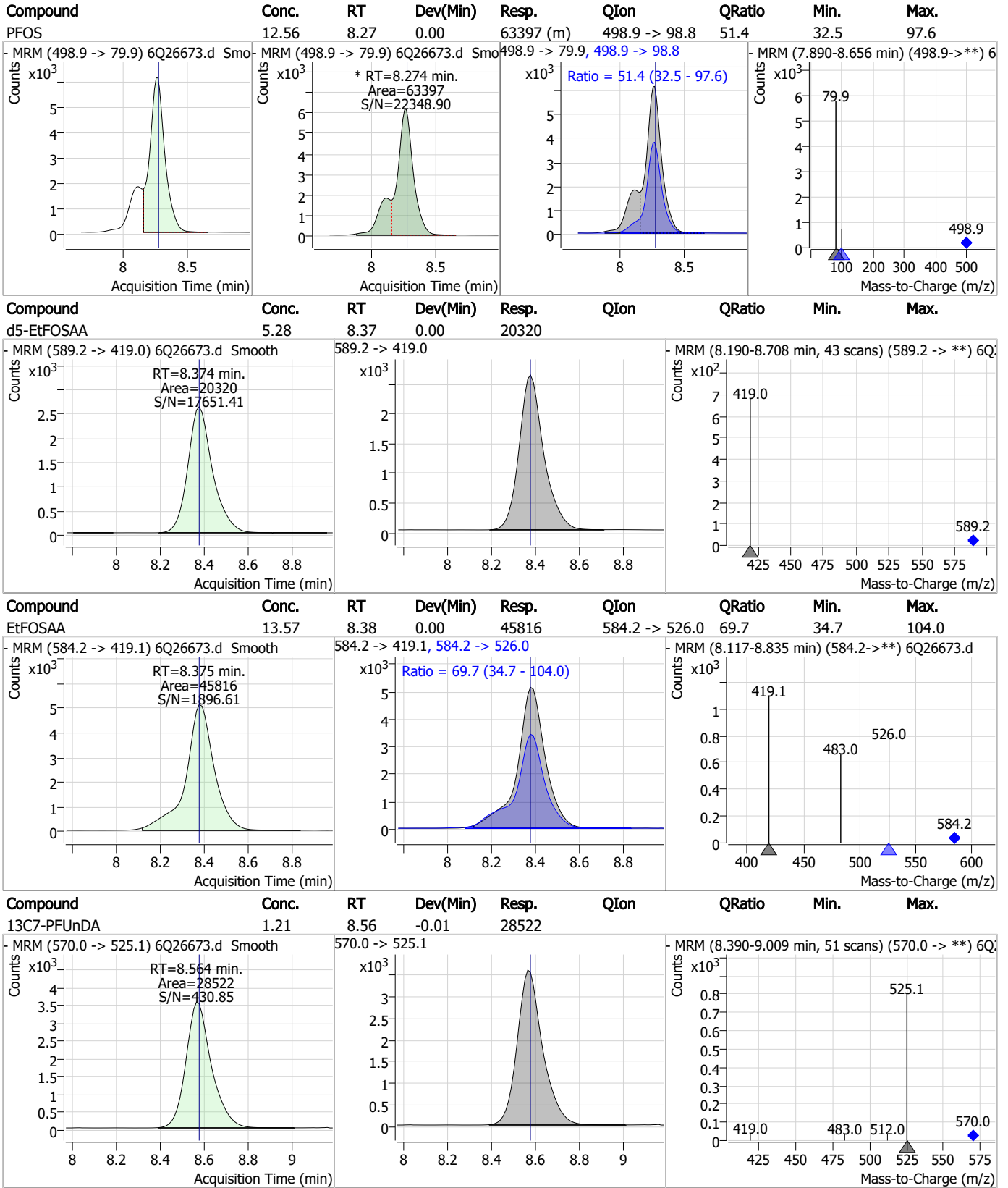
# Perfluorinated Compounds by LC/MS/MS



7.6.10 7

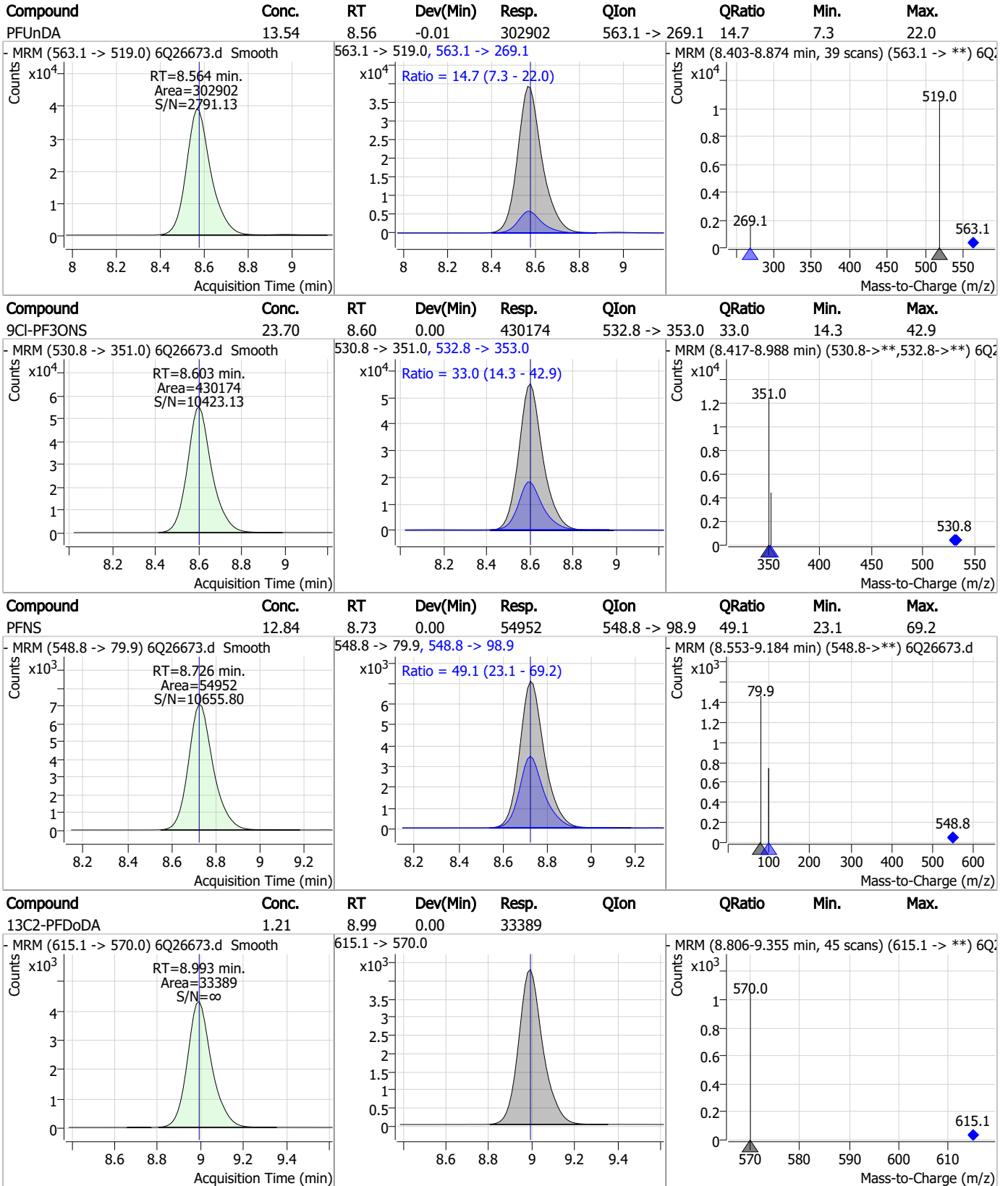


# Perfluorinated Compounds by LC/MS/MS



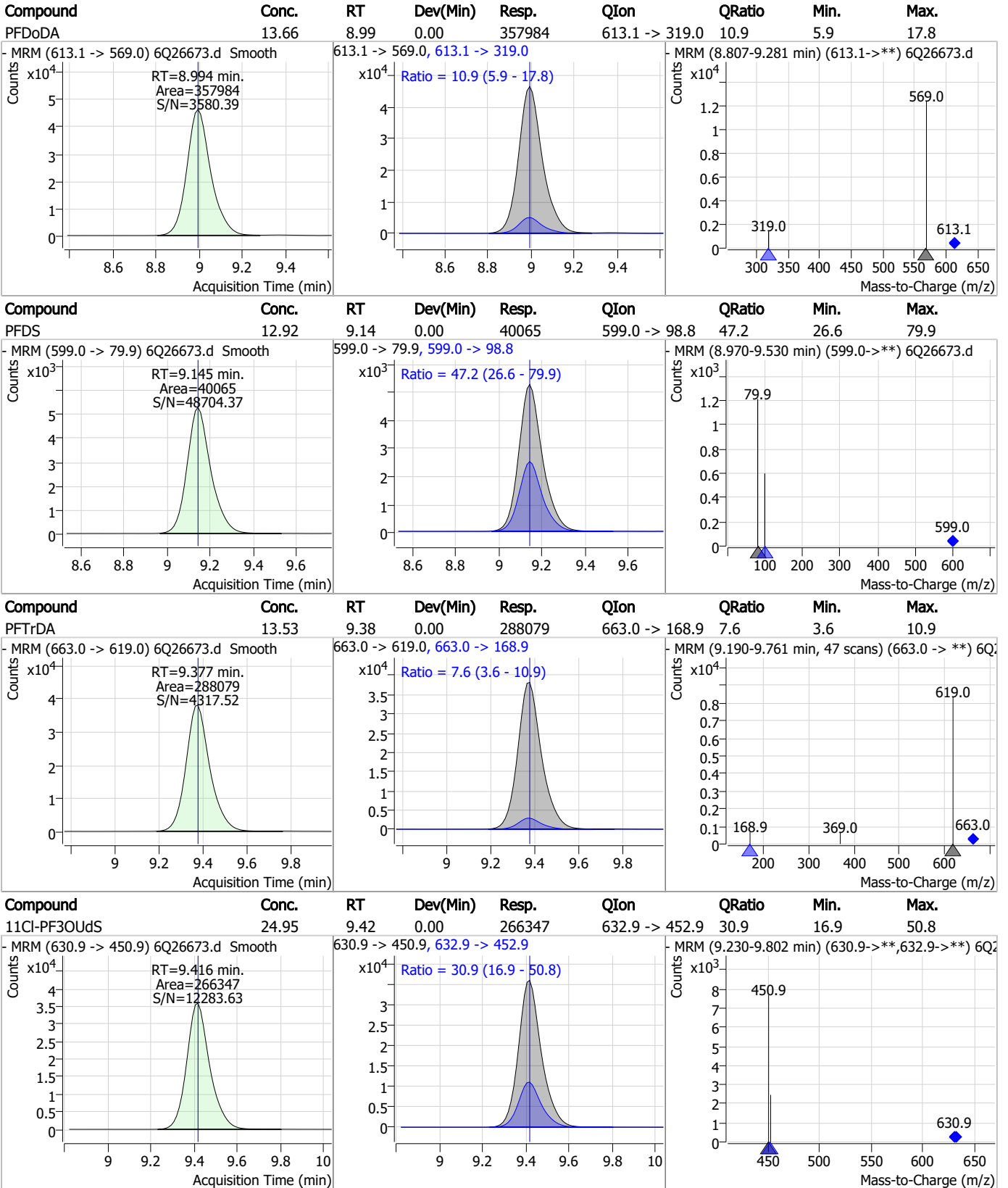
7.6-10  
7

# Perfluorinated Compounds by LC/MS/MS



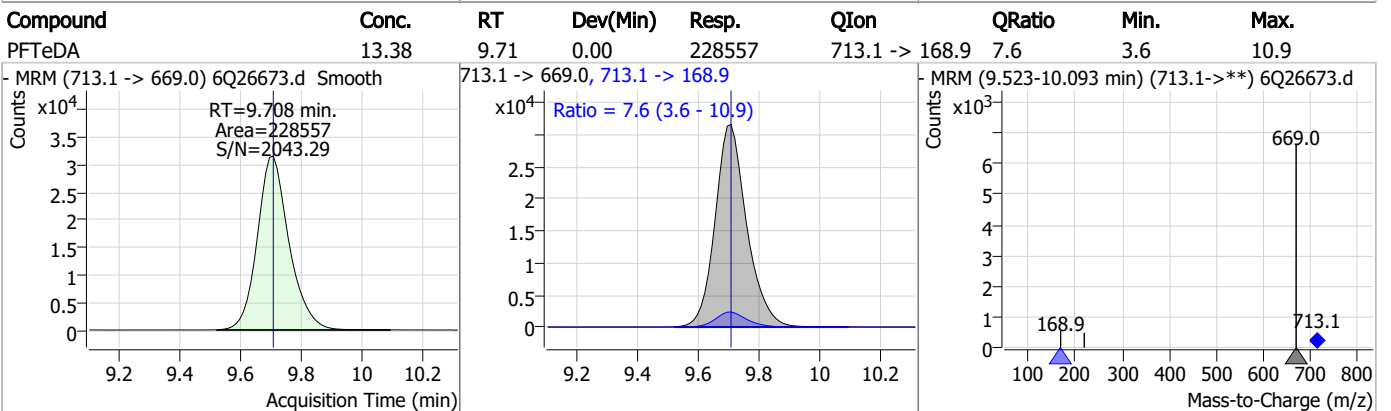
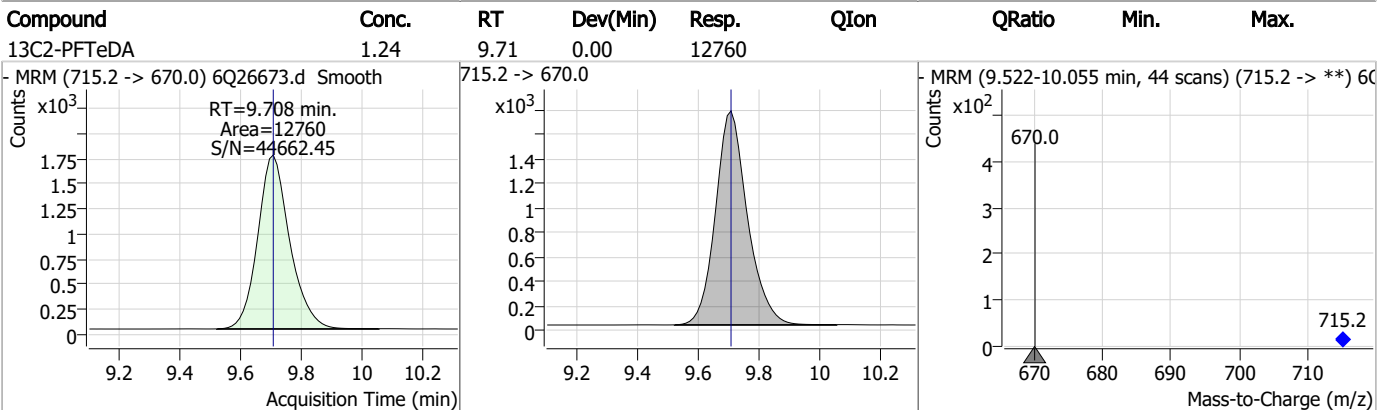
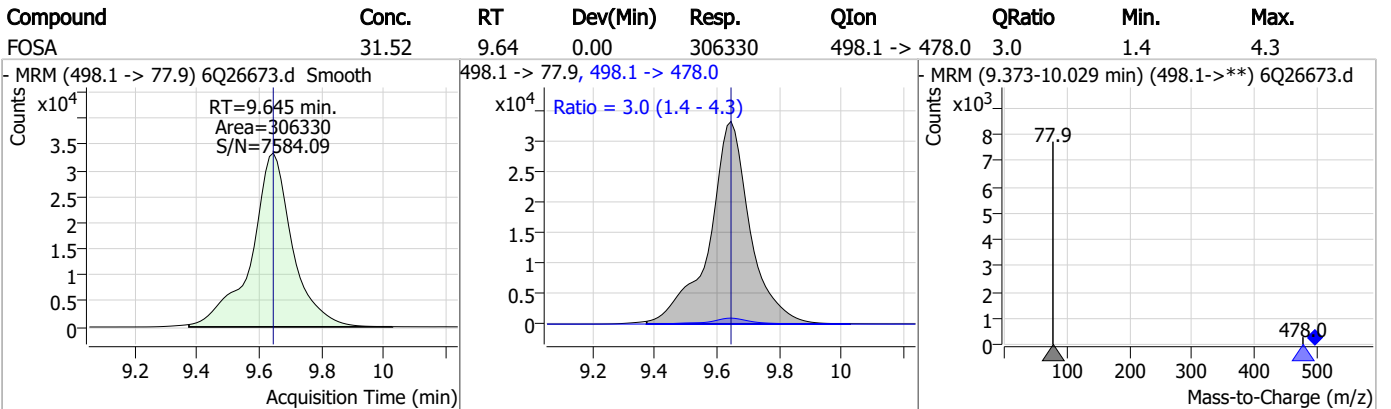
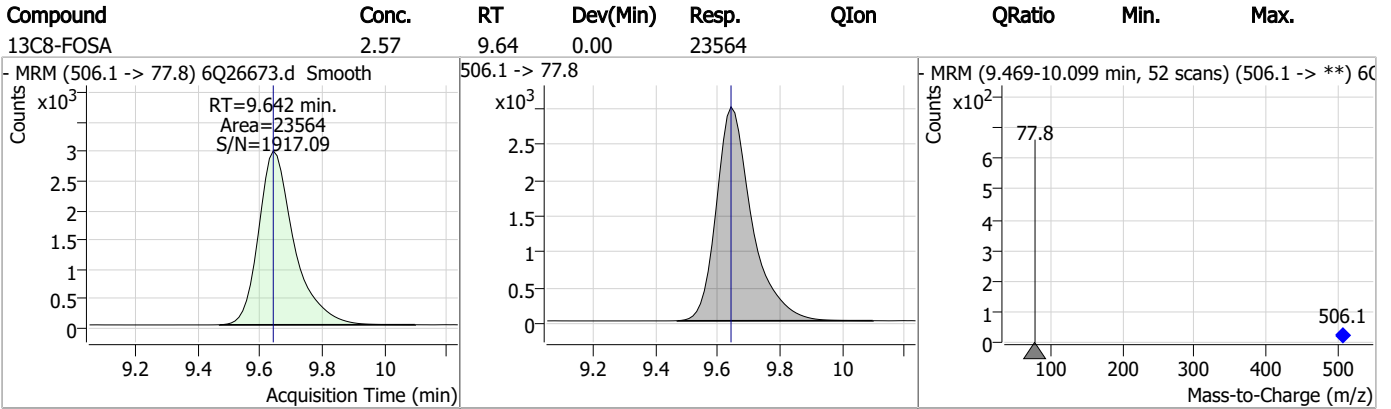
7.6.10 7

# Perfluorinated Compounds by LC/MS/MS



7.6.10 7

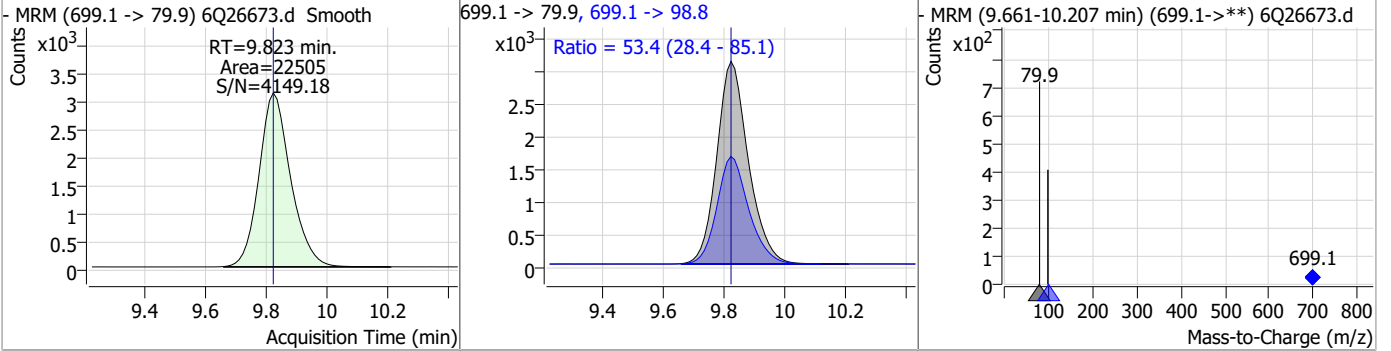
# Perfluorinated Compounds by LC/MS/MS



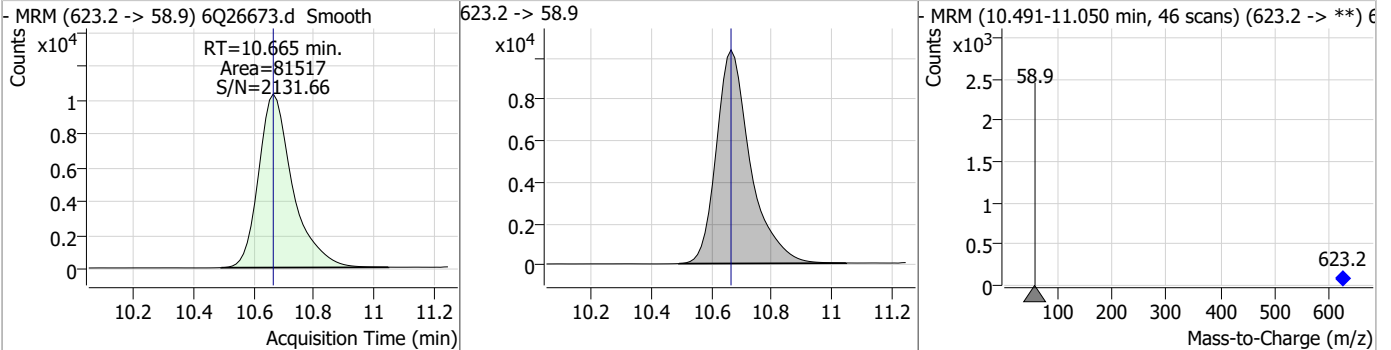
7.6.10 7

# Perfluorinated Compounds by LC/MS/MS

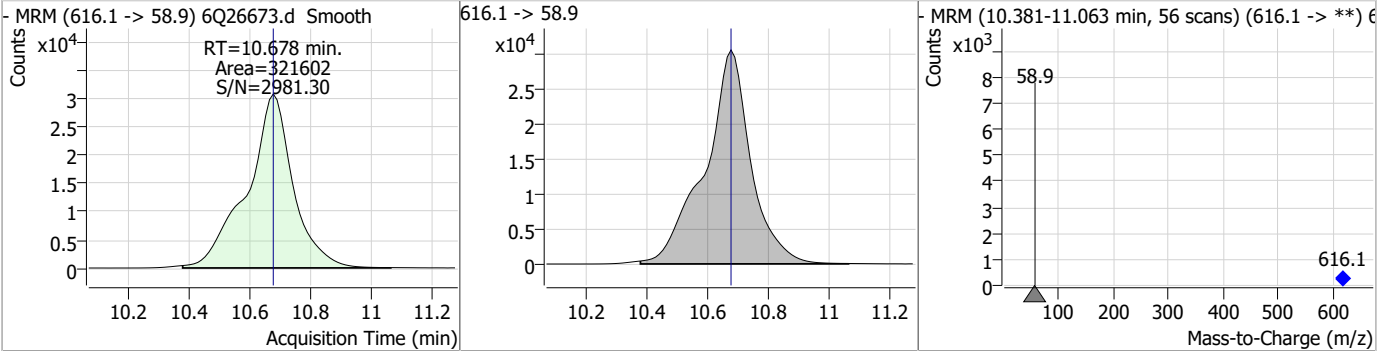
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoS	12.90	9.82	0.00	22505	699.1 -> 98.8	53.4	28.4	85.1



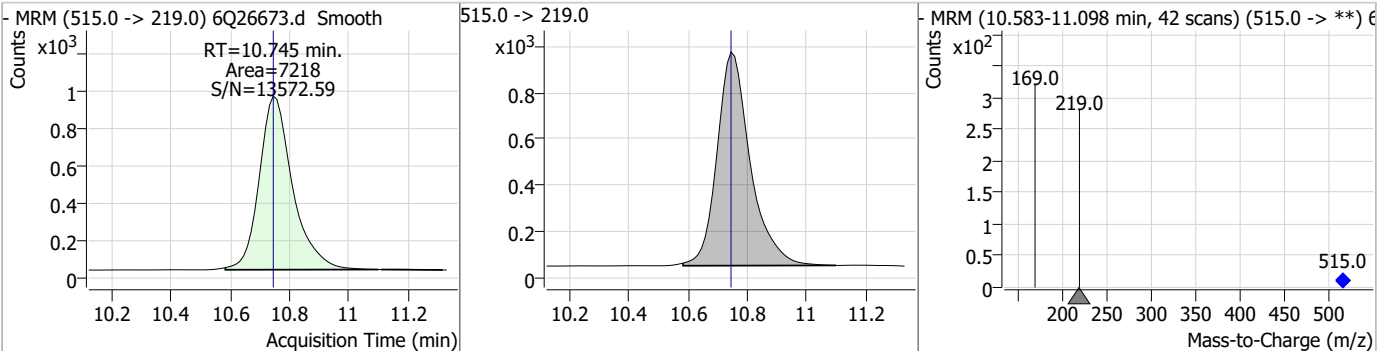
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d7-MeFOSE	25.32	10.67	0.00	81517				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSE	92.95	10.68	0.00	321602				

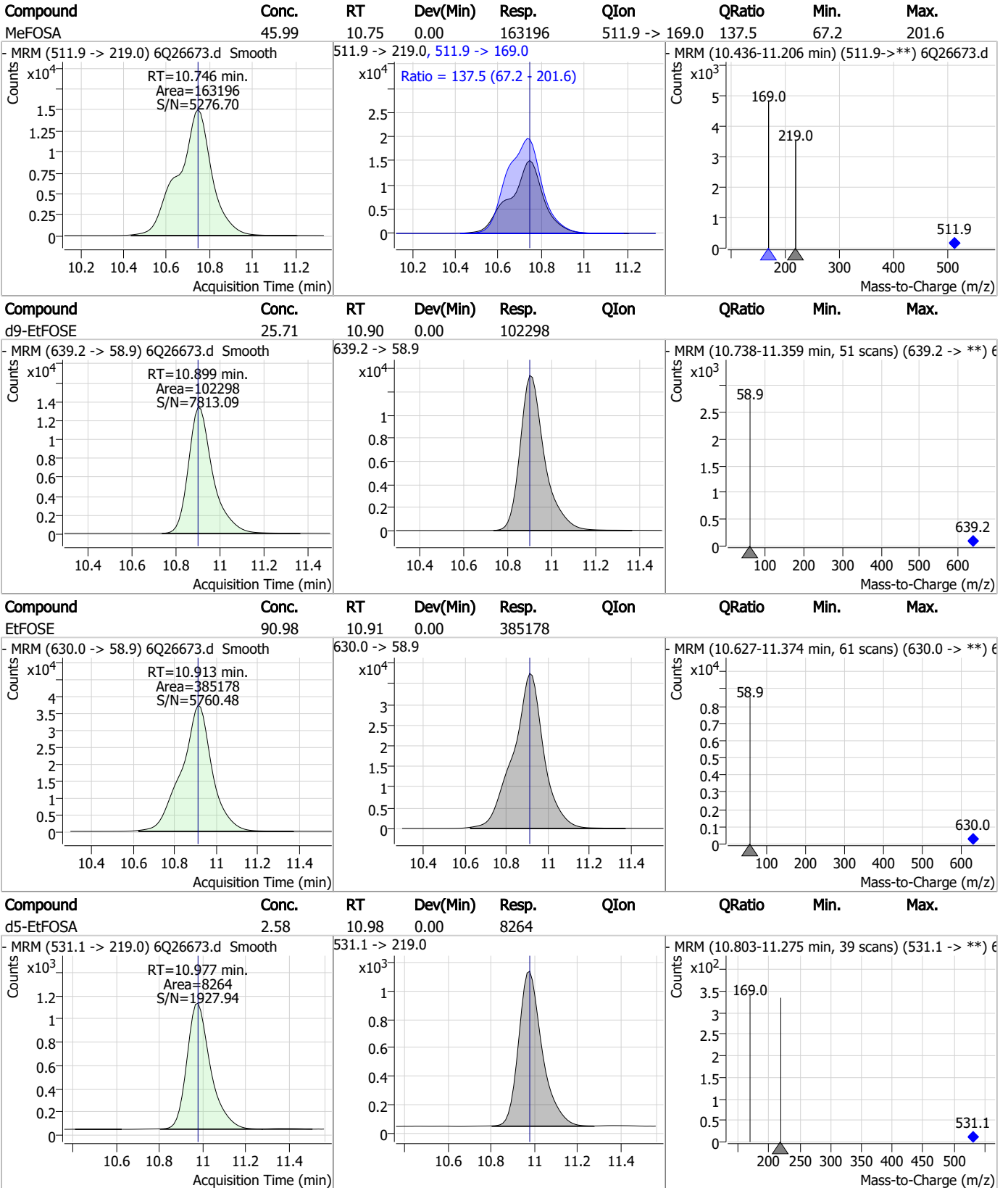


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSA	2.61	10.74	0.00	7218				





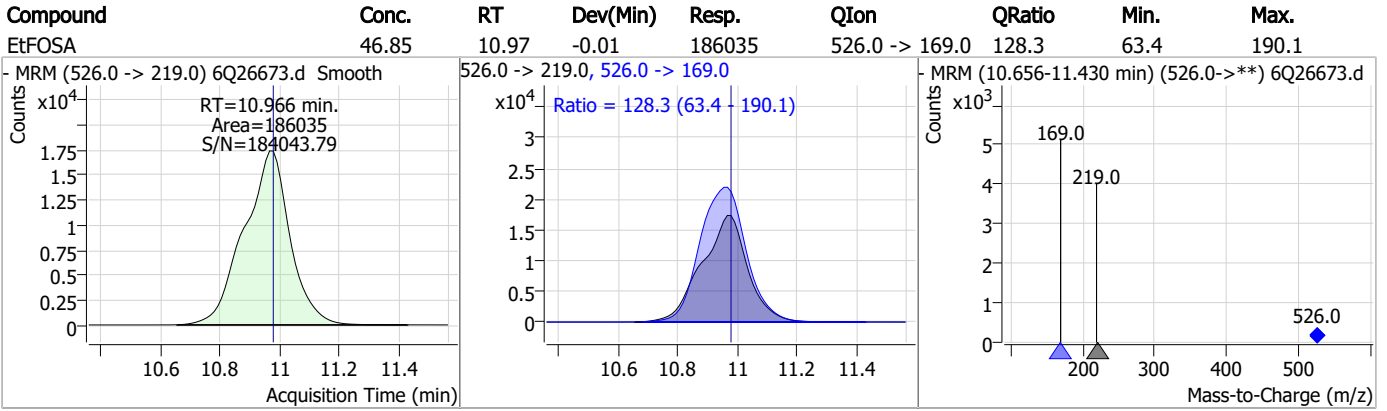
# Perfluorinated Compounds by LC/MS/MS



7.6.10 7



# Perfluorinated Compounds by LC/MS/MS



7.6.10  
7

# Manual Integration Approval Summary

Sample Number: S6Q373-RT                      Method: EPA DRAFT 1633  
Lab FileID: 6Q26673.D                      Analyst approved: 10/19/23 11:29 Martha Valls  
Injection Time: 10/18/23 18:22                      Supervisor approved: 10/19/23 14:22 Natasha Gumtie

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorooctanoic acid	335-67-1		7.12	Split peak
Perfluorohexanesulfonic acid	355-46-4		7.23	Split peak
Perfluorononanoic acid	375-95-1		7.52	Split peak
Perfluorooctanesulfonic acid	1763-23-1		8.27	Split peak

7.6.10.1  
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

# 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  
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## 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)
<b>Internal Standards</b>					
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
<b>System Monitoring Compounds</b>					
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%	
<b>Target Compounds</b>					<b>QValue</b>
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



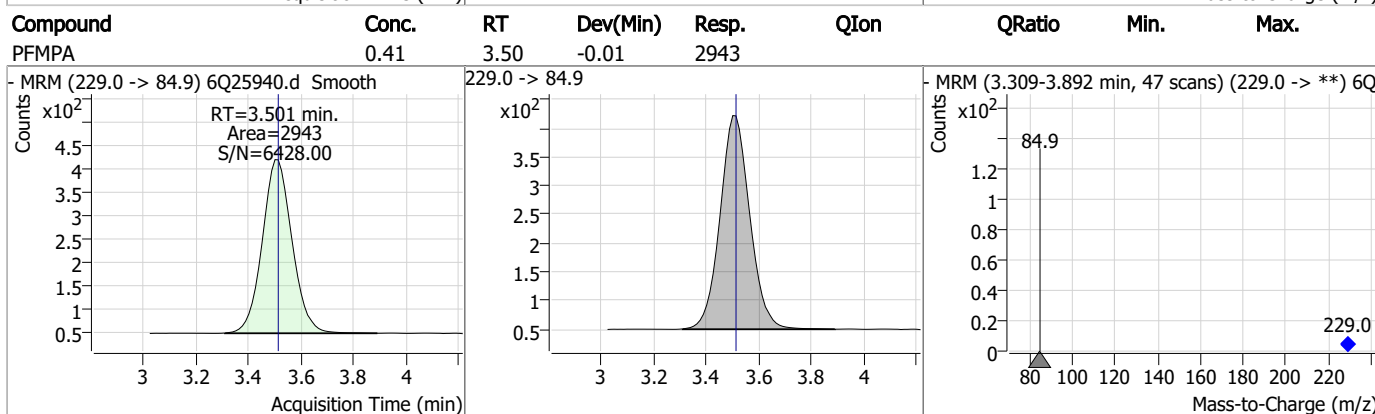
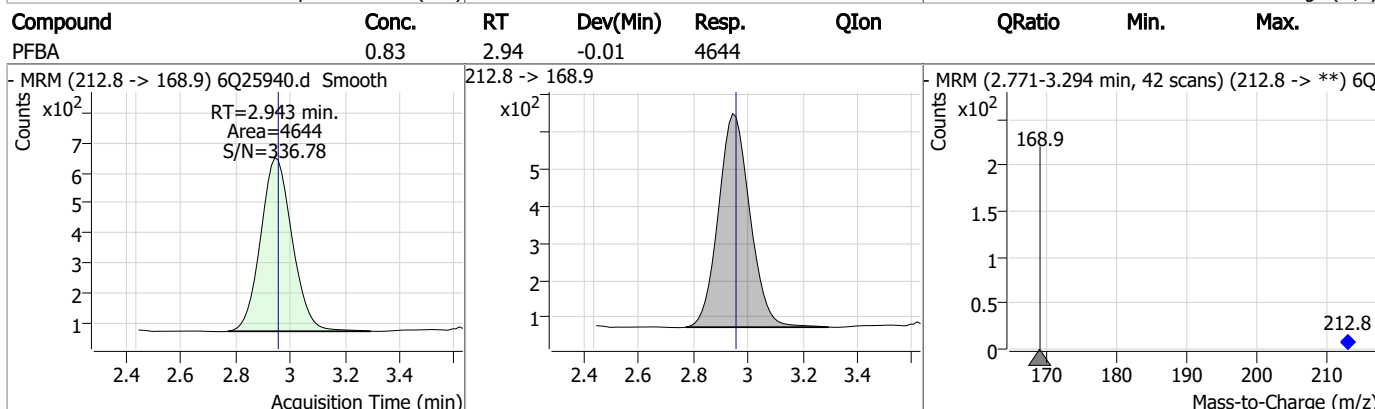
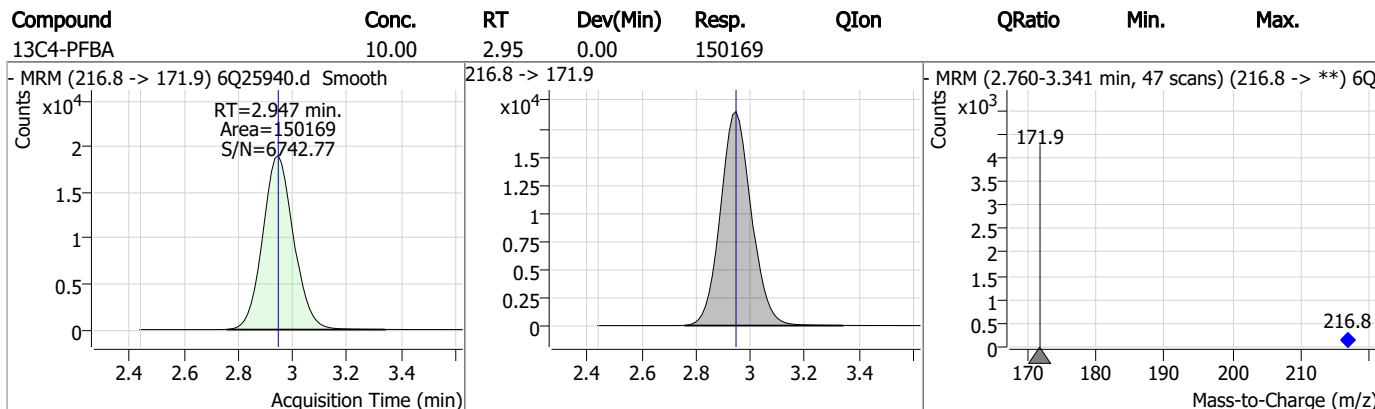
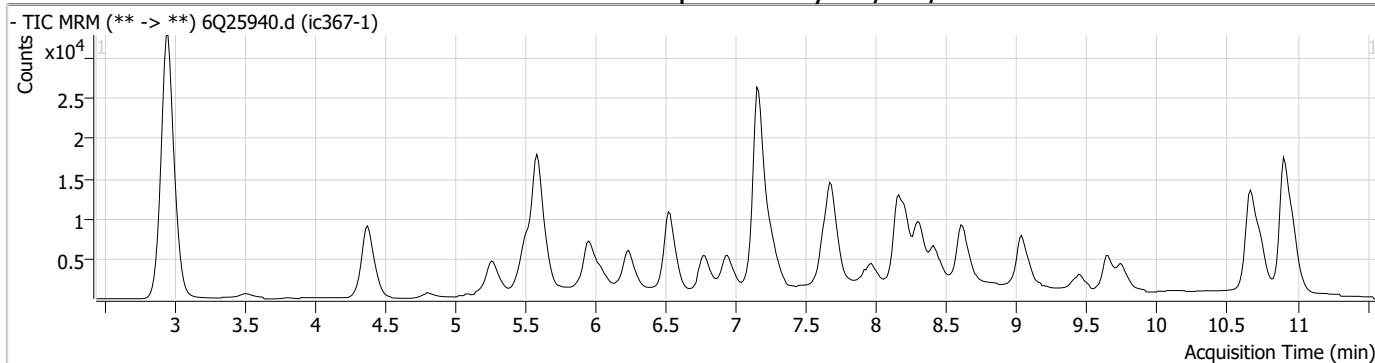
### Perfluorinated Compounds by LC/MS/MS

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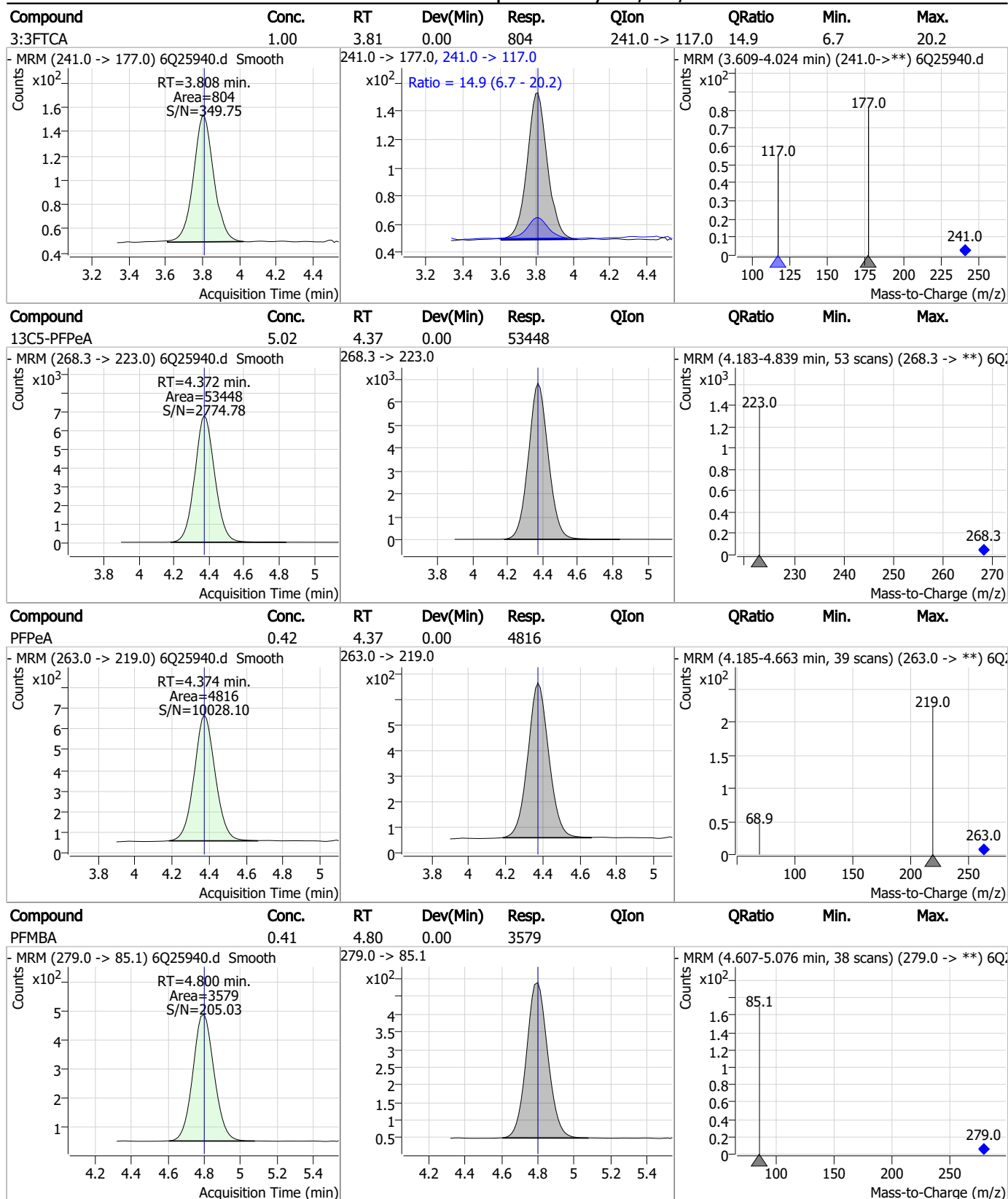
7.7.2  
7



### Perfluorinated Compounds by LC/MS/MS

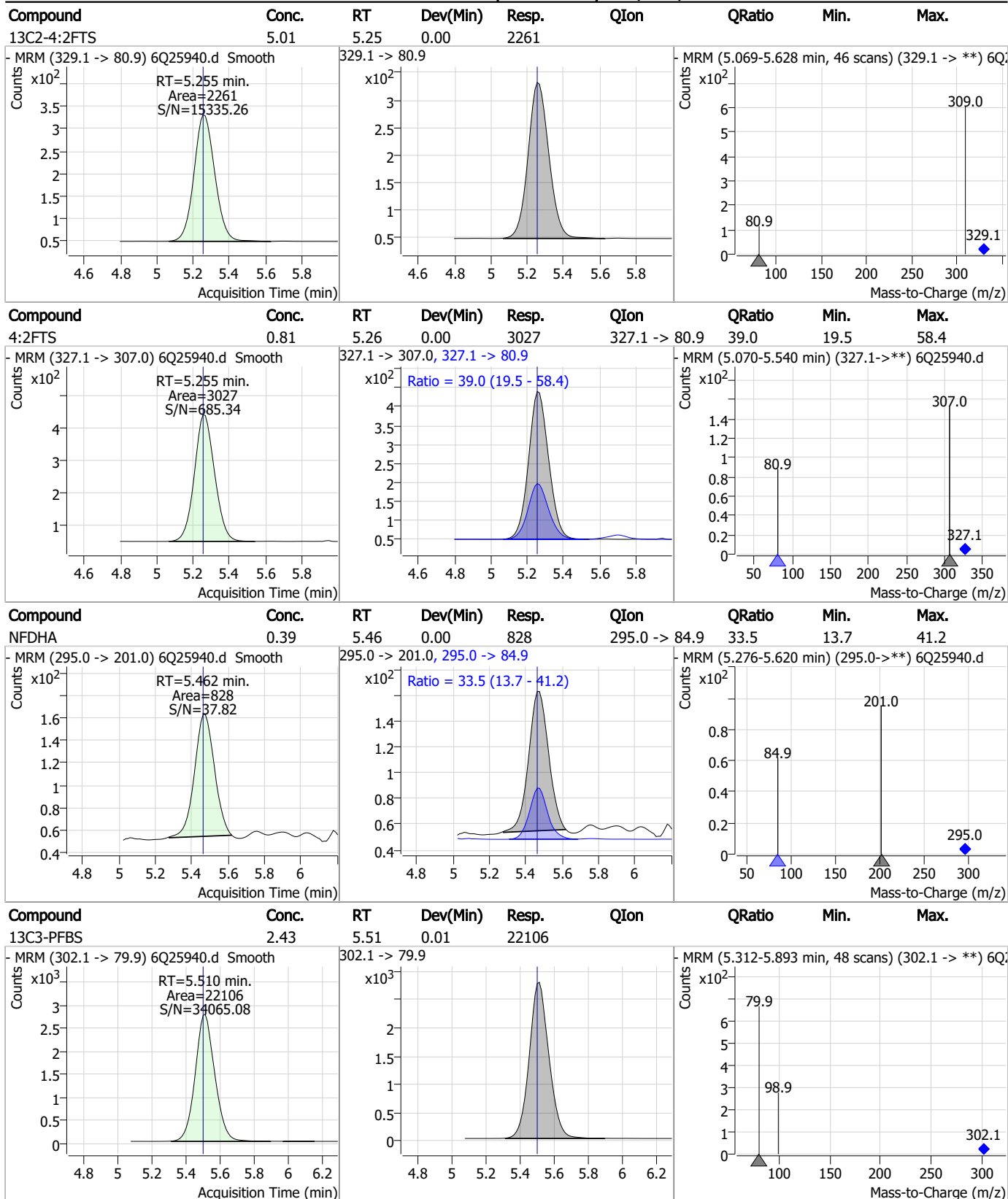


### Perfluorinated Compounds by LC/MS/MS



7.7.2  
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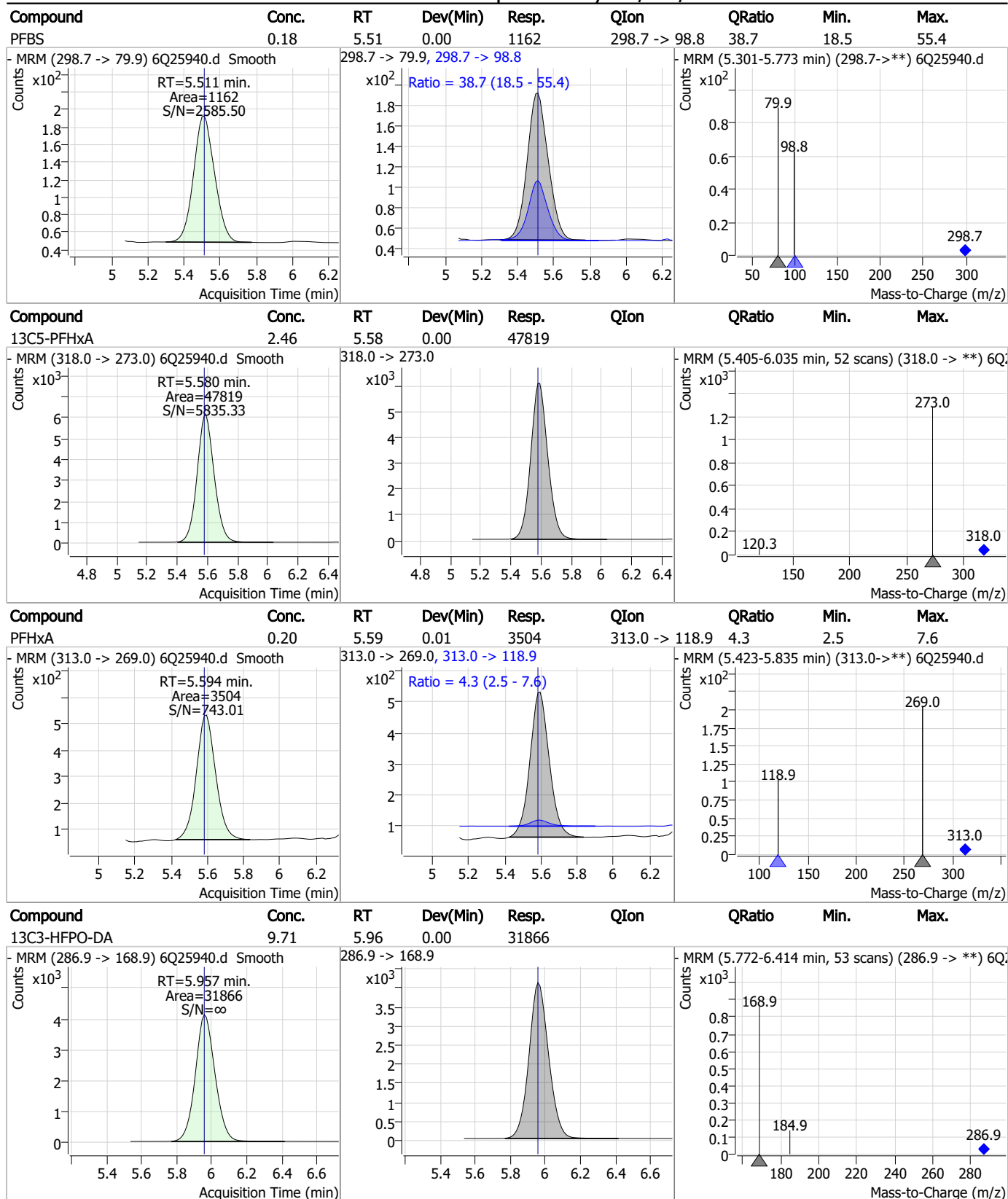
### Perfluorinated Compounds by LC/MS/MS



7.7.2  
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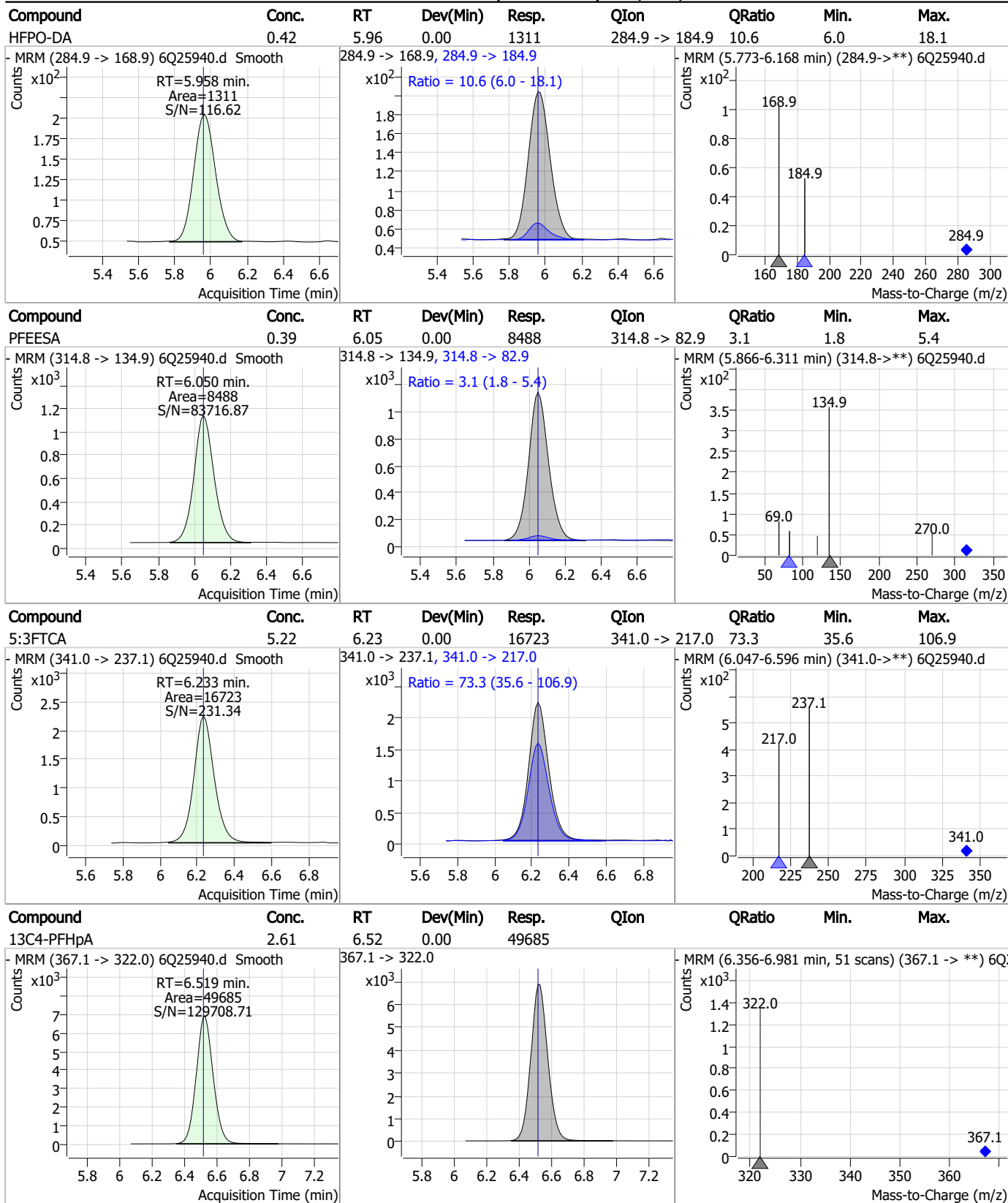


### Perfluorinated Compounds by LC/MS/MS



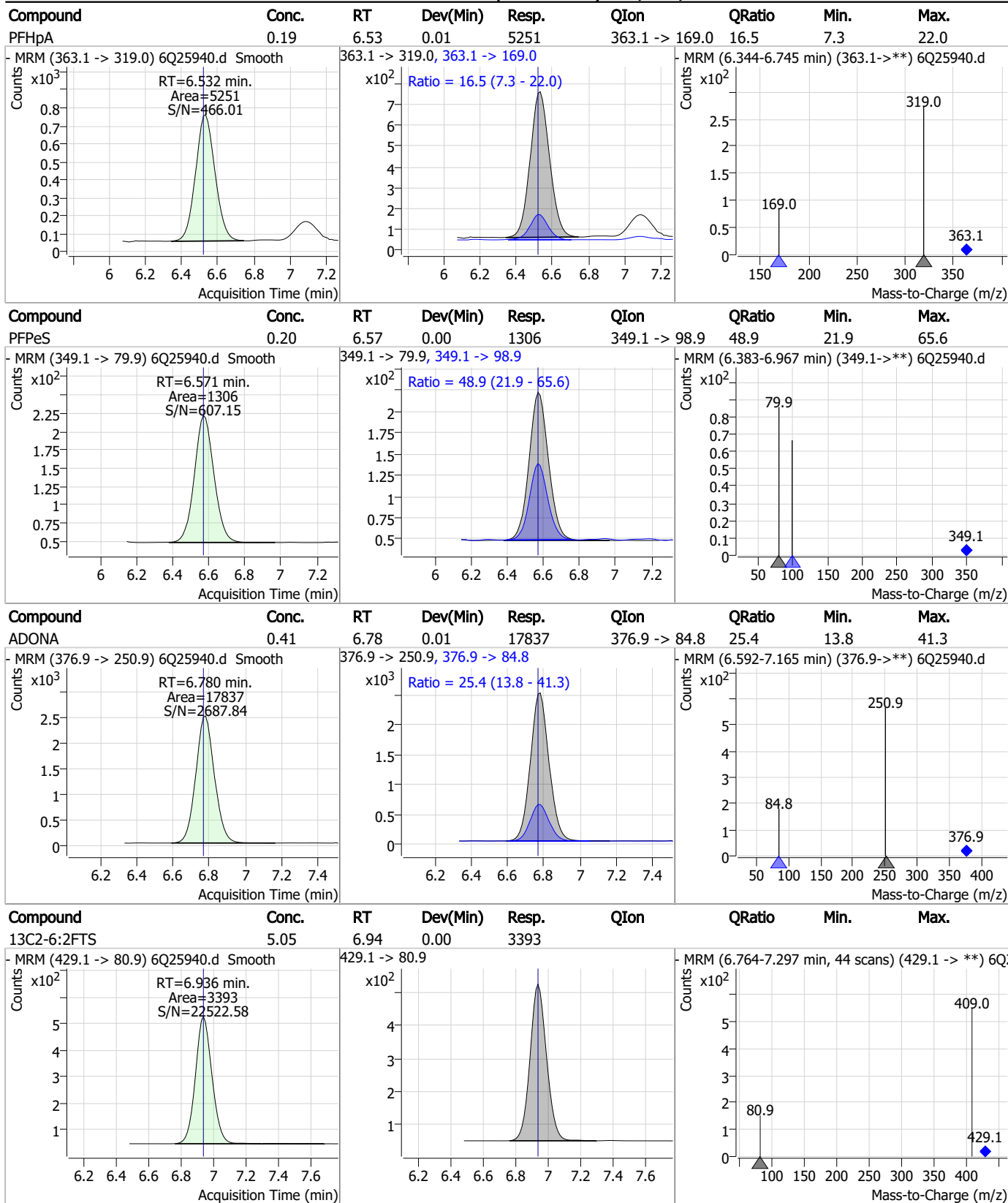
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### Perfluorinated Compounds by LC/MS/MS



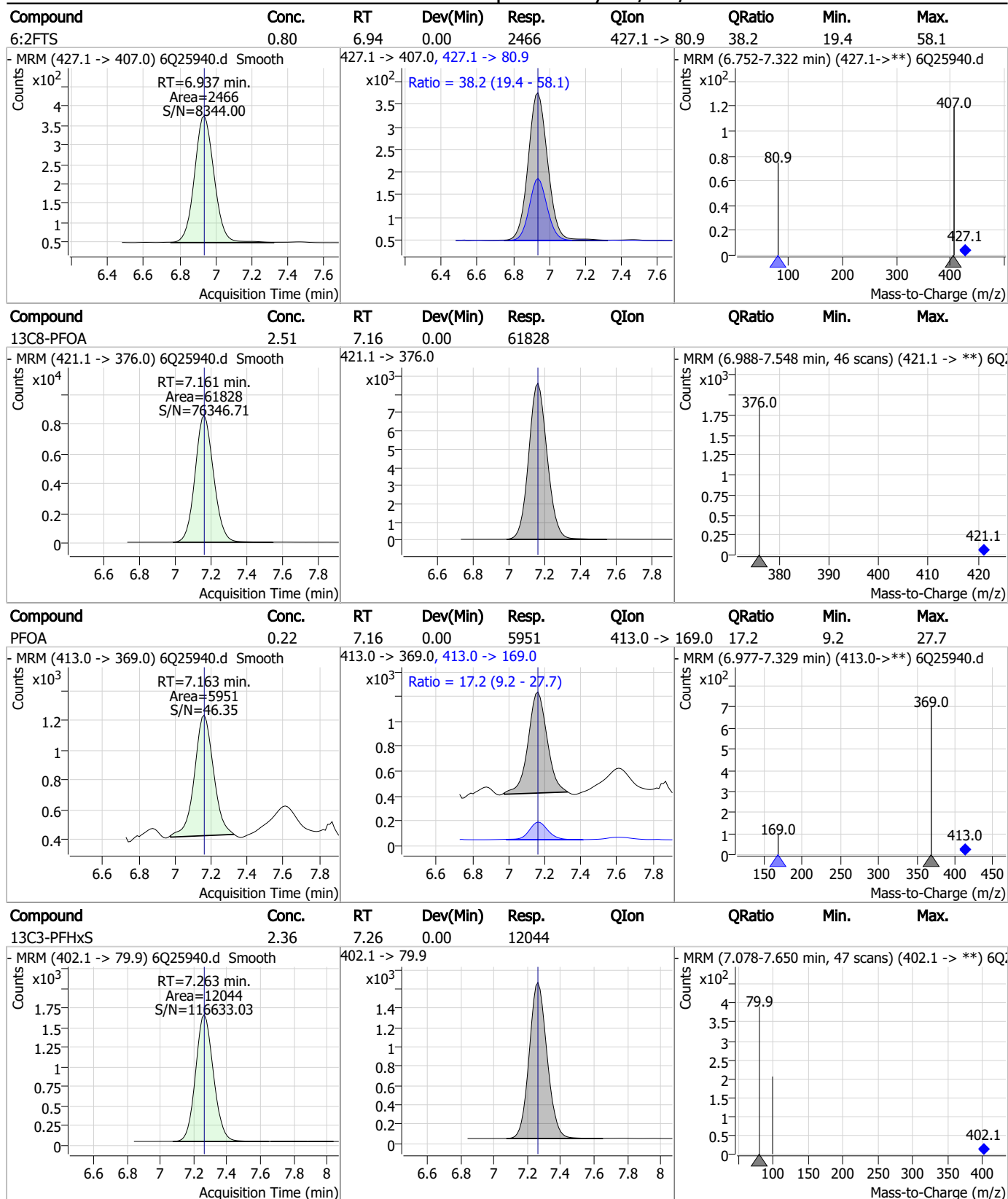
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### Perfluorinated Compounds by LC/MS/MS



7.7.2  
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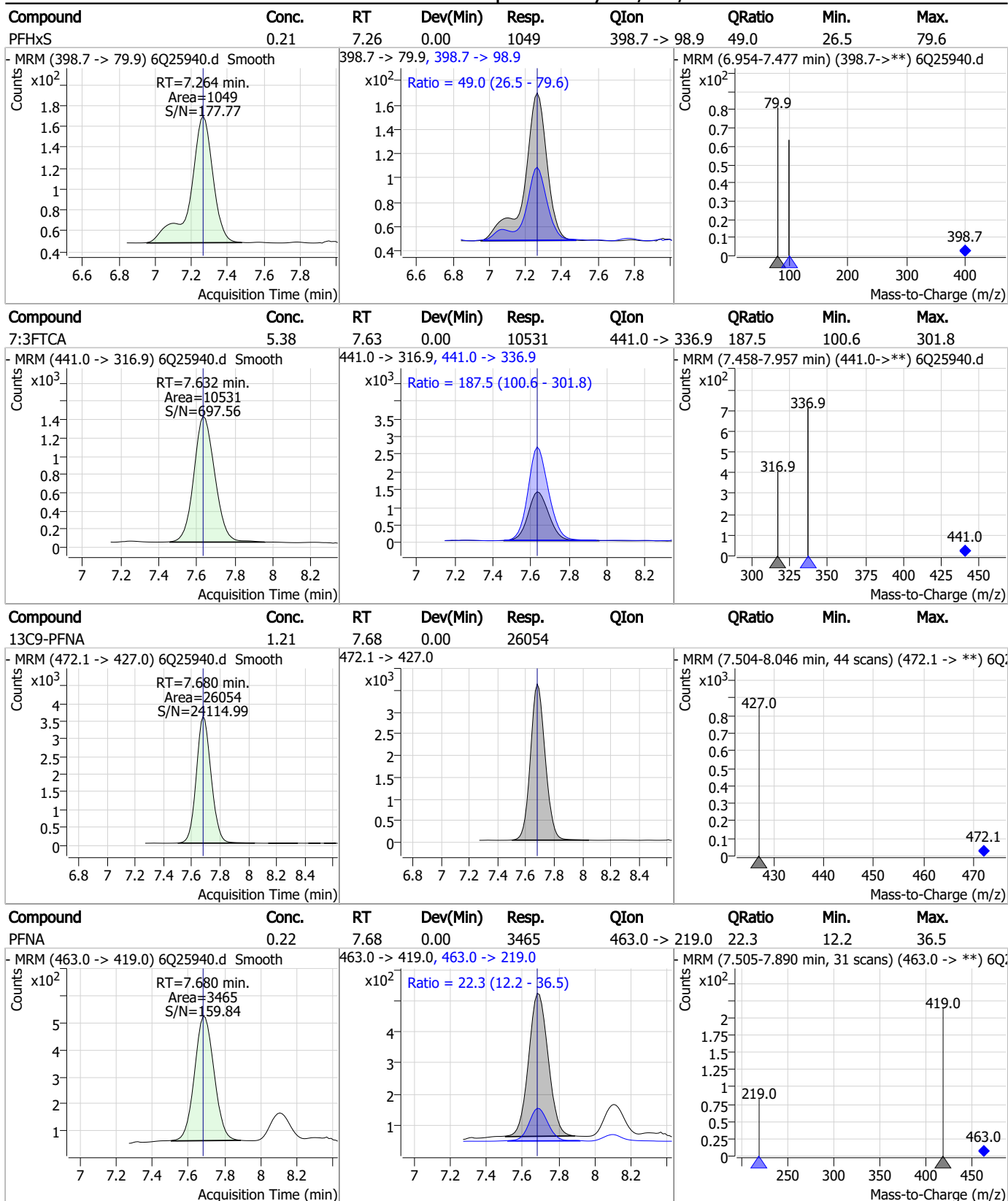
### Perfluorinated Compounds by LC/MS/MS



7.7.2  
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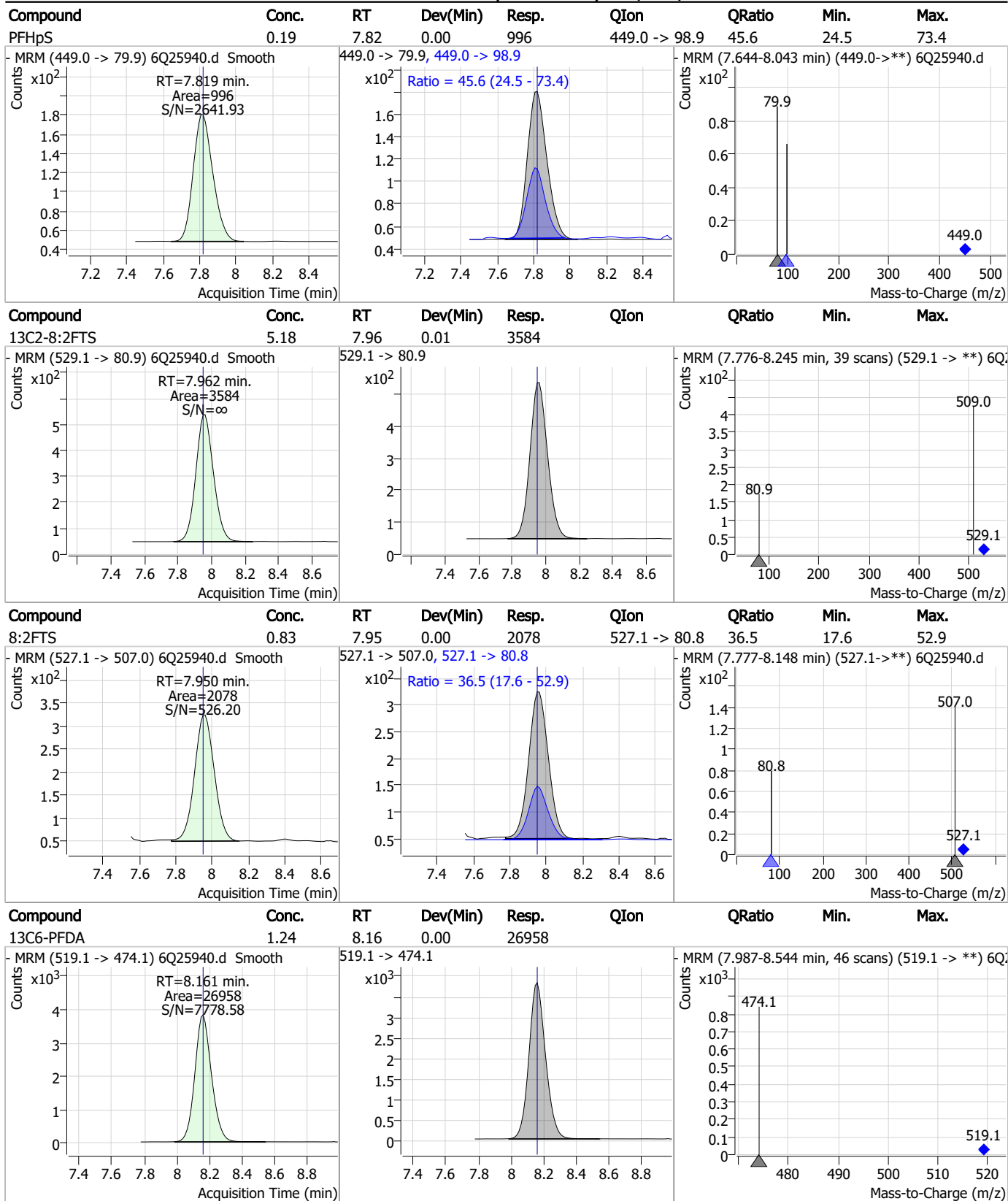


### Perfluorinated Compounds by LC/MS/MS



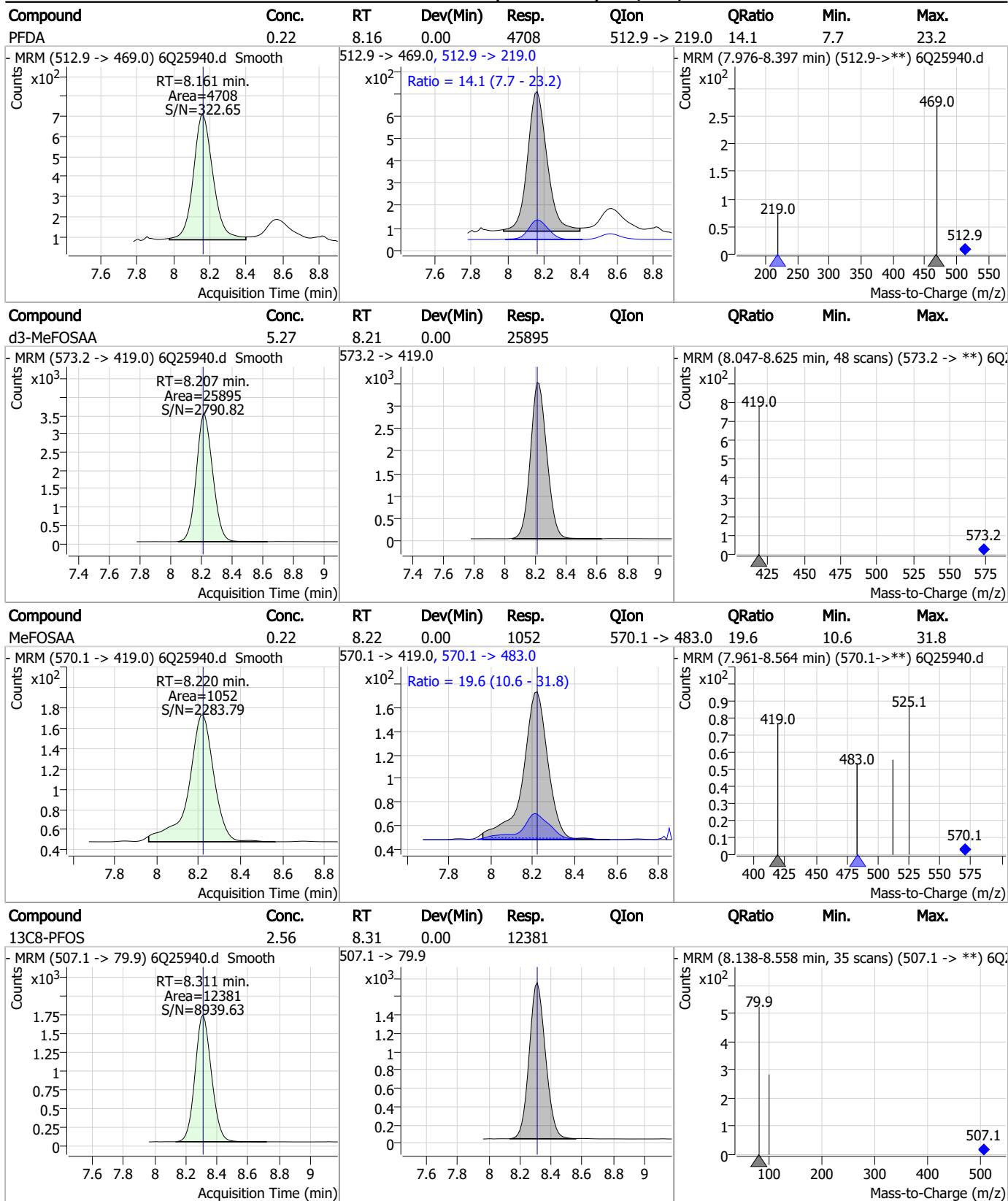
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### Perfluorinated Compounds by LC/MS/MS



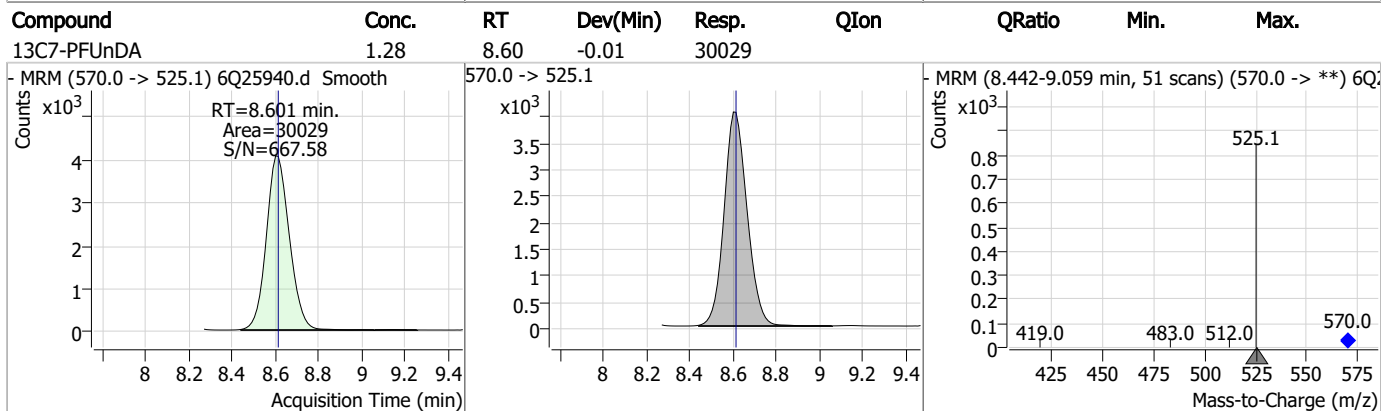
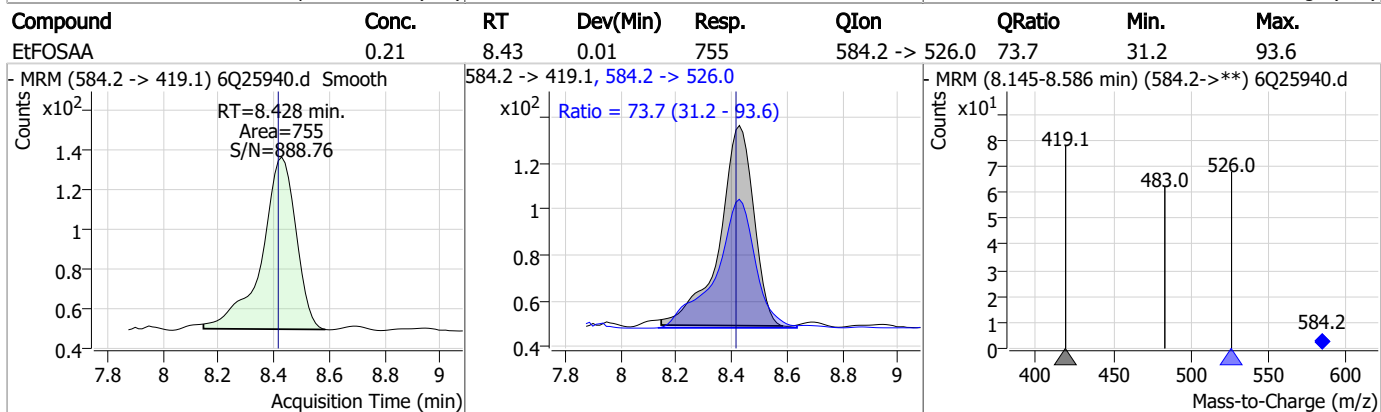
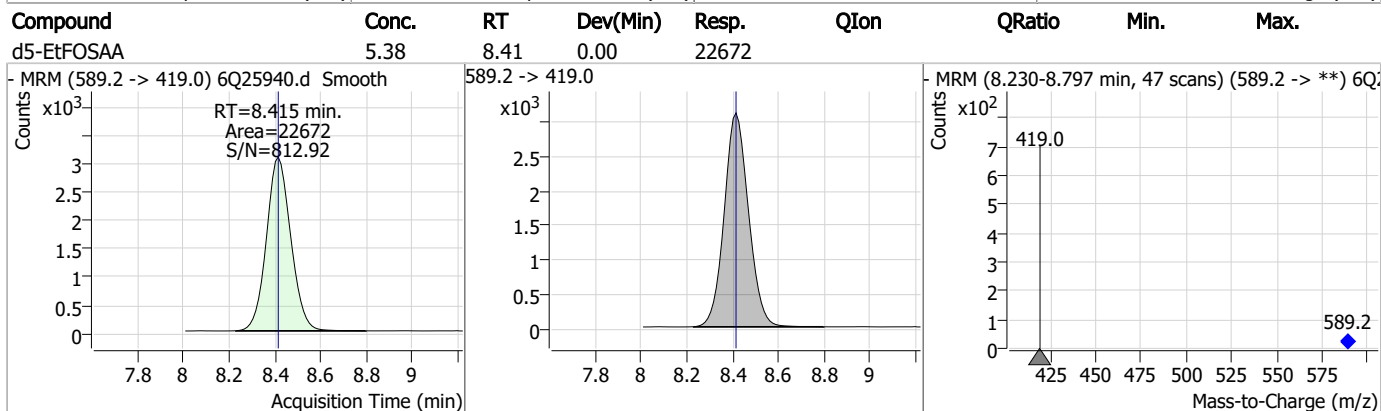
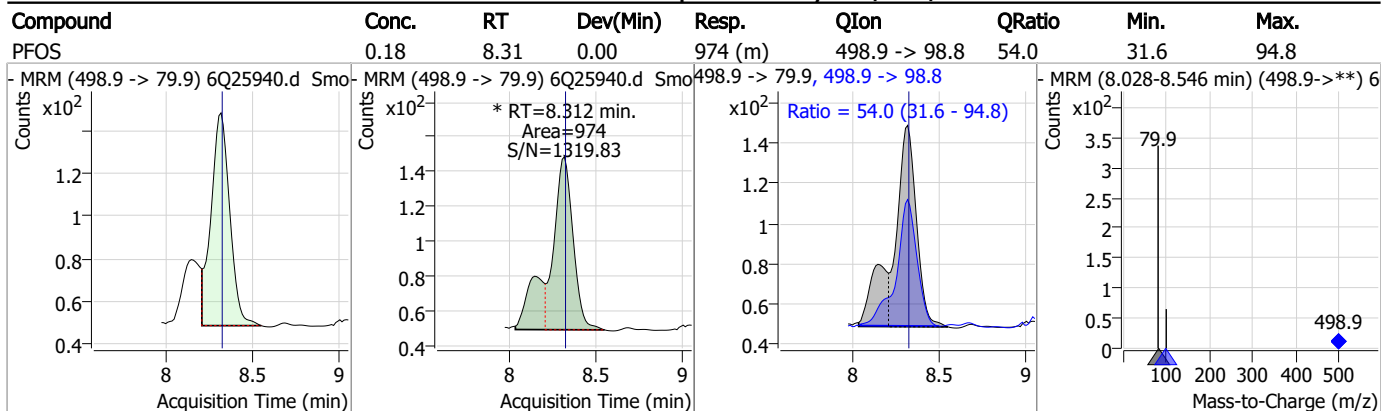
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### Perfluorinated Compounds by LC/MS/MS



7.7.2  
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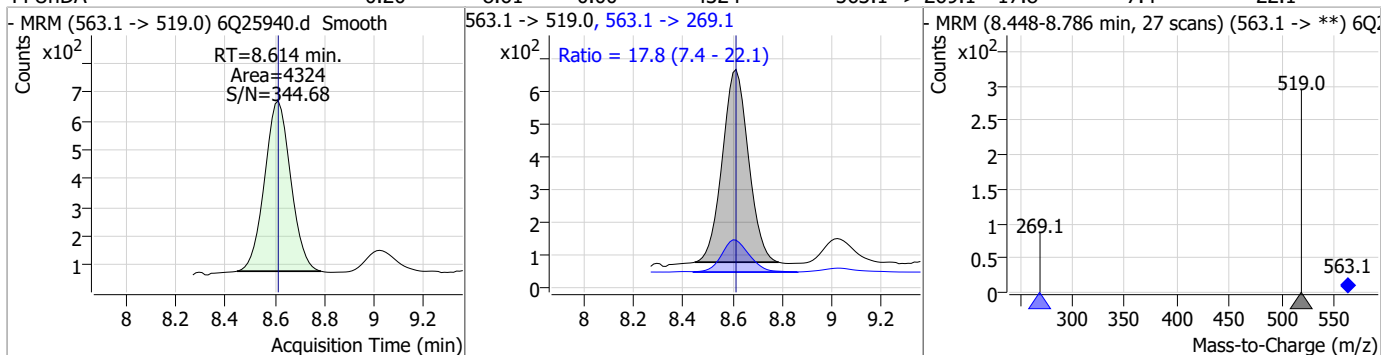
### Perfluorinated Compounds by LC/MS/MS



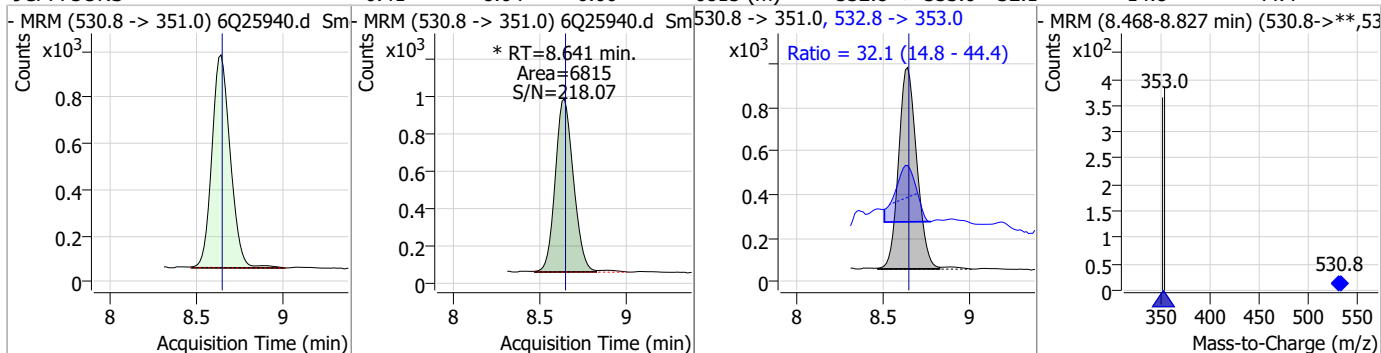
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### Perfluorinated Compounds by LC/MS/MS

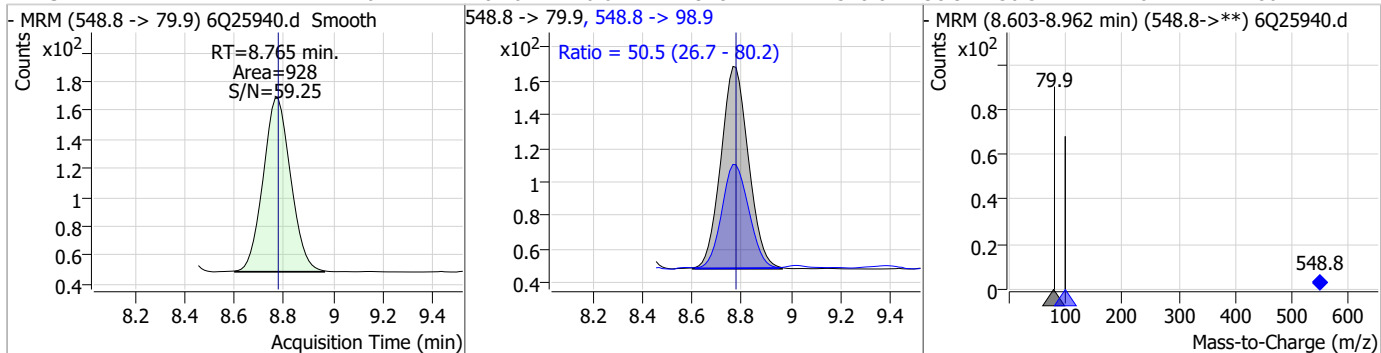
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFUnDA	0.20	8.61	0.00	4324	563.1 -> 269.1	17.8	7.4	22.1



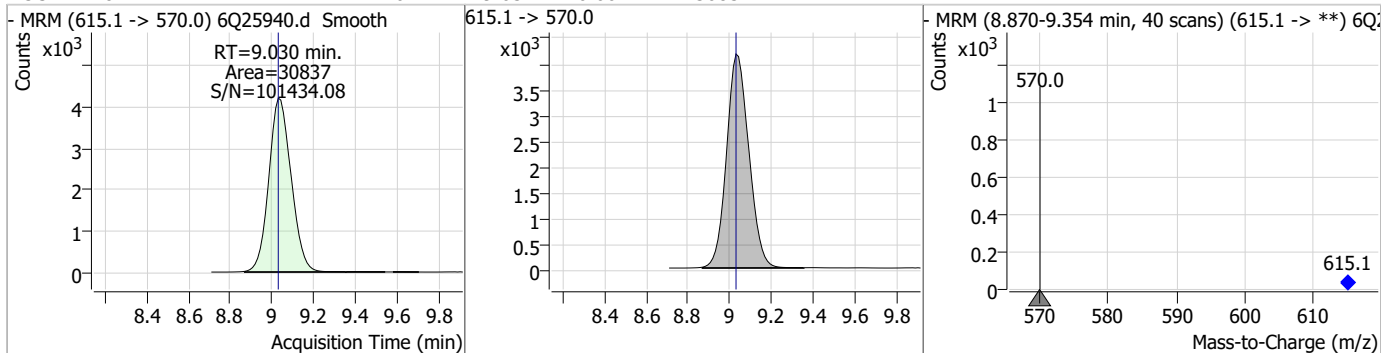
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
9CI-PF3ONS	0.41	8.64	0.00	6815 (m)	532.8 -> 353.0	32.1	14.8	44.4



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNS	0.21	8.76	-0.01	928	548.8 -> 98.9	50.5	26.7	80.2

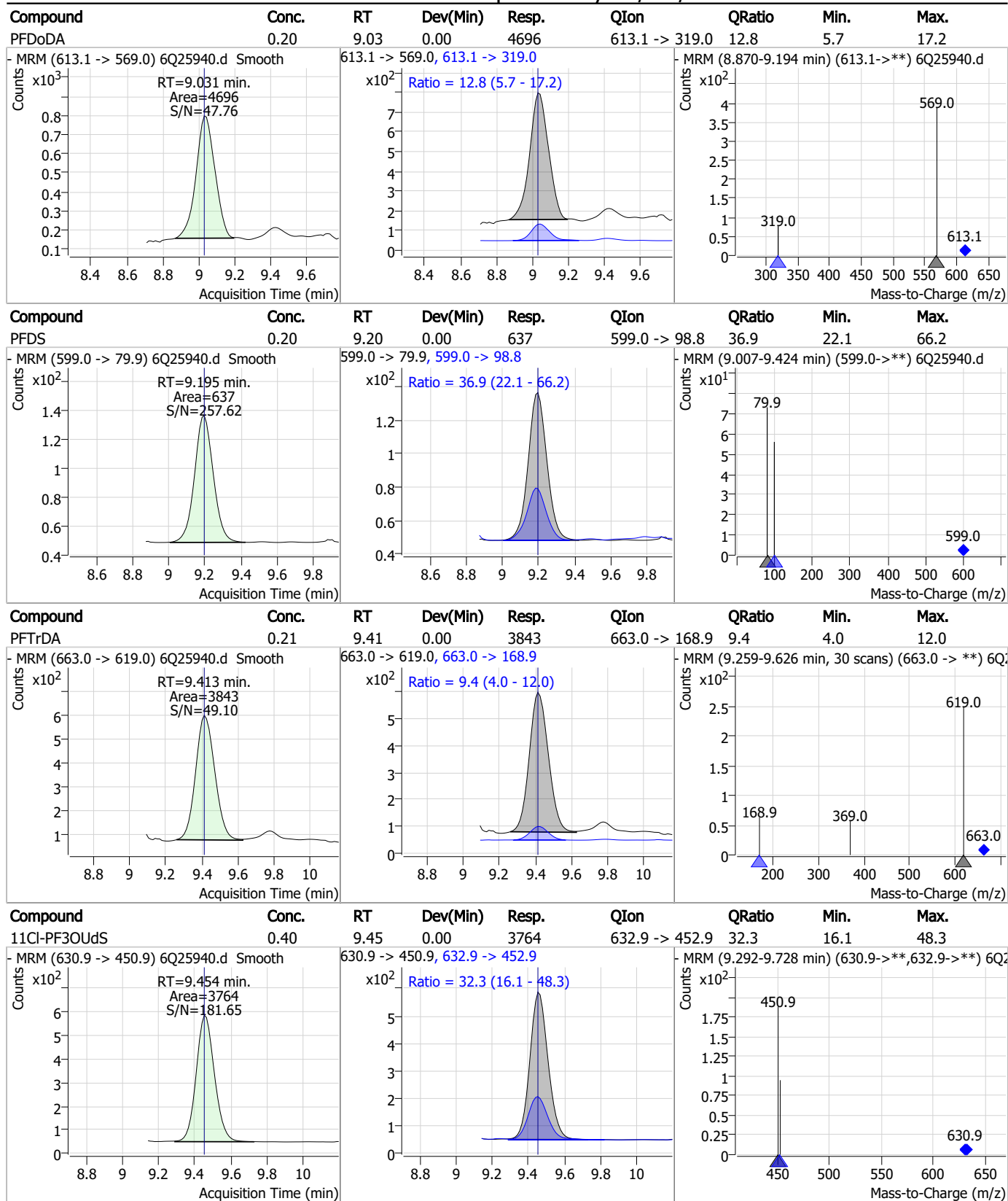


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFDoDA	1.20	9.03	0.00	30837	615.1 -> 570.0			



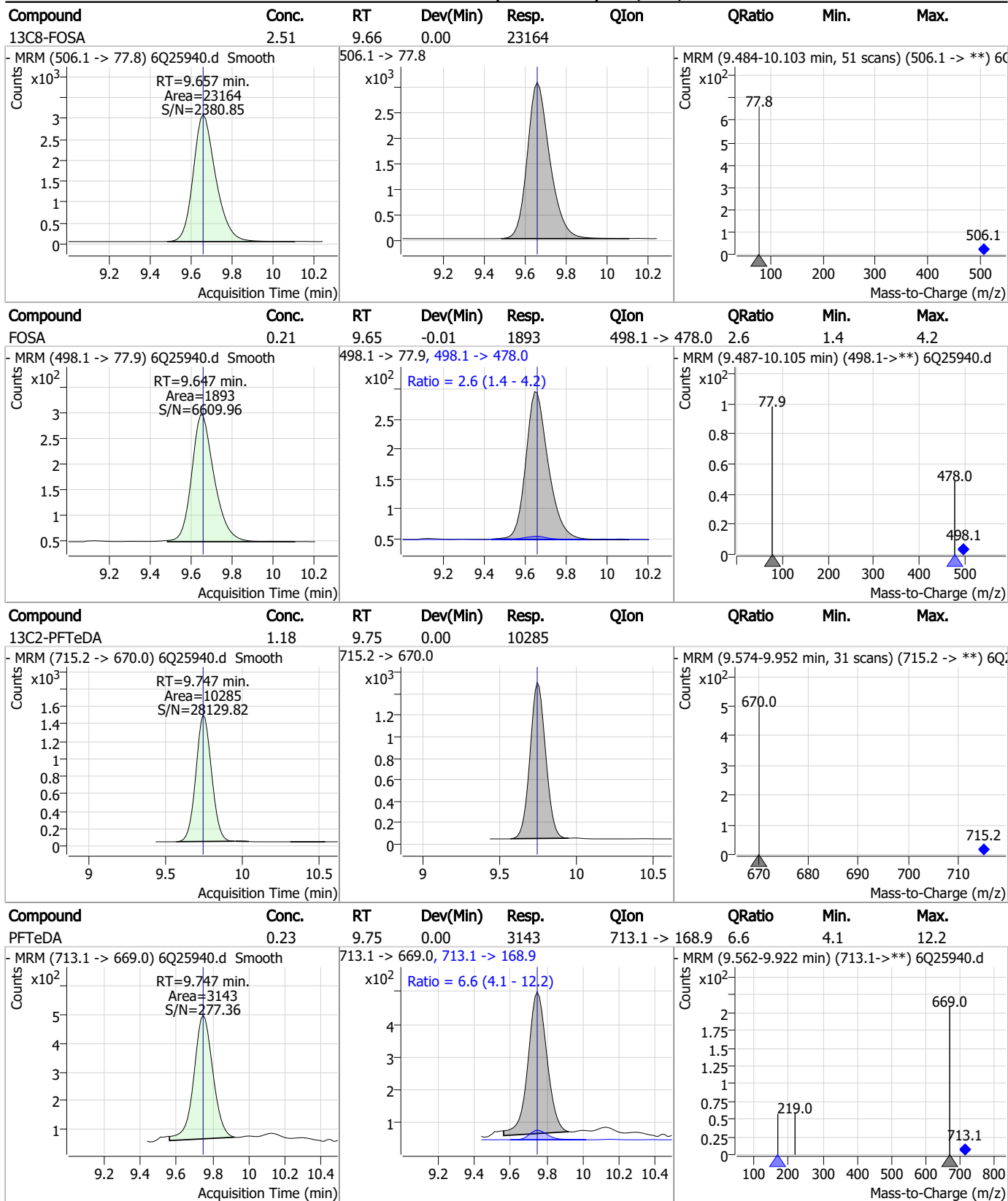
7.7.2  
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### Perfluorinated Compounds by LC/MS/MS



7.7.2  
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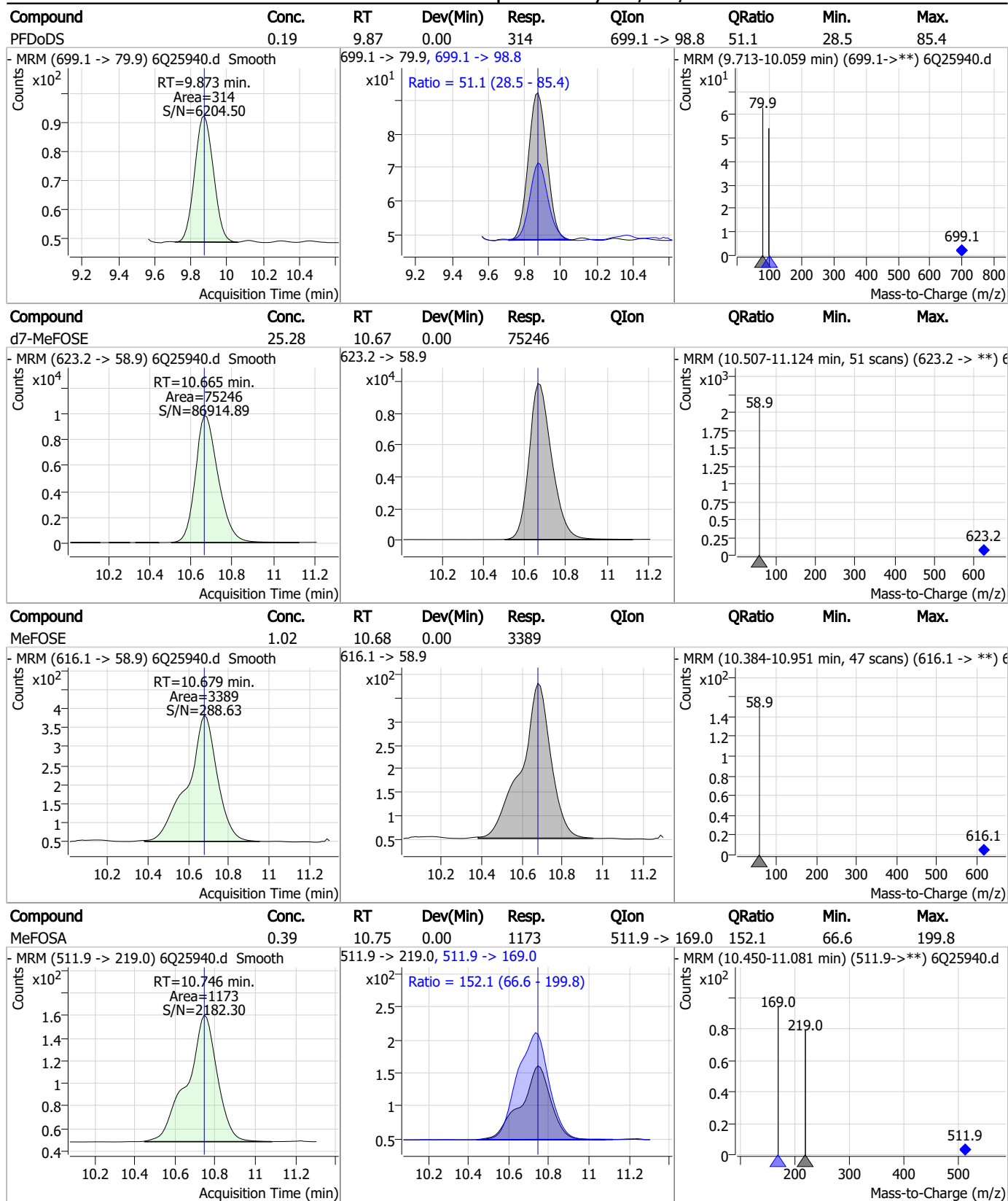
### Perfluorinated Compounds by LC/MS/MS



7.7.2  
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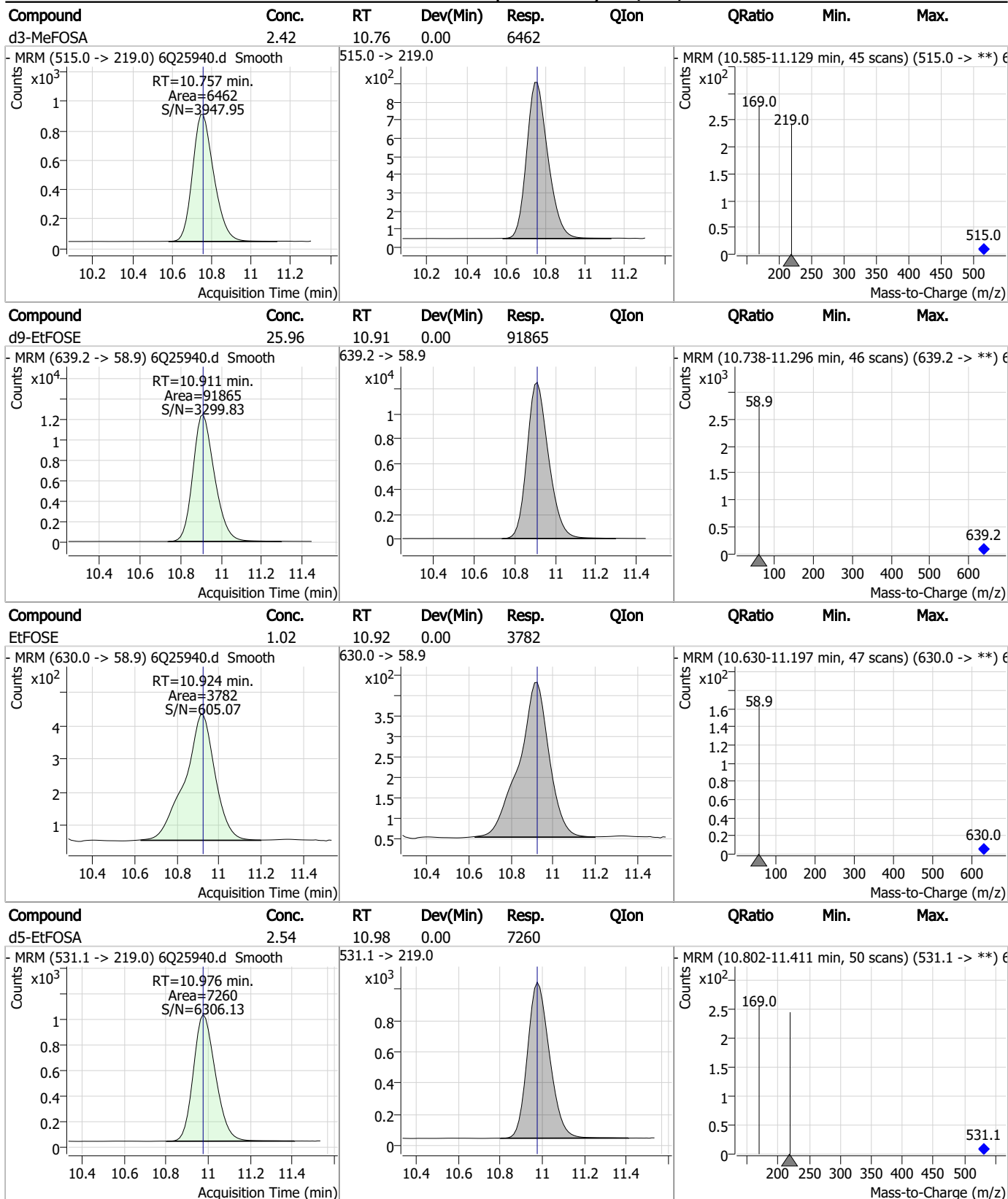
### Perfluorinated Compounds by LC/MS/MS



7.7.2  
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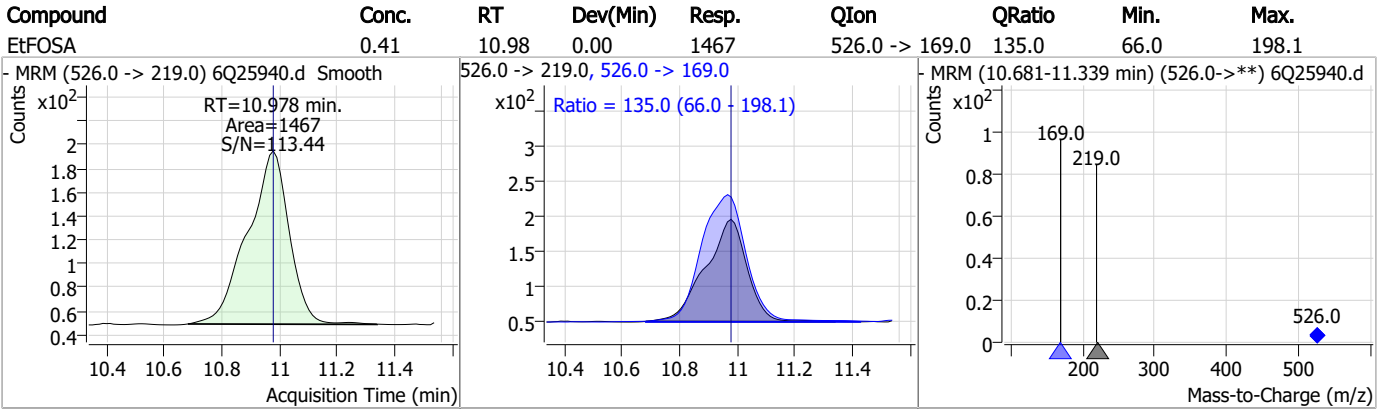


### Perfluorinated Compounds by LC/MS/MS



7.7.2  
7

### Perfluorinated Compounds by LC/MS/MS



7.7.2

7

# 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

7

## 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)
<b>Internal Standards</b>					
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
<b>System Monitoring Compounds</b>					
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%	
<b>Target Compounds</b>					<b>QValue</b>
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			
11Cl-PF3OUdS	9.454	630.9 -> 450.9	7757	0.79	µg/L	99
		632.9 -> 452.9	2456			
9Cl-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

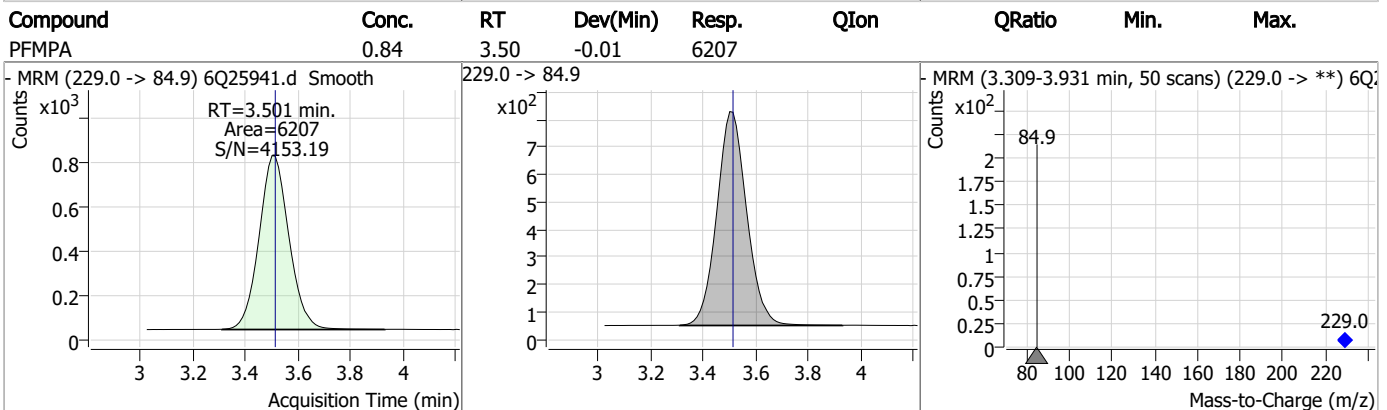
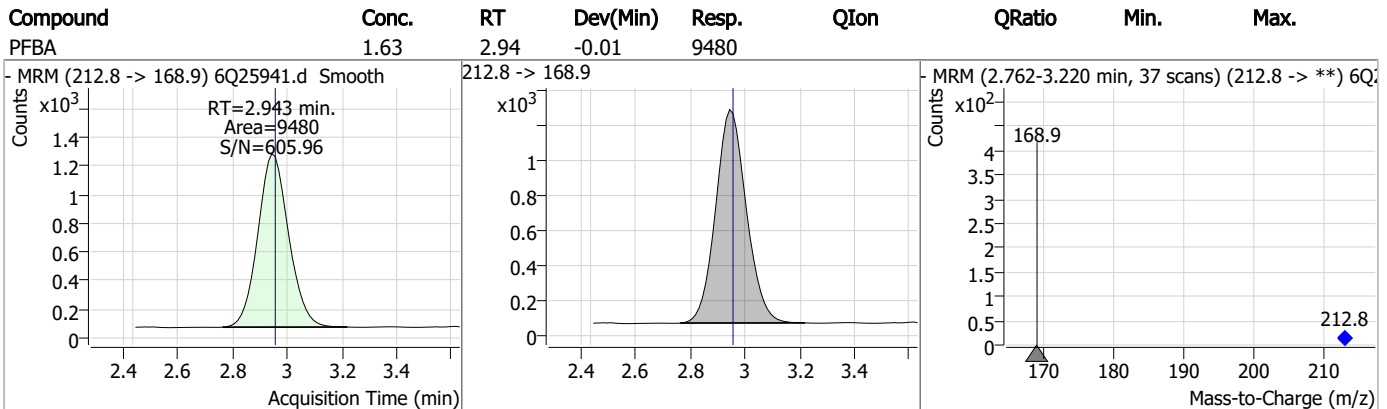
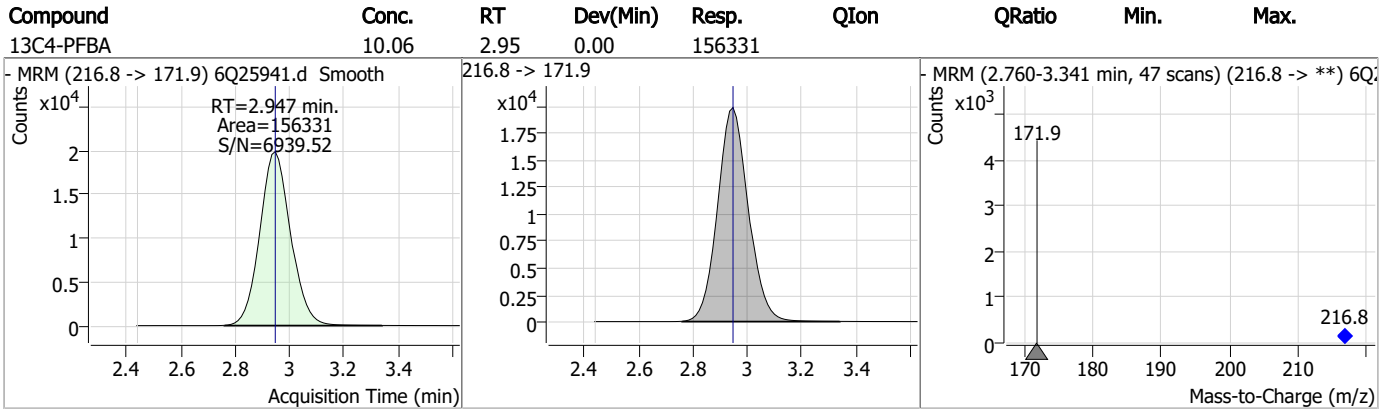
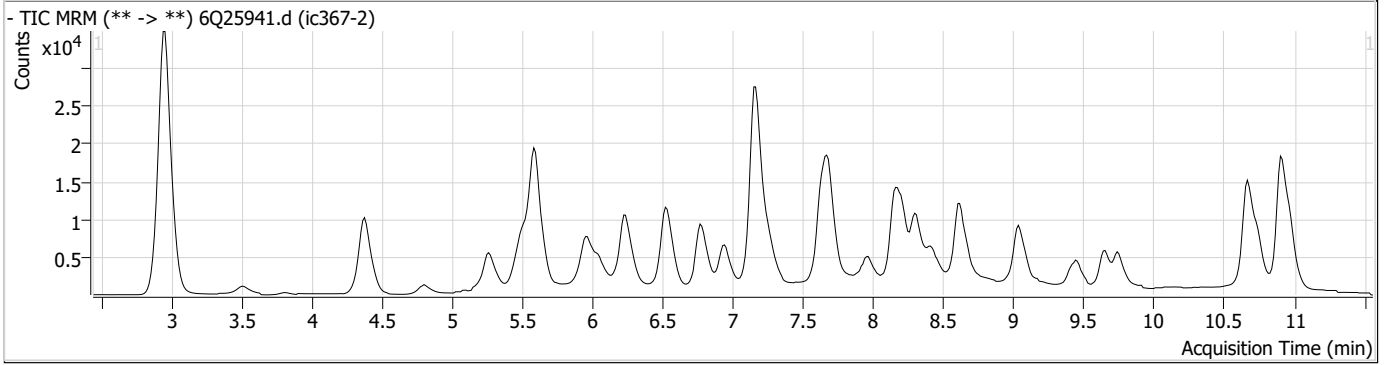
### Perfluorinated Compounds by LC/MS/MS

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

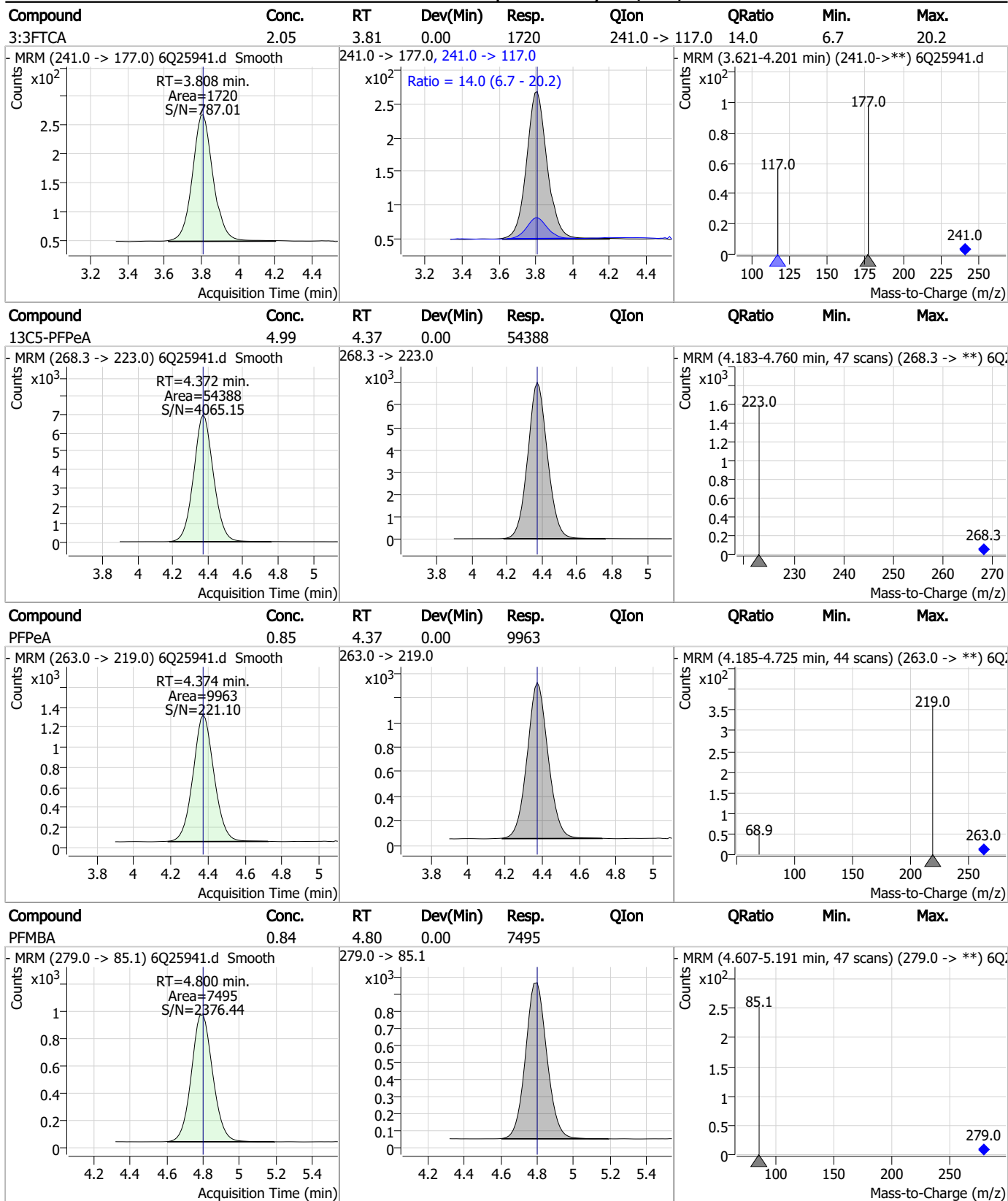
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### Perfluorinated Compounds by LC/MS/MS



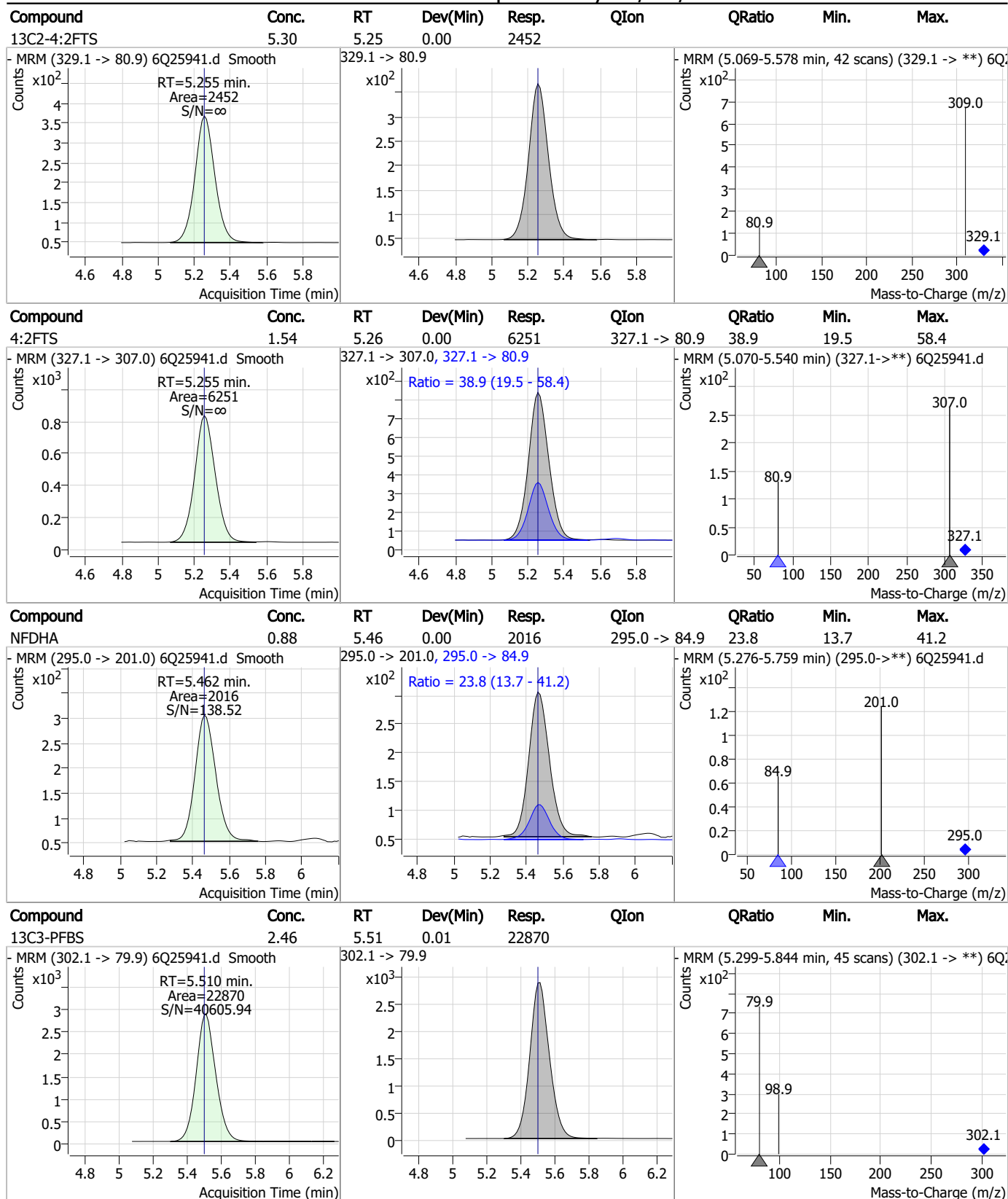


### Perfluorinated Compounds by LC/MS/MS



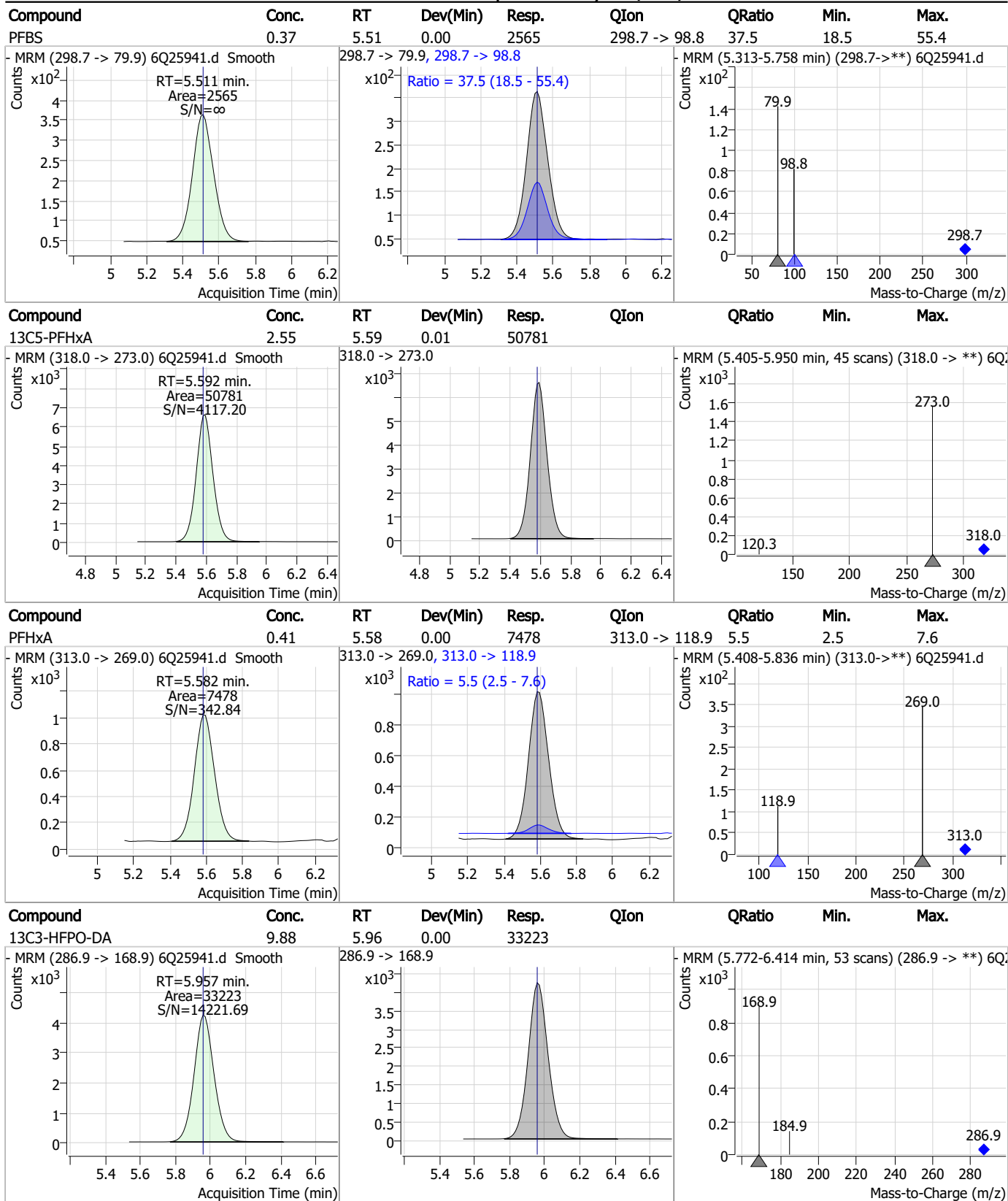
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### Perfluorinated Compounds by LC/MS/MS



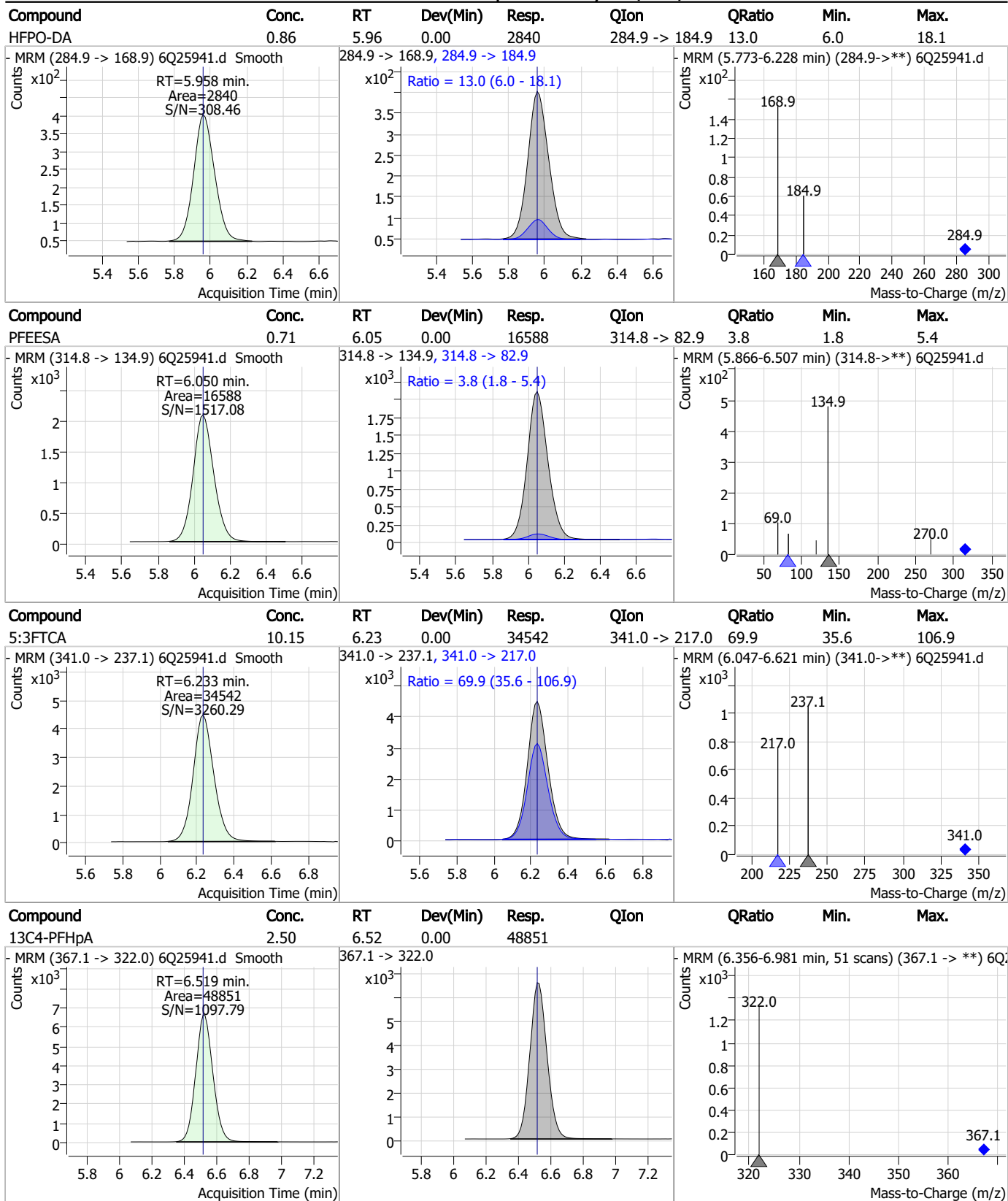
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### Perfluorinated Compounds by LC/MS/MS



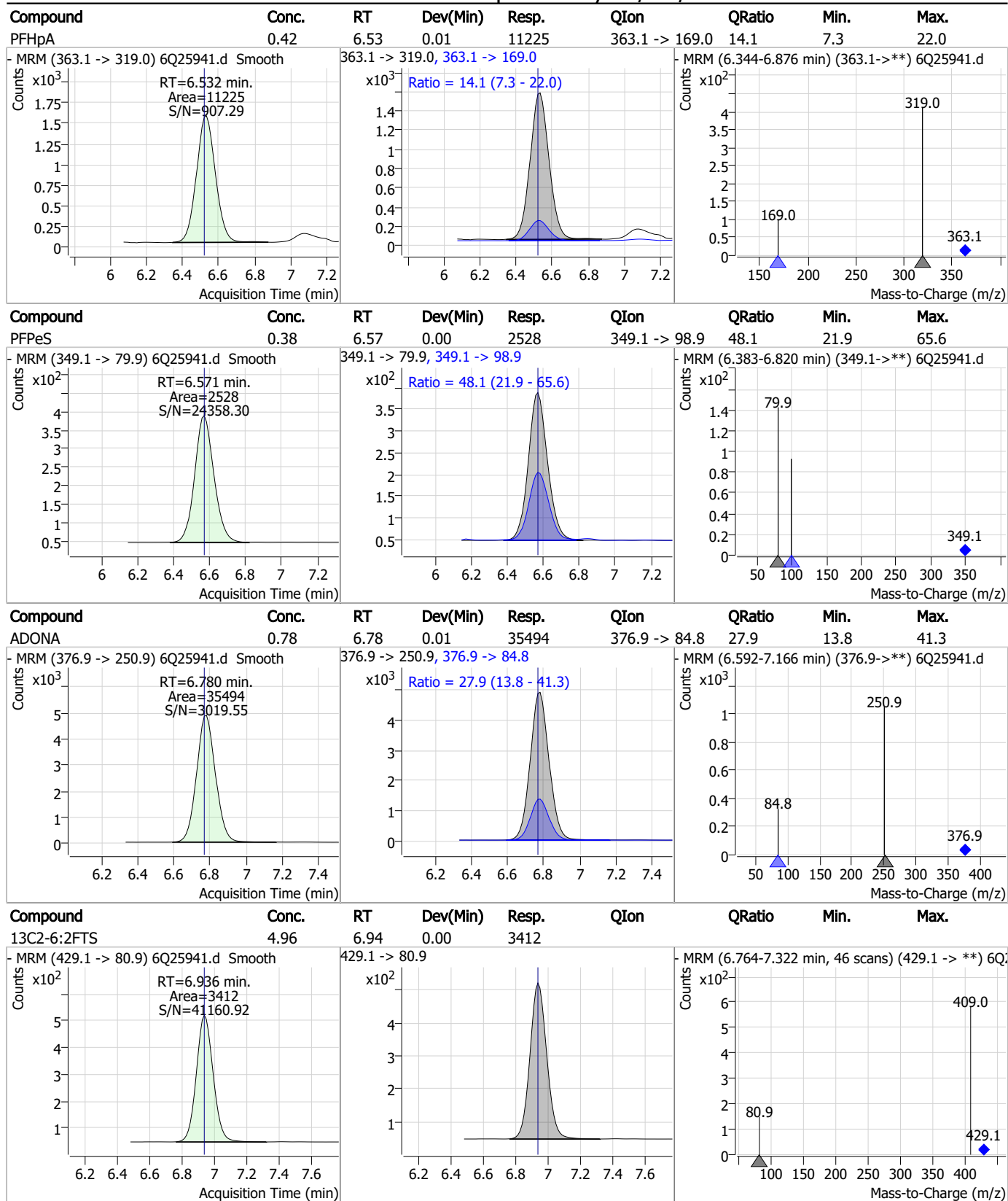
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### Perfluorinated Compounds by LC/MS/MS



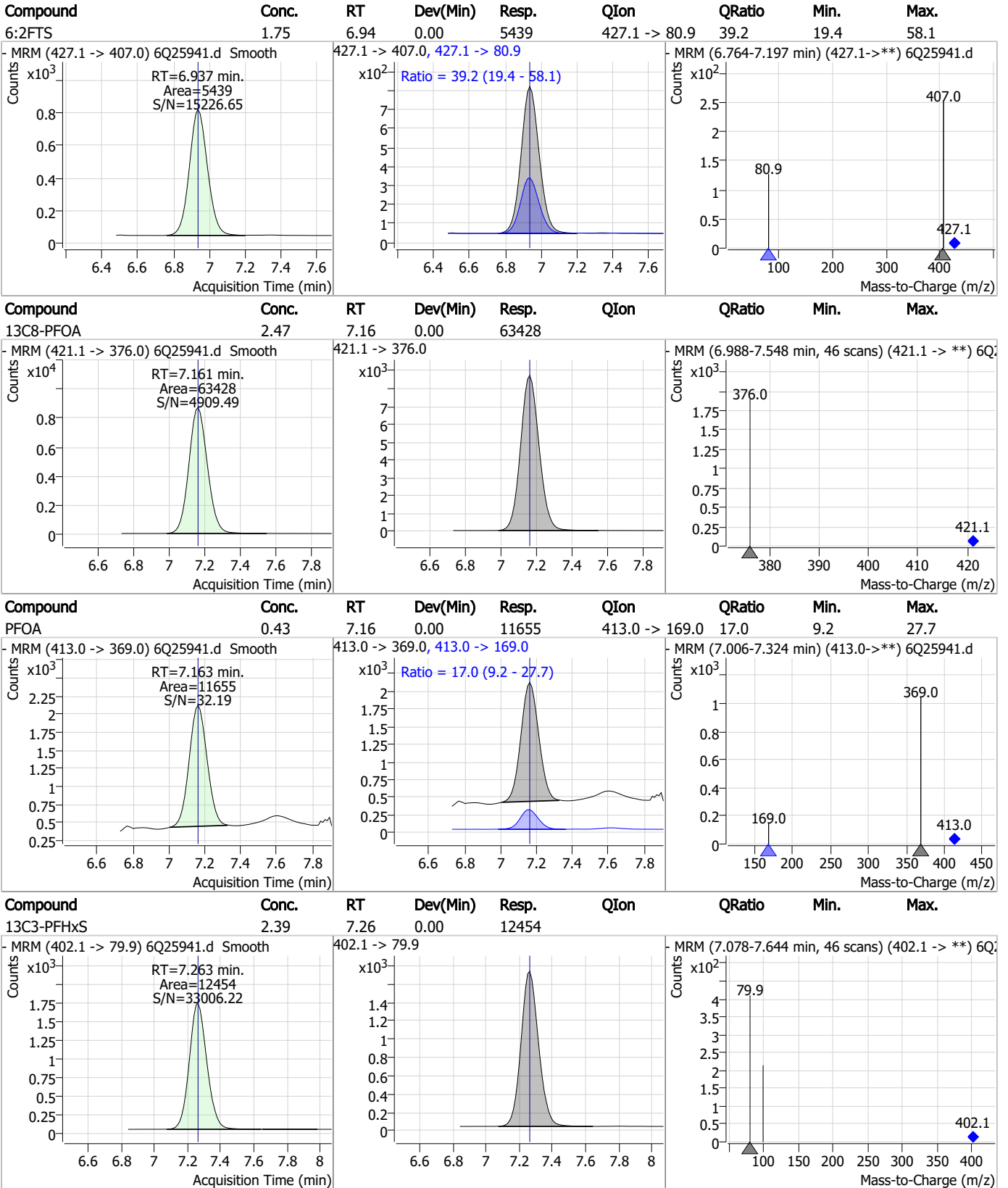
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### Perfluorinated Compounds by LC/MS/MS



7.7.3  
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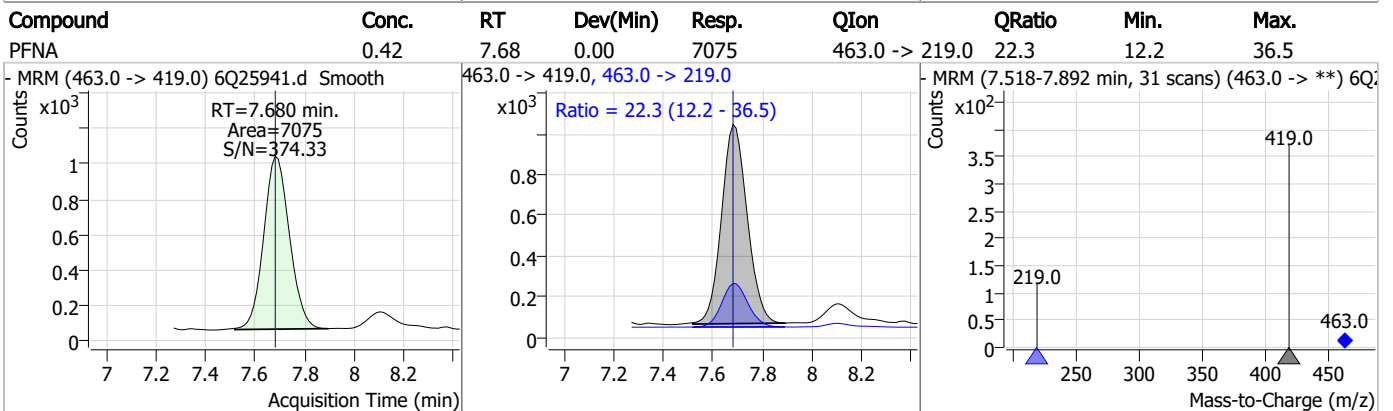
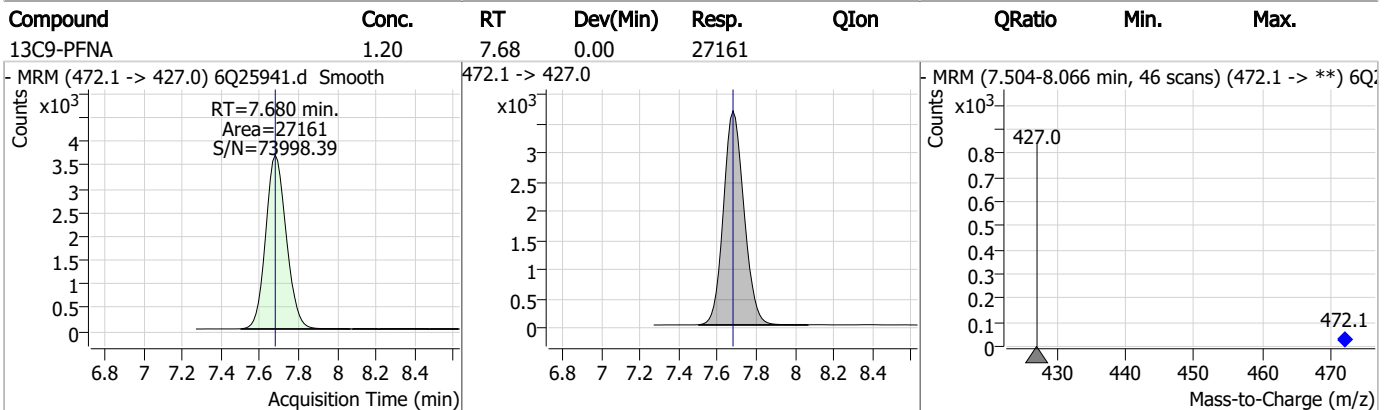
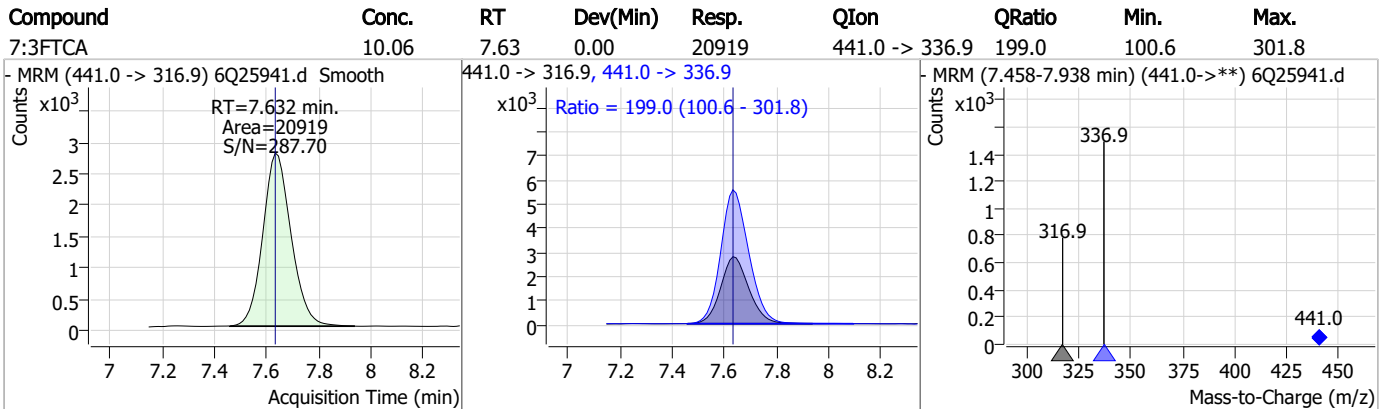
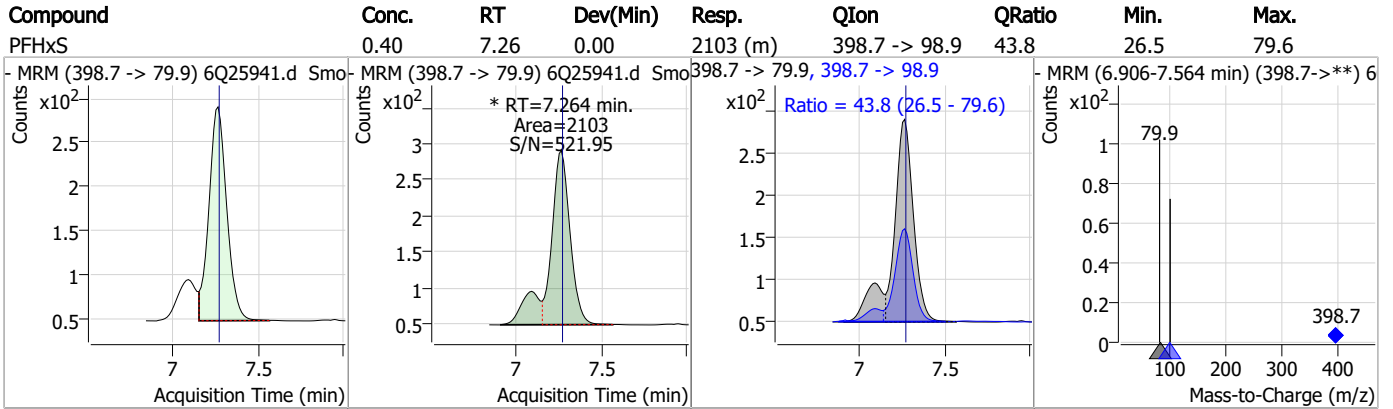
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7.7.3

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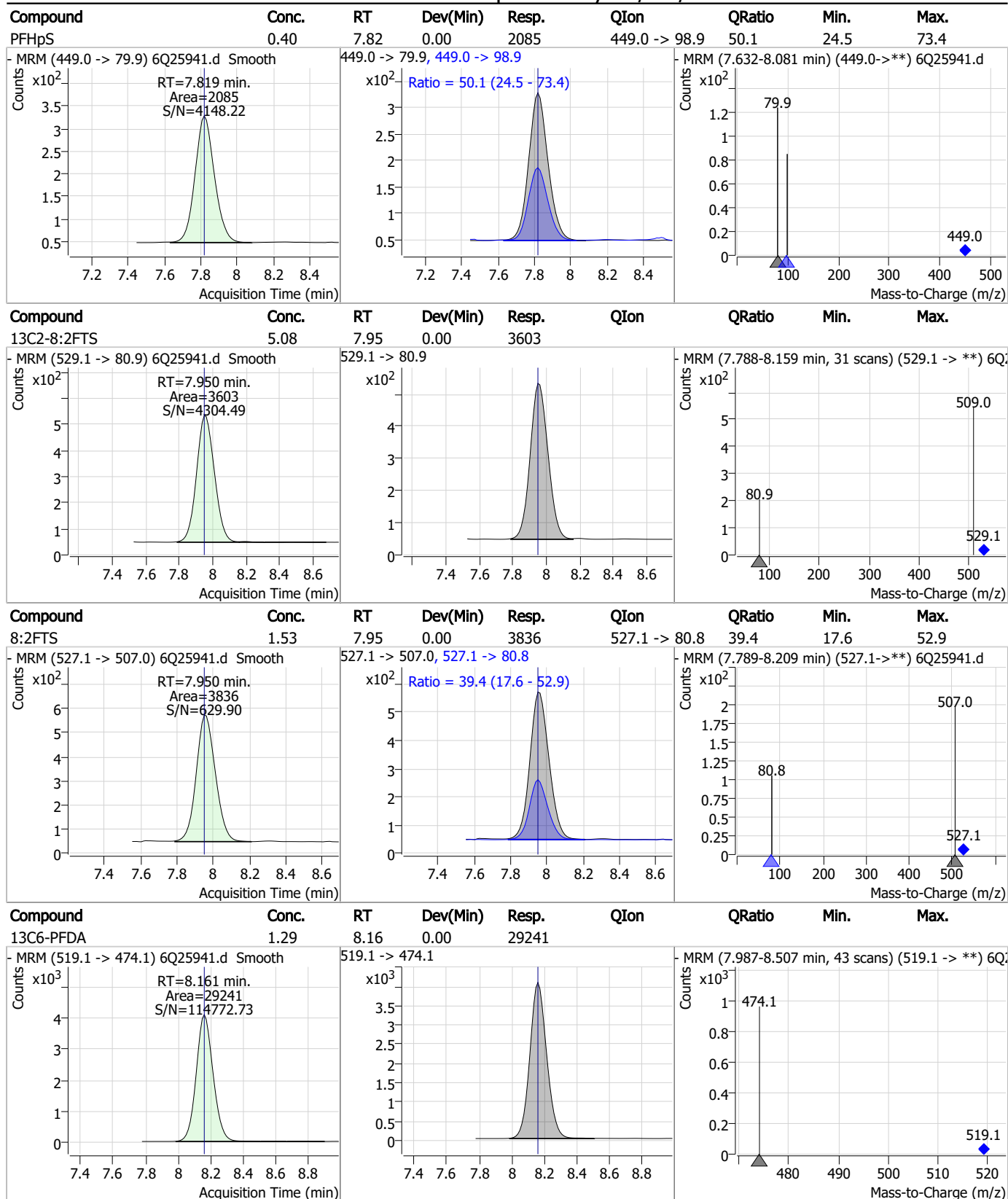
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7.7.3

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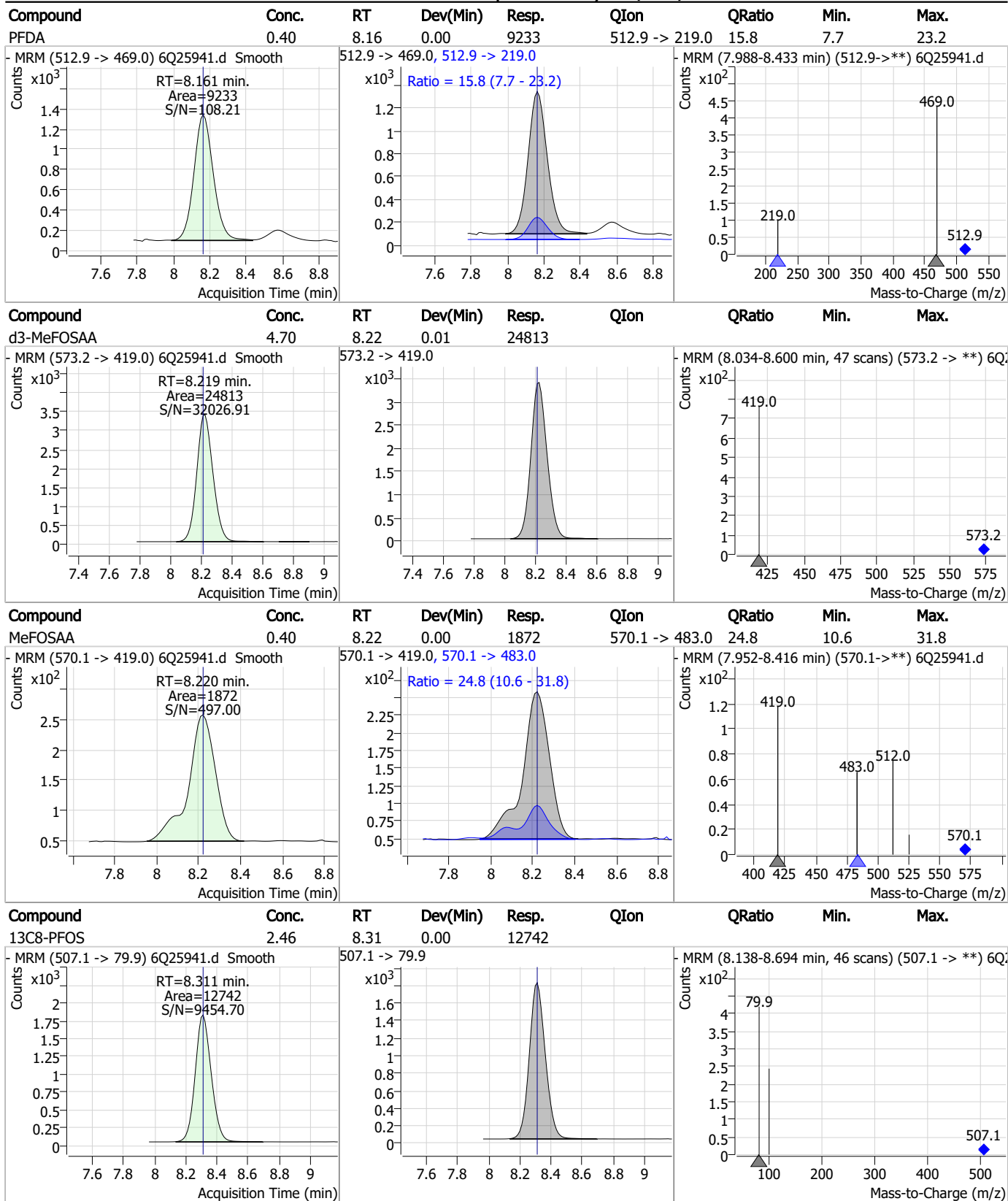
### Perfluorinated Compounds by LC/MS/MS



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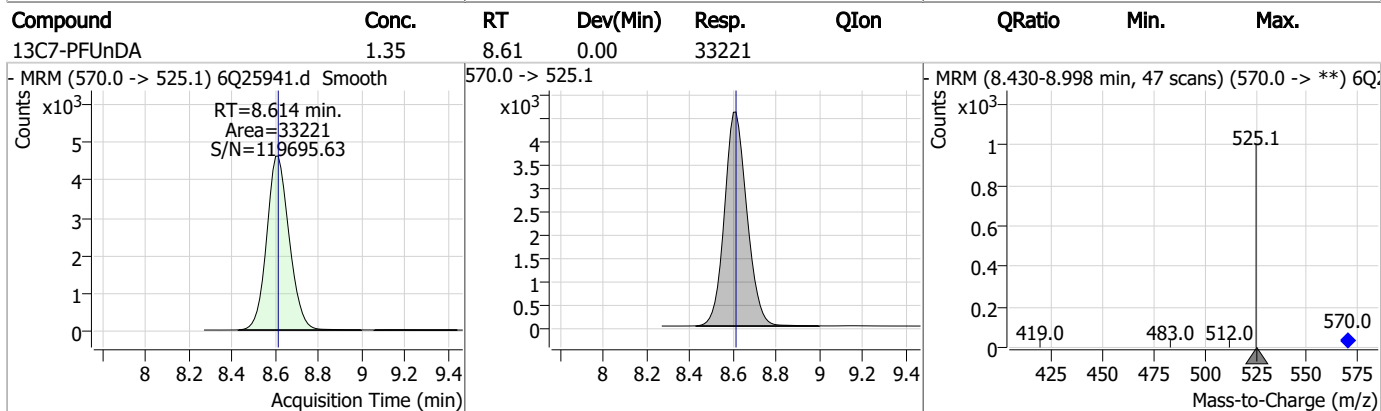
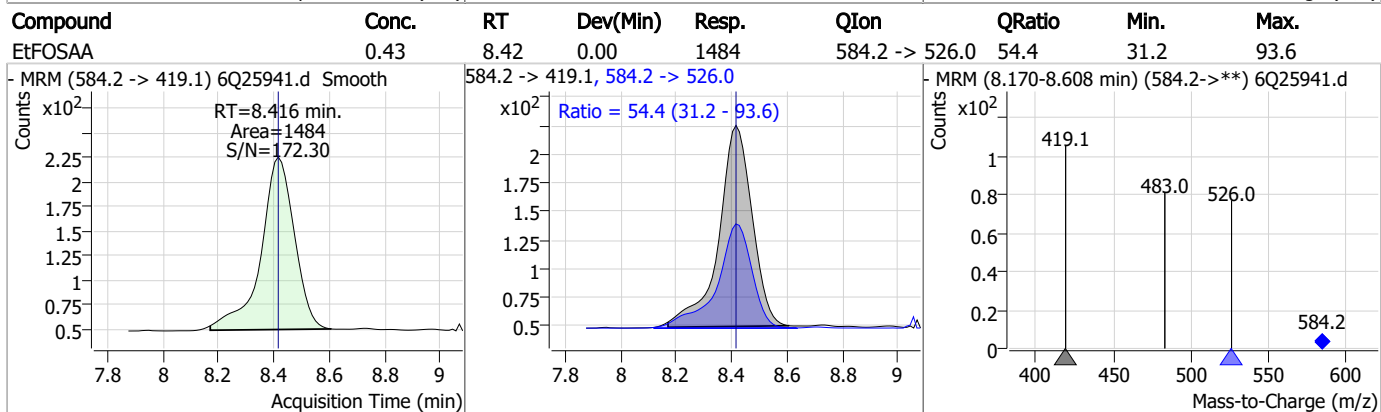
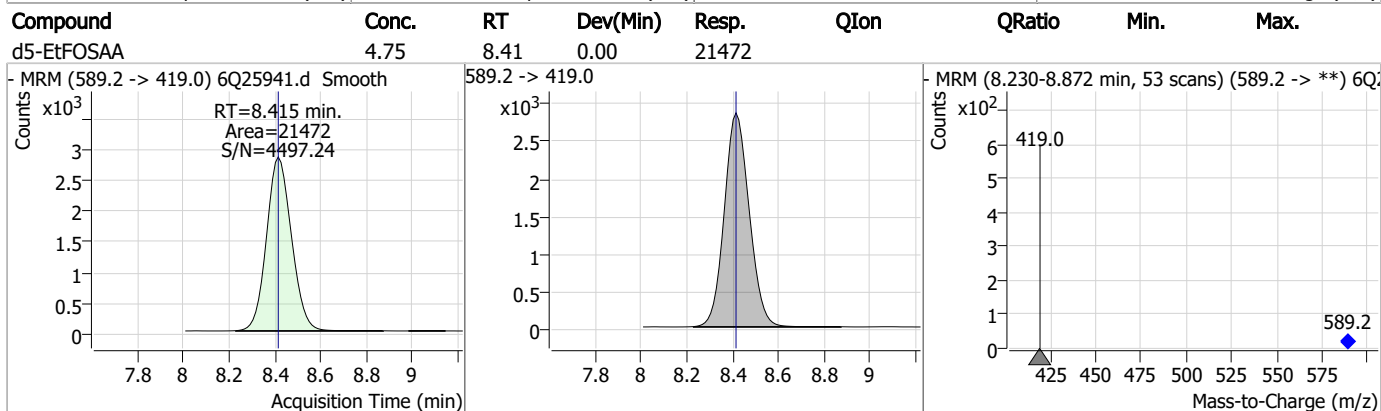
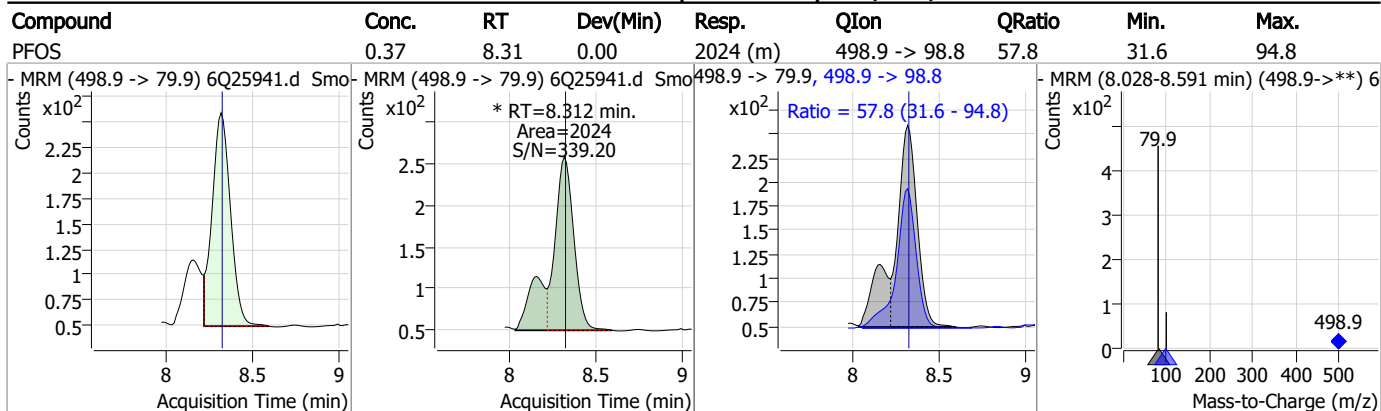


### Perfluorinated Compounds by LC/MS/MS



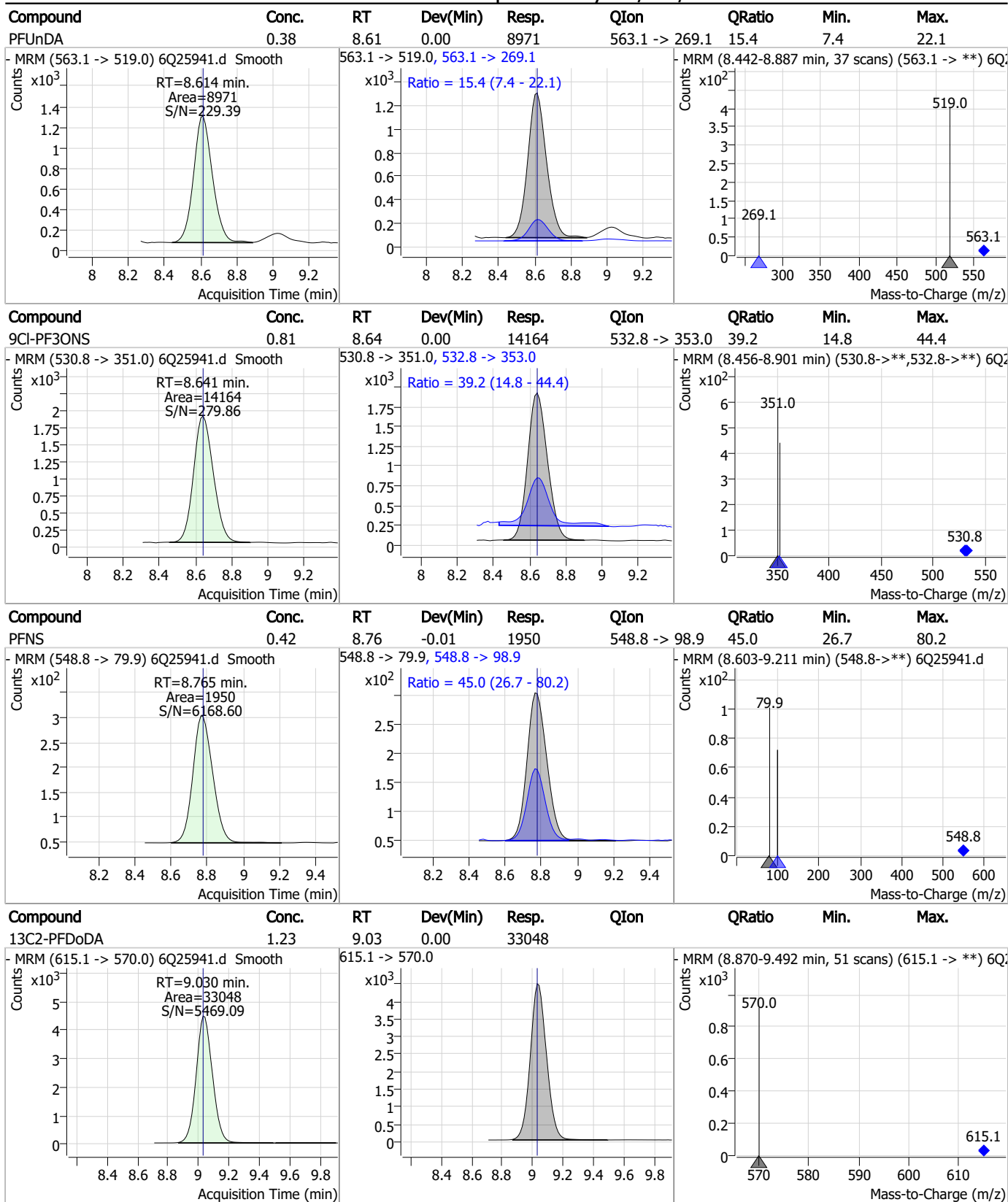
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### Perfluorinated Compounds by LC/MS/MS



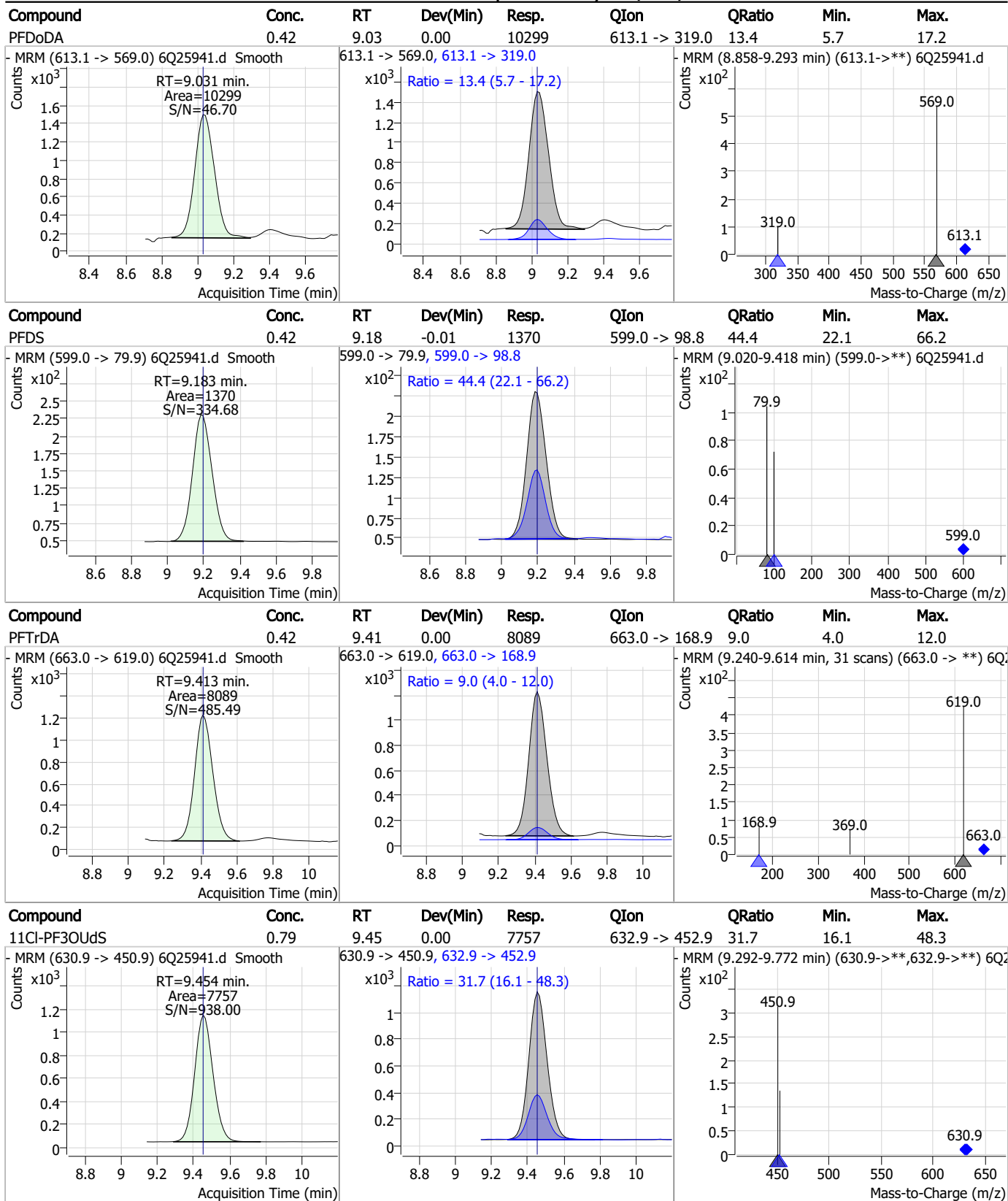
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### Perfluorinated Compounds by LC/MS/MS



7.7.3  
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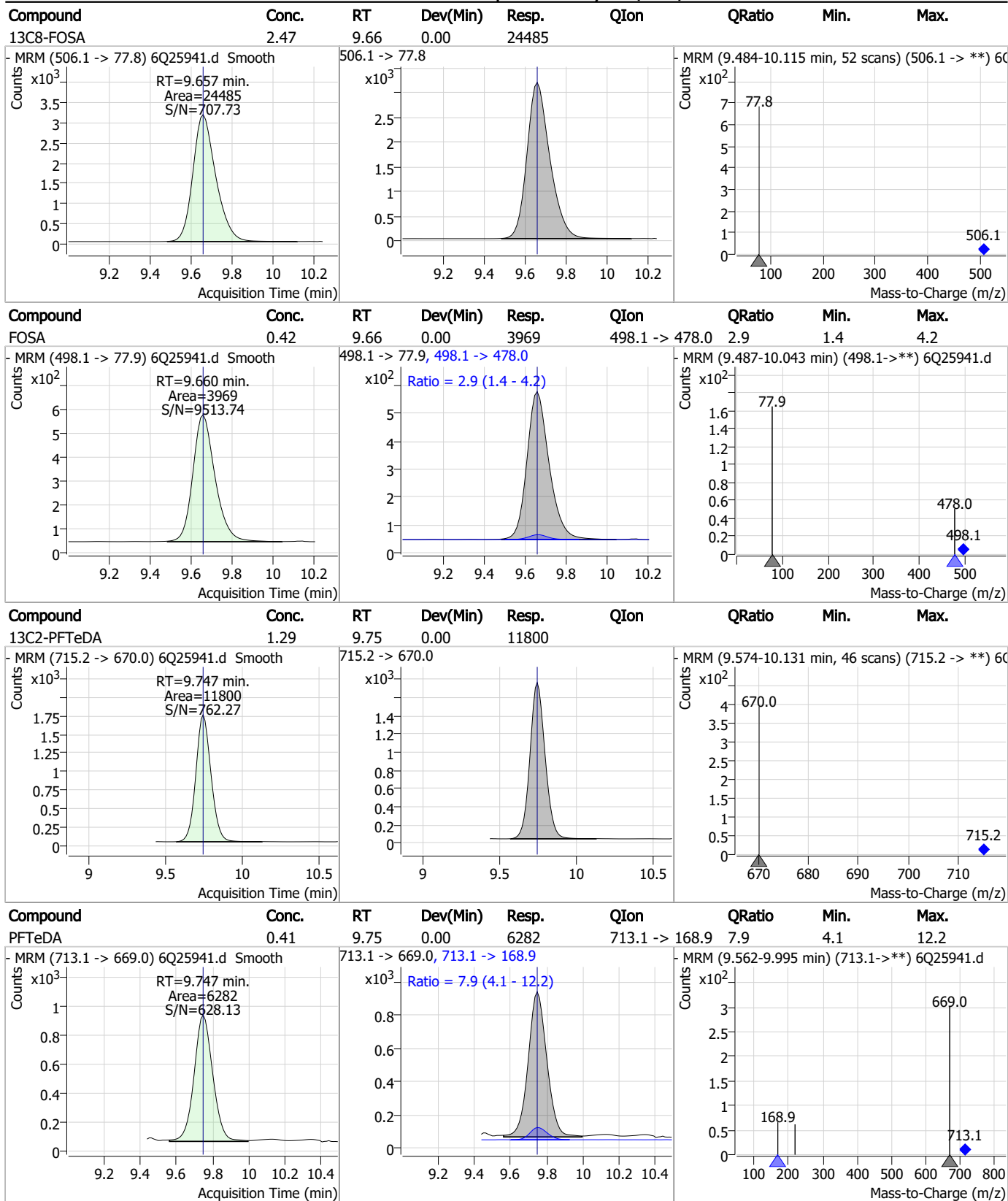
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7.7.3

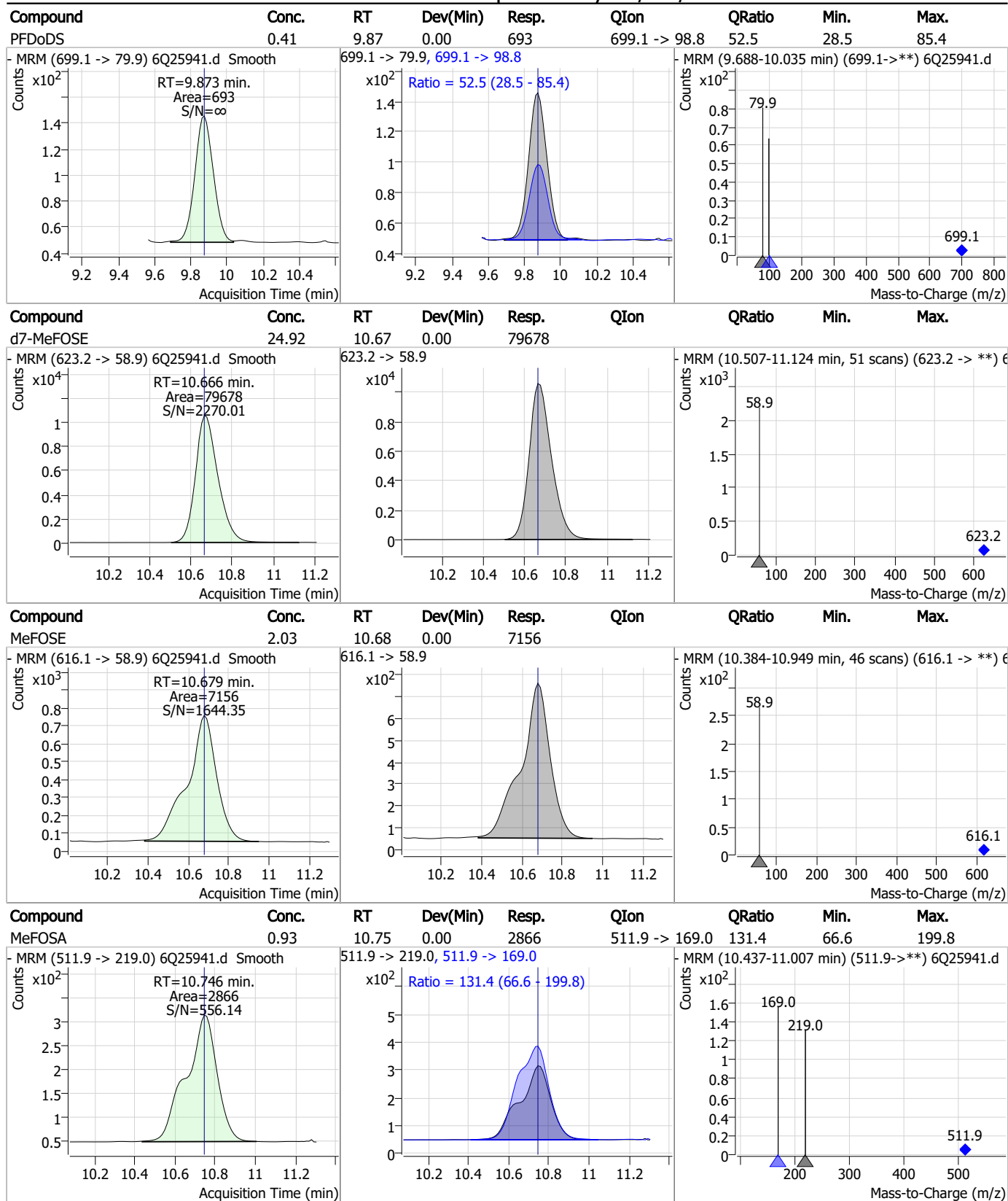
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### Perfluorinated Compounds by LC/MS/MS



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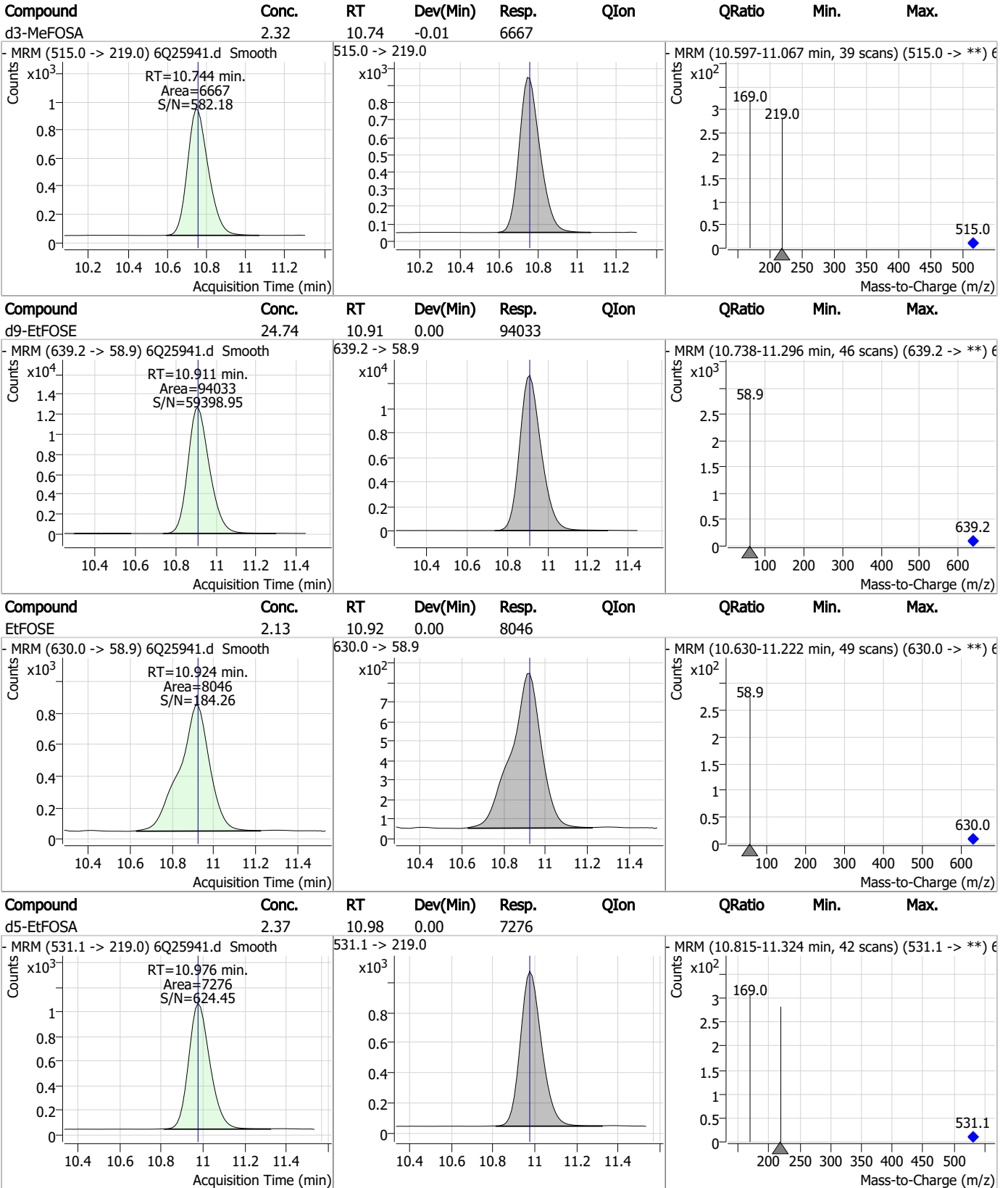
### Perfluorinated Compounds by LC/MS/MS



7.7.3

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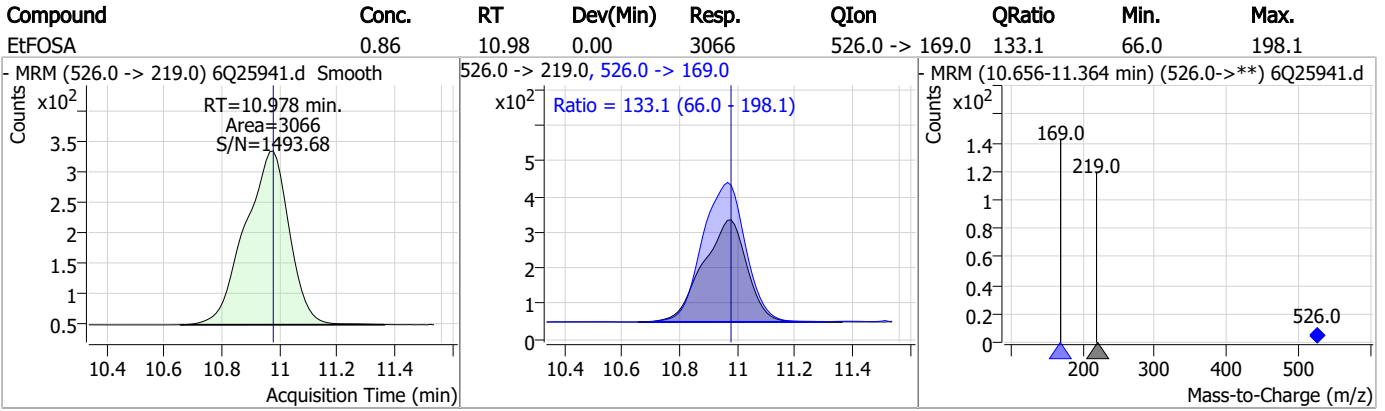
### Perfluorinated Compounds by LC/MS/MS



7.7.3

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Perfluorinated Compounds by LC/MS/MS



7.7.3

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# 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

7

## 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)
<b>Internal Standards</b>					
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
<b>System Monitoring Compounds</b>					
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%	
<b>Target Compounds</b>					<b>QValue</b>
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			
11CI-PF3OUdS	9.454	630.9 -> 450.9	22761	2.32	µg/L	100
		632.9 -> 452.9	7376			
9CI-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

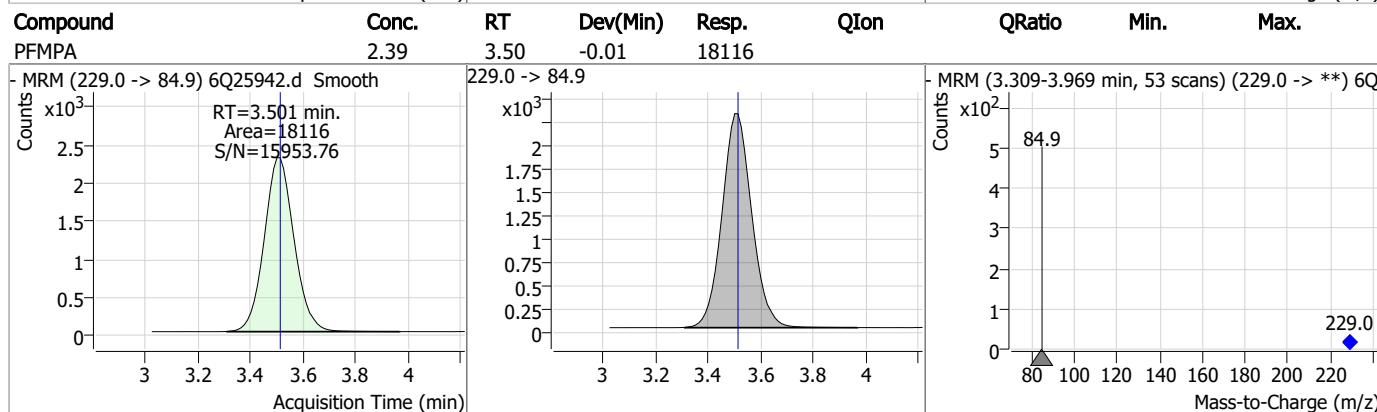
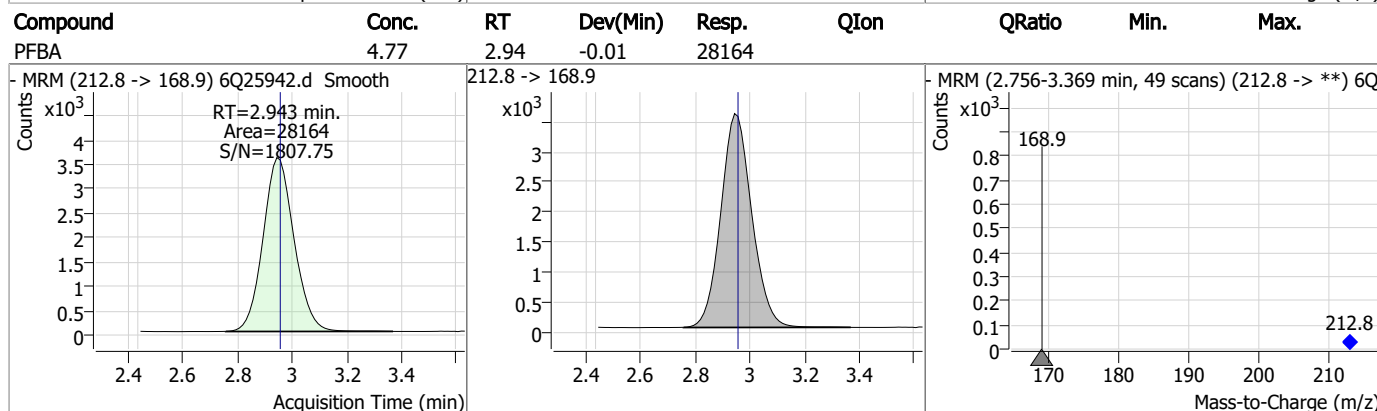
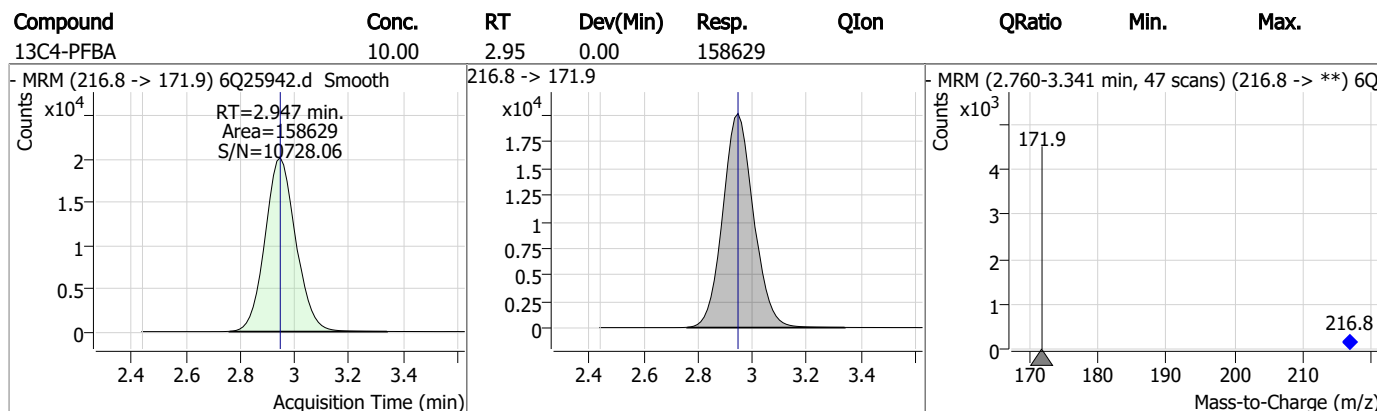
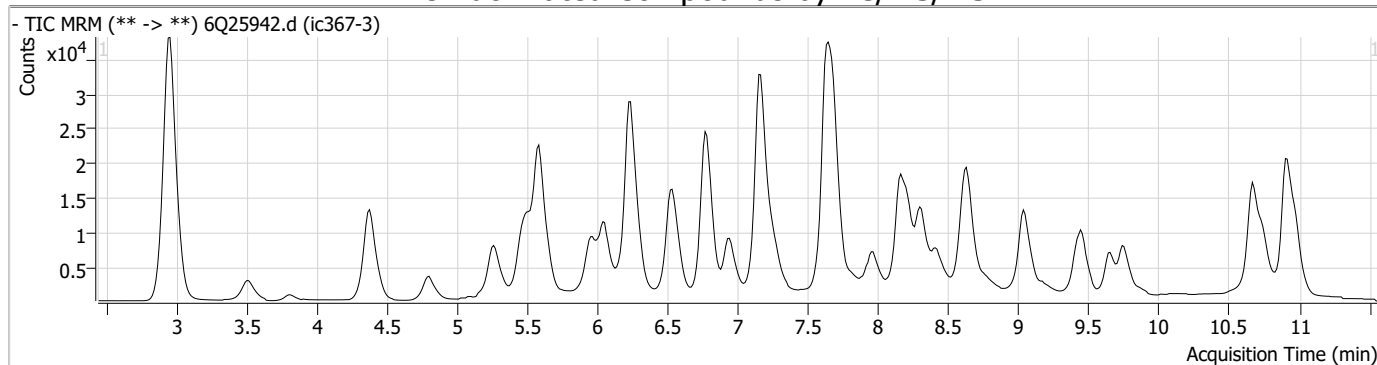
### Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
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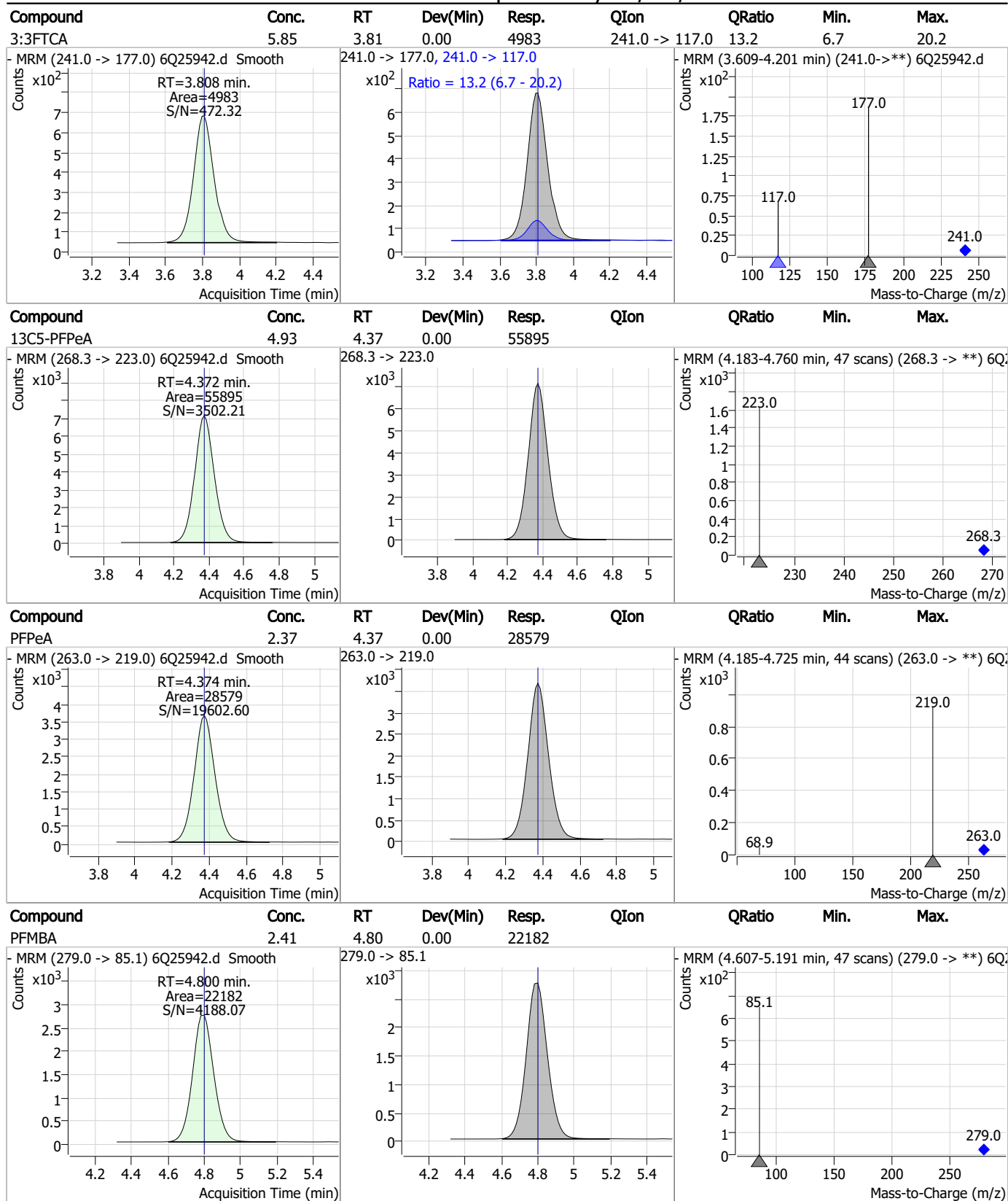
7.7.4  
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### Perfluorinated Compounds by LC/MS/MS

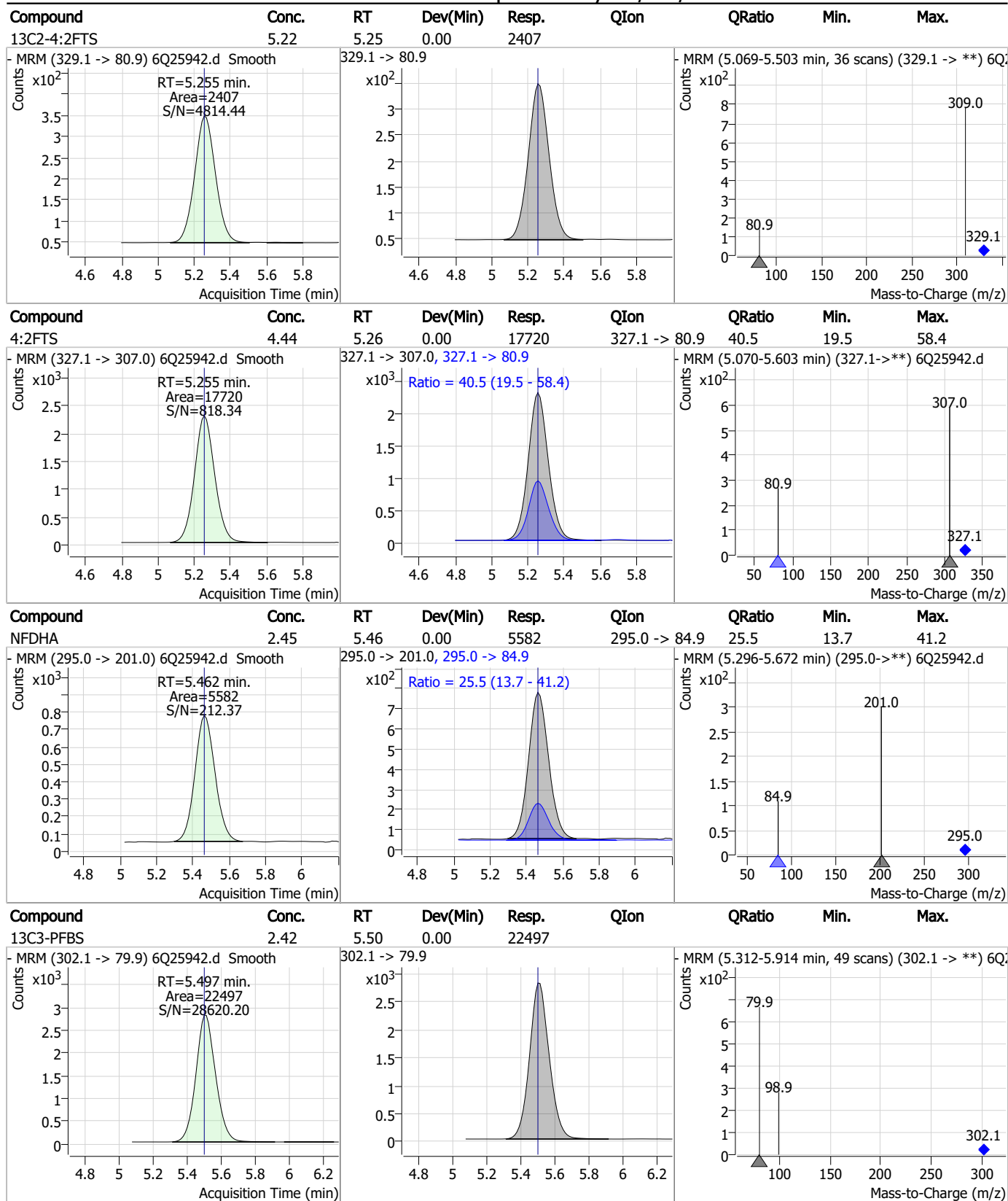


### Perfluorinated Compounds by LC/MS/MS



7.7.4  
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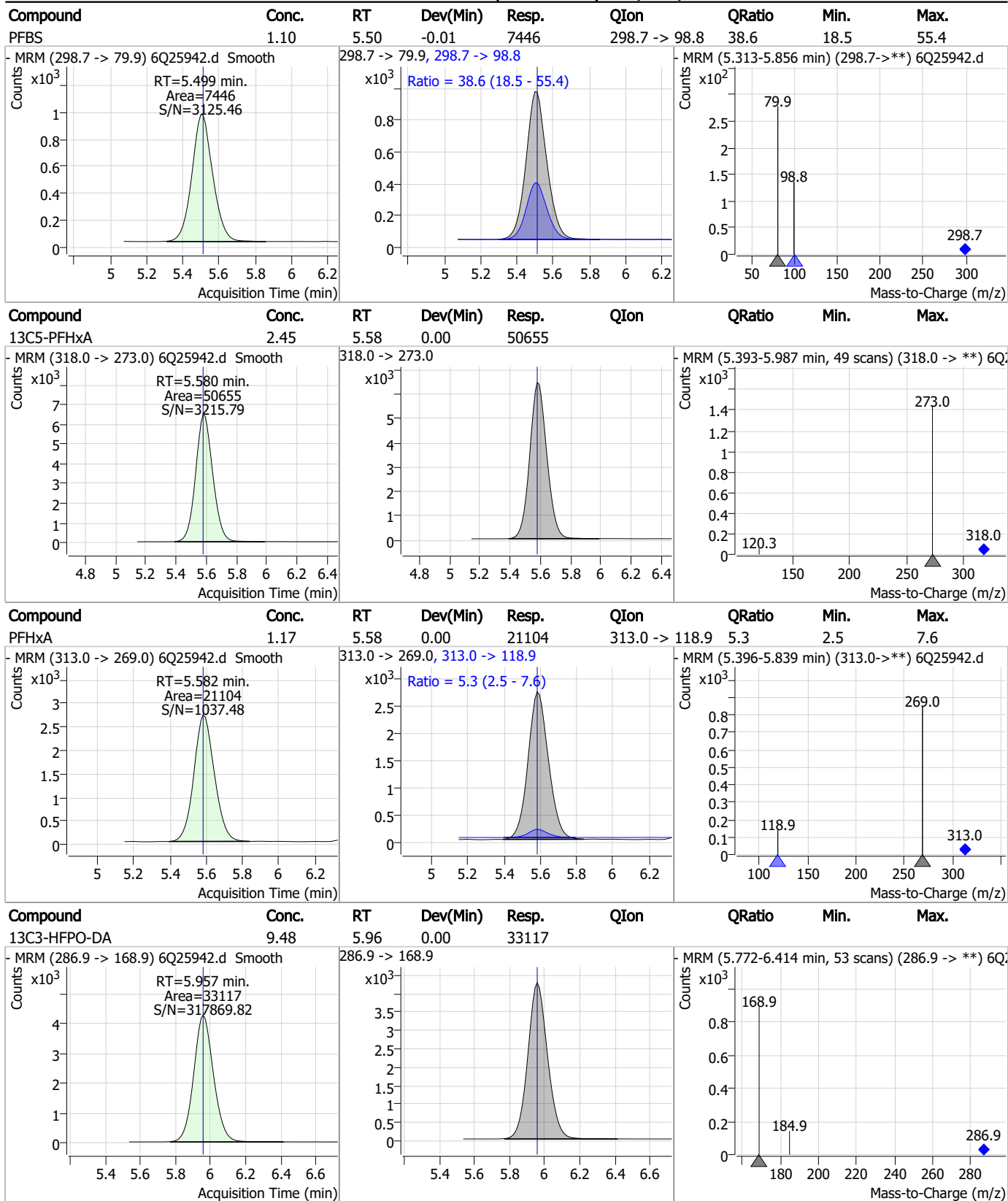
### Perfluorinated Compounds by LC/MS/MS



7.7.4  
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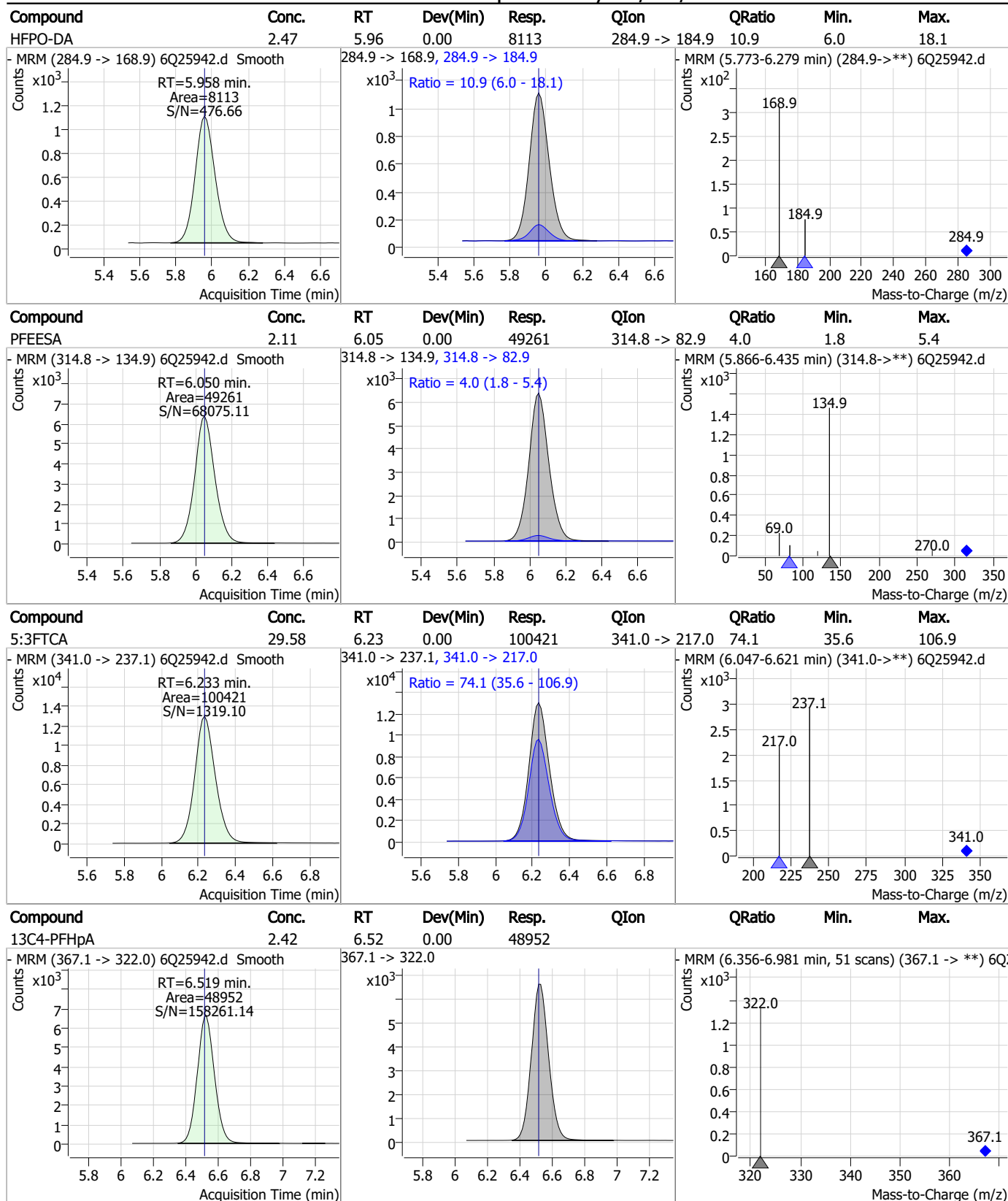


### Perfluorinated Compounds by LC/MS/MS



7.7.4  
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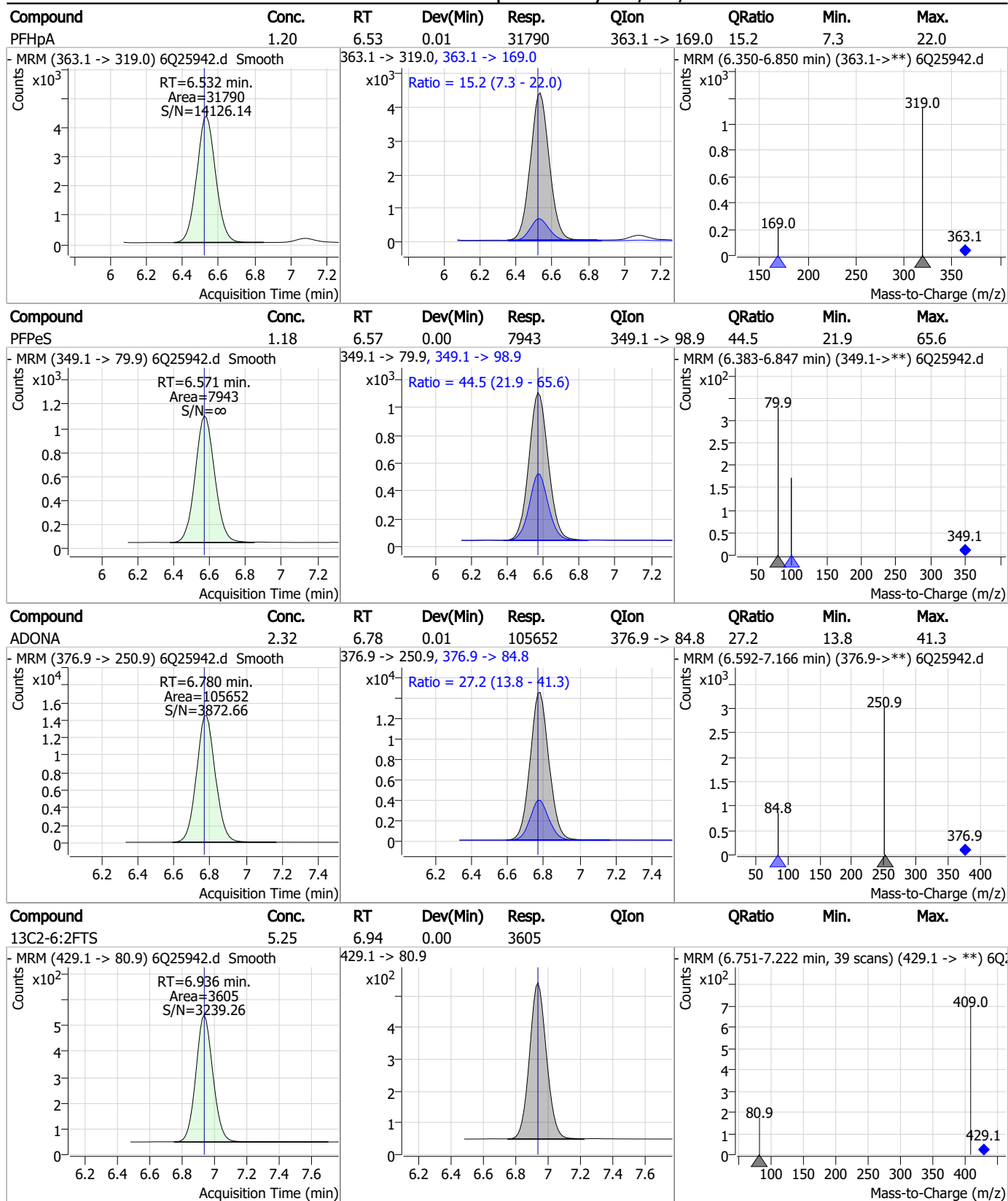
### Perfluorinated Compounds by LC/MS/MS



7.7.4

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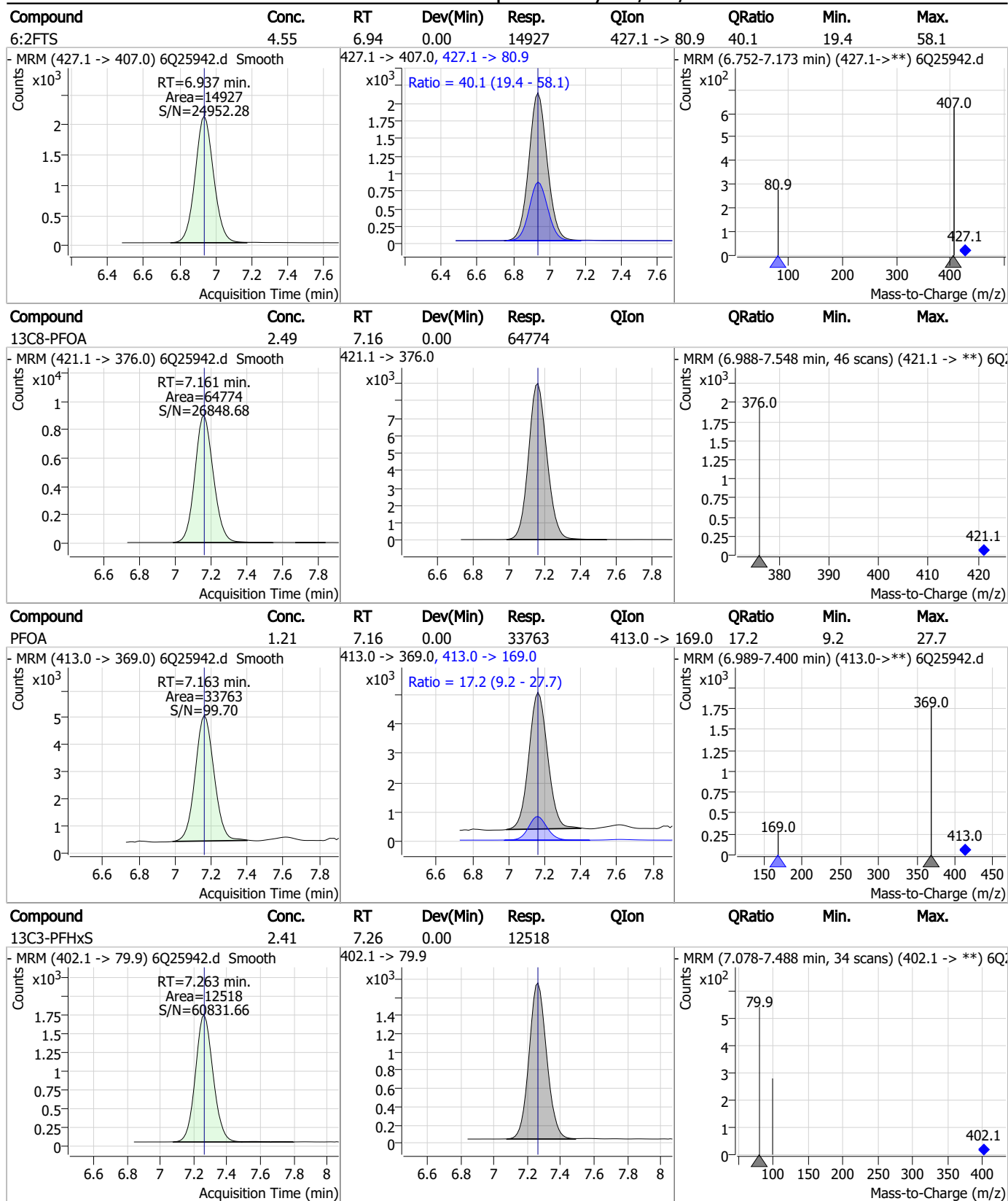
### Perfluorinated Compounds by LC/MS/MS



7.7.4  
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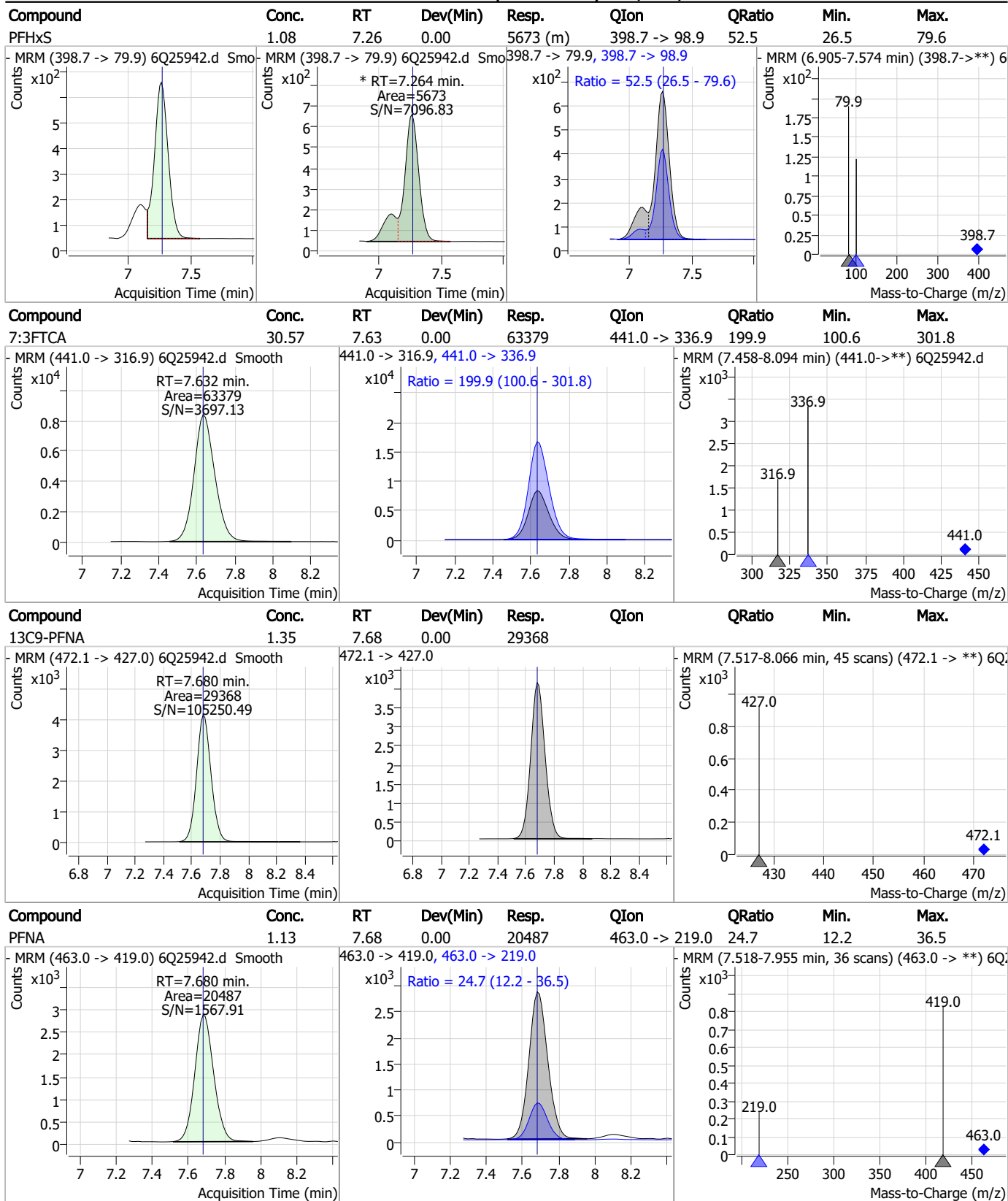
### Perfluorinated Compounds by LC/MS/MS



7.7.4

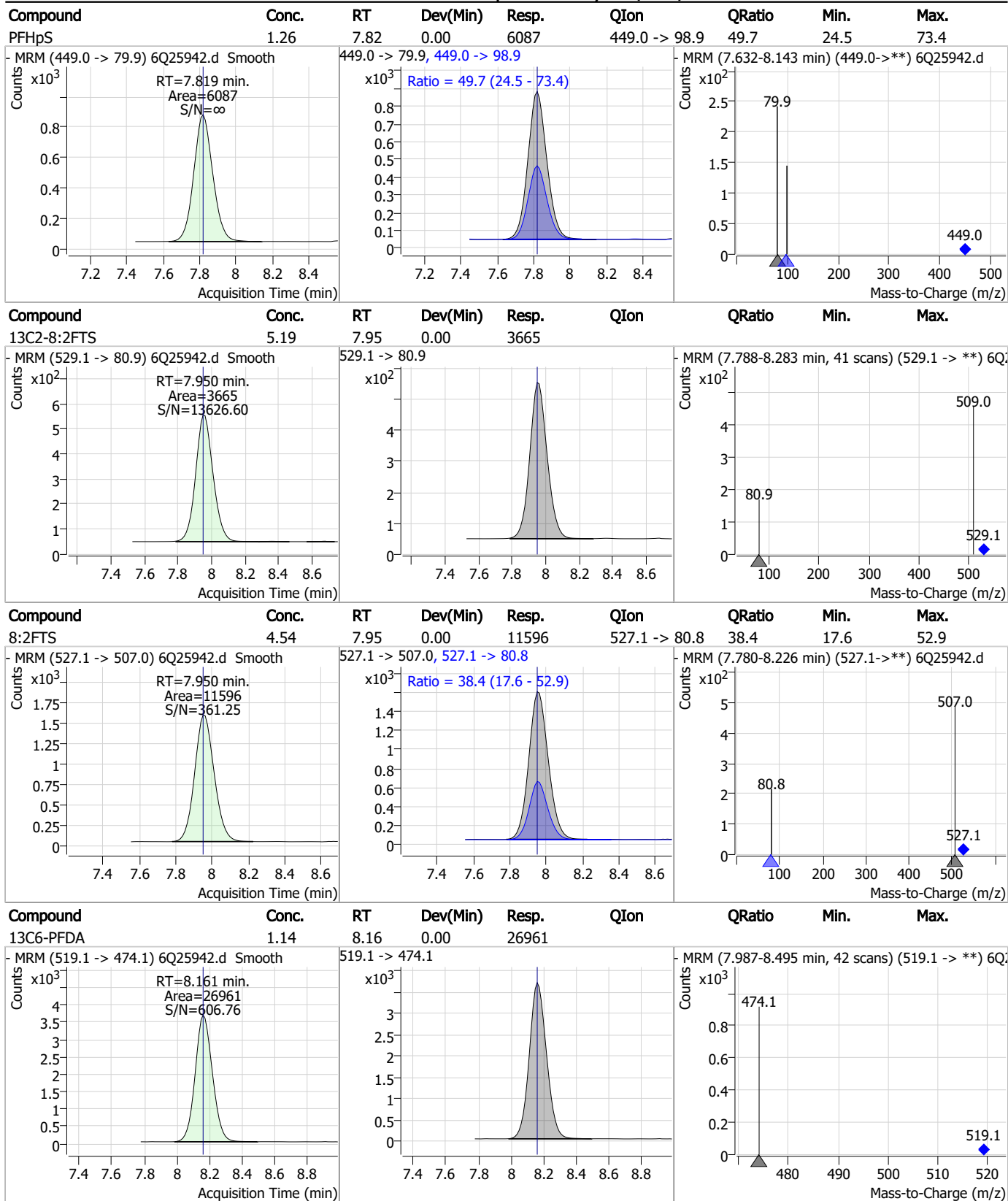
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### Perfluorinated Compounds by LC/MS/MS



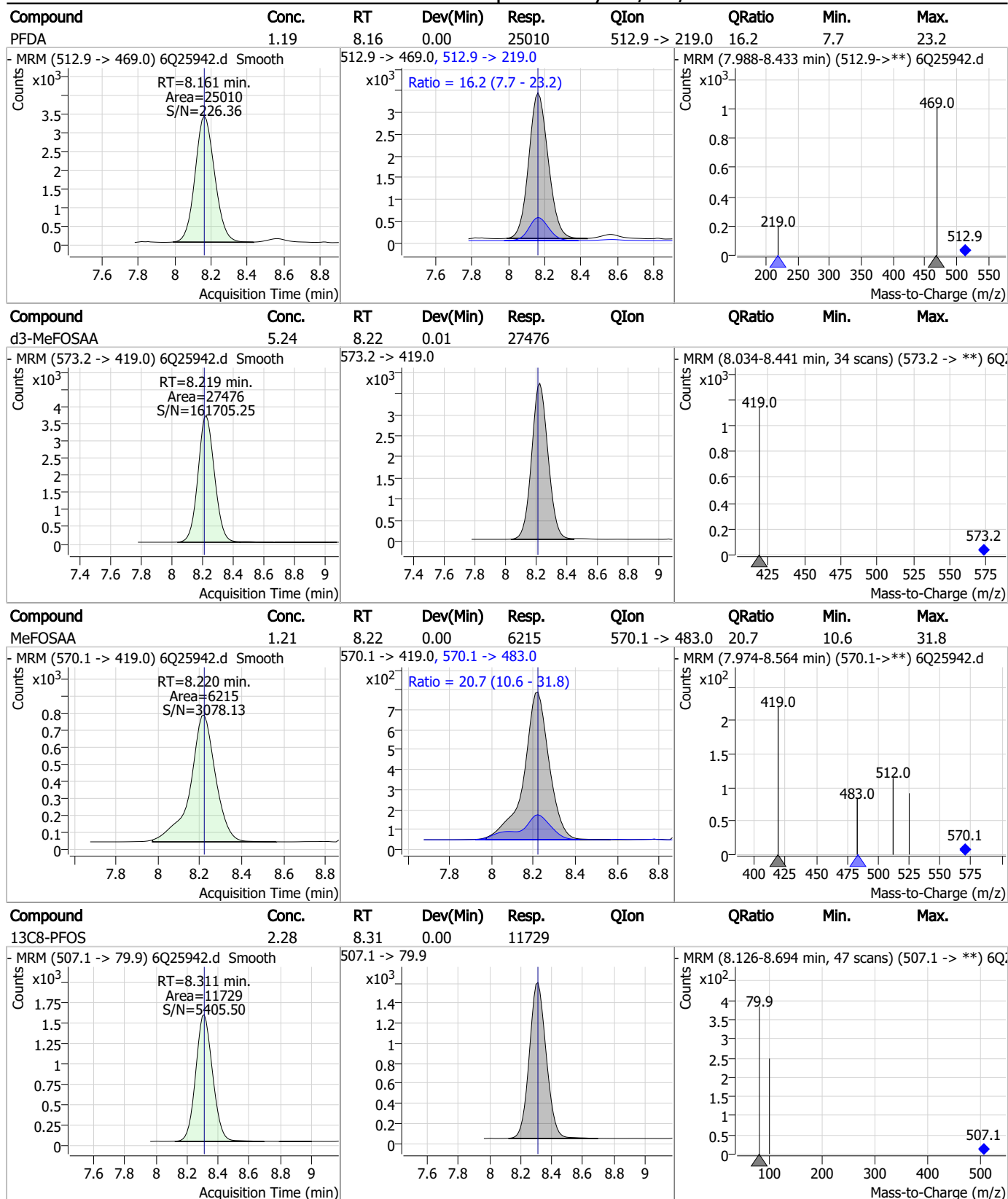
7.7.4  
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### Perfluorinated Compounds by LC/MS/MS



7.7.4  
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### Perfluorinated Compounds by LC/MS/MS

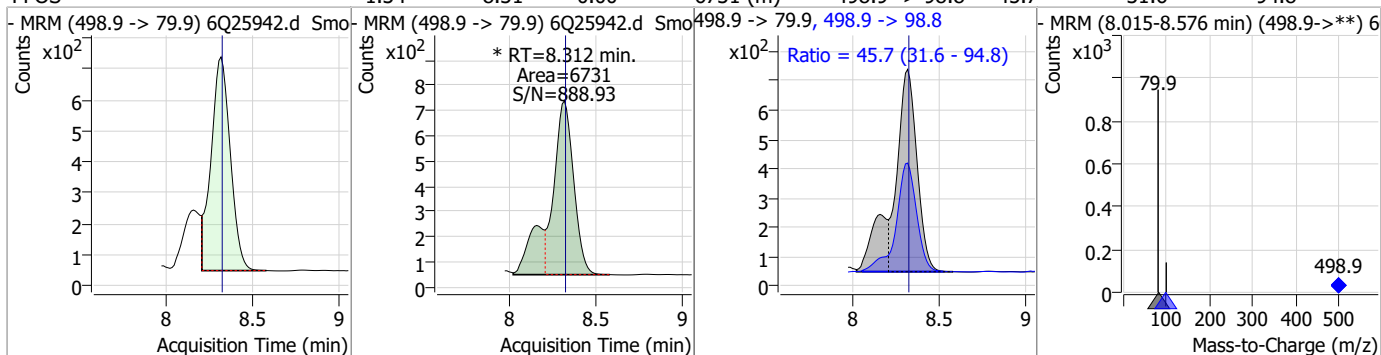


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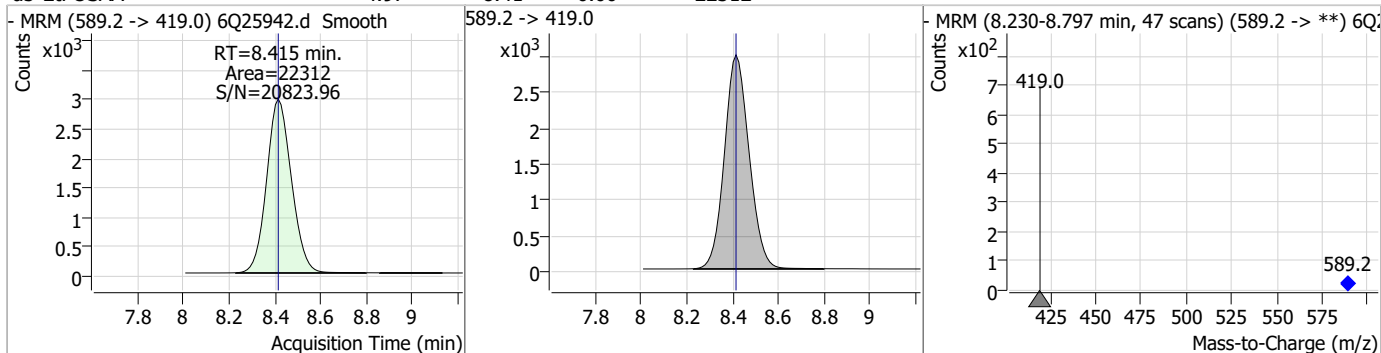
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### Perfluorinated Compounds by LC/MS/MS

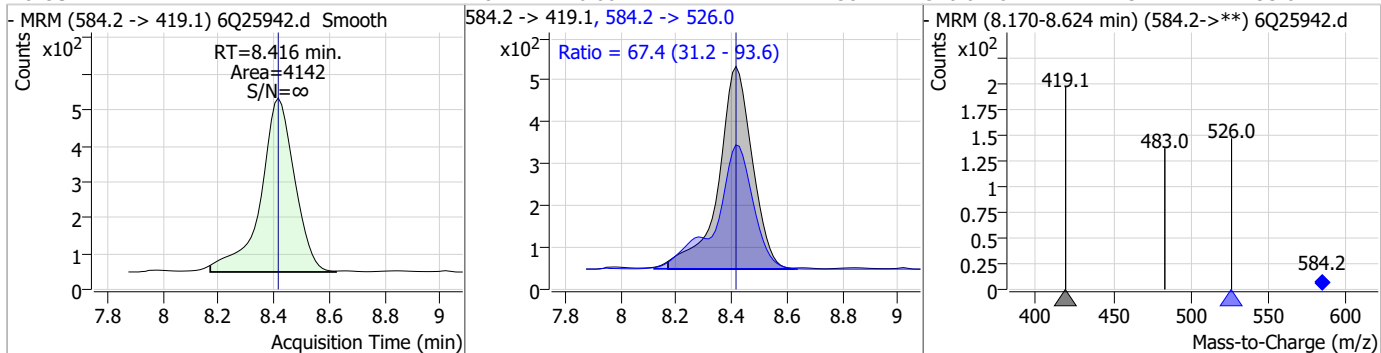
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOS	1.34	8.31	0.00	6731 (m)	498.9 -> 98.8	45.7	31.6	94.8



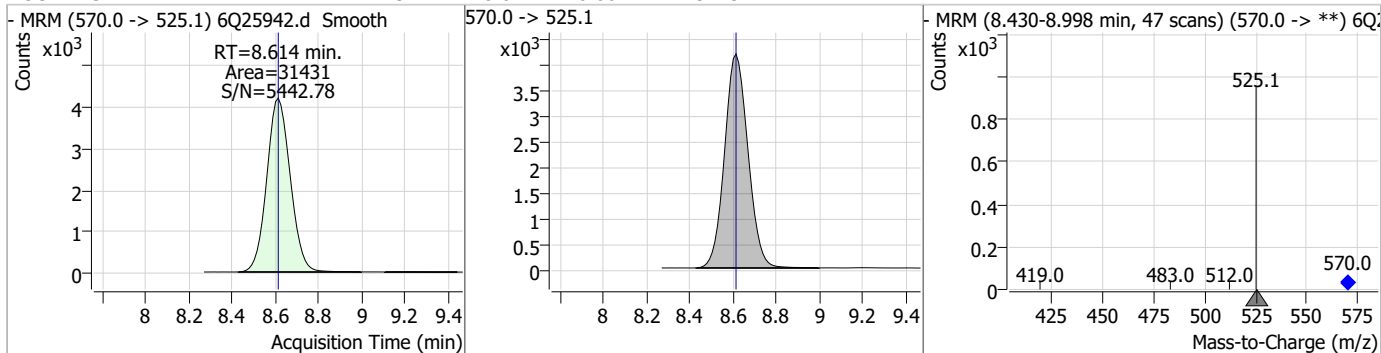
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSAA	4.97	8.41	0.00	22312	589.2 -> 419.0	67.4	31.2	93.6



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSAA	1.14	8.42	0.00	4142	584.2 -> 526.0	67.4	31.2	93.6

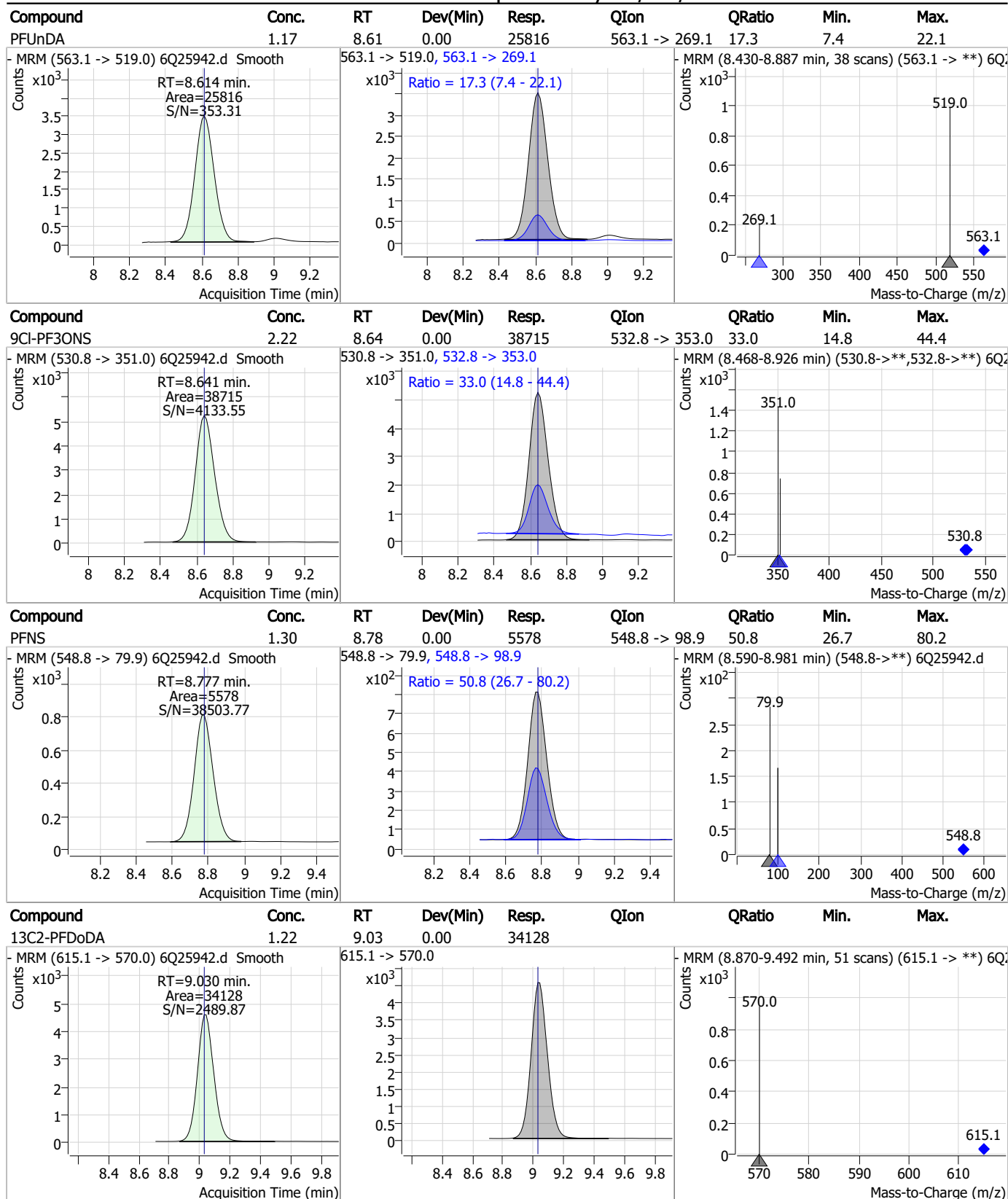


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C7-PFUnDA	1.23	8.61	0.00	31431	570.0 -> 525.1	67.4	31.2	93.6





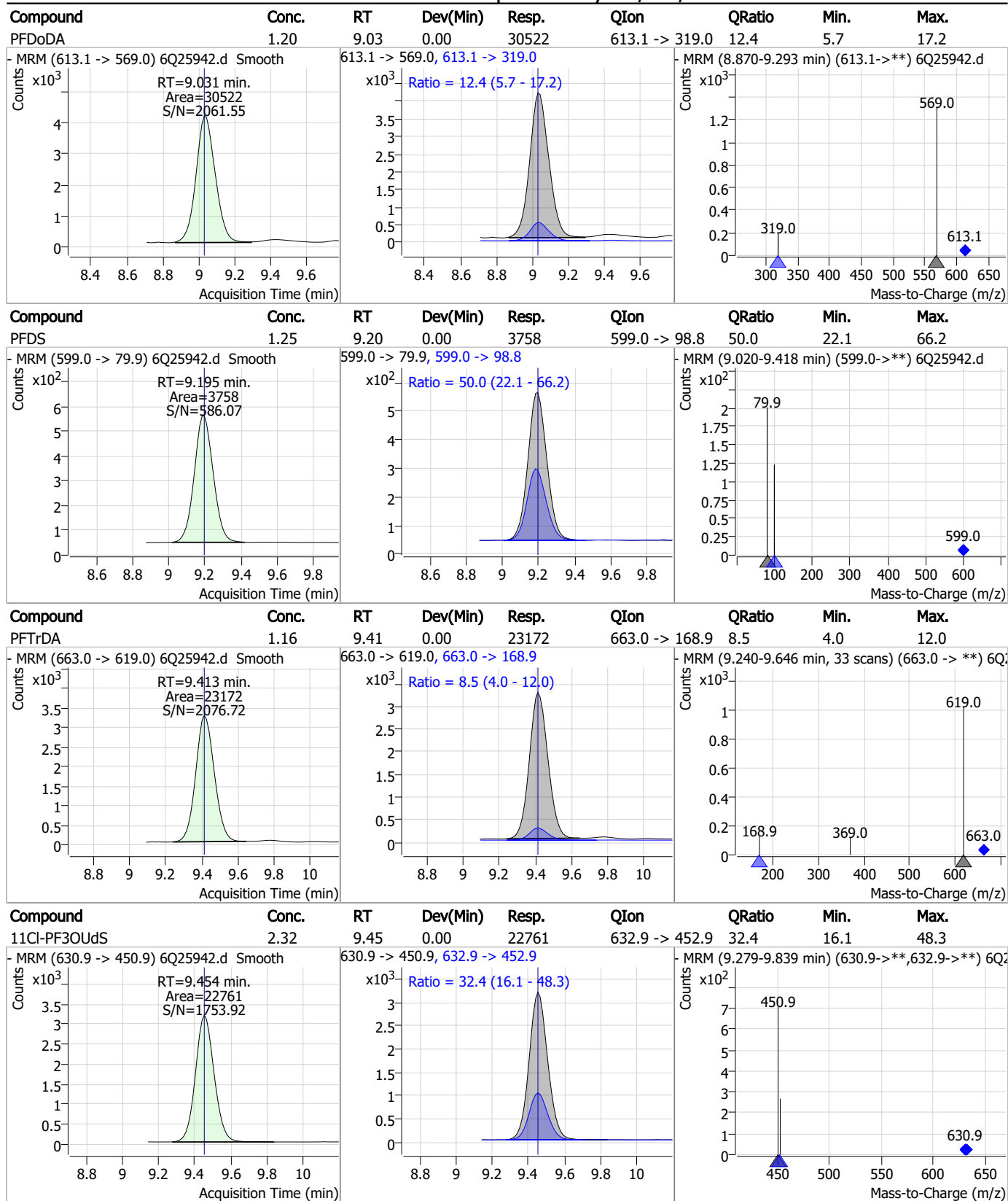
### Perfluorinated Compounds by LC/MS/MS



7.7.4

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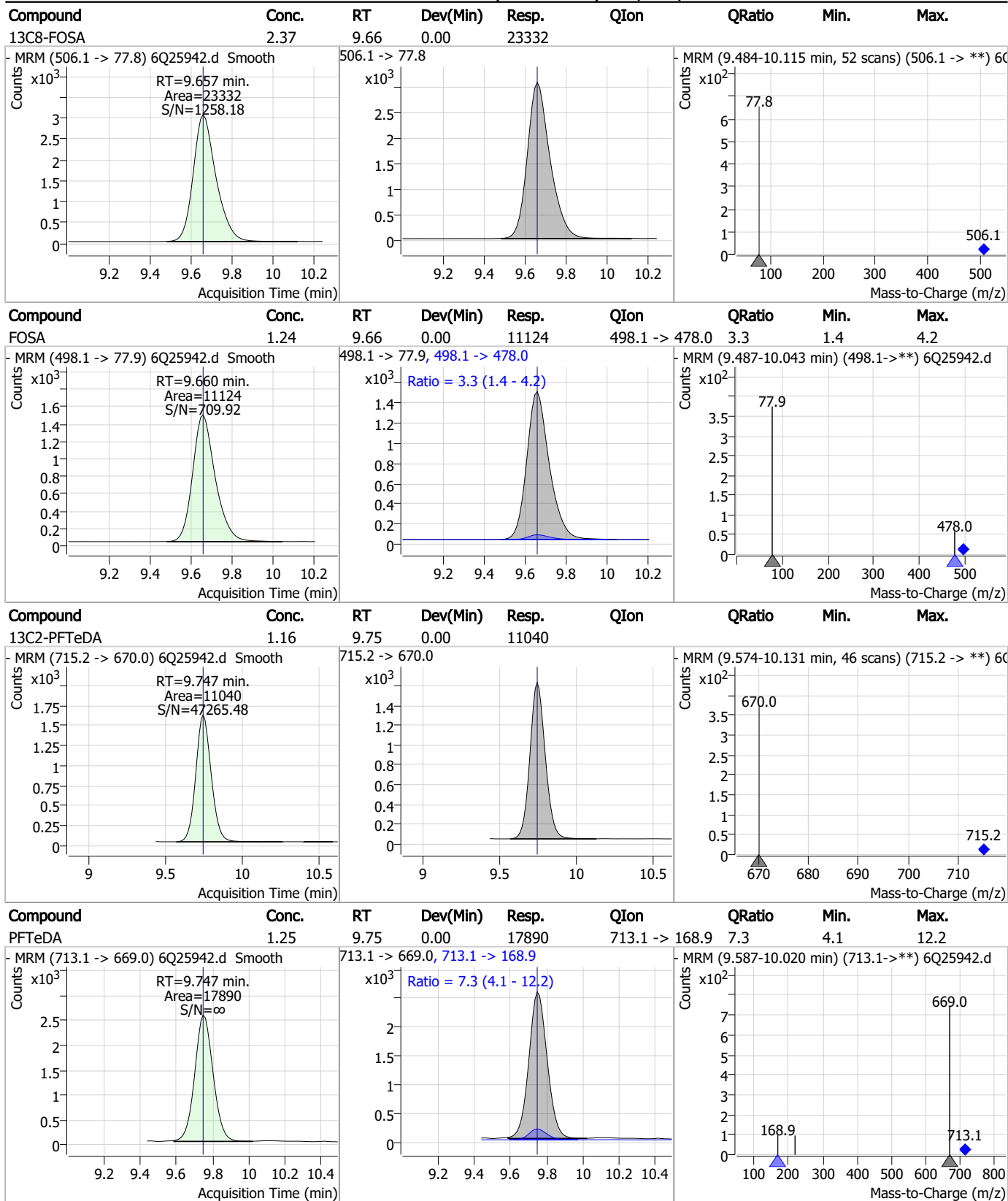
### Perfluorinated Compounds by LC/MS/MS



7.7.4

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### Perfluorinated Compounds by LC/MS/MS

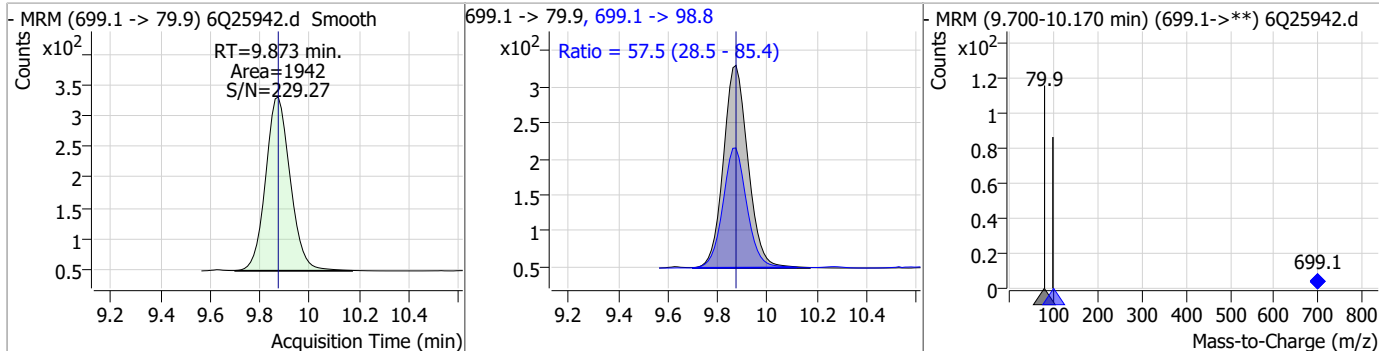


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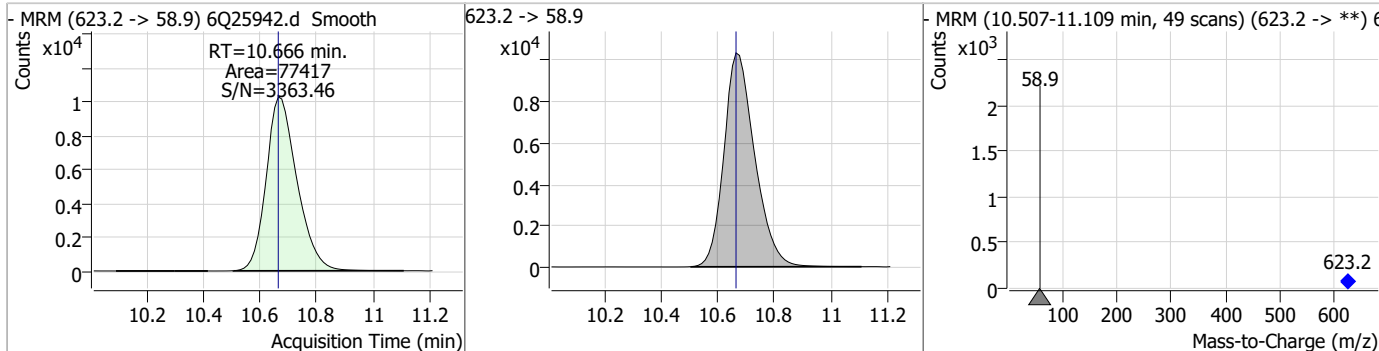
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### Perfluorinated Compounds by LC/MS/MS

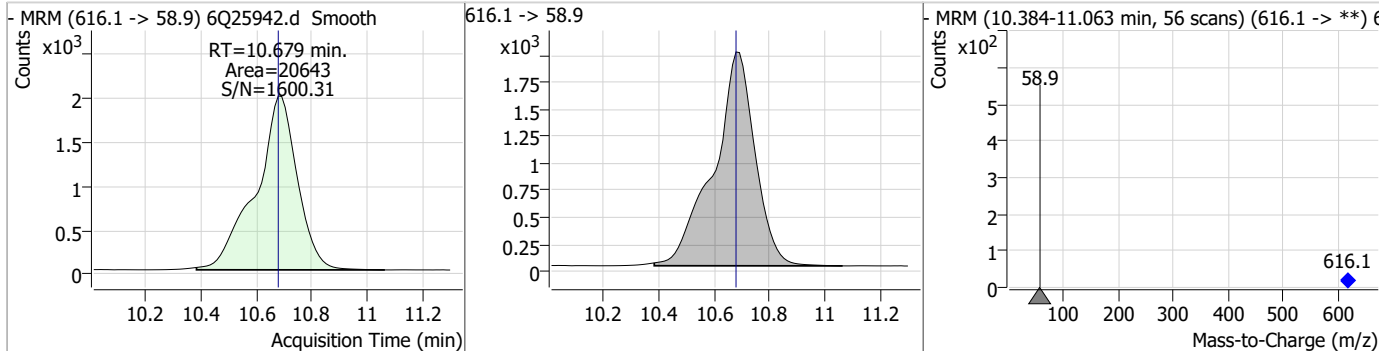
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFD <sub>o</sub> DS	1.25	9.87	0.00	1942	699.1 -> 98.8	57.5	28.5	85.4



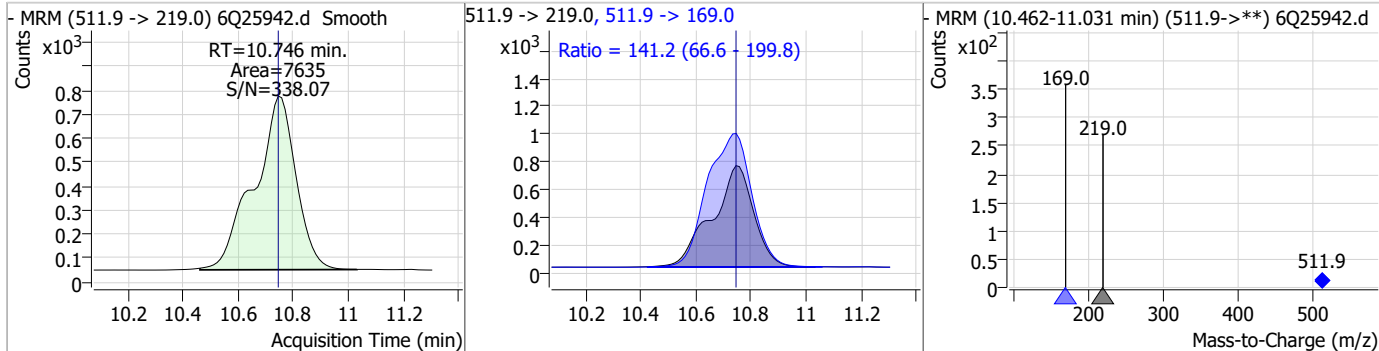
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d7-MeFOSE	24.40	10.67	0.00	77417				



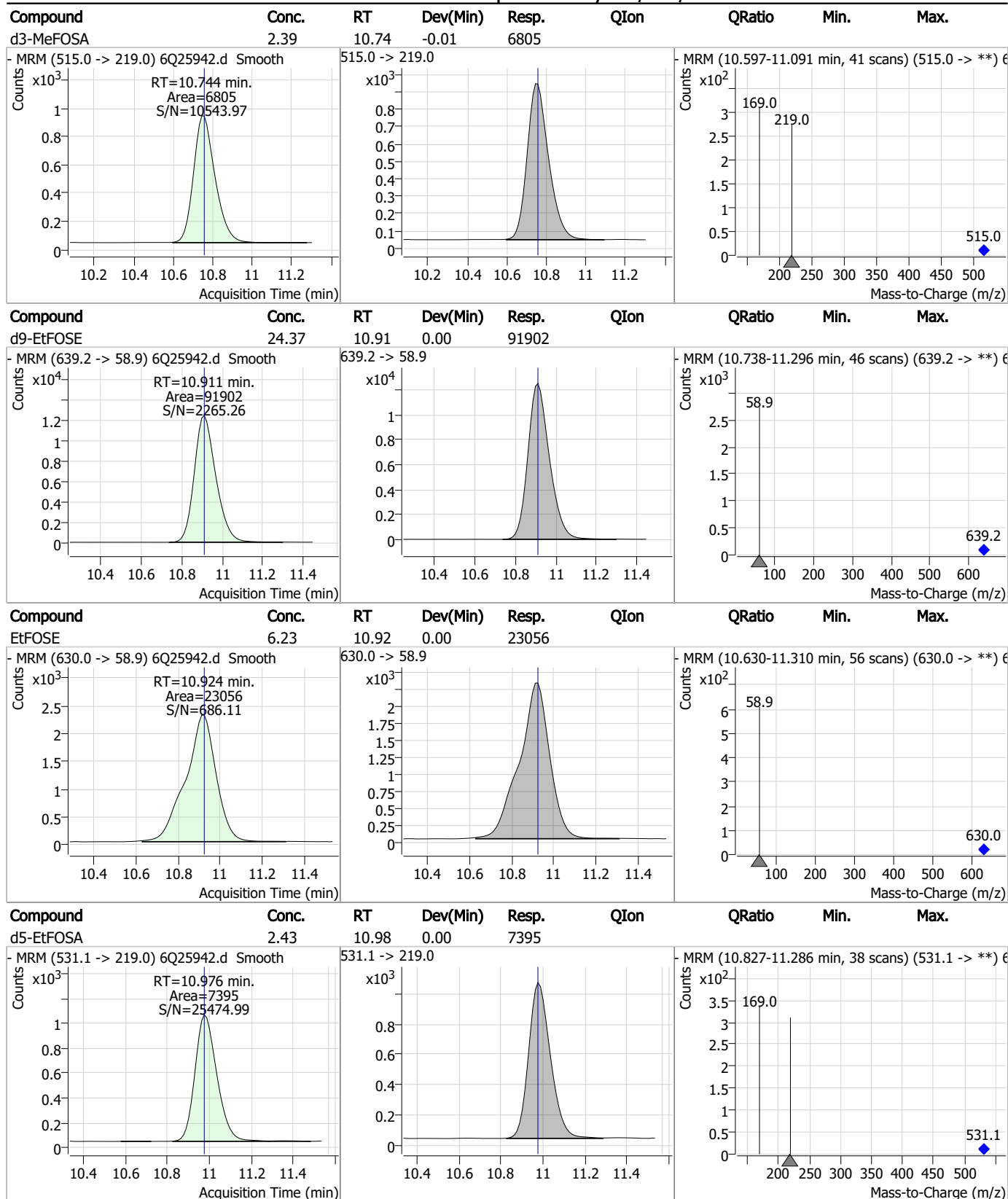
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSE	6.03	10.68	0.00	20643				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSA	2.42	10.75	0.00	7635	511.9 -> 169.0	141.2	66.6	199.8



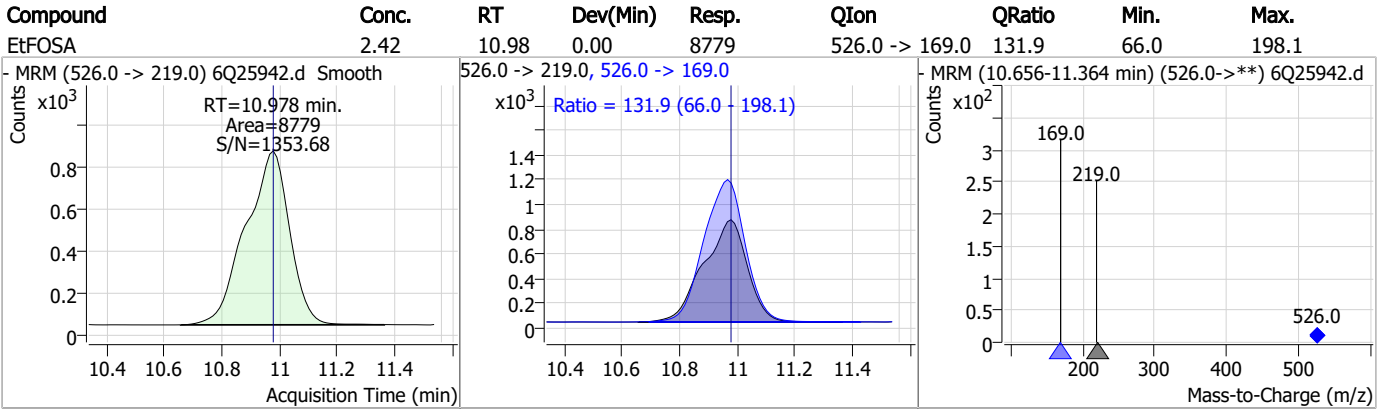
### Perfluorinated Compounds by LC/MS/MS



7.7.4

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Perfluorinated Compounds by LC/MS/MS



7.7.4

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# 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)
<b>Internal Standards</b>					
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
<b>System Monitoring Compounds</b>					
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%	
<b>Target Compounds</b>					<b>QValue</b>
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

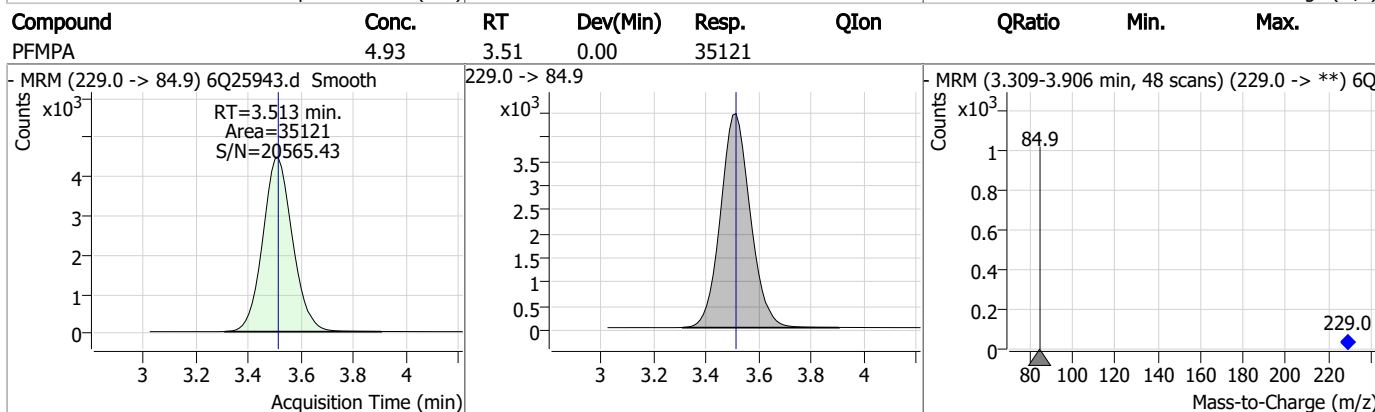
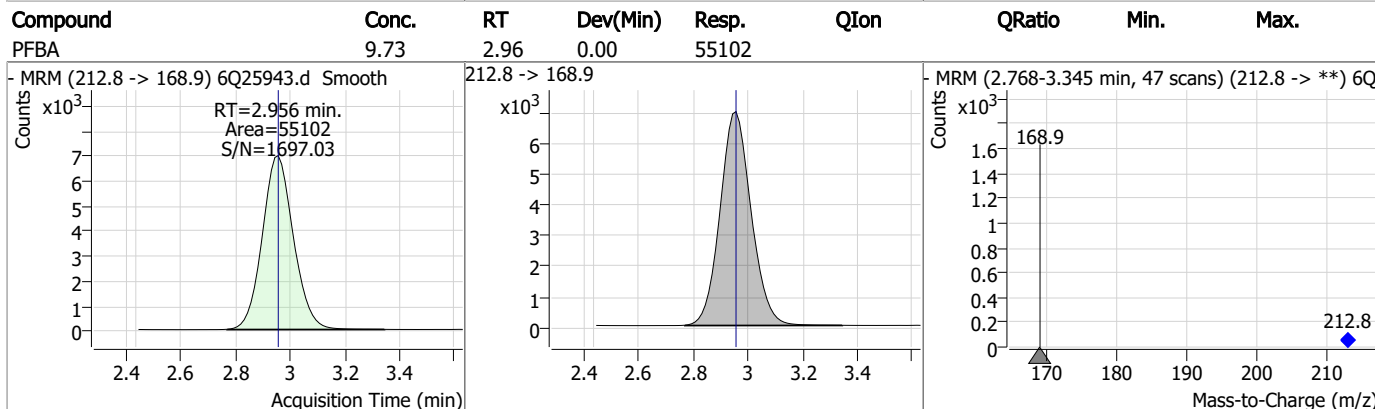
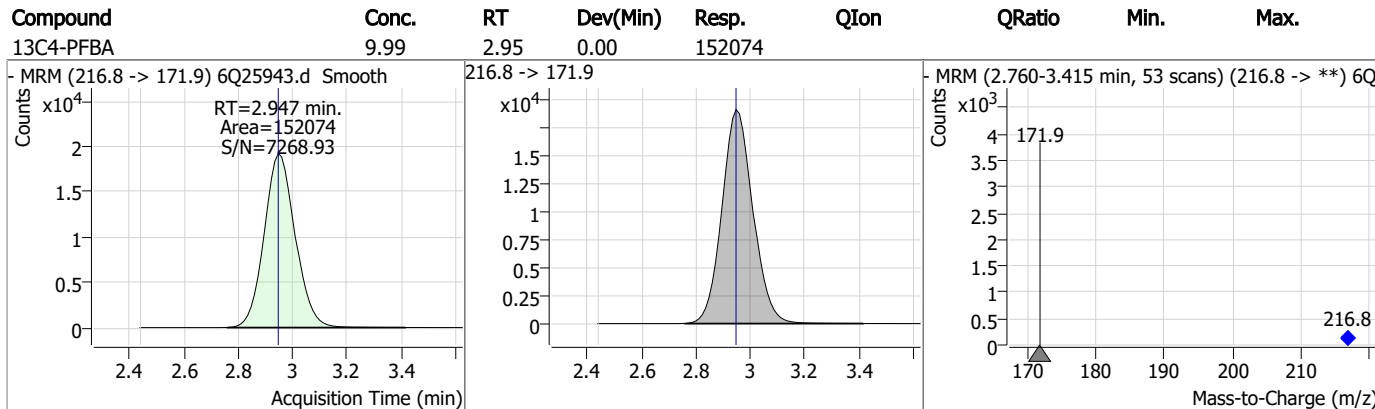
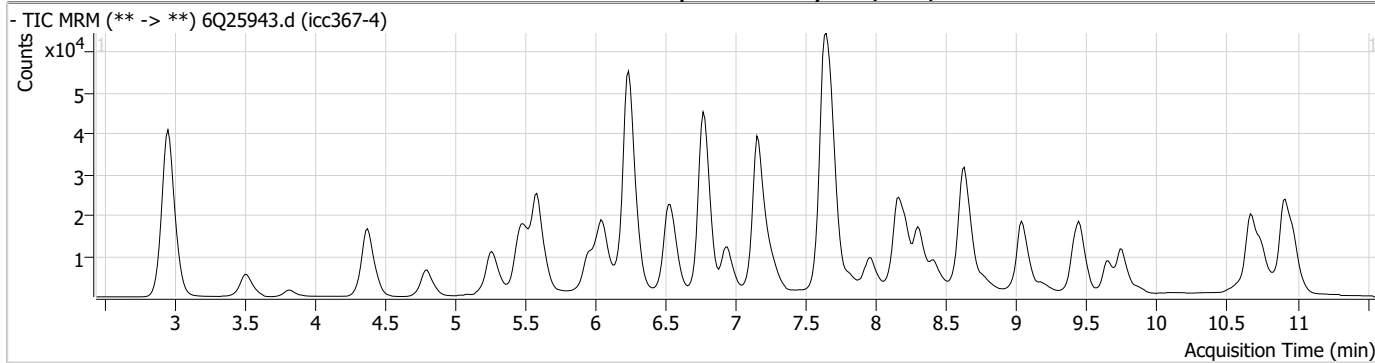
### Perfluorinated Compounds by LC/MS/MS

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

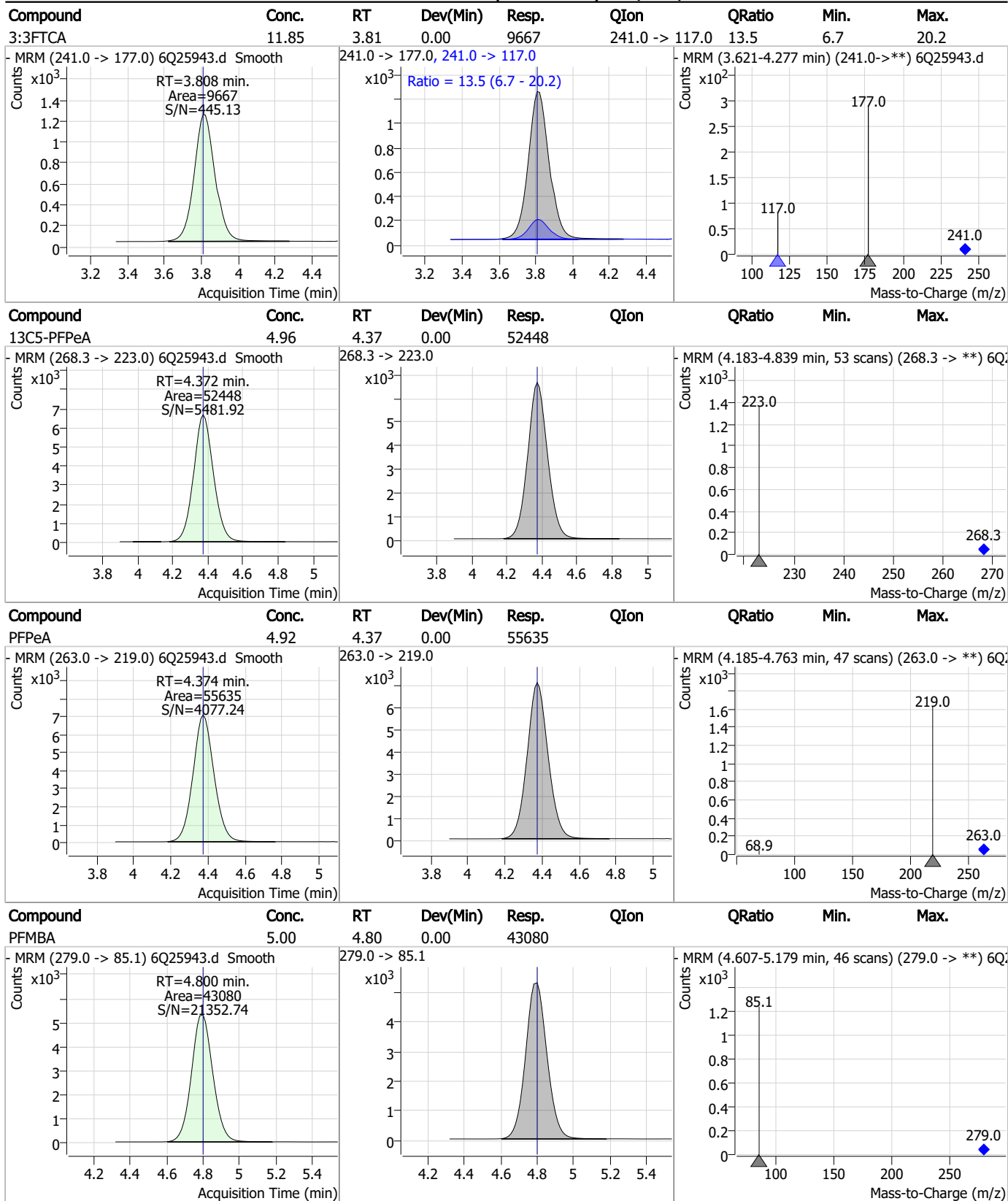
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### Perfluorinated Compounds by LC/MS/MS



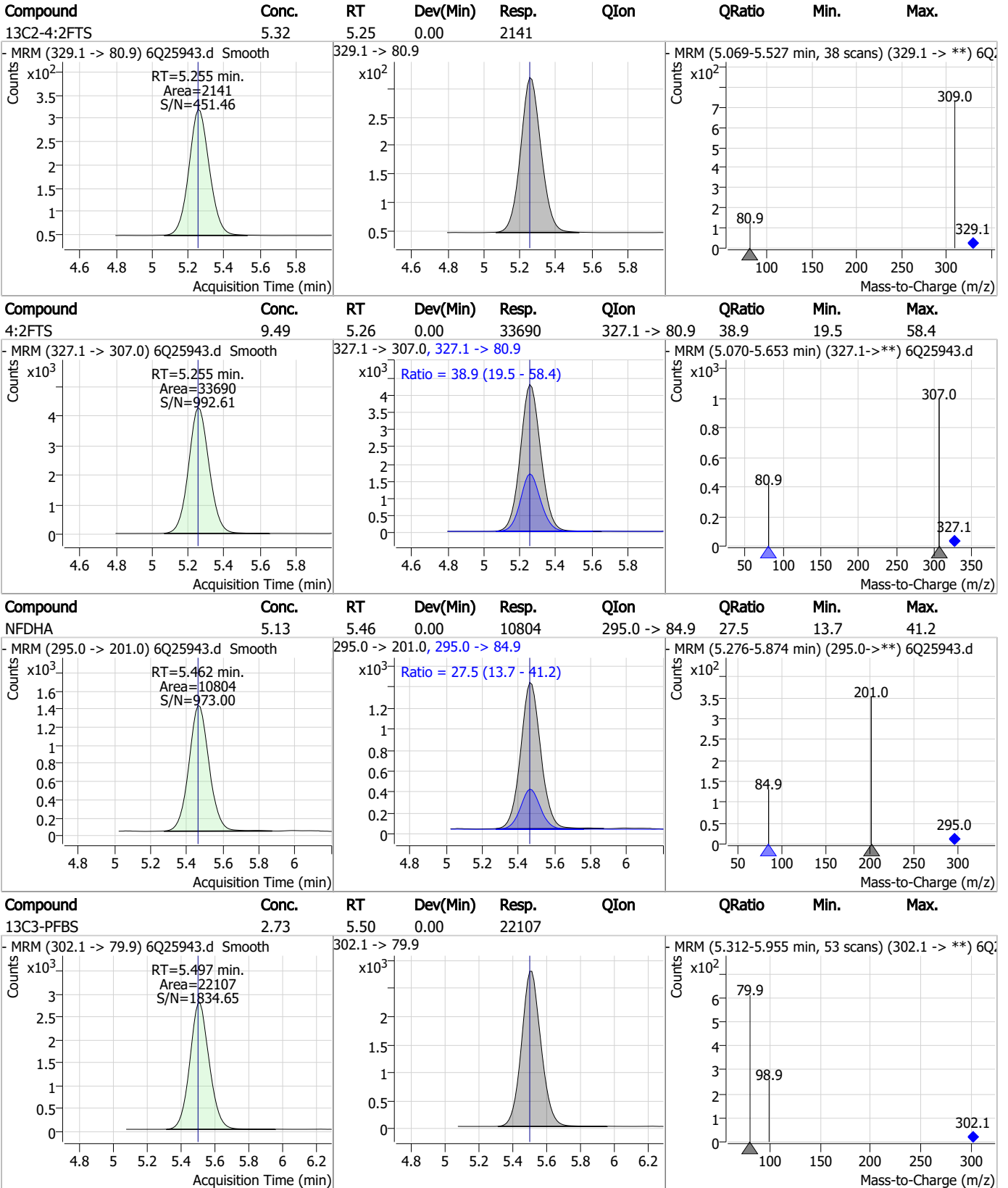
7.7.5  
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### Perfluorinated Compounds by LC/MS/MS



7.7.5  
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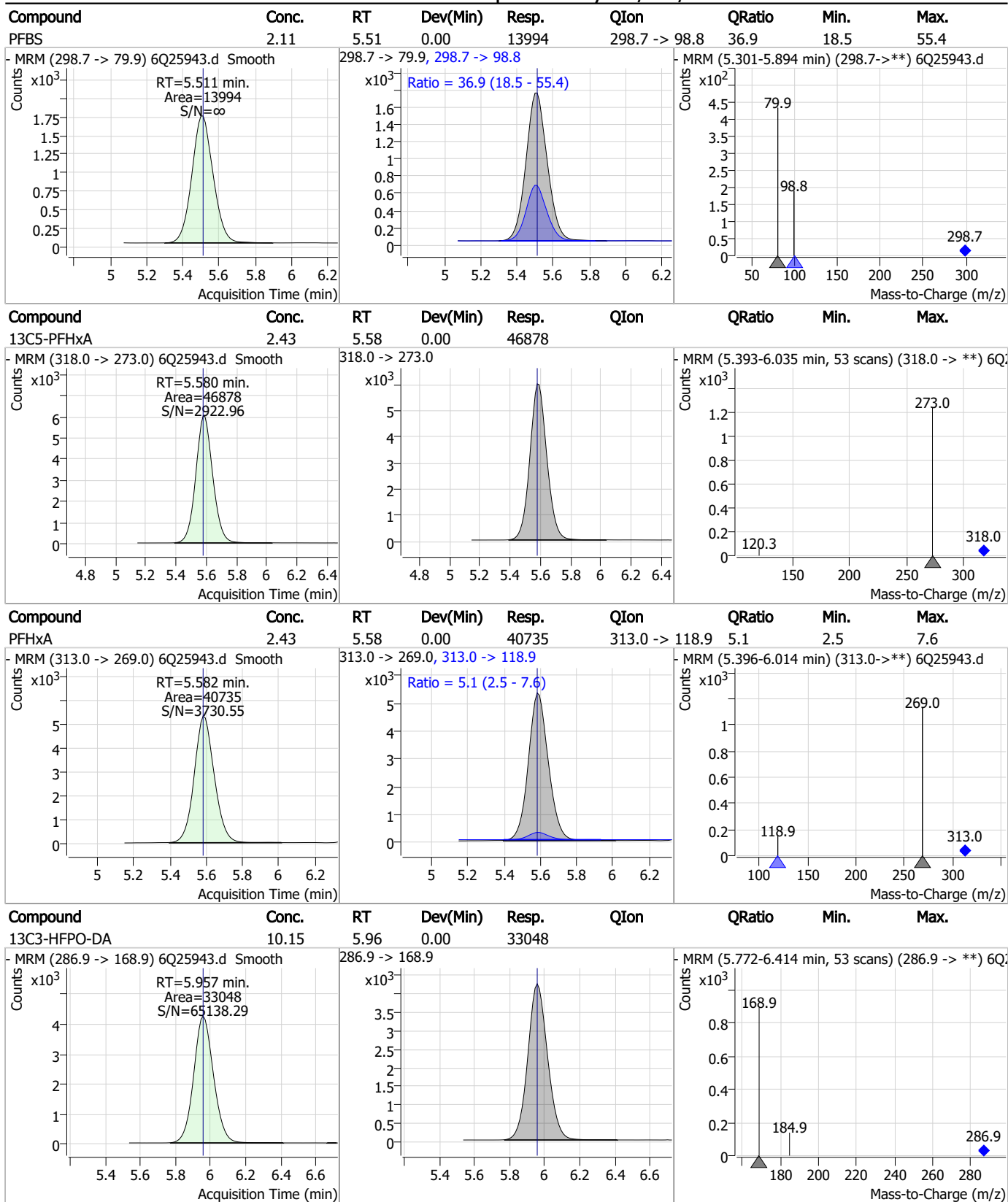
### Perfluorinated Compounds by LC/MS/MS



7.7.5

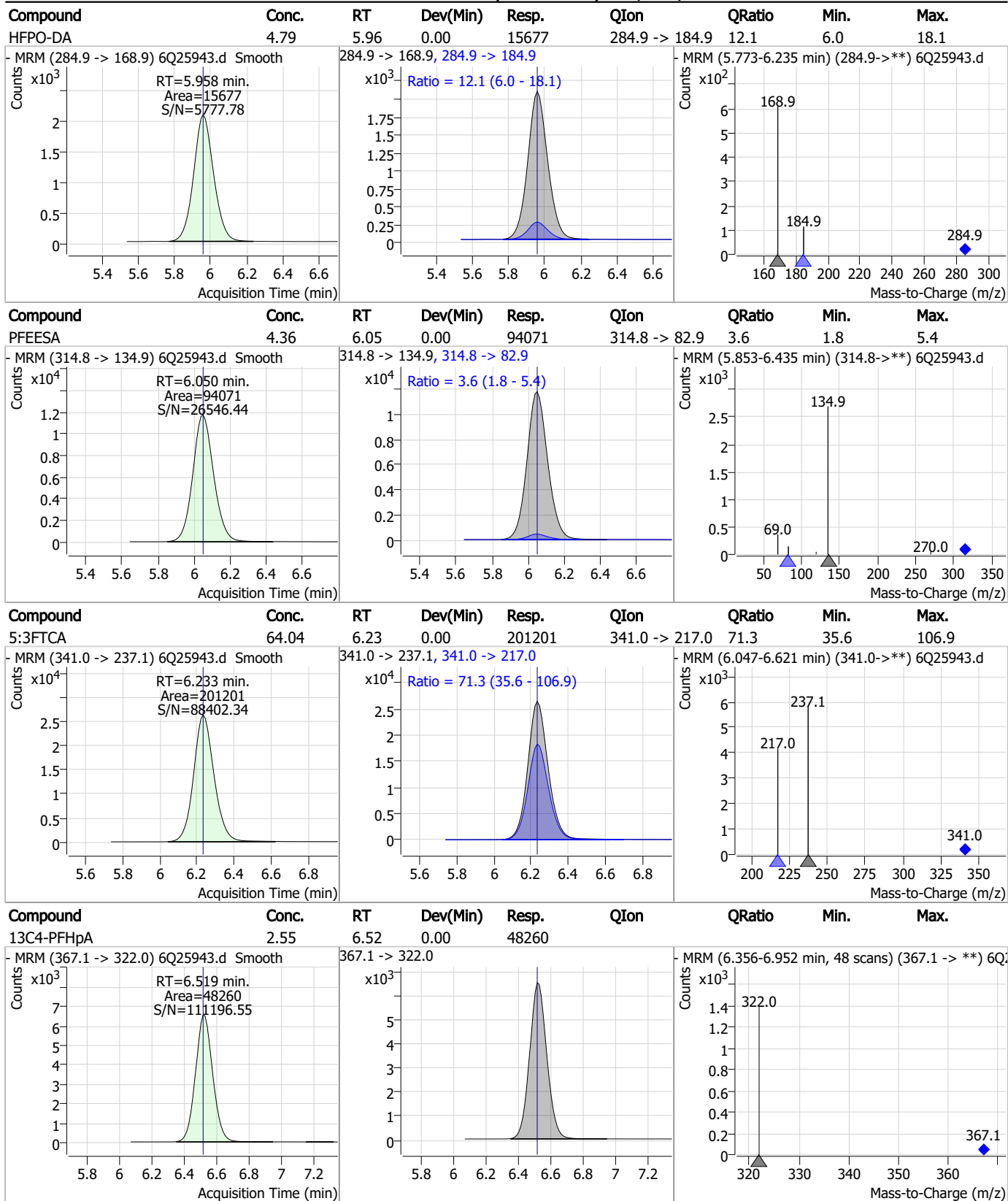
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### Perfluorinated Compounds by LC/MS/MS



7.7.5  
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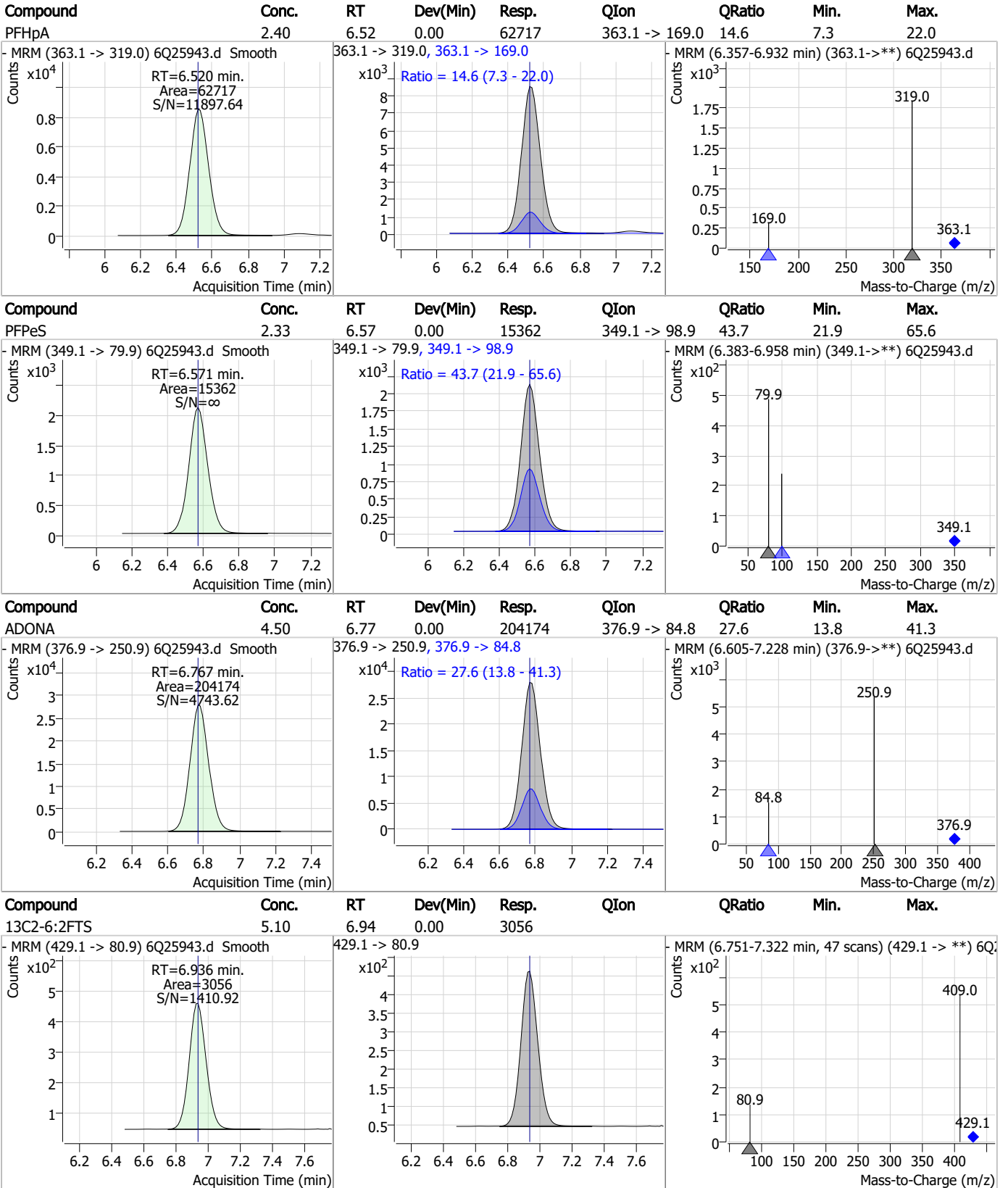
### Perfluorinated Compounds by LC/MS/MS



7.7.5  
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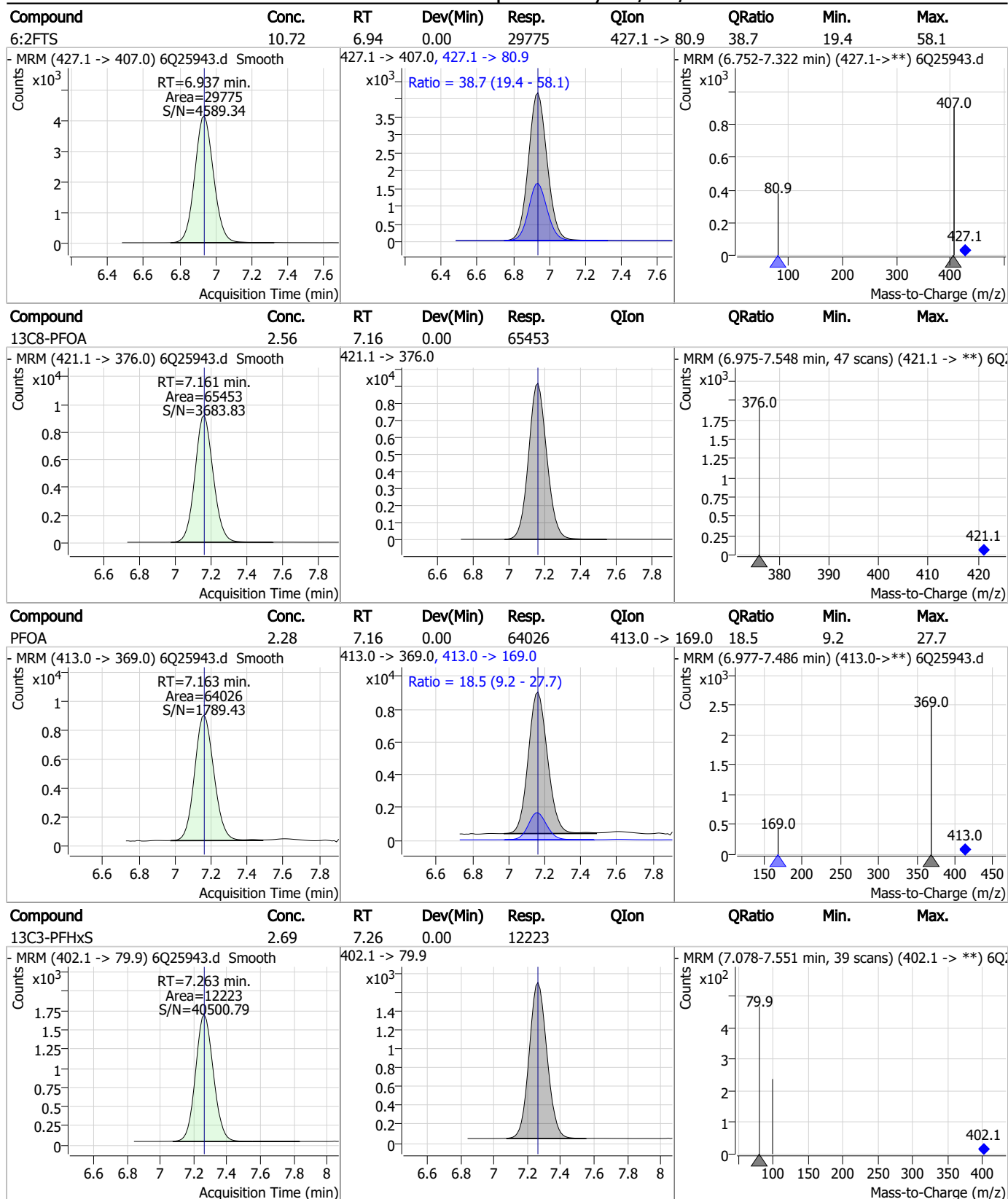
### Perfluorinated Compounds by LC/MS/MS



7.7.5

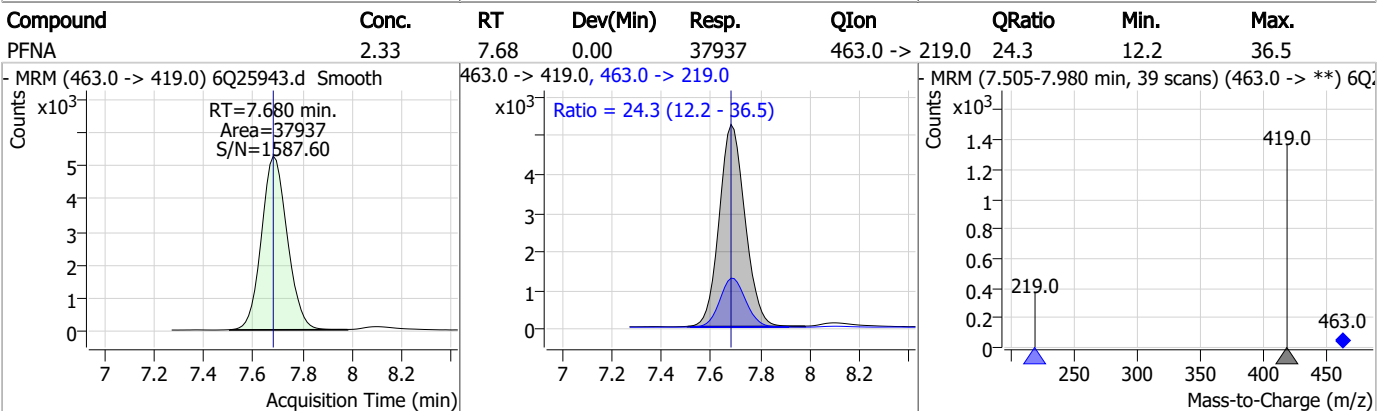
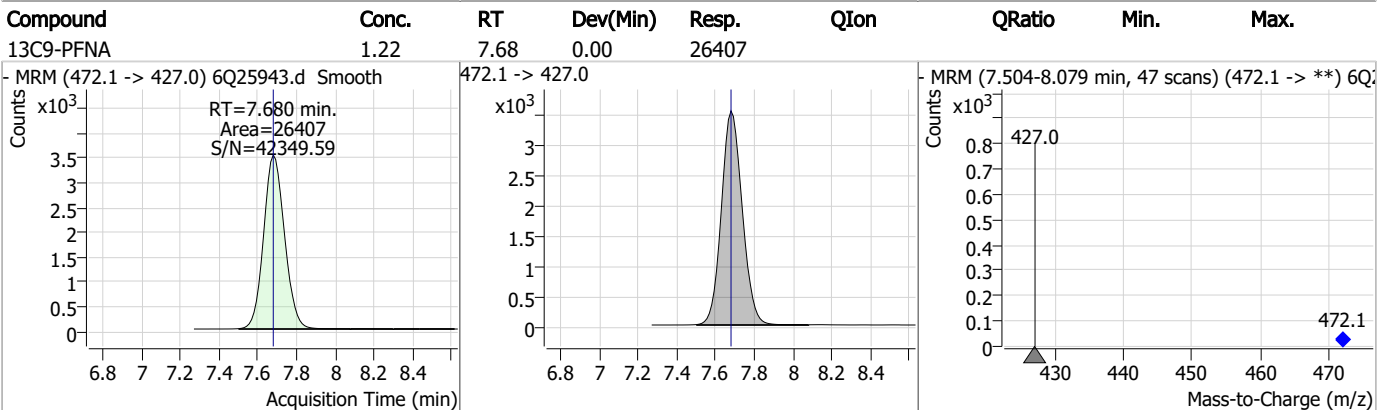
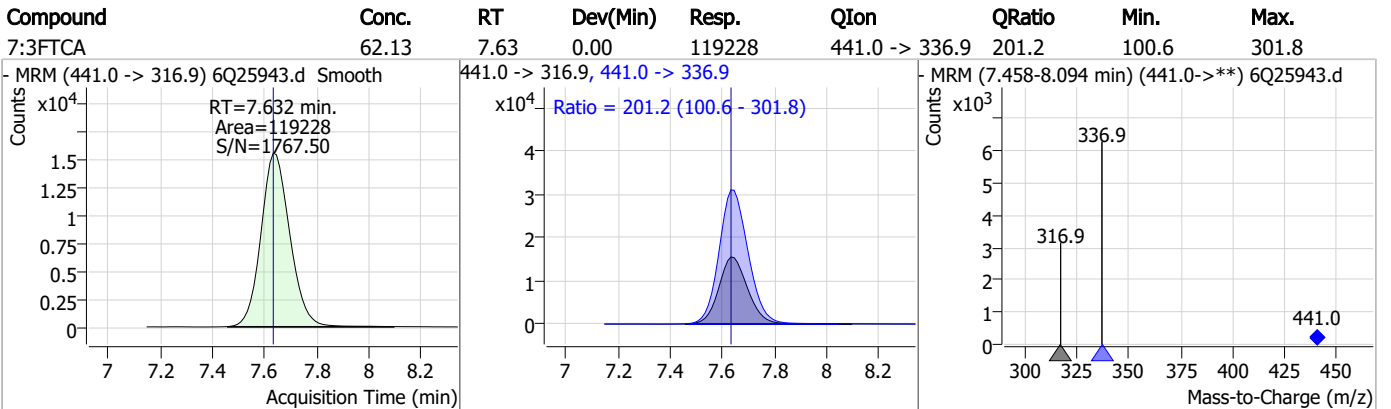
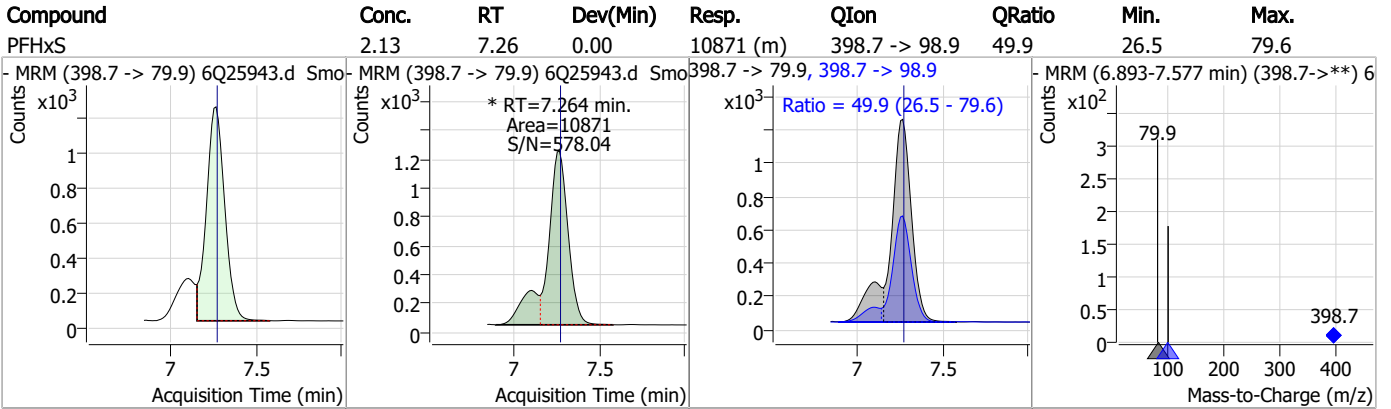
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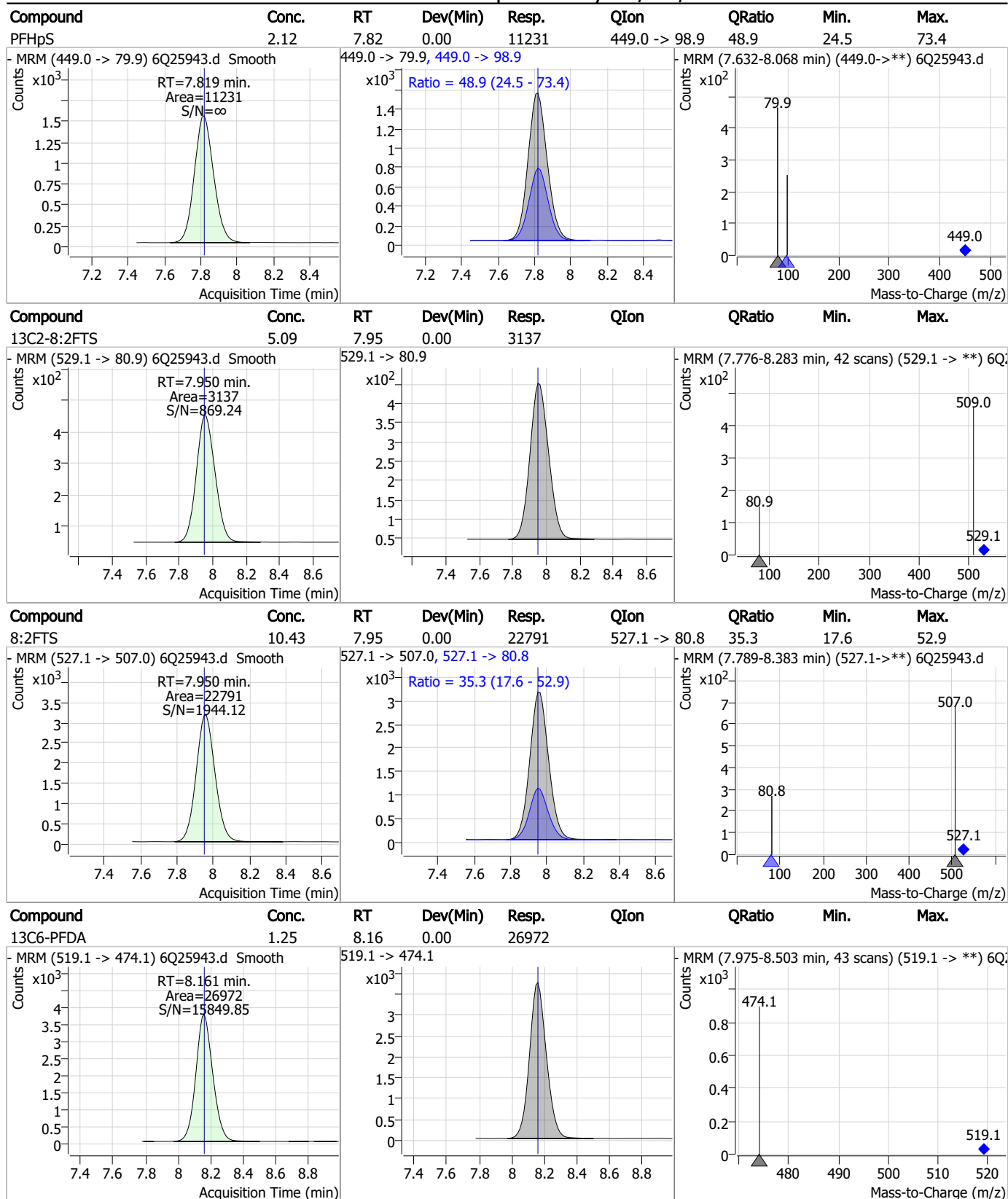


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### Perfluorinated Compounds by LC/MS/MS



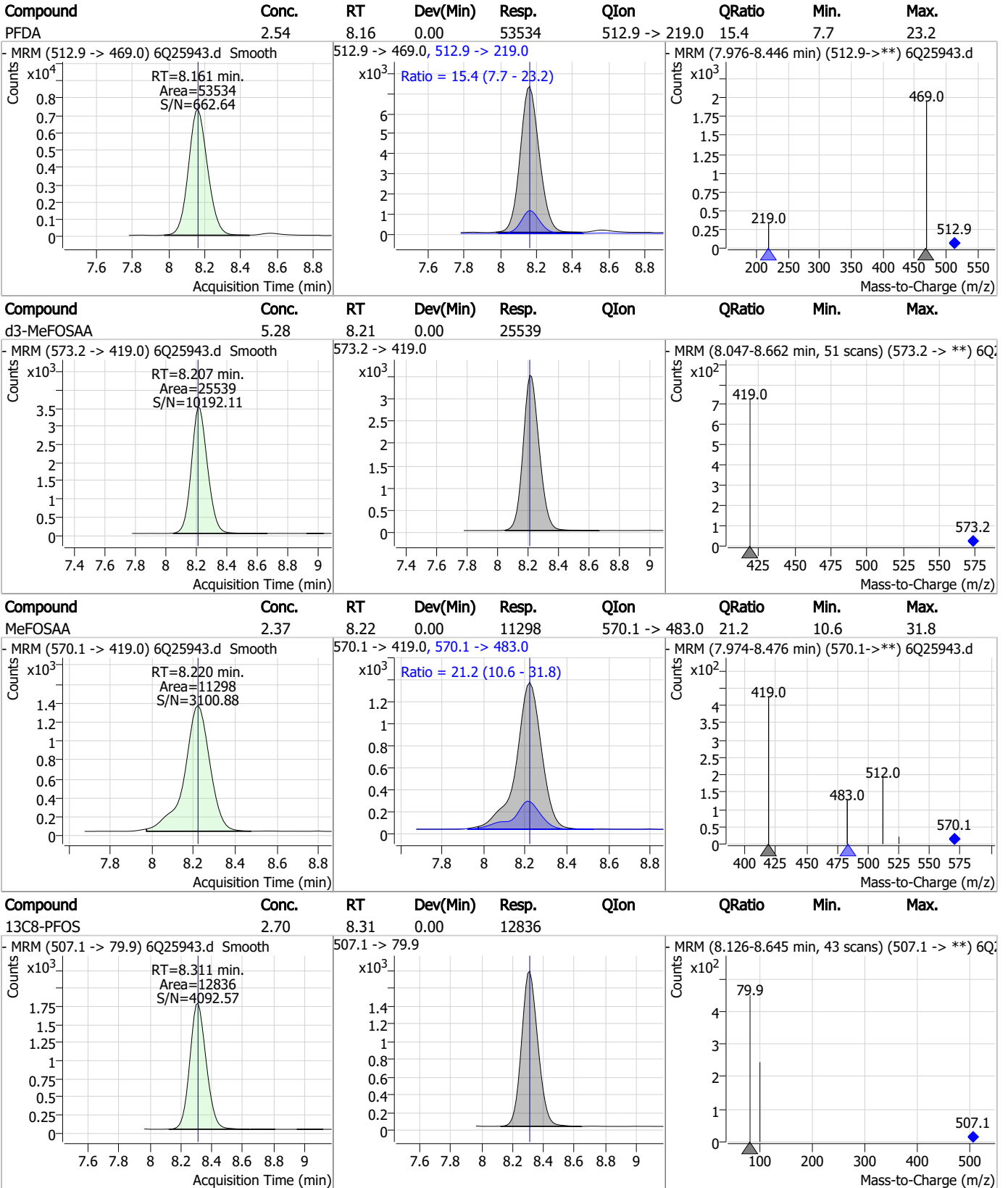
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7.7.5

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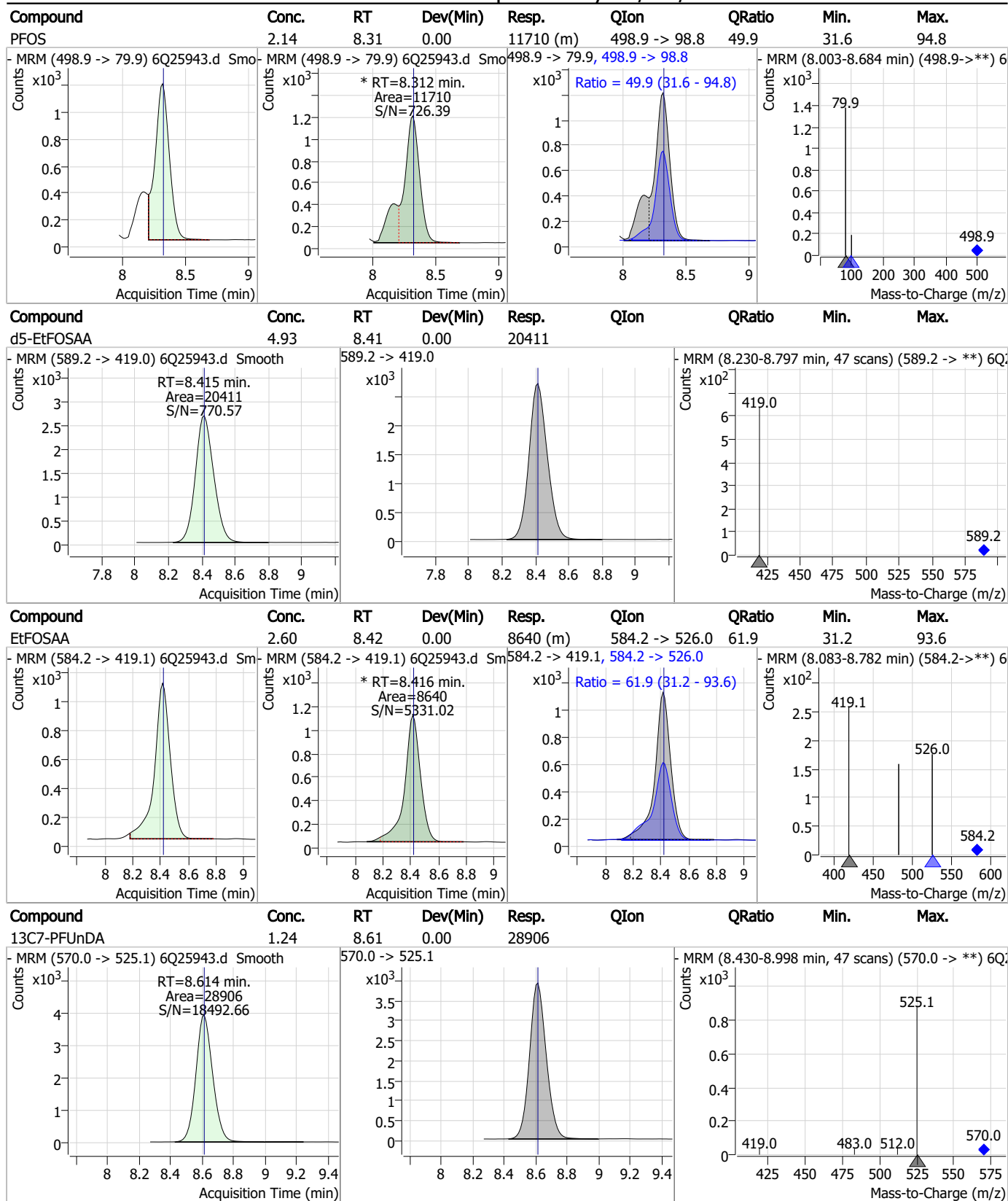
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7.7.5

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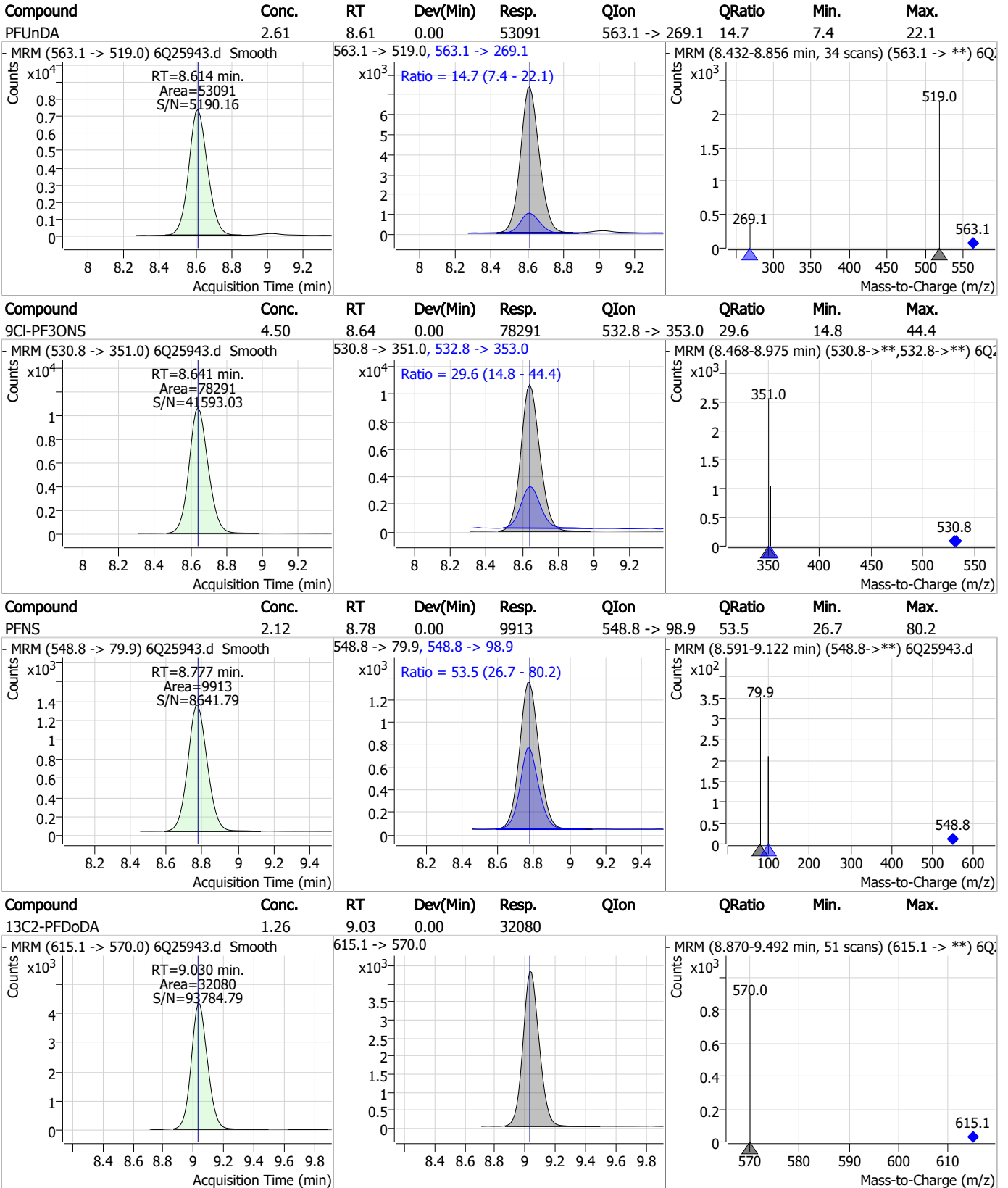
### Perfluorinated Compounds by LC/MS/MS



7.7.5

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### Perfluorinated Compounds by LC/MS/MS

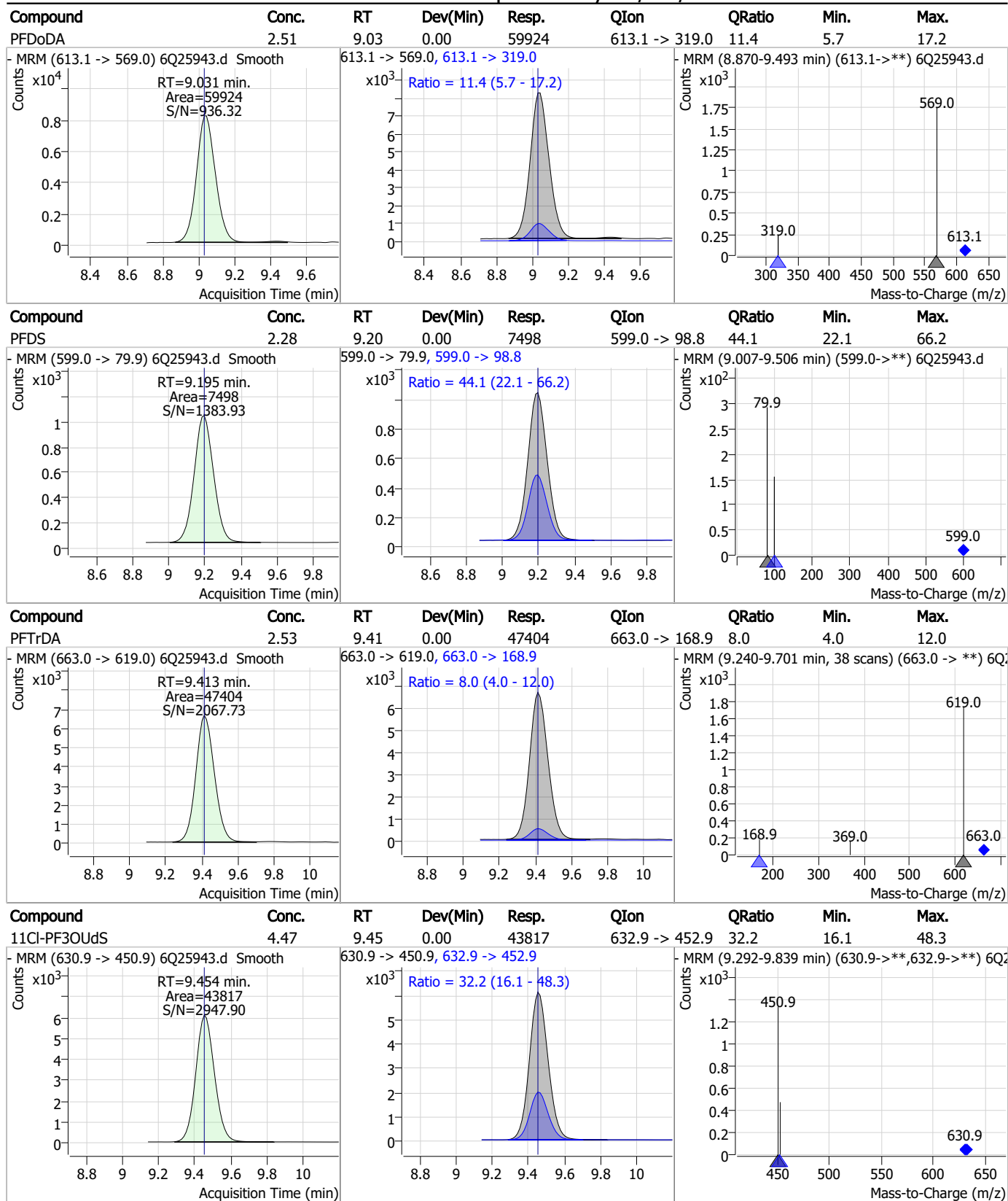


7.7.5

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### Perfluorinated Compounds by LC/MS/MS



7.7.5  
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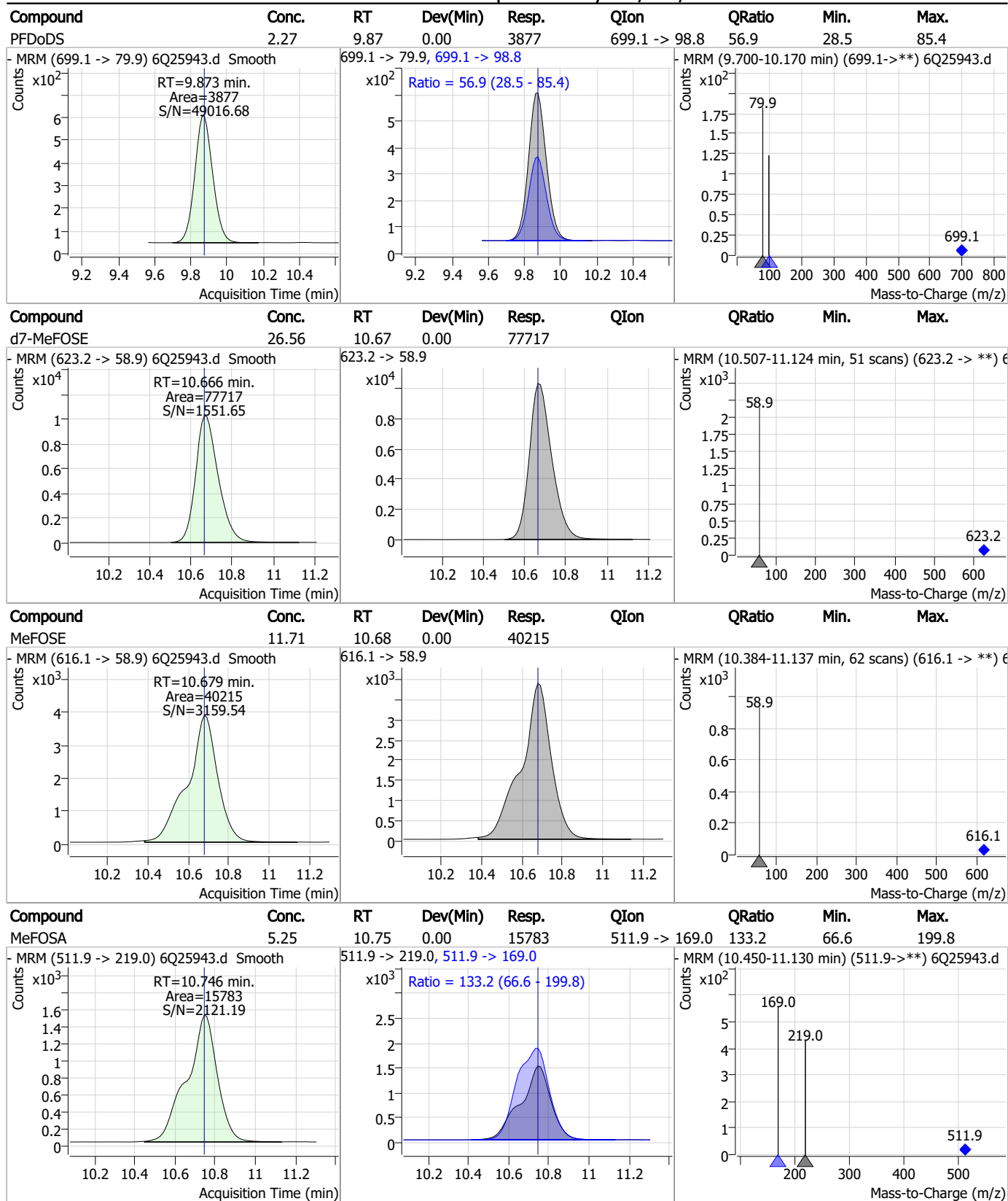


### Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-FOSA	2.62	9.66	0.00	23752				
FOSA	2.33	9.66	0.00	21147	498.1 -> 478.0	2.8	1.4	4.2
13C2-PFTeDA	1.28	9.75	0.00	11090				
PFTeDA	2.32	9.75	0.00	33418	713.1 -> 168.9	8.1	4.1	12.2

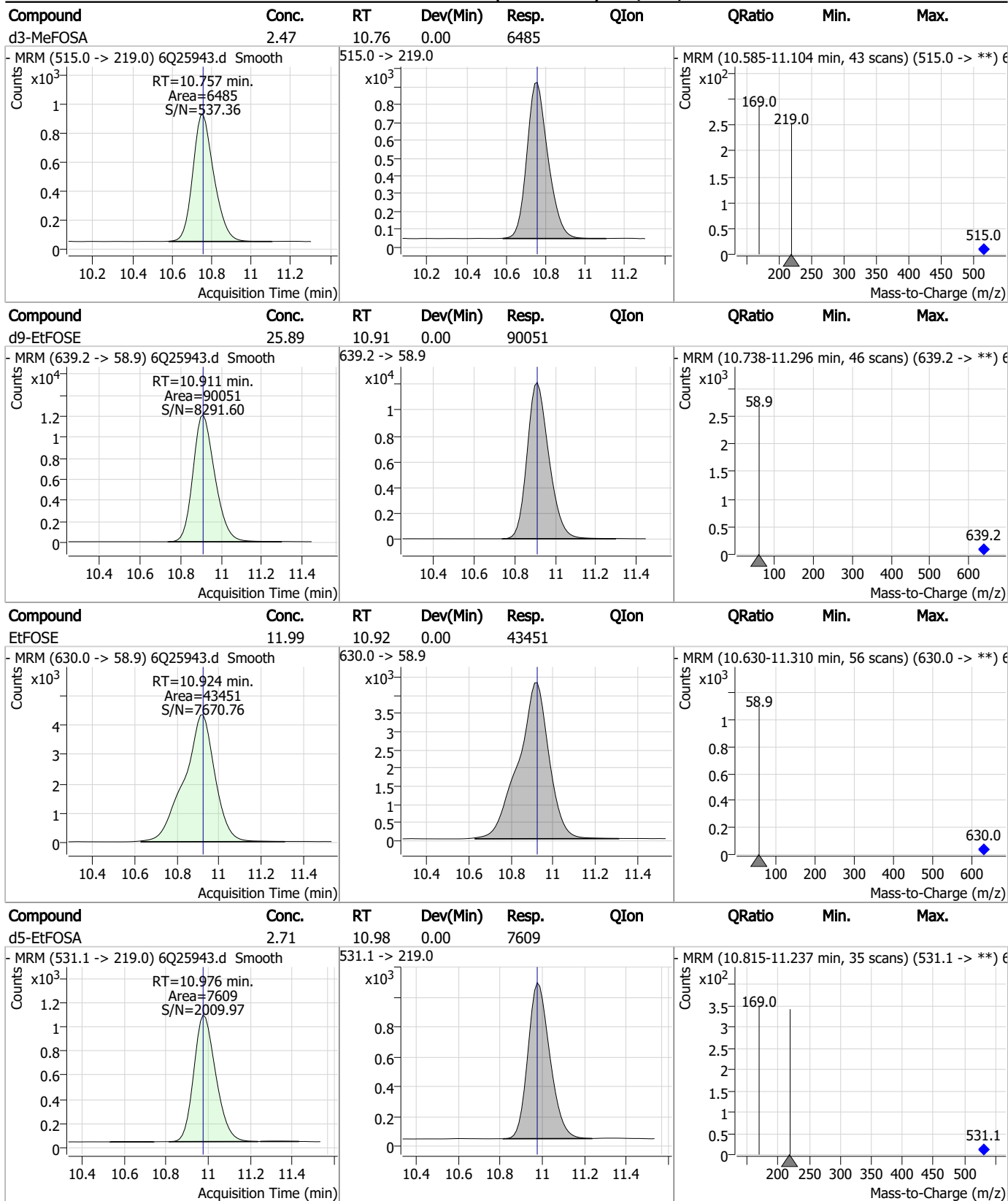
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### Perfluorinated Compounds by LC/MS/MS



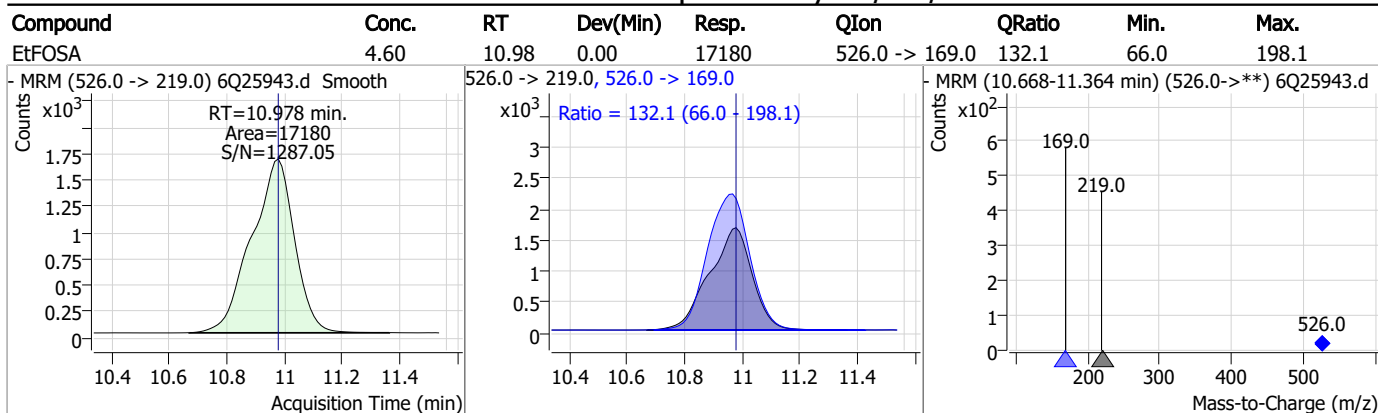
7.7.5  
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### Perfluorinated Compounds by LC/MS/MS



7.7.5  
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### Perfluorinated Compounds by LC/MS/MS



7.7.5  
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# 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)
<b>Internal Standards</b>					
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
<b>System Monitoring Compounds</b>					
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%	
<b>Target Compounds</b>					<b>QValue</b>
4:2FTS	5.255	327.1 -> 307.0 327.1 -> 80.9	68930 26331	19.05 µg/L	99
6:2FTS	6.937	427.1 -> 407.0 427.1 -> 80.9	53227 21995	17.16 µg/L	96
8:2FTS	7.950	527.1 -> 507.0 527.1 -> 80.8	45325 15970	17.97 µg/L	100
EtFOSAA	8.416	584.2 -> 419.1 584.2 -> 526.0	15692 10746	4.43 µg/L	92
FOSA	9.660	498.1 -> 77.9 498.1 -> 478.0	42546 1082	4.71 µg/L	99
MeFOSAA	8.208	570.1 -> 419.0 570.1 -> 483.0	22467 4818	4.66 µg/L	99
PFBA	2.943	212.8 -> 168.9	110105	19.28 µg/L	100
PFBS	5.511	298.7 -> 79.9 298.7 -> 98.8	28282 10311	4.25 µg/L	99
PFDA	8.161	512.9 -> 469.0 512.9 -> 219.0	100874 15544	4.80 µg/L	100
PFDoDA	9.031	613.1 -> 569.0 613.1 -> 319.0	115043 14115	4.85 µg/L	98
PFDS	9.195	599.0 -> 79.9	14225	4.44 µg/L	97

7.7.6  
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## 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			
11CI-PF3OUdS	9.454	630.9 -> 450.9	91144	9.03	µg/L	97
		632.9 -> 452.9	27695			
9CI-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



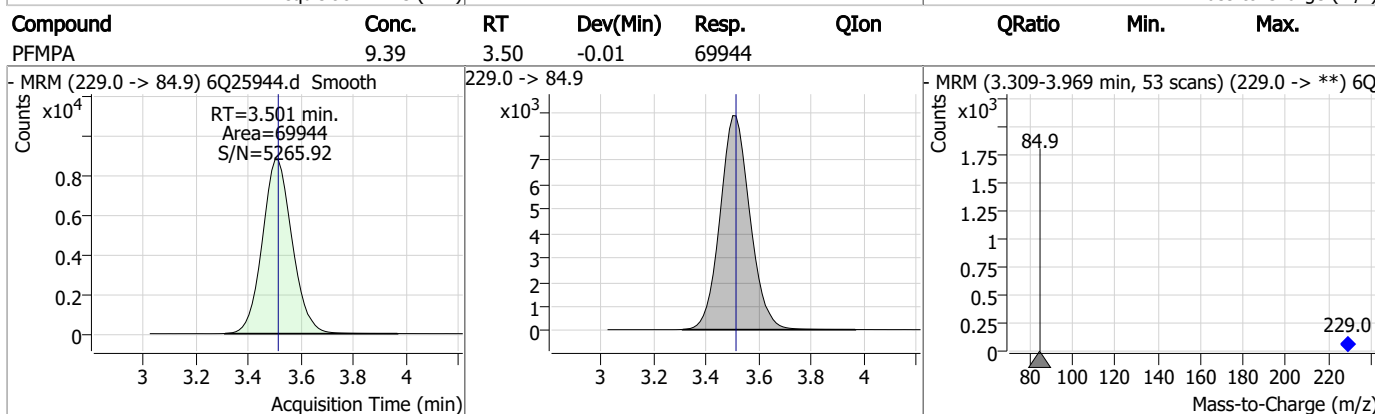
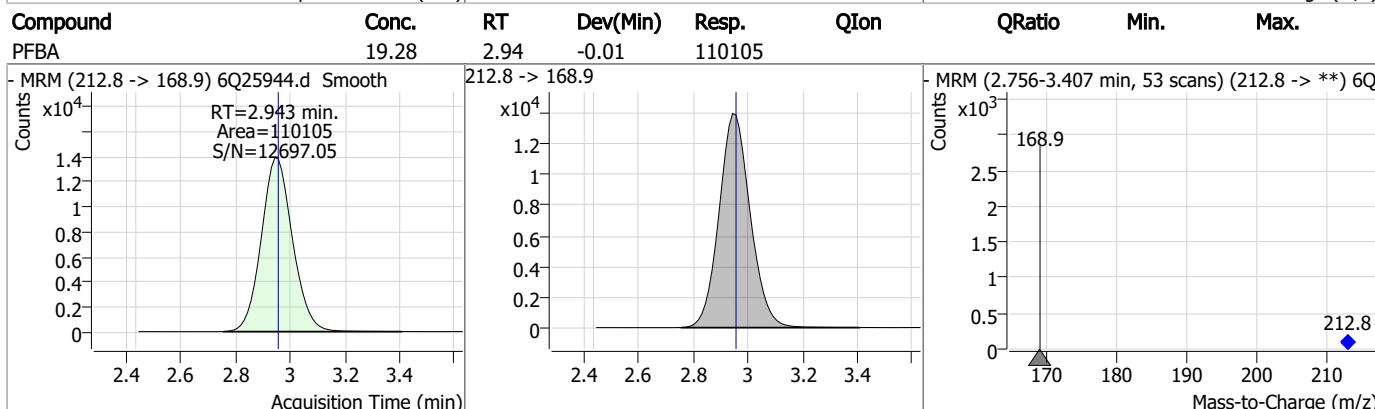
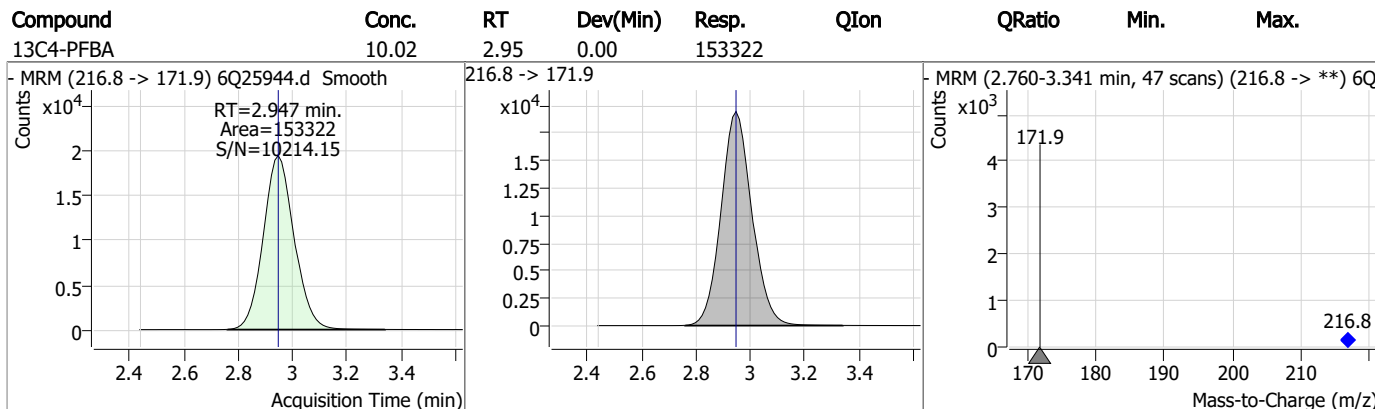
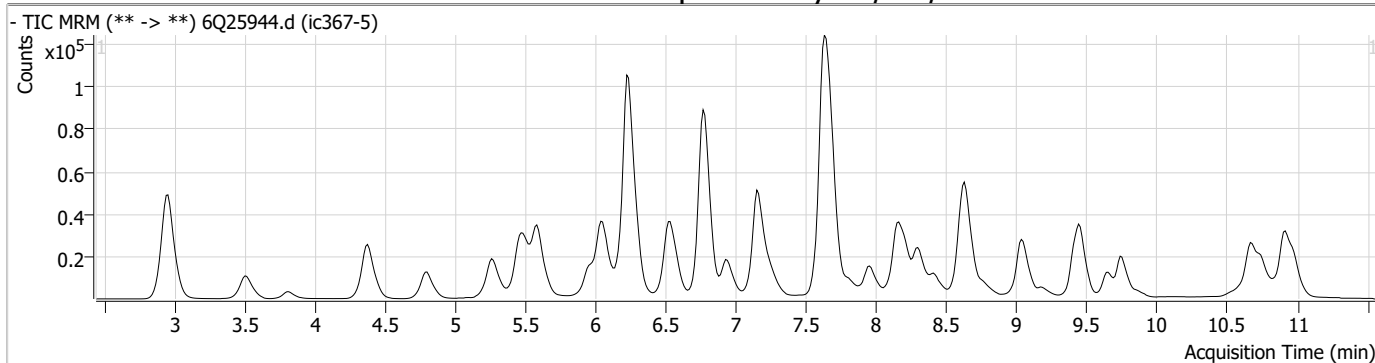
### Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
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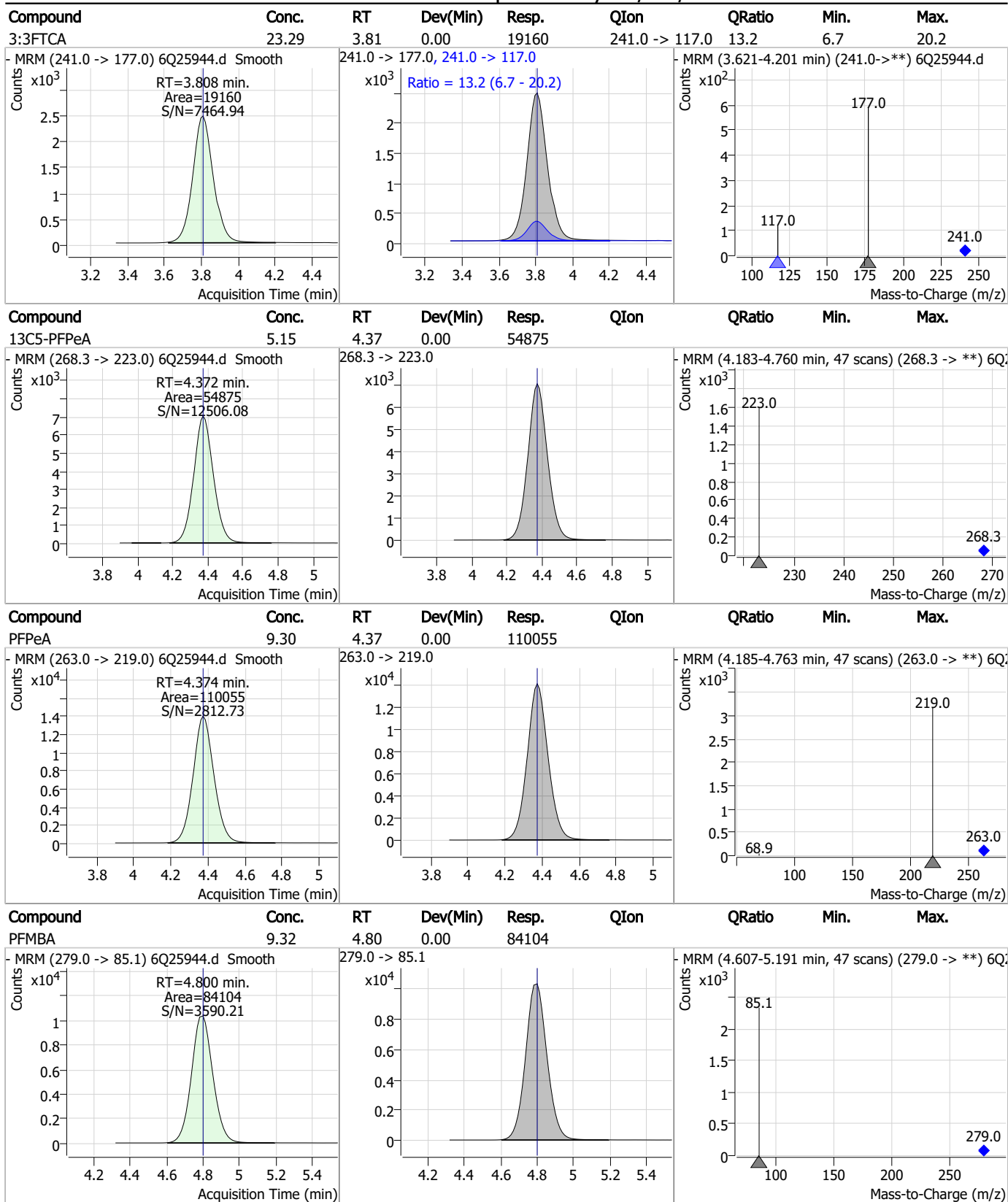
7.7.6  
7



### Perfluorinated Compounds by LC/MS/MS

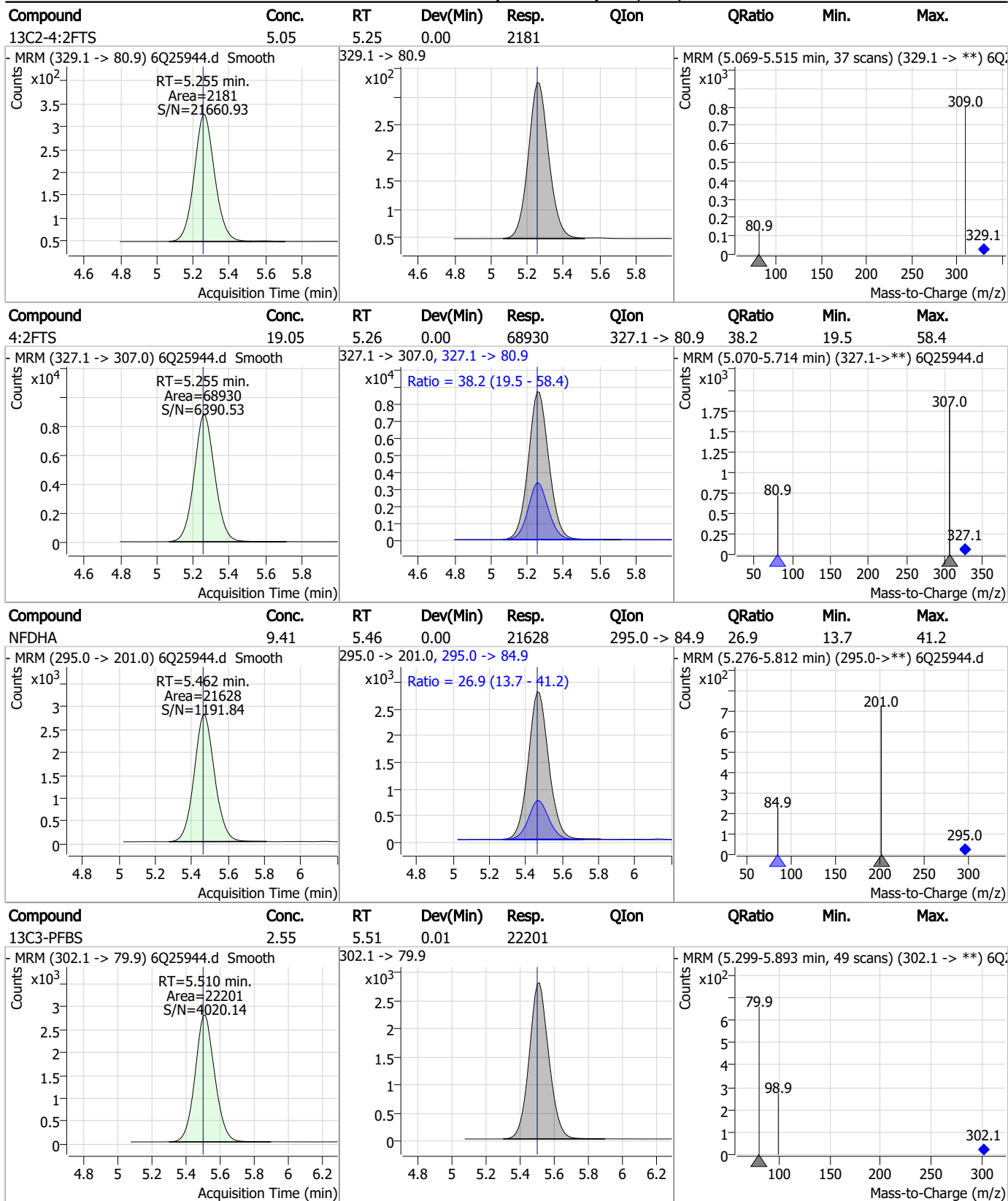


### Perfluorinated Compounds by LC/MS/MS



7.7.6  
7

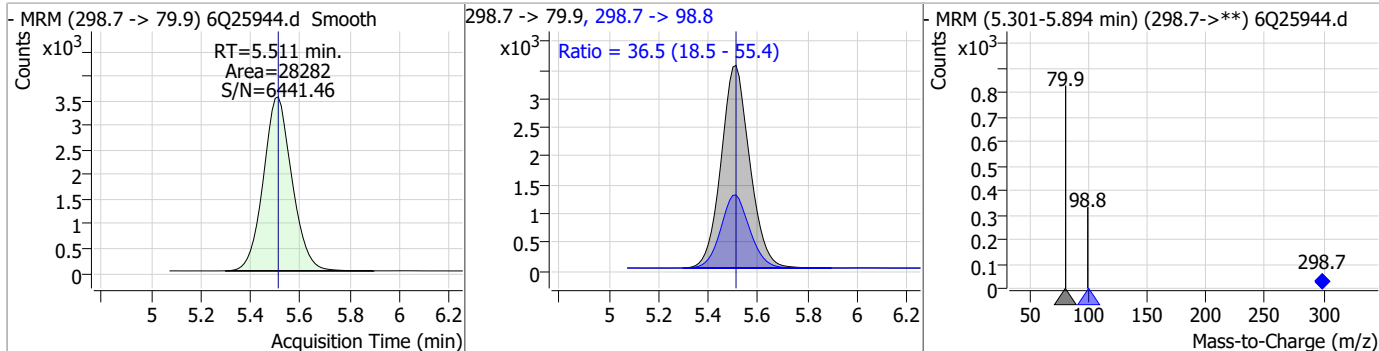
### Perfluorinated Compounds by LC/MS/MS



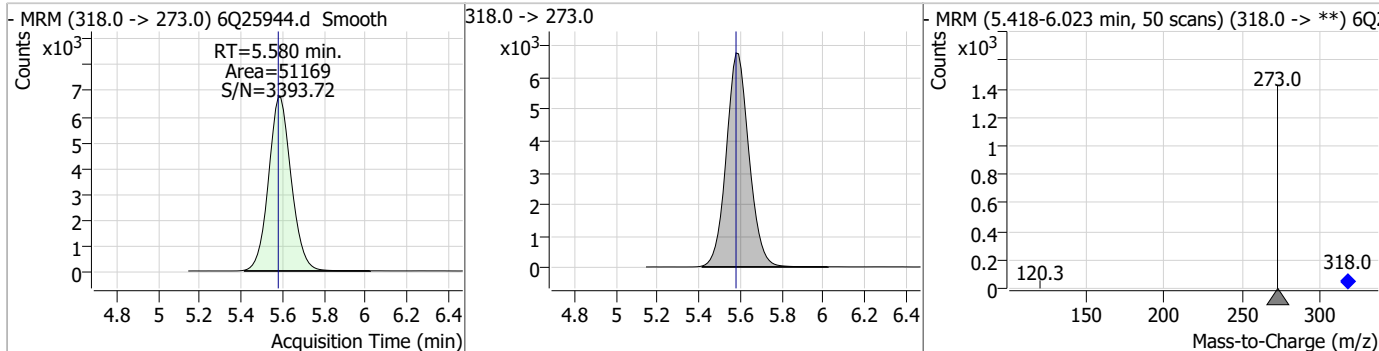
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### Perfluorinated Compounds by LC/MS/MS

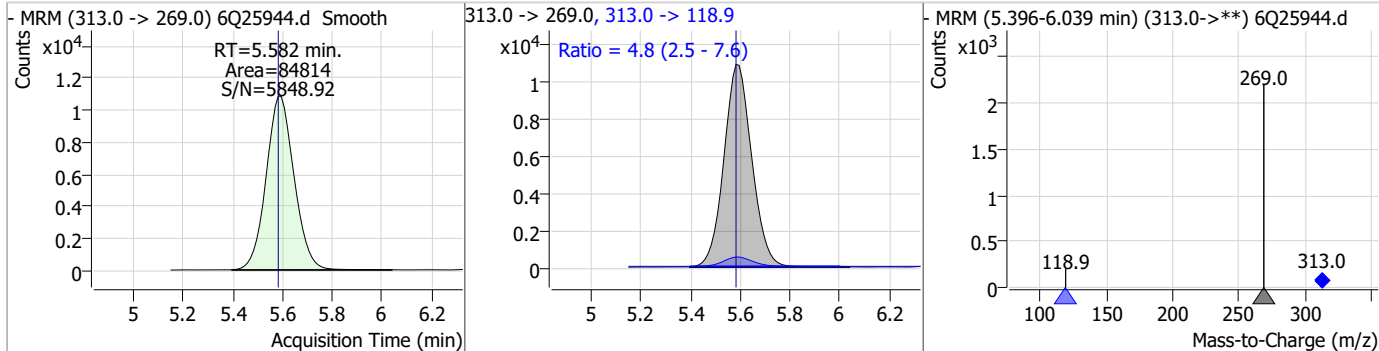
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBS	4.25	5.51	0.00	28282	298.7 -> 98.8	36.5	18.5	55.4



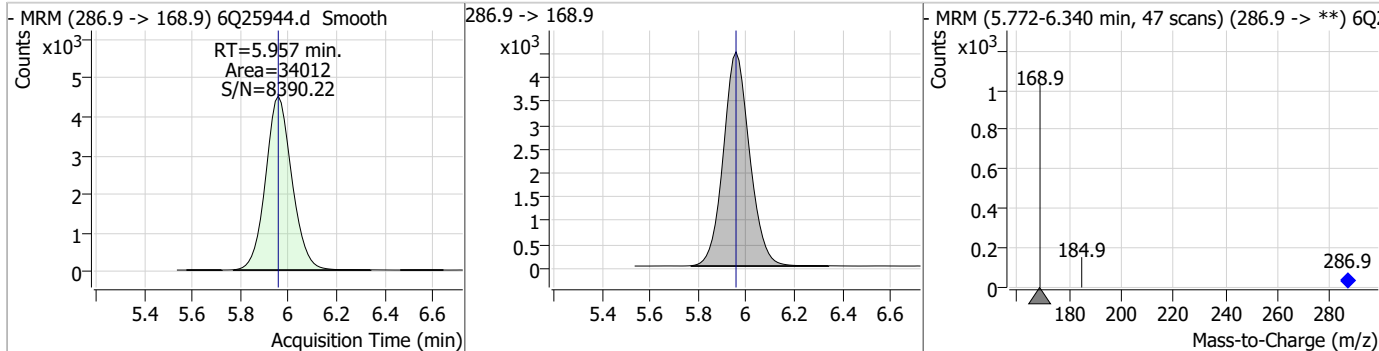
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFHxA	2.63	5.58	0.00	51169				



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



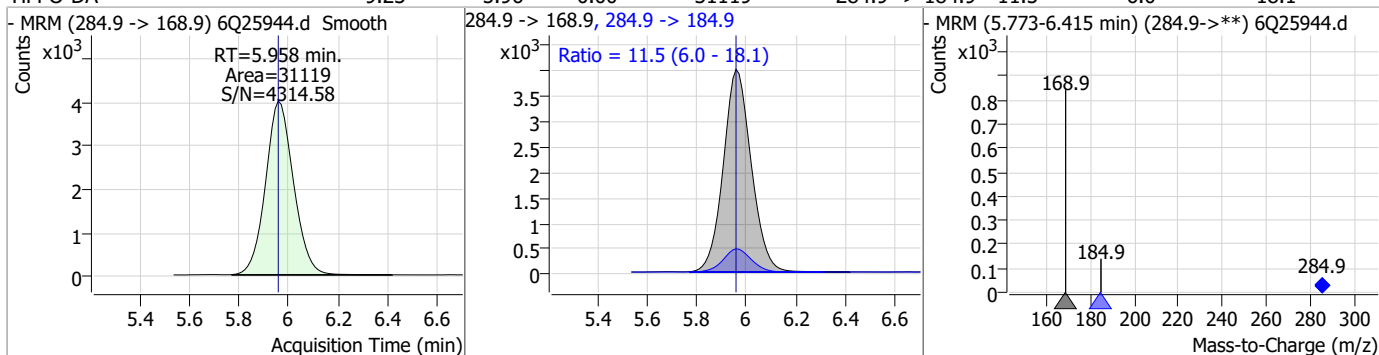
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-HFPO-DA	10.36	5.96	0.00	34012				



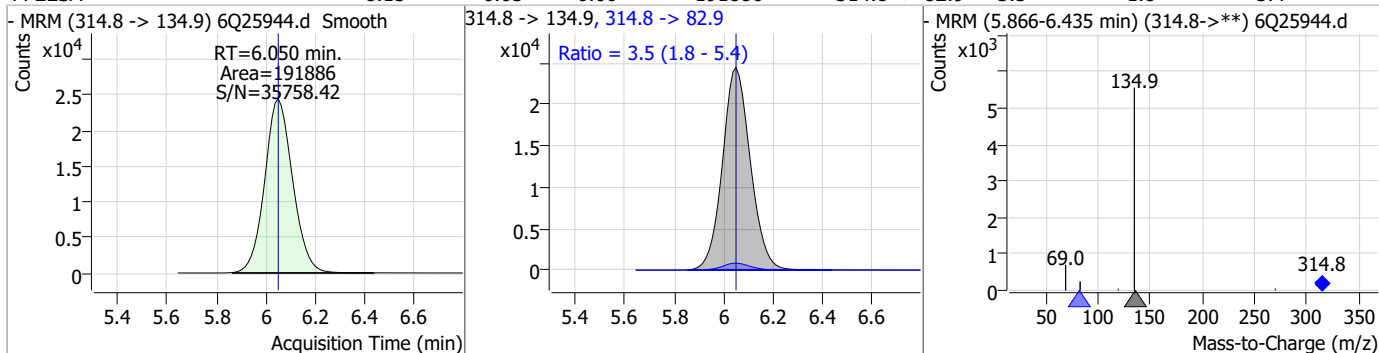
7.7.6  
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### Perfluorinated Compounds by LC/MS/MS

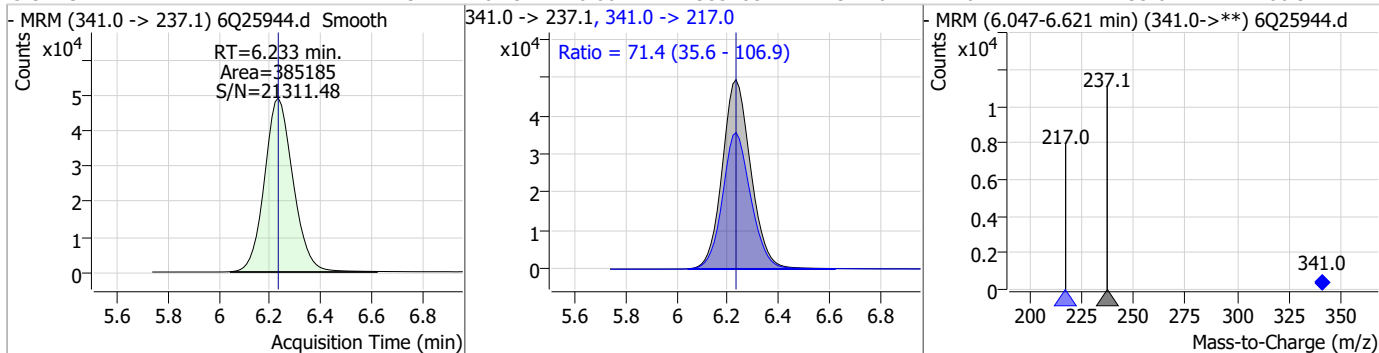
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
HFPO-DA	9.23	5.96	0.00	31119	284.9 -> 184.9	11.5	6.0	18.1



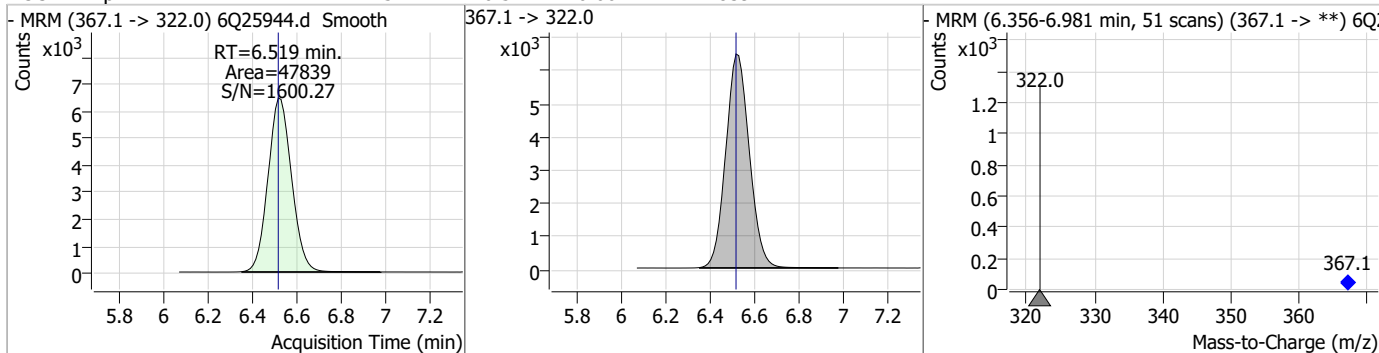
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFEESA	8.15	6.05	0.00	191886	314.8 -> 82.9	3.5	1.8	5.4



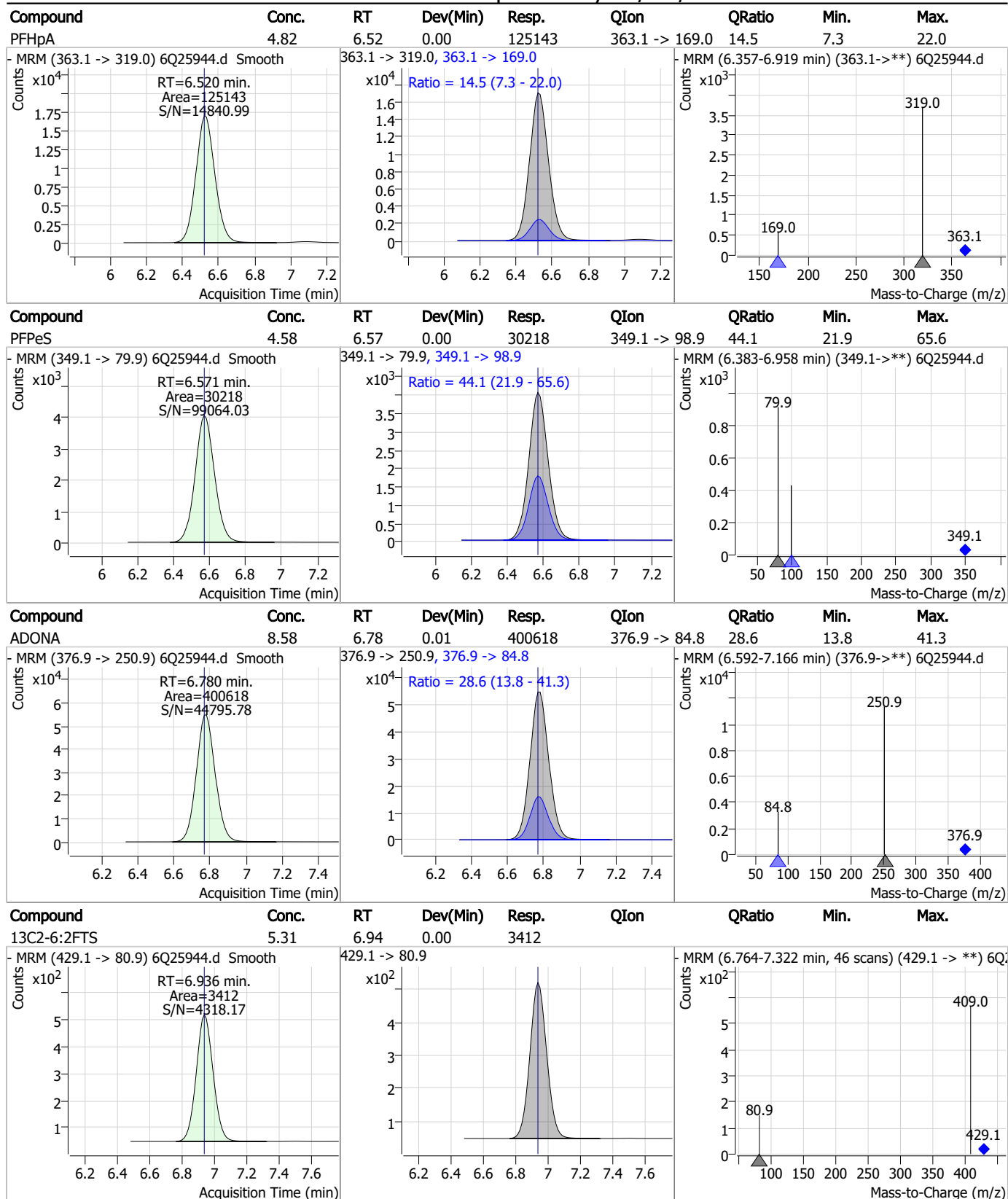
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
5:3FTCA	112.32	6.23	0.00	385185	341.0 -> 217.0	71.4	35.6	106.9



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

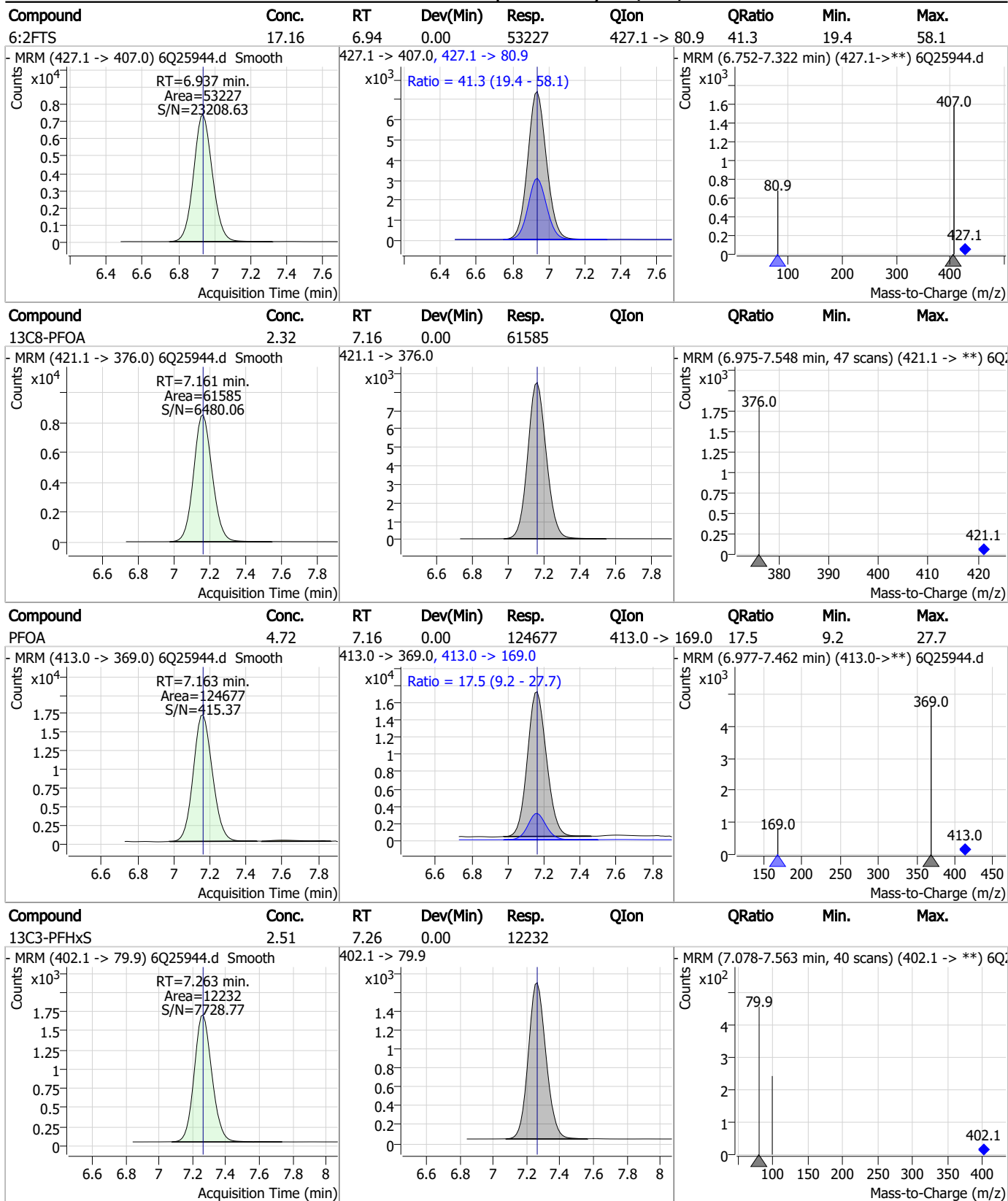


### Perfluorinated Compounds by LC/MS/MS



7.7.6  
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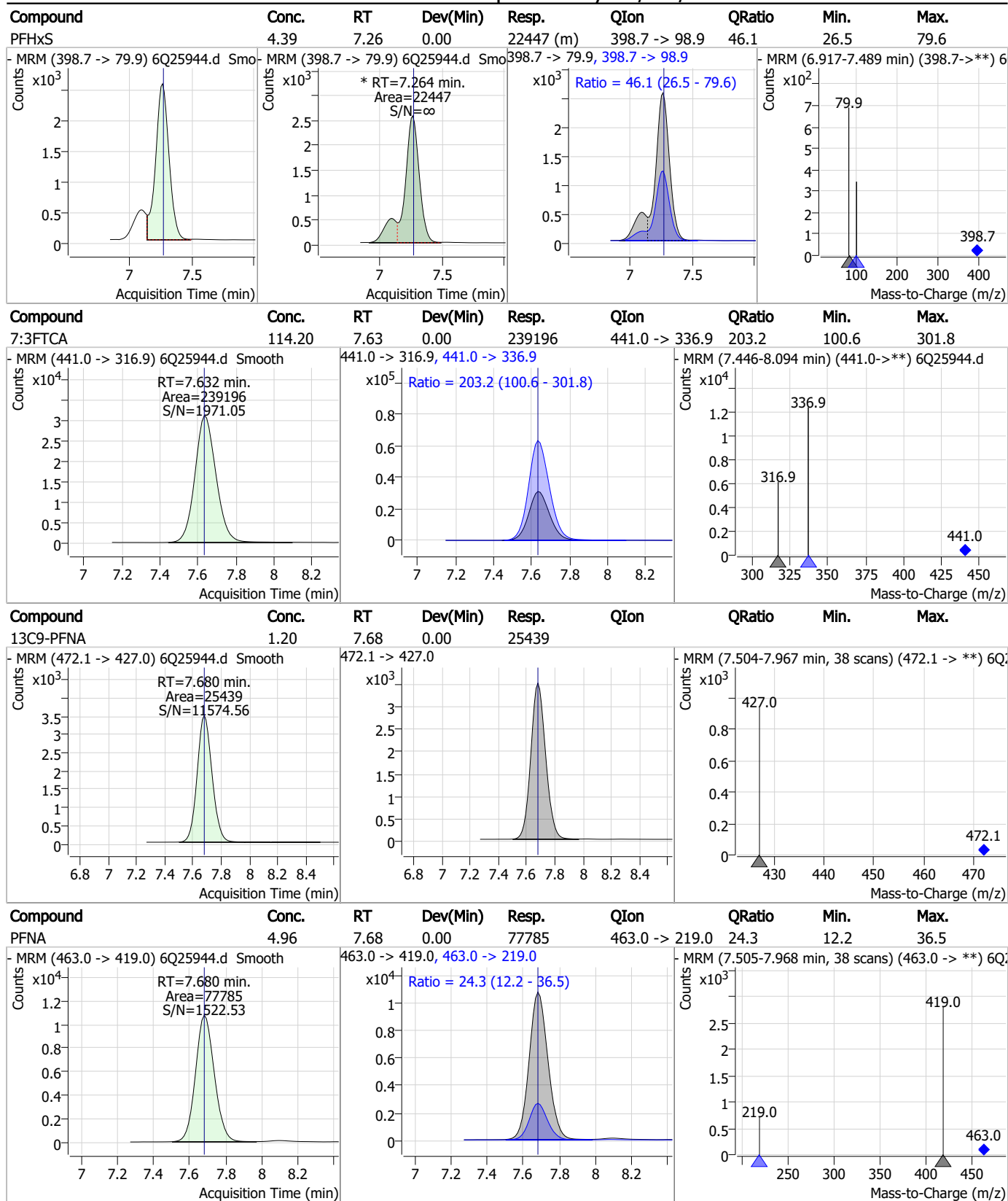
### Perfluorinated Compounds by LC/MS/MS



7.7.6  
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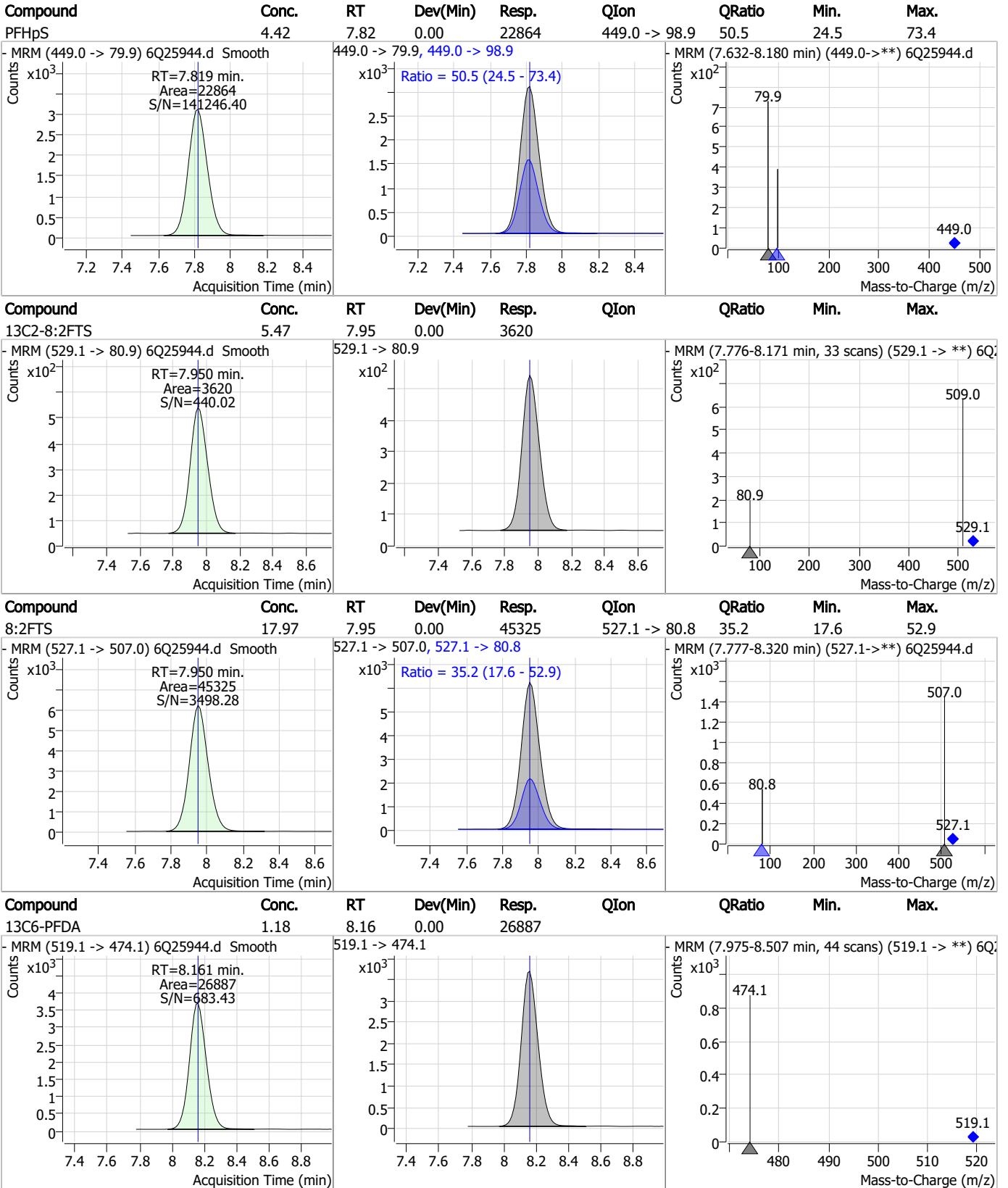


### Perfluorinated Compounds by LC/MS/MS



7.7.6  
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### Perfluorinated Compounds by LC/MS/MS

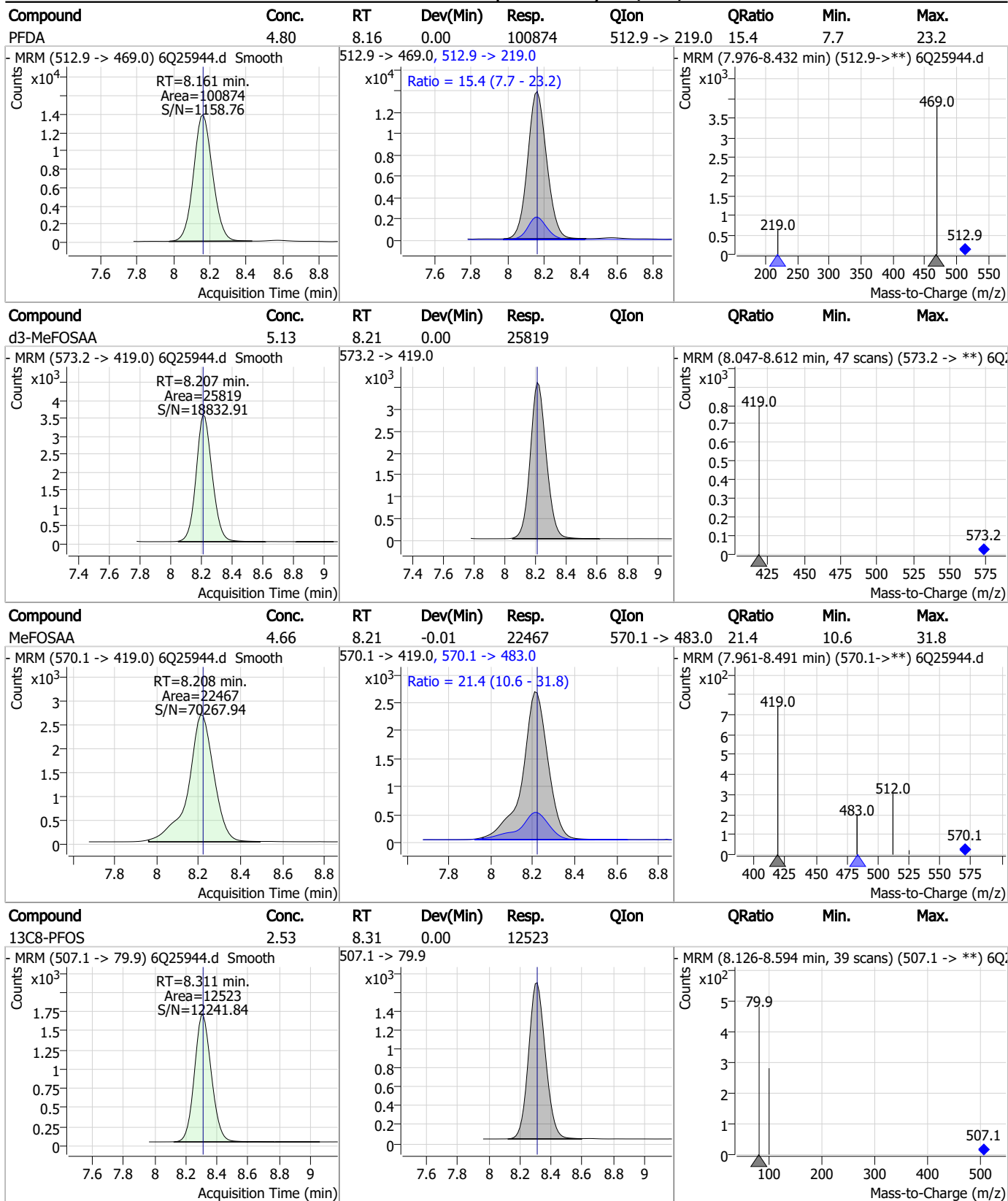


7.7.6

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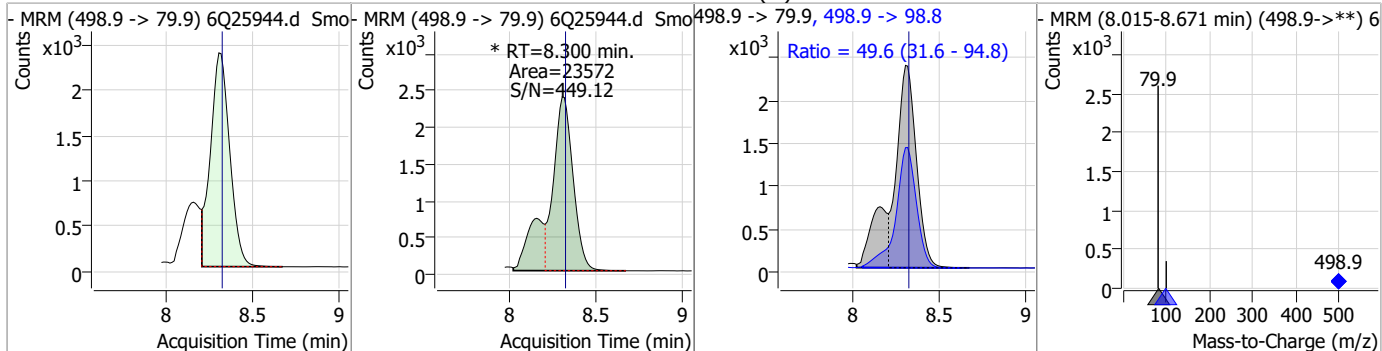
### Perfluorinated Compounds by LC/MS/MS



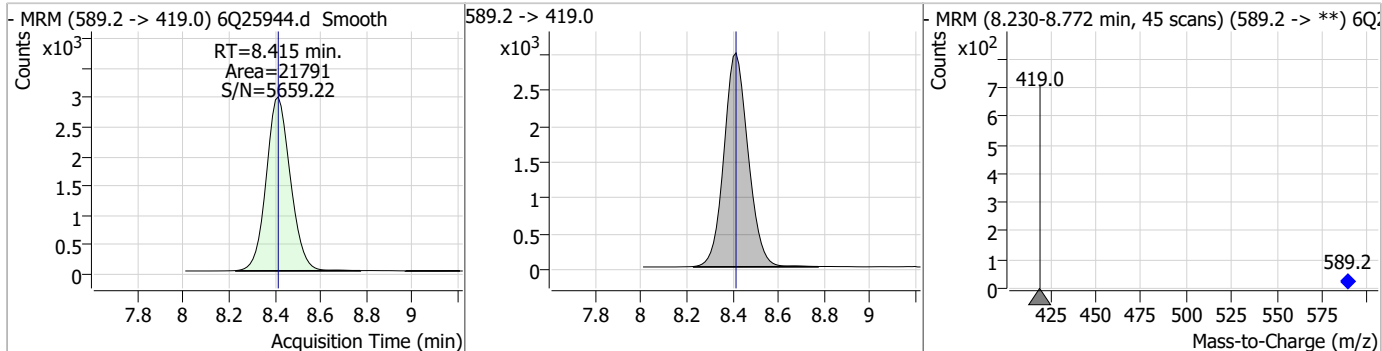
7.7.6  
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### Perfluorinated Compounds by LC/MS/MS

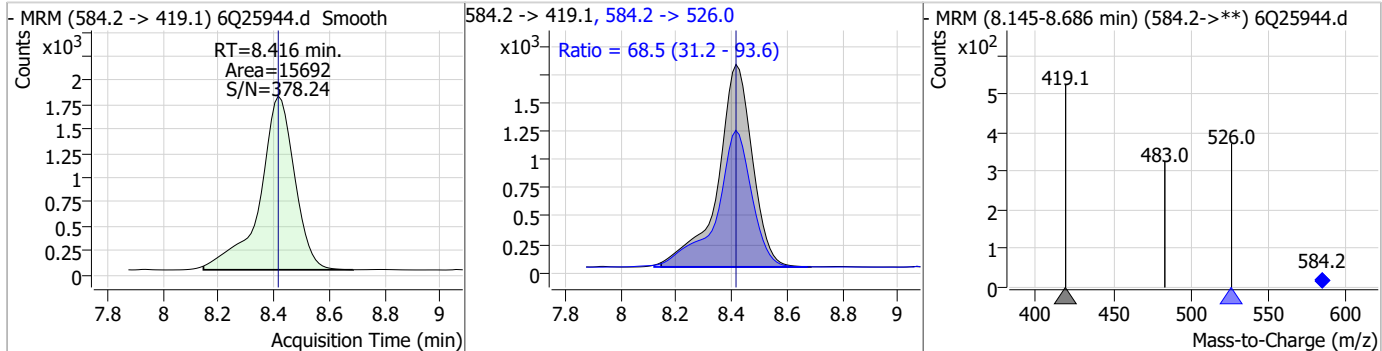
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOS	4.41	8.30	-0.01	23572 (m)	498.9 -> 98.8	49.6	31.6	94.8



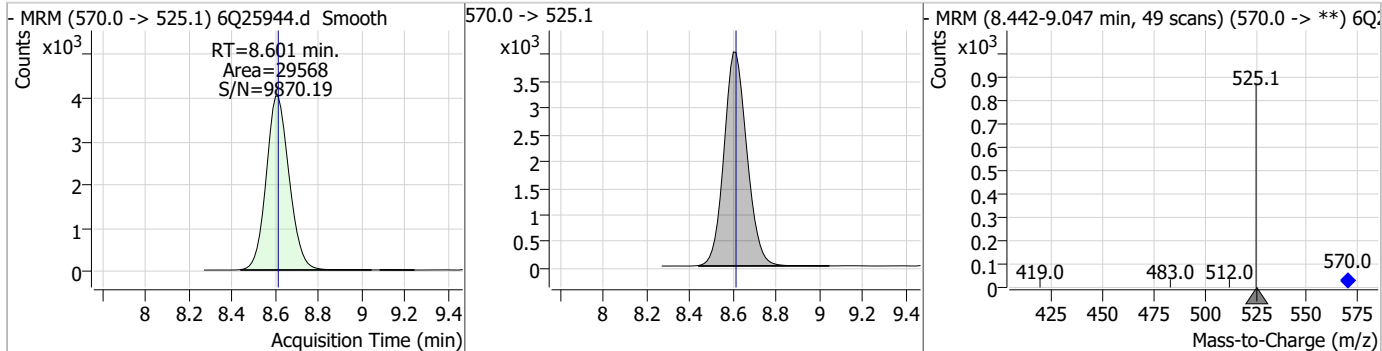
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSAA	5.05	8.41	0.00	21791				



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

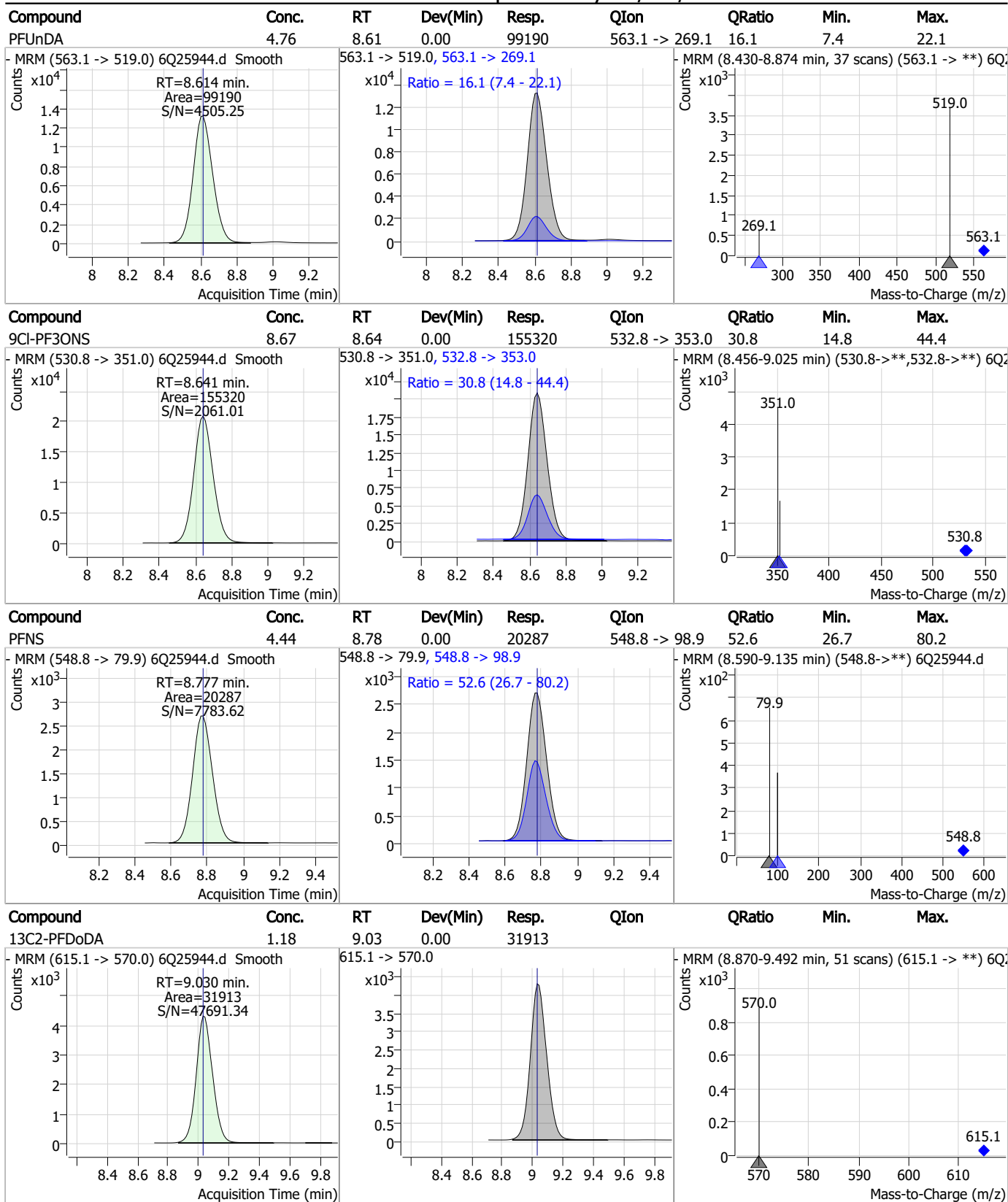


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C7-PFUnDA	1.20	8.60	-0.01	29568				



7.7.6  
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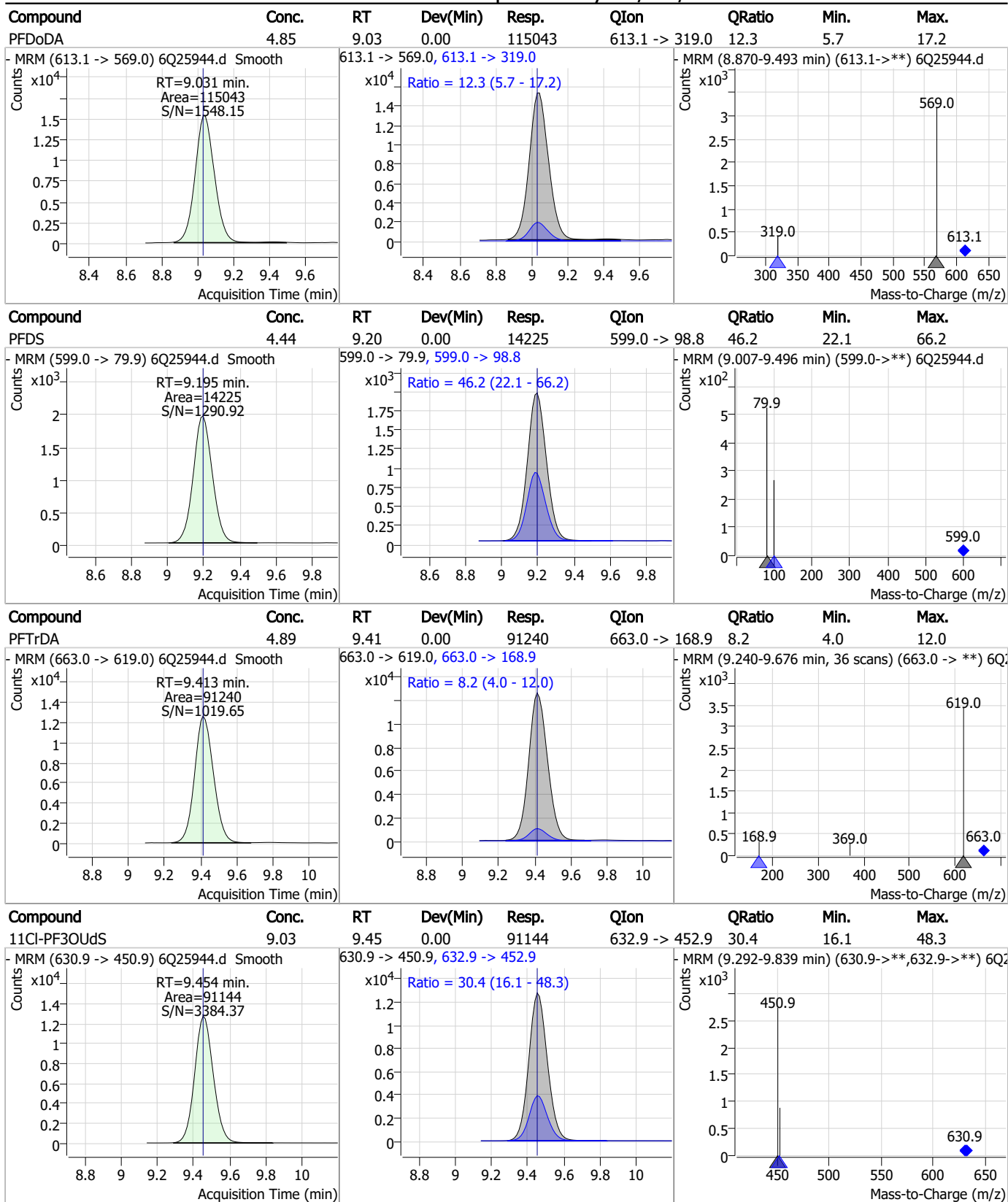
### Perfluorinated Compounds by LC/MS/MS



7.7.6

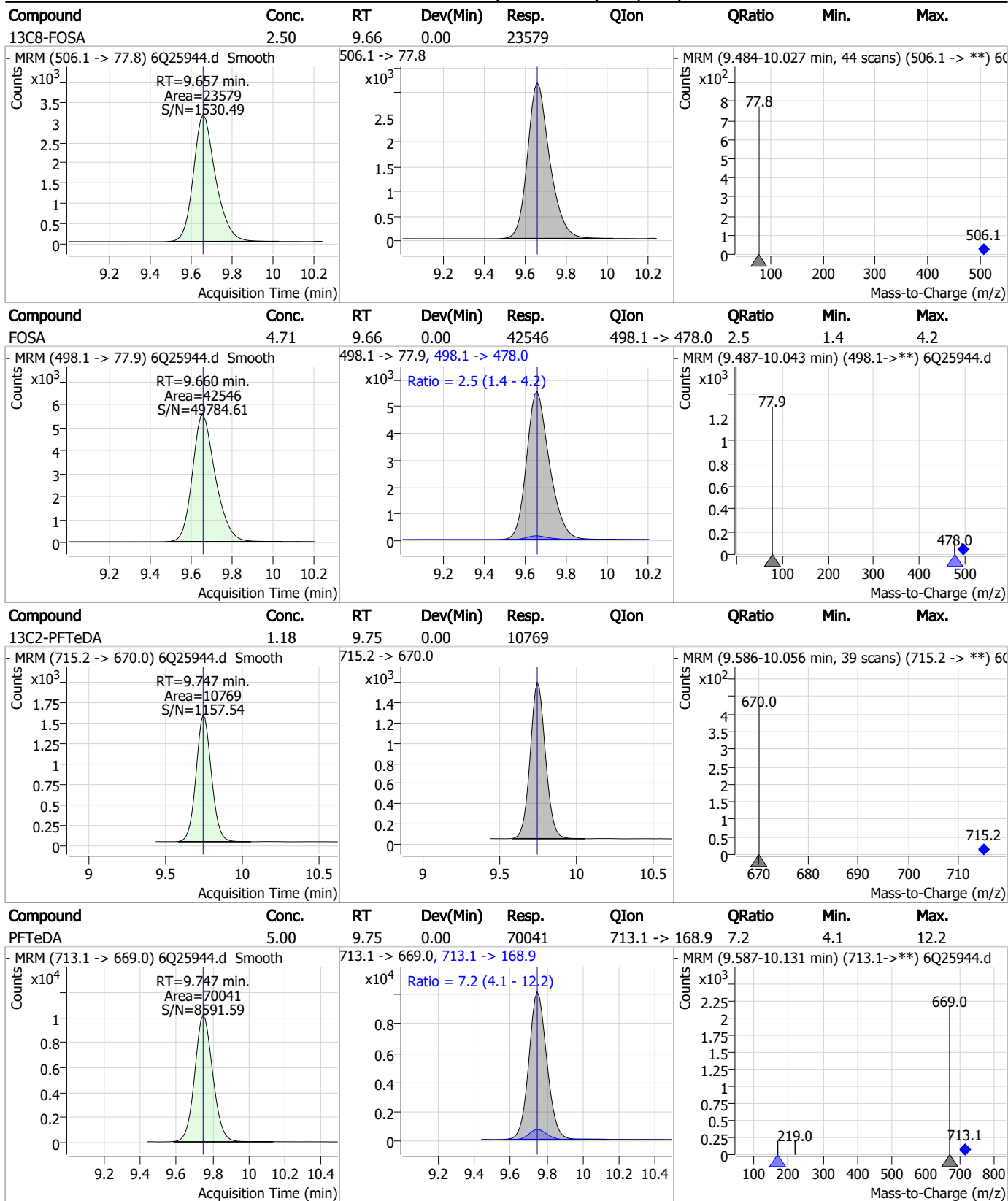
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### Perfluorinated Compounds by LC/MS/MS



7.7.6  
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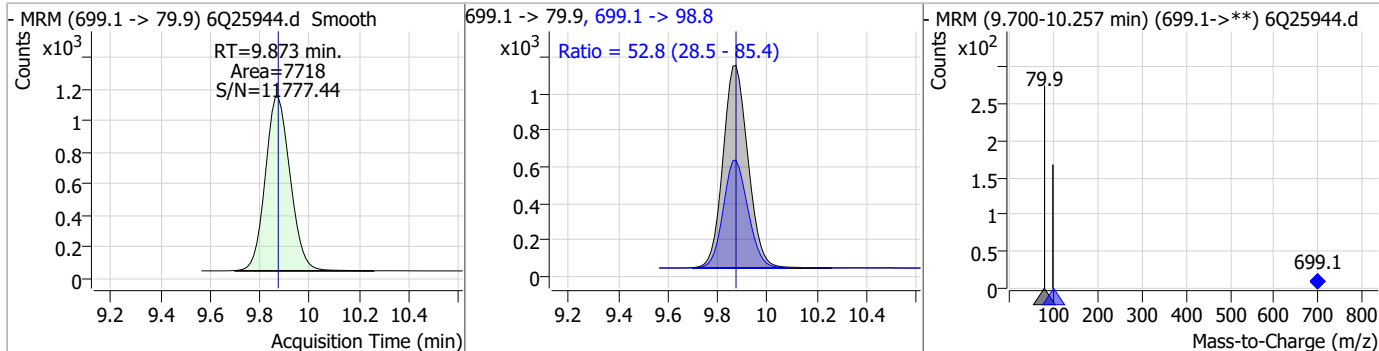
### Perfluorinated Compounds by LC/MS/MS



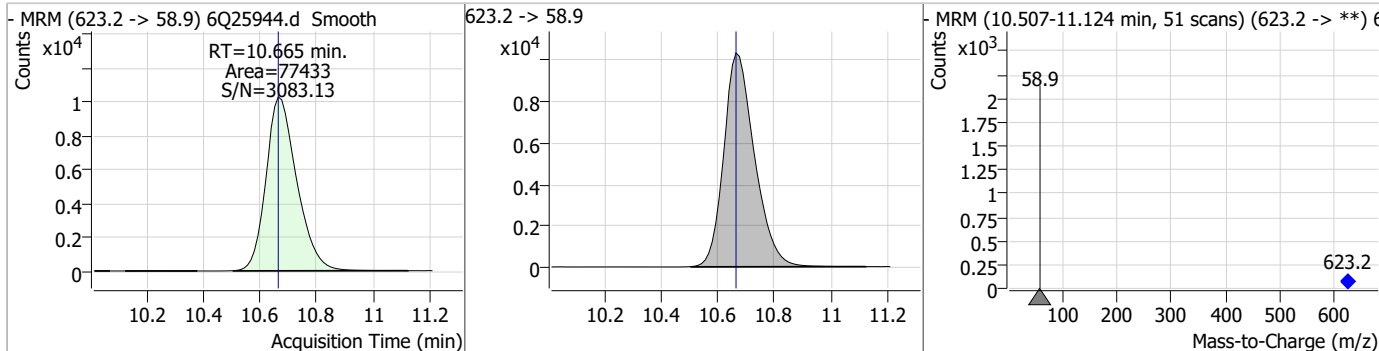
7.7.6  
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### Perfluorinated Compounds by LC/MS/MS

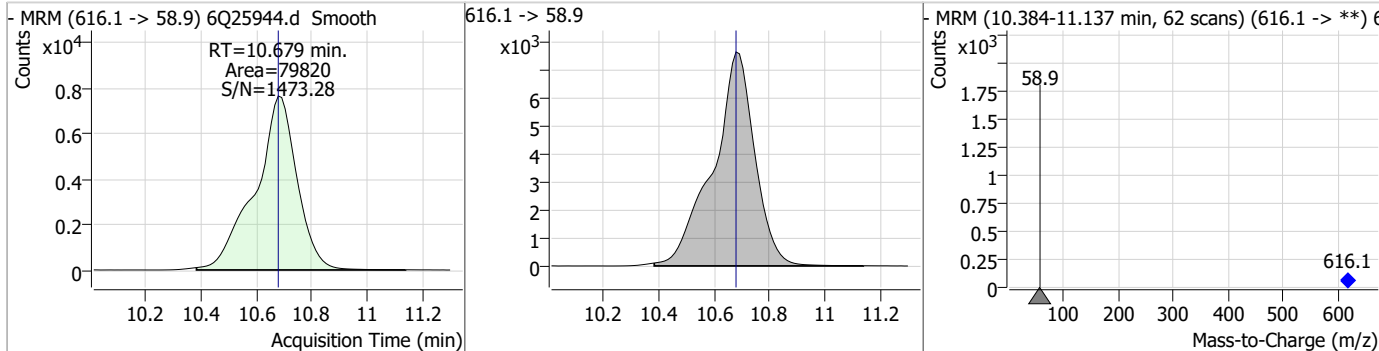
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFD <sub>o</sub> DS	4.64	9.87	0.00	7718	699.1 -> 98.8	52.8	28.5	85.4



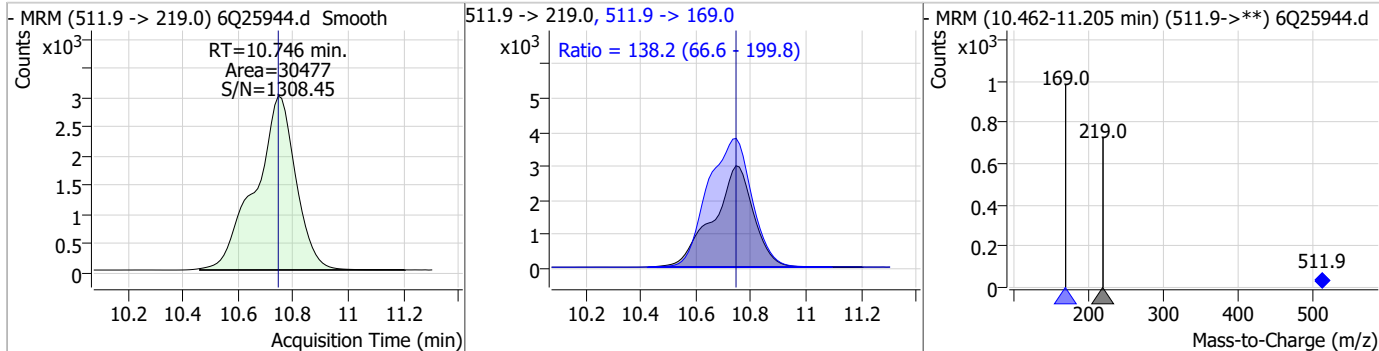
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d7-MeFOSE	25.40	10.67	0.00	77433				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSE	23.33	10.68	0.00	79820				



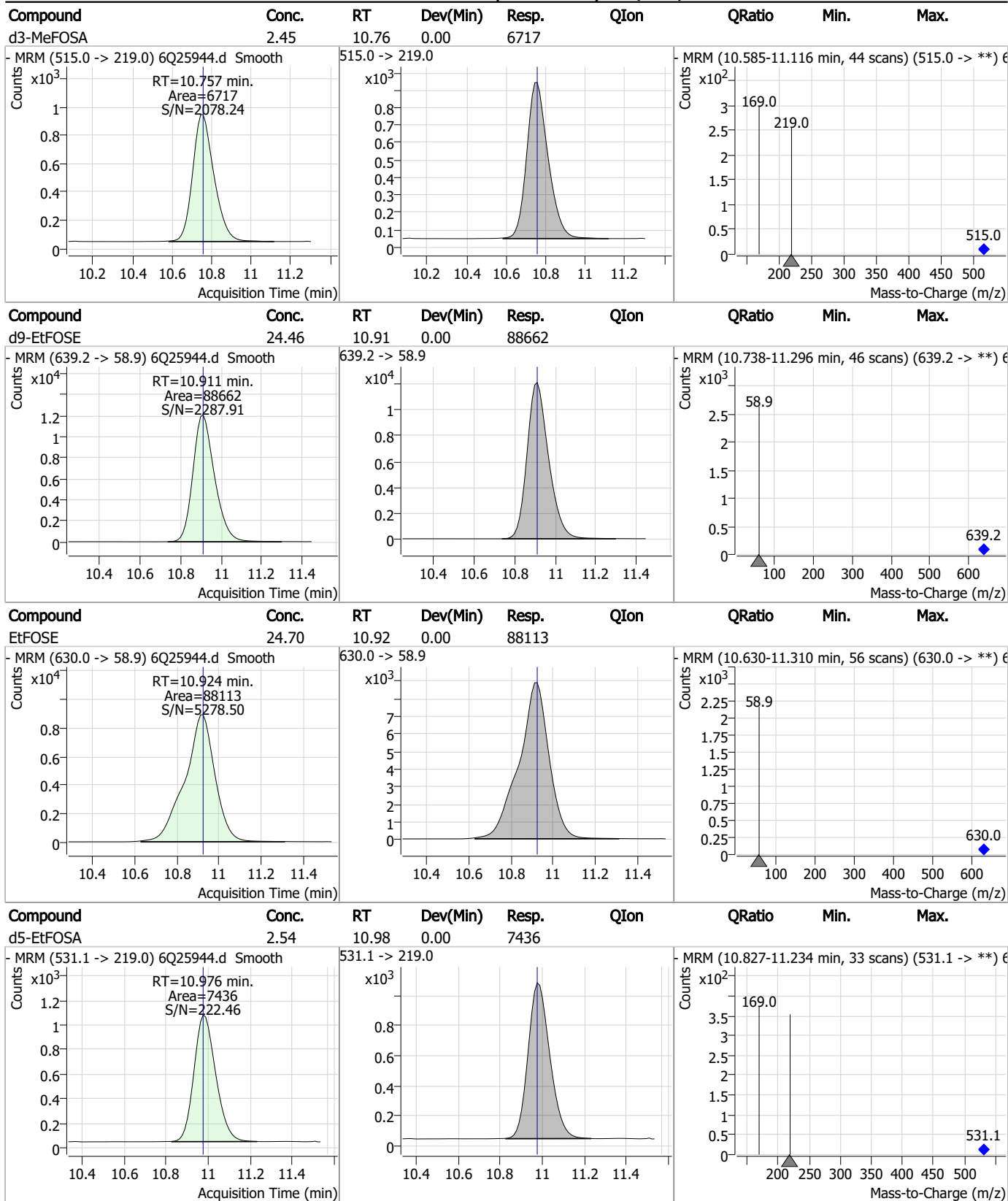
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSA	9.79	10.75	0.00	30477	511.9 -> 169.0	138.2	66.6	199.8



7.7.6  
7



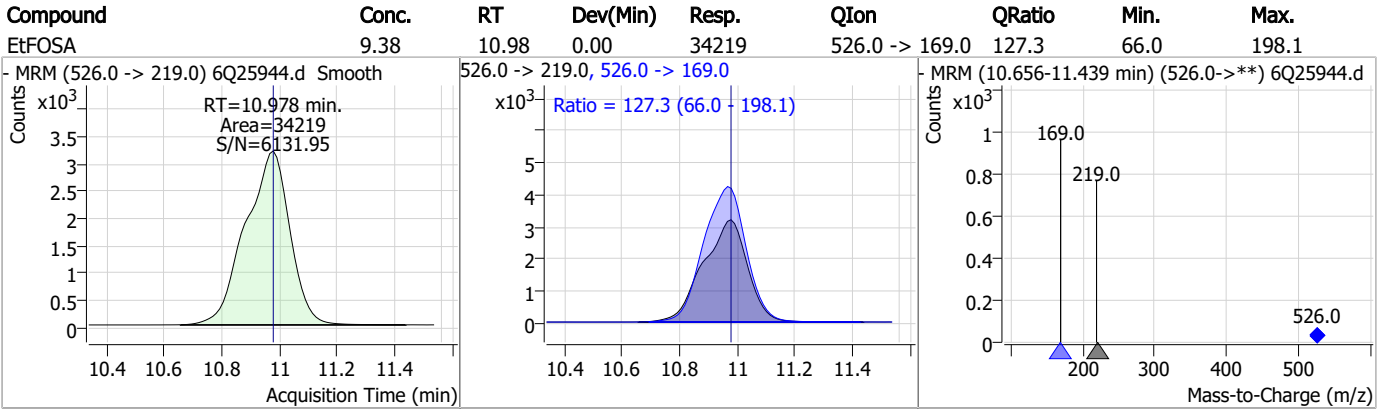
### Perfluorinated Compounds by LC/MS/MS



7.7.6

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Perfluorinated Compounds by LC/MS/MS



7.7.6

7

# 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

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Manual Integrations  
APPROVED  
(compounds with "m" flag)

Natasha Gumtie  
10/09/23 16:36

## 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)
<b>Internal Standards</b>					
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
<b>System Monitoring Compounds</b>					
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%	
<b>Target Compounds</b>					<b>QValue</b>
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

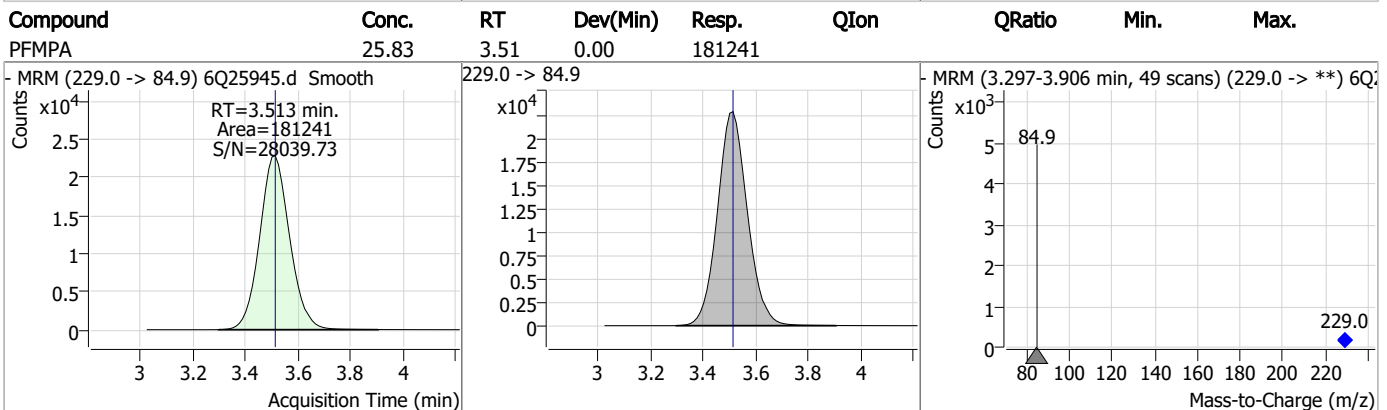
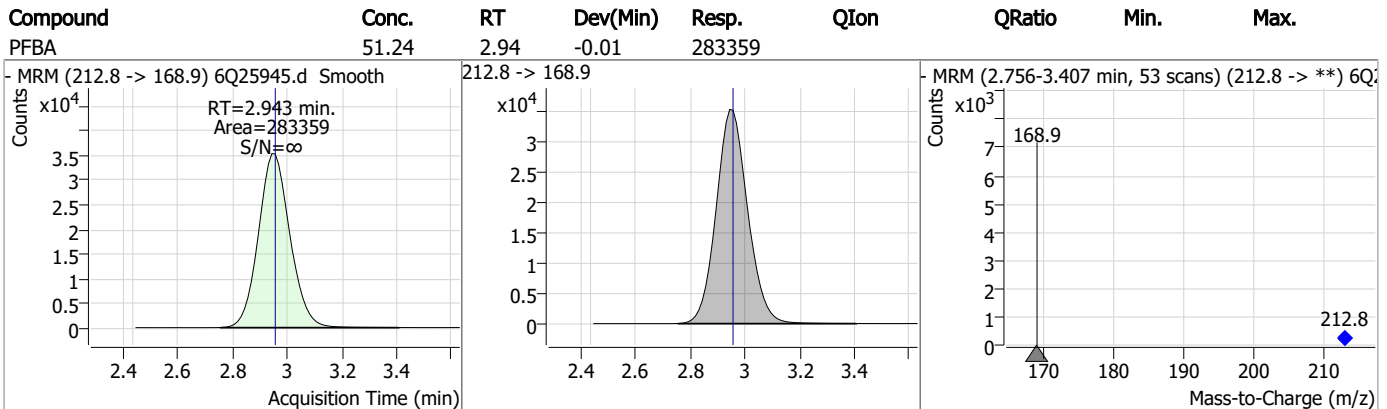
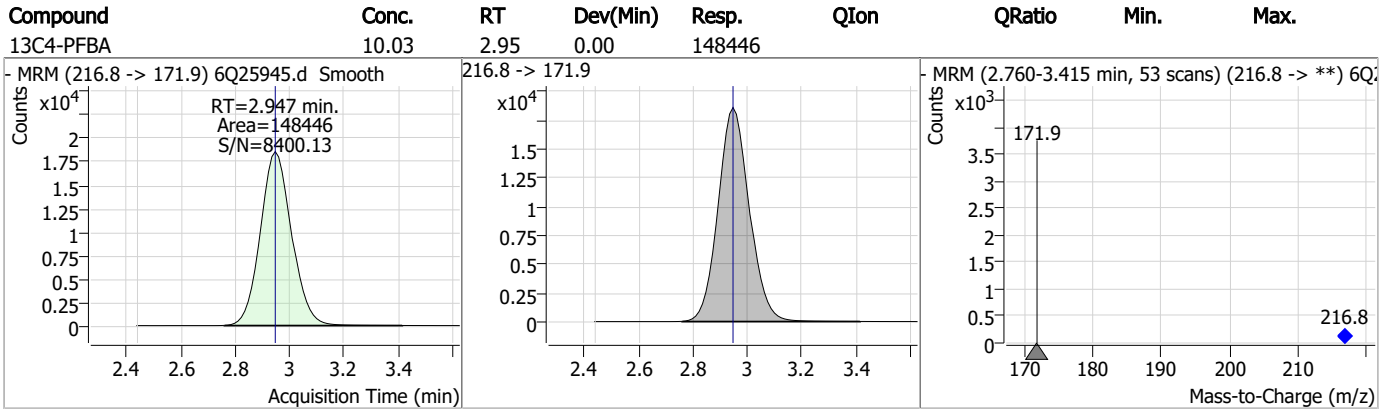
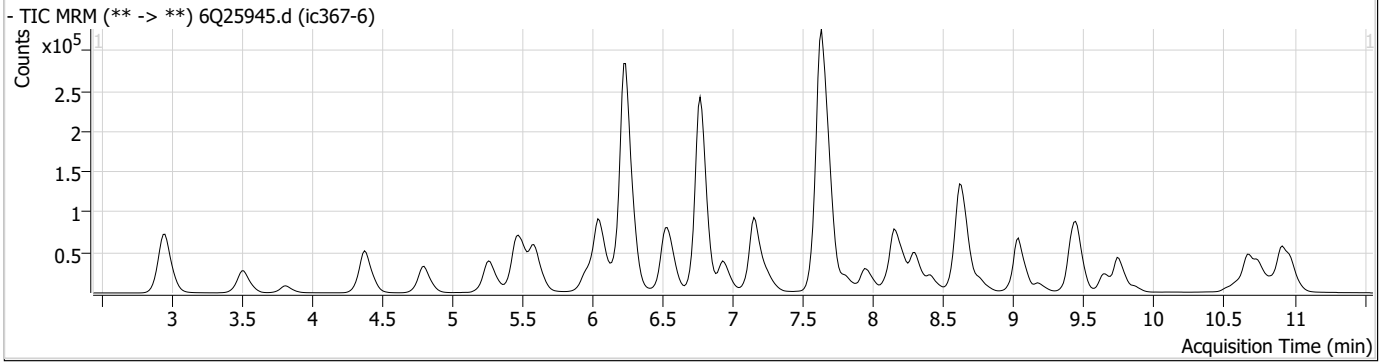
### Perfluorinated Compounds by LC/MS/MS

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

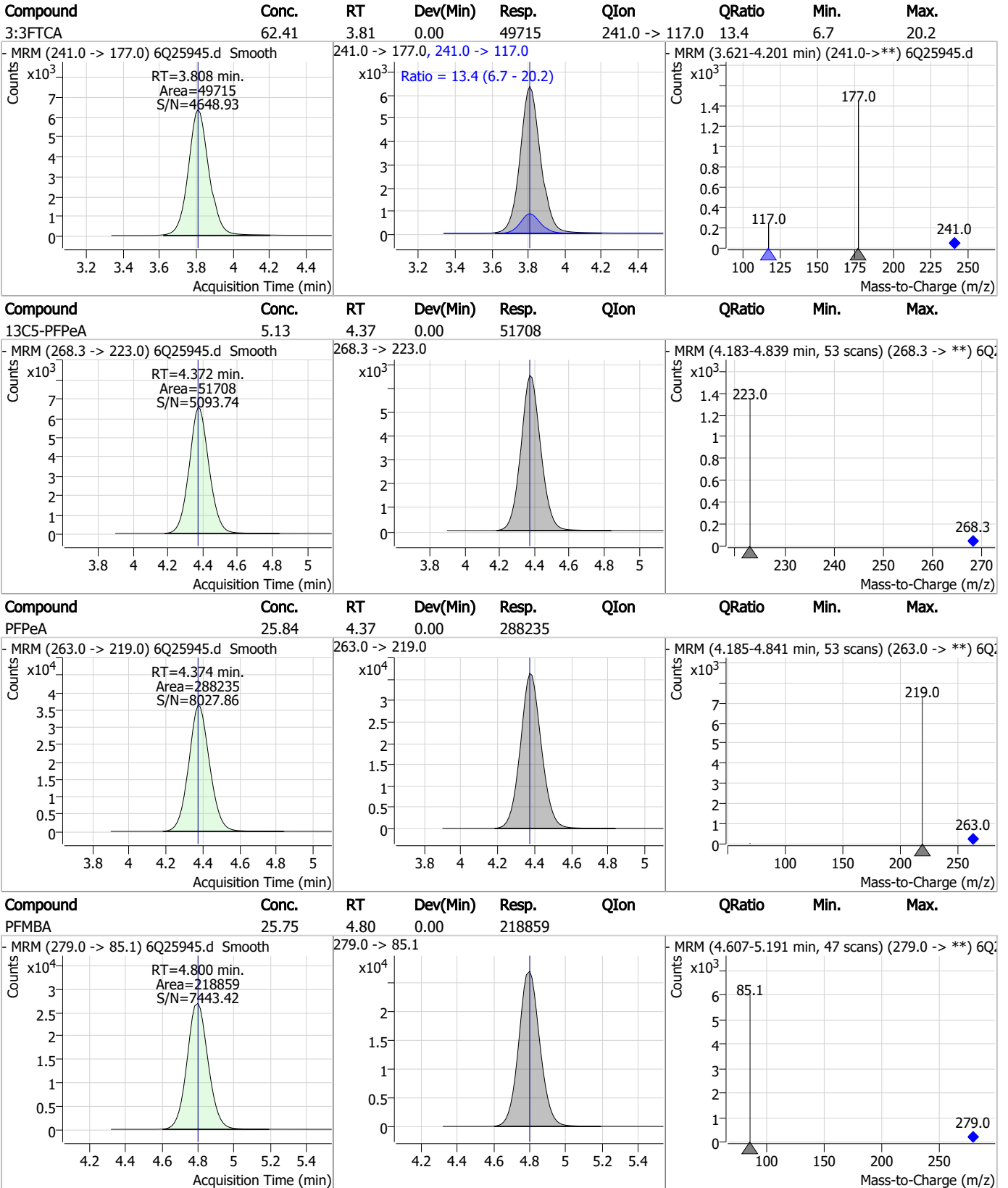


7.7.7

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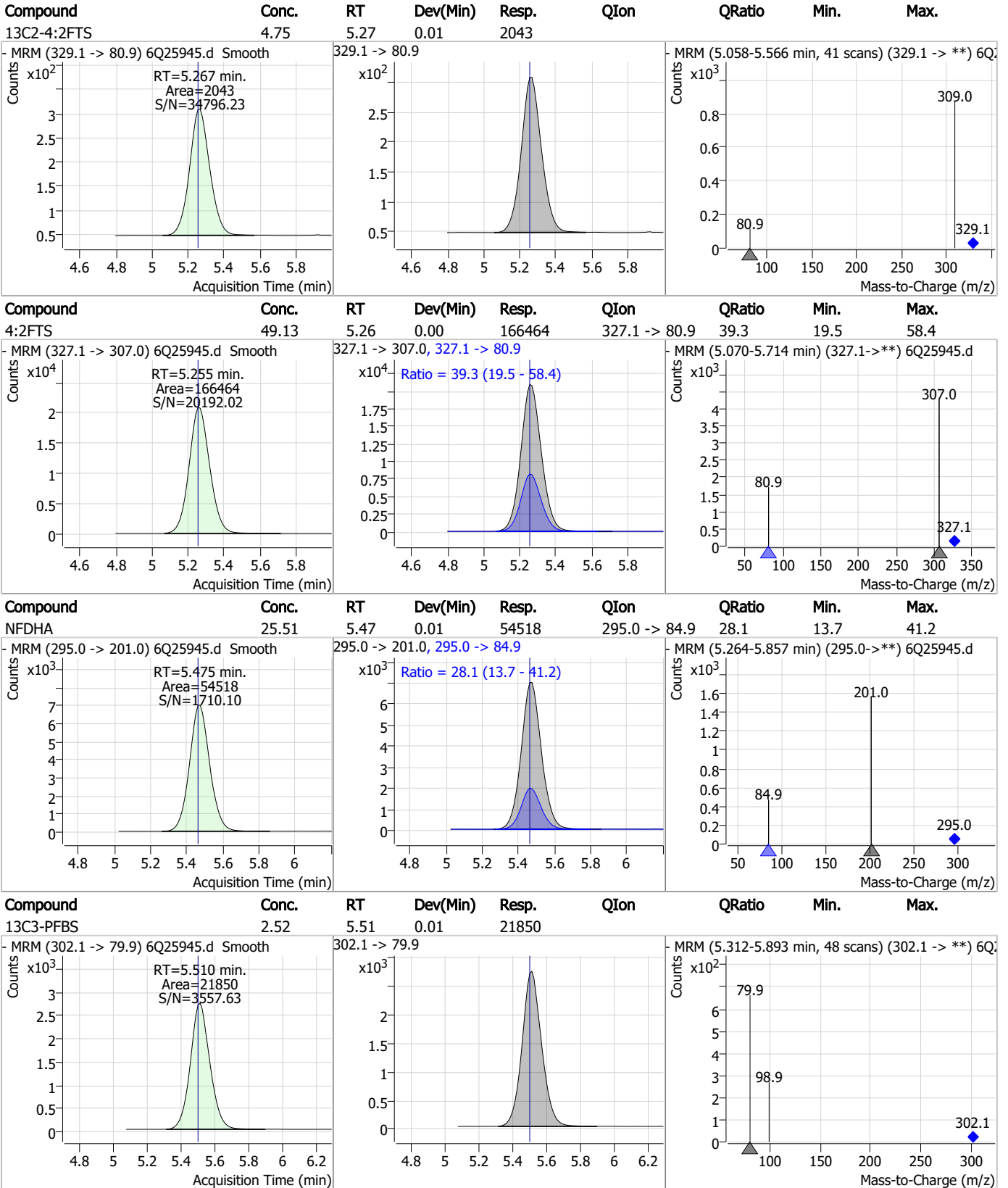
### Perfluorinated Compounds by LC/MS/MS



7.7.7

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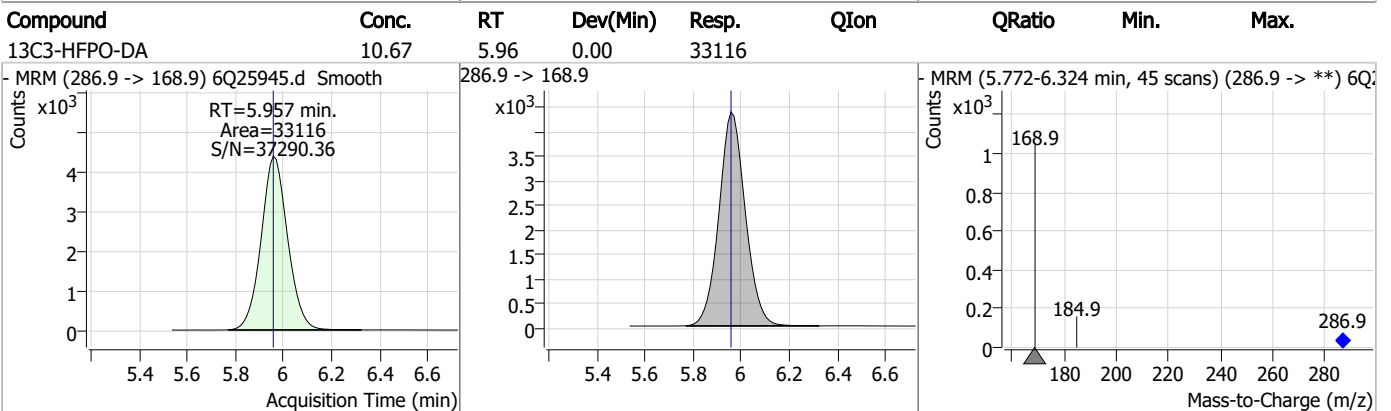
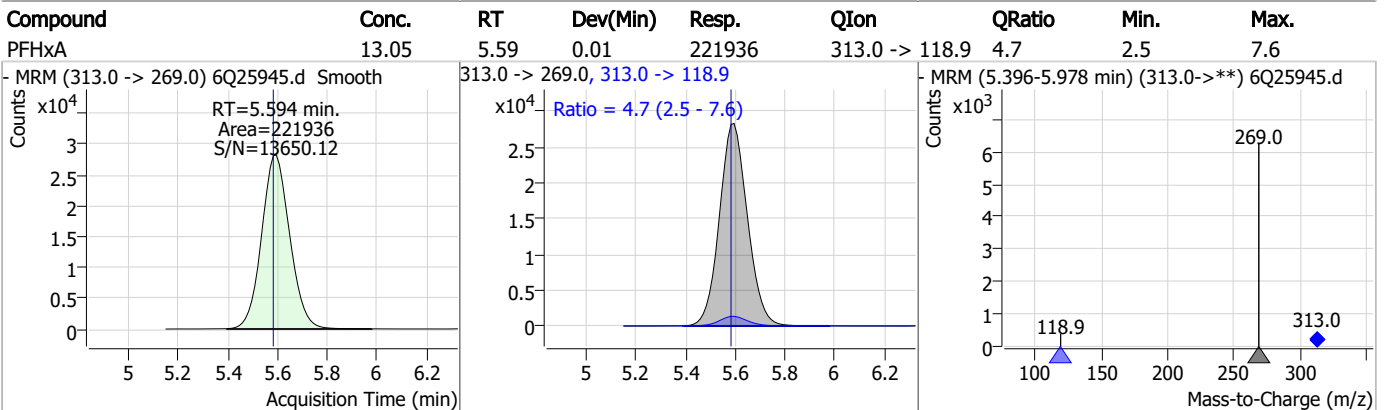
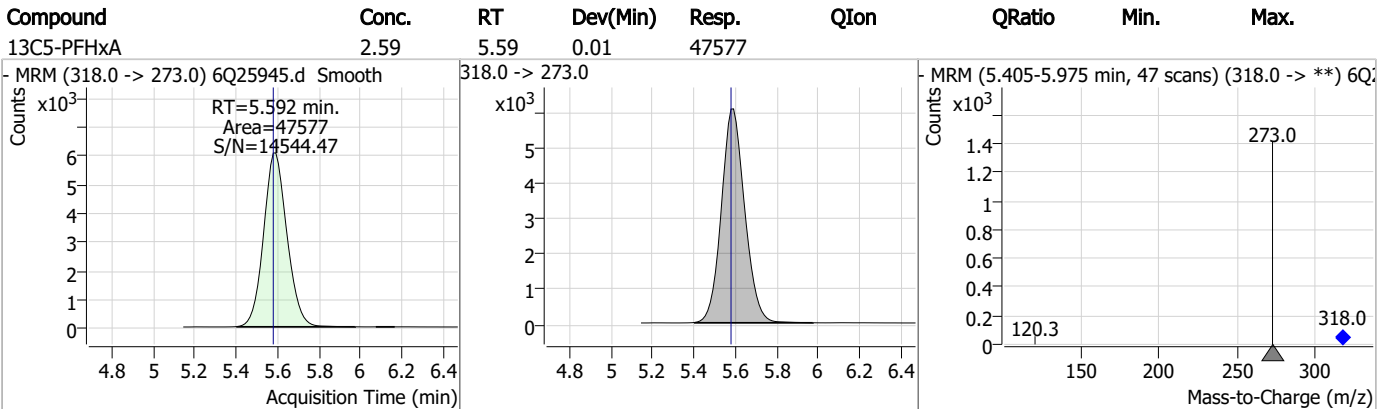
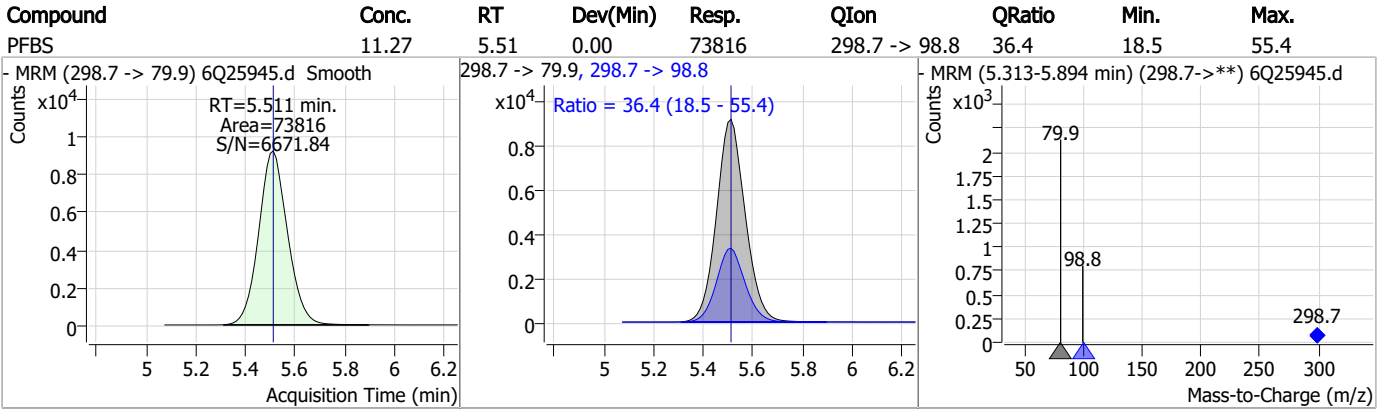
### Perfluorinated Compounds by LC/MS/MS



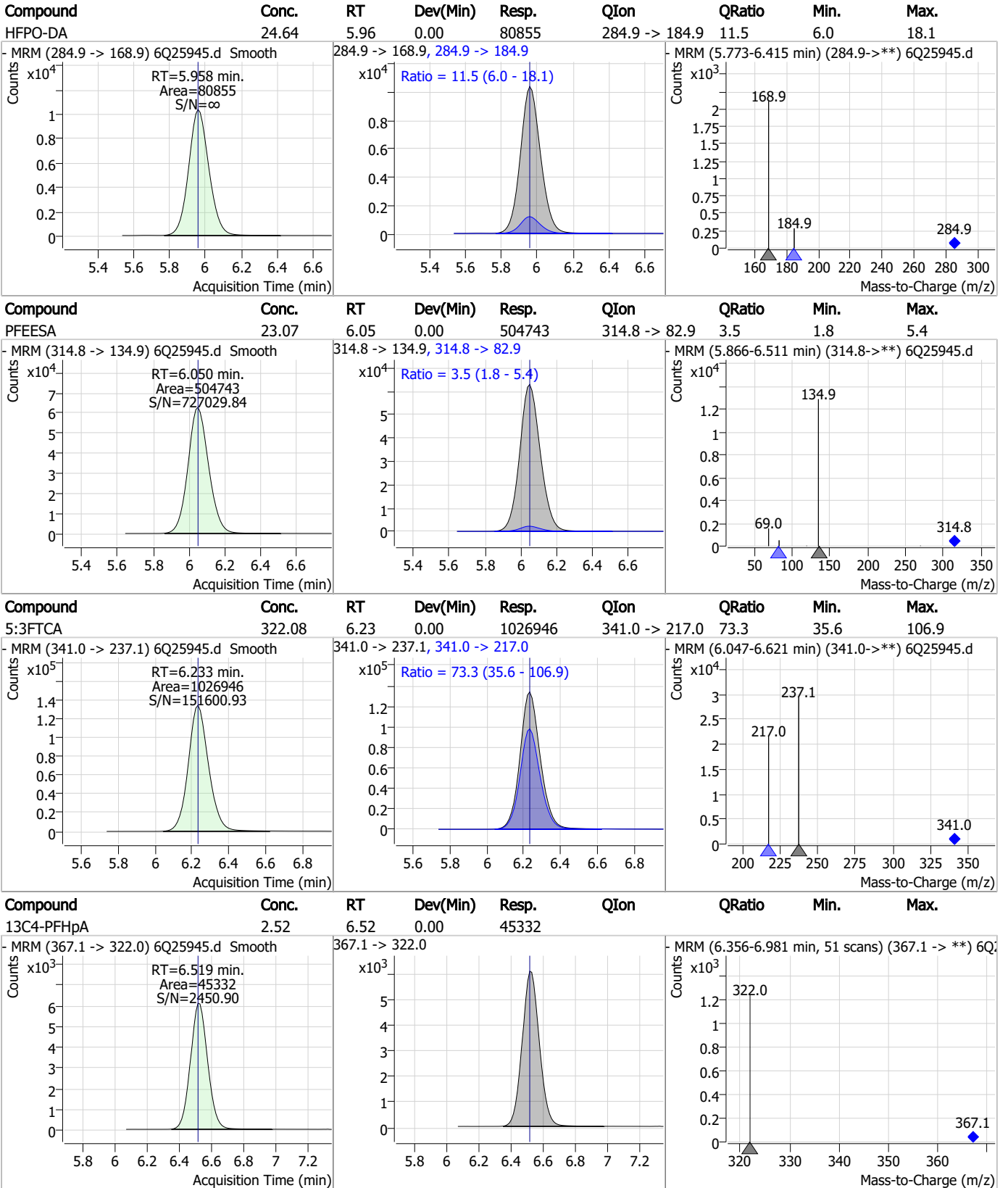
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### Perfluorinated Compounds by LC/MS/MS



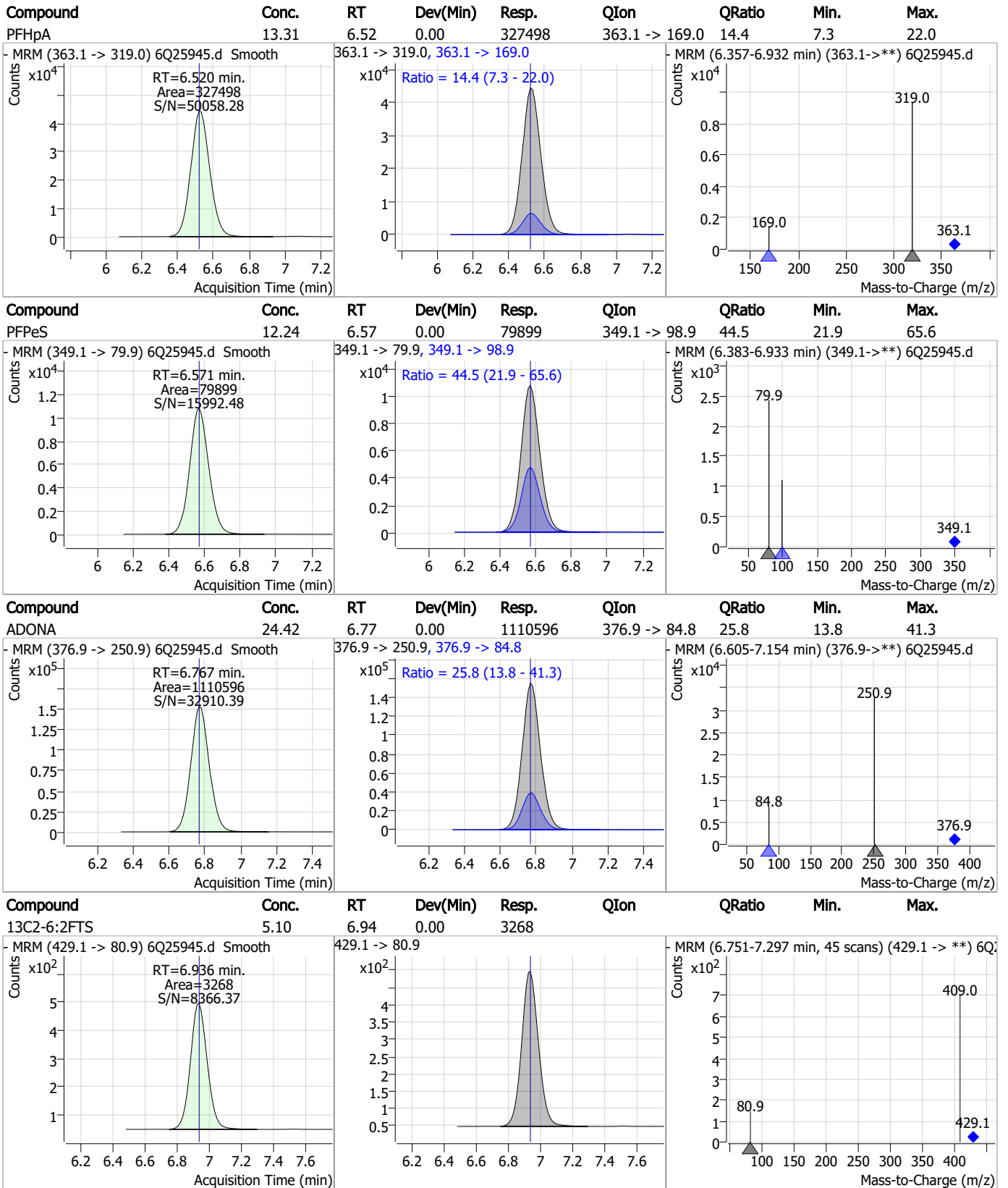
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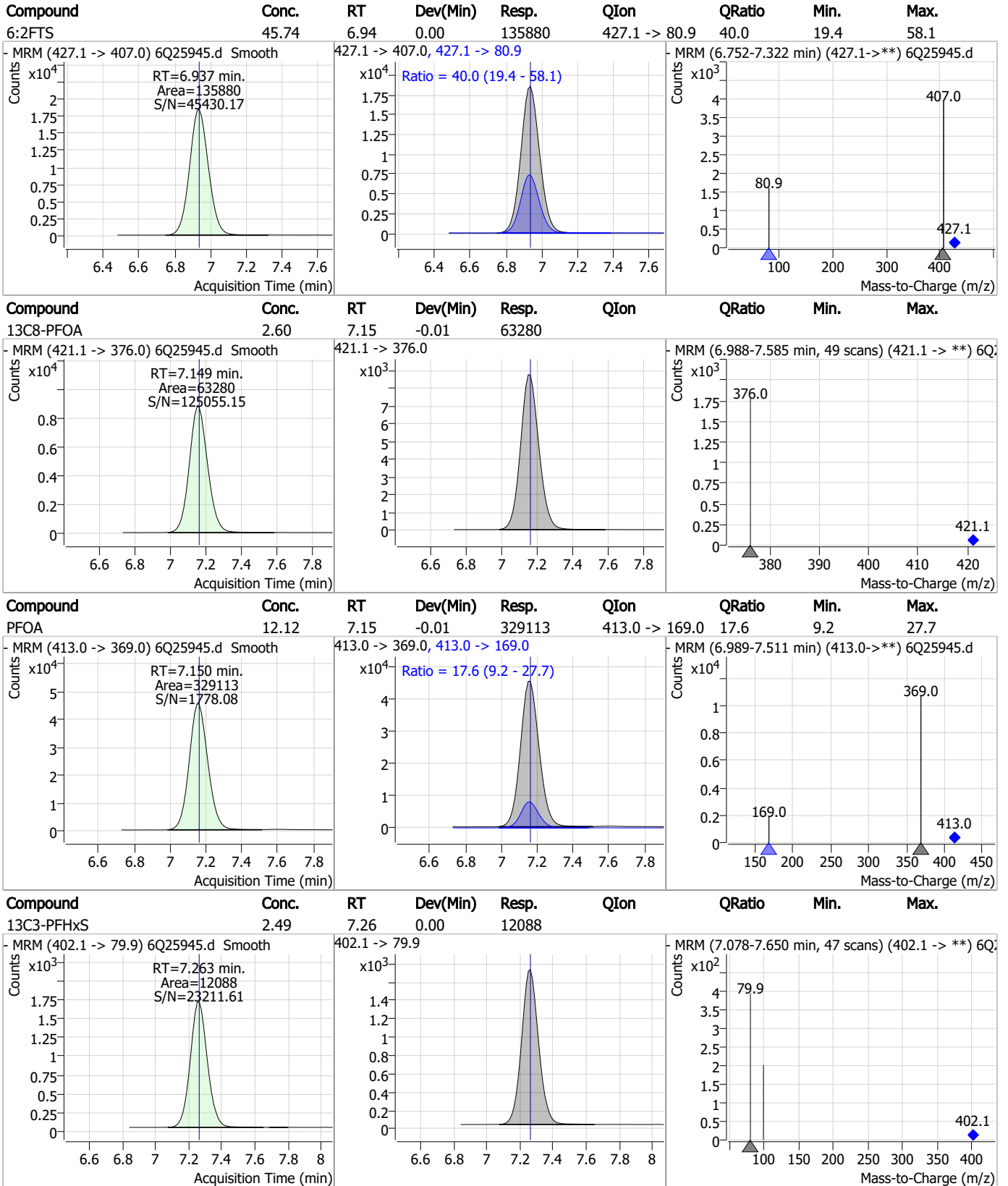
### Perfluorinated Compounds by LC/MS/MS



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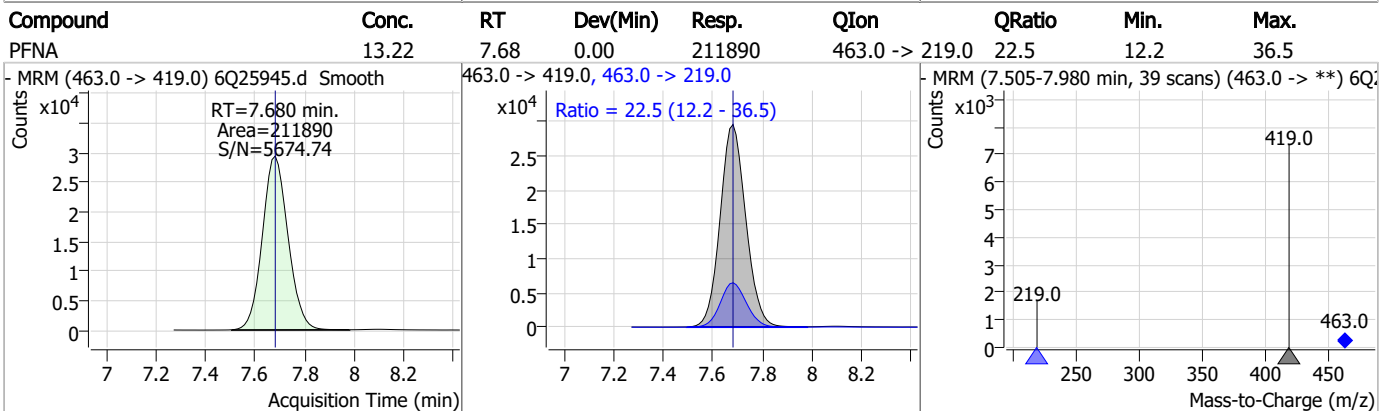
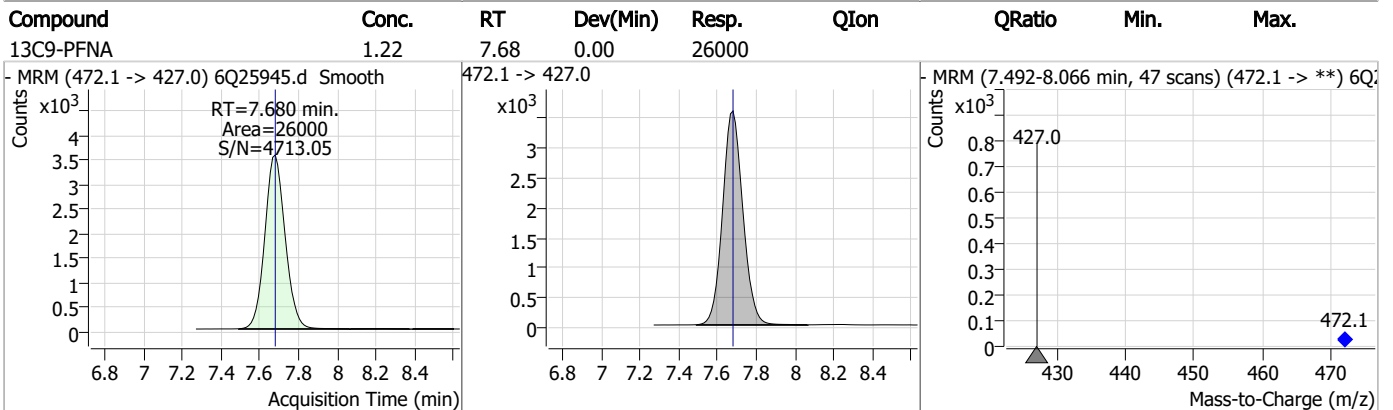
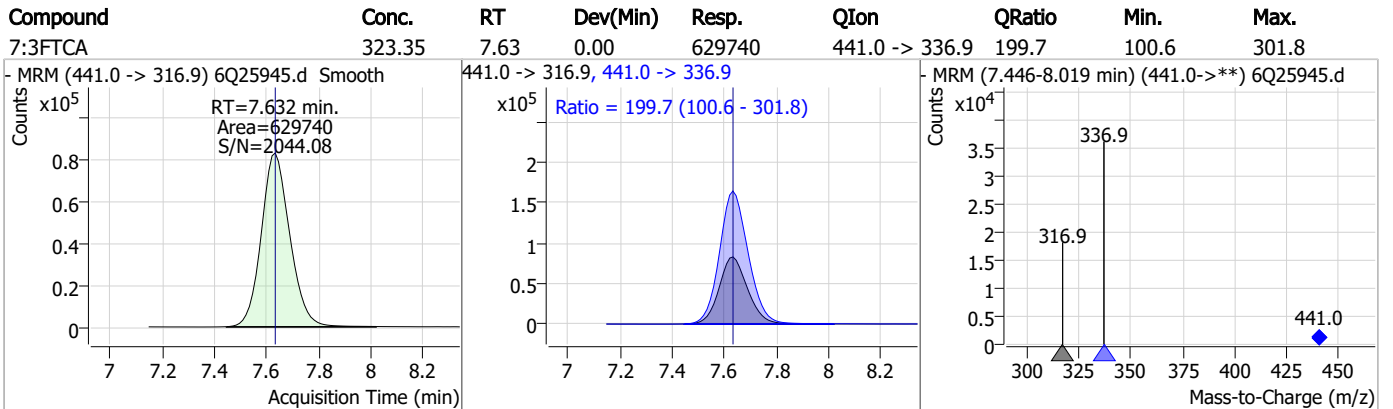
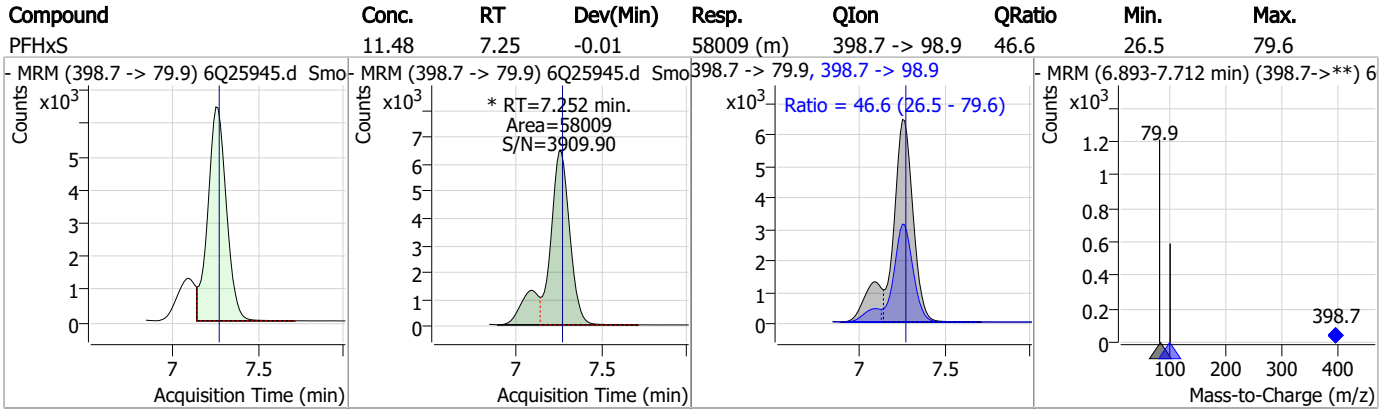
### Perfluorinated Compounds by LC/MS/MS



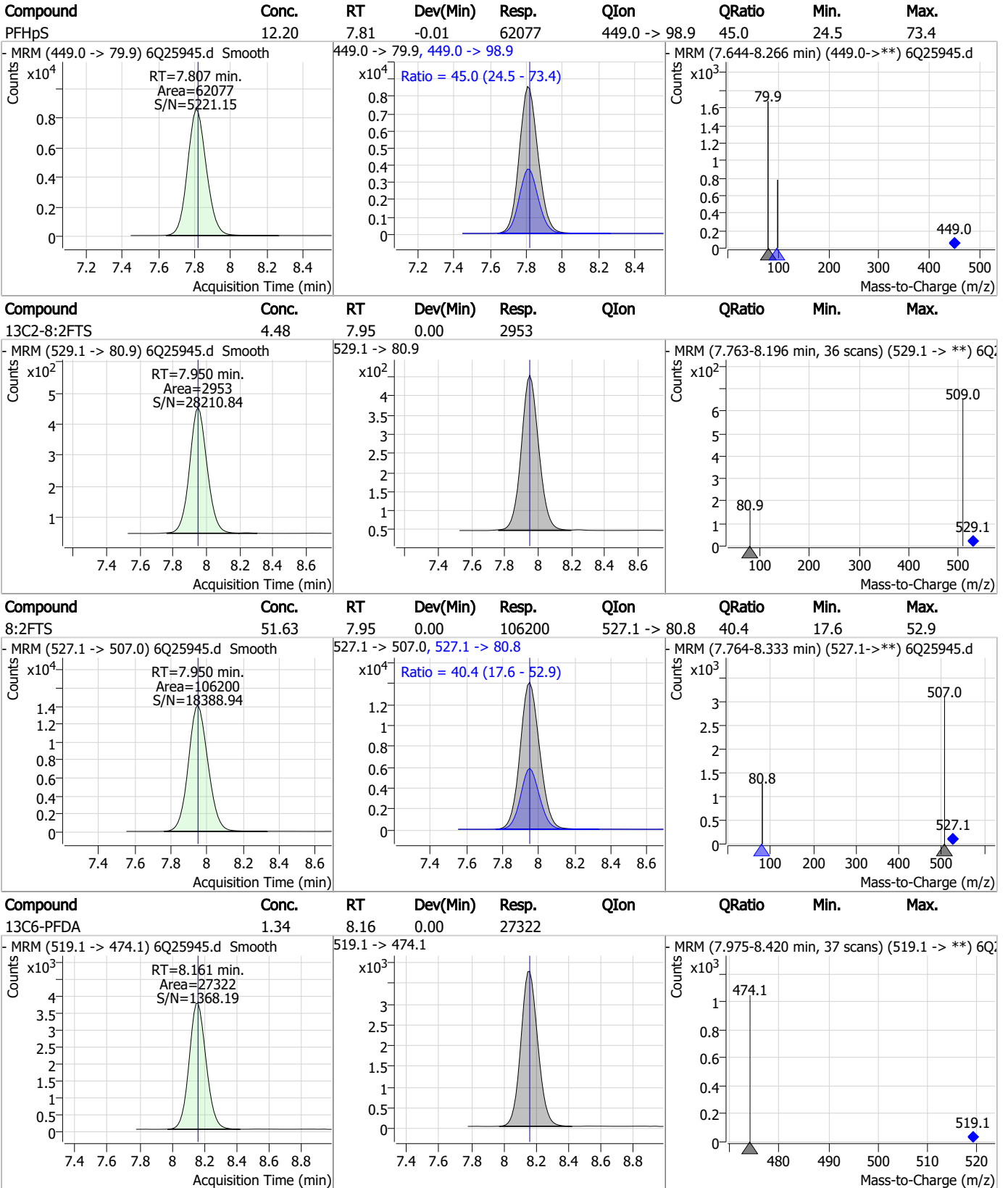
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### Perfluorinated Compounds by LC/MS/MS



### Perfluorinated Compounds by LC/MS/MS

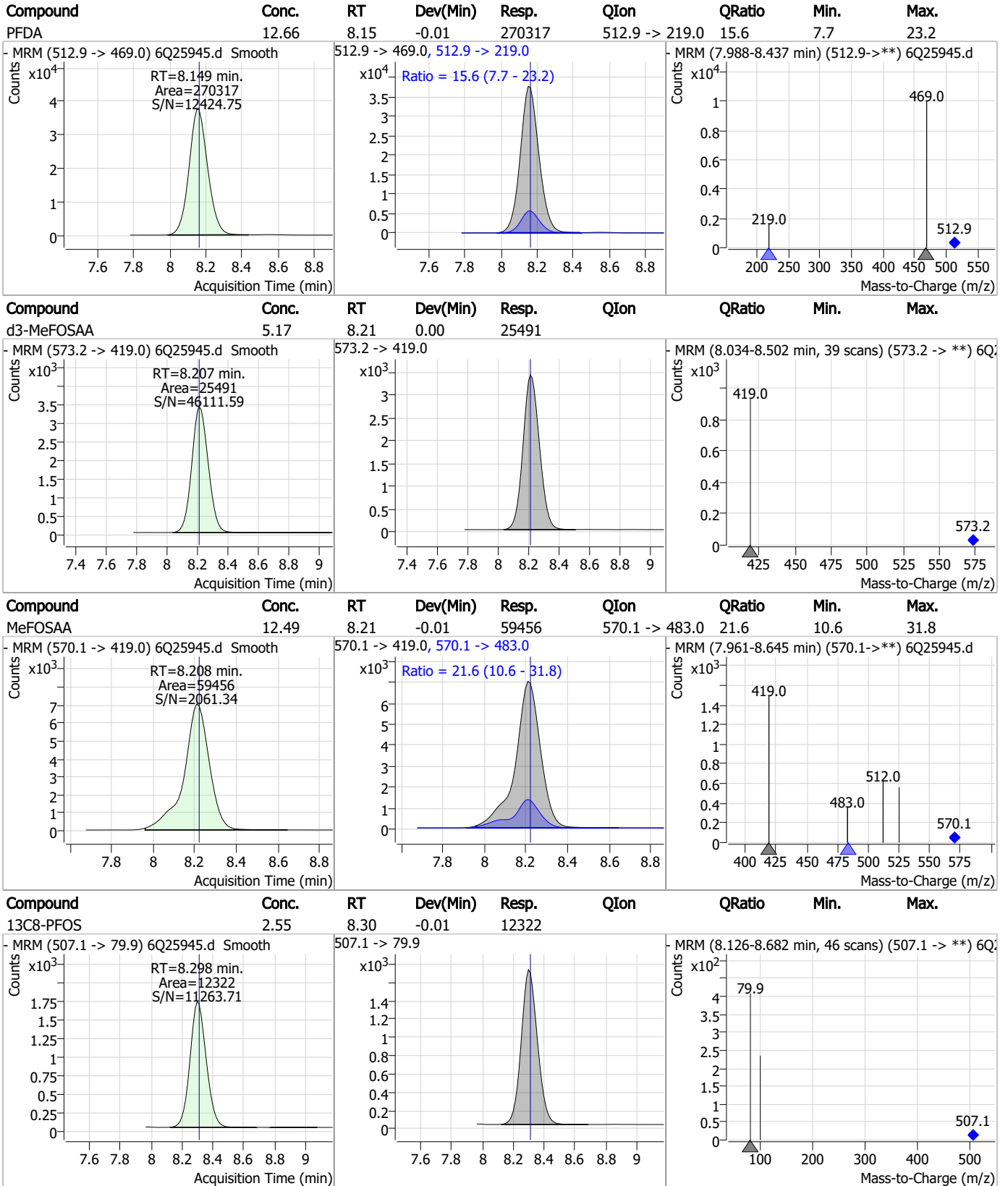


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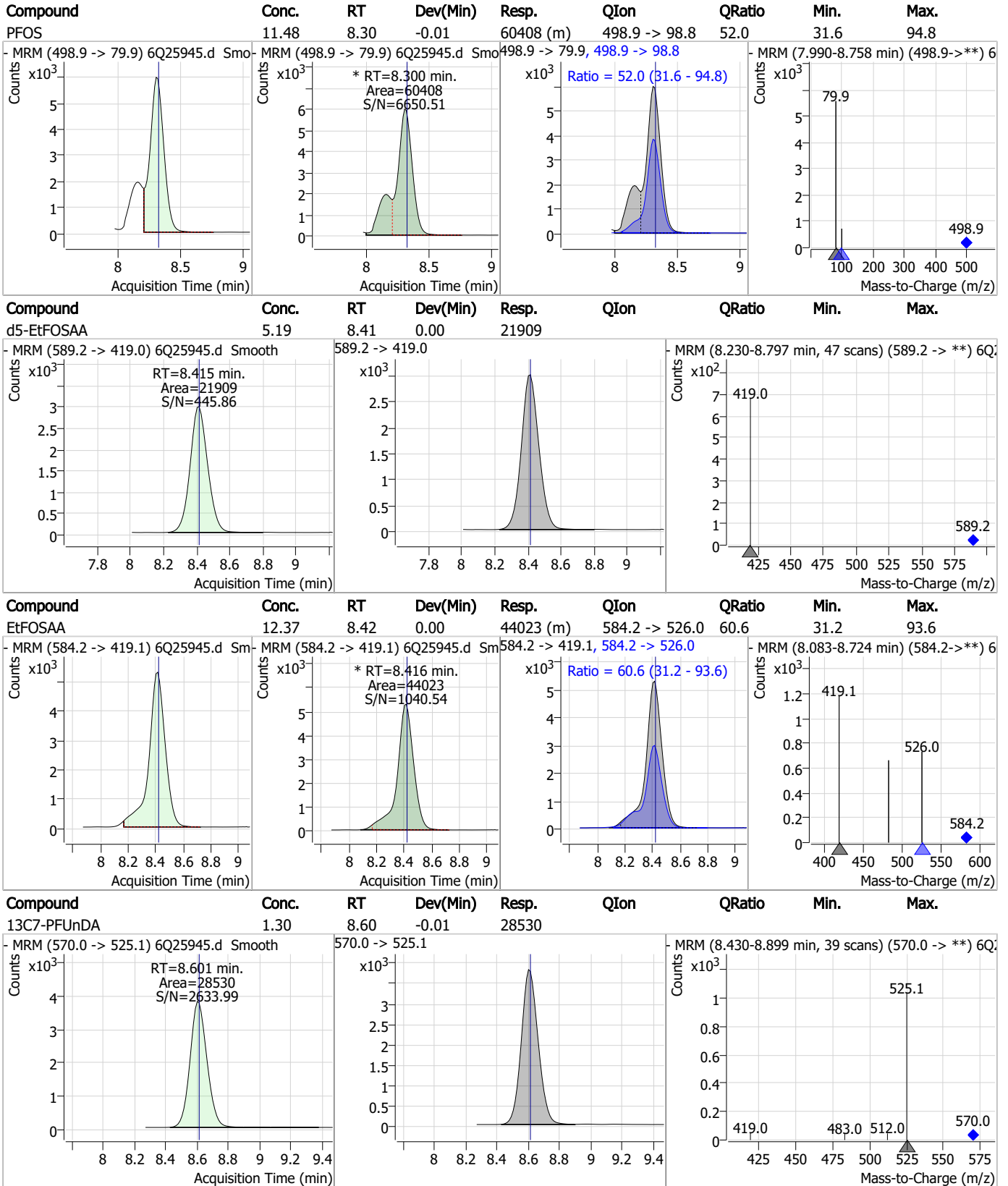
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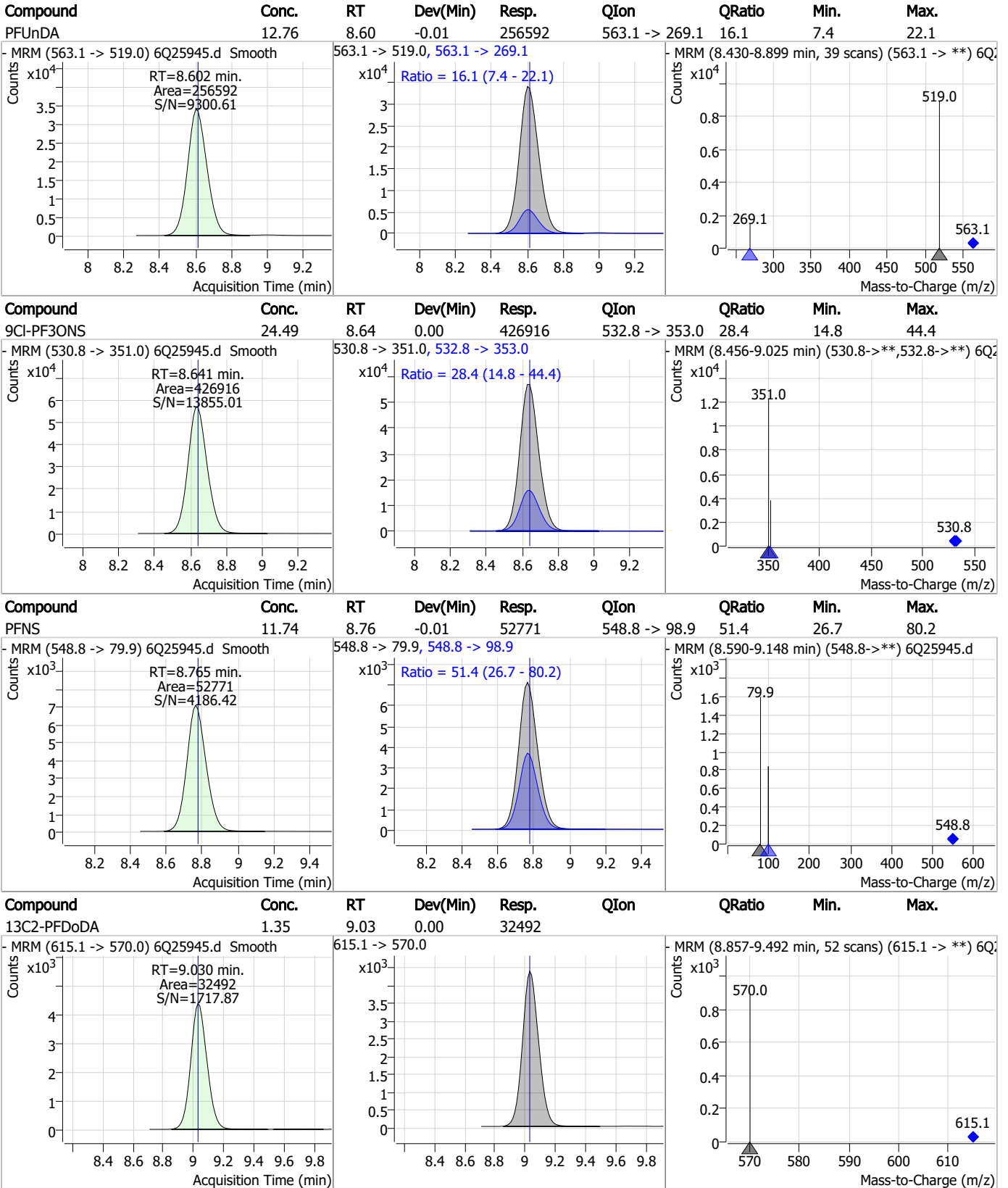
### Perfluorinated Compounds by LC/MS/MS



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### Perfluorinated Compounds by LC/MS/MS



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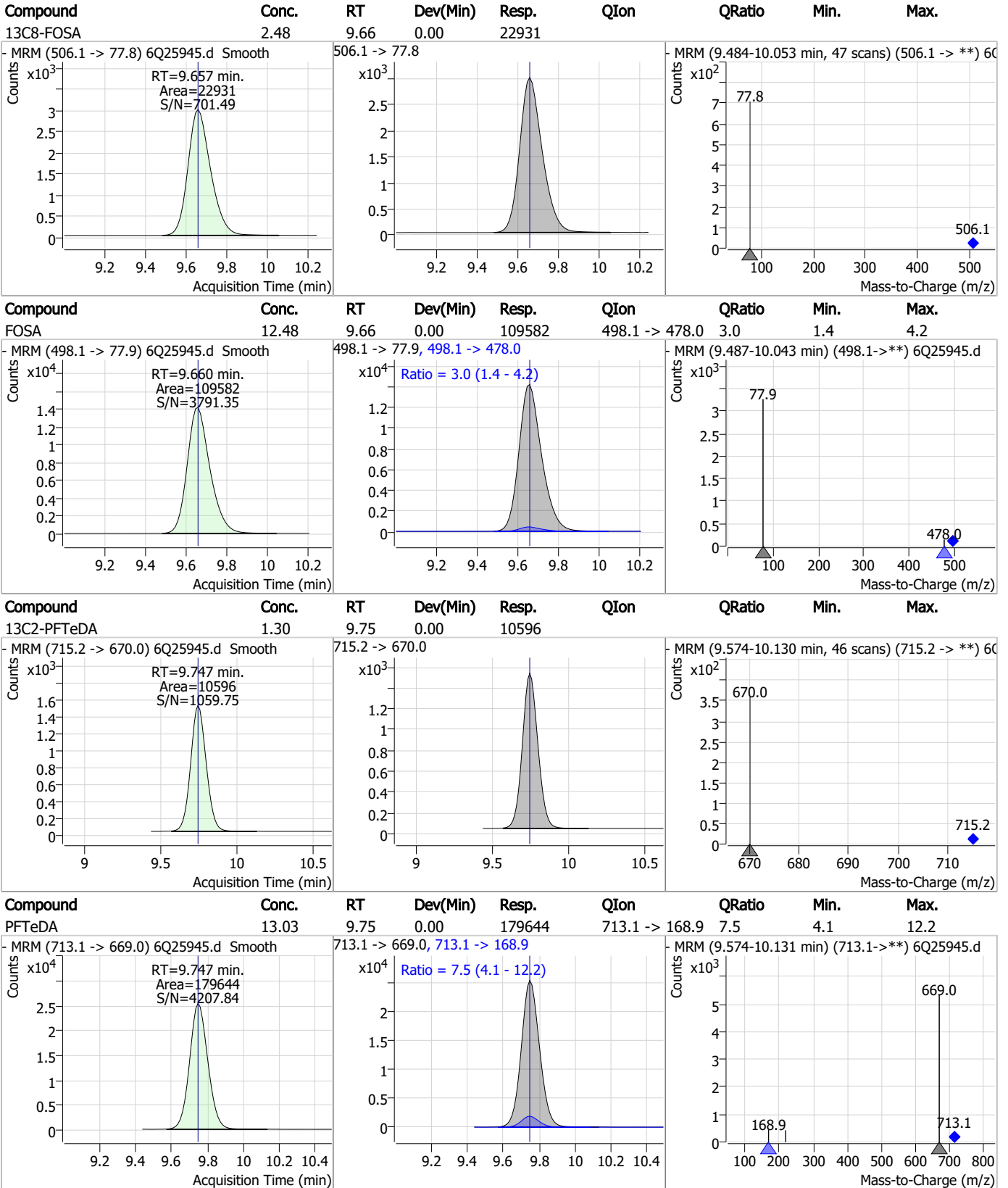
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### Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDODA	13.04	9.03	0.00	314985	613.1 -> 319.0	11.8	5.7	17.2
PFDS	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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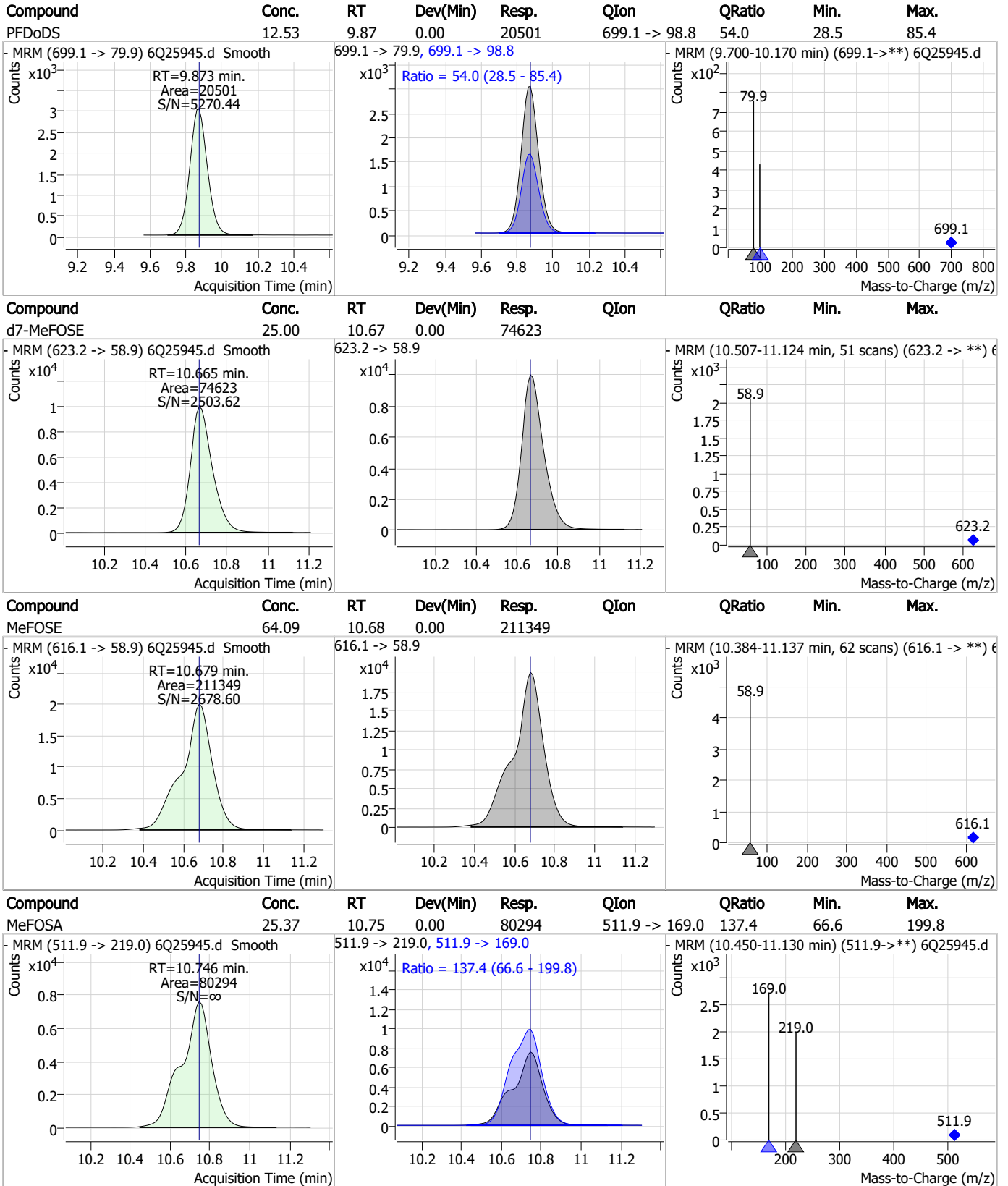
### Perfluorinated Compounds by LC/MS/MS



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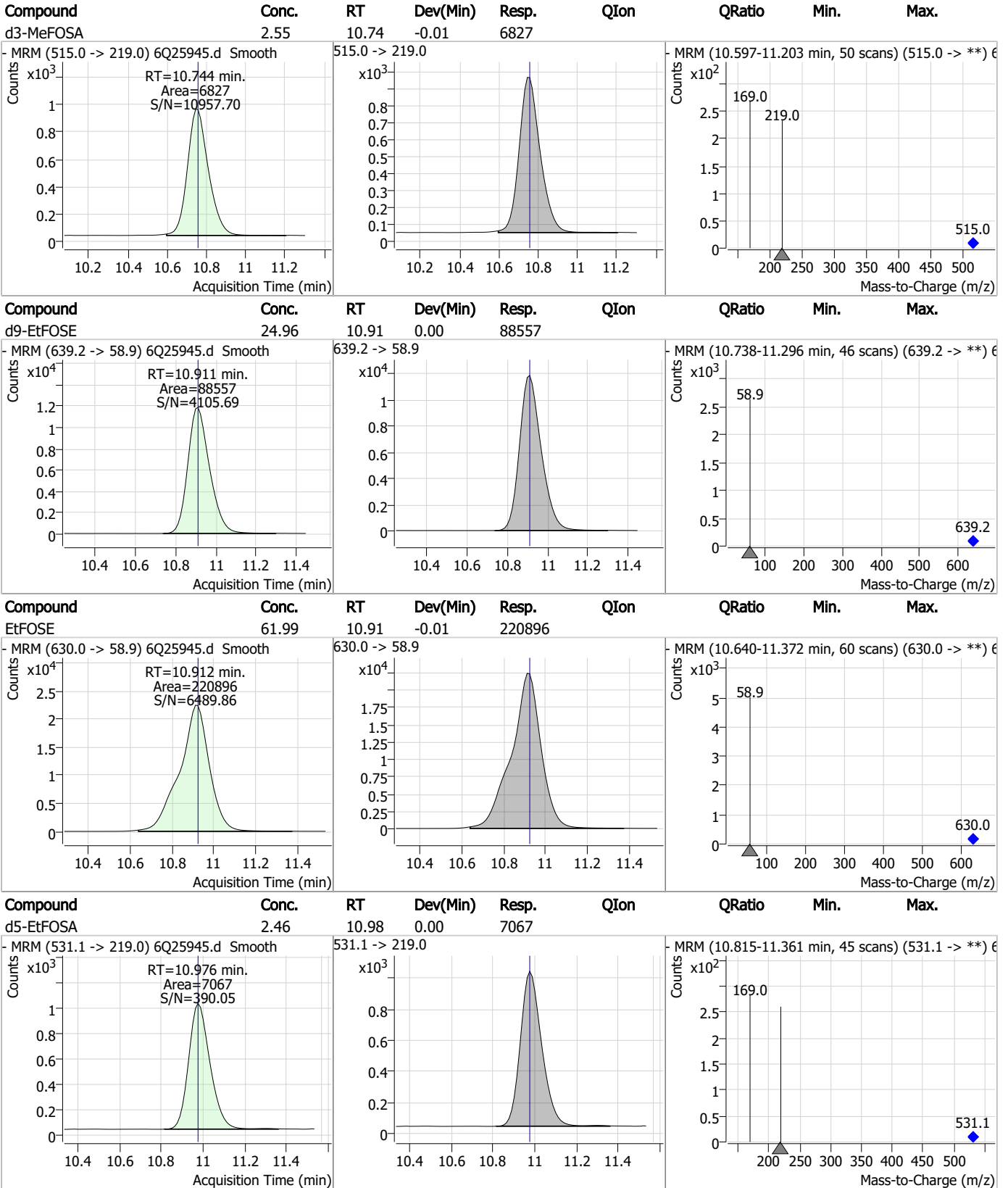
### Perfluorinated Compounds by LC/MS/MS



7.7.7

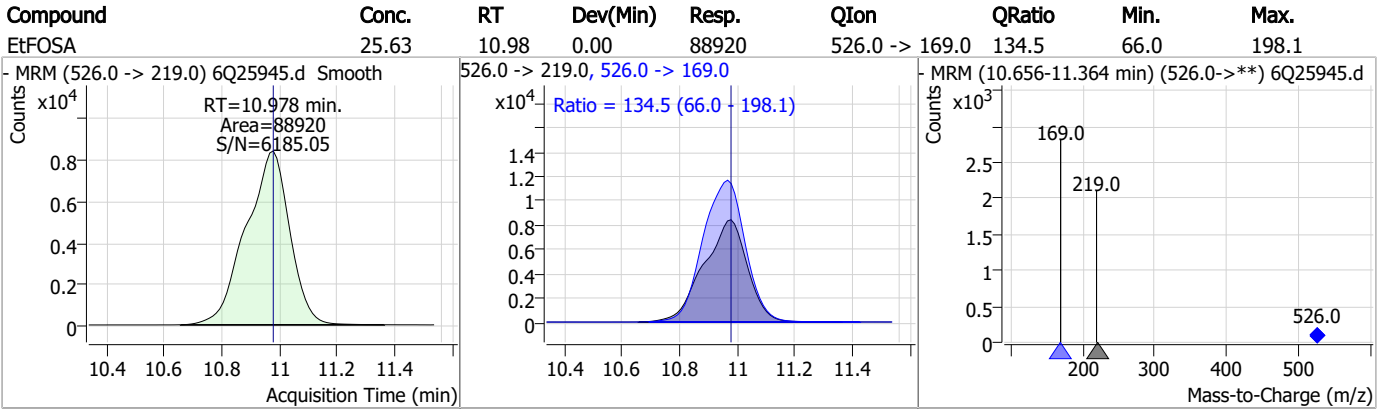
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### Perfluorinated Compounds by LC/MS/MS



7.7.7  
7

### Perfluorinated Compounds by LC/MS/MS



7.7.7

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# 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

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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 : 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)
<b>Internal Standards</b>					
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
<b>System Monitoring Compounds</b>					
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%	
<b>Target Compounds</b>					<b>QValue</b>
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			
11Cl-PF3OUdS	9.454	630.9 -> 450.9	446188	46.95	µg/L	100
		632.9 -> 452.9	142765			
9Cl-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			

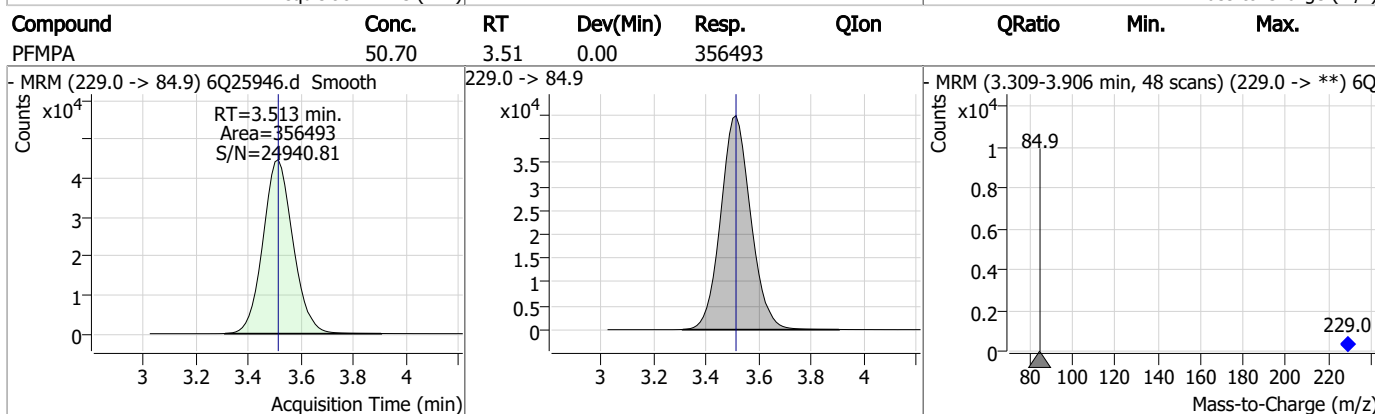
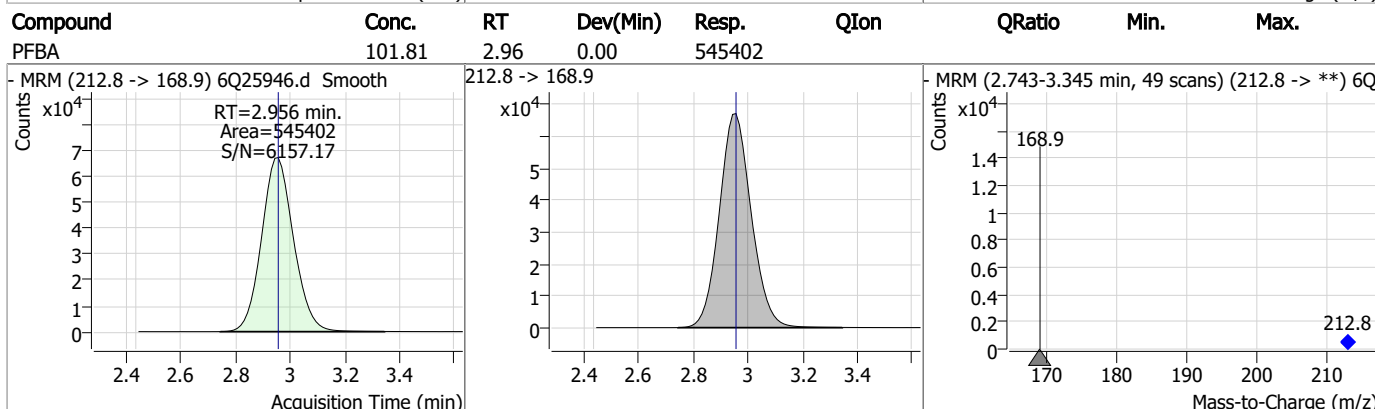
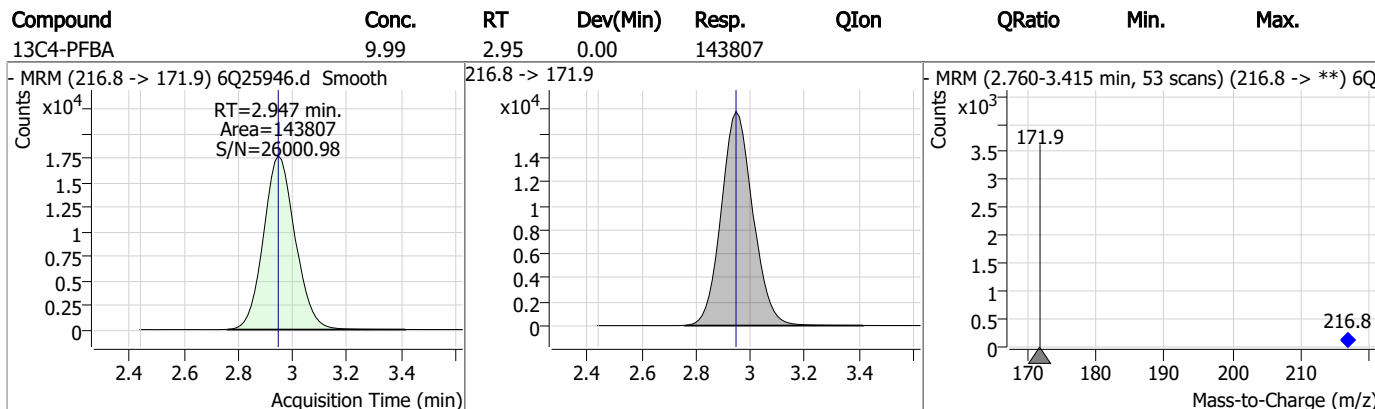
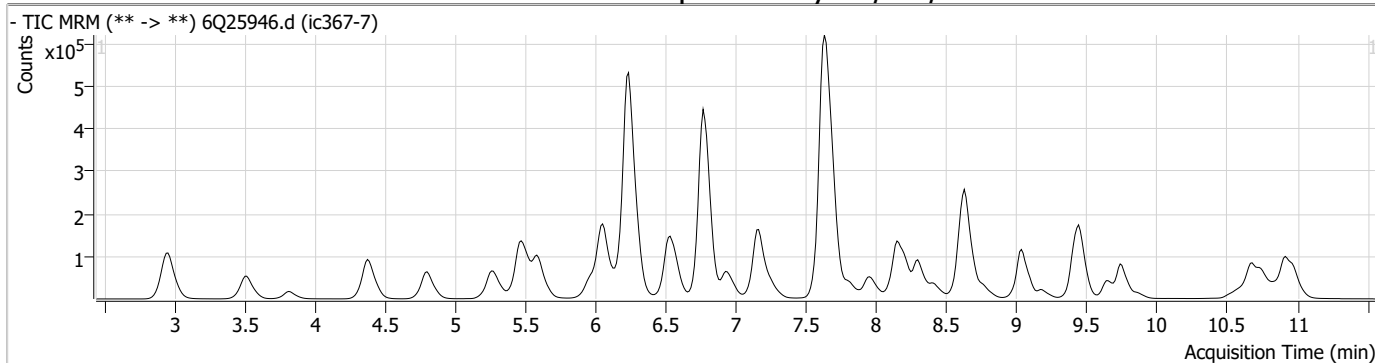
# = Qualifier out of range, m = manually integrated, + = Area summed

### Perfluorinated Compounds by LC/MS/MS

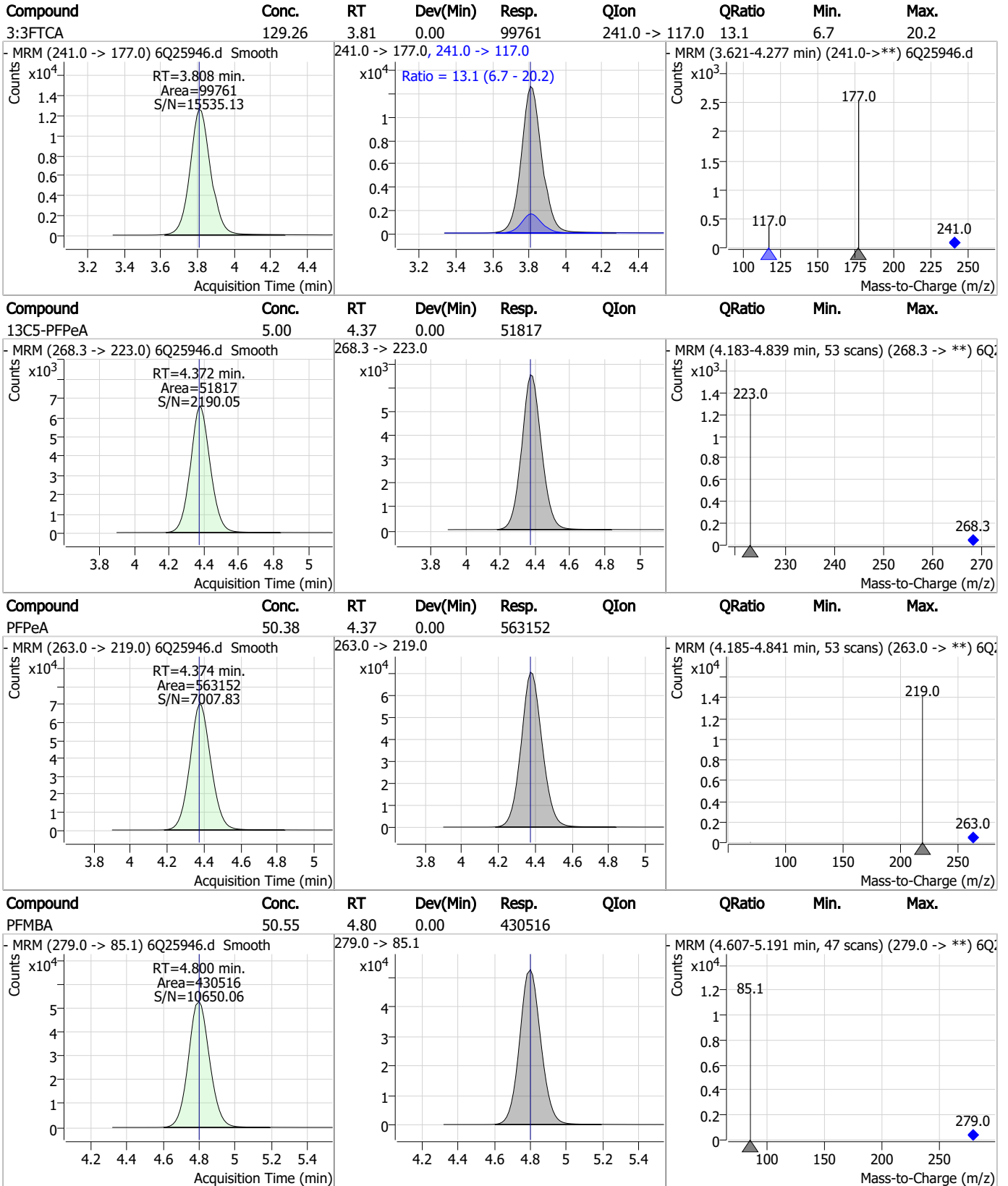
Compound	RT	Transition	Response	Conc. Units	Dev(Min)
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### Perfluorinated Compounds by LC/MS/MS



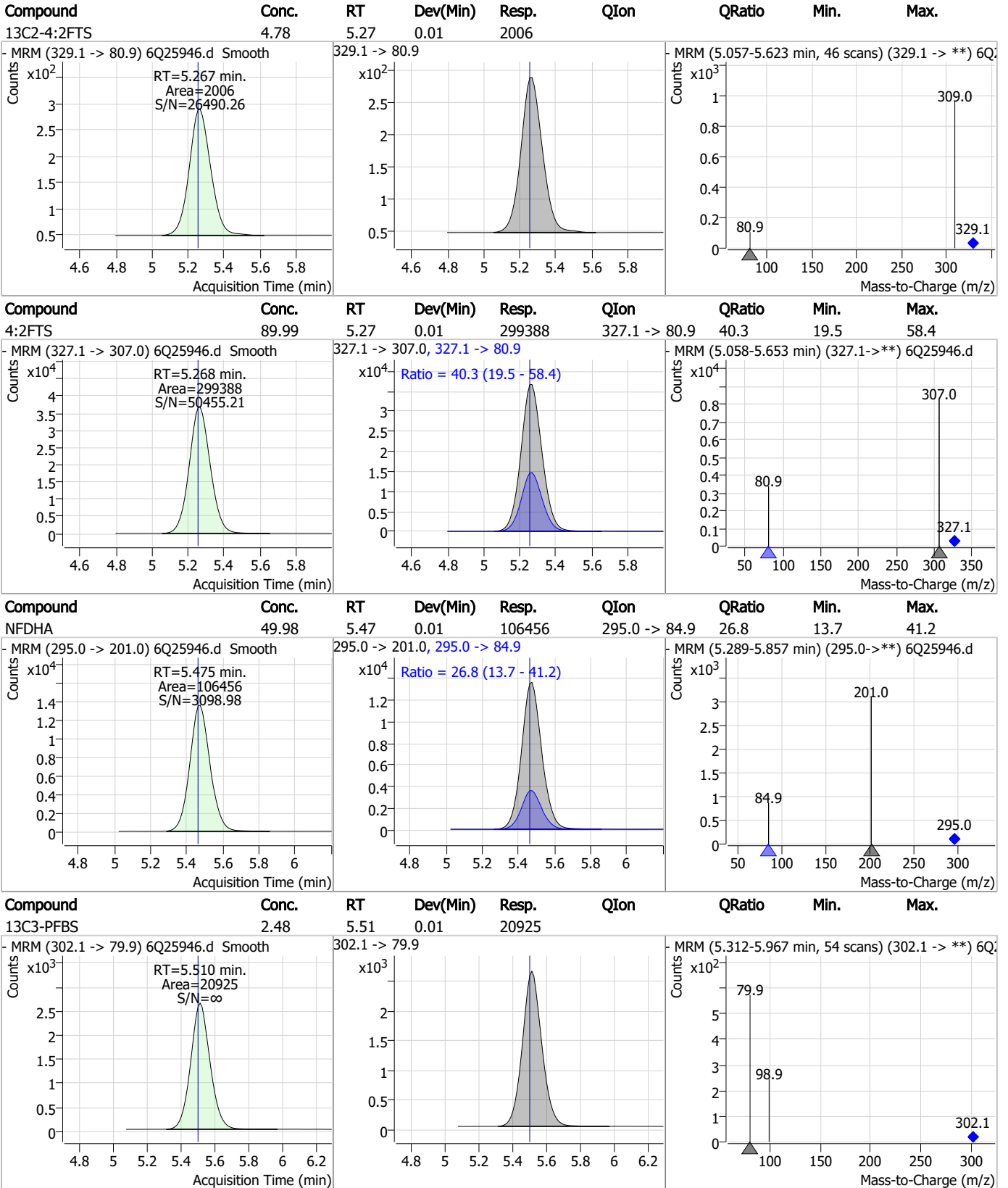
### Perfluorinated Compounds by LC/MS/MS



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### Perfluorinated Compounds by LC/MS/MS

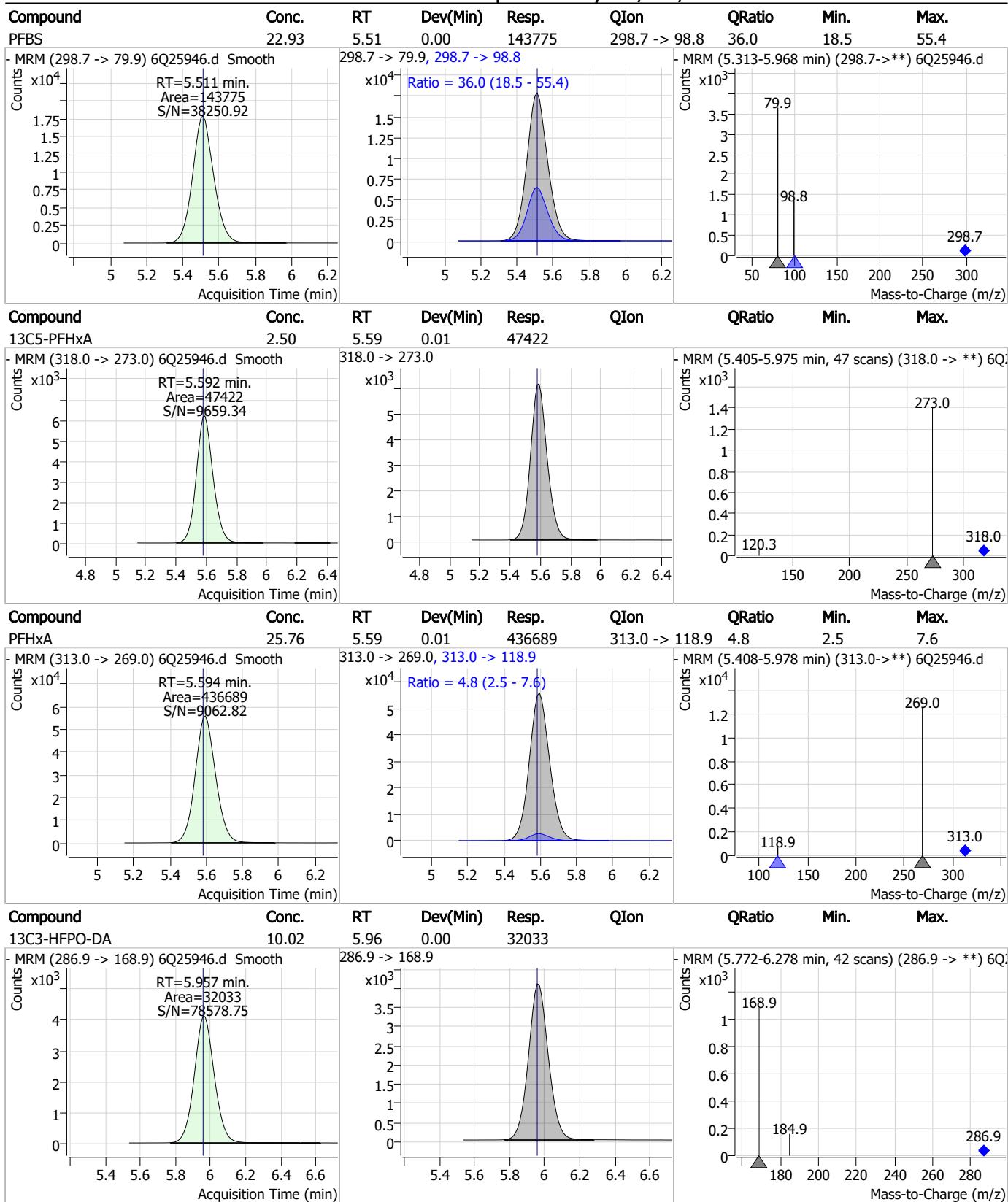


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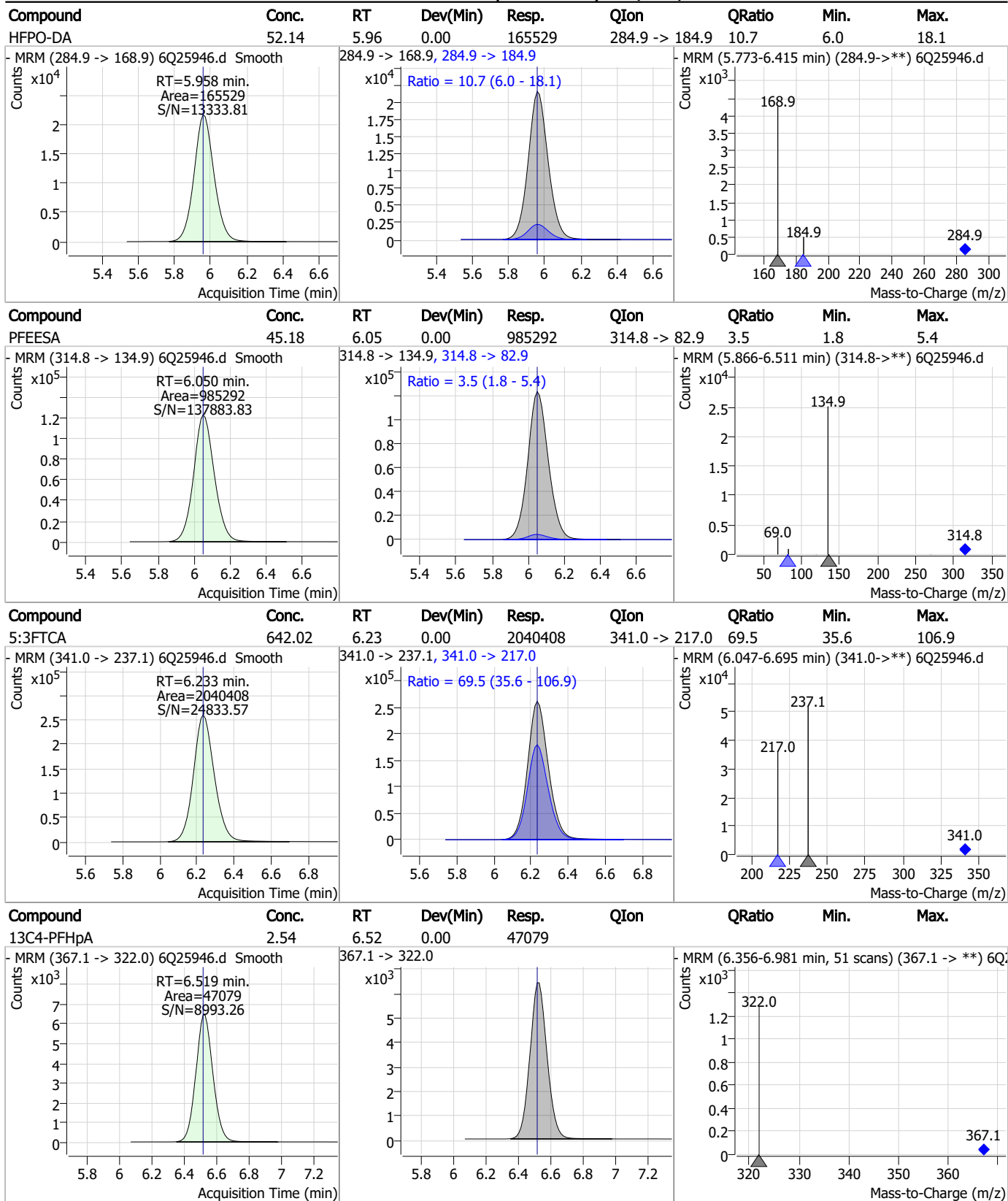


### Perfluorinated Compounds by LC/MS/MS



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### Perfluorinated Compounds by LC/MS/MS



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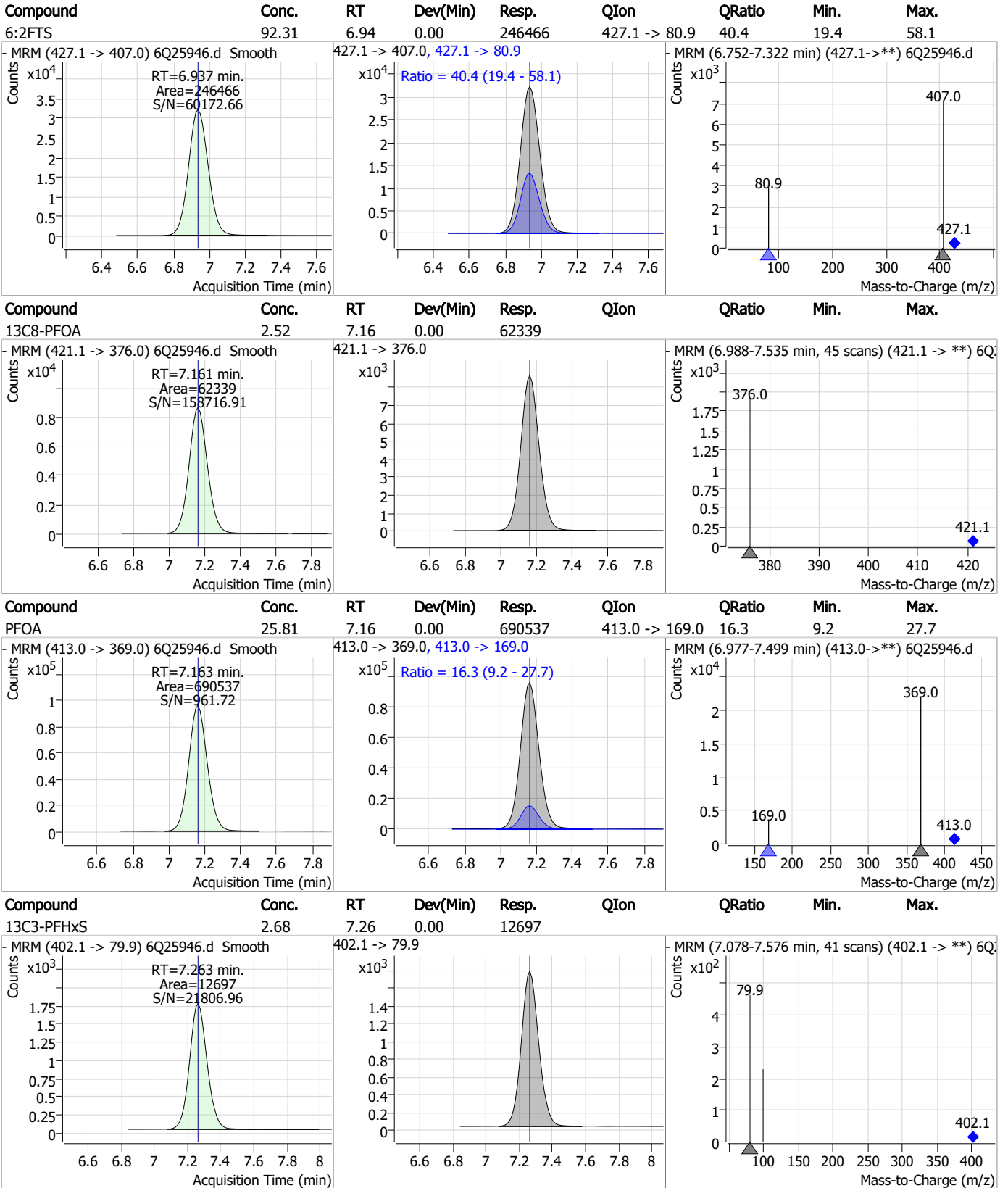
### Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpA	24.97	6.53	0.01	637741	363.1 -> 169.0	13.9	7.3	22.0
PFPeS	22.31	6.57	0.00	152945	349.1 -> 98.9	46.2	21.9	65.6
ADONA	48.04	6.78	0.01	2113602	376.9 -> 84.8	25.7	13.8	41.3
13C2-6:2FTS	4.70	6.94	0.00	2937	429.1 -> 80.9	-	-	-

7.7.8

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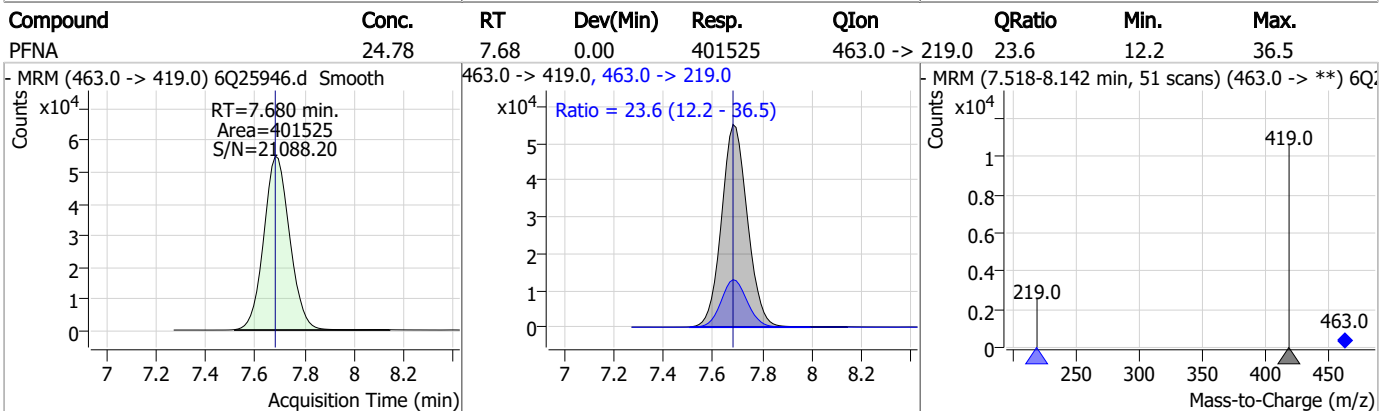
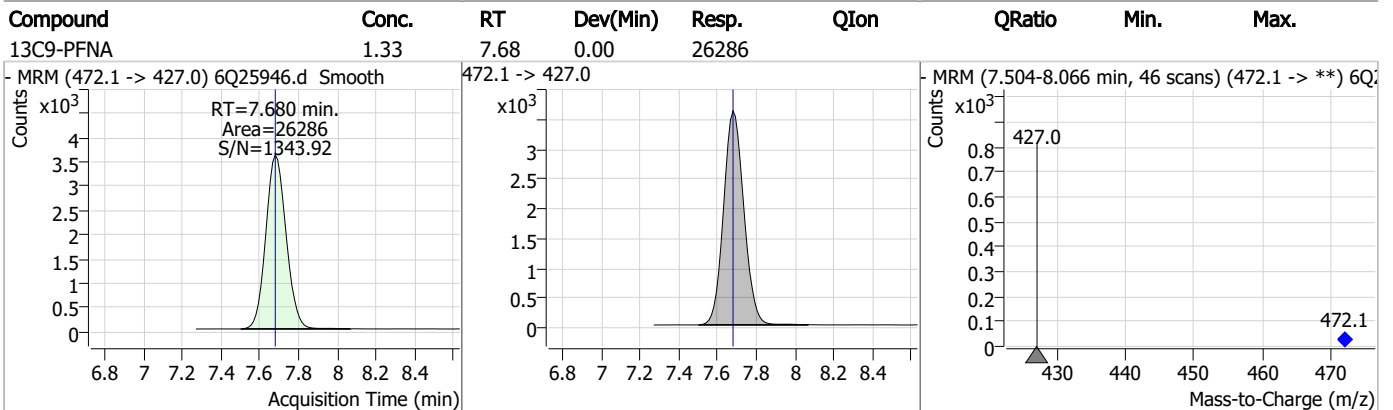
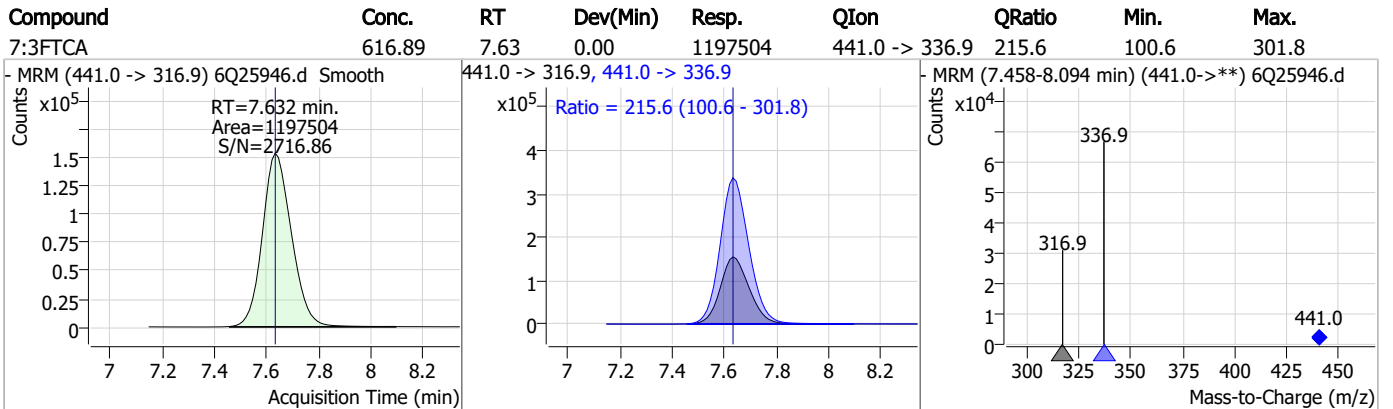
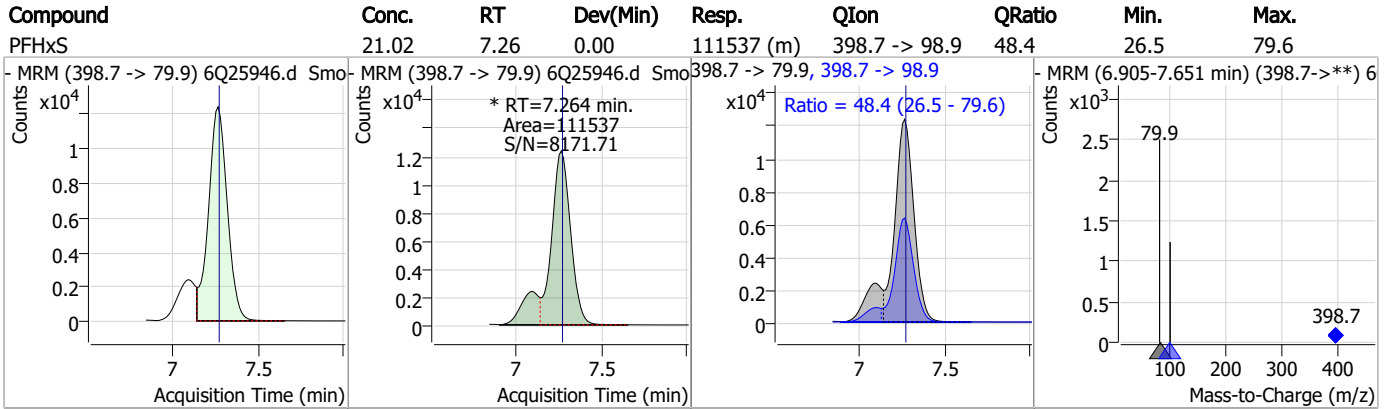
### Perfluorinated Compounds by LC/MS/MS



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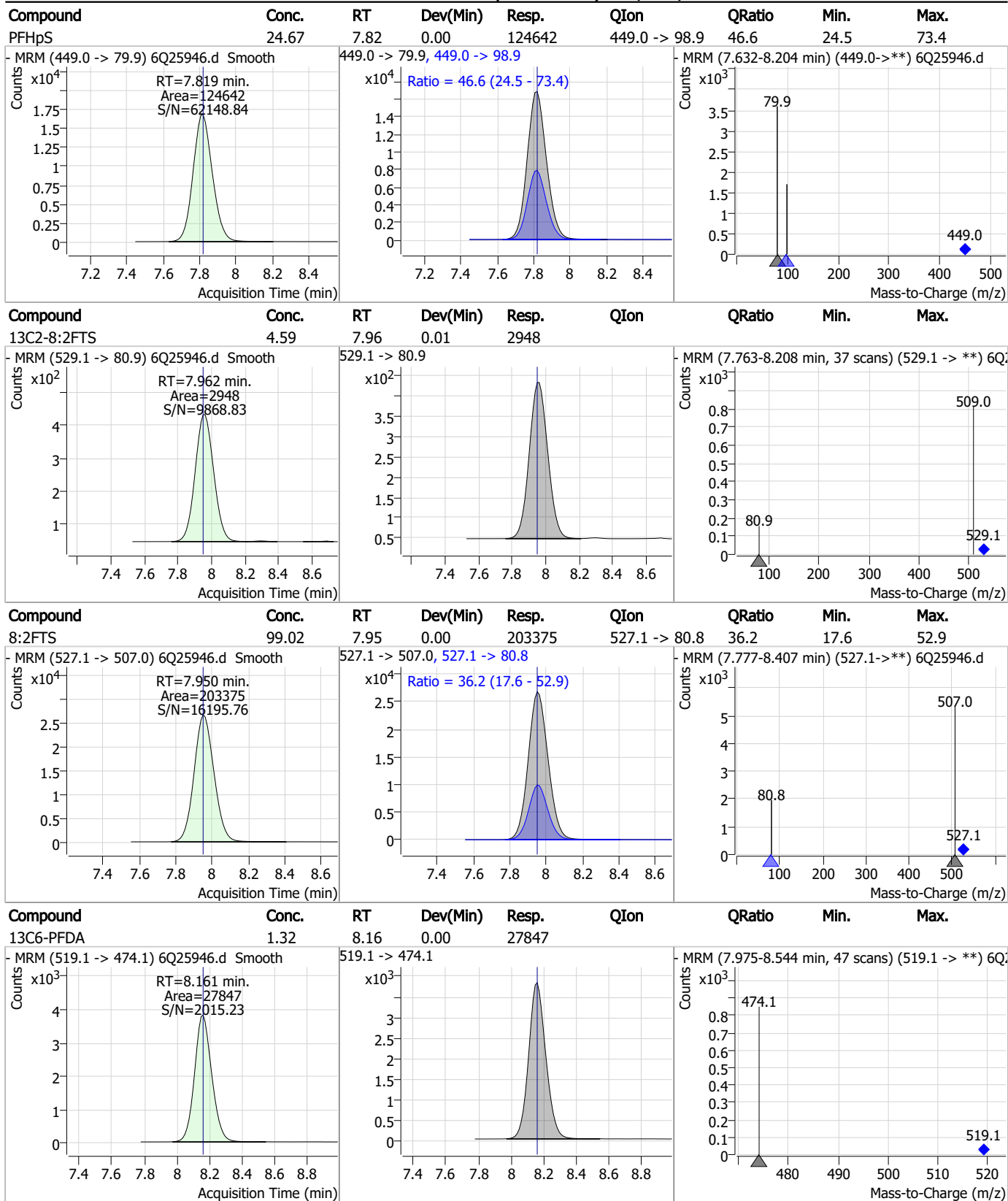
### Perfluorinated Compounds by LC/MS/MS



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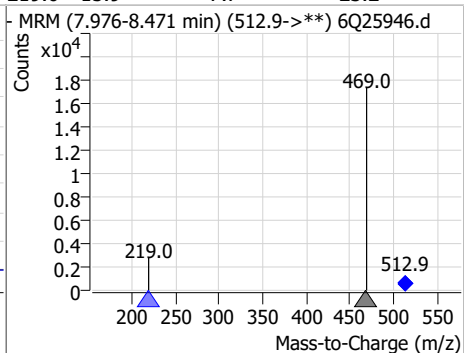
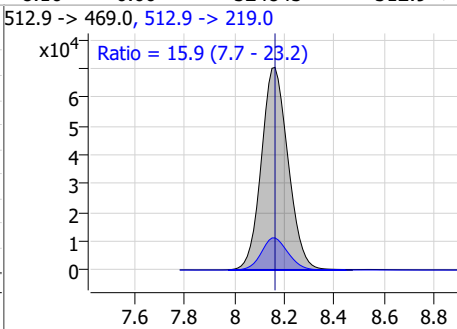
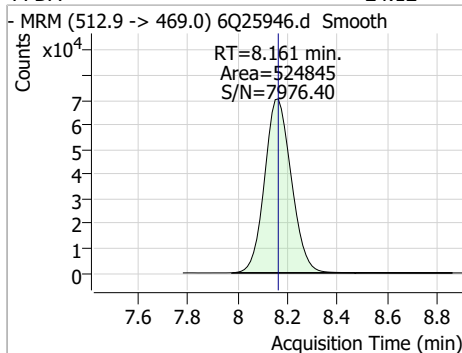
### Perfluorinated Compounds by LC/MS/MS



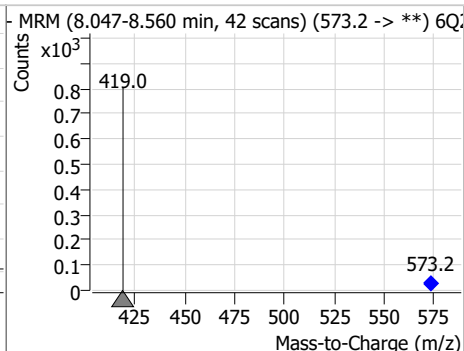
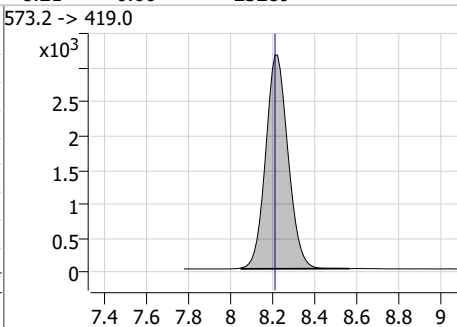
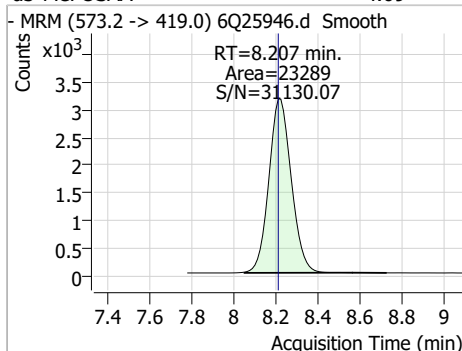
7.7.8  
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### Perfluorinated Compounds by LC/MS/MS

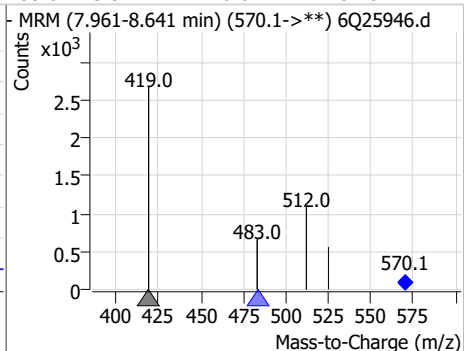
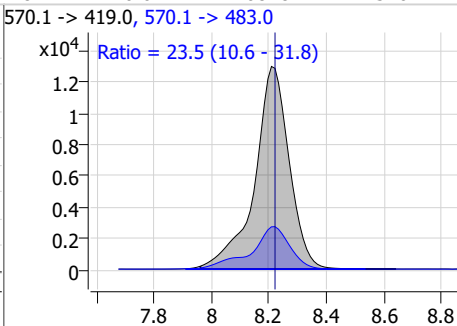
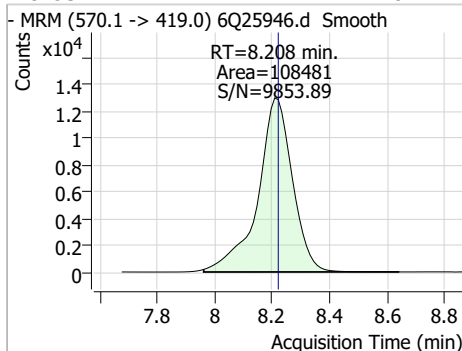
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDA	24.12	8.16	0.00	524845	512.9 -> 219.0	15.9	7.7	23.2



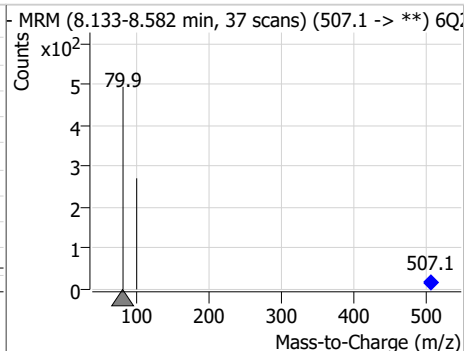
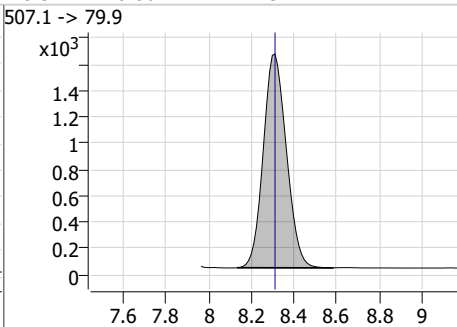
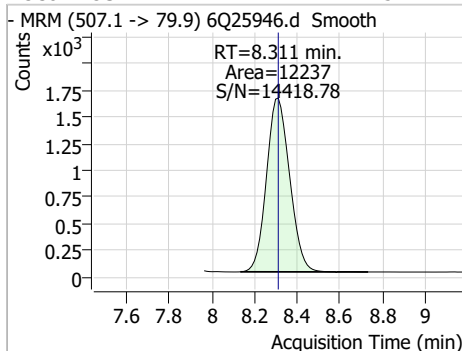
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSAA	4.69	8.21	0.00	23289				



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

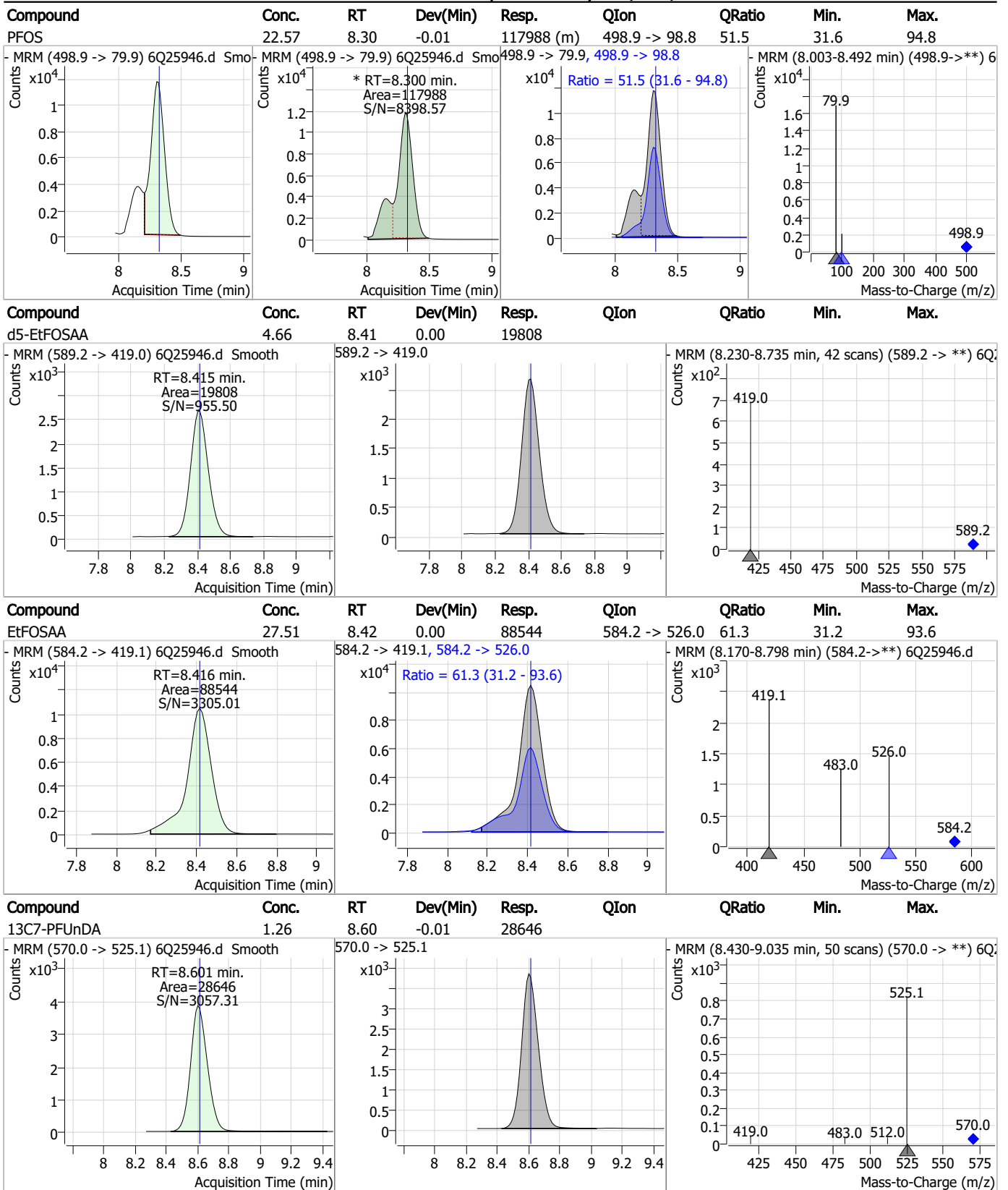


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOS	2.51	8.31	0.00	12237				



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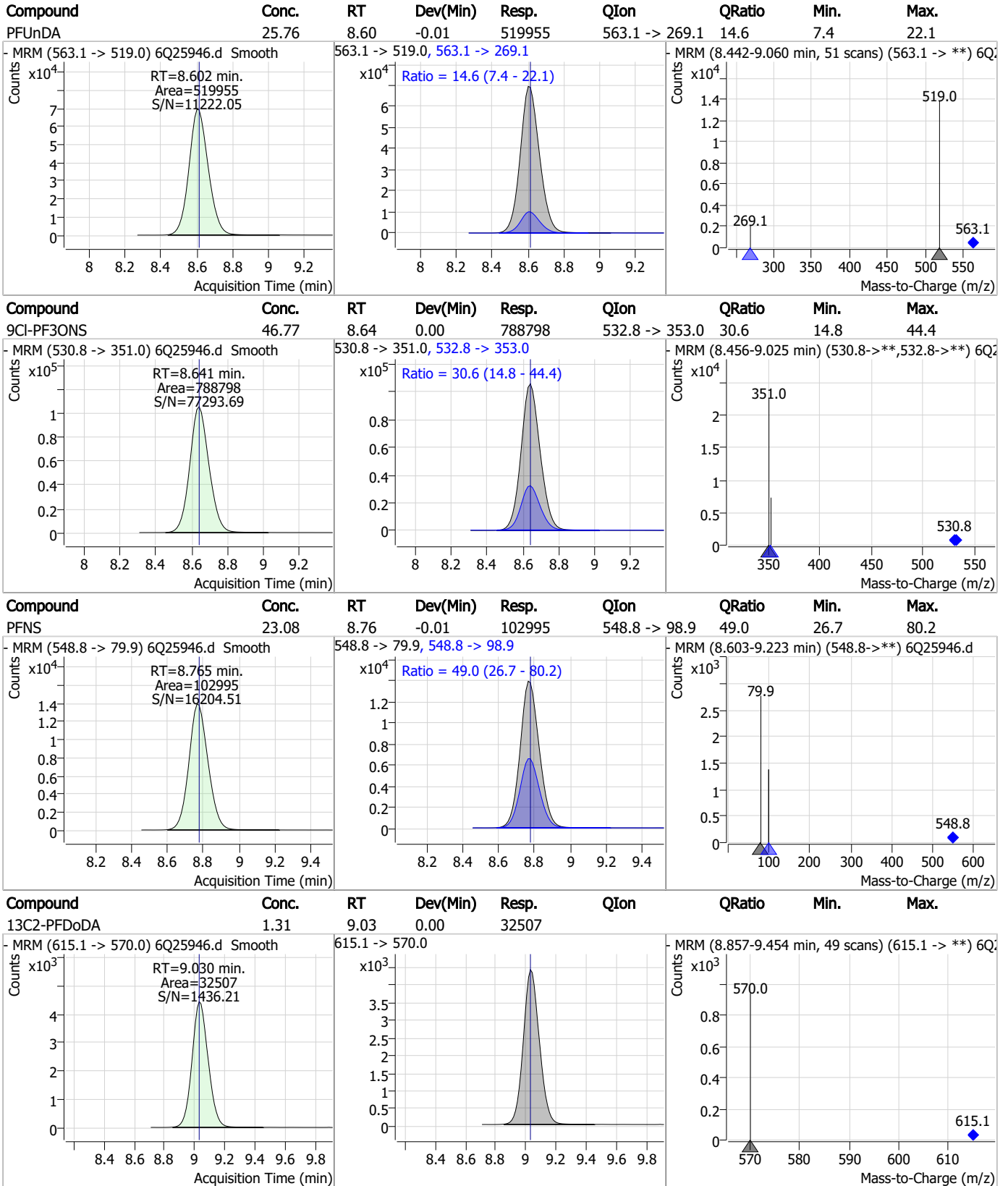
### Perfluorinated Compounds by LC/MS/MS



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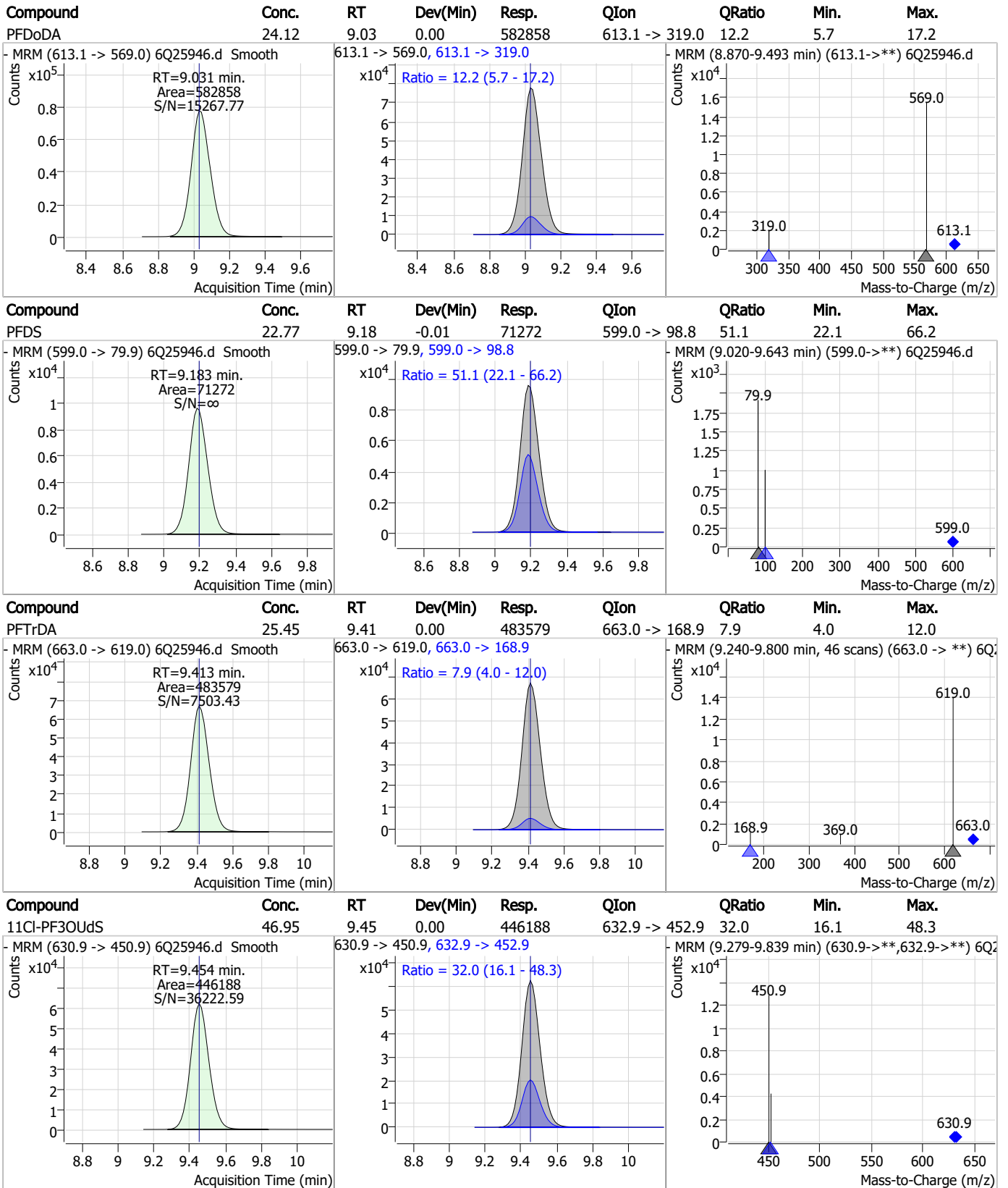
### Perfluorinated Compounds by LC/MS/MS



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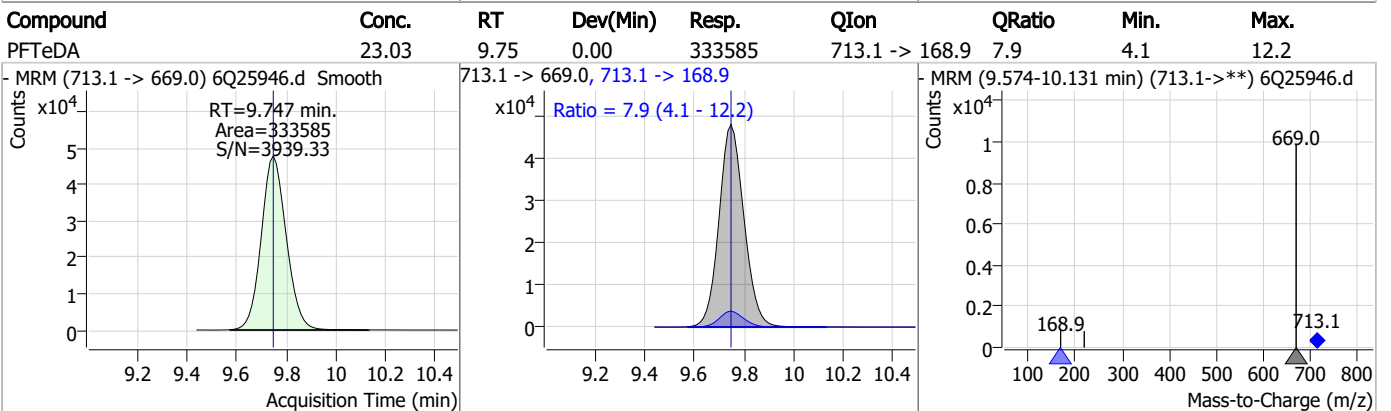
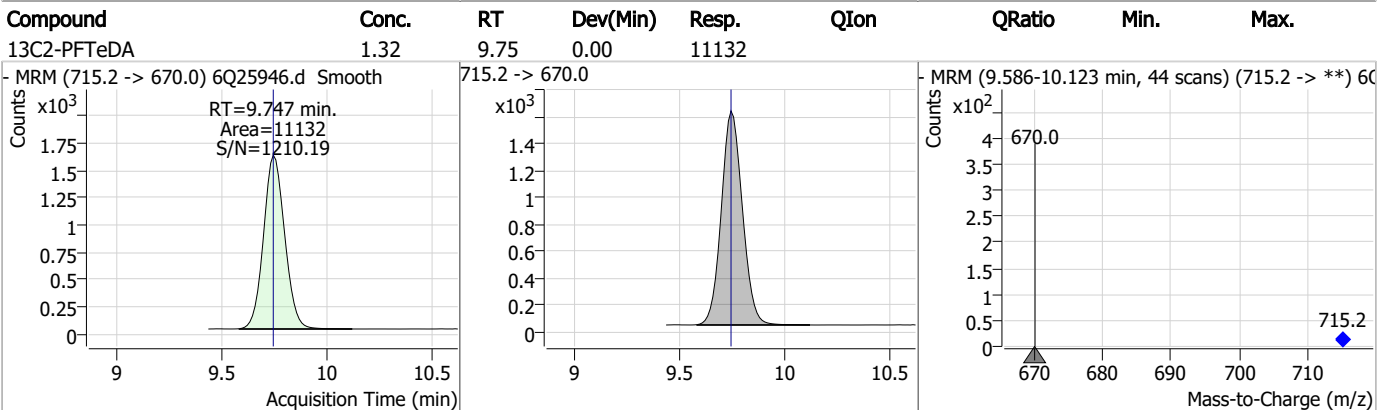
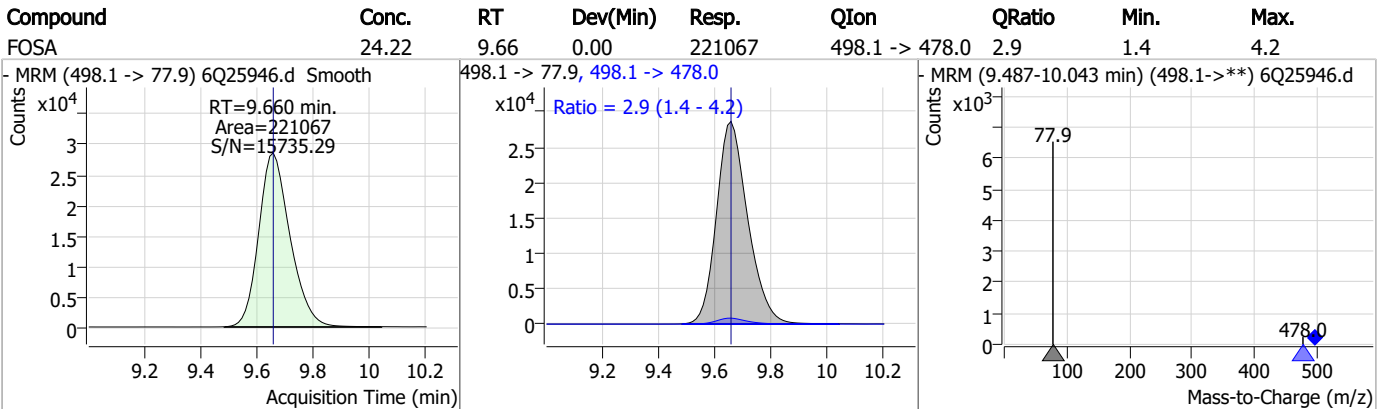
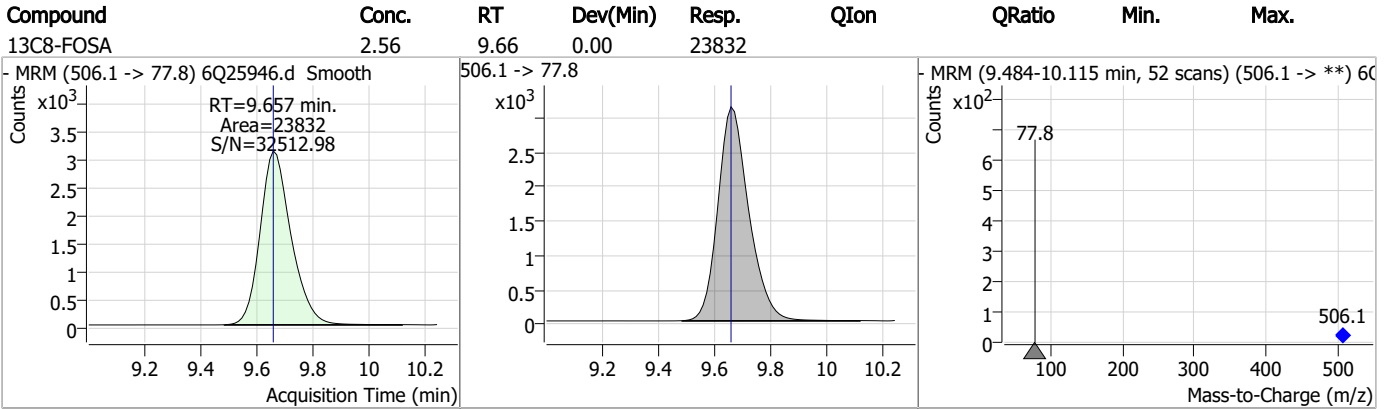
### Perfluorinated Compounds by LC/MS/MS



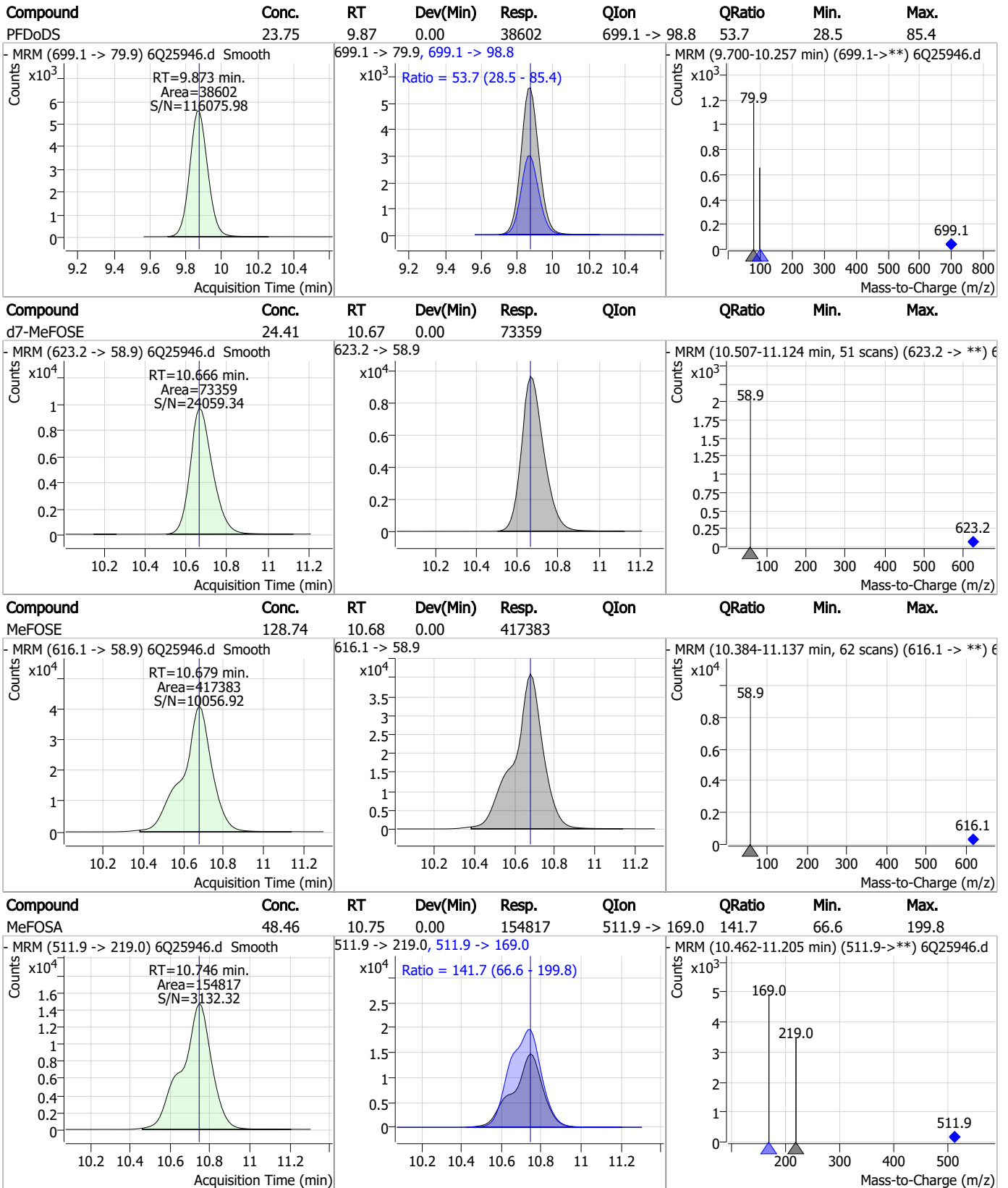
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### Perfluorinated Compounds by LC/MS/MS



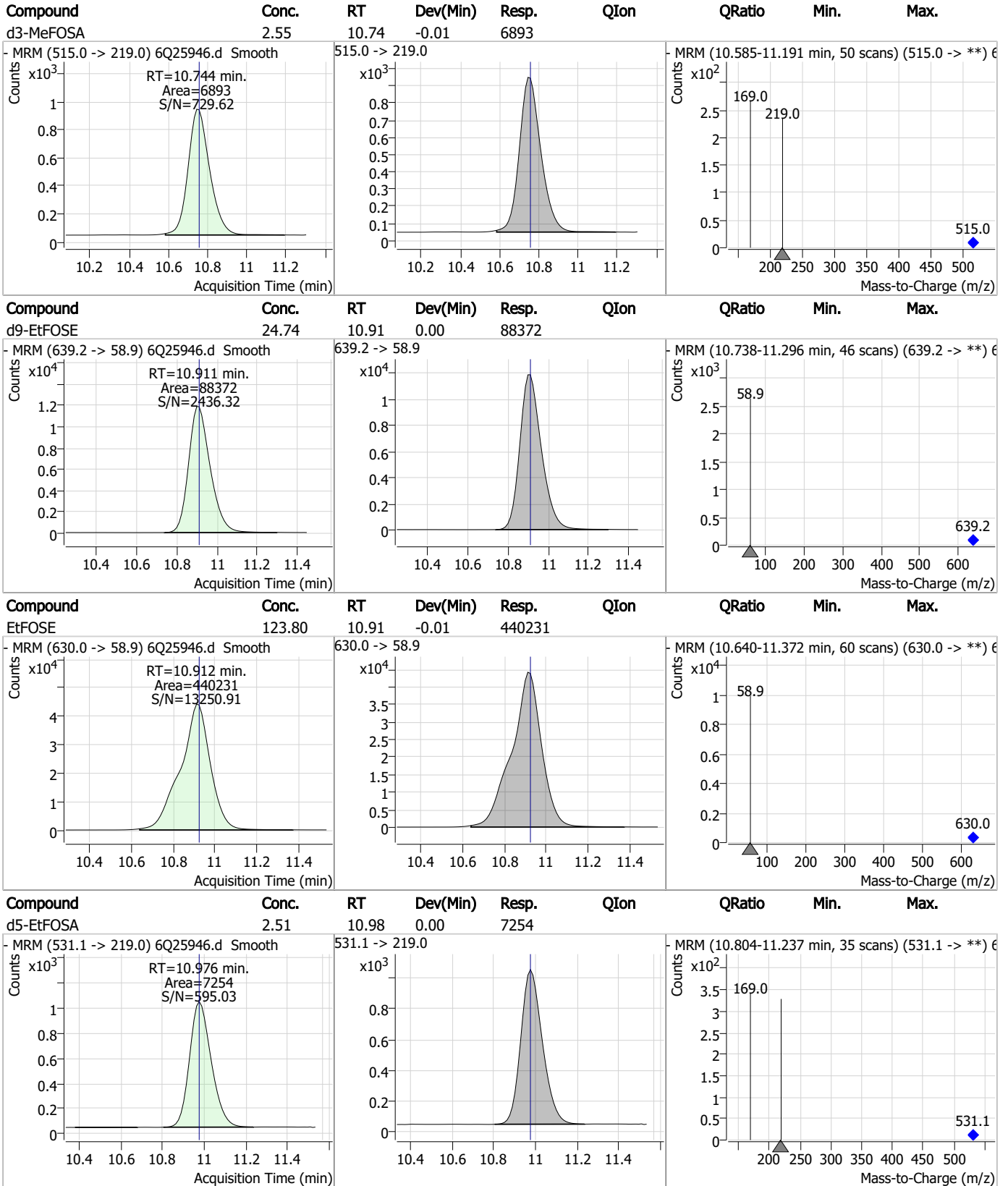
### Perfluorinated Compounds by LC/MS/MS



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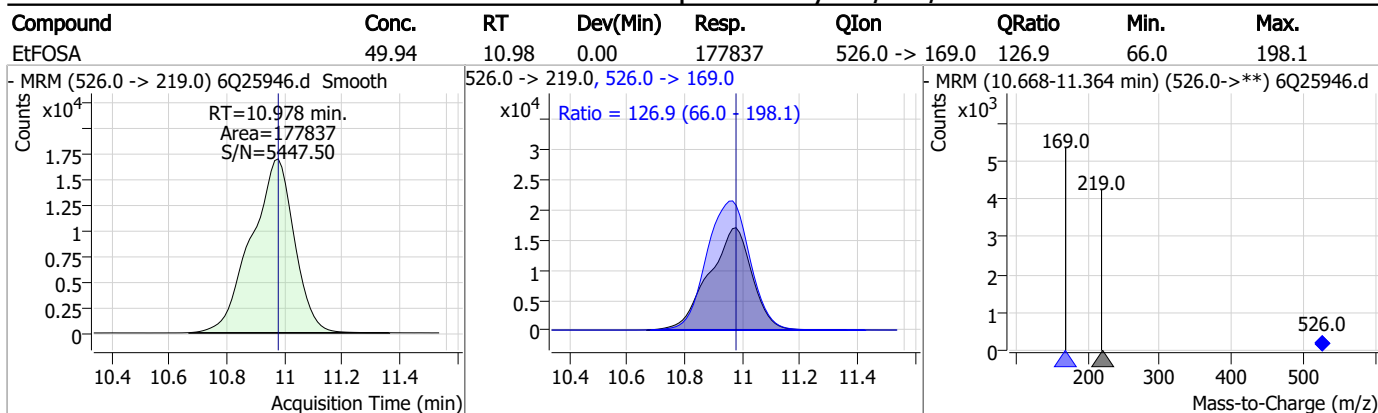
### Perfluorinated Compounds by LC/MS/MS



7.7.8

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### Perfluorinated Compounds by LC/MS/MS



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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

7.7.8.1

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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)
<b>Internal Standards</b>					
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
<b>System Monitoring Compounds</b>					
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%	
<b>Target Compounds</b>					<b>QValue</b>
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  
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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	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	93
		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	83
		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



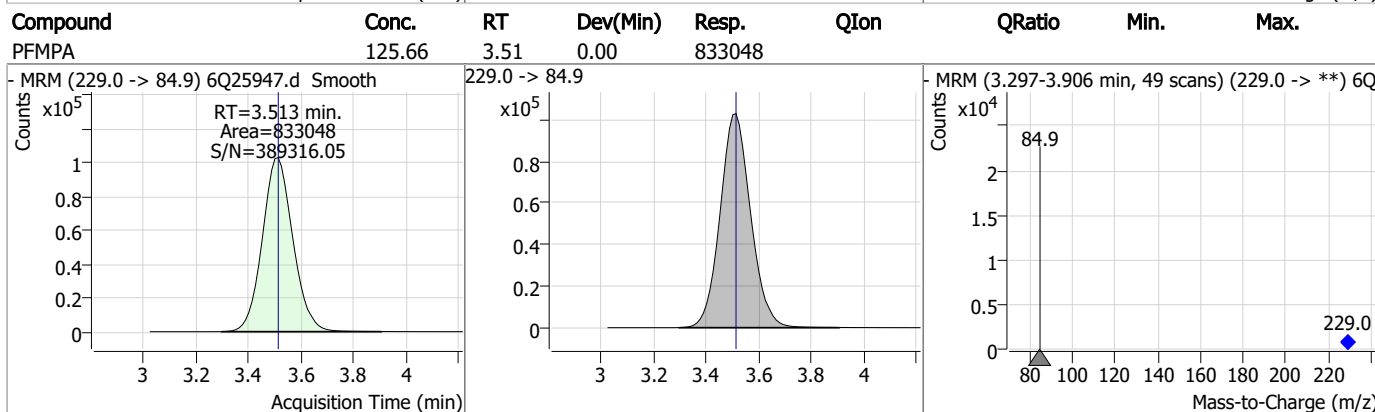
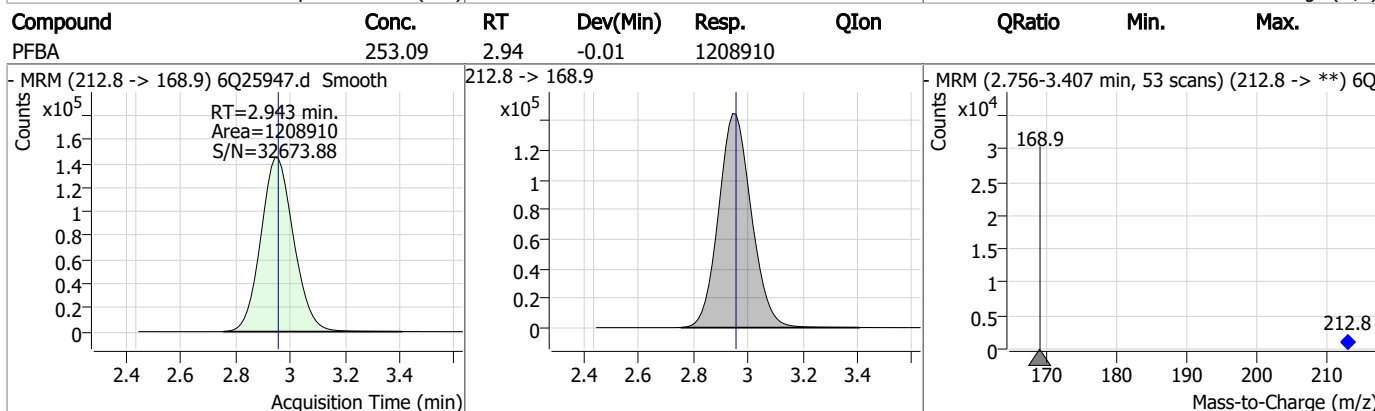
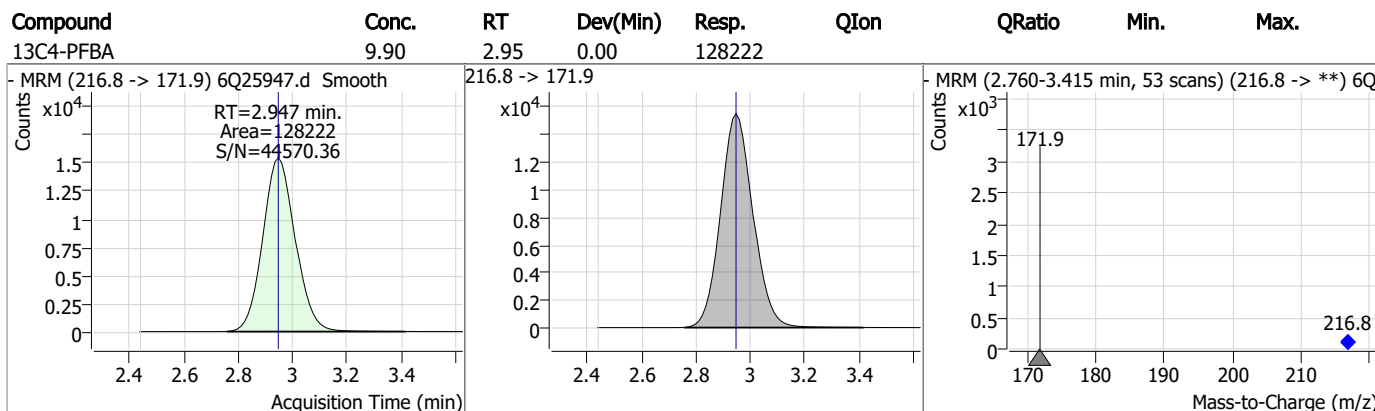
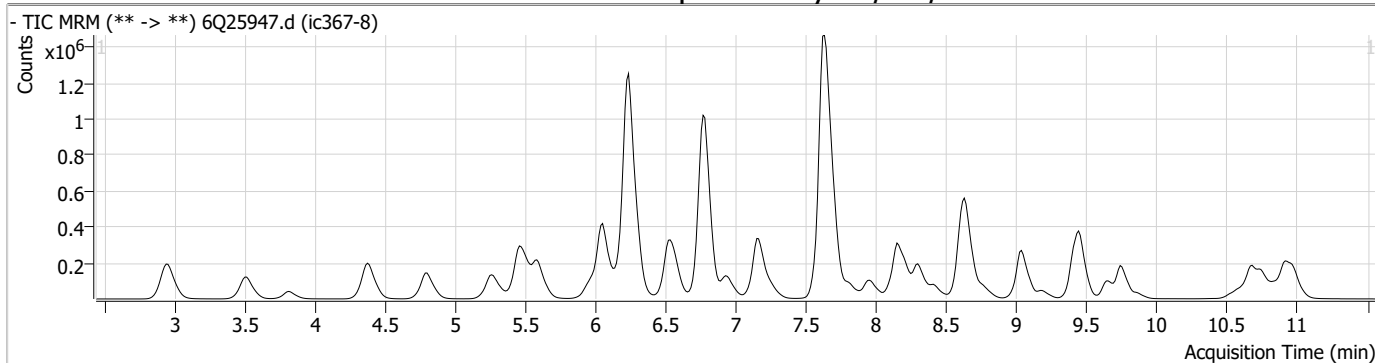
### Perfluorinated Compounds by LC/MS/MS

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

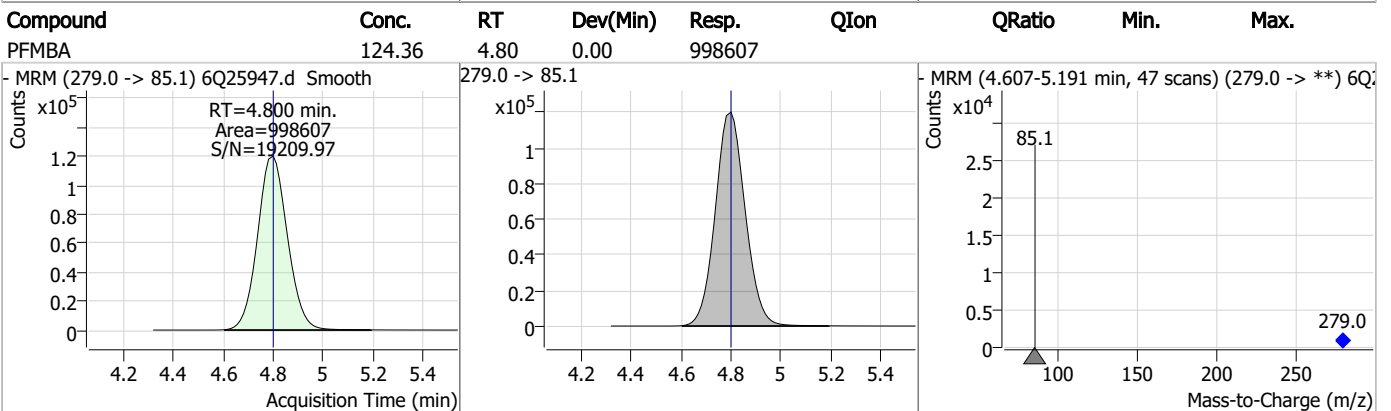
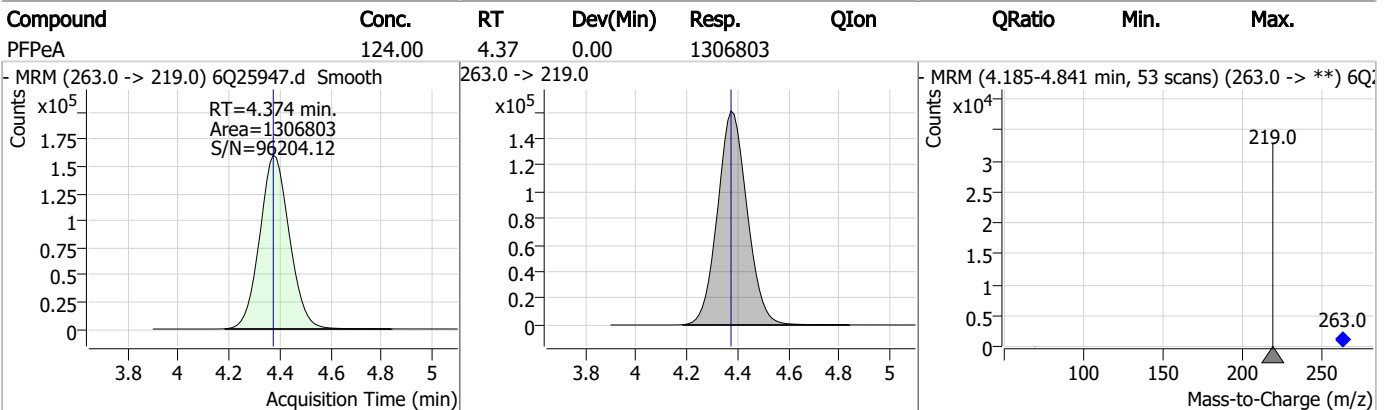
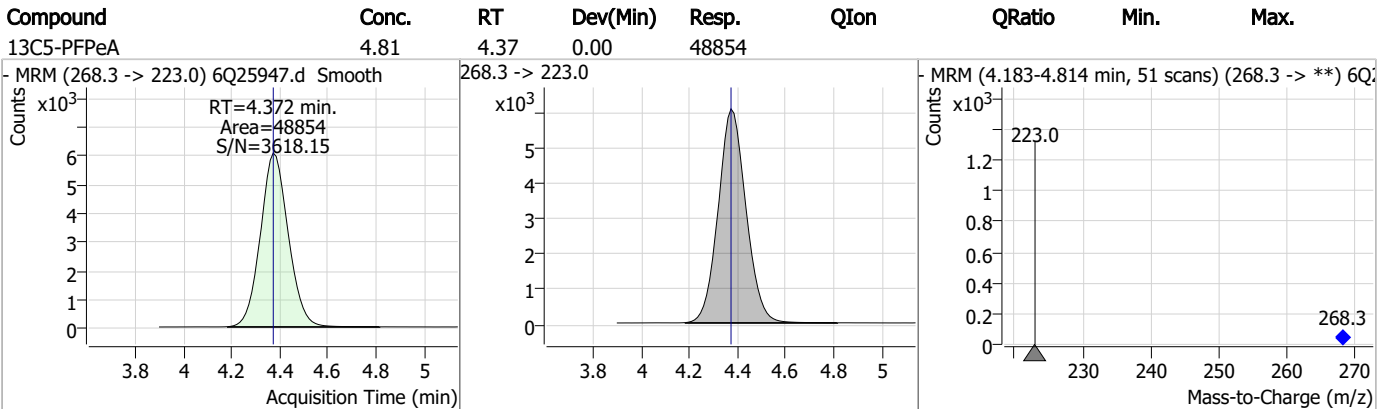
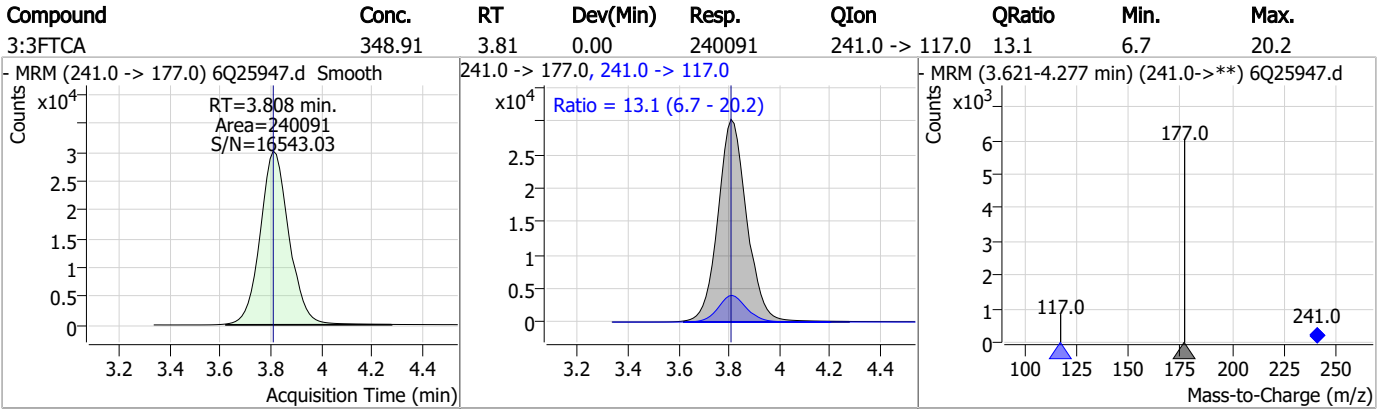
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### Perfluorinated Compounds by LC/MS/MS

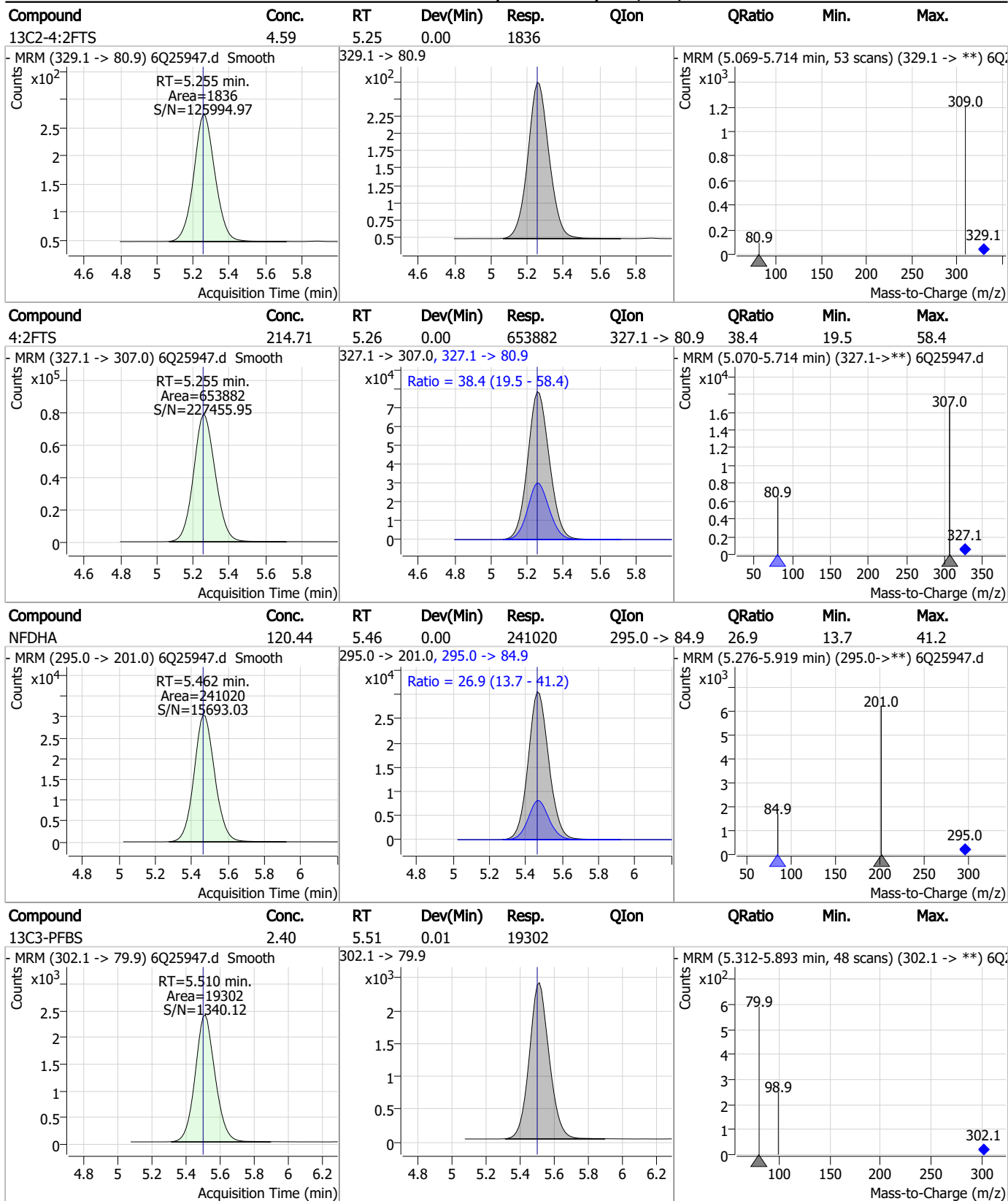


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### Perfluorinated Compounds by LC/MS/MS

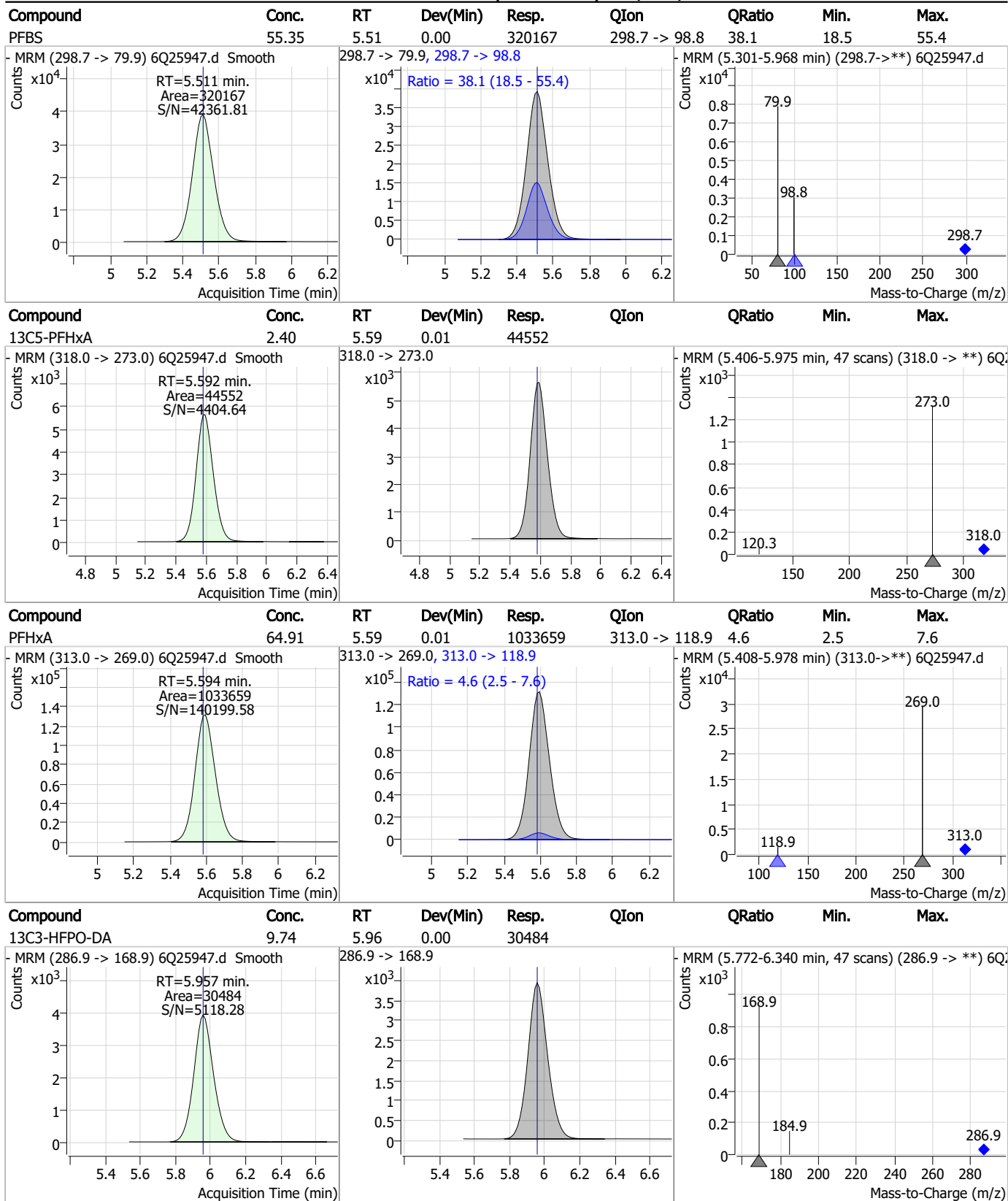


### Perfluorinated Compounds by LC/MS/MS



7.7.9  
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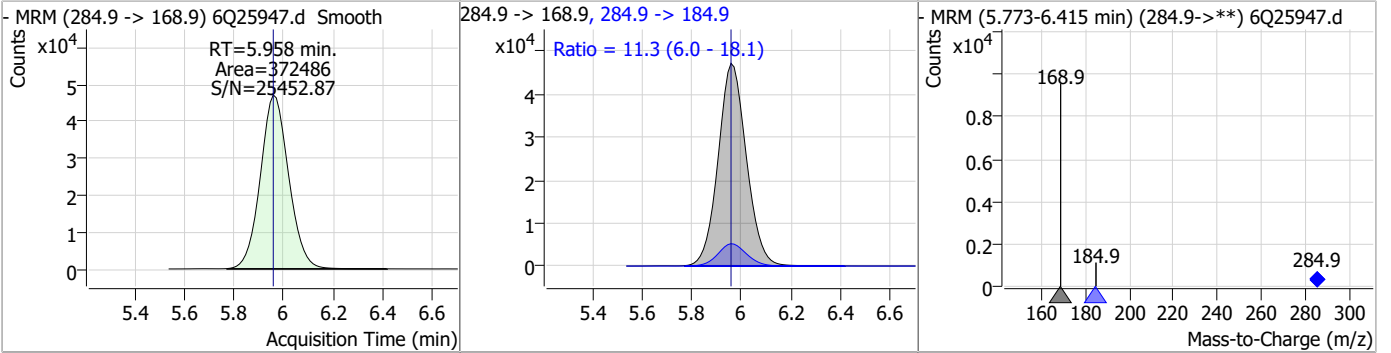
### Perfluorinated Compounds by LC/MS/MS



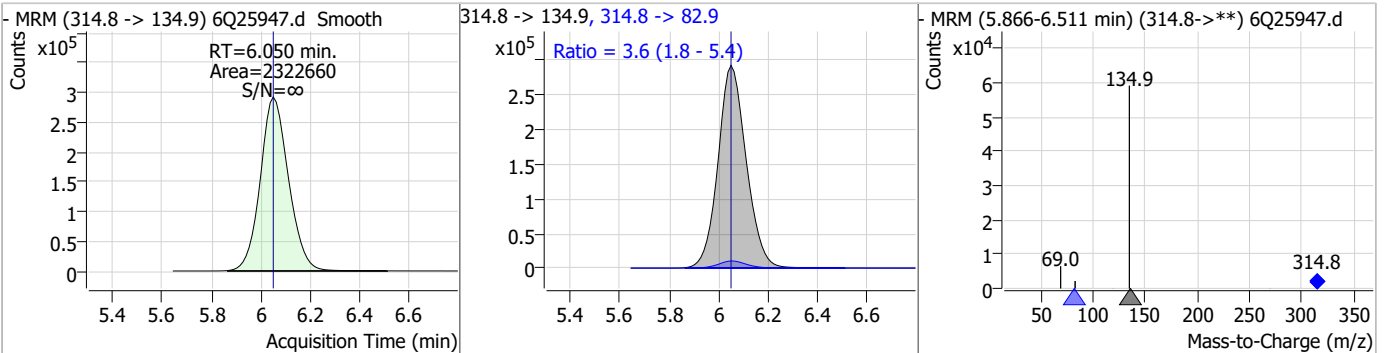
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### Perfluorinated Compounds by LC/MS/MS

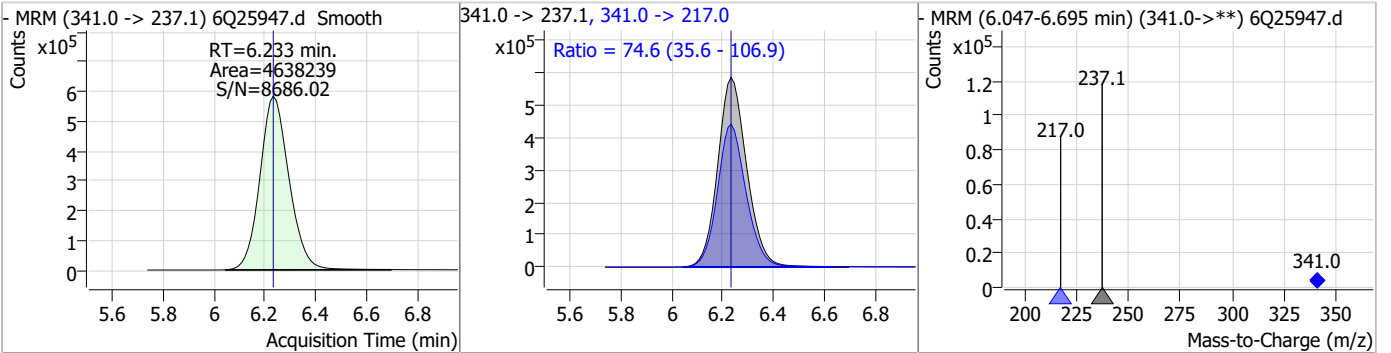
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
HFPO-DA	123.30	5.96	0.00	372486	284.9 -> 184.9	11.3	6.0	18.1



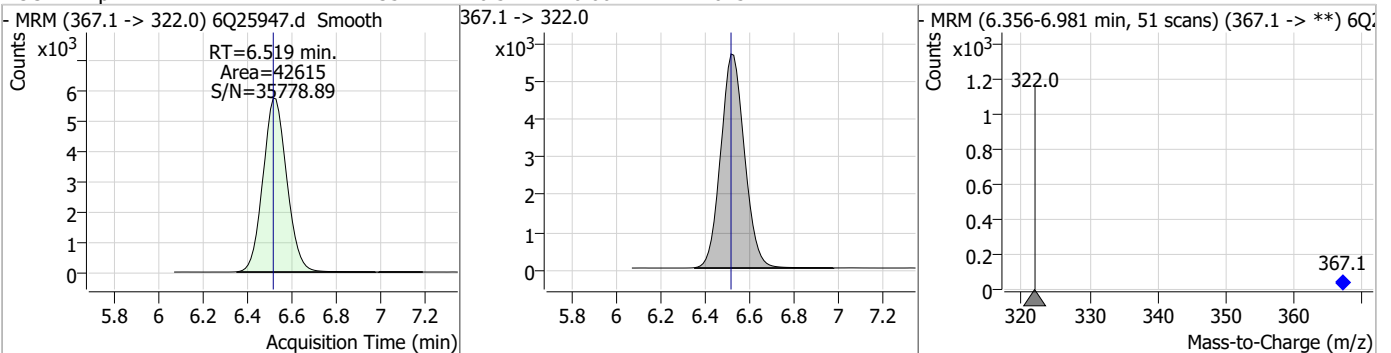
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFEESA	113.36	6.05	0.00	2322660	314.8 -> 82.9	3.6	1.8	5.4



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

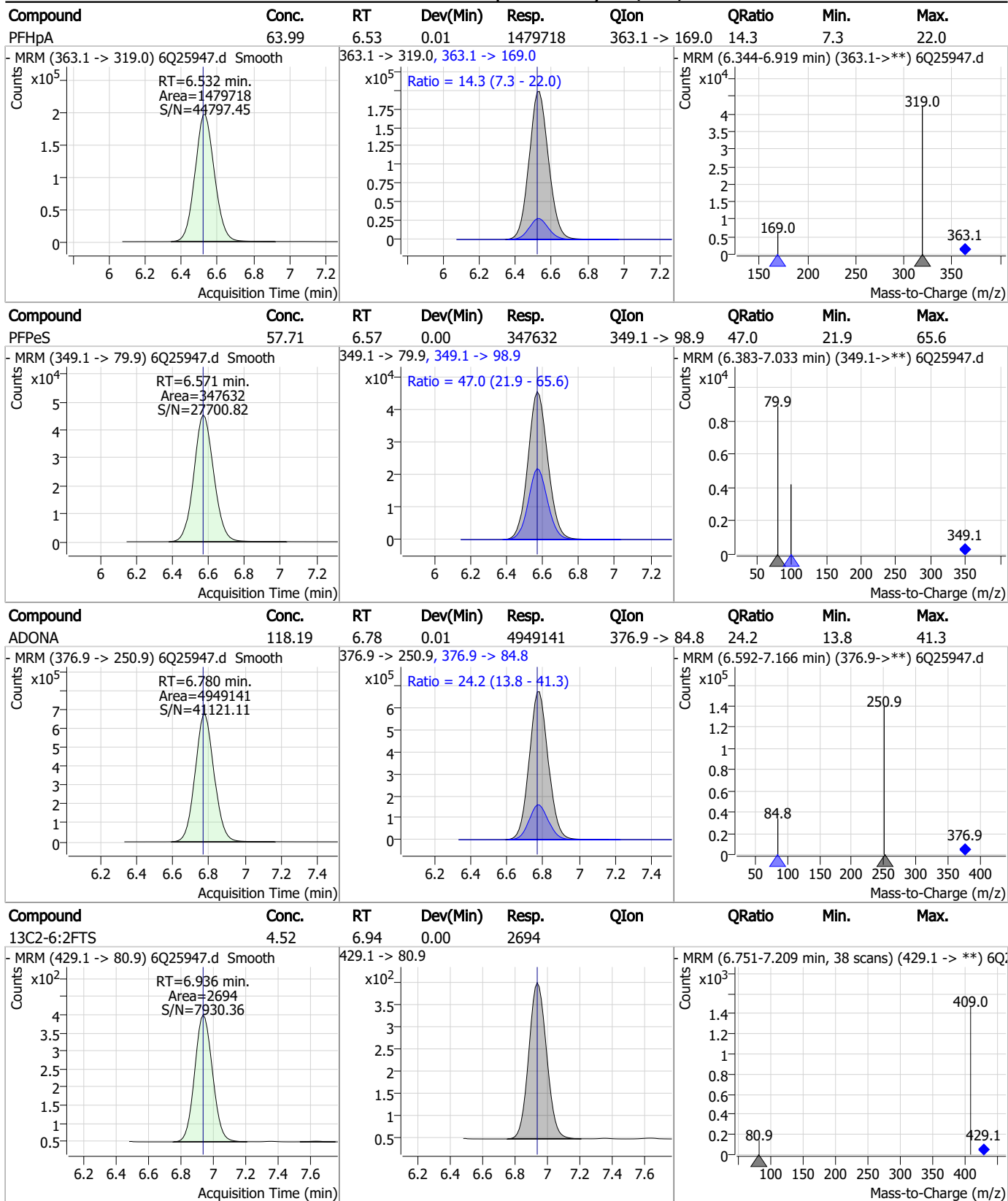


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFHpA	2.35	6.52	0.00	42615	367.1 -> 322.0	-	-	-



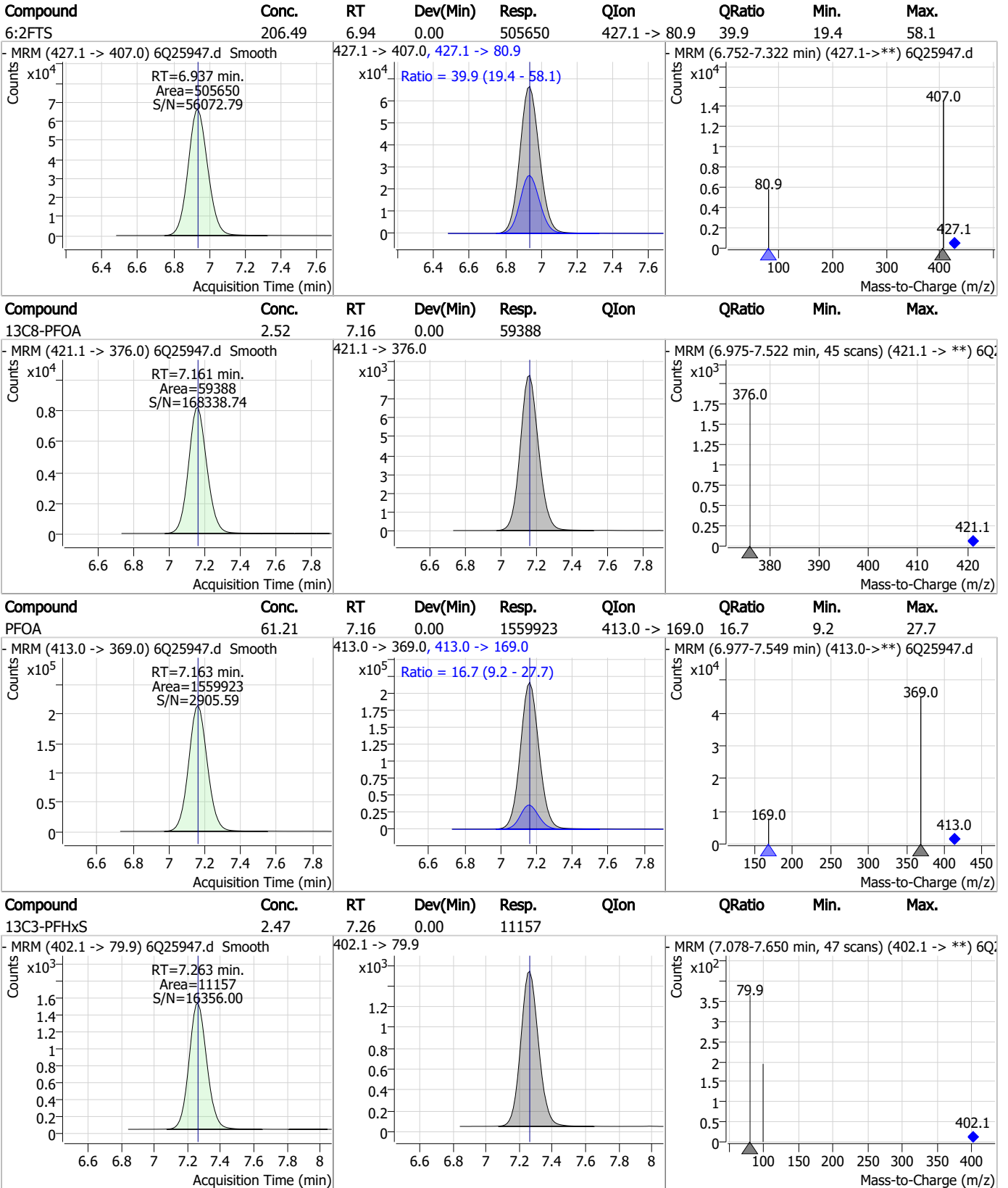


### Perfluorinated Compounds by LC/MS/MS



7.7.9  
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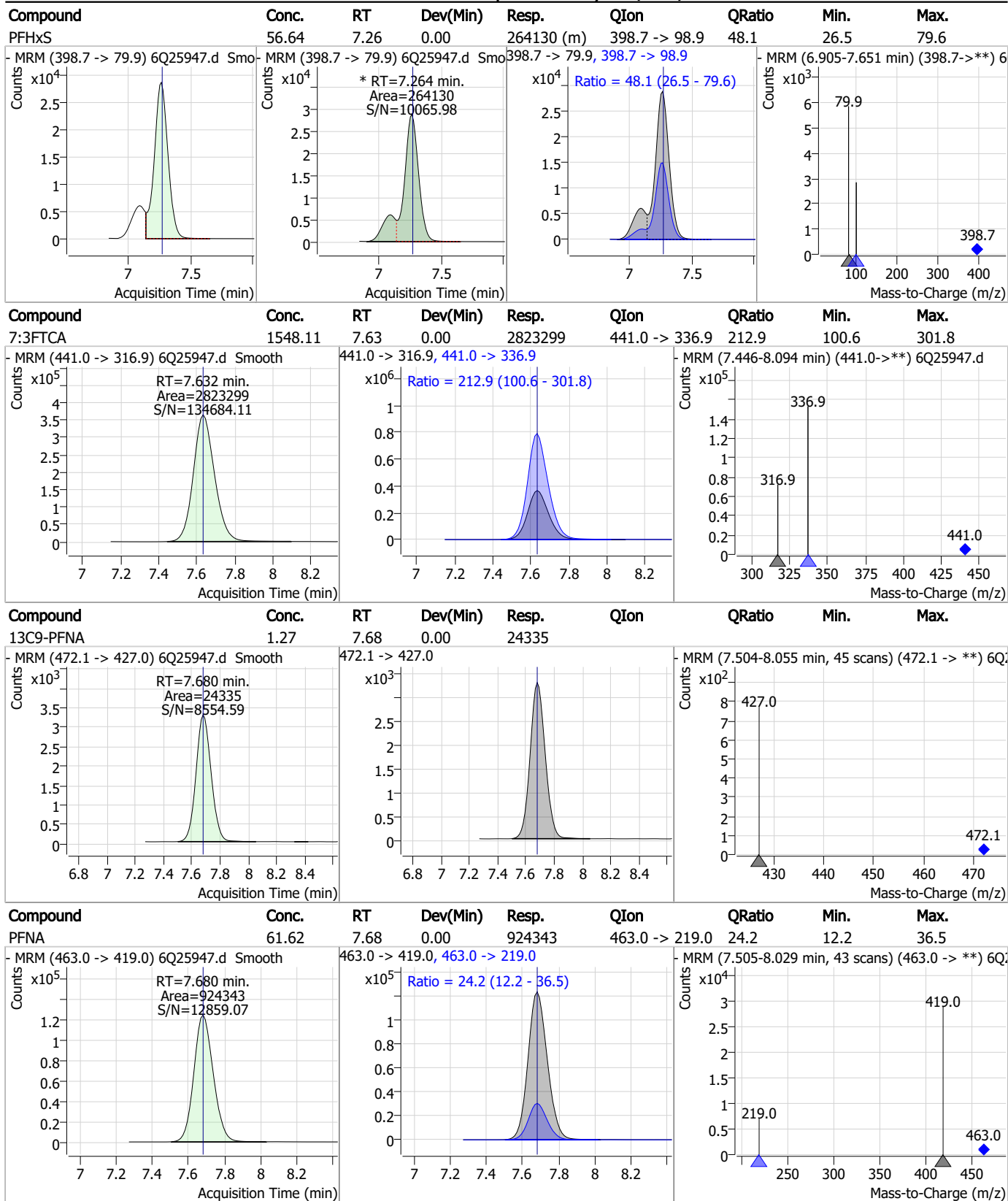
### Perfluorinated Compounds by LC/MS/MS



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### Perfluorinated Compounds by LC/MS/MS



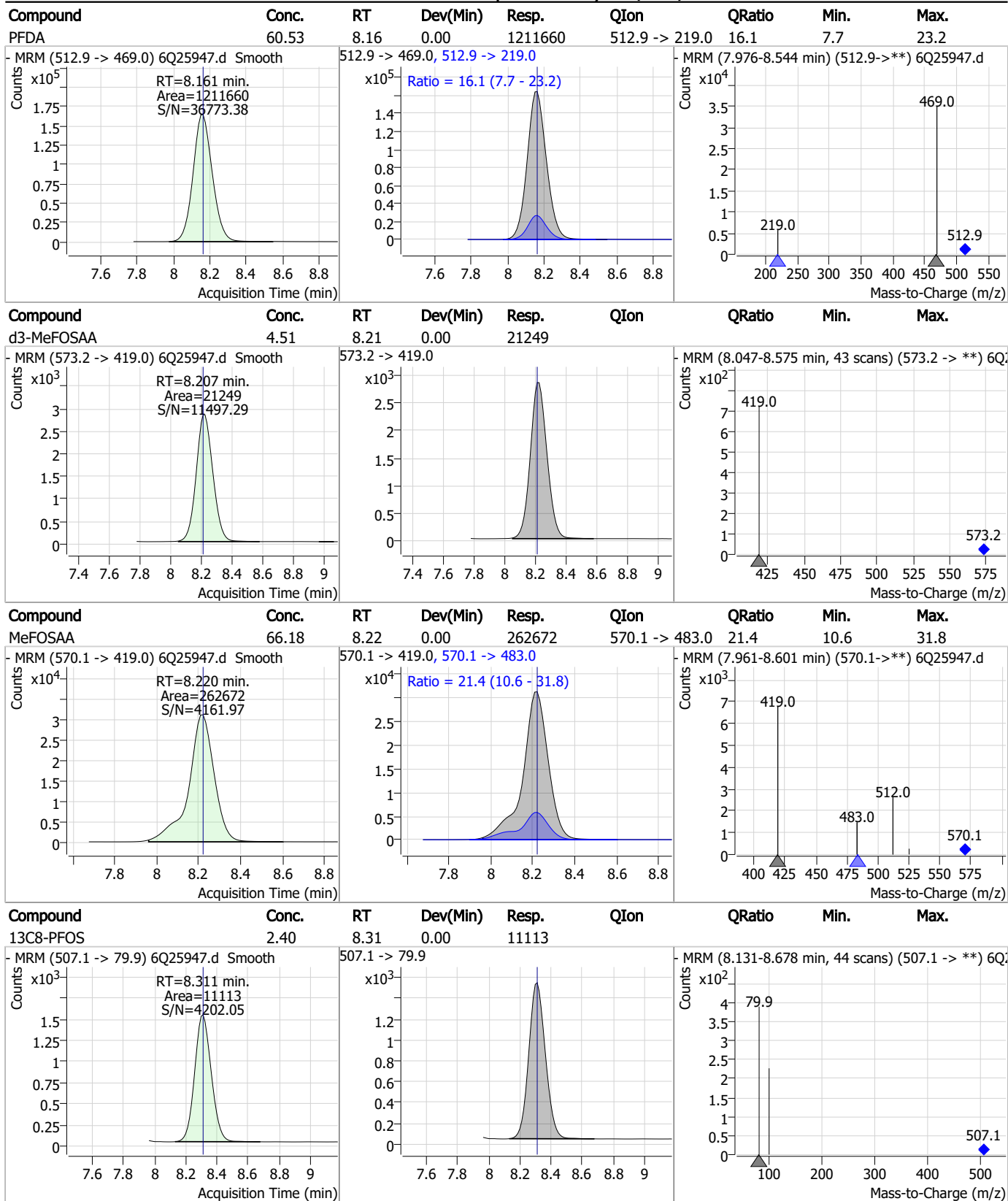
7.7.9  
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### Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpS	59.98	7.82	0.00	275203	449.0 -> 98.9	48.1	24.5	73.4
13C2-8:2FTS	4.92	7.95	0.00	3017	529.1 -> 80.9	36.5	17.6	52.9
8:2FTS	202.95	7.95	0.00	426591	527.1 -> 80.8	36.5	17.6	52.9
13C6-PFDA	1.24	8.16	0.00	25619	519.1 -> 474.1	36.5	17.6	52.9

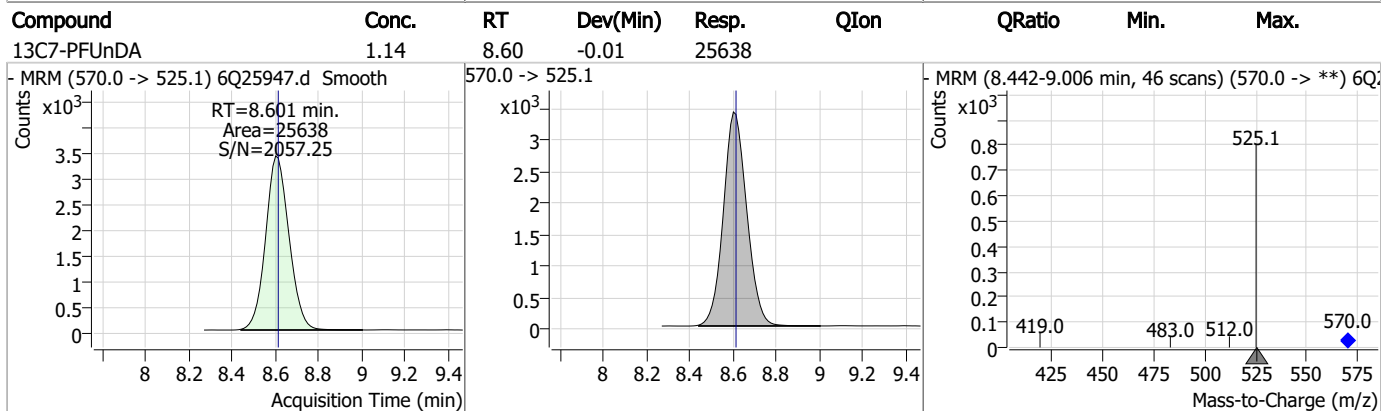
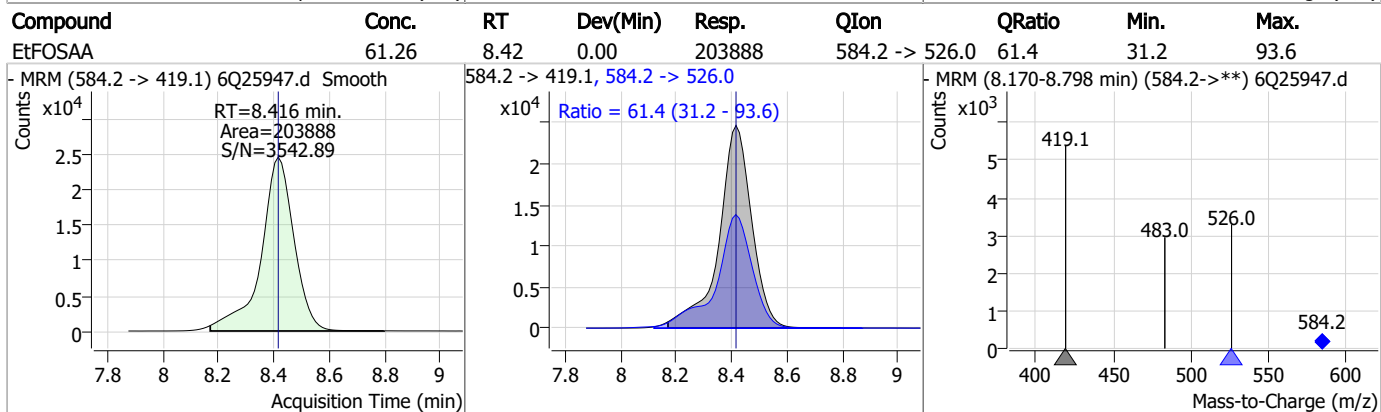
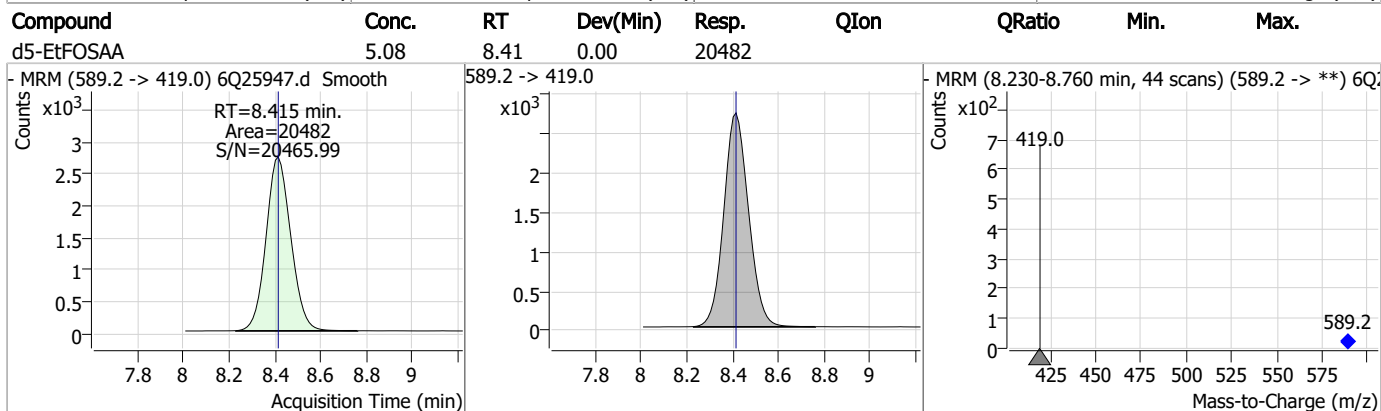
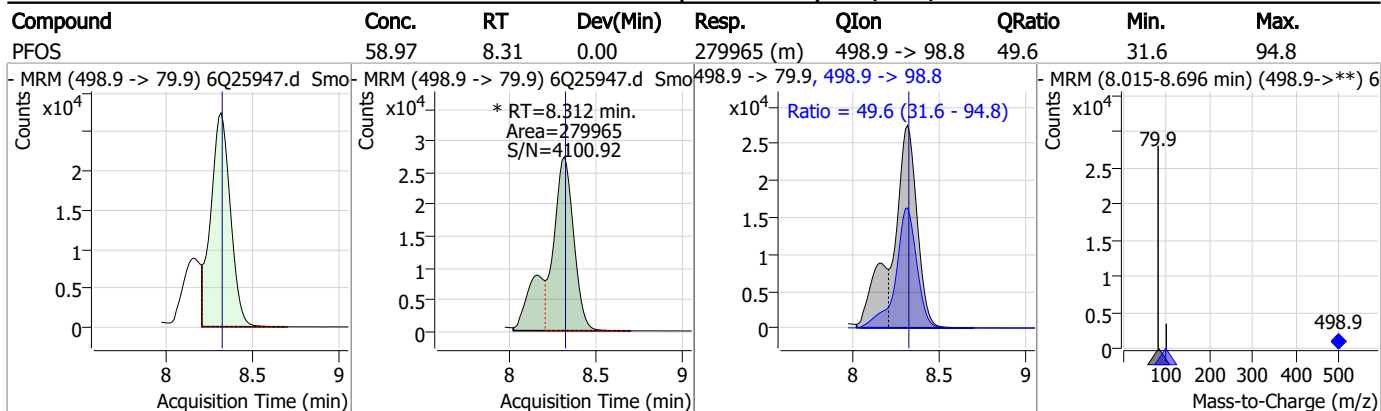
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### Perfluorinated Compounds by LC/MS/MS



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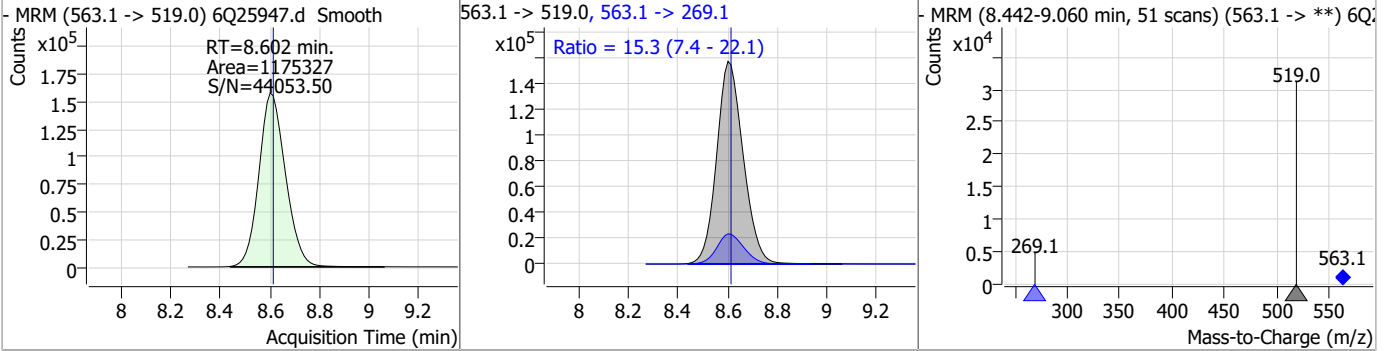
### Perfluorinated Compounds by LC/MS/MS



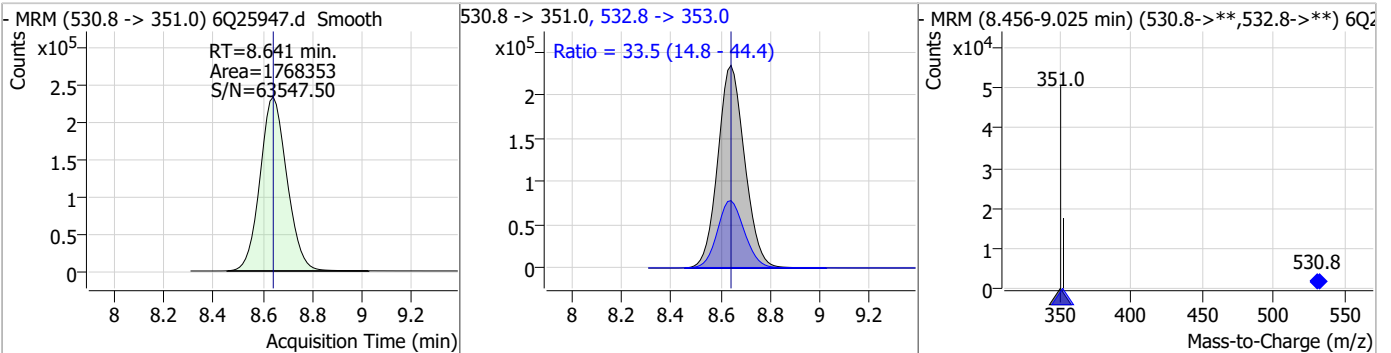
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### Perfluorinated Compounds by LC/MS/MS

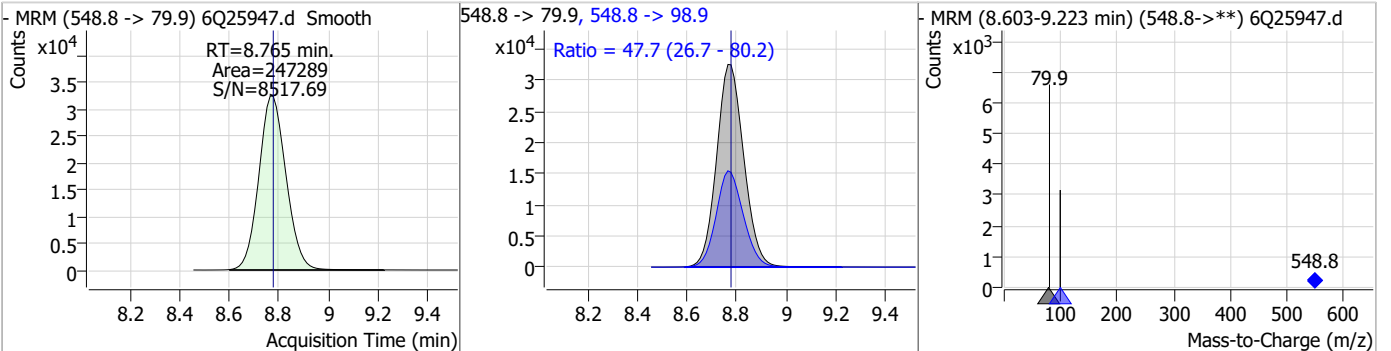
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFUnDA	65.06	8.60	-0.01	1175327	563.1 -> 269.1	15.3	7.4	22.1



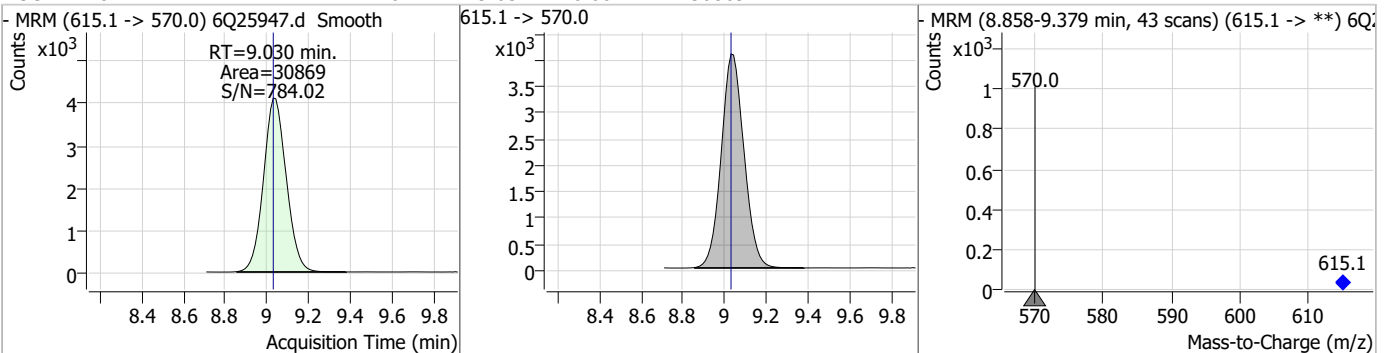
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
9CI-PF3ONS	110.19	8.64	0.00	1768353	532.8 -> 353.0	33.5	14.8	44.4



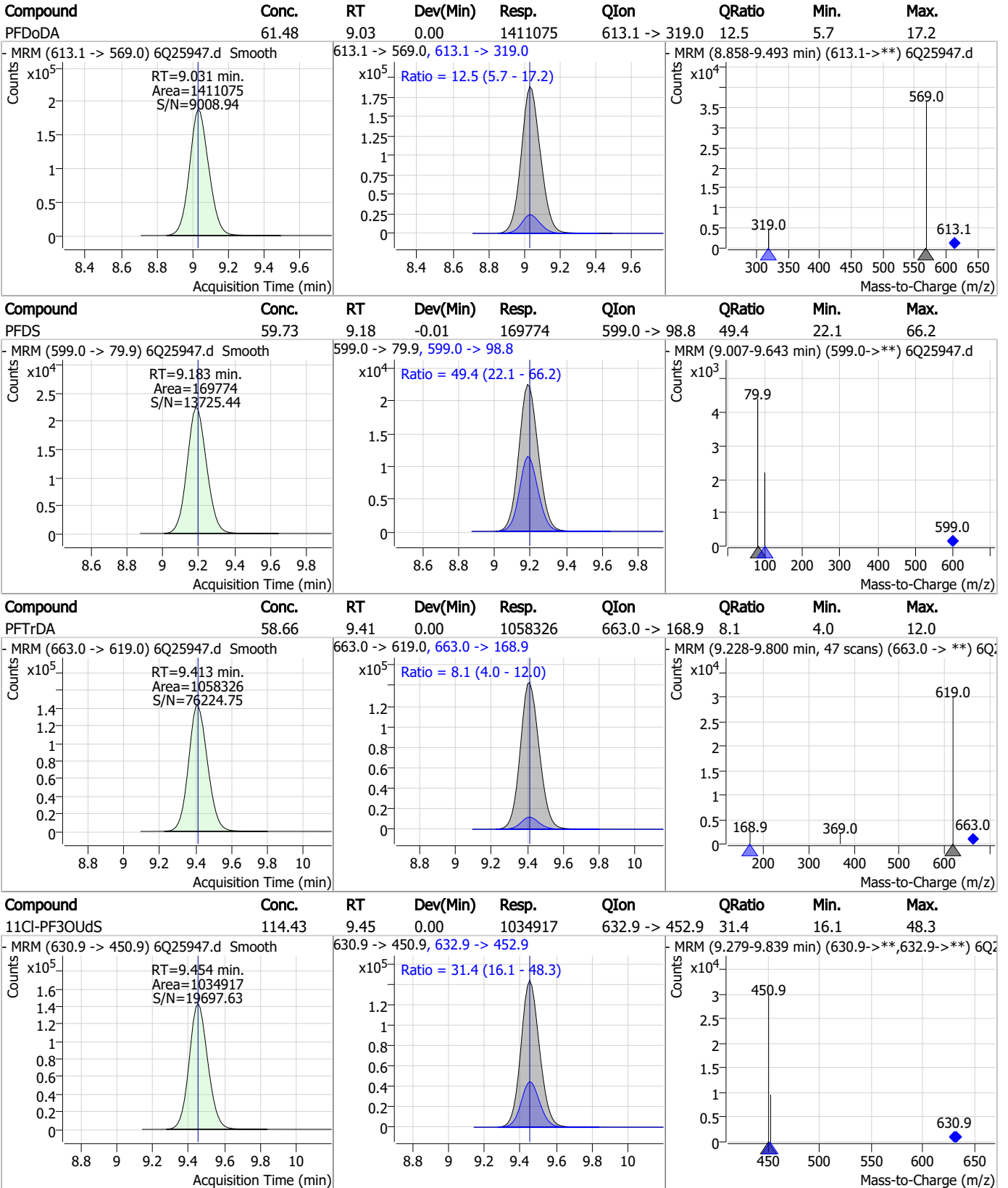
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNS	61.02	8.76	-0.01	247289	548.8 -> 98.9	47.7	26.7	80.2



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFDoDA	1.26	9.03	0.00	30869	615.1 -> 570.0			



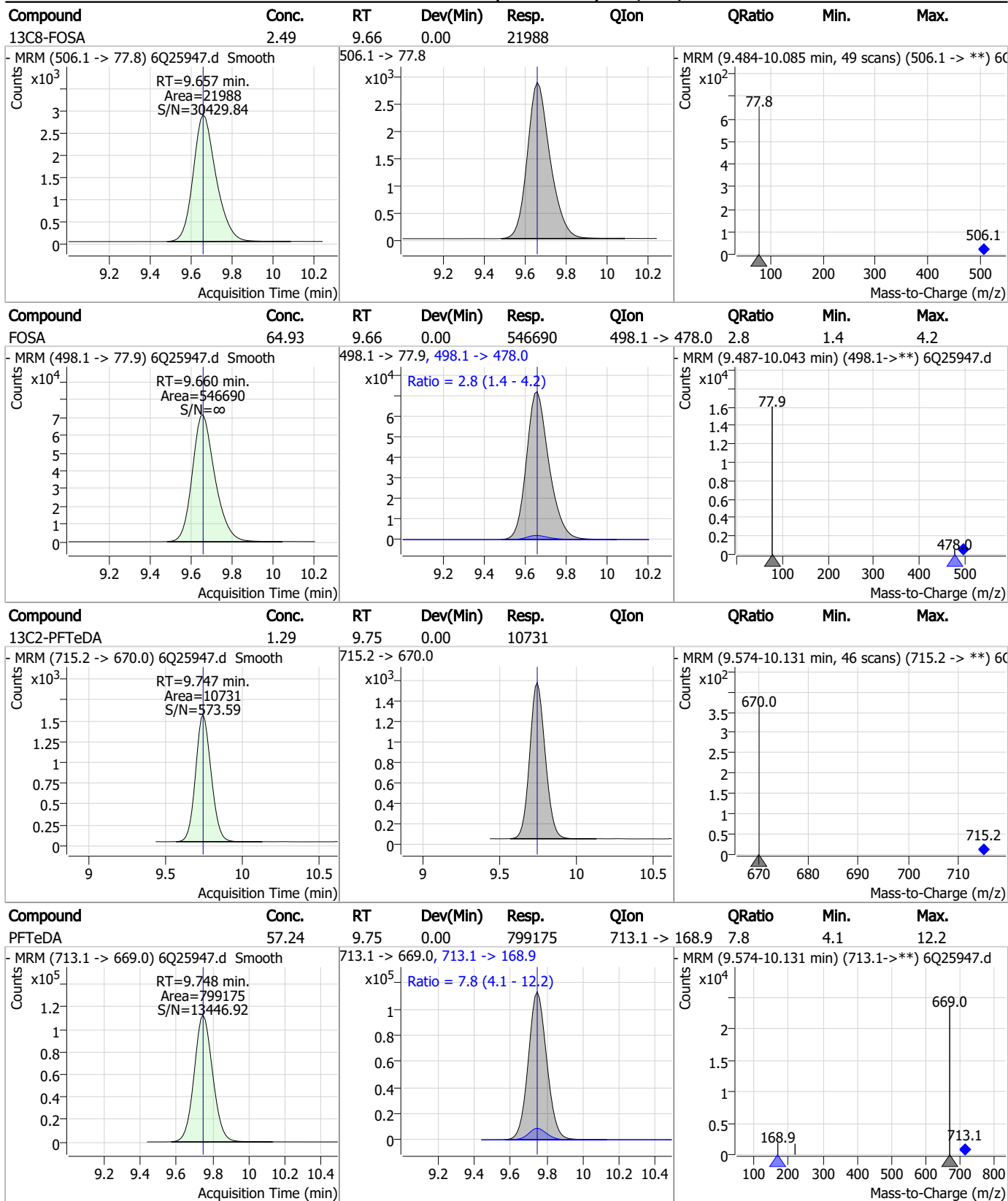
### Perfluorinated Compounds by LC/MS/MS



7.7.9 7



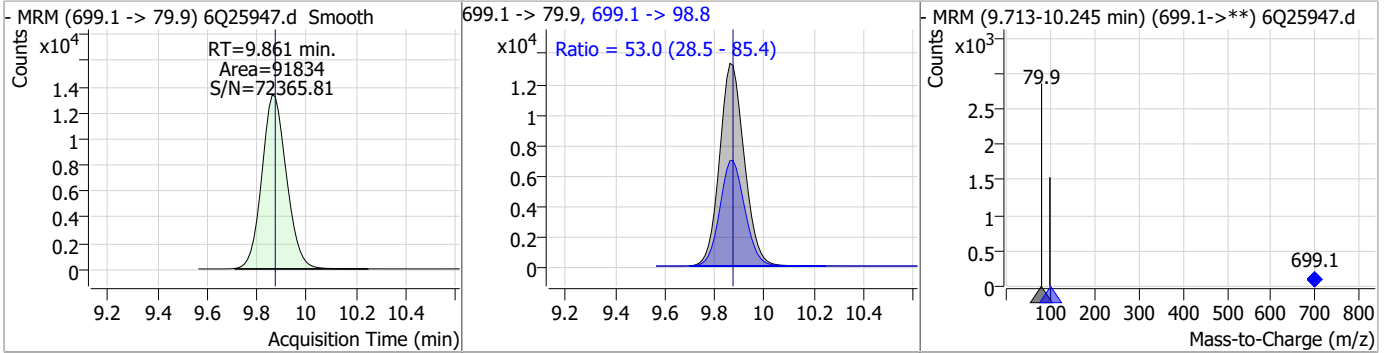
### Perfluorinated Compounds by LC/MS/MS



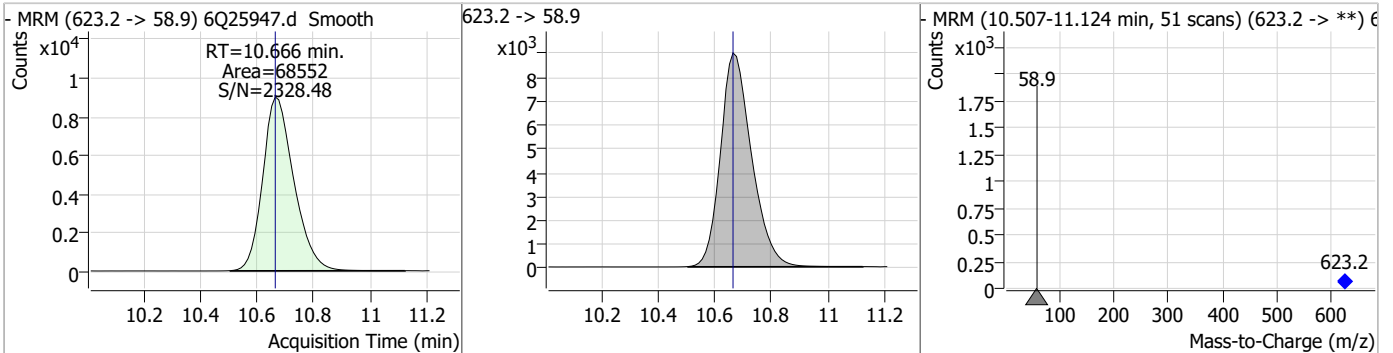
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### Perfluorinated Compounds by LC/MS/MS

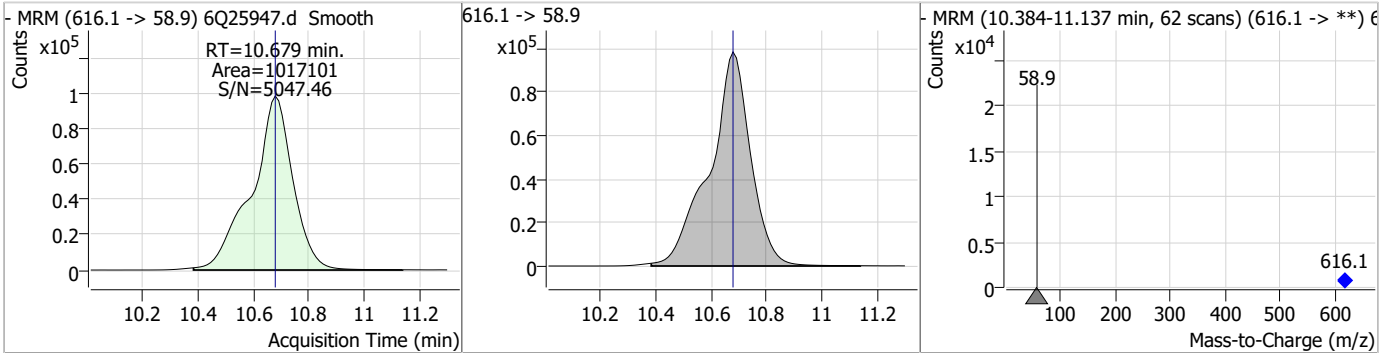
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFD <sub>o</sub> DS	62.21	9.86	-0.01	91834	699.1 -> 98.8	53.0	28.5	85.4



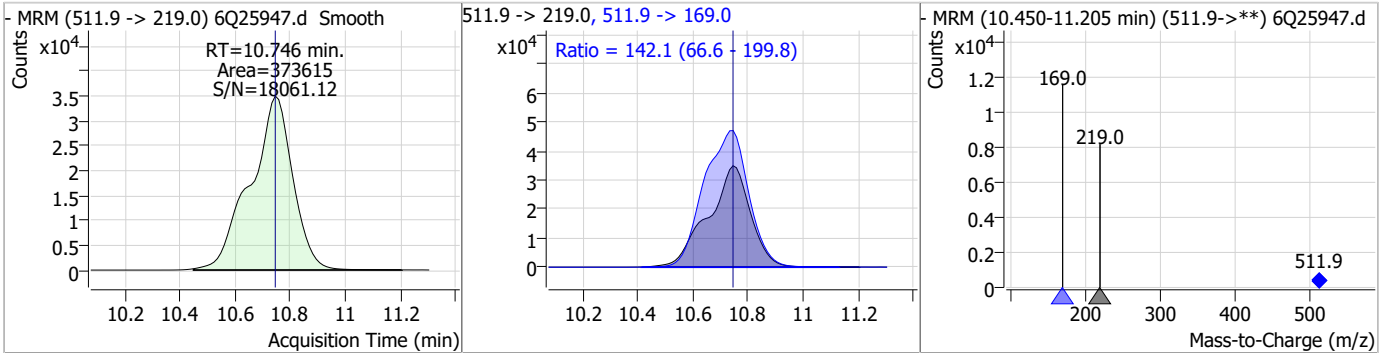
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d7-MeFOSE	24.04	10.67	0.00	68552				



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



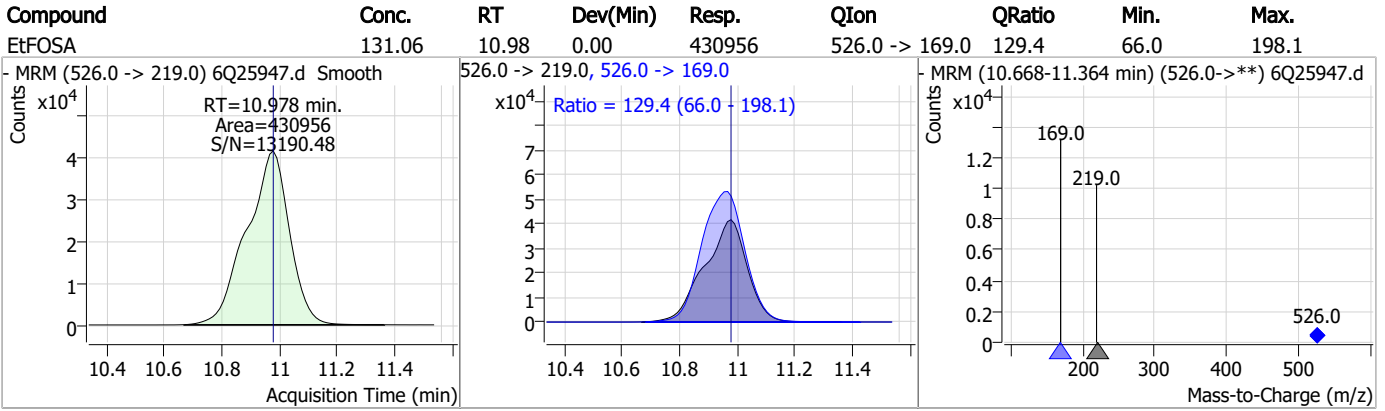
### Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSA	2.86	10.76	0.00	7320				
d9-EtFOSE	24.87	10.90	-0.01	84301				
EtFOSE	308.35	10.92	0.00	1045981				
d5-EtFOSA	2.45	10.98	0.00	6699				

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)
<b>Internal Standards</b>					
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
<b>System Monitoring Compounds</b>					
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

7.7.10  
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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%	
<b>Target Compounds</b>					<b>QValue</b>
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					

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

7.7.10  
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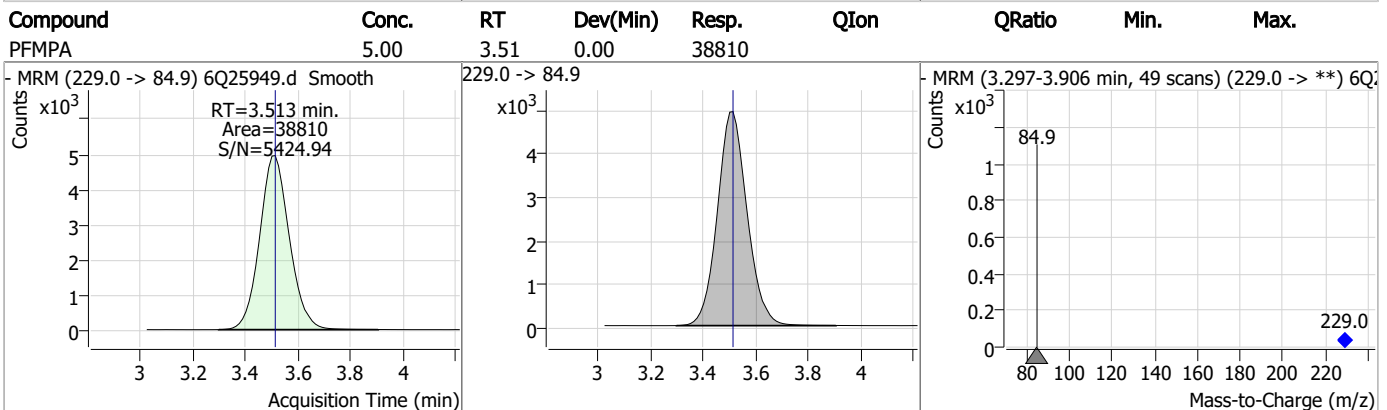
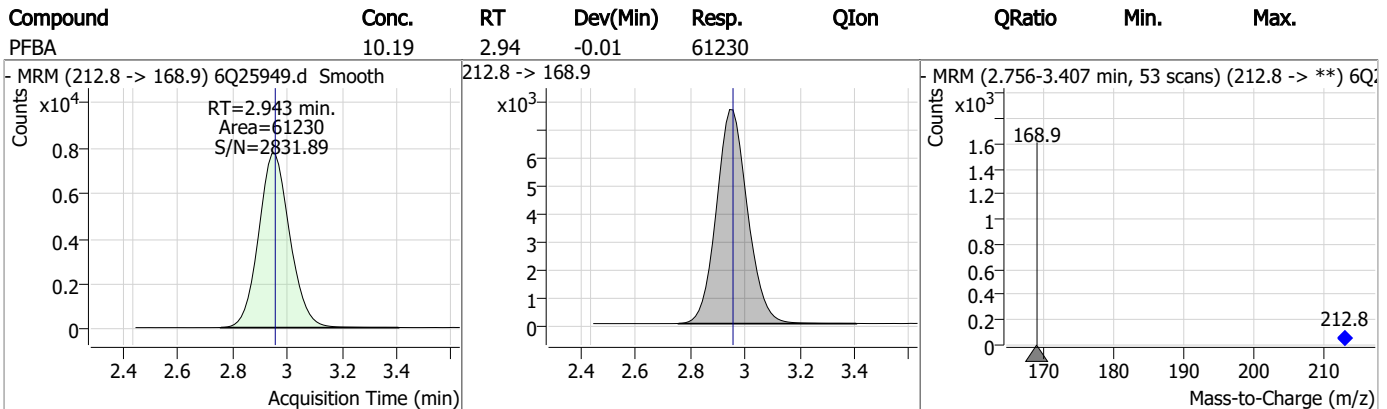
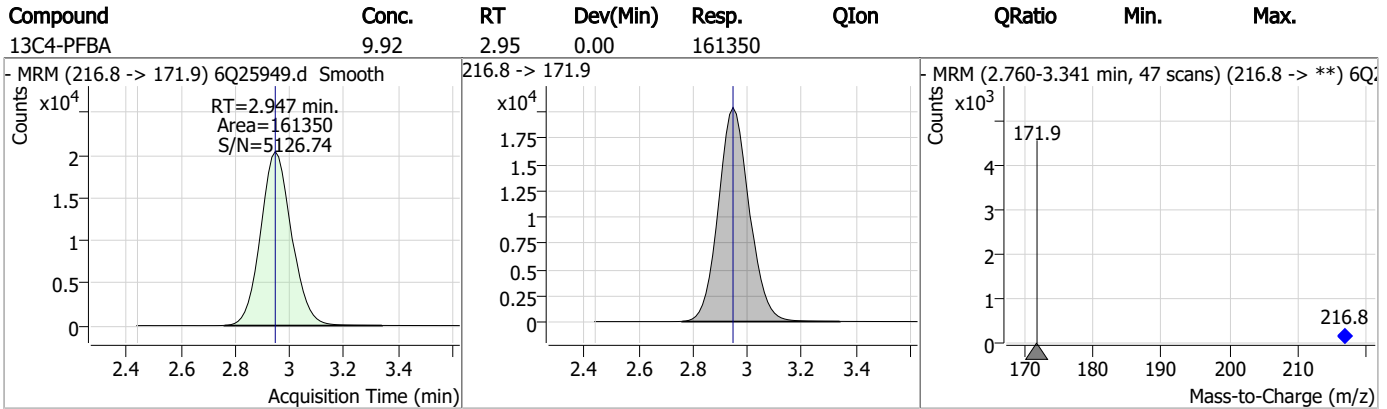
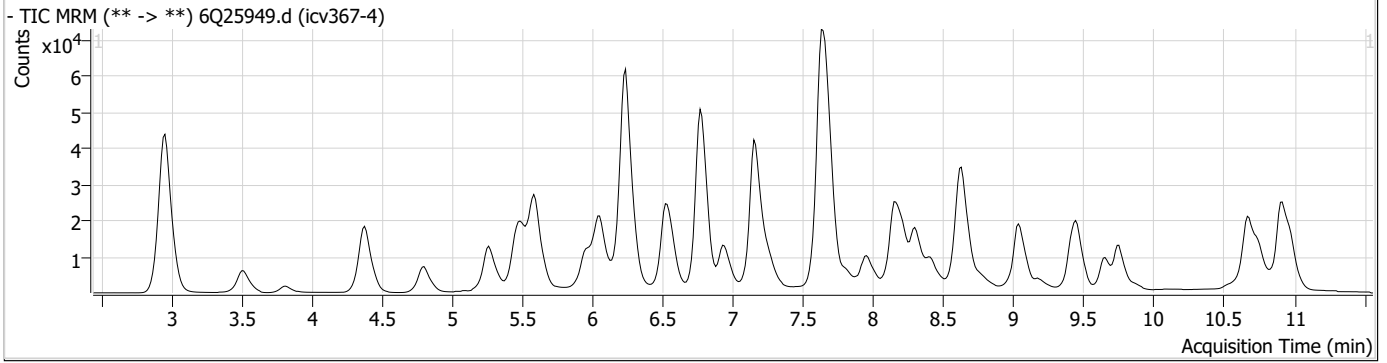
### Perfluorinated Compounds by LC/MS/MS

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

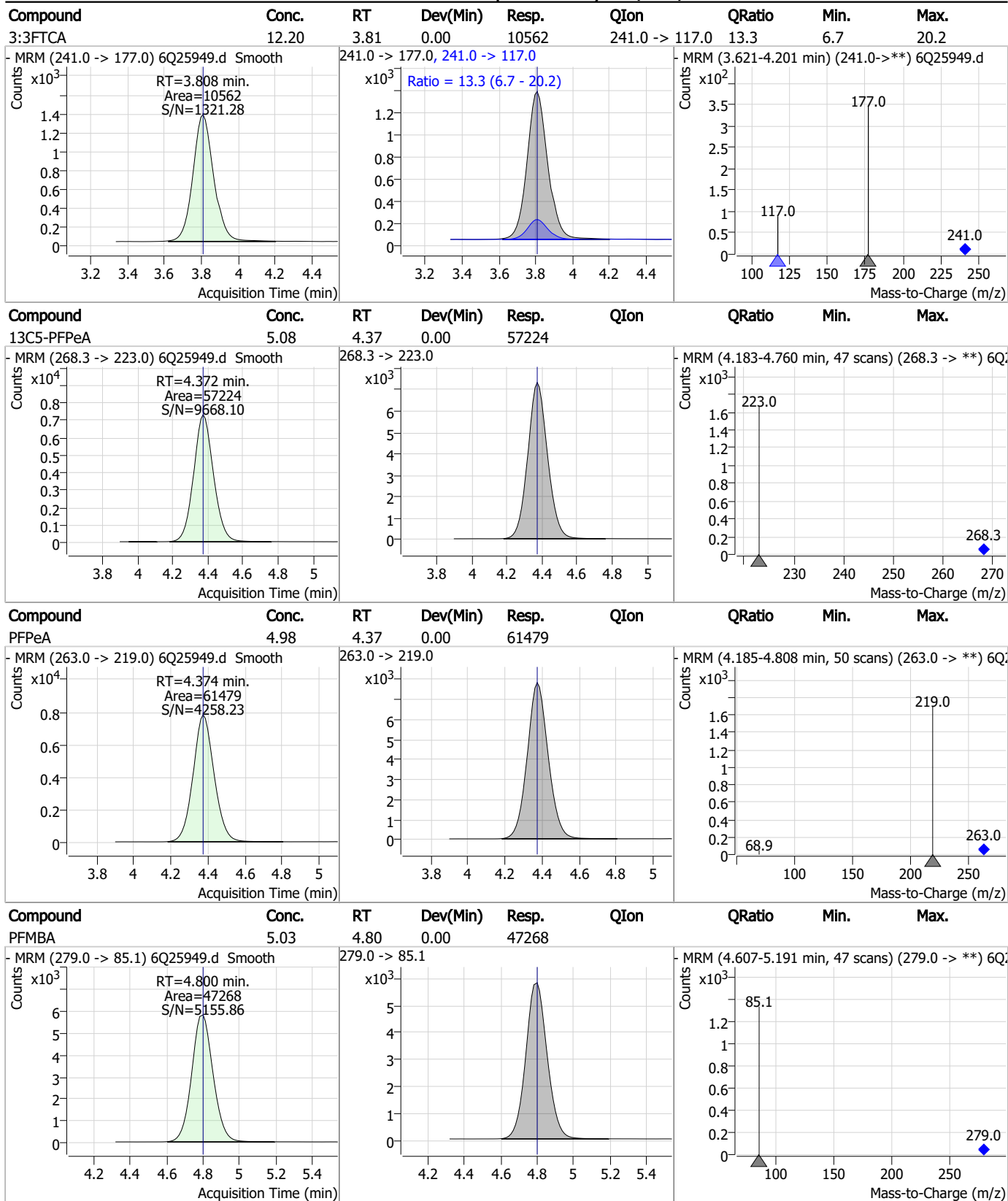
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### Perfluorinated Compounds by LC/MS/MS



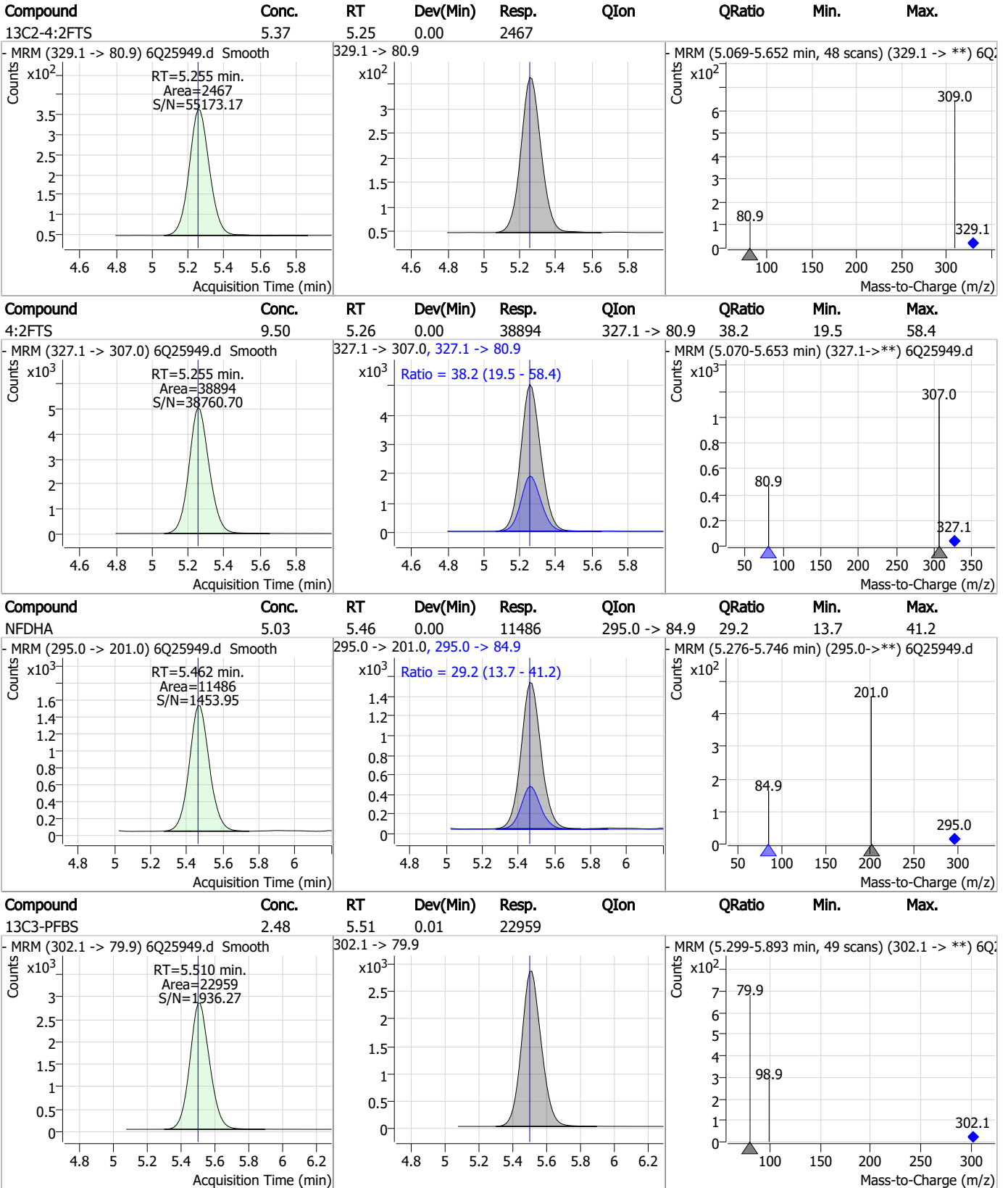
7.7.10  
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### Perfluorinated Compounds by LC/MS/MS



7.7.10 7

### Perfluorinated Compounds by LC/MS/MS



7.7.10 7



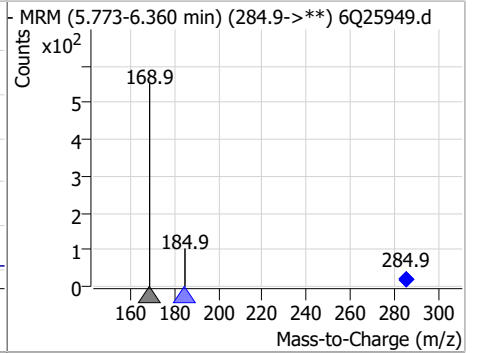
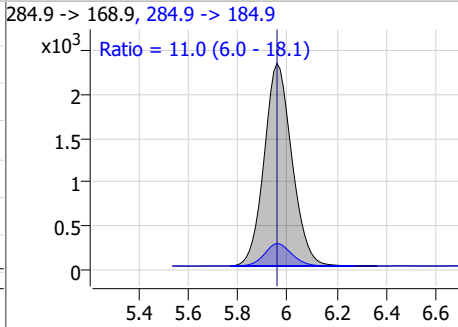
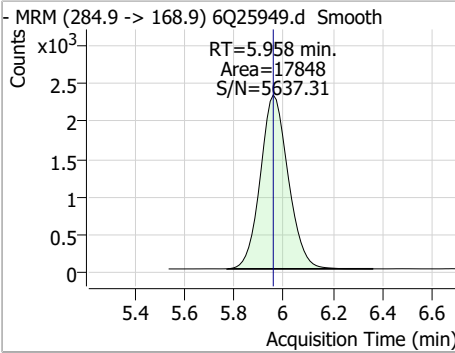
### Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBS	2.30	5.50	-0.01	15796	298.7 -> 98.8	39.2	18.5	55.4
13C5-PFHxA	2.47	5.59	0.01	50802	318.0 -> 273.0			
PFHxA	2.60	5.58	0.00	47179	313.0 -> 118.9	4.8	2.5	7.6
13C3-HFPO-DA	10.33	5.96	0.00	35865	286.9 -> 168.9			

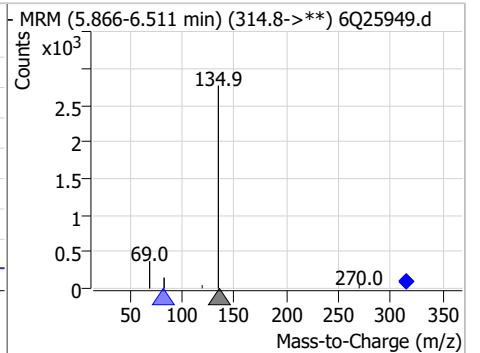
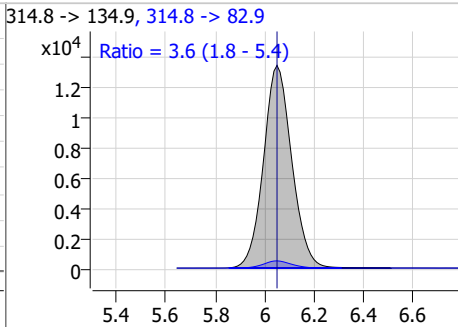
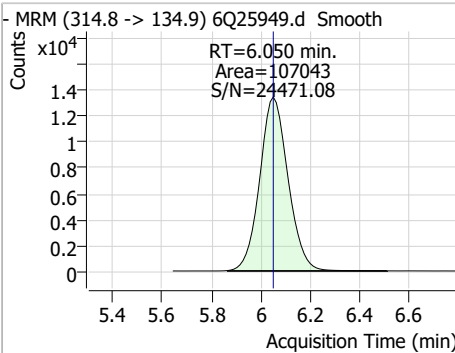
7.7.10 7

### Perfluorinated Compounds by LC/MS/MS

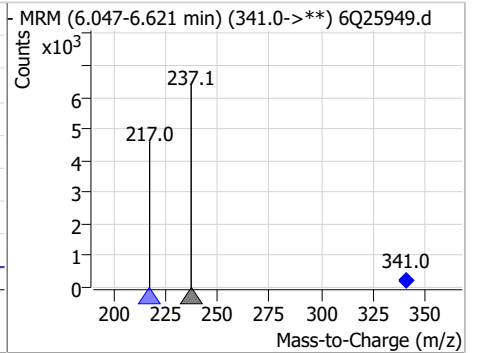
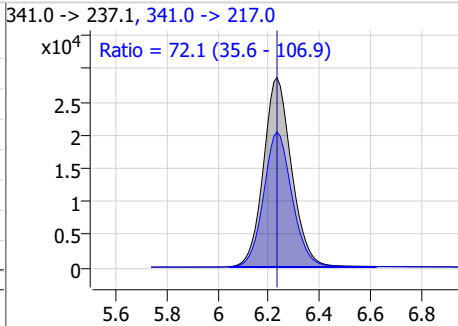
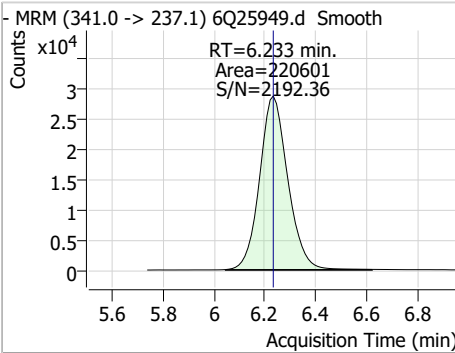
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
HFPO-DA	5.02	5.96	0.00	17848	284.9 -> 184.9	11.0	6.0	18.1



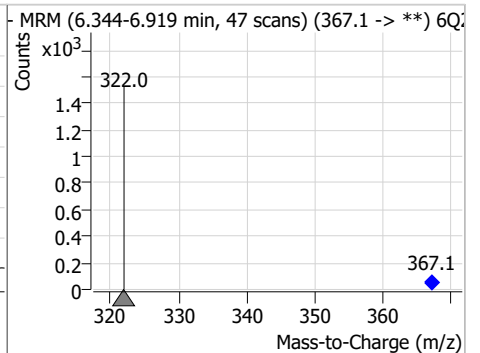
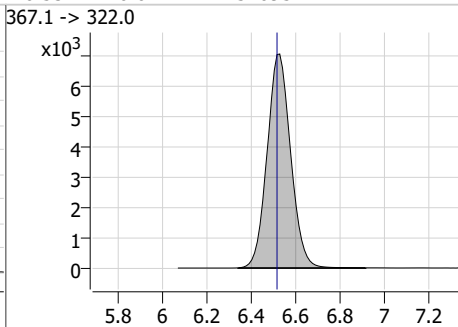
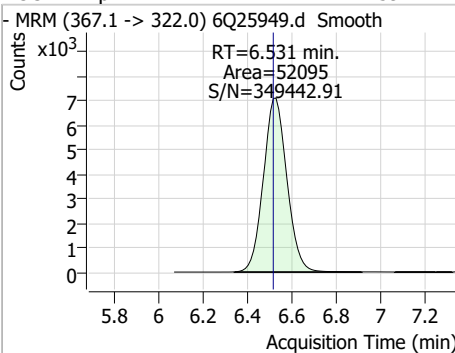
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFEESA	4.58	6.05	0.00	107043	314.8 -> 82.9	3.6	1.8	5.4



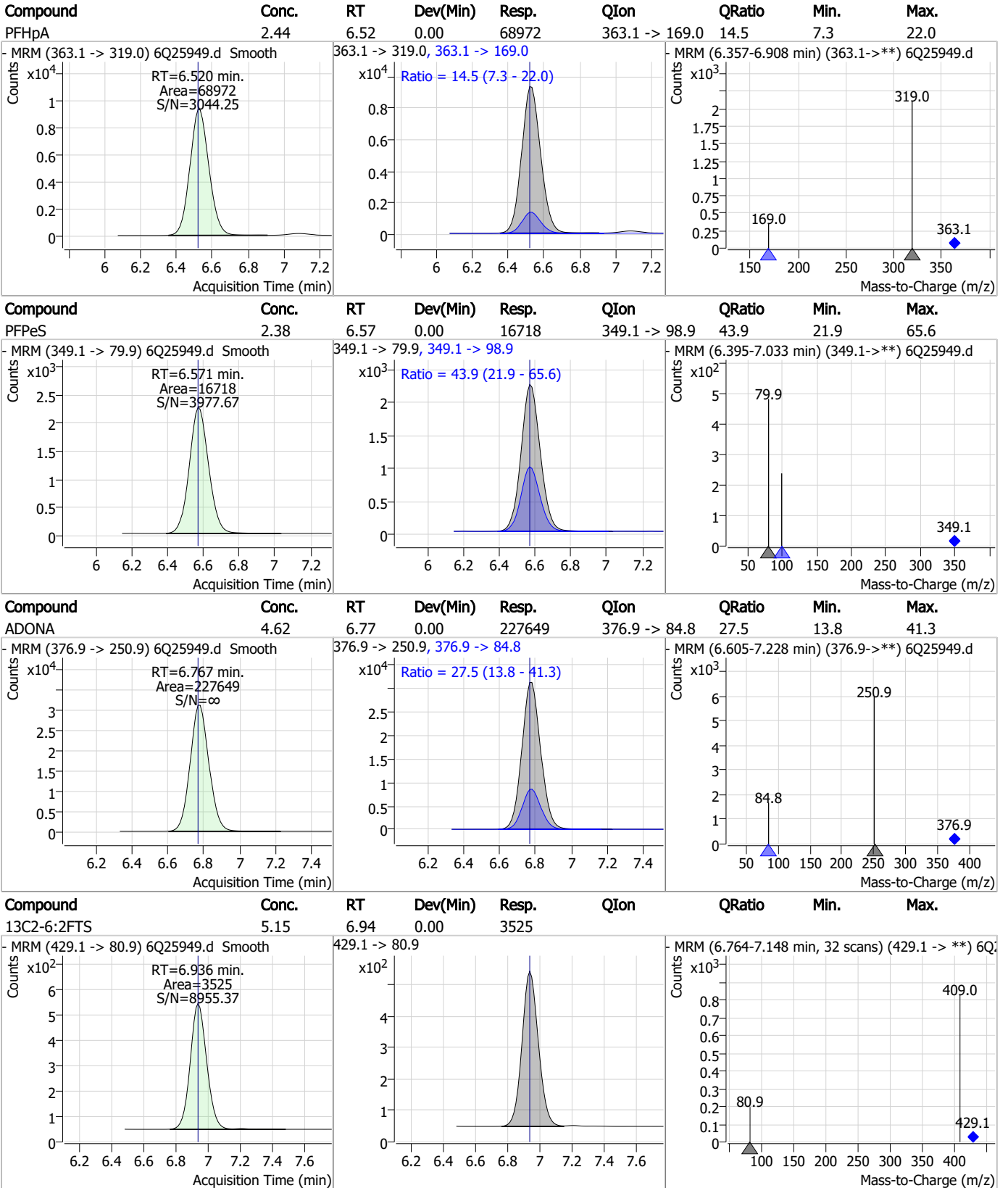
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
5:3FTCA	64.79	6.23	0.00	220601	341.0 -> 217.0	72.1	35.6	106.9



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



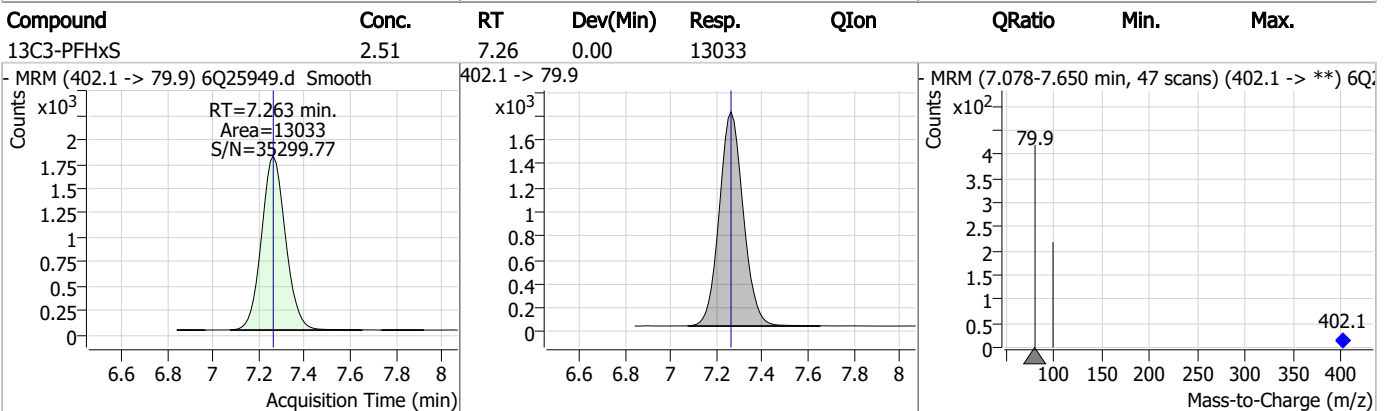
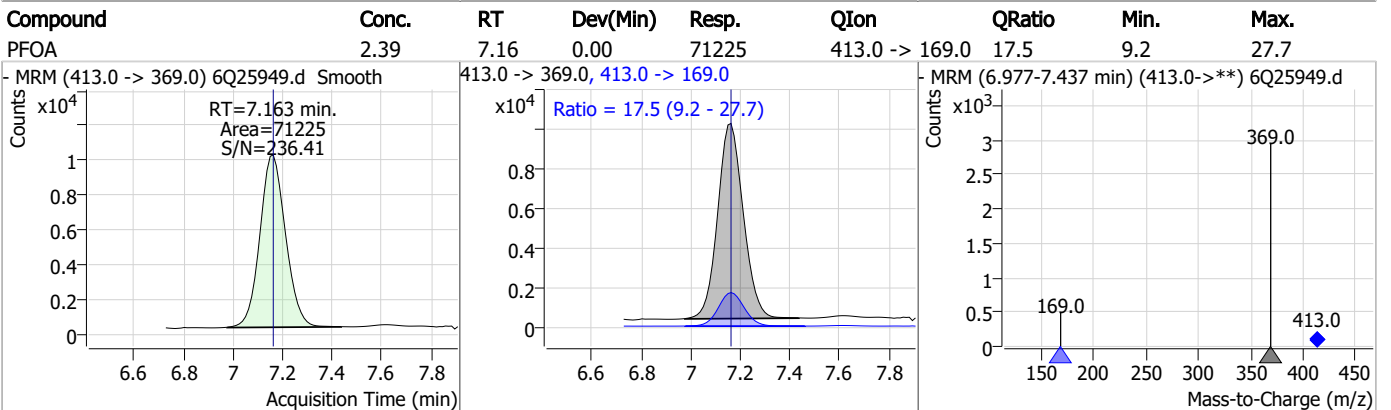
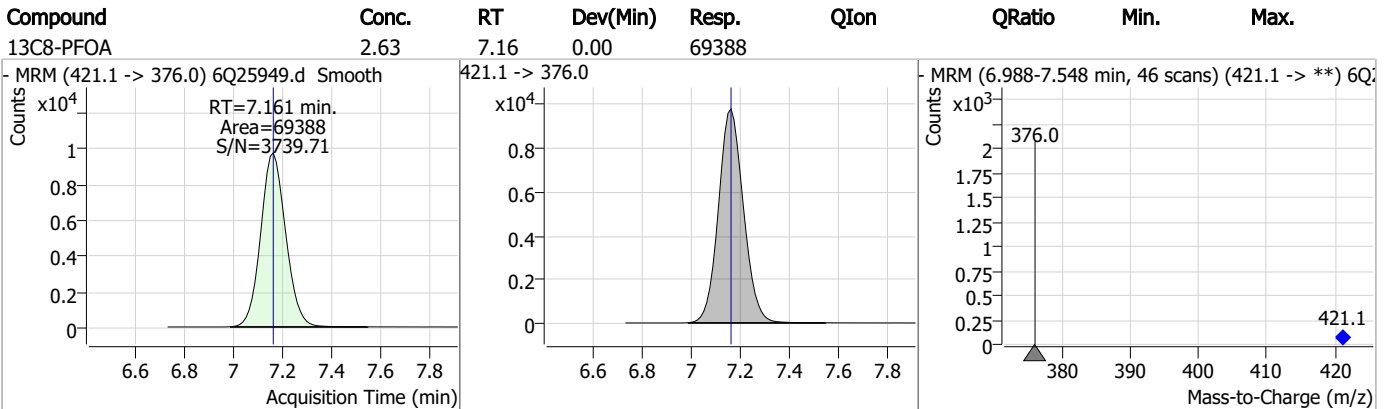
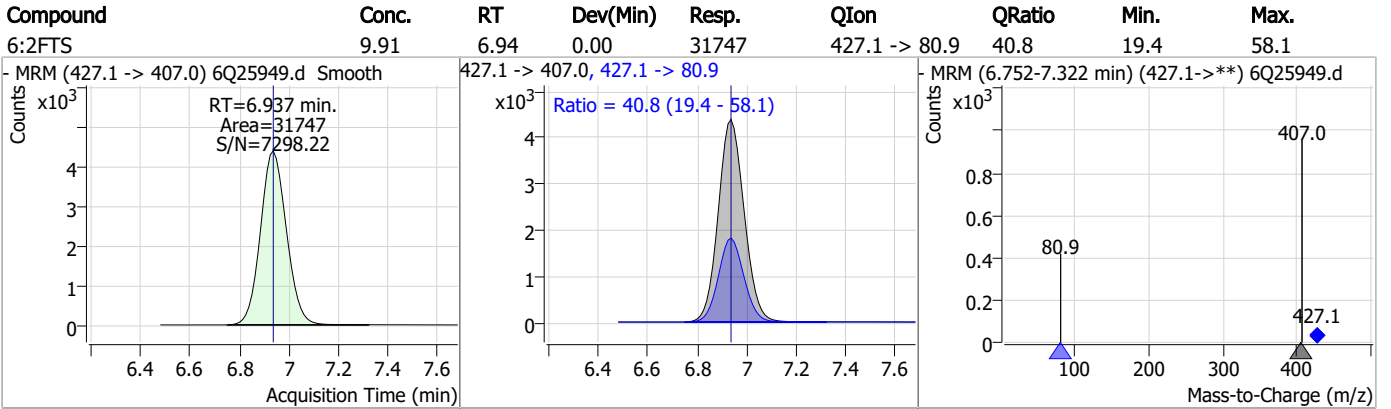
### Perfluorinated Compounds by LC/MS/MS



7.7.10 7

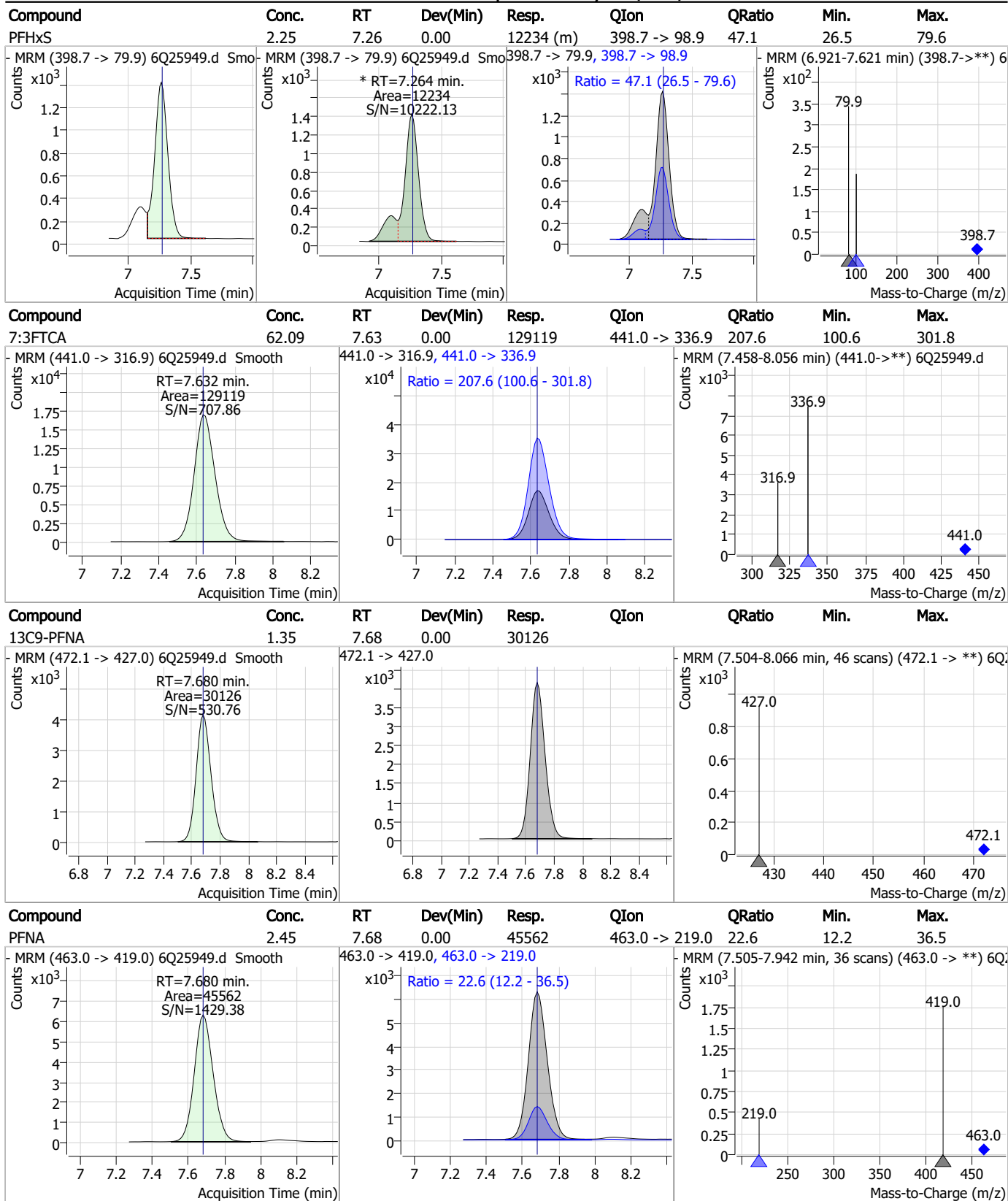


### Perfluorinated Compounds by LC/MS/MS





### Perfluorinated Compounds by LC/MS/MS



7.7.10 7

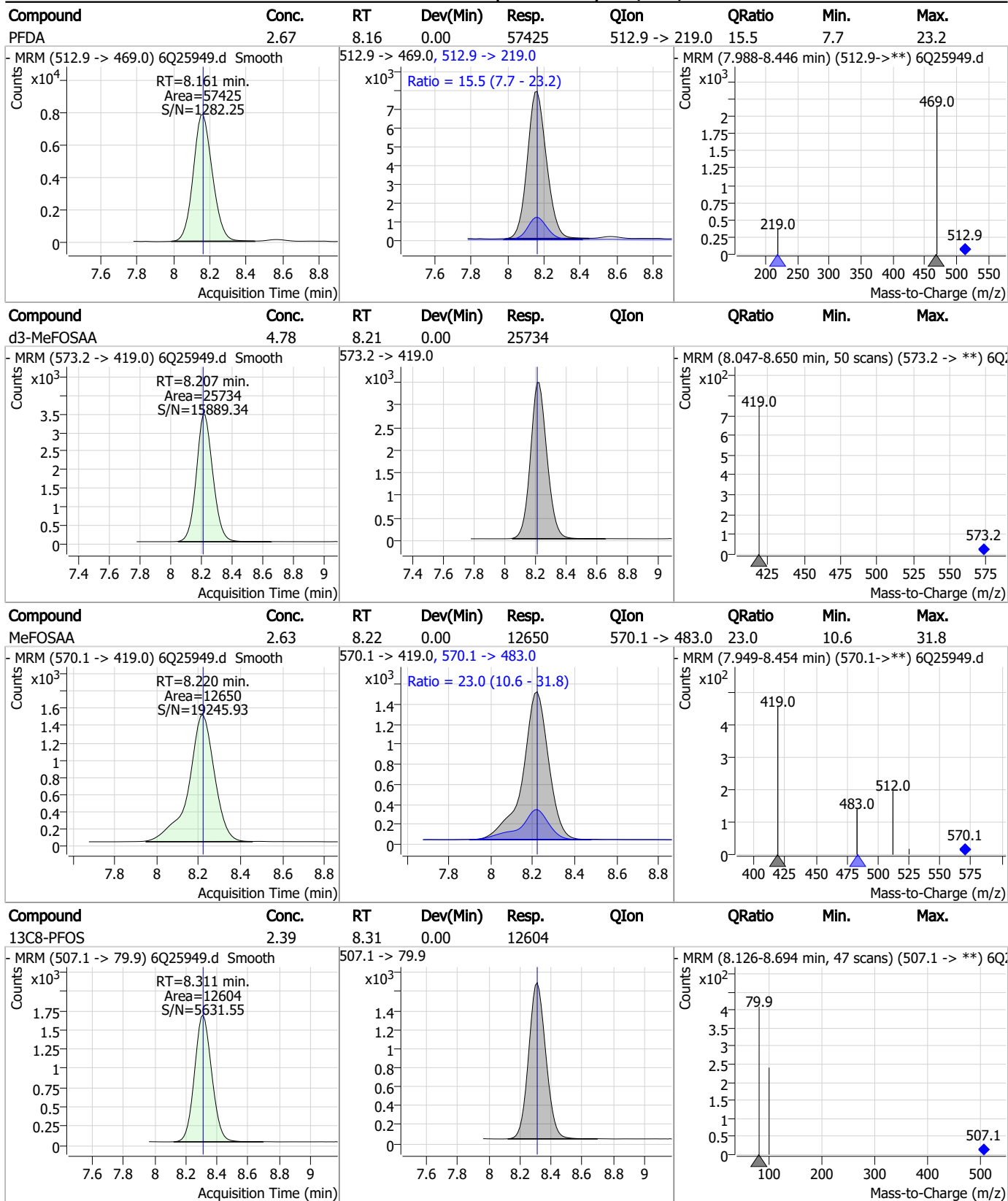
### Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpS	2.56	7.82	0.00	13333	449.0 -> 98.9	46.6	24.5	73.4
13C2-8:2FTS	4.96	7.95	0.00	3492				
8:2FTS	10.11	7.95	0.00	24588	527.1 -> 80.8	37.9	17.6	52.9
13C6-PFDA	1.20	8.16	0.00	27485				

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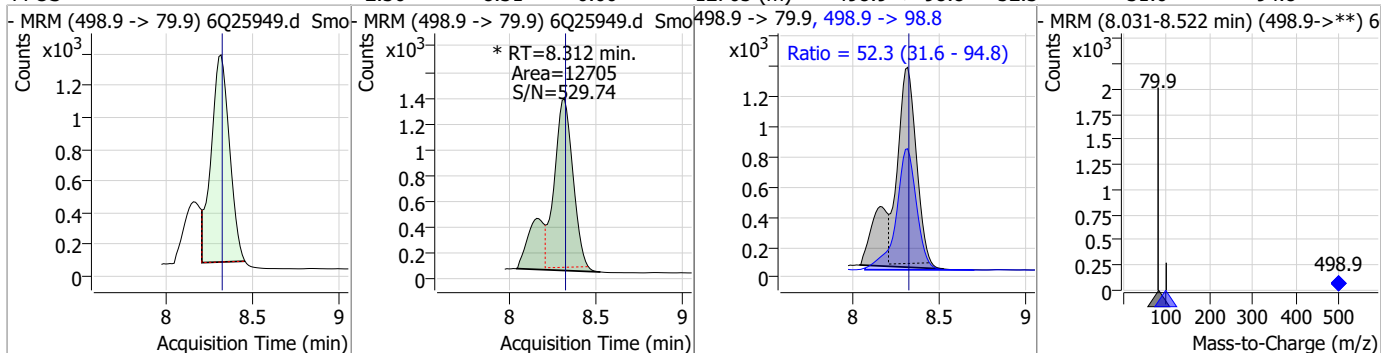
### Perfluorinated Compounds by LC/MS/MS



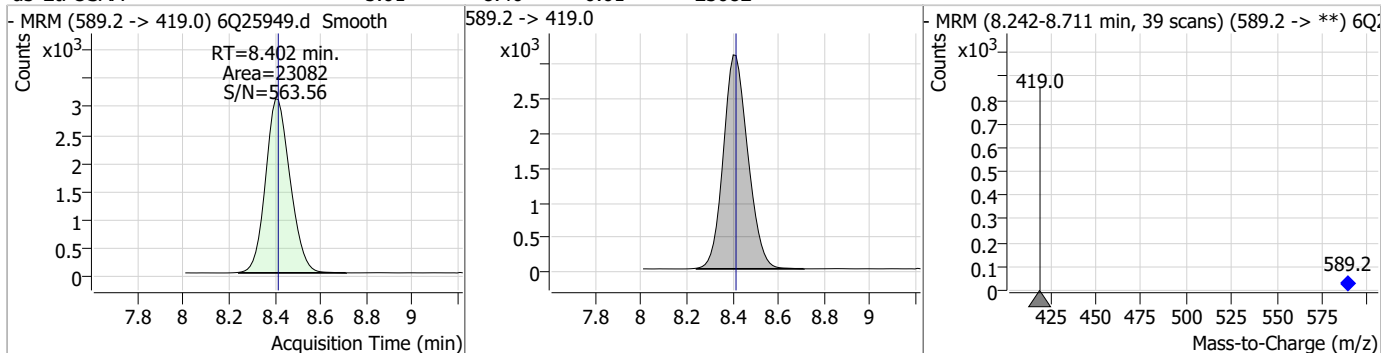
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### Perfluorinated Compounds by LC/MS/MS

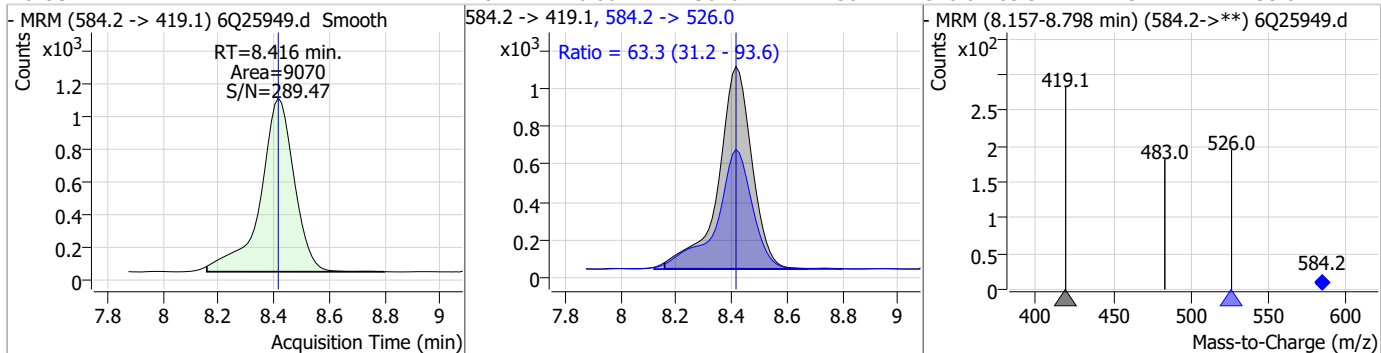
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOS	2.36	8.31	0.00	12705 (m)	498.9 -> 98.8	52.3	31.6	94.8



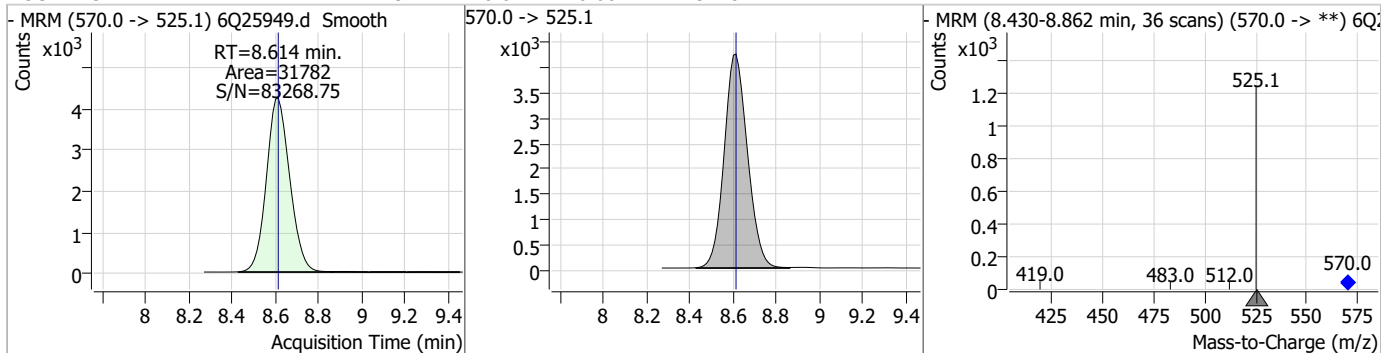
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSAA	5.01	8.40	-0.01	23082				



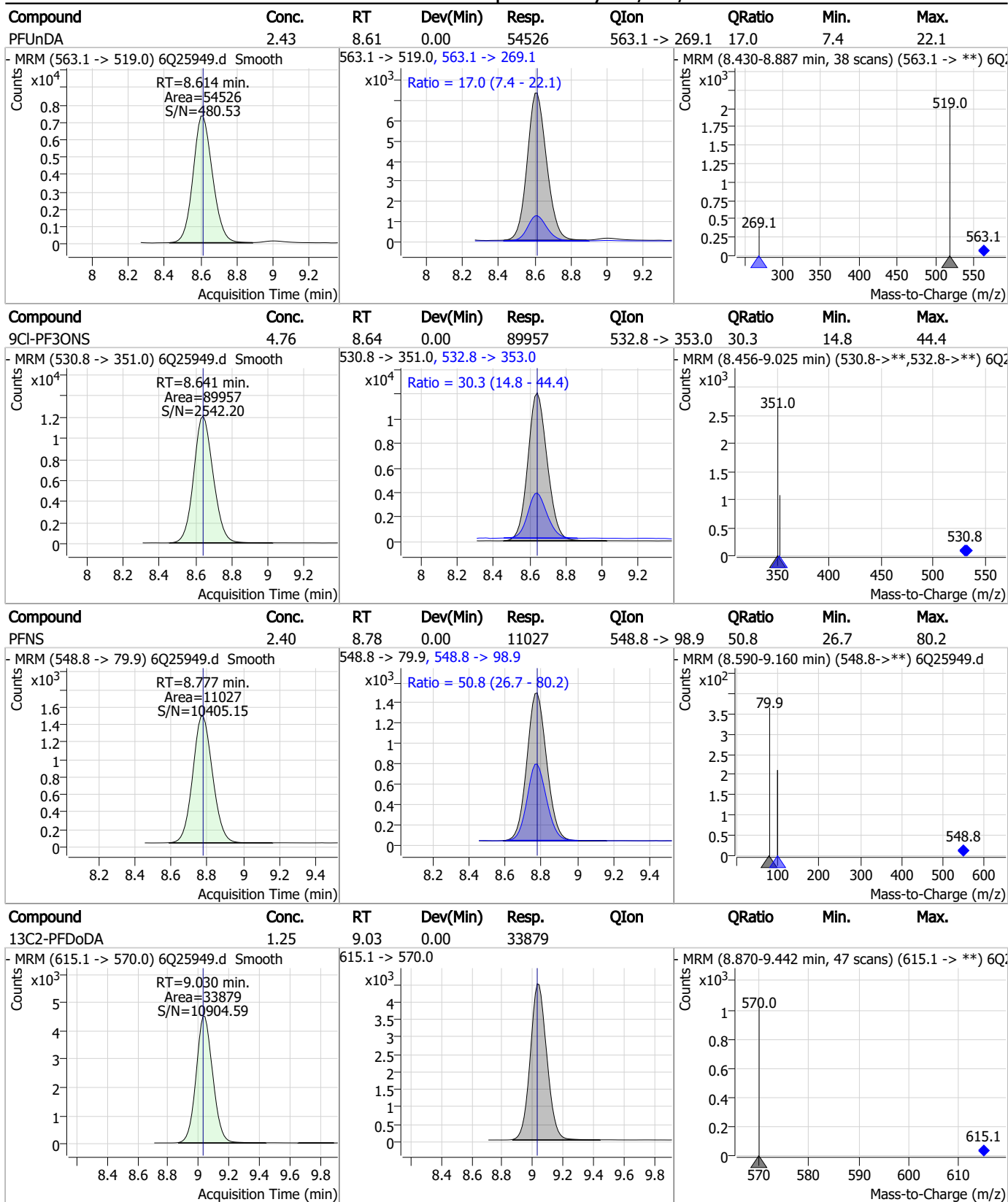
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSAA	2.42	8.42	0.00	9070	584.2 -> 526.0	63.3	31.2	93.6



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

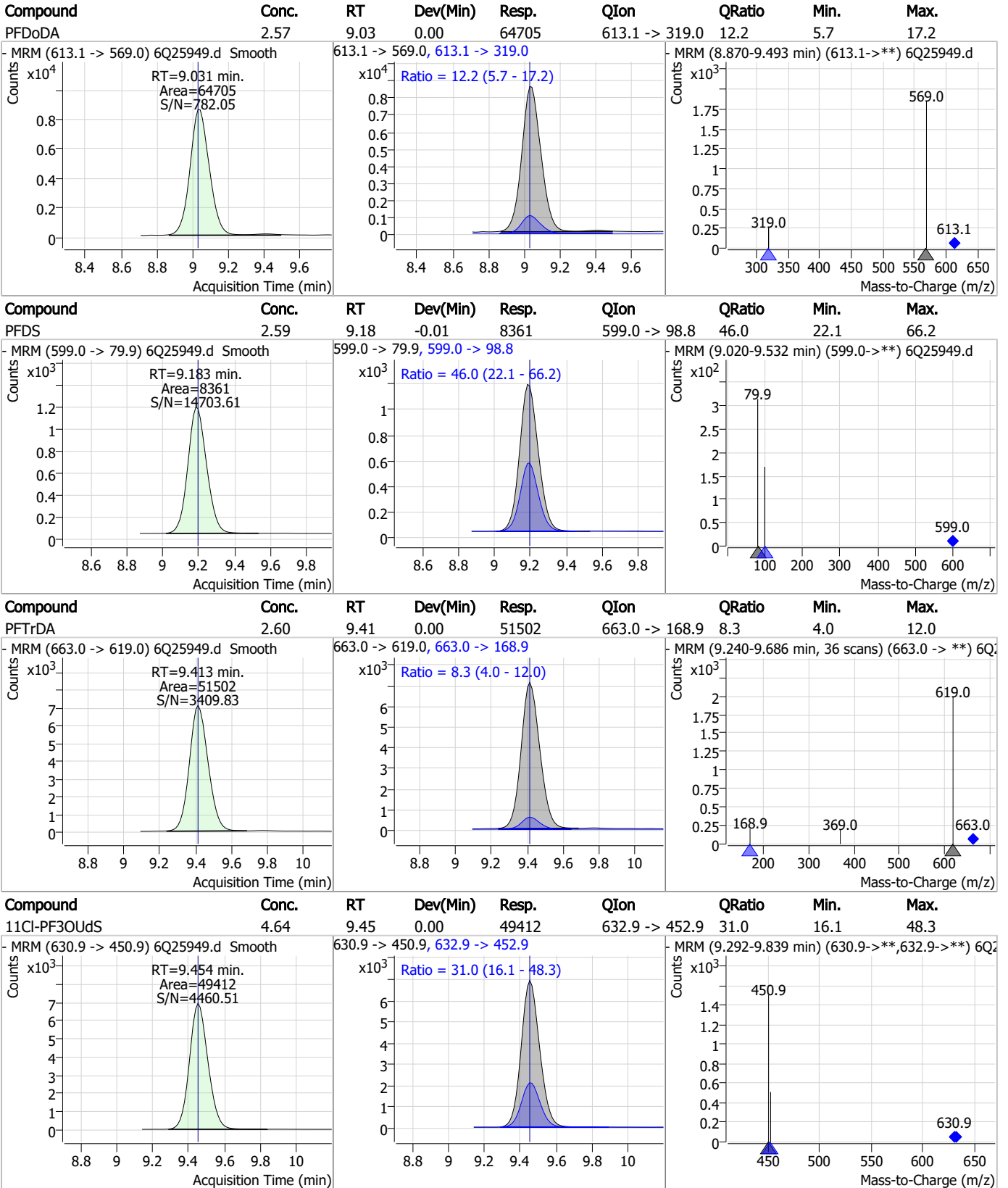


### Perfluorinated Compounds by LC/MS/MS



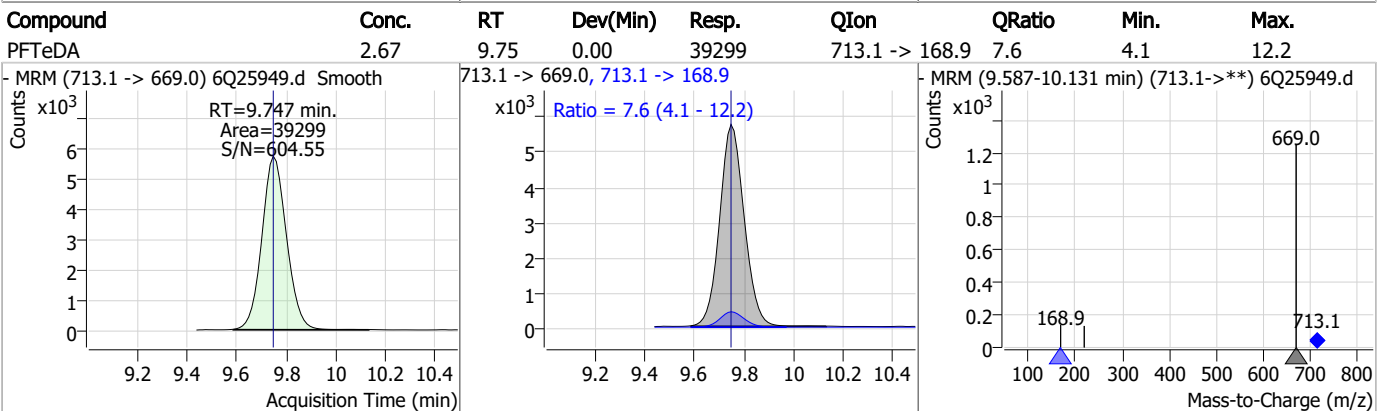
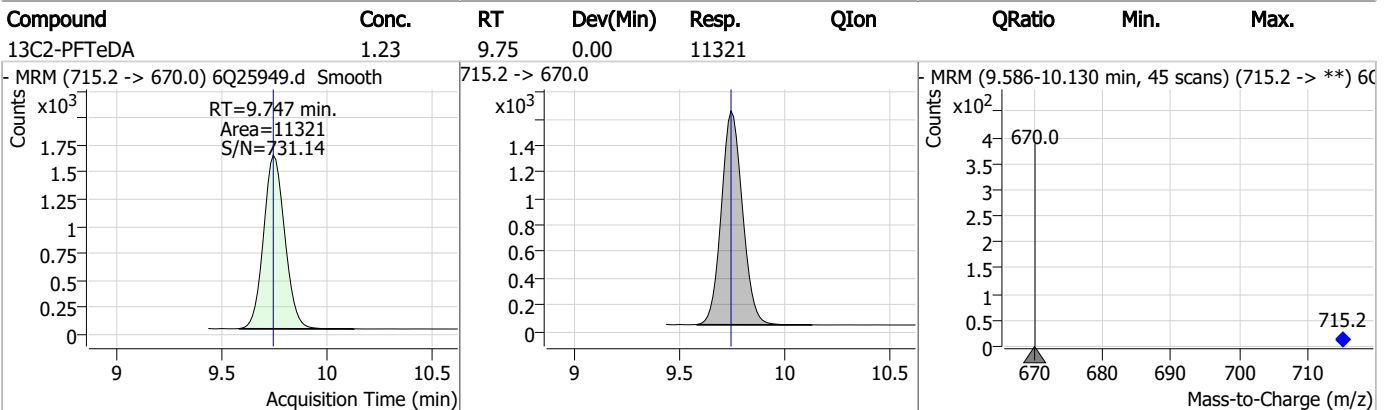
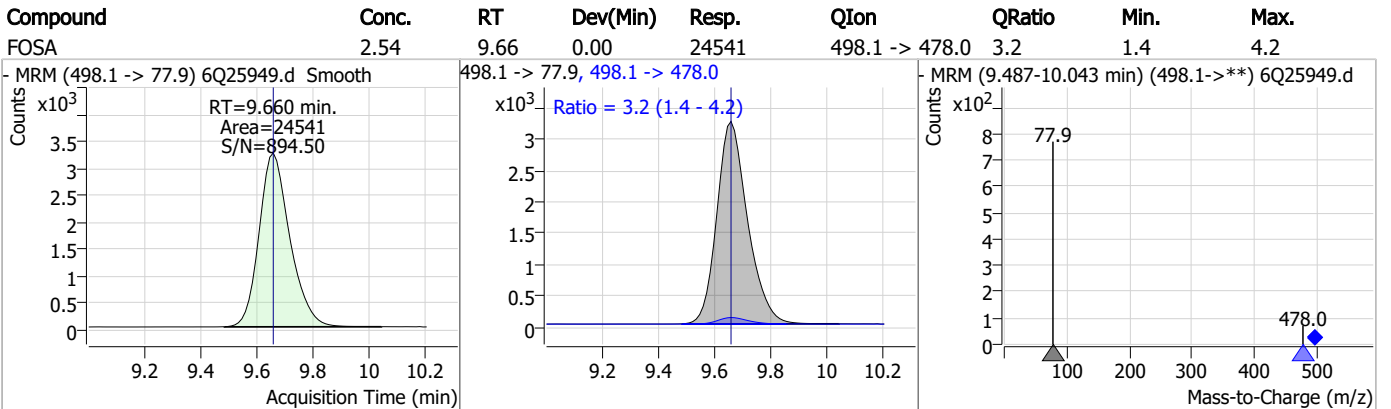
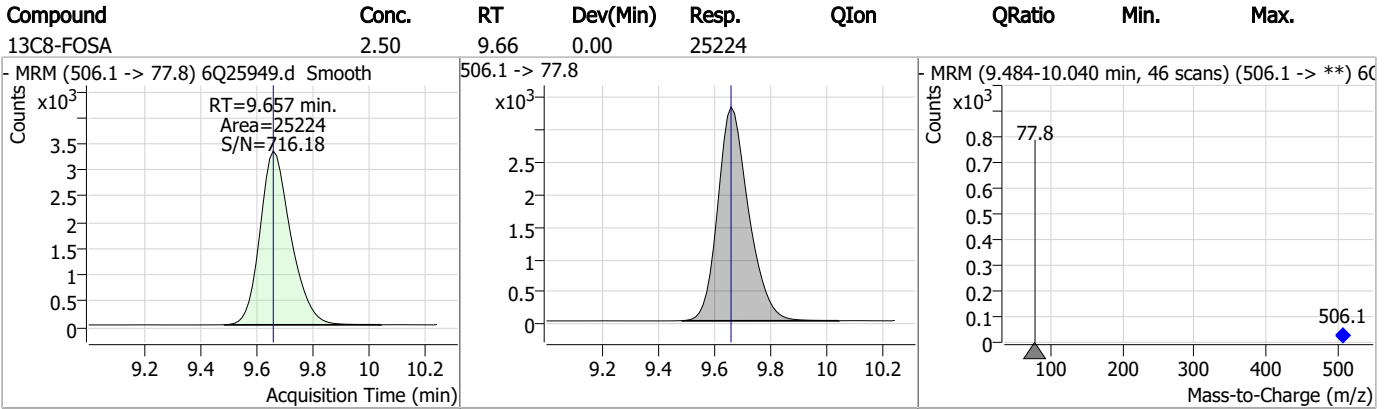
7.7.10 7

### Perfluorinated Compounds by LC/MS/MS

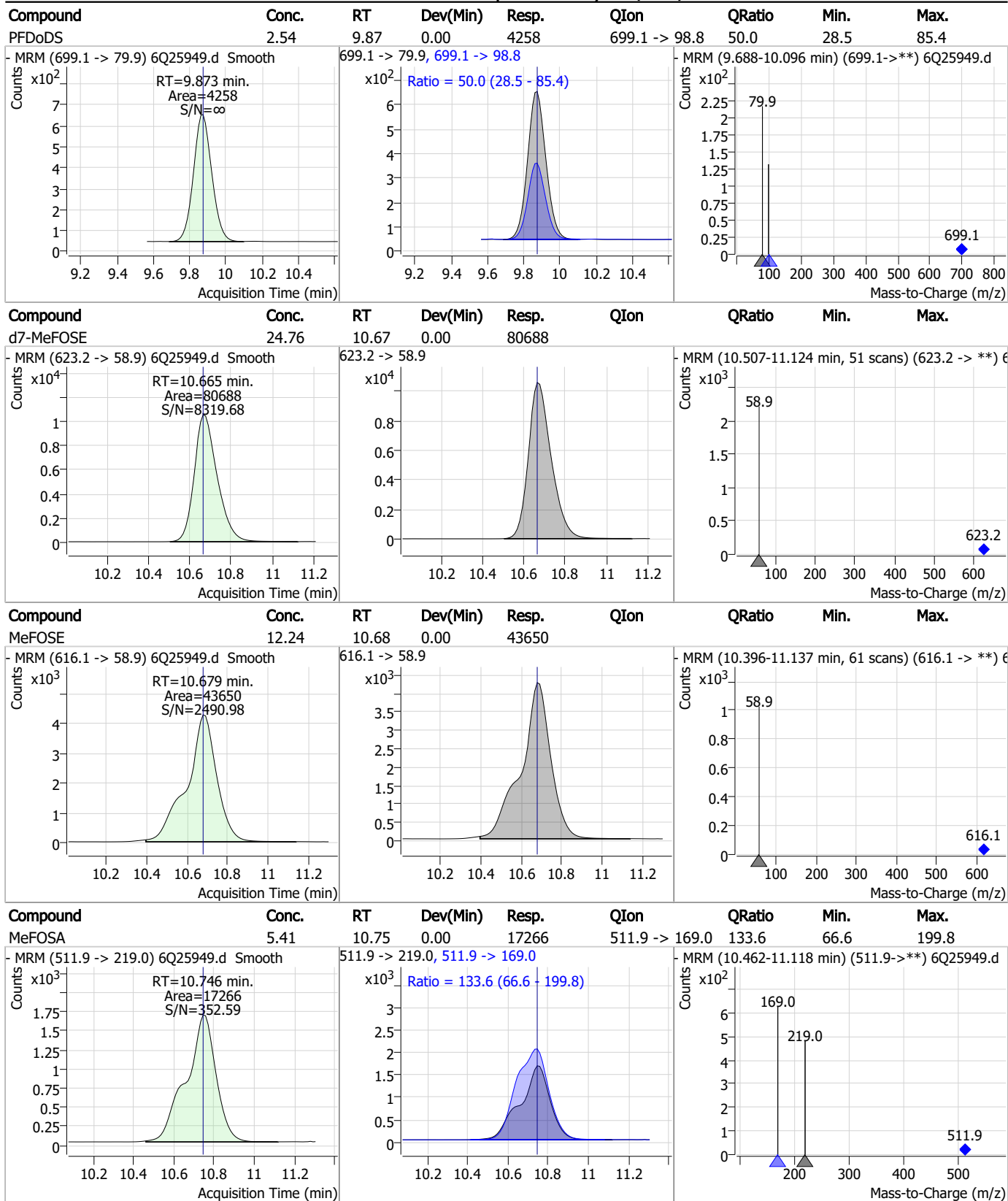


7.7.10 7

### Perfluorinated Compounds by LC/MS/MS



### Perfluorinated Compounds by LC/MS/MS

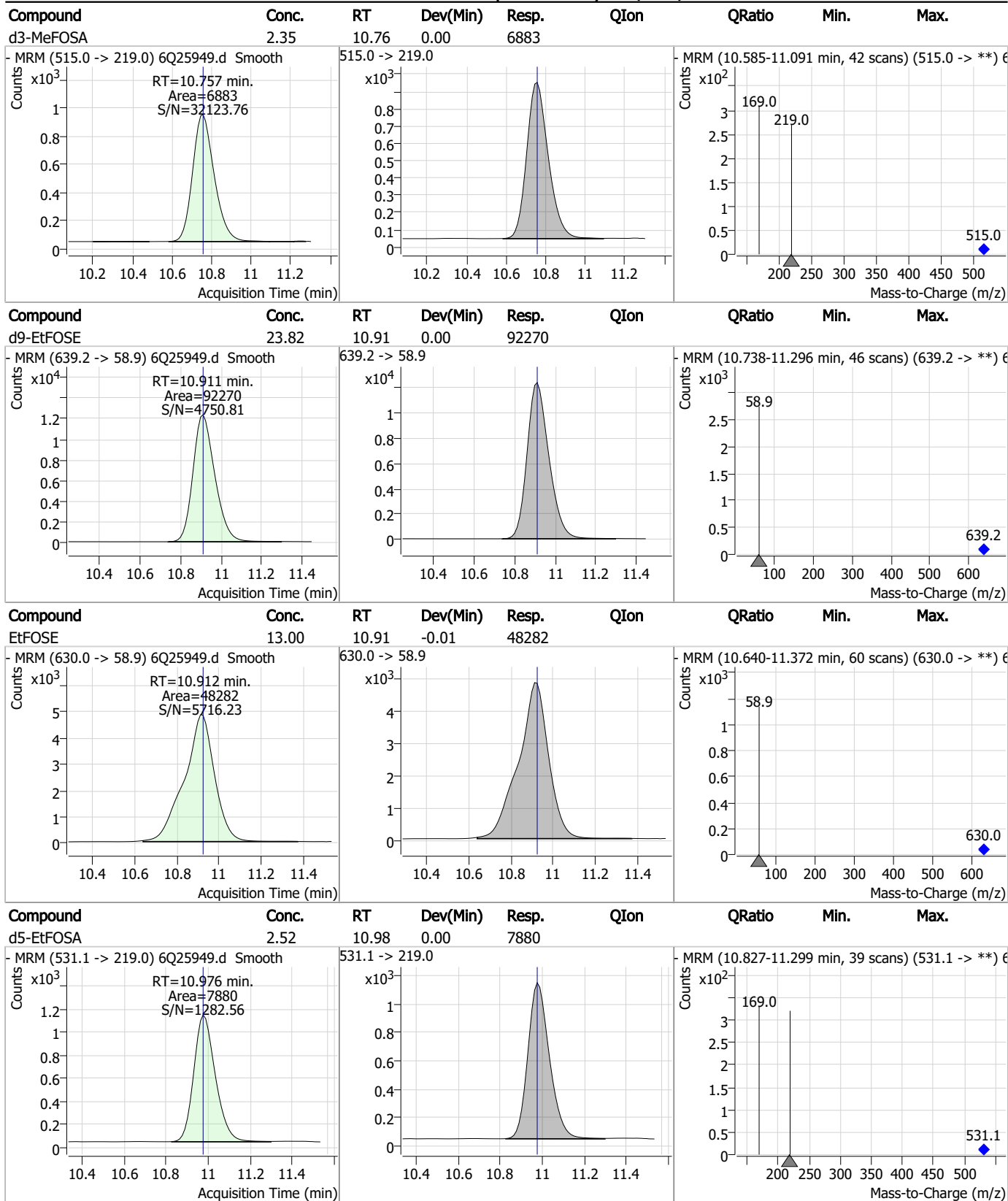


7.7.10  
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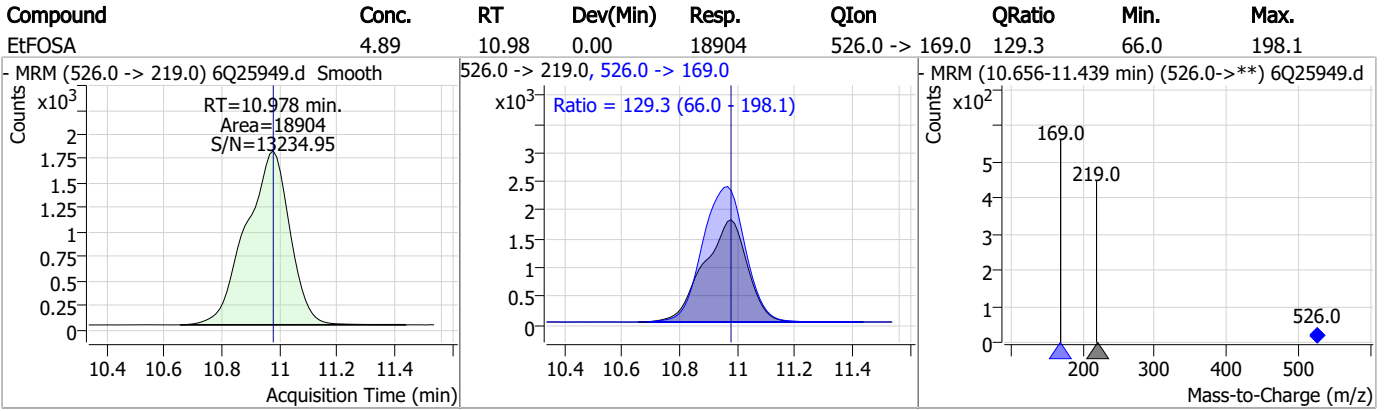


### Perfluorinated Compounds by LC/MS/MS



7.7.10 7

### Perfluorinated Compounds by LC/MS/MS



7.7.10  
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# 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

7.7.10.1

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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)
<b>Internal Standards</b>					
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
<b>System Monitoring Compounds</b>					
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%	
<b>Target Compounds</b>					<b>QValue</b>
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			
11CI-PF3OUdS	9.454	630.9 -> 450.9	203042	20.44	µg/L	96
		632.9 -> 452.9	61221			
9CI-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
PFDoDS	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

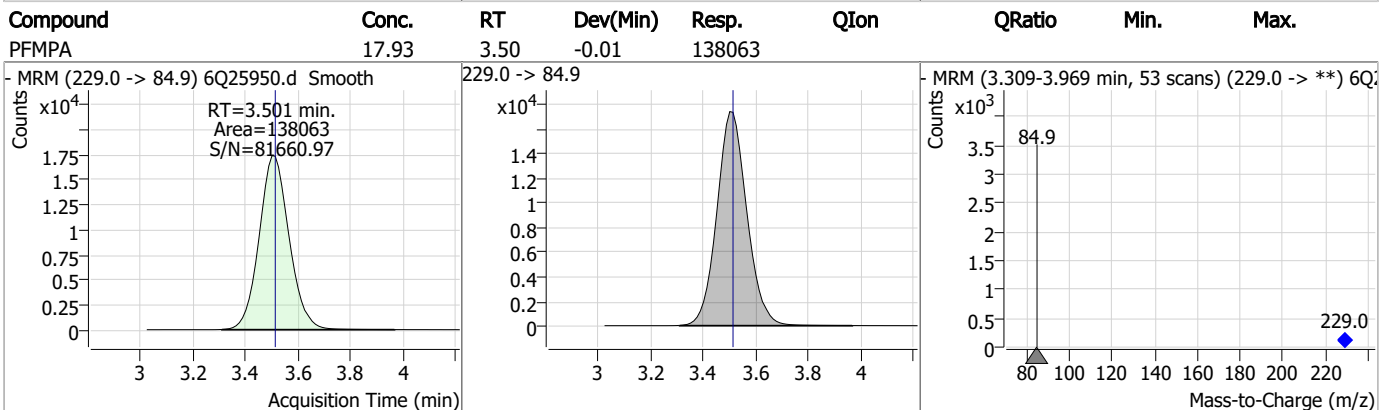
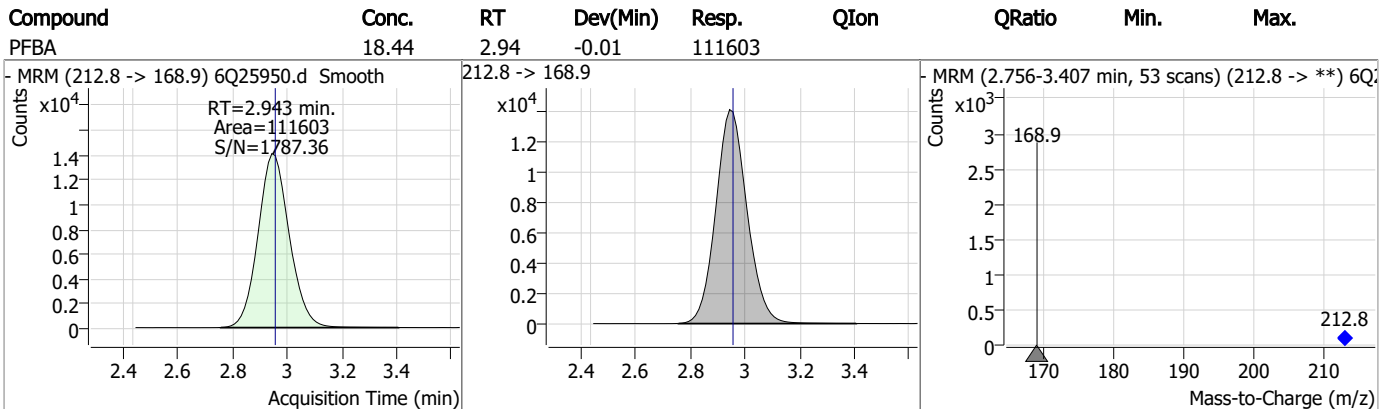
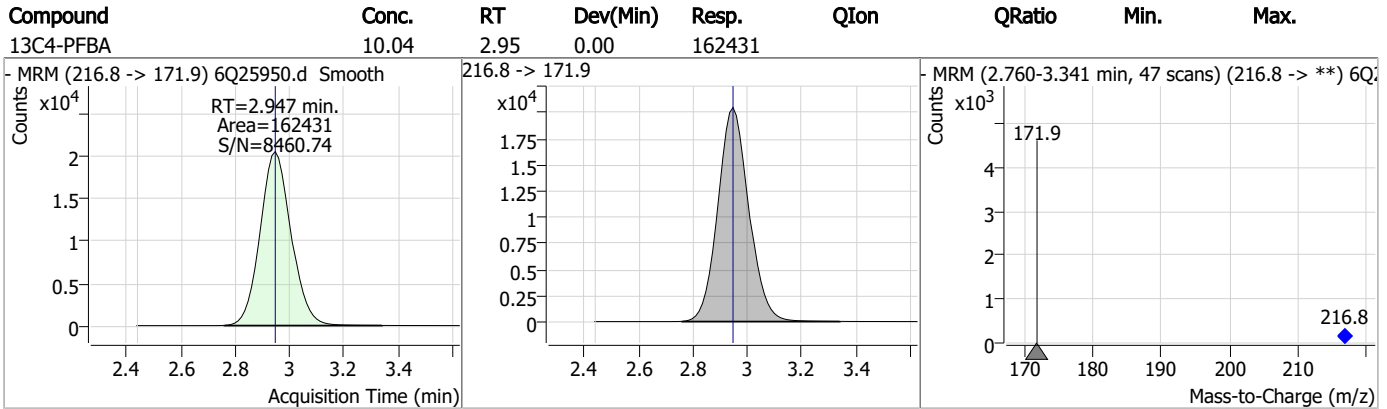
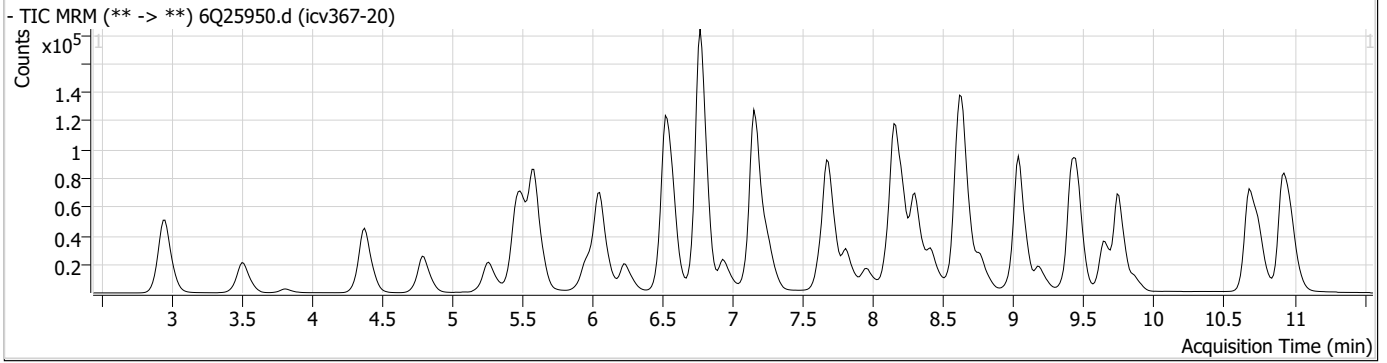
### Perfluorinated Compounds by LC/MS/MS

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

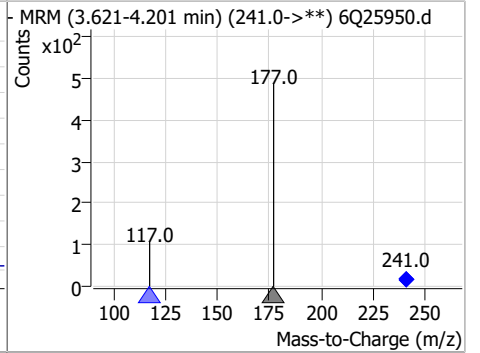
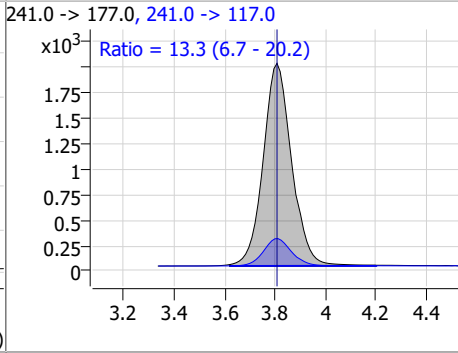
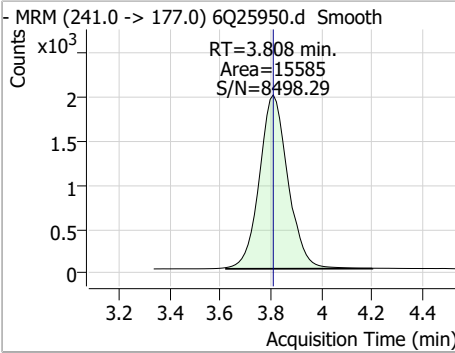


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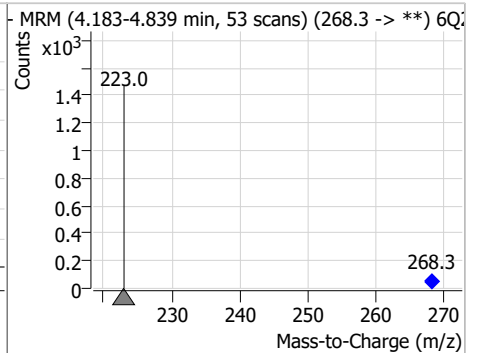
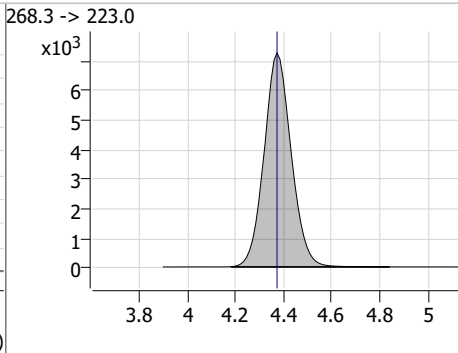
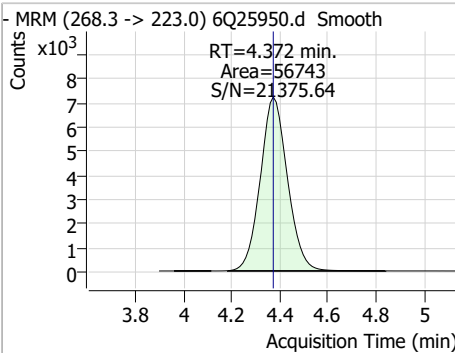


### Perfluorinated Compounds by LC/MS/MS

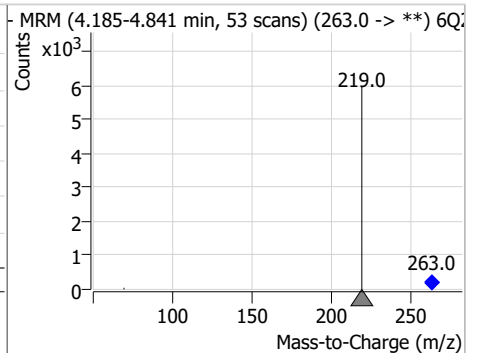
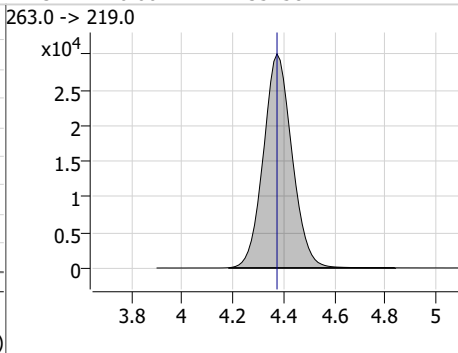
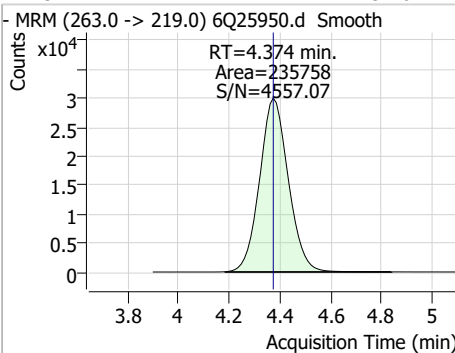
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
3:3FTCA	17.88	3.81	0.00	15585	241.0 -> 117.0	13.3	6.7	20.2



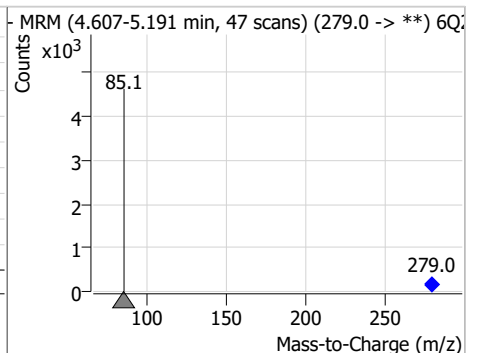
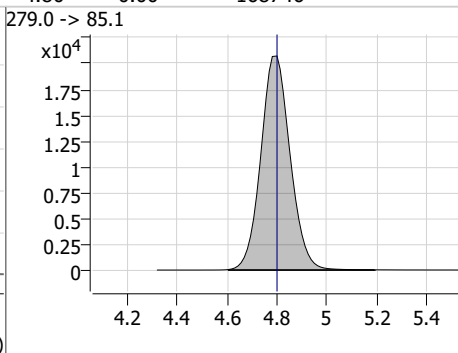
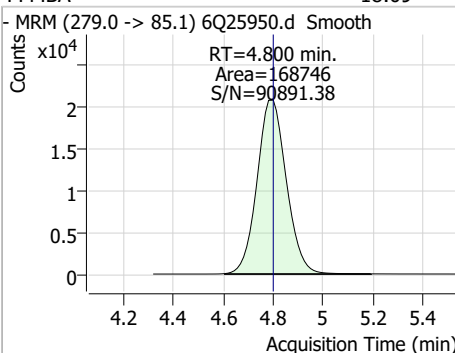
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFPeA	5.08	4.37	0.00	56743				



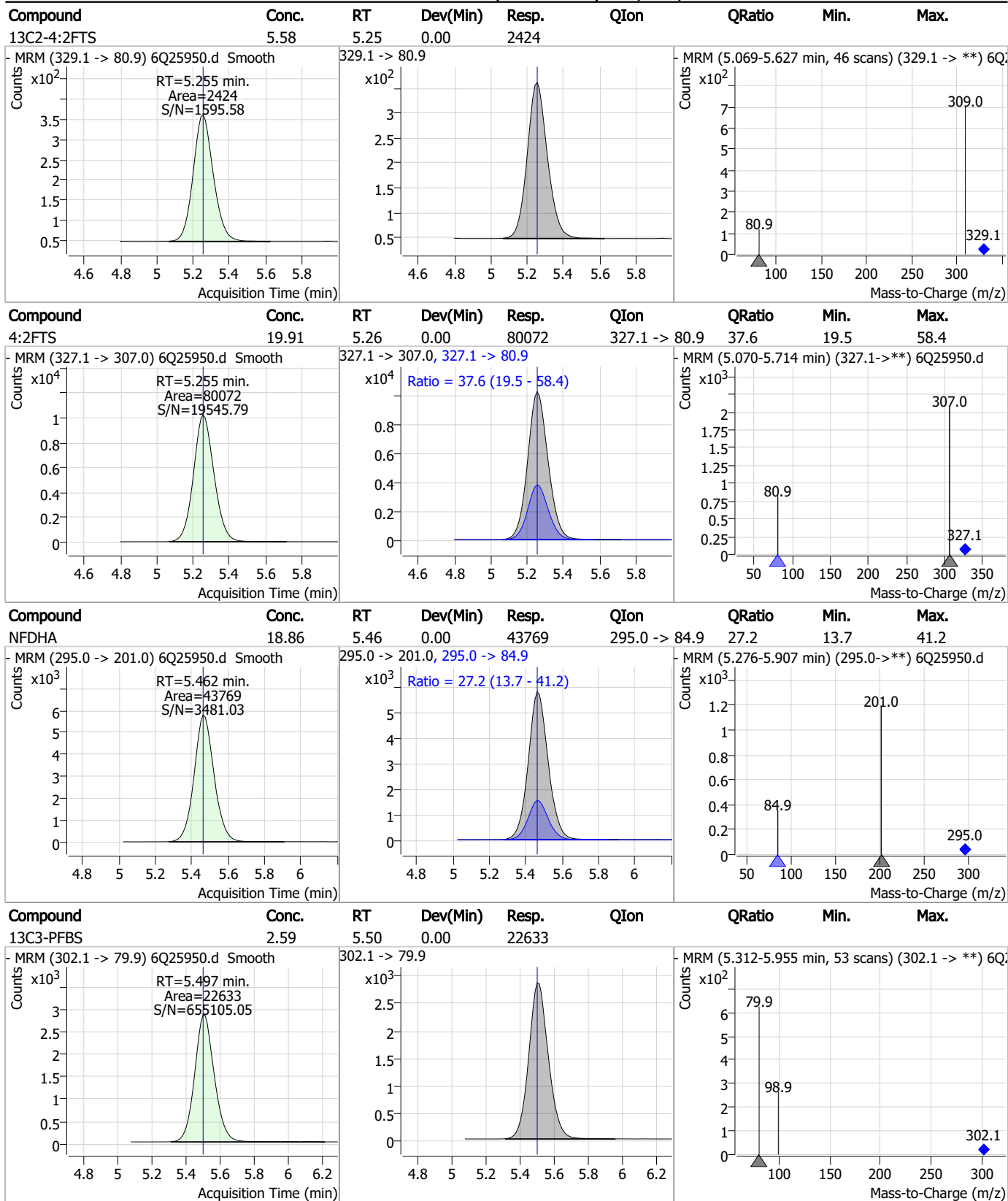
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeA	19.26	4.37	0.00	235758				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFMBA	18.09	4.80	0.00	168746				



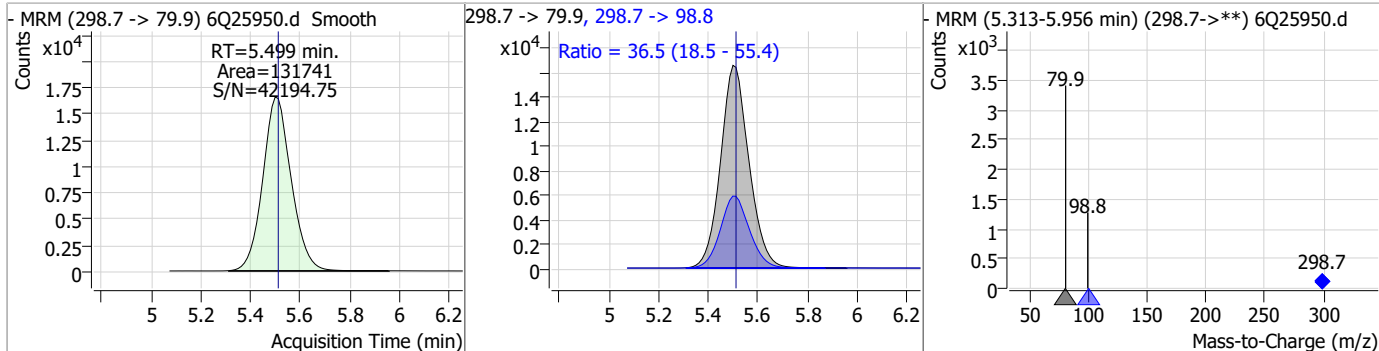
### Perfluorinated Compounds by LC/MS/MS



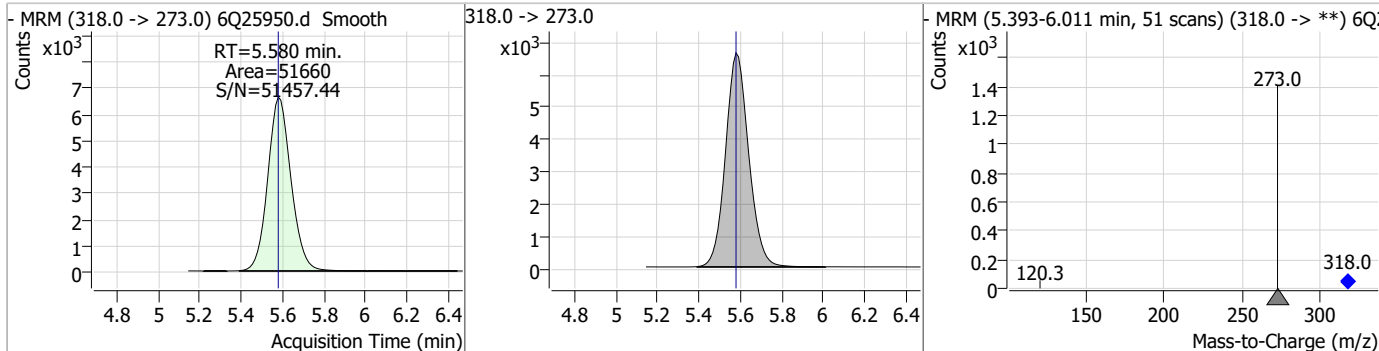
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### Perfluorinated Compounds by LC/MS/MS

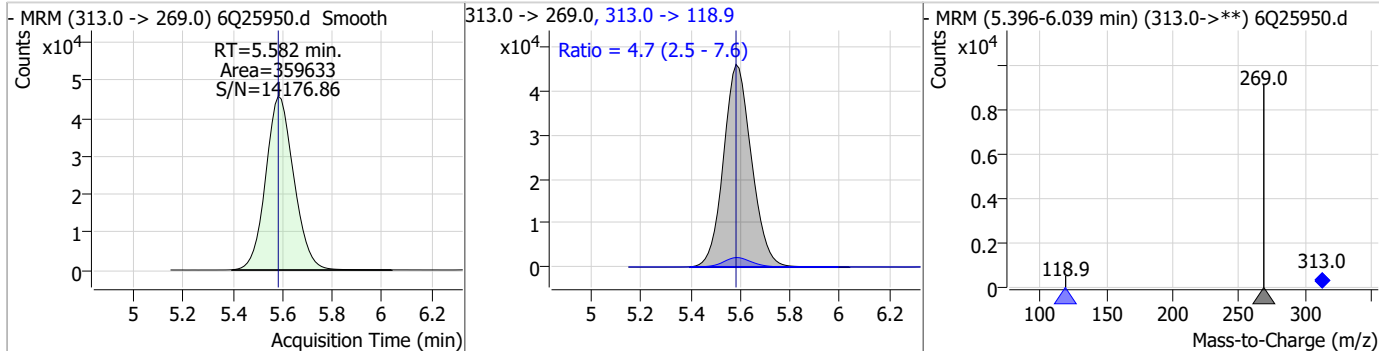
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBS	19.42	5.50	-0.01	131741	298.7 -> 98.8	36.5	18.5	55.4



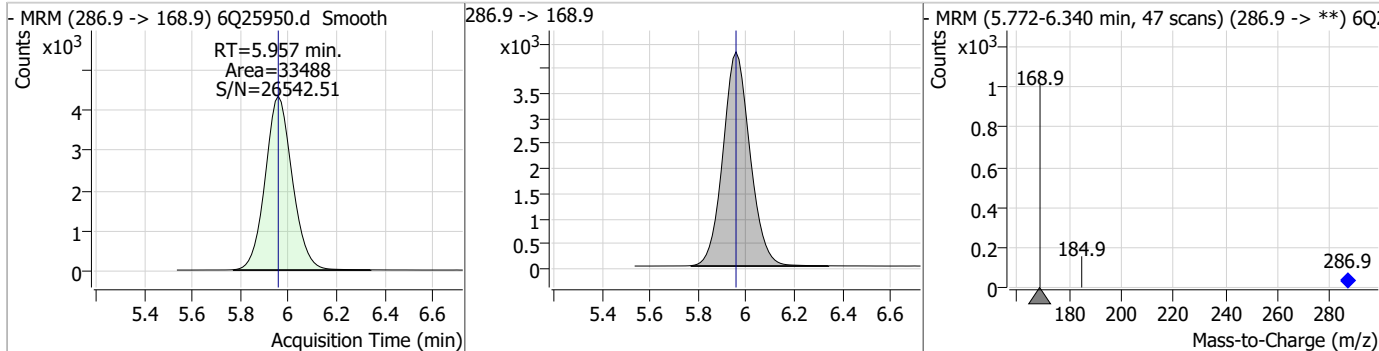
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFHxA	2.53	5.58	0.00	51660				



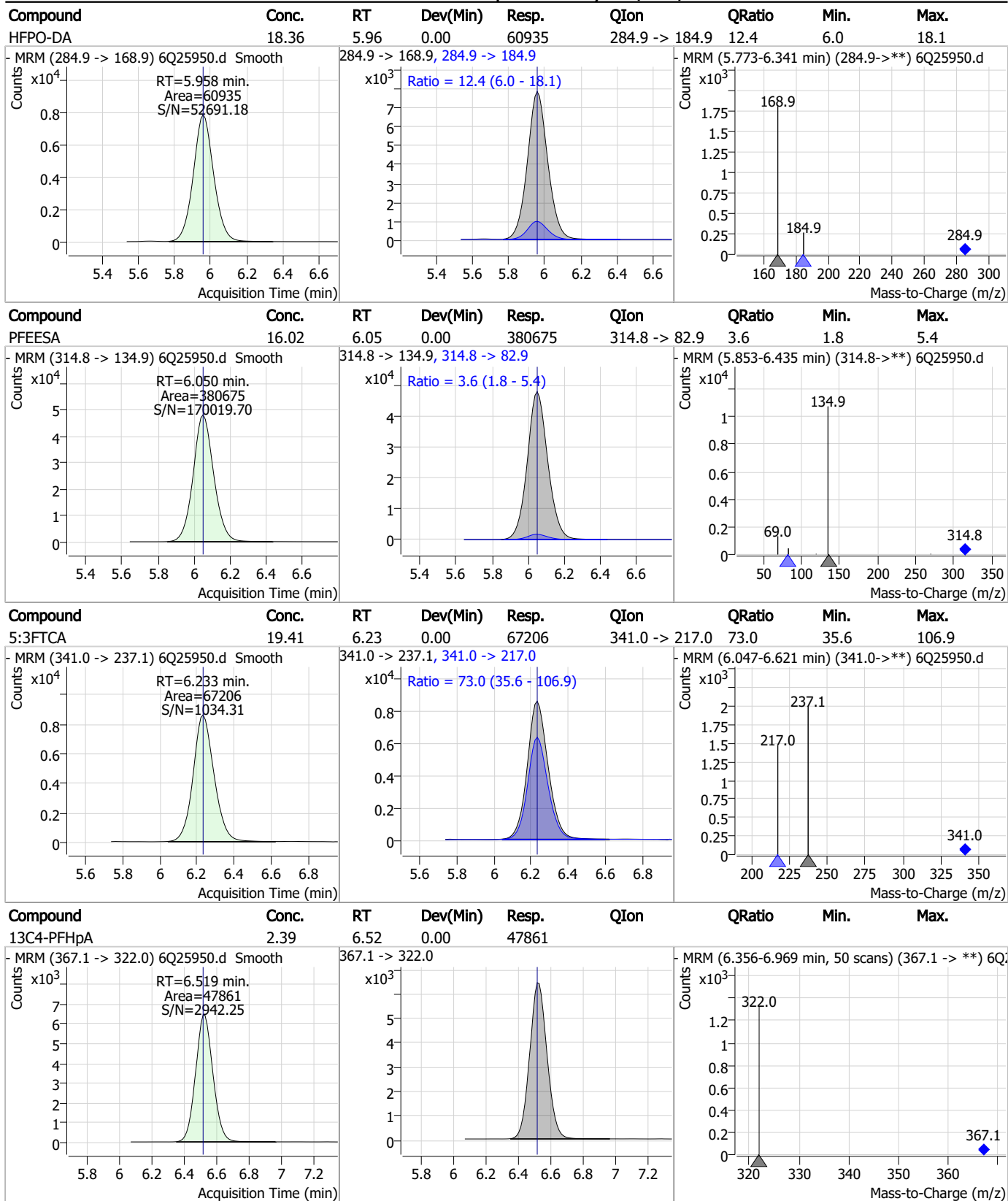
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxA	19.48	5.58	0.00	359633	313.0 -> 118.9	4.7	2.5	7.6



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



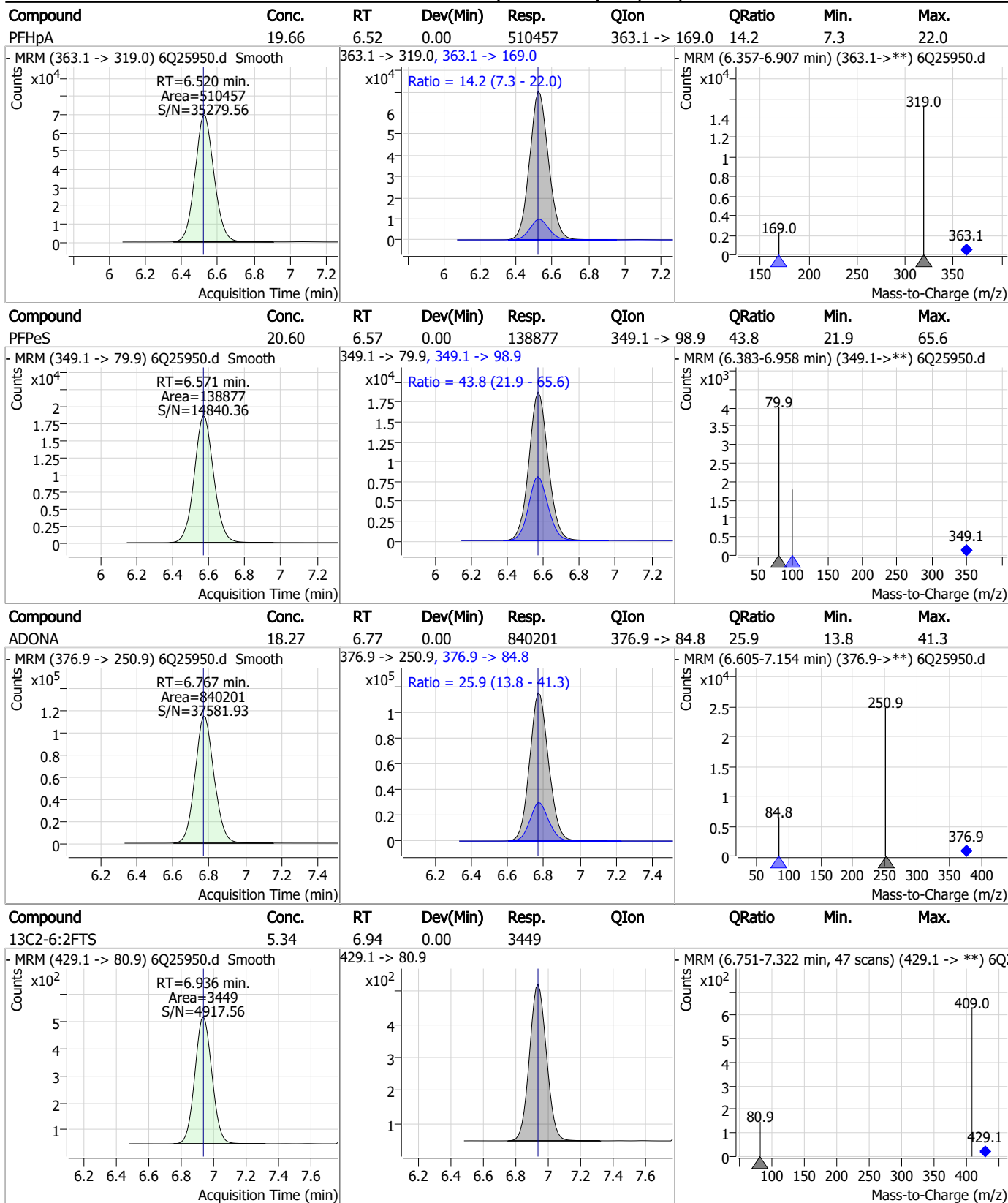
### Perfluorinated Compounds by LC/MS/MS



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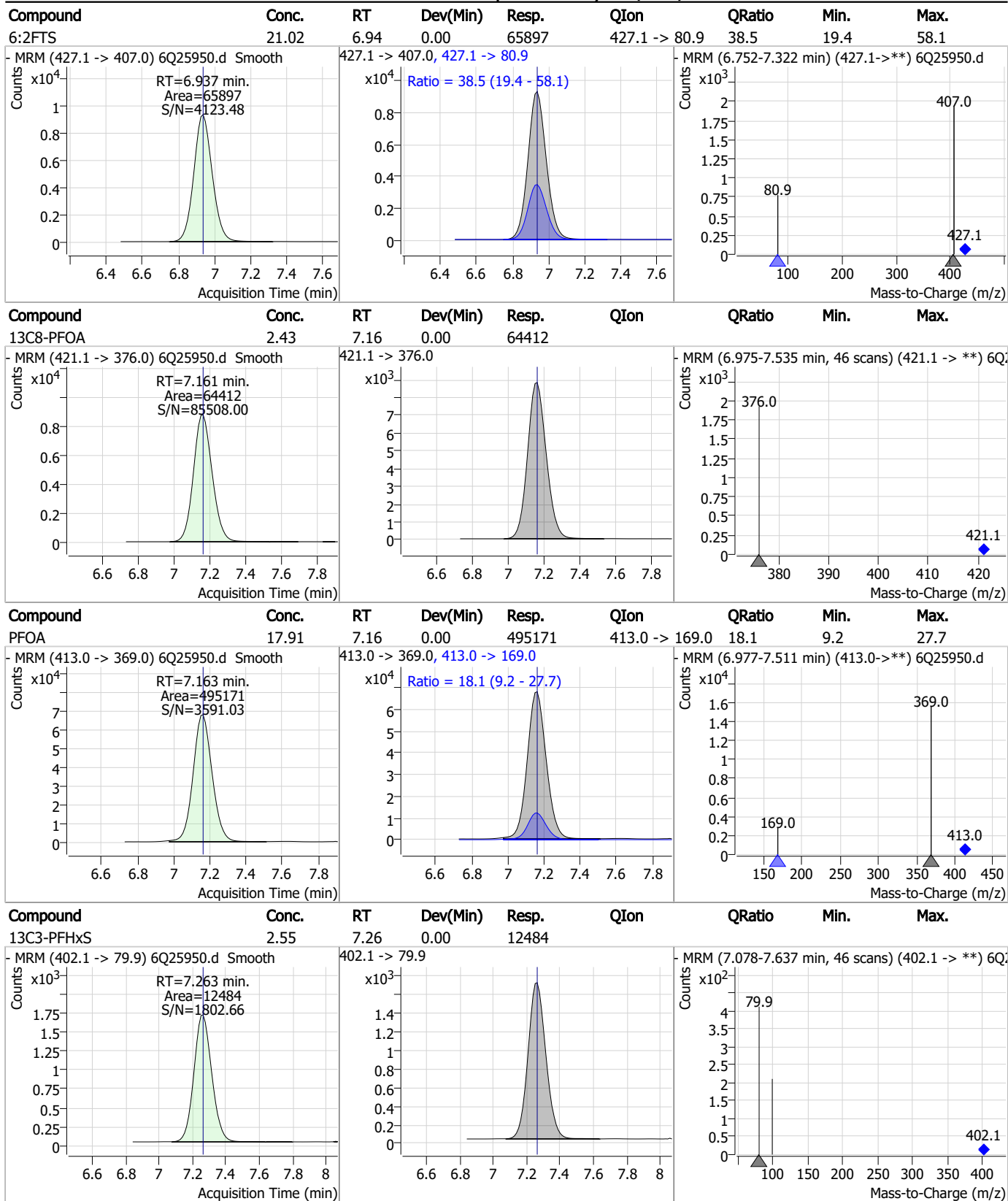
### Perfluorinated Compounds by LC/MS/MS



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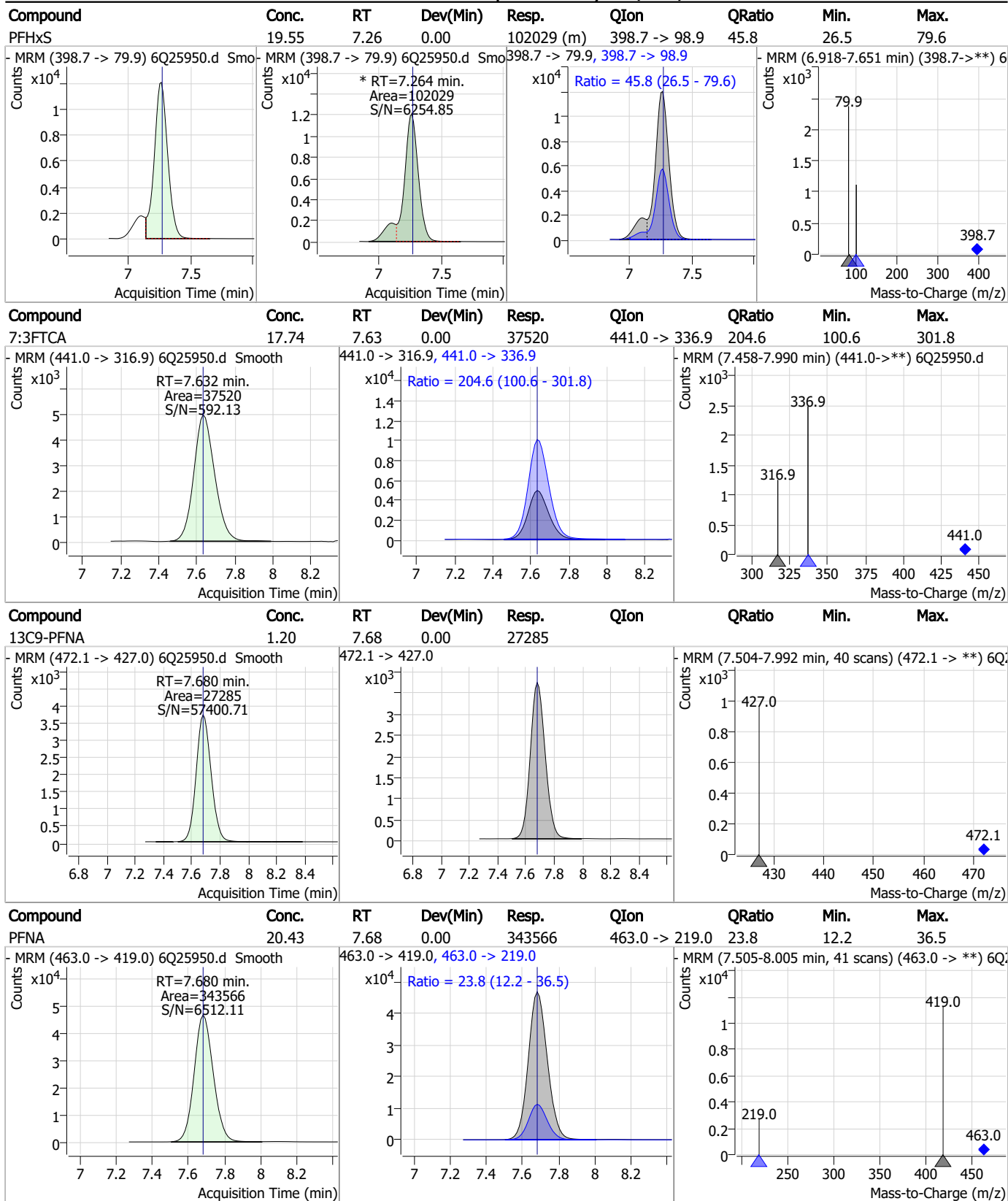


### Perfluorinated Compounds by LC/MS/MS



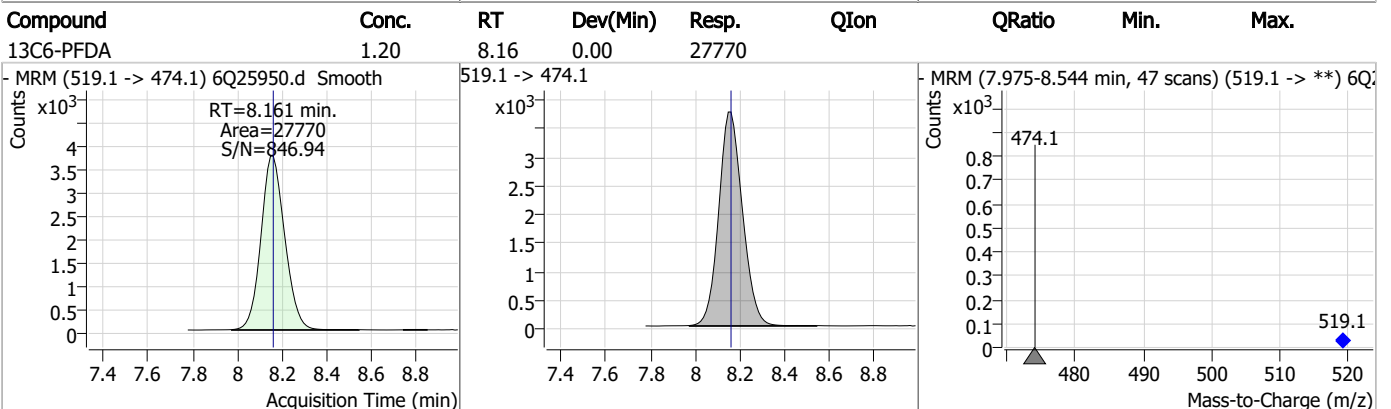
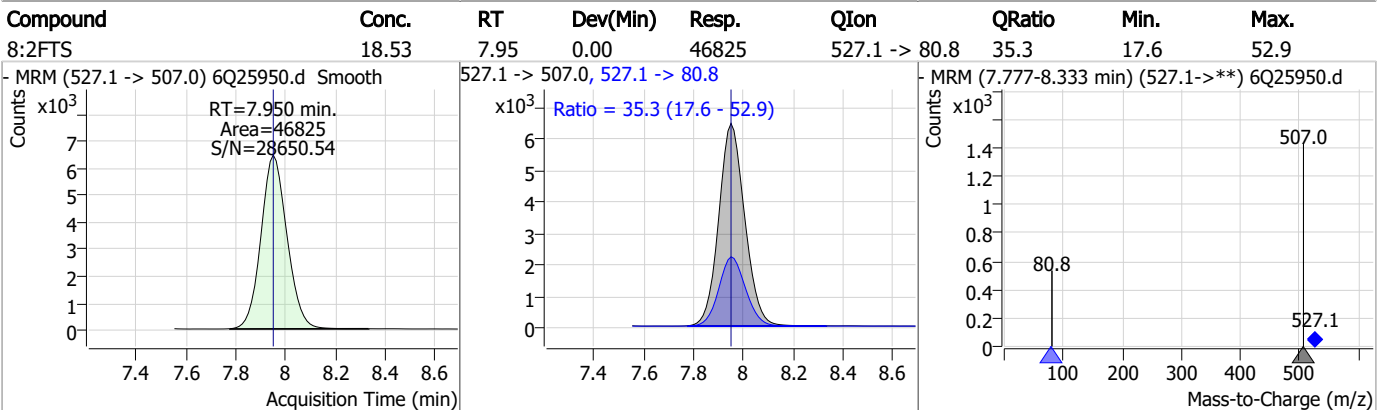
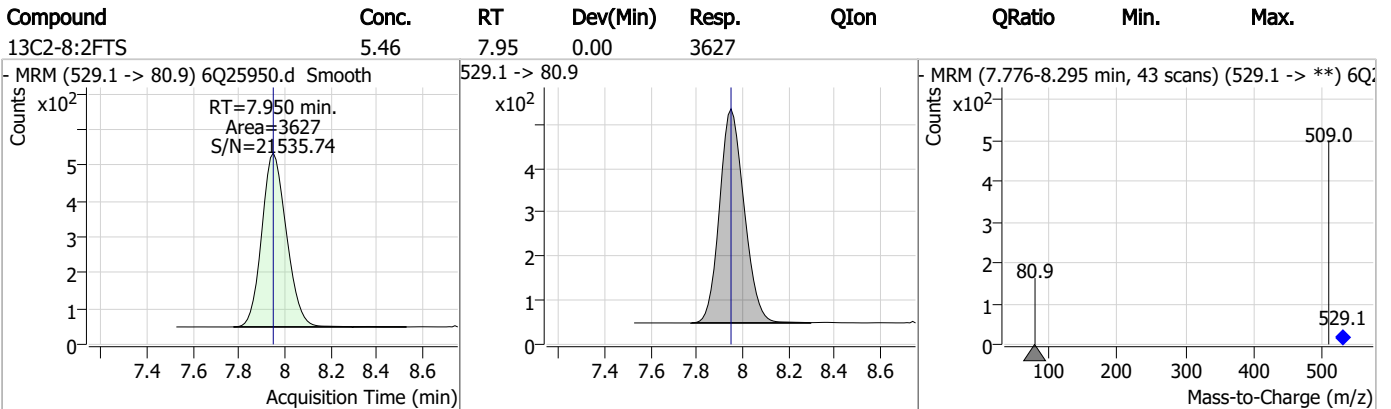
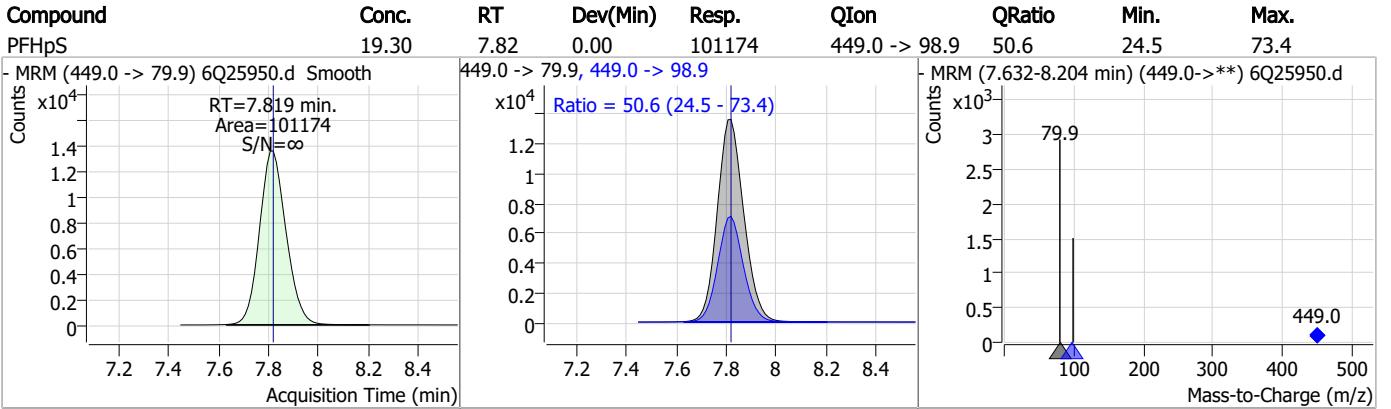
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### Perfluorinated Compounds by LC/MS/MS



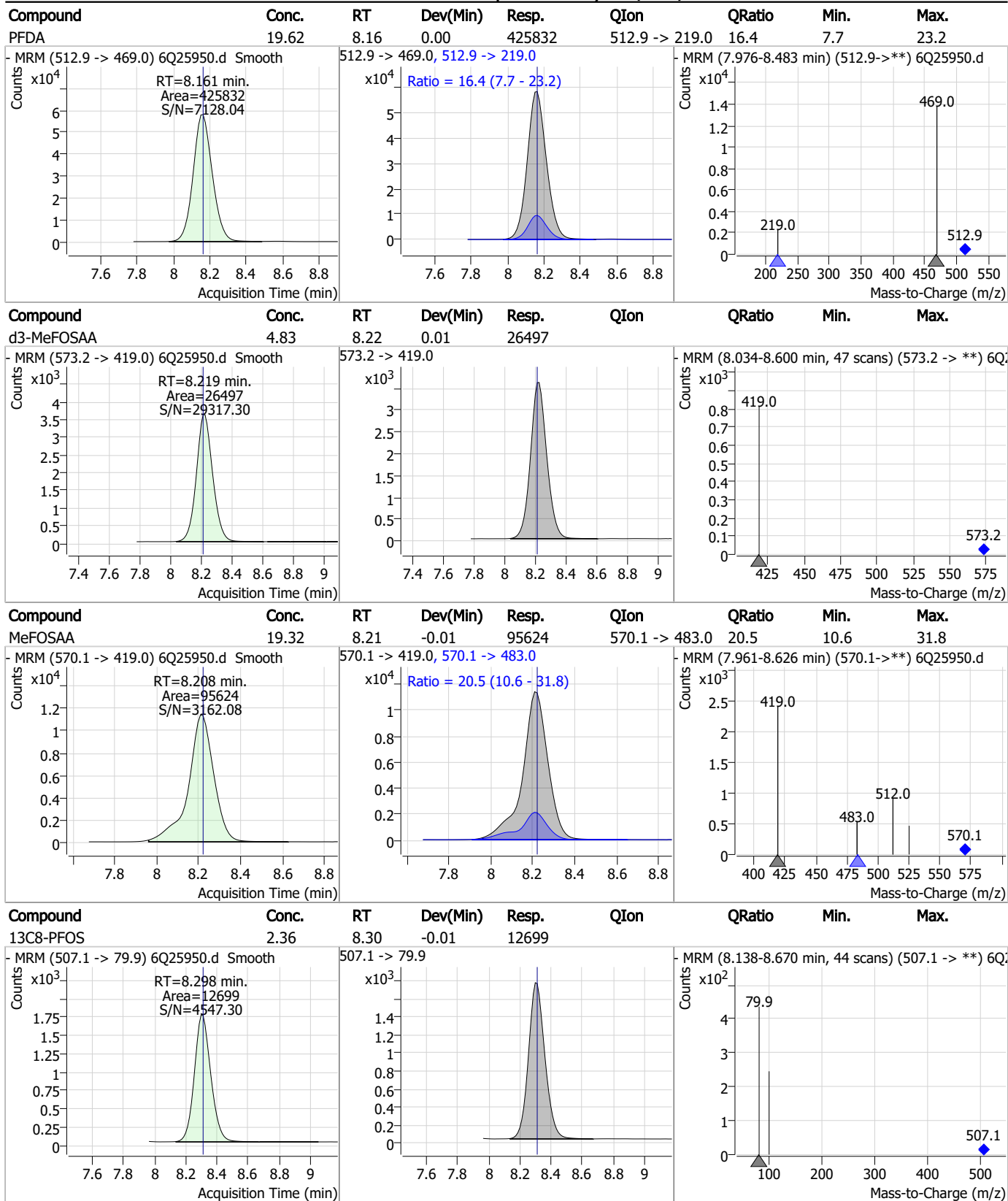
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### Perfluorinated Compounds by LC/MS/MS





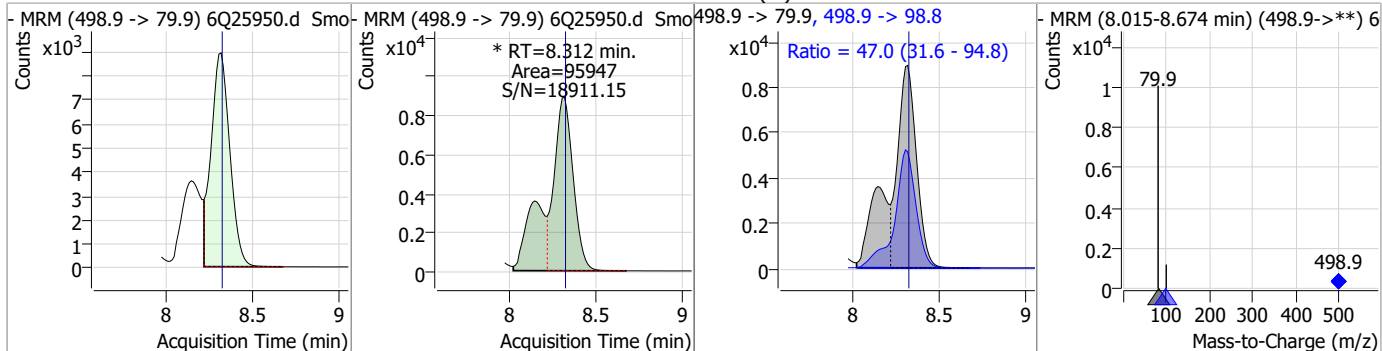
### Perfluorinated Compounds by LC/MS/MS



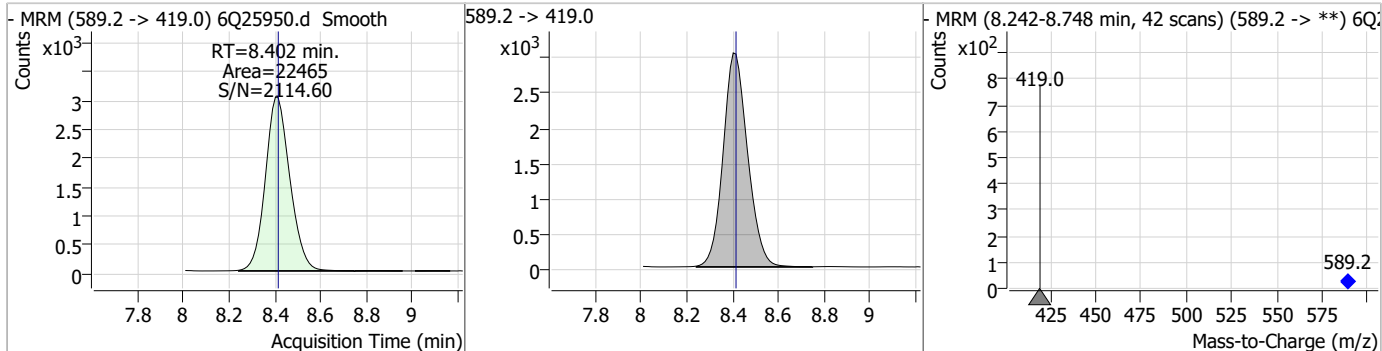
7.7.11

### Perfluorinated Compounds by LC/MS/MS

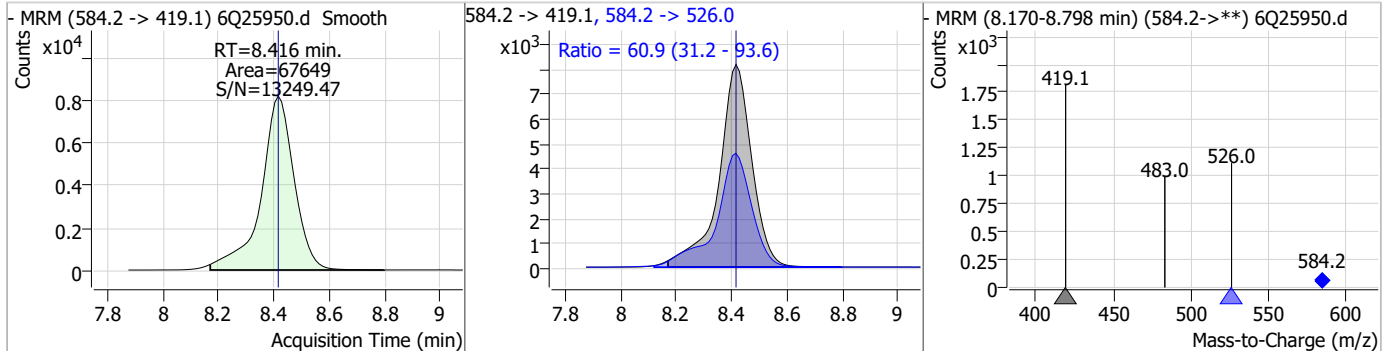
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOS	17.69	8.31	0.00	95947 (m)	498.9 -> 98.8	47.0	31.6	94.8



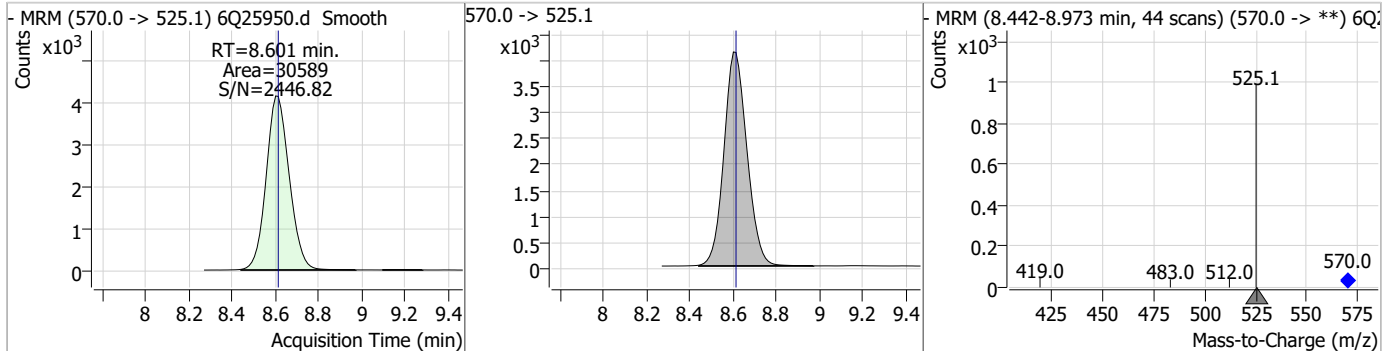
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSAA	4.78	8.40	-0.01	22465				



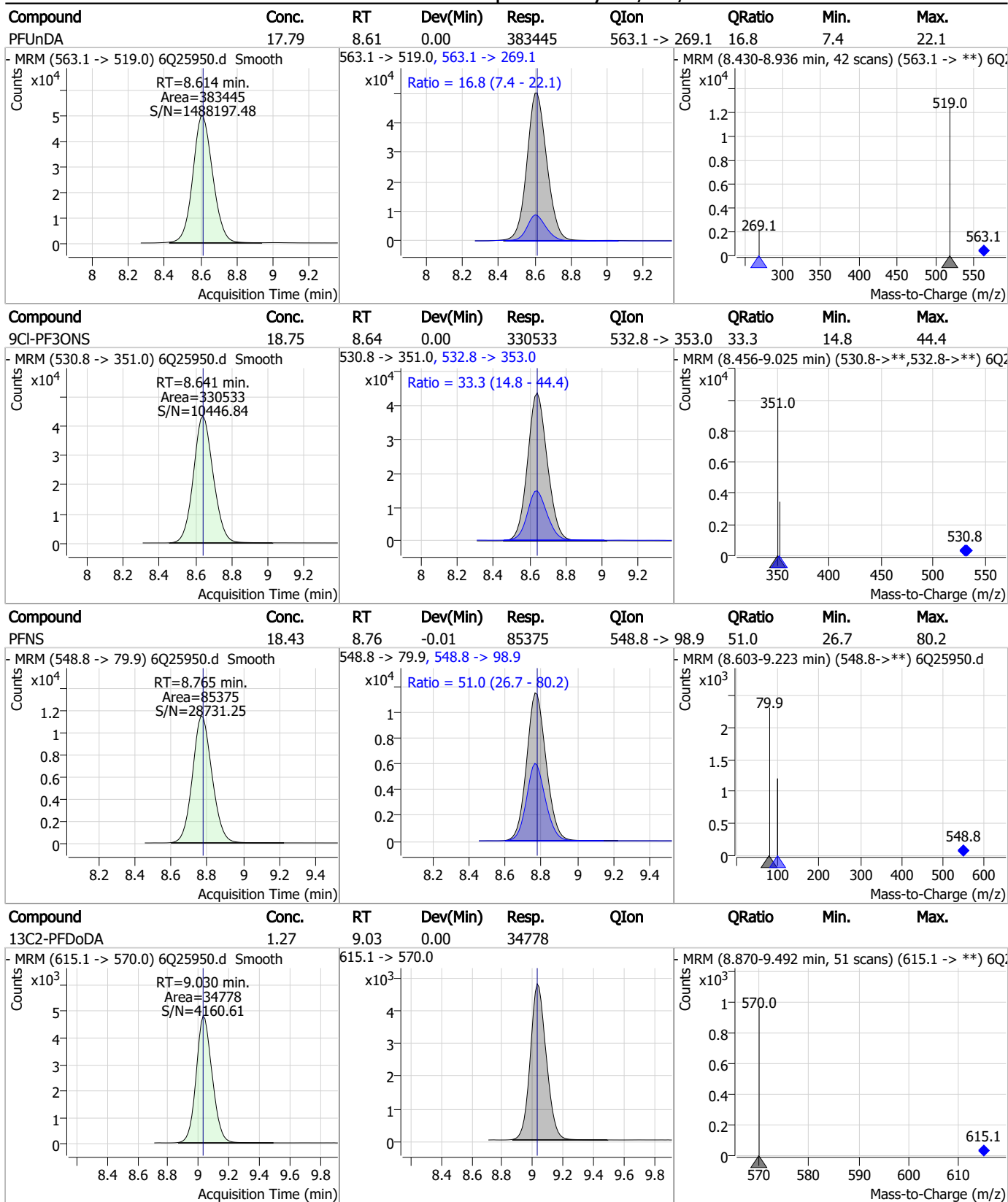
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSAA	18.53	8.42	0.00	67649	584.2 -> 526.0	60.9	31.2	93.6



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



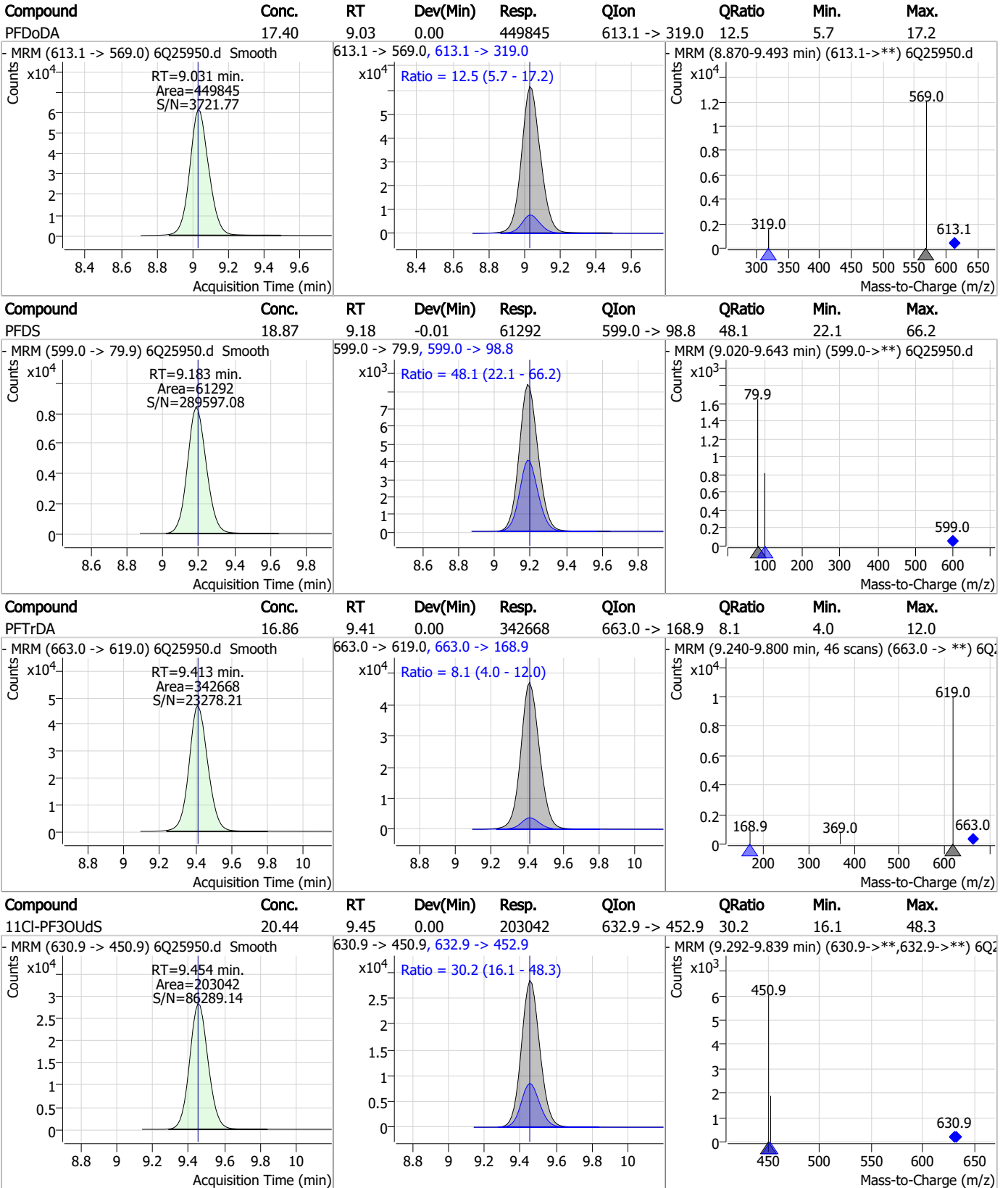
### Perfluorinated Compounds by LC/MS/MS



7.7.11

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### Perfluorinated Compounds by LC/MS/MS

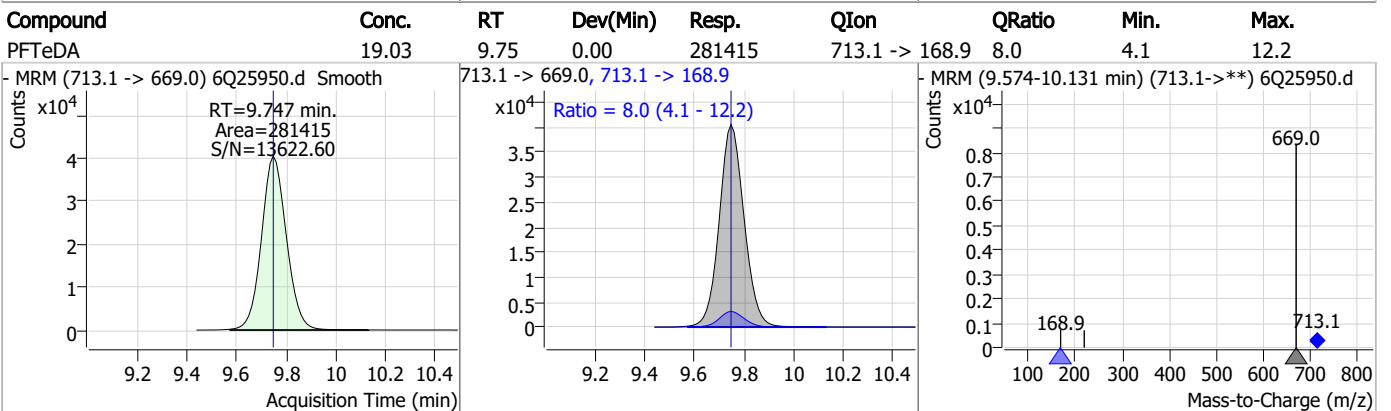
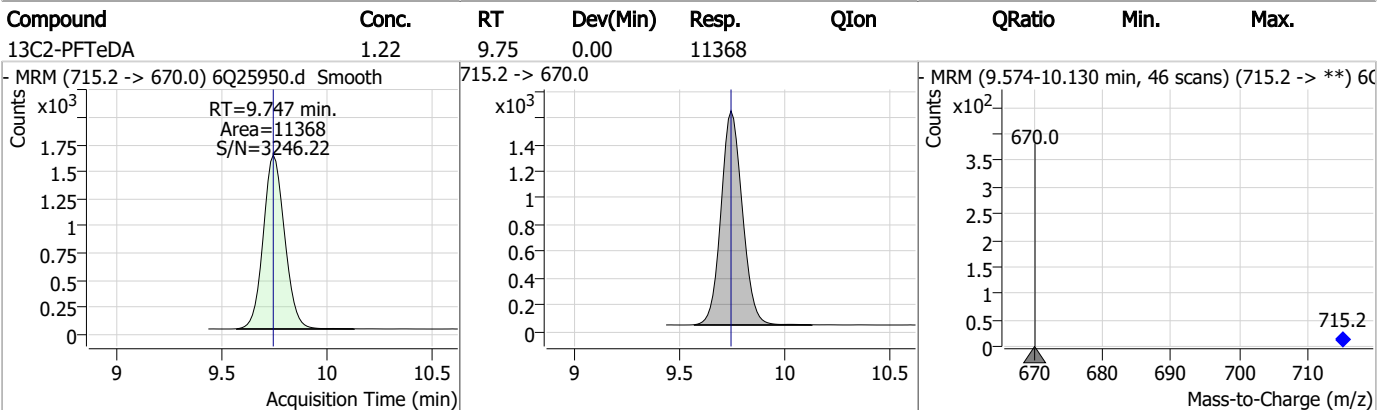
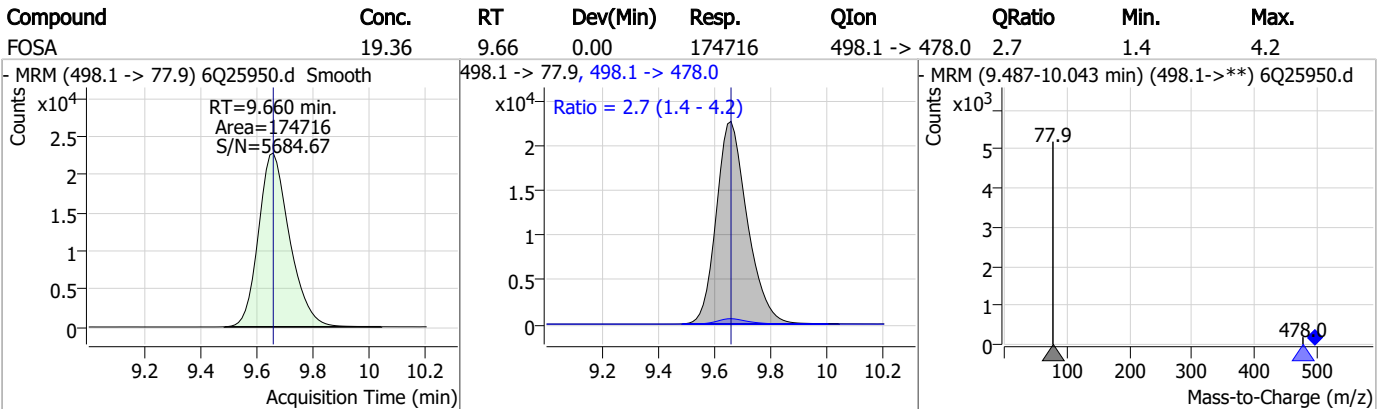
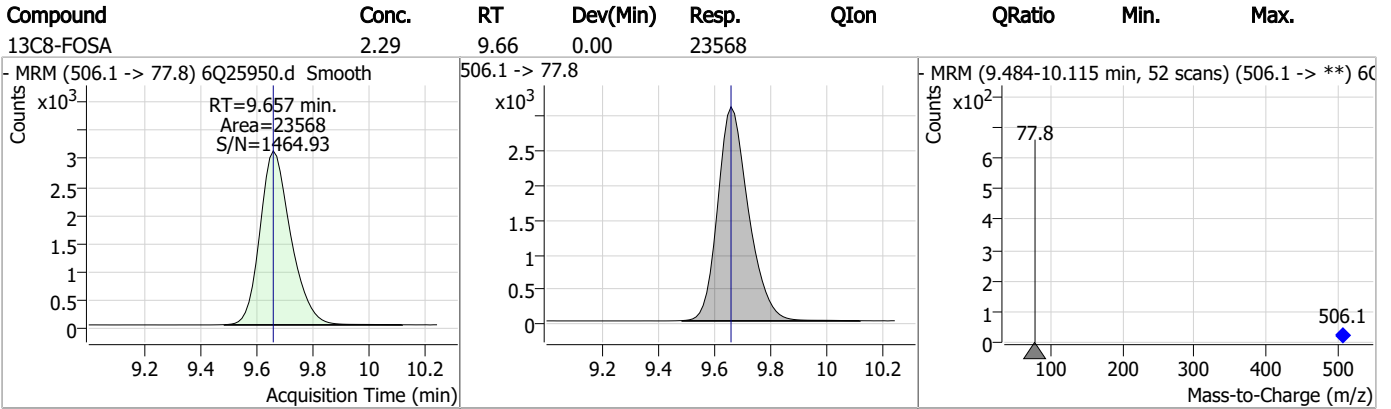


7.7.11

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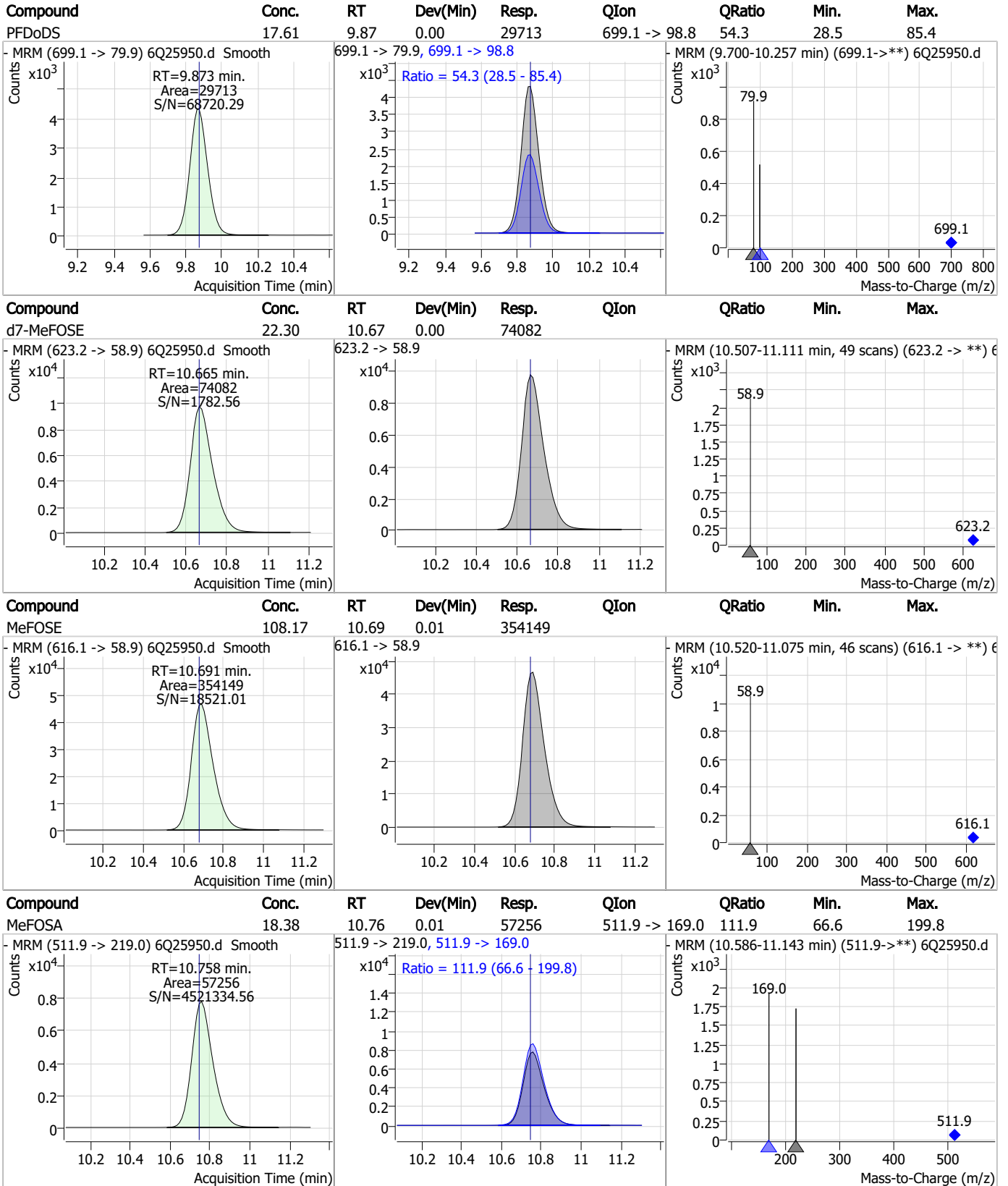


### Perfluorinated Compounds by LC/MS/MS



7.7.11  
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### Perfluorinated Compounds by LC/MS/MS

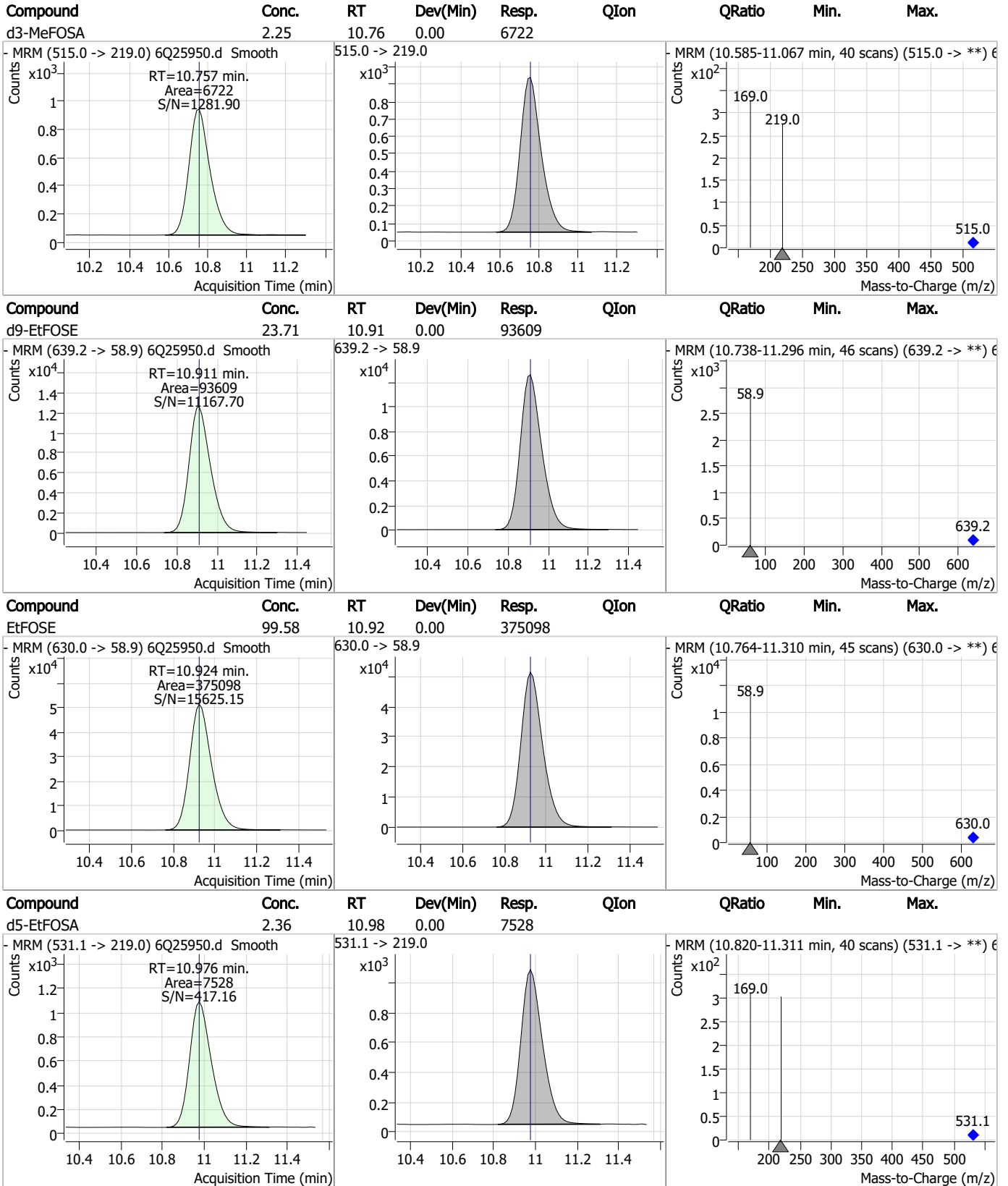


7.7.11

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### Perfluorinated Compounds by LC/MS/MS

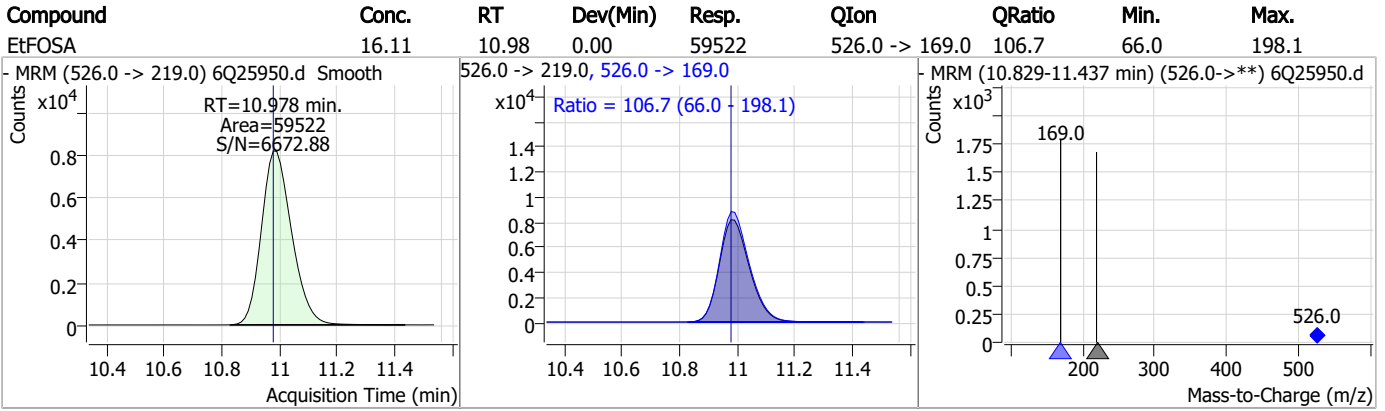


7.7.11

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### Perfluorinated Compounds by LC/MS/MS



7.7.11

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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

7.7.11.1

7

### 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)
<b>Internal Standards</b>					
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
<b>System Monitoring Compounds</b>					
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%	
<b>Target Compounds</b>					<b>QValue</b>
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

7.7.12  
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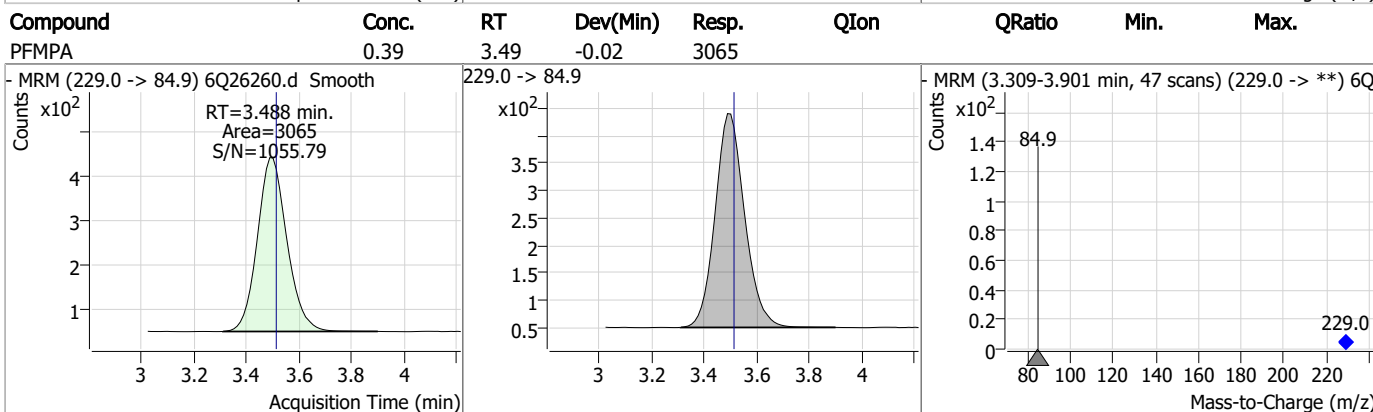
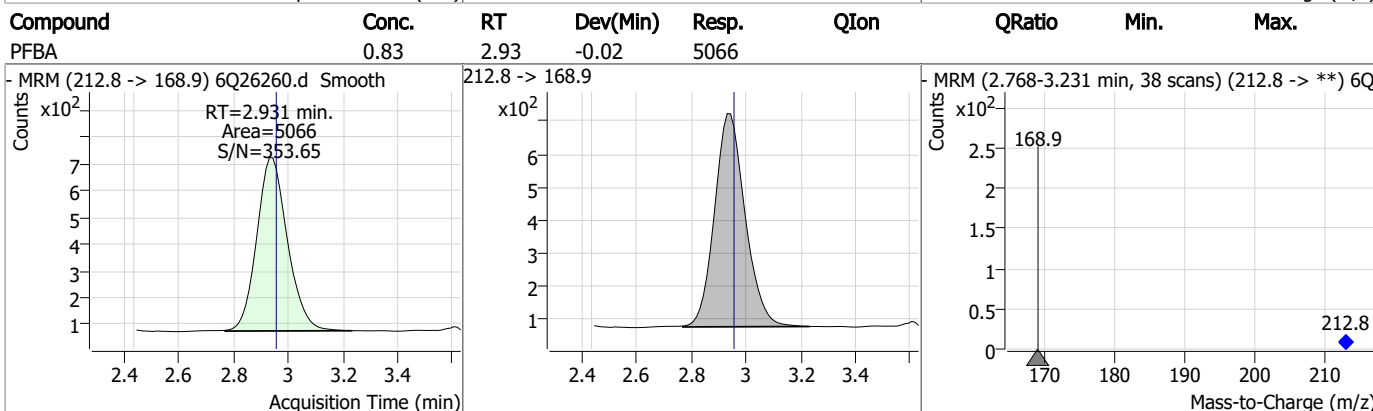
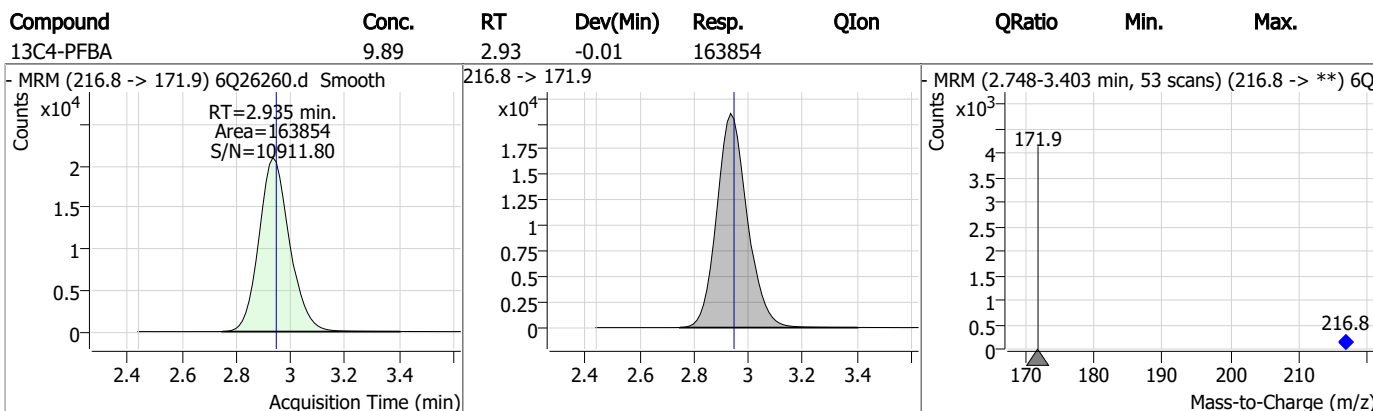
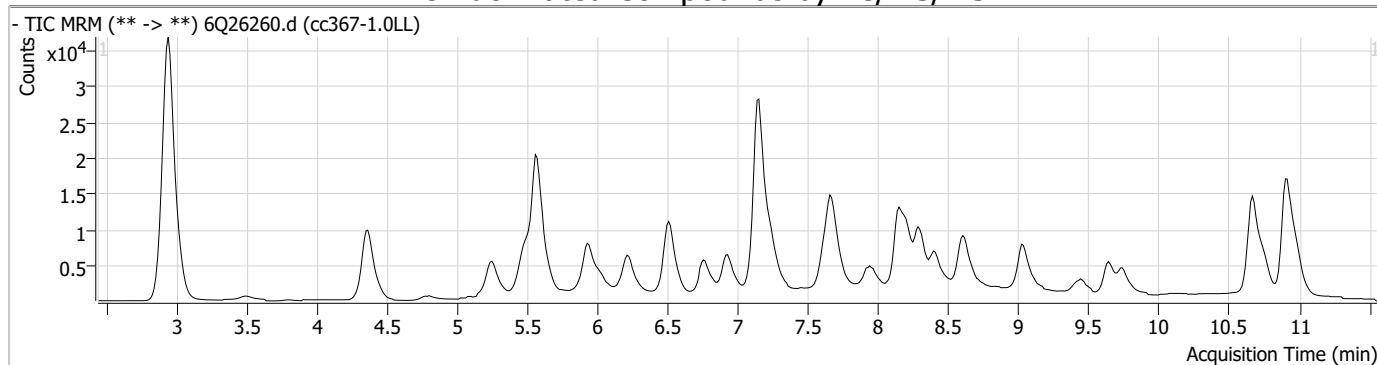
### Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
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7.7.12

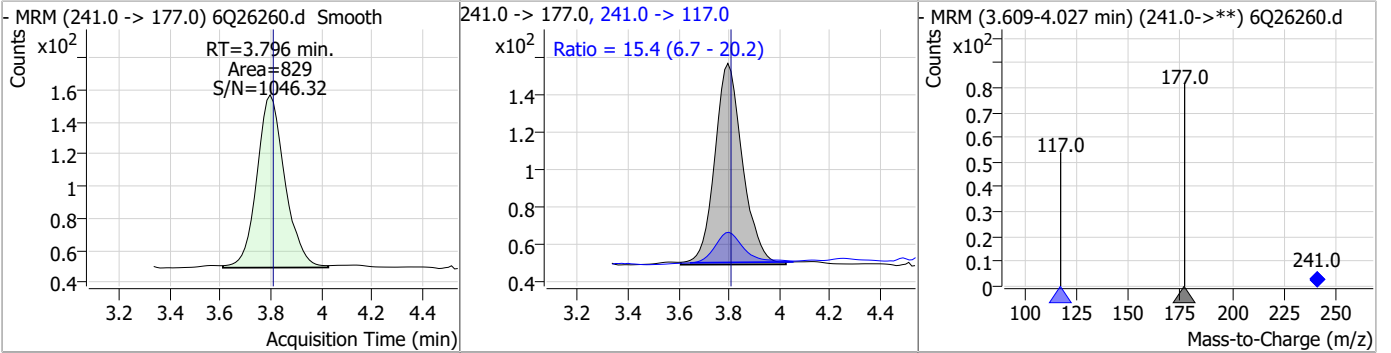
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### Perfluorinated Compounds by LC/MS/MS

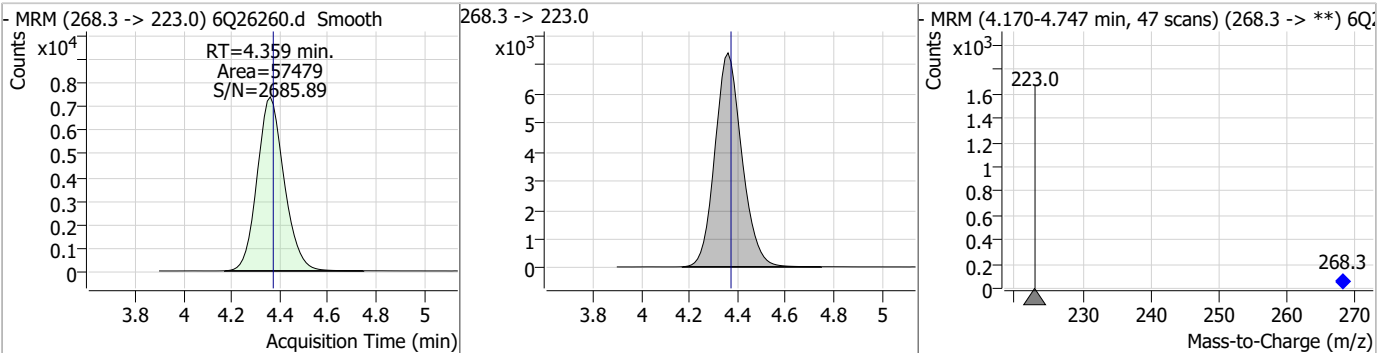


### Perfluorinated Compounds by LC/MS/MS

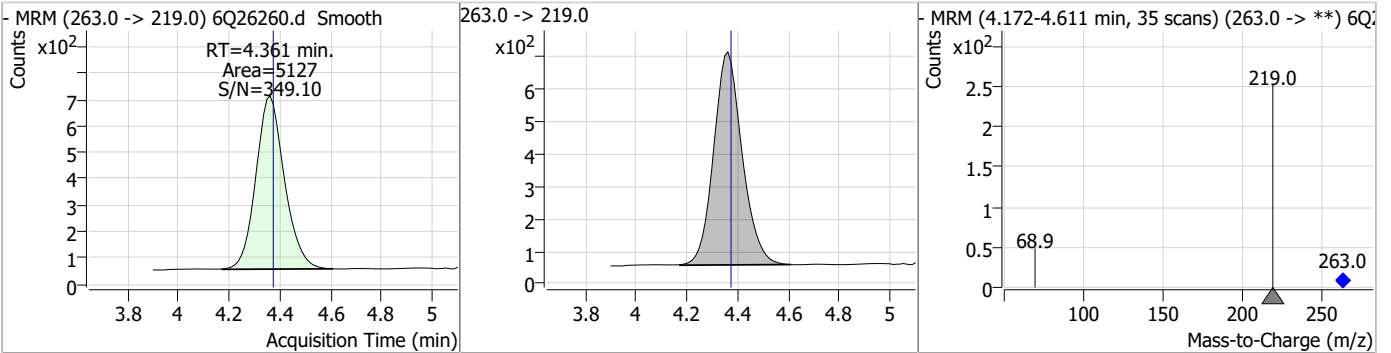
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
3:3FTCA	0.94	3.80	-0.01	829	241.0 -> 117.0	15.4	6.7	20.2



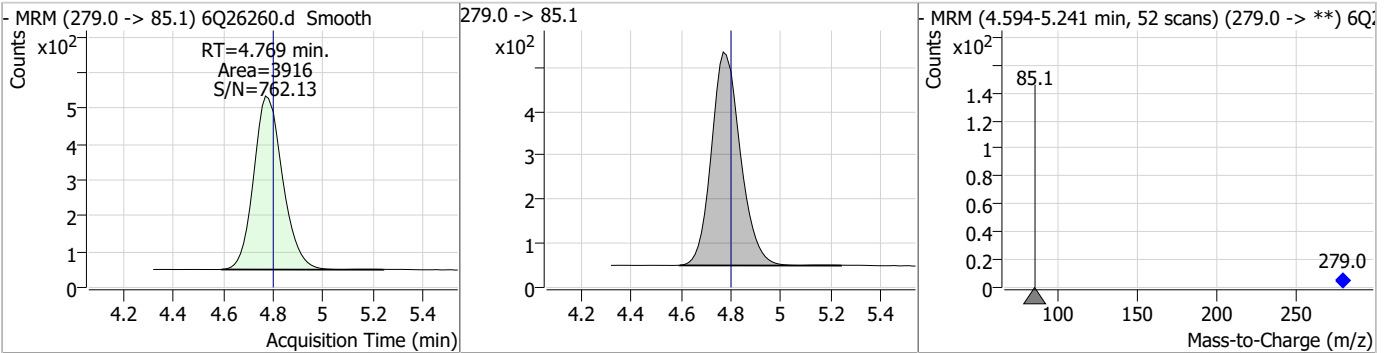
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFPeA	4.86	4.36	-0.01	57479				



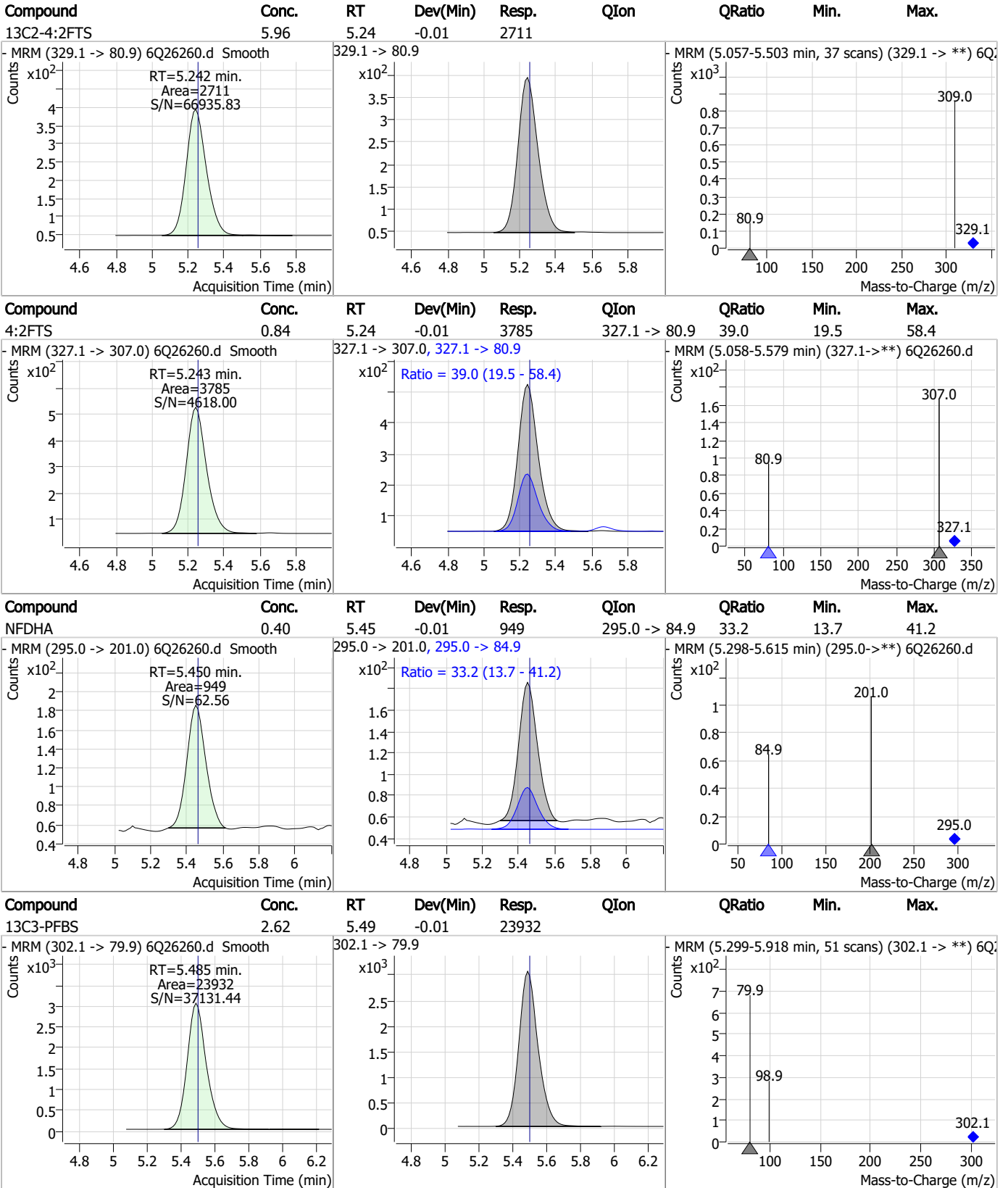
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeA	0.41	4.36	-0.01	5127				



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



### Perfluorinated Compounds by LC/MS/MS



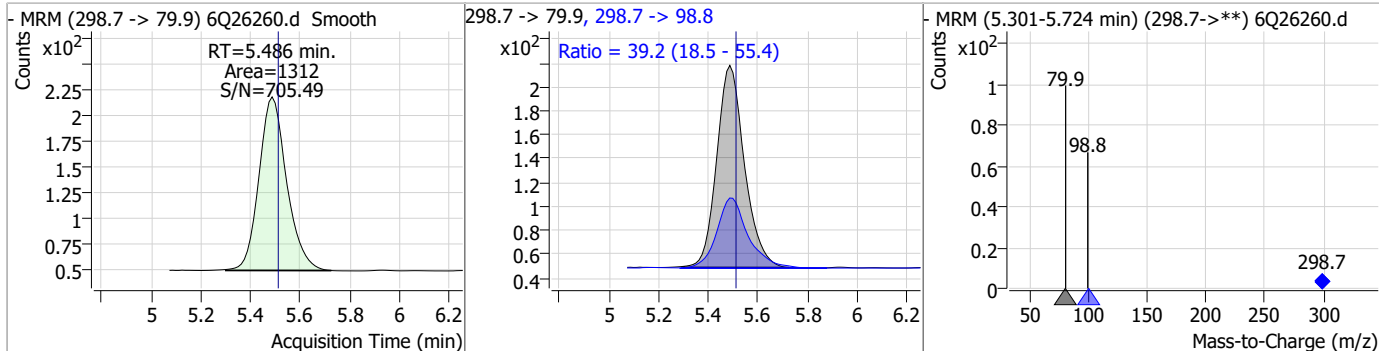
7.7.12 7



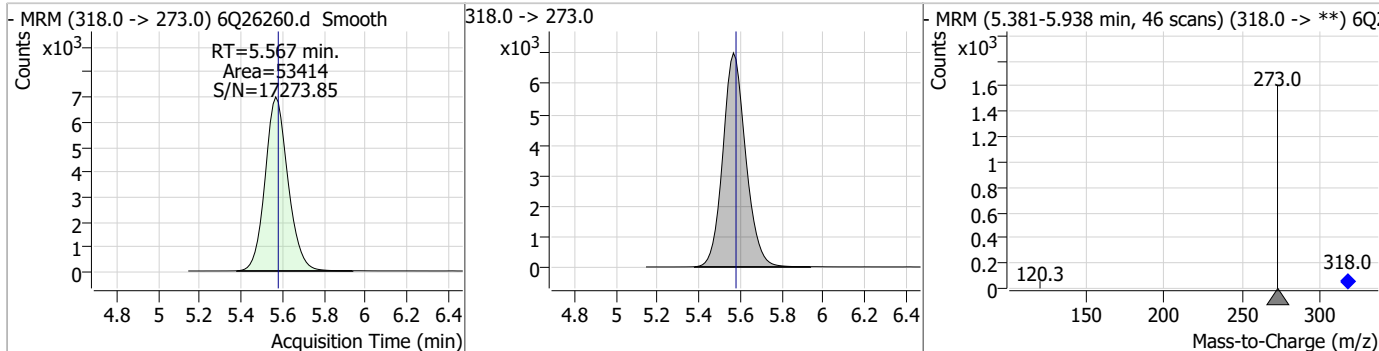


### Perfluorinated Compounds by LC/MS/MS

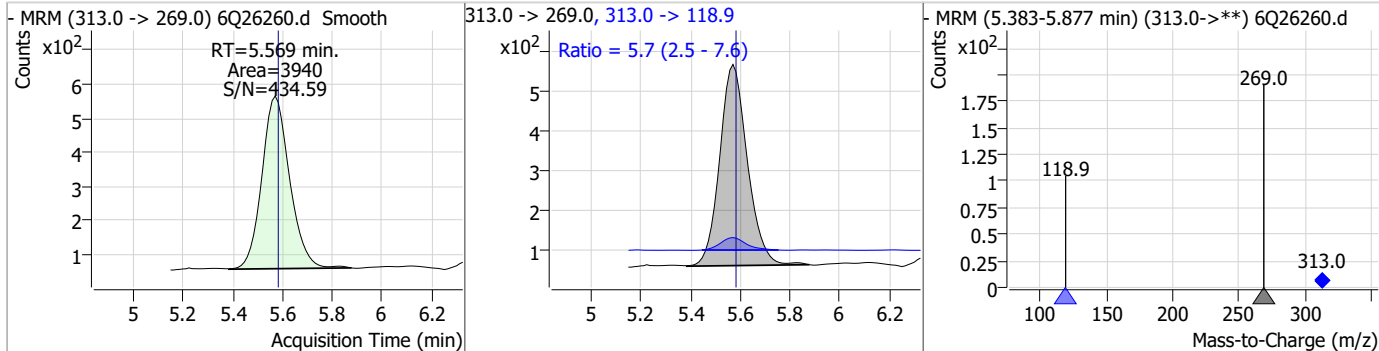
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBS	0.18	5.49	-0.02	1312	298.7 -> 98.8	39.2	18.5	55.4



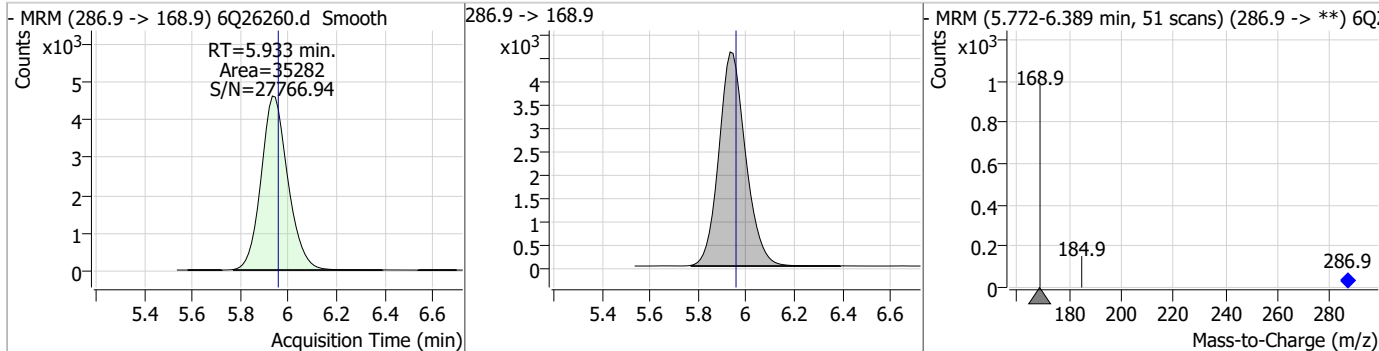
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFHxA	2.47	5.57	-0.01	53414				



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

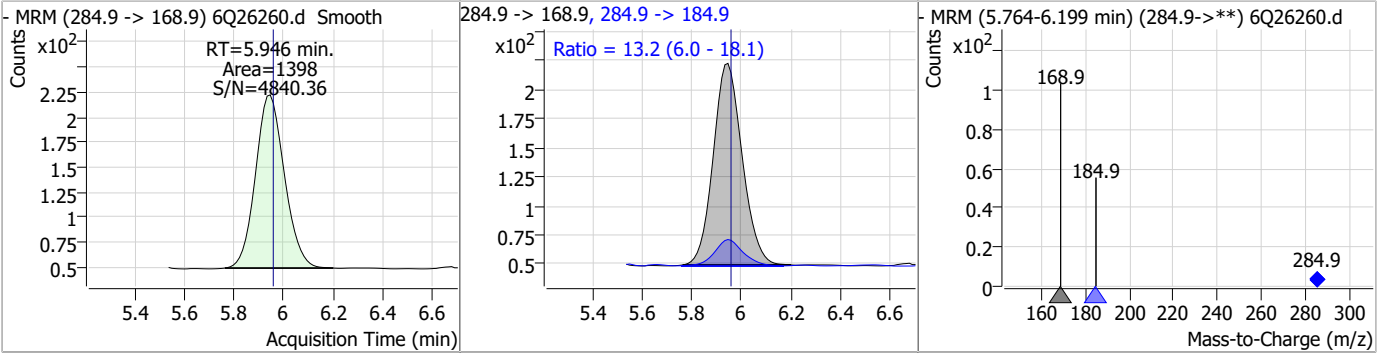


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-HFPO-DA	9.69	5.93	-0.02	35282				

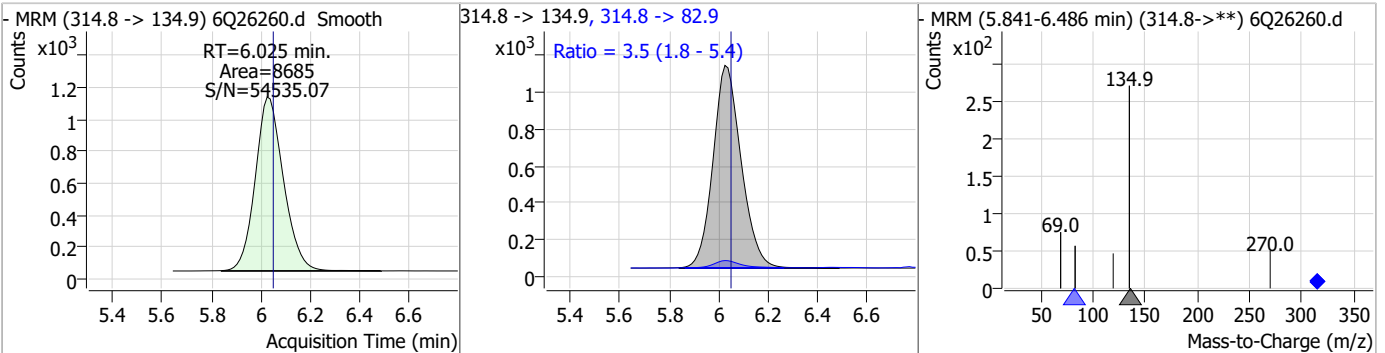


### Perfluorinated Compounds by LC/MS/MS

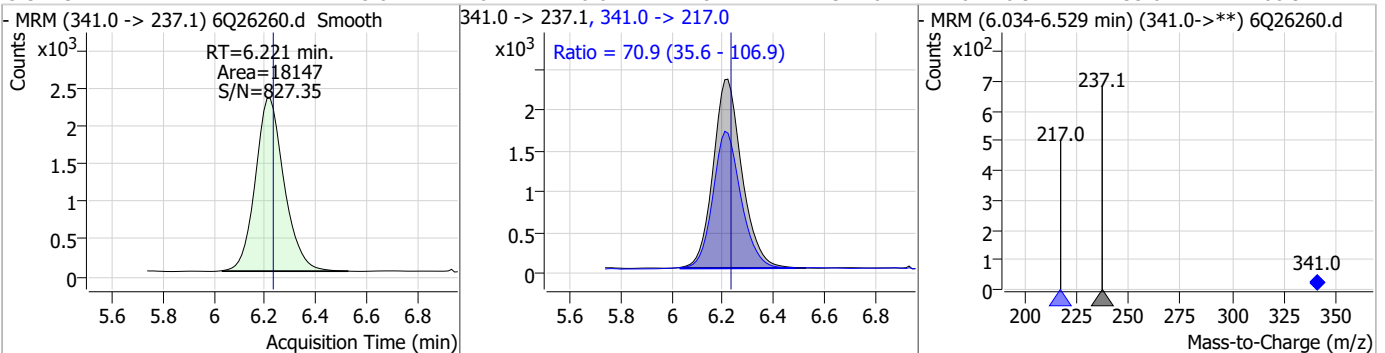
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
HFPO-DA	0.40	5.95	-0.01	1398	284.9 -> 184.9	13.2	6.0	18.1



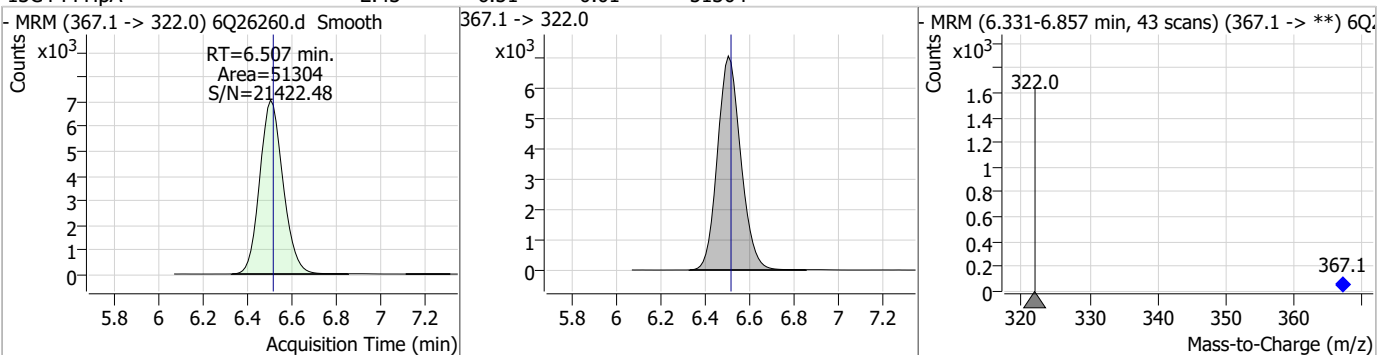
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFEESA	0.35	6.02	-0.02	8685	314.8 -> 82.9	3.5	1.8	5.4



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
5:3FTCA	5.07	6.22	-0.01	18147	341.0 -> 217.0	70.9	35.6	106.9

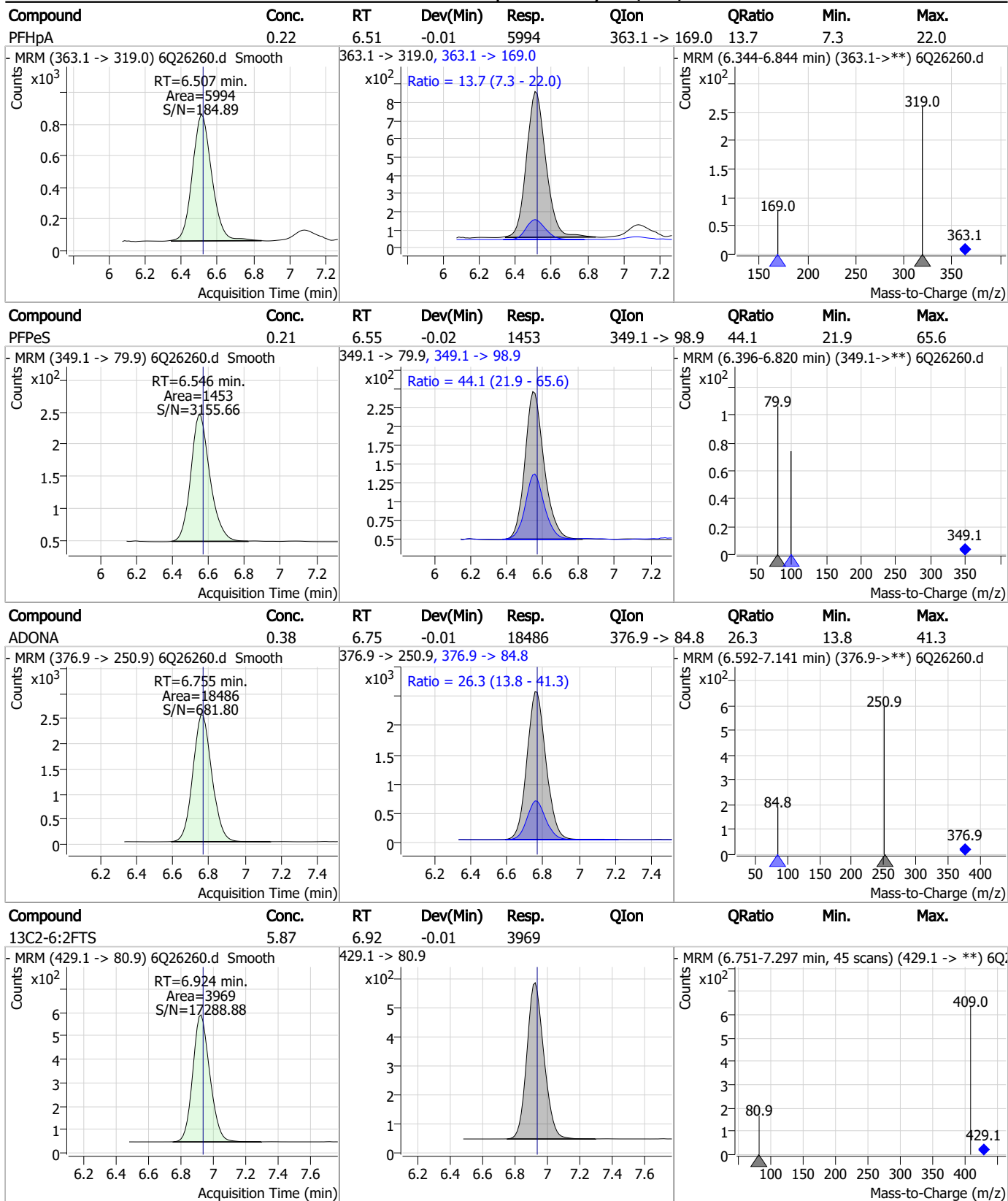


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFHpA	2.43	6.51	-0.01	51304	367.1 -> 322.0			



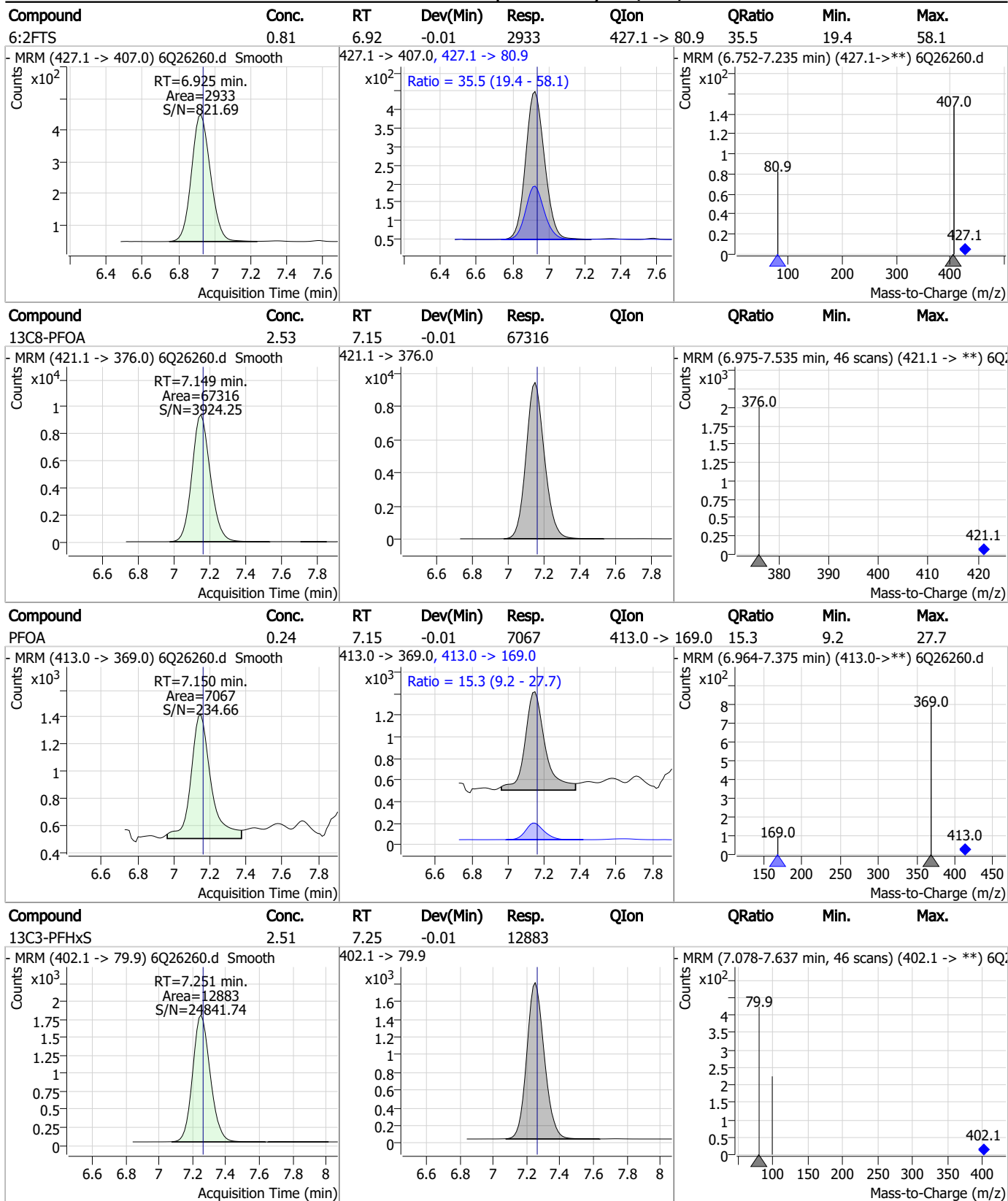
7.7.12  
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### Perfluorinated Compounds by LC/MS/MS



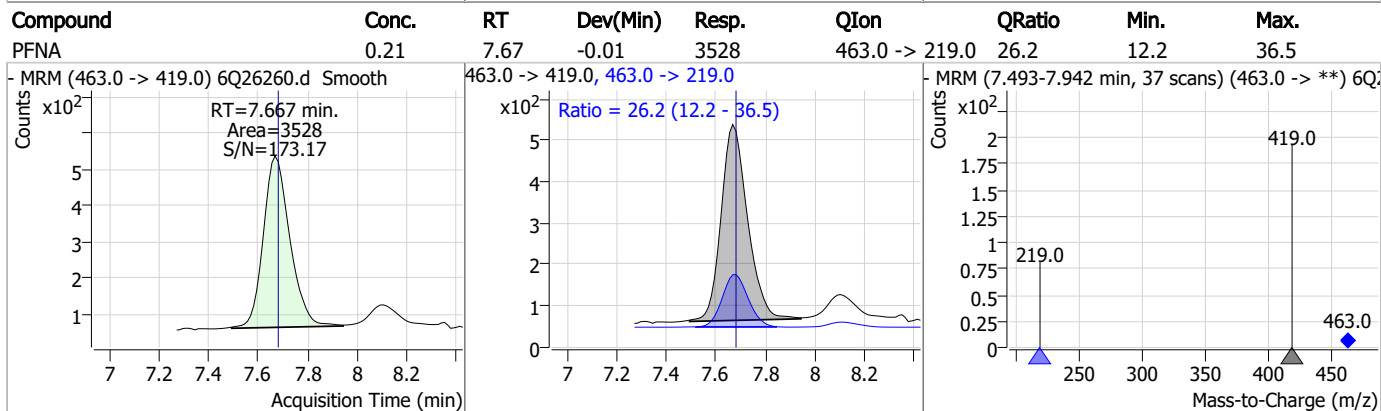
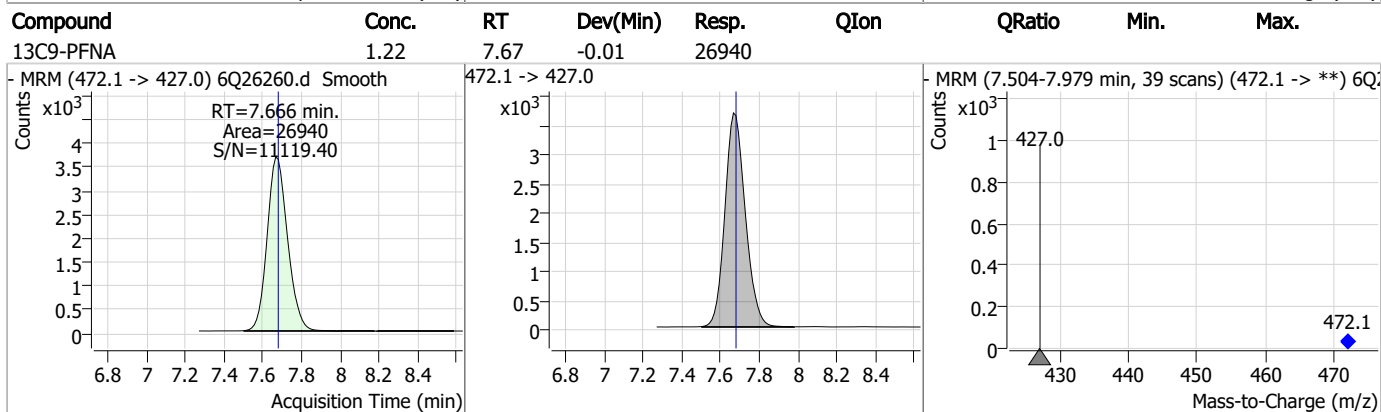
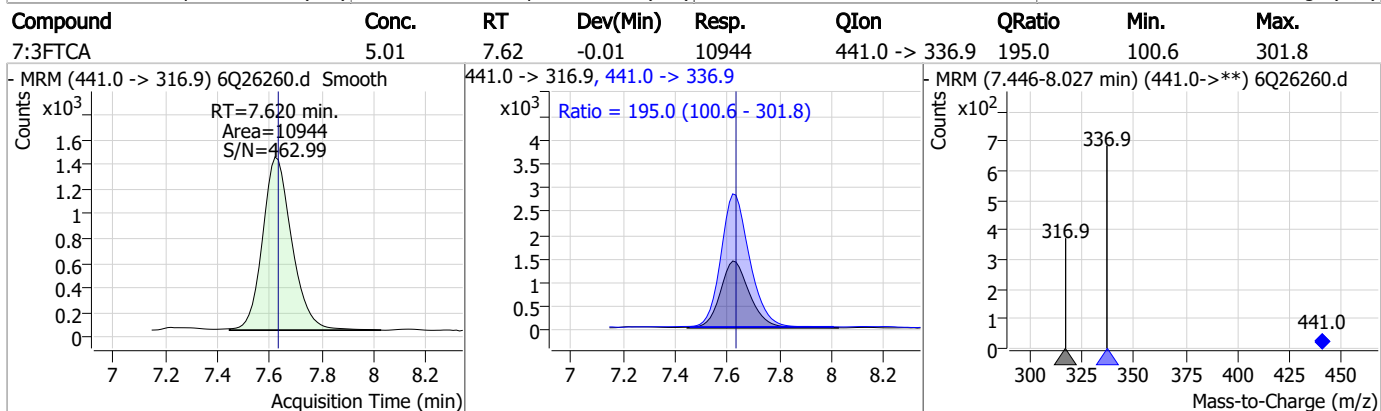
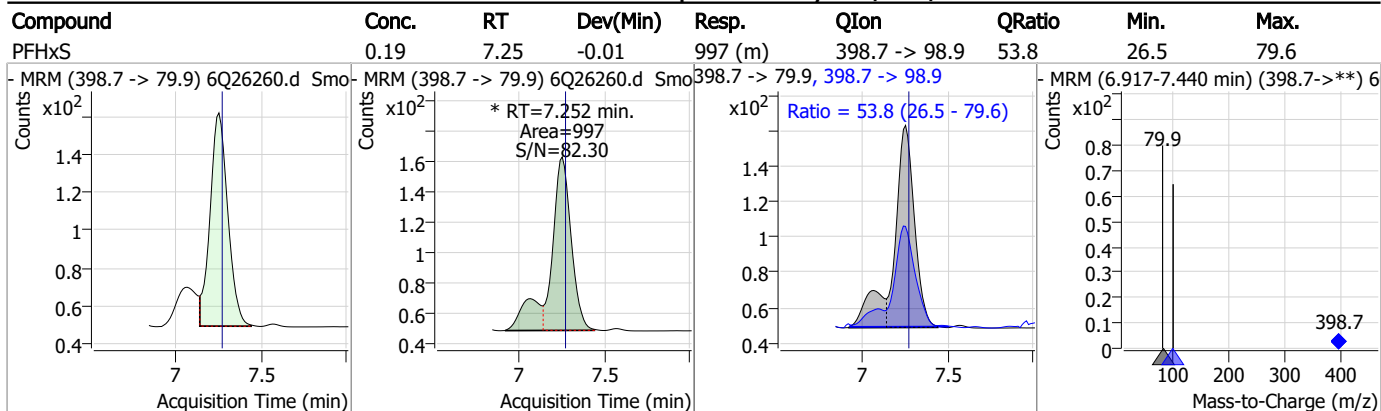
7.7.12  
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### Perfluorinated Compounds by LC/MS/MS



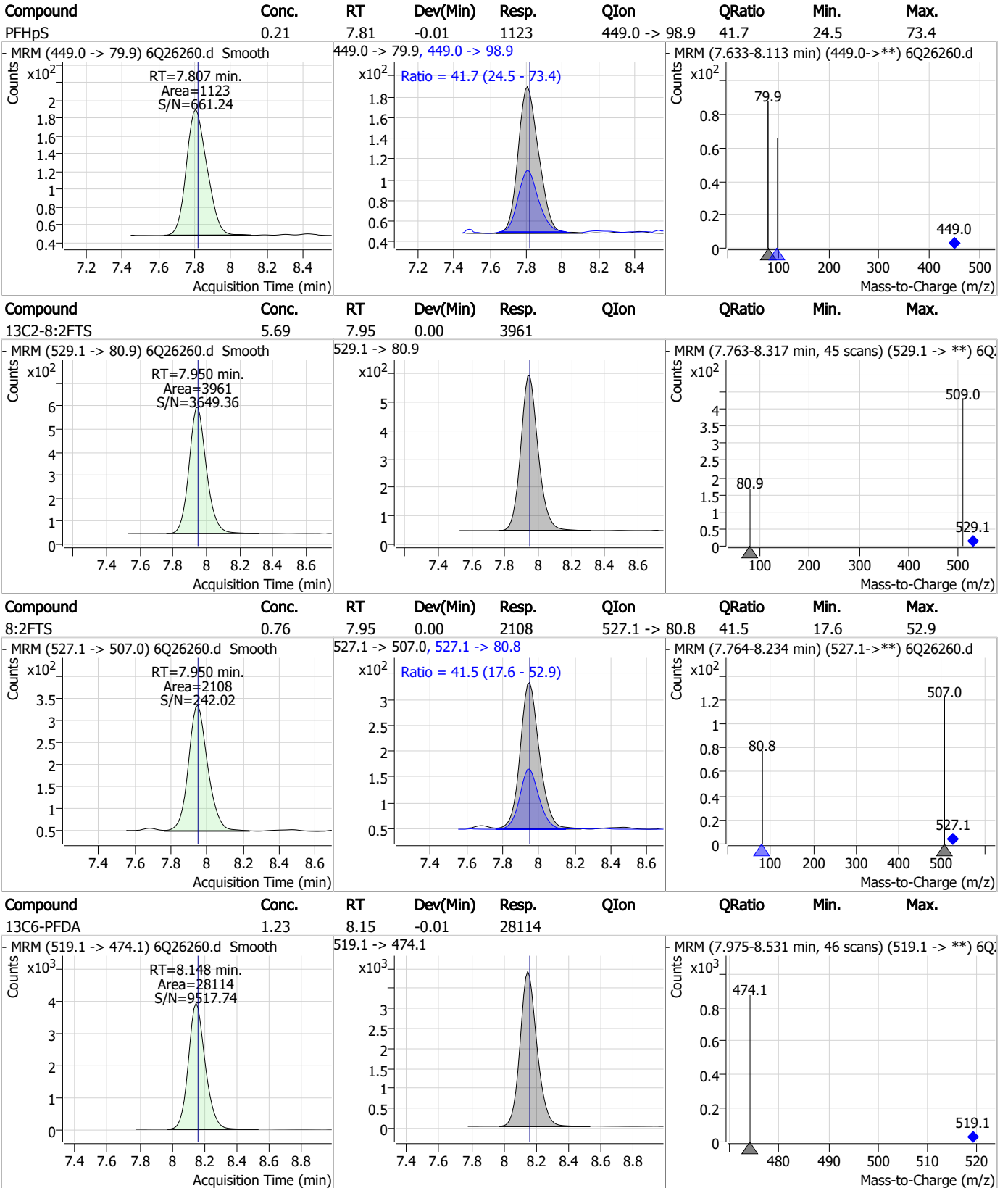
7.7.12  
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### Perfluorinated Compounds by LC/MS/MS



7.7.12  
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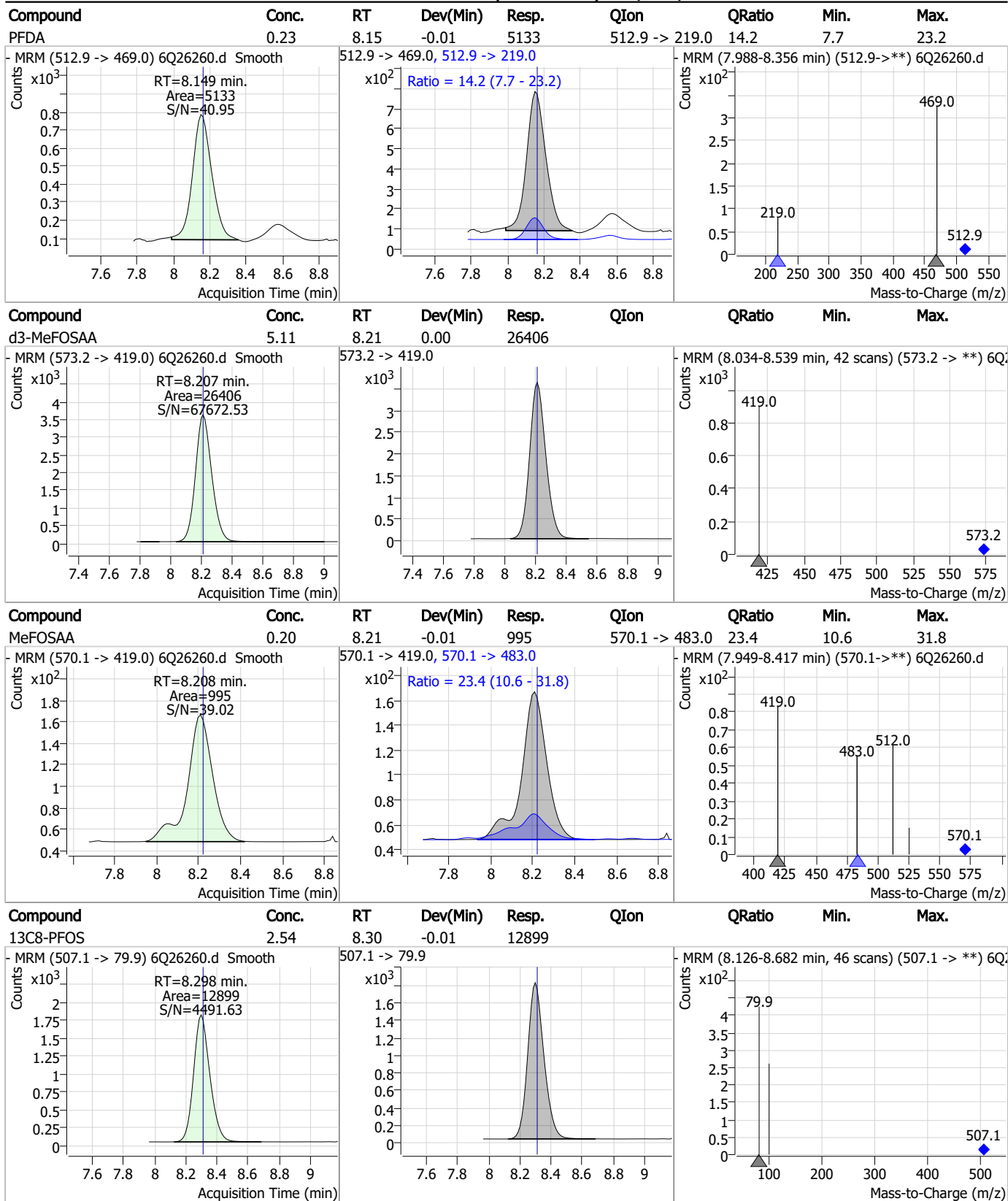
### Perfluorinated Compounds by LC/MS/MS



7.7.12



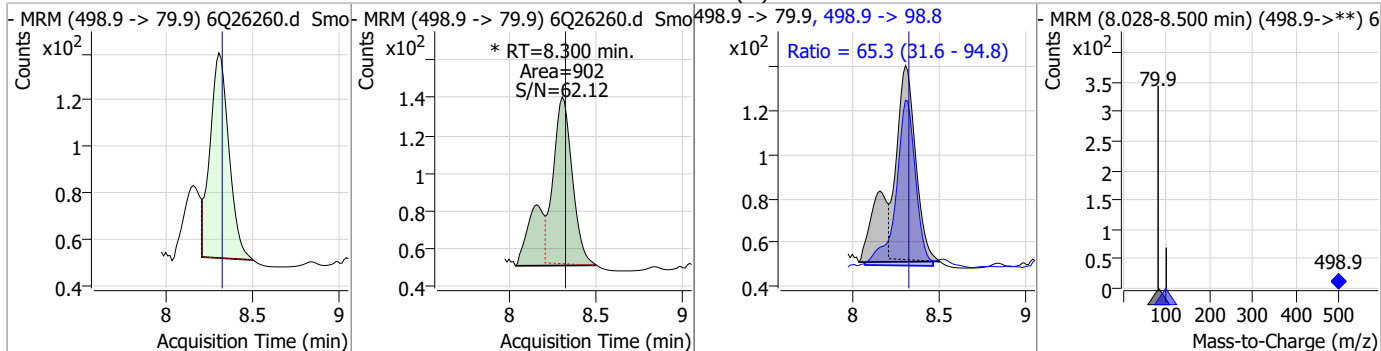
### Perfluorinated Compounds by LC/MS/MS



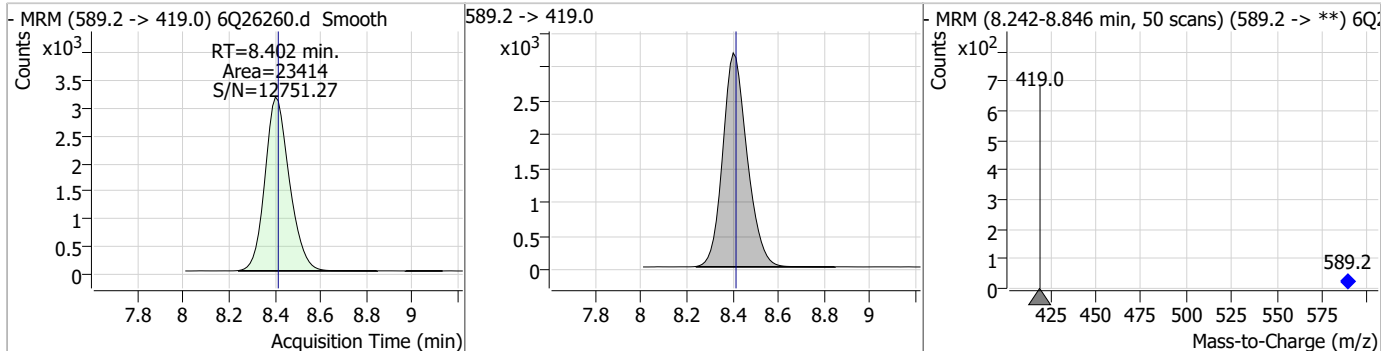
7.7.12  
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### Perfluorinated Compounds by LC/MS/MS

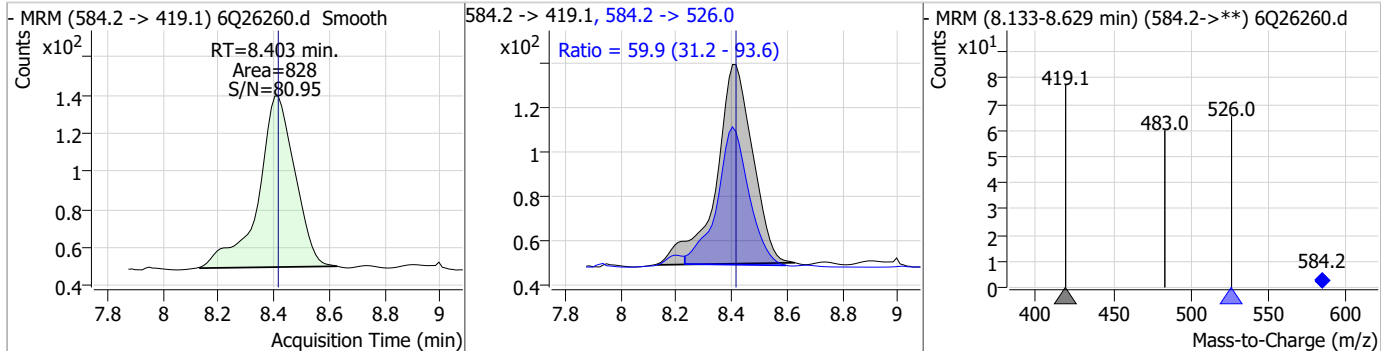
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOS	0.16	8.30	-0.01	902 (m)	498.9 -> 98.8	65.3	31.6	94.8



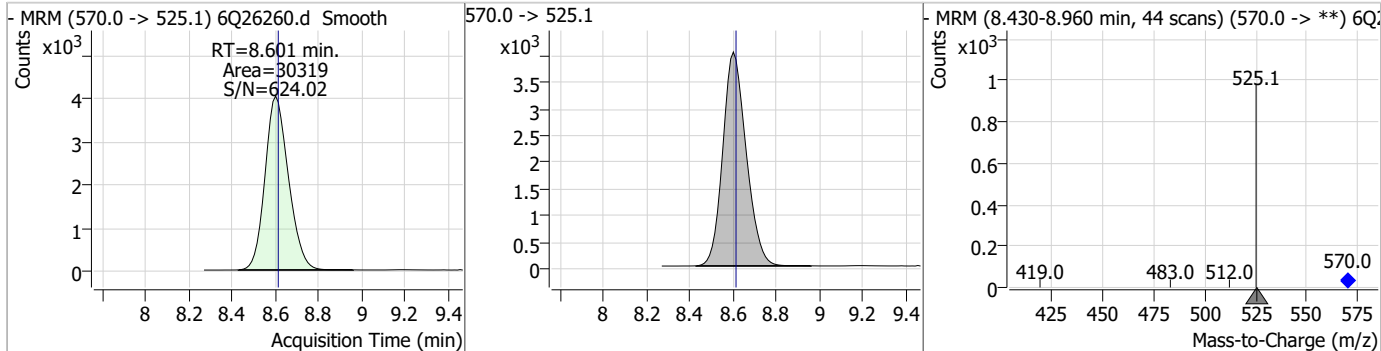
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSAA	5.29	8.40	-0.01	23414				



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



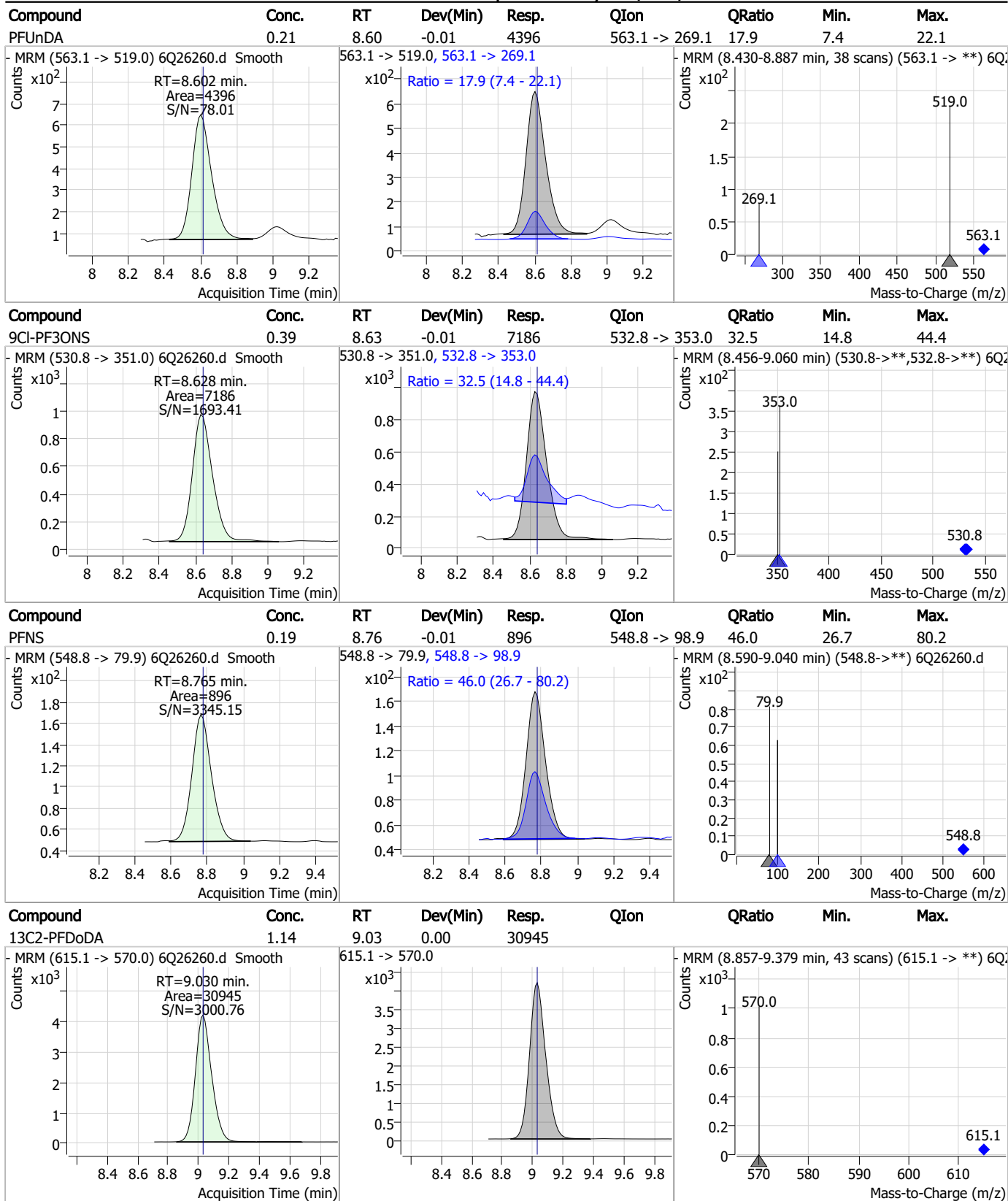
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C7-PFUnDA	1.22	8.60	-0.01	30319				



7.7.12  
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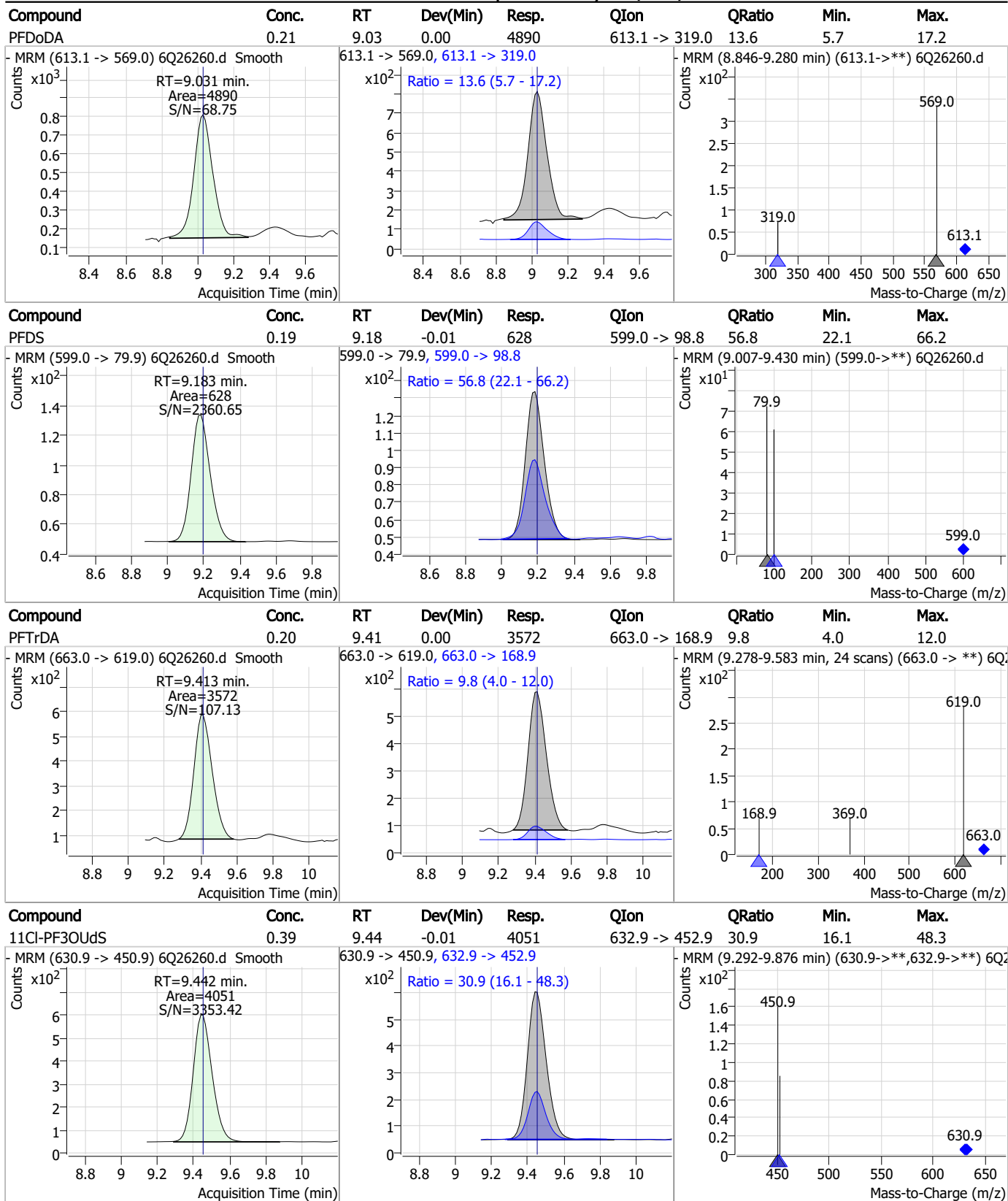


### Perfluorinated Compounds by LC/MS/MS



7.7.12  
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### Perfluorinated Compounds by LC/MS/MS



7.7.12  
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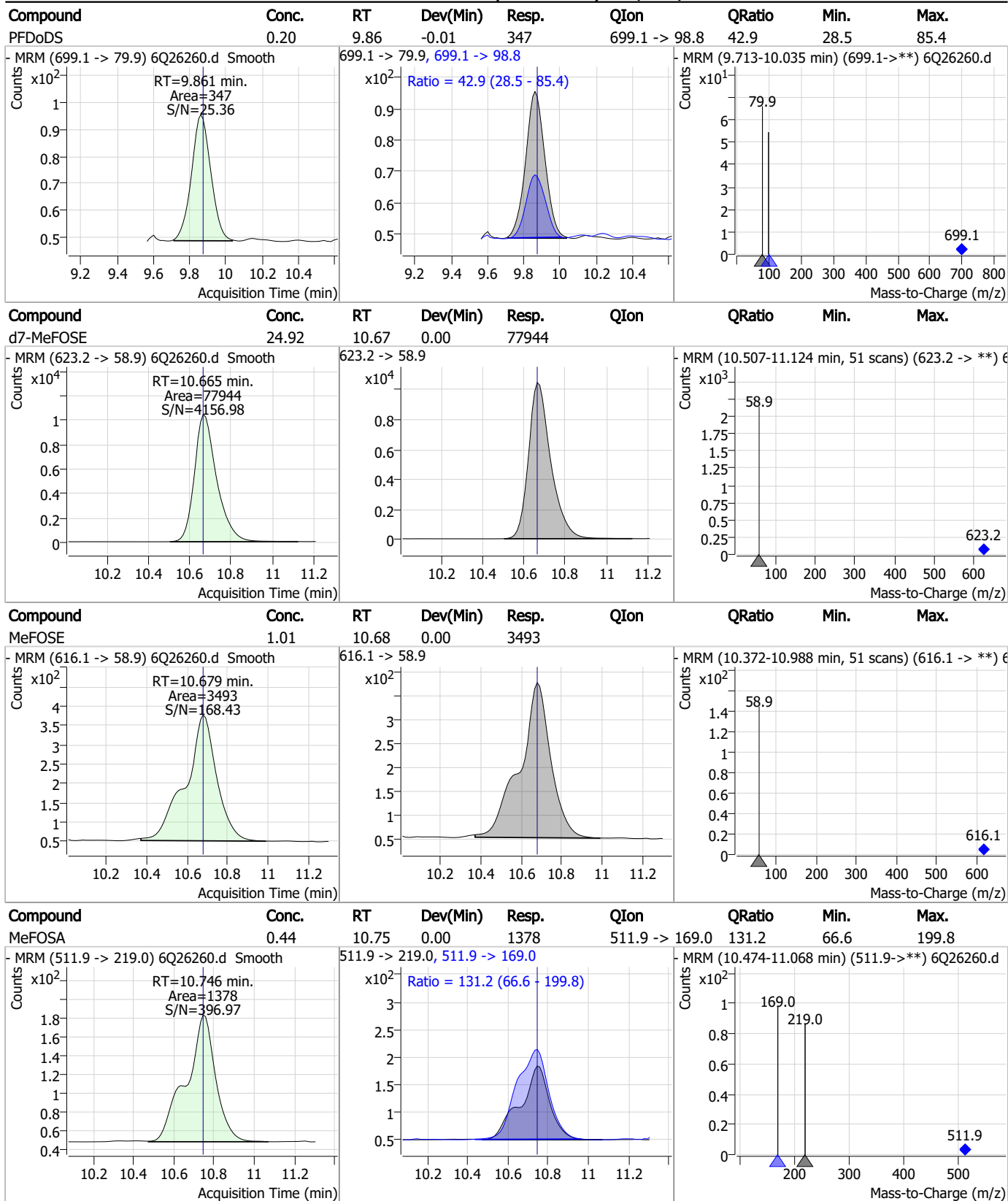
### Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
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 7

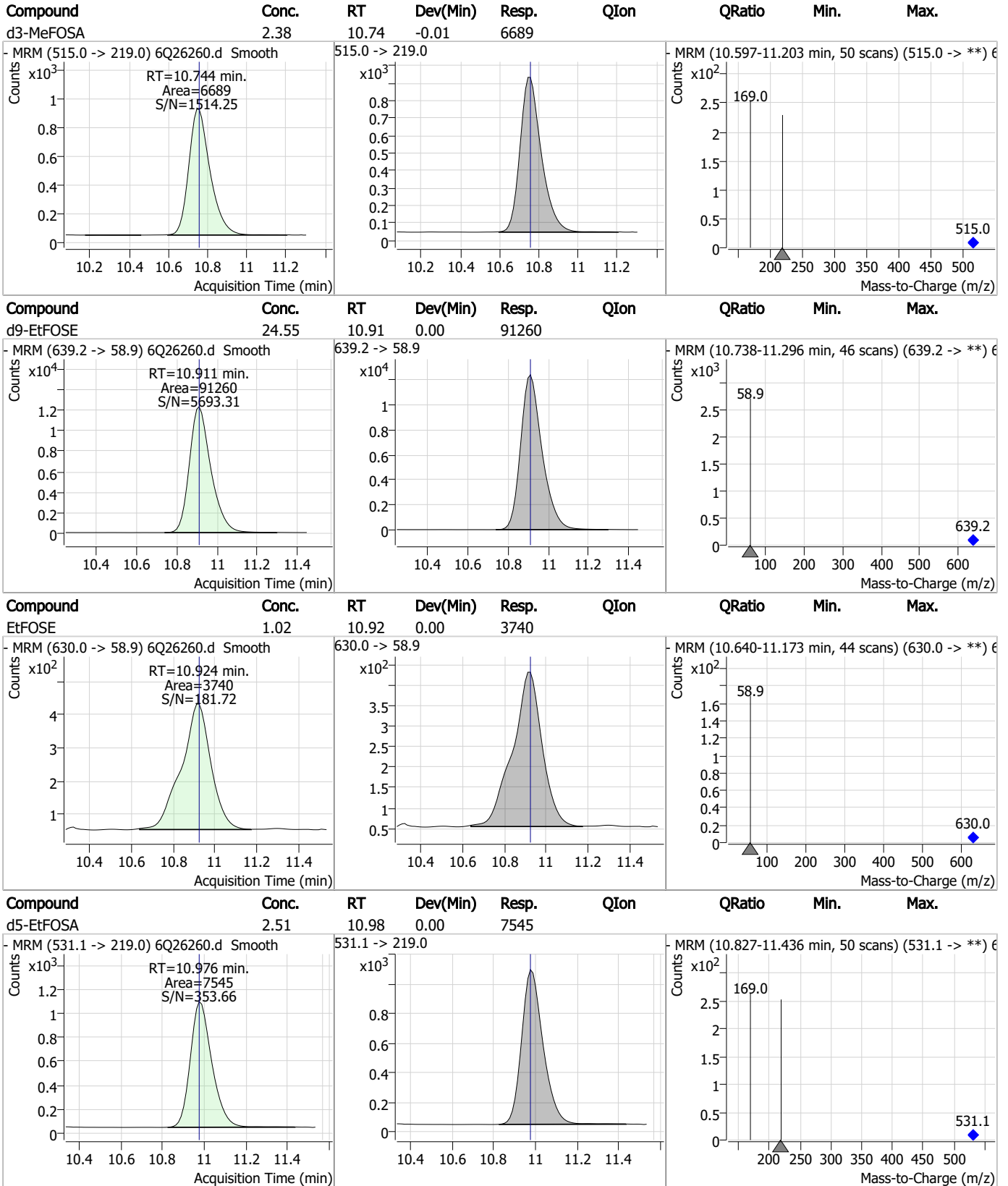


### Perfluorinated Compounds by LC/MS/MS



7.7.12  
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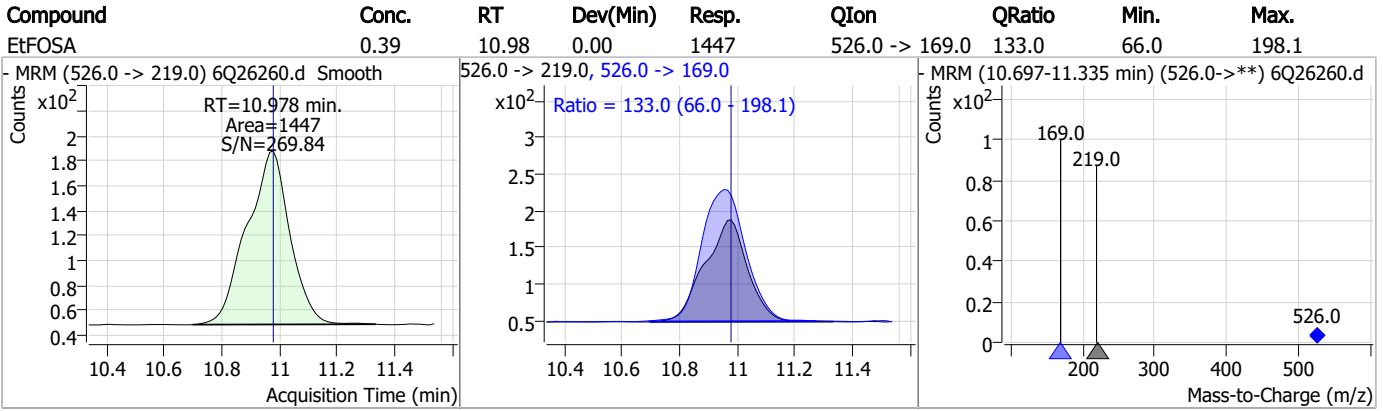
### Perfluorinated Compounds by LC/MS/MS



7.7.12 7



### Perfluorinated Compounds by LC/MS/MS



7.7.12  
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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

7.7.12.1

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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)
<b>Internal Standards</b>					
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
<b>System Monitoring Compounds</b>					
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

7.7.13  
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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%	
<b>Target Compounds</b>					<b>QValue</b>
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

7.7.13  
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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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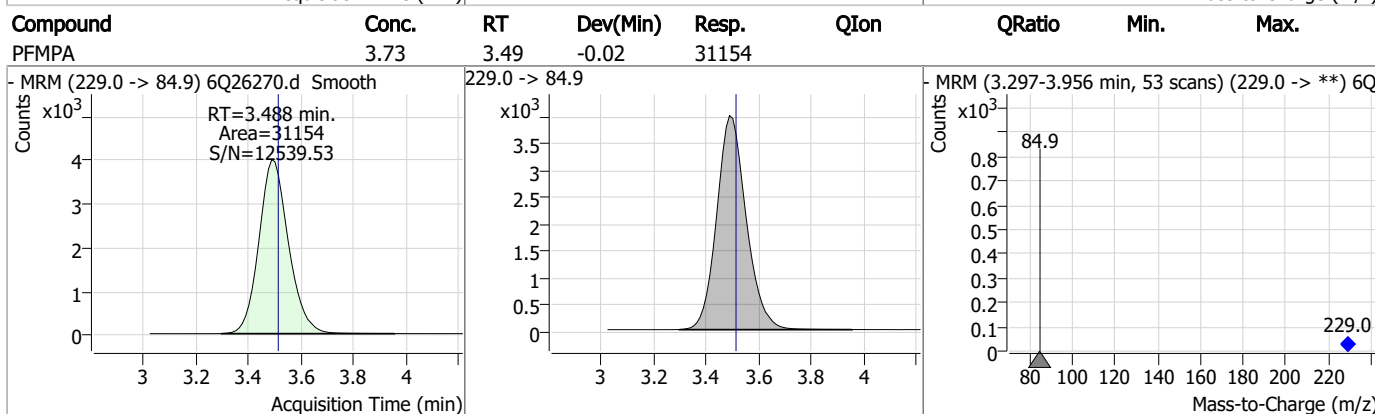
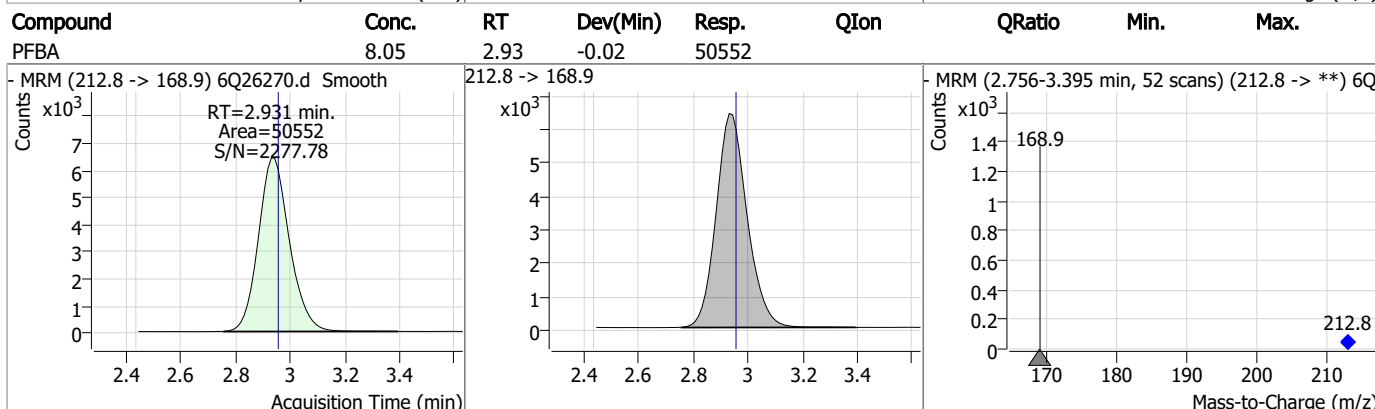
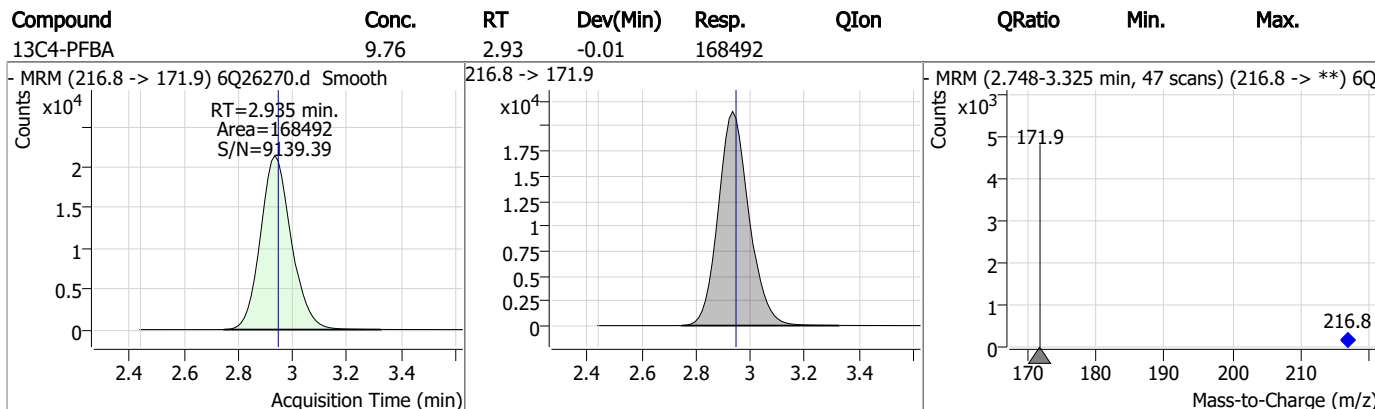
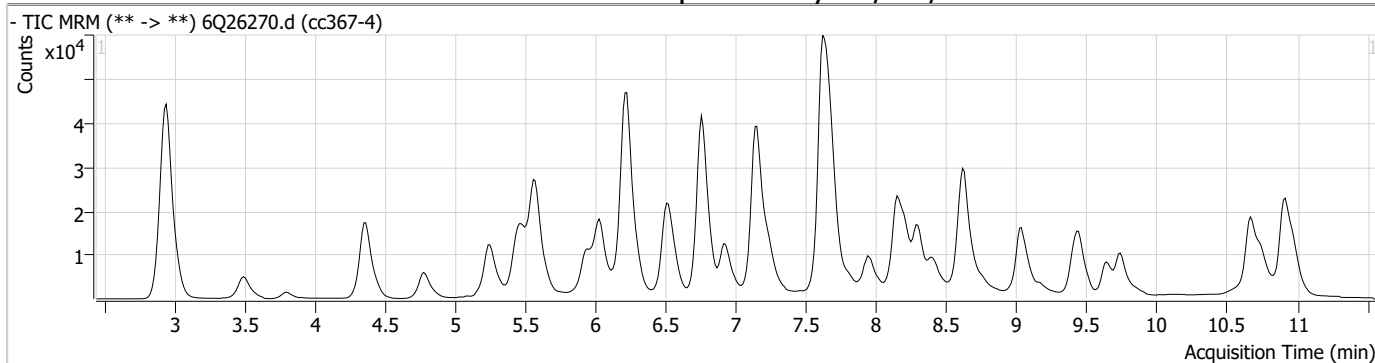
### Perfluorinated Compounds by LC/MS/MS

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

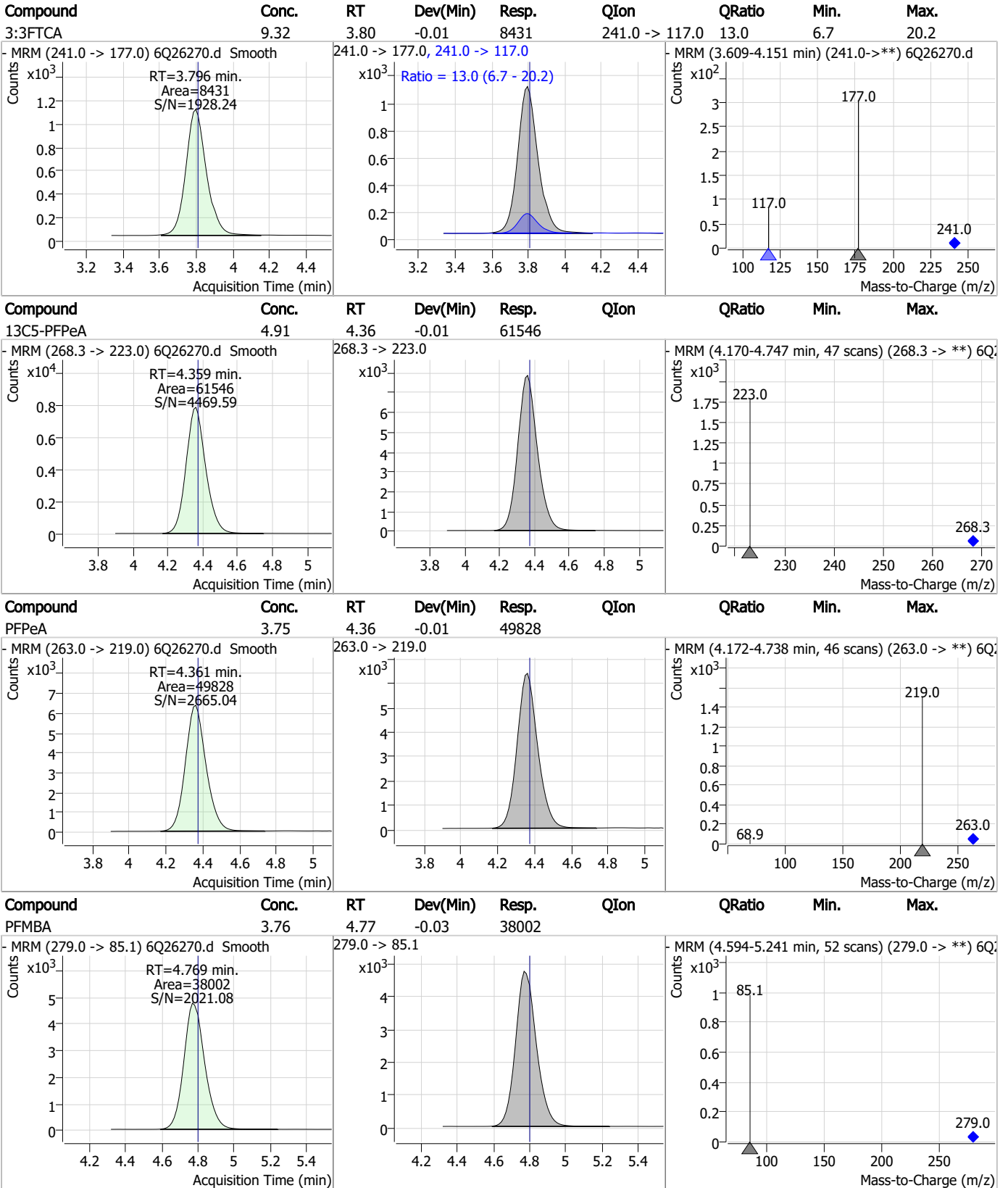
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### Perfluorinated Compounds by LC/MS/MS



7.7.13  
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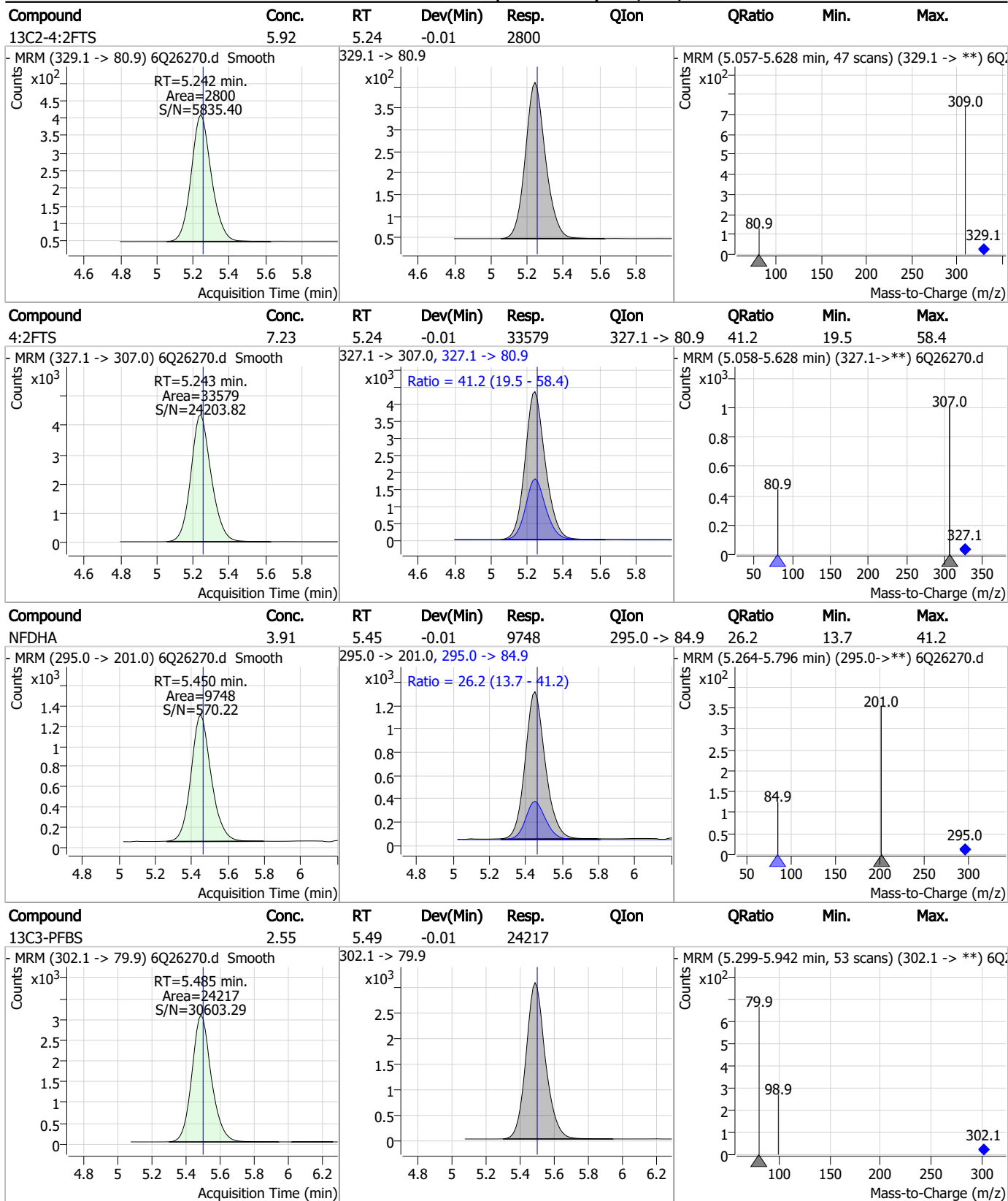
### Perfluorinated Compounds by LC/MS/MS



7.7.13 7

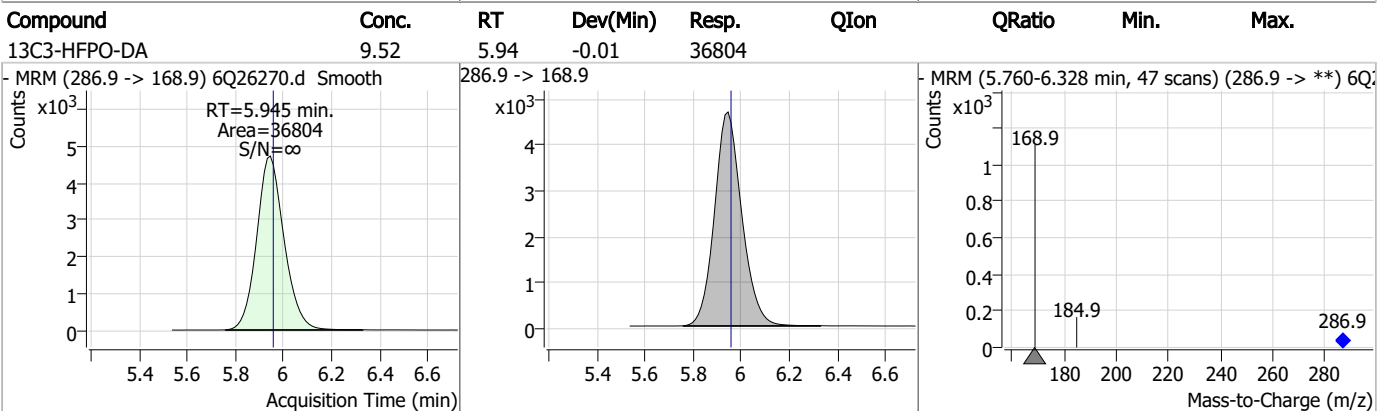
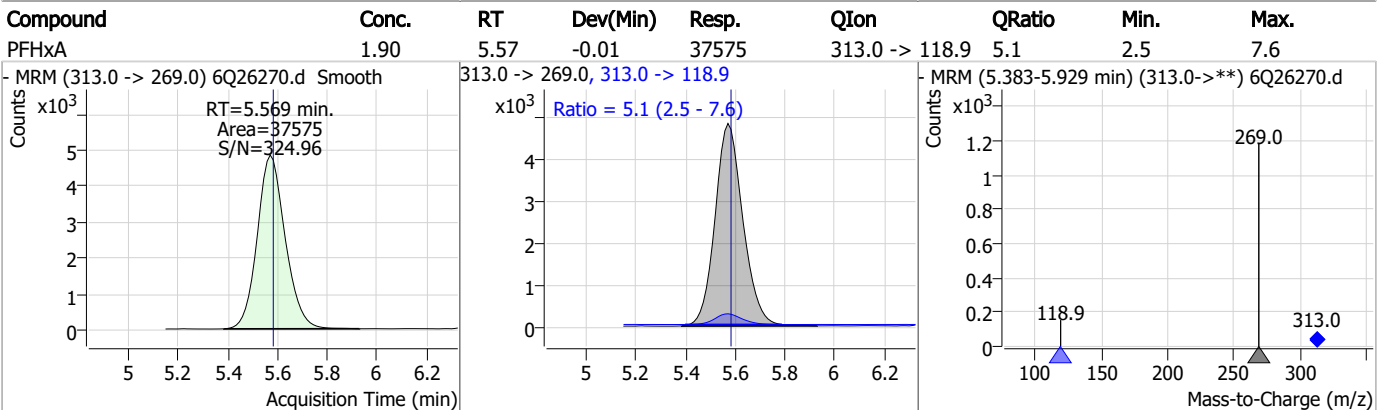
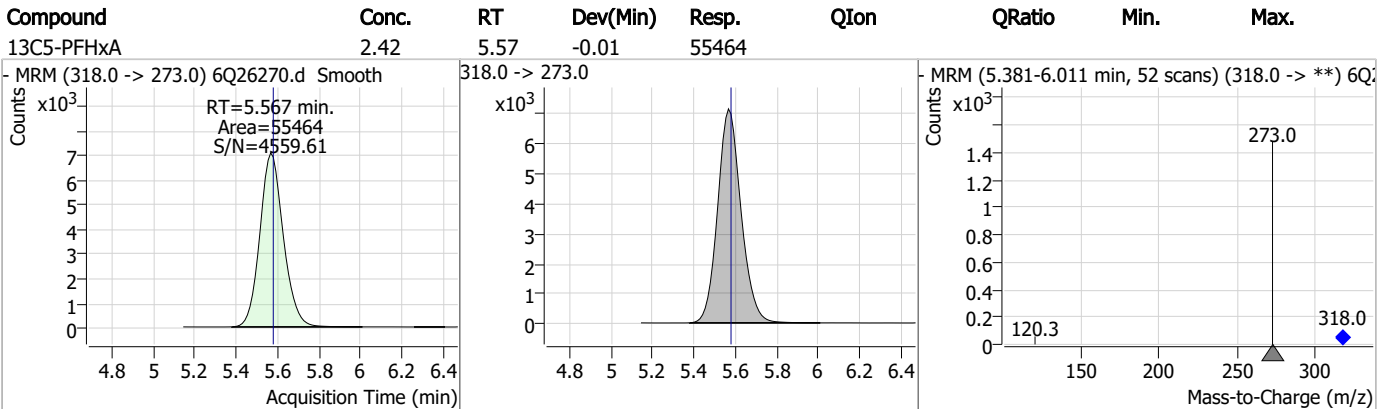
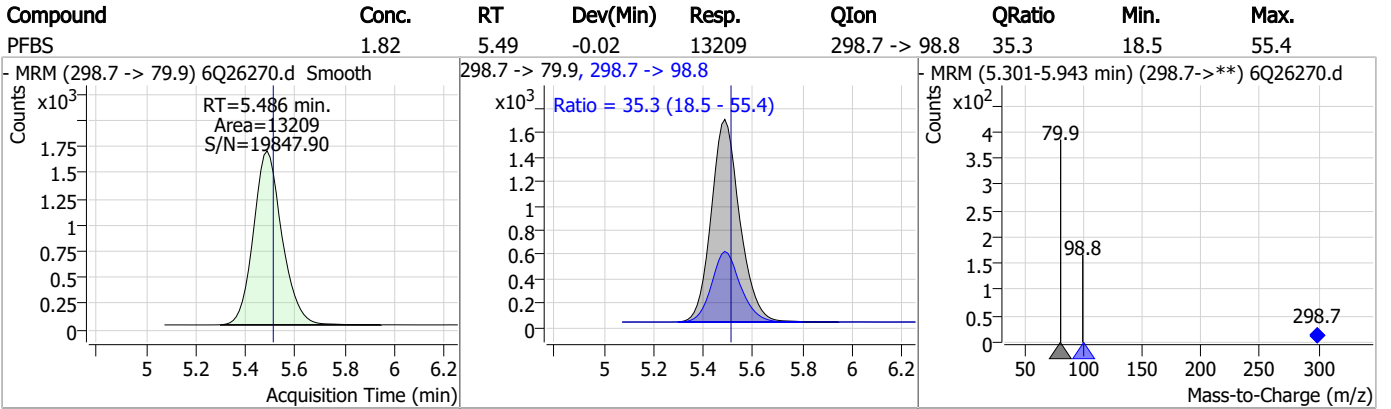


### Perfluorinated Compounds by LC/MS/MS

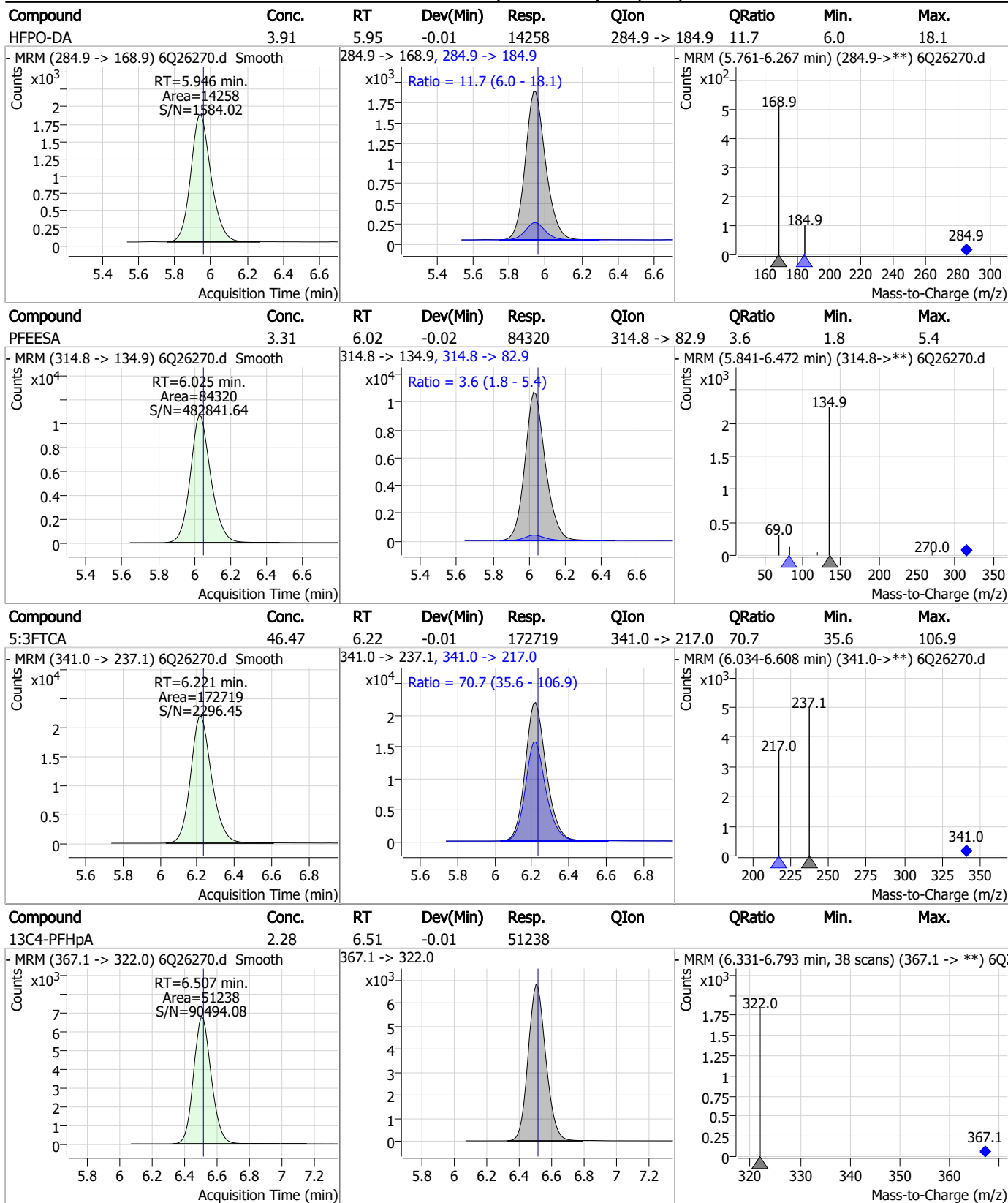


7.7.13  
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### Perfluorinated Compounds by LC/MS/MS



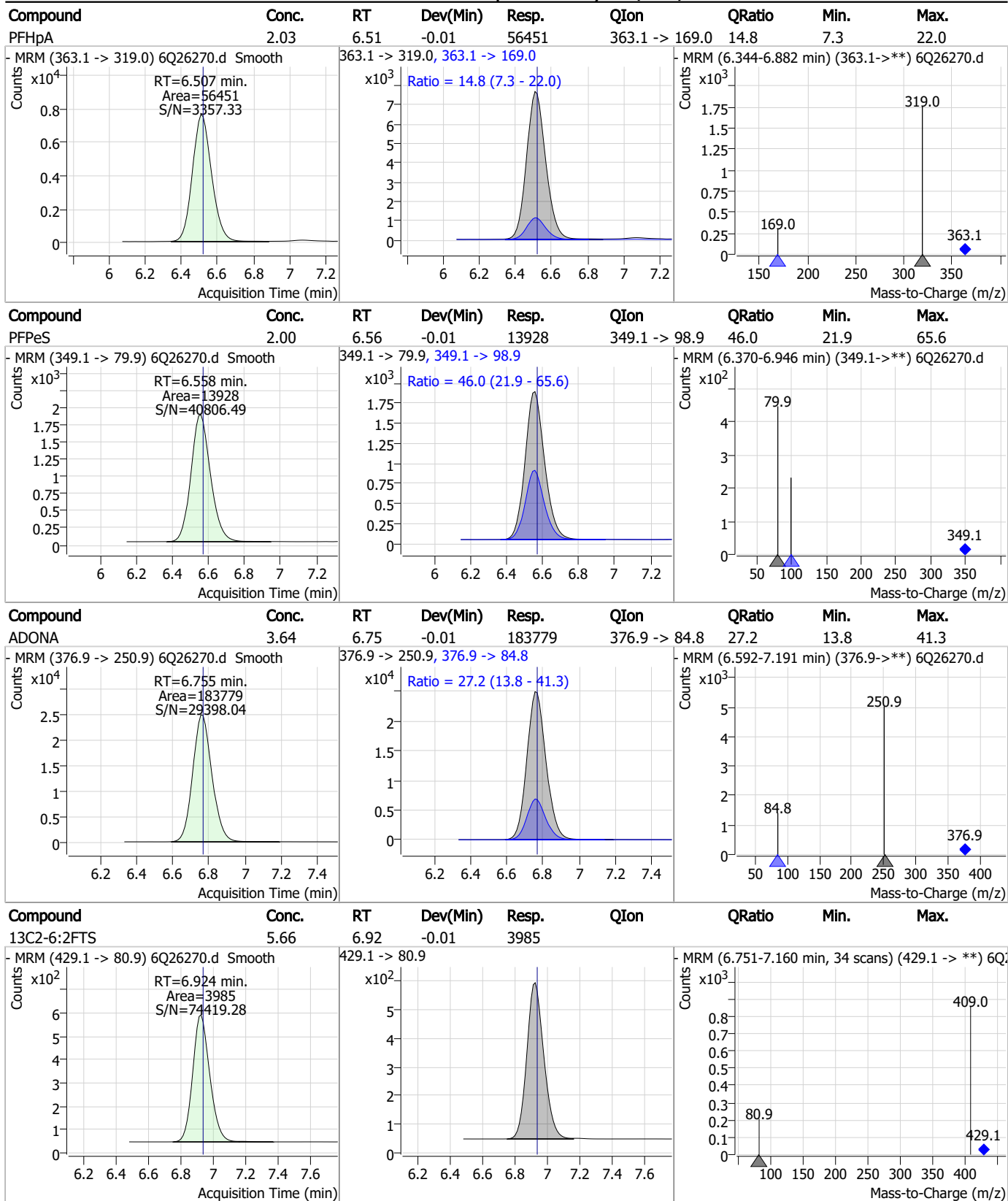
### Perfluorinated Compounds by LC/MS/MS



7.7.13  
7

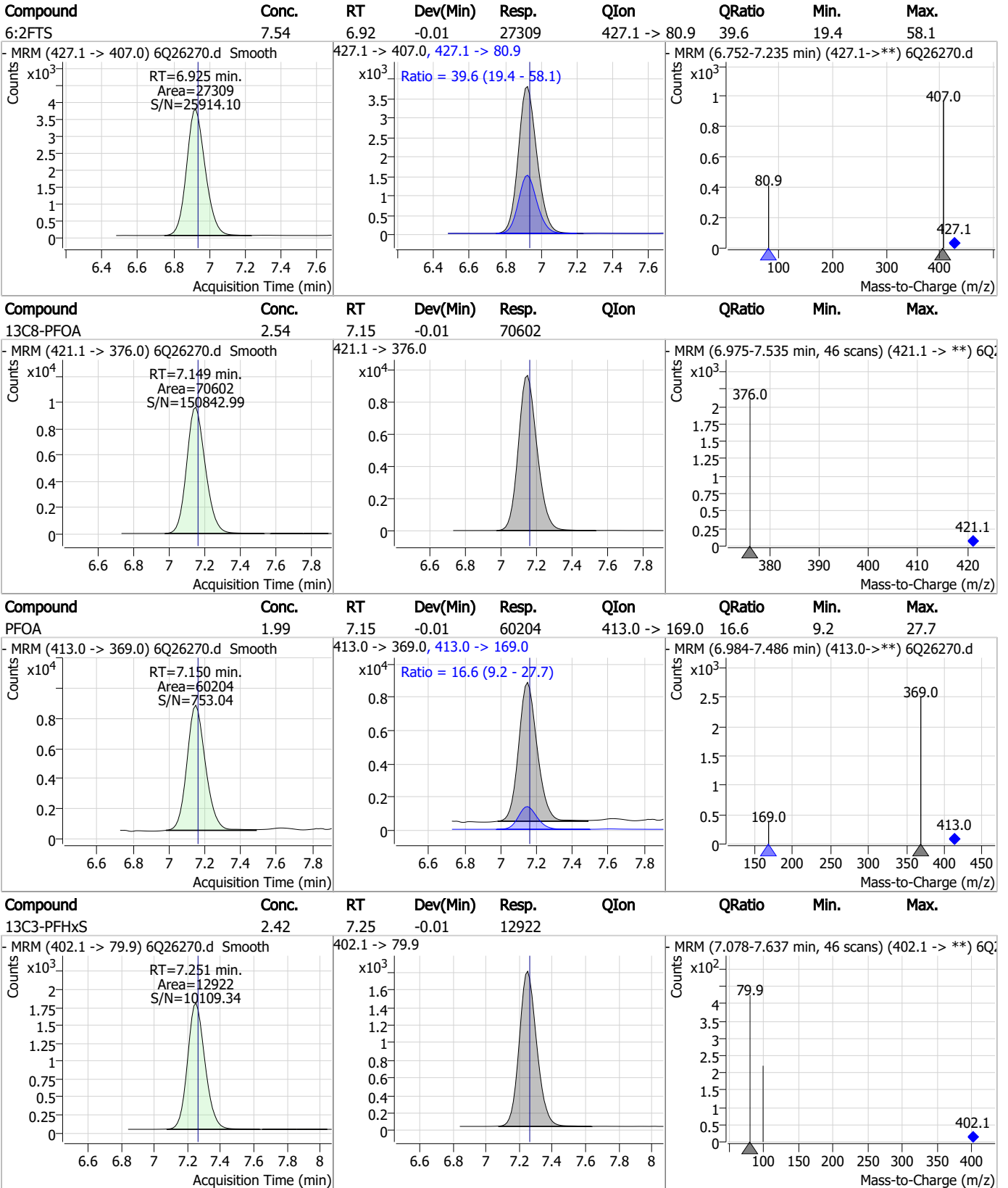


### Perfluorinated Compounds by LC/MS/MS



7.7.13 7

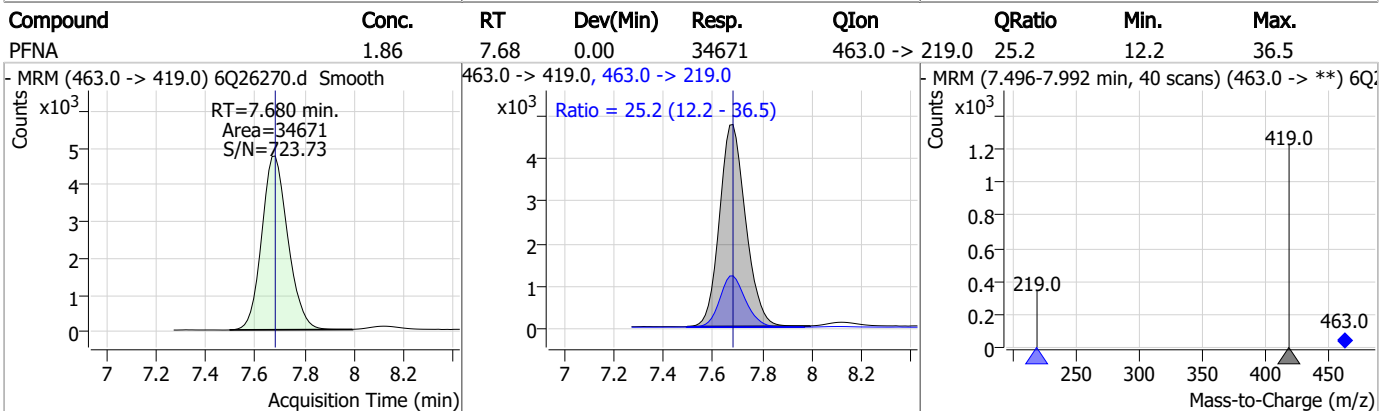
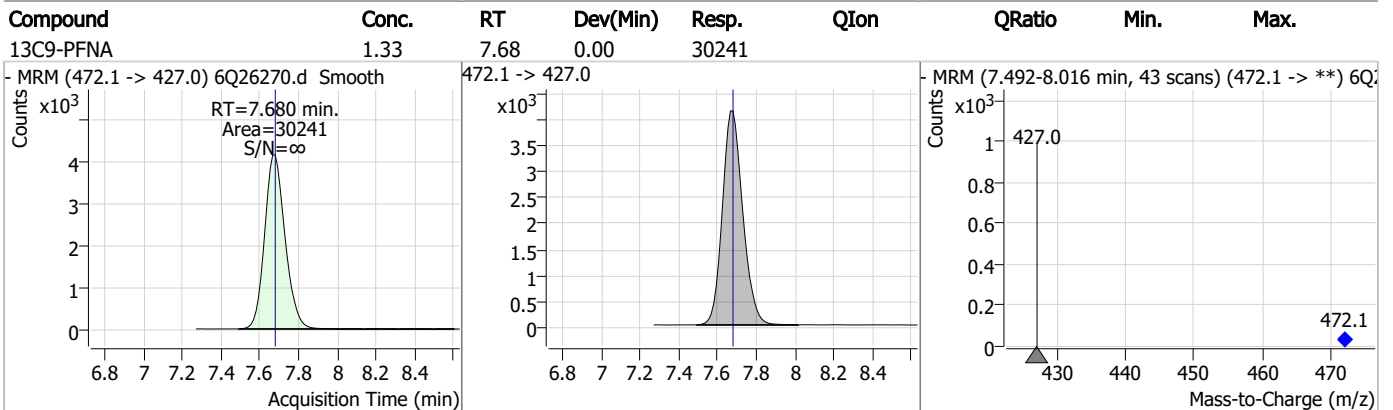
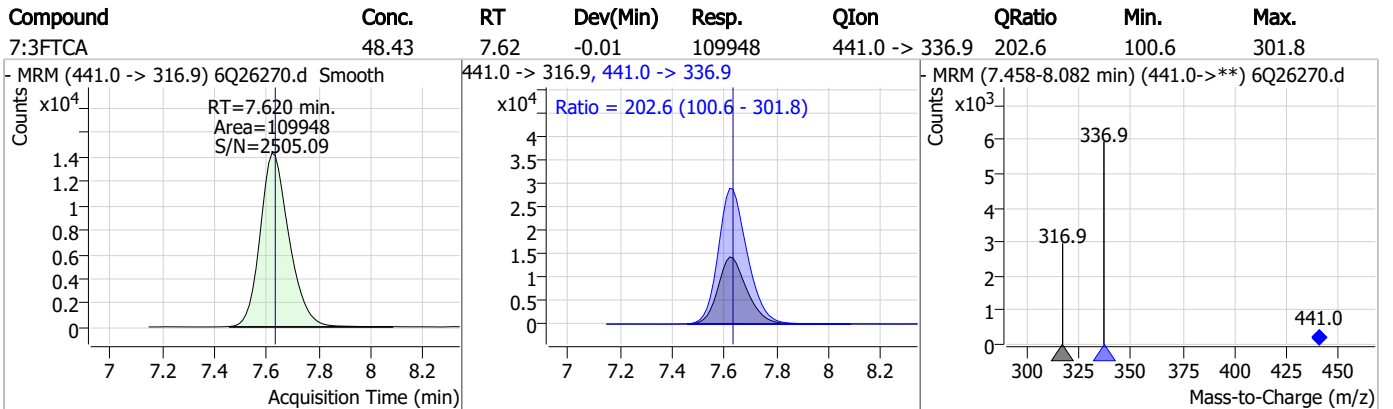
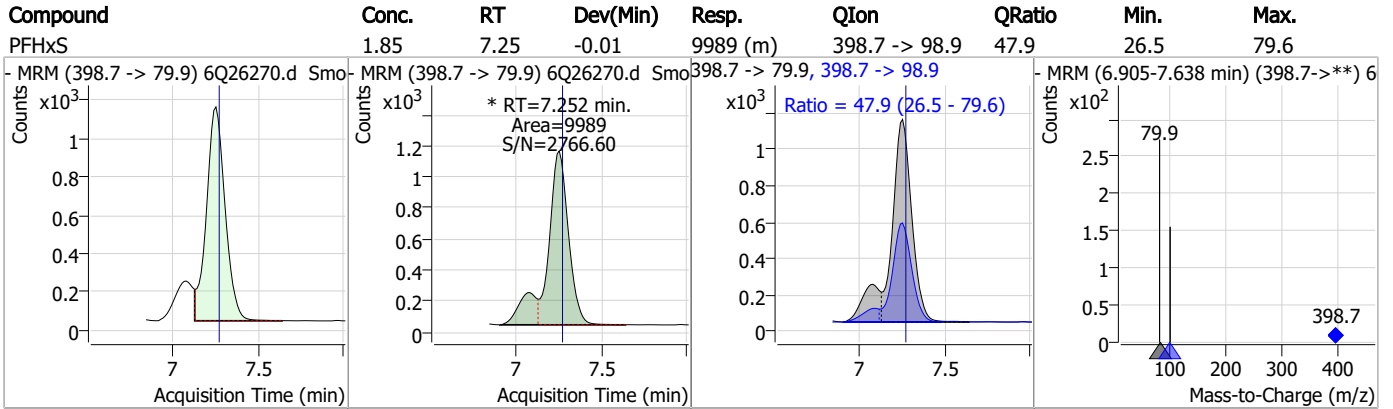
### Perfluorinated Compounds by LC/MS/MS



7.7.13



### Perfluorinated Compounds by LC/MS/MS



7.7.13  
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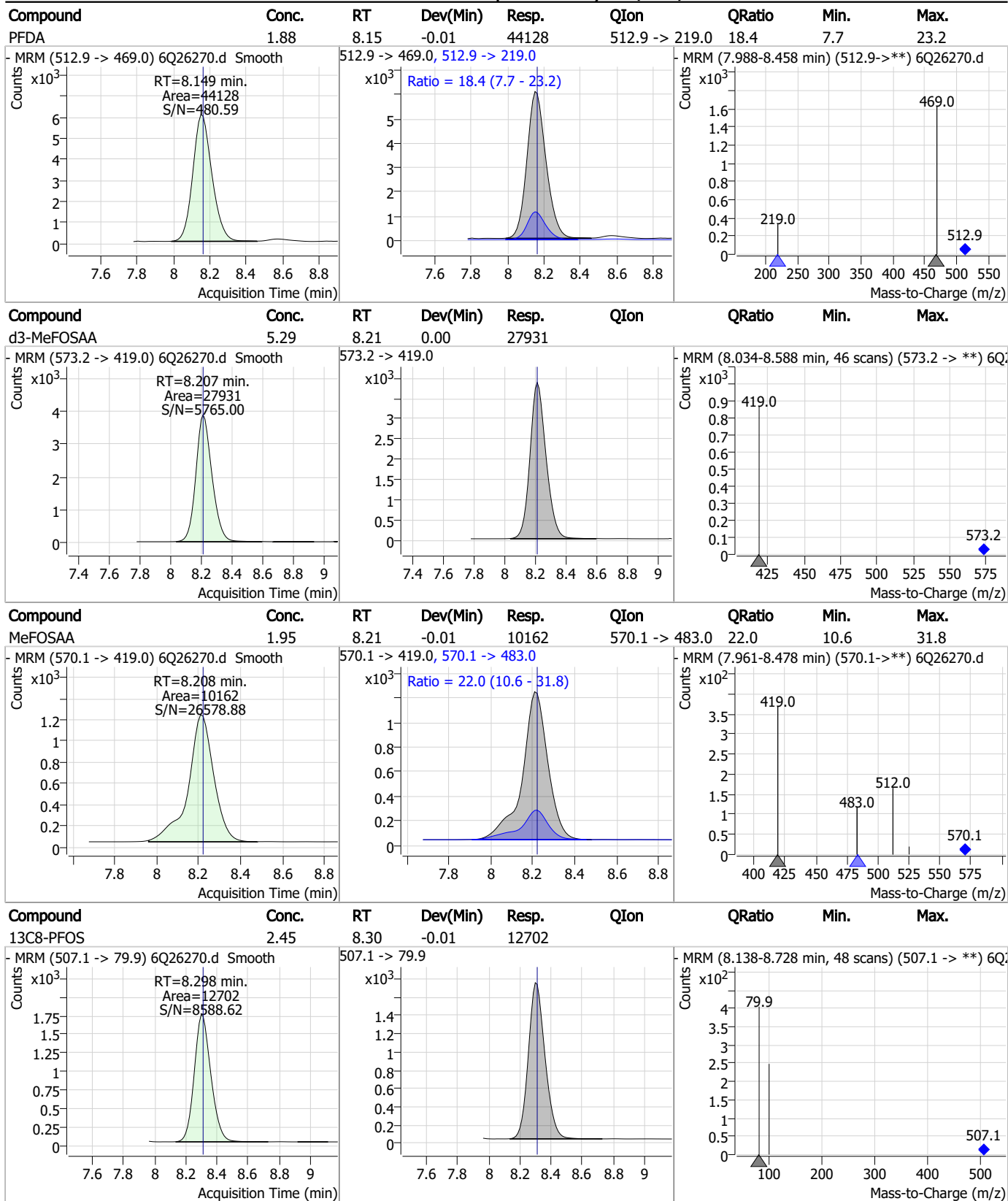
### Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
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	38.6	17.6	52.9
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	38.6	17.6	52.9

7.7.13  
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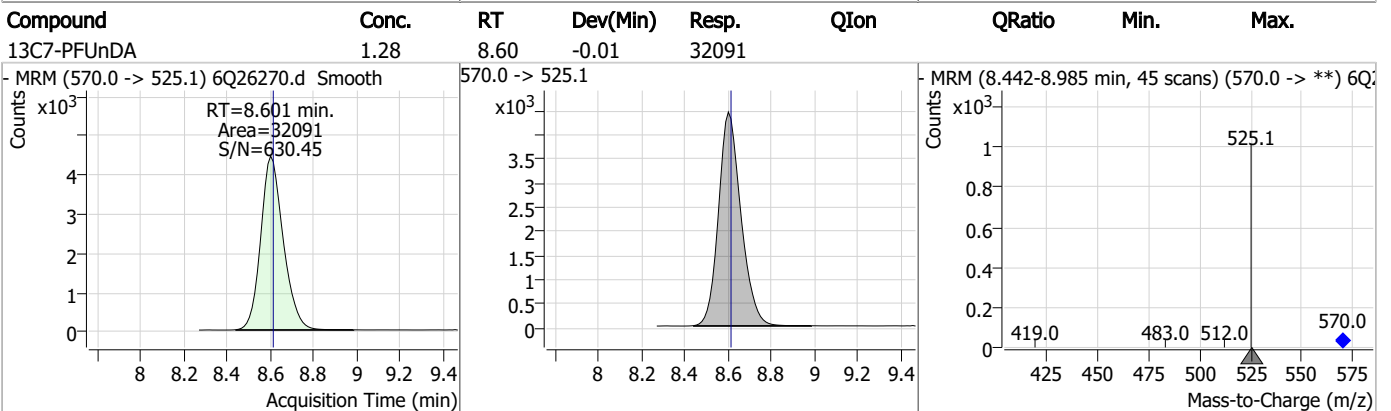
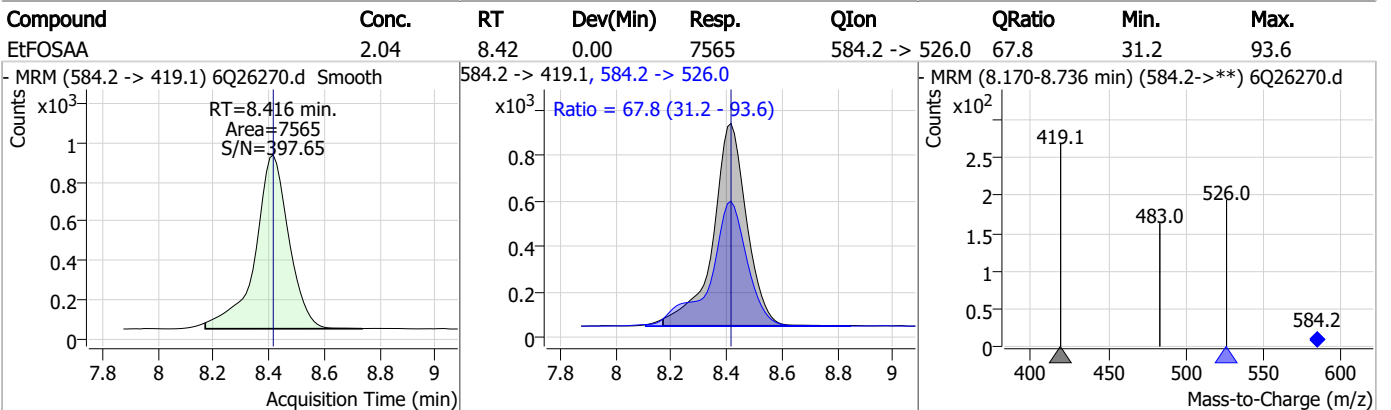
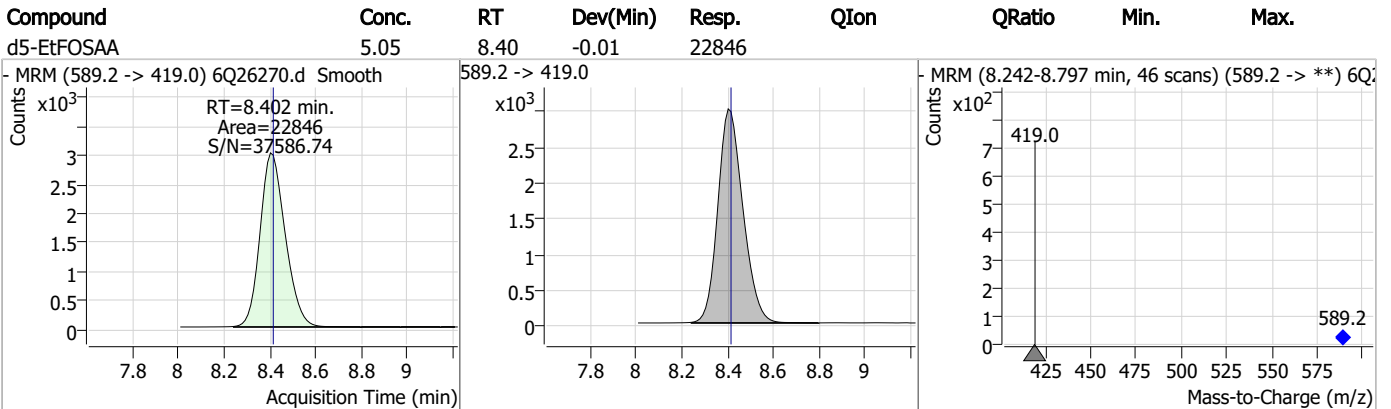
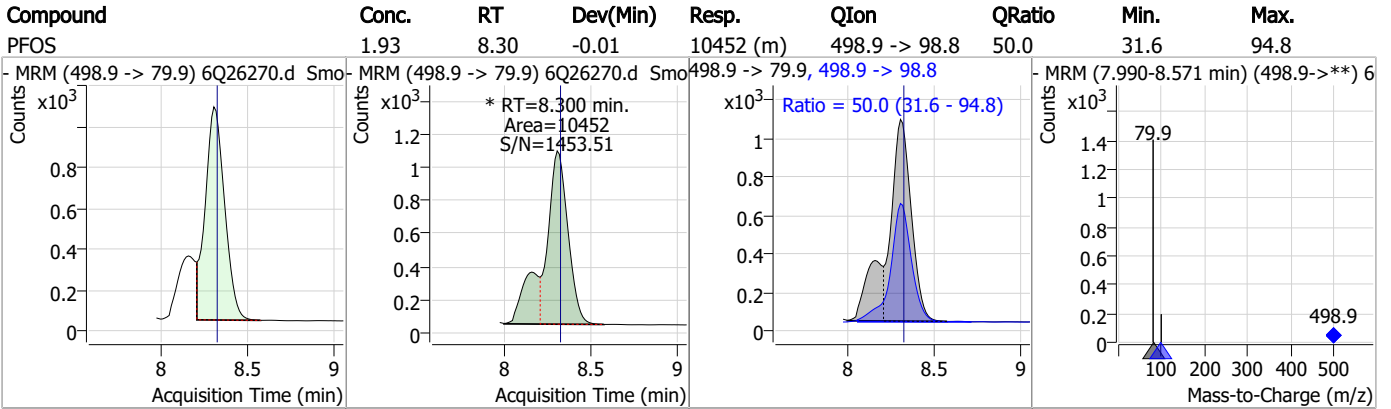


### Perfluorinated Compounds by LC/MS/MS



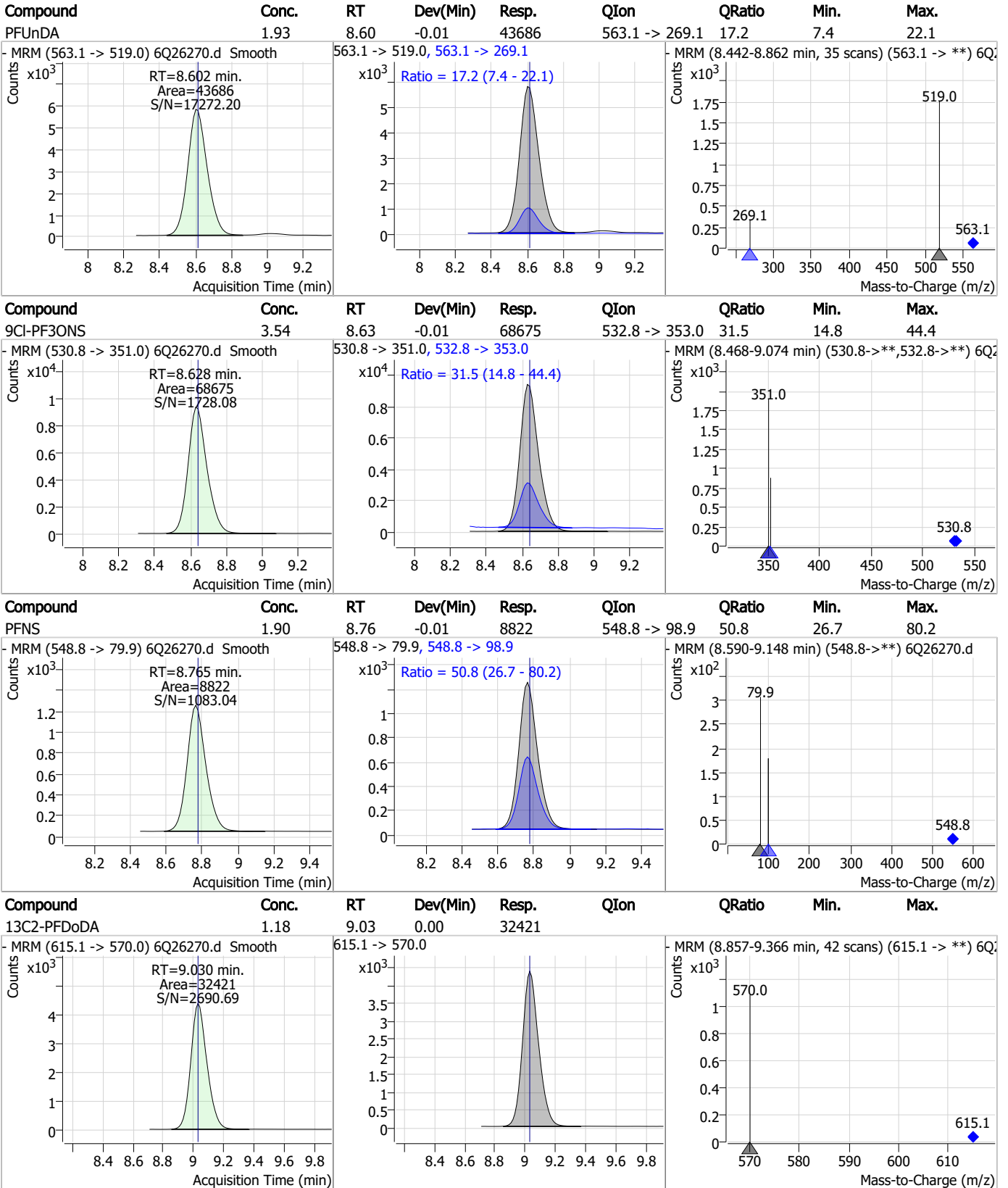
7.7.13  
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### Perfluorinated Compounds by LC/MS/MS



7.7.13  
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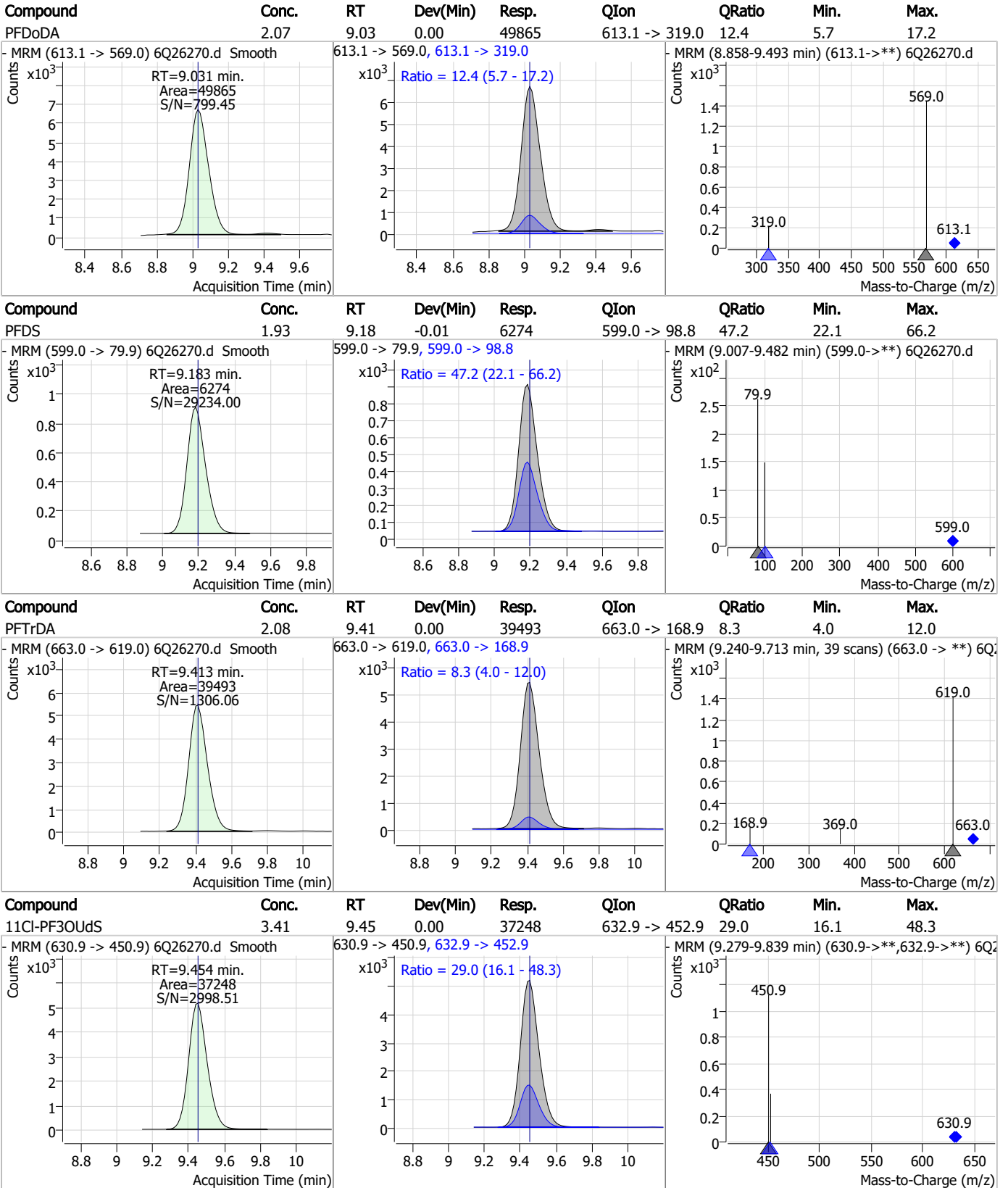
### Perfluorinated Compounds by LC/MS/MS



7.7.13 7



### Perfluorinated Compounds by LC/MS/MS

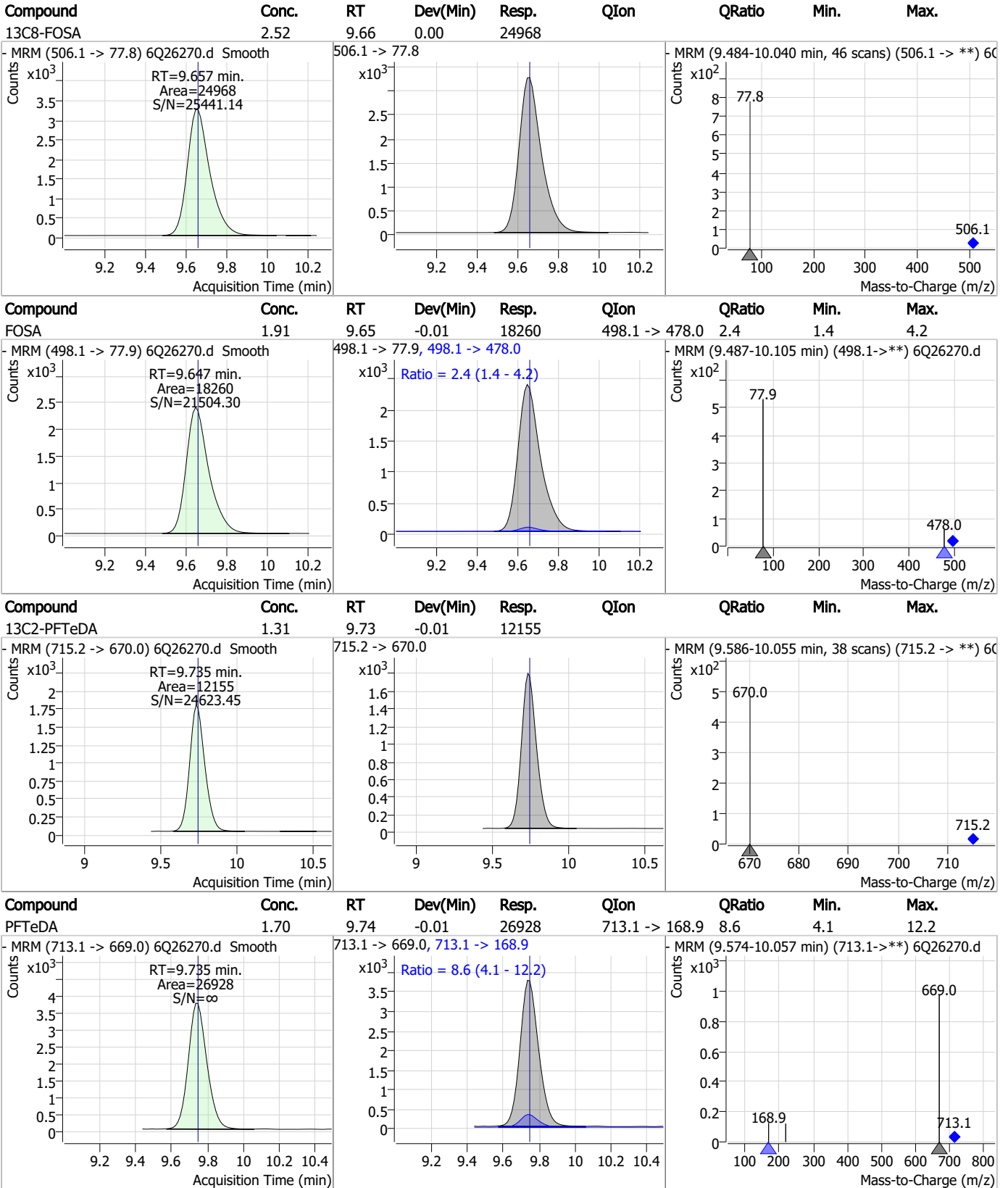


7.7.13 7





### Perfluorinated Compounds by LC/MS/MS

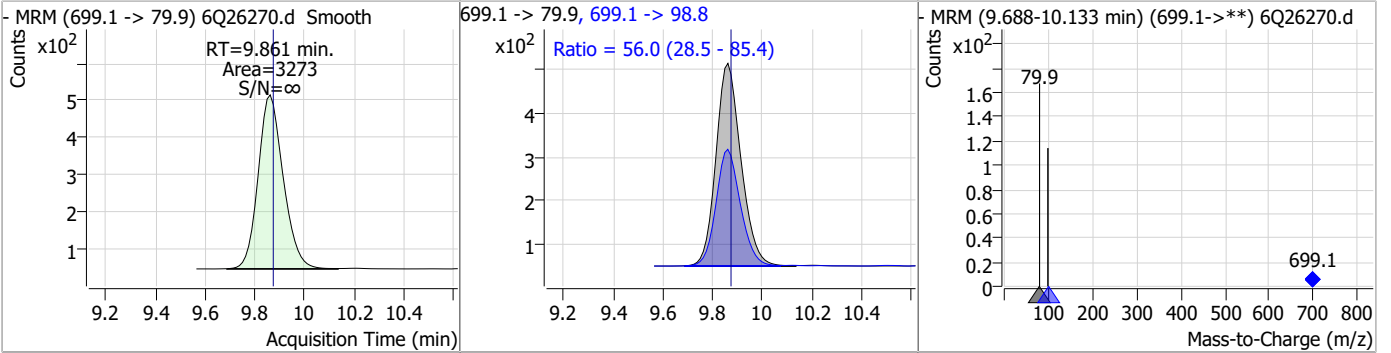


7.7.13  
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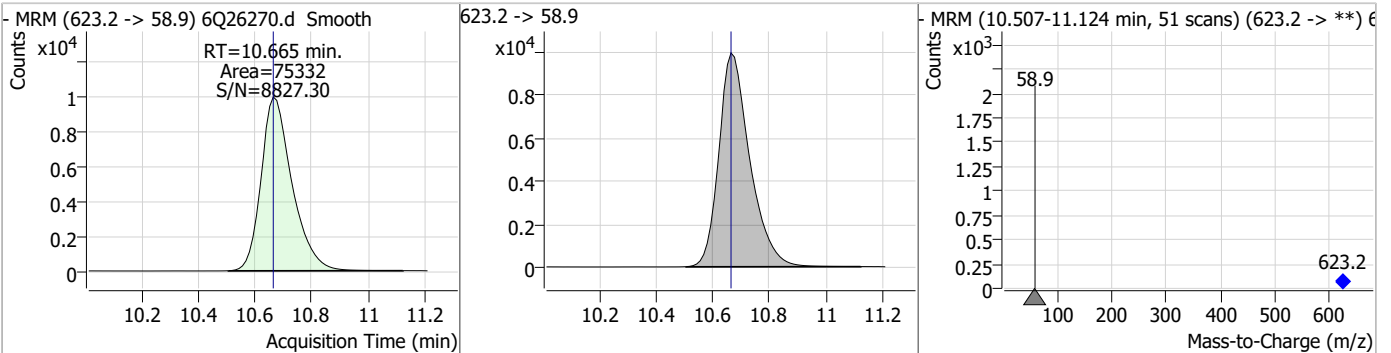


### Perfluorinated Compounds by LC/MS/MS

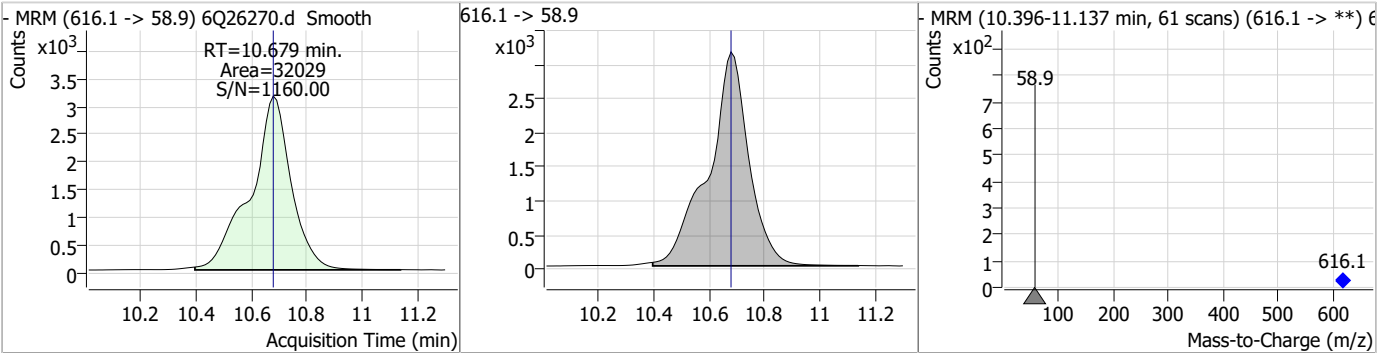
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFD <sub>o</sub> DS	1.94	9.86	-0.01	3273	699.1 -> 98.8	56.0	28.5	85.4



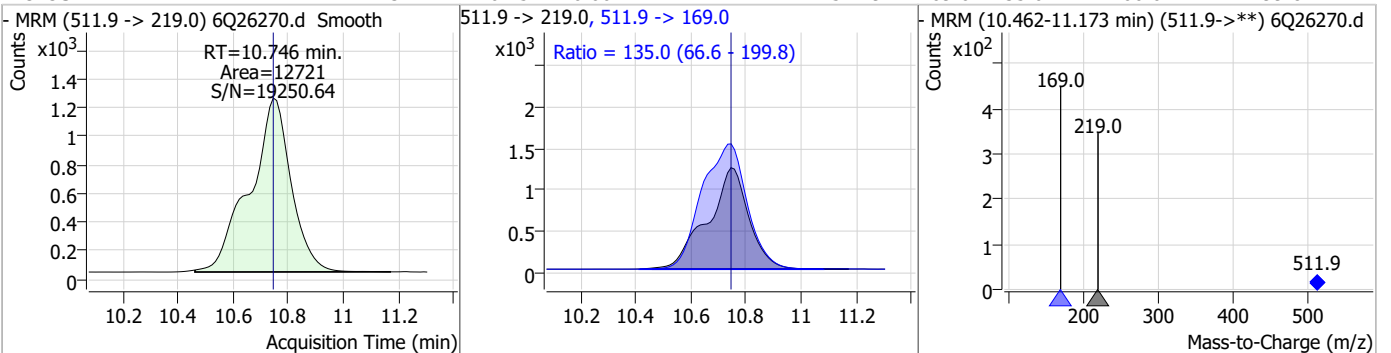
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d7-MeFOSE	23.54	10.67	0.00	75332				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSE	9.62	10.68	0.00	32029				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSA	4.13	10.75	0.00	12721	511.9 -> 169.0	135.0	66.6	199.8



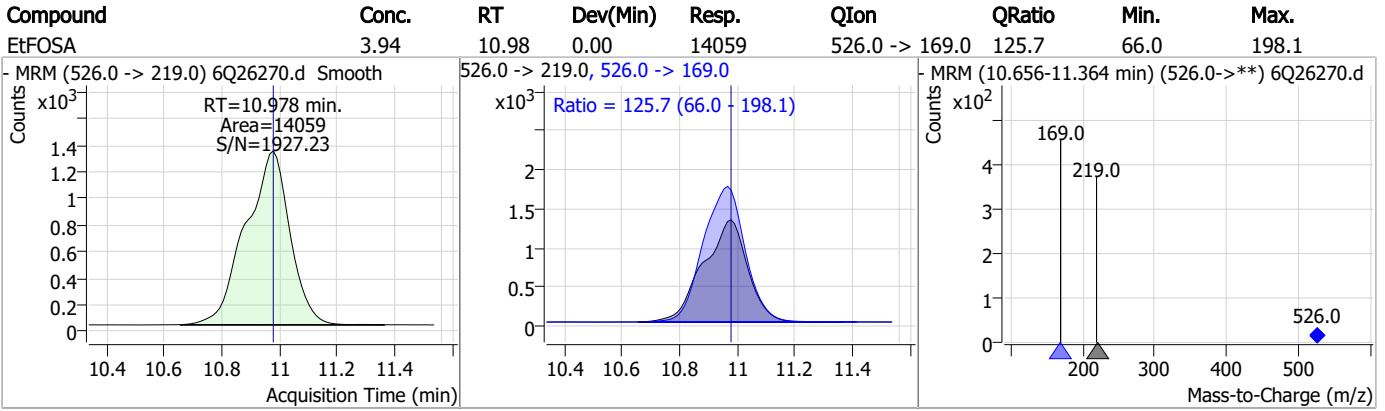
### Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSA	2.31	10.74	-0.01	6648				
d9-EtFOSE	23.75	10.91	0.00	90337				
EtFOSE	9.97	10.91	-0.01	36243				
d5-EtFOSA	2.36	10.98	0.00	7265				

7.7.13  
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### Perfluorinated Compounds by LC/MS/MS



7.7.13

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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)
<b>Internal Standards</b>					
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
<b>System Monitoring Compounds</b>					
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%	
<b>Target Compounds</b>					<b>QValue</b>
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

7.7.14  
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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	3228	2.00	µg/L	100
		363.1 -> 319.0	59023			
PFHpS	7.807	363.1 -> 169.0	8720	1.96	µg/L	98
		449.0 -> 79.9	11094			
PFHxA	5.569	449.0 -> 98.9	5257	2.01	µg/L	100
		313.0 -> 269.0	39905			
PFHxS	7.252	313.0 -> 118.9	2070	1.89	µg/L	89
		398.7 -> 79.9	10692			
PFNA	7.667	398.7 -> 98.9	4827	2.08	µg/L	95
		463.0 -> 419.0	38421			
PFNS	8.765	463.0 -> 219.0	8333	1.89	µg/L	89
		548.8 -> 79.9	9463			
PFOA	7.150	548.8 -> 98.9	4336	2.03	µg/L	99
		413.0 -> 369.0	60639			
PFOS	8.300	413.0 -> 169.0	11036	1.82	µg/L	88
		498.9 -> 79.9	10681			
PFPeA	4.361	498.9 -> 98.8	5715	4.01	µg/L	100
		263.0 -> 219.0	52878			
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
		511.9 -> 219.0	13789			
MeFOSA	10.746	511.9 -> 169.0	18751	4.30	µg/L	98
		616.1 -> 58.9	32975			
MeFOSE	10.679	699.1 -> 79.9	3630	9.30	µg/L	100
		699.1 -> 98.8	1777			
PFDoDS	9.861	295.0 -> 201.0	10051	1.99	µg/L	89
		295.0 -> 84.9	2730			
NFDHA	5.450	279.0 -> 85.1	40257	4.00	µg/L	100
		229.0 -> 84.9	33071			
PFMBA	4.781	314.8 -> 134.9	91199	3.98	µg/L	100
		314.8 -> 82.9	3095			
PFMPA	3.501			3.58	µg/L	99
PFEESA	6.025					

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





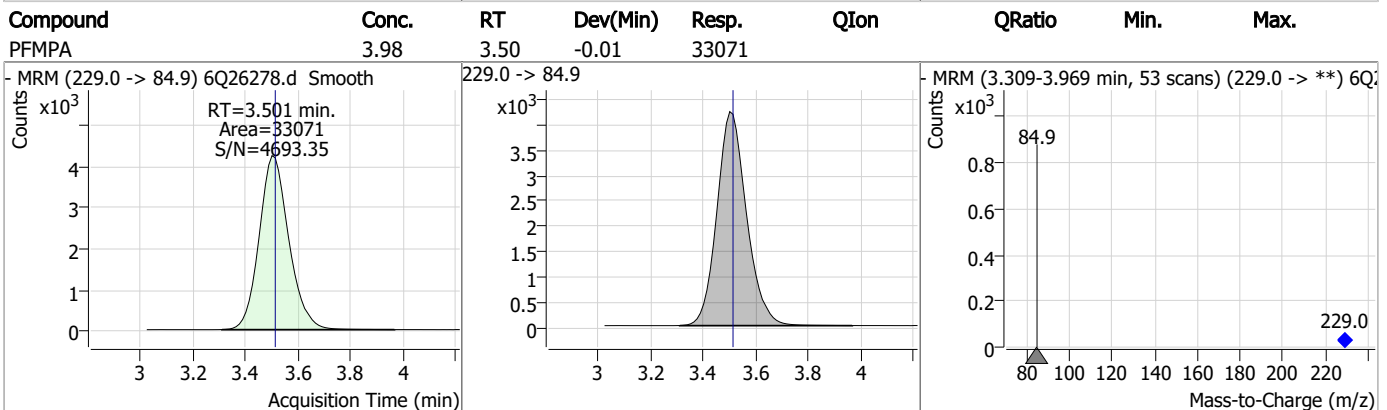
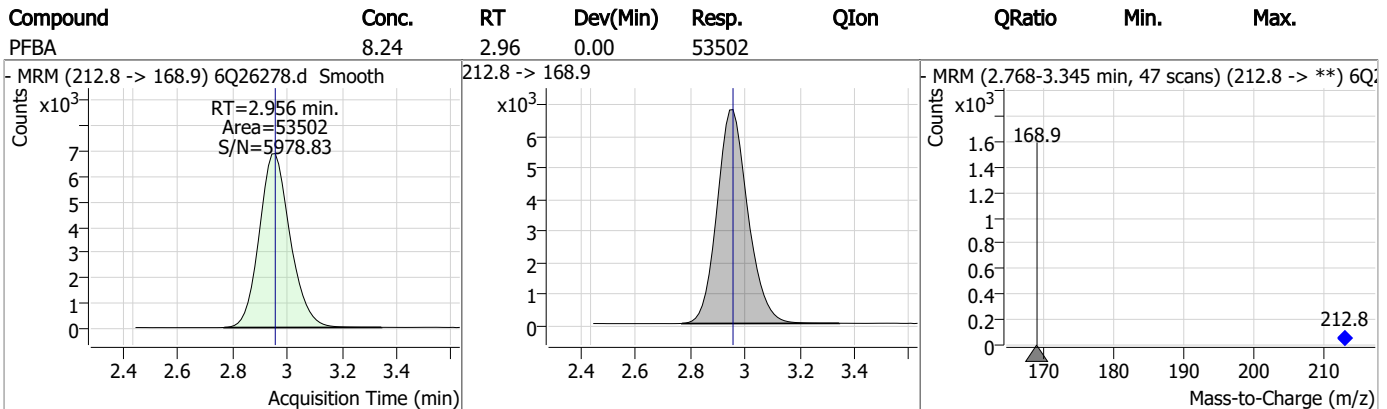
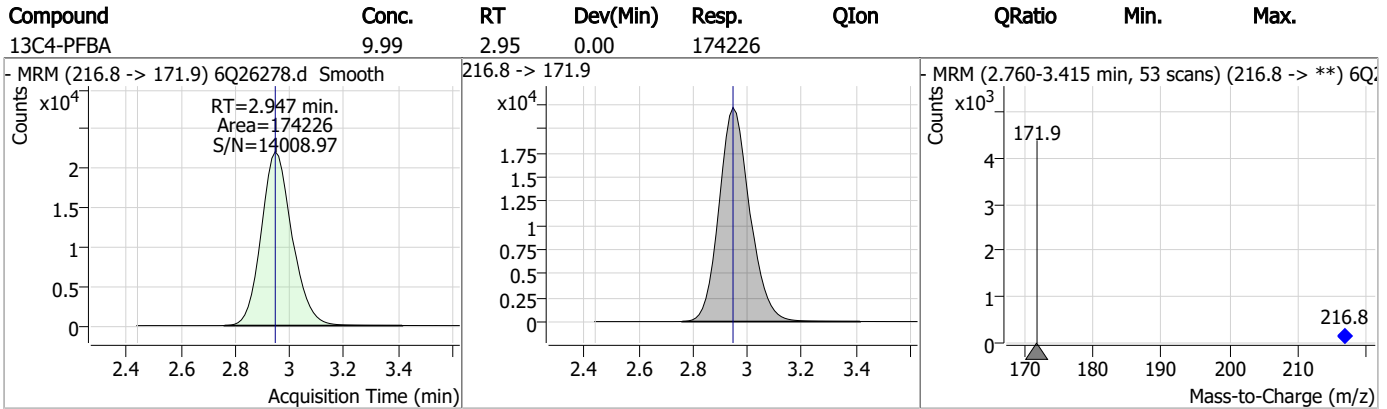
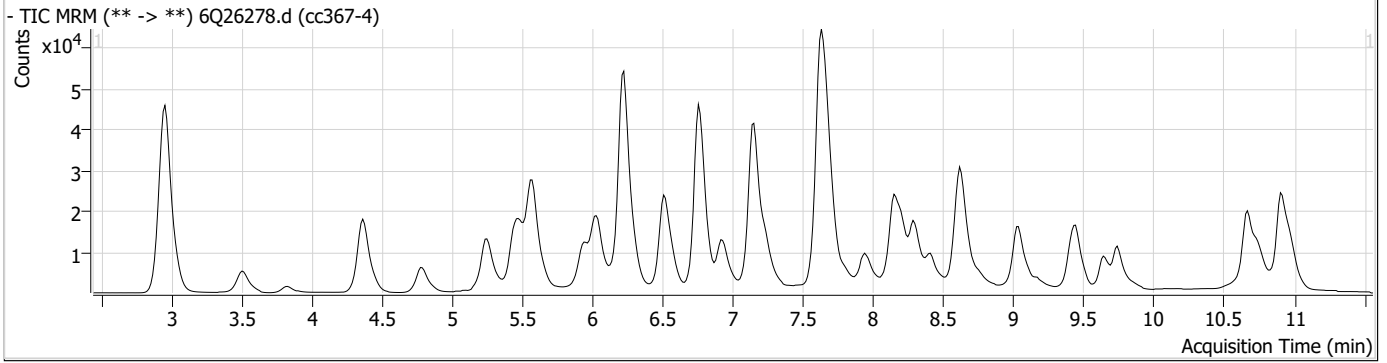
### Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
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7.7.14

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### Perfluorinated Compounds by LC/MS/MS

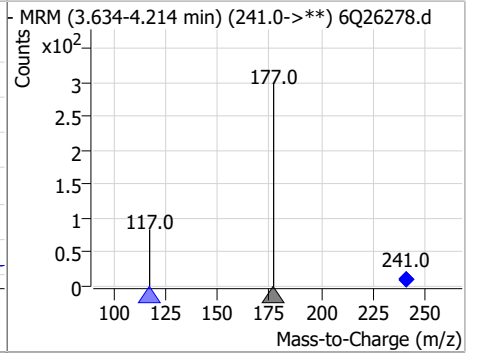
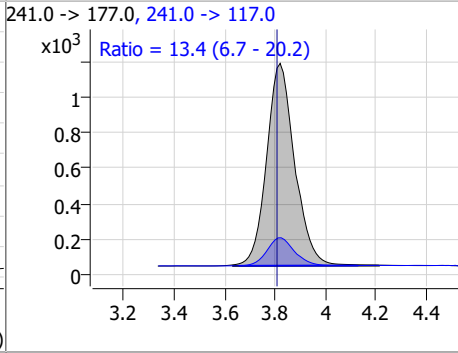
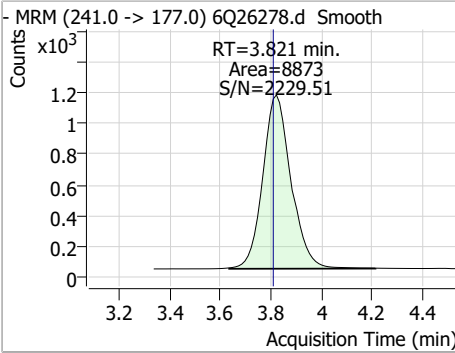


7.7.14  
7

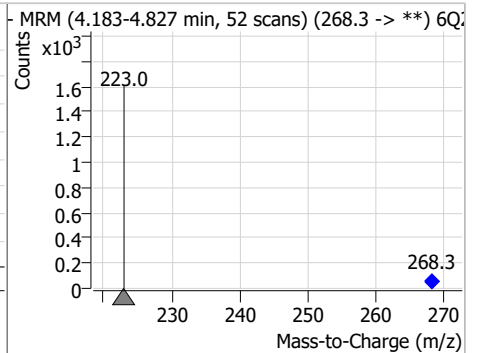
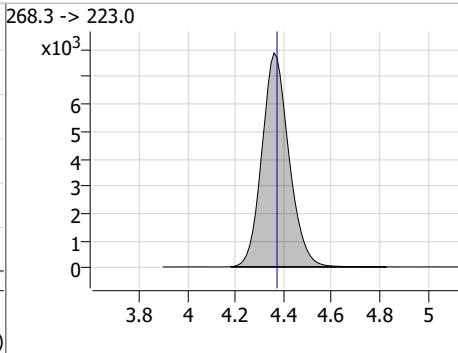
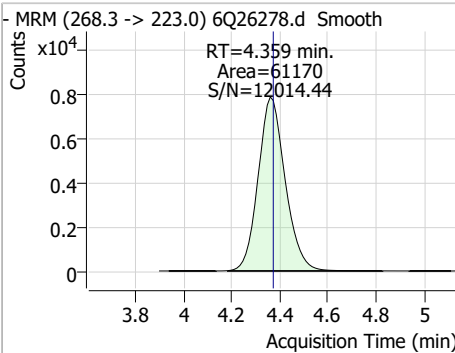


### Perfluorinated Compounds by LC/MS/MS

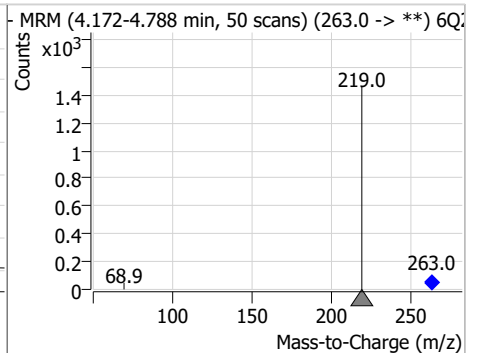
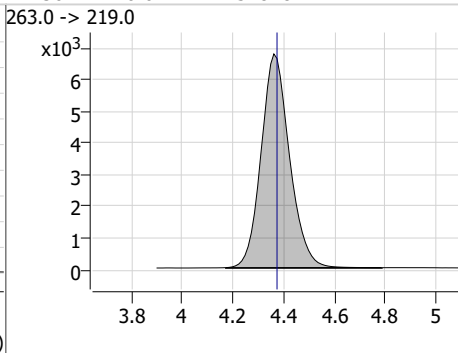
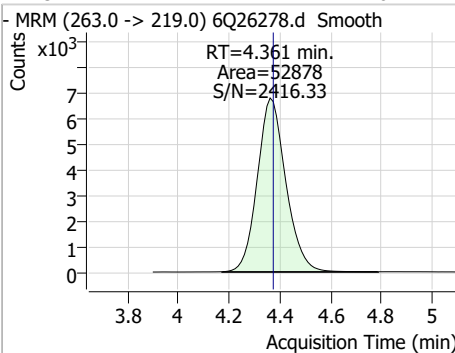
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
3:3FTCA	9.49	3.82	0.01	8873	241.0 -> 117.0	13.4	6.7	20.2



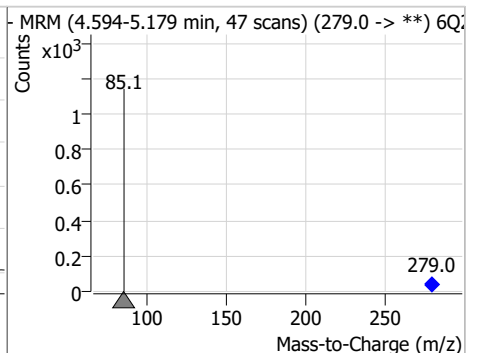
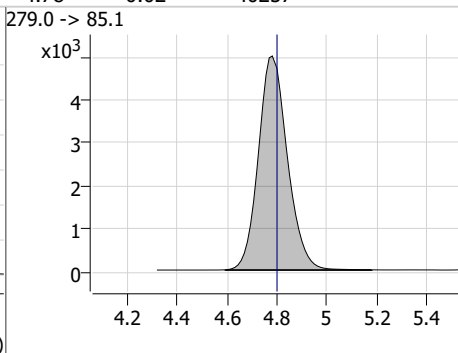
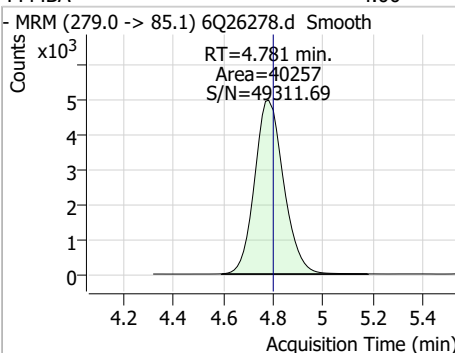
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFPeA	4.92	4.36	-0.01	61170				



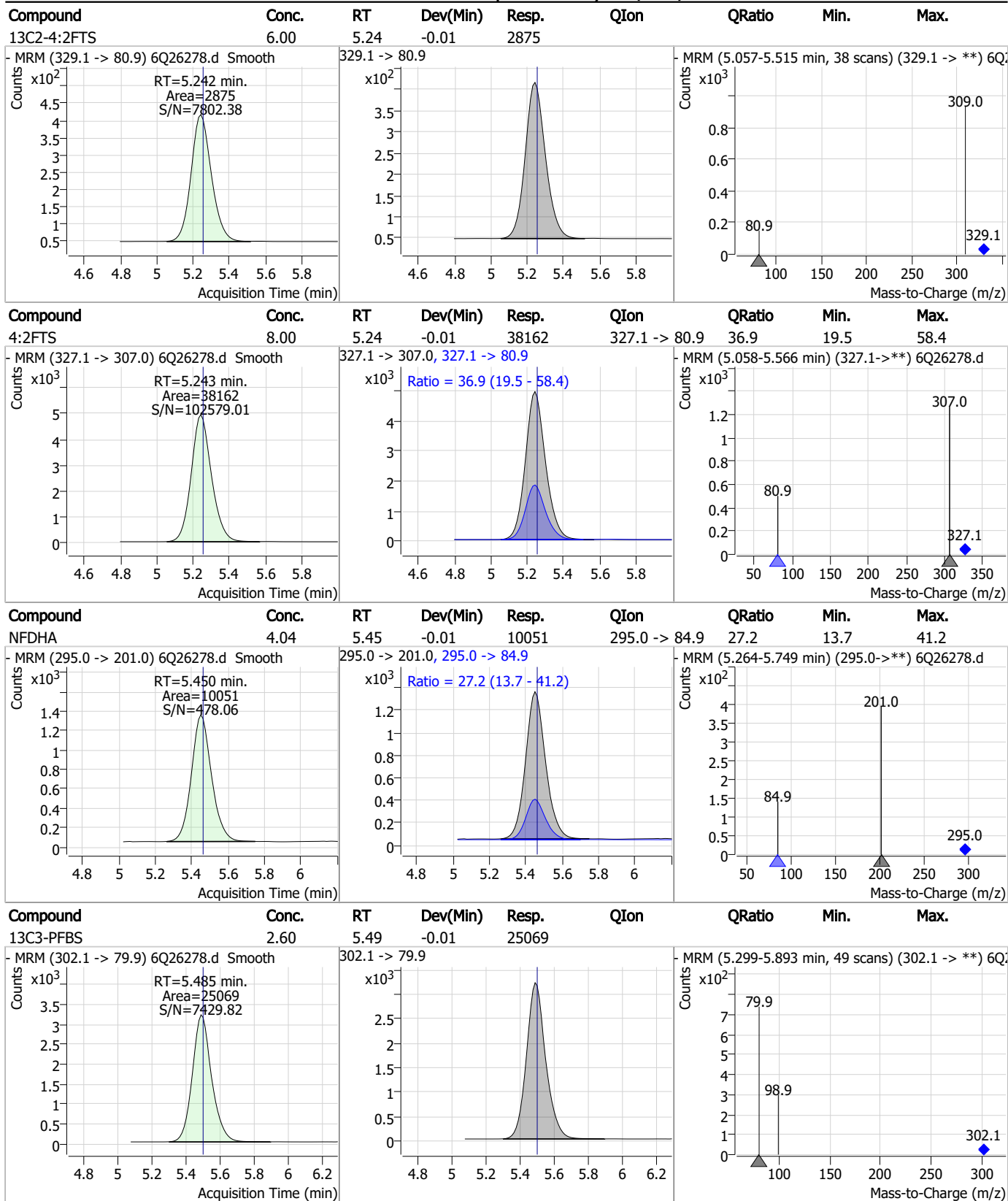
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeA	4.01	4.36	-0.01	52878				



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



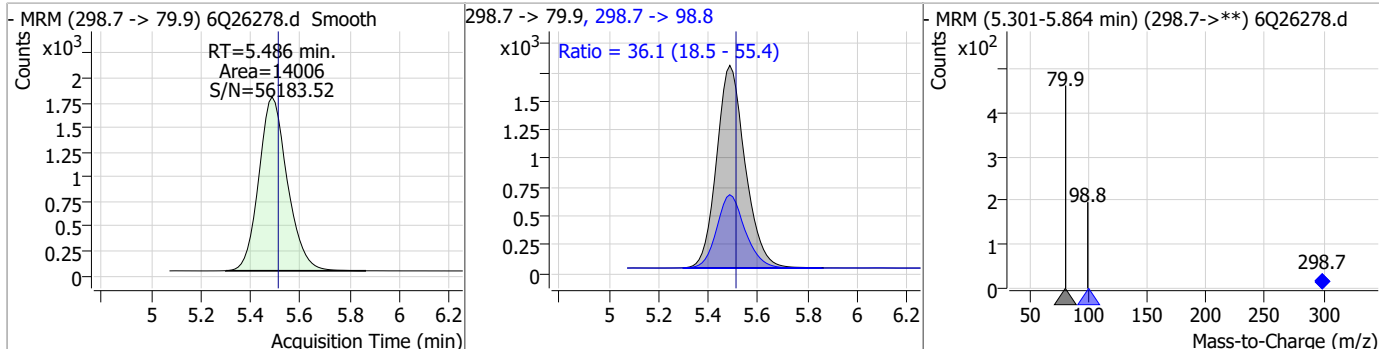
### Perfluorinated Compounds by LC/MS/MS



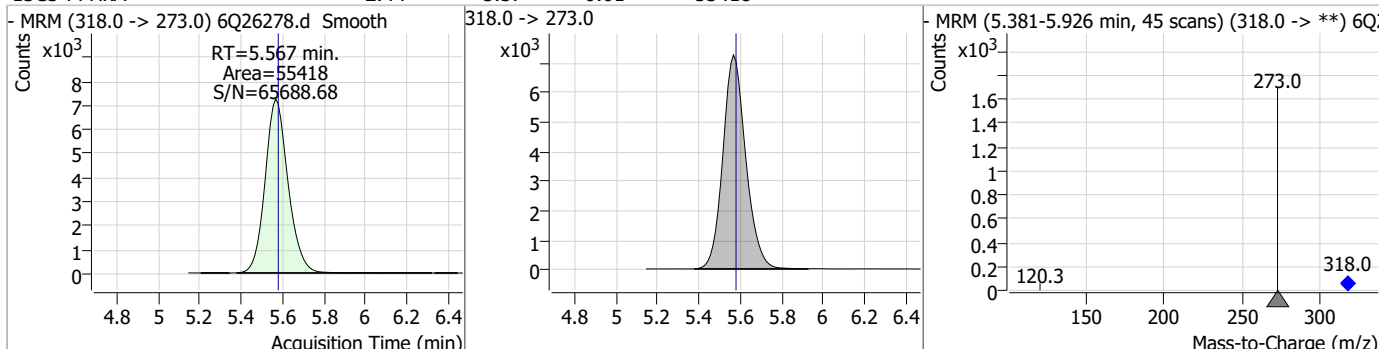
7.7.14

### Perfluorinated Compounds by LC/MS/MS

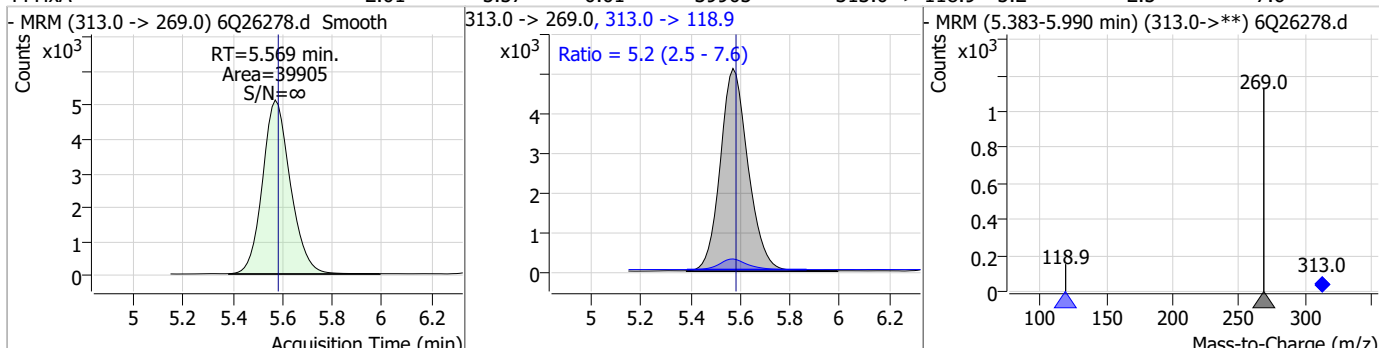
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBS	1.86	5.49	-0.02	14006	298.7 -> 98.8	36.1	18.5	55.4



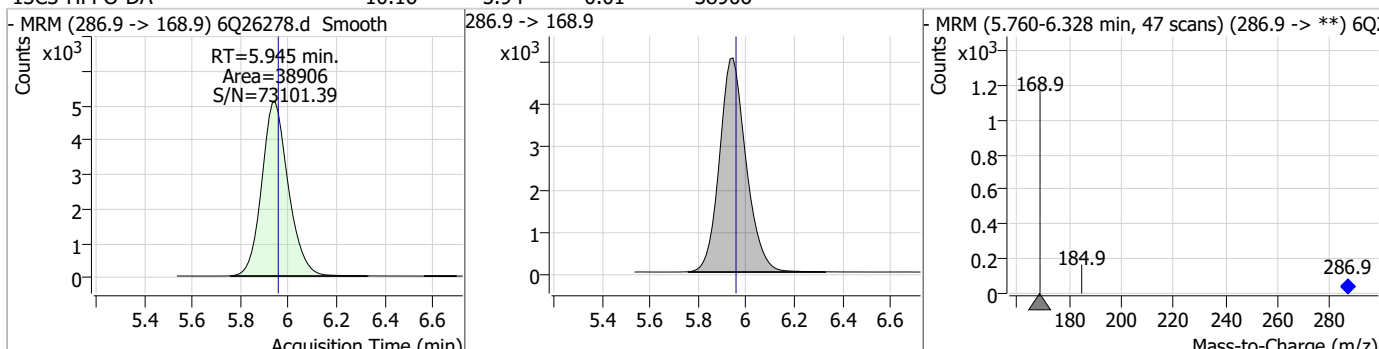
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFHxA	2.44	5.57	-0.01	55418				



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



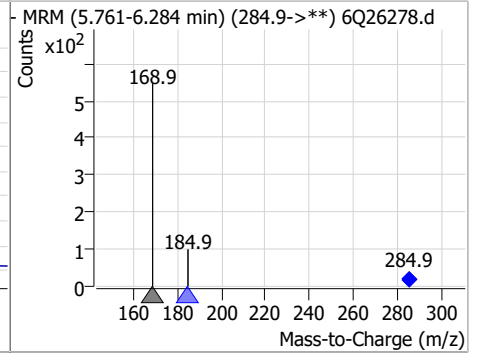
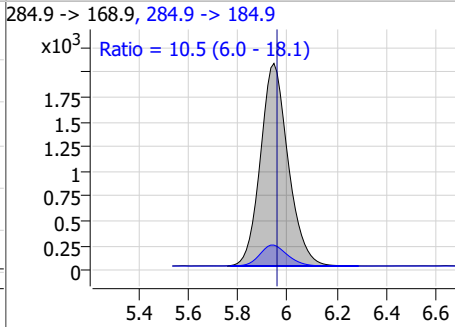
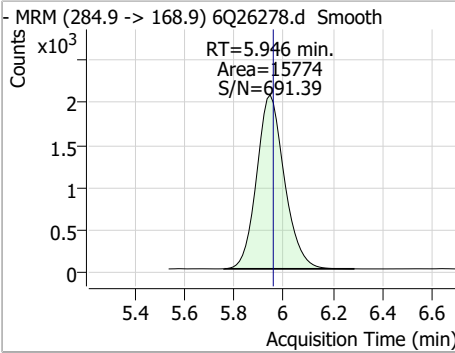
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-HFPO-DA	10.16	5.94	-0.01	38906				



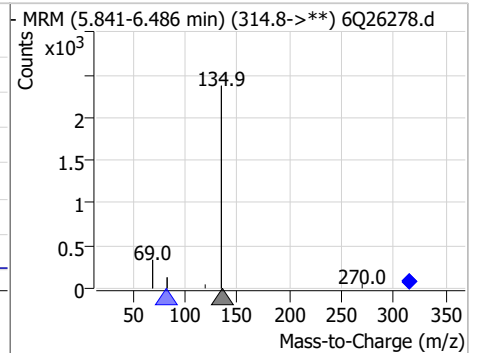
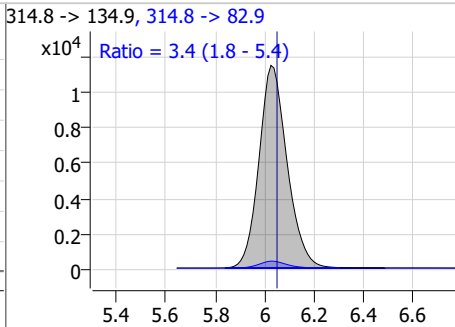
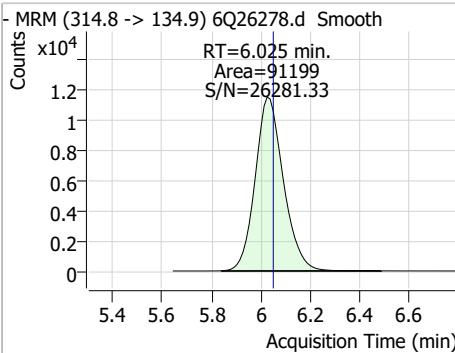
7.7.14  
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### Perfluorinated Compounds by LC/MS/MS

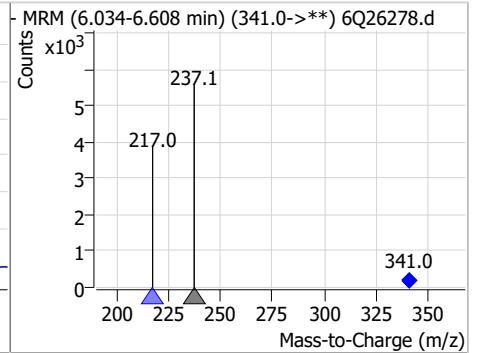
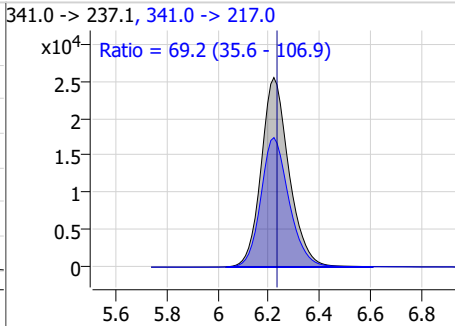
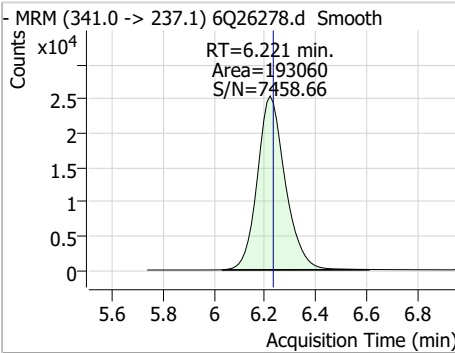
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
HFPO-DA	4.09	5.95	-0.01	15774	284.9 -> 184.9	10.5	6.0	18.1



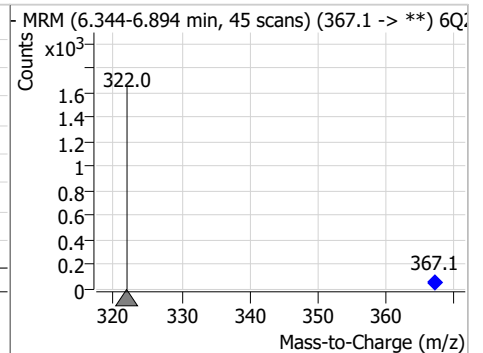
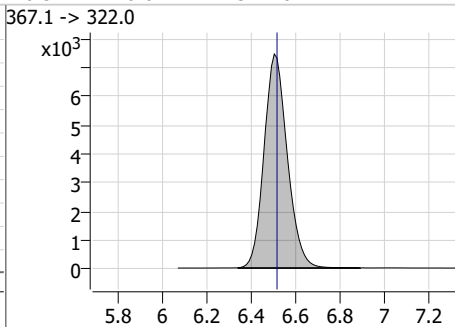
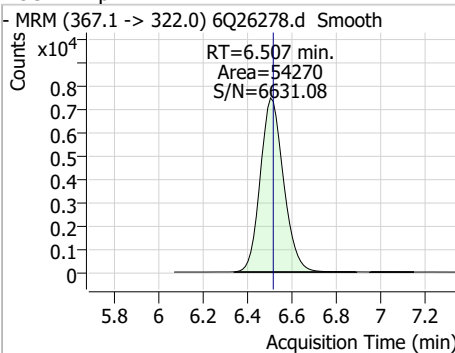
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFEESA	3.58	6.02	-0.02	91199	314.8 -> 82.9	3.4	1.8	5.4



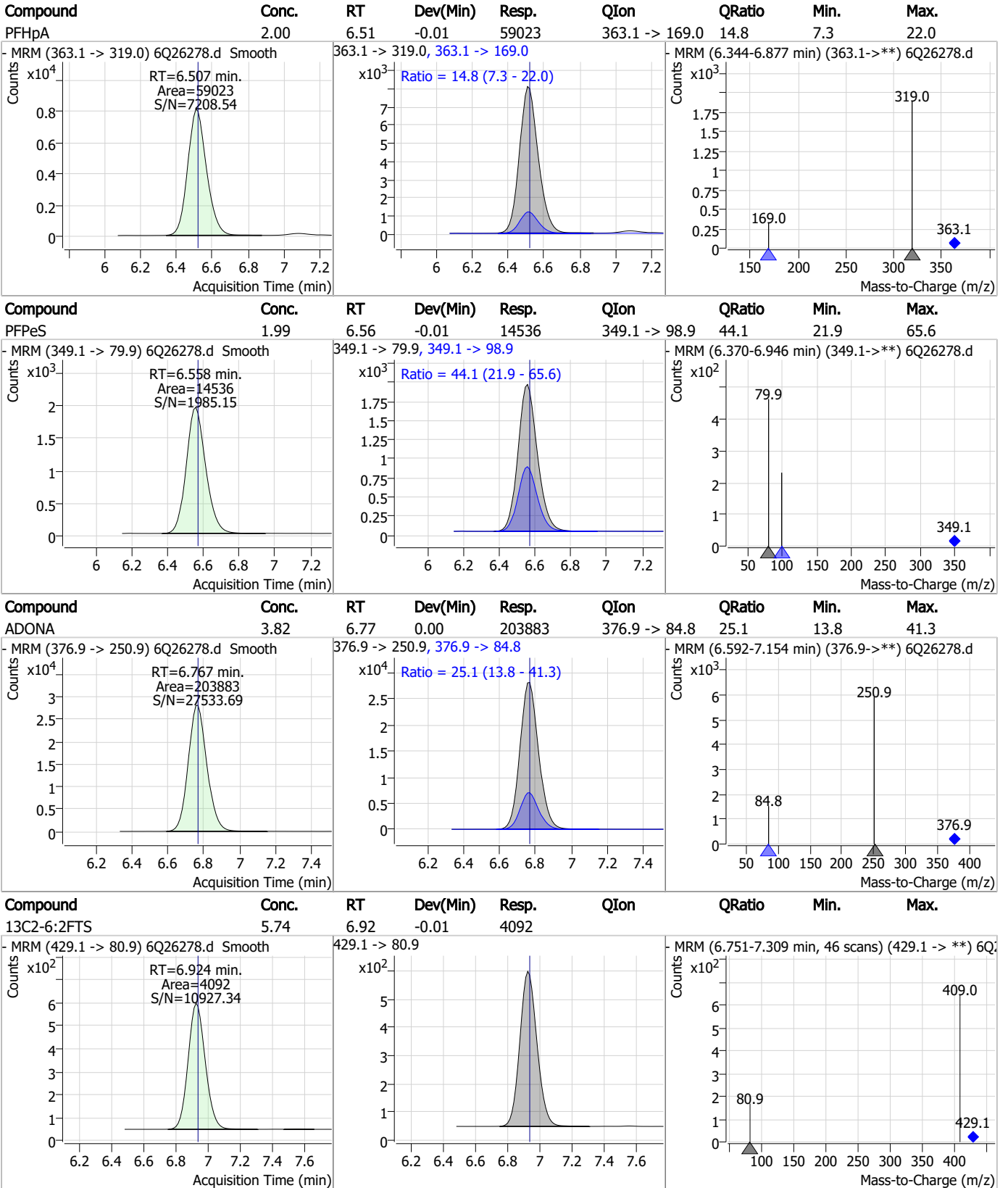
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
5:3FTCA	51.98	6.22	-0.01	193060	341.0 -> 217.0	69.2	35.6	106.9



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



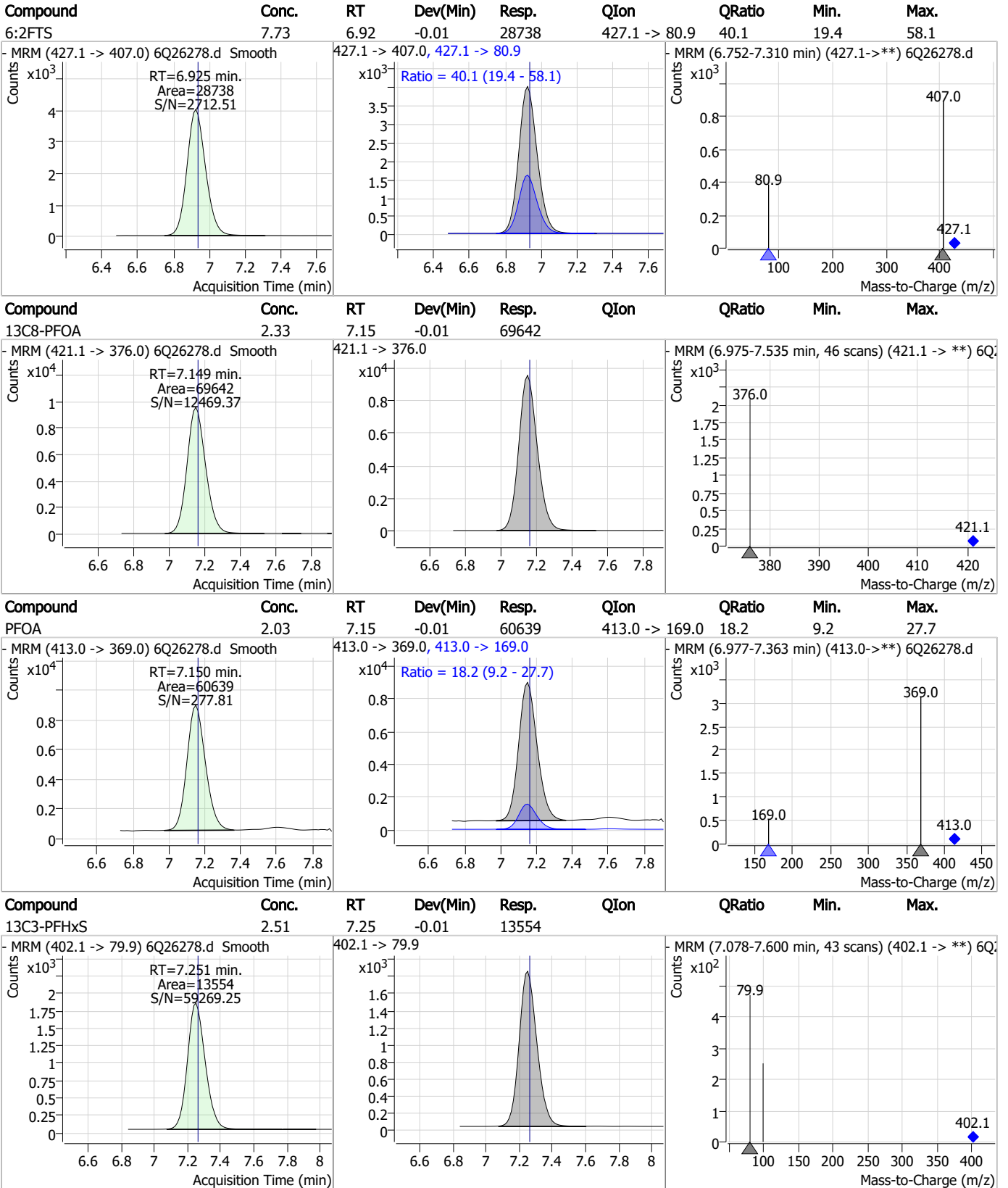
### Perfluorinated Compounds by LC/MS/MS



7.7.14



### Perfluorinated Compounds by LC/MS/MS

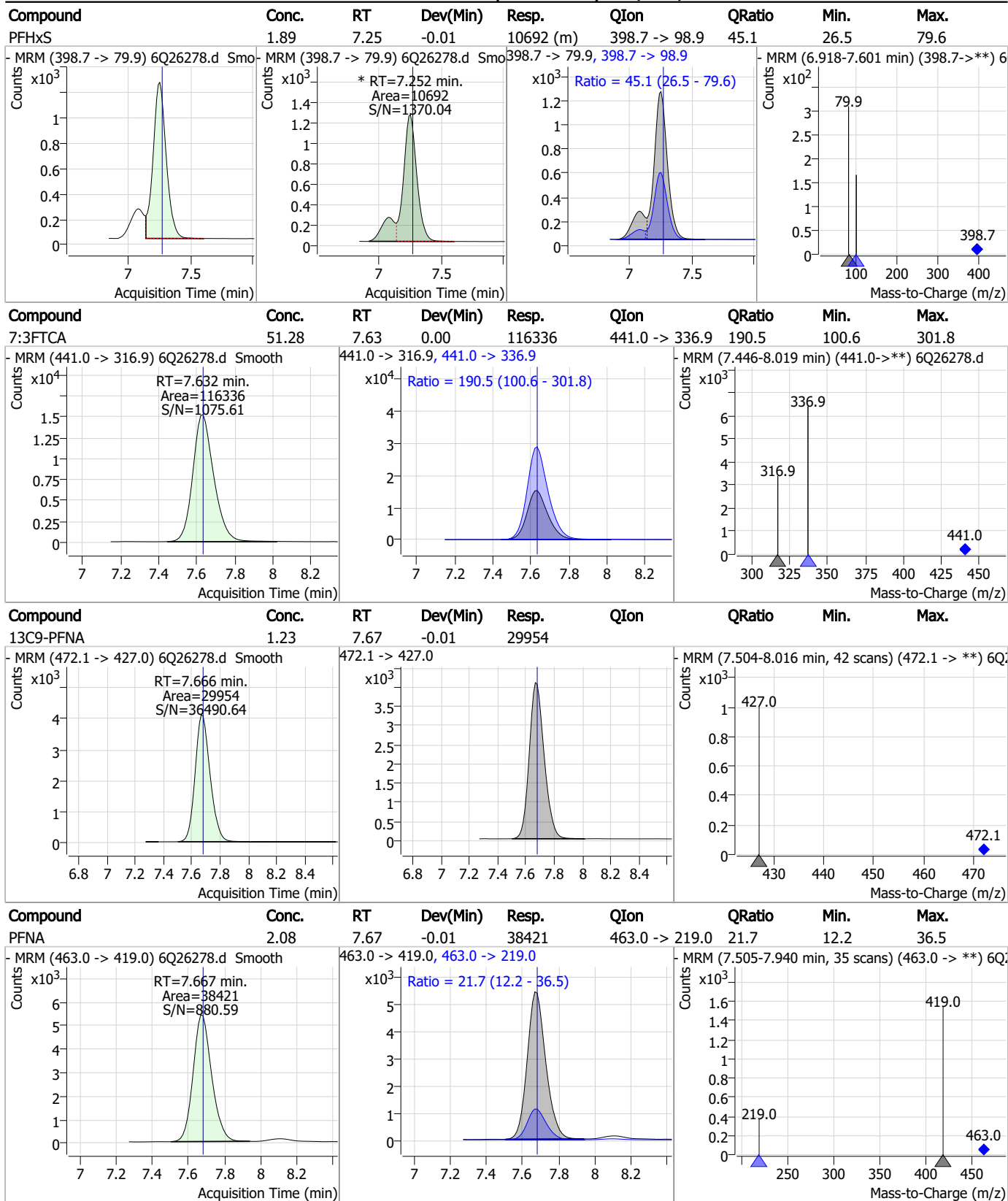


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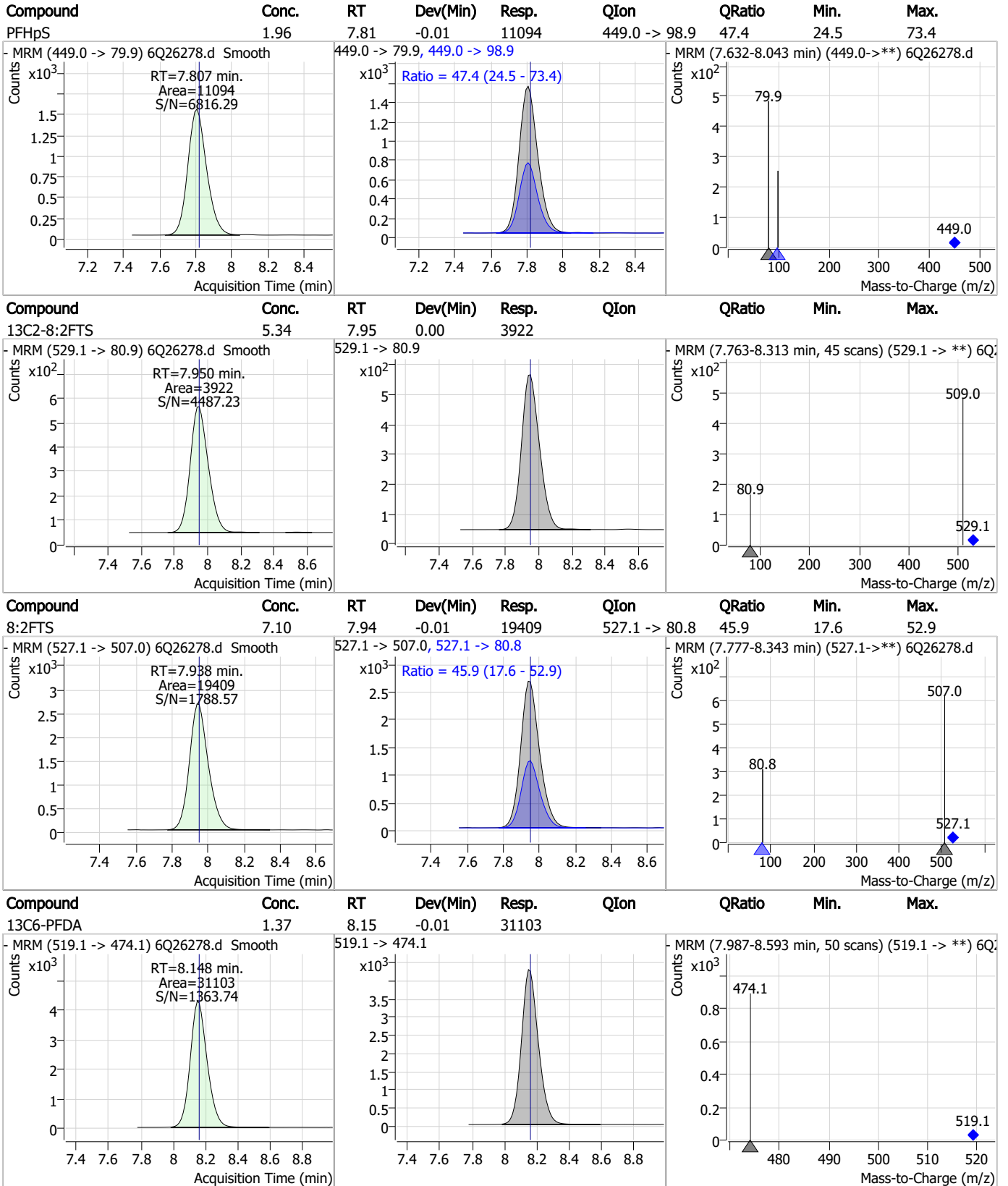


### Perfluorinated Compounds by LC/MS/MS



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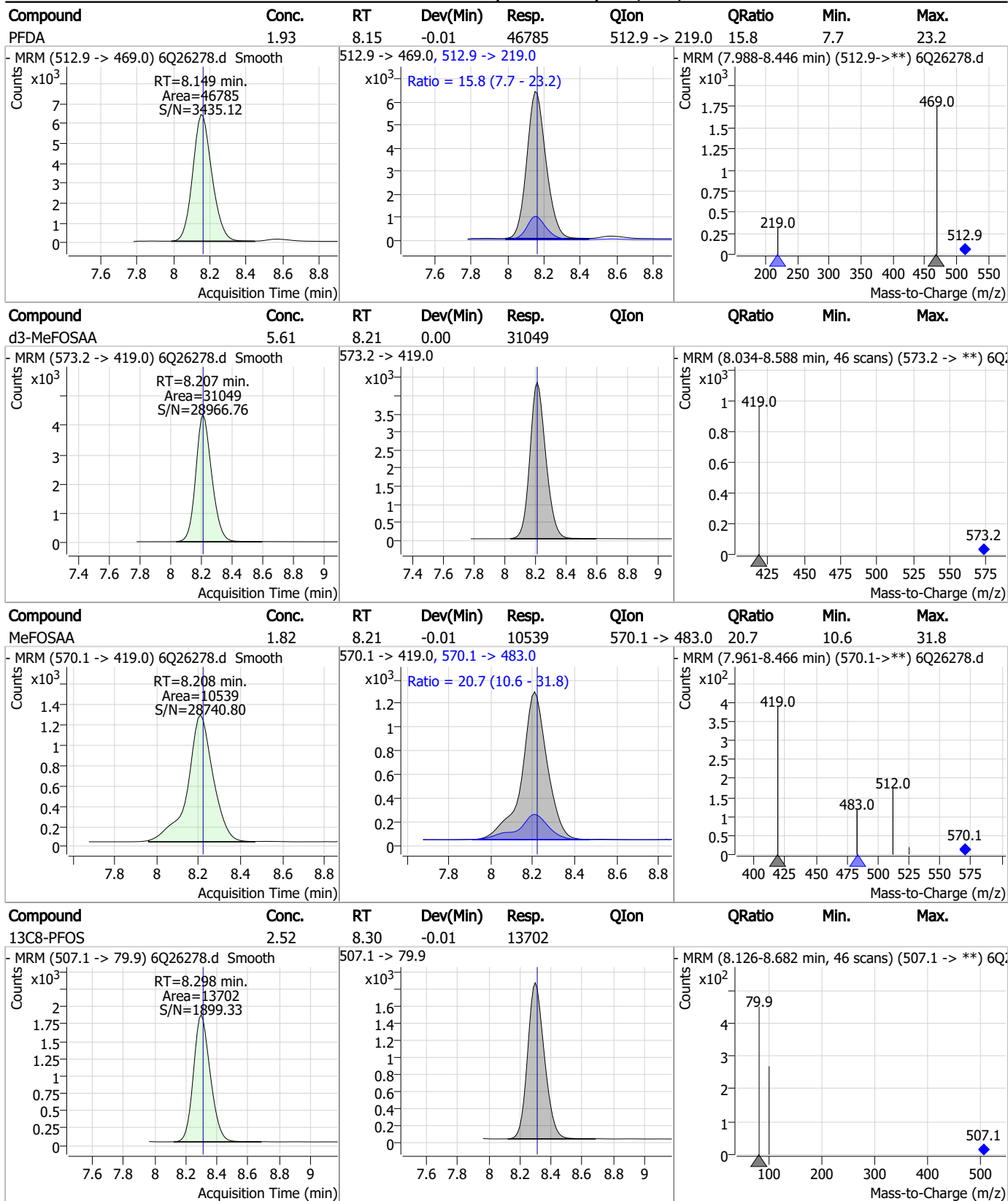
### Perfluorinated Compounds by LC/MS/MS



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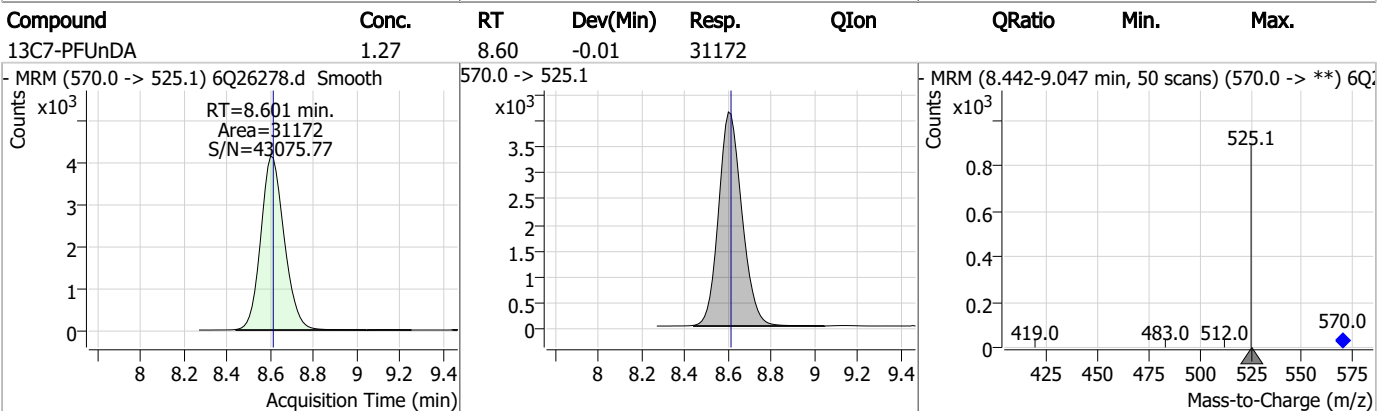
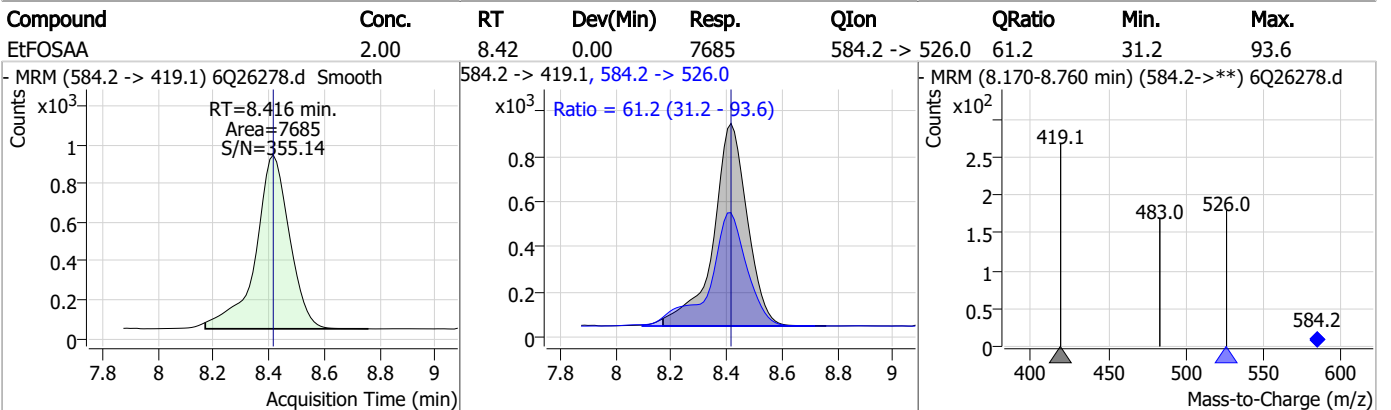
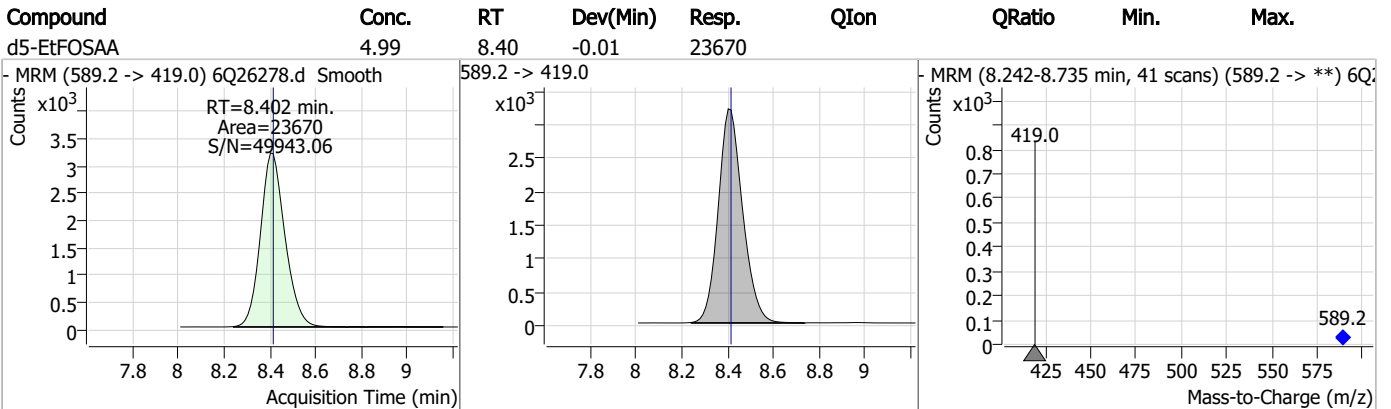
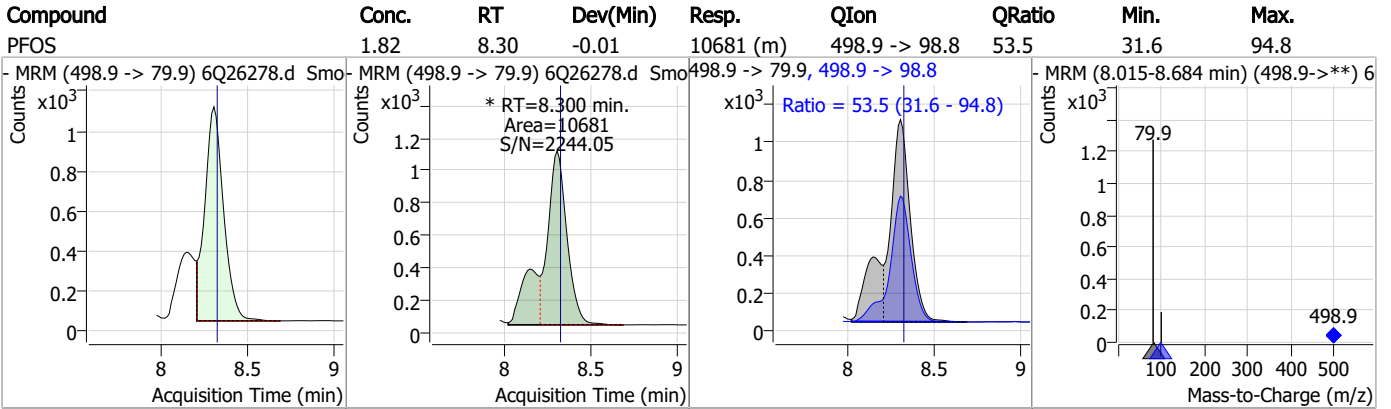


### Perfluorinated Compounds by LC/MS/MS



7.7.14

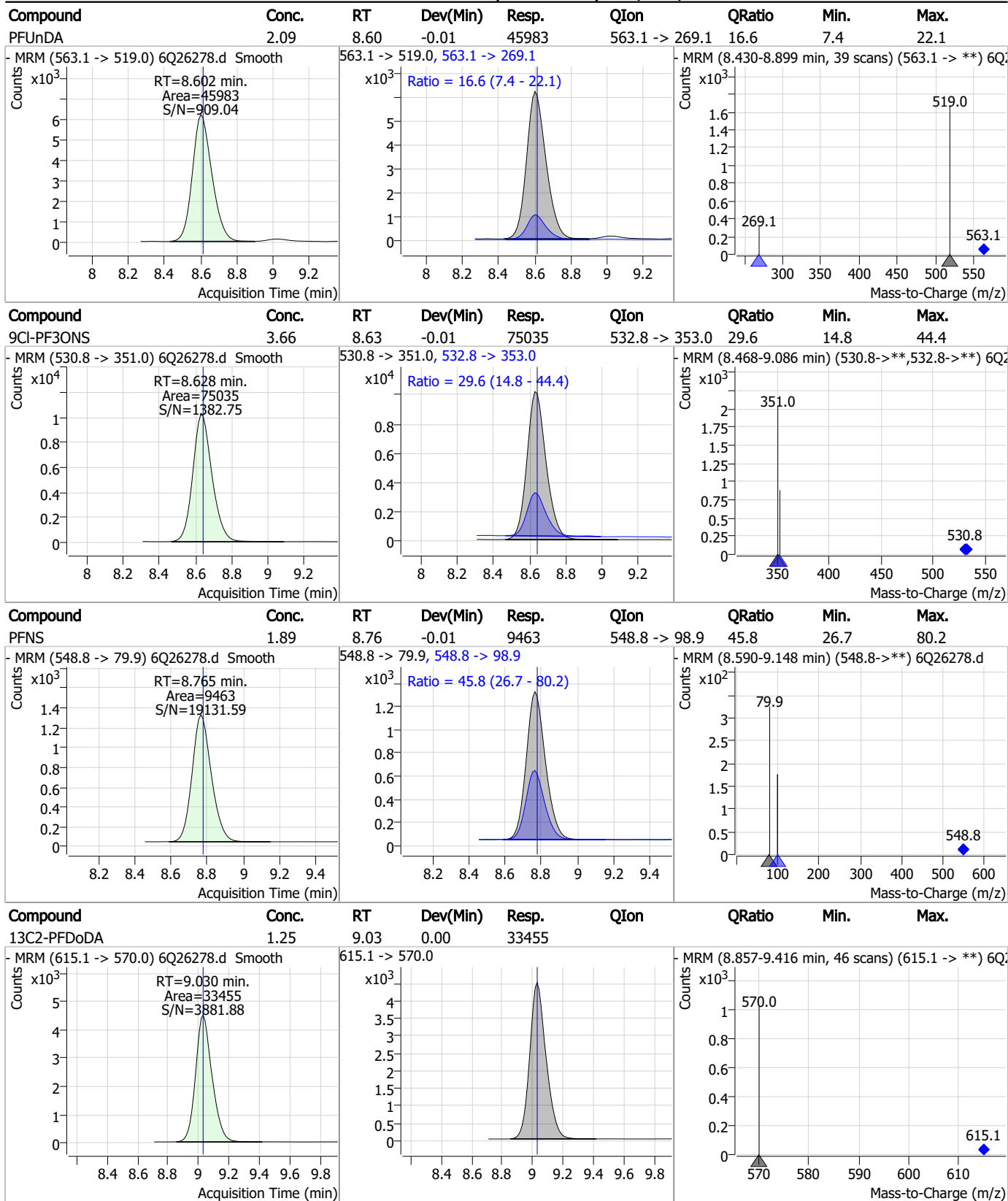
### Perfluorinated Compounds by LC/MS/MS



7.7.14

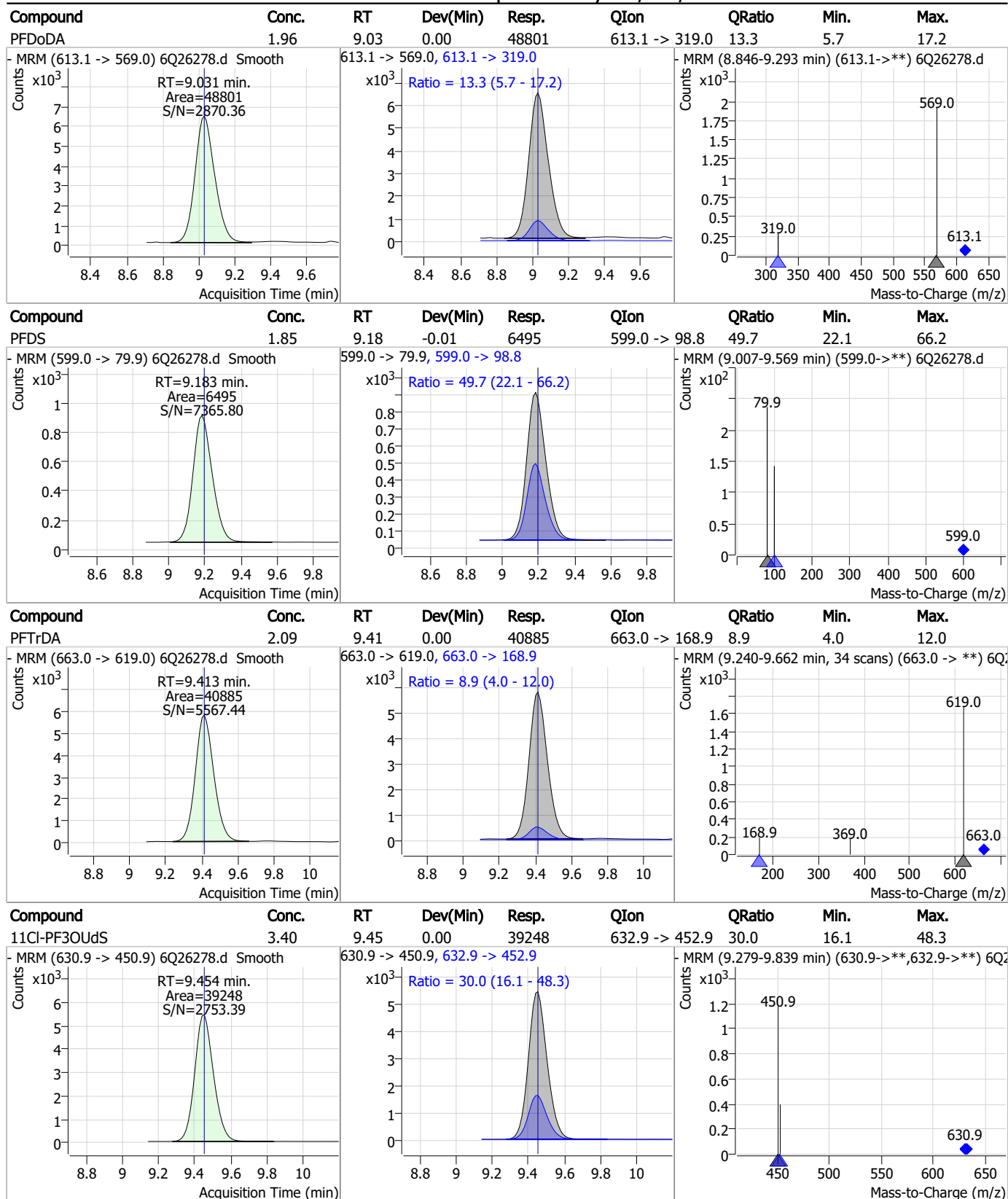


### Perfluorinated Compounds by LC/MS/MS



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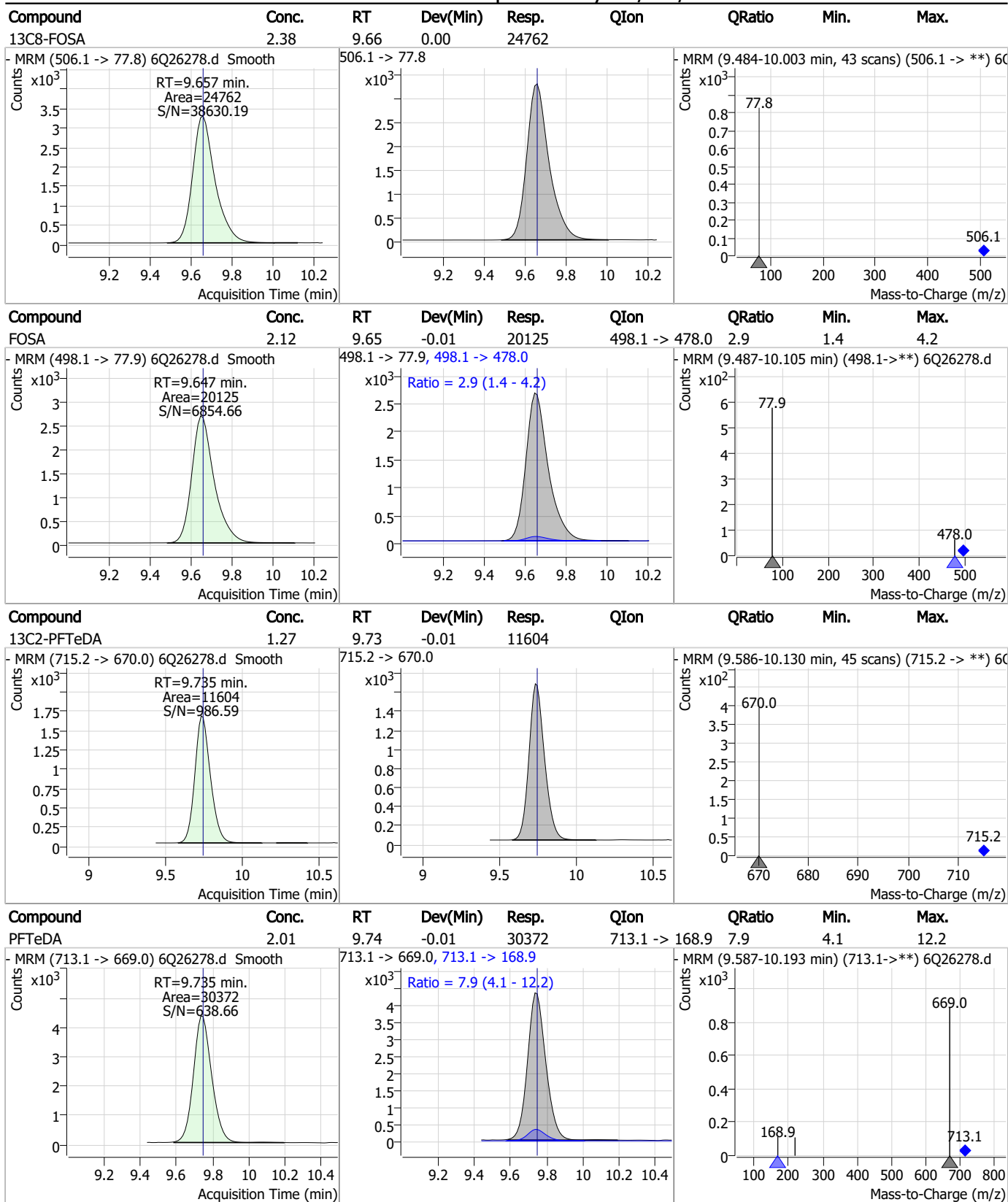
### Perfluorinated Compounds by LC/MS/MS



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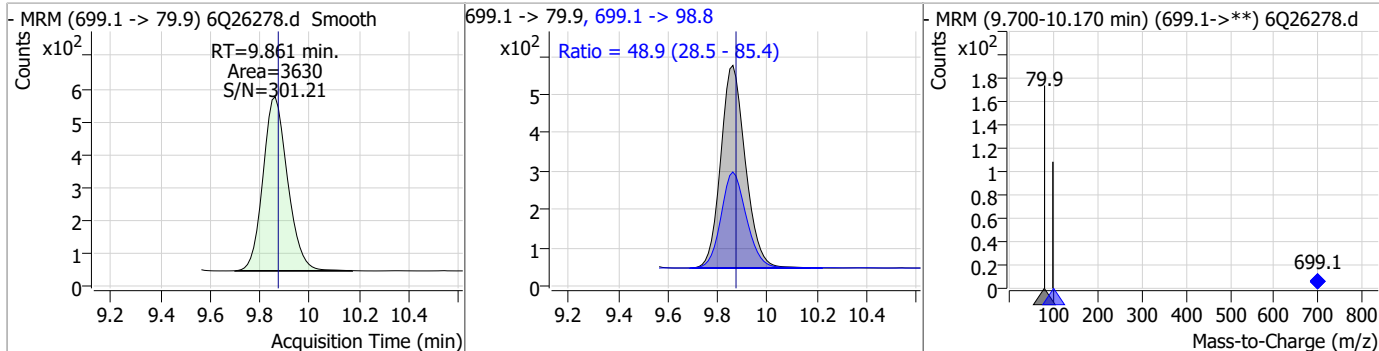
### Perfluorinated Compounds by LC/MS/MS



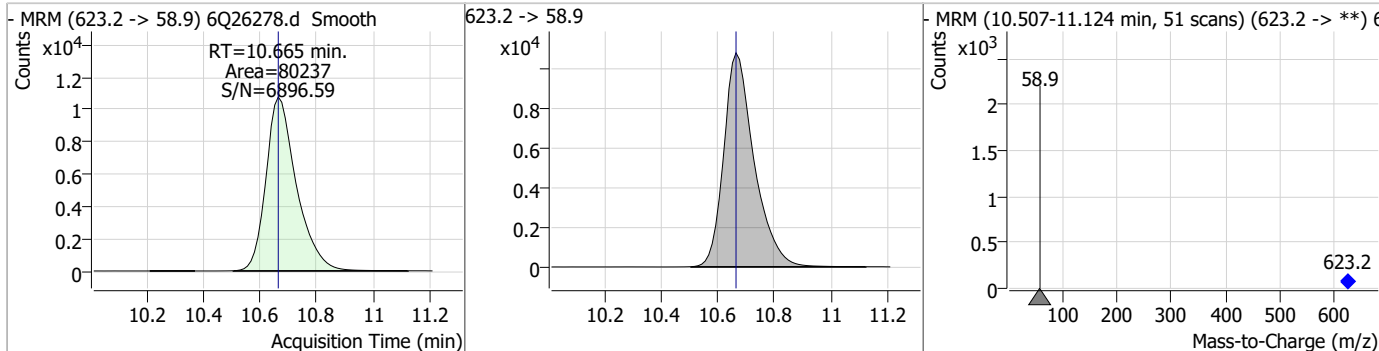
7.7.14  
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### Perfluorinated Compounds by LC/MS/MS

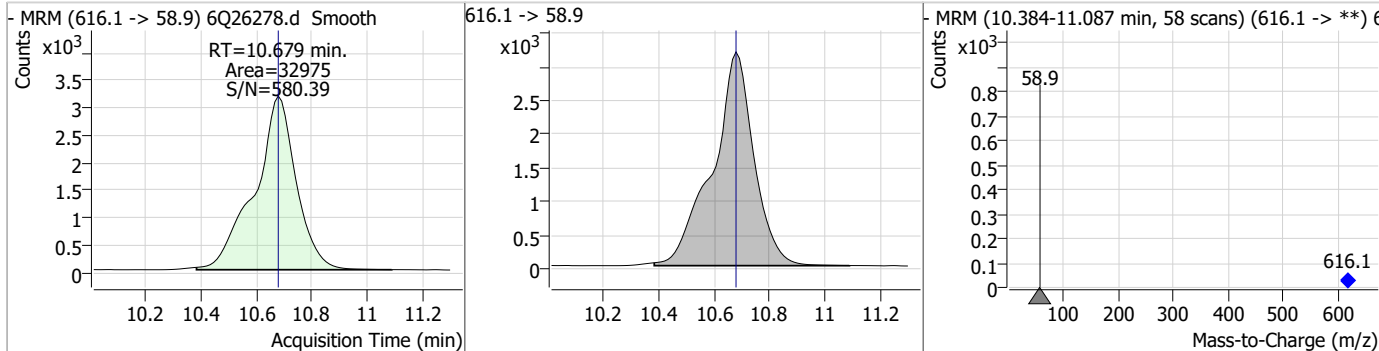
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFD <sub>o</sub> DS	1.99	9.86	-0.01	3630	699.1 -> 98.8	48.9	28.5	85.4



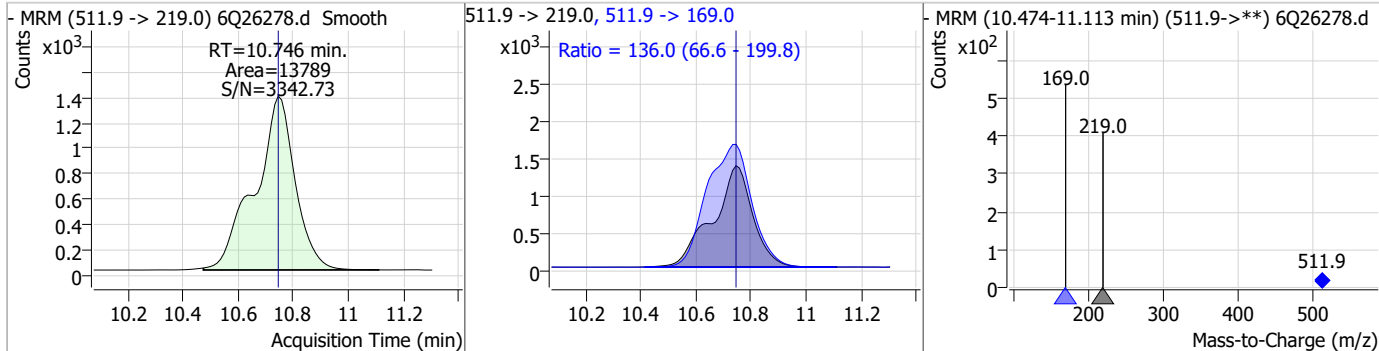
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d7-MeFOSE	23.94	10.67	0.00	80237				



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



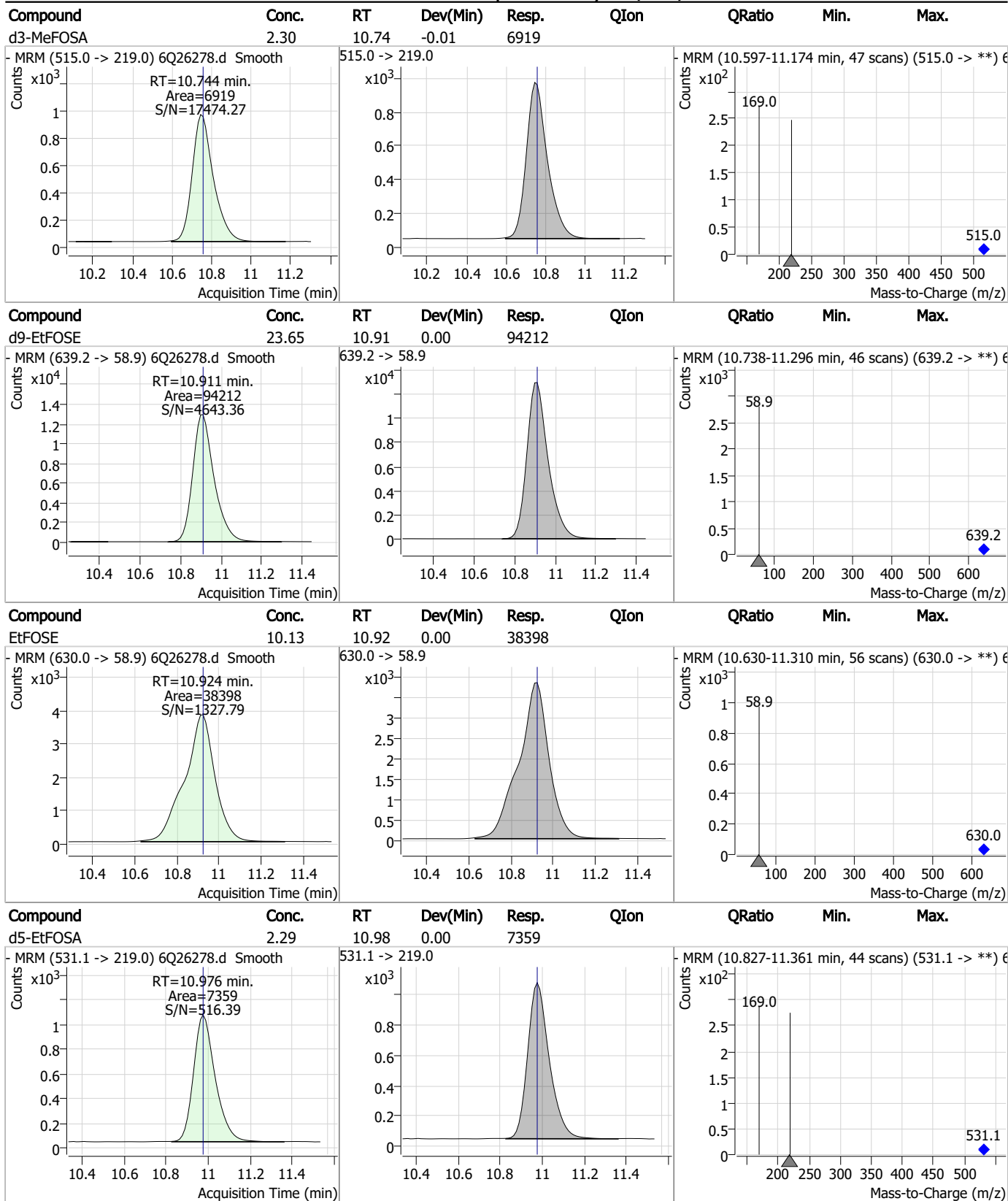
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSA	4.30	10.75	0.00	13789	511.9 -> 169.0	136.0	66.6	199.8



7.7.14  
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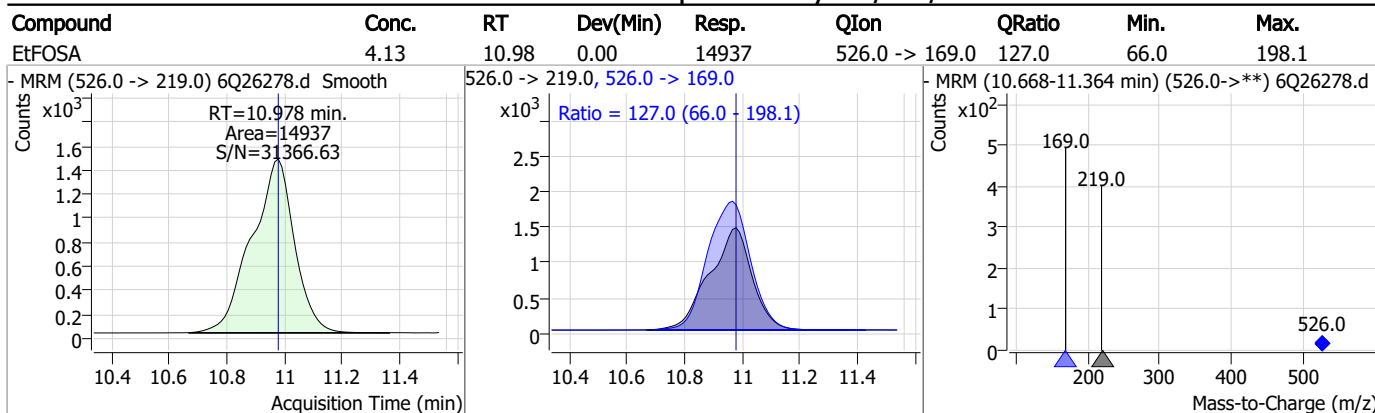
### Perfluorinated Compounds by LC/MS/MS



7.7.14



### Perfluorinated Compounds by LC/MS/MS



7.7.14  
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# 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

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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)
<b>Internal Standards</b>					
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
<b>System Monitoring Compounds</b>					
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%	
<b>Target Compounds</b>					<b>QValue</b>
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

7.7.15  
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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

7.7.15  
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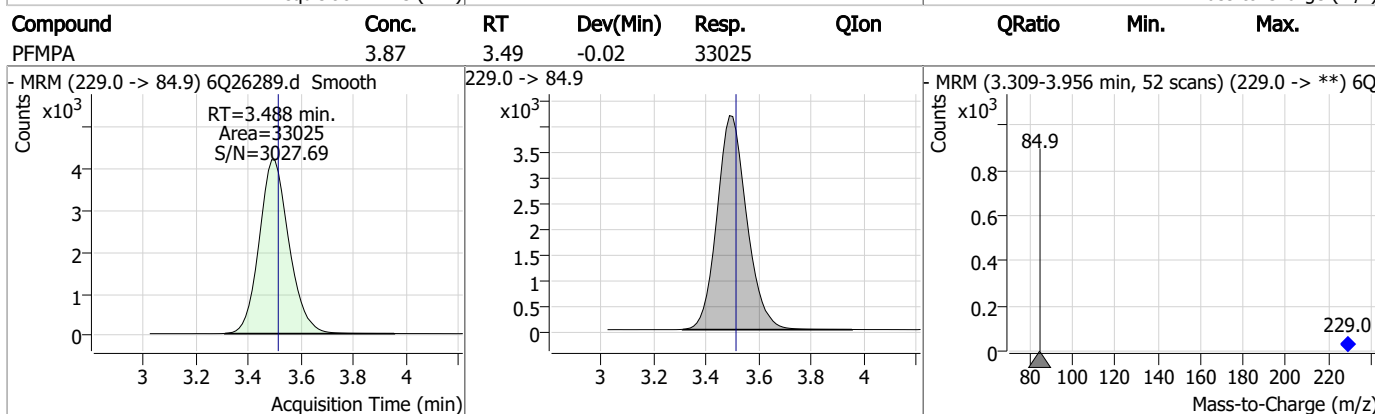
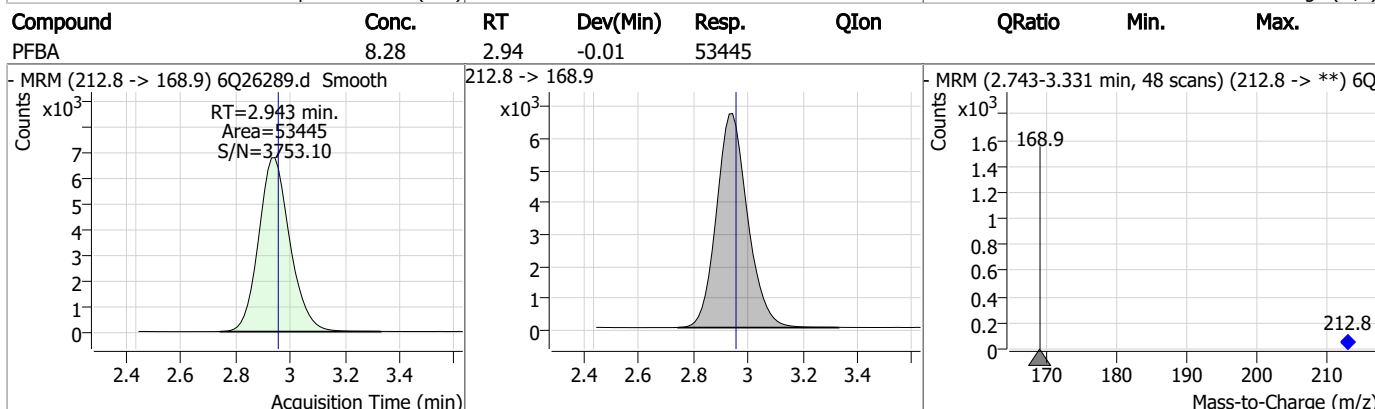
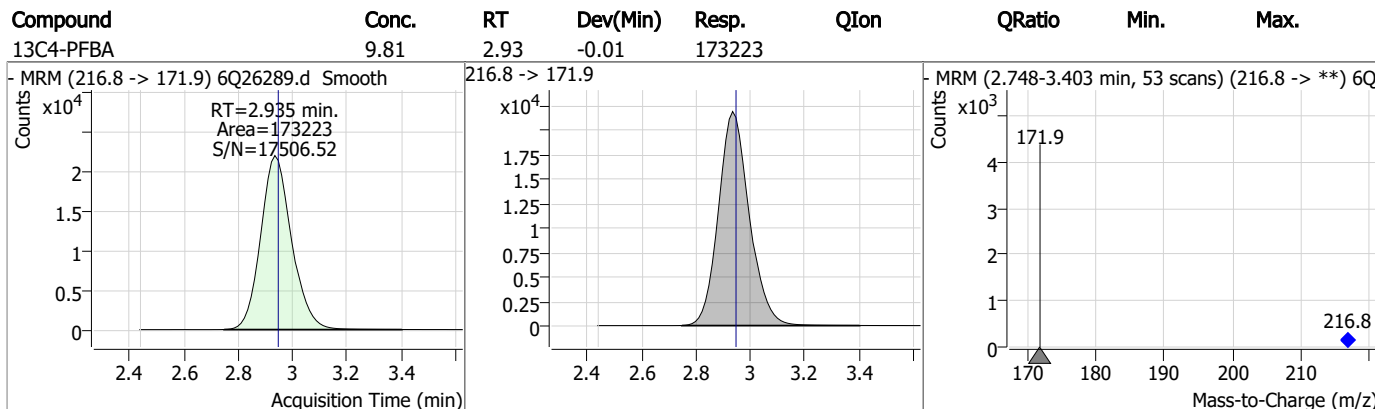
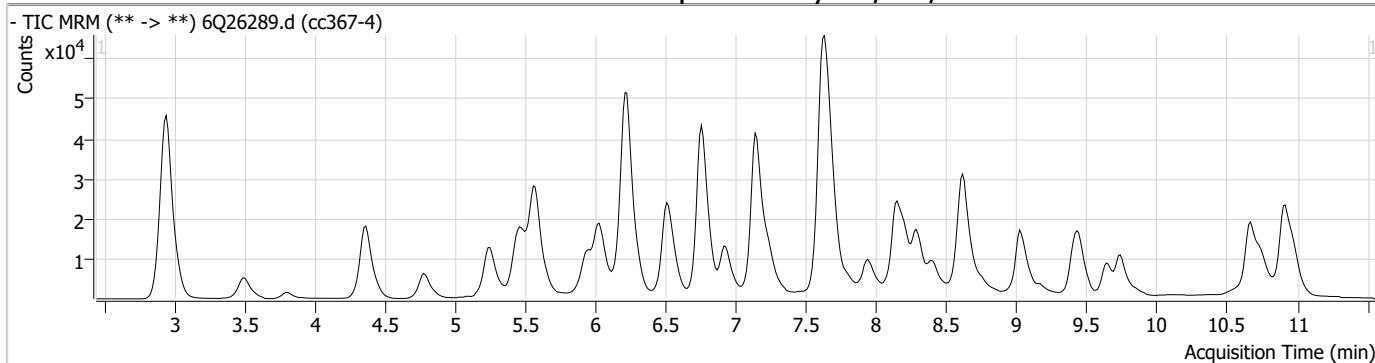
### Perfluorinated Compounds by LC/MS/MS

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

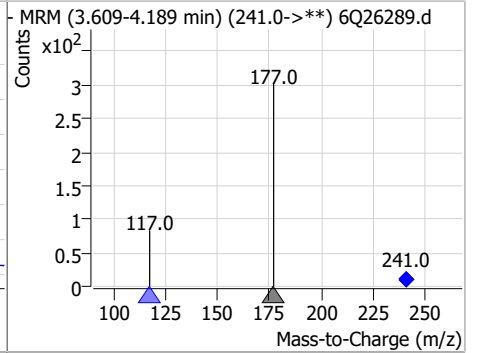
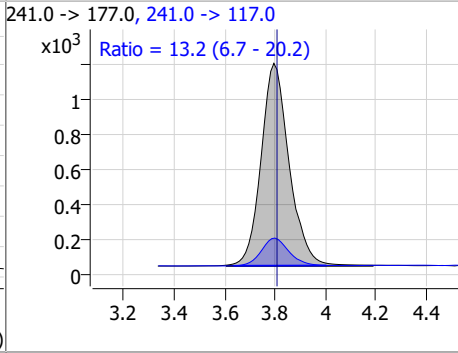
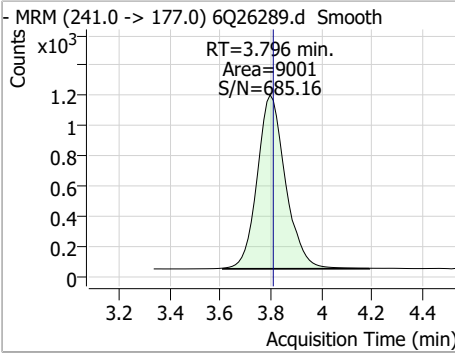


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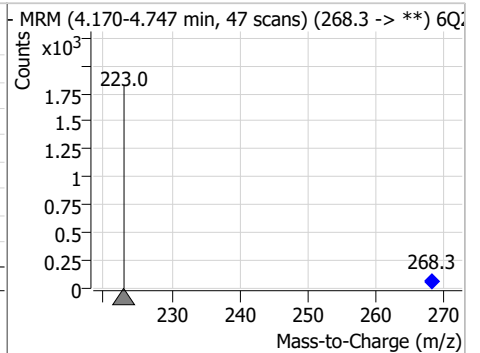
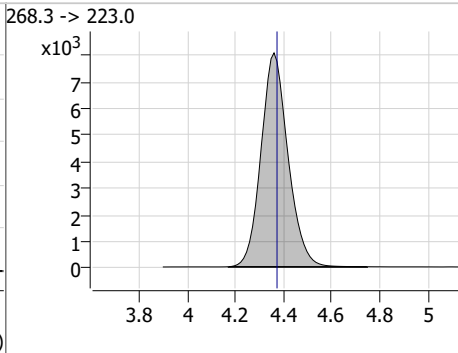
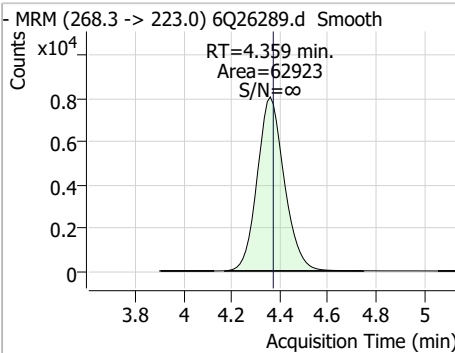


### Perfluorinated Compounds by LC/MS/MS

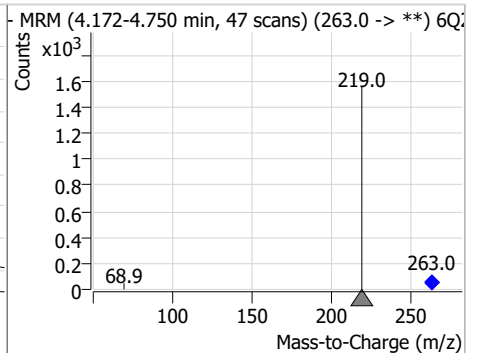
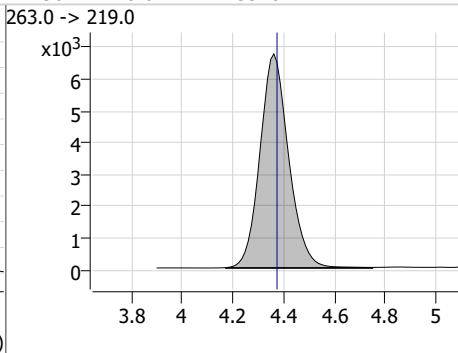
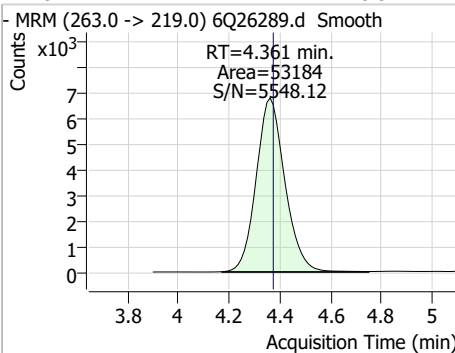
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
3:3FTCA	9.68	3.80	-0.01	9001	241.0 -> 117.0	13.2	6.7	20.2



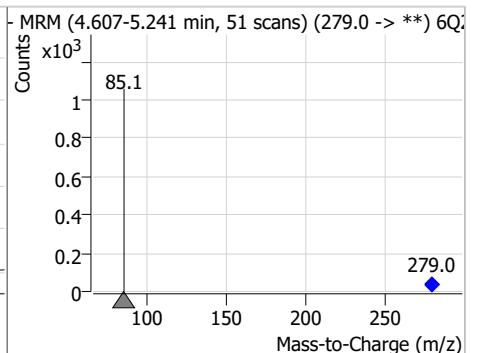
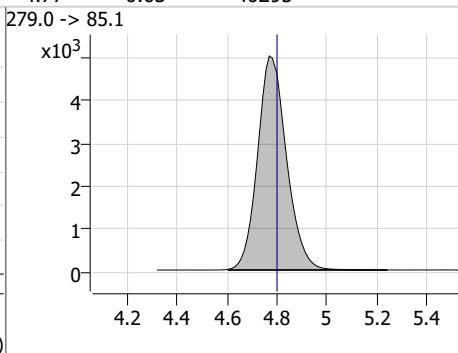
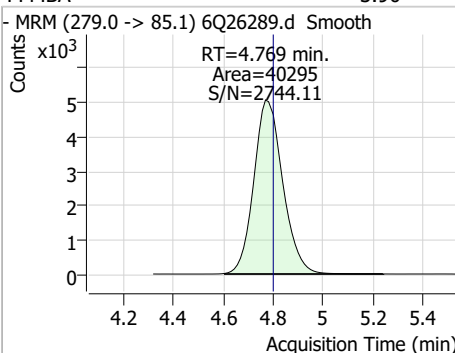
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFPeA	5.02	4.36	-0.01	62923				



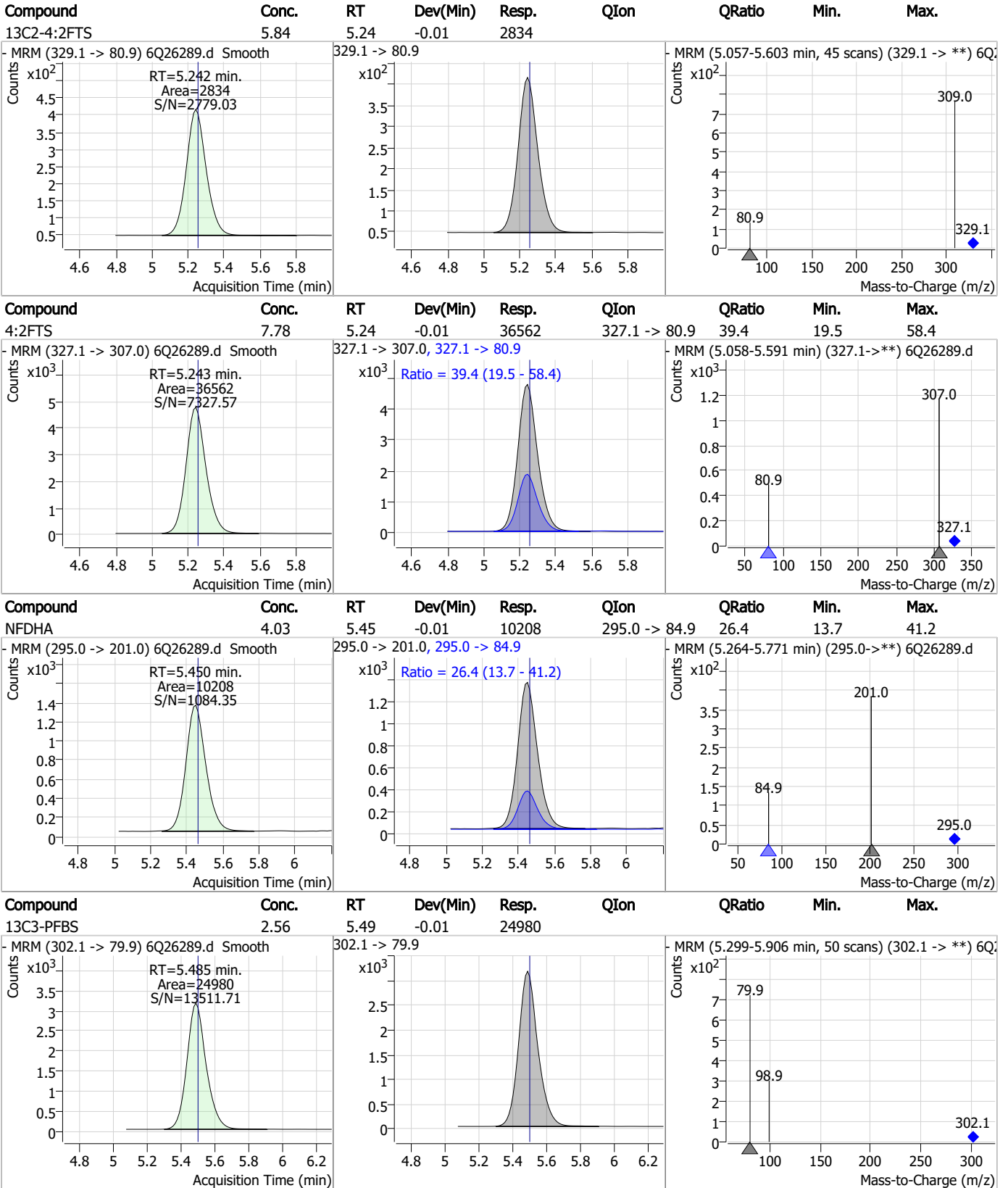
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeA	3.92	4.36	-0.01	53184				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFMBA	3.90	4.77	-0.03	40295				



### Perfluorinated Compounds by LC/MS/MS

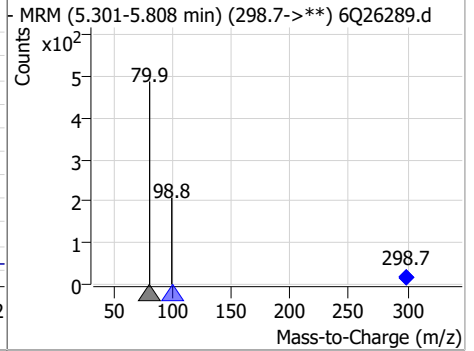
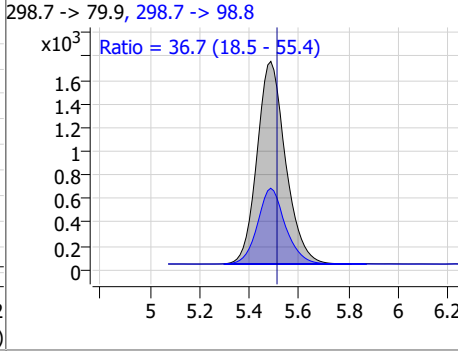
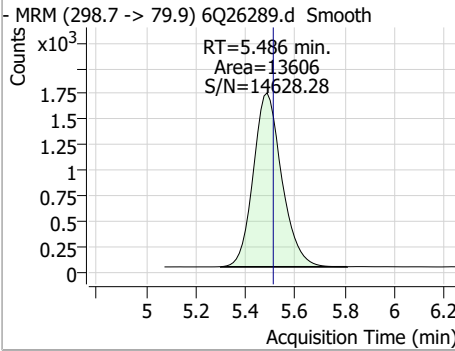


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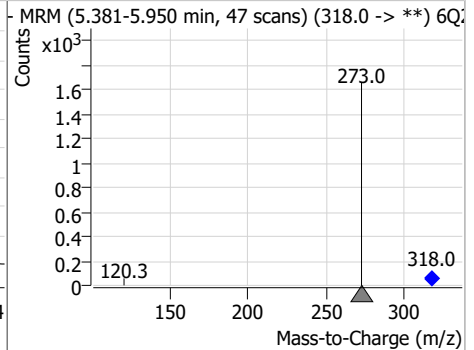
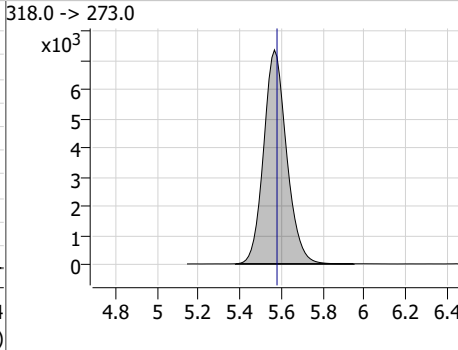
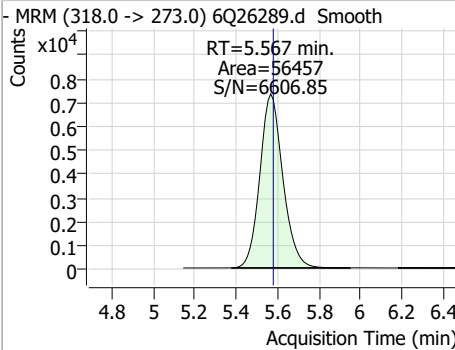


### Perfluorinated Compounds by LC/MS/MS

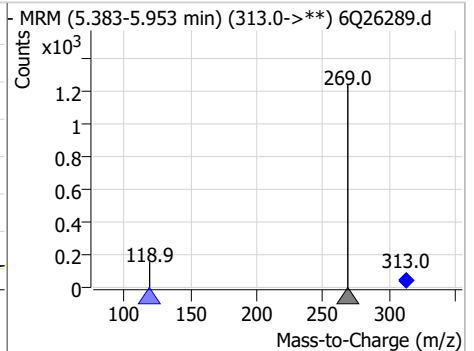
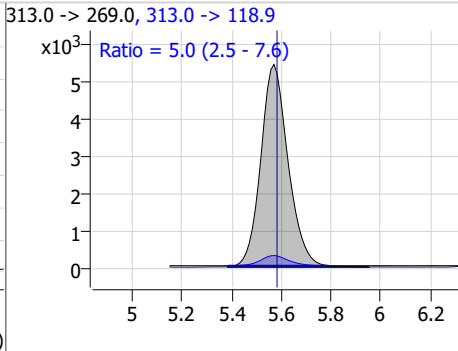
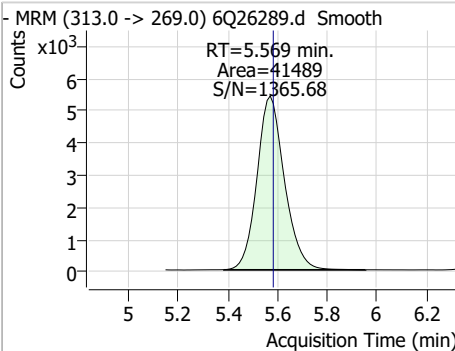
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBS	1.82	5.49	-0.02	13606	298.7 -> 98.8	36.7	18.5	55.4



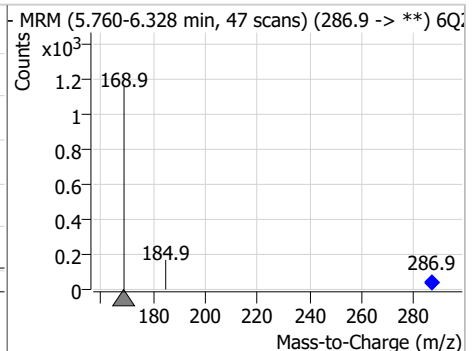
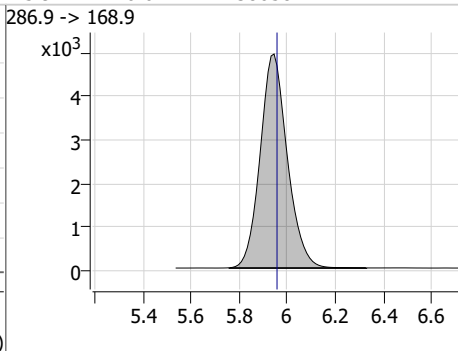
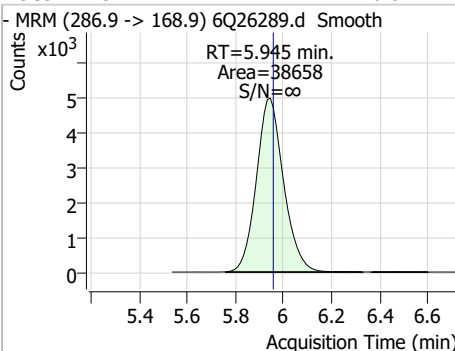
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFHxA	2.47	5.57	-0.01	56457				



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

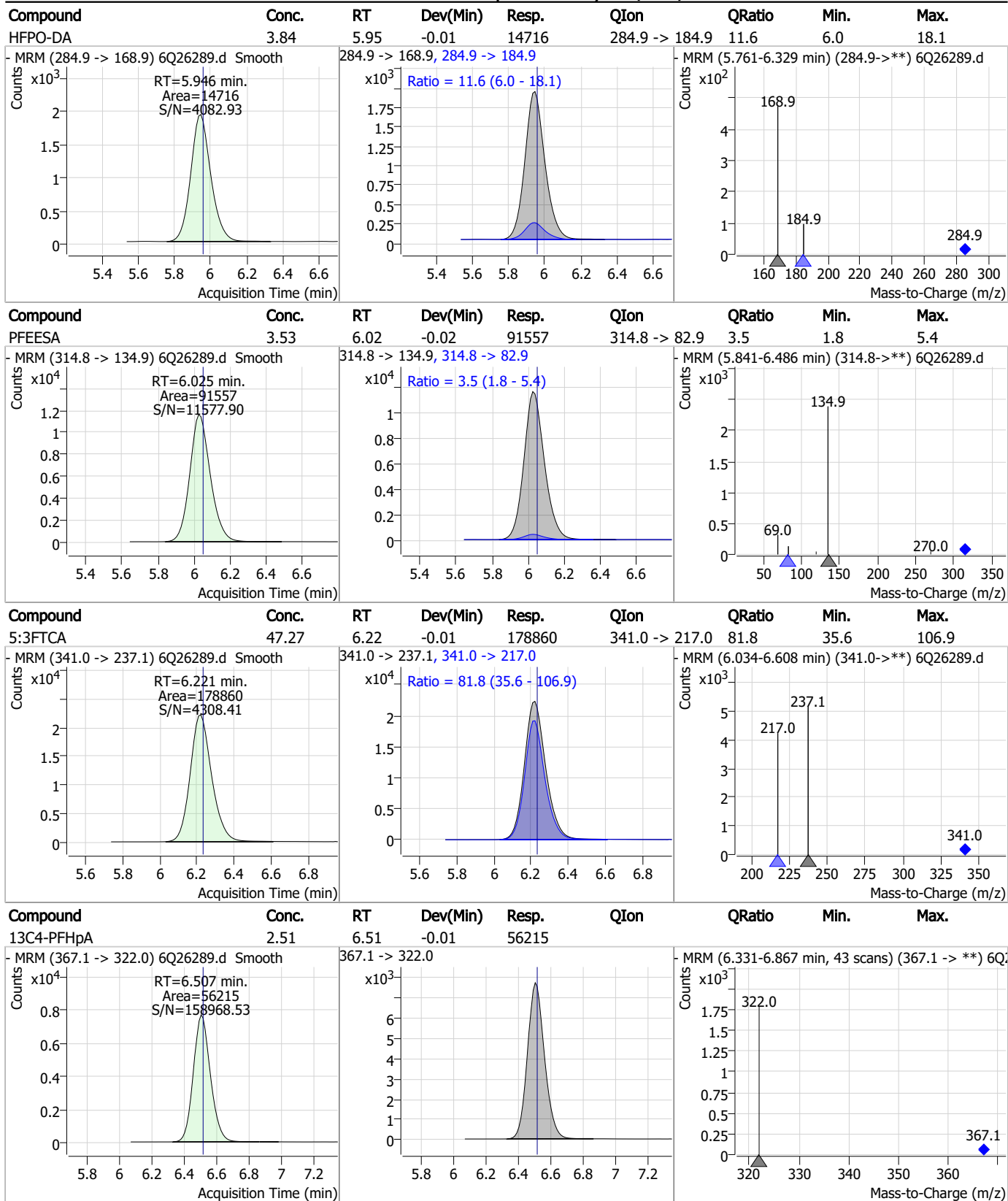


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-HFPO-DA	10.01	5.94	-0.01	38658				



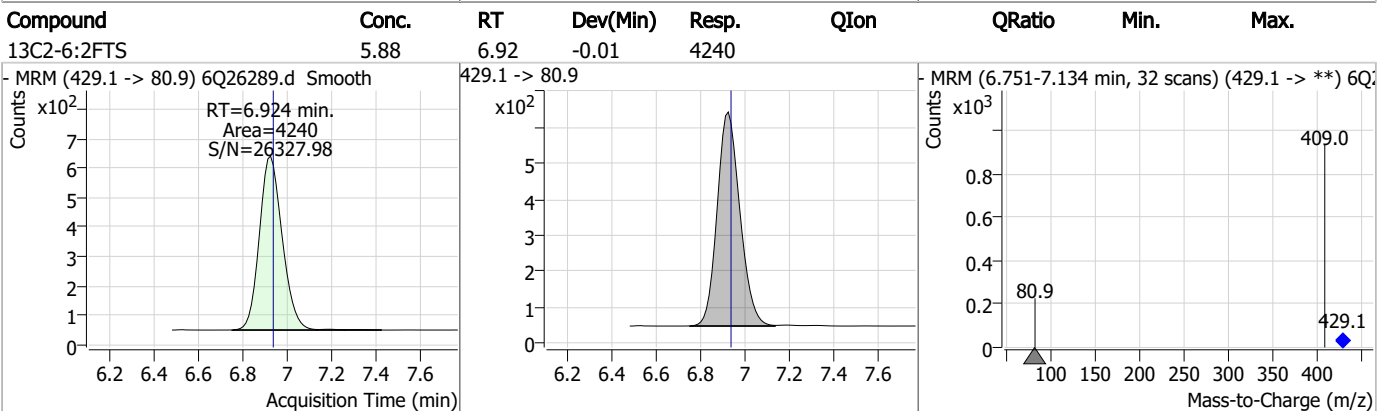
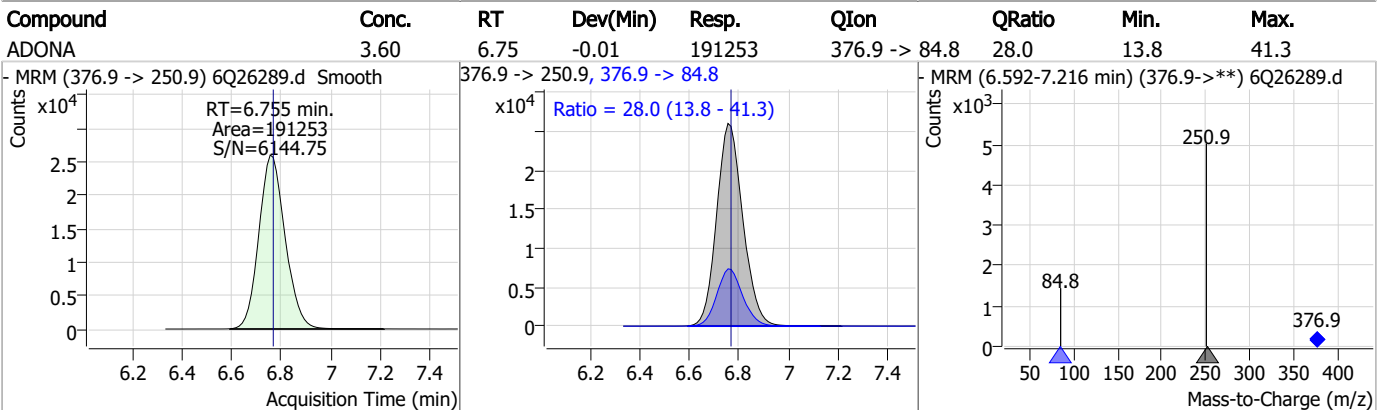
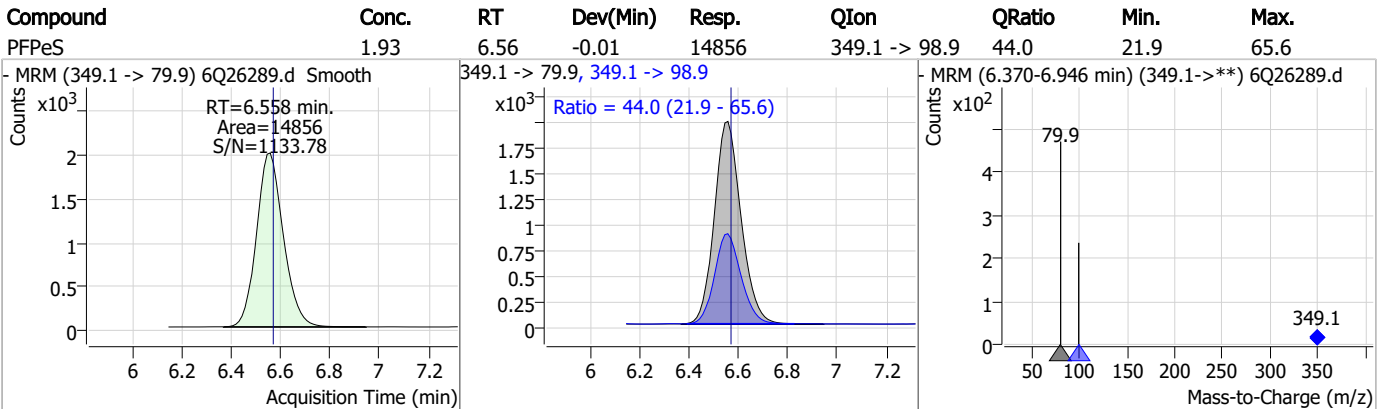
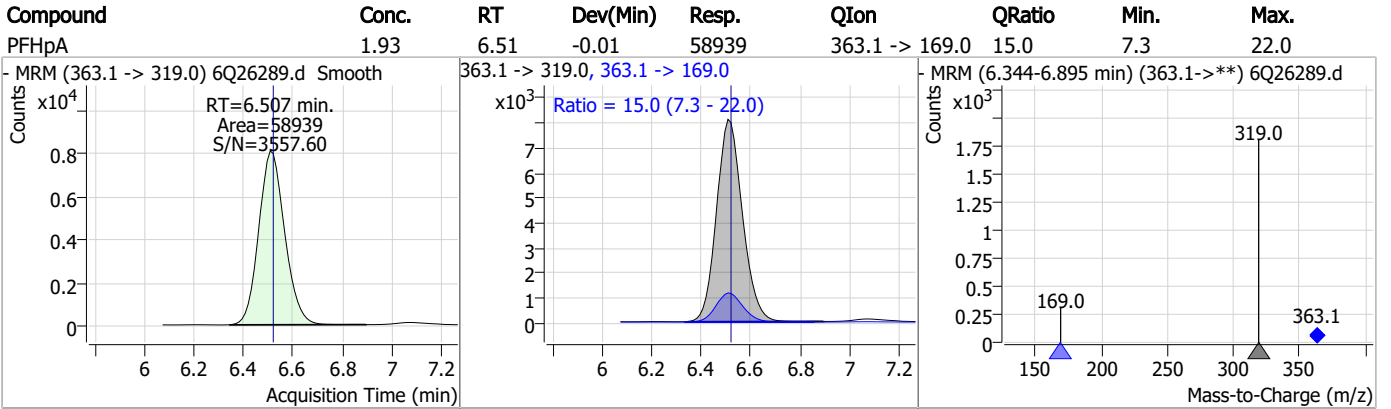
7.7.15 7

### Perfluorinated Compounds by LC/MS/MS



7.7.15  
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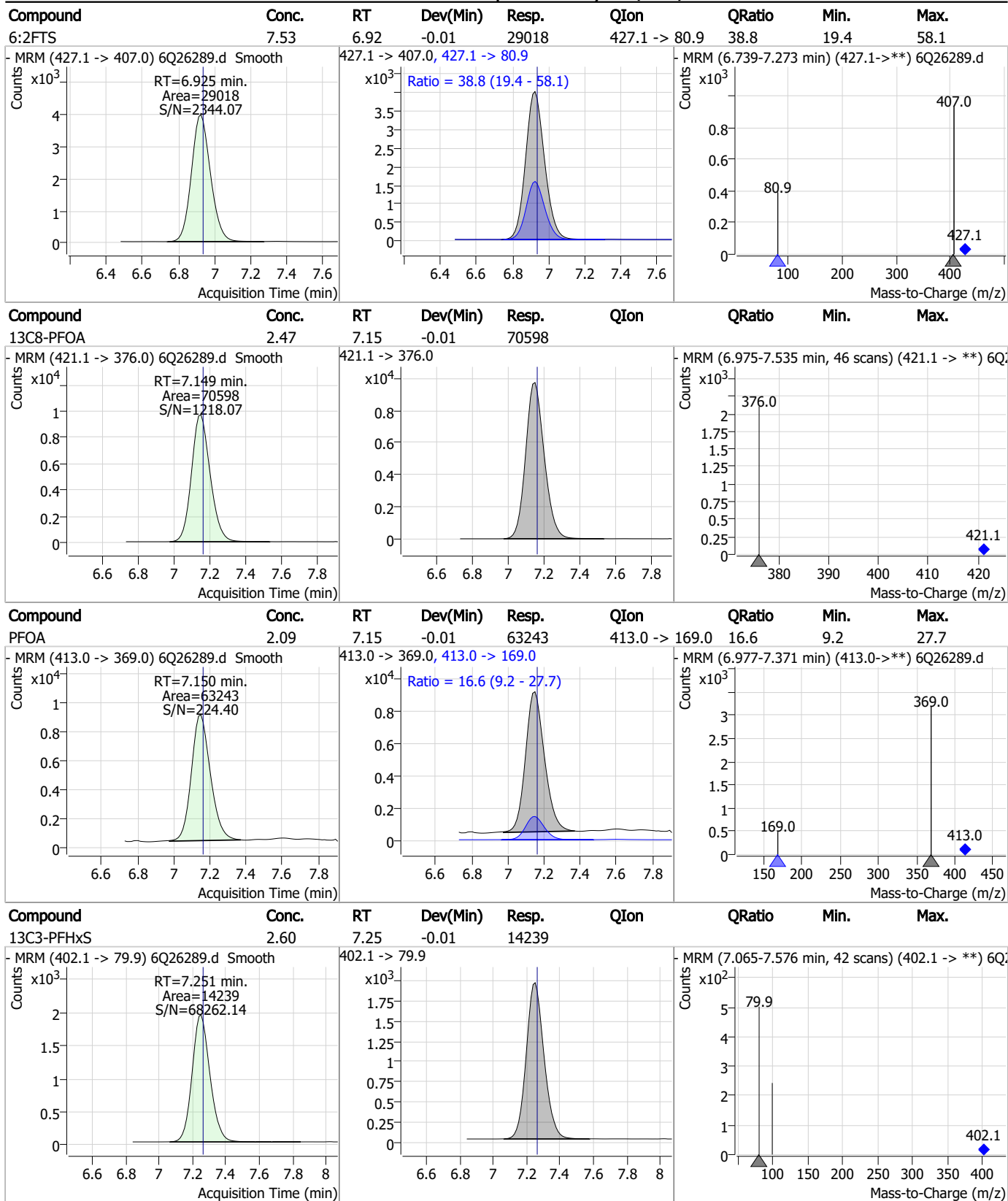
### Perfluorinated Compounds by LC/MS/MS



7.7.15  
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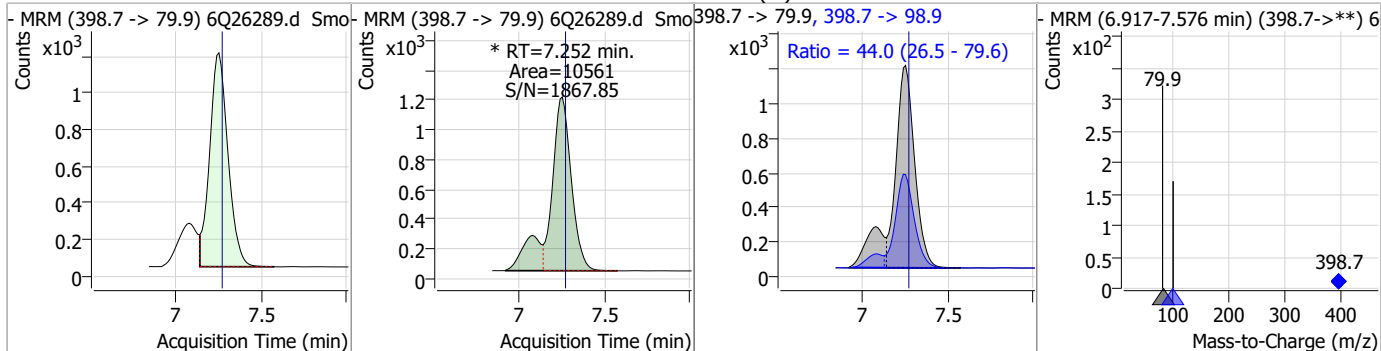
### Perfluorinated Compounds by LC/MS/MS



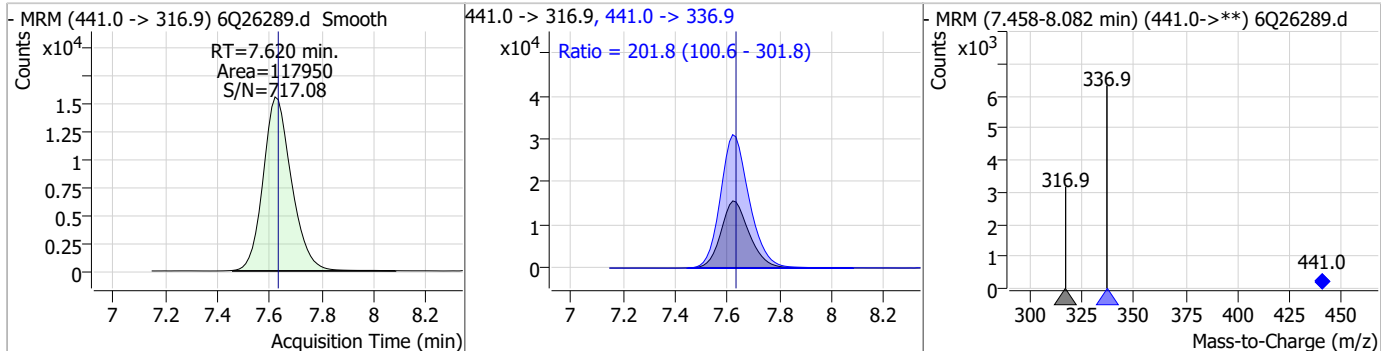
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### Perfluorinated Compounds by LC/MS/MS

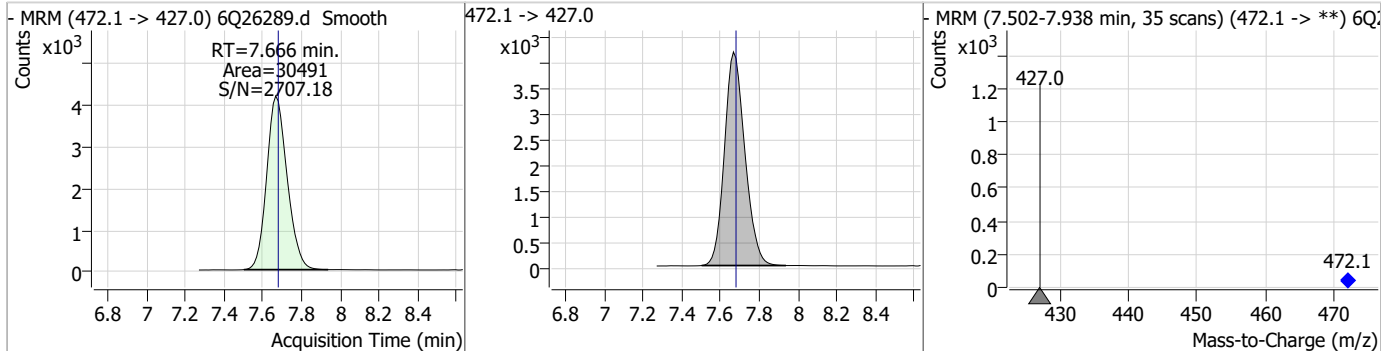
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxS	1.77	7.25	-0.01	10561 (m)	398.7 -> 98.9	44.0	26.5	79.6



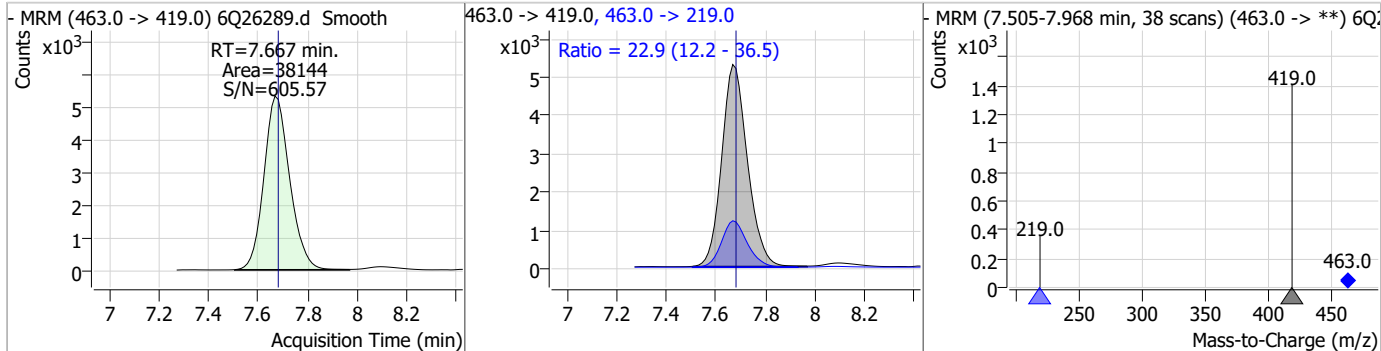
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
7:3FTCA	51.04	7.62	-0.01	117950	441.0 -> 336.9	201.8	100.6	301.8



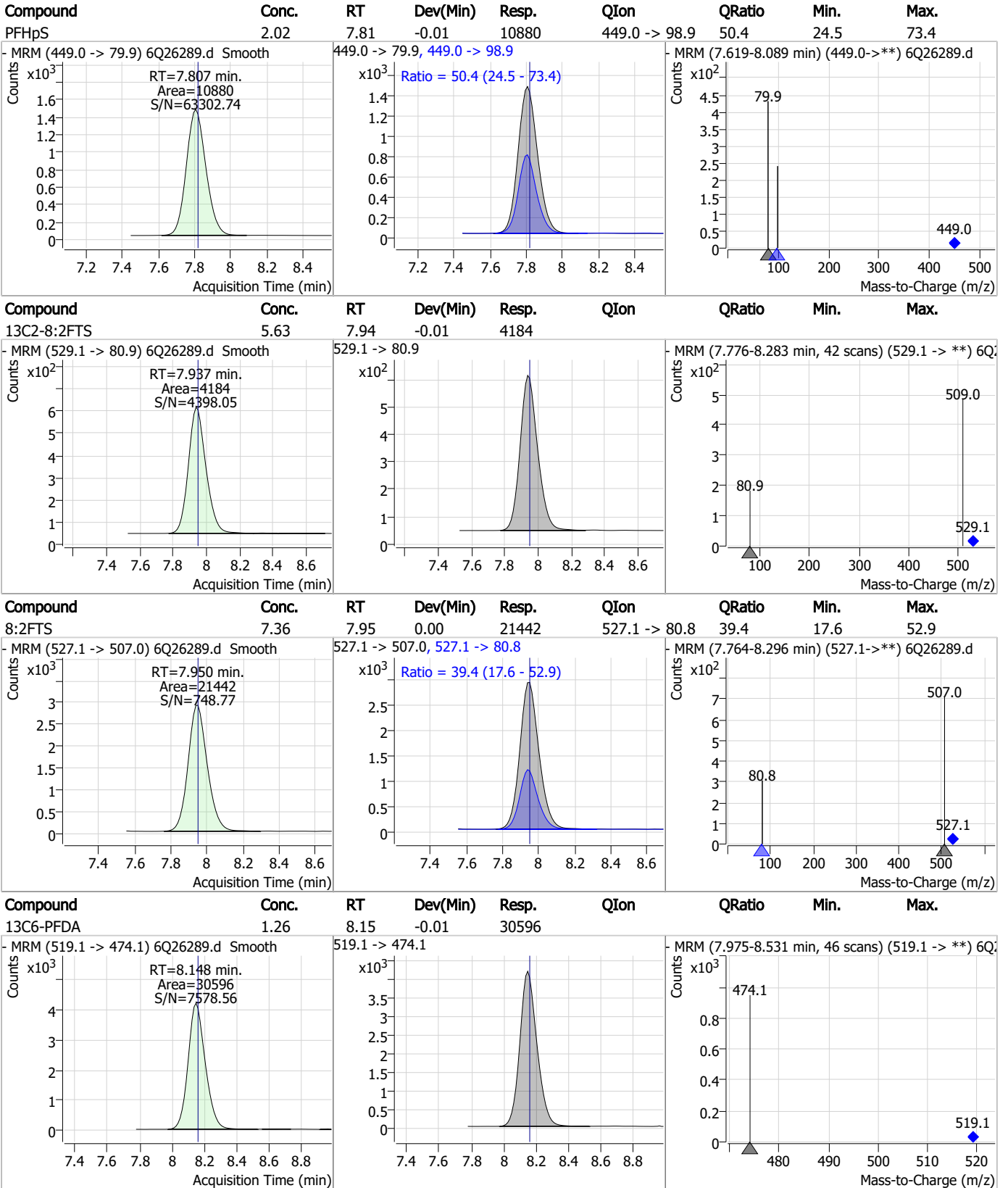
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C9-PFNA	1.30	7.67	-0.01	30491	472.1 -> 427.0			



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



### Perfluorinated Compounds by LC/MS/MS

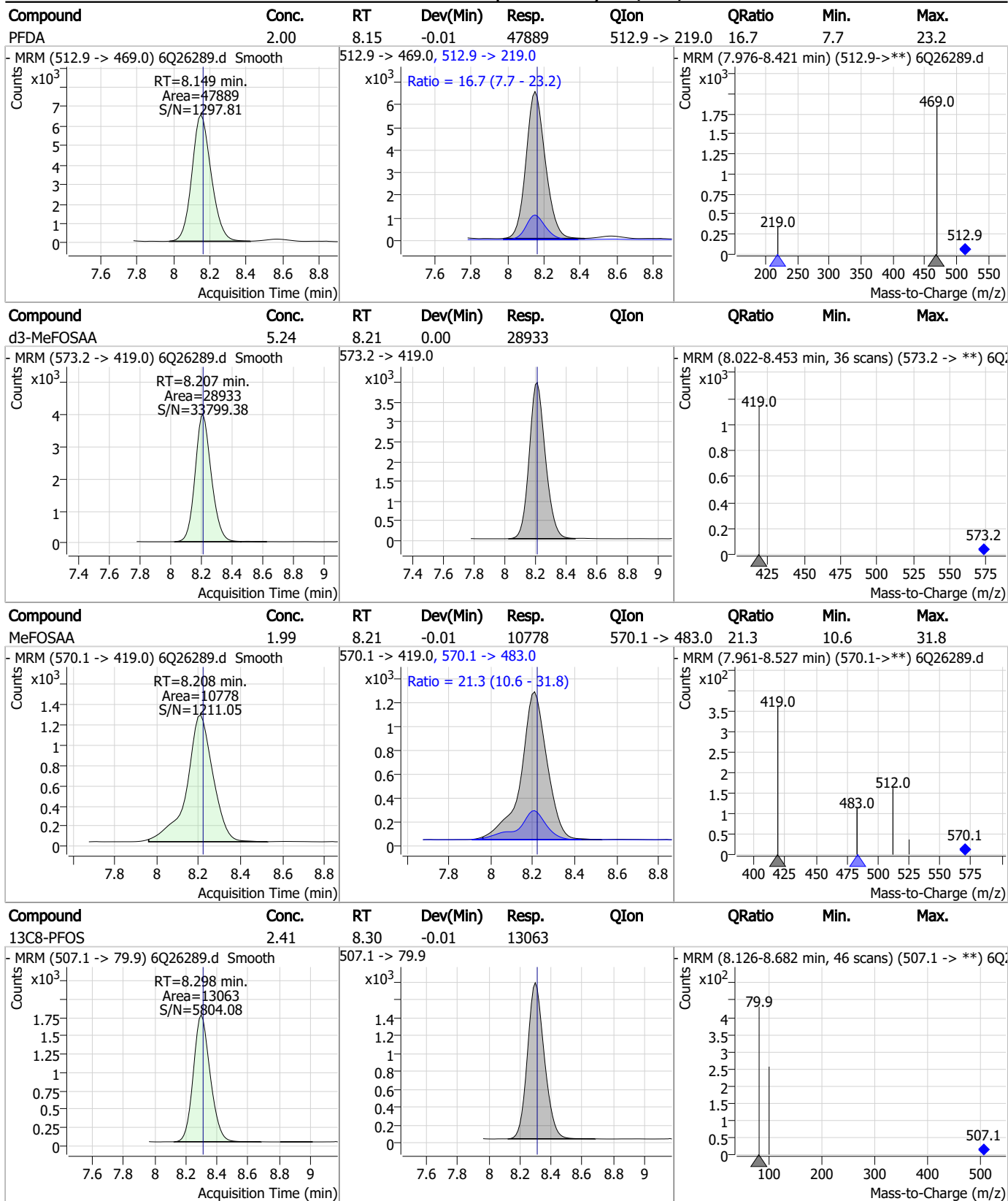


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### Perfluorinated Compounds by LC/MS/MS



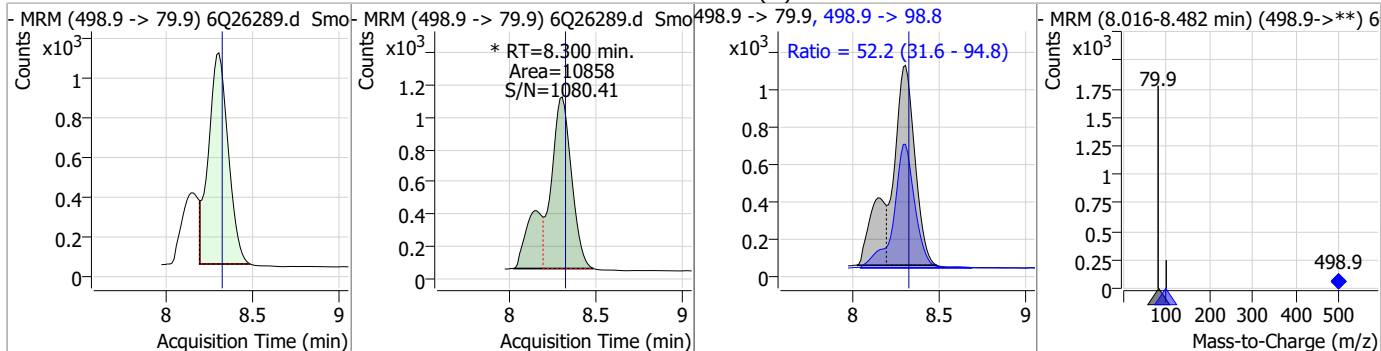
7.7.15

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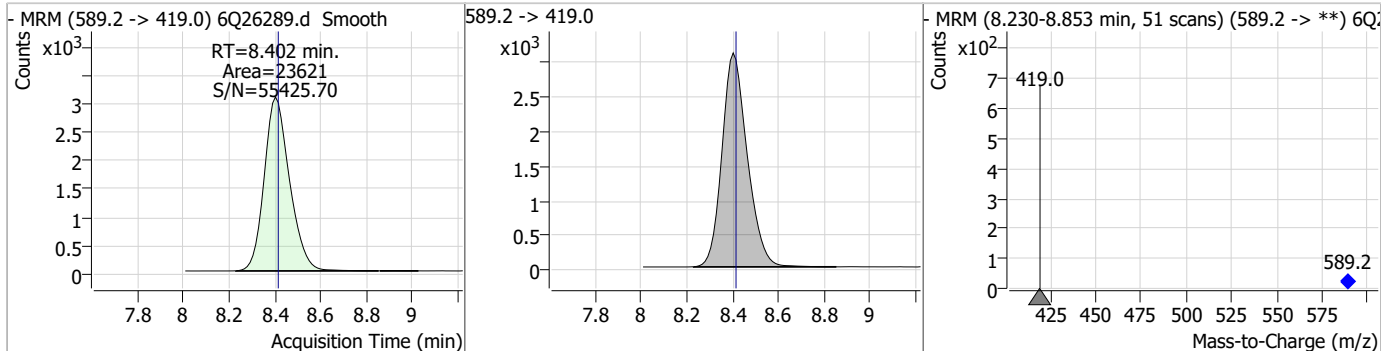


### Perfluorinated Compounds by LC/MS/MS

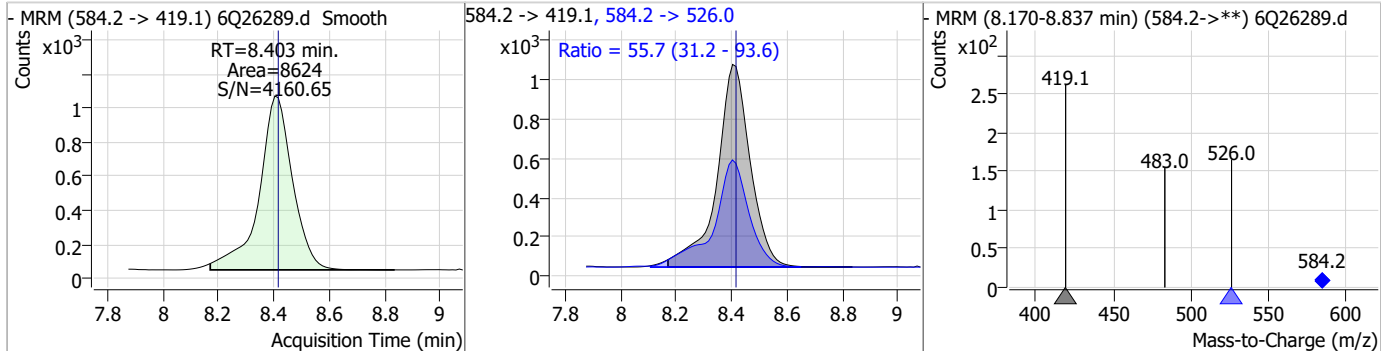
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOS	1.95	8.30	-0.01	10858 (m)	498.9 -> 98.8	52.2	31.6	94.8



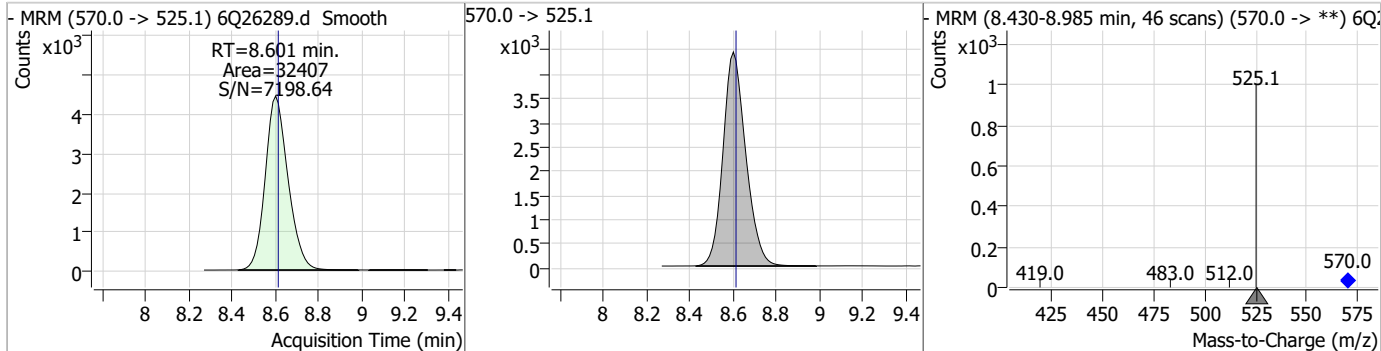
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSAA	4.99	8.40	-0.01	23621				



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

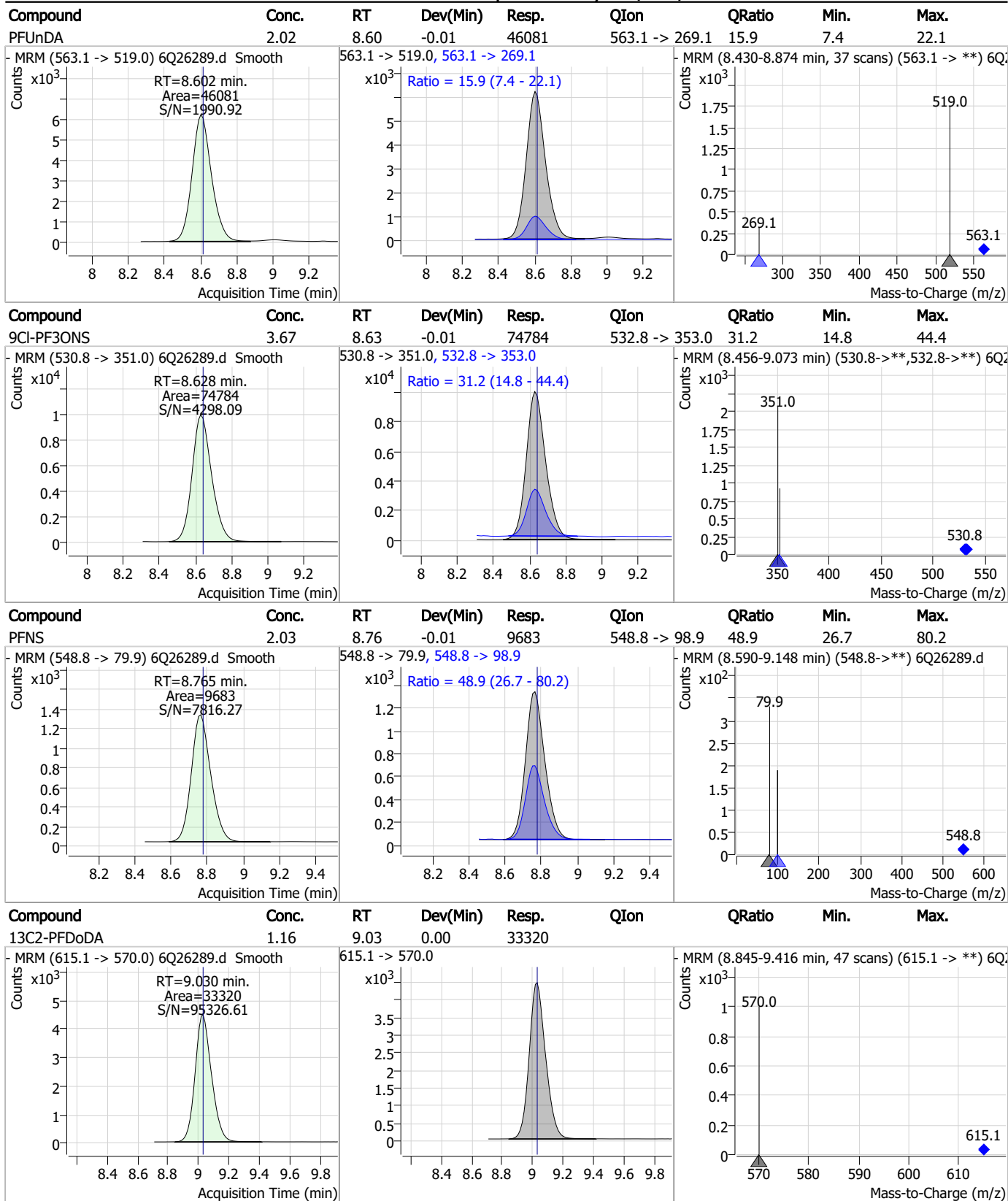


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C7-PFUnDA	1.24	8.60	-0.01	32407				



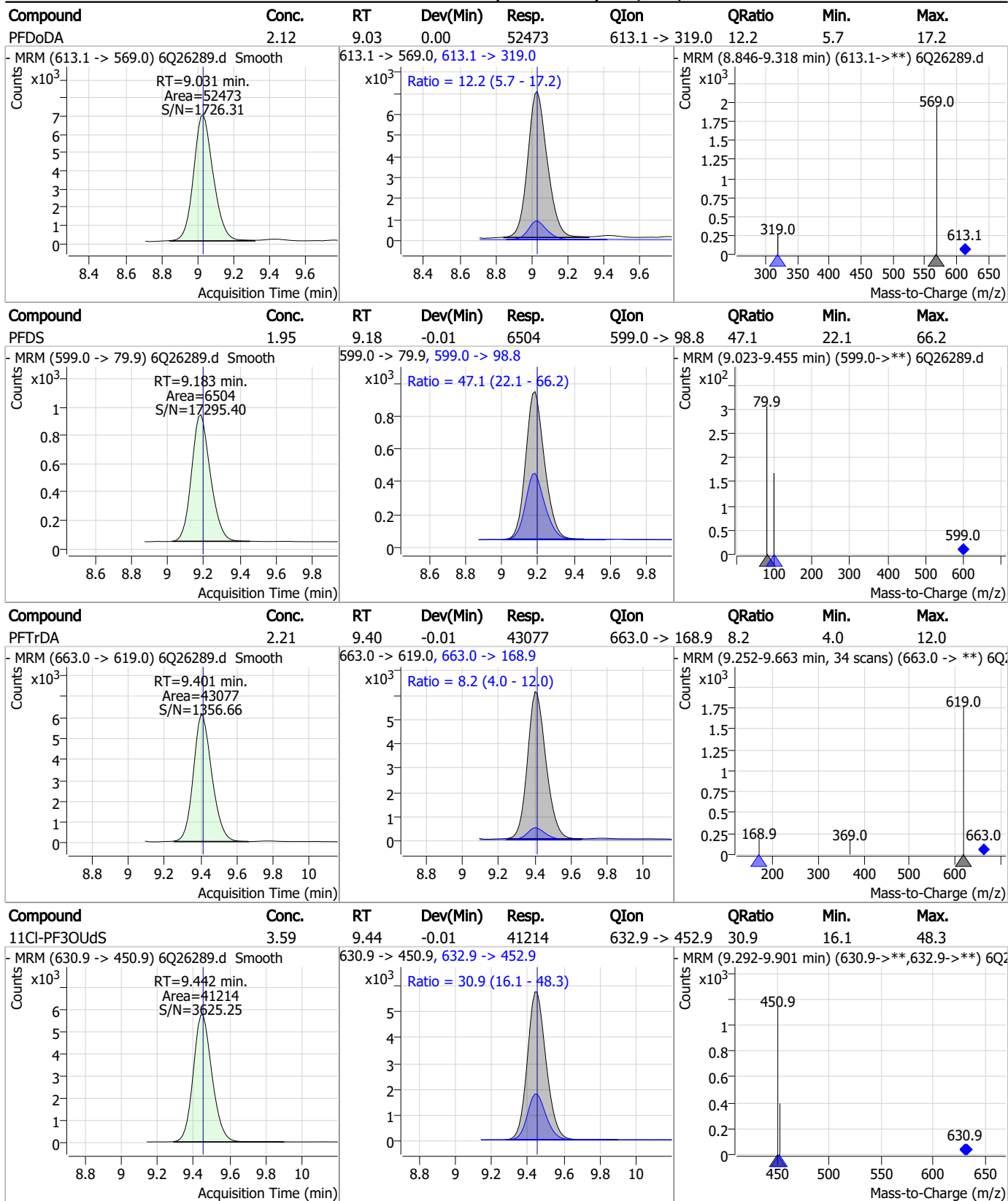
7.7.15  
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### Perfluorinated Compounds by LC/MS/MS



7.7.15  
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### Perfluorinated Compounds by LC/MS/MS



7.7.15  
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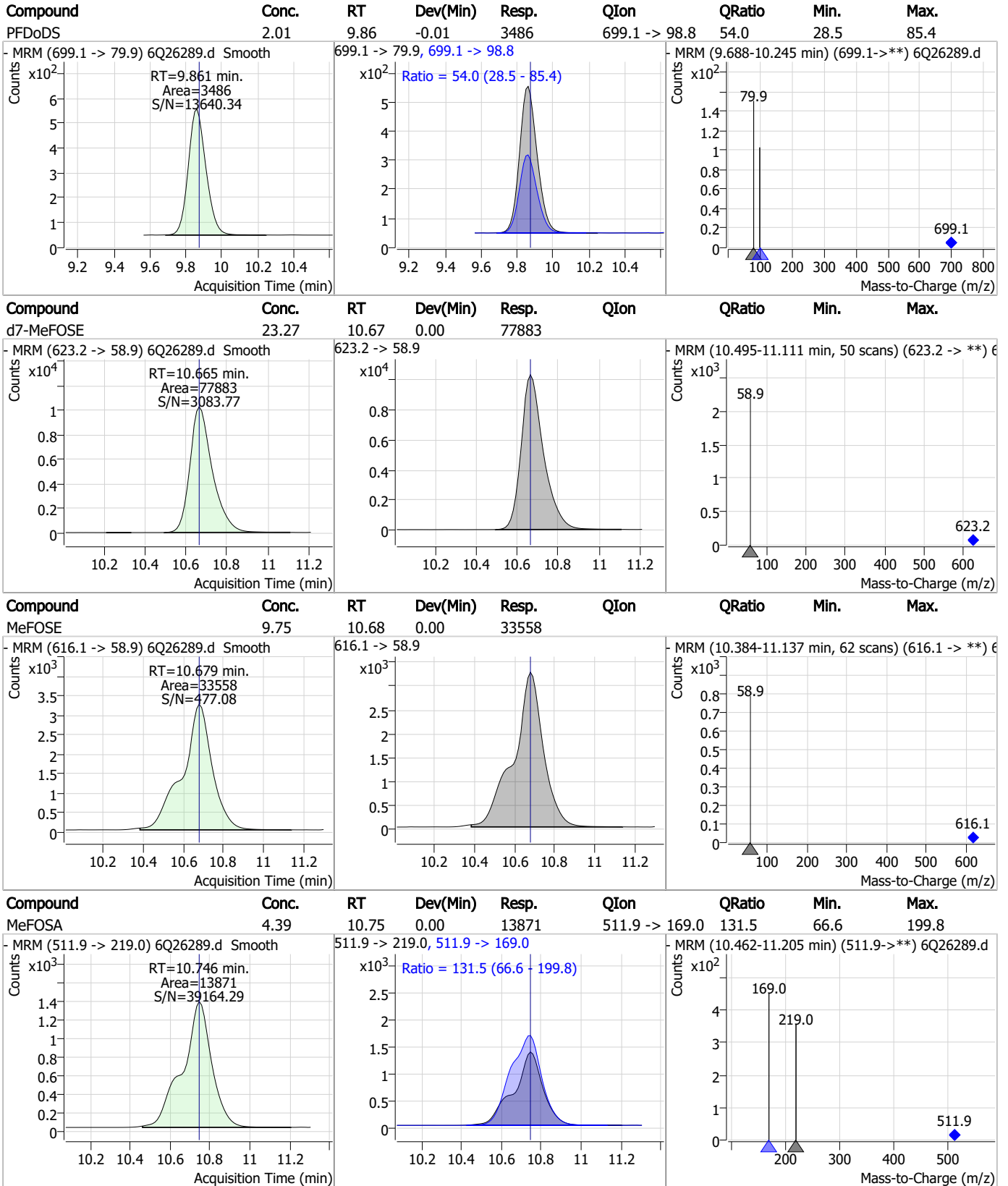
### Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-FOSA	2.49	9.64	-0.01	25776				
FOSA	1.98	9.65	-0.01	19518	498.1 -> 478.0	2.8	1.4	4.2
13C2-PFTeDA	1.16	9.73	-0.01	11223				
PFTeDA	2.04	9.74	-0.01	29808	713.1 -> 168.9	8.2	4.1	12.2

7.7.15 7



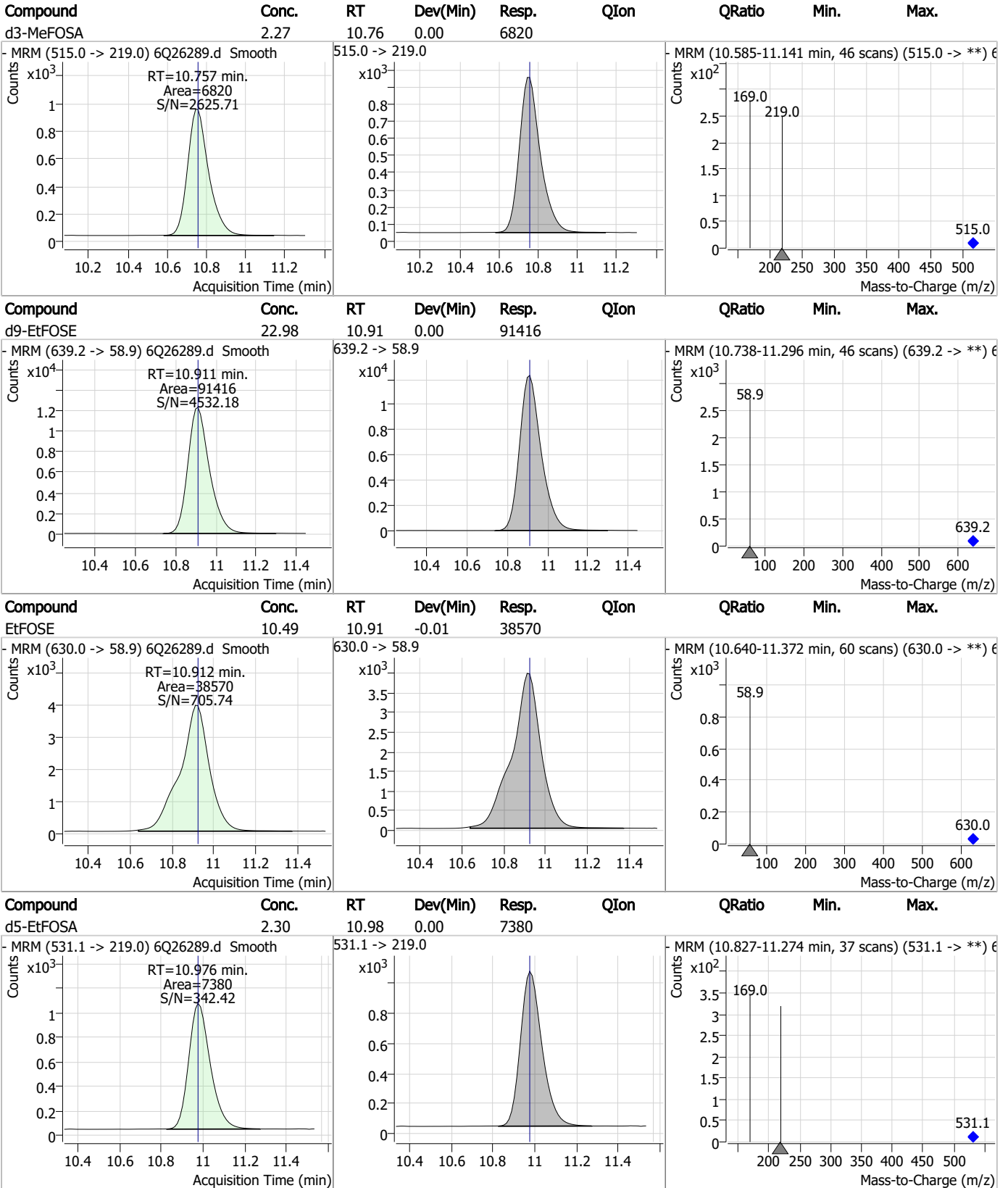
### Perfluorinated Compounds by LC/MS/MS



7.7.15 7



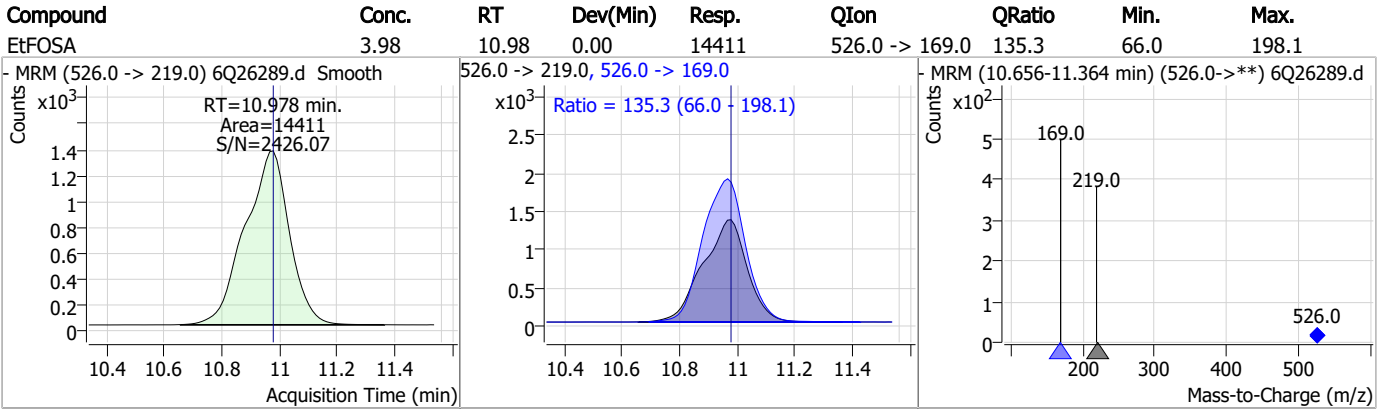
### Perfluorinated Compounds by LC/MS/MS



7.7.15  
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### Perfluorinated Compounds by LC/MS/MS



7.7.15

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# 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

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### 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)
<b>Internal Standards</b>					
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
<b>System Monitoring Compounds</b>					
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%	
<b>Target Compounds</b>					<b>QValue</b>
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

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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



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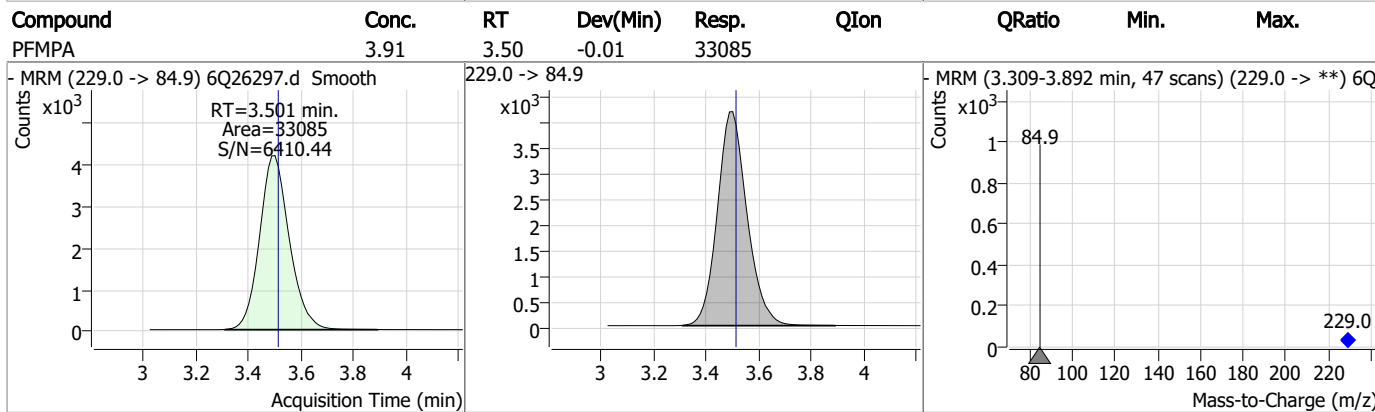
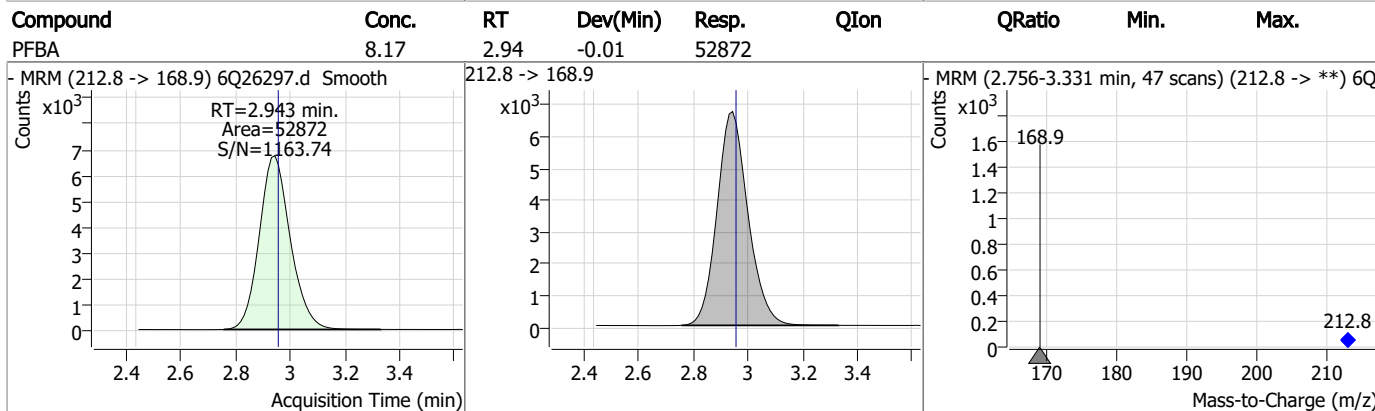
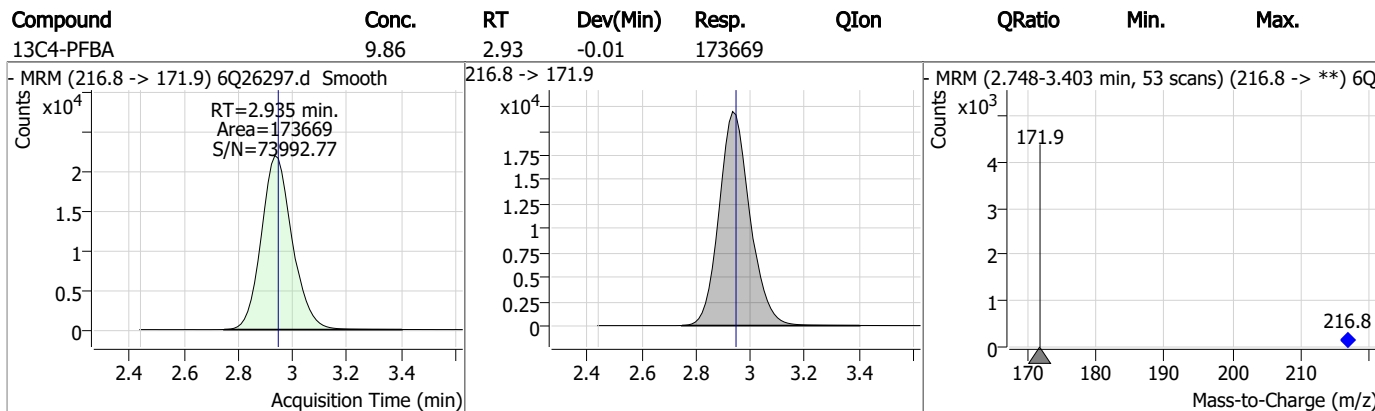
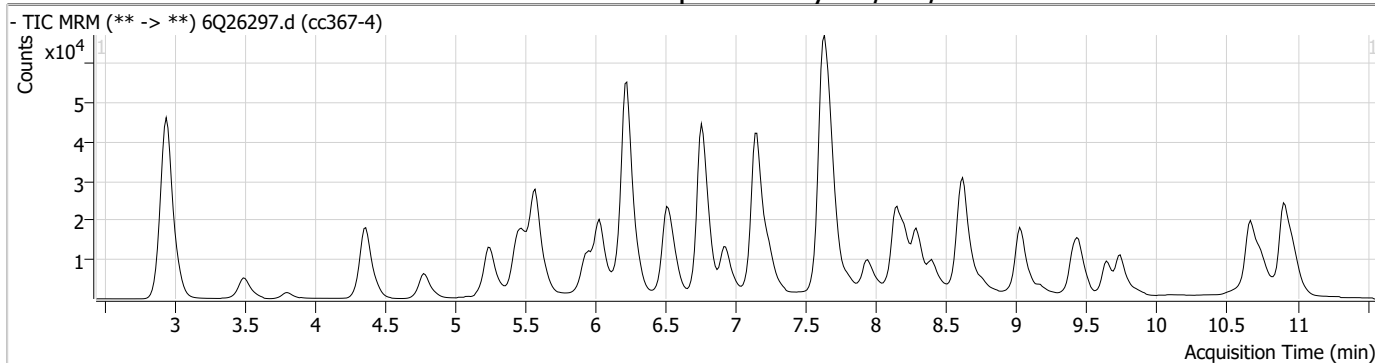
### Perfluorinated Compounds by LC/MS/MS

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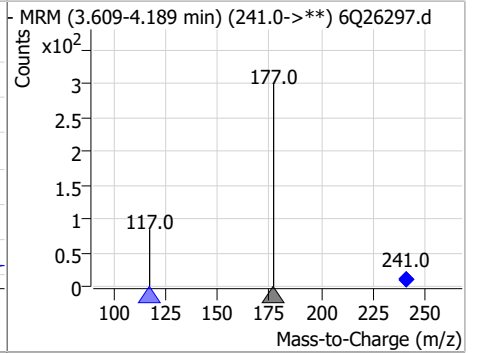
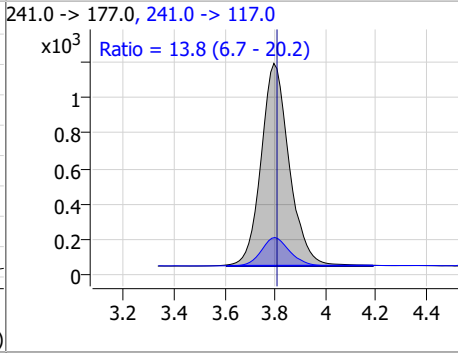
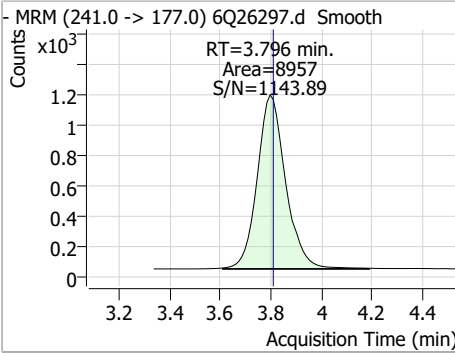
### Perfluorinated Compounds by LC/MS/MS



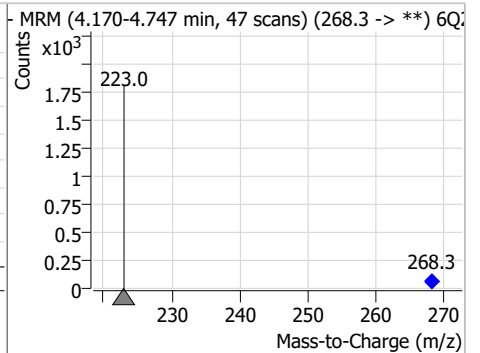
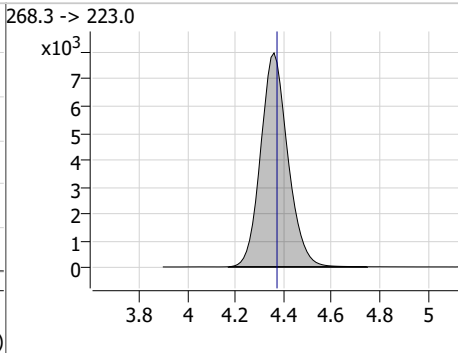
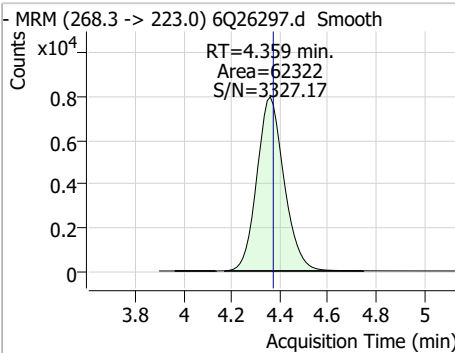
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### Perfluorinated Compounds by LC/MS/MS

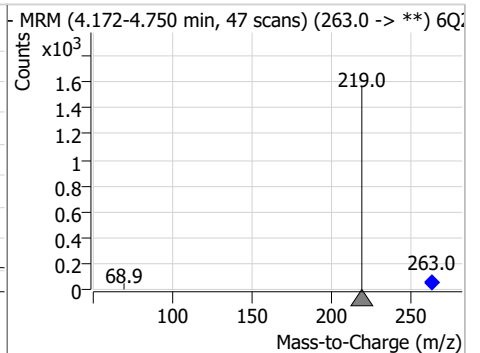
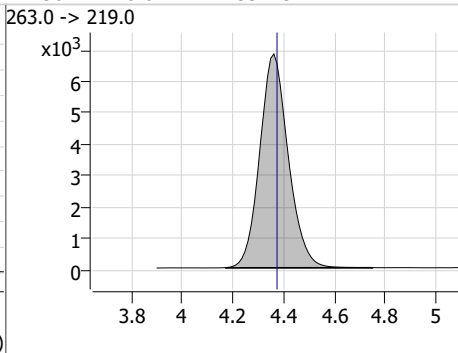
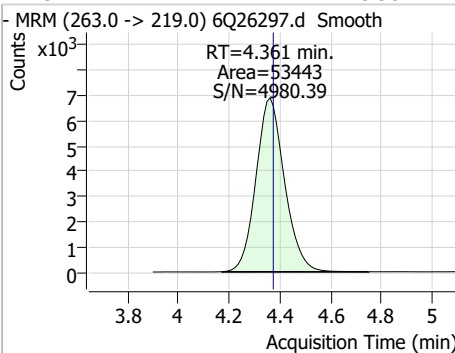
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
3:3FTCA	9.61	3.80	-0.01	8957	241.0 -> 117.0	13.8	6.7	20.2



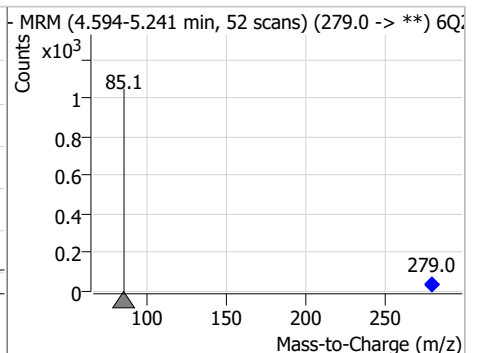
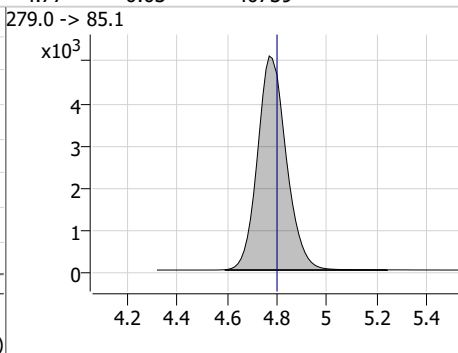
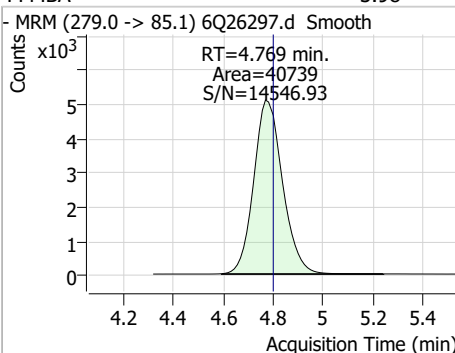
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFPeA	5.06	4.36	-0.01	62322				



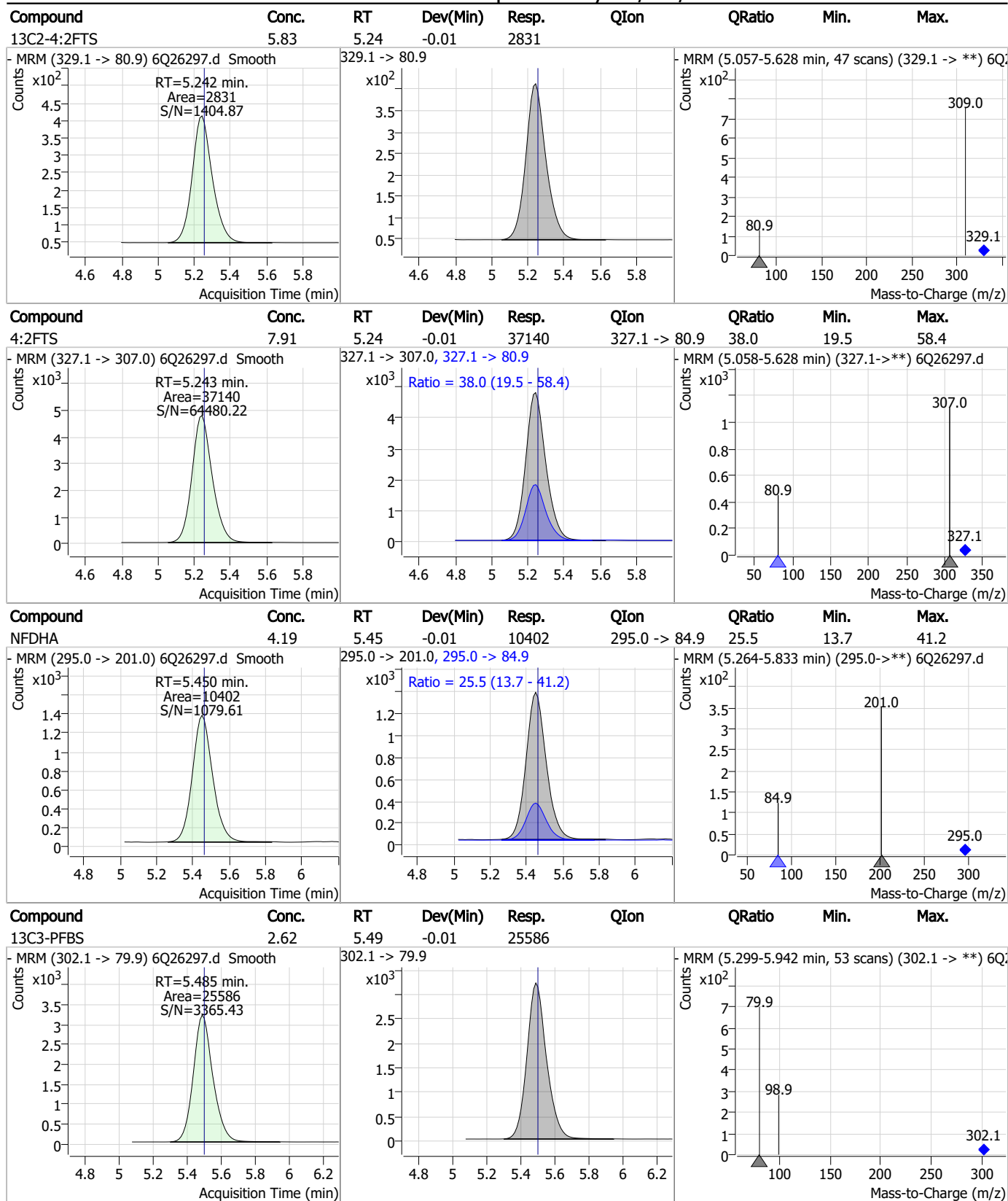
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeA	3.98	4.36	-0.01	53443				



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



### Perfluorinated Compounds by LC/MS/MS

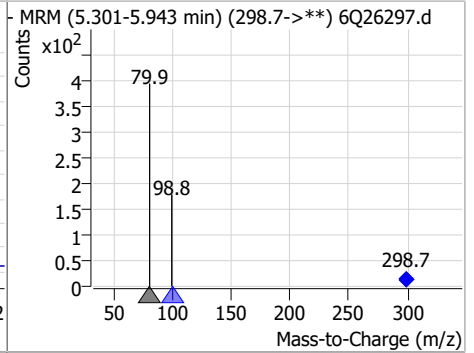
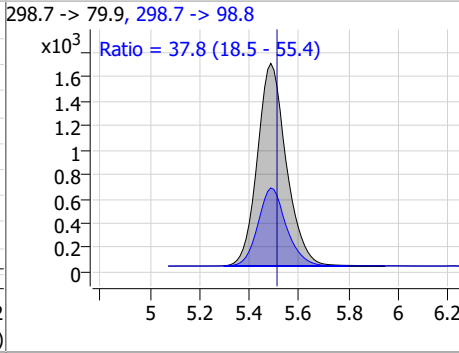
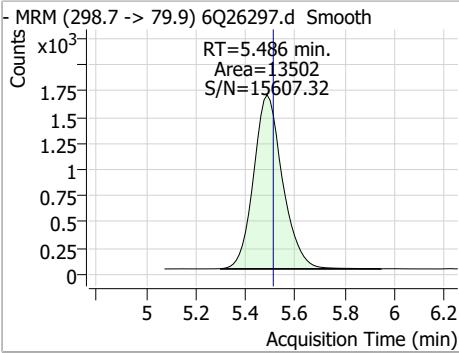


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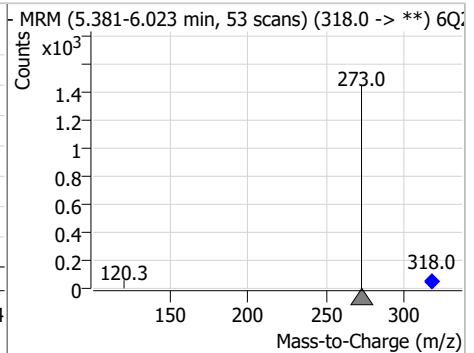
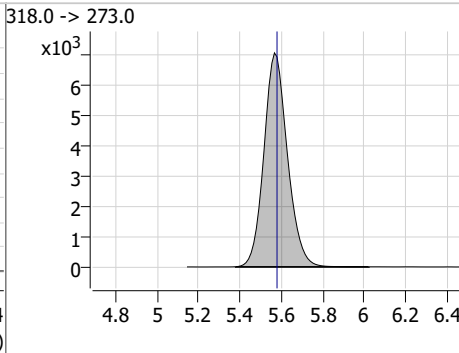
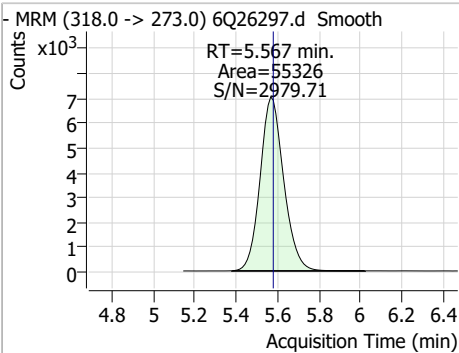


### Perfluorinated Compounds by LC/MS/MS

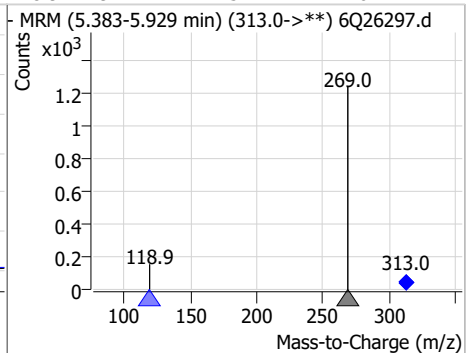
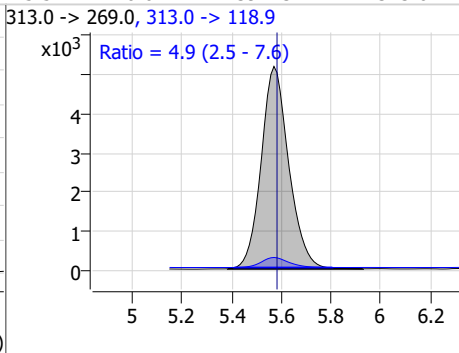
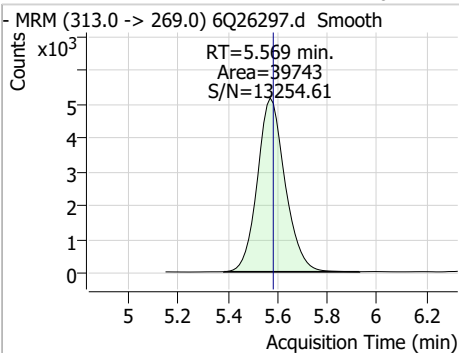
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBS	1.76	5.49	-0.02	13502	298.7 -> 98.8	37.8	18.5	55.4



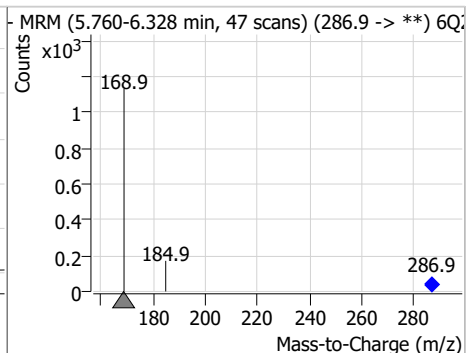
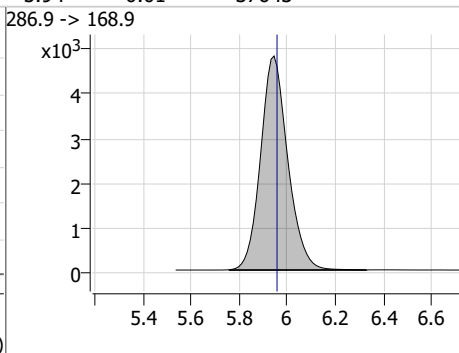
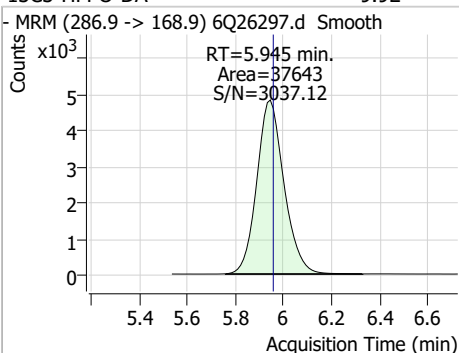
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFHxA	2.46	5.57	-0.01	55326				



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



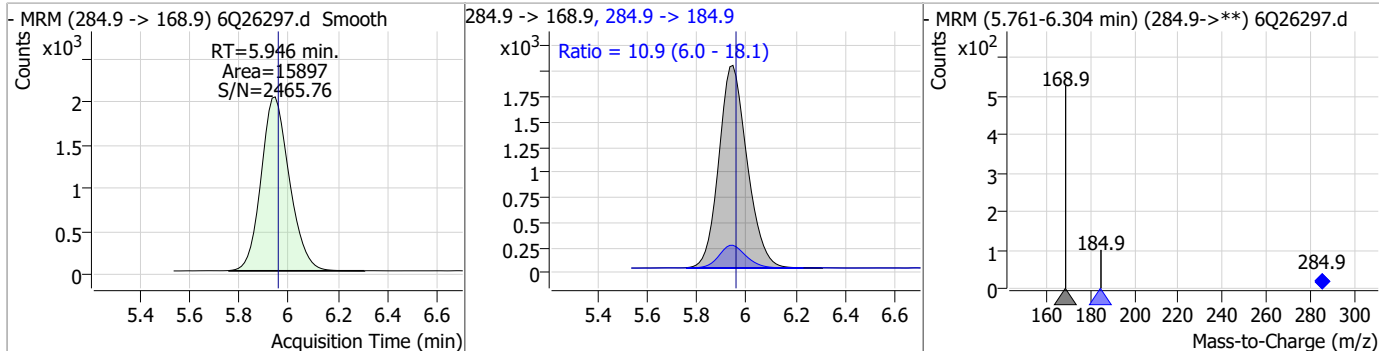
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-HFPO-DA	9.92	5.94	-0.01	37643				



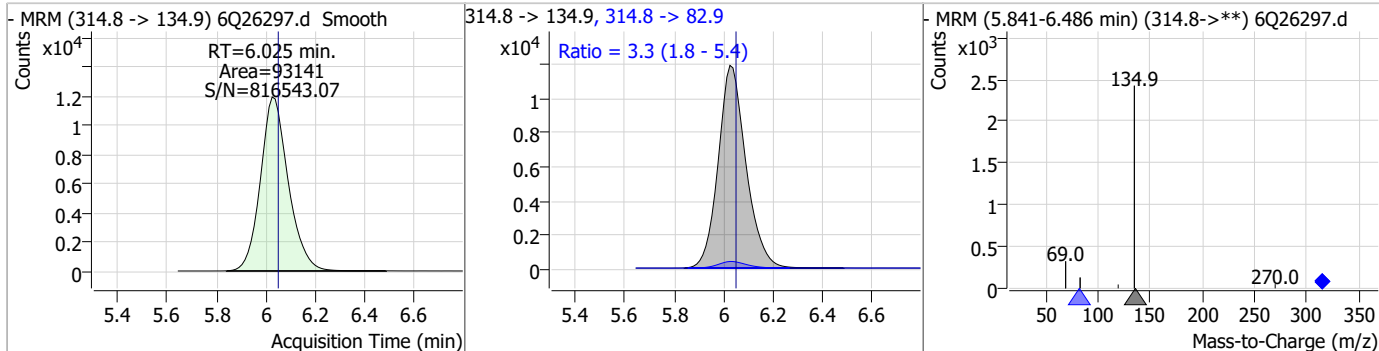
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### Perfluorinated Compounds by LC/MS/MS

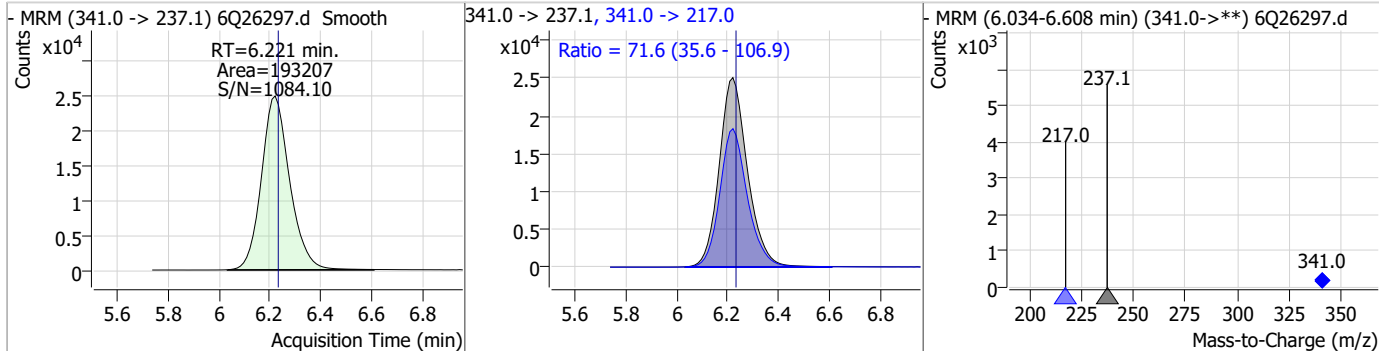
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
HFPO-DA	4.26	5.95	-0.01	15897	284.9 -> 184.9	10.9	6.0	18.1



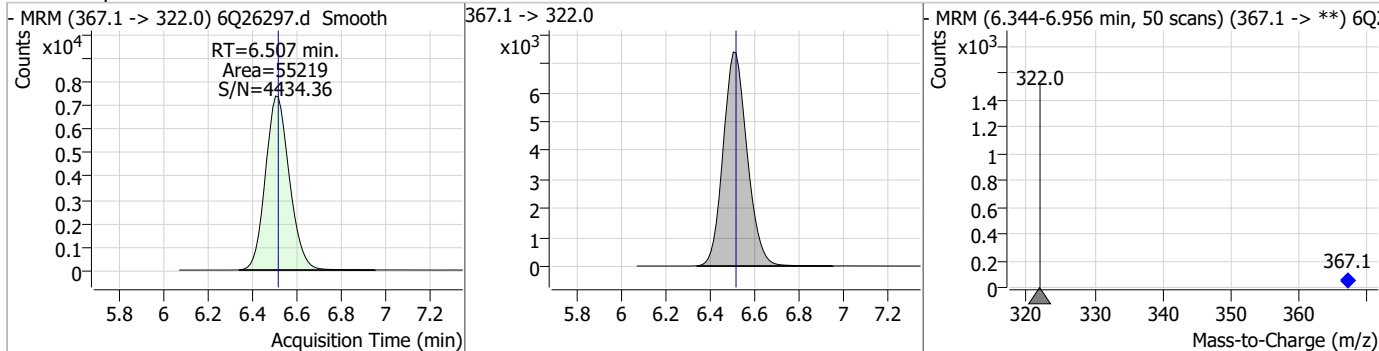
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFEESA	3.66	6.02	-0.02	93141	314.8 -> 82.9	3.3	1.8	5.4



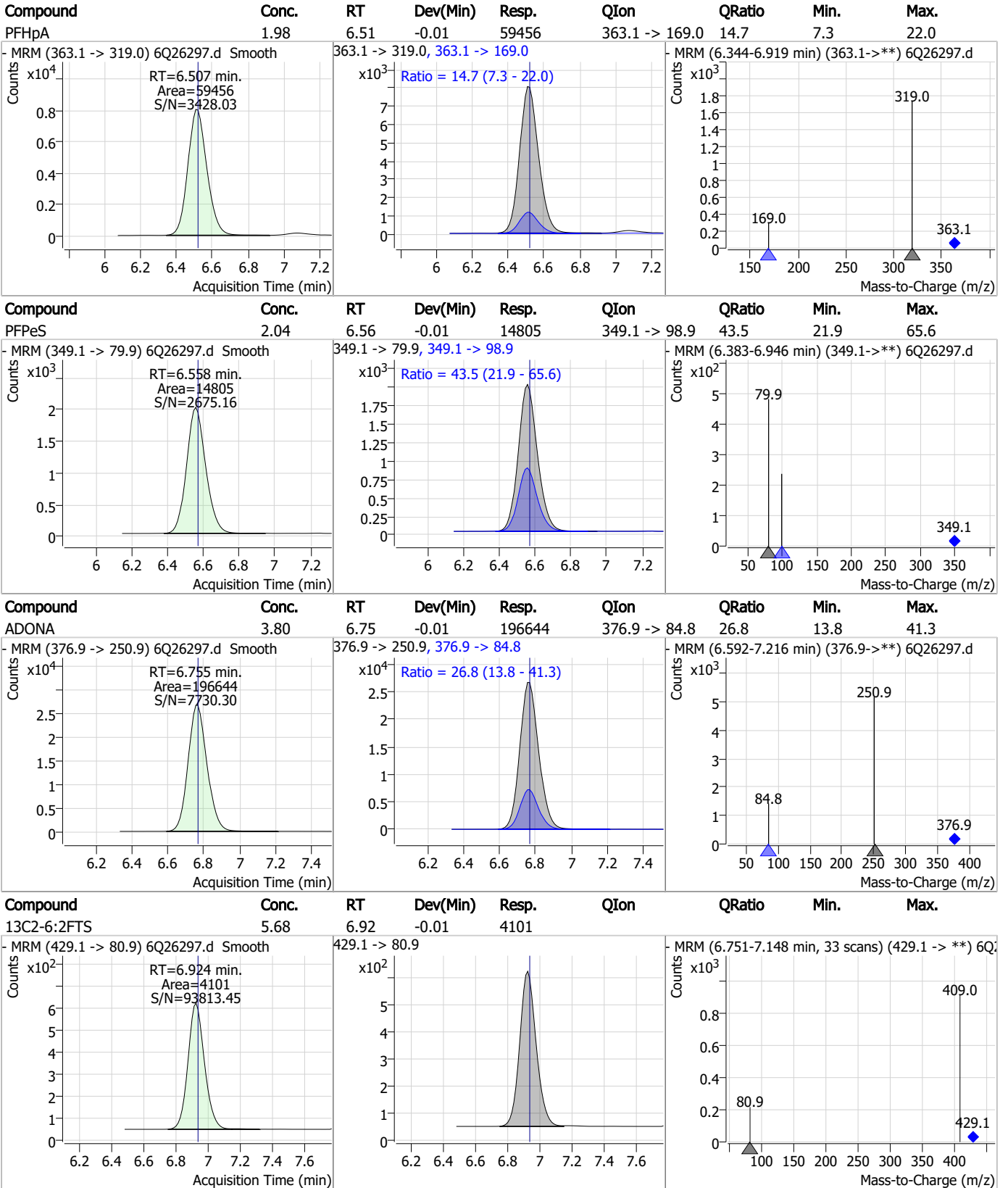
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
5:3FTCA	52.11	6.22	-0.01	193207	341.0 -> 217.0	71.6	35.6	106.9



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



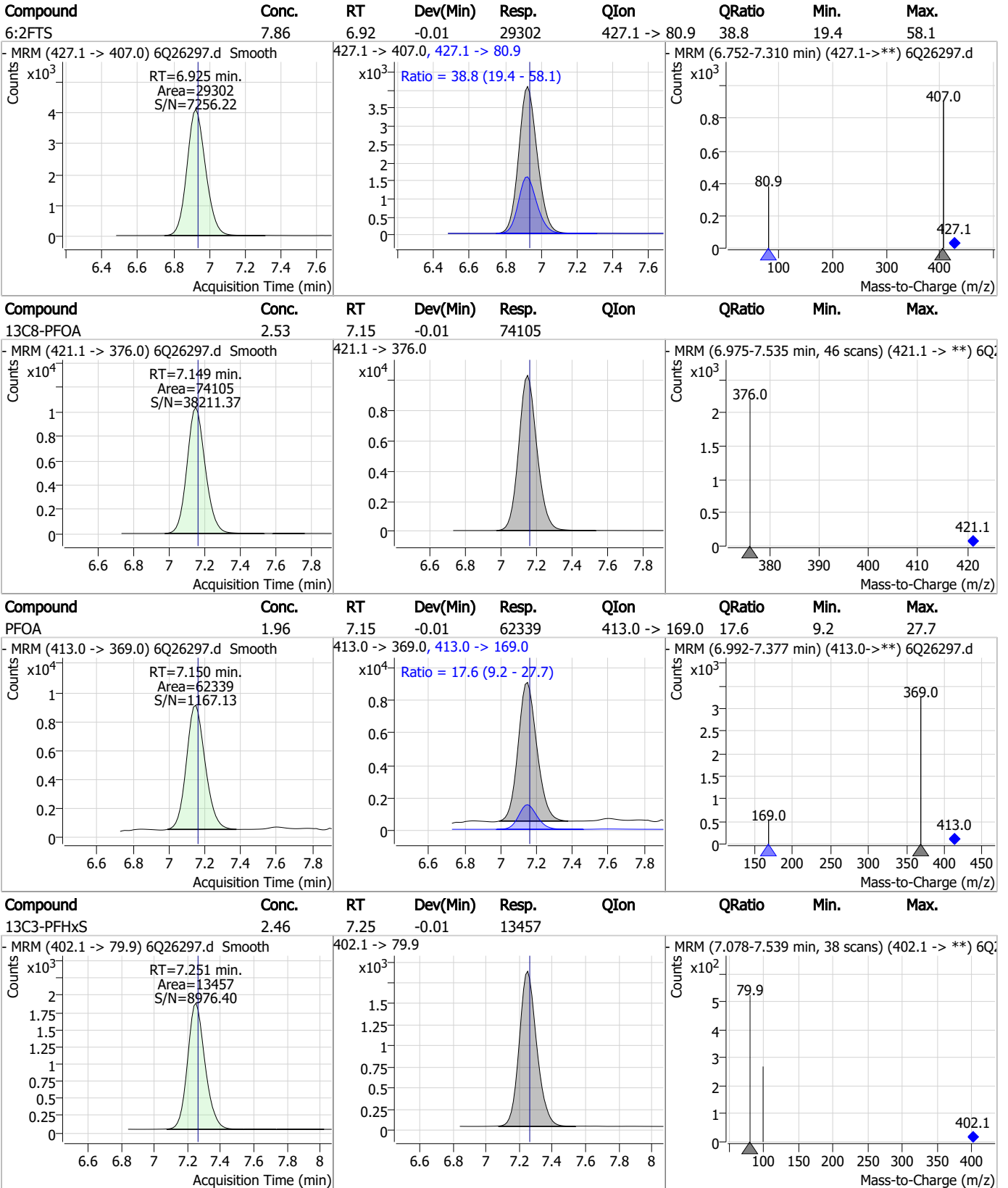
### Perfluorinated Compounds by LC/MS/MS



7.7.16 7



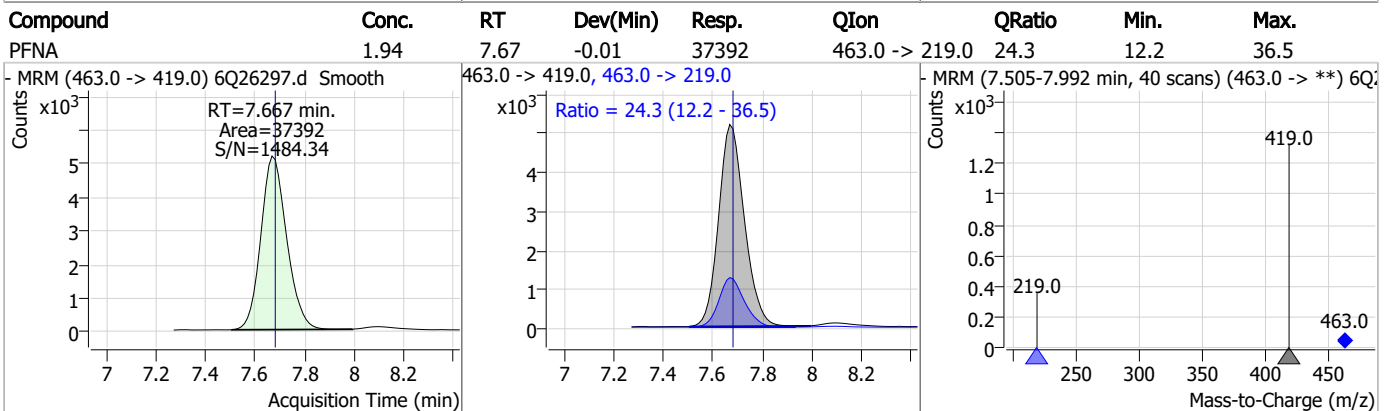
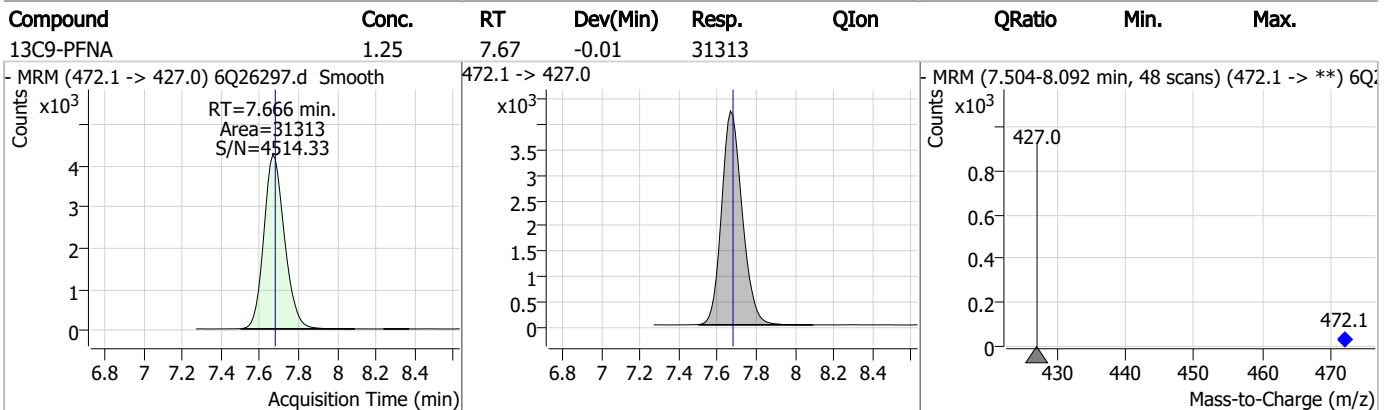
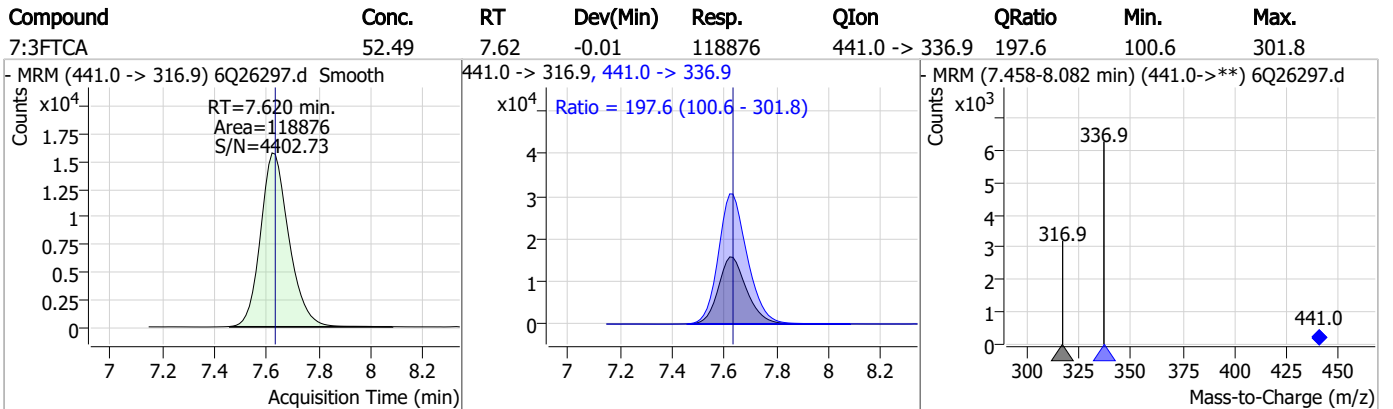
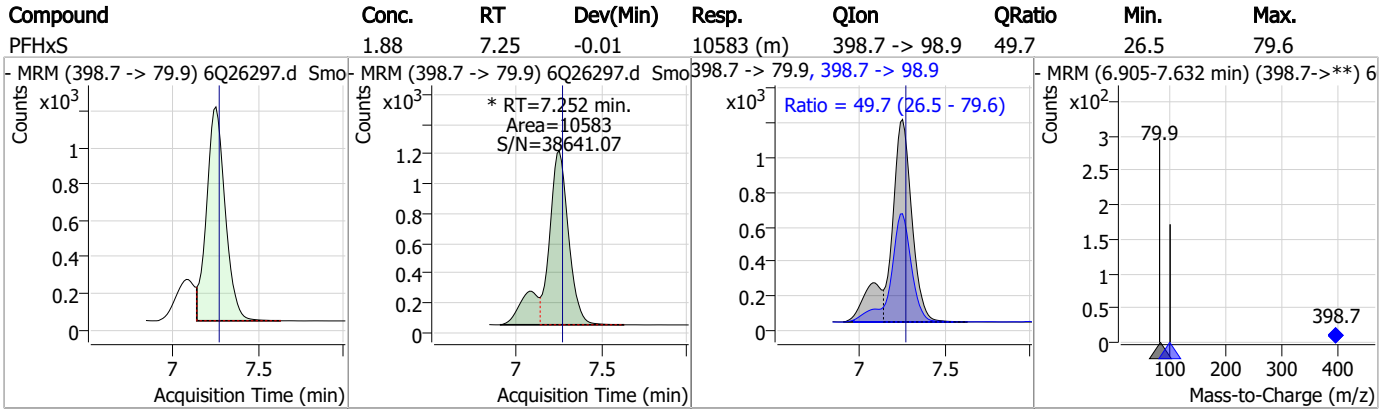
### Perfluorinated Compounds by LC/MS/MS



7.7.16  
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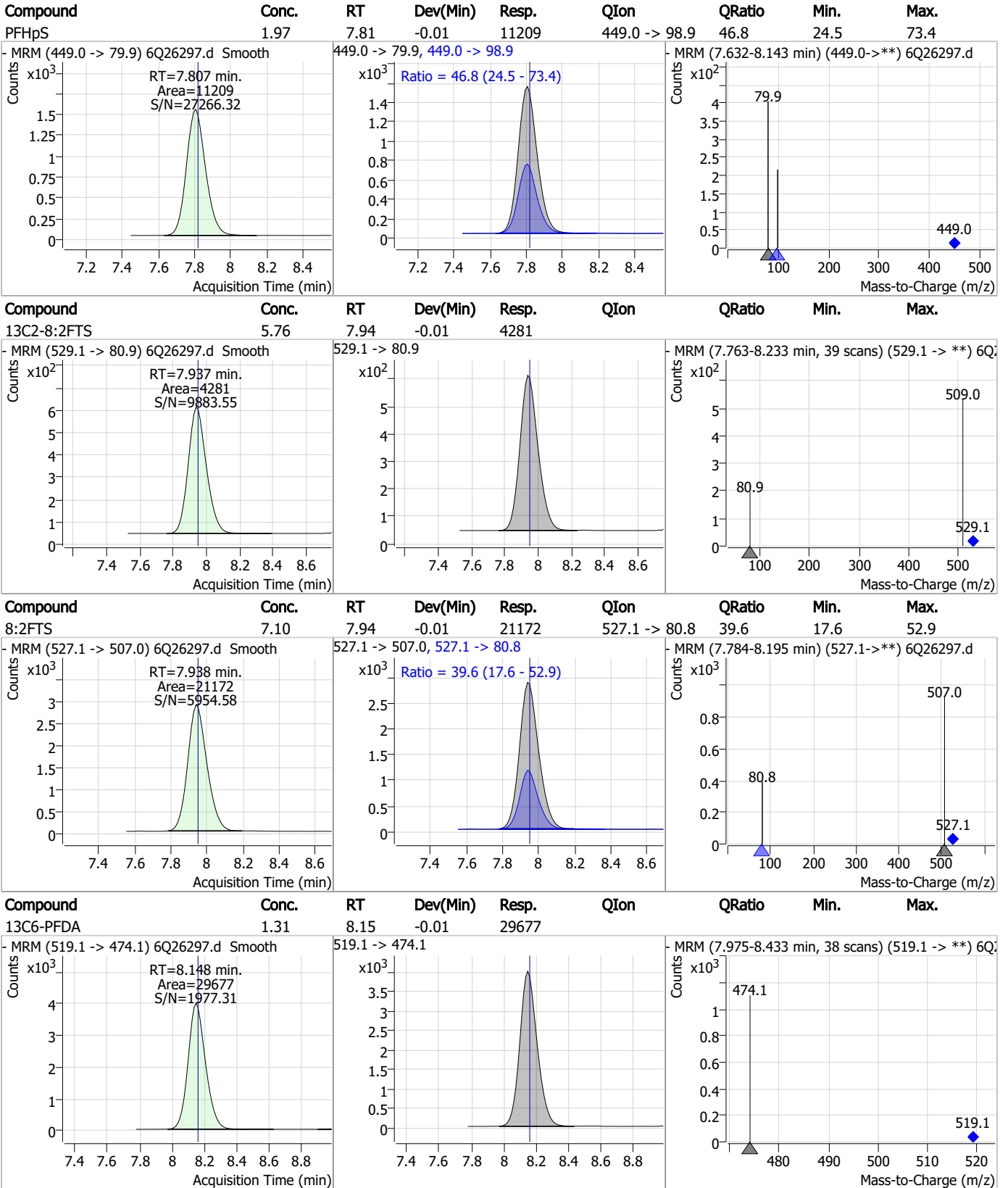


### Perfluorinated Compounds by LC/MS/MS



7.7.16 7

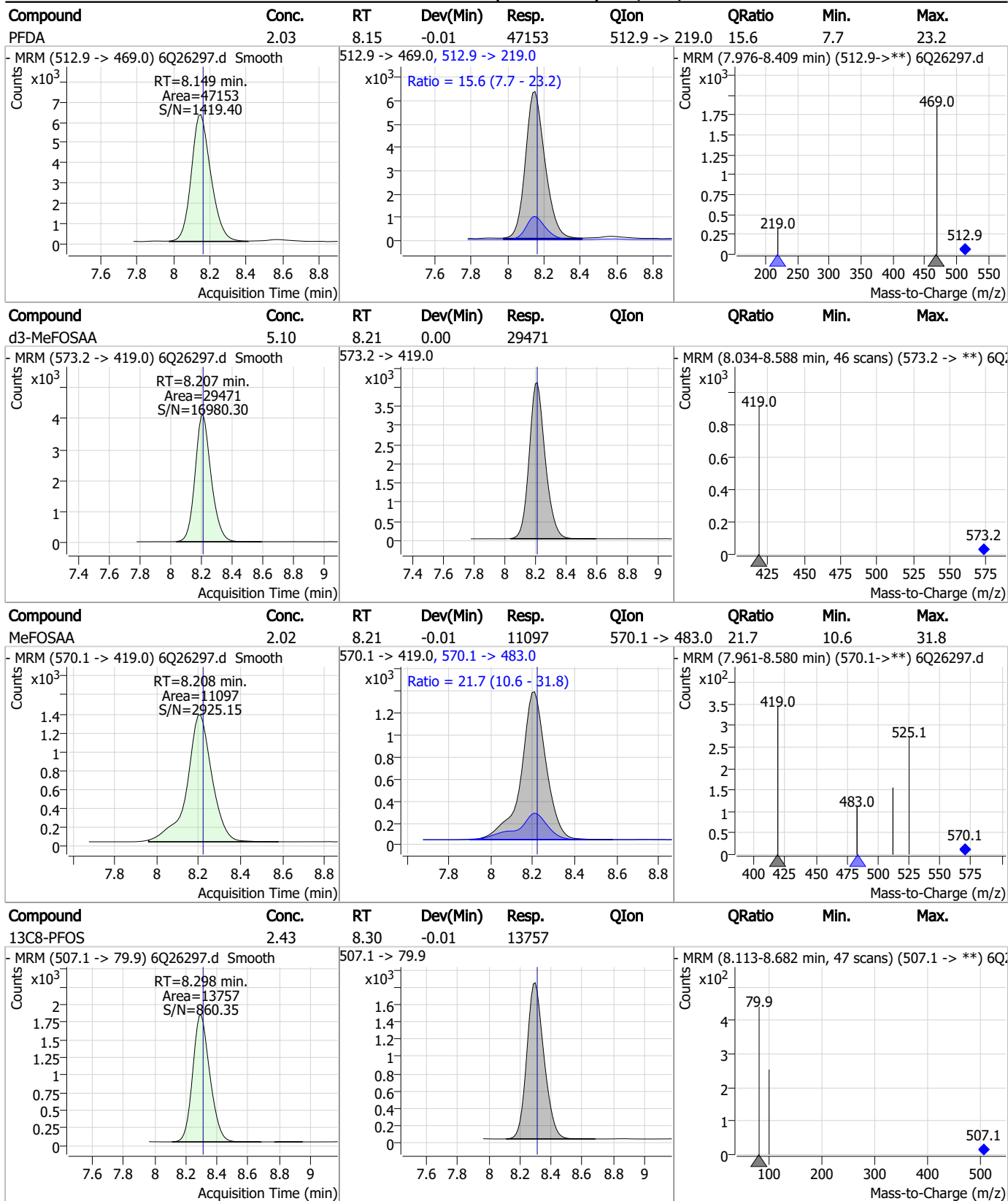
### Perfluorinated Compounds by LC/MS/MS



7.7.16

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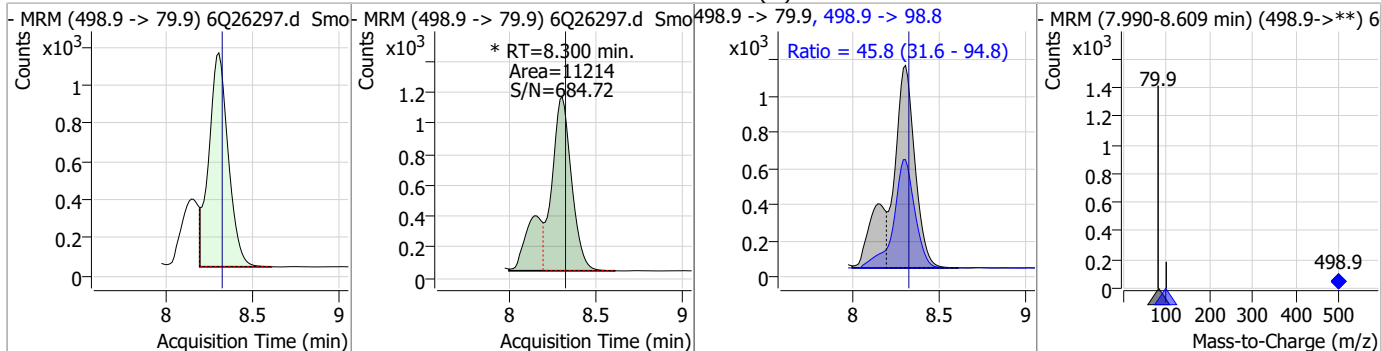
### Perfluorinated Compounds by LC/MS/MS



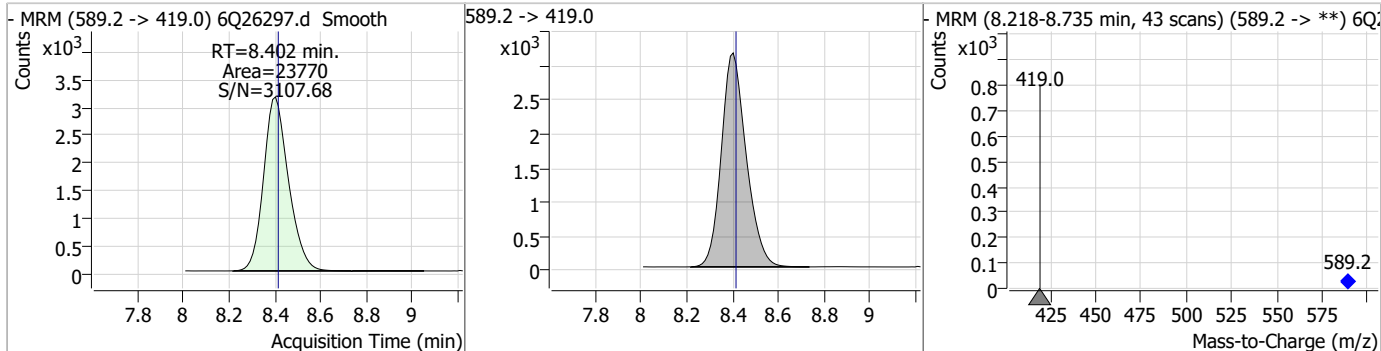
7.7.16  
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### Perfluorinated Compounds by LC/MS/MS

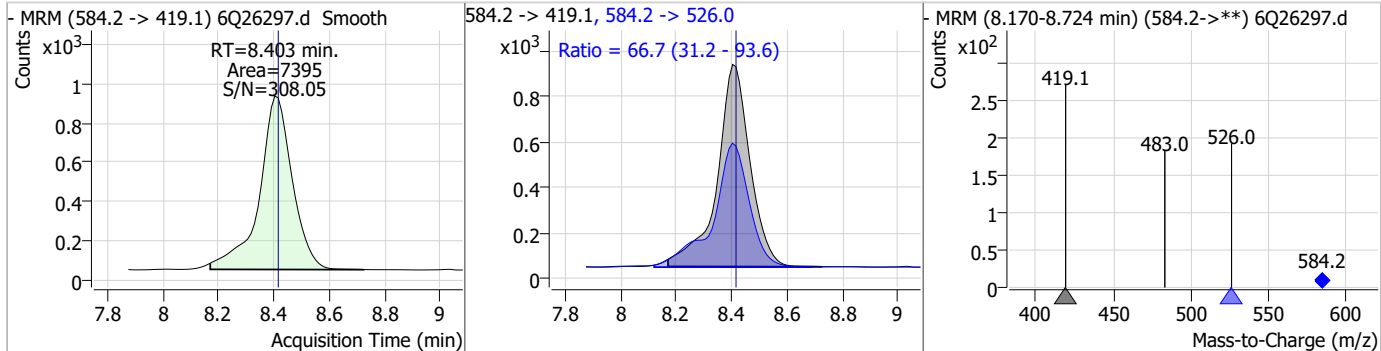
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOS	1.91	8.30	-0.01	11214 (m)	498.9 -> 98.8	45.8	31.6	94.8



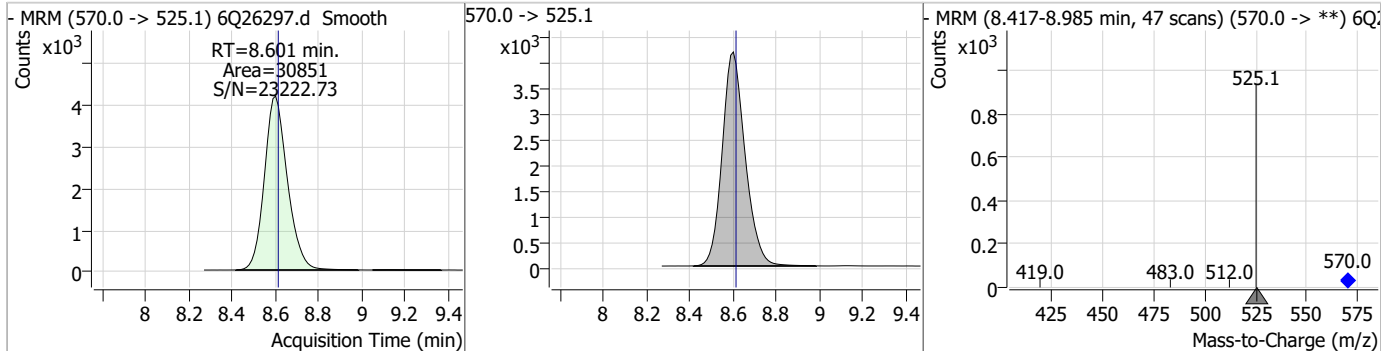
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSAA	4.80	8.40	-0.01	23770				



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

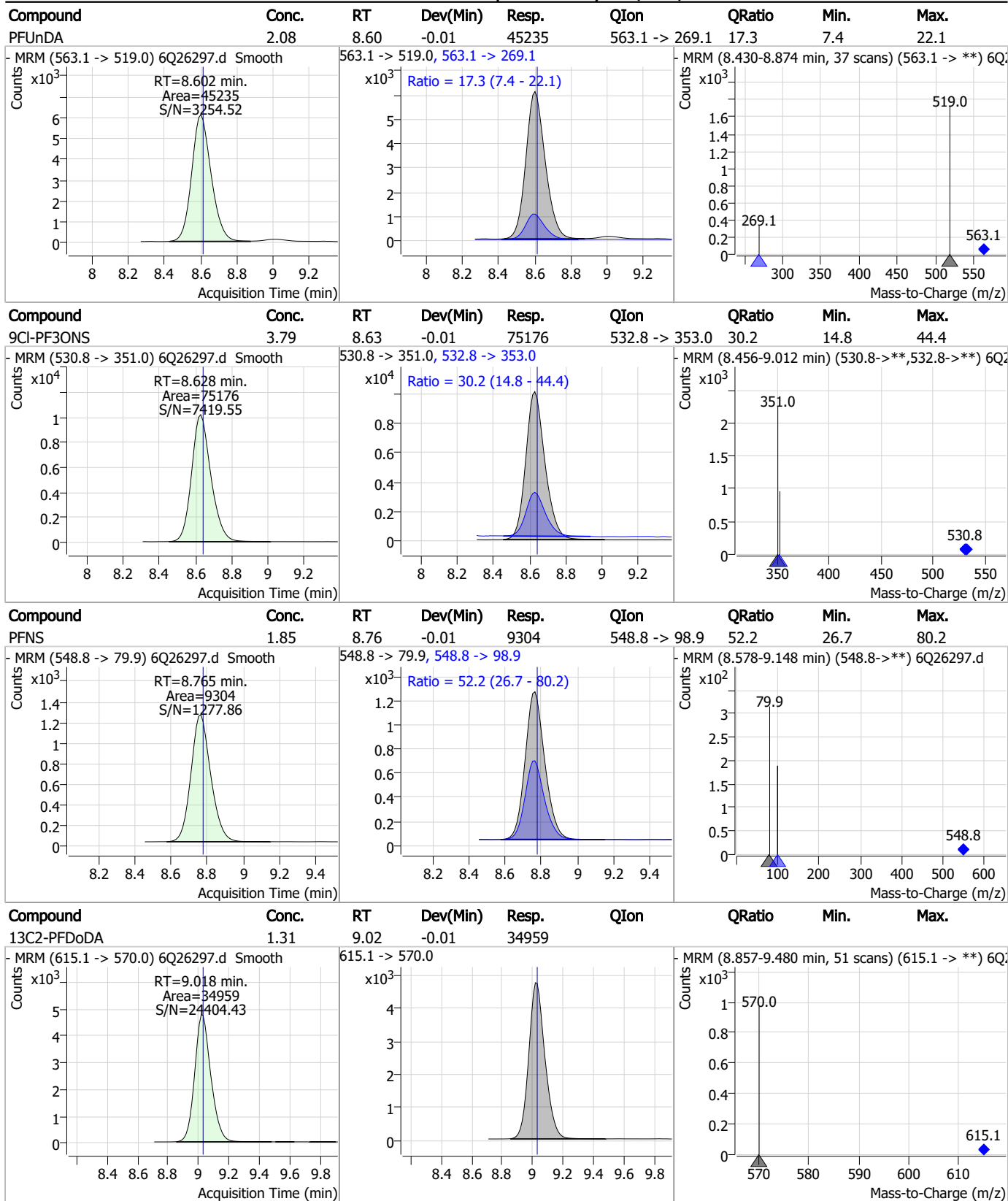


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C7-PFUnDA	1.26	8.60	-0.01	30851				



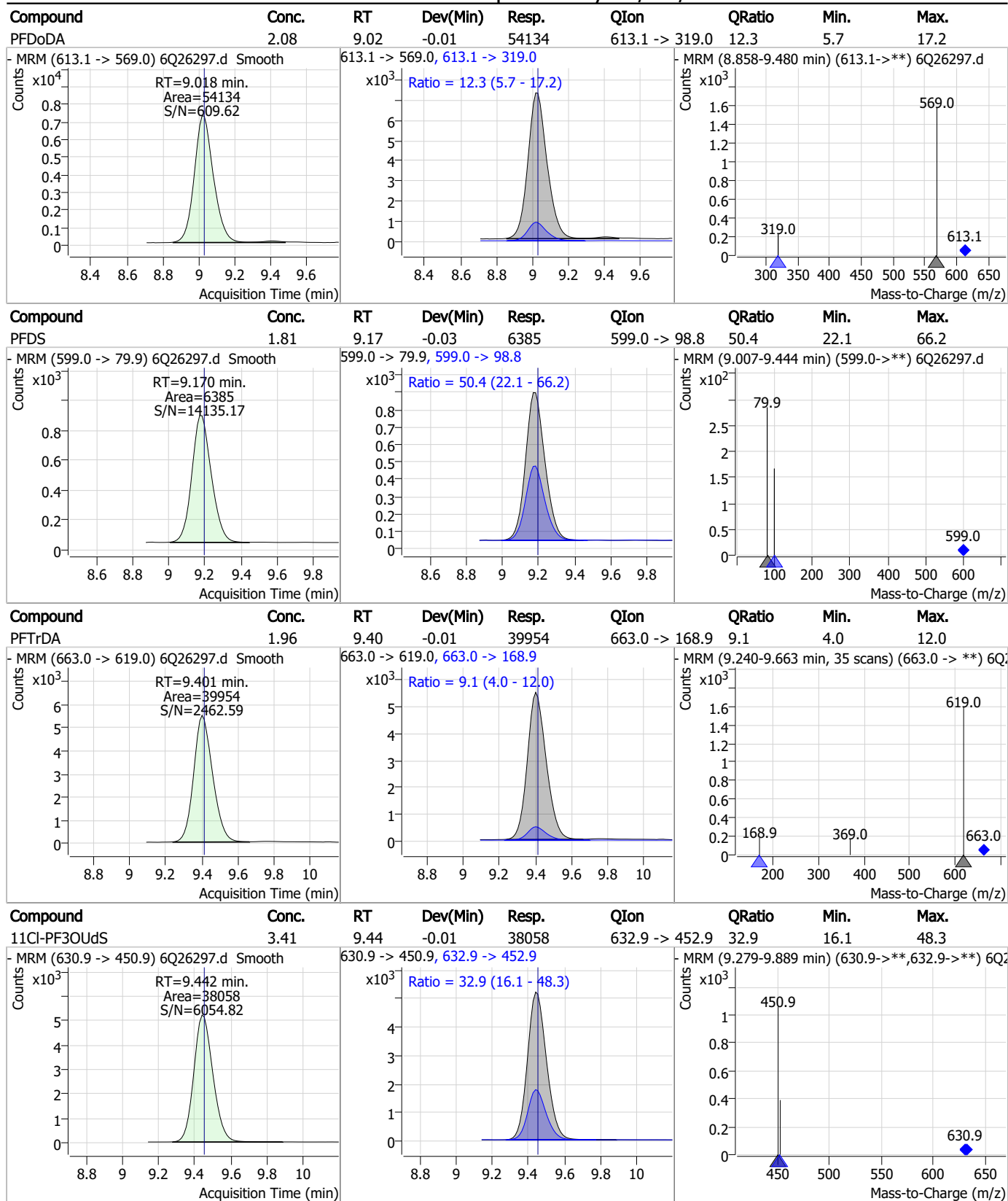


### Perfluorinated Compounds by LC/MS/MS



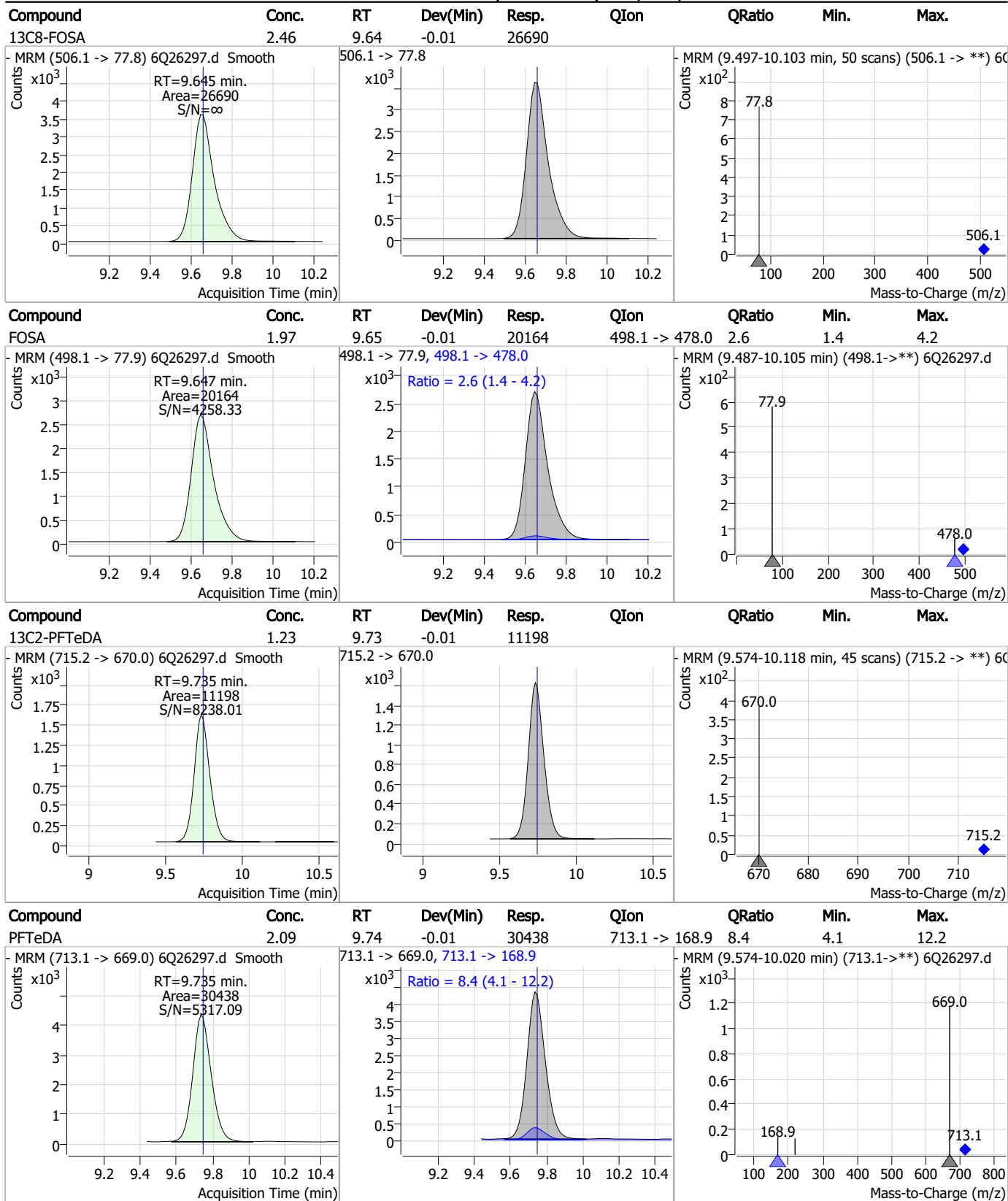
7.7.16  
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### Perfluorinated Compounds by LC/MS/MS



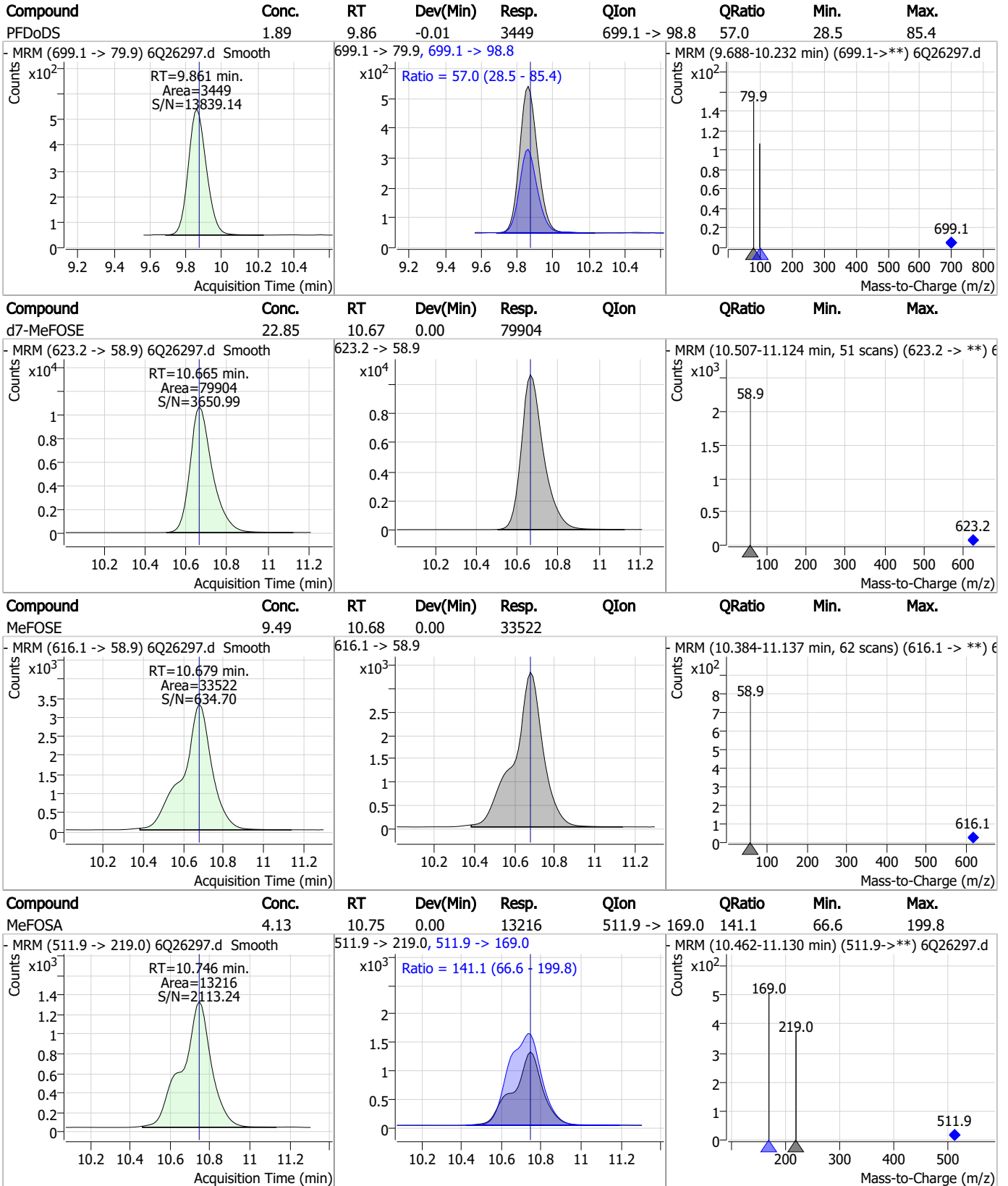
7.7.16  
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### Perfluorinated Compounds by LC/MS/MS



7.7.16  
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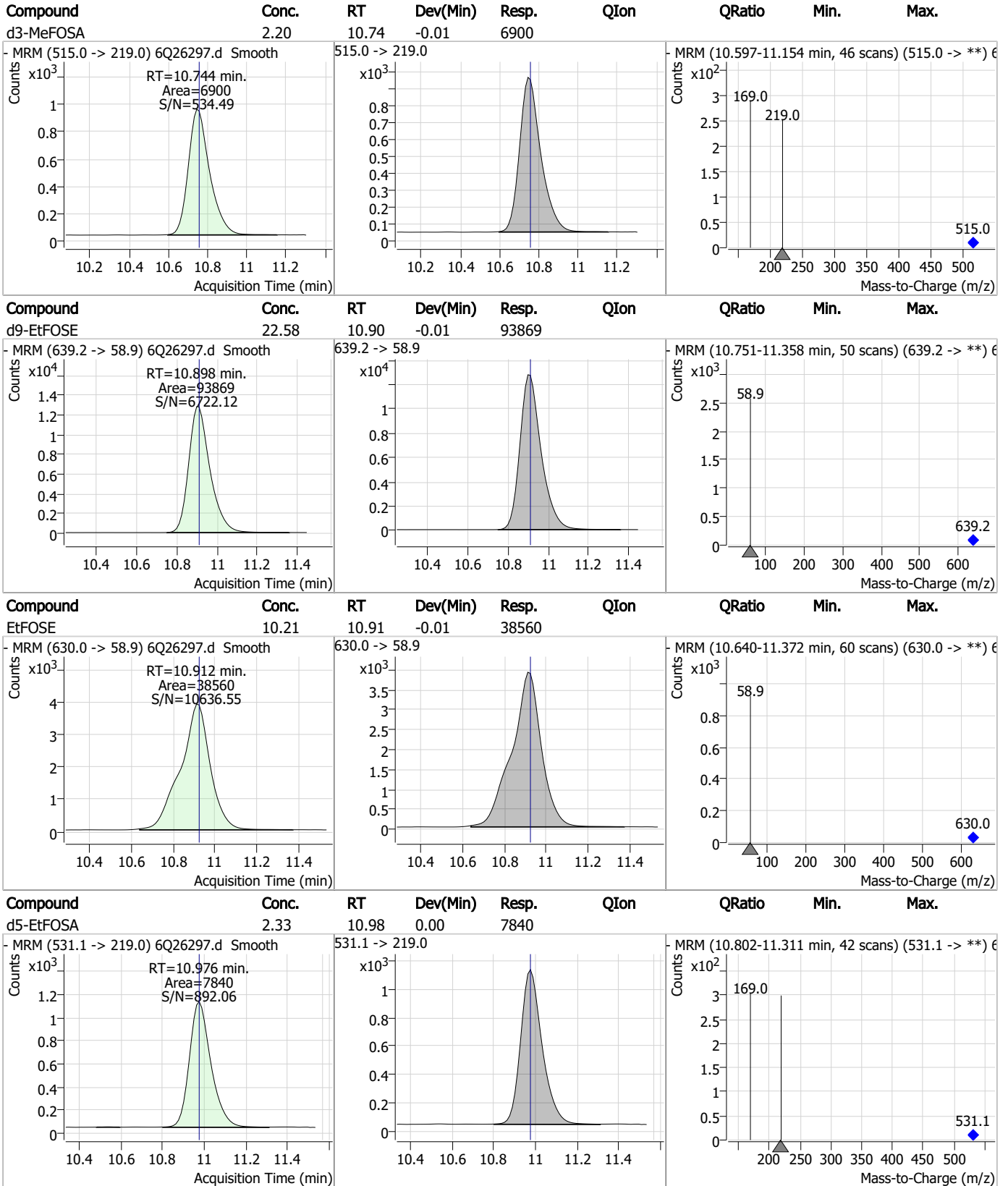
### Perfluorinated Compounds by LC/MS/MS



7.7.16 7



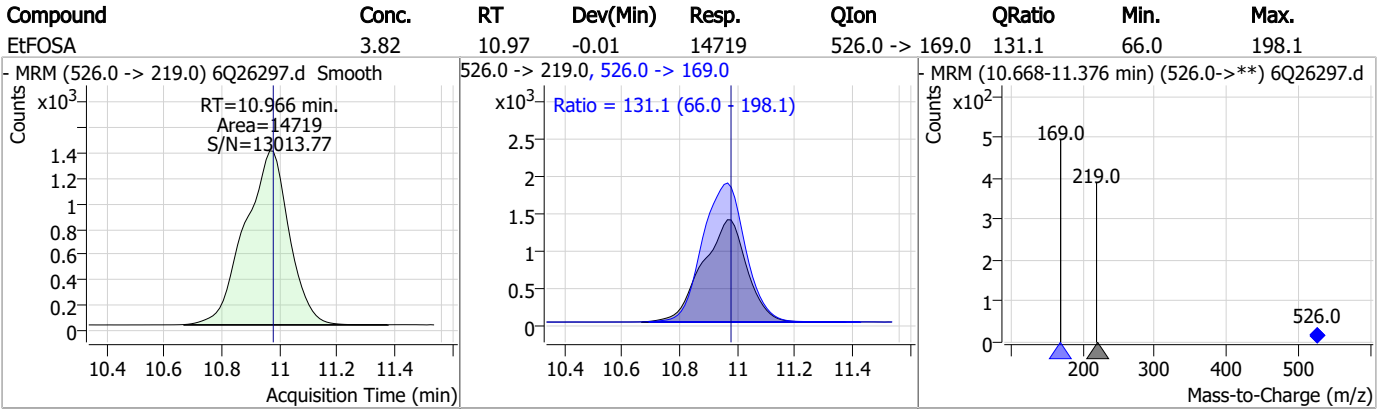
### Perfluorinated Compounds by LC/MS/MS



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### Perfluorinated Compounds by LC/MS/MS



7.7.16

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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)
<b>Internal Standards</b>					
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
<b>System Monitoring Compounds</b>					
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%	
<b>Target Compounds</b>					<b>QValue</b>
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)
PFHpA	6.507	599.0 -> 98.8	3351	2.14	µg/L	99
		363.1 -> 319.0	61971			
PFHpS	7.794	363.1 -> 169.0	8844	1.95	µg/L	98
		449.0 -> 79.9	11362			
PFHxA	5.557	449.0 -> 98.9	5429	1.98	µg/L	99
		313.0 -> 269.0	41585			
PFHxS	7.240	313.0 -> 118.9	2019	1.87	µg/L	86
		398.7 -> 79.9	11040			
PFNA	7.667	398.7 -> 98.9	4775	1.98	µg/L	98
		463.0 -> 419.0	38792			
PFNS	8.752	463.0 -> 219.0	9094	1.78	µg/L	99
		548.8 -> 79.9	9152			
PFOA	7.137	548.8 -> 98.9	4978	1.98	µg/L	100
		413.0 -> 369.0	62607			
PFOS	8.288	413.0 -> 169.0	11585	1.91	µg/L	86
		498.9 -> 79.9	11475			
PFPeA	4.349	498.9 -> 98.8	6023	3.98	µg/L	100
		263.0 -> 219.0	54406			
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			
11Cl-PF3OUdS	9.442	630.9 -> 450.9	41329	3.67	µg/L	100
		632.9 -> 452.9	13320			
9Cl-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
		511.9 -> 219.0	14409			
MeFOSA	10.746	511.9 -> 169.0	19874	4.44	µg/L	96
		616.1 -> 58.9	35980			
MeFOSE	10.679	699.1 -> 79.9	3718	9.08	µg/L	100
		699.1 -> 98.8	1967			
PFDoDS	9.849	295.0 -> 201.0	10276	1.99	µg/L	95
		295.0 -> 84.9	2662			
NFDHA	5.437	279.0 -> 85.1	41212	3.89	µg/L	97
		229.0 -> 84.9	33420			
PFMBA	4.769			3.96	µg/L	100
PFMPA	3.488			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

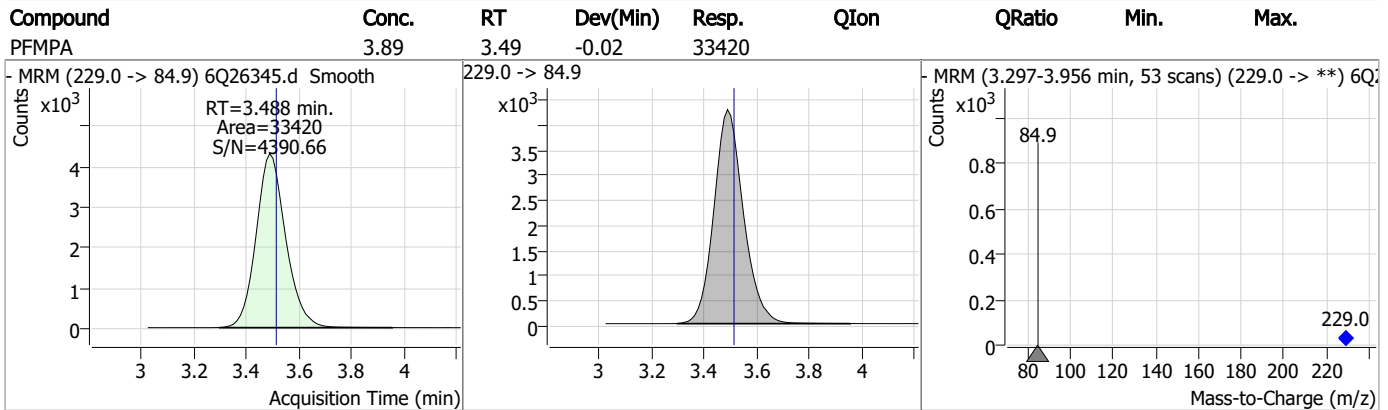
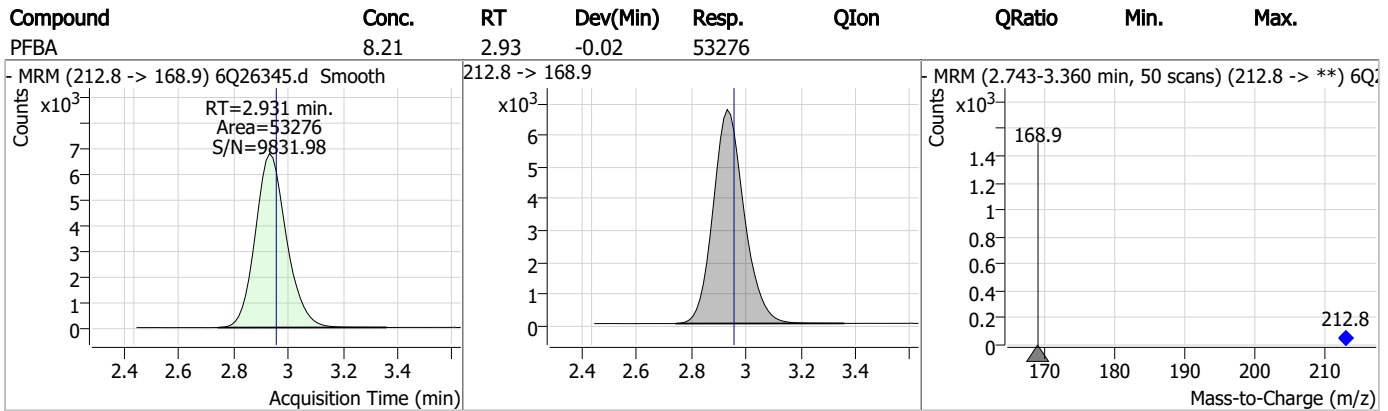
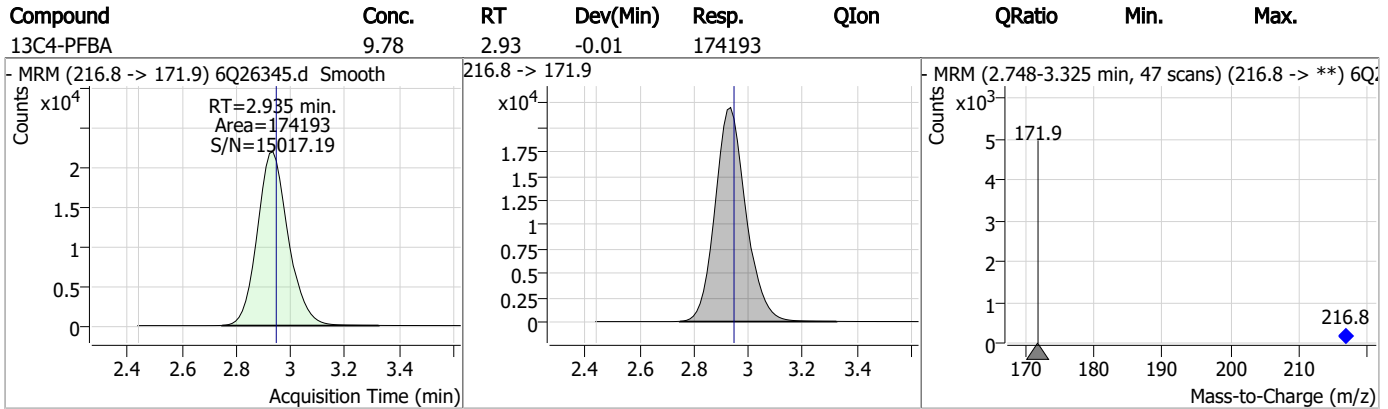
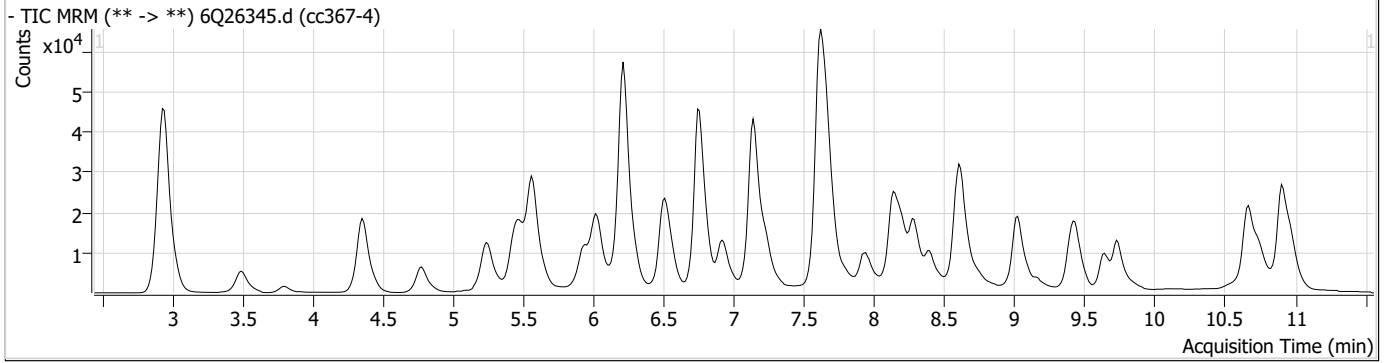


### Perfluorinated Compounds by LC/MS/MS

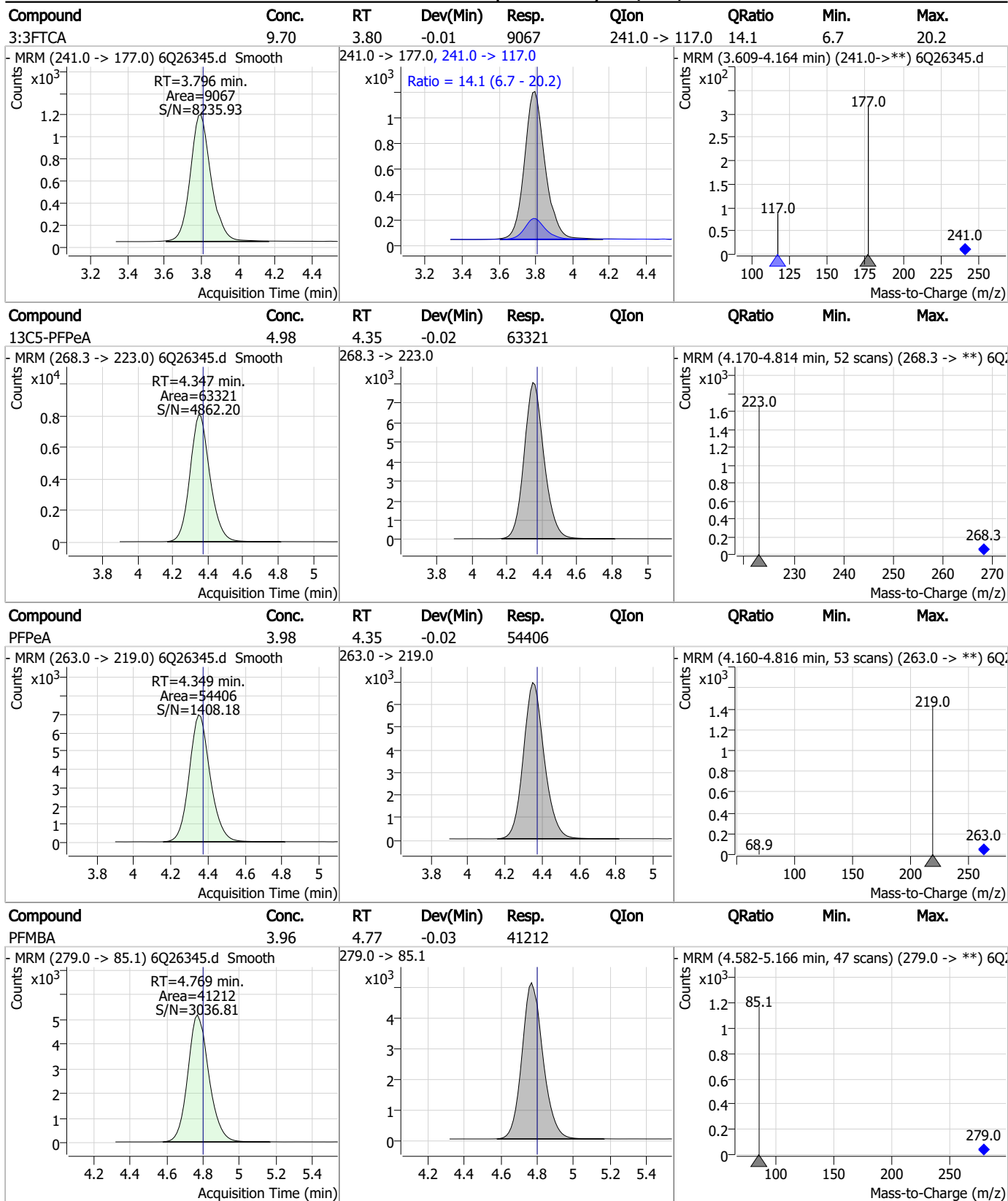
Compound	RT	Transition	Response	Conc. Units	Dev(Min)
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### Perfluorinated Compounds by LC/MS/MS

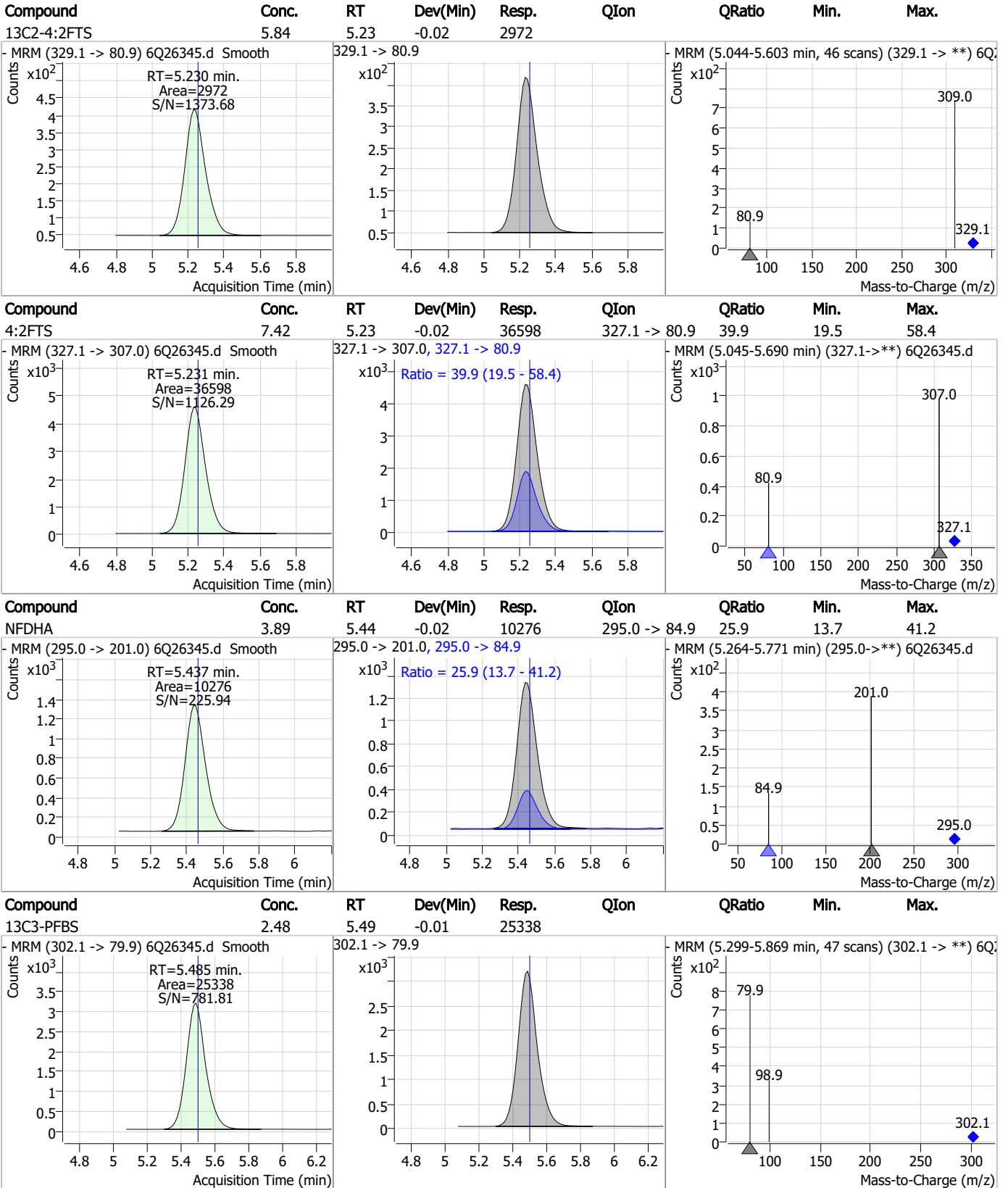


### Perfluorinated Compounds by LC/MS/MS



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### Perfluorinated Compounds by LC/MS/MS

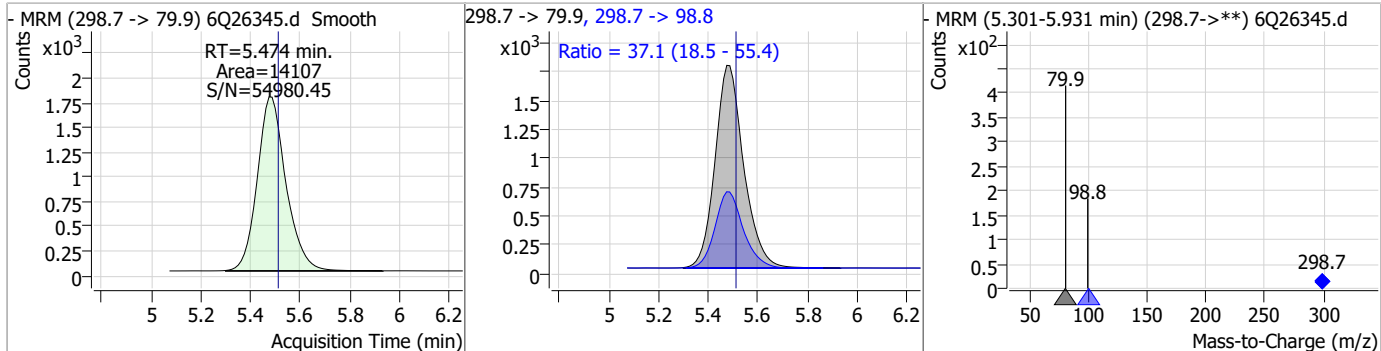


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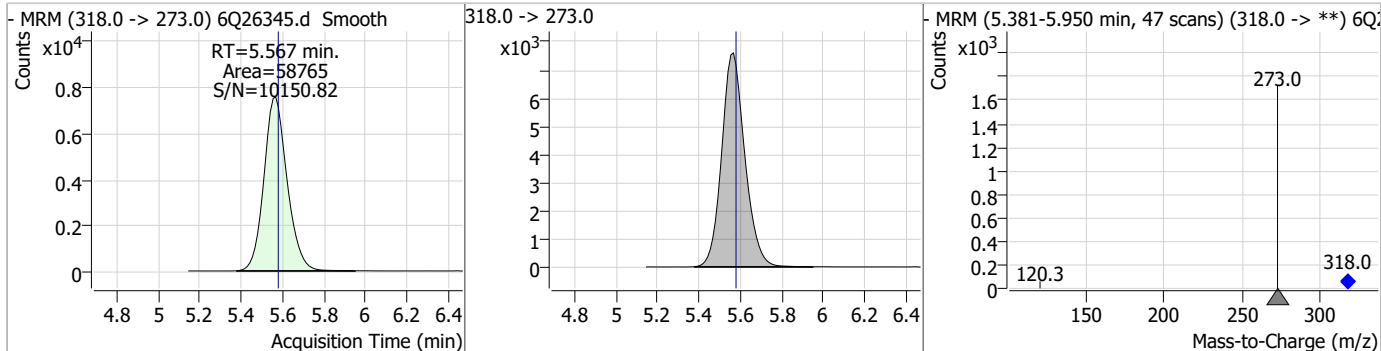


### Perfluorinated Compounds by LC/MS/MS

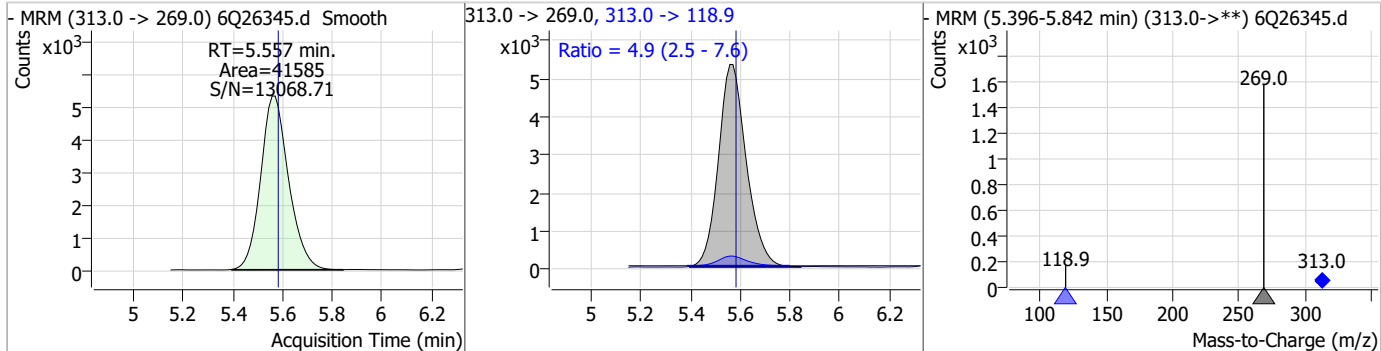
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBS	1.86	5.47	-0.04	14107	298.7 -> 98.8	37.1	18.5	55.4



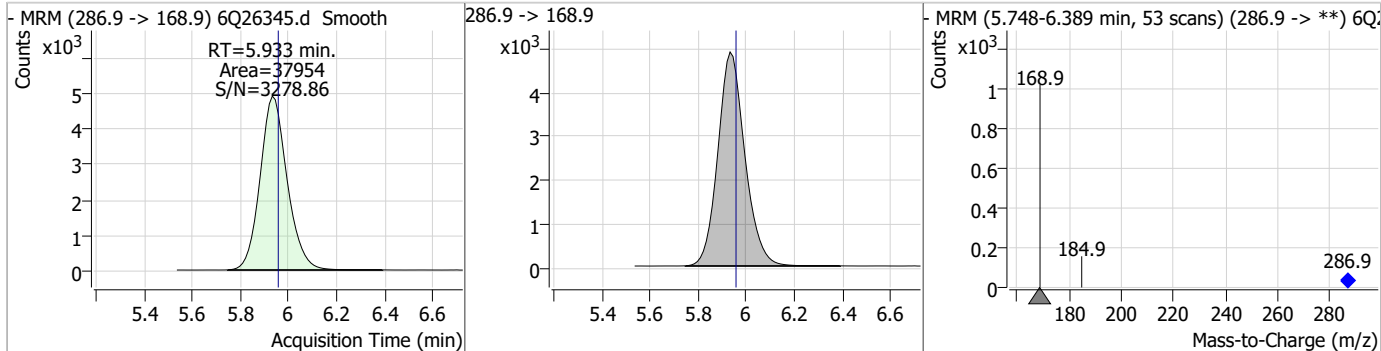
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFHxA	2.53	5.57	-0.01	58765	318.0 -> 273.0	4.9	2.5	7.6



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

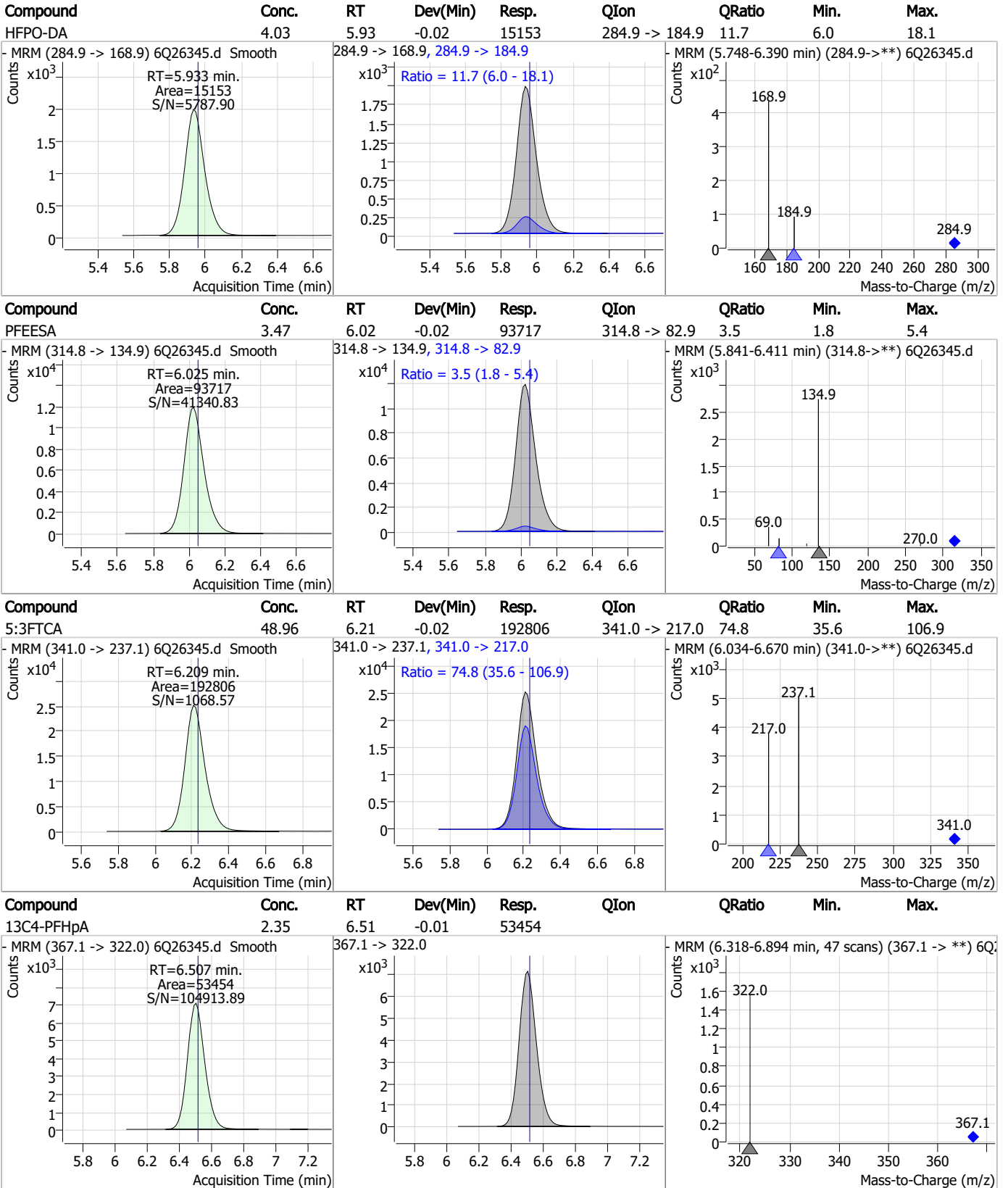


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-HFPO-DA	9.67	5.93	-0.02	37954	286.9 -> 168.9	4.9	2.5	7.6



7.7.17

### Perfluorinated Compounds by LC/MS/MS

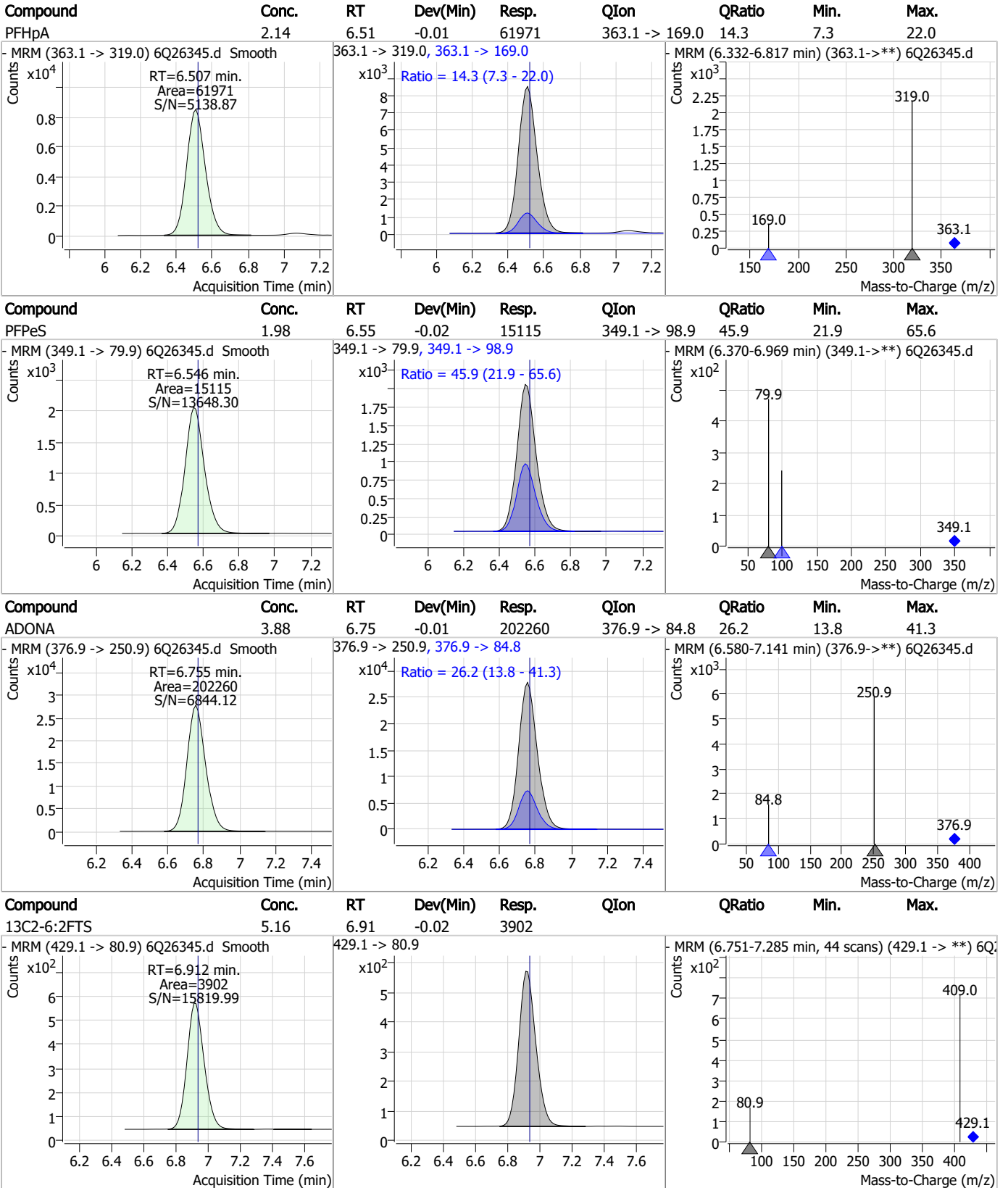


7.7.17





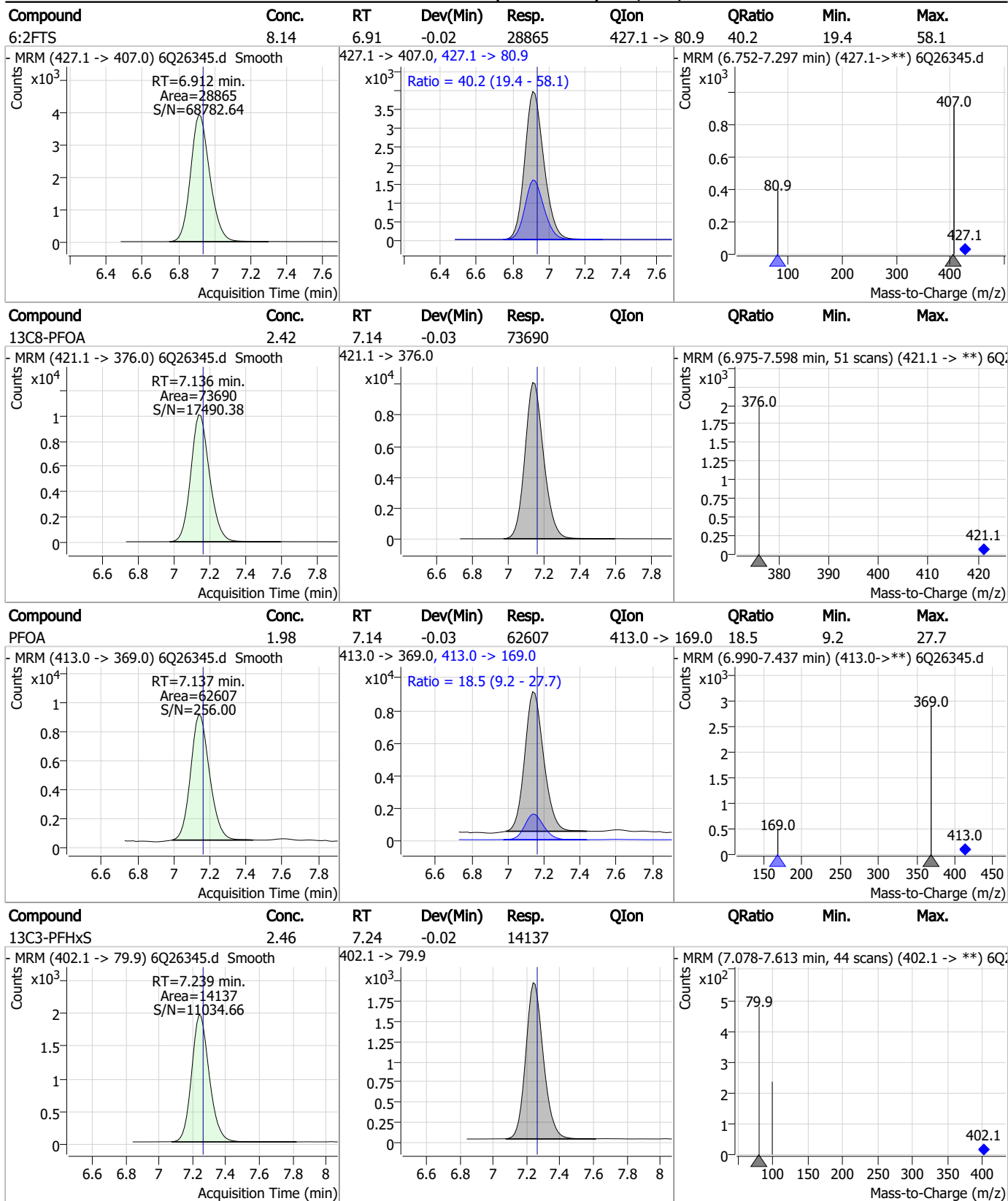
### Perfluorinated Compounds by LC/MS/MS



7.7.17



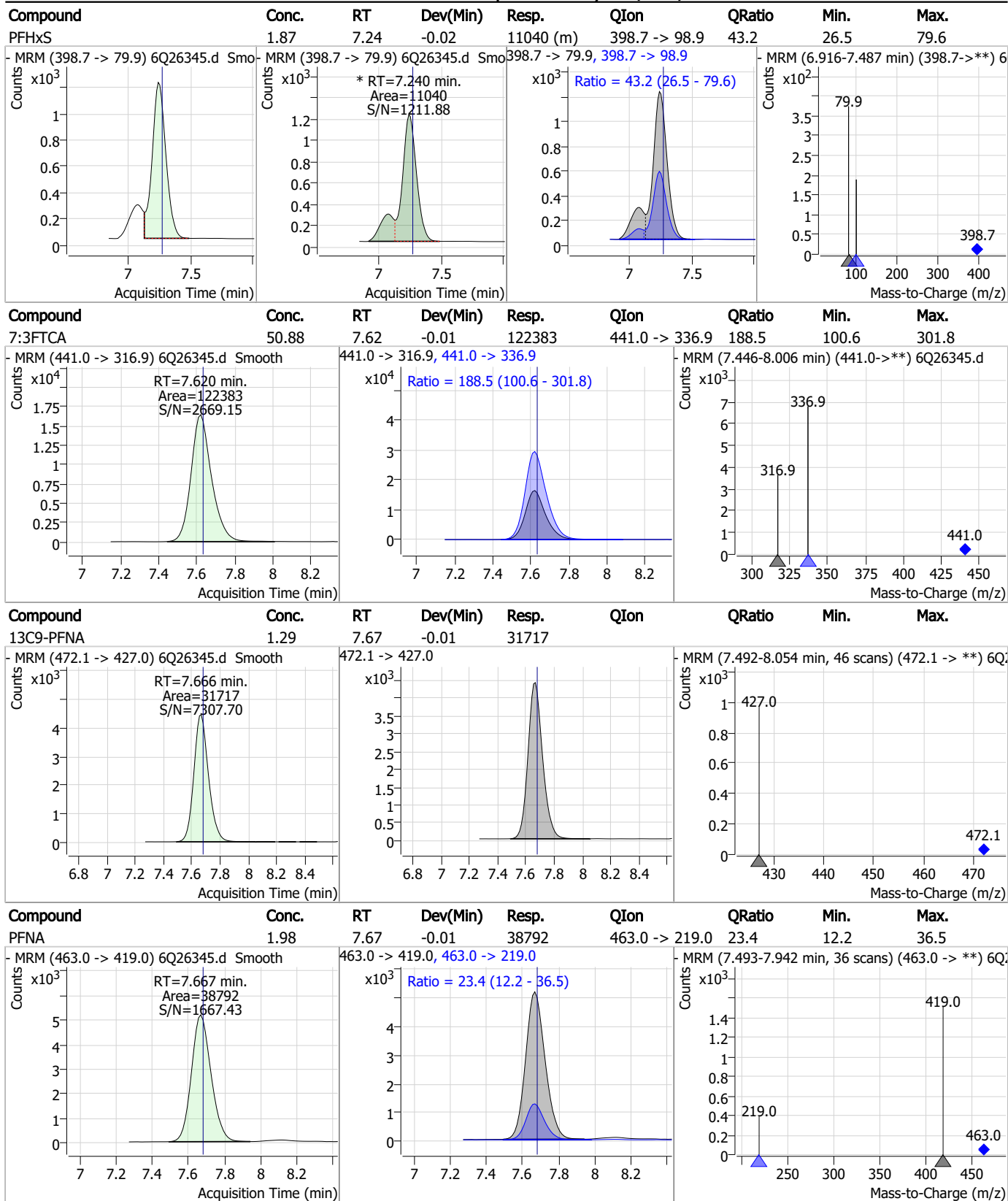
### Perfluorinated Compounds by LC/MS/MS



7.7.17

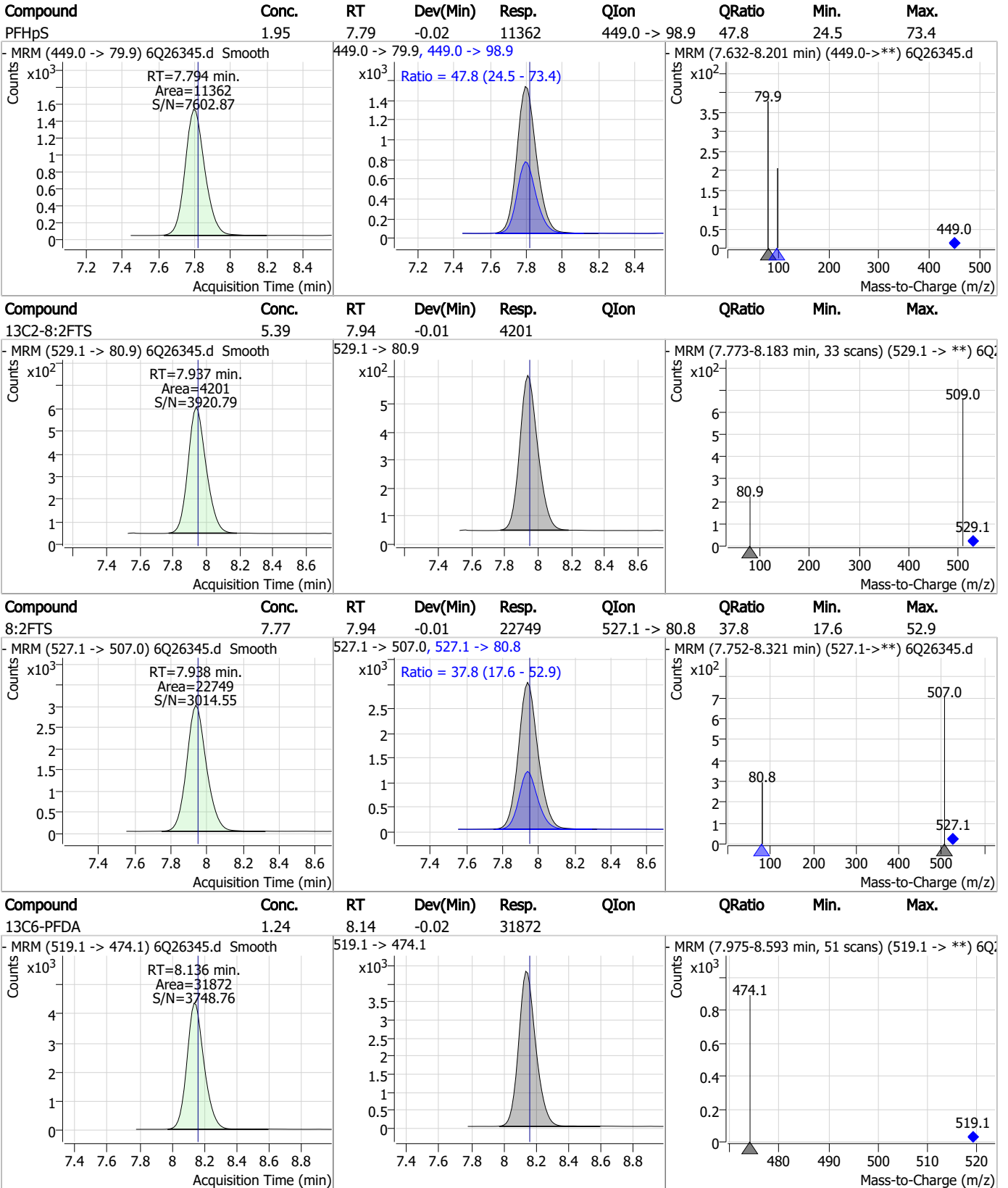


### Perfluorinated Compounds by LC/MS/MS



7.7.17

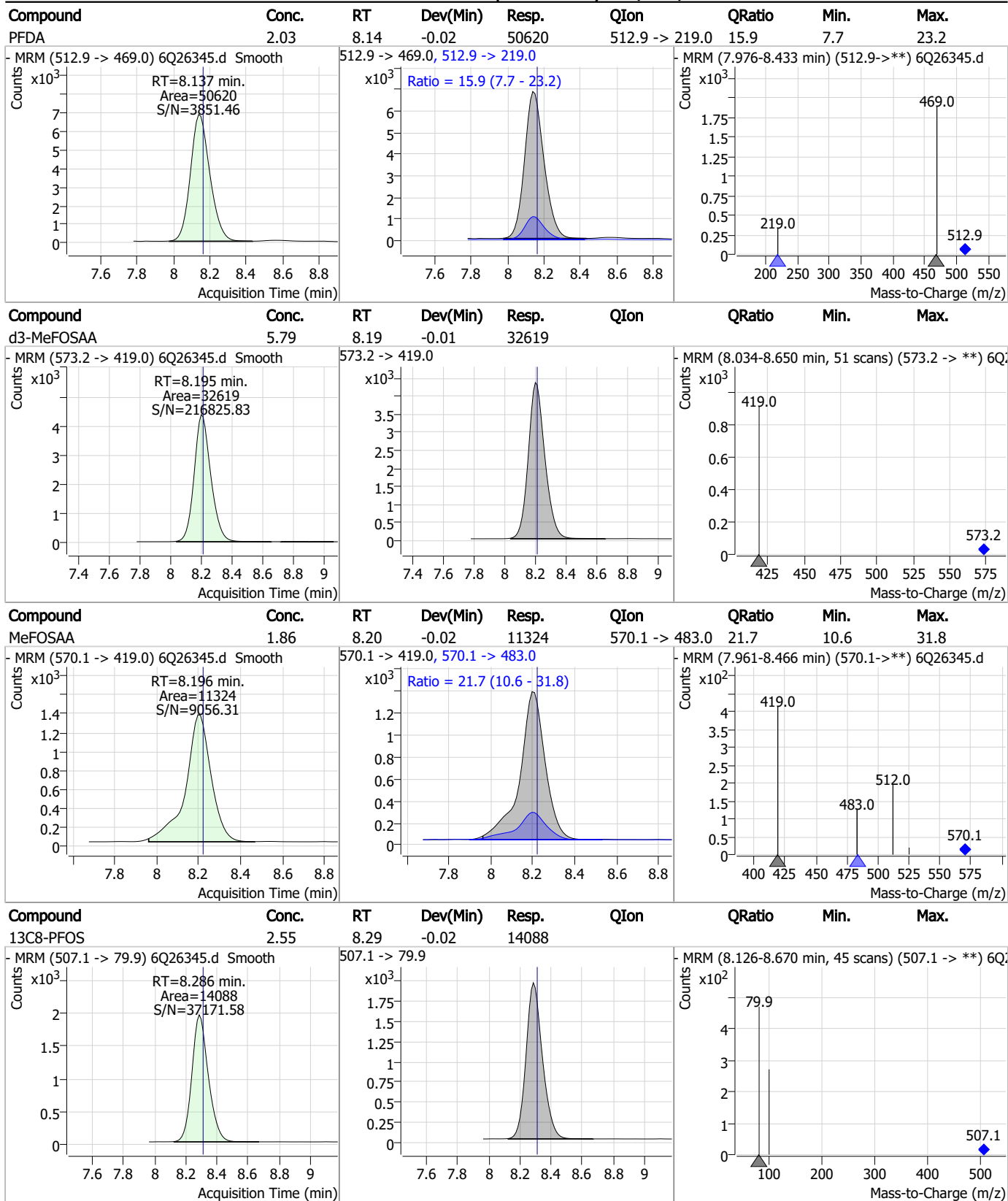
### Perfluorinated Compounds by LC/MS/MS



7.7.17

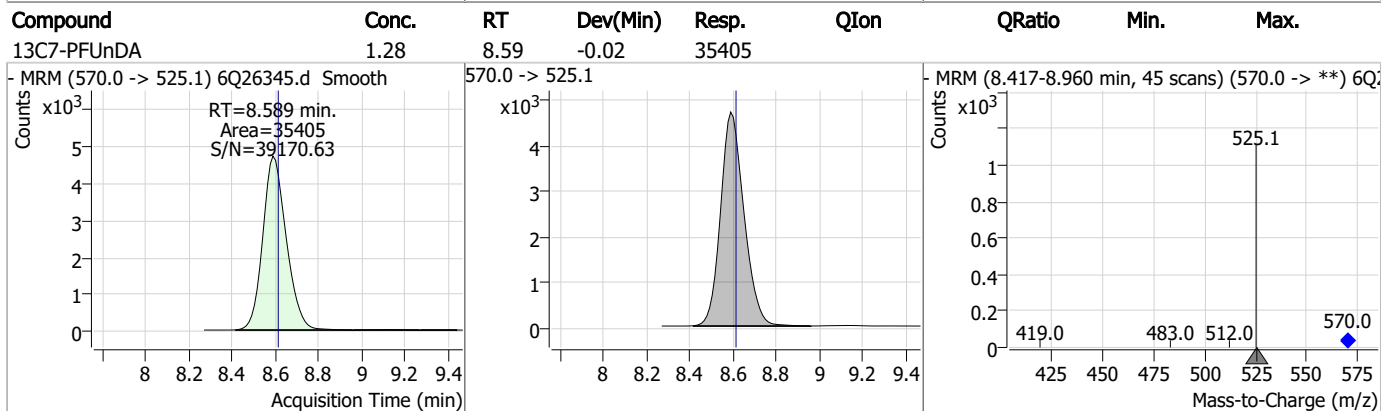
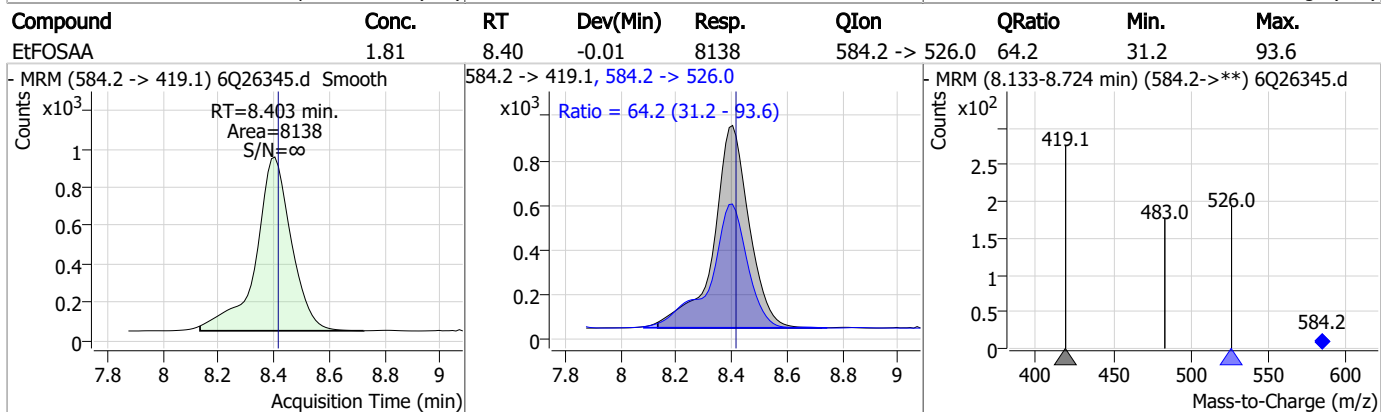
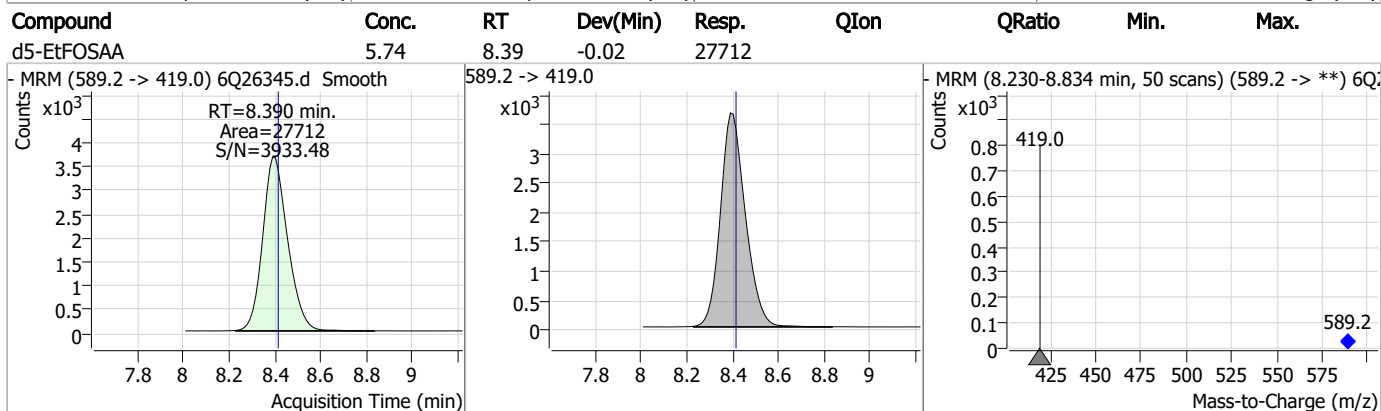
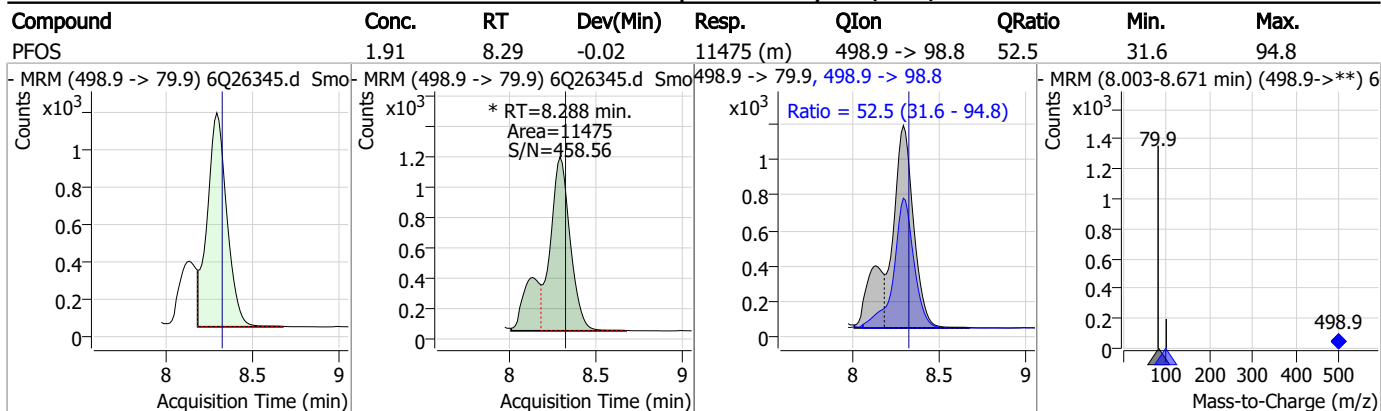


### Perfluorinated Compounds by LC/MS/MS



7.7.17

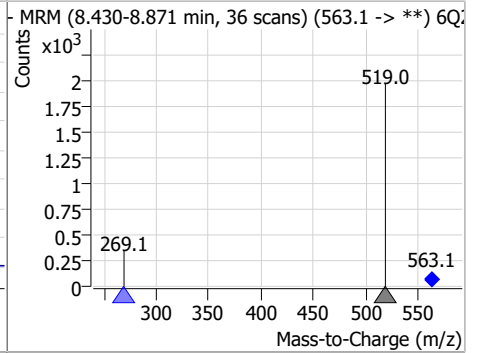
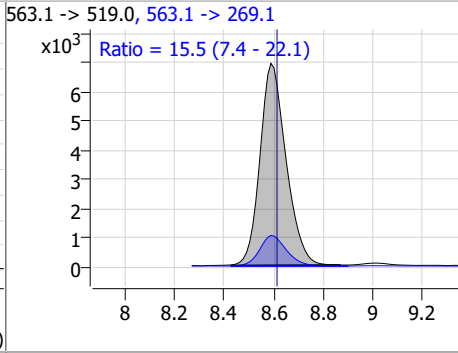
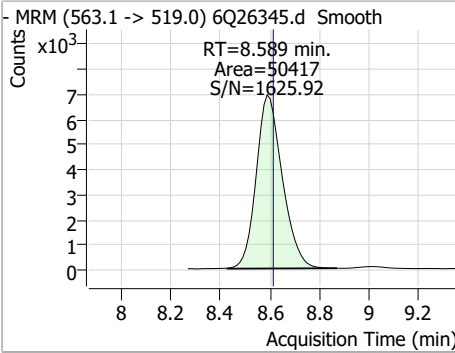
### Perfluorinated Compounds by LC/MS/MS



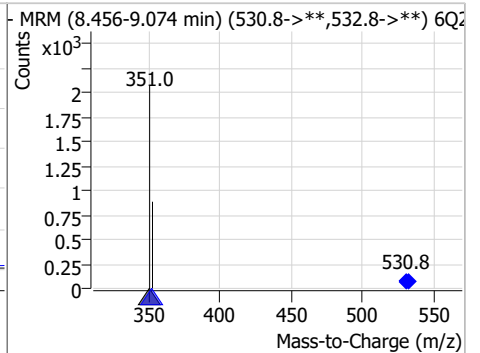
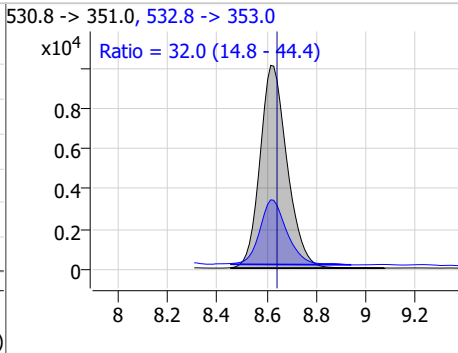
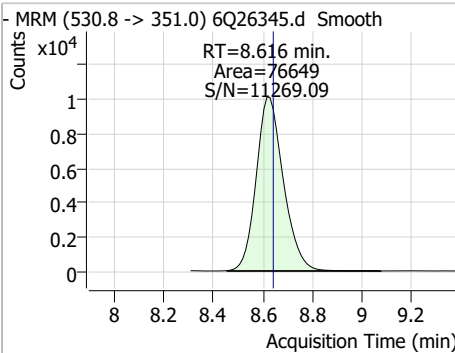
7.7.17

### Perfluorinated Compounds by LC/MS/MS

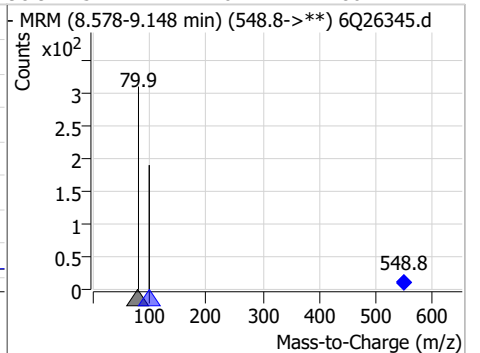
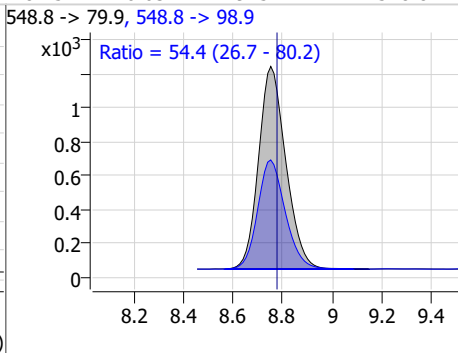
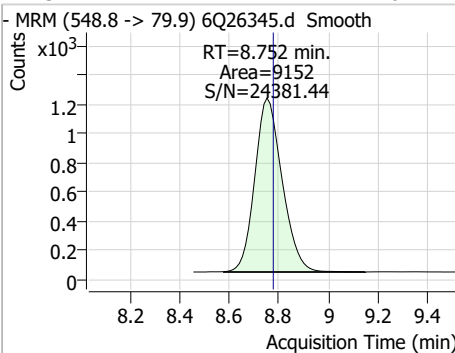
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFUnDA	2.02	8.59	-0.02	50417	563.1 -> 269.1	15.5	7.4	22.1



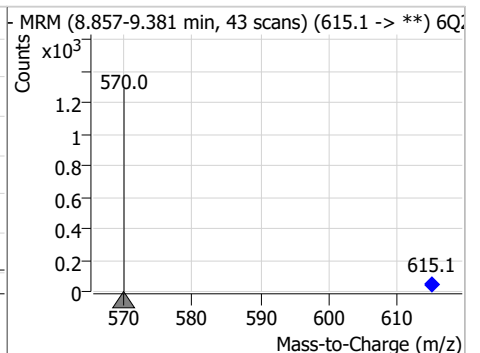
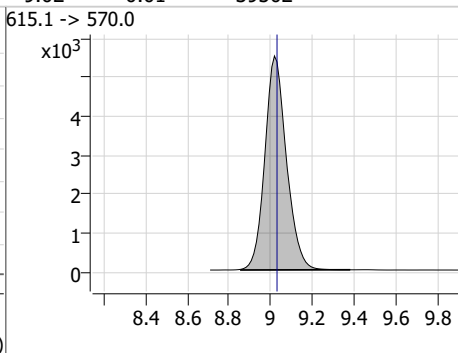
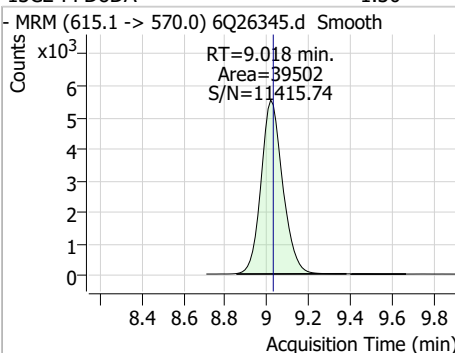
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
9CI-PF3ONS	3.84	8.62	-0.03	76649	532.8 -> 353.0	32.0	14.8	44.4



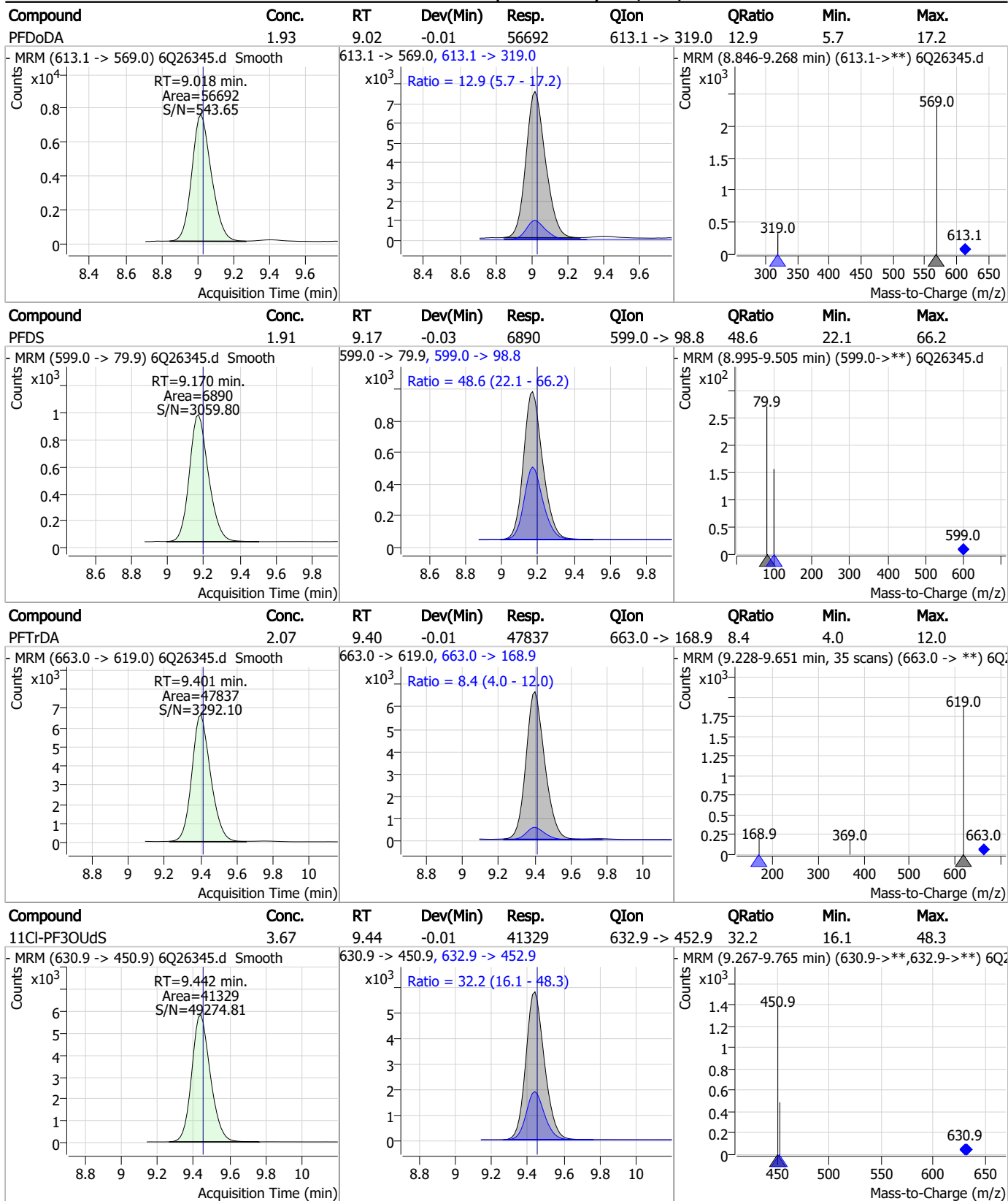
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNS	1.78	8.75	-0.03	9152	548.8 -> 98.9	54.4	26.7	80.2



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



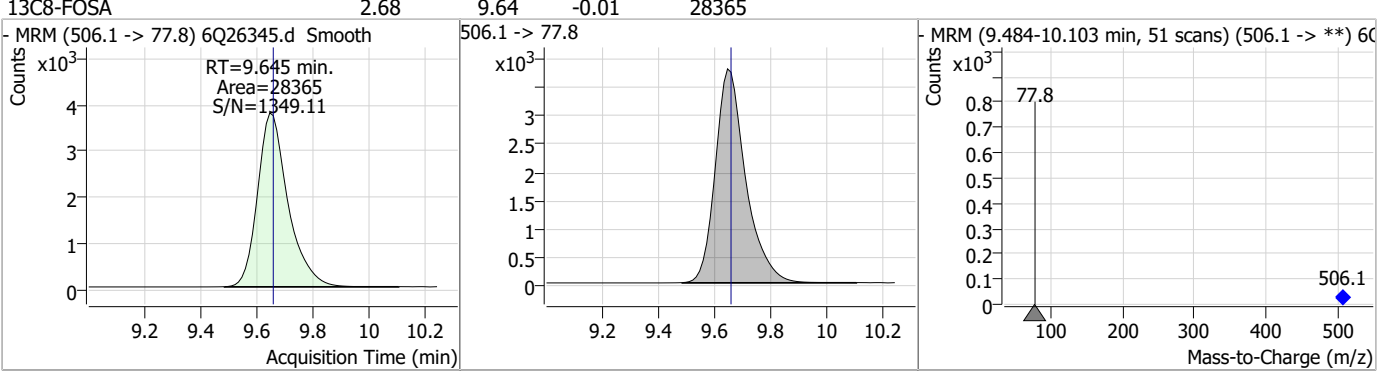
7.7.17



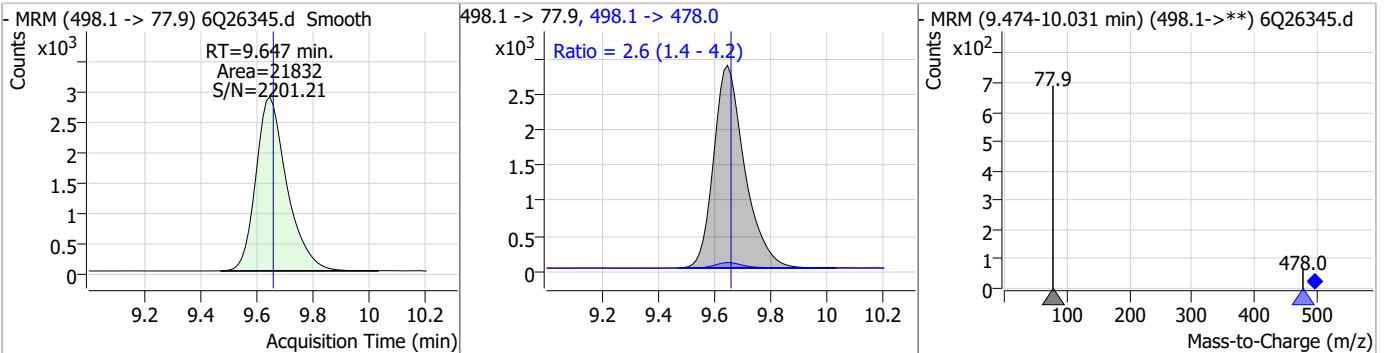


### Perfluorinated Compounds by LC/MS/MS

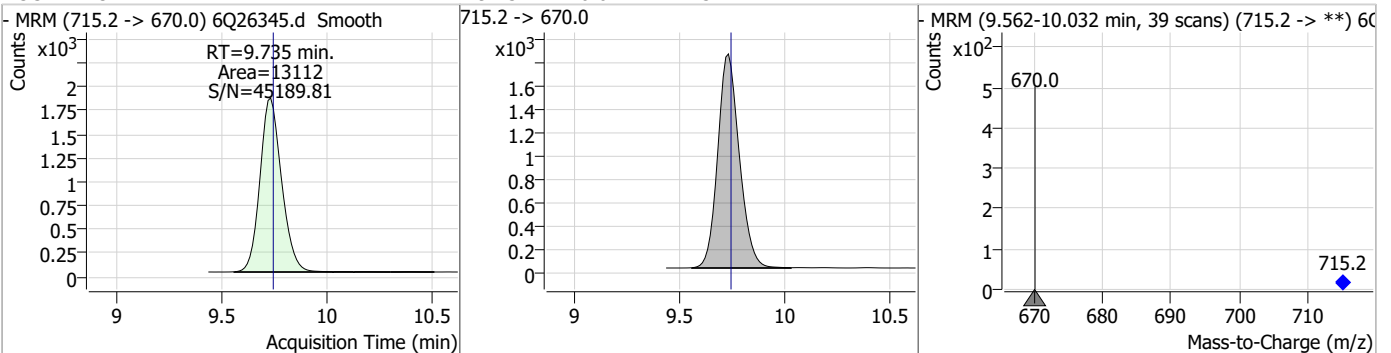
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
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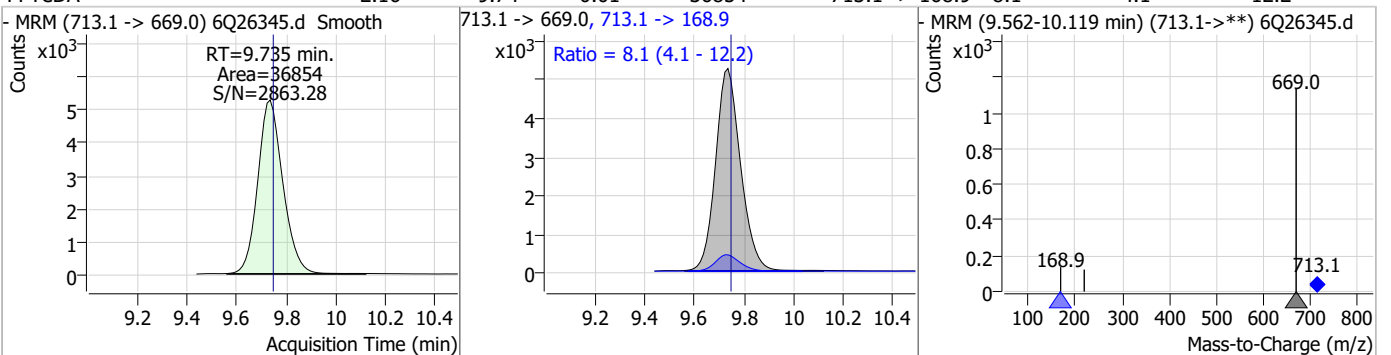
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
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Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
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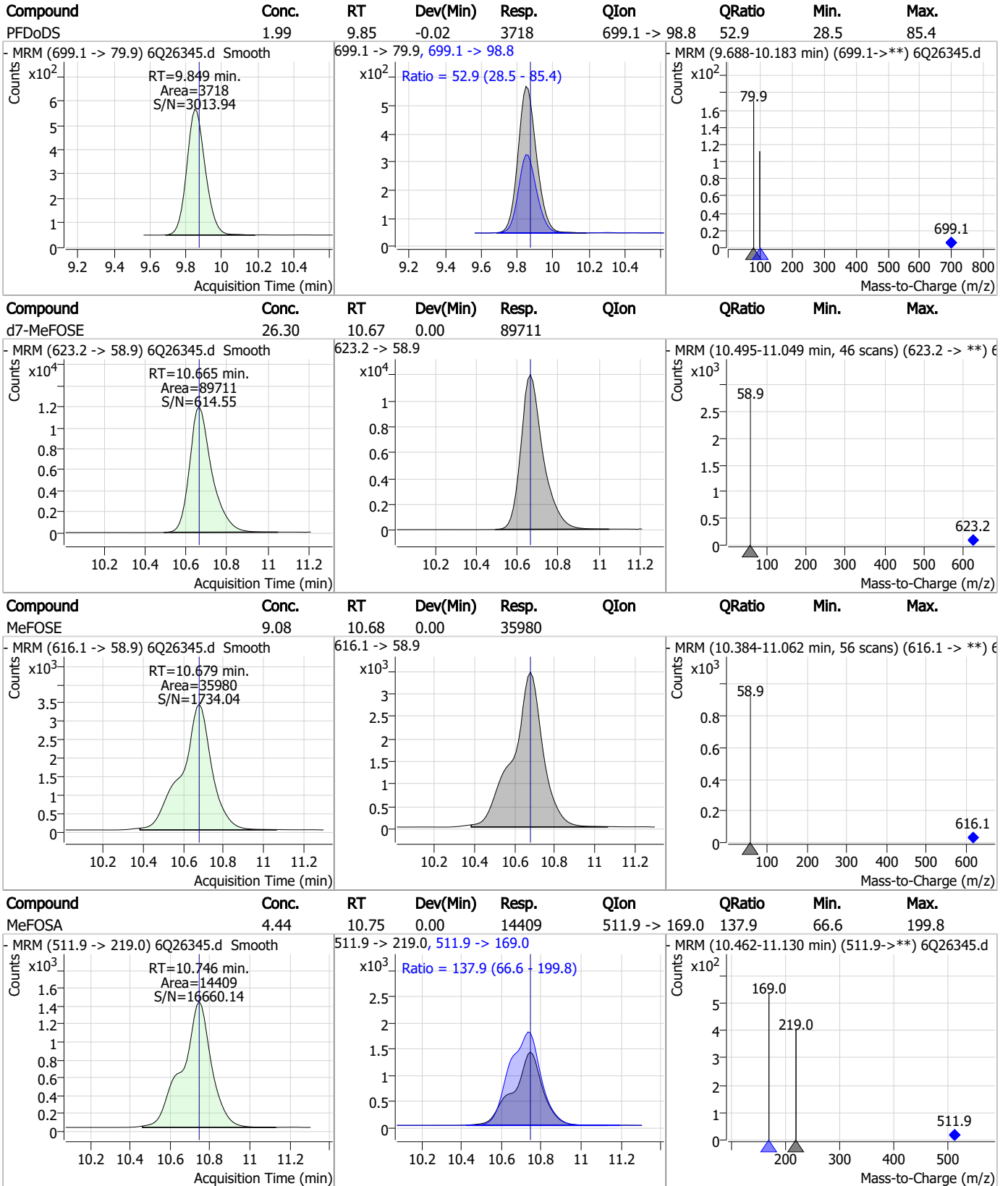


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
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7.7.17

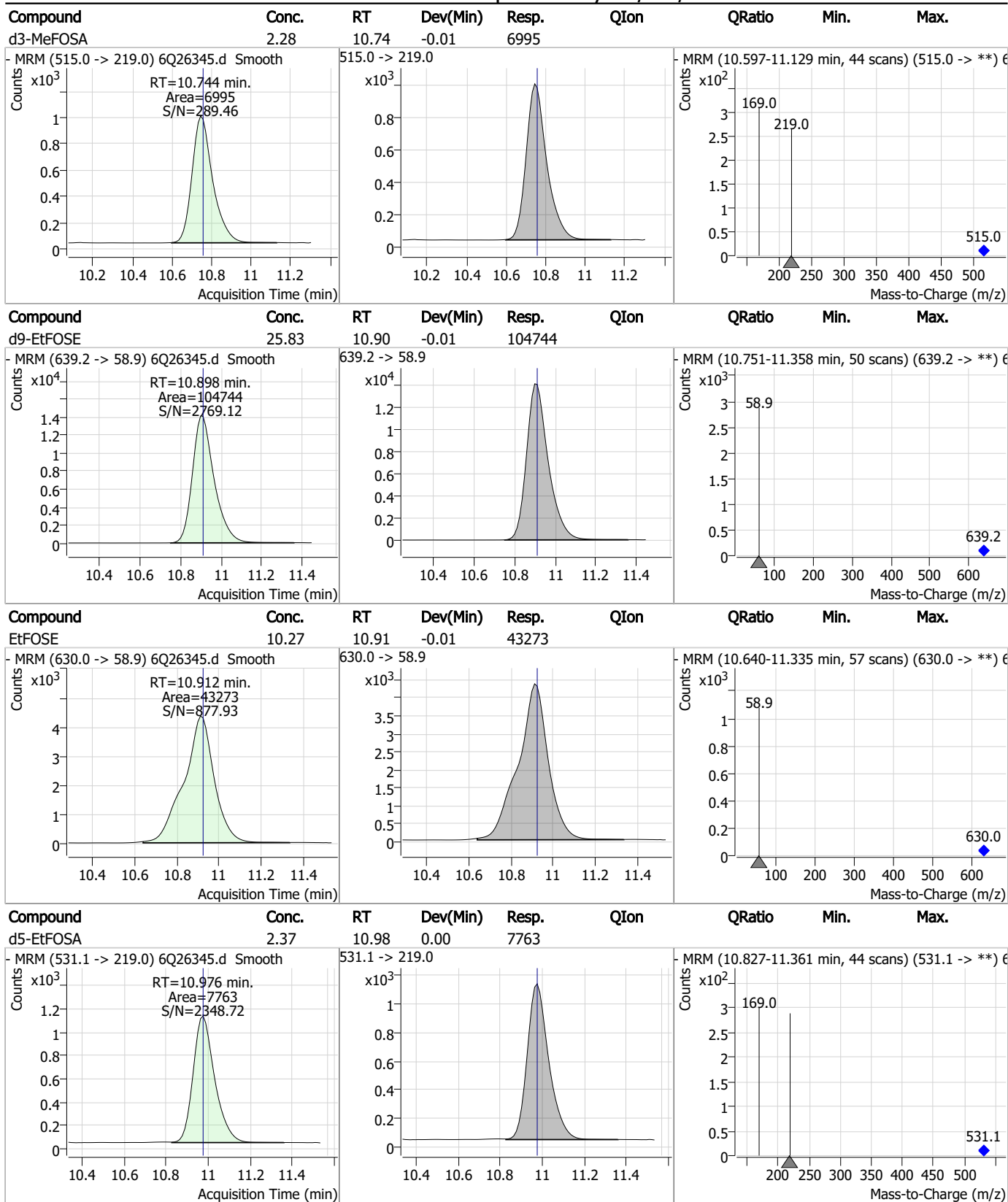
### Perfluorinated Compounds by LC/MS/MS



7.7.17

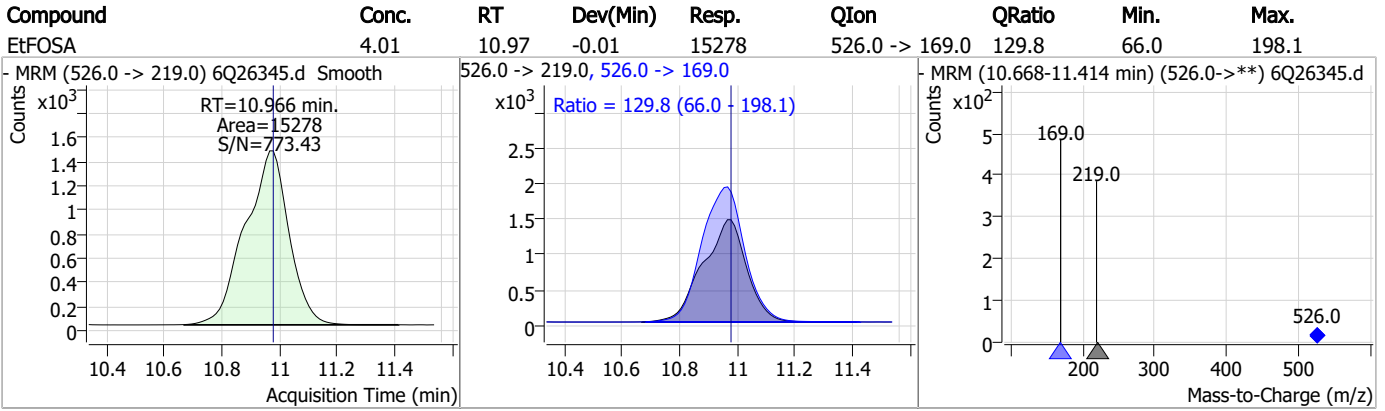


### Perfluorinated Compounds by LC/MS/MS



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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

7.7.17.1

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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)
<b>Internal Standards</b>					
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
<b>System Monitoring Compounds</b>					
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%	
<b>Target Compounds</b>					<b>QValue</b>
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	m
		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	m
		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			
11Cl-PF3OUdS	9.442	630.9 -> 450.9	39515	3.47	µg/L	100
		632.9 -> 452.9	12723			
9Cl-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

7.7.18  
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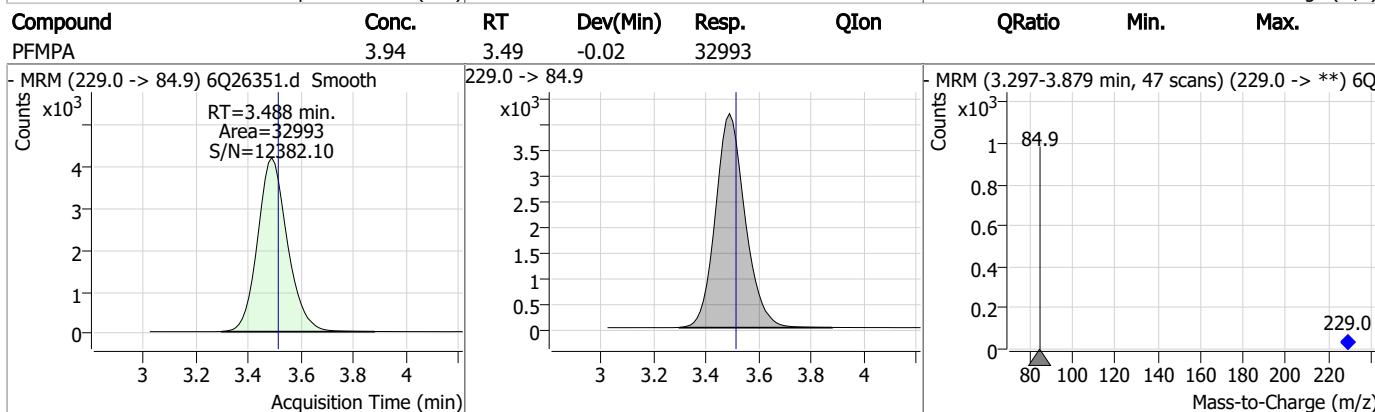
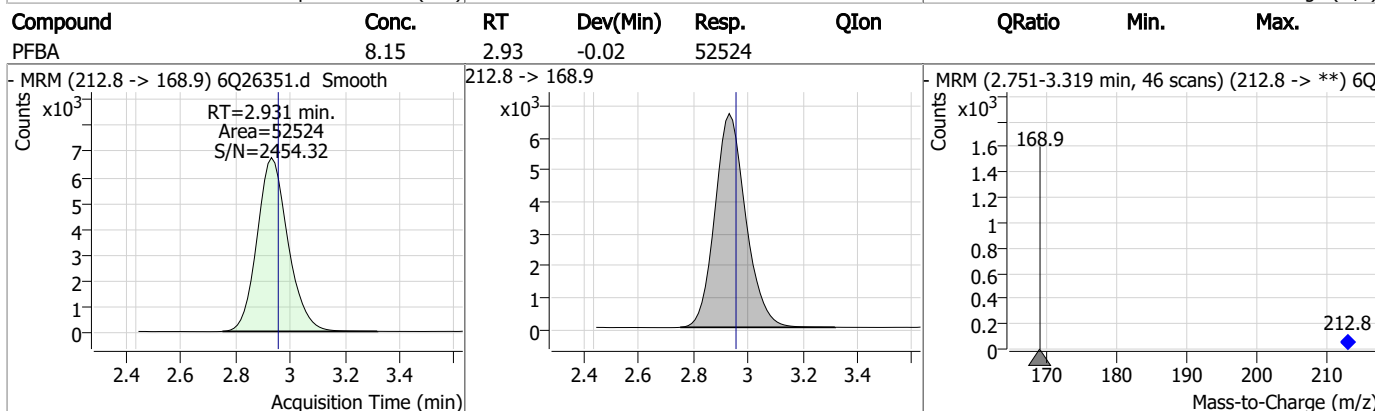
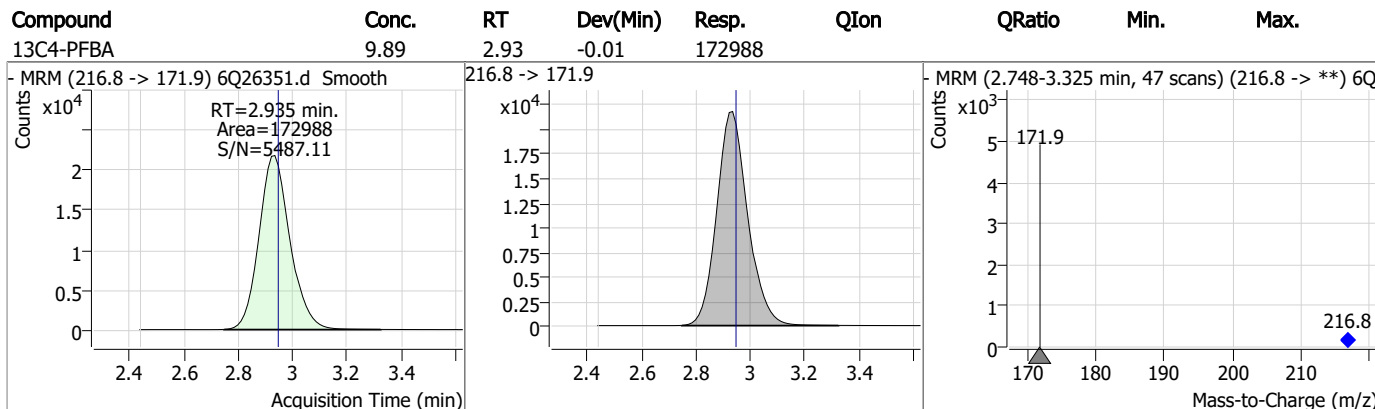
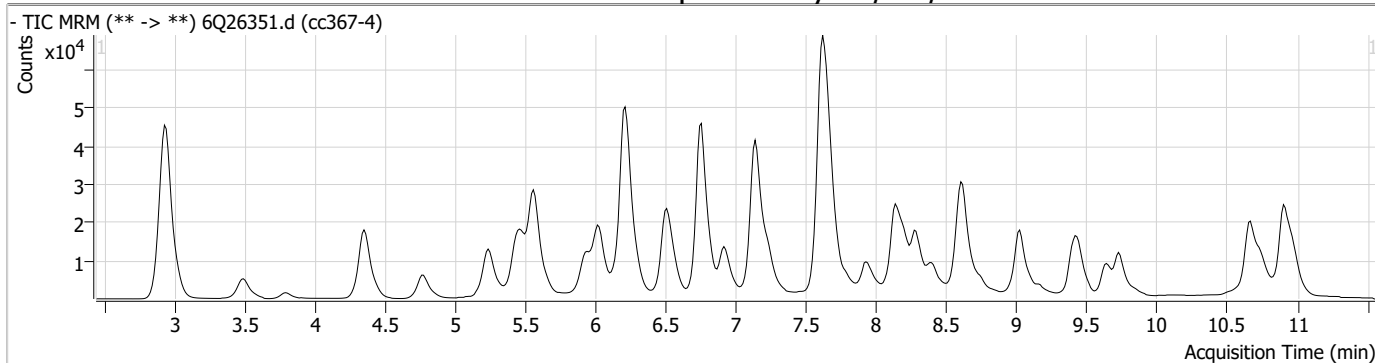
### Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
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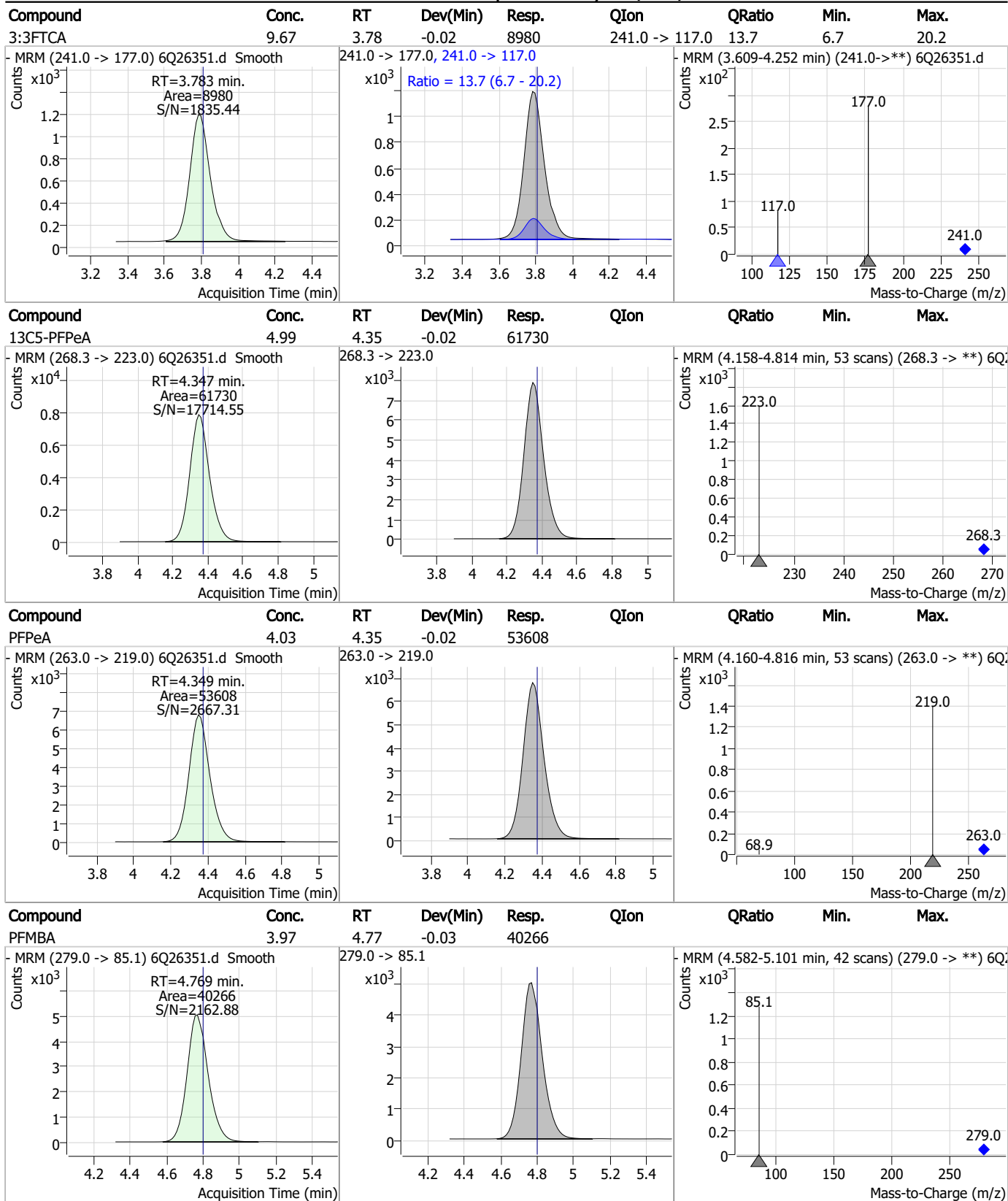
7.7.18

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### Perfluorinated Compounds by LC/MS/MS

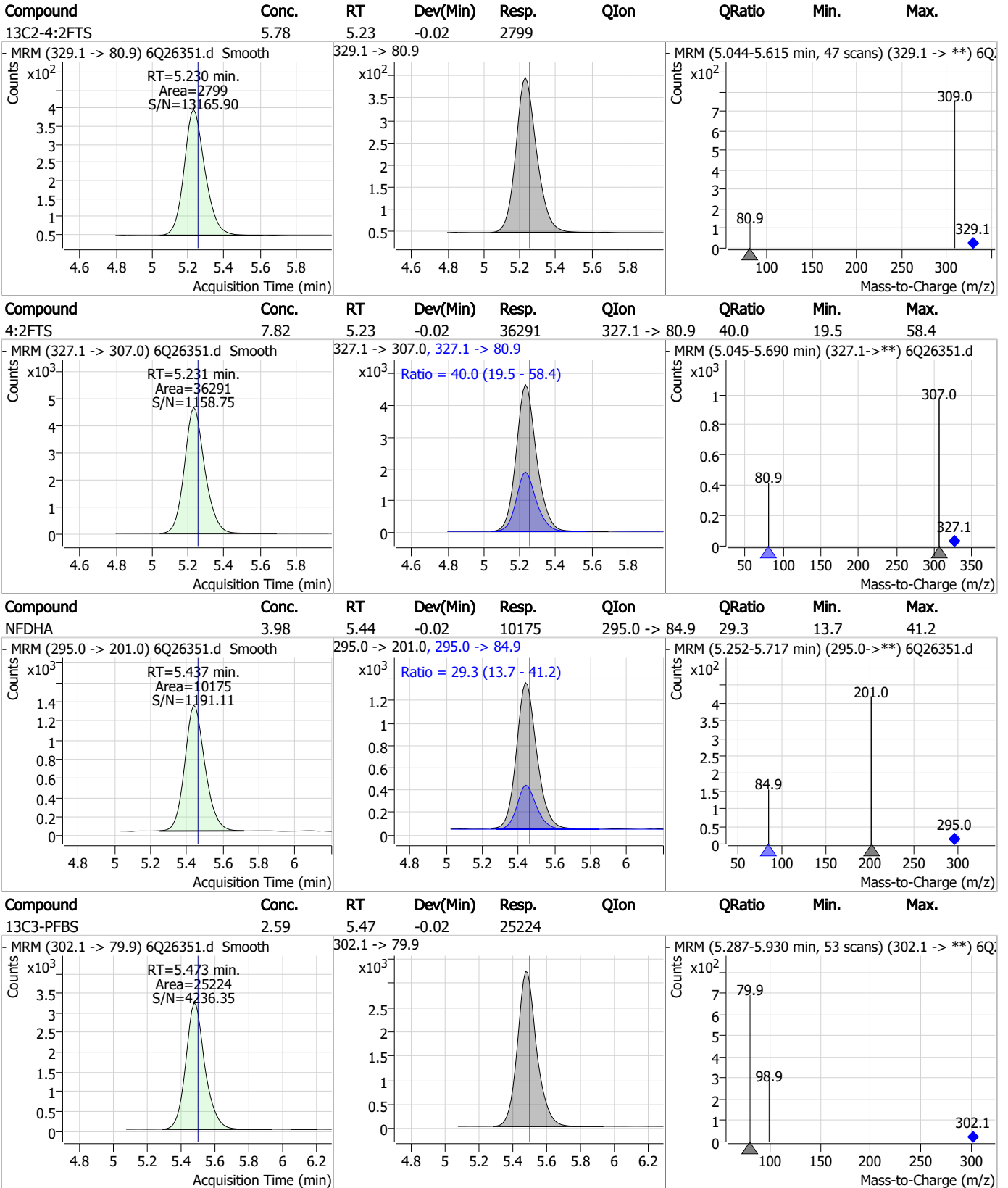


### Perfluorinated Compounds by LC/MS/MS



7.7.18

### Perfluorinated Compounds by LC/MS/MS

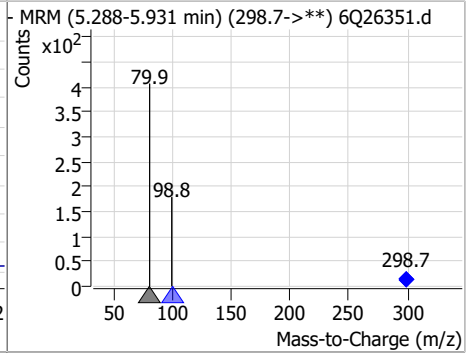
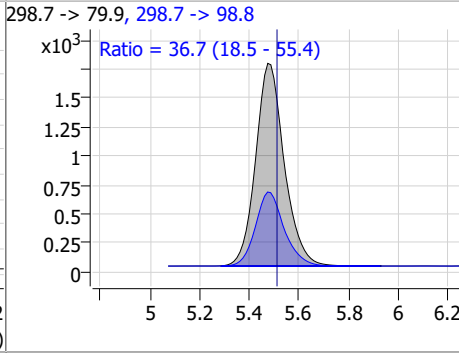
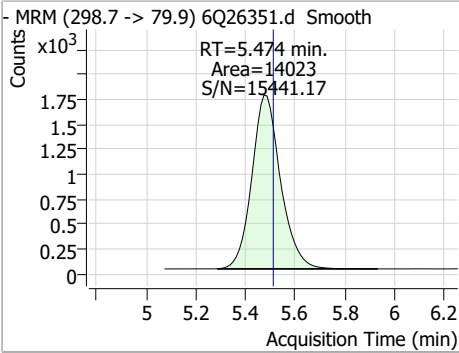


7.7.18 7

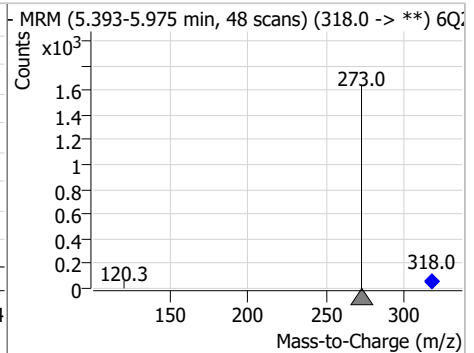
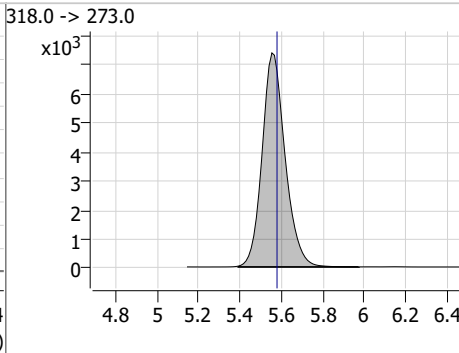
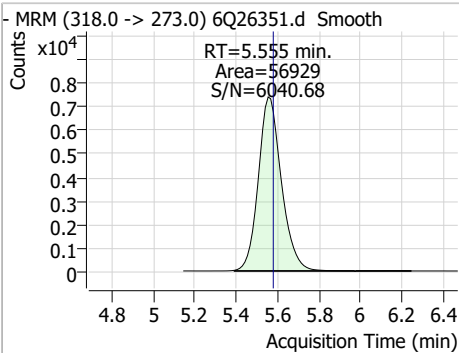


### Perfluorinated Compounds by LC/MS/MS

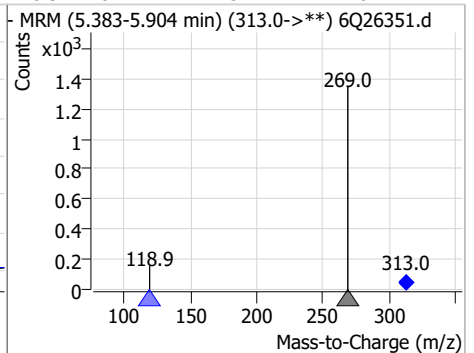
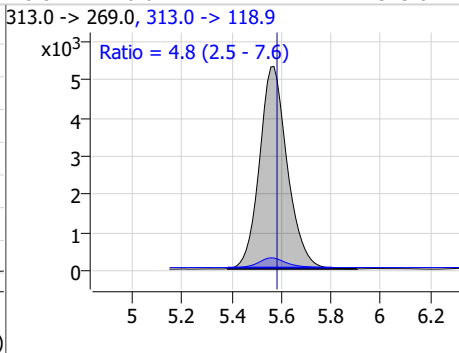
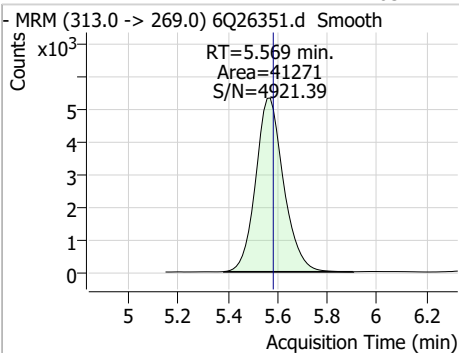
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBS	1.85	5.47	-0.04	14023	298.7 -> 98.8	36.7	18.5	55.4



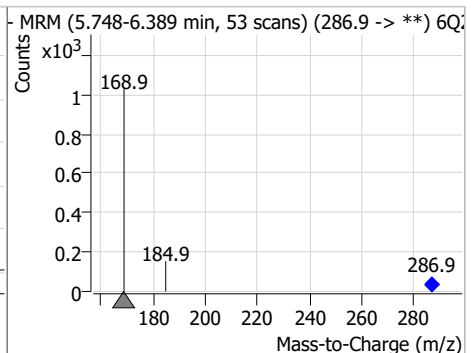
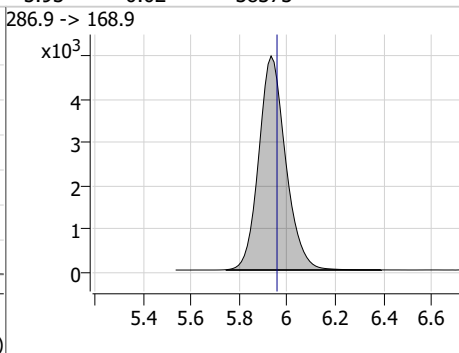
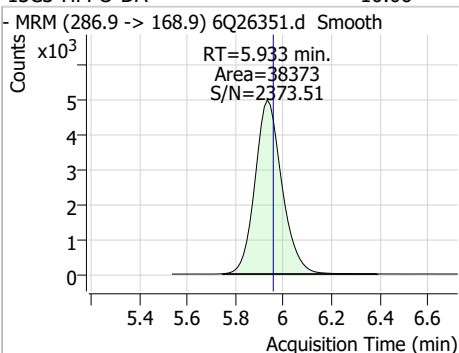
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFHxA	2.52	5.56	-0.02	56929	318.0 -> 273.0	4.8	2.5	7.6



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

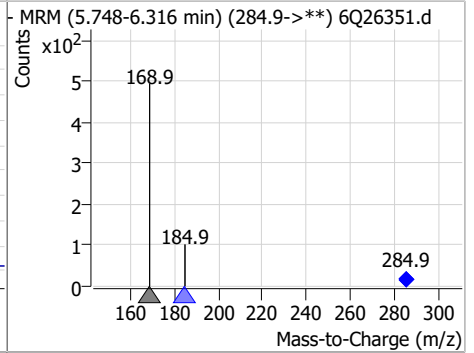
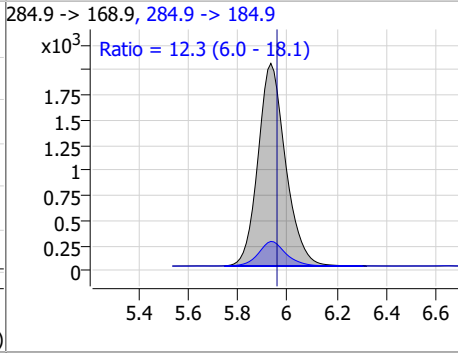
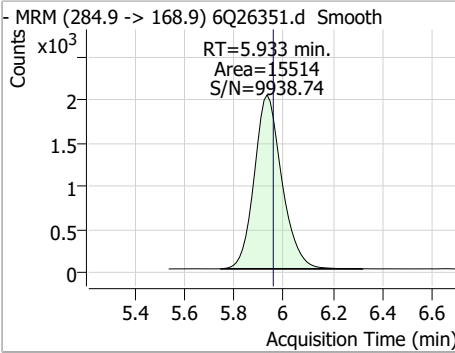


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-HFPO-DA	10.06	5.93	-0.02	38373	286.9 -> 168.9	4.8	2.5	7.6

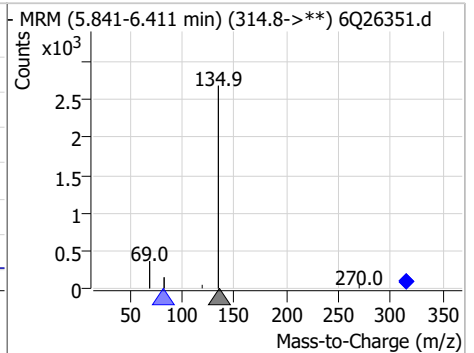
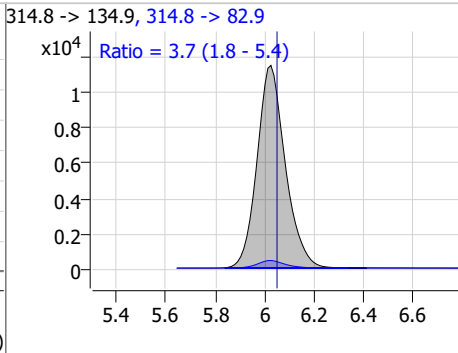
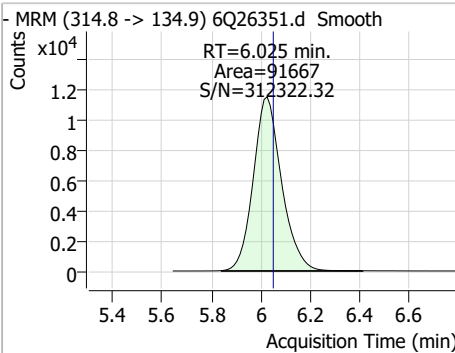


### Perfluorinated Compounds by LC/MS/MS

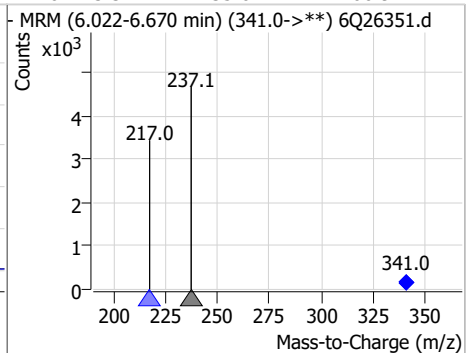
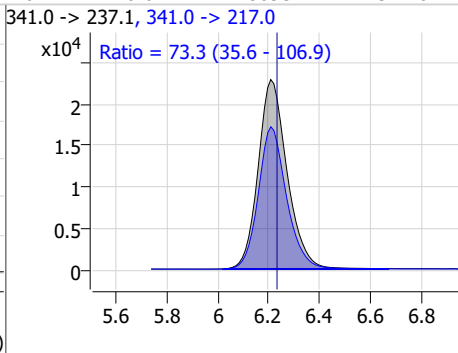
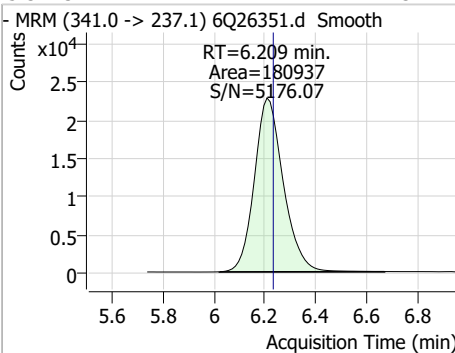
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
HFPO-DA	4.08	5.93	-0.02	15514	284.9 -> 184.9	12.3	6.0	18.1



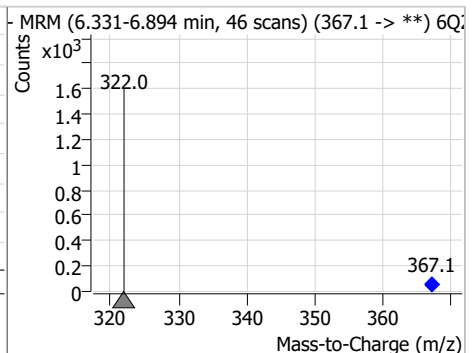
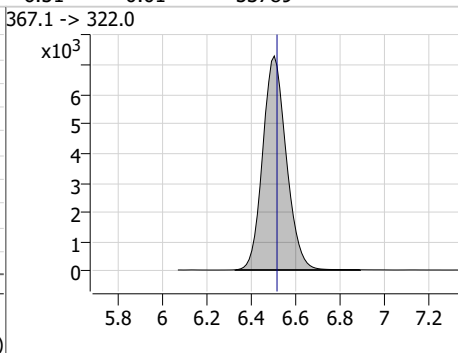
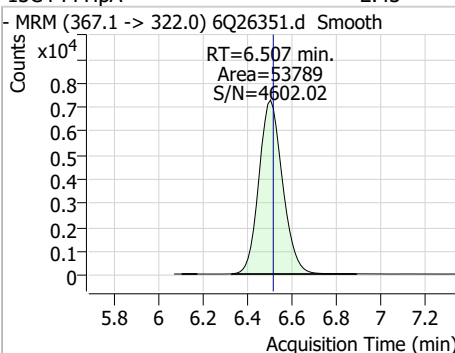
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFEESA	3.50	6.02	-0.02	91667	314.8 -> 82.9	3.7	1.8	5.4



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
5:3FTCA	47.43	6.21	-0.02	180937	341.0 -> 217.0	73.3	35.6	106.9

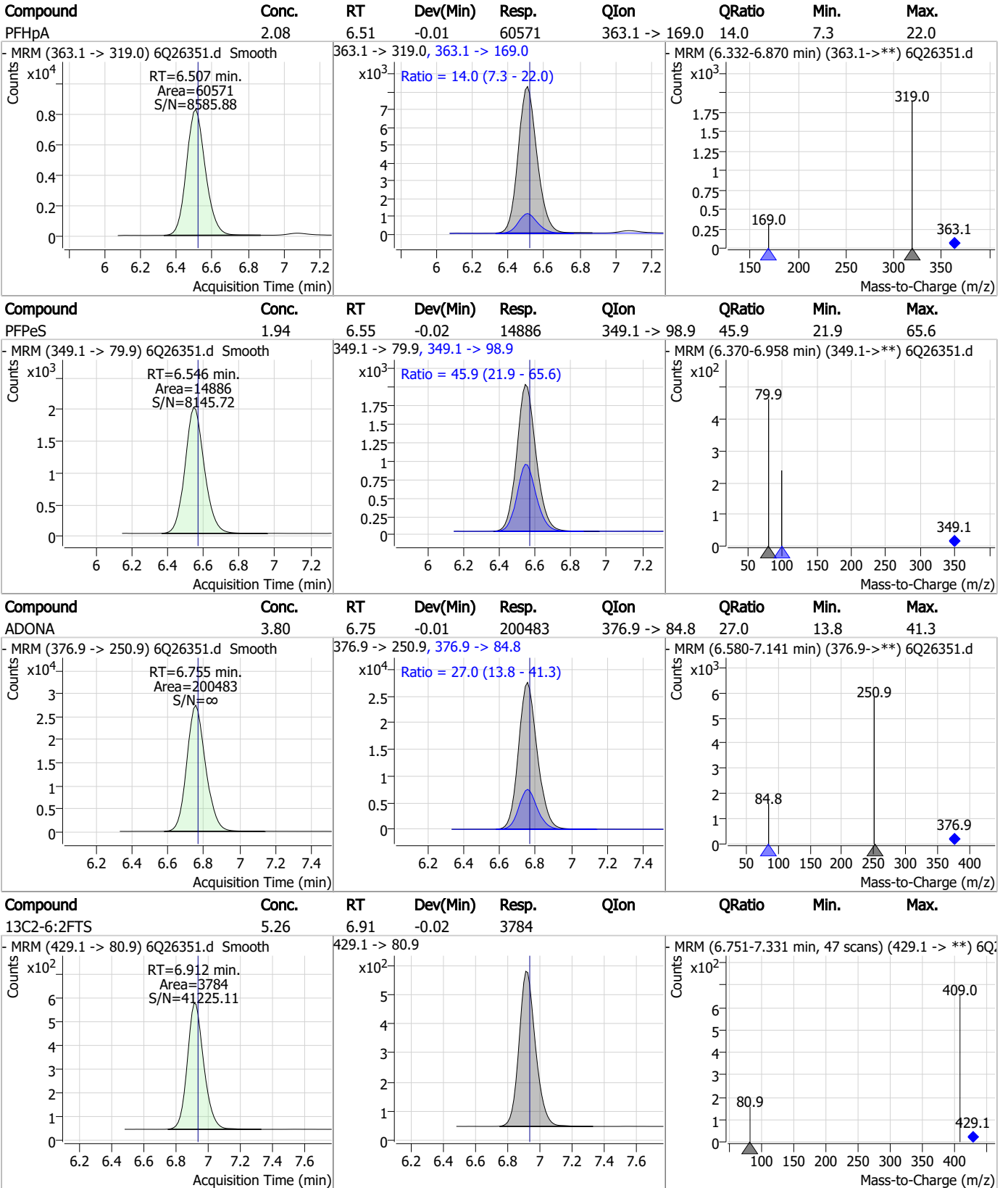


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFHpA	2.43	6.51	-0.01	53789	367.1 -> 322.0			



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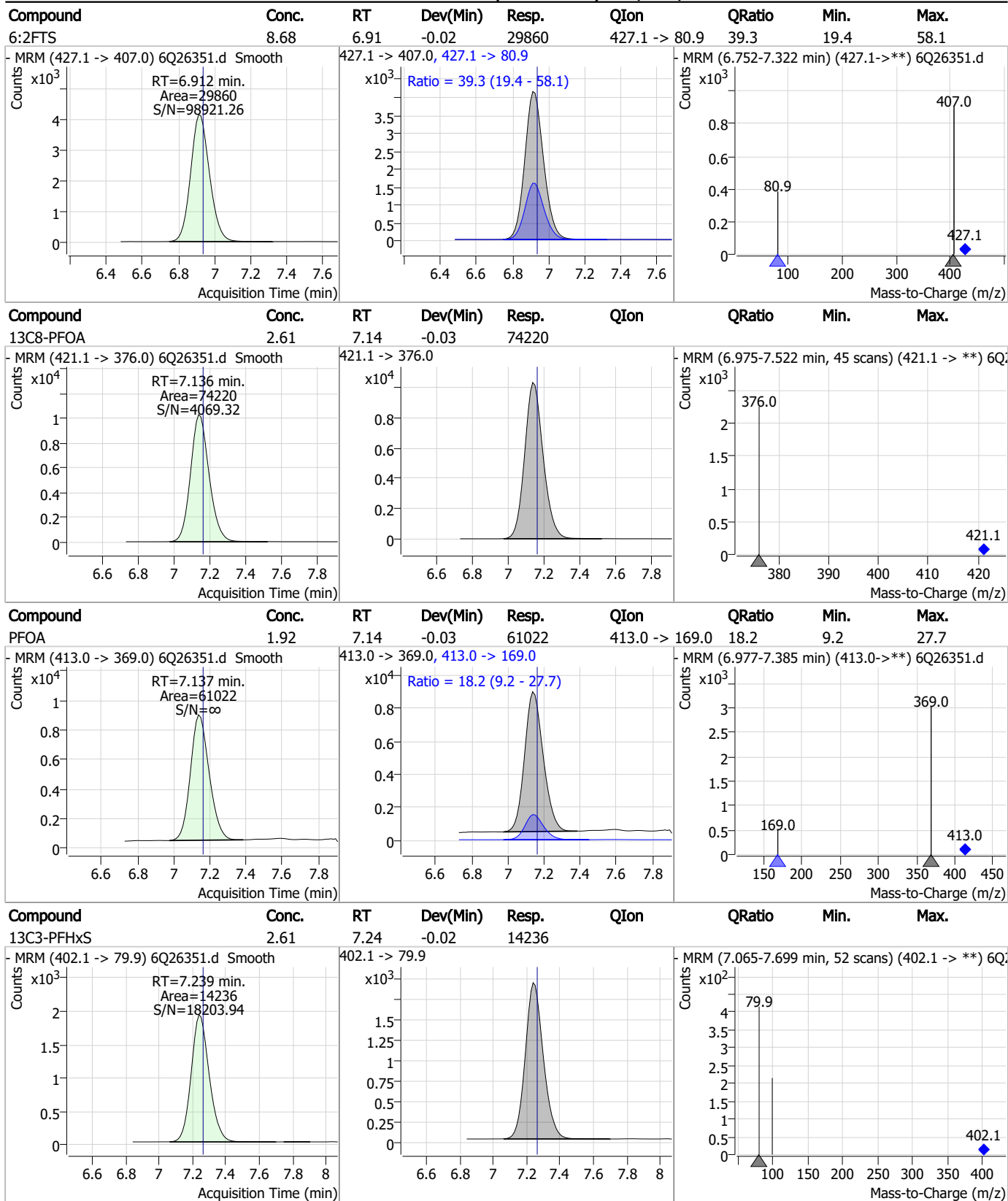
### Perfluorinated Compounds by LC/MS/MS



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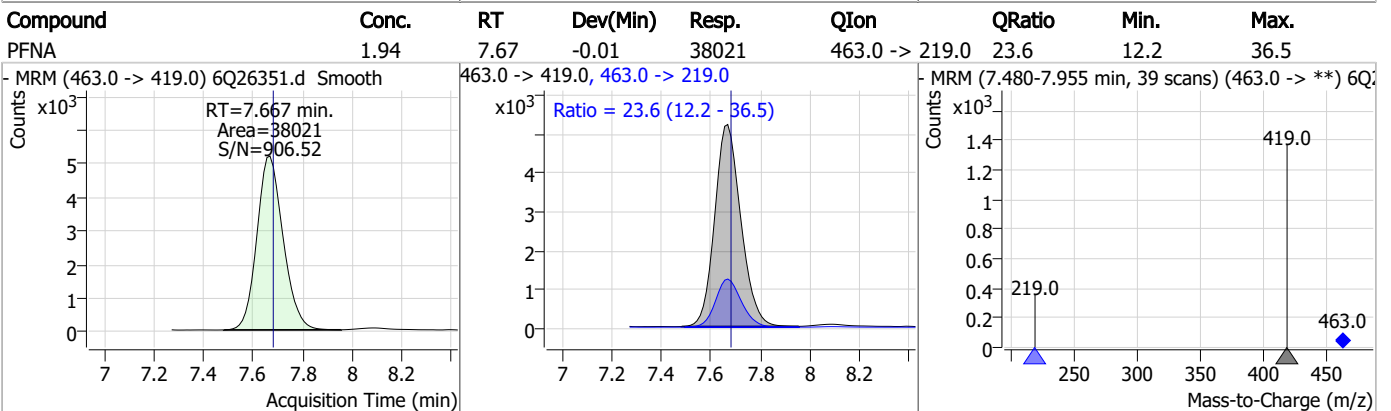
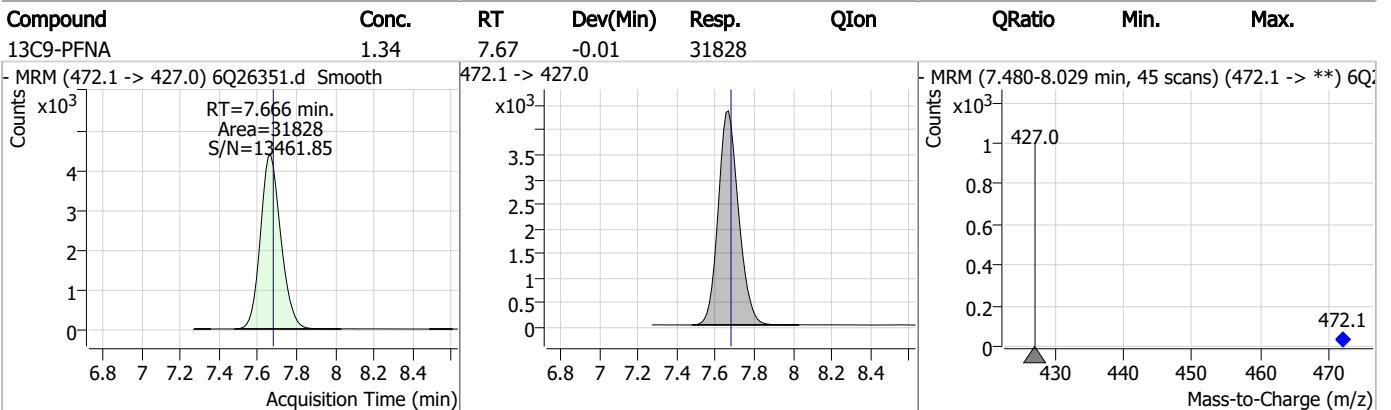
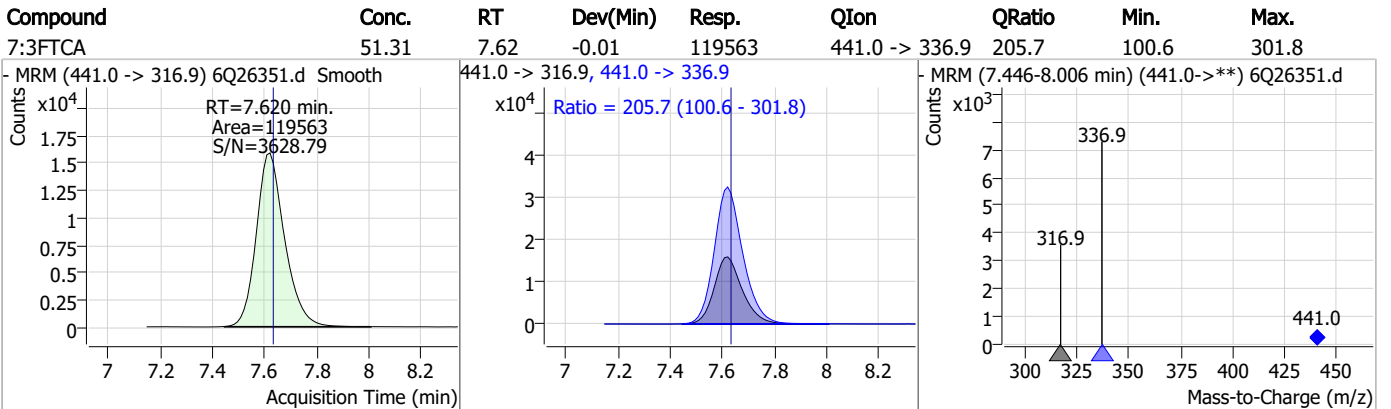
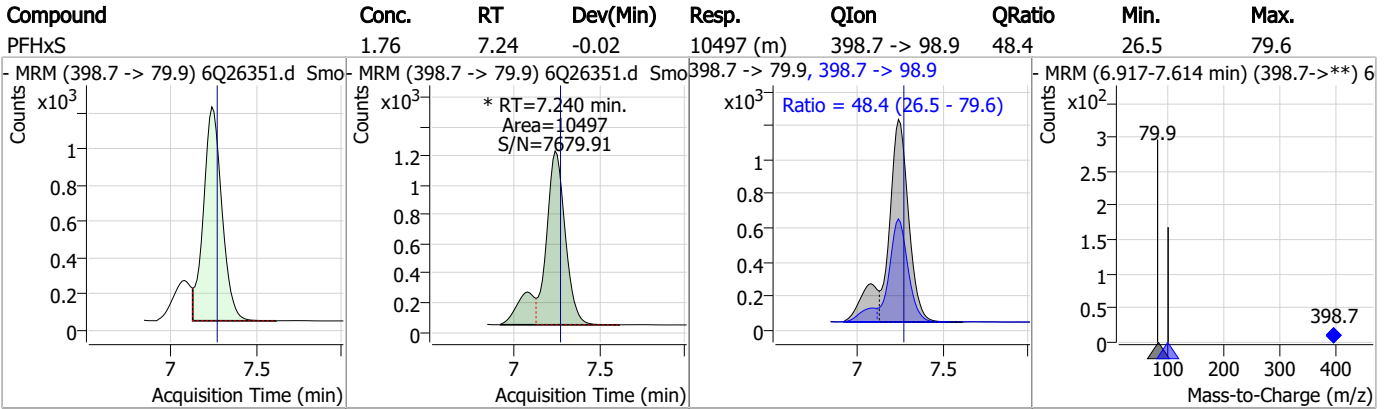
### Perfluorinated Compounds by LC/MS/MS



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### Perfluorinated Compounds by LC/MS/MS



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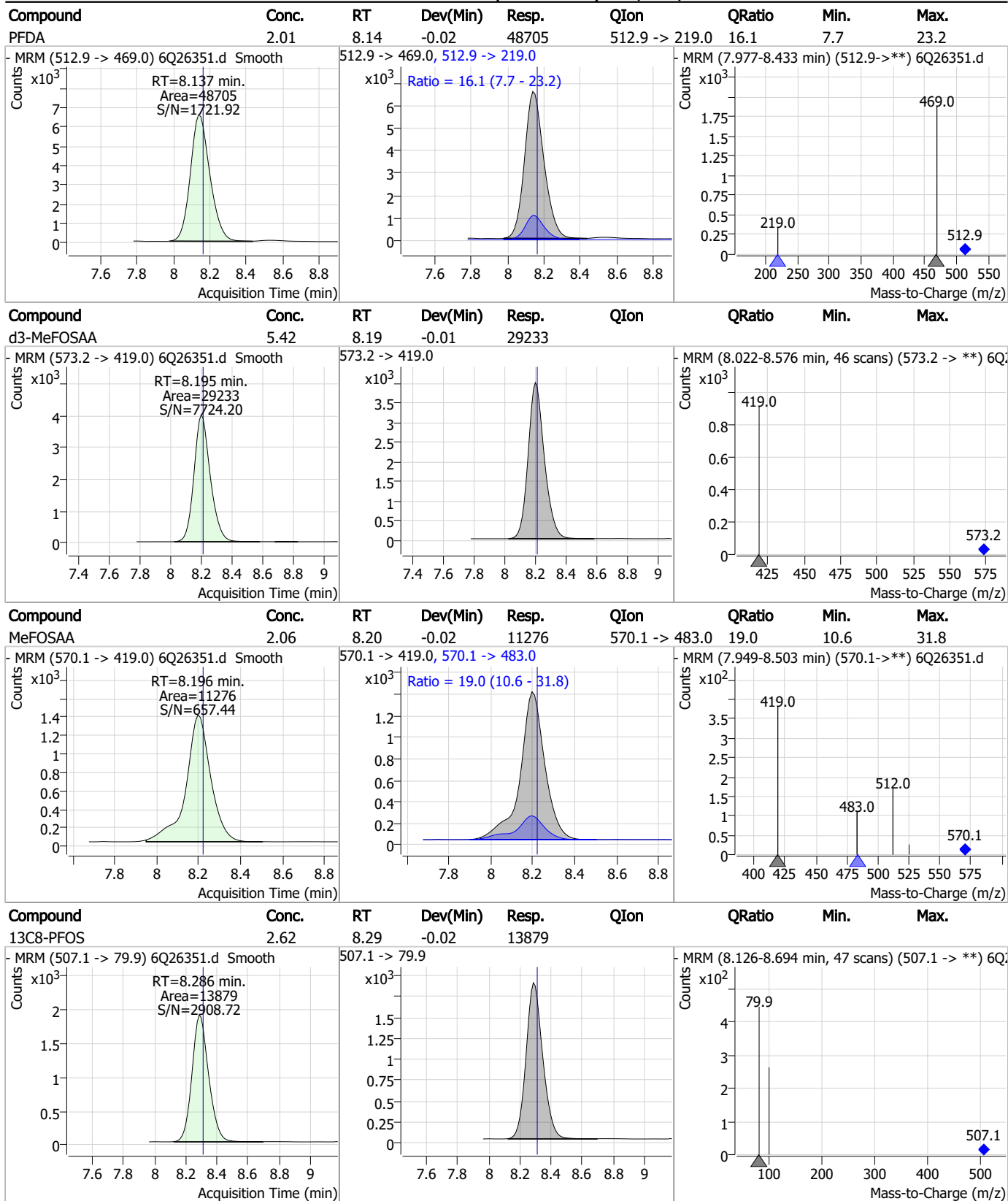


### Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpS	2.14	7.79	-0.02	12277	449.0 -> 98.9	45.9	24.5	73.4
13C2-8:2FTS	5.68	7.94	-0.01	4205	529.1 -> 80.9	38.7	17.6	52.9
8:2FTS	7.02	7.94	-0.01	20556	527.1 -> 80.8	38.7	17.6	52.9
13C6-PFDA	1.24	8.14	-0.02	30991	519.1 -> 474.1	45.9	24.5	73.4

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### Perfluorinated Compounds by LC/MS/MS

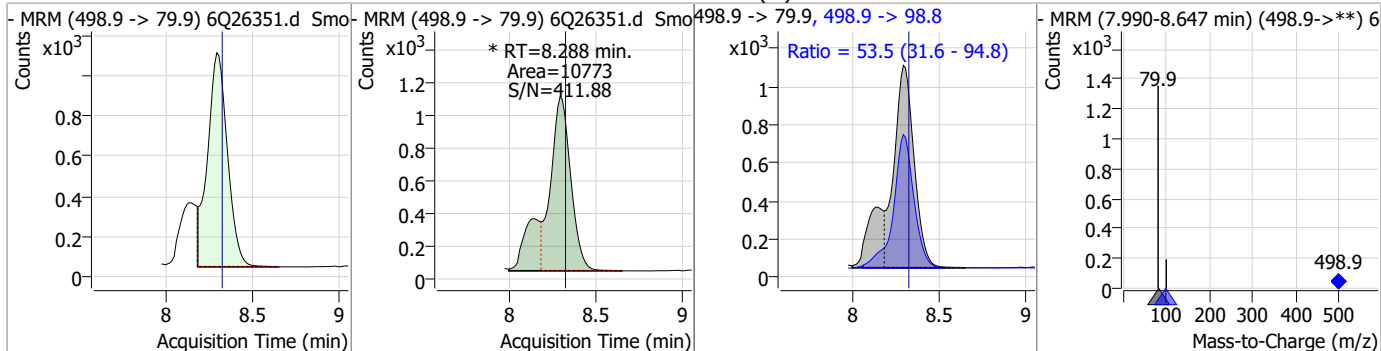


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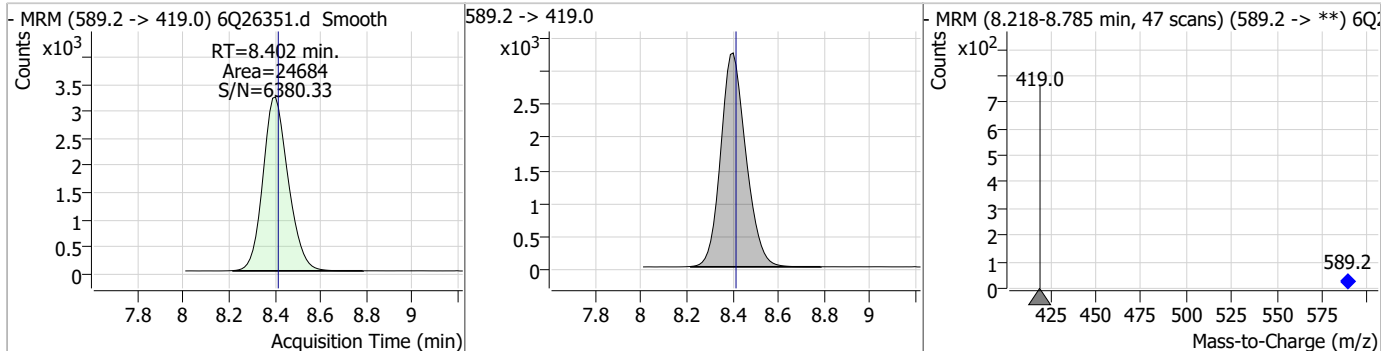


### Perfluorinated Compounds by LC/MS/MS

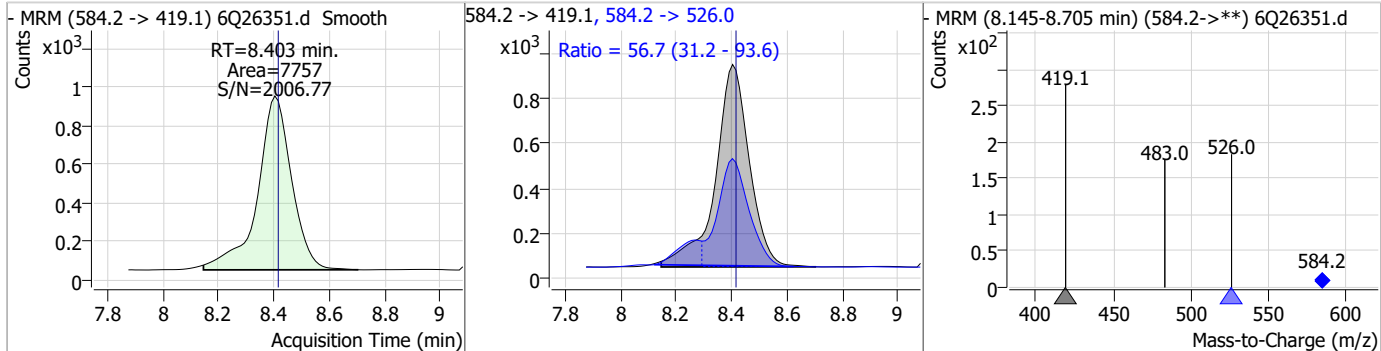
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOS	1.82	8.29	-0.02	10773 (m)	498.9 -> 98.8	53.5	31.6	94.8



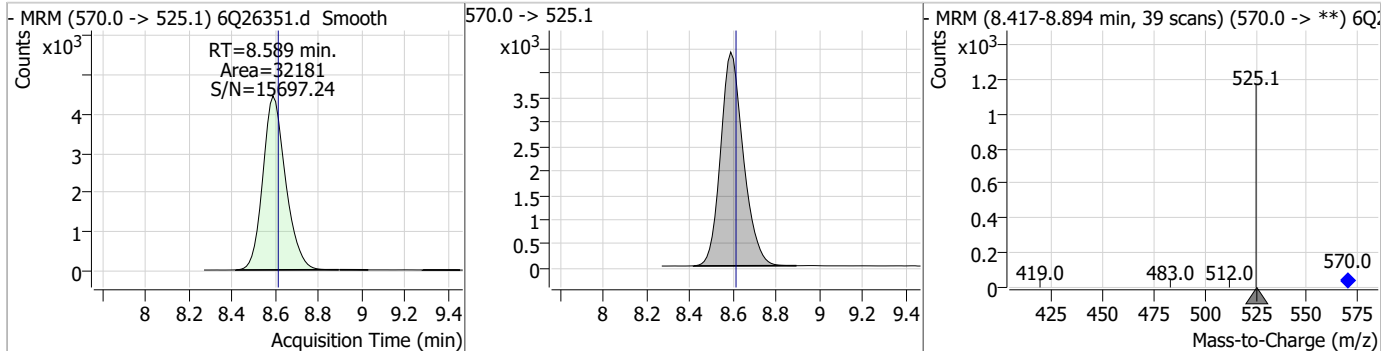
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSAA	5.34	8.40	-0.01	24684				



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

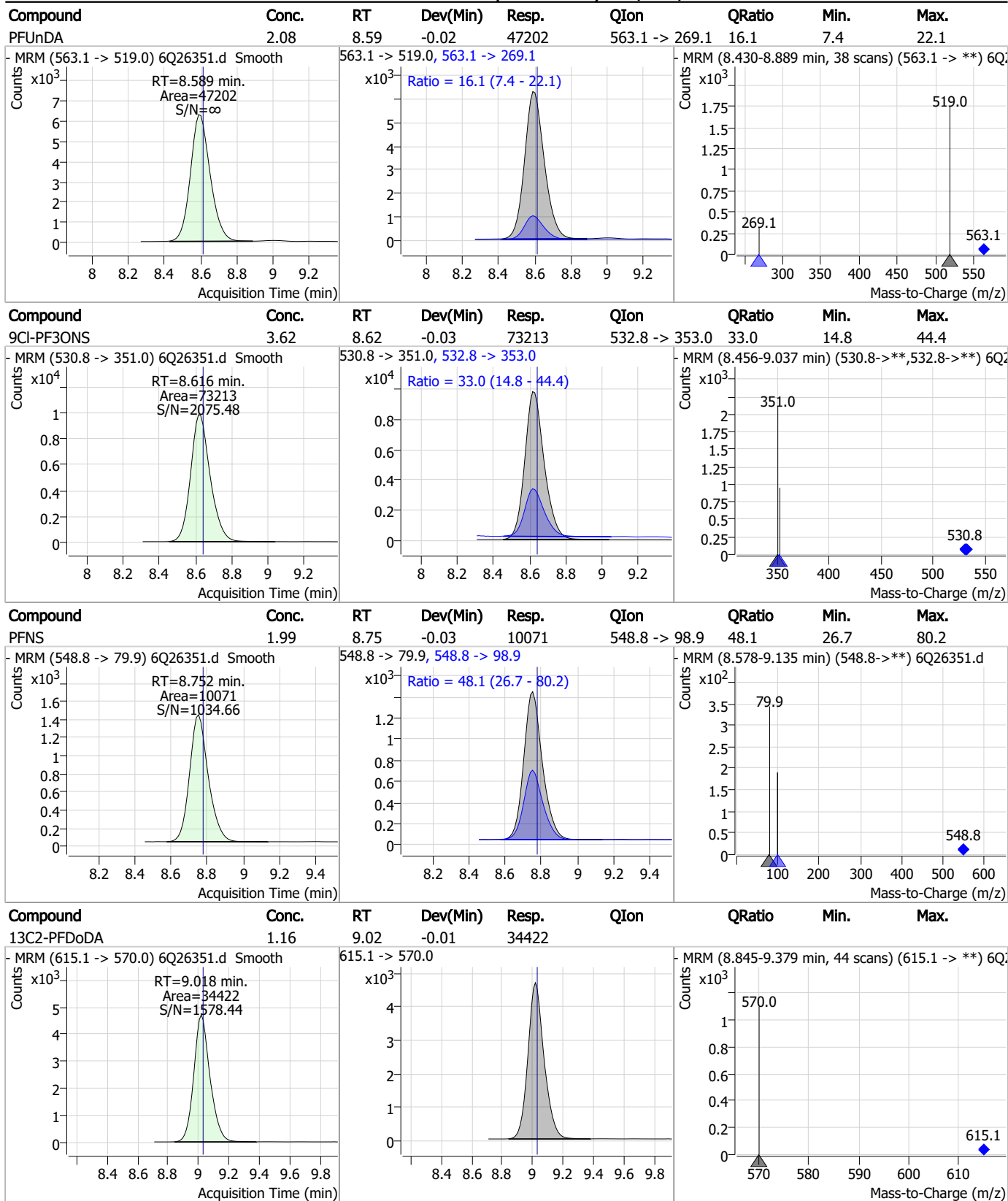


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C7-PFUnDA	1.19	8.59	-0.02	32181				



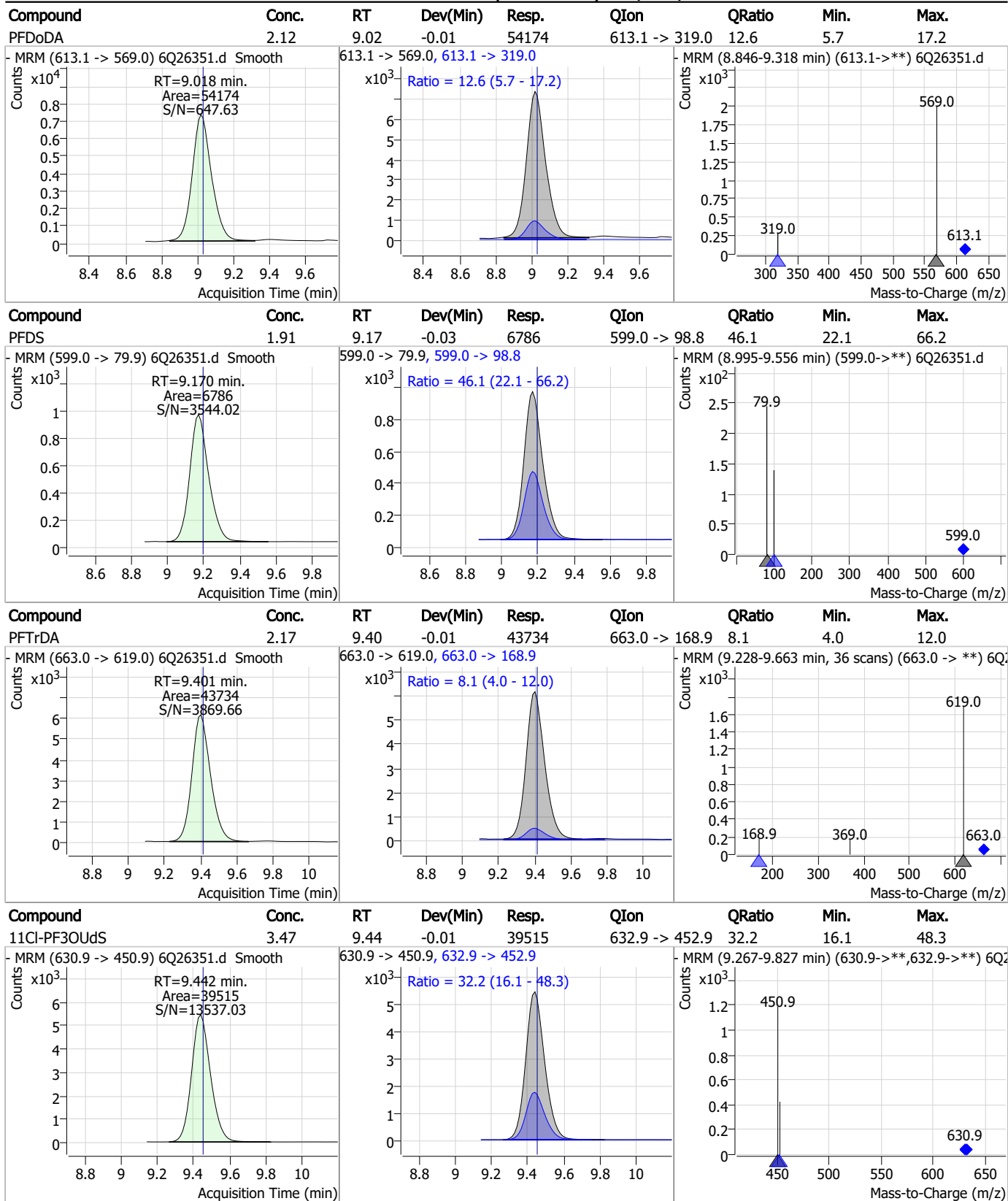
7.7.18  
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### Perfluorinated Compounds by LC/MS/MS



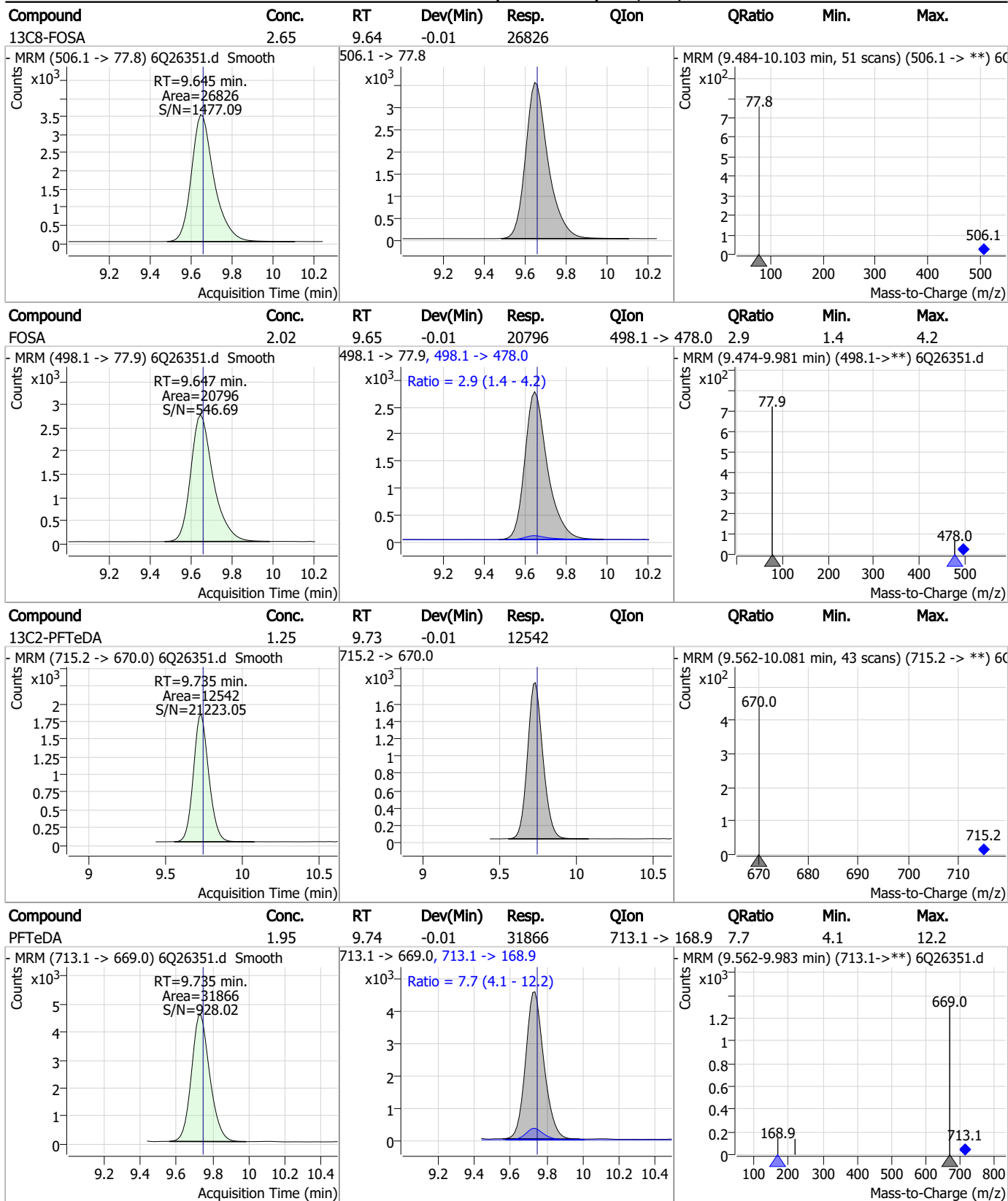
7.7.18 7

### Perfluorinated Compounds by LC/MS/MS



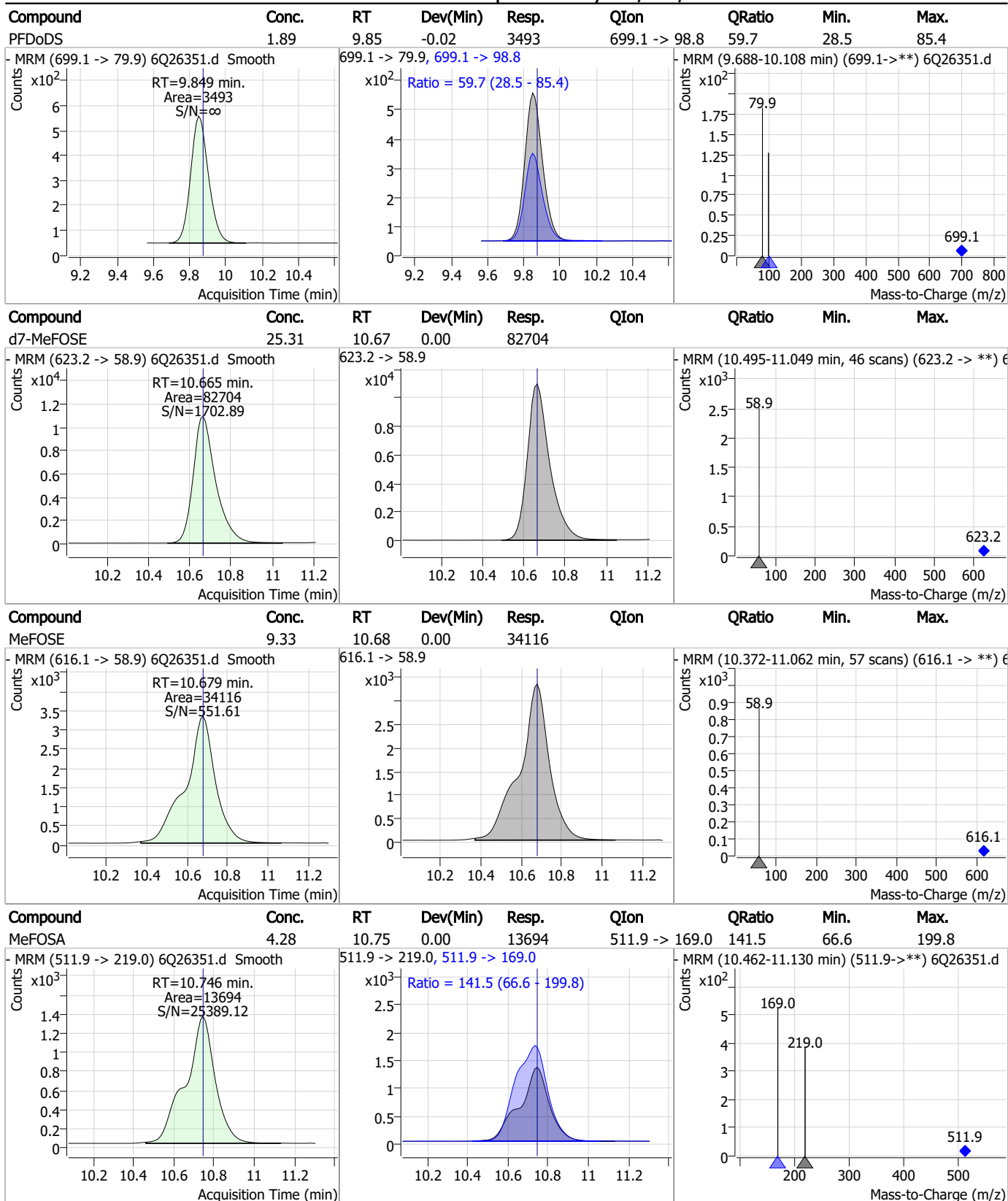
7.7.18 7

### Perfluorinated Compounds by LC/MS/MS



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### Perfluorinated Compounds by LC/MS/MS

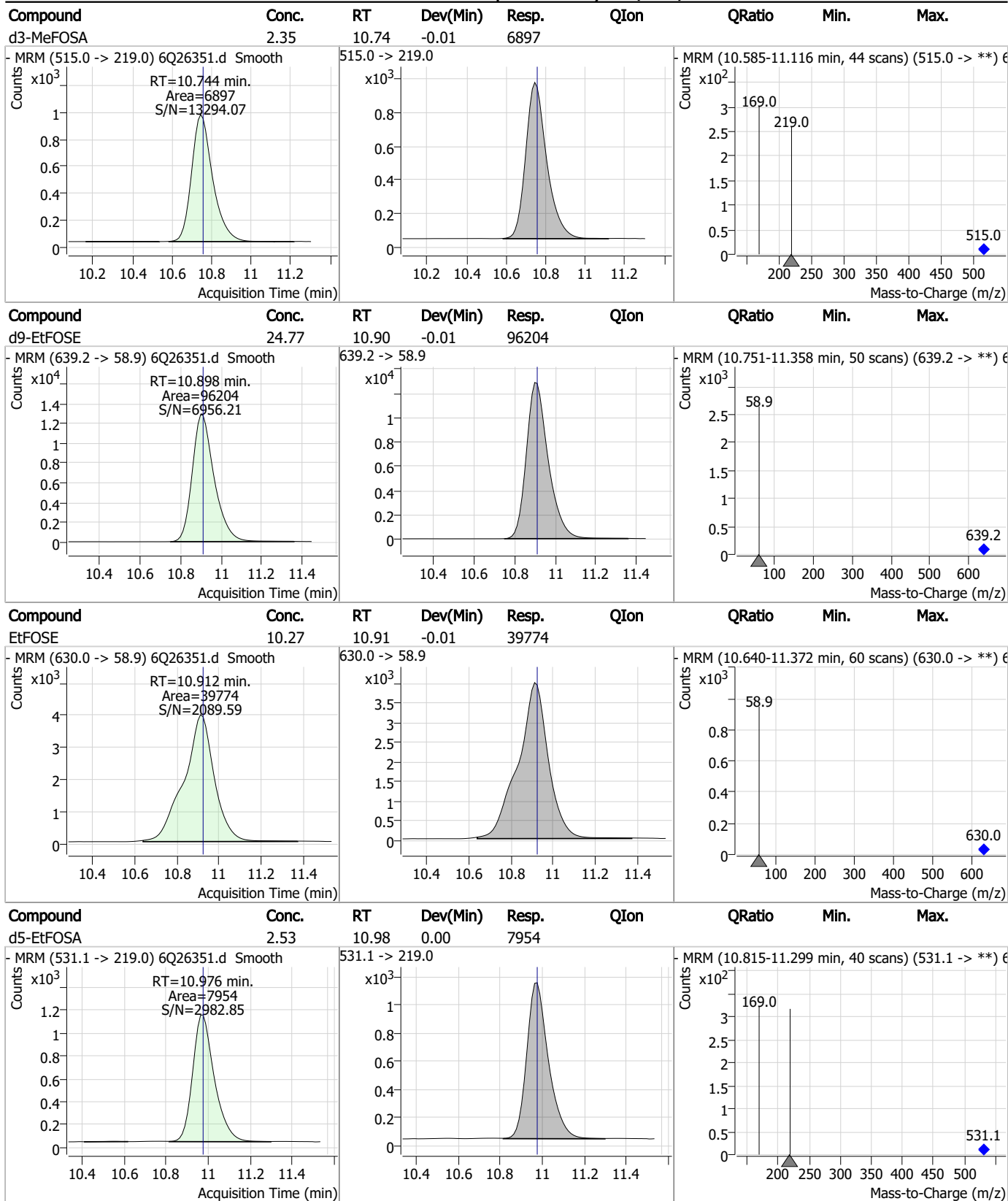


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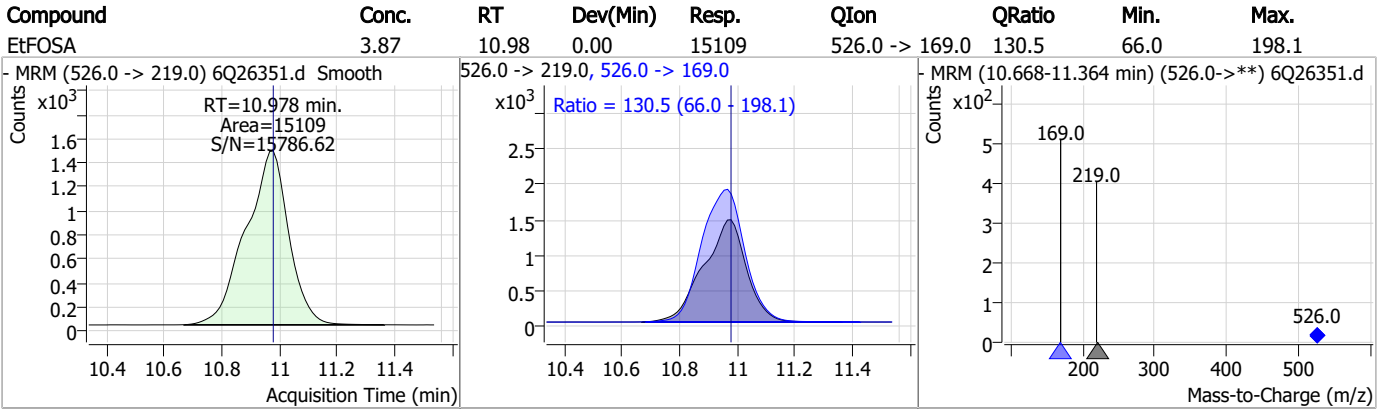


### Perfluorinated Compounds by LC/MS/MS



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### Perfluorinated Compounds by LC/MS/MS



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# 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)
<b>Internal Standards</b>					
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
<b>System Monitoring Compounds</b>					
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%	
<b>Target Compounds</b>					<b>QValue</b>
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



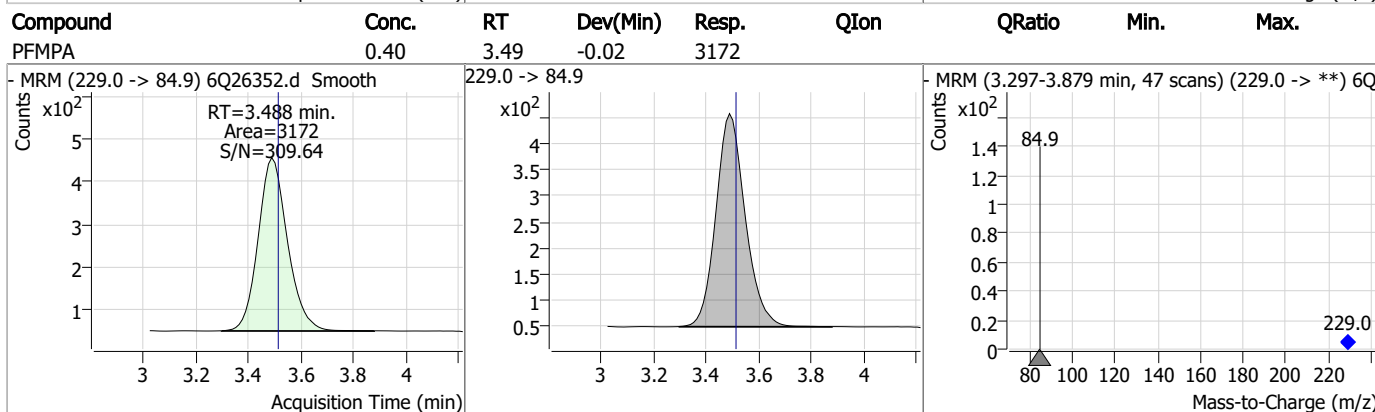
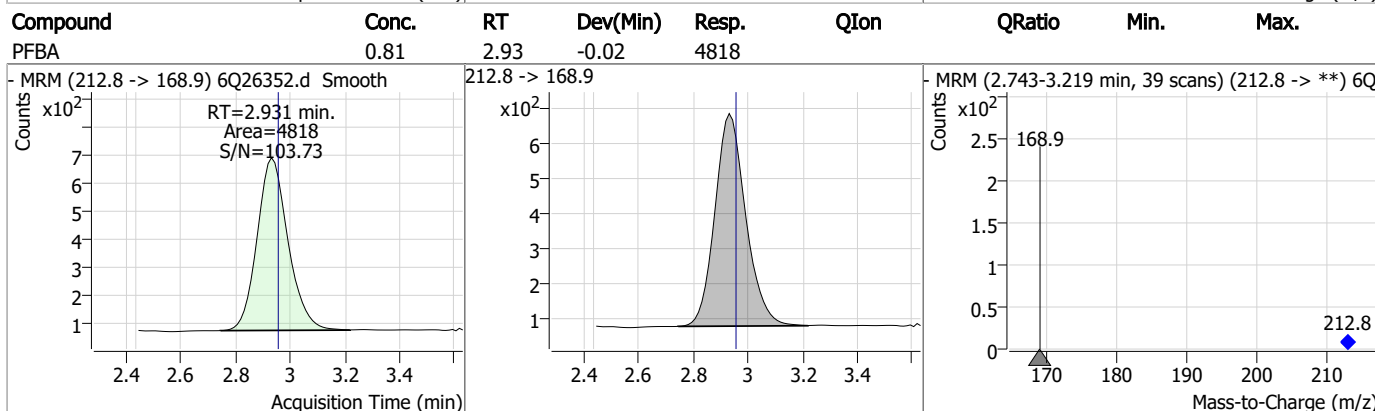
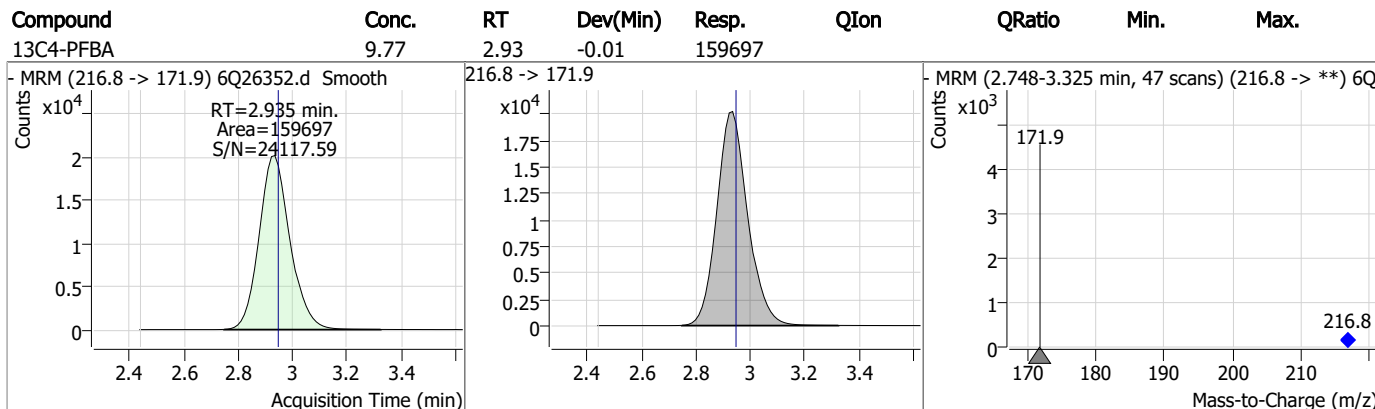
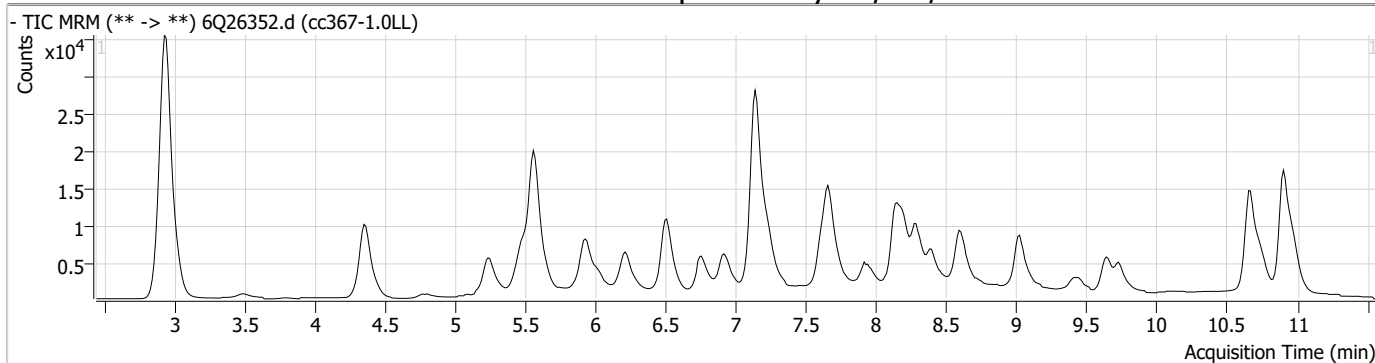
### Perfluorinated Compounds by LC/MS/MS

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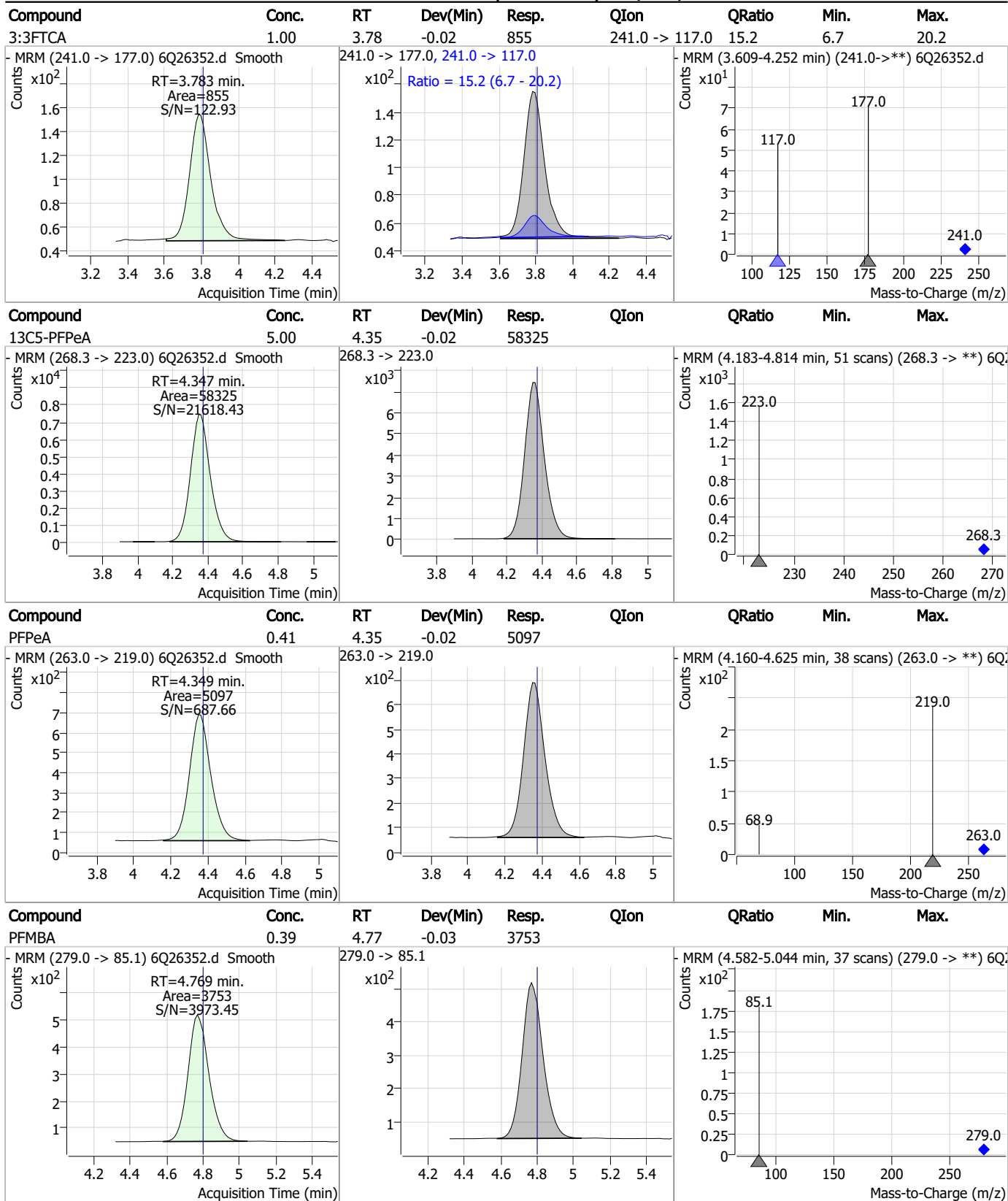
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### Perfluorinated Compounds by LC/MS/MS



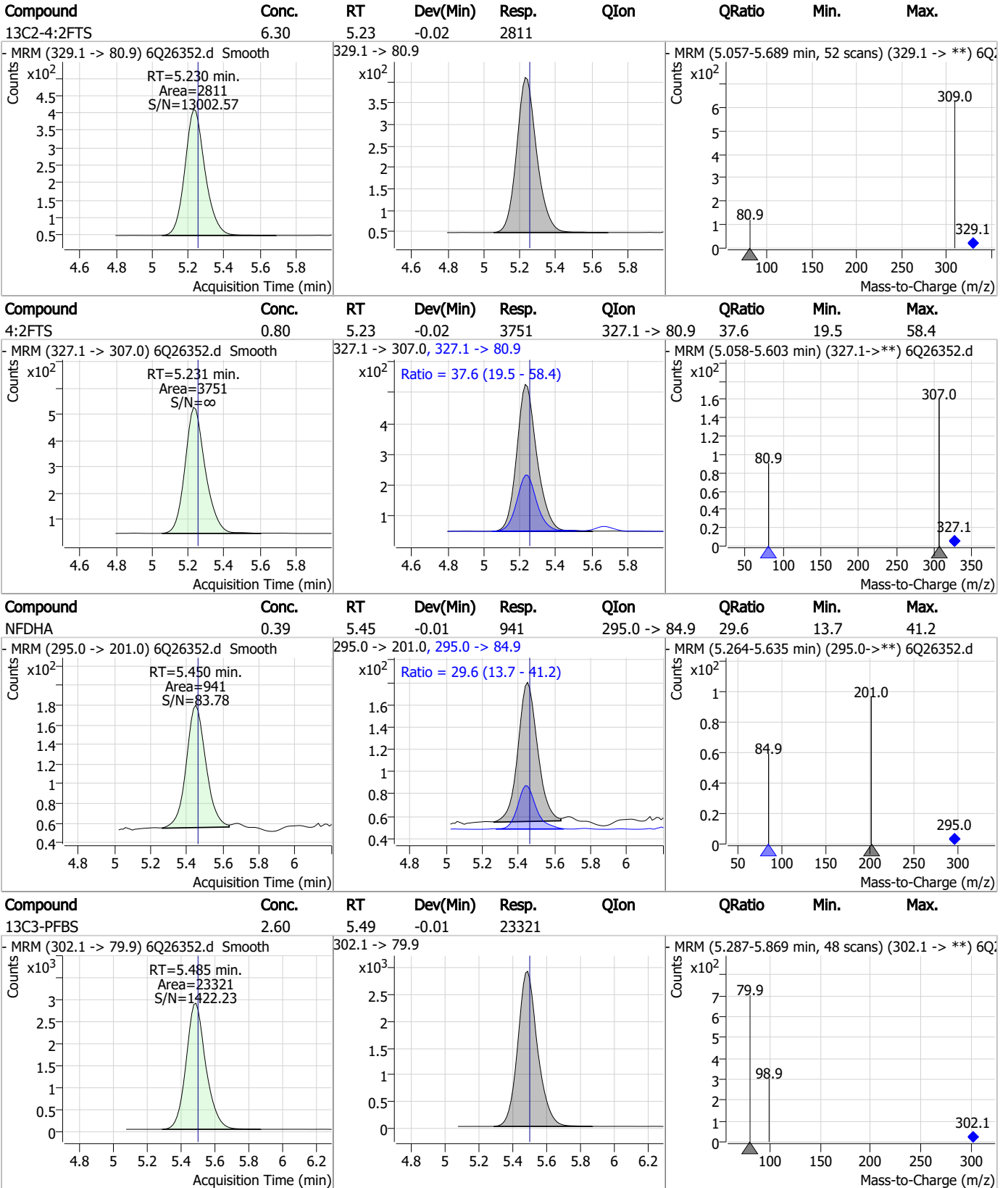


### Perfluorinated Compounds by LC/MS/MS



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### Perfluorinated Compounds by LC/MS/MS

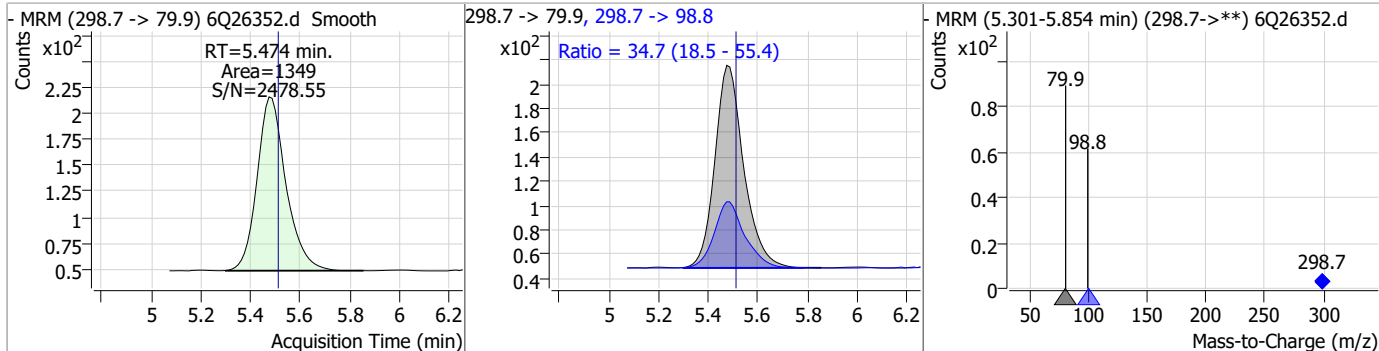


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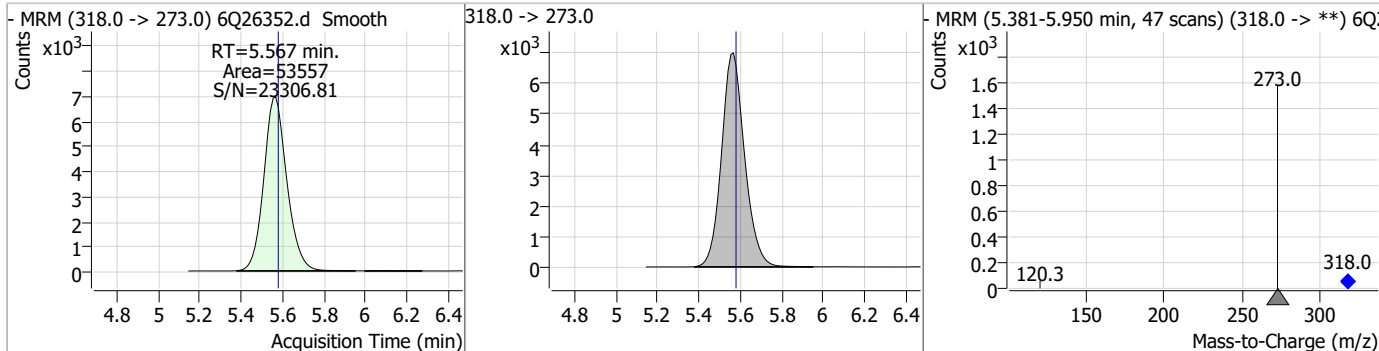


### Perfluorinated Compounds by LC/MS/MS

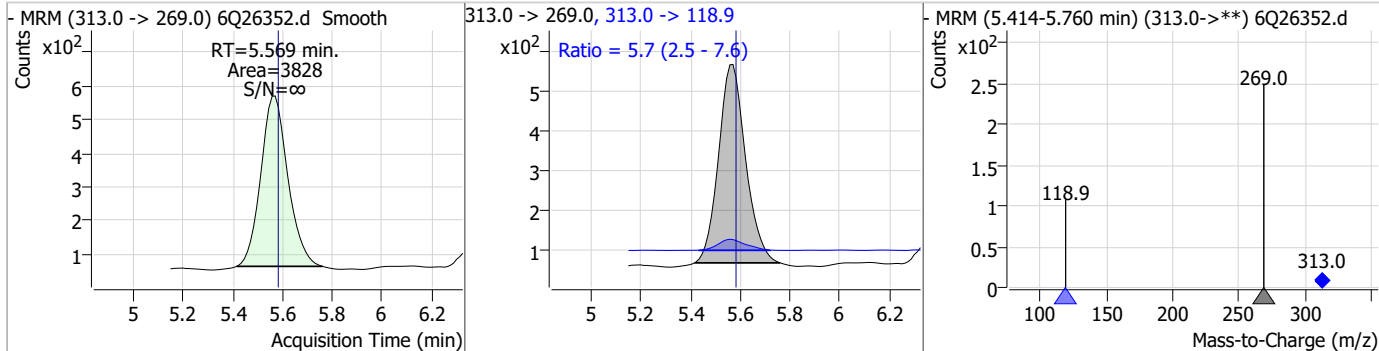
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBS	0.19	5.47	-0.04	1349	298.7 -> 98.8	34.7	18.5	55.4



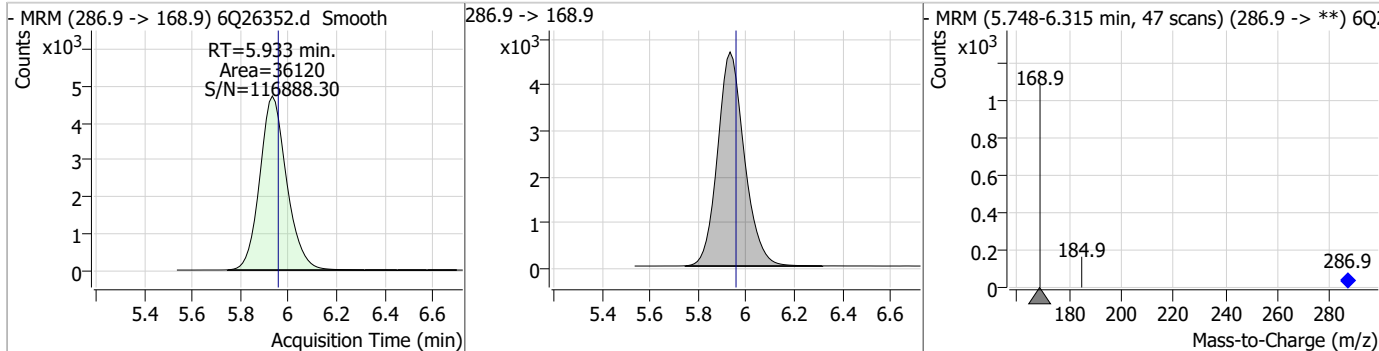
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFHxA	2.51	5.57	-0.01	53557				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxA	0.20	5.57	-0.01	3828	313.0 -> 118.9	5.7	2.5	7.6

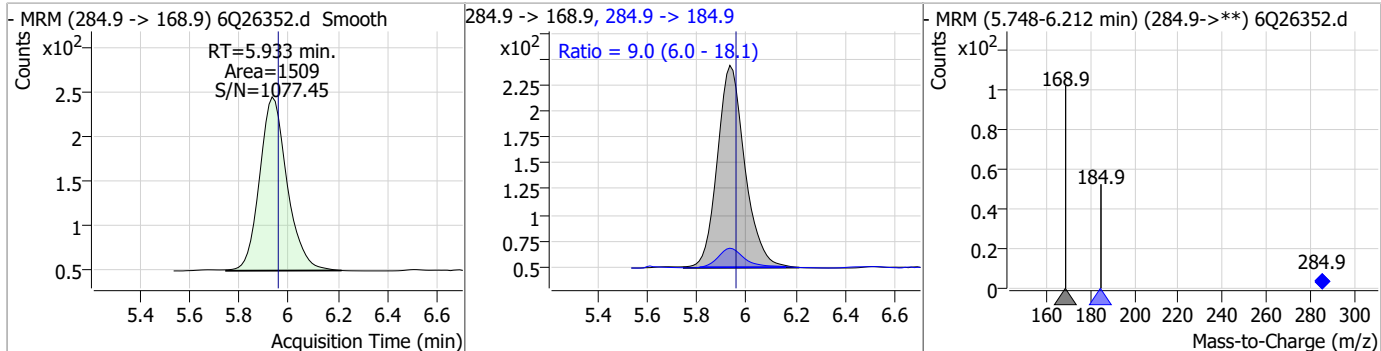


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-HFPO-DA	10.04	5.93	-0.02	36120				

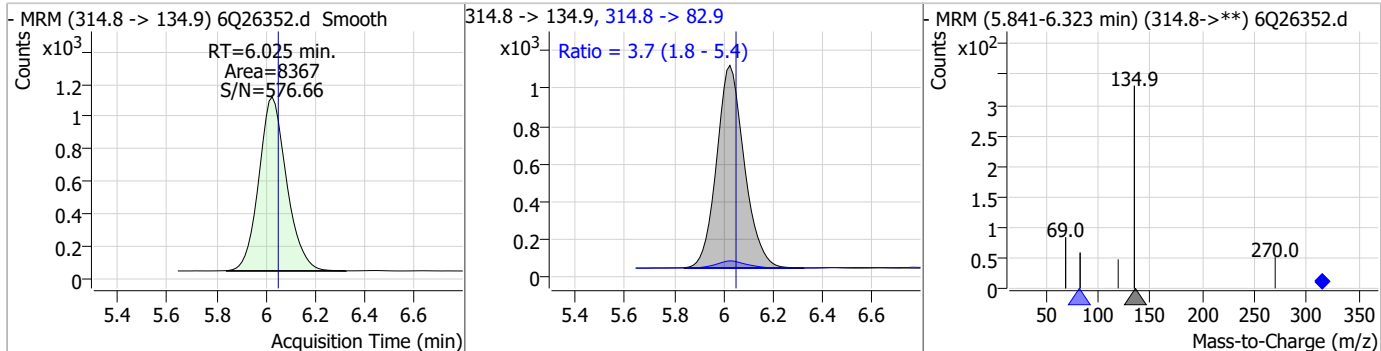


### Perfluorinated Compounds by LC/MS/MS

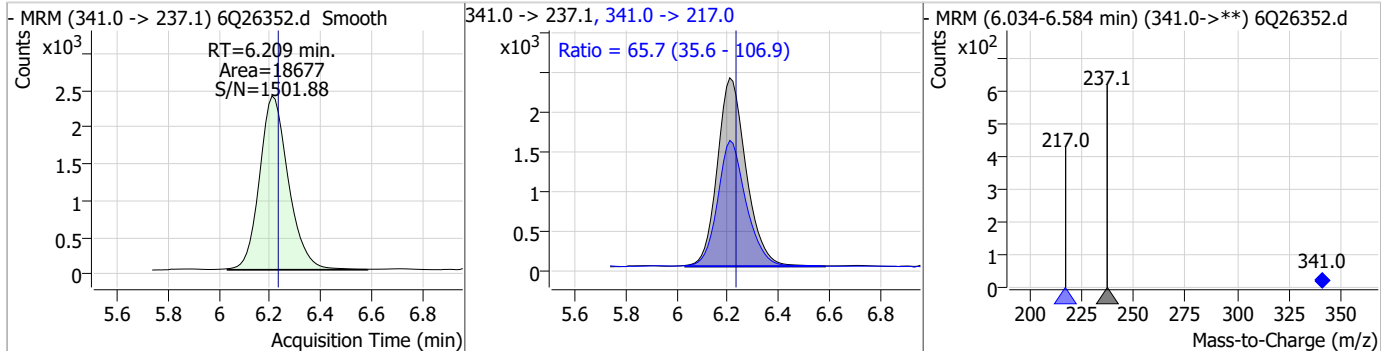
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
HFPO-DA	0.42	5.93	-0.02	1509	284.9 -> 184.9	9.0	6.0	18.1



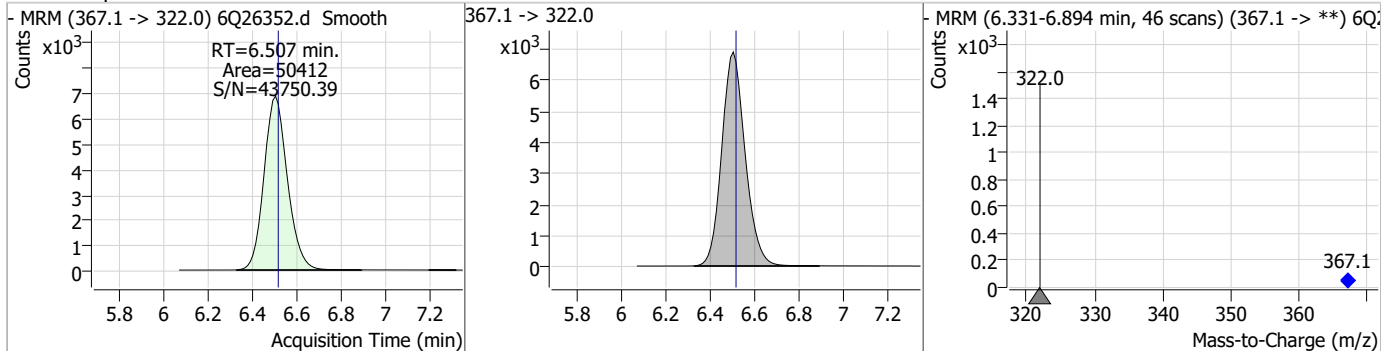
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFEESA	0.34	6.02	-0.02	8367	314.8 -> 82.9	3.7	1.8	5.4



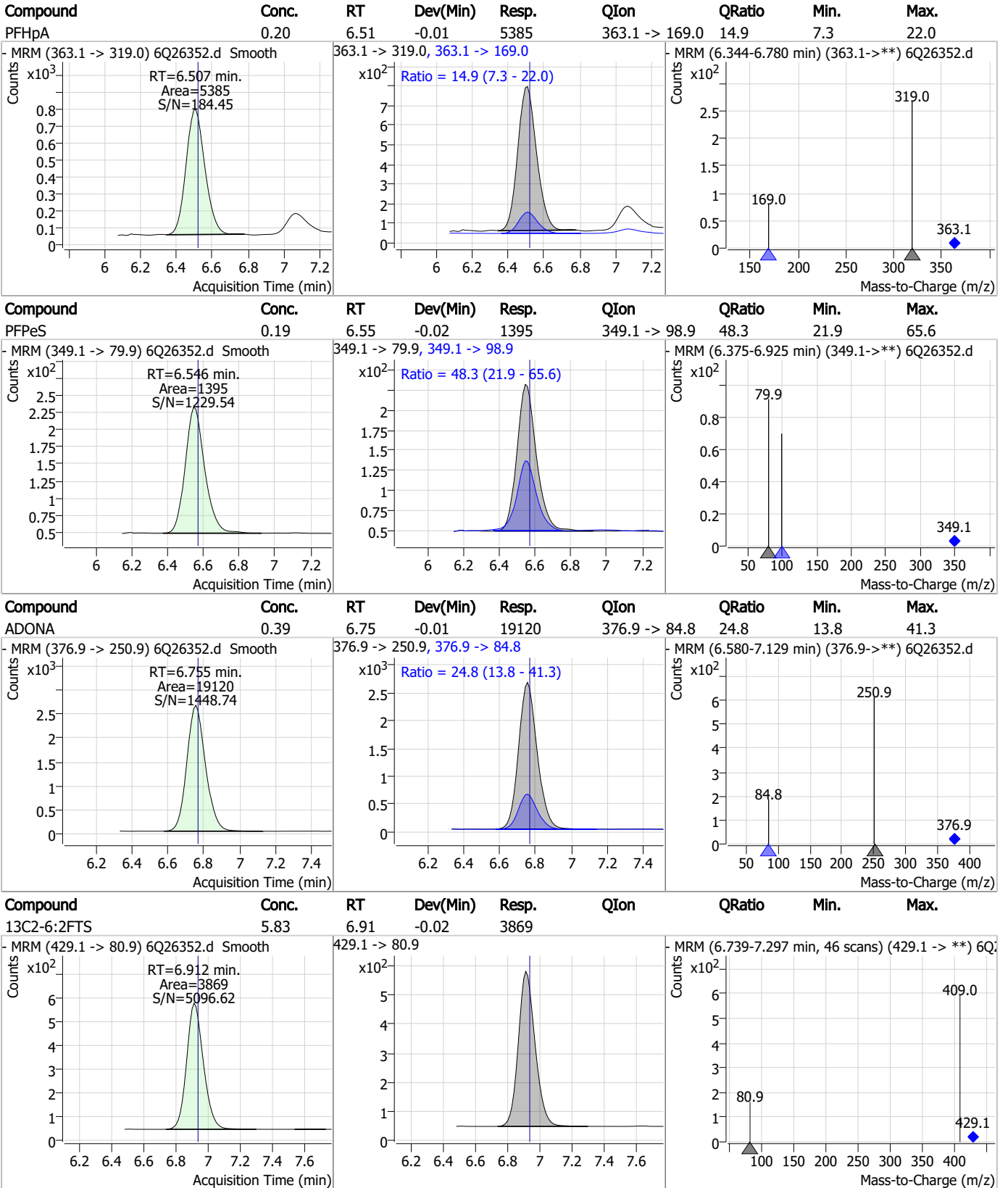
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
5:3FTCA	5.20	6.21	-0.02	18677	341.0 -> 217.0	65.7	35.6	106.9



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFHpA	2.41	6.51	-0.01	50412	367.1 -> 322.0			



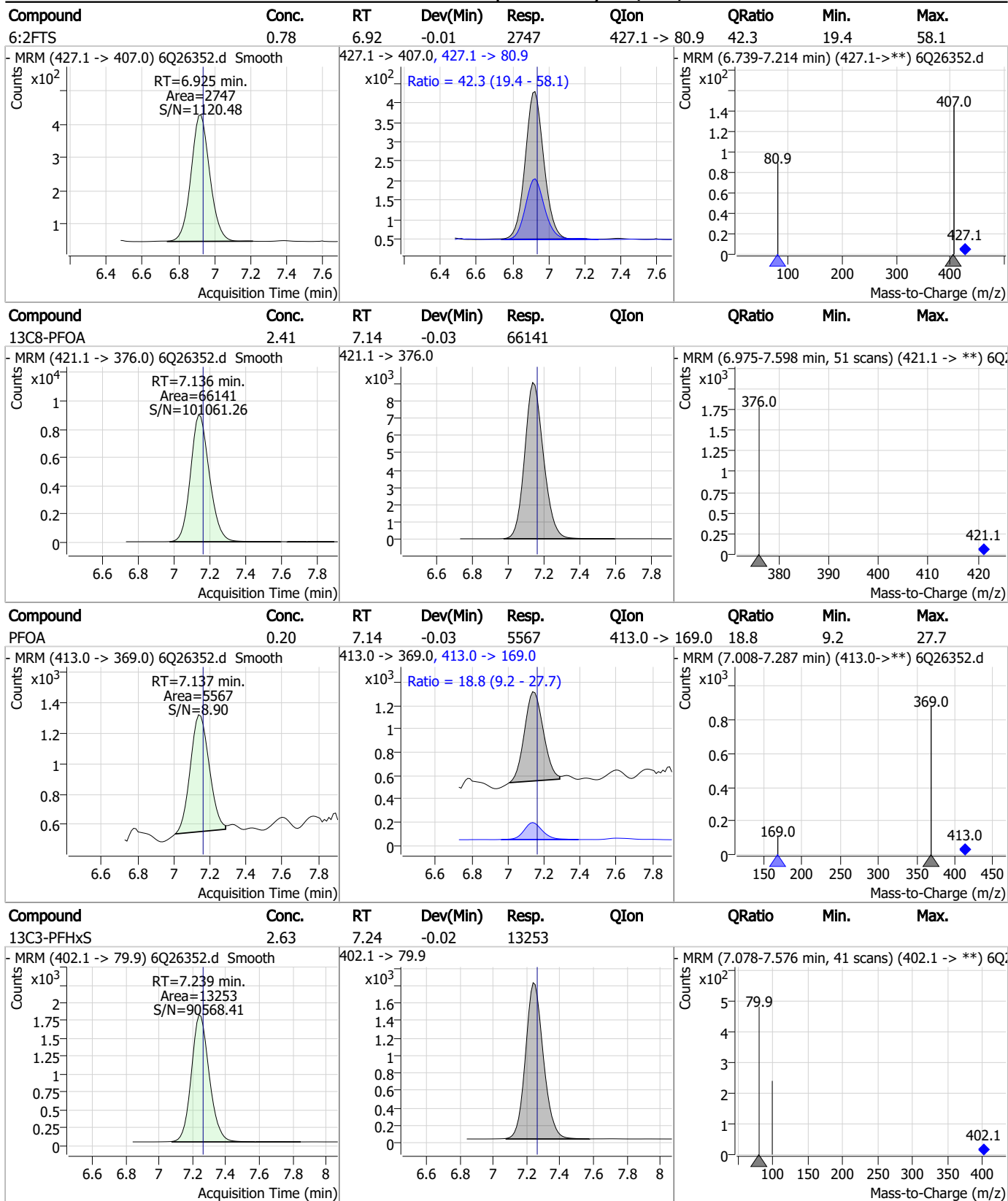
### Perfluorinated Compounds by LC/MS/MS



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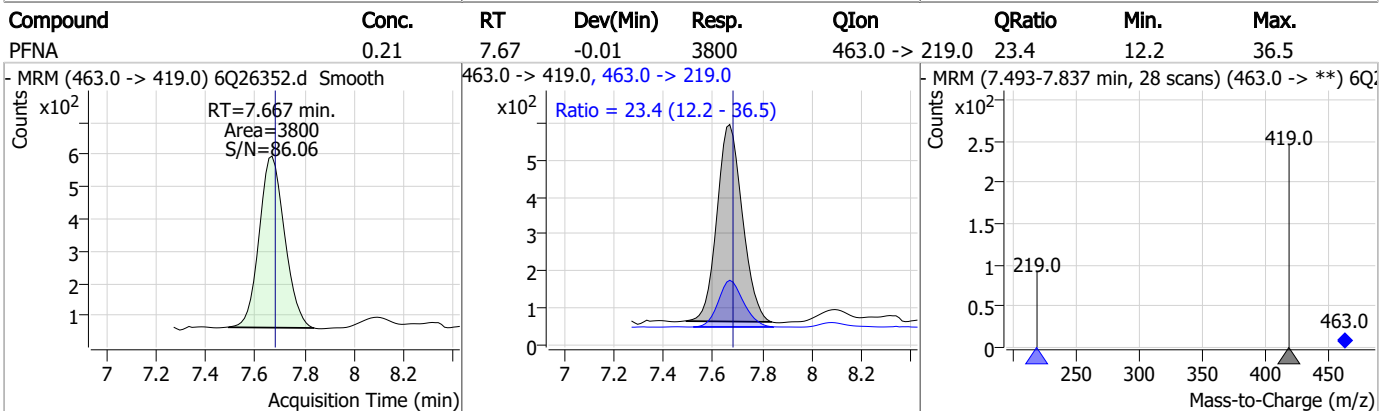
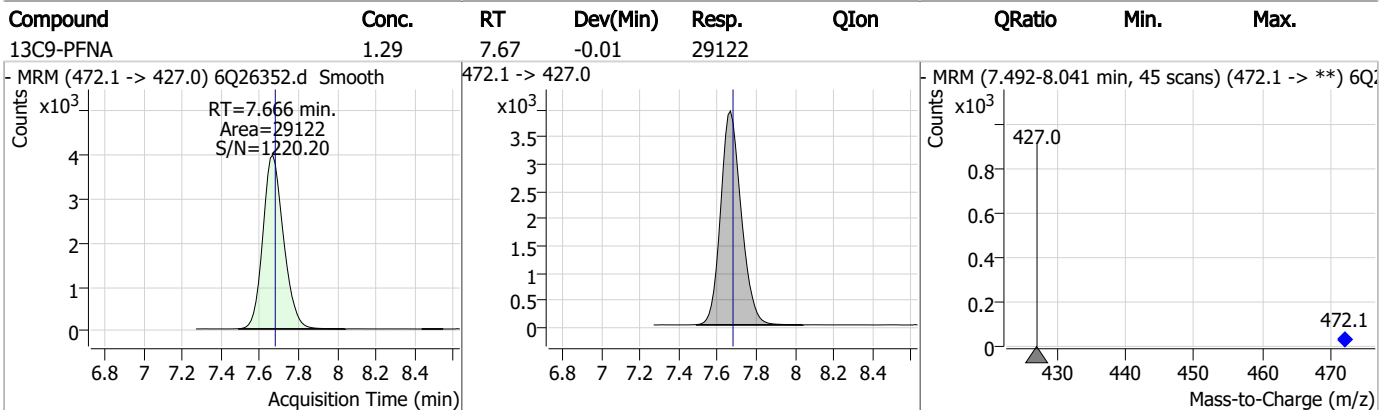
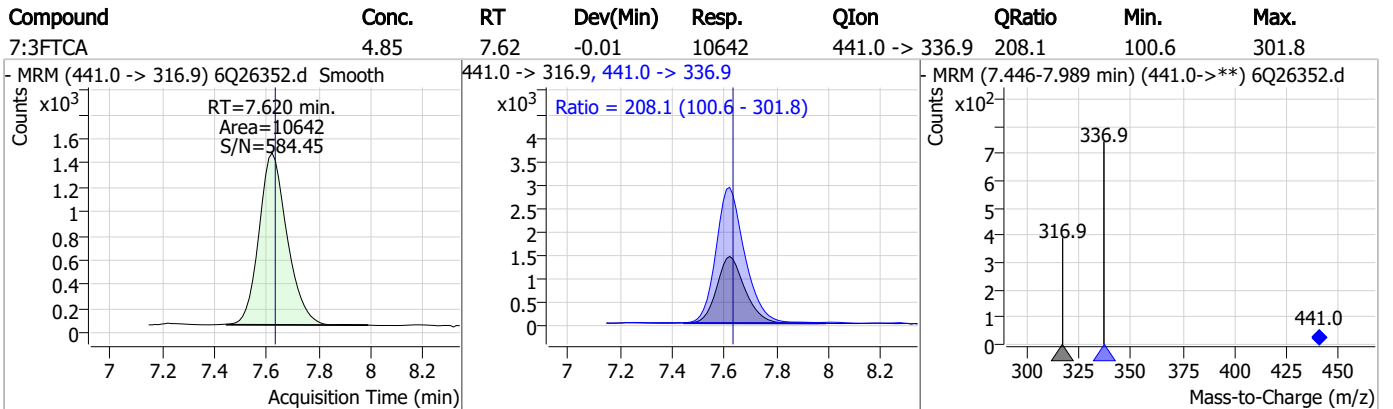
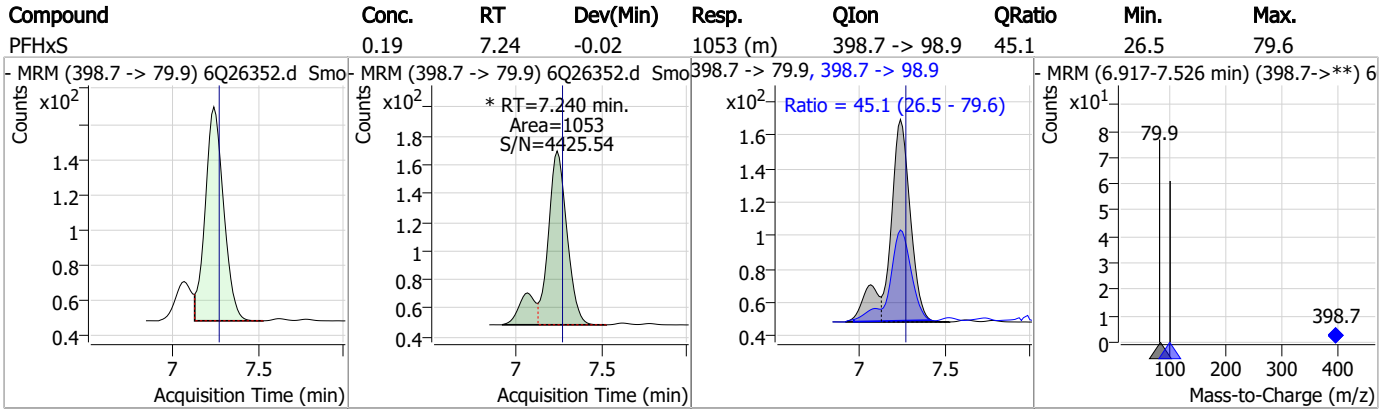


### Perfluorinated Compounds by LC/MS/MS



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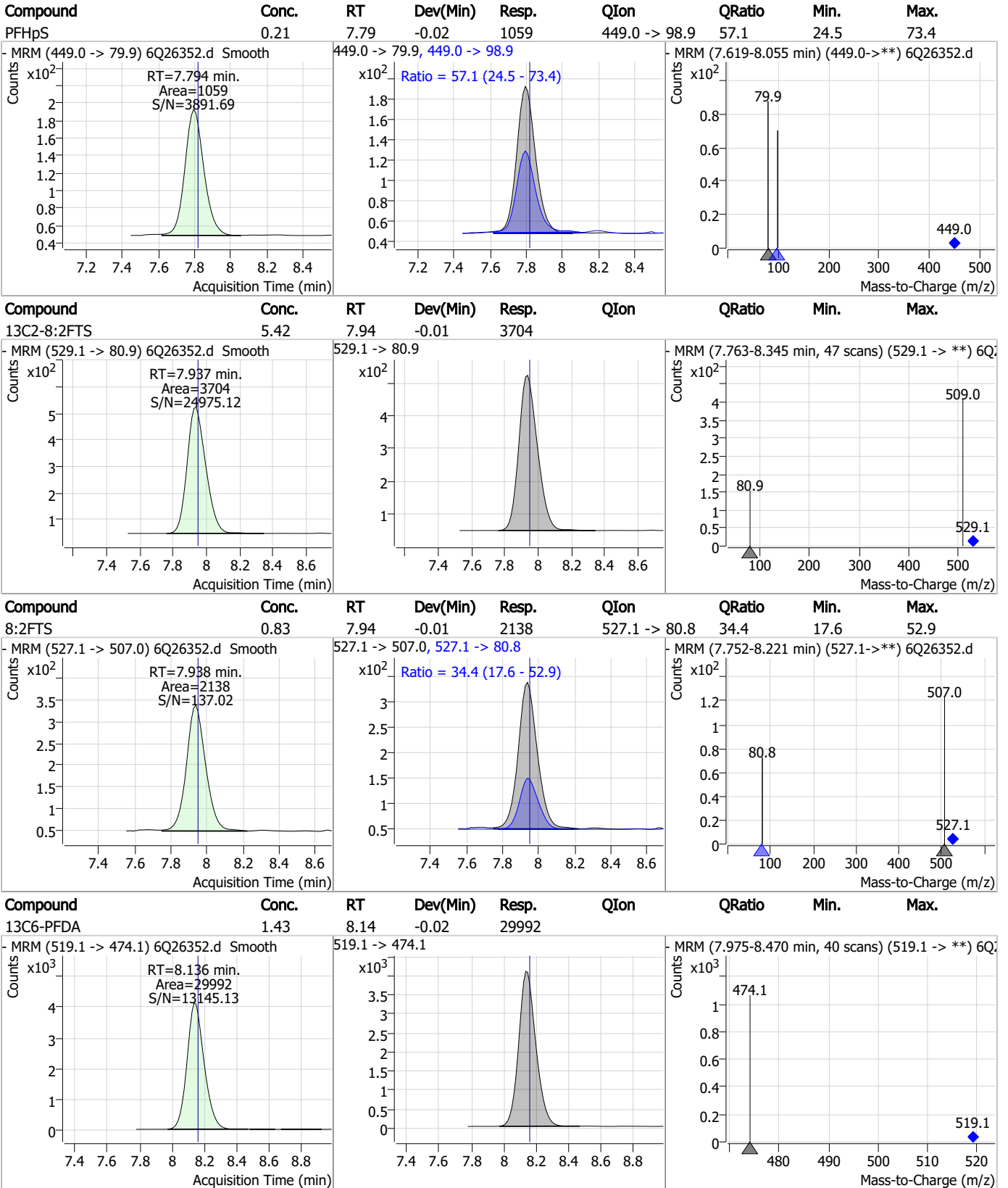
### Perfluorinated Compounds by LC/MS/MS



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### Perfluorinated Compounds by LC/MS/MS

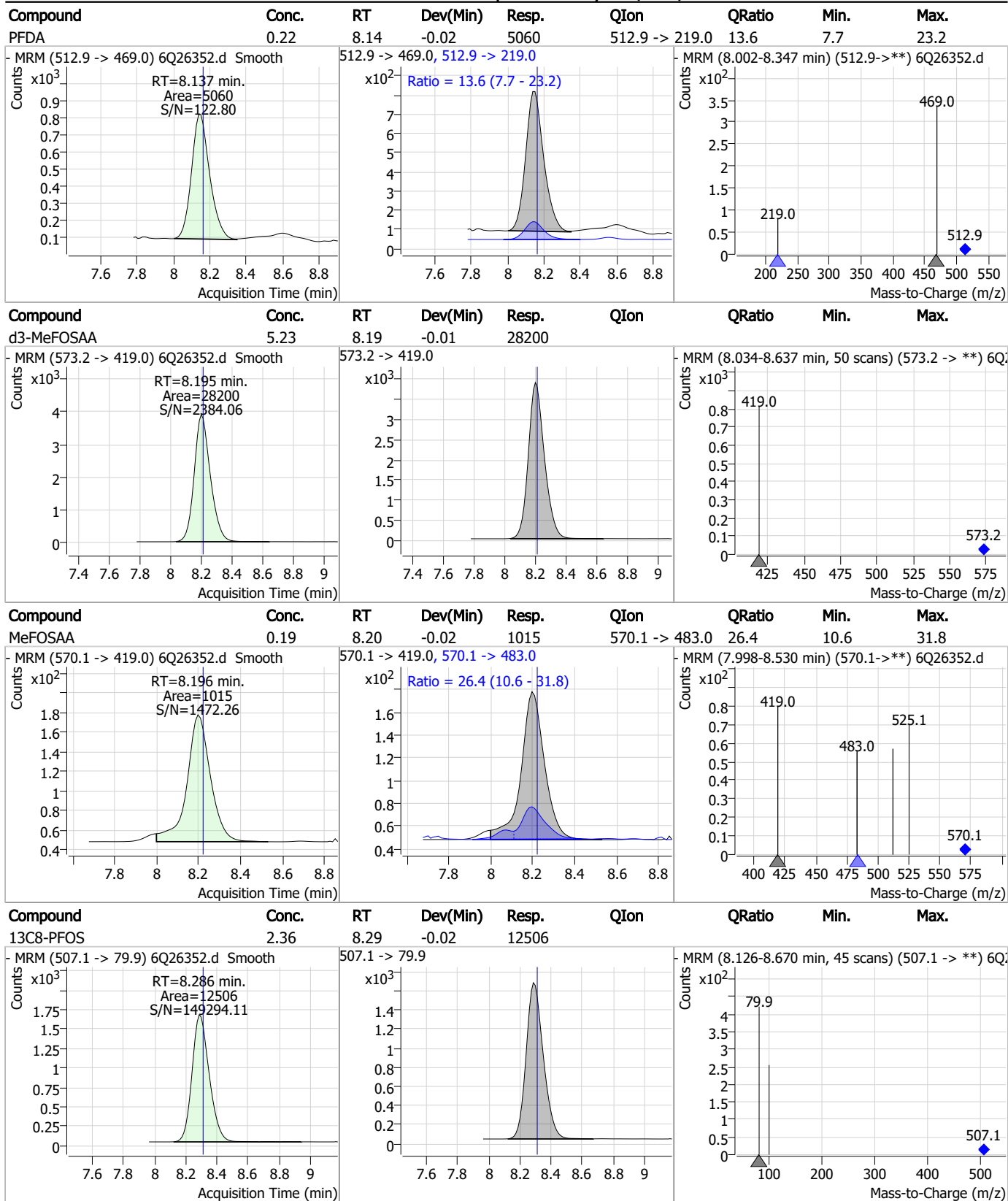


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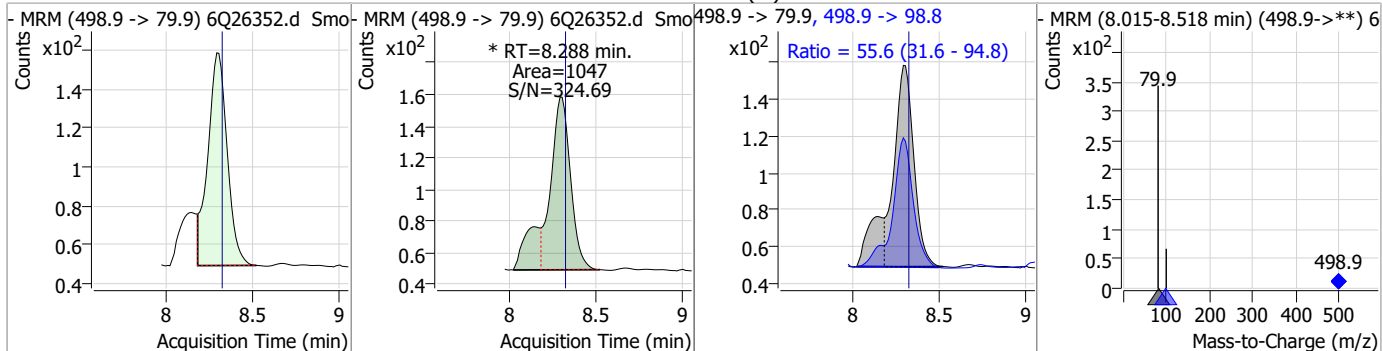
### Perfluorinated Compounds by LC/MS/MS



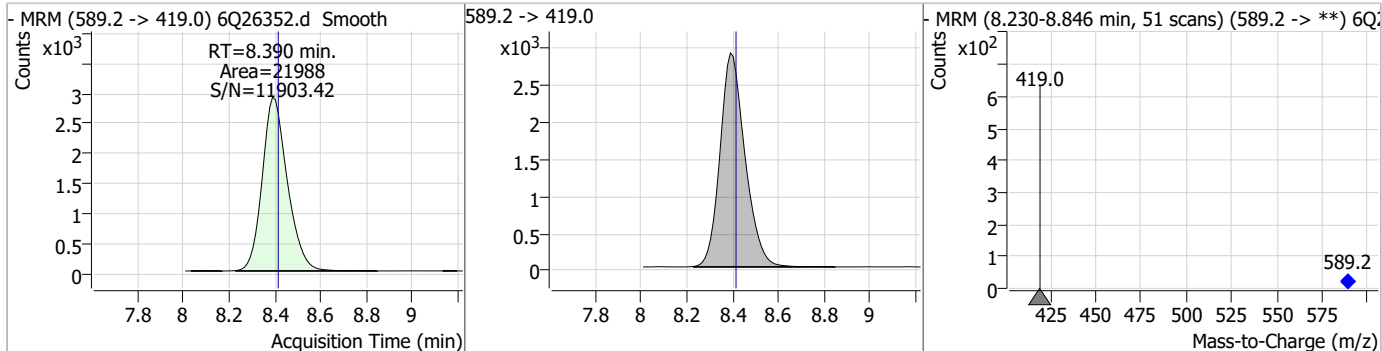
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### Perfluorinated Compounds by LC/MS/MS

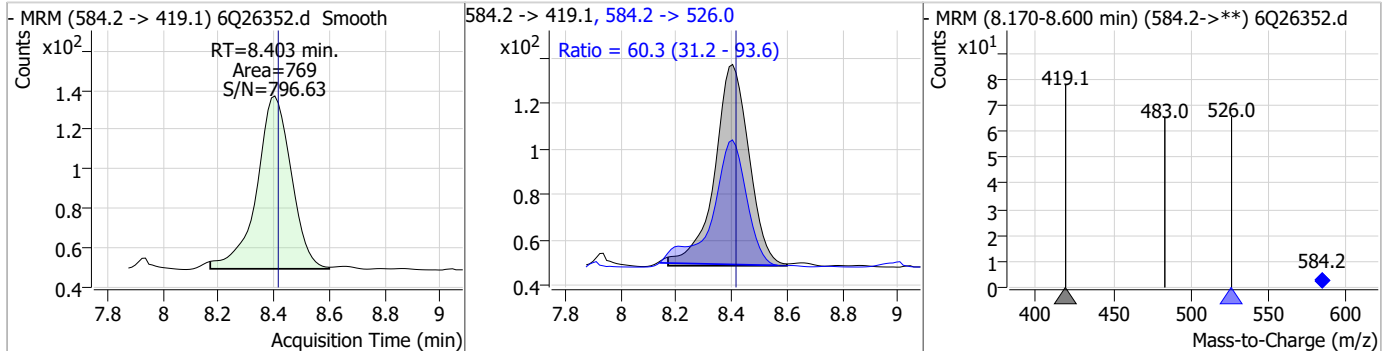
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOS	0.20	8.29	-0.02	1047 (m)	498.9 -> 98.8	55.6	31.6	94.8



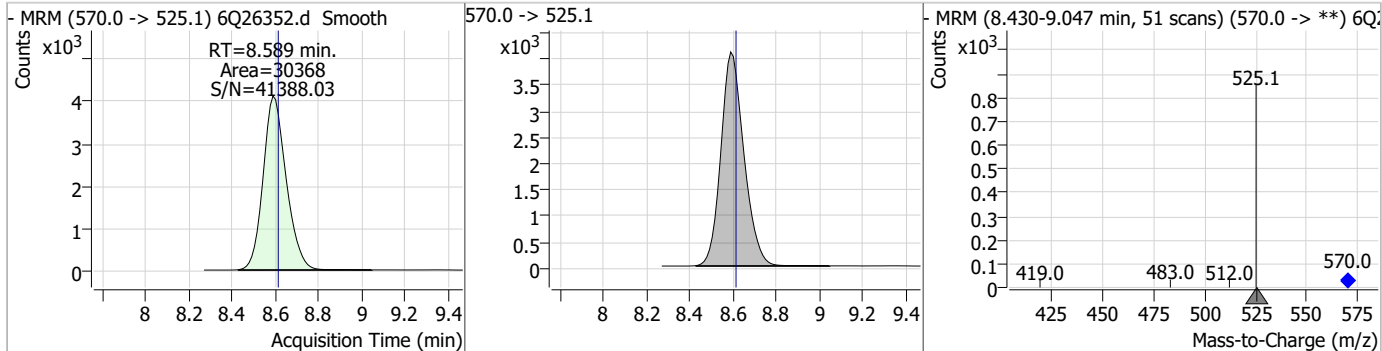
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSAA	4.76	8.39	-0.02	21988				



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

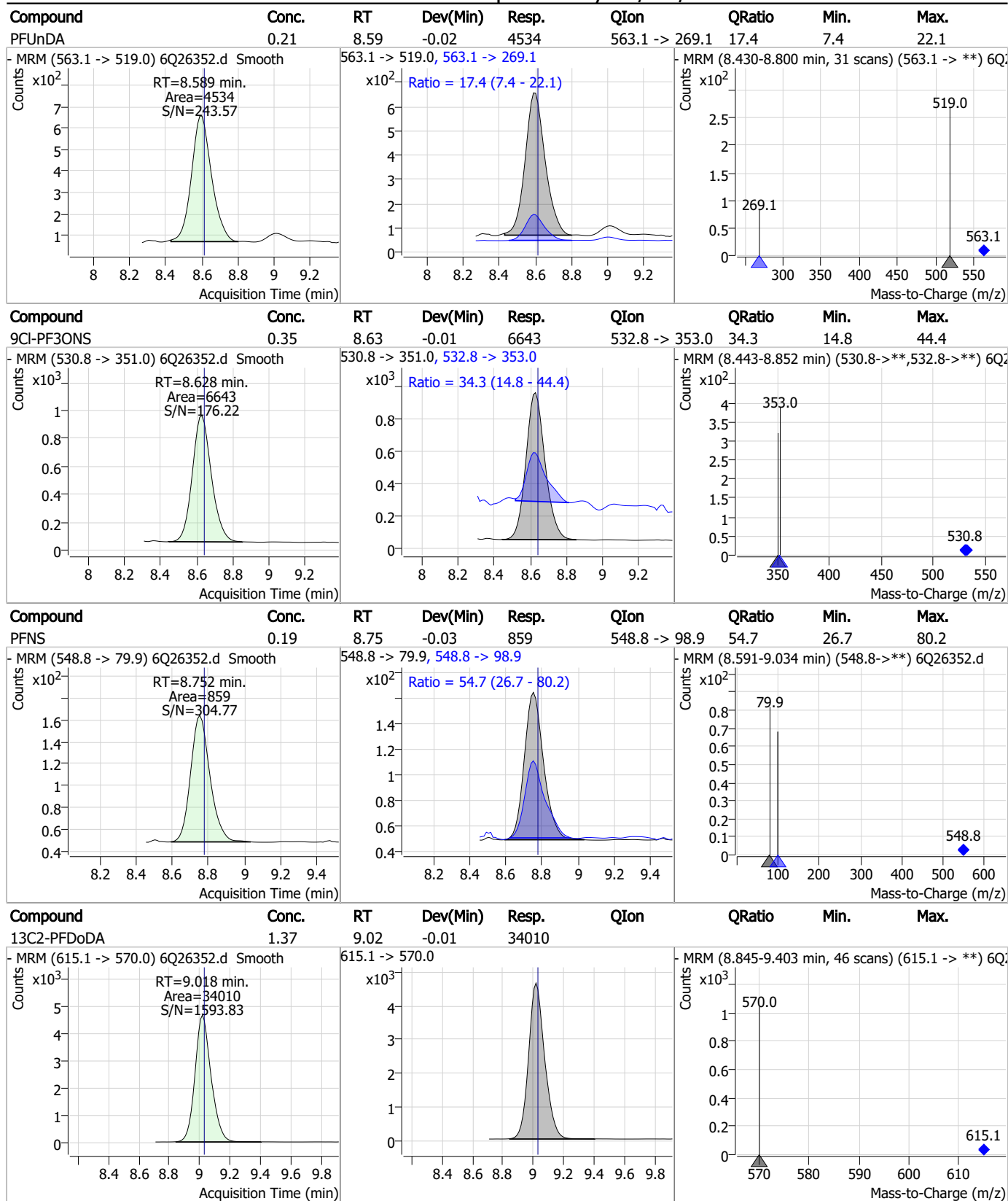


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C7-PFUnDA	1.34	8.59	-0.02	30368				



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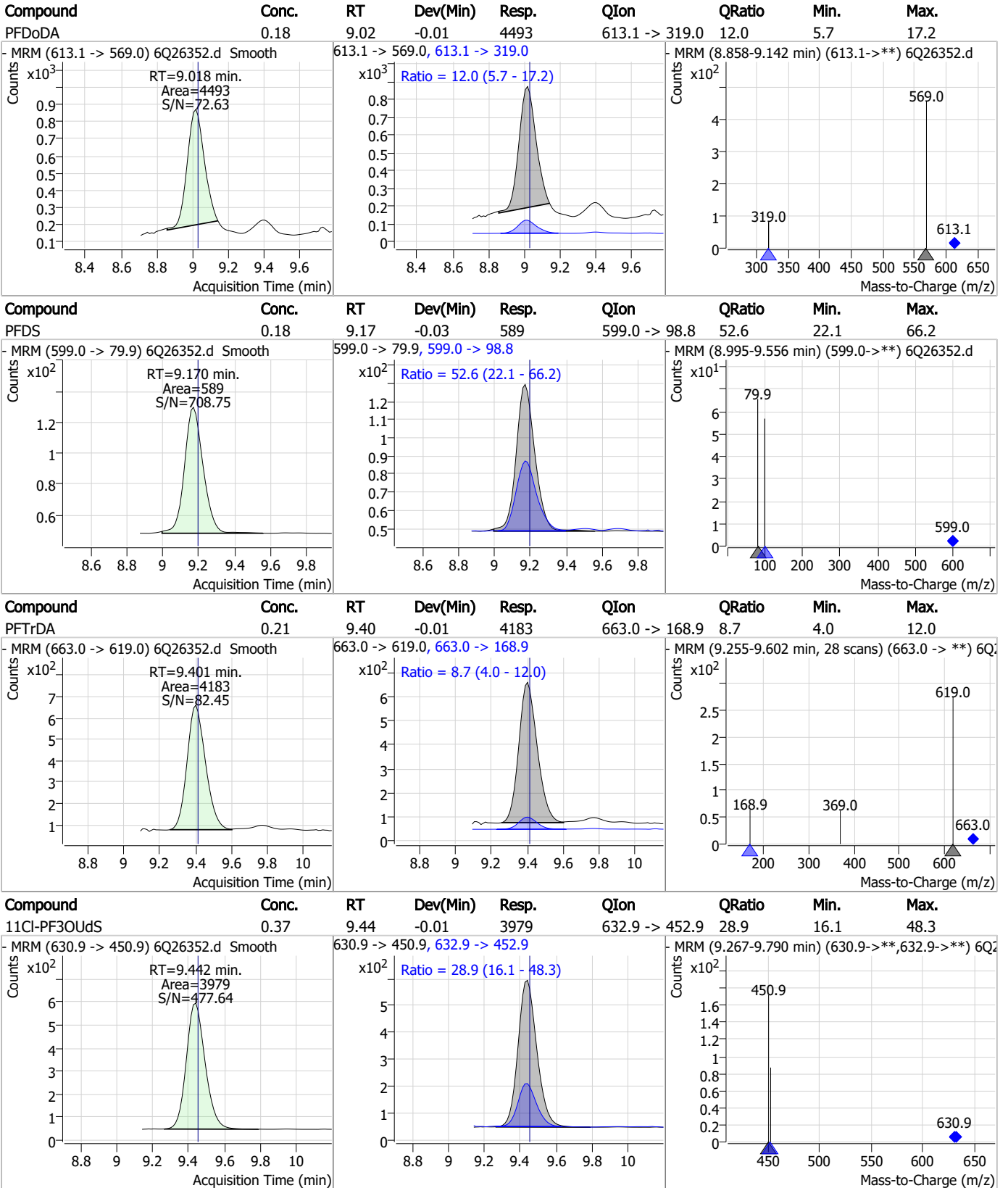
### Perfluorinated Compounds by LC/MS/MS



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### Perfluorinated Compounds by LC/MS/MS



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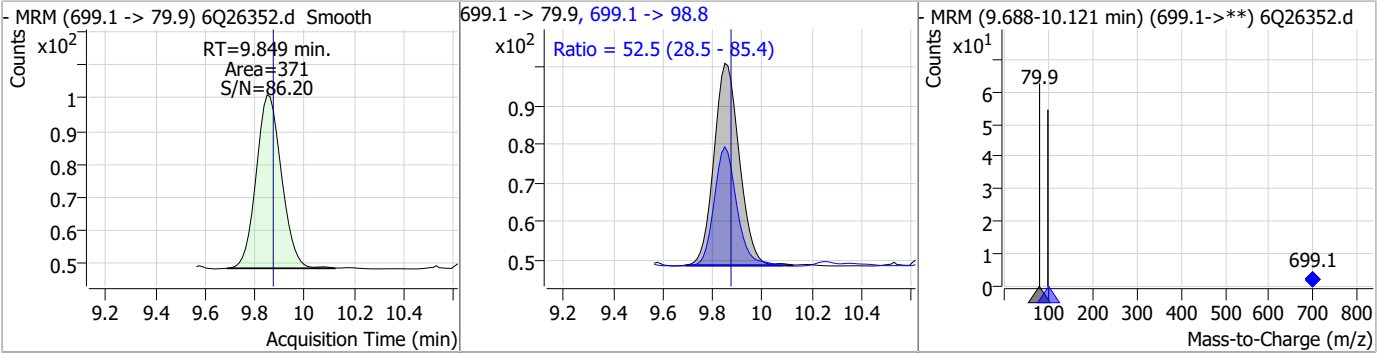
### Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-FOSA	2.45	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

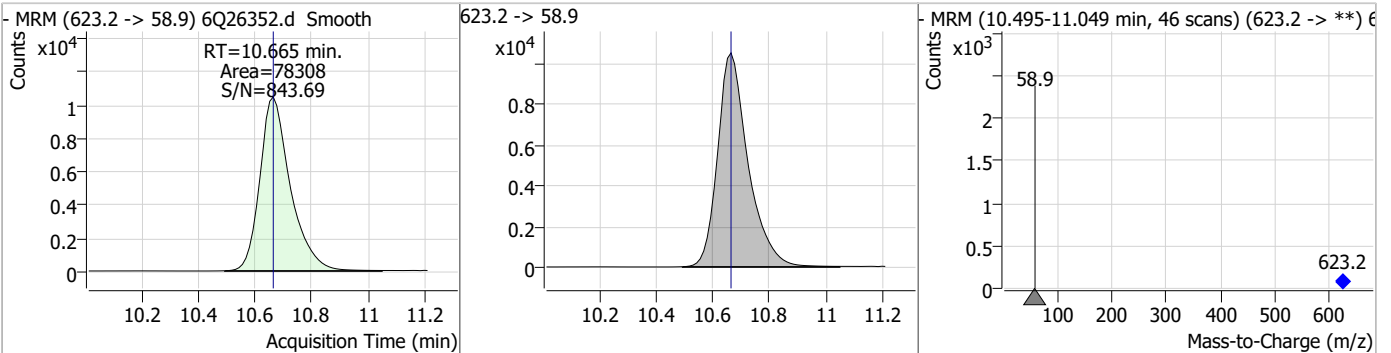
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### Perfluorinated Compounds by LC/MS/MS

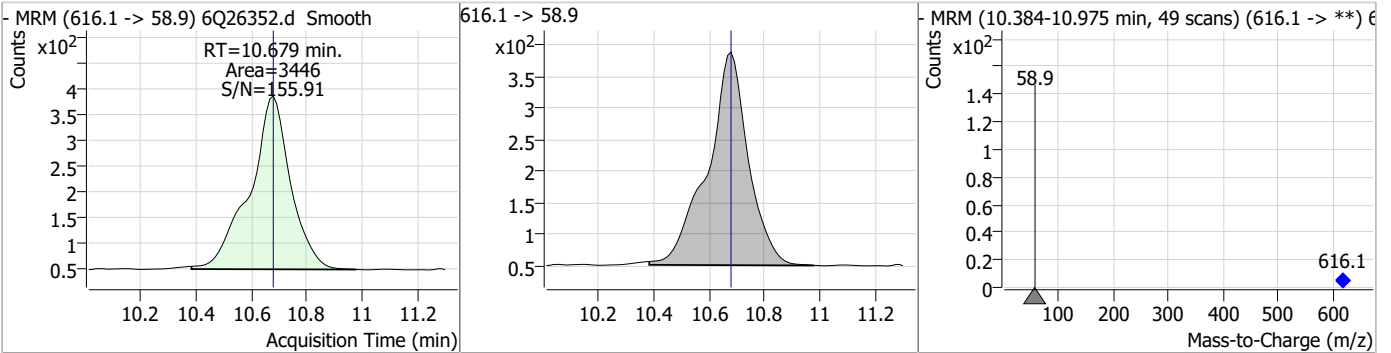
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoS	0.22	9.85	-0.02	371	699.1 -> 98.8	52.5	28.5	85.4



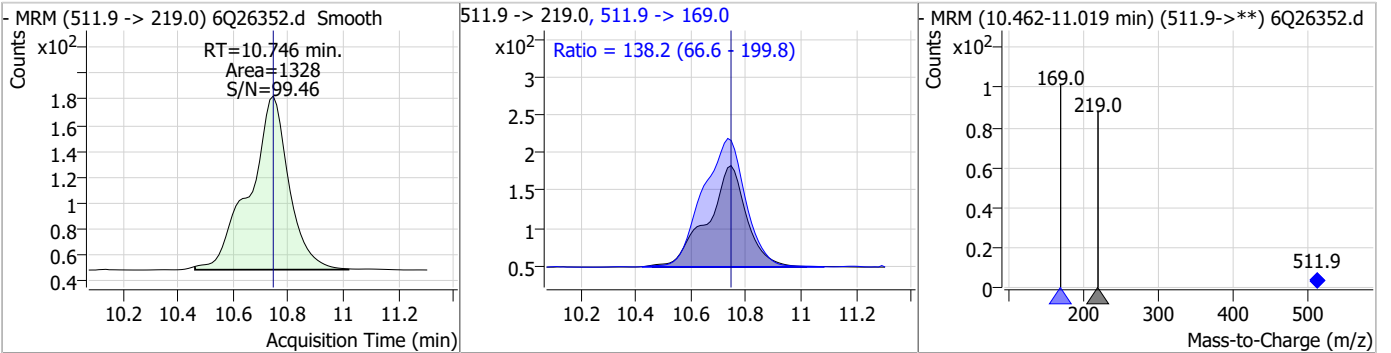
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d7-MeFOSE	23.97	10.67	0.00	78308				



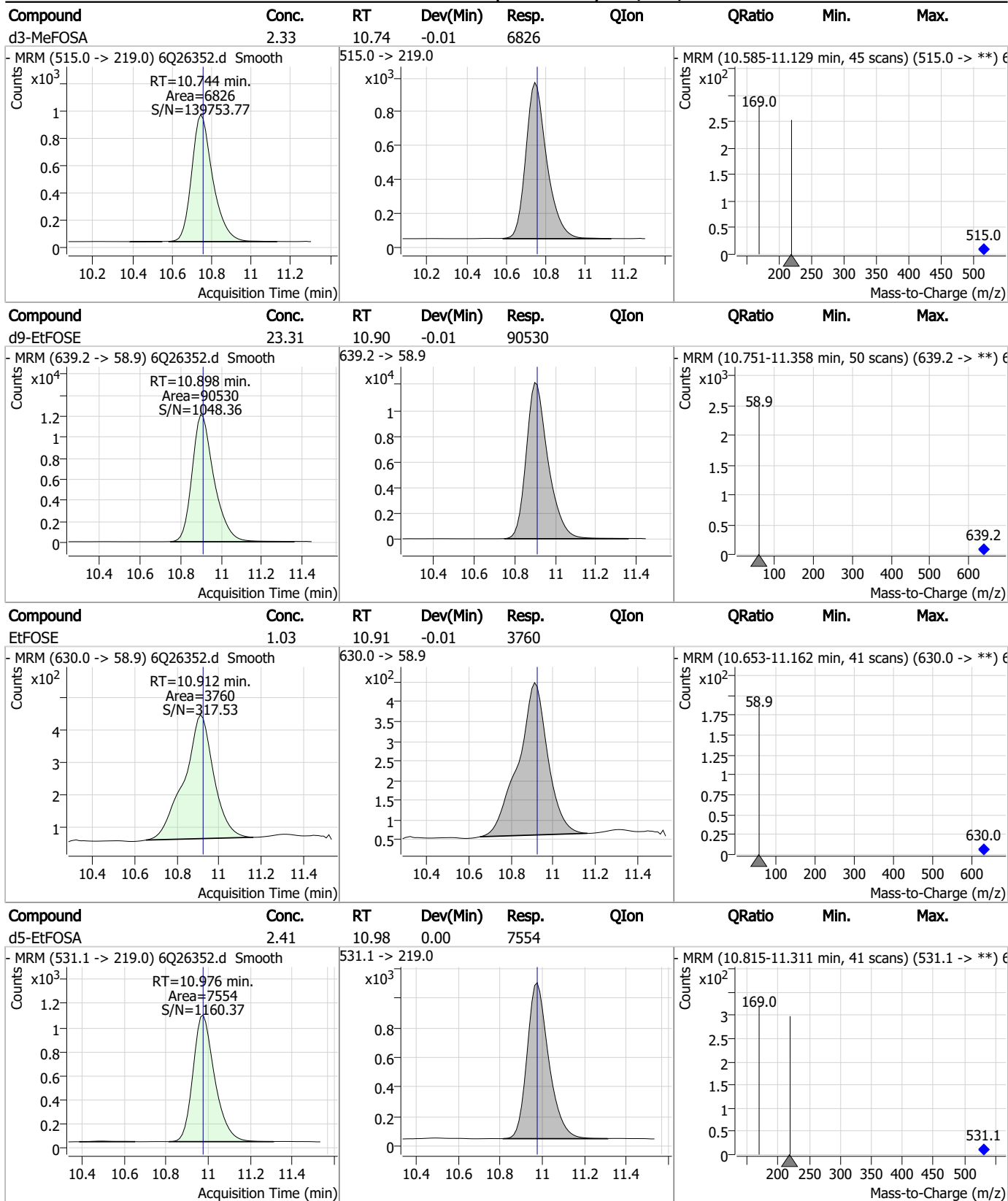
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSE	1.00	10.68	0.00	3446				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSA	0.42	10.75	0.00	1328	511.9 -> 169.0	138.2	66.6	199.8

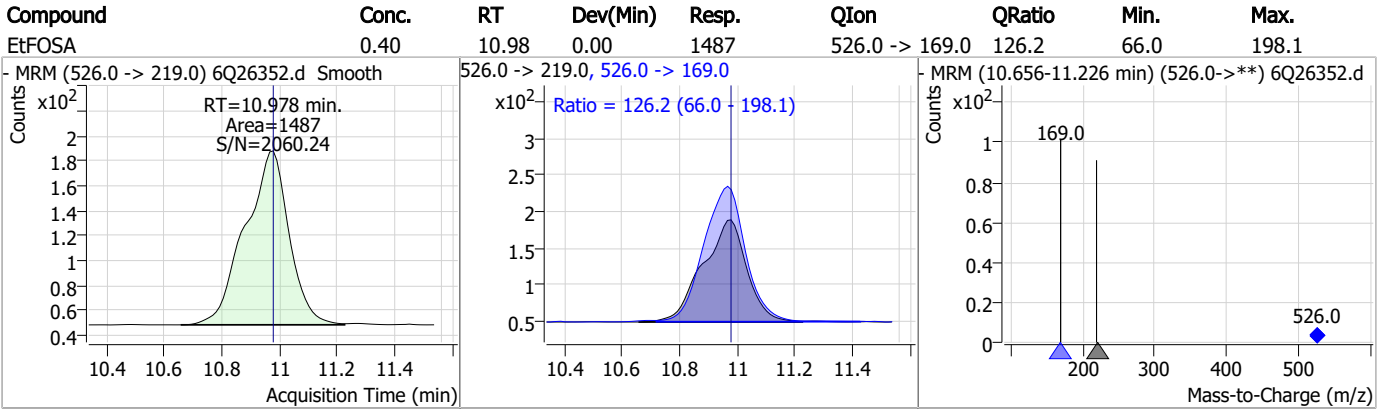


### Perfluorinated Compounds by LC/MS/MS



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### Perfluorinated Compounds by LC/MS/MS



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# Manual Integration Approval Summary

Sample Number: 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

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## 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** 15 October 2023 11:50:31  
**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

### QQQ Check Tune Report



#### Negative Results

**Analyzer: MS1 Polarity: Negative Width: Unit**

m/z Expected	m/z Measured	Delta	Result	FWHM Expected	FWHM Measured	Delta	Result	Abundance
112.99	112.92	-0.07	Pass	0.70	0.71	0.01	Pass	514642
302.00	302.01	0.01	Pass	0.70	0.70	0.00	Pass	1309616
601.98	602.00	0.02	Pass	0.70	0.69	-0.01	Pass	2737763
1033.99	1033.96	-0.03	Pass	0.70	0.77	0.07	Pass	810773
1633.95	1633.94	-0.01	Pass	0.70	0.62	-0.08	Pass	502157
2233.91	2233.81	-0.10	Pass	0.70	0.65	-0.05	Pass	151304

**Analyzer: MS2 Polarity: Negative Width: Unit**

m/z Expected	m/z Measured	Delta	Result	FWHM Expected	FWHM Measured	Delta	Result	Abundance
69.00	69.05	0.05	Pass	0.70	0.66	-0.04	Pass	145030
112.99	112.96	-0.03	Pass	0.70	0.76	0.06	Pass	546251
302.00	302.01	0.01	Pass	0.70	0.74	0.04	Pass	1355931
601.98	601.99	0.01	Pass	0.70	0.75	0.05	Pass	2273727
1033.99	1033.98	-0.01	Pass	0.70	0.72	0.02	Pass	792523
1633.95	1633.98	0.03	Pass	0.70	0.69	-0.01	Pass	603607
2233.91	2233.83	-0.08	Pass	0.70	0.70	0.00	Pass	209213

**Analyzer: MS1 Polarity: Negative Width: Wide**

m/z Expected	m/z Measured	Delta	Result	FWHM Expected	FWHM Measured	Delta	Result	Abundance
112.99	112.85	-0.14	Pass	1.20	1.31	0.11	Pass	636314
302.00	301.65	-0.35	Pass	1.20	1.67	0.47	Pass	1972700
601.98	601.64	-0.34	Pass	1.20	1.79	0.59	Pass	4416528
1033.99	1033.71	-0.28	Pass	1.20	1.64	0.44	Pass	2165369
1633.95	1633.72	-0.23	Pass	1.20	1.63	0.43	Pass	1414463
2233.91	2233.52	-0.39	Pass	1.20	1.41	0.21	Pass	547582

**Analyzer: MS2 Polarity: Negative Width: Wide**

m/z Expected	m/z Measured	Delta	Result	FWHM Expected	FWHM Measured	Delta	Result	Abundance
69.00	69.03	0.03	Pass	1.20	1.13	-0.07	Pass	214719
112.99	112.96	-0.03	Pass	1.20	1.22	0.02	Pass	853059
302.00	301.90	-0.10	Pass	1.20	1.31	0.11	Pass	1796570
601.98	602.00	0.02	Pass	1.20	1.35	0.15	Pass	3841601
1033.99	1033.98	-0.01	Pass	1.20	1.33	0.13	Pass	1411302
1633.95	1633.93	-0.02	Pass	1.20	1.35	0.15	Pass	1296843
2233.91	2233.84	-0.07	Pass	1.20	1.15	-0.05	Pass	507327

**Analyzer: MS1 Polarity: Negative Width: Widest**

m/z Expected	m/z Measured	Delta	Result	FWHM Expected	FWHM Measured	Delta	Result	Abundance
112.99	112.75	-0.24	Pass	2.50	2.64	0.14	Pass	748259
302.00	301.71	-0.29	Pass	2.50	2.98	0.48	Pass	2768560
601.98	601.63	-0.35	Pass	2.50	3.06	0.56	Pass	5473529
1033.99	1033.67	-0.32	Pass	2.50	3.01	0.51	Pass	3722656
1633.95	1633.67	-0.28	Pass	2.50	2.63	0.13	Pass	3029742
2233.91	2233.63	-0.28	Pass	2.50	2.42	-0.08	Pass	1418879

**Analyzer: MS2 Polarity: Negative Width: Widest**

m/z Expected	m/z Measured	Delta	Result	FWHM Expected	FWHM Measured	Delta	Result	Abundance
69.00	68.99	-0.01	Pass	2.50	2.48	-0.02	Pass	234536
112.99	112.96	-0.03	Pass	2.50	2.57	0.07	Pass	1116431
302.00	301.88	-0.12	Pass	2.50	2.64	0.14	Pass	2547969
601.98	602.05	0.07	Pass	2.50	2.63	0.13	Pass	4986249
1033.99	1033.97	-0.02	Pass	2.50	2.64	0.14	Pass	2326593
1633.95	1633.94	-0.01	Pass	2.50	2.60	0.10	Pass	2802510
2233.91	2233.84	-0.07	Pass	2.50	2.69	0.19	Pass	1479456

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### Perfluorinated Compounds by LC/MS/MS

Data File : 6Q26573.d  
 Operator : marthav  
 Acq. Method : 1633full.m  
 Acq. Date-Time : 10/17/2023 6:11:47 PM  
 Sample Name : ic373-1  
 Vial : P1-A2  
 DA Method File : 1633\_101723\_S6Q373.quantmethod.xml  
 Batch Name : S6Q373.batch.bin  
 Sample Information : OP99081,S6Q373,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
<b>Internal Standards</b>					
M4-PFBA	2.913	216.8 -> 171.9	143812	10.00 µg/L	0.000
M5-PFPeA	4.346	268.3 -> 223.0	47979	5.00 µg/L	0.000
M5-PFHxA	5.552	318.0 -> 273.0	47024	2.50 µg/L	0.000
M4-PFHpA	6.493	367.1 -> 322.0	49493	2.50 µg/L	0.000
M8-PFOA	7.124	421.1 -> 376.0	63592	2.50 µg/L	-0.012
M9-PFNA	7.642	472.1 -> 427.0	25217	1.25 µg/L	-0.012
M6-PFDA	8.121	519.1 -> 474.1	26684	1.25 µg/L	0.000
M7-PFUnDA	8.564	570.0 -> 525.1	30391	1.25 µg/L	-0.012
M2-PFDoDA	8.993	615.1 -> 570.0	34782	1.25 µg/L	0.000
M2-PFTeDA	9.708	715.2 -> 670.0	13223	1.25 µg/L	0.000
M8-FOSA	9.642	506.1 -> 77.8	24015	2.50 µg/L	0.000
M3-PFBS	5.471	302.1 -> 79.9	20812	2.50 µg/L	0.000
M3-PFHxS	7.227	402.1 -> 79.9	11724	2.50 µg/L	0.000
M8-PFOS	8.272	507.1 -> 79.9	11511	2.50 µg/L	0.000
M2-4:2FTS	5.228	329.1 -> 80.9	2305	5.00 µg/L	0.000
M2-6:2FTS	6.898	429.1 -> 80.9	3580	5.00 µg/L	-0.012
M2-8:2FTS	7.922	529.1 -> 80.9	3876	5.00 µg/L	0.000
M3-MeFOSAA	8.178	573.2 -> 419.0	25276	5.00 µg/L	0.000
M3-HFPO-DA	5.930	286.9 -> 168.9	30981	10.00 µg/L	0.012
M5-EtFOSAA	8.374	589.2 -> 419.0	21031	5.00 µg/L	0.000
M7-MeFOSE	10.665	623.2 -> 58.9	84796	25.00 µg/L	0.000
M9-EtFOSE	10.899	639.2 -> 58.9	107062	25.00 µg/L	0.000
M5-EtFOSA	10.977	531.1 -> 219.0	8372	2.50 µg/L	0.000
M3-MeFOSA	10.745	515.0 -> 219.0	7043	2.50 µg/L	0.000
13C4-PFOS	8.261	502.8 -> 79.9	10885	2.50 µg/L	-0.012
13C3-PFBA	2.916	216.0 -> 172.0	58453	5.00 µg/L	0.000
18O2-PFHxS	7.226	403.0 -> 83.9	7240	2.50 µg/L	0.000
13C4-PFOA	7.125	417.1 -> 372.0	71721	2.50 µg/L	0.000
13C2-PFDA	8.122	515.1 -> 470.1	26301	1.25 µg/L	0.000
13C5-PFNA	7.642	468.0 -> 423.0	22938	1.25 µg/L	-0.012
13C2-PFHxA	5.553	315.1 -> 270.0	47430	2.50 µg/L	0.000
<b>System Monitoring Compounds</b>					
13C2-4:2FTS	5.228	329.1 -> 80.9	2305	5.10 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 101.9%		
13C2-6:2FTS	6.898	429.1 -> 80.9	3580	5.61 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 112.1%		
13C2-8:2FTS	7.922	529.1 -> 80.9	3876	5.18 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 103.7%		
13C2-PFDoDA	8.993	615.1 -> 570.0	34782	1.22 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 97.9%		
13C2-PFTeDA	9.708	715.2 -> 670.0	13223	1.24 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 99.3%		
13C3-PFBS	5.471	302.1 -> 79.9	20812	2.60 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 103.9%		
13C3-PFHxS	7.227	402.1 -> 79.9	11724	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 = 99.0%	
13C4-PFBA	2.913	216.8 -> 171.9	143812	9.99 µg/L	0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 99.9%	
13C4-PFHpA	6.493	367.1 -> 322.0	49493	2.57 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 102.9%	
13C5-PFHxA	5.552	318.0 -> 273.0	47024	2.47 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 98.9%	
13C5-PFPeA	4.346	268.3 -> 223.0	47979	5.02 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 100.4%	
13C6-PFDA	8.121	519.1 -> 474.1	26684	1.19 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 95.2%	
13C7-PFUnDA	8.564	570.0 -> 525.1	30391	1.25 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 100.1%	
13C8-FOSA	9.642	506.1 -> 77.8	24015	2.40 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 95.9%	
13C8-PFOA	7.124	421.1 -> 376.0	63592	2.48 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 99.1%	
13C8-PFOS	8.272	507.1 -> 79.9	11511	2.39 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 95.7%	
13C9-PFNA	7.642	472.1 -> 427.0	25217	1.28 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 102.3%	
d3-MeFOSAA	8.178	573.2 -> 419.0	25276	5.01 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 100.1%	
13C3-HFPO-DA	5.930	286.9 -> 168.9	30981	9.93 µg/L	0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 99.3%	
d3-MeFOSA	10.745	515.0 -> 219.0	7043	2.33 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 93.1%	
d5-EtFOSAA	8.374	589.2 -> 419.0	21031	5.00 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 100.1%	
d7-MeFOSE	10.665	623.2 -> 58.9	84796	24.10 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 96.4%	
d9-EtFOSE	10.899	639.2 -> 58.9	107062	24.61 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 98.5%	
d5-EtFOSA	10.977	531.1 -> 219.0	8372	2.39 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 95.6%	
<b>Target Compounds</b>					<b>QValue</b>
4:2FTS	5.229	327.1 -> 307.0	2868	0.71 µg/L	98
		327.1 -> 80.9	1117		
6:2FTS	6.911	427.1 -> 407.0	3009	0.75 µg/L	97
		427.1 -> 80.9	1243		
8:2FTS	7.910	527.1 -> 507.0	2224	0.76 µg/L	90
		527.1 -> 80.8	642		
EtFOSAA	8.389	584.2 -> 419.1	618	0.18 µg/L	82
		584.2 -> 526.0	339		
FOSA	9.645	498.1 -> 77.9	1830	0.18 µg/L	97
		498.1 -> 478.0	68		
MeFOSAA	8.179	570.1 -> 419.0	875	0.17 µg/L	94
		570.1 -> 483.0	186		
PFBA	2.919	212.8 -> 168.9	3909	0.71 µg/L	100
PFBS	5.472	298.7 -> 79.9	1034	0.15 µg/L	97
		298.7 -> 98.8	402		
PFDA	8.122	512.9 -> 469.0	3860	0.18 µg/L	100
		512.9 -> 219.0	668		
PFDODA	8.994	613.1 -> 569.0	4950	0.18 µg/L	99
		613.1 -> 319.0	561		
PFDS	9.145	599.0 -> 79.9	572	0.18 µg/L	99

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## Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
		599.0 -> 98.8	310			
PFHpA	6.493	363.1 -> 319.0	4713	0.17	µg/L	99
		363.1 -> 169.0	731			
PFHpS	7.768	449.0 -> 79.9	771	0.16	µg/L	100
		449.0 -> 98.9	382			
PFHxA	5.555	313.0 -> 269.0	3072	0.18	µg/L	99
		313.0 -> 118.9	148			
PFHxS	7.228	398.7 -> 79.9	827	0.17	µg/L	m 94
		398.7 -> 98.9	411			
PFNA	7.642	463.0 -> 419.0	2850	0.19	µg/L	97
		463.0 -> 219.0	655			
PFNS	8.726	548.8 -> 79.9	779	0.18	µg/L	82
		548.8 -> 98.9	453			
PFOA	7.125	413.0 -> 369.0	5552	0.20	µg/L	97
		413.0 -> 169.0	817			
PFOS	8.274	498.9 -> 79.9	928	0.18	µg/L	m 81
		498.9 -> 98.8	468			
PFPeA	4.349	263.0 -> 219.0	4081	0.36	µg/L	100
PFPeS	6.545	349.1 -> 79.9	1065	0.17	µg/L	94
		349.1 -> 98.9	516			
PFTeDA	9.708	713.1 -> 669.0	2988	0.17	µg/L	98
		713.1 -> 168.9	242			
PFTrDA	9.377	663.0 -> 619.0	4019	0.18	µg/L	97
		663.0 -> 168.9	332			
PFUnDA	8.564	563.1 -> 519.0	4297	0.18	µg/L	98
		563.1 -> 269.1	674			
11CI-PF3OUdS	9.416	630.9 -> 450.9	3641	0.34	µg/L	97
		632.9 -> 452.9	1166			
9CI-PF3ONS	8.603	530.8 -> 351.0	6248	0.34	µg/L	92
		532.8 -> 353.0	2052			
ADONA	6.743	376.9 -> 250.9	15209	0.33	µg/L	93
		376.9 -> 84.8	4414			
HFPO-DA	5.931	284.9 -> 168.9	1108	0.34	µg/L	92
		284.9 -> 184.9	99			
3:3FTCA	3.764	241.0 -> 177.0	670	0.83	µg/L	95
		241.0 -> 117.0	103			
5:3FTCA	6.197	341.0 -> 237.1	15849	4.52	µg/L	96
		341.0 -> 217.0	11044			
7:3FTCA	7.595	441.0 -> 316.9	9517	4.52	µg/L	91
		441.0 -> 336.9	18211			
EtFOSA	10.966	526.0 -> 219.0	1509	0.38	µg/L	98
		526.0 -> 169.0	1881			
EtFOSE	10.913	630.0 -> 58.9	3862	0.87	µg/L	100
MeFOSA	10.746	511.9 -> 219.0	1308	0.38	µg/L	96
		511.9 -> 169.0	1822			
MeFOSE	10.678	616.1 -> 58.9	3265	0.91	µg/L	100
PFDoDS	9.823	699.1 -> 79.9	325	0.18	µg/L	89
		699.1 -> 98.8	158			
NFDHA	5.435	295.0 -> 201.0	806	0.37	µg/L	88
		295.0 -> 84.9	170			
PFMBA	4.762	279.0 -> 85.1	2930	0.34	µg/L	100
PFMPA	3.475	229.0 -> 84.9	2525	0.36	µg/L	100
PFEESA	6.011	314.8 -> 134.9	7073	0.32	µg/L	99
		314.8 -> 82.9	284			

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

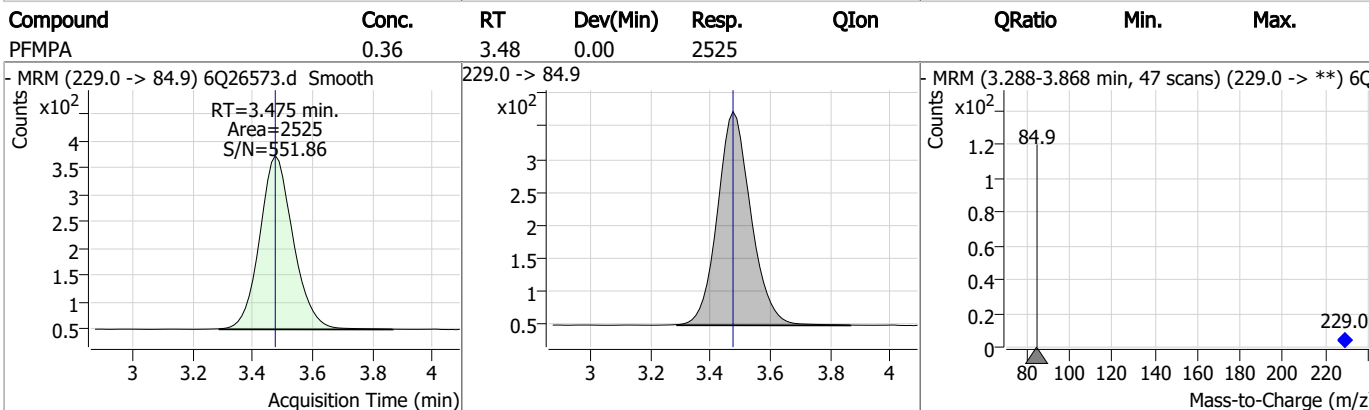
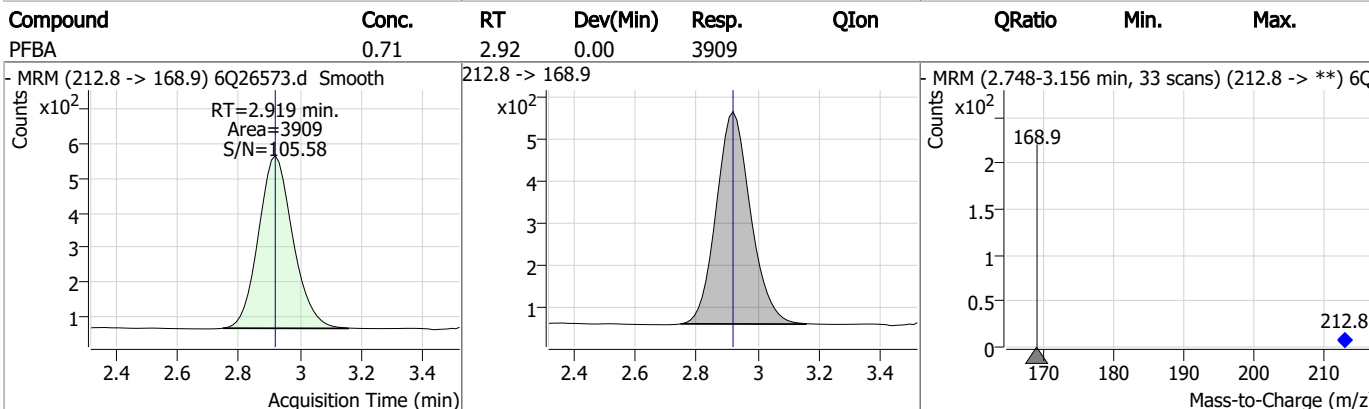
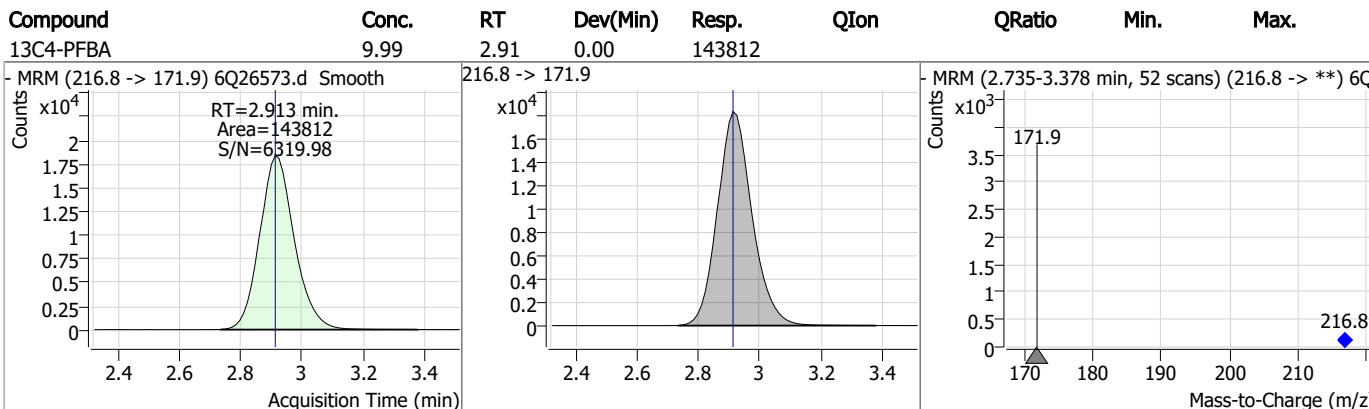
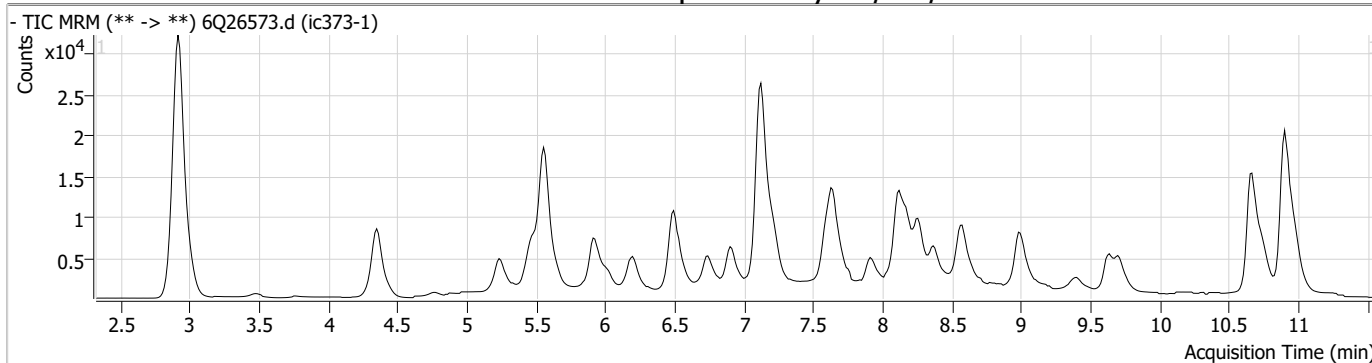
### Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
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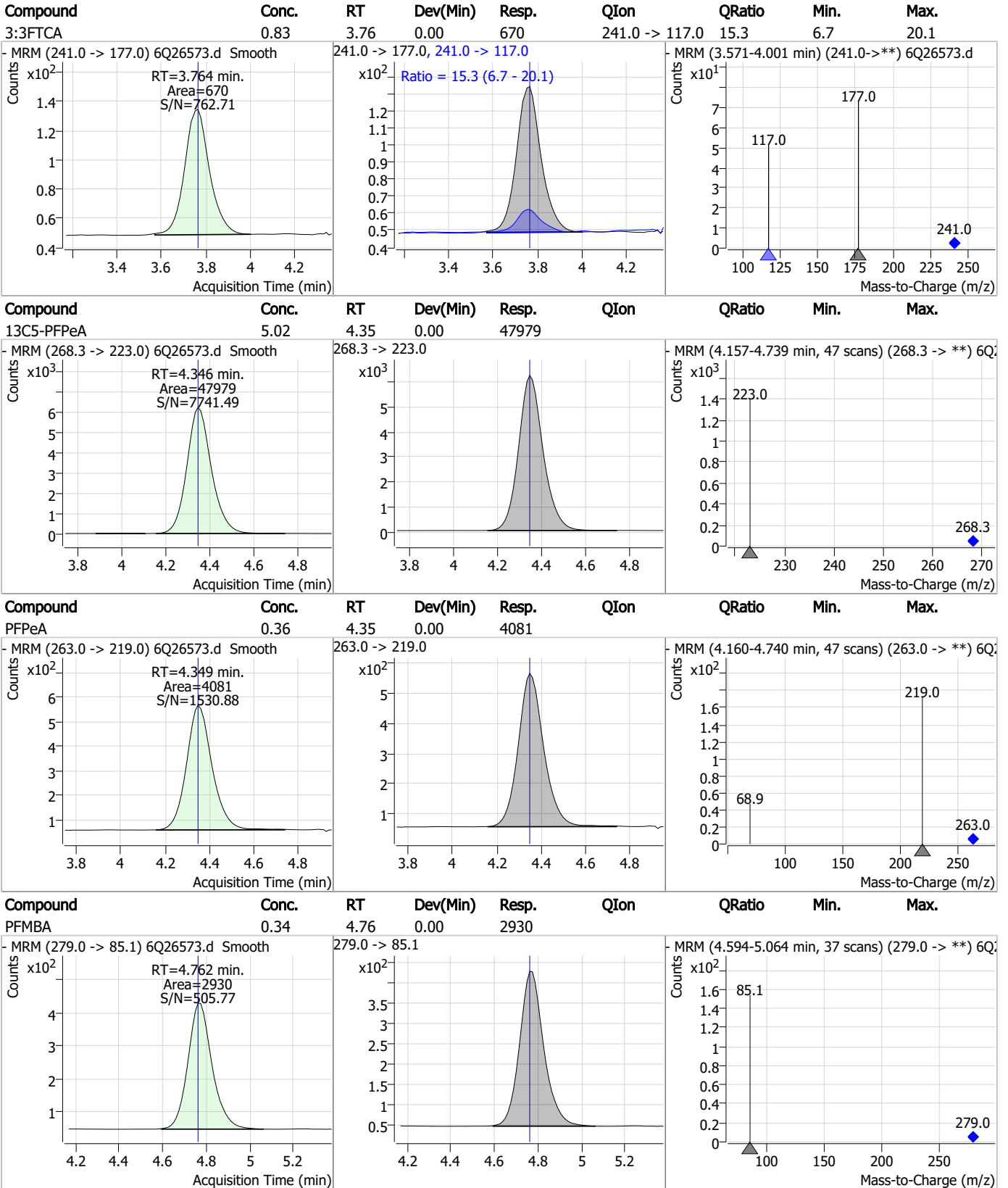


### Perfluorinated Compounds by LC/MS/MS





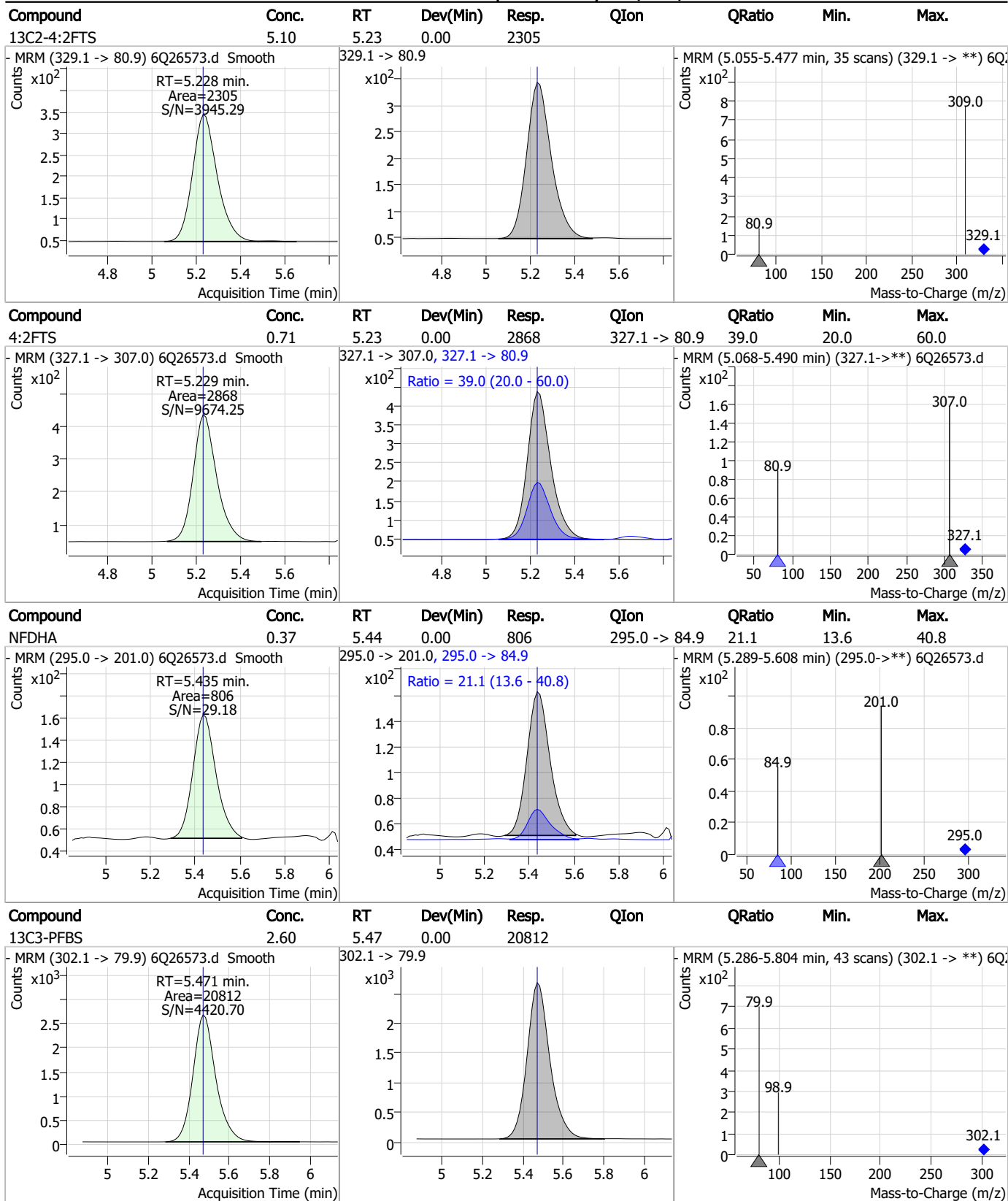
### Perfluorinated Compounds by LC/MS/MS



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### Perfluorinated Compounds by LC/MS/MS

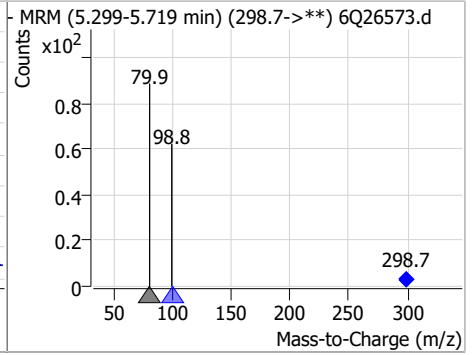
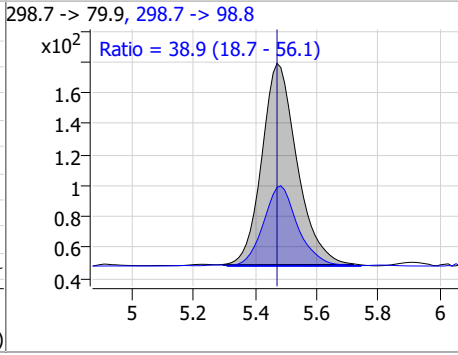
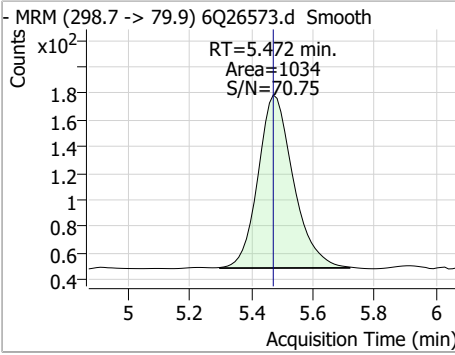


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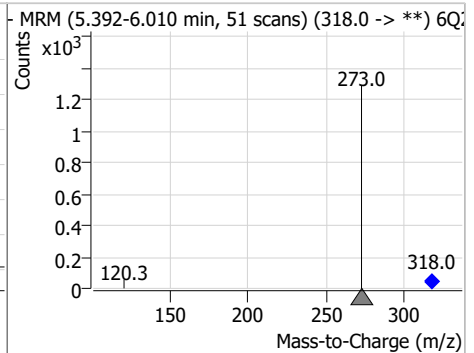
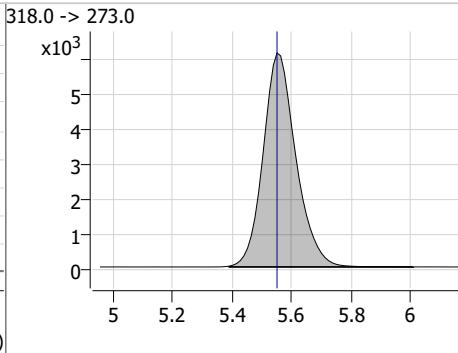
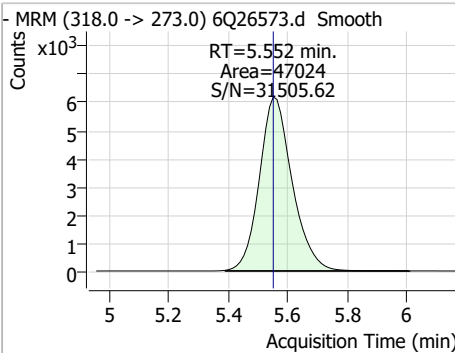
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### Perfluorinated Compounds by LC/MS/MS

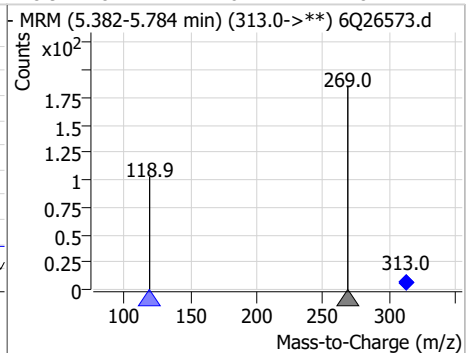
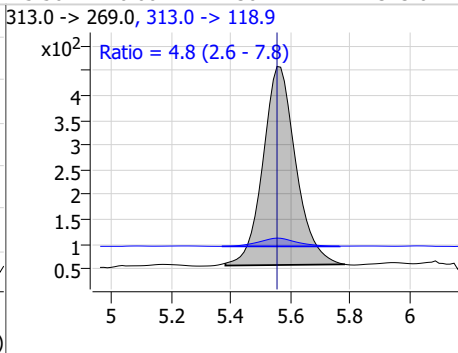
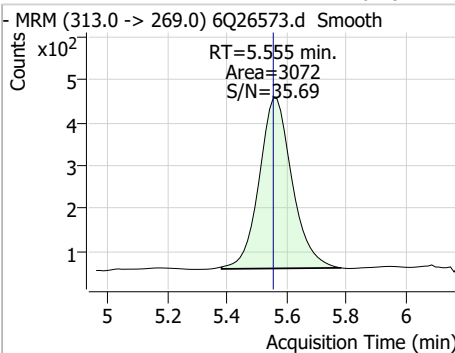
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBS	0.15	5.47	0.00	1034	298.7 -> 98.8	38.9	18.7	56.1



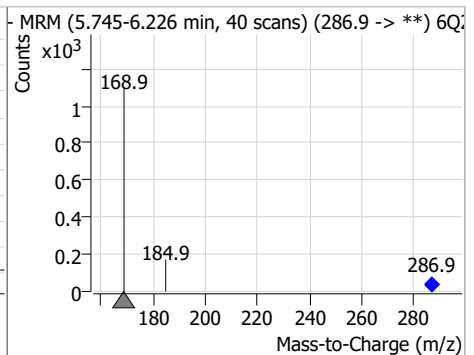
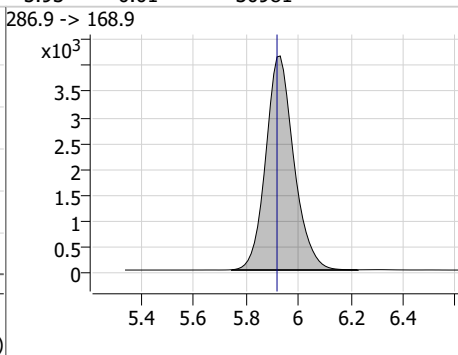
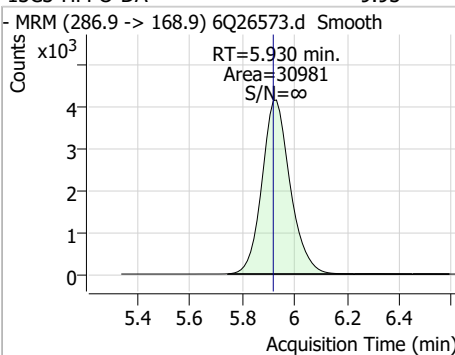
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFHxA	2.47	5.55	0.00	47024				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxA	0.18	5.56	0.00	3072	313.0 -> 118.9	4.8	2.6	7.8

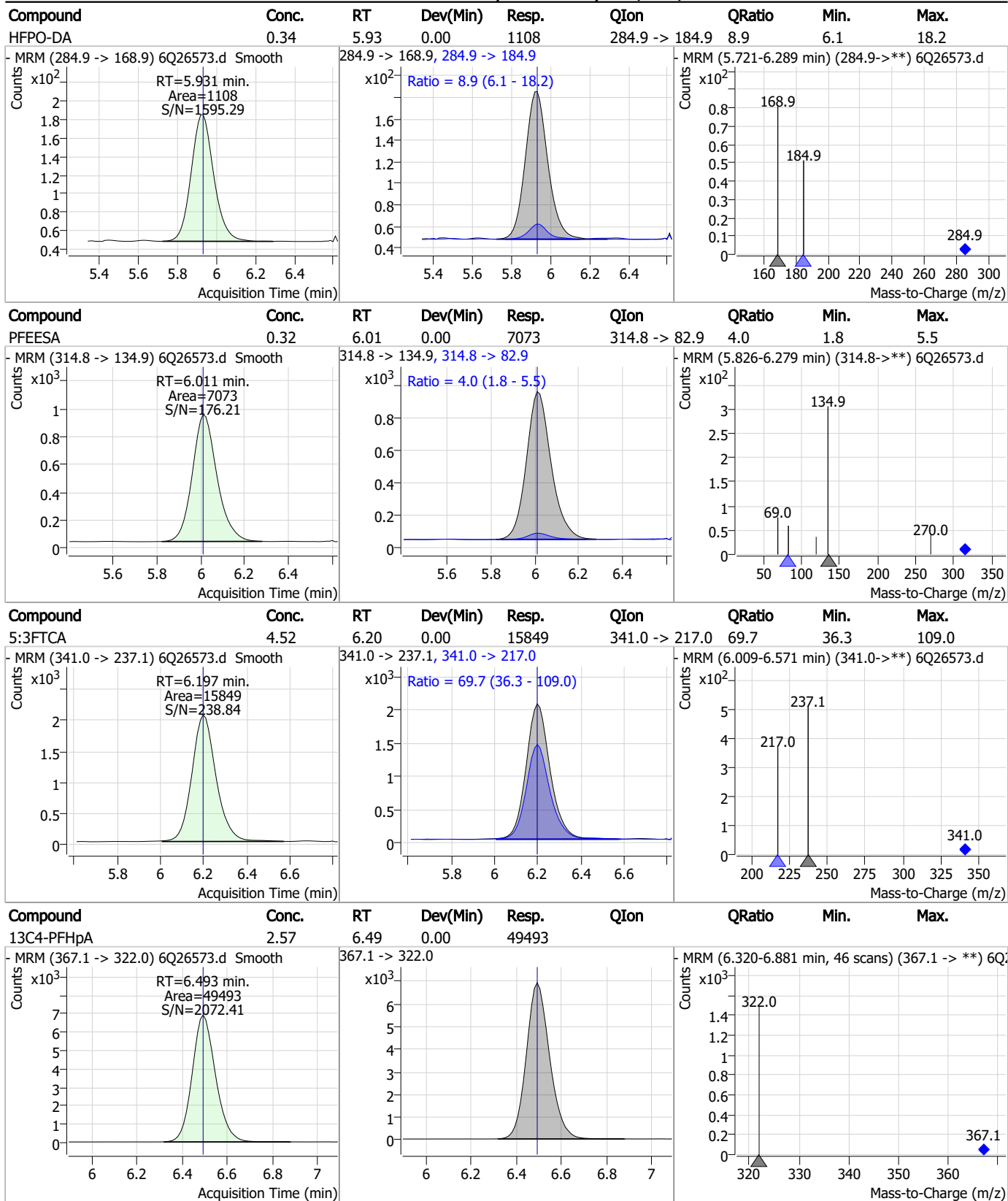


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-HFPO-DA	9.93	5.93	0.01	30981				



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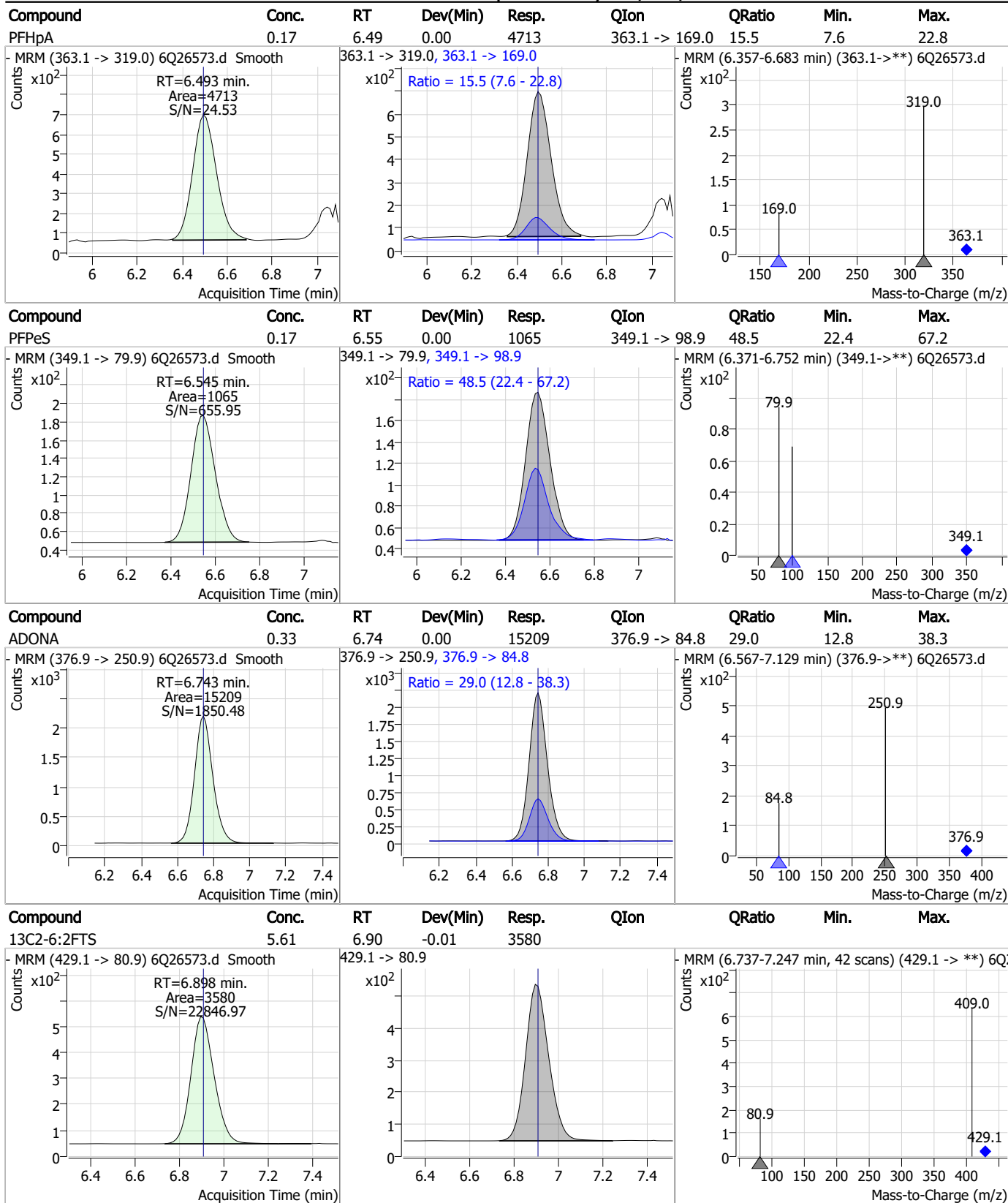
### Perfluorinated Compounds by LC/MS/MS



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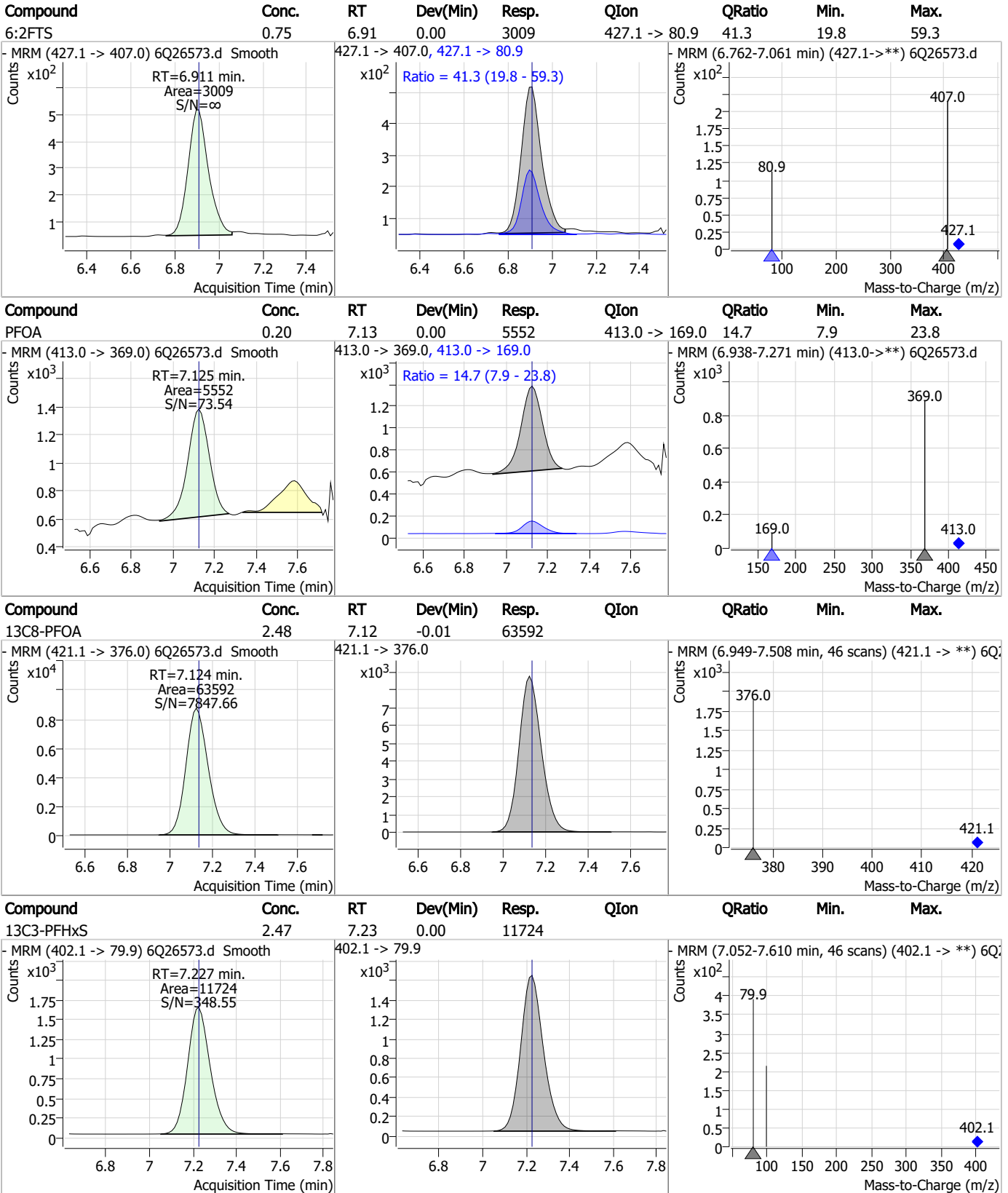
### Perfluorinated Compounds by LC/MS/MS



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### Perfluorinated Compounds by LC/MS/MS

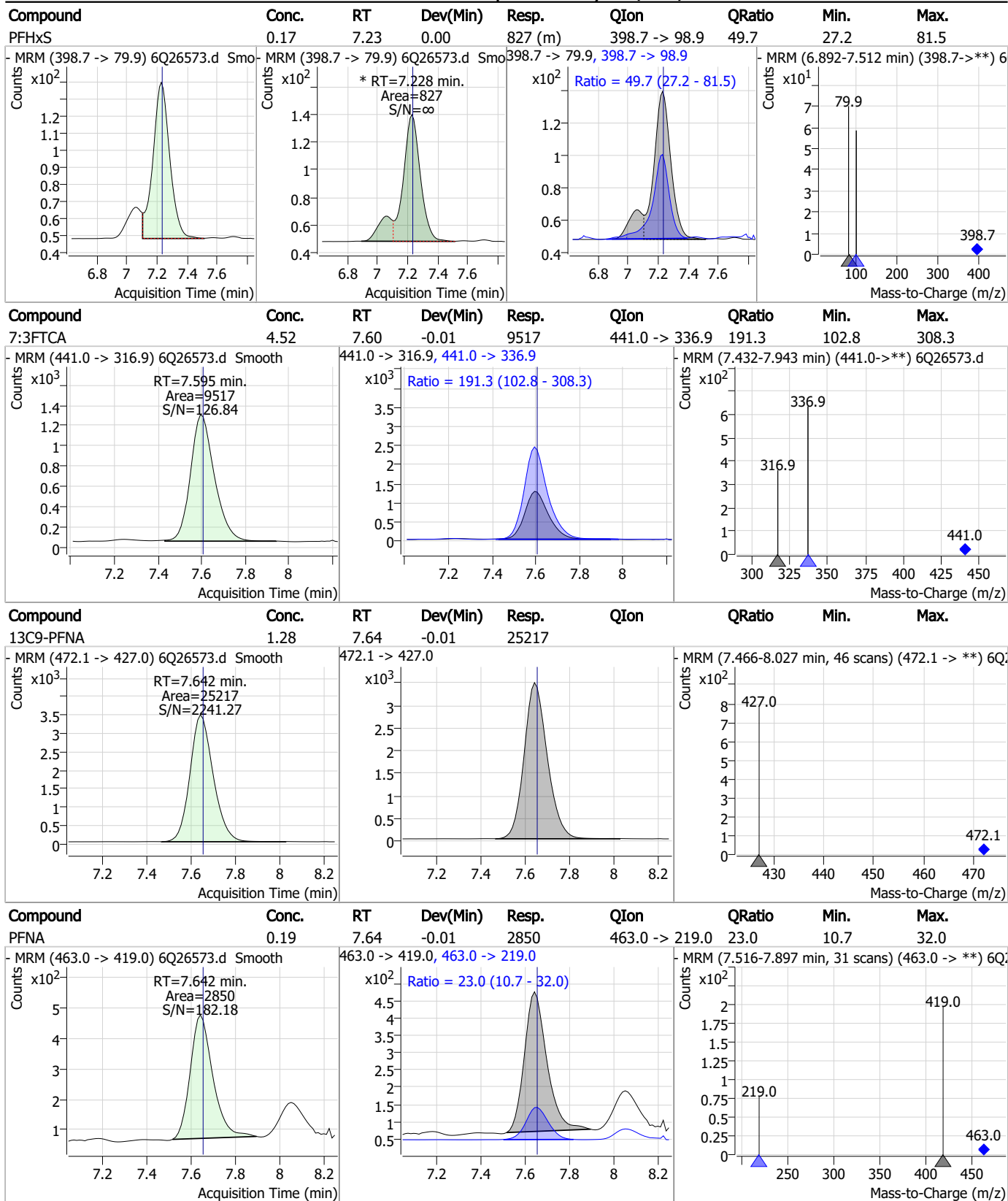


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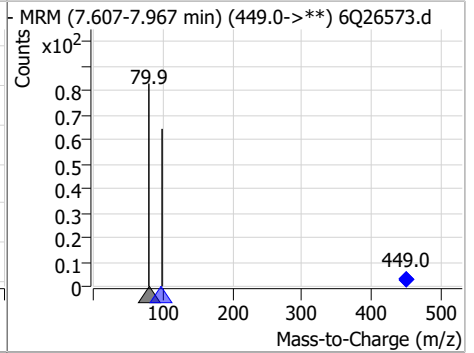
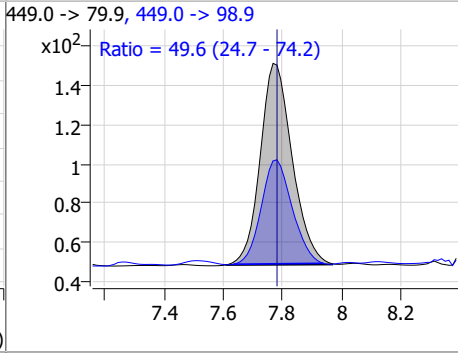
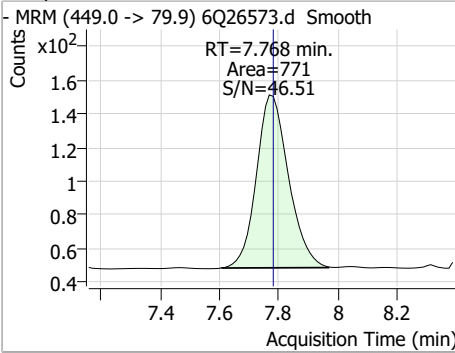
### Perfluorinated Compounds by LC/MS/MS



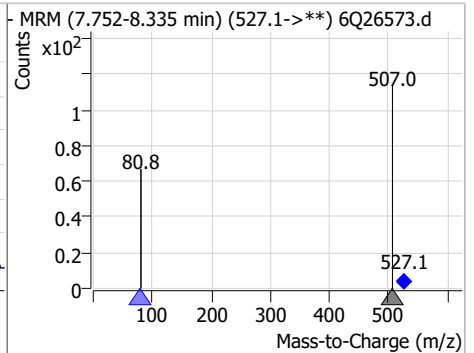
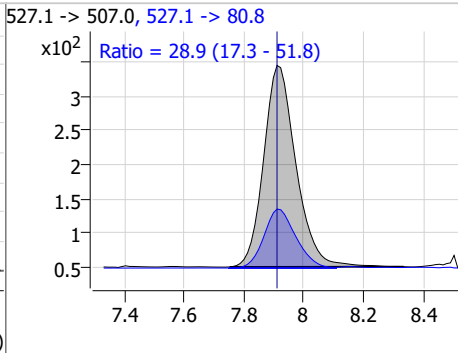
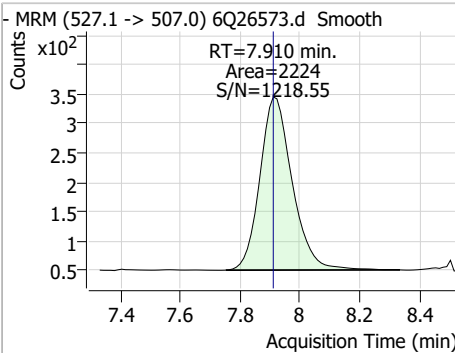
7.7.21  
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### Perfluorinated Compounds by LC/MS/MS

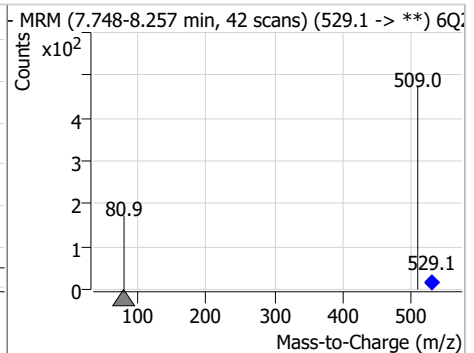
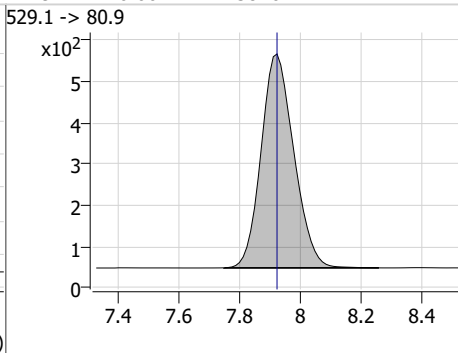
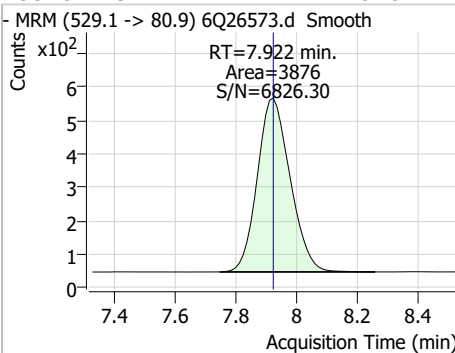
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpS	0.16	7.77	-0.01	771	449.0 -> 98.9	49.6	24.7	74.2



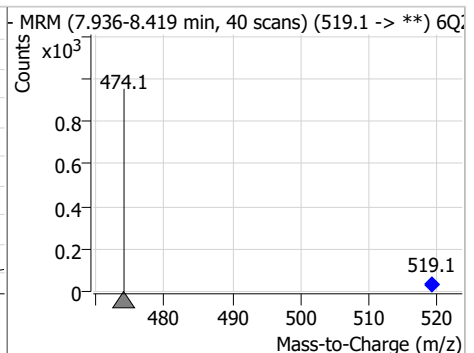
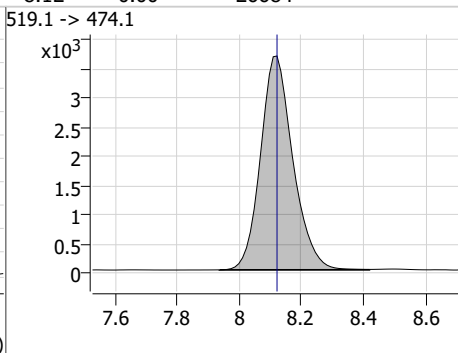
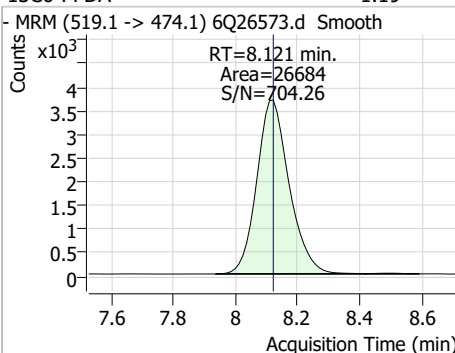
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
8:2FTS	0.76	7.91	0.00	2224	527.1 -> 80.8	28.9	17.3	51.8



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-8:2FTS	5.18	7.92	0.00	3876	529.1 -> 80.9			

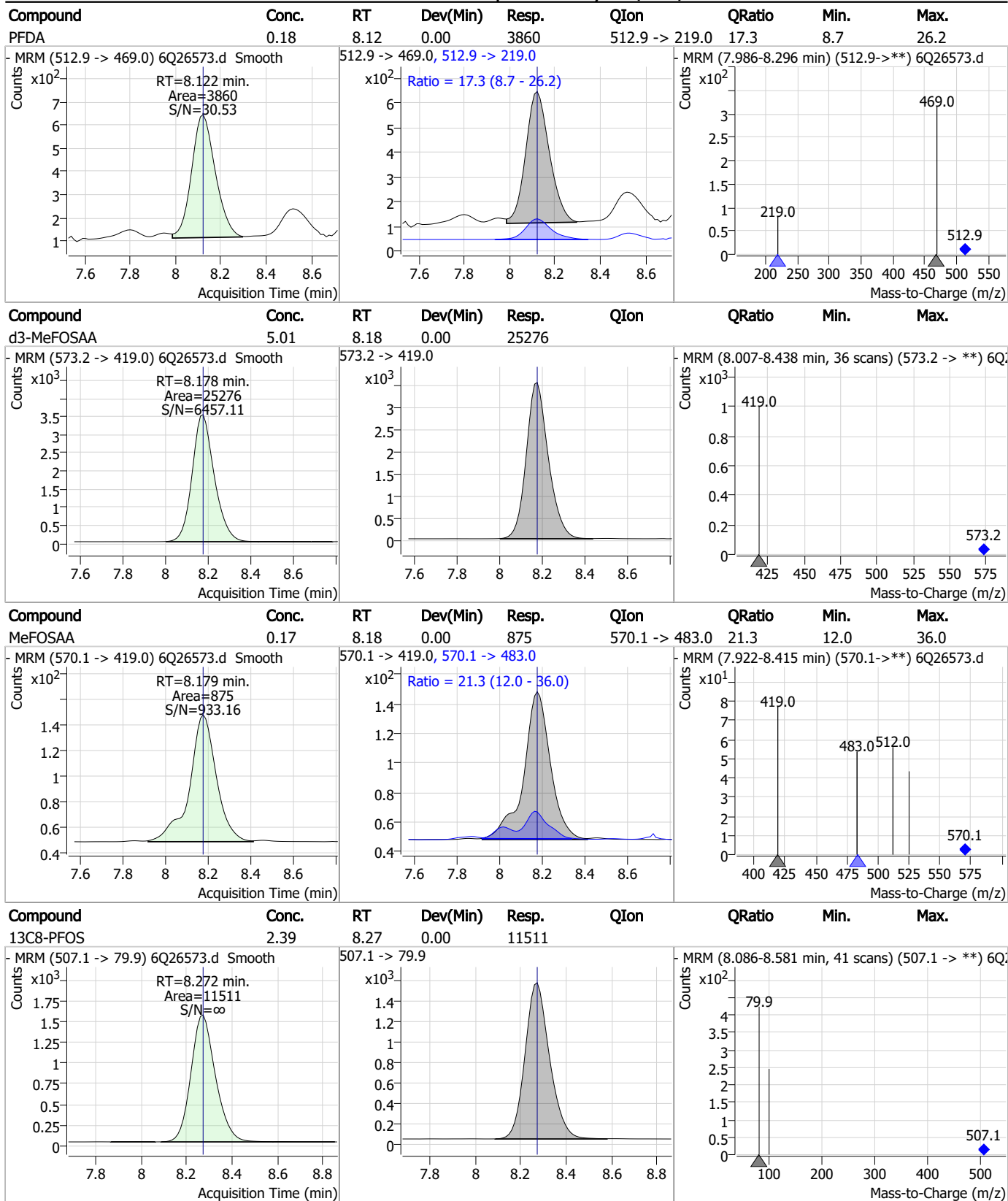


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C6-PFDA	1.19	8.12	0.00	26684	519.1 -> 474.1			





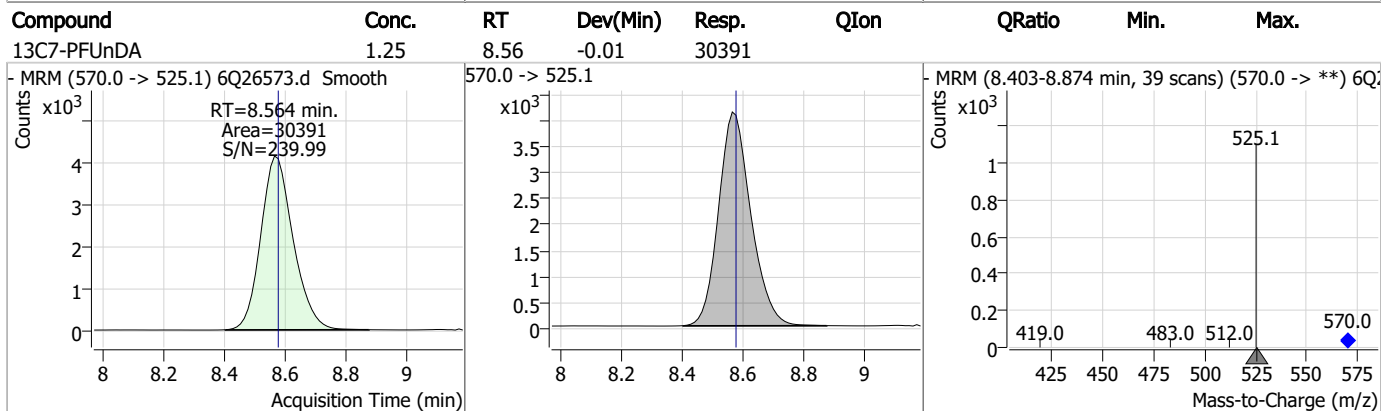
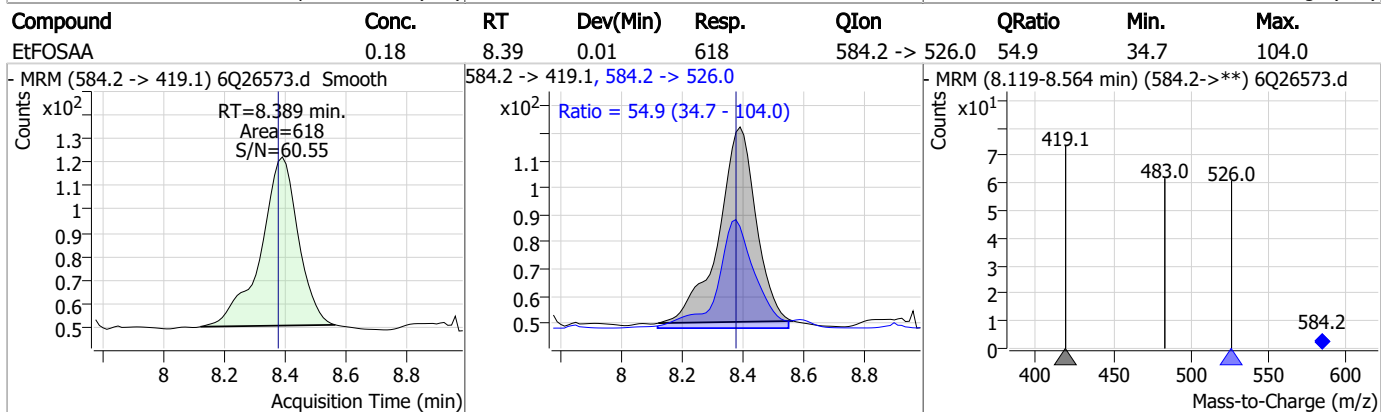
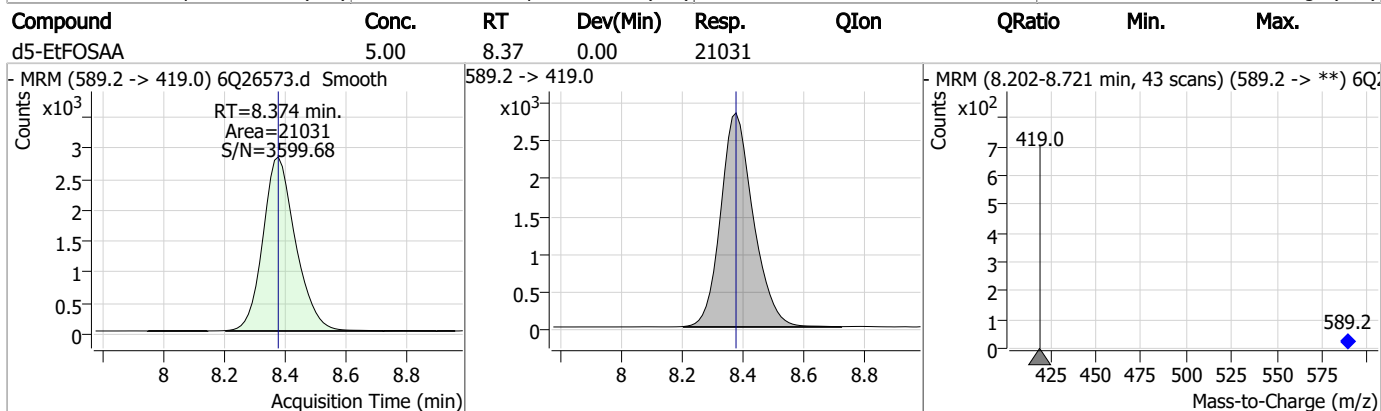
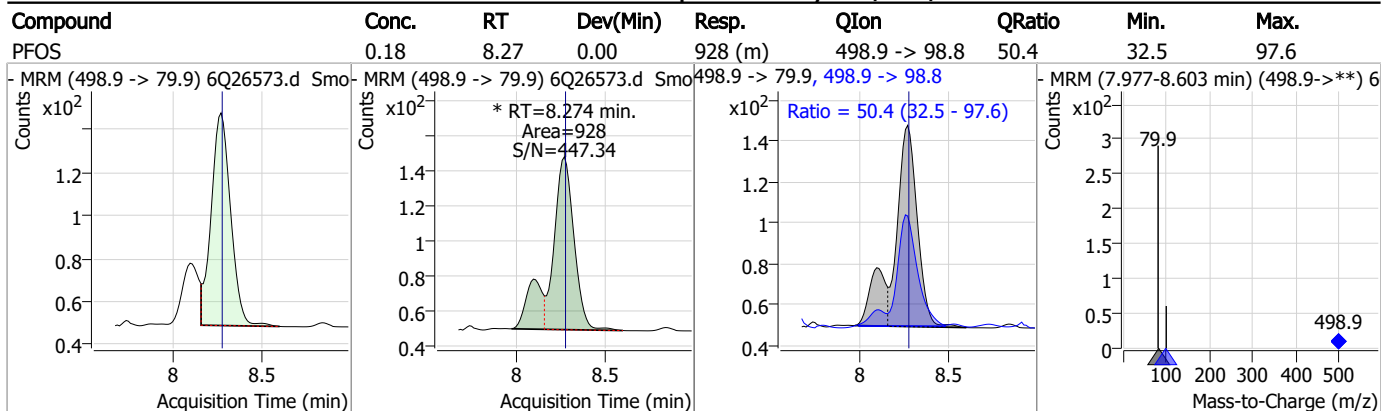
### Perfluorinated Compounds by LC/MS/MS



7.7.21

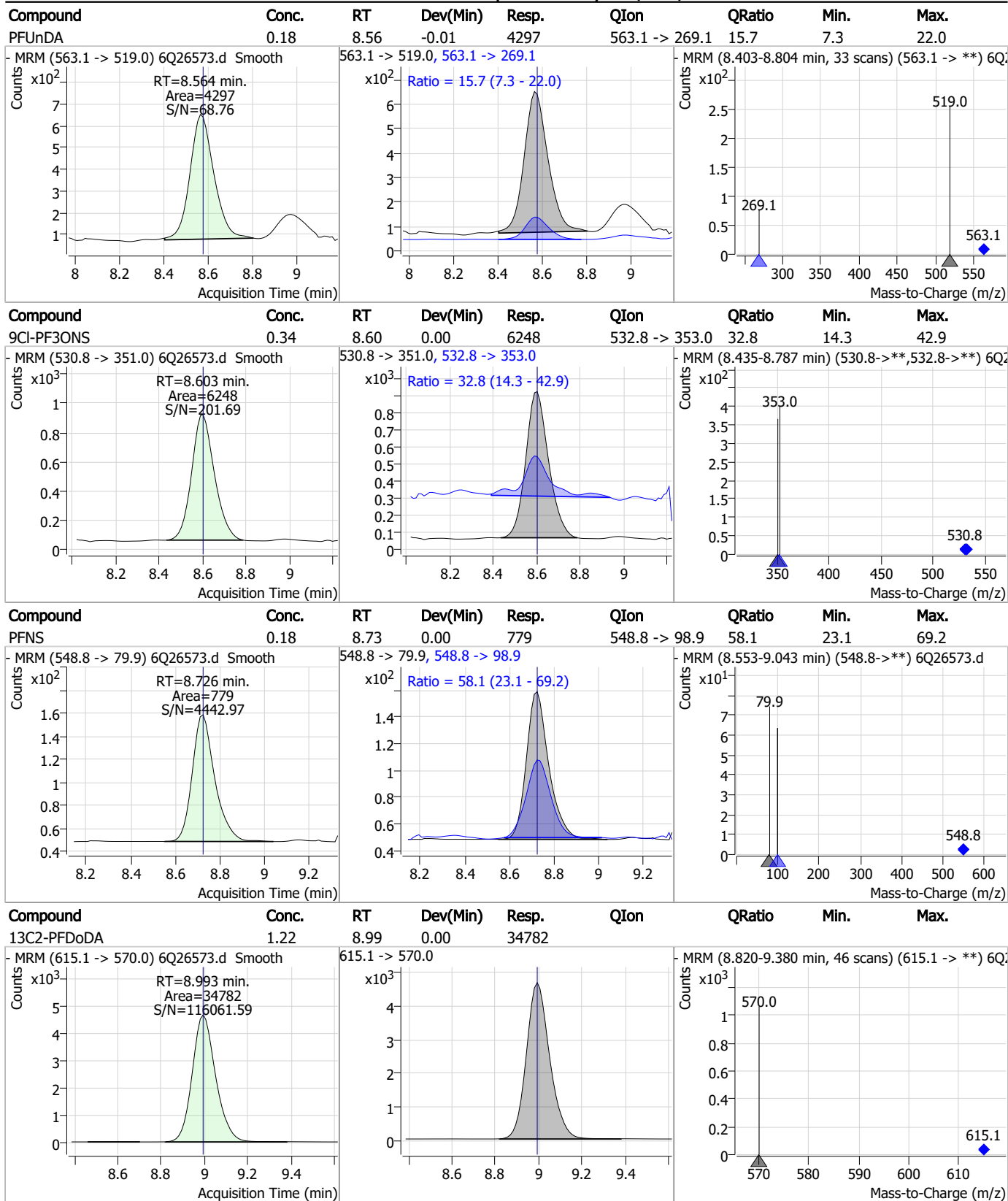
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### Perfluorinated Compounds by LC/MS/MS



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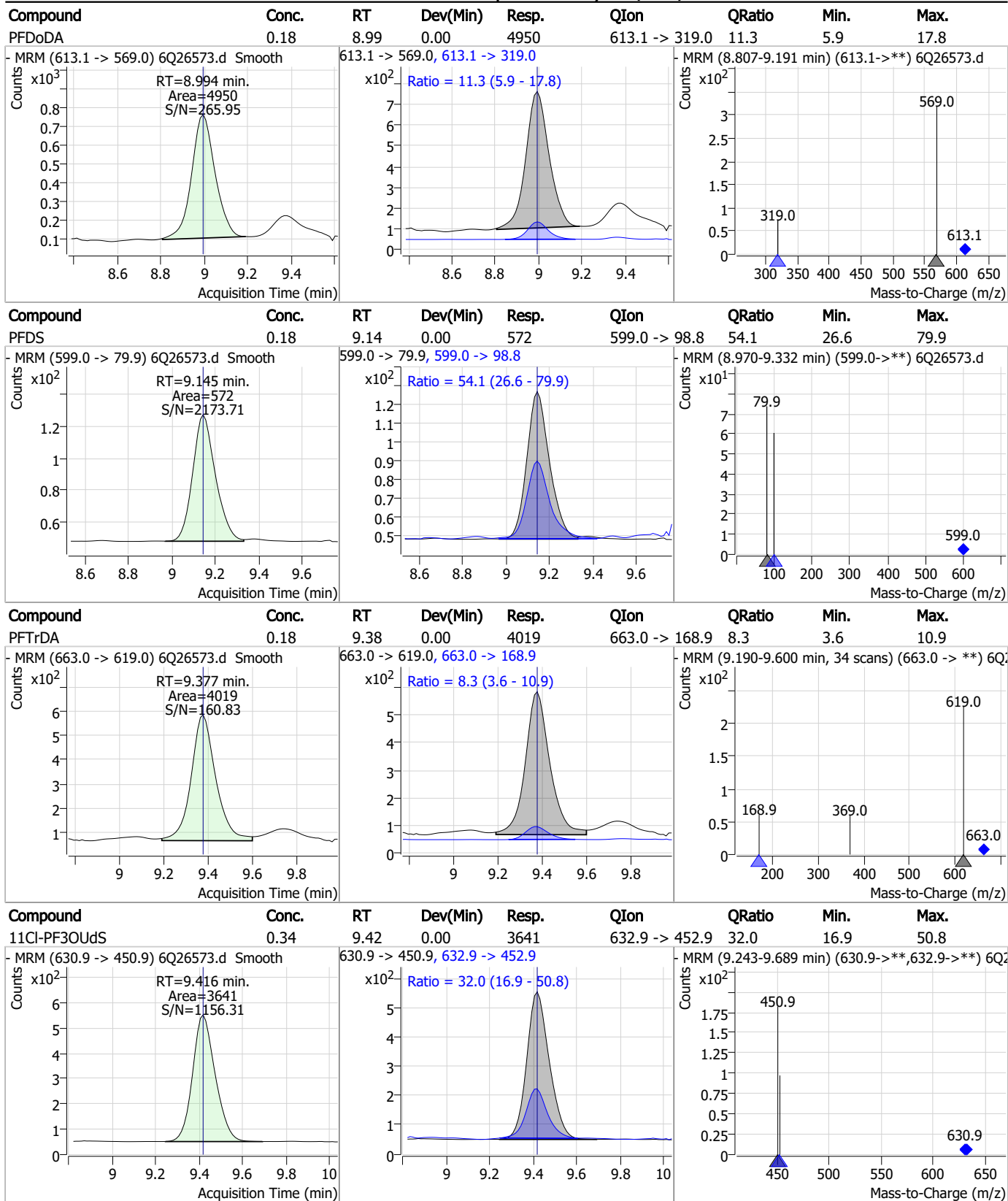
### Perfluorinated Compounds by LC/MS/MS



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### Perfluorinated Compounds by LC/MS/MS

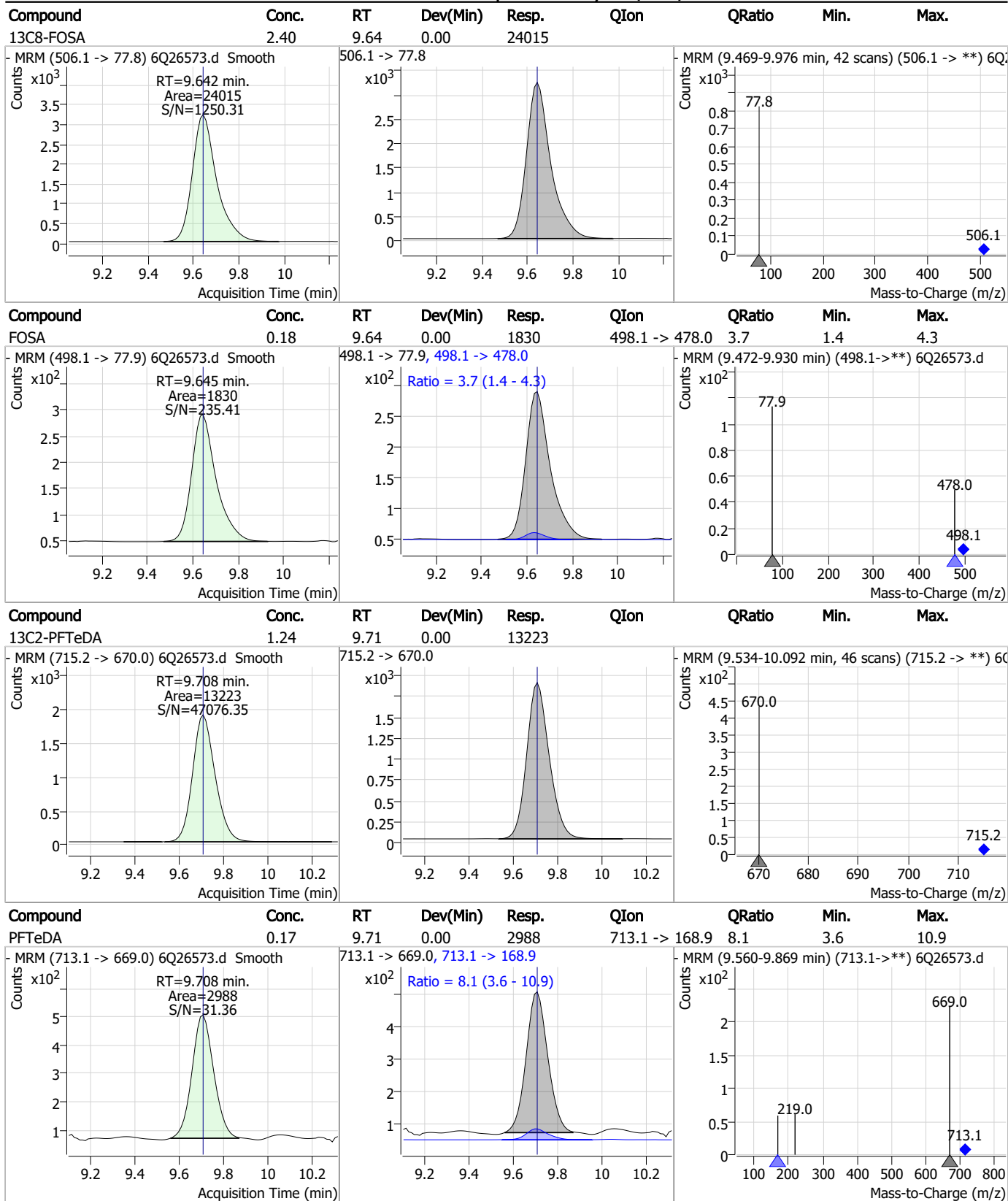


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### Perfluorinated Compounds by LC/MS/MS



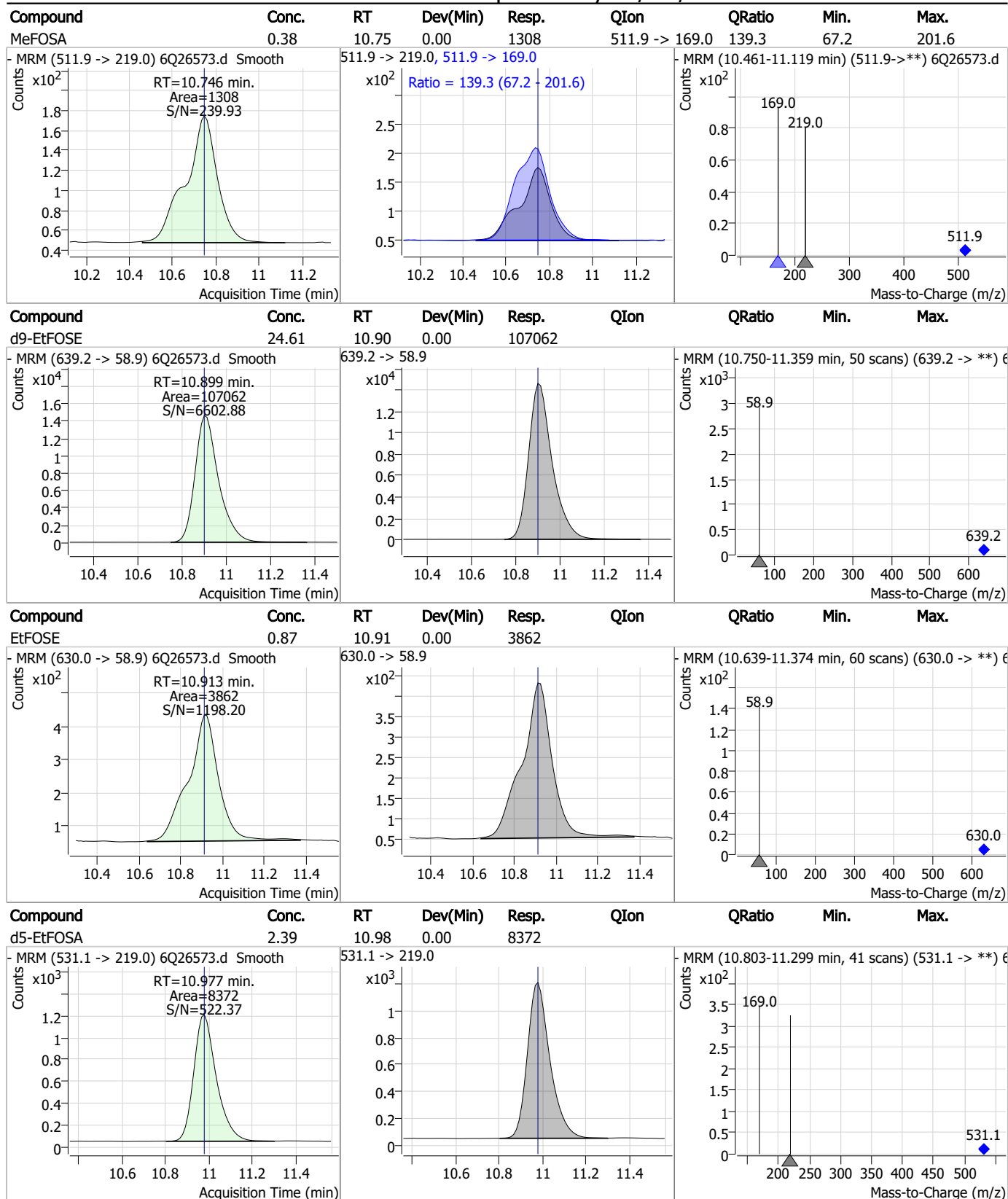
7.7.21

### Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFD <sub>o</sub> DS	0.18	9.82	0.00	325	699.1 -> 98.8	48.7	28.4	85.1
d7-MeFOSE	24.10	10.67	0.00	84796				
MeFOSE	0.91	10.68	0.00	3265				
d3-MeFOSA	2.33	10.74	0.00	7043				

7.7.21  
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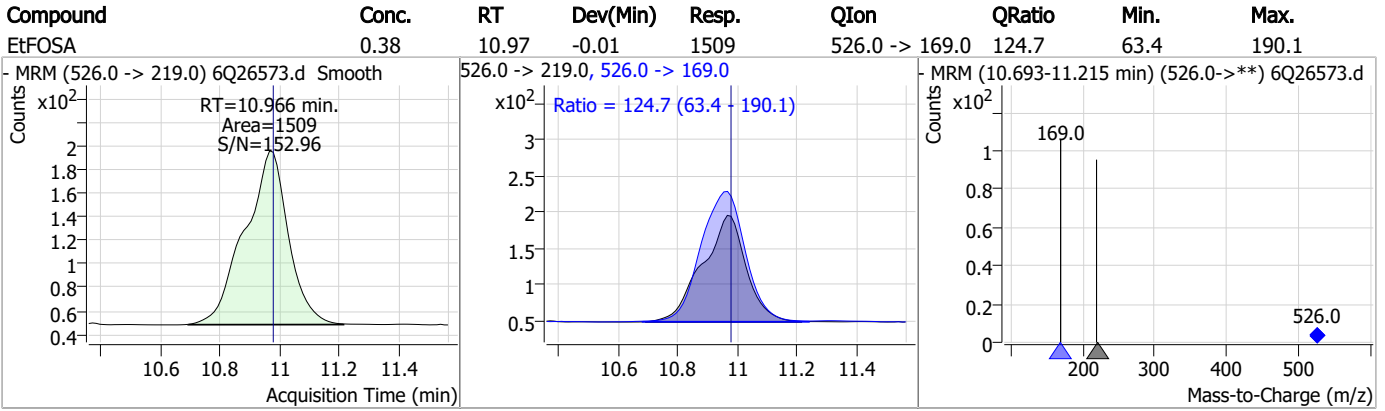
### Perfluorinated Compounds by LC/MS/MS



7.7.21

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### Perfluorinated Compounds by LC/MS/MS



7.7.21

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# Manual Integration Approval Summary

Sample Number: S6Q373-IC373      Method: EPA DRAFT 1633  
Lab FileID: 6Q26573.D      Analyst approved: 10/18/23 16:28 Anna Ludwig  
Injection Time: 10/17/23 18:11      Supervisor approved: 10/19/23 09:36 Natasha Guntie

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		7.23	Split peak
Perfluorooctanesulfonic acid	1763-23-1		8.27	Split peak

7.7.21.1

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## Perfluorinated Compounds by LC/MS/MS

Data File : 6Q26574.d  
 Operator : marthav  
 Acq. Method : 1633full.m  
 Acq. Date-Time : 10/17/2023 6:26:07 PM  
 Sample Name : ic373-2  
 Vial : P1-A3  
 DA Method File : 1633\_101723\_S6Q373.quantmethod.xml  
 Batch Name : S6Q373.batch.bin  
 Sample Information : OP99081,S6Q373,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
<b>Internal Standards</b>					
M4-PFBA	2.913	216.8 -> 171.9	143950	10.00 µg/L	0.000
M5-PFPeA	4.346	268.3 -> 223.0	47323	5.00 µg/L	0.000
M5-PFHxA	5.565	318.0 -> 273.0	47312	2.50 µg/L	0.012
M4-PFHpA	6.493	367.1 -> 322.0	48443	2.50 µg/L	0.000
M8-PFOA	7.136	421.1 -> 376.0	65163	2.50 µg/L	0.000
M9-PFNA	7.654	472.1 -> 427.0	24748	1.25 µg/L	0.000
M6-PFDA	8.121	519.1 -> 474.1	27988	1.25 µg/L	0.000
M7-PFUnDA	8.564	570.0 -> 525.1	31640	1.25 µg/L	-0.012
M2-PFDoDA	8.993	615.1 -> 570.0	34452	1.25 µg/L	0.000
M2-PFTeDA	9.708	715.2 -> 670.0	13113	1.25 µg/L	0.000
M8-FOSA	9.642	506.1 -> 77.8	24521	2.50 µg/L	0.000
M3-PFBS	5.471	302.1 -> 79.9	20909	2.50 µg/L	0.000
M3-PFHxS	7.227	402.1 -> 79.9	11945	2.50 µg/L	0.000
M8-PFOS	8.272	507.1 -> 79.9	11469	2.50 µg/L	0.000
M2-4:2FTS	5.228	329.1 -> 80.9	2449	5.00 µg/L	0.000
M2-6:2FTS	6.910	429.1 -> 80.9	3098	5.00 µg/L	0.000
M2-8:2FTS	7.922	529.1 -> 80.9	3943	5.00 µg/L	0.000
M3-MeFOSAA	8.178	573.2 -> 419.0	25295	5.00 µg/L	0.000
M3-HFPO-DA	5.930	286.9 -> 168.9	31238	10.00 µg/L	0.012
M5-EtFOSAA	8.374	589.2 -> 419.0	20133	5.00 µg/L	0.000
M7-MeFOSE	10.665	623.2 -> 58.9	86537	25.00 µg/L	0.000
M9-EtFOSE	10.899	639.2 -> 58.9	110460	25.00 µg/L	0.000
M5-EtFOSA	10.977	531.1 -> 219.0	8485	2.50 µg/L	0.000
M3-MeFOSA	10.745	515.0 -> 219.0	7048	2.50 µg/L	0.000
13C4-PFOS	8.273	502.8 -> 79.9	10865	2.50 µg/L	0.000
13C3-PFBA	2.916	216.0 -> 172.0	58444	5.00 µg/L	0.000
18O2-PFHxS	7.226	403.0 -> 83.9	7206	2.50 µg/L	0.000
13C4-PFOA	7.125	417.1 -> 372.0	72897	2.50 µg/L	0.000
13C2-PFDA	8.122	515.1 -> 470.1	24781	1.25 µg/L	0.000
13C5-PFNA	7.654	468.0 -> 423.0	23506	1.25 µg/L	0.000
13C2-PFHxA	5.553	315.1 -> 270.0	45621	2.50 µg/L	0.000
<b>System Monitoring Compounds</b>					
13C2-4:2FTS	5.228	329.1 -> 80.9	2449	5.44 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 108.8%		
13C2-6:2FTS	6.910	429.1 -> 80.9	3098	4.87 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 97.5%		
13C2-8:2FTS	7.922	529.1 -> 80.9	3943	5.30 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 105.9%		
13C2-PFDoDA	8.993	615.1 -> 570.0	34452	1.29 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 103.0%		
13C2-PFTeDA	9.708	715.2 -> 670.0	13113	1.31 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 104.5%		
13C3-PFBS	5.471	302.1 -> 79.9	20909	2.62 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 104.9%		
13C3-PFHxS	7.227	402.1 -> 79.9	11945	2.53 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 = 101.3%	
13C4-PFBA	2.913	216.8 -> 171.9	143950	10.00 µg/L	0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 100.0%	
13C4-PFHpA	6.493	367.1 -> 322.0	48443	2.62 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 104.7%	
13C5-PFHxA	5.565	318.0 -> 273.0	47312	2.59 µg/L	0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 103.5%	
13C5-PFPeA	4.346	268.3 -> 223.0	47323	5.15 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 103.0%	
13C6-PFDA	8.121	519.1 -> 474.1	27988	1.33 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 106.0%	
13C7-PFUnDA	8.564	570.0 -> 525.1	31640	1.38 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 110.6%	
13C8-FOSA	9.642	506.1 -> 77.8	24521	2.45 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 98.1%	
13C8-PFOA	7.136	421.1 -> 376.0	65163	2.50 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 100.0%	
13C8-PFOS	8.272	507.1 -> 79.9	11469	2.39 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 95.5%	
13C9-PFNA	7.654	472.1 -> 427.0	24748	1.22 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 98.0%	
d3-MeFOSAA	8.178	573.2 -> 419.0	25295	5.02 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 100.4%	
13C3-HFPO-DA	5.930	286.9 -> 168.9	31238	10.41 µg/L	0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 104.1%	
d3-MeFOSA	10.745	515.0 -> 219.0	7048	2.33 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 93.4%	
d5-EtFOSAA	8.374	589.2 -> 419.0	20133	4.80 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 96.0%	
d7-MeFOSE	10.665	623.2 -> 58.9	86537	24.63 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 98.5%	
d9-EtFOSE	10.899	639.2 -> 58.9	110460	25.44 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 101.8%	
d5-EtFOSA	10.977	531.1 -> 219.0	8485	2.43 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 97.1%	
<b>Target Compounds</b>					<b>QValue</b>
4:2FTS	5.229	327.1 -> 307.0	6920	1.61 µg/L	97
		327.1 -> 80.9	2659		
6:2FTS	6.911	427.1 -> 407.0	6858	1.97 µg/L	95
		427.1 -> 80.9	2517		
8:2FTS	7.923	527.1 -> 507.0	4835	1.63 µg/L	97
		527.1 -> 80.8	1738		
EtFOSAA	8.375	584.2 -> 419.1	1333	0.40 µg/L	93
		584.2 -> 526.0	846		
FOSA	9.645	498.1 -> 77.9	4234	0.42 µg/L	99
		498.1 -> 478.0	98		
MeFOSAA	8.179	570.1 -> 419.0	2201	0.44 µg/L	99
		570.1 -> 483.0	538		
PFBA	2.919	212.8 -> 168.9	9247	1.67 µg/L	100
PFBS	5.472	298.7 -> 79.9	2528	0.37 µg/L	99
		298.7 -> 98.8	953		
PFDA	8.122	512.9 -> 469.0	10005	0.44 µg/L	92
		512.9 -> 219.0	1395		
PFDODA	8.994	613.1 -> 569.0	11537	0.43 µg/L	100
		613.1 -> 319.0	1357		
PFDS	9.145	599.0 -> 79.9	1378	0.44 µg/L	85

## Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
		599.0 -> 98.8	588			
PFHpA	6.493	363.1 -> 319.0	10466	0.39	µg/L	99
		363.1 -> 169.0	1558			
PFHpS	7.781	449.0 -> 79.9	2025	0.42	µg/L	98
		449.0 -> 98.9	972			
PFHxA	5.555	313.0 -> 269.0	7388	0.42	µg/L	100
		313.0 -> 118.9	376			
PFHxS	7.228	398.7 -> 79.9	1929	0.38	µg/L	m 98
		398.7 -> 98.9	1017			
PFNA	7.655	463.0 -> 419.0	5550	0.37	µg/L	94
		463.0 -> 219.0	1334			
PFNS	8.726	548.8 -> 79.9	1774	0.41	µg/L	99
		548.8 -> 98.9	834			
PFOA	7.138	413.0 -> 369.0	11482	0.41	µg/L	98
		413.0 -> 169.0	1914			
PFOS	8.261	498.9 -> 79.9	1986	0.39	µg/L	m 84
		498.9 -> 98.8	1038			
PFPeA	4.349	263.0 -> 219.0	9328	0.84	µg/L	100
PFPeS	6.545	349.1 -> 79.9	2577	0.40	µg/L	92
		349.1 -> 98.9	1285			
PFTeDA	9.708	713.1 -> 669.0	7443	0.42	µg/L	97
		713.1 -> 168.9	618			
PFTrDA	9.377	663.0 -> 619.0	9400	0.43	µg/L	100
		663.0 -> 168.9	687			
PFUnDA	8.564	563.1 -> 519.0	10184	0.41	µg/L	95
		563.1 -> 269.1	1287			
11CI-PF3OUdS	9.416	630.9 -> 450.9	8288	0.77	µg/L	97
		632.9 -> 452.9	2663			
9CI-PF3ONS	8.603	530.8 -> 351.0	14298	0.78	µg/L	95
		532.8 -> 353.0	4473			
ADONA	6.743	376.9 -> 250.9	37091	0.79	µg/L	97
		376.9 -> 84.8	10072			
HFPO-DA	5.931	284.9 -> 168.9	2775	0.85	µg/L	91
		284.9 -> 184.9	242			
3:3FTCA	3.764	241.0 -> 177.0	1648	2.04	µg/L	97
		241.0 -> 117.0	203			
5:3FTCA	6.197	341.0 -> 237.1	36491	10.34	µg/L	98
		341.0 -> 217.0	26062			
7:3FTCA	7.607	441.0 -> 316.9	21628	10.22	µg/L	93
		441.0 -> 336.9	42105			
EtFOSA	10.966	526.0 -> 219.0	3551	0.87	µg/L	96
		526.0 -> 169.0	4318			
EtFOSE	10.913	630.0 -> 58.9	9147	2.00	µg/L	100
MeFOSA	10.746	511.9 -> 219.0	2949	0.85	µg/L	94
		511.9 -> 169.0	4160			
MeFOSE	10.678	616.1 -> 58.9	7562	2.06	µg/L	100
PFDoDS	9.823	699.1 -> 79.9	742	0.42	µg/L	97
		699.1 -> 98.8	404			
NFDHA	5.435	295.0 -> 201.0	1875	0.86	µg/L	96
		295.0 -> 84.9	468			
PFMBA	4.762	279.0 -> 85.1	6943	0.82	µg/L	100
PFMPA	3.475	229.0 -> 84.9	5696	0.82	µg/L	100
PFEESA	6.011	314.8 -> 134.9	15260	0.69	µg/L	99
		314.8 -> 82.9	518			

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

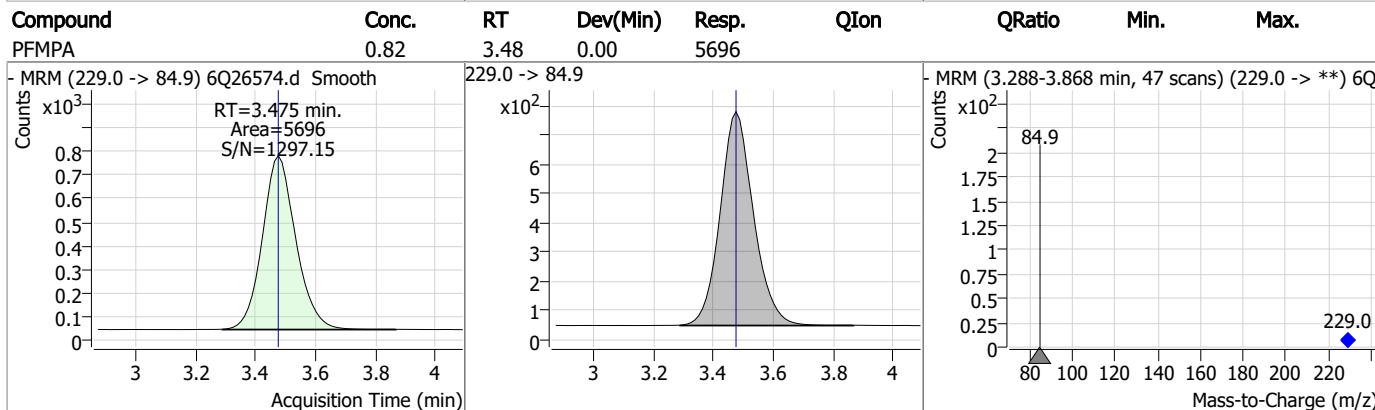
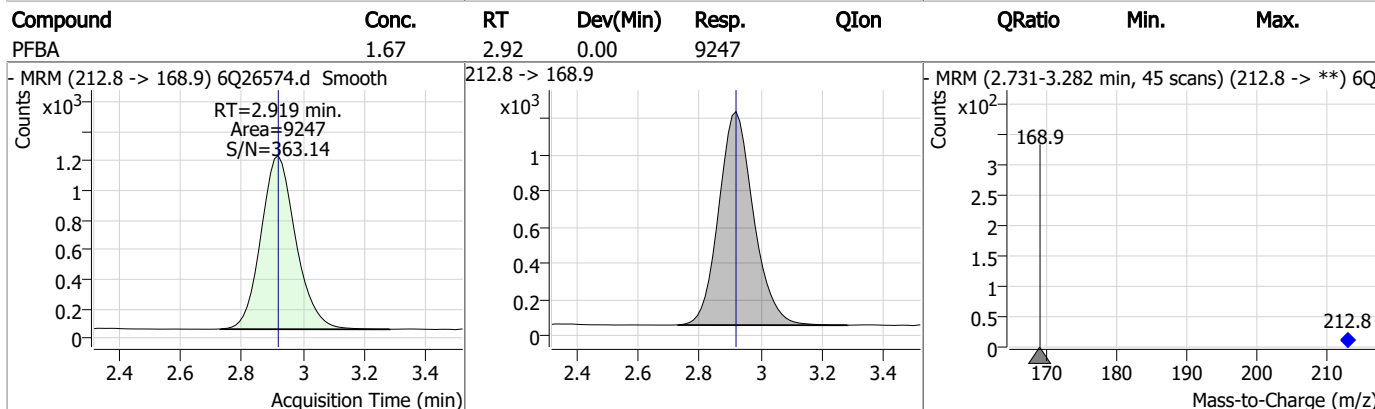
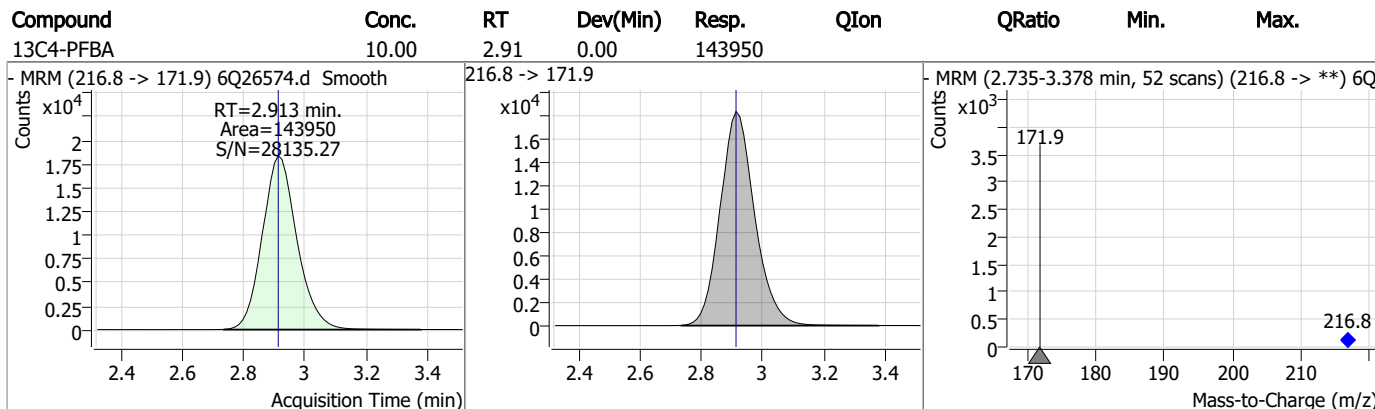
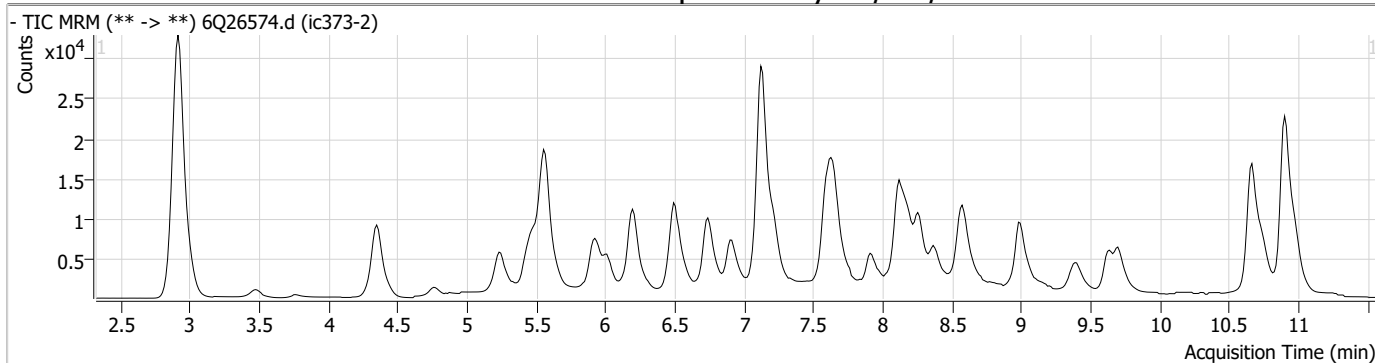
### Perfluorinated Compounds by LC/MS/MS

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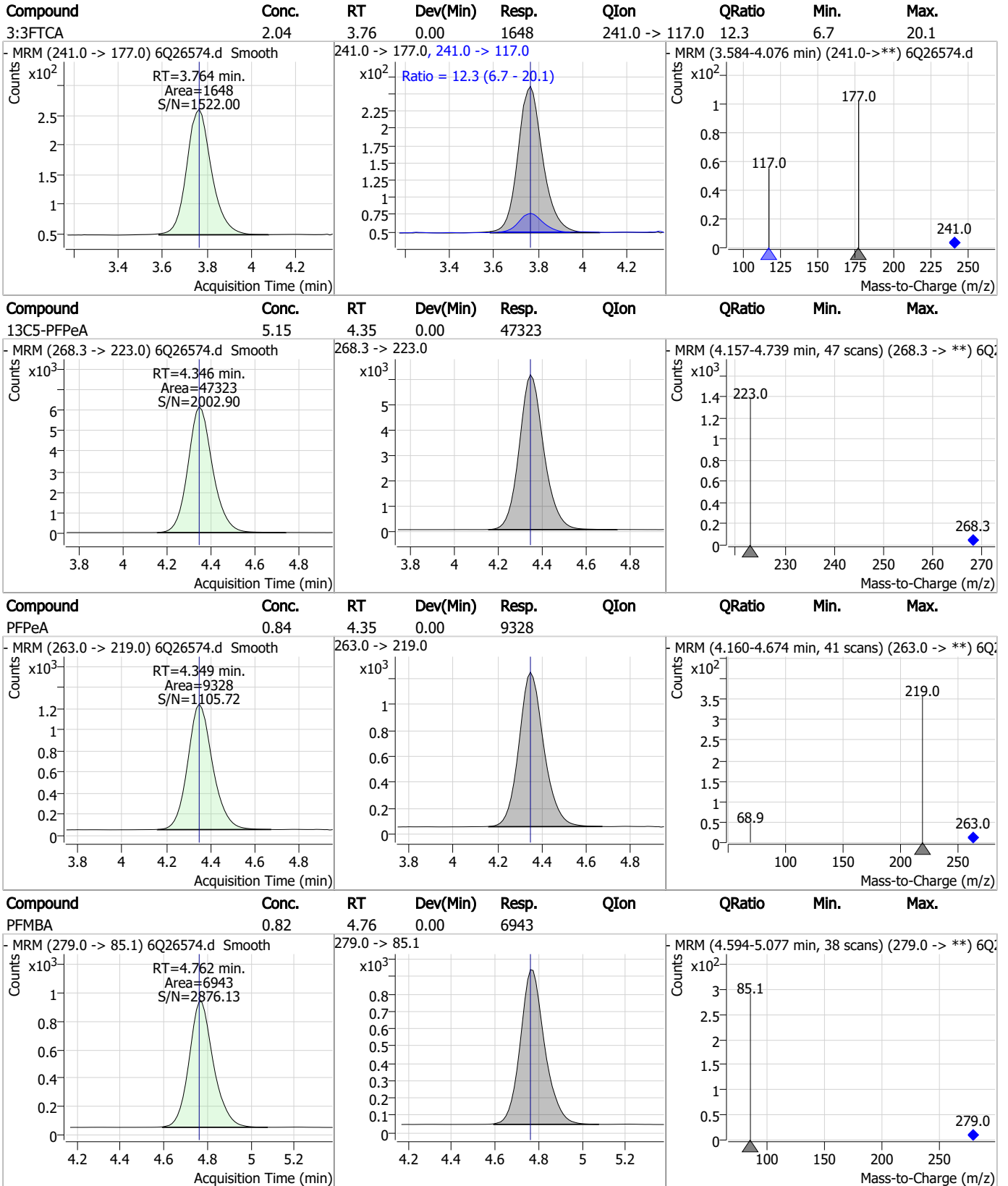
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### Perfluorinated Compounds by LC/MS/MS



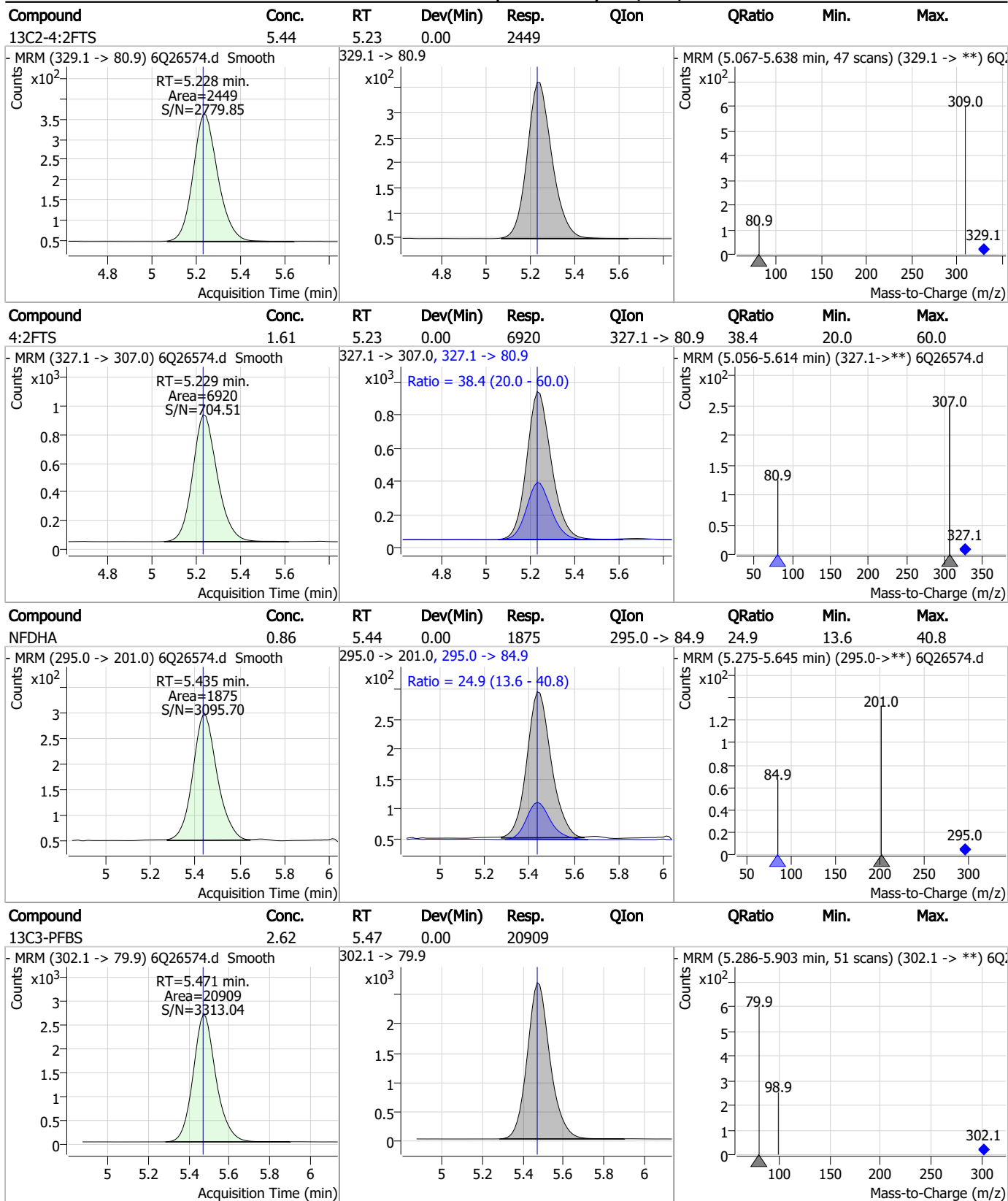
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### Perfluorinated Compounds by LC/MS/MS



7.7.22 7

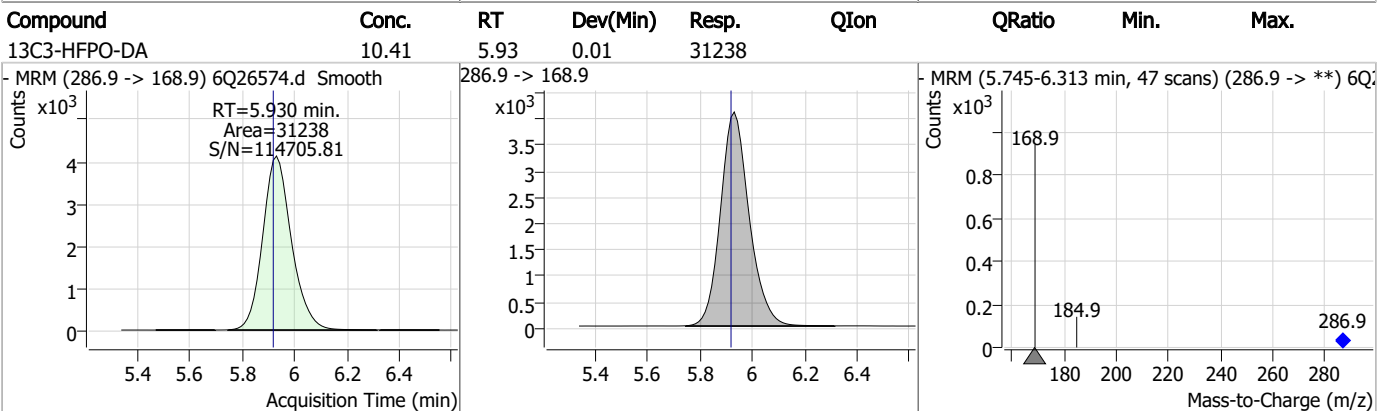
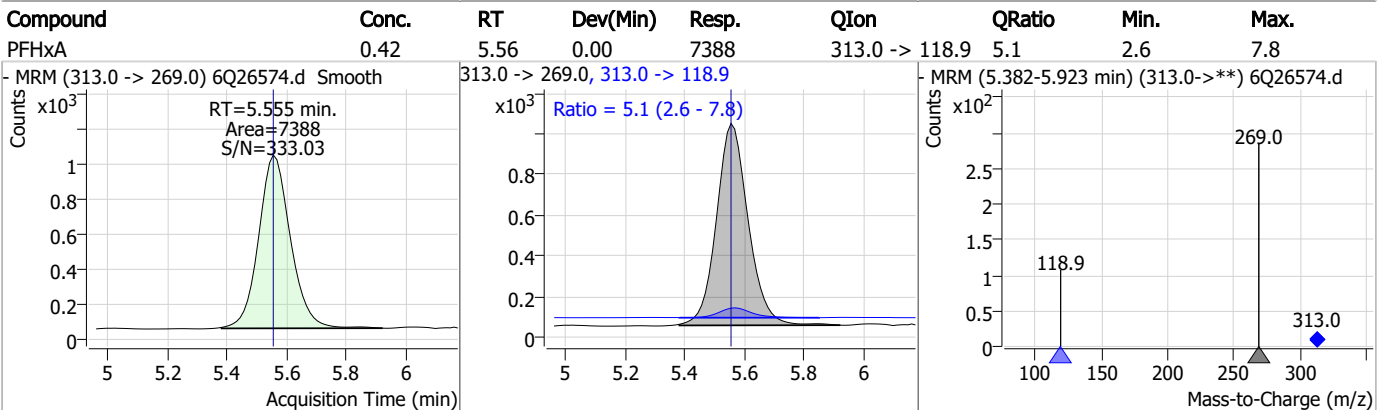
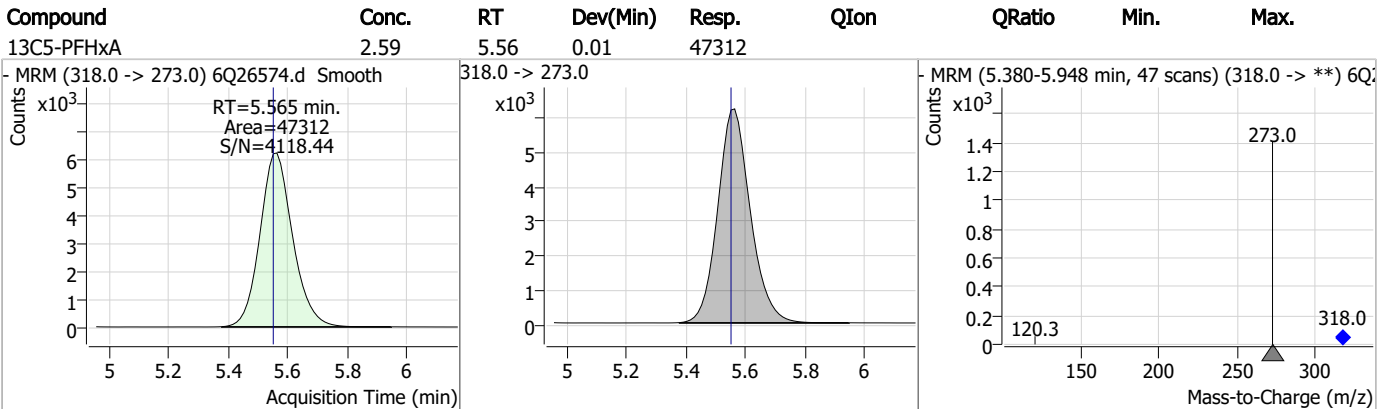
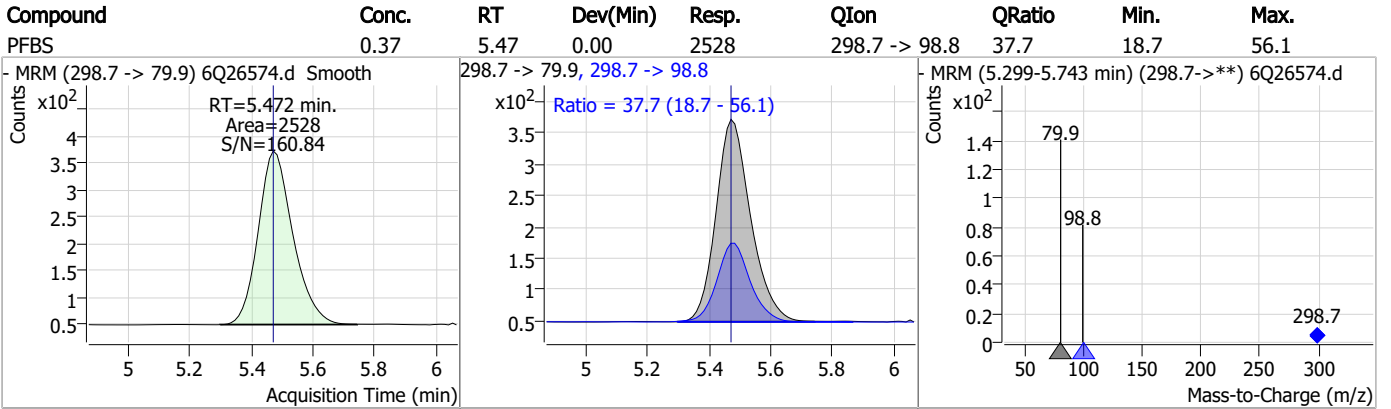
### Perfluorinated Compounds by LC/MS/MS



7.7.22

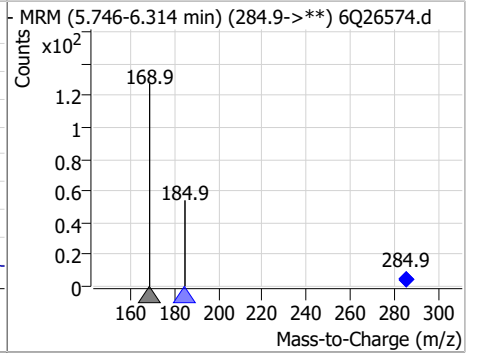
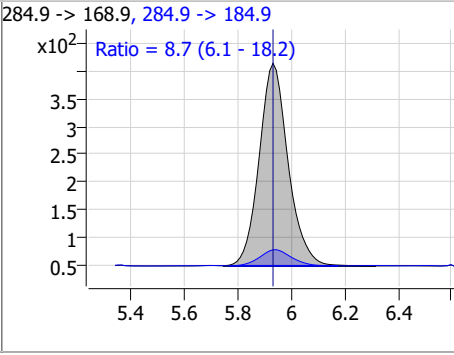
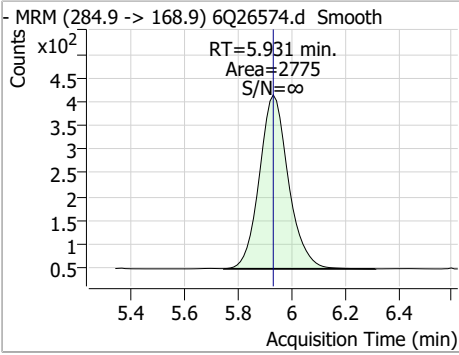


### Perfluorinated Compounds by LC/MS/MS

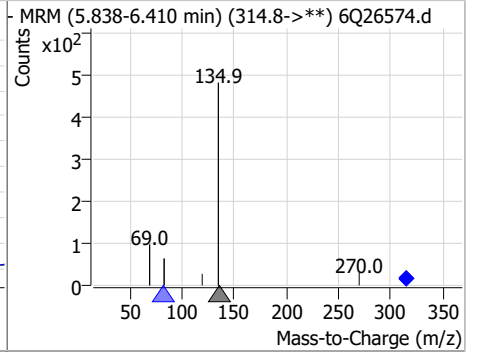
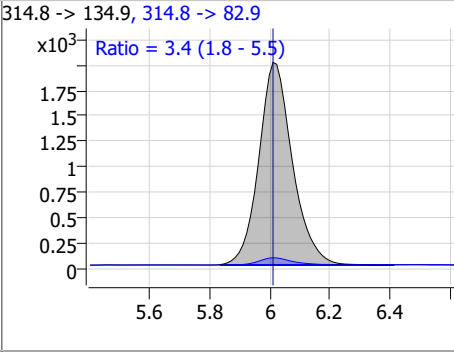
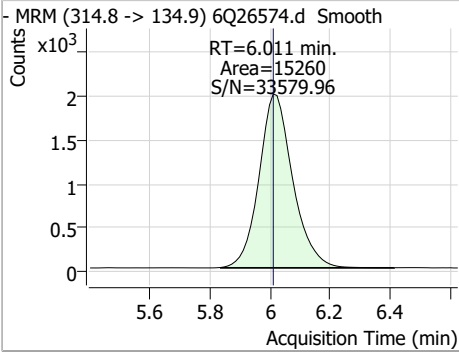


### Perfluorinated Compounds by LC/MS/MS

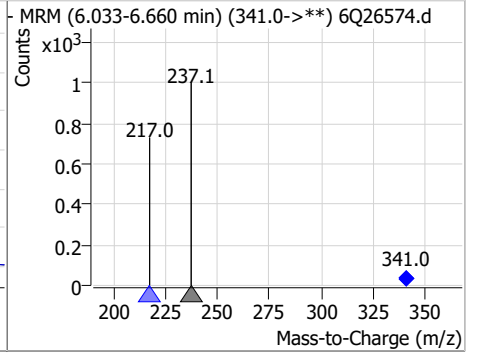
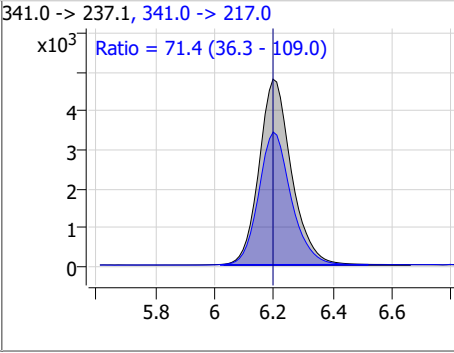
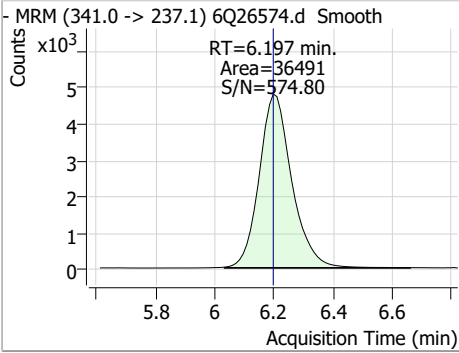
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
HFPO-DA	0.85	5.93	0.00	2775	284.9 -> 184.9	8.7	6.1	18.2



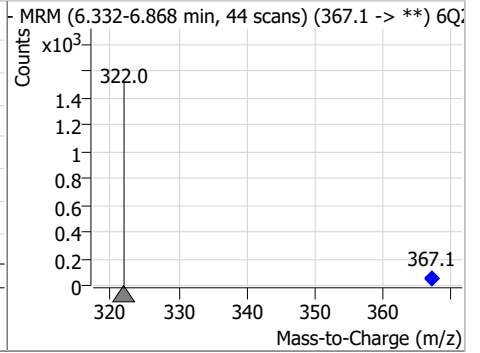
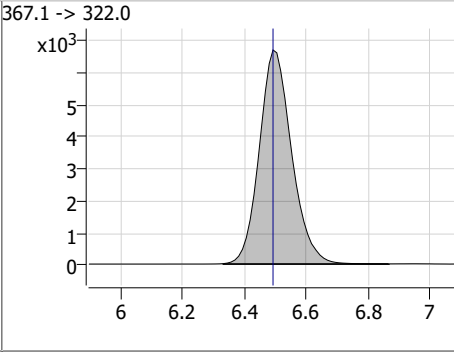
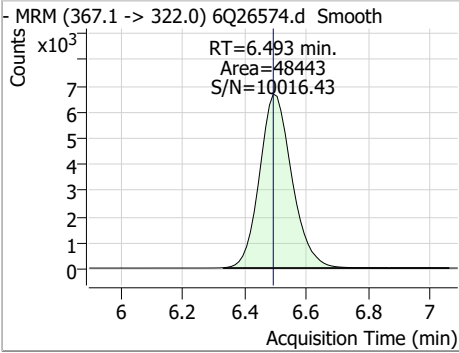
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFEESA	0.69	6.01	0.00	15260	314.8 -> 82.9	3.4	1.8	5.5



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
5:3FTCA	10.34	6.20	0.00	36491	341.0 -> 217.0	71.4	36.3	109.0

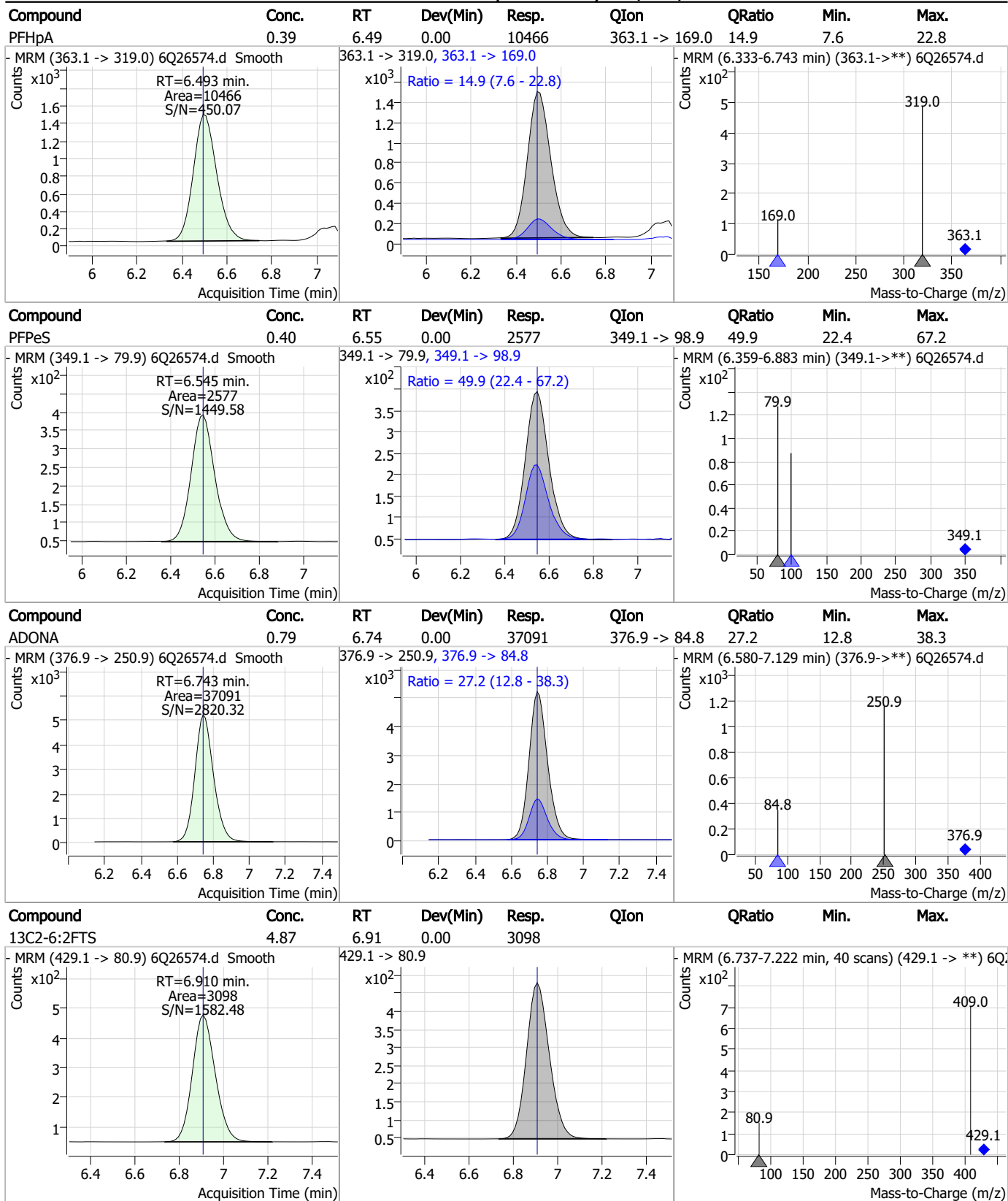


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFHpA	2.62	6.49	0.00	48443	367.1 -> 322.0			



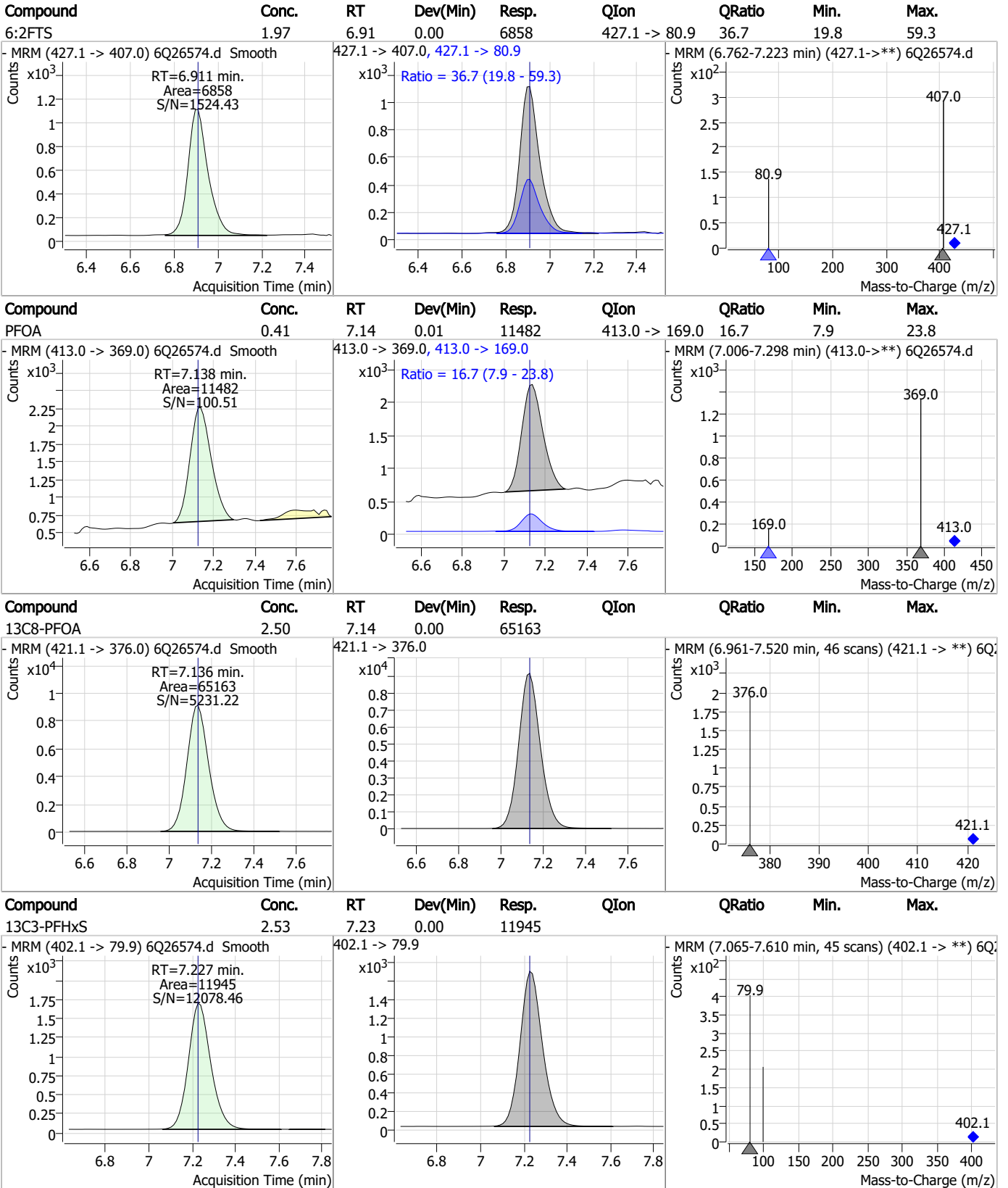
7.7.22 7

### Perfluorinated Compounds by LC/MS/MS



7.7.22  
7

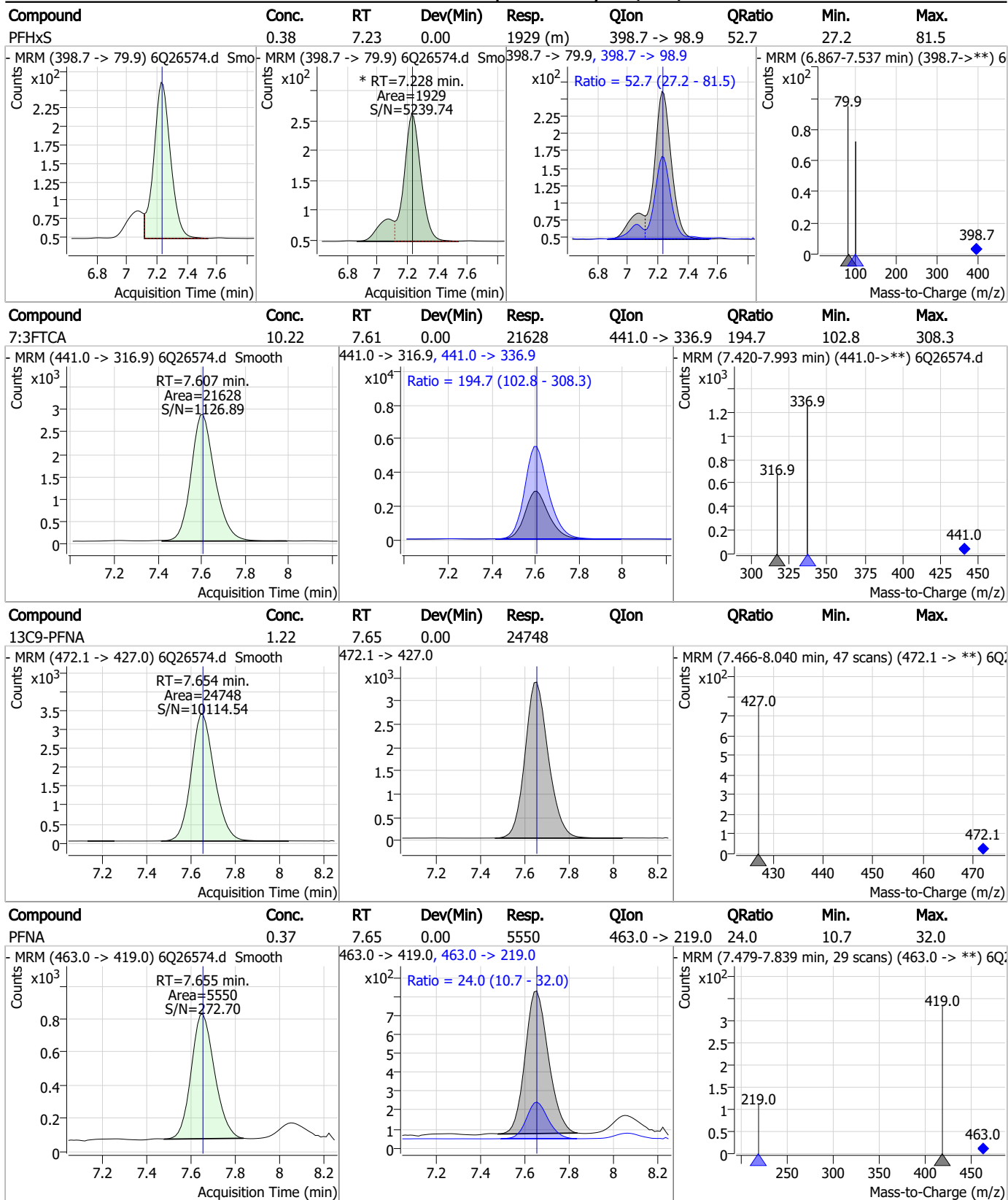
### Perfluorinated Compounds by LC/MS/MS



7.7.22

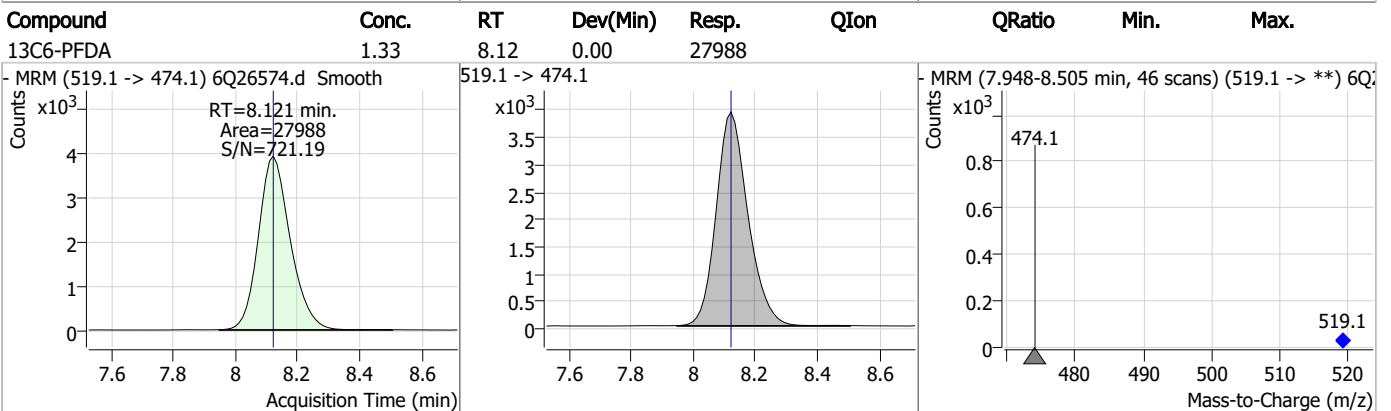
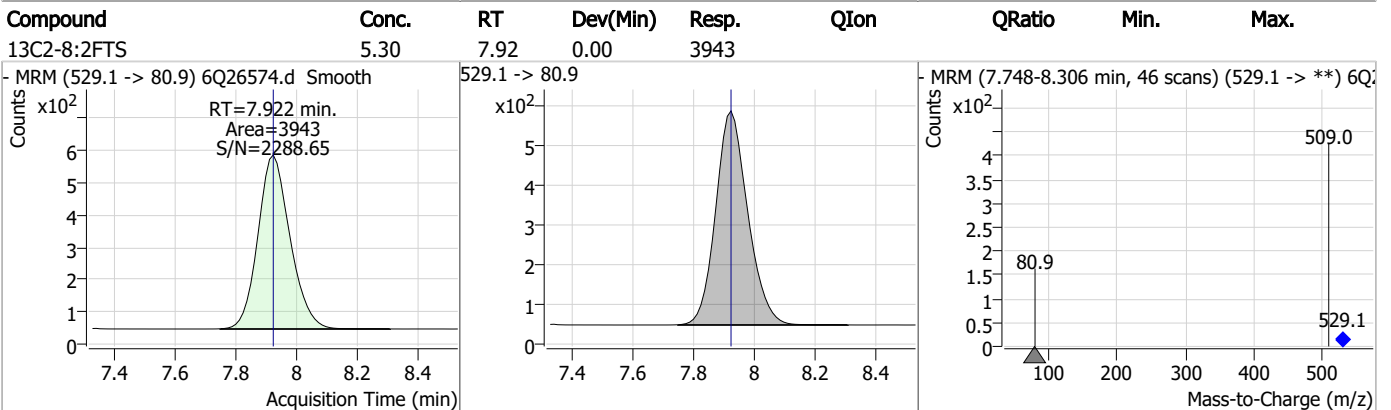
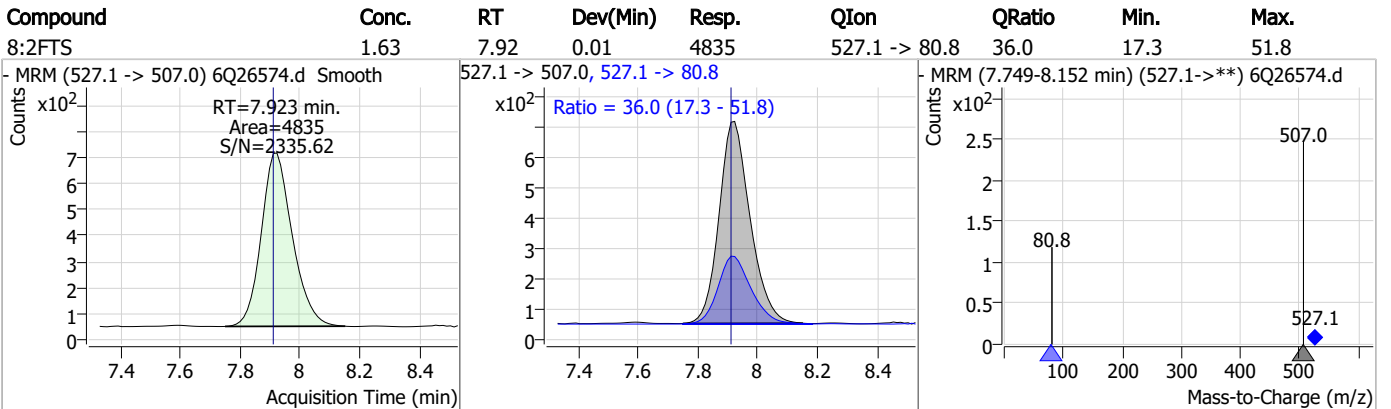
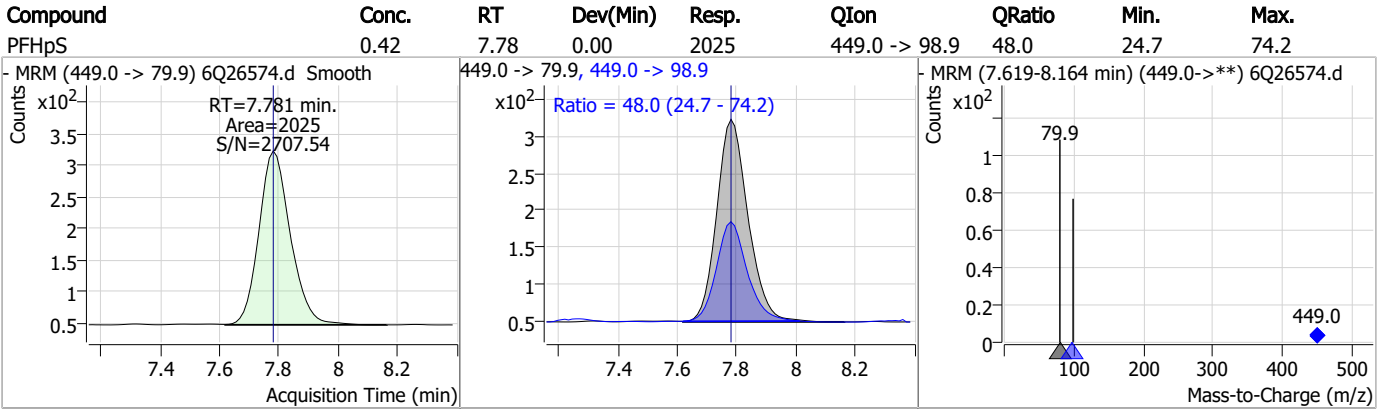
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### Perfluorinated Compounds by LC/MS/MS



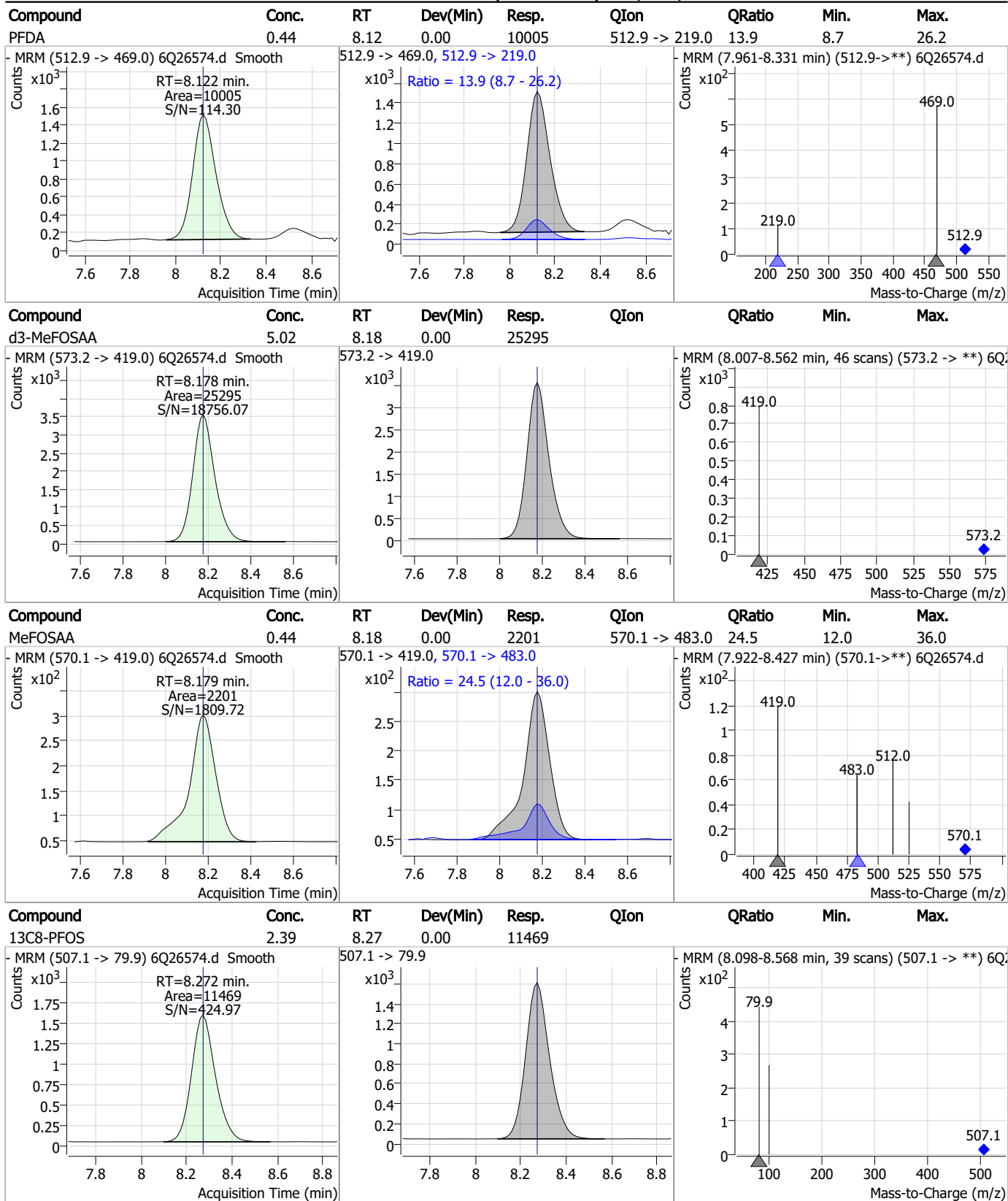
7.7.22  
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### Perfluorinated Compounds by LC/MS/MS



7.7.22 7

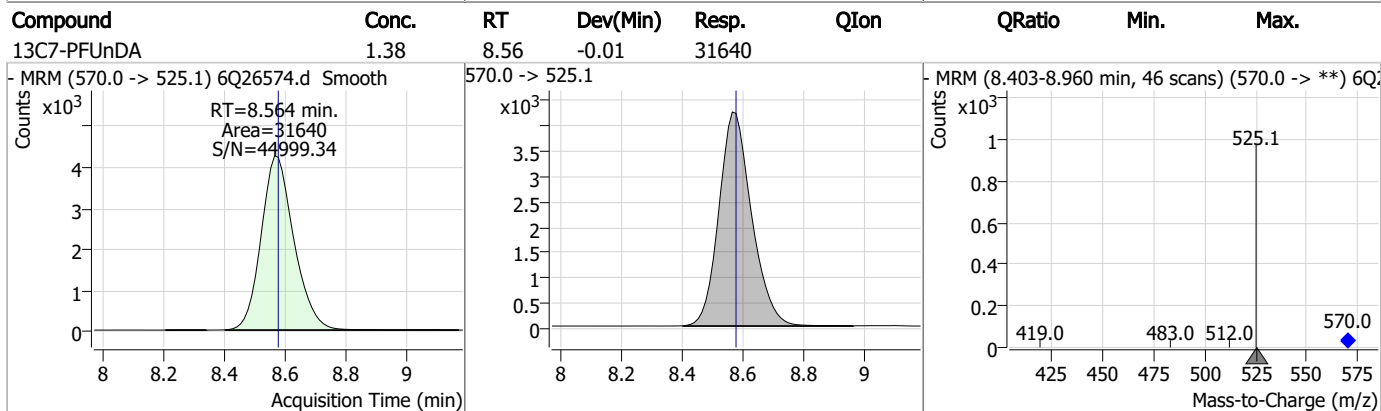
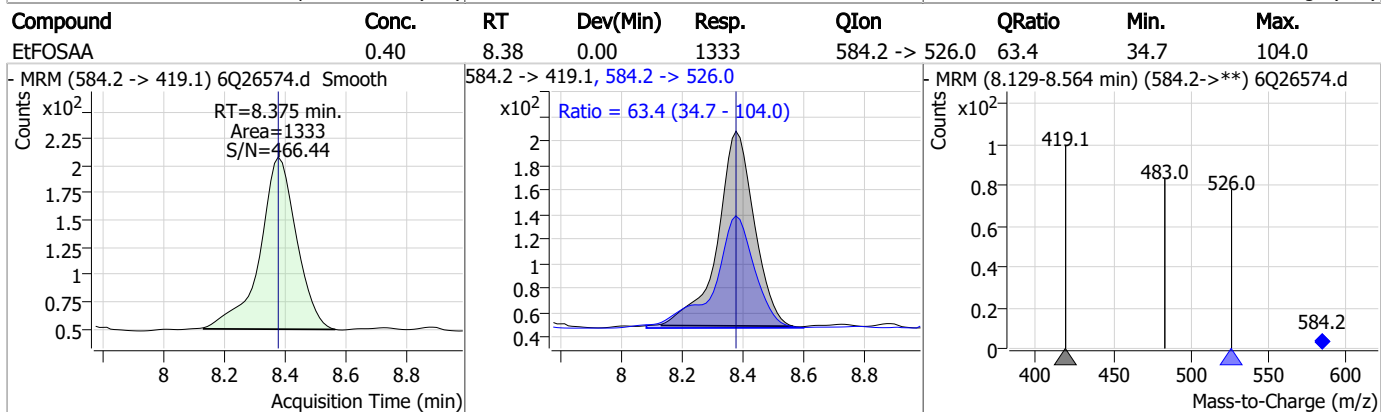
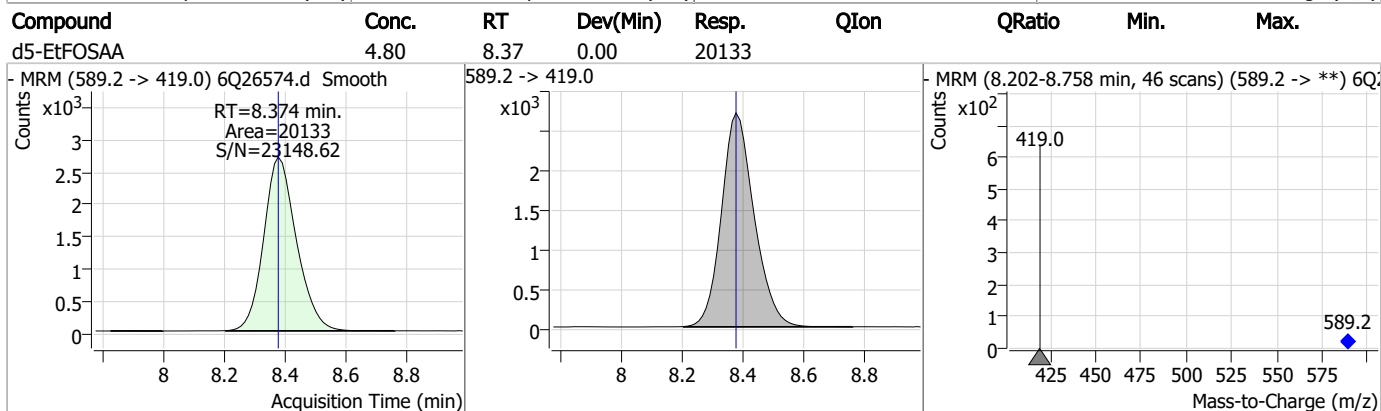
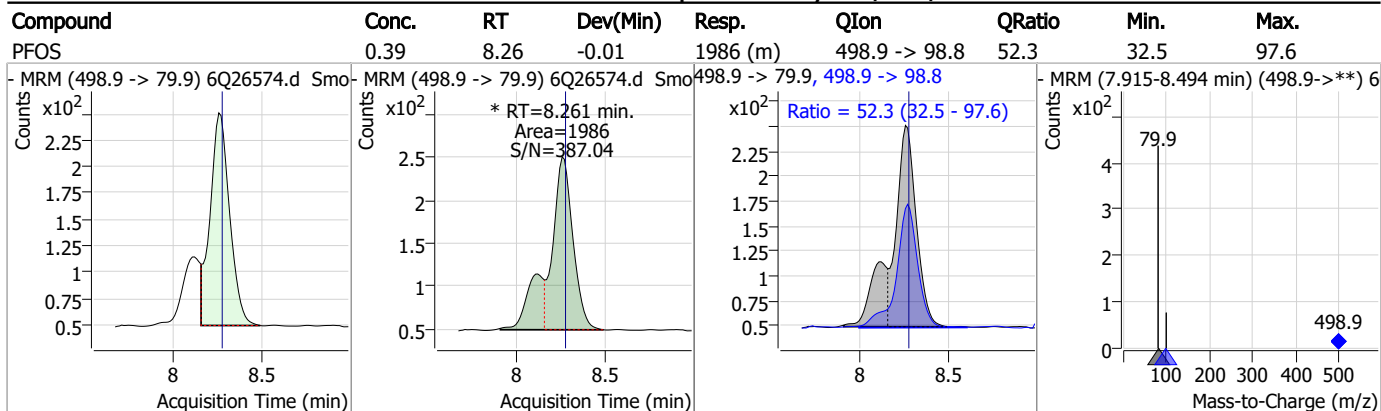
### Perfluorinated Compounds by LC/MS/MS



7.7.22

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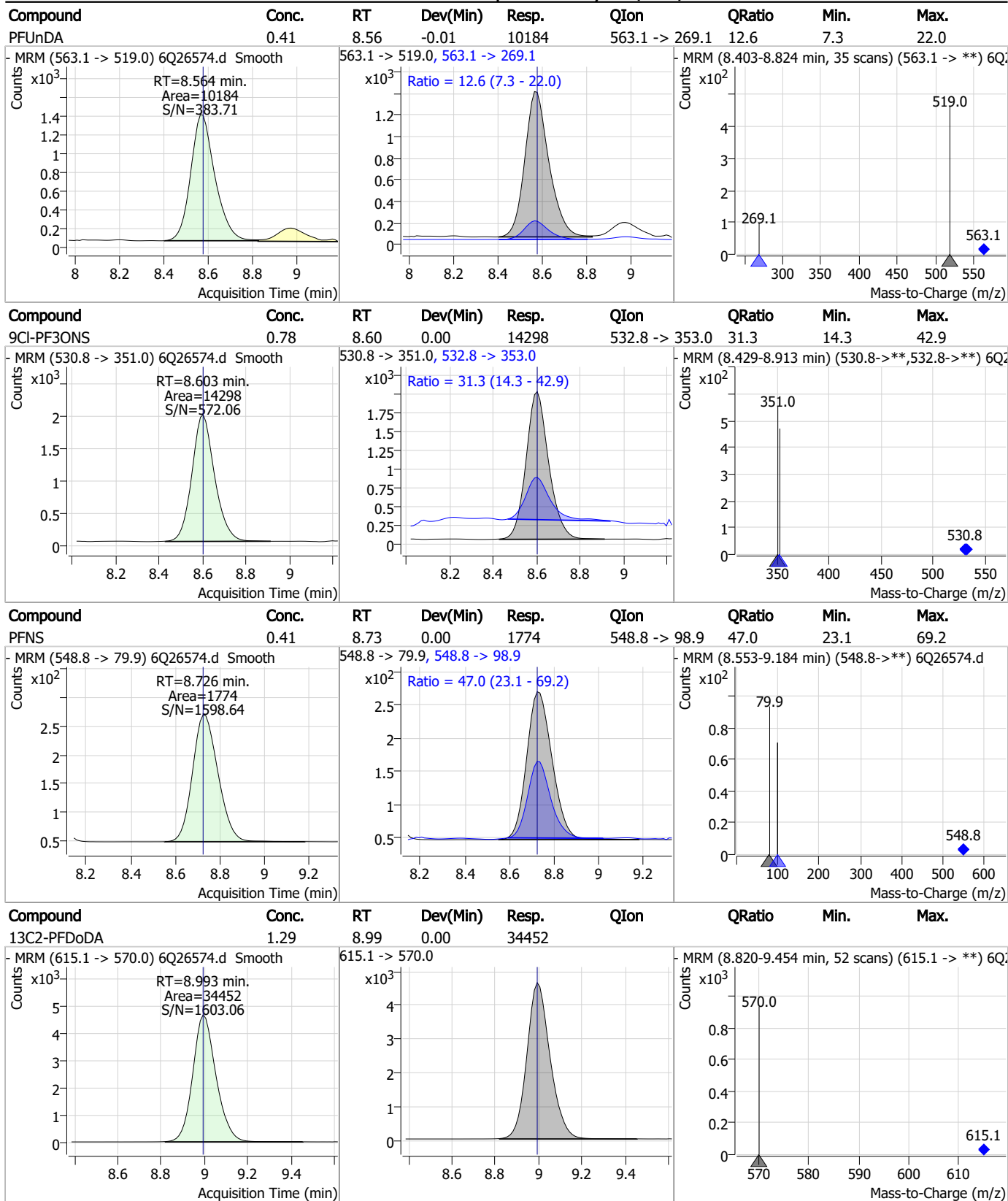
### Perfluorinated Compounds by LC/MS/MS



7.7.22  
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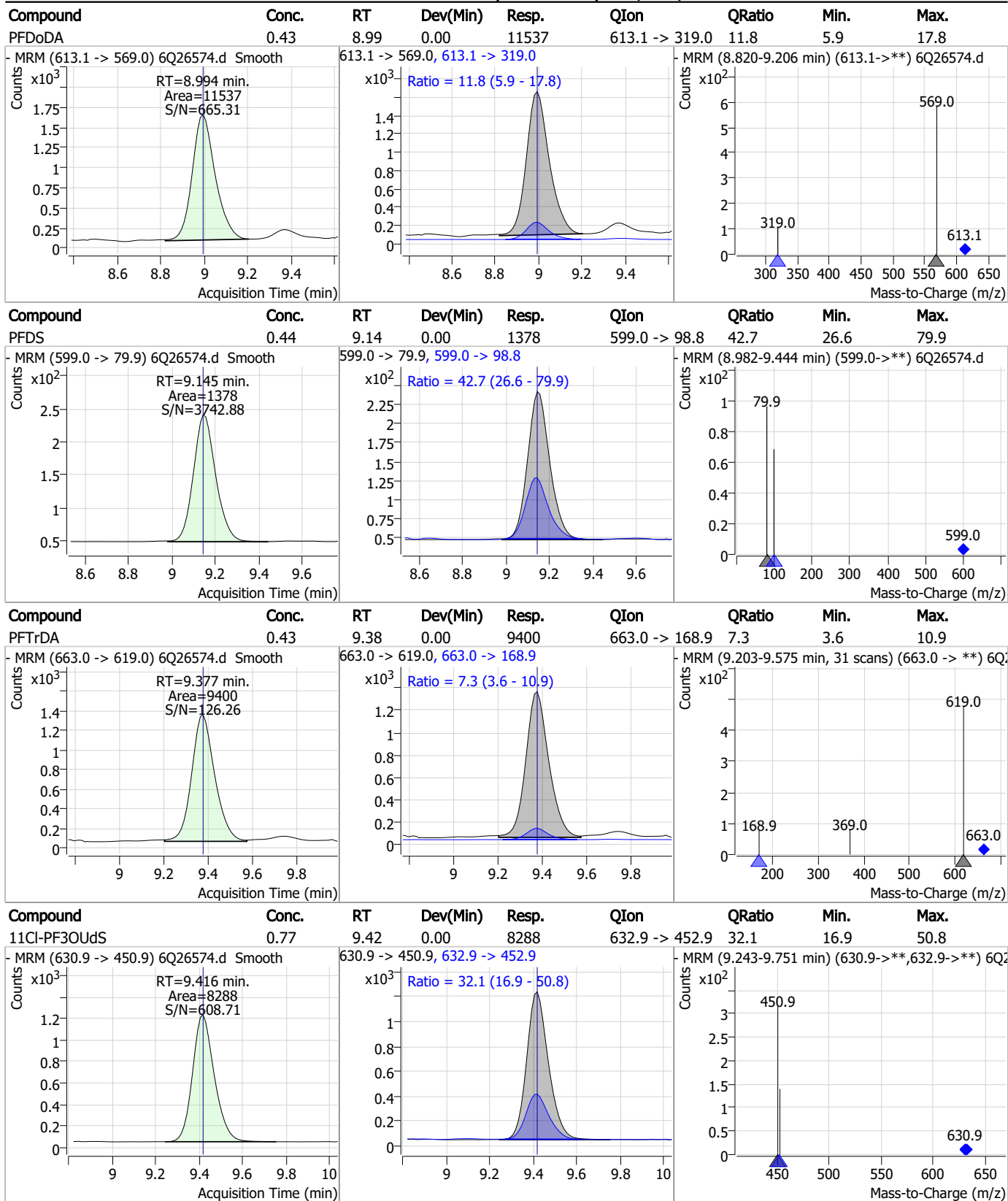
### Perfluorinated Compounds by LC/MS/MS



7.7.22

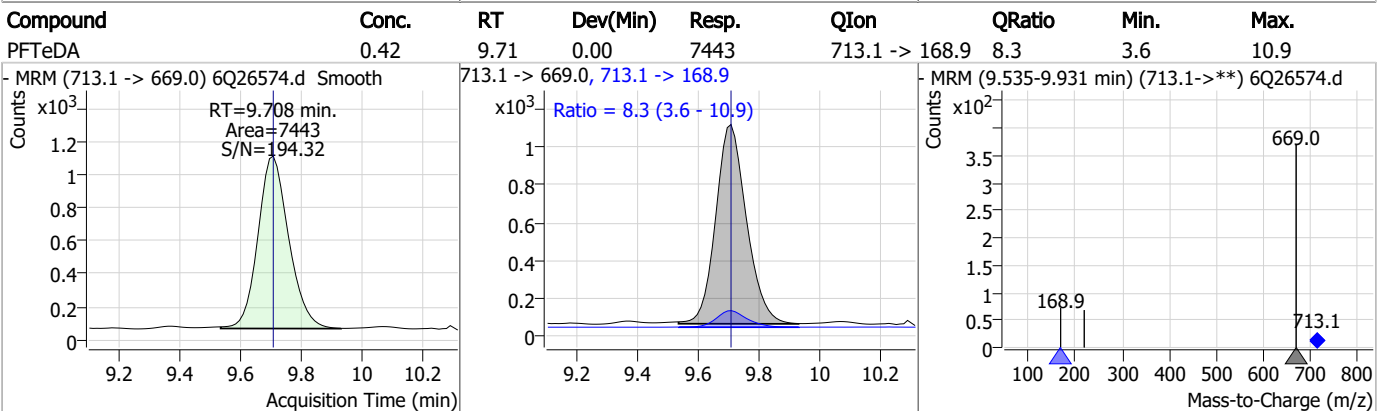
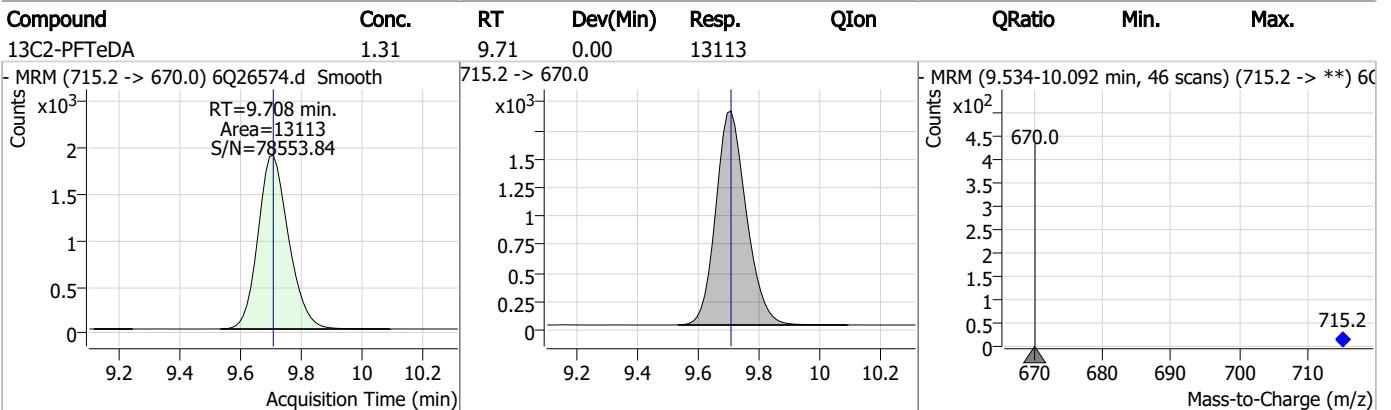
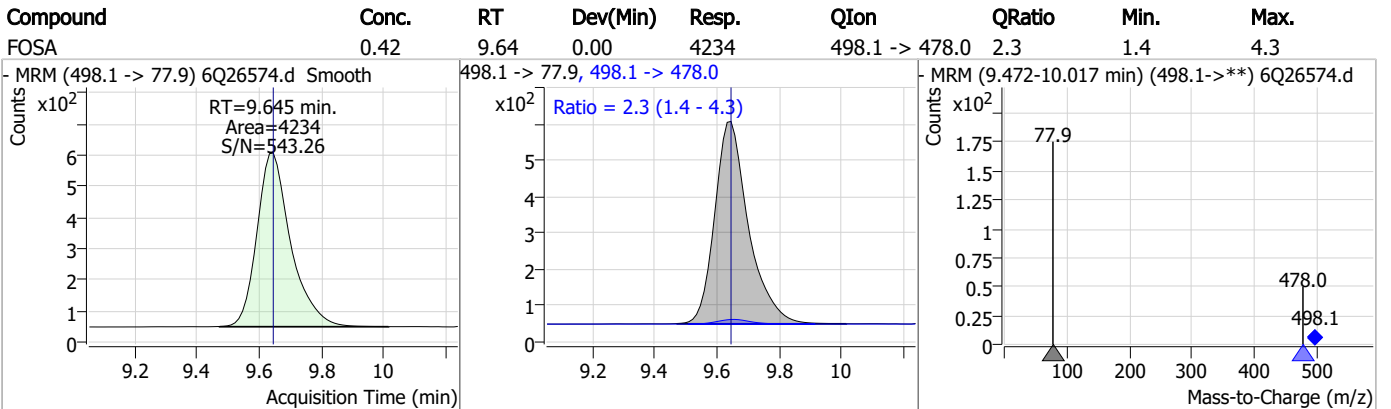
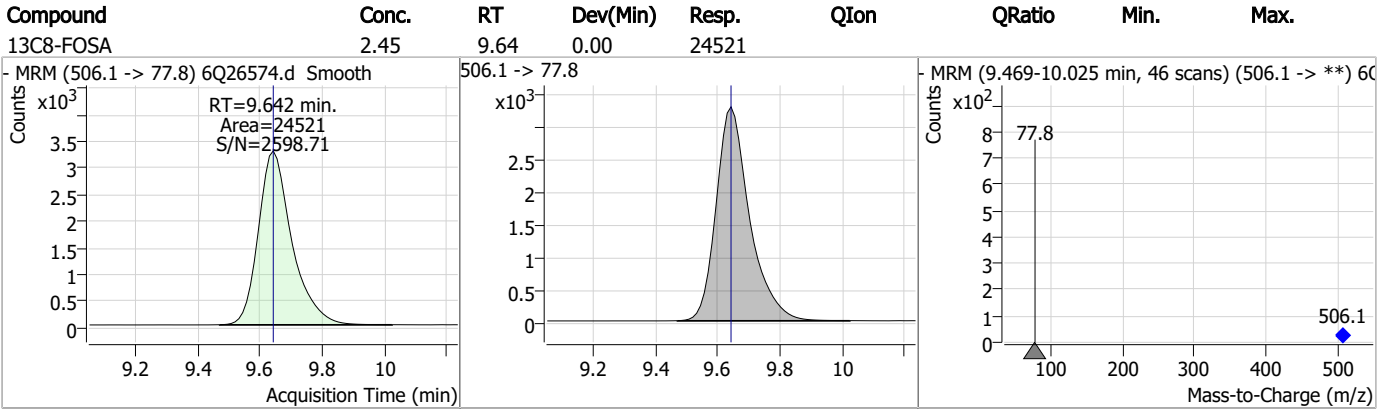
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### Perfluorinated Compounds by LC/MS/MS



7.7.22

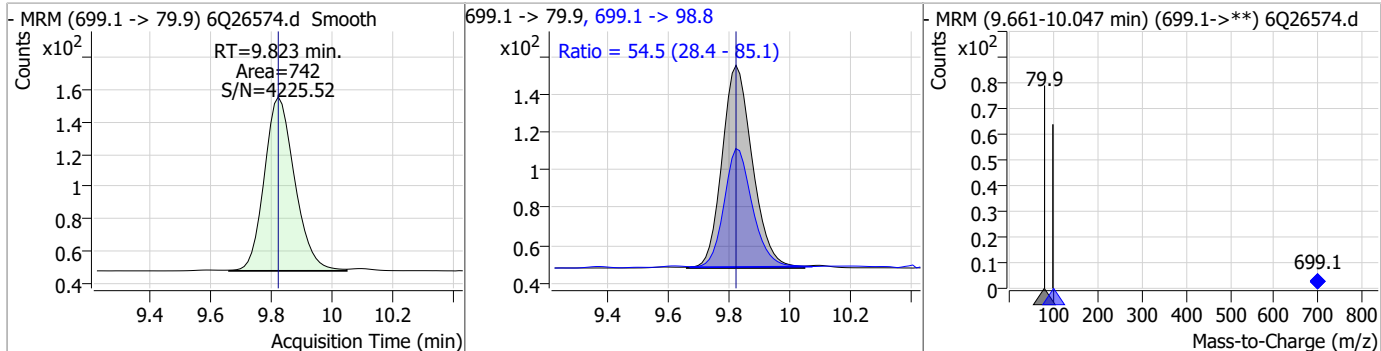
### Perfluorinated Compounds by LC/MS/MS



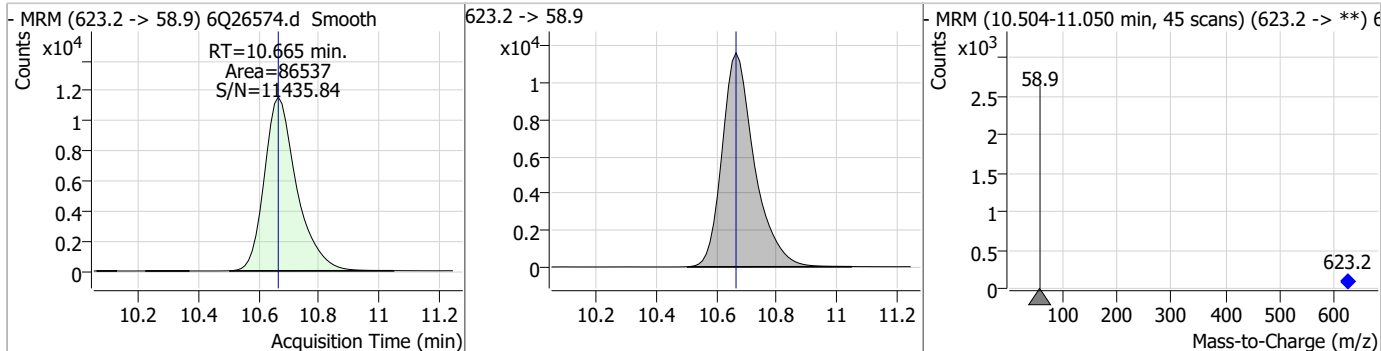
7.7.22 7

### Perfluorinated Compounds by LC/MS/MS

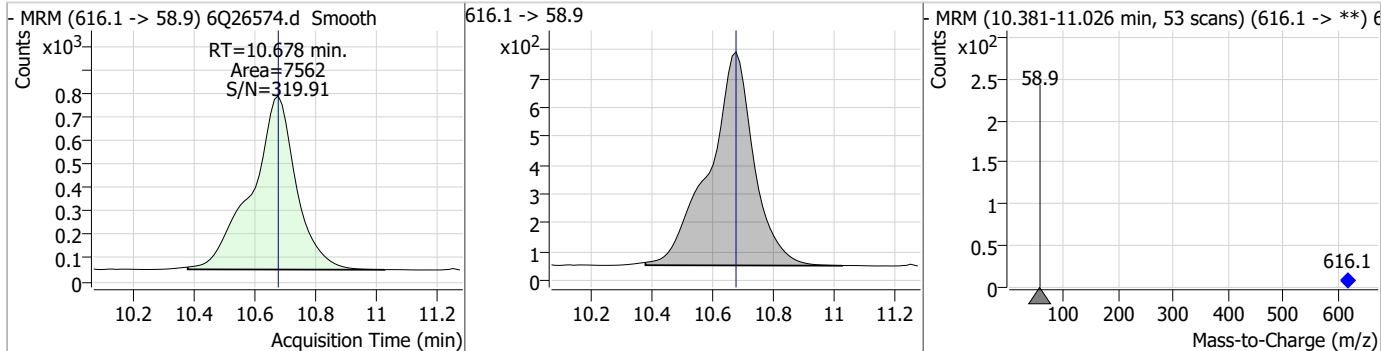
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoS	0.42	9.82	0.00	742	699.1 -> 98.8	54.5	28.4	85.1



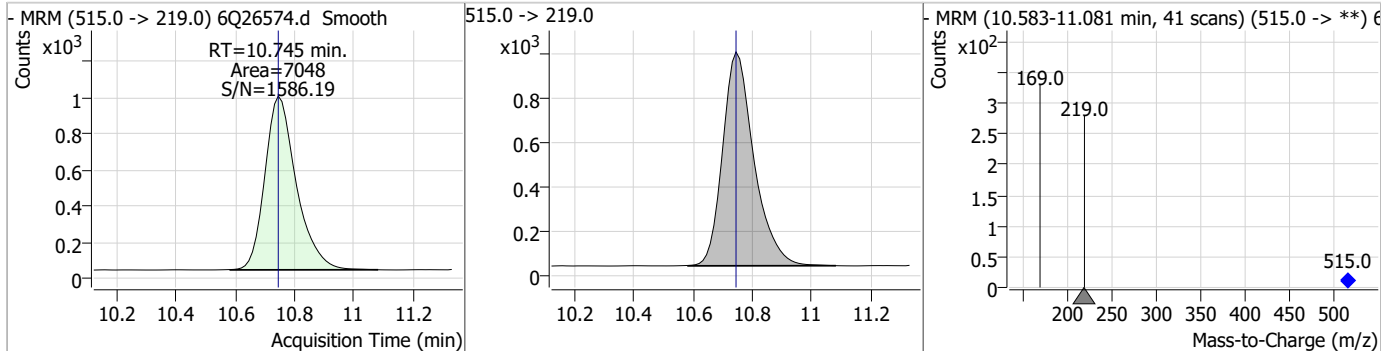
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d7-MeFOSE	24.63	10.67	0.00	86537				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSE	2.06	10.68	0.00	7562				

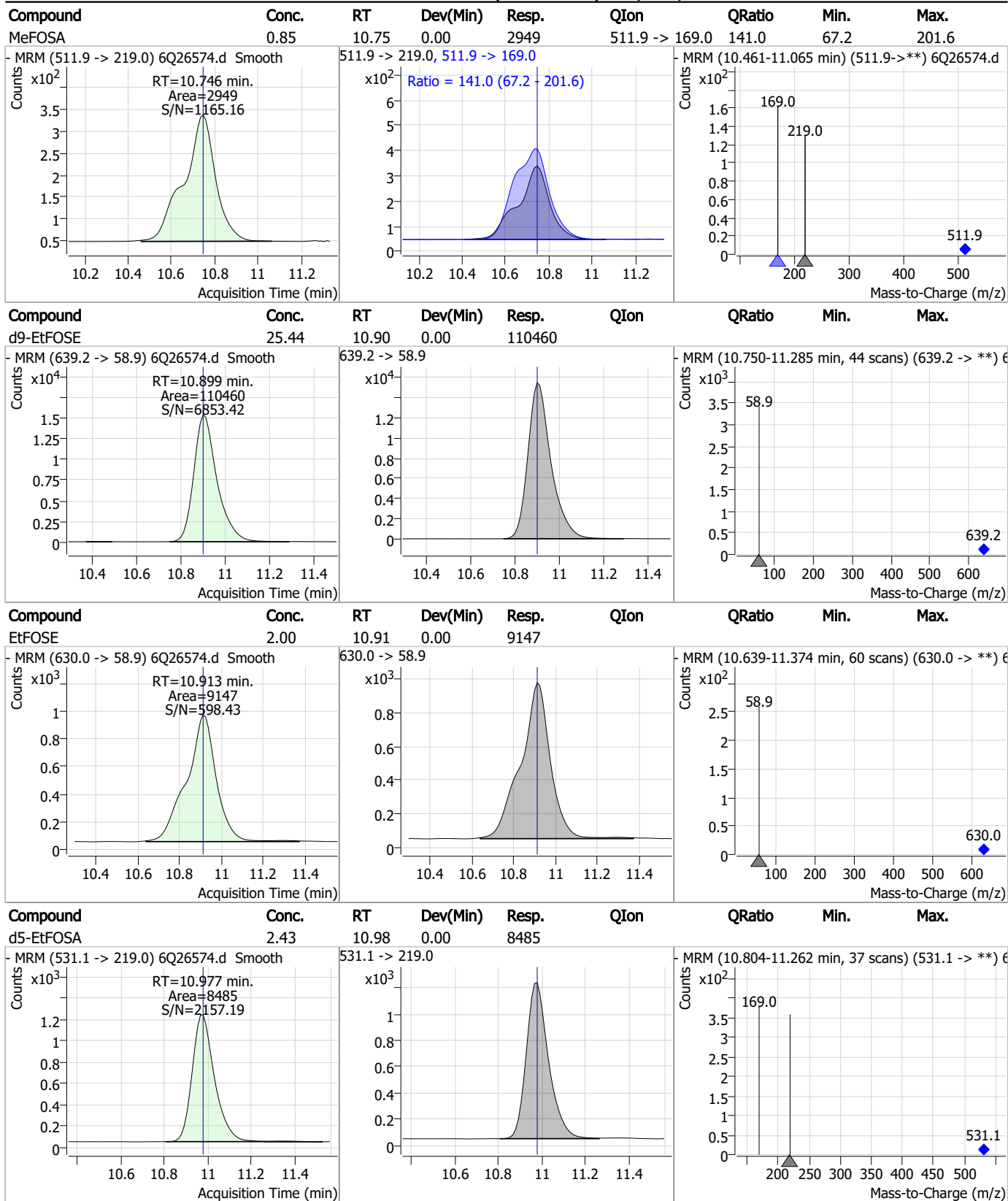


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSA	2.33	10.74	0.00	7048				



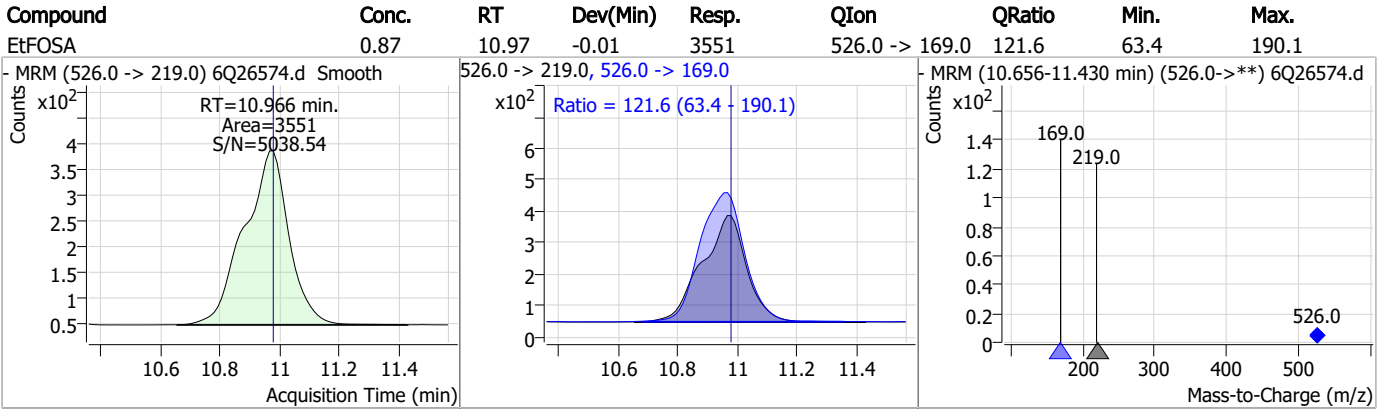
7.7.22 7

### Perfluorinated Compounds by LC/MS/MS



7.7.22

Perfluorinated Compounds by LC/MS/MS



7.7.22

7

# Manual Integration Approval Summary

Sample Number: S6Q373-IC373      Method: EPA DRAFT 1633  
Lab FileID: 6Q26574.D      Analyst approved: 10/18/23 16:28 Anna Ludwig  
Injection Time: 10/17/23 18:26      Supervisor approved: 10/19/23 09:36 Natasha Guntie

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		7.23	Split peak
Perfluorooctanesulfonic acid	1763-23-1		8.26	Split peak

7.7.22.1

7

## Perfluorinated Compounds by LC/MS/MS

Data File : 6Q26575.d  
 Operator : marthav  
 Acq. Method : 1633full.m  
 Acq. Date-Time : 10/17/2023 6:40:27 PM  
 Sample Name : ic373-3  
 Vial : P1-A4  
 DA Method File : 1633\_101723\_S6Q373.quantmethod.xml  
 Batch Name : S6Q373.batch.bin  
 Sample Information : OP99081,S6Q373,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
<b>Internal Standards</b>					
M4-PFBA	2.913	216.8 -> 171.9	143239	10.00 µg/L	0.000
M5-PFPeA	4.346	268.3 -> 223.0	46339	5.00 µg/L	0.000
M5-PFHxA	5.552	318.0 -> 273.0	46521	2.50 µg/L	0.000
M4-PFHpA	6.493	367.1 -> 322.0	46808	2.50 µg/L	0.000
M8-PFOA	7.124	421.1 -> 376.0	66125	2.50 µg/L	-0.012
M9-PFNA	7.642	472.1 -> 427.0	24014	1.25 µg/L	-0.012
M6-PFDA	8.121	519.1 -> 474.1	28340	1.25 µg/L	0.000
M7-PFUnDA	8.576	570.0 -> 525.1	30136	1.25 µg/L	0.000
M2-PFDoDA	8.993	615.1 -> 570.0	33787	1.25 µg/L	0.000
M2-PFTeDA	9.708	715.2 -> 670.0	12856	1.25 µg/L	0.000
M8-FOSA	9.642	506.1 -> 77.8	23252	2.50 µg/L	0.000
M3-PFBS	5.471	302.1 -> 79.9	20366	2.50 µg/L	0.000
M3-PFHxS	7.227	402.1 -> 79.9	11808	2.50 µg/L	0.000
M8-PFOS	8.272	507.1 -> 79.9	12432	2.50 µg/L	0.000
M2-4:2FTS	5.241	329.1 -> 80.9	2349	5.00 µg/L	0.012
M2-6:2FTS	6.910	429.1 -> 80.9	3593	5.00 µg/L	0.000
M2-8:2FTS	7.922	529.1 -> 80.9	3603	5.00 µg/L	0.000
M3-MeFOSAA	8.178	573.2 -> 419.0	23497	5.00 µg/L	0.000
M3-HFPO-DA	5.930	286.9 -> 168.9	30340	10.00 µg/L	0.012
M5-EtFOSAA	8.374	589.2 -> 419.0	20109	5.00 µg/L	0.000
M7-MeFOSE	10.665	623.2 -> 58.9	85771	25.00 µg/L	0.000
M9-EtFOSE	10.899	639.2 -> 58.9	105757	25.00 µg/L	0.000
M5-EtFOSA	10.977	531.1 -> 219.0	8818	2.50 µg/L	0.000
M3-MeFOSA	10.745	515.0 -> 219.0	7166	2.50 µg/L	0.000
13C4-PFOS	8.273	502.8 -> 79.9	9765	2.50 µg/L	0.000
13C3-PFBA	2.916	216.0 -> 172.0	57788	5.00 µg/L	0.000
18O2-PFHxS	7.226	403.0 -> 83.9	7236	2.50 µg/L	0.000
13C4-PFOA	7.125	417.1 -> 372.0	69091	2.50 µg/L	0.000
13C2-PFDA	8.122	515.1 -> 470.1	26152	1.25 µg/L	0.000
13C5-PFNA	7.654	468.0 -> 423.0	22015	1.25 µg/L	0.000
13C2-PFHxA	5.565	315.1 -> 270.0	46342	2.50 µg/L	0.012
<b>System Monitoring Compounds</b>					
13C2-4:2FTS	5.241	329.1 -> 80.9	2349	5.20 µg/L	0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 103.9%		
13C2-6:2FTS	6.910	429.1 -> 80.9	3593	5.63 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 112.6%		
13C2-8:2FTS	7.922	529.1 -> 80.9	3603	4.82 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 96.4%		
13C2-PFDoDA	8.993	615.1 -> 570.0	33787	1.20 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 95.7%		
13C2-PFTeDA	9.708	715.2 -> 670.0	12856	1.21 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 97.1%		
13C3-PFBS	5.471	302.1 -> 79.9	20366	2.54 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 101.7%		
13C3-PFHxS	7.227	402.1 -> 79.9	11808	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 = 99.7%		
13C4-PFBA	2.913	216.8 -> 171.9	143239	10.06 µg/L	0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%		Recovery = 100.6%		
13C4-PFHpA	6.493	367.1 -> 322.0	46808	2.49 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 99.6%		
13C5-PFHxA	5.552	318.0 -> 273.0	46521	2.50 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 100.2%		
13C5-PFPeA	4.346	268.3 -> 223.0	46339	4.96 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 99.3%		
13C6-PFDA	8.121	519.1 -> 474.1	28340	1.27 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 101.7%		
13C7-PFUnDA	8.576	570.0 -> 525.1	30136	1.25 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 99.8%		
13C8-FOSA	9.642	506.1 -> 77.8	23252	2.59 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 103.5%		
13C8-PFOA	7.124	421.1 -> 376.0	66125	2.68 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 107.0%		
13C8-PFOS	8.272	507.1 -> 79.9	12432	2.88 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 115.2%		
13C9-PFNA	7.642	472.1 -> 427.0	24014	1.27 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 101.5%		
d3-MeFOSAA	8.178	573.2 -> 419.0	23497	5.19 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 103.8%		
13C3-HFPO-DA	5.930	286.9 -> 168.9	30340	9.96 µg/L	0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%		Recovery = 99.6%		
d3-MeFOSA	10.745	515.0 -> 219.0	7166	2.64 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 105.6%		
d5-EtFOSAA	8.374	589.2 -> 419.0	20109	5.33 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 106.6%		
d7-MeFOSE	10.665	623.2 -> 58.9	85771	27.17 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%		Recovery = 108.7%		
d9-EtFOSE	10.899	639.2 -> 58.9	105757	27.10 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%		Recovery = 108.4%		
d5-EtFOSA	10.977	531.1 -> 219.0	8818	2.81 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 112.3%		
<b>Target Compounds</b>					<b>QValue</b>
4:2FTS	5.229	327.1 -> 307.0	20240	4.90 µg/L	97
		327.1 -> 80.9	7772		
6:2FTS	6.911	427.1 -> 407.0	17968	4.44 µg/L	98
		427.1 -> 80.9	6902		
8:2FTS	7.923	527.1 -> 507.0	13705	5.05 µg/L	86
		527.1 -> 80.8	5826		
EtFOSAA	8.375	584.2 -> 419.1	4430	1.33 µg/L	96
		584.2 -> 526.0	2910		
FOSA	9.645	498.1 -> 77.9	12320	1.28 µg/L	99
		498.1 -> 478.0	393		
MeFOSAA	8.179	570.1 -> 419.0	6367	1.36 µg/L	99
		570.1 -> 483.0	1551		
PFBA	2.919	212.8 -> 168.9	27452	4.99 µg/L	100
PFBS	5.472	298.7 -> 79.9	7732	1.16 µg/L	99
		298.7 -> 98.8	2849		
PFDA	8.122	512.9 -> 469.0	27866	1.20 µg/L	100
		512.9 -> 219.0	4843		
PFDODA	8.994	613.1 -> 569.0	33505	1.26 µg/L	100
		613.1 -> 319.0	3972		
PFDS	9.145	599.0 -> 79.9	4044	1.18 µg/L	89

## Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
		599.0 -> 98.8	1833			
PFHpA	6.493	363.1 -> 319.0	33072	1.28	µg/L	99
		363.1 -> 169.0	4827			
PFHpS	7.781	449.0 -> 79.9	5679	1.09	µg/L	99
		449.0 -> 98.9	2840			
PFHxA	5.555	313.0 -> 269.0	21793	1.25	µg/L	98
		313.0 -> 118.9	963			
PFHxS	7.228	398.7 -> 79.9	6071	1.21	µg/L	m 92
		398.7 -> 98.9	2939			
PFNA	7.655	463.0 -> 419.0	20071	1.37	µg/L	99
		463.0 -> 219.0	4174			
PFNS	8.726	548.8 -> 79.9	5270	1.12	µg/L	88
		548.8 -> 98.9	2845			
PFOA	7.125	413.0 -> 369.0	34667	1.21	µg/L	95
		413.0 -> 169.0	6284			
PFOS	8.274	498.9 -> 79.9	6211	1.12	µg/L	m 83
		498.9 -> 98.8	3194			
PFPeA	4.349	263.0 -> 219.0	27566	2.52	µg/L	100
PFPeS	6.545	349.1 -> 79.9	7937	1.25	µg/L	99
		349.1 -> 98.9	3480			
PFTeDA	9.708	713.1 -> 669.0	22397	1.30	µg/L	99
		713.1 -> 168.9	1724			
PFTrDA	9.377	663.0 -> 619.0	27006	1.25	µg/L	97
		663.0 -> 168.9	2235			
PFUnDA	8.576	563.1 -> 519.0	28965	1.23	µg/L	98
		563.1 -> 269.1	4502			
11CI-PF3OUdS	9.416	630.9 -> 450.9	25670	2.45	µg/L	93
		632.9 -> 452.9	7651			
9CI-PF3ONS	8.603	530.8 -> 351.0	40649	2.29	µg/L	90
		532.8 -> 353.0	13727			
ADONA	6.743	376.9 -> 250.9	107941	2.38	µg/L	96
		376.9 -> 84.8	29590			
HFPO-DA	5.931	284.9 -> 168.9	8026	2.54	µg/L	99
		284.9 -> 184.9	989			
3:3FTCA	3.764	241.0 -> 177.0	4909	6.09	µg/L	98
		241.0 -> 117.0	688			
5:3FTCA	6.197	341.0 -> 237.1	112968	32.54	µg/L	98
		341.0 -> 217.0	80577			
7:3FTCA	7.607	441.0 -> 316.9	65729	31.58	µg/L	96
		441.0 -> 336.9	131078			
EtFOSA	10.966	526.0 -> 219.0	10204	2.41	µg/L	97
		526.0 -> 169.0	13236			
EtFOSE	10.913	630.0 -> 58.9	27612	6.31	µg/L	100
MeFOSA	10.746	511.9 -> 219.0	8948	2.54	µg/L	95
		511.9 -> 169.0	12592			
MeFOSE	10.678	616.1 -> 58.9	22704	6.24	µg/L	100
PFDoDS	9.823	699.1 -> 79.9	2207	1.15	µg/L	99
		699.1 -> 98.8	1233			
NFDHA	5.435	295.0 -> 201.0	5562	2.59	µg/L	99
		295.0 -> 84.9	1552			
PFMBA	4.762	279.0 -> 85.1	21414	2.58	µg/L	100
PFMPA	3.475	229.0 -> 84.9	17412	2.55	µg/L	100
PFEESA	6.011	314.8 -> 134.9	49356	2.26	µg/L	99
		314.8 -> 82.9	1671			

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

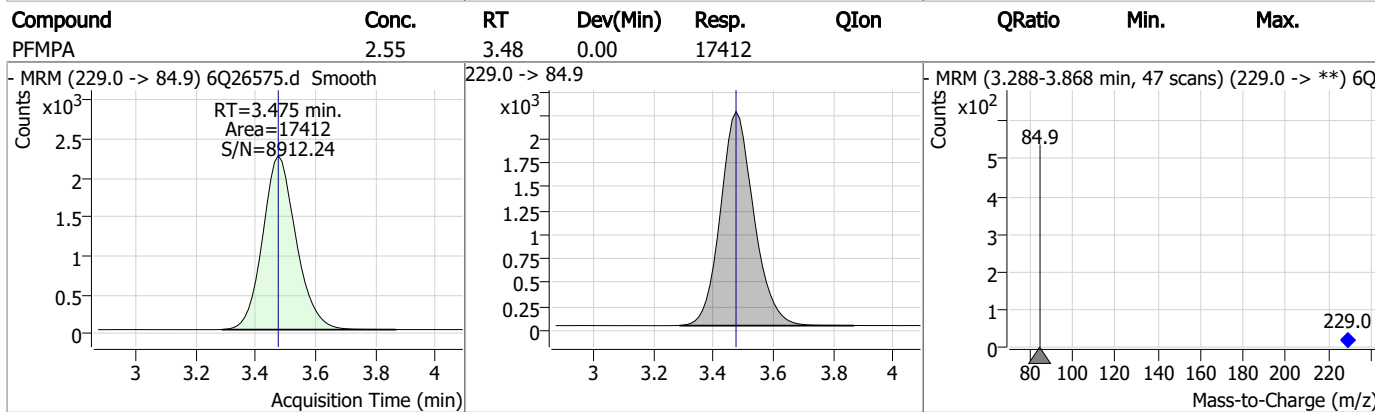
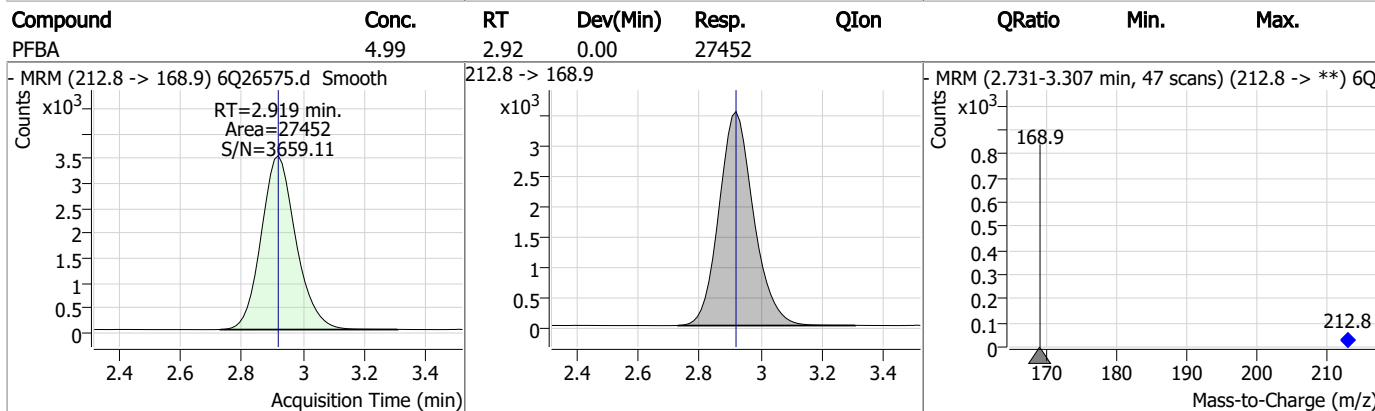
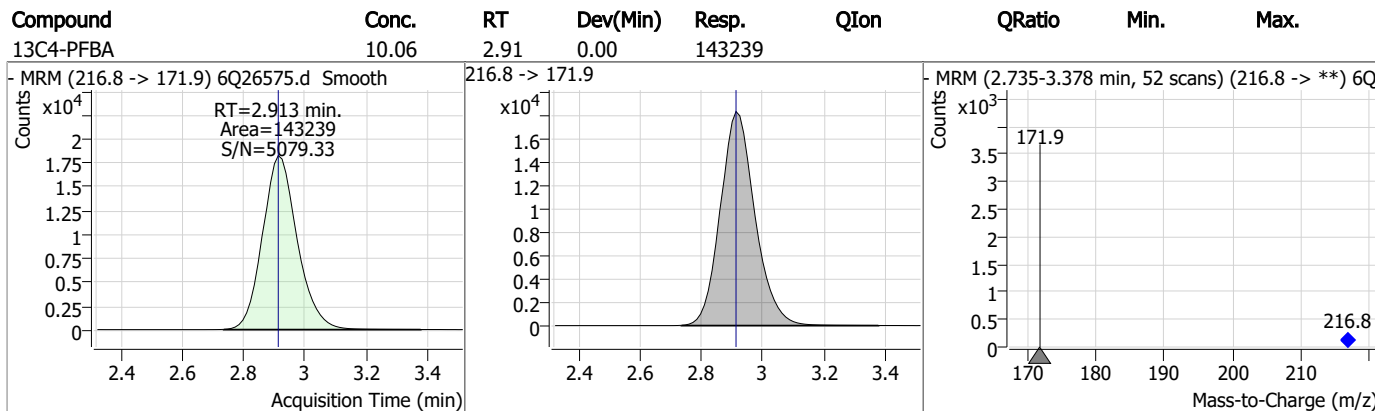
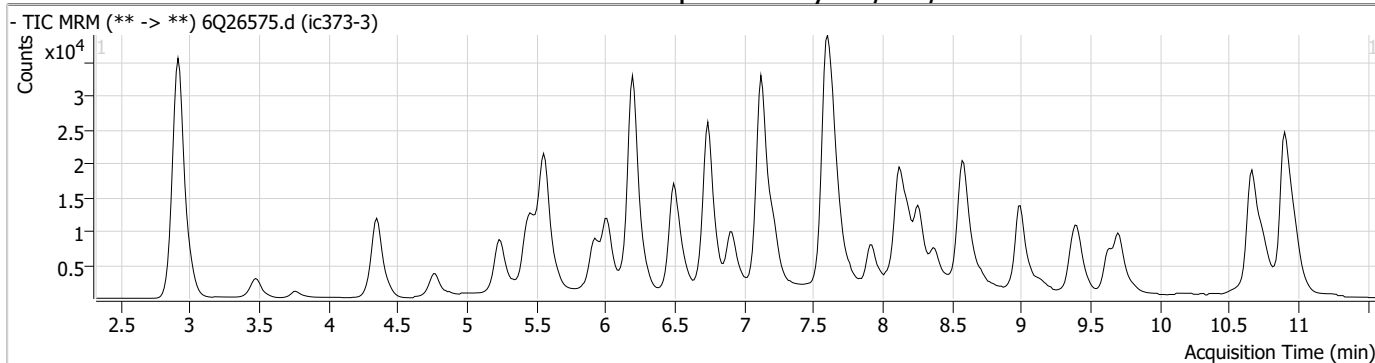
### Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
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7.7.23

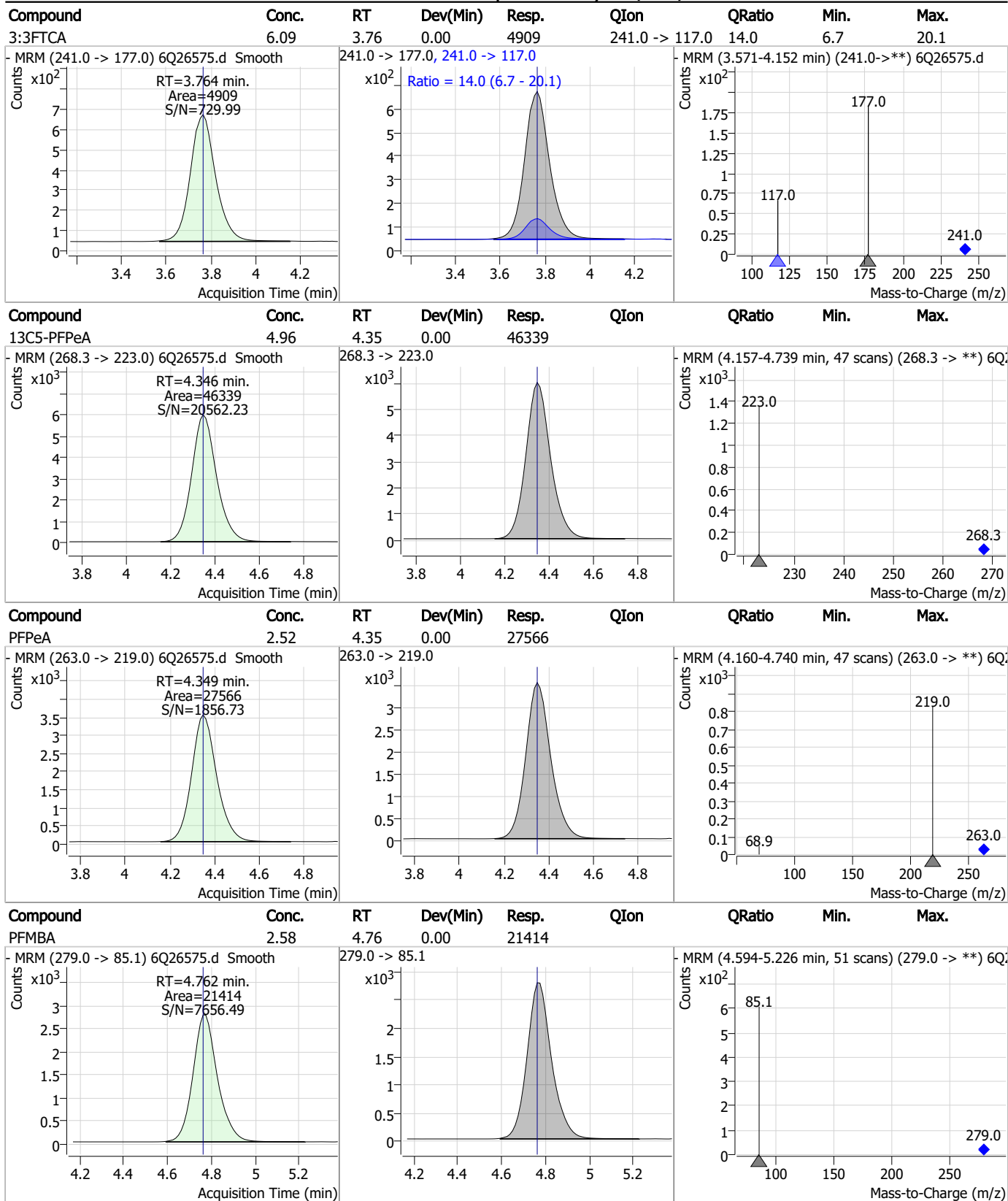
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### Perfluorinated Compounds by LC/MS/MS



7.7.23  
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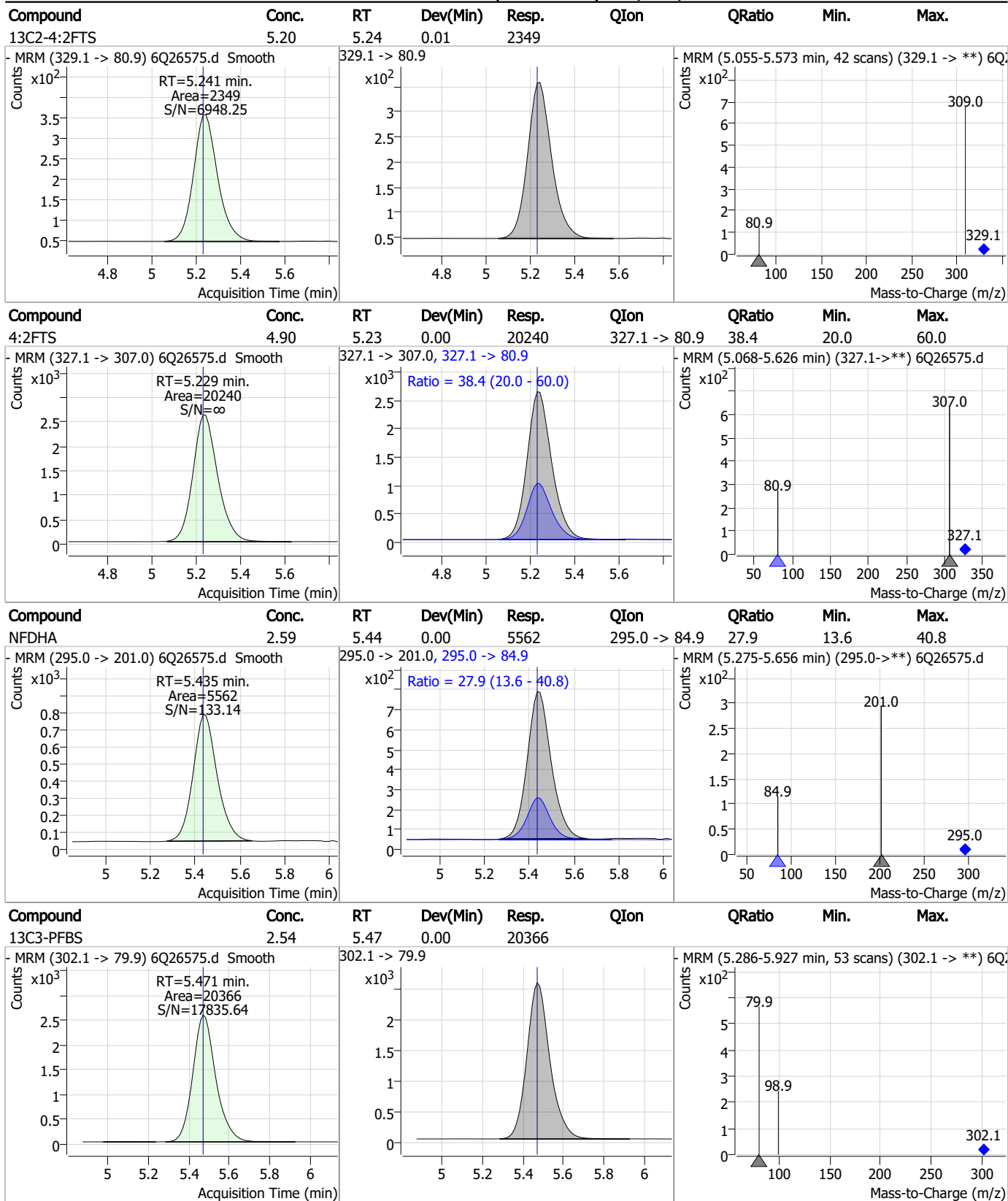
### Perfluorinated Compounds by LC/MS/MS



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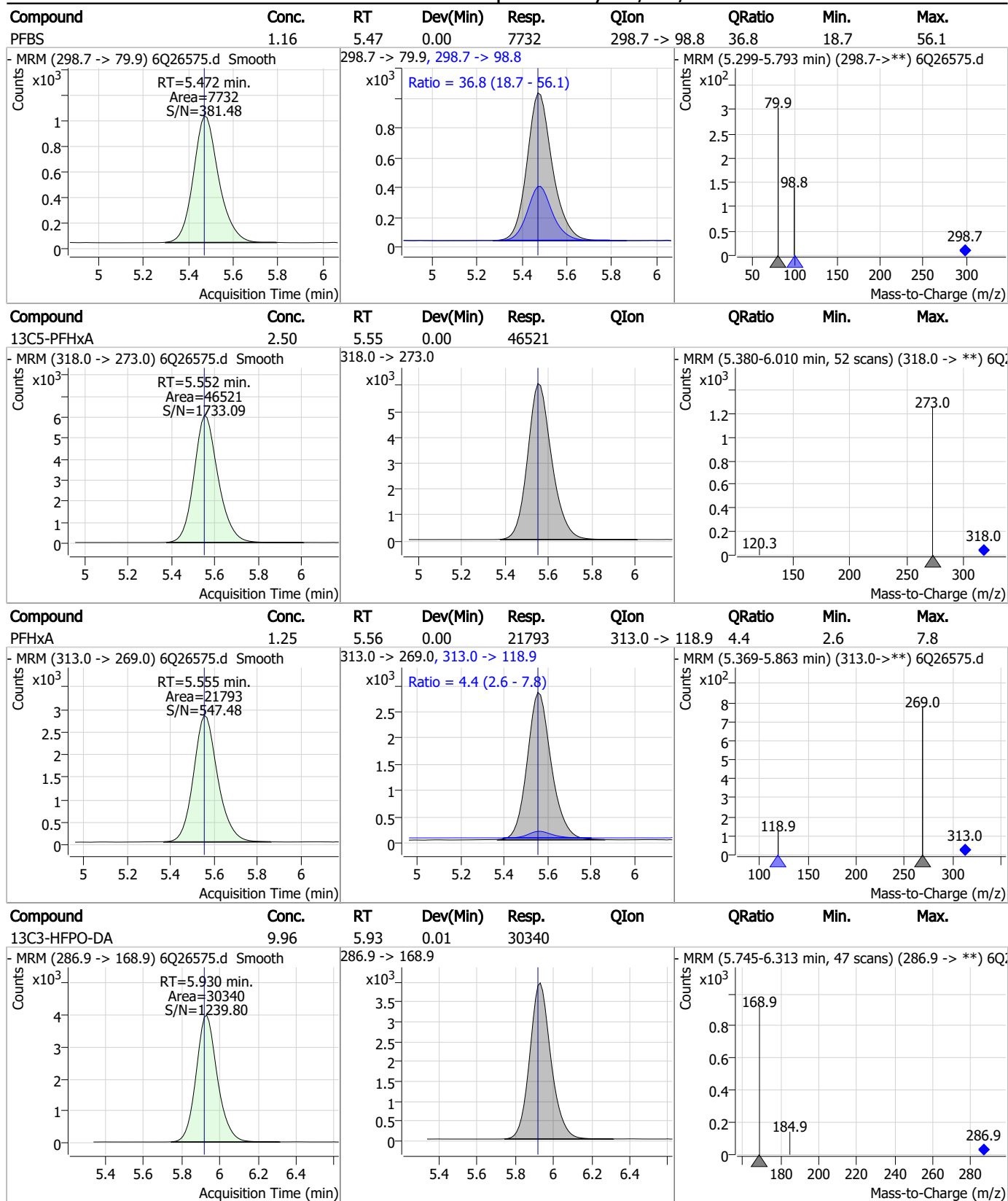
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### Perfluorinated Compounds by LC/MS/MS



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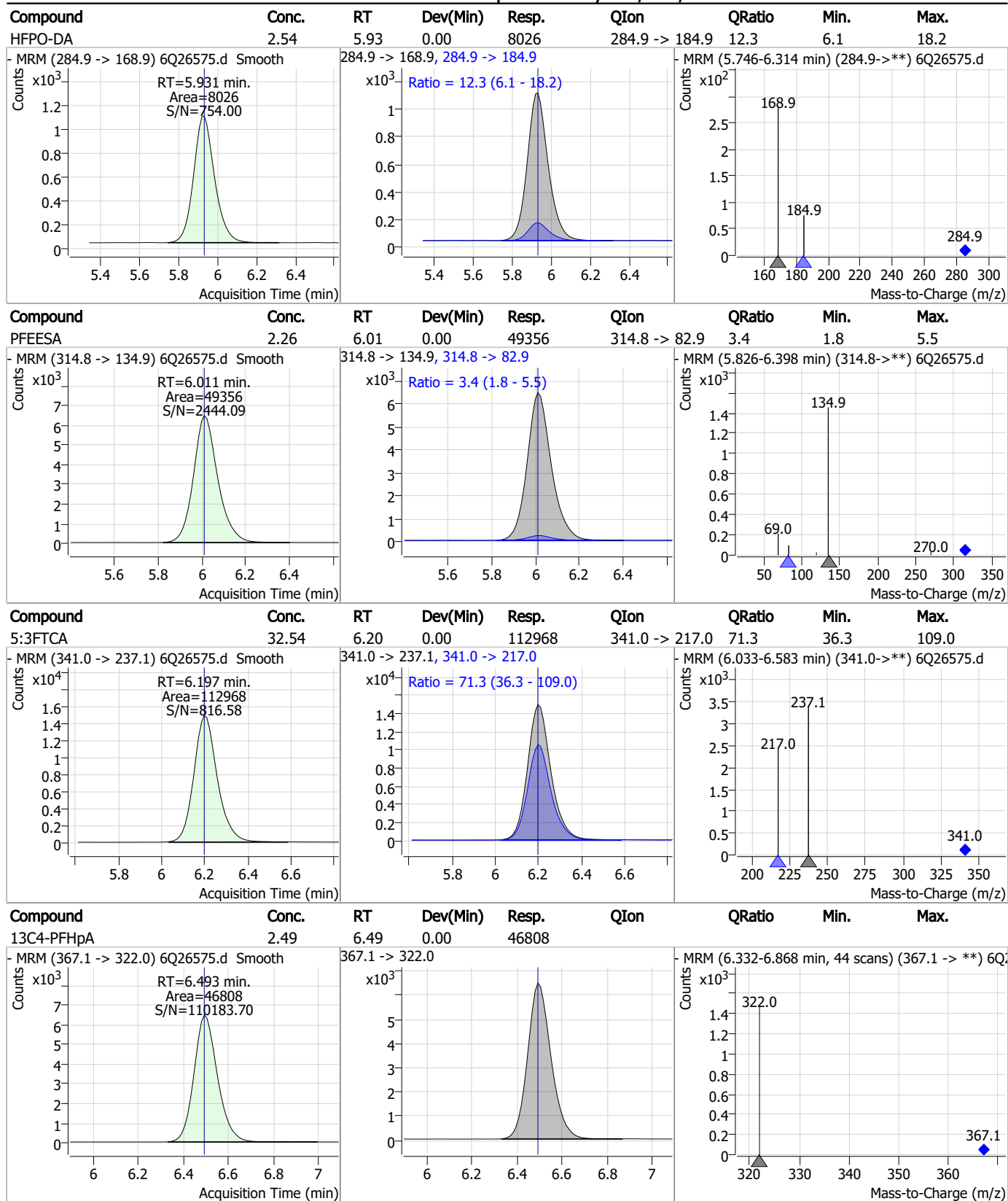
### Perfluorinated Compounds by LC/MS/MS



7.7.23

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### Perfluorinated Compounds by LC/MS/MS



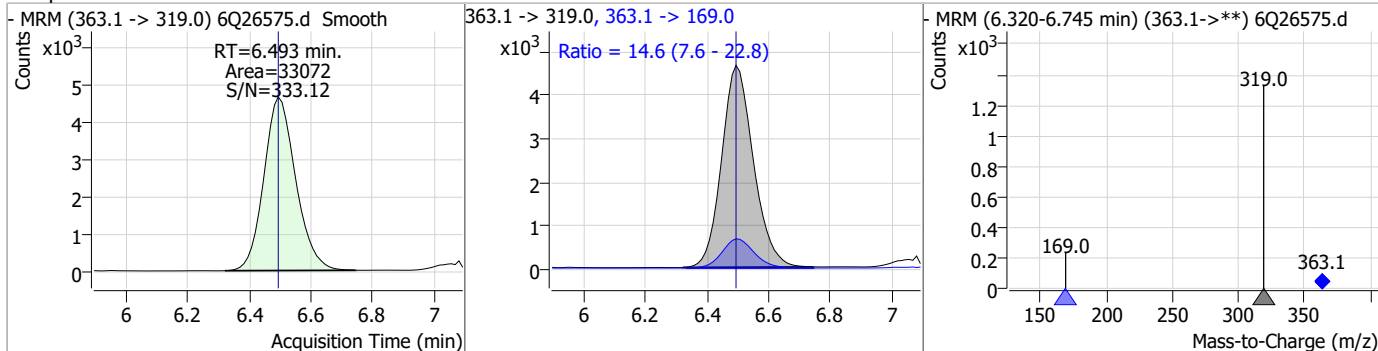
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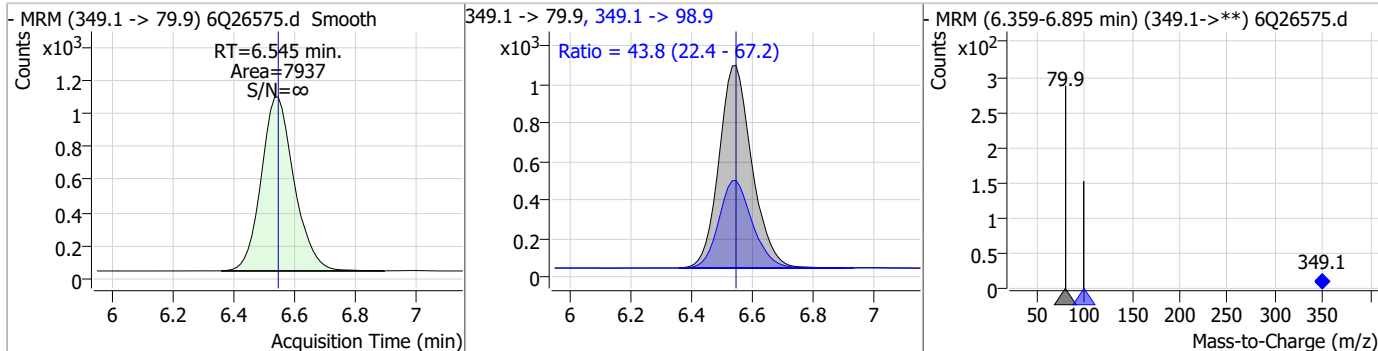


### Perfluorinated Compounds by LC/MS/MS

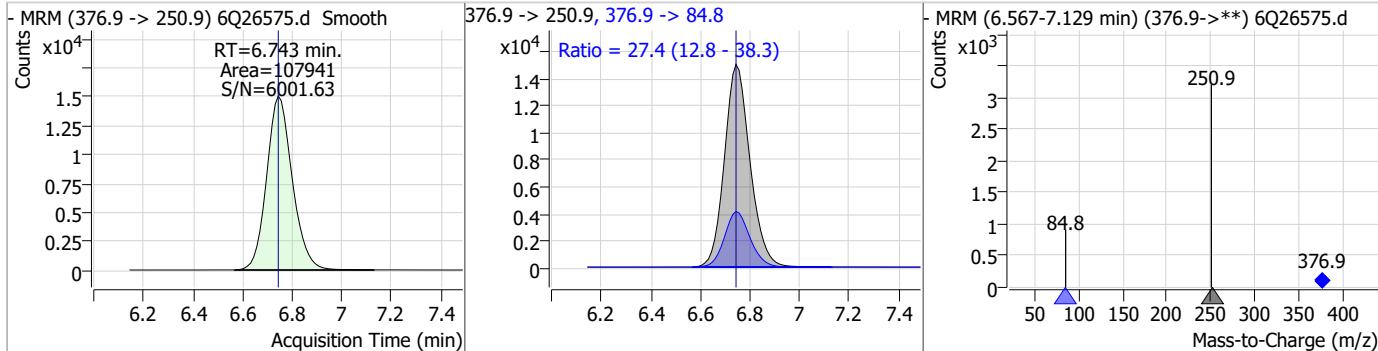
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpA	1.28	6.49	0.00	33072	363.1 -> 169.0	14.6	7.6	22.8



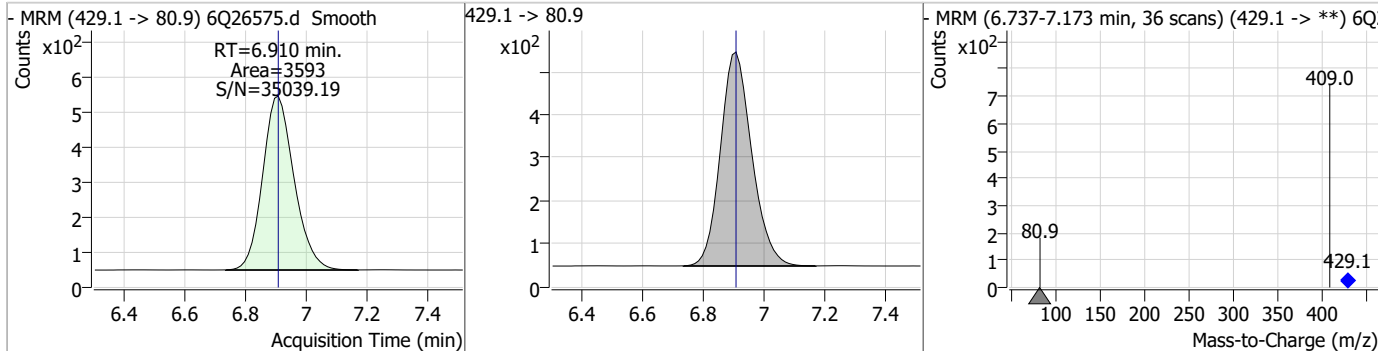
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeS	1.25	6.55	0.00	7937	349.1 -> 98.9	43.8	22.4	67.2



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
ADONA	2.38	6.74	0.00	107941	376.9 -> 84.8	27.4	12.8	38.3

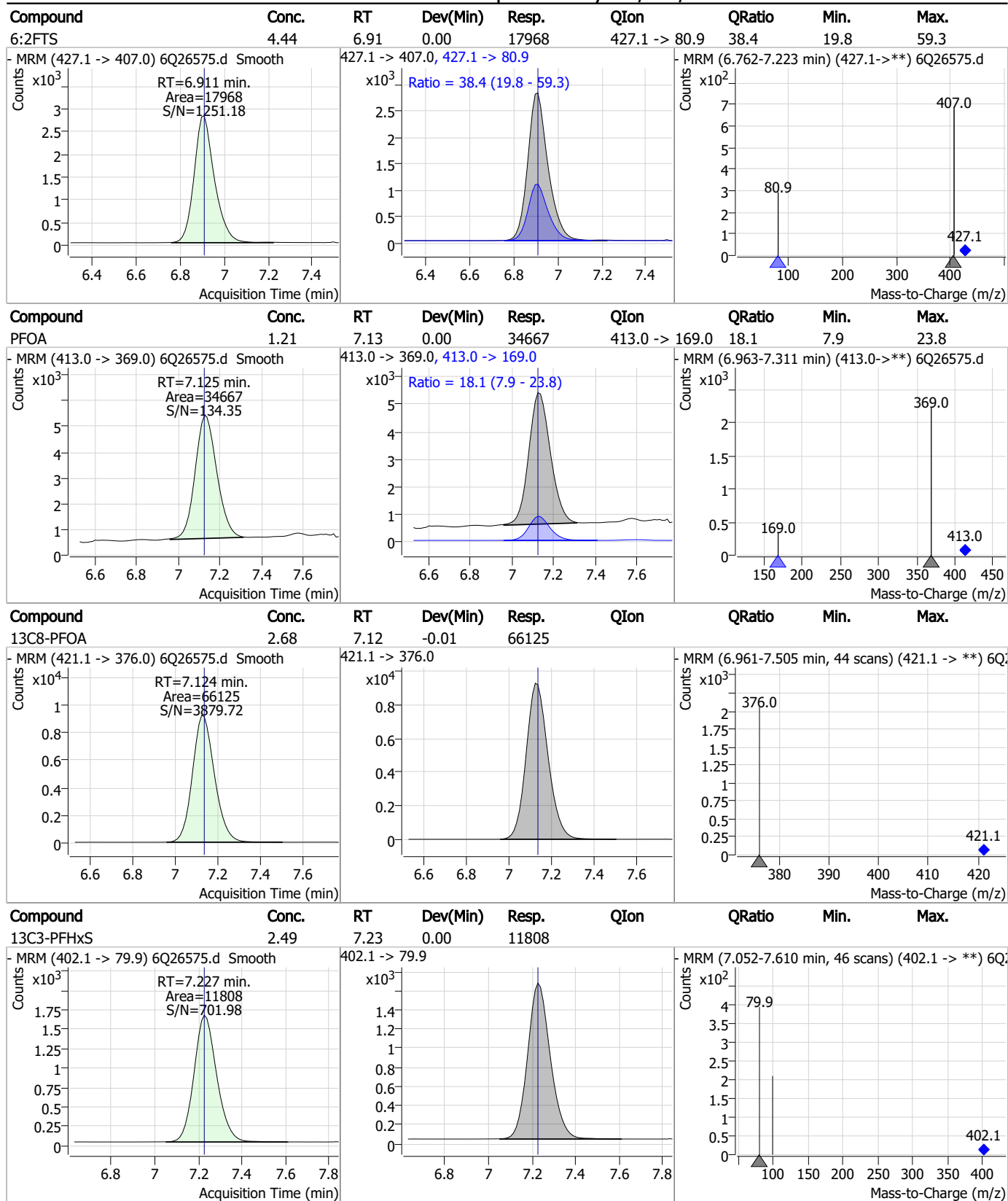


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-6:2FTS	5.63	6.91	0.00	3593	429.1 -> 80.9			



7.7.23  
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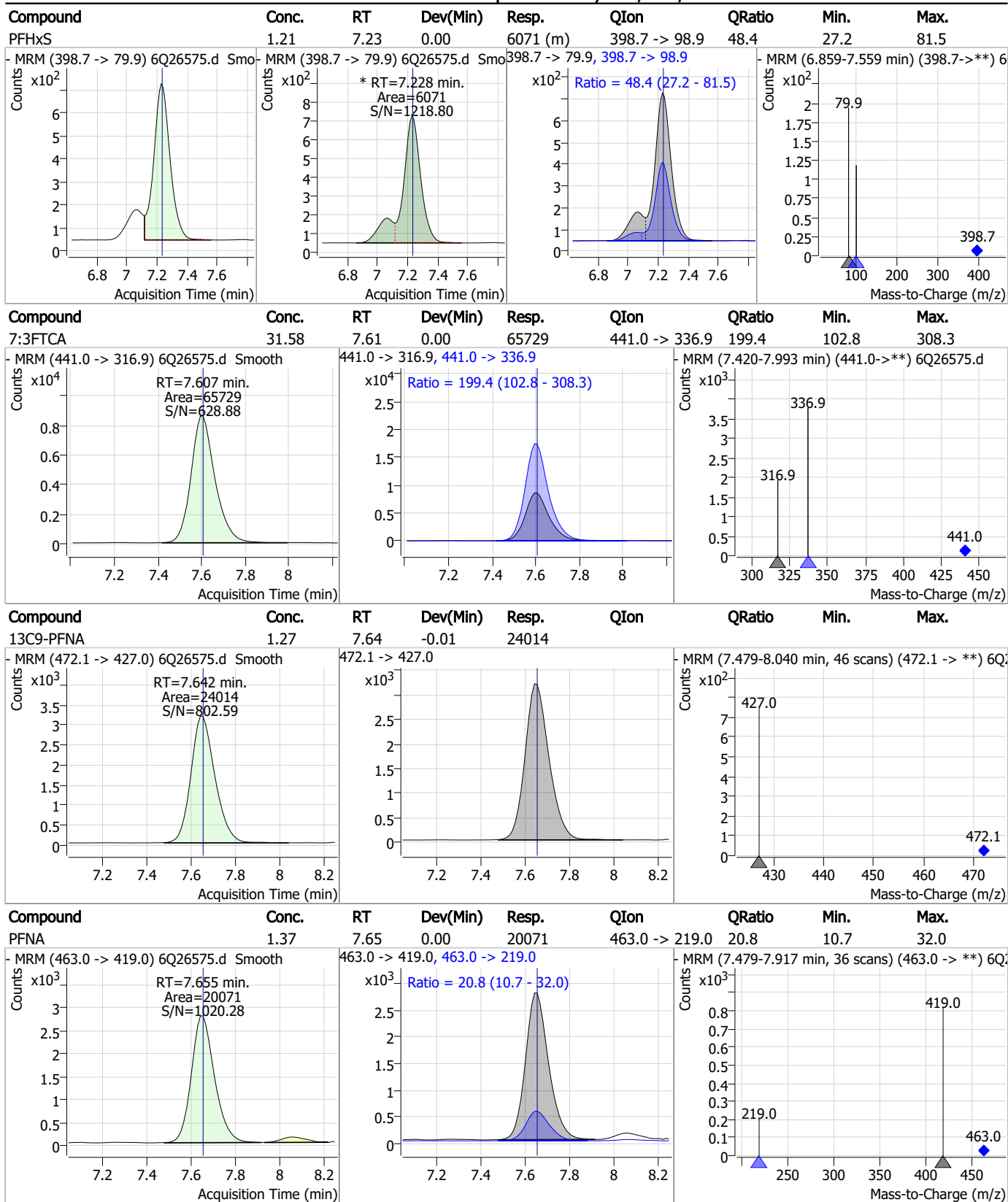
### Perfluorinated Compounds by LC/MS/MS



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### Perfluorinated Compounds by LC/MS/MS

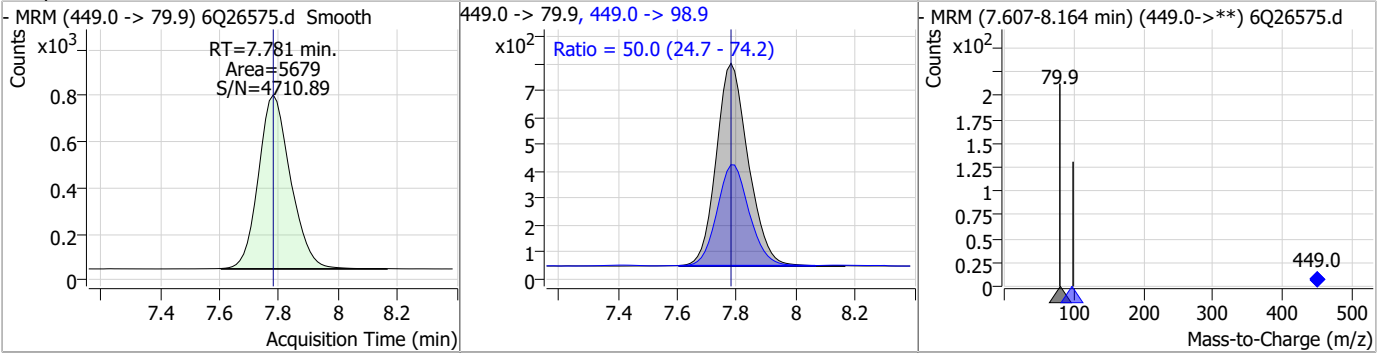


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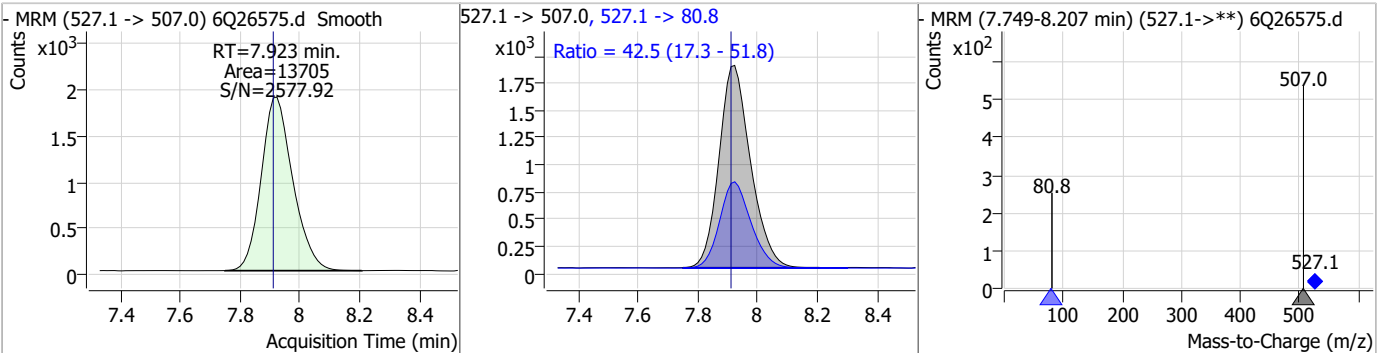
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### Perfluorinated Compounds by LC/MS/MS

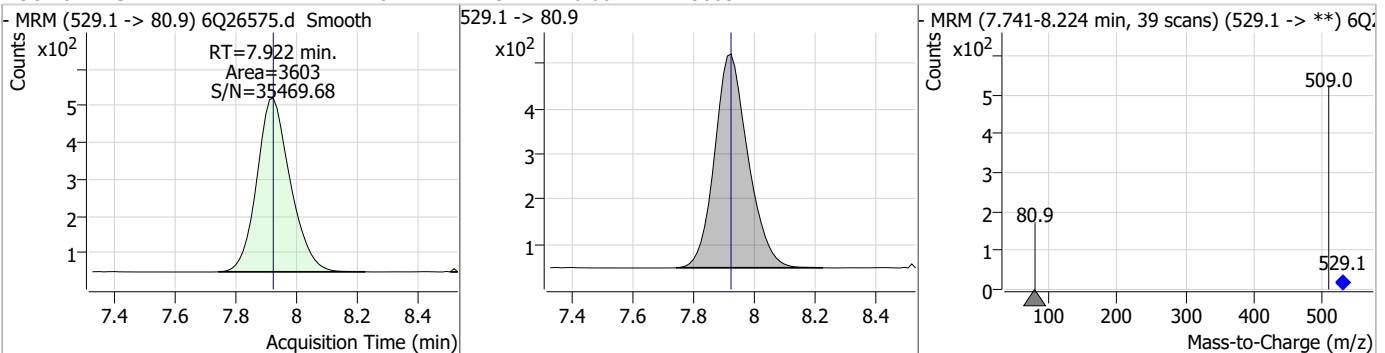
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpS	1.09	7.78	0.00	5679	449.0 -> 98.9	50.0	24.7	74.2



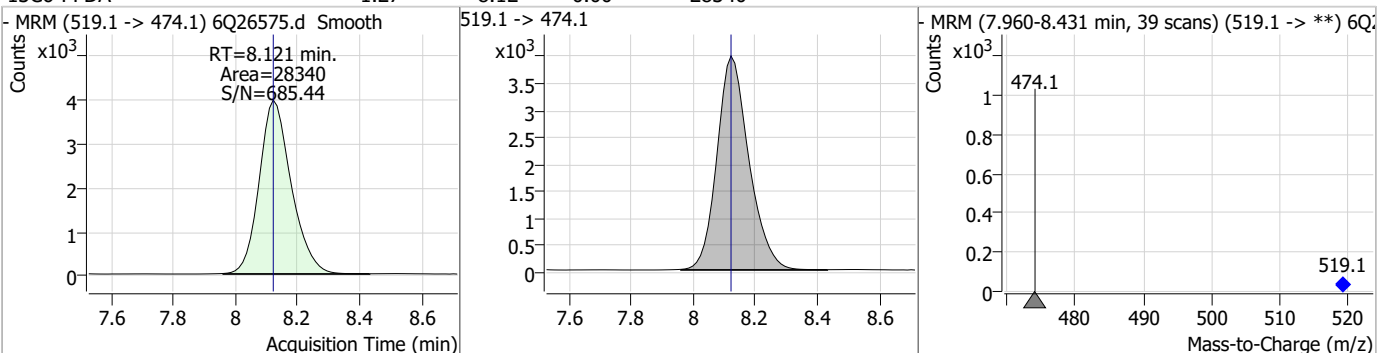
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
8:2FTS	5.05	7.92	0.01	13705	527.1 -> 80.8	42.5	17.3	51.8



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-8:2FTS	4.82	7.92	0.00	3603	529.1 -> 80.9			

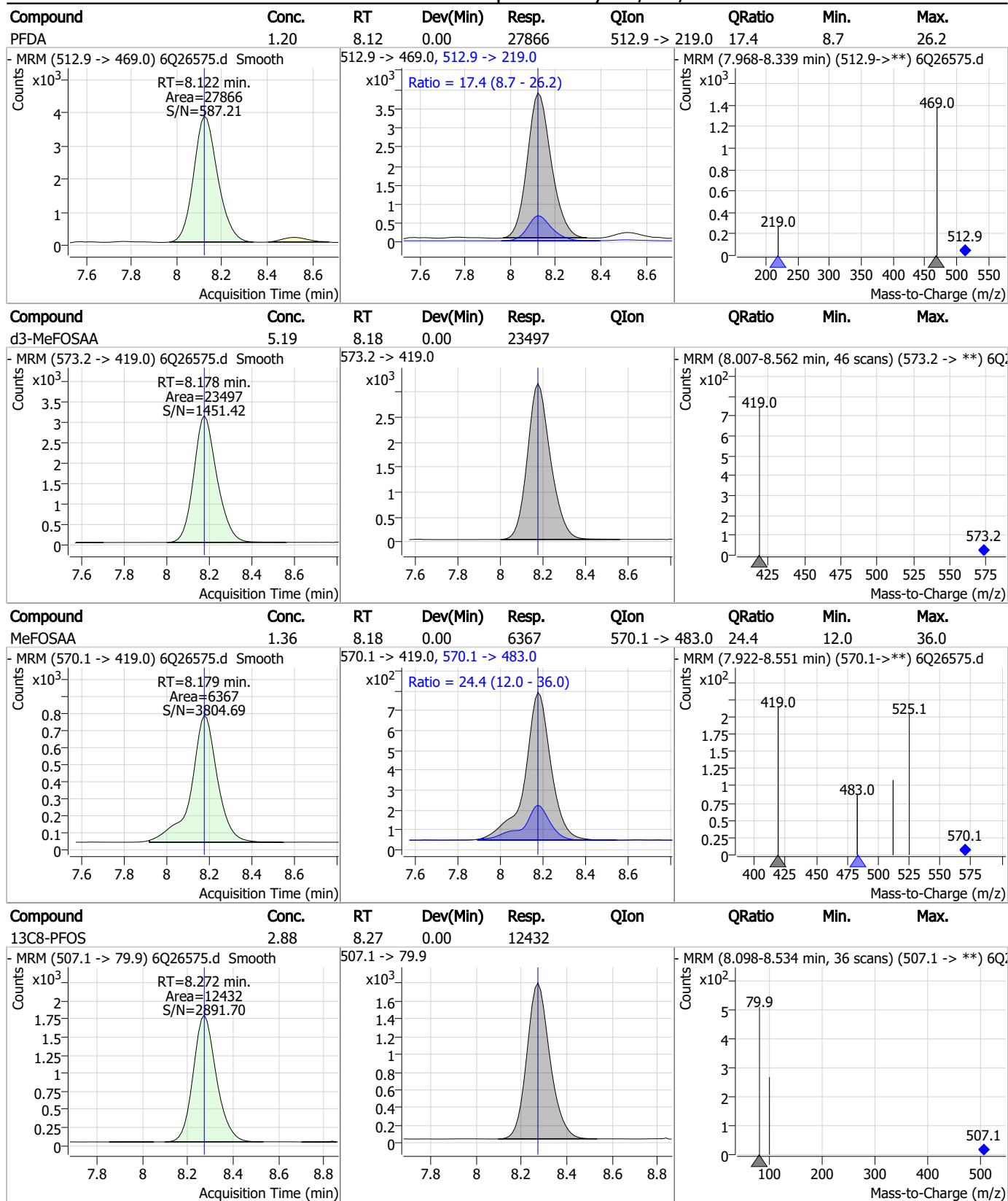


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C6-PFDA	1.27	8.12	0.00	28340	519.1 -> 474.1			



7.7.23 7

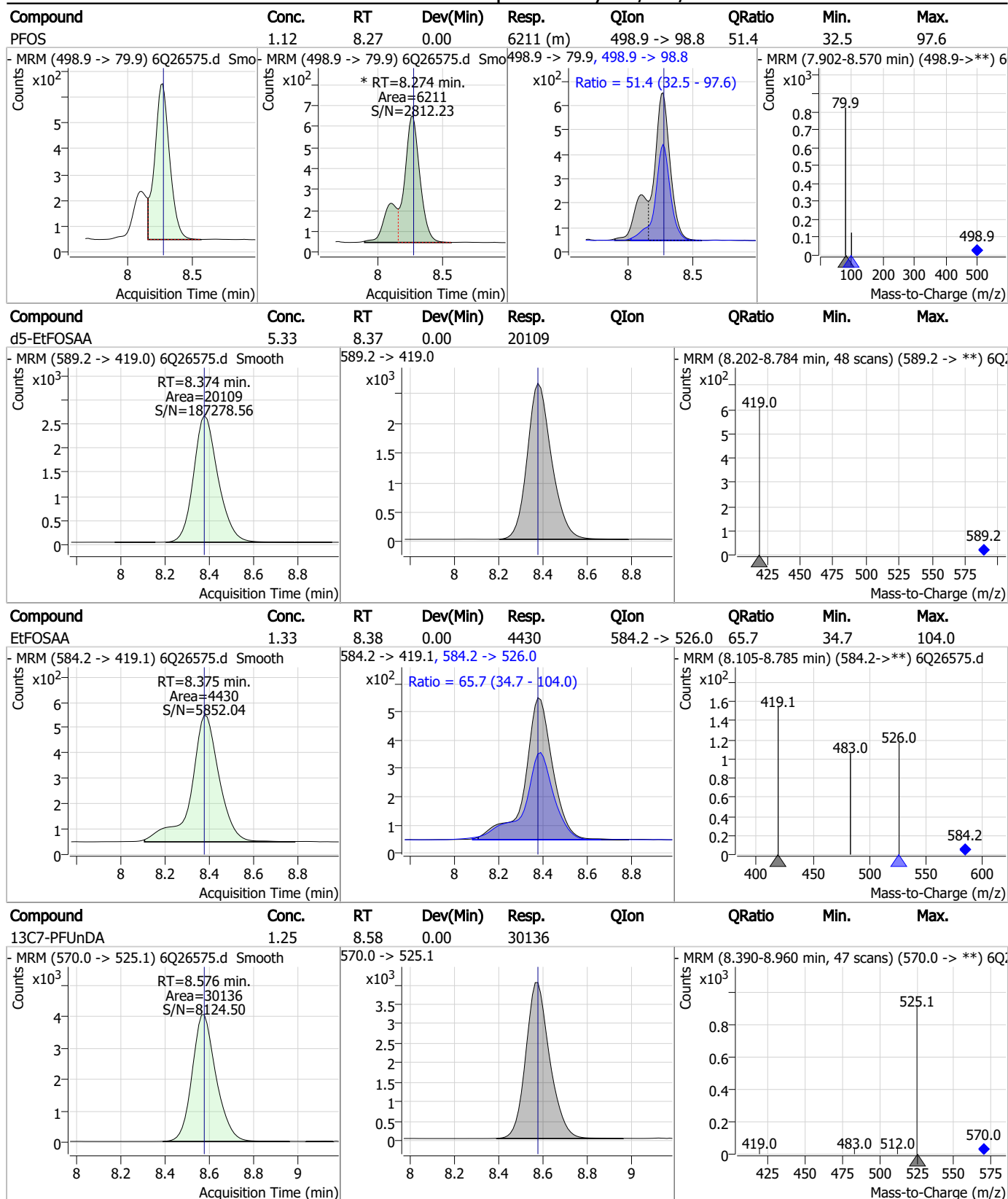
### Perfluorinated Compounds by LC/MS/MS



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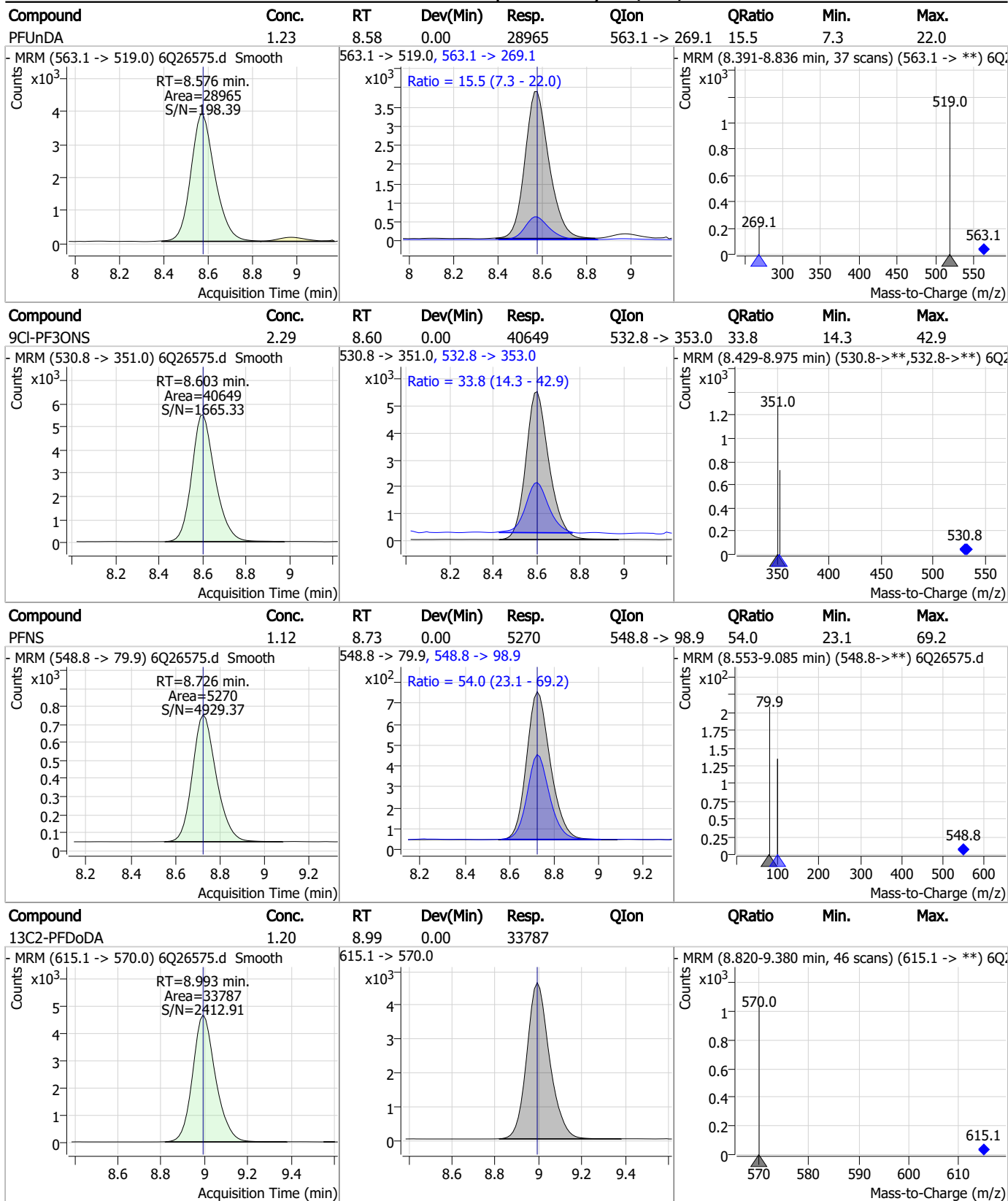
### Perfluorinated Compounds by LC/MS/MS



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### Perfluorinated Compounds by LC/MS/MS

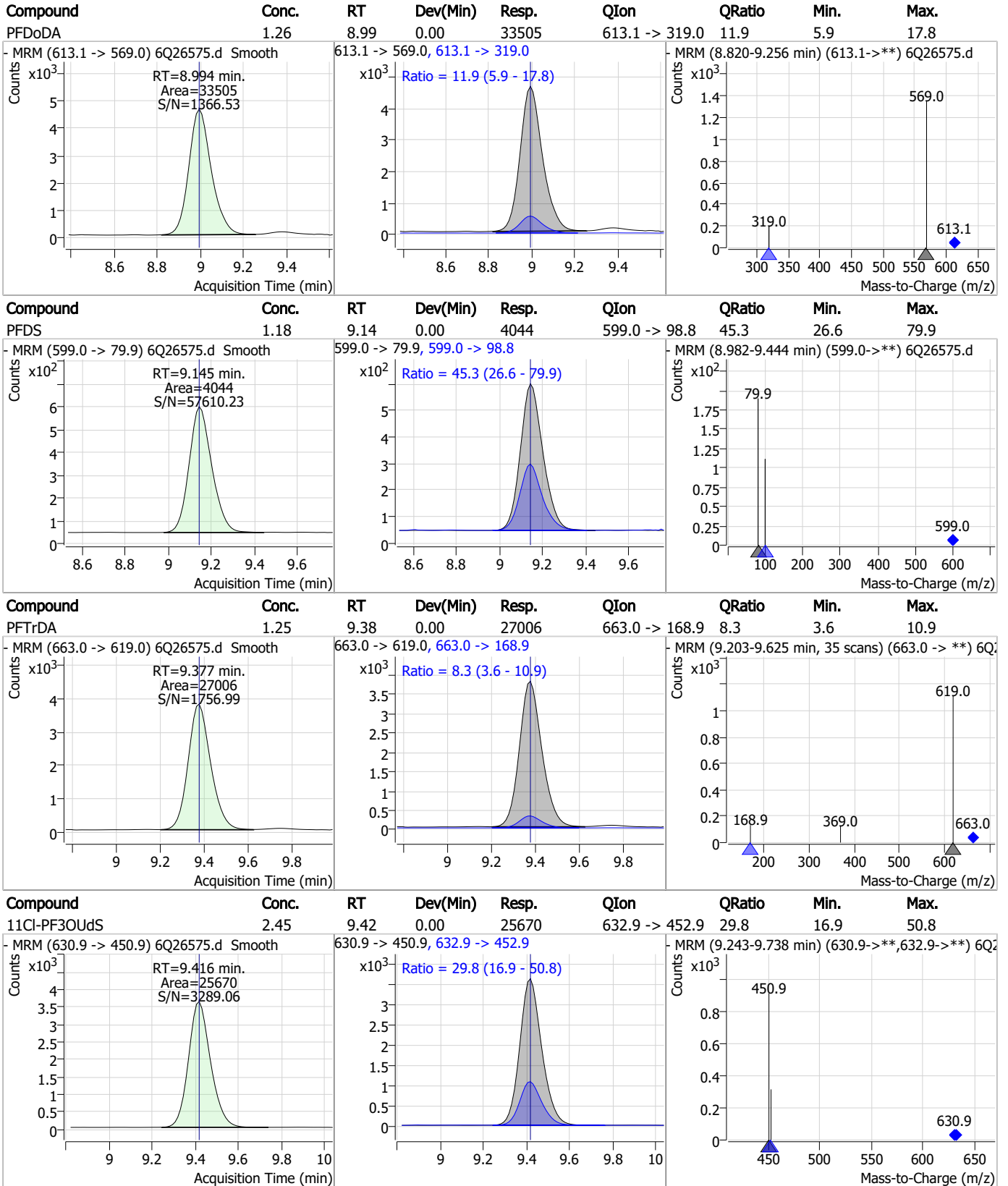


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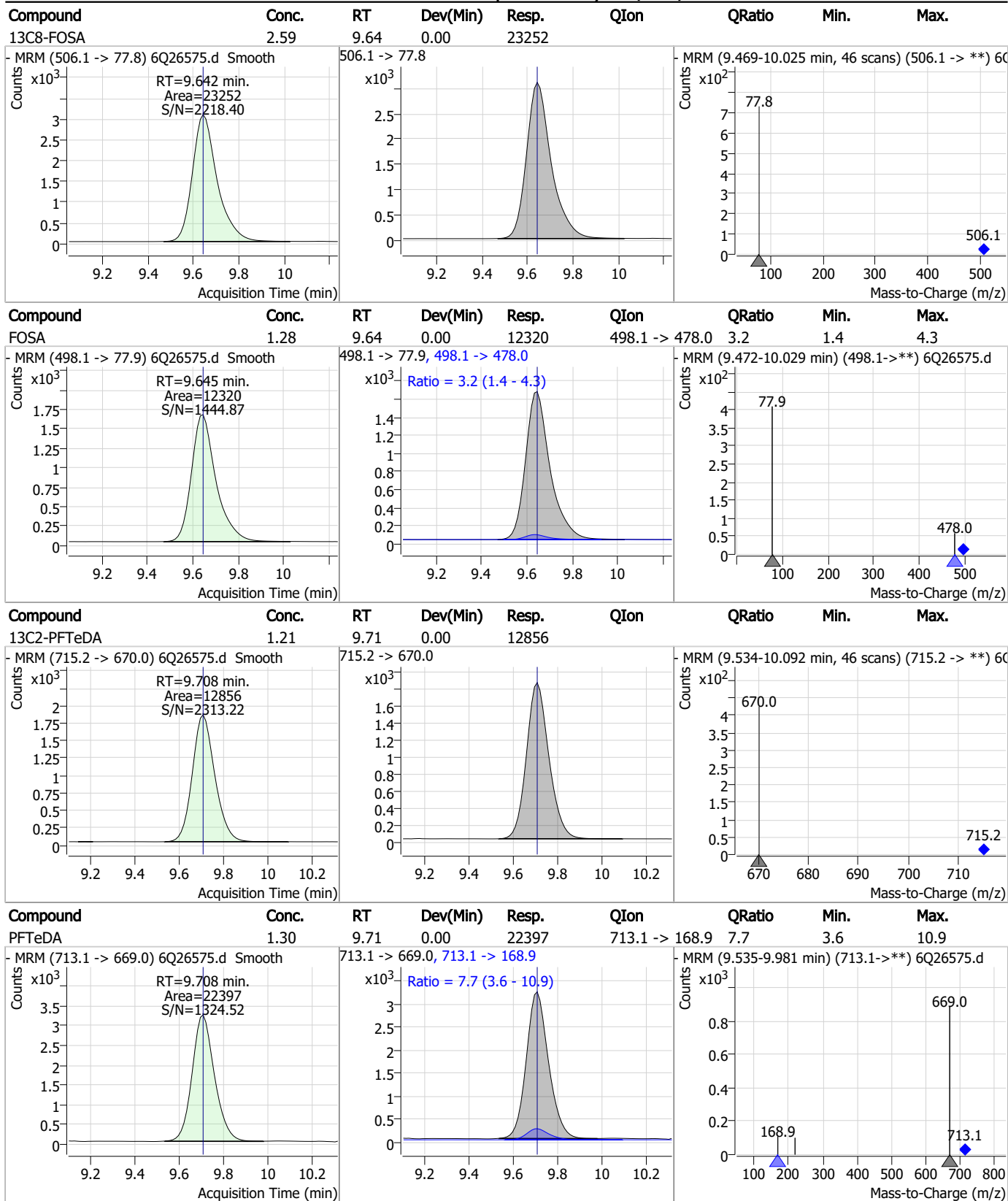
### Perfluorinated Compounds by LC/MS/MS



7.7.23 7



### Perfluorinated Compounds by LC/MS/MS

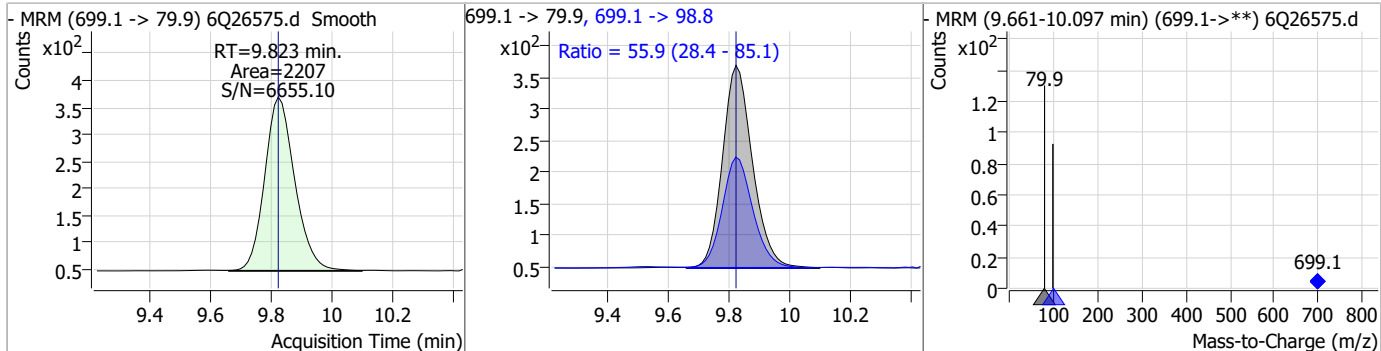


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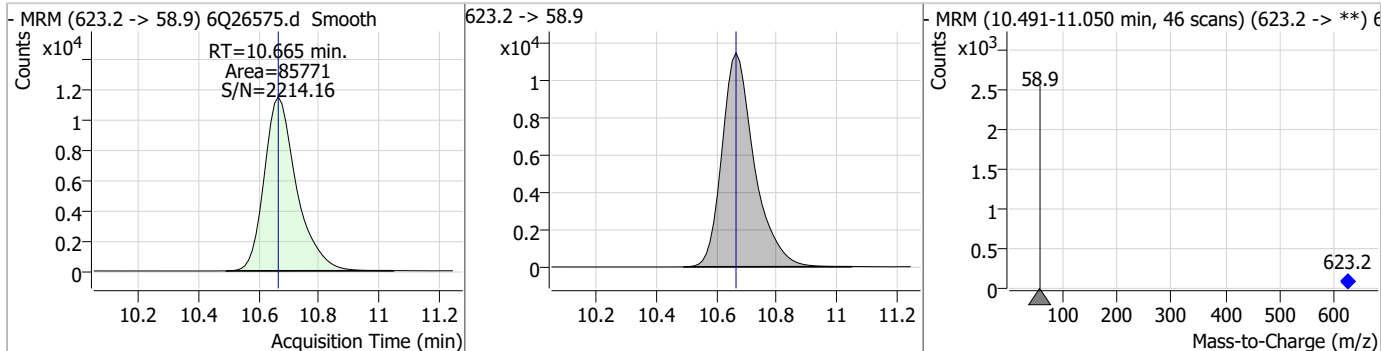
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### Perfluorinated Compounds by LC/MS/MS

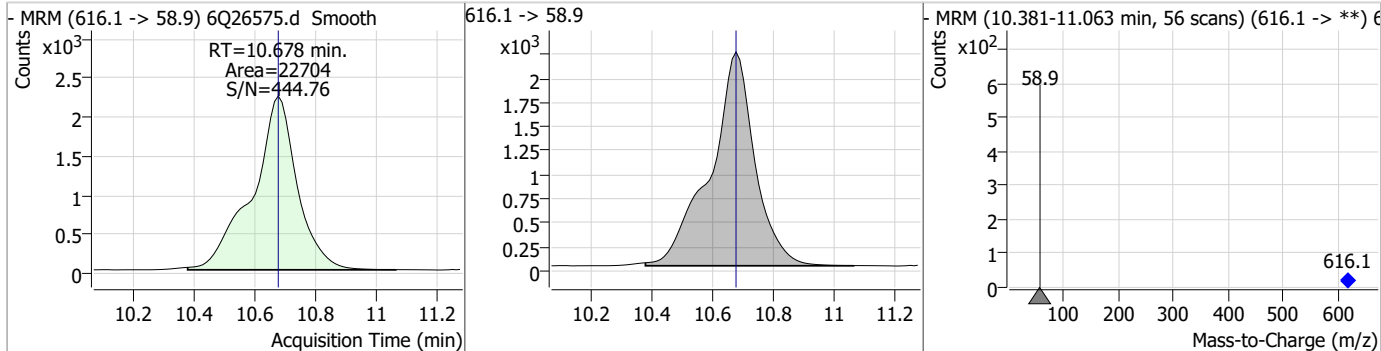
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoS	1.15	9.82	0.00	2207	699.1 -> 98.8	55.9	28.4	85.1



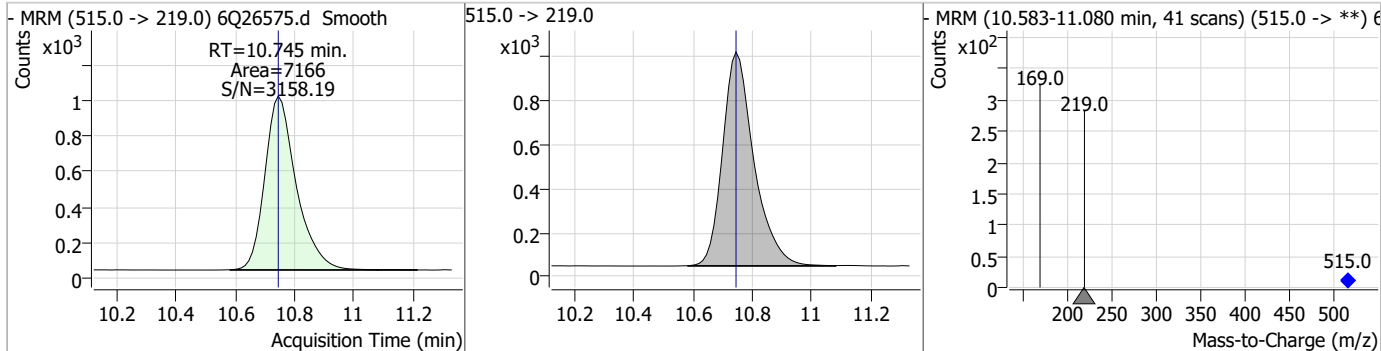
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d7-MeFOSE	27.17	10.67	0.00	85771				



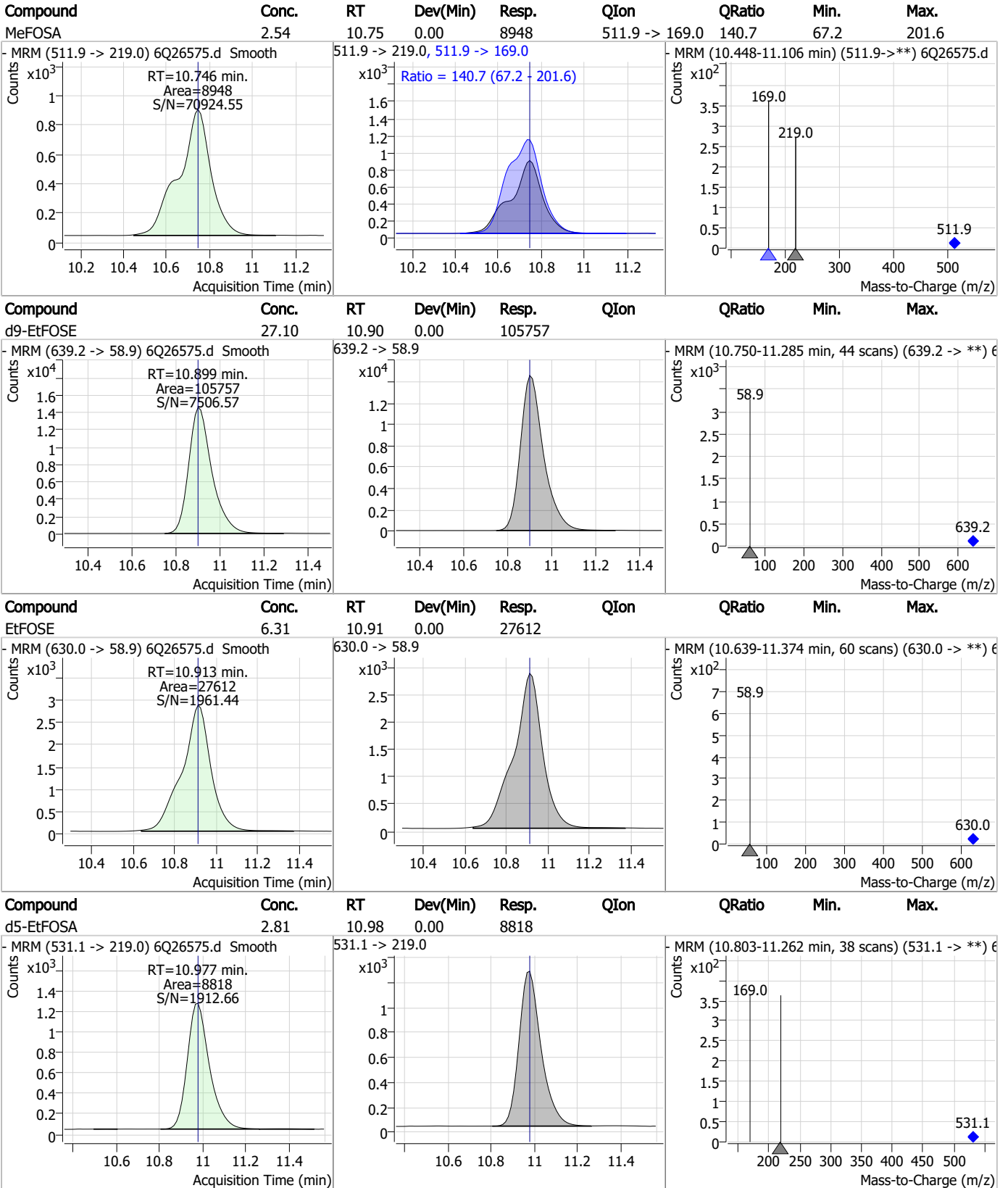
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSE	6.24	10.68	0.00	22704				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSA	2.64	10.74	0.00	7166				



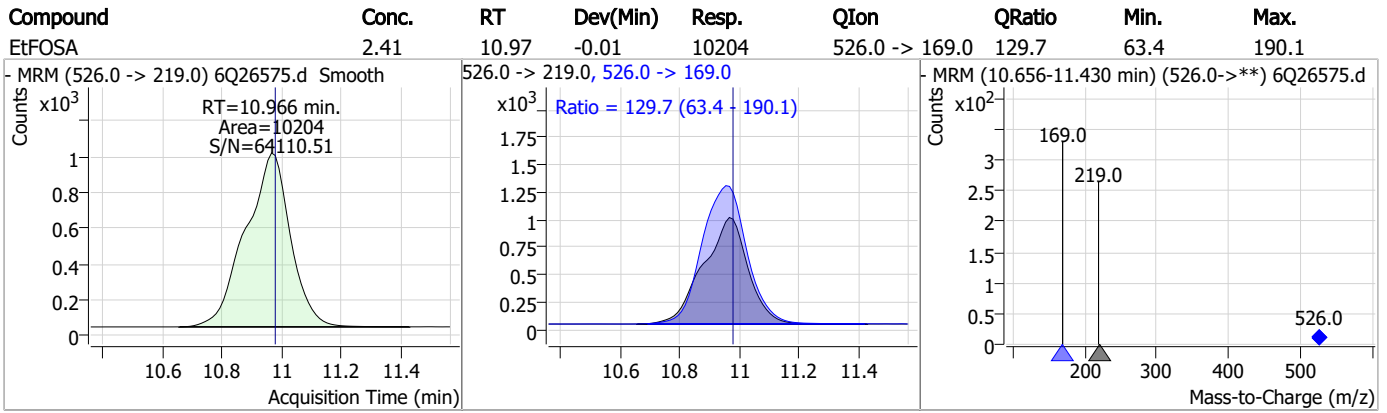
### Perfluorinated Compounds by LC/MS/MS



7.7.23

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### Perfluorinated Compounds by LC/MS/MS



7.7.23  
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# Manual Integration Approval Summary

Sample Number: S6Q373-IC373      Method: EPA DRAFT 1633  
Lab FileID: 6Q26575.D      Analyst approved: 10/18/23 16:28 Anna Ludwig  
Injection Time: 10/17/23 18:40      Supervisor approved: 10/19/23 09:36 Natasha Guntie

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		7.23	Split peak
Perfluorooctanesulfonic acid	1763-23-1		8.27	Split peak

7.7.23.1

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## Perfluorinated Compounds by LC/MS/MS

Data File : 6Q26576.d  
 Operator : marthav  
 Acq. Method : 1633full.m  
 Acq. Date-Time : 10/17/2023 6:54:47 PM  
 Sample Name : icc373-4  
 Vial : P1-A5  
 DA Method File : 1633\_101723\_S6Q373.quantmethod.xml  
 Batch Name : S6Q373.batch.bin  
 Sample Information : OP99081,S6Q373,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
<b>Internal Standards</b>					
M4-PFBA	2.913	216.8 -> 171.9	142668	10.00 µg/L	0.000
M5-PFPeA	4.346	268.3 -> 223.0	47225	5.00 µg/L	0.000
M5-PFHxA	5.552	318.0 -> 273.0	47227	2.50 µg/L	0.000
M4-PFHpA	6.493	367.1 -> 322.0	46242	2.50 µg/L	0.000
M8-PFOA	7.136	421.1 -> 376.0	63103	2.50 µg/L	0.000
M9-PFNA	7.654	472.1 -> 427.0	25162	1.25 µg/L	0.000
M6-PFDA	8.121	519.1 -> 474.1	26370	1.25 µg/L	0.000
M7-PFUnDA	8.576	570.0 -> 525.1	29958	1.25 µg/L	0.000
M2-PFDoDA	8.993	615.1 -> 570.0	34320	1.25 µg/L	0.000
M2-PFTeDA	9.708	715.2 -> 670.0	13103	1.25 µg/L	0.000
M8-FOSA	9.642	506.1 -> 77.8	24864	2.50 µg/L	0.000
M3-PFBS	5.471	302.1 -> 79.9	20583	2.50 µg/L	0.000
M3-PFHxS	7.227	402.1 -> 79.9	11768	2.50 µg/L	0.000
M8-PFOS	8.272	507.1 -> 79.9	11483	2.50 µg/L	0.000
M2-4:2FTS	5.228	329.1 -> 80.9	2474	5.00 µg/L	0.000
M2-6:2FTS	6.910	429.1 -> 80.9	3214	5.00 µg/L	0.000
M2-8:2FTS	7.922	529.1 -> 80.9	3731	5.00 µg/L	0.000
M3-MeFOSAA	8.178	573.2 -> 419.0	25139	5.00 µg/L	0.000
M3-HFPO-DA	5.918	286.9 -> 168.9	30536	10.00 µg/L	0.000
M5-EtFOSAA	8.374	589.2 -> 419.0	21239	5.00 µg/L	0.000
M7-MeFOSE	10.665	623.2 -> 58.9	85042	25.00 µg/L	0.000
M9-EtFOSE	10.899	639.2 -> 58.9	104092	25.00 µg/L	0.000
M5-EtFOSA	10.977	531.1 -> 219.0	8386	2.50 µg/L	0.000
M3-MeFOSA	10.745	515.0 -> 219.0	7404	2.50 µg/L	0.000
13C4-PFOS	8.273	502.8 -> 79.9	10837	2.50 µg/L	0.000
13C3-PFBA	2.916	216.0 -> 172.0	58909	5.00 µg/L	0.000
18O2-PFHxS	7.226	403.0 -> 83.9	7379	2.50 µg/L	0.000
13C4-PFOA	7.125	417.1 -> 372.0	70242	2.50 µg/L	0.000
13C2-PFDA	8.122	515.1 -> 470.1	26855	1.25 µg/L	0.000
13C5-PFNA	7.654	468.0 -> 423.0	22218	1.25 µg/L	0.000
13C2-PFHxA	5.553	315.1 -> 270.0	45054	2.50 µg/L	0.000
<b>System Monitoring Compounds</b>					
13C2-4:2FTS	5.228	329.1 -> 80.9	2474	5.37 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 107.3%		
13C2-6:2FTS	6.910	429.1 -> 80.9	3214	4.94 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 98.8%		
13C2-8:2FTS	7.922	529.1 -> 80.9	3731	4.89 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 97.9%		
13C2-PFDoDA	8.993	615.1 -> 570.0	34320	1.18 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 94.6%		
13C2-PFTeDA	9.708	715.2 -> 670.0	13103	1.20 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 96.3%		
13C3-PFBS	5.471	302.1 -> 79.9	20583	2.52 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 100.8%		
13C3-PFHxS	7.227	402.1 -> 79.9	11768	2.44 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 = 97.5%	
13C4-PFBA	2.913	216.8 -> 171.9	142668	9.83 µg/L	0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 98.3%	
13C4-PFHpA	6.493	367.1 -> 322.0	46242	2.53 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 101.2%	
13C5-PFHxA	5.552	318.0 -> 273.0	47227	2.62 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 104.6%	
13C5-PFPeA	4.346	268.3 -> 223.0	47225	5.20 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 104.1%	
13C6-PFDA	8.121	519.1 -> 474.1	26370	1.15 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 92.2%	
13C7-PFUnDA	8.576	570.0 -> 525.1	29958	1.21 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 96.7%	
13C8-FOSA	9.642	506.1 -> 77.8	24864	2.49 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 99.8%	
13C8-PFOA	7.136	421.1 -> 376.0	63103	2.51 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 100.4%	
13C8-PFOS	8.272	507.1 -> 79.9	11483	2.40 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 95.9%	
13C9-PFNA	7.654	472.1 -> 427.0	25162	1.32 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 105.4%	
d3-MeFOSAA	8.178	573.2 -> 419.0	25139	5.00 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 100.0%	
13C3-HFPO-DA	5.918	286.9 -> 168.9	30536	10.31 µg/L	0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 103.1%	
d3-MeFOSA	10.745	515.0 -> 219.0	7404	2.46 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 98.3%	
d5-EtFOSAA	8.374	589.2 -> 419.0	21239	5.07 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 101.5%	
d7-MeFOSE	10.665	623.2 -> 58.9	85042	24.27 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 97.1%	
d9-EtFOSE	10.899	639.2 -> 58.9	104092	24.04 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 96.1%	
d5-EtFOSA	10.977	531.1 -> 219.0	8386	2.40 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 96.2%	
<b>Target Compounds</b>					<b>QValue</b>
4:2FTS	5.229	327.1 -> 307.0	37557	8.64 µg/L	100
		327.1 -> 80.9	15013		
6:2FTS	6.911	427.1 -> 407.0	34762	9.60 µg/L	100
		427.1 -> 80.9	13743		
8:2FTS	7.910	527.1 -> 507.0	27510	9.80 µg/L	100
		527.1 -> 80.8	9502		
EtFOSAA	8.375	584.2 -> 419.1	8389	2.38 µg/L	100
		584.2 -> 526.0	5816		
FOSA	9.645	498.1 -> 77.9	24885	2.43 µg/L	100
		498.1 -> 478.0	709		
MeFOSAA	8.179	570.1 -> 419.0	11444	2.28 µg/L	100
		570.1 -> 483.0	2745		
PFBA	2.919	212.8 -> 168.9	53588	9.78 µg/L	100
PFBS	5.472	298.7 -> 79.9	14628	2.18 µg/L	100
		298.7 -> 98.8	5467		
PFDA	8.122	512.9 -> 469.0	52394	2.43 µg/L	100
		512.9 -> 219.0	9142		
PFDODA	8.994	613.1 -> 569.0	66913	2.48 µg/L	100
		613.1 -> 319.0	7931		
PFDS	9.145	599.0 -> 79.9	7159	2.27 µg/L	100

7.7.24  
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## Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
		599.0 -> 98.8	3813			
PFHpA	6.493	363.1 -> 319.0	63301	2.48	µg/L	100
		363.1 -> 169.0	9604			
PFHpS	7.781	449.0 -> 79.9	11565	2.40	µg/L	100
		449.0 -> 98.9	5721			
PFHxA	5.555	313.0 -> 269.0	42718	2.42	µg/L	100
		313.0 -> 118.9	2230			
PFHxS	7.228	398.7 -> 79.9	10926	2.18	µg/L	m 95
		398.7 -> 98.9	5544			
PFNA	7.655	463.0 -> 419.0	37712	2.46	µg/L	100
		463.0 -> 219.0	8057			
PFNS	8.726	548.8 -> 79.9	10803	2.48	µg/L	100
		548.8 -> 98.9	4982			
PFOA	7.125	413.0 -> 369.0	69599	2.54	µg/L	100
		413.0 -> 169.0	11059			
PFOS	8.274	498.9 -> 79.9	12052	2.34	µg/L	m 82
		498.9 -> 98.8	6124			
PFPeA	4.349	263.0 -> 219.0	54157	4.86	µg/L	100
PFPeS	6.545	349.1 -> 79.9	14809	2.34	µg/L	100
		349.1 -> 98.9	6636			
PFTeDA	9.708	713.1 -> 669.0	43245	2.47	µg/L	100
		713.1 -> 168.9	3151			
PFTrDA	9.377	663.0 -> 619.0	55957	2.56	µg/L	100
		663.0 -> 168.9	4060			
PFUnDA	8.576	563.1 -> 519.0	60704	2.58	µg/L	100
		563.1 -> 269.1	8908			
11CI-PF3OUdS	9.416	630.9 -> 450.9	46589	4.42	µg/L	100
		632.9 -> 452.9	15786			
9CI-PF3ONS	8.603	530.8 -> 351.0	84737	4.73	µg/L	100
		532.8 -> 353.0	24221			
ADONA	6.743	376.9 -> 250.9	221056	4.84	µg/L	100
		376.9 -> 84.8	56450			
HFPO-DA	5.931	284.9 -> 168.9	15367	4.84	µg/L	100
		284.9 -> 184.9	1866			
3:3FTCA	3.764	241.0 -> 177.0	9602	11.97	µg/L	100
		241.0 -> 117.0	1286			
5:3FTCA	6.197	341.0 -> 237.1	210699	59.79	µg/L	100
		341.0 -> 217.0	153073			
7:3FTCA	7.607	441.0 -> 316.9	128459	60.79	µg/L	100
		441.0 -> 336.9	264067			
EtFOSA	10.979	526.0 -> 219.0	19797	4.91	µg/L	100
		526.0 -> 169.0	25089			
EtFOSE	10.913	630.0 -> 58.9	54994	12.77	µg/L	100
MeFOSA	10.746	511.9 -> 219.0	17568	4.83	µg/L	100
		511.9 -> 169.0	23614			
MeFOSE	10.678	616.1 -> 58.9	43971	12.18	µg/L	100
PFDoDS	9.823	699.1 -> 79.9	4380	2.46	µg/L	100
		699.1 -> 98.8	2484			
NFDHA	5.435	295.0 -> 201.0	10595	4.86	µg/L	100
		295.0 -> 84.9	2880			
PFMBA	4.762	279.0 -> 85.1	40898	4.83	µg/L	100
PFMPA	3.475	229.0 -> 84.9	33719	4.85	µg/L	100
PFEESA	6.011	314.8 -> 134.9	96354	4.35	µg/L	100
		314.8 -> 82.9	3542			

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



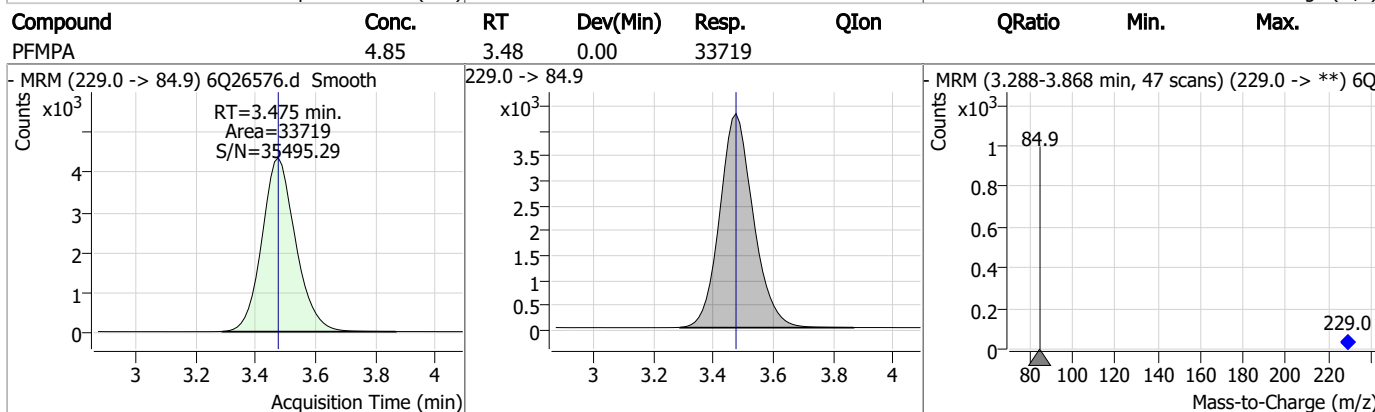
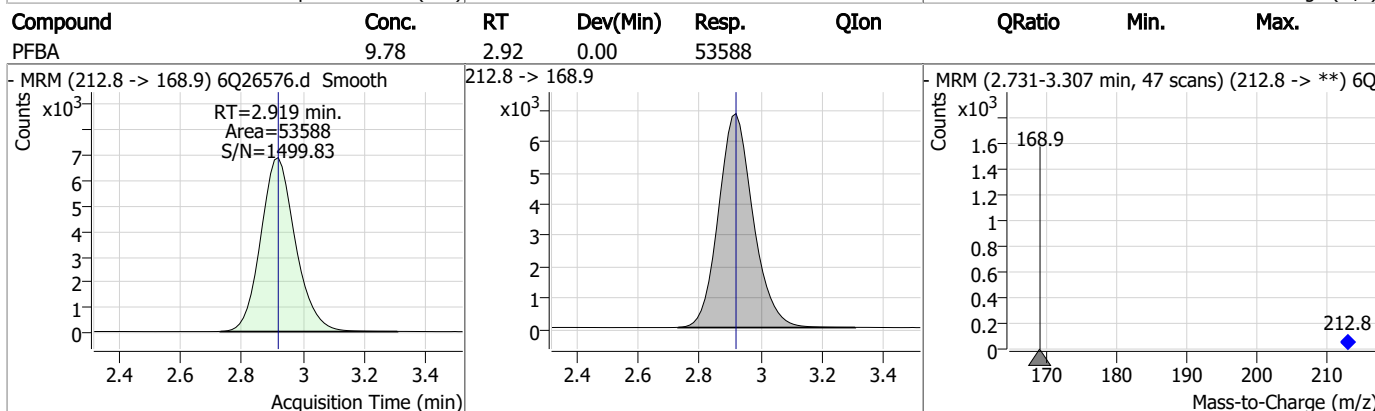
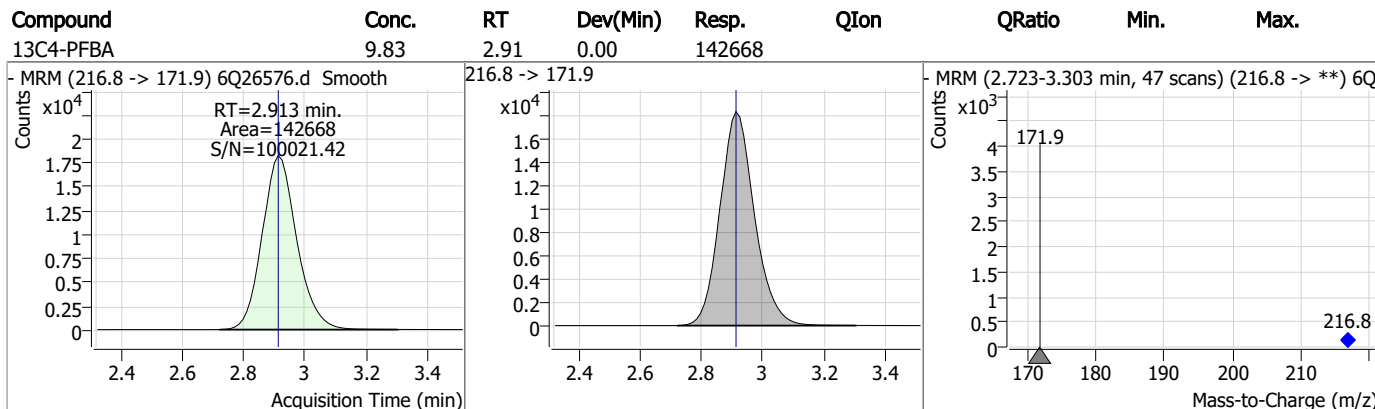
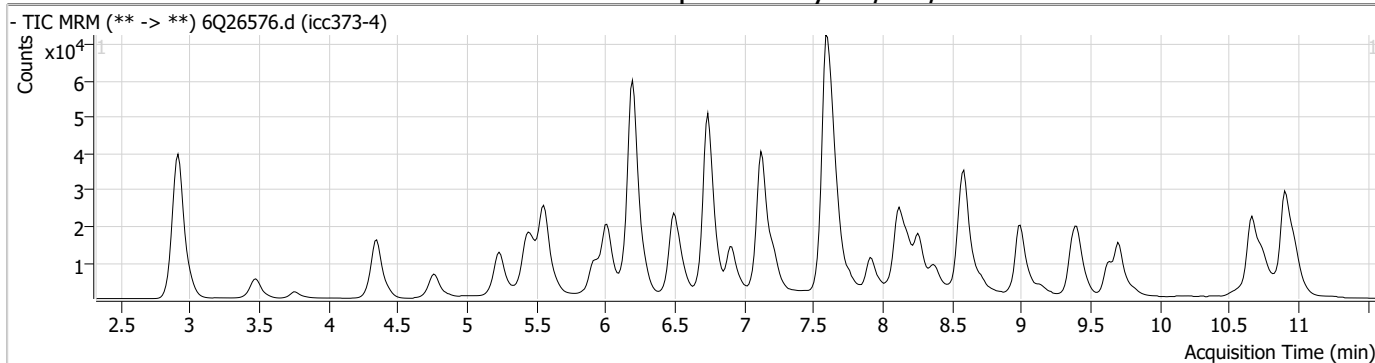
### Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
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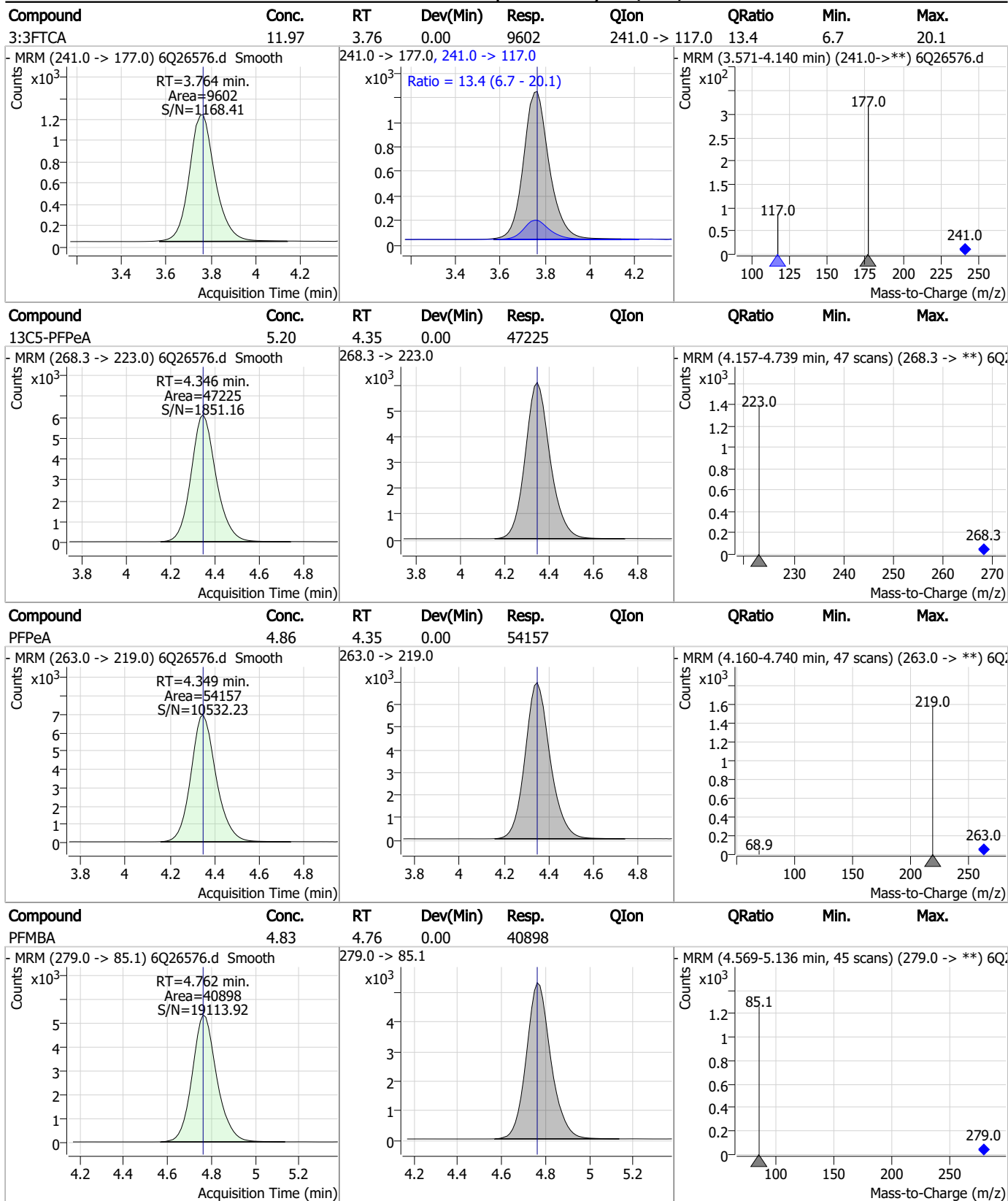
7.7.24  
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### Perfluorinated Compounds by LC/MS/MS



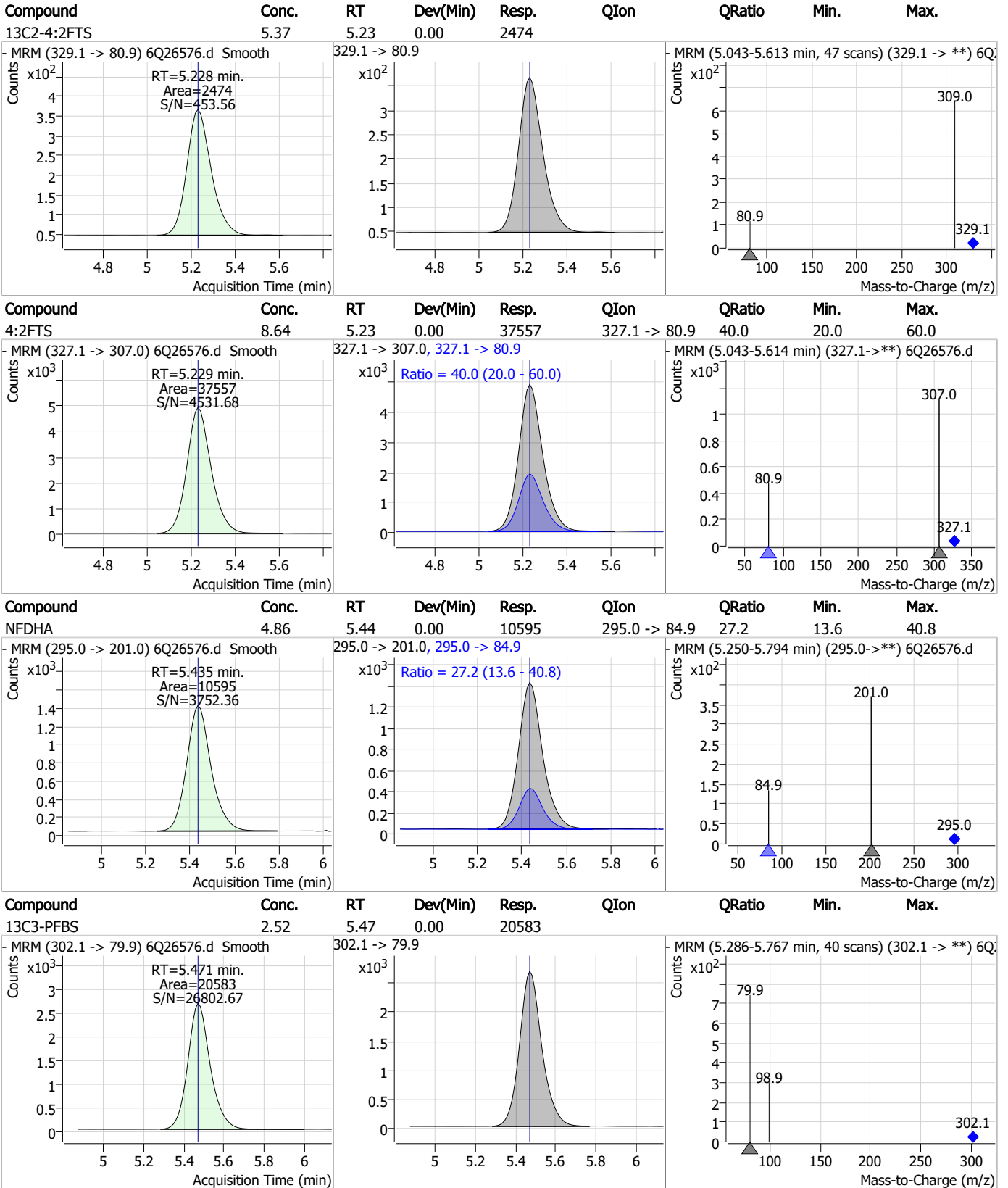
### Perfluorinated Compounds by LC/MS/MS



7.7.24

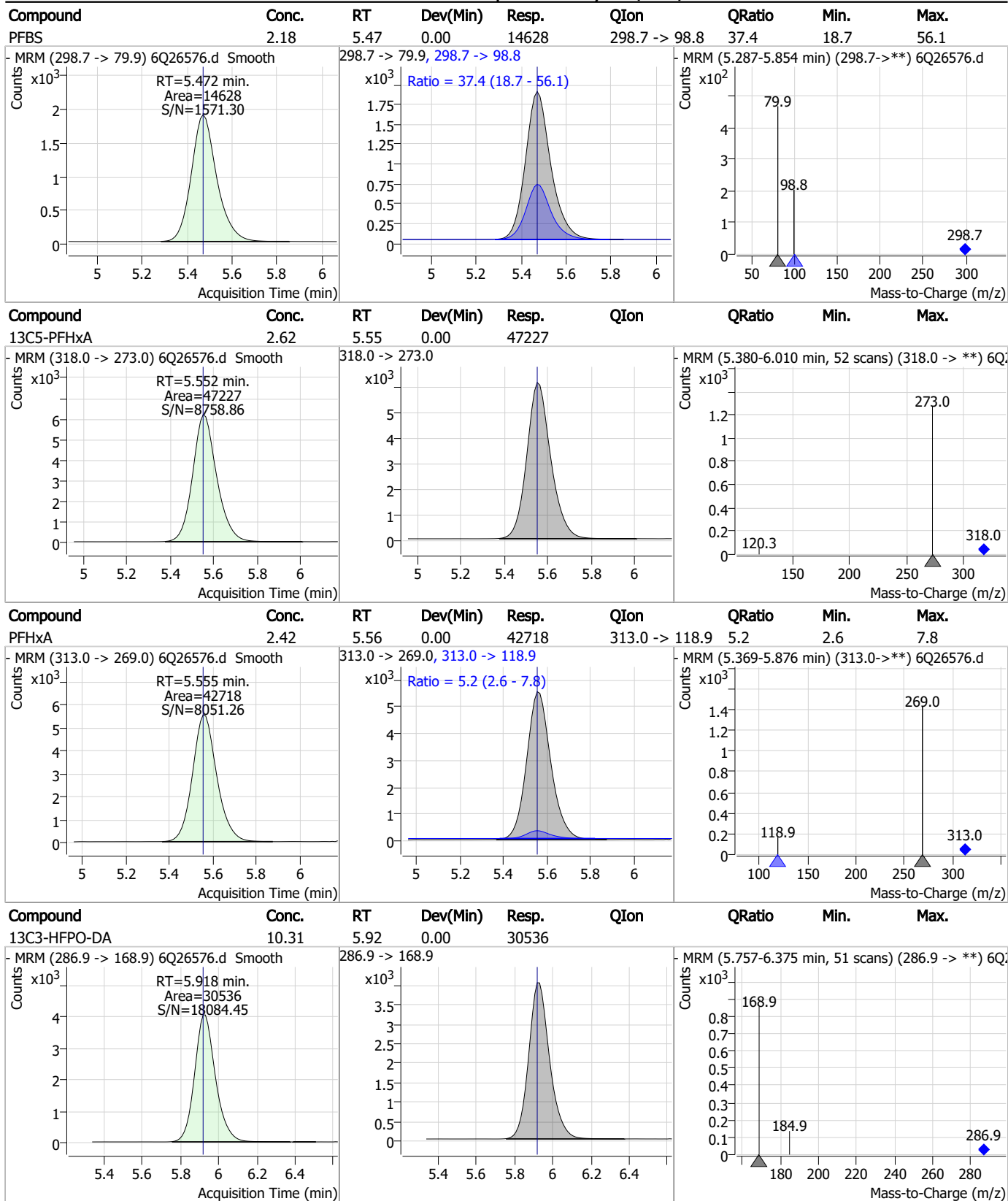
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### Perfluorinated Compounds by LC/MS/MS



7.7.24 7

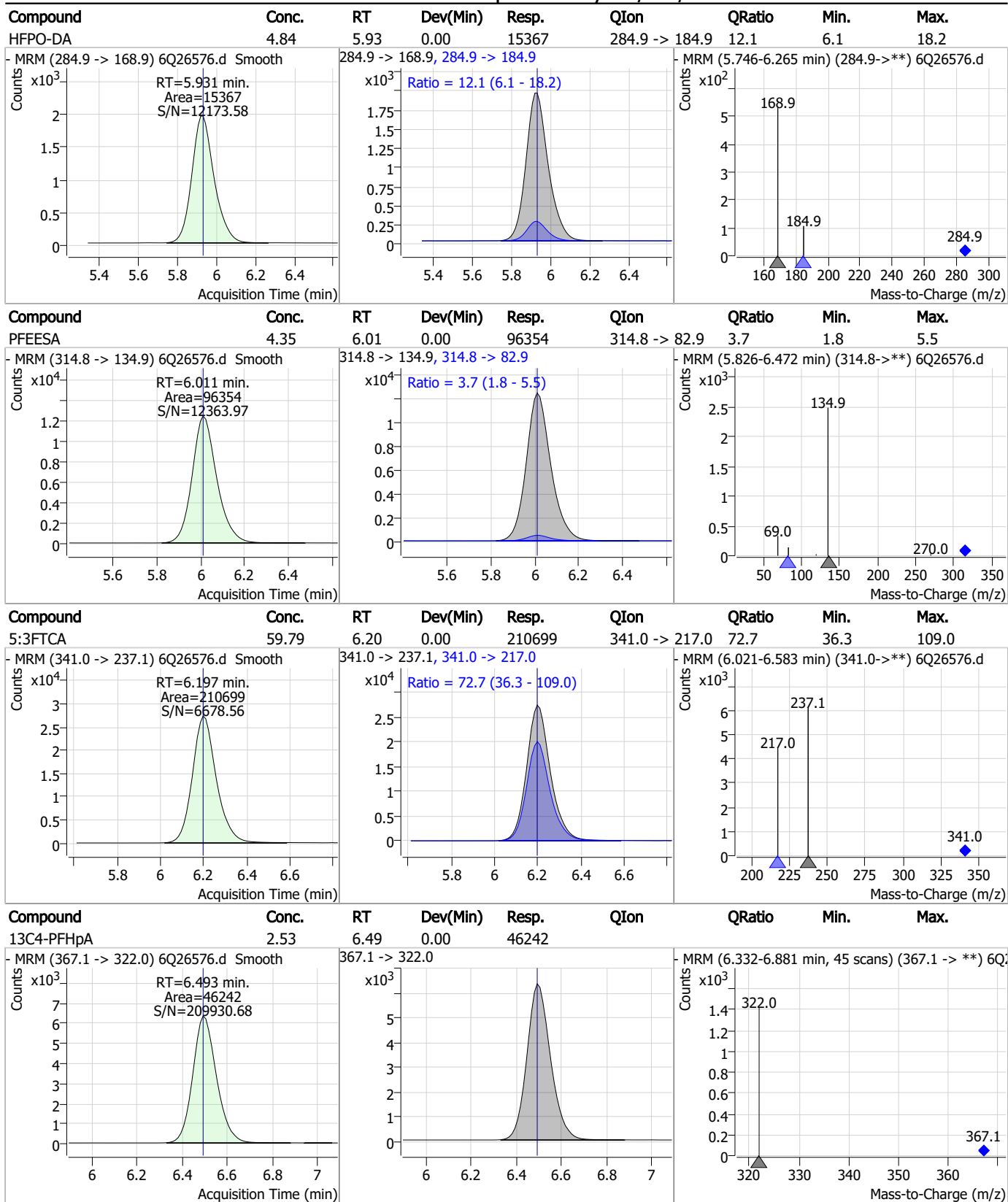
### Perfluorinated Compounds by LC/MS/MS



7.7.24

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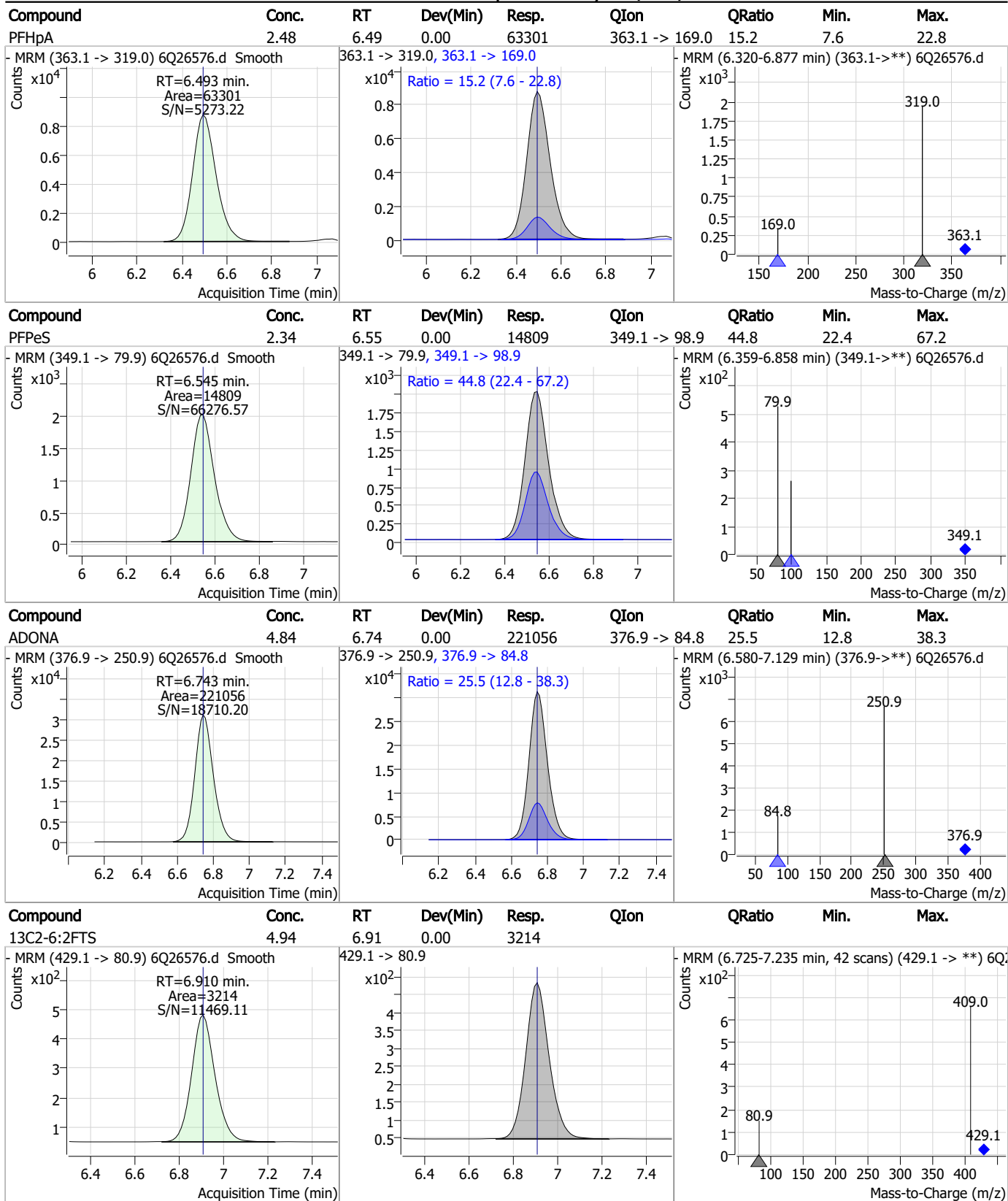
### Perfluorinated Compounds by LC/MS/MS



7.7.24

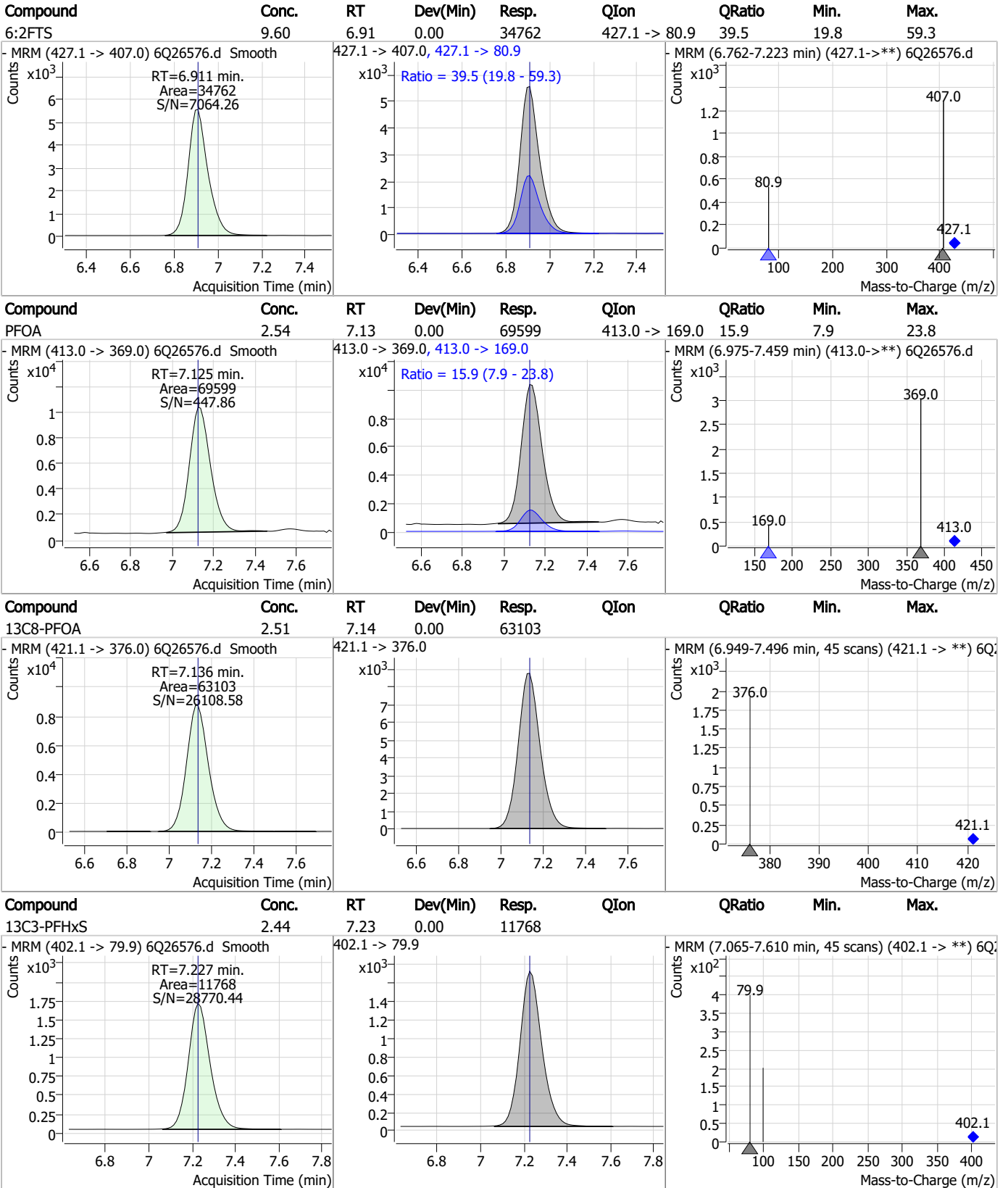
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### Perfluorinated Compounds by LC/MS/MS



7.7.24  
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### Perfluorinated Compounds by LC/MS/MS



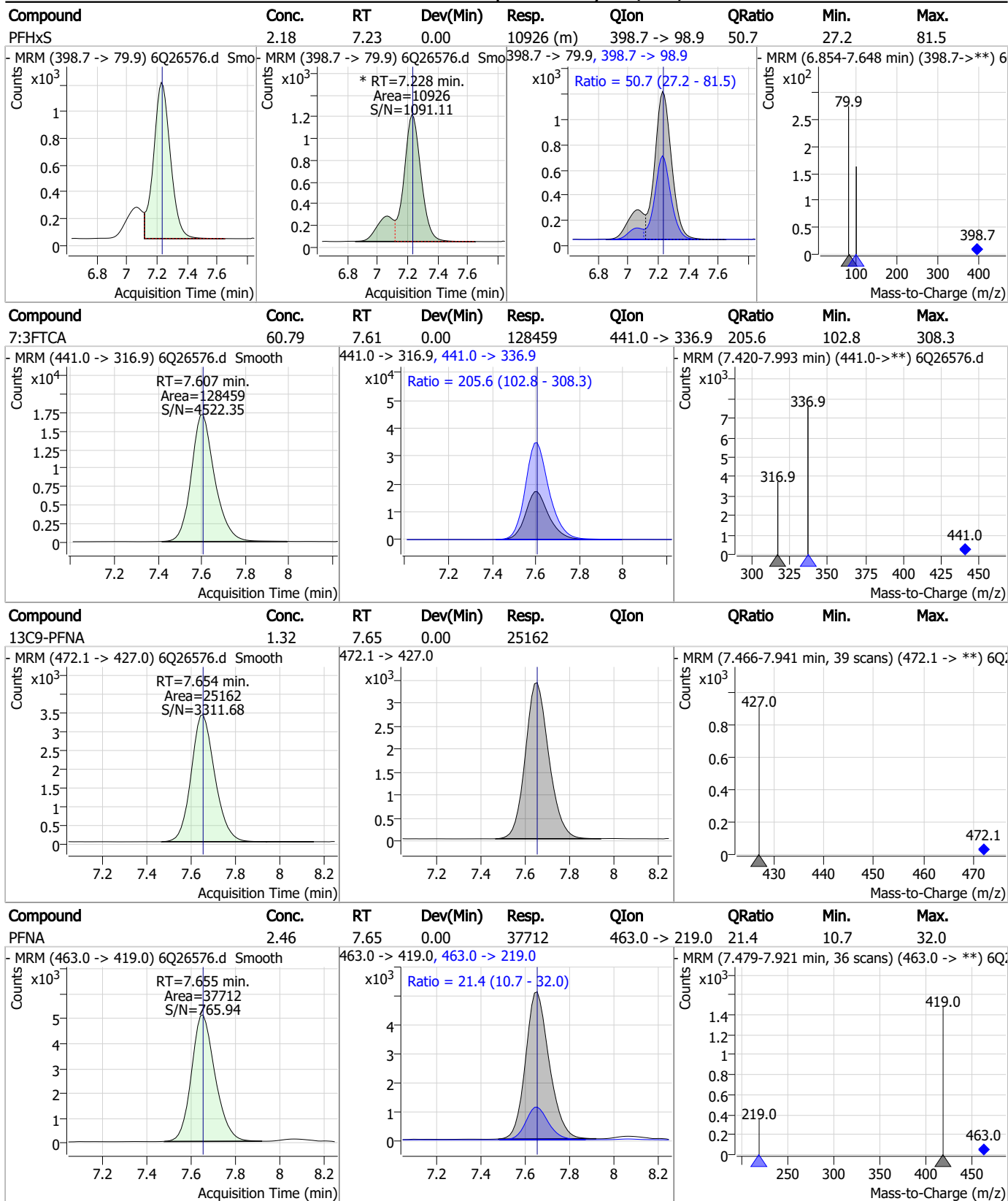
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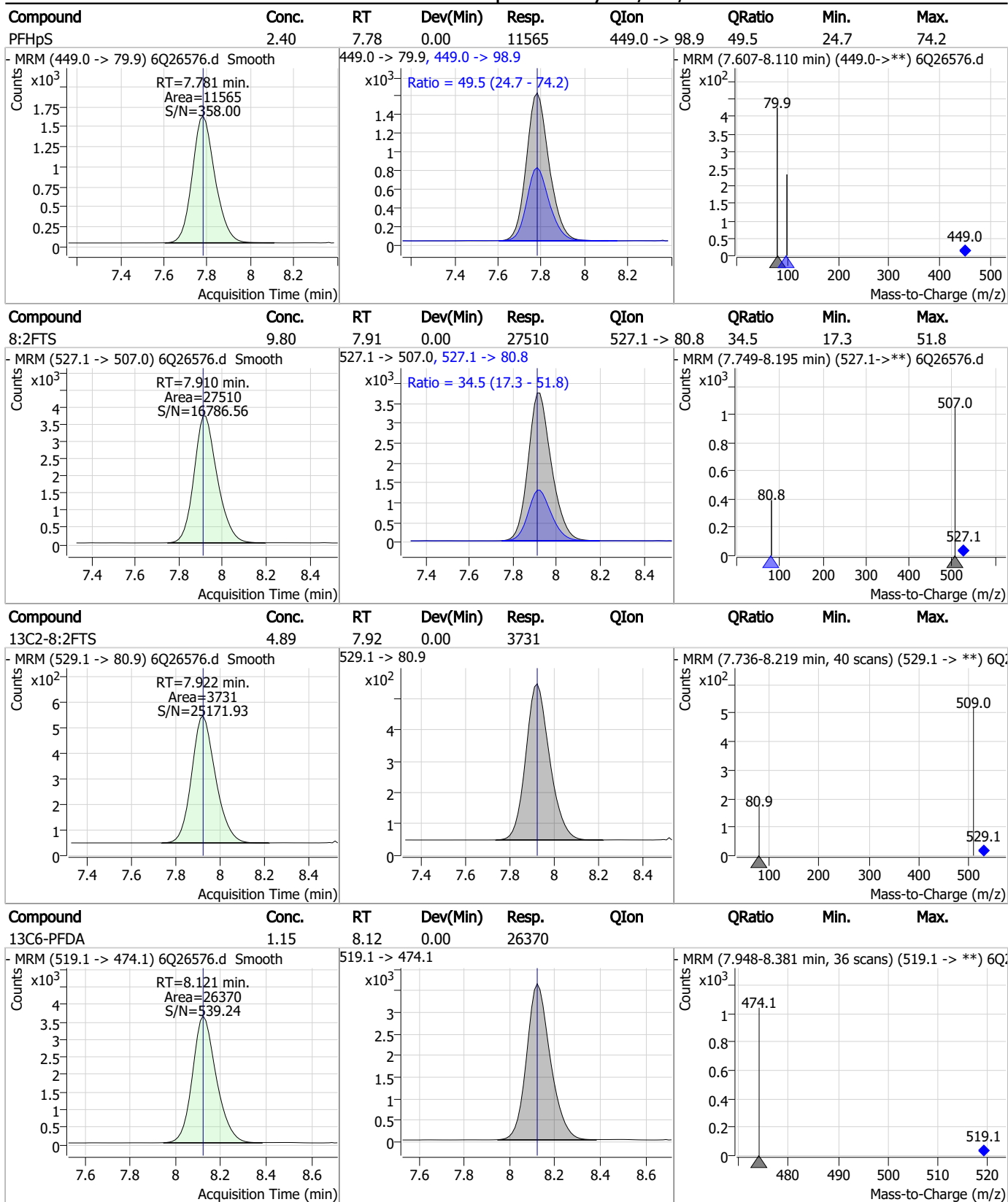
### Perfluorinated Compounds by LC/MS/MS



7.7.24

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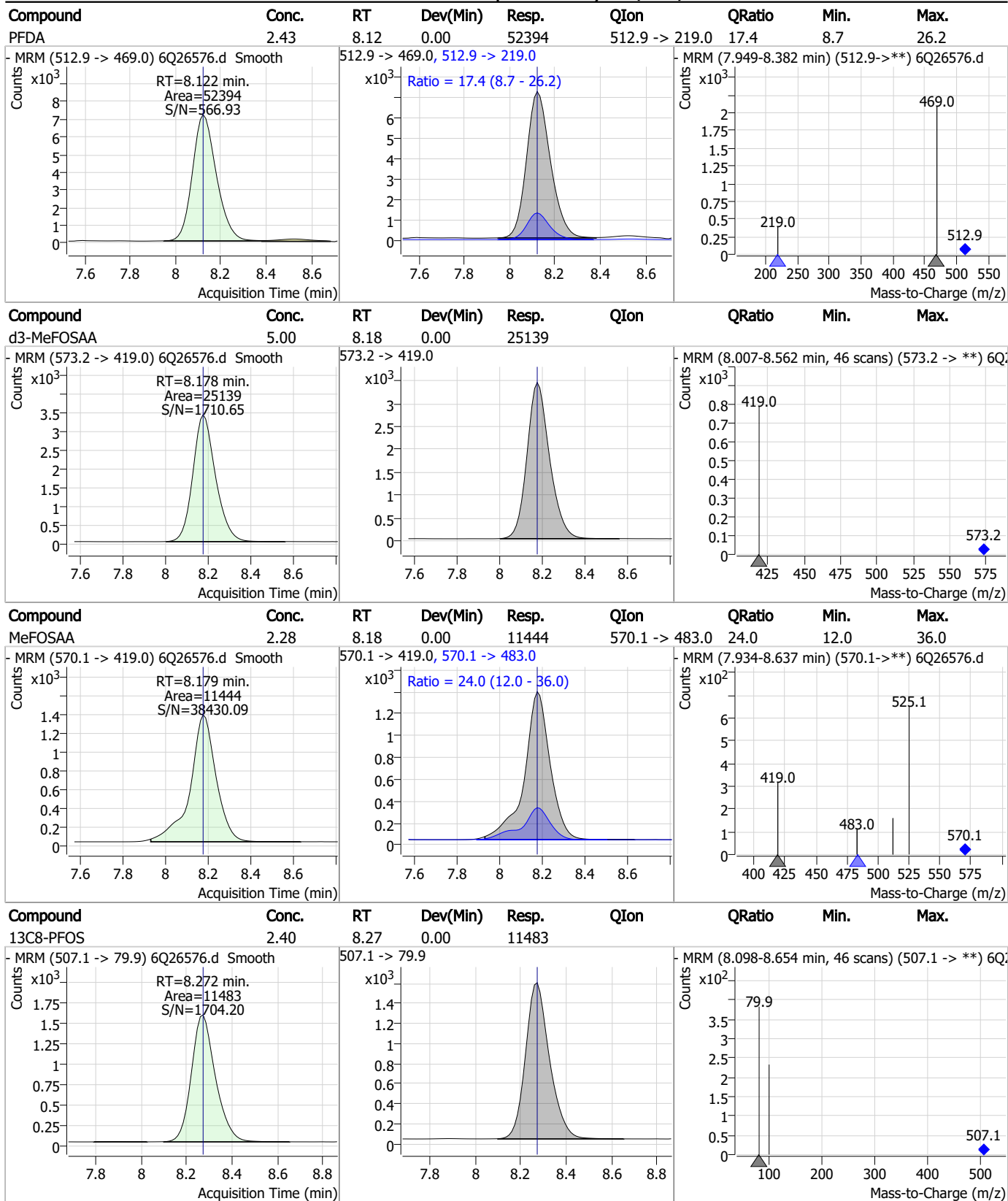
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7.7.24

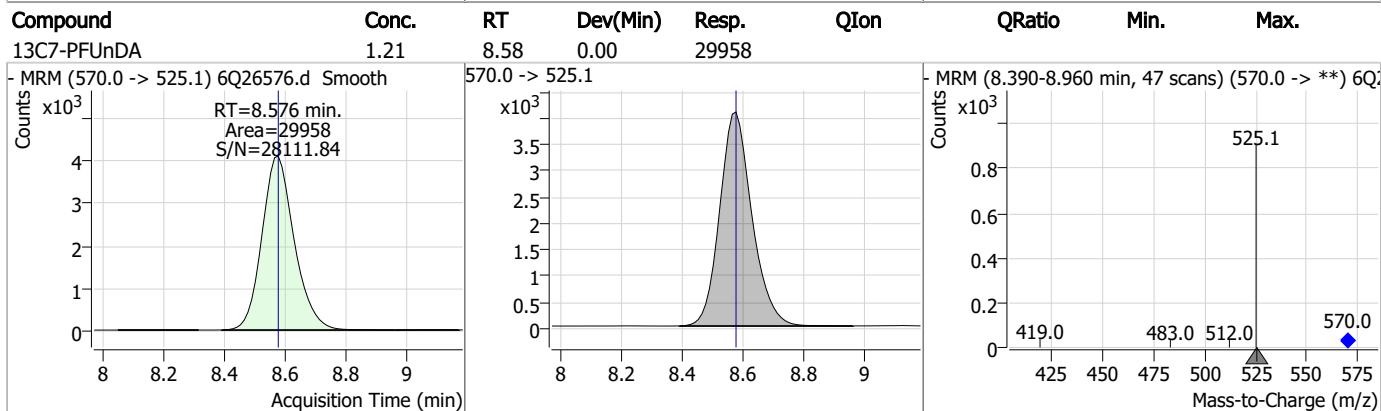
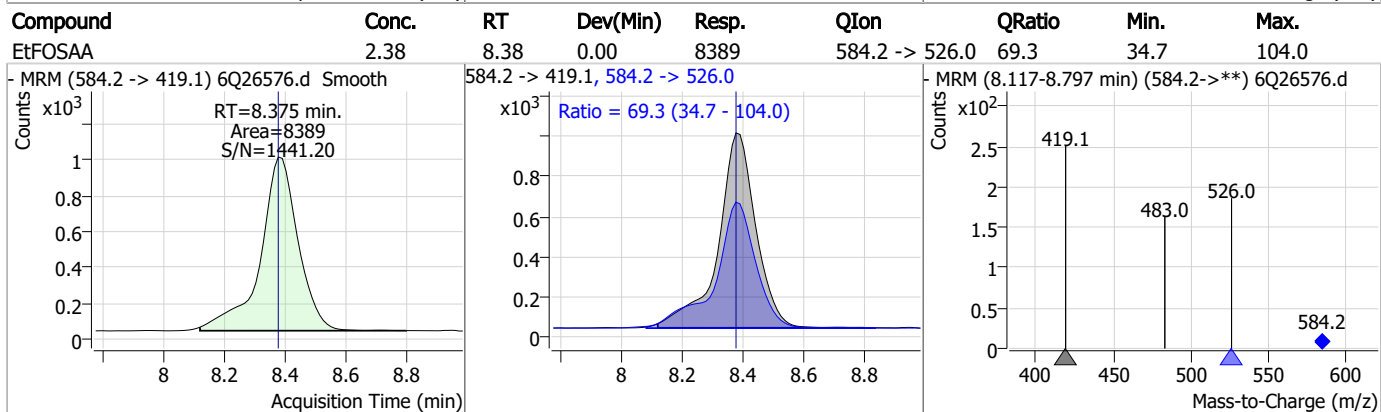
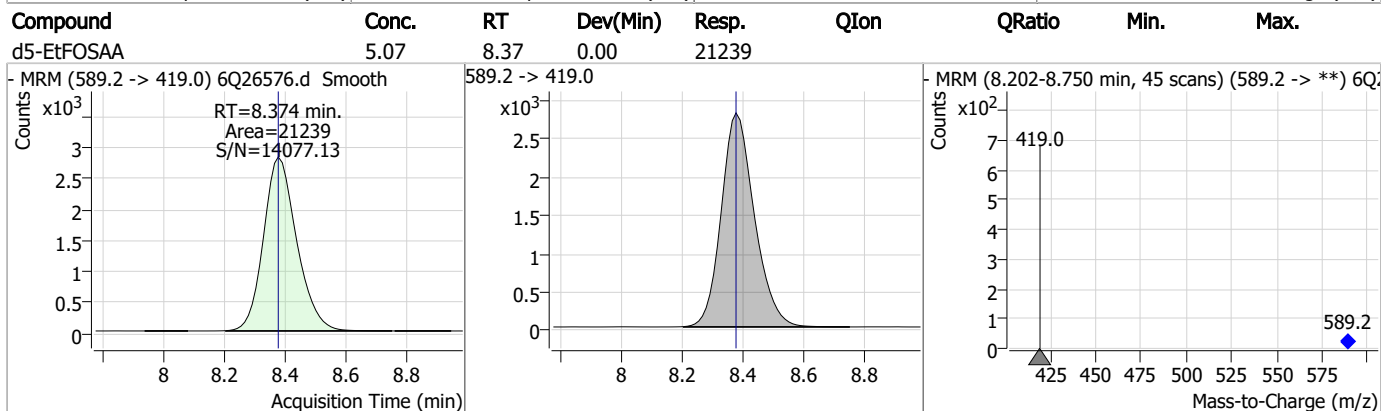
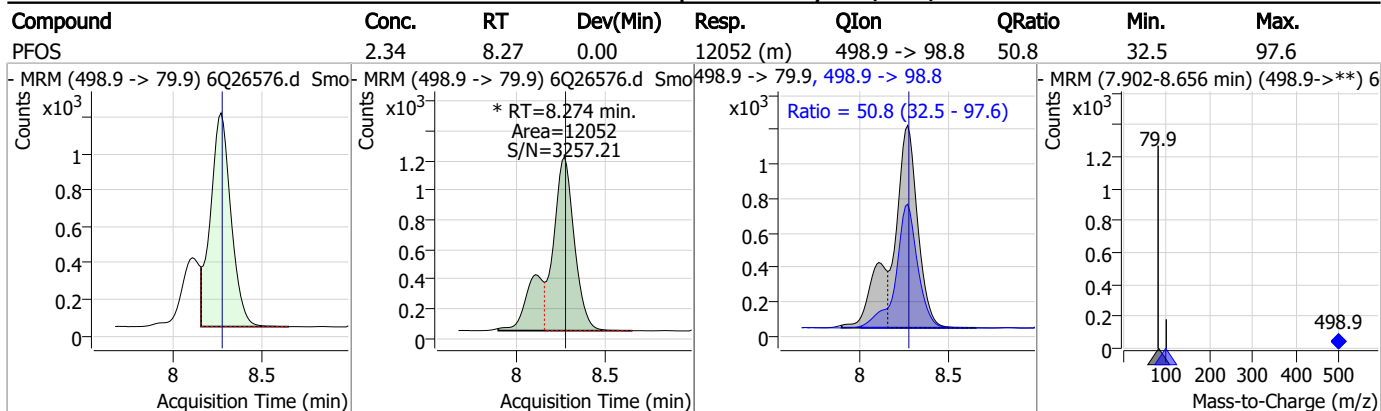
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### Perfluorinated Compounds by LC/MS/MS



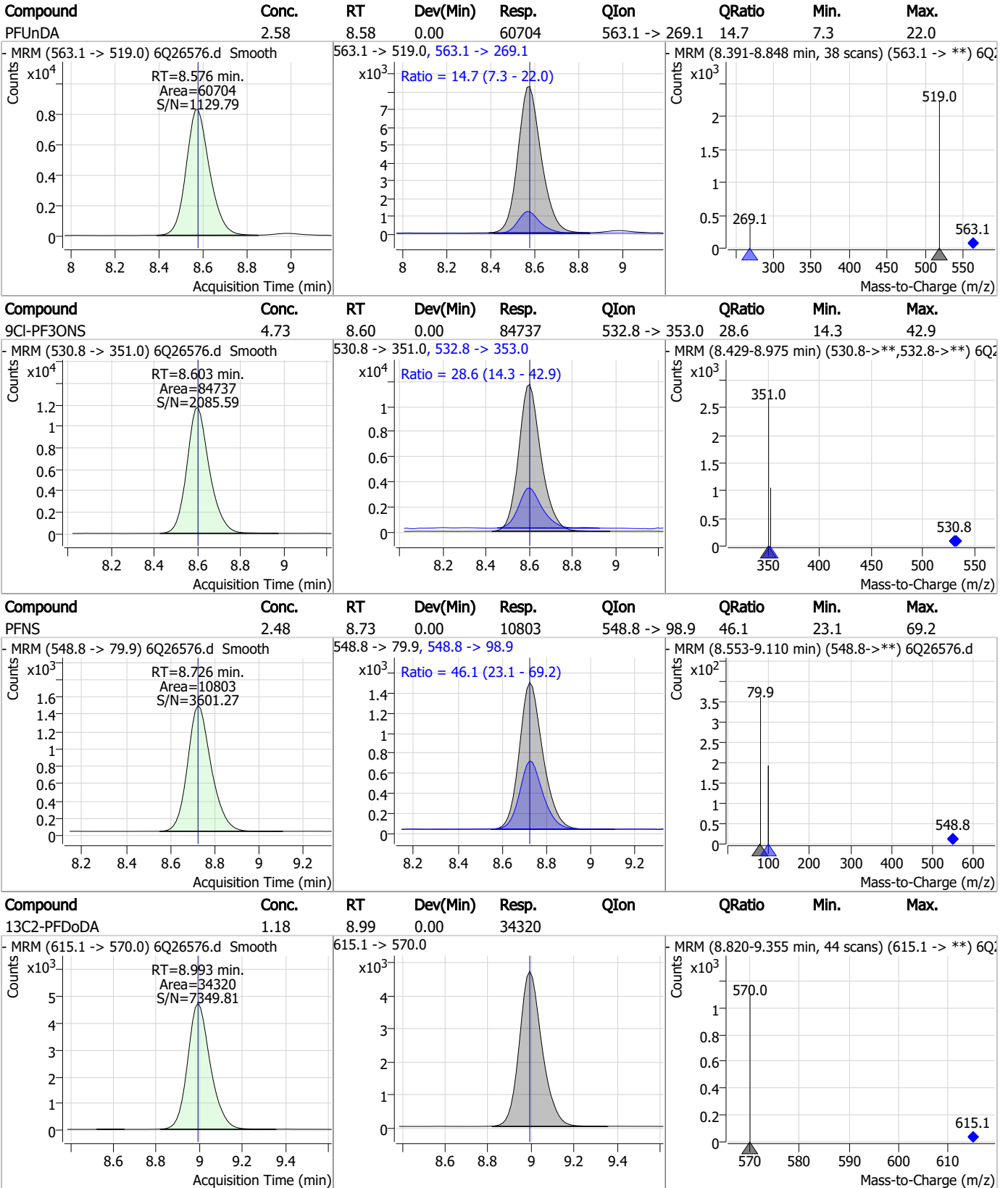
7.7.24  
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### Perfluorinated Compounds by LC/MS/MS



7.7.24  
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### Perfluorinated Compounds by LC/MS/MS

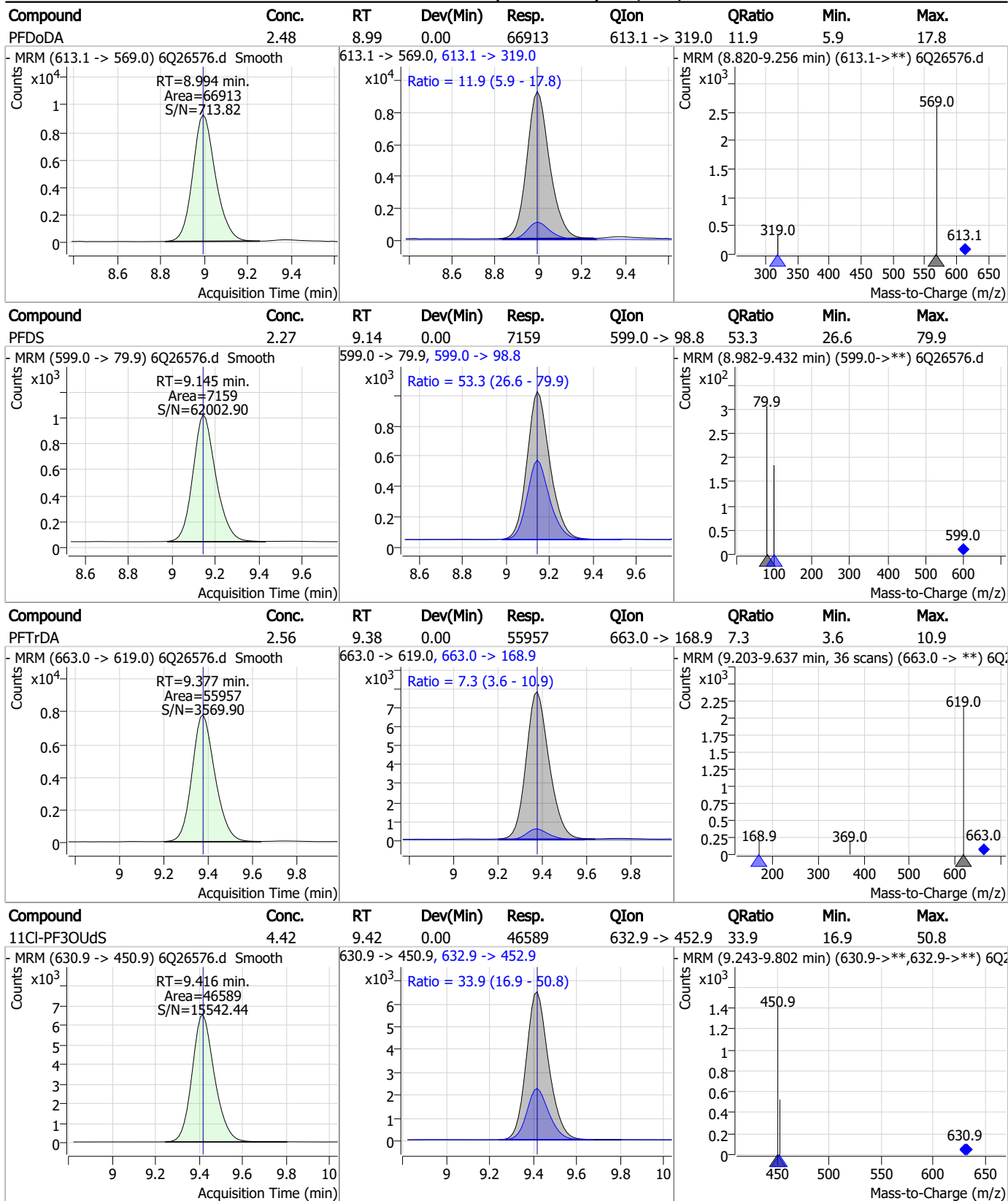


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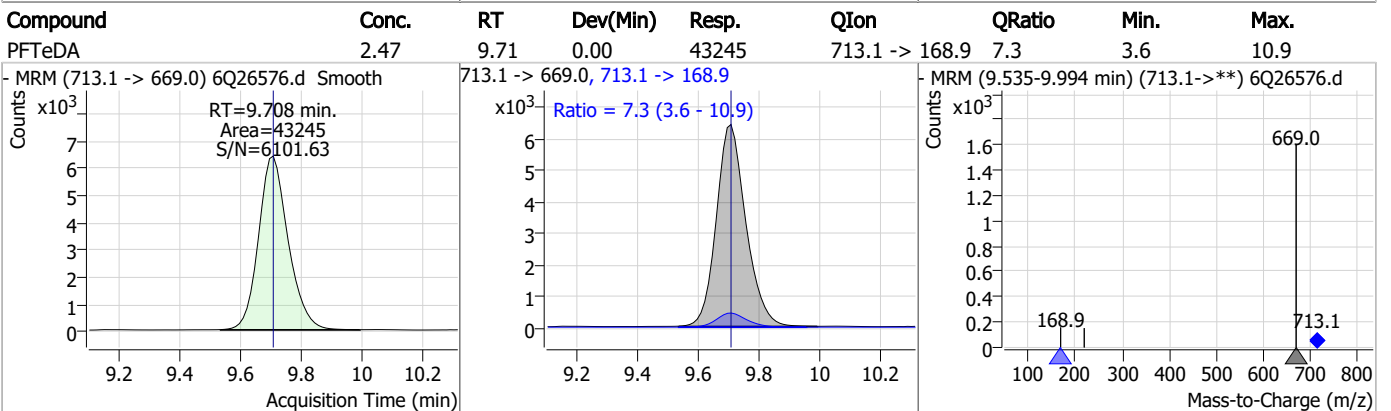
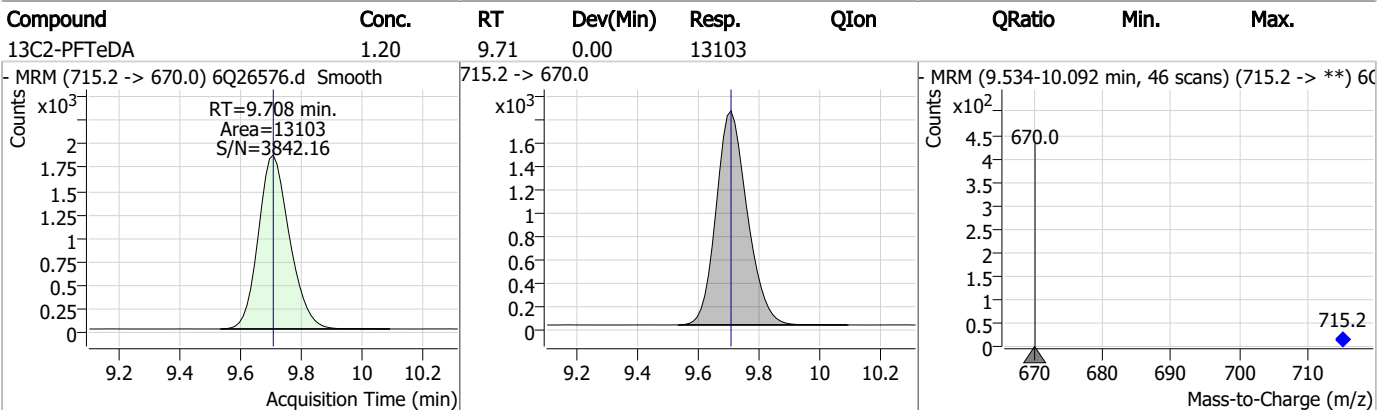
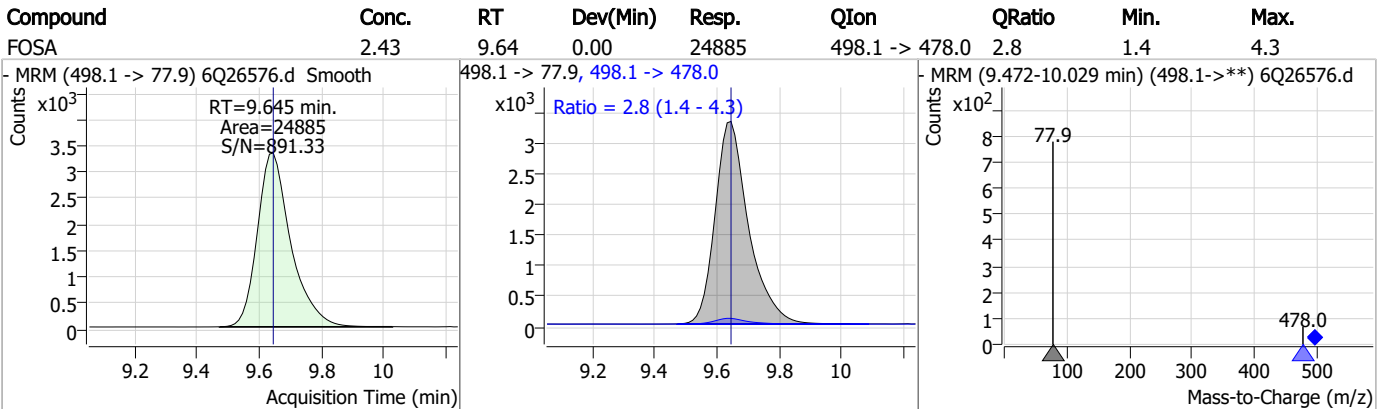
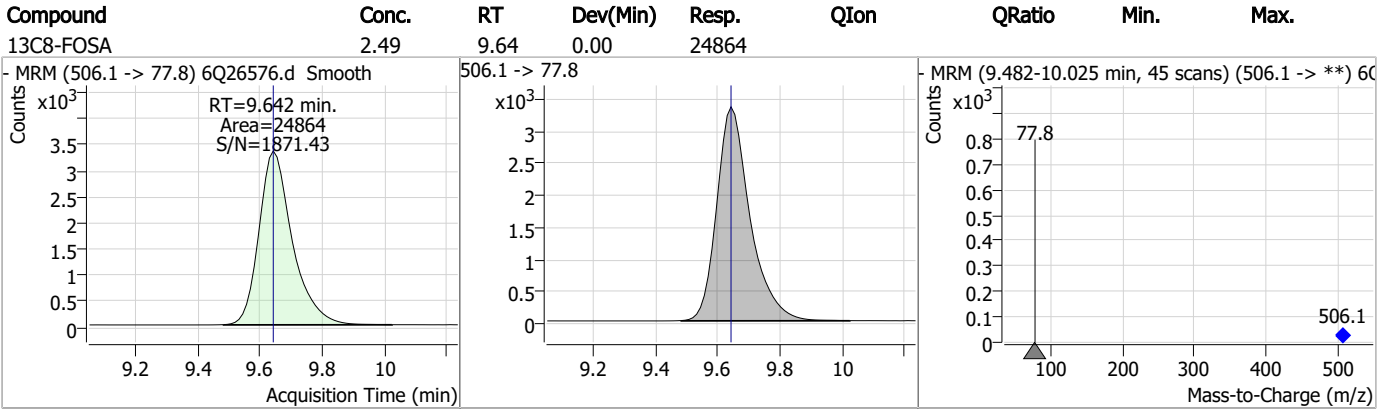


### Perfluorinated Compounds by LC/MS/MS



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### Perfluorinated Compounds by LC/MS/MS

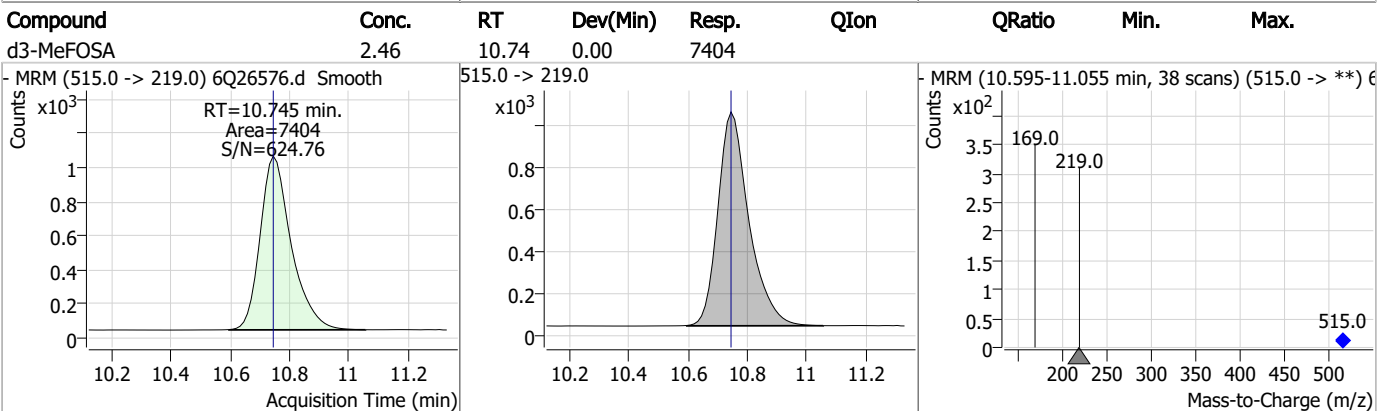
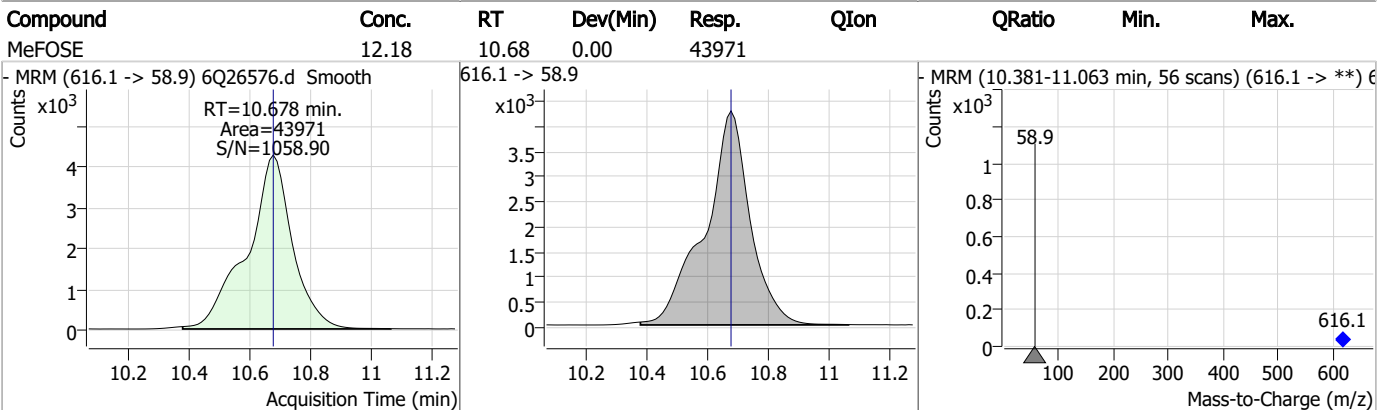
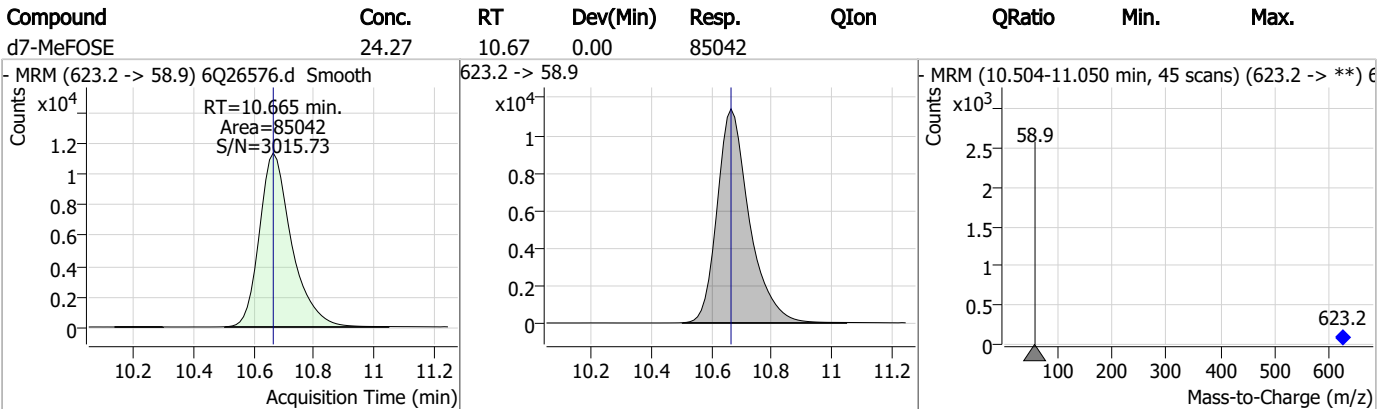
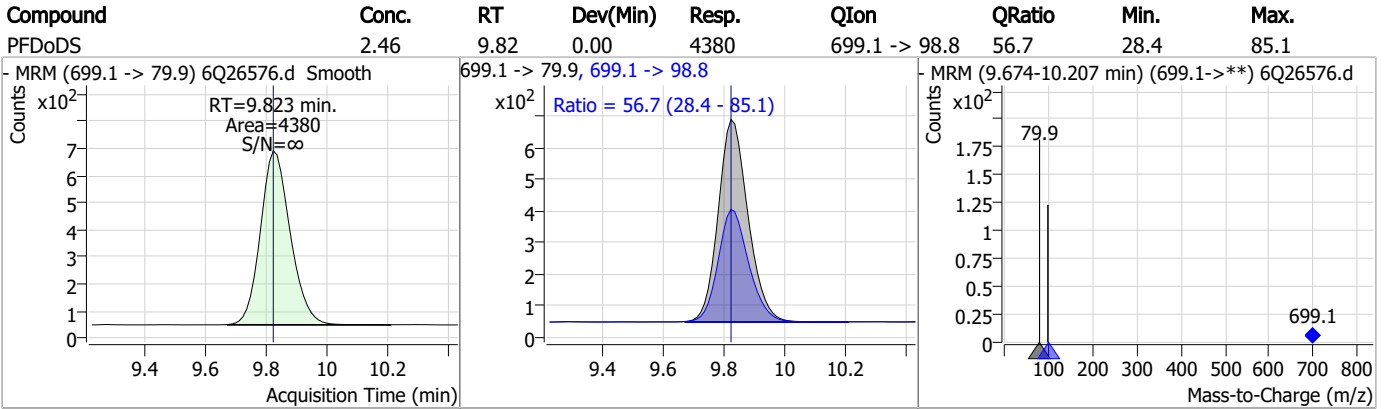


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### Perfluorinated Compounds by LC/MS/MS

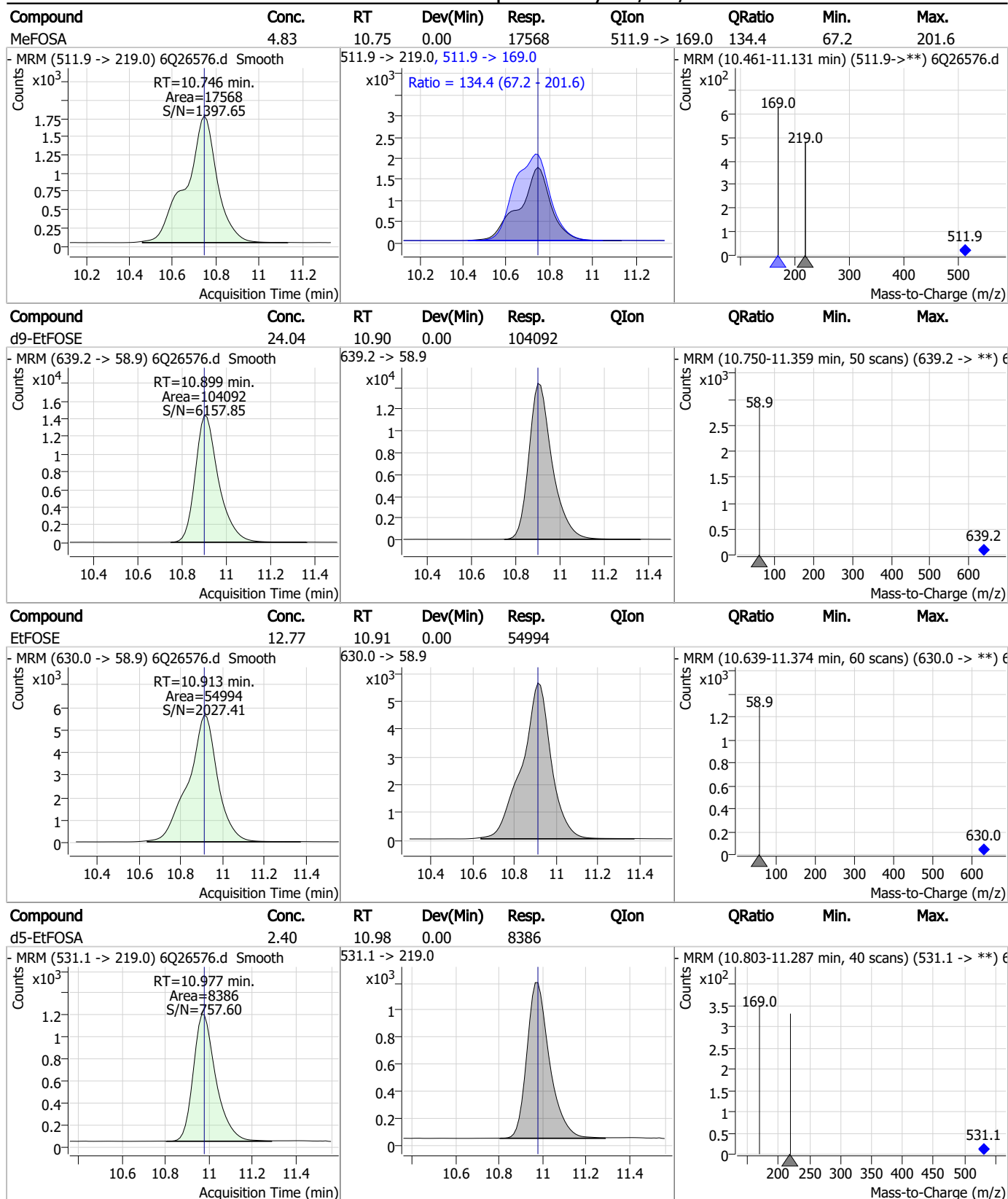


7.7.24

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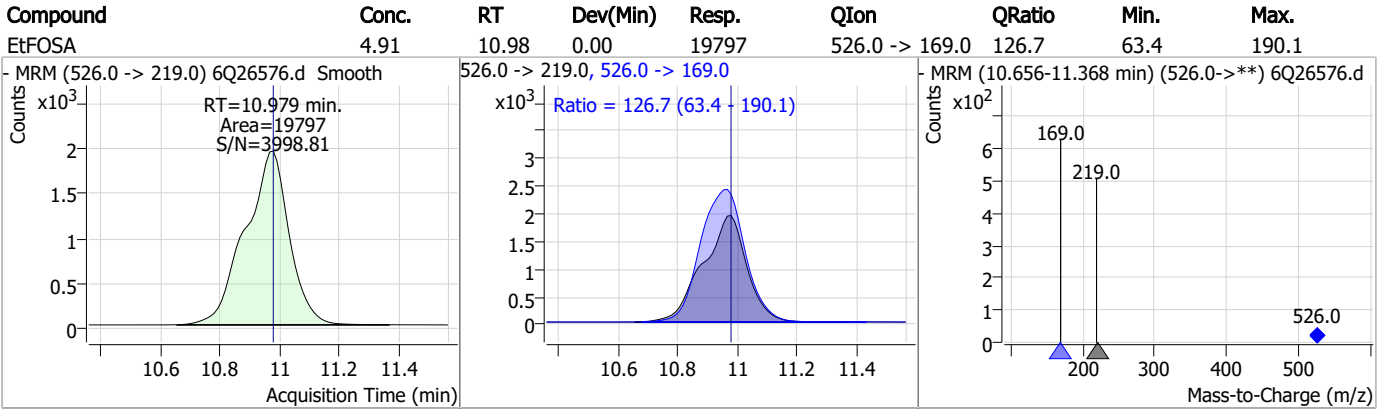
### Perfluorinated Compounds by LC/MS/MS



7.7.24

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Perfluorinated Compounds by LC/MS/MS



7.7.24

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# Manual Integration Approval Summary

Sample Number: S6Q373-ICC373      Method: EPA DRAFT 1633  
Lab FileID: 6Q26576.D      Analyst approved: 10/18/23 16:28 Anna Ludwig  
Injection Time: 10/17/23 18:54      Supervisor approved: 10/19/23 09:36 Natasha Gumtie

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		7.23	Split peak
Perfluorooctanesulfonic acid	1763-23-1		8.27	Split peak

7.7.24.1

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Manual Integrations  
**APPROVED**  
 (compounds with "m" flag)

Natasha Gumtie  
 10/19/23 09:36

### Perfluorinated Compounds by LC/MS/MS

Data File : 6Q26577.d  
 Operator : marthav  
 Acq. Method : 1633full.m  
 Acq. Date-Time : 10/17/2023 7:09:06 PM  
 Sample Name : ic373-5  
 Vial : P1-A6  
 DA Method File : 1633\_101723\_S6Q373.quantmethod.xml  
 Batch Name : S6Q373.batch.bin  
 Sample Information : OP99081,S6Q373,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
<b>Internal Standards</b>					
M4-PFBA	2.913	216.8 -> 171.9	142961	10.00 µg/L	0.000
M5-PFPeA	4.346	268.3 -> 223.0	47191	5.00 µg/L	0.000
M5-PFHxA	5.552	318.0 -> 273.0	45650	2.50 µg/L	0.000
M4-PFHpA	6.493	367.1 -> 322.0	46853	2.50 µg/L	0.000
M8-PFOA	7.124	421.1 -> 376.0	63362	2.50 µg/L	-0.012
M9-PFNA	7.642	472.1 -> 427.0	23776	1.25 µg/L	-0.012
M6-PFDA	8.109	519.1 -> 474.1	28026	1.25 µg/L	-0.012
M7-PFUnDA	8.564	570.0 -> 525.1	30224	1.25 µg/L	-0.012
M2-PFDoDA	8.993	615.1 -> 570.0	36143	1.25 µg/L	0.000
M2-PFTeDA	9.708	715.2 -> 670.0	12700	1.25 µg/L	0.000
M8-FOSA	9.642	506.1 -> 77.8	25357	2.50 µg/L	0.000
M3-PFBS	5.471	302.1 -> 79.9	19577	2.50 µg/L	0.000
M3-PFHxS	7.227	402.1 -> 79.9	12113	2.50 µg/L	0.000
M8-PFOS	8.260	507.1 -> 79.9	11647	2.50 µg/L	-0.012
M2-4:2FTS	5.228	329.1 -> 80.9	2225	5.00 µg/L	0.000
M2-6:2FTS	6.898	429.1 -> 80.9	3229	5.00 µg/L	-0.012
M2-8:2FTS	7.910	529.1 -> 80.9	3623	5.00 µg/L	-0.012
M3-MeFOSAA	8.178	573.2 -> 419.0	24779	5.00 µg/L	0.000
M3-HFPO-DA	5.918	286.9 -> 168.9	29802	10.00 µg/L	0.000
M5-EtFOSAA	8.362	589.2 -> 419.0	20509	5.00 µg/L	-0.012
M7-MeFOSE	10.665	623.2 -> 58.9	85440	25.00 µg/L	0.000
M9-EtFOSE	10.899	639.2 -> 58.9	104412	25.00 µg/L	0.000
M5-EtFOSA	10.977	531.1 -> 219.0	8499	2.50 µg/L	0.000
M3-MeFOSA	10.745	515.0 -> 219.0	7305	2.50 µg/L	0.000
13C4-PFOS	8.261	502.8 -> 79.9	10887	2.50 µg/L	-0.012
13C3-PFBA	2.916	216.0 -> 172.0	57643	5.00 µg/L	0.000
18O2-PFHxS	7.226	403.0 -> 83.9	6848	2.50 µg/L	0.000
13C4-PFOA	7.125	417.1 -> 372.0	71734	2.50 µg/L	0.000
13C2-PFDA	8.109	515.1 -> 470.1	26456	1.25 µg/L	-0.012
13C5-PFNA	7.642	468.0 -> 423.0	22176	1.25 µg/L	-0.012
13C2-PFHxA	5.553	315.1 -> 270.0	47633	2.50 µg/L	0.000
<b>System Monitoring Compounds</b>					
13C2-4:2FTS	5.228	329.1 -> 80.9	2225	5.20 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 104.0%		
13C2-6:2FTS	6.898	429.1 -> 80.9	3229	5.35 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 106.9%		
13C2-8:2FTS	7.910	529.1 -> 80.9	3623	5.12 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 102.4%		
13C2-PFDoDA	8.993	615.1 -> 570.0	36143	1.26 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 101.2%		
13C2-PFTeDA	9.708	715.2 -> 670.0	12700	1.18 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 94.8%		
13C3-PFBS	5.471	302.1 -> 79.9	19577	2.58 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 103.3%		
13C3-PFHxS	7.227	402.1 -> 79.9	12113	2.70 µg/L	0.000

7.7.25  
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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 = 108.1%	
13C4-PFBA	2.913	216.8 -> 171.9	142961	10.07 µg/L	0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 100.7%	
13C4-PFHpA	6.493	367.1 -> 322.0	46853	2.43 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 97.0%	
13C5-PFHxA	5.552	318.0 -> 273.0	45650	2.39 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 95.6%	
13C5-PFPeA	4.346	268.3 -> 223.0	47191	4.92 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 98.4%	
13C6-PFDA	8.109	519.1 -> 474.1	28026	1.24 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 99.4%	
13C7-PFUnDA	8.564	570.0 -> 525.1	30224	1.24 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 99.0%	
13C8-FOSA	9.642	506.1 -> 77.8	25357	2.53 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 101.3%	
13C8-PFOA	7.124	421.1 -> 376.0	63362	2.47 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 98.8%	
13C8-PFOS	8.260	507.1 -> 79.9	11647	2.42 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 96.8%	
13C9-PFNA	7.642	472.1 -> 427.0	23776	1.25 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 99.8%	
d3-MeFOSAA	8.178	573.2 -> 419.0	24779	4.91 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 98.1%	
13C3-HFPO-DA	5.918	286.9 -> 168.9	29802	9.52 µg/L	0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 95.2%	
d3-MeFOSA	10.745	515.0 -> 219.0	7305	2.41 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 96.6%	
d5-EtFOSAA	8.362	589.2 -> 419.0	20509	4.88 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 97.6%	
d7-MeFOSE	10.665	623.2 -> 58.9	85440	24.27 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 97.1%	
d9-EtFOSE	10.899	639.2 -> 58.9	104412	24.00 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 96.0%	
d5-EtFOSA	10.977	531.1 -> 219.0	8499	2.43 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 97.0%	
<b>Target Compounds</b>					<b>QValue</b>
4:2FTS	5.229	327.1 -> 307.0	76001	19.43 µg/L	97
		327.1 -> 80.9	28925		
6:2FTS	6.898	427.1 -> 407.0	64917	17.85 µg/L	99
		427.1 -> 80.9	25207		
8:2FTS	7.910	527.1 -> 507.0	56483	20.72 µg/L	100
		527.1 -> 80.8	19436		
EtFOSAA	8.375	584.2 -> 419.1	17313	5.08 µg/L	95
		584.2 -> 526.0	11283		
FOSA	9.633	498.1 -> 77.9	50180	4.80 µg/L	100
		498.1 -> 478.0	1376		
MeFOSAA	8.179	570.1 -> 419.0	24666	4.99 µg/L	95
		570.1 -> 483.0	5265		
PFBA	2.919	212.8 -> 168.9	109379	19.92 µg/L	100
PFBS	5.472	298.7 -> 79.9	28727	4.50 µg/L	99
		298.7 -> 98.8	10919		
PFDA	8.122	512.9 -> 469.0	115746	5.06 µg/L	95
		512.9 -> 219.0	17727		
PFDoDA	8.994	613.1 -> 569.0	135720	4.79 µg/L	99
		613.1 -> 319.0	15824		
PFDS	9.145	599.0 -> 79.9	15710	4.90 µg/L	91

7.7.25  
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## Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
		599.0 -> 98.8	7335			
PFHpA	6.493	363.1 -> 319.0	132862	5.13	µg/L	97
		363.1 -> 169.0	18574			
PFHpS	7.768	449.0 -> 79.9	22238	4.54	µg/L	97
		449.0 -> 98.9	11405			
PFHxA	5.555	313.0 -> 269.0	86042	5.05	µg/L	99
		313.0 -> 118.9	4072			
PFHxS	7.228	398.7 -> 79.9	22482	4.36	µg/L	m 92
		398.7 -> 98.9	10837			
PFNA	7.642	463.0 -> 419.0	68229	4.71	µg/L	92
		463.0 -> 219.0	17177			
PFNS	8.726	548.8 -> 79.9	21831	4.93	µg/L	92
		548.8 -> 98.9	11210			
PFOA	7.125	413.0 -> 369.0	135762	4.93	µg/L	96
		413.0 -> 169.0	23995			
PFOS	8.261	498.9 -> 79.9	22057	4.23	µg/L	m 87
		498.9 -> 98.8	12046			
PFPeA	4.349	263.0 -> 219.0	109245	9.81	µg/L	100
PFPeS	6.533	349.1 -> 79.9	30013	4.60	µg/L	96
		349.1 -> 98.9	14210			
PFTeDA	9.708	713.1 -> 669.0	89342	5.26	µg/L	99
		713.1 -> 168.9	6737			
PFTrDA	9.377	663.0 -> 619.0	111883	4.85	µg/L	98
		663.0 -> 168.9	9067			
PFUnDA	8.564	563.1 -> 519.0	115147	4.86	µg/L	99
		563.1 -> 269.1	16232			
11CI-PF3OUdS	9.416	630.9 -> 450.9	97857	9.52	µg/L	97
		632.9 -> 452.9	31400			
9CI-PF3ONS	8.591	530.8 -> 351.0	172260	9.86	µg/L	96
		532.8 -> 353.0	52882			
ADONA	6.743	376.9 -> 250.9	427155	9.58	µg/L	96
		376.9 -> 84.8	118112			
HFPO-DA	5.918	284.9 -> 168.9	31258	10.09	µg/L	100
		284.9 -> 184.9	3730			
3:3FTCA	3.764	241.0 -> 177.0	19863	24.70	µg/L	100
		241.0 -> 117.0	2666			
5:3FTCA	6.197	341.0 -> 237.1	430327	126.33	µg/L	99
		341.0 -> 217.0	315547			
7:3FTCA	7.595	441.0 -> 316.9	246801	120.83	µg/L	90
		441.0 -> 336.9	544997			
EtFOSA	10.966	526.0 -> 219.0	39715	9.73	µg/L	100
		526.0 -> 169.0	50526			
EtFOSE	10.913	630.0 -> 58.9	110348	25.54	µg/L	100
MeFOSA	10.746	511.9 -> 219.0	35983	10.02	µg/L	100
		511.9 -> 169.0	48308			
MeFOSE	10.678	616.1 -> 58.9	88750	24.47	µg/L	100
PFDoDS	9.823	699.1 -> 79.9	8693	4.82	µg/L	94
		699.1 -> 98.8	4573			
NFDHA	5.435	295.0 -> 201.0	22066	10.47	µg/L	98
		295.0 -> 84.9	5745			
PFMBA	4.762	279.0 -> 85.1	84613	10.00	µg/L	100
PFMPA	3.475	229.0 -> 84.9	69203	9.96	µg/L	100
PFEESA	6.011	314.8 -> 134.9	192164	8.98	µg/L	100
		314.8 -> 82.9	6944			

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

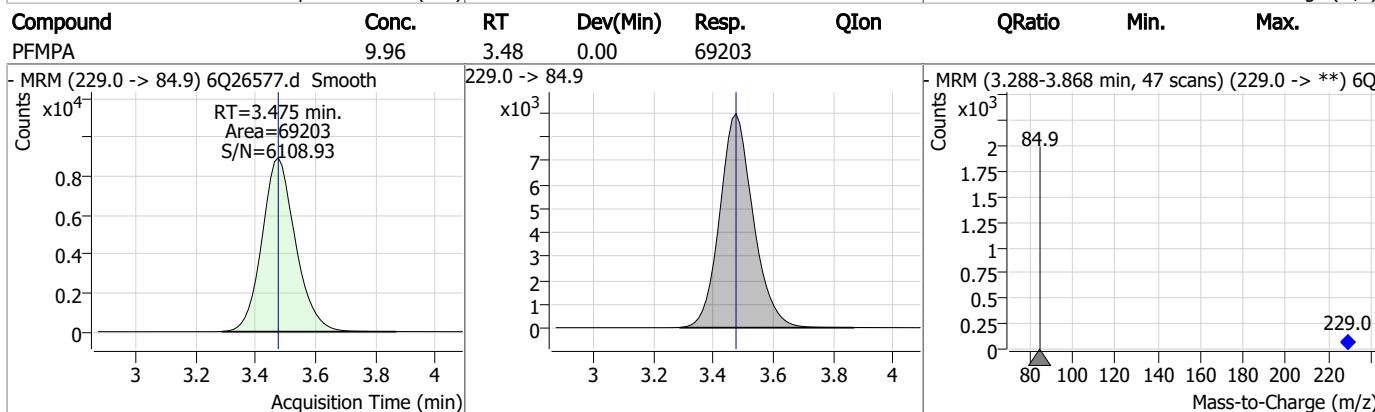
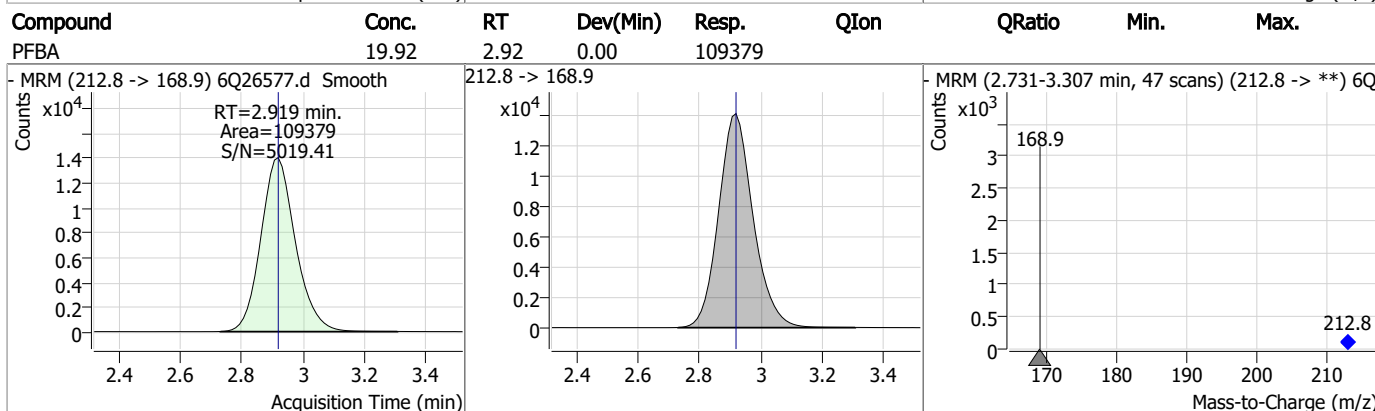
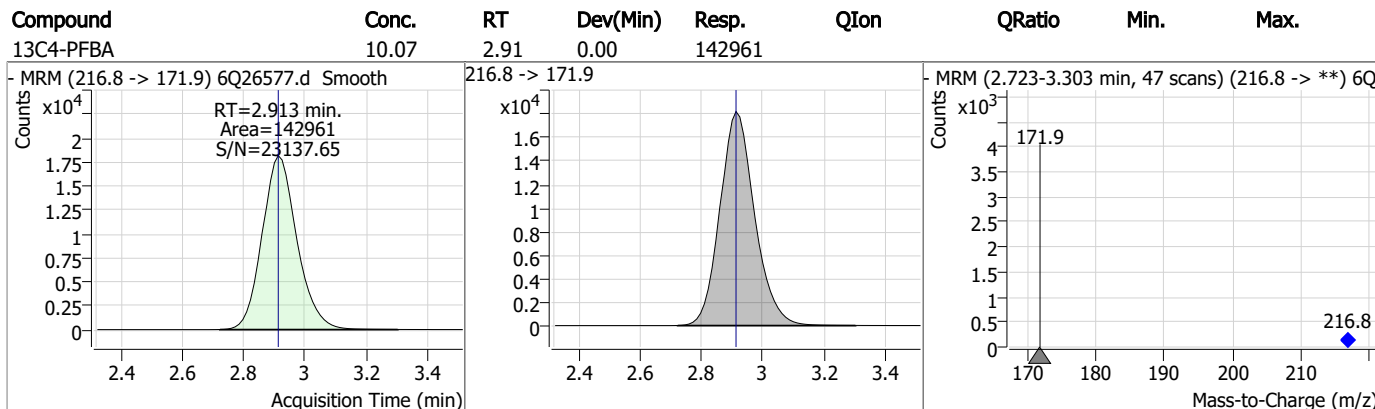
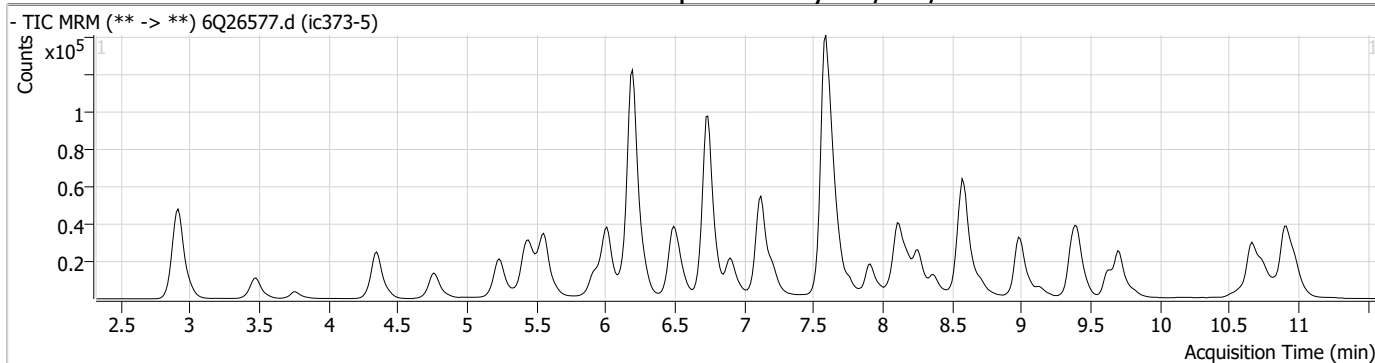
### Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
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7.7.25  
7



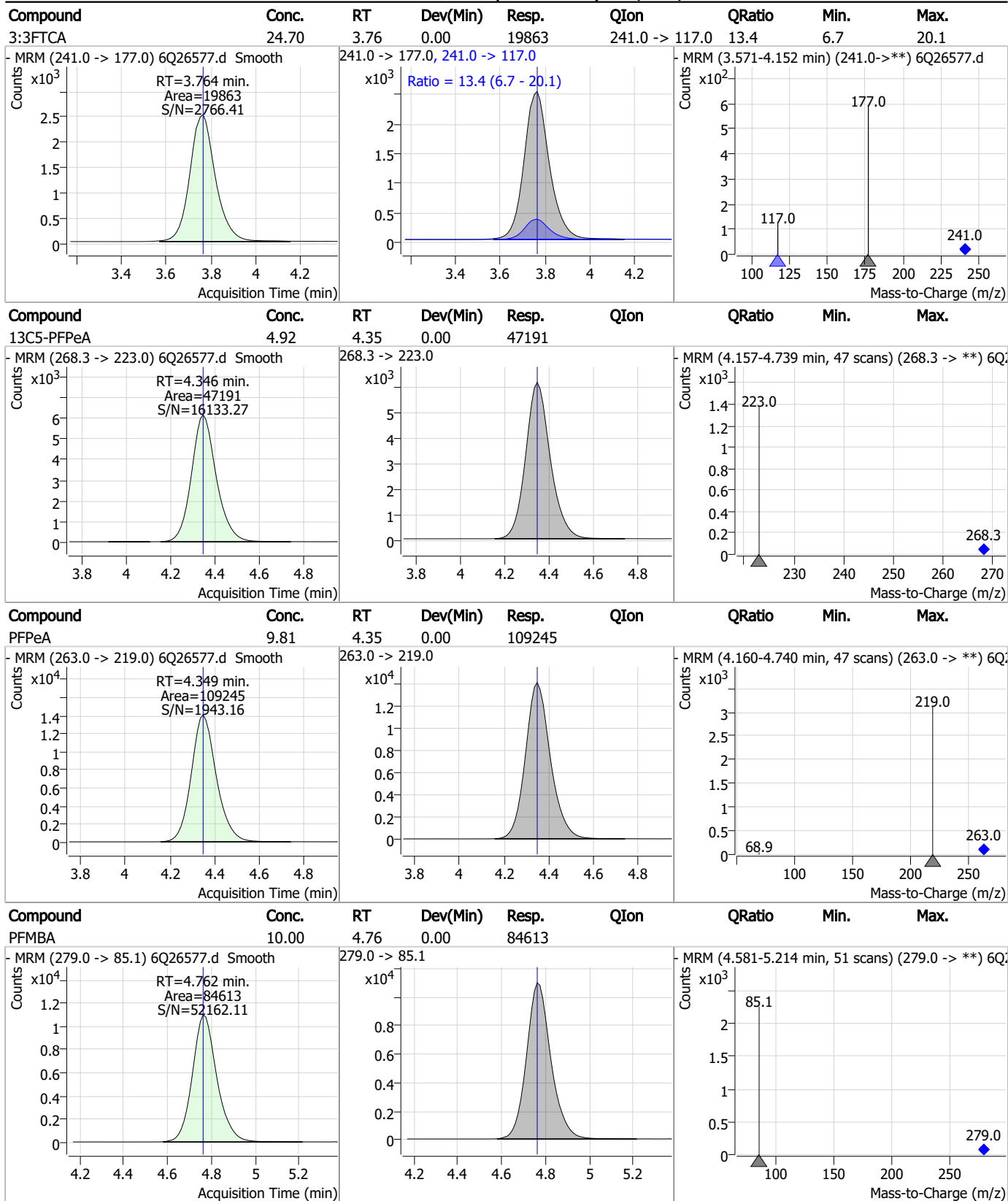
### Perfluorinated Compounds by LC/MS/MS



7.7.25  
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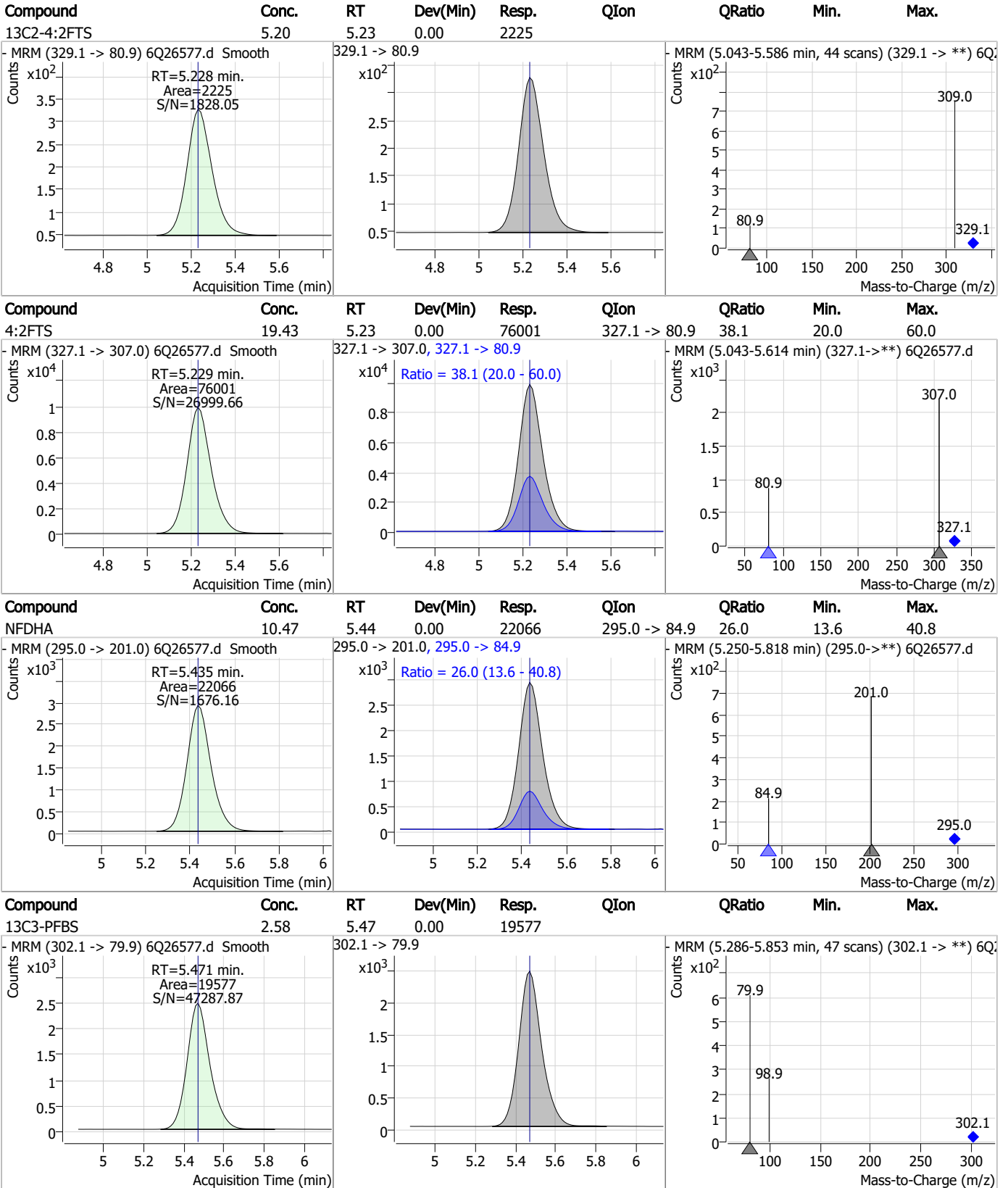
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7.7.25

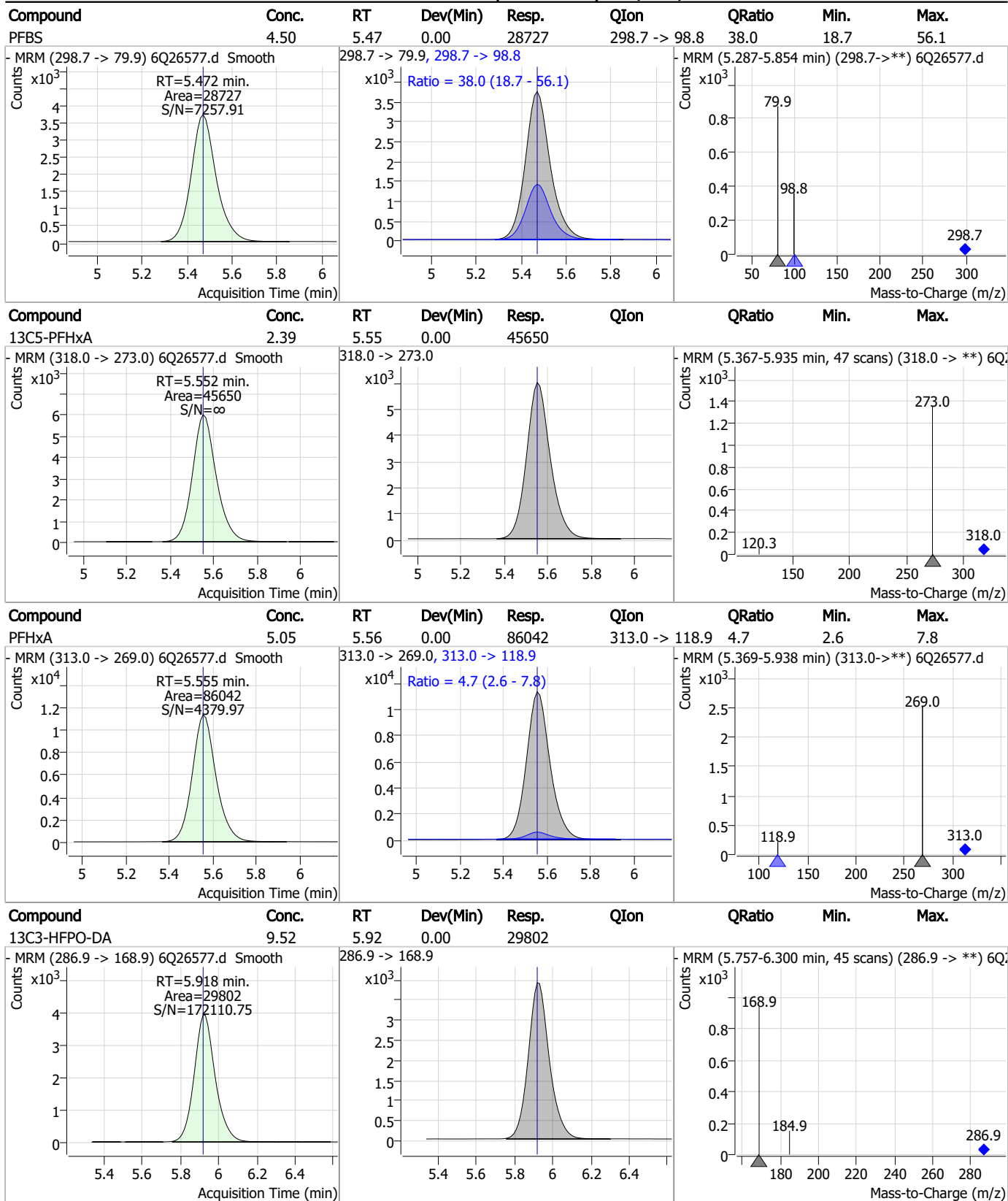
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### Perfluorinated Compounds by LC/MS/MS



7.7.25 7

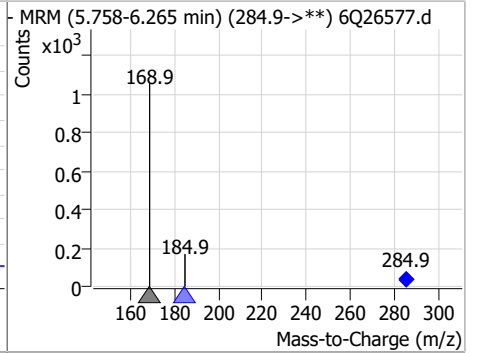
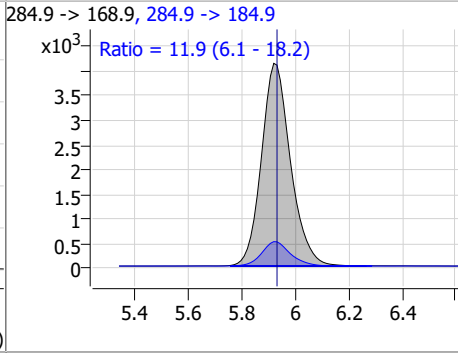
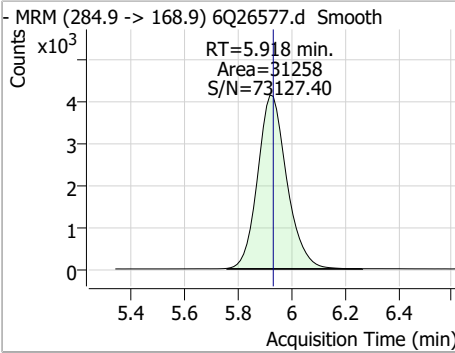
### Perfluorinated Compounds by LC/MS/MS



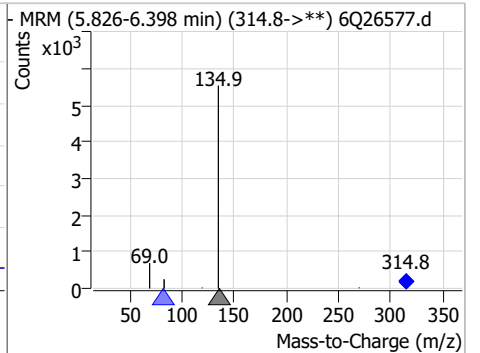
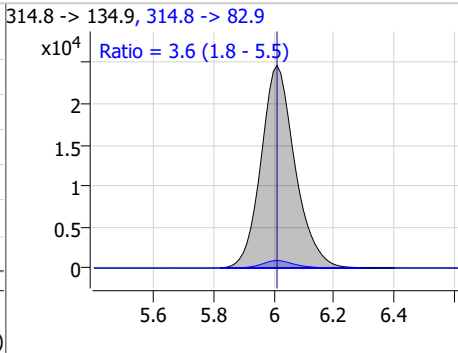
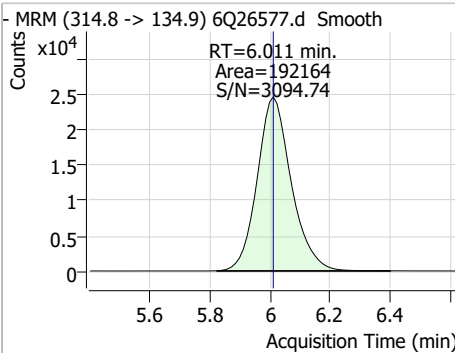
7.7.25  
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### Perfluorinated Compounds by LC/MS/MS

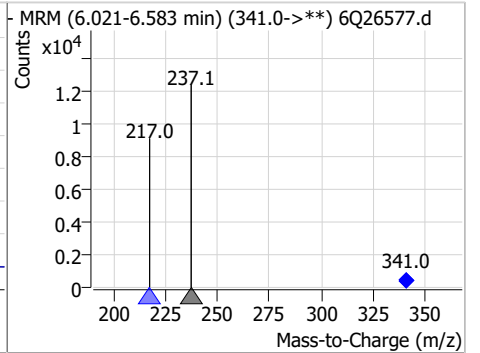
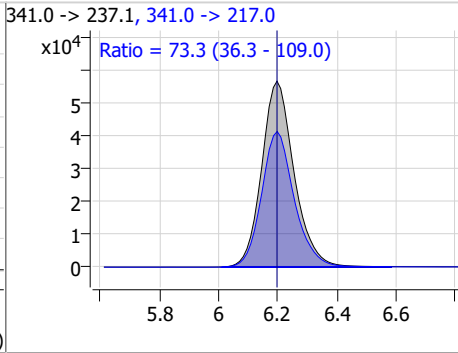
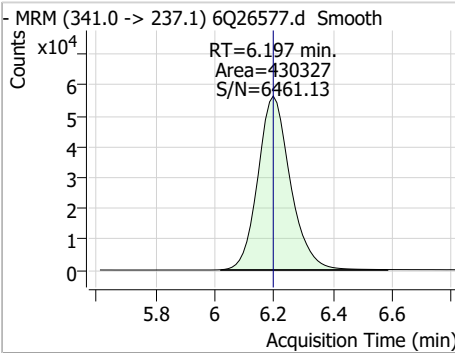
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
HFPO-DA	10.09	5.92	-0.01	31258	284.9 -> 184.9	11.9	6.1	18.2



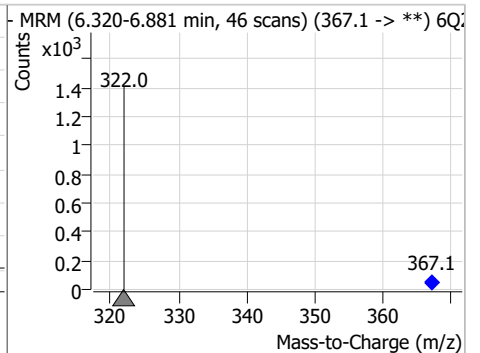
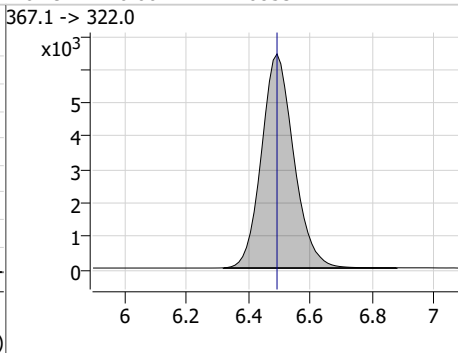
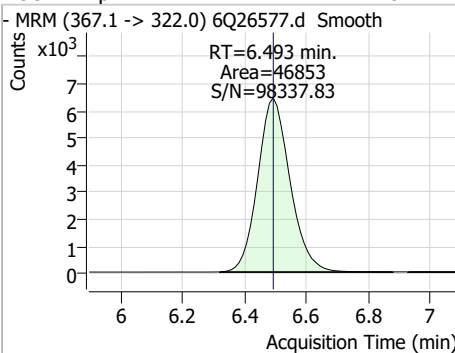
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFEESA	8.98	6.01	0.00	192164	314.8 -> 82.9	3.6	1.8	5.5



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
5:3FTCA	126.33	6.20	0.00	430327	341.0 -> 217.0	73.3	36.3	109.0



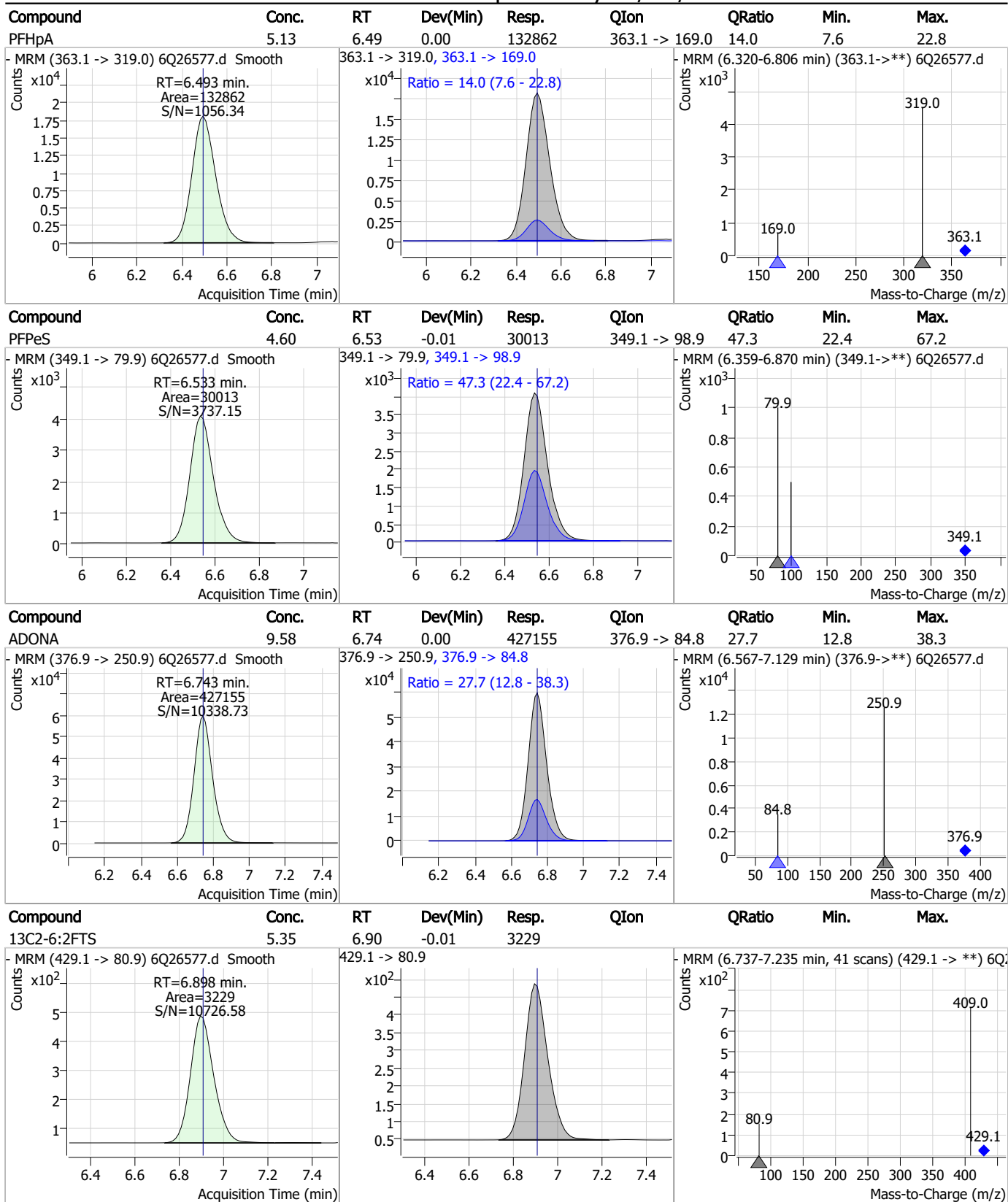
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFHpA	2.43	6.49	0.00	46853	367.1 -> 322.0			



7.7.25  
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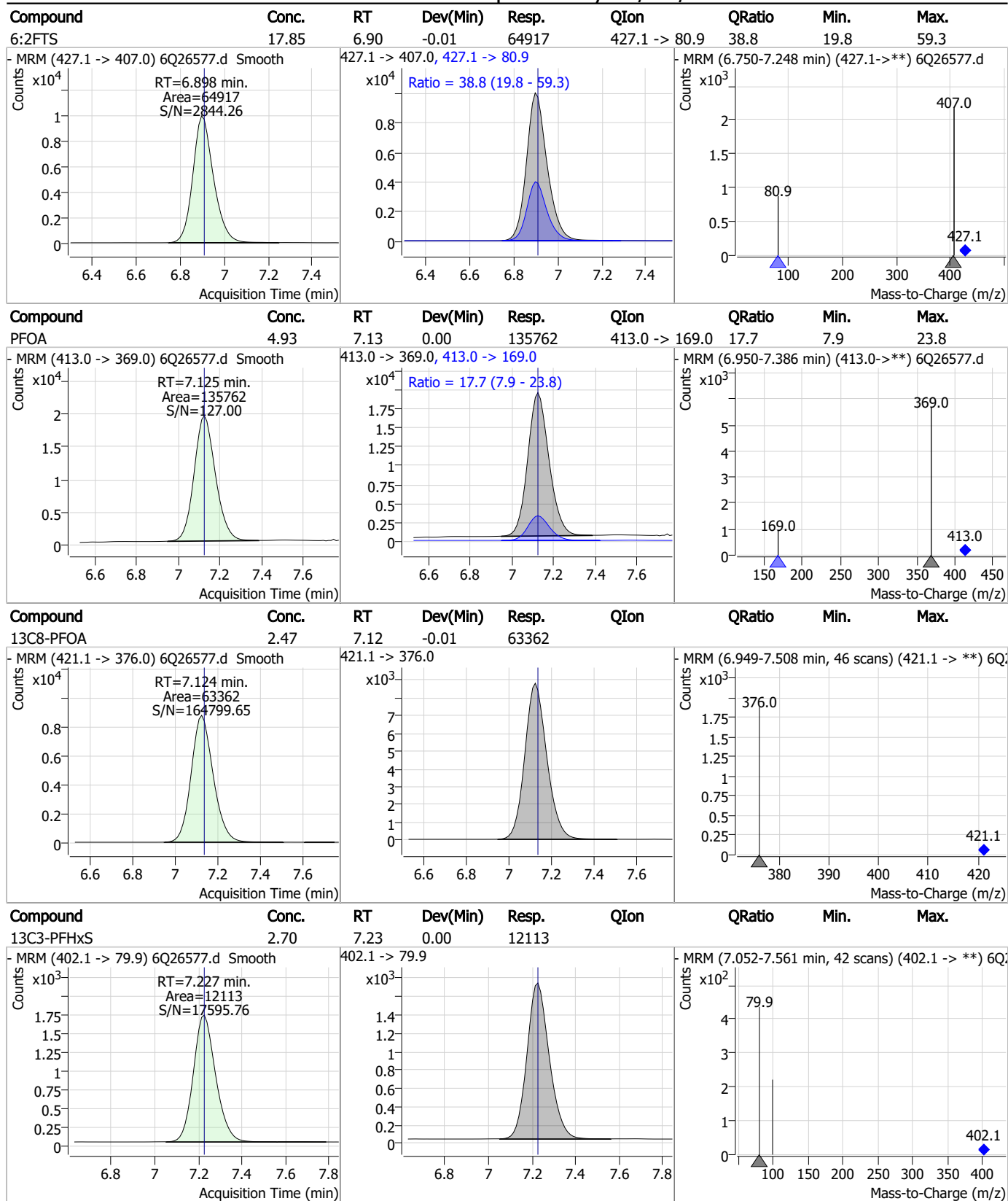


### Perfluorinated Compounds by LC/MS/MS



7.7.25 7

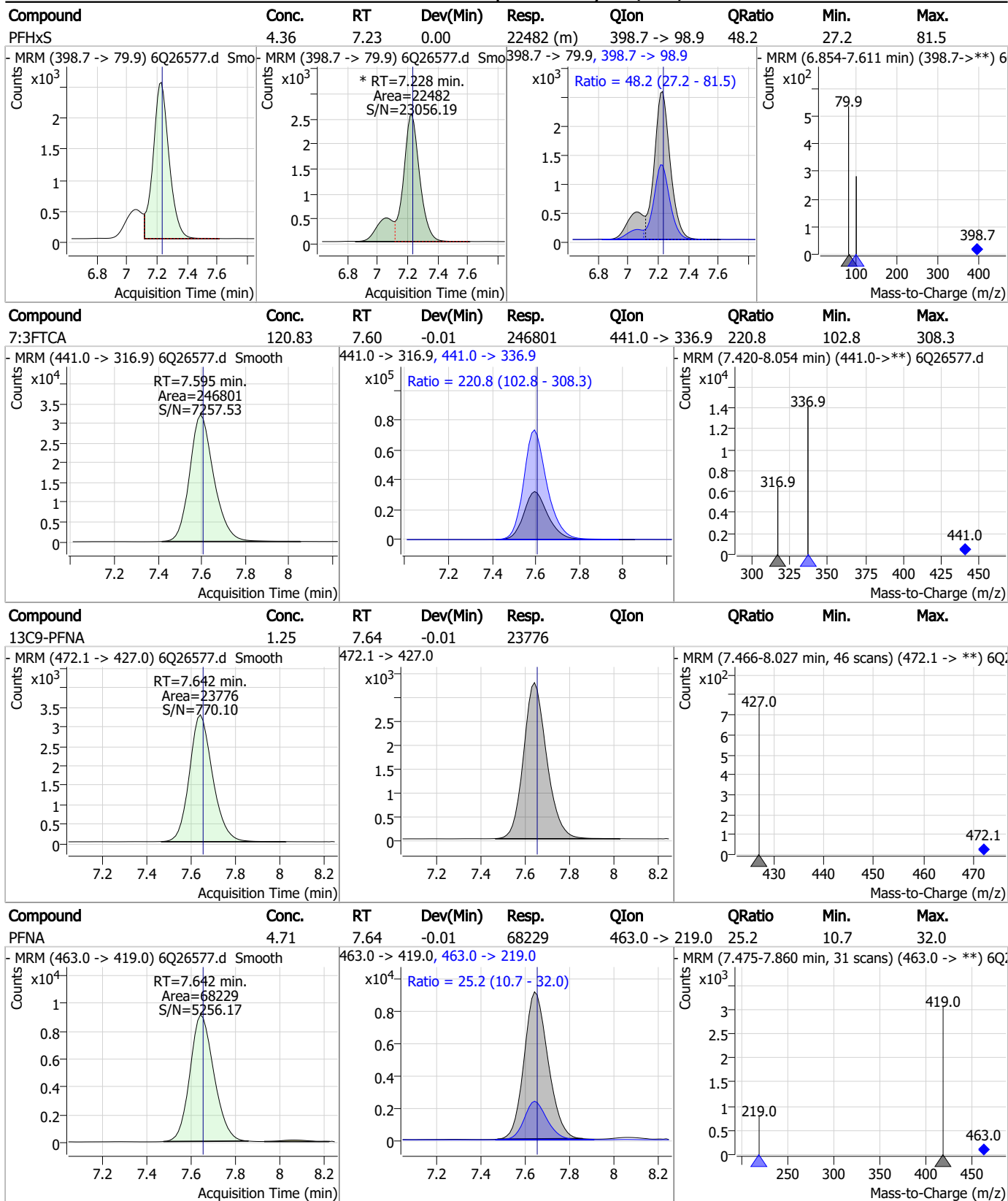
### Perfluorinated Compounds by LC/MS/MS



7.7.25

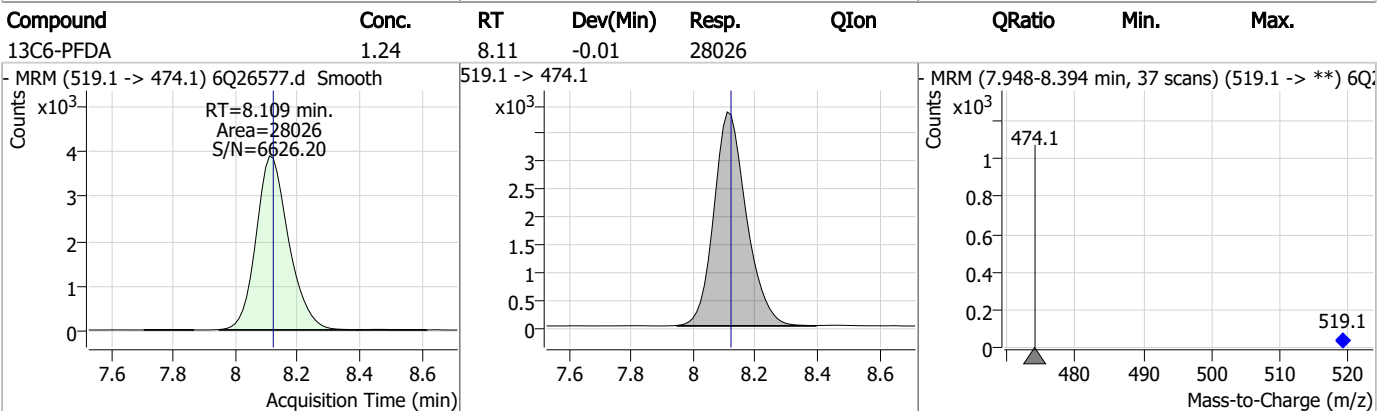
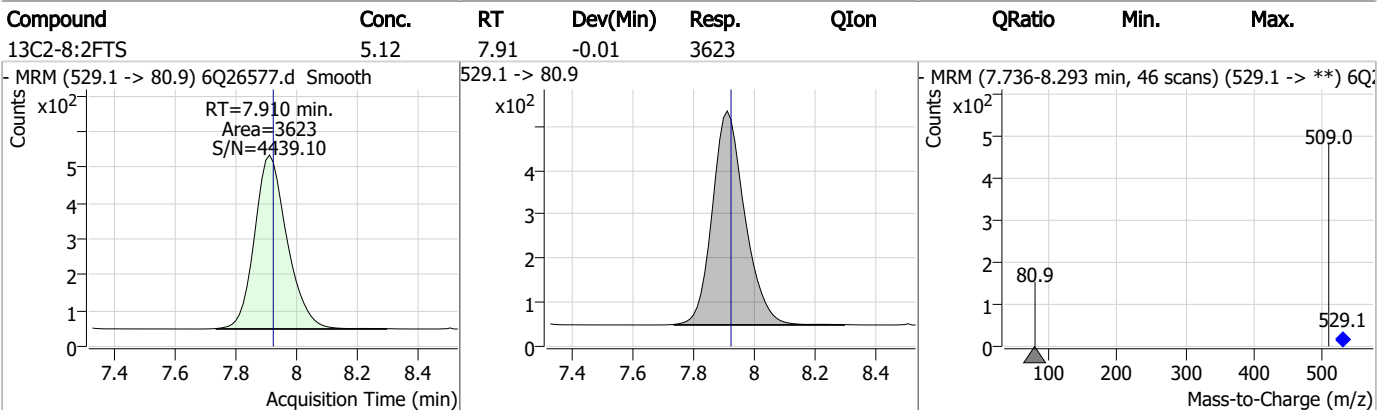
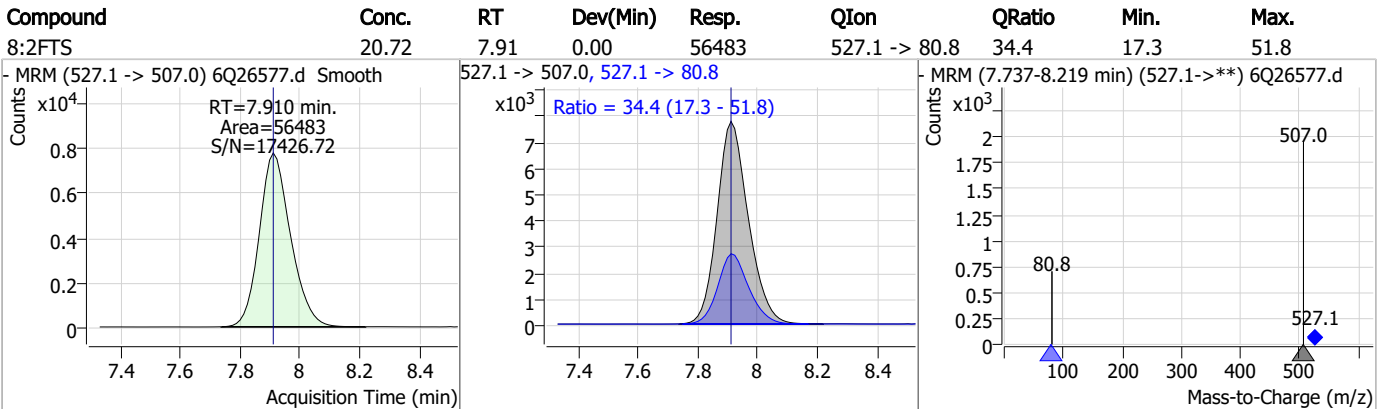
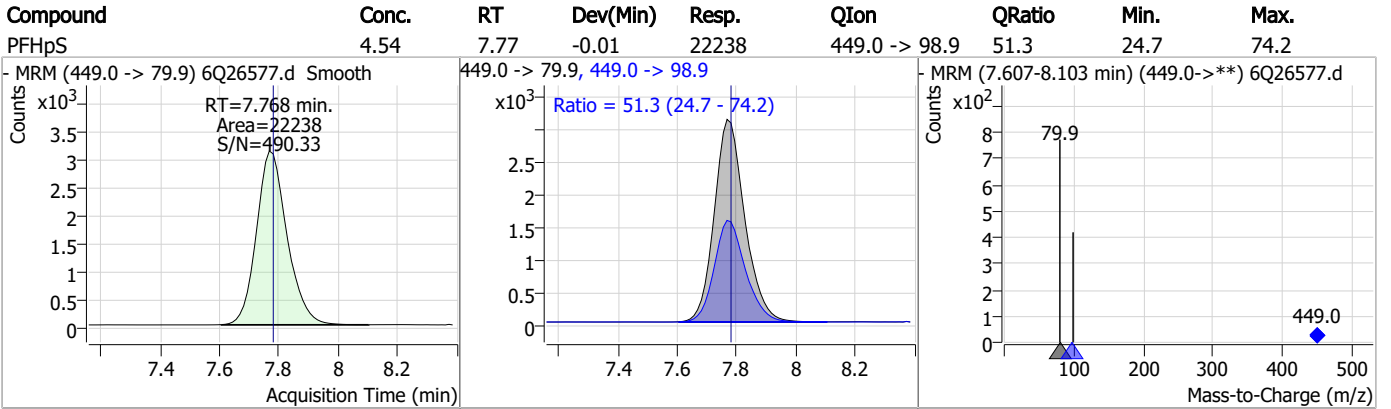
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### Perfluorinated Compounds by LC/MS/MS



7.7.25 7

### Perfluorinated Compounds by LC/MS/MS

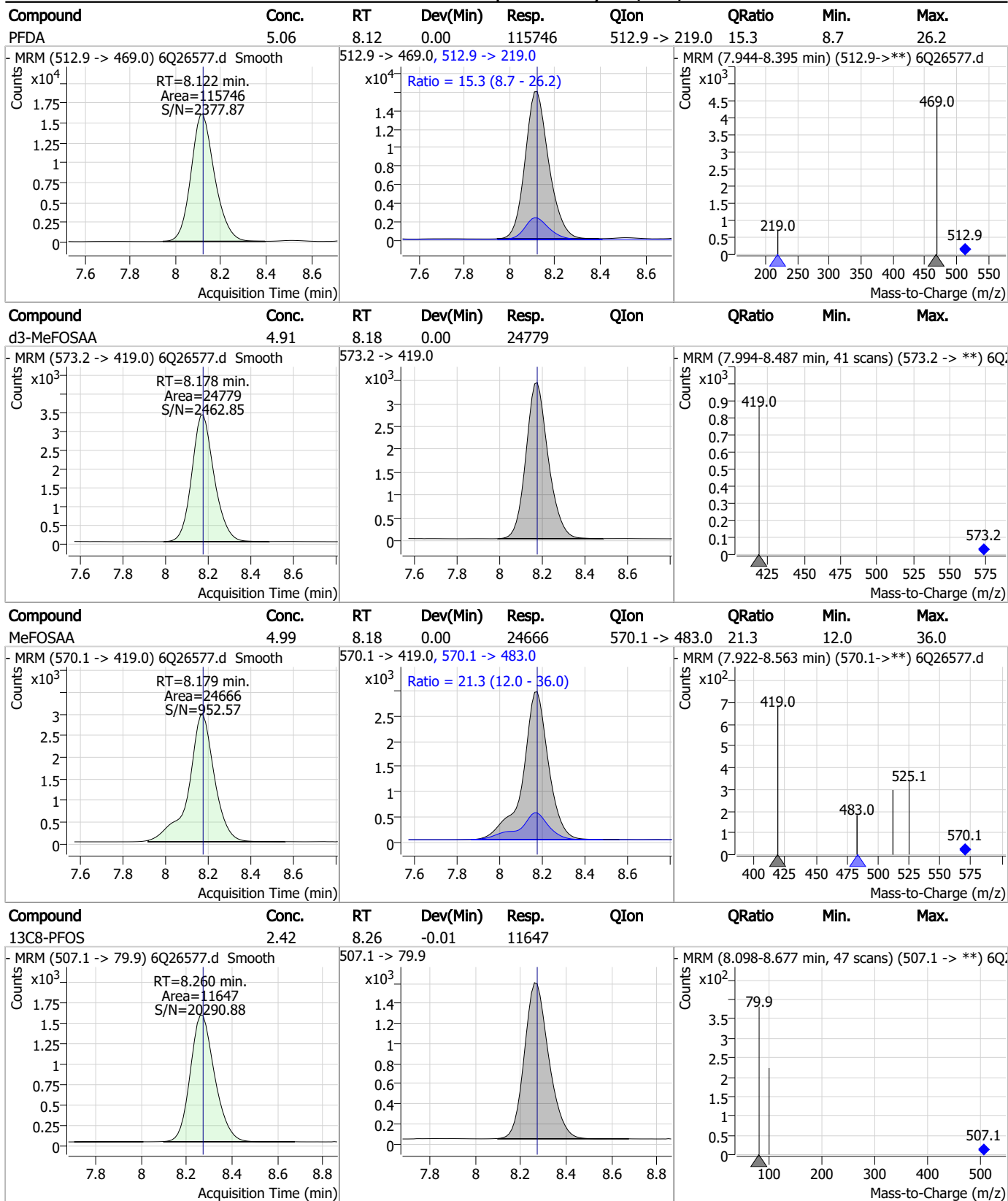


7.7.25

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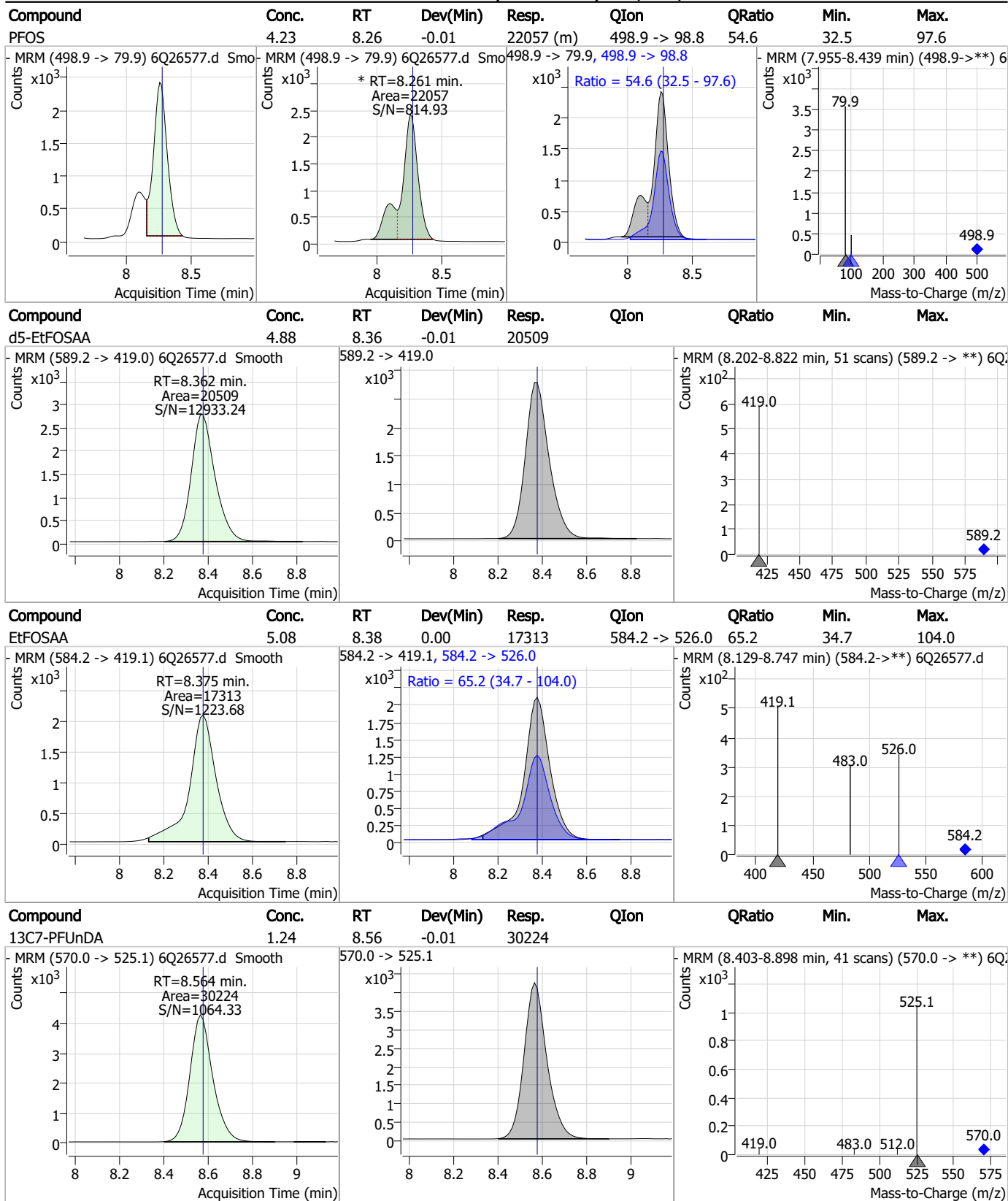


### Perfluorinated Compounds by LC/MS/MS



7.7.25  
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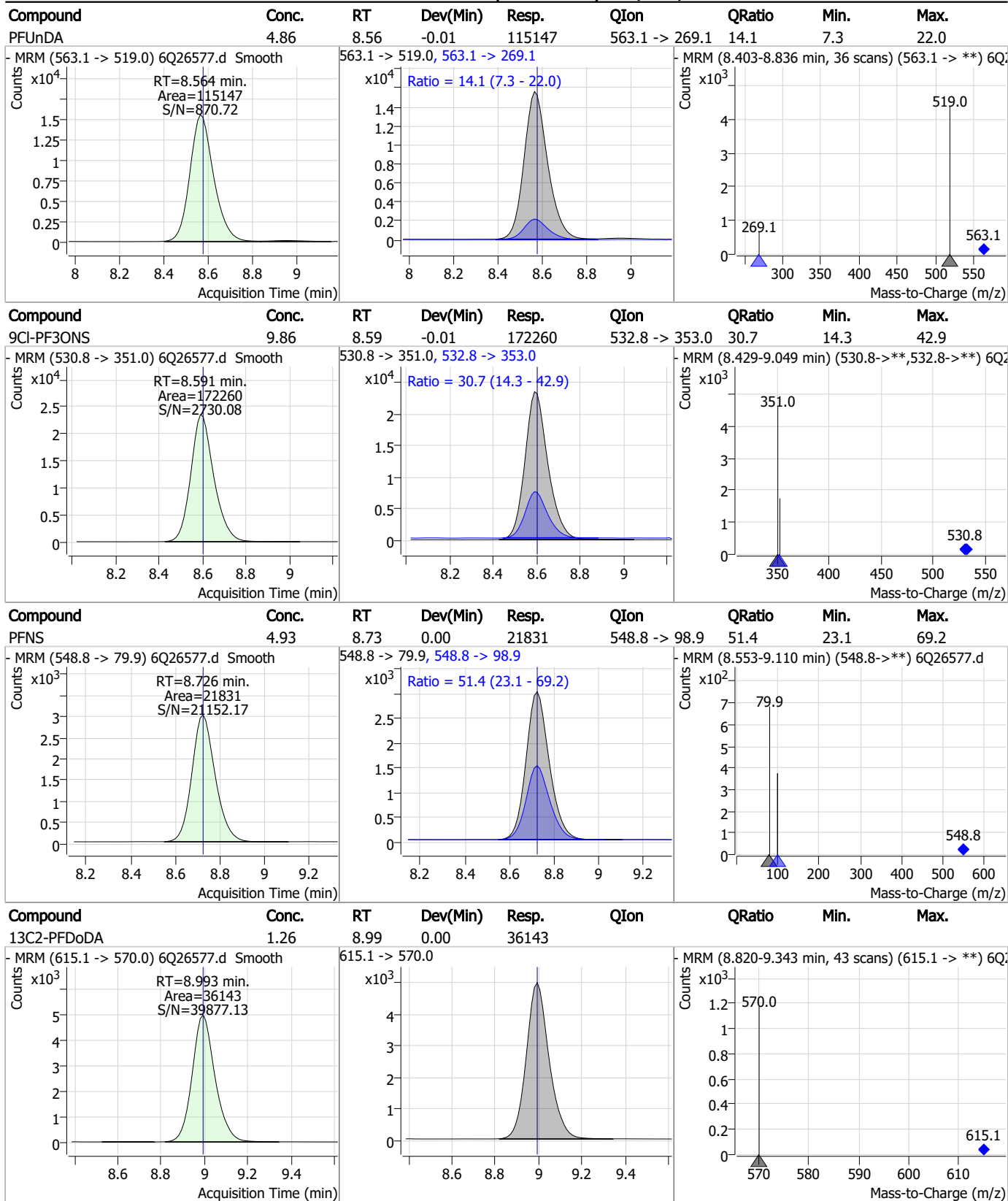
### Perfluorinated Compounds by LC/MS/MS



7.7.25

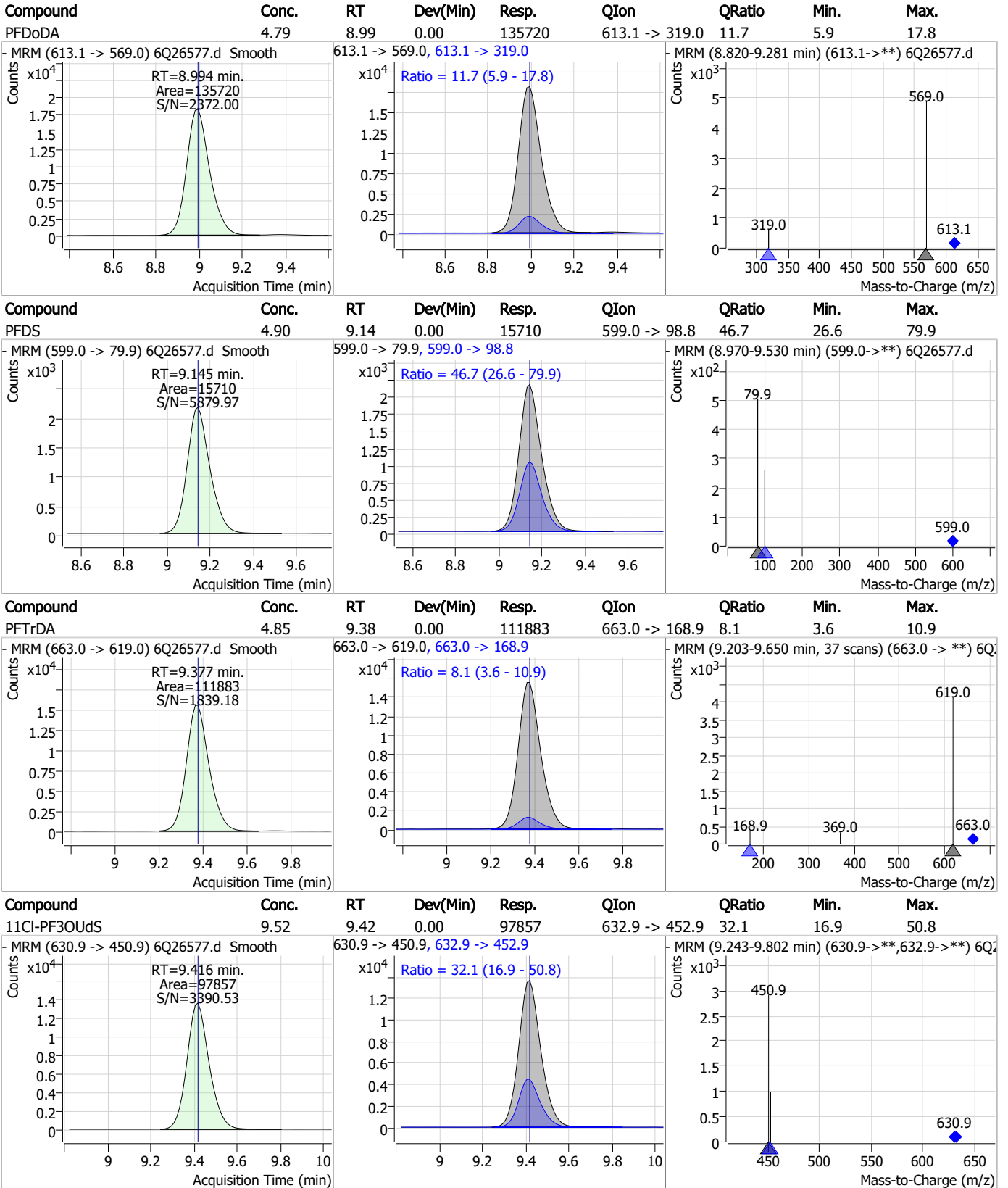
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### Perfluorinated Compounds by LC/MS/MS



7.7.25  
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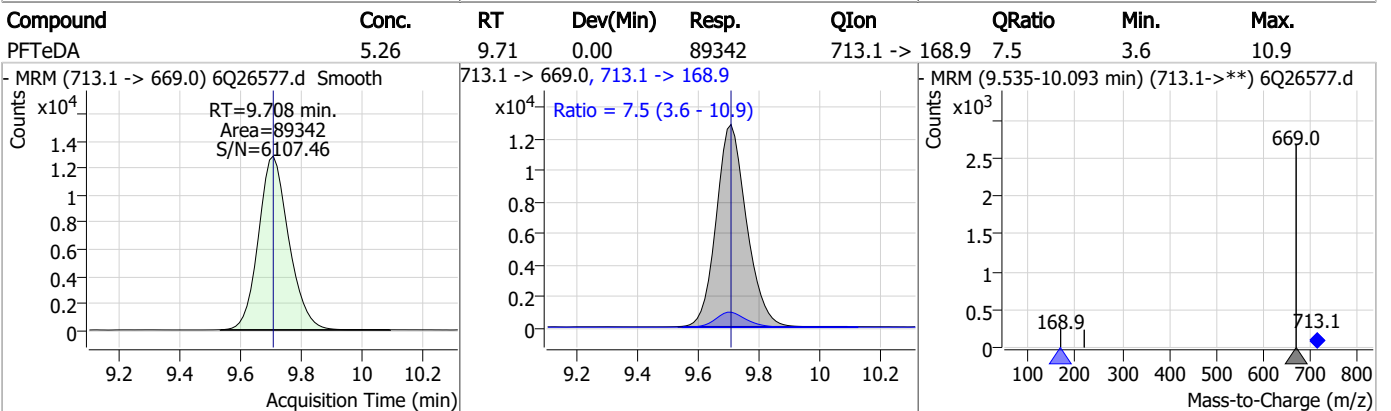
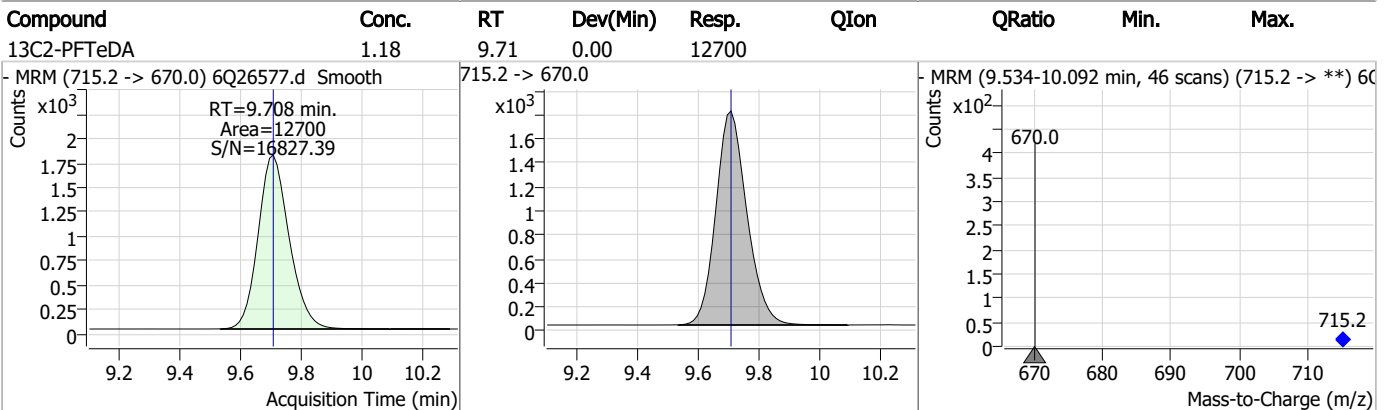
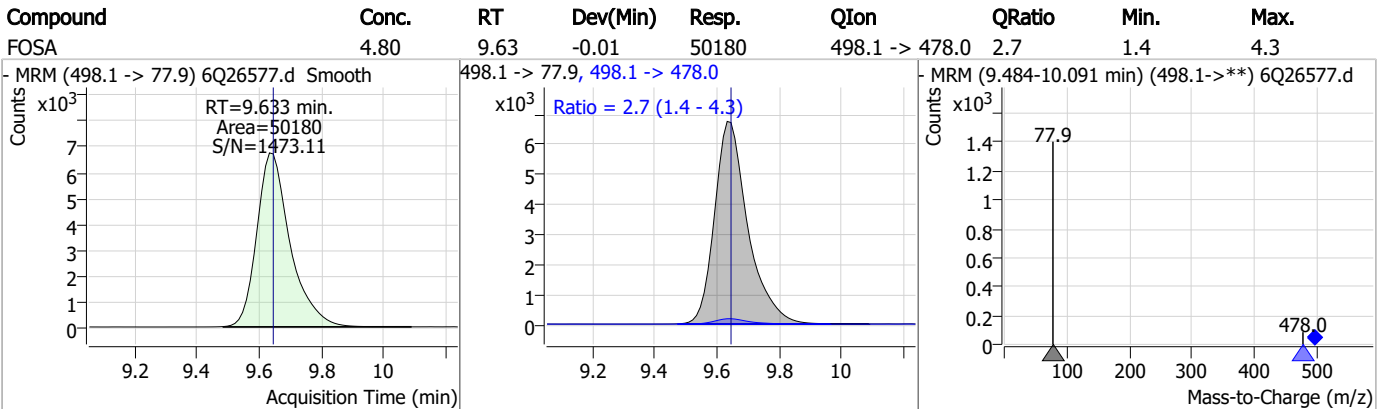
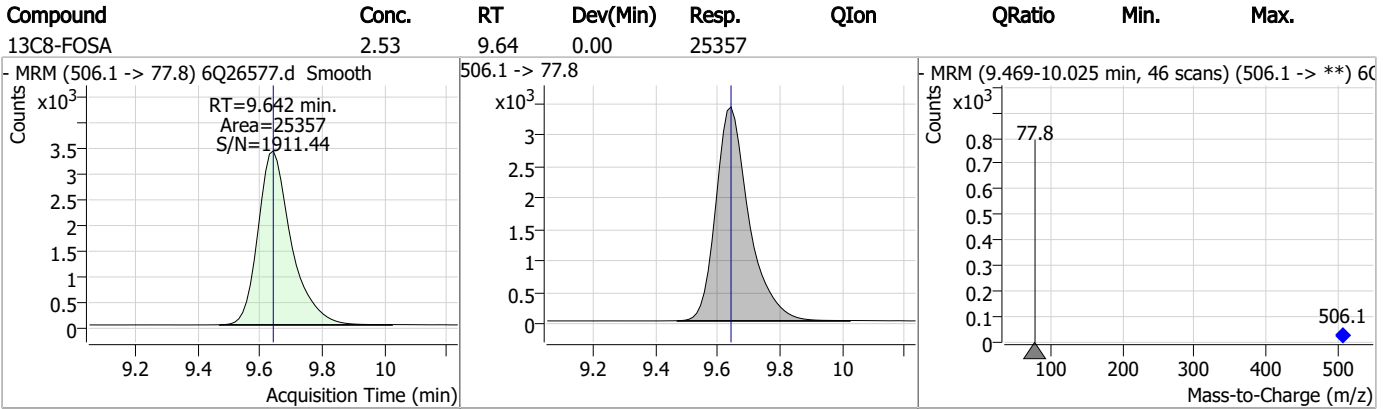
### Perfluorinated Compounds by LC/MS/MS



7.7.25

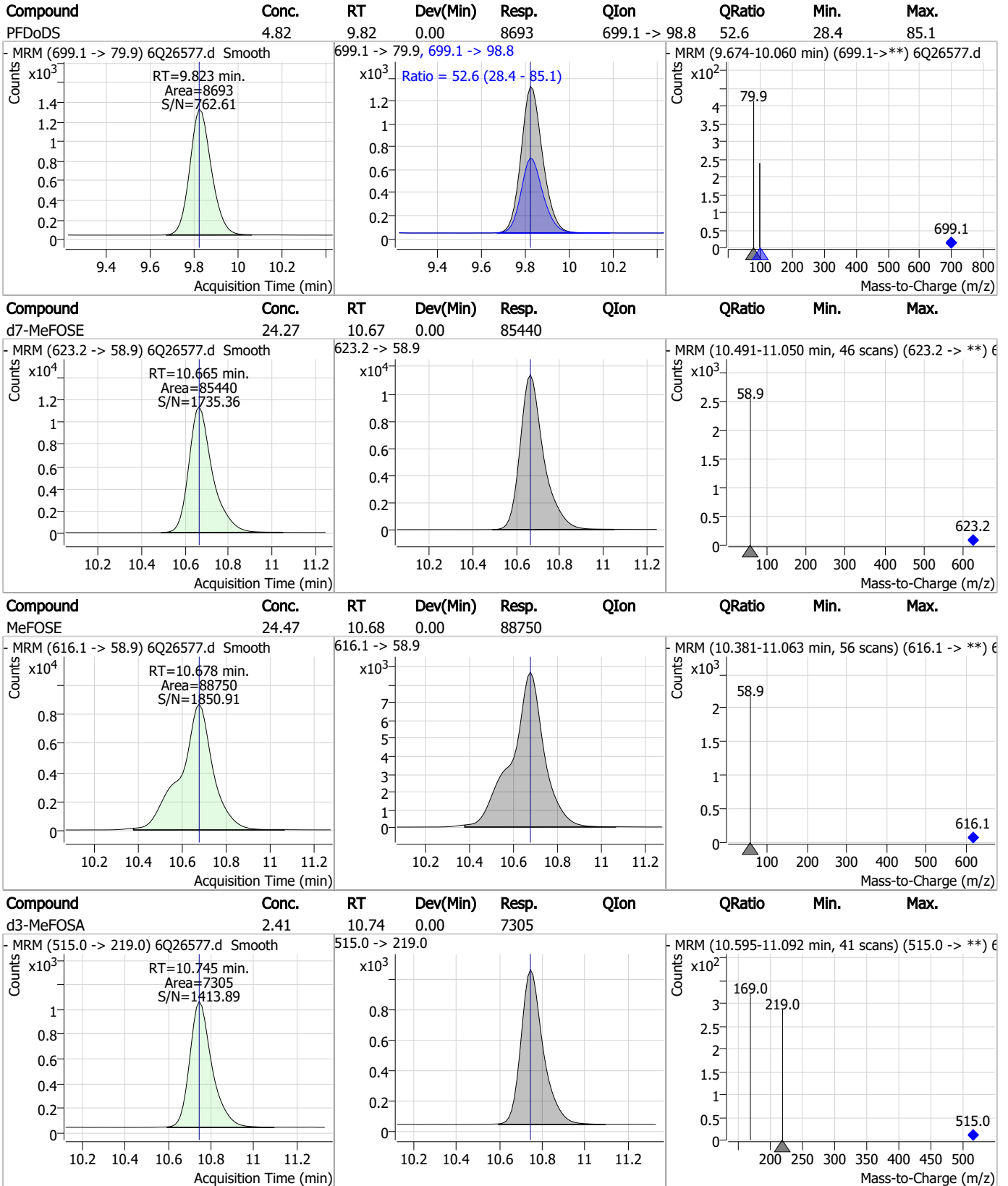
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### Perfluorinated Compounds by LC/MS/MS



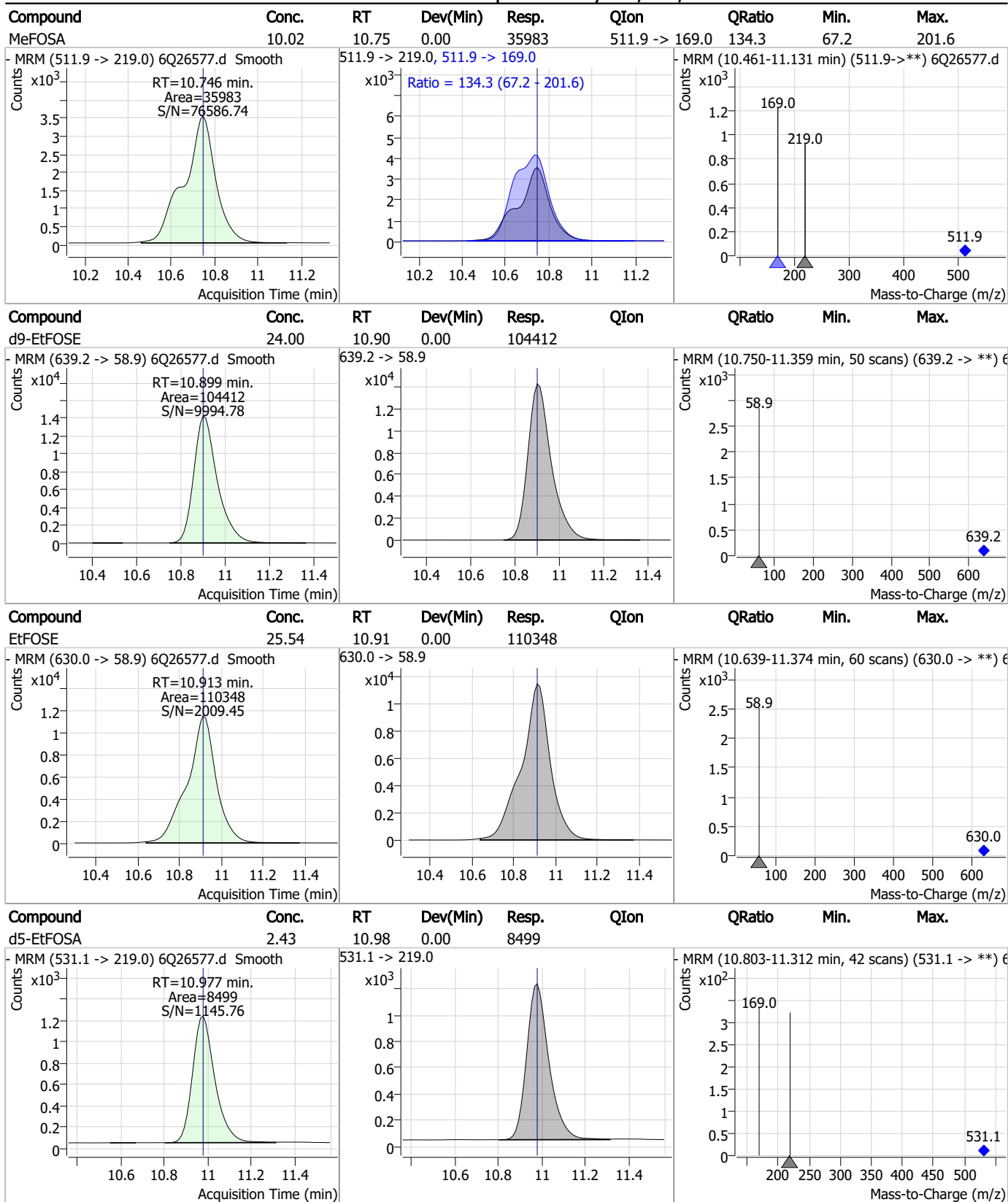
7.7.25 7

### Perfluorinated Compounds by LC/MS/MS



7.7.25  
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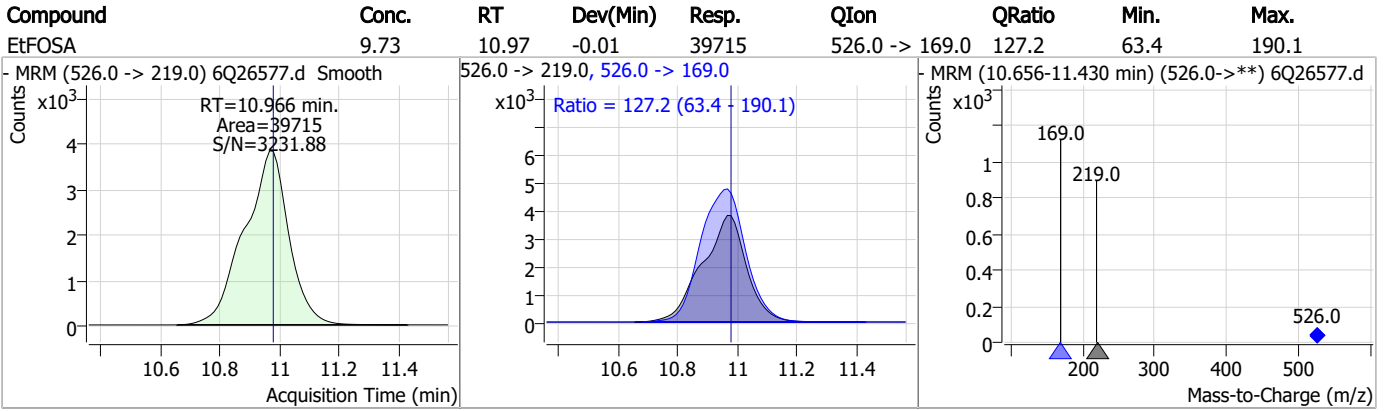
### Perfluorinated Compounds by LC/MS/MS



7.7.25

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Perfluorinated Compounds by LC/MS/MS



7.7.25  
7



# Manual Integration Approval Summary

Sample Number: S6Q373-IC373      Method: EPA DRAFT 1633  
Lab FileID: 6Q26577.D      Analyst approved: 10/18/23 16:28 Anna Ludwig  
Injection Time: 10/17/23 19:09      Supervisor approved: 10/19/23 09:36 Natasha Guntie

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		7.23	Split peak
Perfluorooctanesulfonic acid	1763-23-1		8.26	Split peak

7.7.25.1

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## Perfluorinated Compounds by LC/MS/MS

Data File : 6Q26578.d  
 Operator : marthav  
 Acq. Method : 1633full.m  
 Acq. Date-Time : 10/17/2023 7:23:26 PM  
 Sample Name : ic373-6  
 Vial : P1-A7  
 DA Method File : 1633\_101723\_S6Q373.quantmethod.xml  
 Batch Name : S6Q373.batch.bin  
 Sample Information : OP99081,S6Q373,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
<b>Internal Standards</b>					
M4-PFBA	2.913	216.8 -> 171.9	137316	10.00 µg/L	0.000
M5-PFPeA	4.346	268.3 -> 223.0	44298	5.00 µg/L	0.000
M5-PFHxA	5.552	318.0 -> 273.0	44699	2.50 µg/L	0.000
M4-PFHpA	6.493	367.1 -> 322.0	46037	2.50 µg/L	0.000
M8-PFOA	7.124	421.1 -> 376.0	59494	2.50 µg/L	-0.012
M9-PFNA	7.642	472.1 -> 427.0	22757	1.25 µg/L	-0.012
M6-PFDA	8.121	519.1 -> 474.1	27283	1.25 µg/L	0.000
M7-PFUnDA	8.564	570.0 -> 525.1	29988	1.25 µg/L	-0.012
M2-PFDoDA	8.993	615.1 -> 570.0	33760	1.25 µg/L	0.000
M2-PFTeDA	9.695	715.2 -> 670.0	12586	1.25 µg/L	-0.012
M8-FOSA	9.642	506.1 -> 77.8	23720	2.50 µg/L	0.000
M3-PFBS	5.471	302.1 -> 79.9	19849	2.50 µg/L	0.000
M3-PFHxS	7.227	402.1 -> 79.9	11619	2.50 µg/L	0.000
M8-PFOS	8.272	507.1 -> 79.9	11673	2.50 µg/L	0.000
M2-4:2FTS	5.228	329.1 -> 80.9	2133	5.00 µg/L	0.000
M2-6:2FTS	6.910	429.1 -> 80.9	3084	5.00 µg/L	0.000
M2-8:2FTS	7.910	529.1 -> 80.9	4008	5.00 µg/L	-0.012
M3-MeFOSAA	8.178	573.2 -> 419.0	23367	5.00 µg/L	0.000
M3-HFPO-DA	5.930	286.9 -> 168.9	28882	10.00 µg/L	0.012
M5-EtFOSAA	8.374	589.2 -> 419.0	20393	5.00 µg/L	0.000
M7-MeFOSE	10.665	623.2 -> 58.9	85600	25.00 µg/L	0.000
M9-EtFOSE	10.899	639.2 -> 58.9	104809	25.00 µg/L	0.000
M5-EtFOSA	10.977	531.1 -> 219.0	8094	2.50 µg/L	0.000
M3-MeFOSA	10.745	515.0 -> 219.0	6966	2.50 µg/L	0.000
13C4-PFOS	8.261	502.8 -> 79.9	10498	2.50 µg/L	-0.012
13C3-PFBA	2.916	216.0 -> 172.0	54800	5.00 µg/L	0.000
18O2-PFHxS	7.226	403.0 -> 83.9	7307	2.50 µg/L	0.000
13C4-PFOA	7.125	417.1 -> 372.0	70607	2.50 µg/L	0.000
13C2-PFDA	8.122	515.1 -> 470.1	23898	1.25 µg/L	0.000
13C5-PFNA	7.642	468.0 -> 423.0	22564	1.25 µg/L	-0.012
13C2-PFHxA	5.553	315.1 -> 270.0	45687	2.50 µg/L	0.000
<b>System Monitoring Compounds</b>					
13C2-4:2FTS	5.228	329.1 -> 80.9	2133	4.67 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 93.4%		
13C2-6:2FTS	6.910	429.1 -> 80.9	3084	4.79 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 95.7%		
13C2-8:2FTS	7.910	529.1 -> 80.9	4008	5.31 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 106.2%		
13C2-PFDoDA	8.993	615.1 -> 570.0	33760	1.31 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 104.6%		
13C2-PFTeDA	9.695	715.2 -> 670.0	12586	1.30 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 104.0%		
13C3-PFBS	5.471	302.1 -> 79.9	19849	2.45 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 98.2%		
13C3-PFHxS	7.227	402.1 -> 79.9	11619	2.43 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 = 97.2%	
13C4-PFBA	2.913	216.8 -> 171.9	137316	10.17 µg/L	0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 101.7%	
13C4-PFHpA	6.493	367.1 -> 322.0	46037	2.48 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 99.4%	
13C5-PFHxA	5.552	318.0 -> 273.0	44699	2.44 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 97.6%	
13C5-PFPeA	4.346	268.3 -> 223.0	44298	4.81 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 96.3%	
13C6-PFDA	8.121	519.1 -> 474.1	27283	1.34 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 107.2%	
13C7-PFUnDA	8.564	570.0 -> 525.1	29988	1.36 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 108.7%	
13C8-FOSA	9.642	506.1 -> 77.8	23720	2.46 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 98.3%	
13C8-PFOA	7.124	421.1 -> 376.0	59494	2.36 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 94.2%	
13C8-PFOS	8.272	507.1 -> 79.9	11673	2.51 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 100.6%	
13C9-PFNA	7.642	472.1 -> 427.0	22757	1.17 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 93.9%	
d3-MeFOSAA	8.178	573.2 -> 419.0	23367	4.80 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 96.0%	
13C3-HFPO-DA	5.930	286.9 -> 168.9	28882	9.61 µg/L	0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 96.1%	
d3-MeFOSA	10.745	515.0 -> 219.0	6966	2.39 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 95.5%	
d5-EtFOSAA	8.374	589.2 -> 419.0	20393	5.03 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 100.6%	
d7-MeFOSE	10.665	623.2 -> 58.9	85600	25.22 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 100.9%	
d9-EtFOSE	10.899	639.2 -> 58.9	104809	24.98 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 99.9%	
d5-EtFOSA	10.977	531.1 -> 219.0	8094	2.40 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 95.8%	
<b>Target Compounds</b>					<b>QValue</b>
4:2FTS	5.229	327.1 -> 307.0	182374	48.66 µg/L	96
		327.1 -> 80.9	68688		
6:2FTS	6.911	427.1 -> 407.0	153858	44.30 µg/L	97
		427.1 -> 80.9	58230		
8:2FTS	7.910	527.1 -> 507.0	129538	42.96 µg/L	100
		527.1 -> 80.8	44629		
EtFOSAA	8.375	584.2 -> 419.1	41413	12.22 µg/L	99
		584.2 -> 526.0	28448		
FOSA	9.633	498.1 -> 77.9	121941	12.47 µg/L	99
		498.1 -> 478.0	3645		
MeFOSAA	8.179	570.1 -> 419.0	60346	12.95 µg/L	98
		570.1 -> 483.0	13814		
PFBA	2.919	212.8 -> 168.9	266831	50.58 µg/L	100
PFBS	5.472	298.7 -> 79.9	67616	10.45 µg/L	94
		298.7 -> 98.8	27847		
PFDA	8.122	512.9 -> 469.0	271964	12.20 µg/L	96
		512.9 -> 219.0	42341		
PFDoDA	8.994	613.1 -> 569.0	346970	13.10 µg/L	98
		613.1 -> 319.0	38246		
PFDS	9.145	599.0 -> 79.9	38558	12.01 µg/L	90

## Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
		599.0 -> 98.8	17906			
PFHpA	6.493	363.1 -> 319.0	325255	12.79	µg/L	97
		363.1 -> 169.0	45624			
PFHpS	7.781	449.0 -> 79.9	58679	11.96	µg/L	94
		449.0 -> 98.9	26680			
PFHxA	5.555	313.0 -> 269.0	208165	12.48	µg/L	99
		313.0 -> 118.9	10457			
PFHxS	7.228	398.7 -> 79.9	55800	11.28	µg/L	m 91
		398.7 -> 98.9	26562			
PFNA	7.642	463.0 -> 419.0	175607	12.65	µg/L	92
		463.0 -> 219.0	44578			
PFNS	8.726	548.8 -> 79.9	50880	11.47	µg/L	88
		548.8 -> 98.9	27393			
PFOA	7.125	413.0 -> 369.0	335439	12.98	µg/L	95
		413.0 -> 169.0	60647			
PFOS	8.274	498.9 -> 79.9	60793	11.63	µg/L	m 81
		498.9 -> 98.8	30403			
PFPeA	4.349	263.0 -> 219.0	269948	25.83	µg/L	100
PFPeS	6.545	349.1 -> 79.9	73399	11.73	µg/L	99
		349.1 -> 98.9	32437			
PFTeDA	9.696	713.1 -> 669.0	217892	12.94	µg/L	100
		713.1 -> 168.9	16025			
PFTrDA	9.365	663.0 -> 619.0	292740	13.60	µg/L	100
		663.0 -> 168.9	21234			
PFUnDA	8.564	563.1 -> 519.0	282853	12.03	µg/L	99
		563.1 -> 269.1	40856			
11CI-PF3OUdS	9.404	630.9 -> 450.9	246684	24.77	µg/L	95
		632.9 -> 452.9	76558			
9CI-PF3ONS	8.591	530.8 -> 351.0	393465	23.24	µg/L	91
		532.8 -> 353.0	130367			
ADONA	6.743	376.9 -> 250.9	1055500	24.41	µg/L	96
		376.9 -> 84.8	289567			
HFPO-DA	5.931	284.9 -> 168.9	76707	25.54	µg/L	99
		284.9 -> 184.9	8952			
3:3FTCA	3.764	241.0 -> 177.0	48424	62.70	µg/L	99
		241.0 -> 117.0	6594			
5:3FTCA	6.197	341.0 -> 237.1	1020881	306.08	µg/L	95
		341.0 -> 217.0	784943			
7:3FTCA	7.595	441.0 -> 316.9	670739	335.36	µg/L	91
		441.0 -> 336.9	1290822			
EtFOSA	10.966	526.0 -> 219.0	99081	25.48	µg/L	99
		526.0 -> 169.0	126714			
EtFOSE	10.913	630.0 -> 58.9	272678	62.86	µg/L	100
MeFOSA	10.746	511.9 -> 219.0	89791	26.22	µg/L	99
		511.9 -> 169.0	121514			
MeFOSE	10.678	616.1 -> 58.9	222367	61.21	µg/L	100
PFDoDS	9.823	699.1 -> 79.9	21663	11.99	µg/L	94
		699.1 -> 98.8	11290			
NFDHA	5.435	295.0 -> 201.0	50287	24.38	µg/L	98
		295.0 -> 84.9	14127			
PFMBA	4.762	279.0 -> 85.1	207606	26.13	µg/L	100
PFMPA	3.475	229.0 -> 84.9	168430	25.83	µg/L	100
PFEESA	6.011	314.8 -> 134.9	472717	22.57	µg/L	100
		314.8 -> 82.9	17482			

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

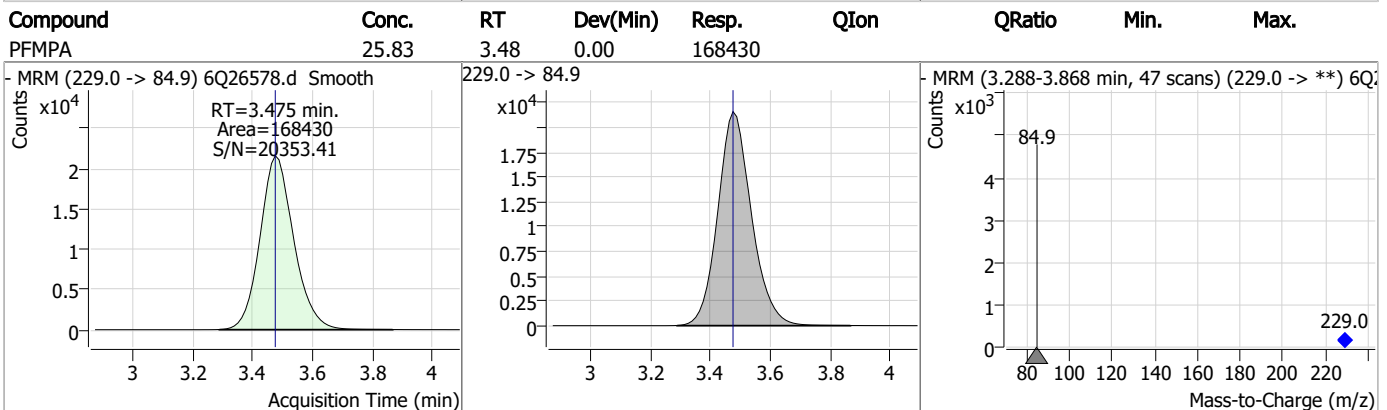
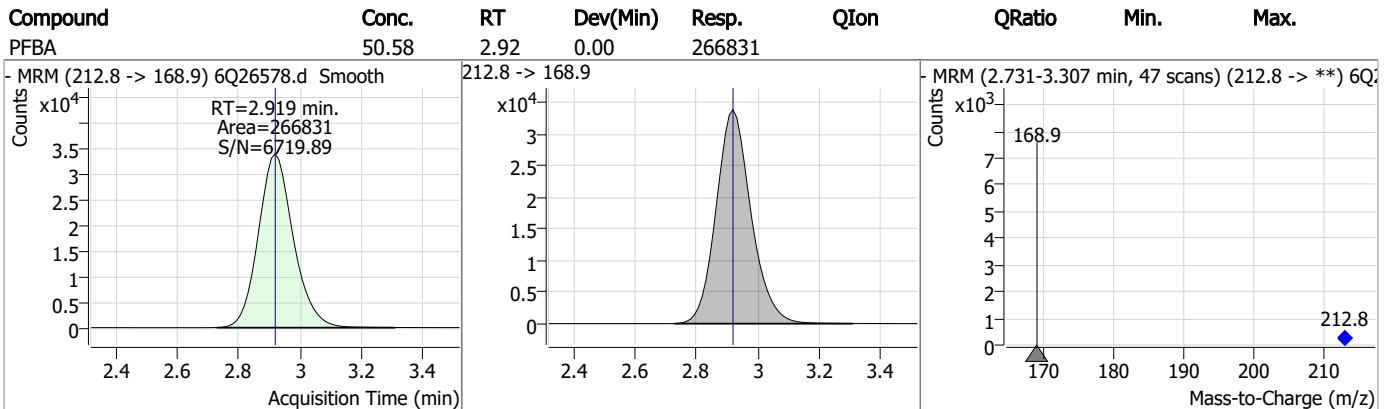
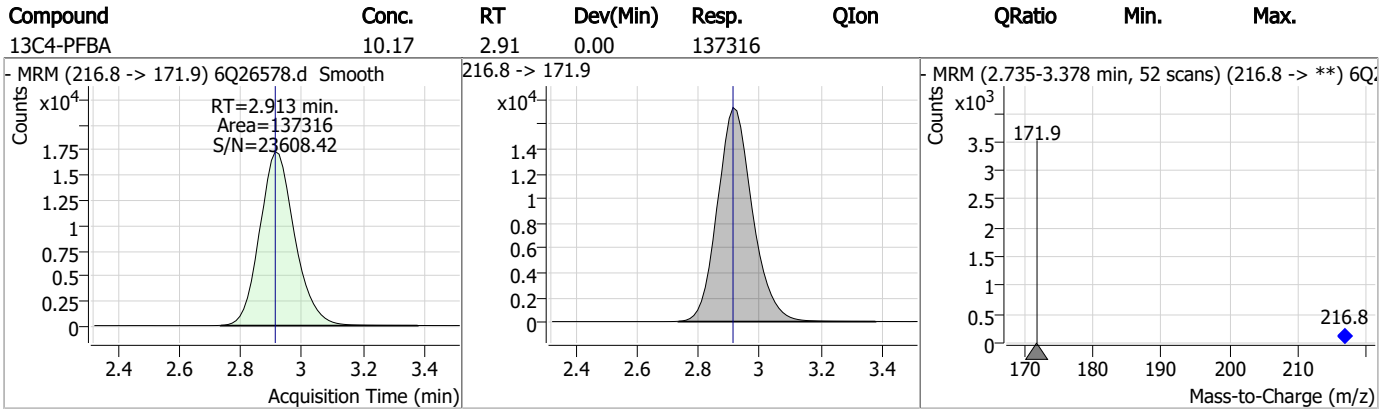
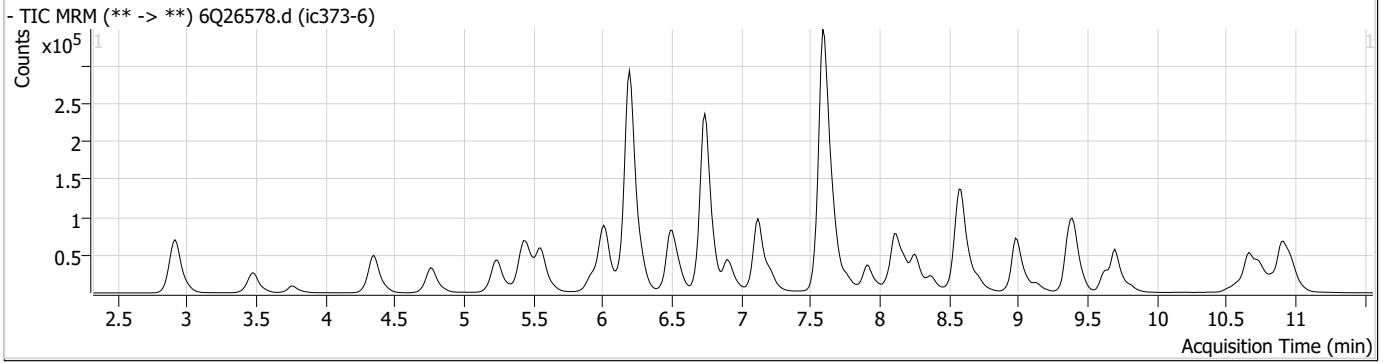
### Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
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7.7.26

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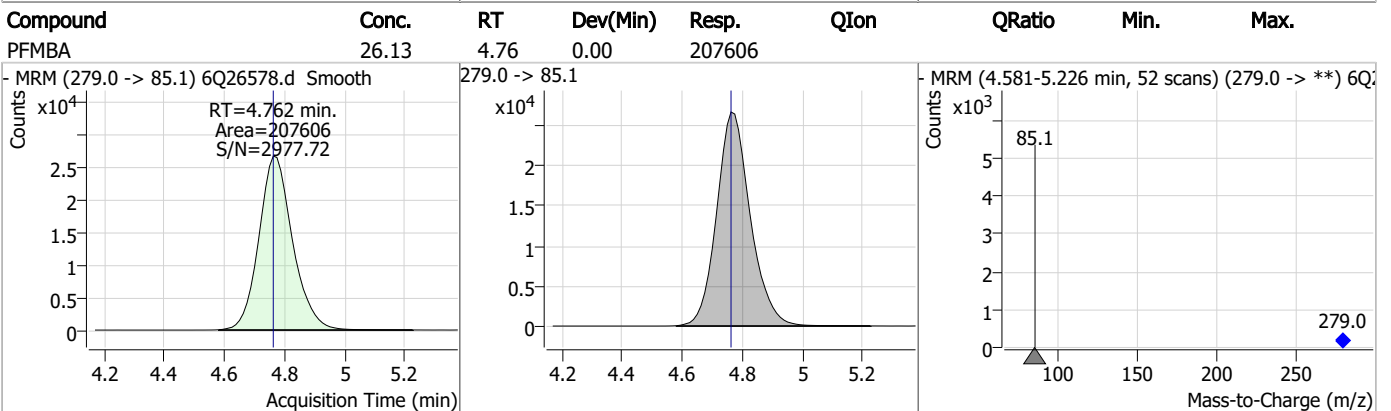
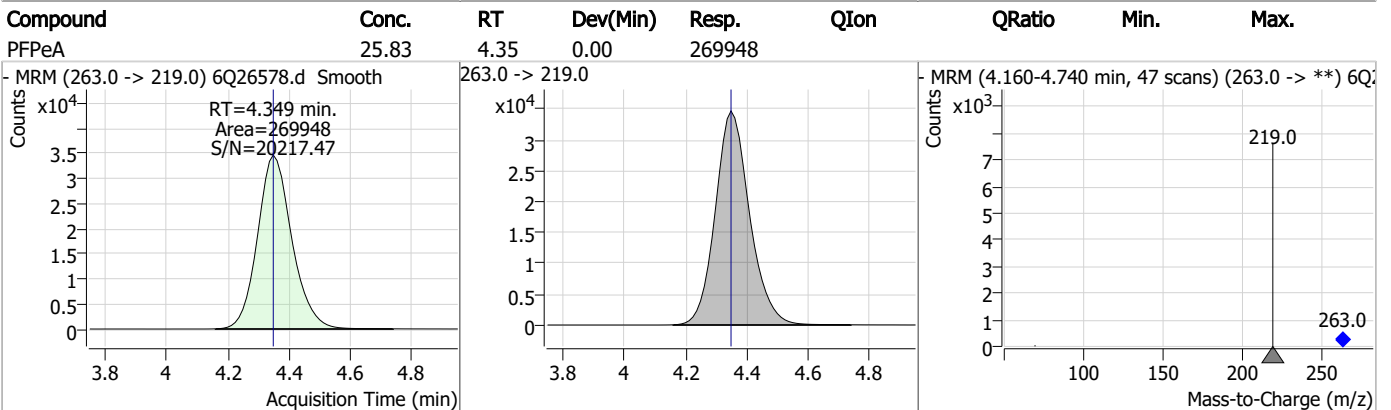
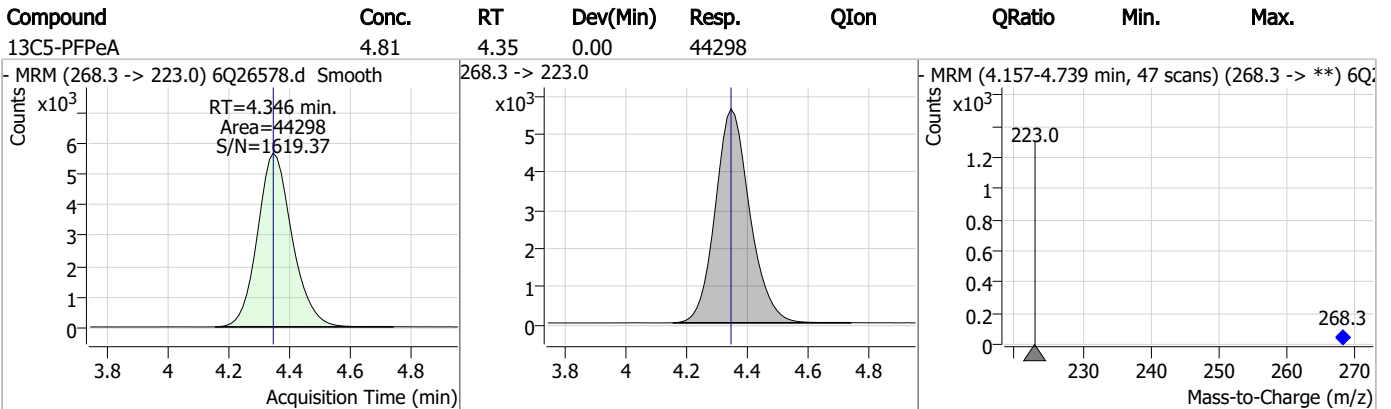
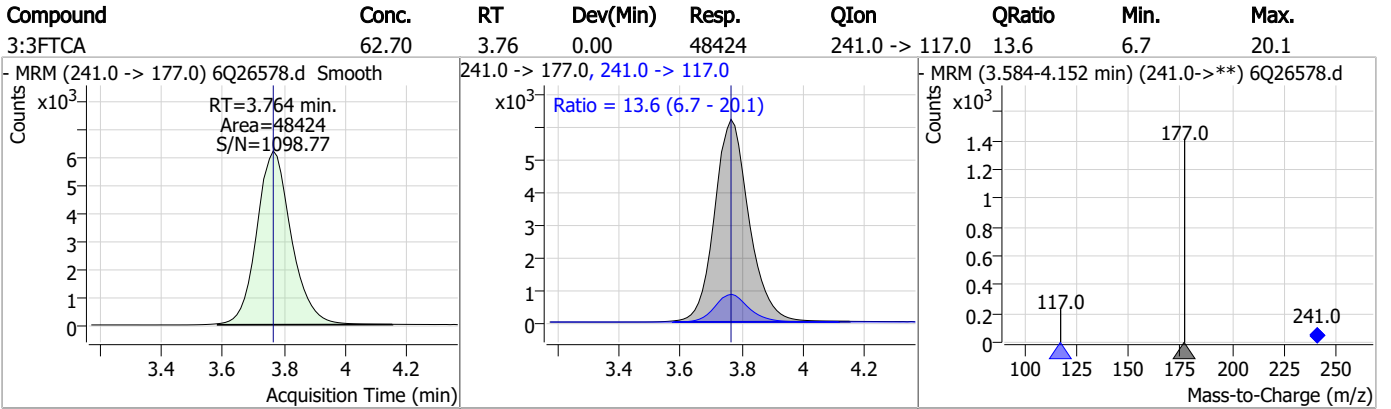
### Perfluorinated Compounds by LC/MS/MS



7.7.26

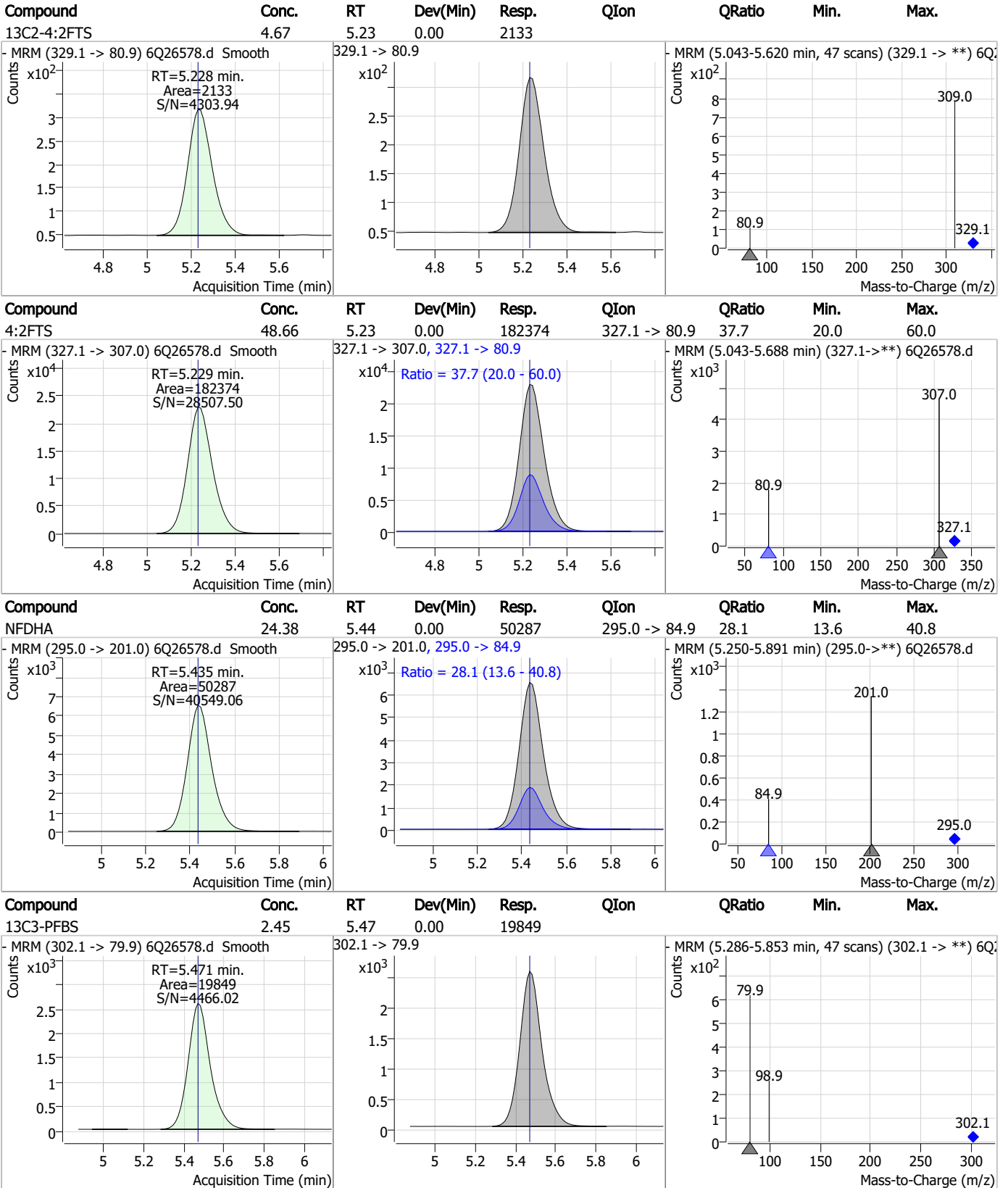
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### Perfluorinated Compounds by LC/MS/MS



7.7.26  
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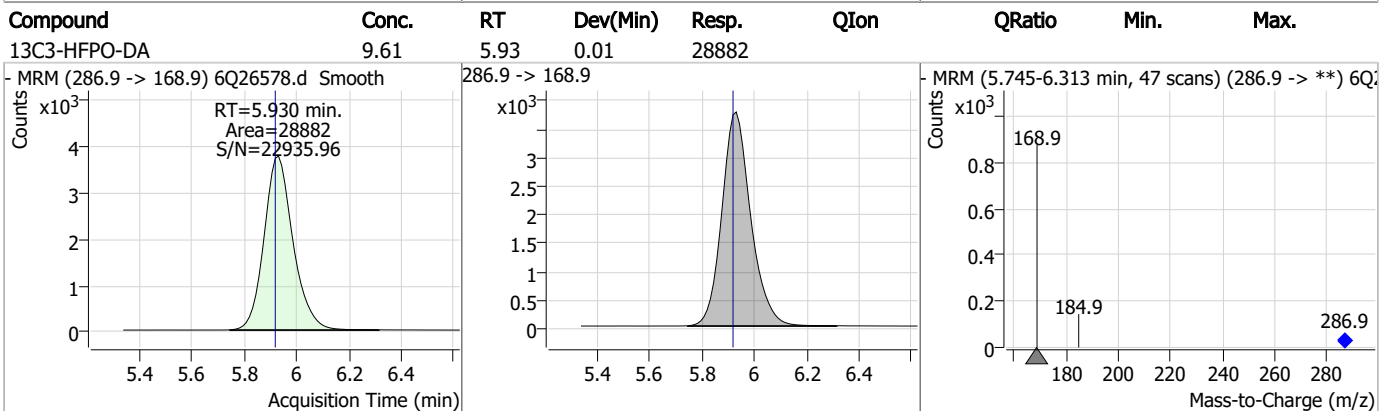
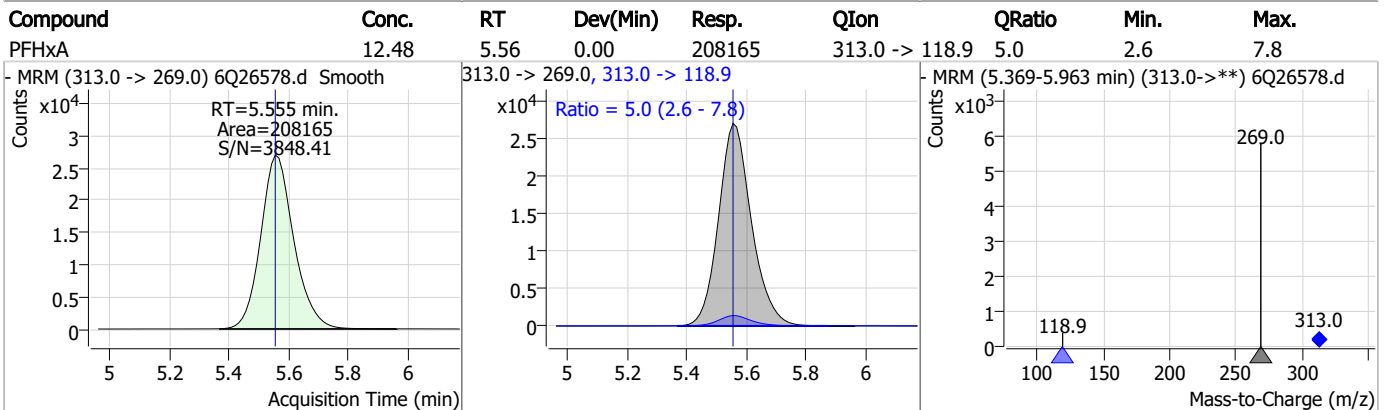
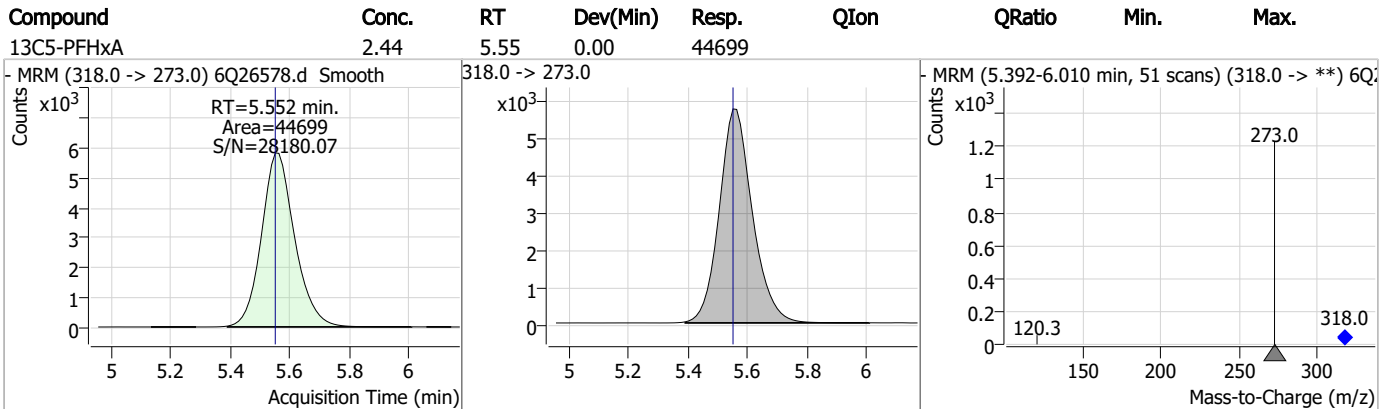
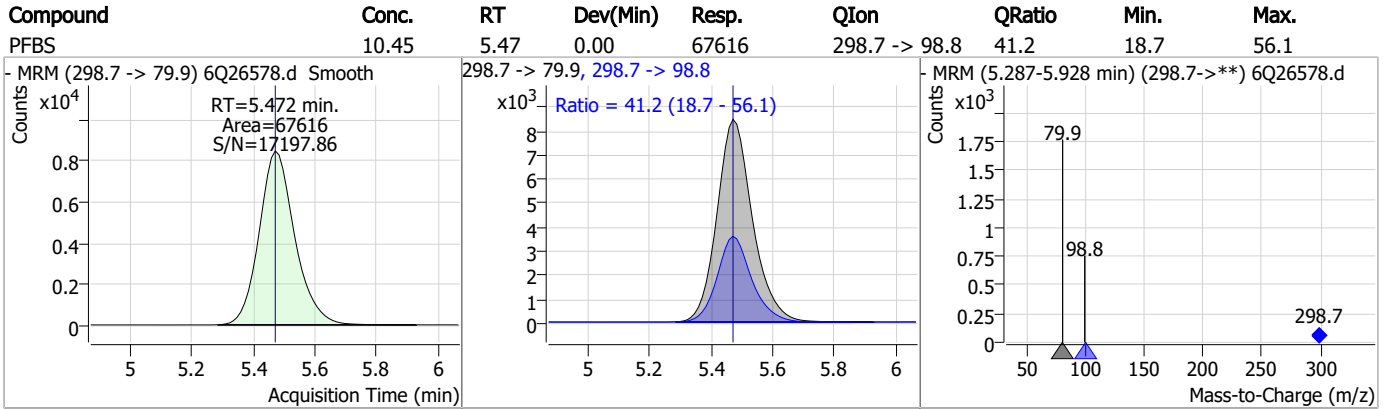
### Perfluorinated Compounds by LC/MS/MS



7.7.26 7

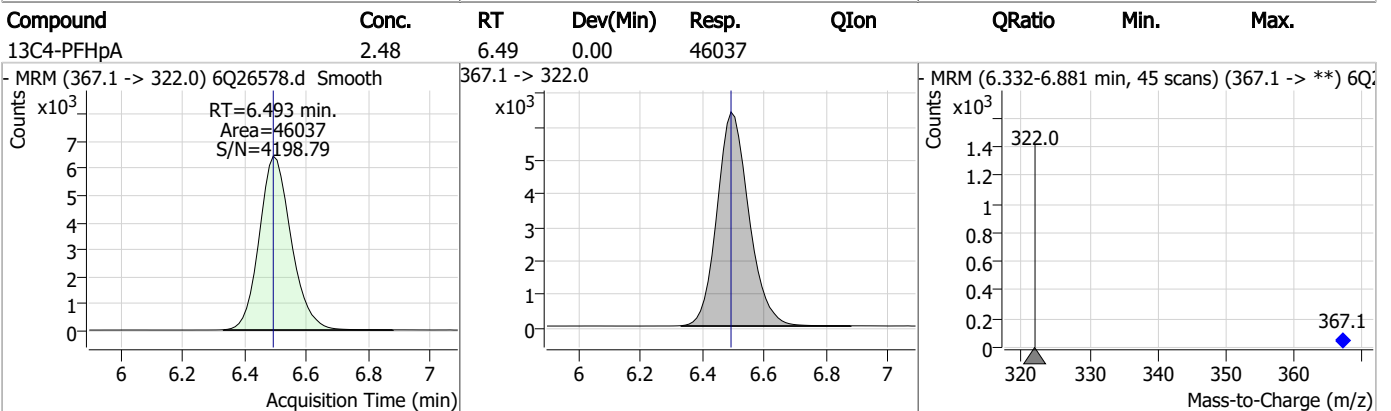
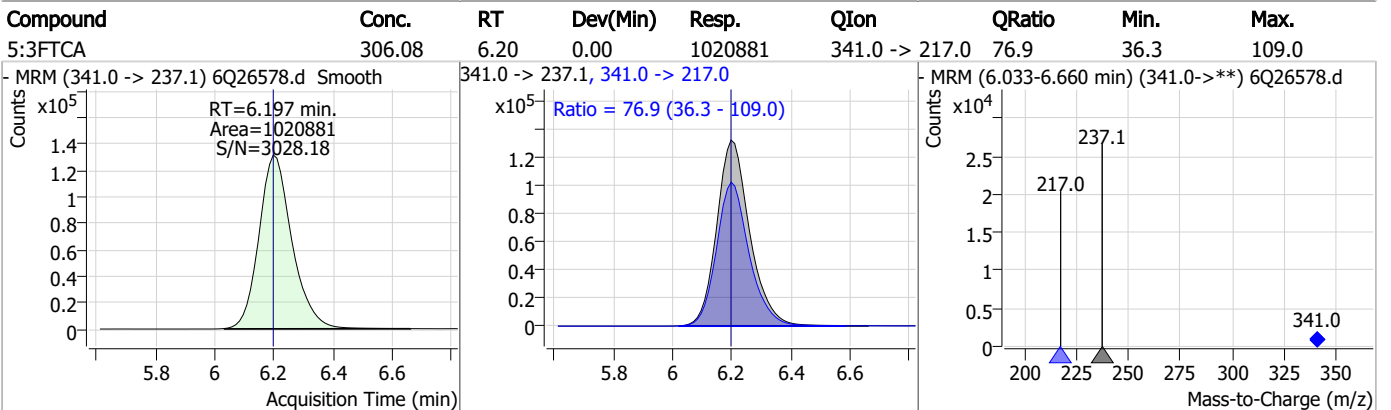
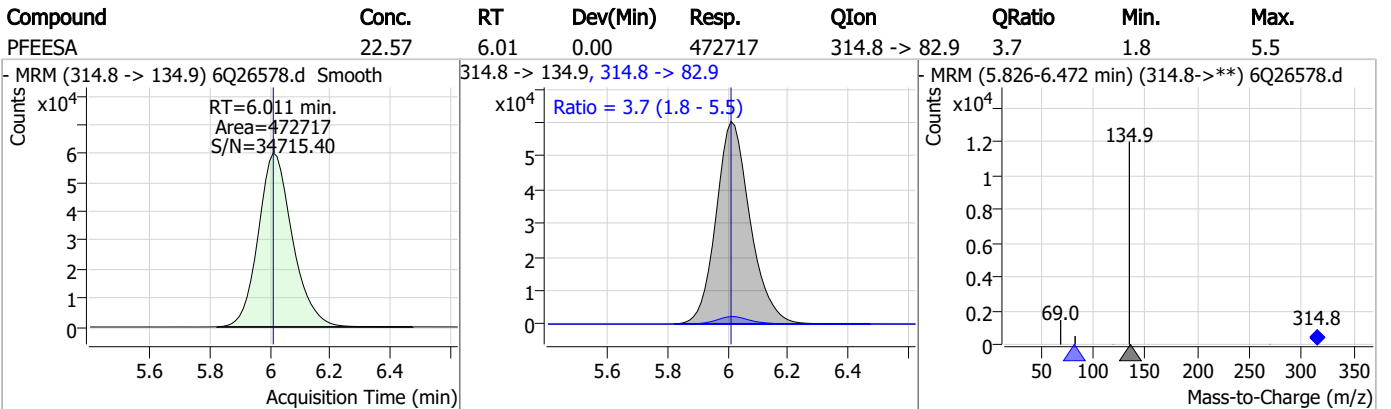
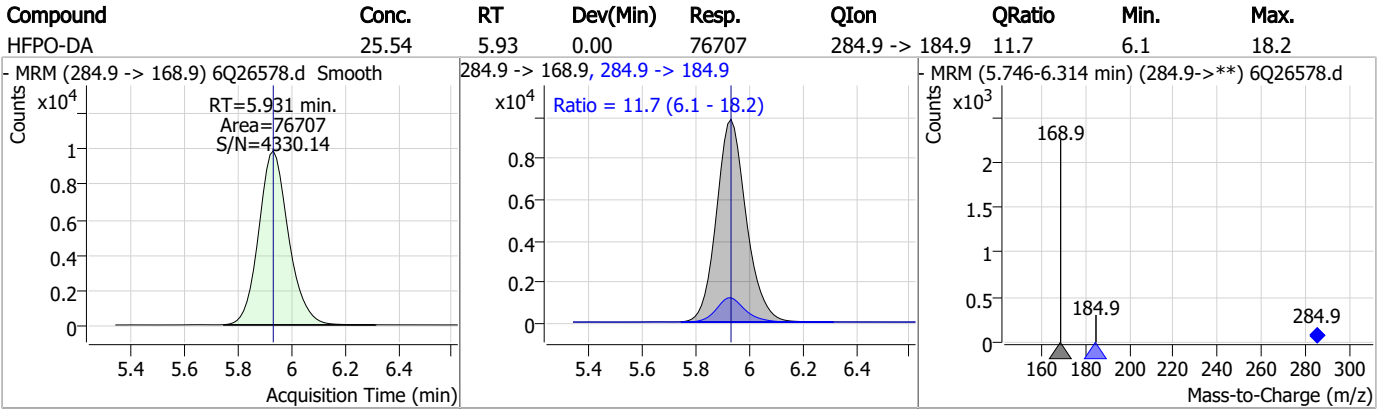


### Perfluorinated Compounds by LC/MS/MS



7.7.26  
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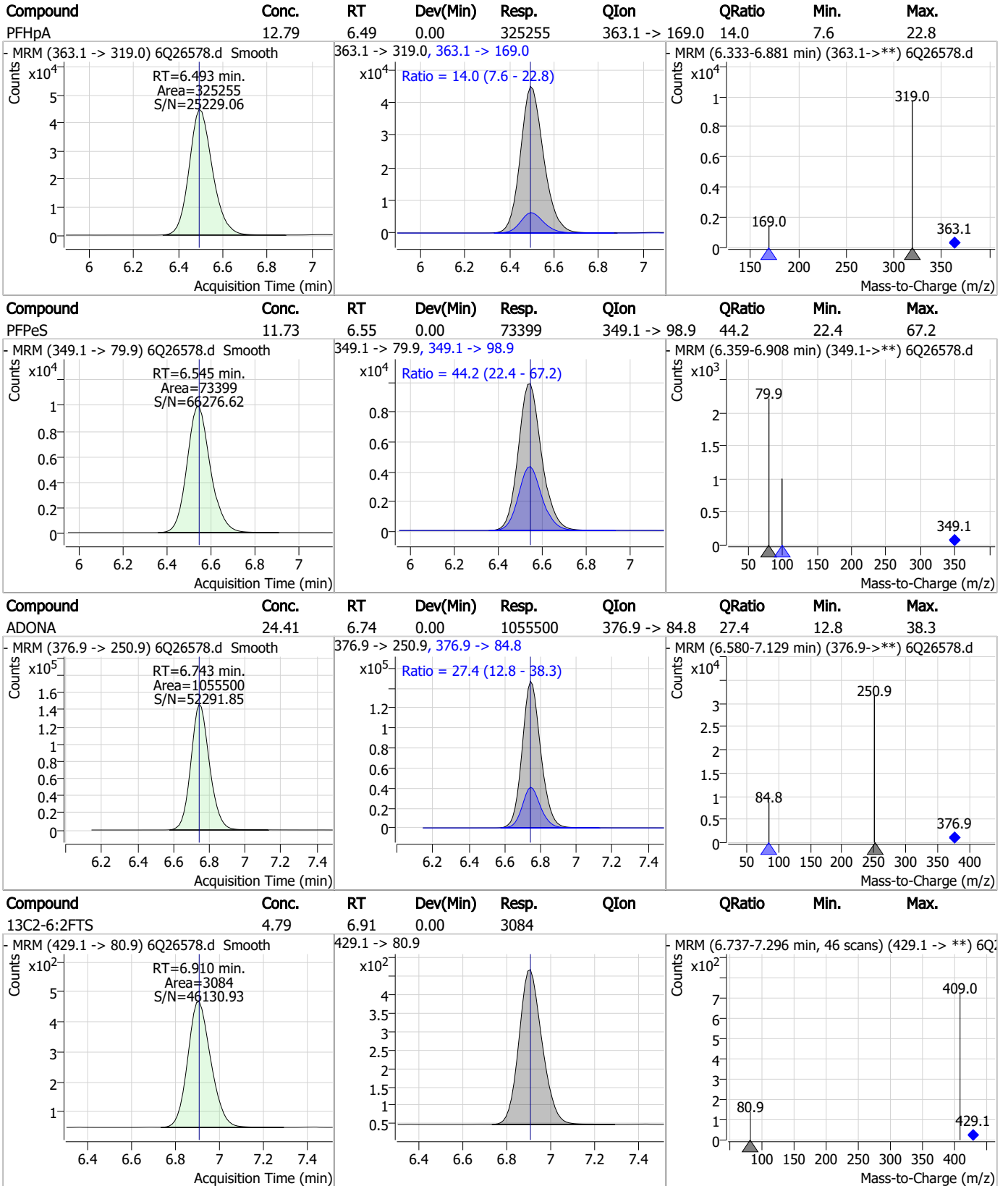
### Perfluorinated Compounds by LC/MS/MS



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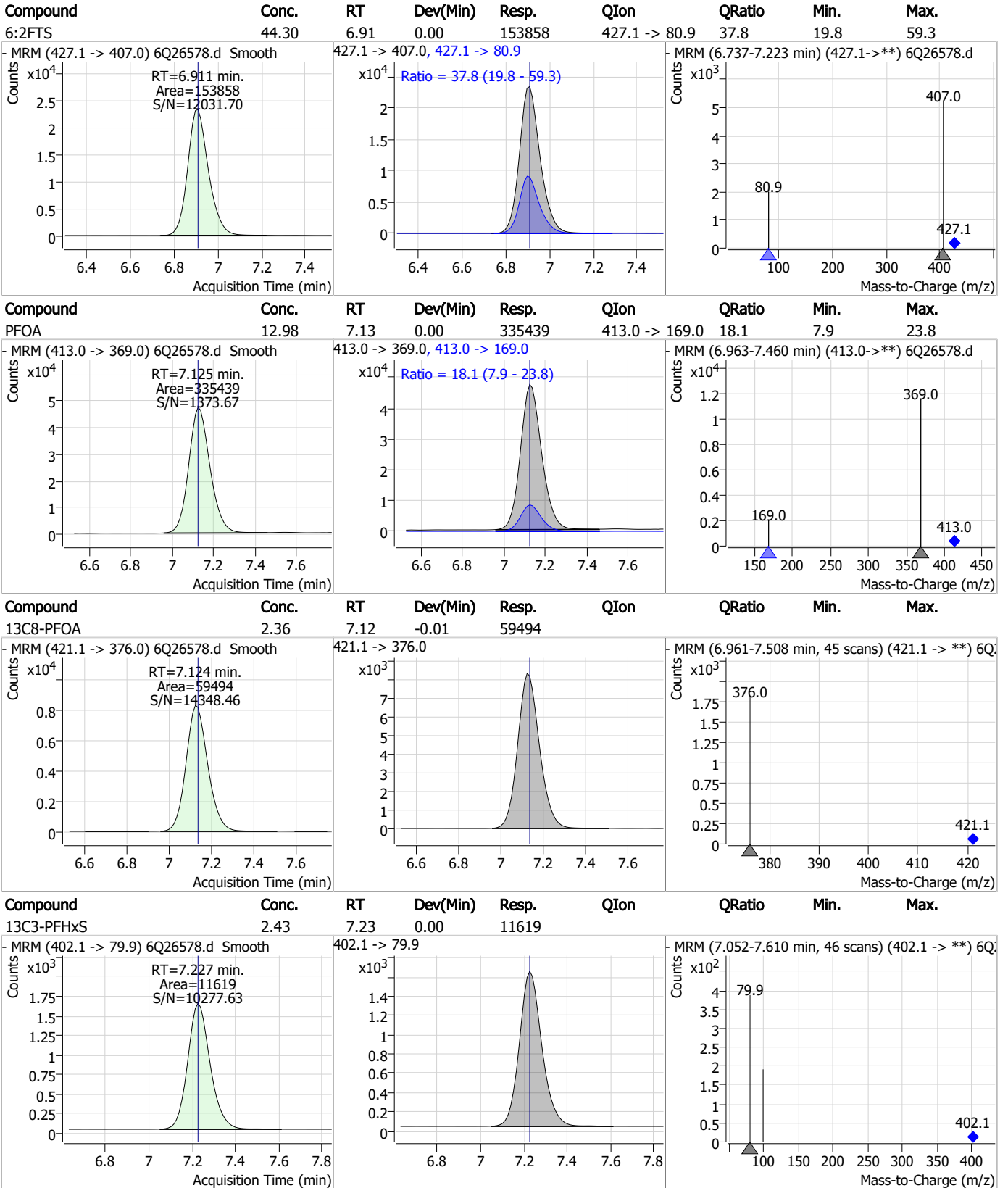


### Perfluorinated Compounds by LC/MS/MS



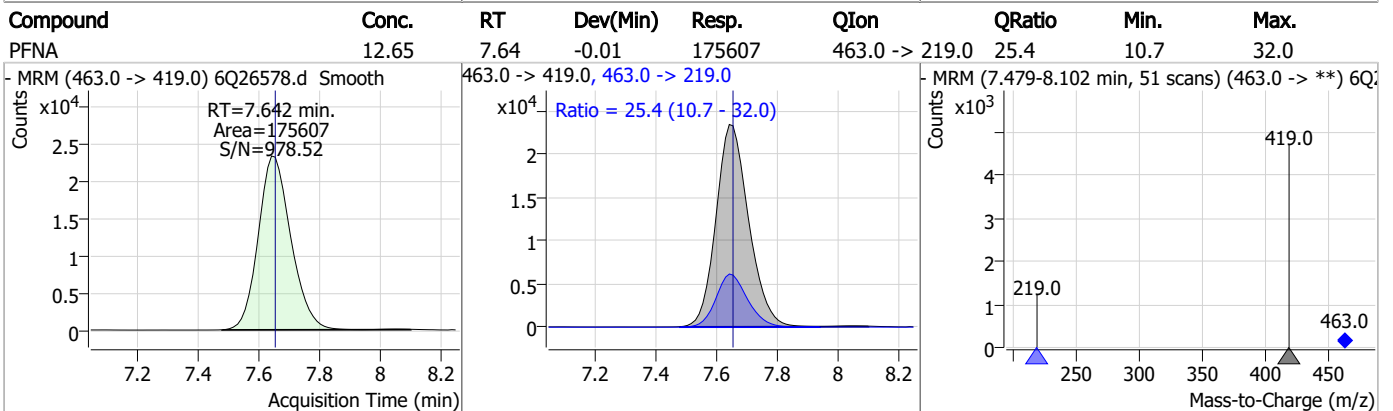
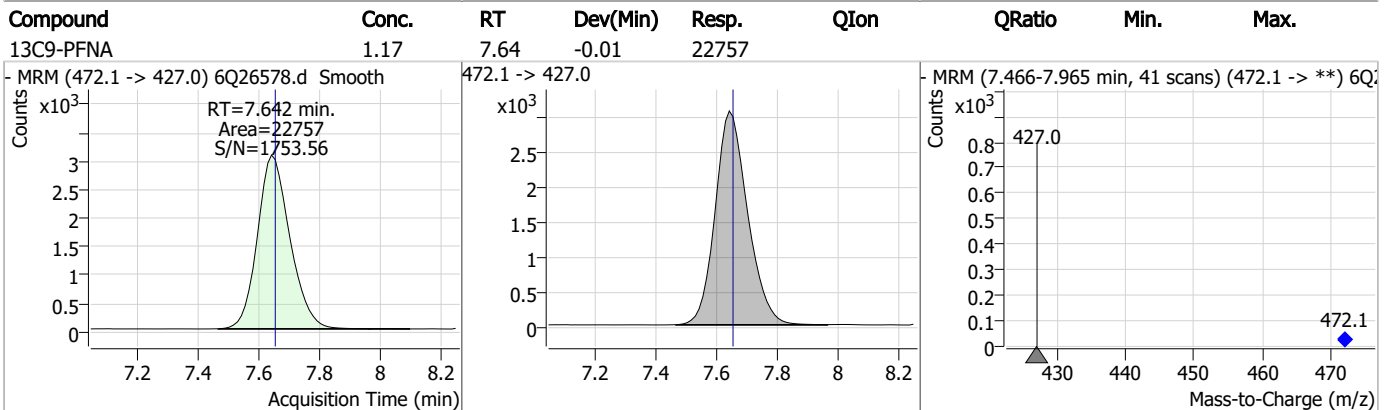
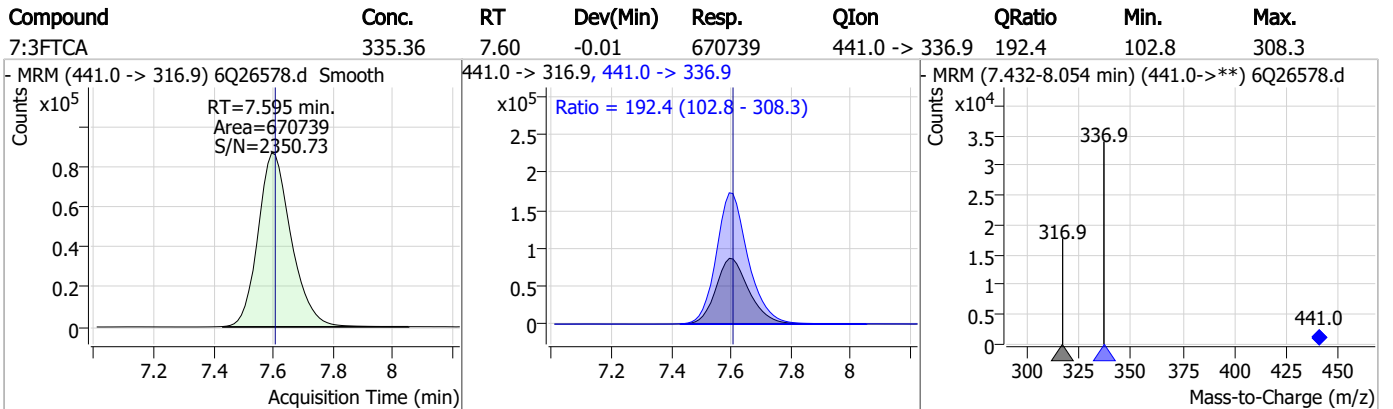
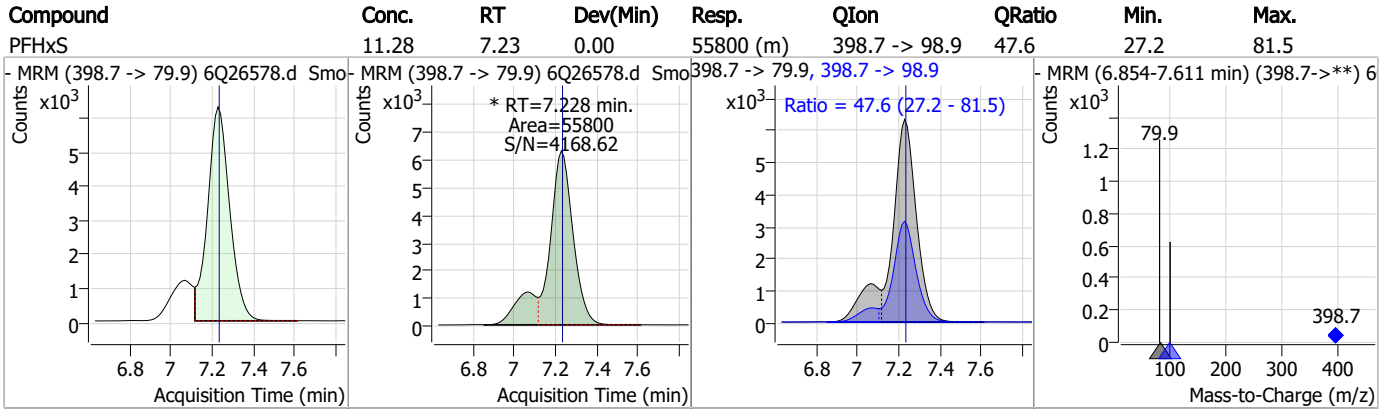
7.7.26 7

### Perfluorinated Compounds by LC/MS/MS



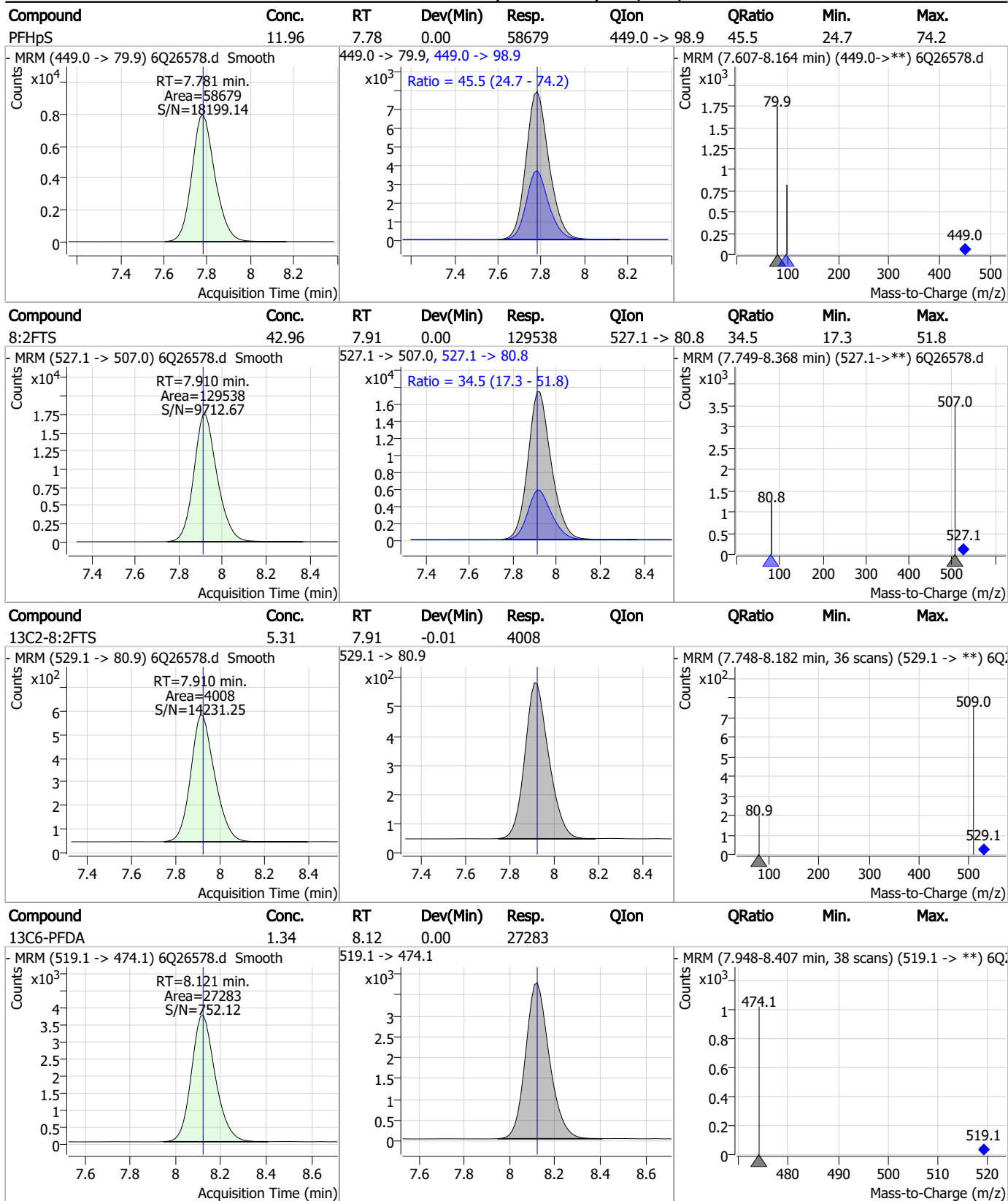
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### Perfluorinated Compounds by LC/MS/MS



7.7.26  
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### Perfluorinated Compounds by LC/MS/MS

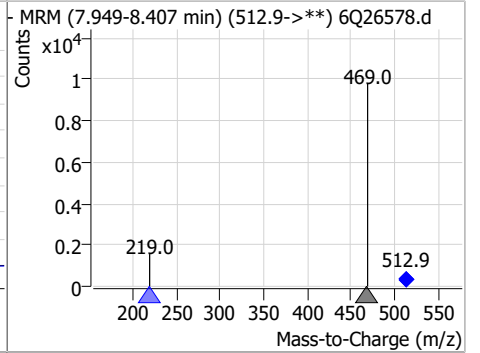
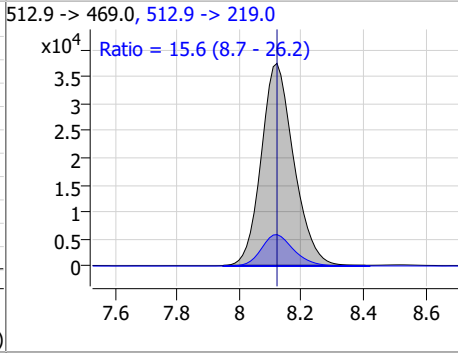
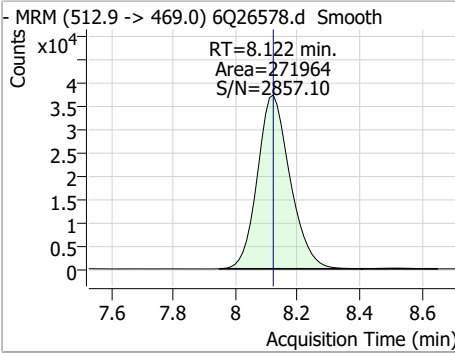


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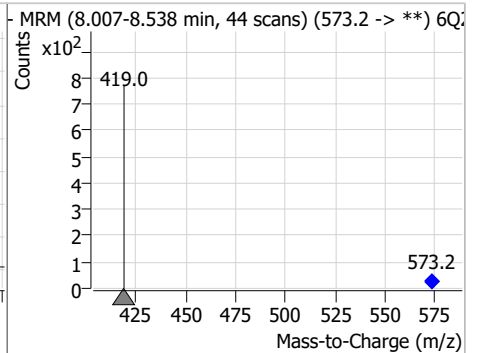
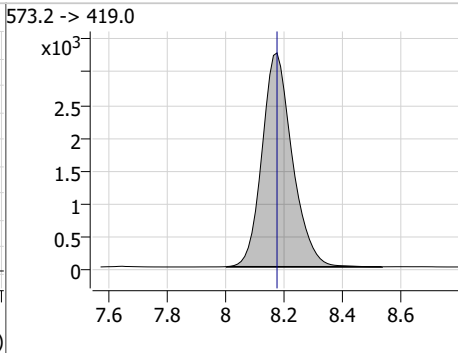
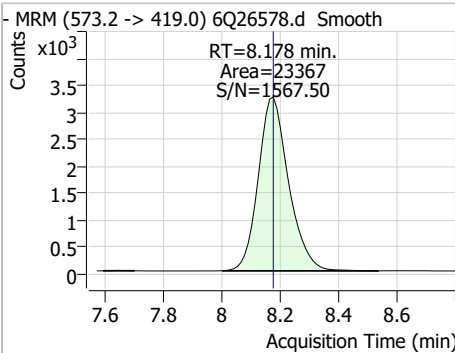
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### Perfluorinated Compounds by LC/MS/MS

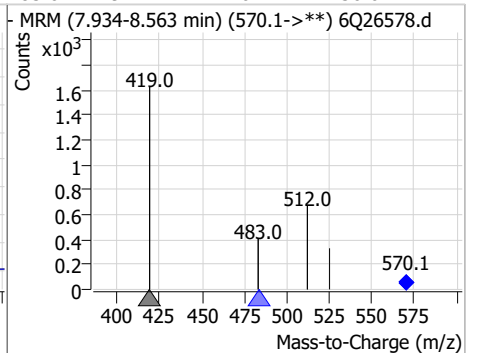
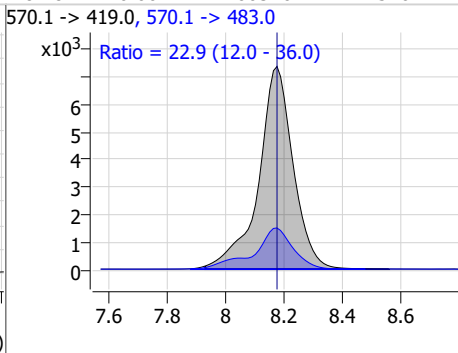
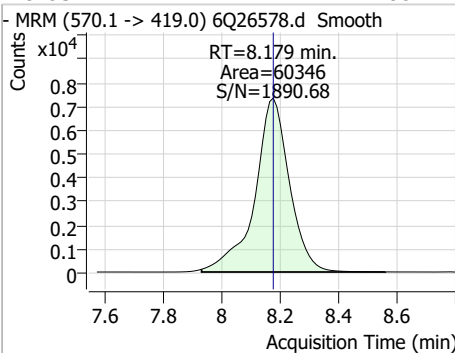
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDA	12.20	8.12	0.00	271964	512.9 -> 219.0	15.6	8.7	26.2



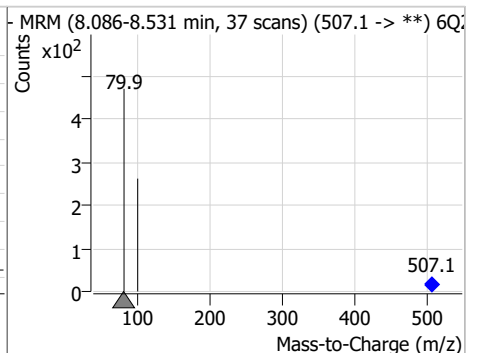
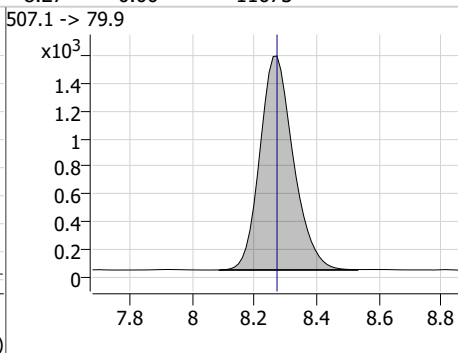
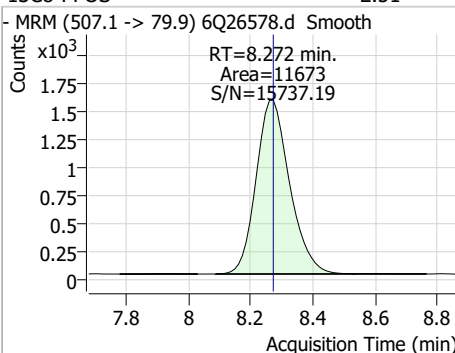
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSAA	4.80	8.18	0.00	23367				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSAA	12.95	8.18	0.00	60346	570.1 -> 483.0	22.9	12.0	36.0

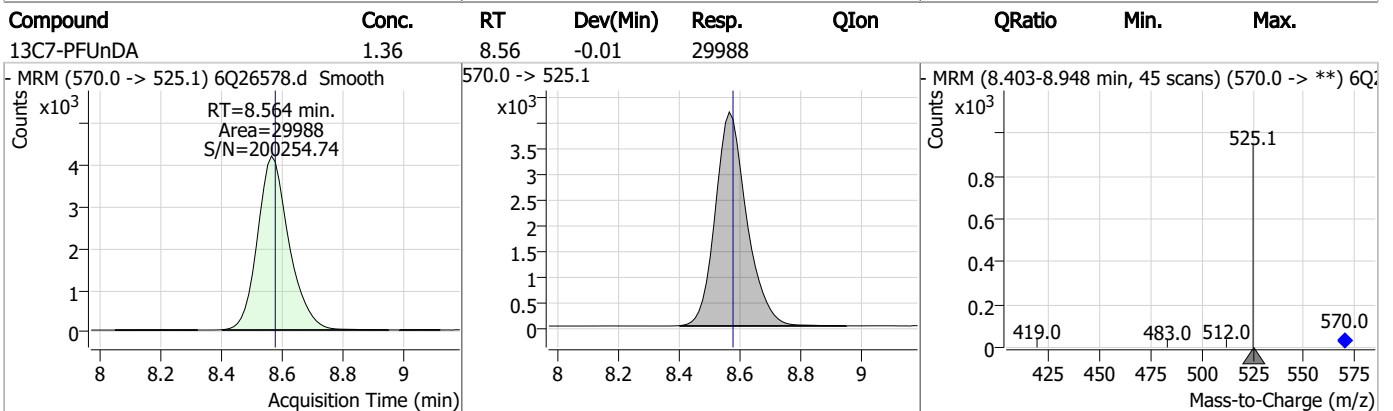
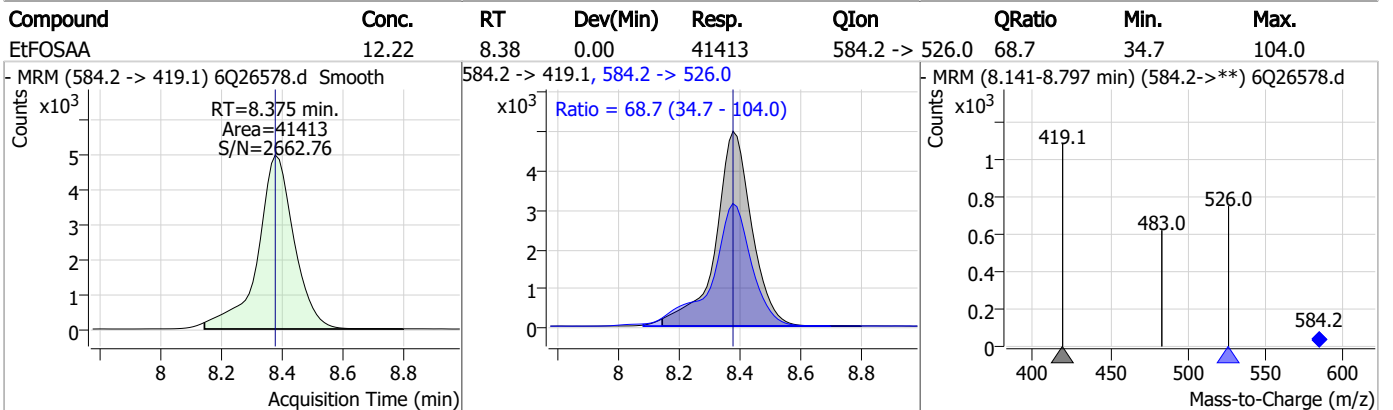
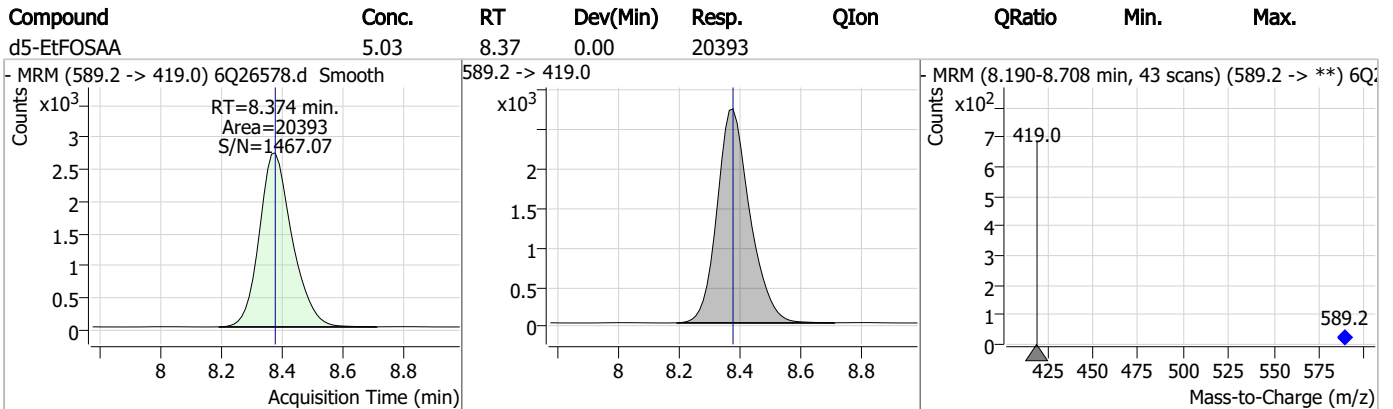
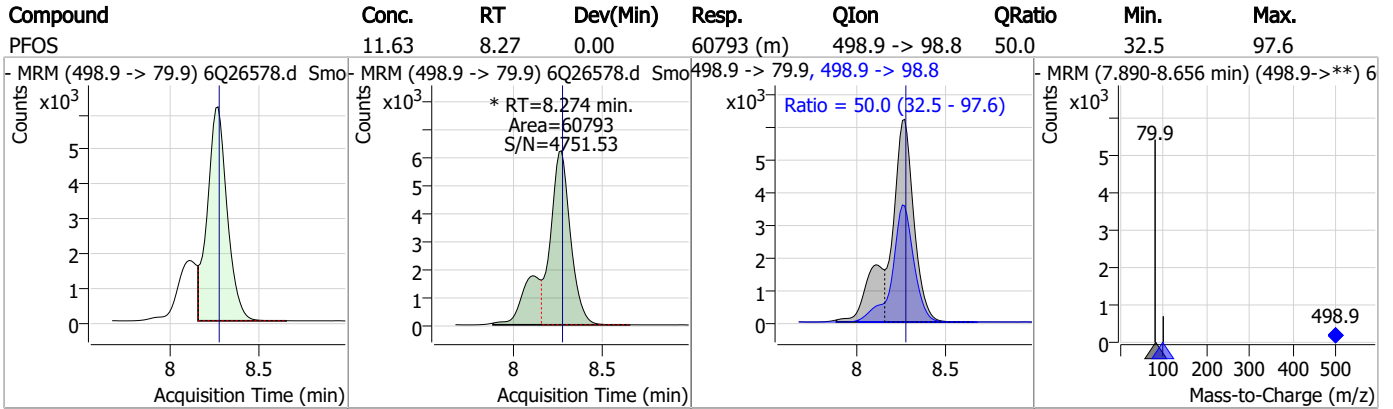


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOS	2.51	8.27	0.00	11673				



7.7.26 7

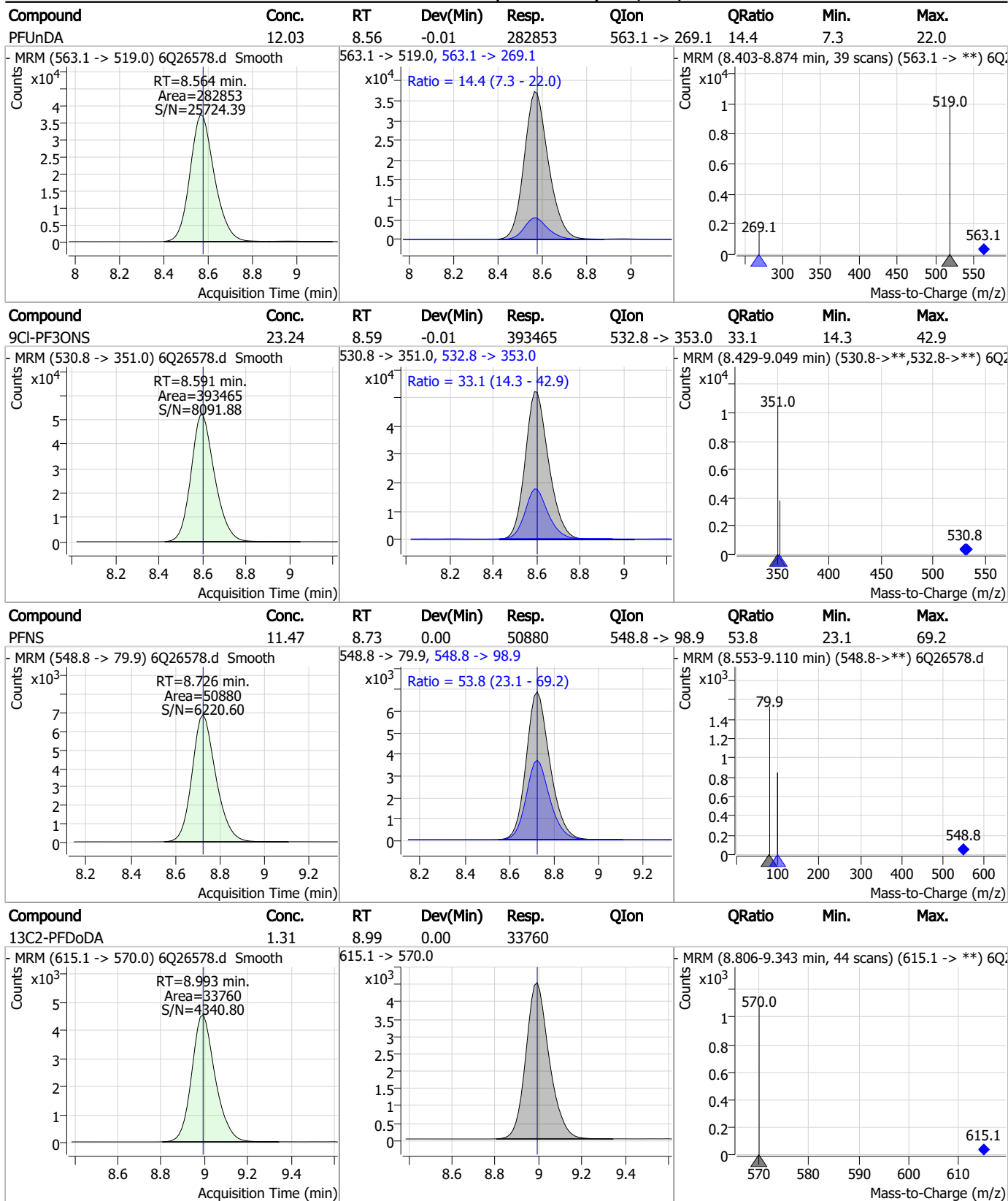
### Perfluorinated Compounds by LC/MS/MS



7.7.26  
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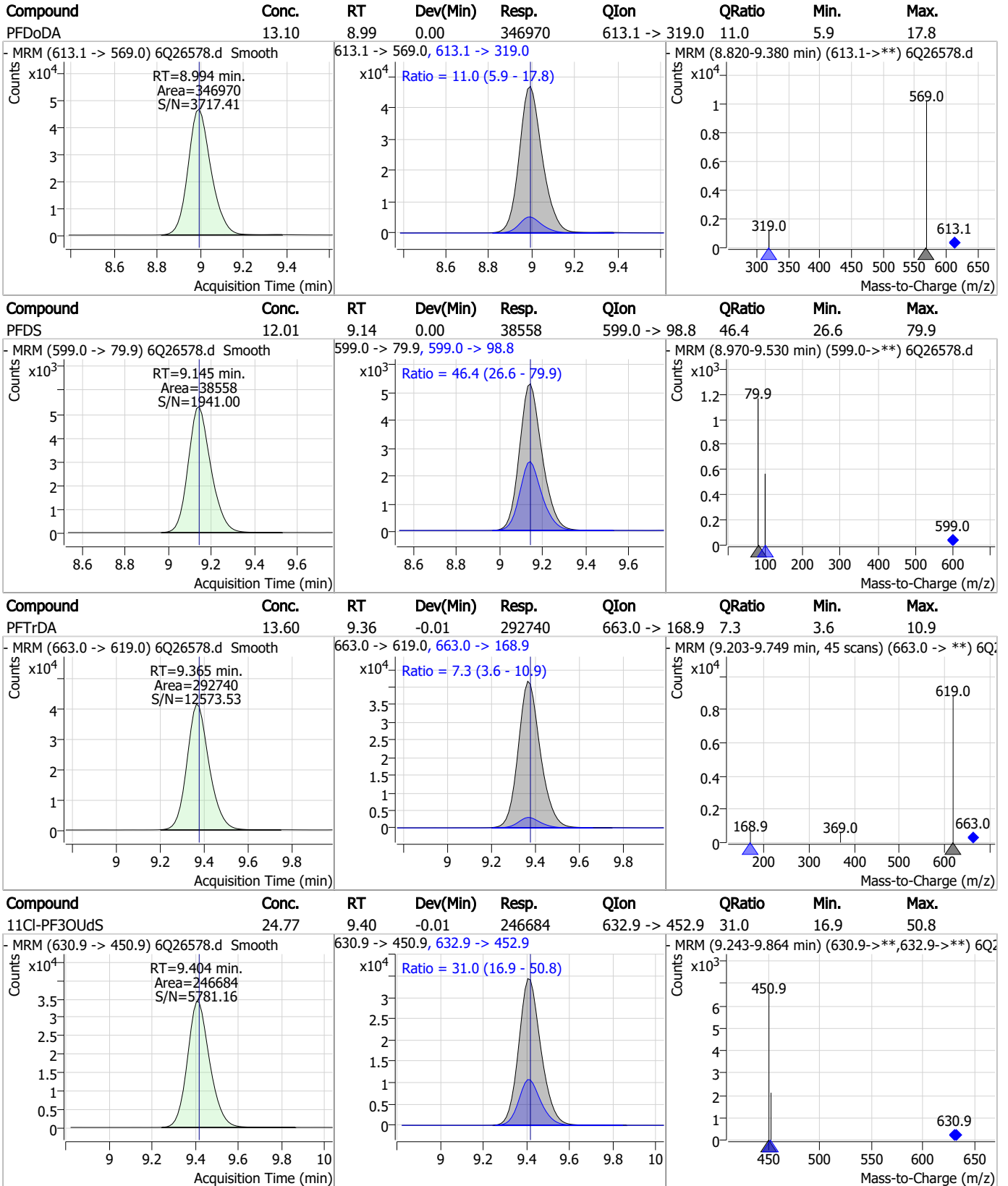


### Perfluorinated Compounds by LC/MS/MS



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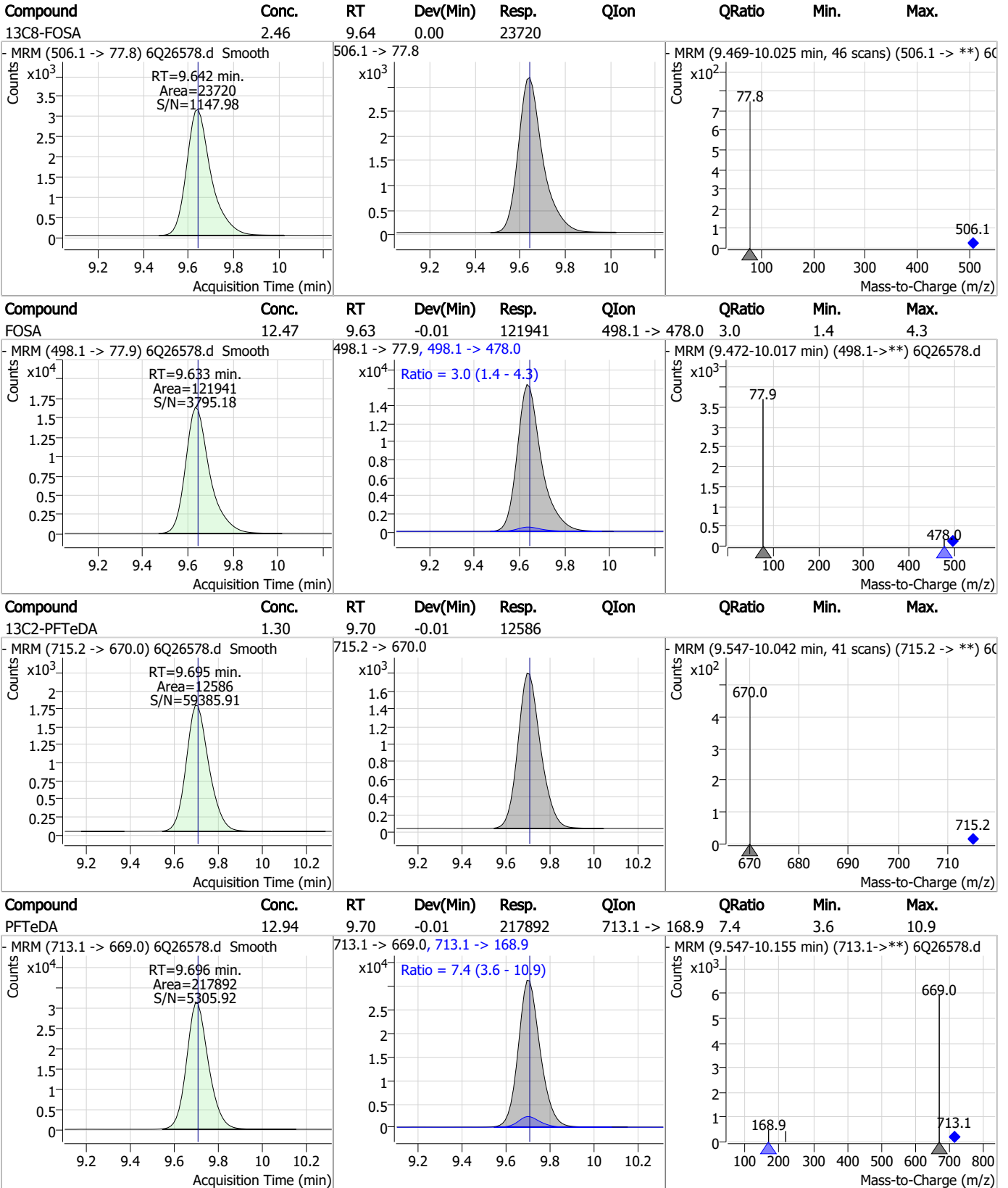
### Perfluorinated Compounds by LC/MS/MS



7.7.26

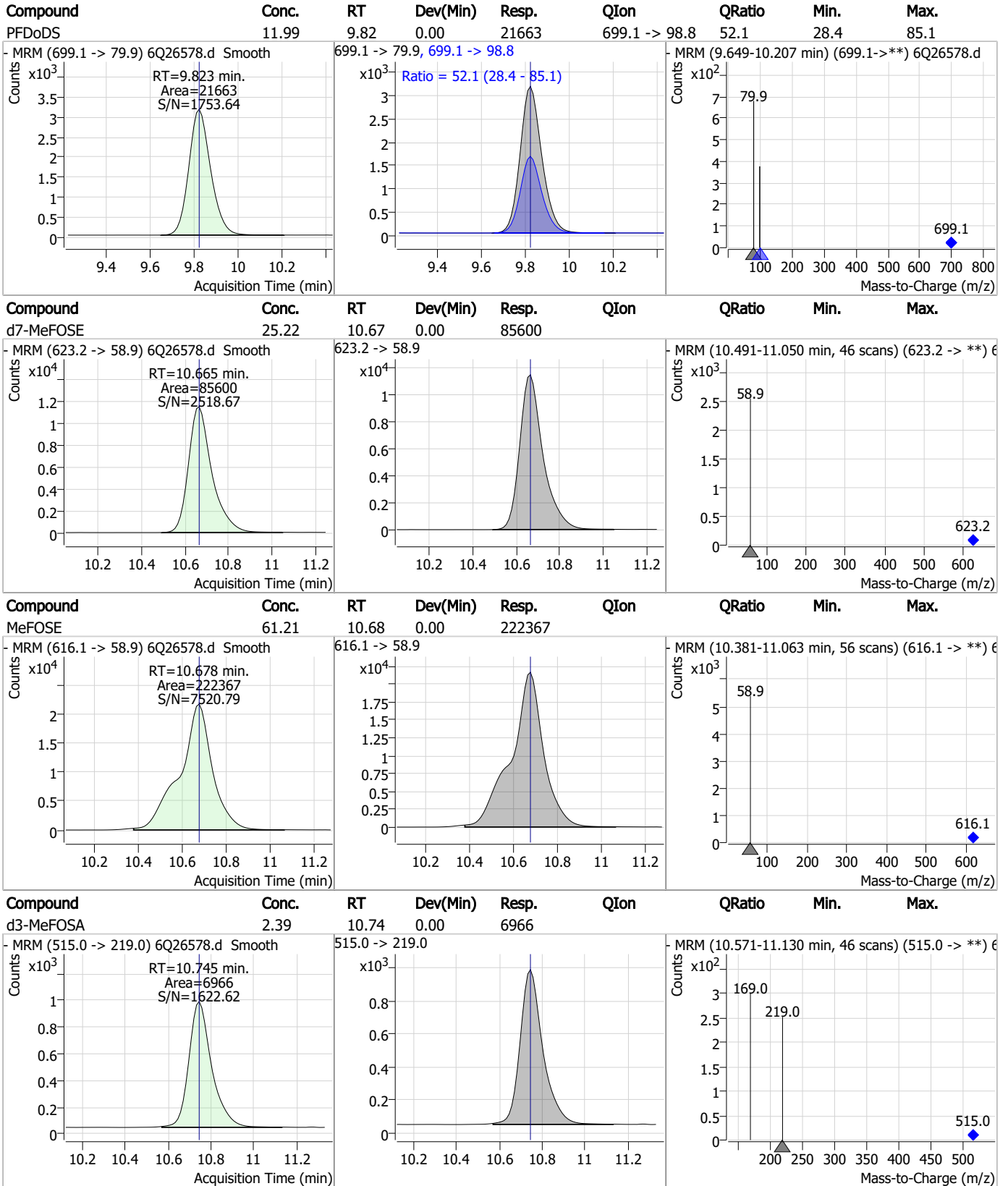
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### Perfluorinated Compounds by LC/MS/MS



7.7.26  
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### Perfluorinated Compounds by LC/MS/MS

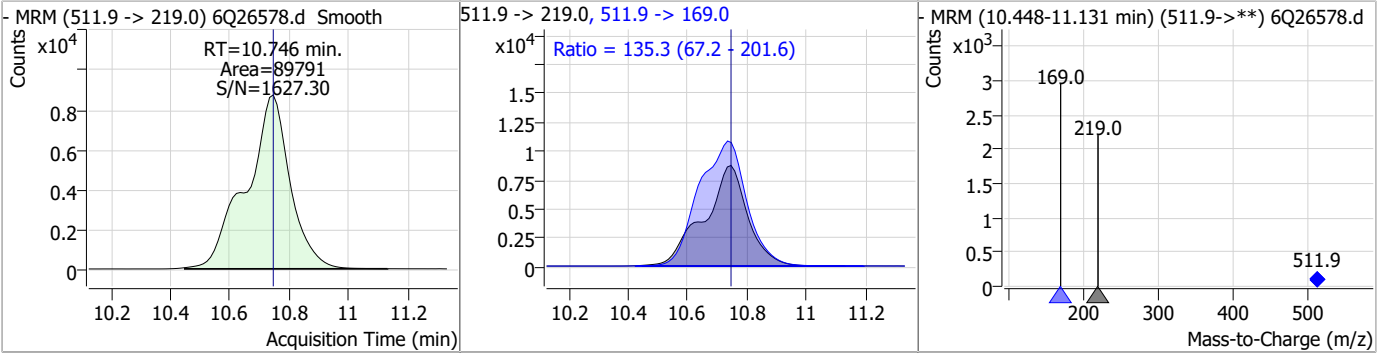


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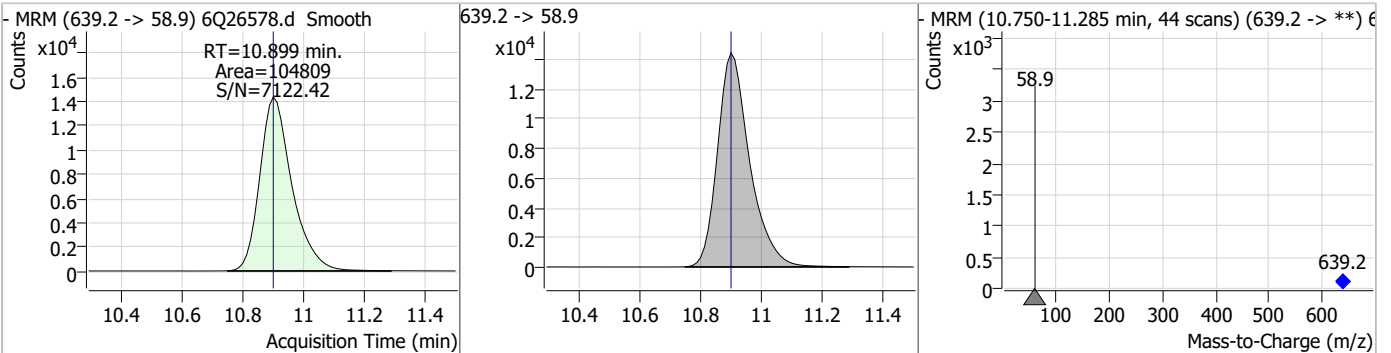
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### Perfluorinated Compounds by LC/MS/MS

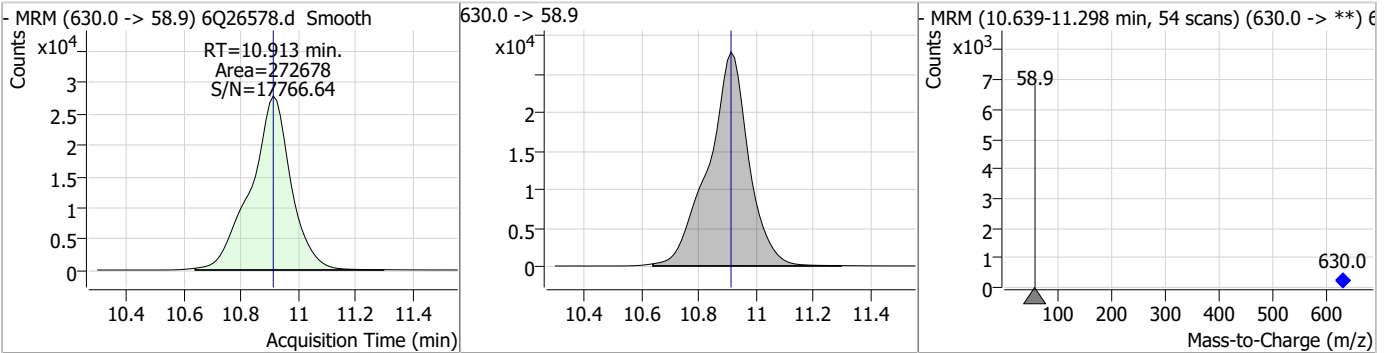
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSA	26.22	10.75	0.00	89791	511.9 -> 169.0	135.3	67.2	201.6



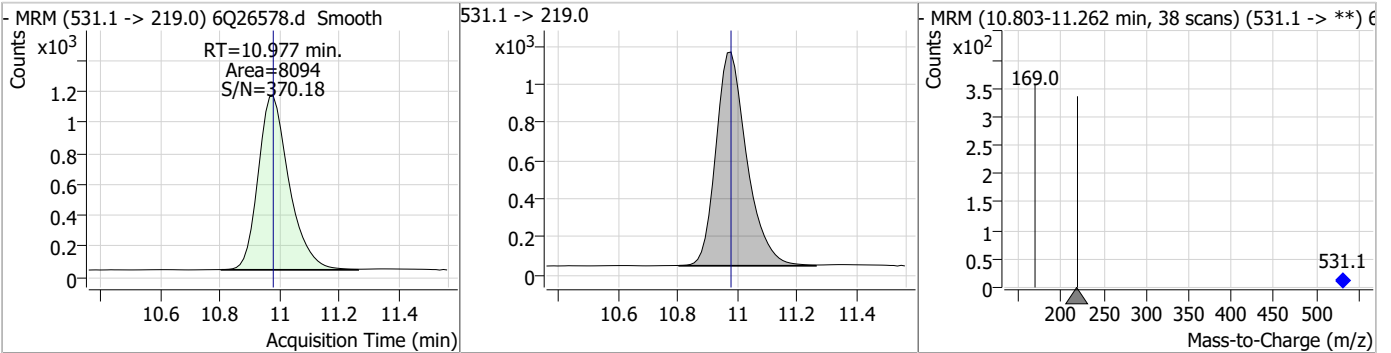
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d9-EtFOSE	24.98	10.90	0.00	104809				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSE	62.86	10.91	0.00	272678				

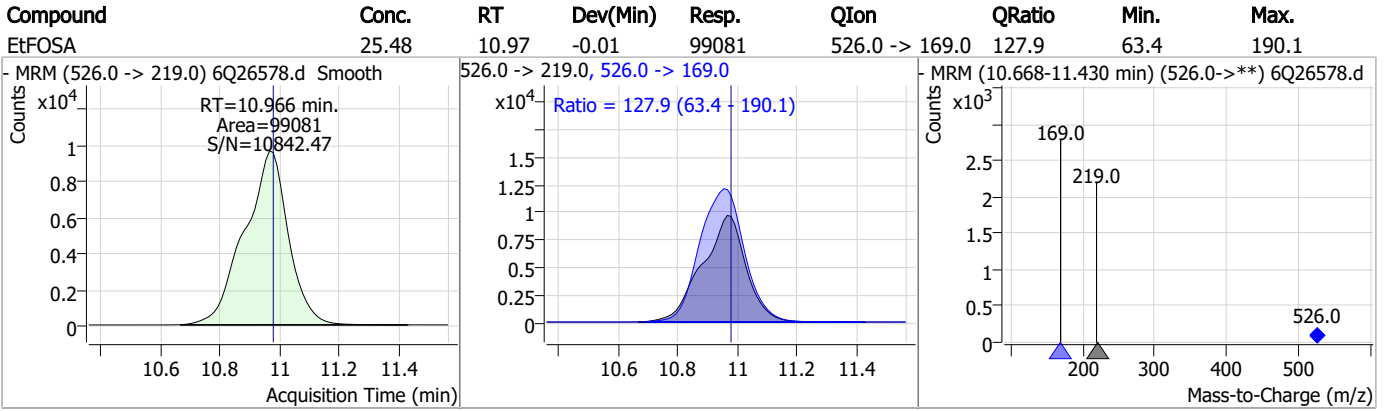


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSA	2.40	10.98	0.00	8094				



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### Perfluorinated Compounds by LC/MS/MS



7.7.26

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# Manual Integration Approval Summary

Sample Number: S6Q373-IC373      Method: EPA DRAFT 1633  
Lab FileID: 6Q26578.D      Analyst approved: 10/18/23 16:28 Anna Ludwig  
Injection Time: 10/17/23 19:23      Supervisor approved: 10/19/23 09:36 Natasha Guntie

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		7.23	Split peak
Perfluorooctanesulfonic acid	1763-23-1		8.27	Split peak

7.7.26.1

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Manual Integrations  
**APPROVED**  
 (compounds with "m" flag)

Natasha Gumtjie  
 10/19/23 09:36

### Perfluorinated Compounds by LC/MS/MS

Data File : 6Q26579.d  
 Operator : marthav  
 Acq. Method : 1633full.m  
 Acq. Date-Time : 10/17/2023 7:37:45 PM  
 Sample Name : ic373-7  
 Vial : P1-A8  
 DA Method File : 1633\_101723\_S6Q373.quantmethod.xml  
 Batch Name : S6Q373.batch.bin  
 Sample Information : OP99081,S6Q373,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
<b>Internal Standards</b>					
M4-PFBA	2.913	216.8 -> 171.9	128916	10.00 µg/L	0.000
M5-PFPeA	4.346	268.3 -> 223.0	43356	5.00 µg/L	0.000
M5-PFHxA	5.552	318.0 -> 273.0	43475	2.50 µg/L	0.000
M4-PFHpA	6.493	367.1 -> 322.0	42527	2.50 µg/L	0.000
M8-PFOA	7.124	421.1 -> 376.0	61192	2.50 µg/L	-0.012
M9-PFNA	7.642	472.1 -> 427.0	22997	1.25 µg/L	-0.012
M6-PFDA	8.121	519.1 -> 474.1	26975	1.25 µg/L	0.000
M7-PFUnDA	8.564	570.0 -> 525.1	27066	1.25 µg/L	-0.012
M2-PFDoDA	8.993	615.1 -> 570.0	31571	1.25 µg/L	0.000
M2-PFTeDA	9.708	715.2 -> 670.0	12791	1.25 µg/L	0.000
M8-FOSA	9.642	506.1 -> 77.8	22847	2.50 µg/L	0.000
M3-PFBS	5.471	302.1 -> 79.9	17681	2.50 µg/L	0.000
M3-PFHxS	7.227	402.1 -> 79.9	11527	2.50 µg/L	0.000
M8-PFOS	8.260	507.1 -> 79.9	10939	2.50 µg/L	-0.012
M2-4:2FTS	5.228	329.1 -> 80.9	2108	5.00 µg/L	0.000
M2-6:2FTS	6.910	429.1 -> 80.9	2787	5.00 µg/L	0.000
M2-8:2FTS	7.922	529.1 -> 80.9	3160	5.00 µg/L	0.000
M3-MeFOSAA	8.178	573.2 -> 419.0	23350	5.00 µg/L	0.000
M3-HFPO-DA	5.930	286.9 -> 168.9	27877	10.00 µg/L	0.012
M5-EtFOSAA	8.374	589.2 -> 419.0	19556	5.00 µg/L	0.000
M7-MeFOSE	10.665	623.2 -> 58.9	79706	25.00 µg/L	0.000
M9-EtFOSE	10.899	639.2 -> 58.9	97208	25.00 µg/L	0.000
M5-EtFOSA	10.965	531.1 -> 219.0	8104	2.50 µg/L	-0.012
M3-MeFOSA	10.745	515.0 -> 219.0	7006	2.50 µg/L	0.000
13C4-PFOS	8.273	502.8 -> 79.9	9404	2.50 µg/L	0.000
13C3-PFBA	2.916	216.0 -> 172.0	52554	5.00 µg/L	0.000
18O2-PFHxS	7.226	403.0 -> 83.9	6928	2.50 µg/L	0.000
13C4-PFOA	7.125	417.1 -> 372.0	66162	2.50 µg/L	0.000
13C2-PFDA	8.122	515.1 -> 470.1	22897	1.25 µg/L	0.000
13C5-PFNA	7.642	468.0 -> 423.0	21097	1.25 µg/L	-0.012
13C2-PFHxA	5.553	315.1 -> 270.0	41380	2.50 µg/L	0.000
<b>System Monitoring Compounds</b>					
13C2-4:2FTS	5.228	329.1 -> 80.9	2108	4.87 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 97.4%		
13C2-6:2FTS	6.910	429.1 -> 80.9	2787	4.56 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 91.2%		
13C2-8:2FTS	7.922	529.1 -> 80.9	3160	4.42 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 88.3%		
13C2-PFDoDA	8.993	615.1 -> 570.0	31571	1.28 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 102.1%		
13C2-PFTeDA	9.708	715.2 -> 670.0	12791	1.38 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 110.3%		
13C3-PFBS	5.471	302.1 -> 79.9	17681	2.31 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 92.2%		
13C3-PFHxS	7.227	402.1 -> 79.9	11527	2.54 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 = 101.7%	
13C4-PFBA	2.913	216.8 -> 171.9	128916	9.96 µg/L	0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 99.6%	
13C4-PFHpA	6.493	367.1 -> 322.0	42527	2.53 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 101.4%	
13C5-PFHxA	5.552	318.0 -> 273.0	43475	2.62 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 104.9%	
13C5-PFPeA	4.346	268.3 -> 223.0	43356	5.20 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 104.0%	
13C6-PFDA	8.121	519.1 -> 474.1	26975	1.38 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 110.6%	
13C7-PFUnDA	8.564	570.0 -> 525.1	27066	1.28 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 102.4%	
13C8-FOSA	9.642	506.1 -> 77.8	22847	2.64 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 105.6%	
13C8-PFOA	7.124	421.1 -> 376.0	61192	2.59 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 103.4%	
13C8-PFOS	8.260	507.1 -> 79.9	10939	2.63 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 105.2%	
13C9-PFNA	7.642	472.1 -> 427.0	22997	1.27 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 101.4%	
d3-MeFOSAA	8.178	573.2 -> 419.0	23350	5.35 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 107.1%	
13C3-HFPO-DA	5.930	286.9 -> 168.9	27877	10.25 µg/L	0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 102.5%	
d3-MeFOSA	10.745	515.0 -> 219.0	7006	2.68 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 107.2%	
d5-EtFOSAA	8.374	589.2 -> 419.0	19556	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	79706	26.21 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 104.9%	
d9-EtFOSE	10.899	639.2 -> 58.9	97208	25.87 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 103.5%	
d5-EtFOSA	10.965	531.1 -> 219.0	8104	2.68 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 107.1%	
<b>Target Compounds</b>					<b>QValue</b>
4:2FTS	5.229	327.1 -> 307.0	328853	88.75 µg/L	97
		327.1 -> 80.9	125480		
6:2FTS	6.898	427.1 -> 407.0	296520	94.49 µg/L	95
		427.1 -> 80.9	108929		
8:2FTS	7.923	527.1 -> 507.0	243418	102.39 µg/L	98
		527.1 -> 80.8	87153		
EtFOSAA	8.375	584.2 -> 419.1	81861	25.20 µg/L	99
		584.2 -> 526.0	56222		
FOSA	9.633	498.1 -> 77.9	244284	25.93 µg/L	100
		498.1 -> 478.0	6873		
MeFOSAA	8.179	570.1 -> 419.0	117568	25.25 µg/L	98
		570.1 -> 483.0	26874		
PFBA	2.919	212.8 -> 168.9	523212	105.64 µg/L	100
PFBS	5.472	298.7 -> 79.9	143764	24.93 µg/L	99
		298.7 -> 98.8	52579		
PFDA	8.122	512.9 -> 469.0	595911	27.05 µg/L	94
		512.9 -> 219.0	86930		
PFDoDA	8.994	613.1 -> 569.0	669210	27.01 µg/L	100
		613.1 -> 319.0	80201		
PFDS	9.145	599.0 -> 79.9	69340	23.04 µg/L	99

## Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
		599.0 -> 98.8	37390			
PFHpA	6.493	363.1 -> 319.0	630640	26.84	µg/L	98
		363.1 -> 169.0	91681			
PFHpS	7.781	449.0 -> 79.9	118716	25.82	µg/L	93
		449.0 -> 98.9	52853			
PFHxA	5.555	313.0 -> 269.0	425791	26.24	µg/L	99
		313.0 -> 118.9	20879			
PFHxS	7.228	398.7 -> 79.9	115751	23.58	µg/L	m 86
		398.7 -> 98.9	51369			
PFNA	7.642	463.0 -> 419.0	385197	27.47	µg/L	99
		463.0 -> 219.0	83932			
PFNS	8.726	548.8 -> 79.9	105944	25.50	µg/L	93
		548.8 -> 98.9	53514			
PFOA	7.125	413.0 -> 369.0	660210	24.83	µg/L	98
		413.0 -> 169.0	110973			
PFOS	8.274	498.9 -> 79.9	115101	23.50	µg/L	m 82
		498.9 -> 98.8	58471			
PFPeA	4.349	263.0 -> 219.0	536468	52.44	µg/L	100
PFPeS	6.533	349.1 -> 79.9	144823	23.32	µg/L	99
		349.1 -> 98.9	65585			
PFTeDA	9.696	713.1 -> 669.0	424442	24.79	µg/L	99
		713.1 -> 168.9	29782			
PFTrDA	9.365	663.0 -> 619.0	536065	26.63	µg/L	98
		663.0 -> 168.9	42249			
PFUnDA	8.564	563.1 -> 519.0	560199	26.39	µg/L	99
		563.1 -> 269.1	80855			
11CI-PF3OUdS	9.416	630.9 -> 450.9	492553	51.24	µg/L	95
		632.9 -> 452.9	152334			
9CI-PF3ONS	8.603	530.8 -> 351.0	788304	48.23	µg/L	94
		532.8 -> 353.0	249451			
ADONA	6.743	376.9 -> 250.9	2077619	49.79	µg/L	97
		376.9 -> 84.8	563326			
HFPO-DA	5.931	284.9 -> 168.9	151891	52.39	µg/L	100
		284.9 -> 184.9	18586			
3:3FTCA	3.764	241.0 -> 177.0	96703	133.37	µg/L	100
		241.0 -> 117.0	13090			
5:3FTCA	6.197	341.0 -> 237.1	2081805	641.74	µg/L	100
		341.0 -> 217.0	1505337			
7:3FTCA	7.595	441.0 -> 316.9	1280627	658.32	µg/L	93
		441.0 -> 336.9	2495259			
EtFOSA	10.966	526.0 -> 219.0	202560	52.02	µg/L	97
		526.0 -> 169.0	250376			
EtFOSE	10.913	630.0 -> 58.9	532934	132.47	µg/L	100
MeFOSA	10.746	511.9 -> 219.0	177291	51.47	µg/L	97
		511.9 -> 169.0	244880			
MeFOSE	10.678	616.1 -> 58.9	449738	132.94	µg/L	100
PFDoS	9.823	699.1 -> 79.9	41930	24.76	µg/L	94
		699.1 -> 98.8	22059			
NFDHA	5.435	295.0 -> 201.0	101927	50.80	µg/L	98
		295.0 -> 84.9	26864			
PFMBA	4.762	279.0 -> 85.1	410093	52.74	µg/L	100
PFMPA	3.475	229.0 -> 84.9	332079	52.04	µg/L	100
PFEESA	6.011	314.8 -> 134.9	984552	48.33	µg/L	99
		314.8 -> 82.9	32524			

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

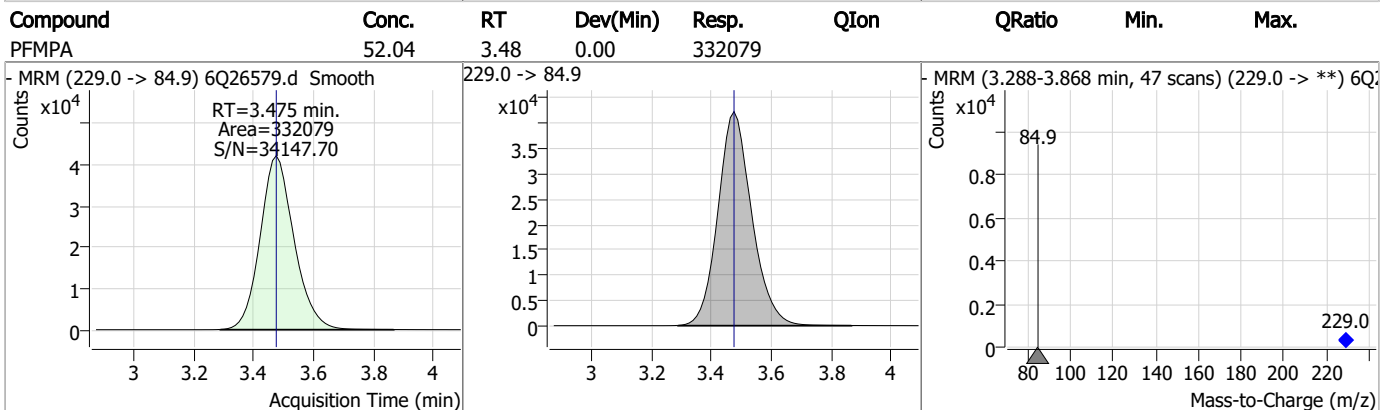
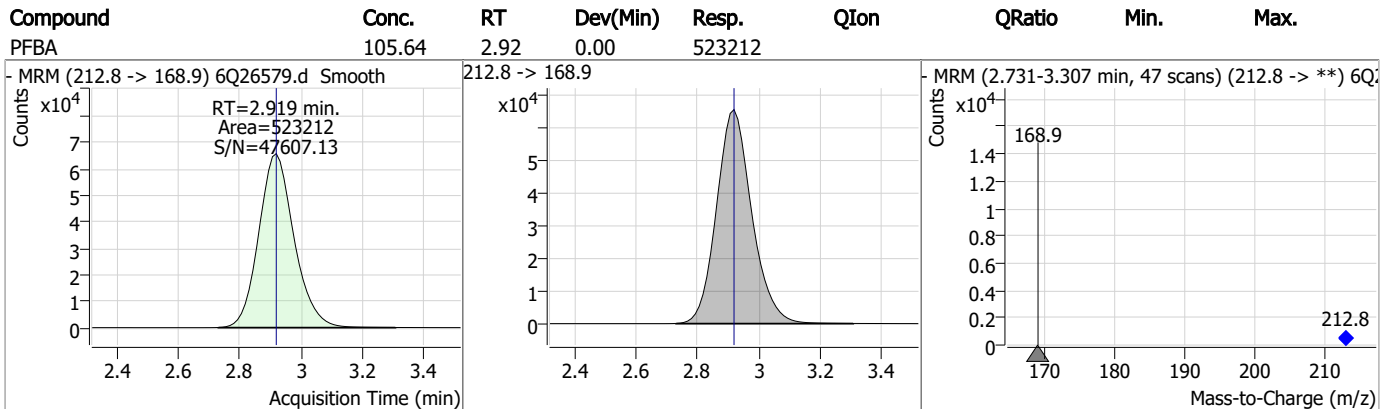
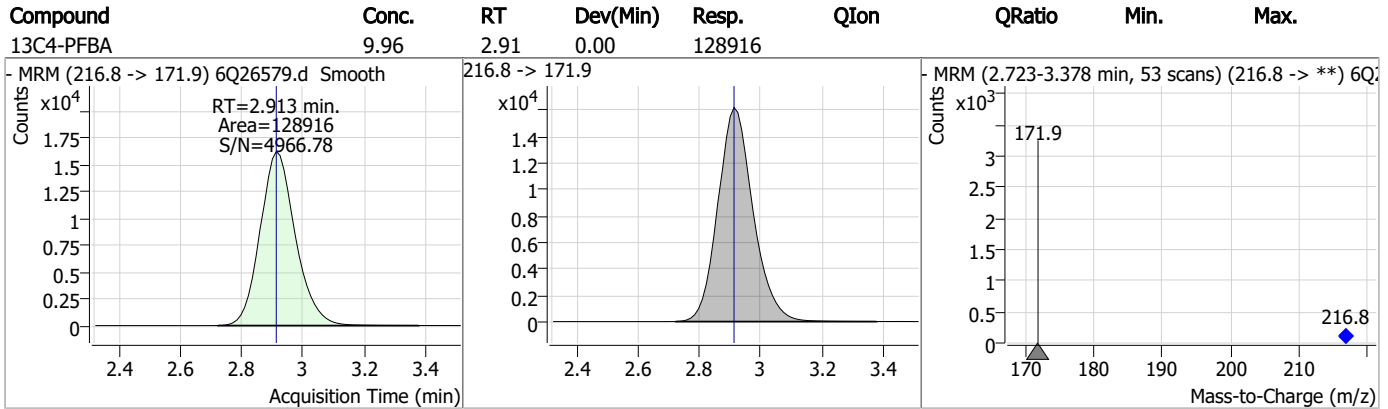
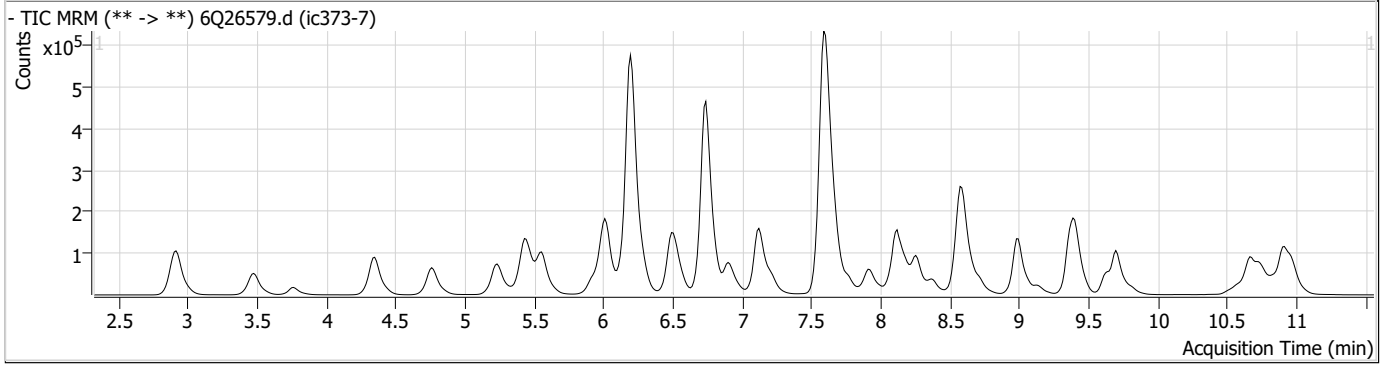
### Perfluorinated Compounds by LC/MS/MS

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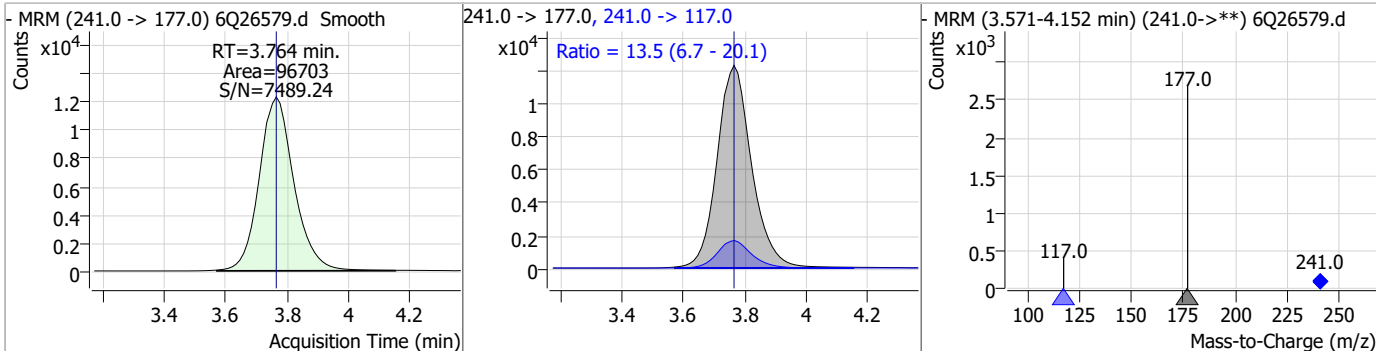
### Perfluorinated Compounds by LC/MS/MS



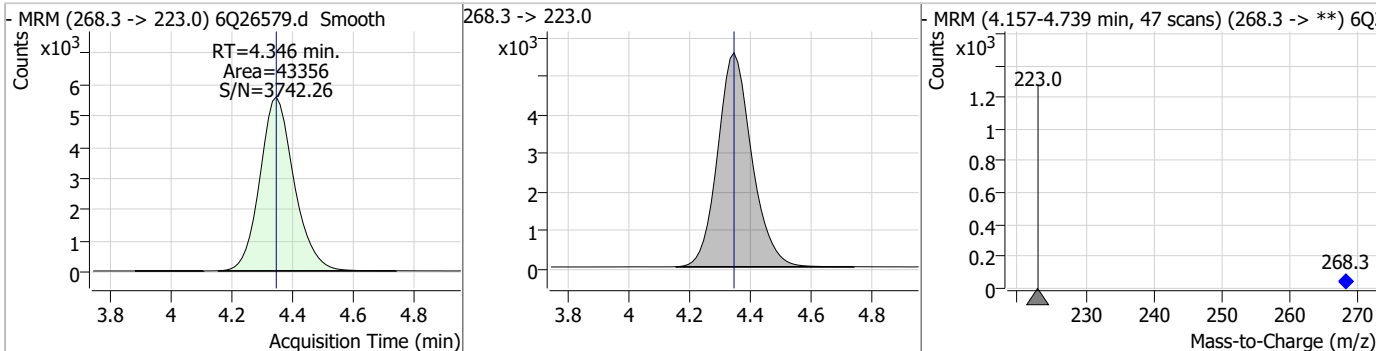
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### Perfluorinated Compounds by LC/MS/MS

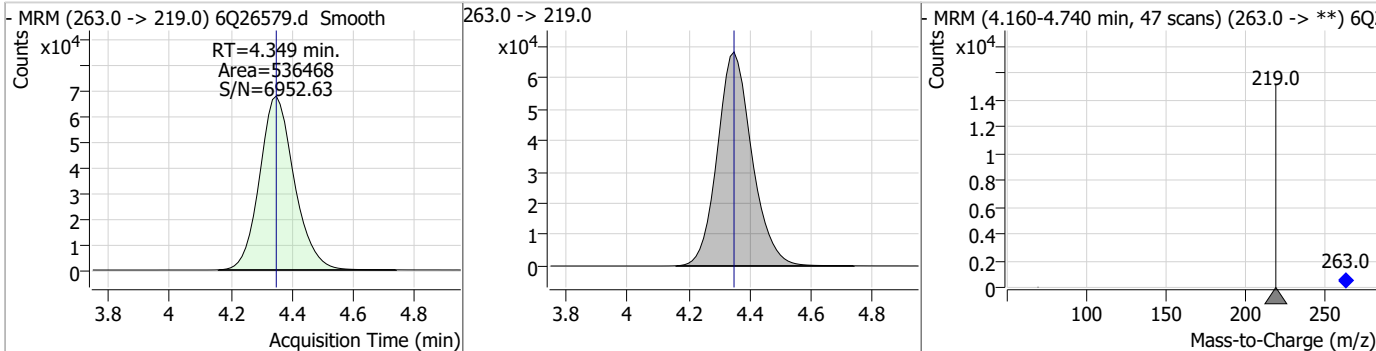
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
3:3FTCA	133.37	3.76	0.00	96703	241.0 -> 117.0	13.5	6.7	20.1



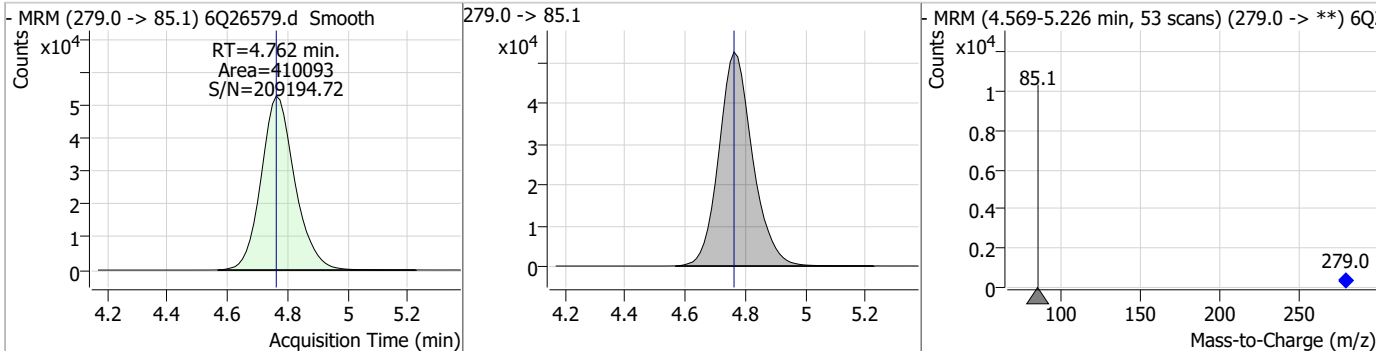
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFPeA	5.20	4.35	0.00	43356				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeA	52.44	4.35	0.00	536468				

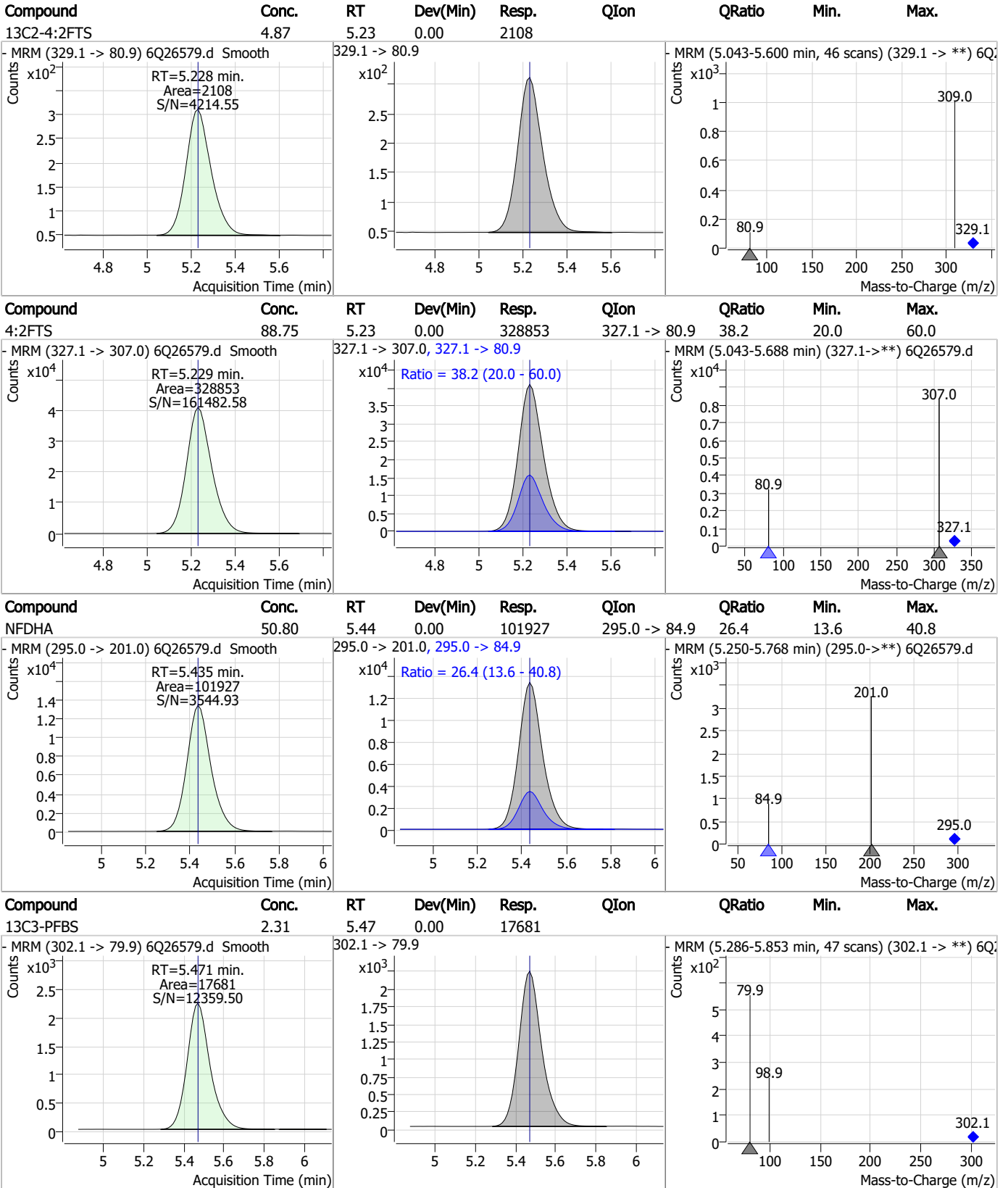


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFMBA	52.74	4.76	0.00	410093				



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### Perfluorinated Compounds by LC/MS/MS

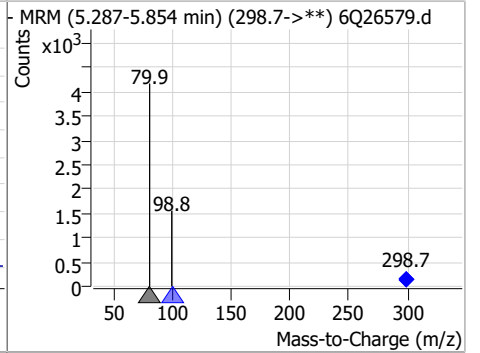
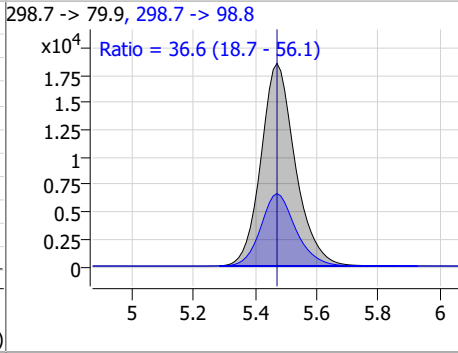
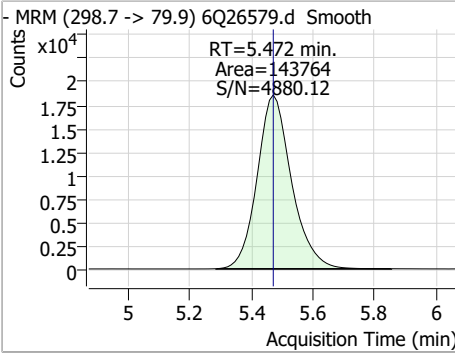


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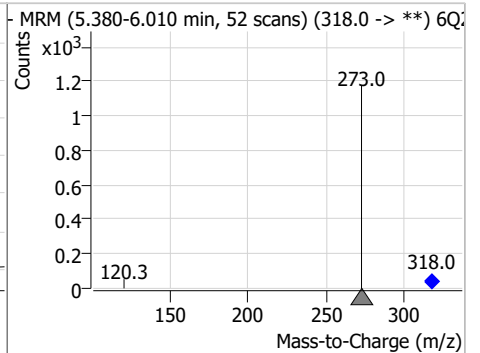
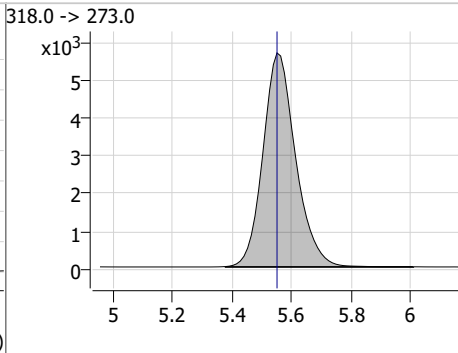
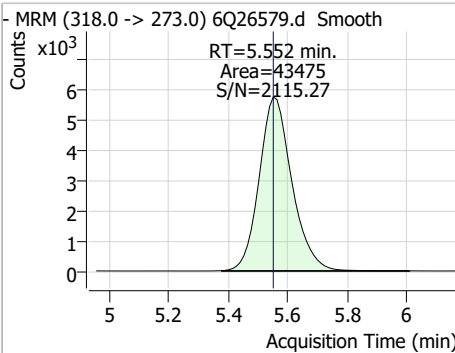
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### Perfluorinated Compounds by LC/MS/MS

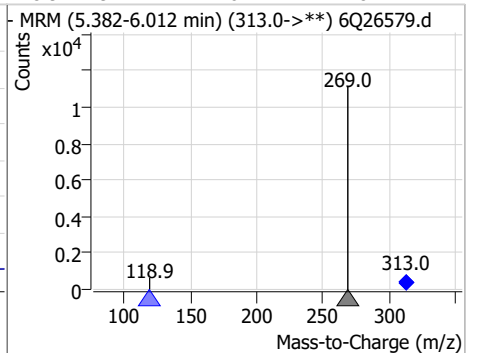
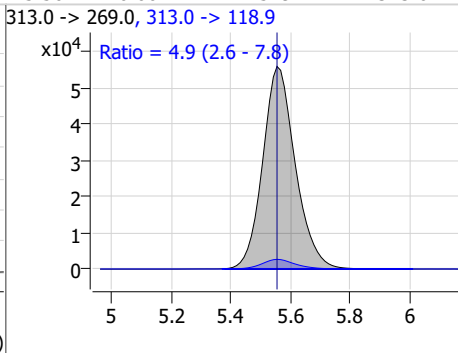
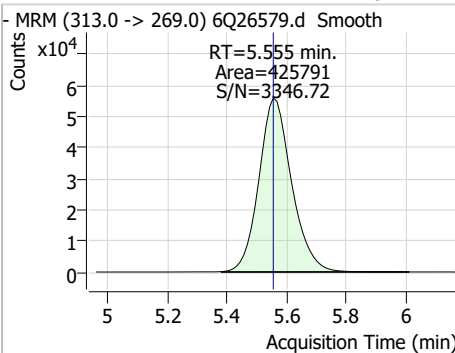
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBS	24.93	5.47	0.00	143764	298.7 -> 98.8	36.6	18.7	56.1



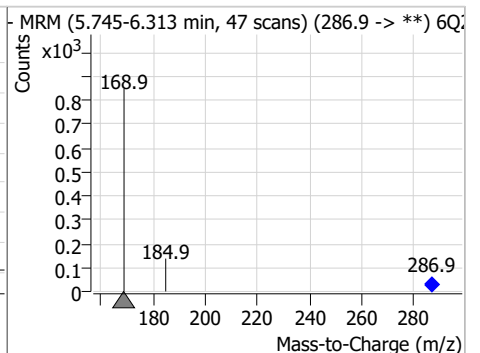
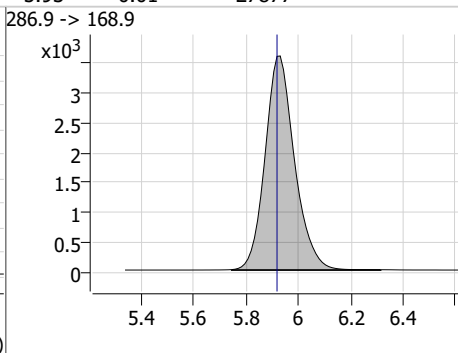
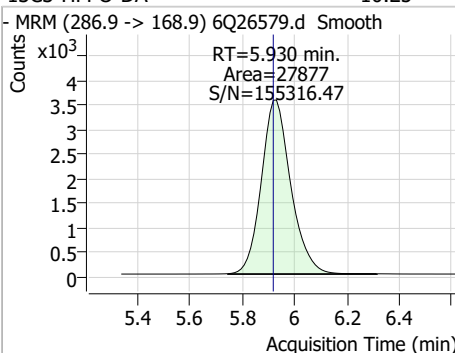
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFHxA	2.62	5.55	0.00	43475				



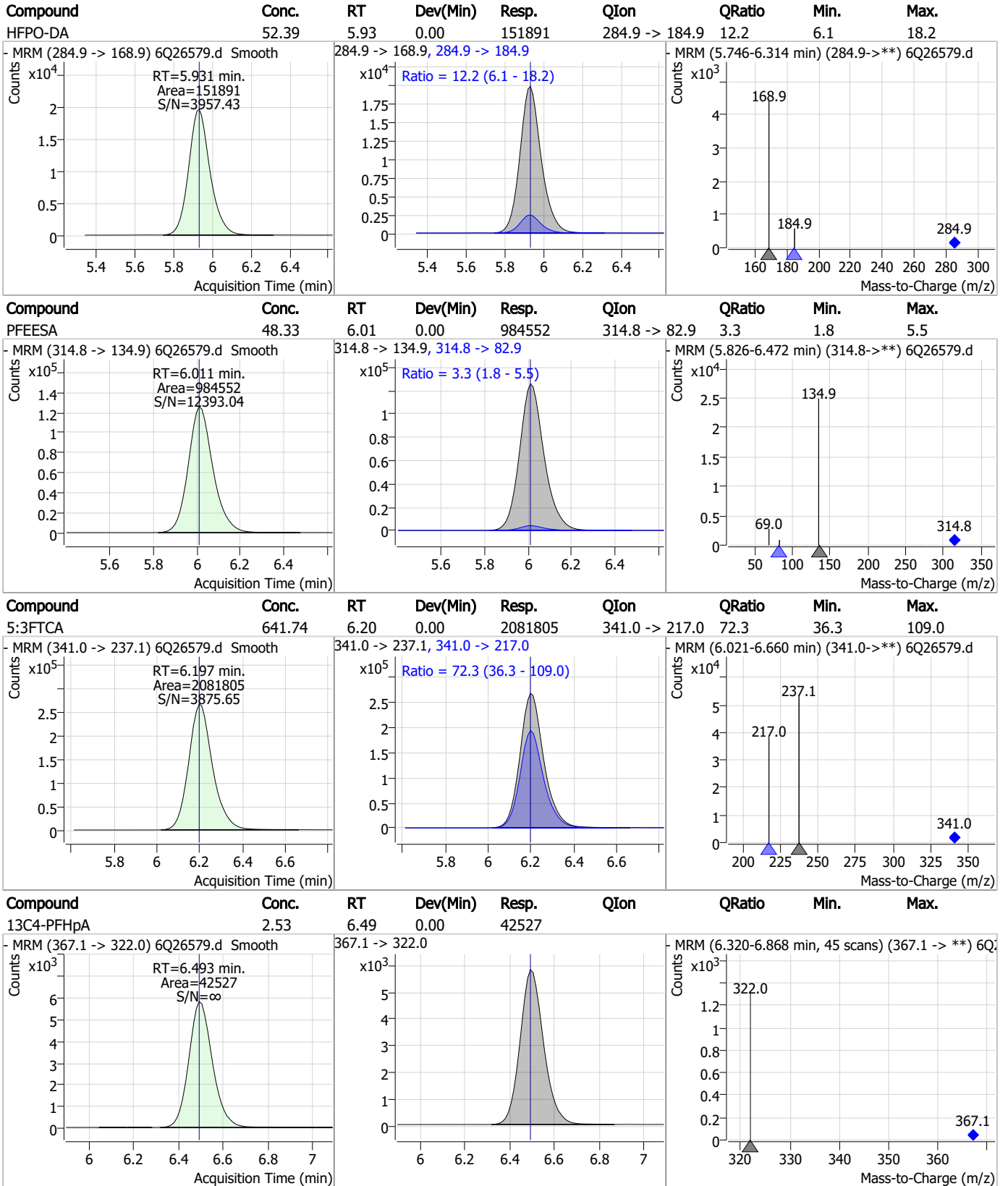
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxA	26.24	5.56	0.00	425791	313.0 -> 118.9	4.9	2.6	7.8



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-HFPO-DA	10.25	5.93	0.01	27877				



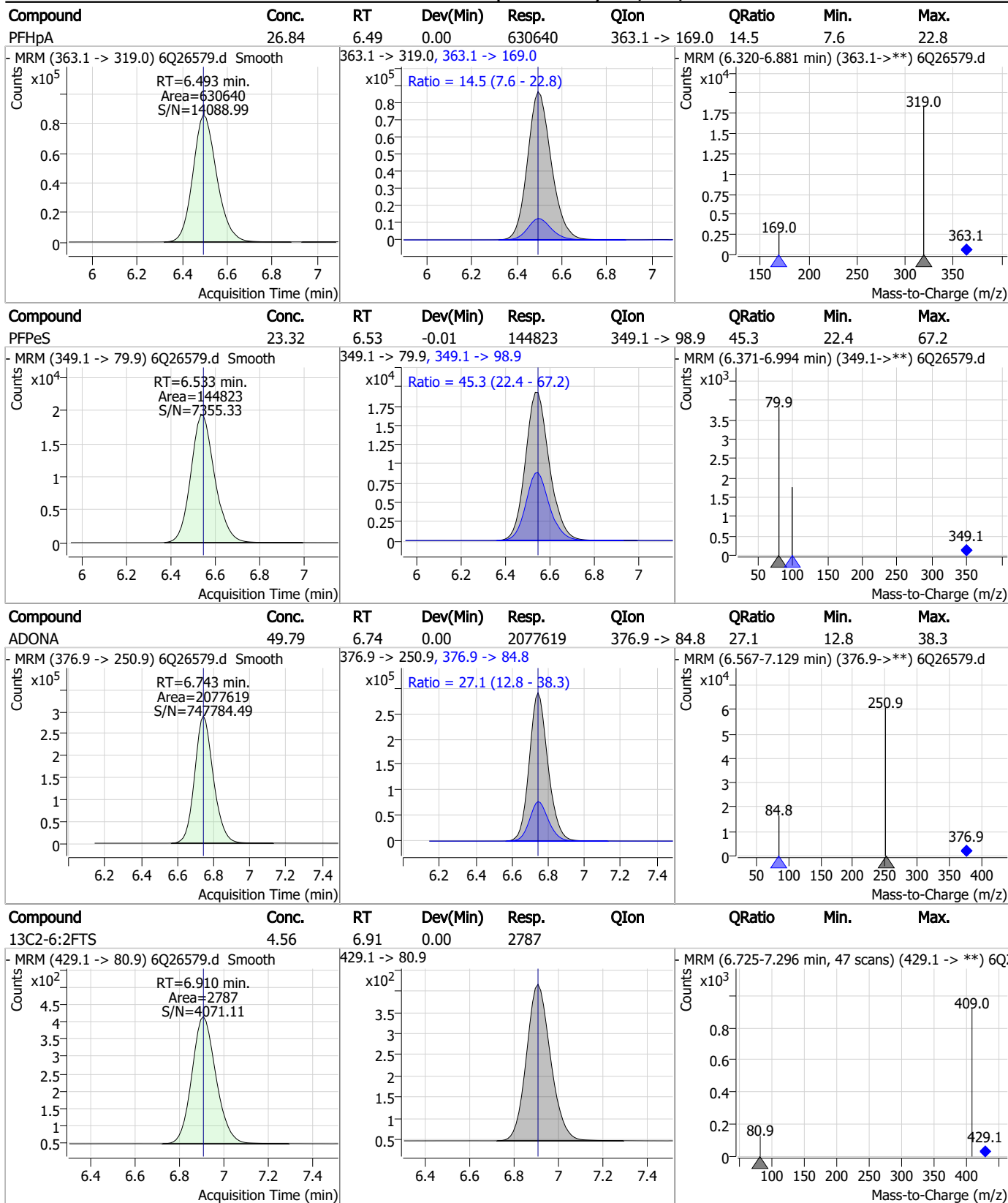
### Perfluorinated Compounds by LC/MS/MS



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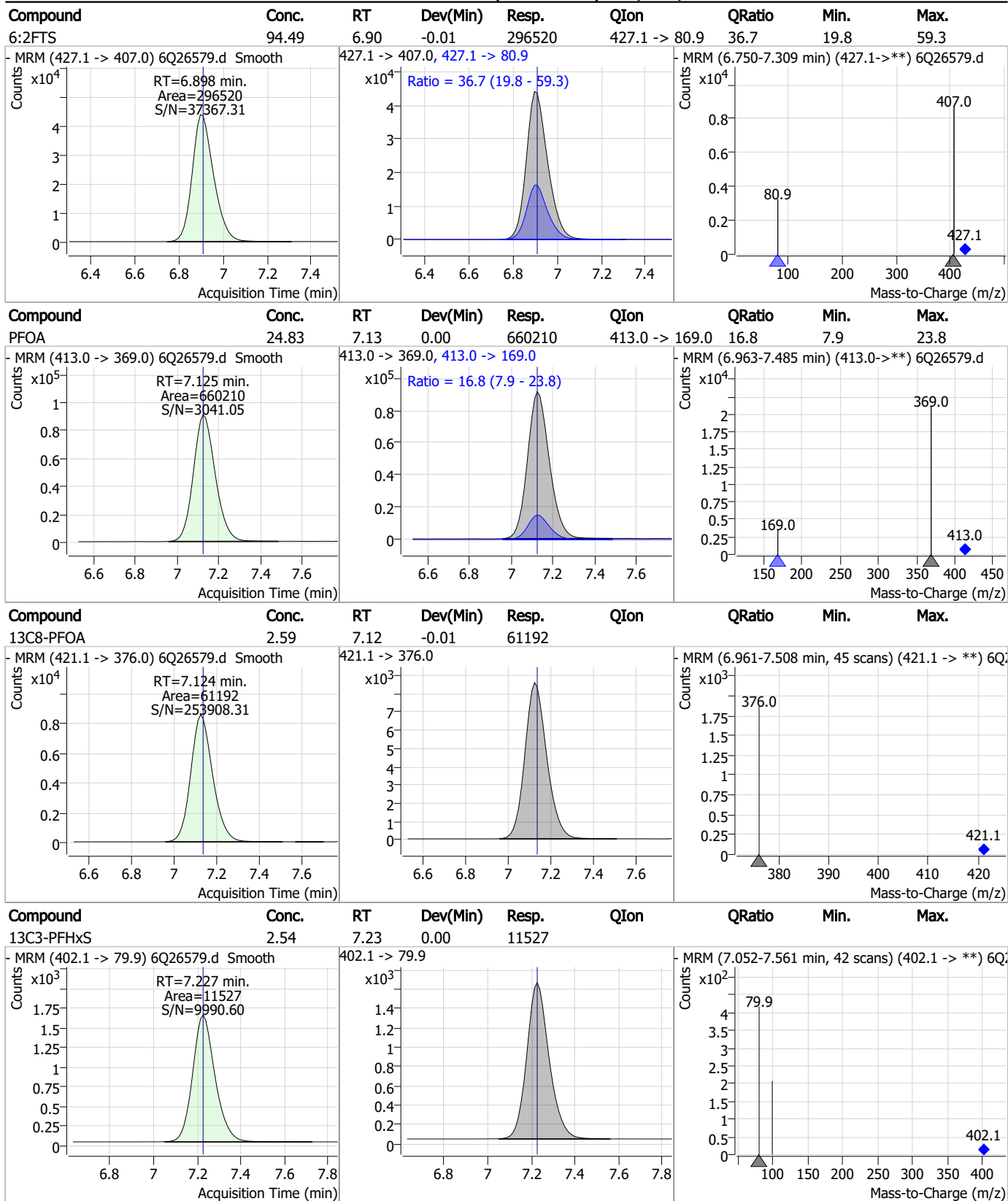


### Perfluorinated Compounds by LC/MS/MS



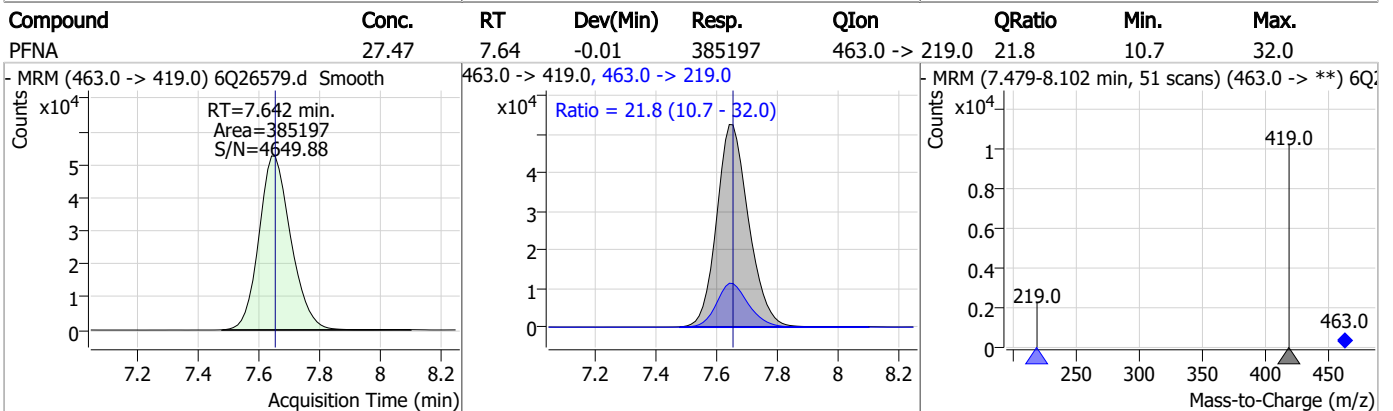
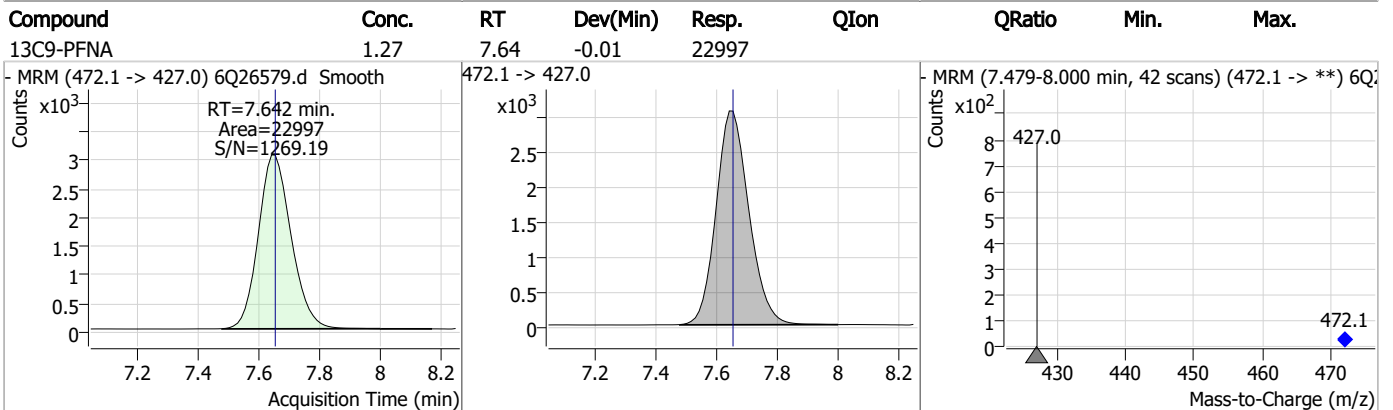
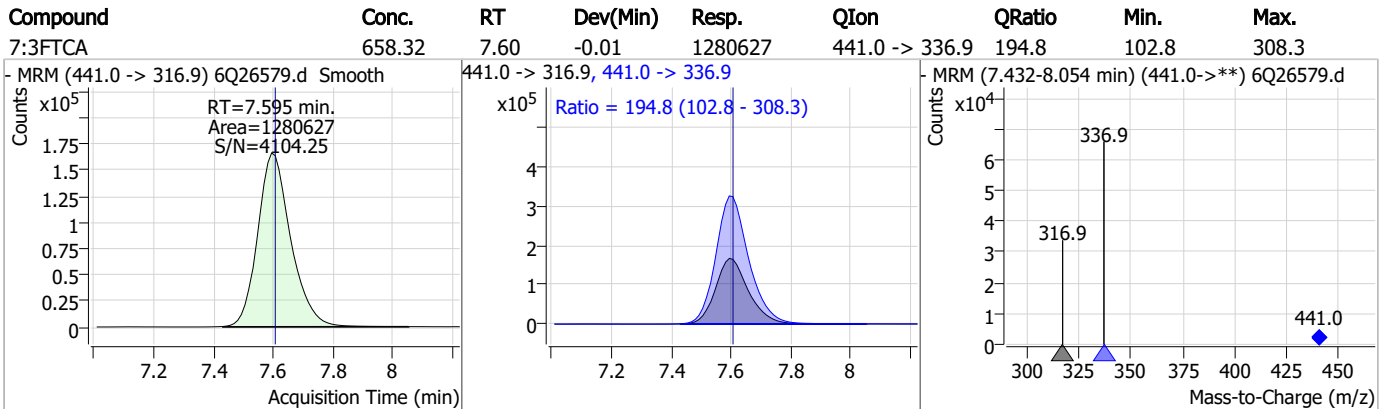
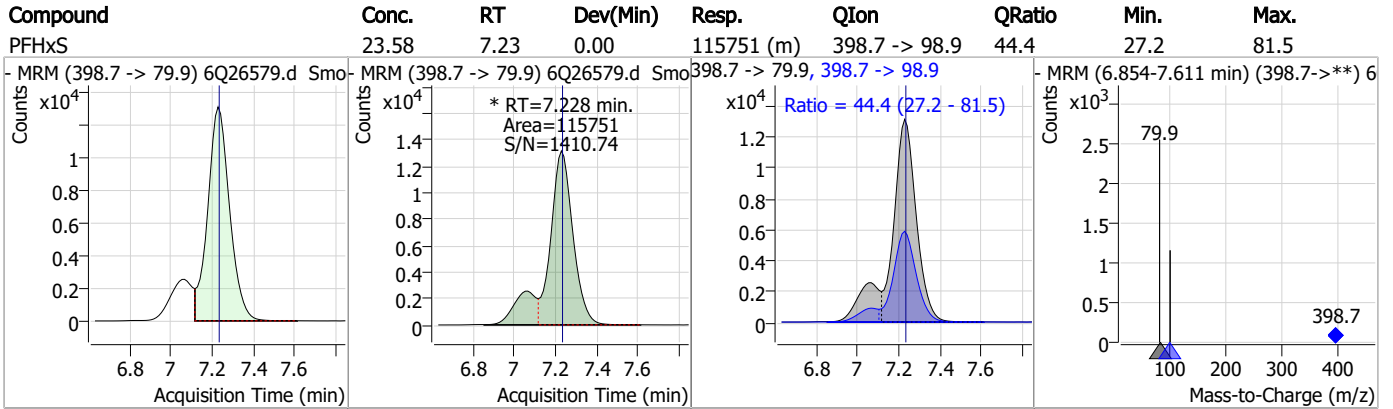
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### Perfluorinated Compounds by LC/MS/MS



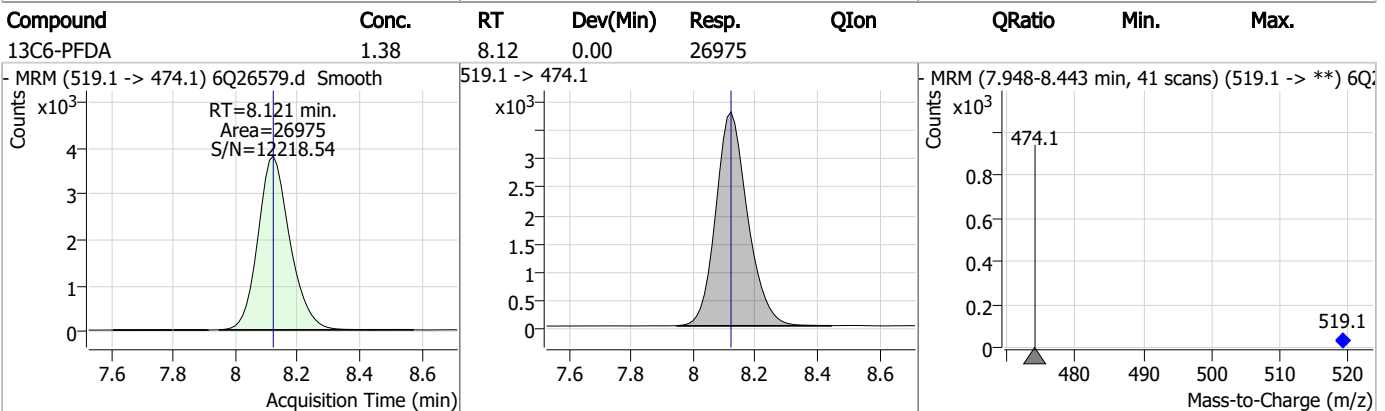
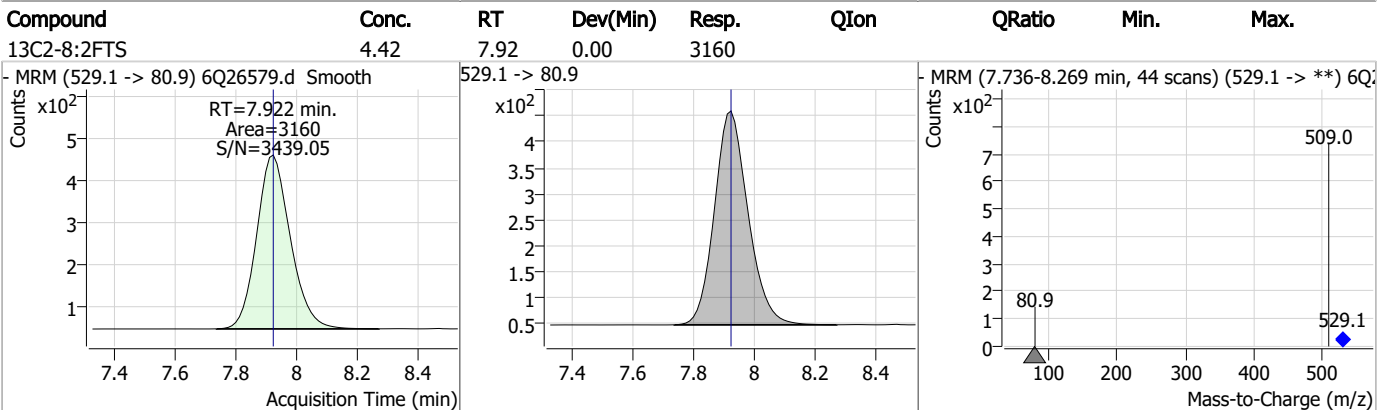
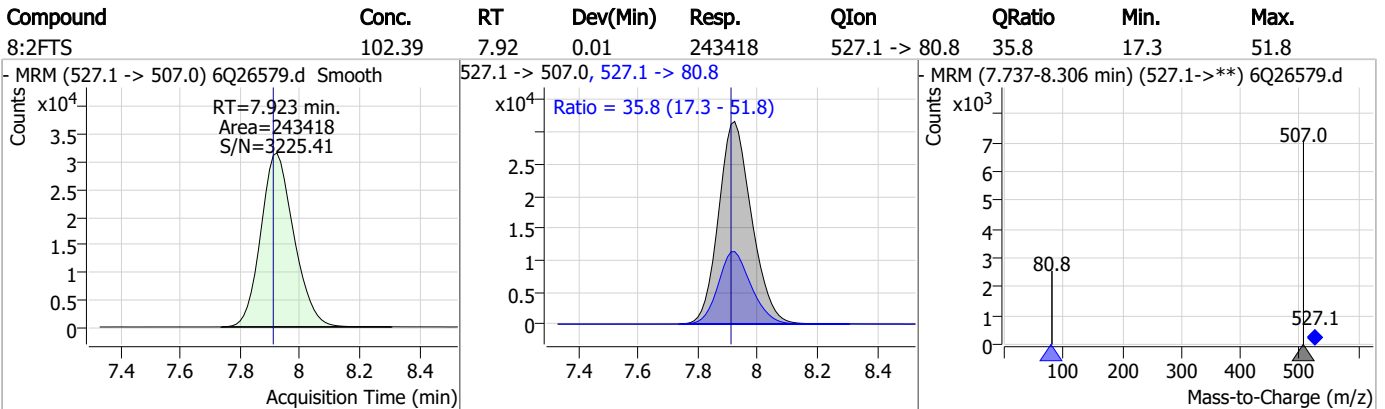
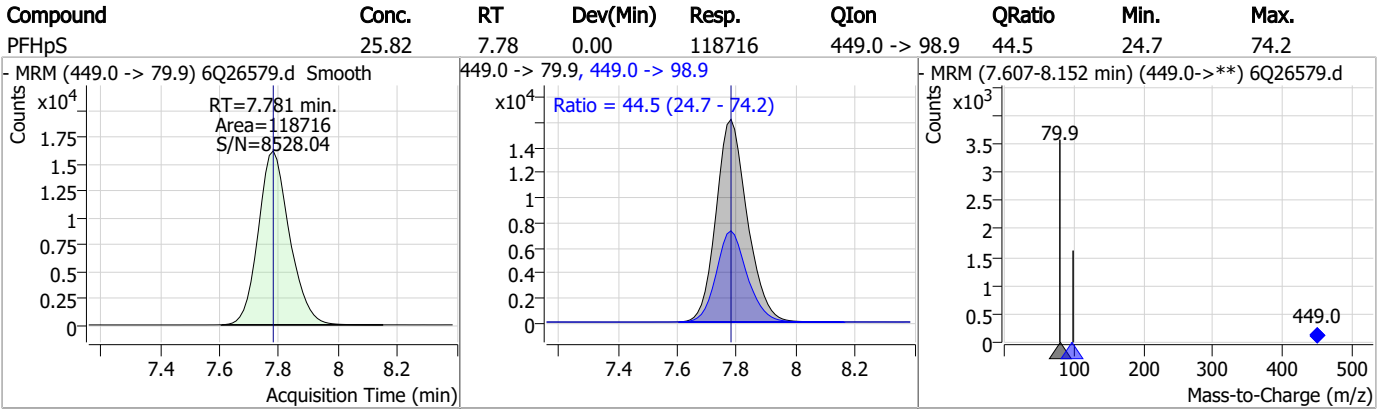
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### Perfluorinated Compounds by LC/MS/MS



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### Perfluorinated Compounds by LC/MS/MS

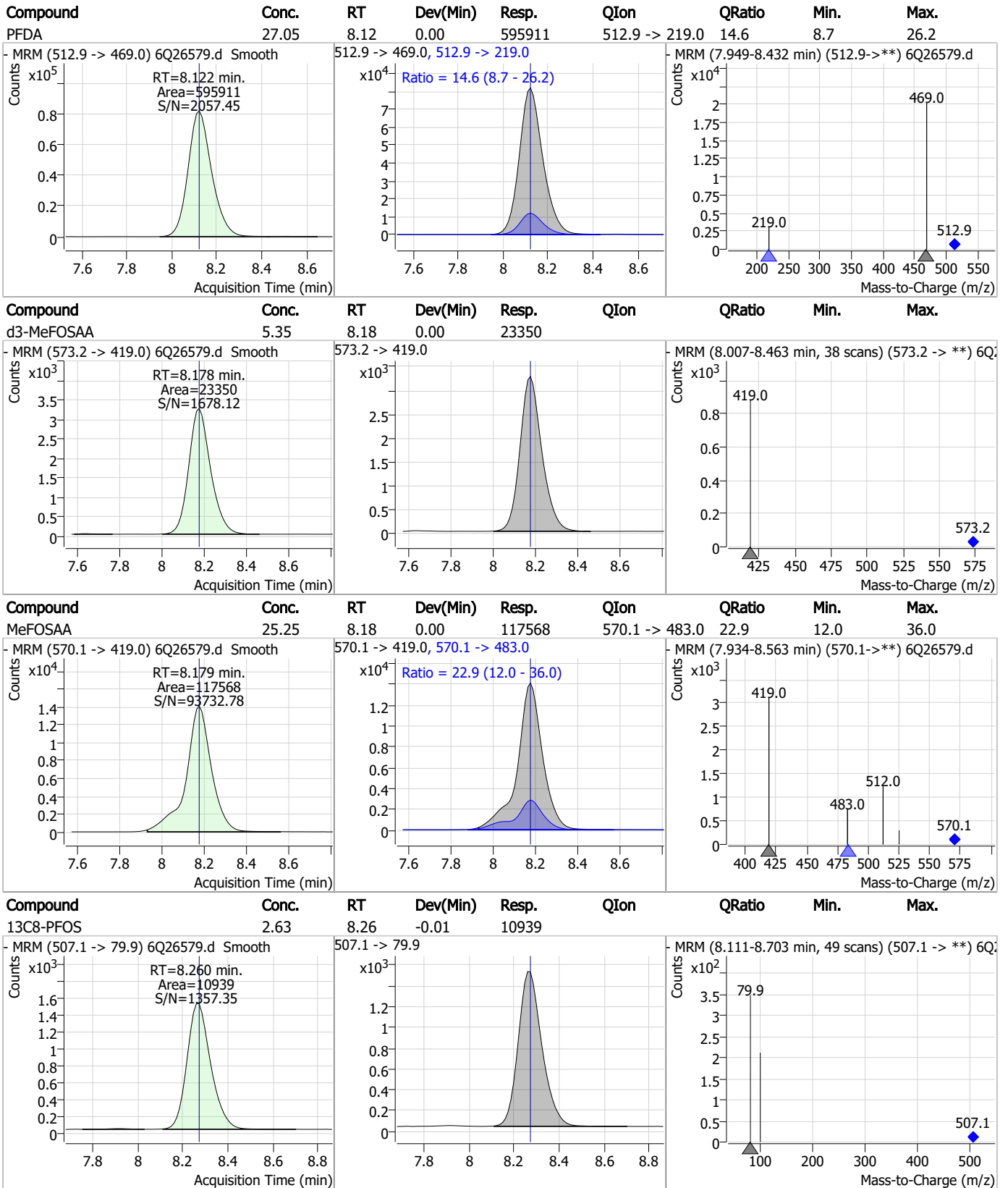


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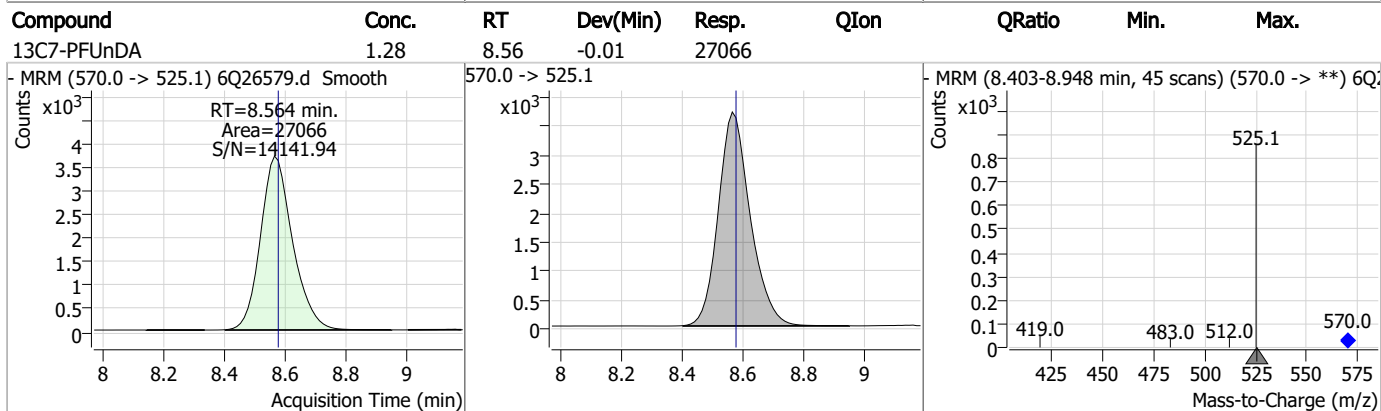
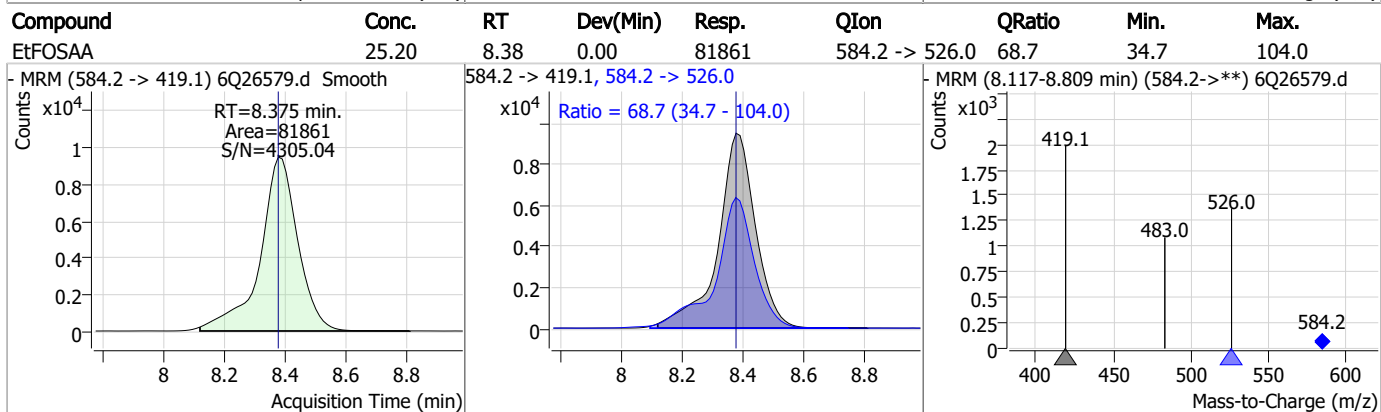
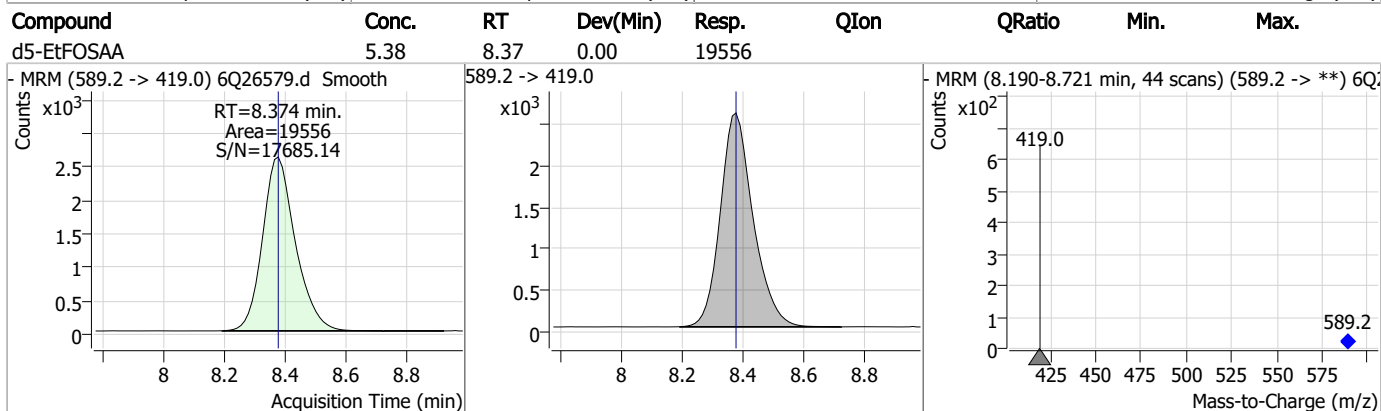
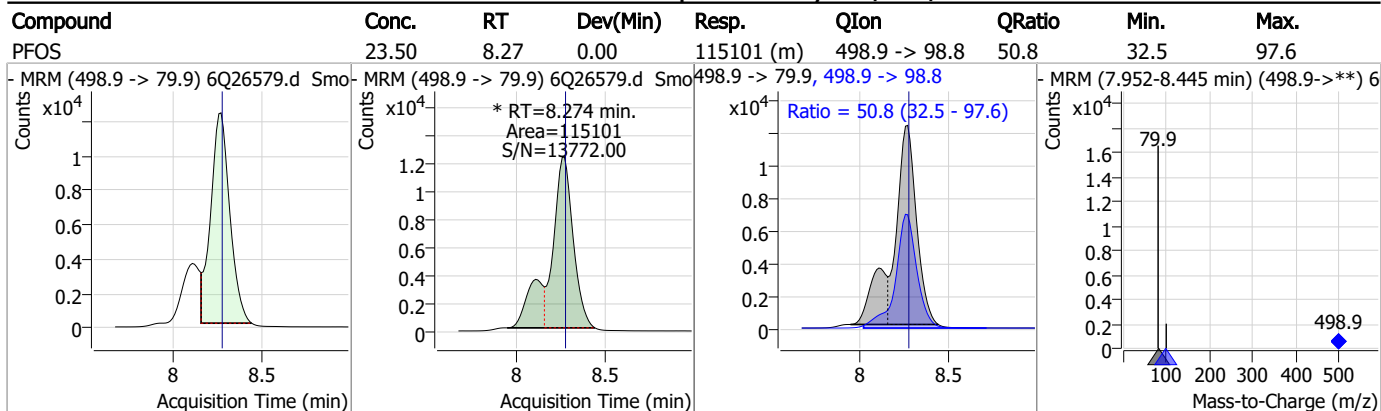
### Perfluorinated Compounds by LC/MS/MS



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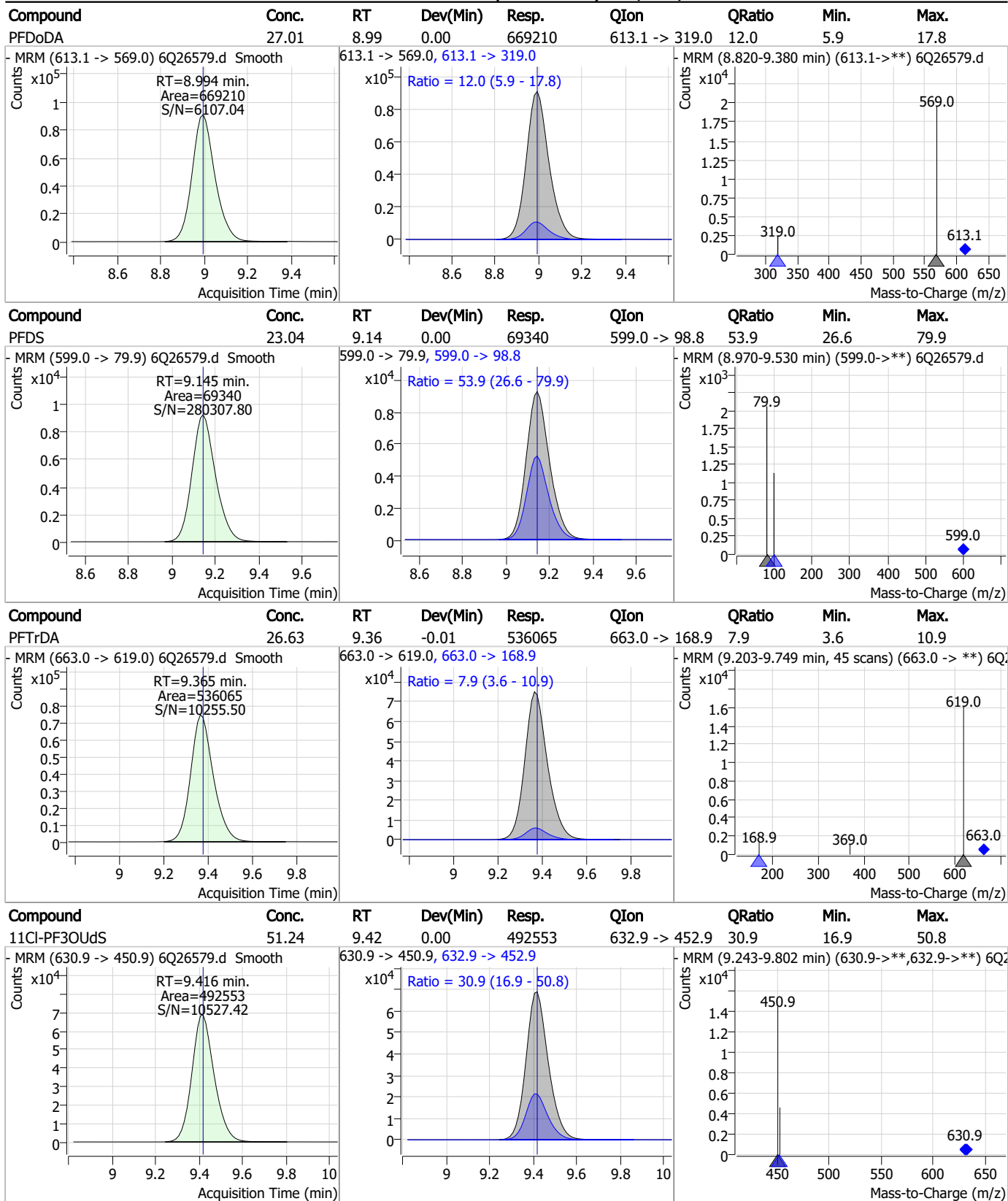
### Perfluorinated Compounds by LC/MS/MS



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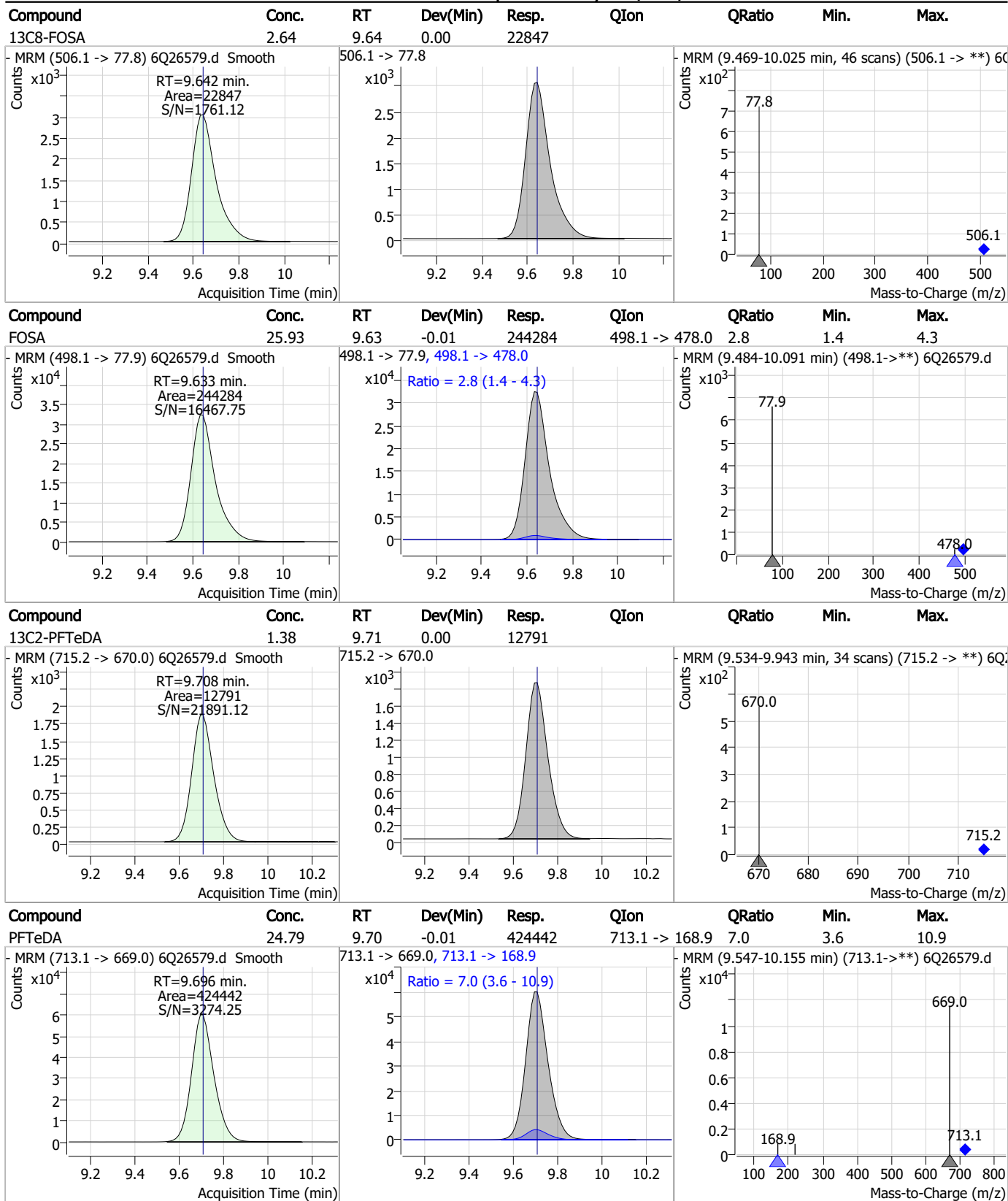
### Perfluorinated Compounds by LC/MS/MS



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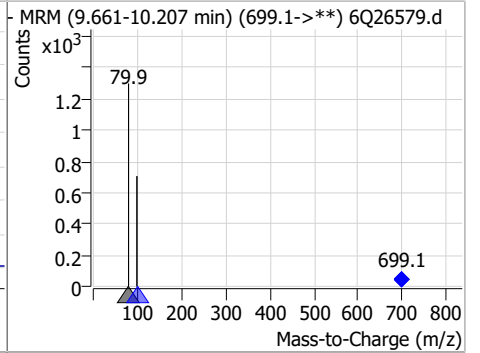
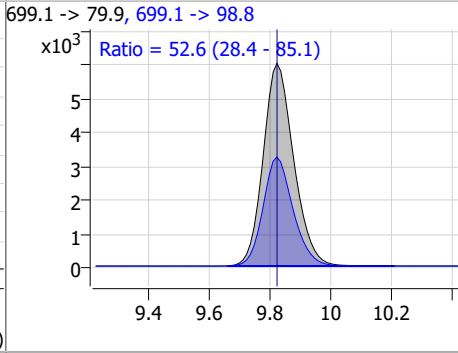
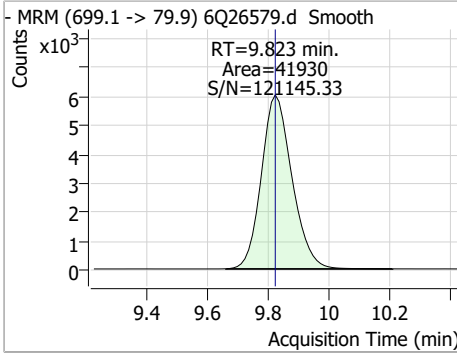
### Perfluorinated Compounds by LC/MS/MS



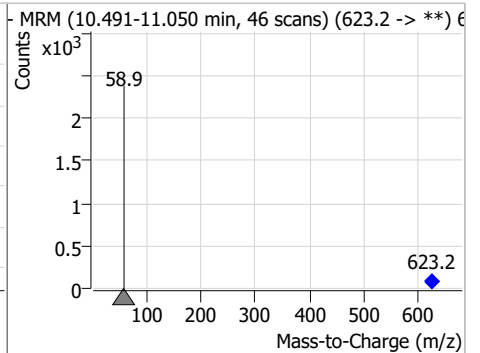
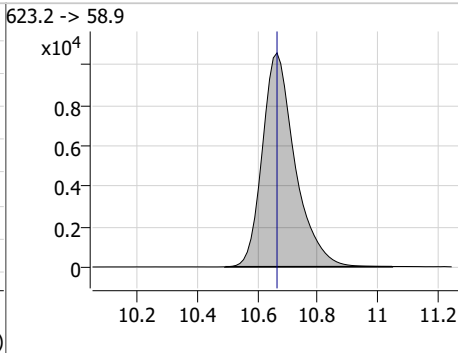
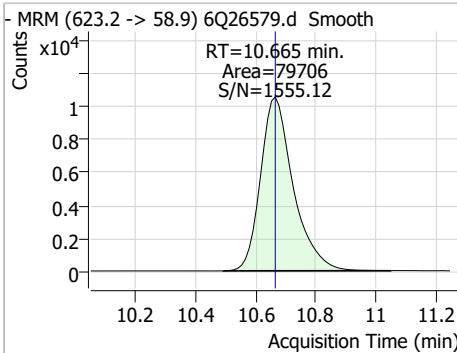
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### Perfluorinated Compounds by LC/MS/MS

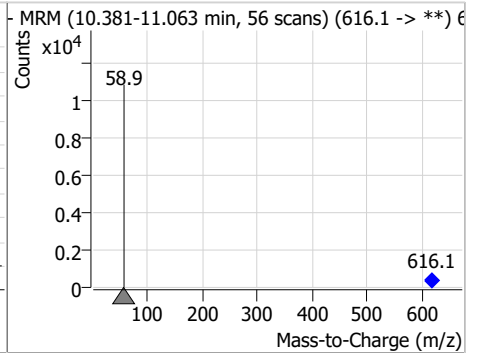
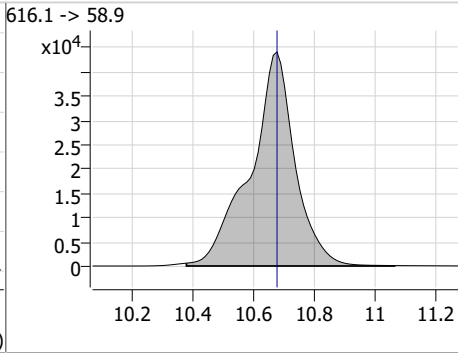
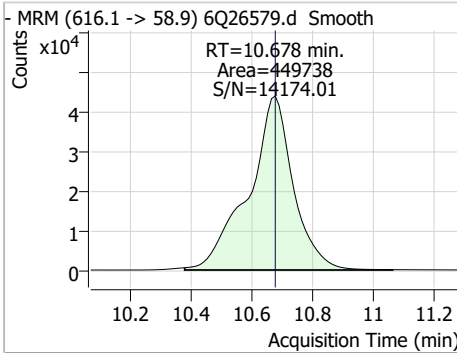
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoS	24.76	9.82	0.00	41930	699.1 -> 98.8	52.6	28.4	85.1



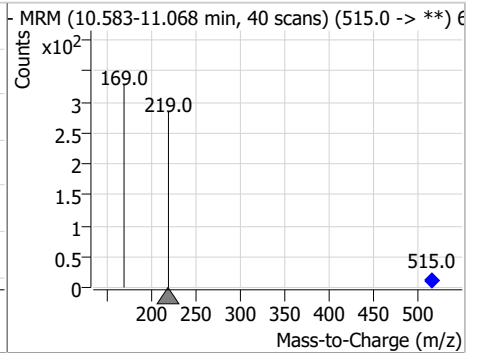
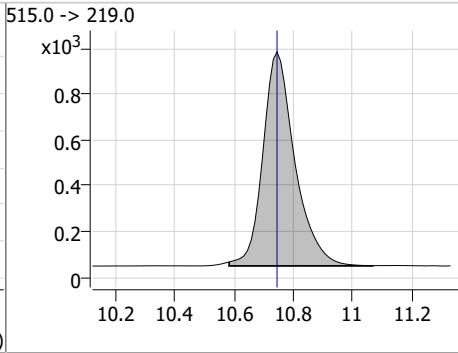
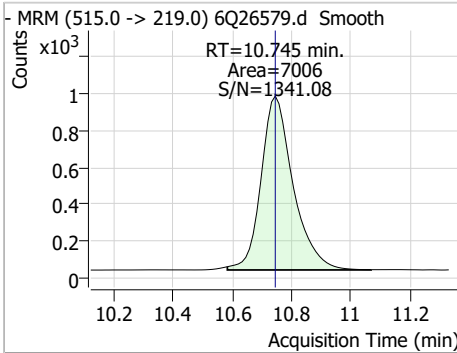
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d7-MeFOSE	26.21	10.67	0.00	79706				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSE	132.94	10.68	0.00	449738				



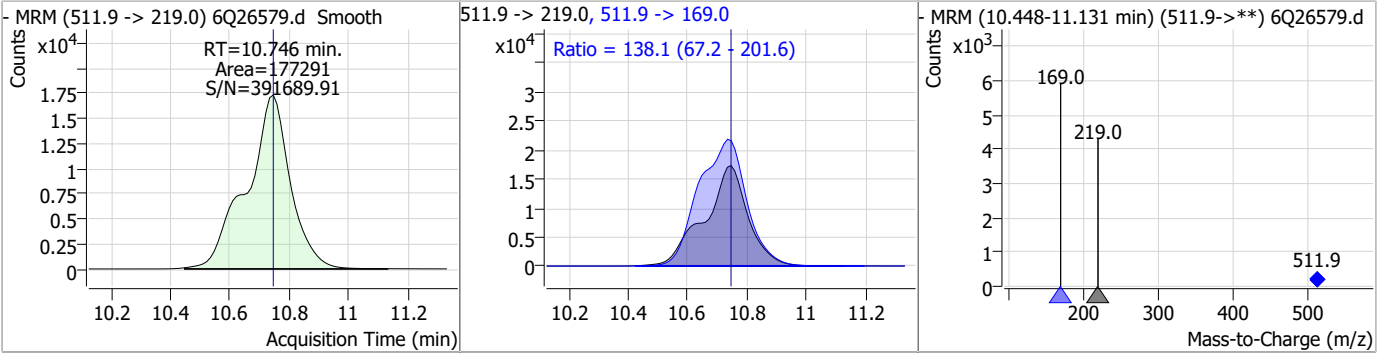
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSA	2.68	10.74	0.00	7006				



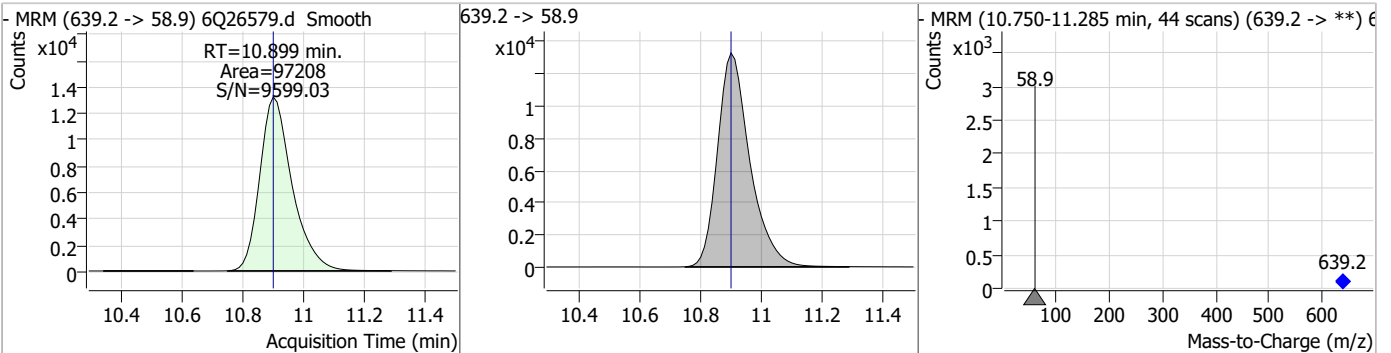
7.7.27 7

### Perfluorinated Compounds by LC/MS/MS

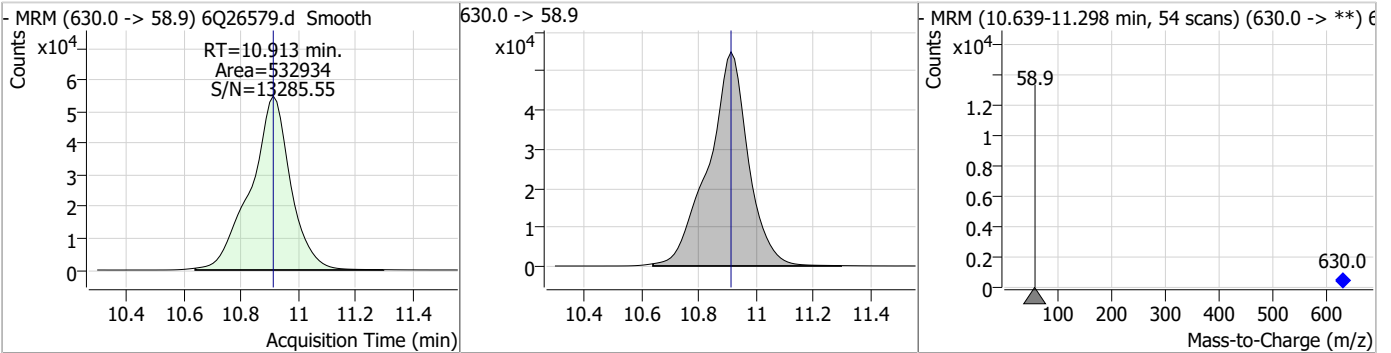
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSA	51.47	10.75	0.00	177291	511.9 -> 169.0	138.1	67.2	201.6



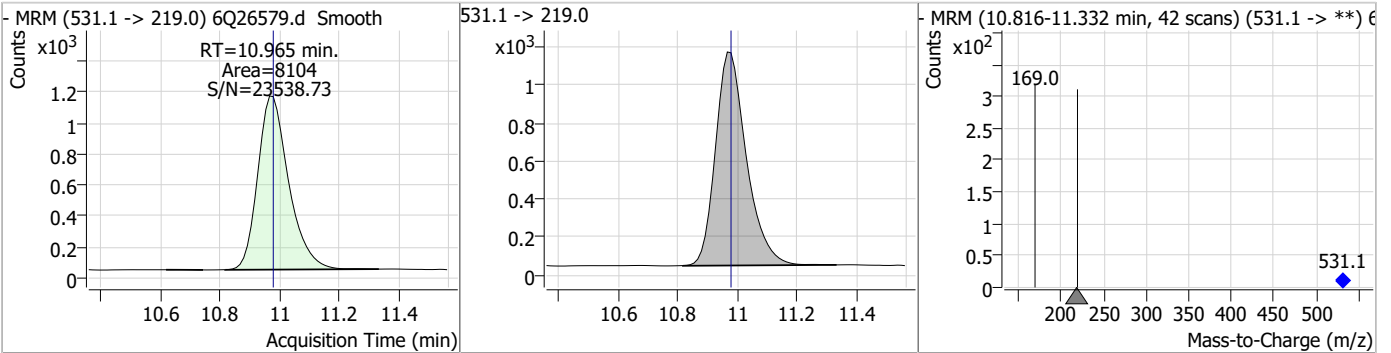
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d9-EtFOSE	25.87	10.90	0.00	97208				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSE	132.47	10.91	0.00	532934				

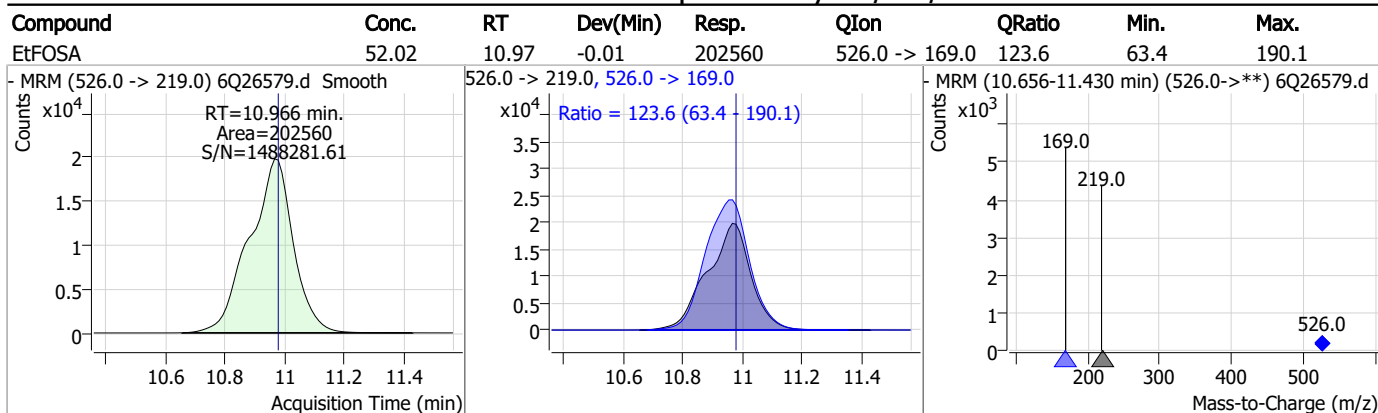


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSA	2.68	10.96	-0.01	8104				



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### Perfluorinated Compounds by LC/MS/MS



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# Manual Integration Approval Summary

Sample Number: S6Q373-IC373      Method: EPA DRAFT 1633  
Lab FileID: 6Q26579.D      Analyst approved: 10/18/23 16:28 Anna Ludwig  
Injection Time: 10/17/23 19:37      Supervisor approved: 10/19/23 09:36 Natasha Guntie

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		7.23	Split peak
Perfluorooctanesulfonic acid	1763-23-1		8.27	Split peak

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### Perfluorinated Compounds by LC/MS/MS

Data File : 6Q26580.d  
 Operator : marthav  
 Acq. Method : 1633full.m  
 Acq. Date-Time : 10/17/2023 7:52:05 PM  
 Sample Name : ic373-8  
 Vial : P1-A9  
 DA Method File : 1633\_101723\_S6Q373.quantmethod.xml  
 Batch Name : S6Q373.batch.bin  
 Sample Information : OP99081,S6Q373,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
<b>Internal Standards</b>					
M4-PFBA	2.913	216.8 -> 171.9	116941	10.00 µg/L	0.000
M5-PFPeA	4.346	268.3 -> 223.0	41188	5.00 µg/L	0.000
M5-PFHxA	5.552	318.0 -> 273.0	41029	2.50 µg/L	0.000
M4-PFHpA	6.493	367.1 -> 322.0	41106	2.50 µg/L	0.000
M8-PFOA	7.124	421.1 -> 376.0	57066	2.50 µg/L	-0.012
M9-PFNA	7.654	472.1 -> 427.0	21872	1.25 µg/L	0.000
M6-PFDA	8.121	519.1 -> 474.1	23613	1.25 µg/L	0.000
M7-PFUnDA	8.564	570.0 -> 525.1	24139	1.25 µg/L	-0.012
M2-PFDoDA	8.993	615.1 -> 570.0	34482	1.25 µg/L	0.000
M2-PFTeDA	9.708	715.2 -> 670.0	12033	1.25 µg/L	0.000
M8-FOSA	9.642	506.1 -> 77.8	21980	2.50 µg/L	0.000
M3-PFBS	5.471	302.1 -> 79.9	17703	2.50 µg/L	0.000
M3-PFHxS	7.227	402.1 -> 79.9	10531	2.50 µg/L	0.000
M8-PFOS	8.272	507.1 -> 79.9	10326	2.50 µg/L	0.000
M2-4:2FTS	5.228	329.1 -> 80.9	1747	5.00 µg/L	0.000
M2-6:2FTS	6.910	429.1 -> 80.9	2527	5.00 µg/L	0.000
M2-8:2FTS	7.922	529.1 -> 80.9	3448	5.00 µg/L	0.000
M3-MeFOSAA	8.178	573.2 -> 419.0	21520	5.00 µg/L	0.000
M3-HFPO-DA	5.930	286.9 -> 168.9	28499	10.00 µg/L	0.012
M5-EtFOSAA	8.374	589.2 -> 419.0	17051	5.00 µg/L	0.000
M7-MeFOSE	10.665	623.2 -> 58.9	76538	25.00 µg/L	0.000
M9-EtFOSE	10.899	639.2 -> 58.9	93964	25.00 µg/L	0.000
M5-EtFOSA	10.977	531.1 -> 219.0	7800	2.50 µg/L	0.000
M3-MeFOSA	10.745	515.0 -> 219.0	7522	2.50 µg/L	0.000
13C4-PFOS	8.273	502.8 -> 79.9	9813	2.50 µg/L	0.000
13C3-PFBA	2.916	216.0 -> 172.0	47762	5.00 µg/L	0.000
18O2-PFHxS	7.226	403.0 -> 83.9	6732	2.50 µg/L	0.000
13C4-PFOA	7.125	417.1 -> 372.0	65742	2.50 µg/L	0.000
13C2-PFDA	8.122	515.1 -> 470.1	25309	1.25 µg/L	0.000
13C5-PFNA	7.654	468.0 -> 423.0	20820	1.25 µg/L	0.000
13C2-PFHxA	5.553	315.1 -> 270.0	43283	2.50 µg/L	0.000
<b>System Monitoring Compounds</b>					
13C2-4:2FTS	5.228	329.1 -> 80.9	1747	4.15 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 83.1%		
13C2-6:2FTS	6.910	429.1 -> 80.9	2527	4.26 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 85.1%		
13C2-8:2FTS	7.922	529.1 -> 80.9	3448	4.96 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 99.2%		
13C2-PFDoDA	8.993	615.1 -> 570.0	34482	1.26 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 100.9%		
13C2-PFTeDA	9.708	715.2 -> 670.0	12033	1.17 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 93.9%		
13C3-PFBS	5.471	302.1 -> 79.9	17703	2.38 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 95.0%		
13C3-PFHxS	7.227	402.1 -> 79.9	10531	2.39 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 = 95.6%	
13C4-PFBA	2.913	216.8 -> 171.9	116941	9.94 µg/L	0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 99.4%	
13C4-PFHpA	6.493	367.1 -> 322.0	41106	2.34 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 93.7%	
13C5-PFHxA	5.552	318.0 -> 273.0	41029	2.37 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 94.6%	
13C5-PFPeA	4.346	268.3 -> 223.0	41188	4.72 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 94.5%	
13C6-PFDA	8.121	519.1 -> 474.1	23613	1.09 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 87.6%	
13C7-PFUnDA	8.564	570.0 -> 525.1	24139	1.03 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 82.6%	
13C8-FOSA	9.642	506.1 -> 77.8	21980	2.44 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 97.4%	
13C8-PFOA	7.124	421.1 -> 376.0	57066	2.43 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 97.1%	
13C8-PFOS	8.272	507.1 -> 79.9	10326	2.38 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 95.2%	
13C9-PFNA	7.654	472.1 -> 427.0	21872	1.22 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 97.8%	
d3-MeFOSAA	8.178	573.2 -> 419.0	21520	4.73 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 94.6%	
13C3-HFPO-DA	5.930	286.9 -> 168.9	28499	10.01 µg/L	0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 100.1%	
d3-MeFOSA	10.745	515.0 -> 219.0	7522	2.76 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 110.3%	
d5-EtFOSAA	8.374	589.2 -> 419.0	17051	4.50 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 90.0%	
d7-MeFOSE	10.665	623.2 -> 58.9	76538	24.12 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 96.5%	
d9-EtFOSE	10.899	639.2 -> 58.9	93964	23.96 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 95.8%	
d5-EtFOSA	10.977	531.1 -> 219.0	7800	2.47 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 98.8%	
<b>Target Compounds</b>					<b>QValue</b>
4:2FTS	5.229	327.1 -> 307.0	716106	233.29 µg/L	94
		327.1 -> 80.9	260162		
6:2FTS	6.911	427.1 -> 407.0	616225	216.51 µg/L	95
		427.1 -> 80.9	225114		
8:2FTS	7.923	527.1 -> 507.0	517700	199.54 µg/L	99
		527.1 -> 80.8	181104		
EtFOSAA	8.375	584.2 -> 419.1	195545	69.04 µg/L	100
		584.2 -> 526.0	135172		
FOSA	9.645	498.1 -> 77.9	587437	64.81 µg/L	100
		498.1 -> 478.0	16923		
MeFOSAA	8.179	570.1 -> 419.0	267515	62.33 µg/L	96
		570.1 -> 483.0	58962		
PFBA	2.919	212.8 -> 168.9	1158303	257.83 µg/L	100
PFBS	5.472	298.7 -> 79.9	314152	54.42 µg/L	97
		298.7 -> 98.8	122856		
PFDA	8.122	512.9 -> 469.0	1223732	63.45 µg/L	99
		512.9 -> 219.0	216782		
PFDoDA	8.994	613.1 -> 569.0	1582448	58.49 µg/L	98
		613.1 -> 319.0	174637		
PFDS	9.145	599.0 -> 79.9	179430	63.16 µg/L	90

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Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
		599.0 -> 98.8	83068			
PFHpA	6.493	363.1 -> 319.0	1453409	63.99	µg/L	99
		363.1 -> 169.0	215701			
PFHpS	7.781	449.0 -> 79.9	285589	65.80	µg/L	96
		449.0 -> 98.9	133676			
PFHxA	5.555	313.0 -> 269.0	1003720	65.54	µg/L	99
		313.0 -> 118.9	47935			
PFHxS	7.228	398.7 -> 79.9	275351	61.40	µg/L	m 87
		398.7 -> 98.9	123945			
PFNA	7.655	463.0 -> 419.0	851859	63.87	µg/L	95
		463.0 -> 219.0	201439			
PFNS	8.726	548.8 -> 79.9	239806	61.13	µg/L	92
		548.8 -> 98.9	123284			
PFOA	7.138	413.0 -> 369.0	1522772	61.42	µg/L	94
		413.0 -> 169.0	278435			
PFOS	8.274	498.9 -> 79.9	292425	63.24	µg/L	m 81
		498.9 -> 98.8	146552			
PFPeA	4.349	263.0 -> 219.0	1228602	126.41	µg/L	100
PFPeS	6.545	349.1 -> 79.9	340153	59.95	µg/L	97
		349.1 -> 98.9	158229			
PFTeDA	9.708	713.1 -> 669.0	996928	61.90	µg/L	100
		713.1 -> 168.9	73074			
PFTrDA	9.365	663.0 -> 619.0	1201758	54.66	µg/L	99
		663.0 -> 168.9	91532			
PFUnDA	8.564	563.1 -> 519.0	1266480	66.89	µg/L	100
		563.1 -> 269.1	183935			
11CI-PF3OUdS	9.416	630.9 -> 450.9	1119878	113.96	µg/L	97
		632.9 -> 452.9	358701			
9CI-PF3ONS	8.603	530.8 -> 351.0	1887618	112.97	µg/L	95
		532.8 -> 353.0	592612			
ADONA	6.743	376.9 -> 250.9	4803550	112.60	µg/L	96
		376.9 -> 84.8	1311823			
HFPO-DA	5.931	284.9 -> 168.9	374114	126.22	µg/L	98
		284.9 -> 184.9	42019			
3:3FTCA	3.764	241.0 -> 177.0	236548	359.64	µg/L	100
		241.0 -> 117.0	31964			
5:3FTCA	6.197	341.0 -> 237.1	4920101	1607.11	µg/L	98
		341.0 -> 217.0	3494120			
7:3FTCA	7.607	441.0 -> 316.9	2805926	1528.41	µg/L	99
		441.0 -> 336.9	5791509			
EtFOSA	10.966	526.0 -> 219.0	466434	124.46	µg/L	94
		526.0 -> 169.0	620475			
EtFOSE	10.913	630.0 -> 58.9	1227804	315.73	µg/L	100
MeFOSA	10.746	511.9 -> 219.0	429901	116.25	µg/L	100
		511.9 -> 169.0	577687			
MeFOSE	10.678	616.1 -> 58.9	1085349	334.11	µg/L	100
PFDoS	9.823	699.1 -> 79.9	98650	61.71	µg/L	96
		699.1 -> 98.8	53068			
NFDHA	5.435	295.0 -> 201.0	225122	118.90	µg/L	100
		295.0 -> 84.9	61367			
PFMBA	4.762	279.0 -> 85.1	950445	128.67	µg/L	100
PFMPA	3.475	229.0 -> 84.9	774097	127.70	µg/L	100
PFEESA	6.011	314.8 -> 134.9	2193220	114.08	µg/L	99
		314.8 -> 82.9	72842			

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





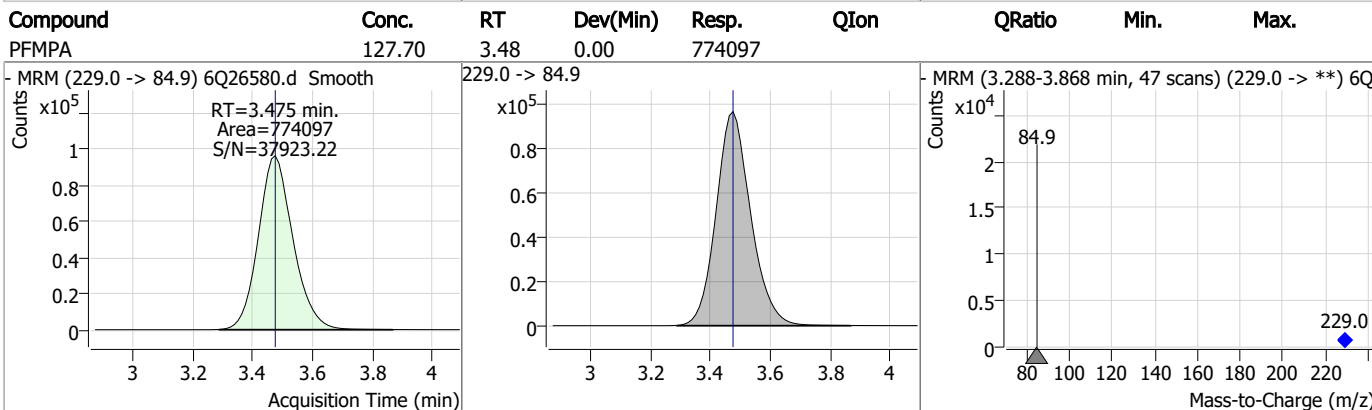
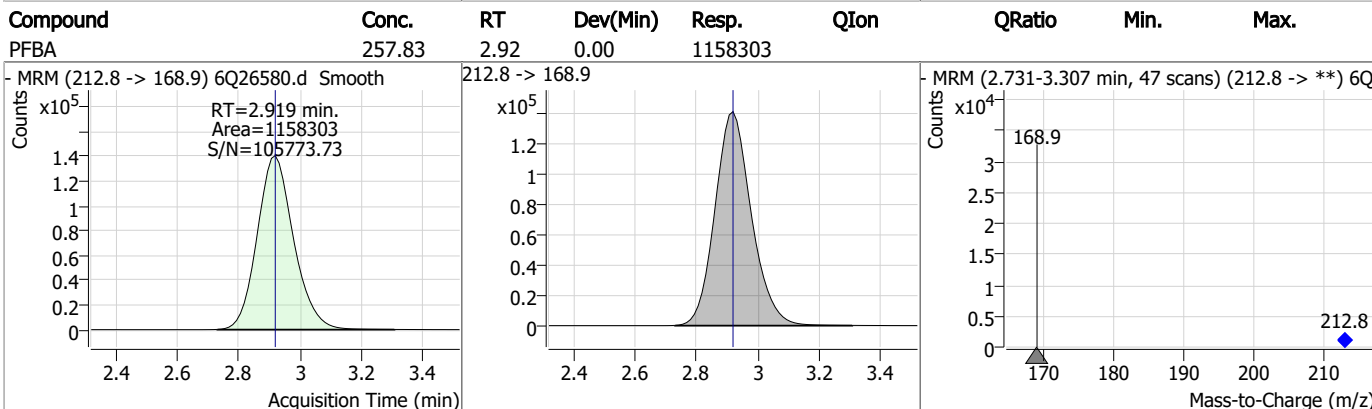
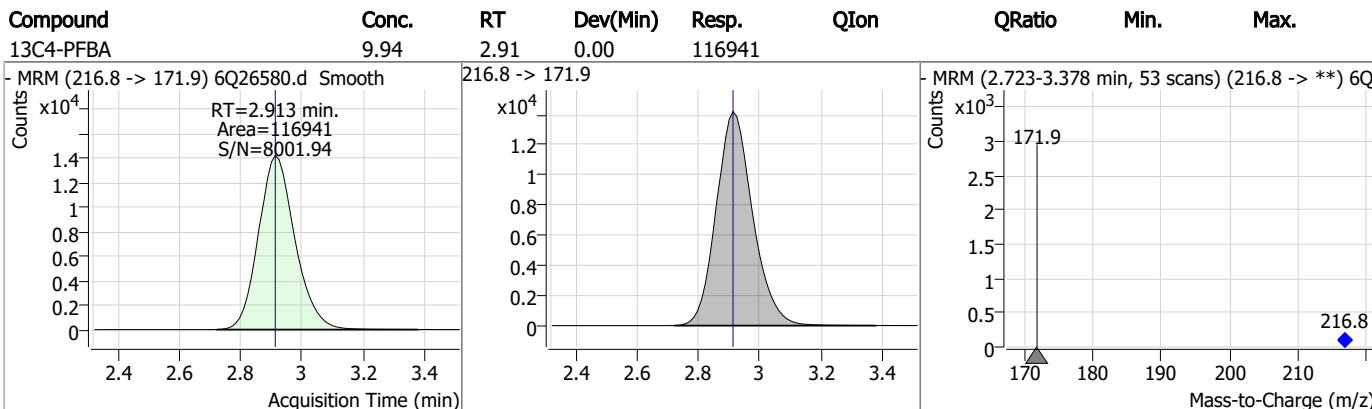
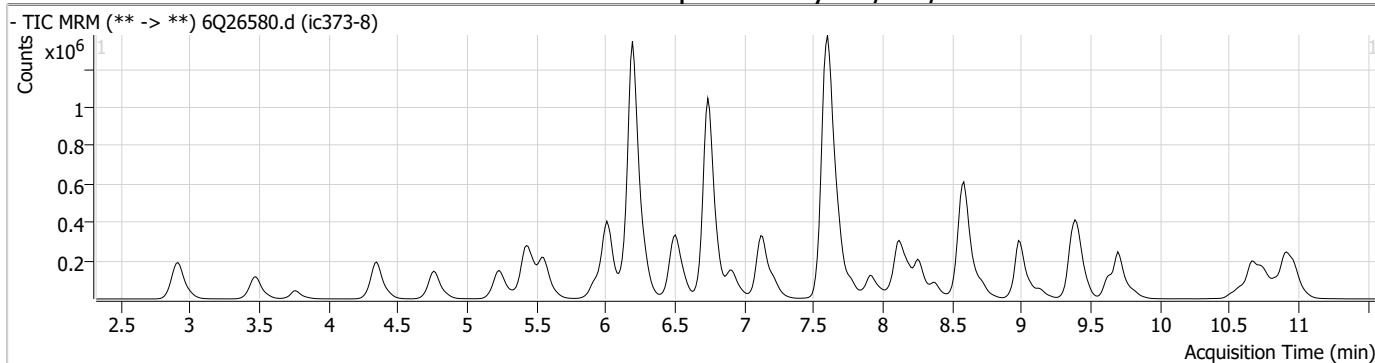
### Perfluorinated Compounds by LC/MS/MS

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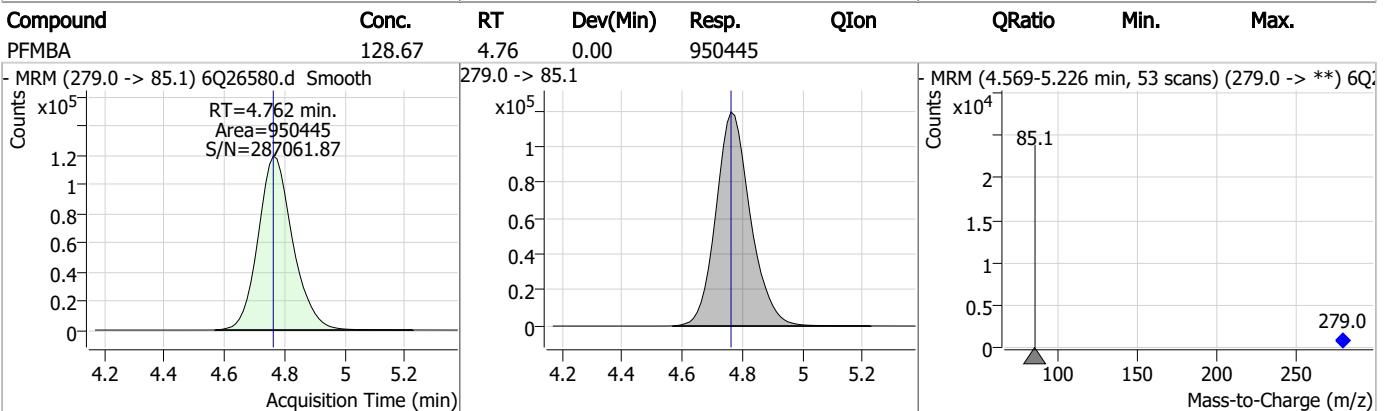
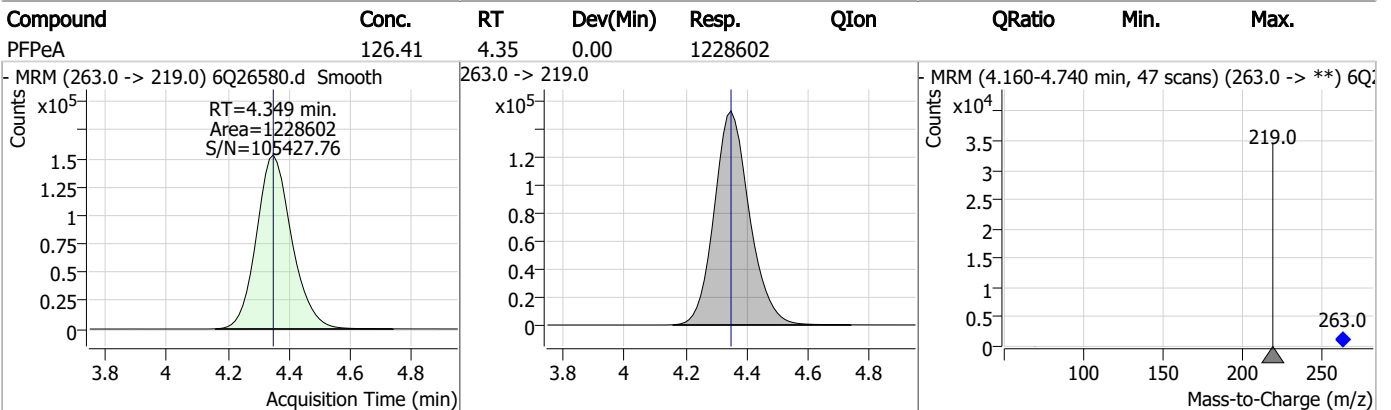
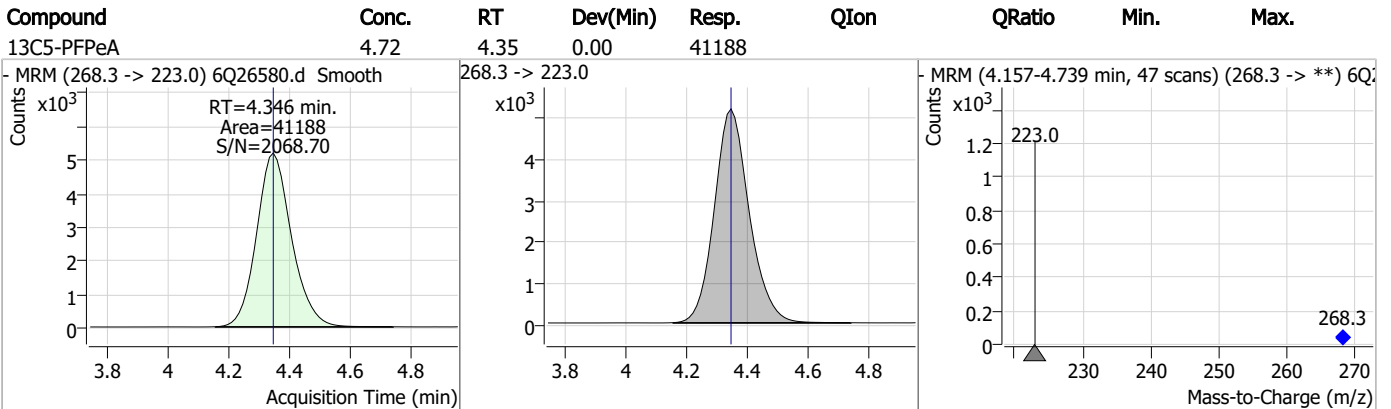
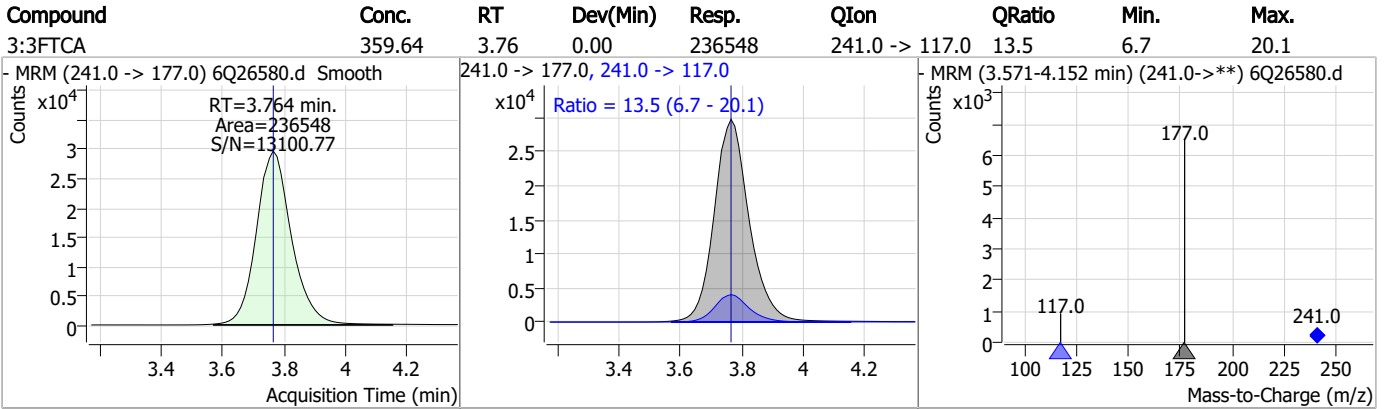
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### Perfluorinated Compounds by LC/MS/MS

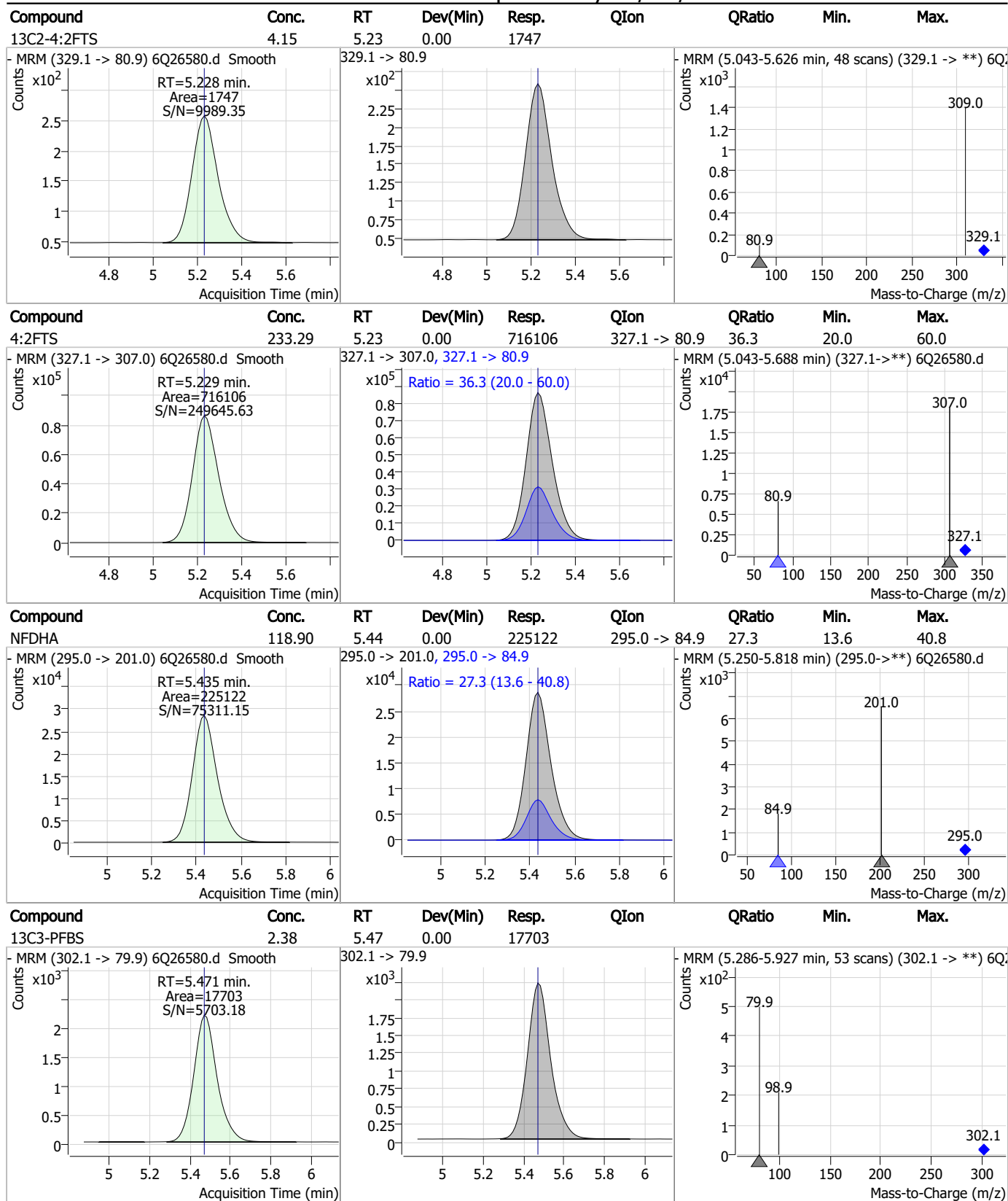


### Perfluorinated Compounds by LC/MS/MS



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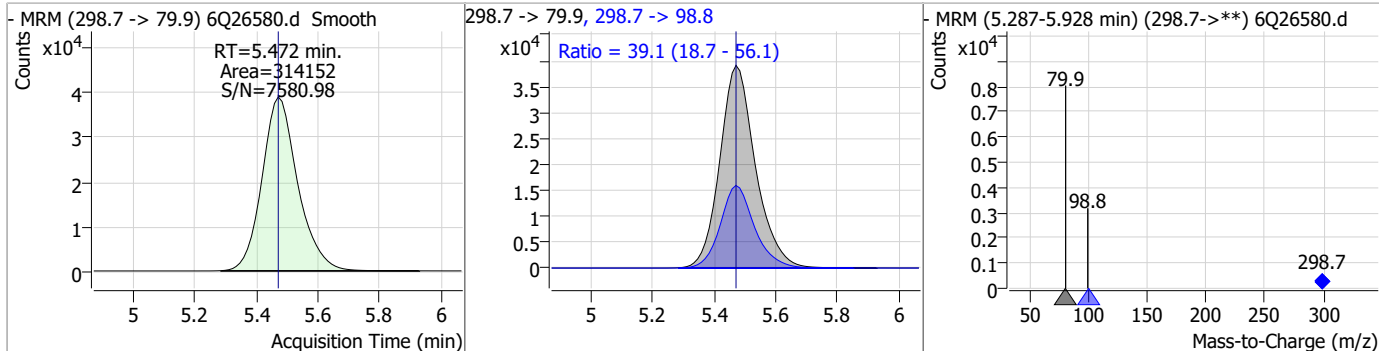
### Perfluorinated Compounds by LC/MS/MS



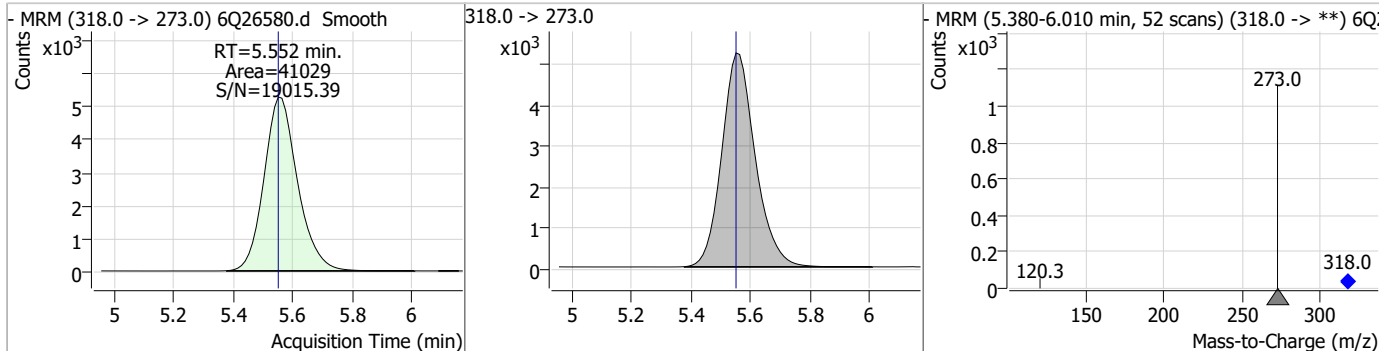
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### Perfluorinated Compounds by LC/MS/MS

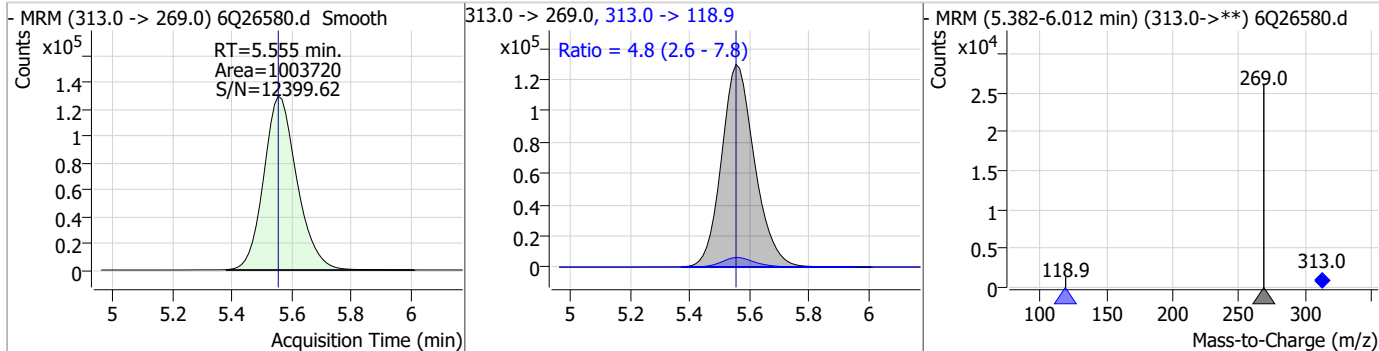
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBS	54.42	5.47	0.00	314152	298.7 -> 98.8	39.1	18.7	56.1



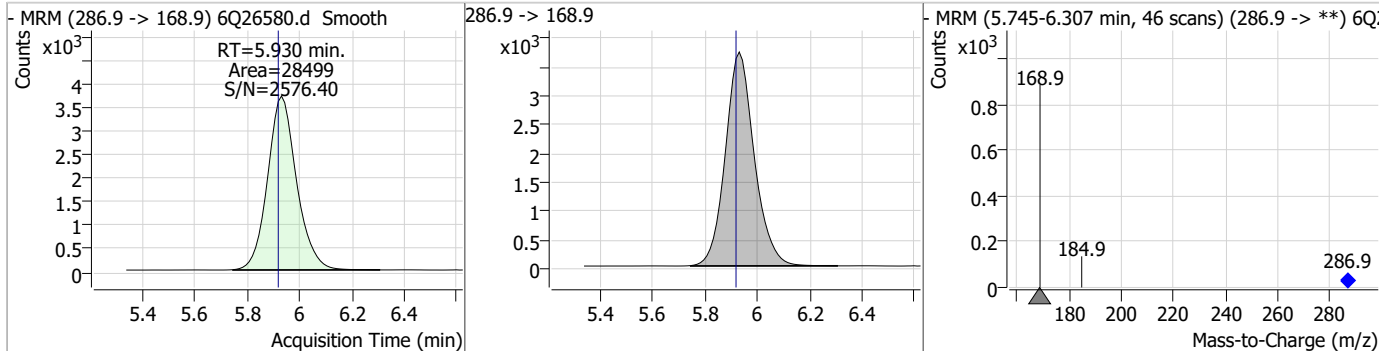
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFHxA	2.37	5.55	0.00	41029				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxA	65.54	5.56	0.00	1003720	313.0 -> 118.9	4.8	2.6	7.8

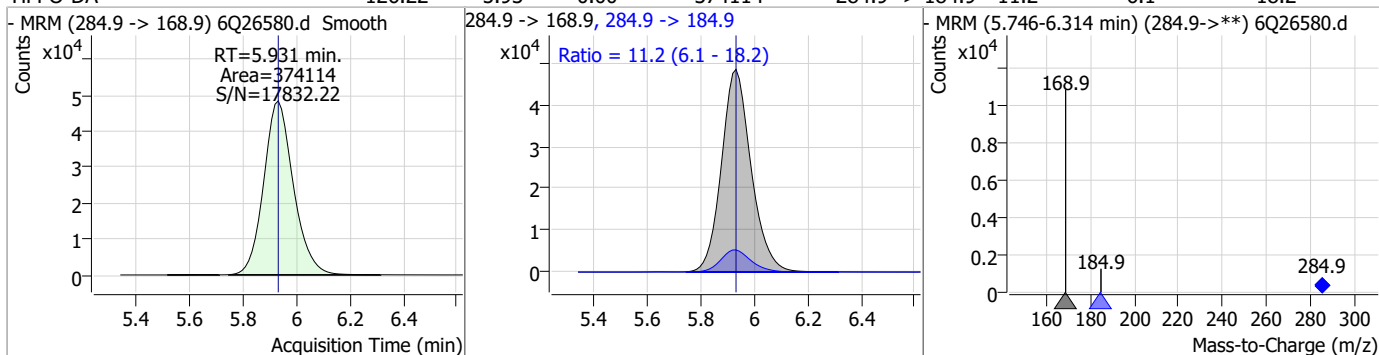


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-HFPO-DA	10.01	5.93	0.01	28499				

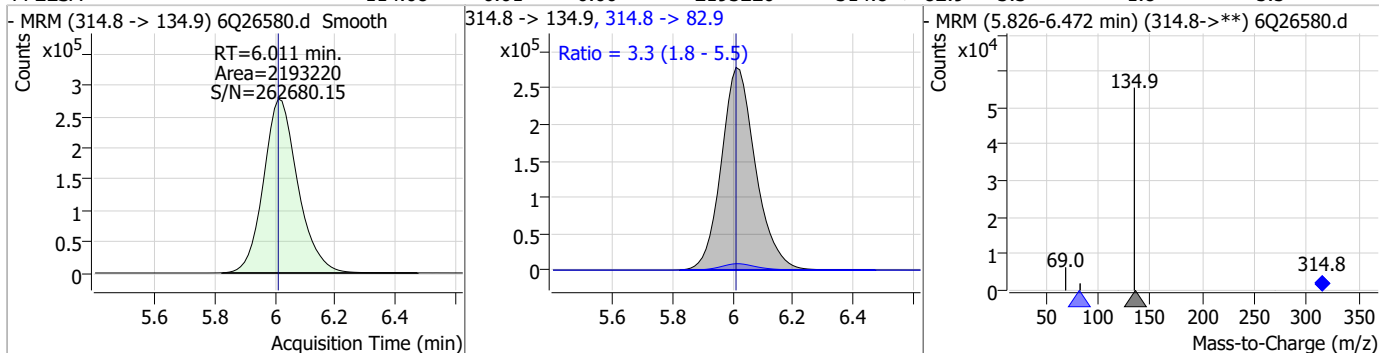


### Perfluorinated Compounds by LC/MS/MS

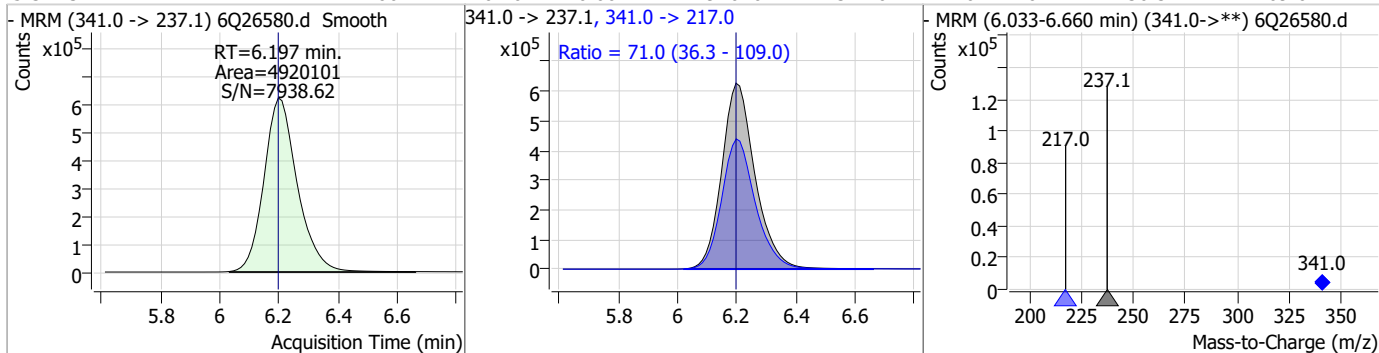
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
HFPO-DA	126.22	5.93	0.00	374114	284.9 -> 184.9	11.2	6.1	18.2



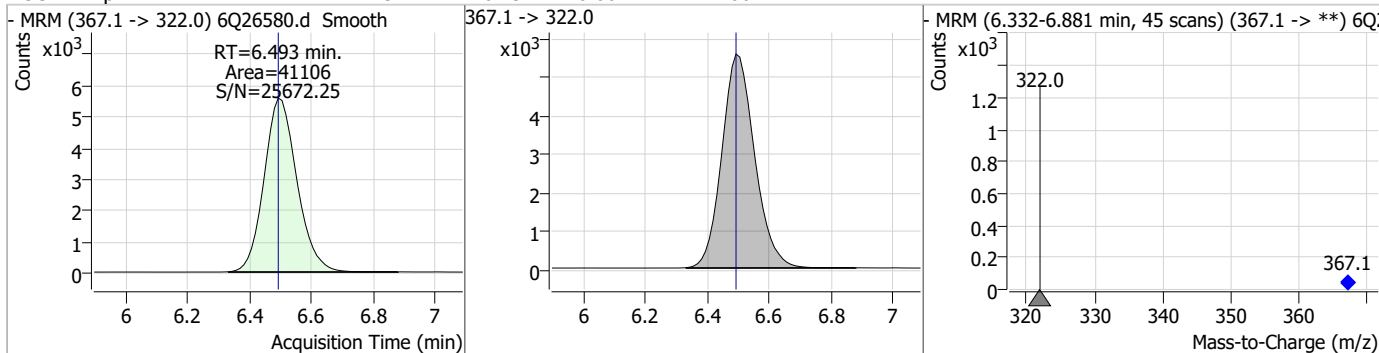
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFEESA	114.08	6.01	0.00	2193220	314.8 -> 82.9	3.3	1.8	5.5



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
5:3FTCA	1607.11	6.20	0.00	4920101	341.0 -> 217.0	71.0	36.3	109.0



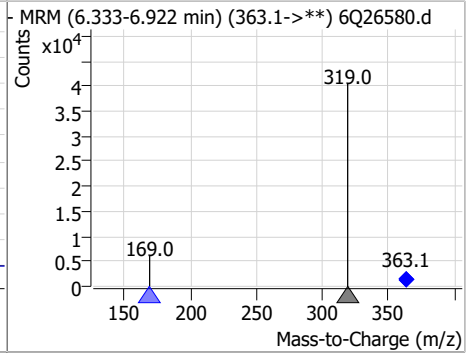
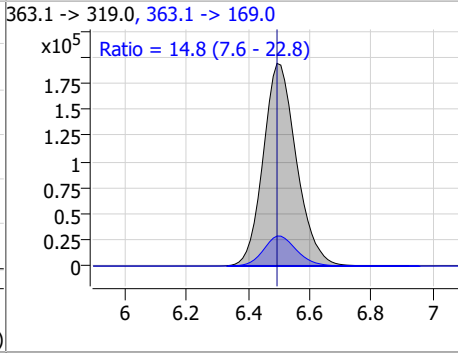
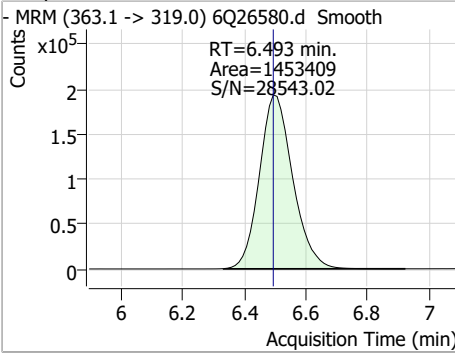
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFHpa	2.34	6.49	0.00	41106	367.1 -> 322.0			



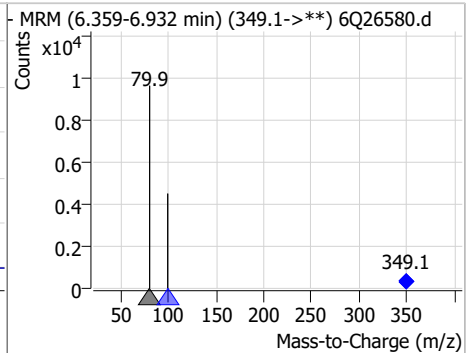
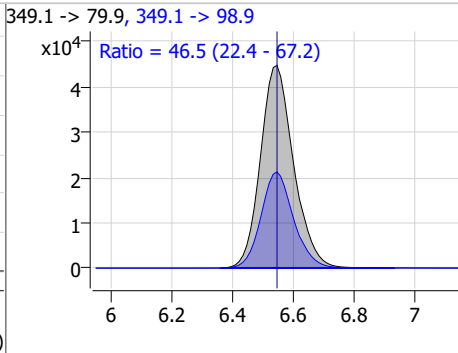
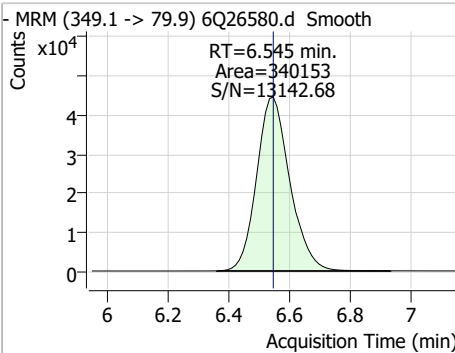
7.7.28  
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### Perfluorinated Compounds by LC/MS/MS

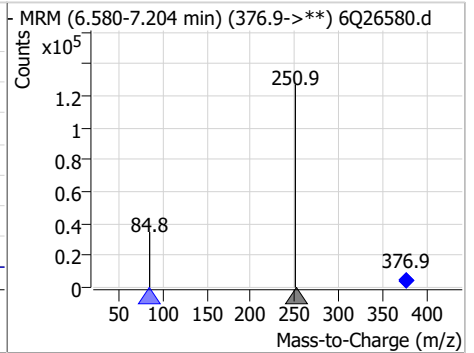
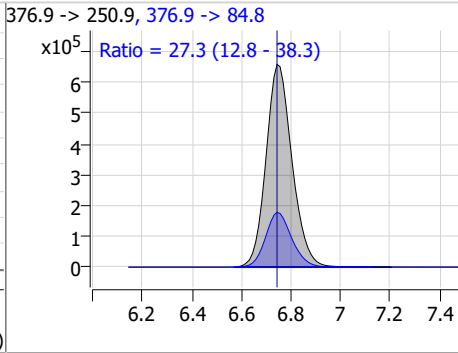
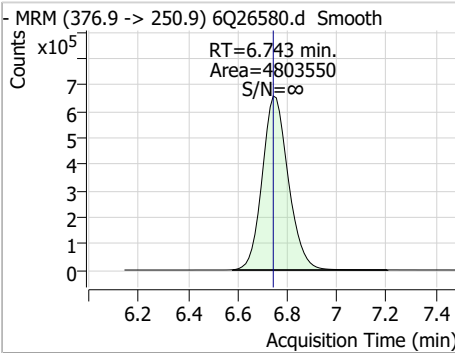
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpA	63.99	6.49	0.00	1453409	363.1 -> 169.0	14.8	7.6	22.8



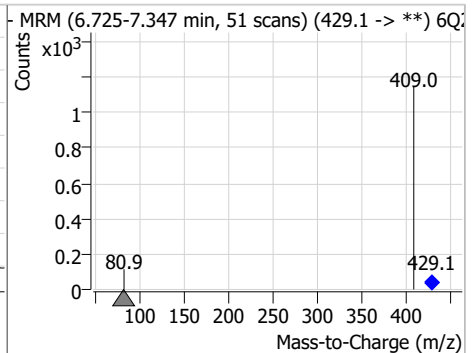
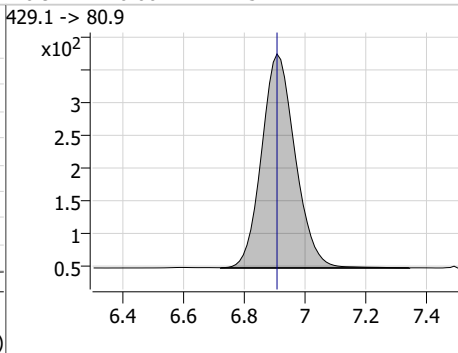
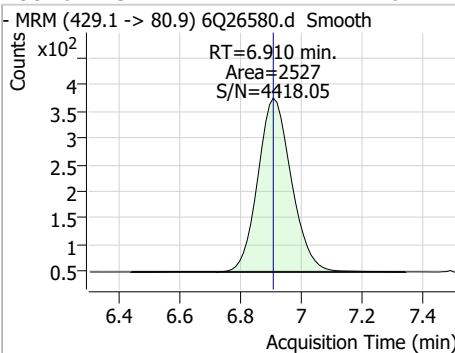
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeS	59.95	6.55	0.00	340153	349.1 -> 98.9	46.5	22.4	67.2



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
ADONA	112.60	6.74	0.00	4803550	376.9 -> 84.8	27.3	12.8	38.3

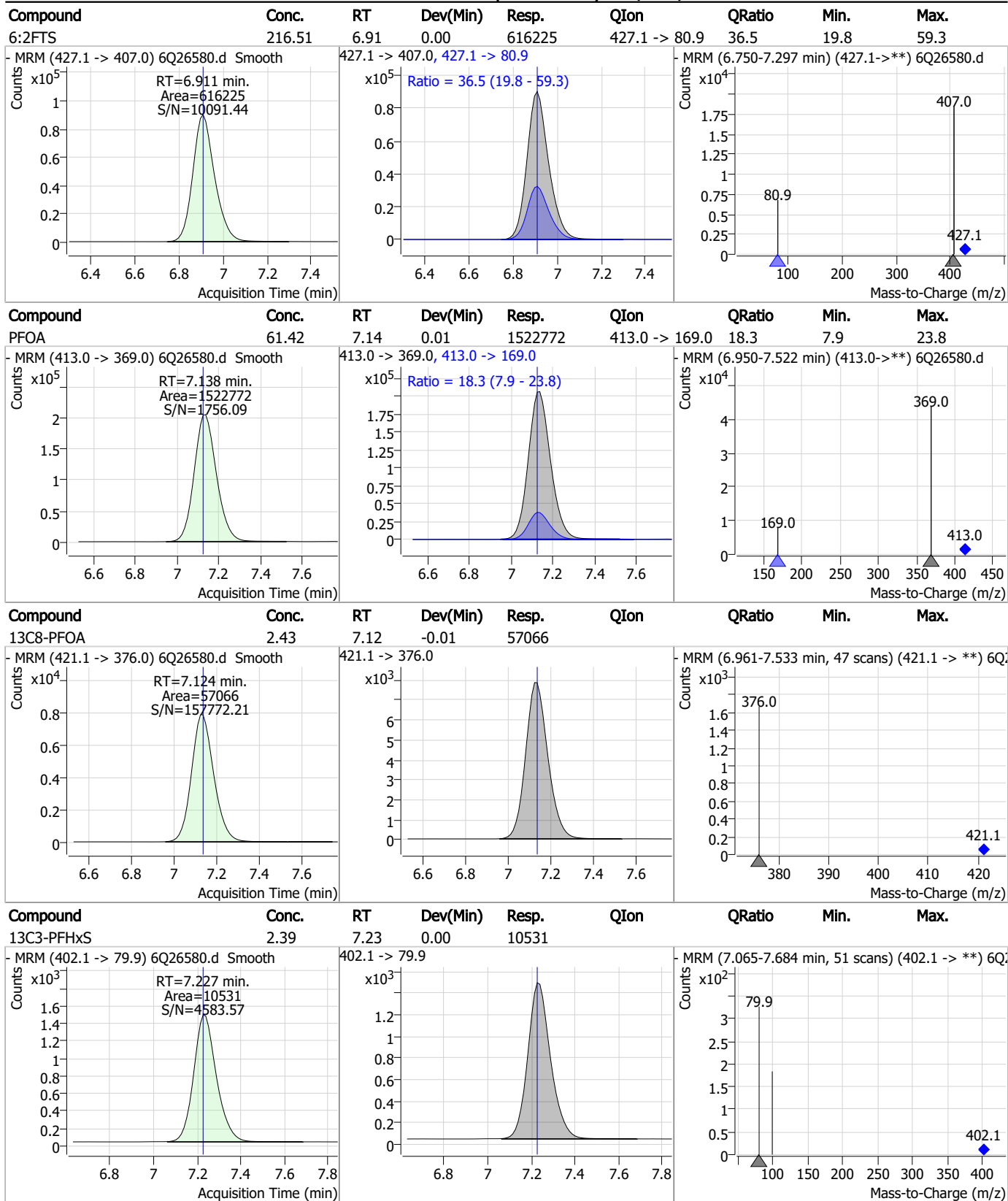


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-6-2FTS	4.26	6.91	0.00	2527	429.1 -> 80.9			



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### Perfluorinated Compounds by LC/MS/MS

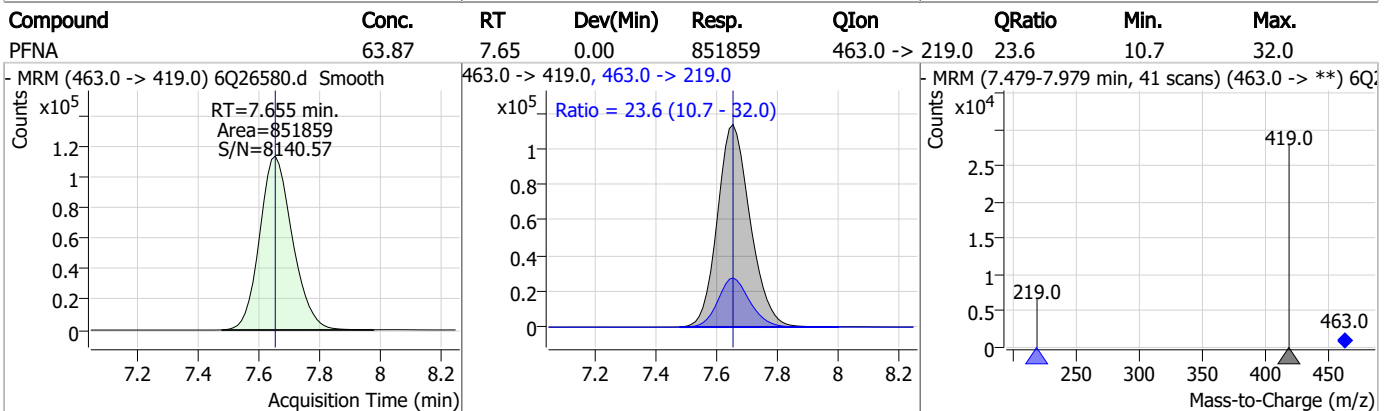
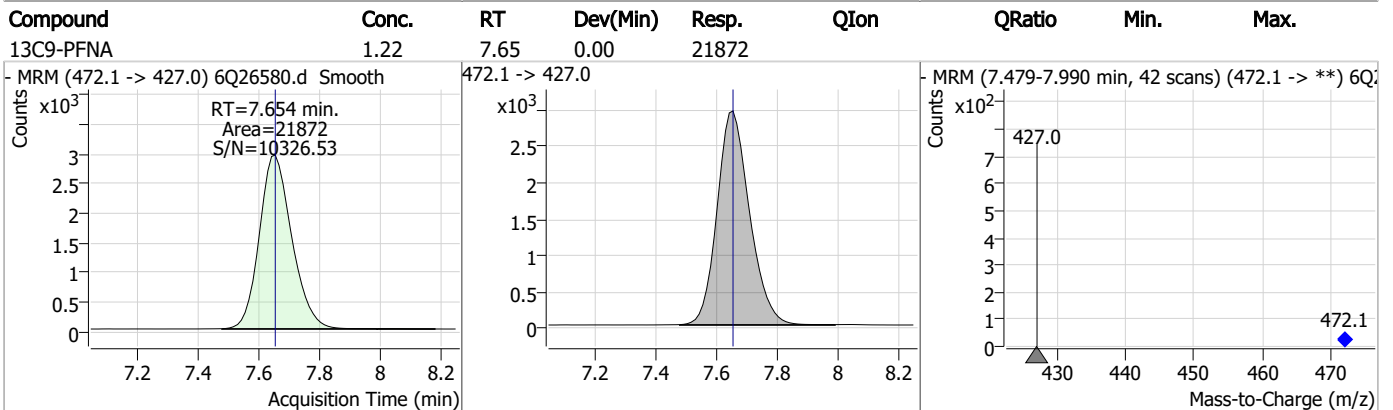
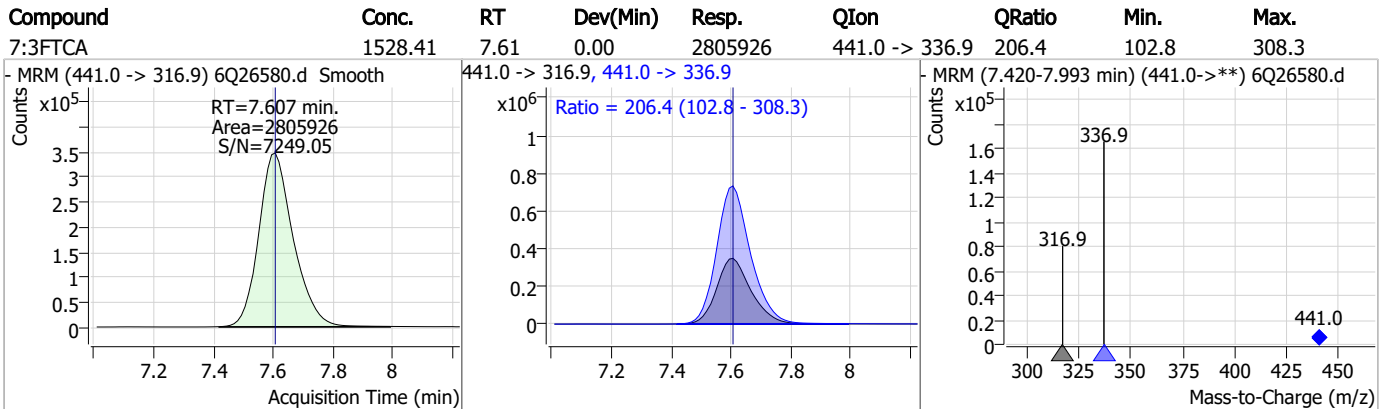
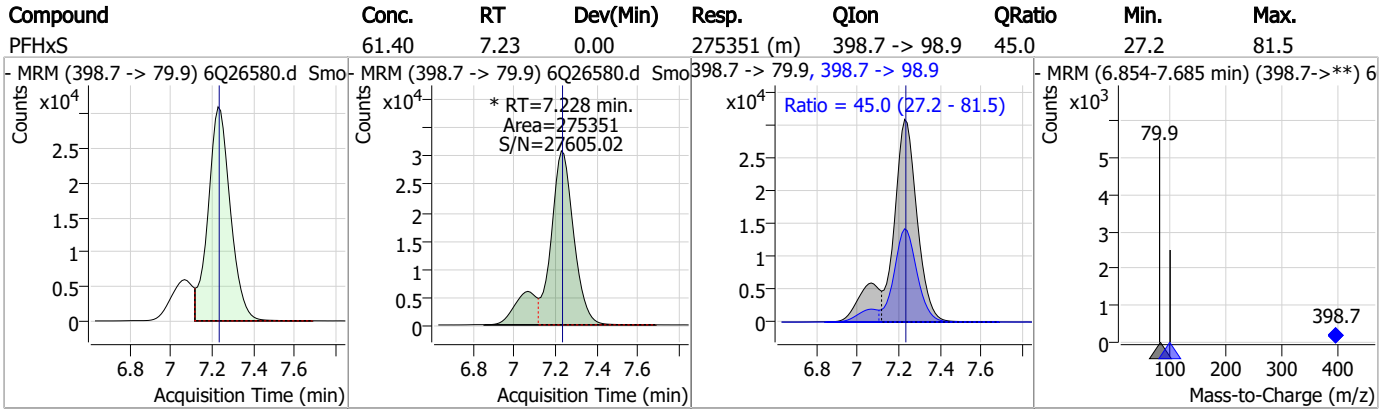


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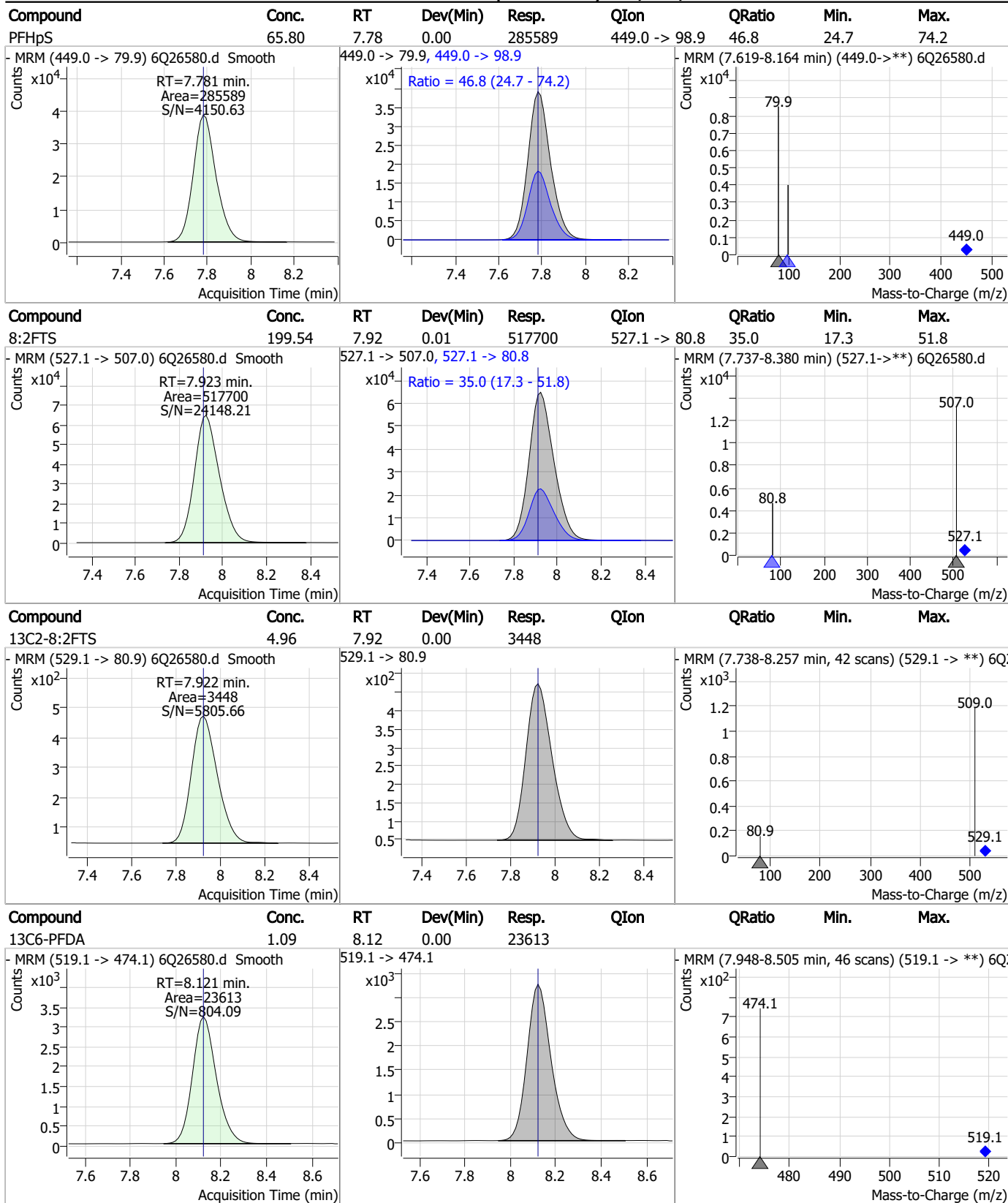


### Perfluorinated Compounds by LC/MS/MS



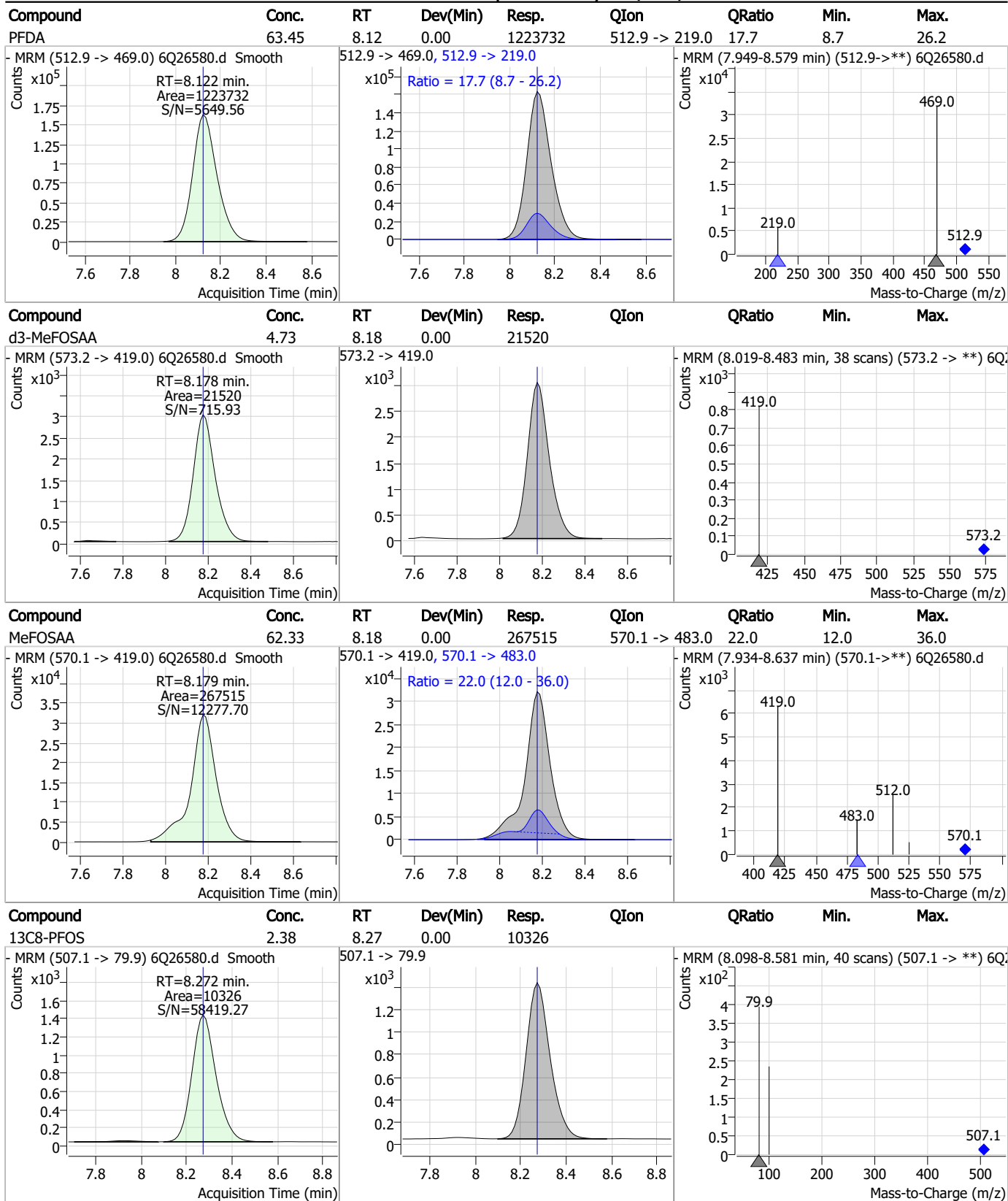
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### Perfluorinated Compounds by LC/MS/MS



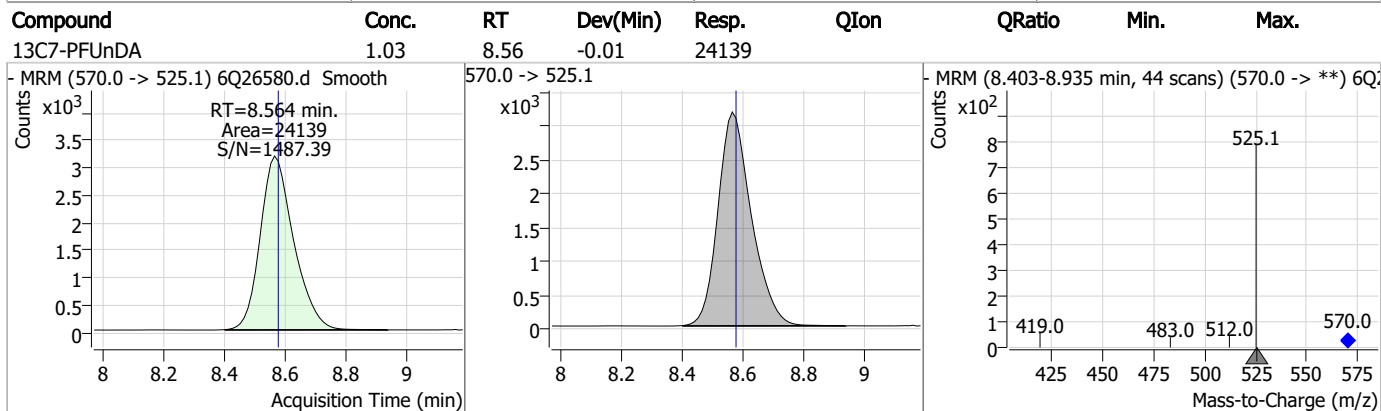
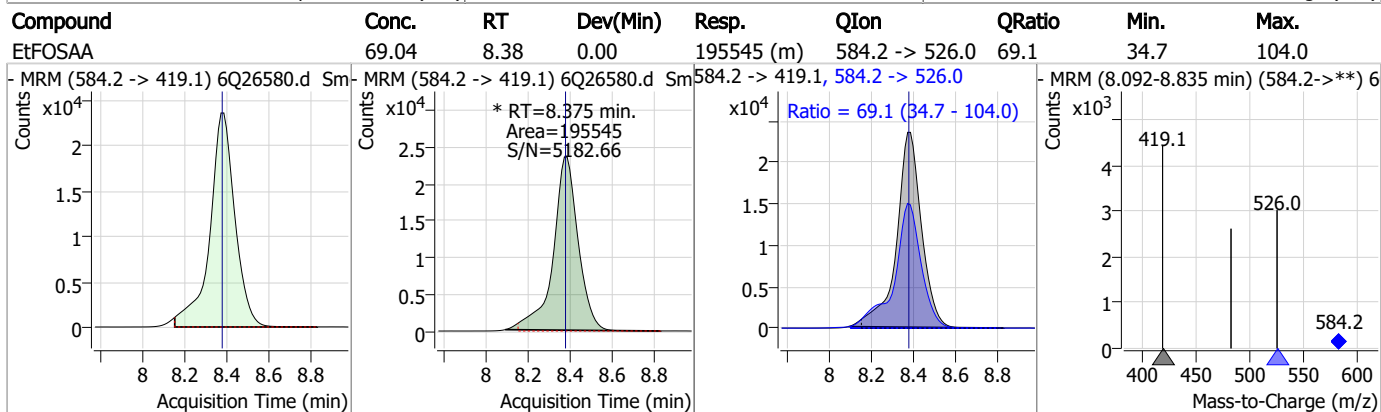
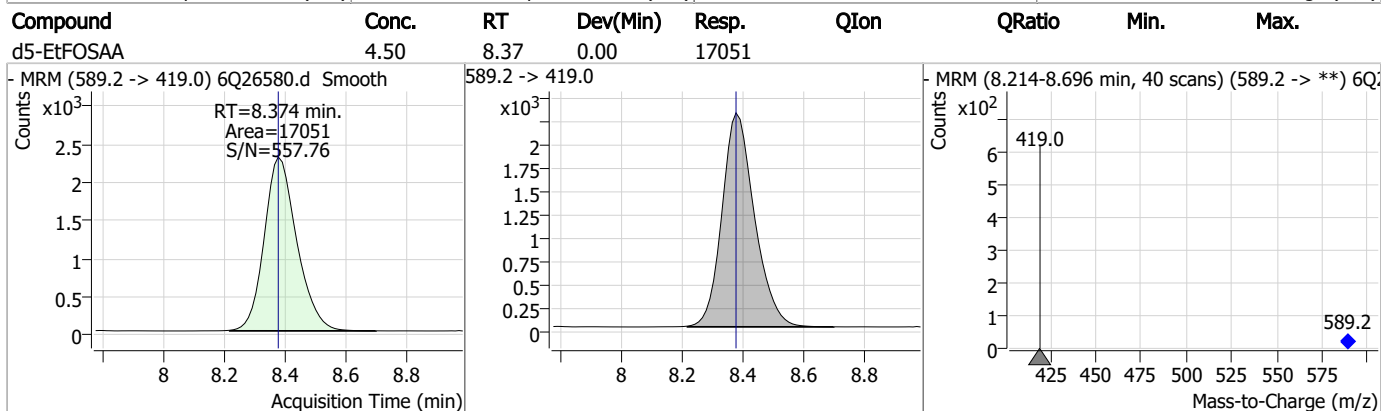
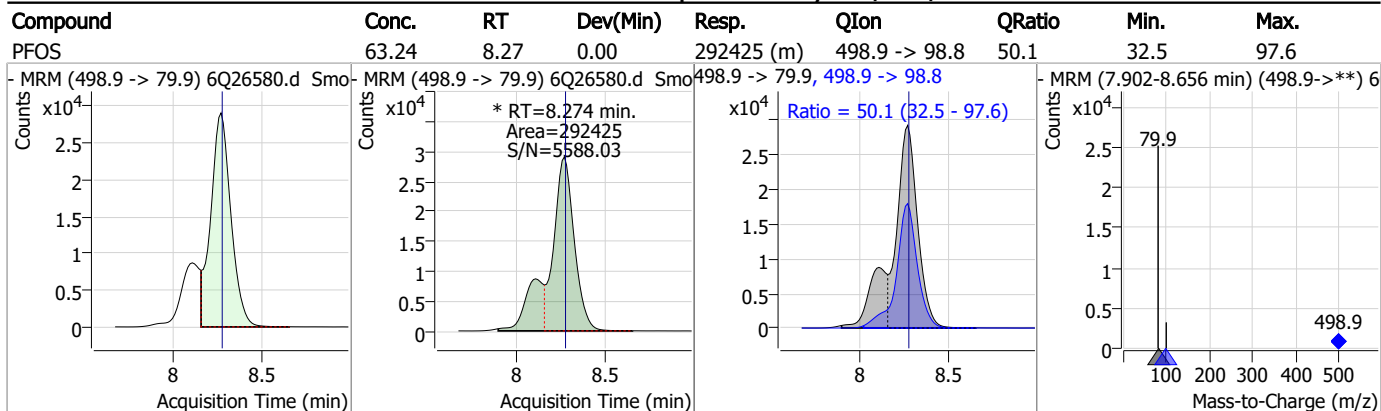
7.7.28  
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### Perfluorinated Compounds by LC/MS/MS



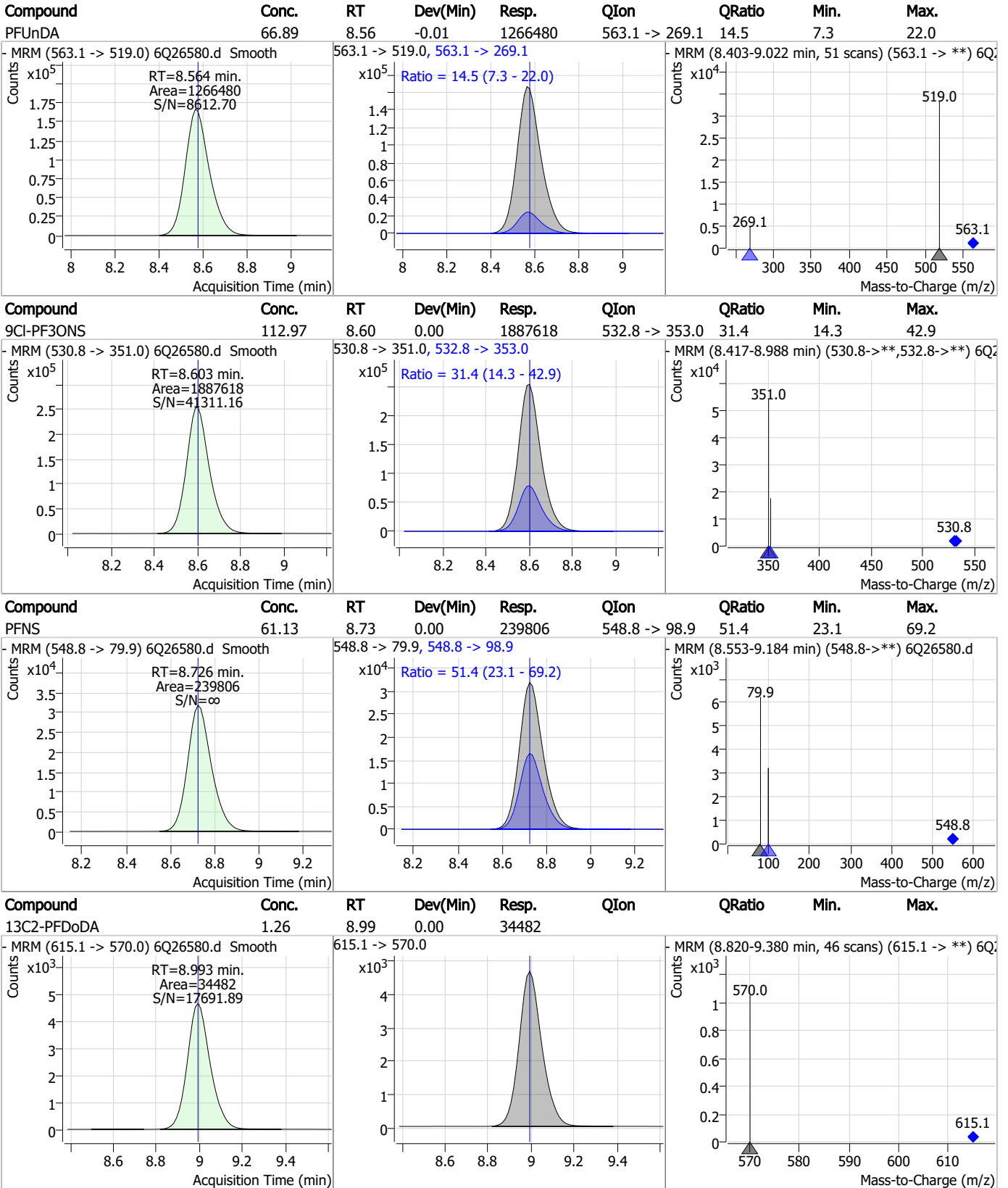
7.7.28  
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### Perfluorinated Compounds by LC/MS/MS



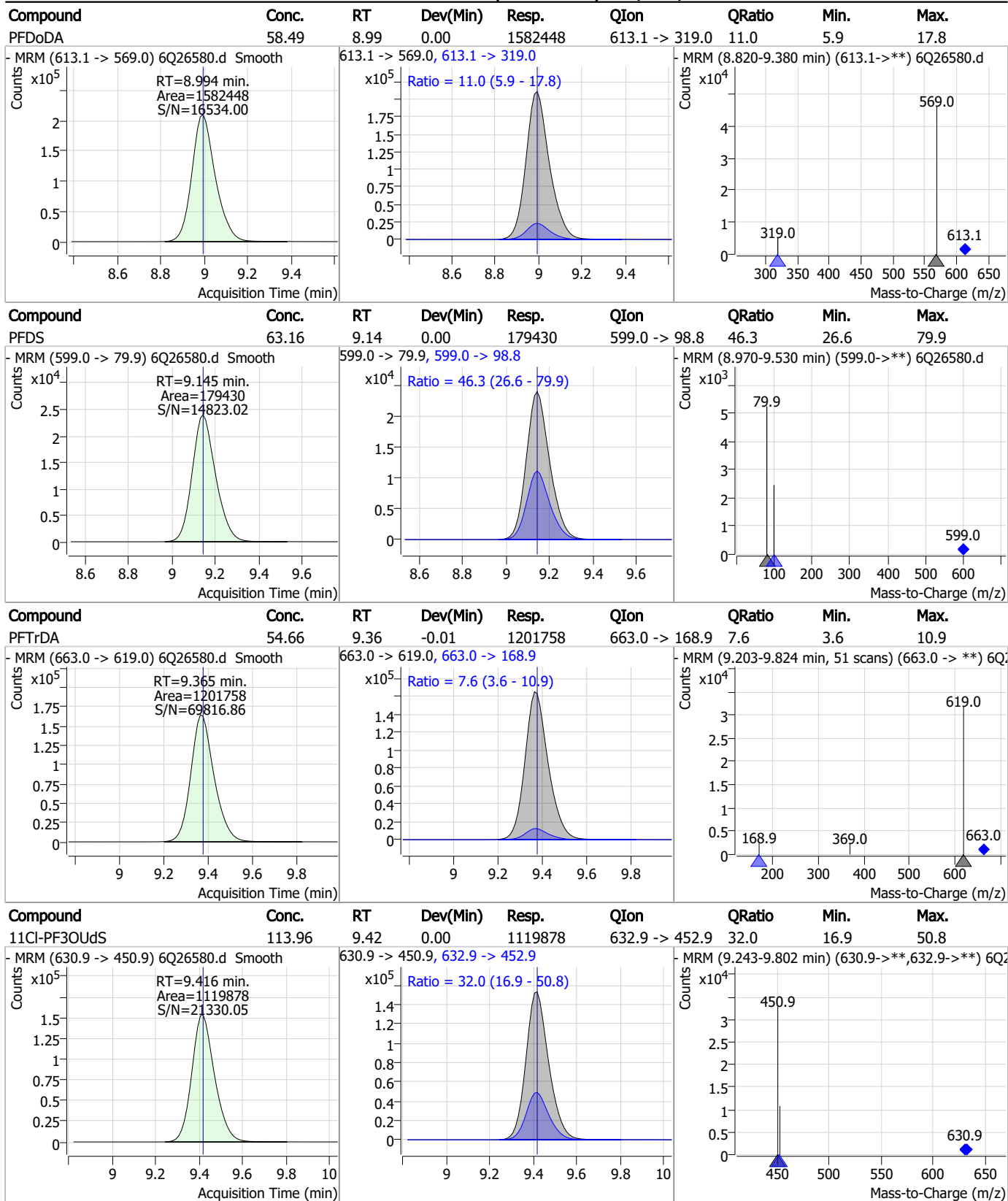
7.7.28  
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### Perfluorinated Compounds by LC/MS/MS



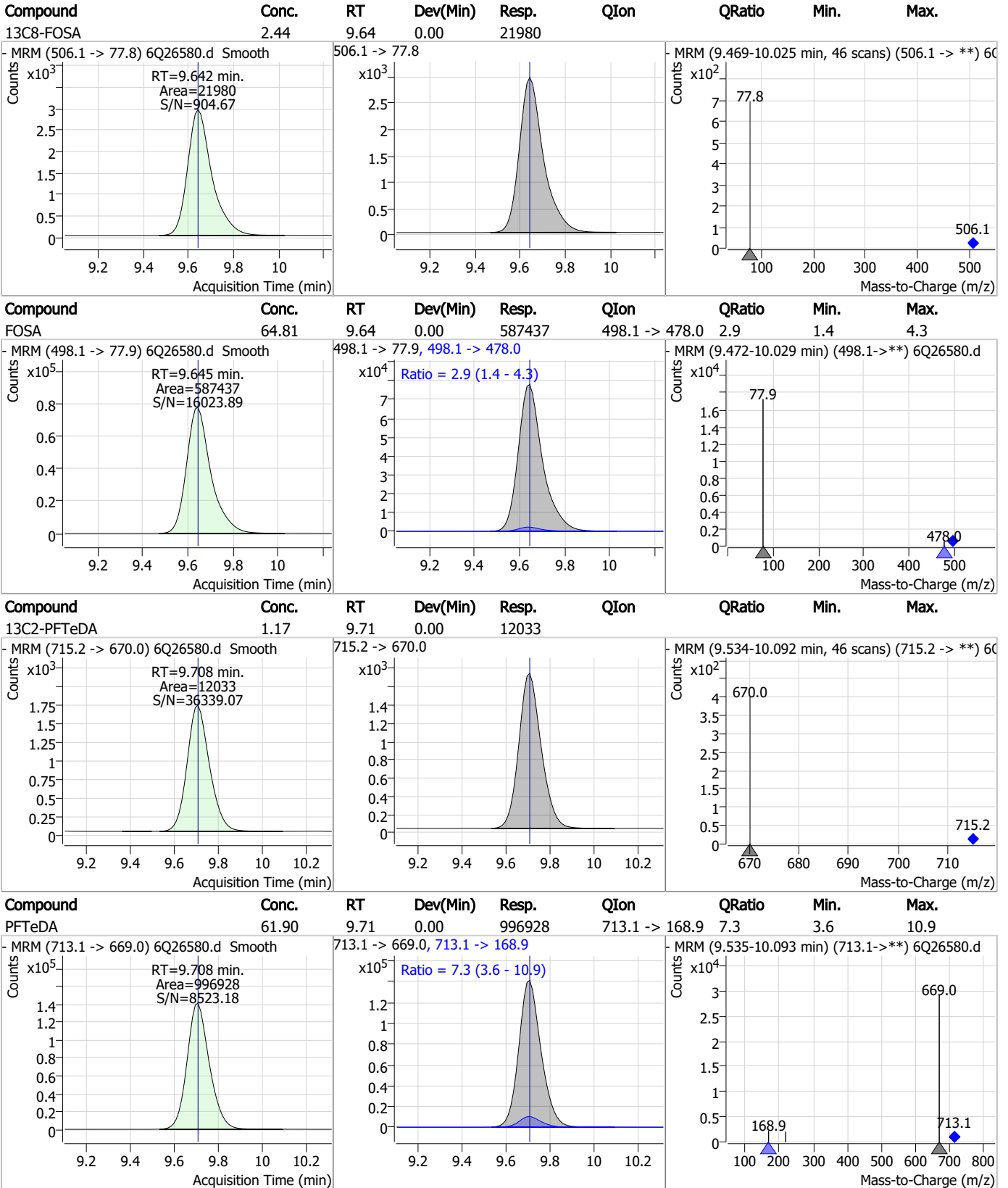
7.7.28  
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### Perfluorinated Compounds by LC/MS/MS



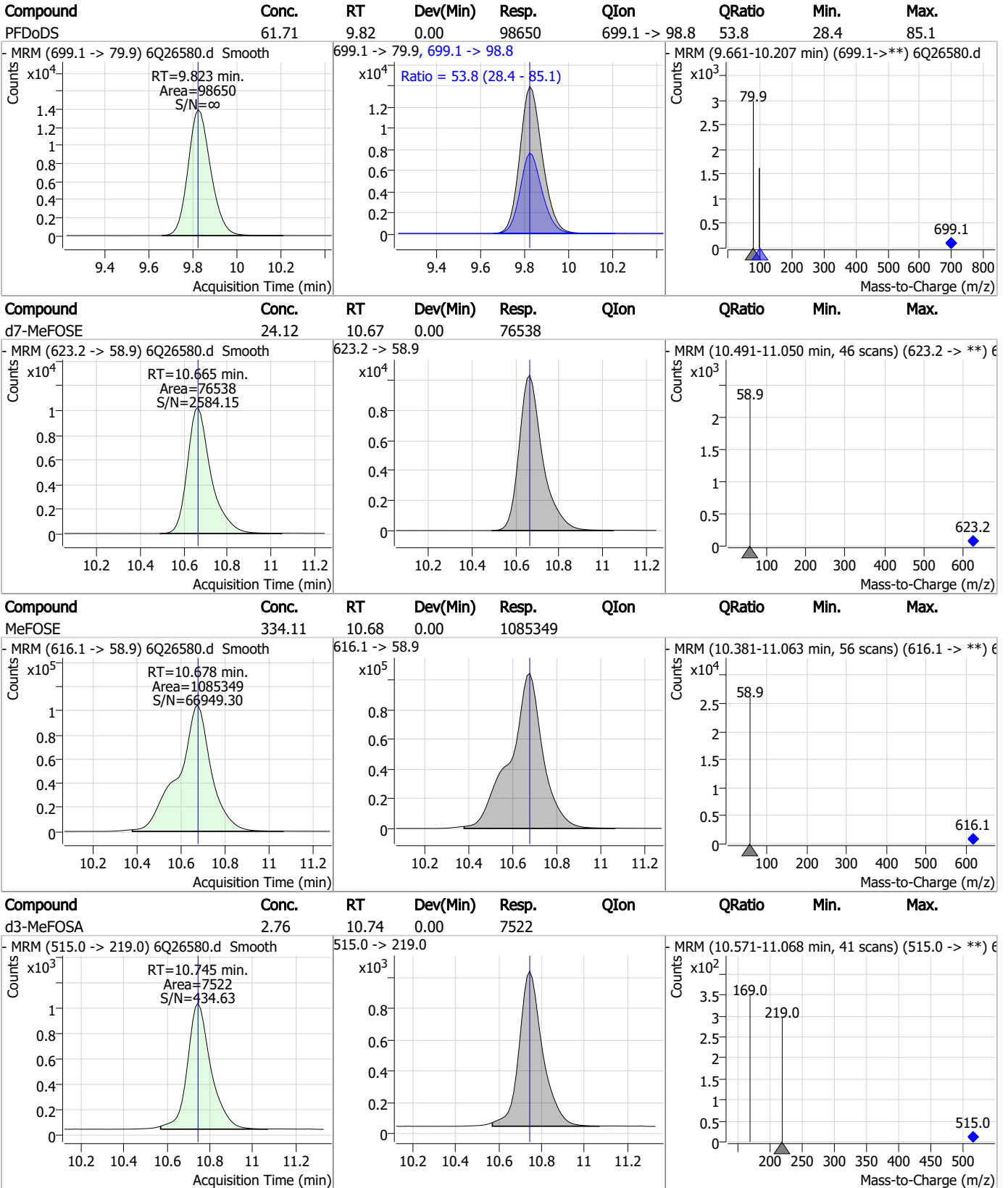
7.7.28  
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### Perfluorinated Compounds by LC/MS/MS



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### Perfluorinated Compounds by LC/MS/MS



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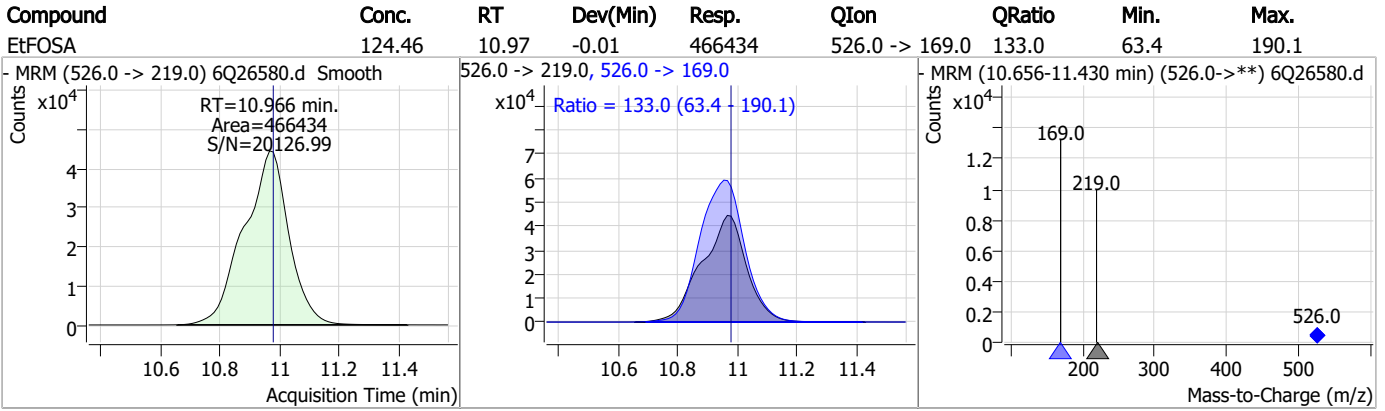


### Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSA	116.25	10.75	0.00	429901	511.9 -> 169.0	134.4	67.2	201.6
d9-EtFOSE	23.96	10.90	0.00	93964	639.2 -> 58.9			
EtFOSE	315.73	10.91	0.00	1227804	630.0 -> 58.9			
d5-EtFOSA	2.47	10.98	0.00	7800	531.1 -> 219.0			

7.7.28  
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### Perfluorinated Compounds by LC/MS/MS



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# Manual Integration Approval Summary

Sample Number: S6Q373-IC373      Method: EPA DRAFT 1633  
Lab FileID: 6Q26580.D      Analyst approved: 10/18/23 16:28 Anna Ludwig  
Injection Time: 10/17/23 19:52      Supervisor approved: 10/19/23 09:36 Natasha Gumtie

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		7.23	Split peak
Perfluorooctanesulfonic acid	1763-23-1		8.27	Split peak
EtFOSAA	2991-50-6		8.38	Split peak

7.7.28.1

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Perfluorinated Compounds by LC/MS/MS

Data File : 6Q26582.d  
 Operator : marthav  
 Acq. Method : 1633full.m  
 Acq. Date-Time : 10/17/2023 8:20:47 PM  
 Sample Name : icv373-4  
 Vial : P1-B1  
 DA Method File : 1633\_101723\_S6Q373.quantmethod.xml  
 Batch Name : S6Q373.batch.bin  
 Sample Information : OP99081,S6Q373,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
<b>Internal Standards</b>					
M4-PFBA	2.913	216.8 -> 171.9	144409	10.00 µg/L	0.000
M5-PFPeA	4.346	268.3 -> 223.0	47496	5.00 µg/L	0.000
M5-PFHxA	5.552	318.0 -> 273.0	46833	2.50 µg/L	0.000
M4-PFHpA	6.493	367.1 -> 322.0	49211	2.50 µg/L	0.000
M8-PFOA	7.124	421.1 -> 376.0	66837	2.50 µg/L	-0.012
M9-PFNA	7.642	472.1 -> 427.0	23343	1.25 µg/L	-0.012
M6-PFDA	8.121	519.1 -> 474.1	27559	1.25 µg/L	0.000
M7-PFUnDA	8.564	570.0 -> 525.1	31172	1.25 µg/L	-0.012
M2-PFDoDA	8.993	615.1 -> 570.0	34590	1.25 µg/L	0.000
M2-PFTeDA	9.708	715.2 -> 670.0	13925	1.25 µg/L	0.000
M8-FOSA	9.642	506.1 -> 77.8	24254	2.50 µg/L	0.000
M3-PFBS	5.471	302.1 -> 79.9	20268	2.50 µg/L	0.000
M3-PFHxS	7.227	402.1 -> 79.9	11787	2.50 µg/L	0.000
M8-PFOS	8.272	507.1 -> 79.9	11299	2.50 µg/L	0.000
M2-4:2FTS	5.228	329.1 -> 80.9	2310	5.00 µg/L	0.000
M2-6:2FTS	6.898	429.1 -> 80.9	3366	5.00 µg/L	-0.012
M2-8:2FTS	7.922	529.1 -> 80.9	3808	5.00 µg/L	0.000
M3-MeFOSAA	8.178	573.2 -> 419.0	23412	5.00 µg/L	0.000
M3-HFPO-DA	5.918	286.9 -> 168.9	31144	10.00 µg/L	0.000
M5-EtFOSAA	8.374	589.2 -> 419.0	20184	5.00 µg/L	0.000
M7-MeFOSE	10.665	623.2 -> 58.9	86030	25.00 µg/L	0.000
M9-EtFOSE	10.899	639.2 -> 58.9	105892	25.00 µg/L	0.000
M5-EtFOSA	10.977	531.1 -> 219.0	8488	2.50 µg/L	0.000
M3-MeFOSA	10.745	515.0 -> 219.0	7377	2.50 µg/L	0.000
13C4-PFOS	8.273	502.8 -> 79.9	11097	2.50 µg/L	0.000
13C3-PFBA	2.916	216.0 -> 172.0	57612	5.00 µg/L	0.000
18O2-PFHxS	7.226	403.0 -> 83.9	7403	2.50 µg/L	0.000
13C4-PFOA	7.125	417.1 -> 372.0	71799	2.50 µg/L	0.000
13C2-PFDA	8.122	515.1 -> 470.1	27069	1.25 µg/L	0.000
13C5-PFNA	7.642	468.0 -> 423.0	22459	1.25 µg/L	-0.012
13C2-PFHxA	5.553	315.1 -> 270.0	46077	2.50 µg/L	0.000
<b>System Monitoring Compounds</b>					
13C2-4:2FTS	5.228	329.1 -> 80.9	2310	5.00 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 99.9%		
13C2-6:2FTS	6.898	429.1 -> 80.9	3366	5.16 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 103.1%		
13C2-8:2FTS	7.922	529.1 -> 80.9	3808	4.98 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 99.6%		
13C2-PFDoDA	8.993	615.1 -> 570.0	34590	1.18 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 94.6%		
13C2-PFTeDA	9.708	715.2 -> 670.0	13925	1.27 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 101.6%		
13C3-PFBS	5.471	302.1 -> 79.9	20268	2.47 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 98.9%		
13C3-PFHxS	7.227	402.1 -> 79.9	11787	2.43 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 = 97.3%	
13C4-PFBA	2.913	216.8 -> 171.9	144409	10.17 µg/L	0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 101.7%	
13C4-PFHpA	6.493	367.1 -> 322.0	49211	2.63 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 105.3%	
13C5-PFHxA	5.552	318.0 -> 273.0	46833	2.54 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 101.4%	
13C5-PFPeA	4.346	268.3 -> 223.0	47496	5.12 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 102.4%	
13C6-PFDA	8.121	519.1 -> 474.1	27559	1.19 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 95.6%	
13C7-PFUnDA	8.564	570.0 -> 525.1	31172	1.25 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 99.8%	
13C8-FOSA	9.642	506.1 -> 77.8	24254	2.38 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 95.0%	
13C8-PFOA	7.124	421.1 -> 376.0	66837	2.60 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 104.1%	
13C8-PFOS	8.272	507.1 -> 79.9	11299	2.30 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 92.1%	
13C9-PFNA	7.642	472.1 -> 427.0	23343	1.21 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 96.7%	
d3-MeFOSAA	8.178	573.2 -> 419.0	23412	4.55 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 91.0%	
13C3-HFPO-DA	5.918	286.9 -> 168.9	31144	10.28 µg/L	0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 102.8%	
d3-MeFOSA	10.745	515.0 -> 219.0	7377	2.39 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 95.7%	
d5-EtFOSAA	8.374	589.2 -> 419.0	20184	4.71 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 94.2%	
d7-MeFOSE	10.665	623.2 -> 58.9	86030	23.98 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 95.9%	
d9-EtFOSE	10.899	639.2 -> 58.9	105892	23.88 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 95.5%	
d5-EtFOSA	10.977	531.1 -> 219.0	8488	2.38 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 95.1%	
<b>Target Compounds</b>					<b>QValue</b>
4:2FTS	5.229	327.1 -> 307.0	39356	9.69 µg/L	95
		327.1 -> 80.9	14410		
6:2FTS	6.898	427.1 -> 407.0	35433	9.35 µg/L	97
		427.1 -> 80.9	13357		
8:2FTS	7.910	527.1 -> 507.0	27684	9.66 µg/L	98
		527.1 -> 80.8	9858		
EtFOSAA	8.375	584.2 -> 419.1	8608	2.57 µg/L	96
		584.2 -> 526.0	5675		
FOSA	9.645	498.1 -> 77.9	24637	2.46 µg/L	99
		498.1 -> 478.0	732		
MeFOSAA	8.179	570.1 -> 419.0	12047	2.58 µg/L	100
		570.1 -> 483.0	2914		
PFBA	2.919	212.8 -> 168.9	54390	9.80 µg/L	100
PFBS	5.472	298.7 -> 79.9	15005	2.27 µg/L	96
		298.7 -> 98.8	5223		
PFDA	8.122	512.9 -> 469.0	55354	2.46 µg/L	98
		512.9 -> 219.0	9122		
PFDODA	8.994	613.1 -> 569.0	64520	2.38 µg/L	95
		613.1 -> 319.0	8842		
PFDS	9.145	599.0 -> 79.9	8219	2.64 µg/L	89

7.7.29  
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Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
		599.0 -> 98.8	3712			
PFHpA	6.493	363.1 -> 319.0	66972	2.46	µg/L	98
		363.1 -> 169.0	9617			
PFHpS	7.781	449.0 -> 79.9	11996	2.53	µg/L	94
		449.0 -> 98.9	5484			
PFHxA	5.555	313.0 -> 269.0	42124	2.41	µg/L	99
		313.0 -> 118.9	2064			
PFHxS	7.228	398.7 -> 79.9	11551	2.30	µg/L	m 89
		398.7 -> 98.9	5337			
PFNA	7.642	463.0 -> 419.0	37763	2.65	µg/L	97
		463.0 -> 219.0	8574			
PFNS	8.726	548.8 -> 79.9	10737	2.50	µg/L	95
		548.8 -> 98.9	5307			
PFOA	7.125	413.0 -> 369.0	67917	2.34	µg/L	96
		413.0 -> 169.0	12064			
PFOS	8.274	498.9 -> 79.9	11382	2.25	µg/L	m 90
		498.9 -> 98.8	6511			
PFPeA	4.349	263.0 -> 219.0	54886	4.90	µg/L	100
PFPeS	6.533	349.1 -> 79.9	14998	2.36	µg/L	98
		349.1 -> 98.9	6930			
PFTeDA	9.708	713.1 -> 669.0	43405	2.33	µg/L	100
		713.1 -> 168.9	3181			
PFTrDA	9.377	663.0 -> 619.0	56225	2.55	µg/L	98
		663.0 -> 168.9	4444			
PFUnDA	8.564	563.1 -> 519.0	58702	2.40	µg/L	98
		563.1 -> 269.1	9052			
11CI-PF3OUdS	9.416	630.9 -> 450.9	50656	4.72	µg/L	91
		632.9 -> 452.9	14672			
9CI-PF3ONS	8.603	530.8 -> 351.0	83850	4.59	µg/L	91
		532.8 -> 353.0	27902			
ADONA	6.743	376.9 -> 250.9	208998	4.48	µg/L	96
		376.9 -> 84.8	57290			
HFPO-DA	5.918	284.9 -> 168.9	16168	4.99	µg/L	97
		284.9 -> 184.9	1747			
3:3FTCA	3.764	241.0 -> 177.0	9631	11.86	µg/L	99
		241.0 -> 117.0	1328			
5:3FTCA	6.197	341.0 -> 237.1	210821	60.33	µg/L	98
		341.0 -> 217.0	157122			
7:3FTCA	7.595	441.0 -> 316.9	131895	62.94	µg/L	94
		441.0 -> 336.9	258703			
EtFOSA	10.966	526.0 -> 219.0	20748	5.09	µg/L	96
		526.0 -> 169.0	25359			
EtFOSE	10.913	630.0 -> 58.9	53918	12.30	µg/L	100
MeFOSA	10.746	511.9 -> 219.0	18047	4.98	µg/L	99
		511.9 -> 169.0	24400			
MeFOSE	10.678	616.1 -> 58.9	45669	12.51	µg/L	100
PFDoDS	9.823	699.1 -> 79.9	3990	2.28	µg/L	99
		699.1 -> 98.8	2218			
NFDHA	5.435	295.0 -> 201.0	10670	4.94	µg/L	98
		295.0 -> 84.9	2804			
PFMBA	4.762	279.0 -> 85.1	42971	5.04	µg/L	100
PFMPA	3.475	229.0 -> 84.9	33944	4.86	µg/L	100
PFEESA	6.011	314.8 -> 134.9	96075	4.38	µg/L	99
		314.8 -> 82.9	3352			

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



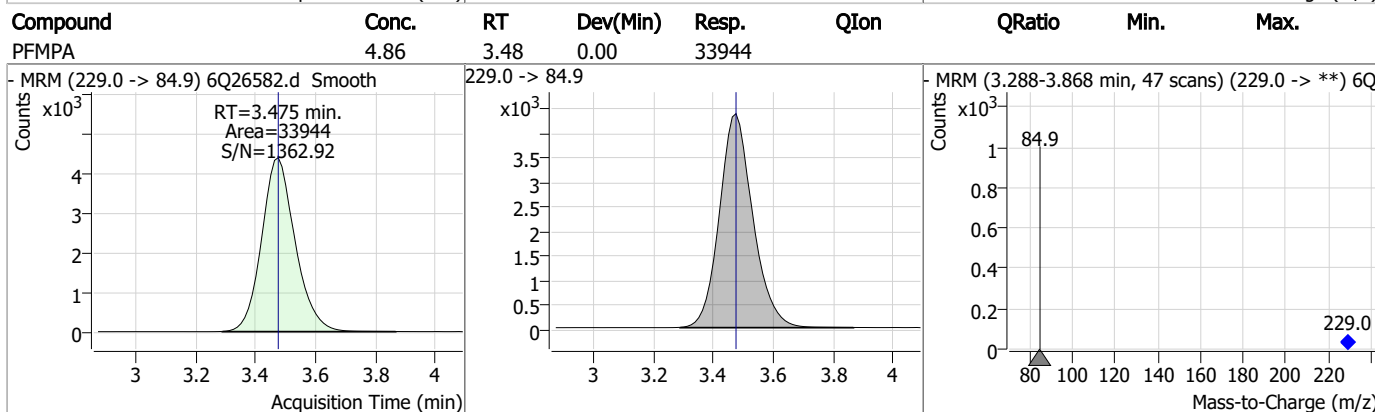
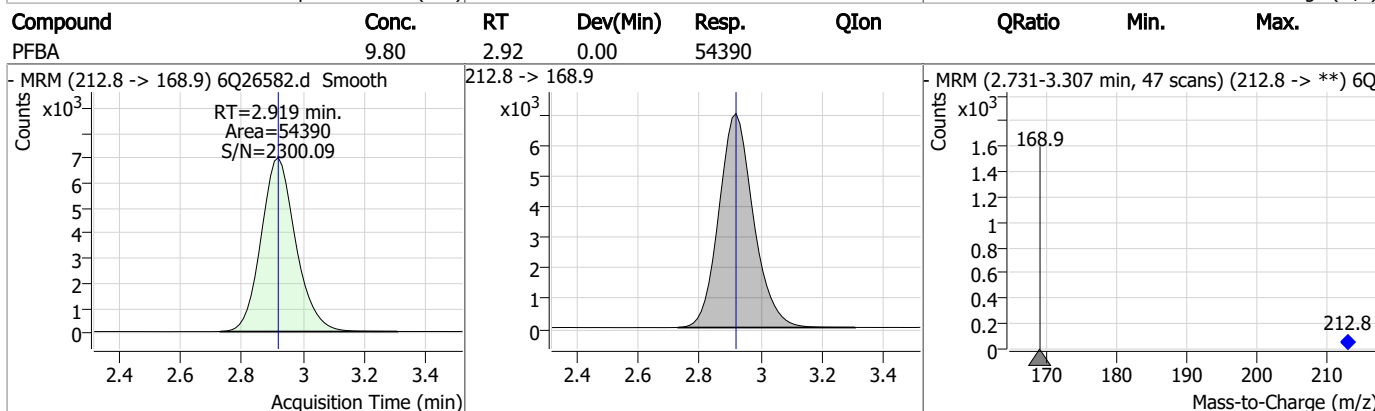
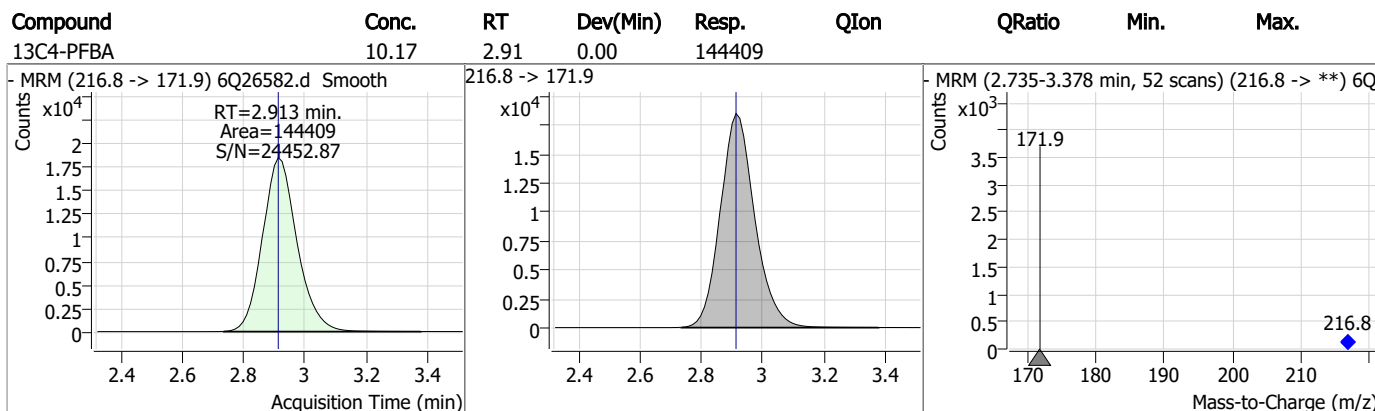
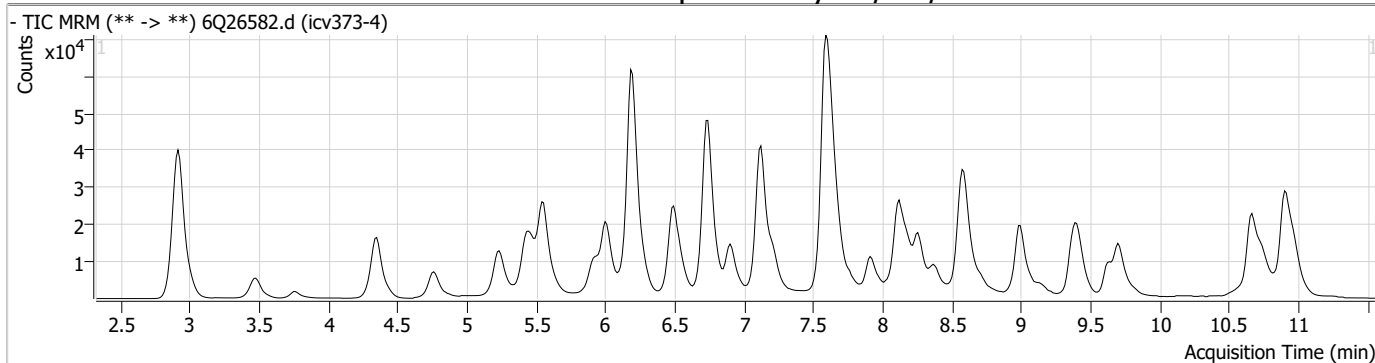
### Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
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7.7.29

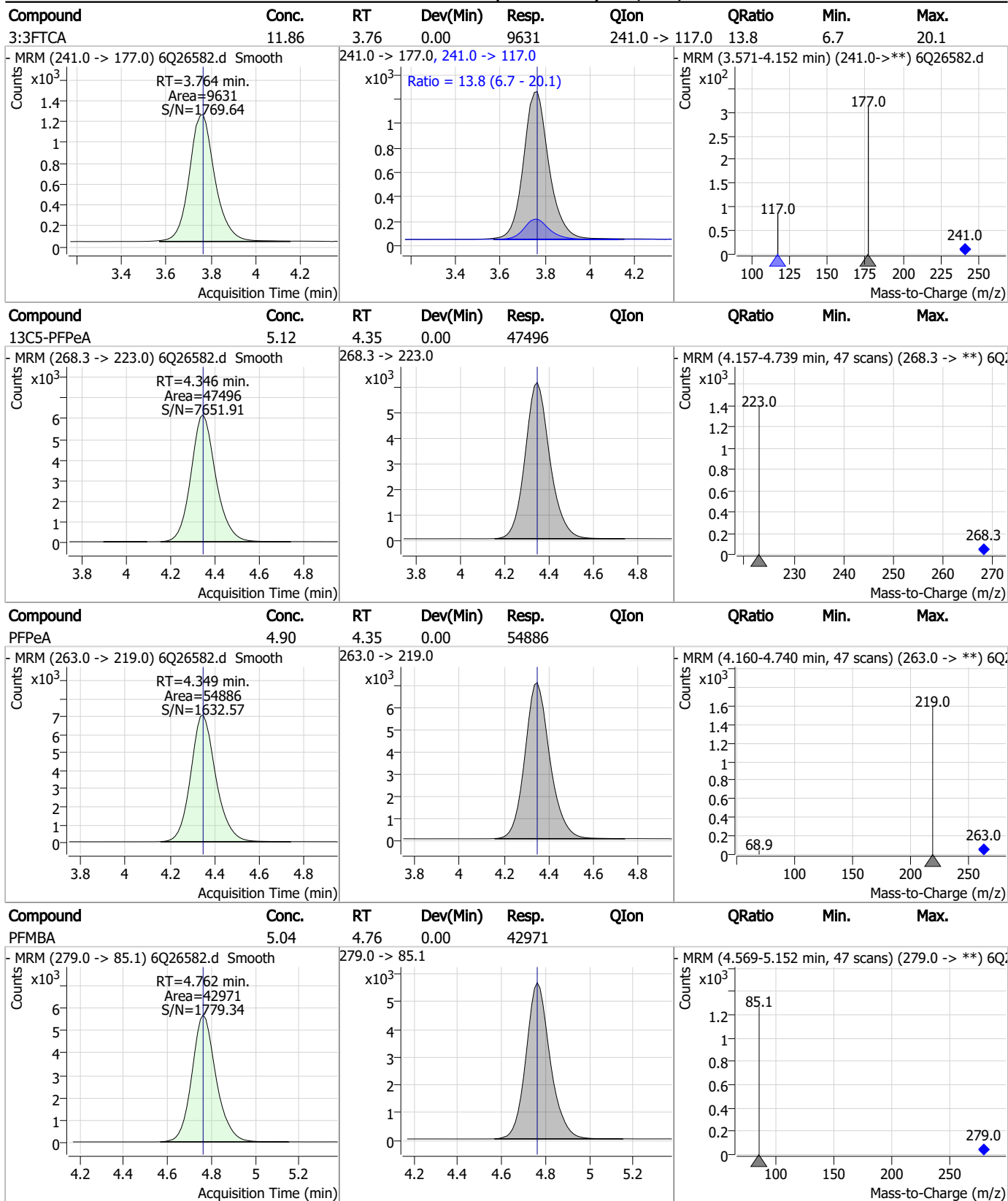
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### Perfluorinated Compounds by LC/MS/MS





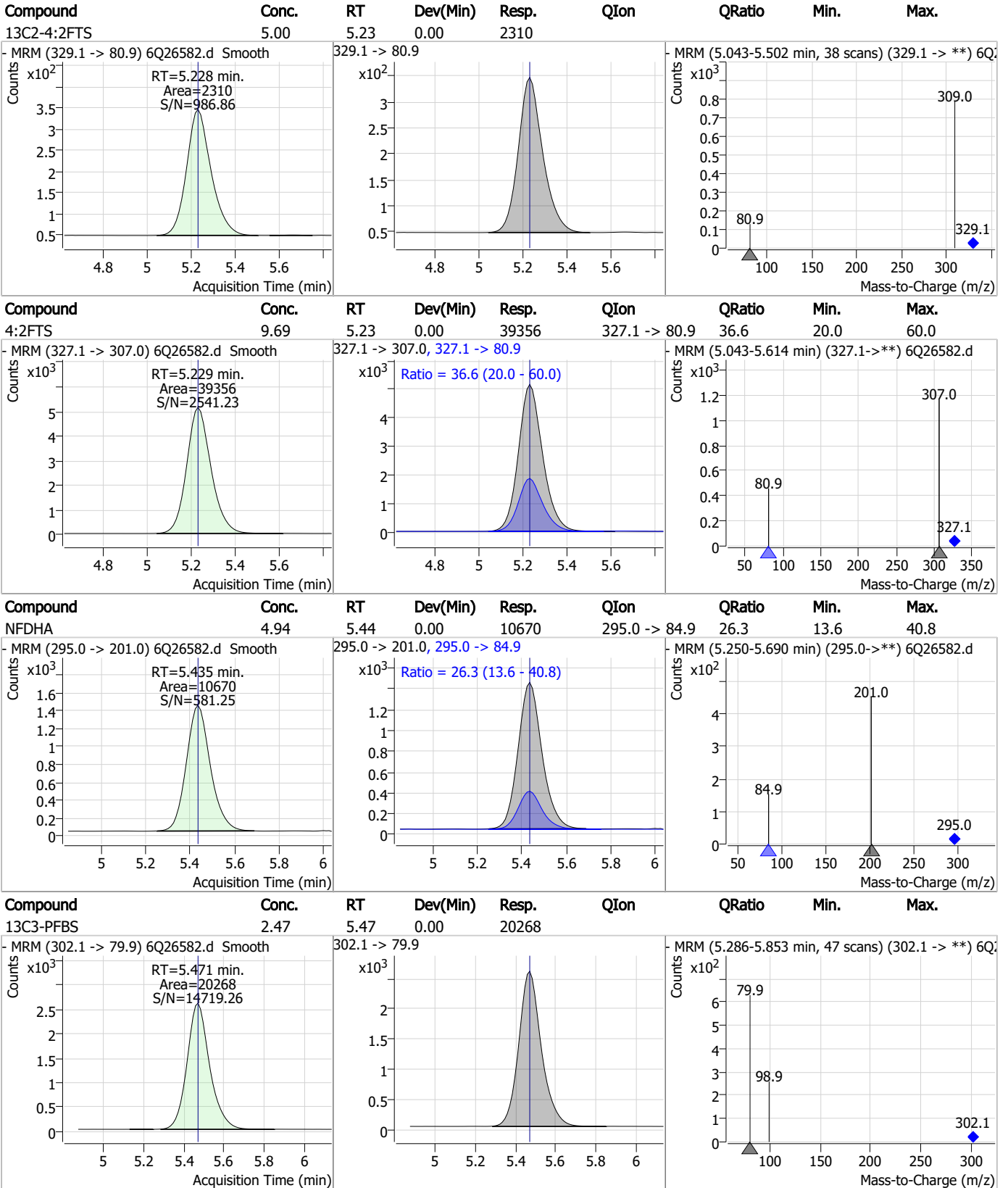
### Perfluorinated Compounds by LC/MS/MS



7.7.29

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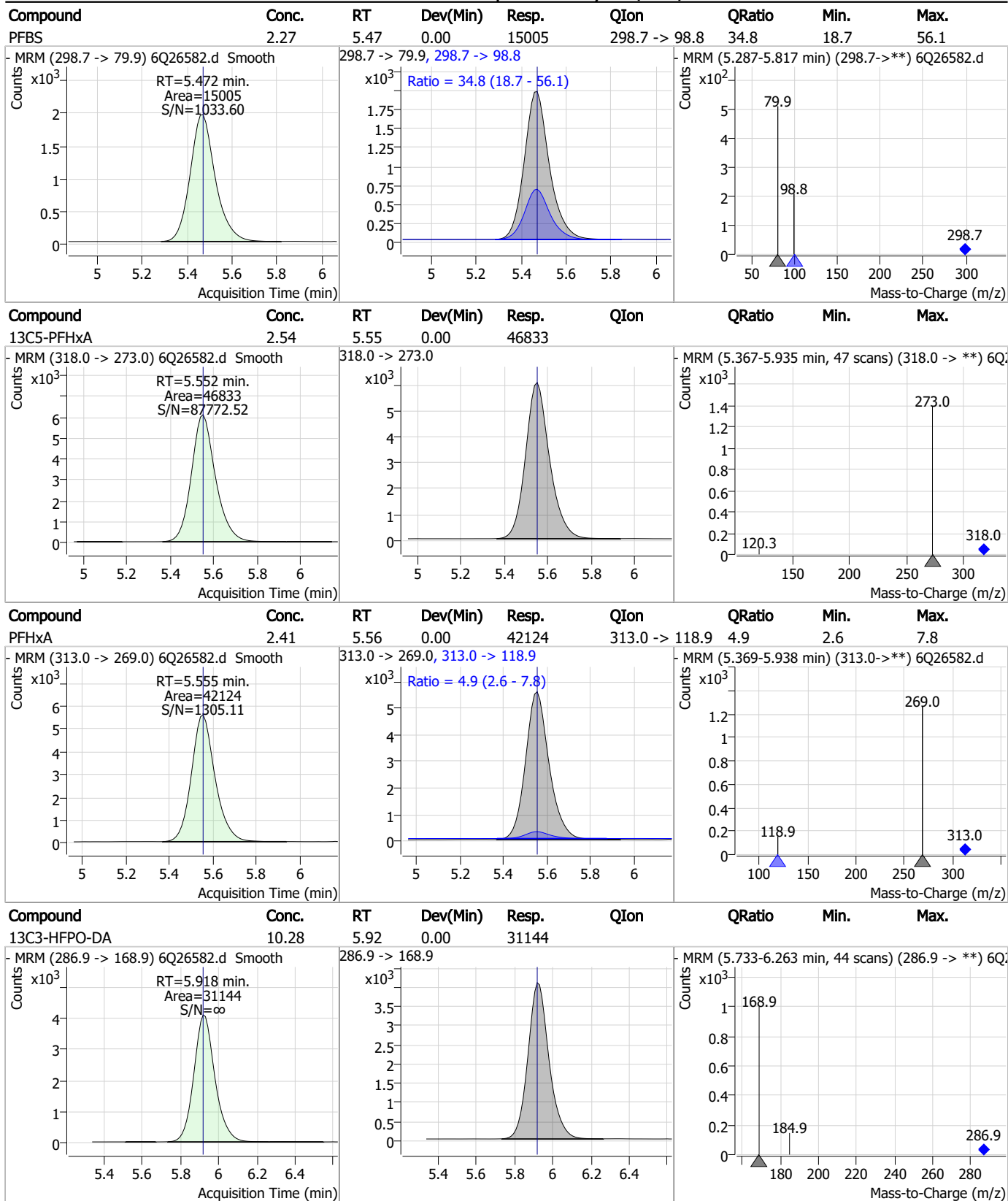
### Perfluorinated Compounds by LC/MS/MS



7.7.29  
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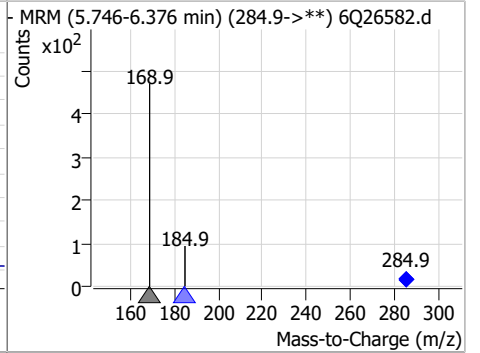
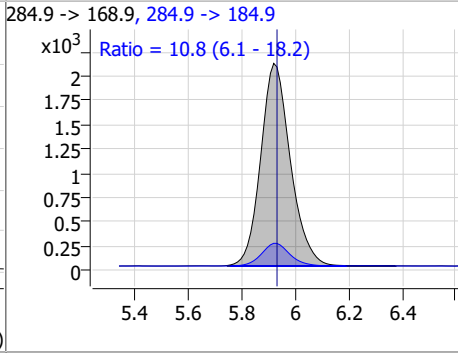
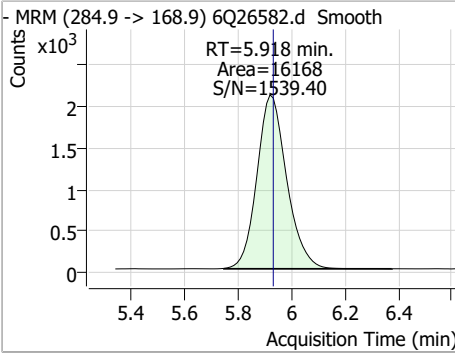
### Perfluorinated Compounds by LC/MS/MS



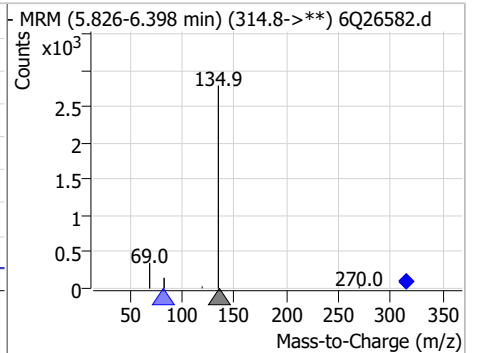
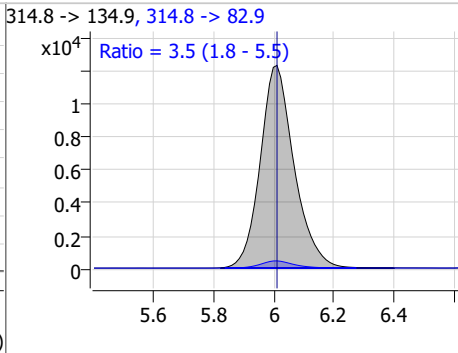
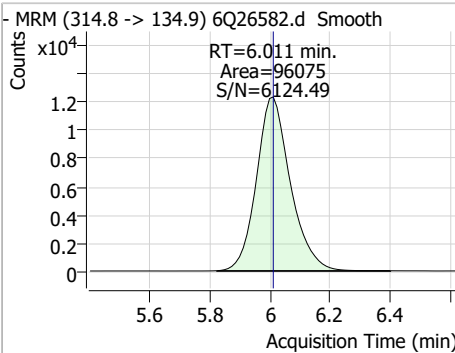
7.7.29  
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### Perfluorinated Compounds by LC/MS/MS

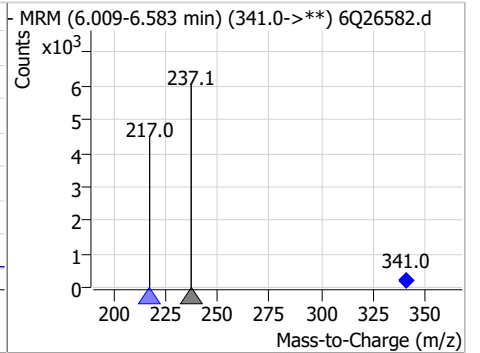
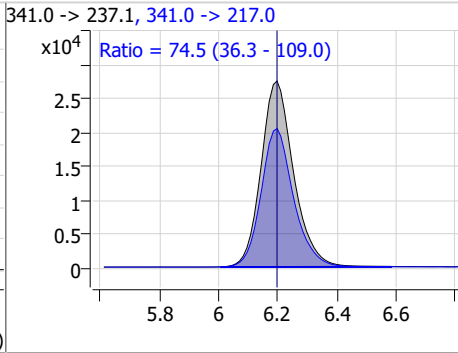
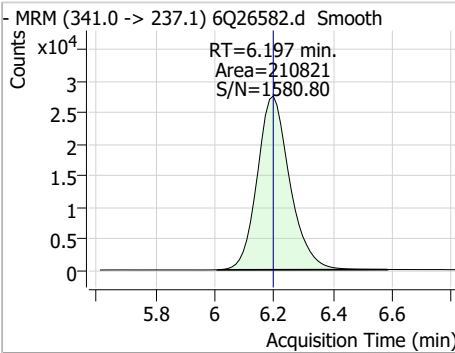
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
HFPO-DA	4.99	5.92	-0.01	16168	284.9 -> 184.9	10.8	6.1	18.2



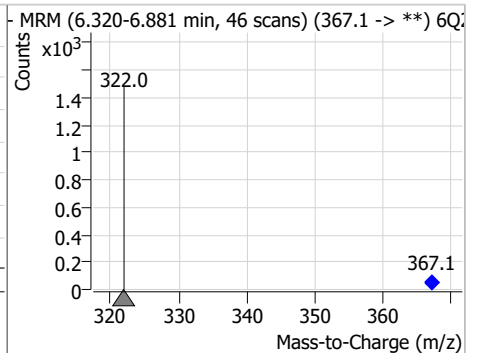
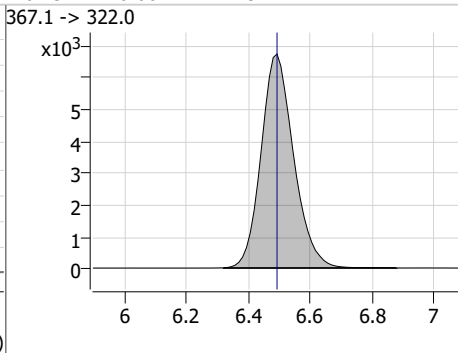
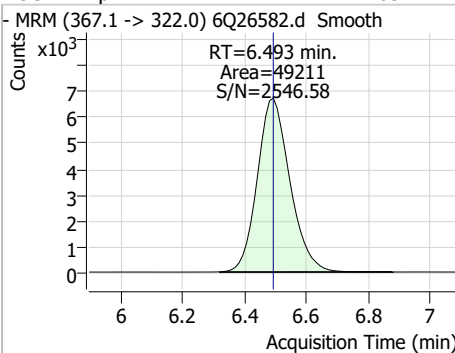
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFEESA	4.38	6.01	0.00	96075	314.8 -> 82.9	3.5	1.8	5.5



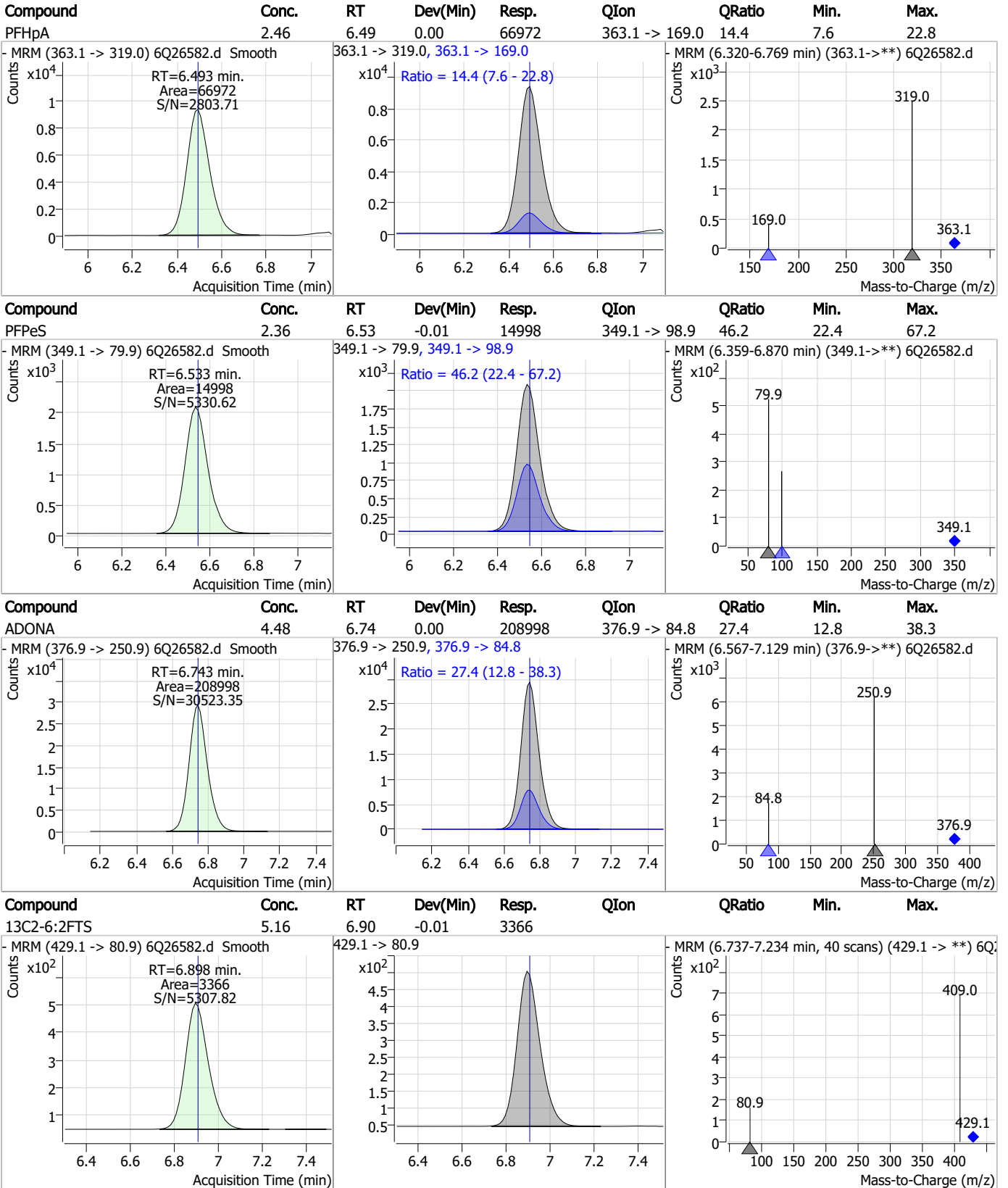
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
5:3FTCA	60.33	6.20	0.00	210821	341.0 -> 217.0	74.5	36.3	109.0



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFHpA	2.63	6.49	0.00	49211	367.1 -> 322.0			



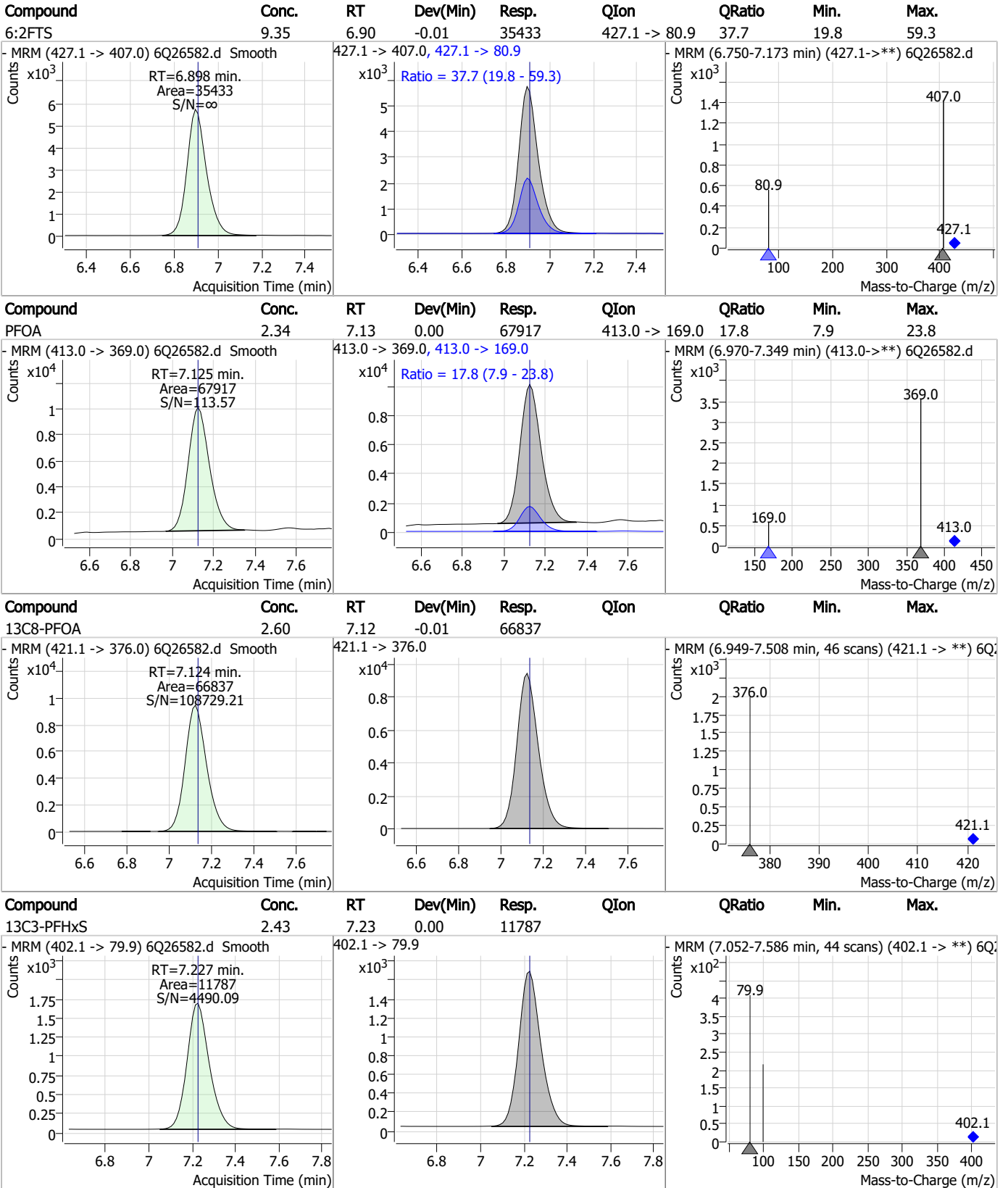
### Perfluorinated Compounds by LC/MS/MS



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### Perfluorinated Compounds by LC/MS/MS

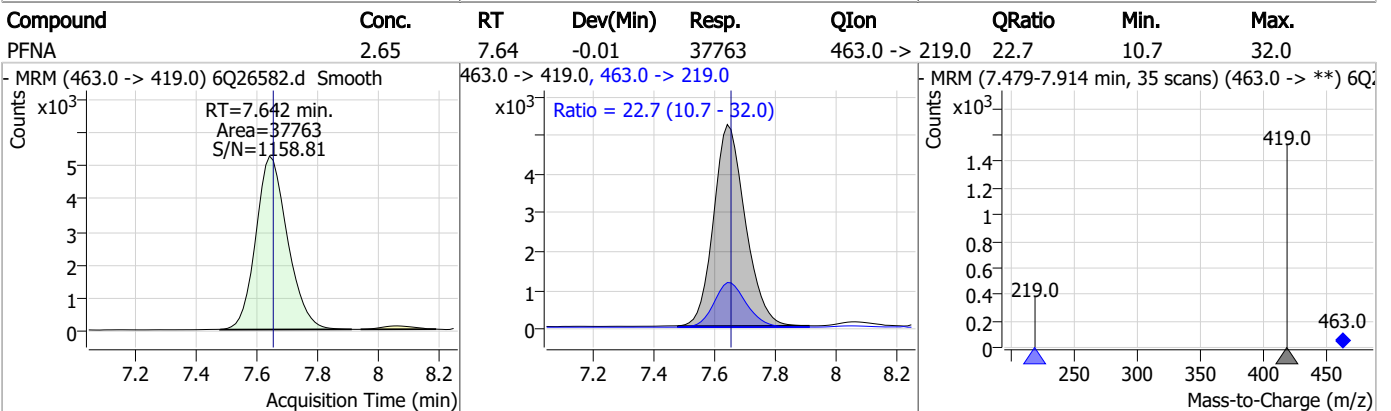
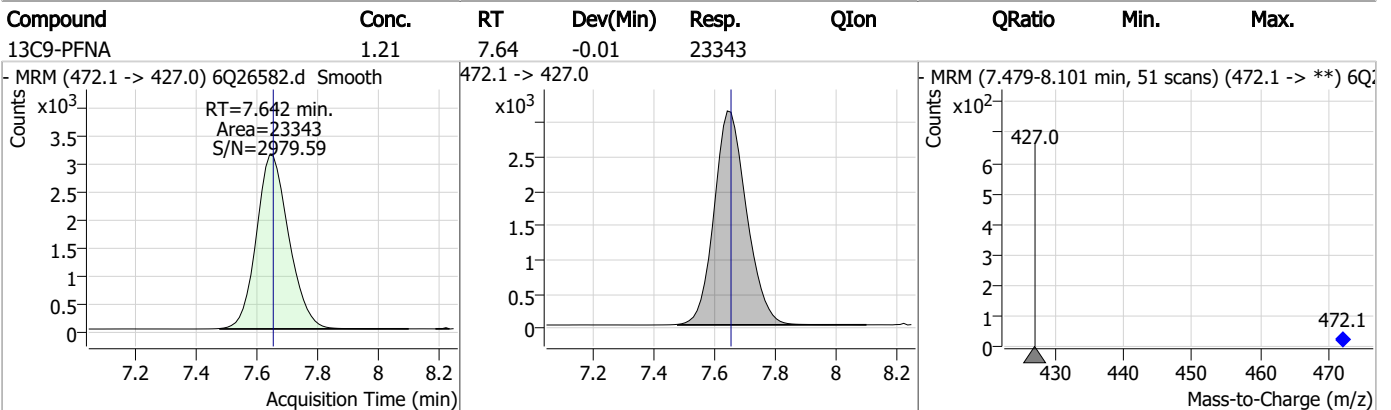
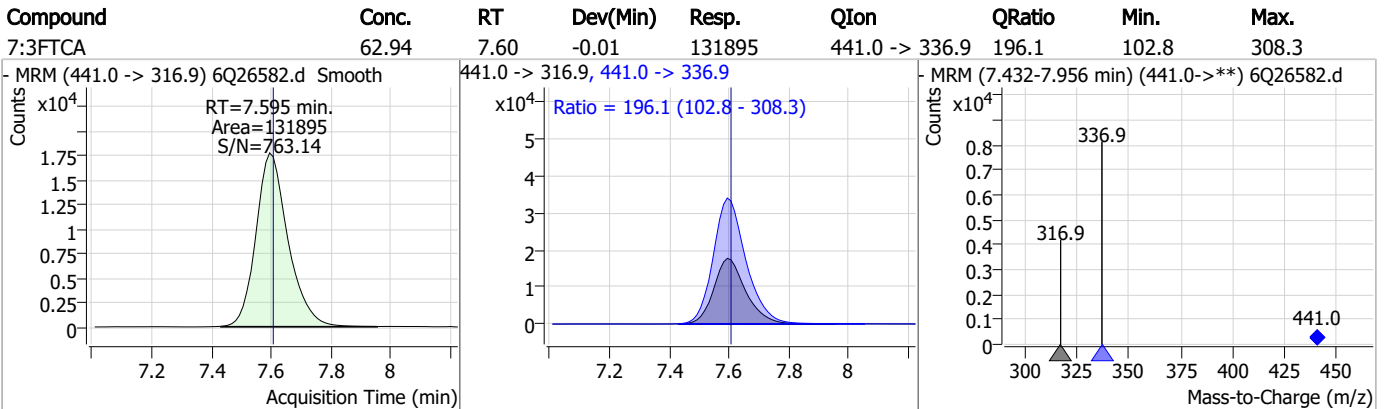
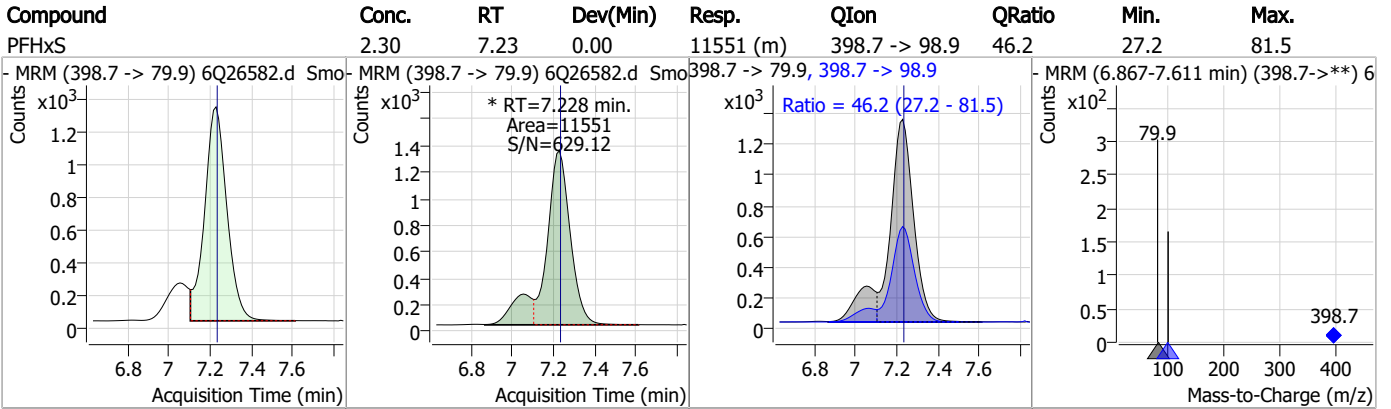


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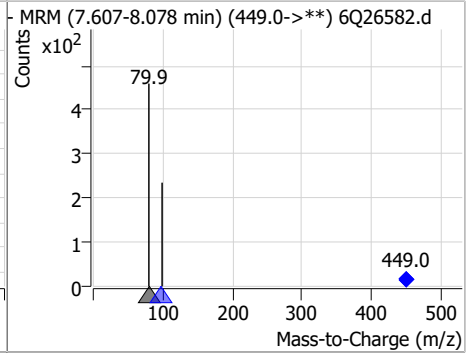
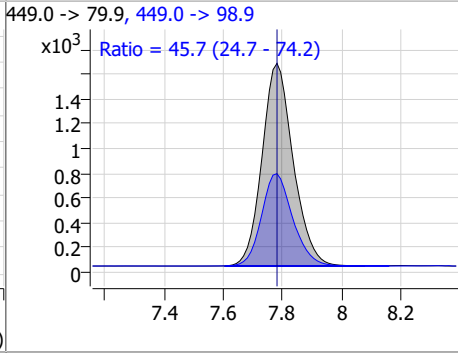
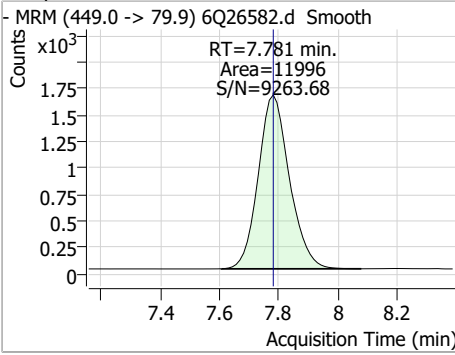


### Perfluorinated Compounds by LC/MS/MS

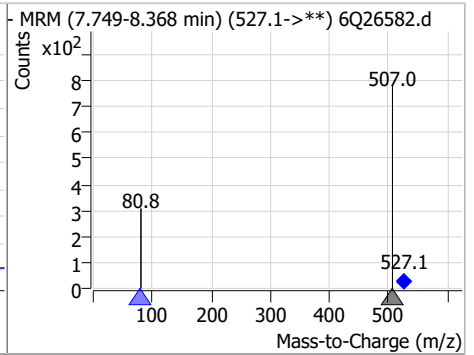
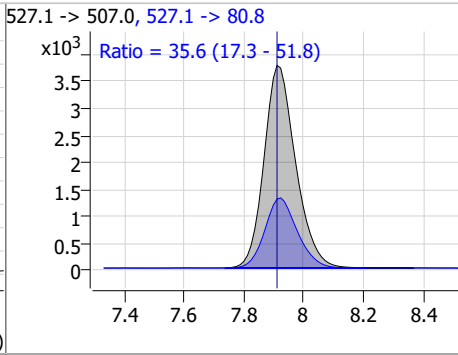
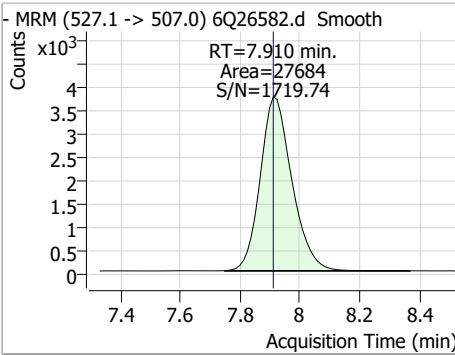


### Perfluorinated Compounds by LC/MS/MS

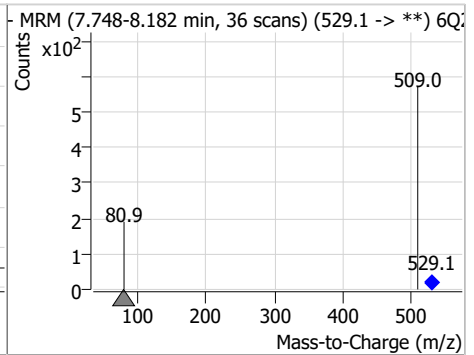
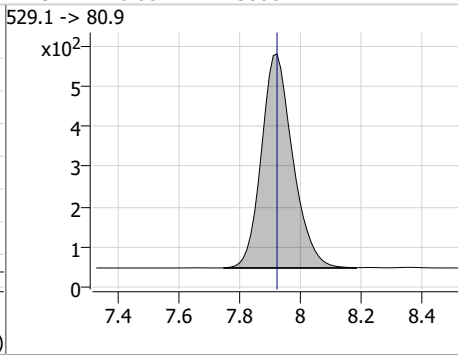
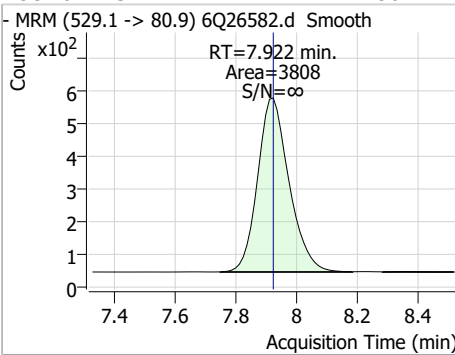
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpS	2.53	7.78	0.00	11996	449.0 -> 98.9	45.7	24.7	74.2



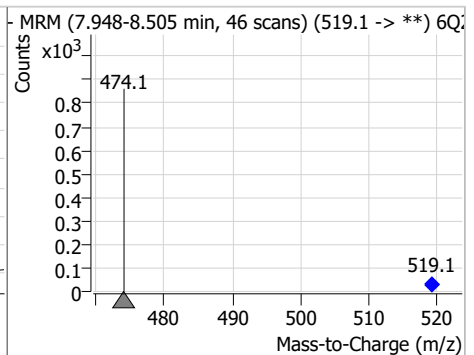
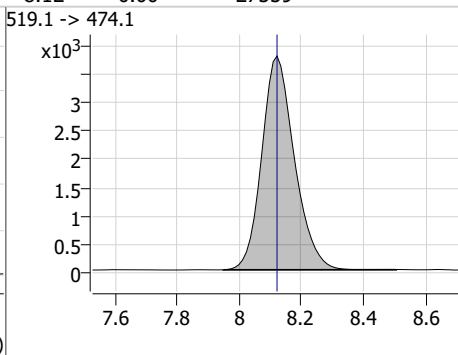
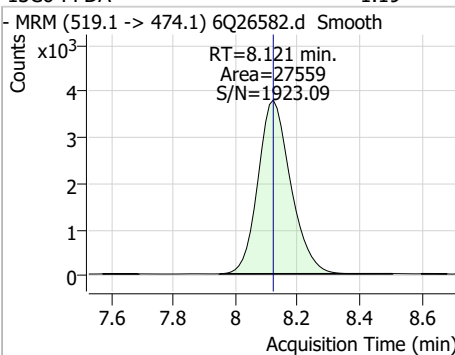
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
8:2FTS	9.66	7.91	0.00	27684	527.1 -> 80.8	35.6	17.3	51.8



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-8:2FTS	4.98	7.92	0.00	3808	529.1 -> 80.9			



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C6-PFDA	1.19	8.12	0.00	27559	519.1 -> 474.1			

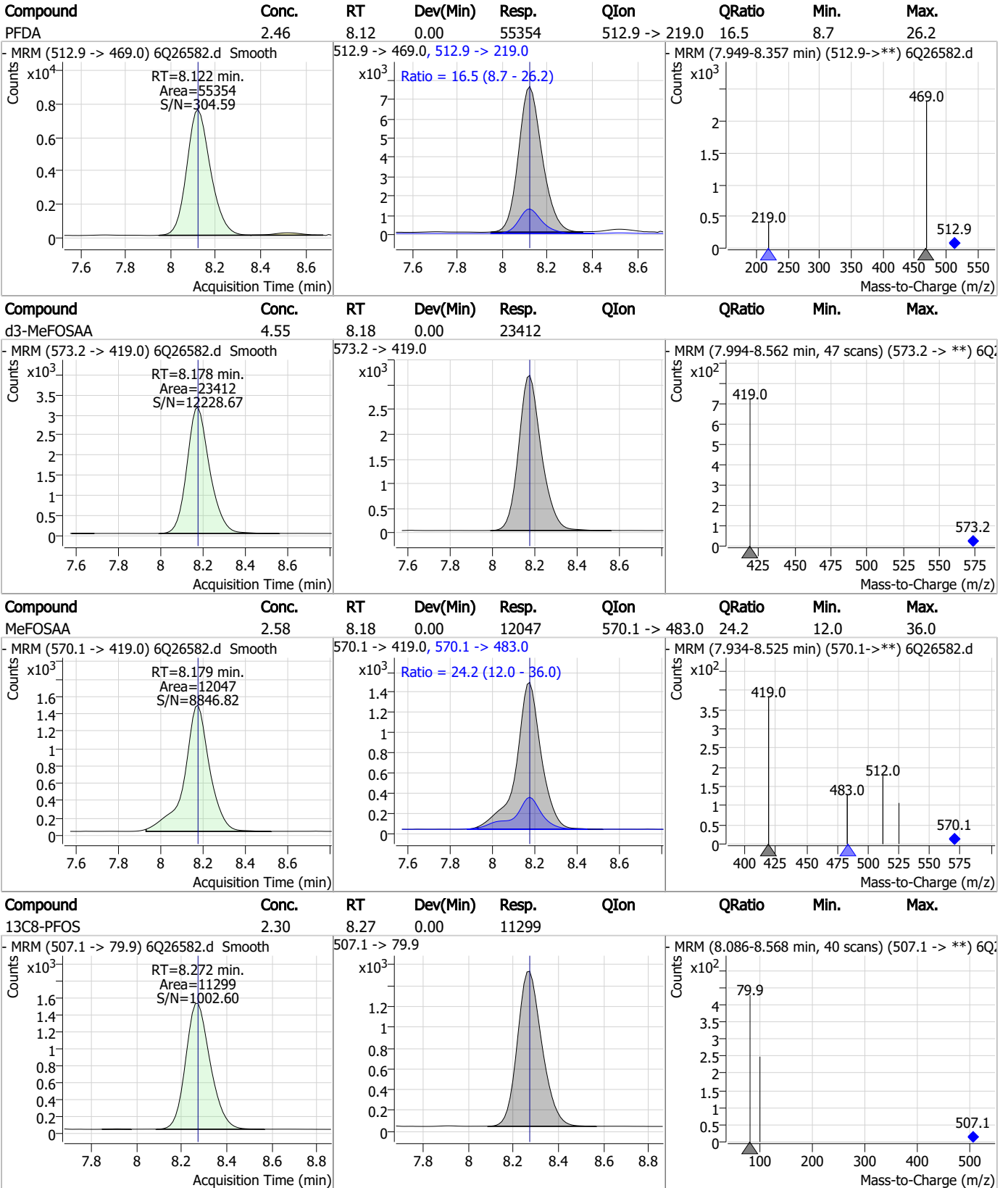


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### Perfluorinated Compounds by LC/MS/MS



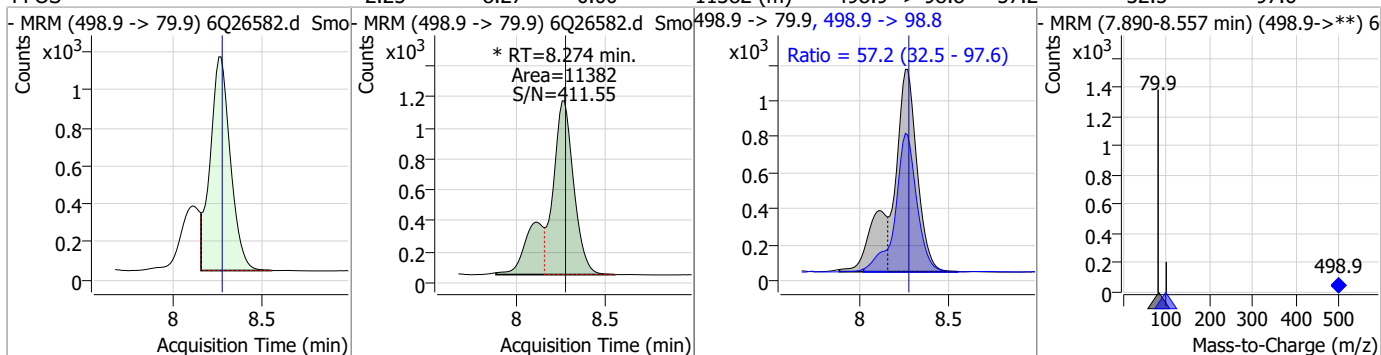
7.7.29

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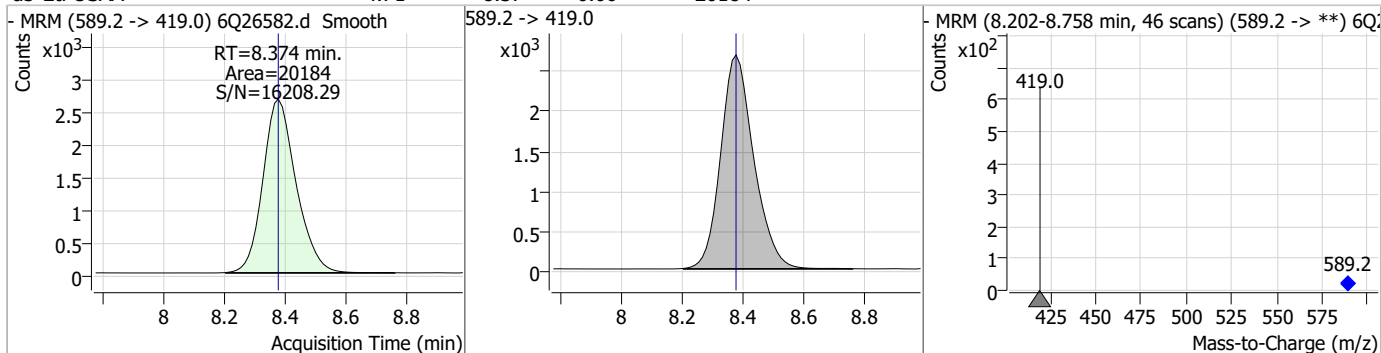


### Perfluorinated Compounds by LC/MS/MS

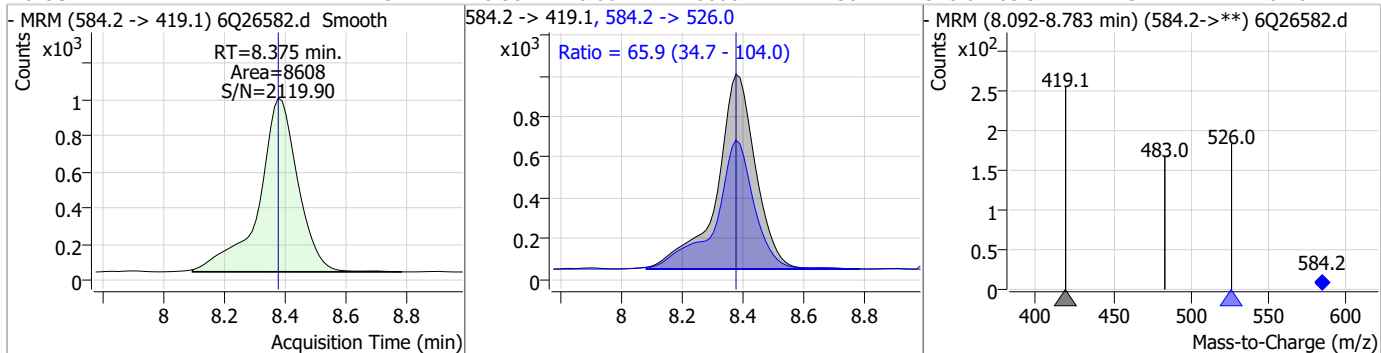
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOS	2.25	8.27	0.00	11382 (m)	498.9 -> 98.8	57.2	32.5	97.6



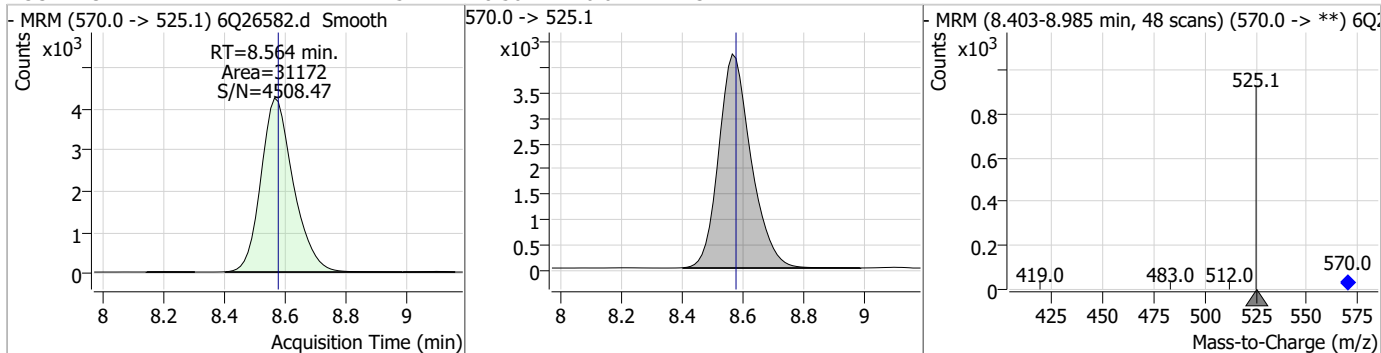
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSAA	4.71	8.37	0.00	20184				



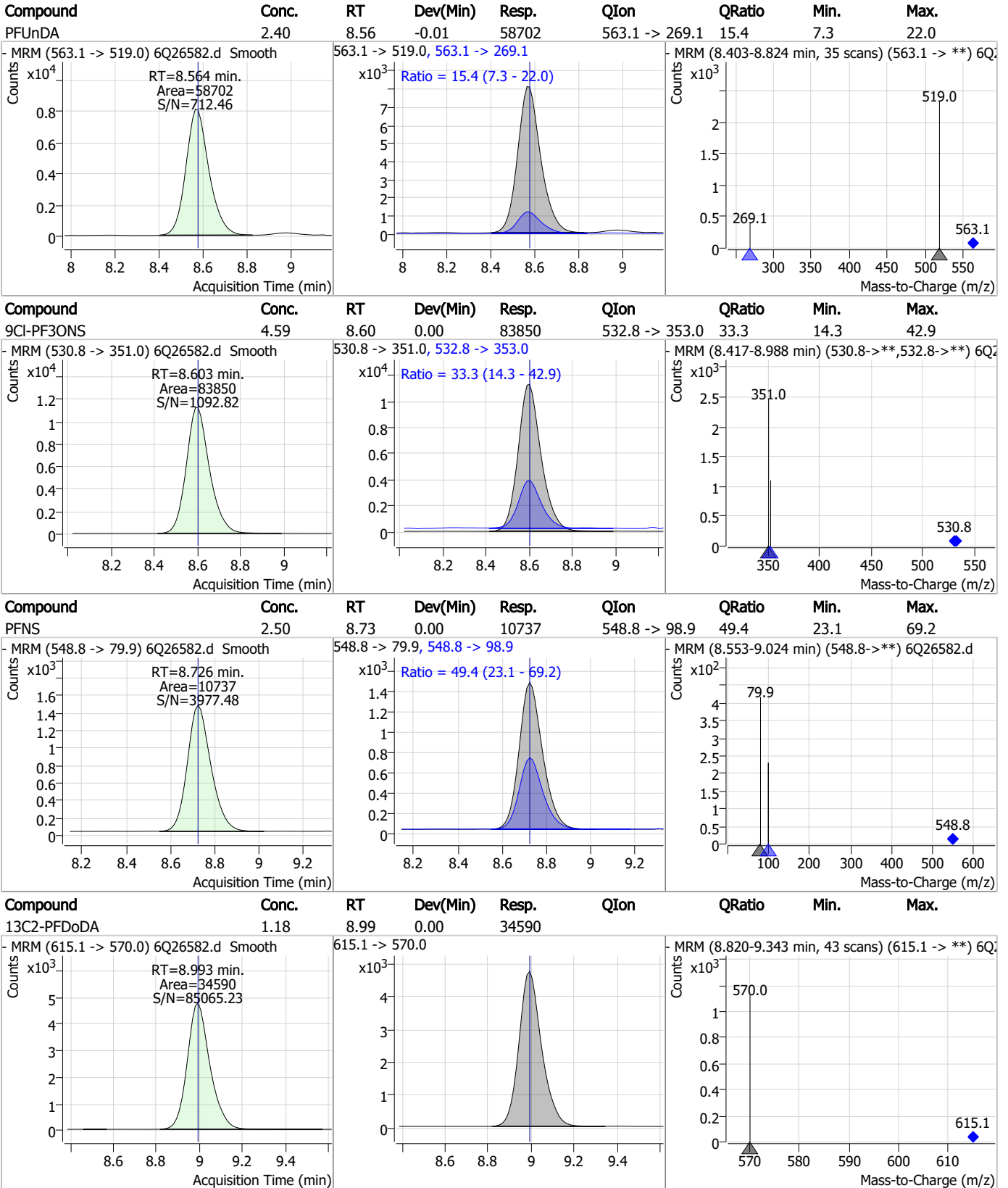
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSAA	2.57	8.38	0.00	8608	584.2 -> 526.0	65.9	34.7	104.0



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C7-PFUnDA	1.25	8.56	-0.01	31172				



### Perfluorinated Compounds by LC/MS/MS

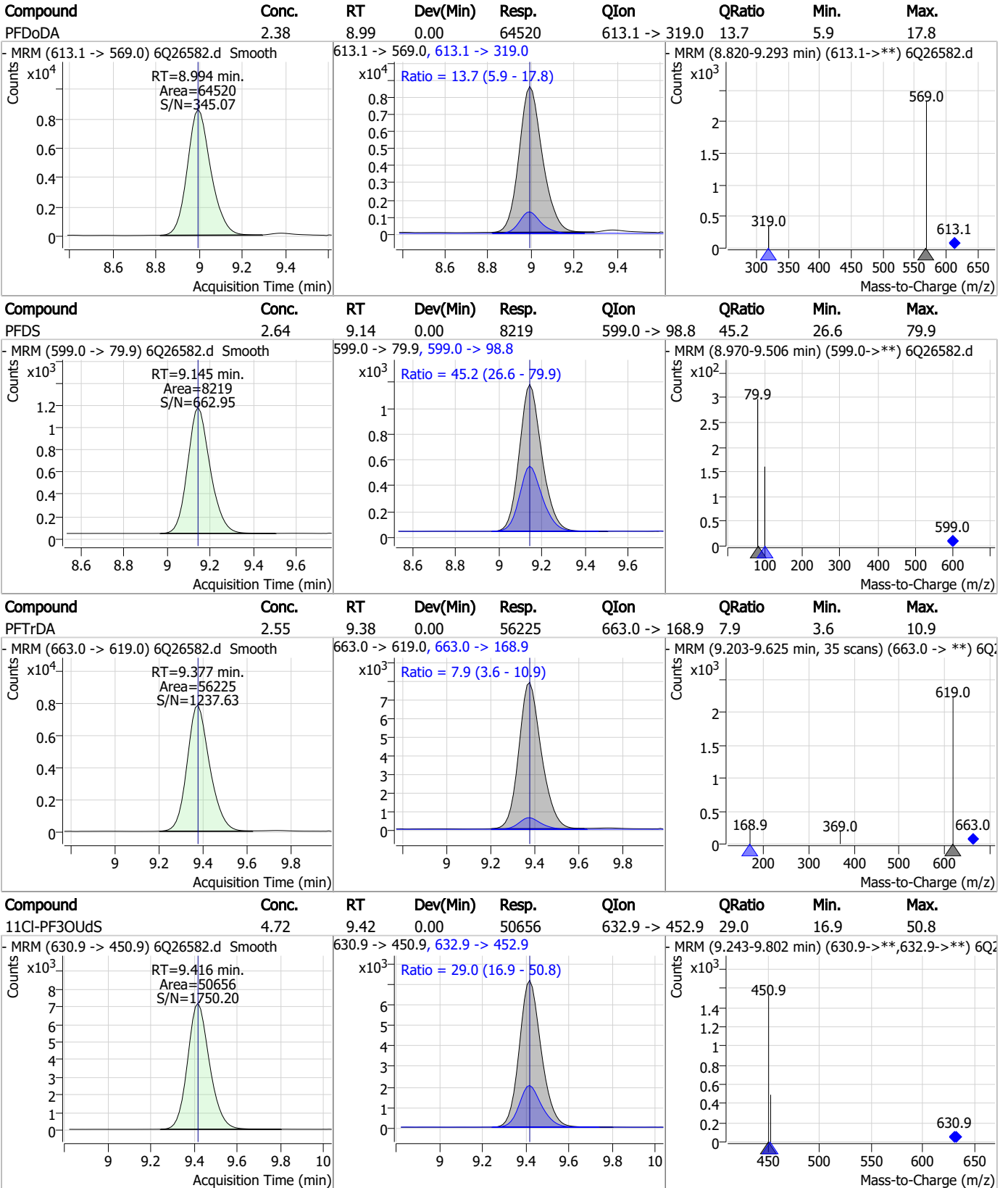


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### Perfluorinated Compounds by LC/MS/MS

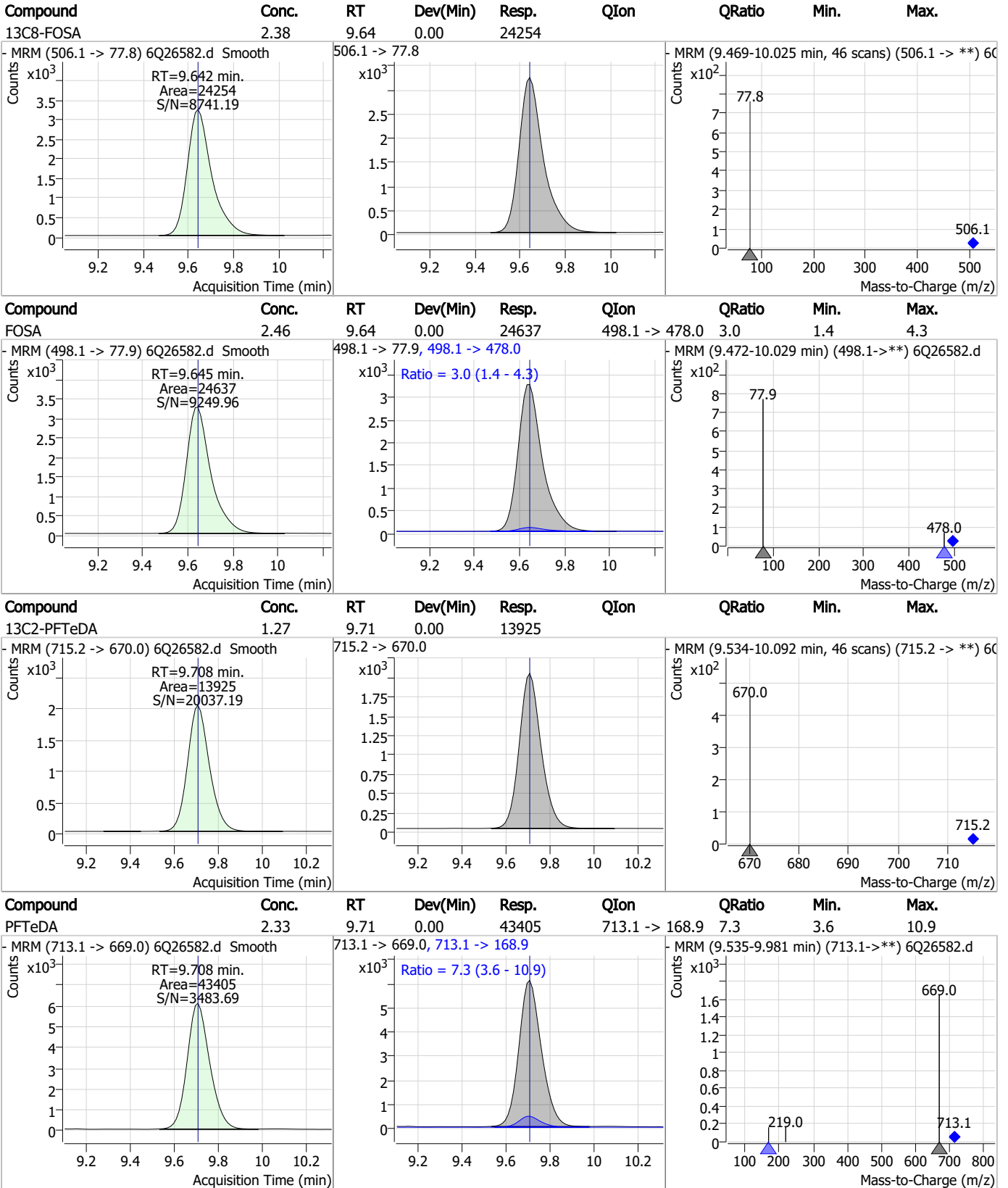


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### Perfluorinated Compounds by LC/MS/MS

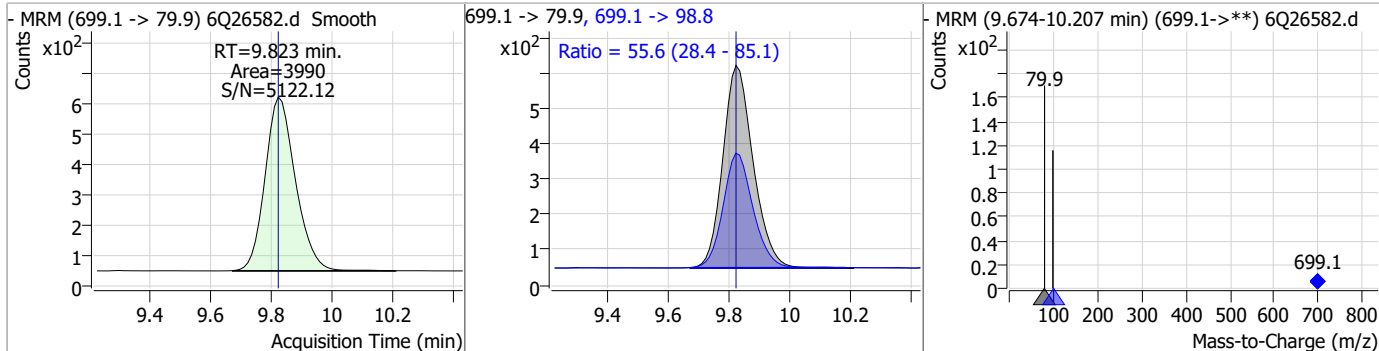


7.7.29 7

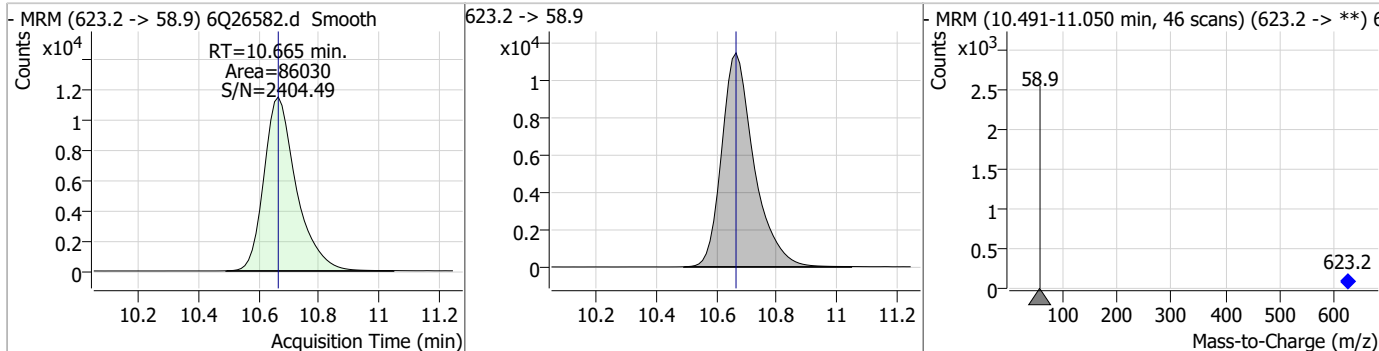


### Perfluorinated Compounds by LC/MS/MS

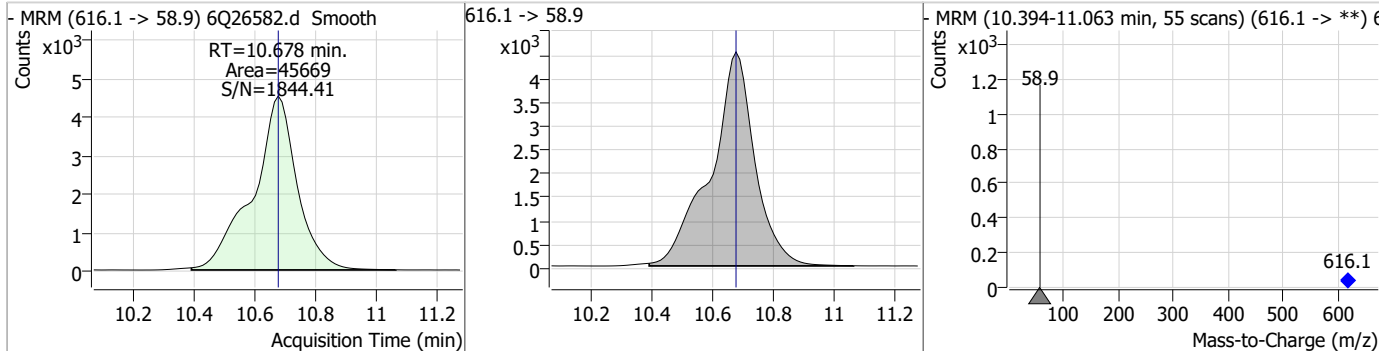
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoS	2.28	9.82	0.00	3990	699.1 -> 98.8	55.6	28.4	85.1



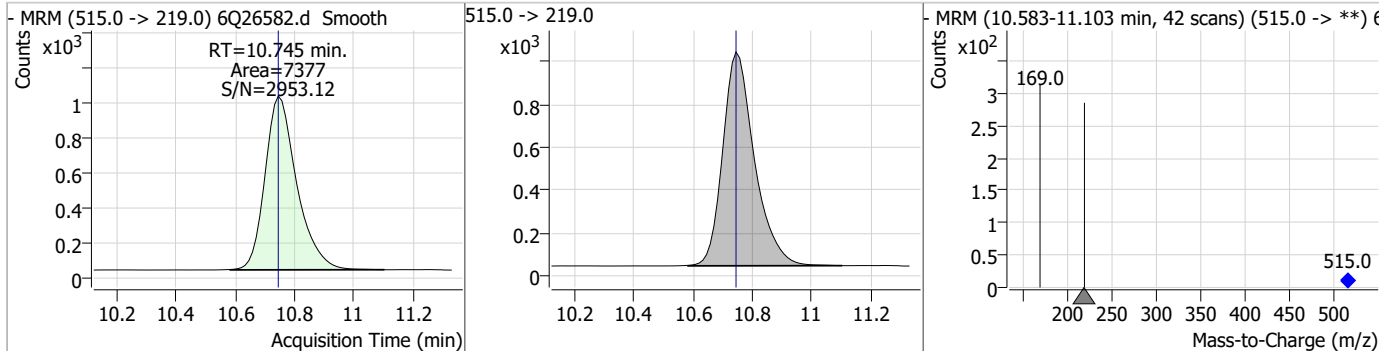
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d7-MeFOSE	23.98	10.67	0.00	86030				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSE	12.51	10.68	0.00	45669				

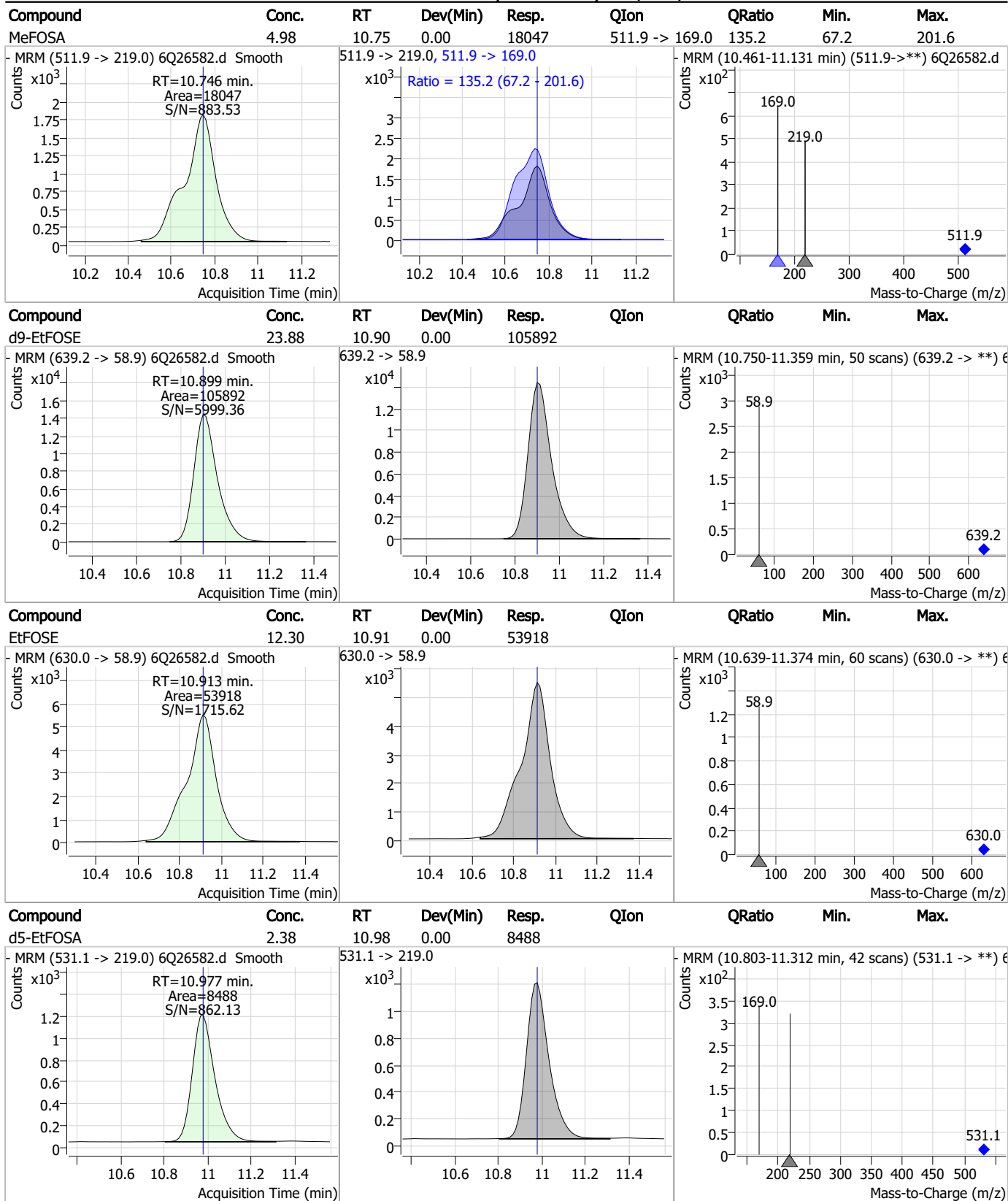


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSA	2.39	10.74	0.00	7377				



7.7.29  
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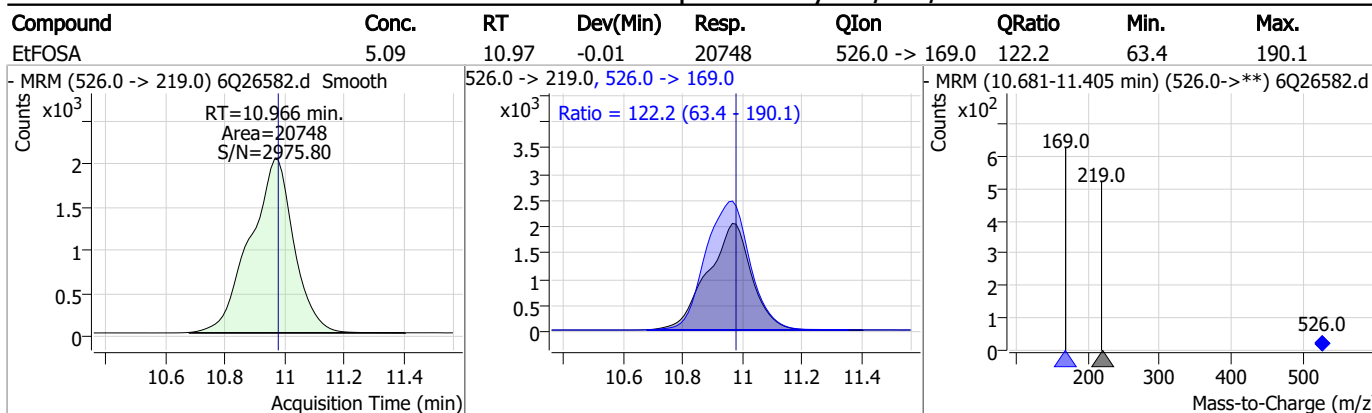
### Perfluorinated Compounds by LC/MS/MS



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### Perfluorinated Compounds by LC/MS/MS



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# Manual Integration Approval Summary

Sample Number: S6Q373-ICV373      Method: EPA DRAFT 1633  
Lab FileID: 6Q26582.D      Analyst approved: 10/18/23 16:28 Anna Ludwig  
Injection Time: 10/17/23 20:20      Supervisor approved: 10/19/23 09:36 Natasha Guntie

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		7.23	Split peak
Perfluorooctanesulfonic acid	1763-23-1		8.27	Split peak

7.7.29.1

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### Perfluorinated Compounds by LC/MS/MS

Data File : 6Q26583.d  
 Operator : marthav  
 Acq. Method : 1633full.m  
 Acq. Date-Time : 10/17/2023 8:35:06 PM  
 Sample Name : icv373-20  
 Vial : P1-B2  
 DA Method File : 1633\_101723\_S6Q373.quantmethod.xml  
 Batch Name : S6Q373.batch.bin  
 Sample Information : OP99081,S6Q373,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
<b>Internal Standards</b>					
M4-PFBA	2.913	216.8 -> 171.9	140749	10.00 µg/L	0.000
M5-PFPeA	4.346	268.3 -> 223.0	45384	5.00 µg/L	0.000
M5-PFHxA	5.552	318.0 -> 273.0	44611	2.50 µg/L	0.000
M4-PFHpA	6.493	367.1 -> 322.0	45118	2.50 µg/L	0.000
M8-PFOA	7.124	421.1 -> 376.0	62941	2.50 µg/L	-0.012
M9-PFNA	7.642	472.1 -> 427.0	24194	1.25 µg/L	-0.012
M6-PFDA	8.109	519.1 -> 474.1	26726	1.25 µg/L	-0.012
M7-PFUnDA	8.564	570.0 -> 525.1	29118	1.25 µg/L	-0.012
M2-PFDoDA	8.993	615.1 -> 570.0	33629	1.25 µg/L	0.000
M2-PFTeDA	9.695	715.2 -> 670.0	13098	1.25 µg/L	-0.012
M8-FOSA	9.642	506.1 -> 77.8	23385	2.50 µg/L	0.000
M3-PFBS	5.471	302.1 -> 79.9	18417	2.50 µg/L	0.000
M3-PFHxS	7.227	402.1 -> 79.9	12124	2.50 µg/L	0.000
M8-PFOS	8.260	507.1 -> 79.9	10701	2.50 µg/L	-0.012
M2-4:2FTS	5.228	329.1 -> 80.9	2230	5.00 µg/L	0.000
M2-6:2FTS	6.910	429.1 -> 80.9	3419	5.00 µg/L	0.000
M2-8:2FTS	7.910	529.1 -> 80.9	3588	5.00 µg/L	-0.012
M3-MeFOSAA	8.178	573.2 -> 419.0	23221	5.00 µg/L	0.000
M3-HFPO-DA	5.930	286.9 -> 168.9	29540	10.00 µg/L	0.012
M5-EtFOSAA	8.374	589.2 -> 419.0	20010	5.00 µg/L	0.000
M7-MeFOSE	10.665	623.2 -> 58.9	83756	25.00 µg/L	0.000
M9-EtFOSE	10.899	639.2 -> 58.9	100566	25.00 µg/L	0.000
M5-EtFOSA	10.965	531.1 -> 219.0	7902	2.50 µg/L	-0.012
M3-MeFOSA	10.745	515.0 -> 219.0	6854	2.50 µg/L	0.000
13C4-PFOS	8.261	502.8 -> 79.9	10991	2.50 µg/L	-0.012
13C3-PFBA	2.916	216.0 -> 172.0	57113	5.00 µg/L	0.000
18O2-PFHxS	7.226	403.0 -> 83.9	7187	2.50 µg/L	0.000
13C4-PFOA	7.125	417.1 -> 372.0	64944	2.50 µg/L	0.000
13C2-PFDA	8.122	515.1 -> 470.1	24893	1.25 µg/L	0.000
13C5-PFNA	7.642	468.0 -> 423.0	22224	1.25 µg/L	-0.012
13C2-PFHxA	5.553	315.1 -> 270.0	44094	2.50 µg/L	0.000
<b>System Monitoring Compounds</b>					
13C2-4:2FTS	5.228	329.1 -> 80.9	2230	4.97 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 99.3%		
13C2-6:2FTS	6.910	429.1 -> 80.9	3419	5.39 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 107.9%		
13C2-8:2FTS	7.910	529.1 -> 80.9	3588	4.83 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 96.7%		
13C2-PFDoDA	8.993	615.1 -> 570.0	33629	1.25 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 100.0%		
13C2-PFTeDA	9.695	715.2 -> 670.0	13098	1.30 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 103.9%		
13C3-PFBS	5.471	302.1 -> 79.9	18417	2.32 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 92.6%		
13C3-PFHxS	7.227	402.1 -> 79.9	12124	2.58 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 = 103.1%	
13C4-PFBA	2.913	216.8 -> 171.9	140749	10.00 µg/L	0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 100.0%	
13C4-PFHpA	6.493	367.1 -> 322.0	45118	2.52 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 100.9%	
13C5-PFHxA	5.552	318.0 -> 273.0	44611	2.52 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 101.0%	
13C5-PFPeA	4.346	268.3 -> 223.0	45384	5.11 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 102.2%	
13C6-PFDA	8.109	519.1 -> 474.1	26726	1.26 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 100.8%	
13C7-PFUnDA	8.564	570.0 -> 525.1	29118	1.27 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 101.3%	
13C8-FOSA	9.642	506.1 -> 77.8	23385	2.31 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 92.5%	
13C8-PFOA	7.124	421.1 -> 376.0	62941	2.71 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 108.4%	
13C8-PFOS	8.260	507.1 -> 79.9	10701	2.20 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 88.1%	
13C9-PFNA	7.642	472.1 -> 427.0	24194	1.27 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 101.3%	
d3-MeFOSAA	8.178	573.2 -> 419.0	23221	4.55 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 91.1%	
13C3-HFPO-DA	5.930	286.9 -> 168.9	29540	10.19 µg/L	0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 101.9%	
d3-MeFOSA	10.745	515.0 -> 219.0	6854	2.24 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 89.7%	
d5-EtFOSAA	8.374	589.2 -> 419.0	20010	4.71 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 94.3%	
d7-MeFOSE	10.665	623.2 -> 58.9	83756	23.57 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 94.3%	
d9-EtFOSE	10.899	639.2 -> 58.9	100566	22.90 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 91.6%	
d5-EtFOSA	10.965	531.1 -> 219.0	7902	2.23 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 89.4%	
<b>Target Compounds</b>					<b>QValue</b>
4:2FTS	5.229	327.1 -> 307.0	79499	20.28 µg/L	97
		327.1 -> 80.9	30182		
6:2FTS	6.898	427.1 -> 407.0	69700	18.10 µg/L	98
		427.1 -> 80.9	26617		
8:2FTS	7.910	527.1 -> 507.0	55129	20.42 µg/L	98
		527.1 -> 80.8	19537		
EtFOSAA	8.375	584.2 -> 419.1	67206	20.22 µg/L	91
		584.2 -> 526.0	41554		
FOSA	9.633	498.1 -> 77.9	183177	18.99 µg/L	100
		498.1 -> 478.0	5359		
MeFOSAA	8.179	570.1 -> 419.0	95488	20.62 µg/L	95
		570.1 -> 483.0	20455		
PFBA	2.919	212.8 -> 168.9	101397	18.75 µg/L	100
PFBS	5.472	298.7 -> 79.9	121321	20.20 µg/L	98
		298.7 -> 98.8	46693		
PFDA	8.122	512.9 -> 469.0	430229	19.71 µg/L	96
		512.9 -> 219.0	66949		
PFDoDA	8.994	613.1 -> 569.0	448410	16.99 µg/L	99
		613.1 -> 319.0	55555		
PFDS	9.145	599.0 -> 79.9	62694	21.30 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	29384			
PFHpA	6.493	363.1 -> 319.0	499762	20.05	µg/L	98
		363.1 -> 169.0	71515			
PFHpS	7.781	449.0 -> 79.9	91308	20.30	µg/L	99
		449.0 -> 98.9	45543			
PFHxA	5.555	313.0 -> 269.0	346350	20.80	µg/L	99
		313.0 -> 118.9	16996			
PFHxS	7.228	398.7 -> 79.9	100804	19.53	µg/L	m 88
		398.7 -> 98.9	45955			
PFNA	7.642	463.0 -> 419.0	311152	21.09	µg/L	98
		463.0 -> 219.0	68882			
PFNS	8.726	548.8 -> 79.9	78004	19.19	µg/L	95
		548.8 -> 98.9	38729			
PFOA	7.125	413.0 -> 369.0	511159	18.69	µg/L	97
		413.0 -> 169.0	88305			
PFOS	8.261	498.9 -> 79.9	94635	19.75	µg/L	m 78
		498.9 -> 98.8	44850			
PFPeA	4.349	263.0 -> 219.0	210968	19.70	µg/L	100
PFPeS	6.533	349.1 -> 79.9	123328	18.88	µg/L	97
		349.1 -> 98.9	58020			
PFTeDA	9.696	713.1 -> 669.0	362101	20.65	µg/L	100
		713.1 -> 168.9	26192			
PFTrDA	9.365	663.0 -> 619.0	389566	18.17	µg/L	98
		663.0 -> 168.9	30778			
PFUnDA	8.564	563.1 -> 519.0	393746	17.24	µg/L	95
		563.1 -> 269.1	65583			
11Cl-PF3OUdS	9.404	630.9 -> 450.9	199303	19.57	µg/L	95
		632.9 -> 452.9	61699			
9Cl-PF3ONS	8.591	530.8 -> 351.0	331367	19.13	µg/L	93
		532.8 -> 353.0	106930			
ADONA	6.743	376.9 -> 250.9	836592	18.92	µg/L	95
		376.9 -> 84.8	236417			
HFPO-DA	5.931	284.9 -> 168.9	59917	19.50	µg/L	97
		284.9 -> 184.9	6474			
3:3FTCA	3.764	241.0 -> 177.0	14878	18.79	µg/L	99
		241.0 -> 117.0	2071			
5:3FTCA	6.197	341.0 -> 237.1	71063	21.35	µg/L	99
		341.0 -> 217.0	50860			
7:3FTCA	7.595	441.0 -> 316.9	38714	19.39	µg/L	100
		441.0 -> 336.9	79366			
EtFOSA	10.979	526.0 -> 219.0	69983	18.43	µg/L	79
		526.0 -> 169.0	71540			
EtFOSE	10.913	630.0 -> 58.9	414531	99.60	µg/L	100
MeFOSA	10.746	511.9 -> 219.0	62292	18.49	µg/L	83
		511.9 -> 169.0	71284			
MeFOSE	10.678	616.1 -> 58.9	348240	97.96	µg/L	100
PFDoDS	9.823	699.1 -> 79.9	32576	19.66	µg/L	96
		699.1 -> 98.8	17557			
NFDHA	5.435	295.0 -> 201.0	40447	19.65	µg/L	100
		295.0 -> 84.9	11001			
PFMBA	4.762	279.0 -> 85.1	158582	19.48	µg/L	100
PFMPA	3.475	229.0 -> 84.9	127555	19.10	µg/L	100
PFEESA	6.011	314.8 -> 134.9	374968	17.94	µg/L	99
		314.8 -> 82.9	13043			

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

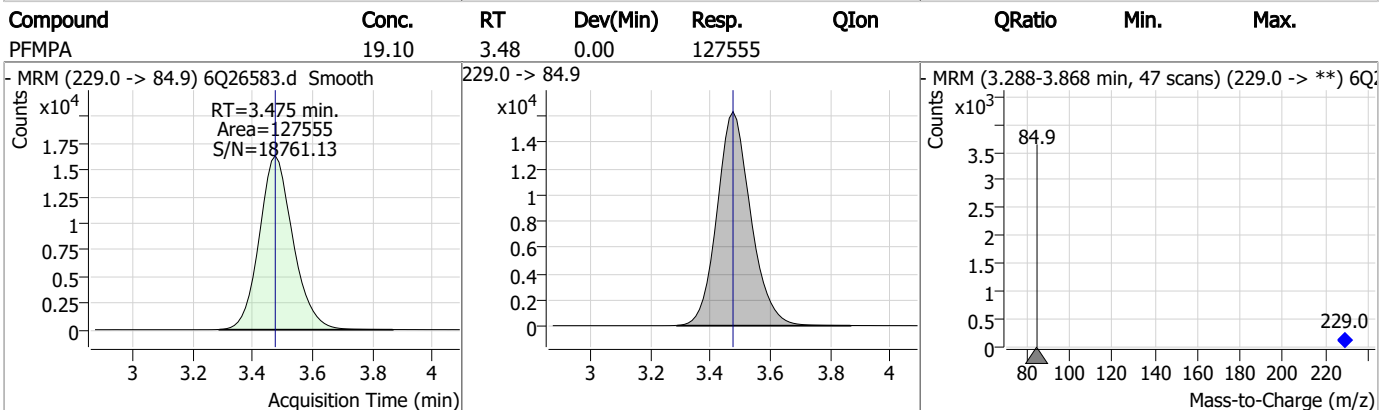
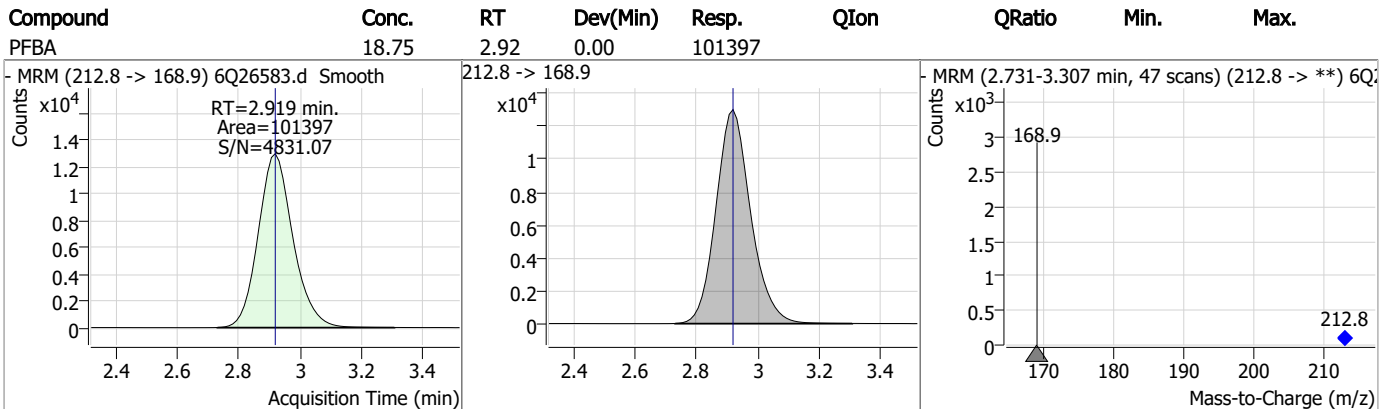
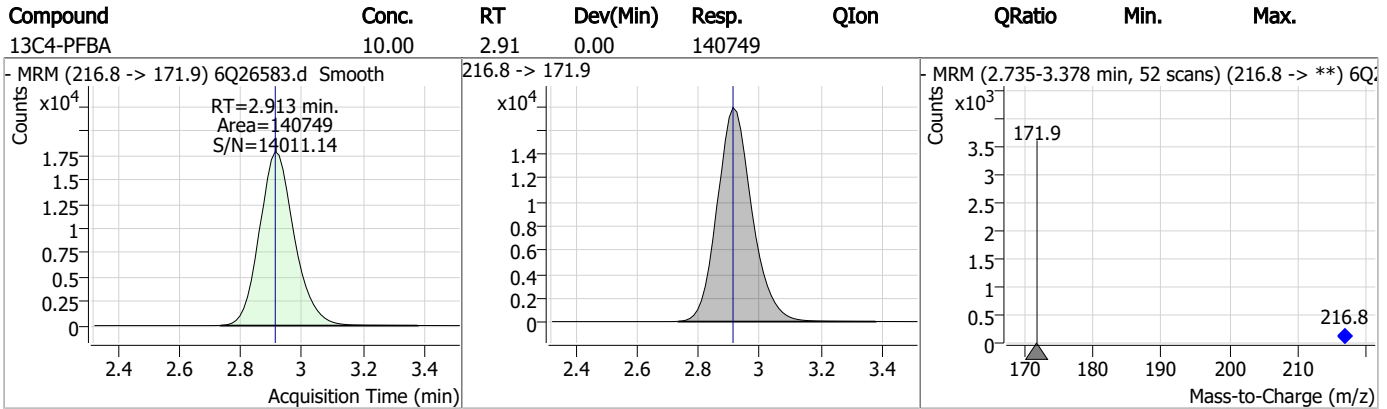
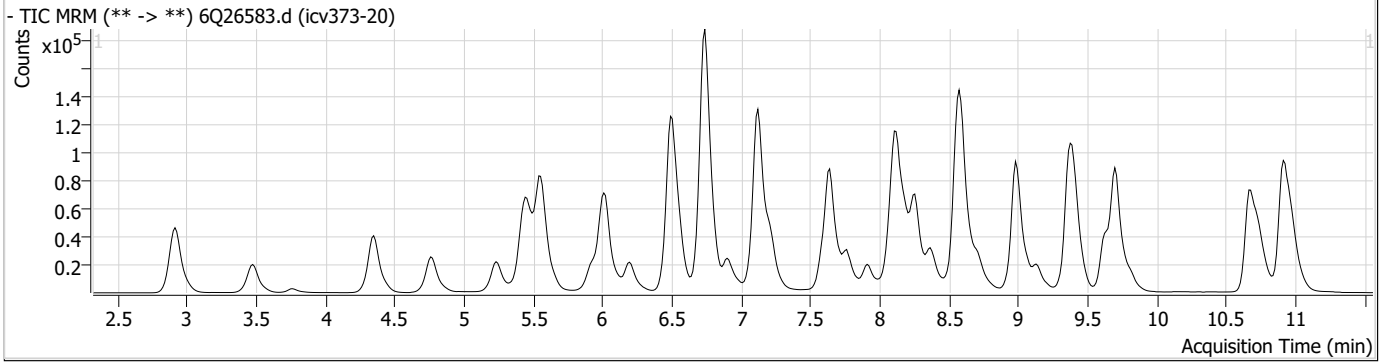
### Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
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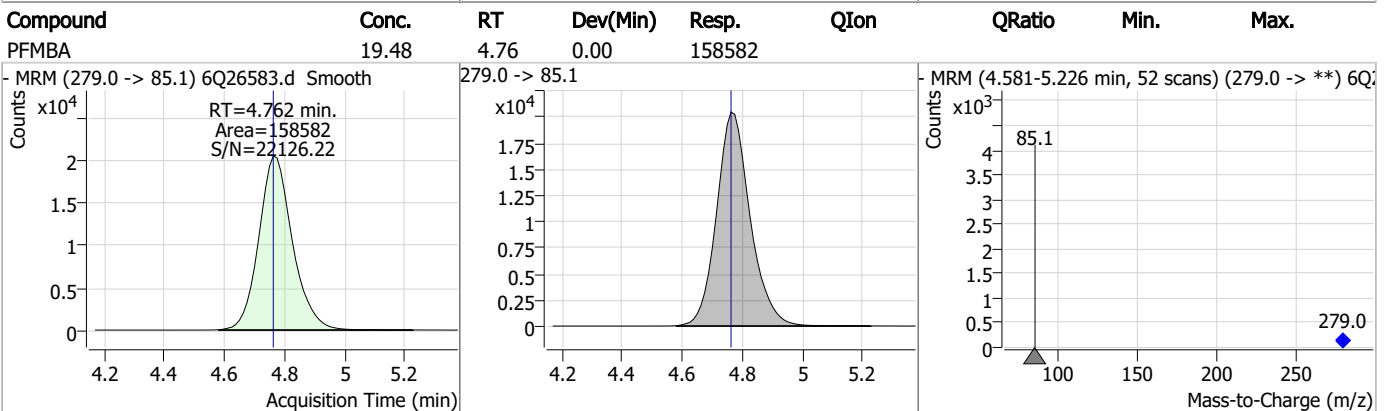
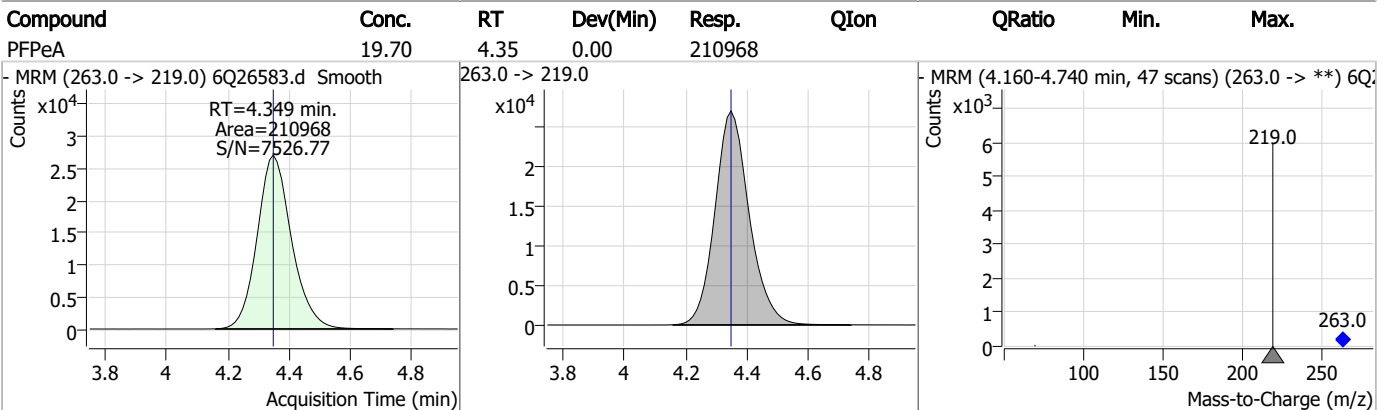
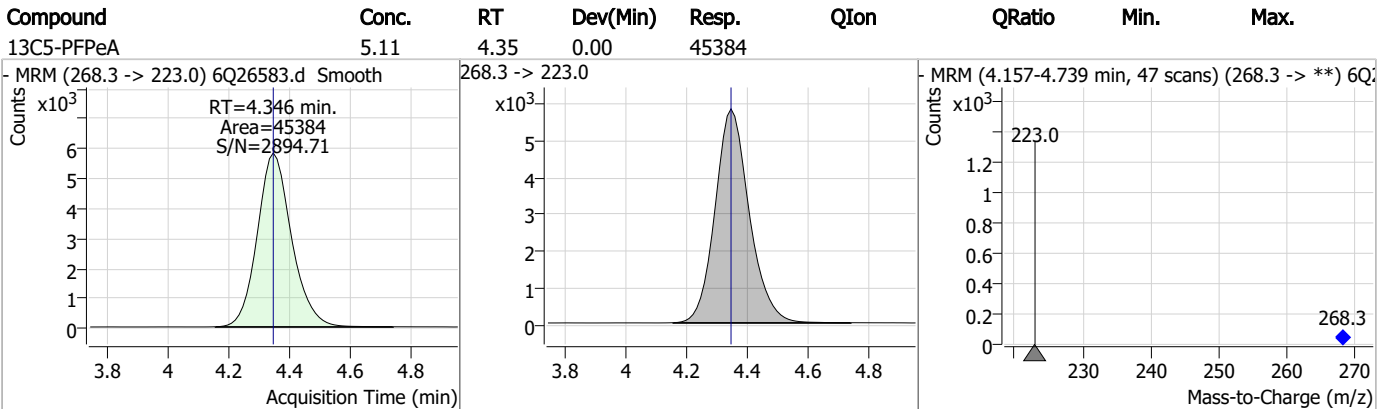
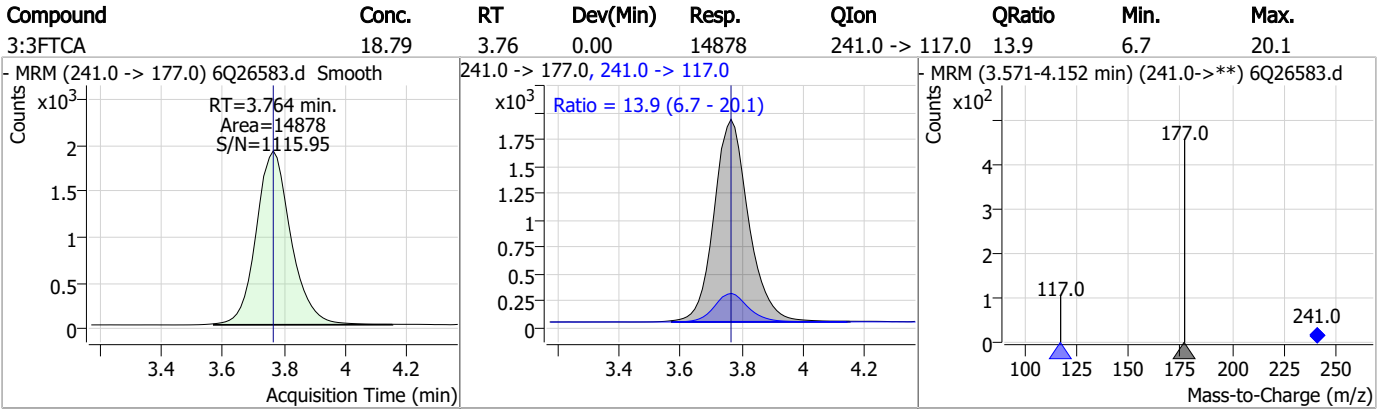
7.7.30

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### Perfluorinated Compounds by LC/MS/MS

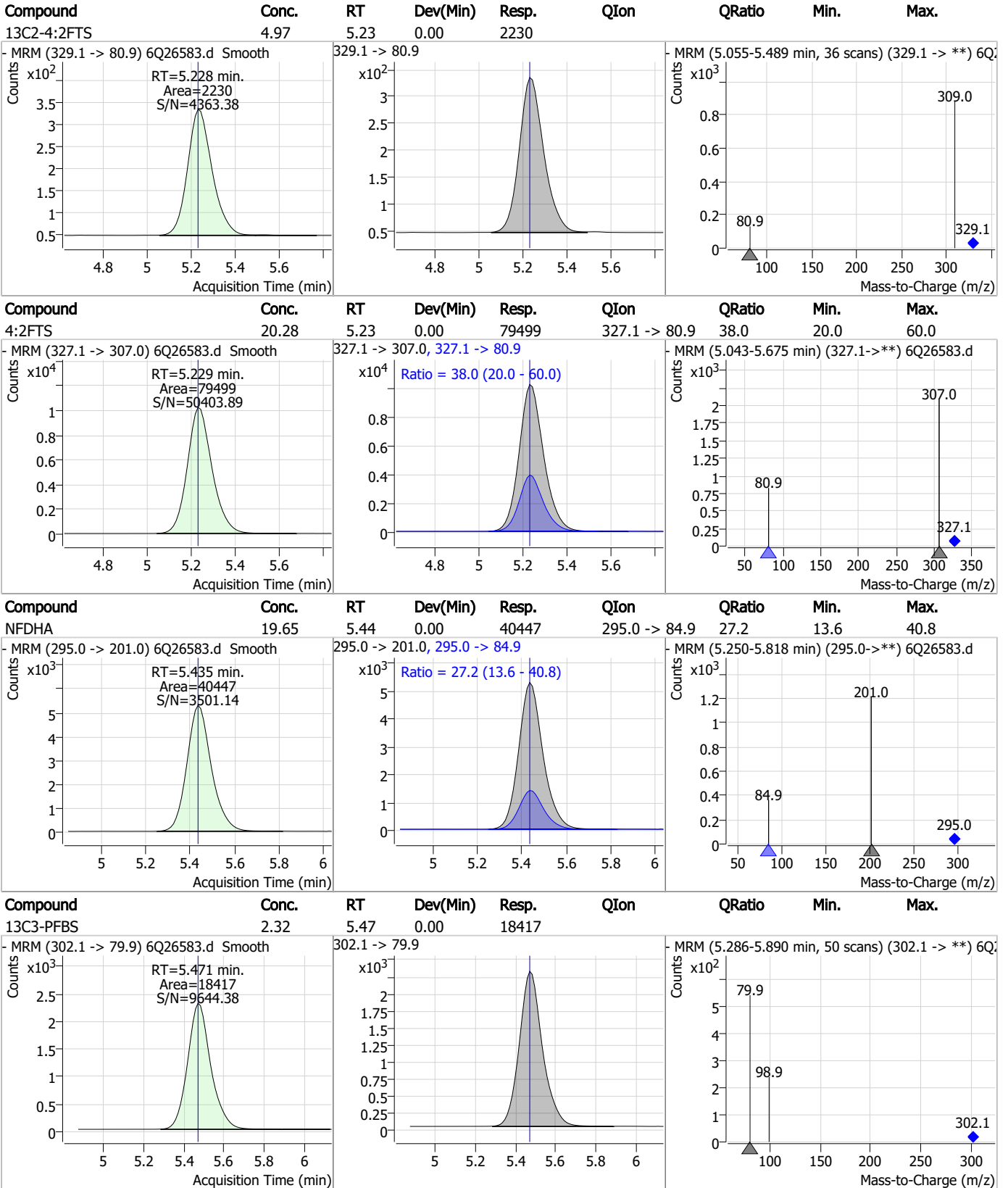


### Perfluorinated Compounds by LC/MS/MS



7.7.30  
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### Perfluorinated Compounds by LC/MS/MS



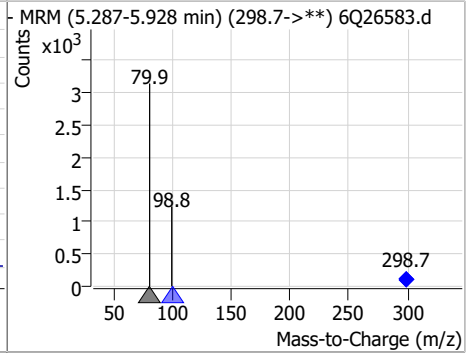
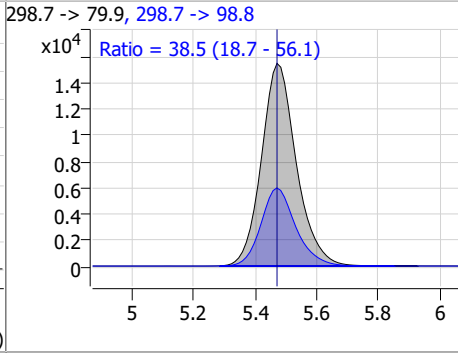
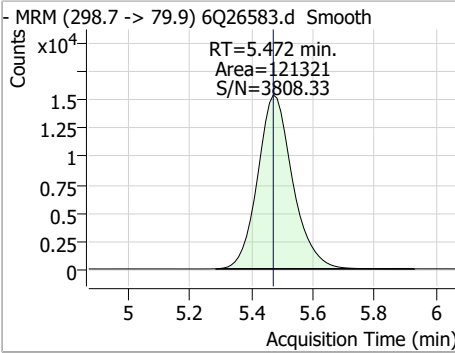
7.7.30 7



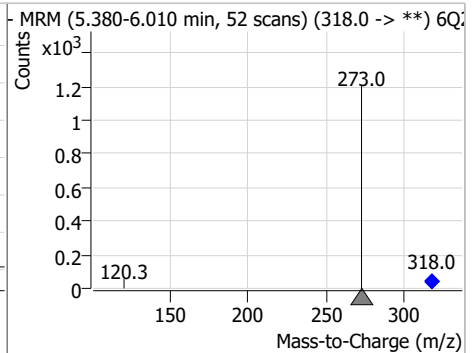
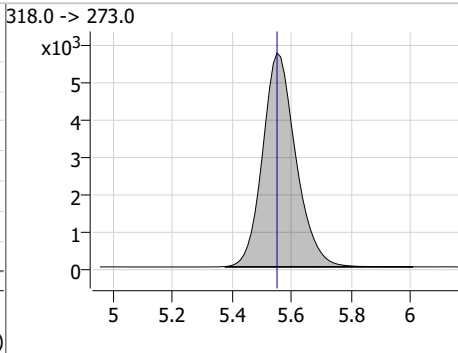
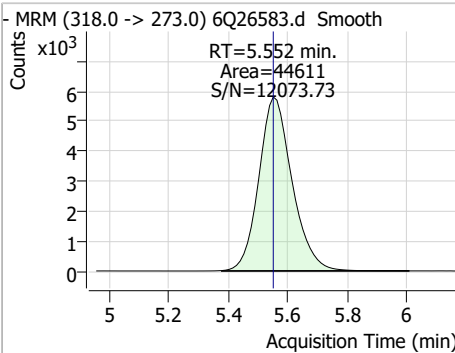


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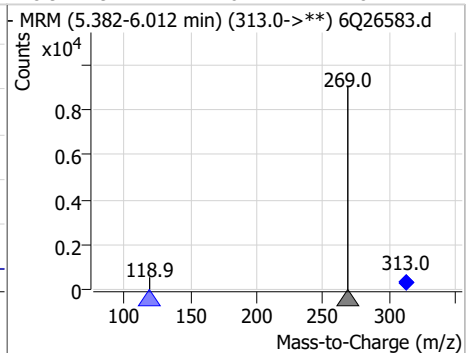
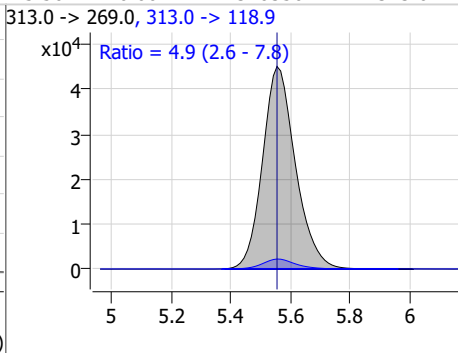
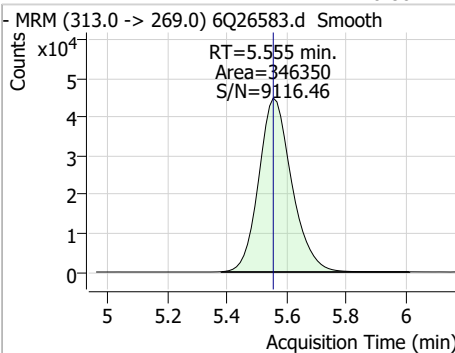
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBS	20.20	5.47	0.00	121321	298.7 -> 98.8	38.5	18.7	56.1



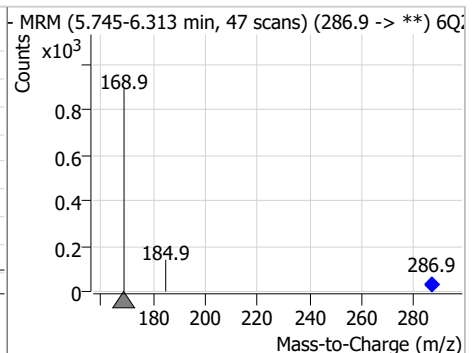
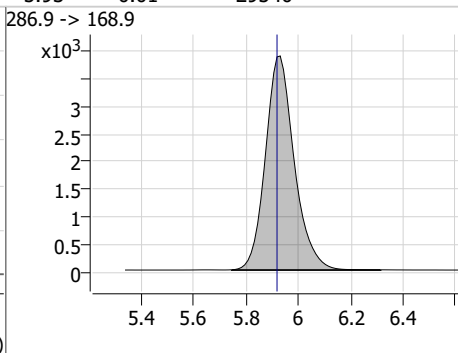
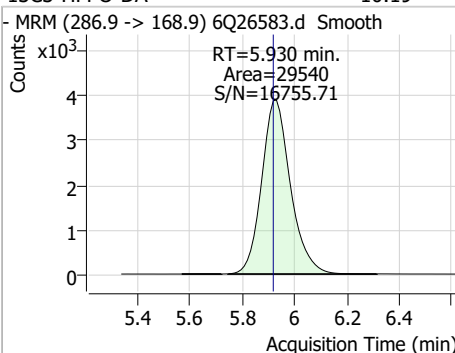
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFHxA	2.52	5.55	0.00	44611				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxA	20.80	5.56	0.00	346350	313.0 -> 118.9	4.9	2.6	7.8



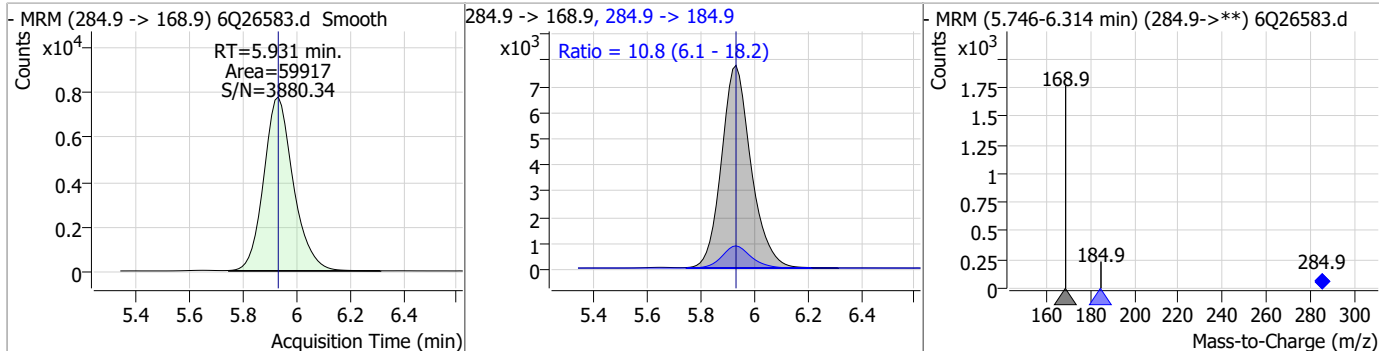
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-HFPO-DA	10.19	5.93	0.01	29540				



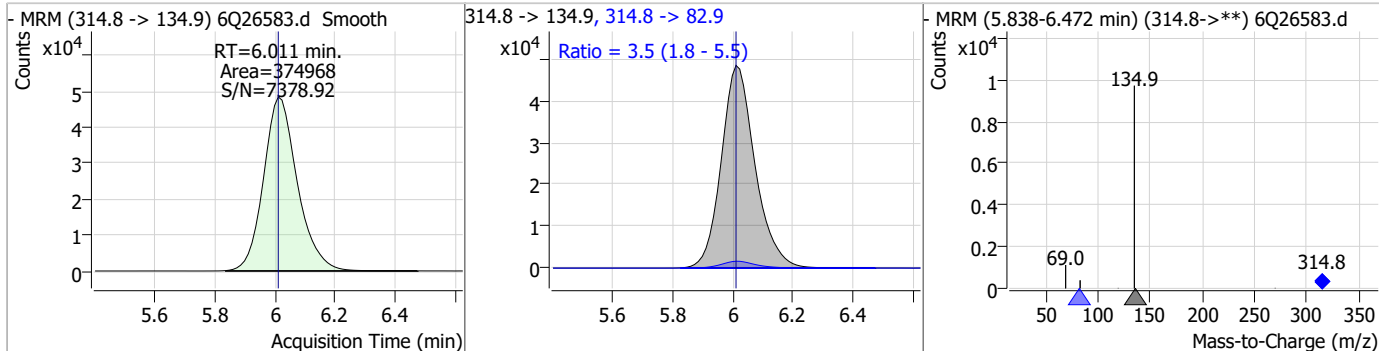
7.7.30 7

### Perfluorinated Compounds by LC/MS/MS

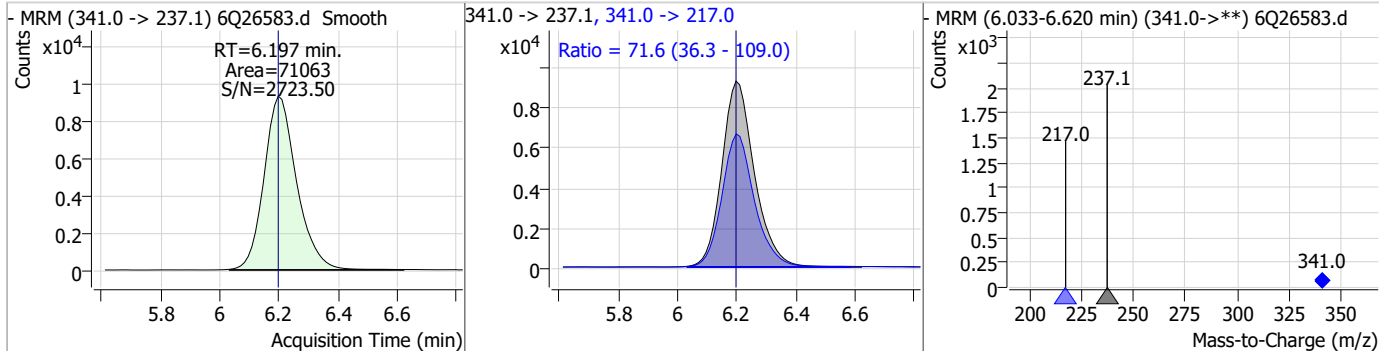
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
HFPO-DA	19.50	5.93	0.00	59917	284.9 -> 184.9	10.8	6.1	18.2



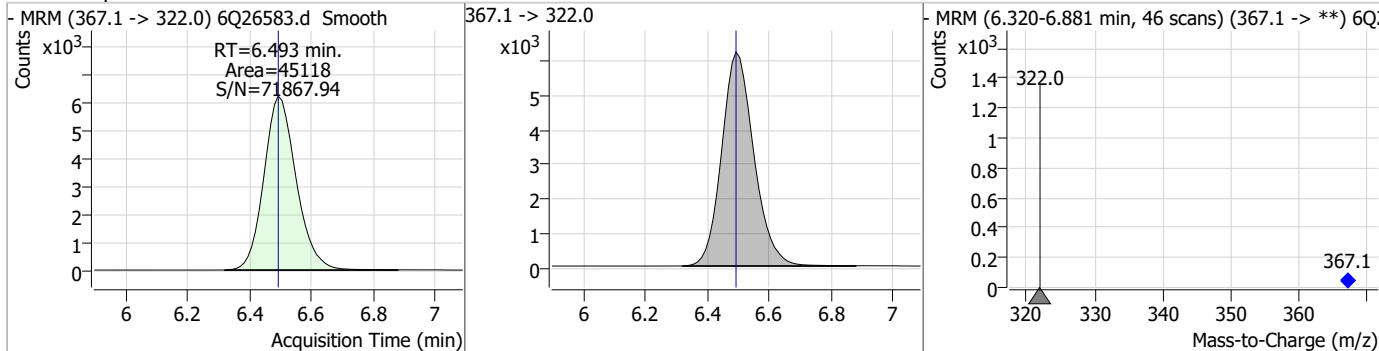
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFEESA	17.94	6.01	0.00	374968	314.8 -> 82.9	3.5	1.8	5.5



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
5:3FTCA	21.35	6.20	0.00	71063	341.0 -> 217.0	71.6	36.3	109.0



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFHpa	2.52	6.49	0.00	45118	367.1 -> 322.0			



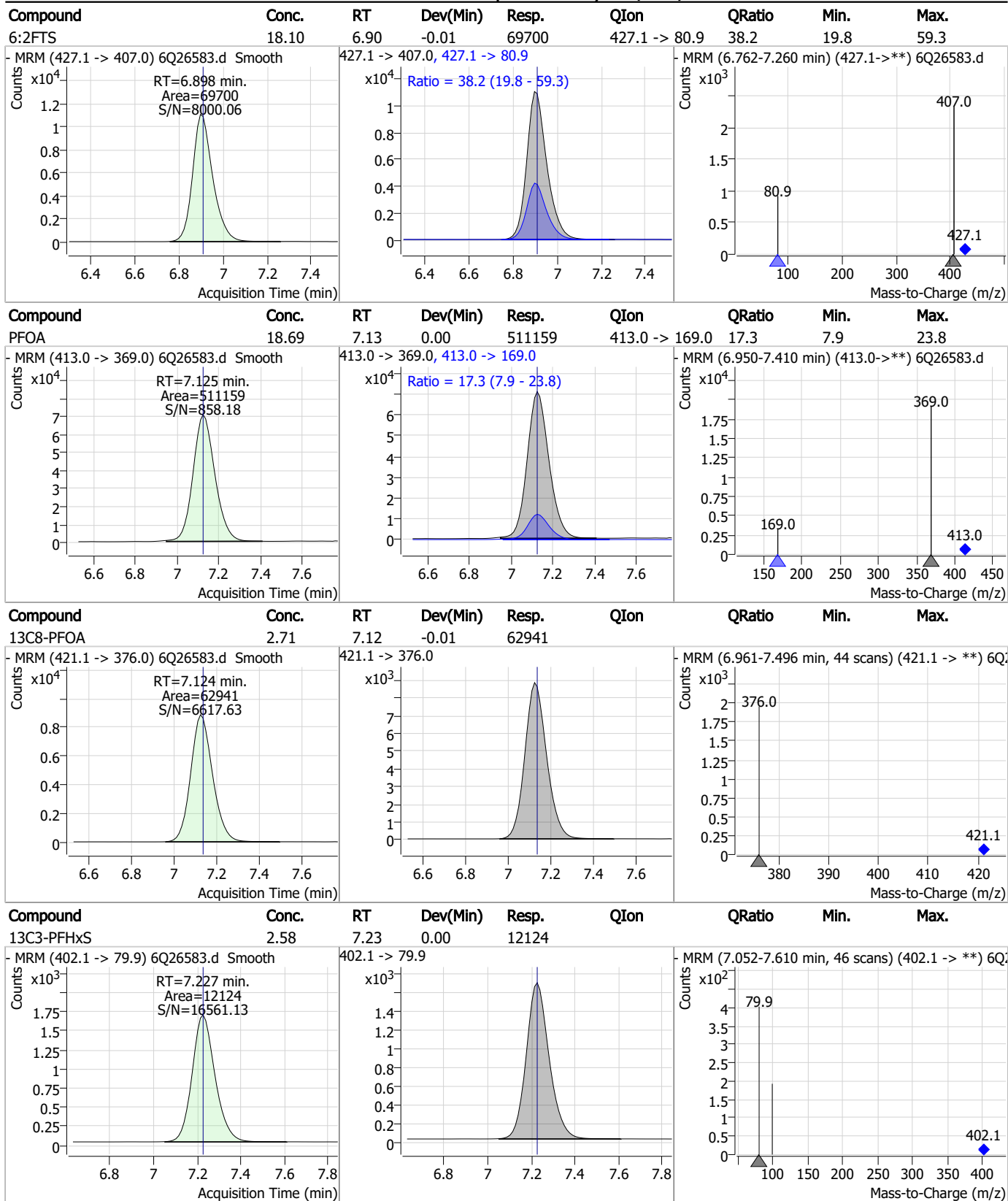
7.7.30  
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### Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpA	20.05	6.49	0.00	499762	363.1 -> 169.0	14.3	7.6	22.8
PFPeS	18.88	6.53	-0.01	123328	349.1 -> 98.9	47.0	22.4	67.2
ADONA	18.92	6.74	0.00	836592	376.9 -> 84.8	28.3	12.8	38.3
13C2-6-2FTS	5.39	6.91	0.00	3419	429.1 -> 80.9			

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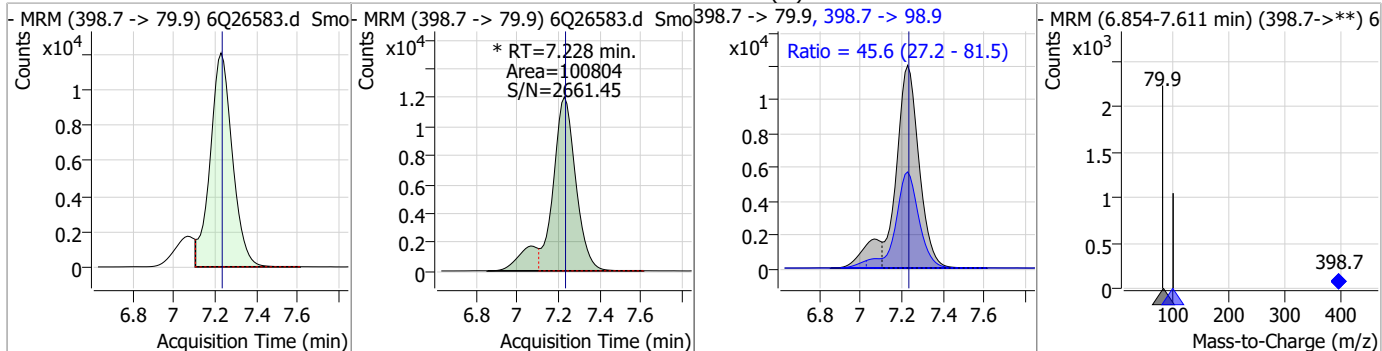
### Perfluorinated Compounds by LC/MS/MS



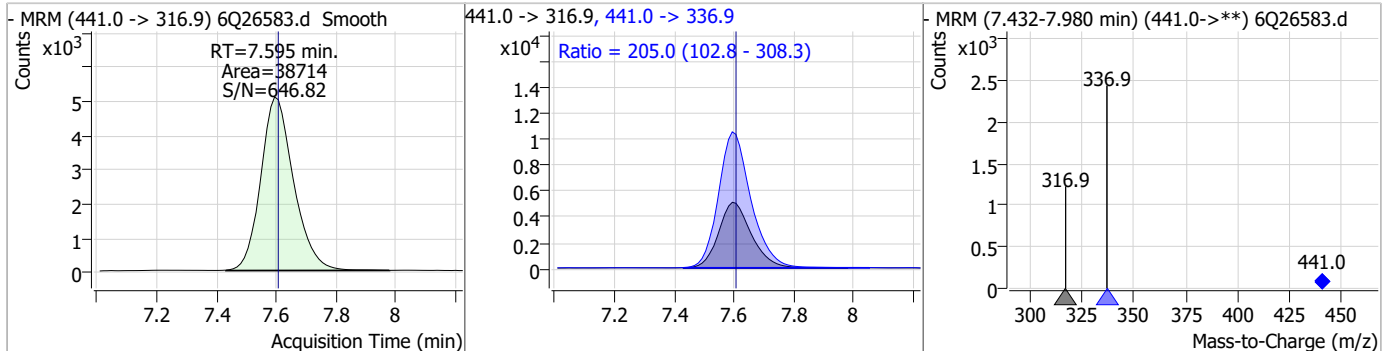
7.7.30  
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### Perfluorinated Compounds by LC/MS/MS

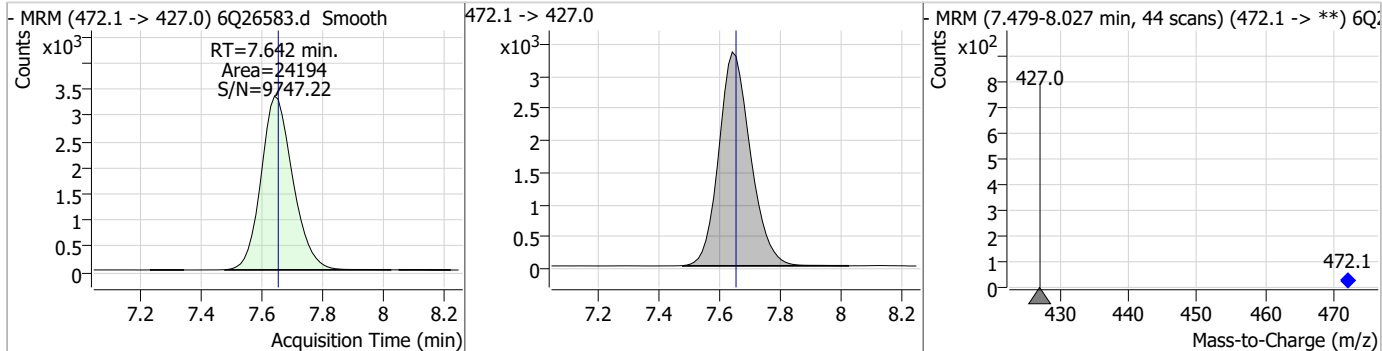
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxS	19.53	7.23	0.00	100804 (m)	398.7 -> 98.9	45.6	27.2	81.5



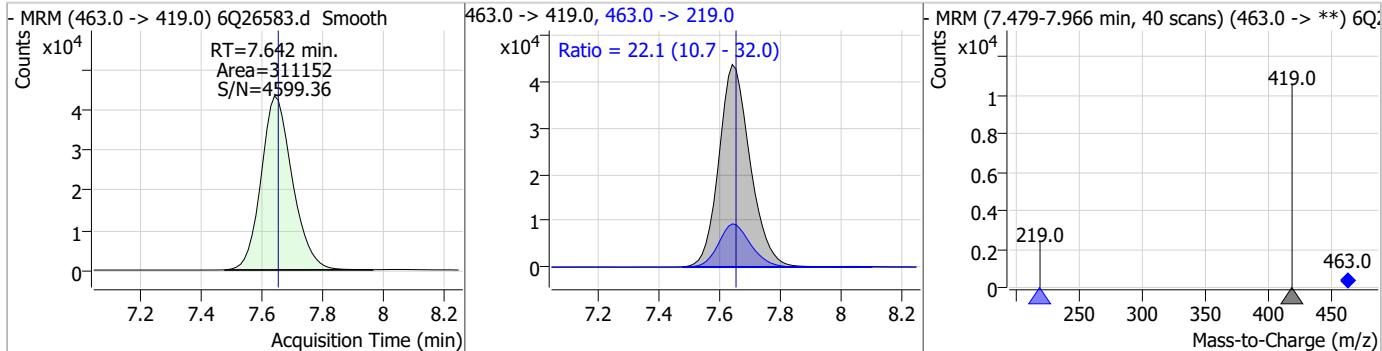
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
7:3FTCA	19.39	7.60	-0.01	38714	441.0 -> 336.9	205.0	102.8	308.3



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C9-PFNA	1.27	7.64	-0.01	24194	472.1 -> 427.0			

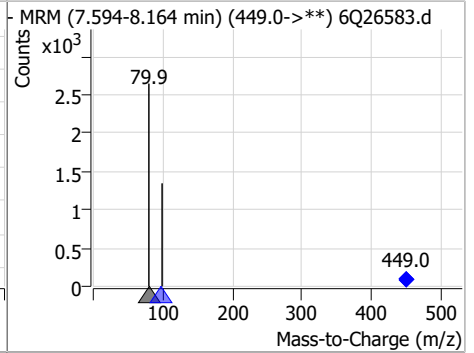
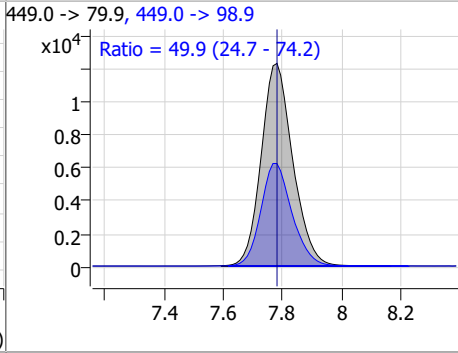
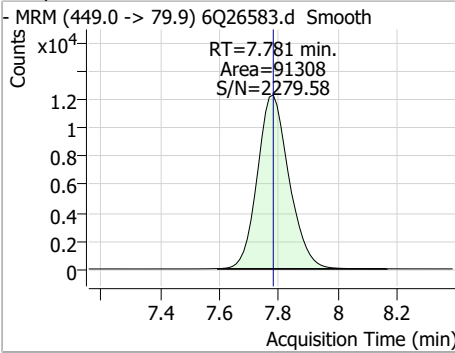


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNA	21.09	7.64	-0.01	311152	463.0 -> 219.0	22.1	10.7	32.0

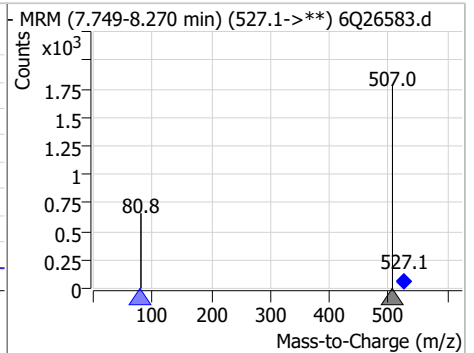
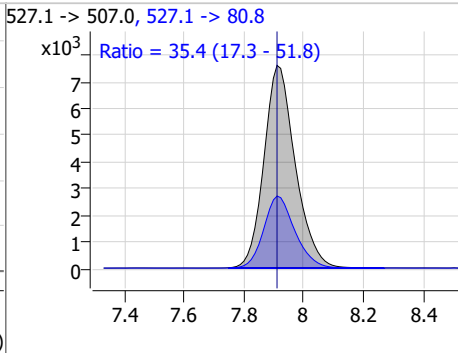
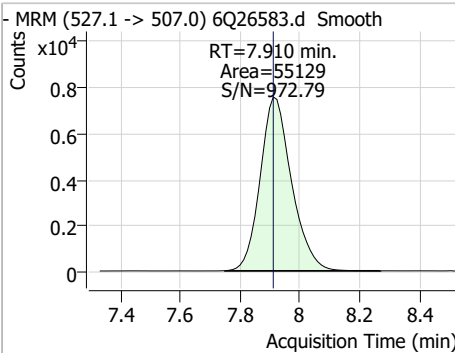


### Perfluorinated Compounds by LC/MS/MS

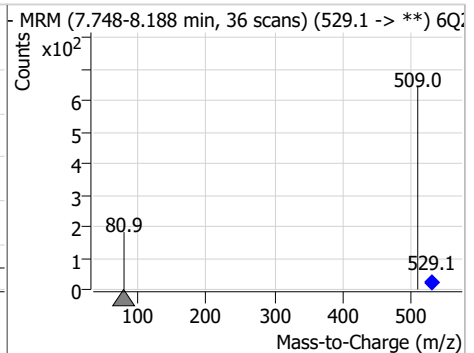
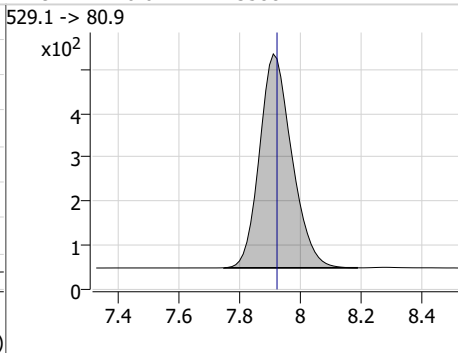
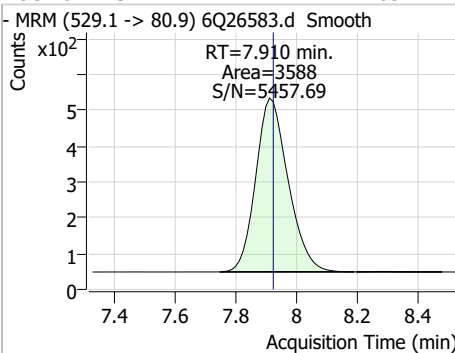
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpS	20.30	7.78	0.00	91308	449.0 -> 98.9	49.9	24.7	74.2



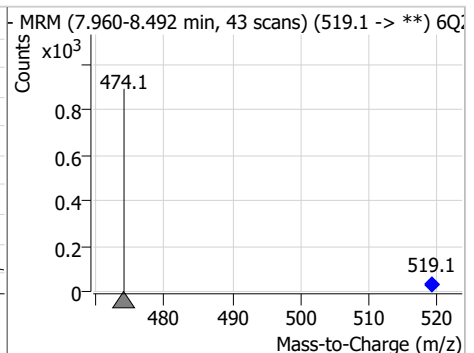
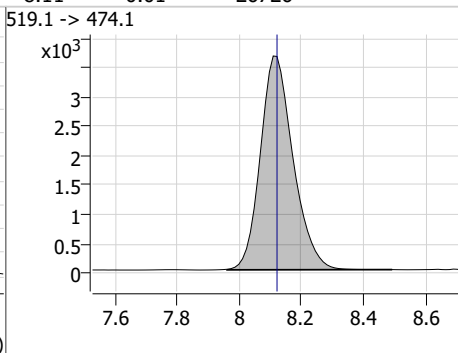
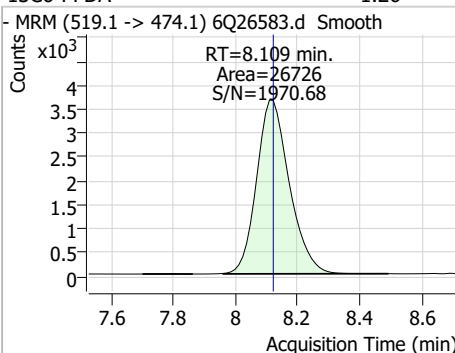
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
8:2FTS	20.42	7.91	0.00	55129	527.1 -> 80.8	35.4	17.3	51.8



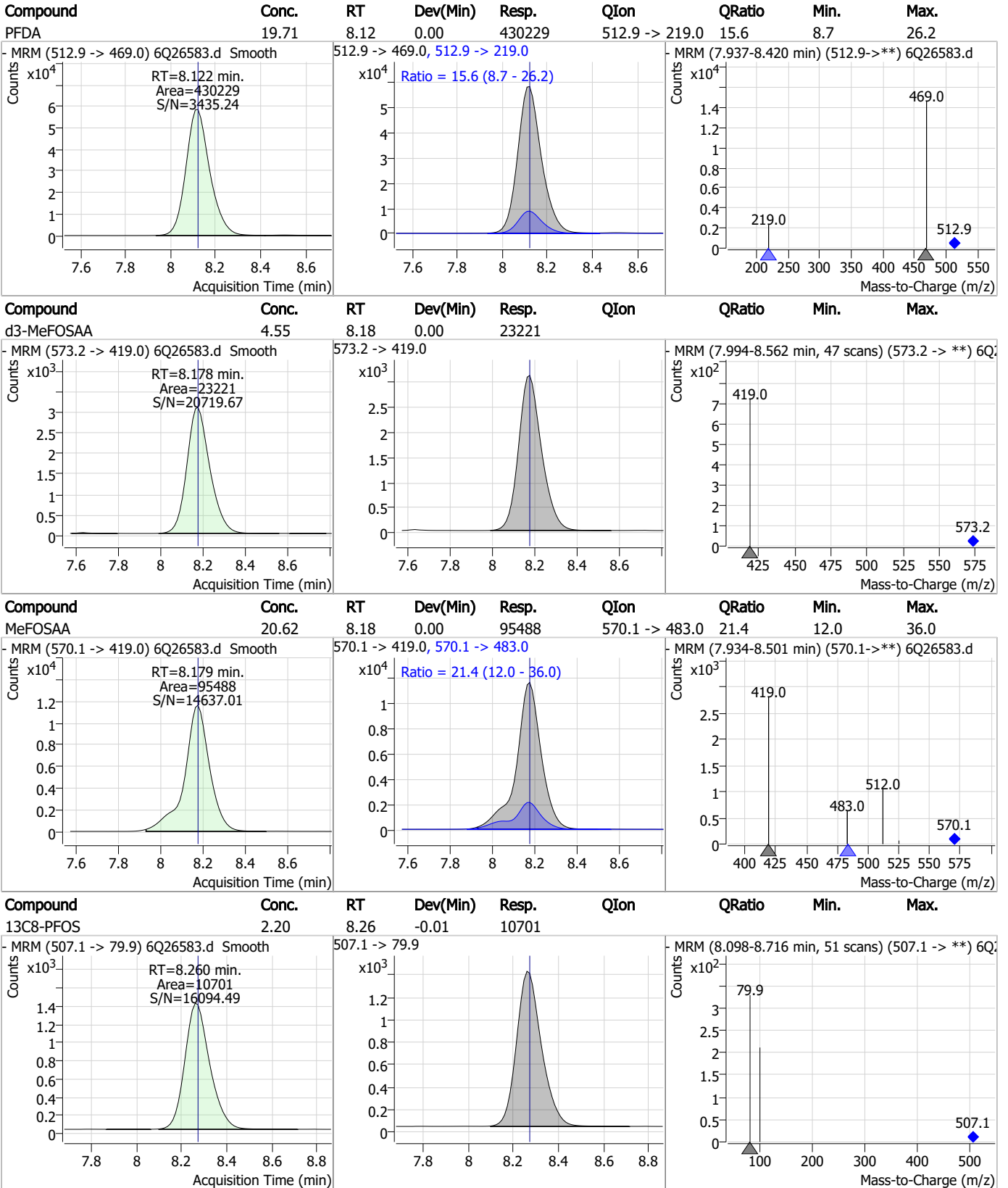
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-8:2FTS	4.83	7.91	-0.01	3588	529.1 -> 80.9			



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C6-PFDA	1.26	8.11	-0.01	26726	519.1 -> 474.1			

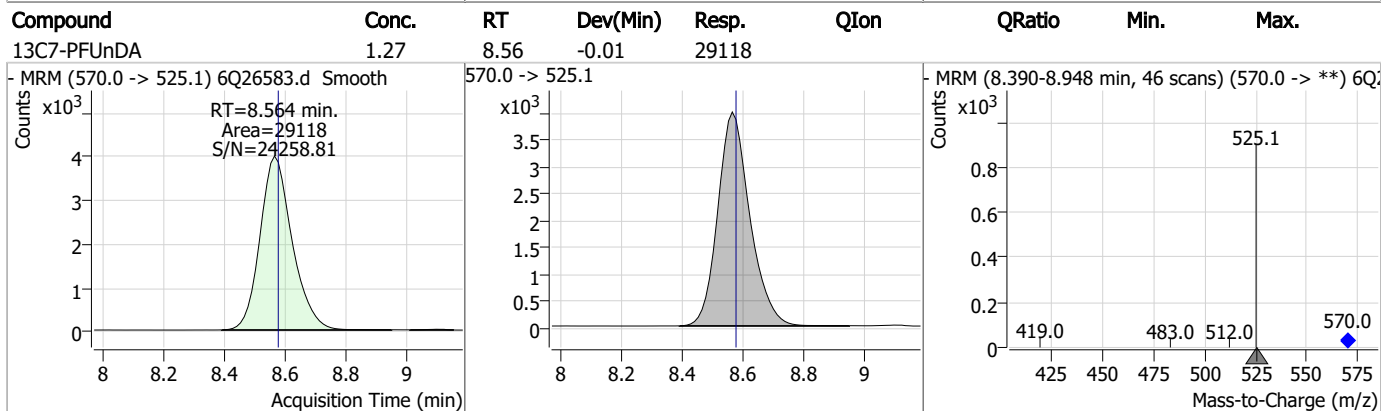
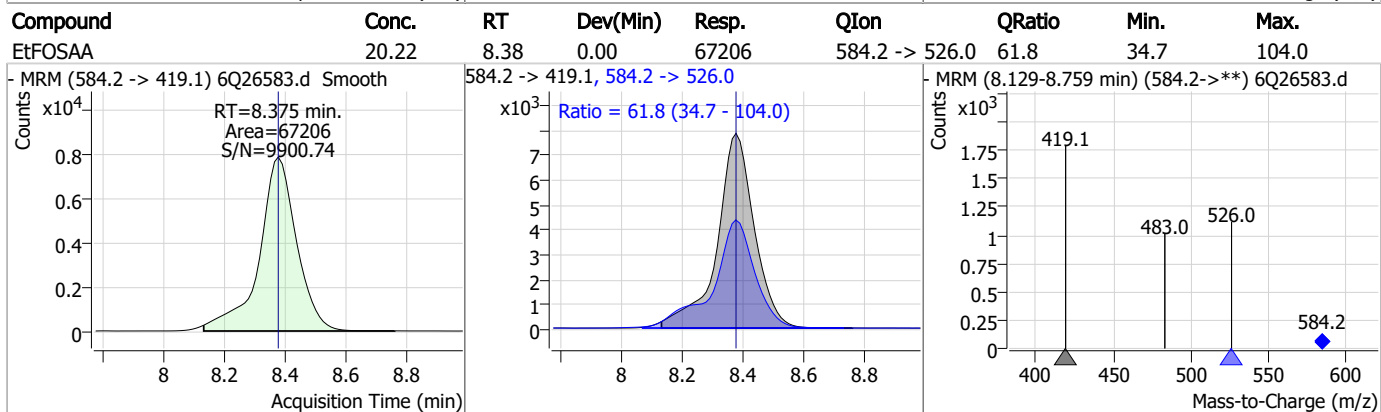
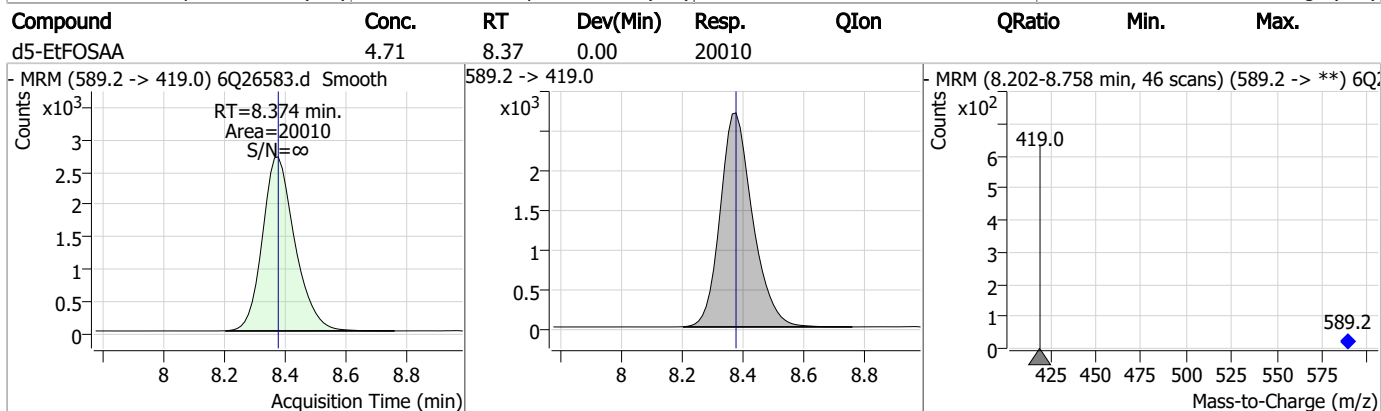
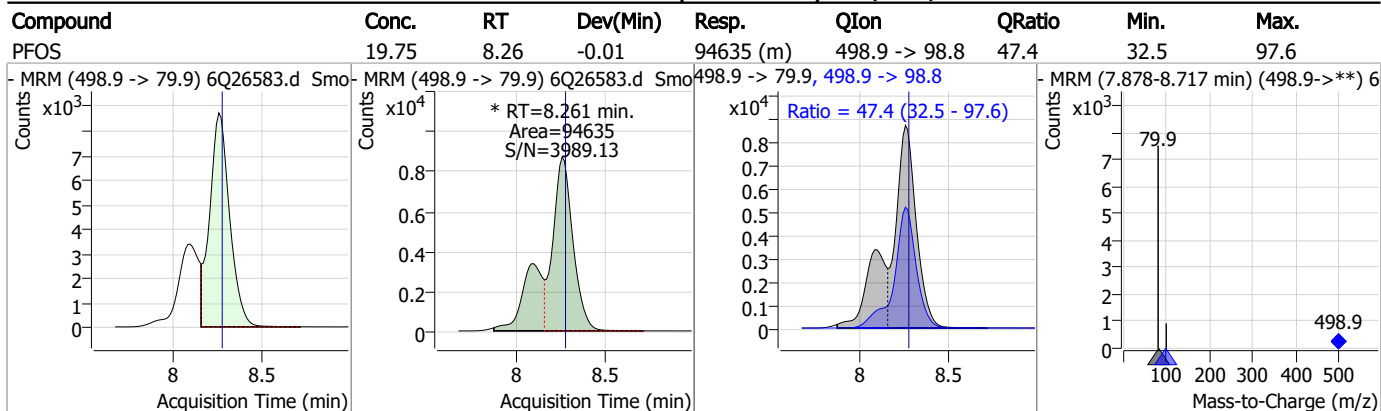


### Perfluorinated Compounds by LC/MS/MS



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### Perfluorinated Compounds by LC/MS/MS

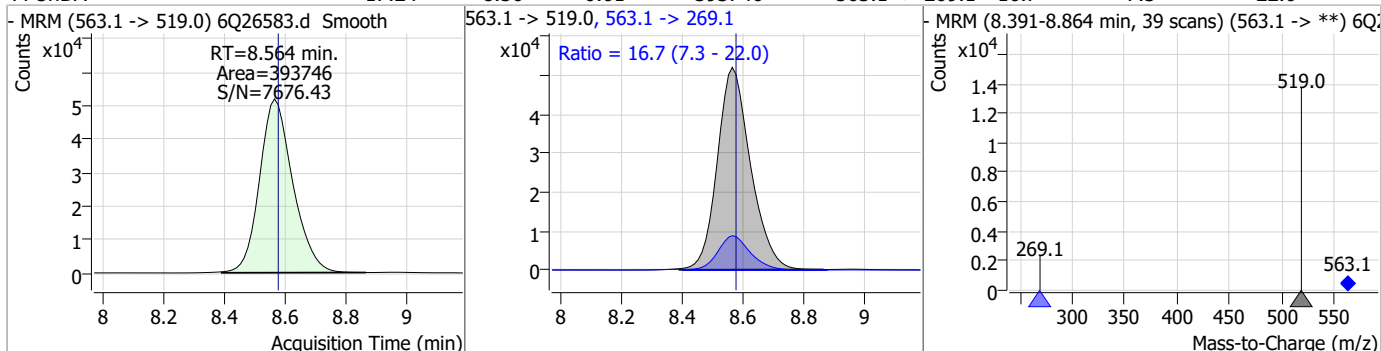


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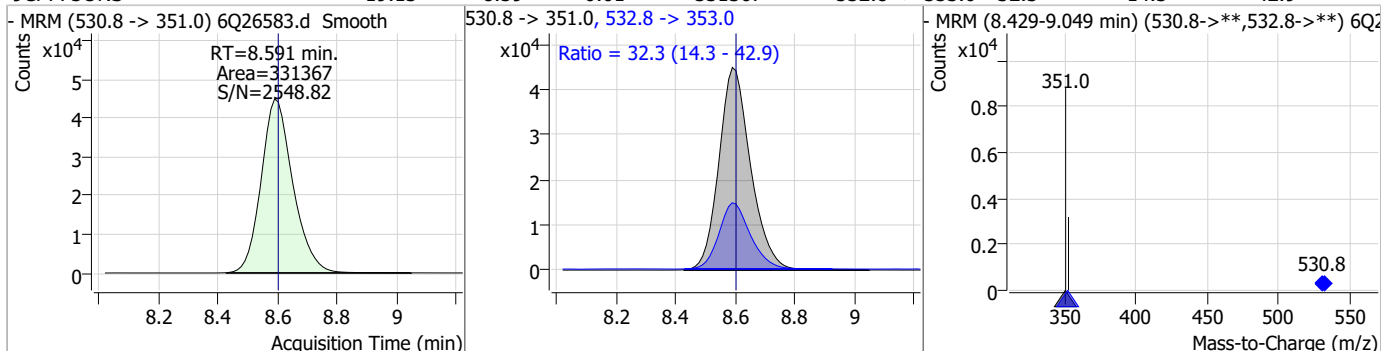


### Perfluorinated Compounds by LC/MS/MS

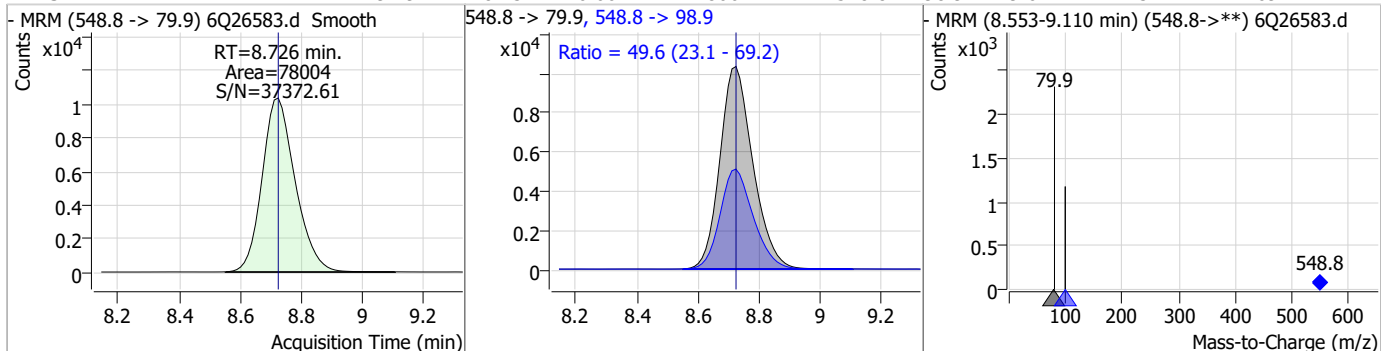
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFUnDA	17.24	8.56	-0.01	393746	563.1 -> 269.1	16.7	7.3	22.0



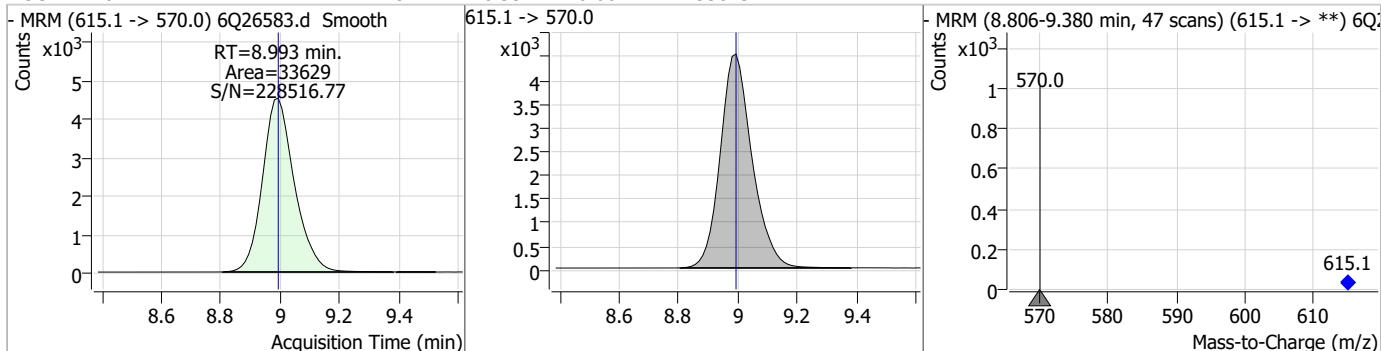
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
9CI-PF3ONS	19.13	8.59	-0.01	331367	532.8 -> 353.0	32.3	14.3	42.9



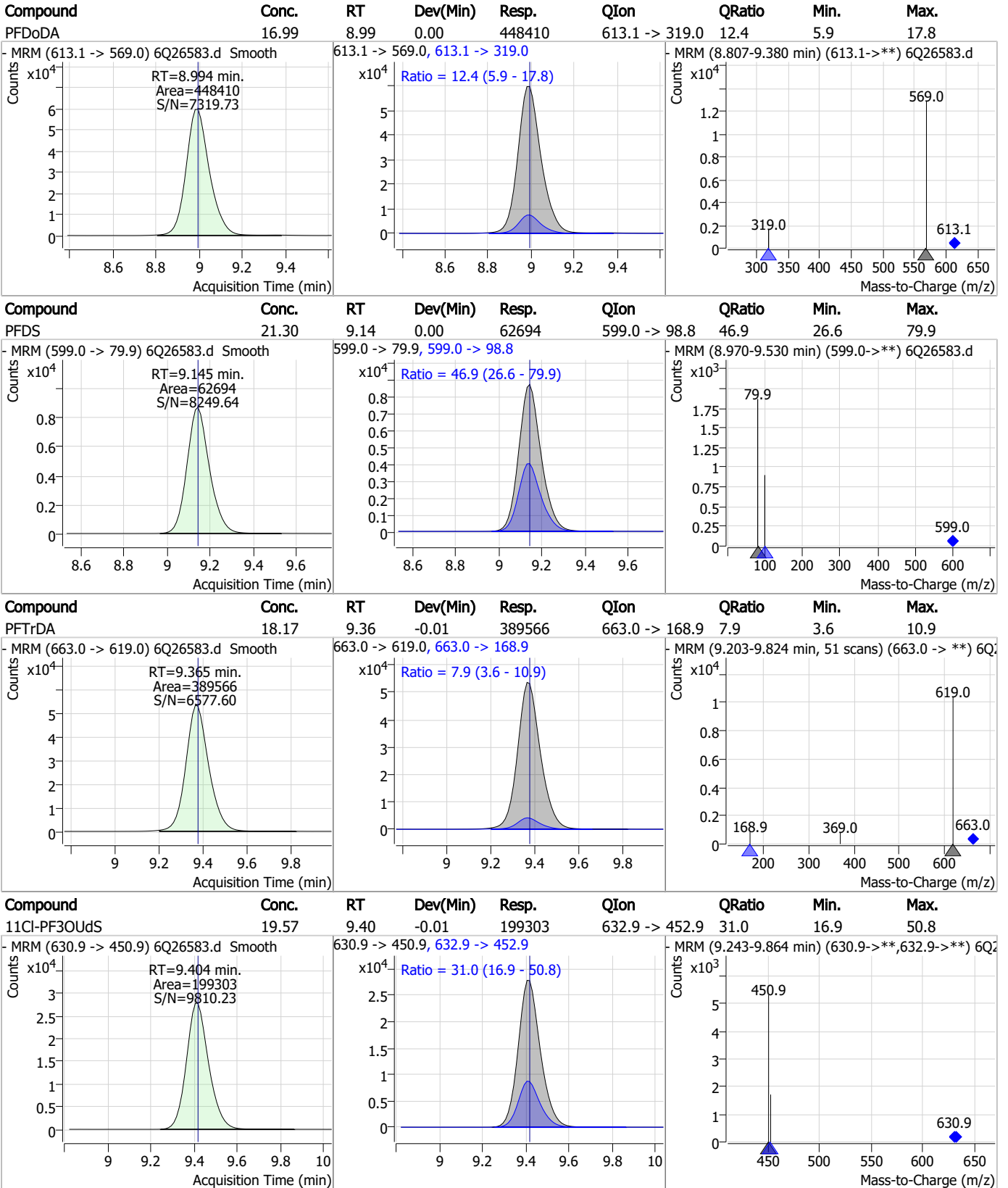
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNS	19.19	8.73	0.00	78004	548.8 -> 98.9	49.6	23.1	69.2



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFDoDA	1.25	8.99	0.00	33629	615.1 -> 570.0			



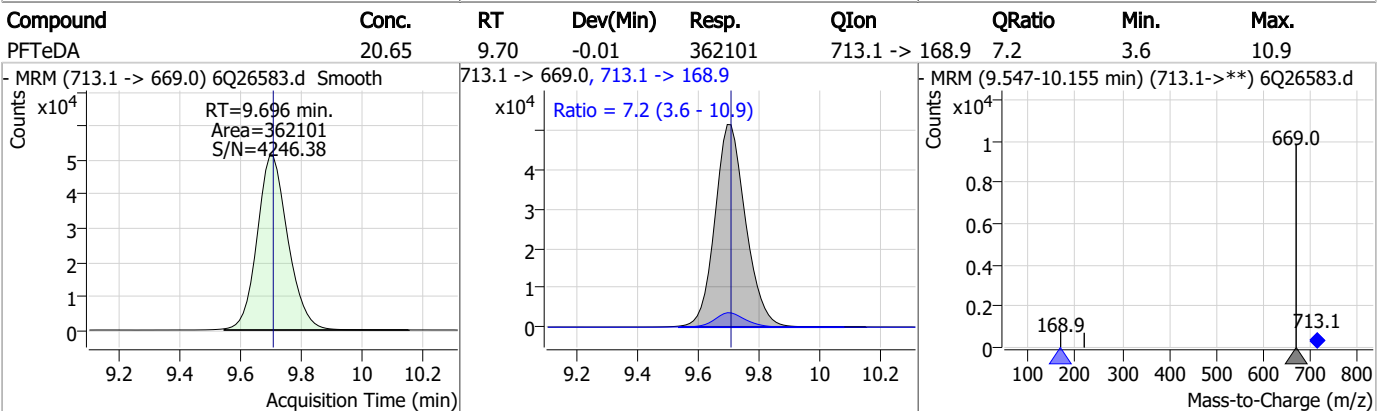
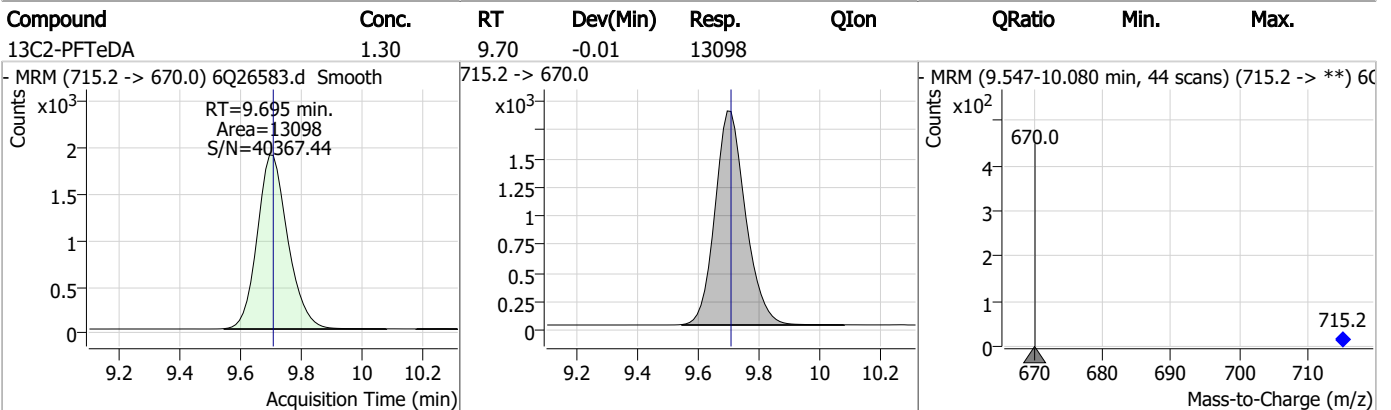
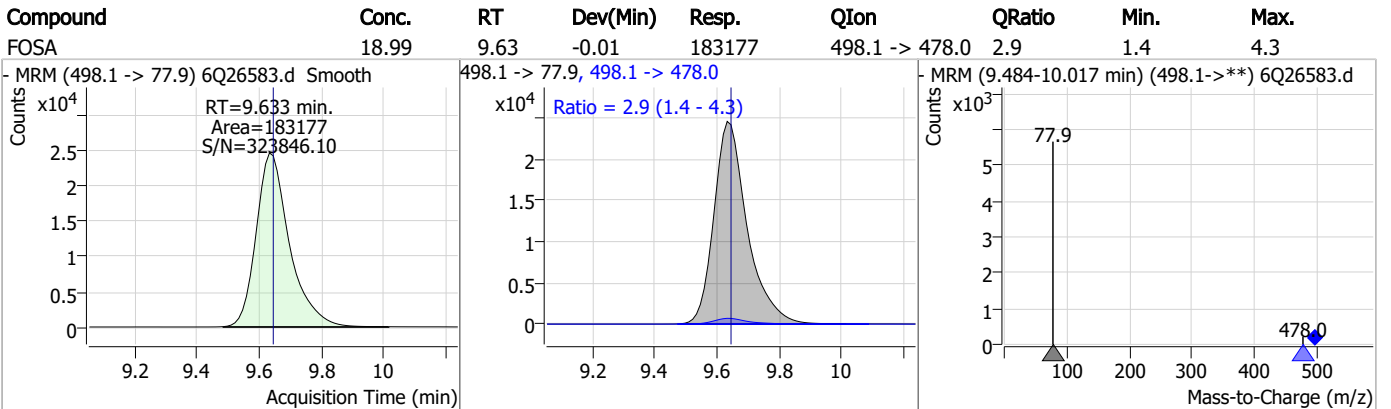
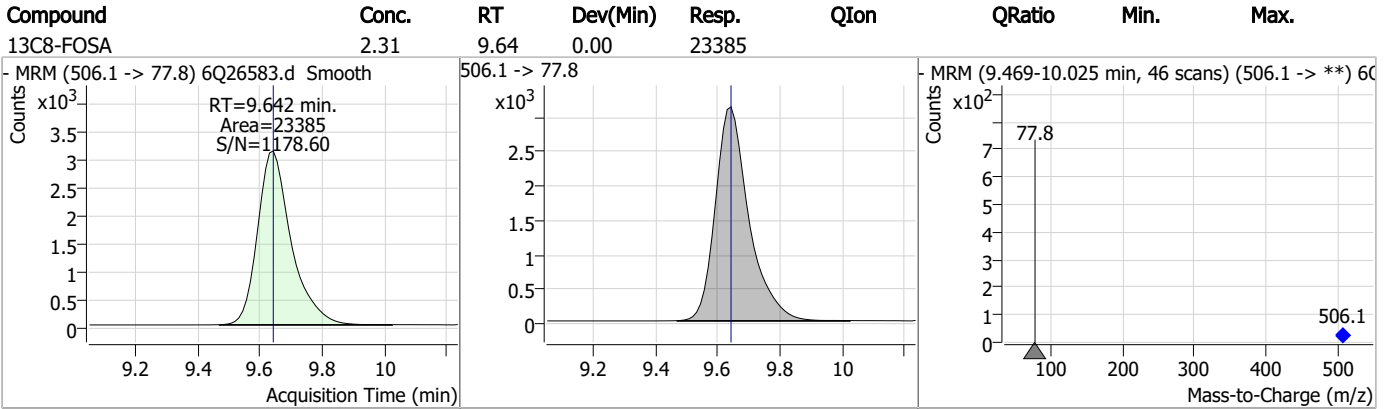
### Perfluorinated Compounds by LC/MS/MS



7.7.30 7



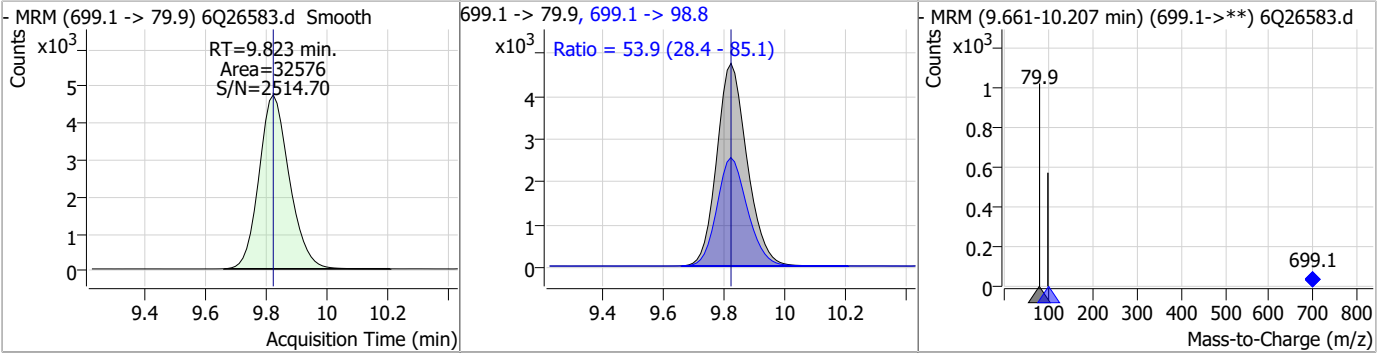
### Perfluorinated Compounds by LC/MS/MS



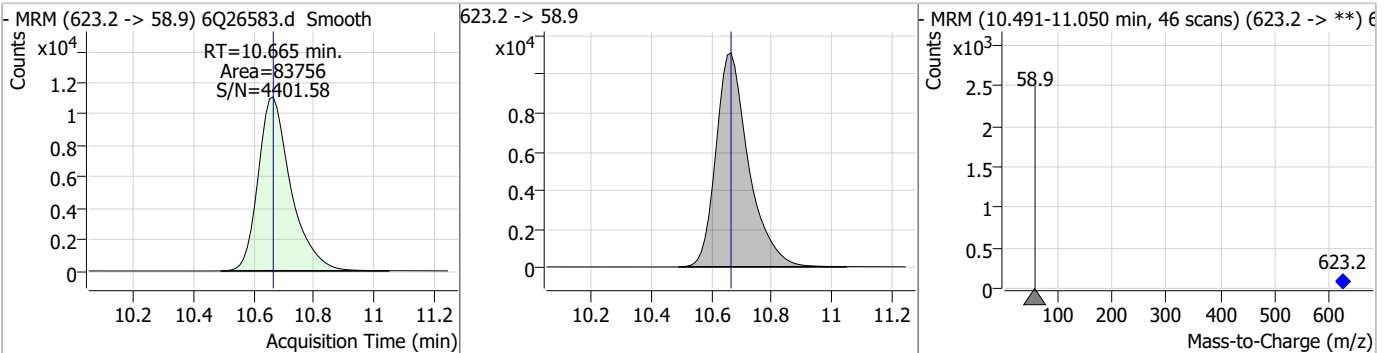
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### Perfluorinated Compounds by LC/MS/MS

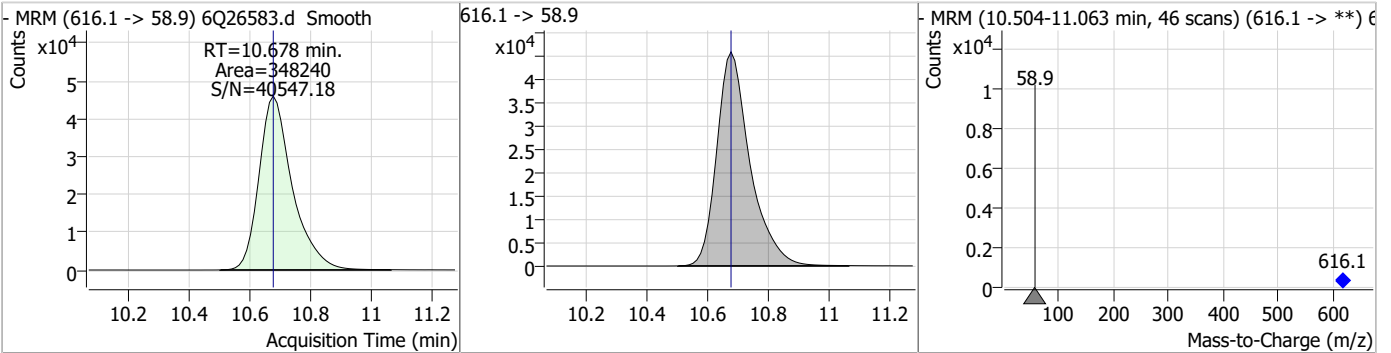
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFD <sub>o</sub> DS	19.66	9.82	0.00	32576	699.1 -> 98.8	53.9	28.4	85.1



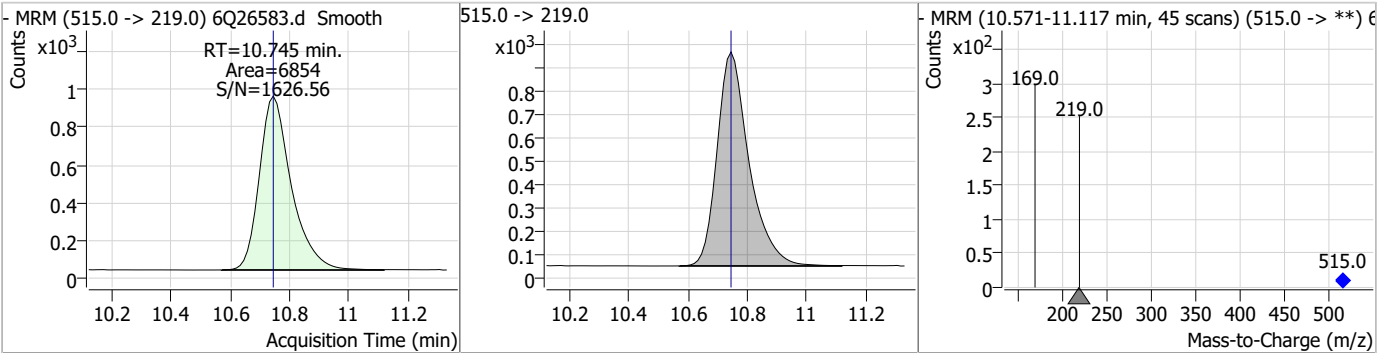
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d7-MeFOSE	23.57	10.67	0.00	83756				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSE	97.96	10.68	0.00	348240				

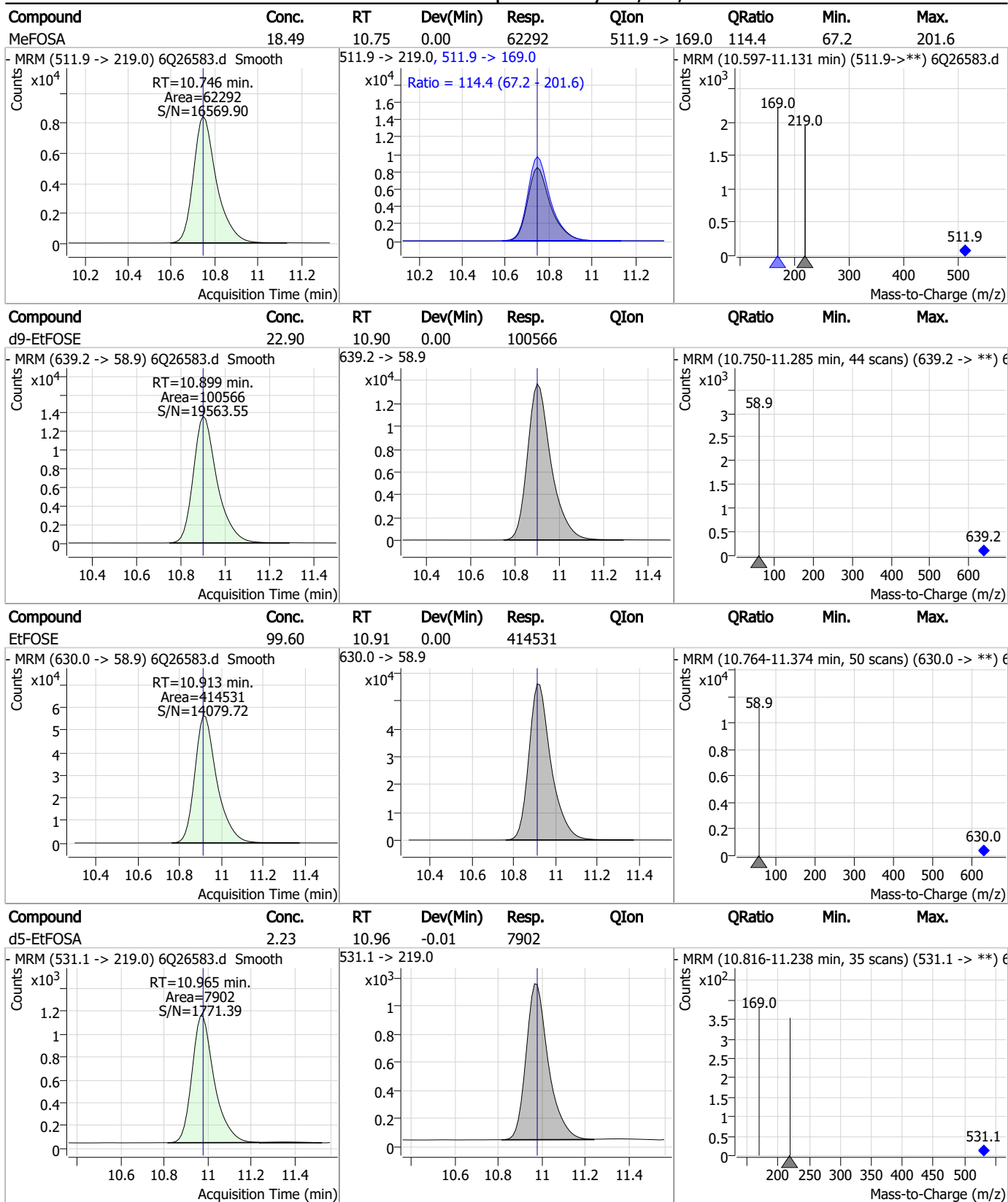


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSA	2.24	10.74	0.00	6854				



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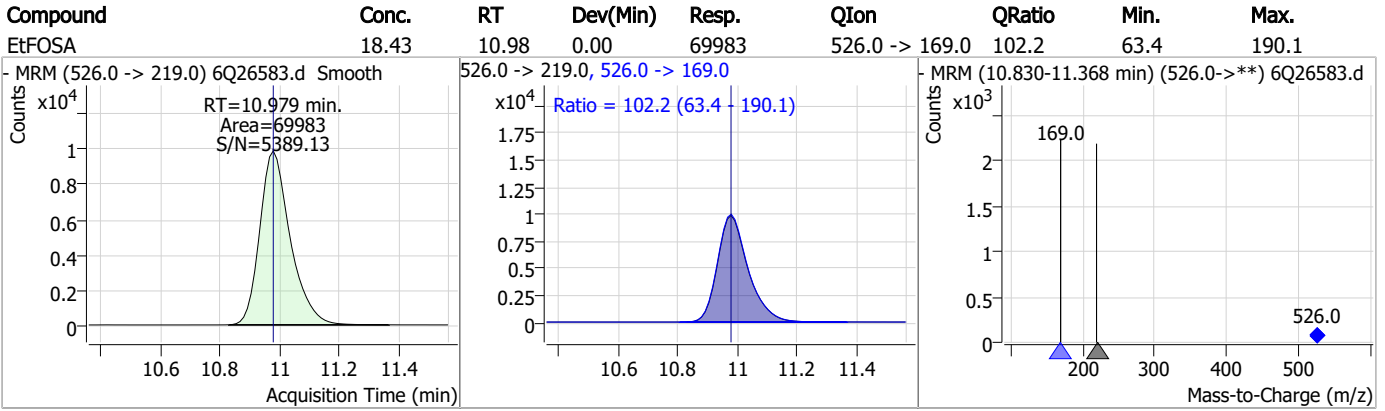
### Perfluorinated Compounds by LC/MS/MS



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### Perfluorinated Compounds by LC/MS/MS



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# Manual Integration Approval Summary

Sample Number: S6Q373-ICV373      Method: EPA DRAFT 1633  
Lab FileID: 6Q26583.D      Analyst approved: 10/18/23 16:28 Anna Ludwig  
Injection Time: 10/17/23 20:35      Supervisor approved: 10/19/23 09:36 Natasha Gumtie

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		7.23	Split peak
Perfluorooctanesulfonic acid	1763-23-1		8.26	Split peak

7.7.30.1

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Perfluorinated Compounds by LC/MS/MS

Data File : 6Q26584.d  
 Operator : marthav  
 Acq. Method : 1633full.m  
 Acq. Date-Time : 10/17/2023 8:49:25 PM  
 Sample Name : cc373-4  
 Vial : P1-A5  
 DA Method File : 1633\_101723\_S6Q373.quantmethod.xml  
 Batch Name : S6Q373.batch.bin  
 Sample Information : OP99081,S6Q373,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
<b>Internal Standards</b>					
M4-PFBA	2.913	216.8 -> 171.9	141756	10.00 µg/L	0.000
M5-PFPeA	4.346	268.3 -> 223.0	46948	5.00 µg/L	0.000
M5-PFHxA	5.552	318.0 -> 273.0	45960	2.50 µg/L	0.000
M4-PFHpA	6.493	367.1 -> 322.0	48383	2.50 µg/L	0.000
M8-PFOA	7.124	421.1 -> 376.0	61989	2.50 µg/L	-0.012
M9-PFNA	7.642	472.1 -> 427.0	22997	1.25 µg/L	-0.012
M6-PFDA	8.121	519.1 -> 474.1	29081	1.25 µg/L	0.000
M7-PFUnDA	8.564	570.0 -> 525.1	30177	1.25 µg/L	-0.012
M2-PFDoDA	8.993	615.1 -> 570.0	35839	1.25 µg/L	0.000
M2-PFTeDA	9.708	715.2 -> 670.0	13444	1.25 µg/L	0.000
M8-FOSA	9.642	506.1 -> 77.8	23864	2.50 µg/L	0.000
M3-PFBS	5.471	302.1 -> 79.9	20743	2.50 µg/L	0.000
M3-PFHxS	7.227	402.1 -> 79.9	12221	2.50 µg/L	0.000
M8-PFOS	8.260	507.1 -> 79.9	11839	2.50 µg/L	-0.012
M2-4:2FTS	5.228	329.1 -> 80.9	2476	5.00 µg/L	0.000
M2-6:2FTS	6.910	429.1 -> 80.9	3333	5.00 µg/L	0.000
M2-8:2FTS	7.922	529.1 -> 80.9	3460	5.00 µg/L	0.000
M3-MeFOSAA	8.178	573.2 -> 419.0	24104	5.00 µg/L	0.000
M3-HFPO-DA	5.930	286.9 -> 168.9	30628	10.00 µg/L	0.012
M5-EtFOSAA	8.374	589.2 -> 419.0	20000	5.00 µg/L	0.000
M7-MeFOSE	10.665	623.2 -> 58.9	84477	25.00 µg/L	0.000
M9-EtFOSE	10.899	639.2 -> 58.9	103849	25.00 µg/L	0.000
M5-EtFOSA	10.965	531.1 -> 219.0	8617	2.50 µg/L	-0.012
M3-MeFOSA	10.745	515.0 -> 219.0	7016	2.50 µg/L	0.000
13C4-PFOS	8.273	502.8 -> 79.9	10111	2.50 µg/L	0.000
13C3-PFBA	2.916	216.0 -> 172.0	57463	5.00 µg/L	0.000
18O2-PFHxS	7.226	403.0 -> 83.9	7087	2.50 µg/L	0.000
13C4-PFOA	7.125	417.1 -> 372.0	69598	2.50 µg/L	0.000
13C2-PFDA	8.122	515.1 -> 470.1	26760	1.25 µg/L	0.000
13C5-PFNA	7.642	468.0 -> 423.0	23900	1.25 µg/L	-0.012
13C2-PFHxA	5.553	315.1 -> 270.0	43914	2.50 µg/L	0.000
<b>System Monitoring Compounds</b>					
13C2-4:2FTS	5.228	329.1 -> 80.9	2476	5.59 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 111.9%		
13C2-6:2FTS	6.910	429.1 -> 80.9	3333	5.33 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 106.7%		
13C2-8:2FTS	7.922	529.1 -> 80.9	3460	4.73 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 94.5%		
13C2-PFDoDA	8.993	615.1 -> 570.0	35839	1.24 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 99.2%		
13C2-PFTeDA	9.708	715.2 -> 670.0	13444	1.24 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 99.2%		
13C3-PFBS	5.471	302.1 -> 79.9	20743	2.64 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 105.8%		
13C3-PFHxS	7.227	402.1 -> 79.9	12221	2.63 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 = 105.4%	
13C4-PFBA	2.913	216.8 -> 171.9	141756	10.01 µg/L	0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 100.1%	
13C4-PFHpA	6.493	367.1 -> 322.0	48383	2.72 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 108.7%	
13C5-PFHxA	5.552	318.0 -> 273.0	45960	2.61 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 104.5%	
13C5-PFPeA	4.346	268.3 -> 223.0	46948	5.31 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 106.2%	
13C6-PFDA	8.121	519.1 -> 474.1	29081	1.28 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 102.0%	
13C7-PFUnDA	8.564	570.0 -> 525.1	30177	1.22 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 97.7%	
13C8-FOSA	9.642	506.1 -> 77.8	23864	2.97 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 102.6%	
13C8-PFOA	7.124	421.1 -> 376.0	61989	2.49 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 99.6%	
13C8-PFOS	8.260	507.1 -> 79.9	11839	2.65 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 105.9%	
13C9-PFNA	7.642	472.1 -> 427.0	22997	1.12 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 89.5%	
d3-MeFOSAA	8.178	573.2 -> 419.0	24104	5.14 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 102.8%	
13C3-HFPO-DA	5.930	286.9 -> 168.9	30628	10.61 µg/L	0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 106.1%	
d3-MeFOSA	10.745	515.0 -> 219.0	7016	2.50 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 99.9%	
d5-EtFOSAA	8.374	589.2 -> 419.0	20000	5.12 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 102.4%	
d7-MeFOSE	10.665	623.2 -> 58.9	84477	25.84 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 103.4%	
d9-EtFOSE	10.899	639.2 -> 58.9	103849	25.70 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 102.8%	
d5-EtFOSA	10.965	531.1 -> 219.0	8617	2.65 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 105.9%	
<b>Target Compounds</b>					<b>QValue</b>
4:2FTS	5.229	327.1 -> 307.0	38745	8.90 µg/L	95
		327.1 -> 80.9	14289		
6:2FTS	6.898	427.1 -> 407.0	33408	8.90 µg/L	100
		427.1 -> 80.9	13097		
8:2FTS	7.923	527.1 -> 507.0	26701	10.26 µg/L	94
		527.1 -> 80.8	10130		
EtFOSAA	8.375	584.2 -> 419.1	8719	2.62 µg/L	m 92
		584.2 -> 526.0	5461		
FOSA	9.633	498.1 -> 77.9	23428	2.38 µg/L	99
		498.1 -> 478.0	756		
MeFOSAA	8.179	570.1 -> 419.0	11522	2.40 µg/L	95
		570.1 -> 483.0	2468		
PFBA	2.919	212.8 -> 168.9	53429	9.81 µg/L	100
PFBS	5.472	298.7 -> 79.9	14040	2.08 µg/L	98
		298.7 -> 98.8	5421		
PFDA	8.122	512.9 -> 469.0	54877	2.31 µg/L	97
		512.9 -> 219.0	8746		
PFDODA	8.994	613.1 -> 569.0	67707	2.41 µg/L	97
		613.1 -> 319.0	7389		
PFDS	9.145	599.0 -> 79.9	7392	2.27 µg/L	96

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Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
		599.0 -> 98.8	3717			
PFHpA	6.493	363.1 -> 319.0	61312	2.29	µg/L	99
		363.1 -> 169.0	9569			
PFHpS	7.781	449.0 -> 79.9	11650	2.34	µg/L	97
		449.0 -> 98.9	5983			
PFHxA	5.555	313.0 -> 269.0	42816	2.50	µg/L	100
		313.0 -> 118.9	2210			
PFHxS	7.228	398.7 -> 79.9	11312	2.17	µg/L	m 90
		398.7 -> 98.9	5309			
PFNA	7.642	463.0 -> 419.0	38848	2.77	µg/L	100
		463.0 -> 219.0	8235			
PFNS	8.726	548.8 -> 79.9	10090	2.24	µg/L	89
		548.8 -> 98.9	5365			
PFOA	7.125	413.0 -> 369.0	66997	2.49	µg/L	95
		413.0 -> 169.0	12054			
PFOS	8.261	498.9 -> 79.9	11528	2.17	µg/L	m 86
		498.9 -> 98.8	6238			
PFPeA	4.349	263.0 -> 219.0	53668	4.84	µg/L	100
PFPeS	6.533	349.1 -> 79.9	14750	2.24	µg/L	96
		349.1 -> 98.9	6991			
PFTeDA	9.696	713.1 -> 669.0	44140	2.45	µg/L	100
		713.1 -> 168.9	3148			
PFTrDA	9.365	663.0 -> 619.0	55251	2.42	µg/L	98
		663.0 -> 168.9	4344			
PFUnDA	8.564	563.1 -> 519.0	55734	2.35	µg/L	98
		563.1 -> 269.1	8741			
11CI-PF3OUdS	9.404	630.9 -> 450.9	47875	4.53	µg/L	96
		632.9 -> 452.9	15243			
9CI-PF3ONS	8.591	530.8 -> 351.0	85488	4.76	µg/L	98
		532.8 -> 353.0	25185			
ADONA	6.743	376.9 -> 250.9	216325	4.72	µg/L	98
		376.9 -> 84.8	57607			
HFPO-DA	5.931	284.9 -> 168.9	15258	4.79	µg/L	100
		284.9 -> 184.9	1821			
3:3FTCA	3.764	241.0 -> 177.0	9618	12.06	µg/L	99
		241.0 -> 117.0	1345			
5:3FTCA	6.197	341.0 -> 237.1	213688	62.31	µg/L	99
		341.0 -> 217.0	153748			
7:3FTCA	7.595	441.0 -> 316.9	127139	61.82	µg/L	94
		441.0 -> 336.9	248696			
EtFOSA	10.966	526.0 -> 219.0	19812	4.79	µg/L	98
		526.0 -> 169.0	25511			
EtFOSE	10.913	630.0 -> 58.9	55380	12.89	µg/L	100
MeFOSA	10.746	511.9 -> 219.0	17709	5.13	µg/L	100
		511.9 -> 169.0	23799			
MeFOSE	10.678	616.1 -> 58.9	44818	12.50	µg/L	100
PFDoDS	9.823	699.1 -> 79.9	4068	2.22	µg/L	97
		699.1 -> 98.8	2386			
NFDHA	5.435	295.0 -> 201.0	10324	4.87	µg/L	100
		295.0 -> 84.9	2810			
PFMBA	4.762	279.0 -> 85.1	41499	4.93	µg/L	100
PFMPA	3.475	229.0 -> 84.9	33586	4.86	µg/L	100
PFEESA	6.011	314.8 -> 134.9	91528	4.25	µg/L	100
		314.8 -> 82.9	3495			

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

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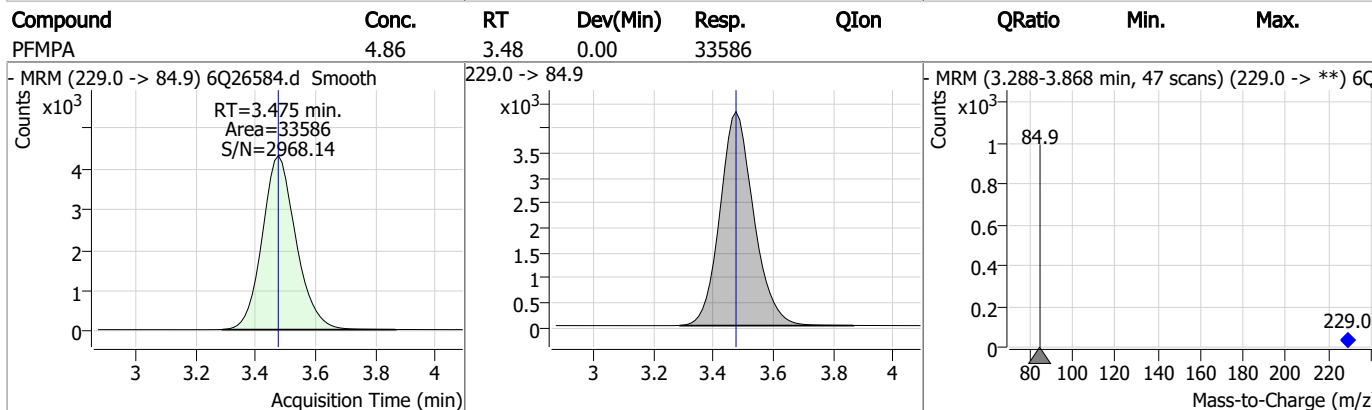
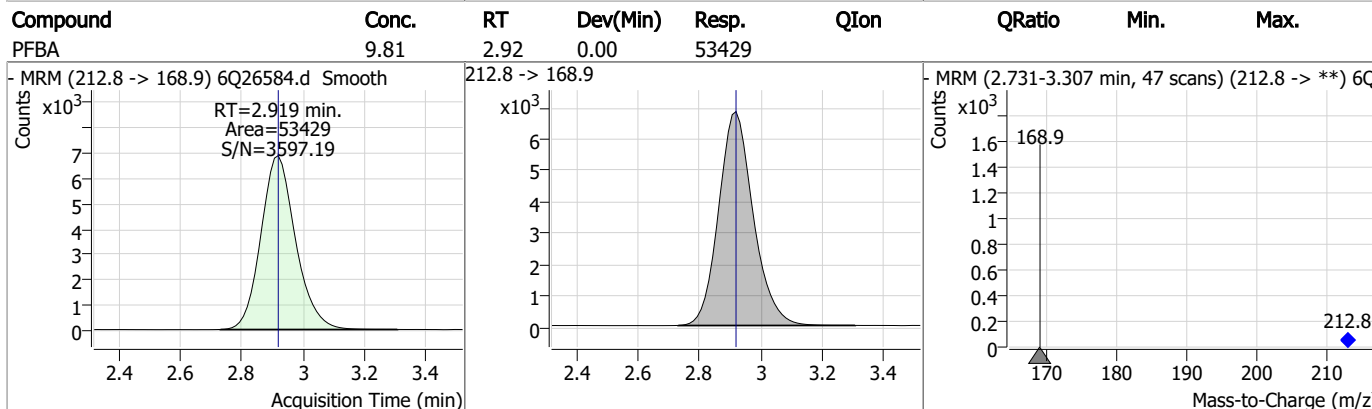
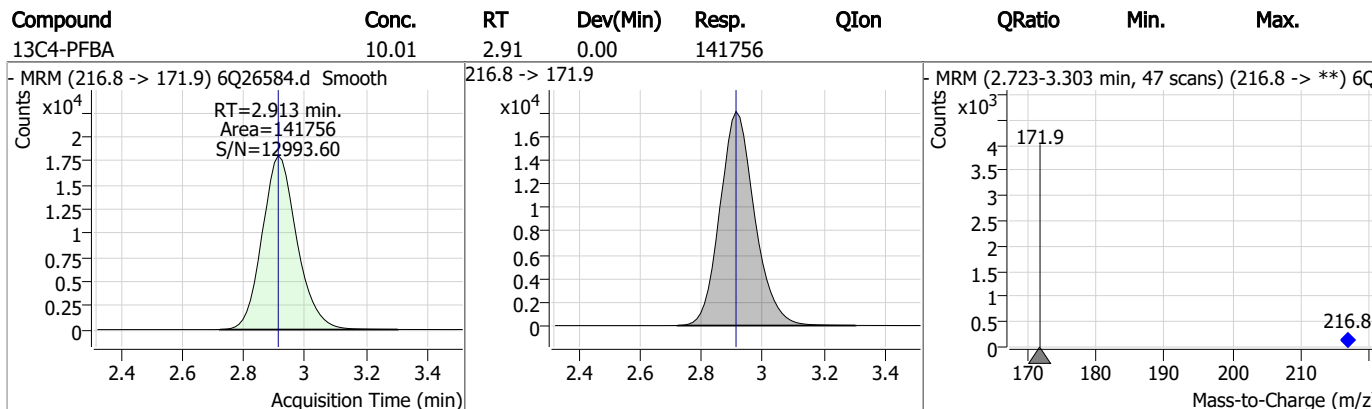
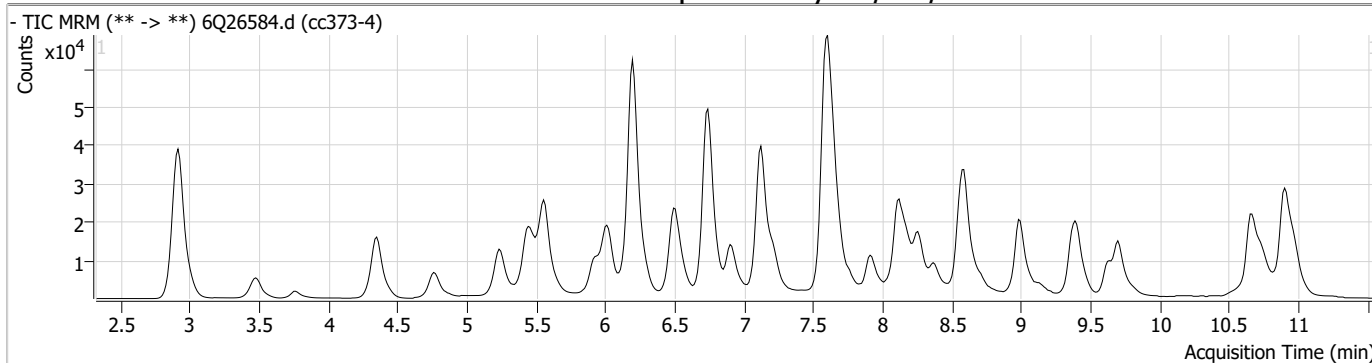
### Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
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7.7.31

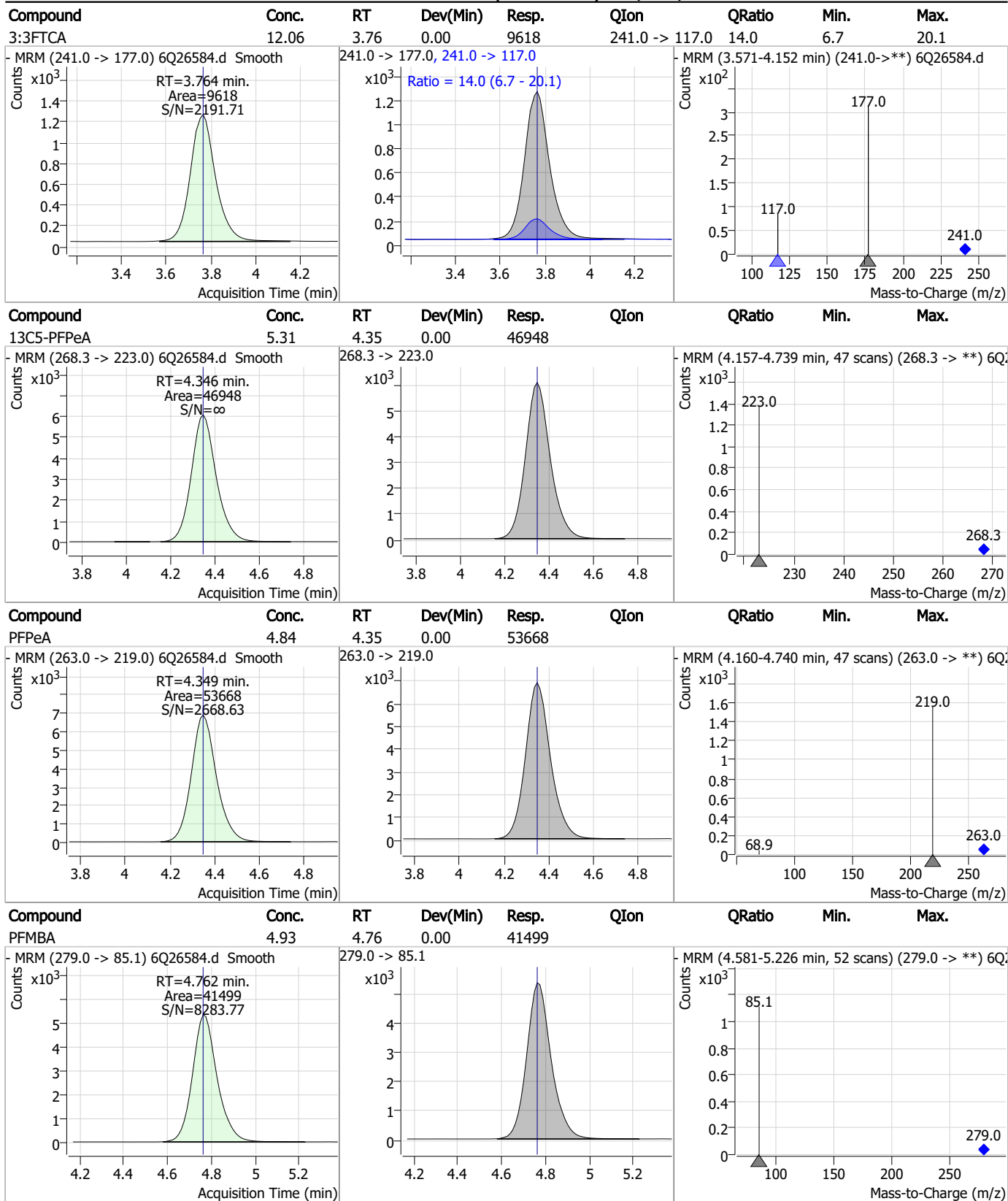
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### Perfluorinated Compounds by LC/MS/MS



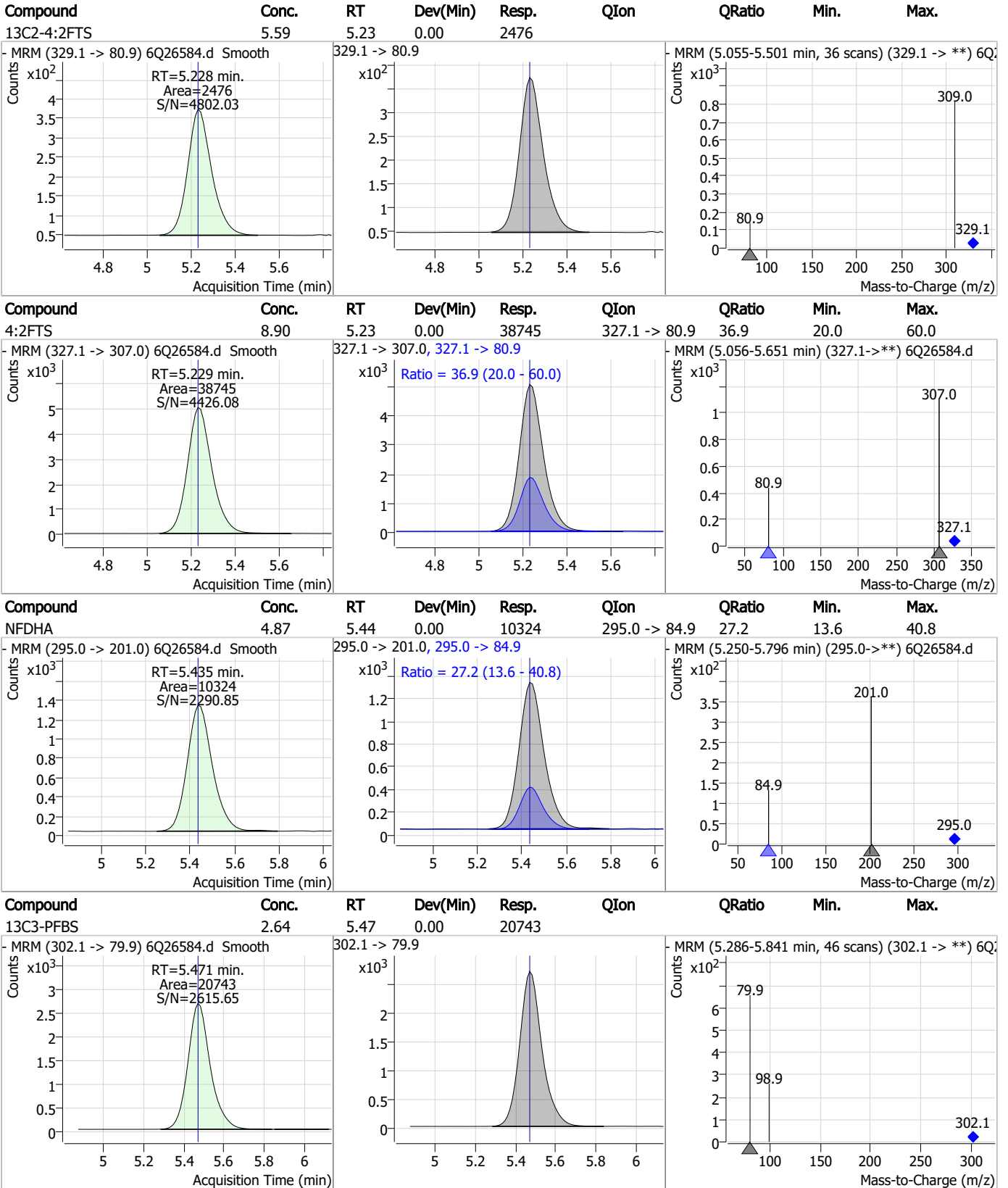
7.7.31  
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### Perfluorinated Compounds by LC/MS/MS



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### Perfluorinated Compounds by LC/MS/MS

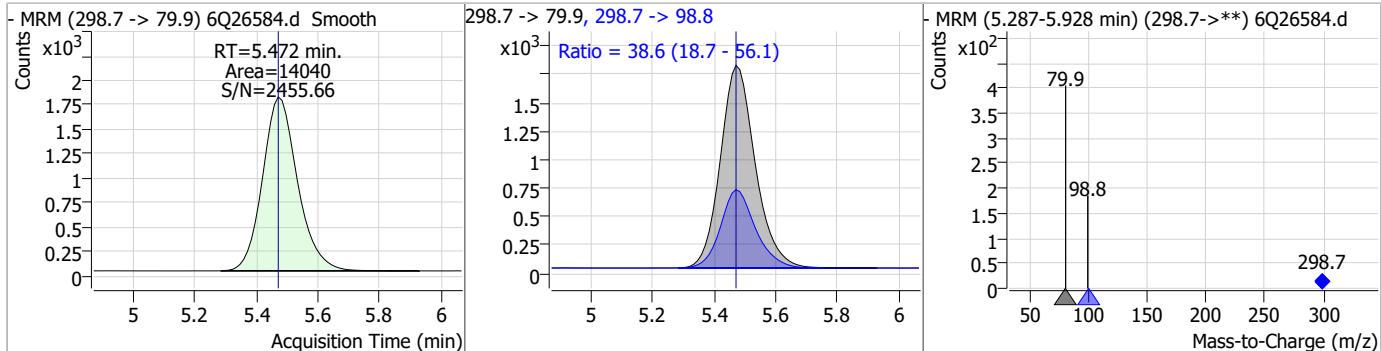


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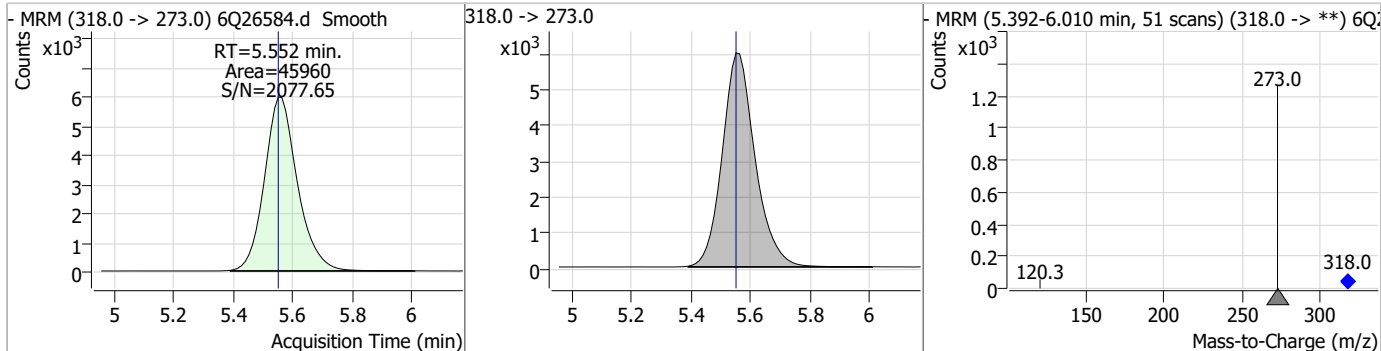


### Perfluorinated Compounds by LC/MS/MS

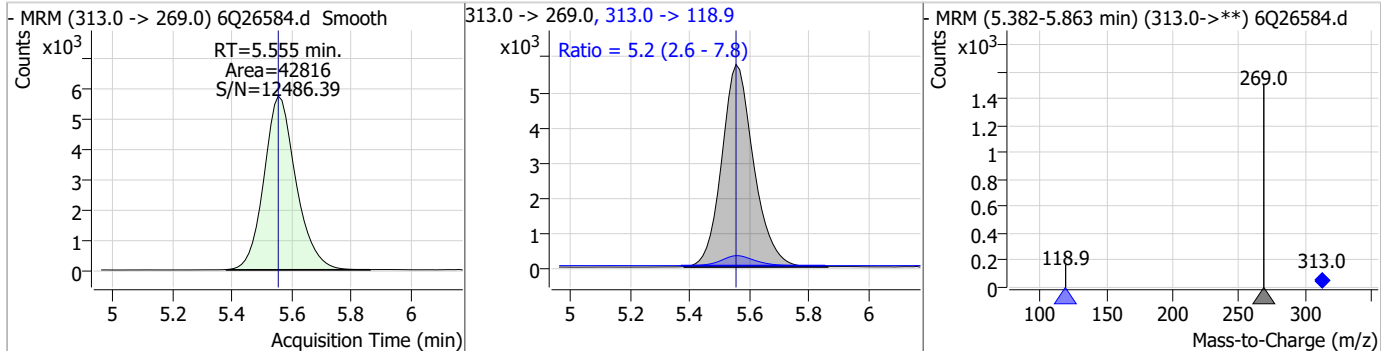
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBS	2.08	5.47	0.00	14040	298.7 -> 98.8	38.6	18.7	56.1



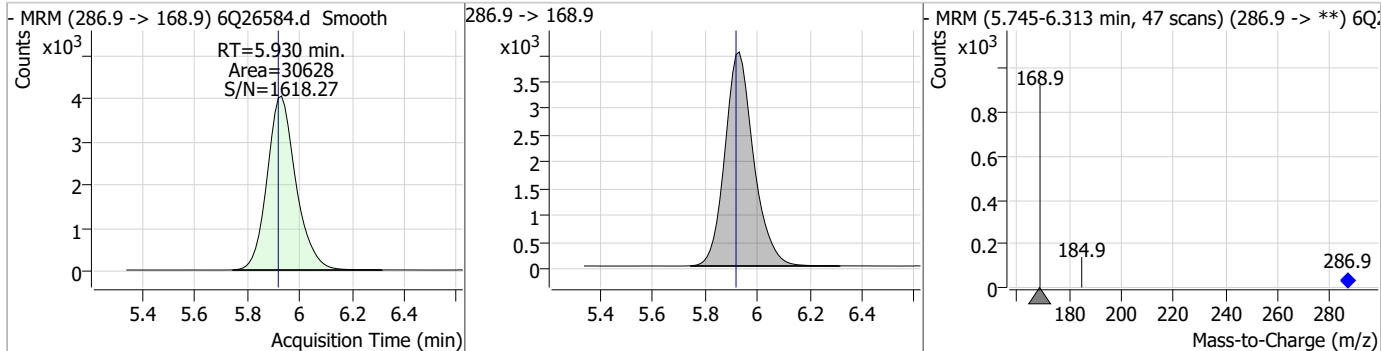
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFHxA	2.61	5.55	0.00	45960				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxA	2.50	5.56	0.00	42816	313.0 -> 118.9	5.2	2.6	7.8



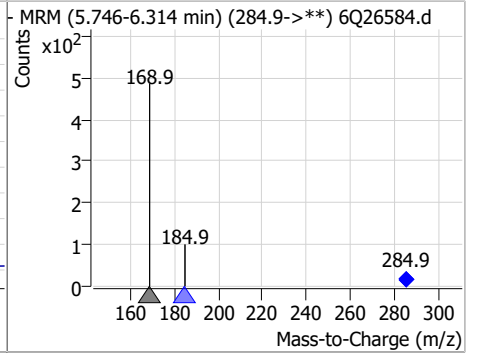
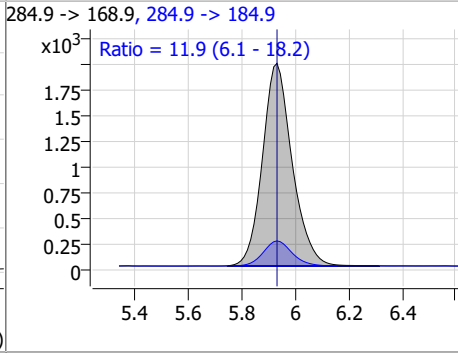
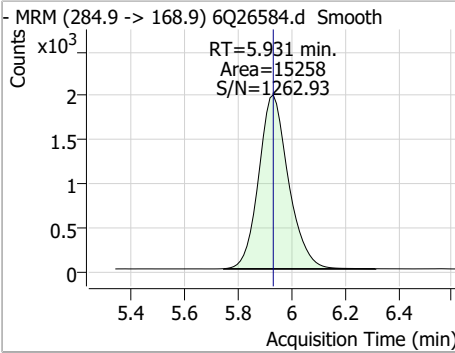
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-HFPO-DA	10.61	5.93	0.01	30628				



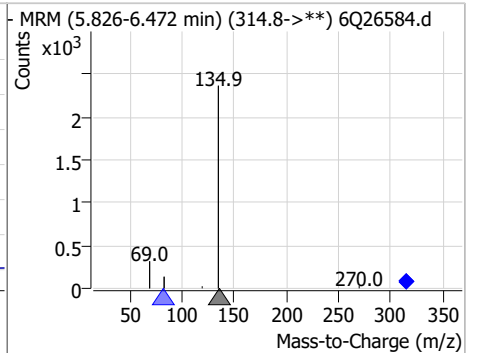
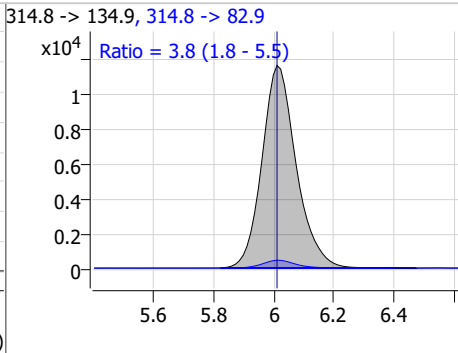
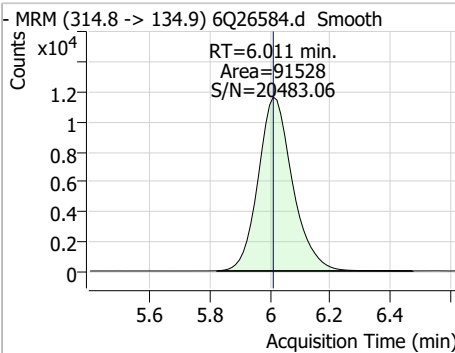
7.7.31  
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### Perfluorinated Compounds by LC/MS/MS

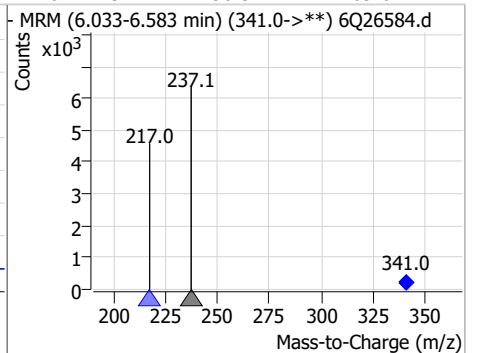
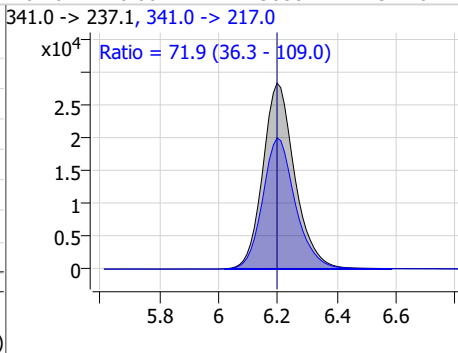
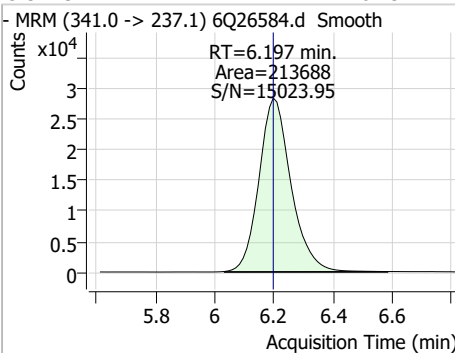
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
HFPO-DA	4.79	5.93	0.00	15258	284.9 -> 184.9	11.9	6.1	18.2



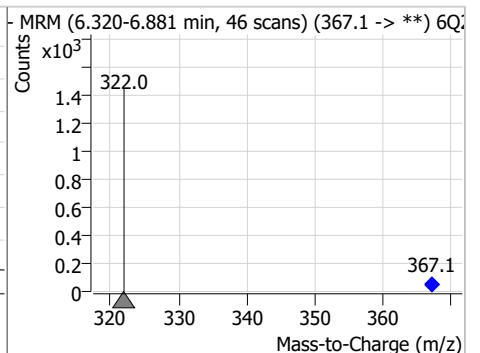
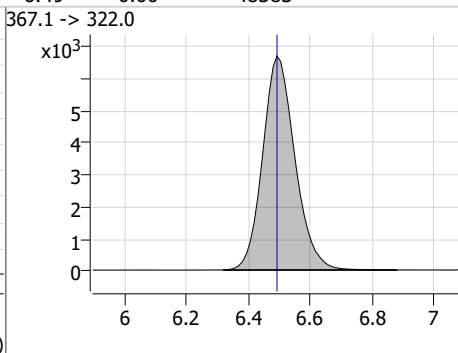
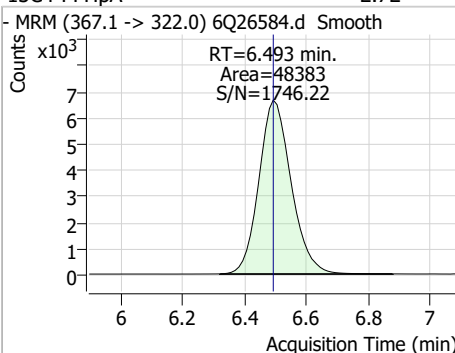
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFEESA	4.25	6.01	0.00	91528	314.8 -> 82.9	3.8	1.8	5.5



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
5:3FTCA	62.31	6.20	0.00	213688	341.0 -> 217.0	71.9	36.3	109.0



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFHpA	2.72	6.49	0.00	48383	367.1 -> 322.0			

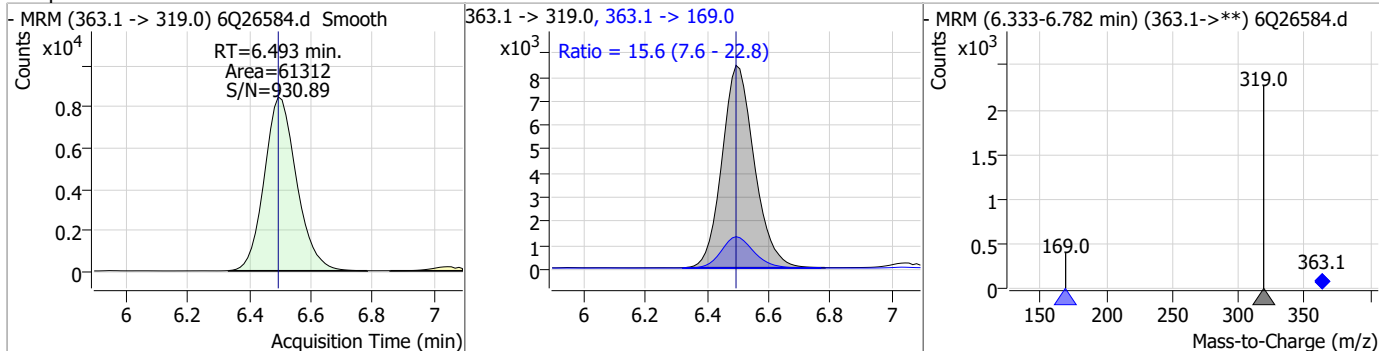


7.7.31  
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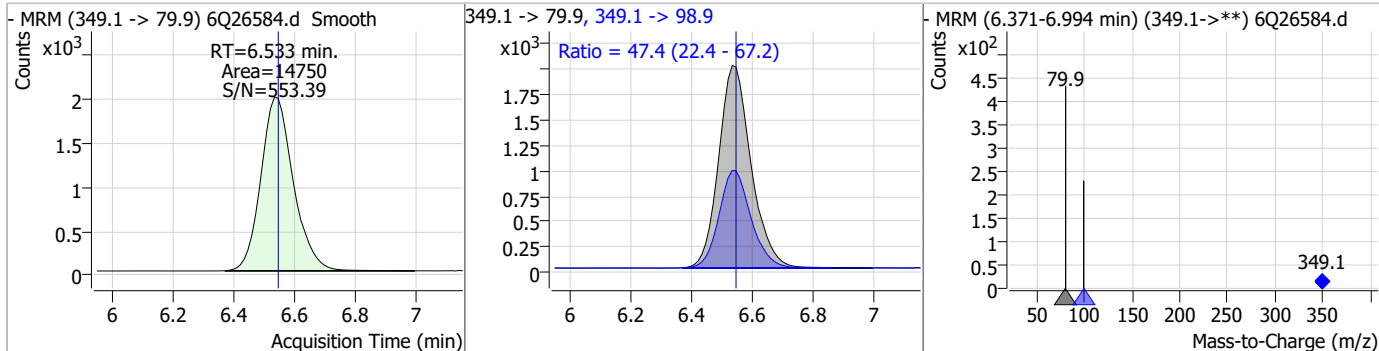


### Perfluorinated Compounds by LC/MS/MS

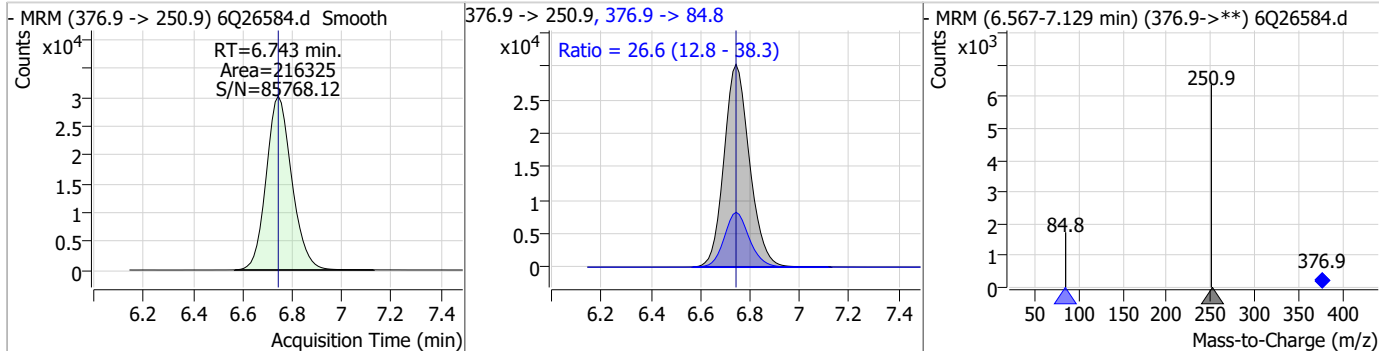
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpA	2.29	6.49	0.00	61312	363.1 -> 169.0	15.6	7.6	22.8



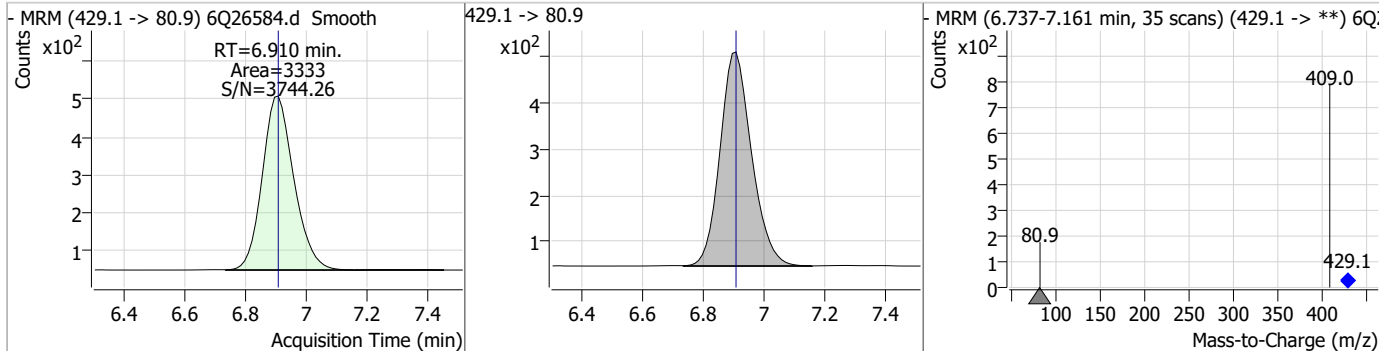
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeS	2.24	6.53	-0.01	14750	349.1 -> 98.9	47.4	22.4	67.2



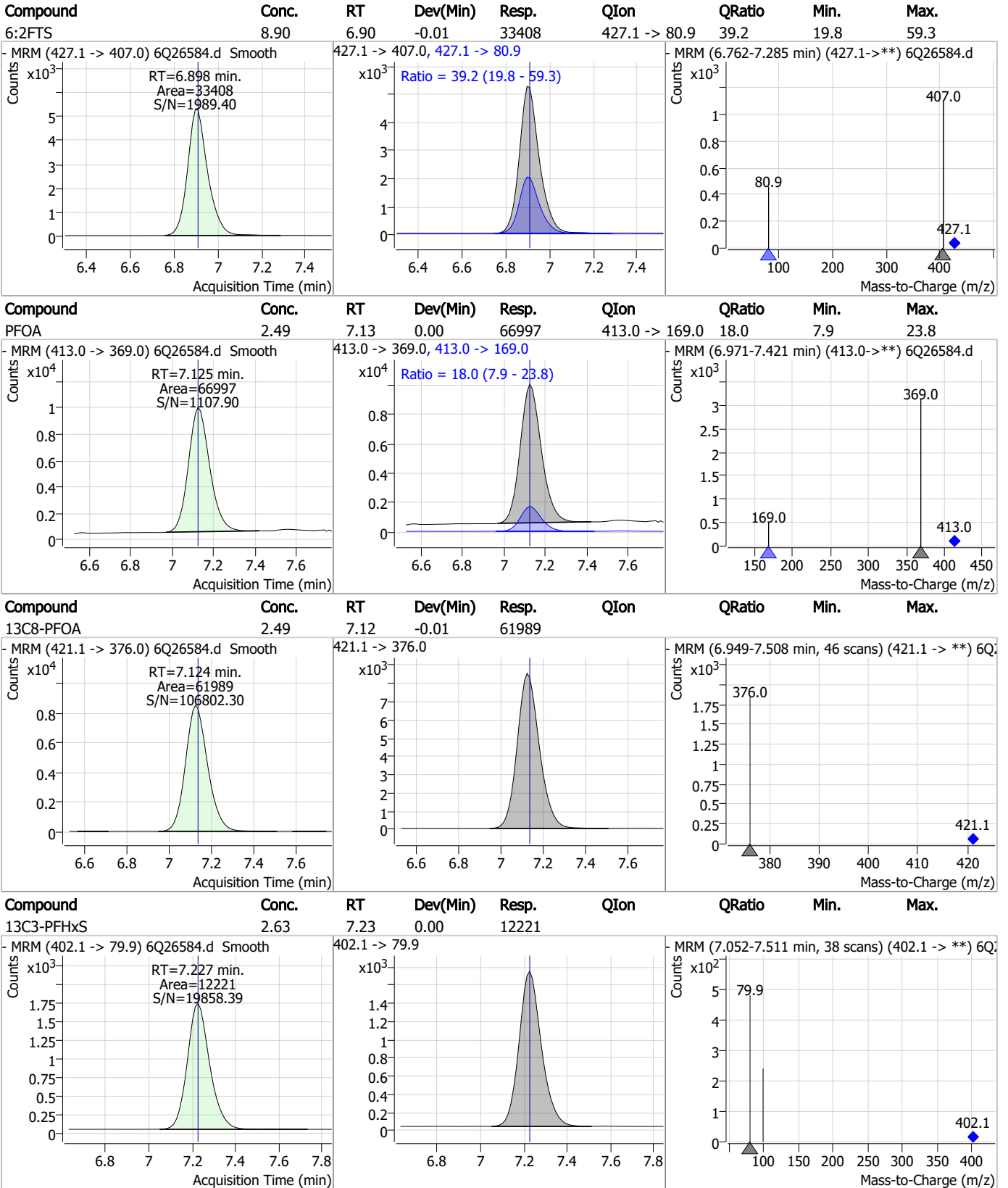
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
ADONA	4.72	6.74	0.00	216325	376.9 -> 84.8	26.6	12.8	38.3



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-6:2FTS	5.33	6.91	0.00	3333	429.1 -> 80.9			



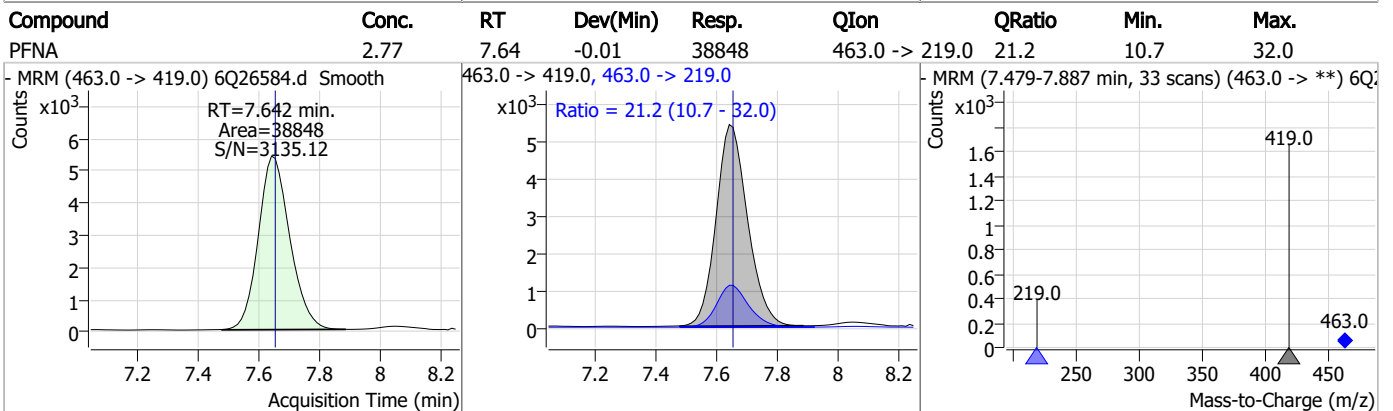
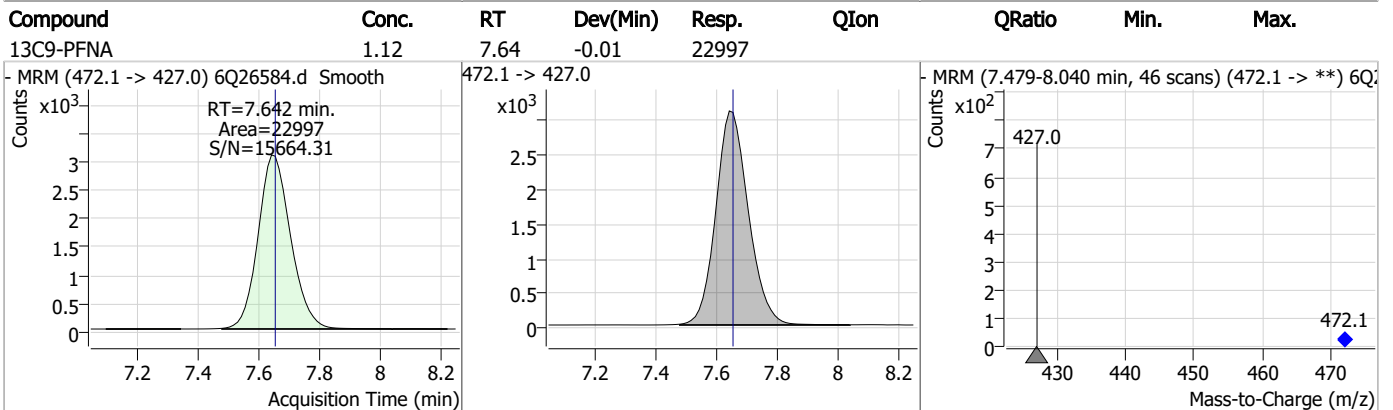
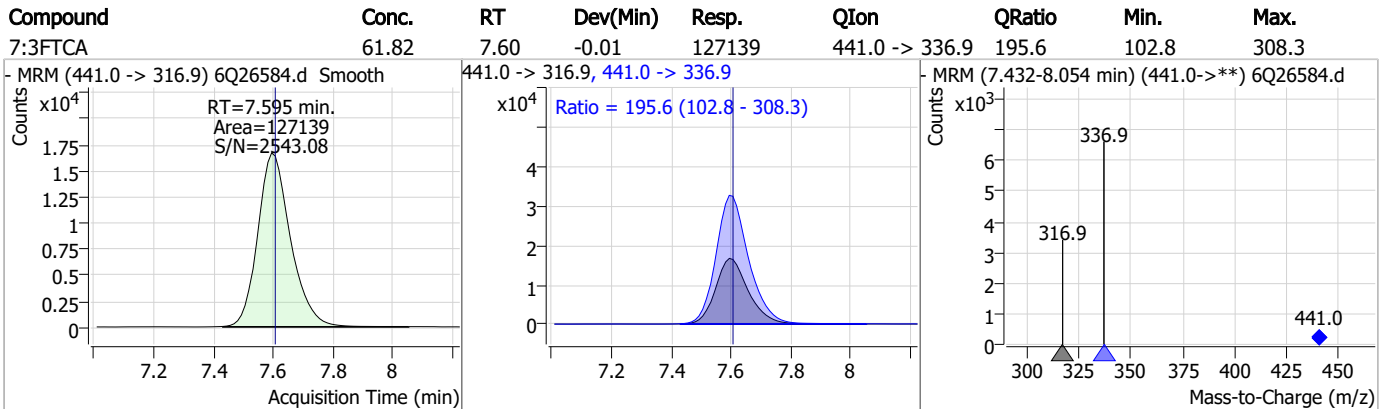
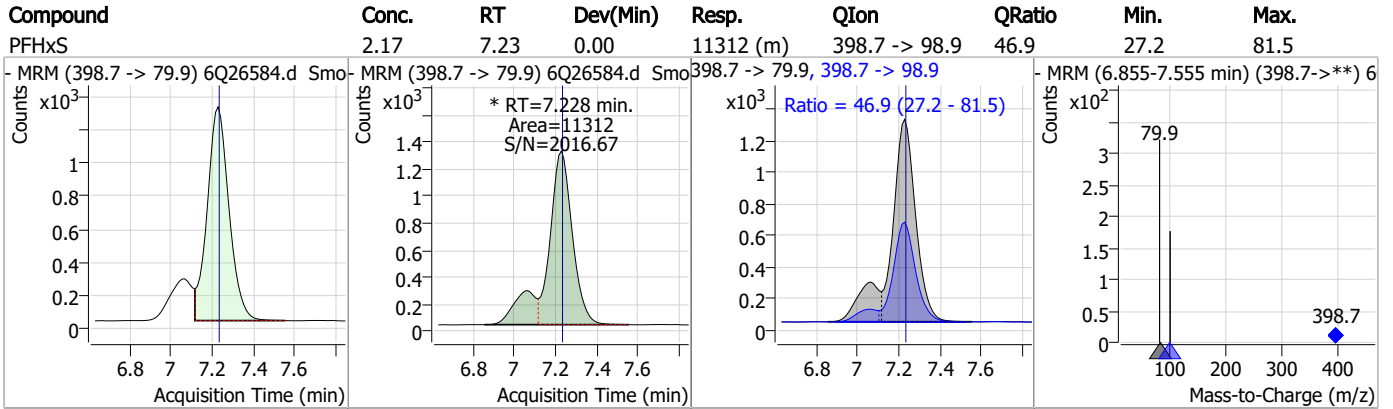
### Perfluorinated Compounds by LC/MS/MS



7.7.31  
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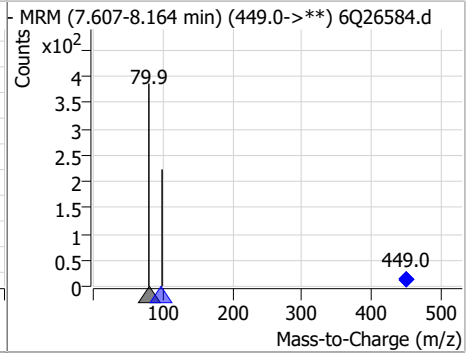
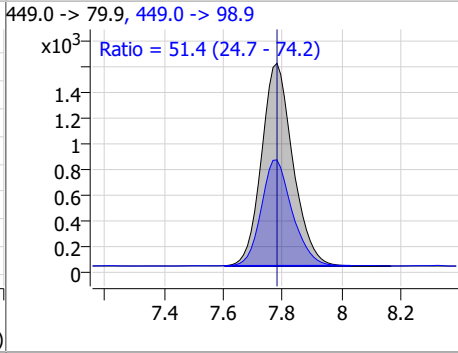
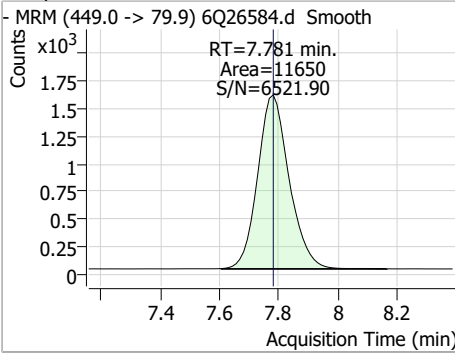
### Perfluorinated Compounds by LC/MS/MS



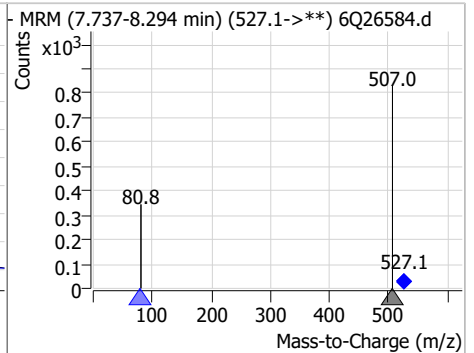
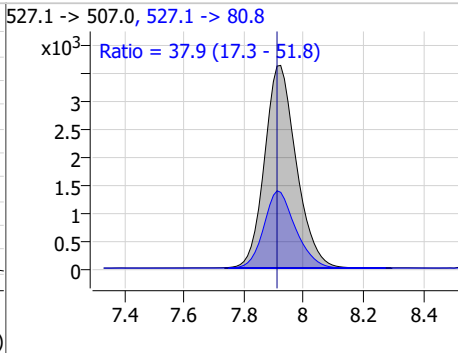
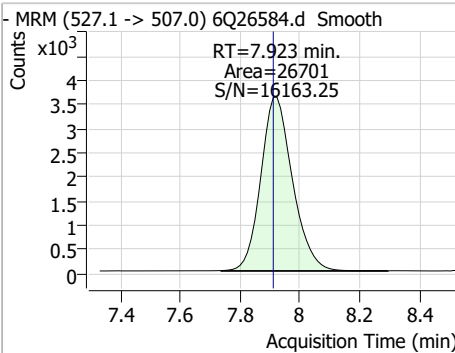
7.7.31  
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### Perfluorinated Compounds by LC/MS/MS

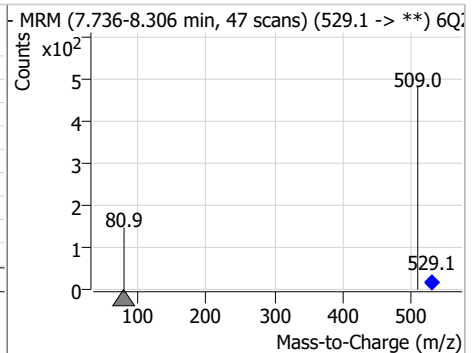
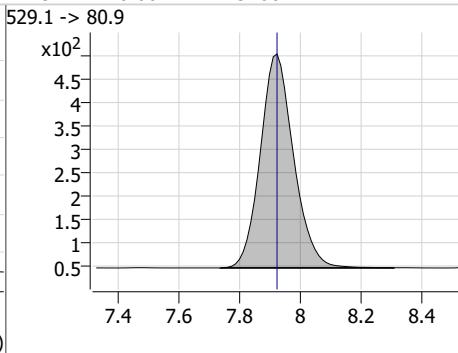
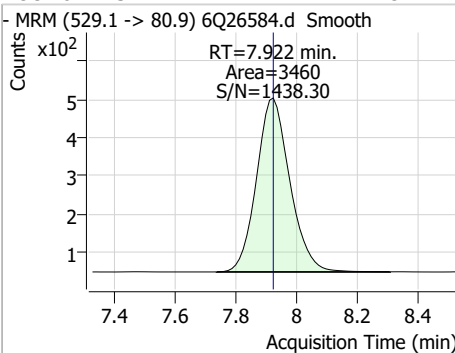
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpS	2.34	7.78	0.00	11650	449.0 -> 98.9	51.4	24.7	74.2



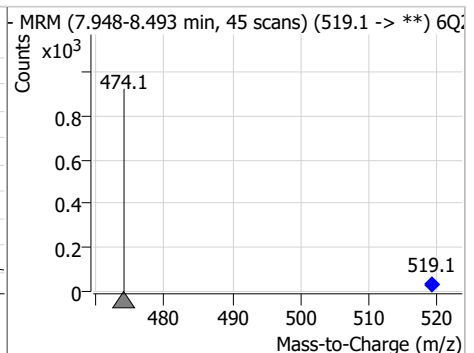
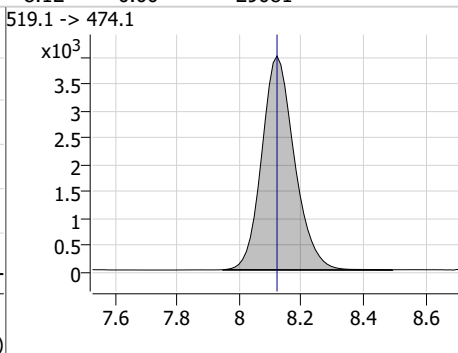
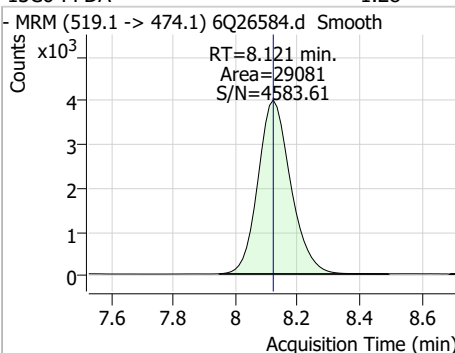
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
8:2FTS	10.26	7.92	0.01	26701	527.1 -> 80.8	37.9	17.3	51.8



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-8:2FTS	4.73	7.92	0.00	3460	529.1 -> 80.9			

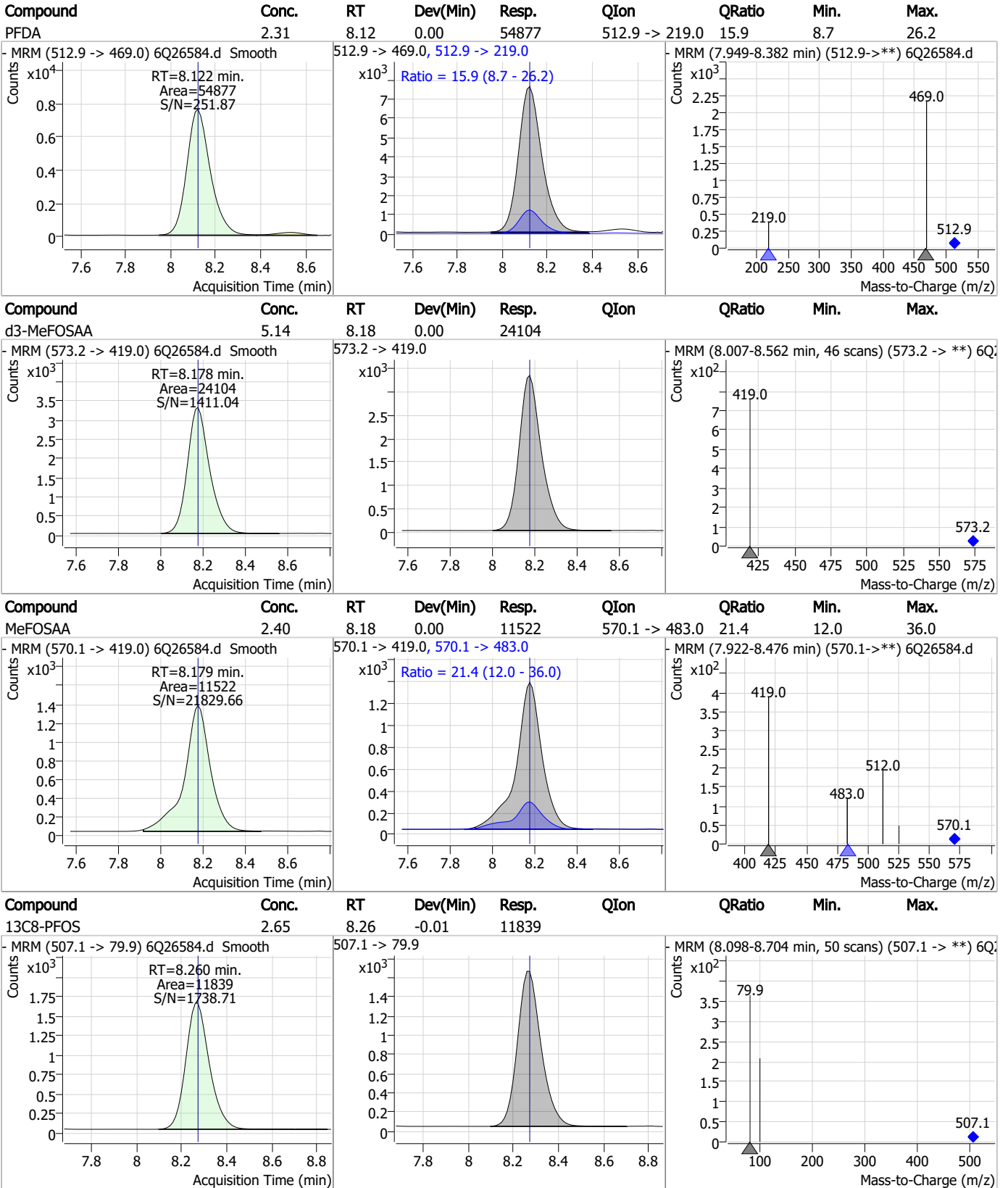


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C6-PFDA	1.28	8.12	0.00	29081	519.1 -> 474.1			



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### Perfluorinated Compounds by LC/MS/MS

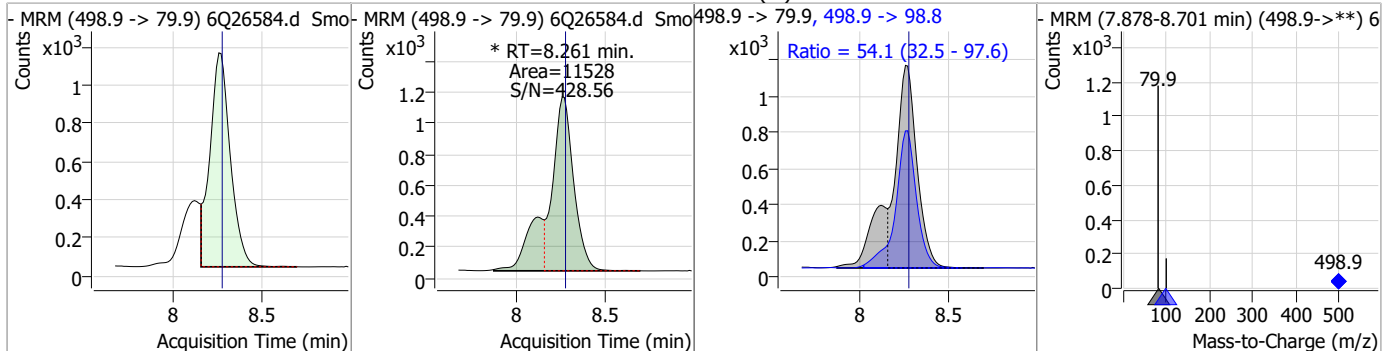


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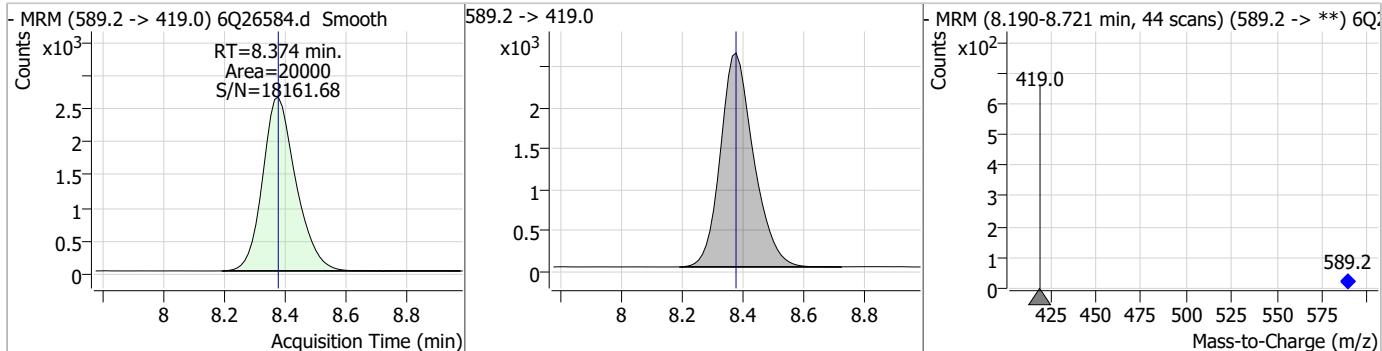


### Perfluorinated Compounds by LC/MS/MS

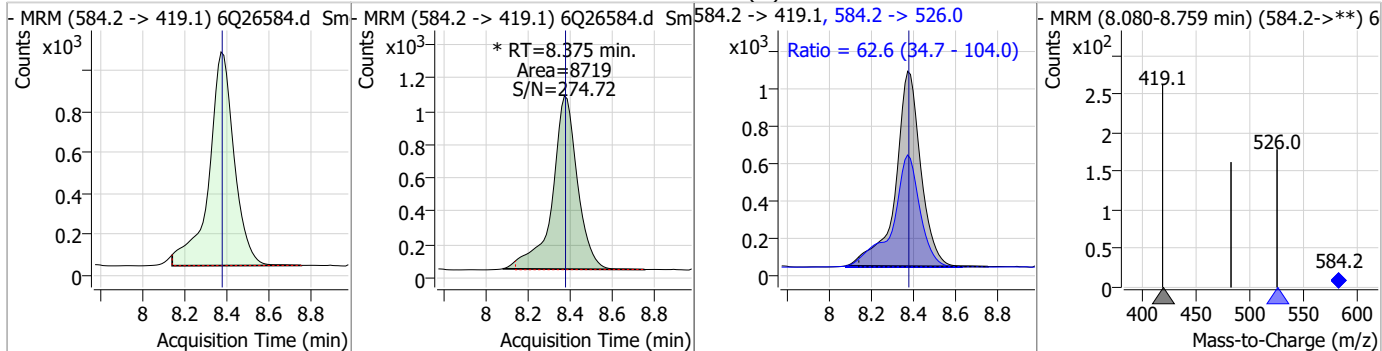
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOS	2.17	8.26	-0.01	11528 (m)	498.9 -> 98.8	54.1	32.5	97.6



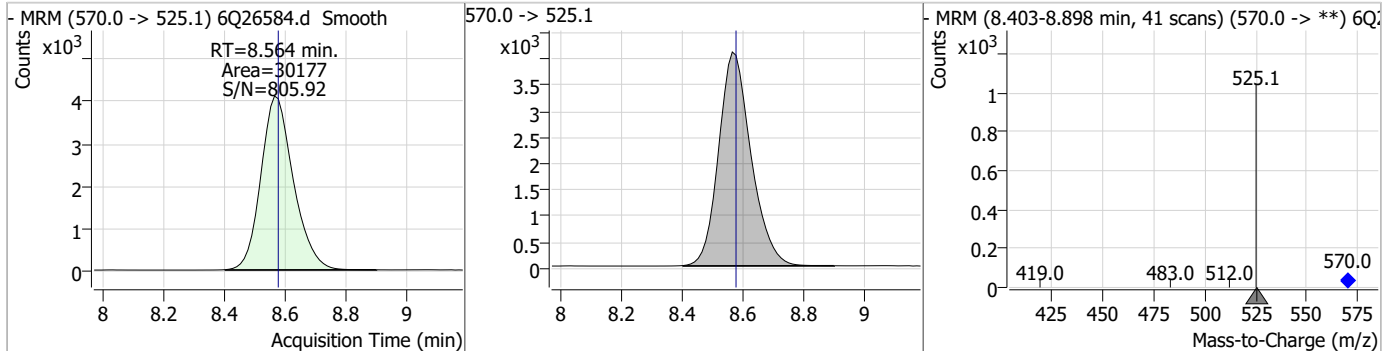
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSAA	5.12	8.37	0.00	20000				



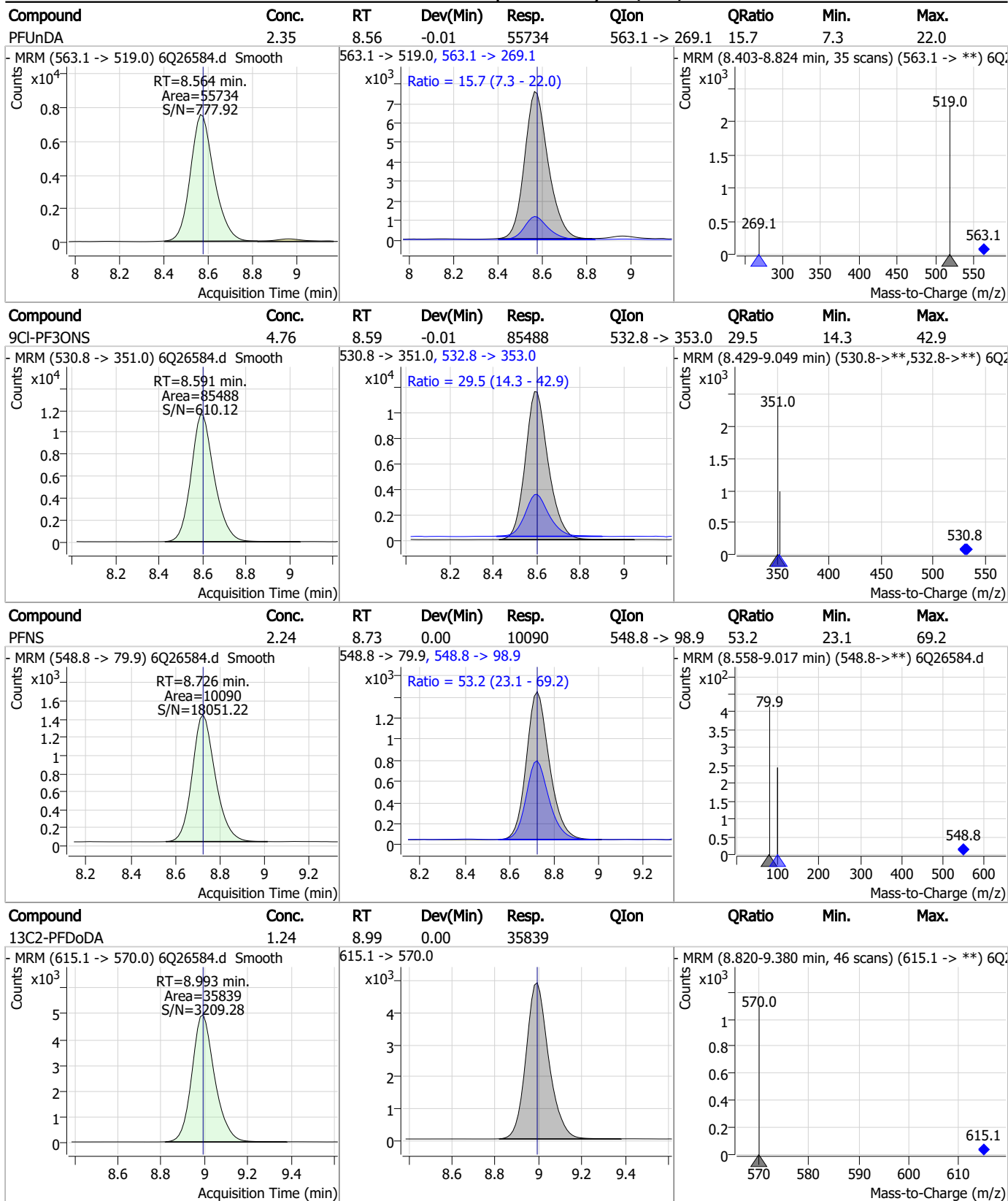
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSAA	2.62	8.38	0.00	8719 (m)	584.2 -> 526.0	62.6	34.7	104.0



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C7-PFUnDA	1.22	8.56	-0.01	30177				



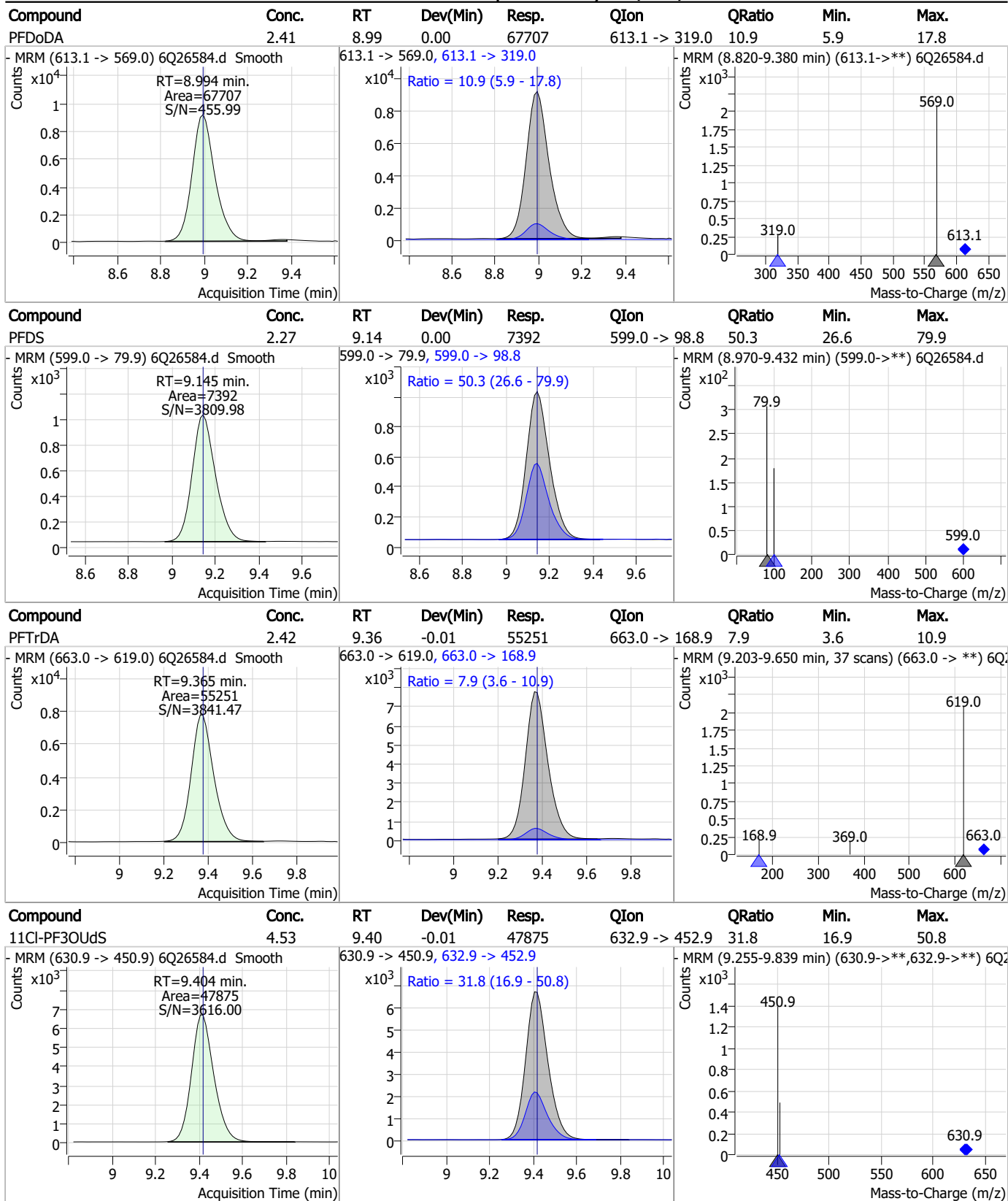
### Perfluorinated Compounds by LC/MS/MS



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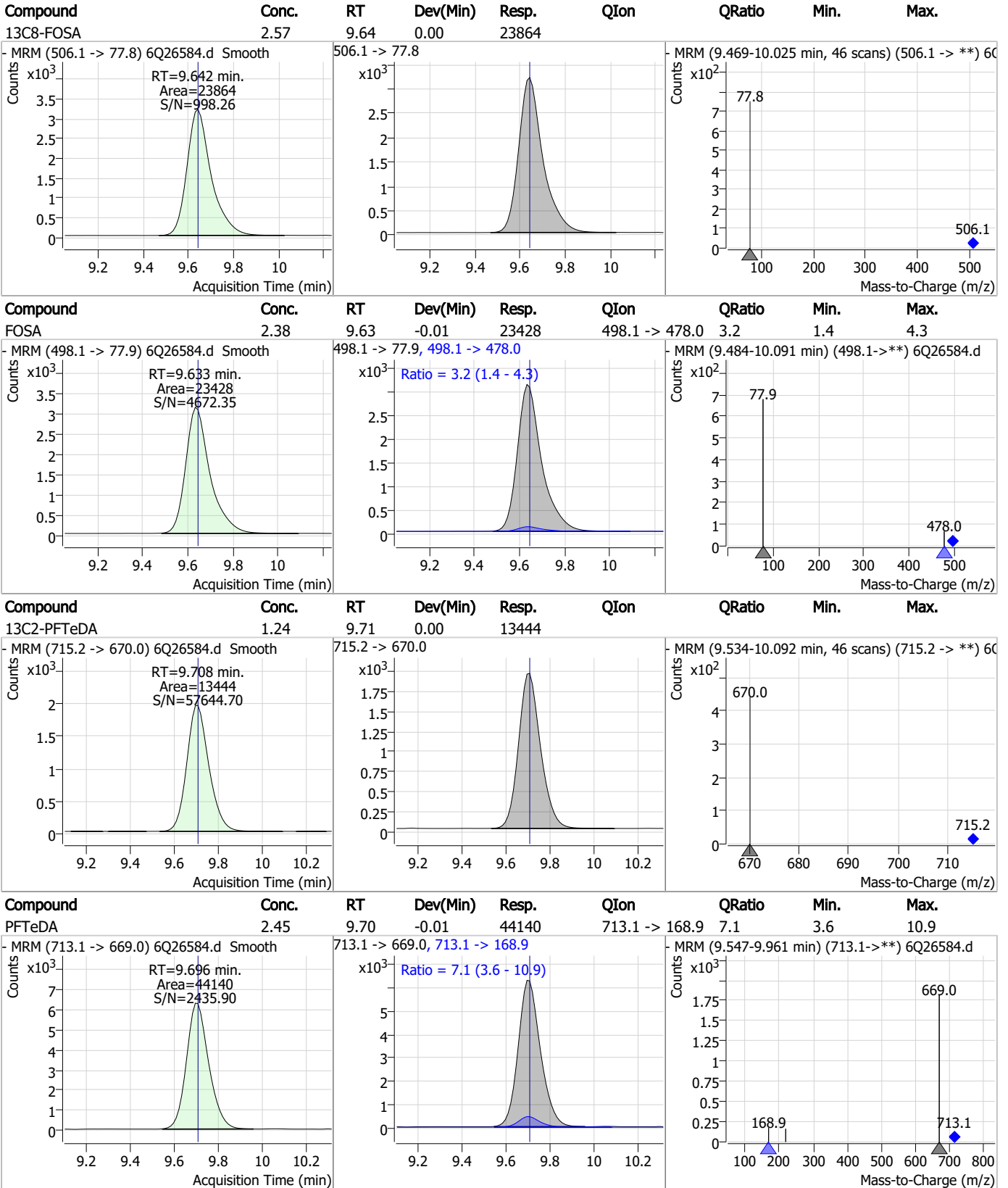
### Perfluorinated Compounds by LC/MS/MS



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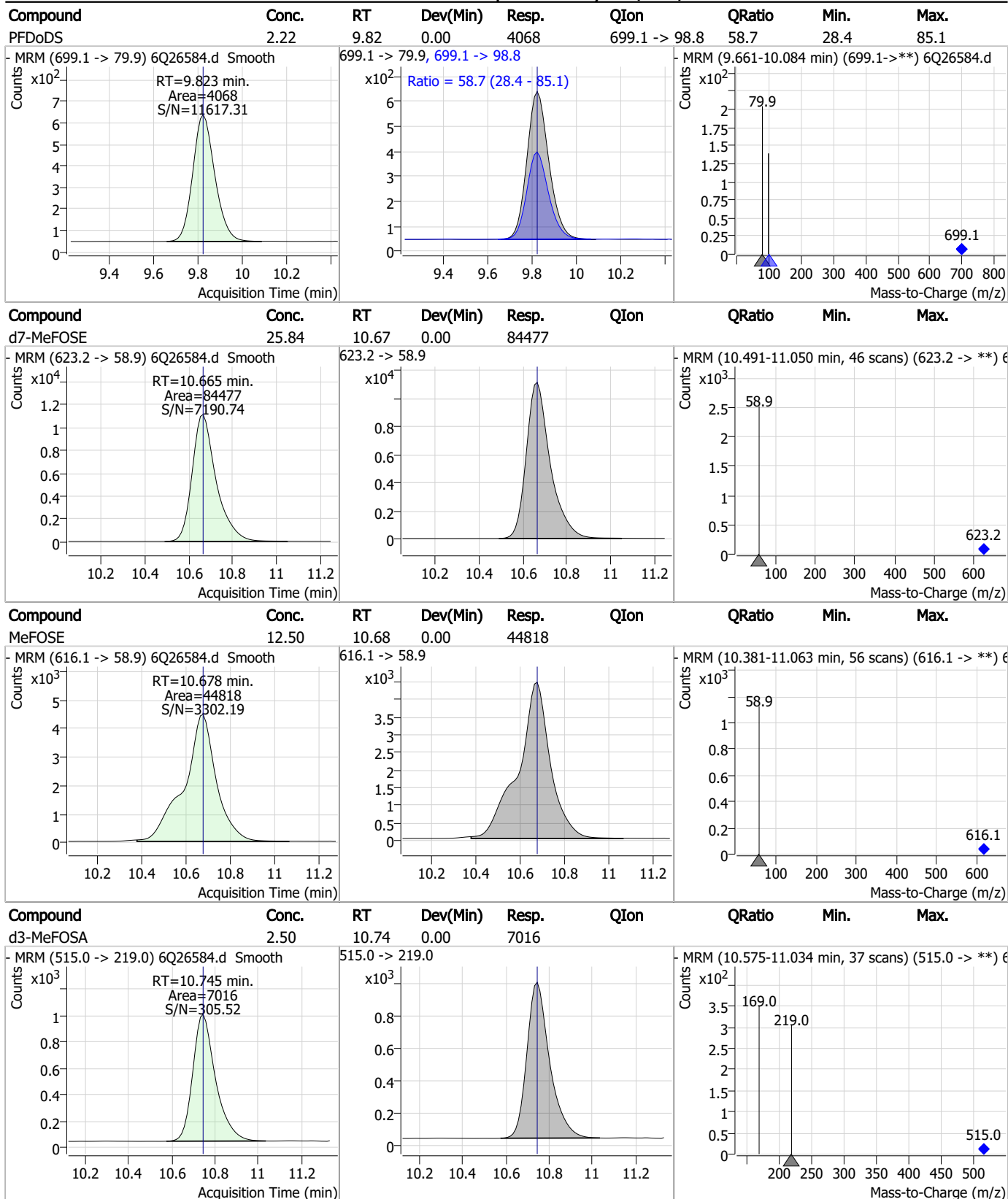
### Perfluorinated Compounds by LC/MS/MS



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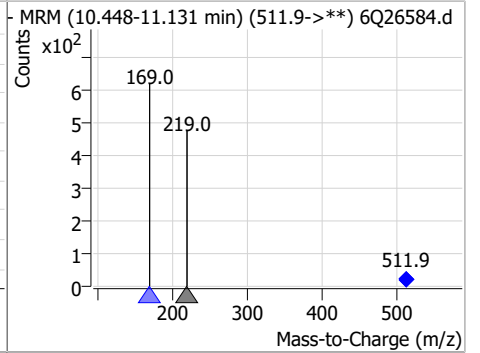
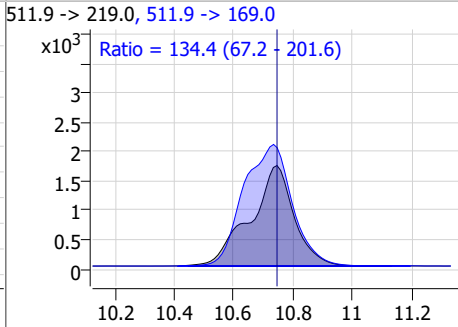
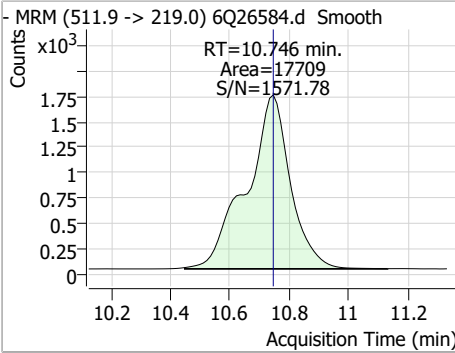
### Perfluorinated Compounds by LC/MS/MS



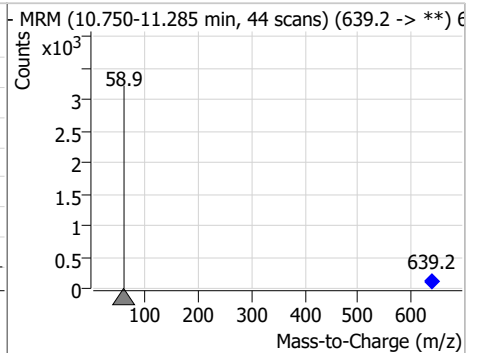
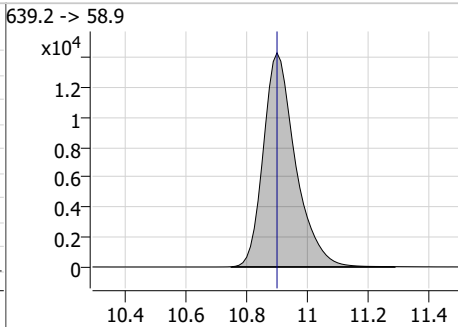
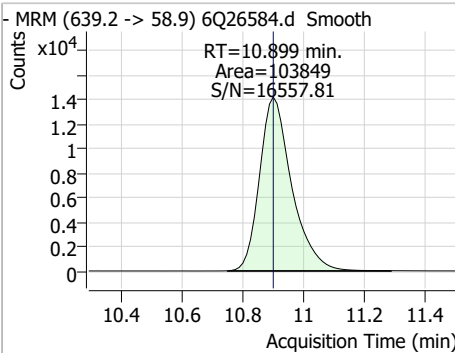
7.7.31  
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### Perfluorinated Compounds by LC/MS/MS

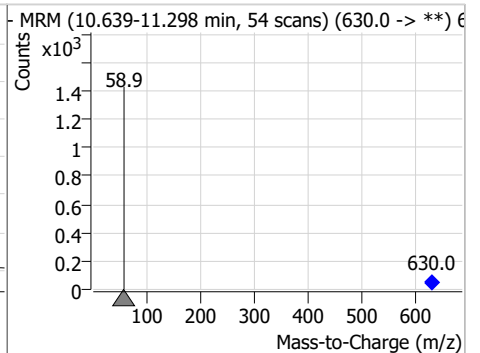
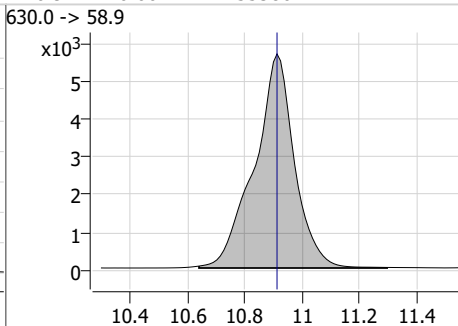
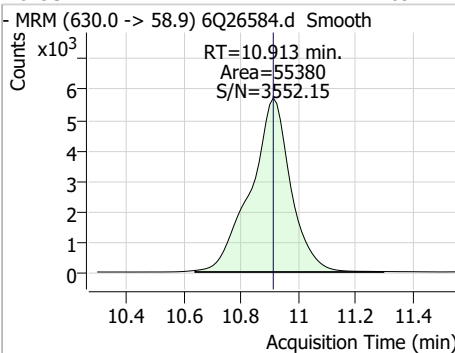
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSA	5.13	10.75	0.00	17709	511.9 -> 169.0	134.4	67.2	201.6



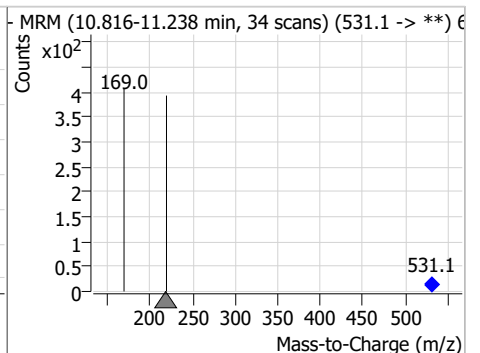
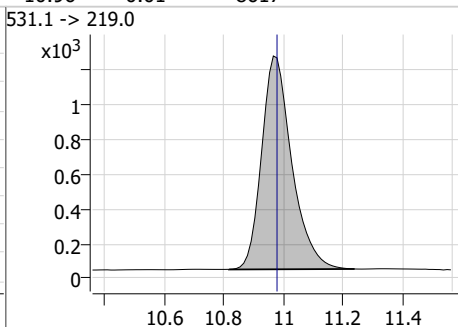
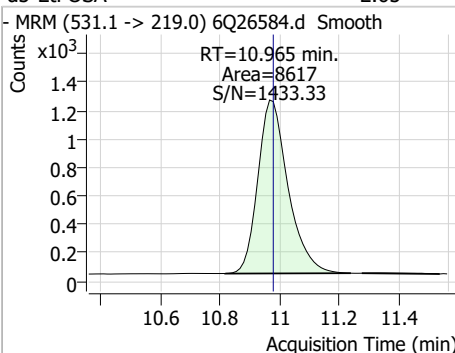
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d9-EtFOSE	25.70	10.90	0.00	103849				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSE	12.89	10.91	0.00	55380				

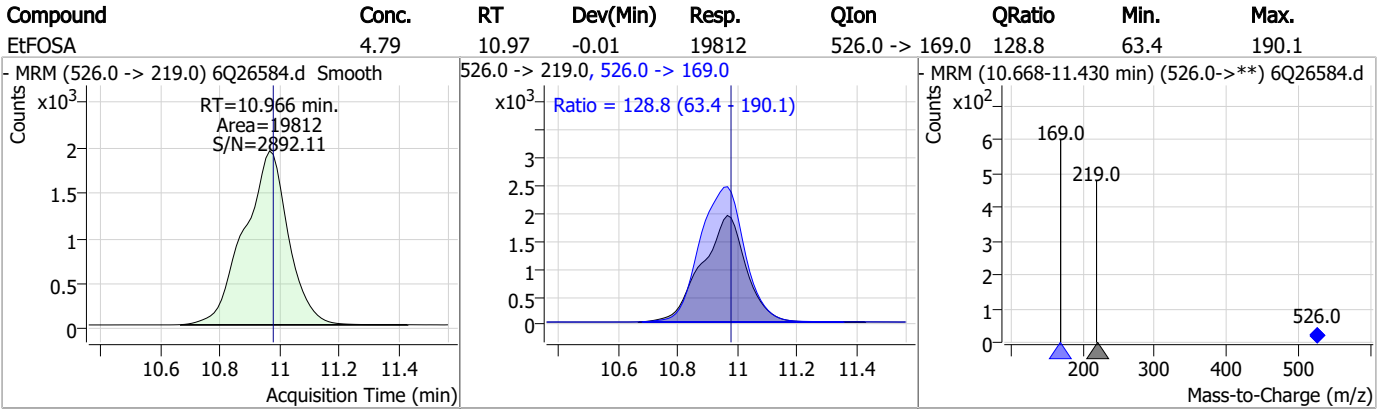


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSA	2.65	10.96	-0.01	8617				



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### Perfluorinated Compounds by LC/MS/MS



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# Manual Integration Approval Summary

Sample Number: S6Q373-CC373      Method: EPA DRAFT 1633  
Lab FileID: 6Q26584.D      Analyst approved: 10/18/23 16:28 Anna Ludwig  
Injection Time: 10/17/23 20:49      Supervisor approved: 10/19/23 09:36 Natasha Gumtie

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		7.23	Split peak
Perfluorooctanesulfonic acid	1763-23-1		8.26	Split peak
EtFOSAA	2991-50-6		8.38	Split peak

7.7.31.1

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### Perfluorinated Compounds by LC/MS/MS

Data File : 6Q26585.d  
 Operator : marthav  
 Acq. Method : 1633full.m  
 Acq. Date-Time : 10/17/2023 9:03:44 PM  
 Sample Name : cc373-1.0LL  
 Vial : P1-A2  
 DA Method File : 1633\_101723\_S6Q373.quantmethod.xml  
 Batch Name : S6Q373.batch.bin  
 Sample Information : OP99081,S6Q373,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
<b>Internal Standards</b>					
M4-PFBA	2.913	216.8 -> 171.9	143797	10.00 µg/L	0.000
M5-PFPeA	4.346	268.3 -> 223.0	47313	5.00 µg/L	0.000
M5-PFHxA	5.552	318.0 -> 273.0	48355	2.50 µg/L	0.000
M4-PFHpA	6.493	367.1 -> 322.0	46261	2.50 µg/L	0.000
M8-PFOA	7.124	421.1 -> 376.0	65213	2.50 µg/L	-0.012
M9-PFNA	7.642	472.1 -> 427.0	24757	1.25 µg/L	-0.012
M6-PFDA	8.121	519.1 -> 474.1	26717	1.25 µg/L	0.000
M7-PFUnDA	8.564	570.0 -> 525.1	32914	1.25 µg/L	-0.012
M2-PFDoDA	8.993	615.1 -> 570.0	35500	1.25 µg/L	0.000
M2-PFTeDA	9.695	715.2 -> 670.0	13369	1.25 µg/L	-0.012
M8-FOSA	9.642	506.1 -> 77.8	24057	2.50 µg/L	0.000
M3-PFBS	5.471	302.1 -> 79.9	20851	2.50 µg/L	0.000
M3-PFHxS	7.227	402.1 -> 79.9	12040	2.50 µg/L	0.000
M8-PFOS	8.272	507.1 -> 79.9	11604	2.50 µg/L	0.000
M2-4:2FTS	5.228	329.1 -> 80.9	2405	5.00 µg/L	0.000
M2-6:2FTS	6.910	429.1 -> 80.9	3634	5.00 µg/L	0.000
M2-8:2FTS	7.922	529.1 -> 80.9	3838	5.00 µg/L	0.000
M3-MeFOSAA	8.178	573.2 -> 419.0	22931	5.00 µg/L	0.000
M3-HFPO-DA	5.930	286.9 -> 168.9	31574	10.00 µg/L	0.012
M5-EtFOSAA	8.374	589.2 -> 419.0	21598	5.00 µg/L	0.000
M7-MeFOSE	10.665	623.2 -> 58.9	83233	25.00 µg/L	0.000
M9-EtFOSE	10.899	639.2 -> 58.9	106574	25.00 µg/L	0.000
M5-EtFOSA	10.965	531.1 -> 219.0	8279	2.50 µg/L	-0.012
M3-MeFOSA	10.745	515.0 -> 219.0	6910	2.50 µg/L	0.000
13C4-PFOS	8.273	502.8 -> 79.9	10818	2.50 µg/L	0.000
13C3-PFBA	2.916	216.0 -> 172.0	58411	5.00 µg/L	0.000
18O2-PFHxS	7.226	403.0 -> 83.9	7164	2.50 µg/L	0.000
13C4-PFOA	7.125	417.1 -> 372.0	74252	2.50 µg/L	0.000
13C2-PFDA	8.122	515.1 -> 470.1	26005	1.25 µg/L	0.000
13C5-PFNA	7.642	468.0 -> 423.0	22766	1.25 µg/L	-0.012
13C2-PFHxA	5.553	315.1 -> 270.0	45625	2.50 µg/L	0.000
<b>System Monitoring Compounds</b>					
13C2-4:2FTS	5.228	329.1 -> 80.9	2405	5.38 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 107.5%		
13C2-6:2FTS	6.910	429.1 -> 80.9	3634	5.75 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 115.0%		
13C2-8:2FTS	7.922	529.1 -> 80.9	3838	5.19 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 103.7%		
13C2-PFDoDA	8.993	615.1 -> 570.0	35500	1.26 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 101.1%		
13C2-PFTeDA	9.695	715.2 -> 670.0	13369	1.27 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 101.5%		
13C3-PFBS	5.471	302.1 -> 79.9	20851	2.63 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 105.2%		
13C3-PFHxS	7.227	402.1 -> 79.9	12040	2.57 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 = 102.7%	
13C4-PFBA	2.913	216.8 -> 171.9	143797	9.99 µg/L	0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 99.9%	
13C4-PFHpA	6.493	367.1 -> 322.0	46261	2.50 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 100.0%	
13C5-PFHxA	5.552	318.0 -> 273.0	48355	2.64 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 105.8%	
13C5-PFPeA	4.346	268.3 -> 223.0	47313	5.15 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 103.0%	
13C6-PFDA	8.121	519.1 -> 474.1	26717	1.21 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 96.5%	
13C7-PFUnDA	8.564	570.0 -> 525.1	32914	1.37 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 109.7%	
13C8-FOSA	9.642	506.1 -> 77.8	24057	2.42 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 96.7%	
13C8-PFOA	7.124	421.1 -> 376.0	65213	2.46 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 98.2%	
13C8-PFOS	8.272	507.1 -> 79.9	11604	2.43 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 97.0%	
13C9-PFNA	7.642	472.1 -> 427.0	24757	1.26 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 101.2%	
d3-MeFOSAA	8.178	573.2 -> 419.0	22931	4.57 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 91.4%	
13C3-HFPO-DA	5.930	286.9 -> 168.9	31574	10.52 µg/L	0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 105.2%	
d3-MeFOSA	10.745	515.0 -> 219.0	6910	2.30 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 91.9%	
d5-EtFOSAA	8.374	589.2 -> 419.0	21598	5.17 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 103.4%	
d7-MeFOSE	10.665	623.2 -> 58.9	83233	23.80 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 95.2%	
d9-EtFOSE	10.899	639.2 -> 58.9	106574	24.65 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 98.6%	
d5-EtFOSA	10.965	531.1 -> 219.0	8279	2.38 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 95.1%	
<b>Target Compounds</b>					<b>QValue</b>
4:2FTS	5.229	327.1 -> 307.0	2797	0.66 µg/L	94
		327.1 -> 80.9	1223		
6:2FTS	6.911	427.1 -> 407.0	3147	0.77 µg/L	99
		427.1 -> 80.9	1220		
8:2FTS	7.910	527.1 -> 507.0	2194	0.76 µg/L	99
		527.1 -> 80.8	776		
EtFOSAA	8.375	584.2 -> 419.1	564	0.16 µg/L	87
		584.2 -> 526.0	332		
FOSA	9.633	498.1 -> 77.9	1863	0.19 µg/L	99
		498.1 -> 478.0	45		
MeFOSAA	8.179	570.1 -> 419.0	1049	0.23 µg/L	86
		570.1 -> 483.0	178		
PFBA	2.919	212.8 -> 168.9	4037	0.73 µg/L	100
PFBS	5.472	298.7 -> 79.9	1093	0.16 µg/L	94
		298.7 -> 98.8	373		
PFDA	8.122	512.9 -> 469.0	4113	0.19 µg/L	95
		512.9 -> 219.0	631		
PFDODA	8.994	613.1 -> 569.0	4910	0.18 µg/L	100
		613.1 -> 319.0	576		
PFDS	9.132	599.0 -> 79.9	614	0.19 µg/L	86

7.7.32  
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Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
PFHpA	6.493	599.0 -> 98.8	266	0.17	µg/L	100
		363.1 -> 319.0	4435			
PFHpS	7.781	363.1 -> 169.0	672	0.18	µg/L	99
		449.0 -> 79.9	874			
PFHxA	5.555	449.0 -> 98.9	440	0.17	µg/L	95
		313.0 -> 269.0	3010			
PFHxS	7.228	313.0 -> 118.9	206	0.17	µg/L	92
		398.7 -> 79.9	889			
PFNA	7.642	398.7 -> 98.9	429	0.17	µg/L	92
		463.0 -> 419.0	2501			
PFNS	8.726	463.0 -> 219.0	630	0.15	µg/L	72
		548.8 -> 79.9	668			
PFOA	7.125	548.8 -> 98.9	430	0.16	µg/L	89
		413.0 -> 369.0	4547			
PFOS	8.261	413.0 -> 169.0	937	0.18	µg/L	81
		498.9 -> 79.9	933			
PFPeA	4.349	498.9 -> 98.8	471	0.37	µg/L	100
		263.0 -> 219.0	4128			
PFPeS	6.533	349.1 -> 79.9	1108	0.17	µg/L	98
		349.1 -> 98.9	512			
PFTeDA	9.708	713.1 -> 669.0	3012	0.17	µg/L	97
		713.1 -> 168.9	256			
PFTrDA	9.365	663.0 -> 619.0	4184	0.18	µg/L	100
		663.0 -> 168.9	301			
PFUnDA	8.564	563.1 -> 519.0	3778	0.15	µg/L	94
		563.1 -> 269.1	655			
11Cl-PF3OUdS	9.404	630.9 -> 450.9	3786	0.35	µg/L	91
		632.9 -> 452.9	1098			
9Cl-PF3ONS	8.591	530.8 -> 351.0	5759	0.31	µg/L	97
		532.8 -> 353.0	1753			
ADONA	6.743	376.9 -> 250.9	15999	0.34	µg/L	99
		376.9 -> 84.8	4193			
HFPO-DA	5.931	284.9 -> 168.9	1099	0.33	µg/L	95
		284.9 -> 184.9	153			
3:3FTCA	3.764	241.0 -> 177.0	705	0.87	µg/L	97
		241.0 -> 117.0	103			
5:3FTCA	6.197	341.0 -> 237.1	16182	4.48	µg/L	95
		341.0 -> 217.0	11152			
7:3FTCA	7.595	441.0 -> 316.9	9163	4.23	µg/L	94
		441.0 -> 336.9	18048			
EtFOSA	10.966	526.0 -> 219.0	1473	0.37	µg/L	95
		526.0 -> 169.0	1949			
EtFOSE	10.913	630.0 -> 58.9	4032	0.91	µg/L	100
		511.9 -> 219.0	1325			
MeFOSA	10.746	511.9 -> 169.0	1819	0.39	µg/L	98
		616.1 -> 58.9	3310			
MeFOSE	10.678	699.1 -> 79.9	328	0.94	µg/L	100
		699.1 -> 98.8	183			
PFDoDS	9.823	295.0 -> 201.0	634	0.18	µg/L	99
		295.0 -> 84.9	191			
NFDHA	5.435	279.0 -> 85.1	3038	0.28	µg/L	94
		229.0 -> 84.9	2436			
PFMBA	4.762	314.8 -> 134.9	6777	0.36	µg/L	100
		314.8 -> 82.9	232			
PFMPA	3.475			0.35	µg/L	100
PFEESA	6.011			0.30	µg/L	99

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





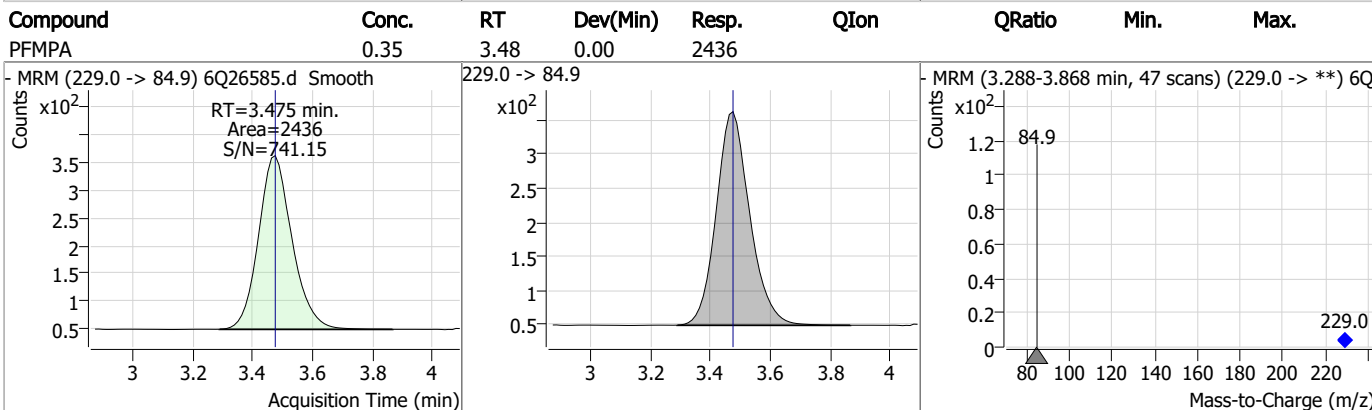
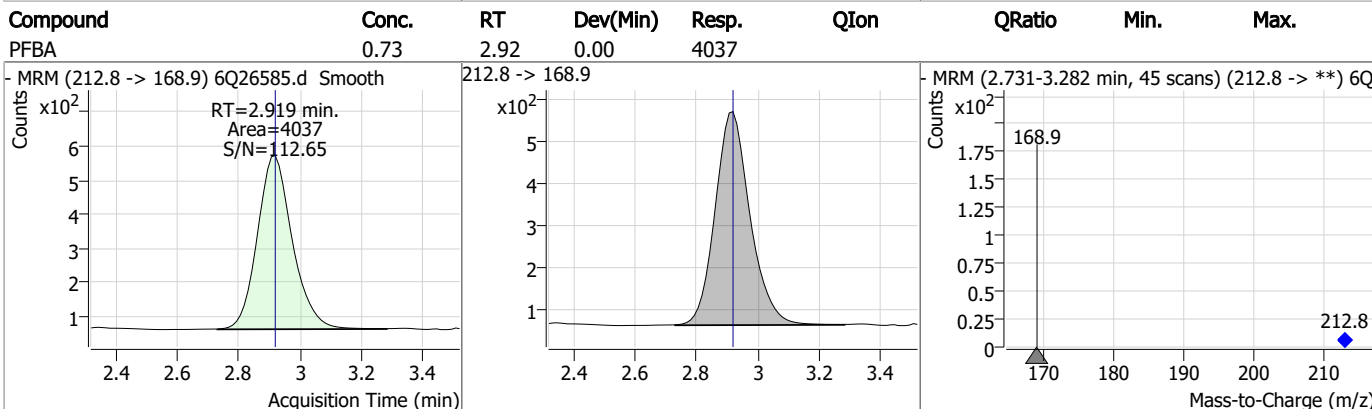
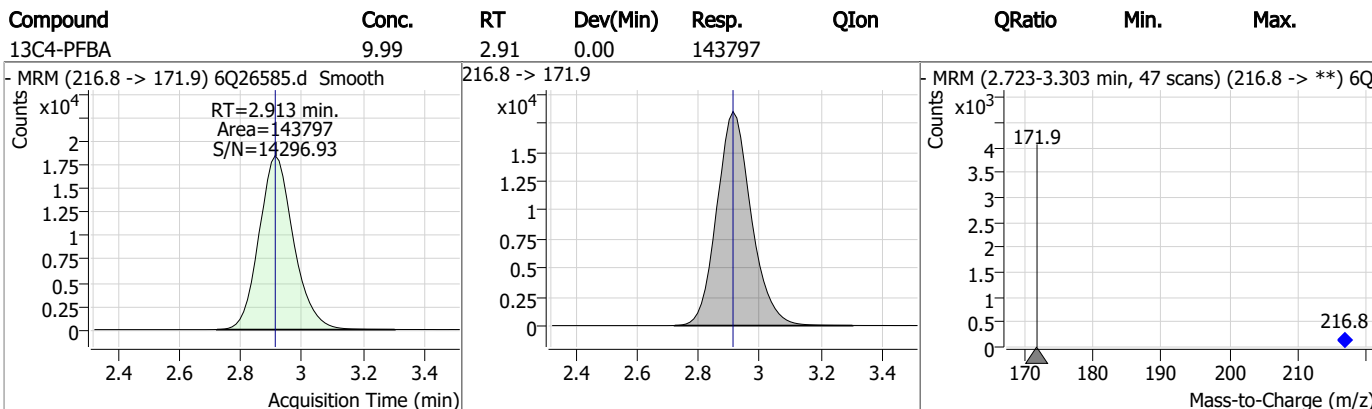
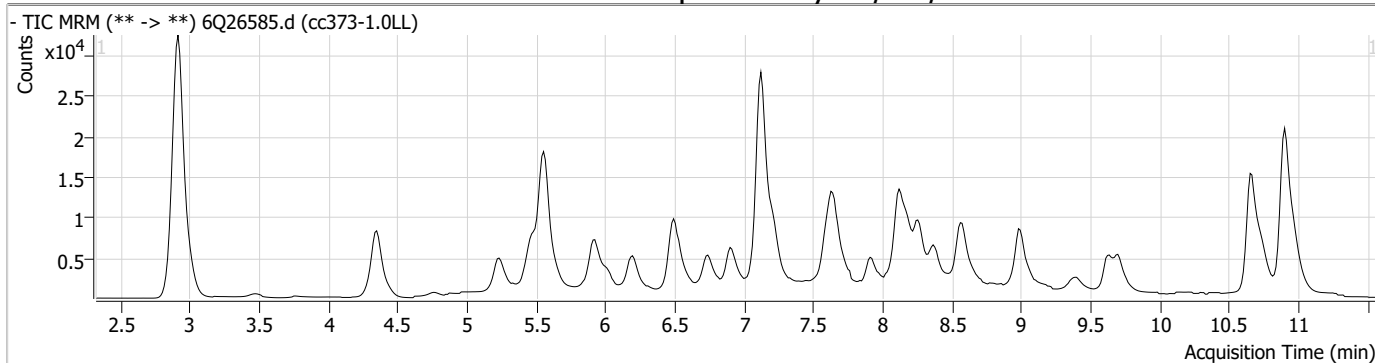
### Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
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7.7.32

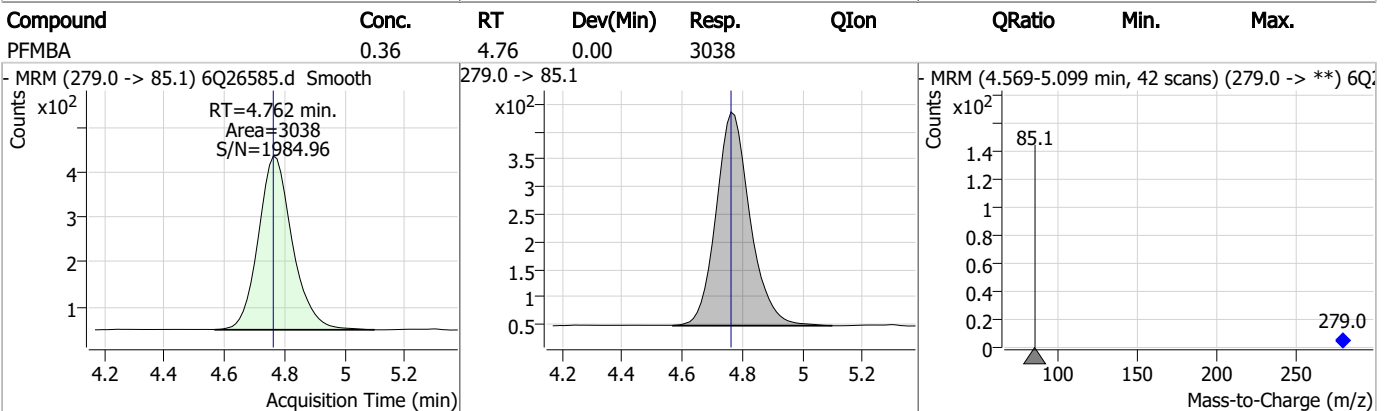
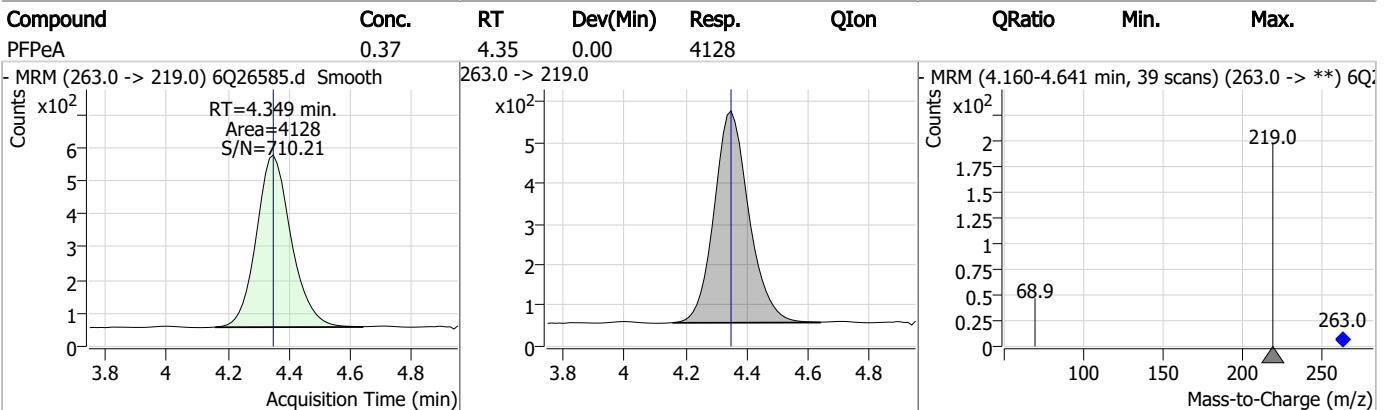
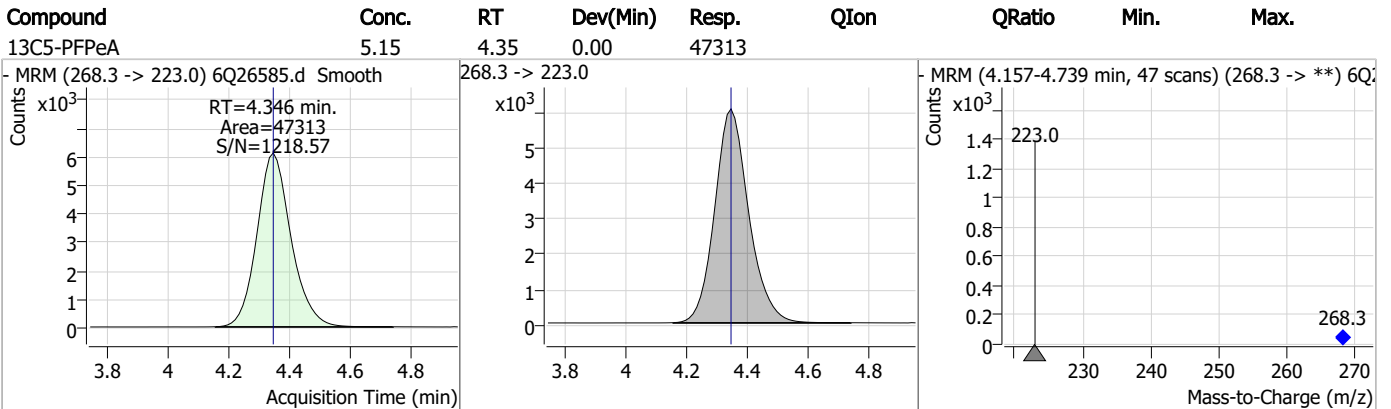
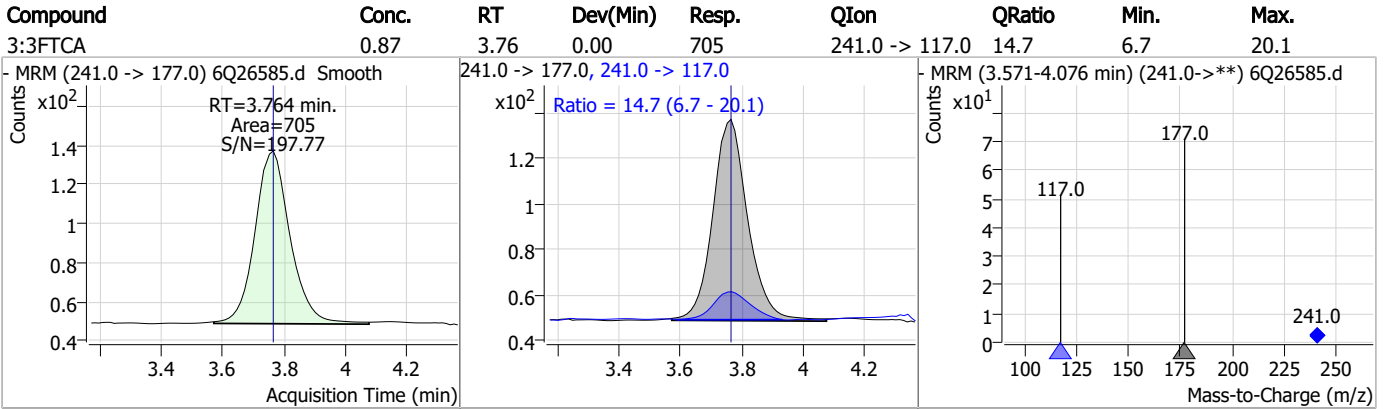
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### Perfluorinated Compounds by LC/MS/MS



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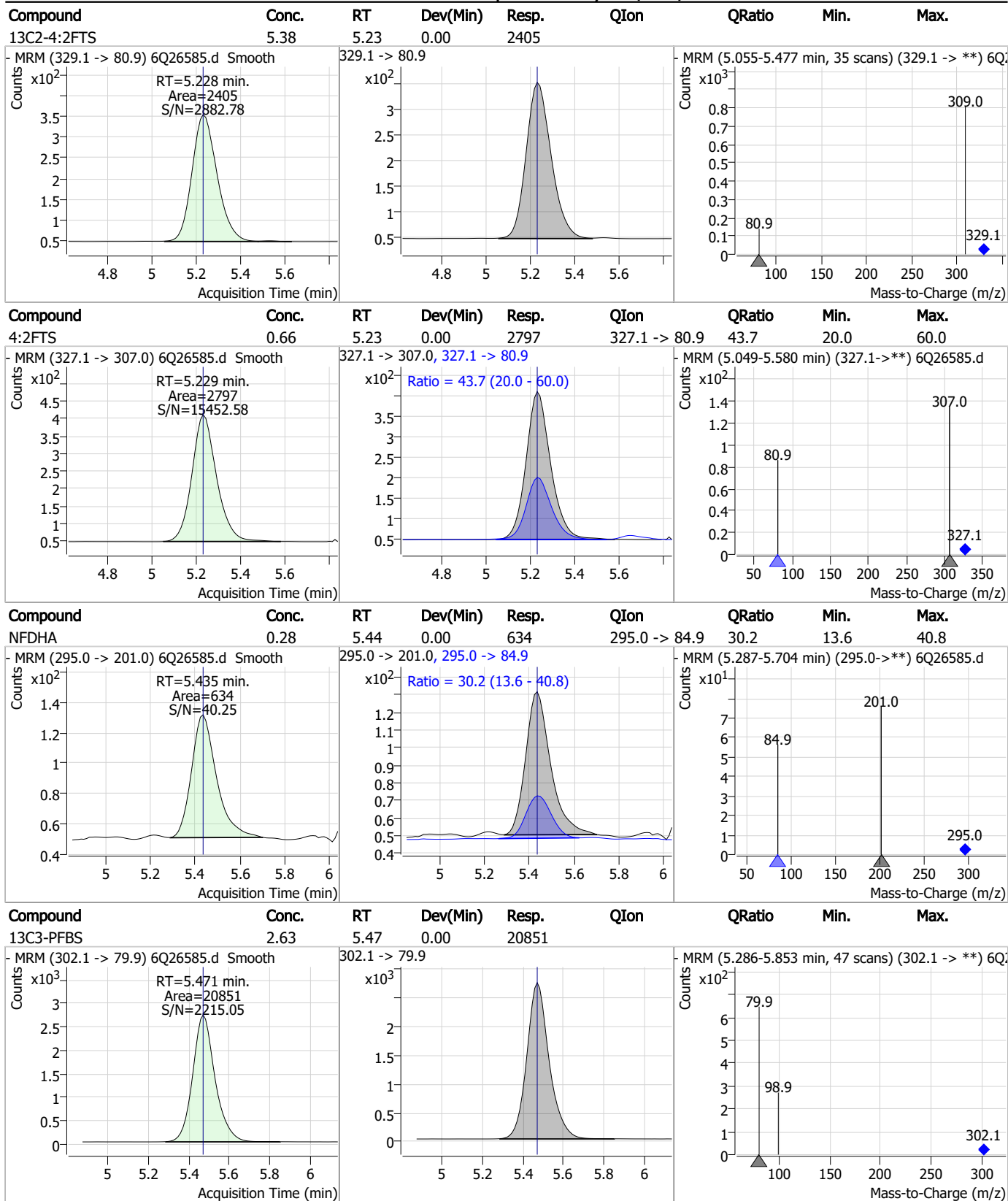
### Perfluorinated Compounds by LC/MS/MS



7.7.32 7



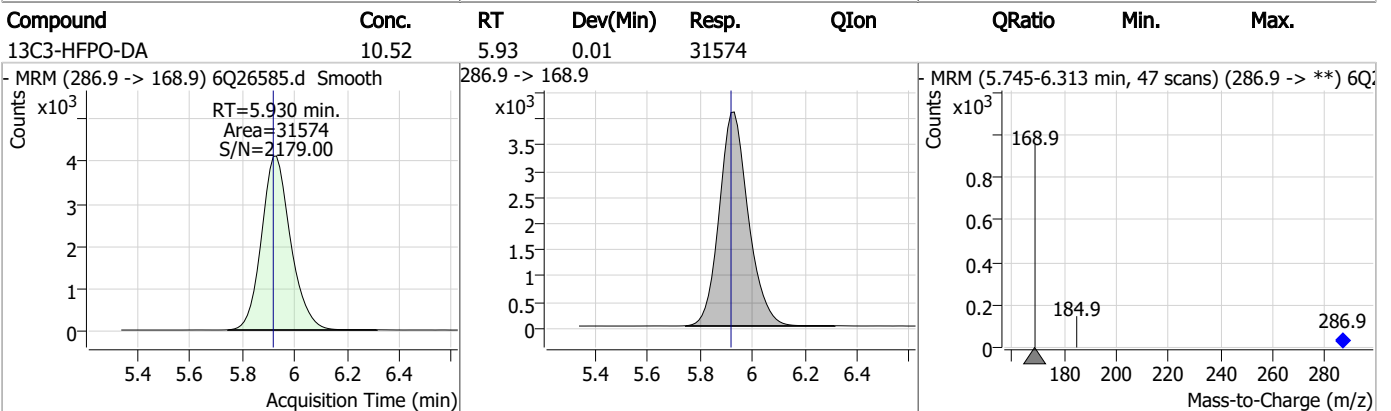
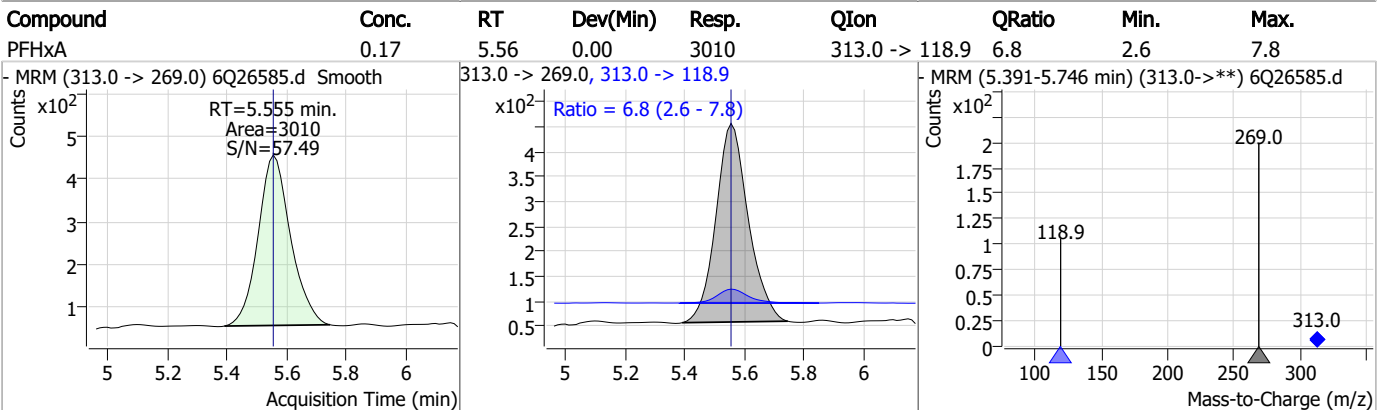
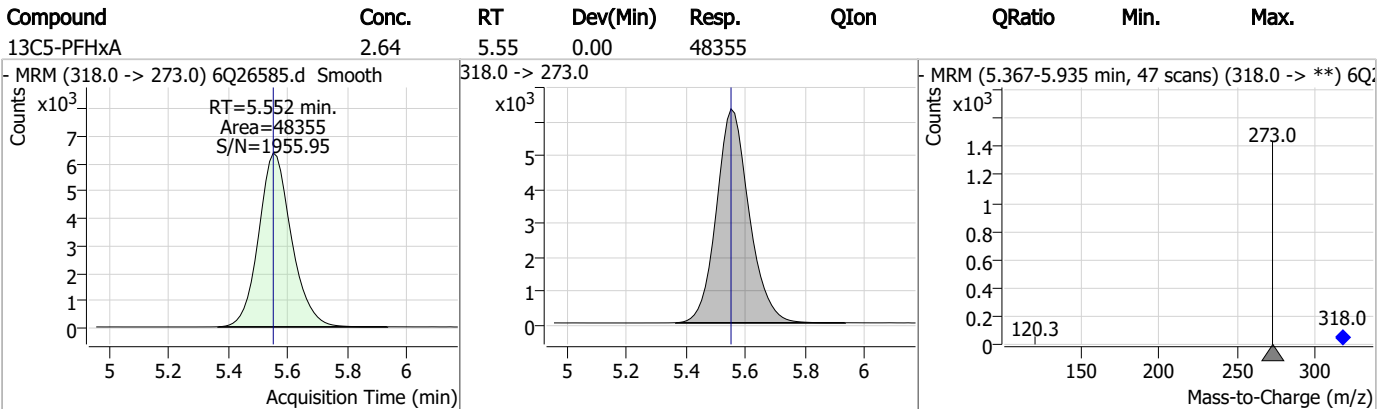
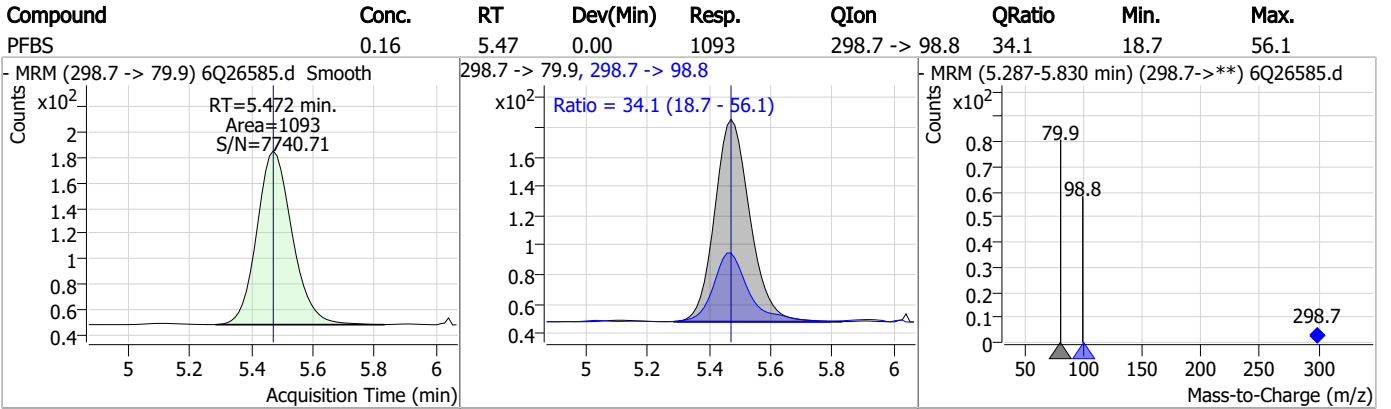
### Perfluorinated Compounds by LC/MS/MS



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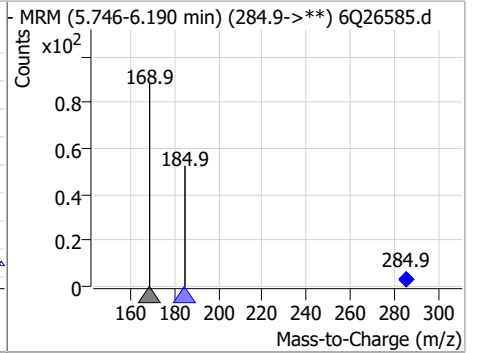
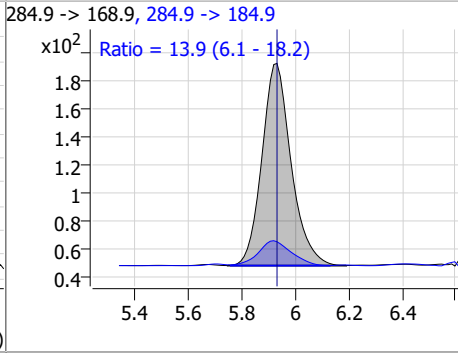
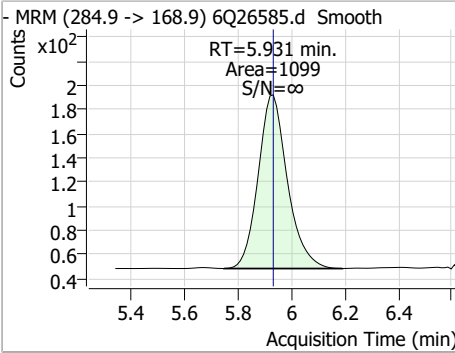
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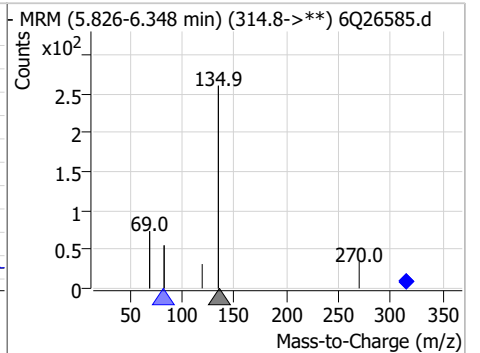
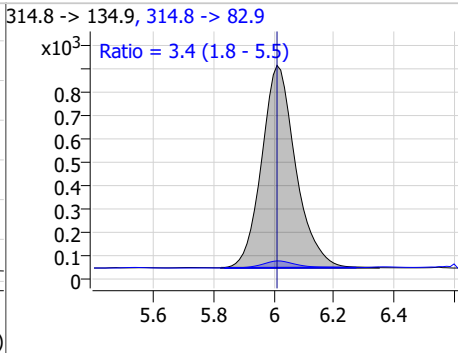
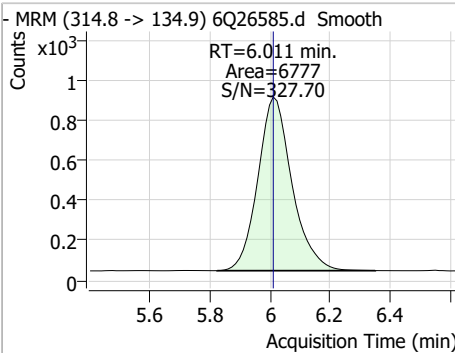


### Perfluorinated Compounds by LC/MS/MS

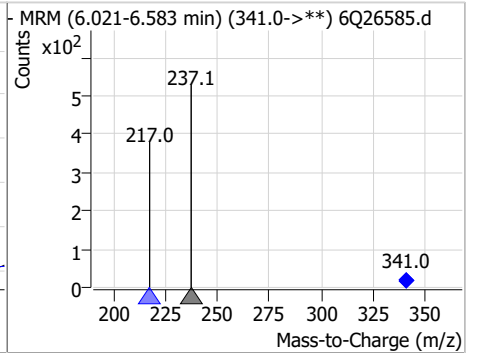
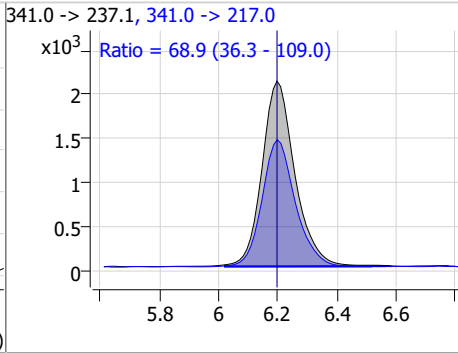
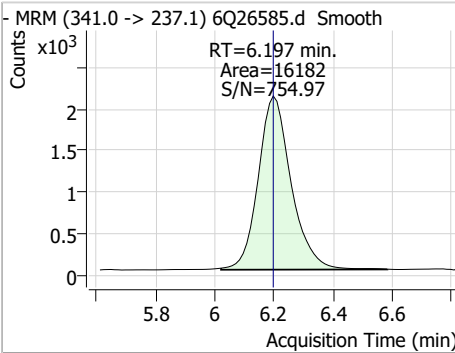
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
HFPO-DA	0.33	5.93	0.00	1099	284.9 -> 184.9	13.9	6.1	18.2



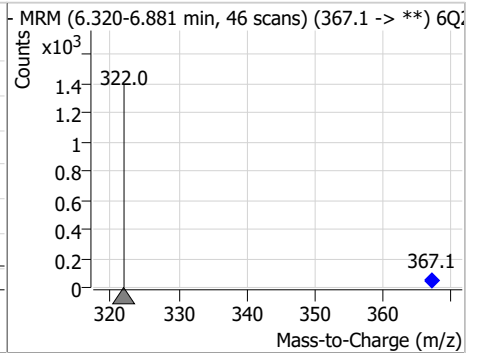
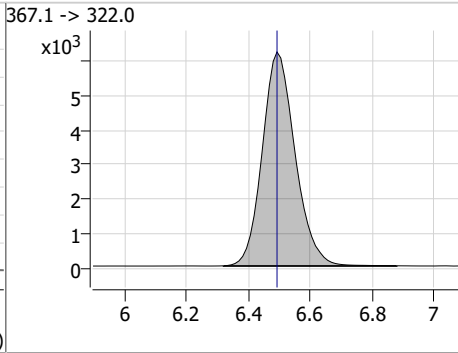
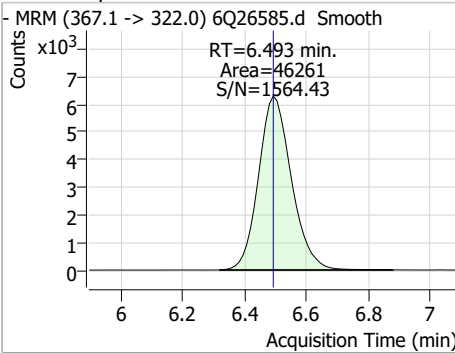
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFEESA	0.30	6.01	0.00	6777	314.8 -> 82.9	3.4	1.8	5.5



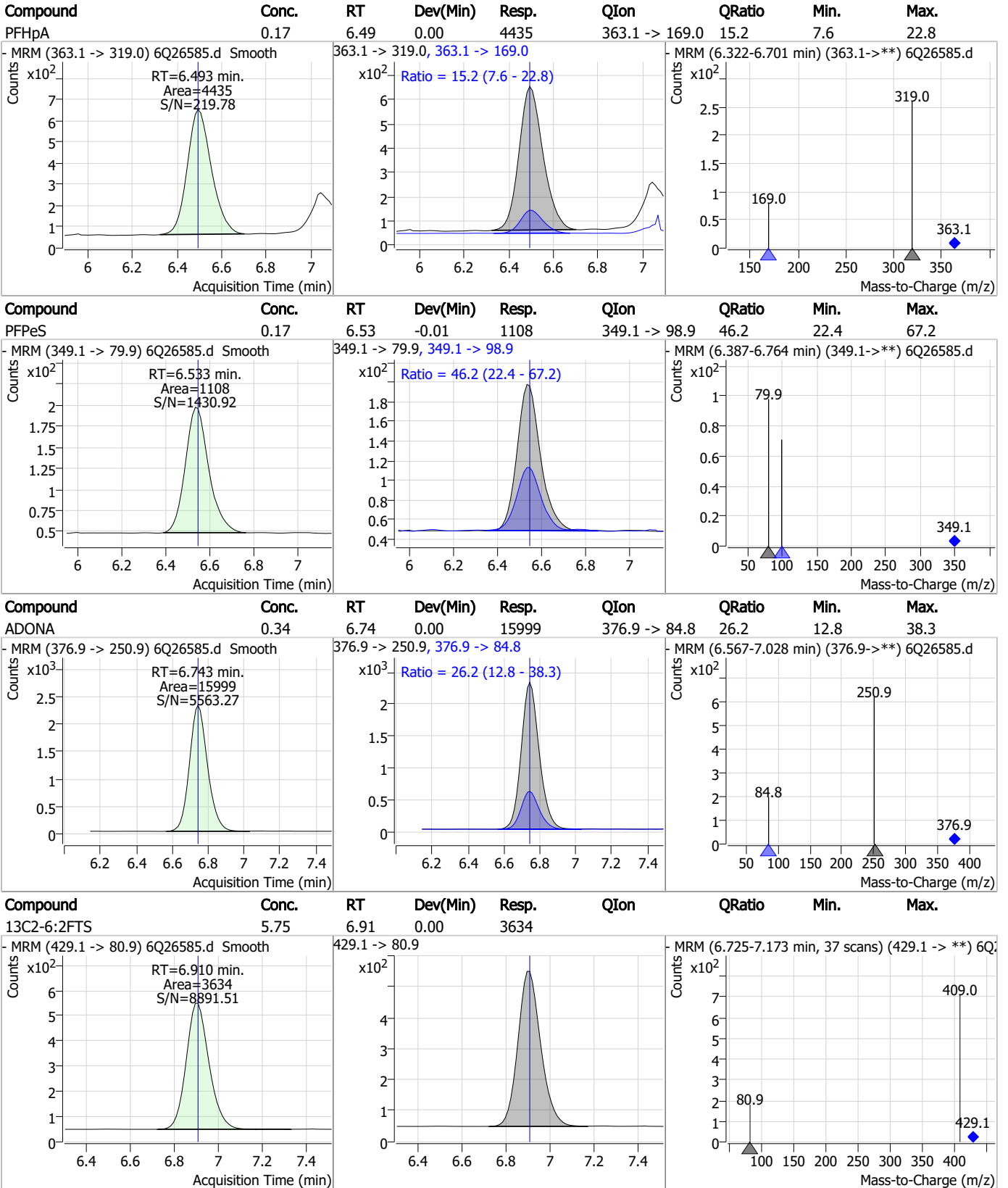
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
5:3FTCA	4.48	6.20	0.00	16182	341.0 -> 217.0	68.9	36.3	109.0



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFHpa	2.50	6.49	0.00	46261	367.1 -> 322.0			



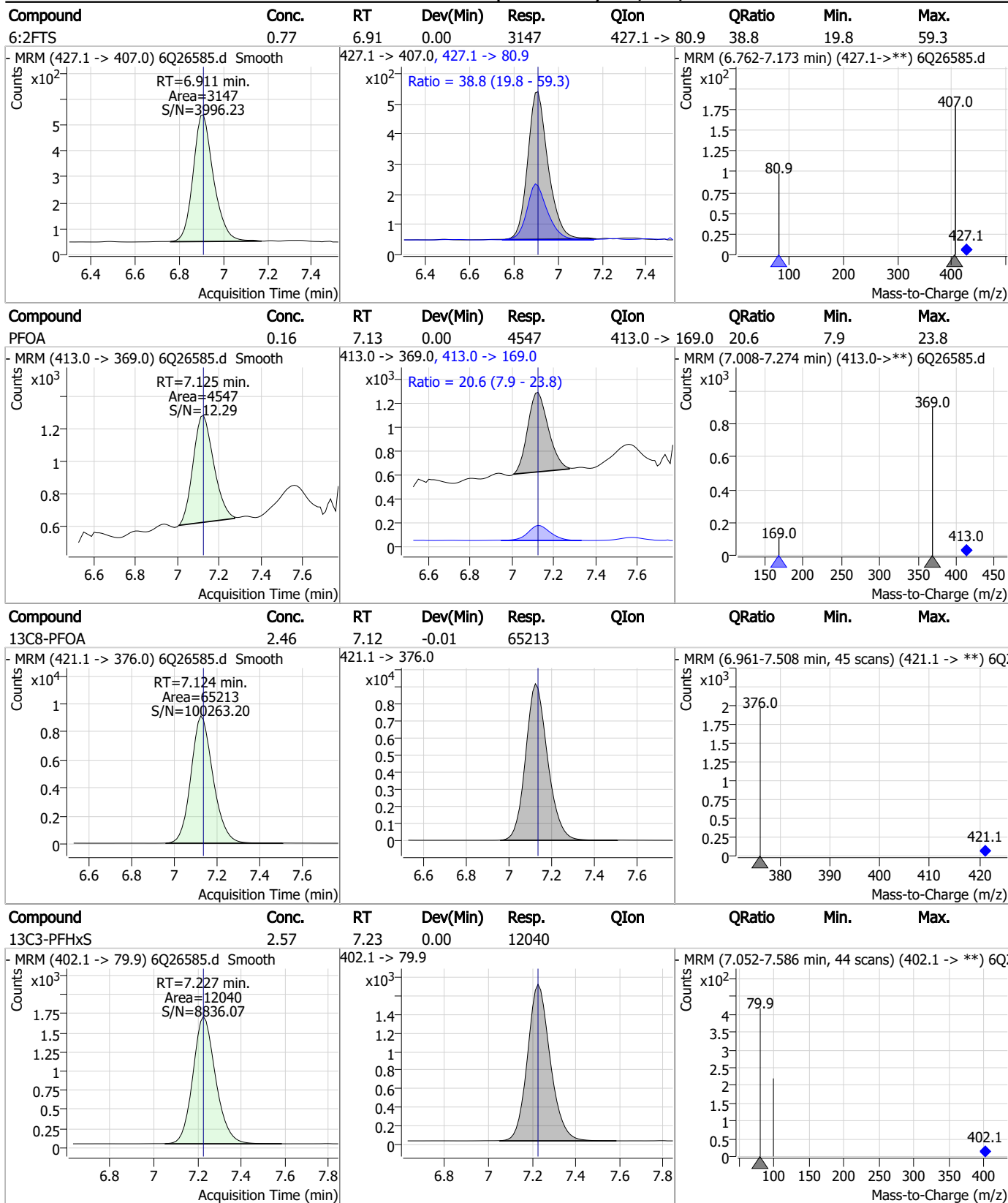
### Perfluorinated Compounds by LC/MS/MS



7.7.32  
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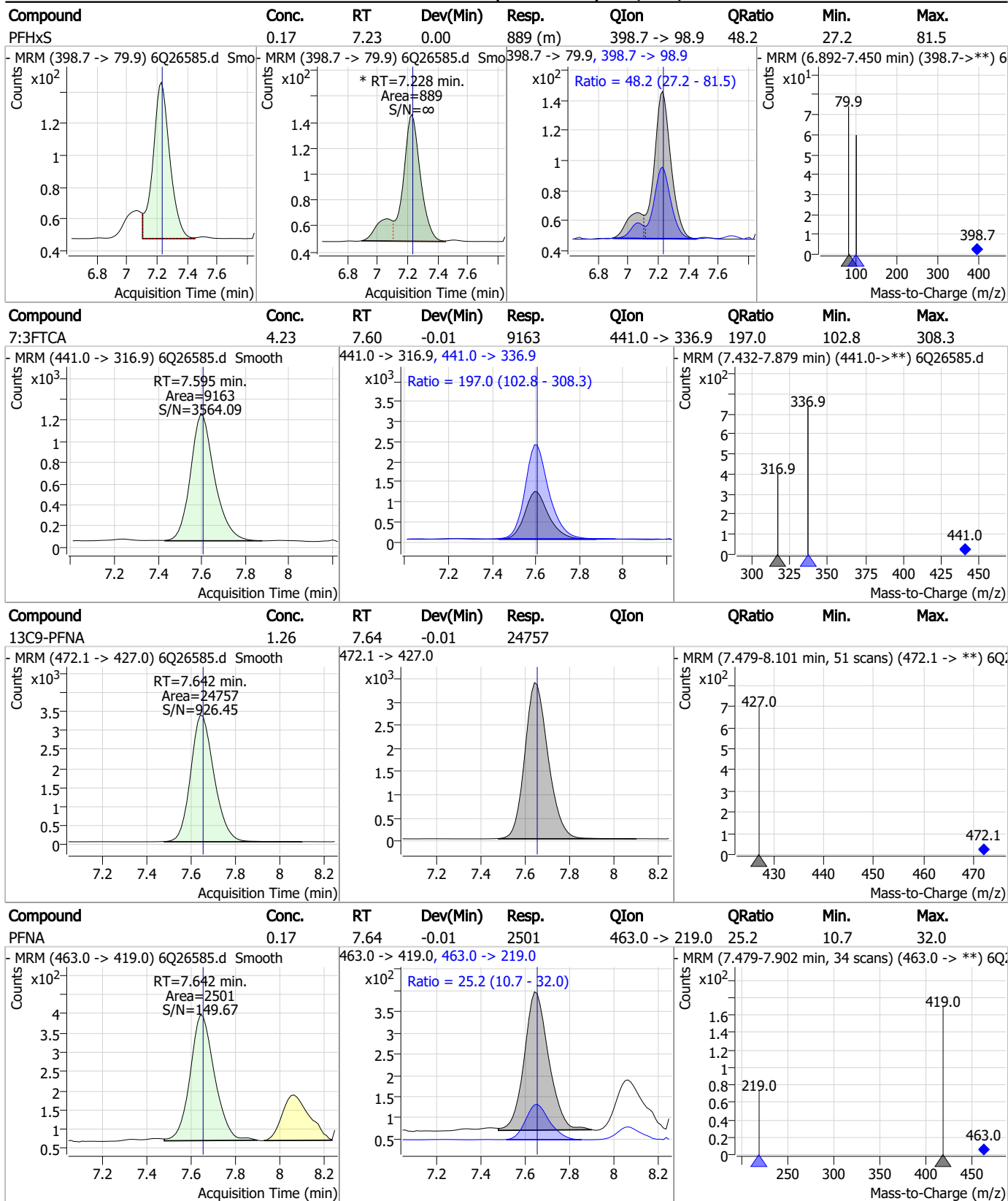
### Perfluorinated Compounds by LC/MS/MS



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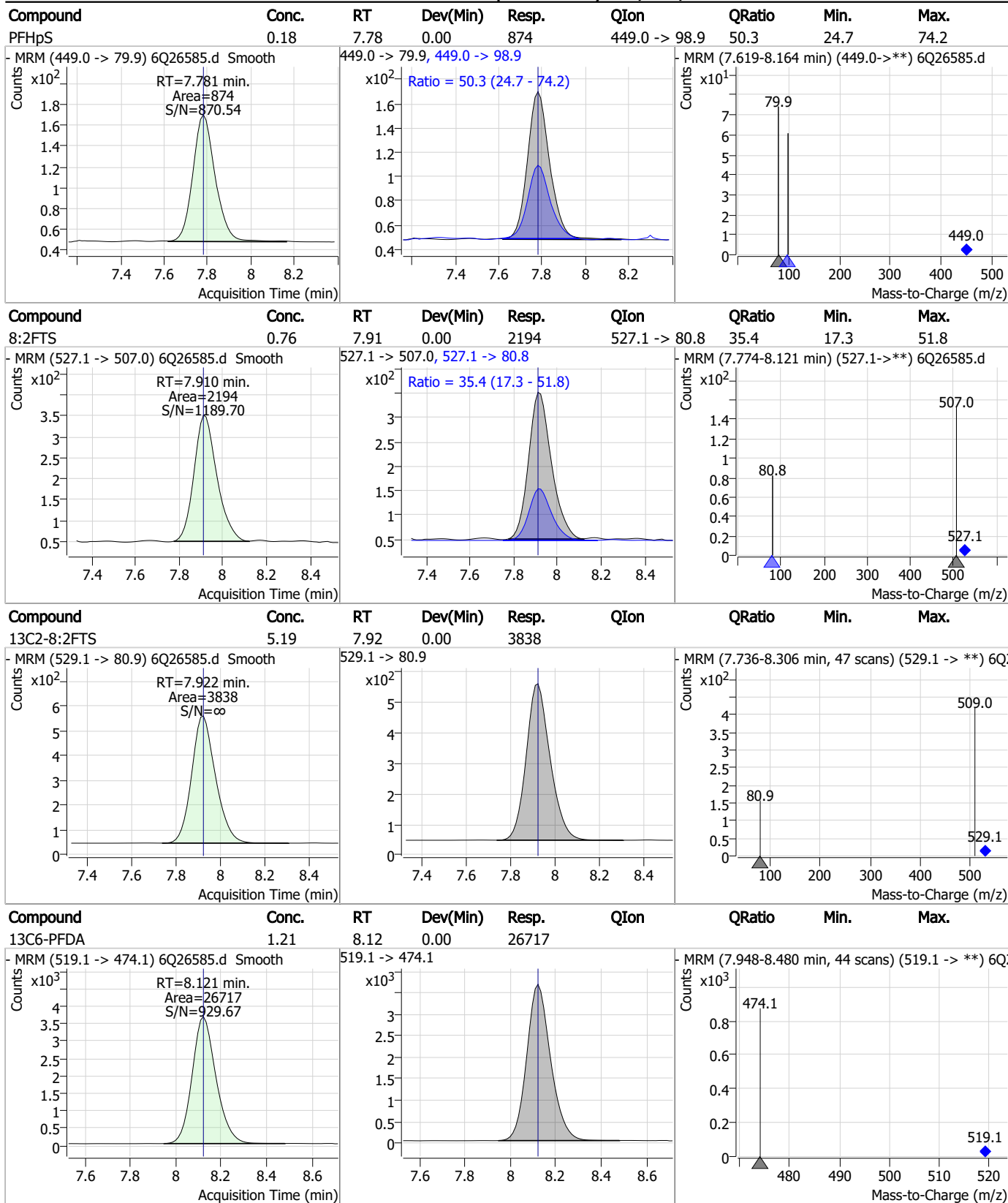


### Perfluorinated Compounds by LC/MS/MS



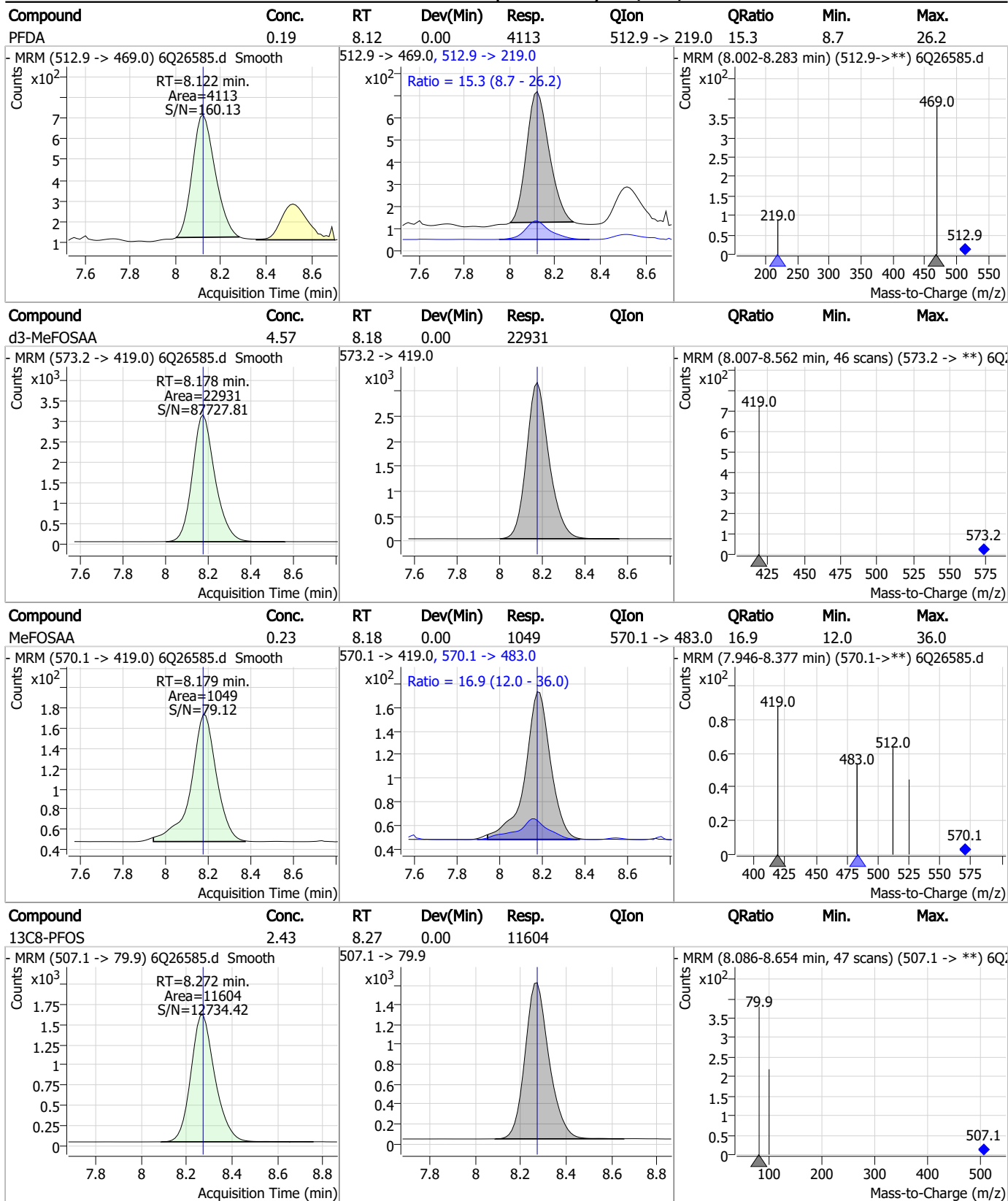
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### Perfluorinated Compounds by LC/MS/MS



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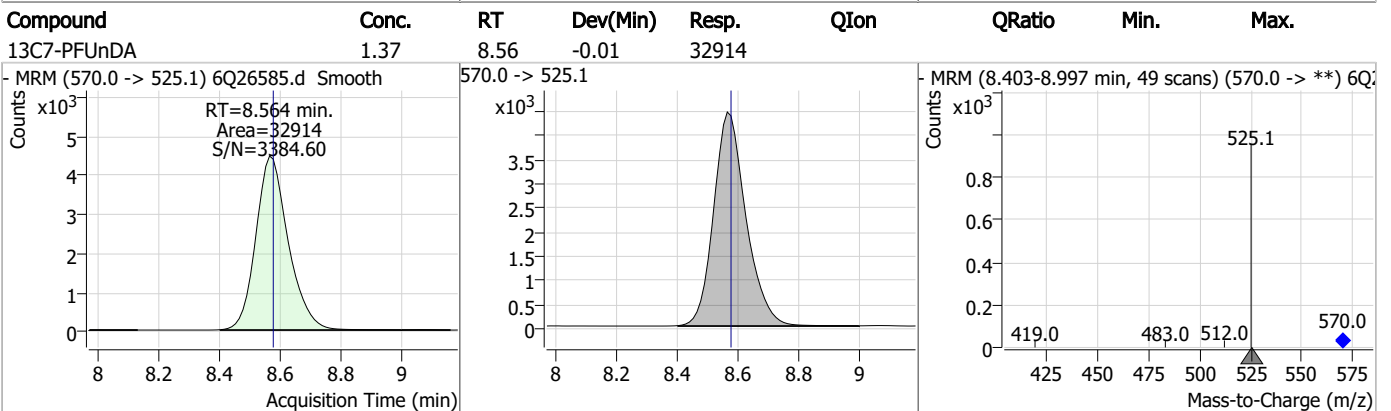
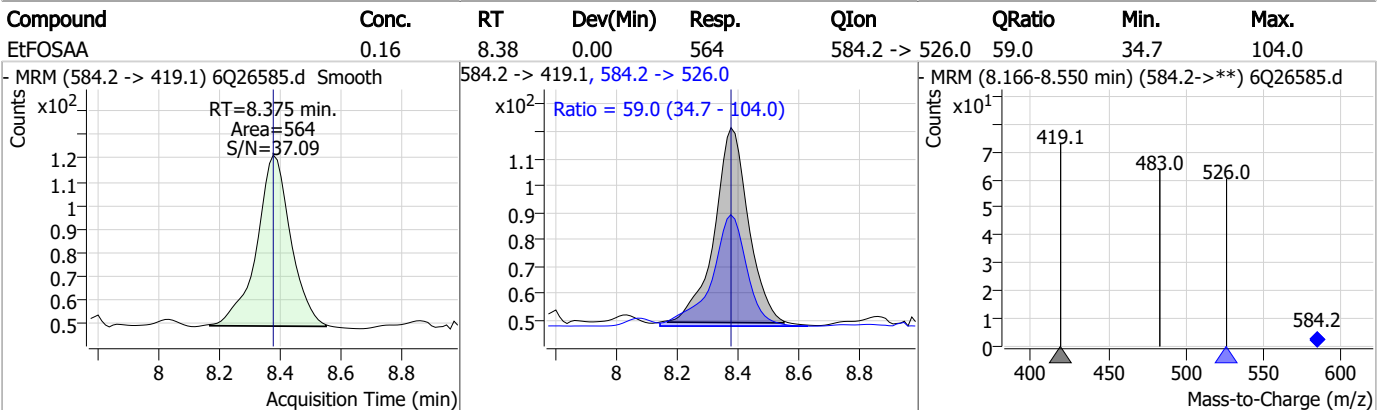
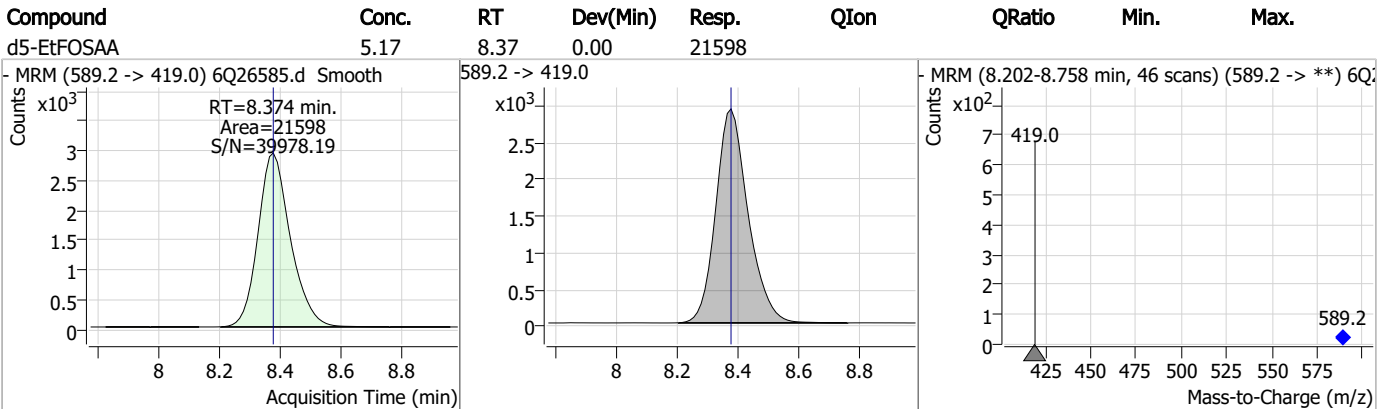
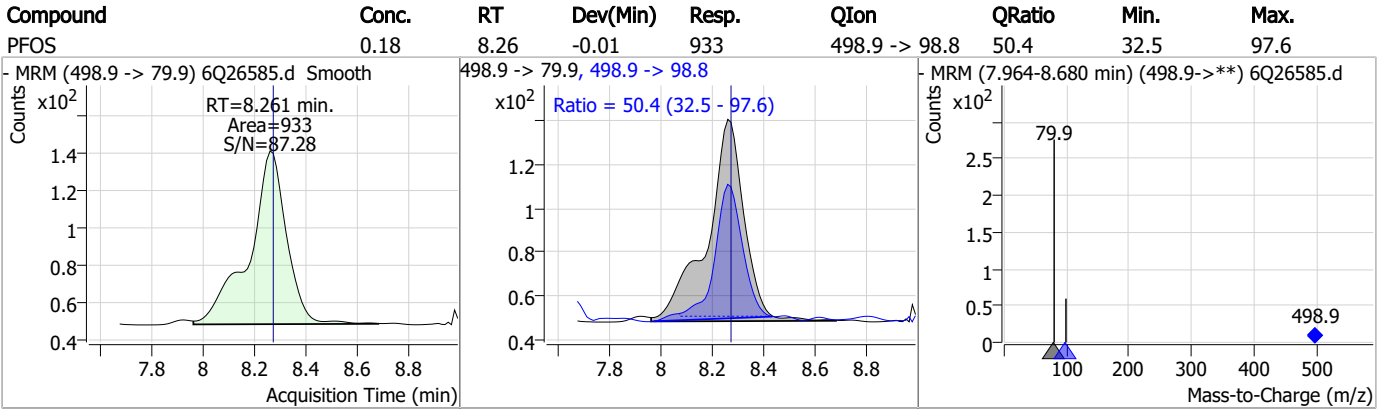
### Perfluorinated Compounds by LC/MS/MS



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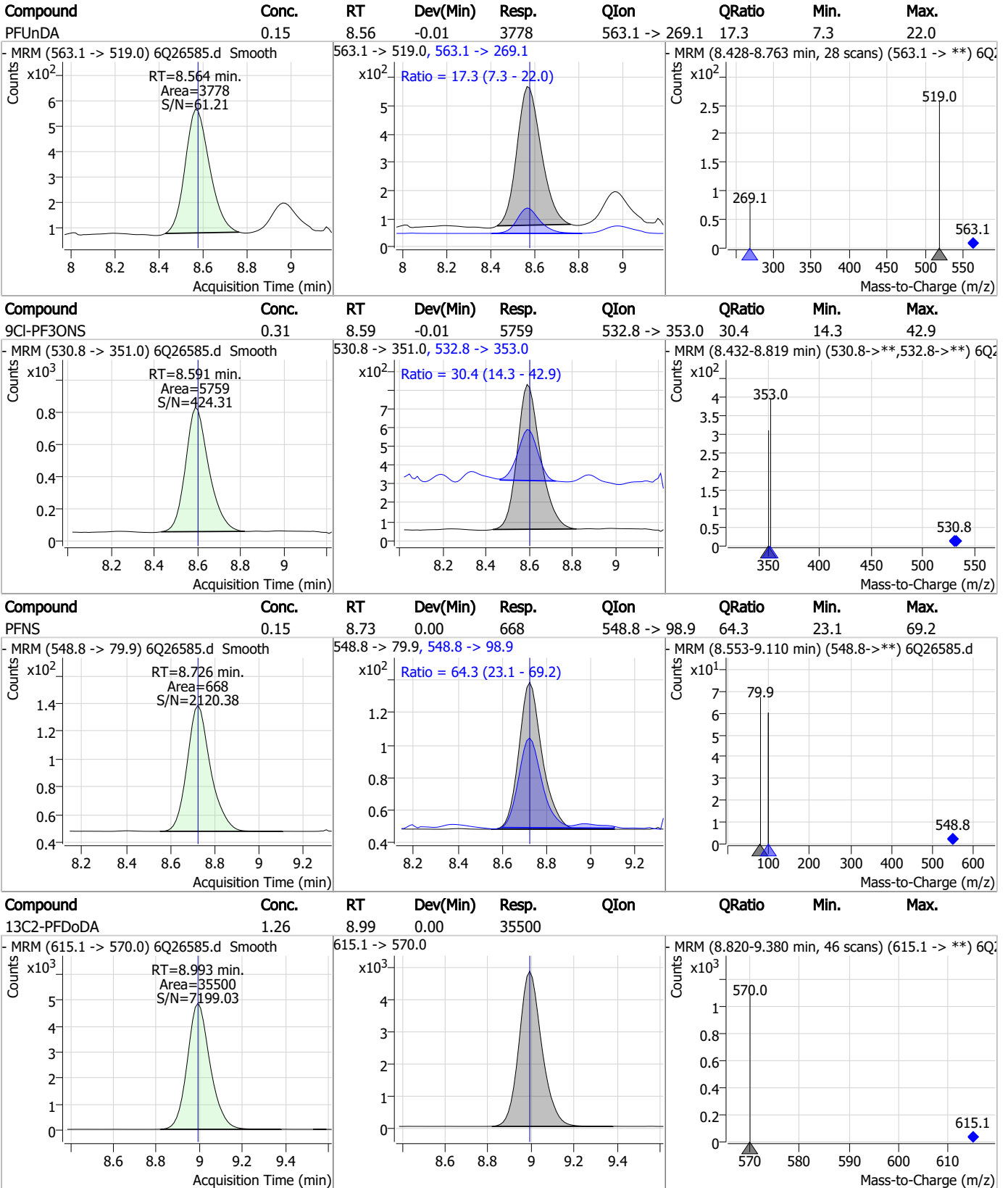
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### Perfluorinated Compounds by LC/MS/MS



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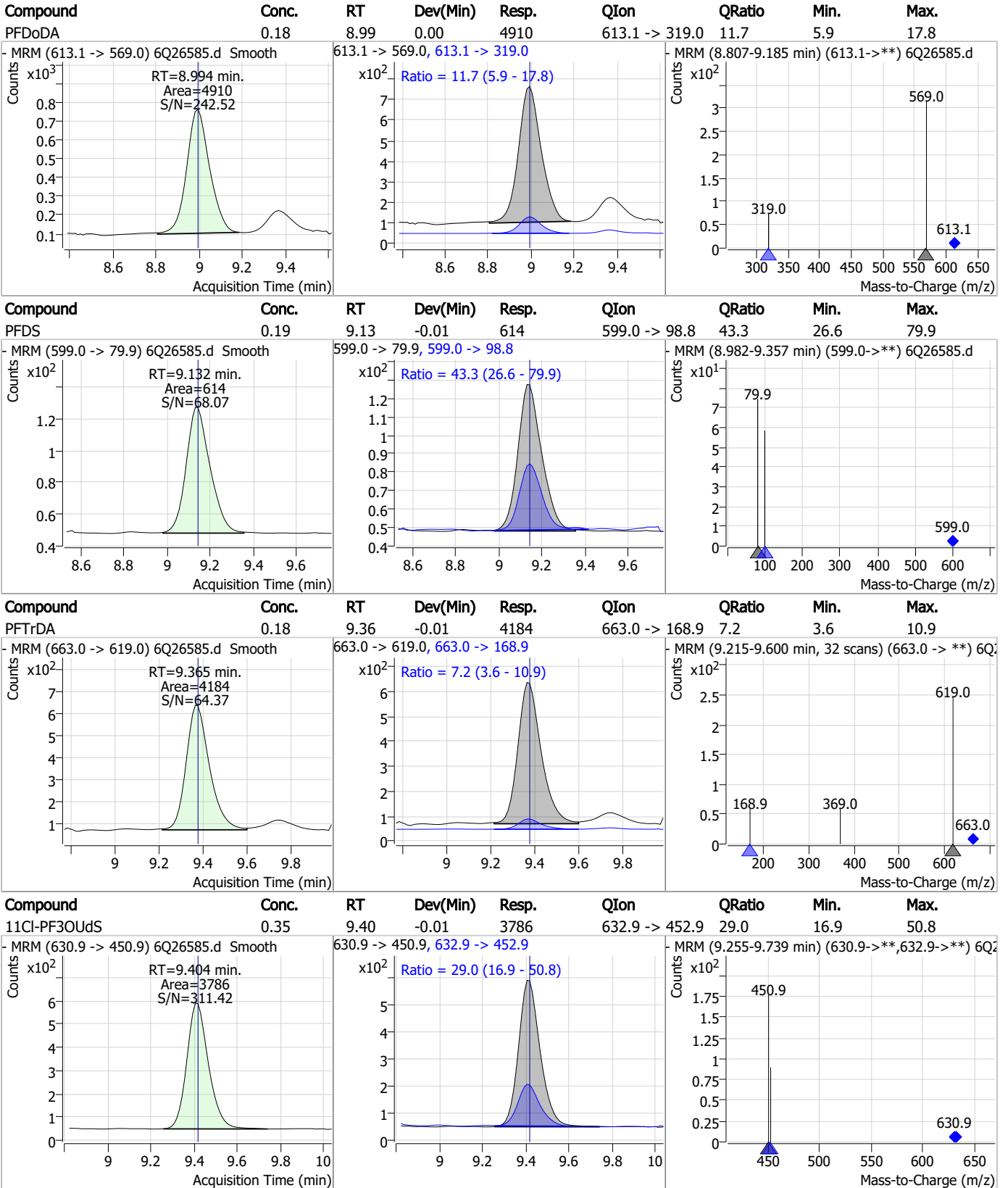
### Perfluorinated Compounds by LC/MS/MS



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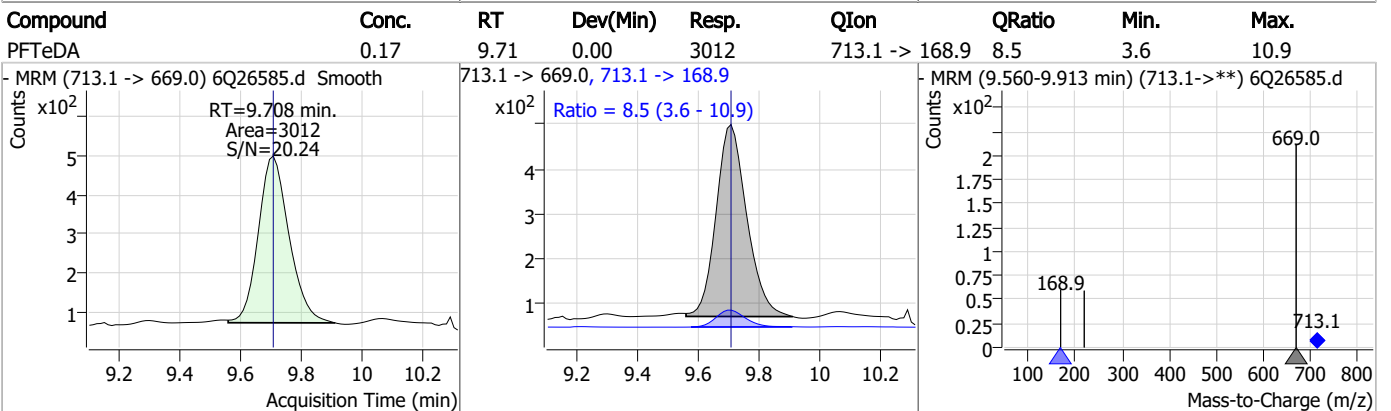
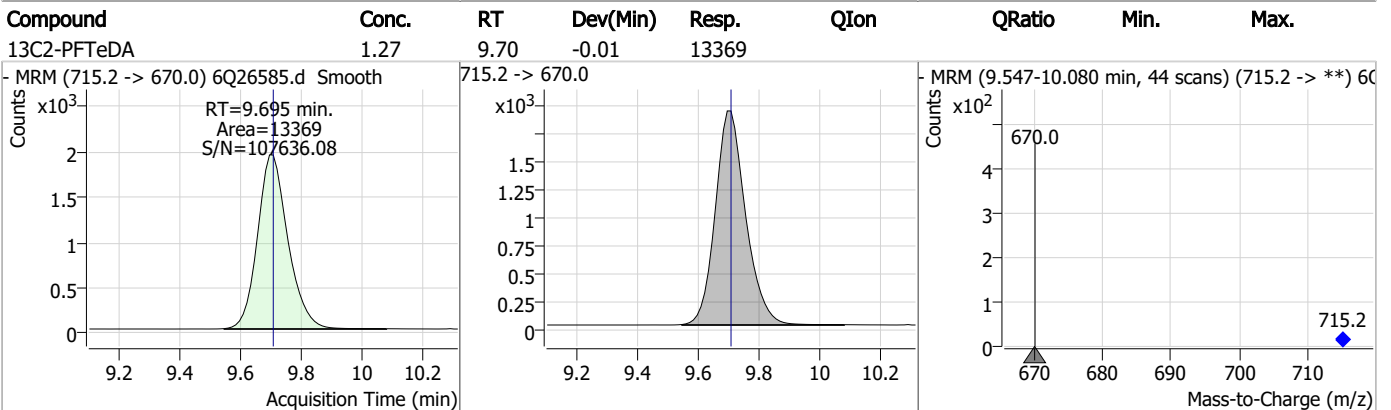
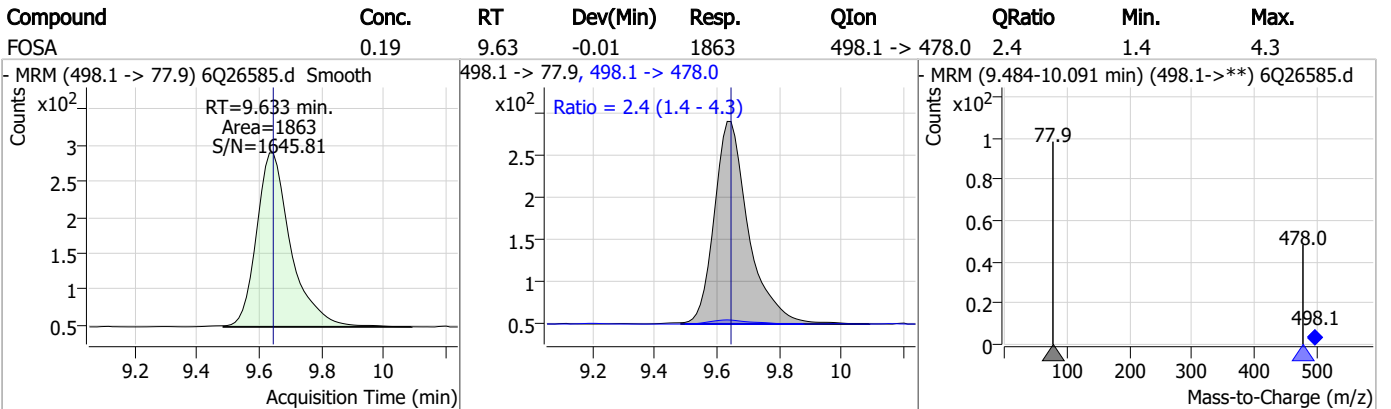
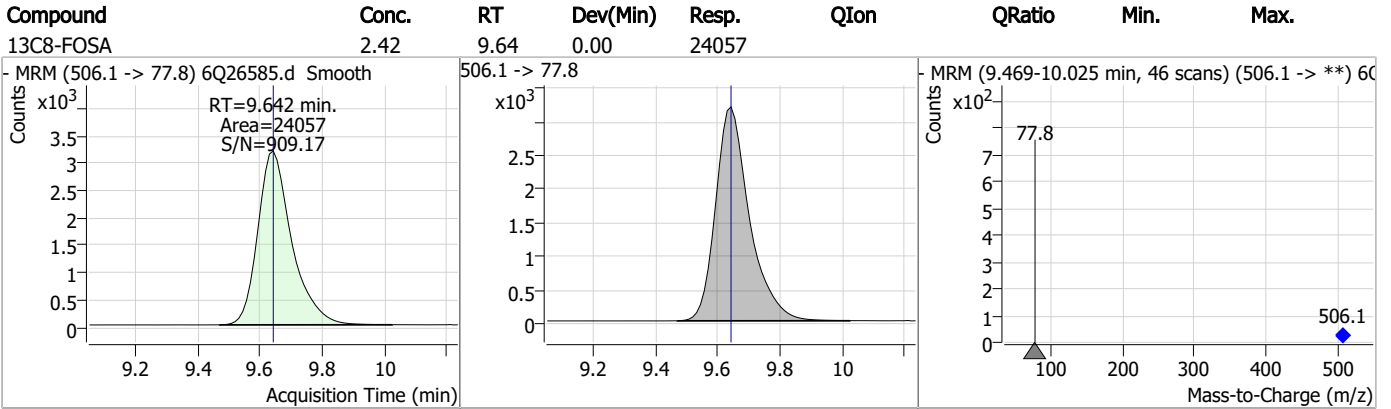
### Perfluorinated Compounds by LC/MS/MS



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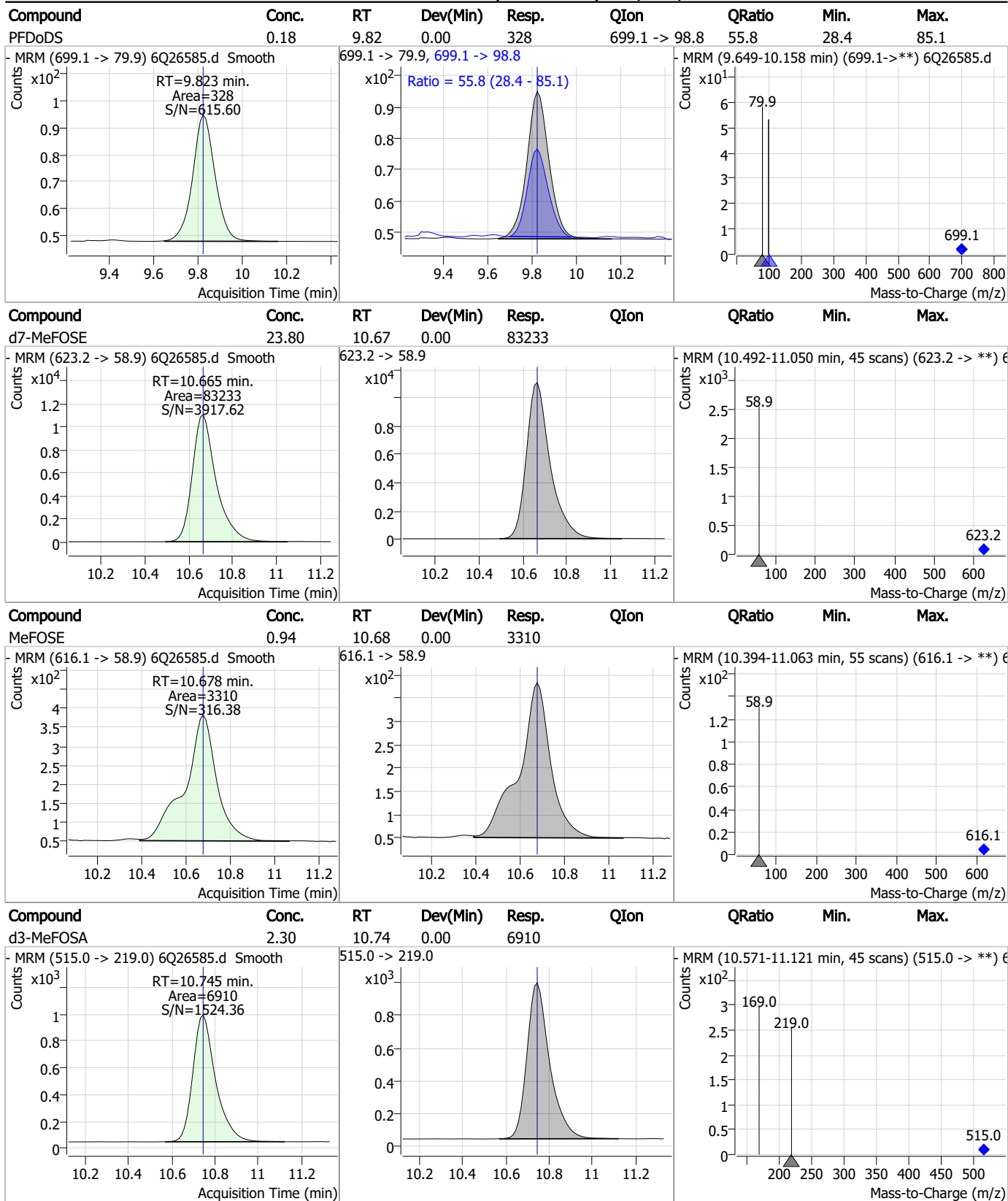


### Perfluorinated Compounds by LC/MS/MS



7.7.32 7

### Perfluorinated Compounds by LC/MS/MS

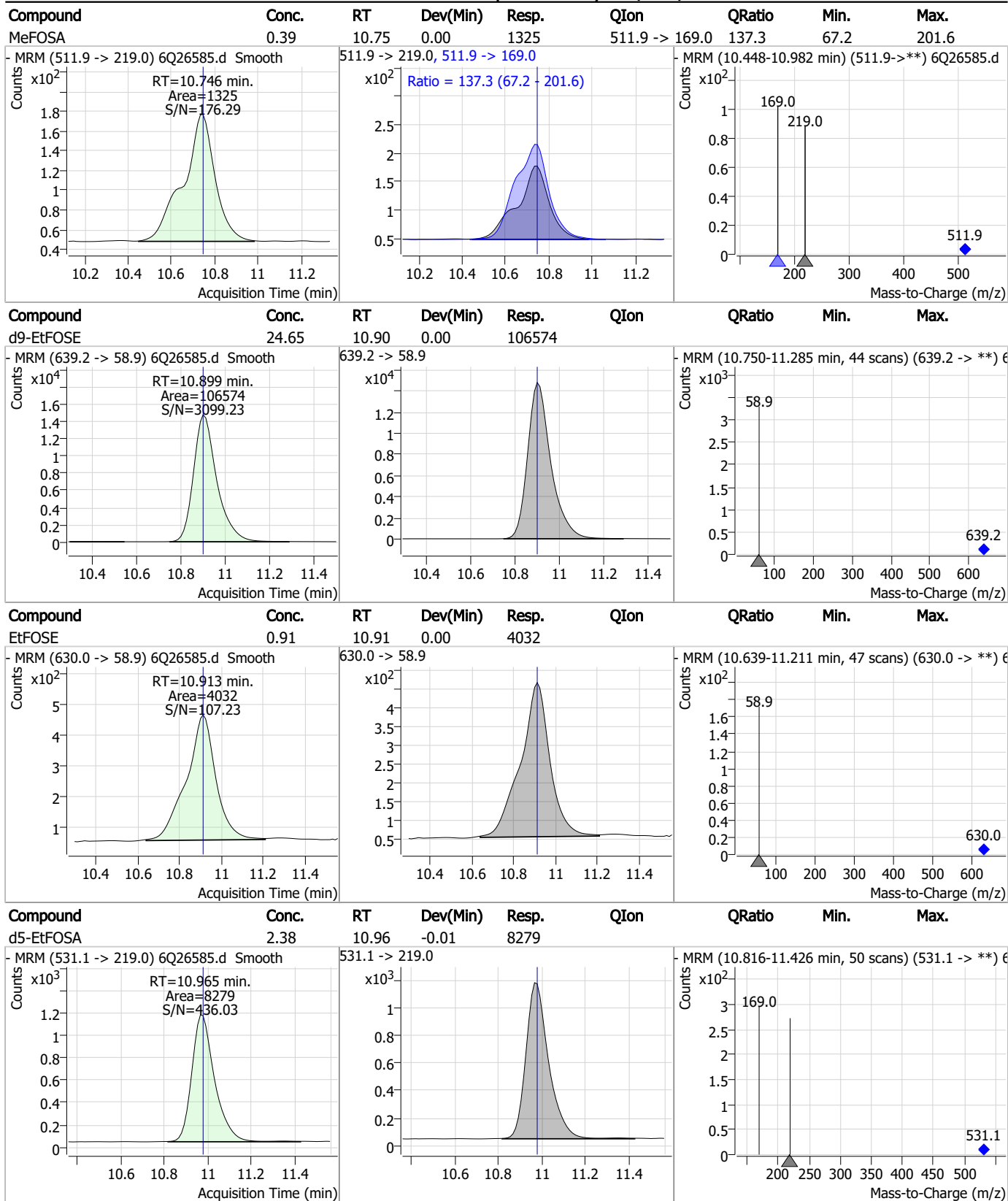


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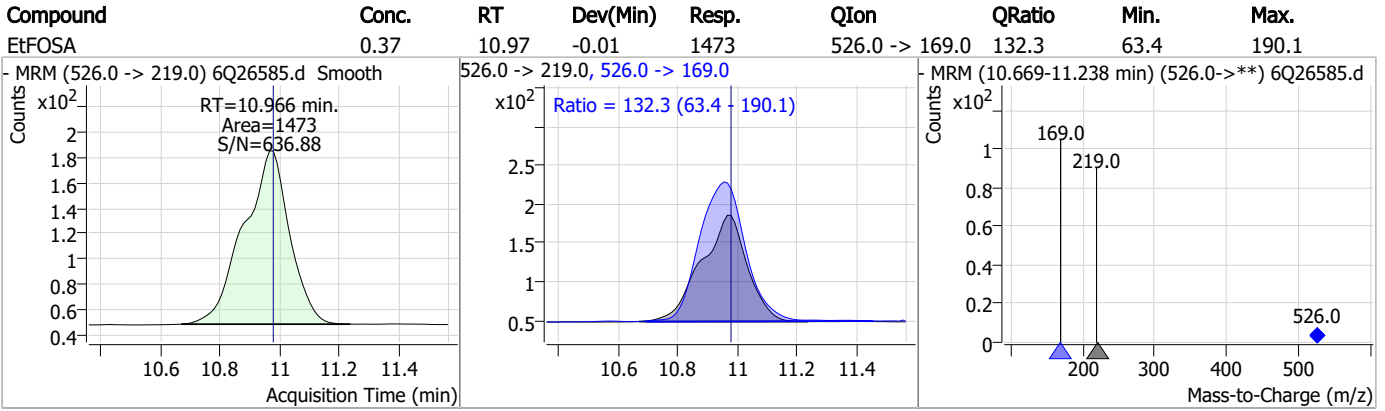


### Perfluorinated Compounds by LC/MS/MS



7.7.32  
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### Perfluorinated Compounds by LC/MS/MS



7.7.32

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# Manual Integration Approval Summary

Sample Number: S6Q373-CC373      Method: EPA DRAFT 1633  
Lab FileID: 6Q26585.D      Analyst approved: 10/18/23 16:28 Anna Ludwig  
Injection Time: 10/17/23 21:03      Supervisor approved: 10/19/23 09:36 Natasha Guntie

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		7.23	Split peak

7.7.32.1

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## Perfluorinated Compounds by LC/MS/MS

Data File : 6Q26595.d  
 Operator : marthav  
 Acq. Method : 1633full.m  
 Acq. Date-Time : 10/17/2023 11:26:56 PM  
 Sample Name : cc373-4  
 Vial : P1-A5  
 DA Method File : 1633\_101723\_S6Q373.quantmethod.xml  
 Batch Name : S6Q373.batch.bin  
 Sample Information : OP99081,S6Q373,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
<b>Internal Standards</b>					
M4-PFBA	2.913	216.8 -> 171.9	142203	10.00 µg/L	0.000
M5-PFPeA	4.346	268.3 -> 223.0	46957	5.00 µg/L	0.000
M5-PFHxA	5.552	318.0 -> 273.0	47411	2.50 µg/L	0.000
M4-PFHpA	6.493	367.1 -> 322.0	47241	2.50 µg/L	0.000
M8-PFOA	7.124	421.1 -> 376.0	65722	2.50 µg/L	-0.012
M9-PFNA	7.642	472.1 -> 427.0	24529	1.25 µg/L	-0.012
M6-PFDA	8.109	519.1 -> 474.1	27639	1.25 µg/L	-0.012
M7-PFUnDA	8.564	570.0 -> 525.1	29618	1.25 µg/L	-0.012
M2-PFDoDA	8.993	615.1 -> 570.0	33452	1.25 µg/L	0.000
M2-PFTeDA	9.708	715.2 -> 670.0	13586	1.25 µg/L	0.000
M8-FOSA	9.642	506.1 -> 77.8	24320	2.50 µg/L	0.000
M3-PFBS	5.471	302.1 -> 79.9	19424	2.50 µg/L	0.000
M3-PFHxS	7.227	402.1 -> 79.9	11804	2.50 µg/L	0.000
M8-PFOS	8.260	507.1 -> 79.9	11642	2.50 µg/L	-0.012
M2-4:2FTS	5.241	329.1 -> 80.9	2212	5.00 µg/L	0.012
M2-6:2FTS	6.910	429.1 -> 80.9	3491	5.00 µg/L	0.000
M2-8:2FTS	7.910	529.1 -> 80.9	3567	5.00 µg/L	-0.012
M3-MeFOSAA	8.166	573.2 -> 419.0	23767	5.00 µg/L	-0.012
M3-HFPO-DA	5.930	286.9 -> 168.9	30114	10.00 µg/L	0.012
M5-EtFOSAA	8.374	589.2 -> 419.0	21576	5.00 µg/L	0.000
M7-MeFOSE	10.665	623.2 -> 58.9	86565	25.00 µg/L	0.000
M9-EtFOSE	10.899	639.2 -> 58.9	103535	25.00 µg/L	0.000
M5-EtFOSA	10.977	531.1 -> 219.0	8435	2.50 µg/L	0.000
M3-MeFOSA	10.745	515.0 -> 219.0	7441	2.50 µg/L	0.000
13C4-PFOS	8.261	502.8 -> 79.9	11302	2.50 µg/L	-0.012
13C3-PFBA	2.916	216.0 -> 172.0	58203	5.00 µg/L	0.000
18O2-PFHxS	7.226	403.0 -> 83.9	7333	2.50 µg/L	0.000
13C4-PFOA	7.125	417.1 -> 372.0	71875	2.50 µg/L	0.000
13C2-PFDA	8.122	515.1 -> 470.1	26142	1.25 µg/L	0.000
13C5-PFNA	7.642	468.0 -> 423.0	21946	1.25 µg/L	-0.012
13C2-PFHxA	5.553	315.1 -> 270.0	45561	2.50 µg/L	0.000
<b>System Monitoring Compounds</b>					
13C2-4:2FTS	5.241	329.1 -> 80.9	2212	4.83 µg/L	0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 96.6%		
13C2-6:2FTS	6.910	429.1 -> 80.9	3491	5.40 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 108.0%		
13C2-8:2FTS	7.910	529.1 -> 80.9	3567	4.71 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 94.2%		
13C2-PFDoDA	8.993	615.1 -> 570.0	33452	1.18 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 94.8%		
13C2-PFTeDA	9.708	715.2 -> 670.0	13586	1.28 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 102.6%		
13C3-PFBS	5.471	302.1 -> 79.9	19424	2.39 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 95.7%		
13C3-PFHxS	7.227	402.1 -> 79.9	11804	2.46 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 = 98.4%	
13C4-PFBA	2.913	216.8 -> 171.9	142203	9.92 µg/L	0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 99.2%	
13C4-PFHpA	6.493	367.1 -> 322.0	47241	2.56 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 102.3%	
13C5-PFHxA	5.552	318.0 -> 273.0	47411	2.60 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 103.9%	
13C5-PFPeA	4.346	268.3 -> 223.0	46957	5.12 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 102.3%	
13C6-PFDA	8.109	519.1 -> 474.1	27639	1.24 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 99.3%	
13C7-PFUnDA	8.564	570.0 -> 525.1	29618	1.23 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 98.2%	
13C8-FOSA	9.642	506.1 -> 77.8	24320	2.34 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 93.6%	
13C8-PFOA	7.124	421.1 -> 376.0	65722	2.56 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 102.2%	
13C8-PFOS	8.260	507.1 -> 79.9	11642	2.33 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 93.2%	
13C9-PFNA	7.642	472.1 -> 427.0	24529	1.30 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 104.0%	
d3-MeFOSAA	8.166	573.2 -> 419.0	23767	4.53 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 90.7%	
13C3-HFPO-DA	5.930	286.9 -> 168.9	30114	10.05 µg/L	0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 100.5%	
d3-MeFOSA	10.745	515.0 -> 219.0	7441	2.37 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 94.7%	
d5-EtFOSAA	8.374	589.2 -> 419.0	21576	4.94 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 98.9%	
d7-MeFOSE	10.665	623.2 -> 58.9	86565	23.69 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 94.8%	
d9-EtFOSE	10.899	639.2 -> 58.9	103535	22.92 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 91.7%	
d5-EtFOSA	10.977	531.1 -> 219.0	8435	2.32 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 92.8%	
<b>Target Compounds</b>					<b>QValue</b>
4:2FTS	5.229	327.1 -> 307.0	37620	9.68 µg/L	98
		327.1 -> 80.9	14501		
6:2FTS	6.898	427.1 -> 407.0	35096	8.93 µg/L	94
		427.1 -> 80.9	12655		
8:2FTS	7.910	527.1 -> 507.0	27096	10.09 µg/L	97
		527.1 -> 80.8	9800		
EtFOSAA	8.375	584.2 -> 419.1	8770	2.45 µg/L	94
		584.2 -> 526.0	5665		
FOSA	9.633	498.1 -> 77.9	24009	2.39 µg/L	100
		498.1 -> 478.0	671		
MeFOSAA	8.179	570.1 -> 419.0	12177	2.57 µg/L	98
		570.1 -> 483.0	2816		
PFBA	2.919	212.8 -> 168.9	53457	9.79 µg/L	100
PFBS	5.472	298.7 -> 79.9	14145	2.23 µg/L	99
		298.7 -> 98.8	5349		
PFDA	8.122	512.9 -> 469.0	53825	2.38 µg/L	96
		512.9 -> 219.0	8390		
PFDoDA	8.994	613.1 -> 569.0	66108	2.52 µg/L	99
		613.1 -> 319.0	7576		
PFDS	9.145	599.0 -> 79.9	8000	2.50 µg/L	89

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Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
		599.0 -> 98.8	3637			
PFHpA	6.493	363.1 -> 319.0	63773	2.44	µg/L	99
		363.1 -> 169.0	9294			
PFHpS	7.781	449.0 -> 79.9	12118	2.48	µg/L	97
		449.0 -> 98.9	5758			
PFHxA	5.555	313.0 -> 269.0	41610	2.35	µg/L	100
		313.0 -> 118.9	2109			
PFHxS	7.228	398.7 -> 79.9	11284	2.24	µg/L	m 91
		398.7 -> 98.9	5362			
PFNA	7.642	463.0 -> 419.0	37615	2.51	µg/L	98
		463.0 -> 219.0	8338			
PFNS	8.726	548.8 -> 79.9	10266	2.32	µg/L	95
		548.8 -> 98.9	5070			
PFOA	7.125	413.0 -> 369.0	69260	2.43	µg/L	99
		413.0 -> 169.0	11380			
PFOS	8.261	498.9 -> 79.9	12159	2.33	µg/L	m 80
		498.9 -> 98.8	5950			
PFPeA	4.349	263.0 -> 219.0	54305	4.90	µg/L	100
PFPeS	6.533	349.1 -> 79.9	13851	2.18	µg/L	97
		349.1 -> 98.9	6443			
PFTeDA	9.708	713.1 -> 669.0	43813	2.41	µg/L	99
		713.1 -> 168.9	3009			
PFTrDA	9.365	663.0 -> 619.0	54472	2.55	µg/L	97
		663.0 -> 168.9	4624			
PFUnDA	8.564	563.1 -> 519.0	60043	2.58	µg/L	100
		563.1 -> 269.1	8822			
11CI-PF3OUdS	9.416	630.9 -> 450.9	47509	4.58	µg/L	99
		632.9 -> 452.9	15944			
9CI-PF3ONS	8.591	530.8 -> 351.0	81630	4.62	µg/L	90
		532.8 -> 353.0	27550			
ADONA	6.743	376.9 -> 250.9	216159	4.80	µg/L	95
		376.9 -> 84.8	60516			
HFPO-DA	5.931	284.9 -> 168.9	14655	4.68	µg/L	99
		284.9 -> 184.9	1717			
3:3FTCA	3.764	241.0 -> 177.0	9758	12.20	µg/L	97
		241.0 -> 117.0	1432			
5:3FTCA	6.197	341.0 -> 237.1	212577	60.09	µg/L	98
		341.0 -> 217.0	157900			
7:3FTCA	7.595	441.0 -> 316.9	132829	62.61	µg/L	89
		441.0 -> 336.9	250558			
EtFOSA	10.966	526.0 -> 219.0	19562	4.83	µg/L	98
		526.0 -> 169.0	24397			
EtFOSE	10.913	630.0 -> 58.9	53107	12.39	µg/L	100
MeFOSA	10.746	511.9 -> 219.0	18025	4.93	µg/L	97
		511.9 -> 169.0	23642			
MeFOSE	10.678	616.1 -> 58.9	44850	12.21	µg/L	100
PFDoDS	9.823	699.1 -> 79.9	4286	2.38	µg/L	97
		699.1 -> 98.8	2344			
NFDHA	5.435	295.0 -> 201.0	10878	4.97	µg/L	98
		295.0 -> 84.9	3044			
PFMBA	4.762	279.0 -> 85.1	41360	4.91	µg/L	100
PFMPA	3.475	229.0 -> 84.9	33394	4.83	µg/L	100
PFEESA	6.011	314.8 -> 134.9	100690	4.53	µg/L	98
		314.8 -> 82.9	3191			

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



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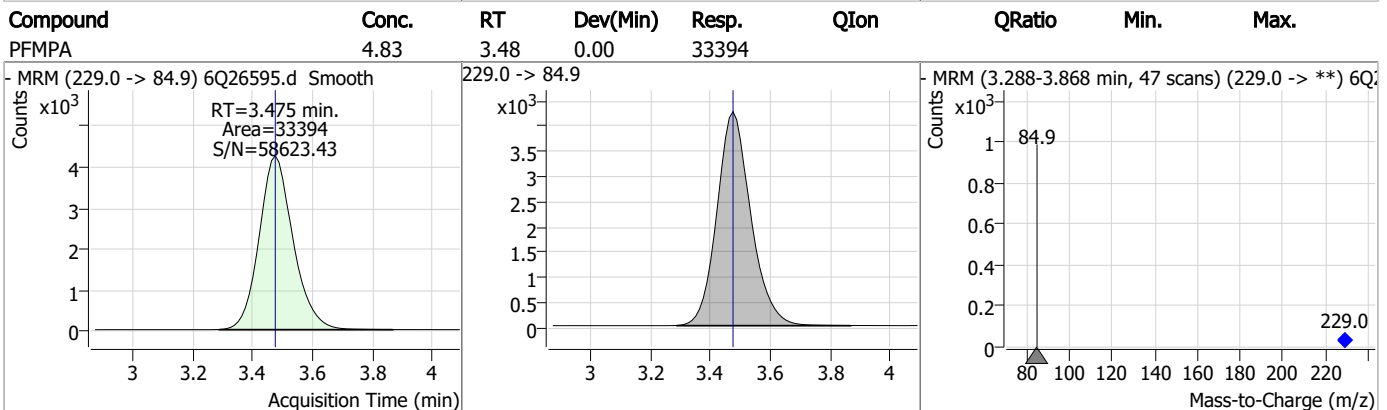
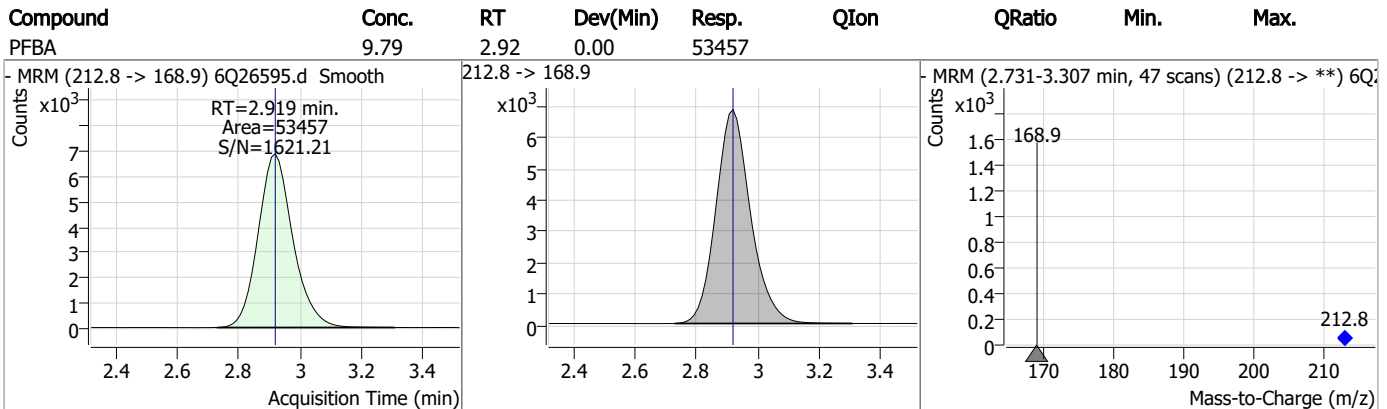
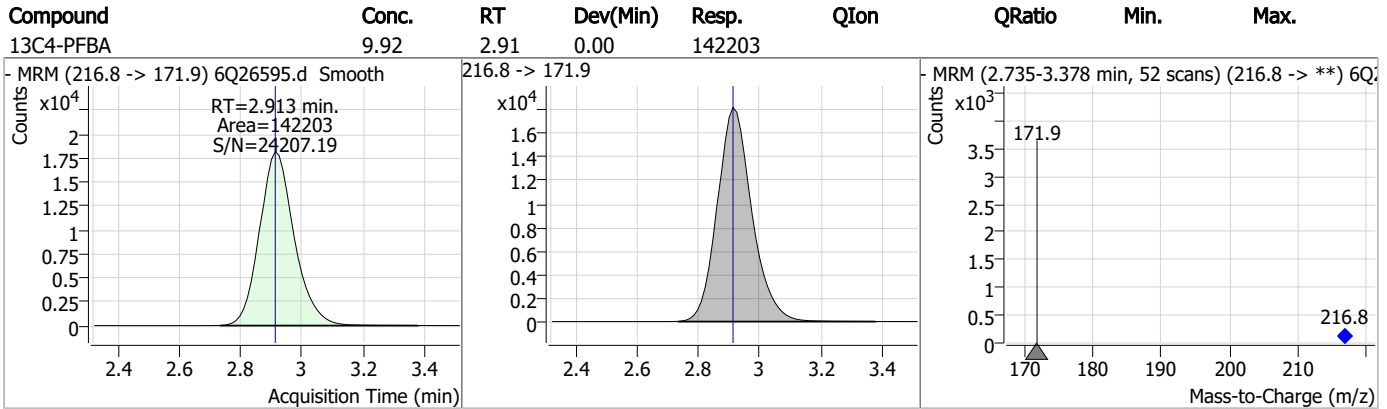
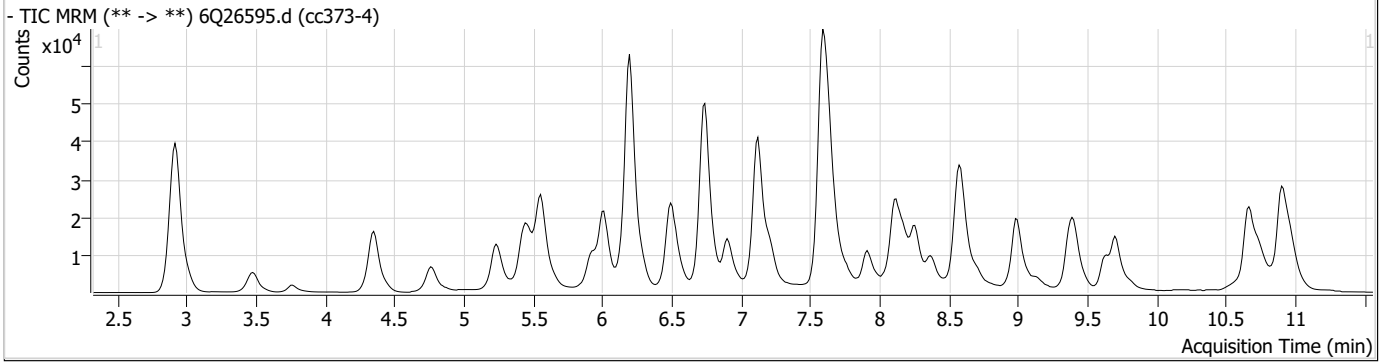
### Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
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7.7.33

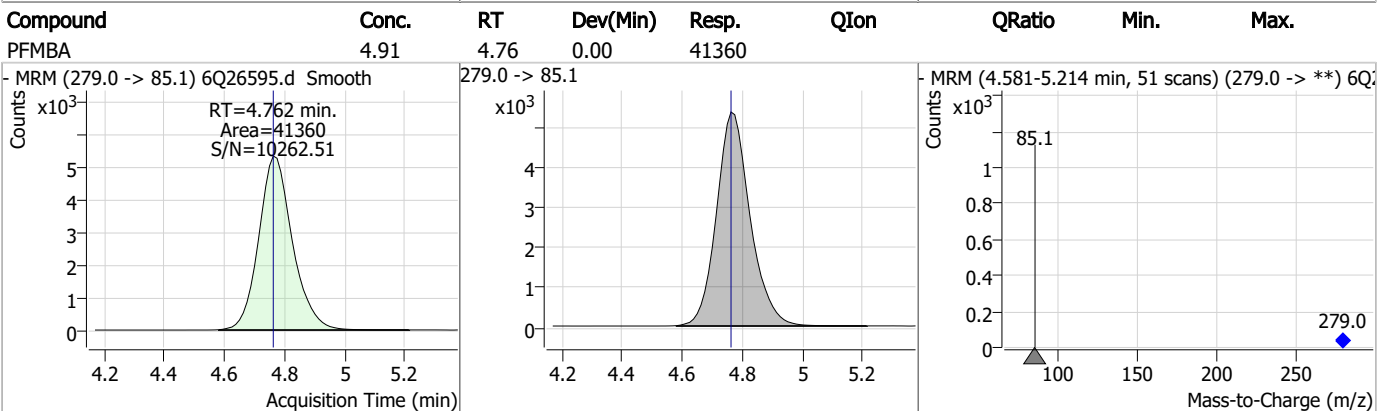
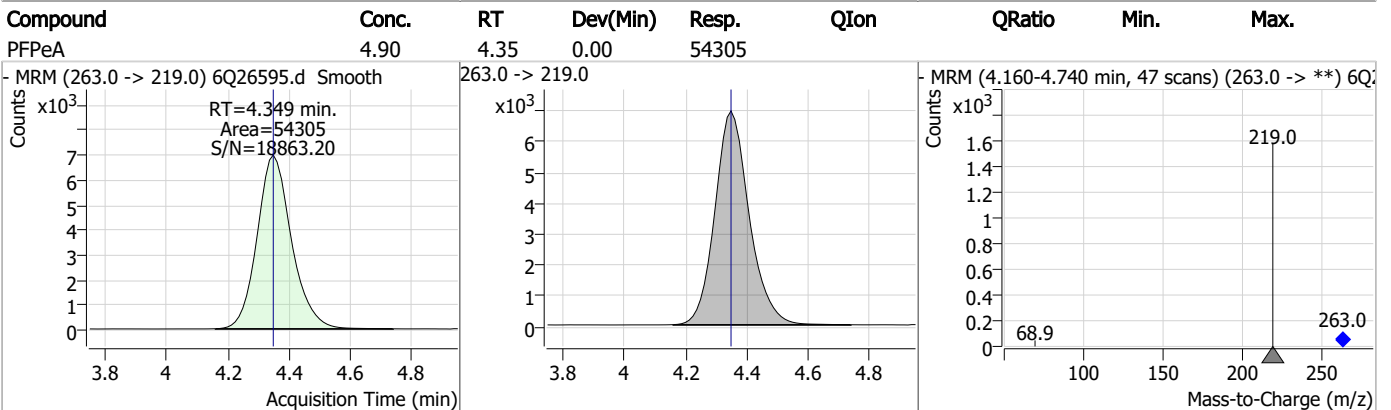
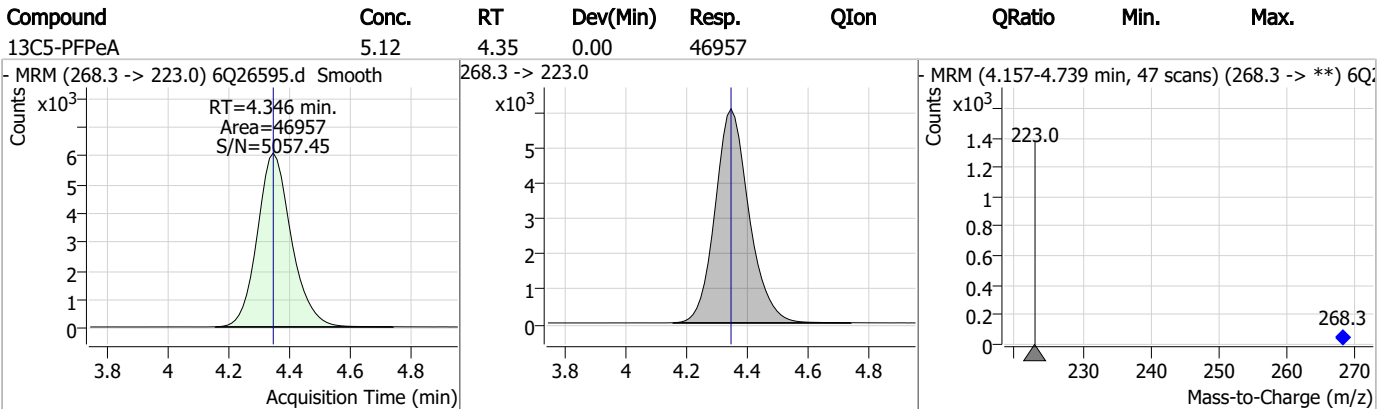
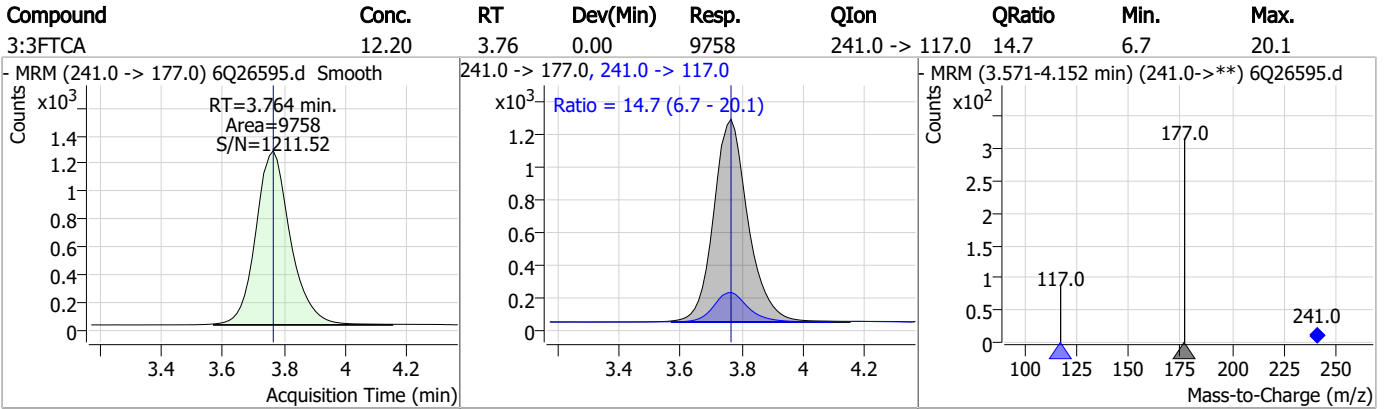
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### Perfluorinated Compounds by LC/MS/MS



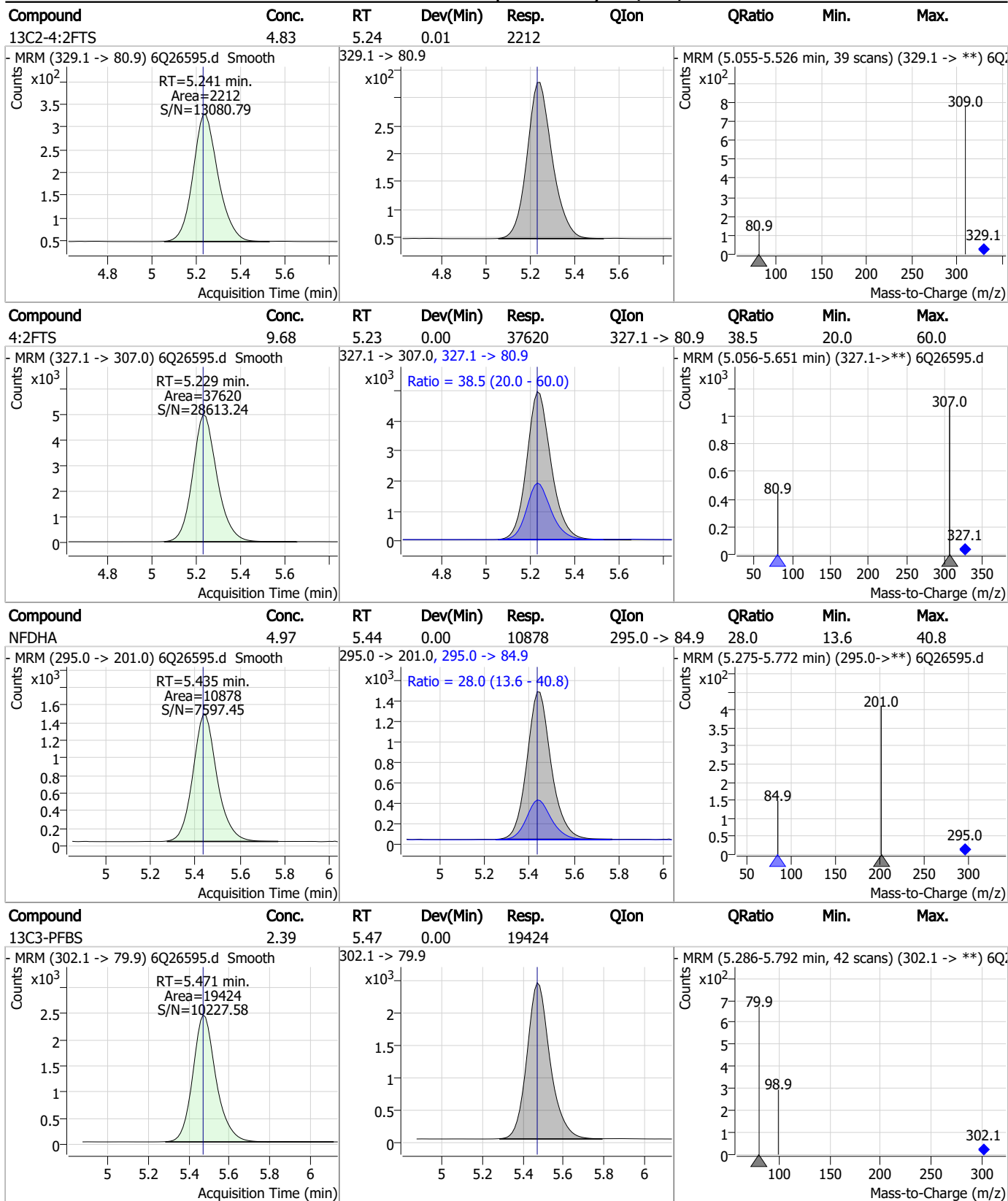


### Perfluorinated Compounds by LC/MS/MS



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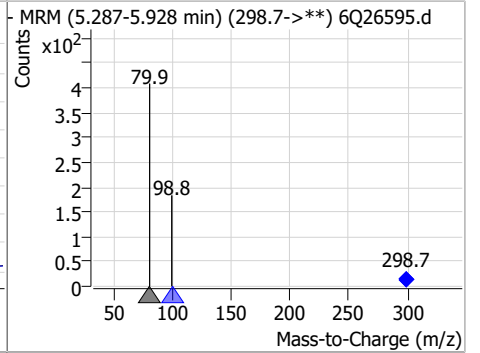
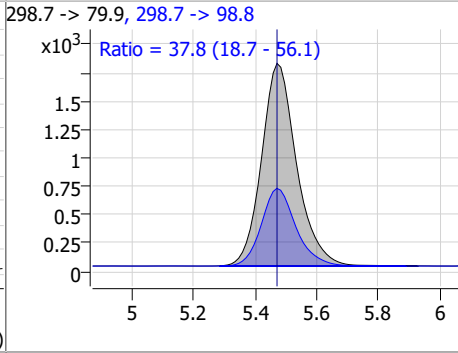
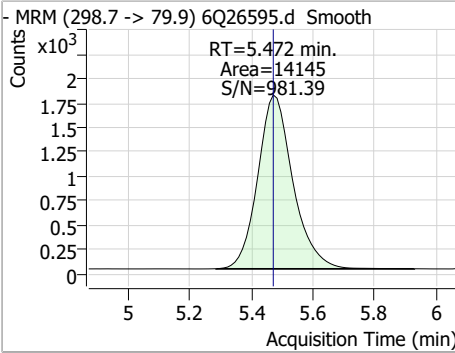
### Perfluorinated Compounds by LC/MS/MS



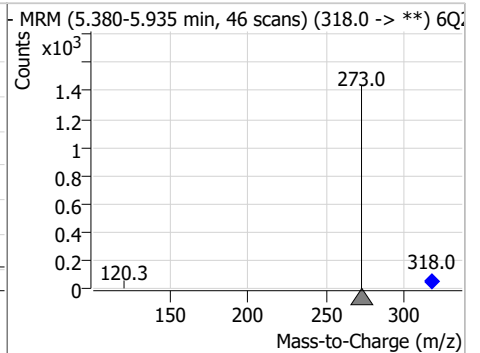
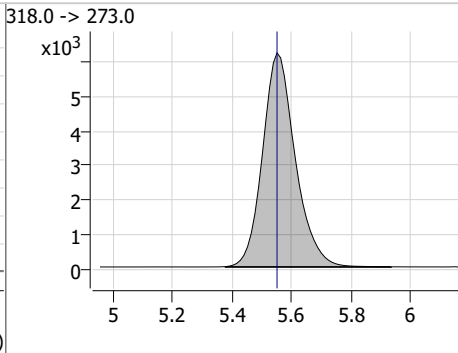
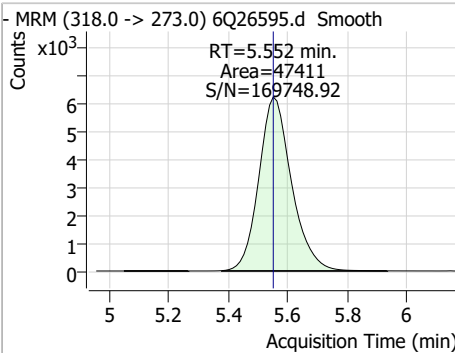
7.7.33  
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### Perfluorinated Compounds by LC/MS/MS

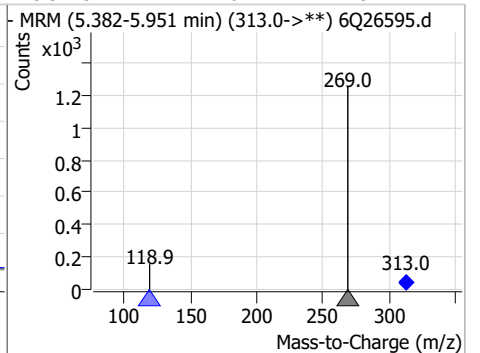
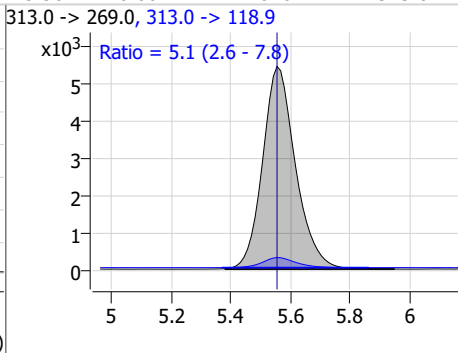
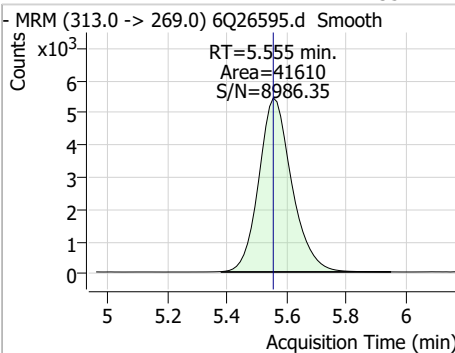
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBS	2.23	5.47	0.00	14145	298.7 -> 98.8	37.8	18.7	56.1



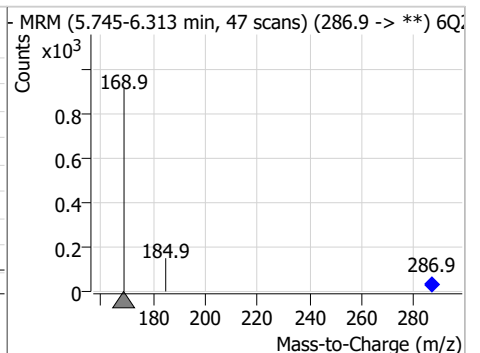
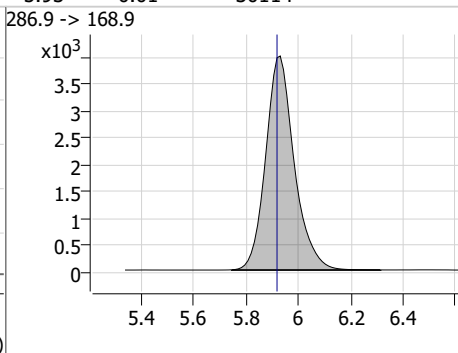
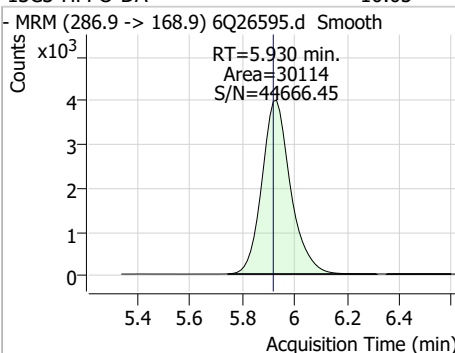
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFHxA	2.60	5.55	0.00	47411	318.0 -> 273.0	5.1	2.6	7.8



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxA	2.35	5.56	0.00	41610	313.0 -> 118.9	5.1	2.6	7.8

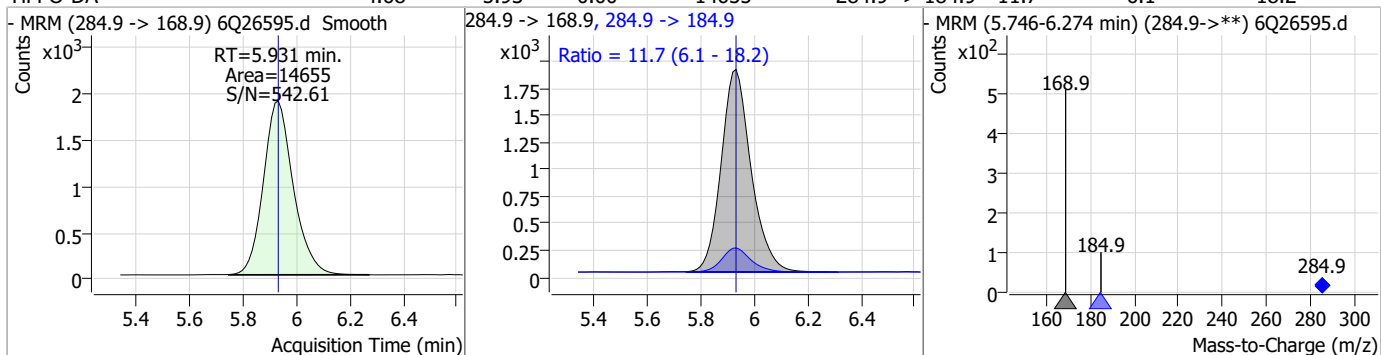


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-HFPO-DA	10.05	5.93	0.01	30114	286.9 -> 168.9	5.1	2.6	7.8

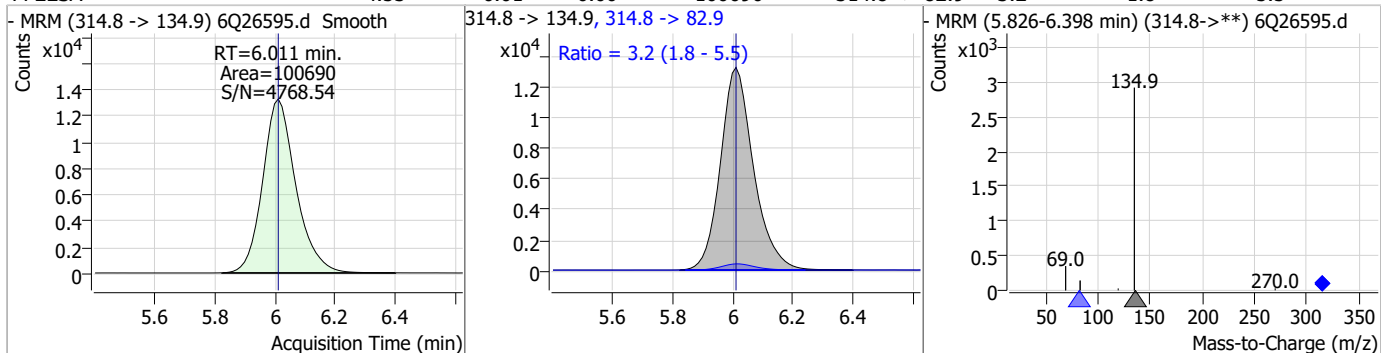


### Perfluorinated Compounds by LC/MS/MS

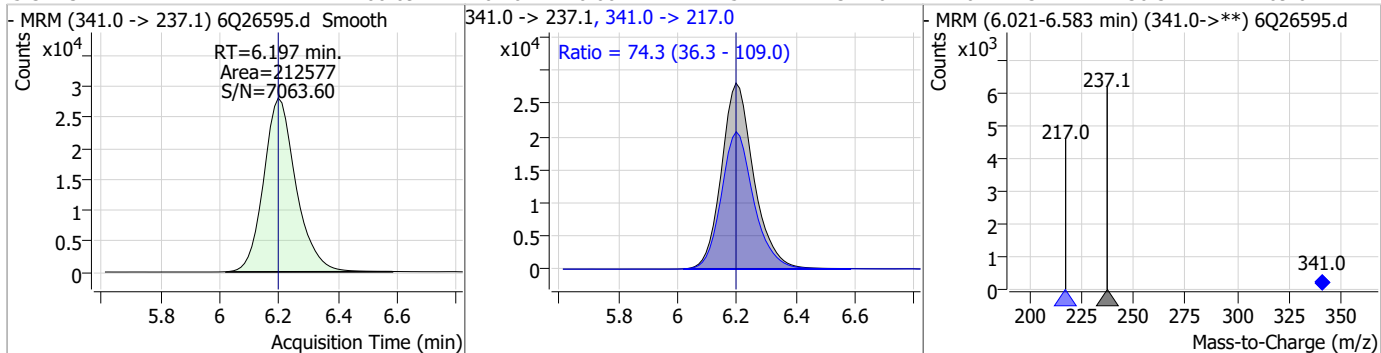
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
HFPO-DA	4.68	5.93	0.00	14655	284.9 -> 184.9	11.7	6.1	18.2



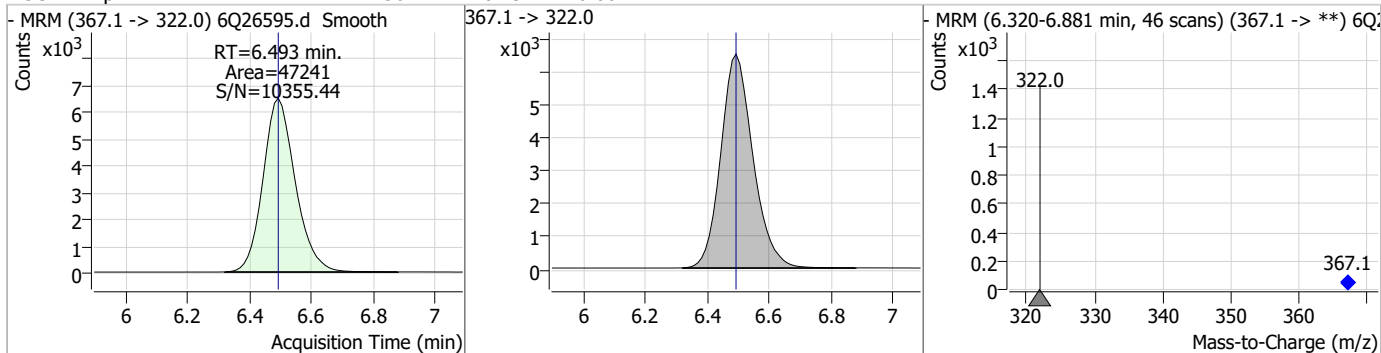
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFEESA	4.53	6.01	0.00	100690	314.8 -> 82.9	3.2	1.8	5.5



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
5:3FTCA	60.09	6.20	0.00	212577	341.0 -> 217.0	74.3	36.3	109.0

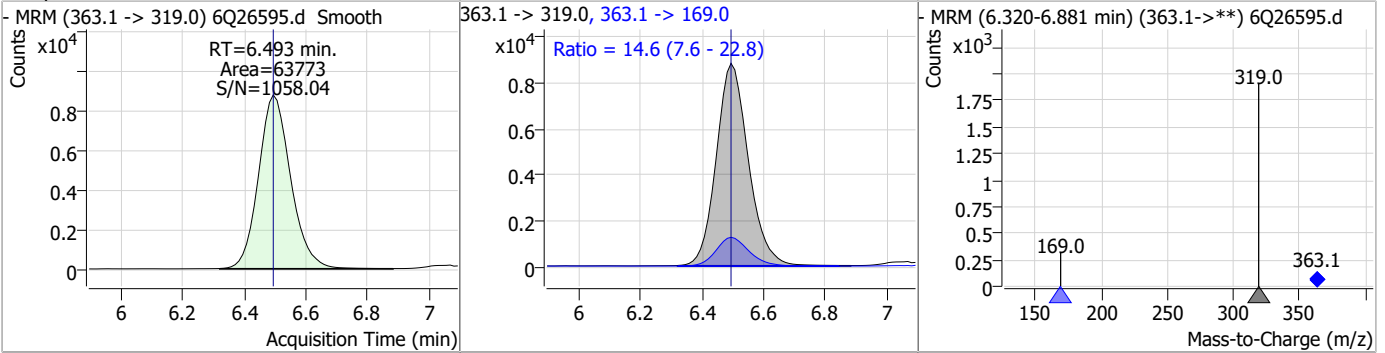


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFHpa	2.56	6.49	0.00	47241				

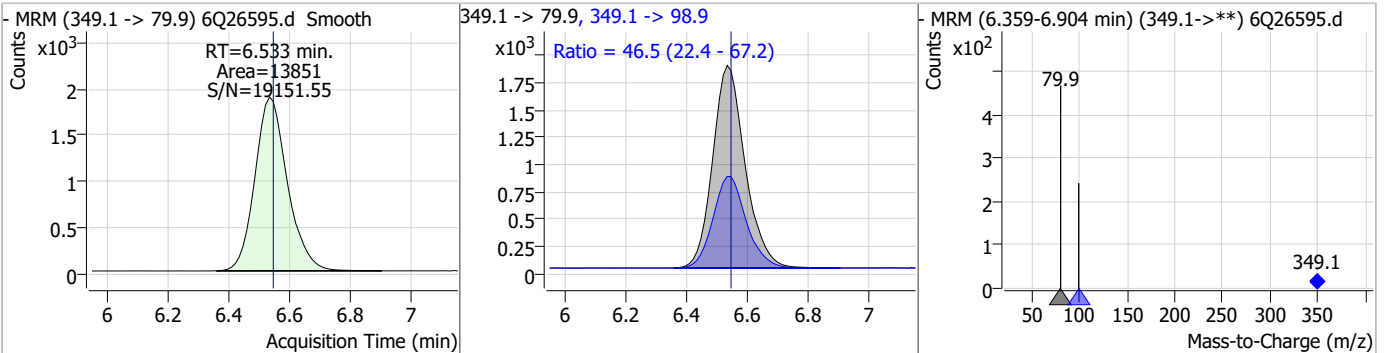


### Perfluorinated Compounds by LC/MS/MS

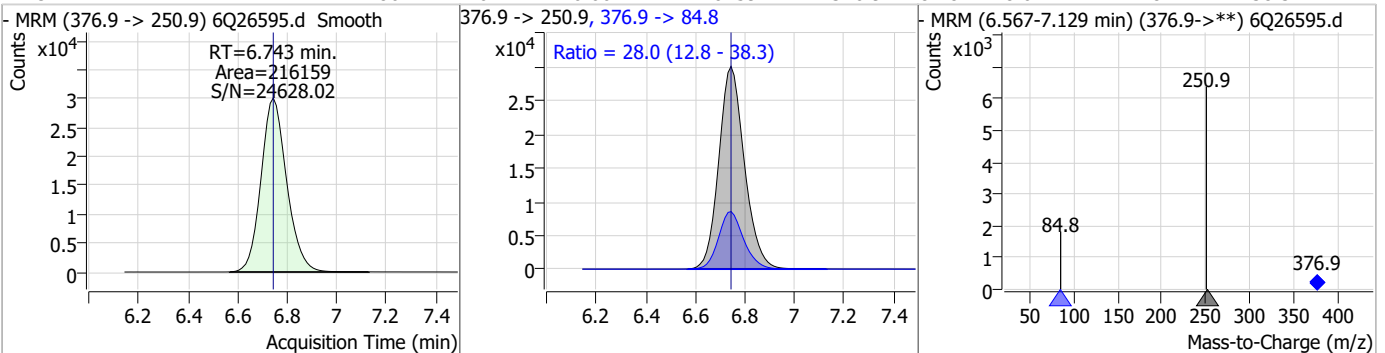
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpA	2.44	6.49	0.00	63773	363.1 -> 169.0	14.6	7.6	22.8



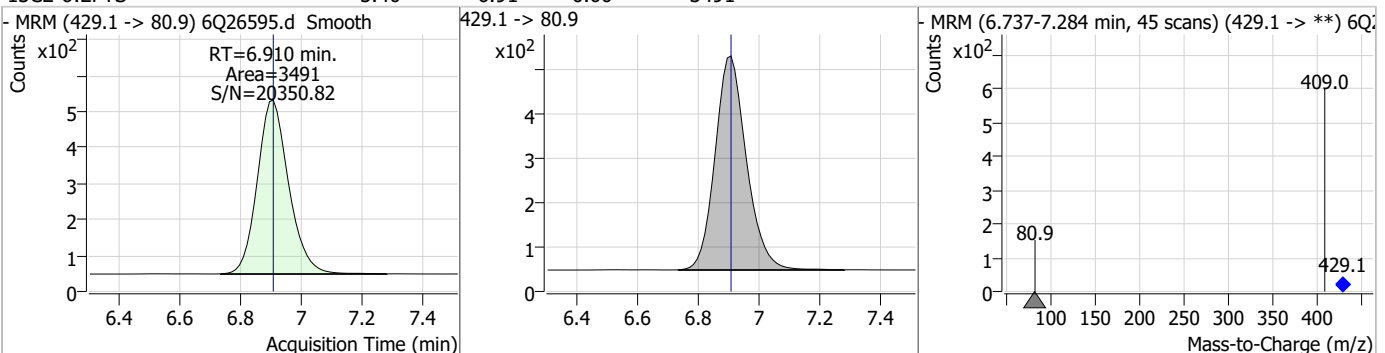
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeS	2.18	6.53	-0.01	13851	349.1 -> 98.9	46.5	22.4	67.2



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
ADONA	4.80	6.74	0.00	216159	376.9 -> 84.8	28.0	12.8	38.3

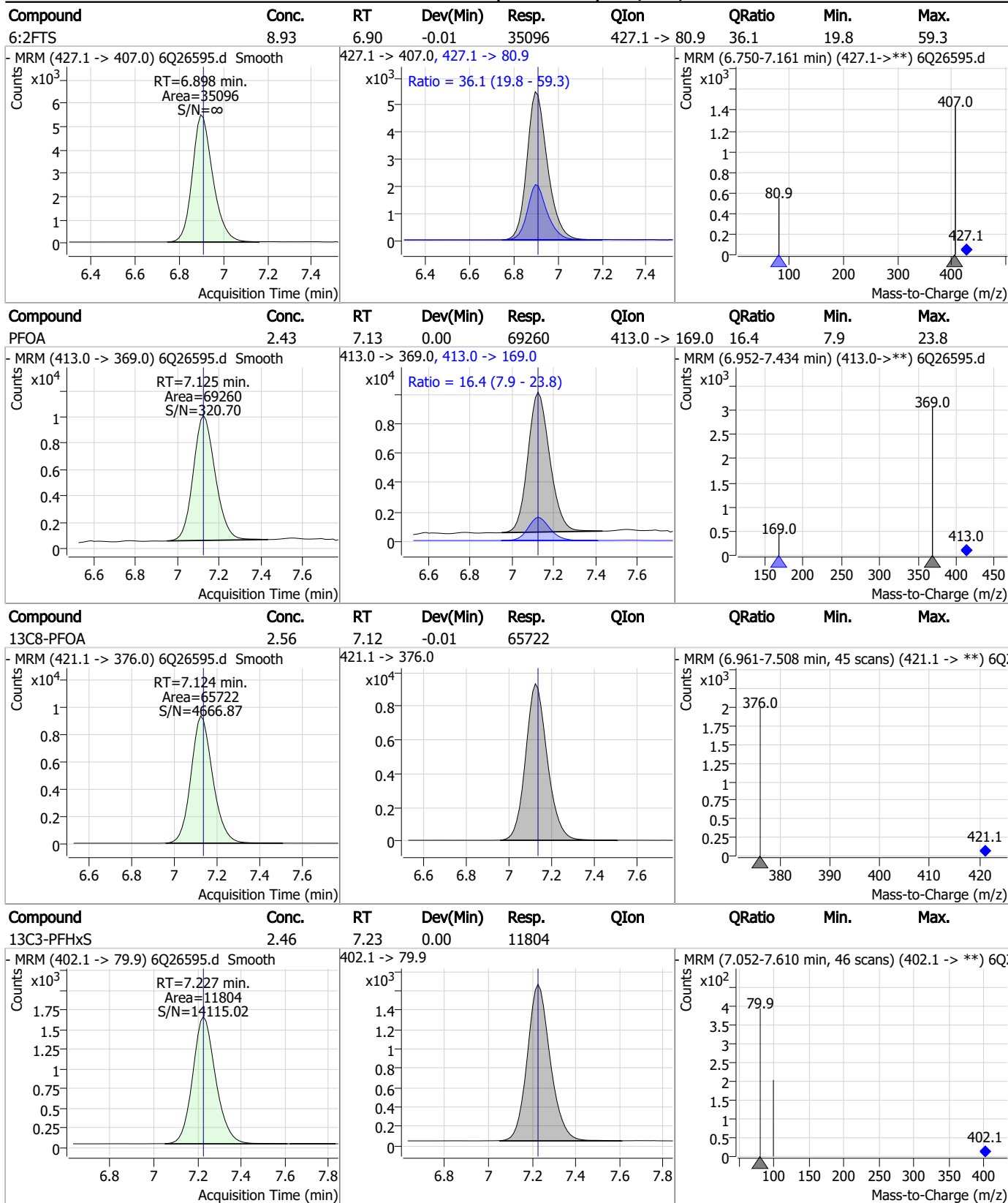


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-6:2FTS	5.40	6.91	0.00	3491	429.1 -> 80.9	-	-	-



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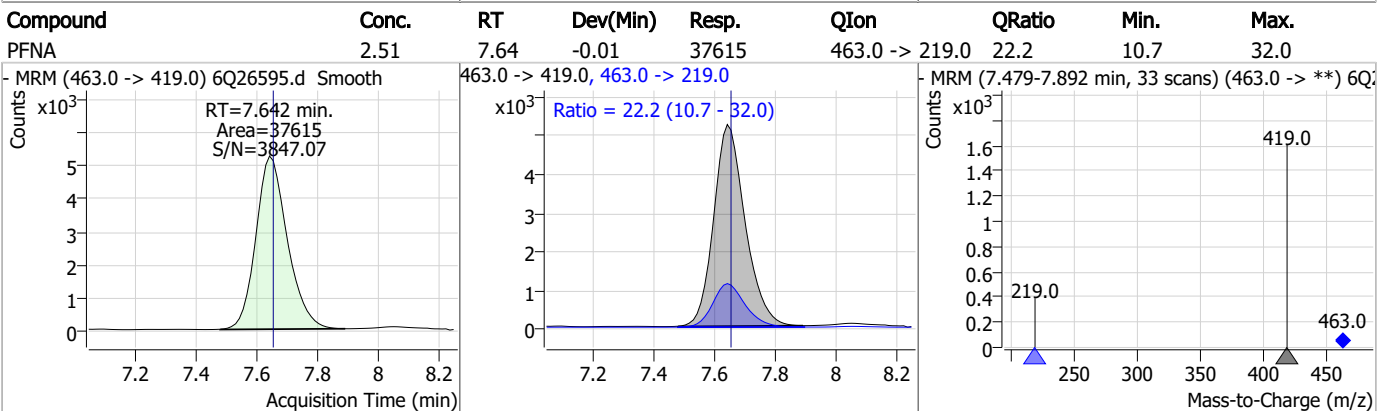
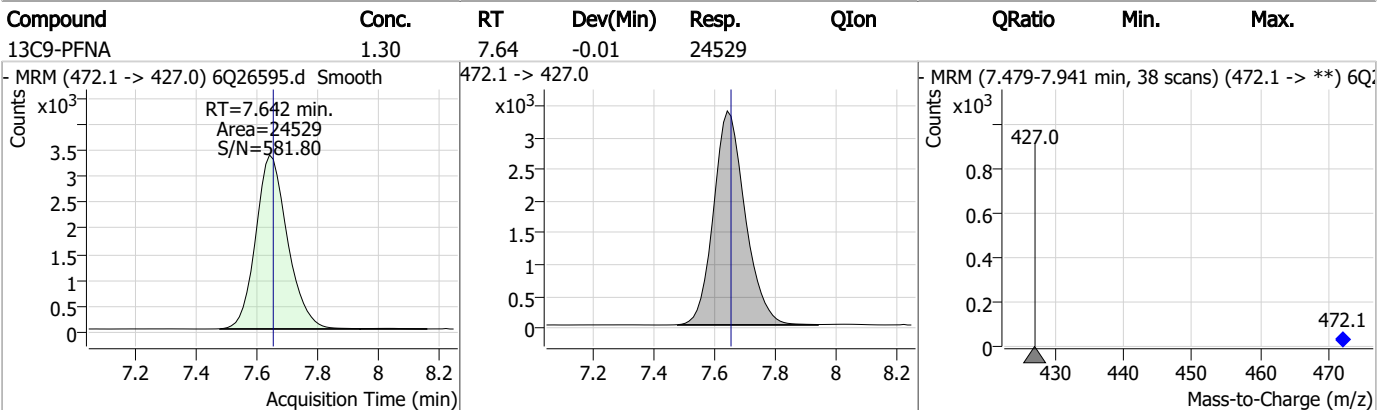
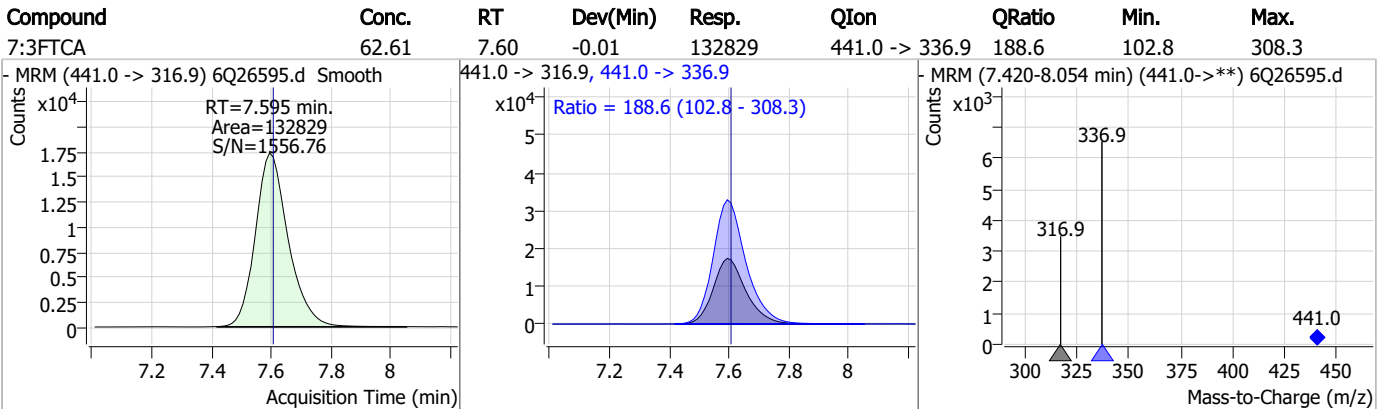
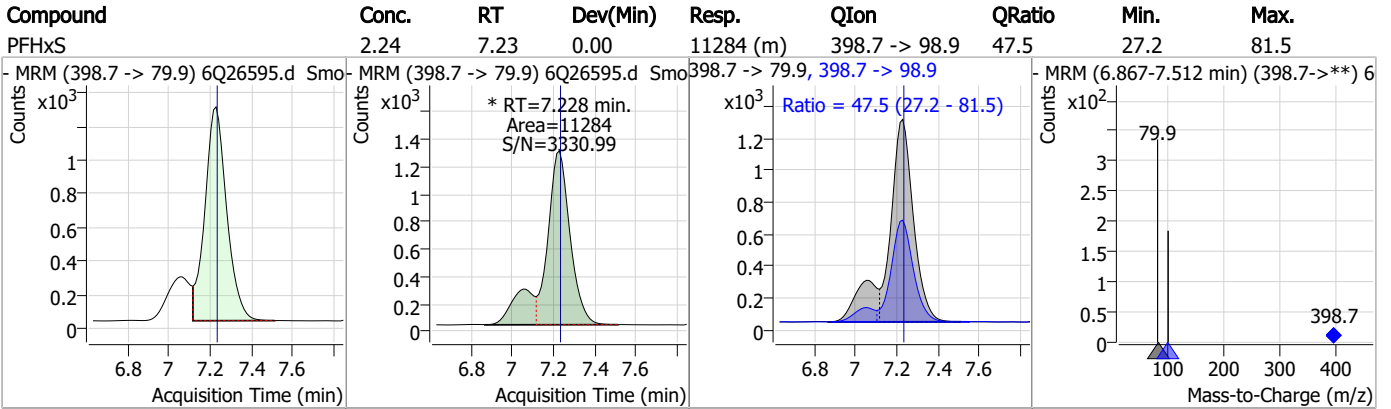
### Perfluorinated Compounds by LC/MS/MS



7.7.33

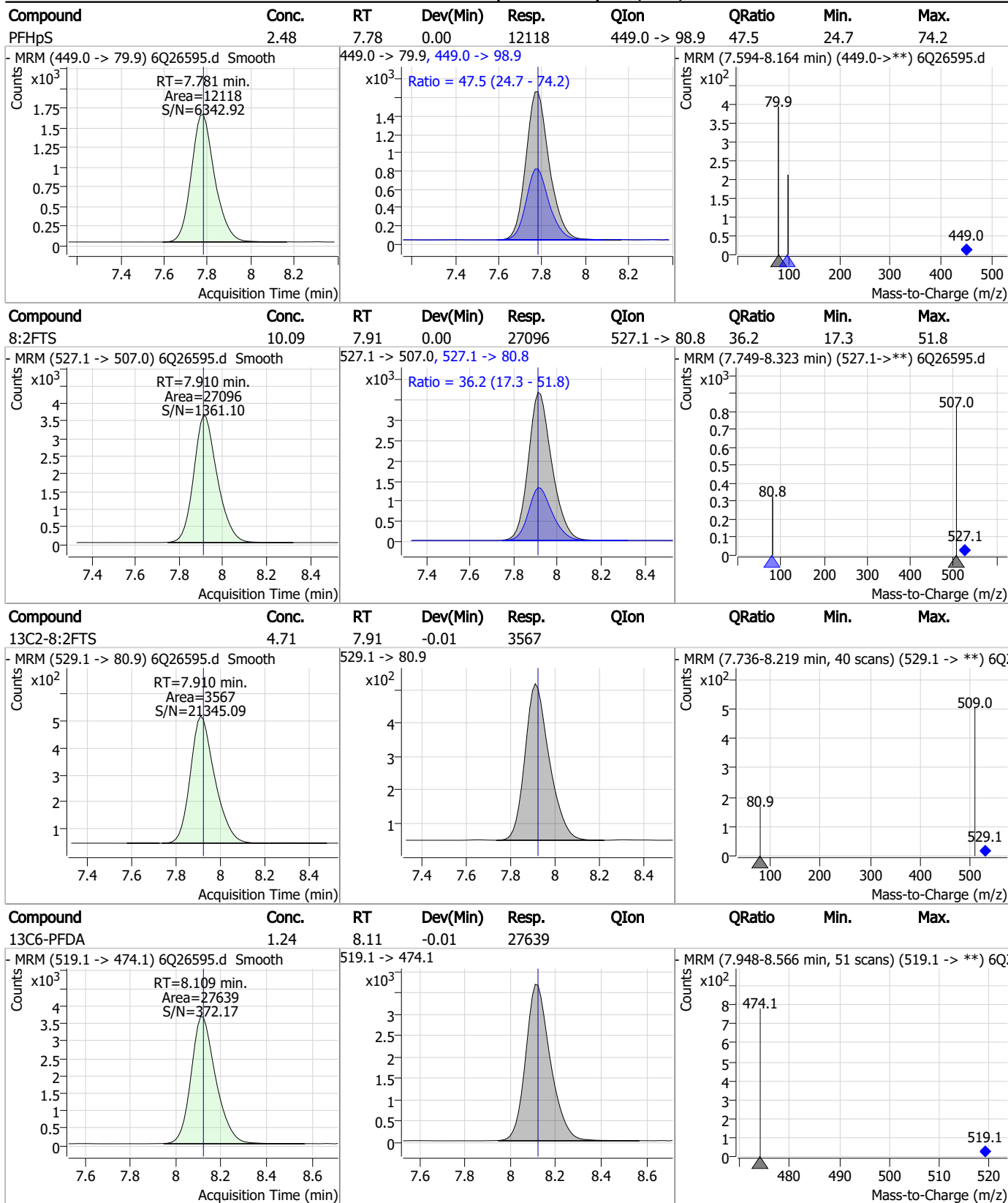
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### Perfluorinated Compounds by LC/MS/MS



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### Perfluorinated Compounds by LC/MS/MS



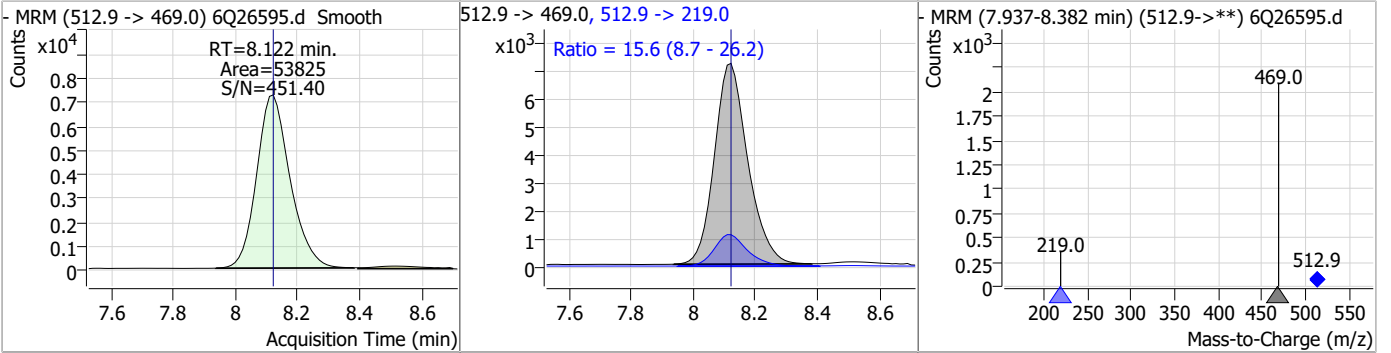
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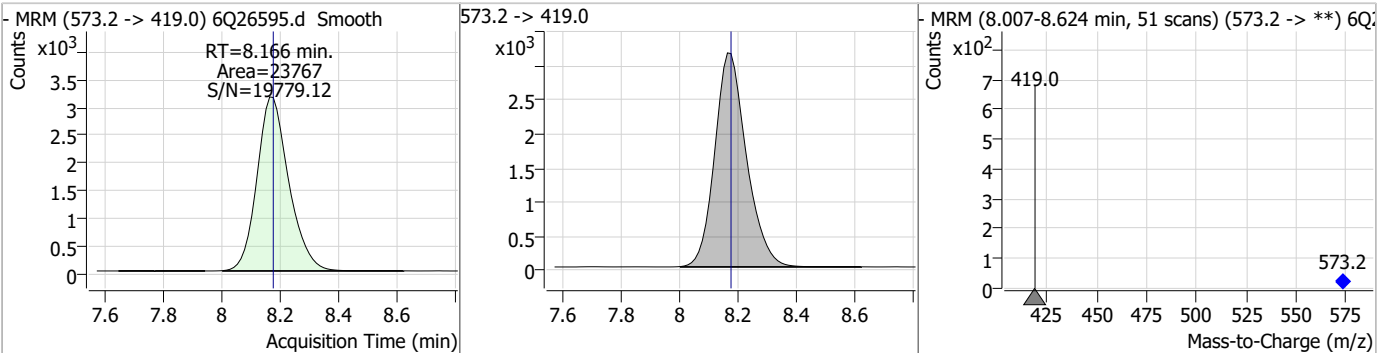


### Perfluorinated Compounds by LC/MS/MS

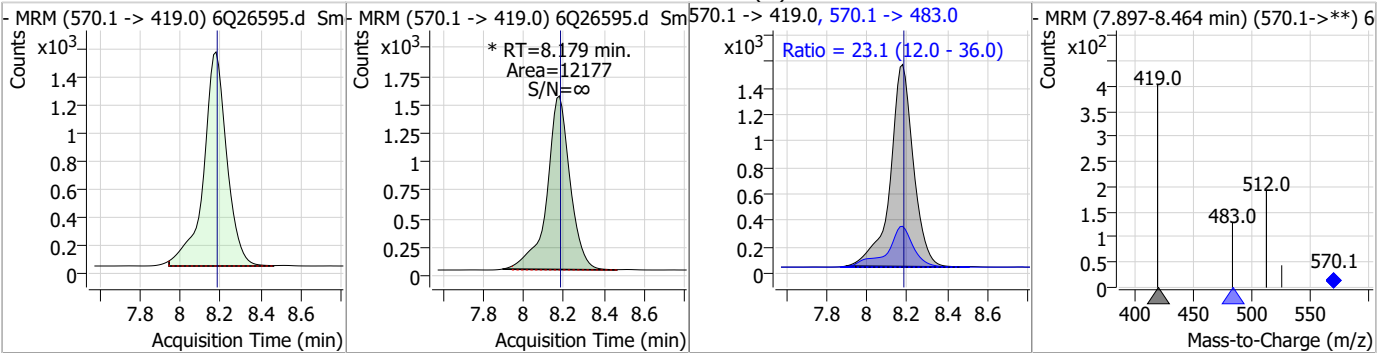
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDA	2.38	8.12	0.00	53825	512.9 -> 219.0	15.6	8.7	26.2



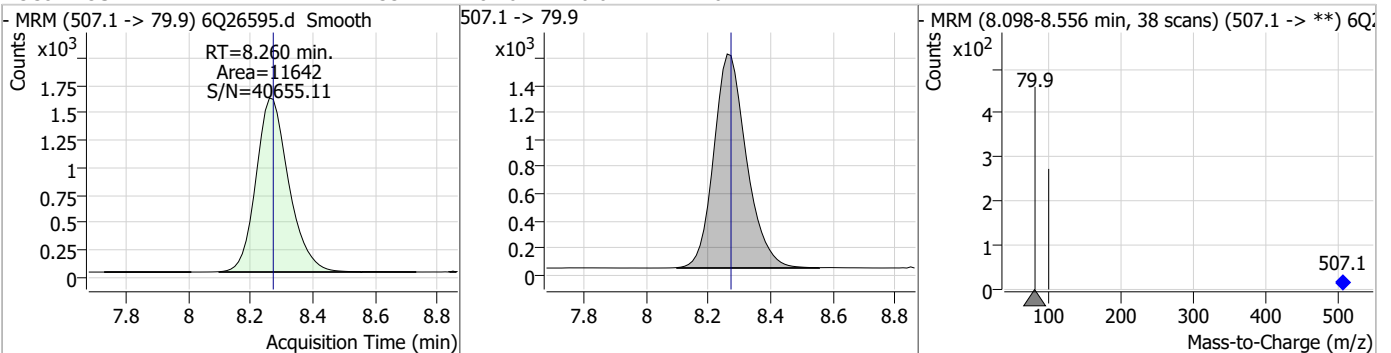
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSAA	4.53	8.17	-0.01	23767				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSAA	2.57	8.18	0.00	12177 (m)	570.1 -> 483.0	23.1	12.0	36.0



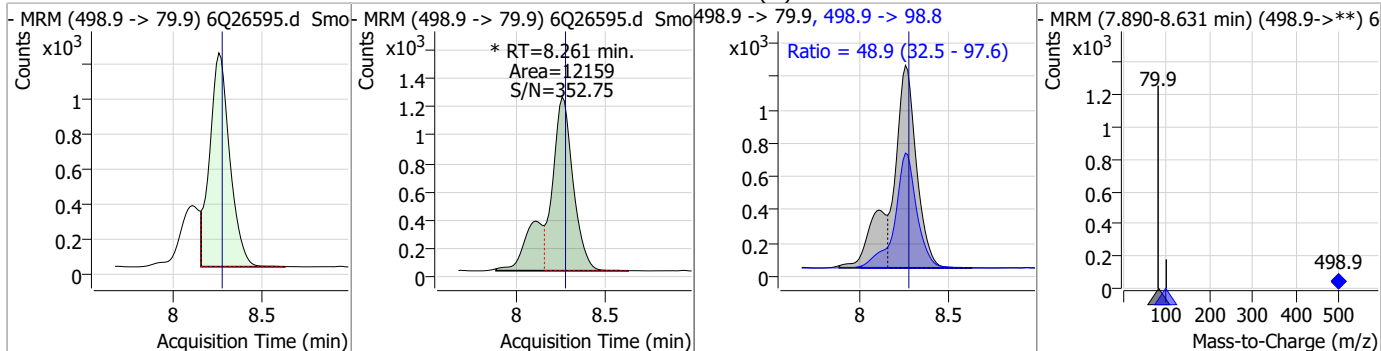
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOS	2.33	8.26	-0.01	11642				



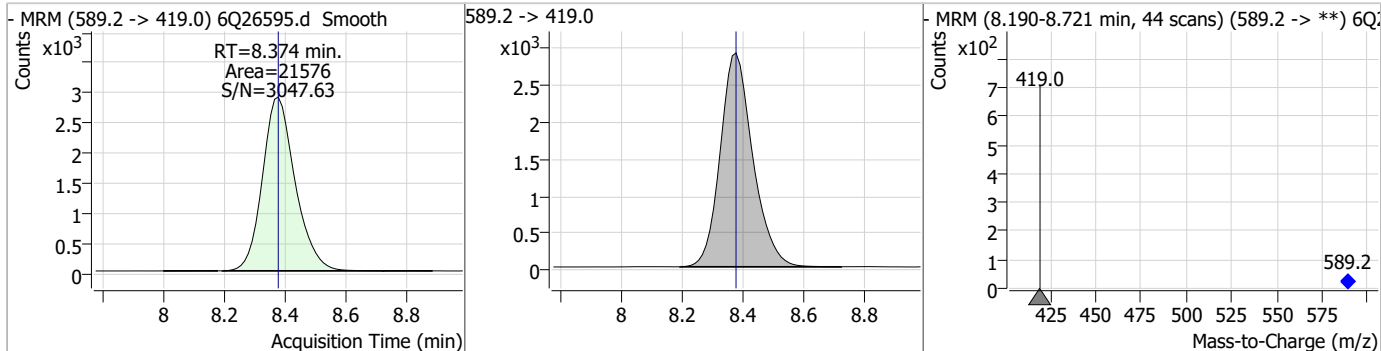
7.7.33 7

### Perfluorinated Compounds by LC/MS/MS

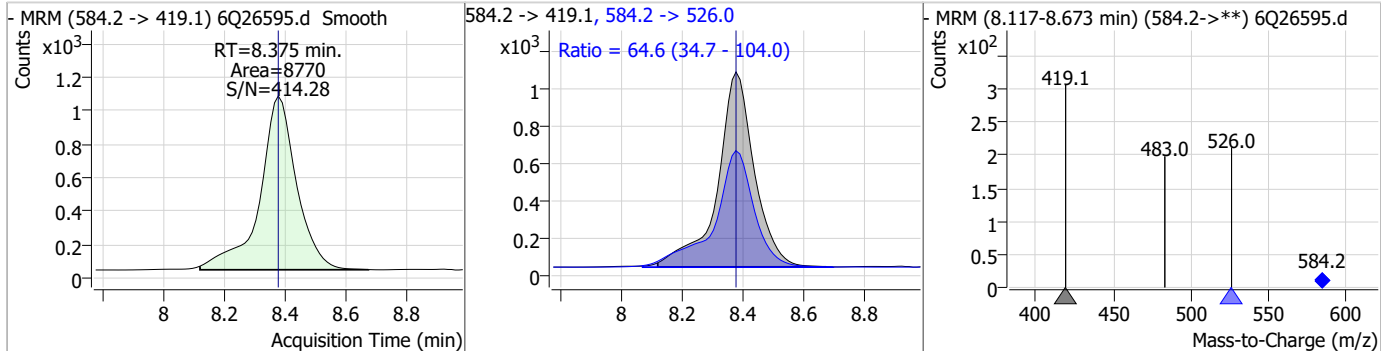
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOS	2.33	8.26	-0.01	12159 (m)	498.9 -> 98.8	48.9	32.5	97.6



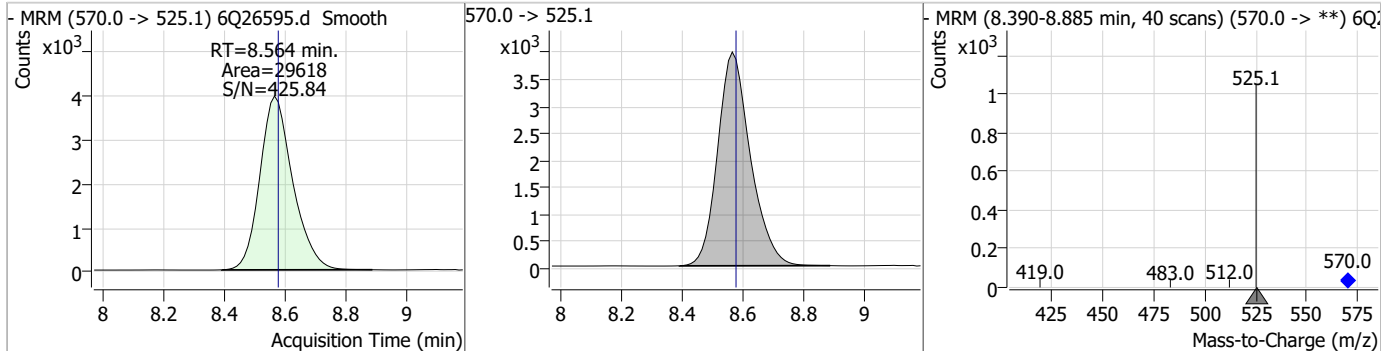
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSAA	4.94	8.37	0.00	21576				



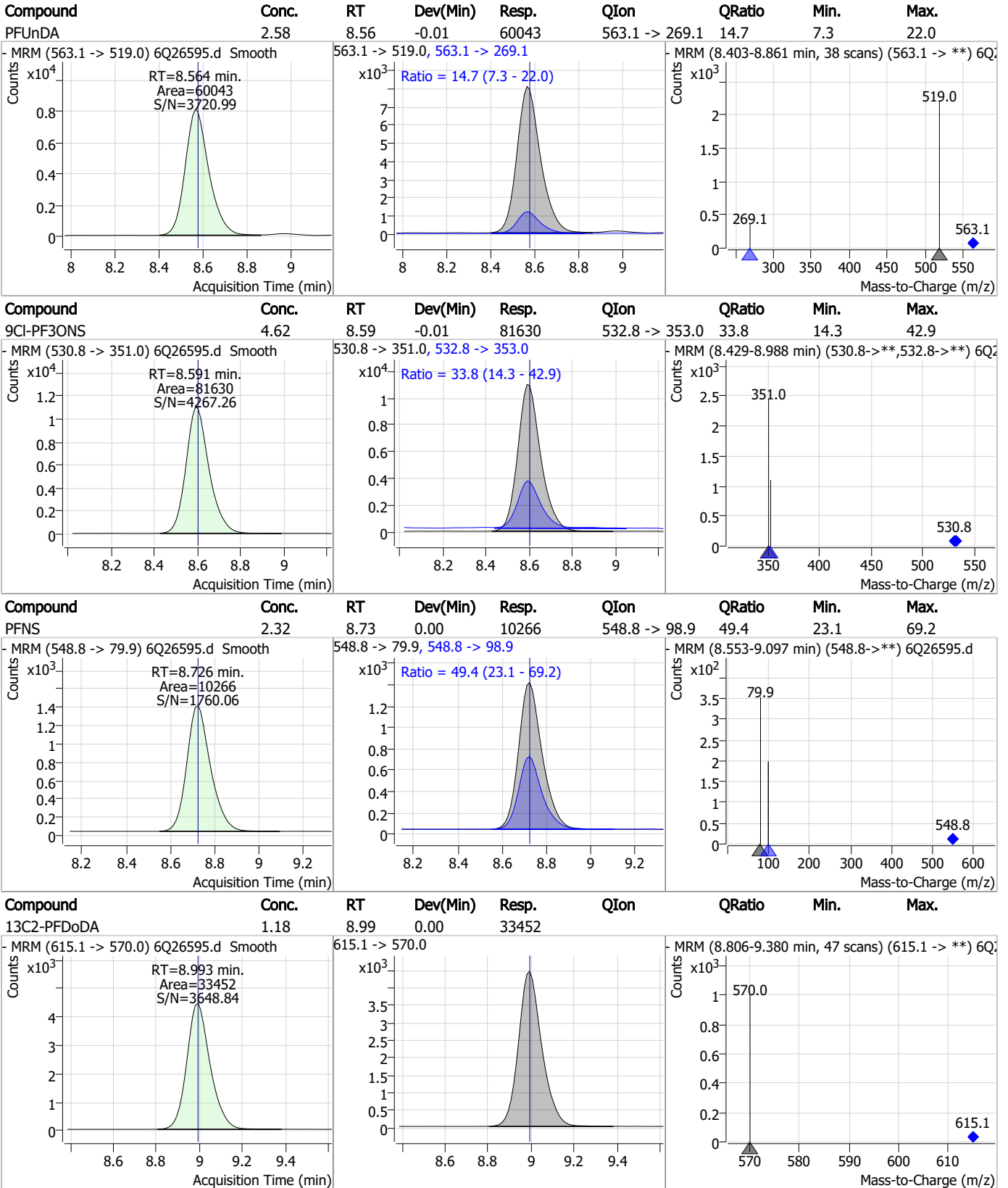
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSAA	2.45	8.38	0.00	8770	584.2 -> 526.0	64.6	34.7	104.0



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C7-PFUnDA	1.23	8.56	-0.01	29618				



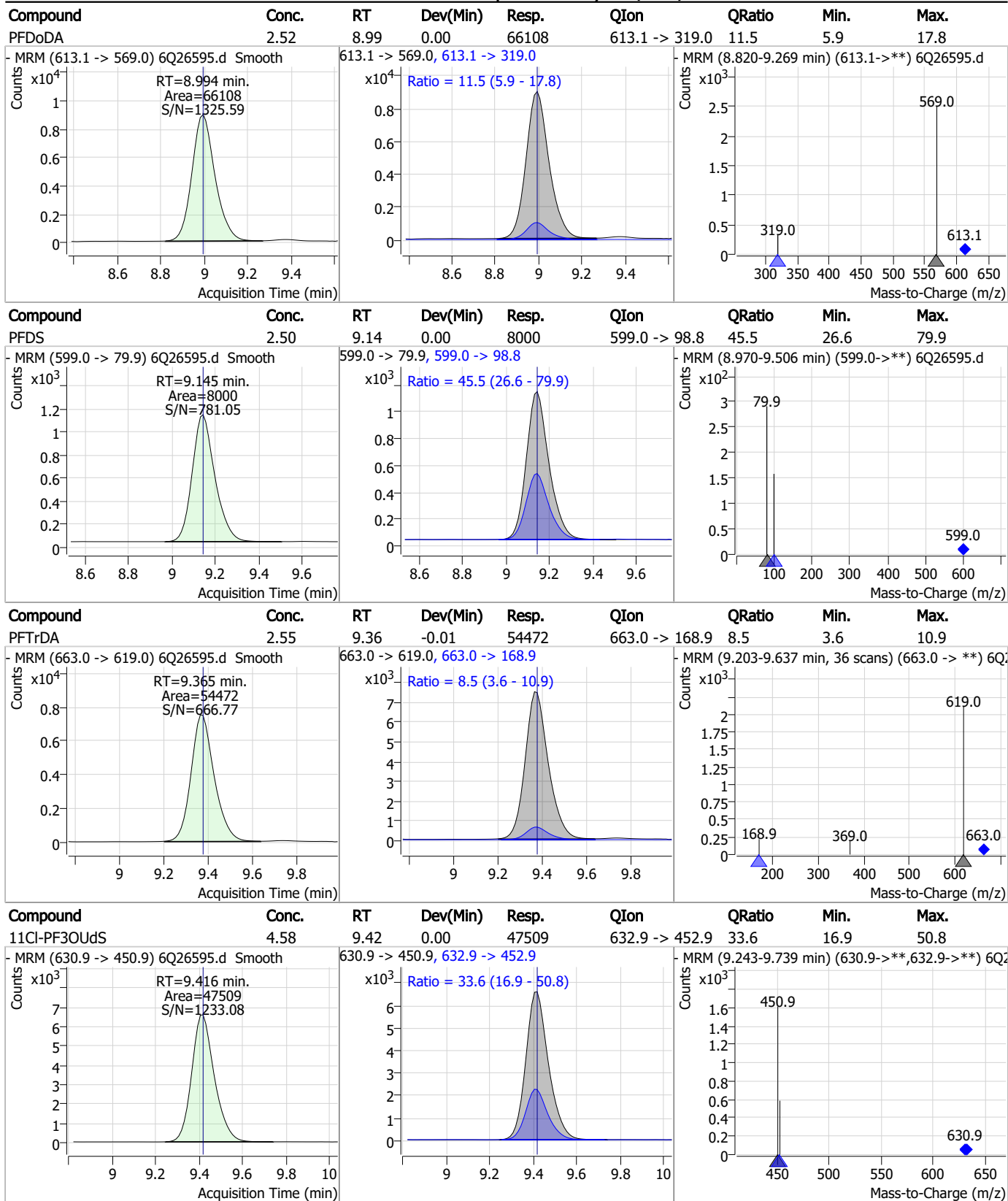
### Perfluorinated Compounds by LC/MS/MS



7.7.33  
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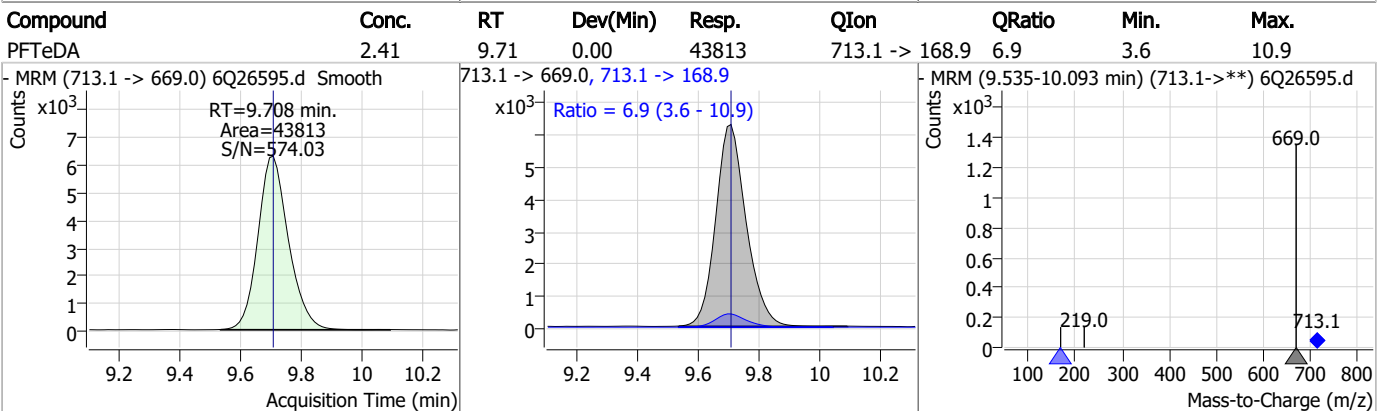
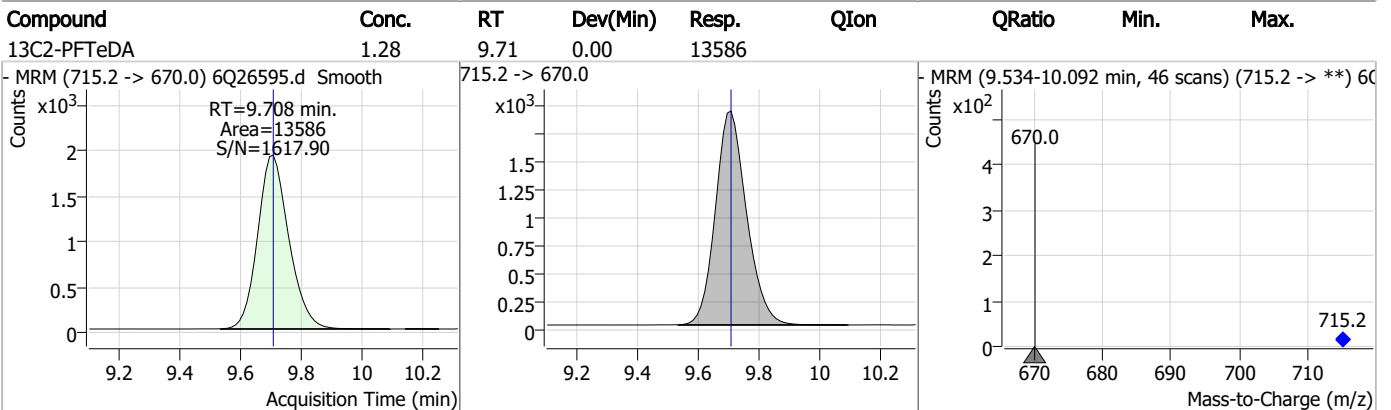
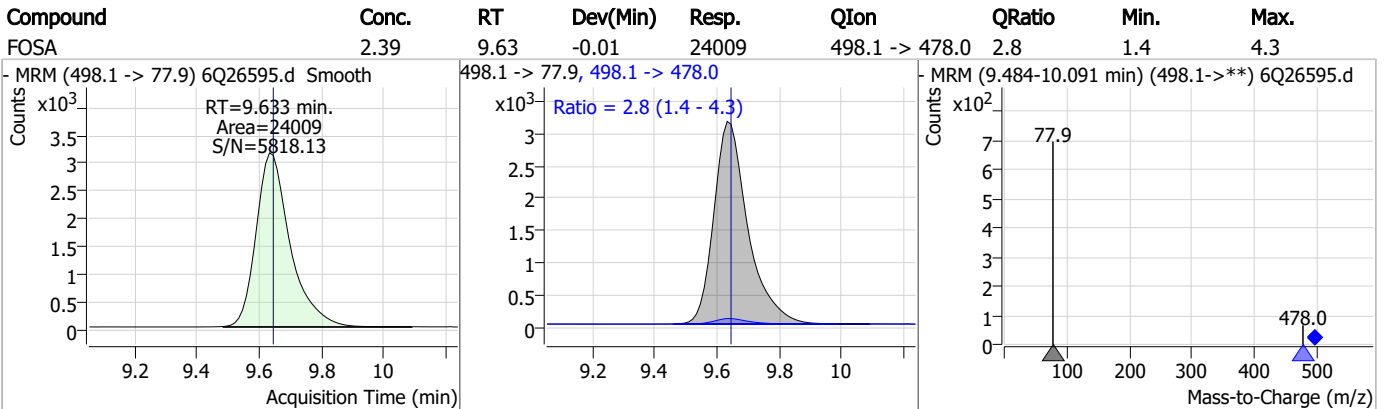
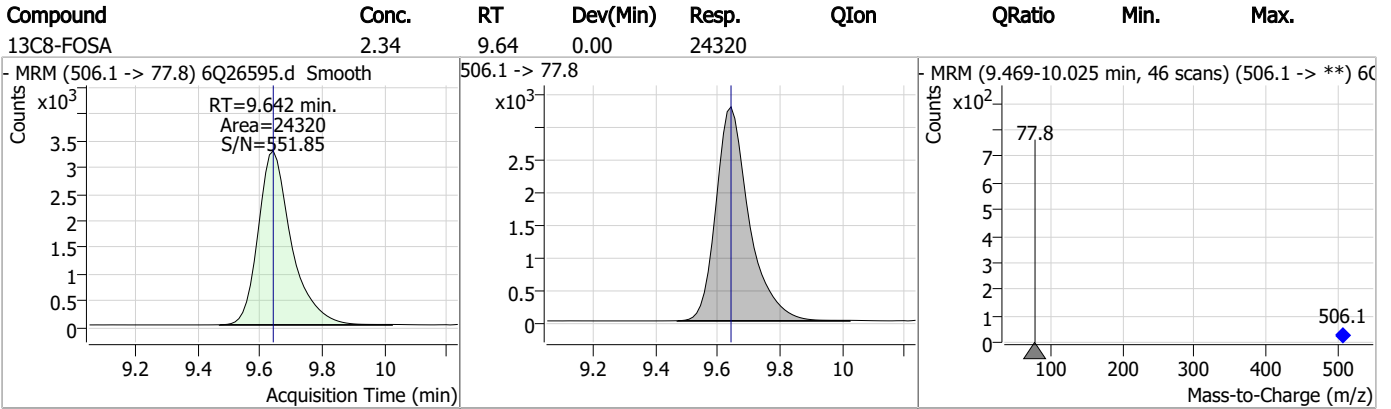


### Perfluorinated Compounds by LC/MS/MS



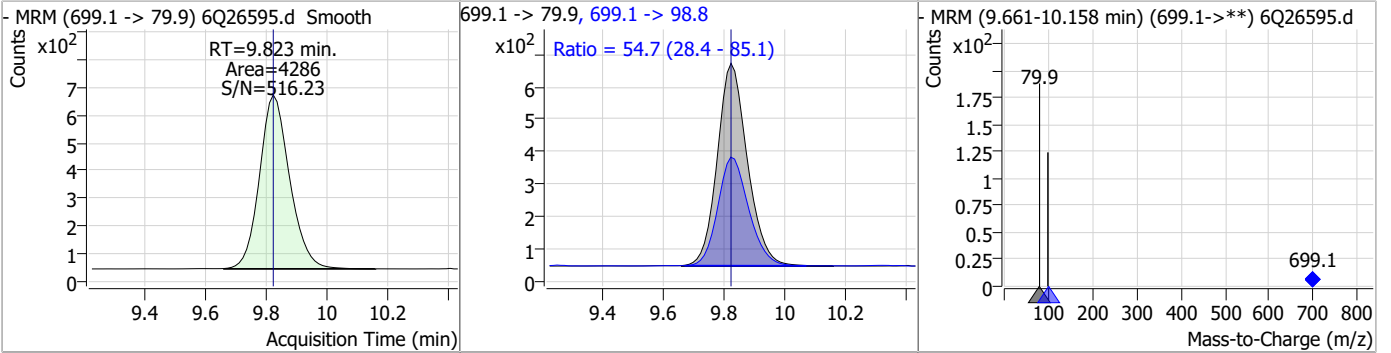
7.7.33  
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### Perfluorinated Compounds by LC/MS/MS

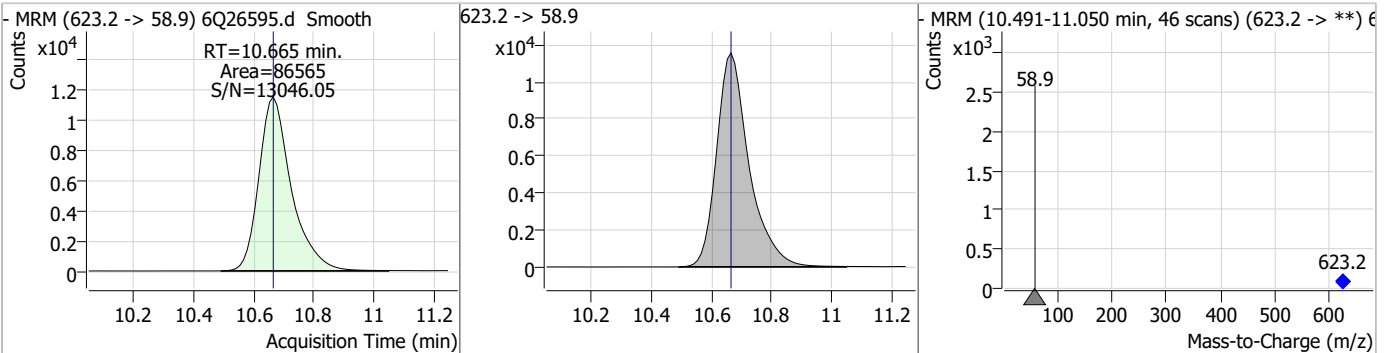


### Perfluorinated Compounds by LC/MS/MS

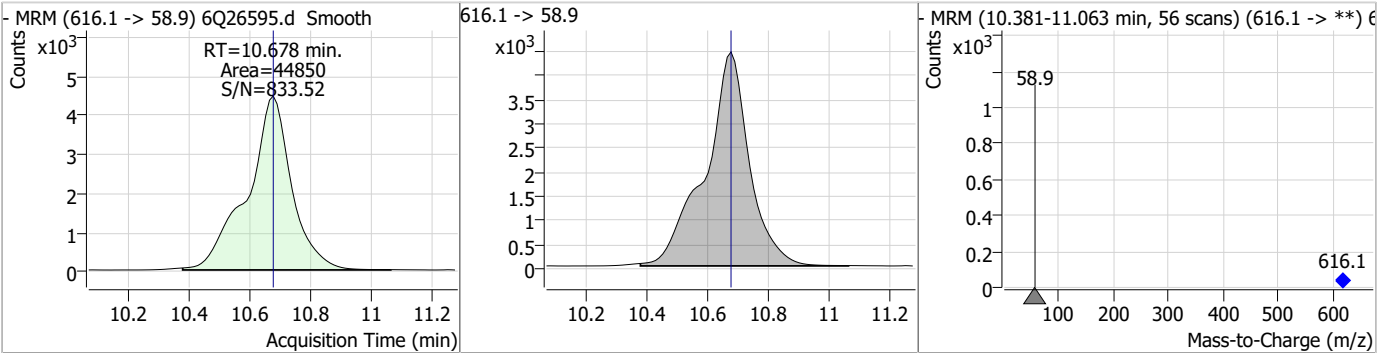
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoS	2.38	9.82	0.00	4286	699.1 -> 98.8	54.7	28.4	85.1



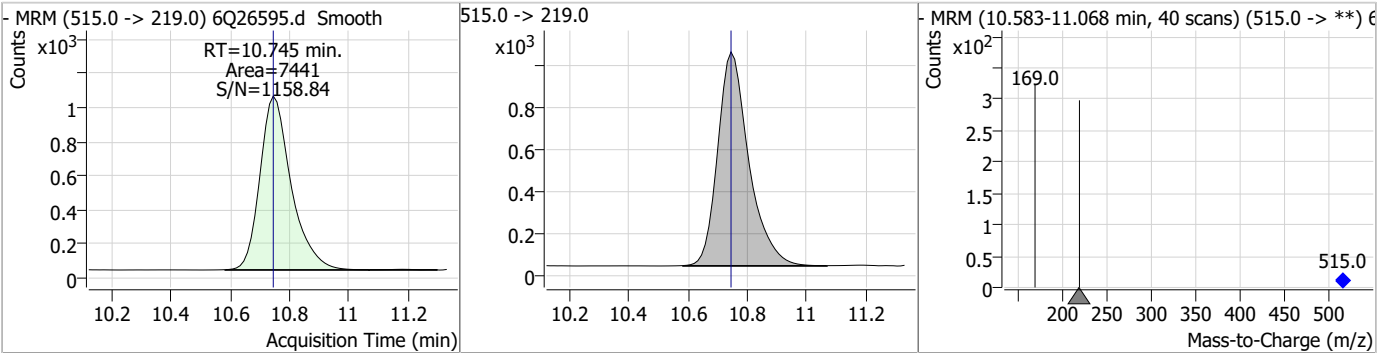
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d7-MeFOSE	23.69	10.67	0.00	86565				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSE	12.21	10.68	0.00	44850				

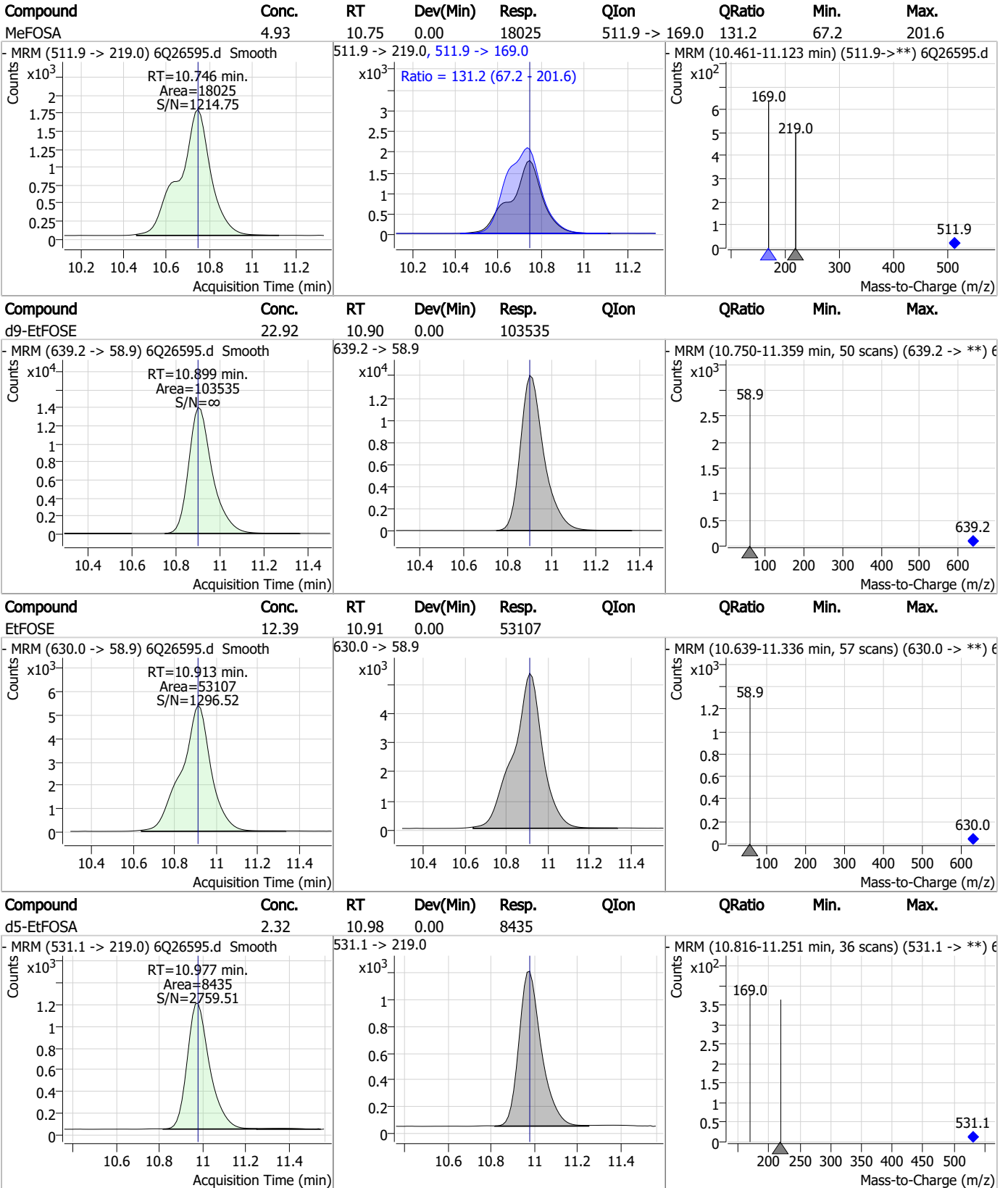


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSA	2.37	10.74	0.00	7441				



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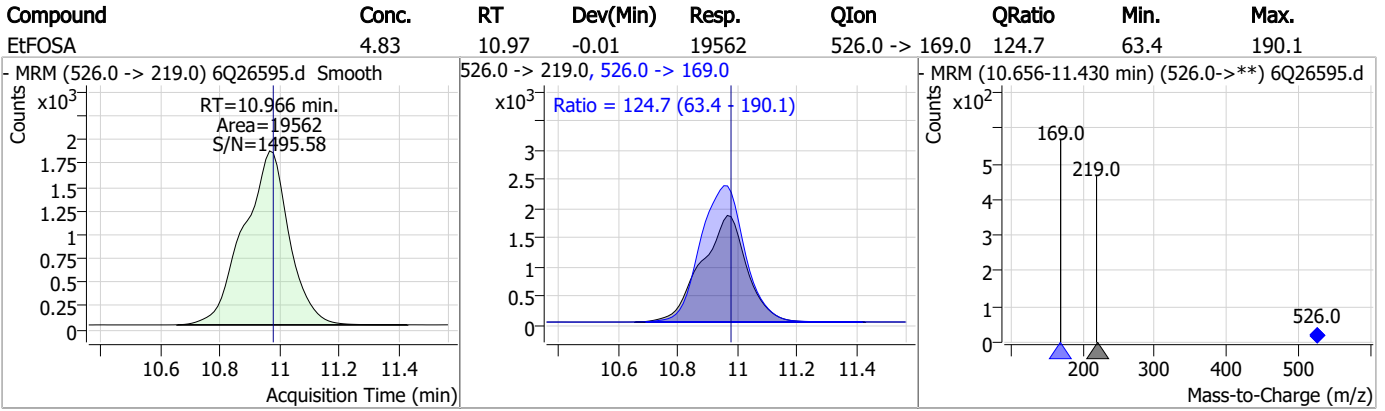
### Perfluorinated Compounds by LC/MS/MS



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### Perfluorinated Compounds by LC/MS/MS



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# Manual Integration Approval Summary

Sample Number: S6Q373-CC373      Method: EPA DRAFT 1633  
Lab FileID: 6Q26595.D      Analyst approved: 10/18/23 16:28 Anna Ludwig  
Injection Time: 10/17/23 23:26      Supervisor approved: 10/19/23 09:36 Natasha Gumtie

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		7.23	Split peak
MeFOSAA	2355-31-9		8.18	Split peak
Perfluorooctanesulfonic acid	1763-23-1		8.26	Split peak

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Perfluorinated Compounds by LC/MS/MS

Data File : 6Q26607.d  
 Operator : marthav  
 Acq. Method : 1633full.m  
 Acq. Date-Time : 10/18/2023 2:18:55 AM  
 Sample Name : cc373-4  
 Vial : P1-A5  
 DA Method File : 1633\_101723\_S6Q373.quantmethod.xml  
 Batch Name : S6Q373.batch.bin  
 Sample Information : OP99081,S6Q373,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
<b>Internal Standards</b>					
M4-PFBA	2.913	216.8 -> 171.9	144537	10.00 µg/L	0.000
M5-PFPeA	4.346	268.3 -> 223.0	47498	5.00 µg/L	0.000
M5-PFHxA	5.552	318.0 -> 273.0	47676	2.50 µg/L	0.000
M4-PFHpA	6.493	367.1 -> 322.0	47261	2.50 µg/L	0.000
M8-PFOA	7.124	421.1 -> 376.0	66705	2.50 µg/L	-0.012
M9-PFNA	7.642	472.1 -> 427.0	25080	1.25 µg/L	-0.012
M6-PFDA	8.121	519.1 -> 474.1	30154	1.25 µg/L	0.000
M7-PFUnDA	8.576	570.0 -> 525.1	30316	1.25 µg/L	0.000
M2-PFDoDA	8.993	615.1 -> 570.0	36851	1.25 µg/L	0.000
M2-PFTeDA	9.708	715.2 -> 670.0	14570	1.25 µg/L	0.000
M8-FOSA	9.642	506.1 -> 77.8	25785	2.50 µg/L	0.000
M3-PFBS	5.471	302.1 -> 79.9	20530	2.50 µg/L	0.000
M3-PFHxS	7.227	402.1 -> 79.9	11971	2.50 µg/L	0.000
M8-PFOS	8.272	507.1 -> 79.9	12503	2.50 µg/L	0.000
M2-4:2FTS	5.228	329.1 -> 80.9	2444	5.00 µg/L	0.000
M2-6:2FTS	6.898	429.1 -> 80.9	3558	5.00 µg/L	-0.012
M2-8:2FTS	7.910	529.1 -> 80.9	3700	5.00 µg/L	-0.012
M3-MeFOSAA	8.178	573.2 -> 419.0	26513	5.00 µg/L	0.000
M3-HFPO-DA	5.918	286.9 -> 168.9	29652	10.00 µg/L	0.000
M5-EtFOSAA	8.374	589.2 -> 419.0	21996	5.00 µg/L	0.000
M7-MeFOSE	10.665	623.2 -> 58.9	86375	25.00 µg/L	0.000
M9-EtFOSE	10.899	639.2 -> 58.9	104890	25.00 µg/L	0.000
M5-EtFOSA	10.977	531.1 -> 219.0	9201	2.50 µg/L	0.000
M3-MeFOSA	10.745	515.0 -> 219.0	6985	2.50 µg/L	0.000
13C4-PFOS	8.273	502.8 -> 79.9	10810	2.50 µg/L	0.000
13C3-PFBA	2.916	216.0 -> 172.0	58324	5.00 µg/L	0.000
18O2-PFHxS	7.226	403.0 -> 83.9	7633	2.50 µg/L	0.000
13C4-PFOA	7.125	417.1 -> 372.0	74111	2.50 µg/L	0.000
13C2-PFDA	8.122	515.1 -> 470.1	25883	1.25 µg/L	0.000
13C5-PFNA	7.642	468.0 -> 423.0	22389	1.25 µg/L	-0.012
13C2-PFHxA	5.553	315.1 -> 270.0	46895	2.50 µg/L	0.000
<b>System Monitoring Compounds</b>					
13C2-4:2FTS	5.228	329.1 -> 80.9	2444	5.13 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 102.5%		
13C2-6:2FTS	6.898	429.1 -> 80.9	3558	5.29 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 105.7%		
13C2-8:2FTS	7.910	529.1 -> 80.9	3700	4.69 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 93.9%		
13C2-PFDoDA	8.993	615.1 -> 570.0	36851	1.32 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 105.4%		
13C2-PFTeDA	9.708	715.2 -> 670.0	14570	1.39 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 111.1%		
13C3-PFBS	5.471	302.1 -> 79.9	20530	2.43 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 97.2%		
13C3-PFHxS	7.227	402.1 -> 79.9	11971	2.40 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 = 95.8%	
13C4-PFBA	2.913	216.8 -> 171.9	144537	10.06 µg/L	0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 100.6%	
13C4-PFHpA	6.493	367.1 -> 322.0	47261	2.49 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 99.4%	
13C5-PFHxA	5.552	318.0 -> 273.0	47676	2.54 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 101.5%	
13C5-PFPeA	4.346	268.3 -> 223.0	47498	5.03 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 100.6%	
13C6-PFDA	8.121	519.1 -> 474.1	30154	1.37 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 109.4%	
13C7-PFUnDA	8.576	570.0 -> 525.1	30316	1.27 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 101.5%	
13C8-FOSA	9.642	506.1 -> 77.8	25785	2.59 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 103.7%	
13C8-PFOA	7.124	421.1 -> 376.0	66705	2.52 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 100.6%	
13C8-PFOS	8.272	507.1 -> 79.9	12503	2.62 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 104.6%	
13C9-PFNA	7.642	472.1 -> 427.0	25080	1.30 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 104.2%	
d3-MeFOSAA	8.178	573.2 -> 419.0	26513	5.29 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 105.8%	
13C3-HFPO-DA	5.918	286.9 -> 168.9	29652	9.62 µg/L	0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 96.2%	
d3-MeFOSA	10.745	515.0 -> 219.0	6985	2.32 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 93.0%	
d5-EtFOSAA	8.374	589.2 -> 419.0	21996	5.27 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 105.4%	
d7-MeFOSE	10.665	623.2 -> 58.9	86375	24.71 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 98.9%	
d9-EtFOSE	10.899	639.2 -> 58.9	104890	24.28 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 97.1%	
d5-EtFOSA	10.977	531.1 -> 219.0	9201	2.65 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 105.8%	
<b>Target Compounds</b>					<b>QValue</b>
4:2FTS	5.229	327.1 -> 307.0	40576	9.45 µg/L	94
		327.1 -> 80.9	14800		
6:2FTS	6.898	427.1 -> 407.0	34235	8.55 µg/L	96
		427.1 -> 80.9	14294		
8:2FTS	7.923	527.1 -> 507.0	28157	10.11 µg/L	95
		527.1 -> 80.8	10484		
EtFOSAA	8.375	584.2 -> 419.1	8711	2.38 µg/L	m 97
		584.2 -> 526.0	5848		
FOSA	9.645	498.1 -> 77.9	25349	2.38 µg/L	100
		498.1 -> 478.0	746		
MeFOSAA	8.179	570.1 -> 419.0	12998	2.46 µg/L	97
		570.1 -> 483.0	2929		
PFBA	2.919	212.8 -> 168.9	54466	9.81 µg/L	100
PFBS	5.472	298.7 -> 79.9	14453	2.16 µg/L	99
		298.7 -> 98.8	5508		
PFDA	8.122	512.9 -> 469.0	55546	2.26 µg/L	97
		512.9 -> 219.0	8864		
PFDODA	8.994	613.1 -> 569.0	66792	2.31 µg/L	99
		613.1 -> 319.0	8251		
PFDS	9.145	599.0 -> 79.9	7749	2.25 µg/L	92

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Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
		599.0 -> 98.8	3662			
PFHpA	6.493	363.1 -> 319.0	64242	2.46	µg/L	99
		363.1 -> 169.0	9427			
PFHpS	7.781	449.0 -> 79.9	12006	2.28	µg/L	97
		449.0 -> 98.9	5694			
PFHxA	5.555	313.0 -> 269.0	41815	2.35	µg/L	99
		313.0 -> 118.9	2069			
PFHxS	7.228	398.7 -> 79.9	11990	2.35	µg/L	m 88
		398.7 -> 98.9	5466			
PFNA	7.642	463.0 -> 419.0	38998	2.55	µg/L	98
		463.0 -> 219.0	8624			
PFNS	8.726	548.8 -> 79.9	10765	2.27	µg/L	94
		548.8 -> 98.9	5375			
PFOA	7.125	413.0 -> 369.0	66354	2.29	µg/L	96
		413.0 -> 169.0	11663			
PFOS	8.274	498.9 -> 79.9	11821	2.11	µg/L	m 84
		498.9 -> 98.8	6162			
PFPeA	4.349	263.0 -> 219.0	55097	4.92	µg/L	100
PFPeS	6.533	349.1 -> 79.9	14618	2.27	µg/L	99
		349.1 -> 98.9	6677			
PFTeDA	9.708	713.1 -> 669.0	45501	2.33	µg/L	99
		713.1 -> 168.9	3221			
PFTrDA	9.377	663.0 -> 619.0	59912	2.55	µg/L	99
		663.0 -> 168.9	4580			
PFUnDA	8.576	563.1 -> 519.0	60321	2.54	µg/L	99
		563.1 -> 269.1	9096			
11CI-PF3OUdS	9.416	630.9 -> 450.9	47957	4.69	µg/L	98
		632.9 -> 452.9	15637			
9CI-PF3ONS	8.603	530.8 -> 351.0	80920	4.65	µg/L	87
		532.8 -> 353.0	28742			
ADONA	6.743	376.9 -> 250.9	222722	5.02	µg/L	99
		376.9 -> 84.8	57590			
HFPO-DA	5.918	284.9 -> 168.9	15788	5.12	µg/L	99
		284.9 -> 184.9	1838			
3:3FTCA	3.764	241.0 -> 177.0	9510	11.70	µg/L	99
		241.0 -> 117.0	1309			
5:3FTCA	6.197	341.0 -> 237.1	220391	61.95	µg/L	97
		341.0 -> 217.0	154831			
7:3FTCA	7.595	441.0 -> 316.9	129068	60.50	µg/L	99
		441.0 -> 336.9	266868			
EtFOSA	10.979	526.0 -> 219.0	20227	4.58	µg/L	99
		526.0 -> 169.0	25920			
EtFOSE	10.913	630.0 -> 58.9	57043	13.14	µg/L	100
MeFOSA	10.746	511.9 -> 219.0	17349	5.05	µg/L	96
		511.9 -> 169.0	24239			
MeFOSE	10.678	616.1 -> 58.9	44193	12.06	µg/L	100
PFDoDS	9.823	699.1 -> 79.9	4248	2.19	µg/L	100
		699.1 -> 98.8	2398			
NFDHA	5.435	295.0 -> 201.0	10925	4.97	µg/L	96
		295.0 -> 84.9	2742			
PFMBA	4.762	279.0 -> 85.1	42219	4.96	µg/L	100
PFMPA	3.475	229.0 -> 84.9	33631	4.81	µg/L	100
PFEESA	6.011	314.8 -> 134.9	95788	4.29	µg/L	100
		314.8 -> 82.9	3388			

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

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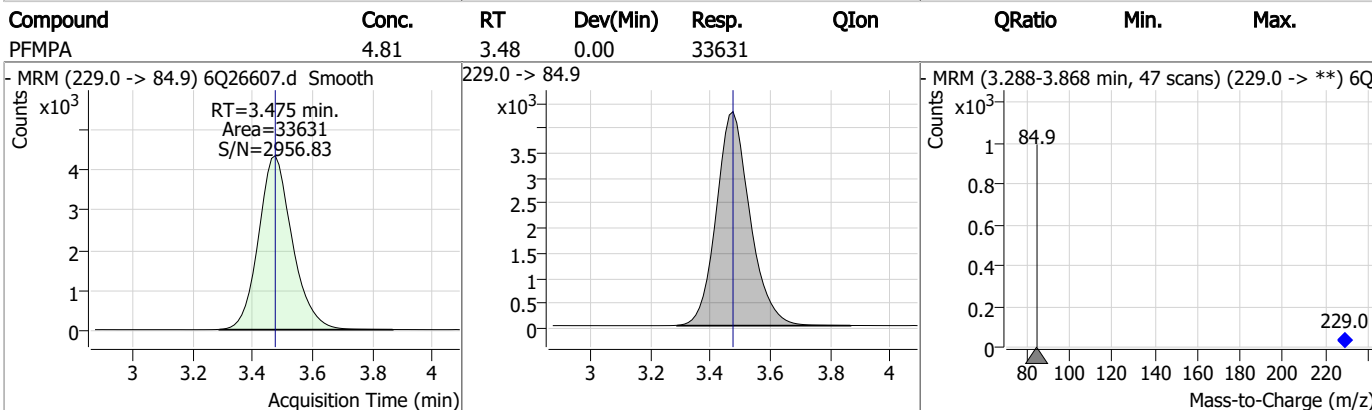
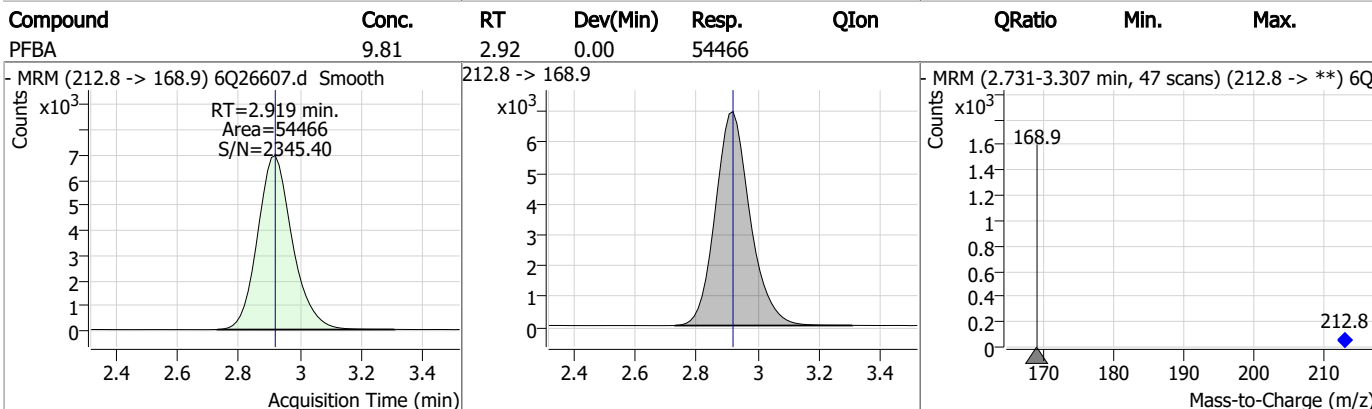
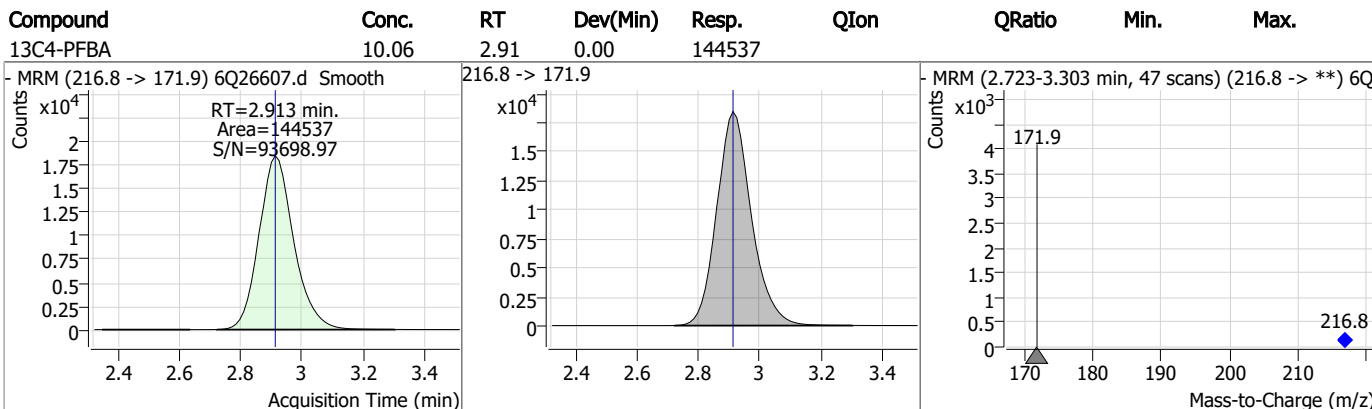
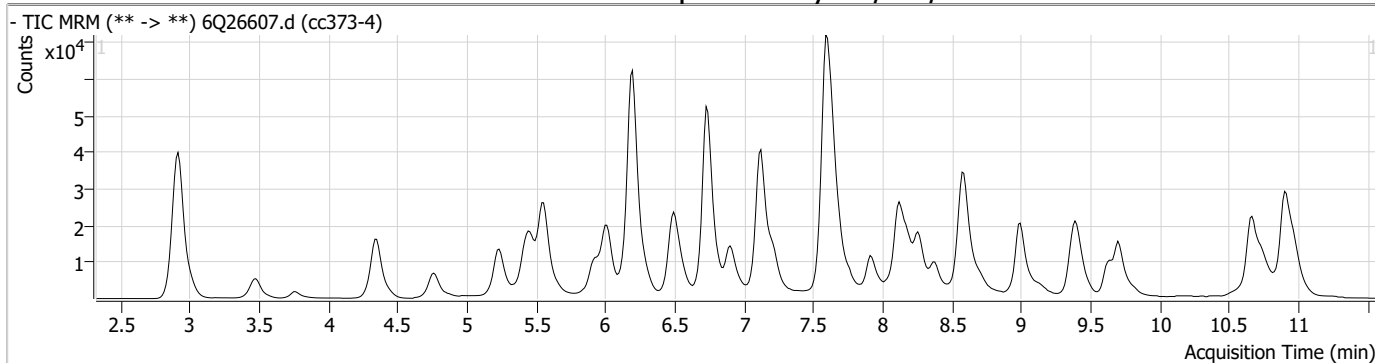
### Perfluorinated Compounds by LC/MS/MS

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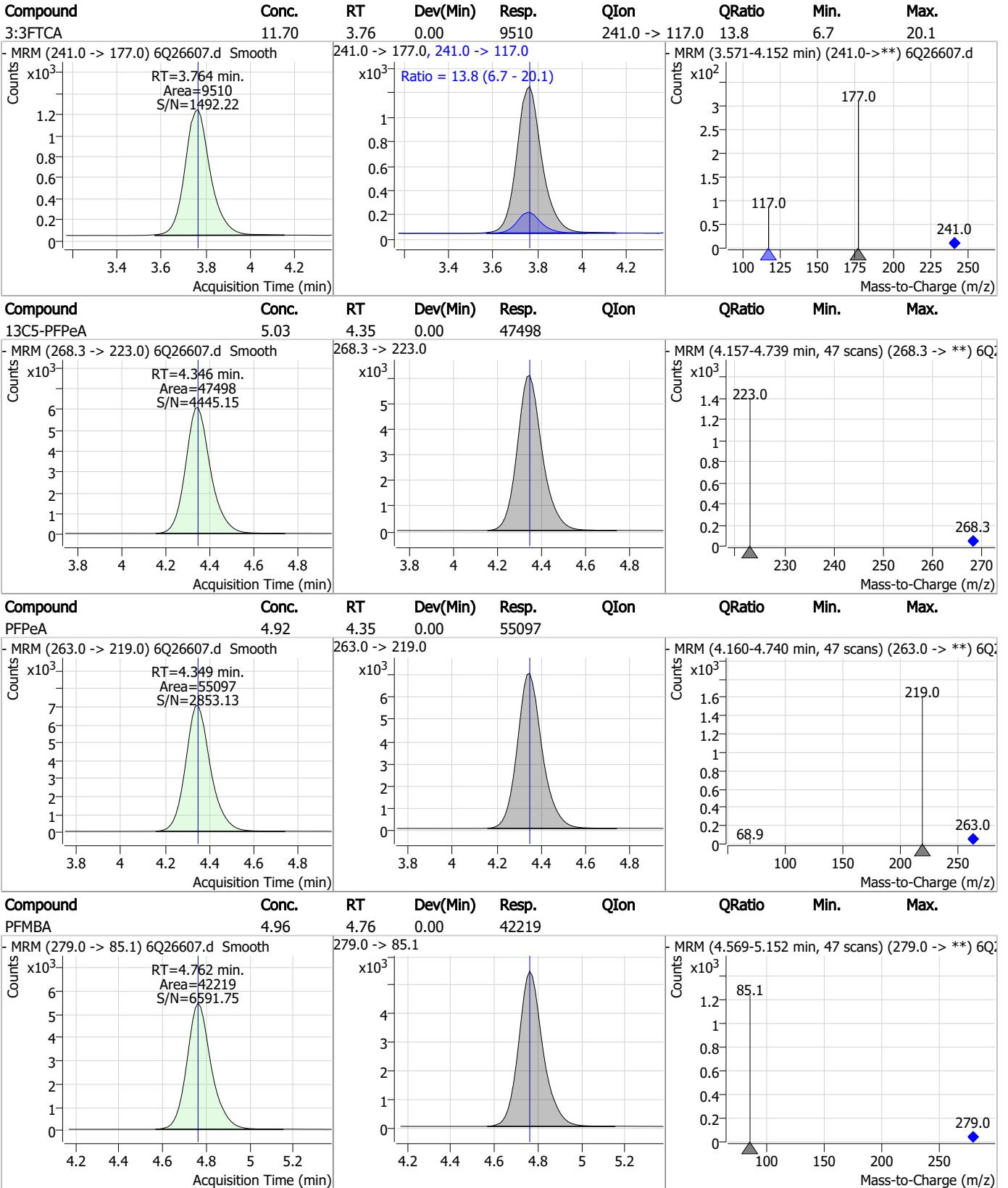
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### Perfluorinated Compounds by LC/MS/MS



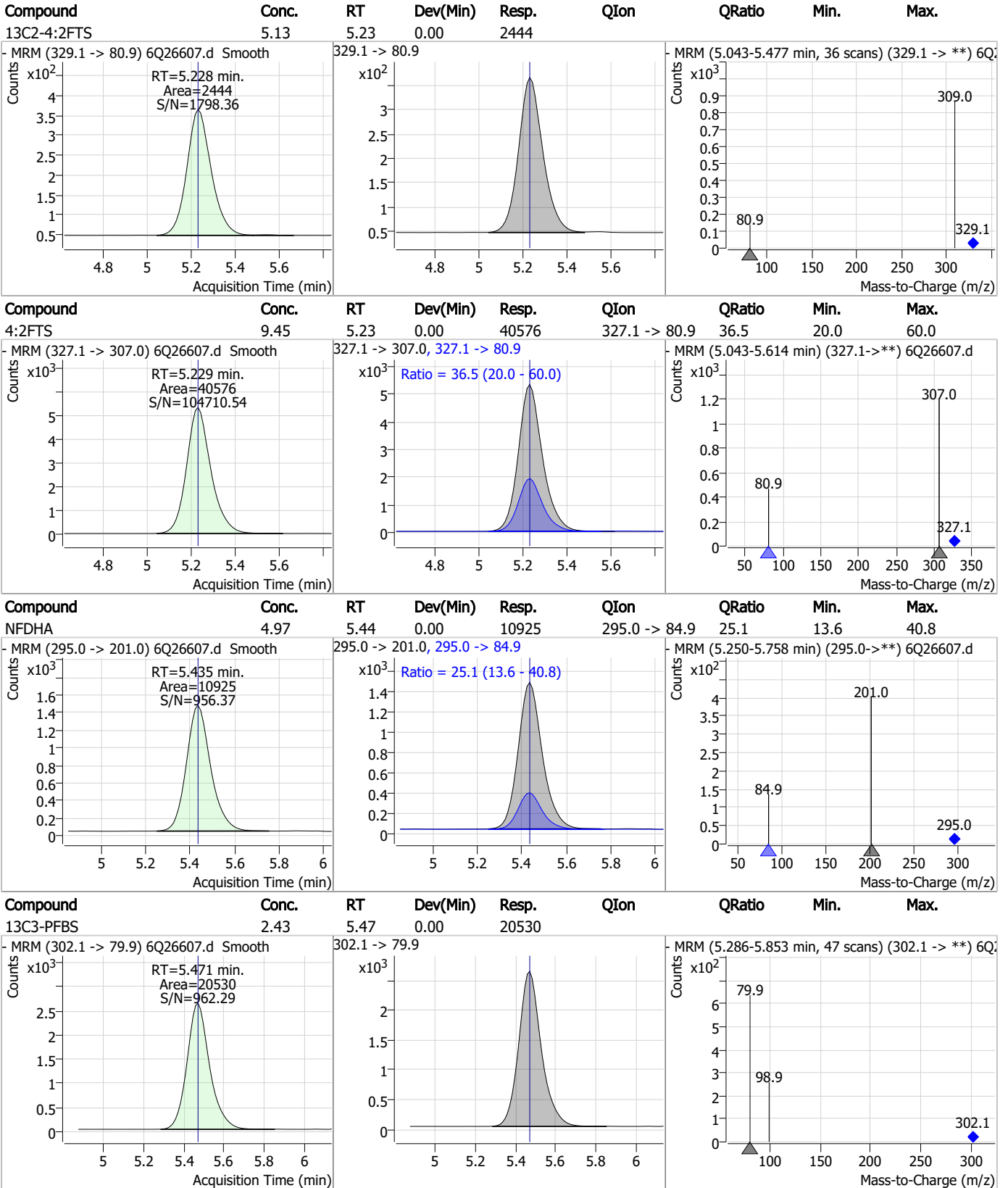
### Perfluorinated Compounds by LC/MS/MS



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### Perfluorinated Compounds by LC/MS/MS



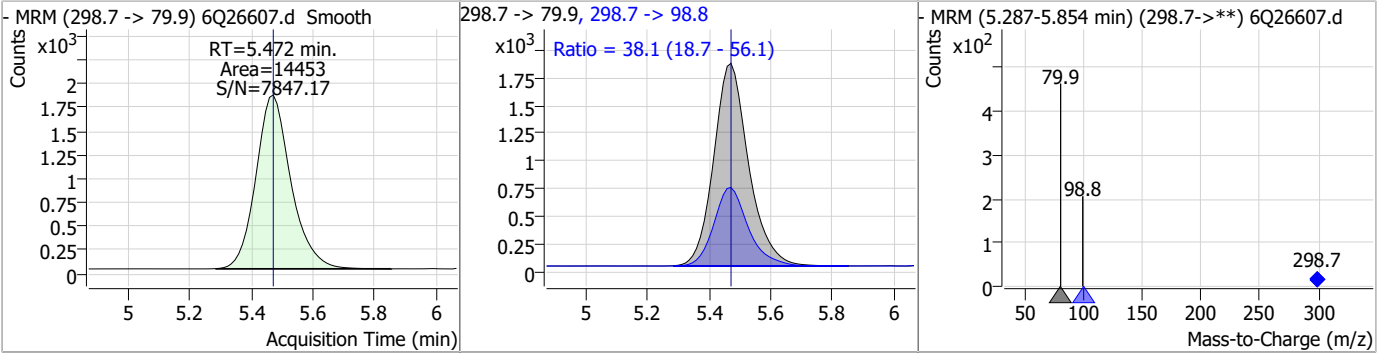
7.7.34  
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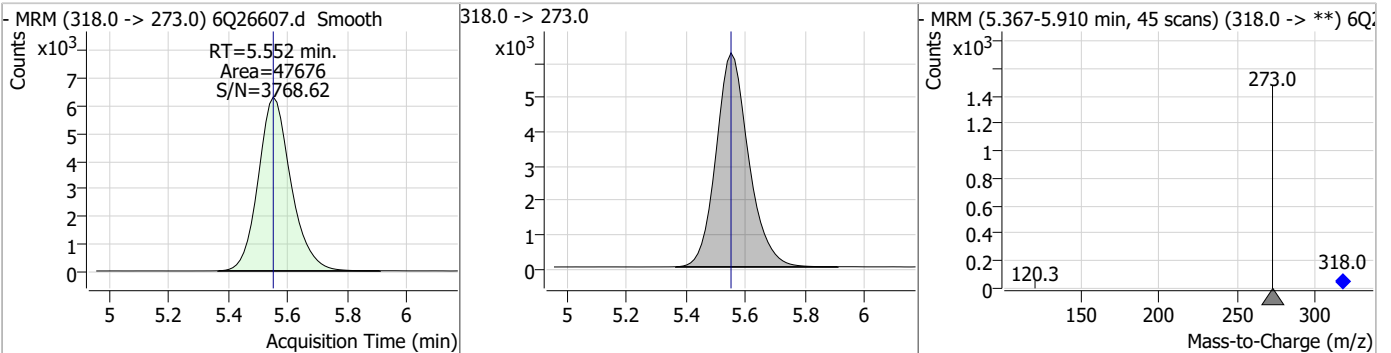


### Perfluorinated Compounds by LC/MS/MS

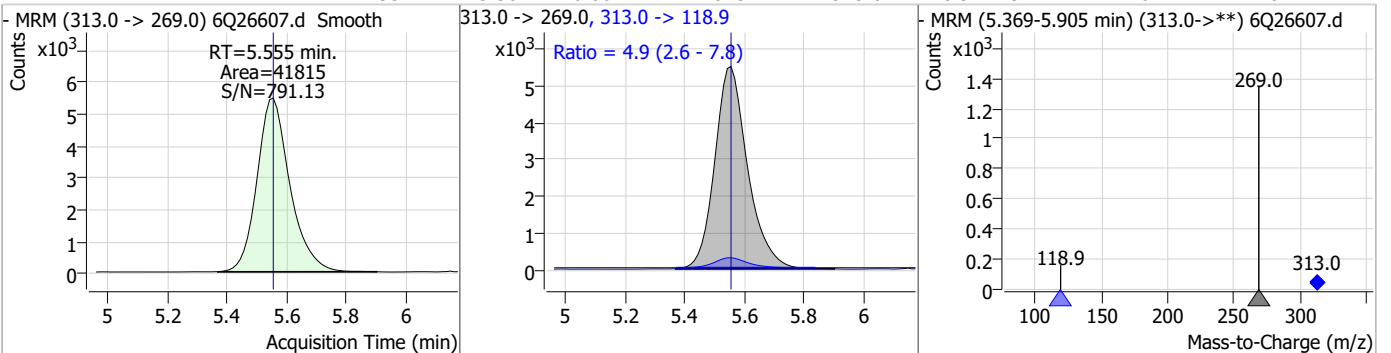
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBS	2.16	5.47	0.00	14453	298.7 -> 98.8	38.1	18.7	56.1



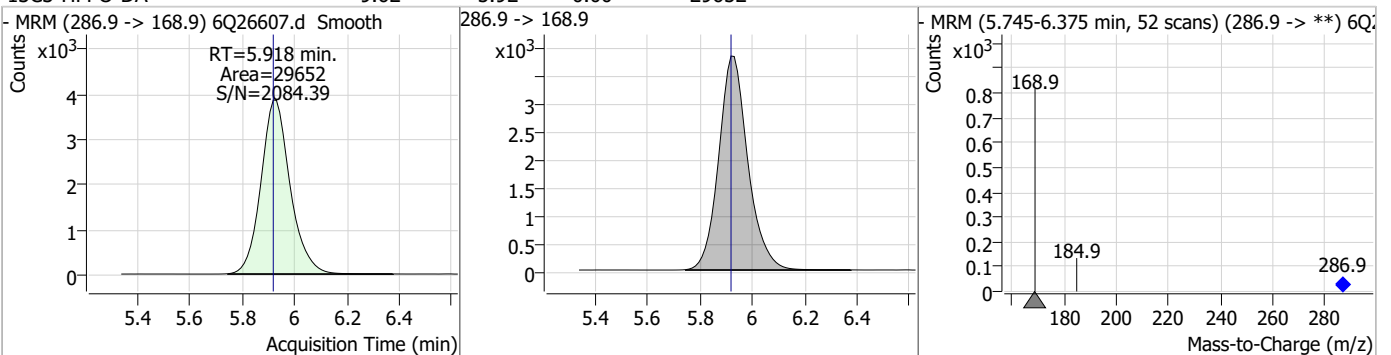
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFHxA	2.54	5.55	0.00	47676	318.0 -> 273.0	4.9	2.6	7.8



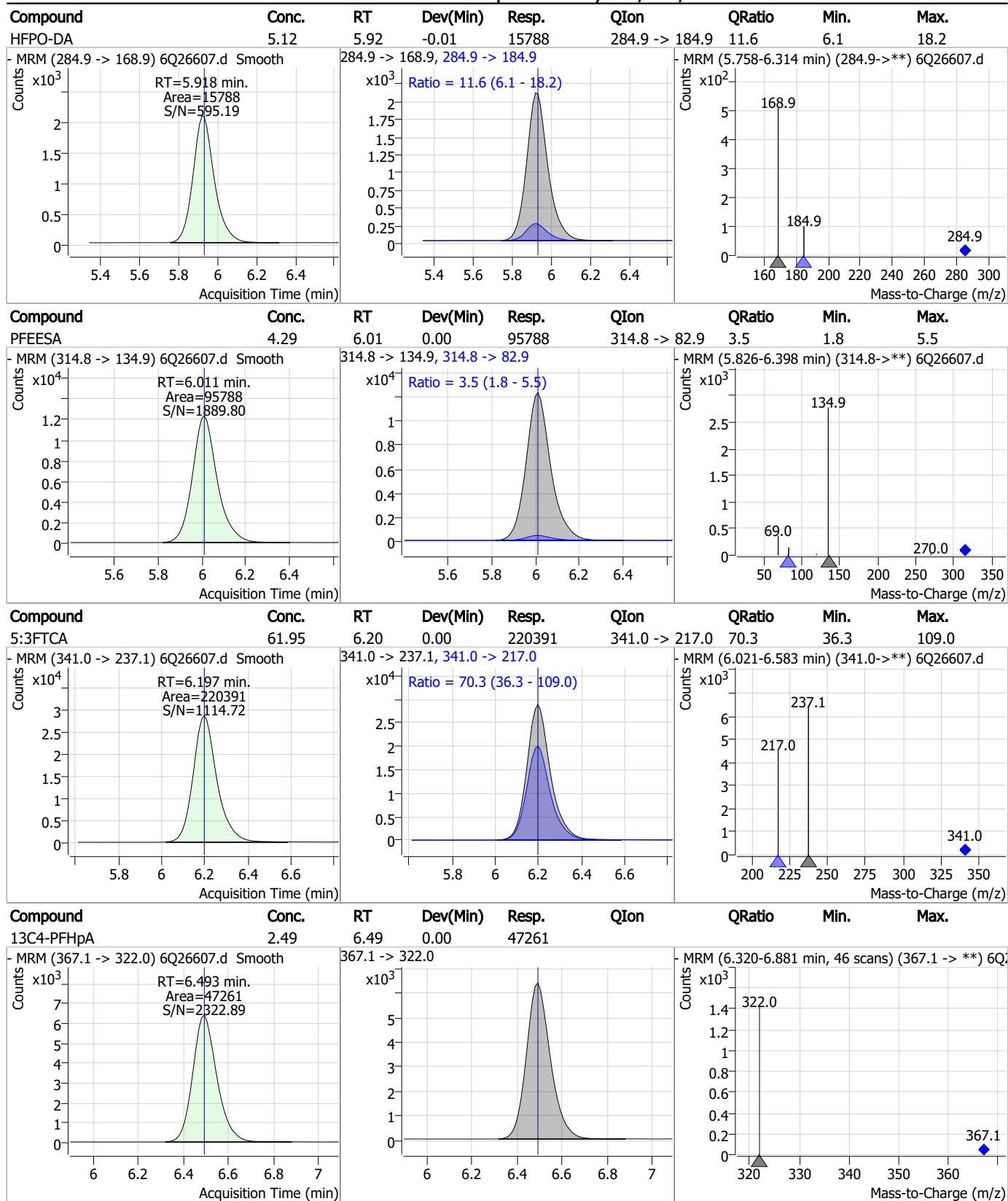
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxA	2.35	5.56	0.00	41815	313.0 -> 118.9	4.9	2.6	7.8



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-HFPO-DA	9.62	5.92	0.00	29652	286.9 -> 168.9	4.9	2.6	7.8



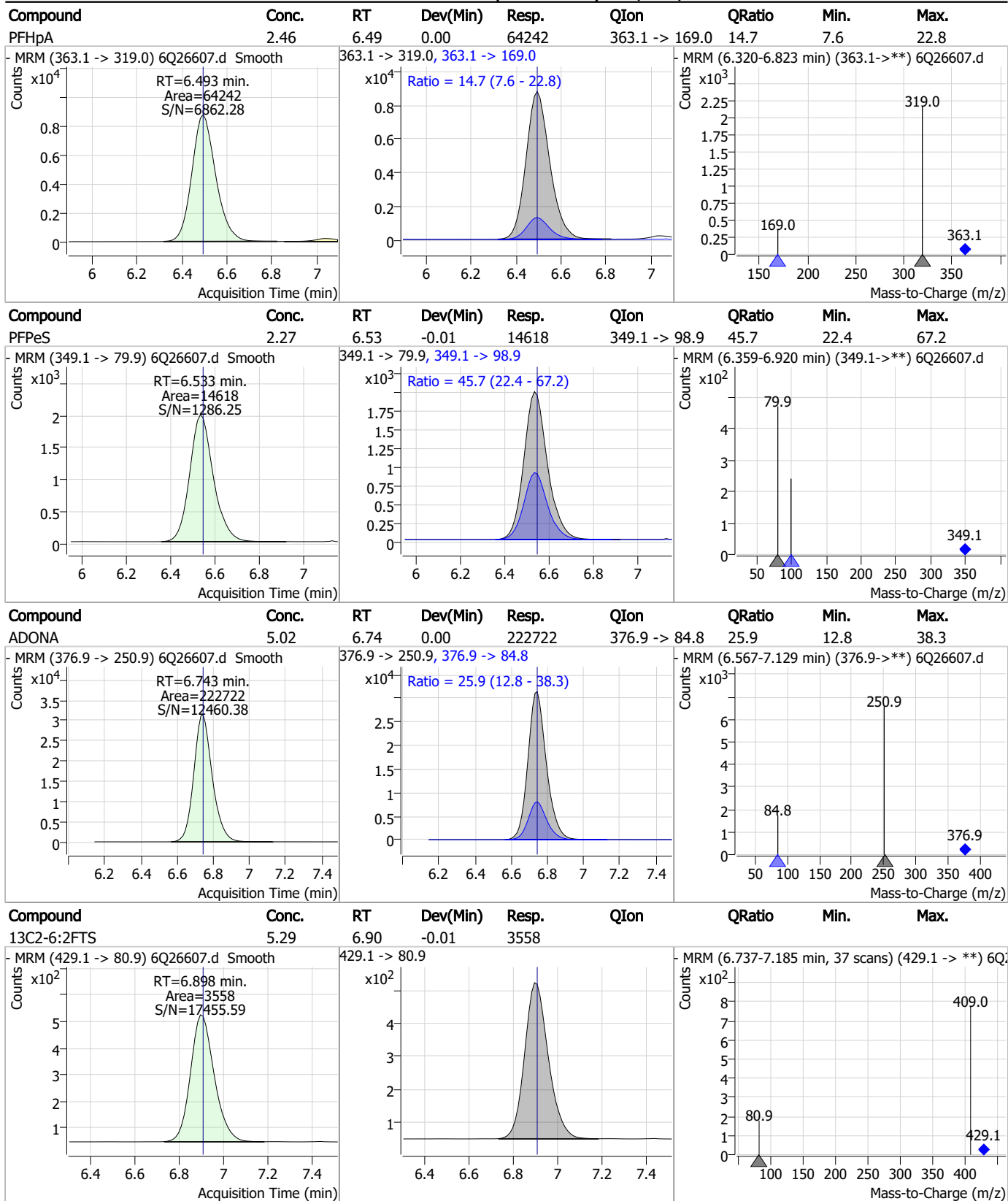
### Perfluorinated Compounds by LC/MS/MS



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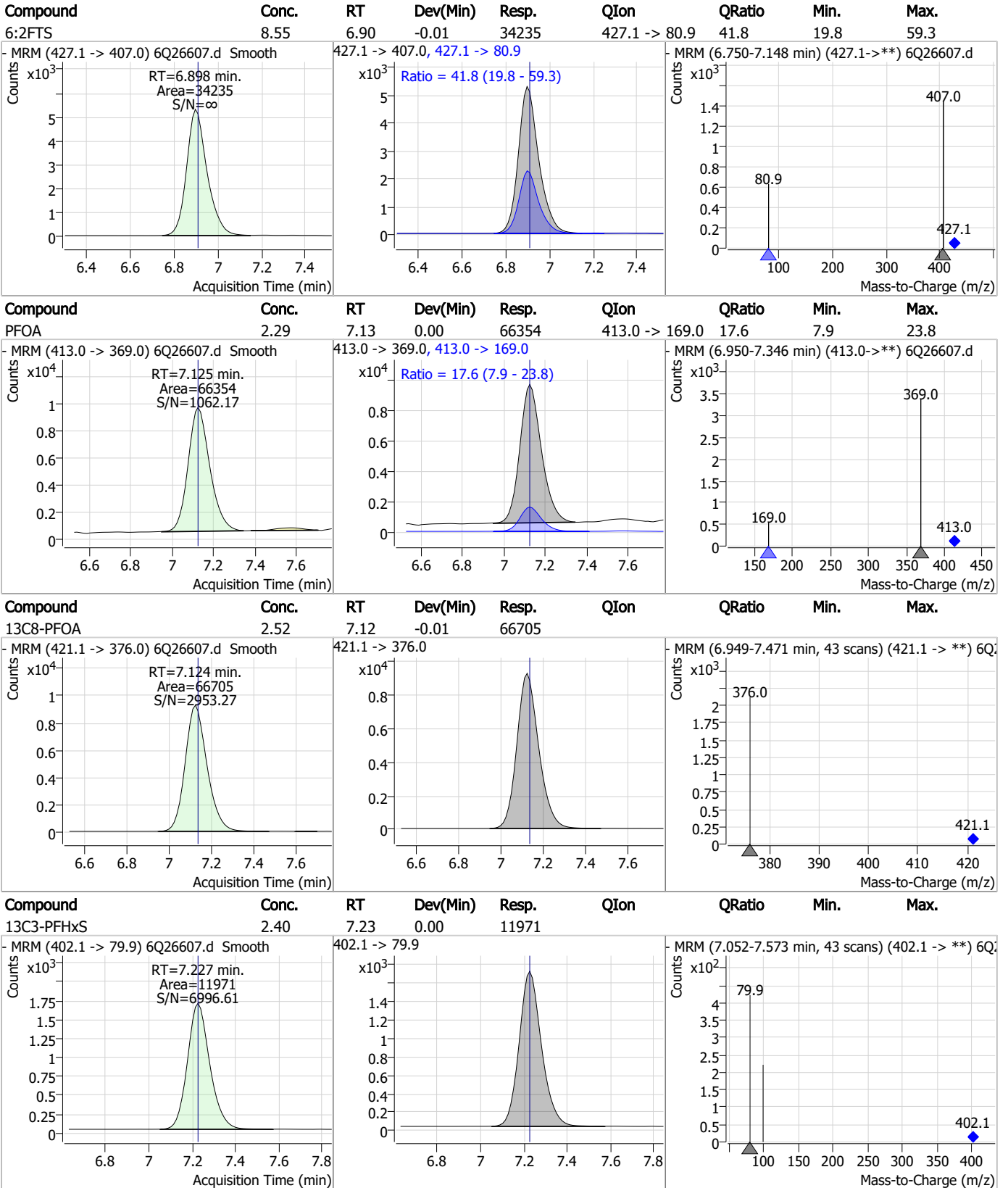
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### Perfluorinated Compounds by LC/MS/MS



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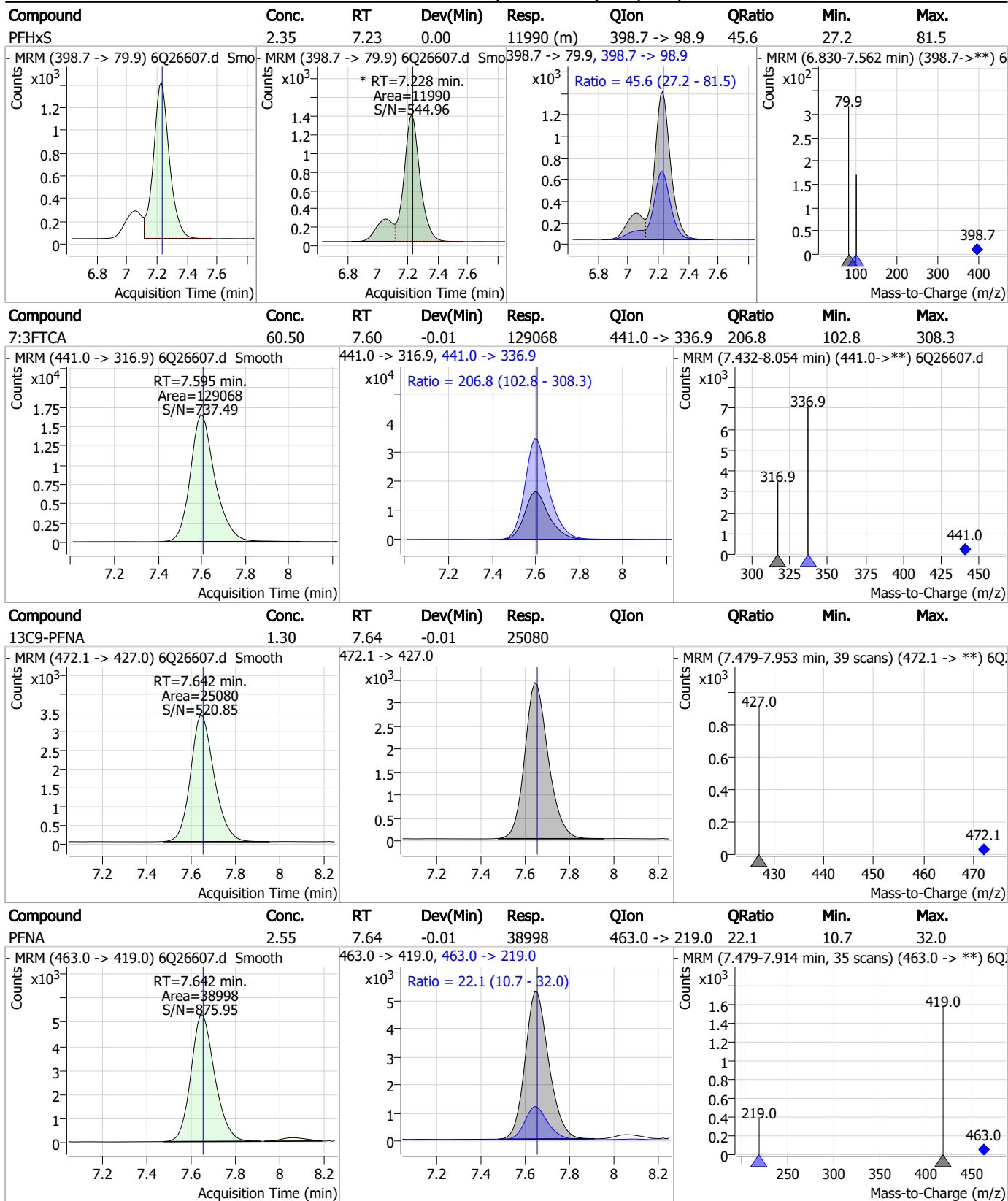
### Perfluorinated Compounds by LC/MS/MS



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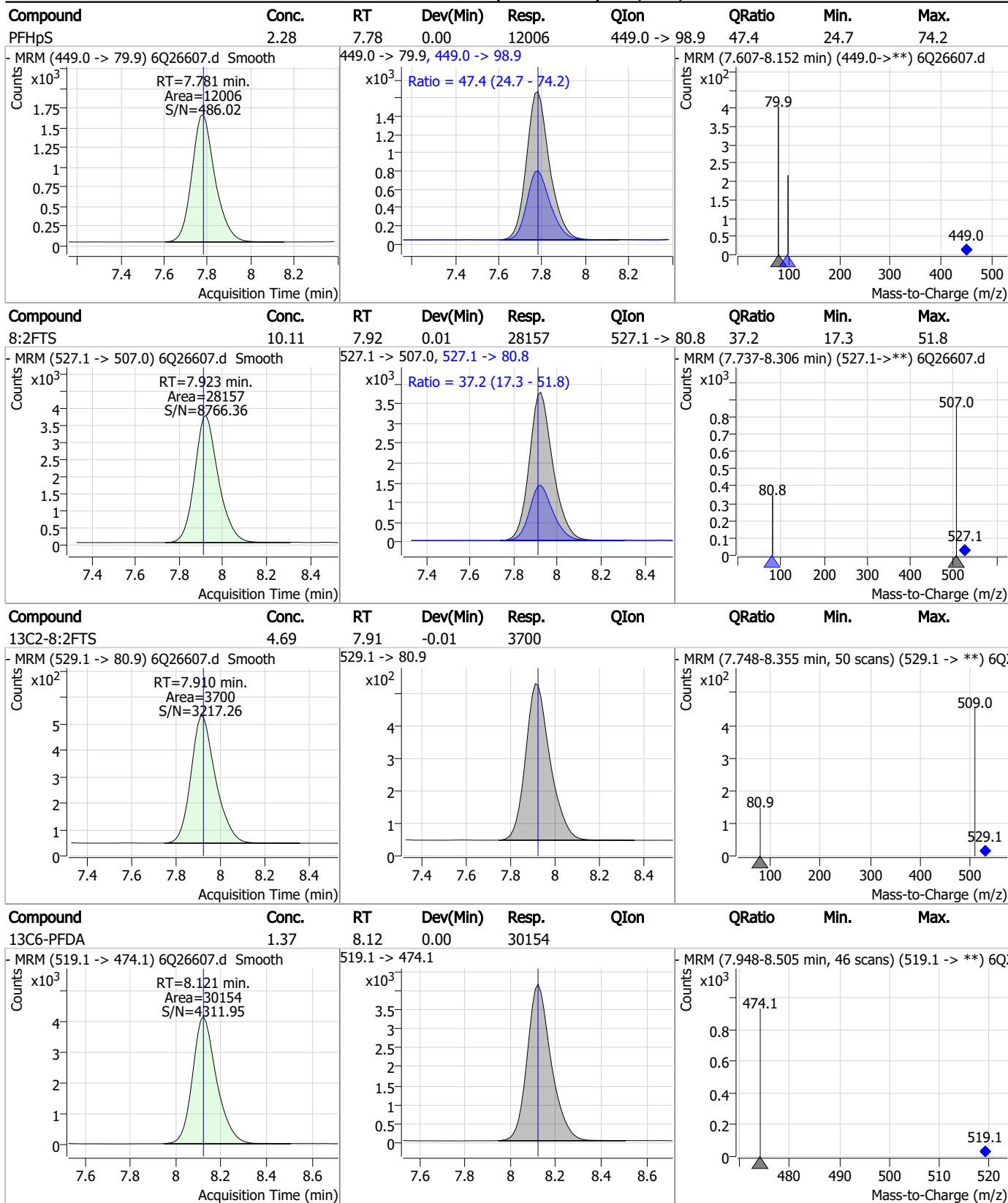
### Perfluorinated Compounds by LC/MS/MS



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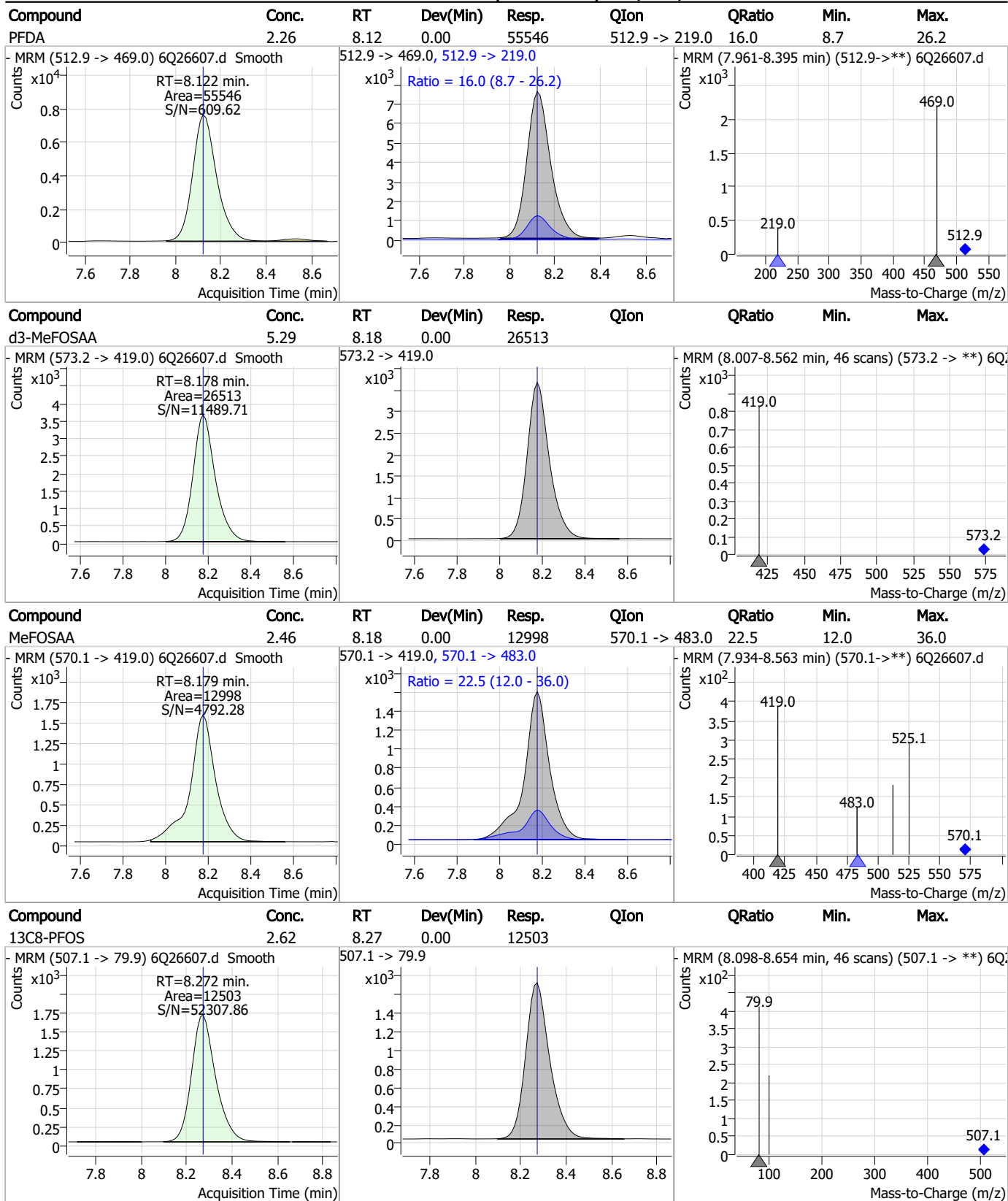
### Perfluorinated Compounds by LC/MS/MS



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### Perfluorinated Compounds by LC/MS/MS



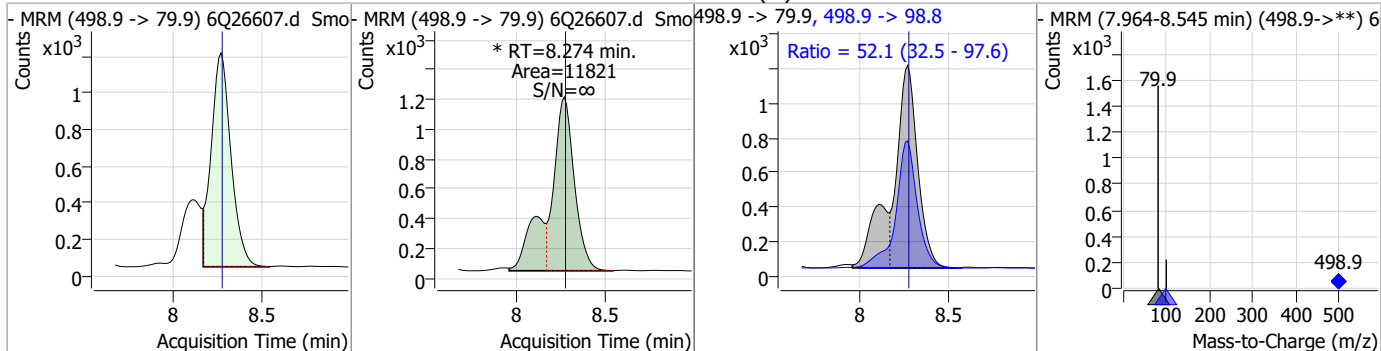
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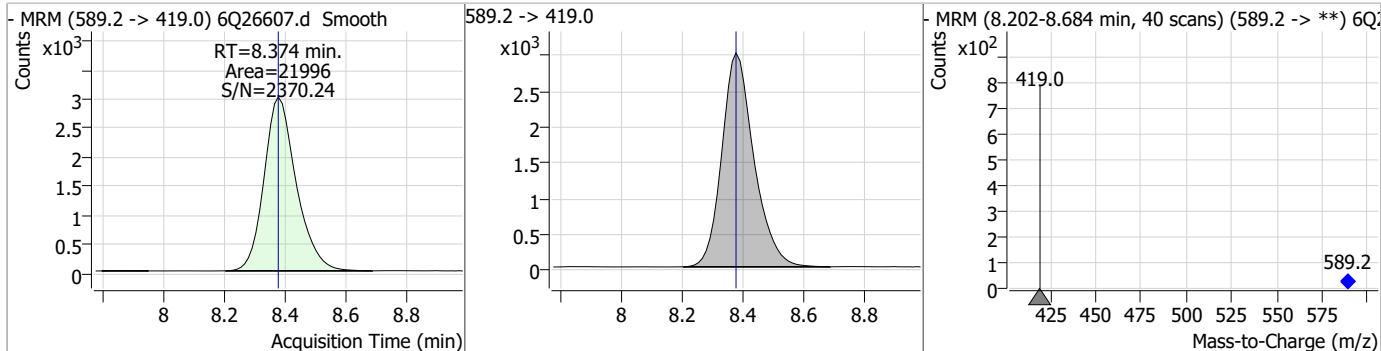


### Perfluorinated Compounds by LC/MS/MS

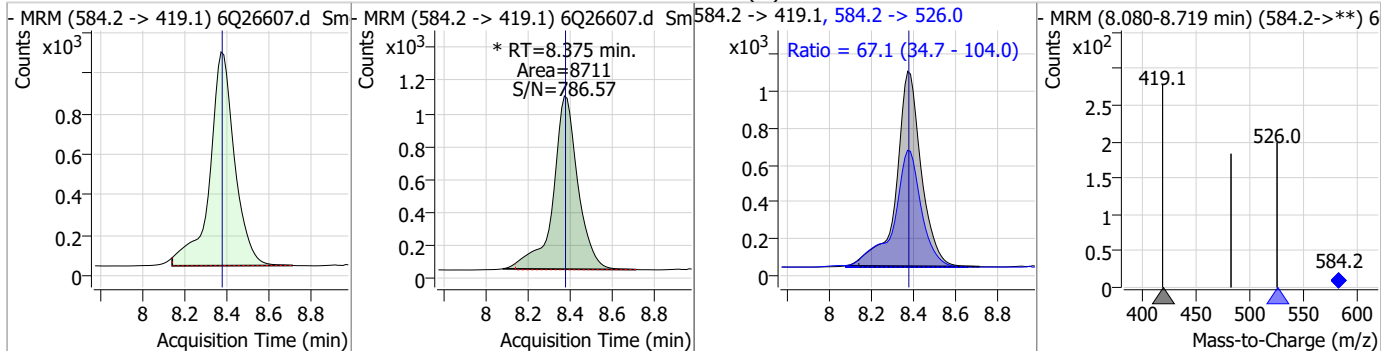
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOS	2.11	8.27	0.00	11821 (m)	498.9 -> 98.8	52.1	32.5	97.6



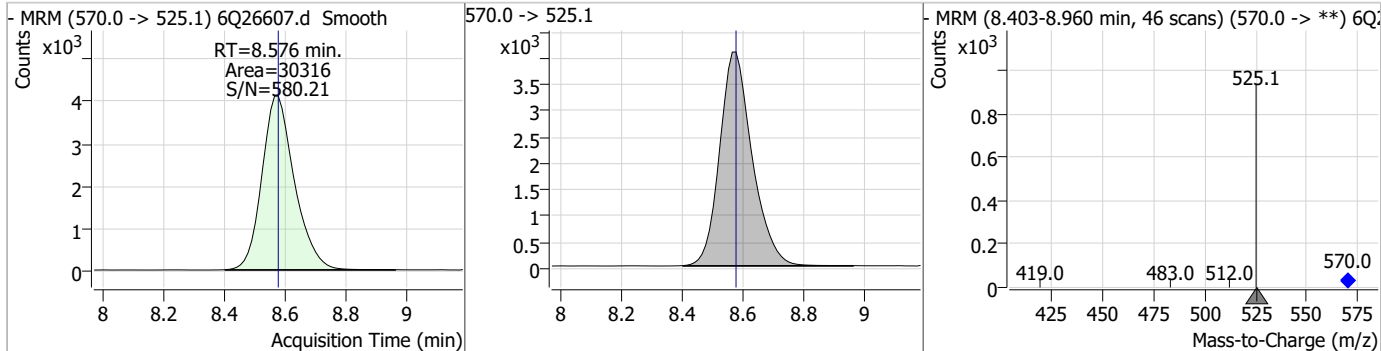
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSAA	5.27	8.37	0.00	21996				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSAA	2.38	8.38	0.00	8711 (m)	584.2 -> 526.0	67.1	34.7	104.0



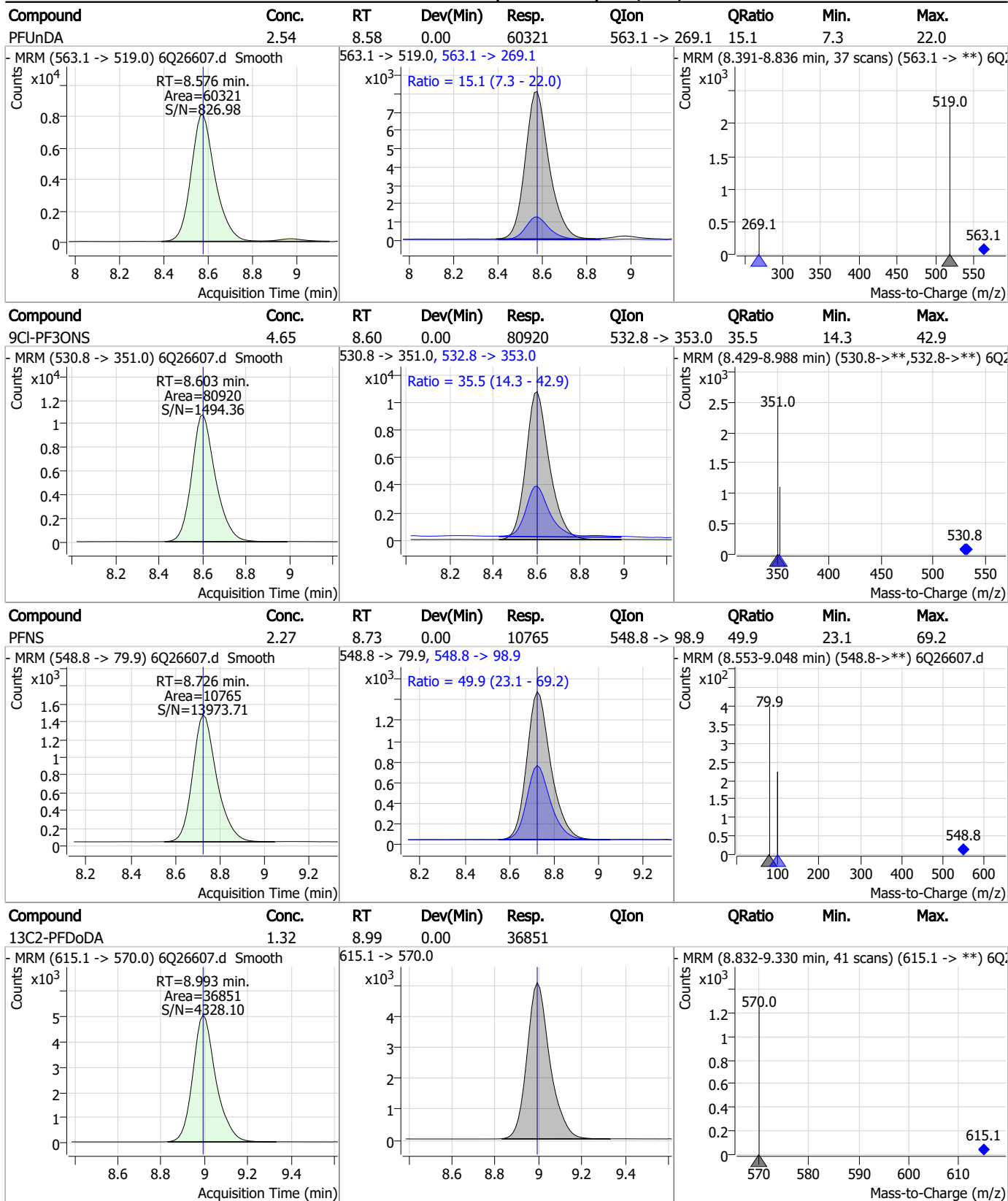
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C7-PFUnDA	1.27	8.58	0.00	30316				



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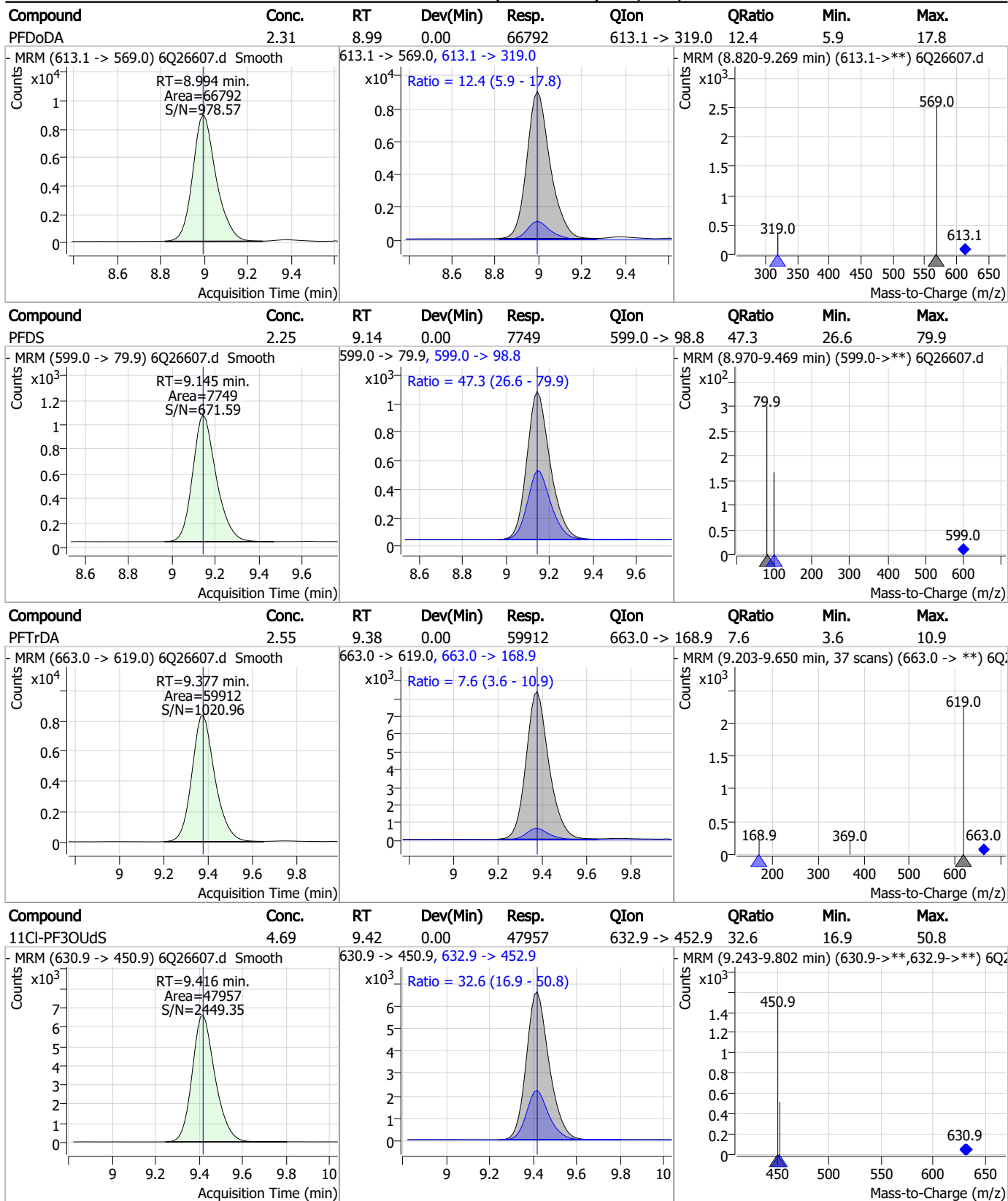
### Perfluorinated Compounds by LC/MS/MS



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### Perfluorinated Compounds by LC/MS/MS



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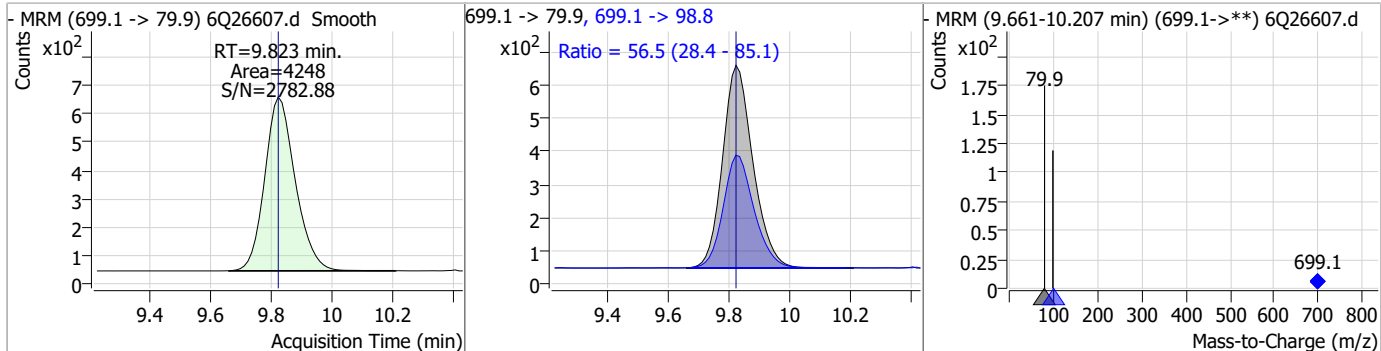
### Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-FOSA	2.59	9.64	0.00	25785				
FOSA	2.38	9.64	0.00	25349	498.1 -> 478.0	2.9	1.4	4.3
13C2-PFTeDA	1.39	9.71	0.00	14570				
PFTeDA	2.33	9.71	0.00	45501	713.1 -> 168.9	7.1	3.6	10.9

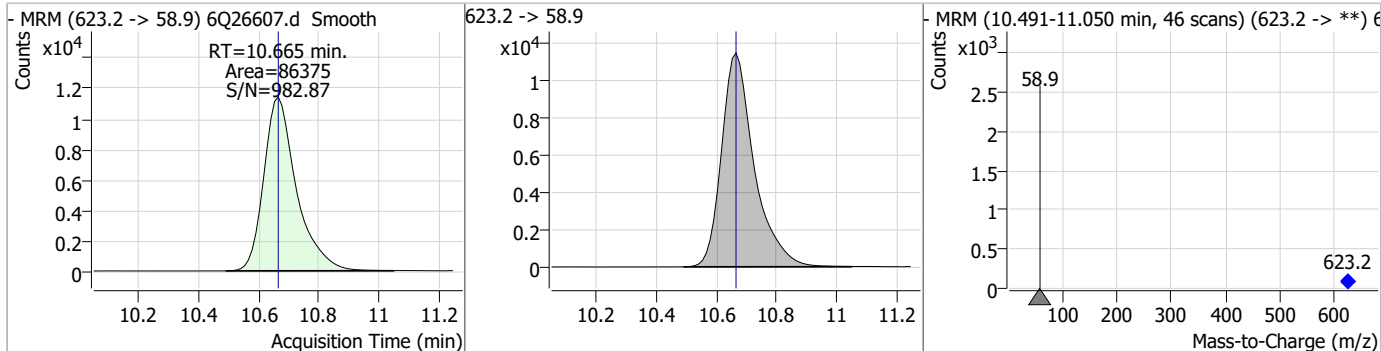
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### Perfluorinated Compounds by LC/MS/MS

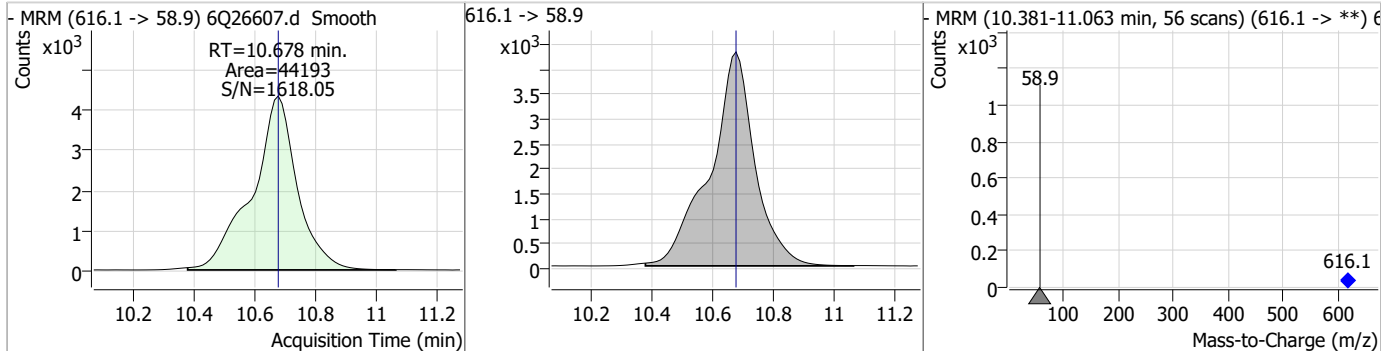
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoS	2.19	9.82	0.00	4248	699.1 -> 98.8	56.5	28.4	85.1



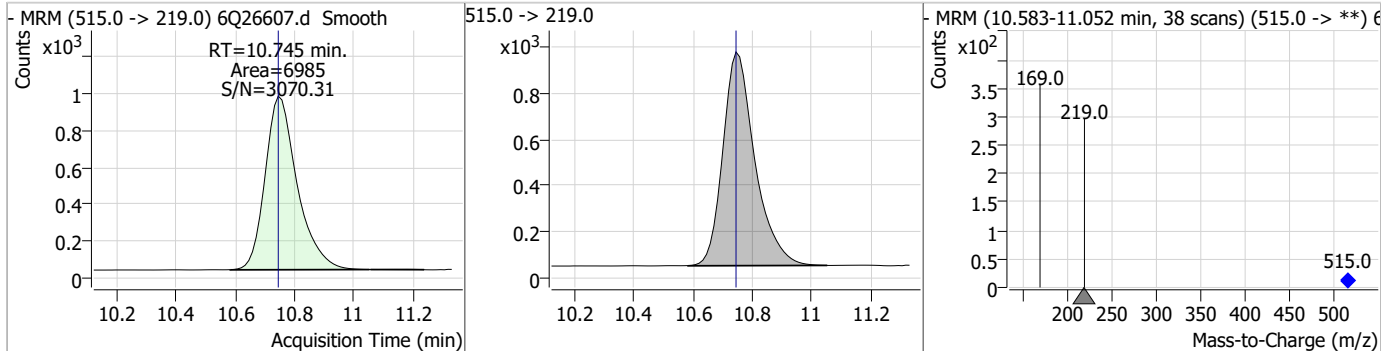
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d7-MeFOSE	24.71	10.67	0.00	86375				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSE	12.06	10.68	0.00	44193				

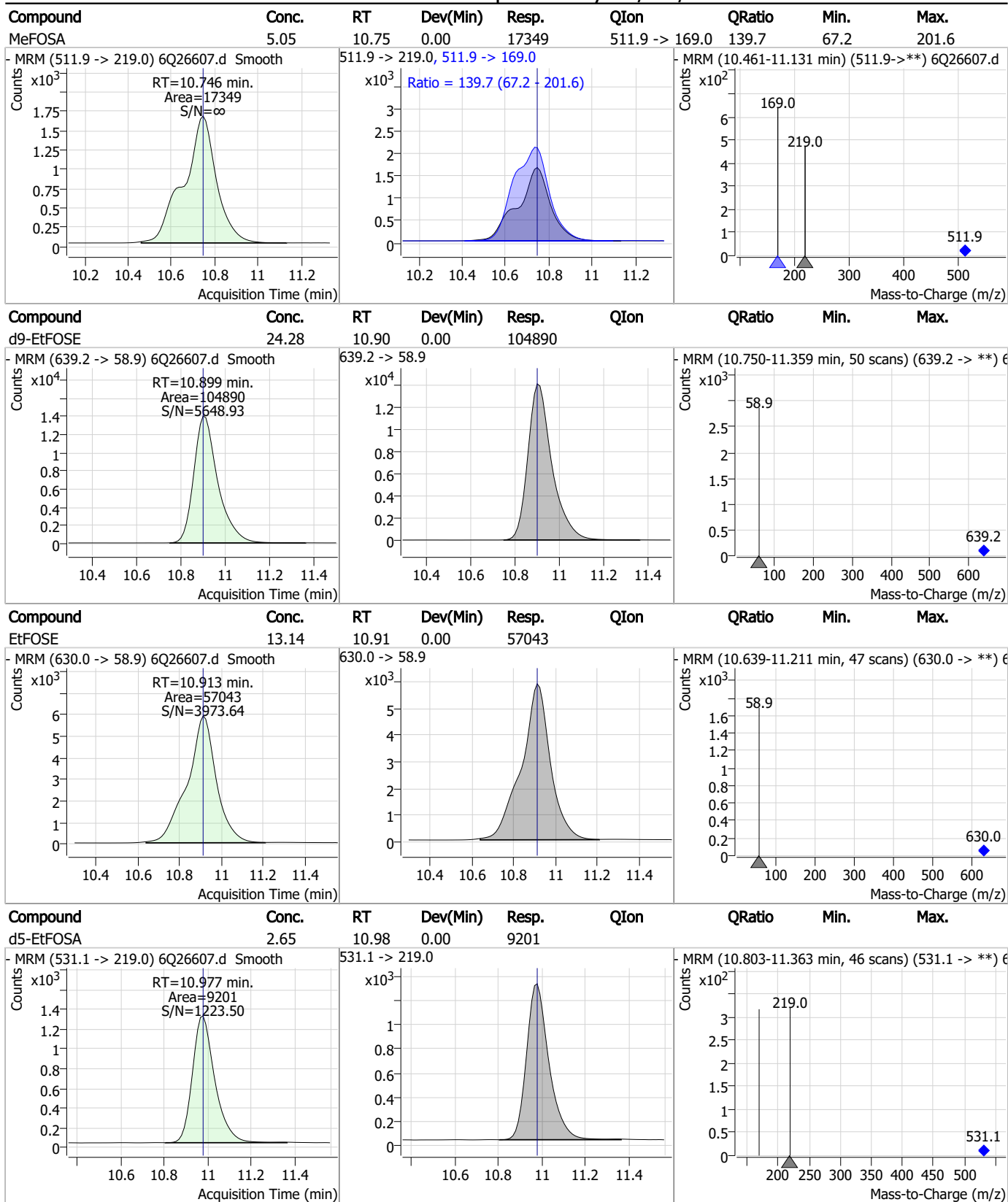


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSA	2.32	10.74	0.00	6985				



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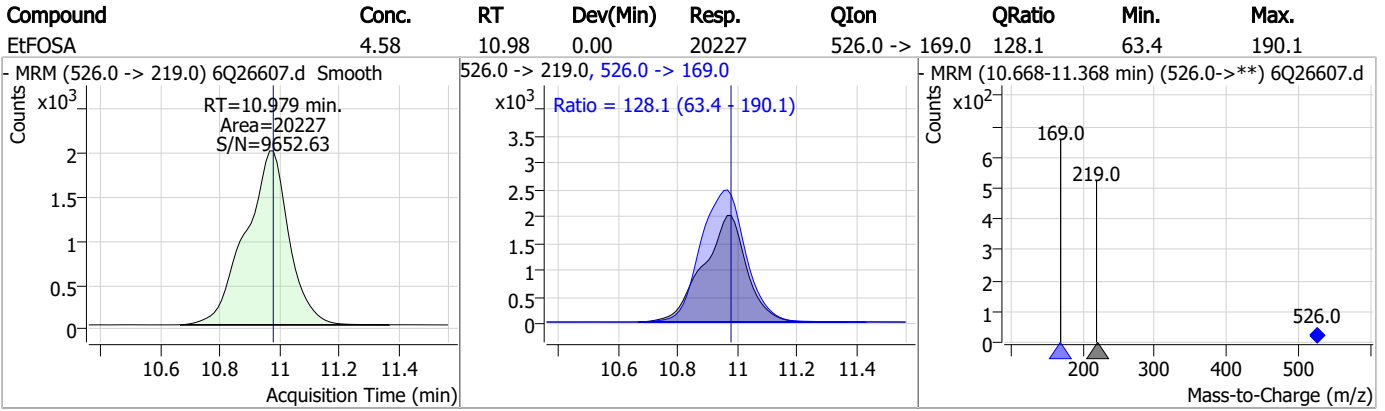
### Perfluorinated Compounds by LC/MS/MS



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### Perfluorinated Compounds by LC/MS/MS



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# Manual Integration Approval Summary

Sample Number: S6Q373-CC373      Method: EPA DRAFT 1633  
Lab FileID: 6Q26607.D      Analyst approved: 10/18/23 16:28 Anna Ludwig  
Injection Time: 10/18/23 02:18      Supervisor approved: 10/19/23 09:36 Natasha Gumtie

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		7.23	Split peak
Perfluorooctanesulfonic acid	1763-23-1		8.27	Split peak
EtFOSAA	2991-50-6		8.38	Split peak

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### Perfluorinated Compounds by LC/MS/MS

Data File : 6Q26619.d  
 Operator : marthav  
 Acq. Method : 1633full.m  
 Acq. Date-Time : 10/18/2023 5:10:52 AM  
 Sample Name : cc373-4  
 Vial : P1-A5  
 DA Method File : 1633\_101723\_S6Q373.quantmethod.xml  
 Batch Name : S6Q373.batch.bin  
 Sample Information : OP99081,S6Q373,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
<b>Internal Standards</b>					
M4-PFBA	2.913	216.8 -> 171.9	143902	10.00 µg/L	0.000
M5-PFPeA	4.346	268.3 -> 223.0	49146	5.00 µg/L	0.000
M5-PFHxA	5.552	318.0 -> 273.0	46087	2.50 µg/L	0.000
M4-PFHpA	6.493	367.1 -> 322.0	47286	2.50 µg/L	0.000
M8-PFOA	7.124	421.1 -> 376.0	64348	2.50 µg/L	-0.012
M9-PFNA	7.654	472.1 -> 427.0	23348	1.25 µg/L	0.000
M6-PFDA	8.121	519.1 -> 474.1	29729	1.25 µg/L	0.000
M7-PFUnDA	8.576	570.0 -> 525.1	30049	1.25 µg/L	0.000
M2-PFDoDA	8.993	615.1 -> 570.0	34082	1.25 µg/L	0.000
M2-PFTeDA	9.708	715.2 -> 670.0	13539	1.25 µg/L	0.000
M8-FOSA	9.642	506.1 -> 77.8	24937	2.50 µg/L	0.000
M3-PFBS	5.471	302.1 -> 79.9	20640	2.50 µg/L	0.000
M3-PFHxS	7.227	402.1 -> 79.9	11438	2.50 µg/L	0.000
M8-PFOS	8.272	507.1 -> 79.9	11422	2.50 µg/L	0.000
M2-4:2FTS	5.228	329.1 -> 80.9	2417	5.00 µg/L	0.000
M2-6:2FTS	6.910	429.1 -> 80.9	3347	5.00 µg/L	0.000
M2-8:2FTS	7.922	529.1 -> 80.9	3623	5.00 µg/L	0.000
M3-MeFOSAA	8.178	573.2 -> 419.0	22983	5.00 µg/L	0.000
M3-HFPO-DA	5.918	286.9 -> 168.9	30774	10.00 µg/L	0.000
M5-EtFOSAA	8.374	589.2 -> 419.0	21358	5.00 µg/L	0.000
M7-MeFOSE	10.665	623.2 -> 58.9	90158	25.00 µg/L	0.000
M9-EtFOSE	10.899	639.2 -> 58.9	107995	25.00 µg/L	0.000
M5-EtFOSA	10.977	531.1 -> 219.0	8406	2.50 µg/L	0.000
M3-MeFOSA	10.745	515.0 -> 219.0	7177	2.50 µg/L	0.000
13C4-PFOS	8.273	502.8 -> 79.9	10813	2.50 µg/L	0.000
13C3-PFBA	2.916	216.0 -> 172.0	59058	5.00 µg/L	0.000
18O2-PFHxS	7.226	403.0 -> 83.9	7540	2.50 µg/L	0.000
13C4-PFOA	7.125	417.1 -> 372.0	71850	2.50 µg/L	0.000
13C2-PFDA	8.122	515.1 -> 470.1	24518	1.25 µg/L	0.000
13C5-PFNA	7.654	468.0 -> 423.0	22417	1.25 µg/L	0.000
13C2-PFHxA	5.553	315.1 -> 270.0	45833	2.50 µg/L	0.000
<b>System Monitoring Compounds</b>					
13C2-4:2FTS	5.228	329.1 -> 80.9	2417	5.13 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 102.6%		
13C2-6:2FTS	6.910	429.1 -> 80.9	3347	5.03 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 100.7%		
13C2-8:2FTS	7.922	529.1 -> 80.9	3623	4.65 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 93.0%		
13C2-PFDoDA	8.993	615.1 -> 570.0	34082	1.29 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 102.9%		
13C2-PFTeDA	9.708	715.2 -> 670.0	13539	1.36 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 109.0%		
13C3-PFBS	5.471	302.1 -> 79.9	20640	2.47 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 98.9%		
13C3-PFHxS	7.227	402.1 -> 79.9	11438	2.32 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 = 92.7%		
13C4-PFBA	2.913	216.8 -> 171.9	143902	9.89 µg/L	0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%		Recovery = 98.9%		
13C4-PFHpA	6.493	367.1 -> 322.0	47286	2.54 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 101.8%		
13C5-PFHxA	5.552	318.0 -> 273.0	46087	2.51 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 100.4%		
13C5-PFPeA	4.346	268.3 -> 223.0	49146	5.32 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 106.5%		
13C6-PFDA	8.121	519.1 -> 474.1	29729	1.42 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 113.8%		
13C7-PFUnDA	8.576	570.0 -> 525.1	30049	1.33 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 106.2%		
13C8-FOSA	9.642	506.1 -> 77.8	24937	2.51 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 100.3%		
13C8-PFOA	7.124	421.1 -> 376.0	64348	2.50 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 100.1%		
13C8-PFOS	8.272	507.1 -> 79.9	11422	2.39 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 95.6%		
13C9-PFNA	7.654	472.1 -> 427.0	23348	1.21 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 96.9%		
d3-MeFOSAA	8.178	573.2 -> 419.0	22983	4.58 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 91.6%		
13C3-HFPO-DA	5.918	286.9 -> 168.9	30774	10.21 µg/L	0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%		Recovery = 102.1%		
d3-MeFOSA	10.745	515.0 -> 219.0	7177	2.39 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 95.5%		
d5-EtFOSAA	8.374	589.2 -> 419.0	21358	5.11 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 102.3%		
d7-MeFOSE	10.665	623.2 -> 58.9	90158	25.79 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%		Recovery = 103.2%		
d9-EtFOSE	10.899	639.2 -> 58.9	107995	24.99 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%		Recovery = 100.0%		
d5-EtFOSA	10.977	531.1 -> 219.0	8406	2.42 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 96.6%		
<b>Target Compounds</b>					<b>QValue</b>
4:2FTS	5.229	327.1 -> 307.0	39427	9.28 µg/L	97
		327.1 -> 80.9	14995		
6:2FTS	6.911	427.1 -> 407.0	33744	8.95 µg/L	98
		427.1 -> 80.9	13002		
8:2FTS	7.923	527.1 -> 507.0	26253	9.63 µg/L	94
		527.1 -> 80.8	9920		
EtFOSAA	8.389	584.2 -> 419.1	8748	2.47 µg/L	95
		584.2 -> 526.0	5725	m	
FOSA	9.645	498.1 -> 77.9	24566	2.39 µg/L	100
		498.1 -> 478.0	698		
MeFOSAA	8.179	570.1 -> 419.0	13205	2.88 µg/L	93
		570.1 -> 483.0	2731		
PFBA	2.919	212.8 -> 168.9	53868	9.74 µg/L	100
PFBS	5.472	298.7 -> 79.9	14663	2.18 µg/L	97
		298.7 -> 98.8	5206		
PFDA	8.122	512.9 -> 469.0	52723	2.17 µg/L	100
		512.9 -> 219.0	9103		
PFDODA	8.994	613.1 -> 569.0	65262	2.44 µg/L	99
		613.1 -> 319.0	8029		
PFDS	9.145	599.0 -> 79.9	7611	2.42 µg/L	97

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Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
PFHpA	6.493	599.0 -> 98.8	3884	2.52	µg/L	97
		363.1 -> 319.0	65831			
PFHpS	7.781	363.1 -> 169.0	9152	2.49	µg/L	94
		449.0 -> 79.9	11930			
PFHxA	5.555	449.0 -> 98.9	5387	2.44	µg/L	100
		313.0 -> 269.0	41919			
PFHxS	7.228	313.0 -> 118.9	2149	2.18	µg/L	95
		398.7 -> 79.9	10614			
PFNA	7.655	398.7 -> 98.9	5384	2.65	µg/L	97
		463.0 -> 419.0	37664			
PFNS	8.726	463.0 -> 219.0	8553	2.40	µg/L	88
		548.8 -> 79.9	10430			
PFOA	7.125	548.8 -> 98.9	5611	2.48	µg/L	99
		413.0 -> 369.0	69197			
PFOS	8.274	413.0 -> 169.0	11267	2.25	µg/L	83
		498.9 -> 79.9	11524			
PFPeA	4.349	498.9 -> 98.8	5929	4.66	µg/L	100
		263.0 -> 219.0	54056			
PFPeS	6.533	349.1 -> 79.9	15024	2.44	µg/L	99
		349.1 -> 98.9	6792			
PFTeDA	9.708	713.1 -> 669.0	43618	2.41	µg/L	100
		713.1 -> 168.9	3233			
PFTrDA	9.377	663.0 -> 619.0	58237	2.68	µg/L	100
		663.0 -> 168.9	4325			
PFUnDA	8.576	563.1 -> 519.0	57953	2.46	µg/L	100
		563.1 -> 269.1	8586			
11CI-PF3OUdS	9.416	630.9 -> 450.9	49009	4.62	µg/L	96
		632.9 -> 452.9	15500			
9CI-PF3ONS	8.603	530.8 -> 351.0	83918	4.65	µg/L	96
		532.8 -> 353.0	25840			
ADONA	6.743	376.9 -> 250.9	217007	4.71	µg/L	98
		376.9 -> 84.8	57607			
HFPO-DA	5.918	284.9 -> 168.9	15465	4.83	µg/L	100
		284.9 -> 184.9	1886			
3:3FTCA	3.764	241.0 -> 177.0	9675	11.95	µg/L	97
		241.0 -> 117.0	1398			
5:3FTCA	6.197	341.0 -> 237.1	212552	61.81	µg/L	100
		341.0 -> 217.0	155030			
7:3FTCA	7.607	441.0 -> 316.9	130822	63.44	µg/L	91
		441.0 -> 336.9	250827			
EtFOSA	10.979	526.0 -> 219.0	19649	4.87	µg/L	98
		526.0 -> 169.0	25427			
EtFOSE	10.913	630.0 -> 58.9	53561	11.98	µg/L	100
		511.9 -> 219.0	17941			
MeFOSA	10.746	511.9 -> 169.0	24344	5.08	µg/L	99
		616.1 -> 58.9	44713			
MeFOSE	10.678	699.1 -> 79.9	4433	11.68	µg/L	100
		699.1 -> 98.8	2200			
PFDoDS	9.823	295.0 -> 201.0	10545	2.51	µg/L	90
		295.0 -> 84.9	2998			
NFDHA	5.435	279.0 -> 85.1	41936	4.96	µg/L	98
		229.0 -> 84.9	34021			
PFMBA	4.762	314.8 -> 134.9	97508	4.70	µg/L	100
		314.8 -> 82.9	3477			
PFMPA	3.475			4.52	µg/L	100
PFEESA	6.011			4.52	µg/L	100

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

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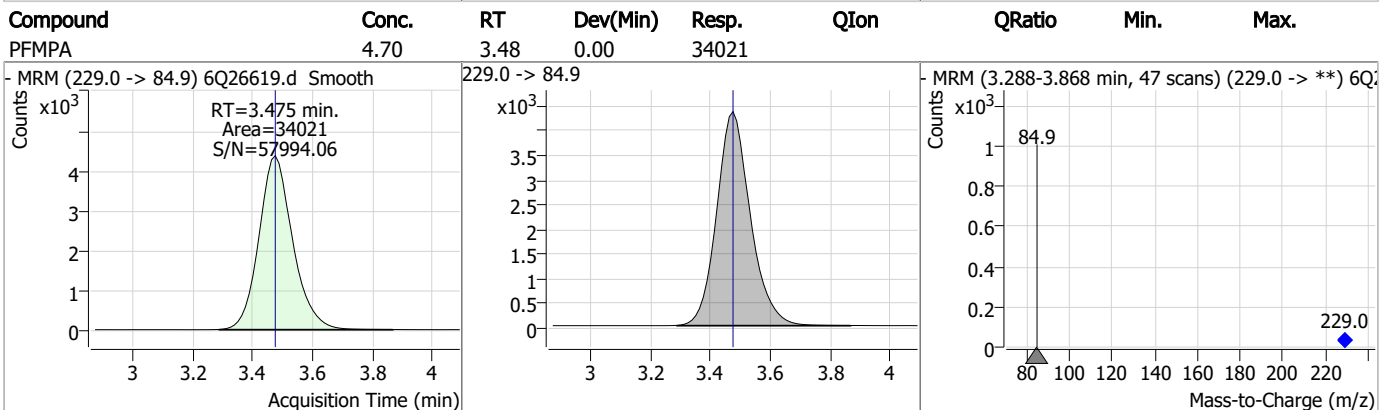
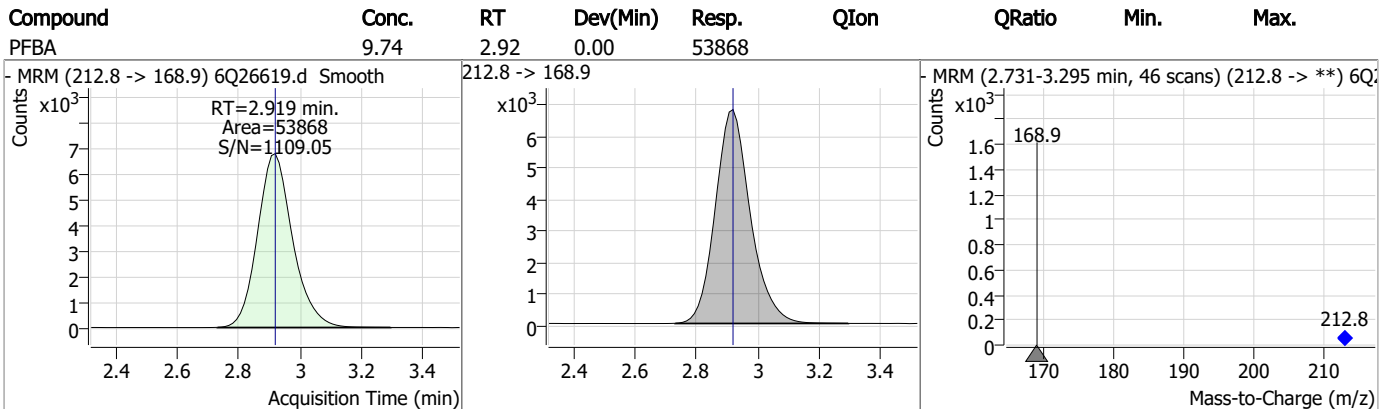
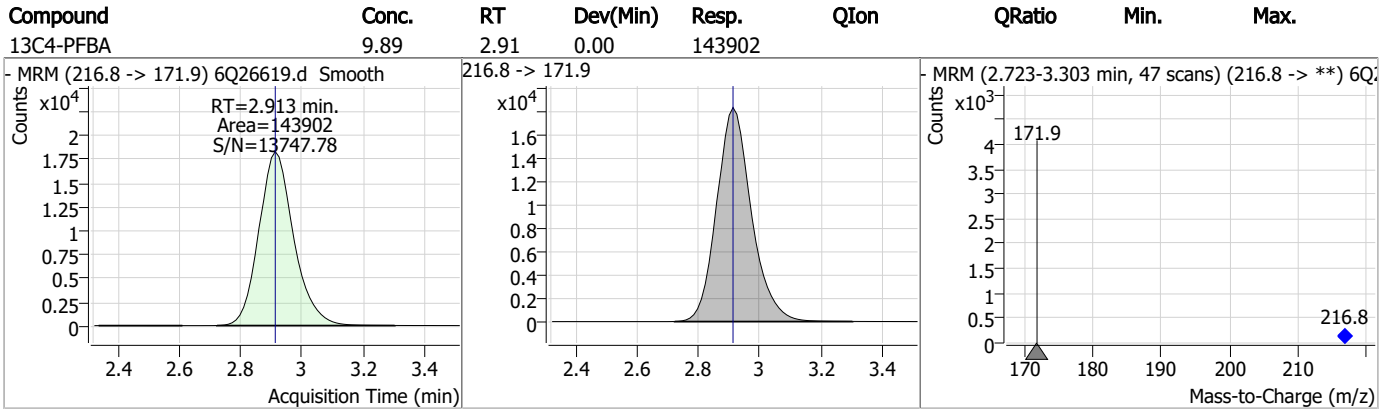
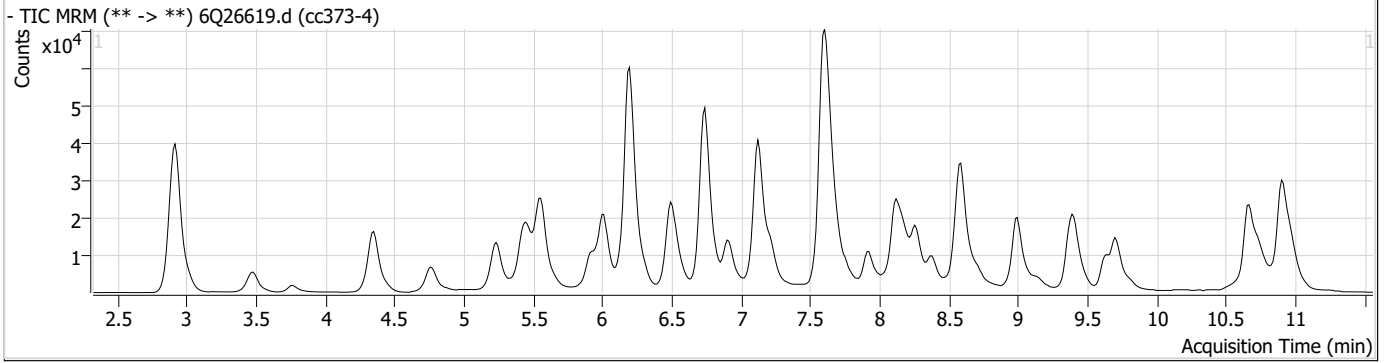
### Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
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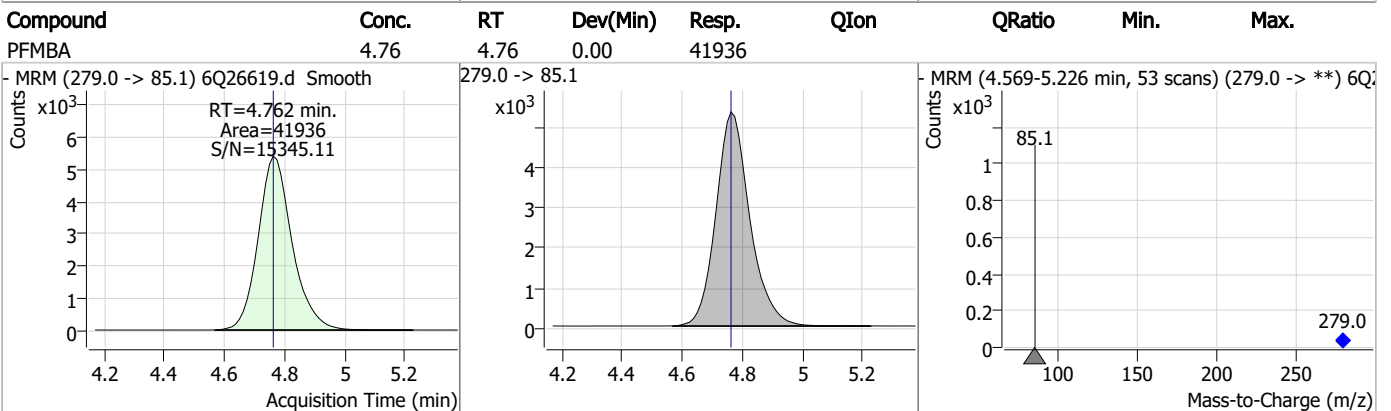
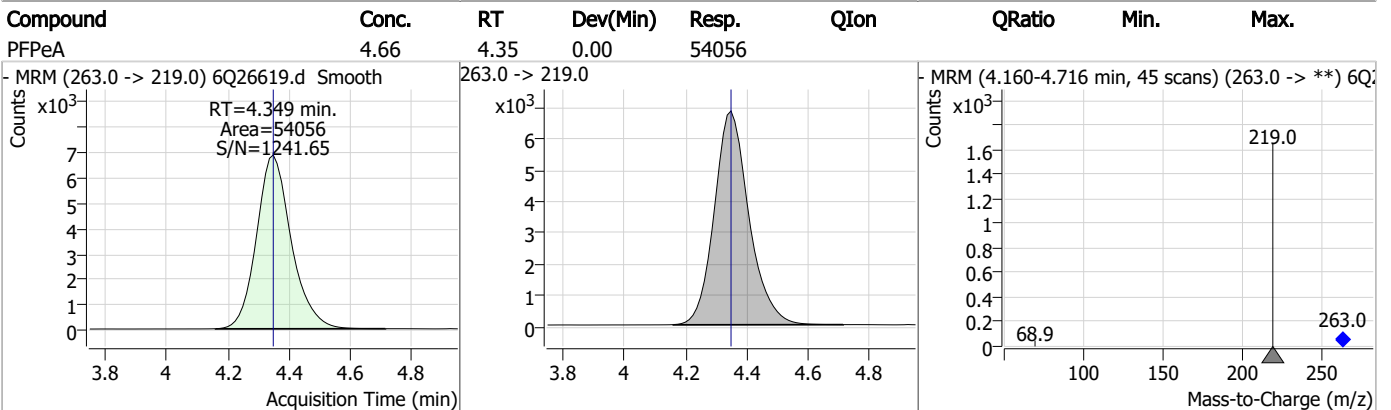
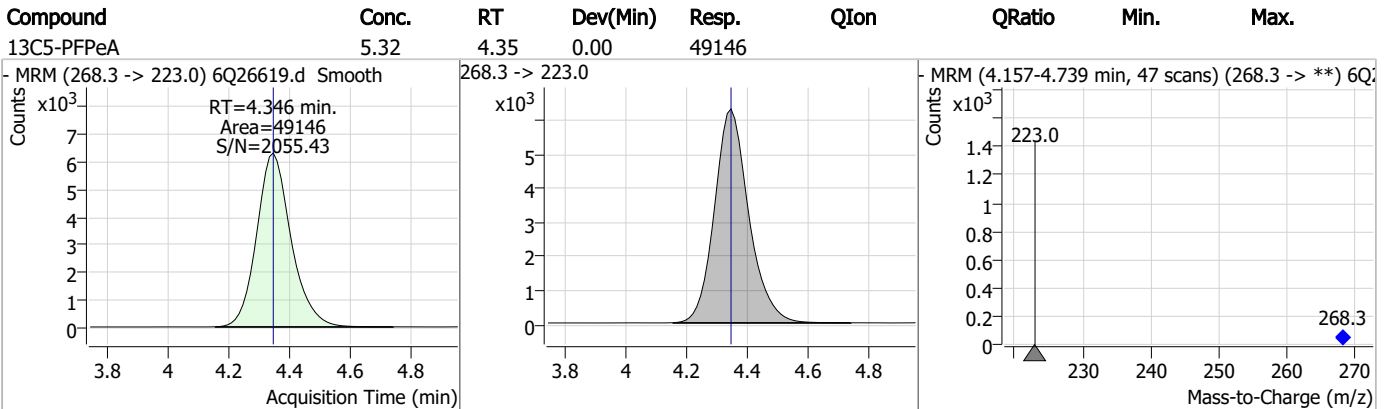
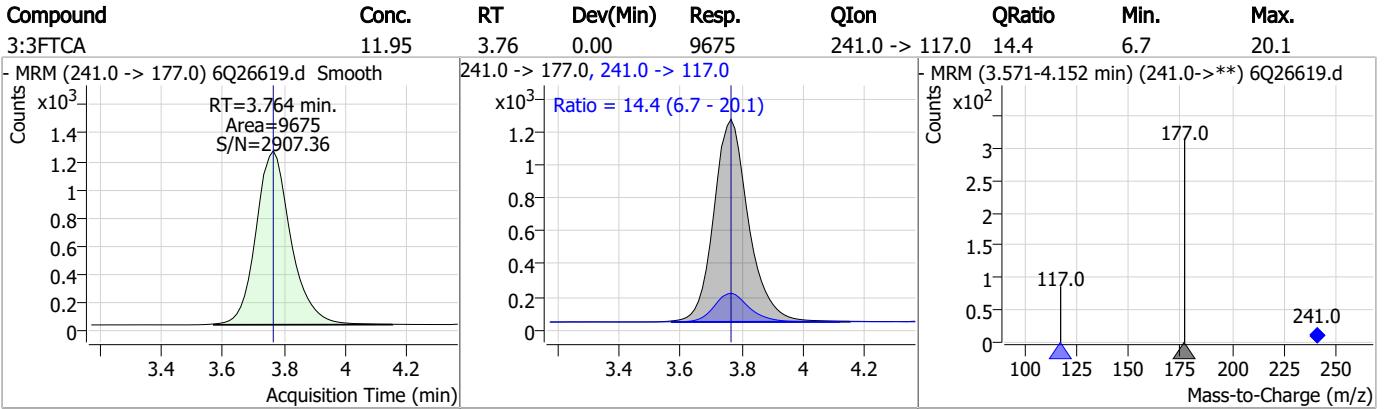
7.7.35

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### Perfluorinated Compounds by LC/MS/MS

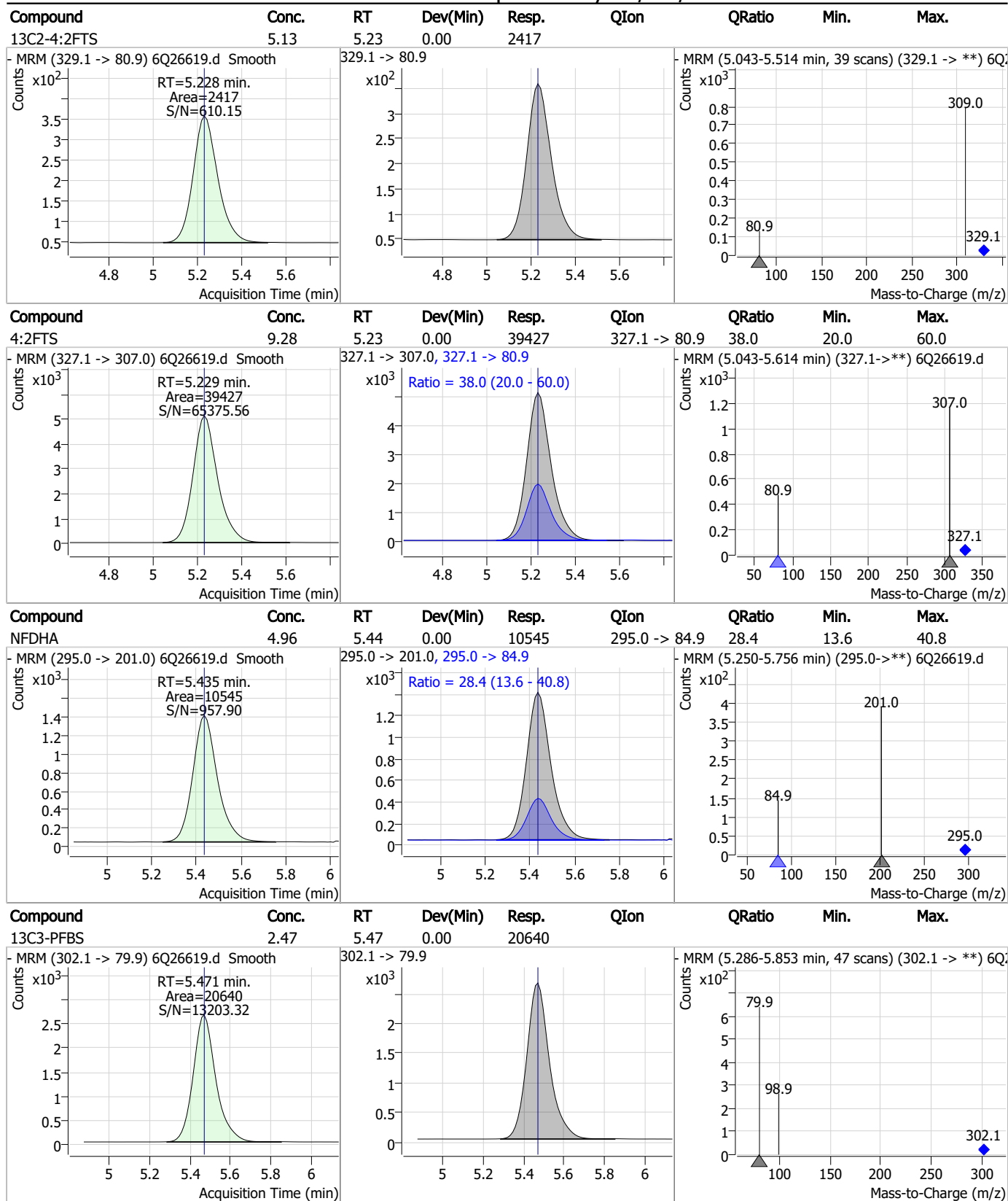


### Perfluorinated Compounds by LC/MS/MS



7.7.35  
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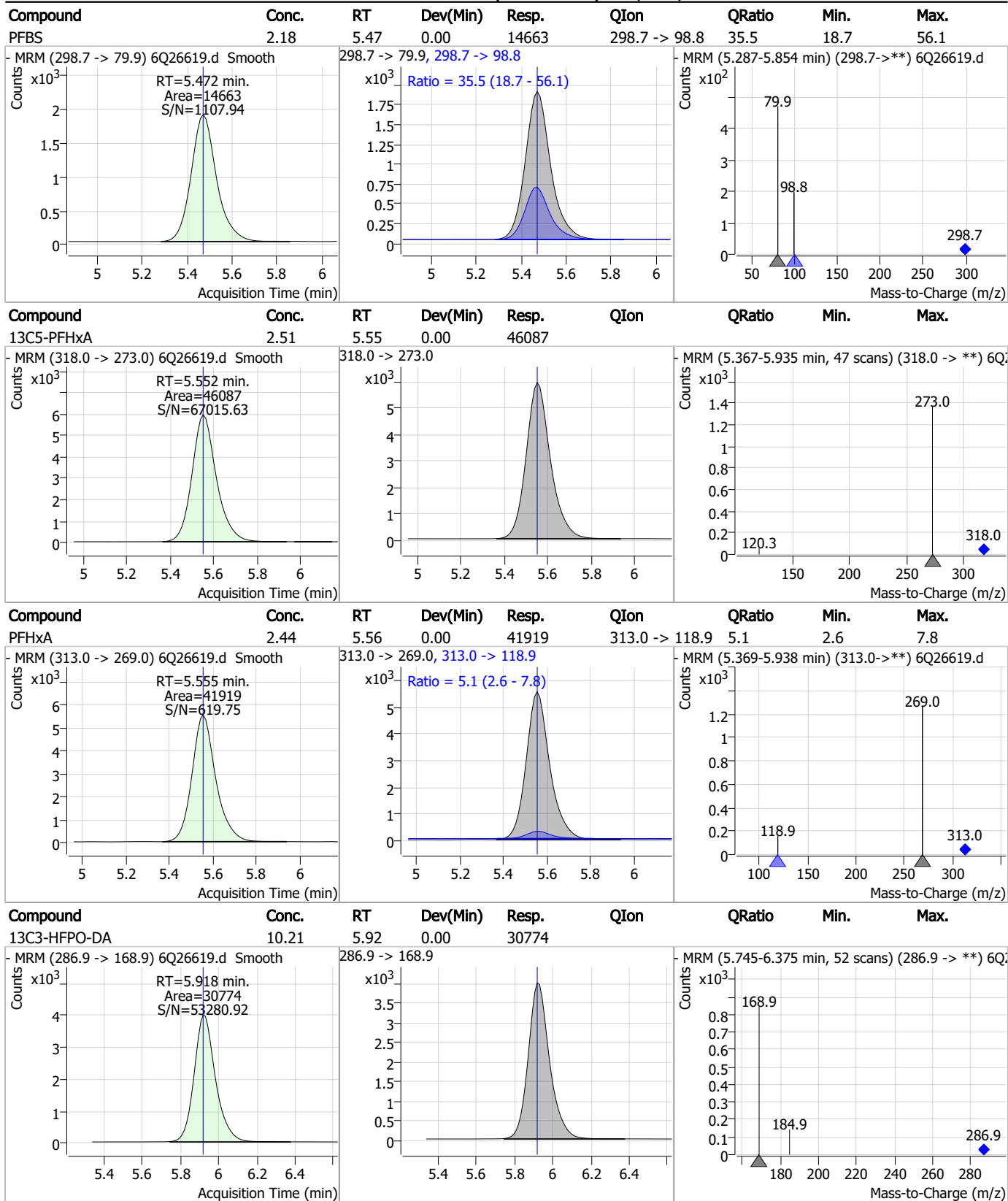
### Perfluorinated Compounds by LC/MS/MS



7.7.35  
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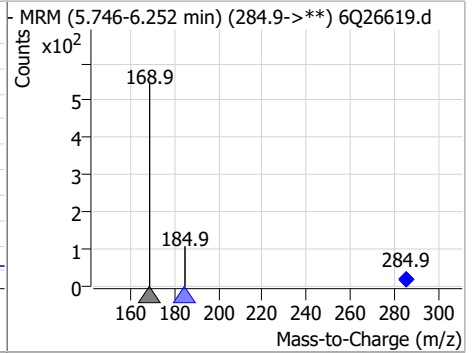
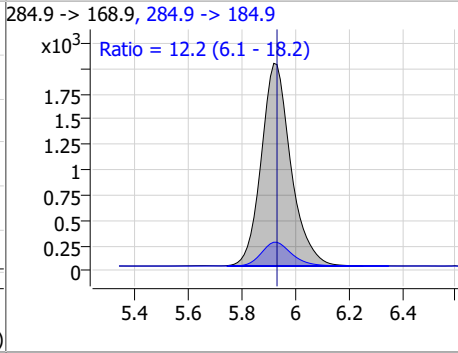
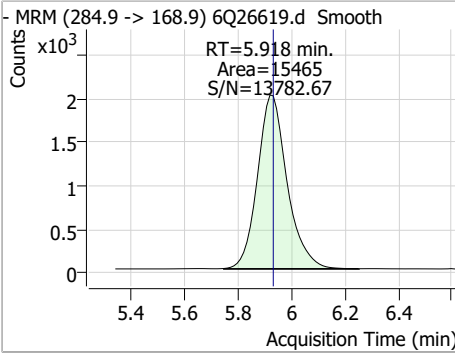
### Perfluorinated Compounds by LC/MS/MS



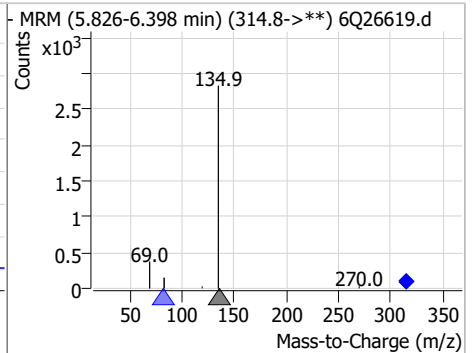
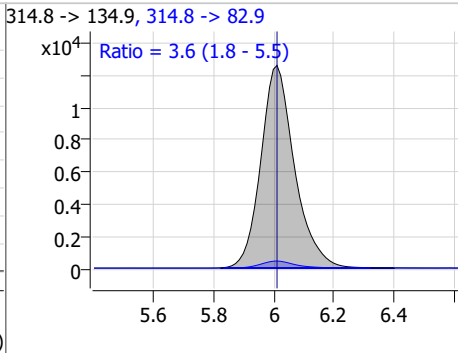
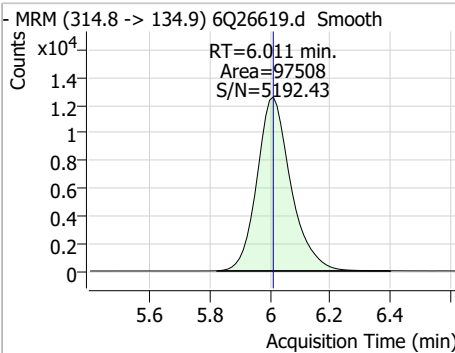
7.7.35  
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### Perfluorinated Compounds by LC/MS/MS

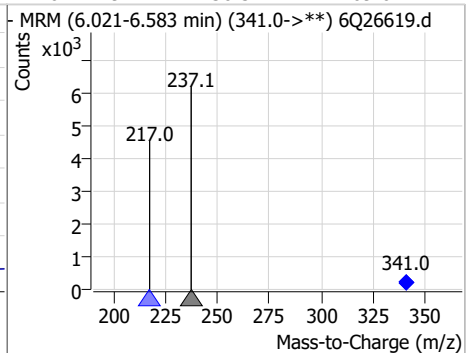
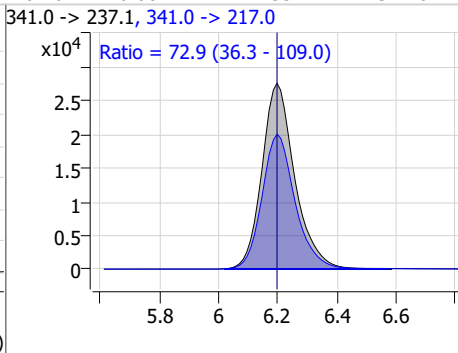
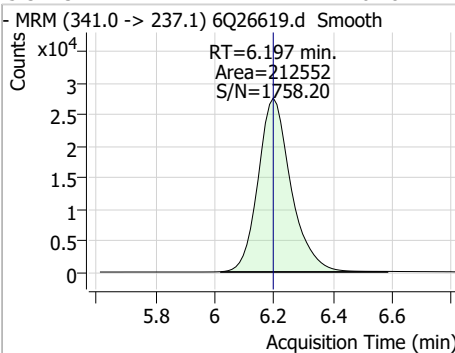
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
HFPO-DA	4.83	5.92	-0.01	15465	284.9 -> 184.9	12.2	6.1	18.2



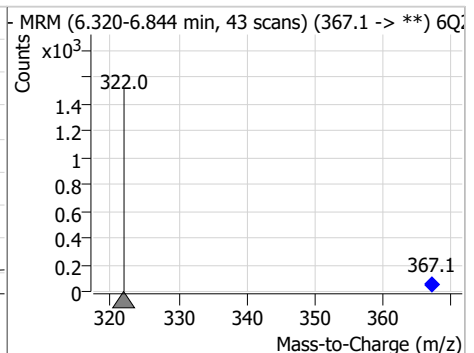
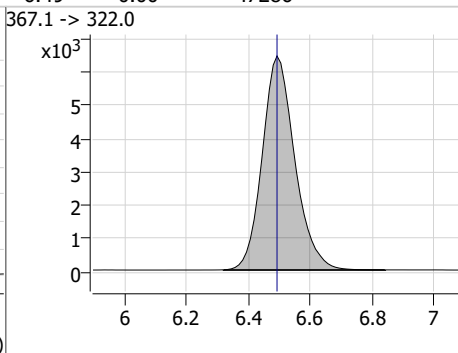
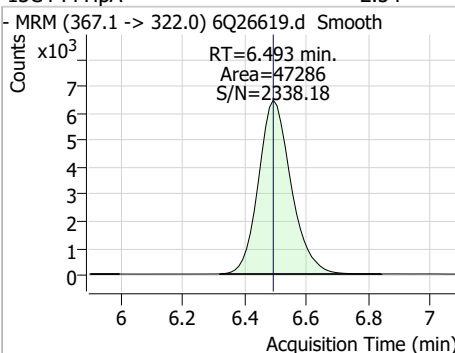
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFEESA	4.52	6.01	0.00	97508	314.8 -> 82.9	3.6	1.8	5.5



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
5:3FTCA	61.81	6.20	0.00	212552	341.0 -> 217.0	72.9	36.3	109.0

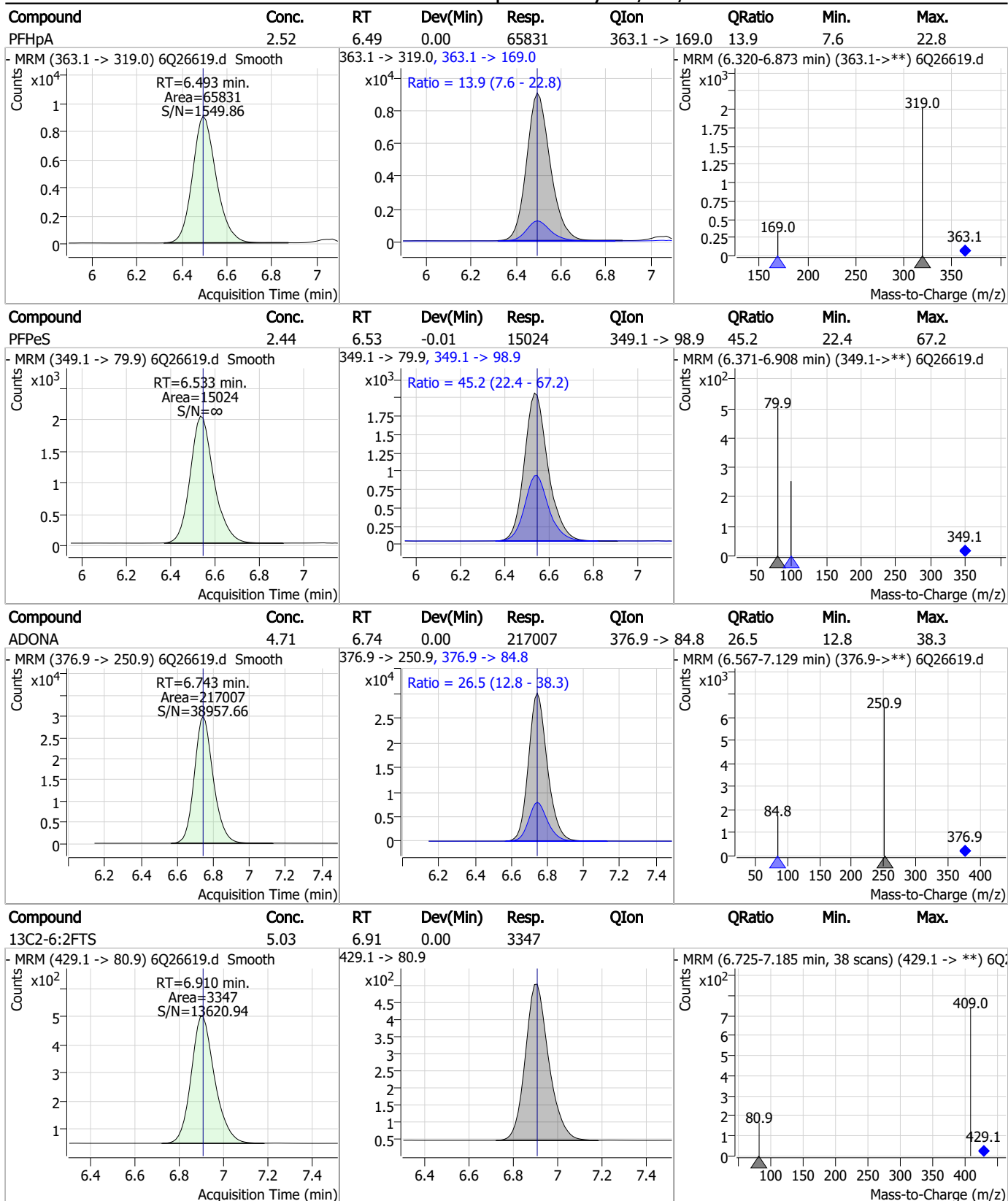


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFHpA	2.54	6.49	0.00	47286	367.1 -> 322.0			





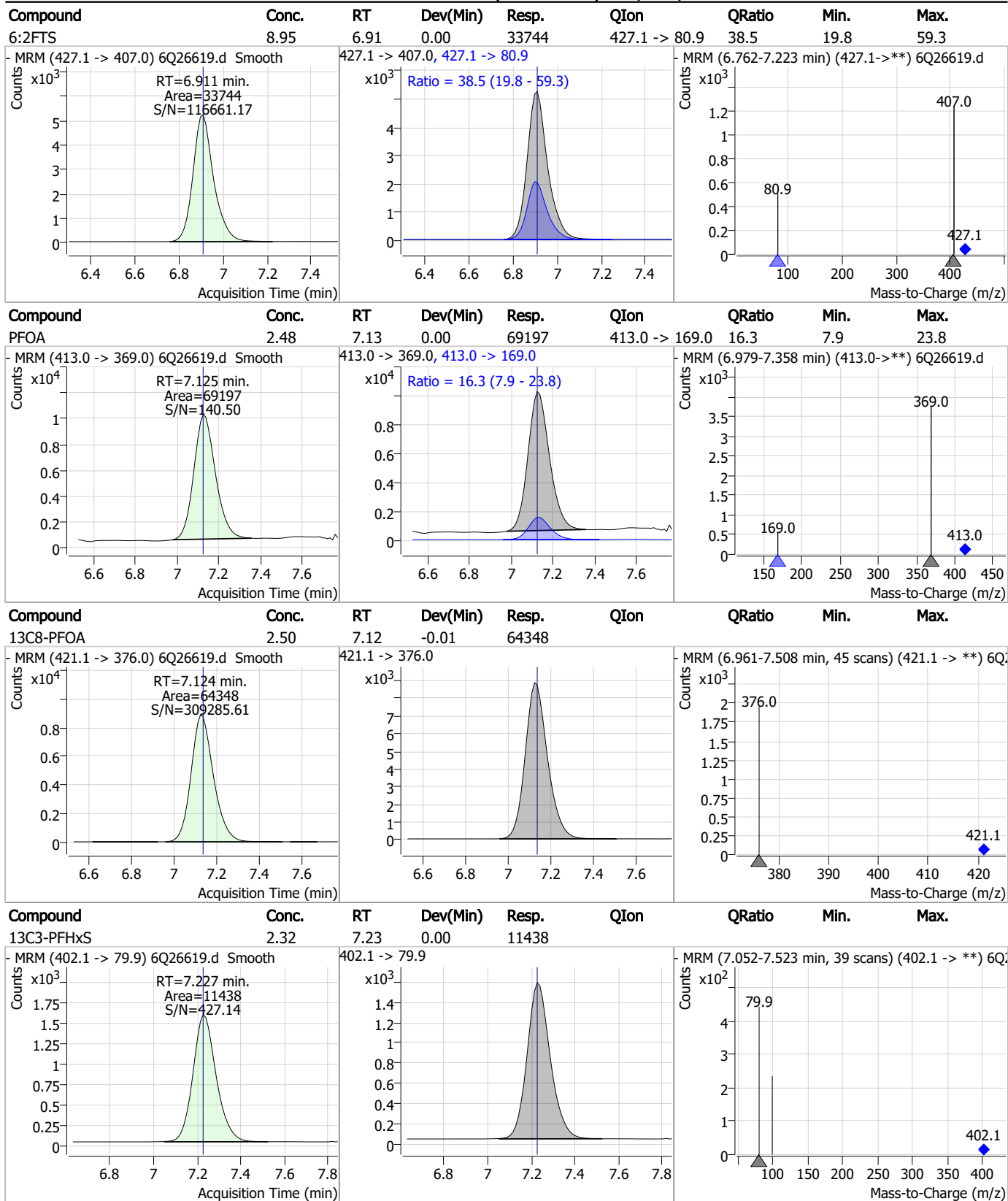
### Perfluorinated Compounds by LC/MS/MS



7.7.35  
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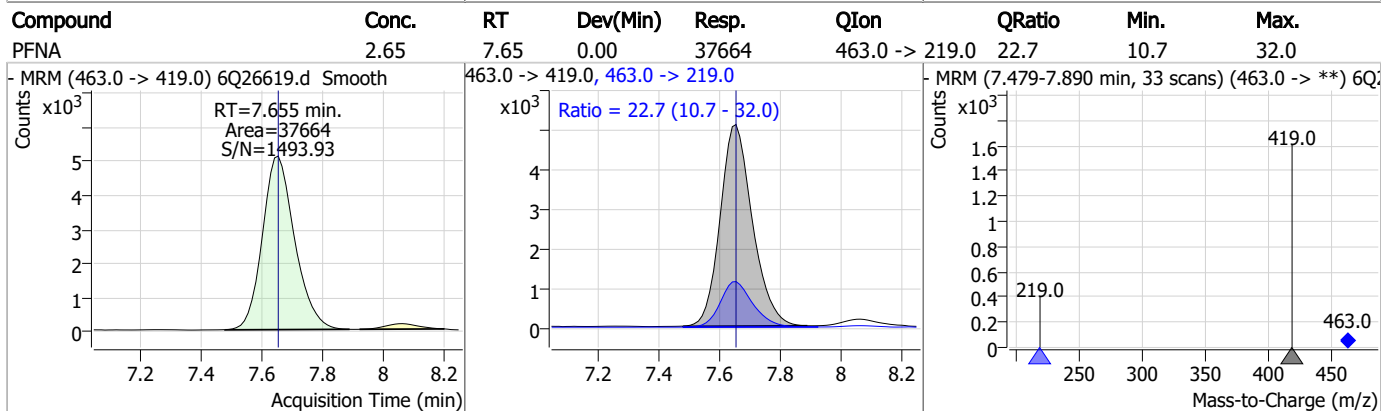
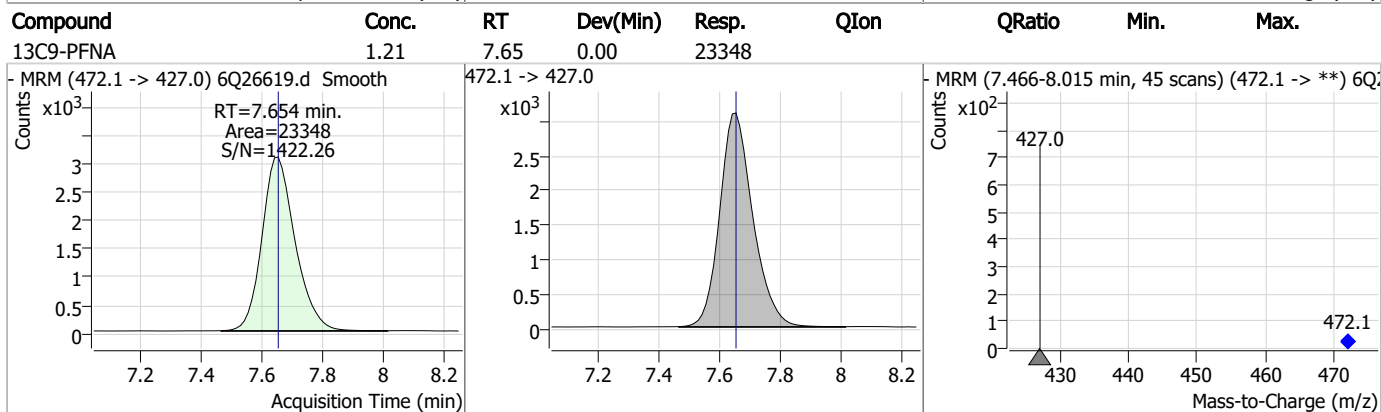
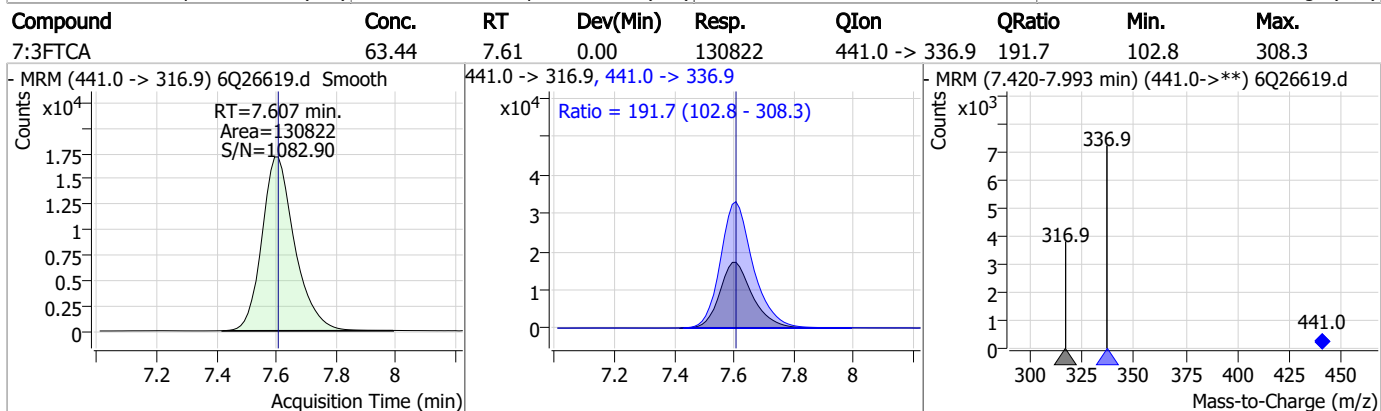
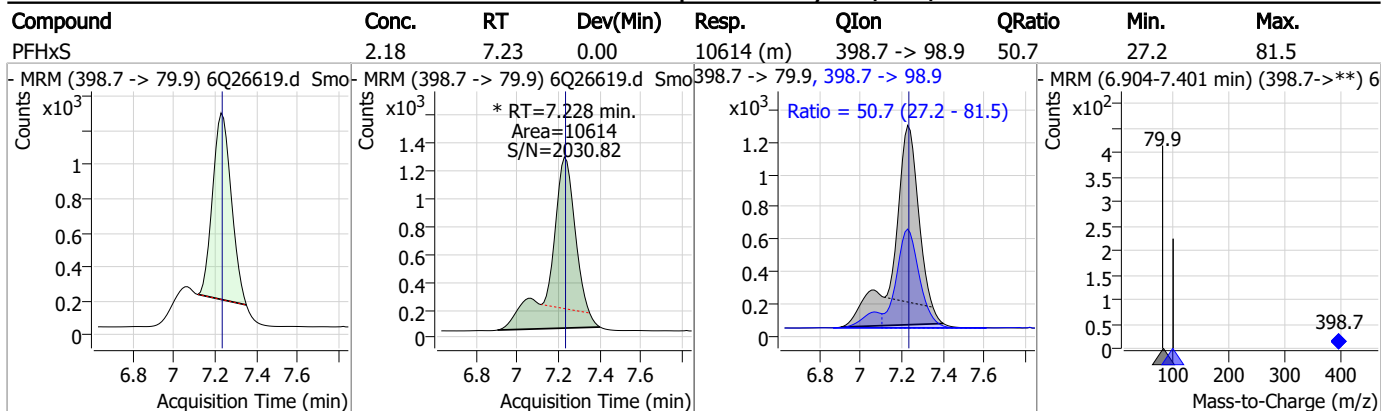


### Perfluorinated Compounds by LC/MS/MS

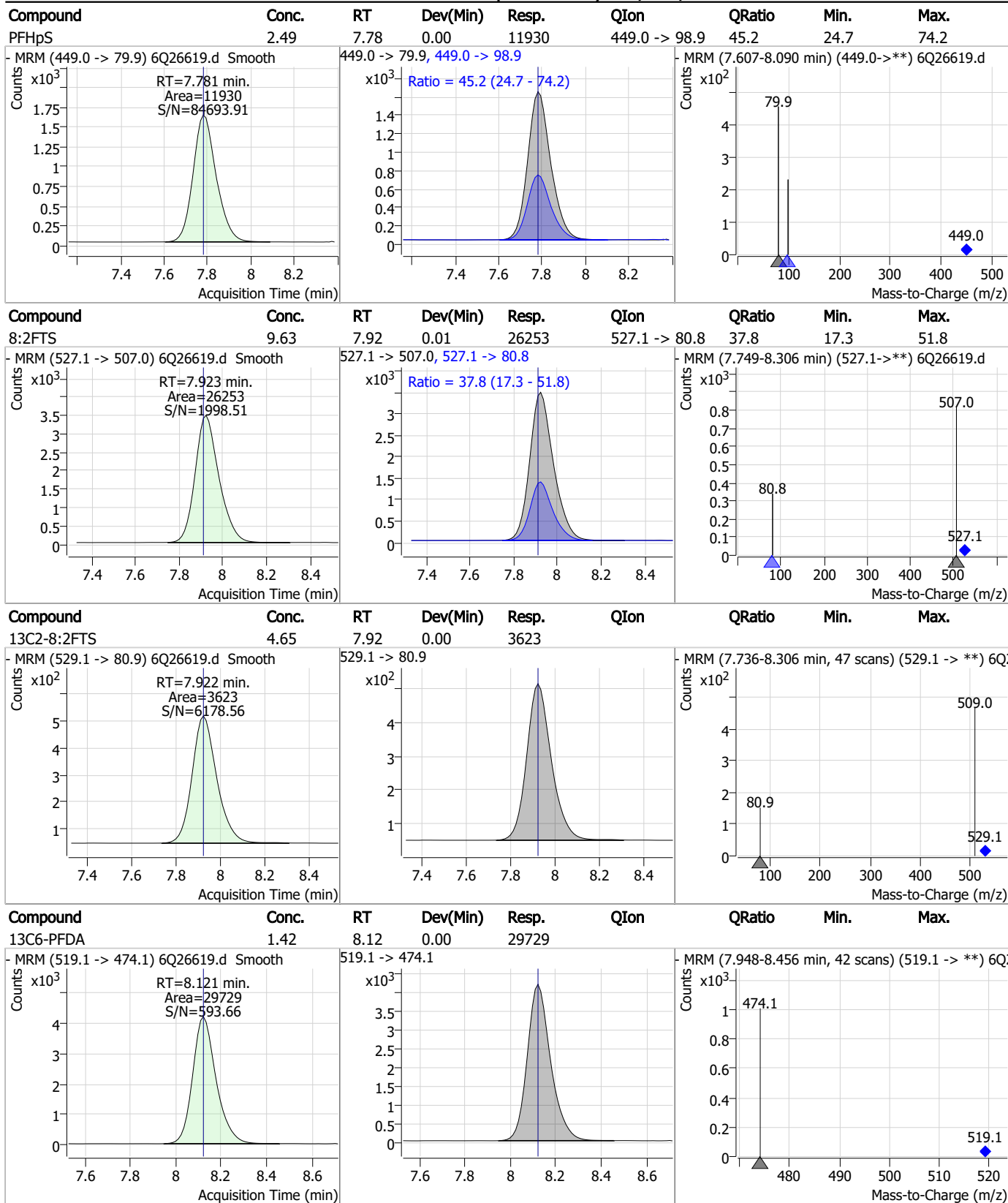


7.7.35  
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### Perfluorinated Compounds by LC/MS/MS



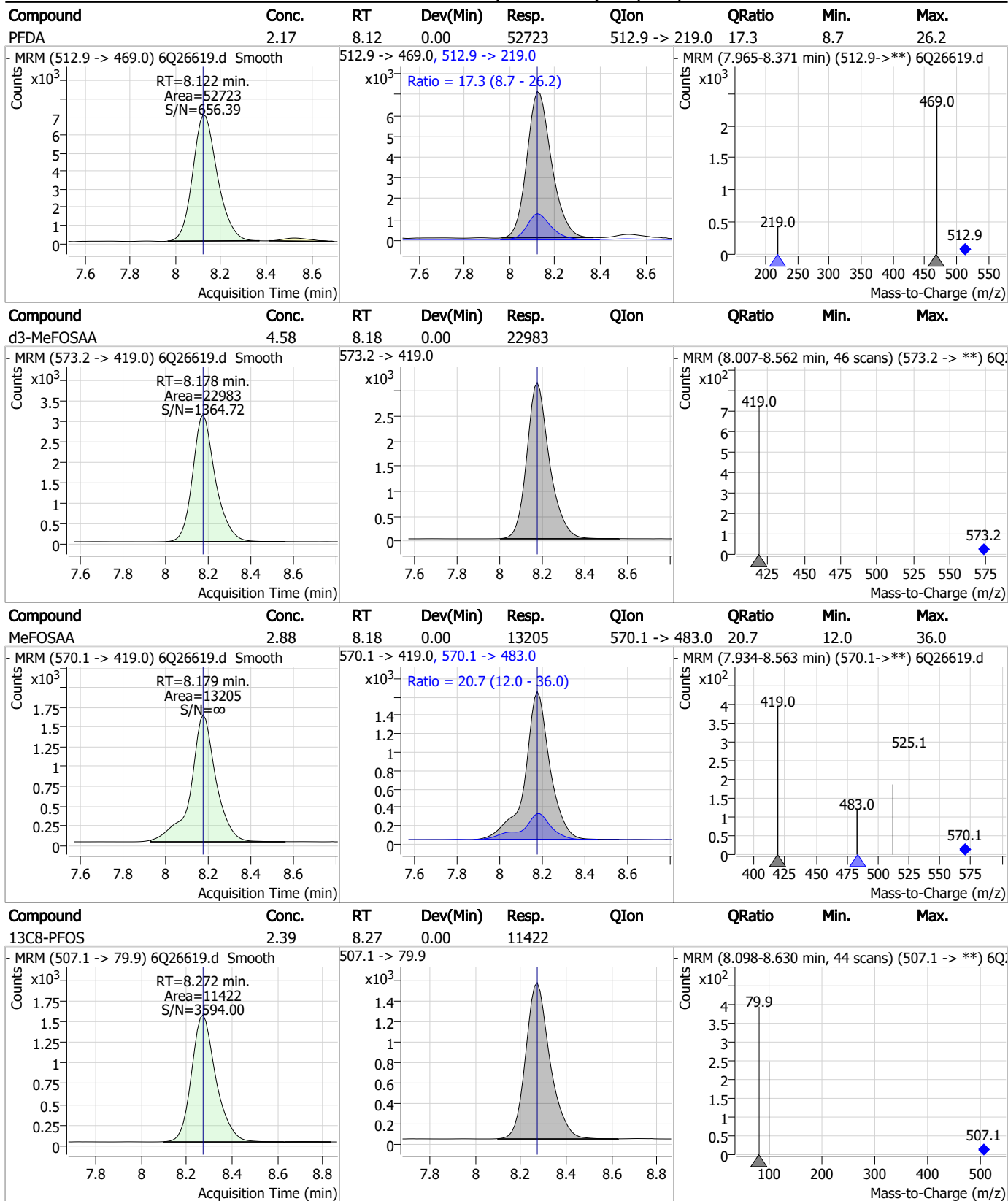
### Perfluorinated Compounds by LC/MS/MS



7.7.35

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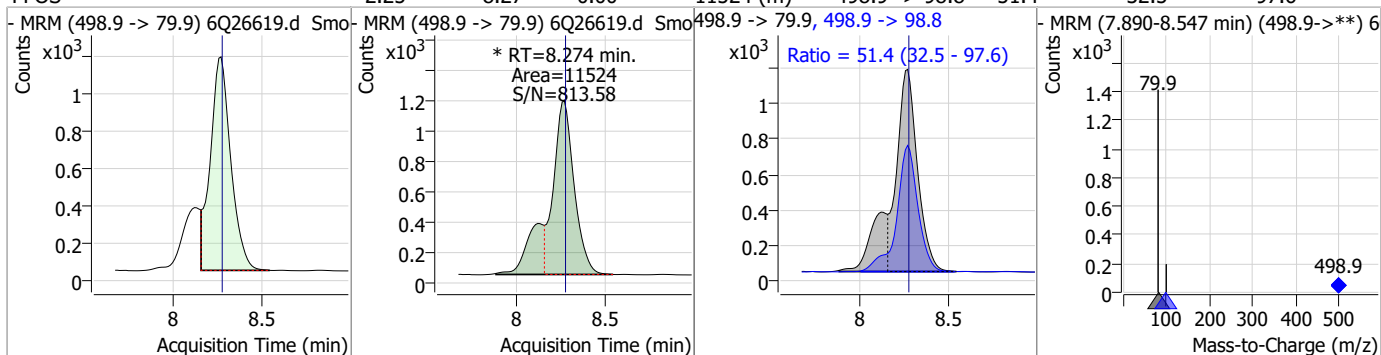
### Perfluorinated Compounds by LC/MS/MS



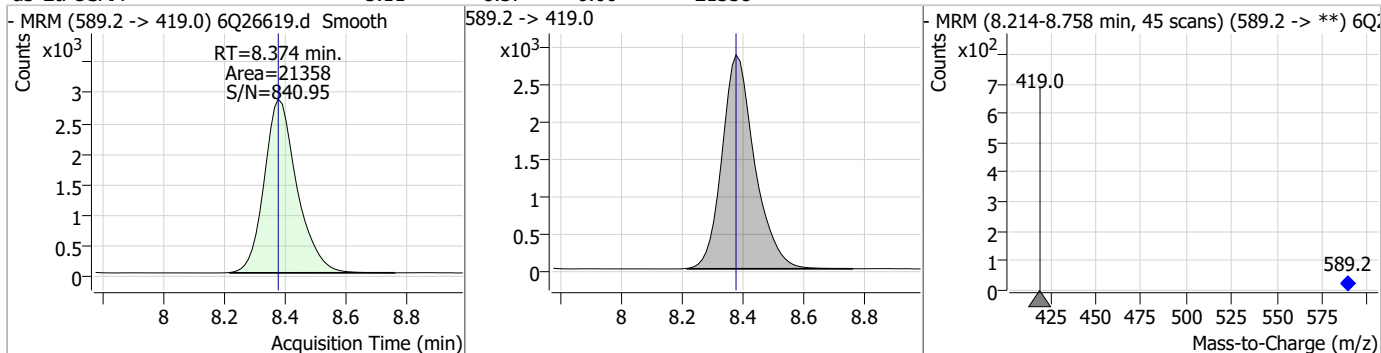
7.7.35  
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### Perfluorinated Compounds by LC/MS/MS

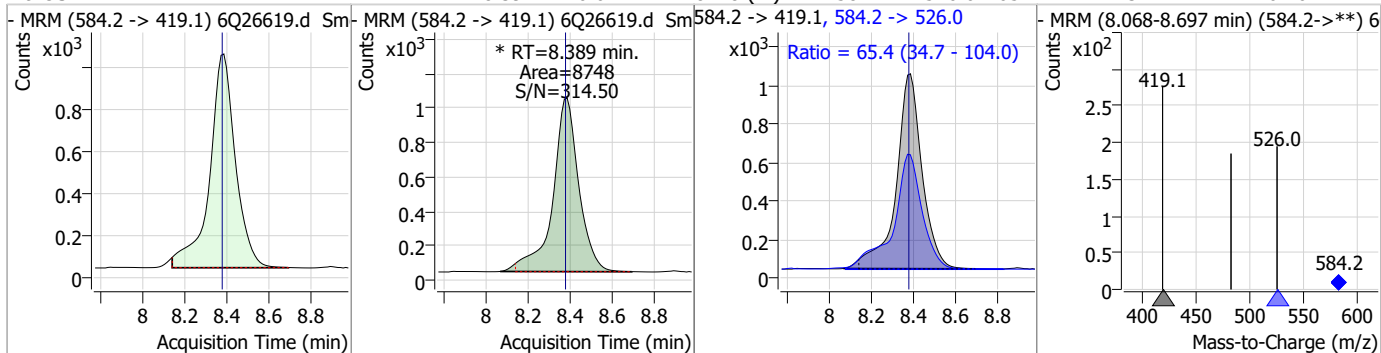
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOS	2.25	8.27	0.00	11524 (m)	498.9 -> 98.8	51.4	32.5	97.6



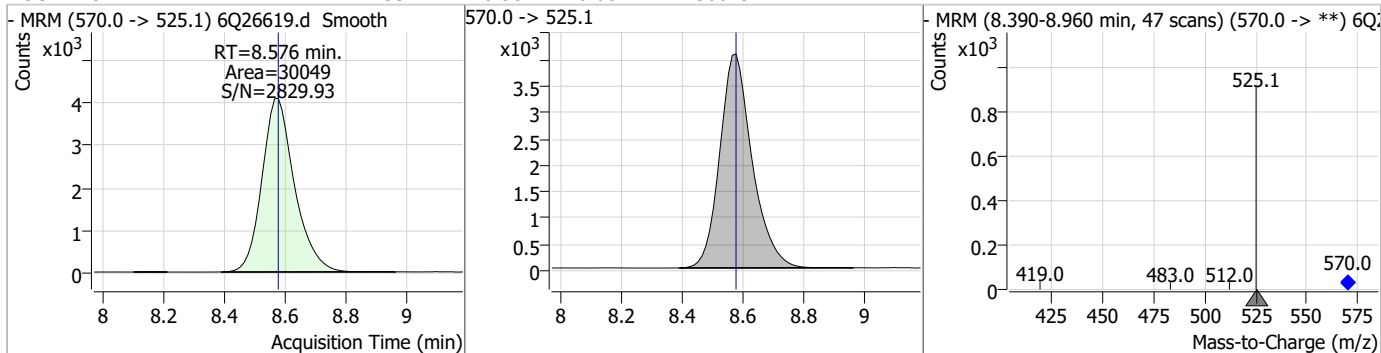
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSAA	5.11	8.37	0.00	21358				



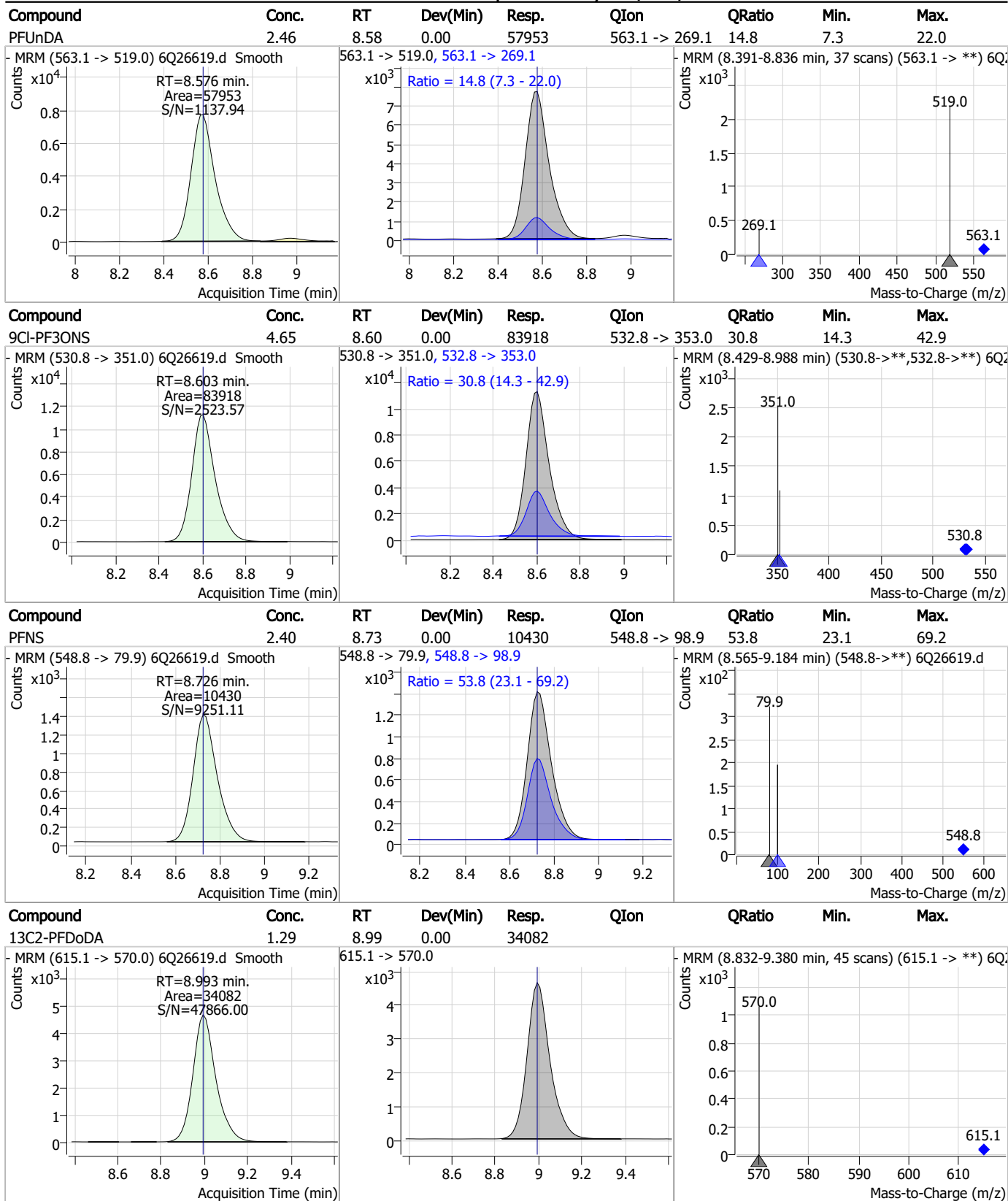
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSAA	2.47	8.39	0.01	8748 (m)	584.2 -> 526.0	65.4	34.7	104.0



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C7-PFUnDA	1.33	8.58	0.00	30049				

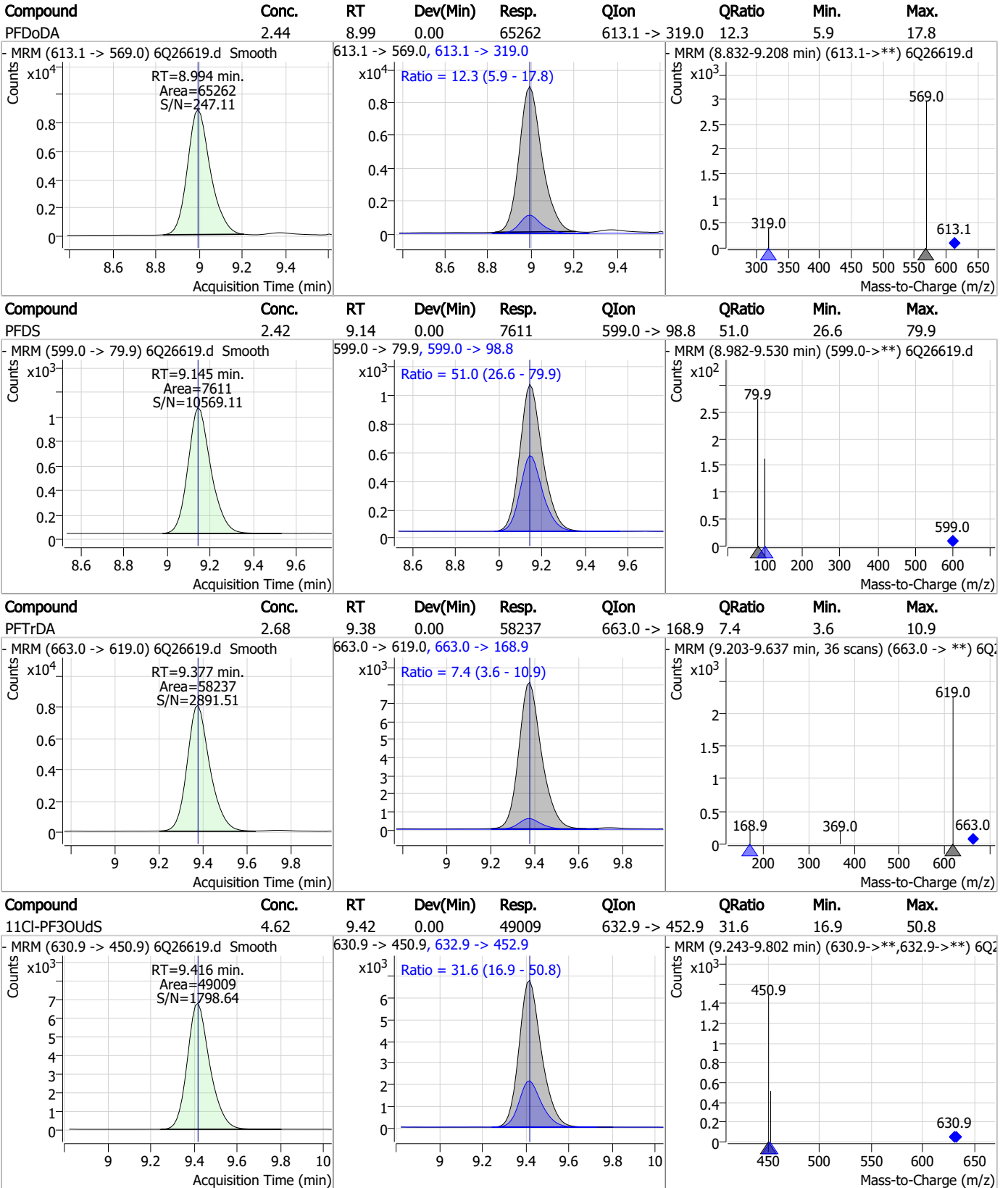


### Perfluorinated Compounds by LC/MS/MS



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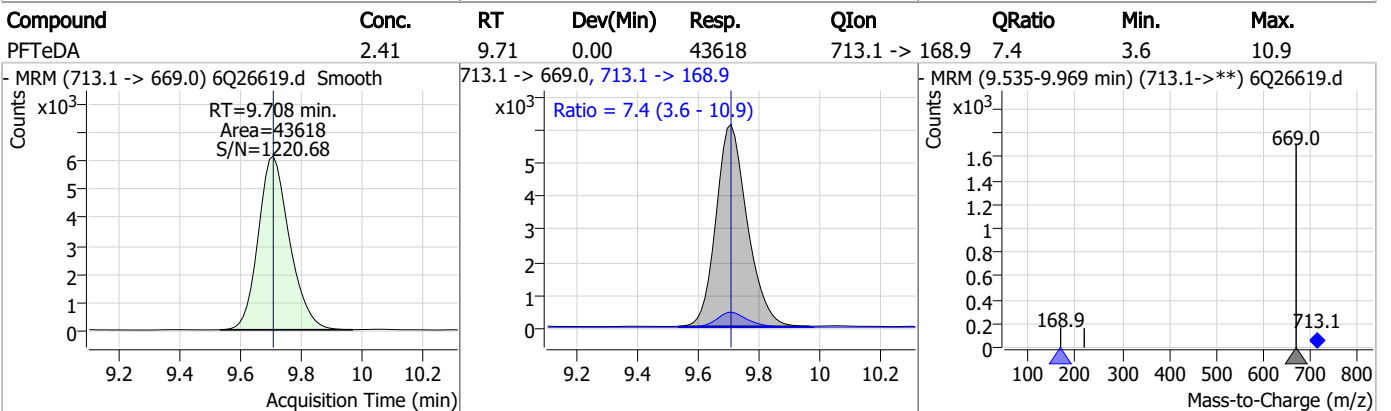
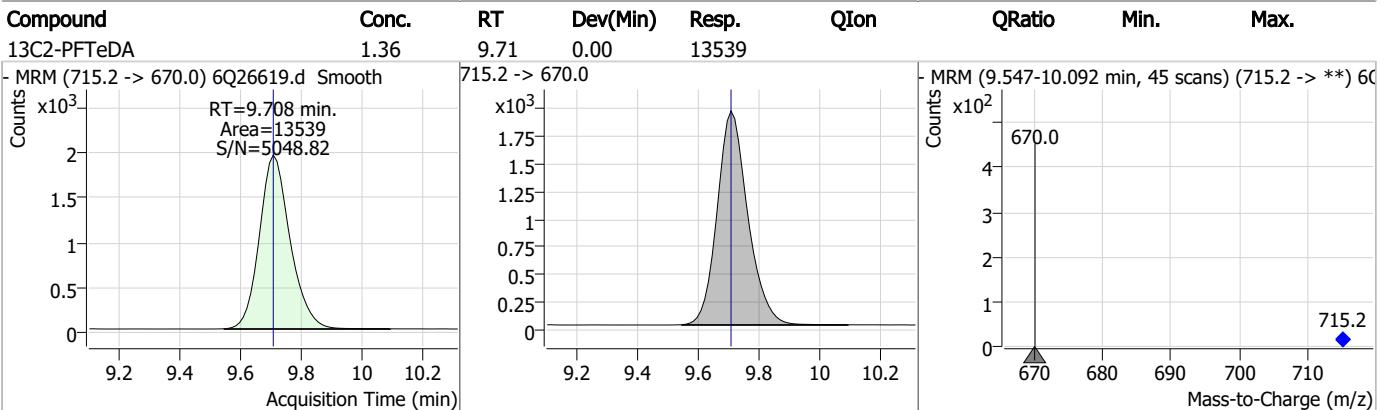
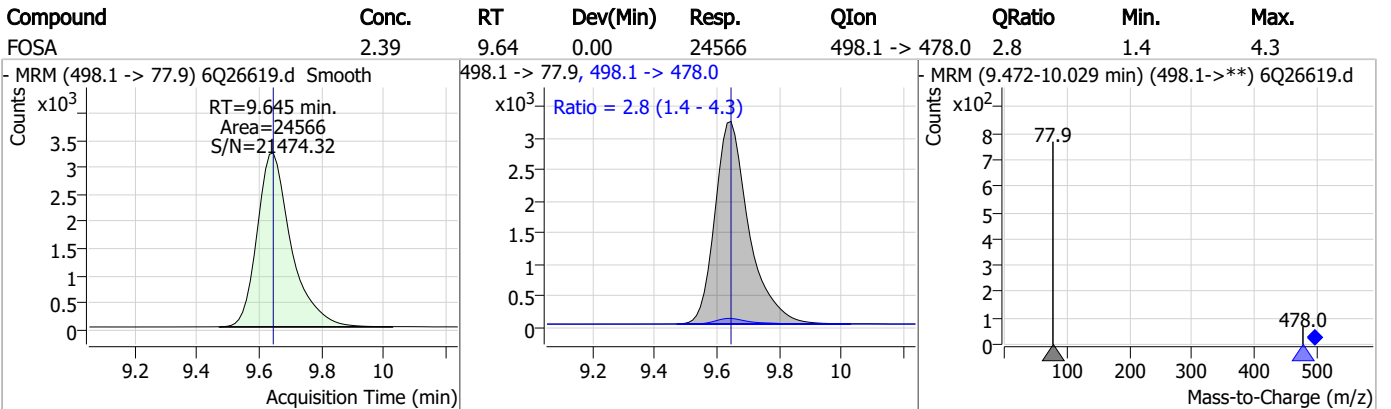
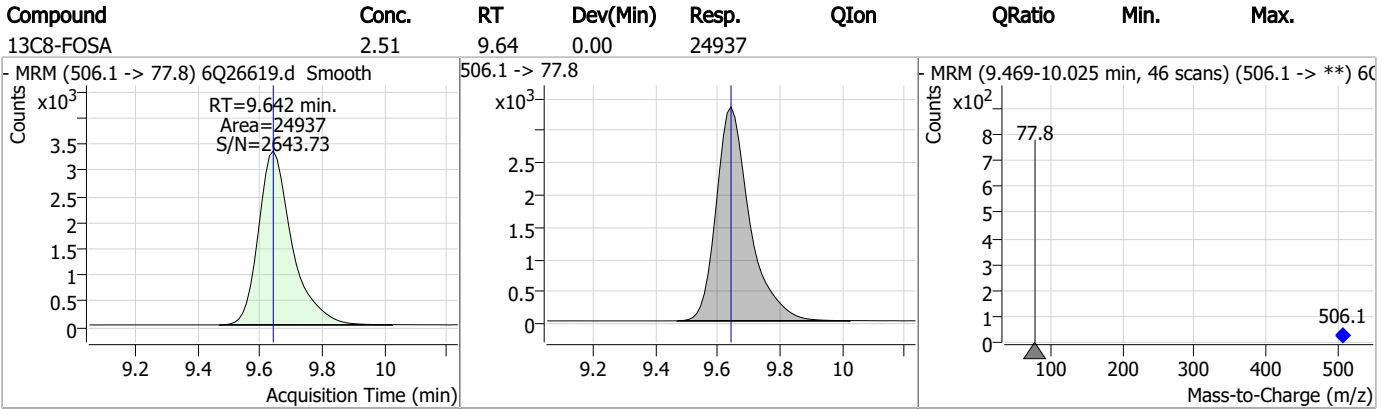
### Perfluorinated Compounds by LC/MS/MS



7.7.35  
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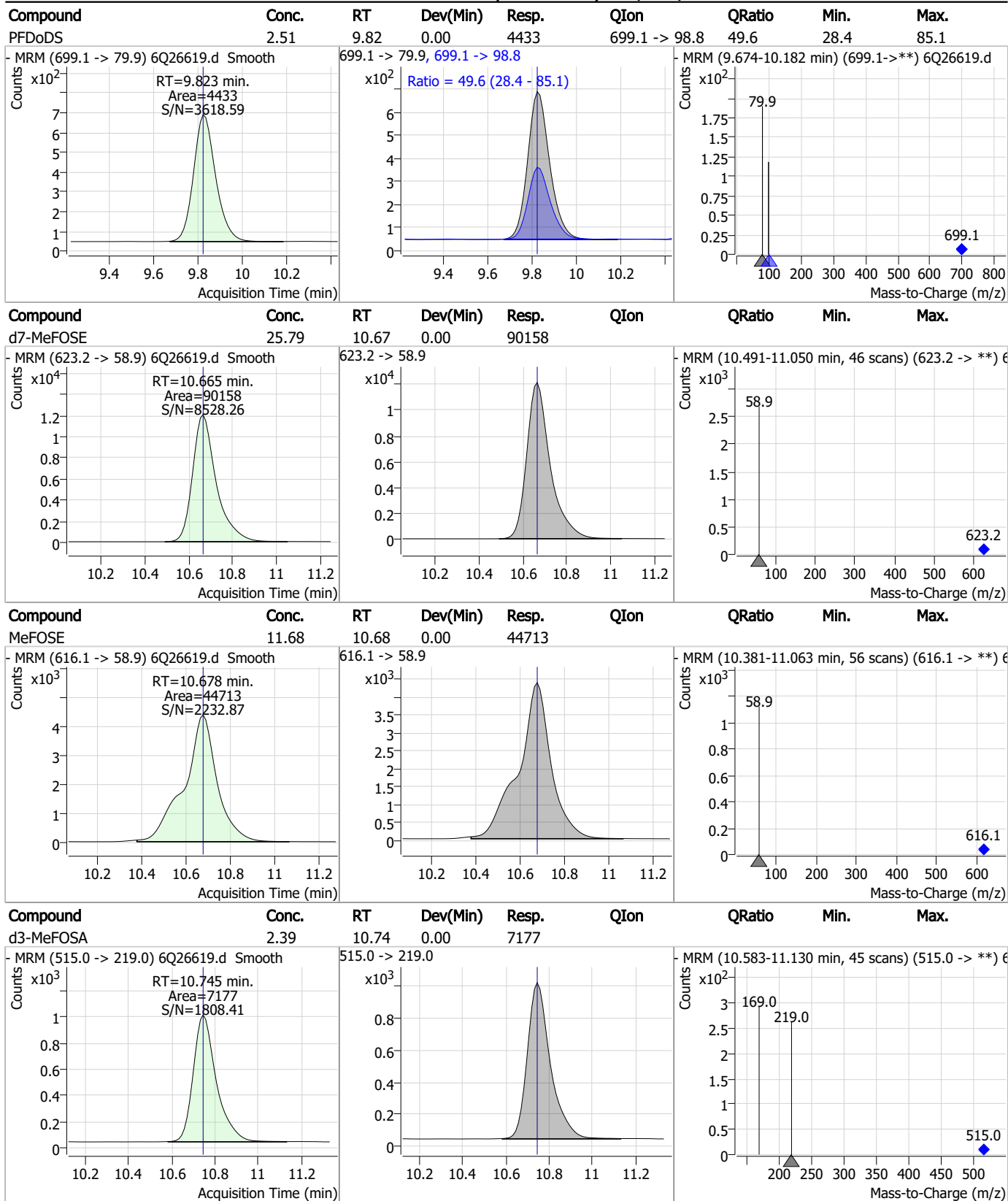


### Perfluorinated Compounds by LC/MS/MS



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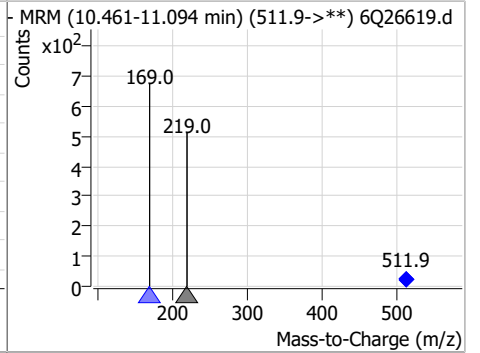
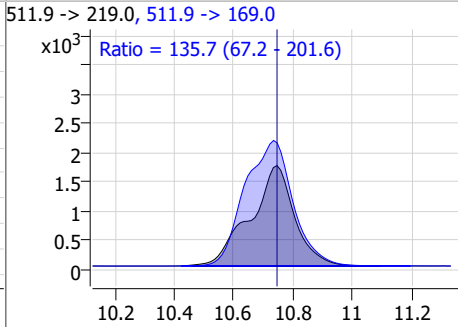
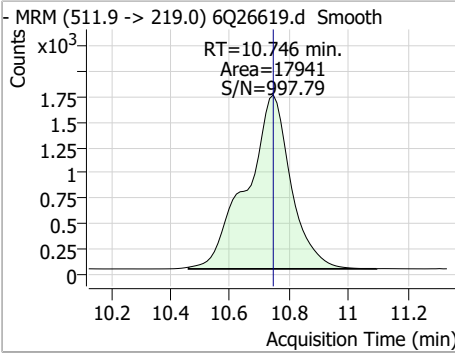
### Perfluorinated Compounds by LC/MS/MS



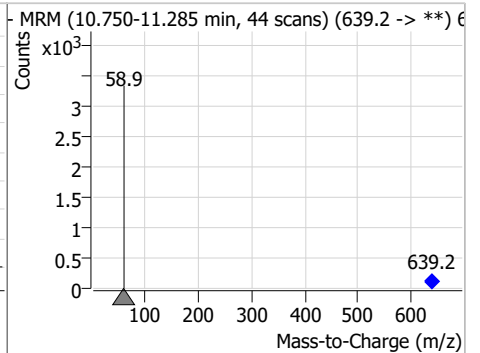
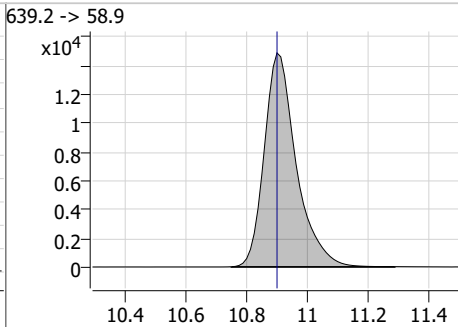
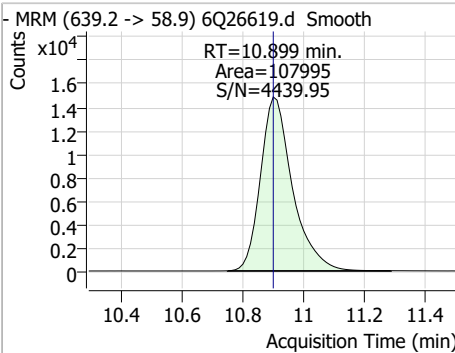
7.7.35  
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### Perfluorinated Compounds by LC/MS/MS

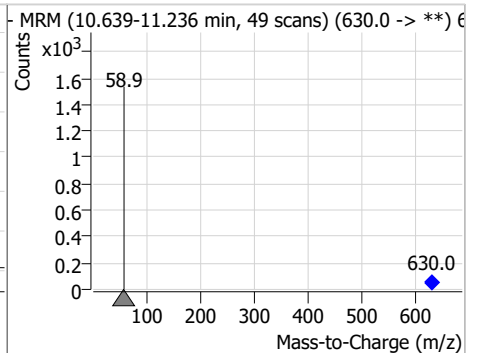
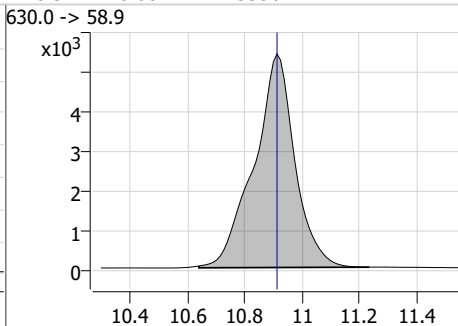
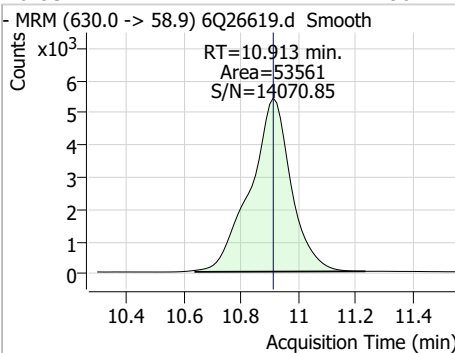
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSA	5.08	10.75	0.00	17941	511.9 -> 169.0	135.7	67.2	201.6



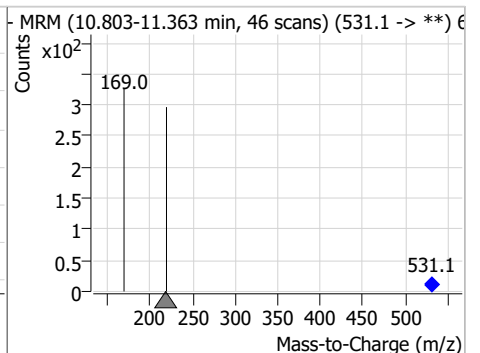
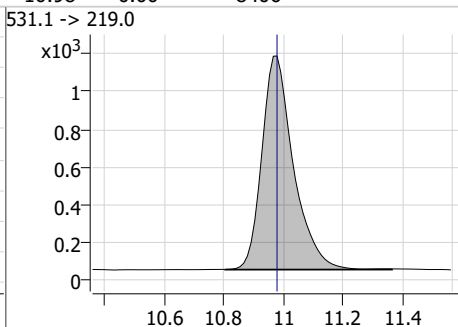
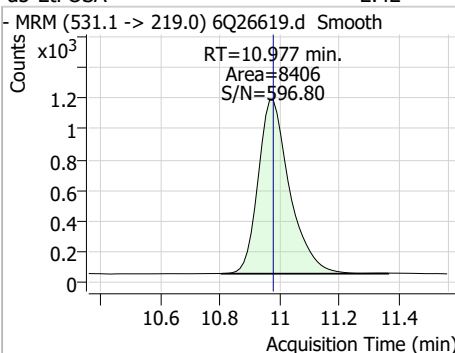
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d9-EtFOSE	24.99	10.90	0.00	107995				



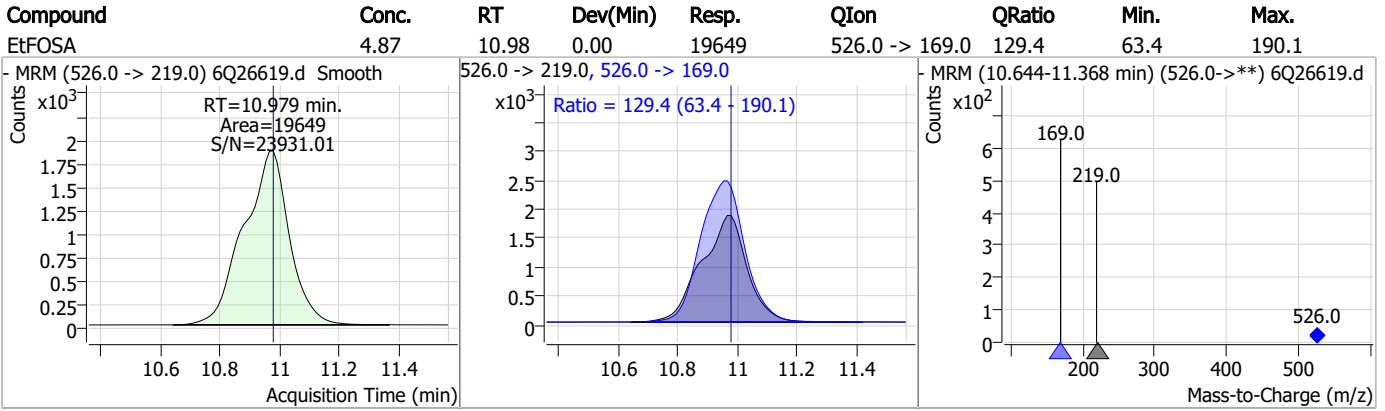
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSE	11.98	10.91	0.00	53561				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSA	2.42	10.98	0.00	8406				



### Perfluorinated Compounds by LC/MS/MS



7.7.35  
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# Manual Integration Approval Summary

Sample Number: S6Q373-CC373      Method: EPA DRAFT 1633  
Lab FileID: 6Q26619.D      Analyst approved: 10/18/23 16:28 Anna Ludwig  
Injection Time: 10/18/23 05:10      Supervisor approved: 10/19/23 09:36 Natasha Gumtie

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		7.23	Split peak
Perfluorooctanesulfonic acid	1763-23-1		8.27	Split peak
EtFOSAA	2991-50-6		8.39	Split peak

7.7.35.1

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Perfluorinated Compounds by LC/MS/MS

Data File : 6Q26670.d  
 Operator : marthav  
 Acq. Method : 1633full.m  
 Acq. Date-Time : 10/18/2023 5:39:41 PM  
 Sample Name : cc373-4  
 Vial : P1-A5  
 DA Method File : 1633\_101723\_S6Q373.quantmethod.xml  
 Batch Name : S6Q373.batch.bin  
 Sample Information : OP99081,S6Q373,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
<b>Internal Standards</b>					
M4-PFBA	2.913	216.8 -> 171.9	145390	10.00 µg/L	0.000
M5-PFPeA	4.346	268.3 -> 223.0	48608	5.00 µg/L	0.000
M5-PFHxA	5.552	318.0 -> 273.0	46491	2.50 µg/L	0.000
M4-PFHpA	6.493	367.1 -> 322.0	48905	2.50 µg/L	0.000
M8-PFOA	7.124	421.1 -> 376.0	62377	2.50 µg/L	-0.012
M9-PFNA	7.654	472.1 -> 427.0	25697	1.25 µg/L	0.000
M6-PFDA	8.121	519.1 -> 474.1	29788	1.25 µg/L	0.000
M7-PFUnDA	8.576	570.0 -> 525.1	30039	1.25 µg/L	0.000
M2-PFDoDA	8.993	615.1 -> 570.0	35520	1.25 µg/L	0.000
M2-PFTeDA	9.708	715.2 -> 670.0	14064	1.25 µg/L	0.000
M8-FOSA	9.642	506.1 -> 77.8	25637	2.50 µg/L	0.000
M3-PFBS	5.471	302.1 -> 79.9	21096	2.50 µg/L	0.000
M3-PFHxS	7.227	402.1 -> 79.9	12000	2.50 µg/L	0.000
M8-PFOS	8.272	507.1 -> 79.9	12839	2.50 µg/L	0.000
M2-4:2FTS	5.228	329.1 -> 80.9	2524	5.00 µg/L	0.000
M2-6:2FTS	6.910	429.1 -> 80.9	3524	5.00 µg/L	0.000
M2-8:2FTS	7.922	529.1 -> 80.9	3695	5.00 µg/L	0.000
M3-MeFOSAA	8.178	573.2 -> 419.0	25089	5.00 µg/L	0.000
M3-HFPO-DA	5.930	286.9 -> 168.9	31128	10.00 µg/L	0.012
M5-EtFOSAA	8.374	589.2 -> 419.0	22118	5.00 µg/L	0.000
M7-MeFOSE	10.665	623.2 -> 58.9	89329	25.00 µg/L	0.000
M9-EtFOSE	10.899	639.2 -> 58.9	111797	25.00 µg/L	0.000
M5-EtFOSA	10.977	531.1 -> 219.0	9082	2.50 µg/L	0.000
M3-MeFOSA	10.745	515.0 -> 219.0	7217	2.50 µg/L	0.000
13C4-PFOS	8.273	502.8 -> 79.9	11125	2.50 µg/L	0.000
13C3-PFBA	2.916	216.0 -> 172.0	58542	5.00 µg/L	0.000
18O2-PFHxS	7.238	403.0 -> 83.9	6976	2.50 µg/L	0.012
13C4-PFOA	7.125	417.1 -> 372.0	74561	2.50 µg/L	0.000
13C2-PFDA	8.122	515.1 -> 470.1	26309	1.25 µg/L	0.000
13C5-PFNA	7.654	468.0 -> 423.0	22079	1.25 µg/L	0.000
13C2-PFHxA	5.553	315.1 -> 270.0	46799	2.50 µg/L	0.000
<b>System Monitoring Compounds</b>					
13C2-4:2FTS	5.228	329.1 -> 80.9	2524	5.79 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 115.8%		
13C2-6:2FTS	6.910	429.1 -> 80.9	3524	5.73 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 114.5%		
13C2-8:2FTS	7.922	529.1 -> 80.9	3695	5.13 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 102.5%		
13C2-PFDoDA	8.993	615.1 -> 570.0	35520	1.25 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 100.0%		
13C2-PFTeDA	9.708	715.2 -> 670.0	14064	1.32 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 105.5%		
13C3-PFBS	5.471	302.1 -> 79.9	21096	2.73 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 109.3%		
13C3-PFHxS	7.227	402.1 -> 79.9	12000	2.63 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 = 105.1%	
13C4-PFBA	2.913	216.8 -> 171.9	145390	10.08 µg/L	0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 100.8%	
13C4-PFHpA	6.493	367.1 -> 322.0	48905	2.58 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 103.1%	
13C5-PFHxA	5.552	318.0 -> 273.0	46491	2.48 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 99.1%	
13C5-PFPeA	4.346	268.3 -> 223.0	48608	5.16 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 103.1%	
13C6-PFDA	8.121	519.1 -> 474.1	29788	1.33 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 106.3%	
13C7-PFUnDA	8.576	570.0 -> 525.1	30039	1.24 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 98.9%	
13C8-FOSA	9.642	506.1 -> 77.8	25637	2.51 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 100.2%	
13C8-PFOA	7.124	421.1 -> 376.0	62377	2.34 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 93.5%	
13C8-PFOS	8.272	507.1 -> 79.9	12839	2.61 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 104.4%	
13C9-PFNA	7.654	472.1 -> 427.0	25697	1.35 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 108.3%	
d3-MeFOSAA	8.178	573.2 -> 419.0	25089	4.86 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 97.2%	
13C3-HFPO-DA	5.930	286.9 -> 168.9	31128	10.12 µg/L	0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 101.2%	
d3-MeFOSA	10.745	515.0 -> 219.0	7217	2.33 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 93.4%	
d5-EtFOSAA	8.374	589.2 -> 419.0	22118	5.15 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 103.0%	
d7-MeFOSE	10.665	623.2 -> 58.9	89329	24.84 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 99.3%	
d9-EtFOSE	10.899	639.2 -> 58.9	111797	25.15 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 100.6%	
d5-EtFOSA	10.977	531.1 -> 219.0	9082	2.54 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 101.5%	
<b>Target Compounds</b>					<b>QValue</b>
4:2FTS	5.229	327.1 -> 307.0	41994	9.47 µg/L	96
		327.1 -> 80.9	15762		
6:2FTS	6.911	427.1 -> 407.0	35892	9.05 µg/L	98
		427.1 -> 80.9	13700		
8:2FTS	7.923	527.1 -> 507.0	28000	10.07 µg/L	95
		527.1 -> 80.8	10389		
EtFOSAA	8.375	584.2 -> 419.1	9048	2.46 µg/L	95
		584.2 -> 526.0	5922		
FOSA	9.645	498.1 -> 77.9	24354	2.30 µg/L	99
		498.1 -> 478.0	765		
MeFOSAA	8.179	570.1 -> 419.0	13037	2.61 µg/L	93
		570.1 -> 483.0	2683		
PFBA	2.919	212.8 -> 168.9	54555	9.77 µg/L	100
PFBS	5.472	298.7 -> 79.9	14557	2.12 µg/L	99
		298.7 -> 98.8	5512		
PFDA	8.122	512.9 -> 469.0	55868	2.30 µg/L	97
		512.9 -> 219.0	8909		
PFDoDA	8.994	613.1 -> 569.0	71713	2.57 µg/L	97
		613.1 -> 319.0	7790		
PFDS	9.145	599.0 -> 79.9	7736	2.19 µg/L	97

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Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
PFHpA	6.493	599.0 -> 98.8	3948	2.38	µg/L	99
		363.1 -> 319.0	64428			
PFHpS	7.781	363.1 -> 169.0	9630	2.26	µg/L	95
		449.0 -> 79.9	12195			
PFHxA	5.555	449.0 -> 98.9	5584	2.30	µg/L	99
		313.0 -> 269.0	39859			
PFHxS	7.228	313.0 -> 118.9	2186	2.28	µg/L	m
		398.7 -> 79.9	11669			
PFNA	7.655	398.7 -> 98.9	5609	2.36	µg/L	99
		463.0 -> 419.0	37039			
PFNS	8.726	463.0 -> 219.0	8104	2.22	µg/L	95
		548.8 -> 79.9	10806			
PFOA	7.138	548.8 -> 98.9	5316	2.45	µg/L	95
		413.0 -> 369.0	66274			
PFOS	8.274	413.0 -> 169.0	12077	2.15	µg/L	m
		498.9 -> 79.9	12385			
PFPeA	4.349	498.9 -> 98.8	5989	4.80	µg/L	100
		263.0 -> 219.0	55031			
PFPeS	6.545	349.1 -> 79.9	15136	2.34	µg/L	98
		349.1 -> 98.9	6614			
PFTeDA	9.708	713.1 -> 669.0	45054	2.39	µg/L	99
		713.1 -> 168.9	3430			
PFTrDA	9.377	663.0 -> 619.0	55971	2.47	µg/L	98
		663.0 -> 168.9	4424			
PFUnDA	8.576	563.1 -> 519.0	59309	2.52	µg/L	99
		563.1 -> 269.1	9031			
11CI-PF3OUdS	9.416	630.9 -> 450.9	49340	4.60	µg/L	97
		632.9 -> 452.9	15924			
9CI-PF3ONS	8.603	530.8 -> 351.0	85661	4.69	µg/L	95
		532.8 -> 353.0	26640			
ADONA	6.743	376.9 -> 250.9	215308	4.62	µg/L	98
		376.9 -> 84.8	57047			
HFPO-DA	5.931	284.9 -> 168.9	15651	4.83	µg/L	99
		284.9 -> 184.9	1824			
3:3FTCA	3.777	241.0 -> 177.0	9613	11.76	µg/L	99
		241.0 -> 117.0	1338			
5:3FTCA	6.210	341.0 -> 237.1	213662	61.59	µg/L	100
		341.0 -> 217.0	155791			
7:3FTCA	7.607	441.0 -> 316.9	130194	62.59	µg/L	96
		441.0 -> 336.9	258742			
EtFOSA	10.979	526.0 -> 219.0	19640	4.50	µg/L	98
		526.0 -> 169.0	25278			
EtFOSE	10.925	630.0 -> 58.9	56392	12.19	µg/L	100
		511.9 -> 219.0	18111			
MeFOSA	10.746	511.9 -> 169.0	25006	5.10	µg/L	97
		616.1 -> 58.9	45740			
MeFOSE	10.678	699.1 -> 79.9	4349	12.06	µg/L	100
		699.1 -> 98.8	2515			
PFDoDS	9.823	295.0 -> 201.0	10624	2.19	µg/L	98
		295.0 -> 84.9	2865			
NFDHA	5.447	279.0 -> 85.1	42959	4.95	µg/L	100
		229.0 -> 84.9	34128			
PFMBA	4.775	314.8 -> 134.9	93416	4.77	µg/L	100
		314.8 -> 82.9	3451			
PFMPA	3.475			4.29	µg/L	100
PFEESA	6.024					

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



7.7.36  
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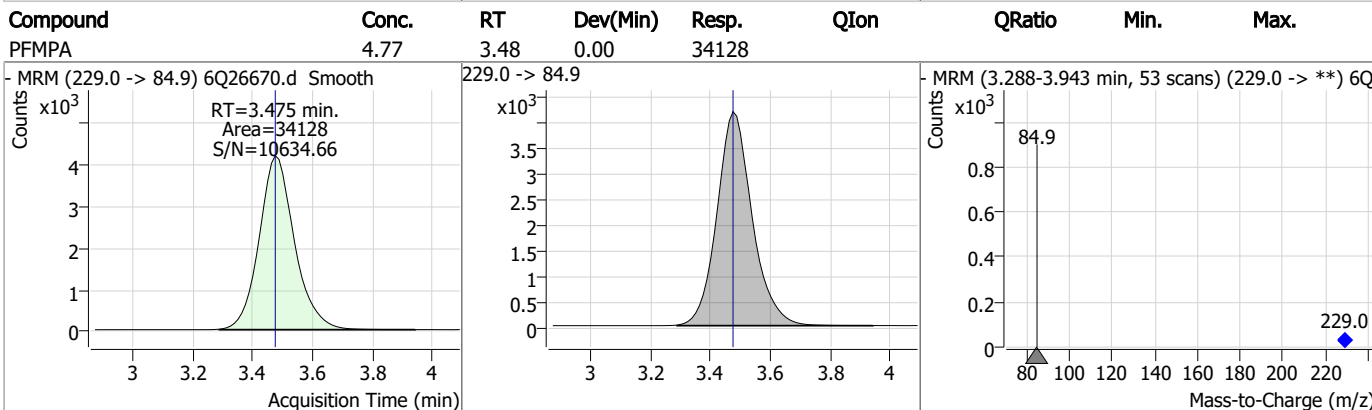
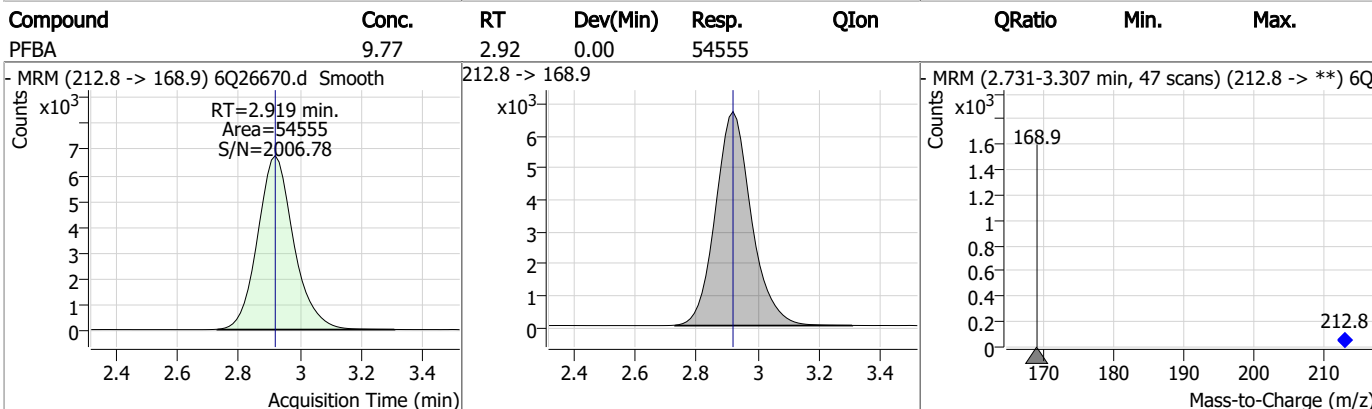
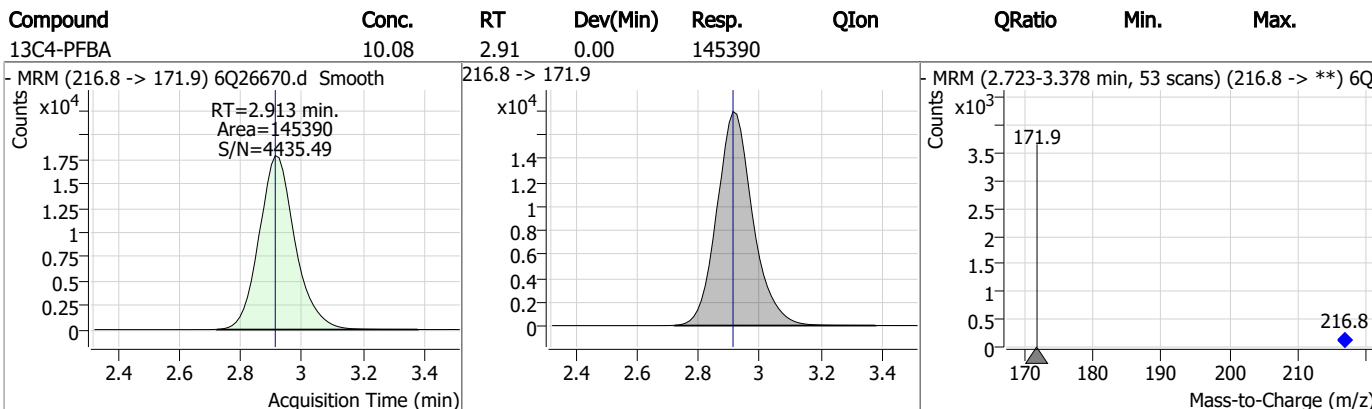
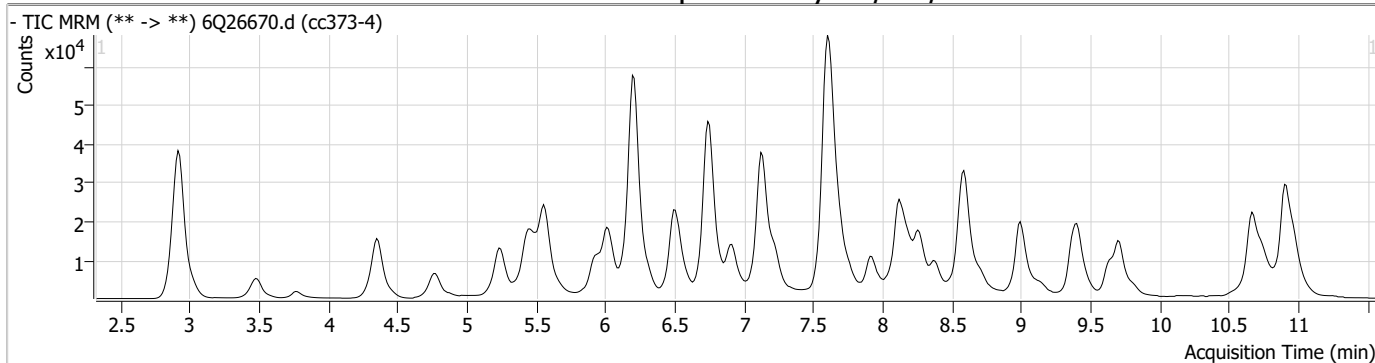
### Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
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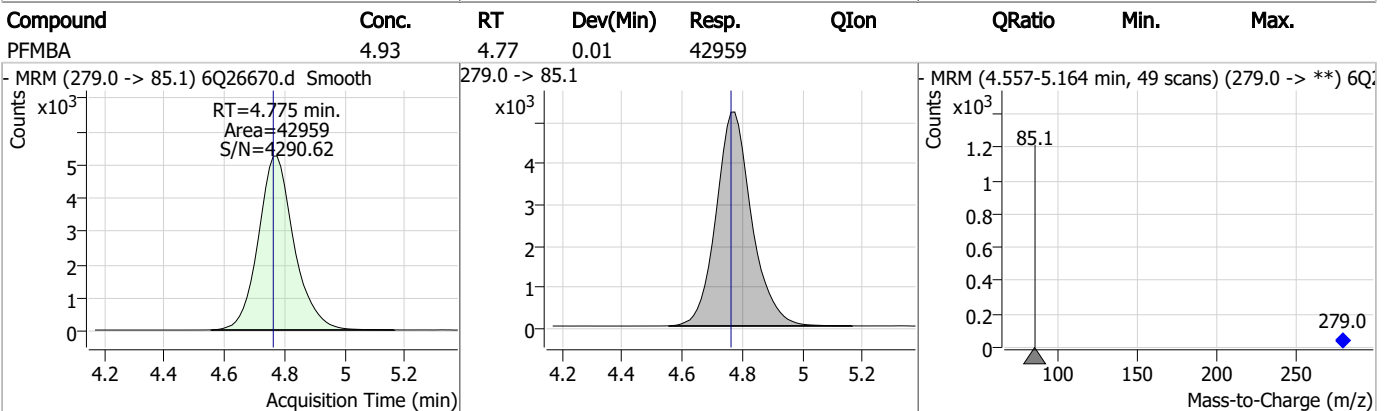
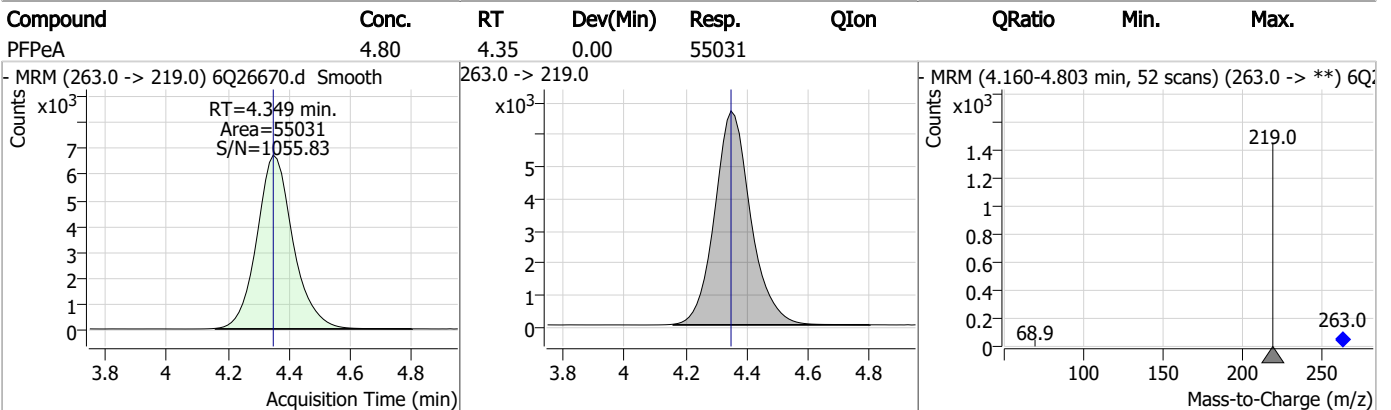
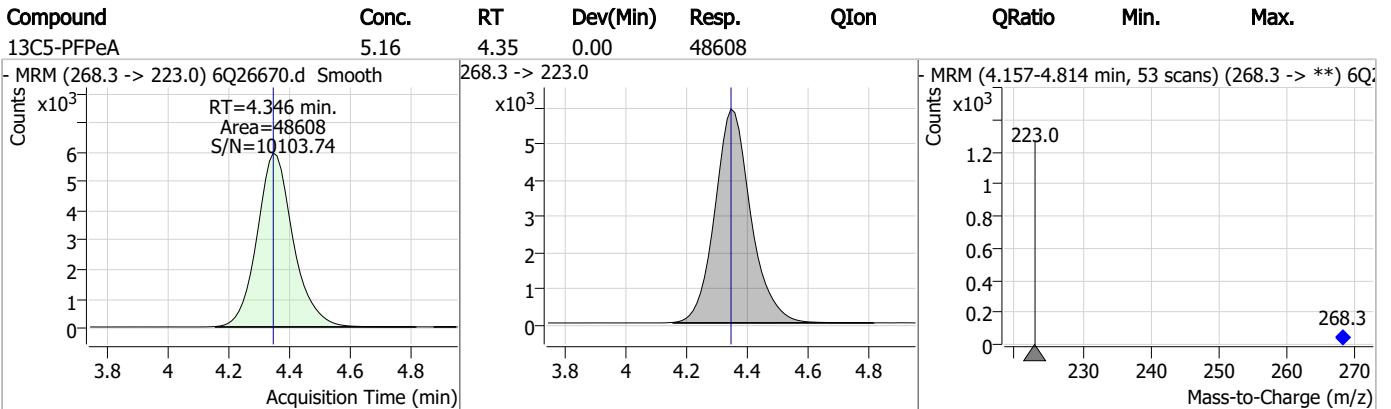
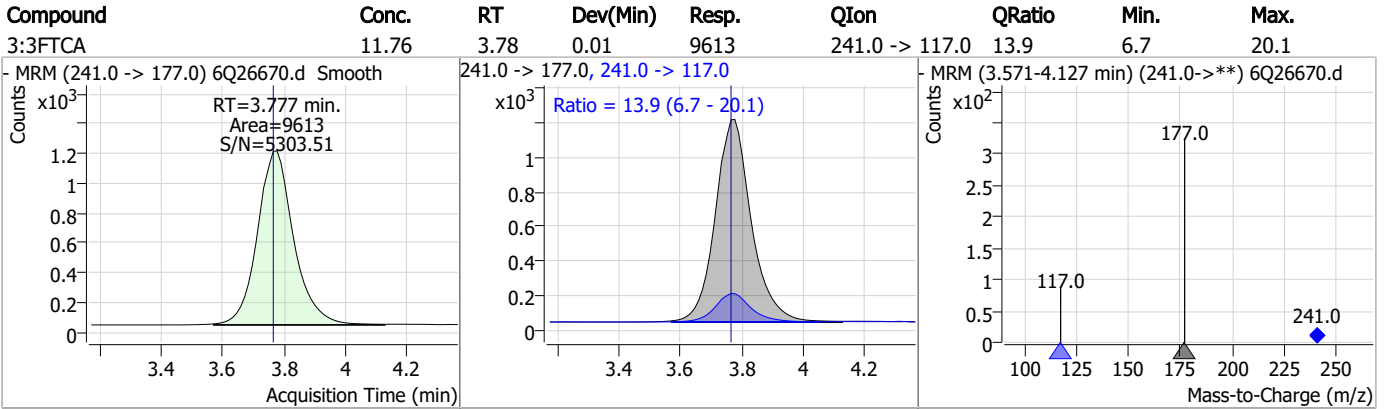
7.7.36

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### Perfluorinated Compounds by LC/MS/MS

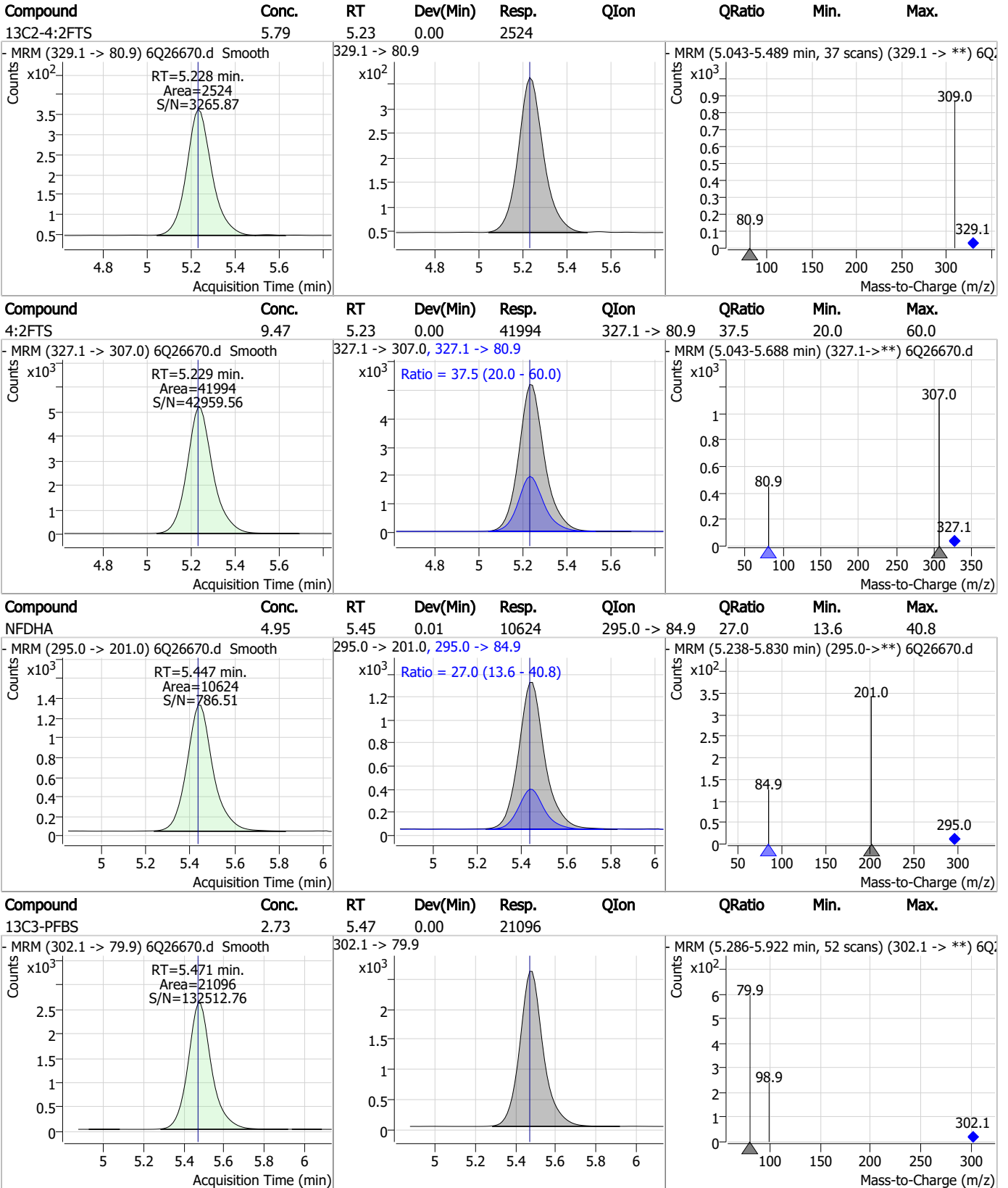


### Perfluorinated Compounds by LC/MS/MS



7.7.36  
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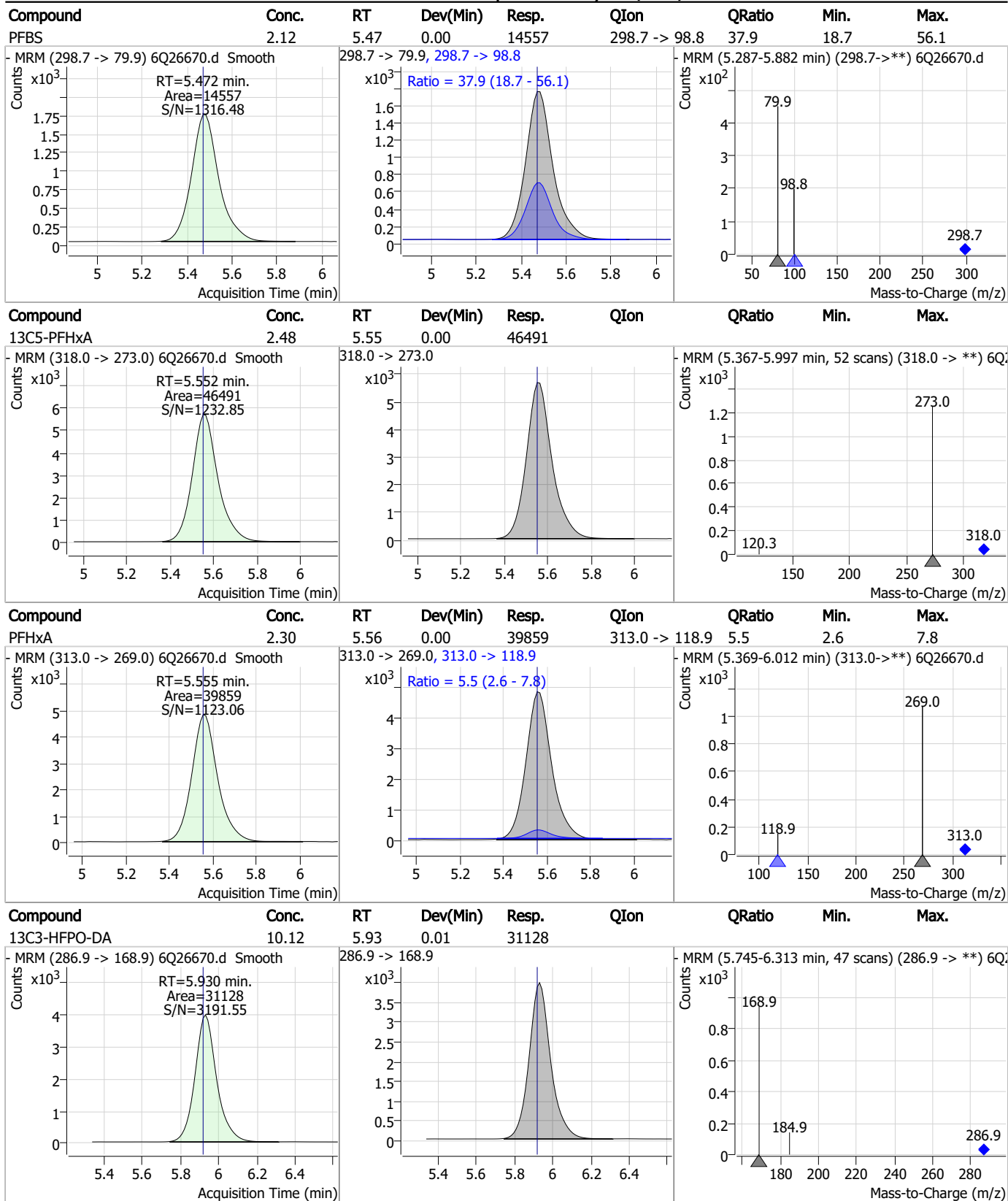
### Perfluorinated Compounds by LC/MS/MS



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### Perfluorinated Compounds by LC/MS/MS



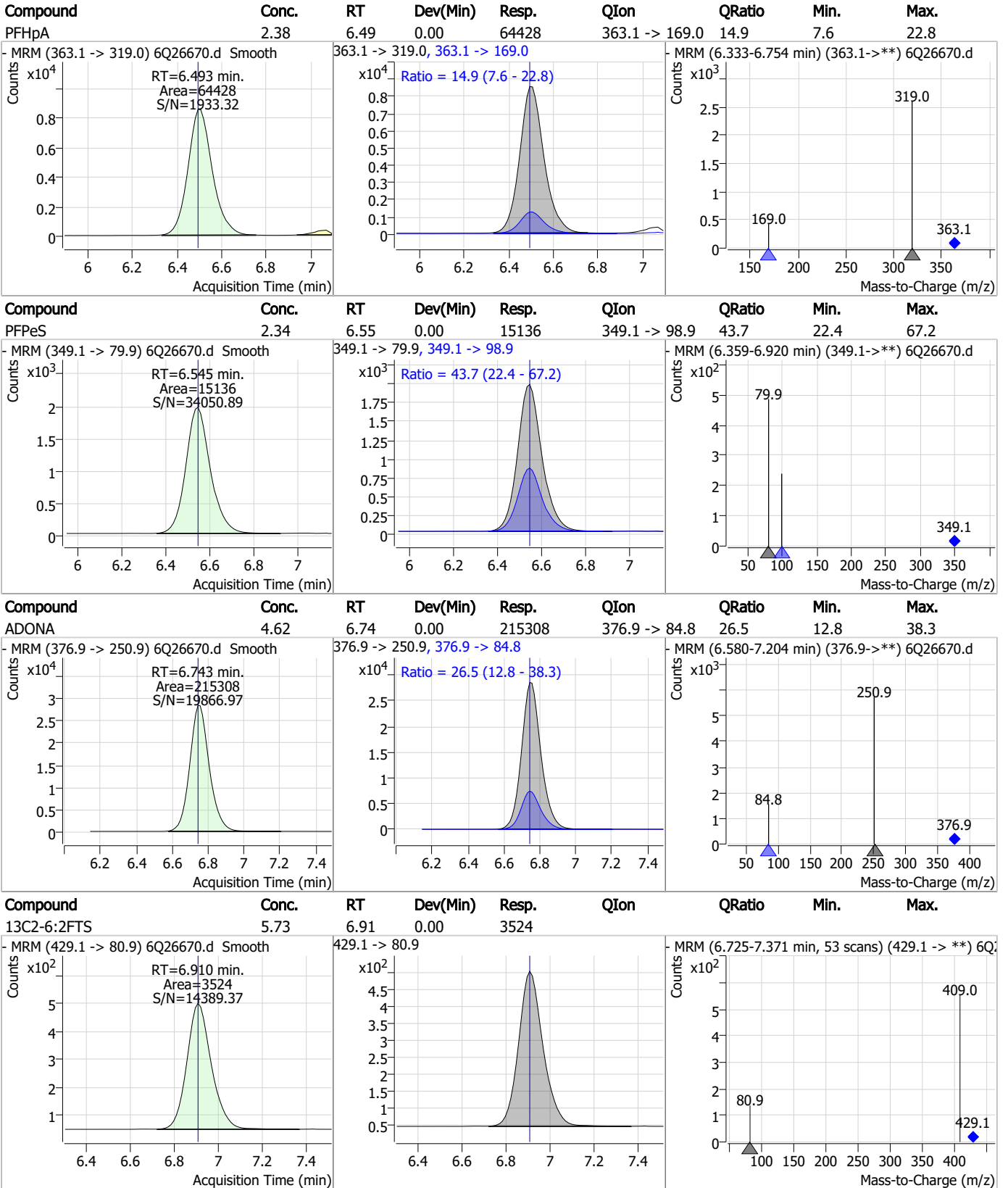
7.7.36  
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### Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
HFPO-DA	4.83	5.93	0.00	15651	284.9 -> 184.9	11.7	6.1	18.2
PFEESA	4.29	6.02	0.01	93416	314.8 -> 82.9	3.7	1.8	5.5
5:3FTCA	61.59	6.21	0.01	213662	341.0 -> 217.0	72.9	36.3	109.0
13C4-PFHpA	2.58	6.49	0.00	48905	367.1 -> 322.0			

7.7.36  
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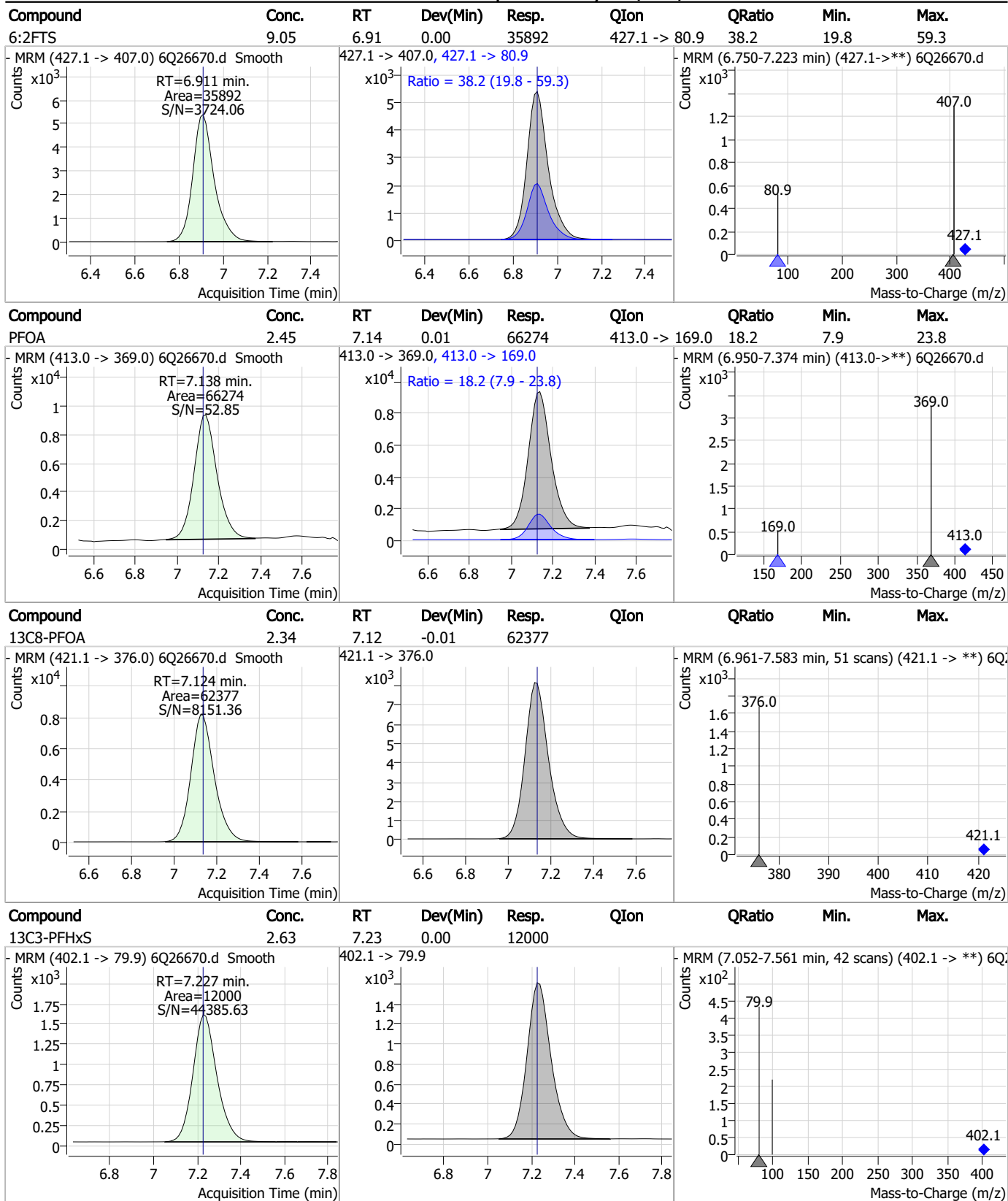
### Perfluorinated Compounds by LC/MS/MS



7.7.36  
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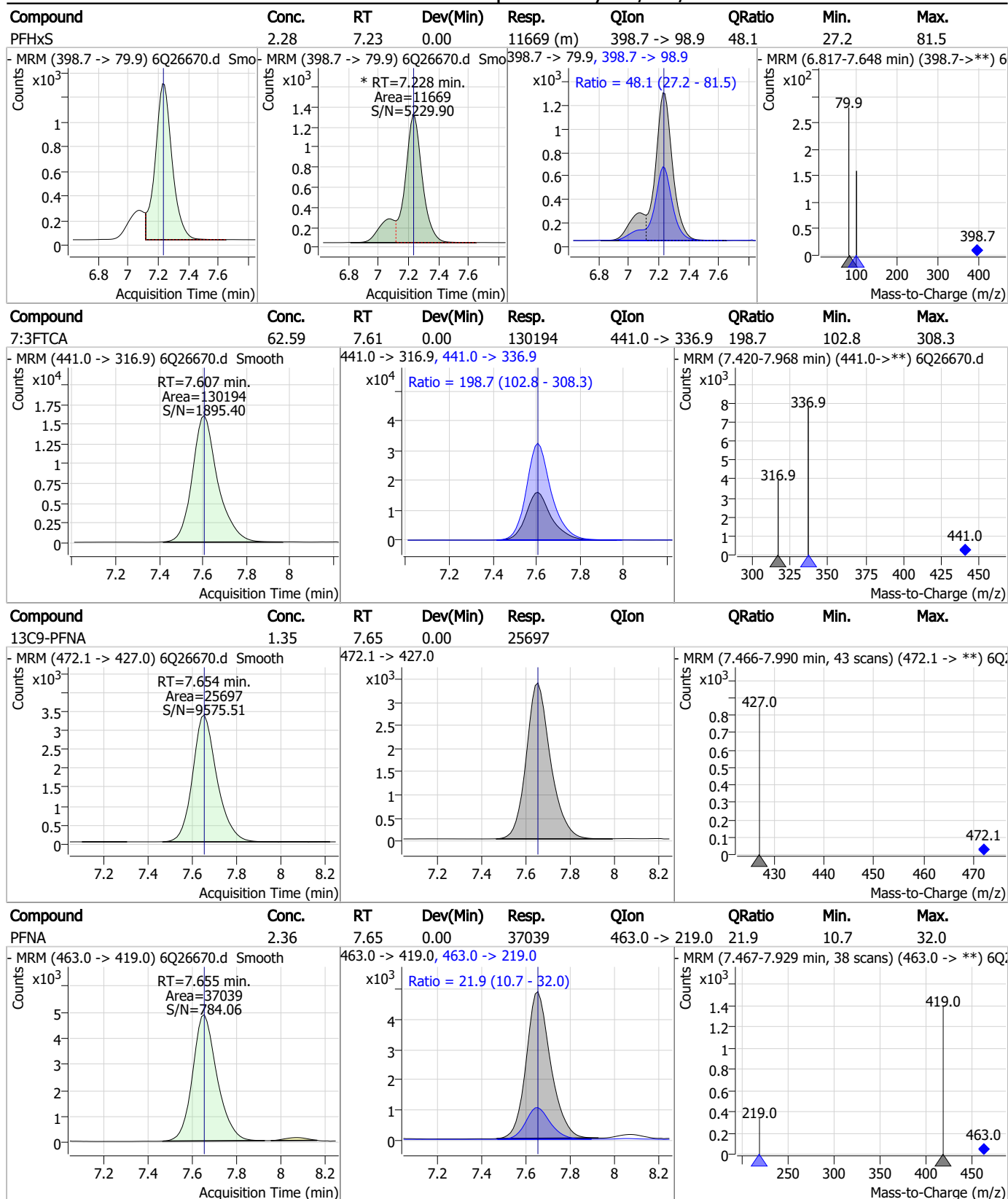
### Perfluorinated Compounds by LC/MS/MS



7.7.36  
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### Perfluorinated Compounds by LC/MS/MS



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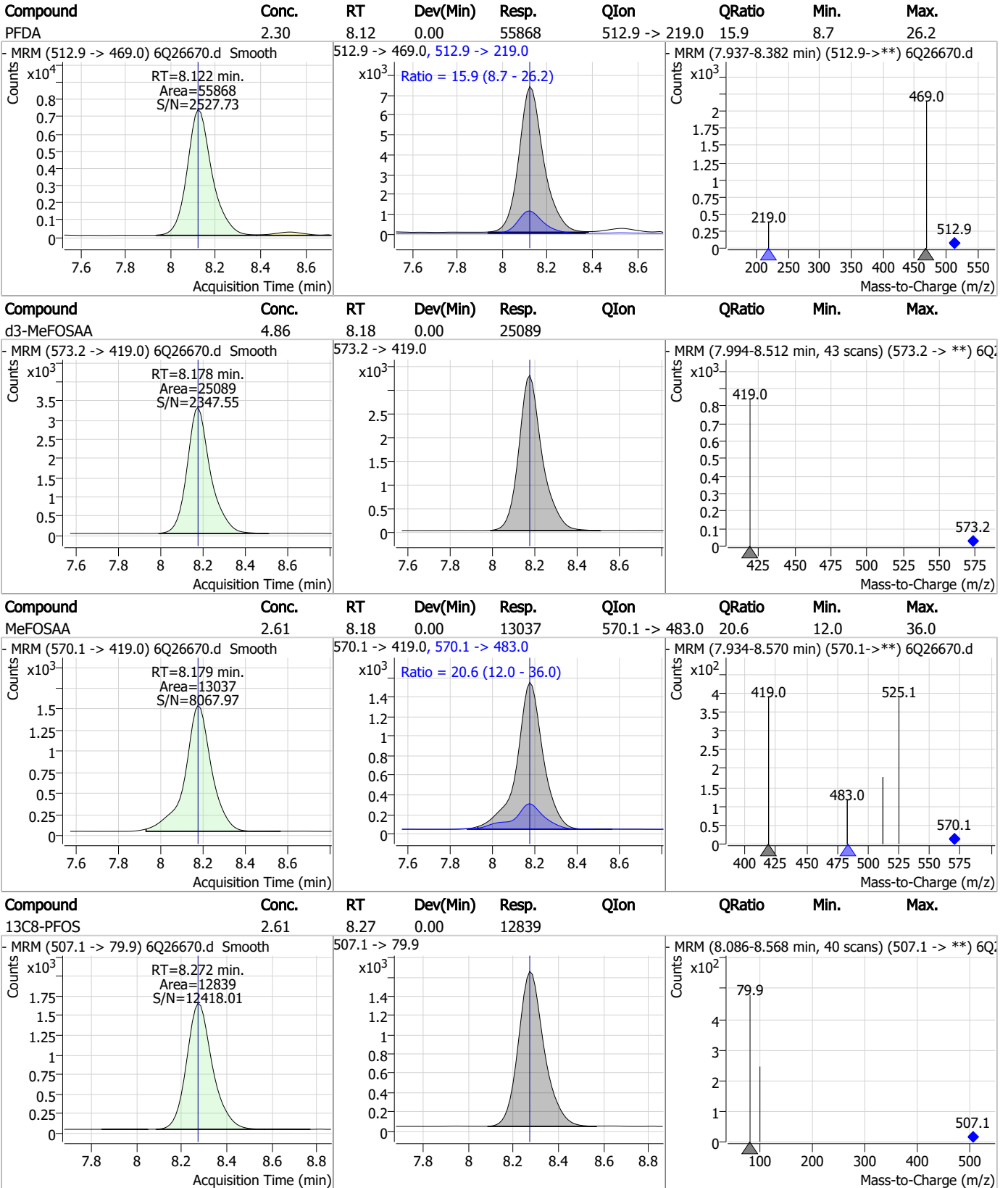
### Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpS	2.26	7.78	0.00	12195	449.0 -> 98.9	45.8	24.7	74.2
8:2FTS	10.07	7.92	0.01	28000	527.1 -> 80.8	37.1	17.3	51.8
13C2-8:2FTS	5.13	7.92	0.00	3695	529.1 -> 80.9			
13C6-PFDA	1.33	8.12	0.00	29788	519.1 -> 474.1			

7.7.36

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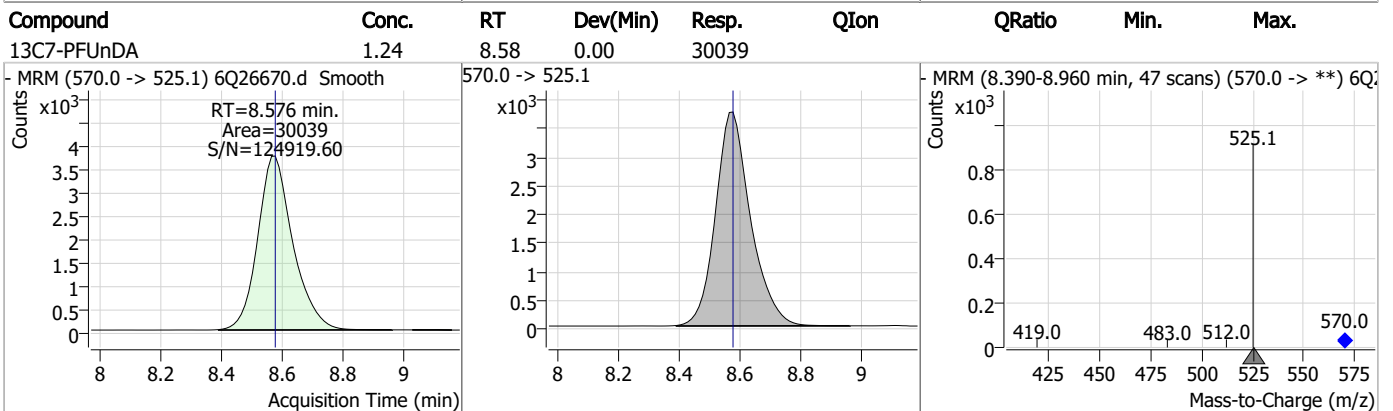
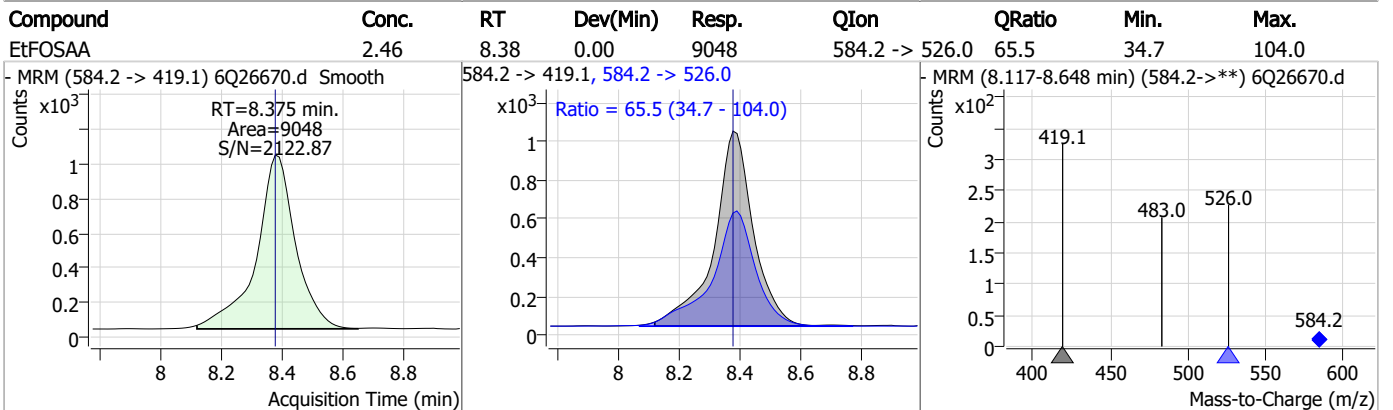
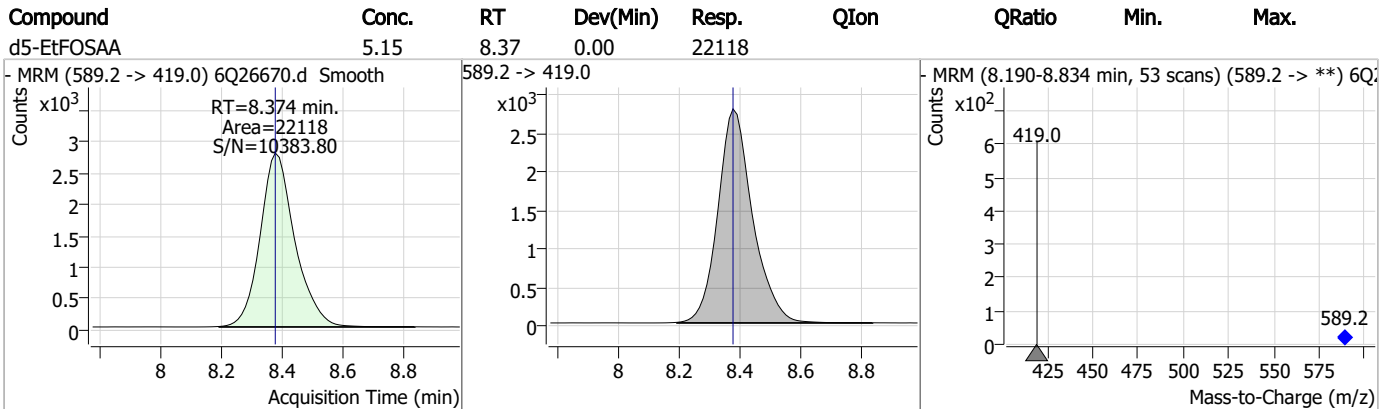
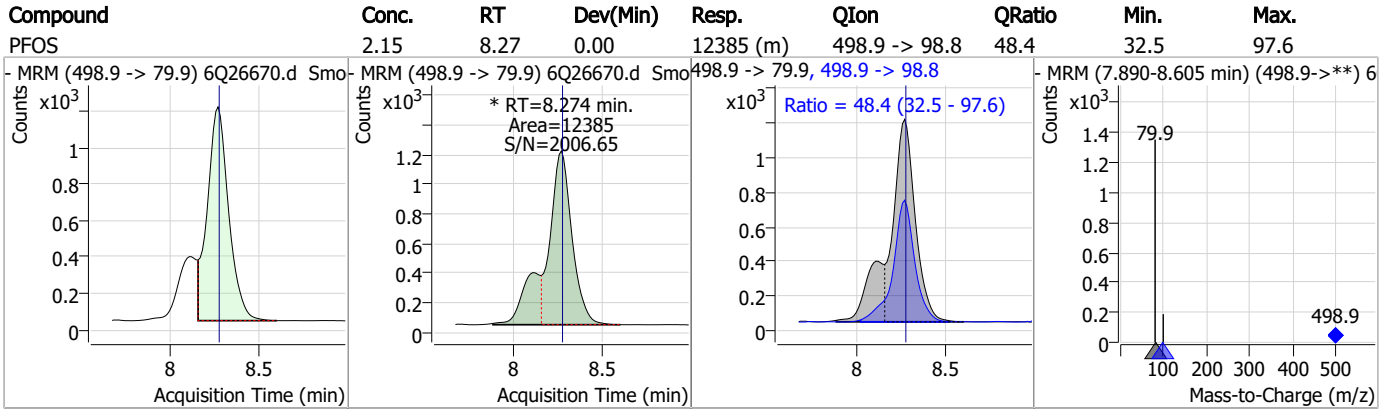
### Perfluorinated Compounds by LC/MS/MS



7.7.36  
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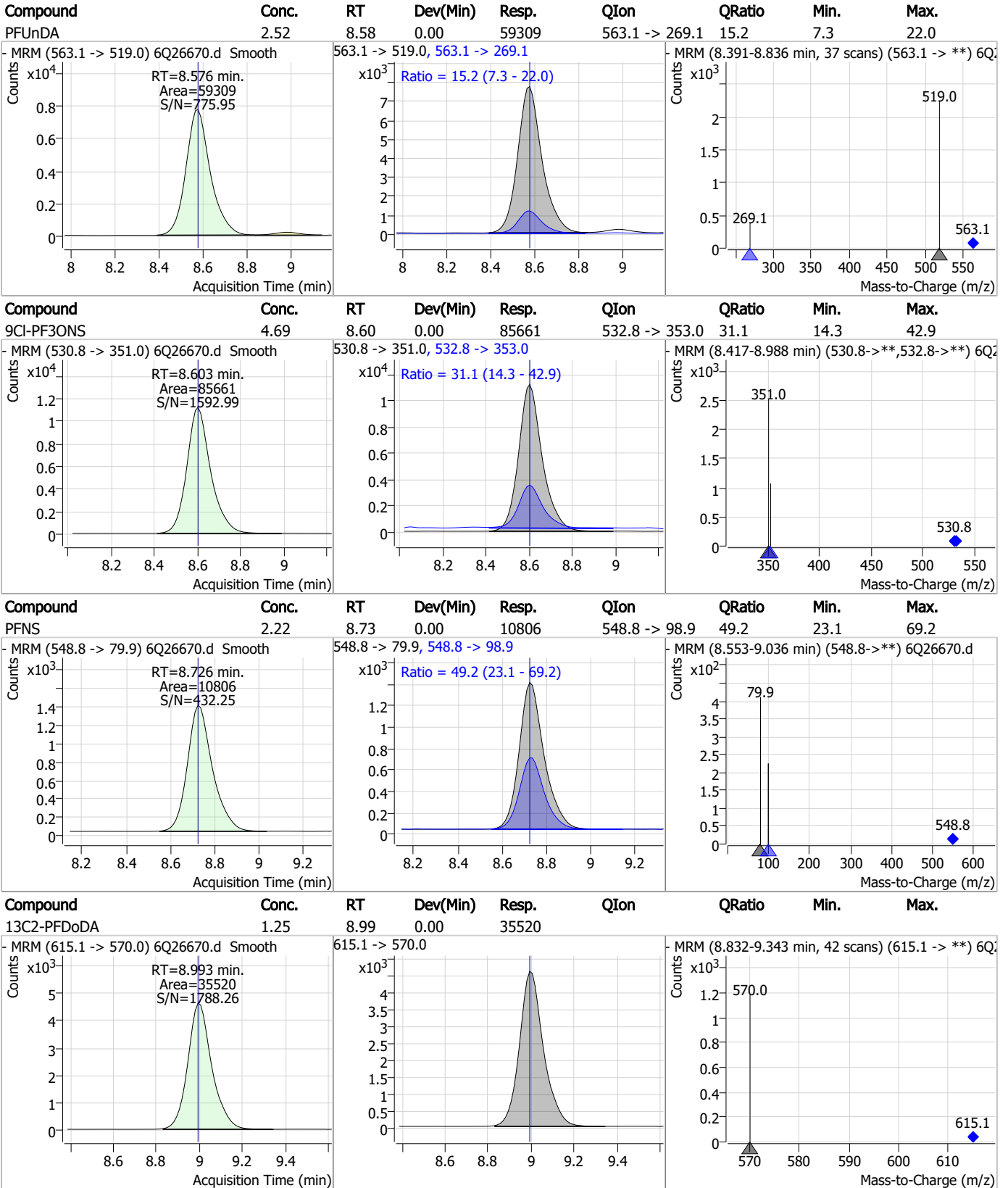


### Perfluorinated Compounds by LC/MS/MS



7.7.36  
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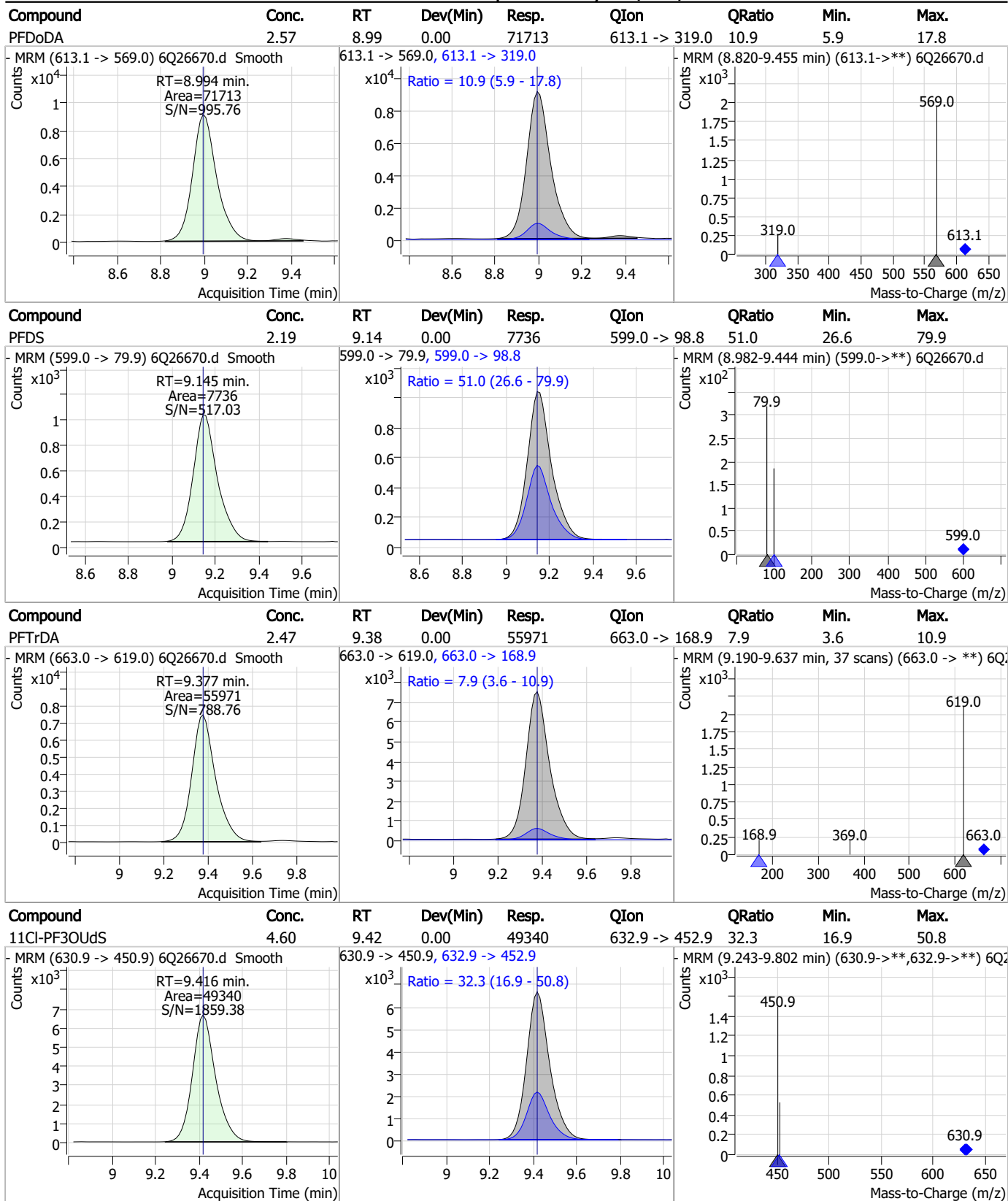
### Perfluorinated Compounds by LC/MS/MS



7.7.36  
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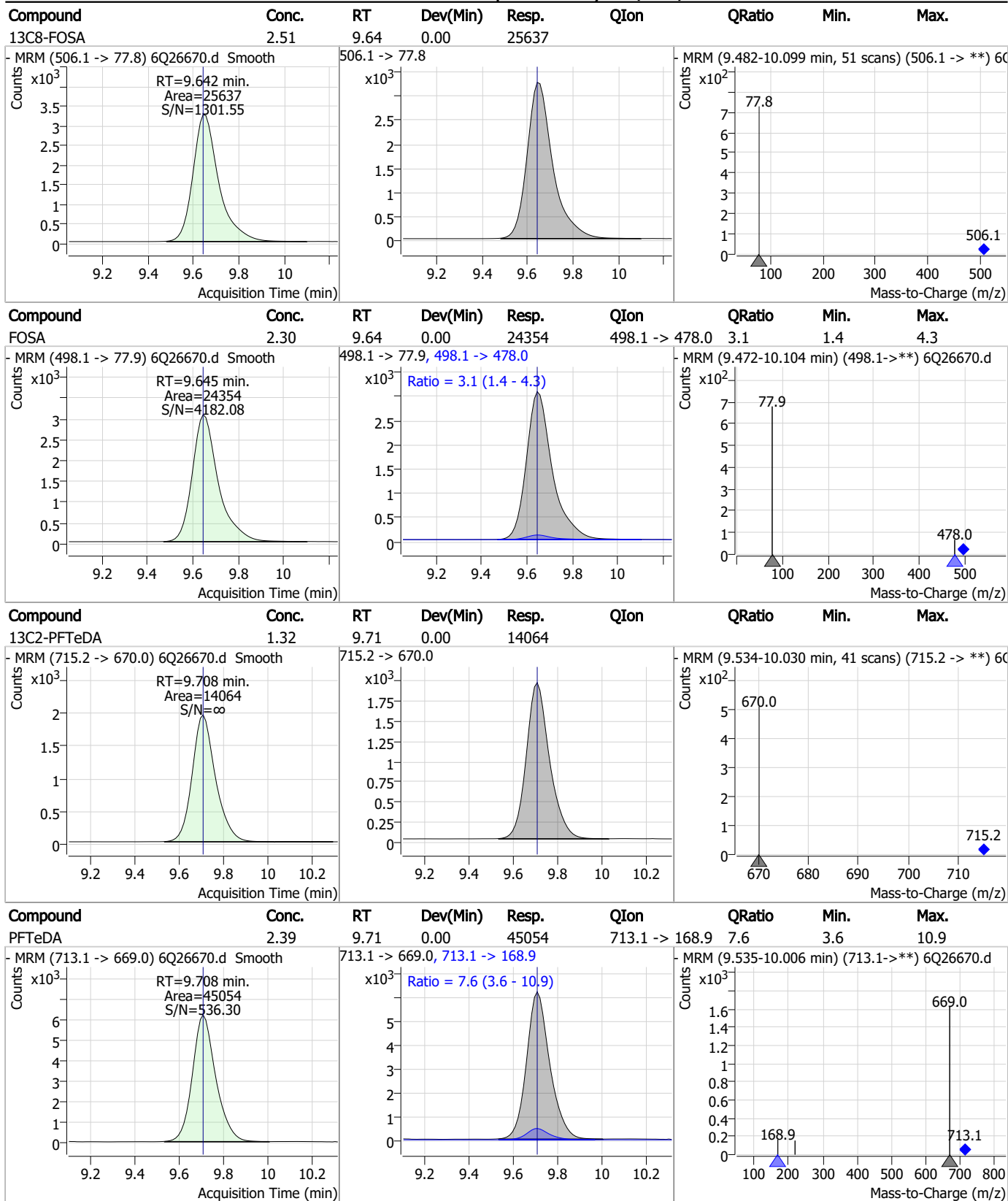


### Perfluorinated Compounds by LC/MS/MS



7.7.36  
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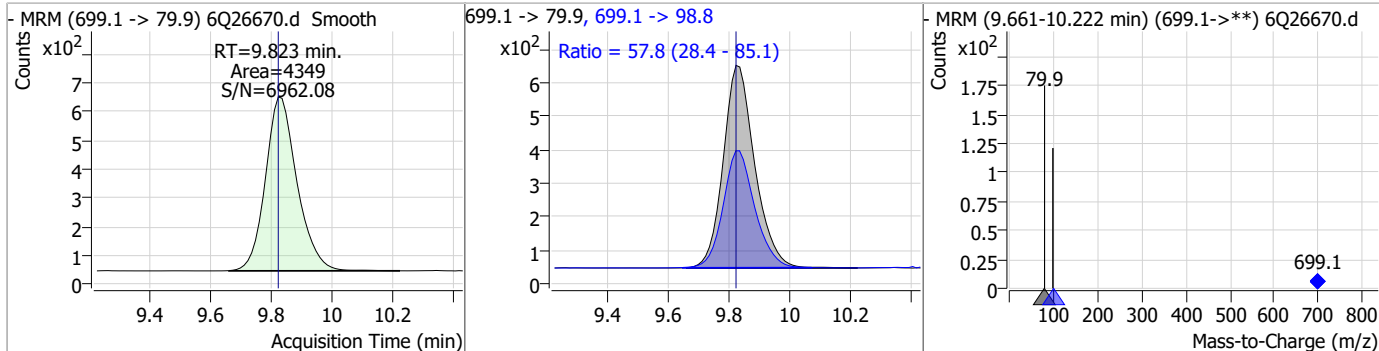
### Perfluorinated Compounds by LC/MS/MS



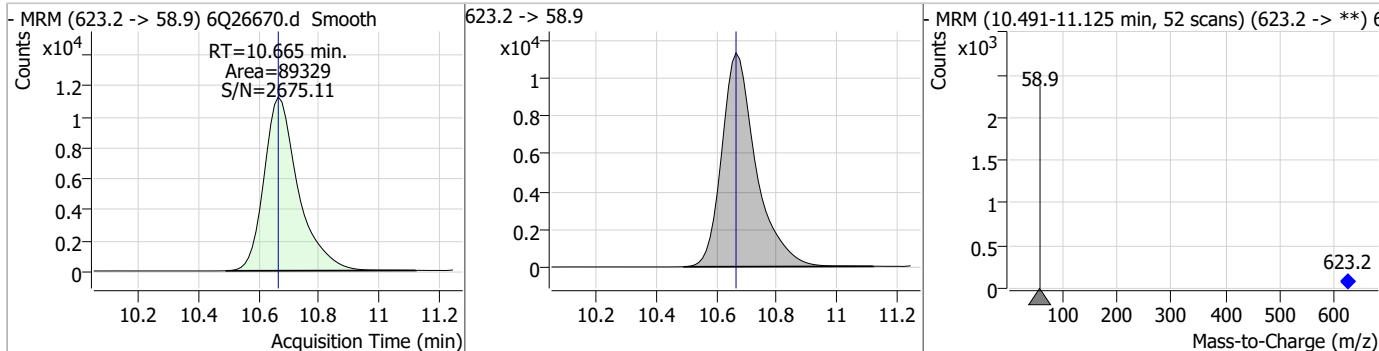
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### Perfluorinated Compounds by LC/MS/MS

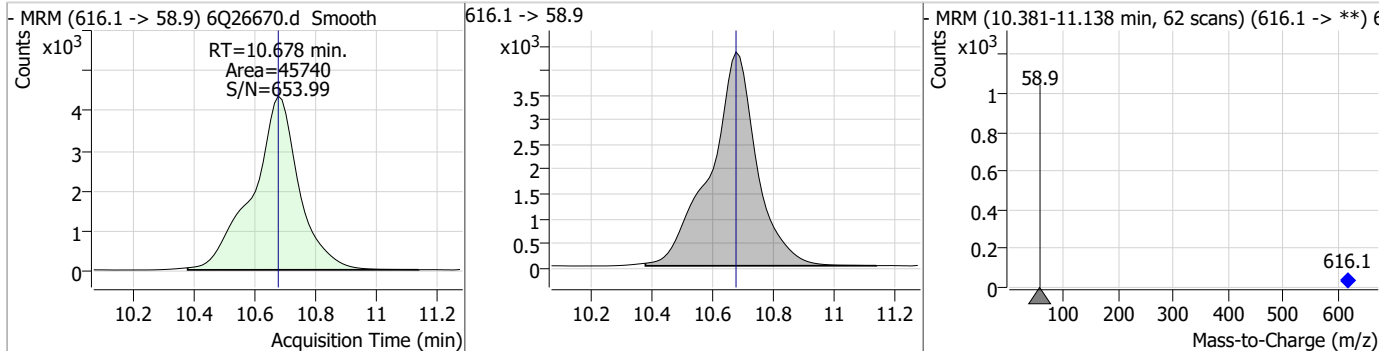
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoS	2.19	9.82	0.00	4349	699.1 -> 98.8	57.8	28.4	85.1



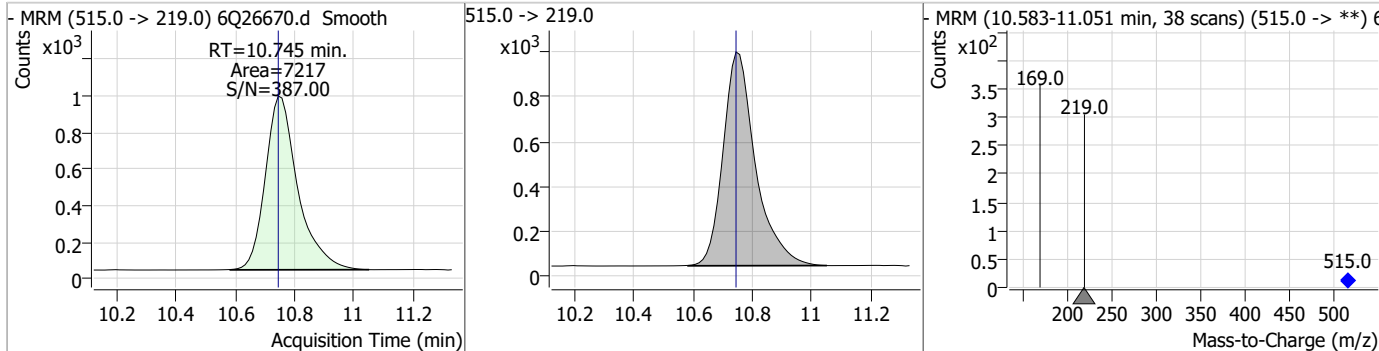
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d7-MeFOSE	24.84	10.67	0.00	89329				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSE	12.06	10.68	0.00	45740				

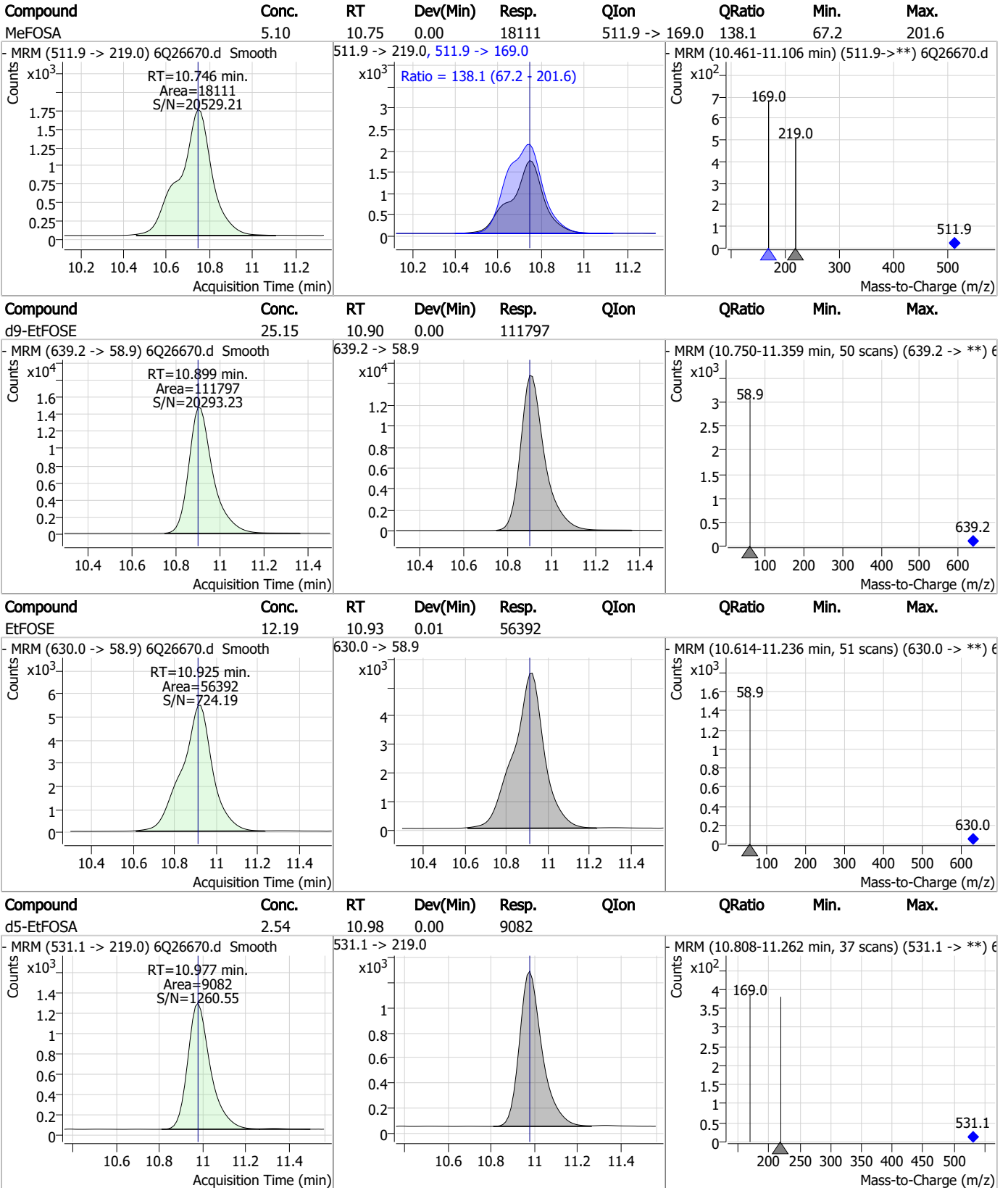


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSA	2.33	10.74	0.00	7217				





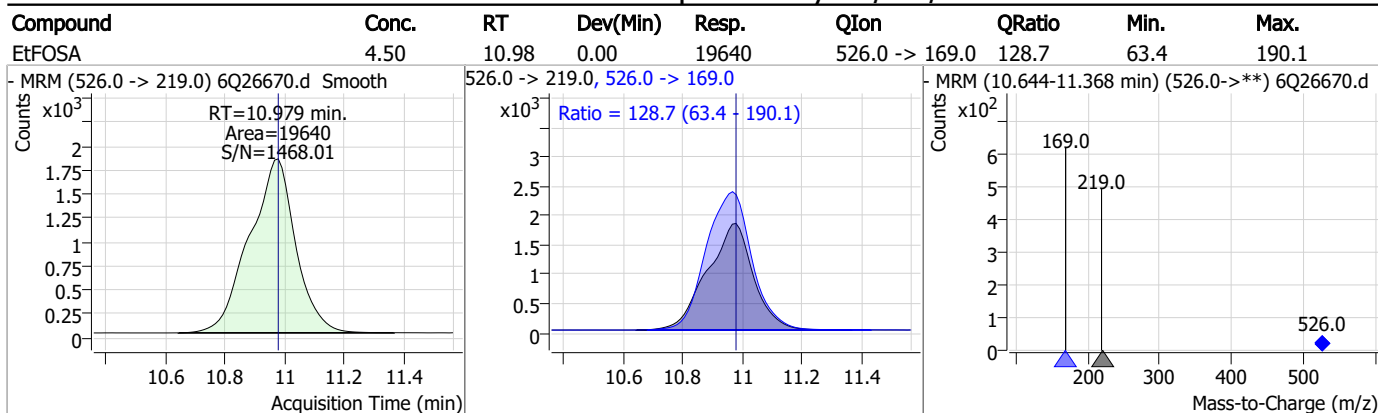
### Perfluorinated Compounds by LC/MS/MS



7.7.36  
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### Perfluorinated Compounds by LC/MS/MS



7.7.36  
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# Manual Integration Approval Summary

Sample Number: S6Q373-CC373      Method: EPA DRAFT 1633  
Lab FileID: 6Q26670.D      Analyst approved: 10/19/23 11:29 Martha Valls  
Injection Time: 10/18/23 17:39      Supervisor approved: 10/19/23 14:22 Natasha Gumtie

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		7.23	Split peak
Perfluorooctanesulfonic acid	1763-23-1		8.27	Split peak

7.7.36.1

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### Perfluorinated Compounds by LC/MS/MS

Data File : 6Q26676.d  
 Operator : marthav  
 Acq. Method : 1633full.m  
 Acq. Date-Time : 10/18/2023 7:05:39 PM  
 Sample Name : cc373-1.0LL  
 Vial : P1-A2  
 DA Method File : 1633\_101723\_S6Q373.quantmethod.xml  
 Batch Name : S6Q373.batch.bin  
 Sample Information : OP99081,S6Q373,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
<b>Internal Standards</b>					
M4-PFBA	2.926	216.8 -> 171.9	149000	10.00 µg/L	0.012
M5-PFPeA	4.346	268.3 -> 223.0	49746	5.00 µg/L	0.000
M5-PFHxA	5.552	318.0 -> 273.0	49434	2.50 µg/L	0.000
M4-PFHpA	6.493	367.1 -> 322.0	50034	2.50 µg/L	0.000
M8-PFOA	7.124	421.1 -> 376.0	68049	2.50 µg/L	-0.012
M9-PFNA	7.642	472.1 -> 427.0	25632	1.25 µg/L	-0.012
M6-PFDA	8.121	519.1 -> 474.1	28441	1.25 µg/L	0.000
M7-PFUnDA	8.564	570.0 -> 525.1	31710	1.25 µg/L	-0.012
M2-PFDoDA	8.993	615.1 -> 570.0	35599	1.25 µg/L	0.000
M2-PFTeDA	9.708	715.2 -> 670.0	13994	1.25 µg/L	0.000
M8-FOSA	9.642	506.1 -> 77.8	24703	2.50 µg/L	0.000
M3-PFBS	5.471	302.1 -> 79.9	21318	2.50 µg/L	0.000
M3-PFHxS	7.227	402.1 -> 79.9	12703	2.50 µg/L	0.000
M8-PFOS	8.272	507.1 -> 79.9	12177	2.50 µg/L	0.000
M2-4:2FTS	5.241	329.1 -> 80.9	2524	5.00 µg/L	0.012
M2-6:2FTS	6.910	429.1 -> 80.9	3490	5.00 µg/L	0.000
M2-8:2FTS	7.922	529.1 -> 80.9	4068	5.00 µg/L	0.000
M3-MeFOSAA	8.178	573.2 -> 419.0	24634	5.00 µg/L	0.000
M3-HFPO-DA	5.930	286.9 -> 168.9	32498	10.00 µg/L	0.012
M5-EtFOSAA	8.374	589.2 -> 419.0	22509	5.00 µg/L	0.000
M7-MeFOSE	10.665	623.2 -> 58.9	91044	25.00 µg/L	0.000
M9-EtFOSE	10.899	639.2 -> 58.9	116701	25.00 µg/L	0.000
M5-EtFOSA	10.977	531.1 -> 219.0	8922	2.50 µg/L	0.000
M3-MeFOSA	10.745	515.0 -> 219.0	7462	2.50 µg/L	0.000
13C4-PFOS	8.273	502.8 -> 79.9	11081	2.50 µg/L	0.000
13C3-PFBA	2.916	216.0 -> 172.0	60688	5.00 µg/L	0.000
18O2-PFHxS	7.226	403.0 -> 83.9	7238	2.50 µg/L	0.000
13C4-PFOA	7.125	417.1 -> 372.0	77171	2.50 µg/L	0.000
13C2-PFDA	8.122	515.1 -> 470.1	27903	1.25 µg/L	0.000
13C5-PFNA	7.642	468.0 -> 423.0	24736	1.25 µg/L	-0.012
13C2-PFHxA	5.553	315.1 -> 270.0	49515	2.50 µg/L	0.000
<b>System Monitoring Compounds</b>					
13C2-4:2FTS	5.241	329.1 -> 80.9	2524	5.58 µg/L	0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 111.7%		
13C2-6:2FTS	6.910	429.1 -> 80.9	3490	5.47 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 109.3%		
13C2-8:2FTS	7.922	529.1 -> 80.9	4068	5.44 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 108.8%		
13C2-PFDoDA	8.993	615.1 -> 570.0	35599	1.18 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 94.5%		
13C2-PFTeDA	9.708	715.2 -> 670.0	13994	1.24 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 99.0%		
13C3-PFBS	5.471	302.1 -> 79.9	21318	2.66 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 106.4%		
13C3-PFHxS	7.227	402.1 -> 79.9	12703	2.68 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 = 107.2%	
13C4-PFBA	2.926	216.8 -> 171.9	149000	9.96 µg/L	0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 99.6%	
13C4-PFHpA	6.493	367.1 -> 322.0	50034	2.49 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 99.7%	
13C5-PFHxA	5.552	318.0 -> 273.0	49434	2.49 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 99.6%	
13C5-PFPeA	4.346	268.3 -> 223.0	49746	4.99 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 99.8%	
13C6-PFDA	8.121	519.1 -> 474.1	28441	1.20 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 95.7%	
13C7-PFUnDA	8.564	570.0 -> 525.1	31710	1.23 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 98.5%	
13C8-FOSA	9.642	506.1 -> 77.8	24703	2.42 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 96.9%	
13C8-PFOA	7.124	421.1 -> 376.0	68049	2.46 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 98.6%	
13C8-PFOS	8.272	507.1 -> 79.9	12177	2.49 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 99.4%	
13C9-PFNA	7.642	472.1 -> 427.0	25632	1.21 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 96.4%	
d3-MeFOSAA	8.178	573.2 -> 419.0	24634	4.79 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 95.9%	
13C3-HFPO-DA	5.930	286.9 -> 168.9	32498	9.98 µg/L	0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 99.8%	
d3-MeFOSA	10.745	515.0 -> 219.0	7462	2.42 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 96.9%	
d5-EtFOSAA	8.374	589.2 -> 419.0	22509	5.26 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 105.2%	
d7-MeFOSE	10.665	623.2 -> 58.9	91044	25.41 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 101.6%	
d9-EtFOSE	10.899	639.2 -> 58.9	116701	26.35 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 105.4%	
d5-EtFOSA	10.977	531.1 -> 219.0	8922	2.50 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 100.1%	
<b>Target Compounds</b>					<b>QValue</b>
4:2FTS	5.241	327.1 -> 307.0	2909	0.66 µg/L	100
		327.1 -> 80.9	1164		
6:2FTS	6.911	427.1 -> 407.0	2862	0.73 µg/L	96
		427.1 -> 80.9	1056		
8:2FTS	7.910	527.1 -> 507.0	2380	0.78 µg/L	96
		527.1 -> 80.8	768		
EtFOSAA	8.375	584.2 -> 419.1	754	0.20 µg/L	83
		584.2 -> 526.0	417		
FOSA	9.645	498.1 -> 77.9	1716	0.17 µg/L	99
		498.1 -> 478.0	43		
MeFOSAA	8.167	570.1 -> 419.0	1172	0.24 µg/L	98
		570.1 -> 483.0	268	m	
PFBA	2.919	212.8 -> 168.9	4123	0.72 µg/L	100
PFBS	5.484	298.7 -> 79.9	1163	0.17 µg/L	100
		298.7 -> 98.8	435		
PFDA	8.122	512.9 -> 469.0	3785	0.16 µg/L	96
		512.9 -> 219.0	597		
PFDODA	8.994	613.1 -> 569.0	4924	0.18 µg/L	98
		613.1 -> 319.0	545		
PFDS	9.145	599.0 -> 79.9	652	0.19 µg/L	76

7.7.37  
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Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
		599.0 -> 98.8	234			
PFHpA	6.493	363.1 -> 319.0	4385	0.16	µg/L	100
		363.1 -> 169.0	673			
PFHpS	7.781	449.0 -> 79.9	875	0.17	µg/L	98
		449.0 -> 98.9	448			
PFHxA	5.555	313.0 -> 269.0	3243	0.18	µg/L	100
		313.0 -> 118.9	173			
PFHxS	7.228	398.7 -> 79.9	959	0.18	µg/L	m 88
		398.7 -> 98.9	437			
PFNA	7.642	463.0 -> 419.0	2813	0.18	µg/L	94
		463.0 -> 219.0	683			
PFNS	8.726	548.8 -> 79.9	858	0.19	µg/L	93
		548.8 -> 98.9	438			
PFOA	7.125	413.0 -> 369.0	4964	0.17	µg/L	95
		413.0 -> 169.0	900			
PFOS	8.261	498.9 -> 79.9	982	0.18	µg/L	78
		498.9 -> 98.8	467			
PFPeA	4.349	263.0 -> 219.0	4234	0.36	µg/L	100
PFPeS	6.545	349.1 -> 79.9	1191	0.17	µg/L	98
		349.1 -> 98.9	550			
PFTeDA	9.708	713.1 -> 669.0	3426	0.18	µg/L	95
		713.1 -> 168.9	315			
PFTrDA	9.377	663.0 -> 619.0	4312	0.19	µg/L	98
		663.0 -> 168.9	341			
PFUnDA	8.576	563.1 -> 519.0	4021	0.16	µg/L	92
		563.1 -> 269.1	729			
11CI-PF3OUdS	9.416	630.9 -> 450.9	3663	0.33	µg/L	100
		632.9 -> 452.9	1248			
9CI-PF3ONS	8.603	530.8 -> 351.0	6425	0.34	µg/L	82
		532.8 -> 353.0	2449			
ADONA	6.743	376.9 -> 250.9	16063	0.33	µg/L	93
		376.9 -> 84.8	4705			
HFPO-DA	5.931	284.9 -> 168.9	1211	0.36	µg/L	94
		284.9 -> 184.9	118			
3:3FTCA	3.777	241.0 -> 177.0	716	0.85	µg/L	99
		241.0 -> 117.0	94			
5:3FTCA	6.197	341.0 -> 237.1	16292	4.42	µg/L	98
		341.0 -> 217.0	11599			
7:3FTCA	7.607	441.0 -> 316.9	9958	4.50	µg/L	87
		441.0 -> 336.9	18417			
EtFOSA	10.966	526.0 -> 219.0	1492	0.35	µg/L	94
		526.0 -> 169.0	1991			
EtFOSE	10.913	630.0 -> 58.9	4279	0.89	µg/L	100
MeFOSA	10.746	511.9 -> 219.0	1405	0.38	µg/L	99
		511.9 -> 169.0	1904			
MeFOSE	10.678	616.1 -> 58.9	3561	0.92	µg/L	100
PFDoDS	9.823	699.1 -> 79.9	298	0.16	µg/L	94
		699.1 -> 98.8	183			
NFDHA	5.435	295.0 -> 201.0	774	0.34	µg/L	92
		295.0 -> 84.9	179			
PFMBA	4.775	279.0 -> 85.1	3138	0.35	µg/L	100
PFMPA	3.475	229.0 -> 84.9	2518	0.34	µg/L	100
PFEESA	6.011	314.8 -> 134.9	7353	0.32	µg/L	98
		314.8 -> 82.9	235			

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



7.7.37  
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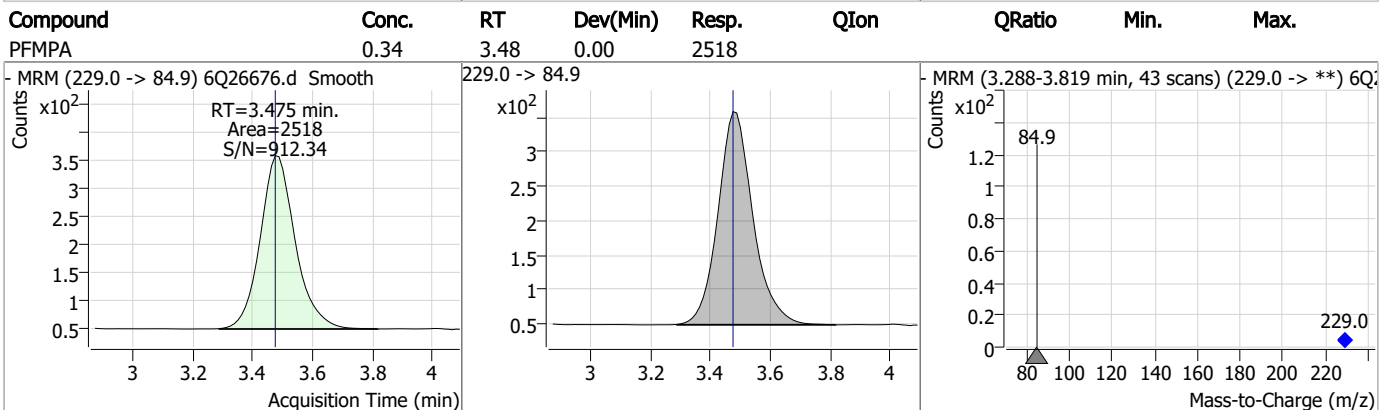
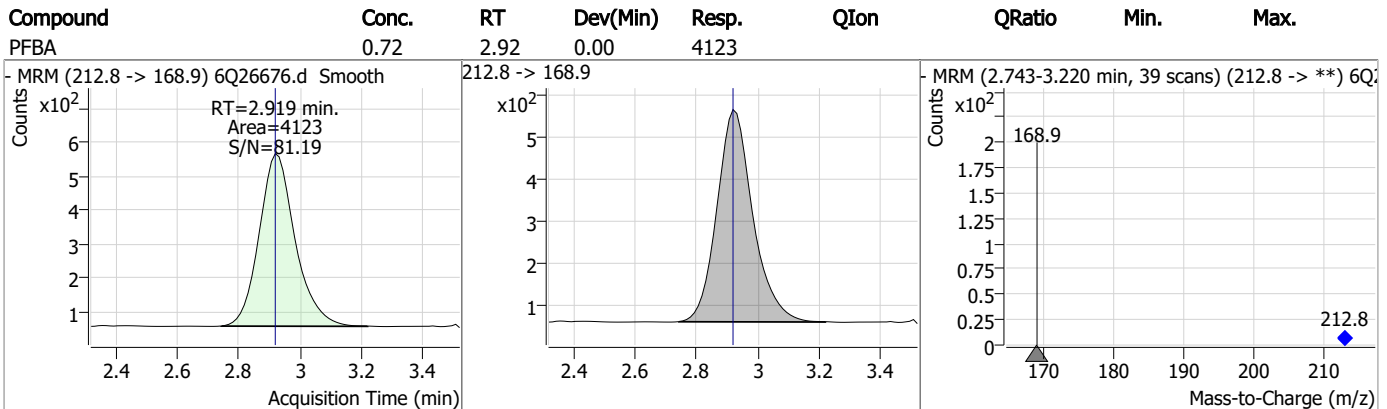
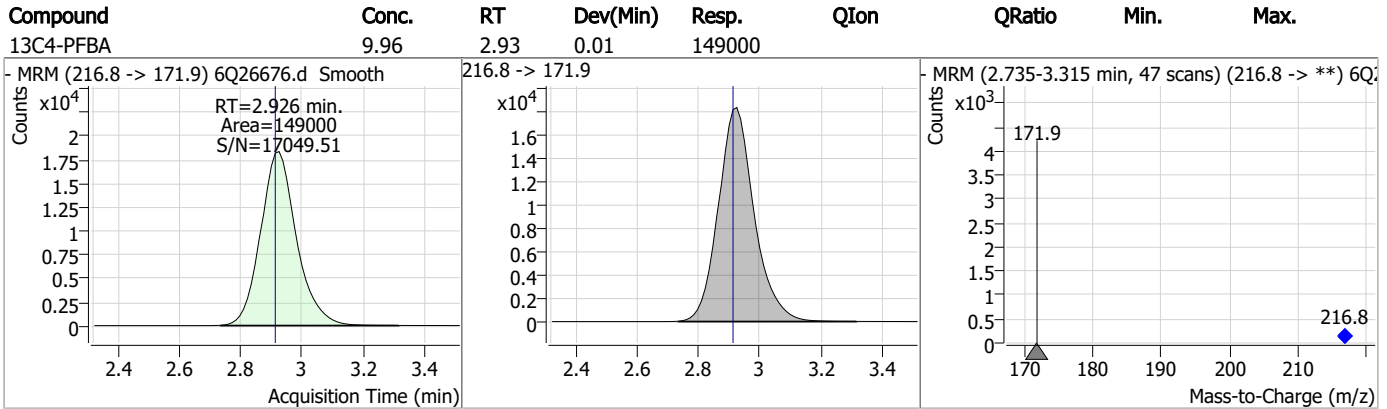
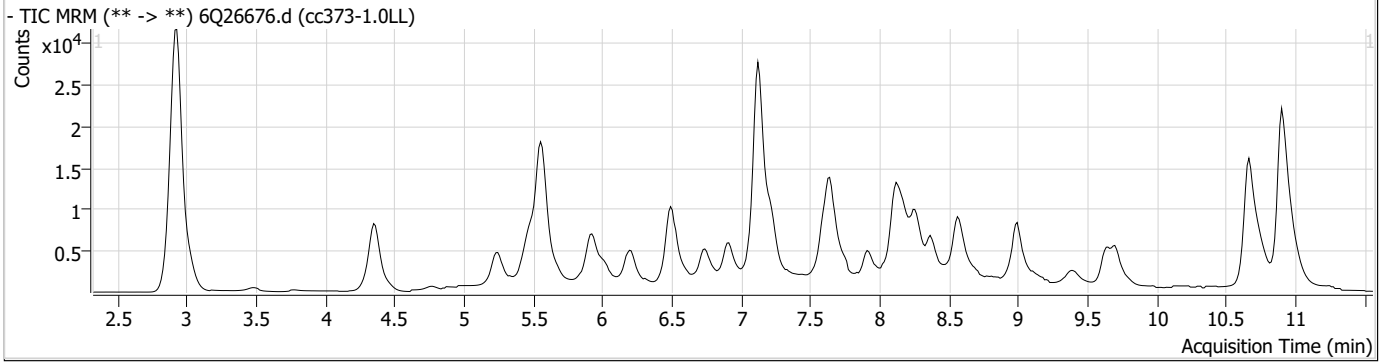
### Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
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7.7.37  
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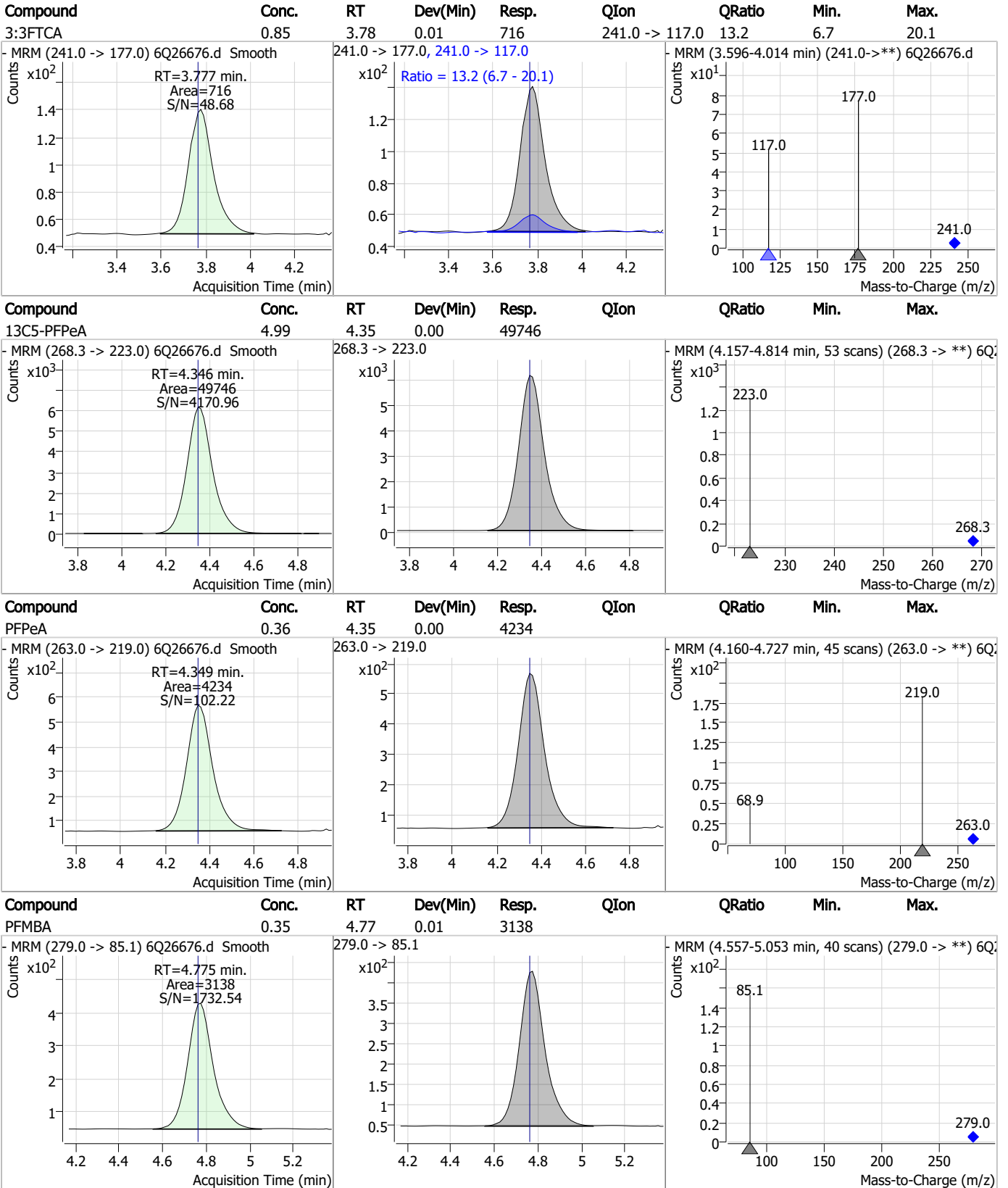


### Perfluorinated Compounds by LC/MS/MS





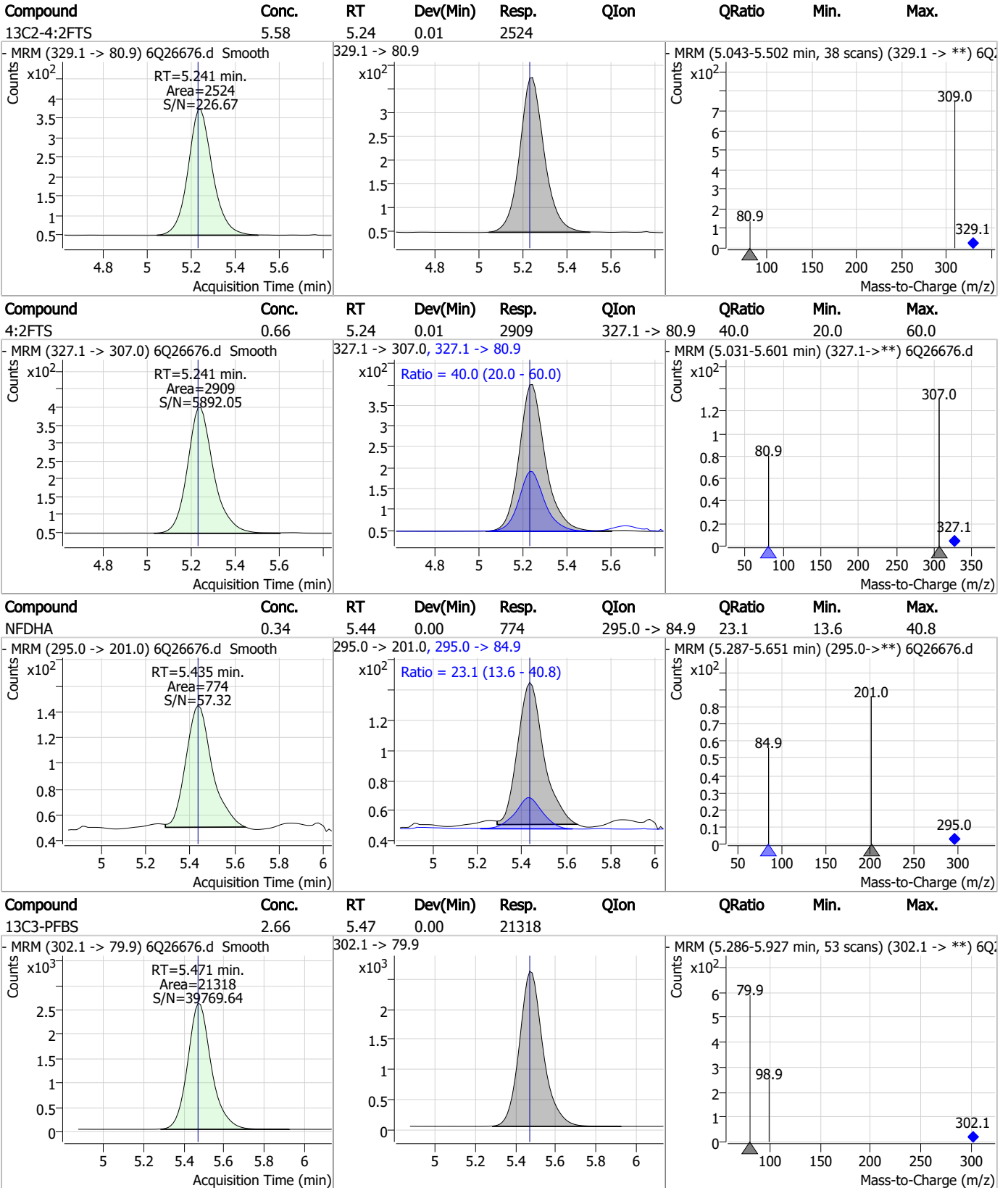
### Perfluorinated Compounds by LC/MS/MS



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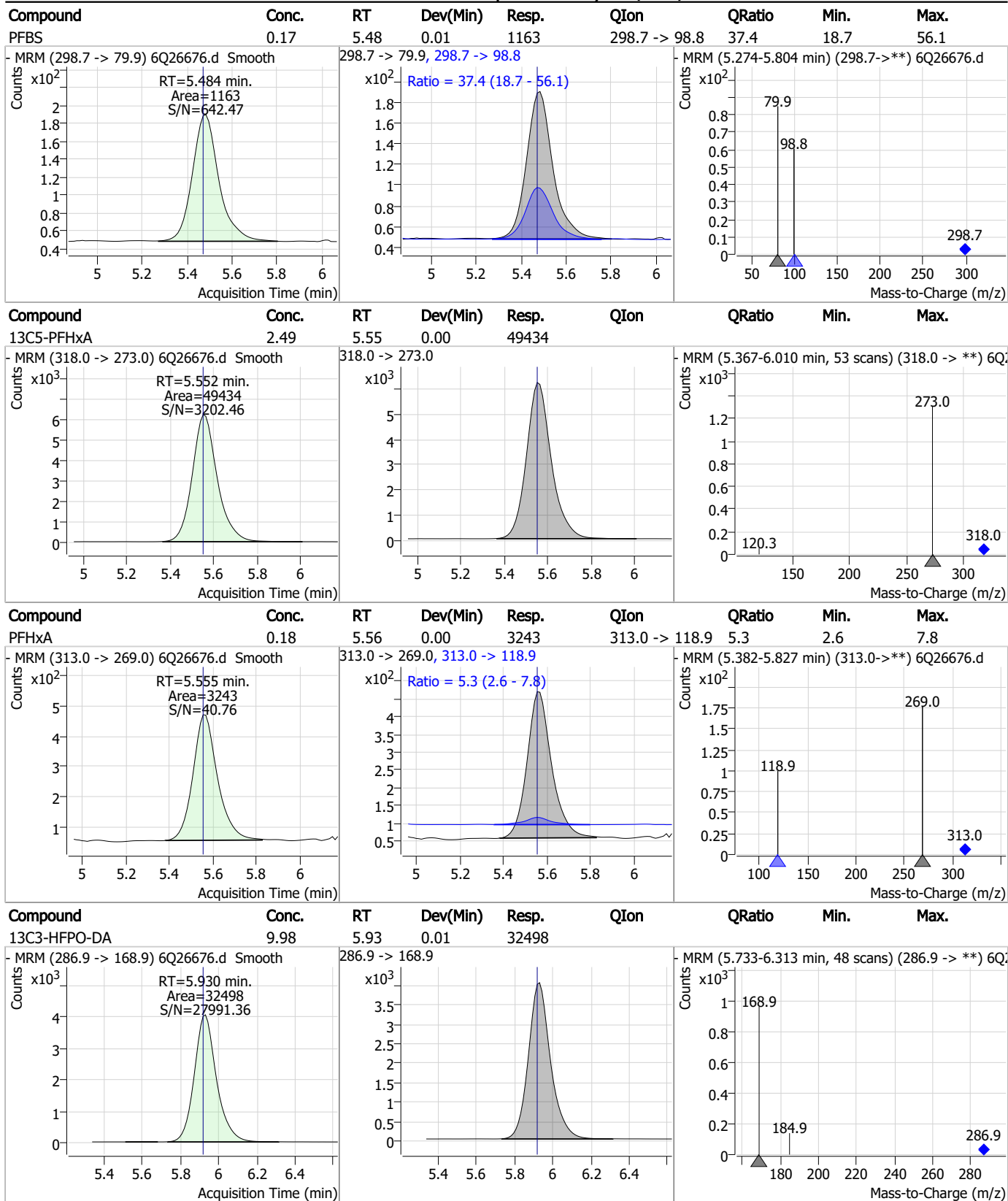
### Perfluorinated Compounds by LC/MS/MS



7.7.37  
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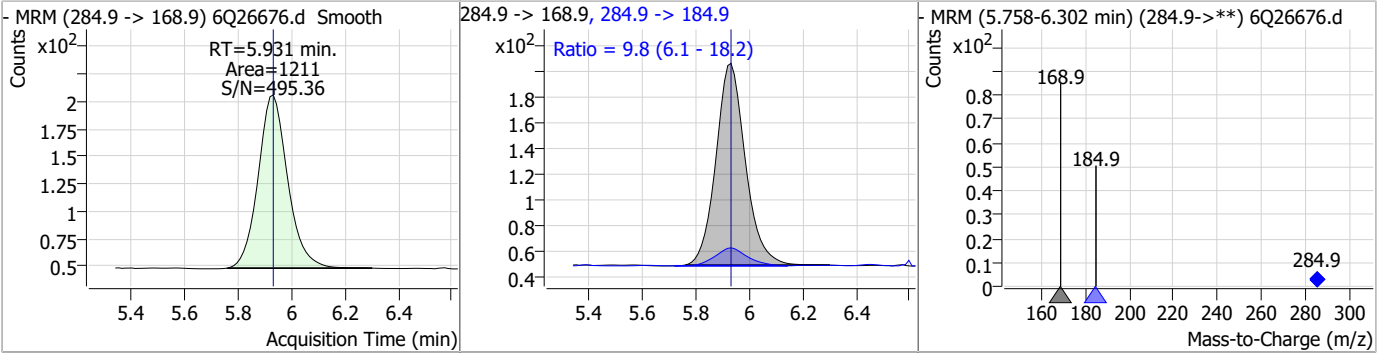
### Perfluorinated Compounds by LC/MS/MS



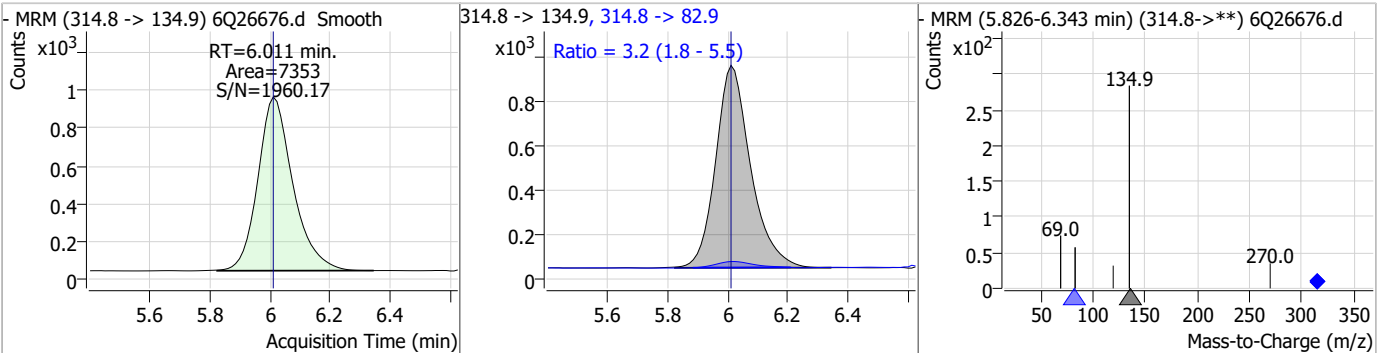
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### Perfluorinated Compounds by LC/MS/MS

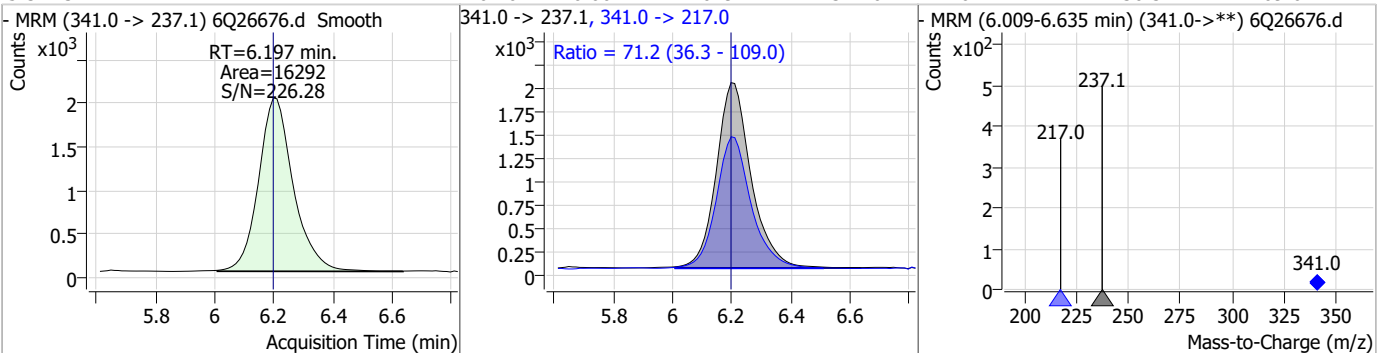
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
HFPO-DA	0.36	5.93	0.00	1211	284.9 -> 184.9	9.8	6.1	18.2



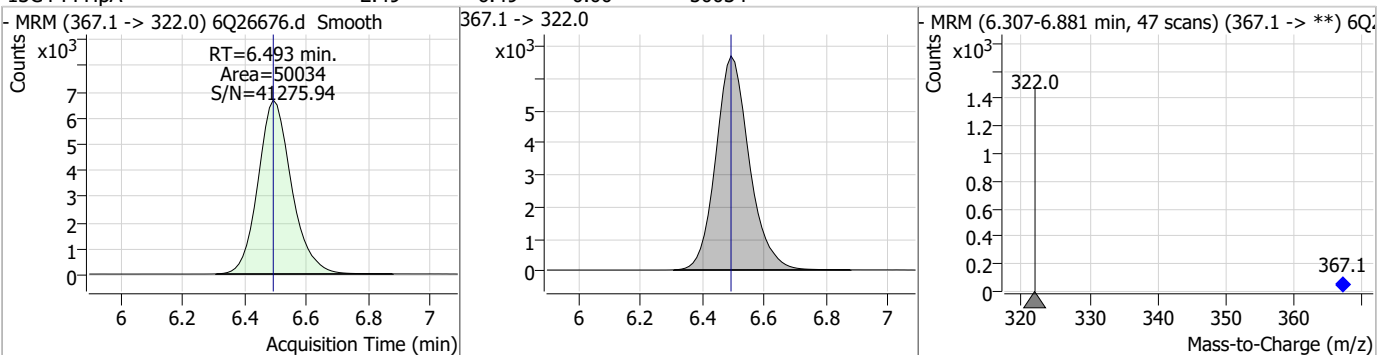
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFEESA	0.32	6.01	0.00	7353	314.8 -> 82.9	3.2	1.8	5.5



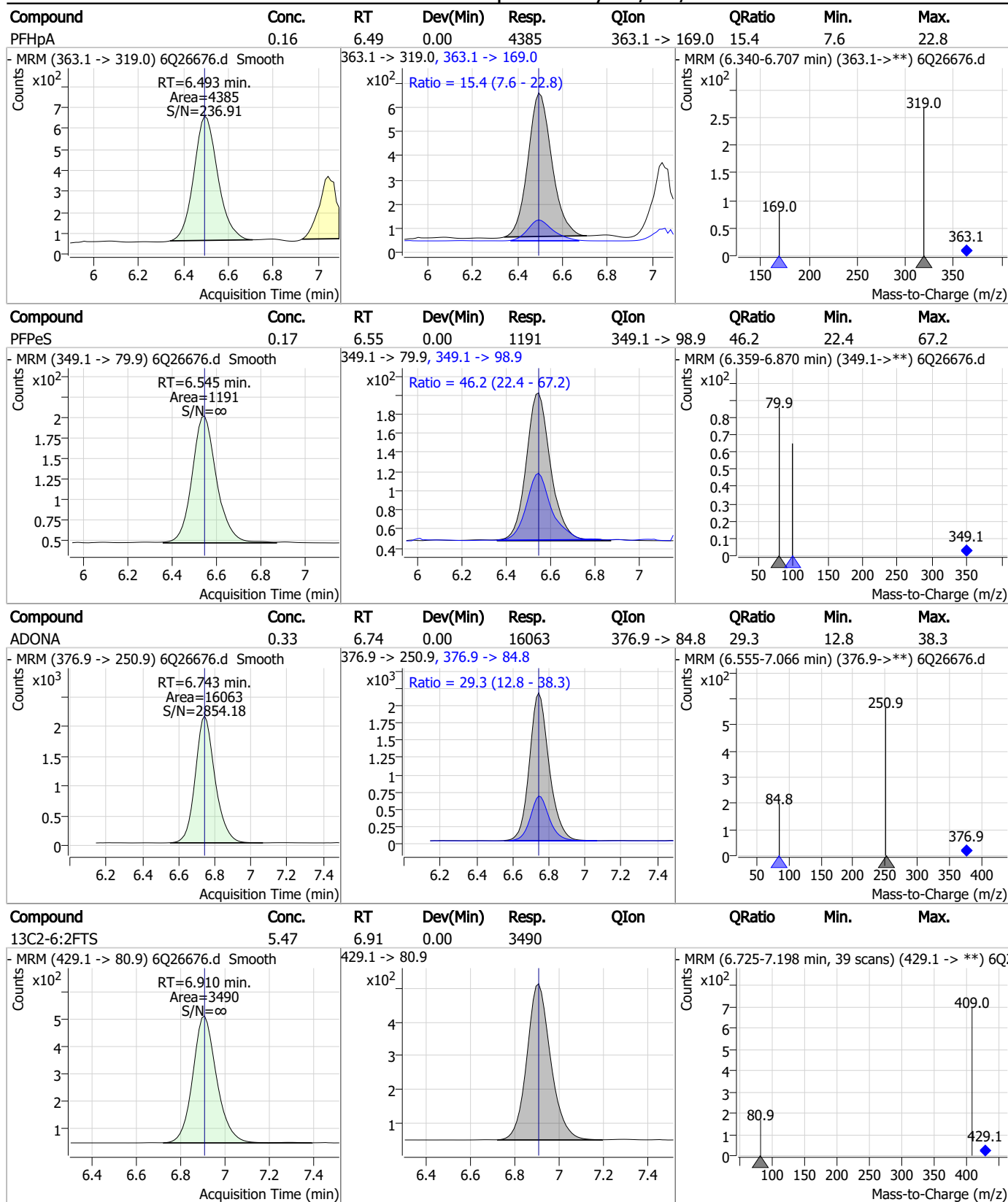
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
5:3FTCA	4.42	6.20	0.00	16292	341.0 -> 217.0	71.2	36.3	109.0



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFHpa	2.49	6.49	0.00	50034	367.1 -> 322.0	-	-	-

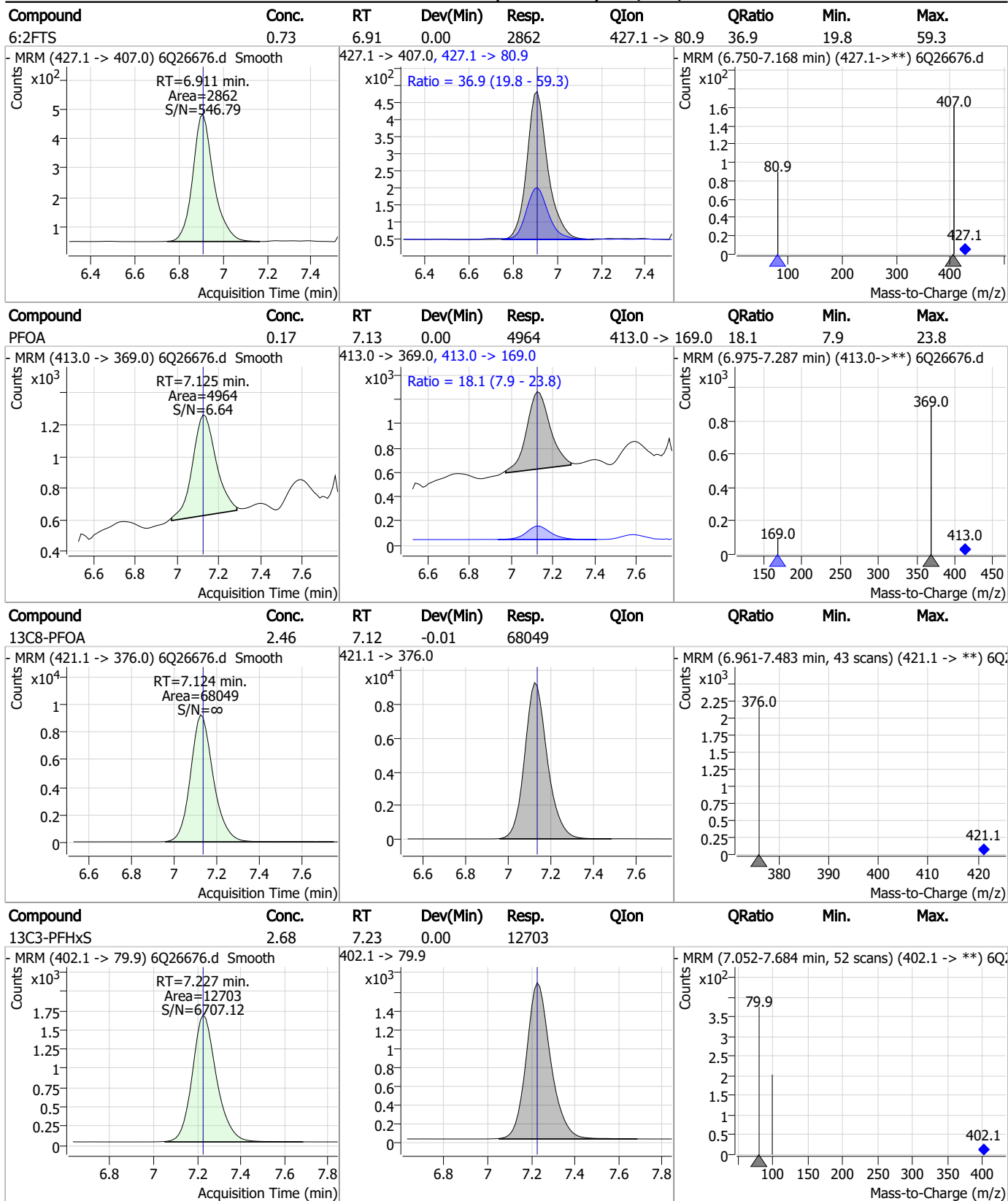


### Perfluorinated Compounds by LC/MS/MS



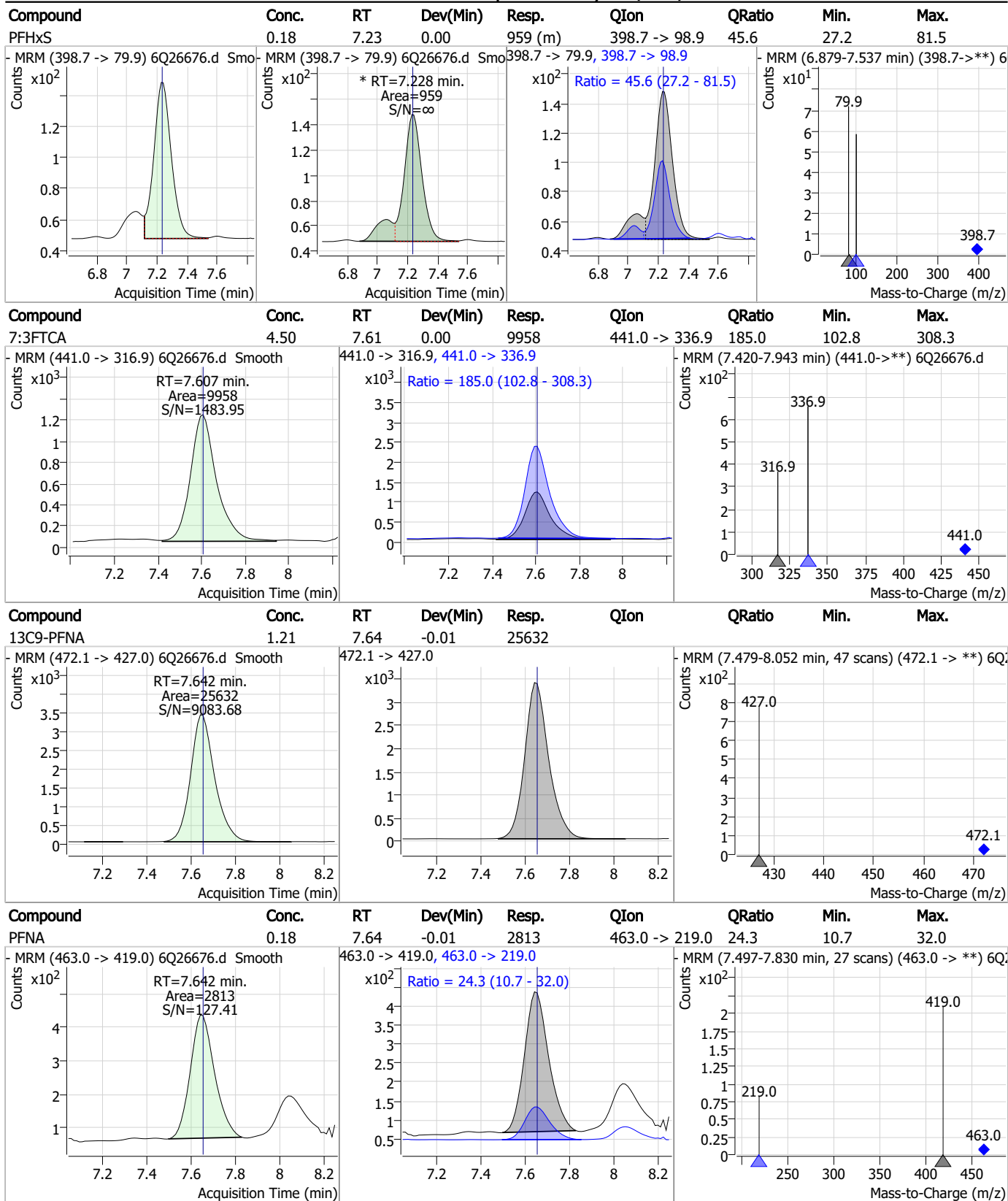
7.7.37  
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### Perfluorinated Compounds by LC/MS/MS



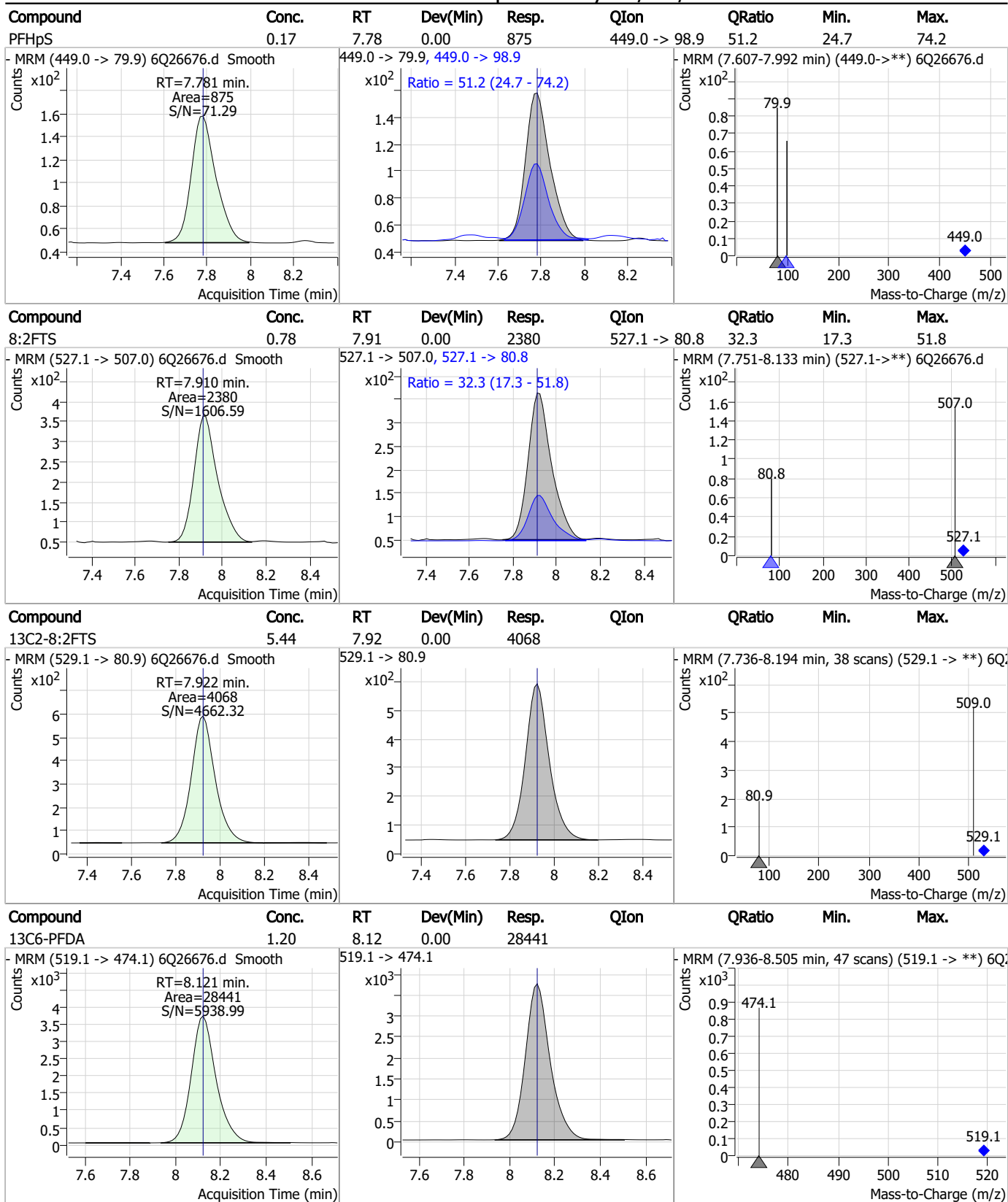
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### Perfluorinated Compounds by LC/MS/MS



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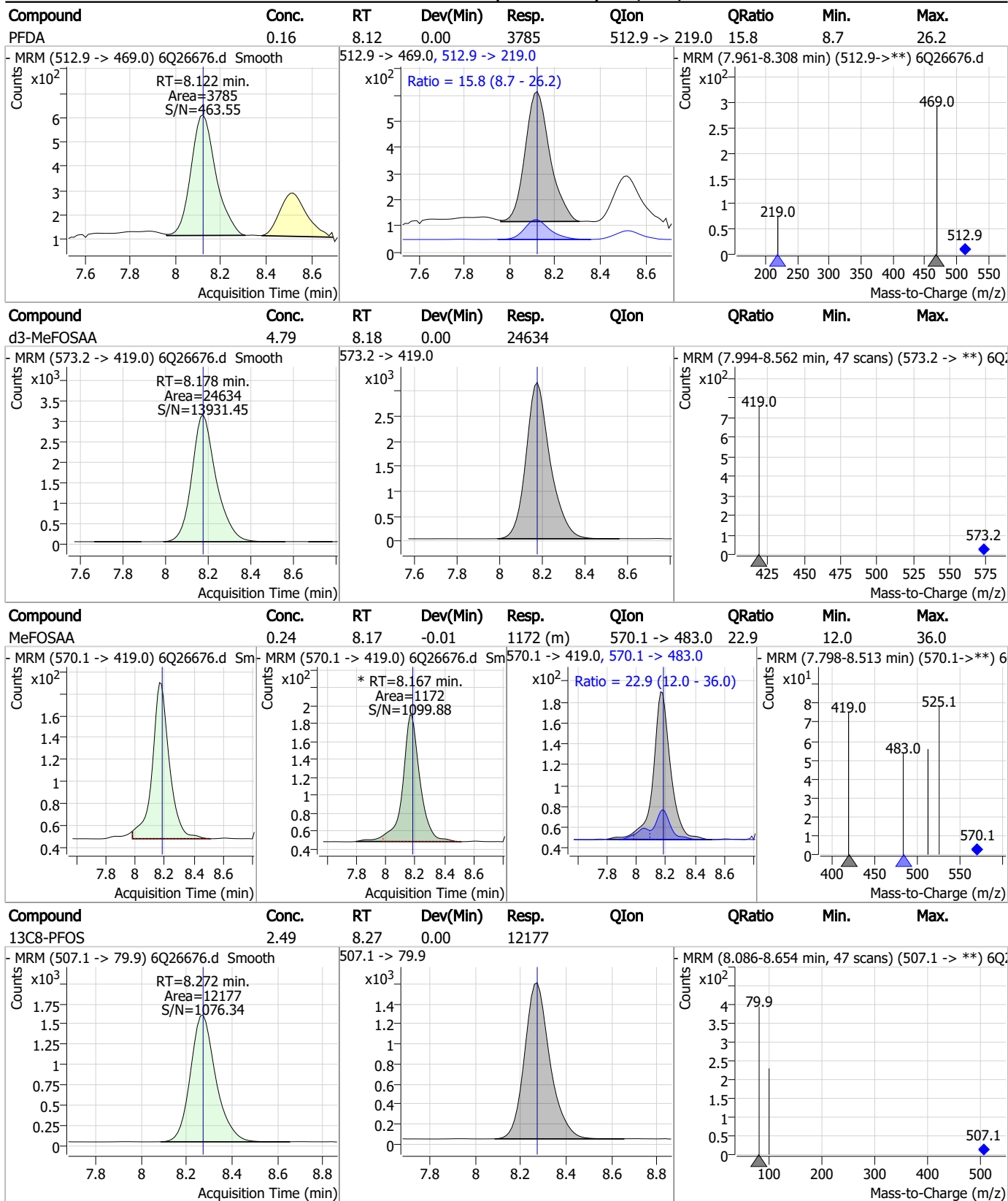
### Perfluorinated Compounds by LC/MS/MS



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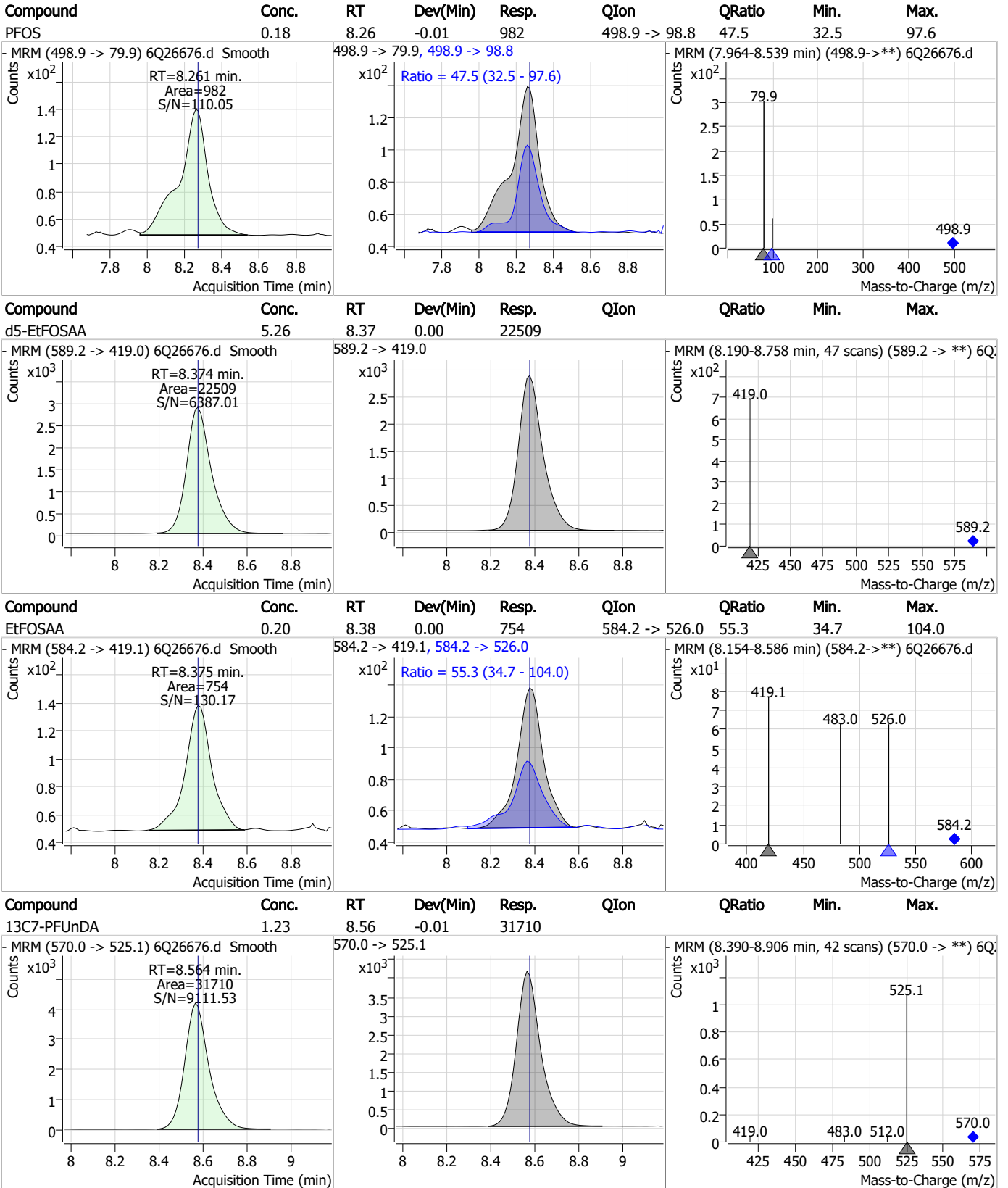


### Perfluorinated Compounds by LC/MS/MS



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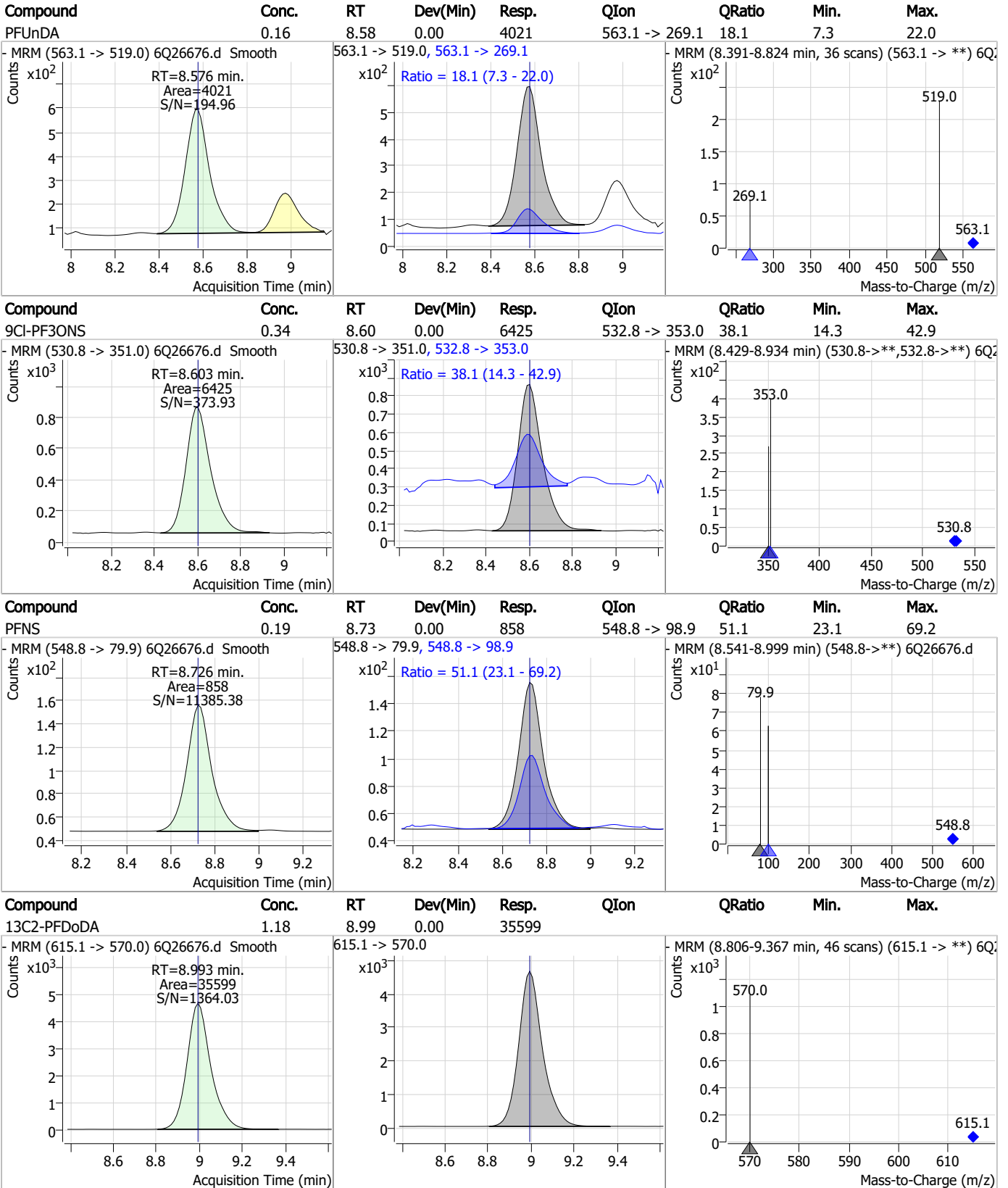
### Perfluorinated Compounds by LC/MS/MS



7.7.37  
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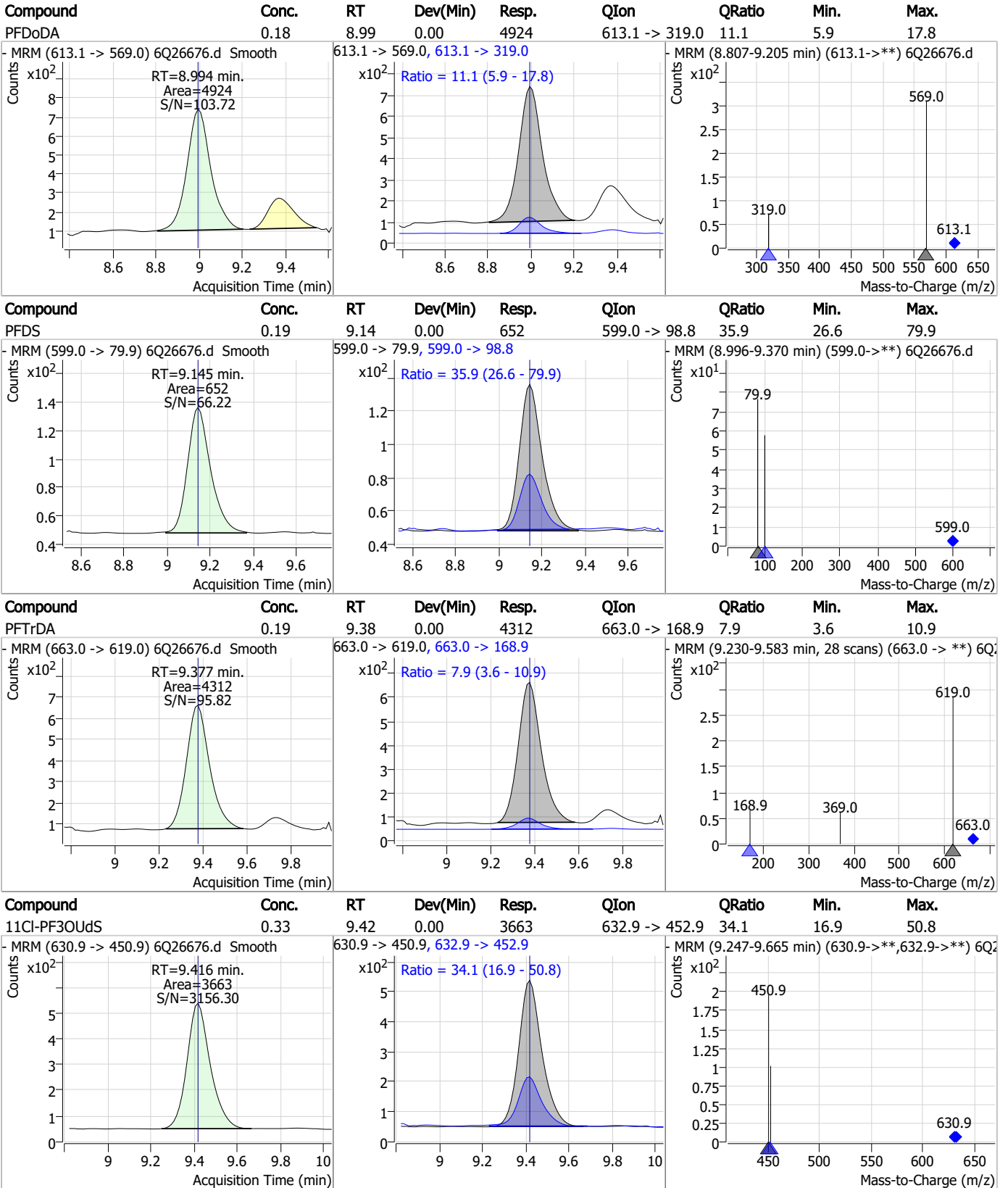
### Perfluorinated Compounds by LC/MS/MS



7.7.37  
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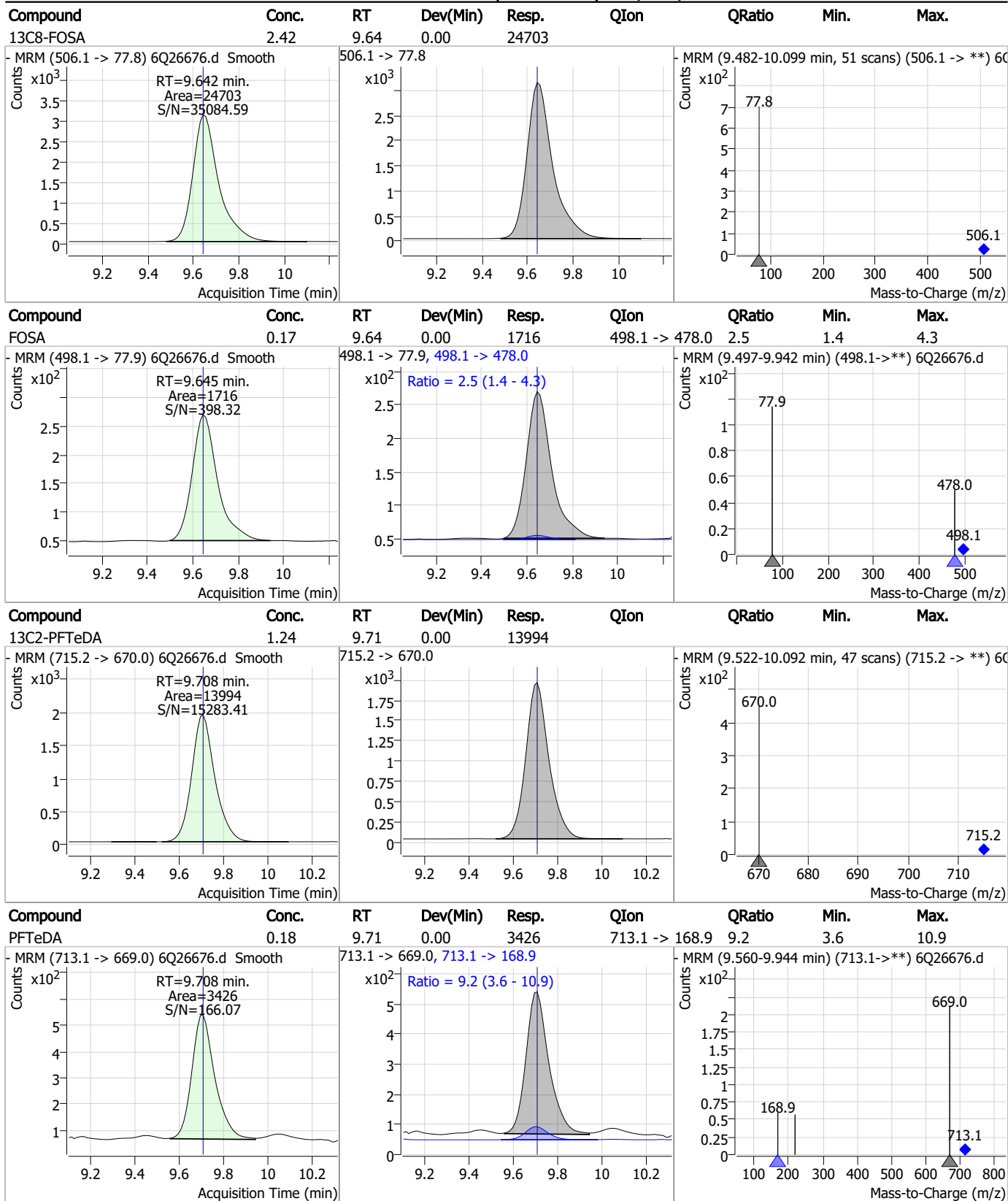
### Perfluorinated Compounds by LC/MS/MS



7.7.37 7



### Perfluorinated Compounds by LC/MS/MS



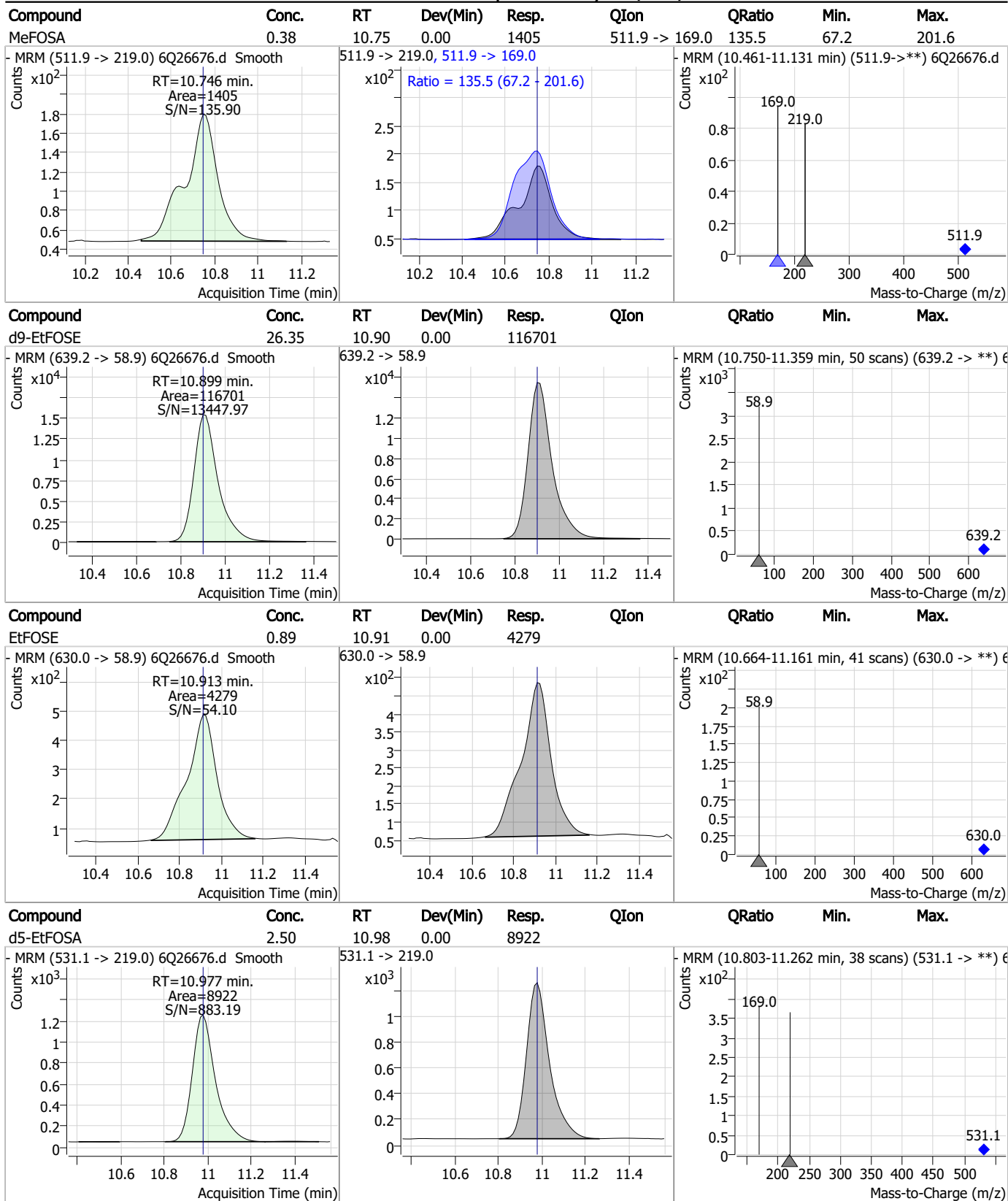
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### Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoS	0.16	9.82	0.00	298	699.1 -> 98.8	61.5	28.4	85.1
d7-MeFOSE	25.41	10.67	0.00	91044				
MeFOSE	0.92	10.68	0.00	3561				
d3-MeFOSA	2.42	10.74	0.00	7462				

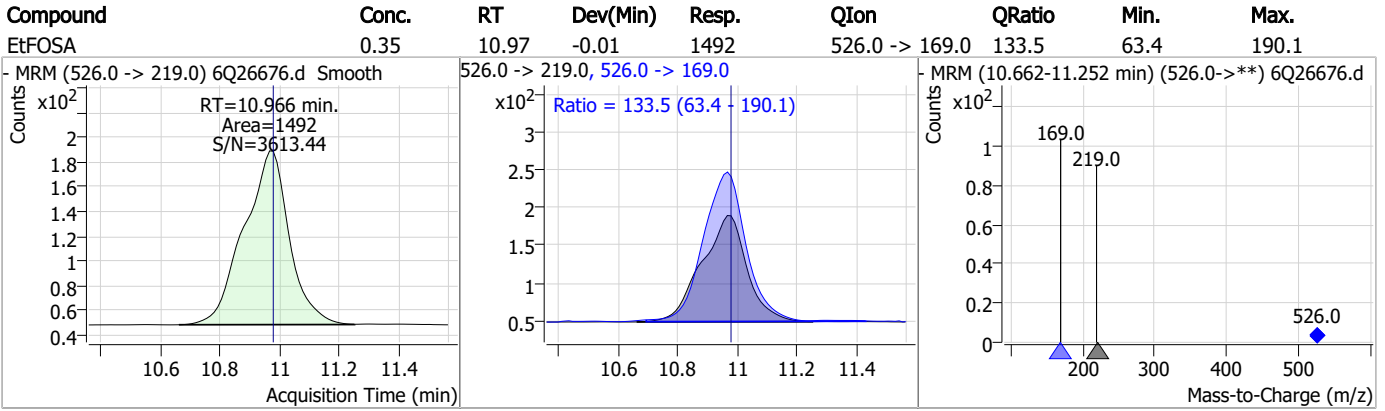
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### Perfluorinated Compounds by LC/MS/MS



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Perfluorinated Compounds by LC/MS/MS



7.7.37

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# Manual Integration Approval Summary

Sample Number: S6Q373-CC373      Method: EPA DRAFT 1633  
Lab FileID: 6Q26676.D      Analyst approved: 10/19/23 11:29 Martha Valls  
Injection Time: 10/18/23 19:05      Supervisor approved: 10/19/23 14:22 Natasha Gumtie

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		7.23	Split peak
MeFOSAA	2355-31-9		8.17	Split peak

7.7.37.1

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Perfluorinated Compounds by LC/MS/MS

Data File : 6Q26685.d  
 Operator : marthav  
 Acq. Method : 1633full.m  
 Acq. Date-Time : 10/18/2023 9:14:34 PM  
 Sample Name : Ecc373-4  
 Vial : P1-A5  
 DA Method File : 1633\_101723\_S6Q373.quantmethod.xml  
 Batch Name : S6Q373.batch.bin  
 Sample Information : OP99081,S6Q373,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
<b>Internal Standards</b>					
M4-PFBA	2.913	216.8 -> 171.9	144726	10.00 µg/L	0.000
M5-PFPeA	4.346	268.3 -> 223.0	48590	5.00 µg/L	0.000
M5-PFHxA	5.565	318.0 -> 273.0	48263	2.50 µg/L	0.012
M4-PFHpA	6.493	367.1 -> 322.0	47462	2.50 µg/L	0.000
M8-PFOA	7.124	421.1 -> 376.0	61942	2.50 µg/L	-0.012
M9-PFNA	7.642	472.1 -> 427.0	24621	1.25 µg/L	-0.012
M6-PFDA	8.121	519.1 -> 474.1	28579	1.25 µg/L	0.000
M7-PFUnDA	8.564	570.0 -> 525.1	30697	1.25 µg/L	-0.012
M2-PFDoDA	8.993	615.1 -> 570.0	33626	1.25 µg/L	0.000
M2-PFTeDA	9.708	715.2 -> 670.0	13222	1.25 µg/L	0.000
M8-FOSA	9.642	506.1 -> 77.8	24732	2.50 µg/L	0.000
M3-PFBS	5.471	302.1 -> 79.9	20269	2.50 µg/L	0.000
M3-PFHxS	7.227	402.1 -> 79.9	12021	2.50 µg/L	0.000
M8-PFOS	8.260	507.1 -> 79.9	11681	2.50 µg/L	-0.012
M2-4:2FTS	5.228	329.1 -> 80.9	2374	5.00 µg/L	0.000
M2-6:2FTS	6.898	429.1 -> 80.9	3301	5.00 µg/L	-0.012
M2-8:2FTS	7.910	529.1 -> 80.9	3787	5.00 µg/L	-0.012
M3-MeFOSAA	8.178	573.2 -> 419.0	24449	5.00 µg/L	0.000
M3-HFPO-DA	5.930	286.9 -> 168.9	30525	10.00 µg/L	0.012
M5-EtFOSAA	8.374	589.2 -> 419.0	21650	5.00 µg/L	0.000
M7-MeFOSE	10.665	623.2 -> 58.9	91219	25.00 µg/L	0.000
M9-EtFOSE	10.899	639.2 -> 58.9	105794	25.00 µg/L	0.000
M5-EtFOSA	10.977	531.1 -> 219.0	8517	2.50 µg/L	0.000
M3-MeFOSA	10.745	515.0 -> 219.0	7203	2.50 µg/L	0.000
13C4-PFOS	8.261	502.8 -> 79.9	11534	2.50 µg/L	-0.012
13C3-PFBA	2.916	216.0 -> 172.0	58989	5.00 µg/L	0.000
18O2-PFHxS	7.226	403.0 -> 83.9	7298	2.50 µg/L	0.000
13C4-PFOA	7.125	417.1 -> 372.0	71745	2.50 µg/L	0.000
13C2-PFDA	8.122	515.1 -> 470.1	25313	1.25 µg/L	0.000
13C5-PFNA	7.642	468.0 -> 423.0	23286	1.25 µg/L	-0.012
13C2-PFHxA	5.553	315.1 -> 270.0	49454	2.50 µg/L	0.000
<b>System Monitoring Compounds</b>					
13C2-4:2FTS	5.228	329.1 -> 80.9	2374	5.21 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 104.1%		
13C2-6:2FTS	6.898	429.1 -> 80.9	3301	5.13 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 102.6%		
13C2-8:2FTS	7.910	529.1 -> 80.9	3787	5.02 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 100.5%		
13C2-PFDoDA	8.993	615.1 -> 570.0	33626	1.23 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 98.4%		
13C2-PFTeDA	9.708	715.2 -> 670.0	13222	1.29 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 103.1%		
13C3-PFBS	5.471	302.1 -> 79.9	20269	2.51 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 100.4%		
13C3-PFHxS	7.227	402.1 -> 79.9	12021	2.52 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 = 100.7%	
13C4-PFBA	2.913	216.8 -> 171.9	144726	9.96 µg/L	0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 99.6%	
13C4-PFHpA	6.493	367.1 -> 322.0	47462	2.37 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 94.7%	
13C5-PFHxA	5.565	318.0 -> 273.0	48263	2.44 µg/L	0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 97.4%	
13C5-PFPeA	4.346	268.3 -> 223.0	48590	4.88 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 97.6%	
13C6-PFDA	8.121	519.1 -> 474.1	28579	1.32 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 106.0%	
13C7-PFUnDA	8.564	570.0 -> 525.1	30697	1.31 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 105.1%	
13C8-FOSA	9.642	506.1 -> 77.8	24732	2.33 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 93.2%	
13C8-PFOA	7.124	421.1 -> 376.0	61942	2.41 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 96.5%	
13C8-PFOS	8.260	507.1 -> 79.9	11681	2.29 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 91.6%	
13C9-PFNA	7.642	472.1 -> 427.0	24621	1.23 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 98.4%	
d3-MeFOSAA	8.178	573.2 -> 419.0	24449	4.57 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 91.4%	
13C3-HFPO-DA	5.930	286.9 -> 168.9	30525	9.39 µg/L	0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 93.9%	
d3-MeFOSA	10.745	515.0 -> 219.0	7203	2.25 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 89.9%	
d5-EtFOSAA	8.374	589.2 -> 419.0	21650	4.86 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 97.2%	
d7-MeFOSE	10.665	623.2 -> 58.9	91219	24.46 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 97.8%	
d9-EtFOSE	10.899	639.2 -> 58.9	105794	22.95 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 91.8%	
d5-EtFOSA	10.977	531.1 -> 219.0	8517	2.29 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 91.8%	
<b>Target Compounds</b>					<b>QValue</b>
4:2FTS	5.229	327.1 -> 307.0	40341	9.67 µg/L	94
		327.1 -> 80.9	14570		
6:2FTS	6.898	427.1 -> 407.0	34715	9.34 µg/L	96
		427.1 -> 80.9	12827		
8:2FTS	7.910	527.1 -> 507.0	29031	10.19 µg/L	98
		527.1 -> 80.8	10401		
EtFOSAA	8.375	584.2 -> 419.1	8381	2.33 µg/L	99
		584.2 -> 526.0	5768		
FOSA	9.645	498.1 -> 77.9	23617	2.32 µg/L	99
		498.1 -> 478.0	732		
MeFOSAA	8.179	570.1 -> 419.0	13203	2.71 µg/L	97
		570.1 -> 483.0	3004		
PFBA	2.919	212.8 -> 168.9	54700	9.84 µg/L	100
PFBS	5.472	298.7 -> 79.9	14626	2.21 µg/L	100
		298.7 -> 98.8	5484		
PFDA	8.122	512.9 -> 469.0	60415	2.59 µg/L	92
		512.9 -> 219.0	8368		
PFDoDA	8.981	613.1 -> 569.0	66243	2.51 µg/L	100
		613.1 -> 319.0	7815		
PFDS	9.145	599.0 -> 79.9	7643	2.38 µg/L	94

7.7.38  
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### Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
		599.0 -> 98.8	3741		
PFHpA	6.493	363.1 -> 319.0	67061	2.56 µg/L	96
		363.1 -> 169.0	9121		
PFHpS	7.781	449.0 -> 79.9	11893	2.42 µg/L	98
		449.0 -> 98.9	5694		
PFHxA	5.555	313.0 -> 269.0	43316	2.40 µg/L	99
		313.0 -> 118.9	2178		
PFHxS	7.228	398.7 -> 79.9	11287	2.20 µg/L	91
		398.7 -> 98.9	5408		
PFNA	7.642	463.0 -> 419.0	37286	2.48 µg/L	98
		463.0 -> 219.0	8371		
PFNS	8.726	548.8 -> 79.9	10204	2.30 µg/L	87
		548.8 -> 98.9	5572		
PFOA	7.125	413.0 -> 369.0	70849	2.63 µg/L	99
		413.0 -> 169.0	11698		
PFOS	8.261	498.9 -> 79.9	12309	2.35 µg/L	m 82
		498.9 -> 98.8	6273		
PFPeA	4.349	263.0 -> 219.0	55293	4.82 µg/L	100
PFPeS	6.545	349.1 -> 79.9	15198	2.35 µg/L	99
		349.1 -> 98.9	6933		
PFTeDA	9.696	713.1 -> 669.0	46073	2.60 µg/L	100
		713.1 -> 168.9	3383		
PFTrDA	9.365	663.0 -> 619.0	59492	2.77 µg/L	99
		663.0 -> 168.9	4538		
PFUnDA	8.564	563.1 -> 519.0	57426	2.39 µg/L	100
		563.1 -> 269.1	8358		
11CI-PF3OUdS	9.416	630.9 -> 450.9	48840	4.64 µg/L	99
		632.9 -> 452.9	16146		
9CI-PF3ONS	8.591	530.8 -> 351.0	80833	4.52 µg/L	94
		532.8 -> 353.0	25895		
ADONA	6.743	376.9 -> 250.9	213681	4.68 µg/L	96
		376.9 -> 84.8	58687		
HFPO-DA	5.931	284.9 -> 168.9	15576	4.91 µg/L	98
		284.9 -> 184.9	1792		
3:3FTCA	3.777	241.0 -> 177.0	9741	11.97 µg/L	99
		241.0 -> 117.0	1336		
5:3FTCA	6.210	341.0 -> 237.1	213661	59.33 µg/L	98
		341.0 -> 217.0	151442		
7:3FTCA	7.595	441.0 -> 316.9	131159	60.73 µg/L	93
		441.0 -> 336.9	255731		
EtFOSA	10.979	526.0 -> 219.0	20560	5.02 µg/L	98
		526.0 -> 169.0	25673		
EtFOSE	10.913	630.0 -> 58.9	55999	12.79 µg/L	100
MeFOSA	10.746	511.9 -> 219.0	17658	4.99 µg/L	96
		511.9 -> 169.0	24470		
MeFOSE	10.678	616.1 -> 58.9	45419	11.73 µg/L	100
PFDoDS	9.823	699.1 -> 79.9	4228	2.34 µg/L	96
		699.1 -> 98.8	2263		
NFDHA	5.435	295.0 -> 201.0	11507	5.17 µg/L	98
		295.0 -> 84.9	3012		
PFMBA	4.775	279.0 -> 85.1	42421	4.87 µg/L	100
PFMPA	3.475	229.0 -> 84.9	33735	4.72 µg/L	100
PFEESA	6.011	314.8 -> 134.9	94971	4.20 µg/L	100
		314.8 -> 82.9	3405		

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

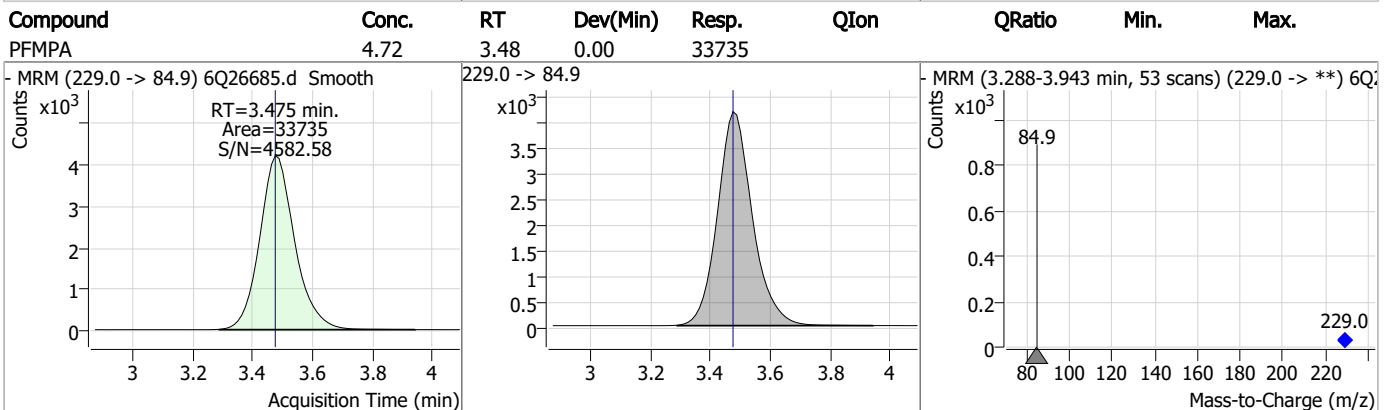
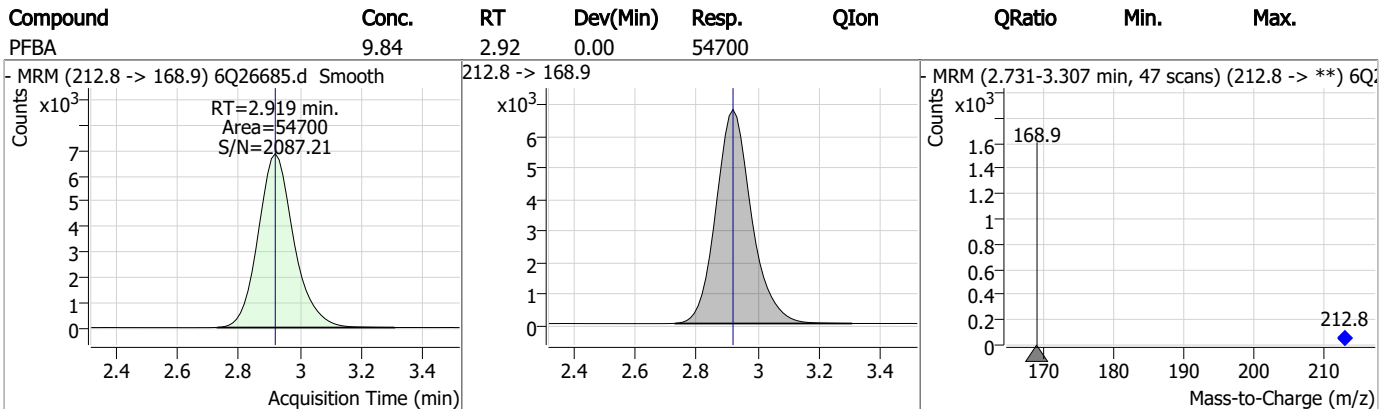
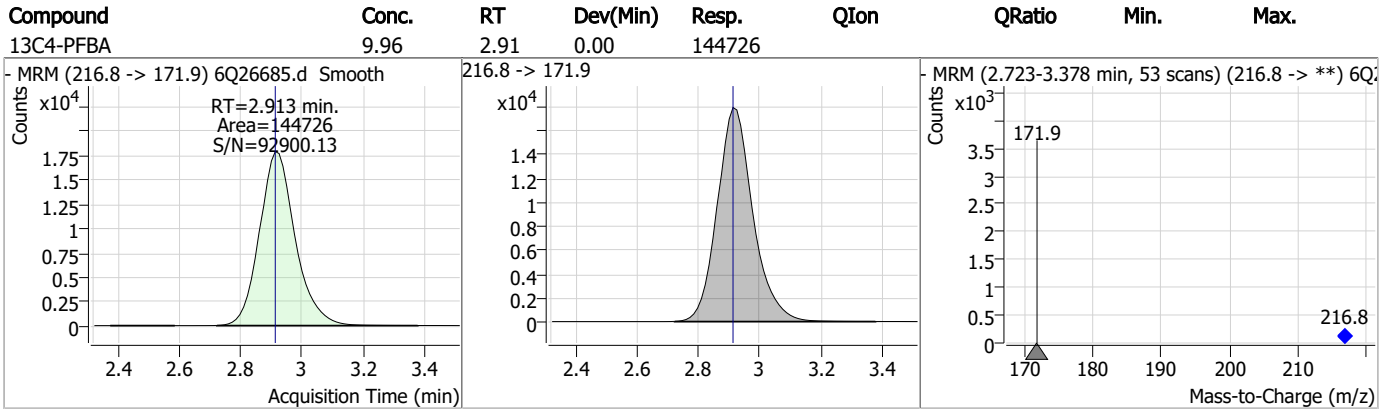
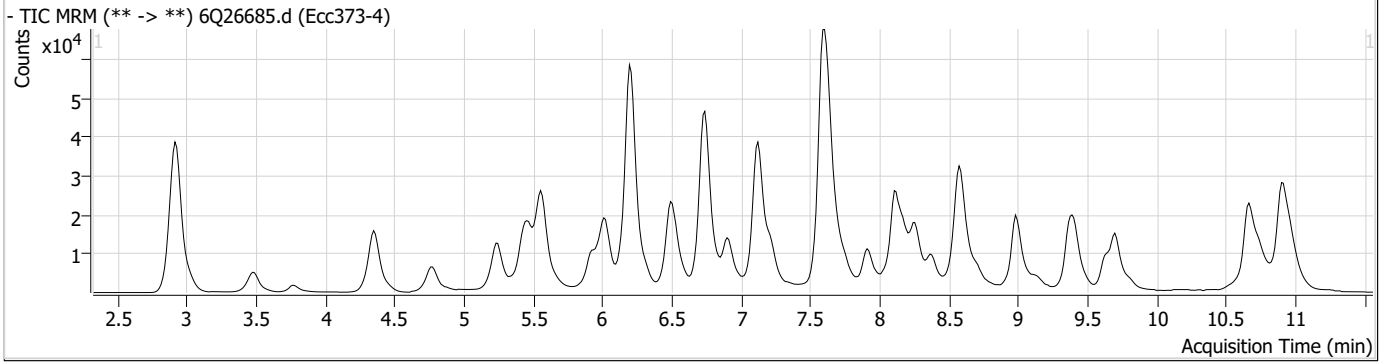
### Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
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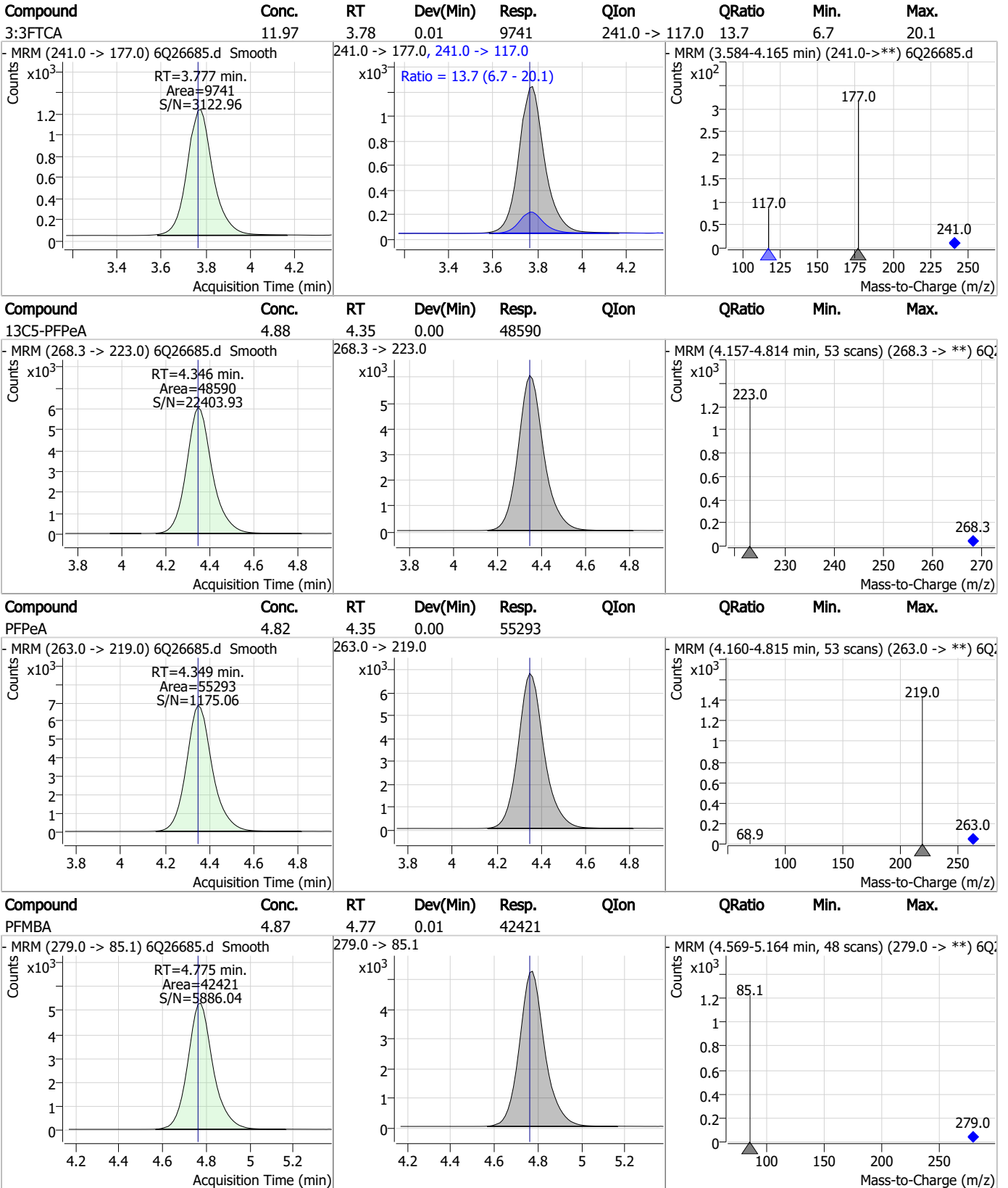
7.7.38

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### Perfluorinated Compounds by LC/MS/MS



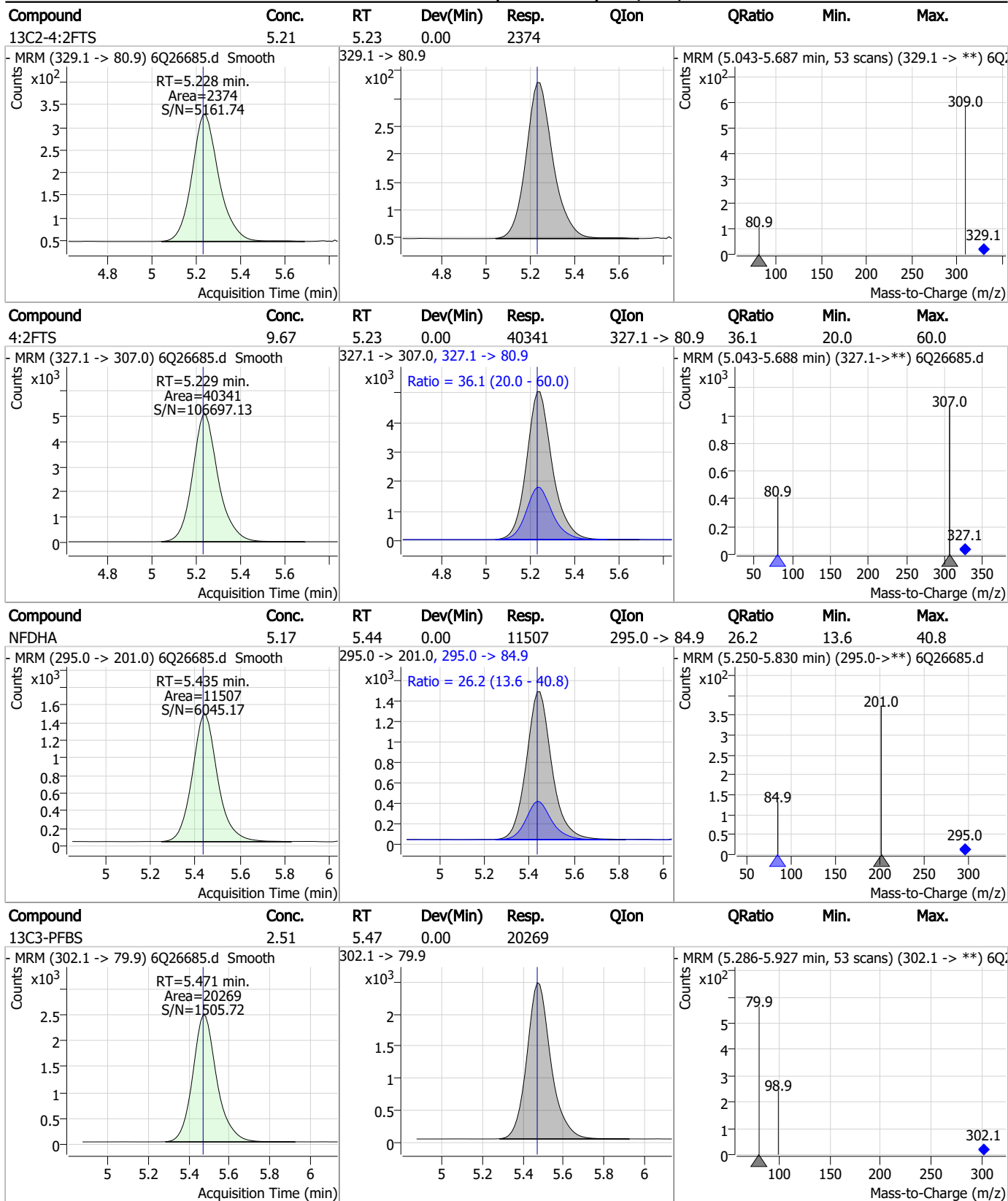
### Perfluorinated Compounds by LC/MS/MS



7.7.38  
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### Perfluorinated Compounds by LC/MS/MS

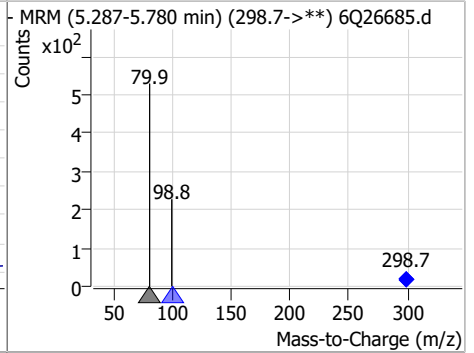
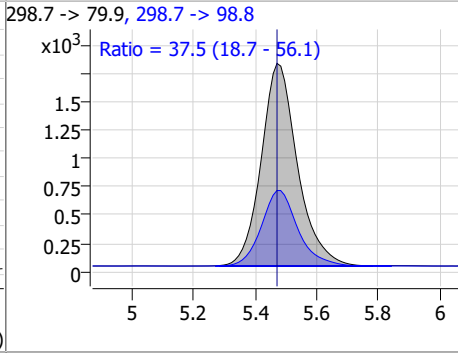
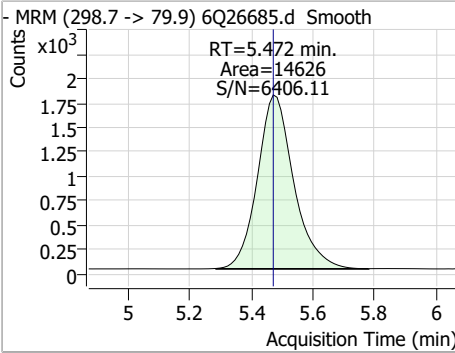


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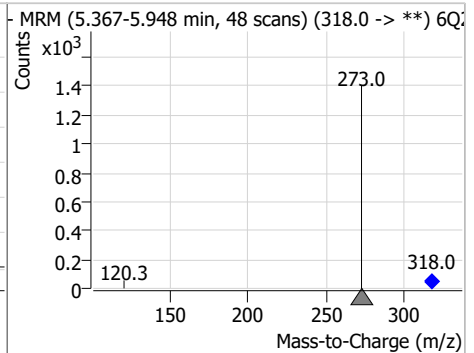
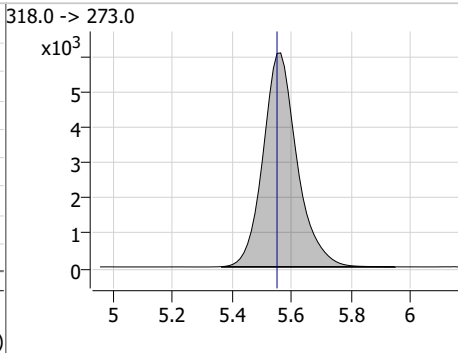
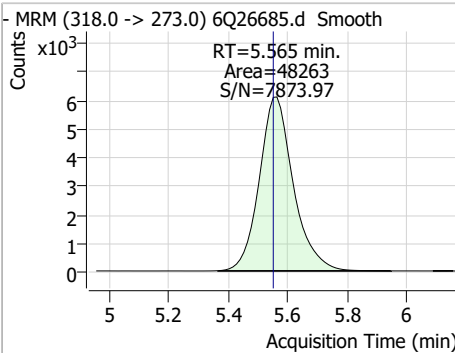


### Perfluorinated Compounds by LC/MS/MS

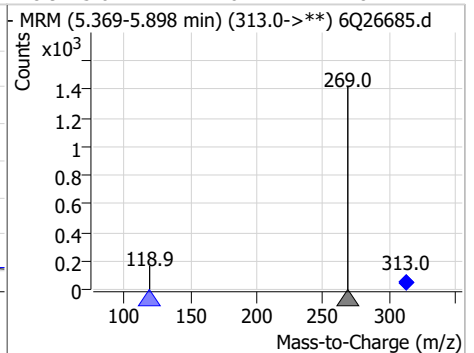
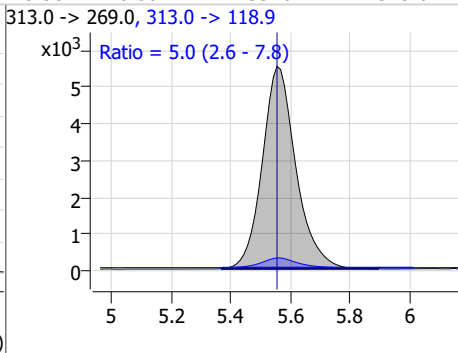
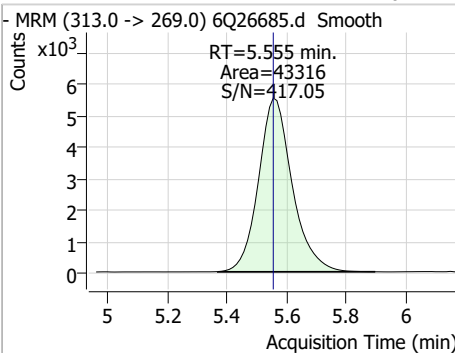
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBS	2.21	5.47	0.00	14626	298.7 -> 98.8	37.5	18.7	56.1



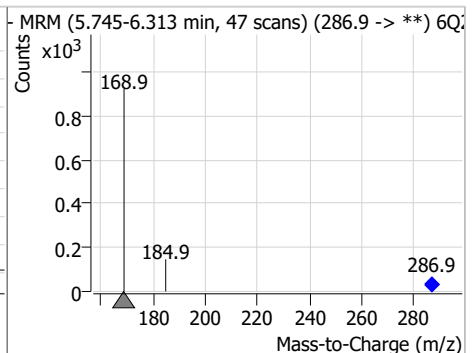
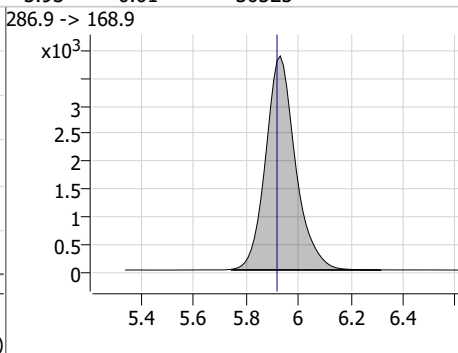
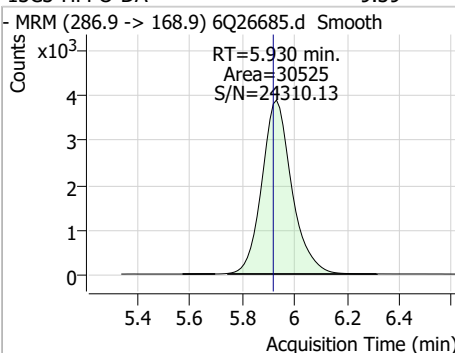
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFHxA	2.44	5.56	0.01	48263	318.0 -> 273.0	5.0	2.6	7.8



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxA	2.40	5.56	0.00	43316	313.0 -> 118.9	5.0	2.6	7.8

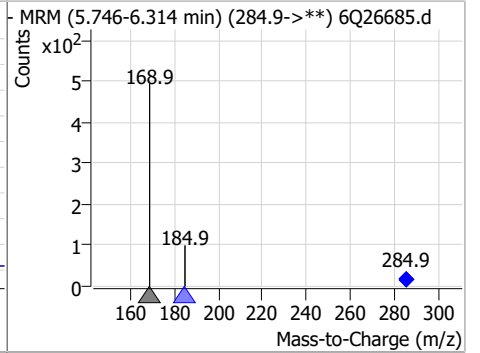
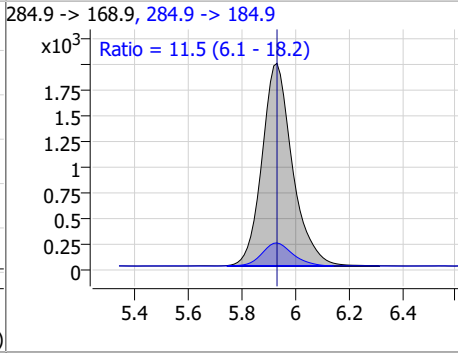
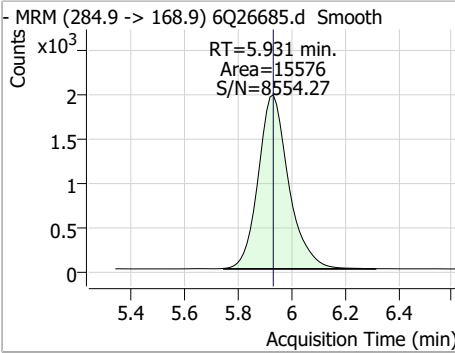


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-HFPO-DA	9.39	5.93	0.01	30525	286.9 -> 168.9	5.0	2.6	7.8

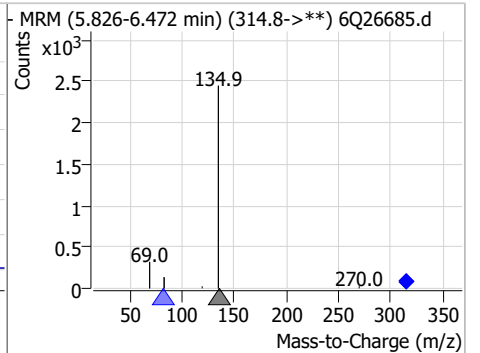
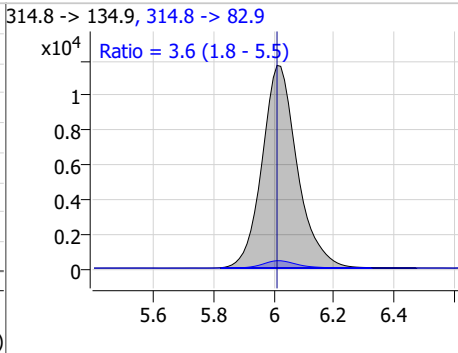
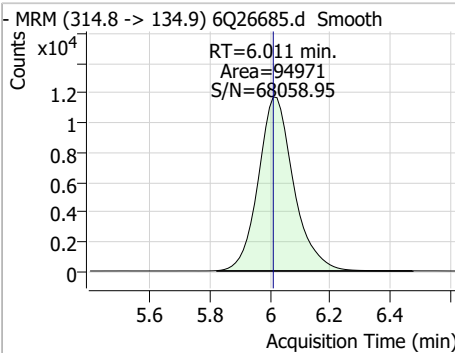


### Perfluorinated Compounds by LC/MS/MS

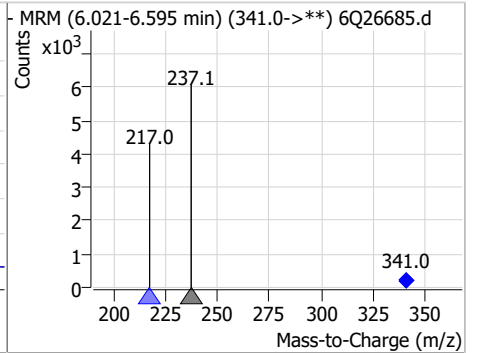
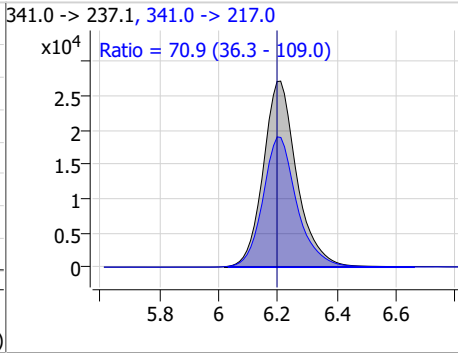
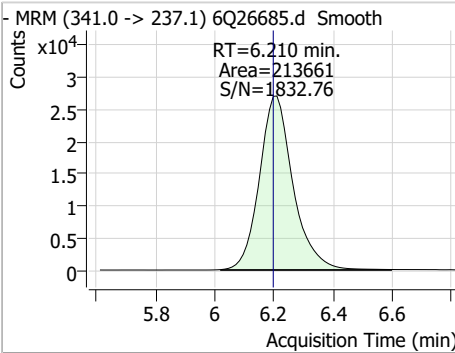
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
HFPO-DA	4.91	5.93	0.00	15576	284.9 -> 184.9	11.5	6.1	18.2



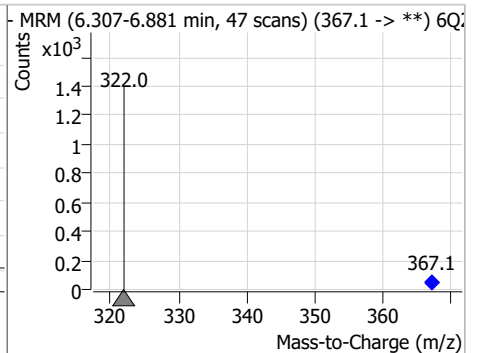
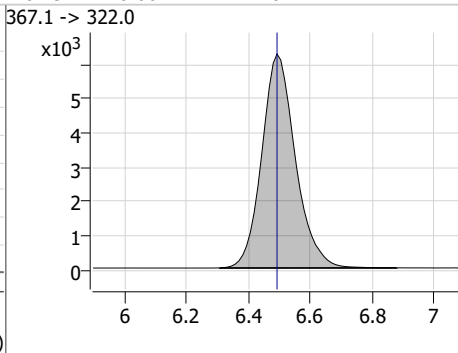
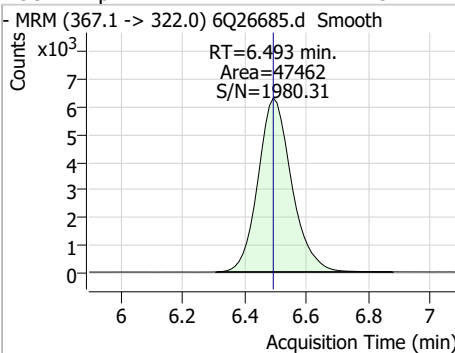
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFEESA	4.20	6.01	0.00	94971	314.8 -> 82.9	3.6	1.8	5.5



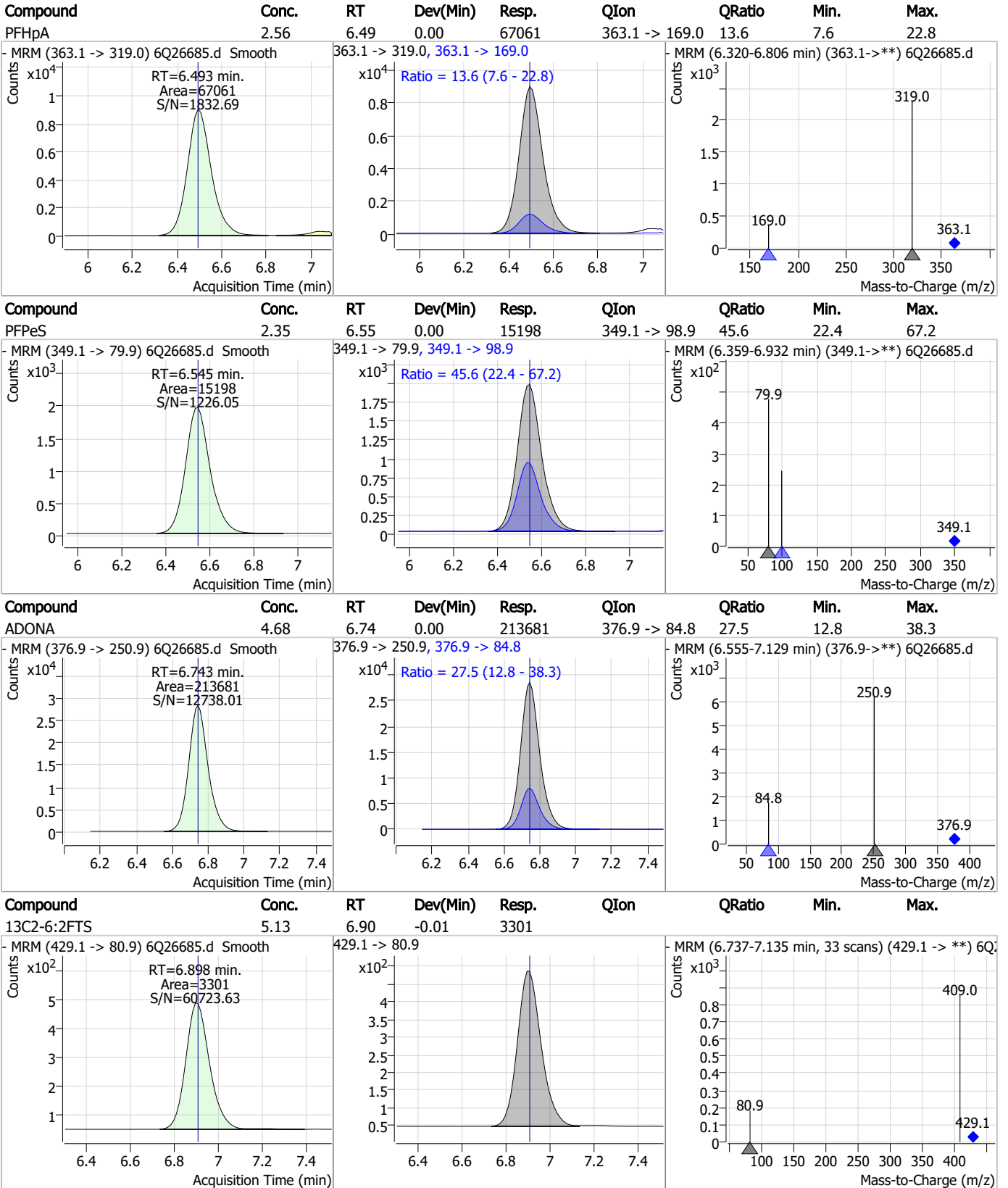
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
5:3FTCA	59.33	6.21	0.01	213661	341.0 -> 217.0	70.9	36.3	109.0



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFHpa	2.37	6.49	0.00	47462	367.1 -> 322.0			



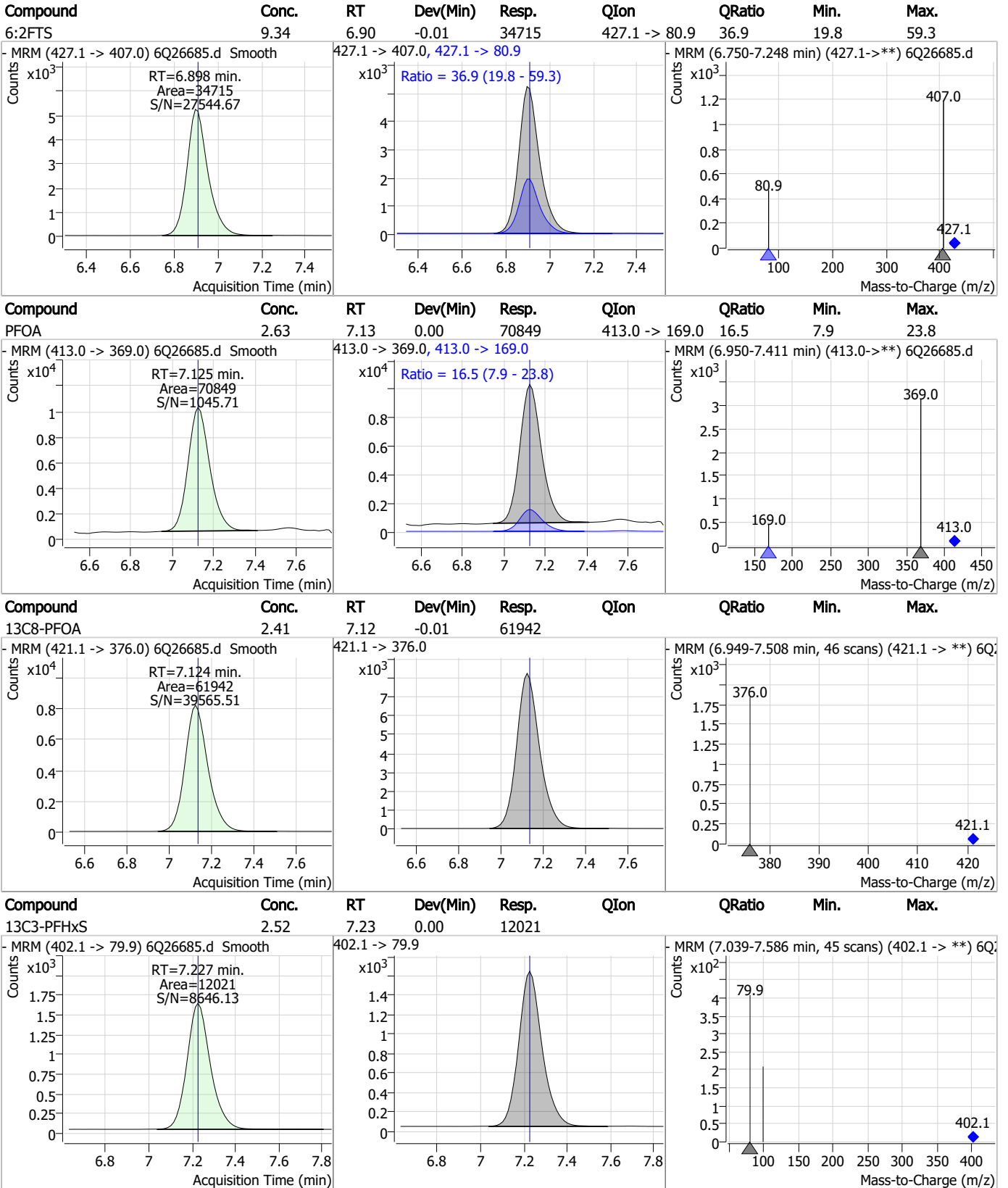
### Perfluorinated Compounds by LC/MS/MS



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### Perfluorinated Compounds by LC/MS/MS

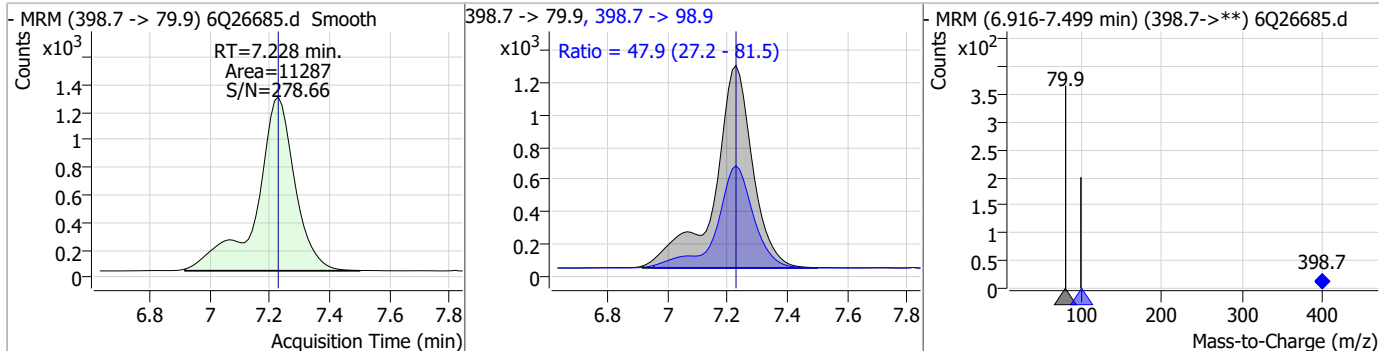


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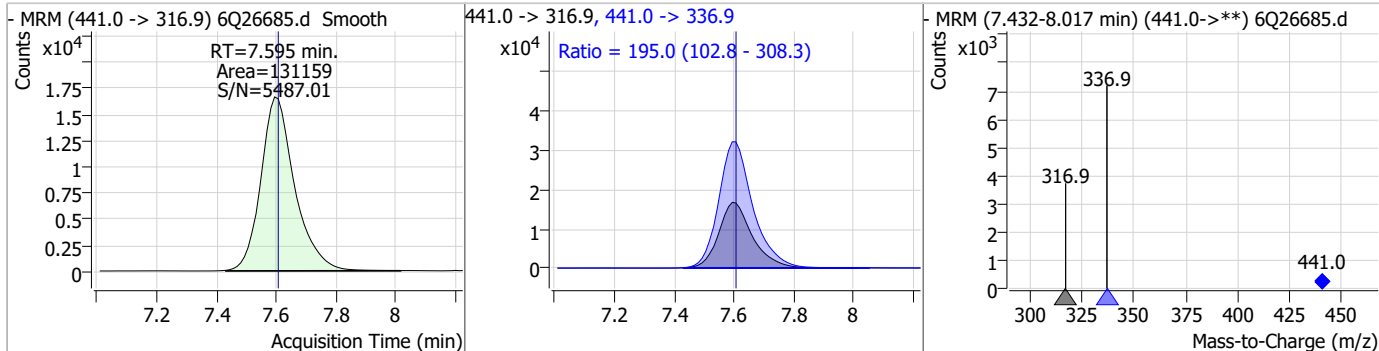
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### Perfluorinated Compounds by LC/MS/MS

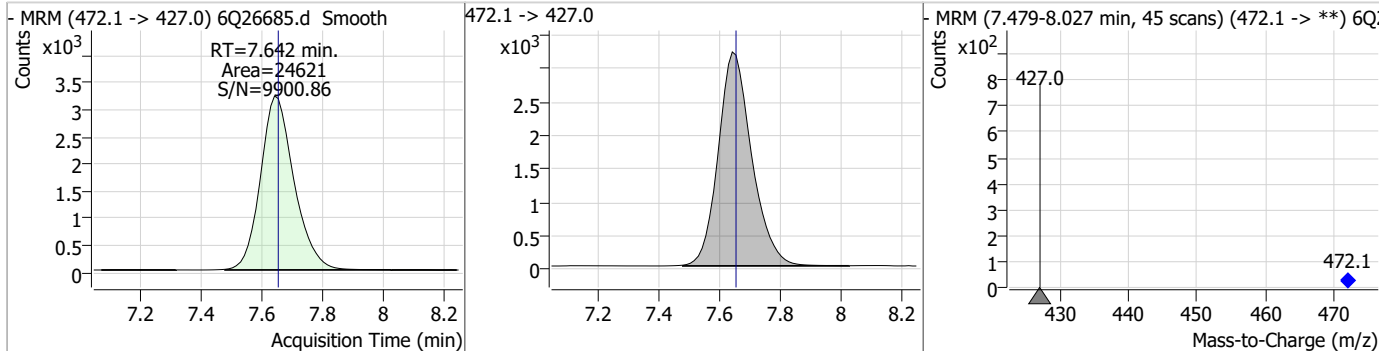
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxS	2.20	7.23	0.00	11287	398.7 -> 98.9	47.9	27.2	81.5



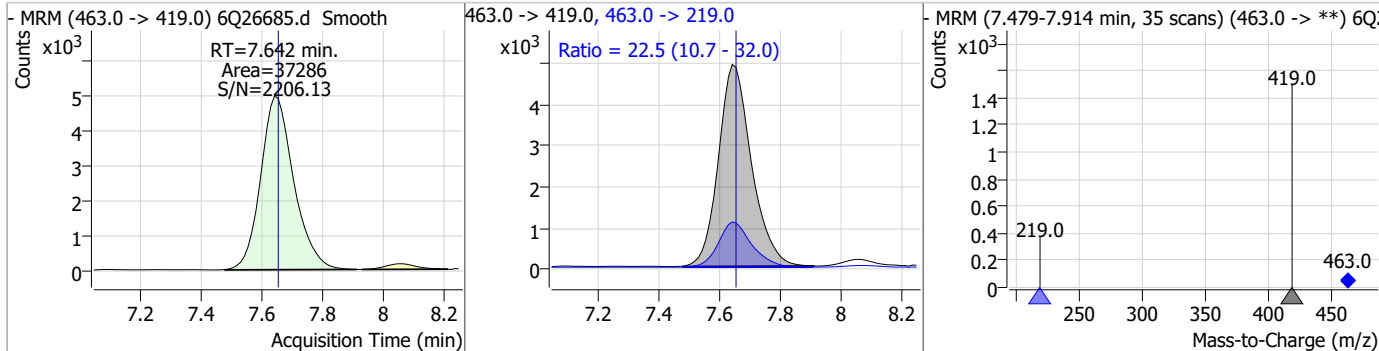
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
7:3FTCA	60.73	7.60	-0.01	131159	441.0 -> 336.9	195.0	102.8	308.3



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C9-PFNA	1.23	7.64	-0.01	24621	472.1 -> 427.0			

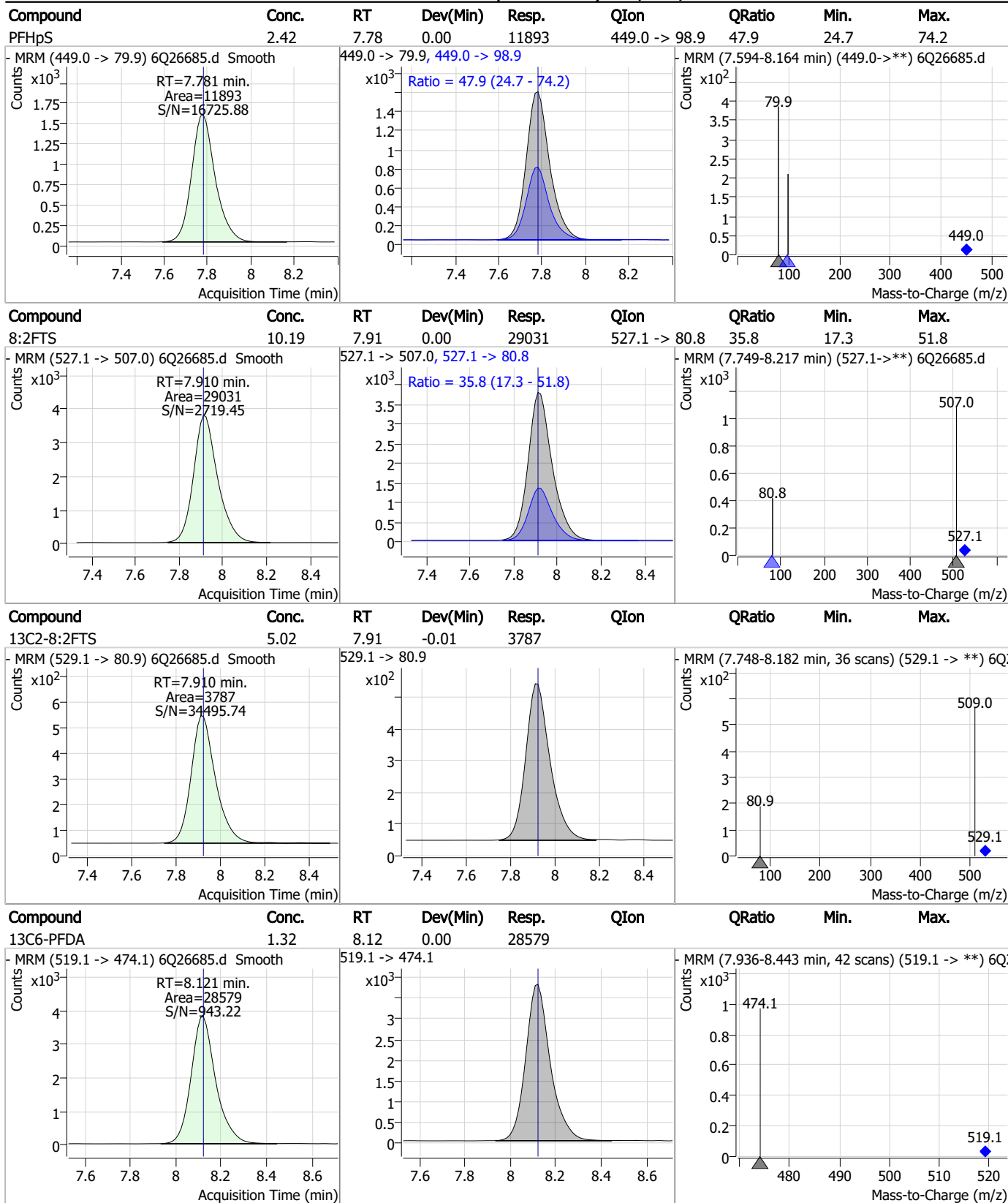


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNA	2.48	7.64	-0.01	37286	463.0 -> 219.0	22.5	10.7	32.0



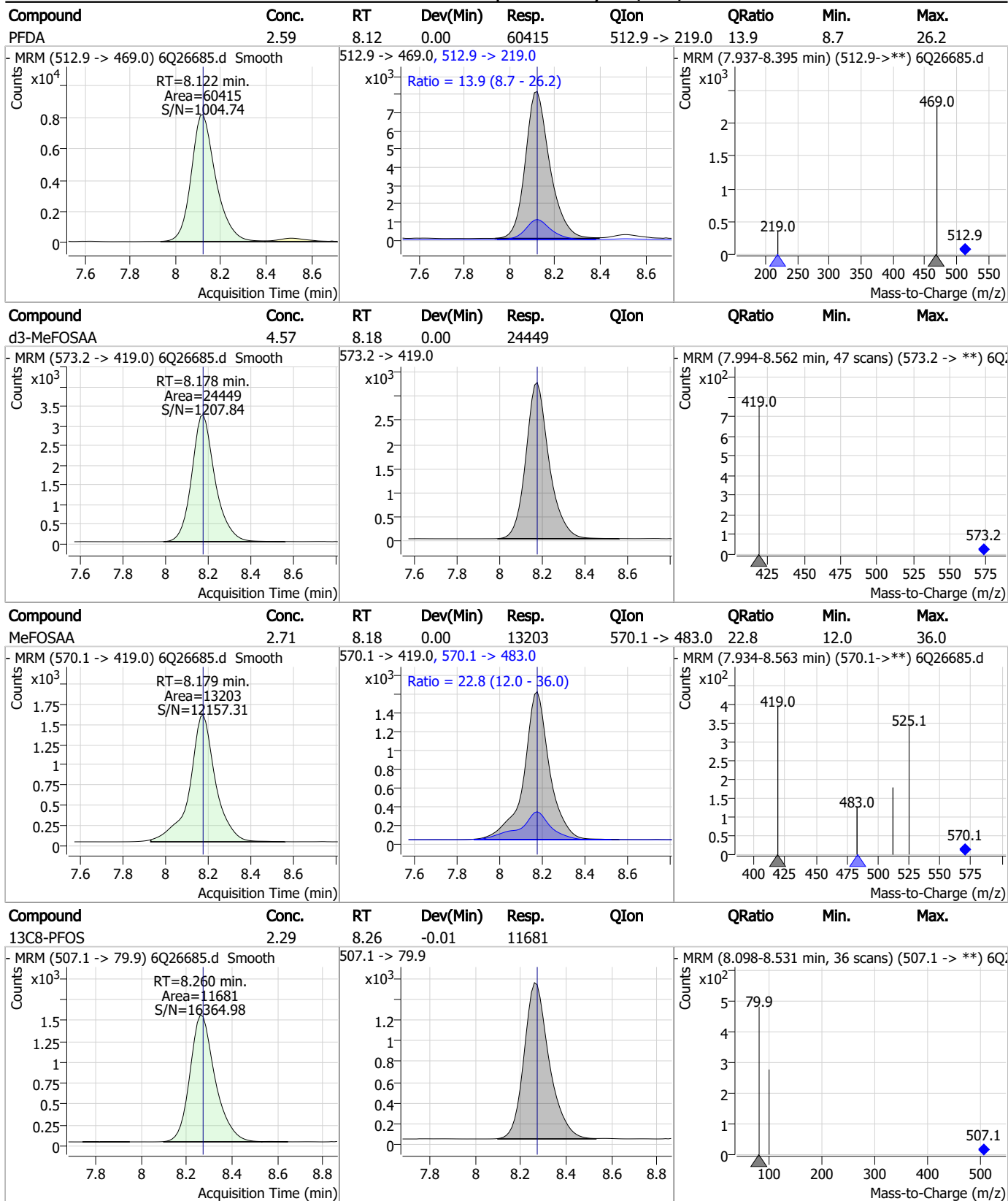
7.7.38  
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### Perfluorinated Compounds by LC/MS/MS



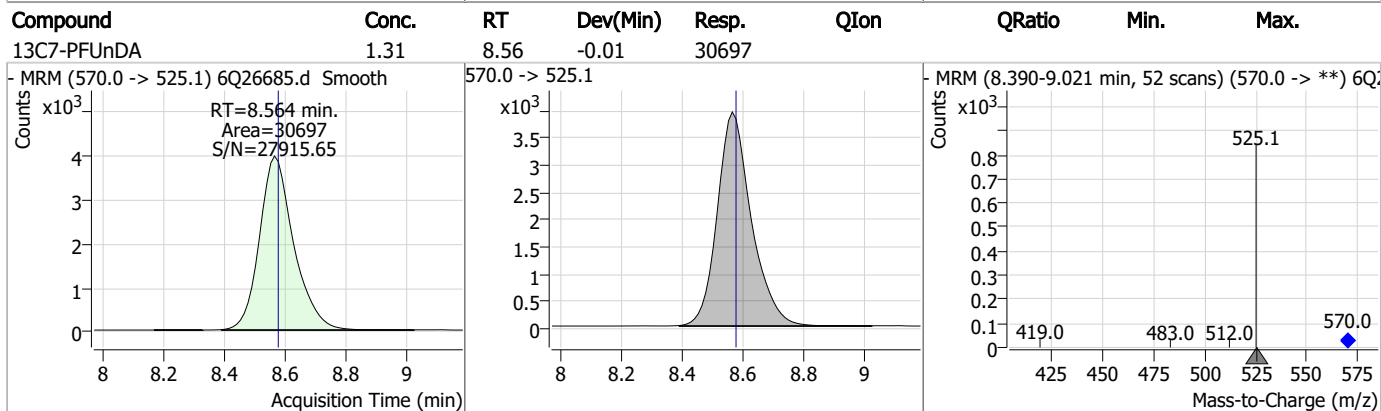
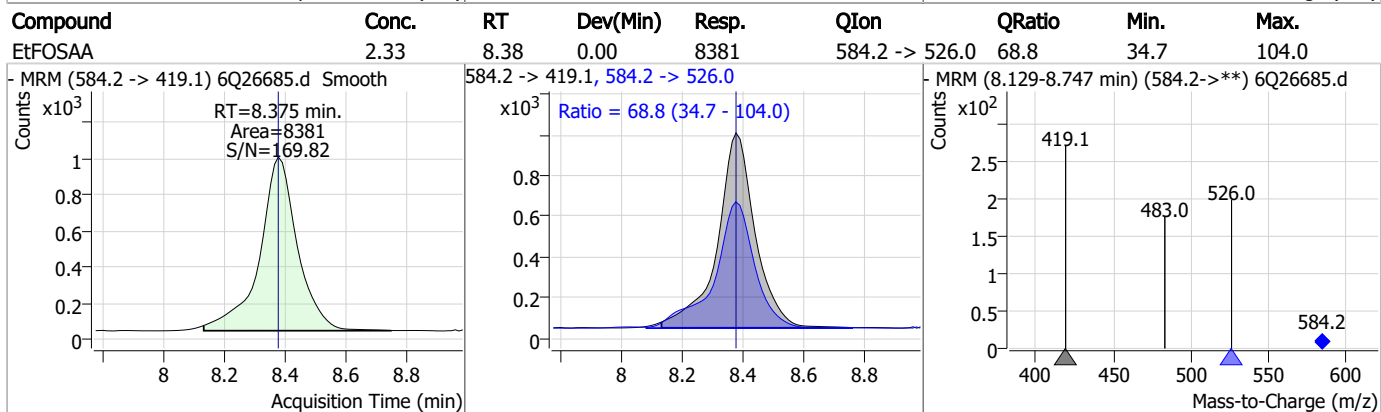
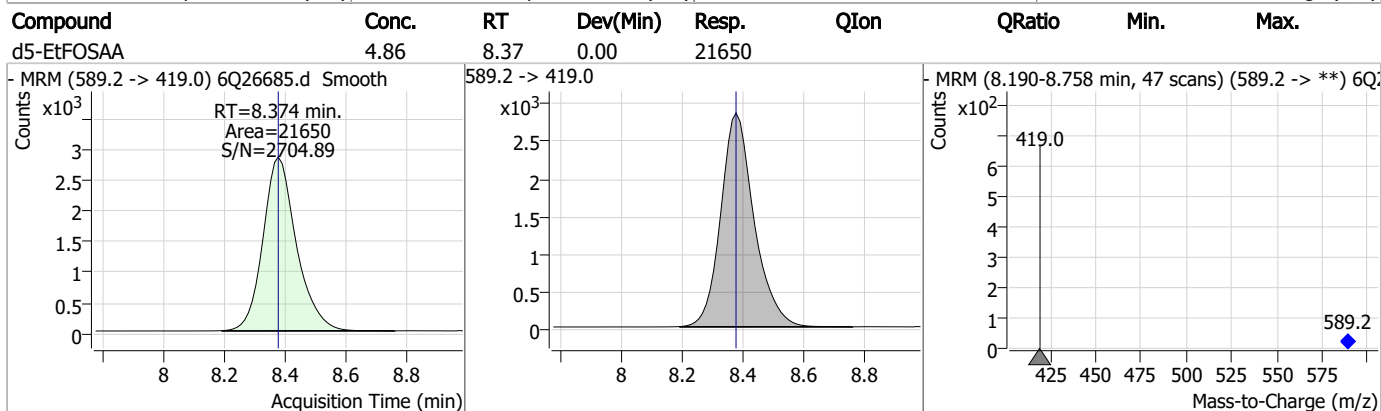
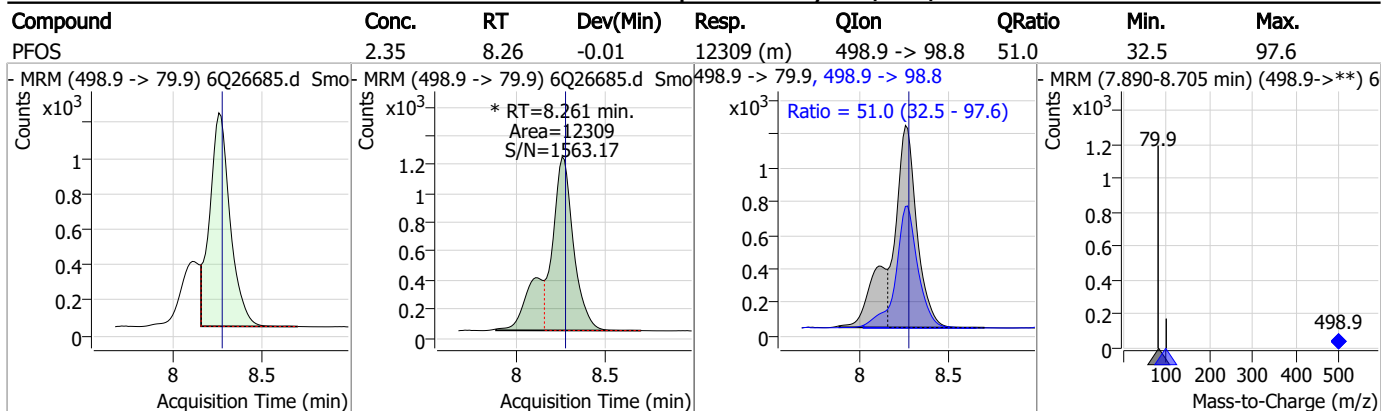
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### Perfluorinated Compounds by LC/MS/MS



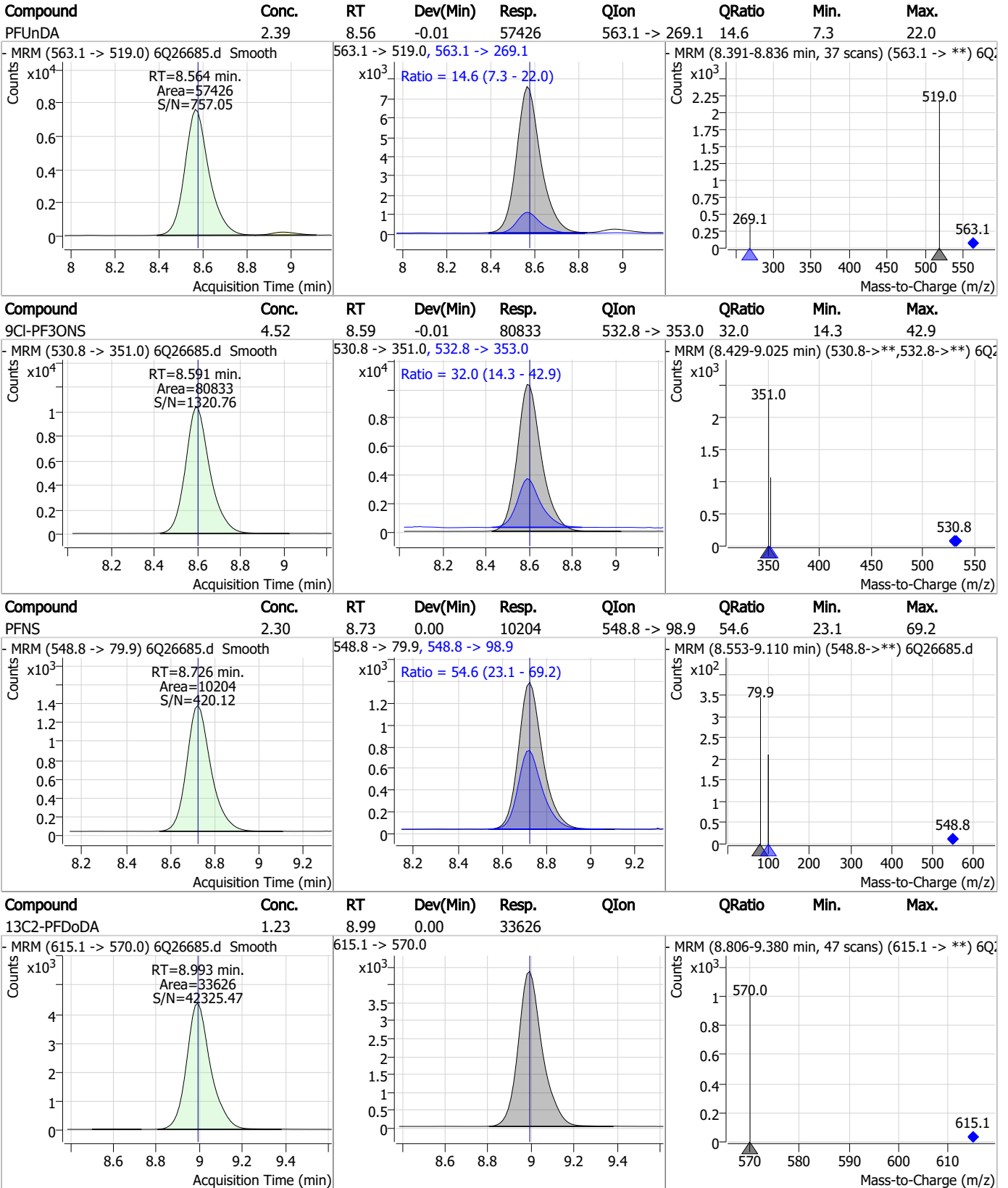
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### Perfluorinated Compounds by LC/MS/MS





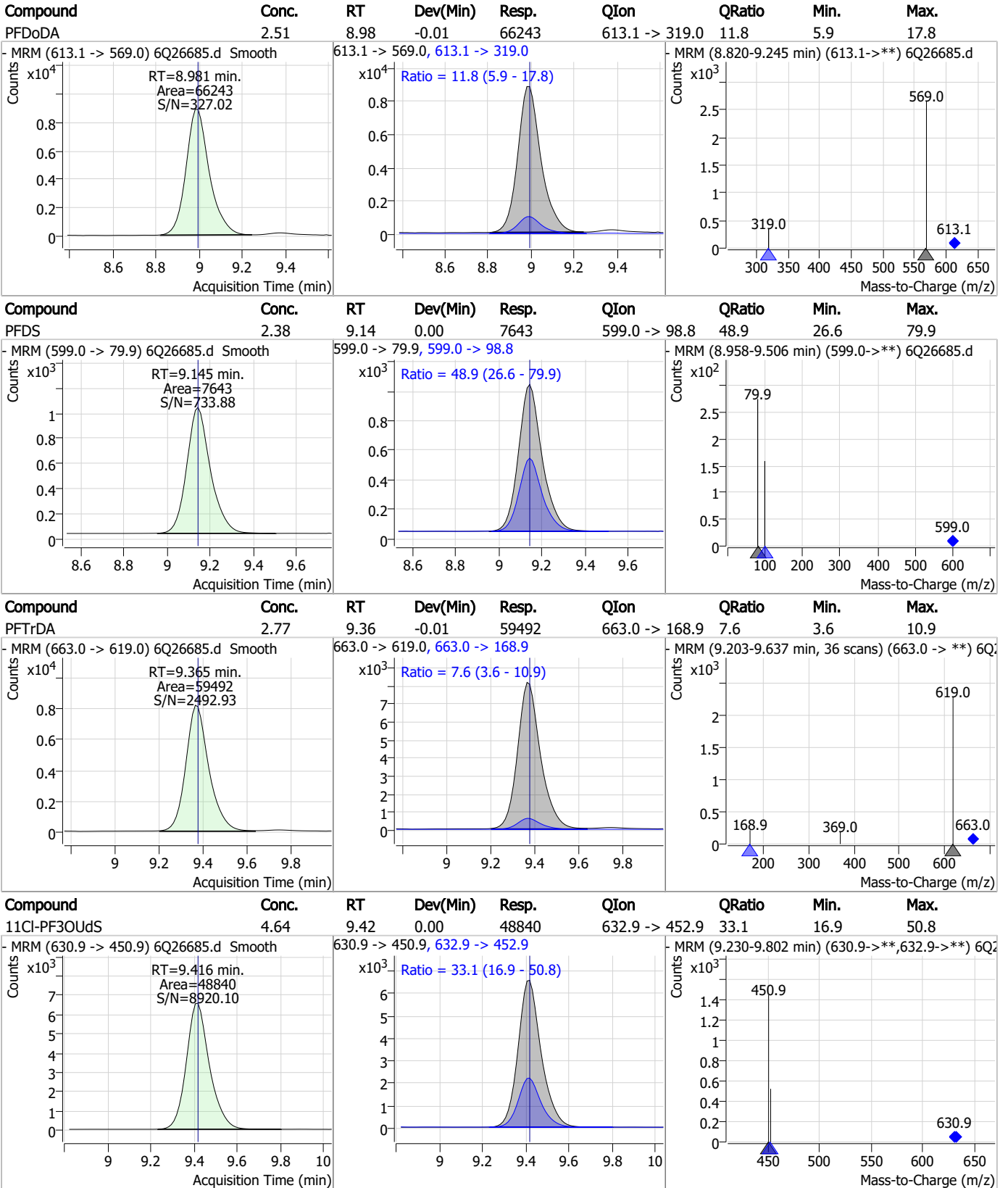
### Perfluorinated Compounds by LC/MS/MS



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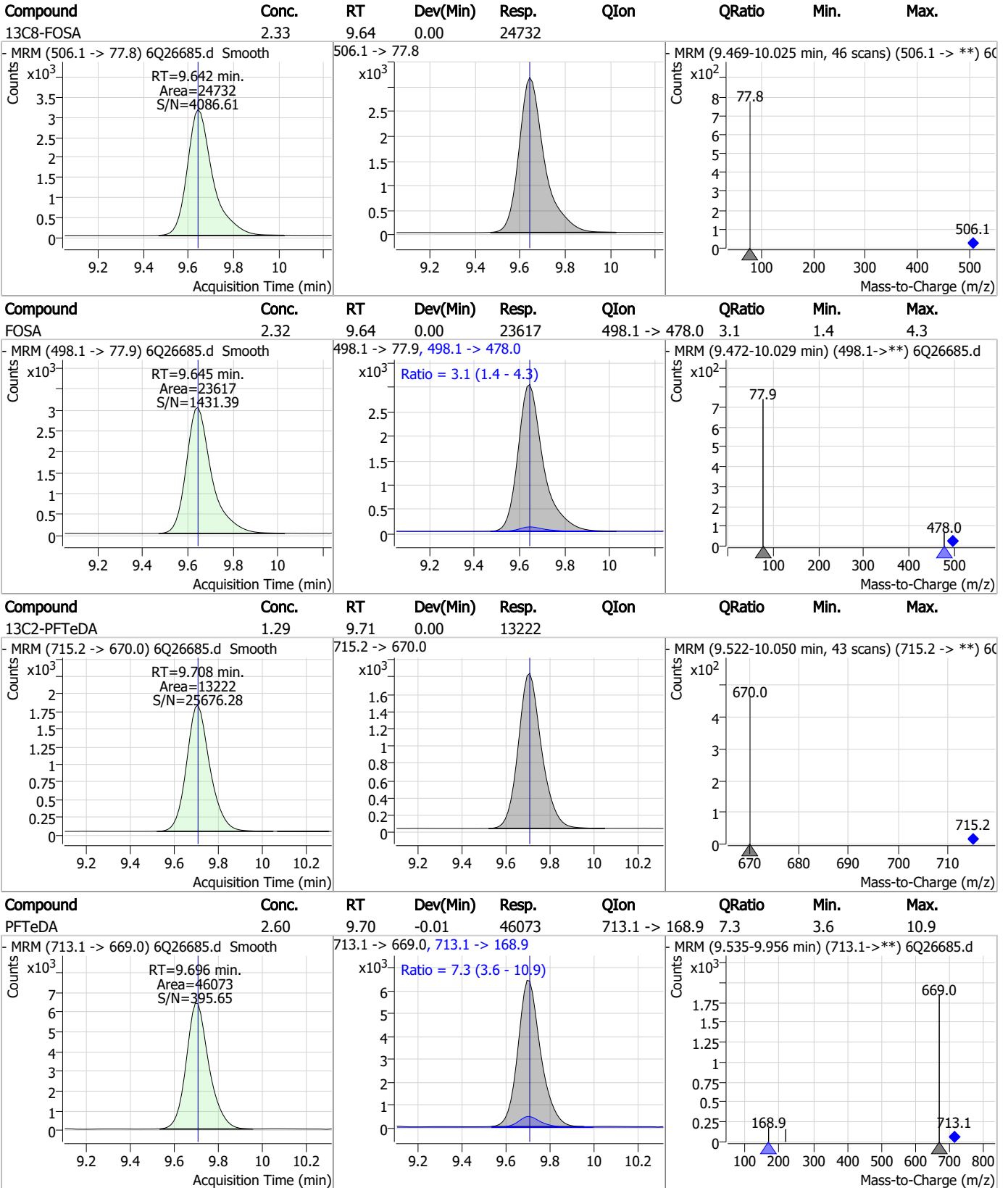


### Perfluorinated Compounds by LC/MS/MS



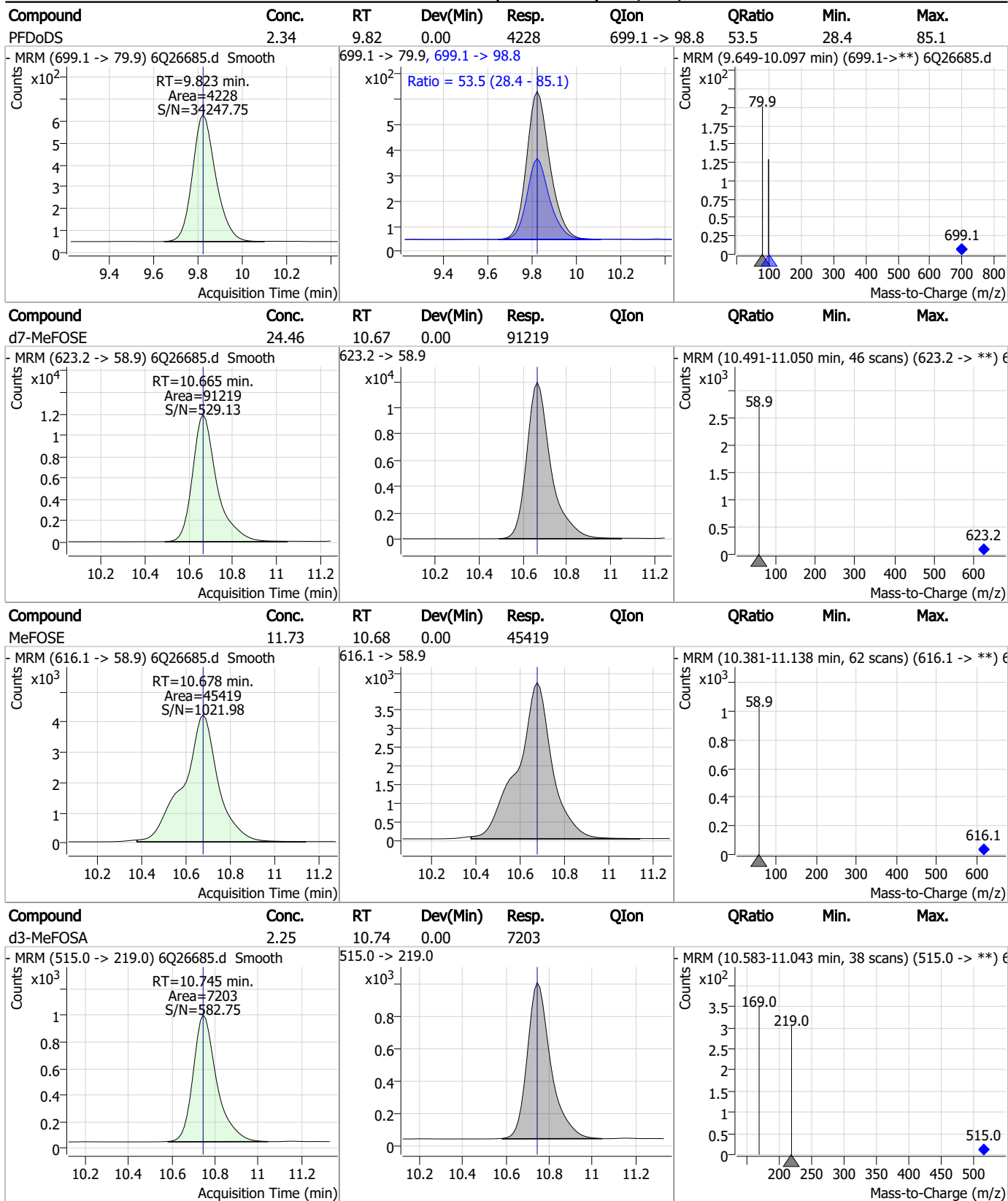
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### Perfluorinated Compounds by LC/MS/MS



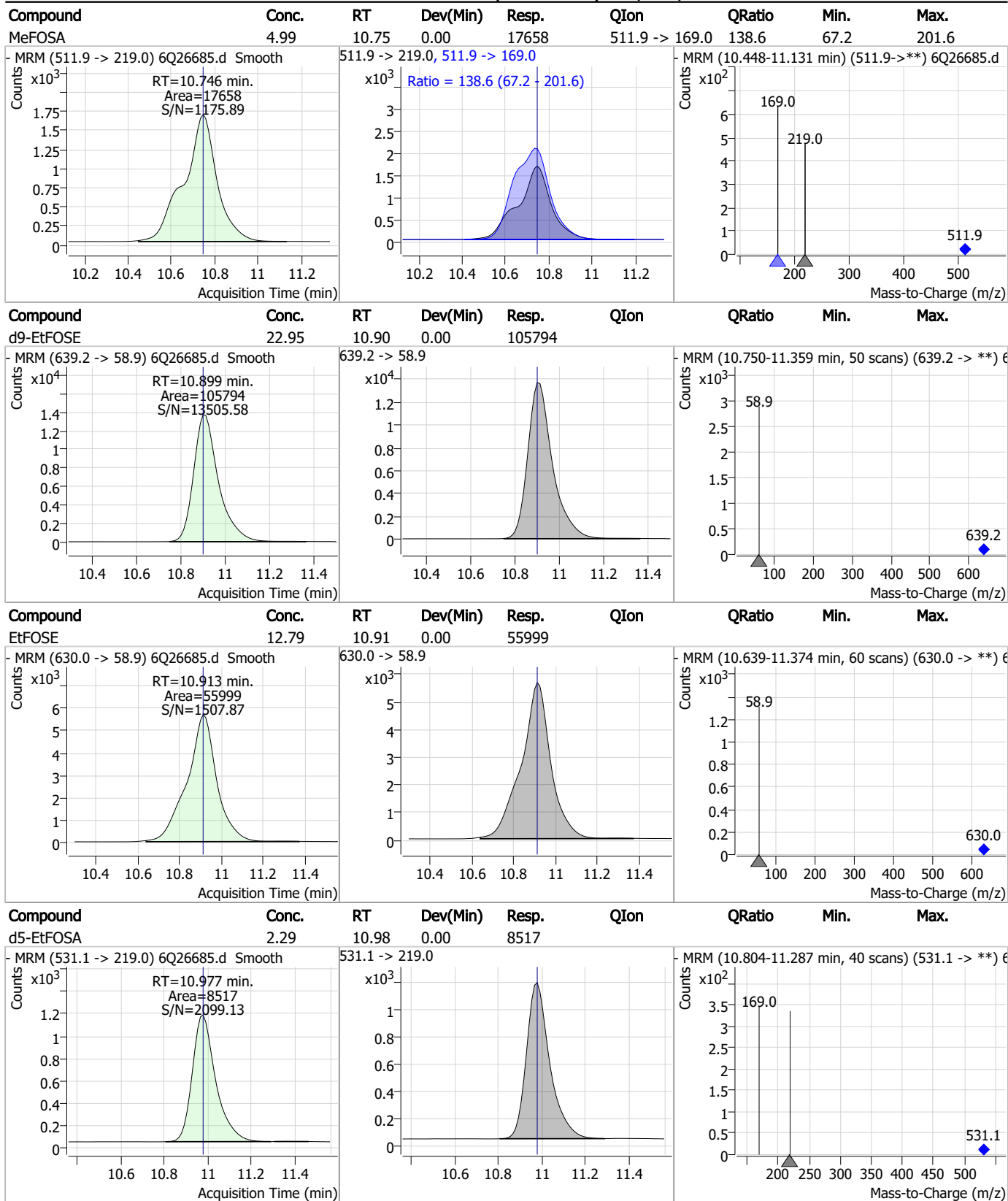
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### Perfluorinated Compounds by LC/MS/MS



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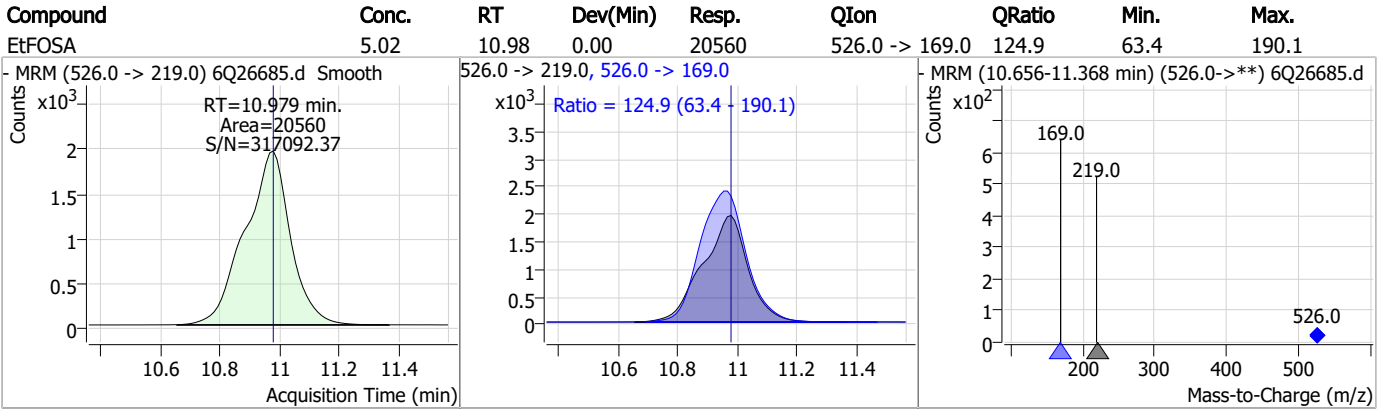
### Perfluorinated Compounds by LC/MS/MS



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### Perfluorinated Compounds by LC/MS/MS



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# Manual Integration Approval Summary

Sample Number: S6Q373-ECC373      Method: EPA DRAFT 1633  
Lab FileID: 6Q26685.D      Analyst approved: 10/19/23 11:29 Martha Valls  
Injection Time: 10/18/23 21:14      Supervisor approved: 10/19/23 14:22 Natasha Gumtie

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorooctanesulfonic acid	1763-23-1		8.26	Split peak

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SGS ORLANDO

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/ID 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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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	✓

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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.S6Q367.560,,,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	✓



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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	20/500	Pass
125	6Q26050.d	P1-A2	cc367-1,0LL	1633full.m	QC	1.6/500	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	20/500	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,S6Q367,500,,,5.0,1,water	✓ + rr2x
138	6Q26063.d	P2-F9	FC9871-17	1633full.m	Sample	OP99272,S6Q367,510,,,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	20/500	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	20/500	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	20/500	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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SGS ORLANDO

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,S6Q370,500,,,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

SGS ORLANDO

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,S6Q370,500,,,5.0,1,soil	✓
60	6Q26312.d	P6-D7	OP99330-LLBS:3	1633full.m	Sample		OP99330,S6Q370,500,,,5.0,1,soil	✓
61	6Q26313.d	P6-D8	OP99330-MB	1633full.m	Sample		OP99330,S6Q370,500,,,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	r1x 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	Etofosa high, r1x + 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

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122	6Q26374.d	P1-B9	iccb	1633full.m	Sample	CP99081,S6Q370,500,,,5.0,1,water	ND
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SGS ORLANDO

DATE:	10/17/23
COLUMN TYPE:	Poroshell EC18
AMOUNT INJ:	4 uI
INSTRUMENT:	LCMS6-6Q

LCMS6-6Q ANALYSIS LOG

METHODS:	1633
PROC. METH:	1633_101723_S6Q373
CAL DATE:	10/17/23
ANALYST:	M. Valls AL
RUN BATCH:	S6Q373

ELUENT A LOT #:	ACN 232980
ELUENT B LOT #:	HPLC WATER:232305 W5% Acetonitrile: 232980 2mM AMAC.
IC/CC STD LOT #:	LCMS 2204-E
ICV STD LOT #:	LCMS 2204E/2199
ISTD/ID STD LOT #:	12087/12030

	Data File	Sample	Sample Name	Method	Sample Type	Level	Misc. Info	Comments
1	6Q26562.d	P1-B9	Blank	1633full.m	Sample		OP99081.S6Q373.500,,,5.0,1,.water	nd
2	6Q26563.d	P1-A1	Blank	1633full.m	Sample		OP99081.S6Q373.500,,,5.0,1,.water	nd
3	6Q26564.d	P1-A1	Blank	1633full.m	Sample		OP99081.S6Q373.500,,,5.0,1,.water	nd
4	6Q26565.d	P1-A1	CCB	1633full.m	Sample		OP99081.S6Q373.500,,,5.0,1,.water	nd
5	6Q26566.d	P1-A1	CCB	1633full.m	Sample		OP99081.S6Q373.500,,,5.0,1,.water	nd
6	6Q26567.d	P1-A1	NEW_CCB	1633full.m	Sample		OP99081.S6Q373.500,,,5.0,1,.water	nd
7	6Q26568.d	P1-A2	II CHECK	1633full.m	Sample		OP99081.S6Q373.500,,,5.0,1,.water	nd
8	6Q26569.d	P1-F1	4Q_CCB	1633full.m	Sample		OP99081.S6Q373.500,,,5.0,1,.water	ok
9	6Q26570.d	P1-B3	RT TDCA	1633full.m	Sample		OP99081.S6Q373.500,,,5.0,1,.water	pass
10	6Q26571.d	P1-B4	RT BR-LN	1633full.m	Sample		OP99081.S6Q373.500,,,5.0,1,.water	pass
11	6Q26572.d	P1-A1	ic373-0	1633full.m	Sample		OP99081.S6Q373.500,,,5.0,1,.water	check tune file
12	6Q26573.d	P1-A2	ic373-1	1633full.m	Calibration	1.6/500	OP99081.S6Q373.500,,,5.0,1,.water	pass
13	6Q26574.d	P1-A3	ic373-2	1633full.m	Calibration	3.2/500	OP99081.S6Q373.500,,,5.0,1,.water	pass
14	6Q26575.d	P1-A4	ic373-3	1633full.m	Calibration	10/500	OP99081.S6Q373.500,,,5.0,1,.water	pass
15	6Q26576.d	P1-A5	icc373-4	1633full.m	Calibration	20/500	OP99081.S6Q373.500,,,5.0,1,.water	pass
16	6Q26577.d	P1-A6	ic373-5	1633full.m	Calibration	40/500	OP99081.S6Q373.500,,,5.0,1,.water	pass
17	6Q26578.d	P1-A7	ic373-6	1633full.m	Calibration	100/500	OP99081.S6Q373.500,,,5.0,1,.water	pass
18	6Q26579.d	P1-A8	ic373-7	1633full.m	Calibration	200/500	OP99081.S6Q373.500,,,5.0,1,.water	pass
19	6Q26580.d	P1-A9	ic373-8	1633full.m	Calibration	1x	OP99081.S6Q373.500,,,5.0,1,.water	pass
20	6Q26581.d	P1-A1	IBLK	1633full.m	Sample		OP99081.S6Q373.500,,,5.0,1,.water	nd
21	6Q26582.d	P1-B1	icv373-4	1633full.m	QC	20/500	OP99081.S6Q373.500,,,5.0,1,.water	pass
22	6Q26583.d	P1-B2	icv373-20	1633full.m	QC	100/500	OP99081.S6Q373.500,,,5.0,1,.water	pass
23	6Q26584.d	P1-A5	cc373-4	1633full.m	QC	20/500	OP99081.S6Q373.500,,,5.0,1,.water	pass
24	6Q26585.d	P1-A2	cc373-1,0LL	1633full.m	QC	1.6/500	OP99081.S6Q373.500,,,5.0,1,.water	pass
25	6Q26586.d	P4-D8	OP99369-BS	1633full.m	Sample		OP99369.S6Q373.500,,,5.0,1,.water	✓
26	6Q26587.d	P4-D9	OP99369-LLBS:3	1633full.m	Sample		OP99369.S6Q373.500,,,5.0,1,.water	✓
27	6Q26588.d	P4-E1	OP99369-MB	1633full.m	Sample		OP99369.S6Q373.500,,,5.0,1,.water	✓
28	6Q26589.d	P4-F6	FC9933-12	1633full.m	Sample		OP99369.S6Q373.545,,,5.0,1,.water	✓
29	6Q26590.d	P4-F7	FC9933-13	1633full.m	Sample		OP99369.S6Q373.545,,,5.0,1,.water	✓
30	6Q26591.d	P4-F8	FC9933-14	1633full.m	Sample		OP99369.S6Q373.545,,,5.0,1,.water	✓
31	6Q26592.d	P4-F9	FC9933-15	1633full.m	Sample		OP99369.S6Q373.535,,,5.0,1,.water	✓
32	6Q26593.d	P3-F8	FC9933-16	1633full.m	Sample		OP99369.S6Q373.545,,,5.0,1,.water	✓
33	6Q26594.d	P3-F9	FC9933-17	1633full.m	Sample		OP99369.S6Q373.545,,,5.0,1,.water	rr 2x e flag
34	6Q26595.d	P1-A5	cc373-4	1633full.m	QC	20/500	OP99081.S6Q373.500,,,5.0,1,.water	pass
35	6Q26596.d	P1-A1	iccb	1633full.m	Sample		OP99081.S6Q373.500,,,5.0,1,.water	nd



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36	6Q26697.d	P5-A1	OP99394-BS	1633full.m	Sample	OP99394.S6Q373.500,,,5.0,1,water	✓
37	6Q26698.d	P5-A2	OP99394-L1BS:3	1633full.m	Sample	OP99394.S6Q373.500,,,5.0,1,water	✓
38	6Q26699.d	P5-A3	OP99394-MB	1633full.m	Sample	OP99394.S6Q373.500,,,5.0,1,water	✓
39	6Q26600.d	P5-A4	FC9958-5	1633full.m	Sample	OP99394.S6Q373.525,,,5.0,1,water	✓
40	6Q26601.d	P5-A5	FC9961-1	1633full.m	Sample	OP99394.S6Q373.505,,,5.0,1,water	✓
41	6Q26602.d	P5-A6	FC9961-2	1633full.m	Sample	OP99394.S6Q373.500,,,5.0,1,water	✓
42	6Q26603.d	P5-B1	FC9974-1	1633full.m	Sample	OP99394.S6Q373.515,,,5.0,1,water	✓
43	6Q26604.d	P5-B2	FC9974-2	1633full.m	Sample	OP99394.S6Q373.490,,,5.0,1,water	✓
44	6Q26605.d	P5-B3	FC9974-3	1633full.m	Sample	OP99394.S6Q373.450,,,5.0,1,water	✓
45	6Q26606.d	P5-B4	FC9974-4	1633full.m	Sample	OP99394.S6Q373.500,,,5.0,1,water	rr 10x high eis
46	6Q26607.d	P1-A5	cc373-4	1633full.m	QC	20/500	pass
47	6Q26608.d	P1-A1	iccb	1633full.m	Sample	OP99081.S6Q373.500,,,5.0,1,water	nd
48	6Q26609.d	P5-B5	FC9987-1	1633full.m	Sample	OP99081.S6Q373.500,,,5.0,1,water	✓
49	6Q26610.d	P5-B6	FC9987-2	1633full.m	Sample	OP99394.S6Q373.510,,,5.0,1,water	✓
50	6Q26611.d	P5-B7	FC9987-3	1633full.m	Sample	OP99394.S6Q373.515,,,5.0,1,water	✓
51	6Q26612.d	P5-B8	FC9987-4	1633full.m	Sample	OP99394.S6Q373.505,,,5.0,1,water	✓
52	6Q26613.d	P5-B9	FC9987-5	1633full.m	Sample	OP99394.S6Q373.515,,,5.0,1,water	✓
53	6Q26614.d	P5-C1	FC9987-6	1633full.m	Sample	OP99394.S6Q373.505,,,5.0,1,water	✓
54	6Q26615.d	P5-C2	FC9987-7	1633full.m	Sample	OP99394.S6Q373.450,,,5.0,1,water	rr 5x e flag
55	6Q26616.d	P5-C3	FC9987-8	1633full.m	Sample	OP99394.S6Q373.530,,,5.0,1,water	✓
56	6Q26617.d	P5-C4	FC9987-9	1633full.m	Sample	OP99394.S6Q373.515,,,5.0,1,water	rr 10x e flag
57	6Q26618.d	P5-A7	FC10290-1	1633full.m	Sample	OP99445.S6Q373.525,,,5.0,10,water	✓
58	6Q26619.d	P1-A5	cc373-4	1633full.m	QC	20/500	pass
59	6Q26620.d	P1-A1	iccb	1633full.m	Sample	OP99081.S6Q373.500,,,5.0,1,water	nd
60	6Q26621.d	P5-C6	OP99398-BS	1633full.m	Sample	OP99398.S6Q373.500,,,5.0,1,soil	✓
61	6Q26622.d	P5-C7	OP99398-L1BS:3	1633full.m	Sample	OP99398.S6Q373.500,,,5.0,1,soil	✓
62	6Q26623.d	P5-C8	OP99398-MB	1633full.m	Sample	OP99398.S6Q373.500,,,5.0,1,soil	✓
63	6Q26624.d	P5-C9	FC9914-1	1633full.m	Sample	OP99398.S6Q373.503,,,5.0,1,soil	✓
64	6Q26625.d	P5-D1	OP99398-MS	1633full.m	Sample	OP99398.S6Q373.498,,,5.0,1,soil	✓
65	6Q26626.d	P5-D2	OP99398-MSD	1633full.m	Sample	OP99398.S6Q373.500,,,5.0,1,soil	✓
66	6Q26627.d	P5-D3	FC9914-2	1633full.m	Sample	OP99398.S6Q373.497,,,5.0,1,soil	✓
67	6Q26628.d	P5-D4	FC9914-3	1633full.m	Sample	OP99398.S6Q373.498,,,5.0,1,soil	✓
68	6Q26629.d	P5-D5	FC9914-4	1633full.m	Sample	OP99398.S6Q373.499,,,5.0,1,soil	✓
69	6Q26630.d	P5-D6	FC9914-5	1633full.m	Sample	OP99398.S6Q373.499,,,5.0,1,soil	✓
70	6Q26631.d	P1-A5	cc373-4	1633full.m	QC	20/500	pass
71	6Q26632.d	P1-A1	iccb	1633full.m	Sample	OP99081.S6Q373.500,,,5.0,1,water	nd
72	6Q26633.d	P5-D7	FC9914-6	1633full.m	Sample	OP99398.S6Q373.495,,,5.0,1,soil	✓
73	6Q26634.d	P5-D8	FC9914-7	1633full.m	Sample	OP99398.S6Q373.502,,,5.0,1,soil	✓
74	6Q26635.d	P5-D9	FC9914-8	1633full.m	Sample	OP99398.S6Q373.504,,,5.0,1,soil	✓
75	6Q26636.d	P5-E1	FC9914-9	1633full.m	Sample	OP99398.S6Q373.495,,,5.0,1,soil	rr 2x e flag
76	6Q26637.d	P5-E2	FC9914-10	1633full.m	Sample	OP99398.S6Q373.500,,,5.0,1,soil	rr 5x e flag
77	6Q26638.d	P5-E3	FC9914-11	1633full.m	Sample	OP99398.S6Q373.502,,,5.0,1,soil	rr 10x e flag
78	6Q26639.d	P5-E4	FC9914-12	1633full.m	Sample	OP99398.S6Q373.503,,,5.0,1,soil	rr 10x e flag



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79	6Q26640.d	P5-E5	FC9914-13	1633full.m	Sample	OP99398,S6Q373,5.03,,5.0,1,soil	rr 10x e flag
80	6Q26641.d	P5-E6	FC9914-14	1633full.m	Sample	OP99398,S6Q373,5.02,,5.0,1,soil	rr 2x e flag
81	6Q26642.d	P5-E7	FC9914-15	1633full.m	Sample	OP99398,S6Q373,5.00,,5.0,1,soil	rr 2x e flag
82	6Q26643.d	P1-A5	cc373-4	1633full.m	QC	OP99081,S6Q373,500,,5.0,1,water	pass
83	6Q26644.d	P1-A1	iccb	1633full.m	Sample	OP99081,S6Q373,500,,5.0,1,water	nd
84	6Q26645.d	P5-E8	FC9914-16	1633full.m	Sample	OP99398,S6Q373,5.04,,5.0,1,soil	✓
85	6Q26646.d	P5-E9	FC9914-19	1633full.m	Sample	OP99398,S6Q373,4.96,,5.0,1,soil	✓
86	6Q26647.d	P5-F1	FC9914-20	1633full.m	Sample	OP99398,S6Q373,4.99,,5.0,1,soil	✓
87	6Q26648.d	P5-F2	FC9914-21	1633full.m	Sample	OP99398,S6Q373,5.01,,5.0,1,soil	✓
88	6Q26649.d	P5-A8	FC9874-7	1633full.m	Sample	OP99445,S6Q373,525,,5.0,2,water	✓
89	6Q26650.d	P1-A5	cc373-4	1633full.m	QC	OP99081,S6Q373,500,,5.0,1,water	pass
90	6Q26651.d	P1-A1	iccb	1633full.m	Sample	OP99081,S6Q373,500,,5.0,1,water	nd
91	6Q26652.d	P5-F3	OP99425-BS	1633full.m	Sample	OP99425,S6Q373,5.00,,5.0,1,soil	
92	6Q26653.d	P5-F4	OP99425-LLBS;3	1633full.m	Sample	OP99425,S6Q373,5.00,,5.0,1,soil	
93	6Q26654.d	P5-F5	OP99425-MB	1633full.m	Sample	OP99425,S6Q373,5.00,,5.0,1,soil	
94	6Q26655.d	P5-F6	FC9926-32	1633full.m	Sample	OP99425,S6Q373,5.03,,5.0,1,soil	
95	6Q26656.d	P5-F7	FC9926-33	1633full.m	Sample	OP99425,S6Q373,4.95,,5.0,1,soil	
96	6Q26657.d	P5-F8	FC9956-1	1633full.m	Sample	OP99425,S6Q373,5.00,,5.0,1,soil	
97	6Q26658.d	P5-F9	FC9956-2	1633full.m	Sample	OP99425,S6Q373,4.96,,5.0,1,soil	
98	6Q26659.d	P6-A1	FC9956-3	1633full.m	Sample	OP99425,S6Q373,4.98,,5.0,1,soil	
99	6Q26660.d	P6-A2	FC9956-4	1633full.m	Sample	OP99425,S6Q373,5.00,,5.0,1,soil	
100	6Q26661.d	P1-A5	cc373-4	1633full.m	QC	OP99081,S6Q373,500,,5.0,1,water	
101	6Q26662.d	P1-A1	iccb	1633full.m	Sample	OP99081,S6Q373,500,,5.0,1,water	
102	6Q26663.d	P6-A3	FC9956-5	1633full.m	Sample	OP99425,S6Q373,4.97,,5.0,1,soil	
103	6Q26664.d	P6-A4	OP99425-MS	1633full.m	Sample	OP99425,S6Q373,4.97,,5.0,1,soil	
104	6Q26665.d	P6-A5	OP99425-MSD	1633full.m	Sample	OP99425,S6Q373,5.00,,5.0,1,soil	
105	6Q26666.d	P6-A6	FC9956-6	1633full.m	Sample	OP99425,S6Q373,5.00,,5.0,1,soil	
106	6Q26667.d	P6-A7	FC9956-8	1633full.m	Sample	OP99425,S6Q373,5.03,,5.0,1,soil	
107	6Q26668.d	P6-A8	FC9956-9	1633full.m	Sample	OP99425,S6Q373,4.96,,5.0,1,soil	
108	6Q26669.d	P6-A9	FC9956-10	1633full.m	Sample	OP99425,S6Q373,4.99,,5.0,1,soil	
109	6Q26670.d	P1-A5	cc373-4	1633full.m	QC	OP99081,S6Q373,500,,5.0,1,water	
110	6Q26671.d	P1-A1	iccb	1633full.m	Sample	OP99081,S6Q373,500,,5.0,1,water	
111	6Q26672.d	P1-B3	RT TDCA	1633full.m	Sample	OP99081,S6Q373,500,,5.0,1,water	
112	6Q26673.d	P1-B4	RT BR-LN	1633full.m	Sample	OP99081,S6Q373,500,,5.0,1,water	
113	6Q26674.d	P1-A9	HIGH STD	1633full.m	Sample	OP99081,S6Q373,500,,5.0,1,water	
114	6Q26675.d	P1-A1	IBLK	1633full.m	Sample	OP99081,S6Q373,500,,5.0,1,water	op99330
115	6Q26676.d	P1-A2	cc373-1.0LL	1633full.m	QC	OP99081,S6Q373,500,,5.0,1,water	
116	6Q26677.d	P6-B1	FC9956-11	1633full.m	Sample	OP99425,S6Q373,4.96,,5.0,1,soil	
117	6Q26678.d	P6-B2	FC9956-12	1633full.m	Sample	OP99425,S6Q373,4.96,,5.0,1,soil	
118	6Q26679.d	P6-B3	FC9956-13	1633full.m	Sample	OP99425,S6Q373,5.00,,5.0,1,soil	
119	6Q26680.d	P6-B4	FC9956-14	1633full.m	Sample	OP99425,S6Q373,4.99,,5.0,1,soil	
120	6Q26681.d	P6-B5	FC9956-15	1633full.m	Sample	OP99425,S6Q373,5.01,,5.0,1,soil	
121	6Q26682.d	P6-B6	FC9956-16	1633full.m	Sample	OP99425,S6Q373,4.98,,5.0,1,soil	



**SGS ORLANDO LCMS6-6Q ANALYSIS LOG**

122	6Q26683.d	P6-B7	FC9956-17	1633full.m	Sample	OP99425,S6Q373,4,98,,5,0,1,soil	
123	6Q26684.d	P6-B8	FC9956-18	1633full.m	Sample	OP99425,S6Q373,5,04,,5,0,1,soil	
124	6Q26685.d	P1-A5	Ecc373-4	1633full.m	QC	OP99081,S6Q373,500,,5,0,1,water	20/500
125	6Q26686.d	P1-A1	iccb	1633full.m	Sample	OP99081,S6Q373,500,,5,0,1,water	

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	2ppm	250uL	4 mL	125	1033	9/29/23	12/28/23	MW
		11940	PFAC	Wellington	4-19-28	9/24/23	1-4 ppm	250uL		125				
		11908	MXH			9/24/23				250ppb				
		11947B	PFAC		3-24-26	9/15/24	2ppm	250uL		125ppb				
		11943A	MXF		12-1-27	9/24/24	2ppm	250uL		125ppb				
		11948A	PFAC		3-28-28	9/15/24	4-20 ppm	312 uL		312				
		11948B	MXG			9/24/24				1100ppb				
		11971	PFAC		05/13/27	09/25/24	50ppm	200 uL	2.0 mL	5ppb	95% MeOH	09/25/23	03/25/24	JR
		11992	MXJ			09/25/24					5% H <sub>2</sub> O			
LCMS 2193	FOSE Std	11409	N-ET-FOSE	Wellington Labs										
		11410	N-Me-FOSE		05/13/27	09/25/24								
LCMS 2194	Full List 40 Spike (cal std)	11904/12006	PF0A-DOB (28 comp)	Absolute	03/13/28	09/11/24	1.0 ppm	400 uL	4.0 mL	100ppb	95% MeOH	09/25/23	10/16/23	JR
		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			500ppb				

\* 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 ID Surr (10ppb)	11986 A-J	MPFAC-24ES	Wellington Labs	06/08/20	09/19/24	1.0 ppm	1.2 mL	~2.5 mL	0.5 ppm	95% MeOH 5% H <sub>2</sub> O	9/19/23	03/19/24	JR
		11811	M3HFO-DA		04/03/20	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	01/08/20	10/27/23	50 ppm	8 µL	4 mL	100 ppb	95% MeOH 5% H <sub>2</sub> 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 125	1033 mix (20554)	9/21/23	12/8/23	MJ
		LCMS 2154	Br-LN Et+Me	Sgs labs	M/A	12/8/23	2 ppm	250 µL		312 ppb				
		11947B	PFAC Mx F	Wellington Labs	3-24-20	9/15/24	2 ppm	250 µL		125 ppb				
		11948	PFAC Mx G		3-28-20	9/15/24	4-20 ppm	312 µL		312 1160 ppb				
		11497	PFAC Mx J		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 (18004)	9/21/23	12/28/23	rw
		11498	Br-N Et fosa		10/7/27	12/28/23		100 µL		2 ppm				
		11795	Br-N Me fosa		10/7/27	06/28/24		250 µL		5 ppm				
		11796	Br-N Et fosa		10/7/27	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	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	1.0 ppm	400 uL	4.0 mL	100 ppb	95% MeOH 5% H2O	07/09/23	07/19/23	JR
		LCMS 2179	40 list Add-on #1	-	10/18/23								
		LCMS 2156	40 list Add-on #2	-	02/07/24								
		LCMS 2176	PGE Std	-	07/19/23	5.0 ppm							
LCMS 2181	537.1 DW Spike	11811	MCHFFO DA	Wellington Labs	04/03/26	50 ppm	200 uL	5 mL	2.0 ppm	91% MeOH 4% H2O	09/16/23	03/06/24	NG
		11337	05-EI-N R55AA		05/11/27		200 uL						NG
		99926	MPFDA		09/05/24		100 uL		1.0 ppm				NG
		99938	MPFAA		10/11/24		100 uL						NG
LCMS 2182	537.1 DW Spike	11940	PFA-DND (25 Comp)	Absolute	03/13/28	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	1.0 ppm	400 uL	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 uL		100/200 ppb				NG
LCMS 2184	PFC Spike	11940/11964	PFA-POP (25 Comp)	Absolute	03/13/28	1.0 ppm	2 mL	5 mL	400 ppb	95% MeOH 5% H2O	07/11/23	03/11/24	JR
		11432	-MA	Wellington Labs	02/28/27	50 ppm	40 uL						
		11793	FBSA-1		02/01/28								
		11792	FHSA-1		12/01/27								
		11332	PFECHS		03/29/27								

\* 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 40 std Add-on #1	11049	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% H <sub>2</sub> O	09/07/23	10/18/23	JR
		10840	L <sup>-</sup> PFDS		07/07/20	10/18/23								
		11710	N-MeFSA -M		11/11/27	08/07/24								
		10637	N-EtFSA M		08/03/20	08/23/23								
		10842	PFHxDA		09/03/20	10/18/23								
		10841	PFDA		05/07/20	10/18/23								
		11108	3:3 FTA FP-PA		02/03/27	02/08/24								
		11994	5:3 FTA H3 PFA		08/02/27	09/07/24								
		11106A	7:3 FTA FHPA		11/12/25	02/08/24								
		11794	PFECHS		03/14/28	05/07/24								
		10702B	PFEESA		05/13/25	10/18/23								
		11405	PMBA PFSOHxA		05/02/27	08/07/24								
		11048	PFMFA PF40FA		08/02/27	09/07/24								
		10705B	NFMDA 36-OPFA		03/31/25	10/18/23								

\* based on date opened as specified in each SGS - Orlando SOP.

ORLD-CAC-0017-6-03-FORM-lcms std prep log.xls 030819

JR 9/7/23



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 5ppm	5mL	100ppb	1033 mix (4930)	8/7/23	12/28/23	MW	
↓	↓	11497	br-N meFosa	↓	8/23/27	↓	↓	10NL	↓	↓	↓	↓	↓	↓	
↓	↓	11498	br-N EtFosa	↓	10/7/27	↓	↓	↓	↓	↓	↓	↓	↓	↓	
↓	↓	11494	br-N meFose	↓	10/7/27	↓	↓	↓	↓	↓	↓	↓	↓	↓	
↓	↓	11495	br-N EtFose	↓	10/7/27	↓	↓	↓	↓	↓	↓	↓	↓	↓	
↓	↓	11502	T-PFOA	↓	01/27/27	↓	↓	↓	↓	↓	↓	↓	↓	↓	
↓	↓	11527	IP PFNA	↓	01/10/27	↓	↓	↓	↓	↓	↓	↓	↓	↓	
LCMS 2158 AE	1033 Cal std. Spike	LCMS 2159 (2190)	Br-LN Et-Me PFAC	SOS LABO	N/A	12/28/23	2ppm 5ppm	250NL	4mL	125 912.5ppb	1033 mix 2088NL	8/7/23	12/28/23	MW	
↓	↓	11930	MXH	Wellington	4/19/28	7/31/24	1-4 ppm	↓	↓	62.5 125 250ppb	↓	↓	↓	↓	
↓	↓	11931A	PFAC	↓	3/24/26	7-31-24	2ppm	↓	↓	↓	↓	↓	↓	↓	
↓	↓	11931B	MXF	↓	12/1/27	8-7-24	2ppm	↓	↓	125ppb	↓	↓	↓	↓	
↓	↓	11907	PFAC	↓	12/1/27	7-31-24	2ppm	↓	↓	125ppb	↓	↓	↓	↓	
↓	↓	11932A	MXG	↓	3-28-28	8-7-24	4-20 ppm	↓	↓	312 1160ppb	↓	↓	↓	↓	
↓	↓	11933A	PFAC	↓	3-28-28	7-31-24	↓	312 NL	↓	↓	↓	↓	↓	↓	
↓	↓	11933B	MXJ	↓	3-28-28	8-7-24	↓	↓	↓	↓	↓	↓	↓	↓	
↓	↓						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 MXJ		5/28/28	9/5/24	4-20 ppm	312uL		312 1100ppb				
LCMS 2176	11949B	PFAC MXJ		5/28/28	9/5/24	4-20 ppm	312uL		312 1100ppb				
	11971	PFAC MXJ		5/28/28	9/5/24	4-20 ppm	312uL		312 1100ppb				
	11330	N-Et-FOSE	Wellington Labs	5/13/27	9/19/23	50ppm	100 200uL	2.0mL	5ppm	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	1.0ppm	400 mL	4.0 mL	100ppb	95% MeOH 5% H2O	9/05/23	03/05/24	JR
	11432	N-Me-OSA-M	Wellington Labs	02/28/27	3/13/24	50ppm	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	1.0ppm	1.2mL	~2.5mL	0.5ppm	75% MeOH 5% H2O	8/04/23	03/06/24	JR
	11811	H3HFO-DA		4/03/26	9/09/24	50ppm	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



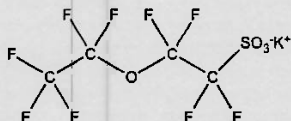
# WELLINGTON LABORATORIES

## CERTIFICATE OF ANALYSIS DOCUMENTATION

**PRODUCT CODE:** PFEESA *rec'd  
8/20/21  
WPH* **LOT NUMBER:** PFEESA0520

**COMPOUND:** Potassium perfluoro(2-ethoxyethane)sulfonate

**STRUCTURE:** **CAS #:** 117205-07-9



**MOLECULAR FORMULA:** C<sub>4</sub>F<sub>8</sub>SO<sub>4</sub>K

**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)

**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

**MOLECULAR WEIGHT:** 354.19

**SOLVENT(S):** Methanol

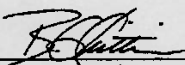
**DOCUMENTATION/ DATA ATTACHED:**

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:**  **Date:** 05/29/2020  
(mm/dd/yyyy)

B.G. Chittim, General Manager

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Form#:27, Issued 2004-11-10  
Revision#:7, Revised 2020-01-09

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

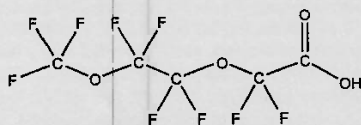
**COMPOUND:**

Perfluoro-3,6-dioxaheptanoic acid

**STRUCTURE:**

**CAS #:**

151772-58-6



**MOLECULAR FORMULA:**

C<sub>6</sub>H<sub>2</sub>F<sub>9</sub>O<sub>4</sub>

**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)

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# WELLINGTON LABORATORIES

## CERTIFICATE OF ANALYSIS DOCUMENTATION

**PRODUCT CODE:**

N-EtFOSA-M

10837

**LOT NUMBER:**

NEtFOSA0821M

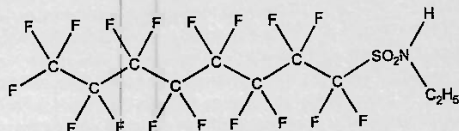
**COMPOUND:**

N-ethylperfluoro-1-octanesulfonamide

**STRUCTURE:**

**CAS #:**

4151-50-2



**MOLECULAR FORMULA:**

C<sub>10</sub>H<sub>9</sub>F<sub>17</sub>NO<sub>2</sub>S

**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.

**FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE**

Certified By:

  
B.G. Chittim, General Manager

Date: 08/16/2021

(mm/dd/yyyy)

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# WELLINGTON LABORATORIES

## CERTIFICATE OF ANALYSIS DOCUMENTATION

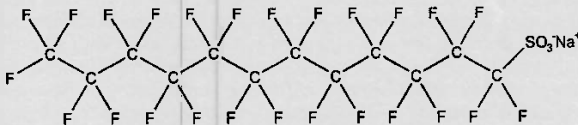
10840

**PRODUCT CODE:** L-PFDoS  
**COMPOUND:** Sodium perfluoro-1-dodecanesulfonate

**LOT NUMBER:** LPFDoS0721

**STRUCTURE:**

**CAS #:** 1260224-54-1



**MOLECULAR FORMULA:** C<sub>12</sub>F<sub>25</sub>SO<sub>3</sub>Na  
**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).

**FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE**

**Certified By:**   
B.G. Chittim, General Manager  
**Date:** 07/16/2021  
(mm/dd/yyyy)

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Form#: 27, Issued 2004-11-10  
Revision#: 9, Revised 2020-12-23

LPFDoS0721 (1 of 4)  
rev0

7.9.1  
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# WELLINGTON LABORATORIES

## CERTIFICATE OF ANALYSIS DOCUMENTATION

10847 NG 01/18/23

**PRODUCT CODE:**

PFODA

**LOT NUMBER:**

PFODA0821

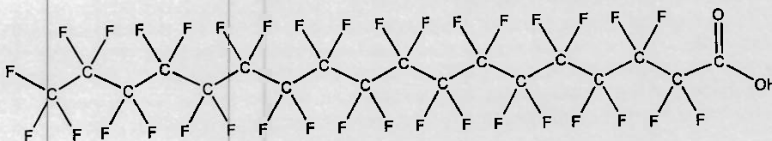
**COMPOUND:**

Perfluoro-n-octadecanoic acid

**STRUCTURE:**

**CAS #:**

16517-11-6



**MOLECULAR FORMULA:**

C<sub>18</sub>H<sub>35</sub>O<sub>2</sub>

**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.

**FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE**

Certified By:

B.G. Chittim, General Manager

Date: 09/28/2021

(mm/dd/yyyy)

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7.9.1  
7



# WELLINGTON LABORATORIES

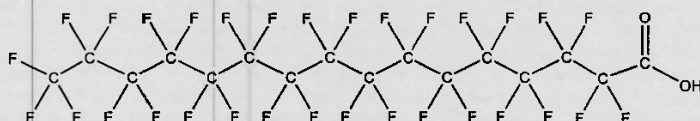
## CERTIFICATE OF ANALYSIS DOCUMENTATION

10842 \* NG 01/18/23

**PRODUCT CODE:** PFHxDA **LOT NUMBER:** PFHxDA0421

**COMPOUND:** Perfluoro-n-hexadecanoic acid

**STRUCTURE:** **CAS #:** 67905-19-5



**MOLECULAR FORMULA:** C<sub>16</sub>HF<sub>31</sub>O<sub>2</sub> **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

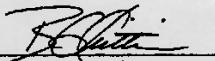
**DOCUMENTATION/ DATA ATTACHED:**

- 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.

**FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE**

**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

PFHxDA0421 (1 of 4)  
 rev0

7.9.1  
7



1116 A.B NW

1116B on the back NW



# WELLINGTON LABORATORIES

## CERTIFICATE OF ANALYSIS DOCUMENTATION

**PRODUCT CODE:**

FHpPA

**LOT NUMBER:**

FHpPA1020

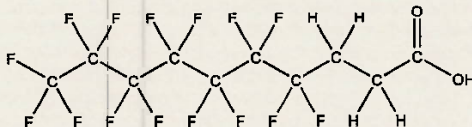
**COMPOUND:**

3-Perfluoroheptyl propanoic acid

**STRUCTURE:**

**CAS #:**

812-70-4



**MOLECULAR FORMULA:**

C<sub>10</sub>H<sub>5</sub>F<sub>15</sub>O<sub>2</sub>

**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.

**FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE**

**Certified By:**

B.G. Chittim, General Manager

**Date:** 11/27/2020

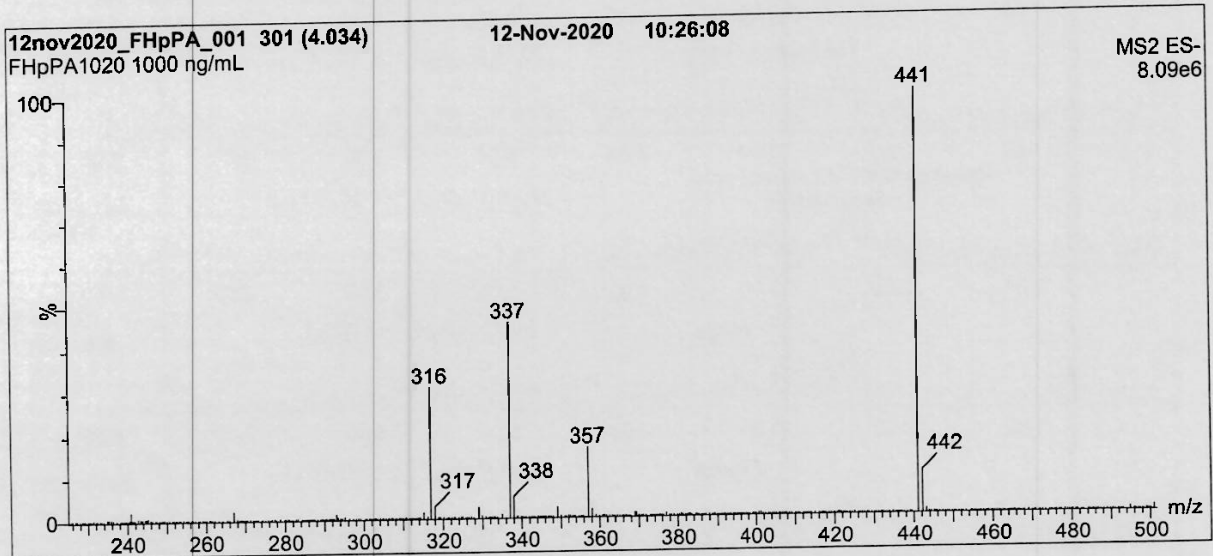
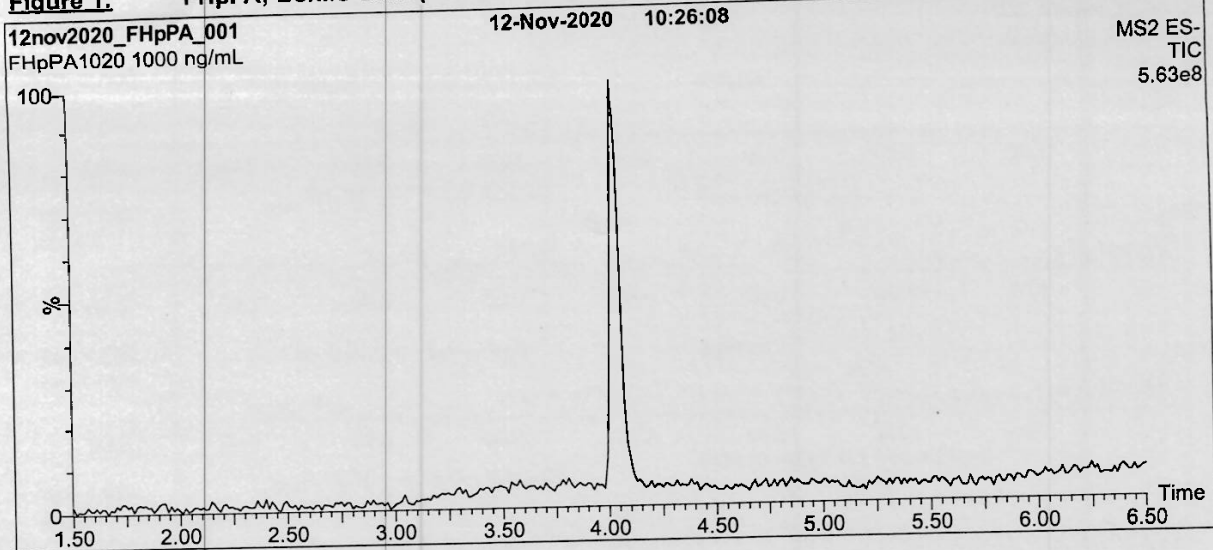
(mm/dd/yyyy)

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Form#: 27, Issued 2004-11-10  
Revision#: 8, Revised 2020-09-10

FHpPA1020 (1 of 4)  
rev0

7.9.1  
7

**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 RP<sub>18</sub>  
1.7  $\mu$ m, 2.1 x 100 mm

Mobile phase: Gradient  
Start: 45% H<sub>2</sub>O / 55% (80:20 MeOH:ACN)  
(both with 10 mM NH<sub>4</sub>OAc 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  $\mu$ 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



**WELLINGTON**  
LABORATORIES

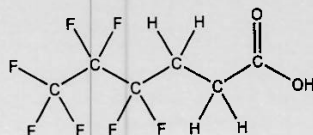
**CERTIFICATE OF ANALYSIS**  
DOCUMENTATION

**PRODUCT CODE:** FPPrPA  
**COMPOUND:** 3-Perfluoropropyl propanoic acid

**LOT NUMBER:** FPPrPA0122

**STRUCTURE:**

**CAS #:** 356-02-5



**MOLECULAR FORMULA:** C<sub>6</sub>H<sub>5</sub>F<sub>7</sub>O<sub>2</sub>  
**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

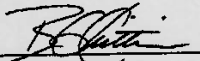
**DOCUMENTATION/ DATA ATTACHED:**

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 (C<sub>6</sub>H<sub>3</sub>F<sub>7</sub>O<sub>2</sub>) as an impurity determined by <sup>19</sup>F NMR.

**FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE**

**Certified By:**   
B.G. Chittim, General Manager

**Date:** 02/04/2022  
(mm/dd/yyyy)

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA  
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11140



# WELLINGTON LABORATORIES

## CERTIFICATE OF ANALYSIS DOCUMENTATION

**PRODUCT CODE:**

L-PFPrS

**LOT NUMBER:**

LPFPrS0721

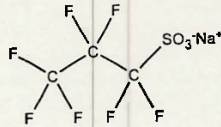
**COMPOUND:**

Sodium perfluoro-1-propanesulfonate

**STRUCTURE:**

**CAS #:**

Not available



**MOLECULAR FORMULA:**

C<sub>3</sub>F<sub>7</sub>SO<sub>3</sub>Na

**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.

**FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE**

Certified By:

B.G. Chittim, General Manager

Date: 08/04/2021

(mm/dd/yyyy)

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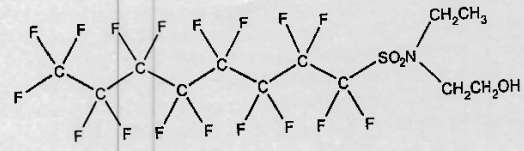
11336



# WELLINGTON LABORATORIES

## CERTIFICATE OF ANALYSIS DOCUMENTATION

**PRODUCT CODE:** N-EtFOSE-M  
**COMPOUND:** 2-(N-ethylperfluoro-1-octanesulfonamido)ethanol  
**LOT NUMBER:** NEtFOSE0622M  
**CAS #:** 1691-99-2  
**STRUCTURE:**



**MOLECULAR FORMULA:** C<sub>12</sub>H<sub>10</sub>F<sub>17</sub>NO<sub>3</sub>S  
**CONCENTRATION:** 50.0 ± 2.5 µg/mL  
**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  
**MOLECULAR WEIGHT:** 571.25  
**SOLVENT(S):** Methanol

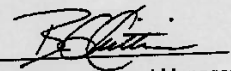
**DOCUMENTATION/ DATA ATTACHED:**

- 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.

**FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE**

**Certified By:**   
 B.G. Chittim, General Manager  
**Date:** 07/13/2022  
 (mm/dd/yyyy)

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Form#:27, Issued 2004-11-10  
 Revision#:9, Revised 2020-12-23

NEtFOSE0622M (1 of 5)  
 rev0

7.9.1  
 7



11338



# WELLINGTON LABORATORIES

## CERTIFICATE OF ANALYSIS DOCUMENTATION

**PRODUCT CODE:**

N-MeFOSE-M

**LOT NUMBER:**

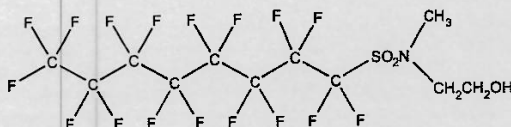
NMeFOSE0522M

**COMPOUND:**

2-(N-methylperfluoro-1-octanesulfonamido)ethanol

**STRUCTURE:****CAS #:**

24448-09-7

**MOLECULAR FORMULA:**C<sub>11</sub>H<sub>8</sub>F<sub>17</sub>NO<sub>3</sub>S**MOLECULAR WEIGHT:**

557.22

**CONCENTRATION:**

50.0 ± 2.5 µg/mL

**SOLVENT(S):**

Methanol

**CHEMICAL PURITY:**

&gt;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.

**FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE**

Certified By:

  
B.G. Chittim, General Manager
Date: 06/14/2022  
(mm/dd/yyyy)

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11497



# WELLINGTON LABORATORIES

## CERTIFICATE OF ANALYSIS DOCUMENTATION

### br-NMeFOSA

#### **N-Methylperfluorooctanesulfonamide Isomeric Mix**

<b><u>PRODUCT CODE:</u></b>	br-NMeFOSA
<b><u>LOT NUMBER:</u></b>	brNMeFOSA0822
<b><u>CONCENTRATION:</u></b>	50.0 ± 2.5 µg/mL
<b><u>SOLVENT(S):</u></b>	Methanol
<b><u>DATE PREPARED:</u></b> (mm/dd/yyyy)	08/18/2022
<b><u>LAST TESTED:</u></b> (mm/dd/yyyy)	08/23/2022
<b><u>EXPIRY DATE:</u></b> (mm/dd/yyyy)	08/23/2027
<b><u>RECOMMENDED STORAGE:</u></b>	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 <sup>19</sup>F-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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Form#:13, Issued 2004-11-10  
Revision#:9, Revised 2020-12-23

brNMeFOSA0822 (1 of 6)  
rev1

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7

11498



# WELLINGTON LABORATORIES

## CERTIFICATE OF ANALYSIS DOCUMENTATION

### br-NEtFOSA

#### N-Ethylperfluorooctanesulfonamide Isomeric Mix

<b><u>PRODUCT CODE:</u></b>	br-NEtFOSA
<b><u>LOT NUMBER:</u></b>	brNEtFOSA0922
<b><u>CONCENTRATION:</u></b>	50.0 ± 2.5 µg/mL
<b><u>SOLVENT(S):</u></b>	Methanol
<b><u>DATE PREPARED:</u></b> (mm/dd/yyyy)	08/23/2022
<b><u>LAST TESTED:</u></b> (mm/dd/yyyy)	10/07/2022
<b><u>EXPIRY DATE:</u></b> (mm/dd/yyyy)	10/07/2027
<b><u>RECOMMENDED STORAGE:</u></b>	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 <sup>19</sup>F-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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brNEtFOSA0922 (1 of 6)  
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7



1513 rec'd 11/14/22



**WELLINGTON**  
LABORATORIES

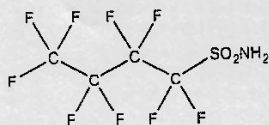
**CERTIFICATE OF ANALYSIS**  
DOCUMENTATION

**PRODUCT CODE:** FBSA-I  
**COMPOUND:** Perfluoro-1-butanefulfonamide

**LOT NUMBER:** FBSA11211

STRUCTURE:

**CAS #:** 30334-69-1



**MOLECULAR FORMULA:** C<sub>4</sub>H<sub>2</sub>F<sub>9</sub>NO<sub>2</sub>S  
**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

# WELLINGTON LABORATORIES

## CERTIFICATE OF ANALYSIS DOCUMENTATION

**PRODUCT CODE:**

FHxSA-I

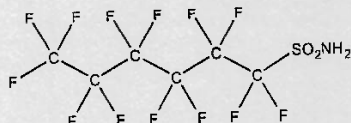
**LOT NUMBER:** FHxSA1221I

**COMPOUND:**

Perfluoro-1-hexanesulfonamide

**CAS #:** 41997-13-1

**STRUCTURE:**



**MOLECULAR FORMULA:**

C<sub>6</sub>H<sub>2</sub>F<sub>13</sub>NO<sub>2</sub>S

**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.

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Certified By:

B.G. Chittim, General Manager

Date: 01/10/2022  
(mm/dd/yyyy)

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FHxSA1221I (1 of 4)



11649 Rec. 02/13/23

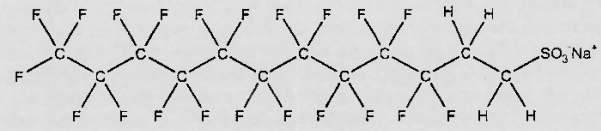


# WELLINGTON LABORATORIES

## 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:** C<sub>12</sub>H<sub>4</sub>F<sub>21</sub>SO<sub>3</sub>Na **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

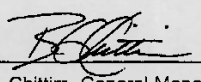
**DOCUMENTATION/ DATA ATTACHED:**

- 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.

**FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE**

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

102FTS1122 (1 of 4)  
rev0

7.9.1  
7

11710  
rec'd: 03/17/23



# WELLINGTON LABORATORIES

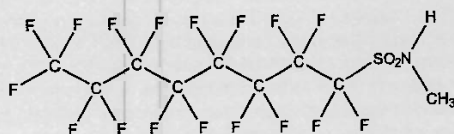
## CERTIFICATE OF ANALYSIS DOCUMENTATION

**PRODUCT CODE:** N-MeFOSA-M  
**COMPOUND:** N-Methylperfluoro-1-octanesulfonamide

**LOT NUMBER:** NMeFOSA1122M

**STRUCTURE:**

**CAS #:** 31506-32-8



**MOLECULAR FORMULA:** C<sub>9</sub>H<sub>4</sub>F<sub>17</sub>NO<sub>2</sub>S  
**CONCENTRATION:** 50.0 ± 2.5 µg/mL  
**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

**MOLECULAR WEIGHT:** 513.17  
**SOLVENT(S):** Methanol

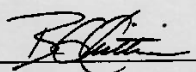
**DOCUMENTATION/ DATA ATTACHED:**

- 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.

**FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE**

**Certified By:**   
B.G. Chittim, General Manager

**Date:** 11/25/2022  
(mm/dd/yyyy)

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Form#:27, Issued 2004-11-10  
Revision#:9, Revised 2020-12-23

NMeFOSA1122M (1 of 4)  
rev0

7.9.1  
7



11794  
rec'd: 05/15/23



# WELLINGTON LABORATORIES

## CERTIFICATE OF ANALYSIS DOCUMENTATION

**PRODUCT CODE:**

PFECHS

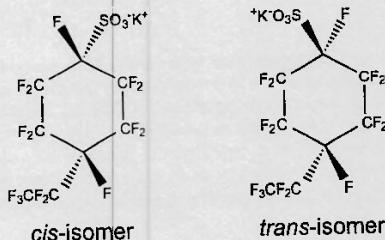
**LOT NUMBER:** PFECHS0223

**COMPOUND:**

Potassium perfluoro-4-ethylcyclohexanesulfonate (isomeric mixture)

**STRUCTURE:**

**CAS #:** 335-24-0



**MOLECULAR FORMULA:**

C<sub>9</sub>F<sub>15</sub>SO<sub>3</sub>K

**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 <sup>19</sup>F NMR).

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Certified By:

B.G. Chittim, General Manager

Date: 03/16/2023  
(mm/dd/yyyy)

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7.9.1  
7

11795  
rec'd 10/15/23



# 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 <sup>19</sup>F-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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Form#: 13, Issued 2004-11-10  
Revision#: 9, Revised 2020-12-23

brNMeFOSE0922 (1 of 7)  
rev1

7.9.1  
7



11796  
rec'd: 05/15/23



# WELLINGTON LABORATORIES

## CERTIFICATE OF ANALYSIS DOCUMENTATION

### br-NEtFOSE

2-(N-Ethylperfluorooctanesulfonamido)ethanol  
Isomeric Mix

<b>PRODUCT CODE:</b>	br-NEtFOSE
<b>LOT NUMBER:</b>	brNEtFOSE1022
<b>CONCENTRATION:</b>	50.0 ± 2.5 µg/mL
<b>SOLVENT(S):</b>	Methanol
<b>DATE PREPARED:</b> (mm/dd/yyyy)	09/12/2022
<b>LAST TESTED:</b> (mm/dd/yyyy)	09/12/2022 (HRGC/LRMS) 10/07/2022 (LC/MS)
<b>EXPIRY DATE:</b> (mm/dd/yyyy)	10/07/2027
<b>RECOMMENDED STORAGE:</b>	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 <sup>19</sup>F-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:

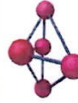
- See page 2 for further details.
- CAS #: 1691-99-2 (for linear isomer).

**FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE**

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Form#: 13, Issued 2004-11-10  
Revision#: 9, Revised 2020-12-23

brNEtFOSE1022 (1 of 7)  
rev1



11940  
rec'd: 08/07/23

**CERTIFIED WEIGHT REPORT**

Part Number: 64029A  
Lot Number: 102722  
Description: PFOA - DOD  
28 components  
031326  
Prepar: 1.0  
64UTB

Expiration Date:  
Recommended Storage:  
Nominal Concentration (µg/mL):  
NIST Test ID:

Solvent(s): Methanol (1 mM KOH)  
p-Propanol

Lot #: 102722 (96%)  
32600 (2%)

Formulated By: Prashant Chauhan  
Reviewed By: Pedro L. Rentes

DATE	DATE
031322	031322

Volume(s) shown below were combined and diluted to (mL):  
Notes: All assigned values are carbon concentrations.

Compound	Part Number	Lot Number	Dilution Factor	Initial Vol. (mL)	Uncertainty (mL)	Initial Conc. (µg/mL)	Final Conc. (µg/mL)	Final Uncertainty (µg/mL)	SDS Information (Solvent Safety Info. On Attached PP)	LOSD
1. Perfluoro-benzoic acid (PFBA)	99642	110422	0.02	2.00	0.017	50.1	1.00	0.02	375-92-4	N/A
2. Perfluoro-pentanoic acid (PFPA)	99643	011723	0.02	2.00	0.017	50.3	1.01	0.02	2709-90-3	N/A
3. Perfluoro-hexanoic acid (PFHxA)	99198	071122	0.02	2.00	0.017	50.2	1.00	0.02	30739-4	N/A
4. Perfluoro-heptanoic acid (PFHnA)	99197	110922	0.02	2.00	0.017	50.1	1.00	0.02	375-65-8	N/A
5. Perfluoro-octanoic acid (PFnOxA)	99202	080522	0.02	2.00	0.017	50.2	1.00	0.02	335-85-1 (L)	iprct-18enyl/ig
6. Perfluoro-nonoic acid (PFnNA)	99200	110922	0.02	2.00	0.017	50.1	1.00	0.02	375-65-1	N/A
7. Perfluoro-decanoic acid (PFDA)	99195	110922	0.02	2.00	0.017	50.2	1.00	0.02	2069-94-8	N/A
8. Perfluoro-undecanoic acid (PFUDA)	99205	071522	0.02	2.00	0.017	50.1	1.00	0.02	30755-1	N/A
9. Perfluoro-dodecanoic acid (PFDDA)	99198	071522	0.02	2.00	0.017	50.1	1.00	0.02	27829-94-8	N/A
10. Perfluoro-tridecanoic acid (PFDDA)	99204	110922	0.02	2.00	0.017	50.1	1.00	0.02	375-65-2	N/A
11. Perfluoro-tetradecanoic acid (PFnTDA)	99203	030322	0.02	2.00	0.017	50.1	1.00	0.02	375-65-3	N/A
12. Perfluoro-1-octanethiolcarboxylic acid (PFnOCOA)*	3677	FC5A1321	0.02	2.00	0.017	50.0	1.00	0.05	744-91-4	N/A
13. Methylperfluorooctanoate (PFnMFOA)*	4162	IMHPFC5A1429	0.02	2.00	0.017	50.0	1.00	0.05	2555-51-9 (L)	N/A
14. Methylperfluorodecanoate (PFnMFOA)*	4163	IMHPFC5A1121	0.02	2.00	0.017	50.0	1.00	0.05	2981-60-8 (L)	N/A
15. Perfluoro-nonafluoroheptanoic acid (PFnS)	99194	080522	0.02	2.00	0.017	50.2	1.00	0.02	375-75-3	N/A
16. Perfluoro-1-perfluorooctanoic acid (PFnFAS)	99644	091522	0.02	2.00	0.017	50.1	1.00	0.02	2709-91-4	N/A
17. Perfluoro-nonafluorooctanoic acid (PFnFAS)	99198	030523	0.02	2.00	0.017	50.0	1.00	0.02	355-46-4 (L)	N/A
18. Perfluoro-1-heptafluorooctanoic acid (PFnFOS)*	3672	LFPIF050622	0.02	2.00	0.017	47.8	1.00	0.06	375-92-3	N/A
19. Heptafluorooctanoic acid (PFOS)	99201	030623	0.02	2.00	0.017	50.1	1.00	0.02	1783-28-1 (L)	N/A
20. Perfluoro-1-nonanethiolcarboxylic acid (PFnFOA)*	3687	LFNFS1122	0.02	2.00	0.017	48.0	1.01	0.05	86296-18-1	N/A
21. Perfluoro-1-decafluorooctanoic acid (PFnS)	3671	LFDFS1122	0.02	2.00	0.017	48.2	1.01	0.05	335-77-3	N/A
22. 1H,1H,2H,2H-perfluorooctane sulfonic acid (PFOS)	65271	060522	0.02	2.00	0.017	50.2	1.00	0.05	257134-72-4	N/A
23. 1H,1H,2H,2H-perfluorodecane sulfonic acid (PFDS)	65272	031123	0.02	2.00	0.017	50.2	1.00	0.05	27819-97-2	N/A
24. 1H,1H,2H,2H-perfluorododecane sulfonic acid (PFDDA)	3682	RF150822	0.02	2.00	0.017	47.9	1.01	0.05	381096-24-4	N/A
25. 2-(2-chloroethyl)-2,2,3,3-tetrafluoropropane sulfonic acid (PFCEPA)	99686	060522	0.02	2.00	0.017	50.1	1.00	0.02	13293-13-8	N/A
26. 1-Chloro-2,2,3,3-tetrafluoropropane sulfonic acid (1C-PTFOA)	4165	1CPTFOA0522	0.02	2.00	0.017	47.1	1.00	0.05	758426-58-1	N/A
27. 2-(2-bromoethyl)-2,2,3,3-tetrafluoropropane sulfonic acid (2C-PTFOA)	4164	2CPTFOA0522	0.02	2.00	0.017	46.8	1.00	0.05	758426-58-1	N/A
28. Dodecafluoro-1H,1H-dioctanoic acid (DDOHA)	4103	NDODHA0622	0.02	2.00	0.017	47.1	1.00	0.05	618005-14-4	N/A
Perfluorooctanoic acid (linear)*	99202	080522	0.02	2.00	0.004	49.6	0.99	0.010	335-67-1 (L)	N/A
Perfluorooctanoic acid (branched isomer)*	99202	080522	0.02	2.00	0.004	0.6	0.01	0.001	335-67-1 (L)	N/A
Perfluorodecafluoroheptanoic acid (linear)*	99196	030923	0.02	2.00	0.017	44.0	0.88	0.02	355-46-4 (L)	N/A
Perfluorodecafluoroheptanoic acid (branched isomer)*	99196	030923	0.02	2.00	0.017	6.0	0.12	0.0002	355-46-4 (L)	N/A
Heptafluorooctanoic acid (linear)*	99201	030923	0.02	2.00	0.017	38.1	0.76	0.02	1783-28-1 (L)	N/A
Heptafluorooctanoic acid (branched isomer)*	99201	030923	0.02	2.00	0.017	7.5	0.15	0.003	1783-28-1 (L)	N/A
Heptafluorodecafluoroheptanoic acid (linear)*	99201	030923	0.02	2.00	0.017	4.0	0.08	0.002	1783-28-1 (L)	N/A
Heptafluorodecafluoroheptanoic acid (branched isomer)*	99201	030923	0.02	2.00	0.017	0.5	0.010	0.0002	1783-28-1 (L)	N/A
Methylperfluoro-1-octanethiolcarboxylic acid (linear)*	4162	IMHPFC5A1429	0.02	2.00	0.017	36.0	0.72	0.04	2355-51-9 (L)	N/A
Methylperfluoro-1-octanethiolcarboxylic acid (branched)*	4163	IMHPFC5A1429	0.02	2.00	0.017	8.5	0.13	0.011	2355-51-9 (L)	N/A
Methylperfluoro-1-decanethiolcarboxylic acid (linear)*	4162	IMHPFC5A1429	0.02	2.00	0.017	5.0	0.10	0.005	2355-51-9 (L)	N/A
Methylperfluoro-1-decanethiolcarboxylic acid (branched)*	4163	IMHPFC5A1429	0.02	2.00	0.017	2.5	0.05	0.0009	2355-51-9 (L)	N/A
Methylperfluoro-1-dodecanethiolcarboxylic acid (linear)*	4163	IMHPFC5A1121	0.02	2.00	0.017	36.6	0.73	0.04	2981-60-8 (L)	N/A
Methylperfluoro-1-dodecanethiolcarboxylic acid (branched)*	4163	IMHPFC5A1121	0.02	2.00	0.017	7.7	0.15	0.009	2981-60-8 (L)	N/A
Methylperfluoro-1-tetradecanethiolcarboxylic acid (linear)*	4163	IMHPFC5A1121	0.02	2.00	0.017	5.3	0.11	0.005	2981-60-8 (L)	N/A
Methylperfluoro-1-tetradecanethiolcarboxylic acid (branched)*	4163	IMHPFC5A1121	0.02	2.00	0.017	0.4	0.007	0.0006	2981-60-8 (L)	N/A

\*Concentrations for branched and linear isomers are based on LCMS chromatographic analysis only.

A qualitative standard (Sect. 3.19) is available for PFOA that contains the linear and branched isomers (Wellington Labs, Cat. No. T-PFOA, or equivalent). This qualitative PFOA standard must be purchased and used to identify the retention times of the branched PFOA isomers, but the linear only PFOA standard must be used for quantitation (Sect. 12.2) until a quantitative PFOA standard containing the branched and linear isomers becomes commercially available.

\*The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.  
\*Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).  
\*Standards are certified to ±0.16% of the stated value, unless otherwise stated.  
\*Uncertainty is based on the stated value and includes the uncertainty of the supporting laboratory facilities.  
\*Uncertainty Information: Taylor, K.N. and Kopy, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Results", NIST Technical Note 1297, U.S. Government Printing Office, Washington, DC, (1994).



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 (C<sub>4</sub>-C<sub>14</sub>), eight native perfluoroalkanesulfonates (C<sub>4</sub>, C<sub>6</sub>, C<sub>7</sub>, C<sub>8</sub>, C<sub>9</sub>, C<sub>10</sub> and C<sub>12</sub> linear; C<sub>6</sub> and C<sub>8</sub> 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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Form#: 13, Issued 2004-11-10  
Revision#: 9, Revised 2020-12-23

PFACMXH0423 (1 of 11)  
rev1

7.9.1  
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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 <sup>a</sup>	N-MeFOSAA: linear isomer	760		20
	N-MeFOSAA: ∑ branched isomers	240		17
N-Ethylperfluorooctanesulfonamidoacetic acid <sup>b</sup>	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 <sup>c</sup>	PFHxSK: linear isomer	811	741	9
	PFHxSK: ∑ branched isomers	189	173	8
Sodium perfluoro-1-heptadisulfonate	L-PFHpS	1000	953	12
Potassium perfluorooctadisulfonate <sup>d</sup>	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

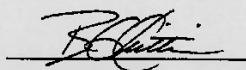
<sup>a</sup> See Table B for percent composition of linear and branched N-MeFOSAA isomers.

<sup>b</sup> See Table C for percent composition of linear and branched N-EtFOSAA isomers.

<sup>c</sup> See Table D for percent composition of linear and branched PFHxSK isomers.

<sup>d</sup> 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)

7.9.1  
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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-dioxanonoate (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

7.9.1

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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)

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

**PRODUCT CODE:** PFAC-MXG  
**LOT NUMBER:** PFACMXG1122  
**SOLVENT(S):** Methanol/Water (<1%)  
**DATE PREPARED:** (mm/dd/yyyy) 11/30/2022  
**LAST TESTED:** (mm/dd/yyyy) 12/01/2022  
**EXPIRY DATE:** (mm/dd/yyyy) 12/01/2027  
**RECOMMENDED STORAGE:** 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)  
rev0

7.9.1  
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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 (C<sub>4</sub>-C<sub>14</sub>), eight native perfluoroalkanesulfonates (C<sub>4</sub>, C<sub>6</sub>, C<sub>7</sub>, C<sub>8</sub>, C<sub>10</sub> and C<sub>12</sub> linear; C<sub>6</sub> and C<sub>8</sub> 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)  
rev 1

7.9.1  
7

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 <sup>a</sup>	N-MeFOSAA: linear isomer	760		20
	N-MeFOSAA: ∑ branched isomers	240		17
N-Ethylperfluorooctanesulfonamidoacetic acid <sup>b</sup>	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-butanesulfonate	L-PFBS	1000	887	3
Sodium perfluoro-1-pentanesulfonate	L-PFPeS	1000	941	6
Potassium perfluorohexanesulfonate <sup>c</sup>	PFHxSK: linear isomer	811	741	9
	PFHxSK: ∑ branched isomers	189	173	8
Sodium perfluoro-1-heptanesulfonate	L-PFHpS	1000	953	12
Potassium perfluorooctanesulfonate <sup>d</sup>	PFOSK: linear isomer	788	732	15
	PFOSK: ∑ branched isomers	211	196	13
Sodium perfluoro-1-nonanesulfonate	L-PFNS	1000	962	19
Sodium perfluoro-1-decanesulfonate	L-PFDS	1000	965	25
Sodium perfluoro-1-dodecanesulfonate	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-perfluorodecanesulfonate	8:2FTS	4000	3840	16

<sup>a</sup> See Table B for percent composition of linear and branched N-MeFOSAA isomers.

<sup>b</sup> See Table C for percent composition of linear and branched N-EtFOSAA isomers.

<sup>c</sup> See Table D for percent composition of linear and branched PFHxSK isomers.

<sup>d</sup> 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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7.9.1  
7

**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.

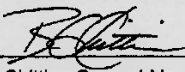
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**Table A: PFAC-MXJ; Components and Concentrations ( $\mu\text{g}/\text{mL}$ ;  $\pm 5\%$  in methanol)**

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: 08/13/23



# WELLINGTON LABORATORIES

## CERTIFICATE OF ANALYSIS DOCUMENTATION

**PRODUCT CODE:**

FPePA (5:3)

**LOT NUMBER:**

FPePA0722

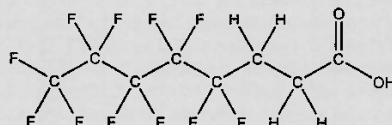
**COMPOUND:**

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



# 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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7.9.1  
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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

11988 A-5  
rec'd: 08/31/23



# WELLINGTON LABORATORIES

## CERTIFICATE OF ANALYSIS DOCUMENTATION

### MPFAC-HIF-ES

#### Mass-Labelled PFAS Extraction Standard Solution/Mixture

<b><u>PRODUCT CODE:</u></b>	MPFAC-HIF-ES
<b><u>LOT NUMBER:</u></b>	MPFACHIFES0623
<b><u>SOLVENT(S):</u></b>	Methanol/Isopropanol (1%)/Water (<1%)
<b><u>DATE PREPARED:</u></b> (mm/dd/yyyy)	06/19/2023
<b><u>LAST TESTED:</u></b> (mm/dd/yyyy)	06/20/2023
<b><u>EXPIRY DATE:</u></b> (mm/dd/yyyy)	06/20/2026
<b><u>RECOMMENDED STORAGE:</u></b>	Refrigerate ampoule

#### DESCRIPTION:

MPFAC-HIF-ES is a solution/mixture of ten mass-labelled (<sup>13</sup>C) perfluoroalkylcarboxylic acids (C<sub>4</sub>-C<sub>12</sub>, C<sub>14</sub>), three mass-labelled (<sup>13</sup>C) perfluoroalkanesulfonates (C<sub>4</sub>, C<sub>6</sub>, and C<sub>8</sub>), three mass-labelled (one <sup>13</sup>C and two <sup>2</sup>H) perfluoro-1-octanesulfonamides, three mass-labelled (<sup>13</sup>C) fluorotelomer sulfonates (4:2, 6:2, and 8:2), two mass-labelled (<sup>2</sup>H) perfluorooctanesulfonamidoacetic acids, two mass-labelled (<sup>2</sup>H) perfluorooctanesulfonamidoethanols, and mass-labelled (<sup>13</sup>C) hexafluoropropylene oxide dimer acid (<sup>13</sup>C<sub>3</sub>-GenX, M3HFPO-DA). The components and their concentrations are given in Table A.

The individual <sup>13</sup>C-labelled components all have chemical purities >98% and isotopic purities of ≥99%. The individual <sup>2</sup>H-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

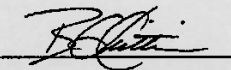
7.9.1  
7



**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-( <sup>13</sup> C <sub>4</sub> )butanoic acid	MPFBA	2000		1
Perfluoro-n-( <sup>13</sup> C <sub>5</sub> )pentanoic acid	M5PFPeA	1000		2
Perfluoro-n-(1,2,3,4,6- <sup>13</sup> C <sub>5</sub> )hexanoic acid	M5PFHxA	500		5
Perfluoro-n-(1,2,3,4- <sup>13</sup> C <sub>6</sub> )heptanoic acid	M4PFHpA	500		7
Perfluoro-n-( <sup>13</sup> C <sub>8</sub> )octanoic acid	M8PFOA	500		10
Perfluoro-n-( <sup>13</sup> C <sub>9</sub> )nonanoic acid	M9PFNA	250		11
Perfluoro-n-(1,2,3,4,5,6- <sup>13</sup> C <sub>6</sub> )decanoic acid	M6PFDA	250		14
Perfluoro-n-(1,2,3,4,5,6,7- <sup>13</sup> C <sub>7</sub> )undecanoic acid	M7PFUdA	250		18
Perfluoro-n-(1,2- <sup>13</sup> C <sub>2</sub> )dodecanoic acid	MPFDoA	250		19
Perfluoro-n-(1,2- <sup>13</sup> C <sub>2</sub> )tetradecanoic acid	M2PFTeDA	250		24
Perfluoro-1-( <sup>13</sup> C <sub>8</sub> )octanesulfonamide	M8FOSA	500		16
N-Methyl-d <sub>3</sub> -perfluoro-1-octanesulfonamide	d-N-MeFOSA	500		21
N-Ethyl-d <sub>5</sub> -perfluoro-1-octanesulfonamide	d-N-EtFOSA	500		23
N-Methyl-d <sub>3</sub> -perfluoro-1-octanesulfonamidoacetic acid	d3-N-MeFOSAA	1000		15
N-Ethyl-d <sub>5</sub> -perfluoro-1-octanesulfonamidoacetic acid	d5-N-EtFOSAA	1000		17
2-(N-Methyl-d <sub>3</sub> -perfluoro-1-octanesulfonamido)ethan-d <sub>4</sub> -ol	d7-N-MeFOSE	5000		20
2-(N-Ethyl-d <sub>5</sub> -perfluoro-1-octanesulfonamido)ethan-d <sub>4</sub> -ol	d9-N-EtFOSE	5000		22
2,3,3,3-Tetrafluoro-2-(1,1,2,2,3,3,3-heptafluoropropoxy)( <sup>13</sup> C <sub>3</sub> )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- <sup>13</sup> C <sub>3</sub> )butanesulfonate	M3PFBS	500	466	3
Sodium perfluoro-1-(1,2,3- <sup>13</sup> C <sub>3</sub> )hexanesulfonate	M3PFHxS	500	474	8
Sodium perfluoro-1-( <sup>13</sup> C <sub>8</sub> )octanesulfonate	M8PFOS	500	479	12
Sodium 1H,1H,2H,2H-perfluoro-(1,2- <sup>13</sup> C <sub>2</sub> )hexanesulfonate	M2-4:2FTS	1000	938	4
Sodium 1H,1H,2H,2H-perfluoro-(1,2- <sup>13</sup> C <sub>2</sub> )octanesulfonate	M2-6:2FTS	1000	951	9
Sodium 1H,1H,2H,2H-perfluoro-(1,2- <sup>13</sup> C <sub>2</sub> )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 (<sup>13</sup>C) perfluoroalkylcarboxylic acids (C<sub>4</sub>, C<sub>6</sub>, C<sub>8</sub>-C<sub>10</sub>) and two mass-labelled (<sup>18</sup>O and <sup>13</sup>C) perfluoroalkanesulfonates (C<sub>6</sub> and C<sub>8</sub>). 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 <sup>13</sup>C or >94% per <sup>18</sup>O.

#### 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

7.9.1  
7

**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- <sup>13</sup> C <sub>3</sub> )butanoic acid	M3PFBA	1000		1
Perfluoro-n-(1,2- <sup>13</sup> C <sub>2</sub> )hexanoic acid	MPFHxA	500		2
Perfluoro-n-(1,2,3,4- <sup>13</sup> C <sub>4</sub> )octanoic acid	MPFOA	500		4
Perfluoro-n-(1,2,3,4,5- <sup>13</sup> C <sub>5</sub> )nonanoic acid	MPFNA	250		5
Perfluoro-n-(1,2- <sup>13</sup> C <sub>2</sub> )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( <sup>18</sup> O <sub>2</sub> )sulfonate	MPFHxS	500	474	3
Sodium perfluoro-1-(1,2,3,4- <sup>13</sup> C <sub>4</sub> )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)



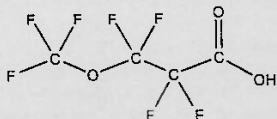
11648 Rec. 02/13/23



# 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:** C<sub>4</sub>HF<sub>7</sub>O<sub>3</sub> **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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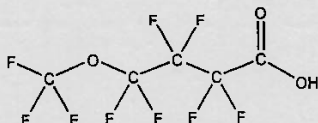
11465



# 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:**  $C_6HF_9O_3$  **MOLECULAR WEIGHT:** 280.05  
**CONCENTRATION:**  $50.0 \pm 2.5 \mu\text{g/mL}$  **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.

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**Certified By:**   
 B.G. Chittim, General Manager

**Date:** 08/26/2022  
 (mm/dd/yyyy)

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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 2202A-F	1033 Cal. std. (spike)	11989 12013A	Br-LN Et-ME	SGS Labs	MA 4/19/28	4/14/24	2 ppm 5 ppm	250 uL	4 mL	312.5 ppb 62.5 ppb 125 ppb	1033 mix (2685 uL)	10/8/23	4/14/24	NW
		11990 12014A 12014B	PFAC MXH	Wellington	3/24/20 10/8/24	10/11/24 10/8/24	1-4 ppm			125 ppb 250 ppb				
		11970 11991	PFAC MXG		7/27/28 10/8/24	10/11/24 10/8/24	2 ppm	✓		125 ppb				
		12010B 12035	PFAC MXJ	✓	3/28/28 10/8/24	10/11/24 10/8/24	4-20 ppm	312 uL	✓	312 1160 ppb		✓	✓	✓
LCMS 2203	List 40 surr Add-on Isotope	11523/ 11463	d7-N- M-CFOSE	Wellington Labs	05/09/24 01/27/27	05/09/24	50.0 ppm	400 uL	4.0 mL	5.0 ppm 50 ppb	95% MeOH 5% H <sub>2</sub> O	10/11/23	04/11/24	JR
		11537/ 11827	d9-N- EtFOSE		01/27/27	06/01/24		↓		↓				
		11334	M2- PFHxDA		11/23/26	06/01/24		80 uL		1.0 ppm				
		11335	D-N- EtFOSA		03/17/27	06/01/24		↓		↓				
LCMS 2204A-E	1033 Cal. std. (spike)	12013A 2198	Br-LN Et-ME	SGS Labs	MA 4/19/28	4/14/24	2 ppm 5 ppm	250 uL	4 mL	125 ppb 312.5 ppb	1033 mix (2685 uL)	10/15/23	4/14/24	NW
		12013B 12013C	PFAC MXH	Wellington	4/19/28 10/8/24	10/8/24 10/15/24	1-4 ppm			62.5 ppb 125 ppb 250 ppb				
		12014G 12033	PFAC MXF		3-24-26 10/8/24	10/15/24 10/15/24	2 ppm	↓		125 ppb				
		11991 12015A	PFAC MXG		7/27/28 10/8/24	10/15/24 10/15/24	2 ppm	✓		125 ppb				
		12007 12091	PFAC MXJ	✓	3/28/28 10/15/24	10/15/24	4-20 ppm	312 uL	✓	312 1160 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 2194	PFC 1D Std	12006	PFA-Dos (250ppm)	Absolute	04/24/28	09/19/24	1.0 ppm	400 mL	4.0 mL	100 ppb	95/N 007 09 5/14/20	09/28/23	03/13/24	JR
		11432	N-Me PFA-M	Wellington Labs	02/28/27	03/13/24	50 ppm	8 mL						
		11793	PBSA-1		02/01/28	08/08/24								
		11792	FHSA-1		12/01/27	09/08/24								
		11332	PFCHS		03/28/27	04/08/24								
						N/A								
LCMS 2197AD	1033 CAL std. (copie)	LCMS 2191	Br-LN BT-ME	SGS Labo	N/A	12/28/23	2ppm	250uL	4mL	125 212.5 ppb	1033 MIX (250uL)	10/1/23	12/28/23	MV
		11968	PFAC MXH	Wellington	4/9/28	9/24/24	1-4 ppm	250uL		0.25 125 250 ppb				
		11990	PFAC MXF		3-24-26	9/12/24	2ppm	250uL		125 ppb				
		11948B	PFAC MXG		12/1/27	9/24/24	2ppm	250uL		125 ppb				
		11970	PFAC MXG		12/1/27	10/1/24	2ppm	250uL		125 ppb				
		12010A	PFAC MXJ		3/28/28	9/24/24	4-20 ppm	312uL		312 1100 ppb				
		12010B	PFAC MXJ		3/28/28	10/1/24	4-20 ppm	312uL						
							NW							
LCMS 2198	1033OR-LN Me/ETFOSE/Me/ETFOSE	11797	br-N MeFOA	Wellington	8/23/27	10/9/24	50 ppm	200uL	5mL	2 ppm	1033 mix (5000 mL)	10/4/23	4/4/24	NW
		11798	br-N ETFOA		10/7/27	10/4/24		200uL		2 ppm				
		12070A	br-N MeFOE		10/7/27	10/4/24		500uL		5 ppm				
		12071A	br-N ETFOE		10/7/27	10/4/24		500uL		5 ppm				

\* based on date opened as specified in each SGS - Orlando SOP.

ORLD-QAC-0017-6-03-FORM-lcms std prep log.xls 030819



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 2199	List 40 Spike (cal std)	12006	PFA-200 (250 comp)	Absolute	06/26/28	09/19/24	1.0 ppm	400 µL	4.0 mL	100 ppb	95% MeOH 5% H <sub>2</sub> O	10/06/23	10/18/23	JR
		LCMS 2179	40 List Add-on#1	-	-	10/18/23								
		LCMS 21586	40 List Add-on#2	-	-	02/07/24								
		LCMS 2193	N-Me PFAE Std	-	-	03/25/24	5.0 ppm			500 ppb				
LCMS 2200	PFC ID Std	12004	PFA-200 (250 comp)	Absolute	06/26/28	09/19/24	1.0 ppm	400 µL	4.0 mL	100 ppb	95% MeOH 5% H <sub>2</sub> O	10/06/23	03/13/24	JR
		11432	N-Me FOSA-M	Wallington Labs	02/28/27	03/13/24	50 ppm	8 µL						
		11793	PBSA-1		02/01/28	08/06/24								
		11792	FH-SA-1		12/01/27	08/08/24								
		11332	PFEHS		03/28/27	04/16/24								
LCMS 2201A-J	PFC ID Surv (10 ppm)	12010 R-J	MPFAC-24ES	Wallington Labs	06/08/28	10/06/24	1.0 ppm	1.2 mL	~2.5 mL	0.5 ppm	95% MeOH 5% H <sub>2</sub> O	10/06/23	04/06/24	JR
		11811	M3HFPO-DA		04/03/26	09/06/24	50 ppm	24 µL						
		11709	d-N-Me FOSA-M		11/11/27	08/12/24								

extd 2A  
olpu



Organic Standards Preparation Log

SGS - Orlando Std. #	Parent Name	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 40 std Add-on #1	11649	10:2 PTS	Williamson Labs	12/01/23	08/09/24	50.0 ppm	80 μL	4.0 mL	1.0 ppm	95% MeOH 5% H <sub>2</sub> O	09/07/23	10/18/23	JR
		10840	L <sup>-</sup> PFDO5		07/07/26	10/18/23								
		11710	N-HexA -M		11/11/23	08/07/24								
		10837	N-EthA -M		08/03/26	08/23/23								
		10842	PFHDA		09/03/24	10/18/23								
		10841	PFDA		05/07/26	10/18/23								
		11168	3:3FTCA FP-PA		02/03/27	02/05/24								
		11994	5:3FTCA M3 PFA		08/02/27	07/07/24								
		1116A	7:3FTCA FHPA		11/12/25	02/08/24								
		11794	PFCHS		03/14/28	05/07/24								
		10762B	PFESA		05/13/25	10/18/23								
		11465	PFMBA PF50HxA		08/02/27	08/07/24								
		11648	PFMPA PF40FA		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.

ORLD-QAC-0017-6-03-FORM-lcms std prep log.xls 030819

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	L15740 ADD ON #2	11513	FBSA-1	Wellington	11/10/26	4/18/24	50 ppm	800ul	4.0ml	1 ppm	95% methanol 5% H2O	8/7/23	2/7/24	MW
		11514	FHXSA1		12/29/26	4/18/24					(3700)			
		11140B	F-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 ETFOA		10/7/27									
		11494	br-N meFose		10/7/27									
		11495	br-N ETFOE		10/7/27									
		11502	T-PTOA		01/27/27									
		11527	IPPTNA		01/10/27									
LCMS 2158 AE	1033 Cul std. Spike	LCMS 2159 121409	Br-LN ET-me PFAC	SGS LABO	N/A	12/28/23	2 ppm 5 ppm	250ul	4ml	125 312.5ppb	1033 mix 2.088ul	8/7/23	12/28/23	MW
		11930	MXH	Wellington	4/19/28	7/31/24 8/7/24	1-4 ppm			62.5 125 250ppb				
		11931A	PFAC		7-31-24	8-7-24	2 ppm			125ppb				
		11931B	MXF		3/27/26	8-7-24	2 ppm			125ppb				
		11907	PFAC		12/1/27	7-31-24 8-7-24	2 ppm			125ppb				
		11932A	MXG		3-28-28	7-31-24 8-7-24	4-20 ppm	312ul		312 1160ppb				
		11933A	PFAC											
		11933B	MXJ											
						MA Continue next page 8/7/23								

\* 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 2192A	1033 Cal std. (spike)	LCMS 2191	PFAC <sup>me</sup> Bis-TM	Sgs Labs	n/a	12/28/23	2ppm	250uL	4 mL	125	1633 706L 12688(L)	9/29/23	12/28/23	MW
		11940	PFAC	Washington	4/19/28	9/24/23	1-4 ppm	250uL		62.5 125 250ppb				
		11947B	PFAC		3-25-26	9/15/24	2 ppm	250uL		125ppb				
		11964	MXF		12-1-27	9/24/24	2 ppm	250uL		125ppb				
		11948A	PFAC		3-28-28	9/15/24	4-20 ppm	312 uL		312 116ppb				
		11948B	MXG		05/15/27	9/24/24	50ppm	200 mL	2.0 mL	5ppb	95% MeOH 5% H <sub>2</sub> O	09/25/23	03/25/24	JR
LCMS 2193	FOSE Std	11409	N-ET-FOSE	Washington Labs	05/15/27	09/25/24	↓	↓	↓	↓				
		11410	N-Me-FOSE		05/15/27	09/25/24	↓	↓	↓	↓				
LCMS 2194	Full List 40 Spike (cal std)	11904/ 12006	FOA- DOP (25comp)	Absolute	03/13/28	09/11/24	1.0 ppm	400 mL	4.0 mL	100ppb	95% MeOH 5% H <sub>2</sub> O	09/25/23	10/18/23	JR
		LCMS 2179	40 List Add-mal1	Sgs Std	-	10/18/23	↓	↓	↓	↓				
		LCMS 2156	40 List Add-mal2		-	02/07/24	↓	↓	↓	↓				
		LCMS 2195	FOSE Std.		-	03/25/24	5.0 ppm	↓	↓	500ppb				
LCMS 2195	PFC Spike	12006	FOA- DOP (25comp)	Absolute	04/26/28	09/19/24	1.0 ppm	2 mL	5.0 mL	400ppb	95% MeOH 5% H <sub>2</sub> O	09/28/23	03/13/24	JR
		11432	N-Me FOSA-M	Washington Labs	02/28/27	03/19/24	50ppm	40 mL						
		11793	FBSA-1		04/01/28	08/08/24	↓	↓	↓	↓				
		11792	FH-SA-1		12/01/27	08/08/24	↓	↓	↓	↓				
		11332	PFECHS		03/28/27	04/18/24	↓	↓	↓	↓				

\* based on date opened as specified in each SGS - Orlando SOP.

ORLD-QAC-0017-6-03-FORM-icms std prep log.xls 030819

11797  
rec'd: 05/15/23



# WELLINGTON LABORATORIES

## CERTIFICATE OF ANALYSIS DOCUMENTATION

### br-NMeFOSA

**N-Methylperfluorooctanesulfonamide  
Isomeric Mix**

<b><u>PRODUCT CODE:</u></b>	br-NMeFOSA
<b><u>LOT NUMBER:</u></b>	brNMeFOSA0822
<b><u>CONCENTRATION:</u></b>	50.0 ± 2.5 µg/mL
<b><u>SOLVENT(S):</u></b>	Methanol
<b><u>DATE PREPARED:</u></b> (mm/dd/yyyy)	08/18/2022
<b><u>LAST TESTED:</u></b> (mm/dd/yyyy)	08/23/2022
<b><u>EXPIRY DATE:</u></b> (mm/dd/yyyy)	08/23/2027
<b><u>RECOMMENDED STORAGE:</u></b>	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 <sup>19</sup>F-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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Form#: 13, Issued 2004-11-10  
Revision#: 9, Revised 2020-12-23

brNMeFOSA0822 (1 of 6)  
rev1

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117a8  
rec'd: 05/15/23



# WELLINGTON LABORATORIES

## CERTIFICATE OF ANALYSIS DOCUMENTATION

### br-NEtFOSA

**N-Ethylperfluorooctanesulfonamide  
Isomeric Mix**

<b><u>PRODUCT CODE:</u></b>	br-NEtFOSA
<b><u>LOT NUMBER:</u></b>	brNEtFOSA0922
<b><u>CONCENTRATION:</u></b>	50.0 ± 2.5 µg/mL
<b><u>SOLVENT(S):</u></b>	Methanol
<b><u>DATE PREPARED:</u></b> (mm/dd/yyyy)	08/23/2022
<b><u>LAST TESTED:</u></b> (mm/dd/yyyy)	10/07/2022
<b><u>EXPIRY DATE:</u></b> (mm/dd/yyyy)	10/07/2027
<b><u>RECOMMENDED STORAGE:</u></b>	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 <sup>19</sup>F-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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Form#:13, Issued 2004-11-10  
Revision#:9, Revised 2020-12-23

brNEtFOSA0922 (1 of 6)  
rev1

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7



11991  
rec'd: 08/31/23



# WELLINGTON LABORATORIES

## CERTIFICATE OF ANALYSIS DOCUMENTATION

### PFAC-MXG

Native Perfluoroalkyl Ether Carboxylic  
Acids and Sulfonate Solution/Mixture

<b><u>PRODUCT CODE:</u></b>	PFAC-MXG
<b><u>LOT NUMBER:</u></b>	PFACMXG0723
<b><u>SOLVENT(S):</u></b>	Methanol/Water (<1%)
<b><u>DATE PREPARED:</u></b> (mm/dd/yyyy)	07/27/2023
<b><u>LAST TESTED:</u></b> (mm/dd/yyyy)	07/27/2023
<b><u>EXPIRY DATE:</u></b> (mm/dd/yyyy)	07/27/2028
<b><u>RECOMMENDED STORAGE:</u></b>	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

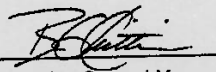
PFACMXG0723 (1 of 5)  
rev0

7.9.2  
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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-dioxaheptanoic acid	3,6-OPFHpA	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: 08/11/2023  
(mm/dd/yyyy)

12013 A-B  
rec'd: 09/11/23

# WELLINGTON LABORATORIES

## CERTIFICATE OF ANALYSIS DOCUMENTATION

### PFAC-MXH

Native PFAS  
Solution/Mixture

<b><u>PRODUCT CODE:</u></b>	PFAC-MXH
<b><u>LOT NUMBER:</u></b>	PFACMXH0423
<b><u>SOLVENT(S):</u></b>	Methanol/Isopropanol (2%)/Water (<1%)
<b><u>DATE PREPARED:</u></b> (mm/dd/yyyy)	04/06/2023
<b><u>LAST TESTED:</u></b> (mm/dd/yyyy)	04/19/2023
<b><u>EXPIRY DATE:</u></b> (mm/dd/yyyy)	04/19/2028
<b><u>RECOMMENDED STORAGE:</u></b>	Refrigerate ampoule

### DESCRIPTION:

PFAC-MXH is a solution/mixture of 11 native linear perfluoroalkylcarboxylic acids (C<sub>4</sub>-C<sub>14</sub>), eight native perfluoroalkanesulfonates (C<sub>4</sub>, C<sub>5</sub>, C<sub>7</sub>, C<sub>9</sub>, C<sub>10</sub> and C<sub>12</sub> linear; C<sub>6</sub> and C<sub>8</sub> 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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Form#:13, Issued 2004-11-10  
Revision#:9, Revised 2020-12-23

PFACMXH0423 (1 of 11)  
rev1

7.9.2  
7



⊃ A:

**PFAC-MXH; Components and Concentrations**  
(ng/mL, ± 5% in methanol/isopropanol (2%)/water (<1%))

7.9.2  
7

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 *	N-MeFOSAA: linear isomer	760		20
	N-MeFOSAA: ∑ branched isomers	240		17
N-Ethylperfluorooctanesulfonamidoacetic acid †	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-butanefulfonate	L-PFBS	1000	887	3
Sodium perfluoro-1-pentanesulfonate	L-PFPeS	1000	941	6
Potassium perfluorohexanesulfonate ‡	PFHxSK: linear isomer	811	741	9
	PFHxSK: ∑ branched isomers	189	173	8
Sodium perfluoro-1-heptanesulfonate	L-PFHpS	1000	953	12
Potassium perfluorooctanesulfonate §	PFOSK: linear isomer	788	732	15
	PFOSK: ∑ branched isomers	211	196	13
Sodium perfluoro-1-nonanesulfonate	L-PFNS	1000	962	19
Sodium perfluoro-1-decanesulfonate	L-PFDS	1000	965	25
Sodium perfluoro-1-dodecanesulfonate	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-perfluorodecanesulfonate	8:2FTS	4000	3840	16

\* See Table B for percent composition of linear and branched N-MeFOSAA isomers.  
† See Table C for percent composition of linear and branched N-EtFOSAA isomers.  
‡ See Table D for percent composition of linear and branched PFHxSK isomers.  
§ 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)

12014A-B  
rec'd: 09/11/23



# WELLINGTON LABORATORIES

## CERTIFICATE OF ANALYSIS DOCUMENTATION

### PFAC-MXF

Native Replacement PFAS  
Solution/Mixture

<b><u>PRODUCT CODE:</u></b>	PFAC-MXF
<b><u>LOT NUMBER:</u></b>	PFACMXF0323
<b><u>SOLVENT(S):</u></b>	Methanol / Water (<1%)
<b><u>DATE PREPARED:</u></b> (mm/dd/yyyy)	03/23/2023
<b><u>LAST TESTED:</u></b> (mm/dd/yyyy)	03/24/2023
<b><u>EXPIRY DATE:</u></b> (mm/dd/yyyy)	03/24/2026
<b><u>RECOMMENDED STORAGE:</u></b>	Refrigerate ampoule

### DESCRIPTION:

PFAC-MXF is a solution/mixture of sodium dodecafluoro-3H-4,8-dioxananoate (NaDONA), the major and minor components of F-53B (9CI-PF3ONS and 11CI-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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Form# 13, Issued 2004-11-10  
Revision#:9, Revised 2020-12-23

PFACMXF0323 (1 of 5)  
rev0

7.9.2

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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-dioxananoate <sup>-</sup>	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)

7.9.2

7



12015A-B  
rec'd: 09/11/23



# WELLINGTON LABORATORIES

## CERTIFICATE OF ANALYSIS DOCUMENTATION

### PFAC-MXG

Native Perfluoroalkyl Ether Carboxylic  
Acids and Sulfonate Solution/Mixture

**PRODUCT CODE:** PFAC-MXG  
**LOT NUMBER:** PFACMXG0723  
**SOLVENT(S):** Methanol/Water (<1%)  
**DATE PREPARED:** (mm/dd/yyyy) 07/27/2023  
**LAST TESTED:** (mm/dd/yyyy) 07/27/2023  
**EXPIRY DATE:** (mm/dd/yyyy) 07/27/2028  
**RECOMMENDED STORAGE:** 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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Form#:13, Issued 2004-11-10  
Revision#:9, Revised 2020-12-23

PFACMXG0723 (1 of 5)  
rev0

7.9.2

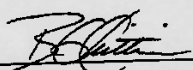
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Table A:

**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-dioxaheptanoic acid	3,6-OPFHpA	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: 08/11/2023  
(mm/dd/yyyy)

12067 rec'd: 09/28/23



# WELLINGTON LABORATORIES

## CERTIFICATE OF ANALYSIS DOCUMENTATION

### PFAC-MXJ

Native X:3 Fluorotelomer Carboxylic  
Acid Solution/Mixture

<b><u>PRODUCT CODE:</u></b>	PFAC-MXJ
<b><u>LOT NUMBER:</u></b>	PFACMXJ0323
<b><u>SOLVENT(S):</u></b>	Methanol
<b><u>DATE PREPARED:</u></b> (mm/dd/yyyy)	03/27/2023
<b><u>LAST TESTED:</u></b> (mm/dd/yyyy)	03/28/2023
<b><u>EXPIRY DATE:</u></b> (mm/dd/yyyy)	03/28/2028
<b><u>RECOMMENDED STORAGE:</u></b>	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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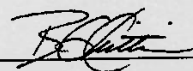
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A:

**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)

7.9.2  
7

12070 A-B  
rec'd: 10/02/23



# WELLINGTON LABORATORIES

## CERTIFICATE OF ANALYSIS DOCUMENTATION

### br-NMeFOSE

2-(N-Methylperfluorooctanesulfonamido)ethanol  
Isomeric Mix

<b>PRODUCT CODE:</b>	br-NMeFOSE
<b>LOT NUMBER:</b>	brNMeFOSE0922
<b>CONCENTRATION:</b>	50.0 ± 2.5 µg/mL
<b>SOLVENT(S):</b>	Methanol
<b>DATE PREPARED:</b> (mm/dd/yyyy)	09/02/2022
<b>LAST TESTED:</b> (mm/dd/yyyy)	09/07/2022 (HRGC/LRMS) 10/07/2022 (LC/MS)
<b>EXPIRY DATE:</b> (mm/dd/yyyy)	10/07/2027
<b>RECOMMENDED STORAGE:</b>	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 <sup>19</sup>F-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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Form#:13, Issued 2004-11-10  
Revision#:9, Revised 2020-12-23

brNMeFOSE0922 (1 of 7)  
rev1

7.9.2

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12071A-B  
rec'd 10/02/22



# WELLINGTON LABORATORIES

## CERTIFICATE OF ANALYSIS DOCUMENTATION

### br-NEtFOSE

2-(N-Ethylperfluorooctanesulfonamido)ethanol  
Isomeric Mix

<b>PRODUCT CODE:</b>	br-NEtFOSE
<b>LOT NUMBER:</b>	brNEtFOSE1022
<b>CONCENTRATION:</b>	50.0 ± 2.5 µg/mL
<b>SOLVENT(S):</b>	Methanol
<b>DATE PREPARED:</b> (mm/dd/yyyy)	09/12/2022
<b>LAST TESTED:</b> (mm/dd/yyyy)	09/12/2022 (HRGC/LRMS) 10/07/2022 (LC/MS)
<b>EXPIRY DATE:</b> (mm/dd/yyyy)	10/07/2027
<b>RECOMMENDED STORAGE:</b>	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 <sup>19</sup>F-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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Revision#: 9, Revised 2020-12-23

brNEtFOSE1022 (1 of 7)  
rev1

7.9.2

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12091  
rec'd: 10/11/23



# WELLINGTON LABORATORIES

## CERTIFICATE OF ANALYSIS DOCUMENTATION

### PFAC-MXJ

Native X:3 Fluorotelomer Carboxylic  
Acid Solution/Mixture

<b><u>PRODUCT CODE:</u></b>	PFAC-MXJ
<b><u>LOT NUMBER:</u></b>	PFACMXJ0323
<b><u>SOLVENT(S):</u></b>	Methanol
<b><u>DATE PREPARED:</u></b> (mm/dd/yyyy)	03/27/2023
<b><u>LAST TESTED:</u></b> (mm/dd/yyyy)	03/28/2023
<b><u>EXPIRY DATE:</u></b> (mm/dd/yyyy)	03/28/2028
<b><u>RECOMMENDED STORAGE:</u></b>	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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Revision#: 9, Revised 2020-12-23

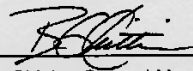
PFACMXJ0323 (1 of 5)  
rev0

7.9.2  
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**Table 1: 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)

12033  
rec'd: 09/18/23



# 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 (9CI-PF3ONS and 11CI-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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Form#: 13, Issued 2004-11-10  
Revision#: 9, Revised 2020-12-23

PFACMXF0323 (1 of 5)  
rev0

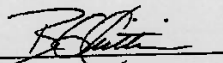
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**Table A:** PFAC-MXF; Components and Concentrations (ng/mL;  $\pm$  5% in Methanol/Water (<1%))

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-dioxanonanoate	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)





**Certified Reference Material CRM**

**CERTIFIED WEIGHT REPORT**

Part Number: 64029  
Lot Number: 062623  
Description: PFOA-DOD  
3 components  
Purity: (P%)  
Preparator: J.D.  
BU7B

Substrate(s):  
Methanol (1 mL (M))  
2-Propanol (2%)

Lot: 040729 (96%)  
39500 (2%)

Formulated By: *[Signature]*  
Prepared By: *[Signature]*  
Date: 06/26/23

Volume(s) shown below were combined and diluted to (mL):  
Note: All assigned values are mean concentrations.

Component	Part Number	Lot Number	Dilution Factor	Initial Vol. (mL)	Uncertainty (mL)	Initial Conc. (g/L)	Final Conc. (g/L)	Uncertainty (g/L)	Solvent Safety Info. On Attached PG	OSHA PEL (TWA)	LOSD
1. Perfluoro-n-butanoic acid (PFBA)	95242	110422	0.02	2.00	0.017	50.1	1.00	0.02	375-29-4	N/A	N/A
2. Perfluoro-pentanoic acid (PFPA)	95243	011723	0.02	2.00	0.017	50.3	1.00	0.02	2782-95-3	N/A	N/A
3. Perfluoro-hexanoic acid (PFHA)	91197	071023	0.02	2.00	0.017	50.2	1.00	0.02	3072-84-4	N/A	N/A
4. Perfluoro-heptanoic acid (PFHPA)	91199	110622	0.02	2.00	0.017	50.1	1.00	0.02	3745-84-3	N/A	N/A
5. Perfluoro-octanoic acid (PFOPA)	95202	09522	0.02	2.00	0.017	50.2	1.00	0.02	282-87-1 (L)	N/A	Insect Repellent
6. Perfluoro-nonoic acid (PFNA)	95203	110622	0.02	2.00	0.017	50.1	1.00	0.02	3745-84-3	N/A	N/A
7. Perfluoro-decanoic acid (PFDA)	91195	110622	0.02	2.00	0.017	50.0	1.00	0.02	335-92-1	N/A	Central Sterilizing
8. Perfluoro-undecanoic acid (PFUA)	95205	052423	0.02	2.00	0.017	50.2	1.00	0.02	2069-64-9	N/A	N/A
9. Perfluoro-dodecanoic acid (PFDA)	91198	052423	0.02	2.00	0.017	50.1	1.00	0.02	2726-84-8	N/A	N/A
10. Perfluoro-tridecanoic acid (PFTrDA)	95204	110622	0.02	2.00	0.017	50.1	1.00	0.02	2726-84-8	N/A	N/A
11. Perfluoro-tetradecanoic acid (PFTrDA)	95203	03022	0.02	2.00	0.017	50.0	1.00	0.02	2744-9-4	N/A	N/A
12. Perfluoro-1-iodo-2,2,2-trifluoroethyl acetate (PFTrDA)	3677	FSM1221	0.02	2.00	0.017	50.0	1.00	0.02	2553-31-9 (L)	N/A	N/A
13. Methylperfluorooctanoate (PFMPOA)	4162	91EFCBA0429	0.02	2.00	0.017	50.0	1.00	0.02	335-92-4 (L)	N/A	N/A
14. Methylperfluorodecanoate (PFMDPA)	4163	91EFCBA0429	0.02	2.00	0.017	50.0	1.00	0.02	2911-59-4 (L)	N/A	N/A
15. Perfluorobutanesulfonic acid (PFBS)	91194	060522	0.02	2.00	0.017	50.2	1.00	0.02	2732-32-4	N/A	N/A
16. Perfluoropentanesulfonic acid (PFPS)	95244	091522	0.02	2.00	0.017	50.1	1.00	0.02	3752-84-4	N/A	N/A
17. Perfluorohexanesulfonic acid (PFHPS)	91196	060623	0.02	2.00	0.017	50.0	1.00	0.02	355-46-1 (L)	N/A	N/A
18. Perfluoroheptanesulfonic acid (PFHPS)	3672	LFPHS0622	0.02	2.00	0.017	49.8	1.00	0.02	3752-84-4	N/A	N/A
19. Heptafluoroisobutanesulfonic acid (PFHPS)	95201	050923	0.02	2.00	0.017	50.1	1.00	0.02	1782-26-1 (L)	N/A	N/A
20. Perfluoro-1-nonanesulfonic acid (PFNS)	3957	LFPS1122	0.02	2.00	0.017	48.0	1.00	0.02	335-92-4 (L)	N/A	N/A
21. Perfluoro-1-decanesulfonic acid (PFDS)	3671	LFPS1122	0.02	2.00	0.017	48.2	1.00	0.02	335-92-4 (L)	N/A	N/A
22. 1H,1H,2H,2H-Perfluorooctane sulfonic acid (4:2 FTB)	6571	060522	0.02	2.00	0.017	50.2	1.00	0.02	2711-71-2	N/A	N/A
23. 1H,1H,2H,2H-Perfluorodecane sulfonic acid (6:2 FTB)	6572	051023	0.02	2.00	0.017	50.2	1.00	0.02	3019-34-2	N/A	N/A
24. 1H,1H,2H,2H-Perfluorododecane sulfonic acid (8:2 FTB)	3682	6FTS0423	0.02	2.00	0.017	49.3	1.00	0.02	1333-13-8	N/A	N/A
25. 2-Hydroxyperfluorooctyl-2,2,3,3-tetrafluoroethyl acetate (PFPOA)	95206	050523	0.02	2.00	0.017	49.2	1.00	0.02	1782-26-1 (L)	N/A	N/A
26. 1-Chloro-2,2,2-trifluoroethyl-2,2,3,3-tetrafluoroethyl acetate (1:1D-PFOA)	4165	1107FOS05129	0.02	2.14	0.017	47.1	1.00	0.02	2726-84-8	N/A	N/A
27. 9-Chloro-2,2,2-trifluoroethyl-2,2,3,3-tetrafluoroethyl acetate (9:1D-PFOA)	4164	91EFCBA0429	0.02	2.14	0.017	48.8	1.00	0.02	2726-84-8	N/A	N/A
28. Dodecafluoro-3H,4,β-dioxanone sulfonic acid (ADONA)	4162	91EFCBA0429	0.02	2.12	0.017	47.1	1.00	0.02	918005-14-4	N/A	N/A
Perfluorooctanoic acid (linear)*	95202	060522	0.02	2.00	0.004	49.6	0.99	0.010	335-67-1 (L)	N/A	Local Anesthetic
Perfluorodecanoic acid (branched isomer)*	95202	060522	0.02	2.00	0.004	0.5	0.01	0.001	335-67-1 (L)	N/A	Local Anesthetic
Perfluorohexanesulfonic acid (branched isomer)*	91196	030623	0.02	2.00	0.017	44.0	0.98	0.02	355-46-4 (L)	N/A	N/A
Perfluorooctanesulfonic acid (branched isomer)*	91196	030623	0.02	2.00	0.017	0.0	0.12	0.0020	355-46-4 (L)	N/A	N/A
Heptafluoroisobutanesulfonic acid (linear)*	95201	030623	0.02	2.00	0.017	38.1	0.76	0.02	1782-26-1 (L)	N/A	N/A
Heptafluorodecanesulfonic acid (branched isomer)*	95201	030623	0.02	2.00	0.017	7.5	0.15	0.003	1782-26-1 (L)	N/A	N/A
Heptafluorododecanesulfonic acid (branched isomer)*	95201	030623	0.02	2.00	0.017	4.0	0.08	0.002	1782-26-1 (L)	N/A	N/A
Heptafluorotetradecanesulfonic acid (branched isomer)*	95201	030623	0.02	2.00	0.017	0.5	0.010	0.0002	1782-26-1 (L)	N/A	N/A
M-Methylperfluoro-1-octadecylsulfonamide acid (linear)*	4162	91EFCBA0429	0.02	2.00	0.017	38.0	0.72	0.04	2553-31-9 (L)	N/A	N/A
N-Methylperfluoro-1-octadecylsulfonamide acid (branched)*	4162	91EFCBA0429	0.02	2.00	0.017	38.5	0.13	0.011	2553-31-9 (L)	N/A	N/A
N-Methylperfluoro-1-tetradecylsulfonamide acid (branched)*	4162	91EFCBA0429	0.02	2.00	0.017	5.0	0.10	0.005	2553-31-9 (L)	N/A	N/A
N-Methylperfluoro-1-octadecylsulfonamide acid (branched)*	4162	91EFCBA0429	0.02	2.00	0.017	2.5	0.05	0.0009	2553-31-9 (L)	N/A	N/A
N-Ethylperfluoro-1-octadecylsulfonamide acid (linear)*	4163	91EFCBA0429	0.02	2.00	0.017	38.5	0.73	0.04	2961-59-5 (L)	N/A	N/A
N-Ethylperfluoro-1-octadecylsulfonamide acid (branched)*	4163	91EFCBA0429	0.02	2.00	0.017	7.7	0.15	0.009	2961-59-5 (L)	N/A	N/A
M-Ethylperfluoro-1-octadecylsulfonamide acid (branched)*	4163	91EFCBA0429	0.02	2.00	0.017	5.3	0.11	0.005	2961-59-5 (L)	N/A	N/A
M-Ethylperfluoro-1-octadecylsulfonamide acid (branched)*	4163	91EFCBA0429	0.02	2.00	0.017	0.4	0.007	0.0006	2961-59-5 (L)	N/A	N/A

\*Qualitative standard (Sect. 3.13) is available for PFOA that contains the linear and branched isomers (Wellington Labs, Cat. No. T-PFOA, or equivalent). This PFOA standard must be purchased and used to identify the retention times of the branched PFOA isomers. The PFOA standard must be used for quantitation (Sect. 12.2) until a quantitative PFOA standard containing the branched and linear isomers becomes commercially available.

\*The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise noted.  
\*Standard deviations are given in parentheses with the value in brackets in NIST units.  
\*All standards, after opening amples, should be stored with caps tight and under nitrogen atmosphere in laboratory conditions.  
\*Certification Reference Material (CRM) is a product of Absolute Standards, Inc. (AS) and is not to be confused with the terminology of NIST Measurement Basis.  
NIST Reference Number 1297, U.S. Government Printing Office, Washington, DC, 1994.

10765 A-13



# WELLINGTON LABORATORIES

## CERTIFICATE OF ANALYSIS DOCUMENTATION

**PRODUCT CODE:**

3,6-OPFHpA

*rec'd  
WPH  
8/20/21*

**LOT NUMBER:**

36OPFHpA0320

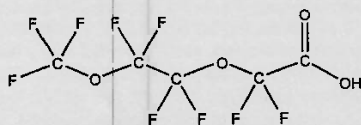
**COMPOUND:**

Perfluoro-3,6-dioxaheptanoic acid

**STRUCTURE:**

**CAS #:**

151772-58-6



**MOLECULAR FORMULA:**

C<sub>6</sub>H<sub>2</sub>F<sub>9</sub>O<sub>4</sub>

**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)

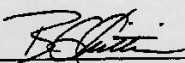
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

**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)

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# WELLINGTON LABORATORIES

## CERTIFICATE OF ANALYSIS DOCUMENTATION

**PRODUCT CODE:**

N-EtFOSA-M

10837

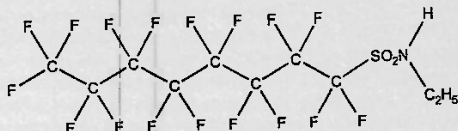
**LOT NUMBER:** NEtFOSA0821M

**COMPOUND:**

N-ethylperfluoro-1-octanesulfonamide

**STRUCTURE:**

**CAS #:** 4151-50-2



**MOLECULAR FORMULA:**

C<sub>10</sub>H<sub>9</sub>F<sub>17</sub>NO<sub>2</sub>S

**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)

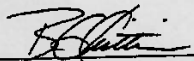
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

**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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# WELLINGTON LABORATORIES

## CERTIFICATE OF ANALYSIS DOCUMENTATION

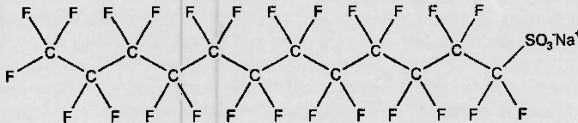
10840

**PRODUCT CODE:** L-PFDoS  
**COMPOUND:** Sodium perfluoro-1-dodecanesulfonate

**LOT NUMBER:** LPFDoS0721

**STRUCTURE:**

**CAS #:** 1260224-54-1



**MOLECULAR FORMULA:** C<sub>12</sub>F<sub>25</sub>SO<sub>3</sub>Na  
**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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Form#: 27, Issued 2004-11-10  
Revision#: 9, Revised 2020-12-23

LPFDoS0721 (1 of 4)  
rev0

7.9.2

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# WELLINGTON LABORATORIES

## CERTIFICATE OF ANALYSIS DOCUMENTATION

**PRODUCT CODE:**

PFODA

10847 NS 01/18/23

**LOT NUMBER:**

PFODA0821

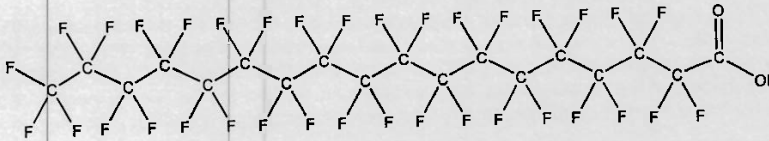
**COMPOUND:**

Perfluoro-n-octadecanoic acid

**STRUCTURE:**

**CAS #:**

16517-11-6



**MOLECULAR FORMULA:**

C<sub>18</sub>H<sub>35</sub>O<sub>2</sub>

**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.

**FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE**

**Certified By:**

B.G. Chittim, General Manager

**Date:** 09/28/2021

(mm/dd/yyyy)

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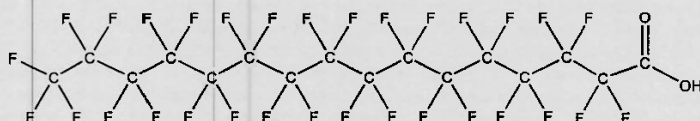
**CERTIFICATE OF ANALYSIS**  
DOCUMENTATION

10842 \* NG 01/18/23

**PRODUCT CODE:** PFHxDA **LOT NUMBER:** PFHxDA0421

**COMPOUND:** Perfluoro-n-hexadecanoic acid

**STRUCTURE:** **CAS #:** 67905-19-5



**MOLECULAR FORMULA:** C<sub>16</sub>HF<sub>31</sub>O<sub>2</sub> **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

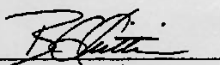
**DOCUMENTATION/ DATA ATTACHED:**

- 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

PFHxDA0421 (1 of 4)  
 rev0

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1116 A.B NW

1116B on the back NW



# WELLINGTON LABORATORIES

## CERTIFICATE OF ANALYSIS DOCUMENTATION

**PRODUCT CODE:**

FHpPA

**LOT NUMBER:**

FHpPA1020

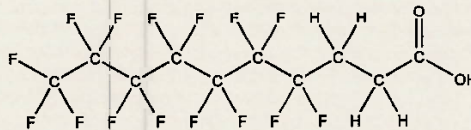
**COMPOUND:**

3-Perfluoroheptyl propanoic acid

**STRUCTURE:**

**CAS #:**

812-70-4



**MOLECULAR FORMULA:**

C<sub>10</sub>H<sub>5</sub>F<sub>15</sub>O<sub>2</sub>

**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.

**FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE**

**Certified By:**

B.G. Chittim, General Manager

**Date:** 11/27/2020

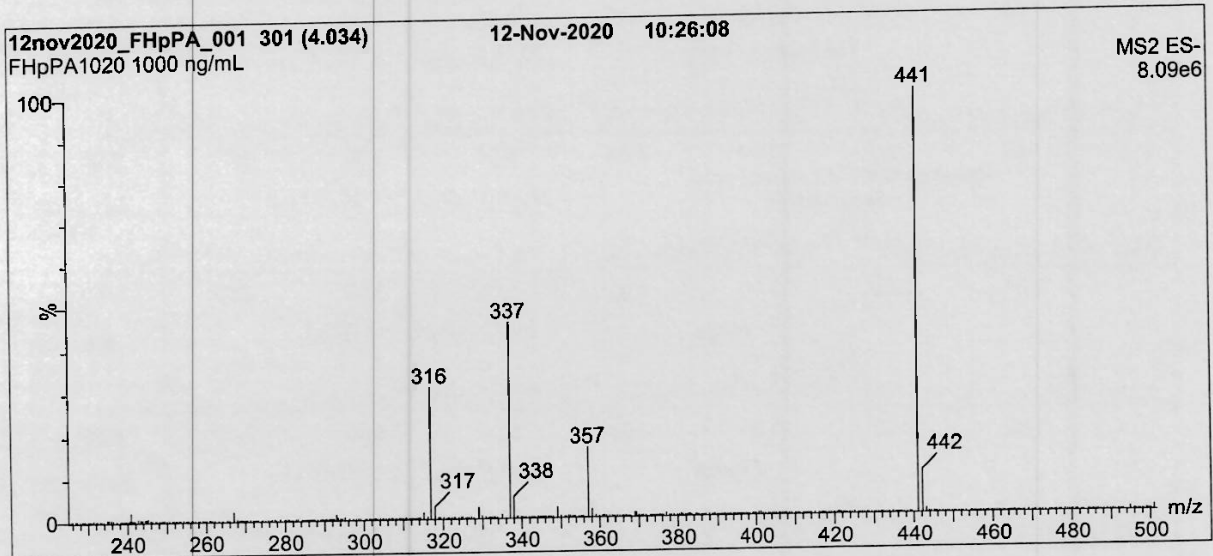
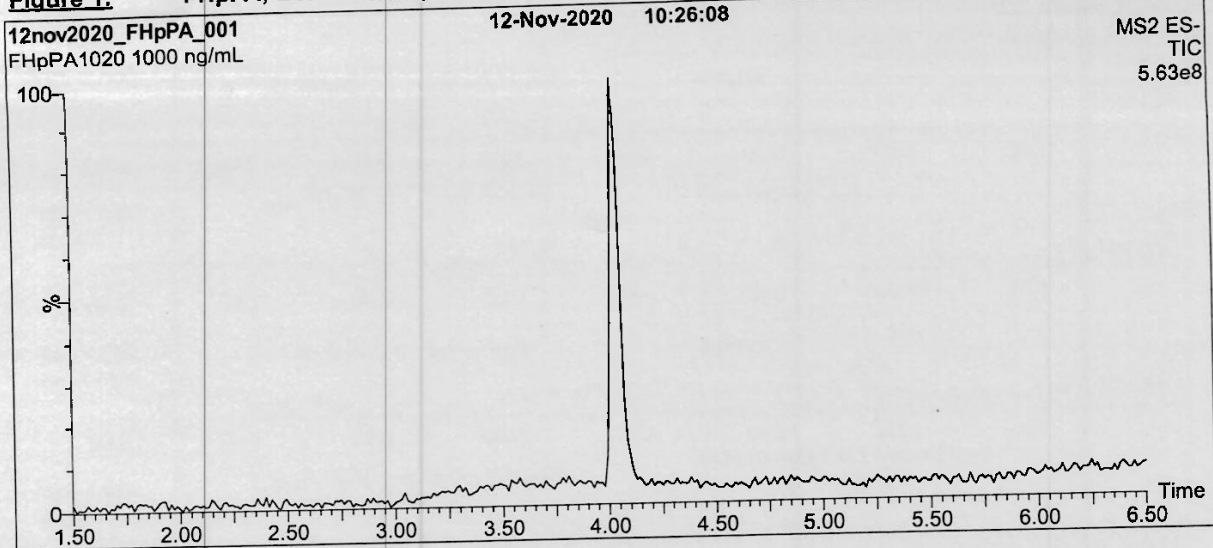
(mm/dd/yyyy)

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Form#: 27, Issued 2004-11-10  
Revision#: 8, Revised 2020-09-10

FHpPA1020 (1 of 4)  
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 RP<sub>18</sub>  
1.7  $\mu$ m, 2.1 x 100 mm

Mobile phase: Gradient  
Start: 45% H<sub>2</sub>O / 55% (80:20 MeOH:ACN)  
(both with 10 mM NH<sub>4</sub>OAc 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  $\mu$ 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

FPrPA(3:3FTEA) 1116 B



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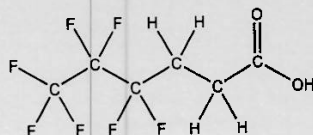
**CERTIFICATE OF ANALYSIS**  
DOCUMENTATION

**PRODUCT CODE:** FPrPA  
**COMPOUND:** 3-Perfluoropropyl propanoic acid

**LOT NUMBER:** FPrPA0122

**STRUCTURE:**

**CAS #:** 356-02-5



**MOLECULAR FORMULA:** C<sub>6</sub>H<sub>5</sub>F<sub>7</sub>O<sub>2</sub>  
**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

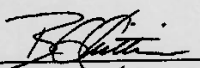
**DOCUMENTATION/ DATA ATTACHED:**

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 (C<sub>6</sub>H<sub>3</sub>F<sub>7</sub>O<sub>2</sub>) as an impurity determined by <sup>19</sup>F NMR.

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**Certified By:**   
B.G. Chittim, General Manager

**Date:** 02/04/2022  
(mm/dd/yyyy)

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11140



# WELLINGTON LABORATORIES

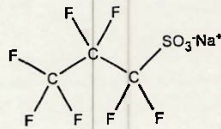
## CERTIFICATE OF ANALYSIS DOCUMENTATION

**PRODUCT CODE:** L-PFPrS  
**COMPOUND:** Sodium perfluoro-1-propanesulfonate

**LOT NUMBER:** LPFPrS0721

**STRUCTURE:**

**CAS #:** Not available



**MOLECULAR FORMULA:** C<sub>3</sub>F<sub>7</sub>SO<sub>3</sub>Na  
**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)

**MOLECULAR WEIGHT:** 272.07  
**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

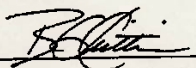
**DOCUMENTATION/ DATA ATTACHED:**

- 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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Form#:27, Issued 2004-11-10  
Revision#:9, Revised 2020-12-23

LPFPrS0721 (1 of 4)  
rev0

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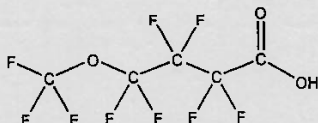
11465



# 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:** C<sub>6</sub>H<sub>2</sub>F<sub>9</sub>O<sub>3</sub> **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.

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**Certified By:**   
 B.G. Chittim, General Manager

**Date:** 08/26/2022  
 (mm/dd/yyyy)

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1513 rec'd 11/14/22



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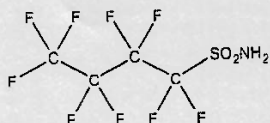
## CERTIFICATE OF ANALYSIS DOCUMENTATION

**PRODUCT CODE:** FBSA-I  
**COMPOUND:** Perfluoro-1-butanefulfonamide

**LOT NUMBER:** FBSA11211

**STRUCTURE:**

**CAS #:** 30334-69-1



**MOLECULAR FORMULA:** C<sub>4</sub>H<sub>2</sub>F<sub>9</sub>NO<sub>2</sub>S  
**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.

**FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE**

Certified By:   
B.G. Chittim, General Manager

Date: 11/10/2021  
(mm/dd/yyyy)

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11514 rec'd 11/14/22

# WELLINGTON LABORATORIES

## CERTIFICATE OF ANALYSIS DOCUMENTATION

**PRODUCT CODE:**

FHxSA-I

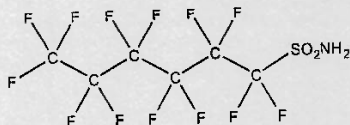
**LOT NUMBER:** FHxSA1221I

**COMPOUND:**

Perfluoro-1-hexanesulfonamide

**CAS #:** 41997-13-1

**STRUCTURE:**



**MOLECULAR FORMULA:**

C<sub>6</sub>H<sub>2</sub>F<sub>13</sub>NO<sub>2</sub>S

**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)



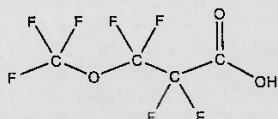
11648 Rec. 02/13/23



# 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:** C<sub>4</sub>HF<sub>7</sub>O<sub>3</sub> **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

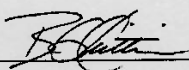
### DOCUMENTATION/ DATA ATTACHED:

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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11649 Rec. 02/13/23

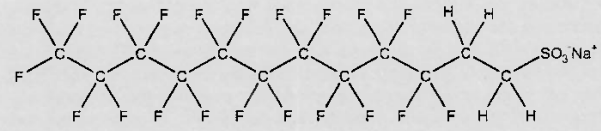


# WELLINGTON LABORATORIES

## 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:** C<sub>12</sub>H<sub>4</sub>F<sub>21</sub>SO<sub>3</sub>Na **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

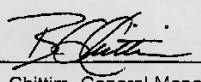
**DOCUMENTATION/ DATA ATTACHED:**

- 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.

**FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE**

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

102FTS1122 (1 of 4)  
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11710  
rec'd: 03/17/23



# WELLINGTON LABORATORIES

## CERTIFICATE OF ANALYSIS DOCUMENTATION

**PRODUCT CODE:**

N-MeFOSA-M

**LOT NUMBER:**

NMeFOSA1122M

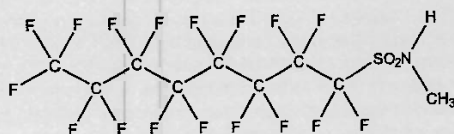
**COMPOUND:**

N-Methylperfluoro-1-octanesulfonamide

**STRUCTURE:**

**CAS #:**

31506-32-8



**MOLECULAR FORMULA:**

C<sub>9</sub>H<sub>4</sub>F<sub>17</sub>NO<sub>2</sub>S

**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.

**FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE**

**Certified By:**

B.G. Chittim, General Manager

**Date:** 11/25/2022

(mm/dd/yyyy)

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11762 rec'd: 04/20/23

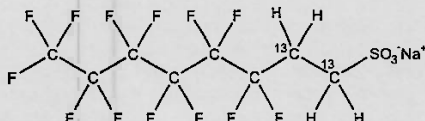


# WELLINGTON LABORATORIES

## CERTIFICATE OF ANALYSIS DOCUMENTATION

**PRODUCT CODE:** M2-6:2FTS **LOT NUMBER:** M262FTS1122  
**COMPOUND:** Sodium 1H,1H,2H,2H-perfluoro-(1,2-<sup>13</sup>C<sub>2</sub>)octanesulfonate

**STRUCTURE:** **CAS #:** 2708218-89-5



**MOLECULAR FORMULA:** <sup>13</sup>C<sub>2</sub><sup>12</sup>C<sub>6</sub>H<sub>4</sub>F<sub>13</sub>SO<sub>3</sub>Na **MOLECULAR WEIGHT:** 452.13  
**CONCENTRATION:** 50.0 ± 2.5 µg/mL (Na salt) **SOLVENT(S):** Methanol  
47.6 ± 2.4 µg/mL (M2-6:2FTS acid)  
47.5 ± 2.4 µg/mL (M2-6:2FTS anion)  
**CHEMICAL PURITY:** >98% **ISOTOPIC PURITY:** ≥99% <sup>13</sup>C  
**LAST TESTED:** (mm/dd/yyyy) 11/24/2022 (1,2-<sup>13</sup>C<sub>2</sub>)  
**EXPIRY DATE:** (mm/dd/yyyy) 11/24/2027  
**RECOMMENDED STORAGE:** Refrigerate ampoule

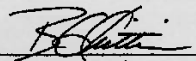
**DOCUMENTATION/ DATA ATTACHED:**

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.
- The native 6:2FTS contains 4.22% of <sup>34</sup>S (due to natural isotopic abundance) therefore both native 6:2FTS and M2-6:2FTS will produce signals in the m/z 429 to m/z 409 channel during SRM analysis. We recommend using the m/z 429 to m/z 81 transition to monitor for M2-6:2FTS during quantitative analysis as it will be free of any native contribution (see Figure 2).

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**Certified By:**  **Date:** 12/13/2022  
B.G. Chittim, General Manager (mm/dd/yyyy)

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Form#: 27, Issued 2004-11-10  
Revision#: 9, Revised 2020-12-23

M262FTS1122 (1 of 4)  
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7

11794  
rec'd: 05/15/23



# WELLINGTON LABORATORIES

## CERTIFICATE OF ANALYSIS DOCUMENTATION

**PRODUCT CODE:**

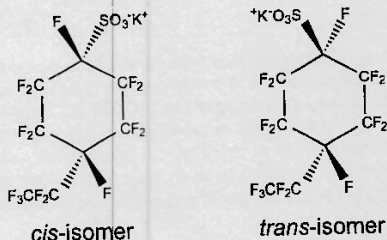
PFECHS

**LOT NUMBER:** PFECHS0223

**COMPOUND:**

Potassium perfluoro-4-ethylcyclohexanesulfonate (isomeric mixture)

**STRUCTURE:**



**CAS #:** 335-24-0

**MOLECULAR FORMULA:**

C<sub>9</sub>F<sub>15</sub>SO<sub>3</sub>K

**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 <sup>19</sup>F NMR).

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Certified By:

B.G. Chittim, General Manager

Date: 03/16/2023  
(mm/dd/yyyy)

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11994  
rec'd: 08/13/22



# WELLINGTON LABORATORIES

## CERTIFICATE OF ANALYSIS DOCUMENTATION

**PRODUCT CODE:**

FPePA (5:3)

**LOT NUMBER:**

FPePA0722

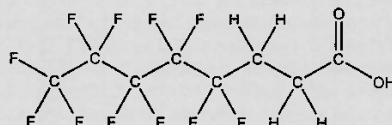
**COMPOUND:**

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  $^1\text{H NMR}$ .

**FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE**

Certified By:

B.G. Chittim, General Manager

Date: 08/10/2022

(mm/dd/yyyy)

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rec'd: 10/11/23

# WELLINGTON LABORATORIES

## CERTIFICATE OF ANALYSIS DOCUMENTATION

### MPFAC-HIF-ES

#### Mass-Labelled PFAS Extraction Standard Solution/Mixture

**PRODUCT CODE:**

MPFAC-HIF-ES

**LOT NUMBER:**

MPFACHIFES0623

**SOLVENT(S):**

Methanol/Isopropanol (1%)/Water (<1%)

**DATE PREPARED:** (mm/dd/yyyy)

06/19/2023

**LAST TESTED:** (mm/dd/yyyy)

06/20/2023

**EXPIRY DATE:** (mm/dd/yyyy)

06/20/2026

**RECOMMENDED STORAGE:**

Refrigerate ampoule

**DESCRIPTION:**

MPFAC-HIF-ES is a solution/mixture of ten mass-labelled (<sup>13</sup>C) perfluoroalkylcarboxylic acids (C<sub>4</sub>-C<sub>12</sub>, C<sub>14</sub>), three mass-labelled (<sup>13</sup>C) perfluoroalkanesulfonates (C<sub>4</sub>, C<sub>6</sub>, and C<sub>8</sub>), three mass-labelled (one <sup>13</sup>C and two <sup>2</sup>H) perfluoro-1-octanesulfonamides, three mass-labelled (<sup>13</sup>C) fluorotelomer sulfonates (4:2, 6:2, and 8:2), two mass-labelled (<sup>2</sup>H) perfluorooctanesulfonamidoacetic acids, two mass-labelled (<sup>2</sup>H) perfluorooctanesulfonamidoethanols, and mass-labelled (<sup>13</sup>C) hexafluoropropylene oxide dimer acid (<sup>13</sup>C<sub>5</sub>-GenX, M3HFPO-DA). The components and their concentrations are given in Table A.

The individual <sup>13</sup>C-labelled components all have chemical purities >98% and isotopic purities of ≥99%. The individual <sup>2</sup>H-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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Revision#: 9, Revised 2020-12-23

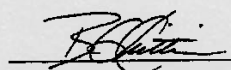
MPFACHIFES0623 (1 of 7)  
rev0

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**Tab. 1: 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-( <sup>13</sup> C <sub>4</sub> )butanoic acid	MPFBA	2000		1
Perfluoro-n-( <sup>13</sup> C <sub>5</sub> )pentanoic acid	M5PFPeA	1000		2
Perfluoro-n-(1,2,3,4,6- <sup>13</sup> C <sub>6</sub> )hexanoic acid	M5PFHxA	500		5
Perfluoro-n-(1,2,3,4- <sup>13</sup> C <sub>4</sub> )heptanoic acid	M4PFHpA	500		7
Perfluoro-n-( <sup>13</sup> C <sub>8</sub> )octanoic acid	M8PFOA	500		10
Perfluoro-n-( <sup>13</sup> C <sub>9</sub> )nonanoic acid	M9PFNA	250		11
Perfluoro-n-(1,2,3,4,5,6- <sup>13</sup> C <sub>6</sub> )decanoic acid	M6PFDA	250		14
Perfluoro-n-(1,2,3,4,5,6,7- <sup>13</sup> C <sub>7</sub> )undecanoic acid	M7PFUdA	250		18
Perfluoro-n-(1,2- <sup>13</sup> C <sub>2</sub> )dodecanoic acid	MPFDoA	250		19
Perfluoro-n-(1,2- <sup>13</sup> C <sub>2</sub> )tetradecanoic acid	M2PFTeDA	250		24
Perfluoro-1-( <sup>13</sup> C <sub>8</sub> )octanesulfonamide	M8FOSA	500		16
N-Methyl-d <sub>3</sub> -perfluoro-1-octanesulfonamide	d-N-MeFOSA	500		21
N-Ethyl-d <sub>5</sub> -perfluoro-1-octanesulfonamide	d-N-EtFOSA	500		23
N-Methyl-d <sub>3</sub> -perfluoro-1-octanesulfonamidoacetic acid	d3-N-MeFOSAA	1000		15
N-Ethyl-d <sub>5</sub> -perfluoro-1-octanesulfonamidoacetic acid	d5-N-EtFOSAA	1000		17
2-(N-Methyl-d <sub>3</sub> -perfluoro-1-octanesulfonamido)ethan-d <sub>4</sub> -ol	d7-N-MeFOSE	5000		20
2-(N-Ethyl-d <sub>5</sub> -perfluoro-1-octanesulfonamido)ethan-d <sub>4</sub> -ol	d9-N-EtFOSE	5000		22
2,3,3,3-Tetrafluoro-2-(1,1,2,2,3,3,3-heptafluoropropoxy)( <sup>13</sup> C <sub>3</sub> )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- <sup>13</sup> C <sub>3</sub> )butanesulfonate	M3PFBS	500	466	3
Sodium perfluoro-1-(1,2,3- <sup>13</sup> C <sub>3</sub> )hexanesulfonate	M3PFHxS	500	474	8
Sodium perfluoro-1-( <sup>13</sup> C <sub>8</sub> )octanesulfonate	M8PFOS	500	479	12
Sodium 1H,1H,2H,2H-perfluoro-(1,2- <sup>13</sup> C <sub>2</sub> )hexanesulfonate	M2-4:2FTS	1000	938	4
Sodium 1H,1H,2H,2H-perfluoro-(1,2- <sup>13</sup> C <sub>2</sub> )octanesulfonate	M2-6:2FTS	1000	951	9
Sodium 1H,1H,2H,2H-perfluoro-(1,2- <sup>13</sup> C <sub>2</sub> )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)





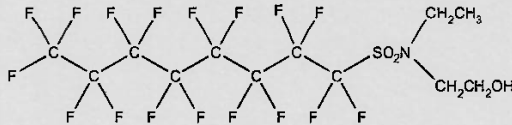
**WELLINGTON  
LABORATORIES**

**CERTIFICATE OF ANALYSIS  
DOCUMENTATION**

*n, 09/27/2*

**PRODUCT CODE:** N-EtFOSE-M **LOT NUMBER:** NEtFOSE0622M  
**COMPOUND:** 2-(N-ethylperfluoro-1-octanesulfonamido)ethanol

**STRUCTURE:** **CAS #:** 1691-99-2



*11409*

**MOLECULAR FORMULA:** C<sub>12</sub>H<sub>16</sub>F<sub>17</sub>NO<sub>3</sub>S **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

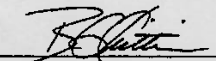
**DOCUMENTATION/ DATA ATTACHED:**

- 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.

**FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE**

**Certified By:**  **Date:** 07/13/2022  
 B.G. Chittim, General Manager (mm/dd/yyyy)

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 Revision#: 9, Revised 2020-12-23

NEtFOSE0622M (1 of 5)  
 rev0

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# WELLINGTON LABORATORIES

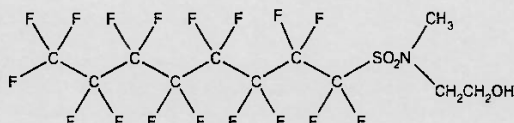
## CERTIFICATE OF ANALYSIS DOCUMENTATION

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7

**PRODUCT CODE:** N-MeFOSE-M **LOT NUMBER:** NMeFOSE0522M  
**COMPOUND:** 2-(N-methylperfluoro-1-octanesulfonamido)ethanol

**STRUCTURE:** **CAS #:** 24448-09-7



11410

**MOLECULAR FORMULA:** C<sub>11</sub>H<sub>8</sub>F<sub>17</sub>NO<sub>3</sub>S **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.

**FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE**

**Certified By:** B.G. Chittim **Date:** 06/14/2022  
B.G. Chittim, General Manager (mm/dd/yyyy)

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Revision#: 9, Revised 2020-12-23

NMeFOSE0522M (1 of 5)  
rev0

12030 A-5  
rec'd: 09/18/23



# 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 (<sup>13</sup>C) perfluoroalkylcarboxylic acids (C<sub>4</sub>, C<sub>6</sub>, C<sub>8</sub>-C<sub>10</sub>) and two mass-labelled (<sup>18</sup>O and <sup>13</sup>C) perfluoroalkanesulfonates (C<sub>8</sub> and C<sub>9</sub>). 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 <sup>13</sup>C or >94% per <sup>18</sup>O.

#### 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)  
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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- <sup>13</sup> C <sub>3</sub> )butanoic acid	M3PFBA	1000		1
Perfluoro-n-(1,2- <sup>13</sup> C <sub>2</sub> )hexanoic acid	MPFHxA	500		2
Perfluoro-n-(1,2,3,4- <sup>13</sup> C <sub>4</sub> )octanoic acid	MPFOA	500		4
Perfluoro-n-(1,2,3,4,5- <sup>13</sup> C <sub>5</sub> )nonanoic acid	MPFNA	250		5
Perfluoro-n-(1,2- <sup>13</sup> C <sub>2</sub> )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( <sup>18</sup> O <sub>2</sub> )sulfonate	MPFHxS	500	474	3
Sodium perfluoro-1-(1,2,3,4- <sup>13</sup> C <sub>4</sub> )octanesulfonate	MPFOS	500	479	6

\* Concentrations have been rounded to three significant figures.

Certified By: \_\_\_\_\_

B.G. Chittim, General Manager

Date: 07/07/2023

(mimiddyyyyy)

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: 10/11/23 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					
<del>FC 10247-1</del>									
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	
<del>GH 10/10/23</del>									
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: 250-5000ng/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: 250-1000ng/ml Exp. Date: 10/10/24 Inj. By: FWJ 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

7.10.1  
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