

Data Path : Z:\VOASRV\HPCHEM1\MSVOA L\DATA\VL123019\
 Data File : VL034533.D
 Acq On : 31 Dec 2019 5:06
 Operator : SY/AP
 Sample : K6470-03
 Misc : 400ml/MSVOA L
 ALS Vial : 1 Sample Multiplier: 1

Instrument :
 MSVOA_L
 ClientSampleId :
 29-1

Manual Integrations
 APPROVED

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Quant Time: Jan 01 13:00:48 2020
 Quant Method : Z:\VOASRV\HPCHEM1\MSVOA L\METHODS\VL123019AIR.M
 Quant Title : AIR ANALYSIS BY METHOD TO-15 Instrument: MSVOA_L Mon Dec 3
 QLast Update : Mon Dec 30 14:58:50 2019
 Response via : Initial Calibration

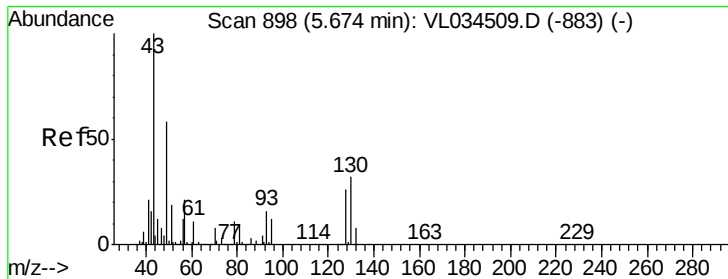
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	5.67	49	884224	10.00	ppbv	0.00
33) 1,4-Difluorobenzene	7.20	114	1784620	10.00	ppbv	0.00
55) Chlorobenzene-d5	12.13	117	1816487	10.00	ppbv	0.00

System Monitoring Compounds

68) 1-Bromo-4-Fluorobenzene	14.47	95	1558768	10.28	ppbv	0.00
Spiked Amount	10.000	Range	65 - 135	Recovery	=	102.80%

Target Compounds	R.T.	QIon	Response	Conc	Units	Ovalue
2) Dichlorodifluoromethane	3.02	85	36377m	0.261	ppbv	
3) Chlorodifluoromethane	2.96	51	66018m	0.627	ppbv	
4) Chloromethane	3.11	50	34542	0.552	ppbv	98
9) Propene	2.99	41	171078m	4.212	ppbv	
10) Heptane	8.14	43	38808m	0.370	ppbv	
11) Trichlorofluoromethane	3.93	101	41240	0.256	ppbv	87
13) Ethanol	3.60	45	3189706	283.029	ppbv	99
15) Acetone	3.83	43	3625172	28.092	ppbv	97
17) tert-Butyl alcohol	4.30	59	428793	4.150	ppbv	98
19) Isopropyl Alcohol	3.97	45	566303	6.779	ppbv #	1
20) Methylene Chloride	4.33	84	41761	0.822	ppbv	93
26) Hexane	5.69	57	83157	0.979	ppbv #	61
30) Cyclohexane	7.14	84	19683m	0.312	ppbv	
34) 2-Butanone	5.25	43	175575	1.377	ppbv	98
35) Carbon Tetrachloride	7.04	117	12105m	0.075	ppbv	
36) Benzene	6.91	78	121416	0.780	ppbv	98
38) Trichloroethene	7.85	130	4734m	0.075	ppbv	
44) 2,2,4-Trimethylpentane	7.89	57	81763	0.284	ppbv #	73
50) 4-Methyl-2-Pentanone	8.77	43	192486	1.040	ppbv	97
52) Tetrachloroethene	11.26	164	3018m	0.050	ppbv	
53) Toluene	9.84	91	357511	2.092	ppbv	97
58) Ethyl Benzene	12.76	91	122638m	0.501	ppbv	
59) m/p-Xylene	13.01	91	438525	2.047	ppbv	98
60) o-Xylene	13.74	91	75779	0.353	ppbv	97
72) 4-Ethyltoluene	15.90	105	114682	0.477	ppbv #	95
73) 1,3,5-Trimethylbenzene	16.05	105	127645	0.541	ppbv #	81
74) 1,2,4-Trimethylbenzene	16.82	105	423078	1.676	ppbv #	67
79) Naphthalene	22.29	128	50636m	0.266	ppbv	

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



#1

Bromochloromethane

Concen: 10.000 ppbv

RT: 5.67 min Scan# 898

Delta R.T. 0.00 min

Lab File: VL034533.D

Acq: 31 Dec 2019 5:06

Instrument :

MSVOA_L

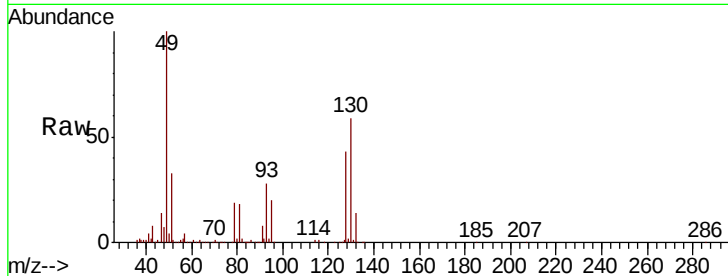
ClientSampled :

29-1

Tot Ion	Ratio	Lower	Upper
49	100		
128	43.6	22.4	67.2
130	56.2	28.3	85.0

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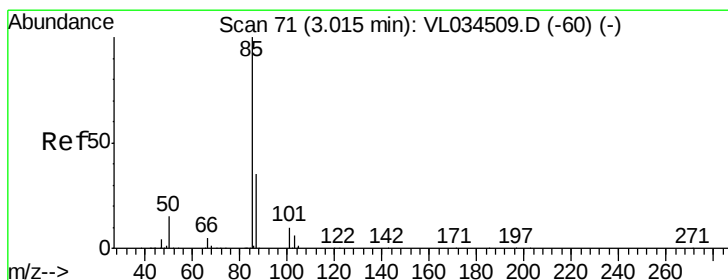
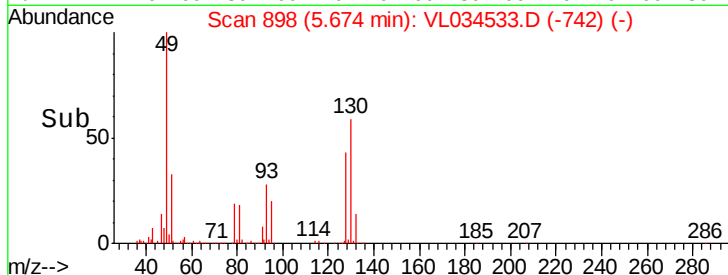
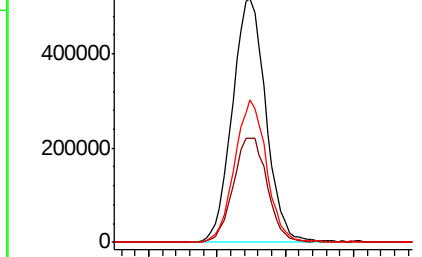
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Abundance Ion 49.10 (48.80 to 49.80): VL0

Ion 128.00 (127.70 to 128.70): V

Ion 130.00 (129.70 to 130.70): V



#2

Dichlorodifluoromethane

Concen: 0.261 ppbv m

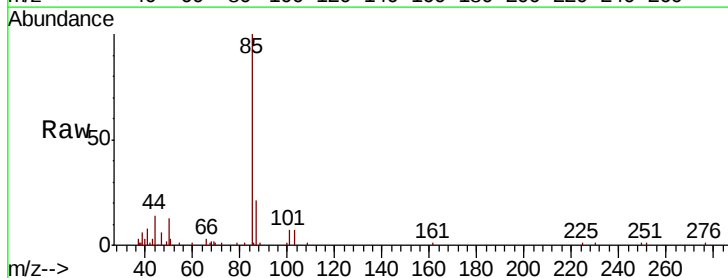
RT: 3.02 min Scan# 72

Delta R.T. 0.00 min

Lab File: VL034533.D

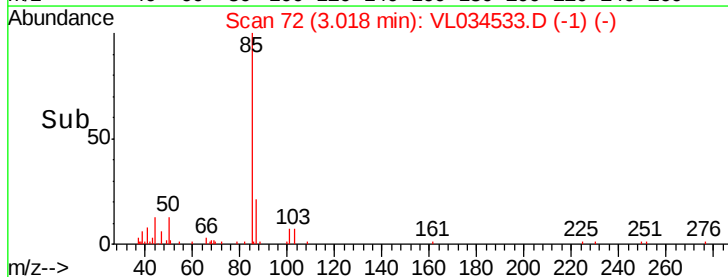
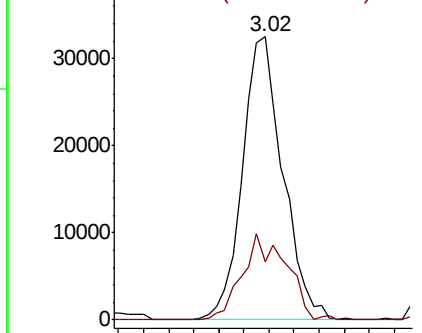
Acq: 31 Dec 2019 5:06

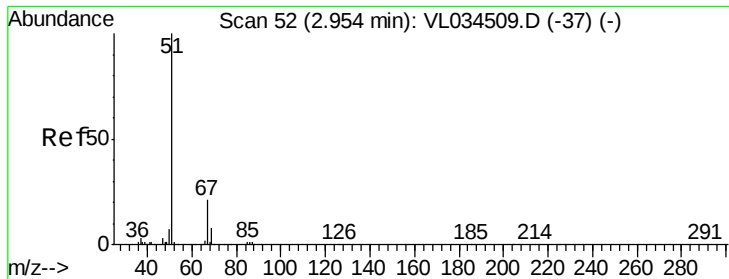
Tgt Ion	Ratio	Lower	Upper
85	100		
87	20.5	27.9	41.9#



Abundance Ion 85.00 (84.70 to 85.70): VL0

Ion 87.00 (86.70 to 87.70): VL0





#3

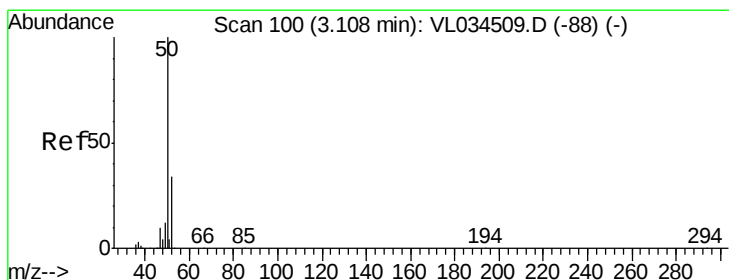
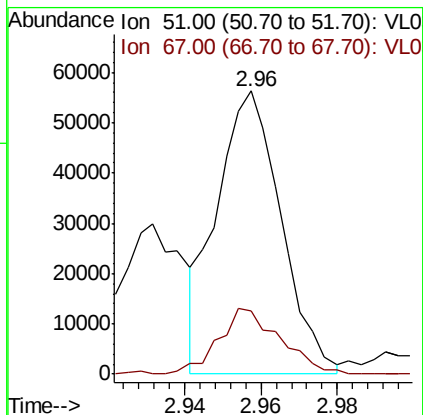
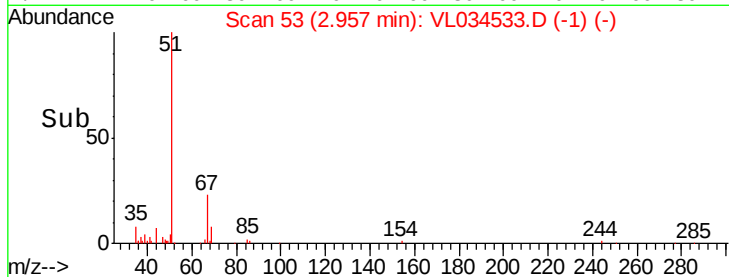
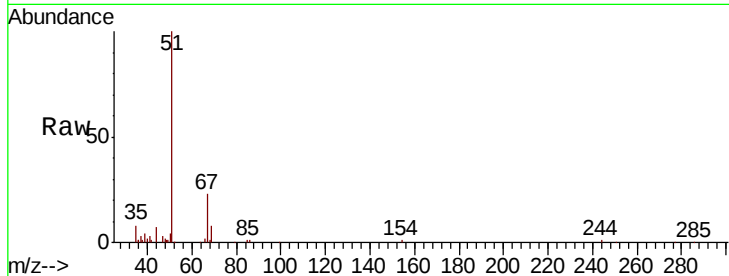
Chlorodifluoromethane
Concen: 0.627 ppbv
RT: 2.96 min Scan# 53
Delta R.T. 0.00 min
Lab File: VL034533.D
Acq: 31 Dec 2019 5:06

Instrument :
MSVOA_L
ClientSampled :
29-1

Tot Ion	Ratio	Lower	Upper
51	100		
67	22.5	16.8	25.2

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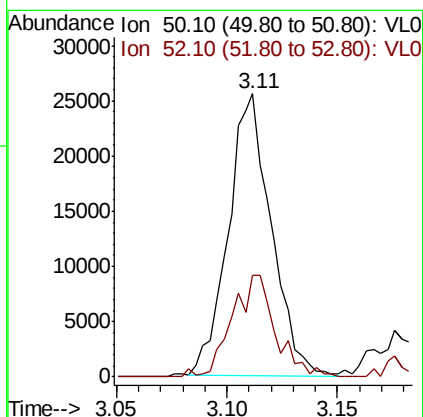
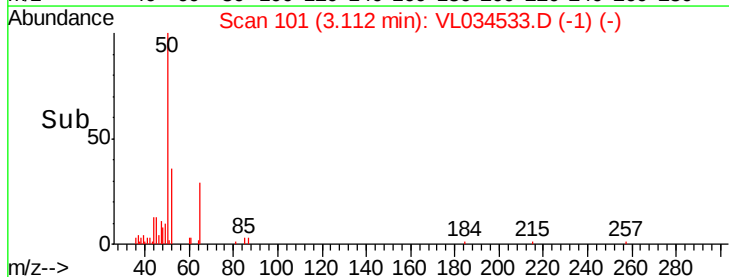
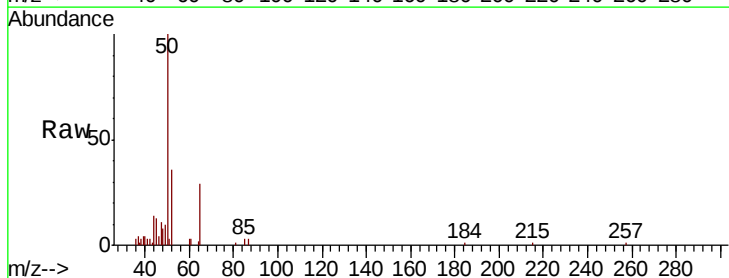
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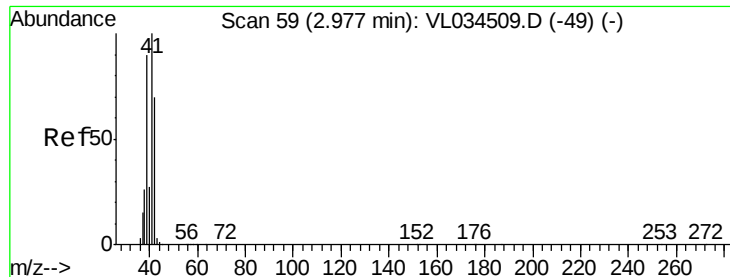


#4

Chloromethane
Concen: 0.552 ppbv
RT: 3.11 min Scan# 101
Delta R.T. 0.00 min
Lab File: VL034533.D
Acq: 31 Dec 2019 5:06

Tgt Ion	Ratio	Lower	Upper
50	100		
52	35.9	27.6	41.4





#9

Propene

Concen: 4.212 ppbv m

RT: 2.99 min Scan# 63

Delta R.T. 0.01 min

Lab File: VL034533.D

Acq: 31 Dec 2019 5:06

Instrument :

MSVOA_L

ClientSampled :

29-1

Tot Ion: 41 Resp: 171078

Ion Ratio Lower Upper

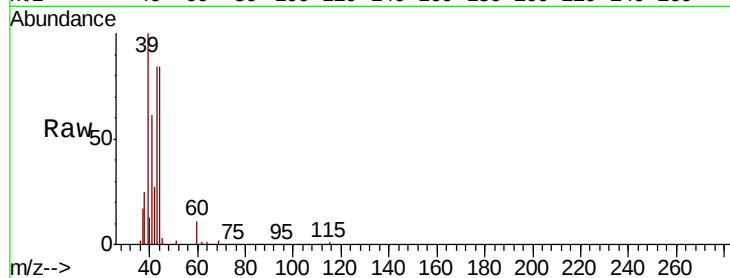
41 100

42 81.2 55.8 83.6

Manual Integrations
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Abundance Ion 41.10 (40.80 to 41.80): VL0

Ion 42.10 (41.80 to 42.80): VL0

120000

100000

80000

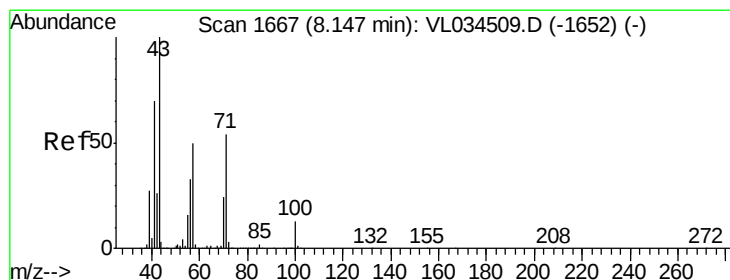
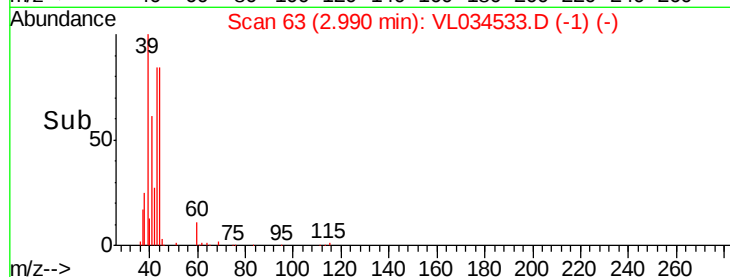
60000

40000

20000

0

Time--> 2.90 2.95 3.00 3.05



#10

Heptane

Concen: 0.370 ppbv m

RT: 8.14 min Scan# 1666

Delta R.T. -0.00 min

Lab File: VL034533.D

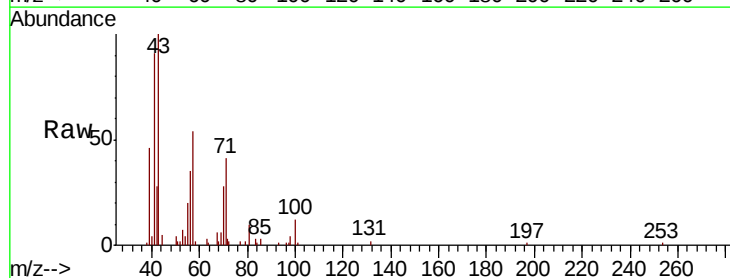
Acq: 31 Dec 2019 5:06

Tgt Ion: 43 Resp: 38808

Ion Ratio Lower Upper

43 100

57 48.8 41.0 61.6



Abundance Ion 43.10 (42.80 to 43.80): VL0

Ion 57.10 (56.80 to 57.80): VL0

20000

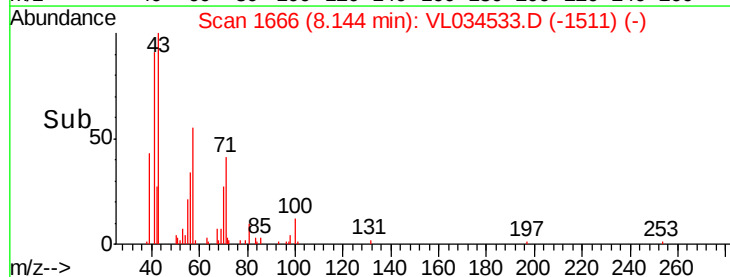
15000

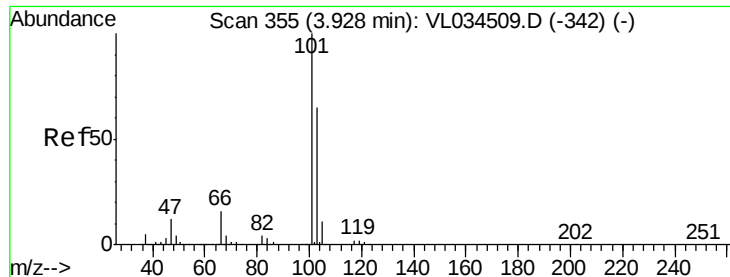
10000

5000

0

Time--> 8.05 8.10 8.15 8.20





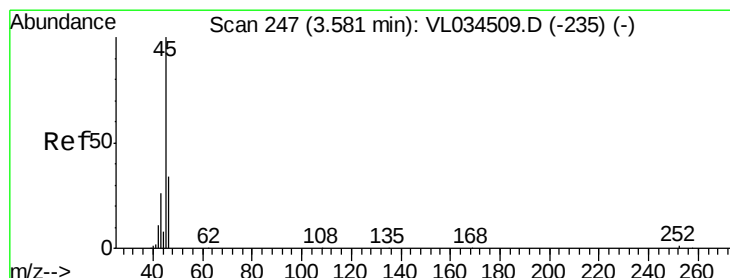
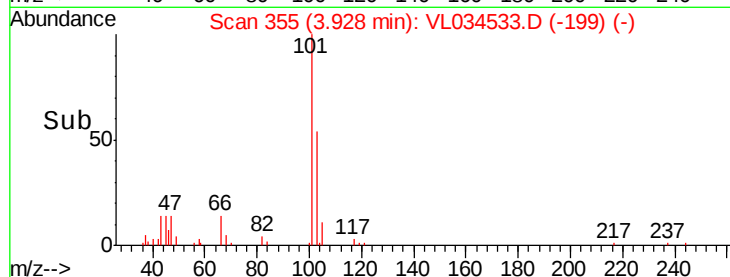
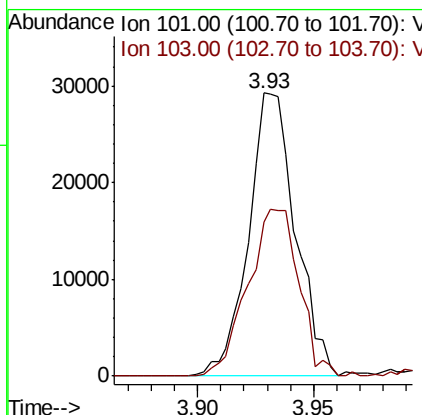
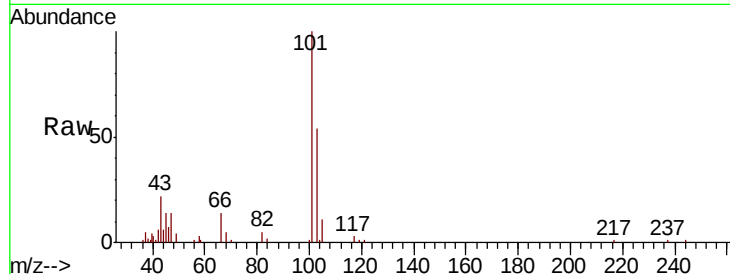
#11
Trichlorofluoromethane
Concen: 0.256 ppbv
RT: 3.93 min Scan# 355
Delta R.T. 0.00 min
Lab File: VL034533.D
Acq: 31 Dec 2019 5:06

Instrument :
MSVOA_L
ClientSampleId :
29-1

Tot Ion	Ion	Ratio	Lower	Upper
41240	101	100		
	103	54.5	52.1	78.1

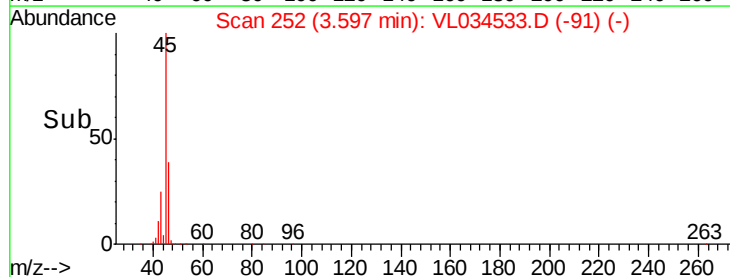
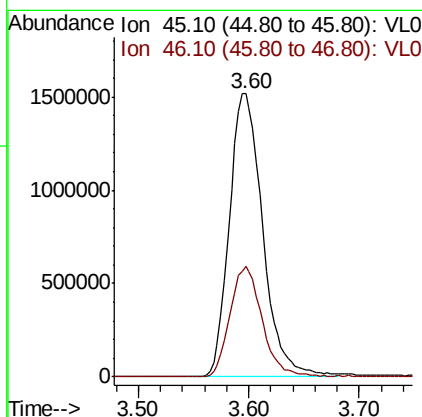
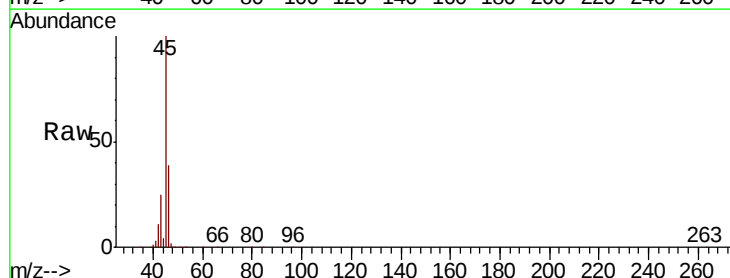
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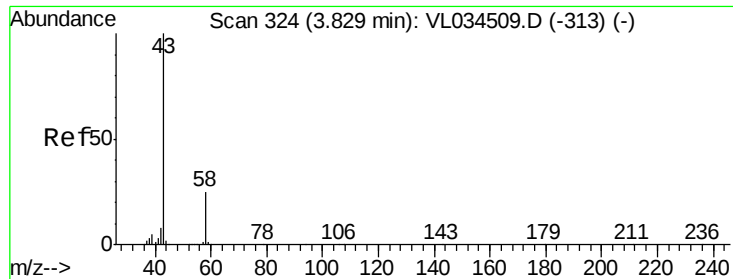
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#13
Ethanol
Concen: 283.029 ppbv
RT: 3.60 min Scan# 252
Delta R.T. 0.02 min
Lab File: VL034533.D
Acq: 31 Dec 2019 5:06

Tgt Ion	Ion	Ratio	Lower	Upper
3189706	45	100		
	46	37.9	14.9	59.7





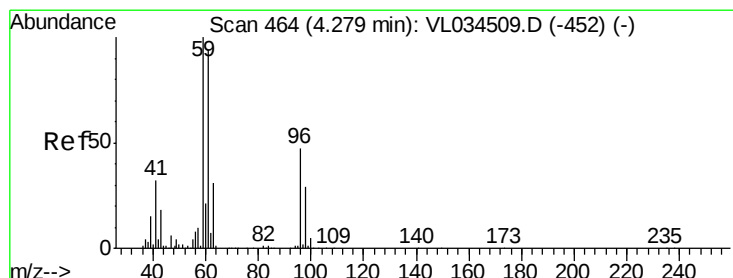
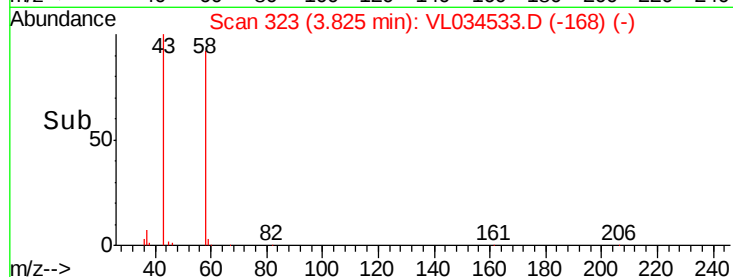
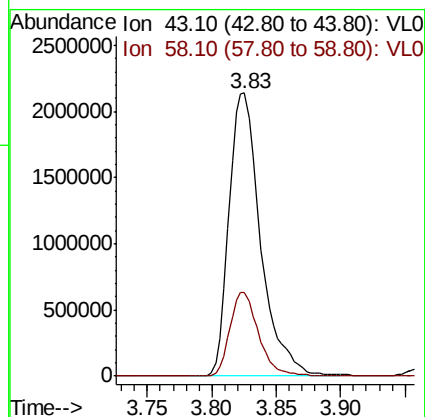
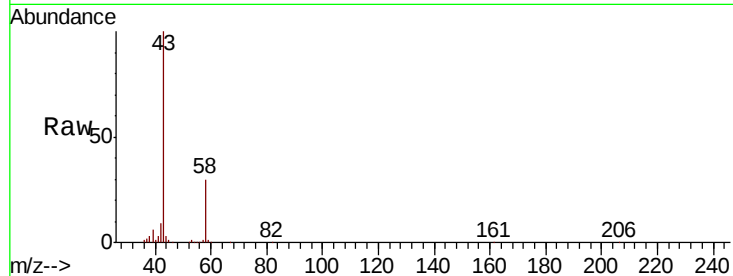
#15
Acetone
Concen: 28.092 ppbv
RT: 3.83 min Scan# 323
Delta R.T. -0.00 min
Lab File: VL034533.D
Acq: 31 Dec 2019 5:06

Instrument :
MSVOA_L
ClientSampled :
29-1

Tot Ion: 43 Resp: 3625172
Ion Ratio Lower Upper
43 100
58 27.2 20.4 30.6

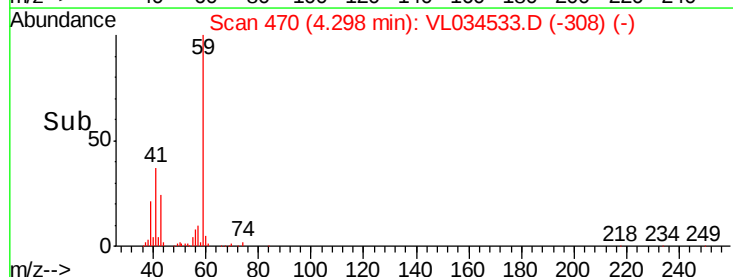
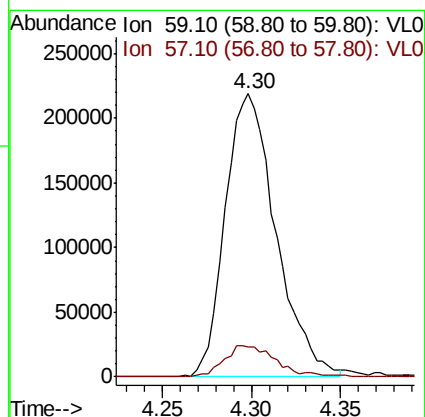
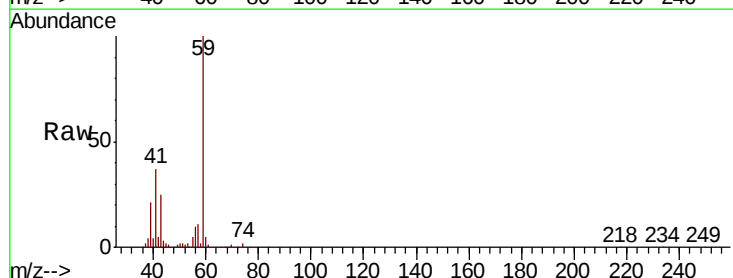
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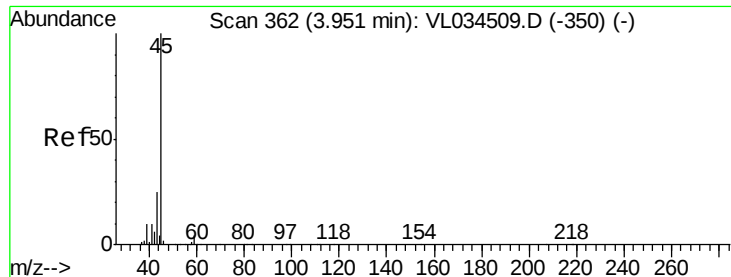
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#17
tert-Butyl alcohol
Concen: 4.150 ppbv
RT: 4.30 min Scan# 470
Delta R.T. 0.02 min
Lab File: VL034533.D
Acq: 31 Dec 2019 5:06

Tgt Ion: 59 Resp: 428793
Ion Ratio Lower Upper
59 100
57 11.5 8.6 12.8





#19

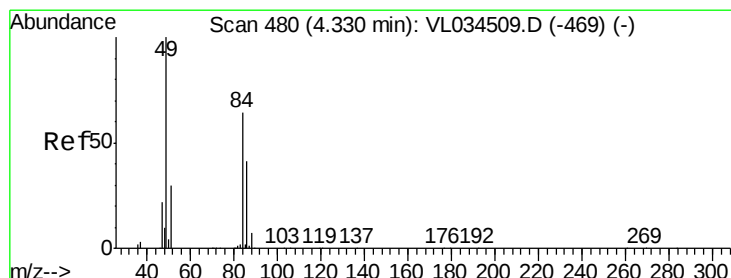
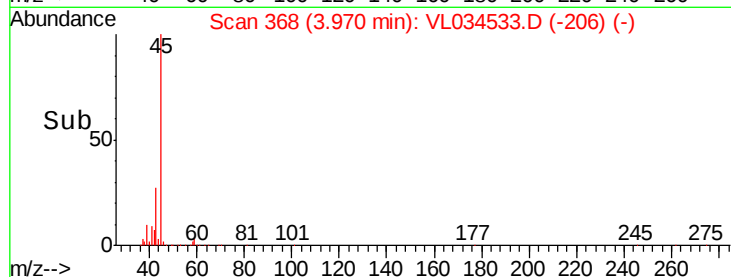
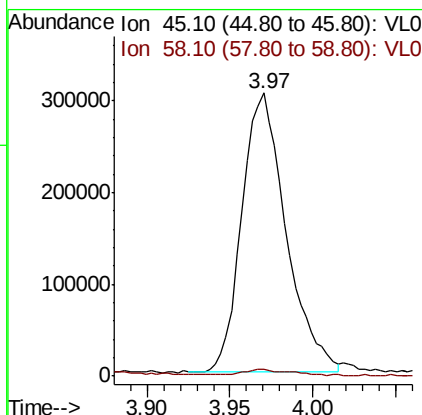
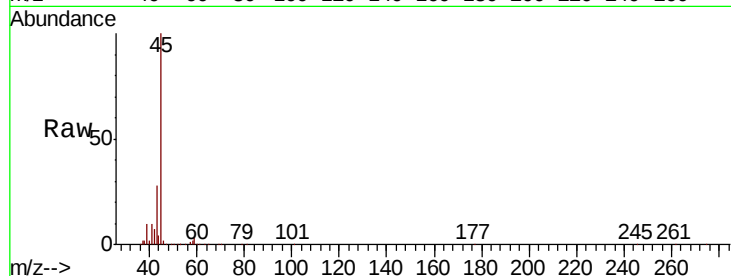
Isopropyl Alcohol
 Concen: 6.779 ppbv
 RT: 3.97 min Scan# 368
 Delta R.T. 0.02 min
 Lab File: VL034533.D
 Acq: 31 Dec 2019 5:06

Instrument :
 MSVOA_L
 ClientSampled :
 29-1

Tot Ion	Ratio	Lower	Upper
45	100		
58	174.2	1.4	2.0#

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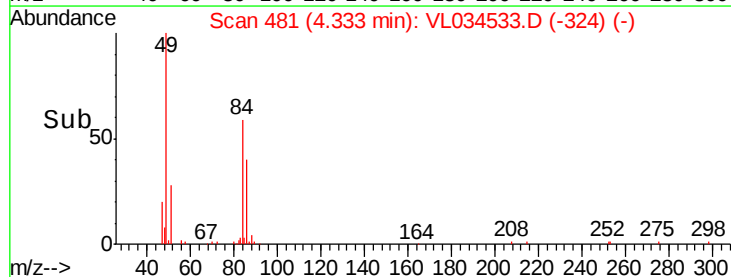
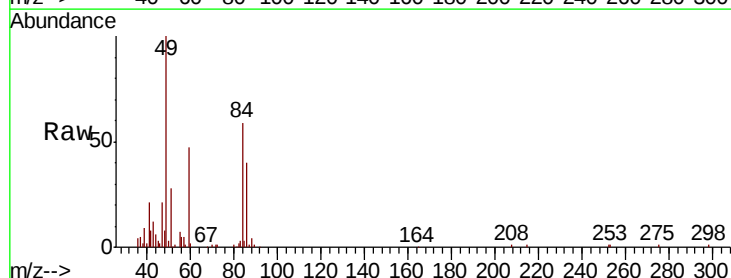
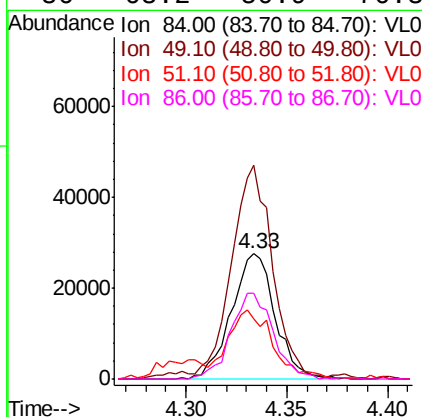
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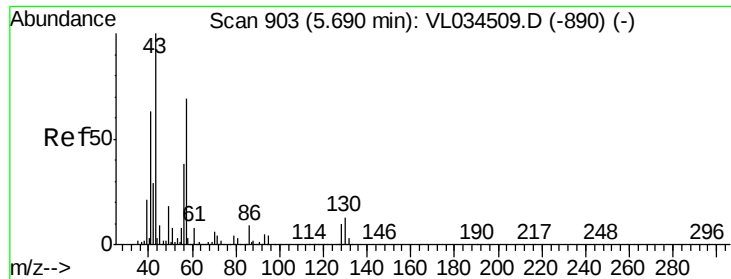


#20

Methylene Chloride
 Concen: 0.822 ppbv
 RT: 4.33 min Scan# 481
 Delta R.T. 0.00 min
 Lab File: VL034533.D
 Acq: 31 Dec 2019 5:06

Tgt Ion	Ratio	Lower	Upper
84	100		
49	166.7	124.4	186.6
51	47.1	37.0	55.6
86	68.2	50.9	76.3





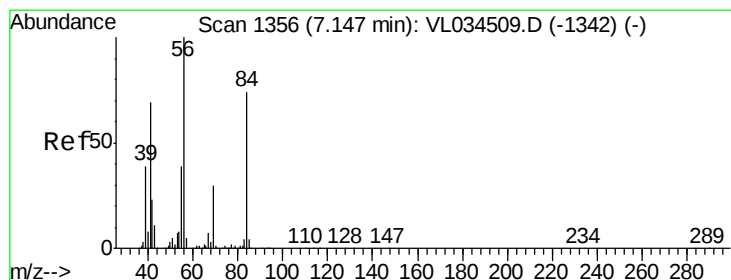
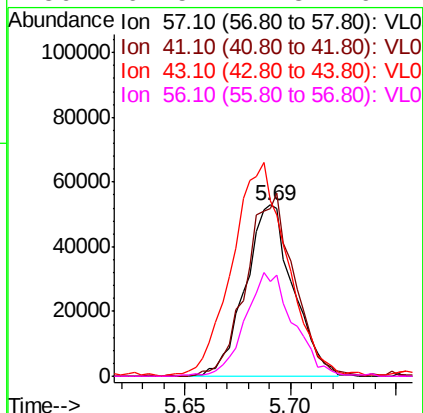
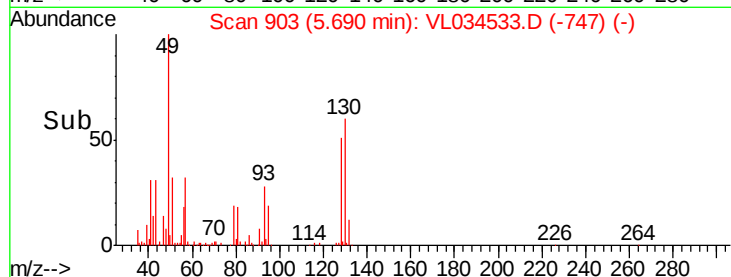
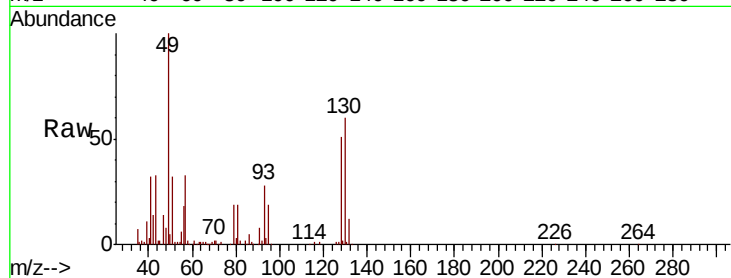
#26
Hexane
Concen: 0.979 ppbv
RT: 5.69 min Scan# 903
Delta R.T. 0.00 min
Lab File: VL034533.D
Acq: 31 Dec 2019 5:06

Instrument :
MSVOA_L
ClientSampled :
29-1

Tot Ion	57	Resp	83157
Ion	Ratio	Lower	Upper
57	100		
41	107.5	75.3	112.9
43	143.7	189.4	284.2#
56	61.5	42.8	64.2

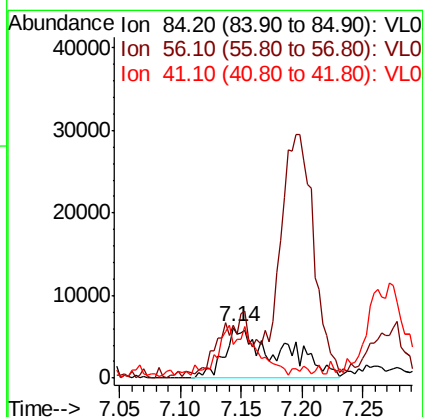
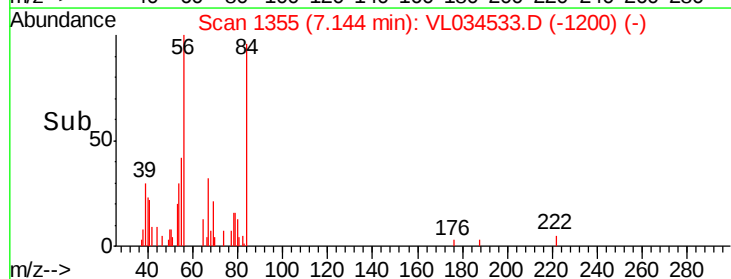
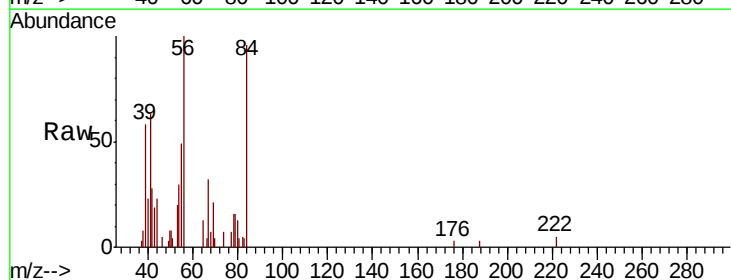
Manual Integrations
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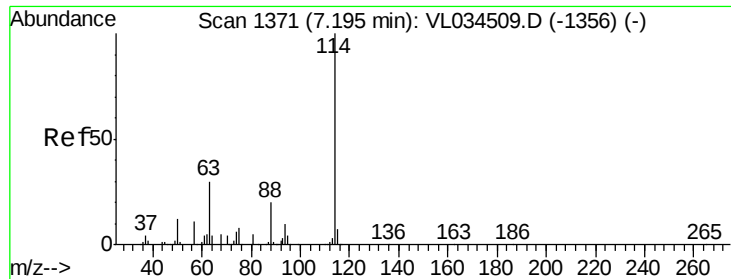
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#30
Cyclohexane
Concen: 0.312 ppbv m
RT: 7.14 min Scan# 1355
Delta R.T. -0.00 min
Lab File: VL034533.D
Acq: 31 Dec 2019 5:06

Tgt Ion	84	Resp	19683
Ion	Ratio	Lower	Upper
84	100		
56	0.0	112.7	169.1#
41	73.9	73.0	109.4





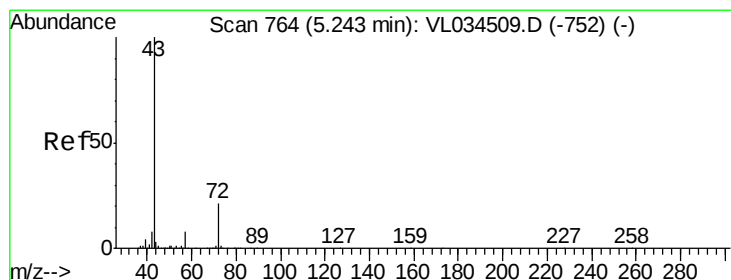
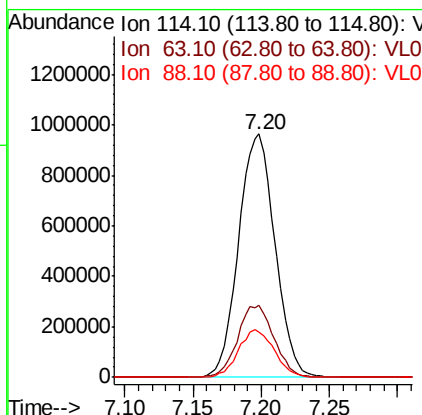
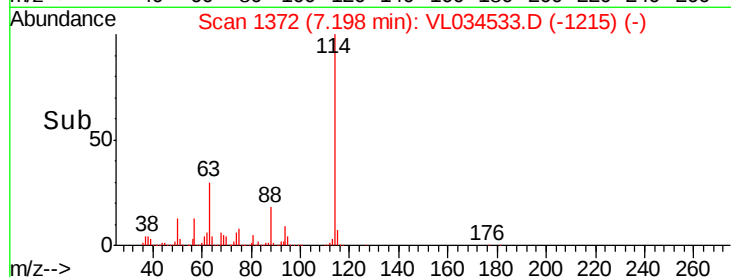
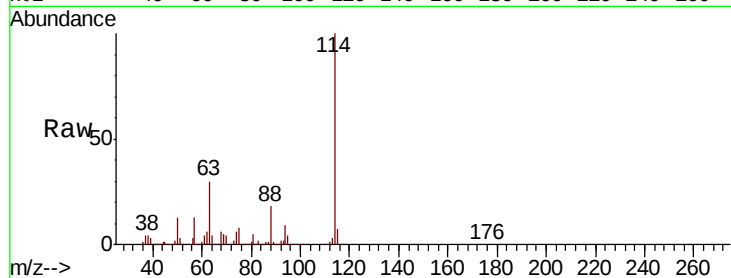
#33
 1,4-Difluorobenzene
 Concen: 10.000 ppbv
 RT: 7.20 min Scan# 1372
 Delta R.T. 0.00 min
 Lab File: VL034533.D
 Acq: 31 Dec 2019 5:06

Instrument :
 MSVOA_L
 ClientSampleId :
 29-1

Tot Ion	Ratio	Lower	Upper
114	100		
63	29.6	24.1	36.1
88	19.5	15.7	23.5

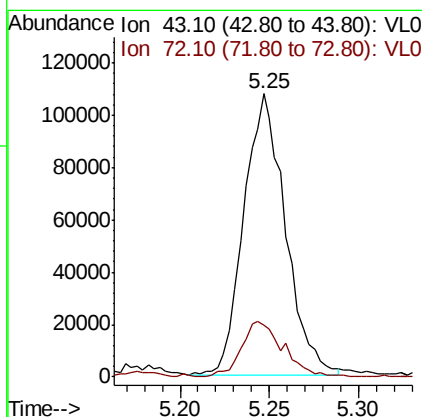
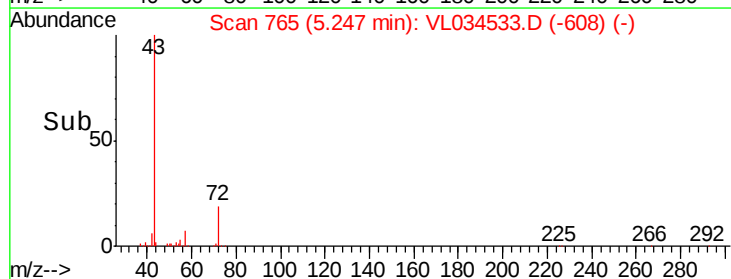
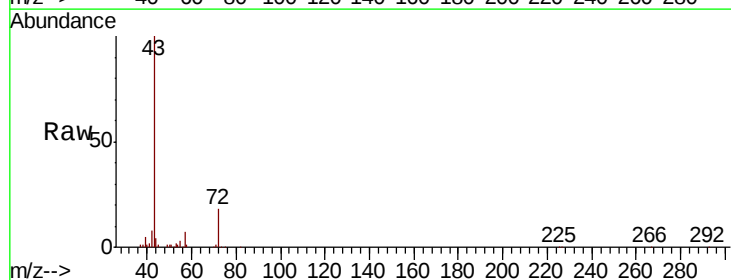
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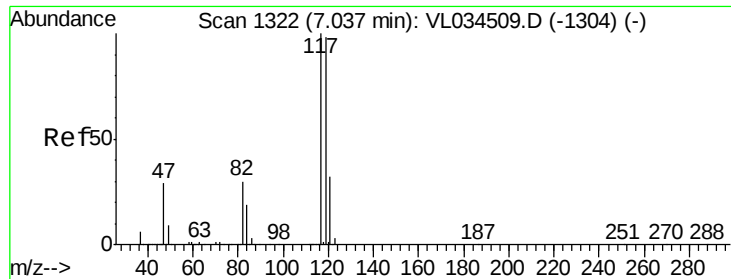
apatel
 1/2/2020 10:50:13 AM



#34
 2-Butanone
 Concen: 1.377 ppbv
 RT: 5.25 min Scan# 765
 Delta R.T. 0.00 min
 Lab File: VL034533.D
 Acq: 31 Dec 2019 5:06

Tgt Ion	Ratio	Lower	Upper
43	100		
72	20.2	17.0	25.4





#35

Carbon Tetrachloride

Concen: 0.075 ppbv m

RT: 7.04 min Scan# 1322

Delta R.T. 0.00 min

Lab File: VL034533.D

Acq: 31 Dec 2019 5:06

Instrument :

MSVOA_L

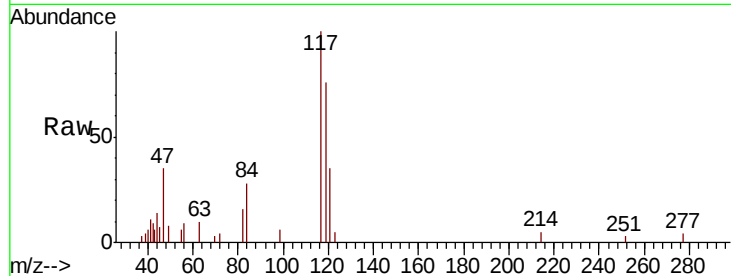
ClientSampled :

29-1

Tot Ion	Ratio	Lower	Upper
117	100		
119	76.4	78.7	118.1#
121	35.1	25.9	38.9

Manual Integrations
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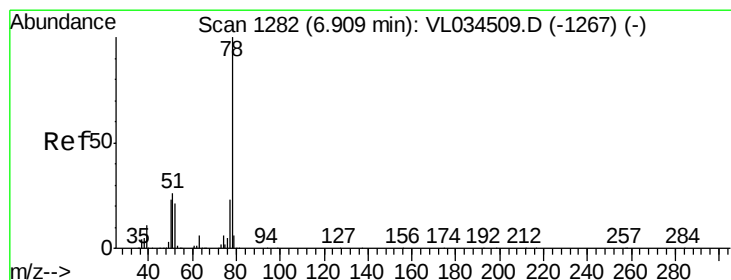
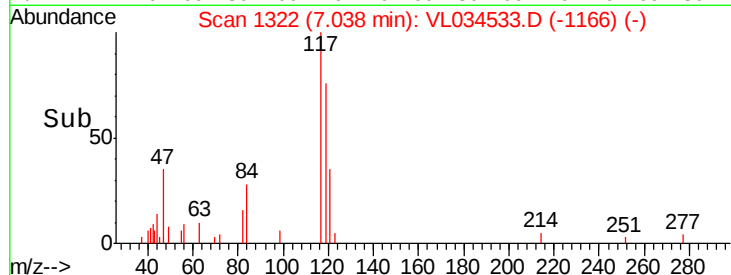
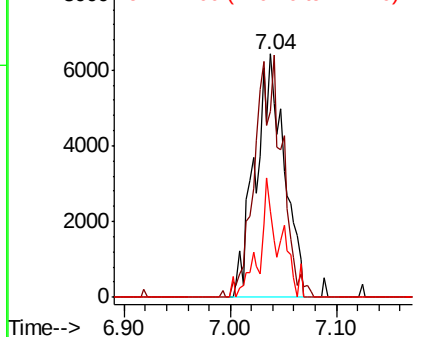


Abundance

Ion 117.00 (116.70 to 117.70): V

Ion 119.00 (118.70 to 119.70): V

Ion 121.00 (120.70 to 121.70): V



#36

Benzene

Concen: 0.780 ppbv

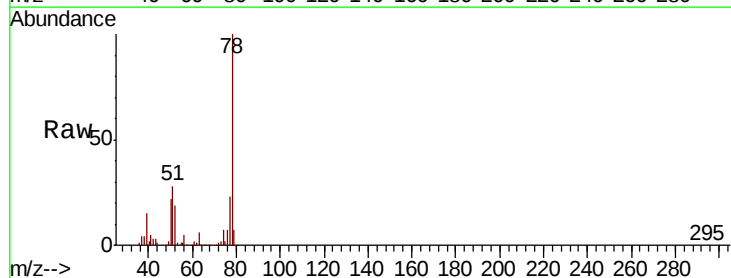
RT: 6.91 min Scan# 1282

Delta R.T. 0.00 min

Lab File: VL034533.D

Acq: 31 Dec 2019 5:06

Tgt Ion	Ratio	Lower	Upper
78	100		
77	23.1	18.6	28.0
50	21.6	18.8	28.2

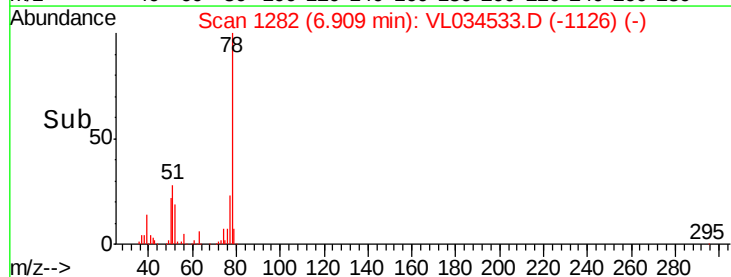
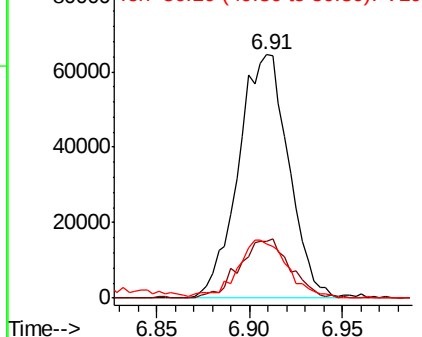


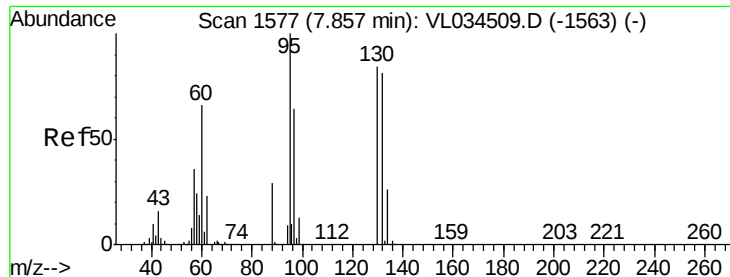
Abundance

Ion 78.10 (77.80 to 78.80): VL0

Ion 77.10 (76.80 to 77.80): VL0

Ion 50.10 (49.80 to 50.80): VL0





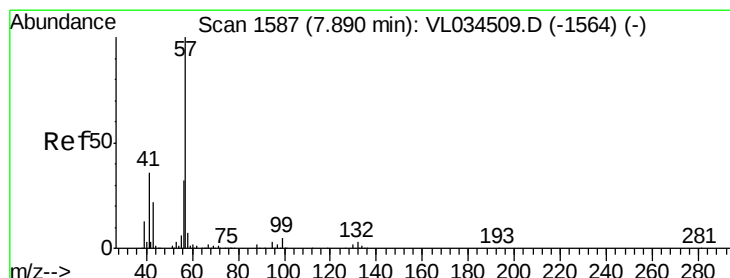
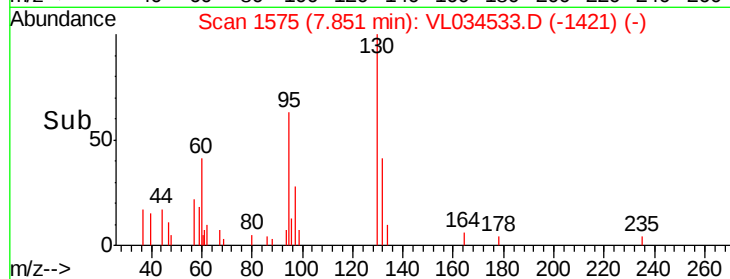
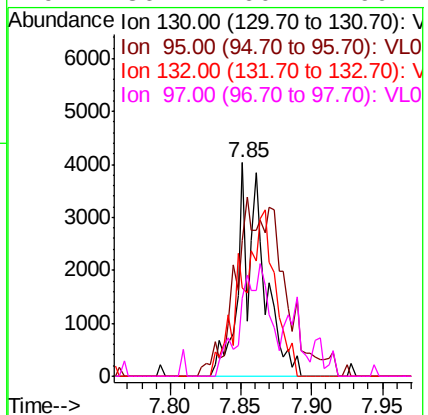
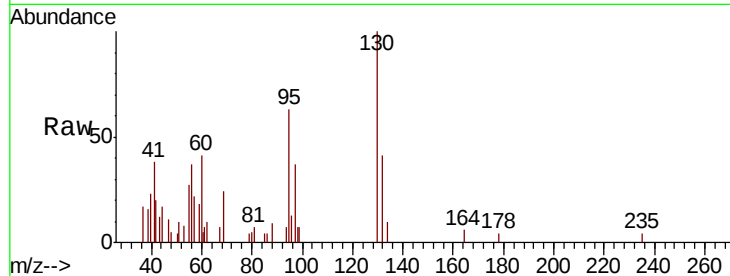
#38
 Trichloroethene
 Concen: 0.075 ppbv m
 RT: 7.85 min Scan# 1575
 Delta R.T. -0.01 min
 Lab File: VL034533.D
 Acq: 31 Dec 2019 5:06

Instrument :
 MSVOA_L
 ClientSampleId :
 29-1

Tot Ion	Ratio	Lower	Upper
130	100		
95	63.5	94.2	141.2#
132	41.3	76.1	114.1#
97	36.7	60.2	90.2#

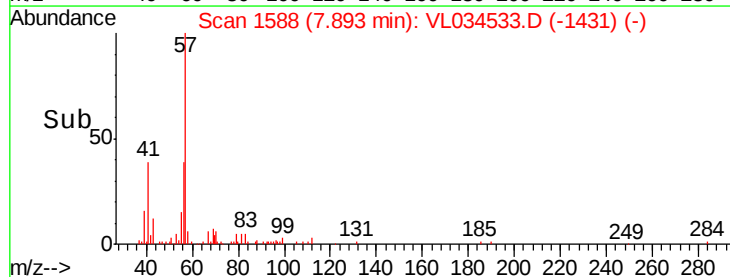
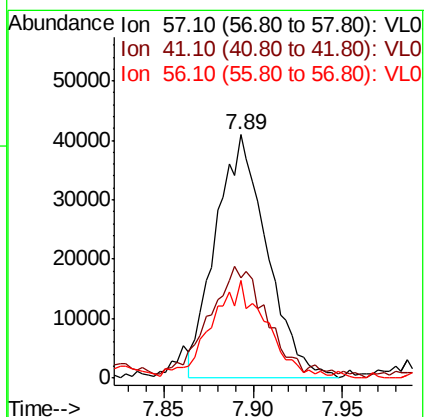
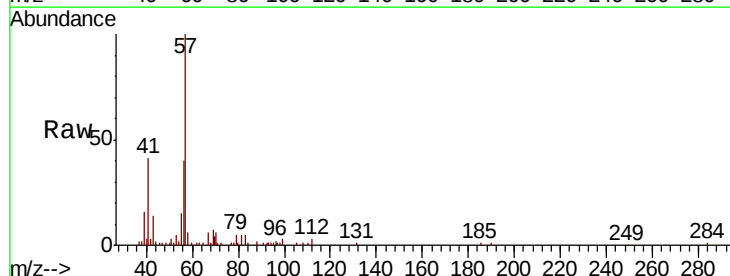
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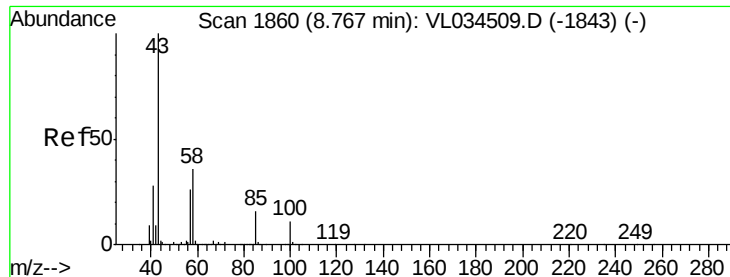
apatel
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#44
 2,2,4-Trimethylpentane
 Concen: 0.284 ppbv
 RT: 7.89 min Scan# 1588
 Delta R.T. 0.00 min
 Lab File: VL034533.D
 Acq: 31 Dec 2019 5:06

Tgt Ion	Ratio	Lower	Upper
57	100		
41	54.2	29.0	43.4#
56	44.0	24.9	37.3#





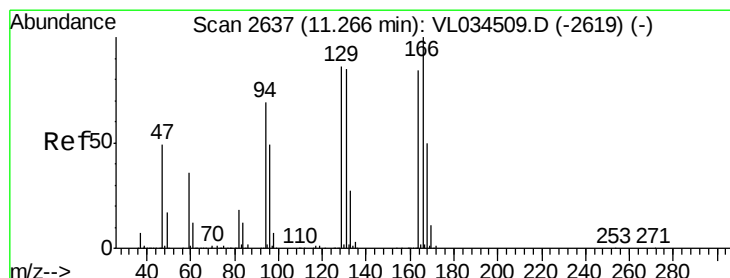
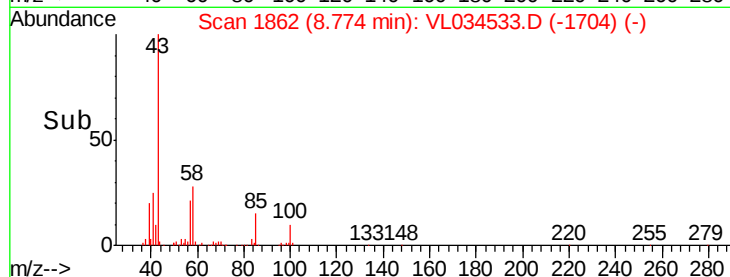
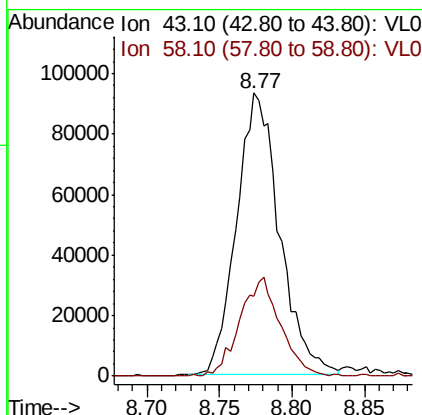
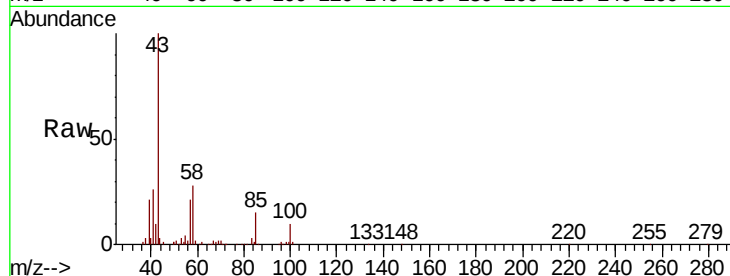
#50
4-Methyl-2-Pentanone
Concen: 1.040 ppbv
RT: 8.77 min Scan# 1862
Delta R.T. 0.01 min
Lab File: VL034533.D
Acq: 31 Dec 2019 5:06

Instrument :
MSVOA_L
ClientSampled :
29-1

Tot Ion	43	Resp	192486
Ion Ratio	100	Lower	Upper
43	100		
58	33.6	28.2	42.2

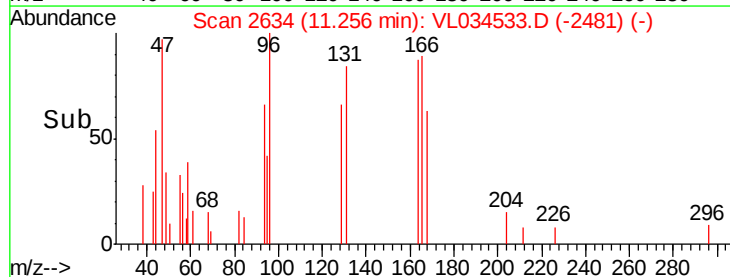
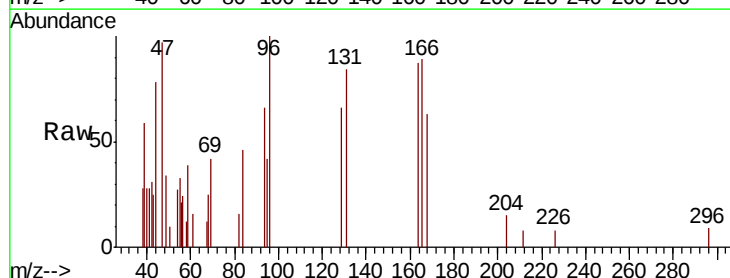
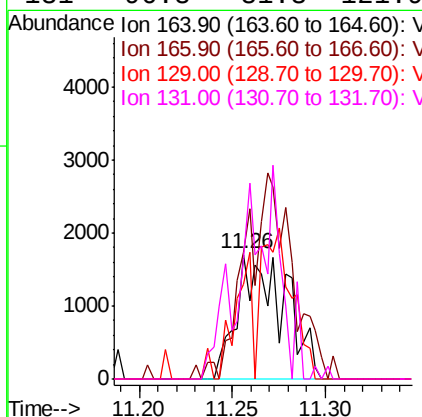
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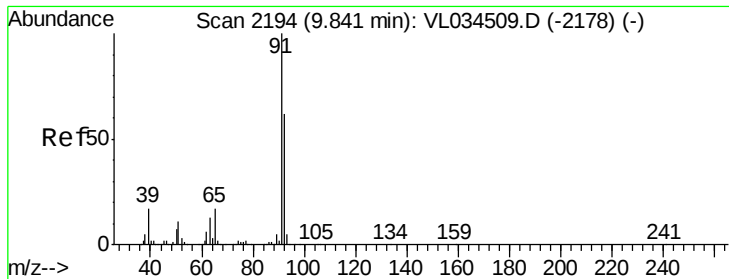
apatel
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#52
Tetrachloroethene
Concen: 0.050 ppbv m
RT: 11.26 min Scan# 2634
Delta R.T. -0.01 min
Lab File: VL034533.D
Acq: 31 Dec 2019 5:06

Tgt Ion	164	Resp	3018
Ion Ratio	100	Lower	Upper
164	100		
166	102.1	95.7	143.5
129	76.5	82.2	123.2#
131	96.8	81.3	121.9





#53

Toluene

Concen: 2.092 ppbv

RT: 9.84 min Scan# 2194

Delta R.T. 0.00 min

Lab File: VL034533.D

Acq: 31 Dec 2019 5:06

Instrument :

MSVOA_L

ClientSampled :

29-1

Tot Ion: 91 Resp: 357511

Ion Ratio Lower Upper

91 100

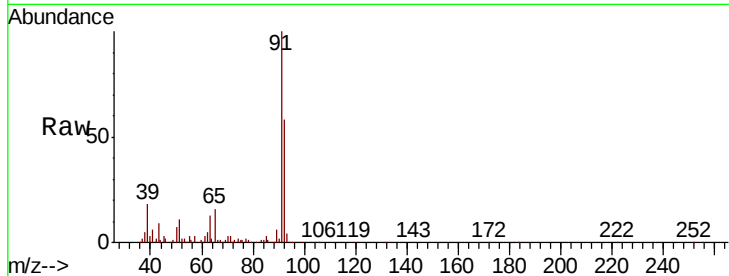
92 57.9 48.4 72.6

Manual Integrations

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Abundance Ion 91.10 (90.80 to 91.80): VL0

Ion 92.10 (91.80 to 92.80): VL0

9.84

200000

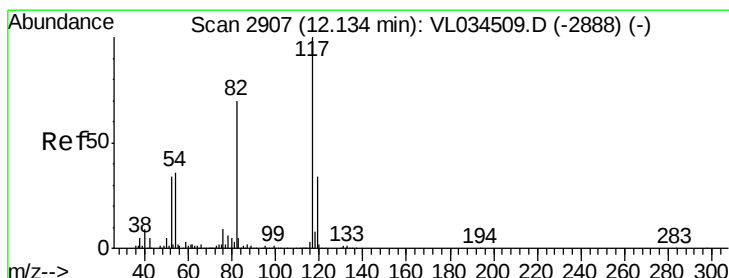
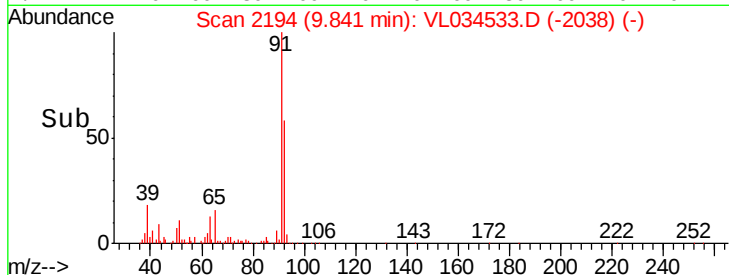
150000

100000

50000

0

Time--> 9.75 9.80 9.85 9.90



#55

Chlorobenzene-d5

Concen: 10.000 ppbv

RT: 12.13 min Scan# 2907

Delta R.T. 0.00 min

Lab File: VL034533.D

Acq: 31 Dec 2019 5:06

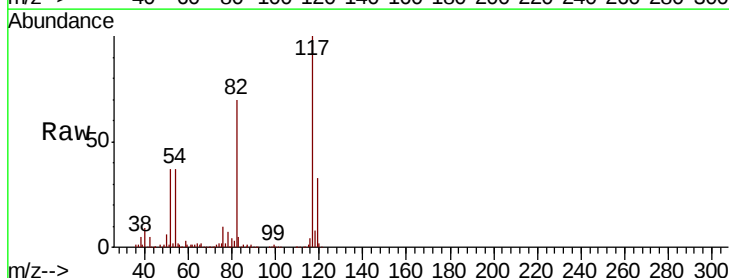
Tgt Ion: 117 Resp: 1816487

Ion Ratio Lower Upper

117 100

82 70.6 56.2 84.4

119 32.7 27.1 40.7



Abundance Ion 117.10 (116.80 to 117.80): V

Ion 82.10 (81.80 to 82.80): VL0

Ion 119.10 (118.80 to 119.80): V

1000000

800000

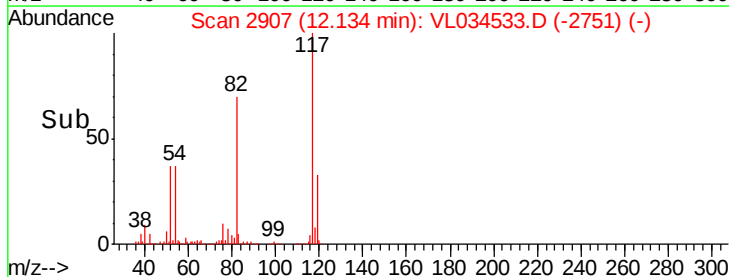
600000

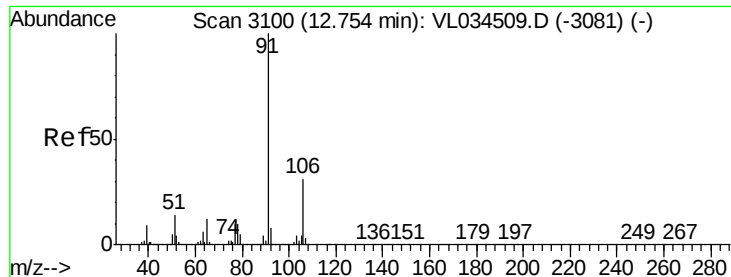
400000

200000

0

Time--> 12.10 12.20





#58

Ethyl Benzene

Concen: 0.501 ppbv m

RT: 12.76 min Scan# 3103

Delta R.T. 0.01 min

Lab File: VL034533.D

Acq: 31 Dec 2019 5:06

Instrument :

MSVOA_L

ClientSampled :

29-1

Tot Ion: 91 Resp: 122638

Ion Ratio Lower Upper

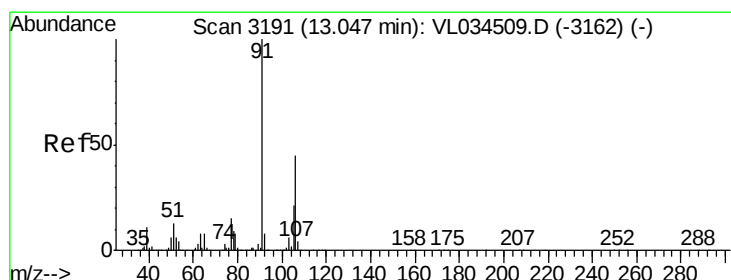
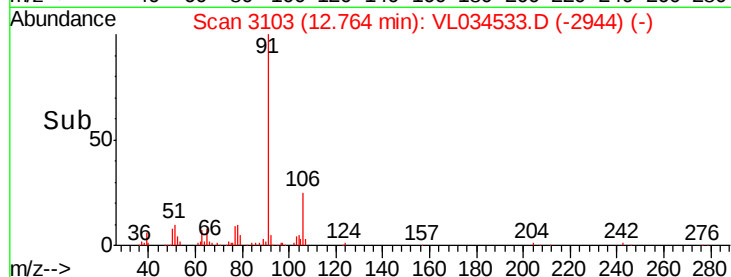
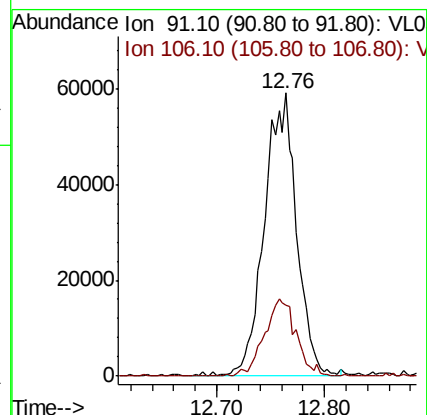
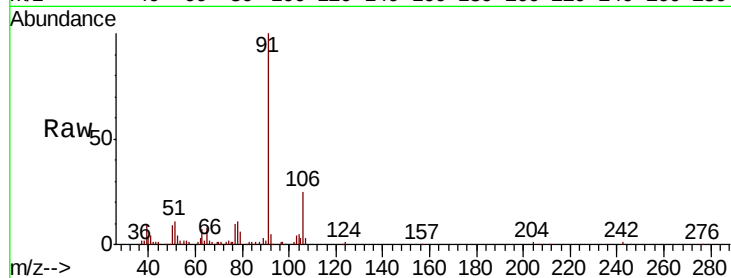
91 100

106 25.1 24.6 36.8

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#59

m/p-Xylene

Concen: 2.047 ppbv

RT: 13.01 min Scan# 3180

Delta R.T. -0.04 min

Lab File: VL034533.D

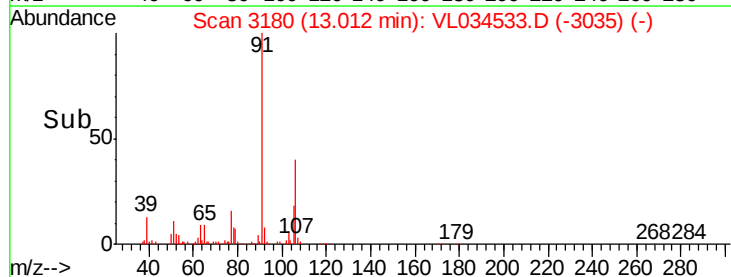
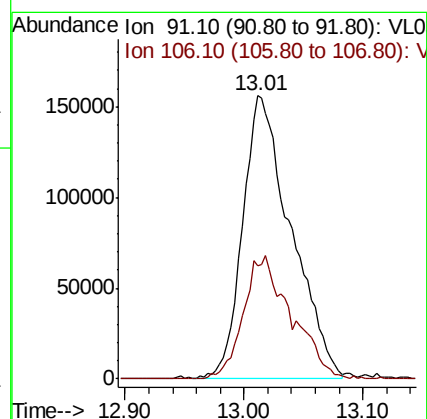
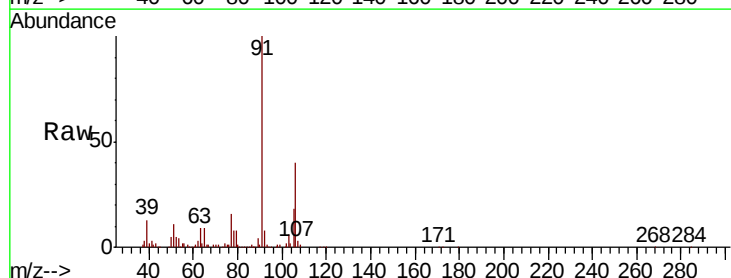
Acq: 31 Dec 2019 5:06

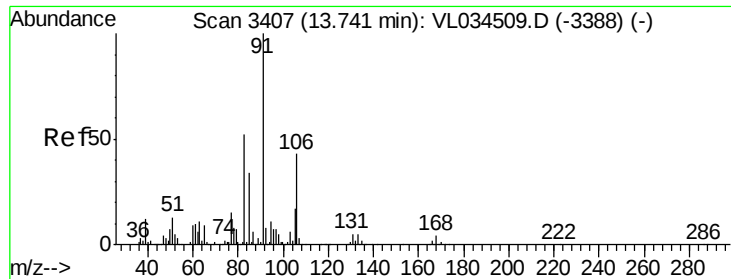
Tgt Ion: 91 Resp: 438525

Ion Ratio Lower Upper

91 100

106 43.4 35.6 53.4





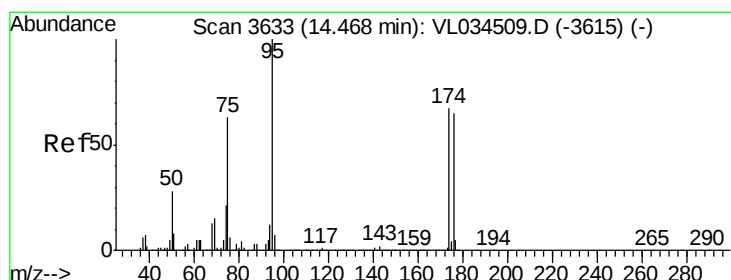
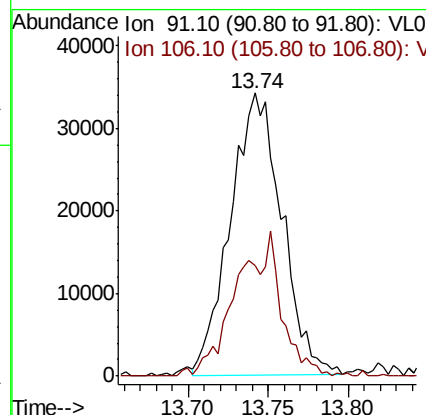
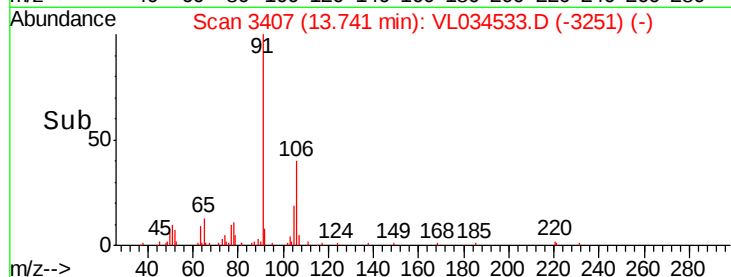
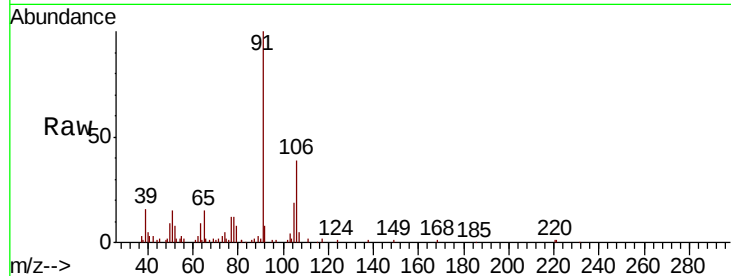
#60
o-Xylene
Concen: 0.353 ppbv
RT: 13.74 min Scan# 3407
Delta R.T. 0.00 min
Lab File: VL034533.D
Acq: 31 Dec 2019 5:06

Instrument :
MSVOA_L
ClientSampled :
29-1

Tot Ion: 91 Resp: 75779
Ion Ratio Lower Upper
91 100
106 45.0 21.4 64.3

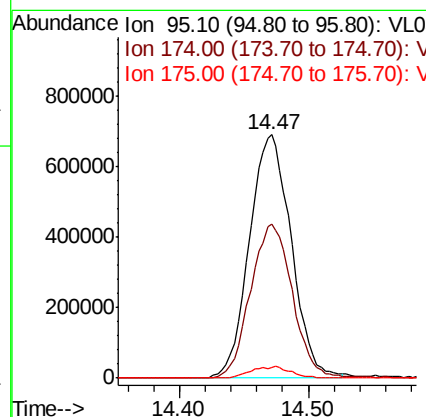
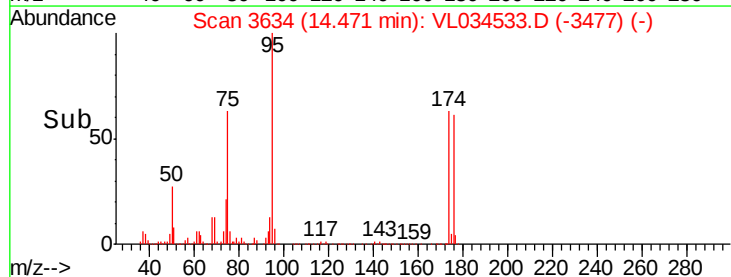
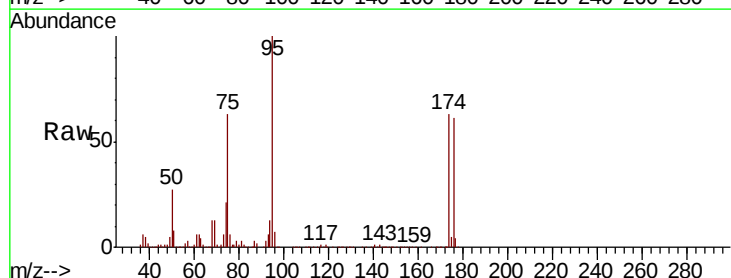
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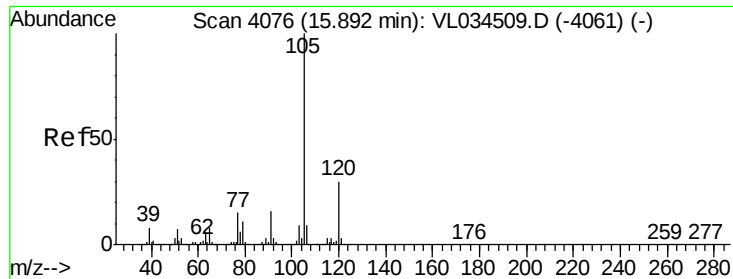
apatel
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#68
1-Bromo-4-Fluorobenzene
Concen: 10.284 ppbv
RT: 14.47 min Scan# 3634
Delta R.T. 0.00 min
Lab File: VL034533.D
Acq: 31 Dec 2019 5:06

Tgt Ion: 95 Resp: 1558768
Ion Ratio Lower Upper
95 100
174 63.9 52.4 78.6
175 4.6 3.9 5.9





#72

4-Ethyltoluene

Concen: 0.477 ppbv

RT: 15.90 min Scan# 4077

Delta R.T. 0.00 min

Lab File: VL034533.D

Acq: 31 Dec 2019 5:06

Instrument :

MSVOA_L

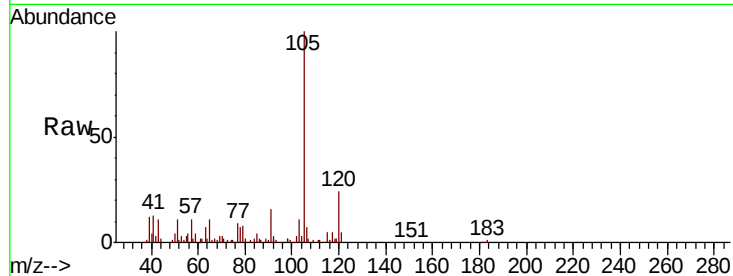
ClientSampleId :

29-1

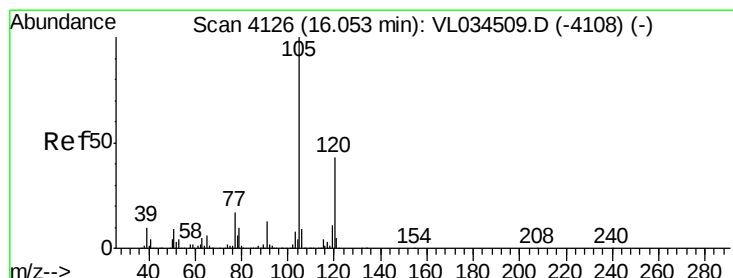
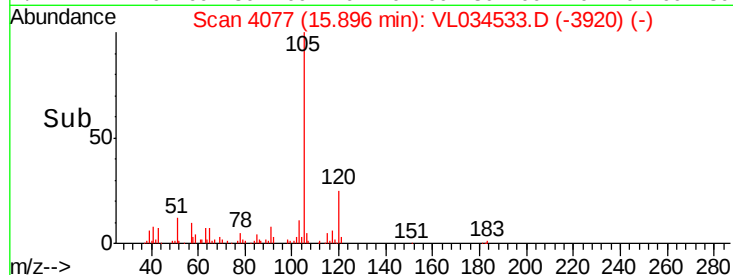
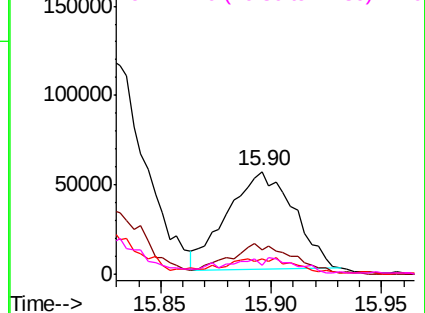
Tot Ion	Ion	Ratio	Resp	Lower	Upper
105	105	100	114682		
120	120	30.8	23.7	35.5	
91	91	19.7	11.5	17.3	
77	77	17.5	12.7	19.1	

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Abundance Ion 105.10 (104.80 to 105.80): V
Ion 120.20 (119.90 to 120.90): V
Ion 91.10 (90.80 to 91.80): VL0
Ion 77.10 (76.80 to 77.80): VL0



#73

1,3,5-Trimethylbenzene

Concen: 0.541 ppbv

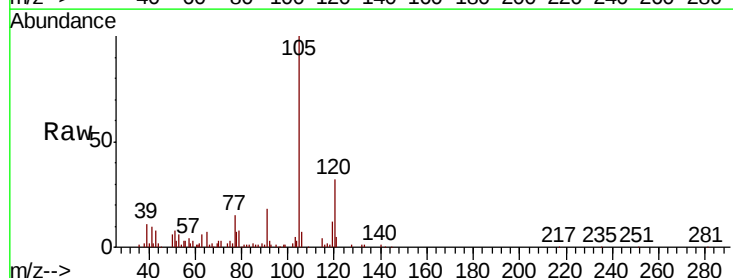
RT: 16.05 min Scan# 4126

Delta R.T. 0.00 min

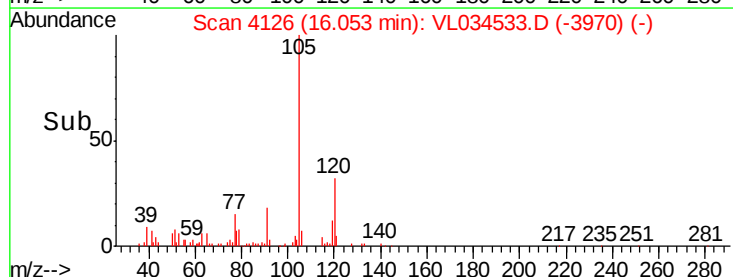
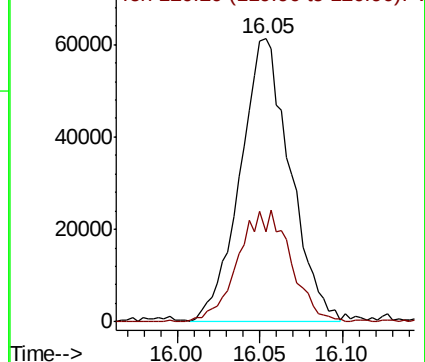
Lab File: VL034533.D

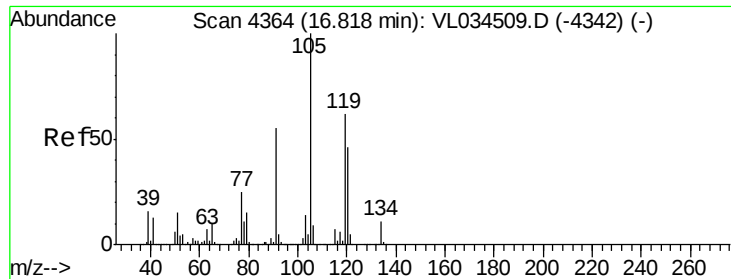
Acq: 31 Dec 2019 5:06

Tgt Ion	Ion	Ratio	Resp	Lower	Upper
105	105	100	127645		
120	120	31.2	34.6	52.0	



Abundance Ion 105.10 (104.80 to 105.80): V
Ion 120.20 (119.90 to 120.90): V





#74

1,2,4-Trimethylbenzene

Concen: 1.676 ppbv

RT: 16.82 min Scan# 4364

Delta R.T. 0.00 min

Lab File: VL034533.D

Acq: 31 Dec 2019 5:06

Instrument :

MSVOA_L

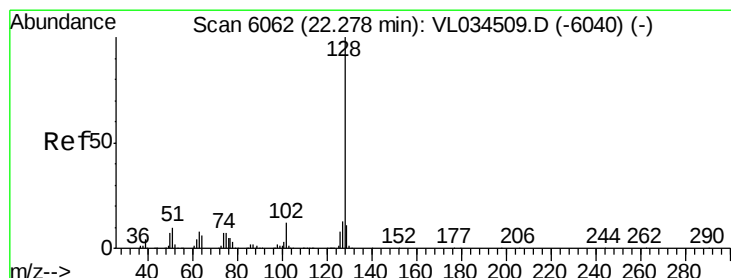
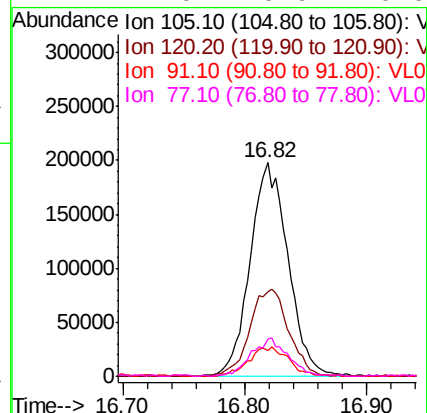
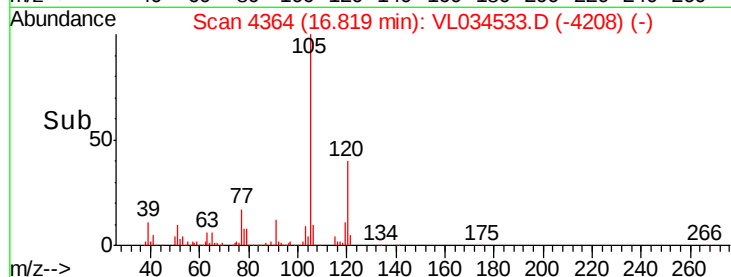
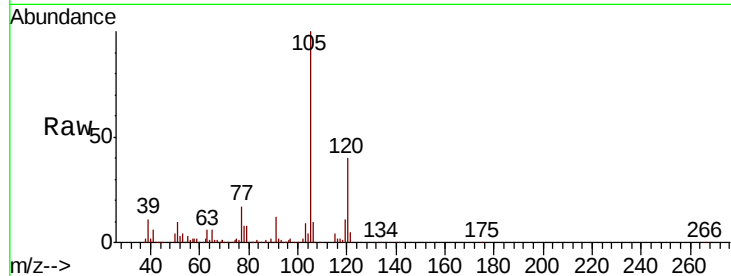
ClientSampleId :

29-1

Tot Ion	Ratio	Lower	Upper
105	100		
120	39.9	36.7	55.1
91	11.7	44.0	66.0#
77	17.0	19.9	29.9#

Manual Integrations
APPROVED

apatel
1/2/2020 10:50:13 AM



#79

Naphthalene

Concen: 0.266 ppbv m

RT: 22.29 min Scan# 6066

Delta R.T. 0.01 min

Lab File: VL034533.D

Acq: 31 Dec 2019 5:06

Tgt Ion	Ratio	Lower	Upper
128	100		
127	13.4	10.6	15.8
129	15.8	8.7	13.1#

