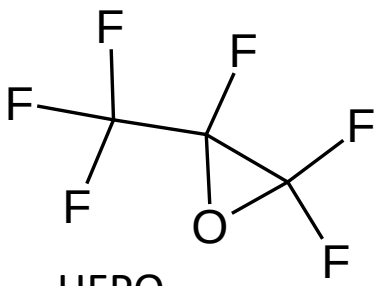
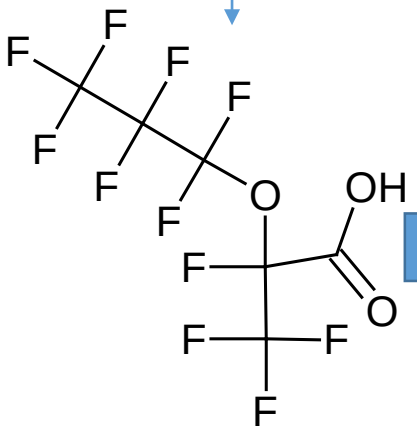
Hexafluoropropylene oxide (HFPO)

- an intermediate used in industrial organofluorine chemistry
- a monomer for fluoropolymers.
- colourless gas is the epoxide of hexafluoropropylene
- produced by DuPont and 3M and as a precursor to the lubricant Krytox and related materials
- generated by oxidation of perfluoropropylene, e.g. with oxygen as well as other oxidants



HFPO

CAS 428-59-1

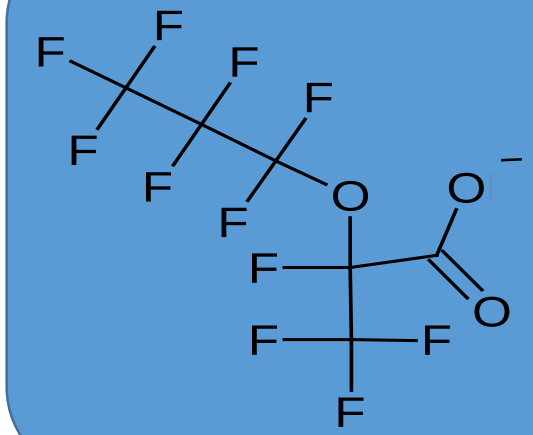


HFPO DA

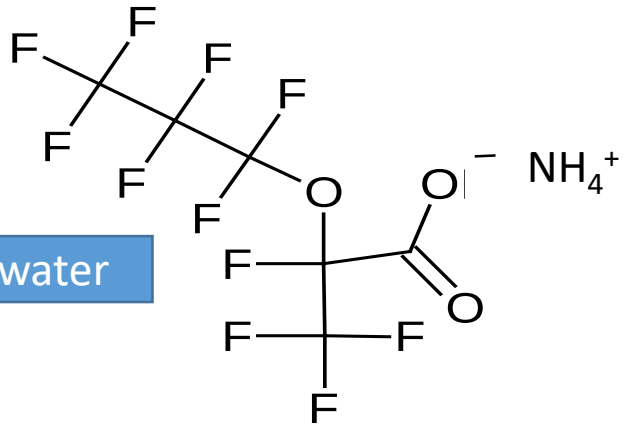
CAS 13252-13-6

In water

Common Analyte



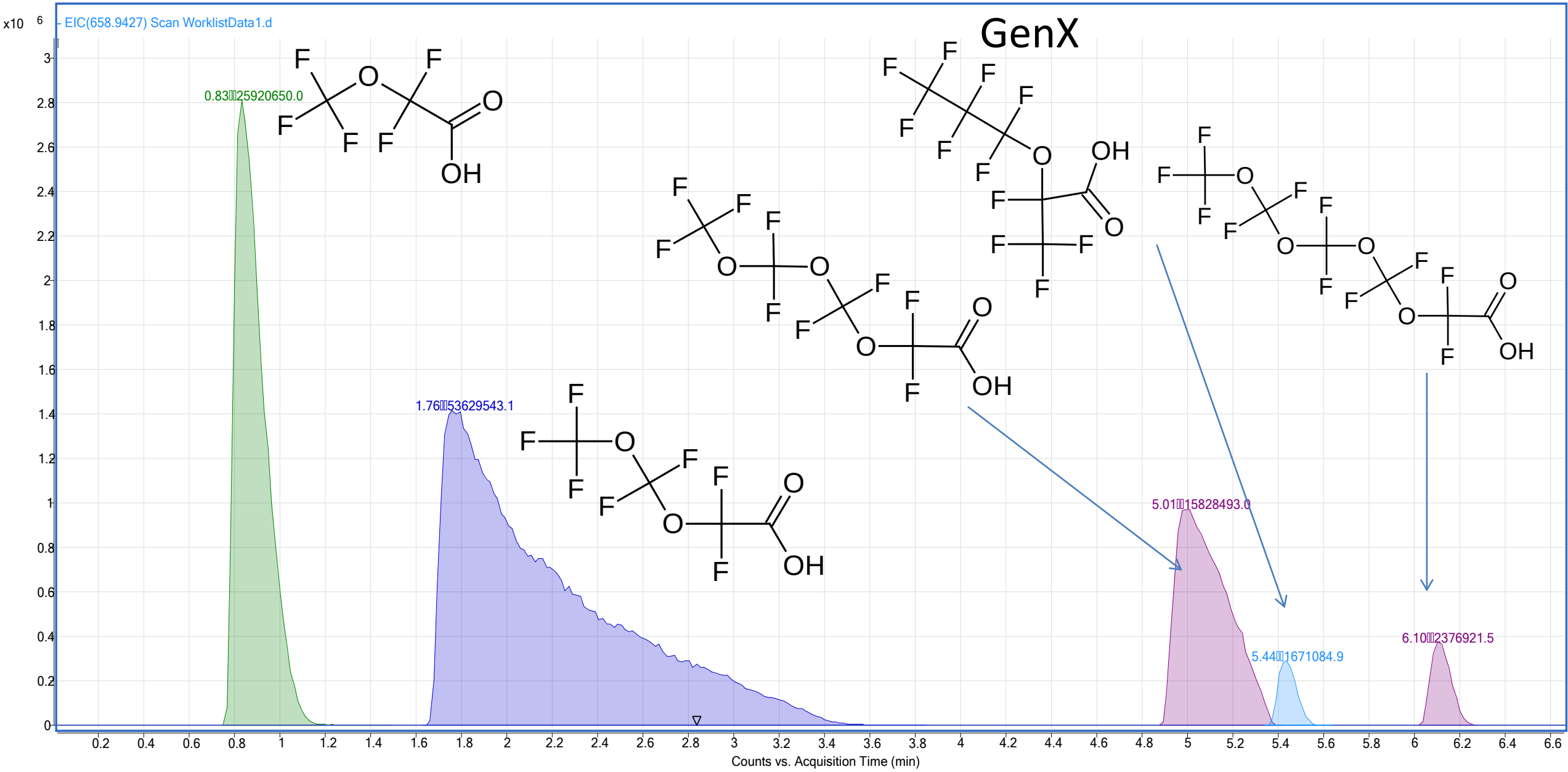
In water



GenX

CAS 62037-80-3

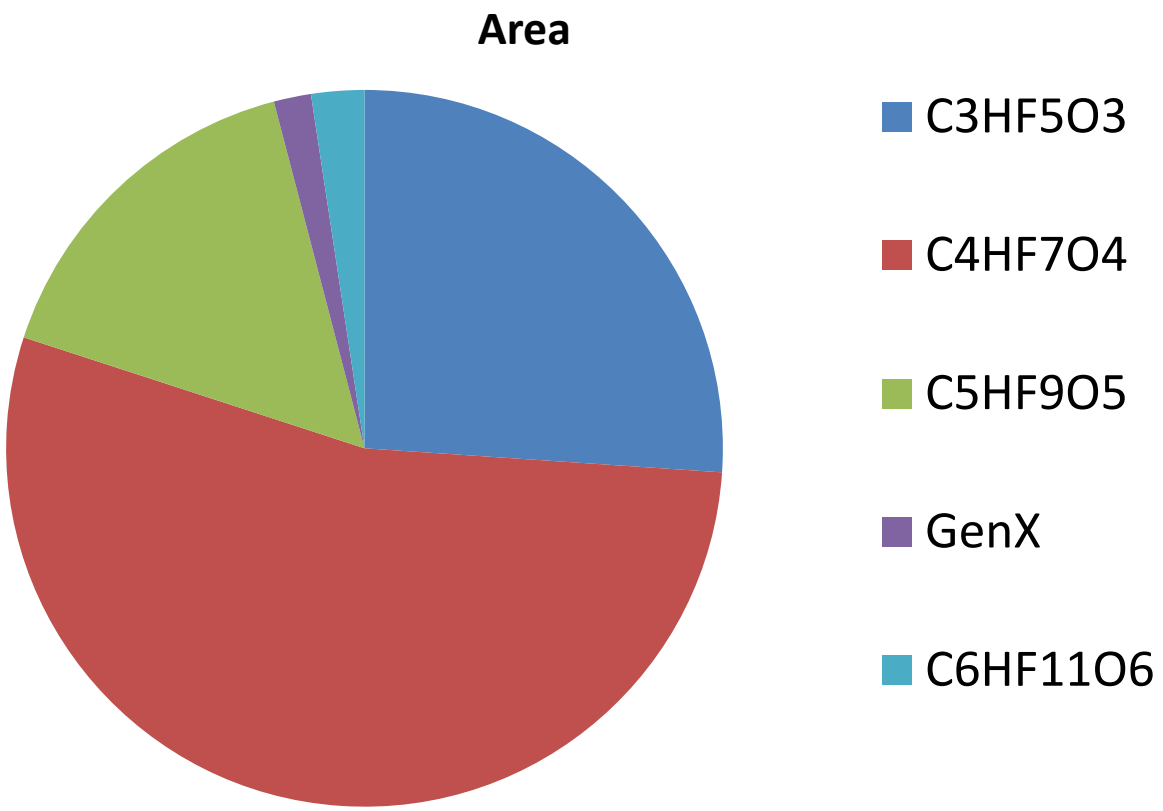
PFECAs in 5-15-17 Cape Fear River Sample



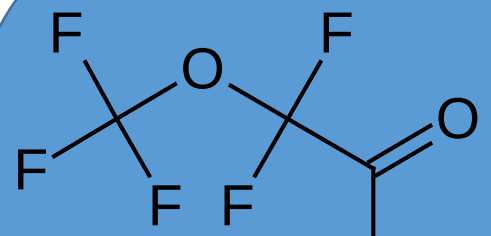
PFECAs in 5-15-17 Cape Fear River Sample

Analyte	2[M-H]-	RT	Area	%
C3HF5O3	358.9619	0.83	25,920,650	26.07
C4HF7O4	490.9453	1.76	53,629,543	53.94
C5HF9O5	622.9288	5.01	15,828,493	15.92
GenX	658.9427	5.44	1,671,085	1.681
C6HF11O6	754.9130	6.1	2,376,922	2.391
			99,426,693	100

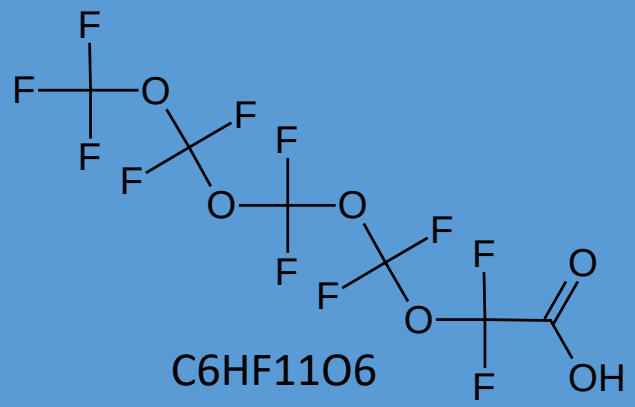
And More!



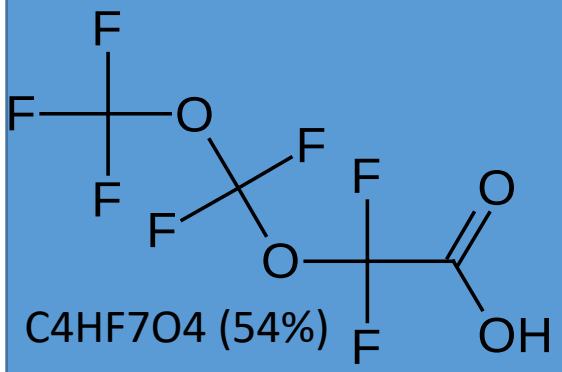
5-15-17 EPA Analysis present in CFR



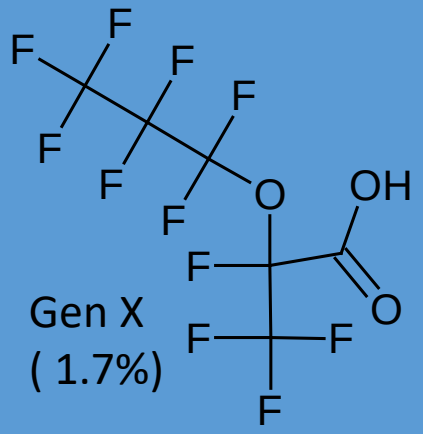
C3HF5O3 (26%)



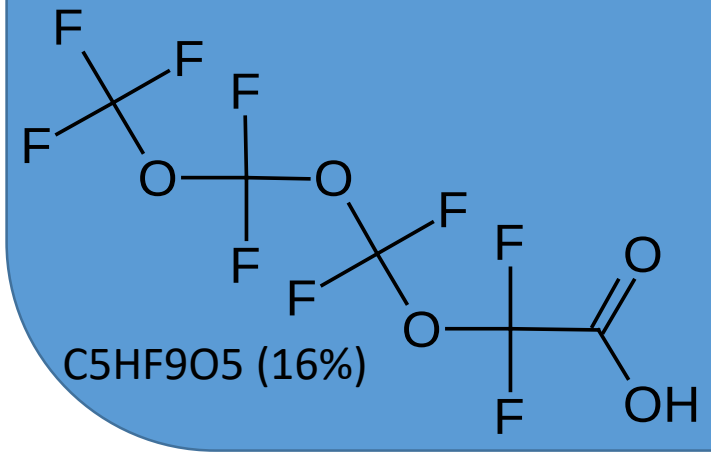
C6HF11O6 (2.3%)



C4HF7O4 (54%)

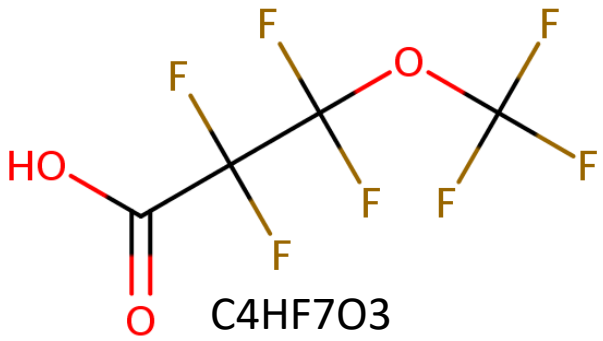


Gen X (1.7%)

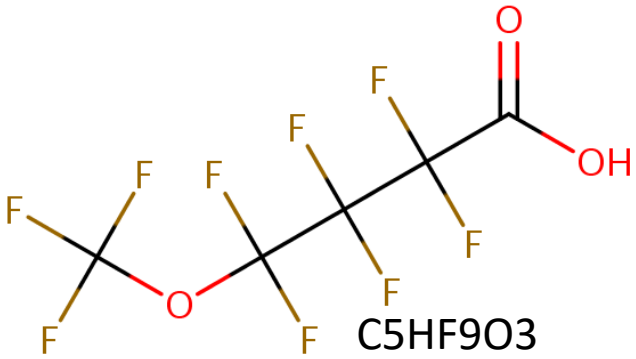


C5HF9O5 (16%)

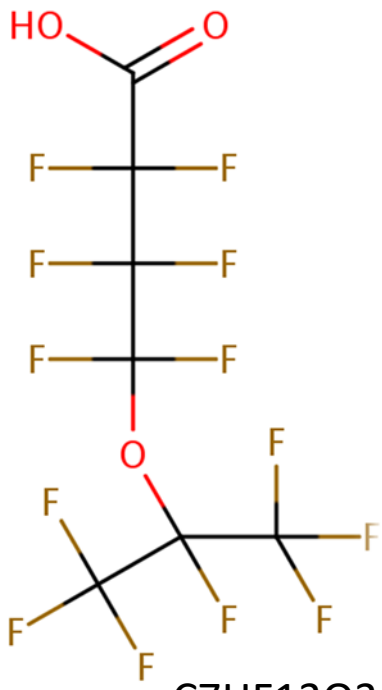
6-23-17 NC DEQ Sampling: EPA Quality Assurance Samples Supplied



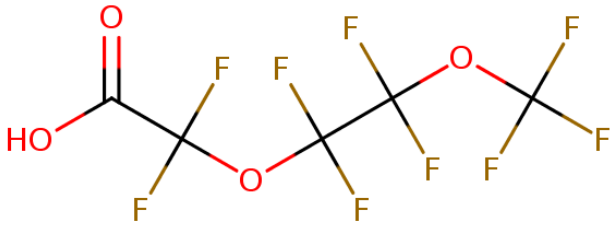
C4HF7O3



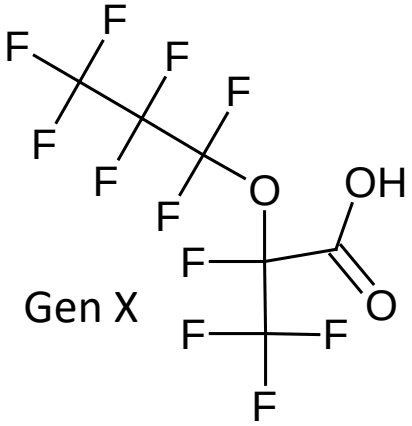
C5HF9O3



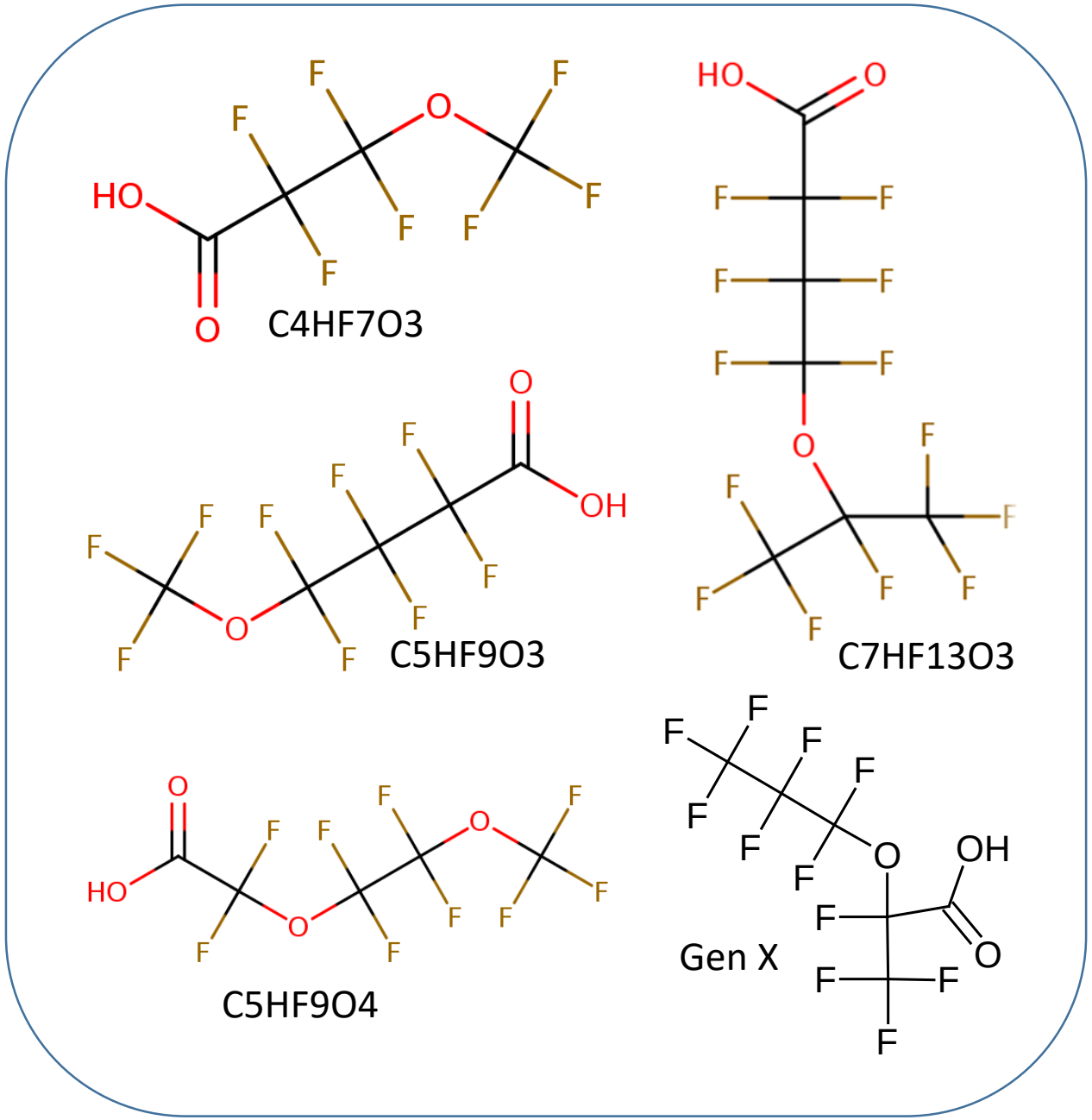
C7HF13O3



C5HF9O4



Gen X



Analyte Specifics:

Authentic Standards Acquired 2016 (Sun et al. paper)

Mixed standards prepared on 6-22-17 (MJS 7-94-1)

Trips Spikes Prepared

- Low (70 ng/L)
- High (200 ng/L)
- Blank (0 ng/L)

Delivered for 6-26-17 CFR Sampling events NC DEQ

Currently being fully lab validated (Strynar, McCord, Newton, Lang) surface water, wastewater, tap water