

Data Path : Z:\VOASRV\HPCHEM1\MSVOA L\DATA\VL110520\
 Data File : VL035873.D
 Acq On : 5 Nov 2020 23:44
 Operator : SY/AP
 Sample : L4618-02
 Misc : 400ml/MSVOA L
 ALS Vial : 1 Sample Multiplier: 1

Instrument :
 MSVOA_L
 ClientSampleId :
 IA-1

Manual Integrations
 APPROVED

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 11/9/2020 10:47:41 AM

Quant Time: Nov 06 01:49:33 2020
 Quant Method : Z:\VOASRV\HPCHEM1\MSVOA L\METHODS\VL110320AIR.M
 Quant Title : AIR ANALYSIS BY METHOD TO-15 Instrument: MSVOA_LWed Nov 0
 QLast Update : Wed Nov 04 02:40:06 2020
 Response via : Initial Calibration

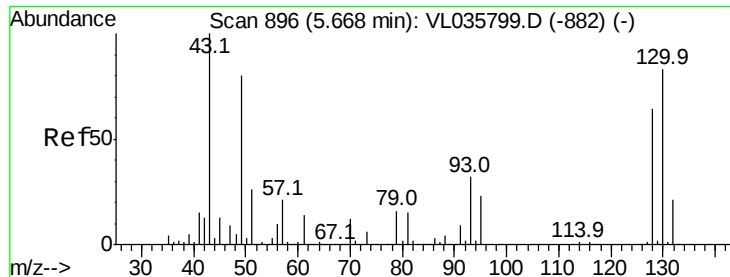
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	5.65	49	1056033	10.00	ppbv	-0.01
33) 1,4-Difluorobenzene	7.16	114	3875579	10.00	ppbv	-0.02
55) Chlorobenzene-d5	12.07	117	3751898	10.00	ppbv	-0.03

System Monitoring Compounds

68) 1-Bromo-4-Fluorobenzene	14.39	95	2772871	10.40	ppbv	-0.03
Spiked Amount	10.000	Range	65 - 135	Recovery	=	104.00%

Target Compounds	R.T.	QIon	Response	Conc	Units	Ovalue
2) Dichlorodifluoromethane	3.02	85	52167	0.262	ppbv	97
3) Chlorodifluoromethane	2.97	51	39303	0.311	ppbv	96
4) Chloromethane	3.12	50	31301	0.509	ppbv	97
9) Propene	3.00	41	1820274m	39.326	ppbv	
10) Heptane	8.10	43	208470	1.631	ppbv	97
11) Trichlorofluoromethane	3.92	101	56162	0.225	ppbv	94
13) Ethanol	3.59	45	99591	9.918	ppbv	100
15) Acetone	3.83	43	24466147	216.707	ppbv #	61
17) tert-Butyl alcohol	4.29	59	20776	0.139	ppbv #	72
20) Methylene Chloride	4.34	84	126352	1.590	ppbv	96
26) Hexane	5.66	57	106100	0.865	ppbv #	44
29) Chloroform	5.74	83	155062	0.643	ppbv	100
30) Cyclohexane	7.11	84	24314m	0.182	ppbv	
34) 2-Butanone	5.24	43	27868	0.222	ppbv	98
35) Carbon Tetrachloride	7.01	117	12514m	0.060	ppbv	
36) Benzene	6.88	78	127304m	0.442	ppbv	
44) 2,2,4-Trimethylpentane	7.85	57	184099	0.483	ppbv #	79
50) 4-Methyl-2-Pentanone	8.73	43	58179	0.302	ppbv	94
52) Tetrachloroethene	11.20	164	110550	0.810	ppbv	97
53) Toluene	9.79	91	15509212	44.610	ppbv #	80
58) Ethyl Benzene	12.69	91	1203203	2.633	ppbv	93
59) m/p-Xylene	12.94	91	4060453	10.503	ppbv	98
60) o-Xylene	13.67	91	1213537	3.227	ppbv	97
61) Styrene	13.51	104	36543	0.133	ppbv	93
64) n-propylbenzene	15.54	120	25850	0.151	ppbv	72
72) 4-Ethyltoluene	15.82	105	148585	0.326	ppbv #	94
73) 1,3,5-Trimethylbenzene	15.98	105	129966	0.311	ppbv	100
74) 1,2,4-Trimethylbenzene	16.74	105	423506	0.947	ppbv #	69

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



#1

Bromochloromethane

Concen: 10.000 ppbv

RT: 5.65 min Scan# 892

Delta R.T. -0.01 min

Lab File: VL035873.D

Acq: 5 Nov 2020 23:44

Instrument :

MSVOA_L

ClientSampleId :

IA-1

Tot Ion: 49 Resp: 1056033

Ion Ratio Lower Upper

49 100

128 78.7 41.5 124.6

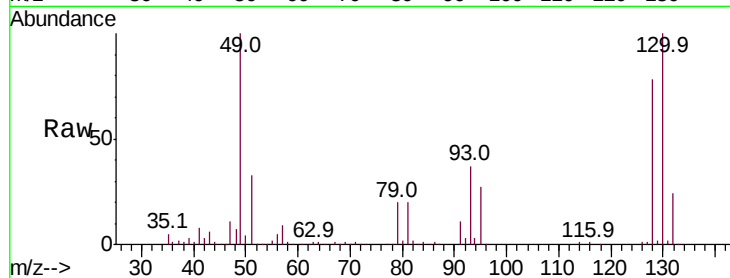
130 100.8 53.7 161.1

Manual Integrations

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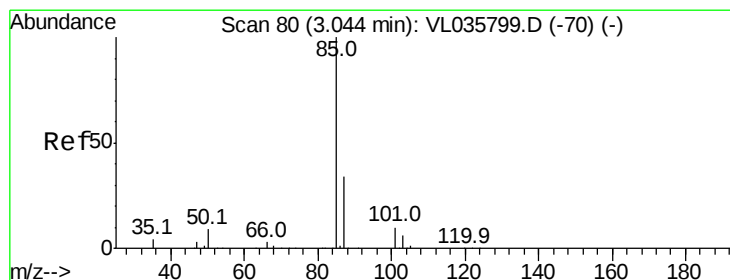
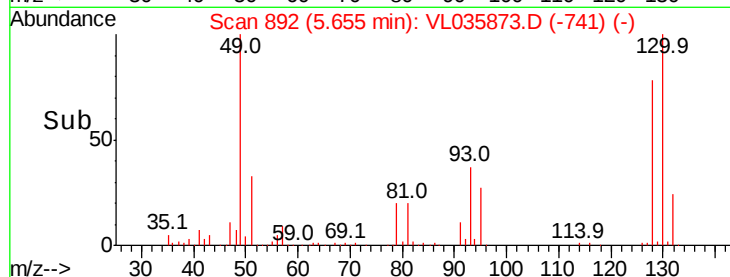
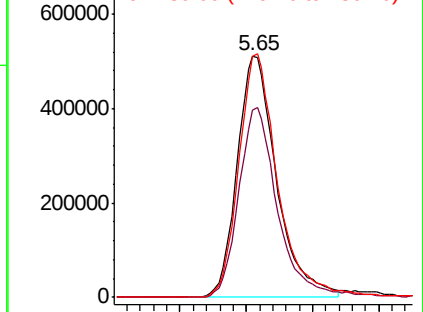
11/9/2020 10:47:41 AM



Abundance Ion 49.10 (48.80 to 49.80): VL0

Ion 128.00 (127.70 to 128.70): V

Ion 130.00 (129.70 to 130.70): V



#2

Dichlorodifluoromethane

Concen: 0.262 ppbv

RT: 3.02 min Scan# 74

Delta R.T. -0.02 min

Lab File: VL035873.D

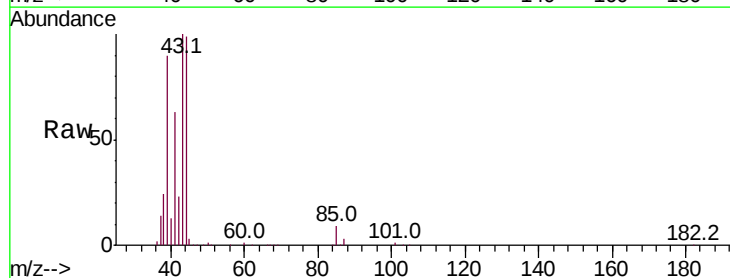
Acq: 5 Nov 2020 23:44

Tgt Ion: 85 Resp: 52167

Ion Ratio Lower Upper

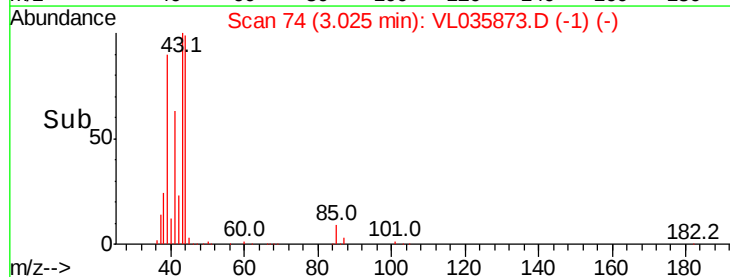
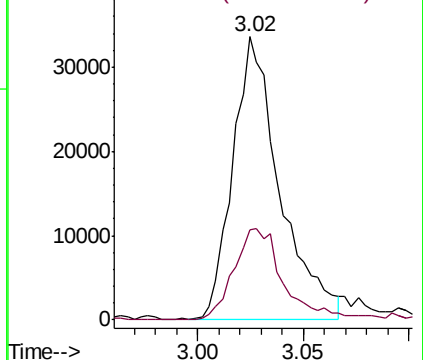
85 100

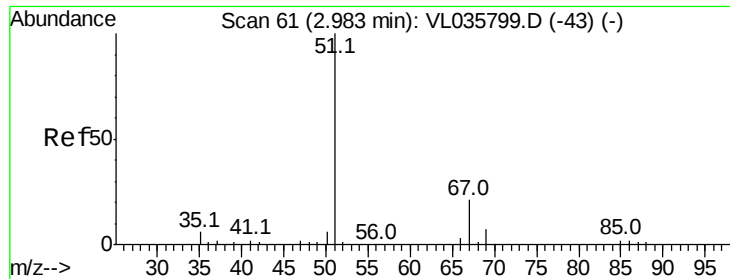
87 32.0 27.1 40.7



Abundance Ion 85.00 (84.70 to 85.70): VL0

Ion 87.00 (86.70 to 87.70): VL0





#3

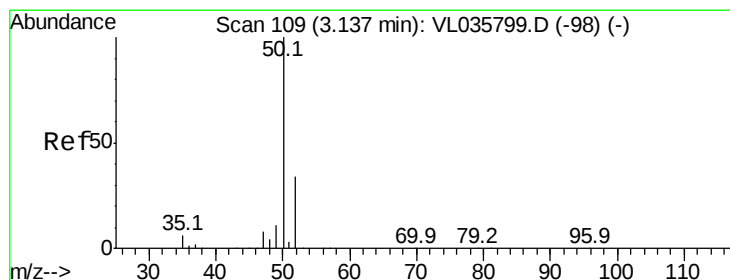
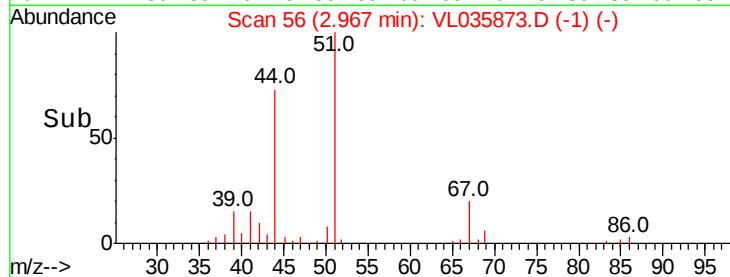
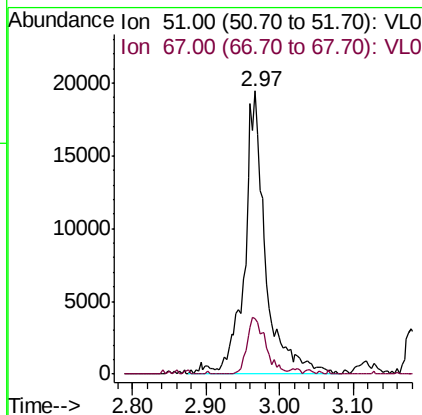
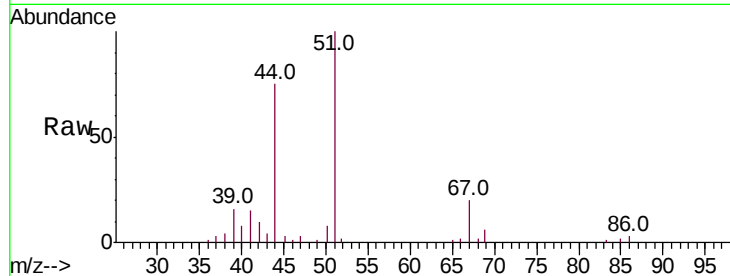
Chlorodifluoromethane
Concen: 0.311 ppbv
RT: 2.97 min Scan# 56
Delta R.T. -0.02 min
Lab File: VL035873.D
Acq: 5 Nov 2020 23:44

Instrument :
MSVOA_L
ClientSampled :
IA-1

Tot Ion: 51 Resp: 39303
Ion Ratio Lower Upper
51 100
67 19.4 17.0 25.4

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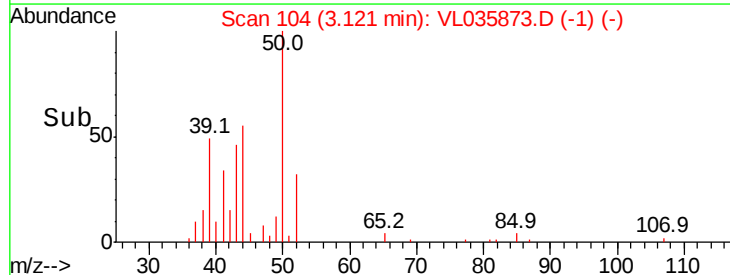
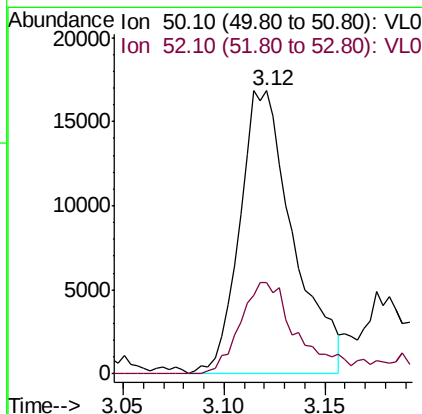
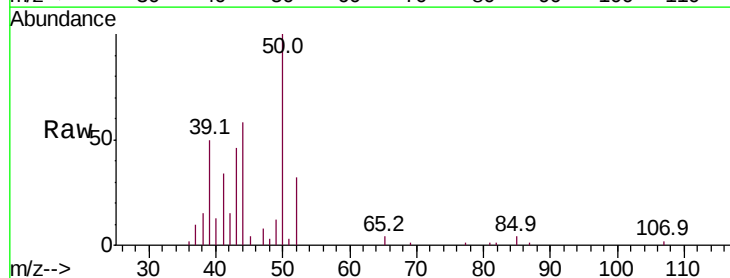
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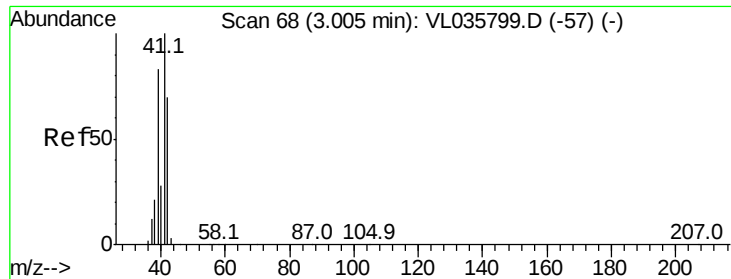


#4

Chloromethane
Concen: 0.509 ppbv
RT: 3.12 min Scan# 104
Delta R.T. -0.02 min
Lab File: VL035873.D
Acq: 5 Nov 2020 23:44

Tgt Ion: 50 Resp: 31301
Ion Ratio Lower Upper
50 100
52 32.2 27.1 40.7





#9

Propene

Concen: 39.326 ppbv m

RT: 3.00 min Scan# 66

Delta R.T. -0.01 min

Lab File: VL035873.D

Acq: 5 Nov 2020 23:44

Instrument :

MSVOA_L

ClientSampled :

IA-1

Tot Ion: 41 Resp: 1820274

Ion Ratio Lower Upper

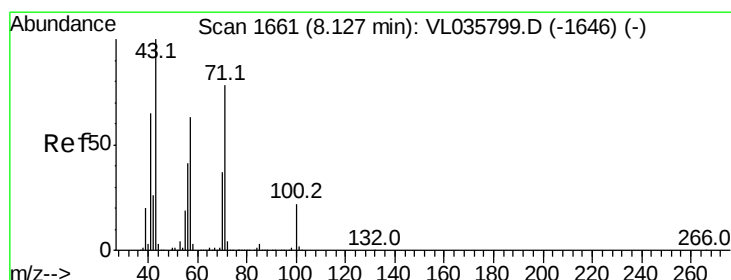
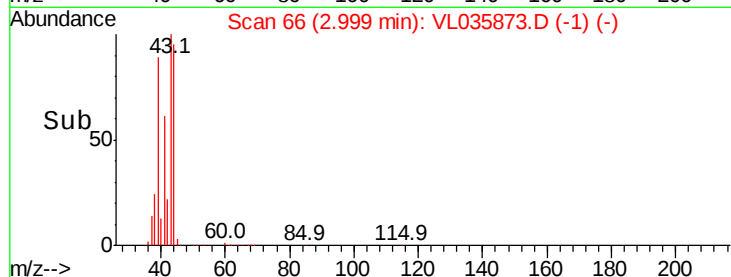
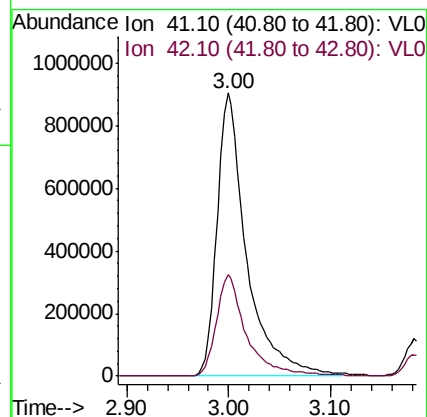
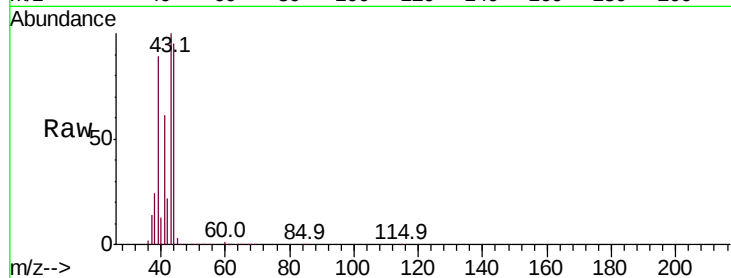
41 100

42 6.1 56.2 84.4#

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#10

Heptane

Concen: 1.631 ppbv

RT: 8.10 min Scan# 1653

Delta R.T. -0.03 min

Lab File: VL035873.D

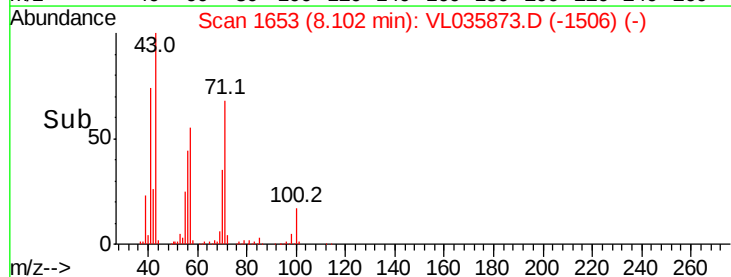
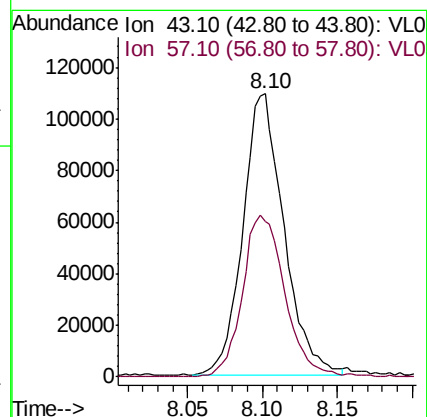
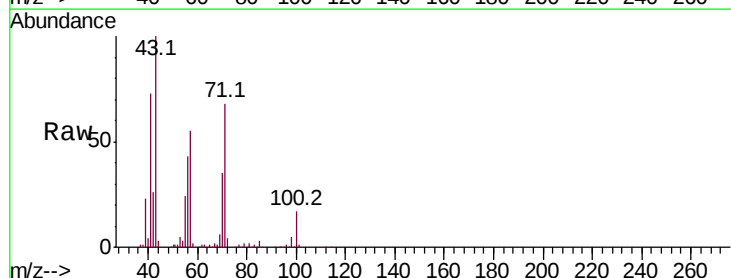
Acq: 5 Nov 2020 23:44

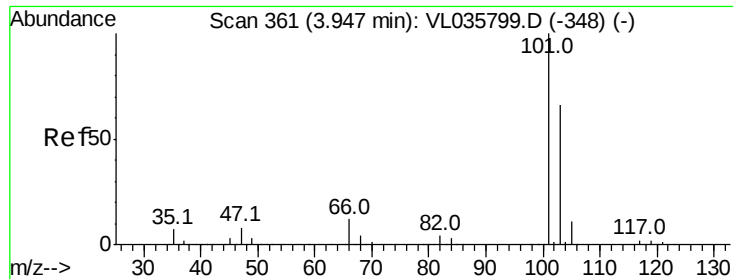
Tgt Ion: 43 Resp: 208470

Ion Ratio Lower Upper

43 100

57 60.0 50.0 75.0





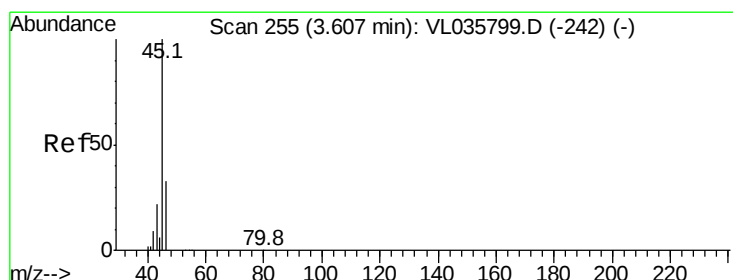
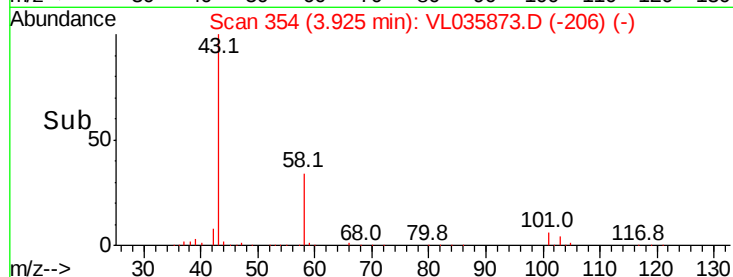
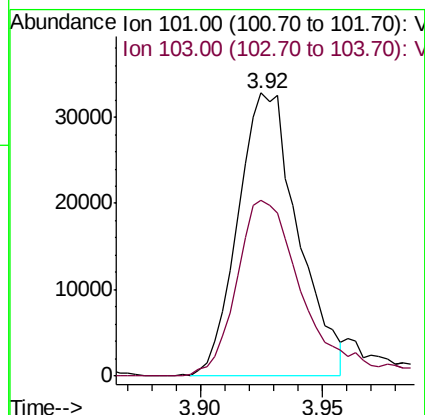
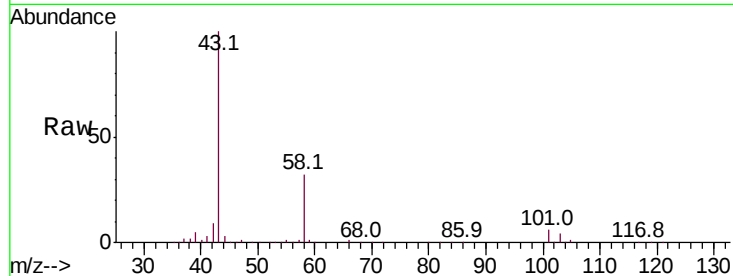
#11
 Trichlorofluoromethane
 Concen: 0.225 ppbv
 RT: 3.92 min Scan# 354
 Delta R.T. -0.02 min
 Lab File: VL035873.D
 Acq: 5 Nov 2020 23:44

Instrument :
 MSVOA_L
 ClientSampleId :
 IA-1

Tot Ion:101 Resp: 56162
 Ion Ratio Lower Upper
 101 100
 103 61.1 53.0 79.4

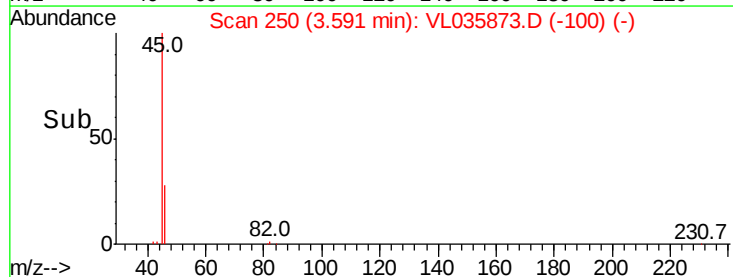
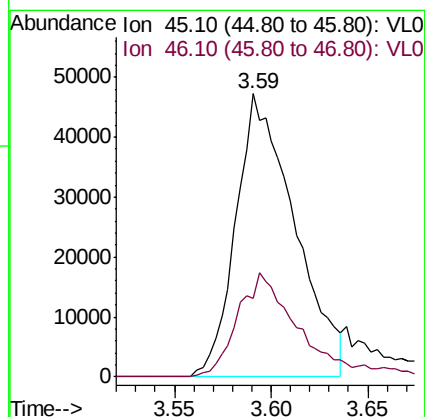
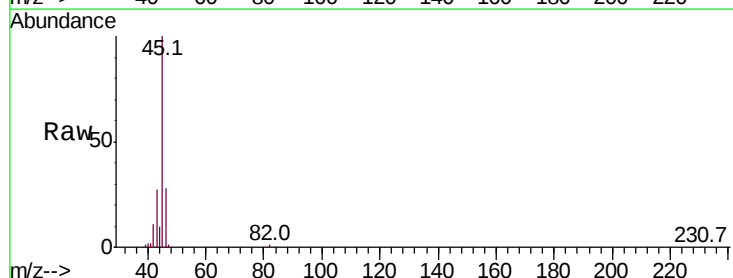
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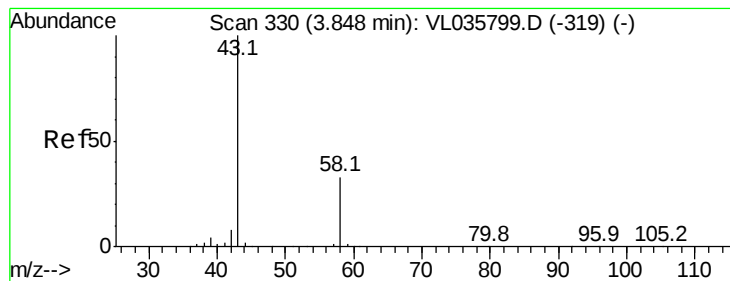
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#13
 Ethanol
 Concen: 9.918 ppbv
 RT: 3.59 min Scan# 250
 Delta R.T. -0.02 min
 Lab File: VL035873.D
 Acq: 5 Nov 2020 23:44

Tgt Ion: 45 Resp: 99591
 Ion Ratio Lower Upper
 45 100
 46 40.1 16.1 64.5





#15

Acetone

Concen: 216.707 ppbv

RT: 3.83 min Scan# 326

Delta R.T. -0.01 min

Lab File: VL035873.D

Acq: 5 Nov 2020 23:44

Instrument :

MSVOA_L

ClientSampleId :

IA-1

Tot Ion: 43 Resp: 24466147

Ion Ratio Lower Upper

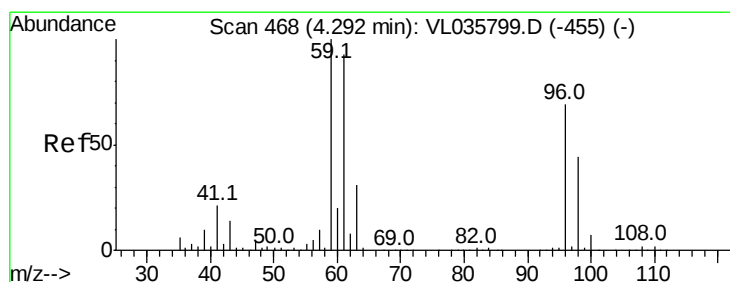
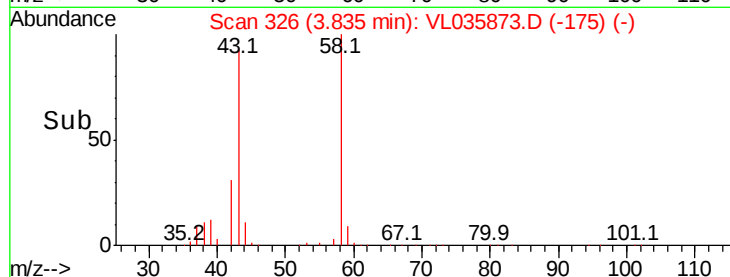
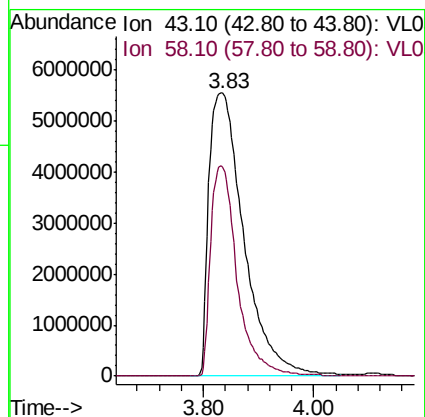
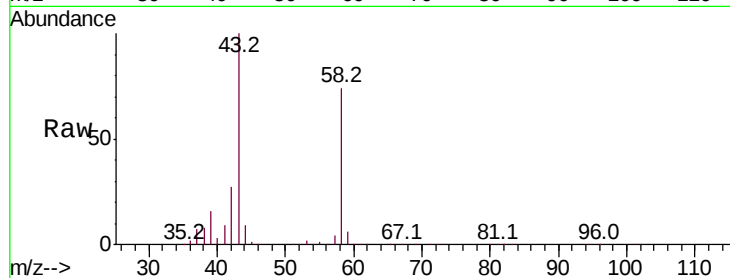
43 100

58 56.9 27.5 41.3#

Manual Integrations
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#17

tert-Butyl alcohol

Concen: 0.139 ppbv

RT: 4.29 min Scan# 468

Delta R.T. -0.00 min

Lab File: VL035873.D

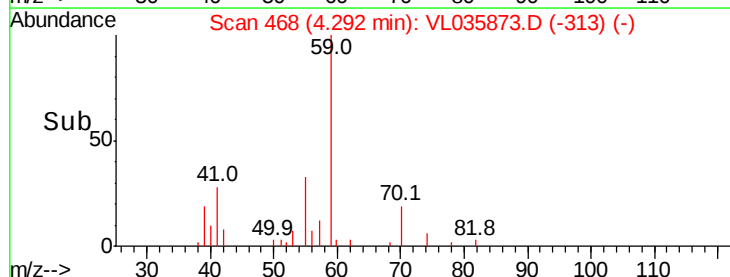
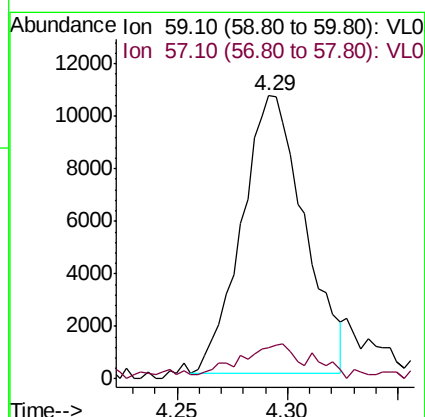
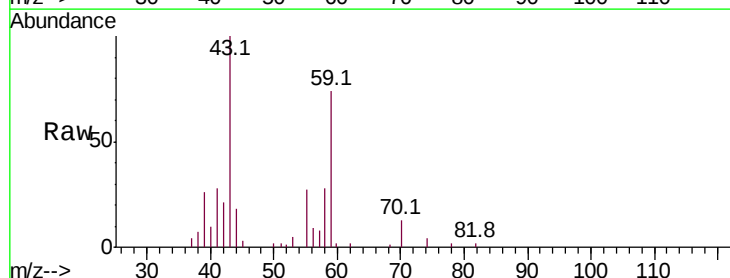
Acq: 5 Nov 2020 23:44

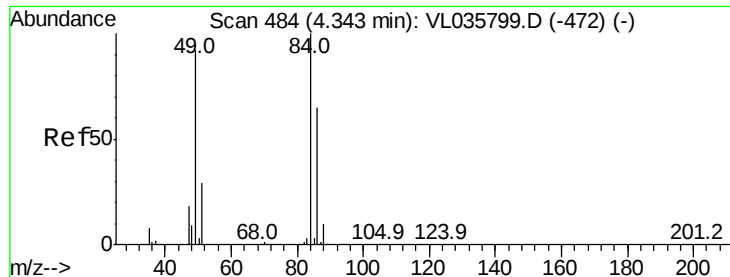
Tgt Ion: 59 Resp: 20776

Ion Ratio Lower Upper

59 100

57 0.0 8.2 12.4#





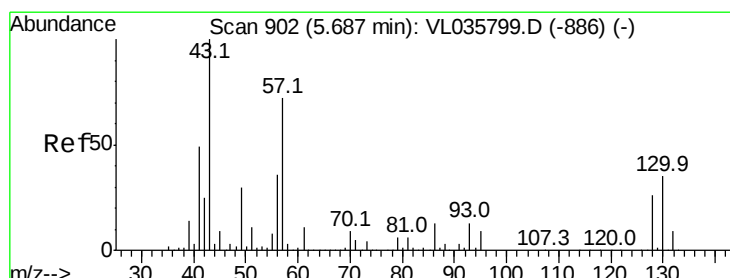
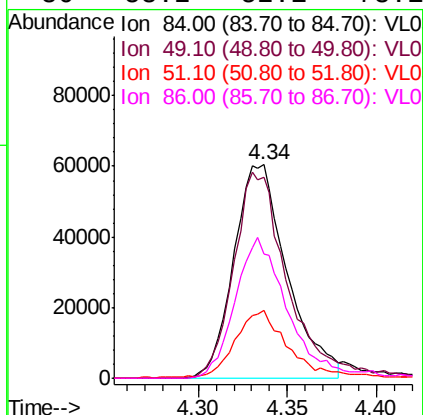
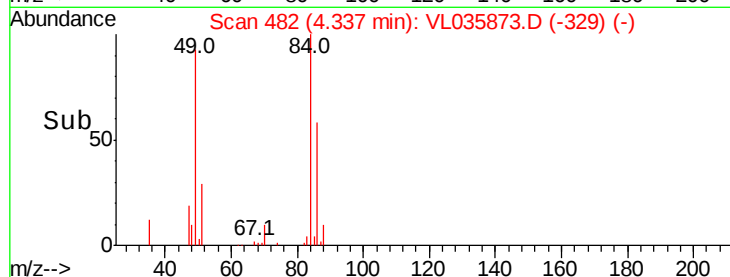
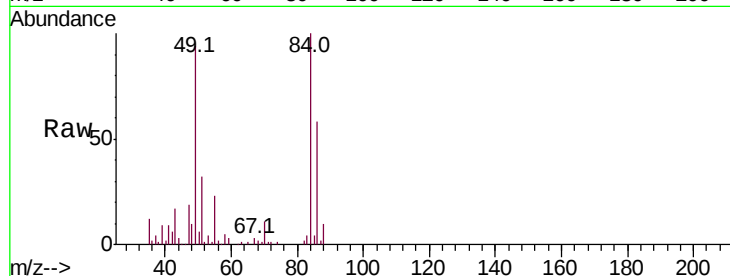
#20
Methvlene Chloride
Concen: 1.590 ppbv
RT: 4.34 min Scan# 482
Delta R.T. -0.01 min
Lab File: VL035873.D
Acq: 5 Nov 2020 23:44

Instrument :
MSVOA_L
ClientSampleId :
IA-1

Tot Ion	84	Resp	126352
Ion Ratio	Lower	Upper	
84	100		
49	93.4	73.8	110.8
51	30.6	23.0	34.4
86	58.2	52.1	78.1

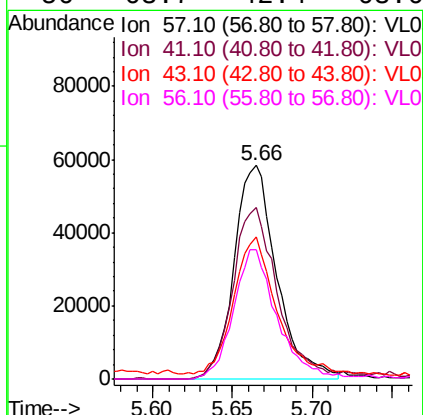
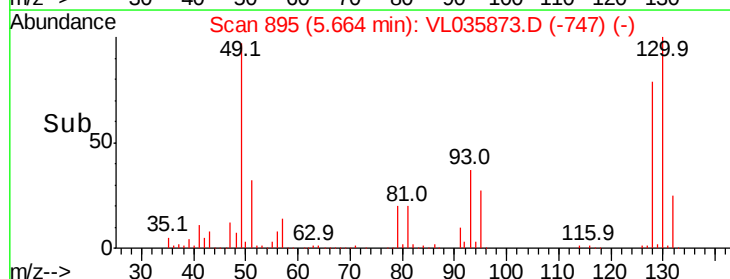
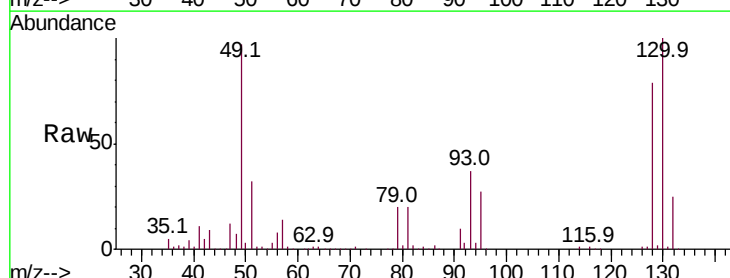
Manual Integrations
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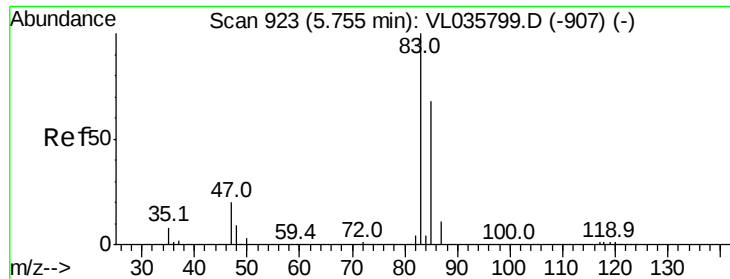
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#26
Hexane
Concen: 0.865 ppbv
RT: 5.66 min Scan# 895
Delta R.T. -0.02 min
Lab File: VL035873.D
Acq: 5 Nov 2020 23:44

Tgt Ion	57	Resp	106100
Ion Ratio	Lower	Upper	
57	100		
41	88.0	58.9	88.3
43	67.1	150.2	225.2#
56	63.7	42.4	63.6#





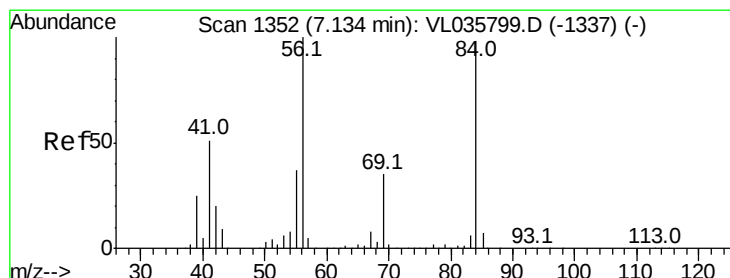
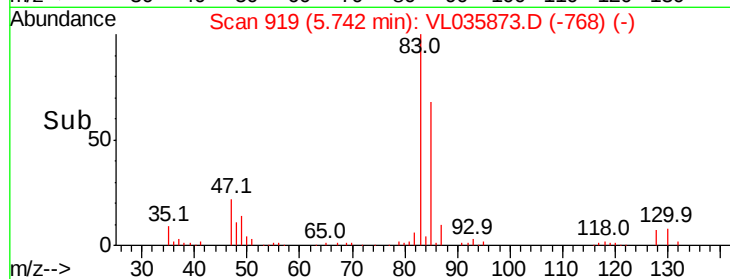
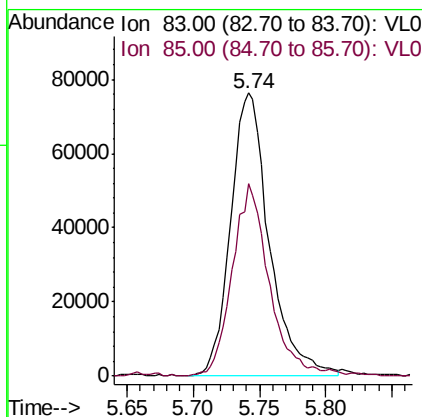
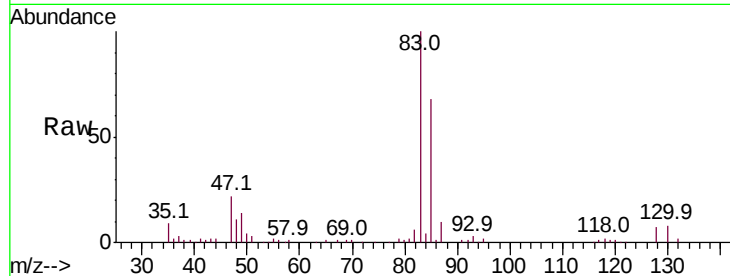
#29
Chloroform
Concen: 0.643 ppbv
RT: 5.74 min Scan# 919
Delta R.T. -0.01 min
Lab File: VL035873.D
Acq: 5 Nov 2020 23:44

Instrument :
MSVOA_L
ClientSampleId :
IA-1

Tot Ion	Ratio	Lower	Upper
83	100		
85	68.0	54.6	81.8

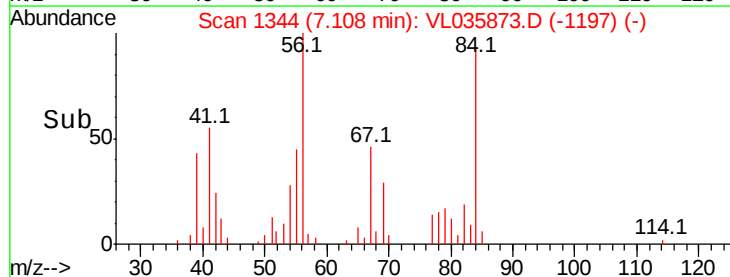
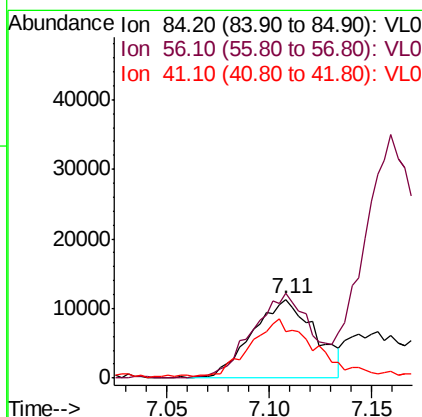
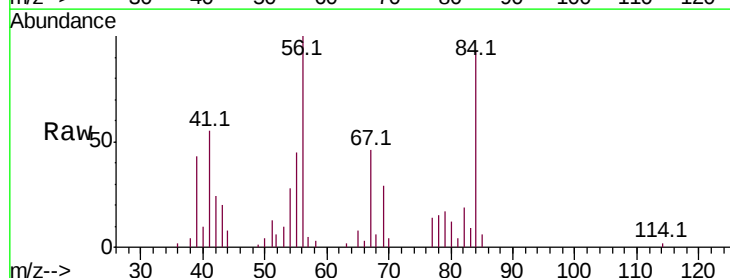
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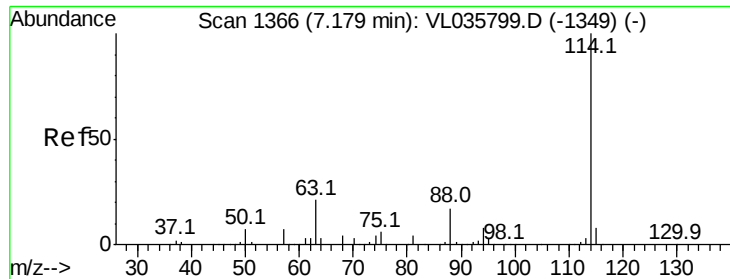
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#30
Cyclohexane
Concen: 0.182 ppbv m
RT: 7.11 min Scan# 1344
Delta R.T. -0.03 min
Lab File: VL035873.D
Acq: 5 Nov 2020 23:44

Tgt Ion	Ratio	Lower	Upper
84	100		
56	0.0	86.4	129.6#
41	0.0	42.1	63.1#





#33
 1,4-Difluorobenzene
 Concen: 10.000 ppbv
 RT: 7.16 min Scan# 1360
 Delta R.T. -0.02 min
 Lab File: VL035873.D
 Acq: 5 Nov 2020 23:44

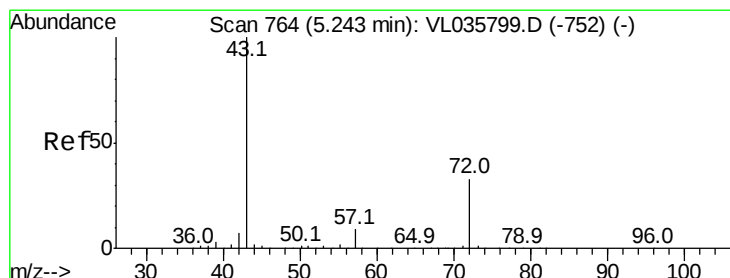
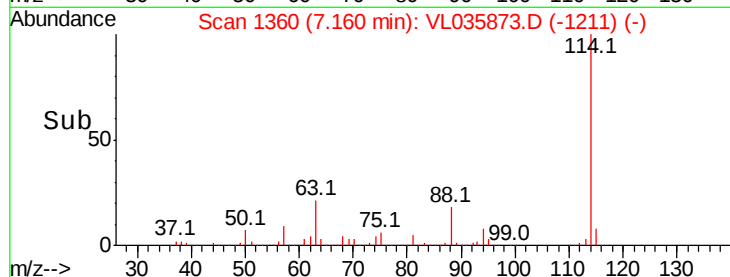
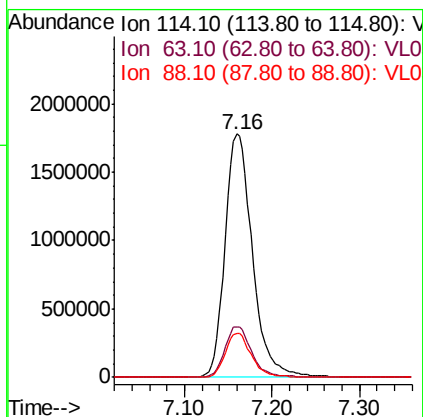
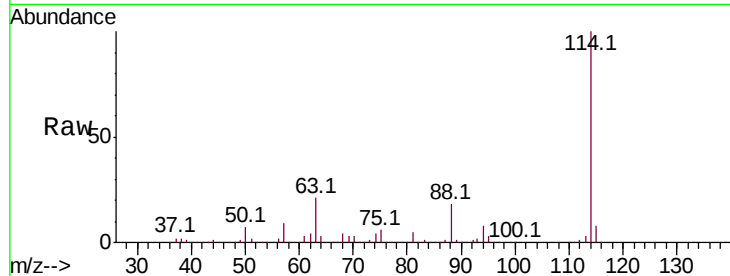
Instrument :
 MSVOA_L
 ClientSampleId :
 IA-1

Tot Ion:114 Resp: 3875579

Ion	Ratio	Lower	Upper
114	100		
63	20.5	16.1	24.1
88	17.4	13.7	20.5

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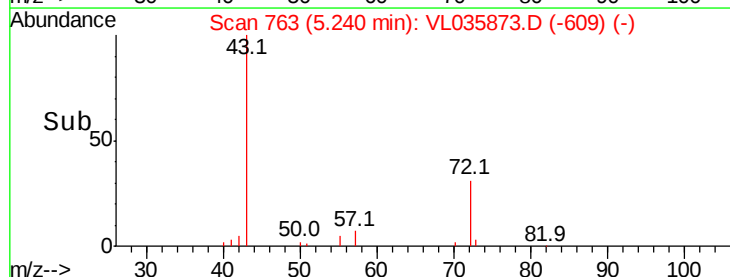
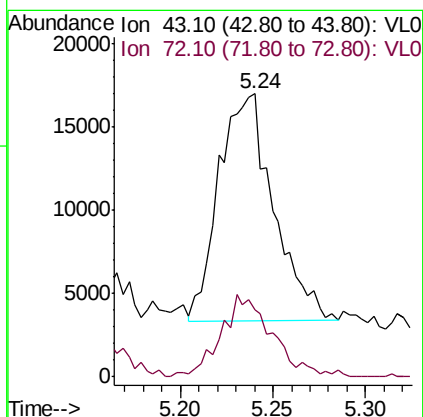
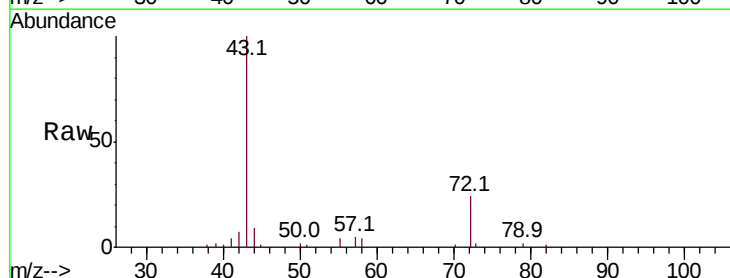
MMDadoda
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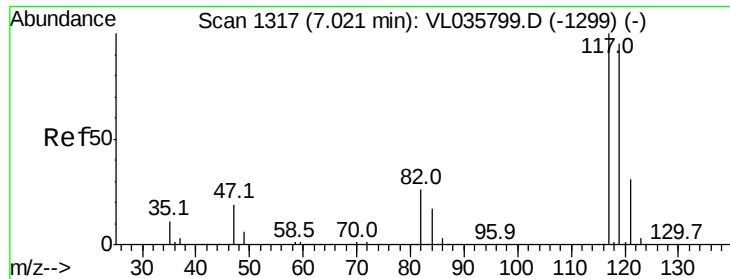


#34
 2-Butanone
 Concen: 0.222 ppbv
 RT: 5.24 min Scan# 763
 Delta R.T. -0.00 min
 Lab File: VL035873.D
 Acq: 5 Nov 2020 23:44

Tgt Ion: 43 Resp: 27868

Ion	Ratio	Lower	Upper
43	100		
72	34.5	26.5	39.7





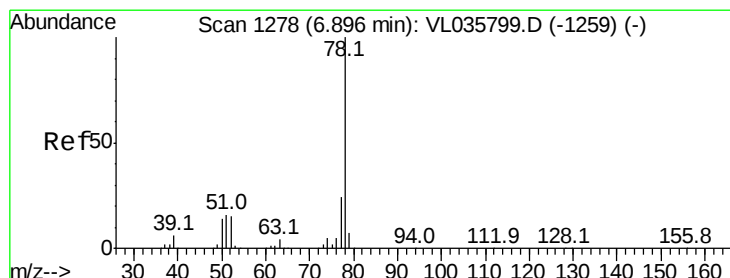
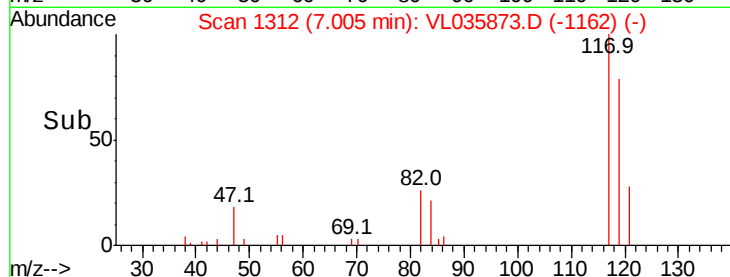
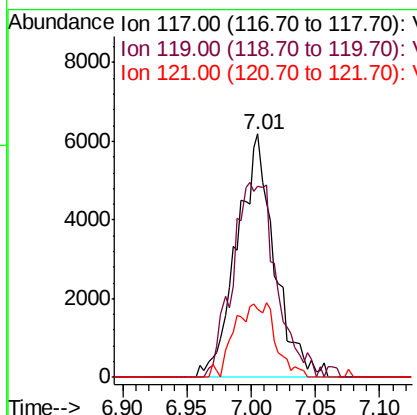
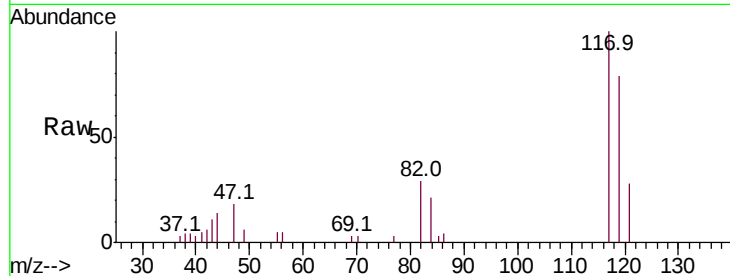
#35
Carbon Tetrachloride
Concen: 0.060 ppbv m
RT: 7.01 min Scan# 1312
Delta R.T. -0.02 min
Lab File: VL035873.D
Acq: 5 Nov 2020 23:44

Instrument :
MSVOA_L
ClientSampled :
IA-1

Tot Ion	Ratio	Lower	Upper
117	100		
119	78.5	75.6	113.4
121	27.9	25.1	37.7

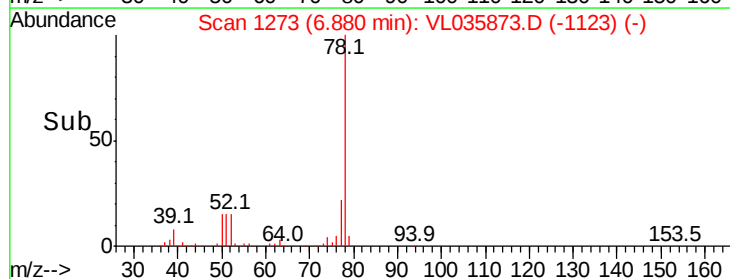
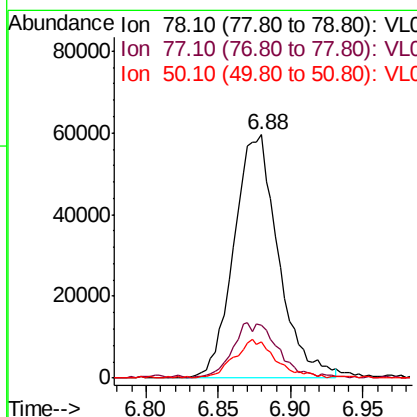
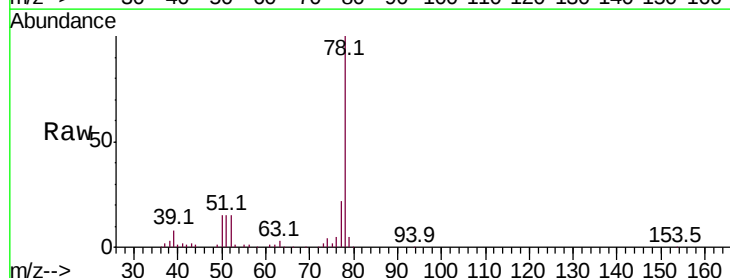
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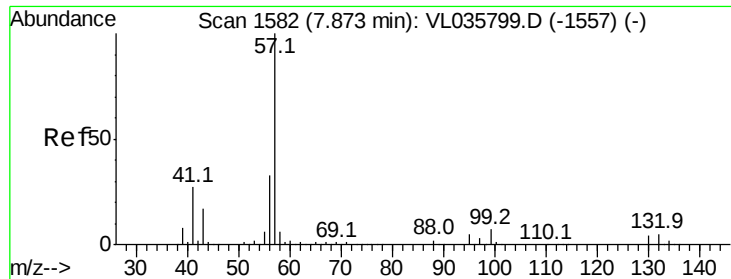
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#36
Benzene
Concen: 0.442 ppbv m
RT: 6.88 min Scan# 1273
Delta R.T. -0.02 min
Lab File: VL035873.D
Acq: 5 Nov 2020 23:44

Tgt Ion	Ratio	Lower	Upper
78	100		
77	21.5	19.3	28.9
50	14.9	11.4	17.2





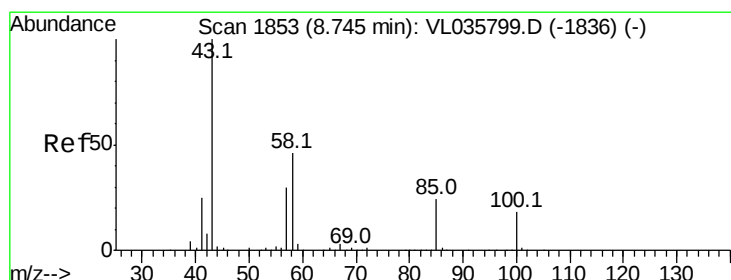
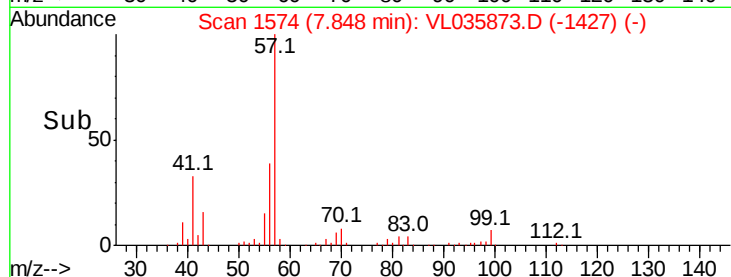
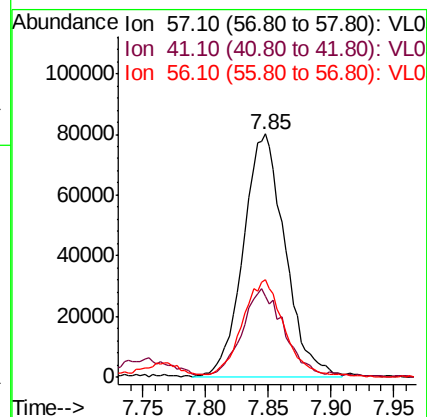
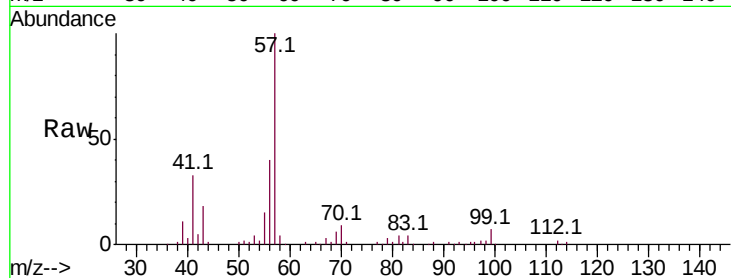
#44
 2,2,4-Trimethylpentane
 Concen: 0.483 ppbv
 RT: 7.85 min Scan# 1574
 Delta R.T. -0.03 min
 Lab File: VL035873.D
 Acq: 5 Nov 2020 23:44

Instrument :
 MSVOA_L
 ClientSampled :
 IA-1

Tot Ion	Ratio	Lower	Upper
57	100		
41	38.8	21.0	31.4#
56	41.5	25.4	38.0#

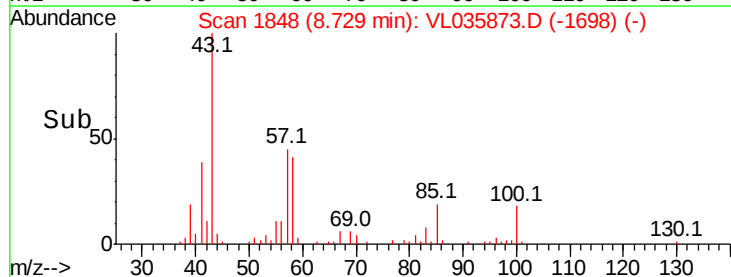
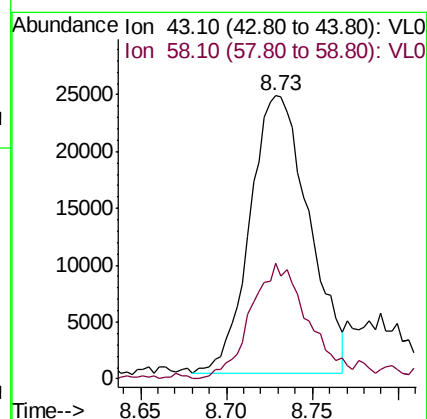
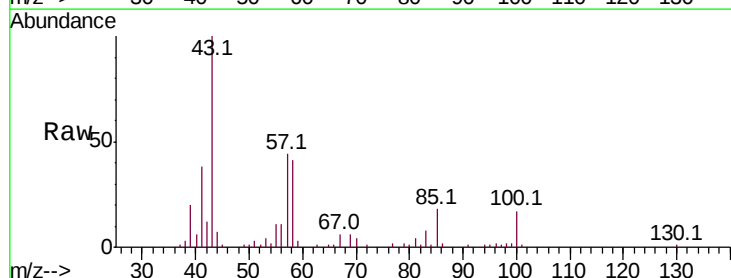
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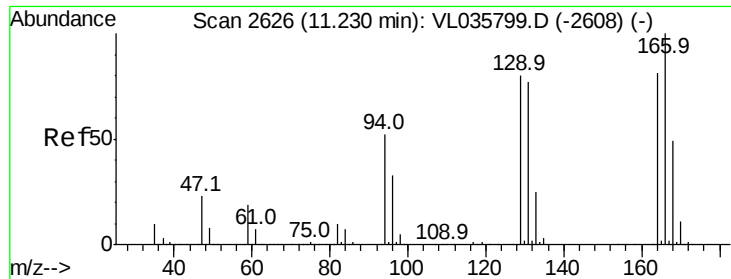
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#50
 4-Methyl-2-Pentanone
 Concen: 0.302 ppbv
 RT: 8.73 min Scan# 1848
 Delta R.T. -0.02 min
 Lab File: VL035873.D
 Acq: 5 Nov 2020 23:44

Tgt Ion	Ratio	Lower	Upper
43	100		
58	40.9	36.0	54.0





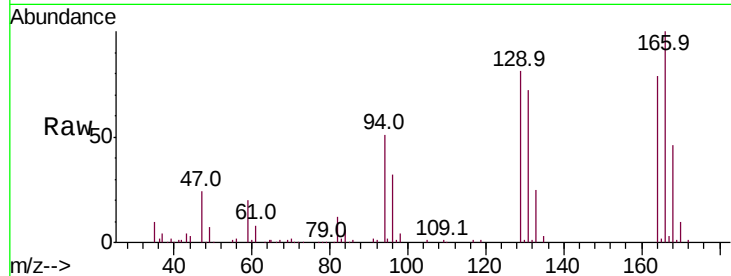
#52
Tetrachloroethene
Concen: 0.810 ppbv
RT: 11.20 min Scan# 2618
Delta R.T. -0.03 min
Lab File: VL035873.D
Acq: 5 Nov 2020 23:44

Instrument :
MSVOA_L
ClientSampled :
IA-1

Tot Ion	Ratio	Lower	Upper
164	100		
166	127.2	99.3	148.9
129	102.5	79.3	118.9
131	91.8	76.5	114.7

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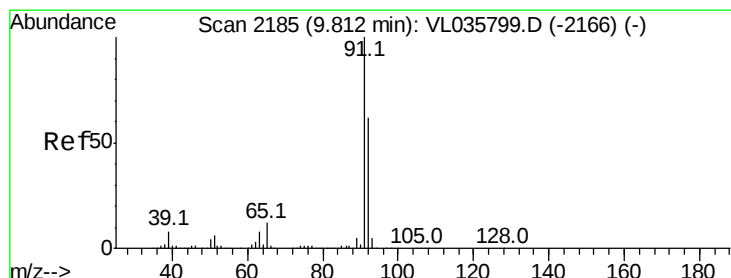
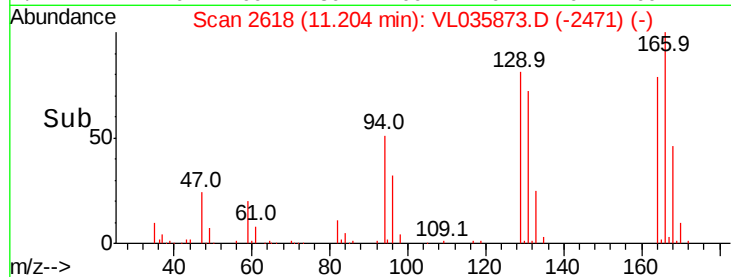
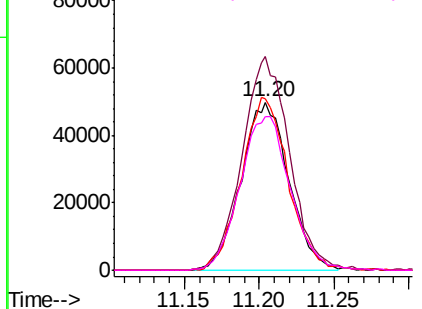
Abundance

Ion 163.90 (163.60 to 164.60): V

Ion 165.90 (165.60 to 166.60): V

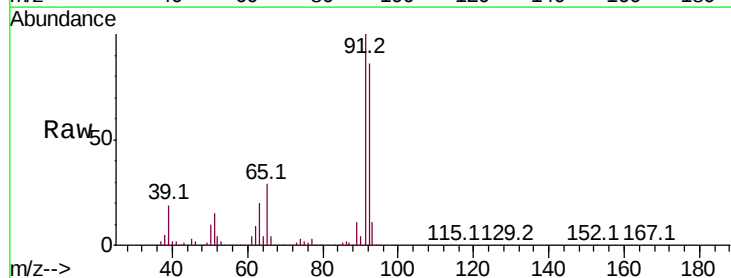
Ion 129.00 (128.70 to 129.70): V

Ion 131.00 (130.70 to 131.70): V



#53
Toluene
Concen: 44.610 ppbv
RT: 9.79 min Scan# 2178
Delta R.T. -0.02 min
Lab File: VL035873.D
Acq: 5 Nov 2020 23:44

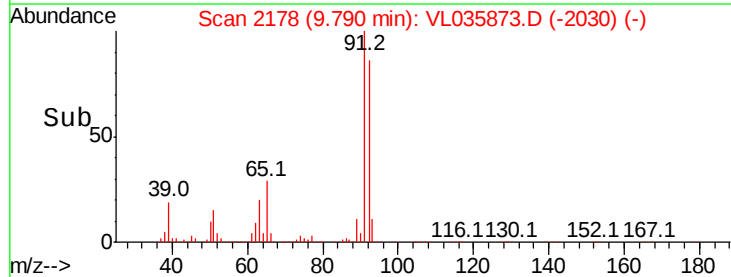
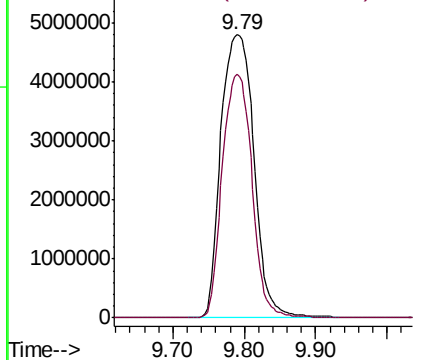
Tgt Ion	Ratio	Lower	Upper
91	100		
92	77.3	49.8	74.6

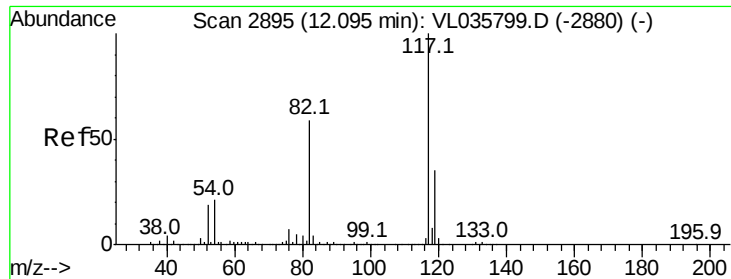


Abundance

Ion 91.10 (90.80 to 91.80): VL0

Ion 92.10 (91.80 to 92.80): VL0





#55

Chlorobenzene-d5

Concen: 10.000 ppbv

RT: 12.07 min Scan# 2886

Delta R.T. -0.03 min

Lab File: VL035873.D

Acq: 5 Nov 2020 23:44

Instrument :

MSVOA_L

ClientSampled :

IA-1

Tot Ion:117 Resp: 3751898

Ion Ratio Lower Upper

117 100

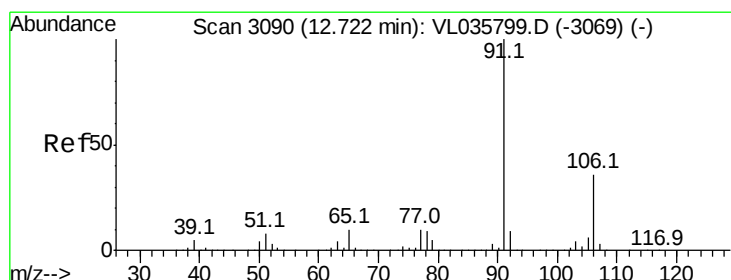
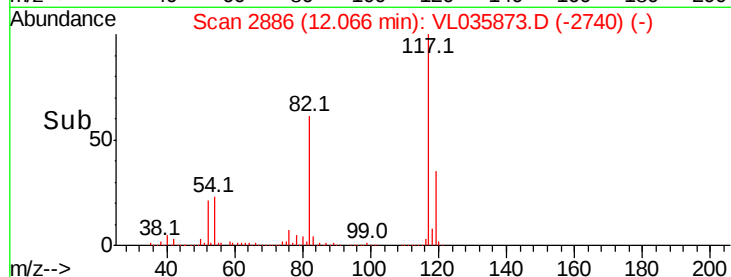
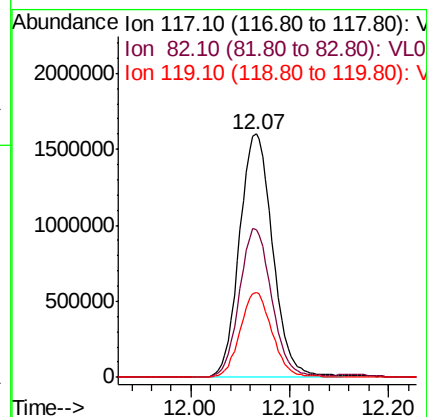
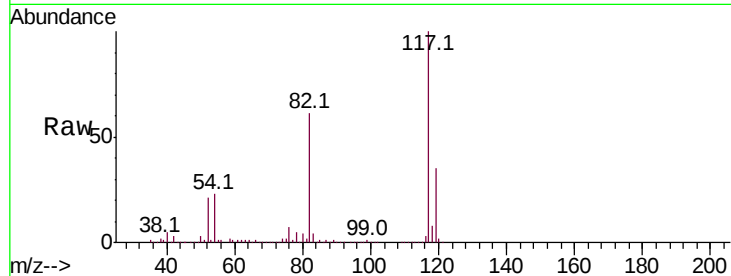
82 59.8 50.6 76.0

119 33.8 52.6 78.8#

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#58

Ethyl Benzene

Concen: 2.633 ppbv

RT: 12.69 min Scan# 3080

Delta R.T. -0.03 min

Lab File: VL035873.D

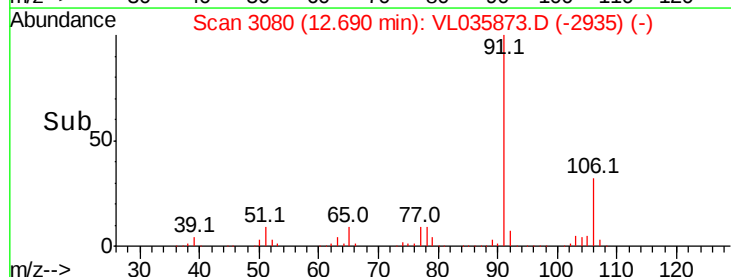
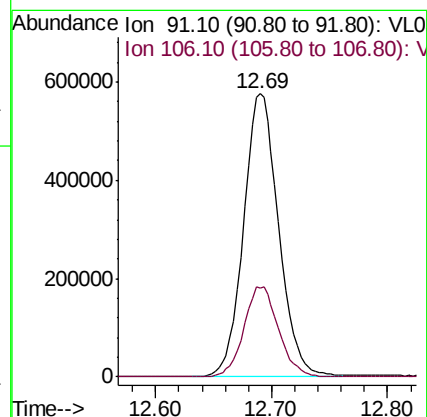
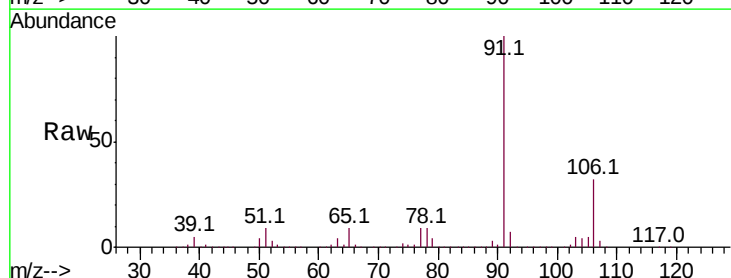
Acq: 5 Nov 2020 23:44

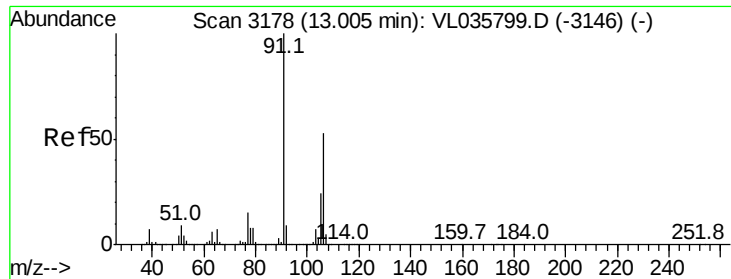
Tgt Ion: 91 Resp: 1203203

Ion Ratio Lower Upper

91 100

106 31.6 28.6 43.0





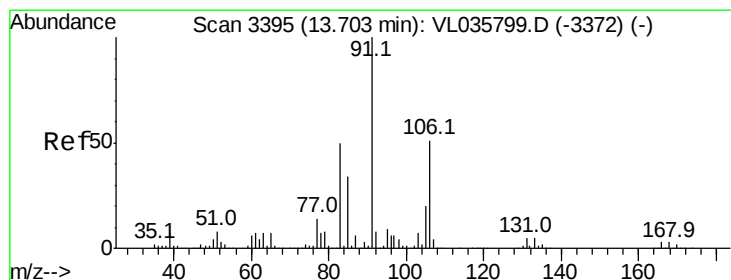
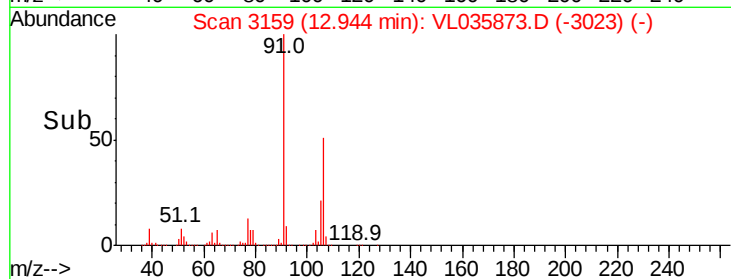
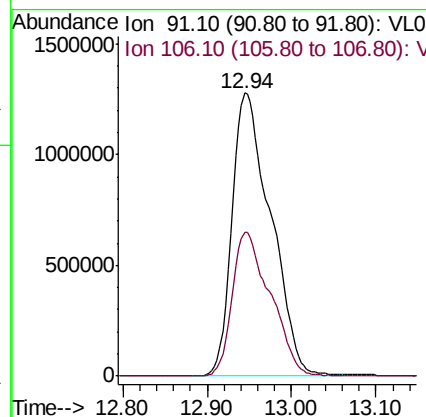
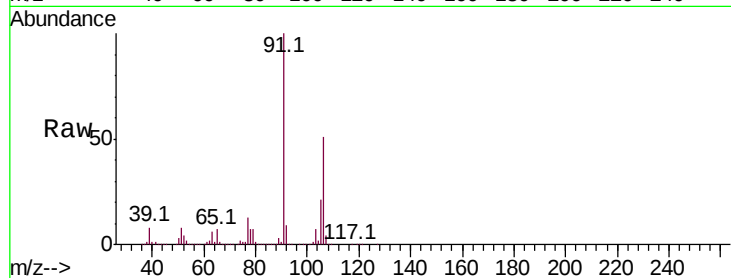
#59
m/p-Xylene
Concen: 10.503 ppbv
RT: 12.94 min Scan# 3159
Delta R.T. -0.06 min
Lab File: VL035873.D
Acq: 5 Nov 2020 23:44

Instrument :
MSVOA_L
ClientSampled :
IA-1

Tot Ion: 91 Resp: 4060453
Ion Ratio Lower Upper
91 100
106 50.6 39.5 59.3

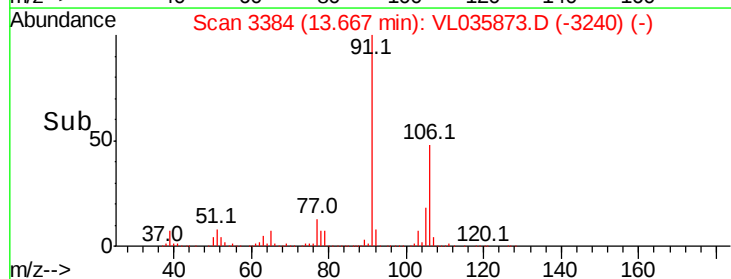
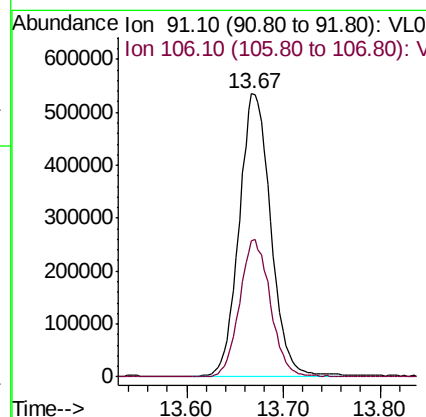
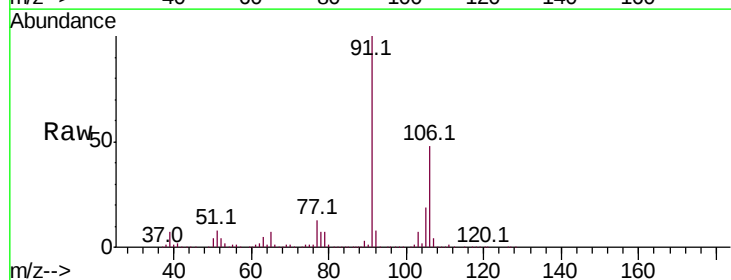
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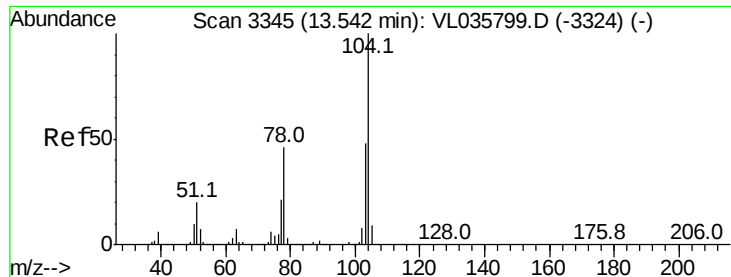
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#60
o-Xylene
Concen: 3.227 ppbv
RT: 13.67 min Scan# 3384
Delta R.T. -0.04 min
Lab File: VL035873.D
Acq: 5 Nov 2020 23:44

Tgt Ion: 91 Resp: 1213537
Ion Ratio Lower Upper
91 100
106 47.4 24.8 74.4





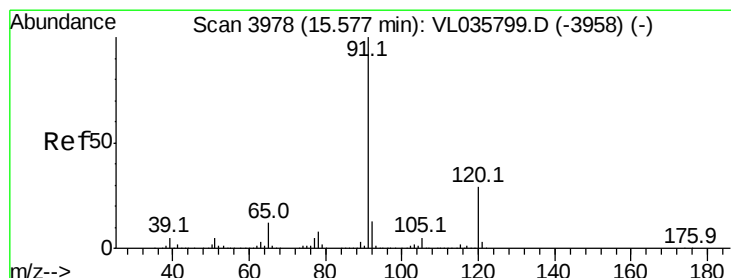
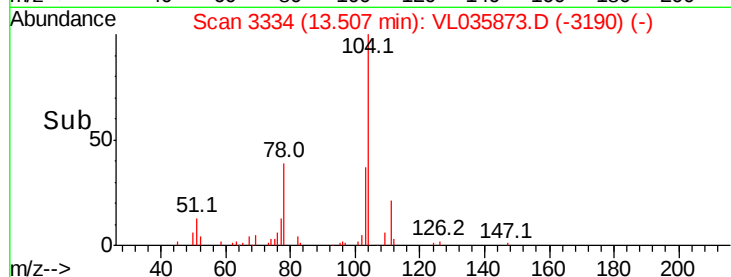
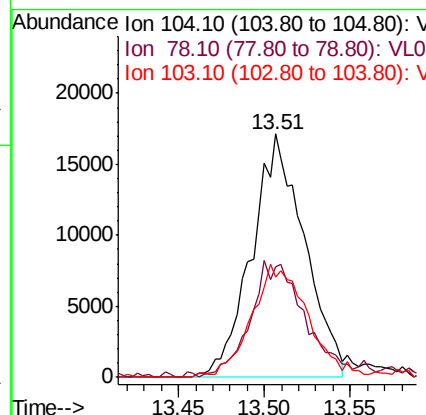
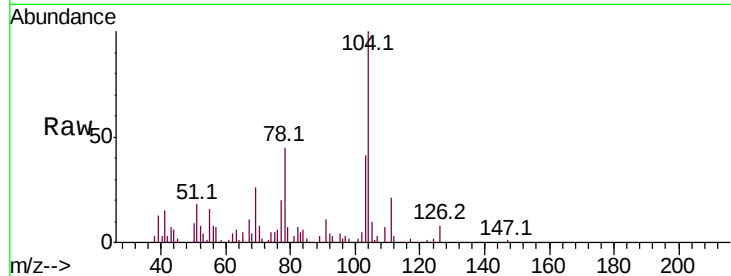
#61
Stvrene
Concen: 0.133 ppbv
RT: 13.51 min Scan# 3334
Delta R.T. -0.04 min
Lab File: VL035873.D
Acq: 5 Nov 2020 23:44

Instrument :
MSVOA_L
ClientSampled :
IA-1

Tot Ion	Ratio	Lower	Upper
104	100		
78	53.4	37.1	55.7
103	49.8	37.9	56.9

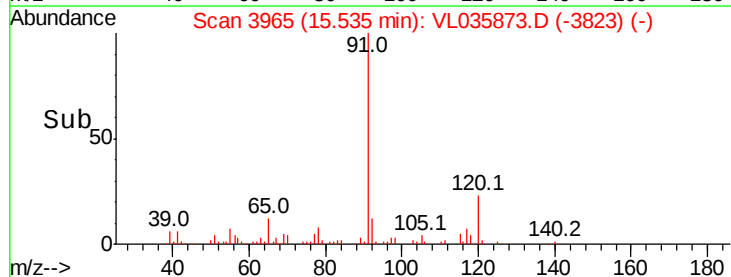
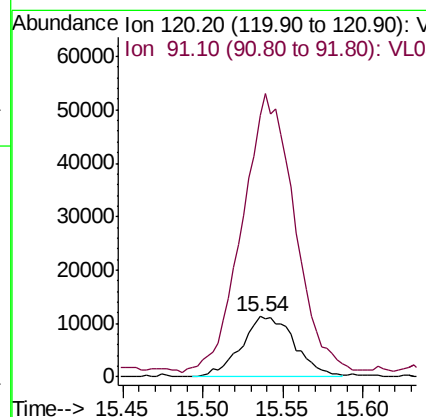
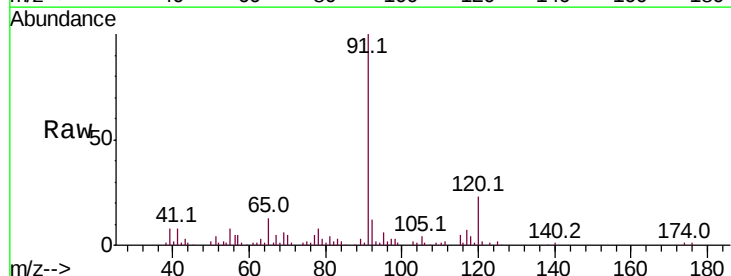
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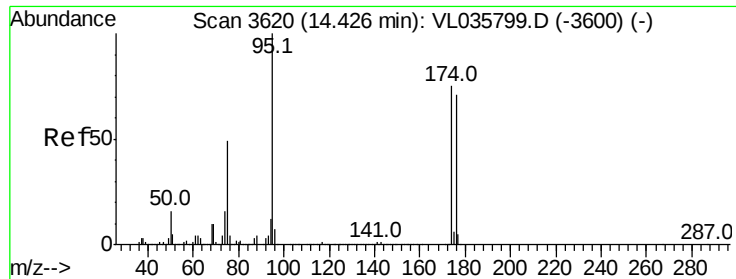
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#64
n-propylbenzene
Concen: 0.151 ppbv
RT: 15.54 min Scan# 3965
Delta R.T. -0.04 min
Lab File: VL035873.D
Acq: 5 Nov 2020 23:44

Tgt Ion	Ratio	Lower	Upper
120	100		
91	453.7	311.1	466.7





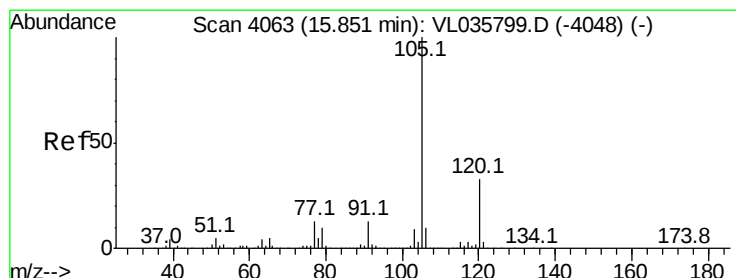
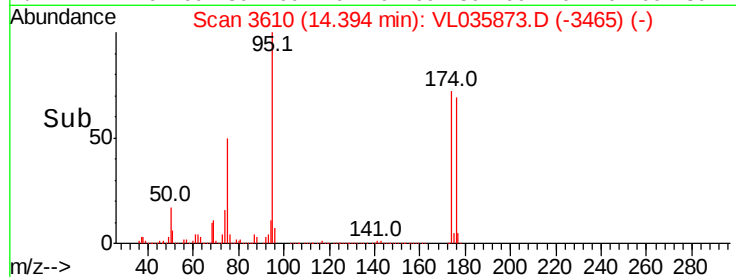
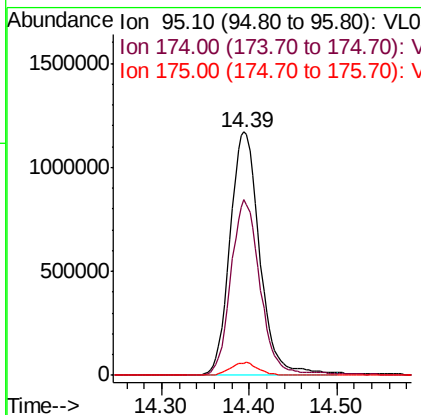
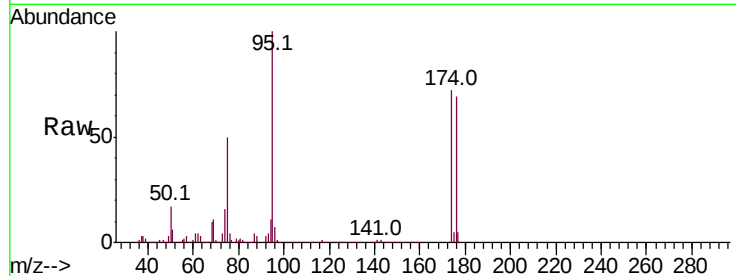
#68
 1-Bromo-4-Fluorobenzene
 Concen: 10.402 ppbv
 RT: 14.39 min Scan# 3610
 Delta R.T. -0.03 min
 Lab File: VL035873.D
 Acq: 5 Nov 2020 23:44

Instrument :
 MSVOA_L
 ClientSampled :
 IA-1

Tot Ion: 95 Resp: 2772871
 Ion Ratio Lower Upper
 95 100
 174 72.2 59.8 89.6
 175 5.1 4.3 6.5

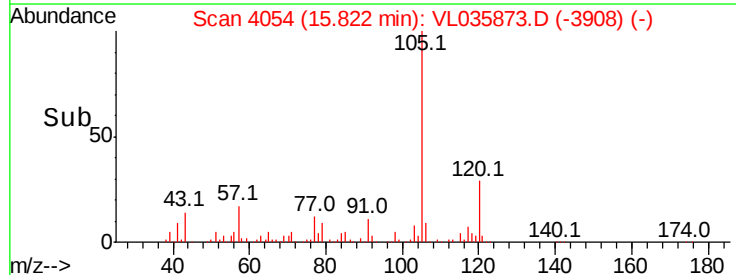
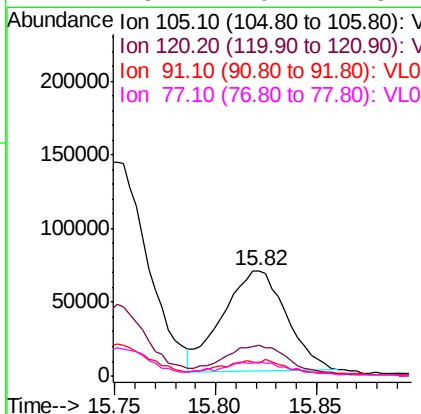
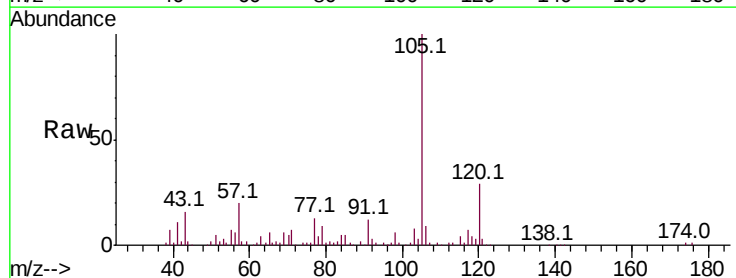
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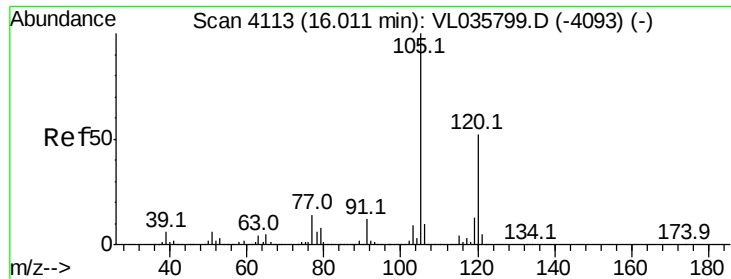
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#72
 4-Ethyltoluene
 Concen: 0.326 ppbv
 RT: 15.82 min Scan# 4054
 Delta R.T. -0.03 min
 Lab File: VL035873.D
 Acq: 5 Nov 2020 23:44

Tgt Ion: 105 Resp: 148585
 Ion Ratio Lower Upper
 105 100
 120 33.7 25.9 38.9
 91 17.3 9.9 14.9#
 77 15.7 10.2 15.2#





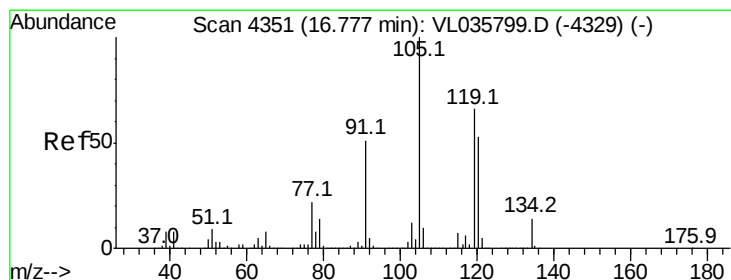
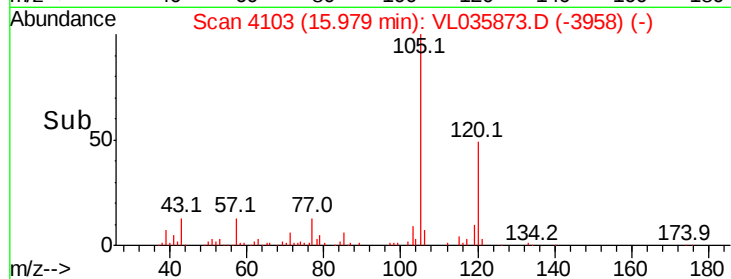
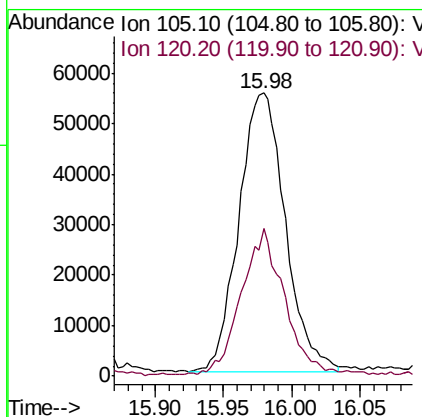
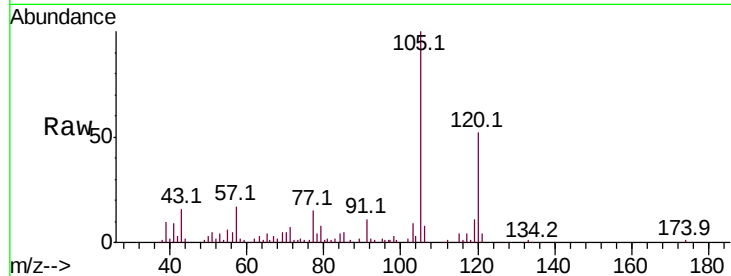
#73
 1,3,5-Trimethylbenzene
 Concen: 0.311 ppbv
 RT: 15.98 min Scan# 4103
 Delta R.T. -0.03 min
 Lab File: VL035873.D
 Acq: 5 Nov 2020 23:44

Instrument :
 MSVOA_L
 ClientSampled :
 IA-1

Tot Ion:105 Resp: 129966
 Ion Ratio Lower Upper
 105 100
 120 51.5 41.4 62.2

Manual Integrations
 APPROVED

MMDadoda
 11/9/2020 10:47:41 AM



#74
 1,2,4-Trimethylbenzene
 Concen: 0.947 ppbv
 RT: 16.74 min Scan# 4340
 Delta R.T. -0.04 min
 Lab File: VL035873.D
 Acq: 5 Nov 2020 23:44

Tgt Ion:105 Resp: 423506
 Ion Ratio Lower Upper
 105 100
 120 44.7 42.0 63.0
 91 11.2 41.0 61.6#
 77 12.5 17.3 25.9#

