

Data Path : Z:\VOASRV\HPCHEM1\MSVOA X\DATA\WX080420\
 Data File : VX017776.D
 Acq On : 04 Aug 2020 17:42
 Operator : JC/SP
 Sample : PB130720ZHE#18
 Misc : 5.0mL/MSVOA X/WATER
 ALS Vial : 21 Sample Multiplier: 1

Instrument :
 MSVOA_X
 ClientSampleId :

Quant Time: Aug 05 01:50:54 2020
 Quant Method : Z:\VOASRV\HPCHEM1\MSVOA_X\METHOD\82X072320W.M
 Quant Title : SW846 8260
 QLast Update : Fri Jul 24 05:48:09 2020
 Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene	5.63	168	612115	50.00	ug/l	0.00
34) 1,4-Difluorobenzene	6.84	114	938144	50.00	ug/l	0.00
63) Chlorobenzene-d5	10.10	117	904697	50.00	ug/l	0.00
72) 1,4-Dichlorobenzene-d4	12.06	152	433458	50.00	ug/l	0.00

System Monitoring Compounds

33) 1,2-Dichloroethane-d4	6.04	65	402473	51.19	ug/l	0.00
Spiked Amount	50.000		Recovery	=	102.38%	
35) Dibromofluoromethane	5.47	113	310630	49.51	ug/l	0.00
Spiked Amount	50.000		Recovery	=	99.02%	
50) Toluene-d8	8.70	98	1148719	50.75	ug/l	0.00
Spiked Amount	50.000		Recovery	=	101.50%	
62) 4-Bromofluorobenzene	11.12	95	436487	48.19	ug/l	0.00
Spiked Amount	50.000		Recovery	=	96.38%	

Target Compounds

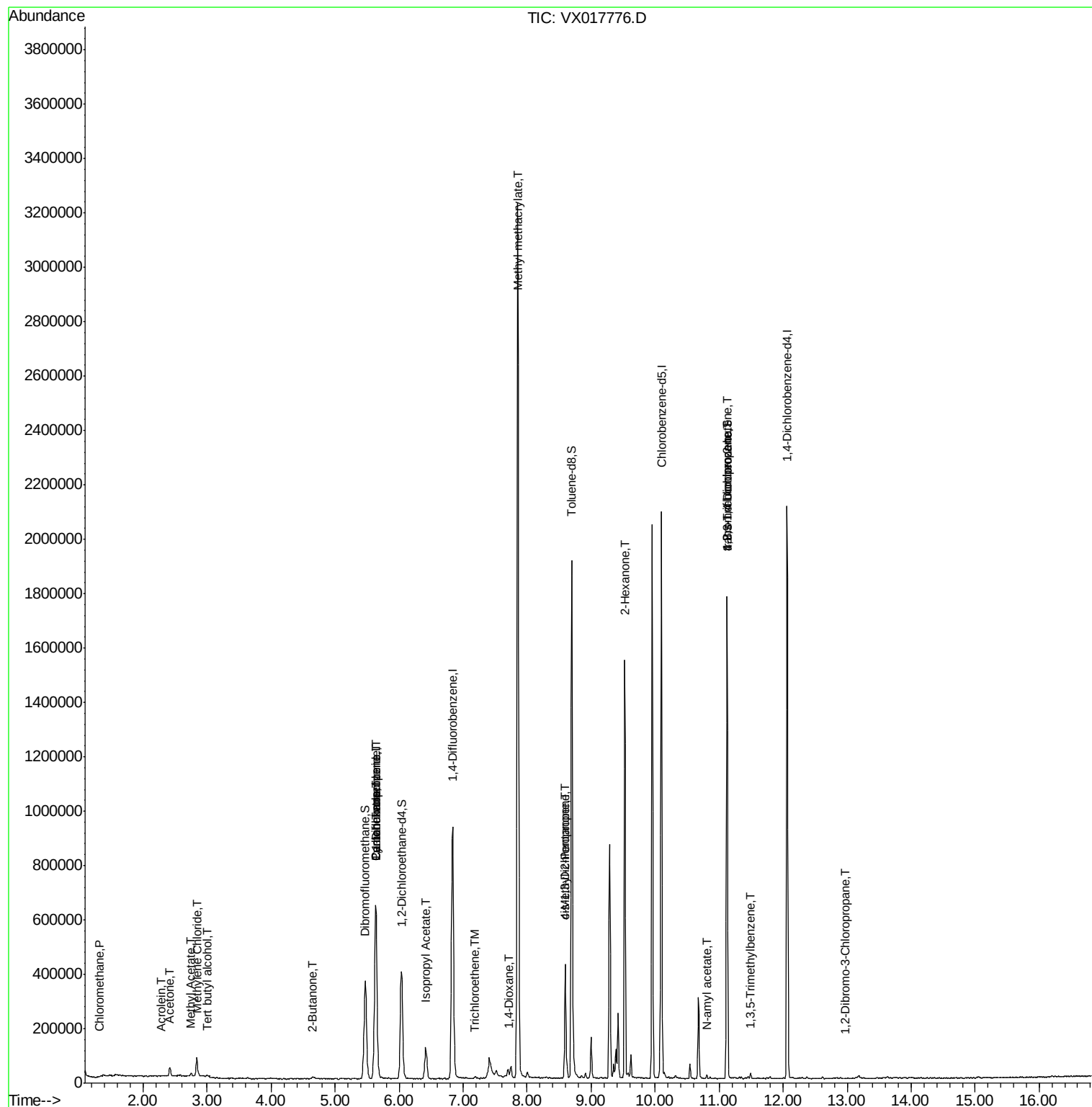
					Qvalue	
2) Dichlorodifluoromethane	1.18	85	649	Below Cal		87
3) Chloromethane	1.31	50	428	0.423 ug/l #		57
5) Bromomethane	1.65	94	566	Below Cal		98
6) Chloroethane	1.71	64	546	Below Cal #		52
8) Diethyl Ether	2.04	74	547	Below Cal		60
11) Tert butyl alcohol	3.01	59	2590	1.563 ug/l #		72
13) Acrolein	2.29	56	532	4.562 ug/l #		34
16) Acetone	2.42	43	37972	10.972 ug/l		93
18) Methyl Acetate	2.75	43	9862	1.210 ug/l #		90
20) Methylene Chloride	2.84	84	30475	3.481 ug/l		93
25) 2-Butanone	4.65	43	9301	1.892 ug/l #		89
31) Cyclohexane	5.63	56	13218	1.363 ug/l #		6
36) 1,1-Dichloropropene	5.63	75	44540	4.950 ug/l #		53
38) Carbon Tetrachloride	5.63	117	62363	5.708 ug/l #		17
43) Isopropyl Acetate	6.42	43	163117	10.042 ug/l		99
44) Trichloroethene	7.18	130	2308	0.306 ug/l		81
48) Methyl methacrylate	7.85	41	274493	34.091 ug/l #		45
49) 1,4-Dioxane	7.72	88	652	4.224 ug/l #		1
51) 4-Methyl-2-Pentanone	8.59	43	159741	16.482 ug/l #		46
54) cis-1,3-Dichloropropene	8.60	75	64348	5.542 ug/l #		58
59) 2-Hexanone	9.52	43	177758	24.361 ug/l #		52
74) N-amyl acetate	10.80	43	7012	0.531 ug/l #		54
76) 1,2,3-Trichloropropane	11.12	75	218879	24.548 ug/l #		34
80) 1,3,5-Trimethylbenzene	11.49	105	7760	0.306 ug/l		97
81) trans-1,4-Dichloro-2-buten	11.12	75	218879	61.855 ug/l #		11
92) 1,2-Dibromo-3-Chloropropan	12.97	75	538	2.771 ug/l #		1

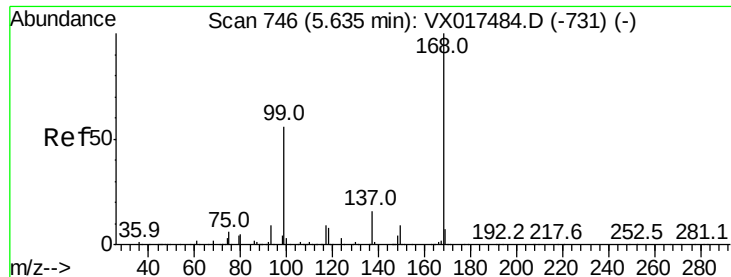
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : Z:\V0ASRV\HPCHEM1\MSVOA X\DATA\VX080420\
Data File : VX017776.D
Acq On : 04 Aug 2020 17:42
Operator : JC/SP
Sample : PB130720ZHE#18
Misc : 5.0mL/MSVOA X/WATER
ALS Vial : 21 Sample Multiplier: 1

Instrument :
MSVOA_X
ClientSampleId :

Quant Time: Aug 05 01:50:54 2020
Quant Method : Z:\V0ASRV\HPCHEM1\MSVOA_X\METHOD\82X072320W.M
Quant Title : SW846 8260
QLast Update : Fri Jul 24 05:48:09 2020
Response via : Initial Calibration





#1

Pentafluorobenzene

Concen: 50.000 ug/l

RT: 5.63 min Scan# 745

Delta R.T. -0.01 min

Lab File: VX017776.D

Acq: 04 Aug 2020 17:42

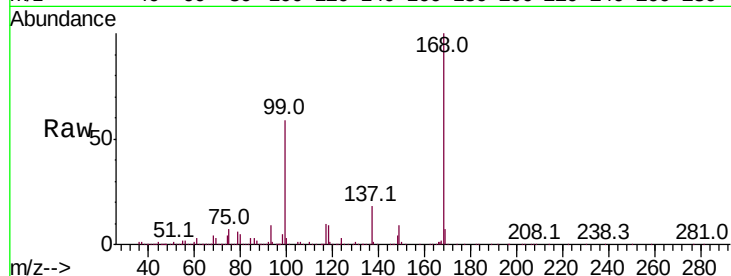
Instrument :
MSVOA_X
ClientSampled :

Tot Ion:168 Resp: 612115

Ion Ratio Lower Upper

168 100

99 58.8 43.4 65.2



Abundance Ion 167.90 (167.60 to 168.60): V

Ion 98.90 (98.60 to 99.60): VX0

5.63

250000

200000

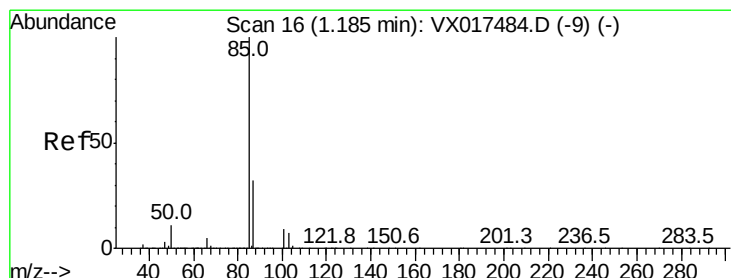
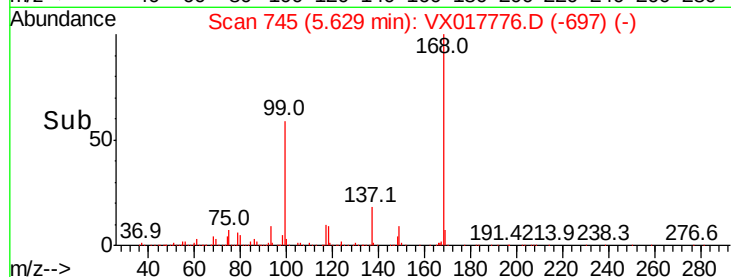
150000

100000

50000

0

Time-->



#2

Dichlorodifluoromethane

Concen: Below Cal

RT: 1.18 min Scan# 16

Delta R.T. 0.00 min

Lab File: VX017776.D

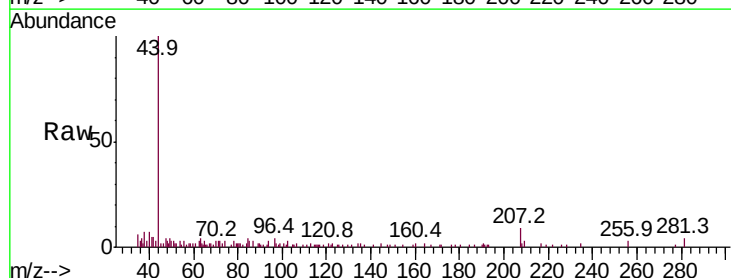
Acq: 04 Aug 2020 17:42

Tgt Ion: 85 Resp: 649

Ion Ratio Lower Upper

85 100

87 39.6 16.1 48.3



Abundance Ion 84.90 (84.60 to 85.60): VX0

Ion 86.90 (86.60 to 87.60): VX0

1.18

500

400

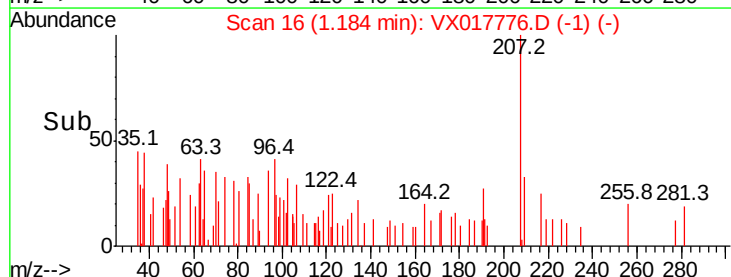
300

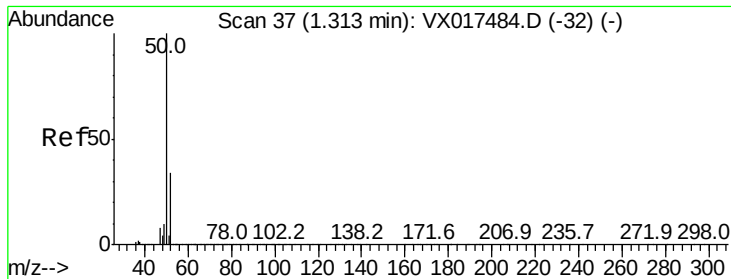
200

100

0

Time-->





#3

Chloromethane

Concen: 0.423 ug/l

RT: 1.31 min Scan# 37

Delta R.T. 0.00 min

Lab File: VX017776.D

Acq: 04 Aug 2020 17:42

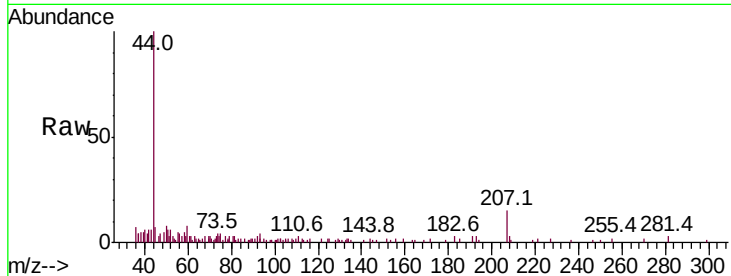
Instrument :
MSVOA_X
ClientSampled :

Tot Ion: 50 Resp: 428

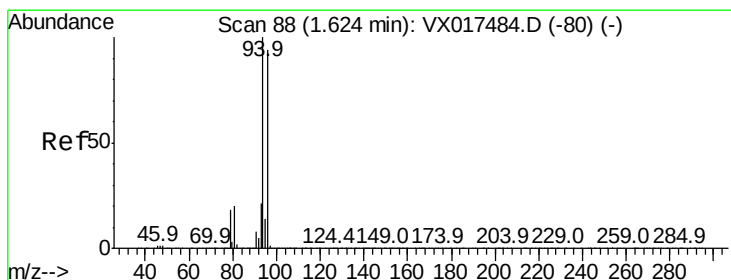
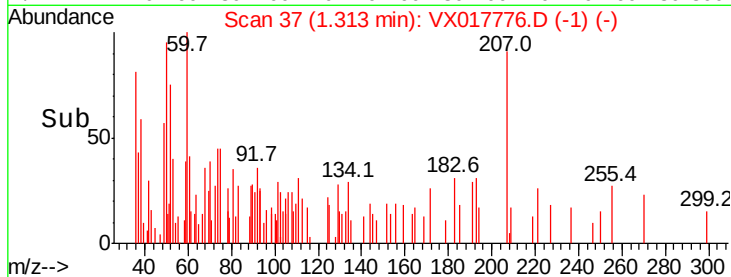
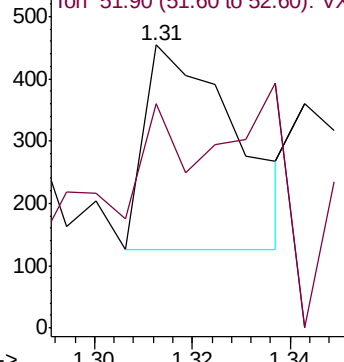
Ion Ratio Lower Upper

50 100

52 56.5 25.9 38.9#



Abundance Ion 49.90 (49.60 to 50.60): VX0
Ion 51.90 (51.60 to 52.60): VX0



#5

Bromomethane

Concen: Below Cal

RT: 1.65 min Scan# 93

Delta R.T. 0.03 min

Lab File: VX017776.D

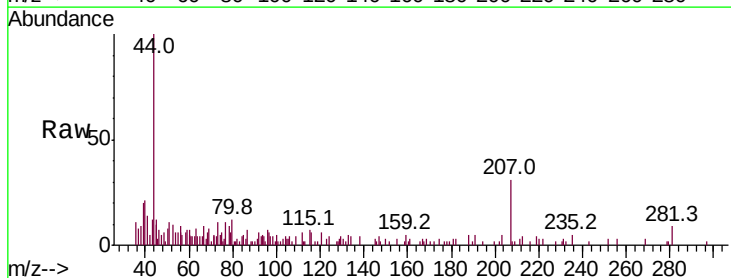
Acq: 04 Aug 2020 17:42

Tgt Ion: 94 Resp: 566

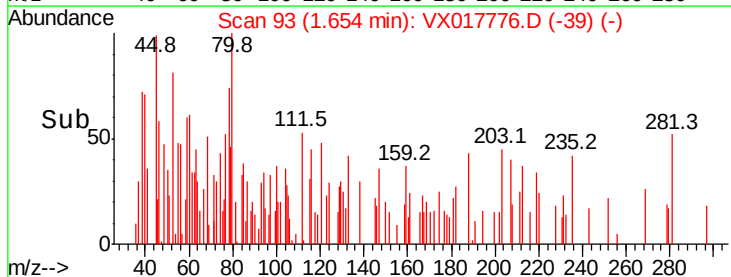
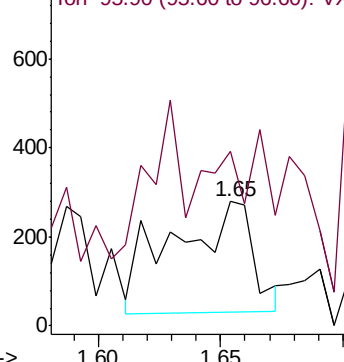
Ion Ratio Lower Upper

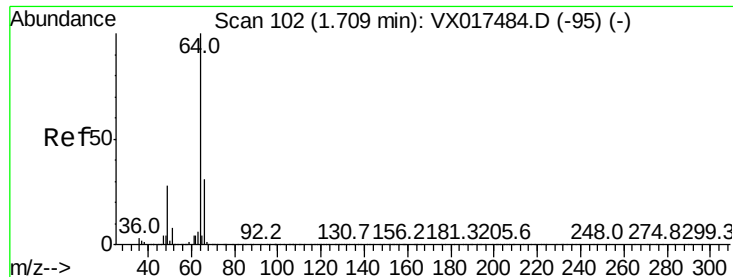
94 100

96 94.6 74.1 111.1



Abundance Ion 93.90 (93.60 to 94.60): VX0
Ion 95.90 (95.60 to 96.60): VX0





#6

Chloroethane

Concen: Below Cal

RT: 1.71 min Scan# 102

Delta R.T. -0.00 min

Lab File: VX017776.D

Acq: 04 Aug 2020 17:42

Instrument :

MSVOA_X

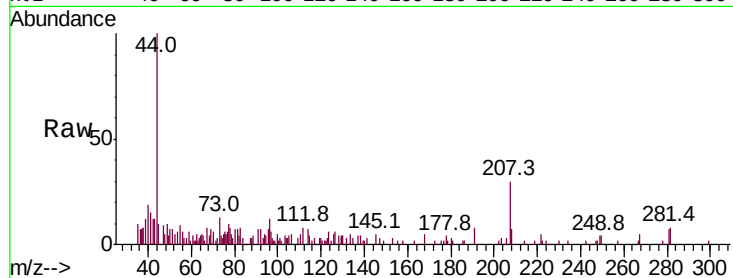
ClientSampled :

Tot Ion: 64 Resp: 546

Ion Ratio Lower Upper

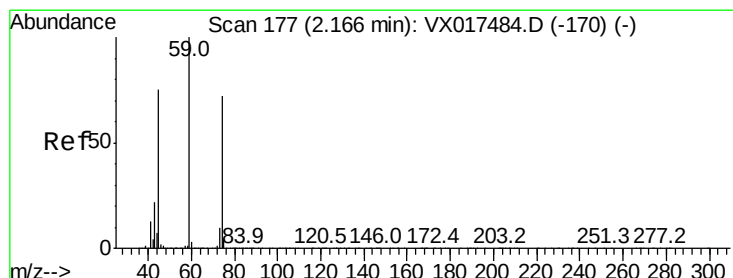
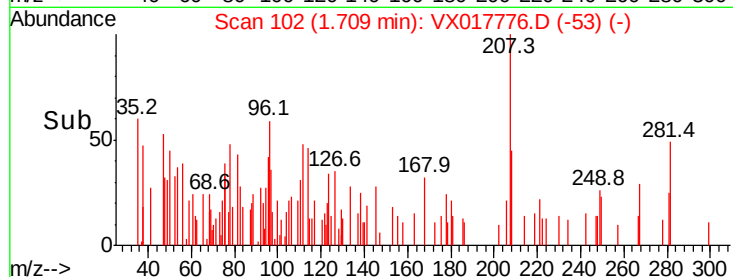
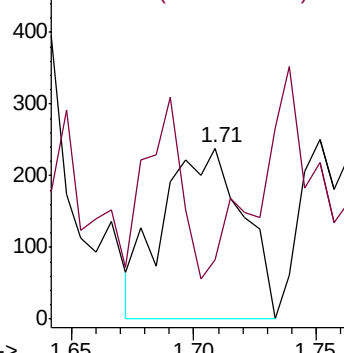
64 100

66 4.6 24.9 37.3#



Abundance Ion 63.90 (63.60 to 64.60): VX0

Ion 65.90 (65.60 to 66.60): VX0



#8

Diethyl Ether

Concen: Below Cal

RT: 2.04 min Scan# 157

Delta R.T. -0.12 min

Lab File: VX017776.D

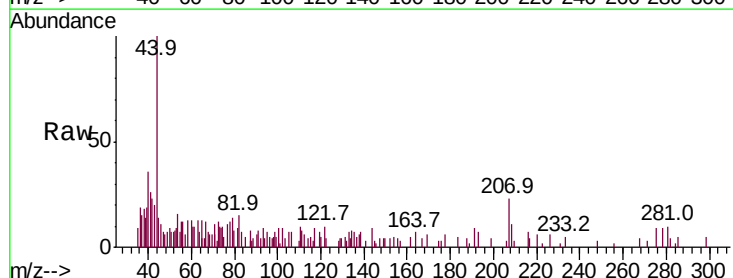
Acq: 04 Aug 2020 17:42

Tgt Ion: 74 Resp: 547

Ion Ratio Lower Upper

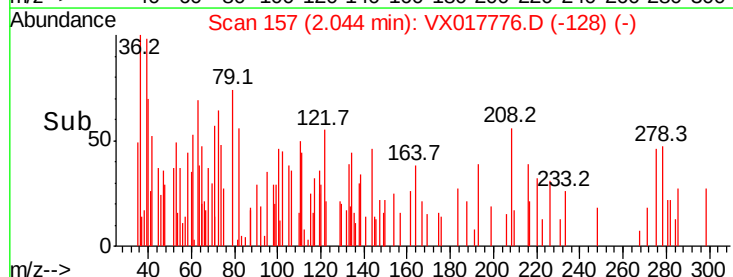
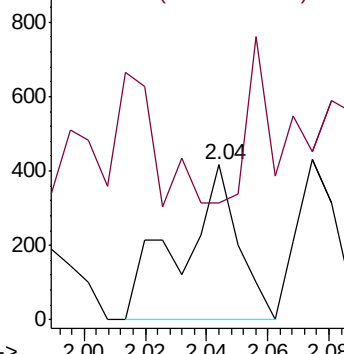
74 100

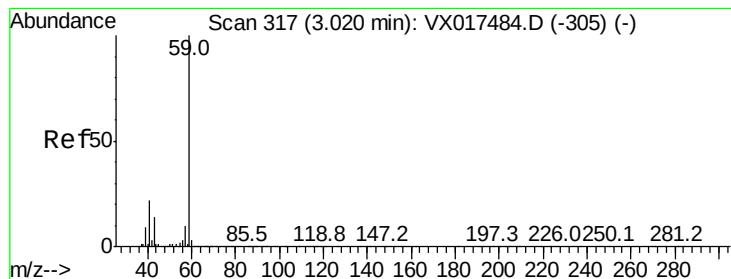
45 61.4 50.8 152.5



Abundance Ion 74.00 (73.70 to 74.70): VX0

Ion 45.00 (44.70 to 45.70): VX0



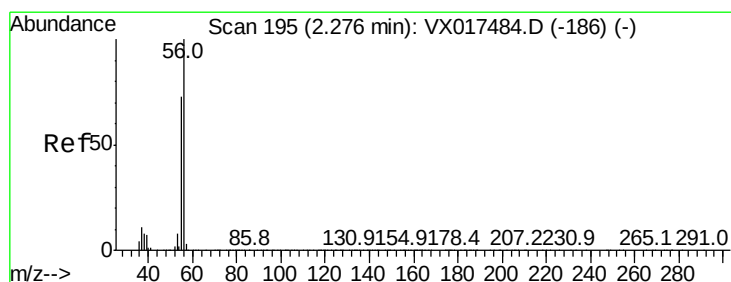
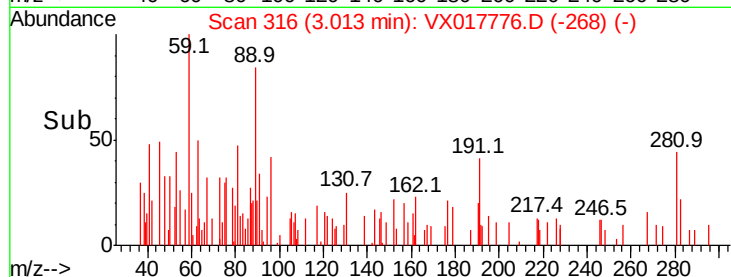
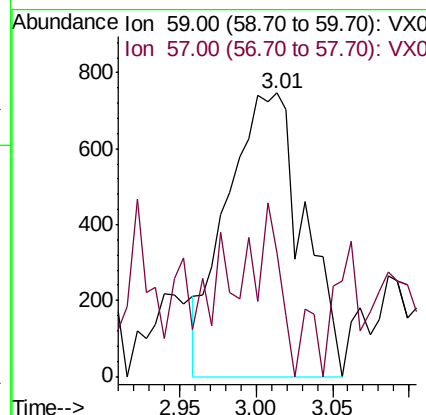
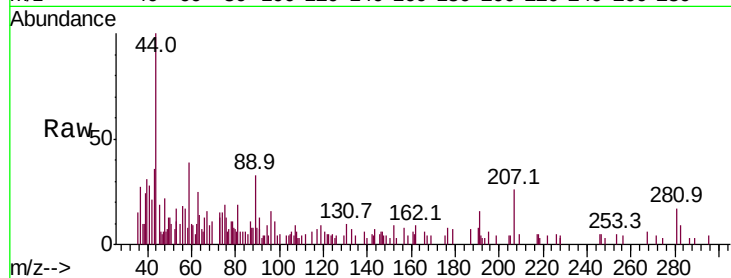


#11

Tert butyl alcohol
 Concen: 1.563 ug/l
 RT: 3.01 min Scan# 316
 Delta R.T. -0.01 min
 Lab File: VX017776.D
 Acq: 04 Aug 2020 17:42

Instrument :
 MSVOA_X
 ClientSampled :

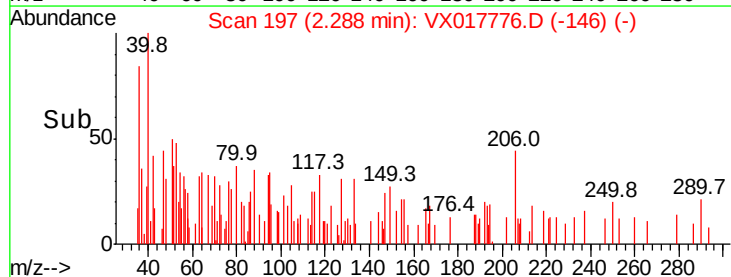
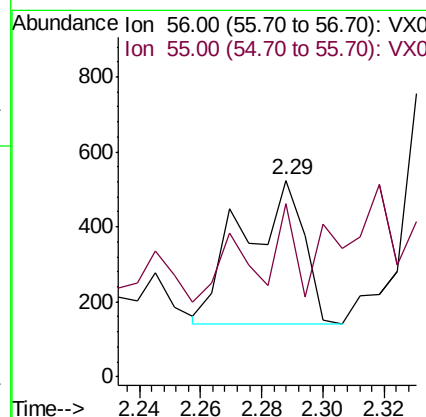
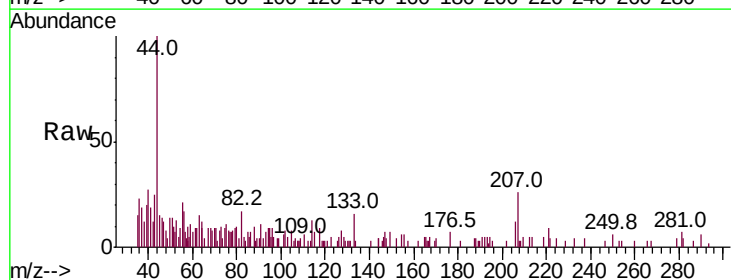
Tot Ion: 59 Resp: 2590
 Ion Ratio Lower Upper
 59 100
 57 21.2 8.6 12.8#

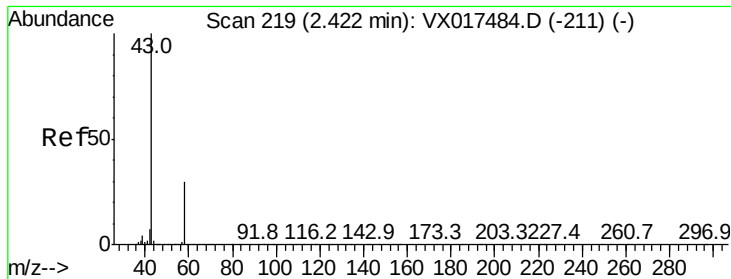


#13

Acrolein
 Concen: 4.562 ug/l
 RT: 2.29 min Scan# 197
 Delta R.T. 0.01 min
 Lab File: VX017776.D
 Acq: 04 Aug 2020 17:42

Tgt Ion: 56 Resp: 532
 Ion Ratio Lower Upper
 56 100
 55 17.3 57.4 86.2#





#16

Acetone

Concen: 10.972 ug/l

RT: 2.42 min Scan# 218

Delta R.T. -0.01 min

Lab File: VX017776.D

Acq: 04 Aug 2020 17:42

Instrument :

MSVOA_X

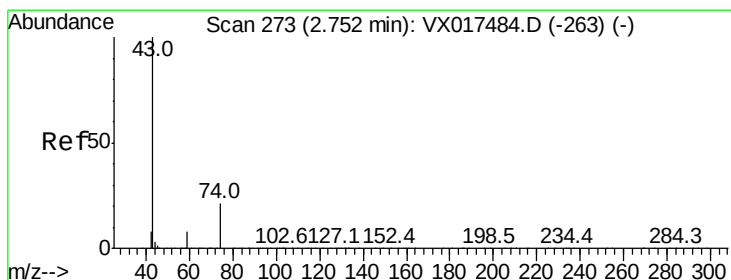
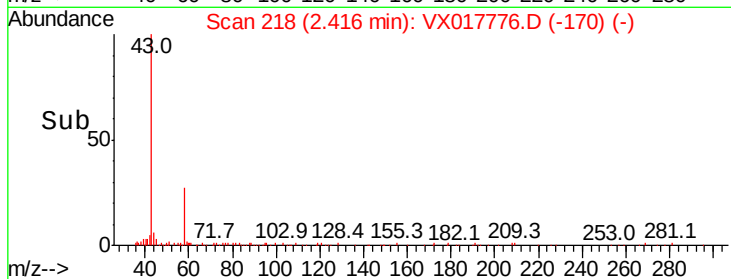
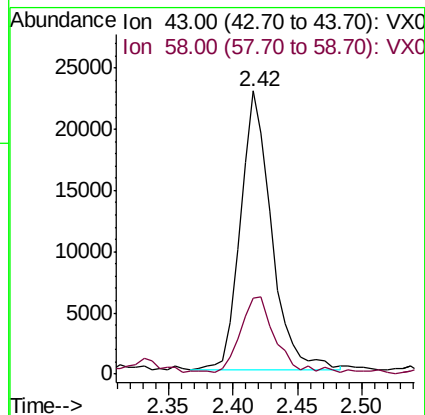
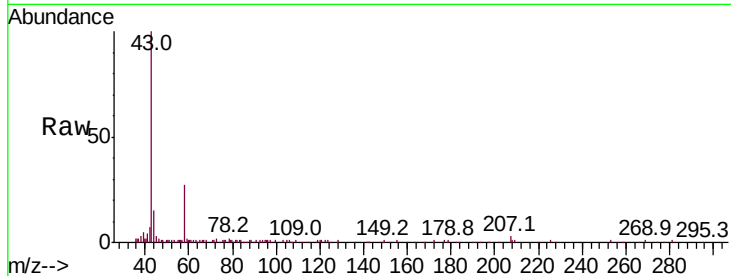
ClientSampleId :

Tot Ion: 43 Resp: 37972

Ion Ratio Lower Upper

43 100

58 26.6 24.2 36.4



#18

Methyl Acetate

Concen: 1.210 ug/l

RT: 2.75 min Scan# 272

Delta R.T. -0.01 min

Lab File: VX017776.D

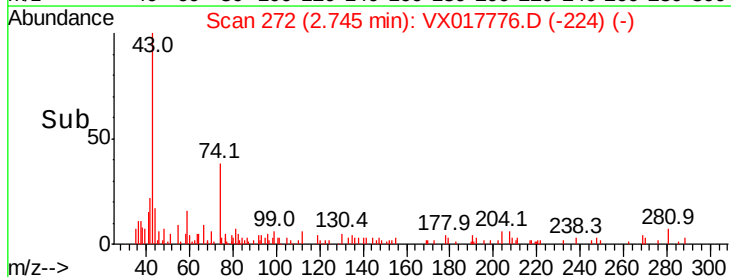
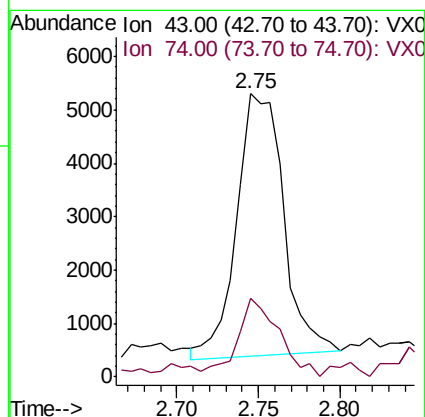
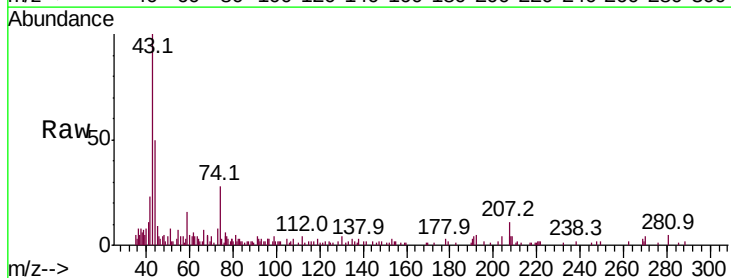
Acq: 04 Aug 2020 17:42

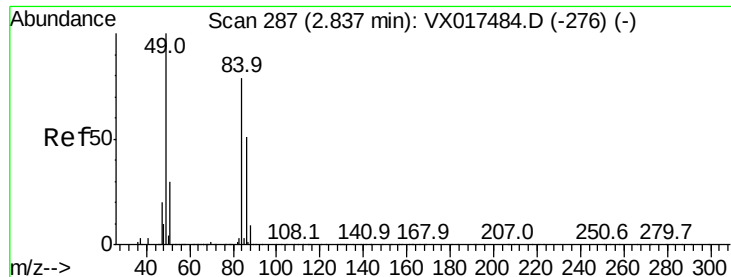
Tgt Ion: 43 Resp: 9862

Ion Ratio Lower Upper

43 100

74 26.5 17.5 26.3#





#20

Methylene Chloride

Concen: 3.481 ug/l

RT: 2.84 min Scan# 287

Delta R.T. 0.00 min

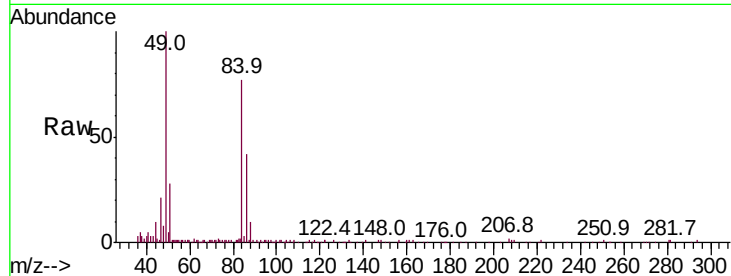
Lab File: VX017776.D

Acq: 04 Aug 2020 17:42

Instrument :
MSVOA_X
ClientSampleId :

Tot Ion: 84 Resp: 30475

Ion	Ratio	Lower	Upper
84	100		
49	131.2	100.3	150.5
51	35.5	30.5	45.7
86	55.6	51.1	76.7

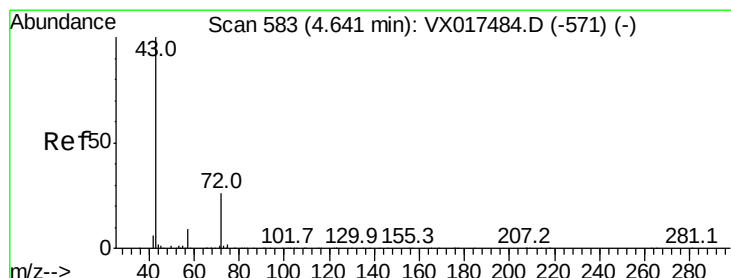
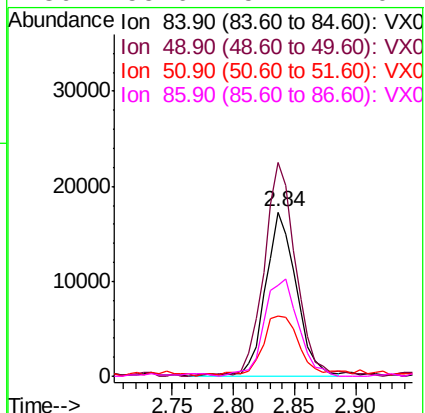
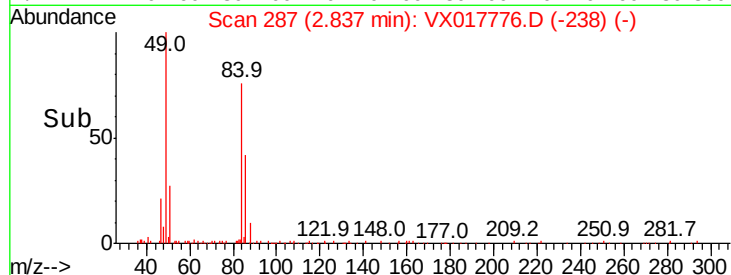


Abundance Ion 83.90 (83.60 to 84.60): VX0

Ion 48.90 (48.60 to 49.60): VX0

Ion 50.90 (50.60 to 51.60): VX0

Ion 85.90 (85.60 to 86.60): VX0



#25

2-Butanone

Concen: 1.892 ug/l

RT: 4.65 min Scan# 584

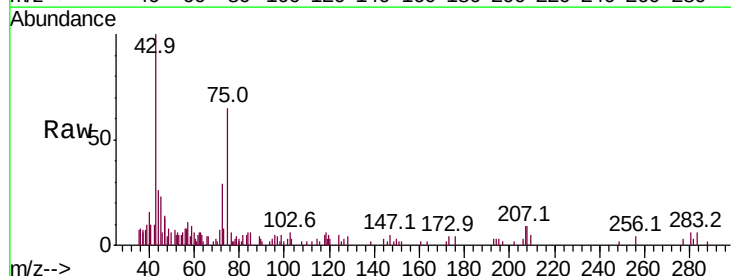
Delta R.T. 0.01 min

Lab File: VX017776.D

Acq: 04 Aug 2020 17:42

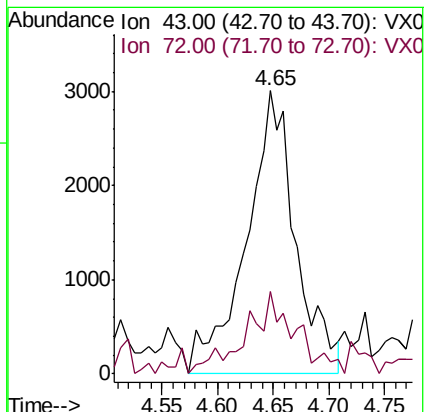
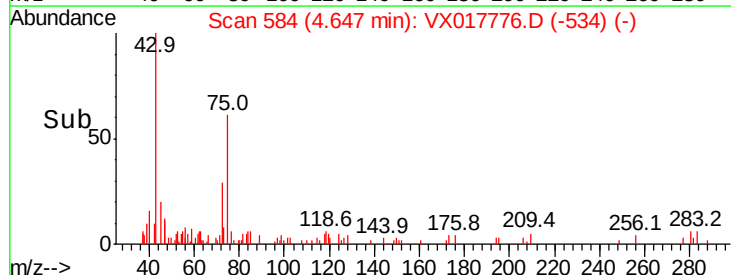
Tgt Ion: 43 Resp: 9301

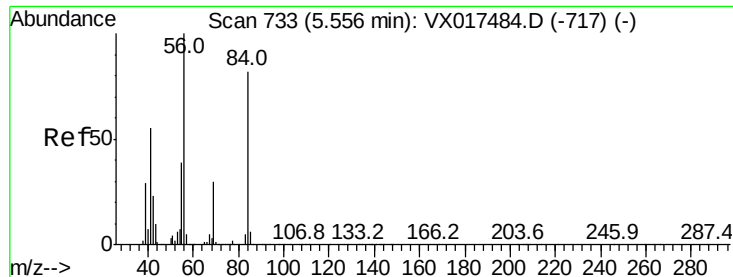
Ion	Ratio	Lower	Upper
43	100		
72	29.3	19.0	28.4#



Abundance Ion 43.00 (42.70 to 43.70): VX0

Ion 72.00 (71.70 to 72.70): VX0

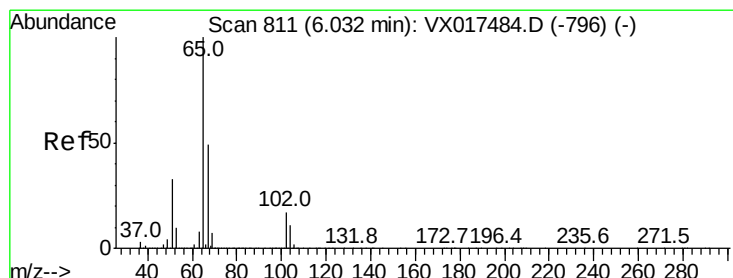
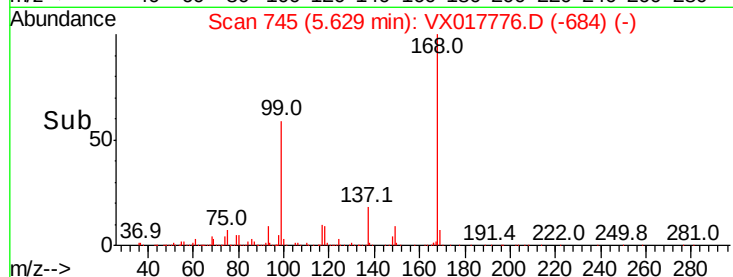
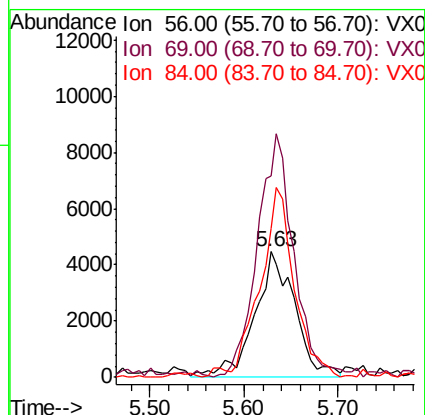
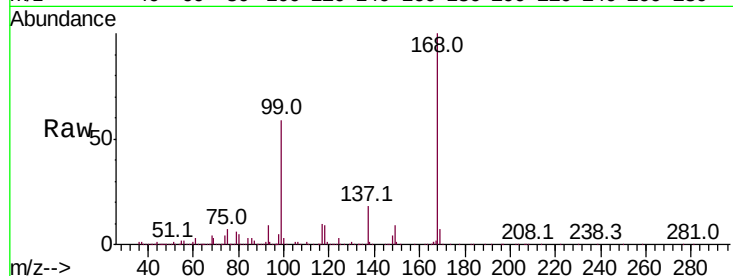




#31
Cyclohexane
Concen: 1.363 ug/l
RT: 5.63 min Scan# 745
Delta R.T. 0.07 min
Lab File: VX017776.D
Acq: 04 Aug 2020 17:42

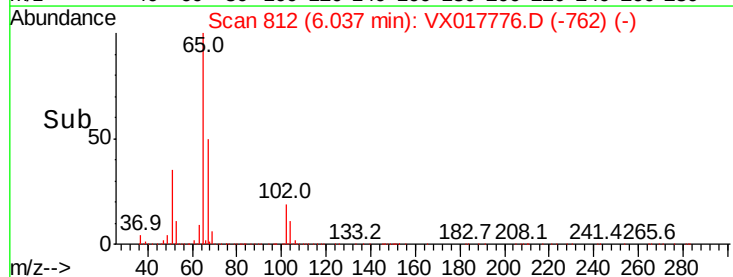
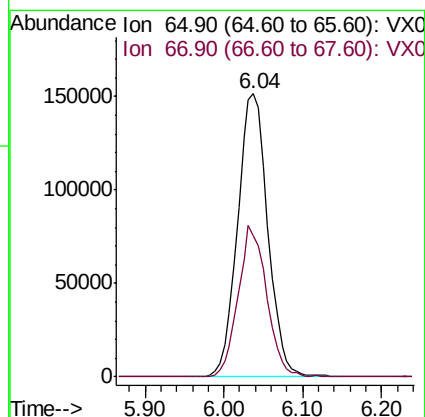
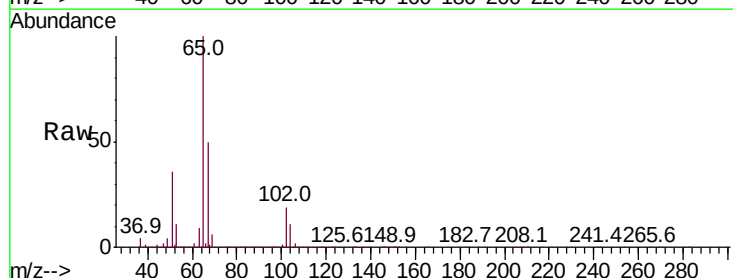
Instrument :
MSVOA_X
ClientSampleId :

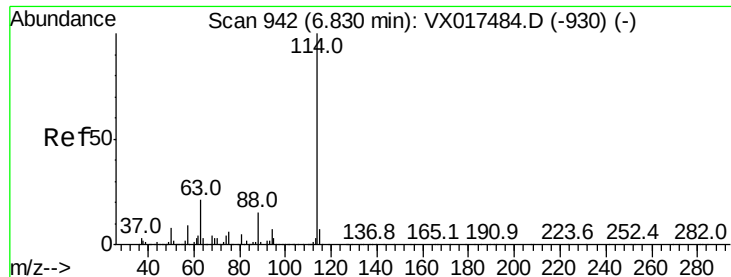
Tot Ion: 56 Resp: 13218
Ion Ratio Lower Upper
56 100
69 165.4 24.2 36.4#
84 123.2 69.0 103.6#



#33
1,2-Dichloroethane-d4
Concen: 51.186 ug/l
RT: 6.04 min Scan# 812
Delta R.T. 0.01 min
Lab File: VX017776.D
Acq: 04 Aug 2020 17:42

Tgt Ion: 65 Resp: 402473
Ion Ratio Lower Upper
65 100
67 50.6 0.0 102.8





#34

1,4-Difluorobenzene

Concen: 50.000 ug/l

RT: 6.84 min Scan# 943

Delta R.T. 0.01 min

Lab File: VX017776.D

Acq: 04 Aug 2020 17:42

Instrument :

MSVOA_X

ClientSampled :

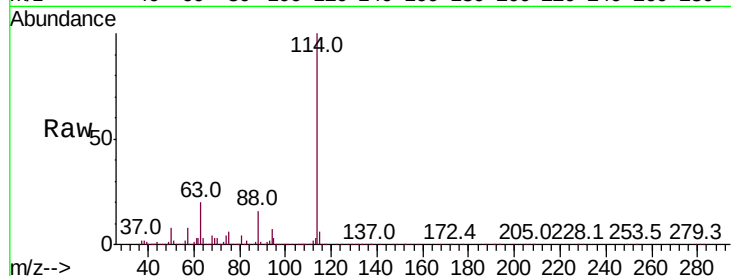
Tot Ion:114 Resp: 938144

Ion Ratio Lower Upper

114 100

63 20.1 0.0 40.6

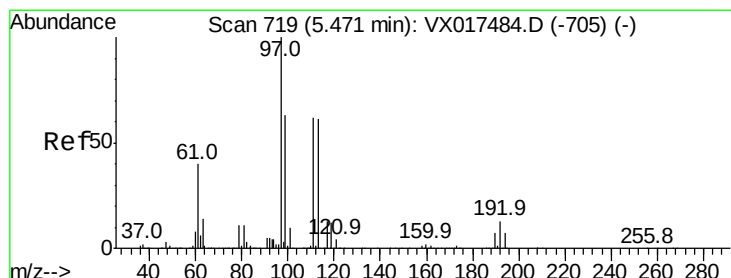
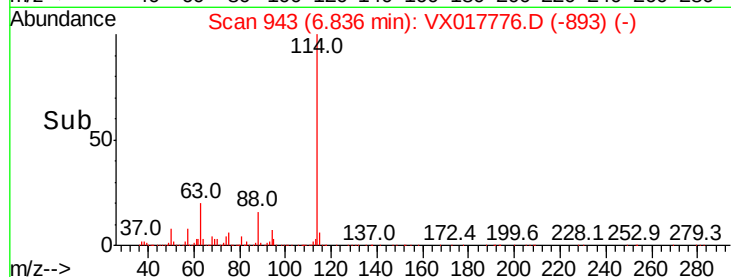
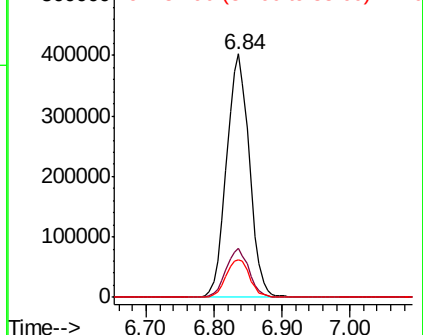
88 15.5 0.0 33.4



Abundance Ion 113.90 (113.60 to 114.60): V

Ion 63.00 (62.70 to 63.70): VX0

Ion 87.90 (87.60 to 88.60): VX0



#35

Dibromofluoromethane

Concen: 49.508 ug/l

RT: 5.47 min Scan# 719

Delta R.T. -0.00 min

Lab File: VX017776.D

Acq: 04 Aug 2020 17:42

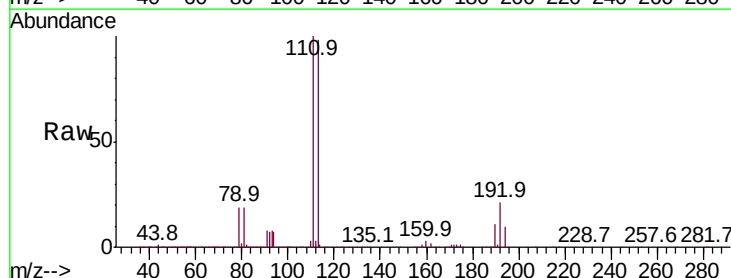
Tgt Ion:113 Resp: 310630

Ion Ratio Lower Upper

113 100

111 103.3 80.7 121.1

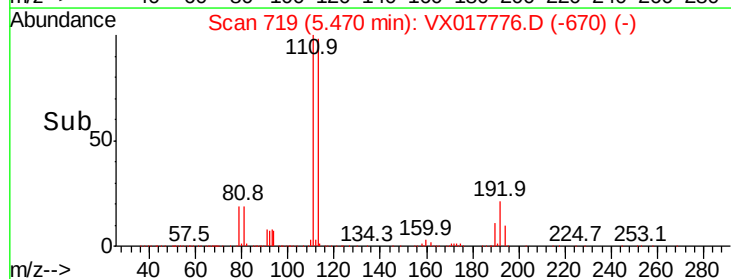
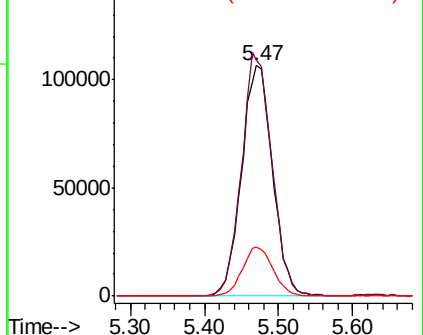
192 21.0 16.9 25.3

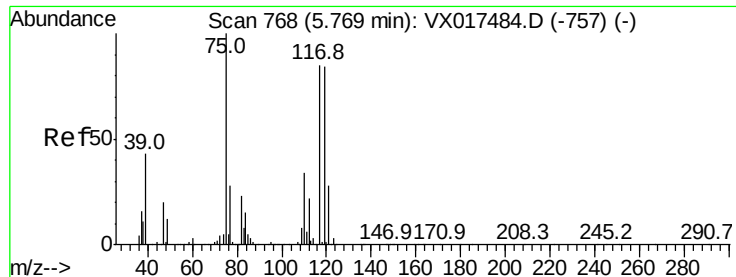


Abundance Ion 112.80 (112.50 to 113.50): V

Ion 110.80 (110.50 to 111.50): V

Ion 191.70 (191.40 to 192.40): V





#36

1,1-Dichloropropene

Concen: 4.950 ug/l

RT: 5.63 min Scan# 745

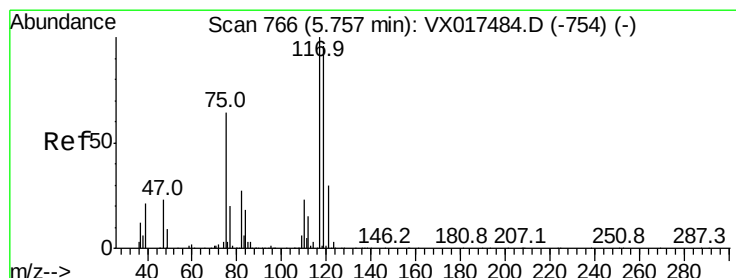
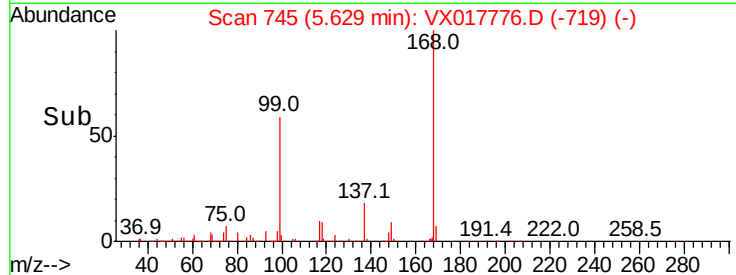
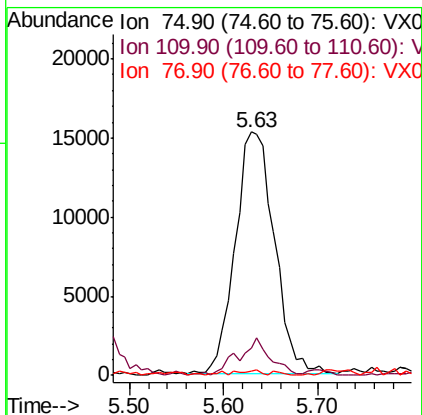
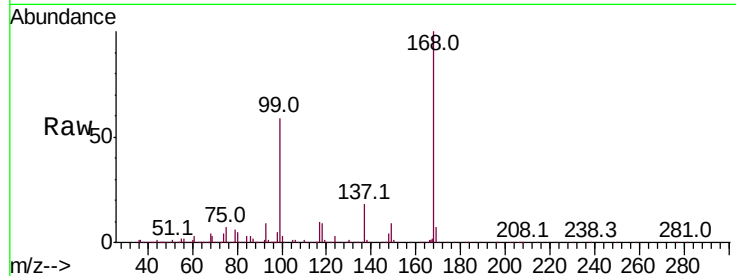
Delta R.T. -0.14 min

Lab File: VX017776.D

Acq: 04 Aug 2020 17:42

Instrument :
MSVOA_X
ClientSampleId :

Tot Ion: 75 Resp: 44540
Ion Ratio Lower Upper
75 100
110 12.7 18.1 54.3#
77 0.6 24.6 37.0#



#38

Carbon Tetrachloride

Concen: 5.708 ug/l

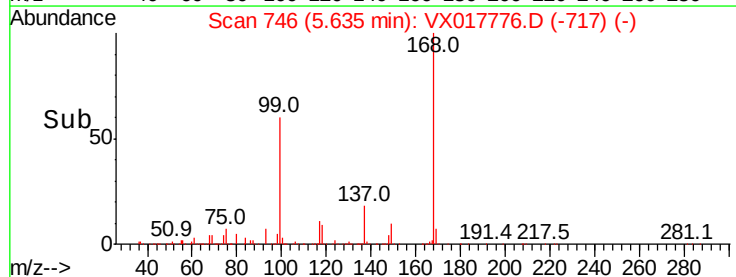
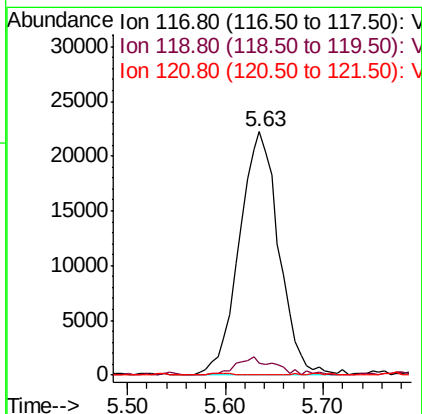
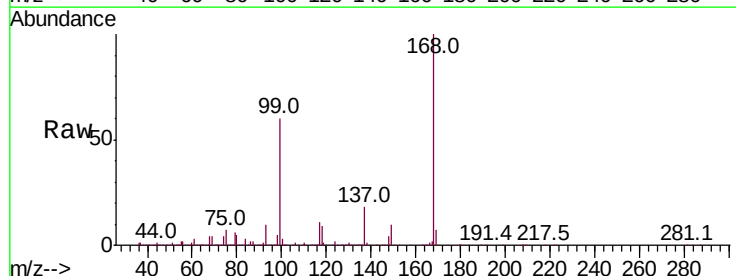
RT: 5.63 min Scan# 746

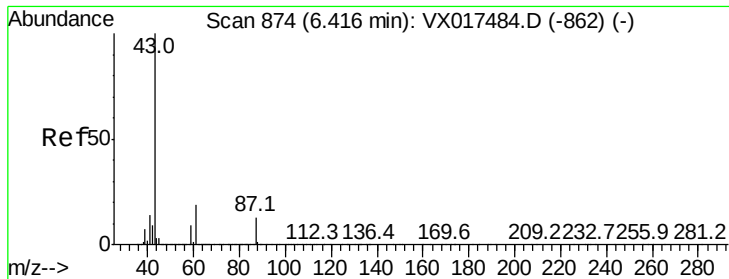
Delta R.T. -0.12 min

Lab File: VX017776.D

Acq: 04 Aug 2020 17:42

Tgt Ion: 117 Resp: 62363
Ion Ratio Lower Upper
117 100
119 5.0 75.4 113.0#
121 0.0 24.3 36.5#





#43

Isopropyl Acetate

Concen: 10.042 ug/l

RT: 6.42 min Scan# 874

Delta R.T. -0.00 min

Lab File: VX017776.D

Acq: 04 Aug 2020 17:42

Instrument :

MSVOA_X

ClientSampleId :

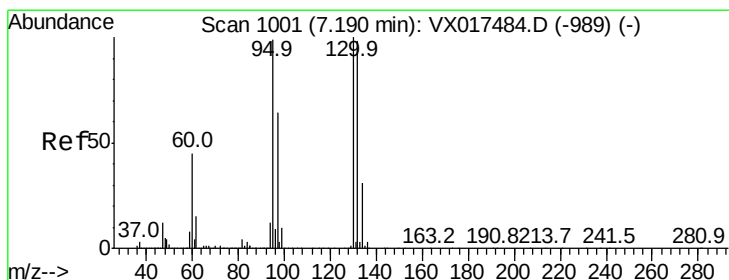
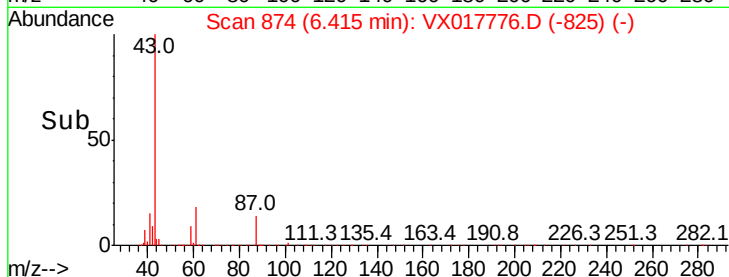
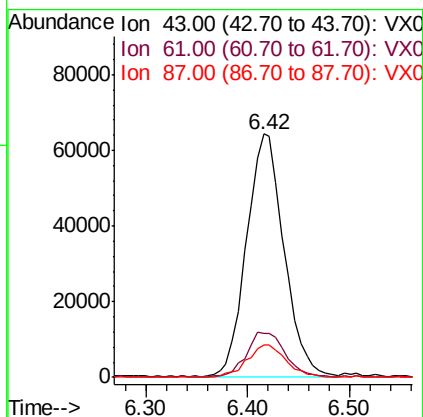
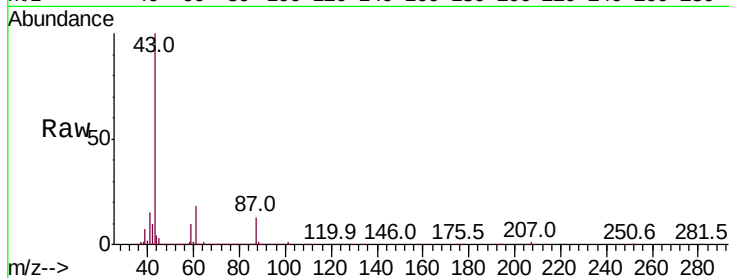
Tot Ion: 43 Resp: 163117

Ion Ratio Lower Upper

43 100

61 19.3 15.5 23.3

87 14.0 10.5 15.7



#44

Trichloroethene

Concen: 0.306 ug/l

RT: 7.18 min Scan# 1000

Delta R.T. -0.01 min

Lab File: VX017776.D

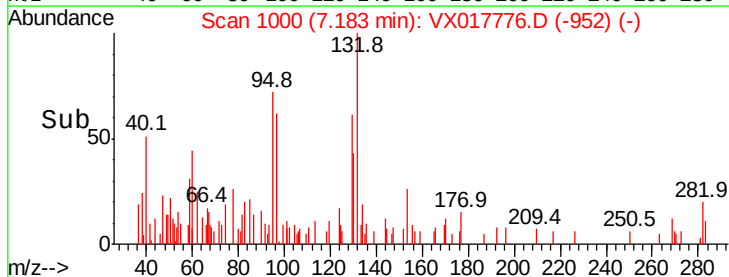
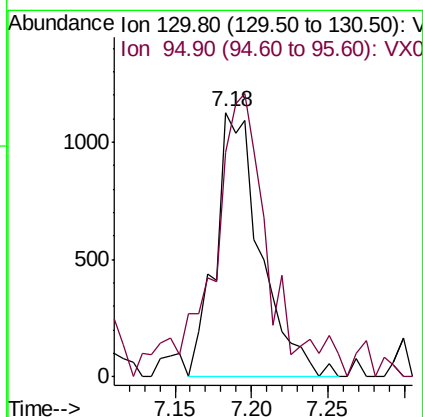
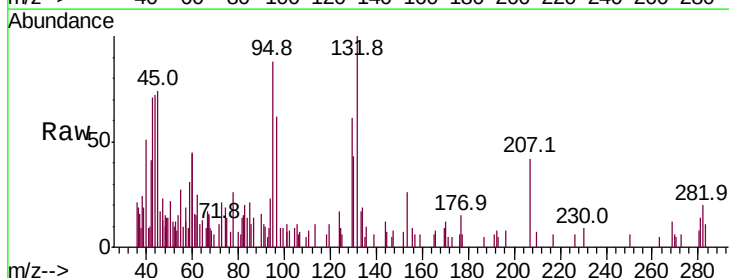
Acq: 04 Aug 2020 17:42

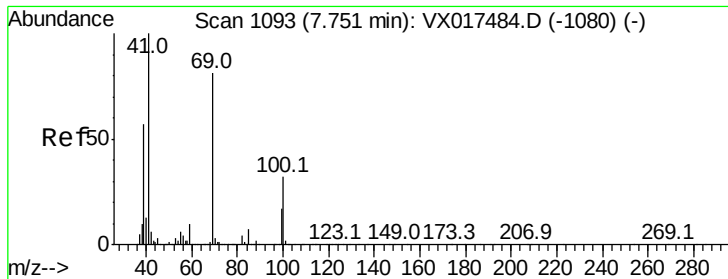
Tgt Ion:130 Resp: 2308

Ion Ratio Lower Upper

130 100

95 76.2 0.0 189.0

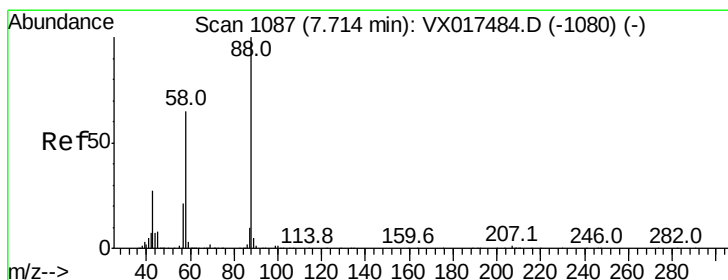
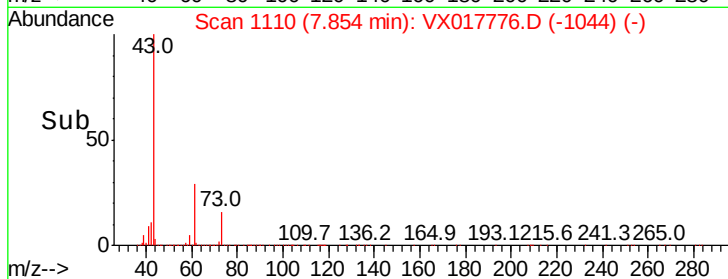
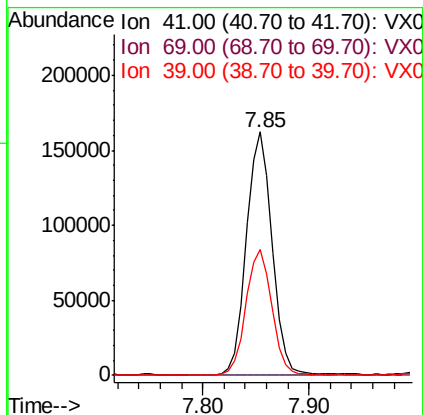
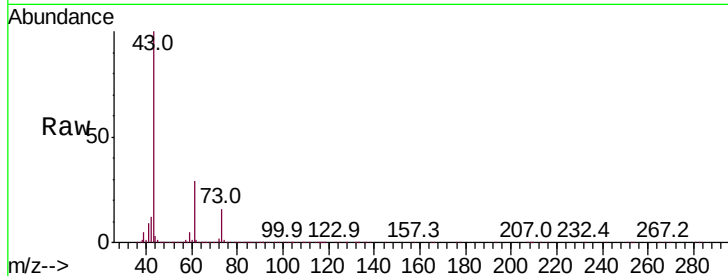




#48
Methvl methacrylate
Concen: 34.091 ug/l
RT: 7.85 min Scan# 1110
Delta R.T. 0.10 min
Lab File: VX017776.D
Acq: 04 Aug 2020 17:42

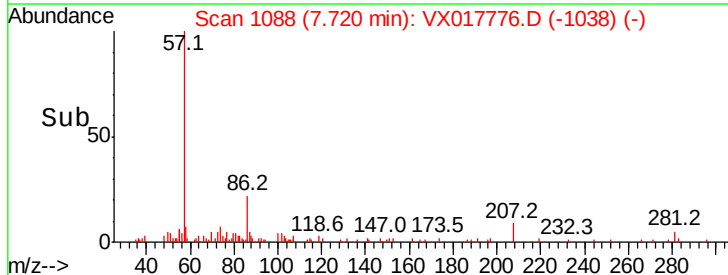
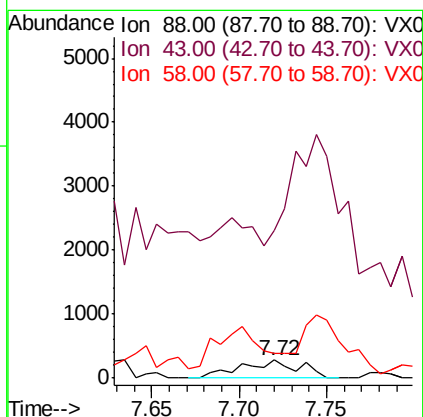
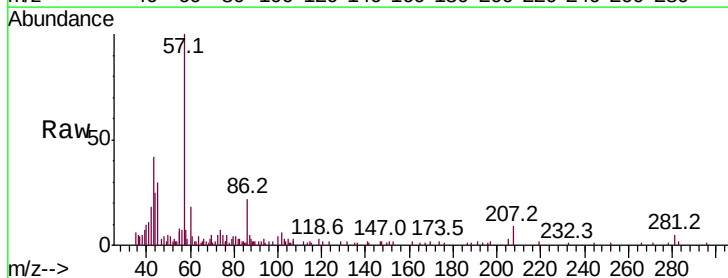
Instrument :
MSVOA_X
ClientSampleId :

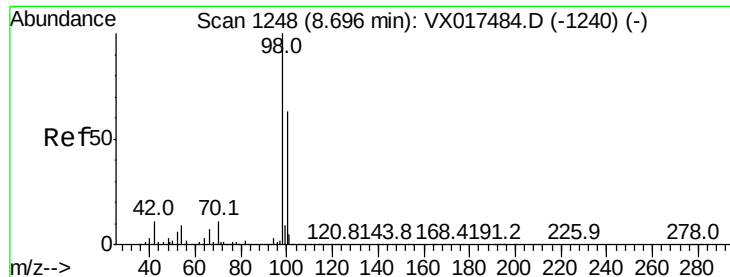
Tot Ion: 41 Resp: 274493
Ion Ratio Lower Upper
41 100
69 0.2 63.1 94.7#
39 52.2 45.1 67.7



#49
1,4-Dioxane
Concen: 4.224 ug/l
RT: 7.72 min Scan# 1088
Delta R.T. 0.01 min
Lab File: VX017776.D
Acq: 04 Aug 2020 17:42

Tgt Ion: 88 Resp: 652
Ion Ratio Lower Upper
88 100
43 0.0 27.8 41.6#
58 194.0 58.3 87.5#

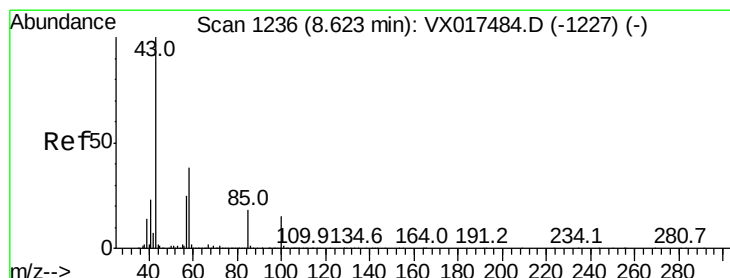
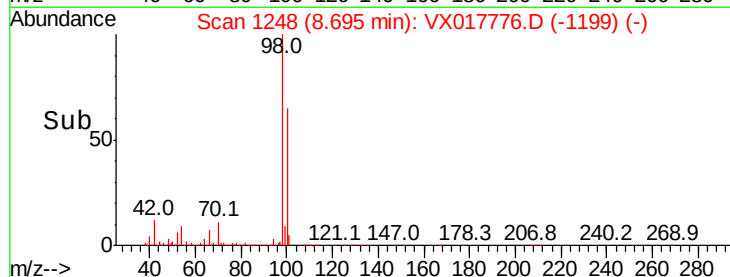
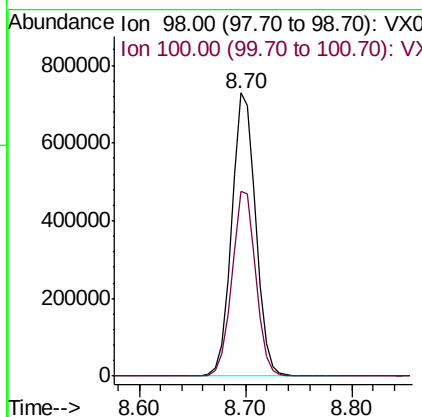
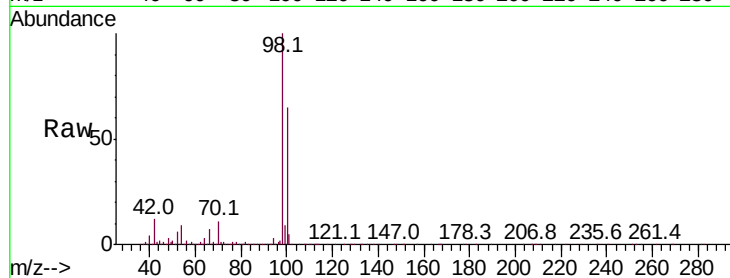




#50
Toluene-d8
Concen: 50.751 ug/l
RT: 8.70 min Scan# 1248
Delta R.T. -0.00 min
Lab File: VX017776.D
Acq: 04 Aug 2020 17:42

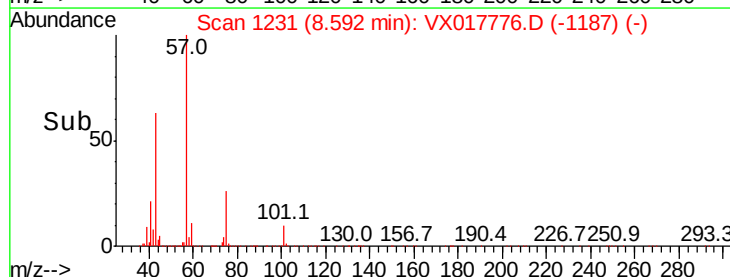
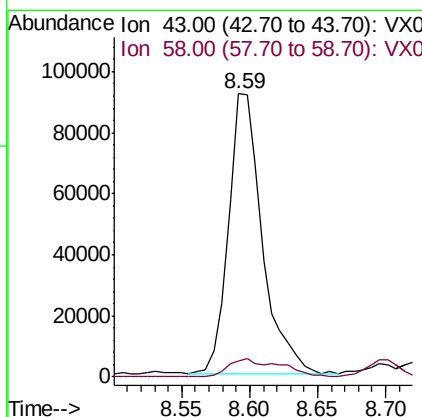
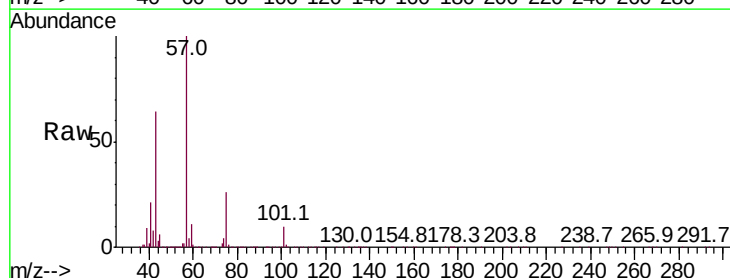
Instrument :
MSVOA_X
ClientSampleId :

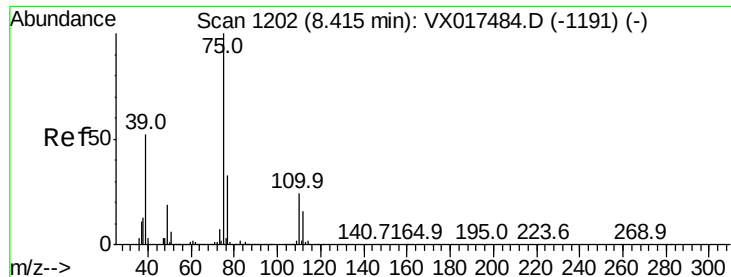
Tot Ion: 98 Resp: 1148719
Ion Ratio Lower Upper
98 100
100 65.5 52.3 78.5



#51
4-Methyl-2-Pentanone
Concen: 16.482 ug/l
RT: 8.59 min Scan# 1231
Delta R.T. -0.03 min
Lab File: VX017776.D
Acq: 04 Aug 2020 17:42

Tgt Ion: 43 Resp: 159741
Ion Ratio Lower Upper
43 100
58 6.0 31.0 46.4#





#54

cis-1,3-Dichloropropene

Concen: 5.542 ug/l

RT: 8.60 min Scan# 1232

Delta R.T. 0.18 min

Lab File: VX017776.D

Acq: 04 Aug 2020 17:42

Instrument :

MSVOA_X

ClientSampleId :

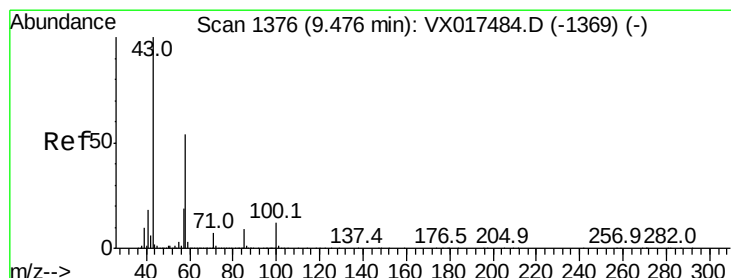
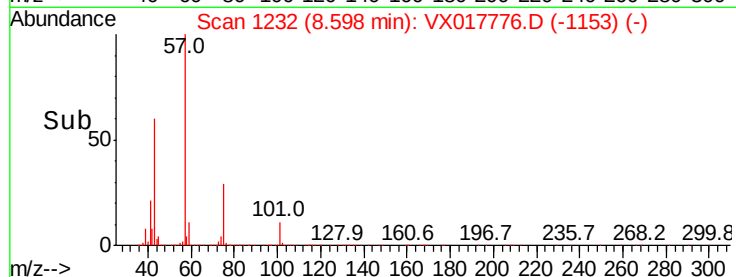
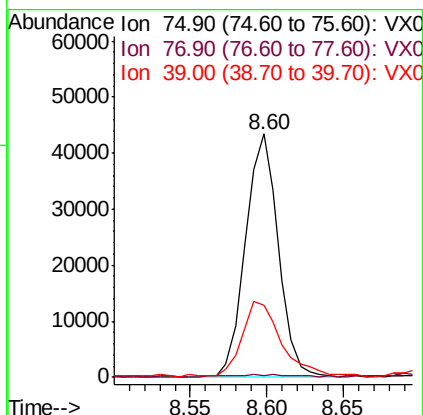
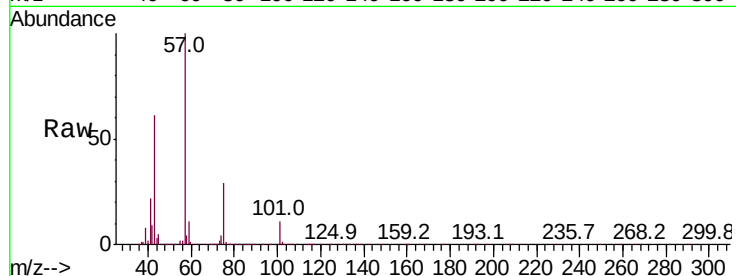
Tot Ion: 75 Resp: 64348

Ion Ratio Lower Upper

75 100

77 0.7 25.5 38.3#

39 28.5 41.8 62.8#



#59

2-Hexanone

Concen: 24.361 ug/l

RT: 9.52 min Scan# 1384

Delta R.T. 0.05 min

Lab File: VX017776.D

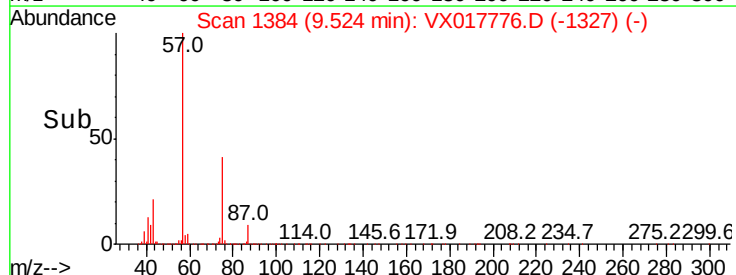
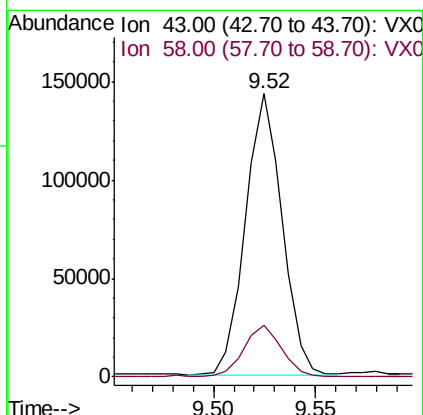
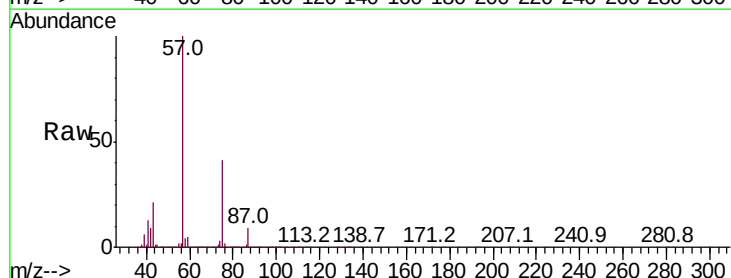
Acq: 04 Aug 2020 17:42

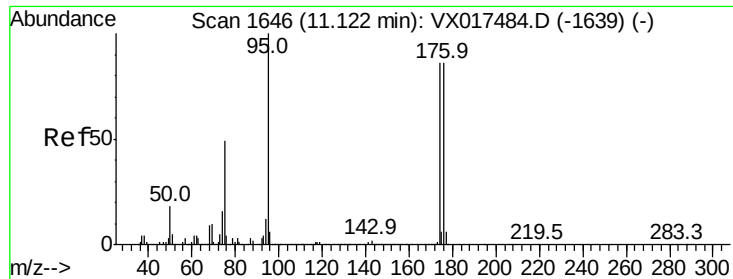
Tgt Ion: 43 Resp: 177758

Ion Ratio Lower Upper

43 100

58 19.1 26.6 79.8#





#62

4-Bromofluorobenzene

Concen: 48.186 ug/l

RT: 11.12 min Scan# 1646

Delta R.T. -0.00 min

Lab File: VX017776.D

Acq: 04 Aug 2020 17:42

Instrument :

MSVOA_X

ClientSampleId :

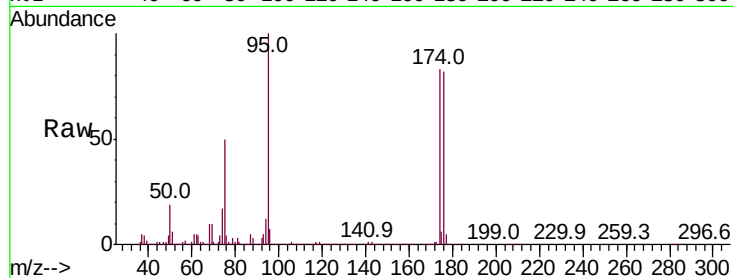
Tot Ion: 95 Resp: 436487

Ion Ratio Lower Upper

95 100

174 83.0 0.0 169.0

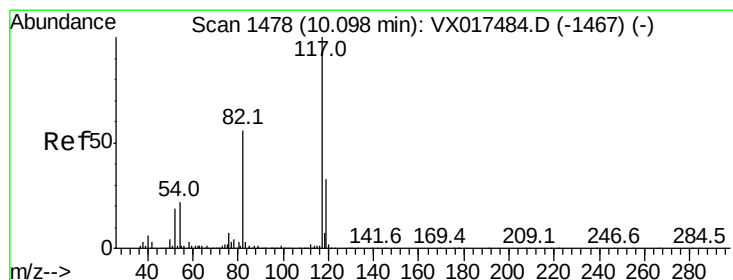
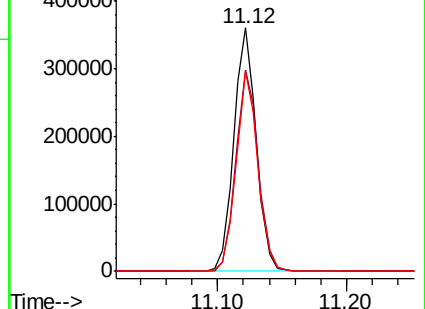
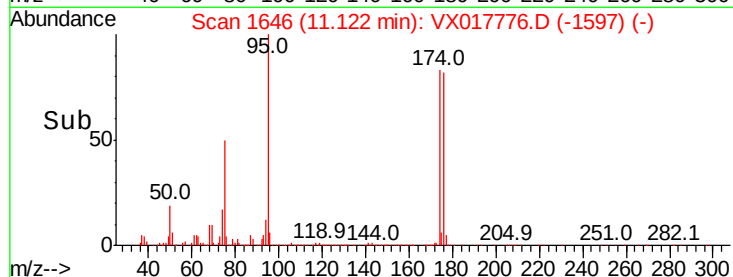
176 80.0 0.0 161.0



Abundance Ion 94.90 (94.60 to 95.60): VX017776.D (-1597) (-)

Ion 173.80 (173.50 to 174.50): VX017776.D (-1597) (-)

Ion 175.80 (175.50 to 176.50): VX017776.D (-1597) (-)



#63

Chlorobenzene-d5

Concen: 50.000 ug/l

RT: 10.10 min Scan# 1478

Delta R.T. -0.00 min

Lab File: VX017776.D

Acq: 04 Aug 2020 17:42

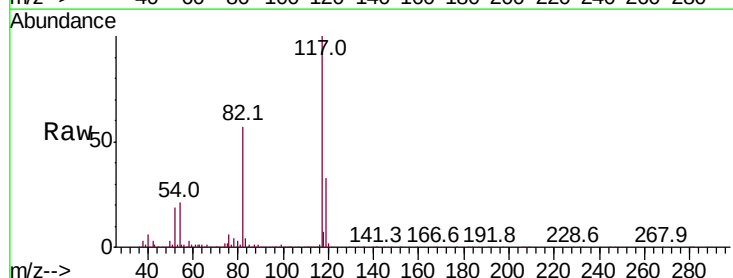
Tgt Ion: 117 Resp: 904697

Ion Ratio Lower Upper

117 100

82 57.1 44.0 66.0

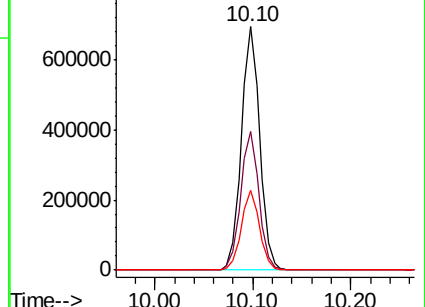
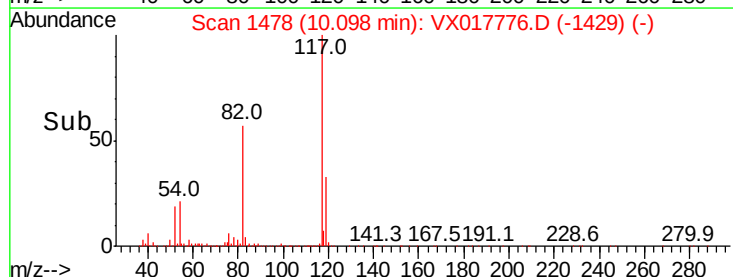
119 32.6 25.4 38.0

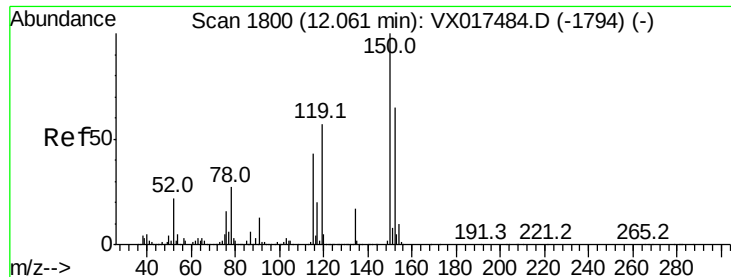


Abundance Ion 116.90 (116.60 to 117.60): VX017776.D (-1429) (-)

Ion 82.00 (81.70 to 82.70): VX017776.D (-1429) (-)

Ion 118.90 (118.60 to 119.60): VX017776.D (-1429) (-)





#72

1,4-Dichlorobenzene-d4

Concen: 50.000 ug/l

RT: 12.06 min Scan# 1800

Delta R.T. -0.00 min

Lab File: VX017776.D

Acq: 04 Aug 2020 17:42

Instrument :

MSVOA_X

ClientSampleId :

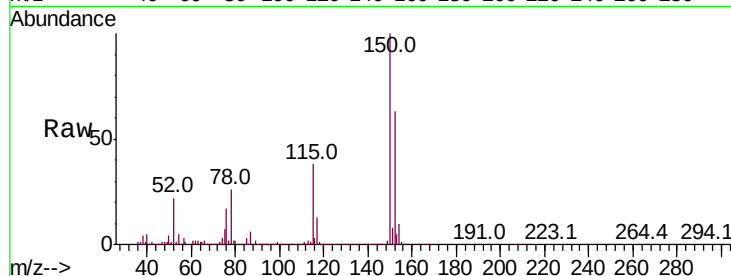
Tot Ion:152 Resp: 433458

Ion Ratio Lower Upper

152 100

115 59.8 65.5 196.6#

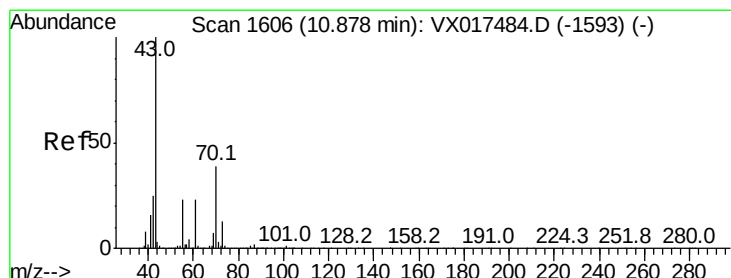
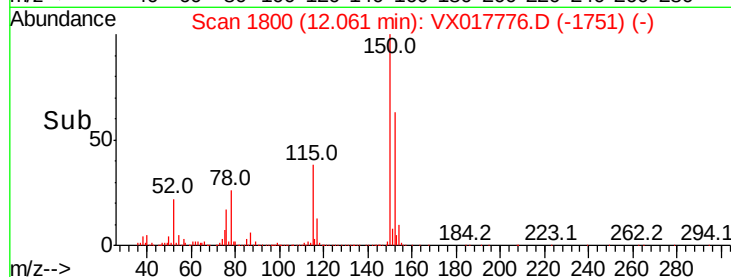
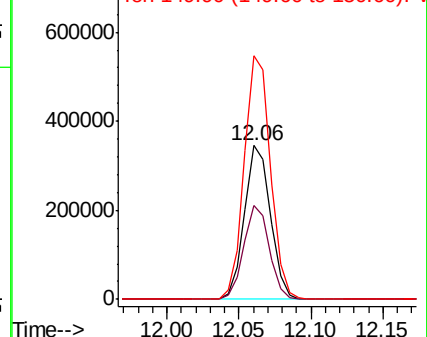
150 159.4 0.0 412.6



Abundance Ion 151.90 (151.60 to 152.60): V

Ion 114.90 (114.60 to 115.60): V

Ion 149.90 (149.60 to 150.60): V



#74

N-ethyl acetate

Concen: 0.531 ug/l

RT: 10.80 min Scan# 1594

Delta R.T. -0.07 min

Lab File: VX017776.D

Acq: 04 Aug 2020 17:42

Tgt Ion: 43 Resp: 7012

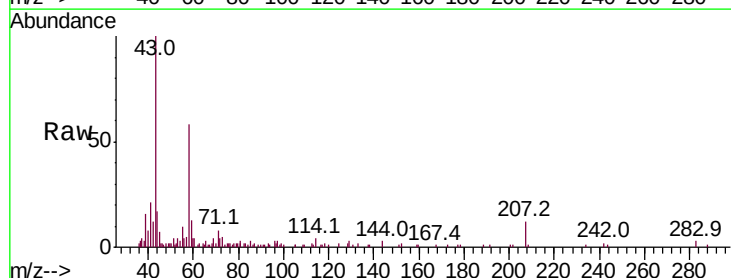
Ion Ratio Lower Upper

43 100

70 2.4 32.3 48.5#

55 13.7 18.4 27.6#

61 0.0 18.6 28.0#

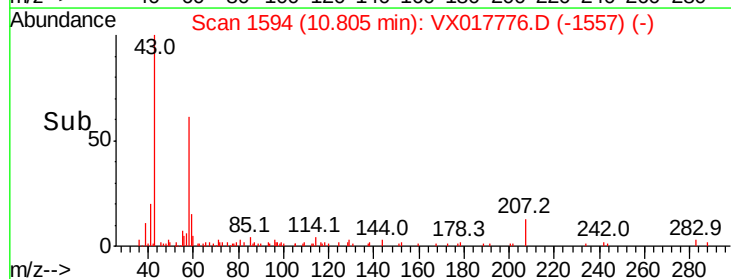
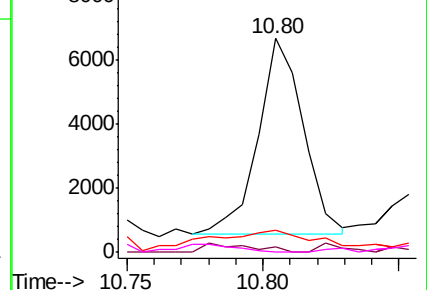


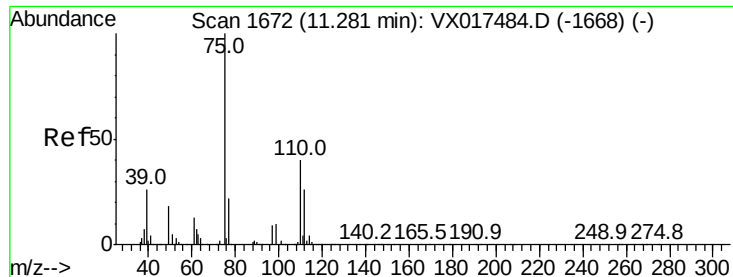
Abundance Ion 43.00 (42.70 to 43.70): VX0

Ion 70.00 (69.70 to 70.70): VX0

Ion 55.00 (54.70 to 55.70): VX0

Ion 61.00 (60.70 to 61.70): VX0





#76

1,2,3-Trichloropropane

Concen: 24.548 ug/l

RT: 11.12 min Scan# 1646

Delta R.T. -0.16 min

Lab File: VX017776.D

Acq: 04 Aug 2020 17:42

Instrument :

MSVOA_X

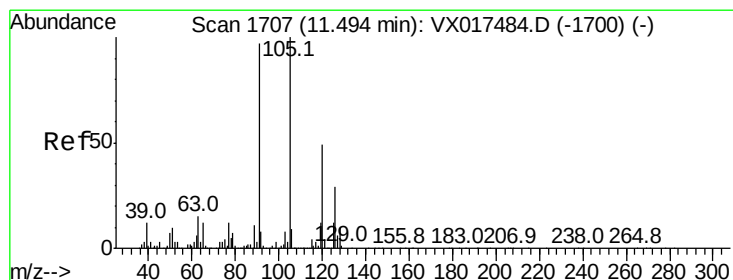
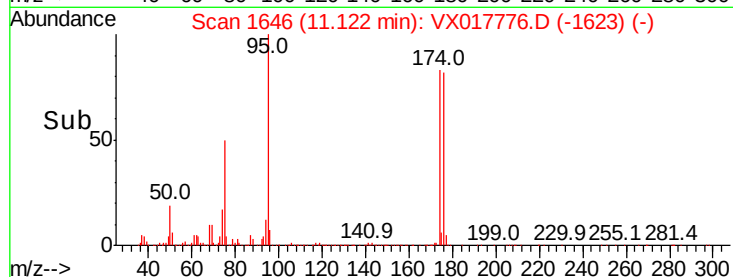
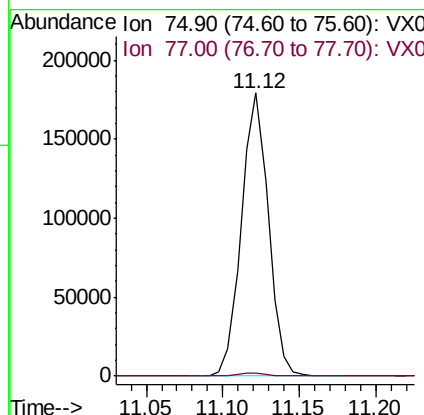
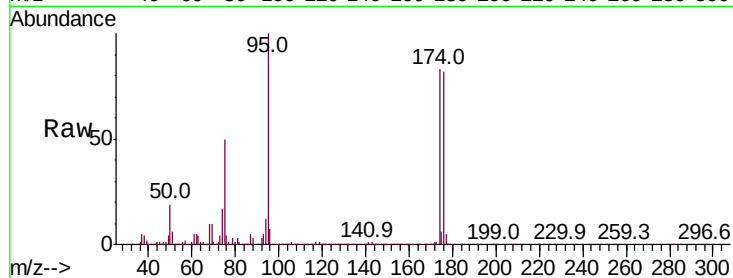
ClientSampleId :

Tot Ion: 75 Resp: 218879

Ion Ratio Lower Upper

75 100

77 1.3 21.8 65.3#



#80

1,3,5-Trimethylbenzene

Concen: 0.306 ug/l

RT: 11.49 min Scan# 1707

Delta R.T. -0.00 min

Lab File: VX017776.D

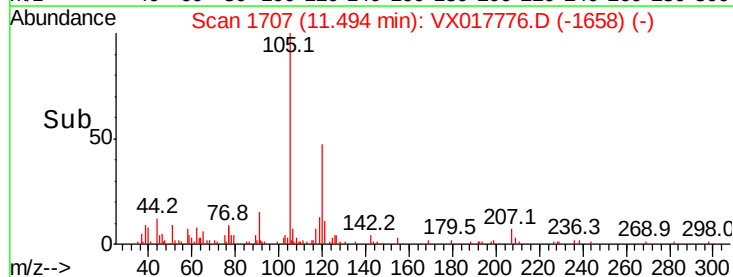
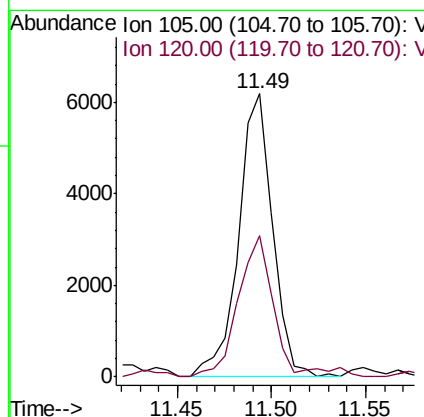
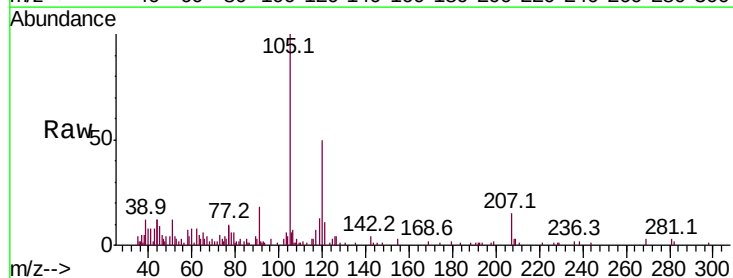
Acq: 04 Aug 2020 17:42

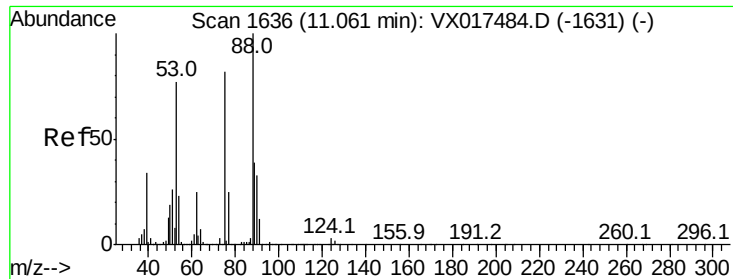
Tgt Ion: 105 Resp: 7760

Ion Ratio Lower Upper

105 100

120 50.1 24.1 72.3

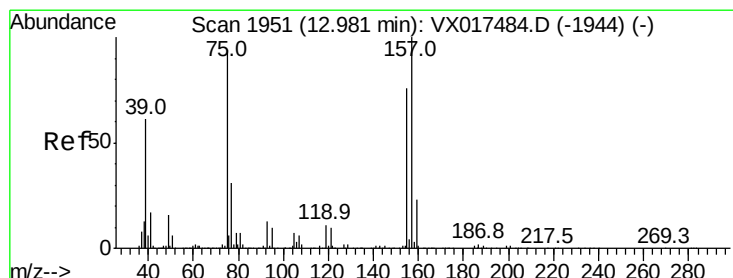
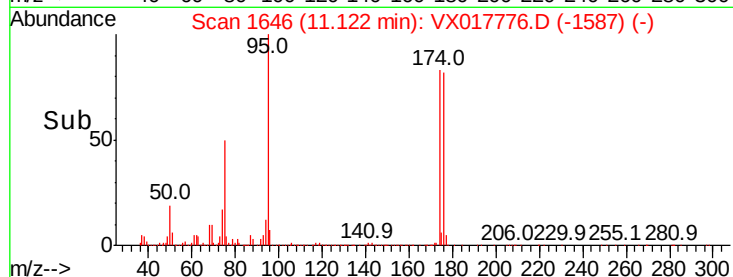
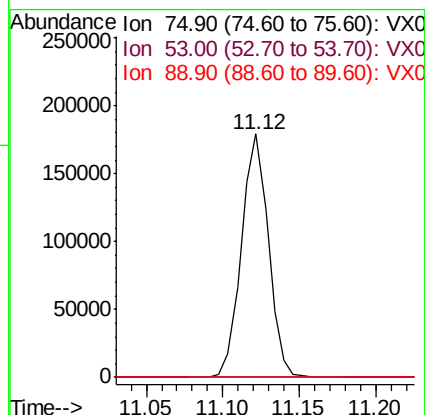
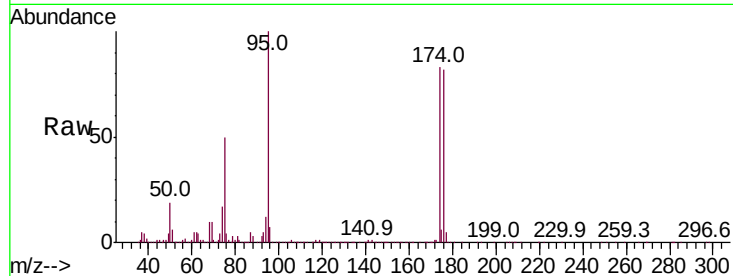




#81
trans-1,4-Dichloro-2-butene
Concen: 61.855 ug/l
RT: 11.12 min Scan# 1646
Delta R.T. 0.06 min
Lab File: VX017776.D
Acq: 04 Aug 2020 17:42

Instrument :
MSVOA_X
ClientSampled :

Tot Ion: 75 Resp: 218879
Ion Ratio Lower Upper
75 100
53 0.1 75.9 113.9#
89 0.1 37.8 56.6#



#92
1,2-Dibromo-3-Chloropropane
Concen: 2.771 ug/l
RT: 12.97 min Scan# 1949
Delta R.T. -0.01 min
Lab File: VX017776.D
Acq: 04 Aug 2020 17:42

Tgt Ion: 75 Resp: 538
Ion Ratio Lower Upper
75 100
155 0.0 42.3 126.8#
157 0.0 54.3 162.9#

