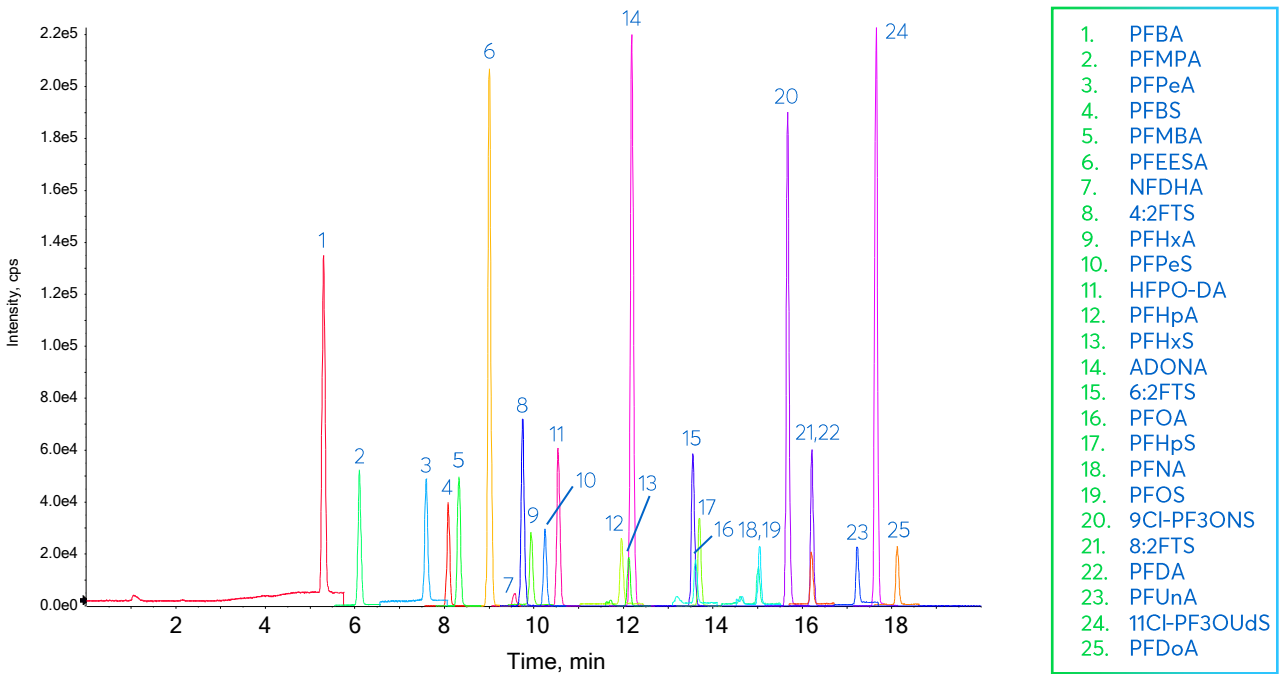


# Rapid LC-MS/MS analysis of PFAS compounds using EPA method 533



# Method Details

## CONDITIONS

Column: Avantor® ACE® Excel® C18  
 Particle Size: 3 µm  
 Dimensions: 100 x 2.1 mm  
 Delay Column: Avantor® ACE® PFAS Delay Column  
 Dimensions: 50 x 2.1 mm  
 Mobile Phases: A: 5 mM ammonium acetate in H<sub>2</sub>O (HiPerSolv CHROMANORM®, PFAS grade)  
 B: MeOH (HiPerSolv CHROMANORM®, PFAS grade)

Time (mins)	% B
0	5
0.5	5
3.0	40
16.0	80
18.0	80
20.0	95
22.0	95
25.0	5
35.0*	5

\*The post column re-equilibration time may need to be adjusted for different LC systems

Flow Rate: 0.25 ml/min  
 Temperature: 40 °C  
 Injection volume: 5 µl  
 Detection: Sciex QTRAP® 6500+ LC-MS/MS system.  
 Ionisation mode: ESI, negative mode; Source temperature: 550 °C; Curtain gas: 35 psig; Ionspray™ source voltage: -3500 V; Source gas 1: 50 psig; Source gas 2: 60 psig  
 Sample: Calibration standard with PFAS standards at 100 to 2500 ng/L (corresponding to an in-sample concentration of 0.4 to 10.0 ng/L, taking into account 250x sample pre-concentration during sample preparation specified in EPA method 533).

## MRM TRANSITIONS

Analyte	MRM	Optimised MS Parameters		
		Declustering potential (V)	Collision energy (V)	Cell exit potential (V)
1. PFBA (Perfluorobutanoic acid)	212.8 → 168.9	-5	-12	-15
2. PFMPA (Perfluoro-3-methoxypropanoic acid)	229.0 → 84.9	-5	-14	-11
3. PFPeA (Perfluoropentanoic acid)	263.0 → 219.0	-5	-12	-11
4. PFBS (Perfluorobutanesulfonic acid)	298.7 → 79.9	-70	-60	-9
5. PFMBA (Perfluoro-4-methoxybutanoic acid)	279.0 → 85.1	-5	-16	-9
6. PFEESA (Perfluoro(2-ethoxyethane)sulfonic acid)	314.8 → 134.9	-55	-30	-27
7. NFHDA (Nonafluoro-3,6-dioxaheptanoic acid)	295.0 → 201.0	-5	-10	-9
8. 4:2FTS (1H,1H, 2H, 2H-Perfluorohexane sulfonic acid)	327.1 → 307.0	-30	-26	-17
9. PFHxA (Perfluorohexanoic acid)	313.0 → 269.0	-5	-12	-15
10. PFPeS (Perfluoropentanesulfonic acid)	349.1 → 79.9	-85	-72	-9
11. HFPO-DA (Hexafluoropropylene oxide dimer acid)	284.9 → 168.9	-5	-10	-9
12. PFHpA (Perfluoroheptanoic acid)	363.1 → 319.0	-5	-14	-17
13. PFHxS (Perfluorohexanesulfonic acid)	398.7 → 79.9	-85	-76	-9
14. ADONA (4,8-Dioxa-3H-perfluorononanoic acid)	376.9 → 250.9	-15	-16	-15
15. 6:2FTS (1H,1H, 2H, 2H-Perfluorooctane sulfonic acid)	427.1 → 407.0	-25	-32	-25
16. PFOA (Perfluorooctanoic acid)	413.0 → 369.0	-10	-14	-21
17. PFHpS (Perfluoroheptanesulfonic acid)	449.0 → 79.9	-60	-86	-9
18. PFNA (Perfluorononanoic acid)	463.0 → 419.0	-5	-14	-25
19. PFOS (Perfluorooctanesulfonic acid)	498.9 → 79.9	-55	-90	-9
20. 9Cl-PF3ONS (9-Chlorohexadecafluoro-3-oxanone-1-sulfonic acid)	530.8 → 351.0	-110	-34	-31
21. 8:2FTS (1H,1H, 2H, 2H-Perfluorodecane sulfonic acid)	527.1 → 507.0	-20	-36	-33
22. PFDA (Perfluorodecanoic acid)	512.9 → 469.0	-5	-16	-23
23. PFUnA (Perfluoroundecanoic acid)	563.1 → 519.0	-5	-18	-29
24. 11Cl-PF3OUdS (11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid)	630.9 → 450.9	-45	-40	-29
25. PFDoA (Perfluorododecanoic acid)	613.1 → 569.0	-15	-18	-35

## ORDERING TABLE

Product	Details	Size	Part Number
Avantor® ACE® Excel® C18	HPLC Column	100 x 2.1 mm	EXL-111-1002U
Avantor® ACE® PFAS Delay Column	Pre-column trap	50 x 2.1 mm	ACE-PFASD-0502
Ammonium acetate 5 mM in water	VWR® HiPerSolv CHROMANORM® PFAS grade eluent for LC-MS	1 L	92500.290
Methanol ≥99.9%	VWR® HiPerSolv CHROMANORM® PFAS grade for LC-MS	2.5 L	92498.320

## RELATED PRODUCTS

Product	Details	Size	Part Number
Acetonitrile ≥99.9%	VWR® HiPerSolv CHROMANORM® PFAS grade for LC-MS	2.5 L	92497.320
Water ≥99.9%	VWR® HiPerSolv CHROMANORM® PFAS grade for LC-MS	2.5 L	92499.320