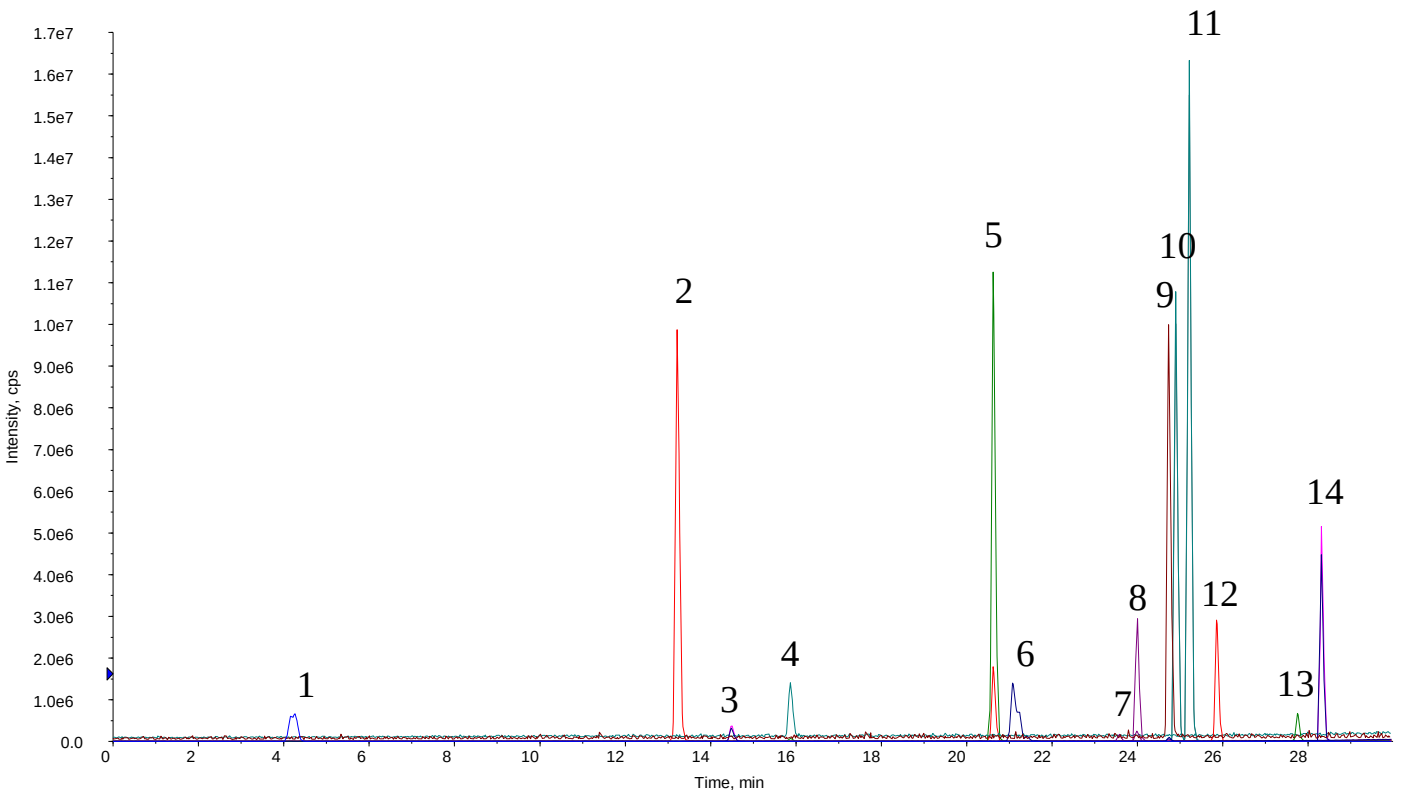
Analysis of Phosphate ester flame retardants (PFRs)



Conditions

System : Exion HPLC system
QTRAP 6500+ (Sciex)
Column : InertSustainSwift C18 (GL Sciences Inc.)
(1.9 µm, 100 x 2.1 mm I.D.)
Column Cat. No. : 5020-88230
Delay Column : Delay Column for PFAS (GL Sciences Inc.)
(30 x 3.0 mm I.D.) x 2 columns
Column Cat. No. : 5020-90005
Eluent : A) CH_3OH
: B) 0.1 % CH_3COOH in H_2O

Time (min)	A%	B%
0.0	10	90
30.0	100	0
33.0	100	0
33.1	10	90
45.0	10	90

Flow rate : 0.2 mL/min
Col. Temp. : 40 ℃
Detection : LC/MS/MS
(QTRAP 6500+ : ESI, Positive, SRM)

CUR	CAD	IS	TEM	GS1	GS2
10	5	5500	500	20	20

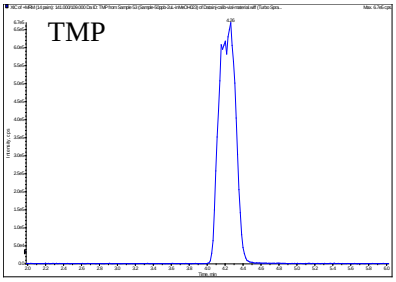
Injection Vol. : 2 µL
Sample : Standard

Analyte: each 50 µg/L

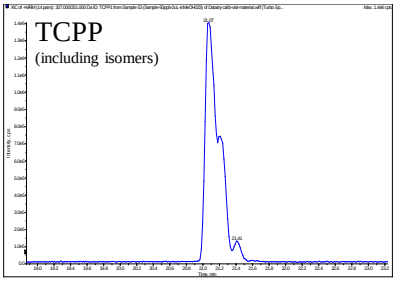
No.	Analyte		Q1	Q3	R.T. (min)
1	Trimethyl phosphate	TMP	141	109	4.3
2	Triethyl phosphate	TEP	183	99	13.2
3	Diphenyl phosphate	DiPhP	251	77	14.5
4	Tris(2-chloroethyl) Phosphate	TCEP	285	63	15.9
5	Tripropyl phosphate	TPP	225	99	20.1
6	Tris(1-chloro-2-propyl) phosphate (Tris(2-chloro-1-methylethyl) Phosphate)	TCPP	327	251	21.1
7	Tris(1,3-dichloro-2-propyl) phosphate	TDCPP	431	99	23.6
8	Tris(2-ethylhexyl) phosphate	TEHP	435	99	24.0
9	Triphenyl phosphate	TPhP	327	152	24.7
10	Triisobutyl phosphate	TiBP	267	99	24.9
11	Tributyl phosphate	TBP	267.2	99	25.2
12	Tris(2-butoxyethyl) Phosphate	TBEP	399	45	25.9
13	Tricresyl phosphate	TCP	369	91	27.8
14	2-Ethylhexyl Diphenyl Phosphate	DPEHP	251.2	77	28.3

InertSearch for LC Data No. LB703-0696

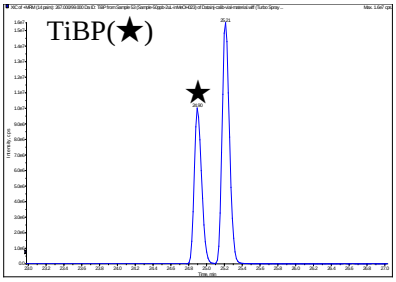
TMP



TCPP
(including isomers)



TiBP(★)



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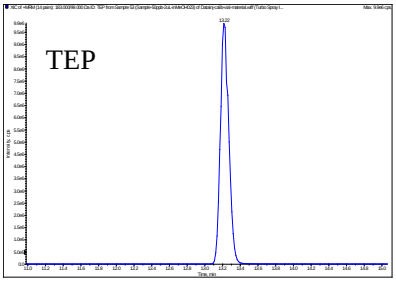
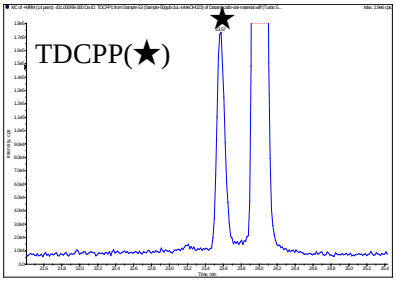


TDCPP(★)



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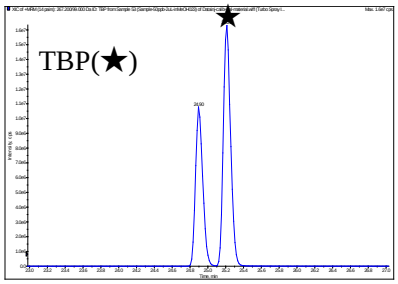
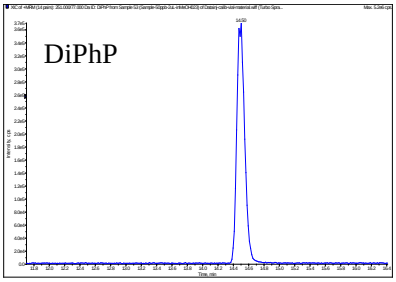


DiPhP



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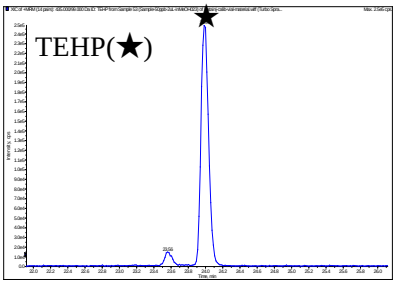
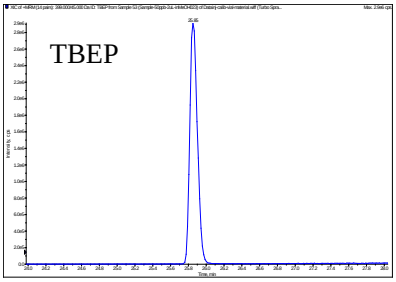
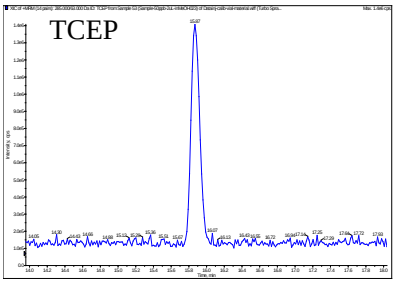


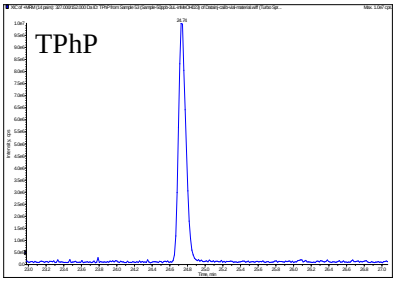
TBEP



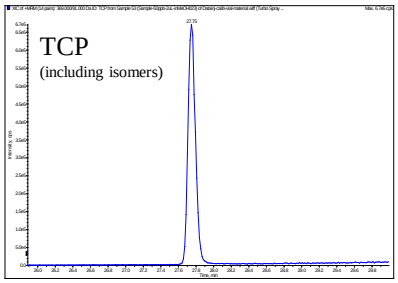
TCEP



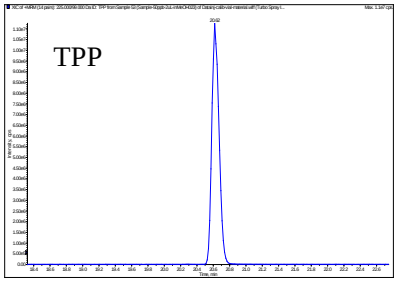
TPhP



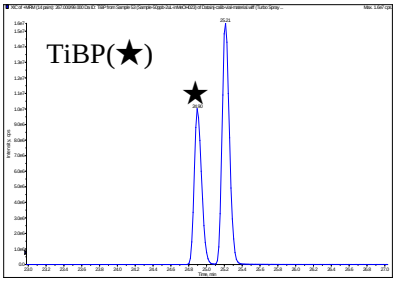
TCP
(including isomers)



TPP



TiBP(★)



DPEHP