

Data Path : Z:\voasrv\HPCHEM1\MSVOA_L\Data\VL062223\
 Data File : VL040499.D
 Acq On : 23 Jun 2023 8:54
 Operator : SY/MD
 Sample : 03397-02 4X
 Misc : 400mL/MSVOA_L
 ALS Vial : 1 Sample Multiplier: 1

Instrument :
 MSVOA_L
 ClientSampleId :
 SV-2DL

Quant Time: Jun 26 02:14:16 2023
 Quant Method : Z:\voasrv\HPCHEM1\MSVOA_L\methods\VL060523AIR.M
 Quant Title : AIR ANALYSIS BY METHOD TO-15 Instrument: MSVOA_L Fri Aug 26 06:05:16 2022
 QLast Update : Tue Jun 06 06:22:12 2023
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) Bromochloromethane	5.188	49	1112237	10.000	ppbv	0.00
33) 1,4-Difluorobenzene	6.648	114	2839606	10.000	ppbv	0.00
55) Chlorobenzene-d5	11.462	117	2461641	10.000	ppbv	-0.02

System Monitoring Compounds						
68) 1-Bromo-4-Fluorobenzene	13.773	95	2024177	9.963	ppbv	-0.01
Spiked Amount	10.000	Range	65 - 135	Recovery	=	99.600%

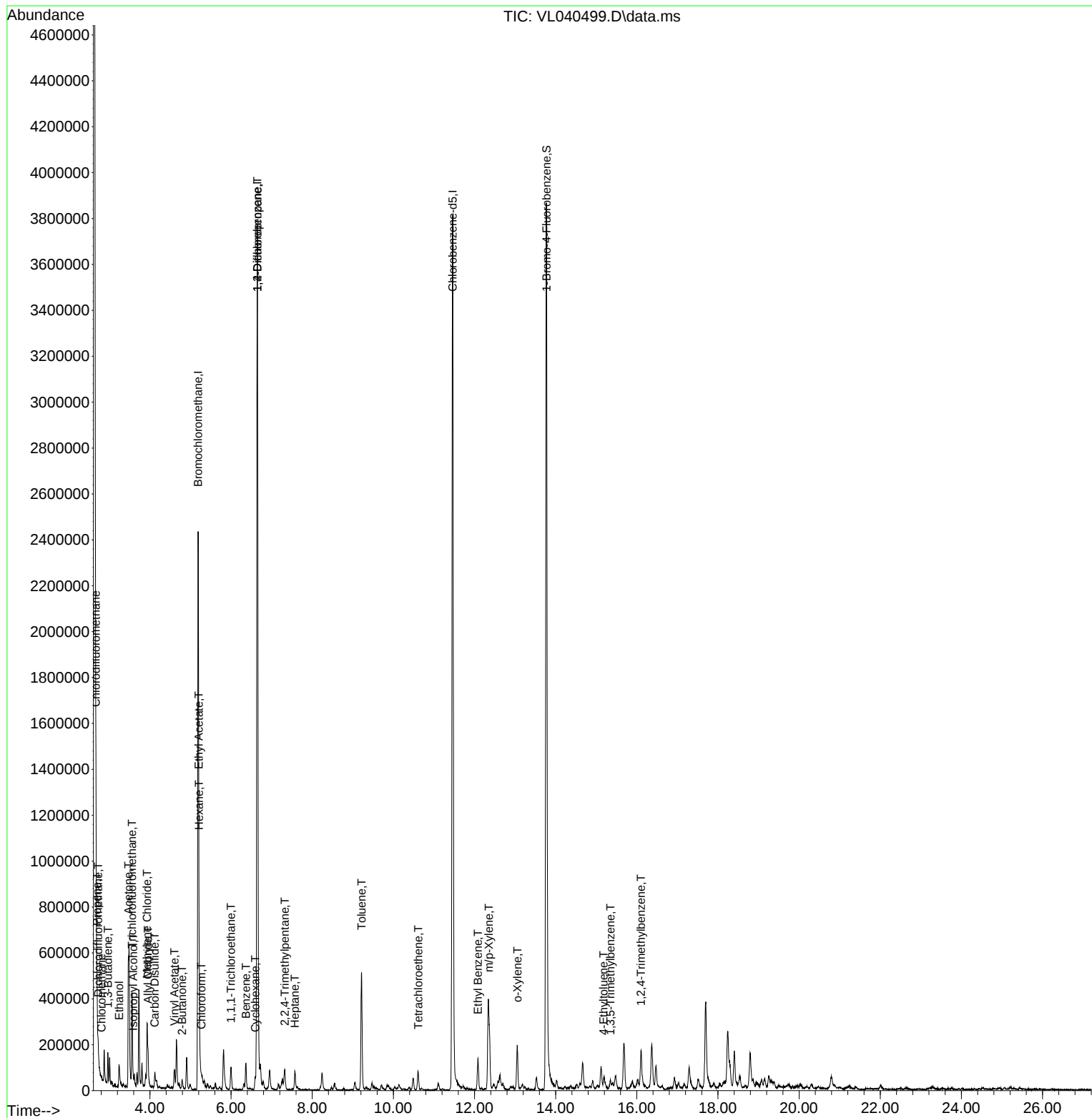
Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Dichlorodifluoromethane	2.726	85	31206	0.129	ppbv	95
3) Chlorodifluoromethane	2.668	51	11093	0.061	ppbv #	89
4) Chloromethane	2.809	50	5137	0.073	ppbv	93
9) Propene	2.693	41	19482	0.347	ppbv	98
10) Heptane	7.574	43	27169	0.214	ppbv	94
11) Trichlorofluoromethane	3.558	101	246756	1.252	ppbv	98
13) Ethanol	3.240	45	104695	9.000	ppbv	89
15) Acetone	3.468	43	684605	5.103	ppbv	94
16) 1,3-Butadiene	2.963	39	33070	0.506	ppbv #	14
19) Isopropyl Alcohol	3.587	45	7283	0.113	ppbv #	90
20) Methylene Chloride	3.931	84	83896	1.465	ppbv	97
21) Allyl Chloride	3.951	41	19888	0.262	ppbv #	58
23) Vinyl Acetate	4.606	43	29577	0.226	ppbv #	1
25) Ethyl Acetate	5.205	43	90686	0.373	ppbv #	78
26) Hexane	5.208	57	127935	1.111	ppbv #	43
27) Carbon Disulfide	4.121	76	77528	0.539	ppbv #	75
29) Chloroform	5.269	83	5891	0.030	ppbv #	66
30) Cyclohexane	6.600	84	11939	0.129	ppbv #	66
32) 1,1,1-Trichloroethane	5.995	97	57990	0.300	ppbv	97
34) 2-Butanone	4.793	43	46619	0.340	ppbv	95
36) Benzene	6.365	78	93253	0.413	ppbv #	94
39) 1,2-Dichloropropane	6.645	63	688078	7.902	ppbv #	21
44) 2,2,4-Trimethylpentane	7.323	57	55530	0.150	ppbv #	73
52) Tetrachloroethene	10.616	164	6744	0.095	ppbv #	83
53) Toluene	9.217	91	366318	1.540	ppbv	100
58) Ethyl Benzene	12.085	91	112734	0.378	ppbv	93
59) m/p-Xylene	12.355	91	181248	0.661	ppbv #	33
60) o-Xylene	13.056	91	145365	0.559	ppbv	99
72) 4-Ethyltoluene	15.178	105	13813	0.047	ppbv #	39
73) 1,3,5-Trimethylbenzene	15.349	105	13014	0.050	ppbv	99
74) 1,2,4-Trimethylbenzene	16.101	105	115728	0.380	ppbv #	67

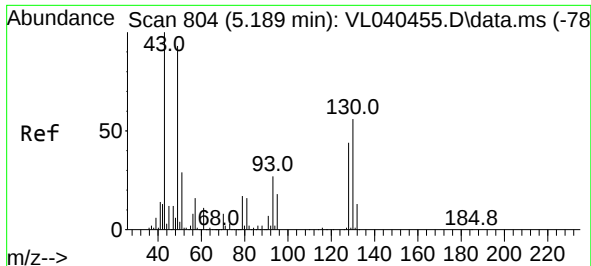
(#) = qualifier out of range (m) = manual integration (+) = signals summed

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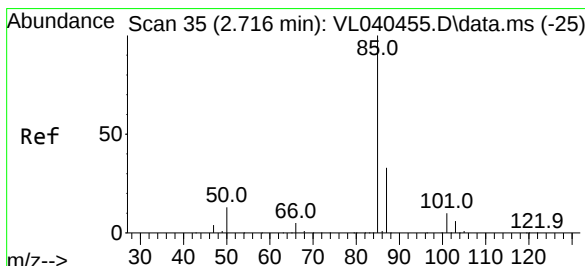
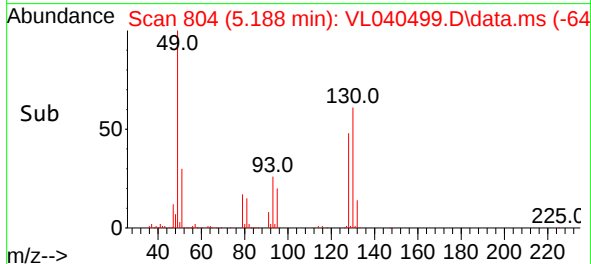
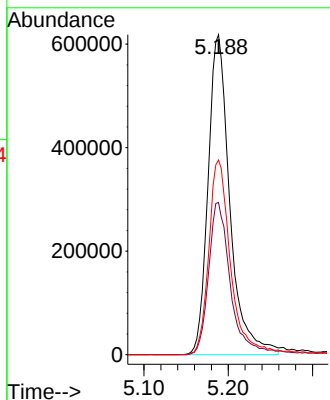
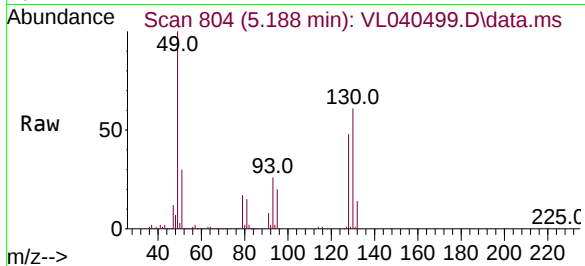




#1
 Bromochloromethane
 Concen: 10.000 ppbv
 RT: 5.188 min Scan# 80
 Delta R.T. -0.001 min
 Lab File: VL040499.D
 Acq: 23 Jun 2023 8:54

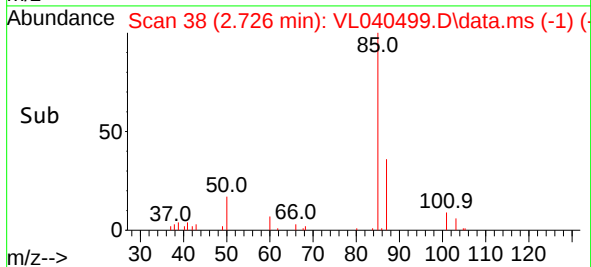
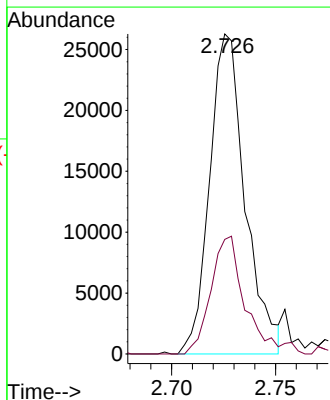
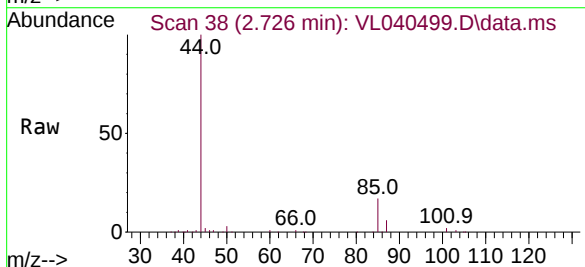
Instrument :
 MSVOA_L
 ClientSampleId :
 SV-2DL

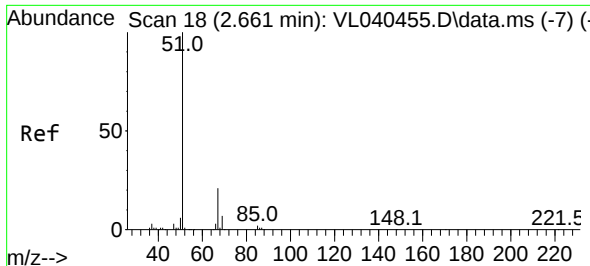
Tgt Ion: 49 Resp: 1112237
 Ion Ratio Lower Upper
 49 100
 128 48.9 24.7 74.1
 130 62.9 31.4 94.2



#2
 Dichlorodifluoromethane
 Concen: 0.129 ppbv
 RT: 2.726 min Scan# 38
 Delta R.T. 0.010 min
 Lab File: VL040499.D
 Acq: 23 Jun 2023 8:54

Tgt Ion: 85 Resp: 31206
 Ion Ratio Lower Upper
 85 100
 87 35.8 26.6 39.8

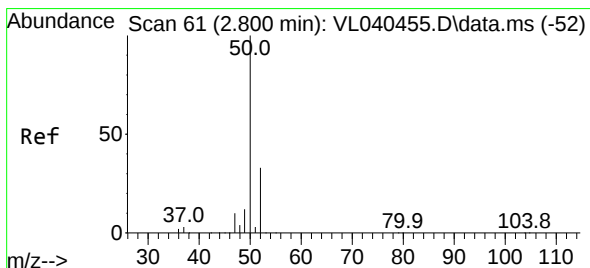
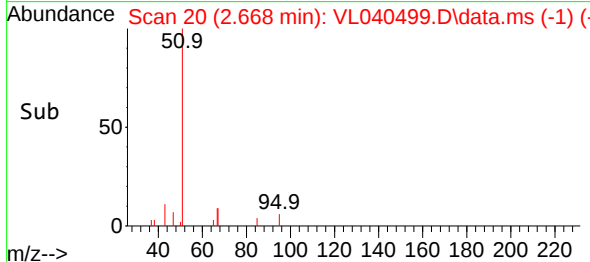
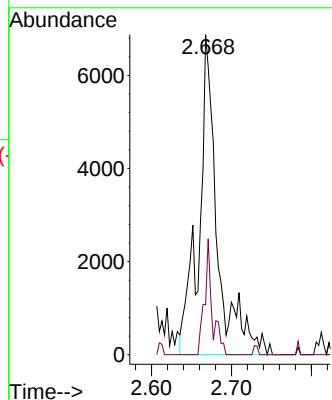
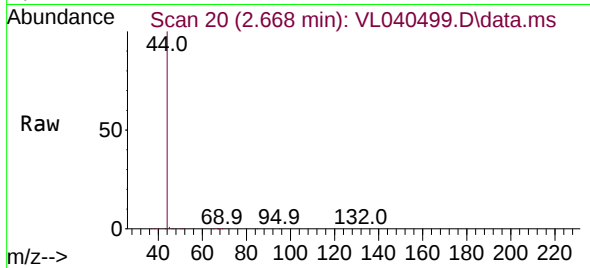




#3
Chlorodifluoromethane
Concen: 0.061 ppbv
RT: 2.668 min Scan# 20
Delta R.T. 0.006 min
Lab File: VL040499.D
Acq: 23 Jun 2023 8:54

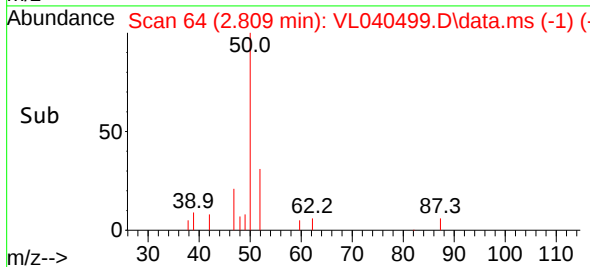
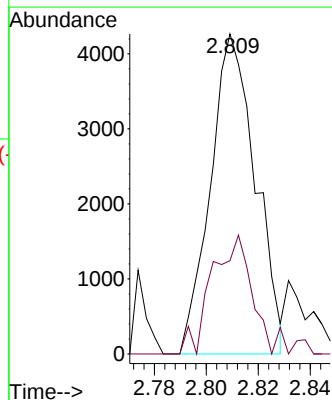
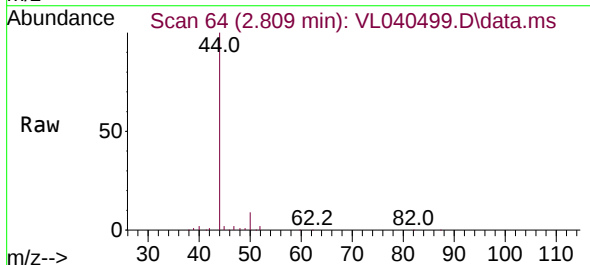
Instrument :
MSVOA_L
ClientSampleId :
SV-2DL

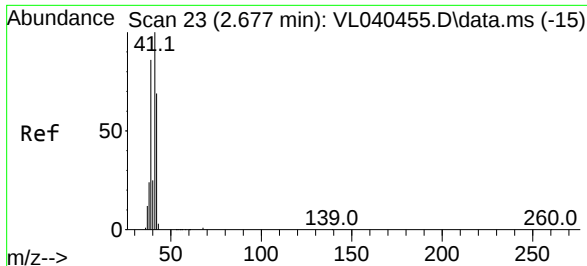
Tgt Ion: 51 Resp: 11093
Ion Ratio Lower Upper
51 100
67 15.1 16.3 24.5#



#4
Chloromethane
Concen: 0.073 ppbv
RT: 2.809 min Scan# 64
Delta R.T. 0.010 min
Lab File: VL040499.D
Acq: 23 Jun 2023 8:54

Tgt Ion: 50 Resp: 5137
Ion Ratio Lower Upper
50 100
52 29.2 26.3 39.5





#9

Propene

Concen: 0.347 ppbv

RT: 2.693 min Scan# 21

Delta R.T. 0.016 min

Lab File: VL040499.D

Acq: 23 Jun 2023 8:54

Instrument :

MSVOA_L

ClientSampleId :

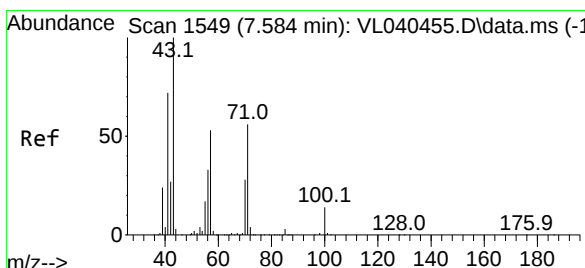
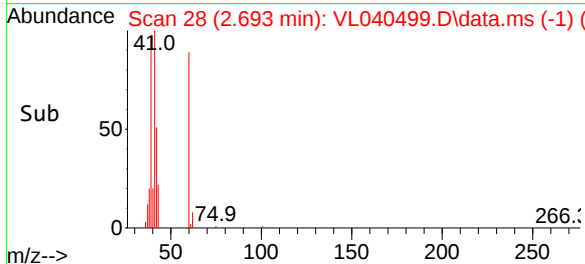
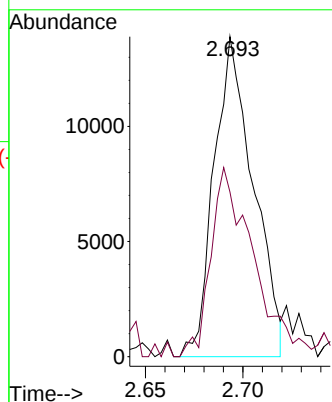
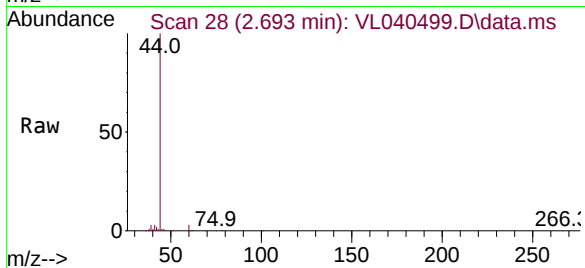
SV-2DL

Tgt Ion: 41 Resp: 19482

Ion Ratio Lower Upper

41 100

42 68.2 56.2 84.2



#10

Heptane

Concen: 0.214 ppbv

RT: 7.574 min Scan# 1546

Delta R.T. -0.010 min

Lab File: VL040499.D

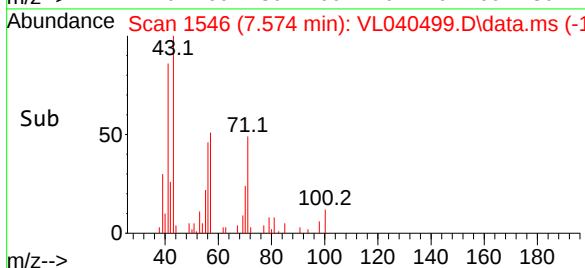
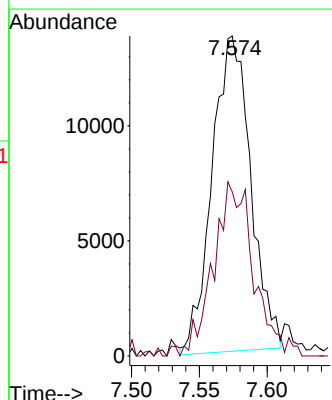
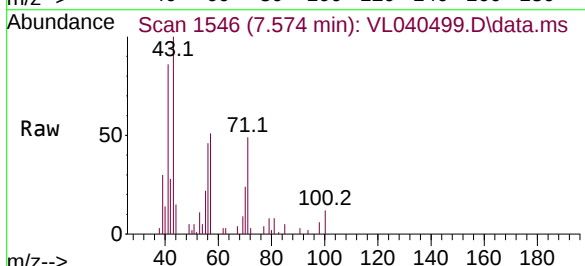
Acq: 23 Jun 2023 8:54

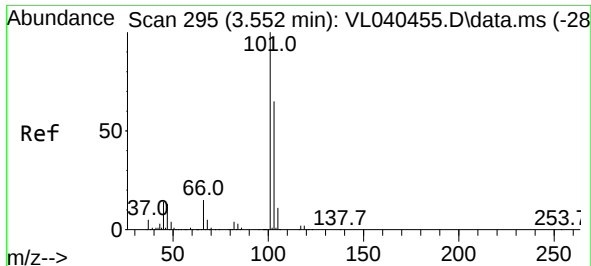
Tgt Ion: 43 Resp: 27169

Ion Ratio Lower Upper

43 100

57 57.7 42.5 63.7

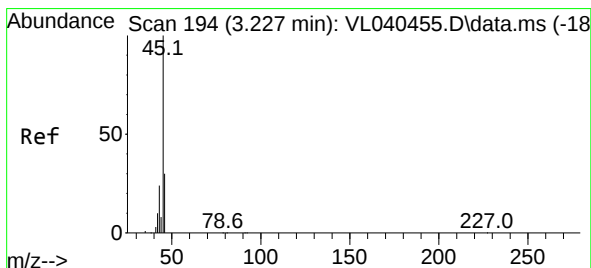
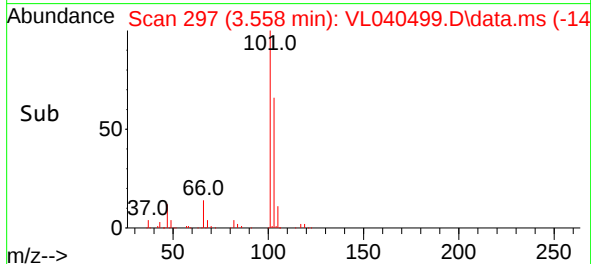
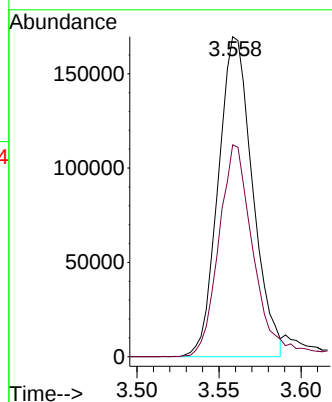
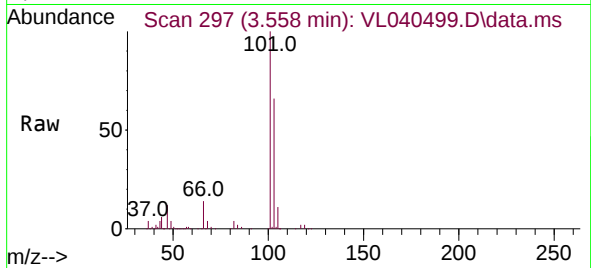




#11
 Trichlorofluoromethane
 Concen: 1.252 ppbv
 RT: 3.558 min Scan# 295
 Delta R.T. 0.006 min
 Lab File: VL040499.D
 Acq: 23 Jun 2023 8:54

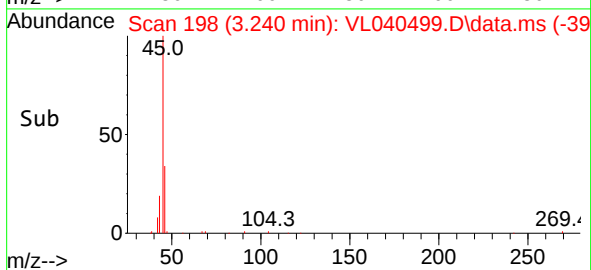
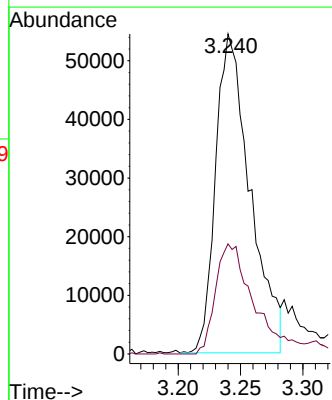
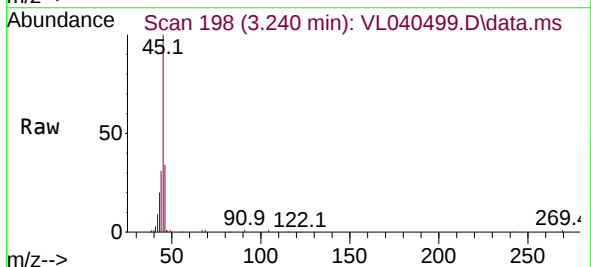
Instrument :
 MSVOA_L
 ClientSampleId :
 SV-2DL

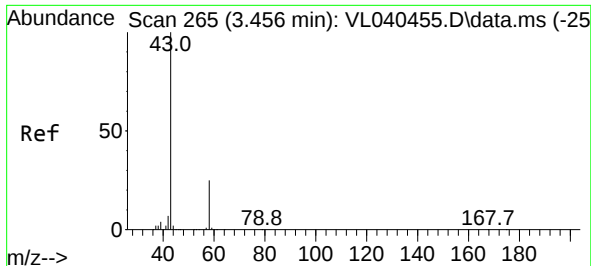
Tgt Ion:101 Resp: 246756
 Ion Ratio Lower Upper
 101 100
 103 66.1 51.7 77.5



#13
 Ethanol
 Concen: 9.000 ppbv
 RT: 3.240 min Scan# 198
 Delta R.T. 0.013 min
 Lab File: VL040499.D
 Acq: 23 Jun 2023 8:54

Tgt Ion: 45 Resp: 104695
 Ion Ratio Lower Upper
 45 100
 46 42.5 14.5 58.1





#15

Acetone

Concen: 5.103 ppbv

RT: 3.468 min Scan# 2

Delta R.T. 0.013 min

Lab File: VL040499.D

Acq: 23 Jun 2023 8:54

Instrument :

MSVOA_L

ClientSampleId :

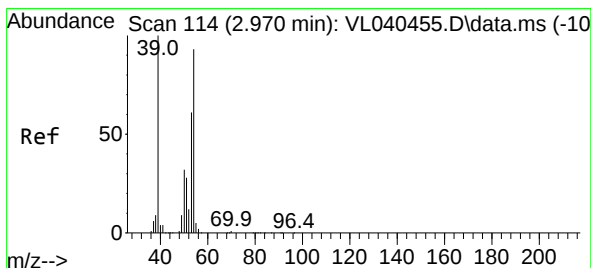
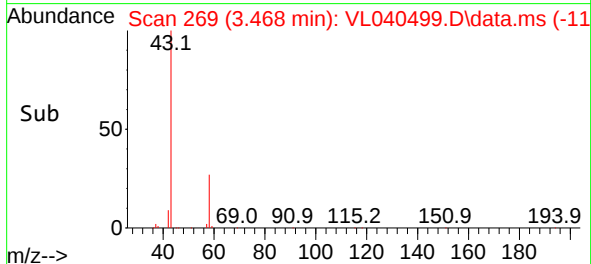
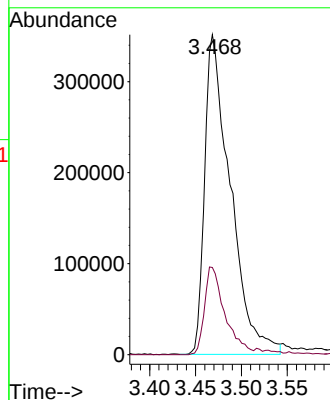
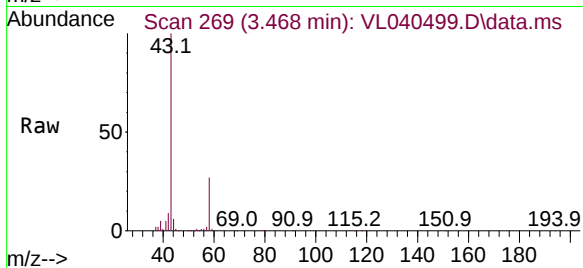
SV-2DL

Tgt Ion: 43 Resp: 684605

Ion Ratio Lower Upper

43 100

58 24.1 21.6 32.4



#16

1,3-Butadiene

Concen: 0.506 ppbv

RT: 2.963 min Scan# 112

Delta R.T. -0.007 min

Lab File: VL040499.D

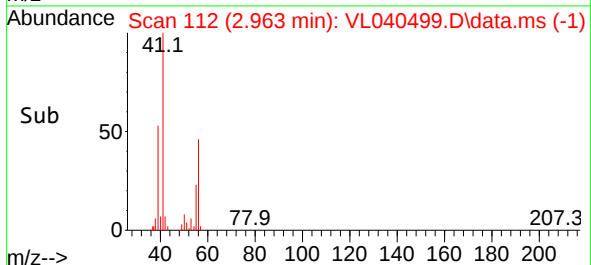
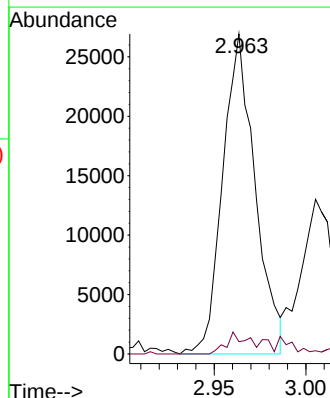
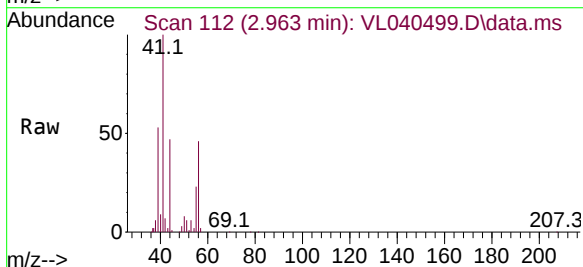
Acq: 23 Jun 2023 8:54

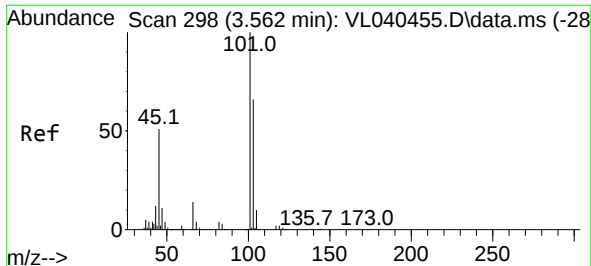
Tgt Ion: 39 Resp: 33070

Ion Ratio Lower Upper

39 100

54 5.9 66.9 100.3#





#19

Isopropyl Alcohol

Concen: 0.113 ppbv

RT: 3.587 min Scan# 306

Delta R.T. 0.026 min

Lab File: VL040499.D

Acq: 23 Jun 2023 8:54

Instrument :

MSVOA_L

ClientSampleId :

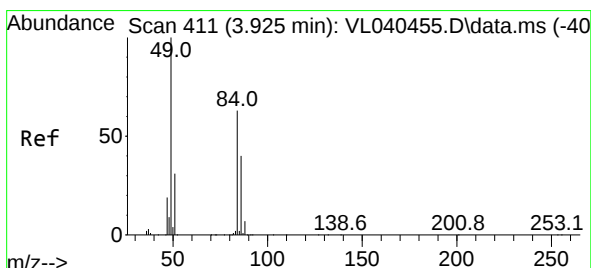
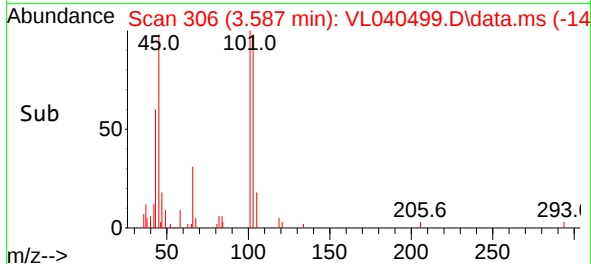
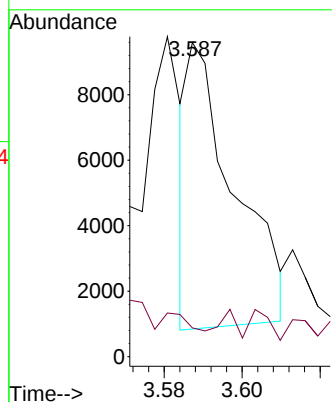
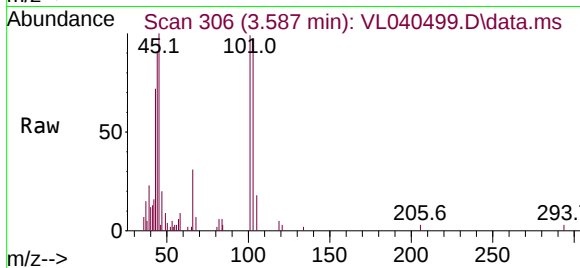
SV-2DL

Tgt Ion: 45 Resp: 7283

Ion Ratio Lower Upper

45 100

58 0.0 2.6 4.0#



#20

Methylene Chloride

Concen: 1.465 ppbv

RT: 3.931 min Scan# 413

Delta R.T. 0.006 min

Lab File: VL040499.D

Acq: 23 Jun 2023 8:54

Tgt Ion: 84 Resp: 83896

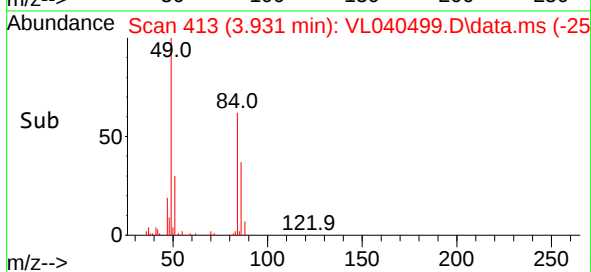
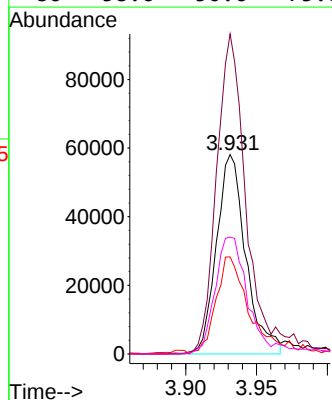
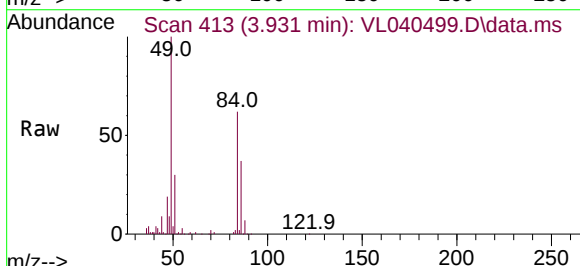
Ion Ratio Lower Upper

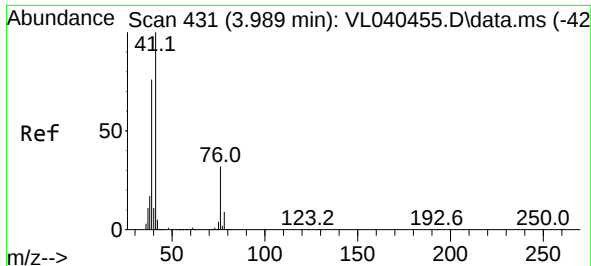
84 100

49 160.2 126.2 189.2

51 46.9 38.7 58.1

86 58.6 50.6 75.8





#21

Allyl Chloride

Concen: 0.262 ppbv

RT: 3.951 min Scan# 41

Delta R.T. -0.039 min

Lab File: VL040499.D

Acq: 23 Jun 2023 8:54

Instrument :

MSVOA_L

ClientSampleId :

SV-2DL

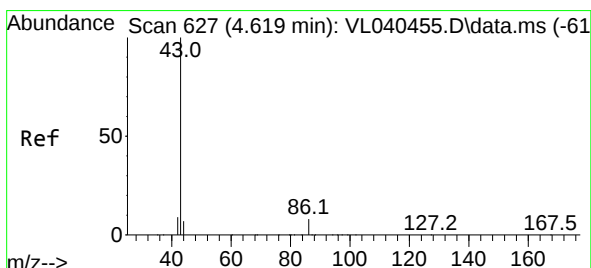
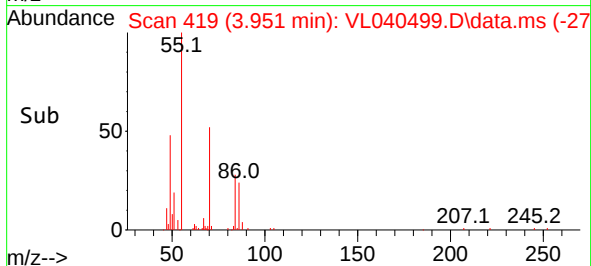
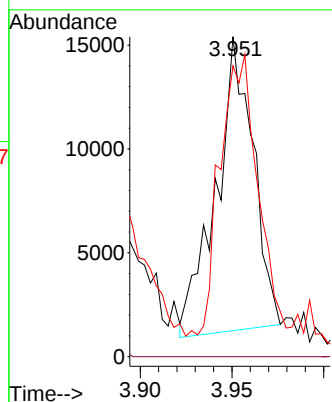
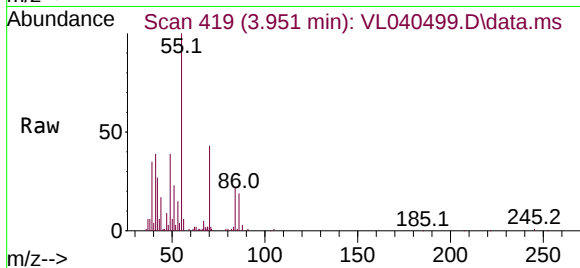
Tgt Ion: 41 Resp: 19888

Ion Ratio Lower Upper

41 100

76 0.0 26.1 39.1#

39 111.4 63.9 95.9#



#23

Vinyl Acetate

Concen: 0.226 ppbv

RT: 4.606 min Scan# 623

Delta R.T. -0.013 min

Lab File: VL040499.D

Acq: 23 Jun 2023 8:54

Tgt Ion: 43 Resp: 29577

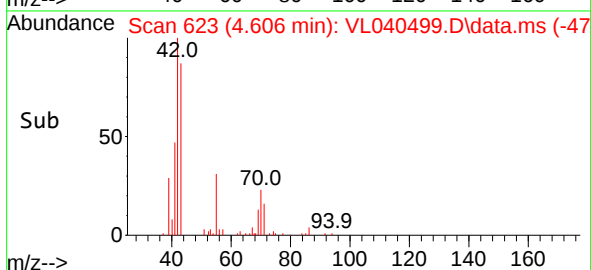
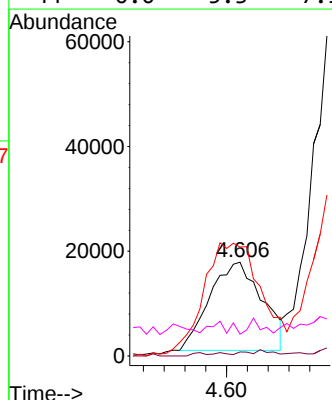
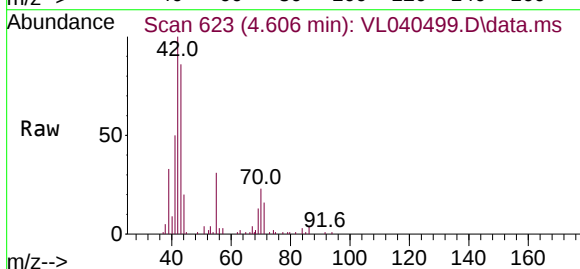
Ion Ratio Lower Upper

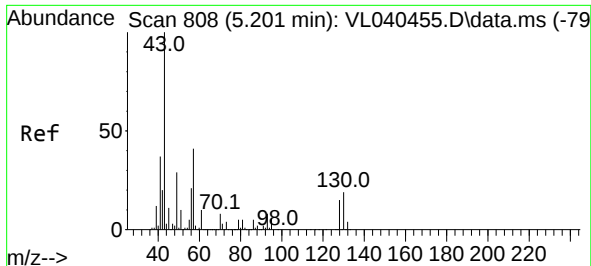
43 100

86 4.5 5.8 8.6#

42 108.1 7.4 11.2#

44 0.0 5.3 7.9#

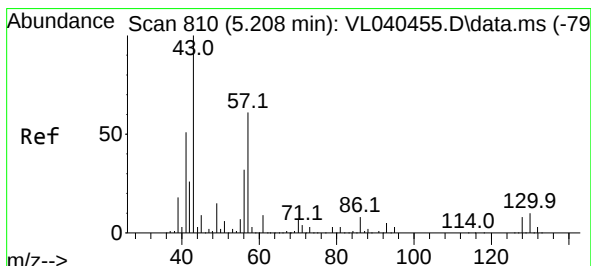
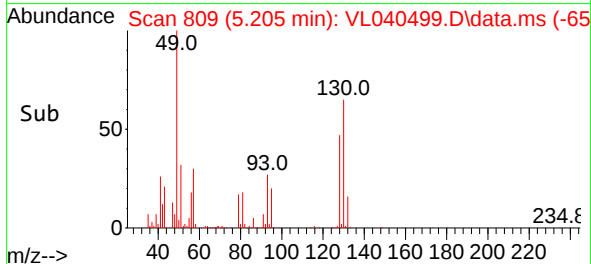
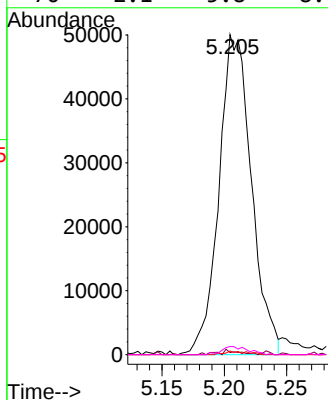
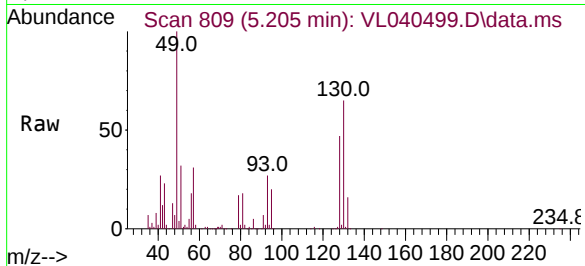




#25
Ethyl Acetate
Concen: 0.373 ppbv
RT: 5.205 min Scan# 80
Delta R.T. 0.003 min
Lab File: VL040499.D
Acq: 23 Jun 2023 8:54

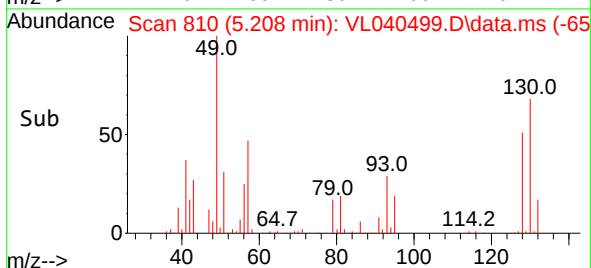
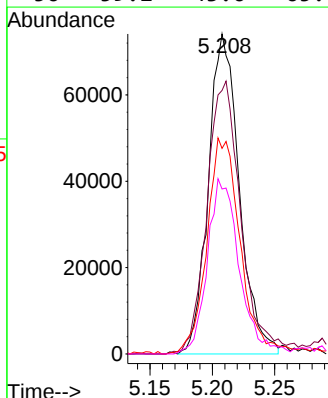
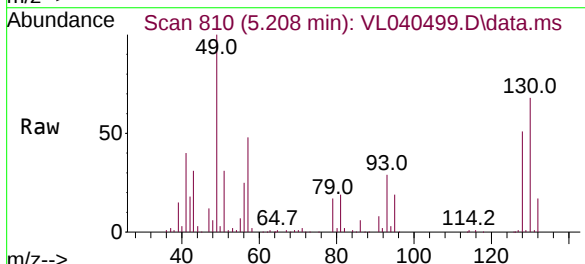
Instrument :
MSVOA_L
ClientSampleId :
SV-2DL

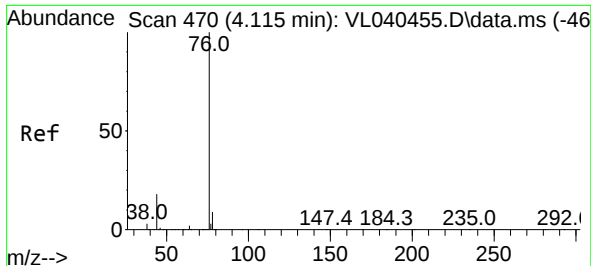
Tgt Ion: 43	Resp: 90686
Ion Ratio	Lower Upper
43 100	
45 1.2	8.0 12.0#
61 0.8	8.1 12.1#
70 2.1	5.8 8.6#



#26
Hexane
Concen: 1.111 ppbv
RT: 5.208 min Scan# 810
Delta R.T. -0.000 min
Lab File: VL040499.D
Acq: 23 Jun 2023 8:54

Tgt Ion: 57	Resp: 127935
Ion Ratio	Lower Upper
57 100	
41 94.8	73.0 109.6
43 74.9	177.5 266.3#
56 59.2	43.6 65.4

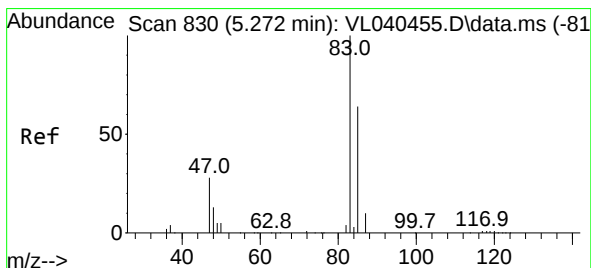
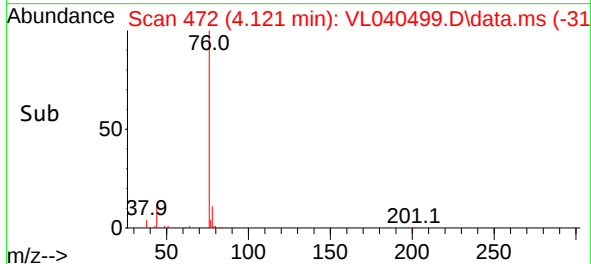
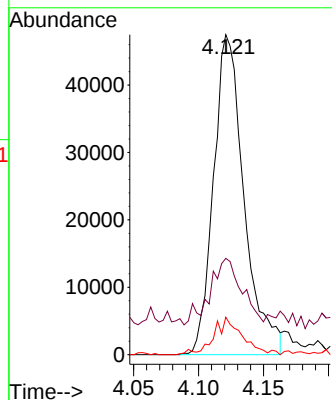
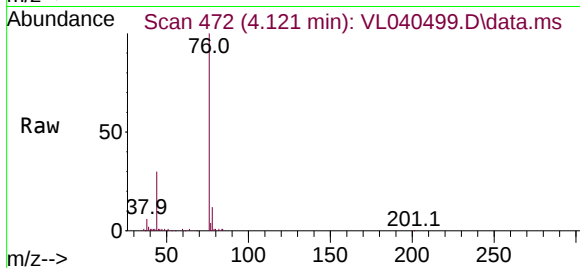




#27
Carbon Disulfide
Concen: 0.539 ppbv
RT: 4.121 min Scan# 41
Delta R.T. 0.006 min
Lab File: VL040499.D
Acq: 23 Jun 2023 8:54

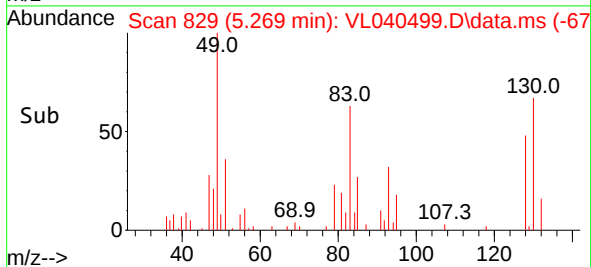
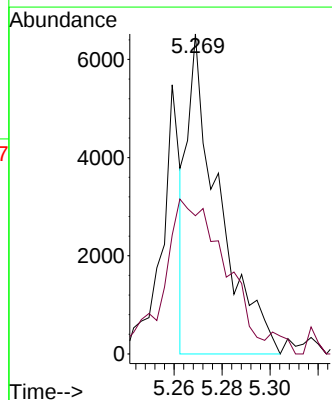
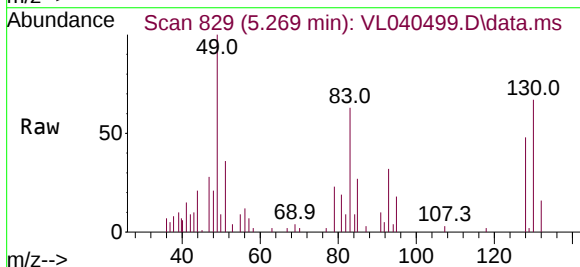
Instrument :
MSVOA_L
ClientSampleId :
SV-2DL

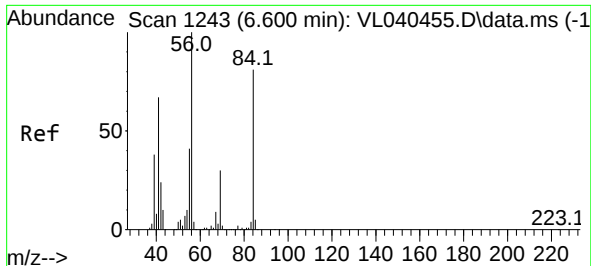
Tgt Ion: 76 Resp: 77528
Ion Ratio Lower Upper
76 100
44 34.0 14.6 22.0#
78 11.0 7.6 11.4



#29
Chloroform
Concen: 0.030 ppbv
RT: 5.269 min Scan# 829
Delta R.T. -0.003 min
Lab File: VL040499.D
Acq: 23 Jun 2023 8:54

Tgt Ion: 83 Resp: 5891
Ion Ratio Lower Upper
83 100
85 37.6 51.1 76.7#

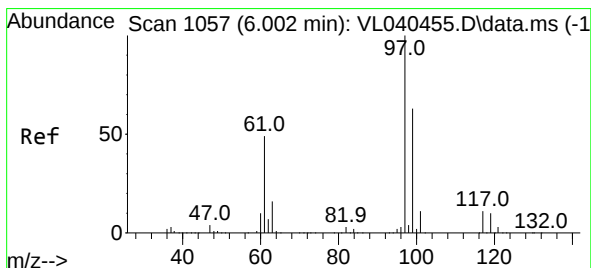
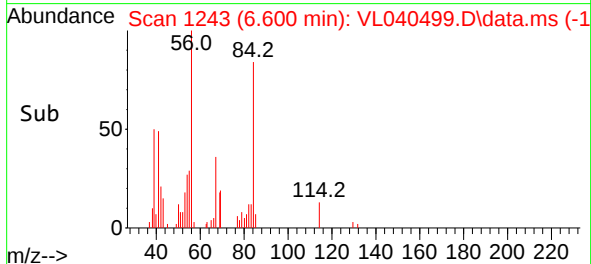
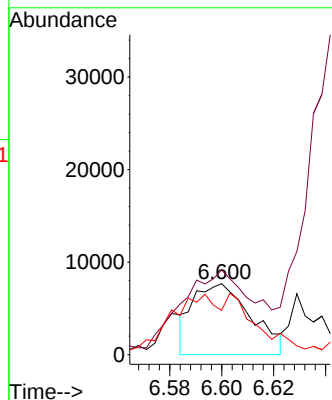
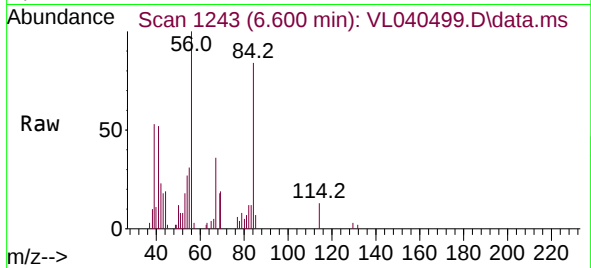




#30
Cyclohexane
Concen: 0.129 ppbv
RT: 6.600 min Scan# 11939
Delta R.T. -0.000 min
Lab File: VL040499.D
Acq: 23 Jun 2023 8:54

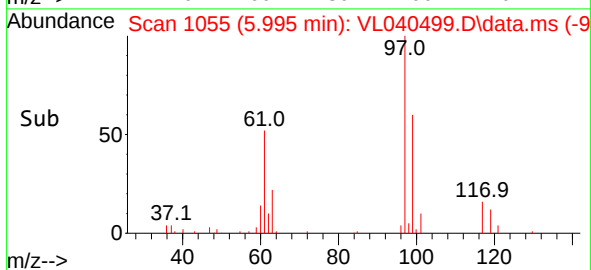
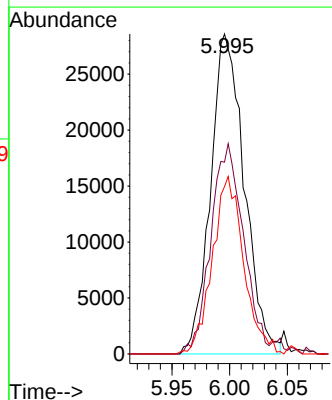
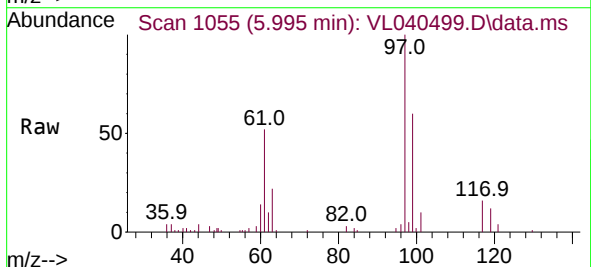
Instrument :
MSVOA_L
ClientSampleId :
SV-2DL

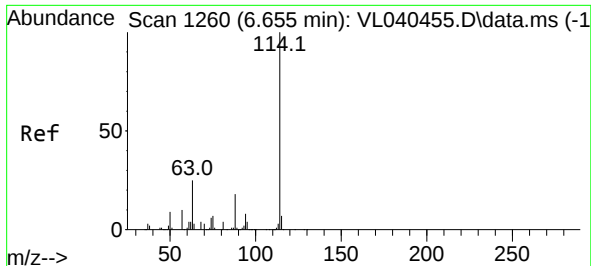
Tgt Ion	Ratio	Lower	Upper
84	100		
56	156.9	106.0	159.0
41	132.8	66.8	100.2



#32
1,1,1-Trichloroethane
Concen: 0.300 ppbv
RT: 5.995 min Scan# 1055
Delta R.T. -0.007 min
Lab File: VL040499.D
Acq: 23 Jun 2023 8:54

Tgt Ion	Ratio	Lower	Upper
97	100		
99	65.9	51.5	77.3
61	52.3	39.7	59.5





#33

1,4-Difluorobenzene

Concen: 10.000 ppbv

RT: 6.648 min Scan# 11

Delta R.T. -0.007 min

Lab File: VL040499.D

Acq: 23 Jun 2023 8:54

Instrument :

MSVOA_L

ClientSampleId :

SV-2DL

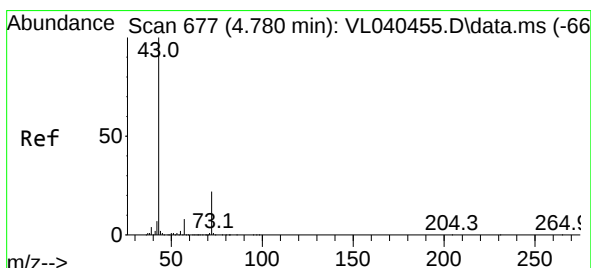
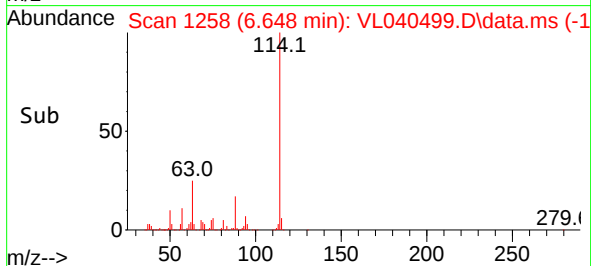
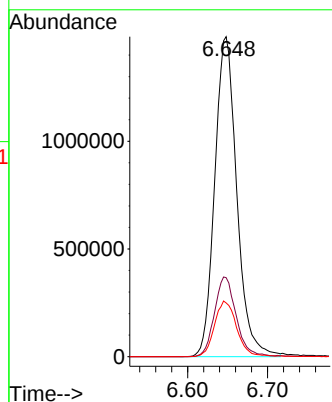
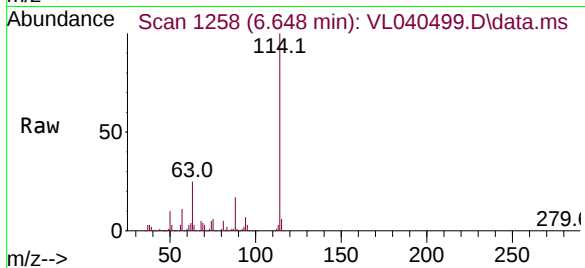
Tgt Ion:114 Resp: 2839606

Ion Ratio Lower Upper

114 100

63 24.9 21.0 31.6

88 17.7 14.5 21.7



#34

2-Butanone

Concen: 0.340 ppbv

RT: 4.793 min Scan# 681

Delta R.T. 0.013 min

Lab File: VL040499.D

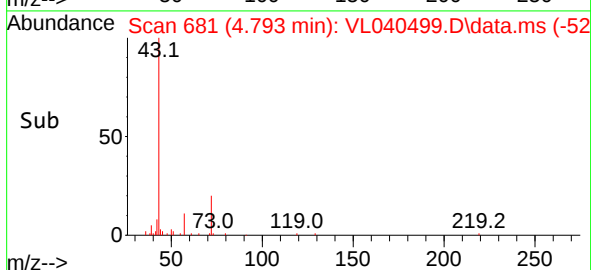
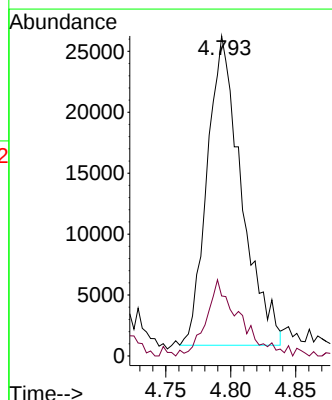
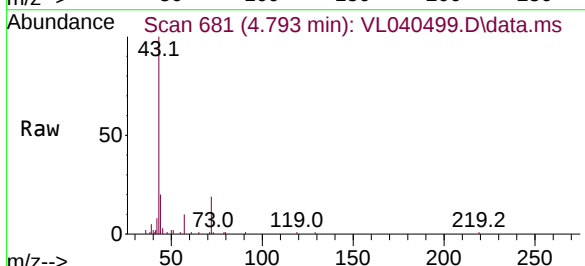
Acq: 23 Jun 2023 8:54

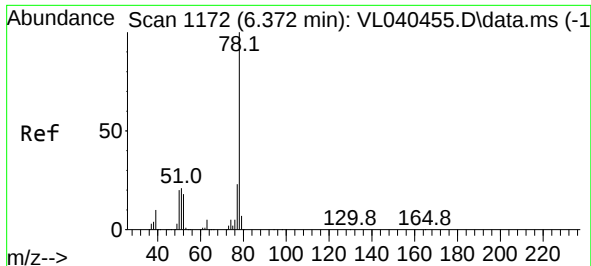
Tgt Ion: 43 Resp: 46619

Ion Ratio Lower Upper

43 100

72 25.1 18.1 27.1

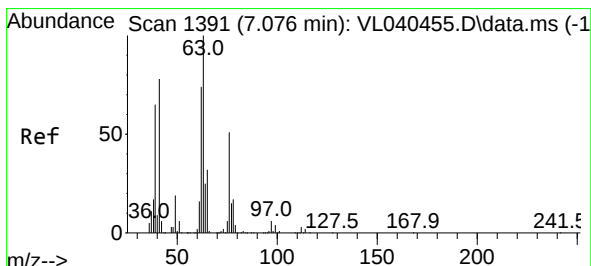
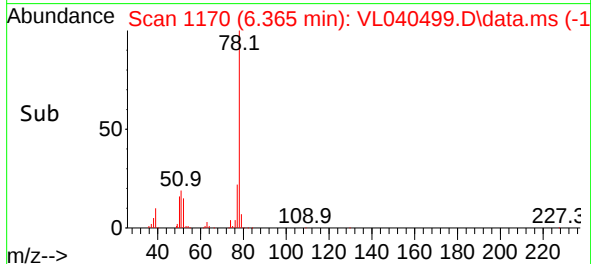
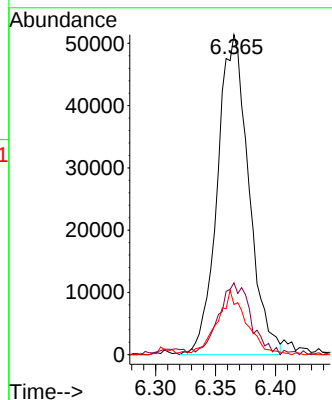
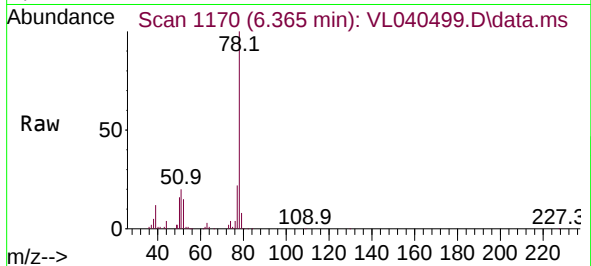




#36
Benzene
Concen: 0.413 ppbv
RT: 6.365 min Scan# 1172
Delta R.T. -0.007 min
Lab File: VL040499.D
Acq: 23 Jun 2023 8:54

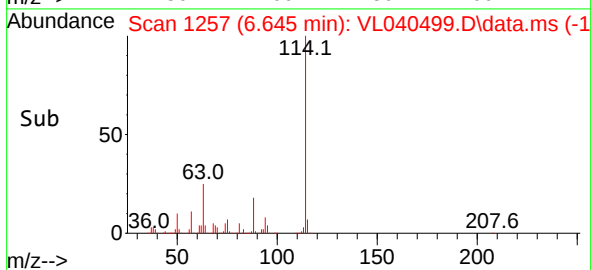
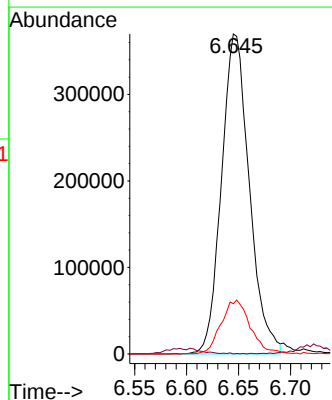
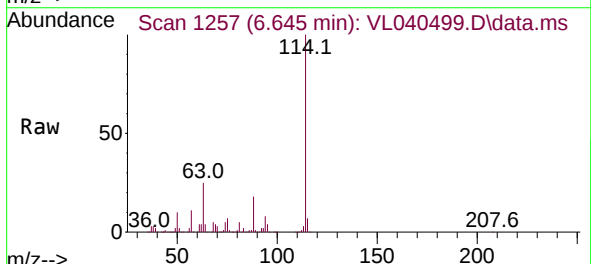
Instrument :
MSVOA_L
ClientSampleId :
SV-2DL

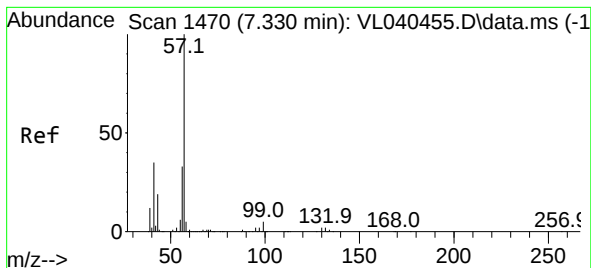
Tgt Ion: 78 Resp: 93253
Ion Ratio Lower Upper
78 100
77 22.5 18.5 27.7
50 15.0 16.1 24.1#



#39
1,2-Dichloropropane
Concen: 7.902 ppbv
RT: 6.645 min Scan# 1257
Delta R.T. -0.431 min
Lab File: VL040499.D
Acq: 23 Jun 2023 8:54

Tgt Ion: 63 Resp: 688078
Ion Ratio Lower Upper
63 100
41 0.0 62.2 93.2#
62 15.7 59.0 88.4#





#44

2,2,4-Trimethylpentane

Concen: 0.150 ppbv

RT: 7.323 min Scan# 14

Delta R.T. -0.007 min

Lab File: VL040499.D

Acq: 23 Jun 2023 8:54

Instrument :

MSVOA_L

ClientSampleId :

SV-2DL

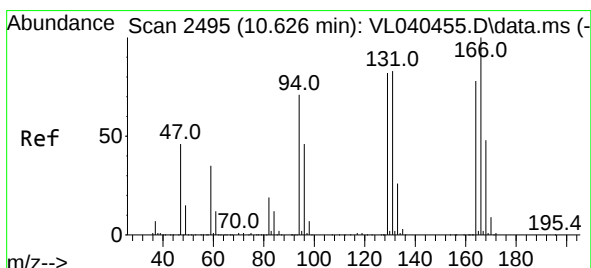
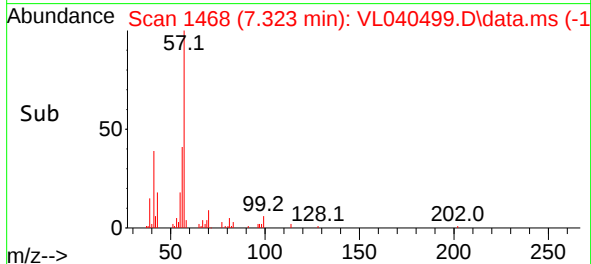
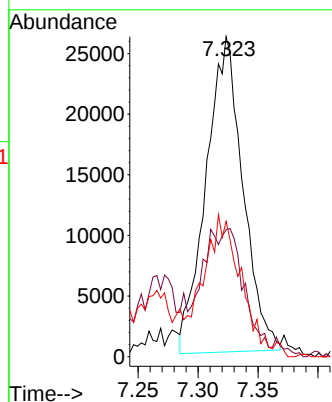
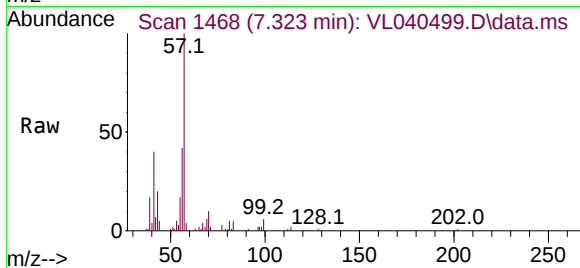
Tgt Ion: 57 Resp: 55530

Ion Ratio Lower Upper

57 100

41 51.7 27.8 41.8#

56 44.9 25.3 37.9#



#52

Tetrachloroethene

Concen: 0.095 ppbv

RT: 10.616 min Scan# 2492

Delta R.T. -0.010 min

Lab File: VL040499.D

Acq: 23 Jun 2023 8:54

Tgt Ion: 164 Resp: 6744

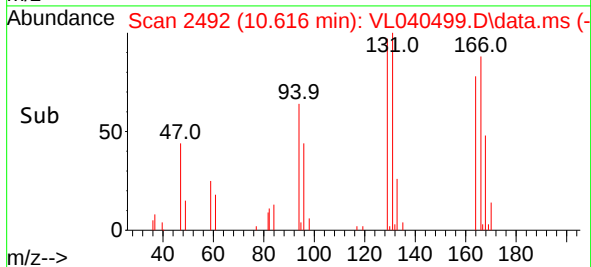
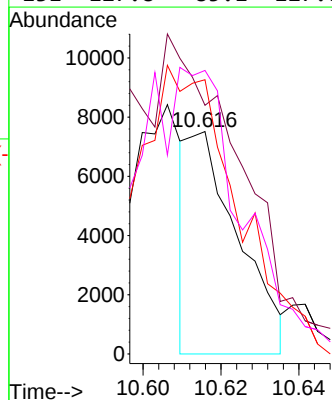
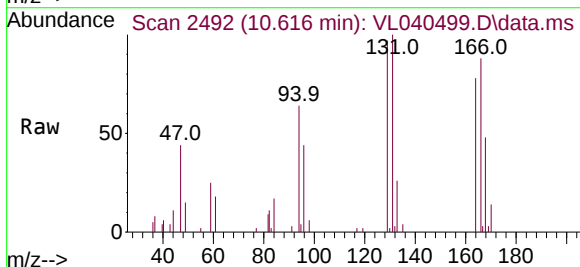
Ion Ratio Lower Upper

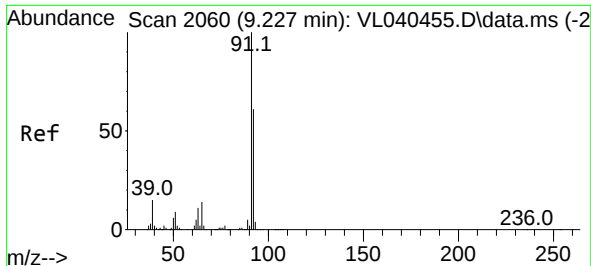
164 100

166 107.0 102.7 154.1

129 116.5 84.6 126.8

131 127.8 85.1 127.7#

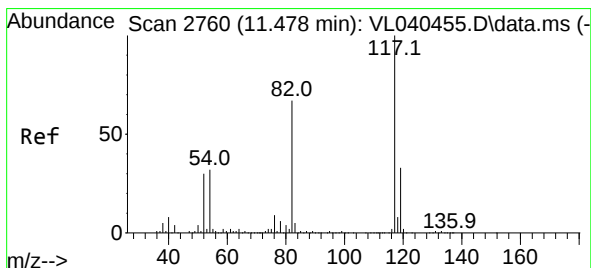
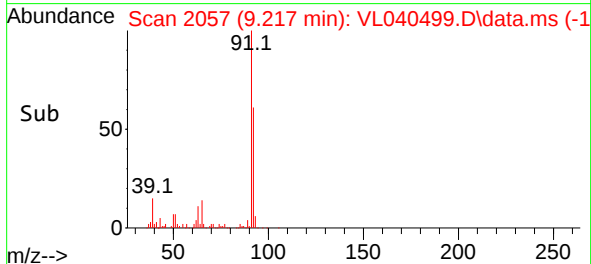
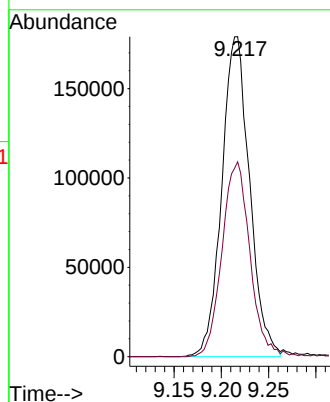
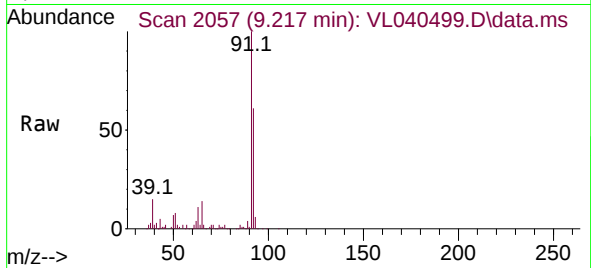




#53
Toluene
Concen: 1.540 ppbv
RT: 9.217 min Scan# 2060
Delta R.T. -0.010 min
Lab File: VL040499.D
Acq: 23 Jun 2023 8:54

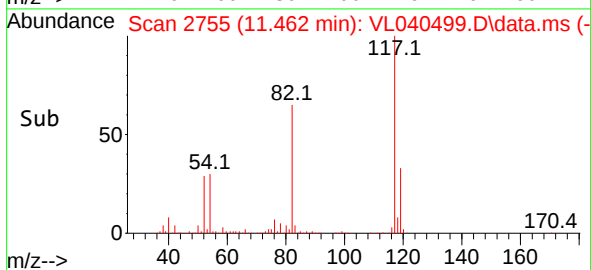
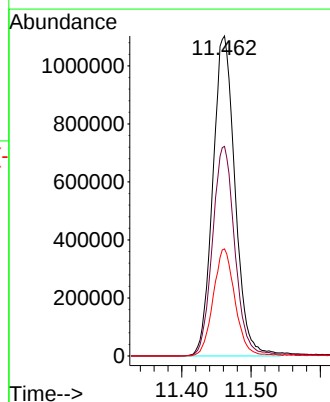
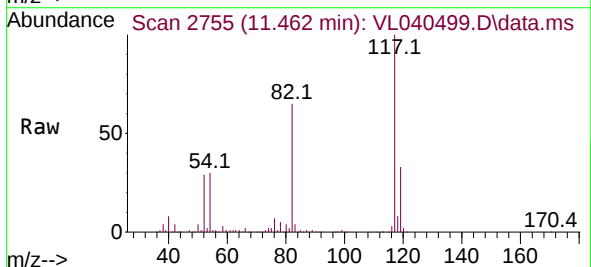
Instrument :
MSVOA_L
ClientSampleId :
SV-2DL

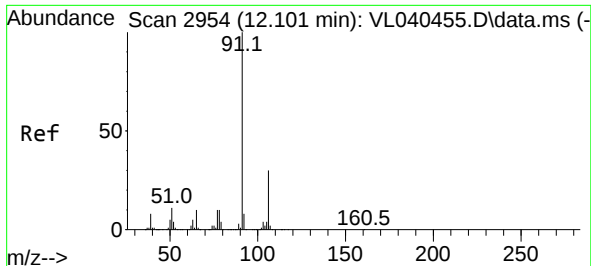
Tgt Ion: 91 Resp: 366318
Ion Ratio Lower Upper
91 100
92 61.3 49.1 73.7



#55
Chlorobenzene-d5
Concen: 10.000 ppbv
RT: 11.462 min Scan# 2755
Delta R.T. -0.016 min
Lab File: VL040499.D
Acq: 23 Jun 2023 8:54

Tgt Ion: 117 Resp: 2461641
Ion Ratio Lower Upper
117 100
82 66.8 53.0 79.4
119 33.1 24.4 36.6





#58

Ethyl Benzene

Concen: 0.378 ppbv

RT: 12.085 min Scan# 2949

Delta R.T. -0.016 min

Lab File: VL040499.D

Acq: 23 Jun 2023 8:54

Instrument :

MSVOA_L

ClientSampleId :

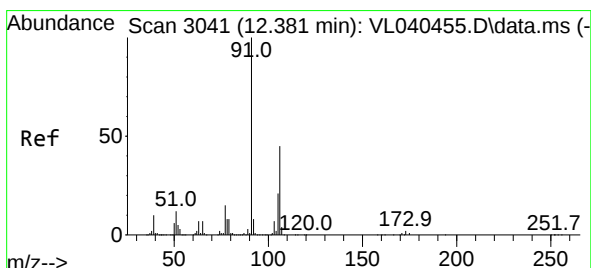
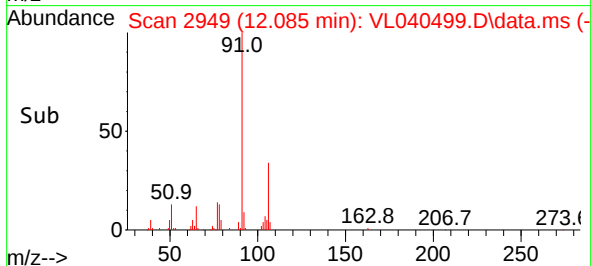
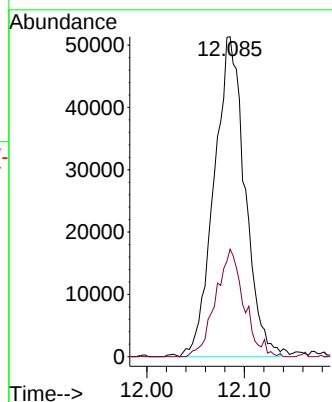
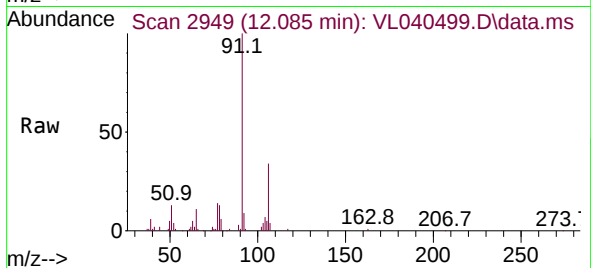
SV-2DL

Tgt Ion: 91 Resp: 112734

Ion Ratio Lower Upper

91 100

106 33.6 23.7 35.5



#59

m/p-Xylene

Concen: 0.661 ppbv

RT: 12.355 min Scan# 3033

Delta R.T. -0.026 min

Lab File: VL040499.D

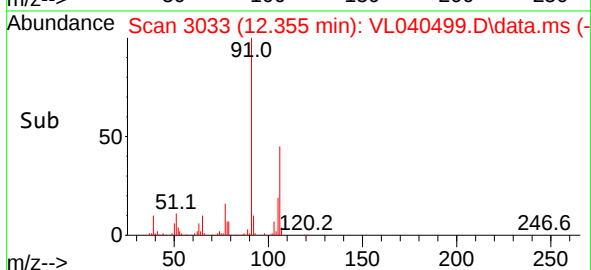
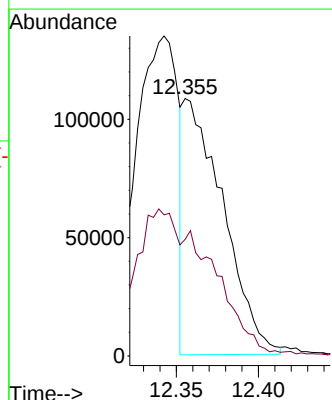
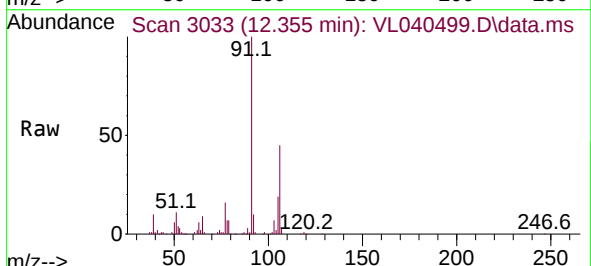
Acq: 23 Jun 2023 8:54

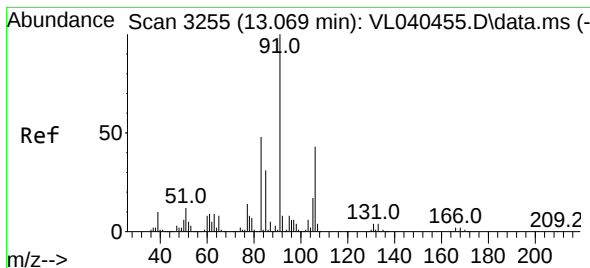
Tgt Ion: 91 Resp: 181248

Ion Ratio Lower Upper

91 100

106 0.0 34.6 52.0#





#60

o-Xylene

Concen: 0.559 ppbv

RT: 13.056 min Scan# 31

Delta R.T. -0.013 min

Lab File: VL040499.D

Acq: 23 Jun 2023 8:54

Instrument :

MSVOA_L

ClientSampleId :

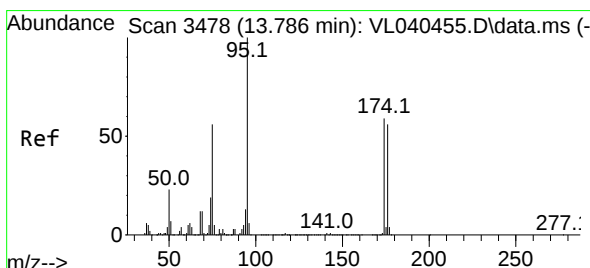
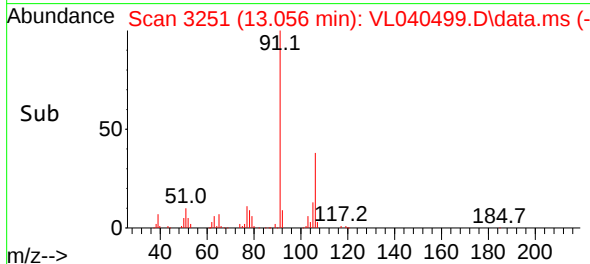
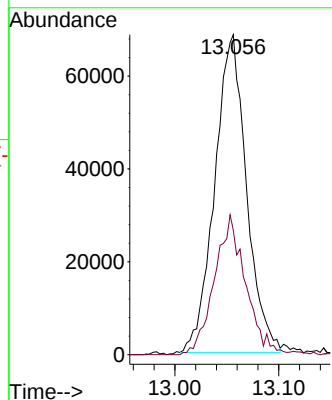
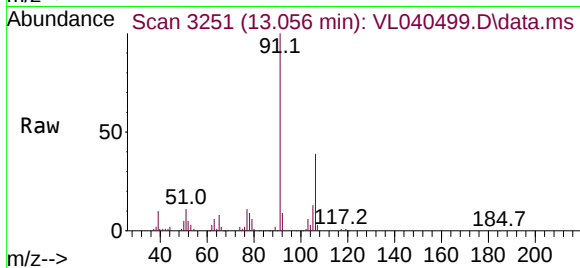
SV-2DL

Tgt Ion: 91 Resp: 145365

Ion Ratio Lower Upper

91 100

106 43.6 22.1 66.1



#68

1-Bromo-4-Fluorobenzene

Concen: 9.963 ppbv

RT: 13.773 min Scan# 3474

Delta R.T. -0.013 min

Lab File: VL040499.D

Acq: 23 Jun 2023 8:54

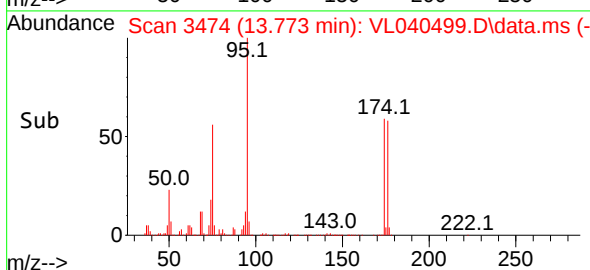
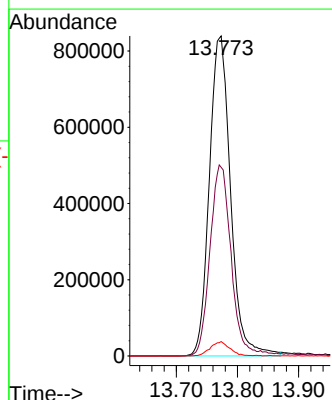
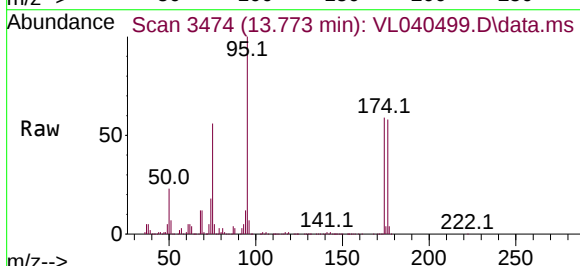
Tgt Ion: 95 Resp: 2024177

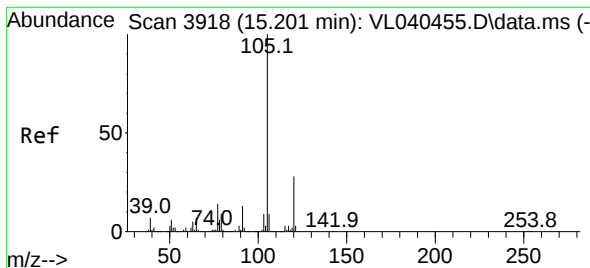
Ion Ratio Lower Upper

95 100

174 60.1 47.7 71.5

175 4.3 3.5 5.3





#72

4-Ethyltoluene

Concen: 0.047 ppbv

RT: 15.178 min Scan# 3911

Delta R.T. -0.023 min

Lab File: VL040499.D

Acq: 23 Jun 2023 8:54

Instrument :

MSVOA_L

ClientSampleId :

SV-2DL

Tgt Ion:105 Resp: 13813

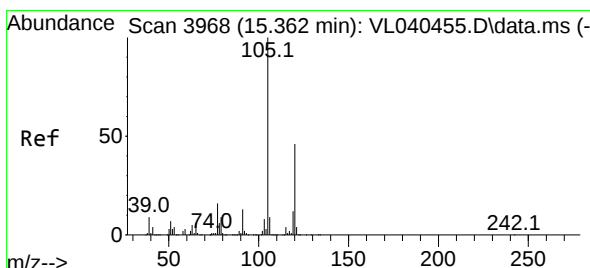
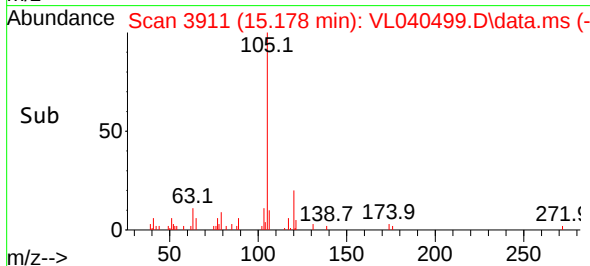
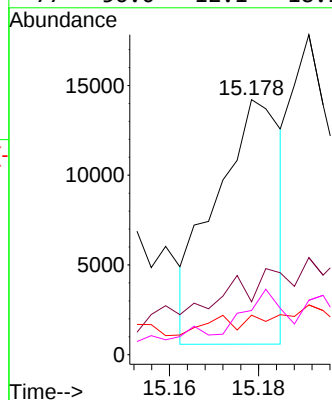
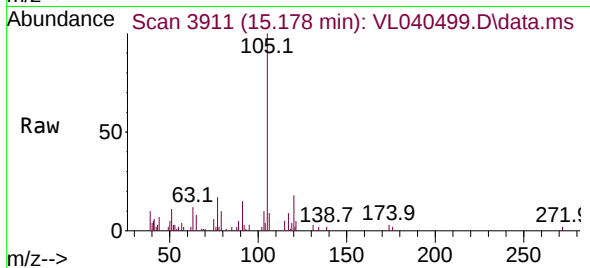
Ion Ratio Lower Upper

105 100

120 0.0 23.4 35.0#

91 0.0 11.1 16.7#

77 56.0 12.1 18.1#



#73

1,3,5-Trimethylbenzene

Concen: 0.050 ppbv

RT: 15.349 min Scan# 3964

Delta R.T. -0.013 min

Lab File: VL040499.D

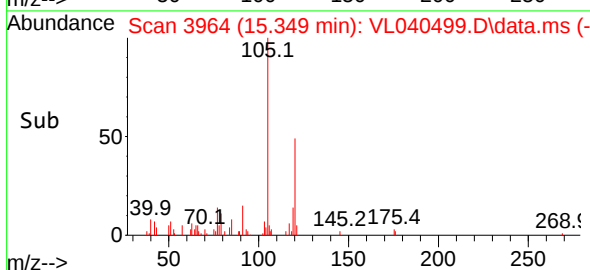
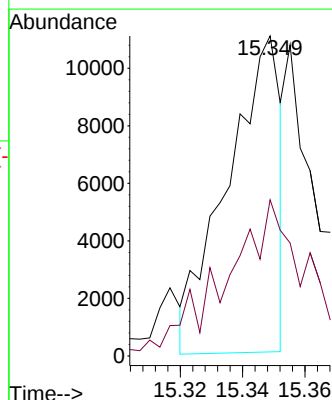
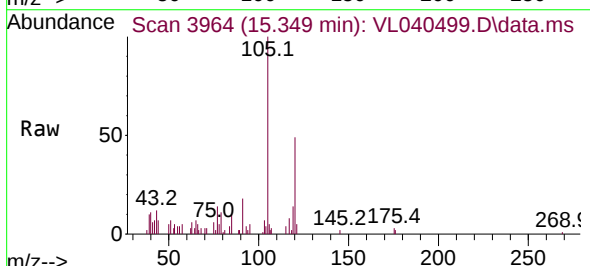
Acq: 23 Jun 2023 8:54

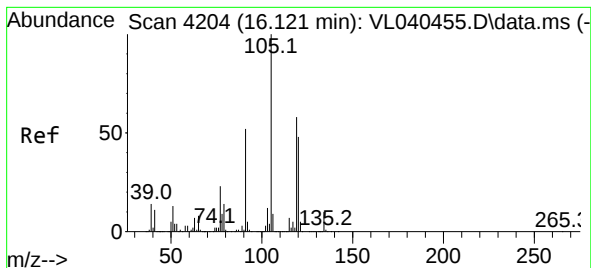
Tgt Ion:105 Resp: 13014

Ion Ratio Lower Upper

105 100

120 46.3 36.4 54.6





#74

1,2,4-Trimethylbenzene

Concen: 0.380 ppbv

RT: 16.101 min Scan# 41

Delta R.T. -0.019 min

Lab File: VL040499.D

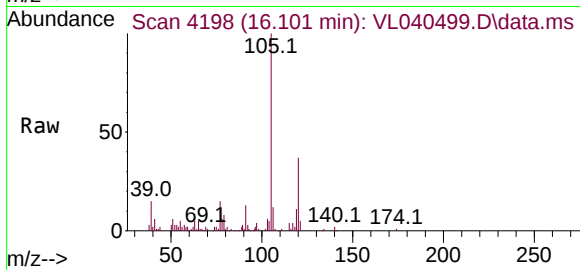
Acq: 23 Jun 2023 8:54

Instrument :

MSVOA_L

ClientSampleId :

SV-2DL



Tgt Ion:105 Resp: 115728

Ion Ratio Lower Upper

105 100

120 37.2 38.4 57.6#

91 13.0 41.3 61.9#

77 14.9 18.6 28.0#

