

Data Path : Z:\voasrv\HPCHEM1\MSVOA_L\Data\VL120825\
 Data File : VL043325.D
 Acq On : 08 Dec 2025 22:28
 Operator : SY/MD
 Sample : Q3797-01 4X
 Misc : 400mL/MSVOA_L
 ALS Vial : 1 Sample Multiplier: 1

Instrument :
 MSVOA_L
 ClientSampleId :
 SV1

Quant Time: Dec 09 01:25:27 2025
 Quant Method : Z:\voasrv\HPCHEM1\MSVOA_L\methods\VL111825AIR.M
 Quant Title : AIR ANALYSIS BY METHOD TO-15 Instrument: MSVOA_L Fri Aug 26 06:05:16 2022
 QLast Update : Wed Nov 19 01:11:25 2025
 Response via : Initial Calibration

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

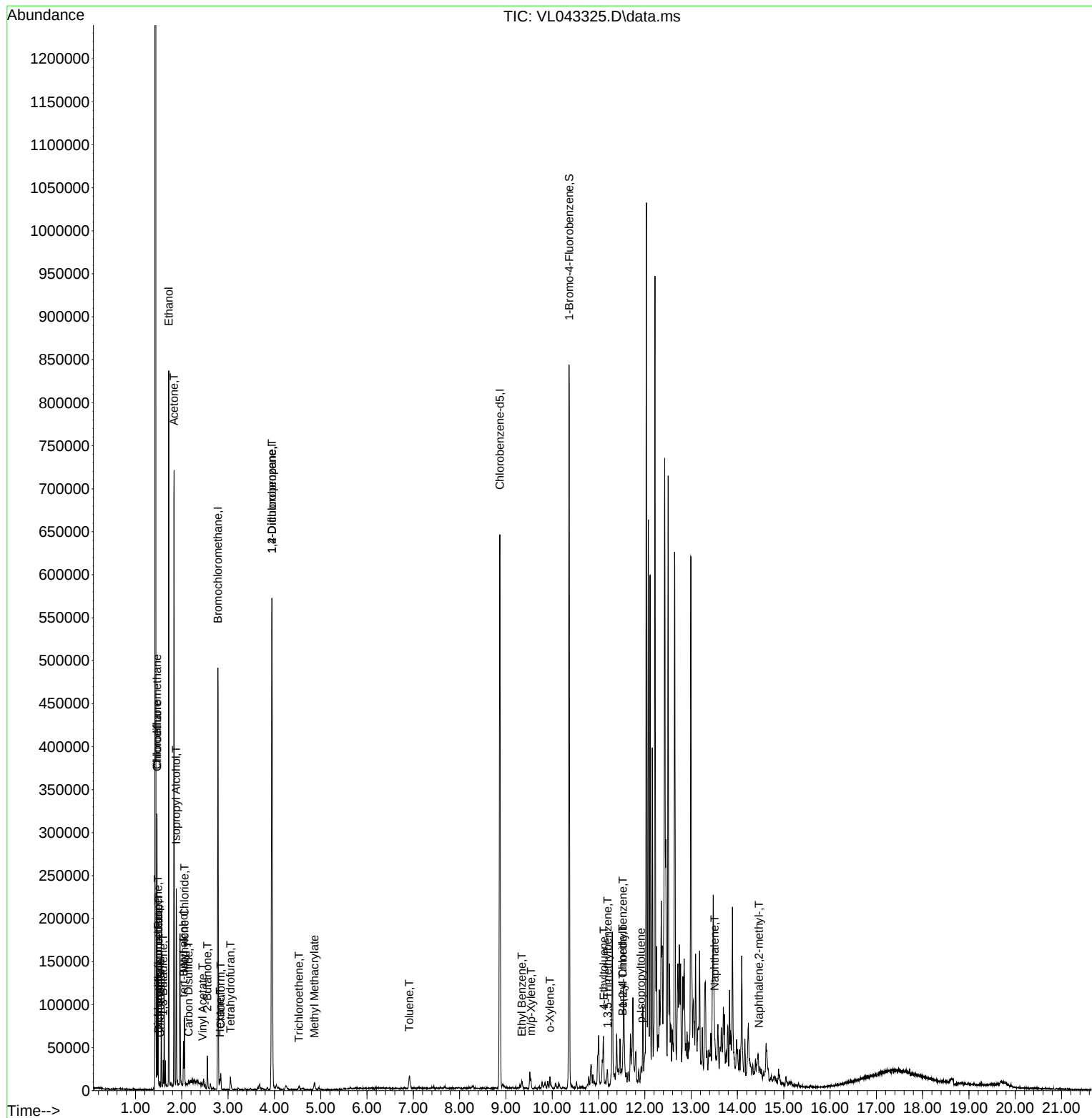
Internal Standards						
1) Bromochloromethane	2.780	49	128719	10.000	ppbv	0.00
33) 1,4-Difluorobenzene	3.946	114	318059	10.000	ppbv	0.00
55) Chlorobenzene-d5	8.869	117	253167	10.000	ppbv	0.00
System Monitoring Compounds						
68) 1-Bromo-4-Fluorobenzene	10.364	95	197932	10.666	ppbv	0.00
Spiked Amount	10.000	Range	65 - 135	Recovery	= 106.700%	
Target Compounds						
					Qvalue	
2) Dichlorodifluoromethane	1.495	85	2451	0.135	ppbv	94
3) Chlorodifluoromethane	1.466	51	84810	4.750	ppbv #	60
4) Chloromethane	1.531	50	934	0.138	ppbv #	79
7) Chloroethane	1.463	64	3967	1.372	ppbv #	73
8) Dichlorotetrafluoroethane	1.495	85	2451	0.162	ppbv #	17
9) Propene	1.486	41	8706	1.148	ppbv #	1
13) Ethanol	1.719	45	299434	112.315	ppbv	100
15) Acetone	1.832	43	314268	17.573	ppbv	100
16) 1,3-Butadiene	1.599	39	3591	0.450	ppbv #	33
17) tert-Butyl alcohol	2.036	59	18499	0.788	ppbv	100
19) Isopropyl Alcohol	1.881	45	93011	9.204	ppbv #	22
20) Methylene Chloride	2.059	84	10873	1.387	ppbv	89
23) Vinyl Acetate	2.450	43	996	0.046	ppbv #	84
26) Hexane	2.822	57	1416	0.084	ppbv #	58
27) Carbon Disulfide	2.146	76	1162	0.067	ppbv #	1
29) Chloroform	2.842	83	6293	0.262	ppbv	98
34) 2-Butanone	2.551	43	22377	0.997	ppbv	100
38) Trichloroethene	4.528	130	731	0.061	ppbv #	31
39) 1,2-Dichloropropane	3.946	63	81167	7.281	ppbv #	24
41) Tetrahydrofuran	3.052	42	4265	0.344	ppbv	94
43) Methyl Methacrylate	4.862	69	1758	0.109	ppbv #	36
53) Toluene	6.914	91	5891	0.163	ppbv #	38
58) Ethyl Benzene	9.341	91	3523	0.072	ppbv #	76
59) m/p-Xylene	9.542	91	1767	0.045	ppbv #	31
60) o-Xylene	9.953	91	5660	0.145	ppbv	97
66) Benzyl Chloride	11.519	91	956	0.151	ppbv #	67
69) p-Isopropyltoluene	11.914	119	4381	0.059	ppbv #	66
72) 4-Ethyltoluene	11.112	105	3169	0.067	ppbv #	55
73) 1,3,5-Trimethylbenzene	11.196	105	3359	0.084	ppbv #	79
74) 1,2,4-Trimethylbenzene	11.523	105	11320	0.260	ppbv #	44
79) Naphthalene	13.507	128	1566	0.041	ppbv #	52
80) Naphthalene, 2-methyl-	14.468	142	442	0.044	ppbv #	68

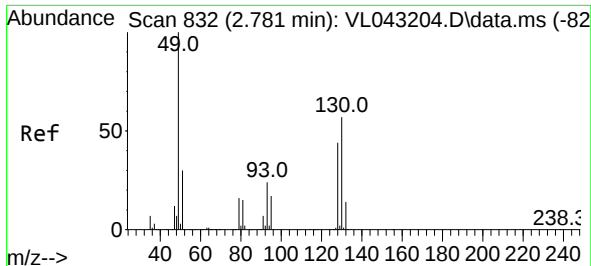
(#) = qualifier out of range (m) = manual integration (+) = signals summed

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Data File : VL043325.D
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Misc : 400mL/MSVOA_L
ALS Vial : 1 Sample Multiplier: 1

Instrument :
MSVOA_L
ClientSampleId :
SV1

Quant Time: Dec 09 01:25:27 2025
Quant Method : Z:\voasrv\HPCHEM1\MSVOA_L\methods\VL11825AIR.M
Quant Title : AIR ANALYSIS BY METHOD TO-15 Instrument: MSVOA_L Fri Aug 26 06:05:16 2022
QLast Update : Wed Nov 19 01:11:25 2025
Response via : Initial Calibration

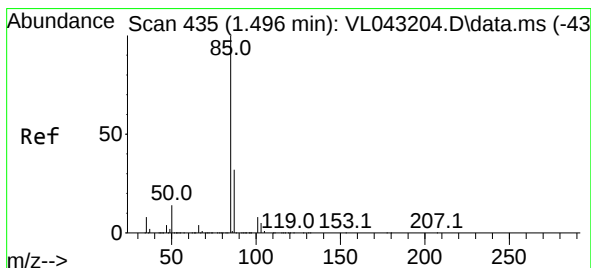
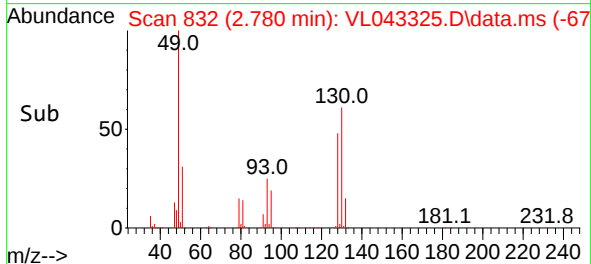
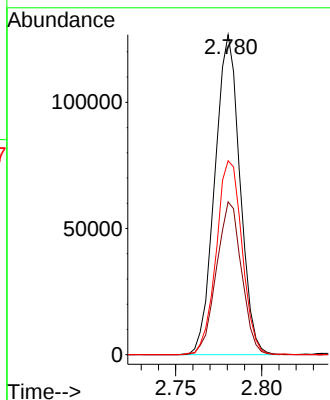
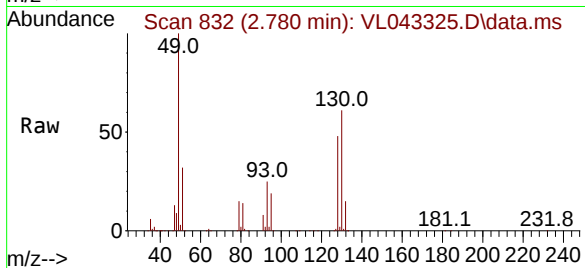




#1
 Bromochloromethane
 Concen: 10.000 ppbv
 RT: 2.780 min Scan# 81
 Delta R.T. -0.001 min
 Lab File: VL043325.D
 Acq: 08 Dec 2025 22:28

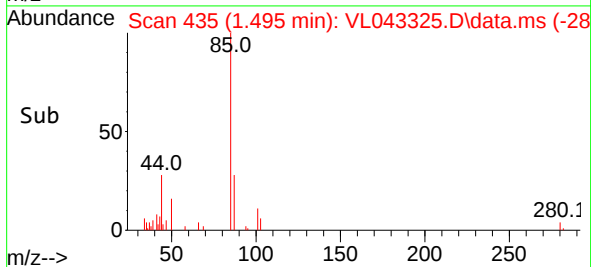
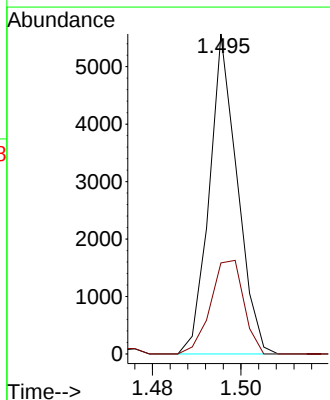
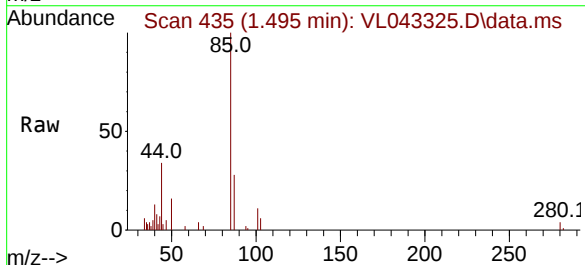
Instrument :
 MSVOA_L
 ClientSampleId :
 SV1

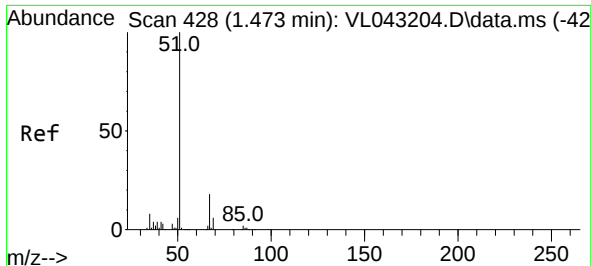
Tgt Ion: 49 Resp: 128719
 Ion Ratio Lower Upper
 49 100
 128 47.9 23.0 69.0
 130 62.4 29.9 89.7



#2
 Dichlorodifluoromethane
 Concen: 0.135 ppbv
 RT: 1.495 min Scan# 435
 Delta R.T. -0.000 min
 Lab File: VL043325.D
 Acq: 08 Dec 2025 22:28

Tgt Ion: 85 Resp: 2451
 Ion Ratio Lower Upper
 85 100
 87 28.4 25.4 38.2

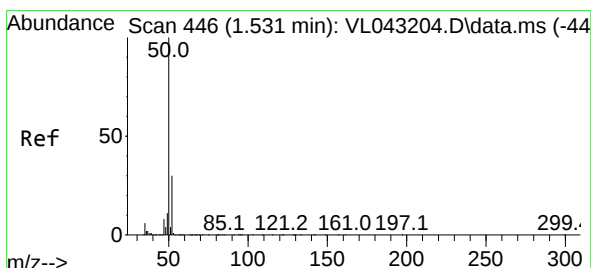
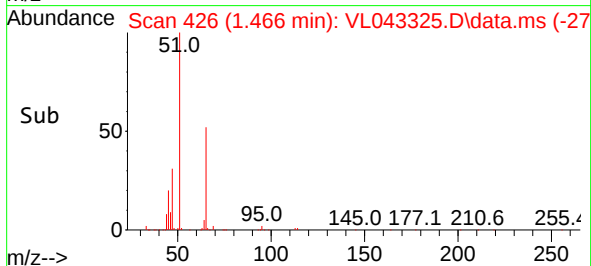
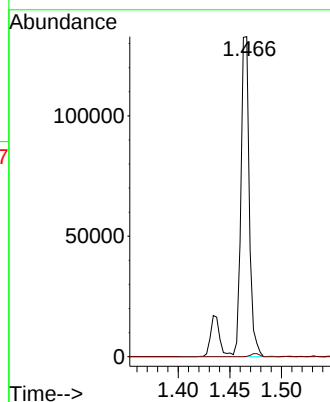
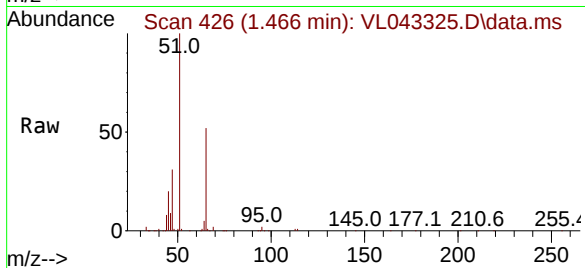




#3
Chlorodifluoromethane
Concen: 4.750 ppbv
RT: 1.466 min Scan# 41
Delta R.T. -0.007 min
Lab File: VL043325.D
Acq: 08 Dec 2025 22:28

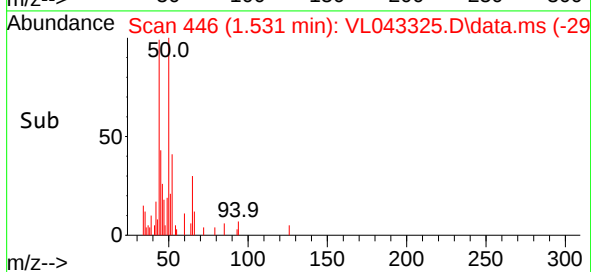
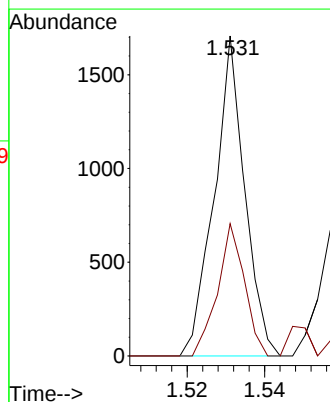
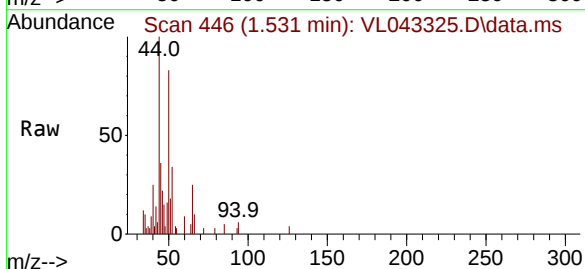
Instrument :
MSVOA_L
ClientSampleId :
SV1

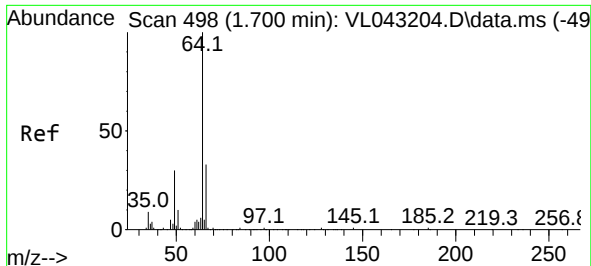
Tgt Ion: 51 Resp: 84810
Ion Ratio Lower Upper
51 100
67 0.9 14.9 22.3#



#4
Chloromethane
Concen: 0.138 ppbv
RT: 1.531 min Scan# 446
Delta R.T. -0.000 min
Lab File: VL043325.D
Acq: 08 Dec 2025 22:28

Tgt Ion: 50 Resp: 934
Ion Ratio Lower Upper
50 100
52 41.4 24.1 36.1#

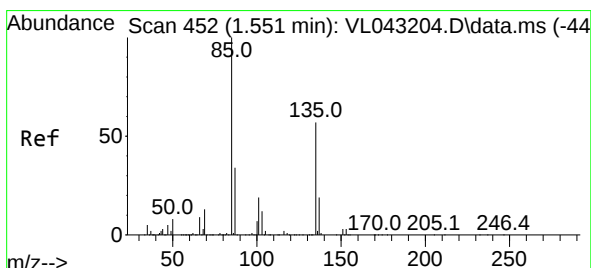
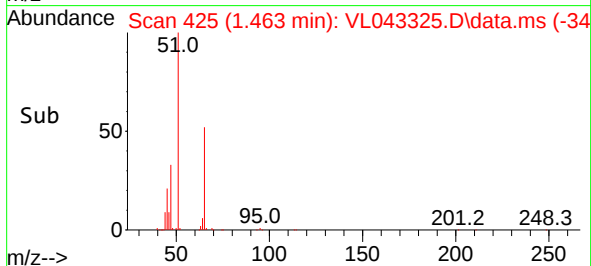
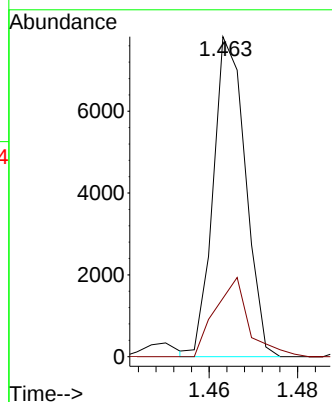
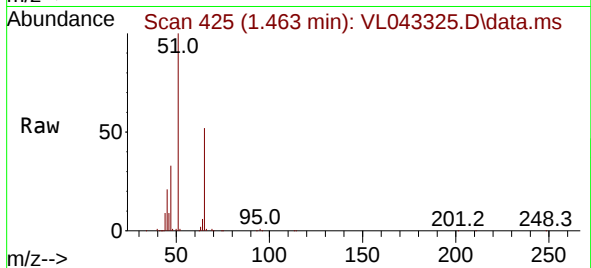




#7
Chloroethane
Concen: 1.372 ppbv
RT: 1.463 min Scan# 41
Delta R.T. -0.237 min
Lab File: VL043325.D
Acq: 08 Dec 2025 22:28

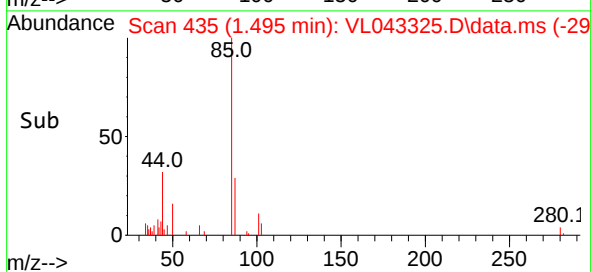
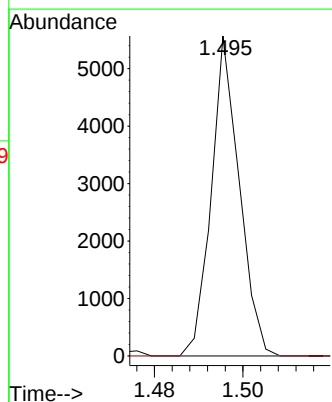
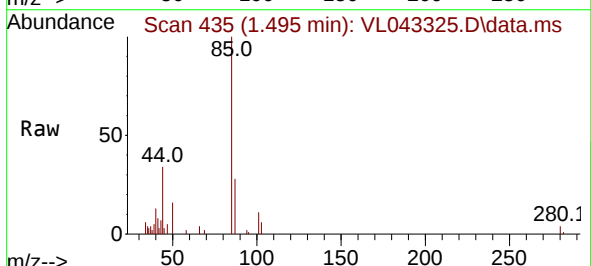
Instrument :
MSVOA_L
ClientSampleId :
SV1

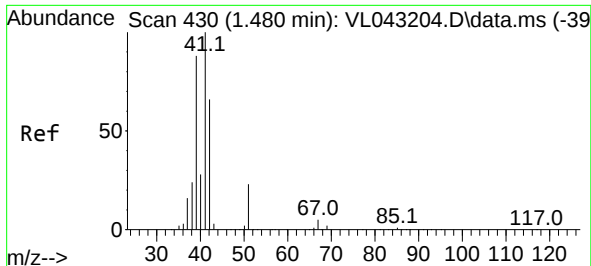
Tgt Ion: 64 Resp: 3967
Ion Ratio Lower Upper
64 100
66 18.2 26.8 40.2#



#8
Dichlorotetrafluoroethane
Concen: 0.162 ppbv
RT: 1.495 min Scan# 435
Delta R.T. -0.055 min
Lab File: VL043325.D
Acq: 08 Dec 2025 22:28

Tgt Ion: 85 Resp: 2451
Ion Ratio Lower Upper
85 100
135 0.0 52.6 79.0#





#9

Propene

Concen: 1.148 ppbv

RT: 1.486 min Scan# 41

Delta R.T. 0.006 min

Lab File: VL043325.D

Acq: 08 Dec 2025 22:28

Instrument :

MSVOA_L

ClientSampleId :

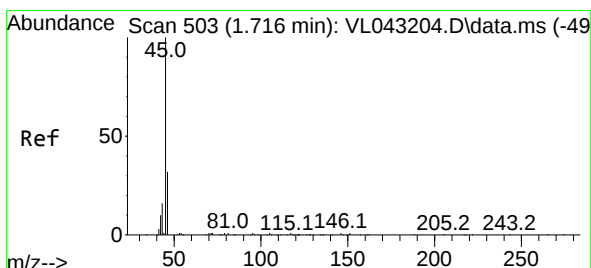
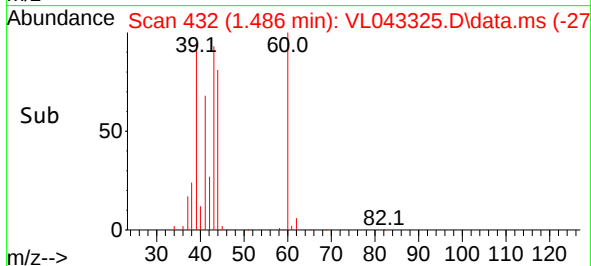
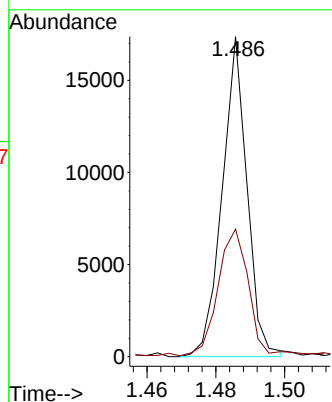
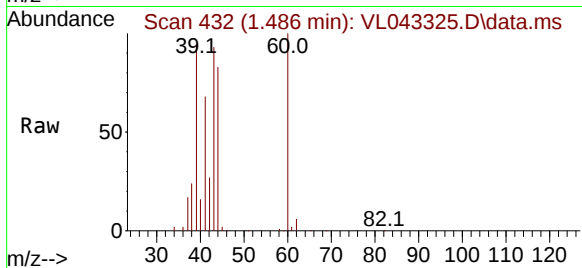
SV1

Tgt Ion: 41 Resp: 8706

Ion Ratio Lower Upper

41 100

42 54.4 3.7 5.5#



#13

Ethanol

Concen: 112.315 ppbv

RT: 1.719 min Scan# 504

Delta R.T. 0.003 min

Lab File: VL043325.D

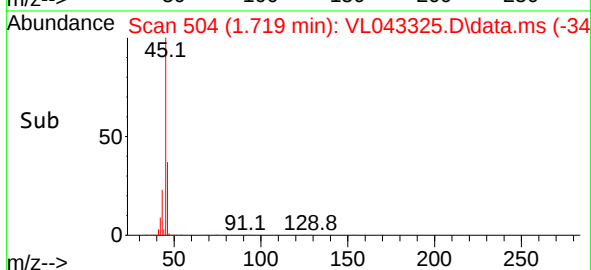
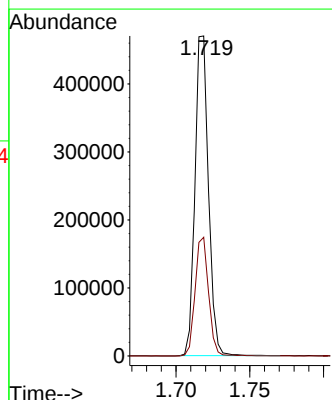
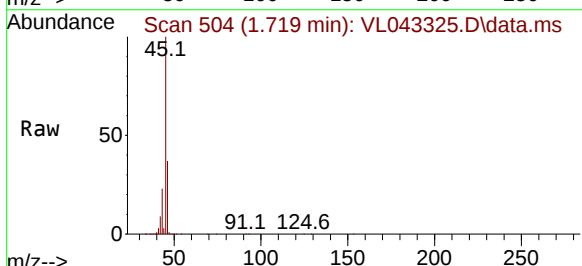
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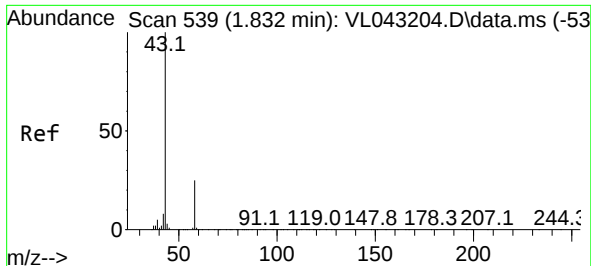
Tgt Ion: 45 Resp: 299434

Ion Ratio Lower Upper

45 100

46 37.2 15.0 59.8

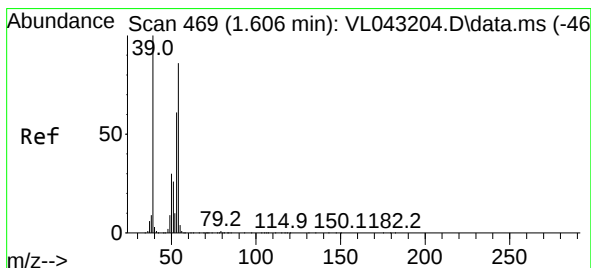
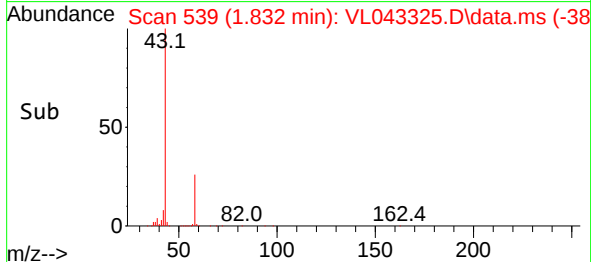
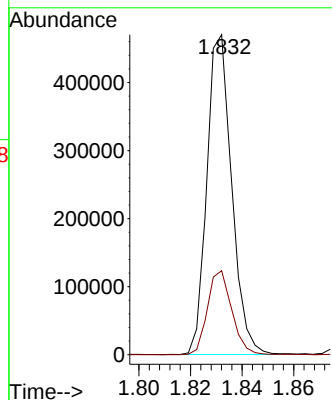
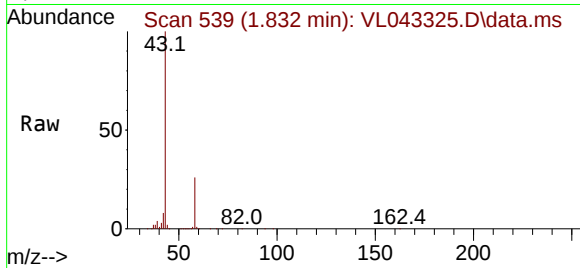




#15
Acetone
Concen: 17.573 ppbv
RT: 1.832 min Scan# 51
Delta R.T. -0.000 min
Lab File: VL043325.D
Acq: 08 Dec 2025 22:28

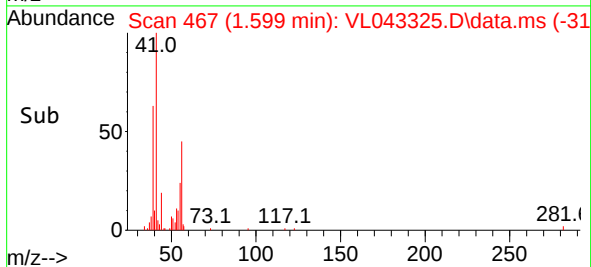
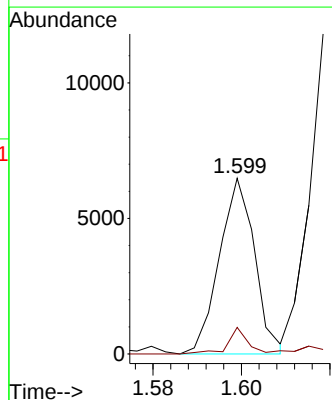
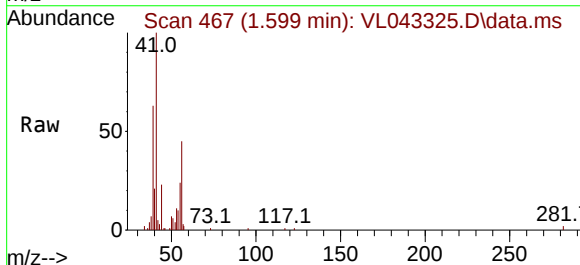
Instrument :
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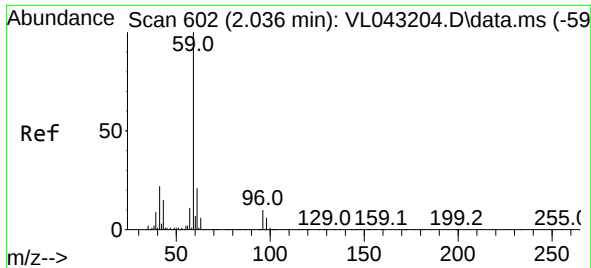
Tgt Ion: 43 Resp: 314268
Ion Ratio Lower Upper
43 100
58 25.7 20.7 31.1



#16
1,3-Butadiene
Concen: 0.450 ppbv
RT: 1.599 min Scan# 467
Delta R.T. -0.007 min
Lab File: VL043325.D
Acq: 08 Dec 2025 22:28

Tgt Ion: 39 Resp: 3591
Ion Ratio Lower Upper
39 100
54 17.8 59.4 89.2#





#17

tert-Butyl alcohol

Concen: 0.788 ppbv

RT: 2.036 min Scan# 602

Delta R.T. -0.000 min

Lab File: VL043325.D

Acq: 08 Dec 2025 22:28

Instrument :

MSVOA_L

ClientSampleId :

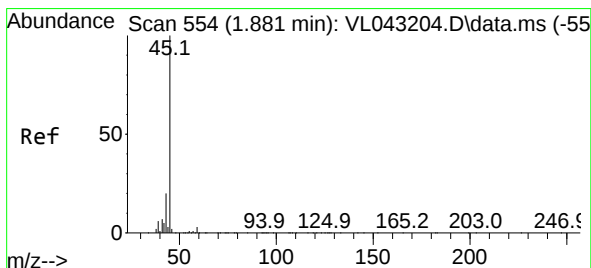
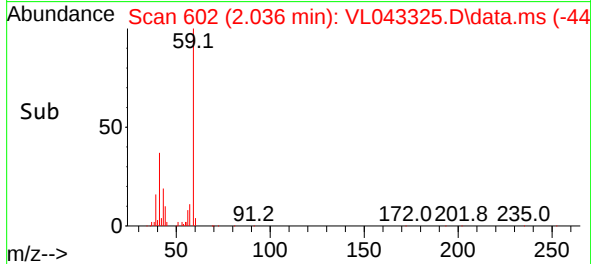
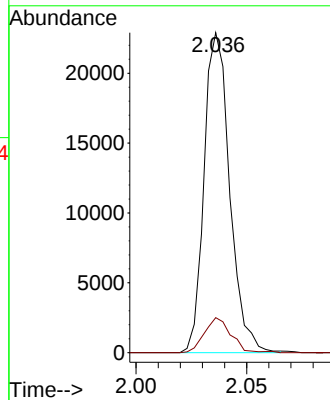
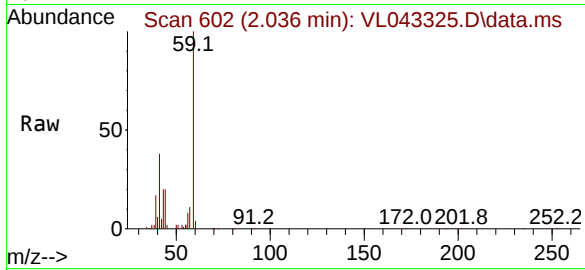
SV1

Tgt Ion: 59 Resp: 18499

Ion Ratio Lower Upper

59 100

57 11.4 9.0 13.4



#19

Isopropyl Alcohol

Concen: 9.204 ppbv

RT: 1.881 min Scan# 554

Delta R.T. -0.000 min

Lab File: VL043325.D

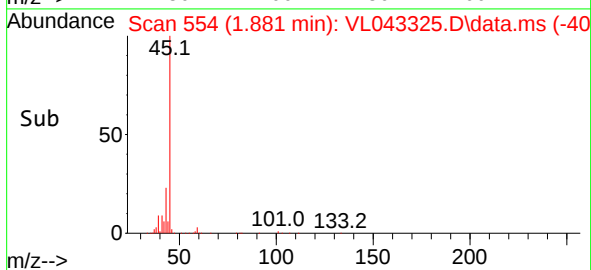
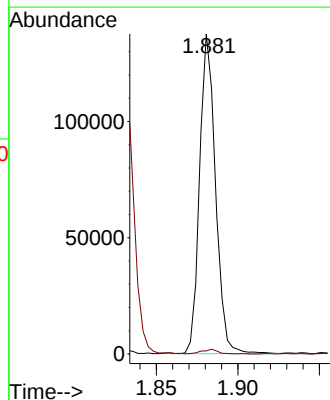
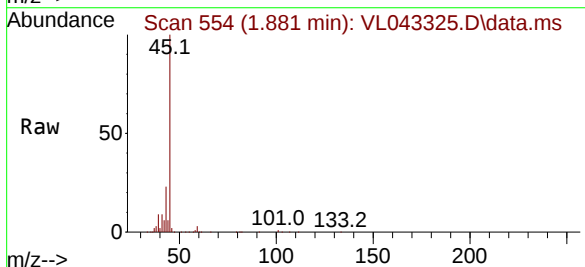
Acq: 08 Dec 2025 22:28

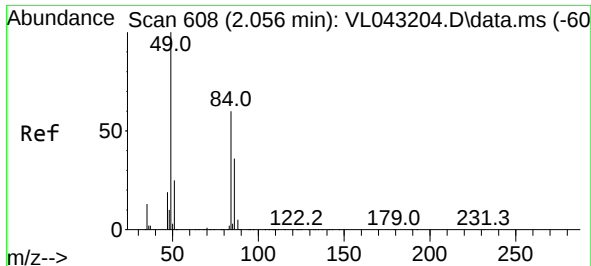
Tgt Ion: 45 Resp: 93011

Ion Ratio Lower Upper

45 100

58 87.0 31.3 46.9#





#20

Methylene Chloride

Concen: 1.387 ppbv

RT: 2.059 min Scan# 608

Delta R.T. 0.003 min

Lab File: VL043325.D

Acq: 08 Dec 2025 22:28

Instrument :

MSVOA_1

ClientSampleId :

SV1

Tgt Ion: 84 Resp: 10873

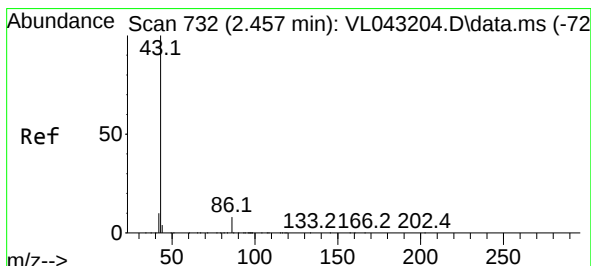
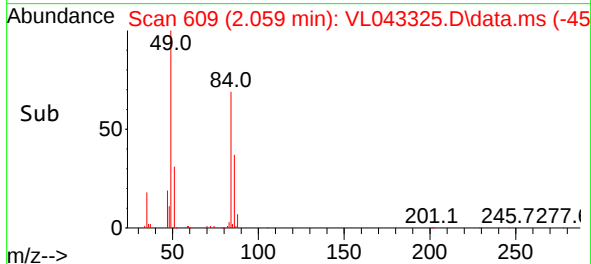
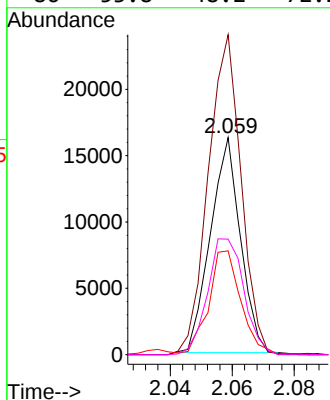
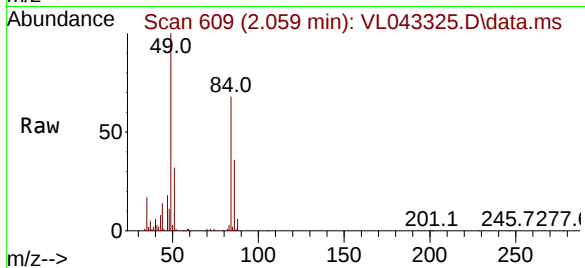
Ion Ratio Lower Upper

84 100

49 147.8 132.9 199.3

51 48.3 34.8 52.2

86 53.8 48.2 72.2



#23

Vinyl Acetate

Concen: 0.046 ppbv

RT: 2.450 min Scan# 730

Delta R.T. -0.007 min

Lab File: VL043325.D

Acq: 08 Dec 2025 22:28

Tgt Ion: 43 Resp: 996

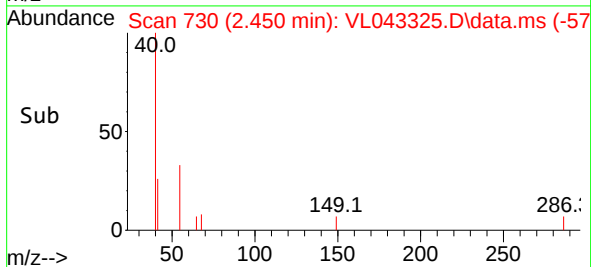
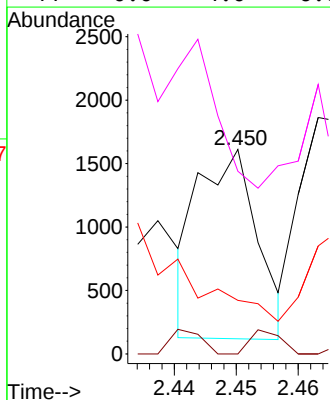
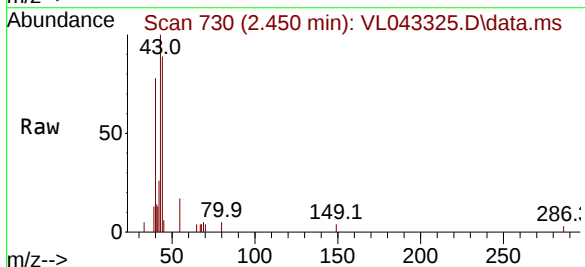
Ion Ratio Lower Upper

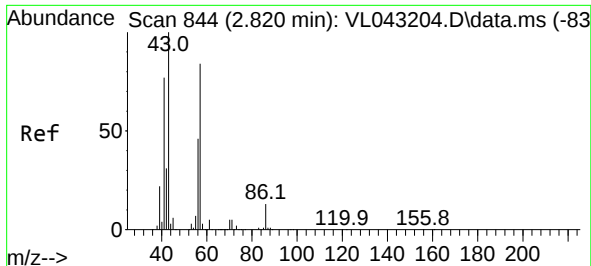
43 100

86 0.0 6.2 9.2#

42 14.6 8.0 12.0#

44 0.0 4.0 6.0#

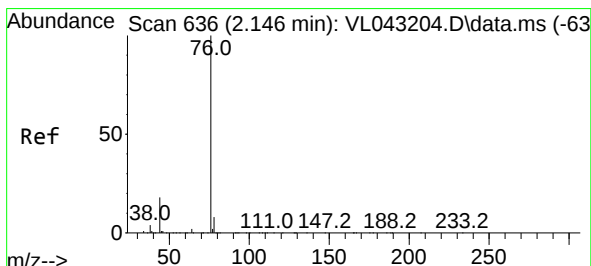
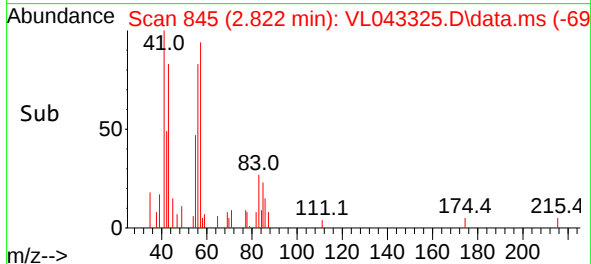
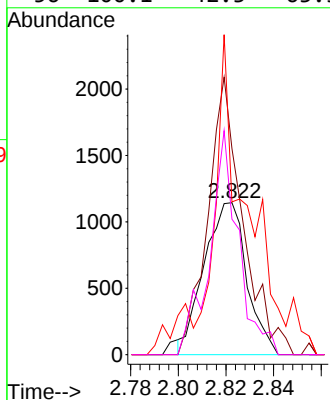
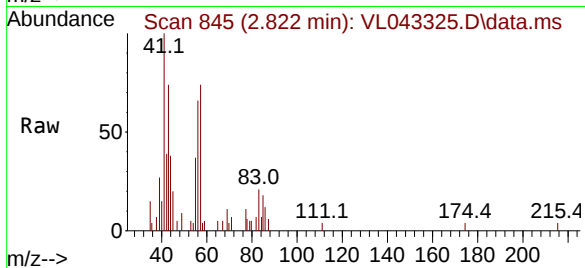




#26
Hexane
Concen: 0.084 ppbv
RT: 2.822 min Scan# 844
Delta R.T. 0.003 min
Lab File: VL043325.D
Acq: 08 Dec 2025 22:28

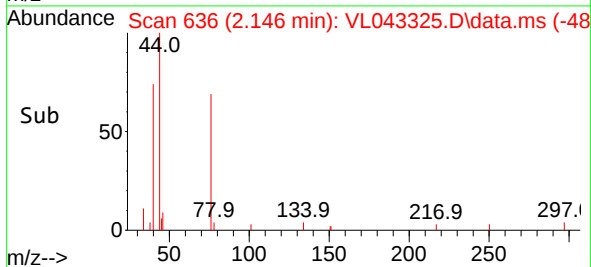
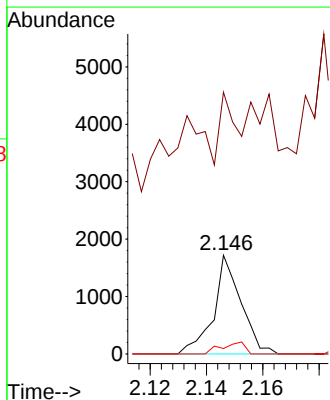
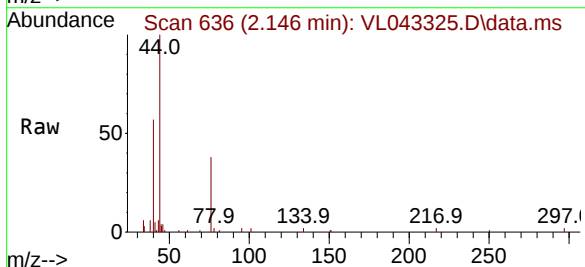
Instrument :
MSVOA_L
ClientSampleId :
SV1

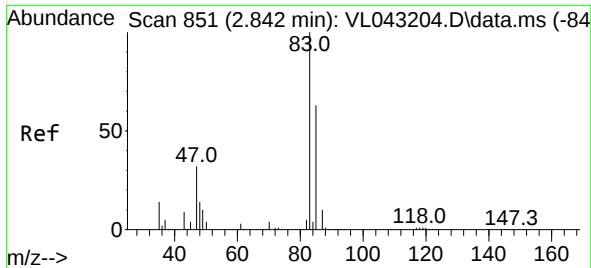
Tgt Ion: 57 Resp: 1416
Ion Ratio Lower Upper
57 100
41 152.3 74.6 111.8#
43 178.0 179.0 268.4#
56 100.1 42.3 63.5#



#27
Carbon Disulfide
Concen: 0.067 ppbv
RT: 2.146 min Scan# 636
Delta R.T. -0.000 min
Lab File: VL043325.D
Acq: 08 Dec 2025 22:28

Tgt Ion: 76 Resp: 1162
Ion Ratio Lower Upper
76 100
44 222.3 16.1 24.1#
78 10.2 9.6 14.4





#29

Chloroform

Concen: 0.262 ppbv

RT: 2.842 min Scan# 81

Delta R.T. -0.000 min

Lab File: VL043325.D

Acq: 08 Dec 2025 22:28

Instrument :

MSVOA_L

ClientSampleId :

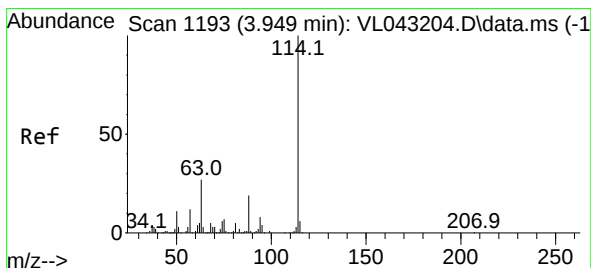
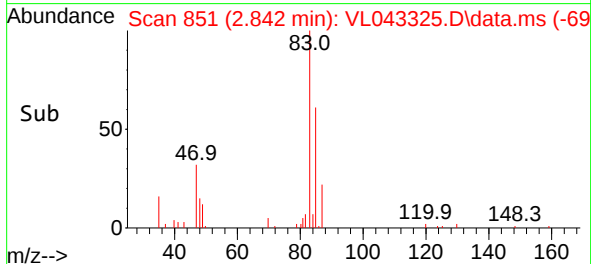
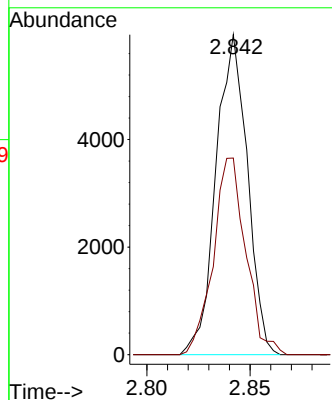
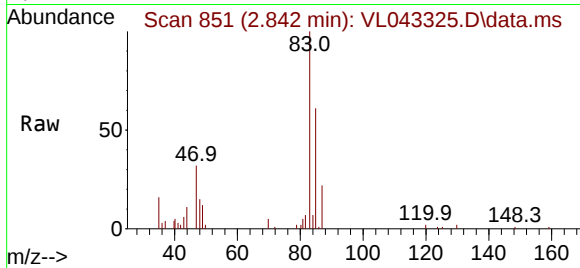
SV1

Tgt Ion: 83 Resp: 6293

Ion Ratio Lower Upper

83 100

85 61.4 50.5 75.7



#33

1,4-Difluorobenzene

Concen: 10.000 ppbv

RT: 3.946 min Scan# 1192

Delta R.T. -0.004 min

Lab File: VL043325.D

Acq: 08 Dec 2025 22:28

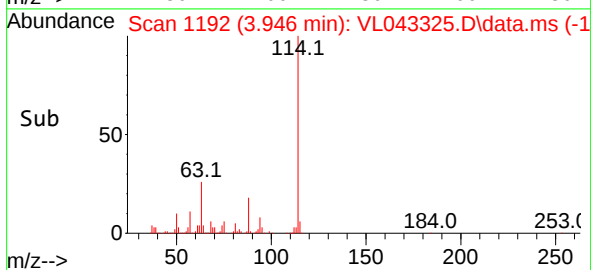
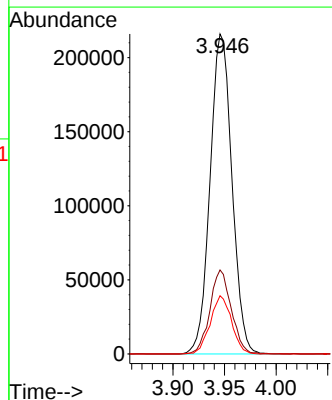
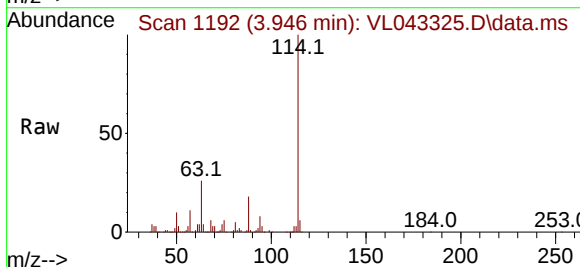
Tgt Ion: 114 Resp: 318059

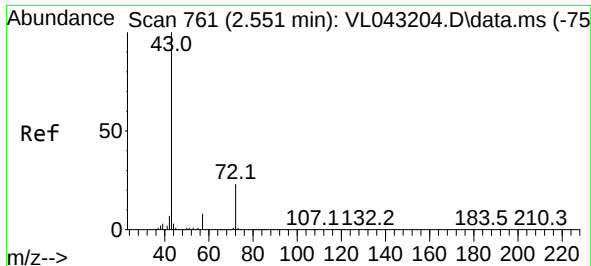
Ion Ratio Lower Upper

114 100

63 25.7 21.0 31.6

88 17.7 14.9 22.3

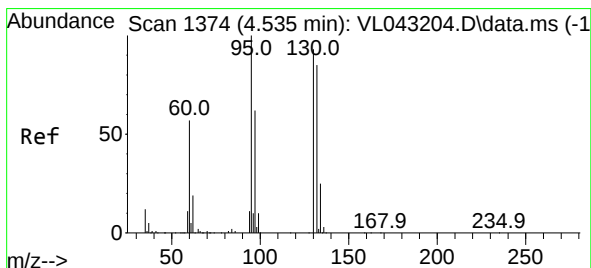
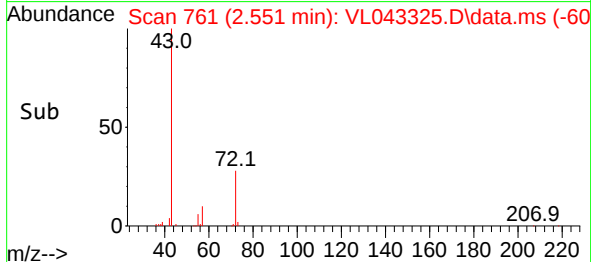
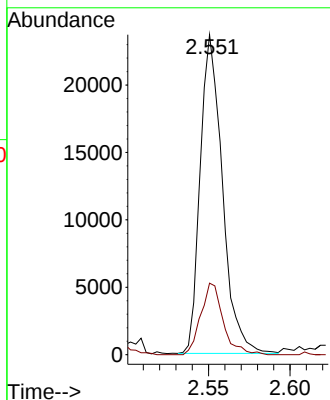
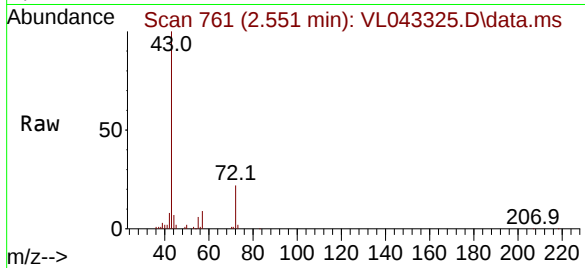




#34
2-Butanone
Concen: 0.997 ppbv
RT: 2.551 min Scan# 761
Delta R.T. -0.000 min
Lab File: VL043325.D
Acq: 08 Dec 2025 22:28

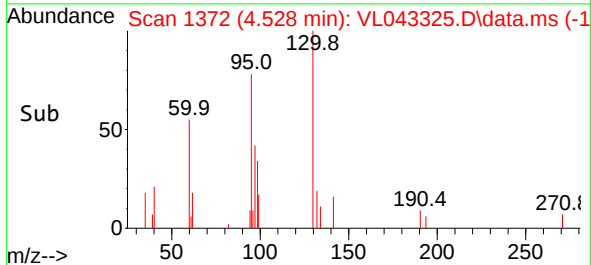
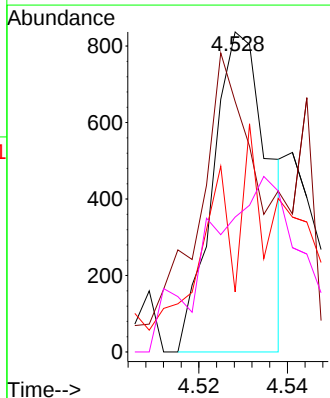
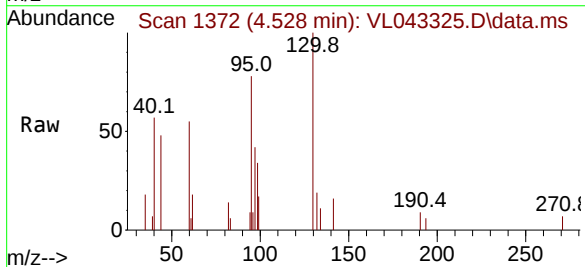
Instrument :
MSVOA_L
ClientSampleId :
SV1

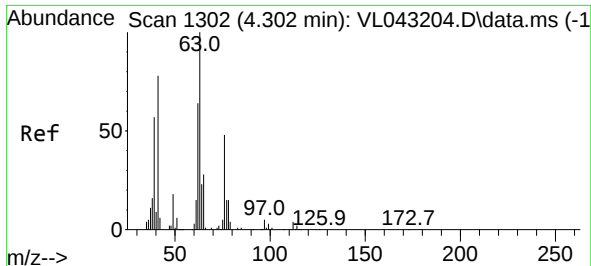
Tgt Ion: 43 Resp: 22377
Ion Ratio Lower Upper
43 100
72 22.6 18.1 27.1



#38
Trichloroethene
Concen: 0.061 ppbv
RT: 4.528 min Scan# 1372
Delta R.T. -0.007 min
Lab File: VL043325.D
Acq: 08 Dec 2025 22:28

Tgt Ion:130 Resp: 731
Ion Ratio Lower Upper
130 100
95 46.4 85.7 128.5#
132 3.7 73.4 110.0#
97 24.9 52.7 79.1#





#39

1,2-Dichloropropane

Concen: 7.281 ppbv

RT: 3.946 min Scan# 1119

Delta R.T. -0.356 min

Lab File: VL043325.D

Acq: 08 Dec 2025 22:28

Instrument :

MSVOA_L

ClientSampleId :

SV1

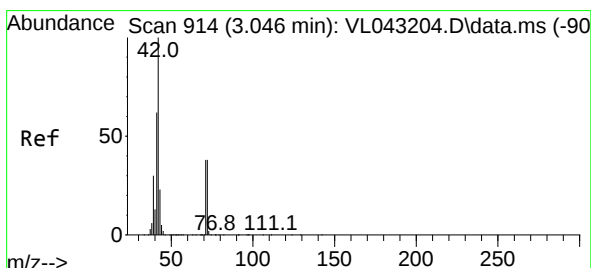
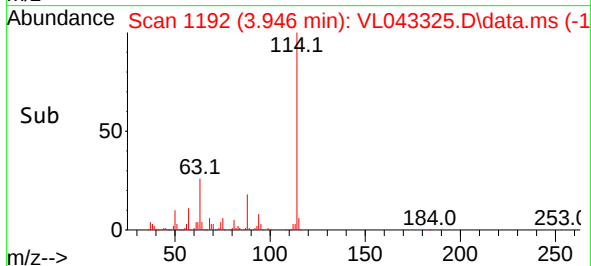
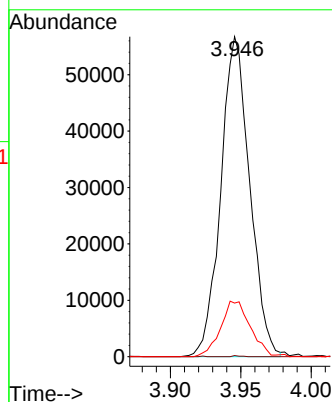
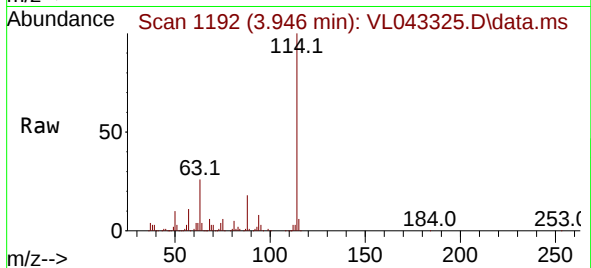
Tgt Ion: 63 Resp: 81167

Ion Ratio Lower Upper

63 100

41 0.3 62.6 93.8#

62 16.7 51.0 76.6#



#41

Tetrahydrofuran

Concen: 0.344 ppbv

RT: 3.052 min Scan# 916

Delta R.T. 0.006 min

Lab File: VL043325.D

Acq: 08 Dec 2025 22:28

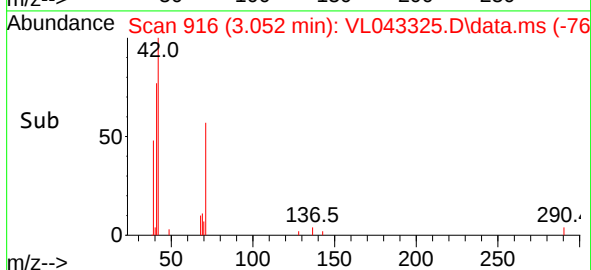
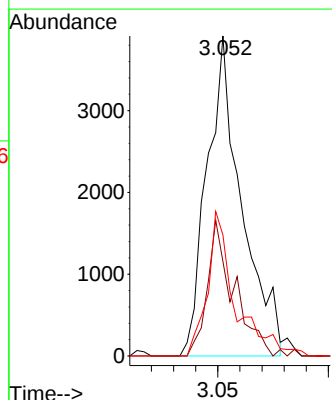
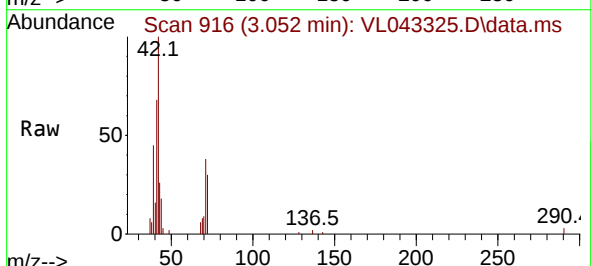
Tgt Ion: 42 Resp: 4265

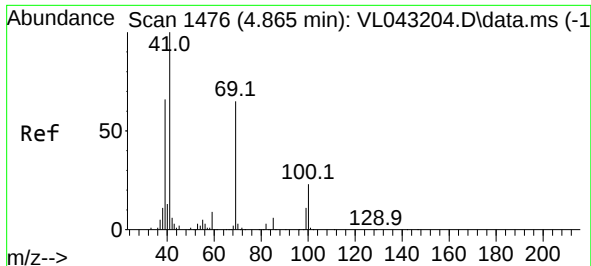
Ion Ratio Lower Upper

42 100

72 32.9 30.6 46.0

71 36.3 30.5 45.7

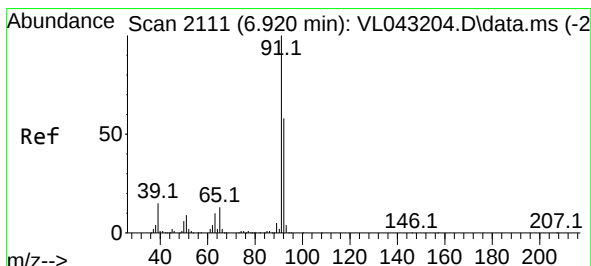
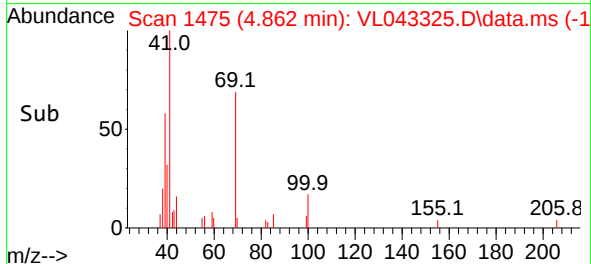
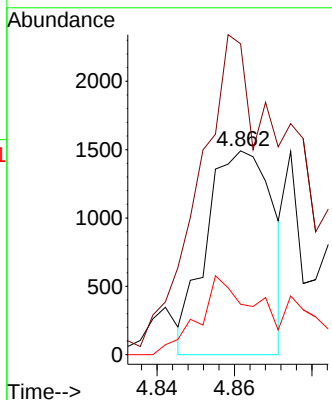
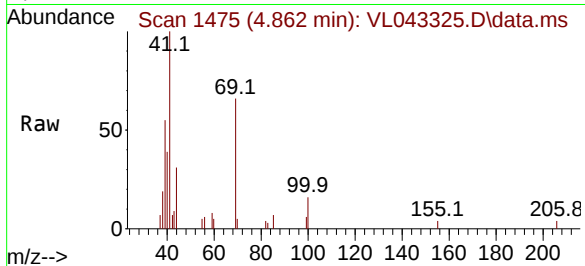




#43
Methyl Methacrylate
Concen: 0.109 ppbv
RT: 4.862 min Scan# 1475
Delta R.T. -0.004 min
Lab File: VL043325.D
Acq: 08 Dec 2025 22:28

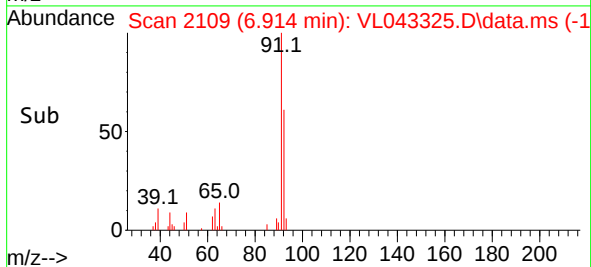
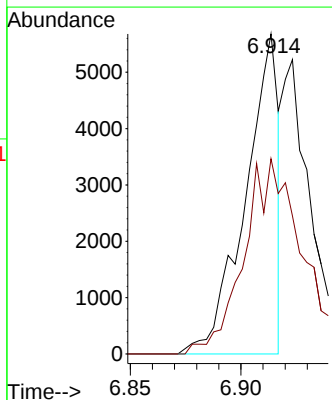
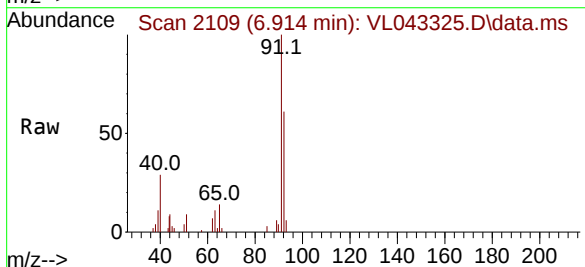
Instrument :
MSVOA_L
ClientSampleId :
SV1

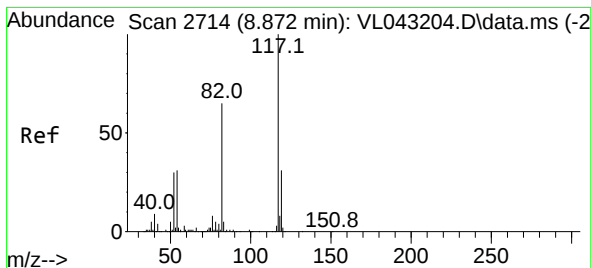
Tgt Ion: 69 Resp: 1758
Ion Ratio Lower Upper
69 100
41 253.8 126.7 190.1#
100 50.2 28.6 43.0#



#53
Toluene
Concen: 0.163 ppbv
RT: 6.914 min Scan# 2109
Delta R.T. -0.007 min
Lab File: VL043325.D
Acq: 08 Dec 2025 22:28

Tgt Ion: 91 Resp: 5891
Ion Ratio Lower Upper
91 100
92 105.7 47.4 71.0#





#55

Chlorobenzene-d5

Concen: 10.000 ppbv

RT: 8.869 min Scan# 21

Delta R.T. -0.004 min

Lab File: VL043325.D

Acq: 08 Dec 2025 22:28

Instrument :

MSVOA_L

ClientSampleId :

SV1

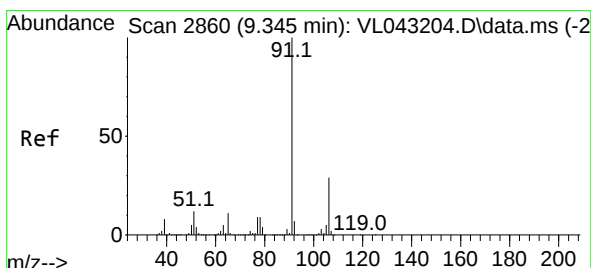
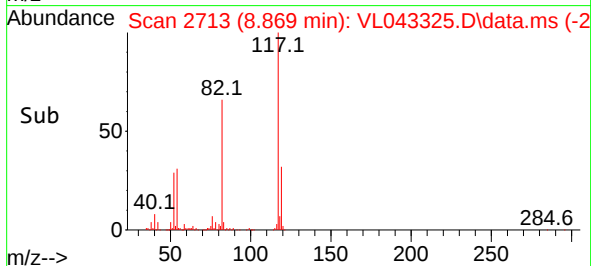
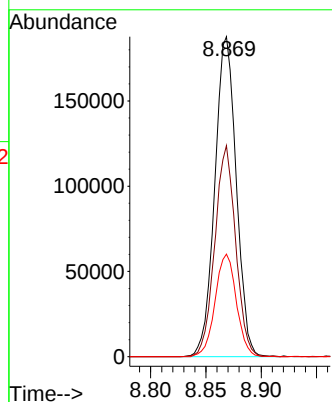
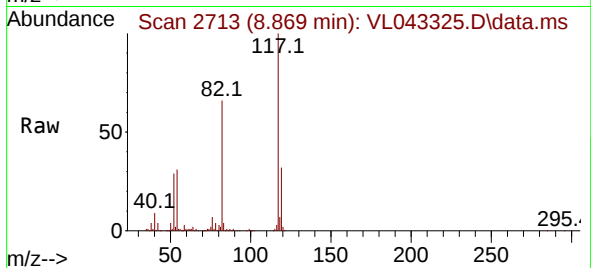
Tgt Ion:117 Resp: 253167

Ion Ratio Lower Upper

117 100

82 64.0 56.1 84.1

119 31.8 25.0 37.6



#58

Ethyl Benzene

Concen: 0.072 ppbv

RT: 9.341 min Scan# 2859

Delta R.T. -0.004 min

Lab File: VL043325.D

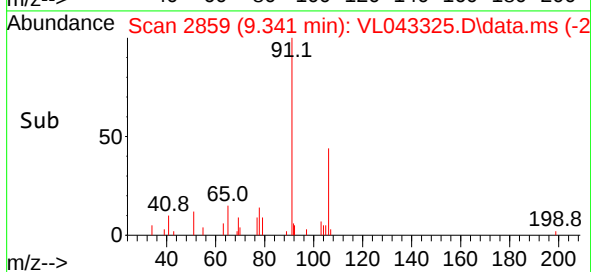
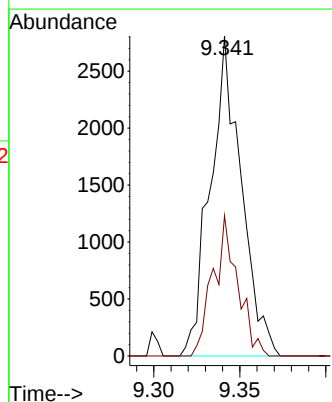
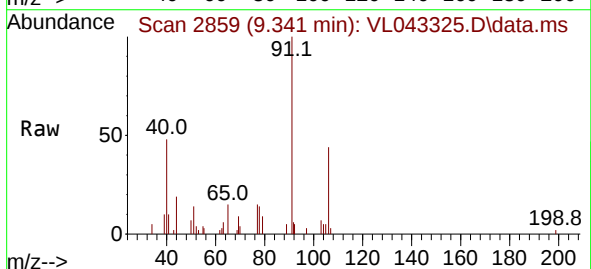
Acq: 08 Dec 2025 22:28

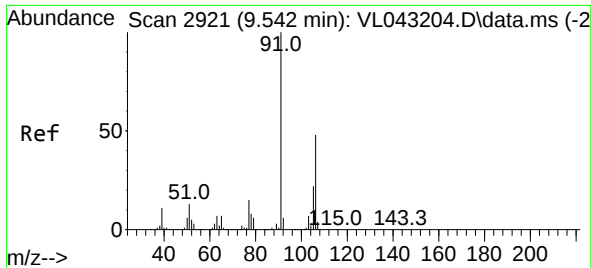
Tgt Ion: 91 Resp: 3523

Ion Ratio Lower Upper

91 100

106 41.4 22.8 34.2#

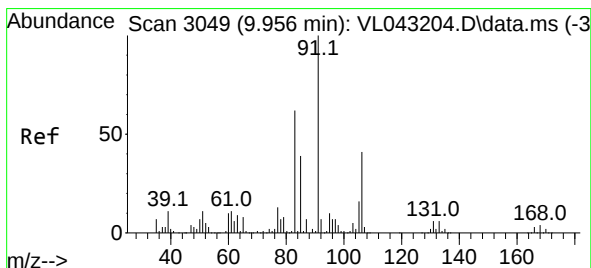
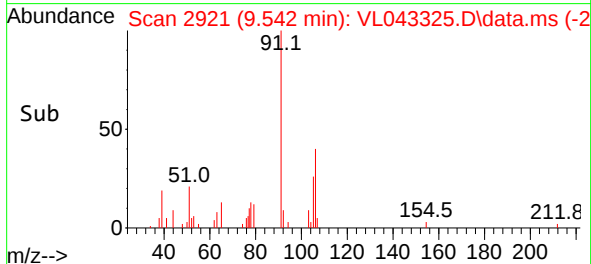
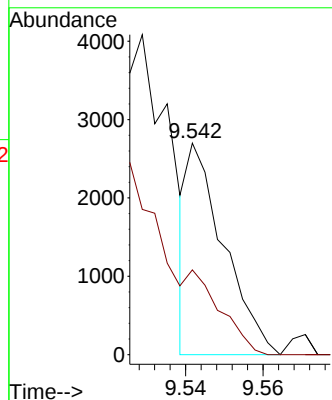
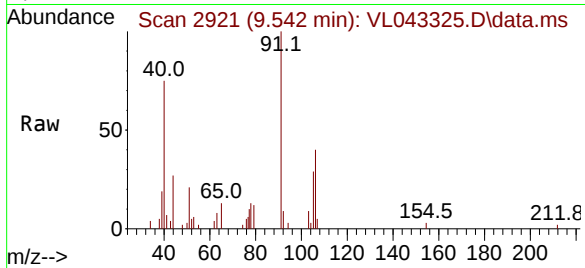




#59
m/p-Xylene
Concen: 0.045 ppbv
RT: 9.542 min Scan# 2921
Delta R.T. -0.000 min
Lab File: VL043325.D
Acq: 08 Dec 2025 22:28

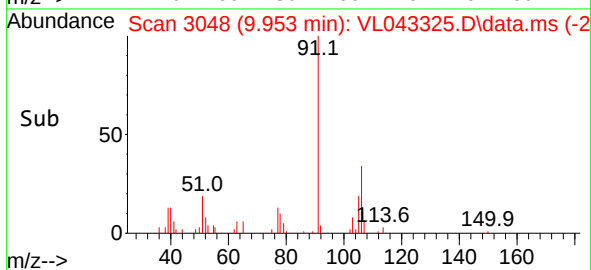
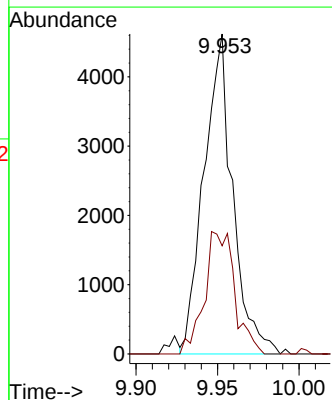
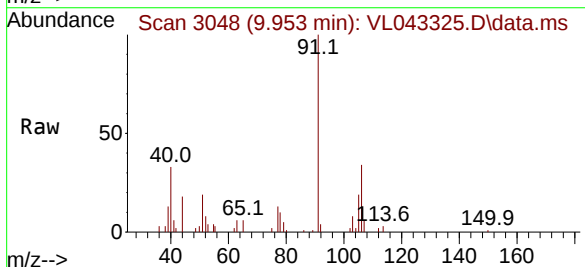
Instrument :
MSVOA_L
ClientSampleId :
SV1

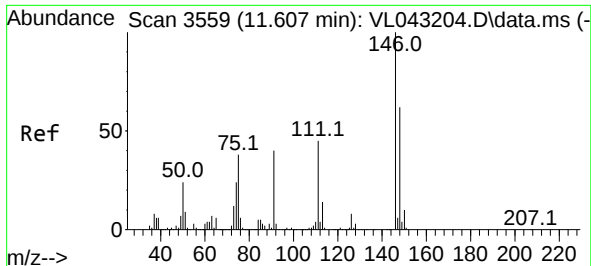
Tgt Ion: 91 Resp: 1767
Ion Ratio Lower Upper
91 100
106 0.0 36.1 54.1#



#60
o-Xylene
Concen: 0.145 ppbv
RT: 9.953 min Scan# 3048
Delta R.T. -0.004 min
Lab File: VL043325.D
Acq: 08 Dec 2025 22:28

Tgt Ion: 91 Resp: 5660
Ion Ratio Lower Upper
91 100
106 40.1 20.9 62.8

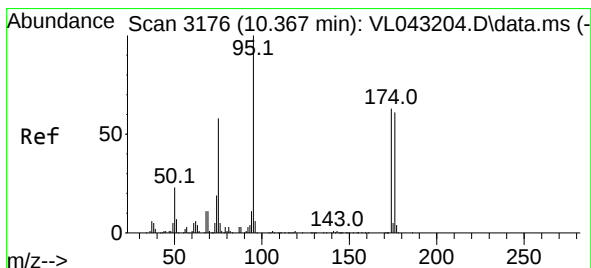
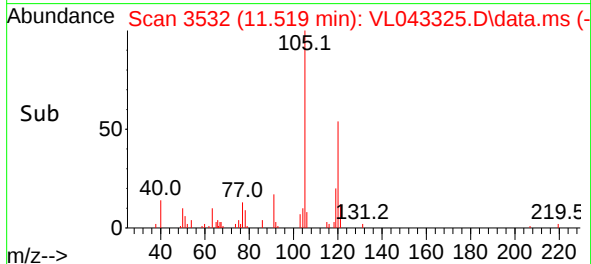
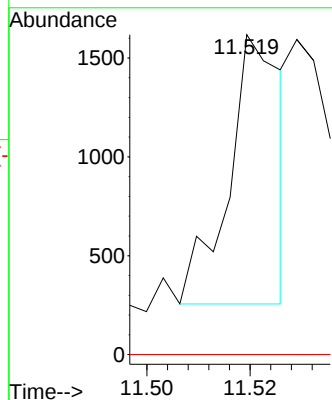
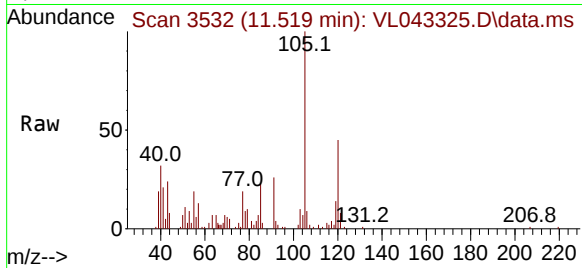




#66
Benzyl Chloride
Concen: 0.151 ppbv
RT: 11.519 min Scan# 3153
Delta R.T. -0.088 min
Lab File: VL043325.D
Acq: 08 Dec 2025 22:28

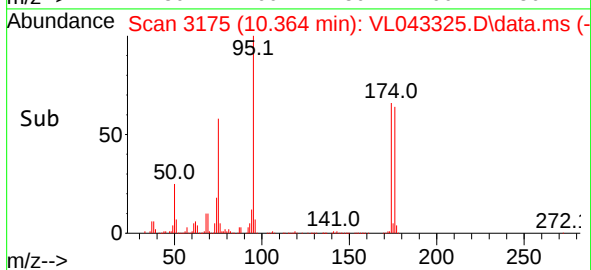
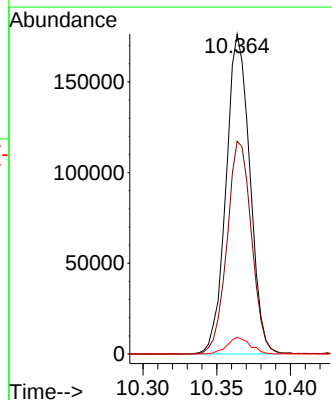
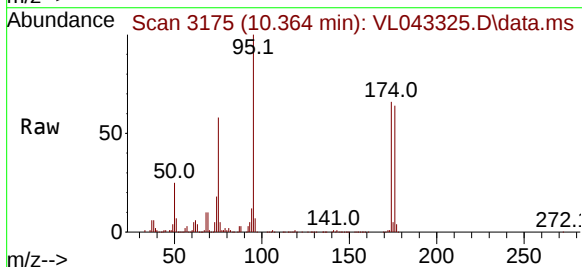
Instrument :
MSVOA_L
ClientSampleId :
SV1

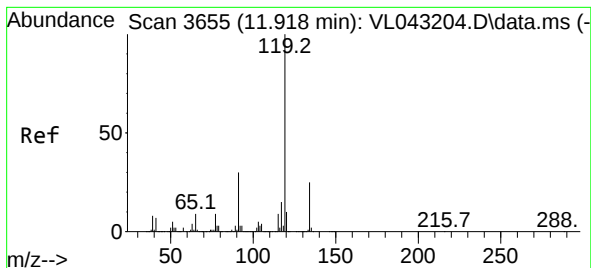
Tgt Ion: 91 Resp: 956
Ion Ratio Lower Upper
91 100
126 0.0 14.4 21.6#
128 3.5 4.6 6.8#



#68
1-Bromo-4-Fluorobenzene
Concen: 10.666 ppbv
RT: 10.364 min Scan# 3175
Delta R.T. -0.004 min
Lab File: VL043325.D
Acq: 08 Dec 2025 22:28

Tgt Ion: 95 Resp: 197932
Ion Ratio Lower Upper
95 100
174 68.5 50.2 75.2
175 5.1 4.1 6.1





#69

p-Isopropyltoluene

Concen: 0.059 ppbv

RT: 11.914 min Scan# 3

Delta R.T. -0.004 min

Lab File: VL043325.D

Acq: 08 Dec 2025 22:28

Instrument :

MSVOA_L

ClientSampleId :

SV1

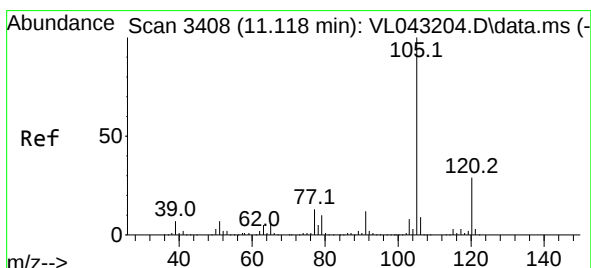
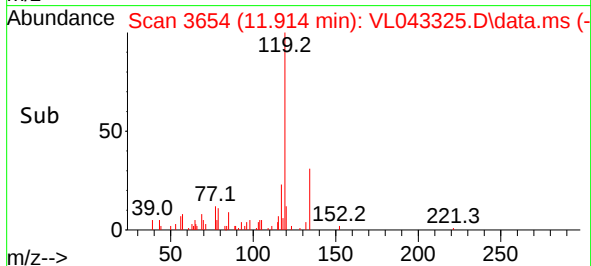
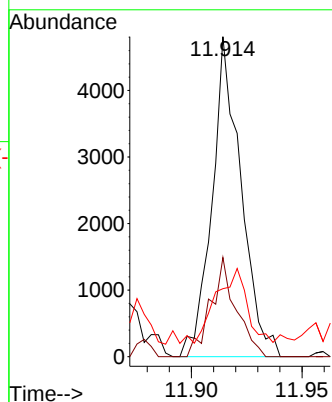
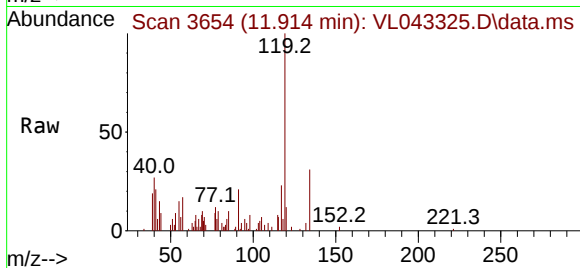
Tgt Ion:119 Resp: 4381

Ion Ratio Lower Upper

119 100

134 29.6 20.2 30.2

91 0.0 23.8 35.8#



#72

4-Ethyltoluene

Concen: 0.067 ppbv

RT: 11.112 min Scan# 3406

Delta R.T. -0.007 min

Lab File: VL043325.D

Acq: 08 Dec 2025 22:28

Tgt Ion:105 Resp: 3169

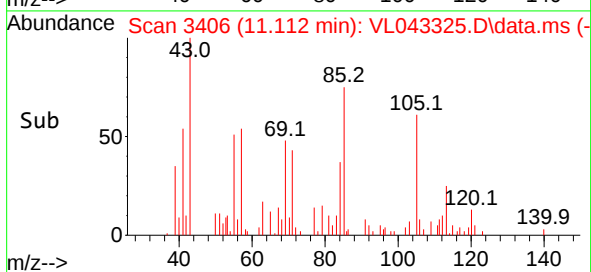
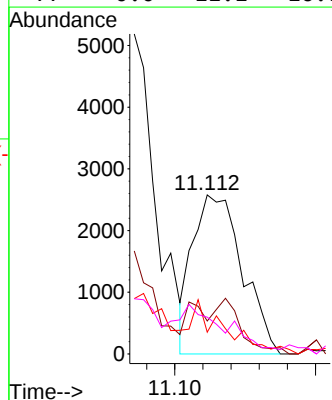
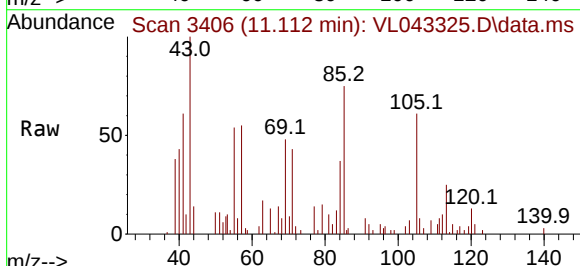
Ion Ratio Lower Upper

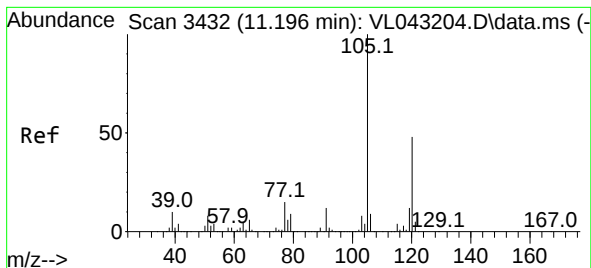
105 100

120 0.0 23.8 35.8#

91 0.0 10.3 15.5#

77 0.0 11.1 16.7#





#73

1,3,5-Trimethylbenzene

Concen: 0.084 ppbv

RT: 11.196 min Scan# 3432

Delta R.T. -0.000 min

Lab File: VL043325.D

Acq: 08 Dec 2025 22:28

Instrument :

MSVOA_L

ClientSampleId :

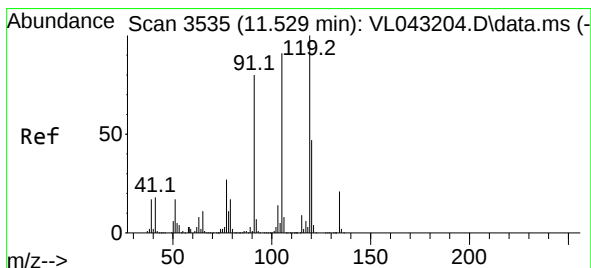
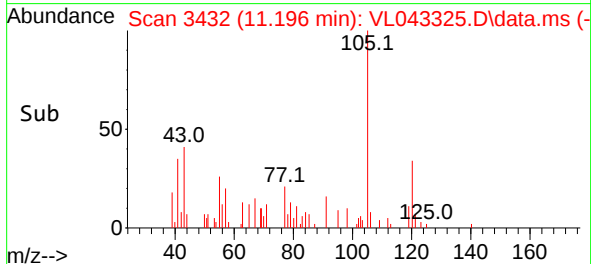
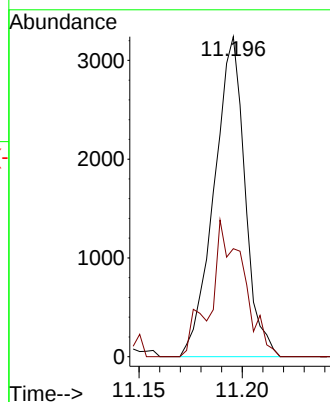
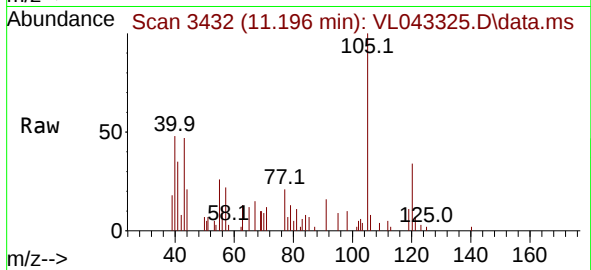
SV1

Tgt Ion:105 Resp: 3359

Ion Ratio Lower Upper

105 100

120 33.7 38.6 57.8#



#74

1,2,4-Trimethylbenzene

Concen: 0.260 ppbv

RT: 11.523 min Scan# 3533

Delta R.T. -0.007 min

Lab File: VL043325.D

Acq: 08 Dec 2025 22:28

Tgt Ion:105 Resp: 11320

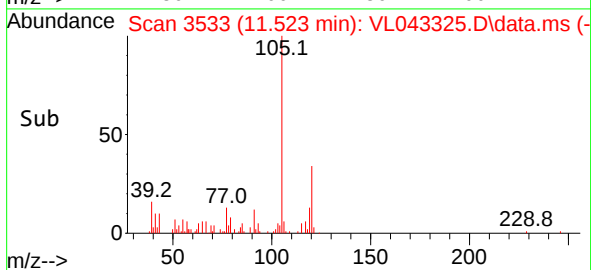
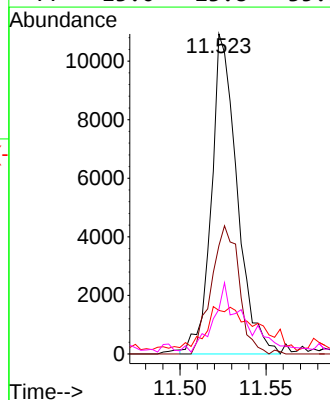
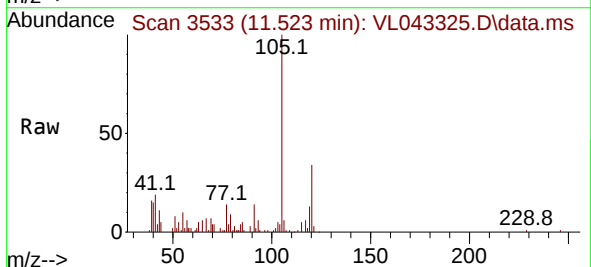
Ion Ratio Lower Upper

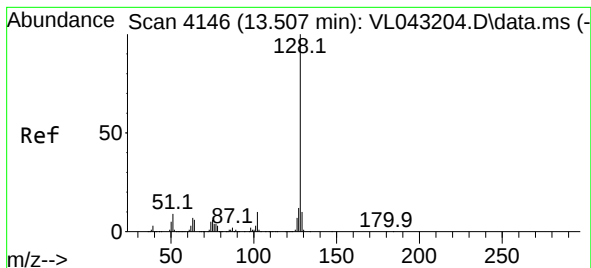
105 100

120 33.8 41.7 62.5#

91 11.6 70.0 105.0#

77 13.0 23.8 35.8#





#79

Naphthalene

Concen: 0.041 ppbv

RT: 13.507 min Scan# 4146

Delta R.T. -0.000 min

Lab File: VL043325.D

Acq: 08 Dec 2025 22:28

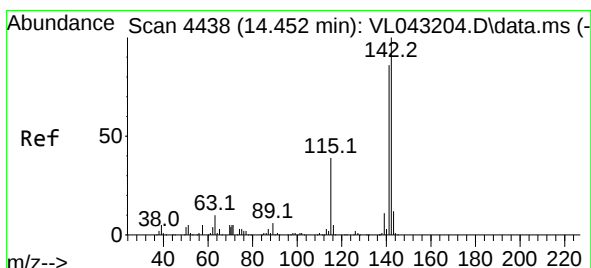
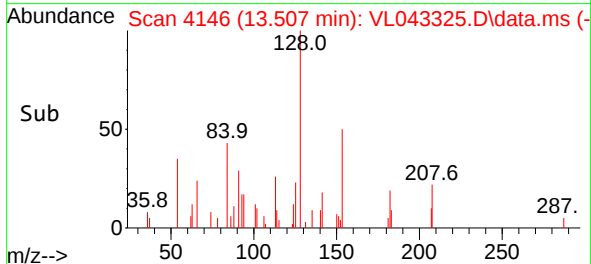
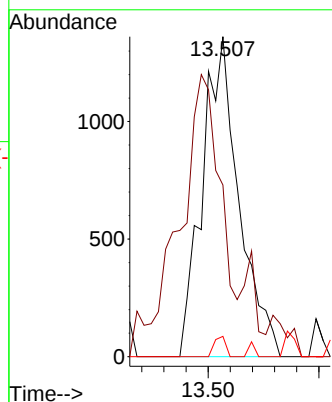
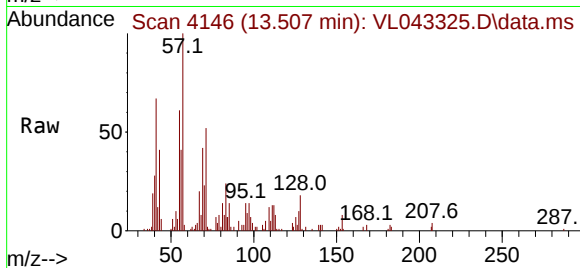
Instrument :

MSVOA_L

ClientSampleId :

SV1

Tgt Ion:128	Resp:	1566
Ion Ratio	Lower	Upper
128	100	
127	43.4	9.9 14.9#
129	6.3	8.4 12.6#



#80

Naphthalene,2-methyl-

Concen: 0.044 ppbv

RT: 14.468 min Scan# 4443

Delta R.T. 0.016 min

Lab File: VL043325.D

Acq: 08 Dec 2025 22:28

Tgt Ion:142	Resp:	442
Ion Ratio	Lower	Upper
142	100	
141	114.9	67.1 100.7#
115	56.6	31.9 47.9#

