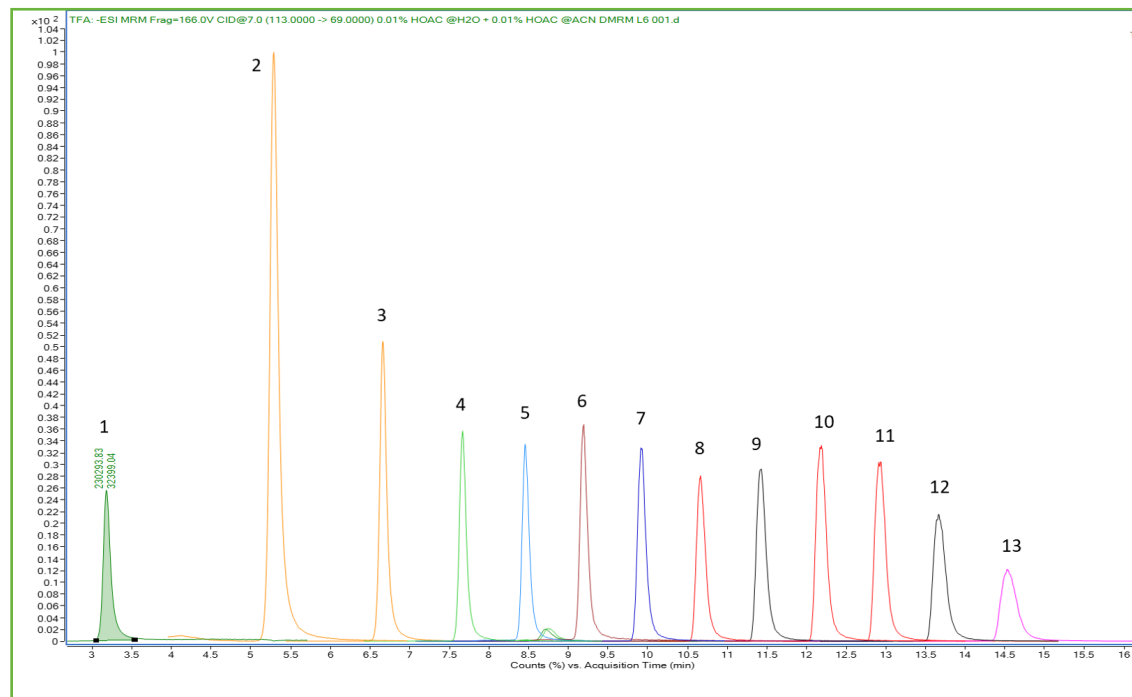




Separation of Short and Long Chain PFAS

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PEAK IDENTITIES:

1. Trifluoroacetic acid - (TFA)
2. Perfluoropropionic acid - (PFPrA)
3. Perfluorobutanoic acid - (PFBA)
4. Perfluoropentanoic acid - (PFPeA)
5. Perfluorohexanoic acid - (PFHxA)
6. Perfluoroheptanoic acid - (PFHpA)
7. Perfluorooctanoic acid - (PFOA)
8. Perfluorononanoic acid - (PFNA)
9. Perfluorodecanoic acid - (PFDA)
10. Perfluoroundecanoic acid - (PFUnA)
11. Perfluorododecanoic acid - (PFDoA)
12. Perfluorotridecanoic acid - (PFTTrA)
13. Perfluorotetradecanoic acid - (PFTTA)

TEST CONDITIONS:

Column: HALO 90 Å PCS C18 2.7µm, 2.1x100 mm
 Part Number: 92812-617
 Delay Column: HALO® PFAS Delay, 2.7µm, 3.0x50 mm
 Part Number: 92113-415
 Mobile Phase A: Water/ 0.01% Acetic Acid
 Mobile Phase B: ACN/ 0.01% Acetic Acid

Gradient:	Time	%B
	0.0	20
	5.0	80
	12.0	90
	18.0	90
	18.1	20
	23.0	END

Flow Rate: 0.5 mL/min
 Temperature: 40 °C
 Detection: -ESI MS/MS
 Injection Volume: 2.0 µL
 MS System: Agilent 6400 series
 LC System: Agilent 1200 series
 Data Courtesy of: Center for PFAS Solutions
 (New Castle, DE)

MS CONDITIONS:

Gas Temp: 130 °C
 Nebulizer: 25 psi
 Gas Flow: 11 L/min
 Sheath Gas Heater: 250 °C
 Capillary: 3500 V

Short chain PFAS such as trifluoroacetic acid (TFA) and pentafluoropropionic acid (PFPrA) are challenging analytes due to low retention and poor peak shape. Although mixed mode hydrophilic interaction liquid chromatography (HILIC) has been demonstrated to improve retention, this approach has limitations. A new reversed phase, superficially porous particle (SPP) silica with a positive charge surface chemistry has shown advantages for short chain PFAS HPLC analyses compatible with LC/MS/MS.

