

Data Path : Z:\VOASRV\HPCHEM1\MSVOA L\DATA\VL121621\  
 Data File : VL038196.D  
 Acq On : 16 Dec 2021 19:30  
 Operator : SY/AP  
 Sample : M5136-02  
 Misc : 400mL/MSVOA L  
 ALS Vial : 1 Sample Multiplier: 1

Instrument :  
 MSVOA L  
 ClientSampleId :  
 MID

Manual Integrations  
 APPROVED

Reviewed By :Amit Patel 12/20/2021  
 Supervised By :Mahesh Dadoda 12/20/2021

Quant Time: Dec 17 06:35:54 2021  
 Quant Method : Z:\VOASRV\HPCHEM1\MSVOA L\METHODS\VL111821A  
 Quant Title : AIR ANALYSIS BY METHOD TO-15 Instrument:  
 QLast Update : Thu Nov 18 13:16:09 2021  
 Response via : Initial Calibration

| Internal Standards      | R.T.  | QIon | Response | Conc  | Units | Dev(Min) |
|-------------------------|-------|------|----------|-------|-------|----------|
| 1) Bromochloromethane   | 5.67  | 49   | 985105   | 10.00 | ppbv  | 0.00     |
| 33) 1,4-Difluorobenzene | 7.18  | 114  | 2477805  | 10.00 | ppbv  | 0.00     |
| 55) Chlorobenzene-d5    | 12.08 | 117  | 2126753  | 10.00 | ppbv  | 0.00     |

## System Monitoring Compounds

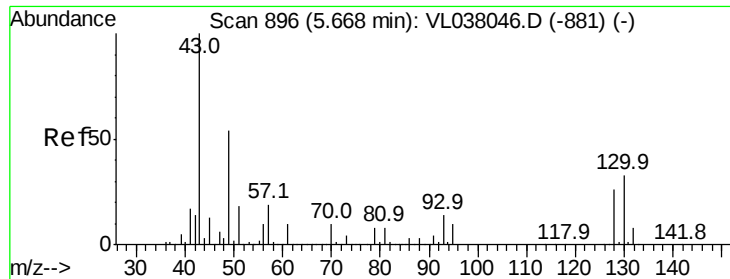
|                             |        |       |          |          |      |         |
|-----------------------------|--------|-------|----------|----------|------|---------|
| 68) 1-Bromo-4-Fluorobenzene | 14.42  | 95    | 1579127  | 10.29    | ppbv | 0.00    |
| Spiked Amount               | 10.000 | Range | 65 - 135 | Recovery | =    | 102.90% |

## Target Compounds

|                                |       |     |         |        |        | Ovalue |
|--------------------------------|-------|-----|---------|--------|--------|--------|
| 2) Dichlorodifluoromethane     | 3.06  | 85  | 19223m  | 0.118  | ppbv   |        |
| 3) Chlorodifluoromethane       | 3.00  | 51  | 30307   | 0.146  | ppbv   | 98     |
| 7) Chloroethane                | 3.56  | 64  | 3514m   | 0.143  | ppbv   |        |
| 9) Propene                     | 3.03  | 41  | 24532m  | 0.322  | ppbv   |        |
| 11) Trichlorofluoromethane     | 3.95  | 101 | 24440   | 0.158  | ppbv   | 97     |
| 12) 1,1,2-Trichlorotrifluoroet | 4.49  | 101 | 13791m  | 0.126  | ppbv   |        |
| 13) Ethanol                    | 3.61  | 45  | 370269  | 50.290 | ppbv   | 91     |
| 15) Acetone                    | 3.86  | 43  | 339186  | 3.971  | ppbv   | 91     |
| 17) tert-Butyl alcohol         | 4.30  | 59  | 37945m  | 0.366  | ppbv   |        |
| 18) 1,1-Dichloroethene         | 4.29  | 96  | 21733m  | 0.433  | ppbv   |        |
| 19) Isopropyl Alcohol          | 3.98  | 45  | 682549  | 11.060 | ppbv # | 98     |
| 20) Methylene Chloride         | 4.35  | 84  | 564899  | 11.808 | ppbv   | 94     |
| 22) trans-1,2-Dichloroethene   | 4.89  | 96  | 7419m   | 0.146  | ppbv   |        |
| 24) 1,1-Dichloroethane         | 5.02  | 63  | 288284  | 2.800  | ppbv   | 98     |
| 26) Hexane                     | 5.69  | 57  | 305580  | 2.233  | ppbv # | 54     |
| 29) Chloroform                 | 5.76  | 83  | 39464   | 0.196  | ppbv   | 87     |
| 32) 1,1,1-Trichloroethane      | 6.52  | 97  | 1440014 | 7.037  | ppbv   | 97     |
| 34) 2-Butanone                 | 5.26  | 43  | 43354   | 0.434  | ppbv   | 98     |
| 41) Tetrahydrofuran            | 6.07  | 42  | 8303m   | 0.134  | ppbv   |        |
| 52) Tetrachloroethene          | 11.22 | 164 | 5656m   | 0.062  | ppbv   |        |
| 53) Toluene                    | 9.81  | 91  | 71275   | 0.251  | ppbv   | 95     |
| 58) Ethyl Benzene              | 12.71 | 91  | 43302   | 0.123  | ppbv   | 96     |
| 59) m/p-Xylene                 | 12.96 | 91  | 150825m | 0.510  | ppbv   |        |
| 60) o-Xylene                   | 13.69 | 91  | 59822m  | 0.218  | ppbv   |        |
| 74) 1,2,4-Trimethylbenzene     | 16.76 | 105 | 62050   | 0.207  | ppbv # | 78     |

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





#1

Bromochloromethane

Concen: 10.000 ppbv

RT: 5.67 Instrument: MSVOA\_L

Delta R.T. ClientSampleId:

Lab File: MID

Acq: 16 Dec 2021 19:30

Tot Ion:

Ion Ratio

49 100

128 45.

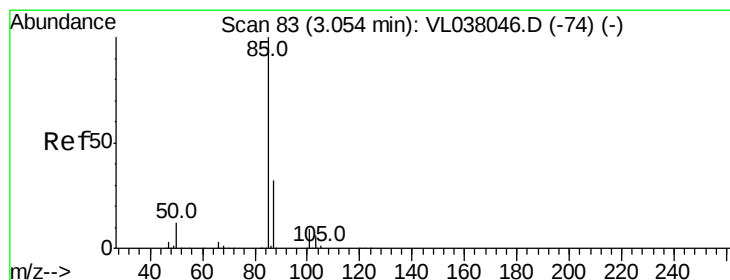
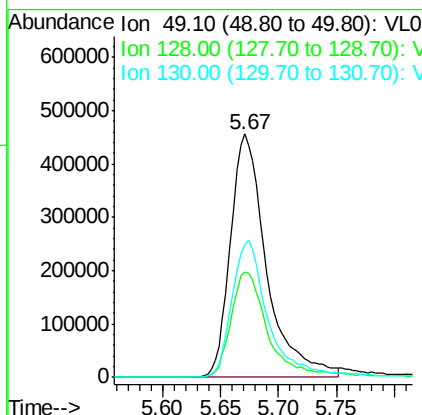
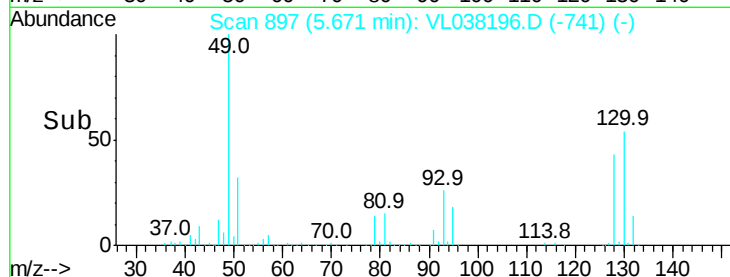
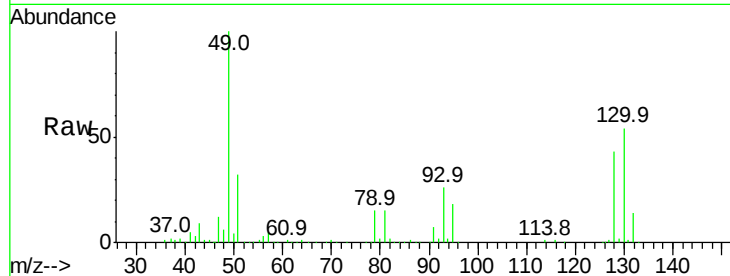
130 57.

Manual Integrations

APPROVED

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Supervised By :Mahesh Dadoda 12/20/2021



#2

Dichlorodifluoromethane

Concen: 0.118 ppbv m

RT: 3.06 min Scan# 85

Delta R.T. 0.01 min

Lab File: VL038196.D

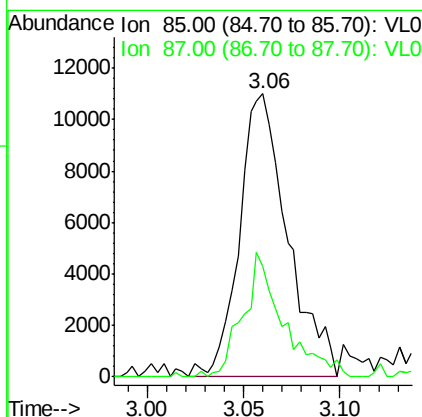
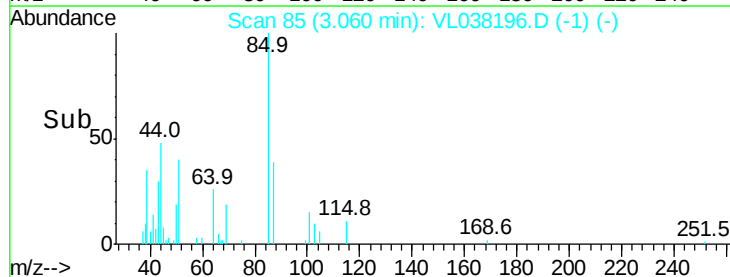
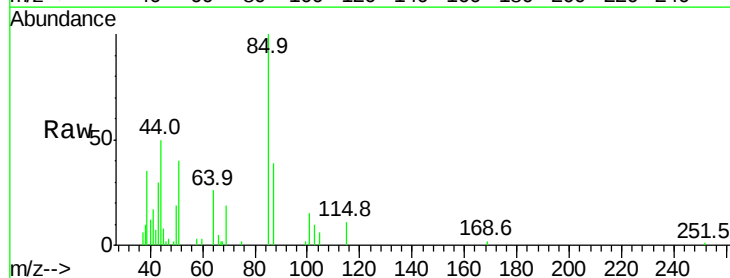
Acq: 16 Dec 2021 19:30

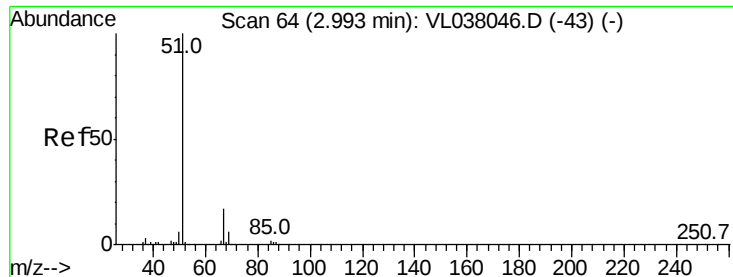
Tgt Ion: 85 Resp: 19223

Ion Ratio Lower Upper

85 100

87 38.9 25.8 38.6#





#3

Chlorodifluoromethane

Concen: 0.146 ppbv

RT: 3.00 Instrument:

Delta R.T. MSVOA\_L

Lab File: ClientSampleId:

Acq: 16 Dec 2021 19:30 MID

Tot Ion:

Ion Ratio

51 100

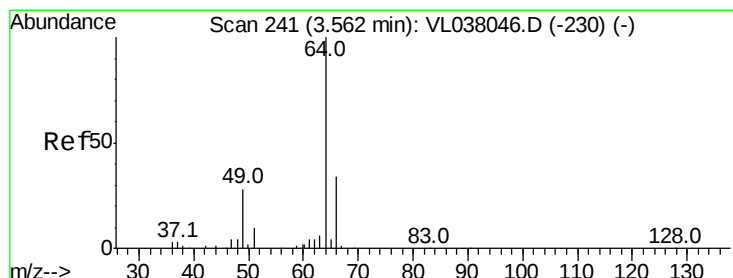
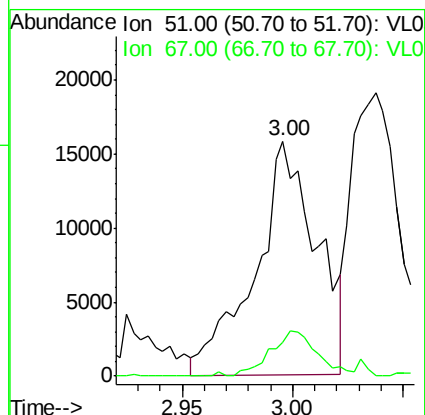
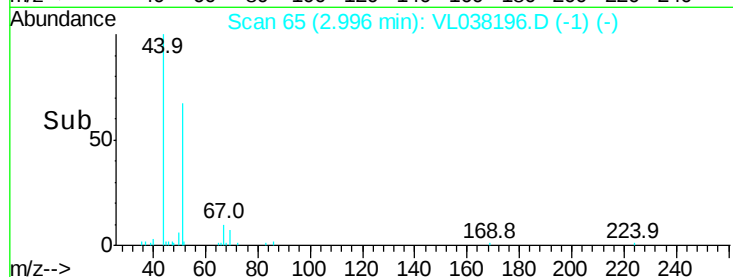
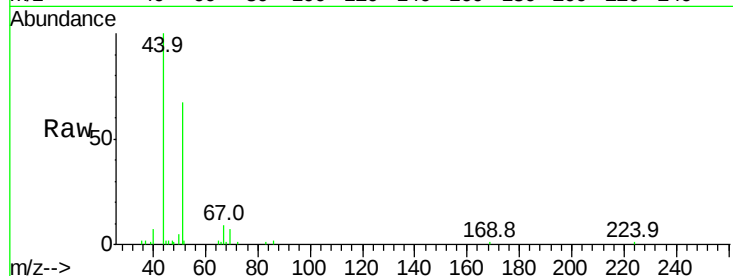
67 16.

Manual Integrations

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#7

Chloroethane

Concen: 0.143 ppbv m

RT: 3.56 min Scan# 241

Delta R.T. -0.00 min

Lab File: VL038196.D

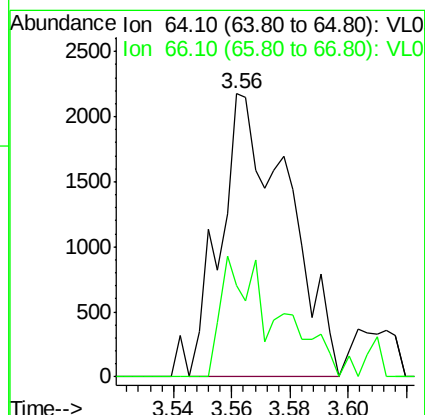
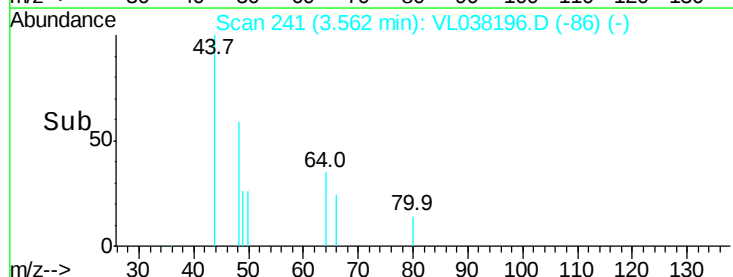
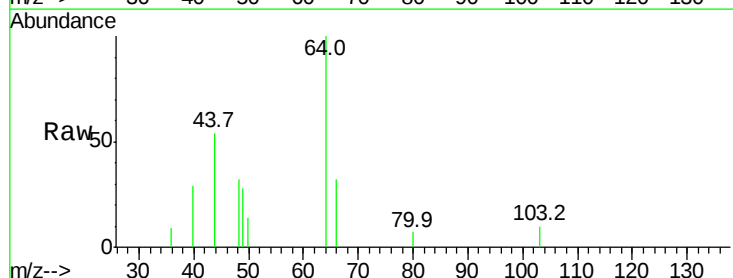
Acq: 16 Dec 2021 19:30

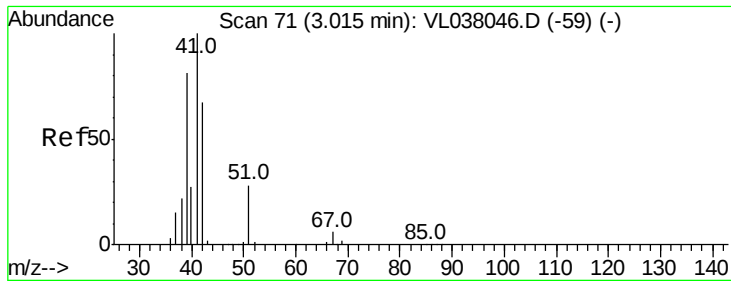
Tgt Ion: 64 Resp: 3514

Ion Ratio Lower Upper

64 100

66 32.2 27.2 40.8





#9

Propene

Concen: 0.322 ppbv m

RT: 3.03 Instrument:

Delta R.T. MSVOA\_L

Lab File: ClientSampleId:

Acq: 16 Dec 2021 19:30 MID

Tot Ion:

Ion Ratio

41 100

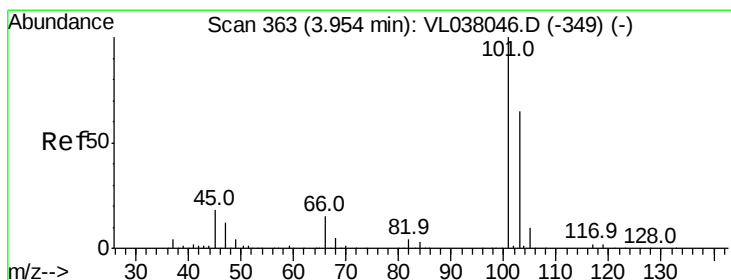
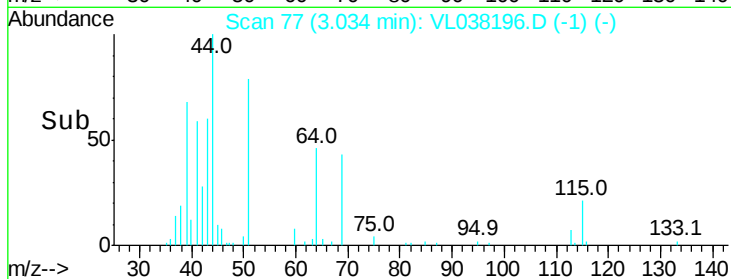
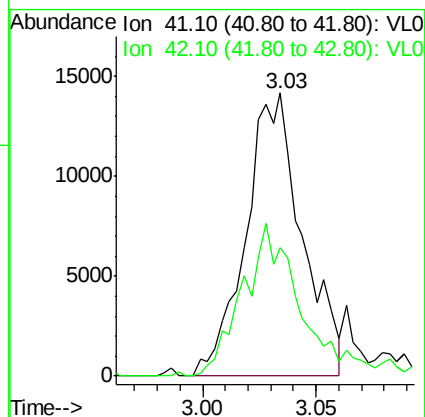
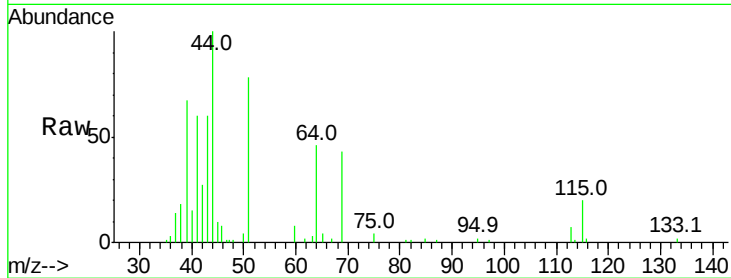
42 57.

Manual Integrations

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#11

Trichlorofluoromethane

Concen: 0.158 ppbv

RT: 3.95 min Scan# 363

Delta R.T. -0.00 min

Lab File: VL038196.D

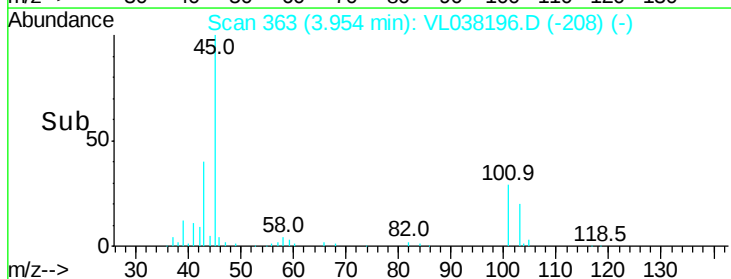
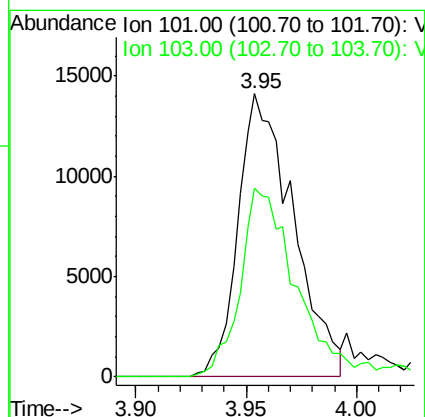
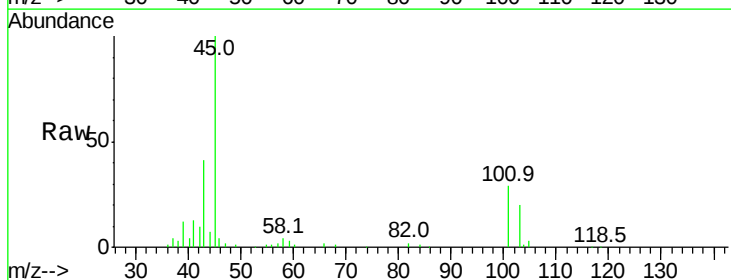
Acq: 16 Dec 2021 19:30

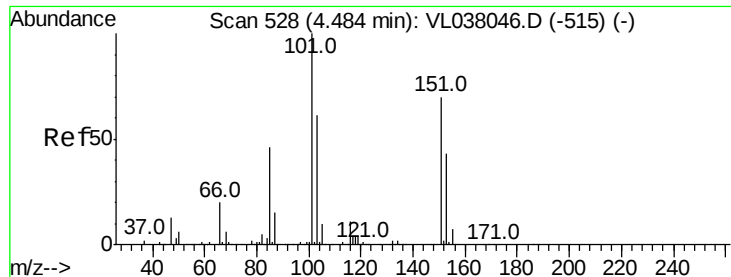
Tgt Ion:101 Resp: 24440

Ion Ratio Lower Upper

101 100

103 66.7 51.8 77.6





#12

1,1,2-Trichlorotrifluoroethane

Concen: 0.126 ppbv m

RT: 4.49 Instrument:

Delta R.T. MSVOA\_L

Lab File: ClientSampleId:

Acq: 16 Dec 2021 19:30 MID

Tot Ion:1

Ion Rati

101 100

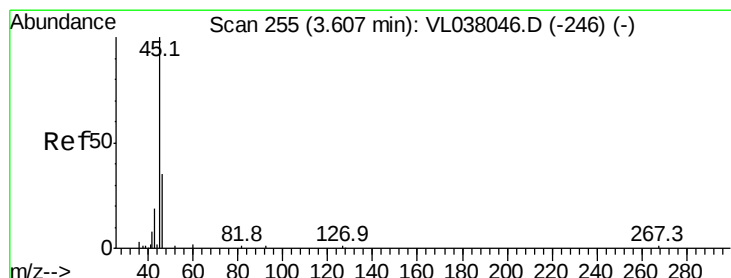
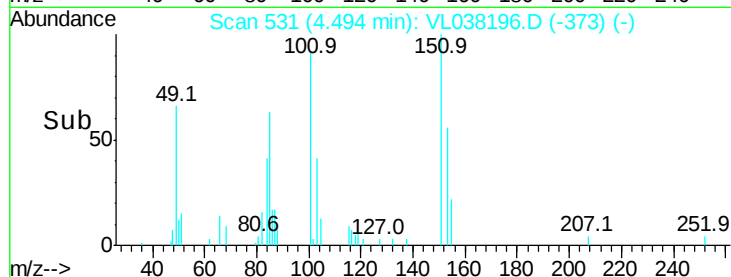
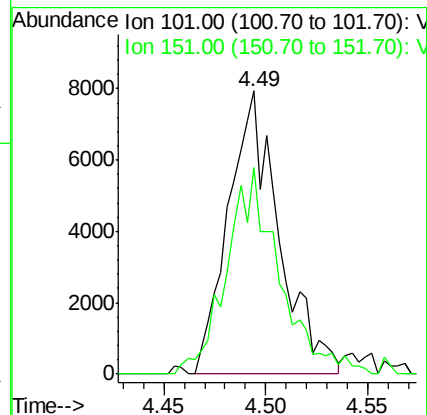
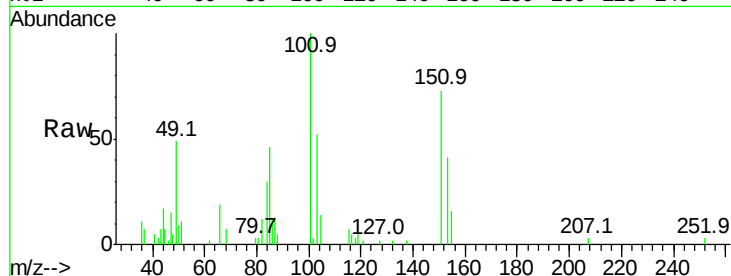
151 76.

Manual Integrations

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Reviewed By :Amit Patel 12/20/2021

Supervised By :Mahesh Dadoda 12/20/2021



#13

Ethanol

Concen: 50.290 ppbv

RT: 3.61 min Scan# 255

Delta R.T. -0.00 min

Lab File: VL038196.D

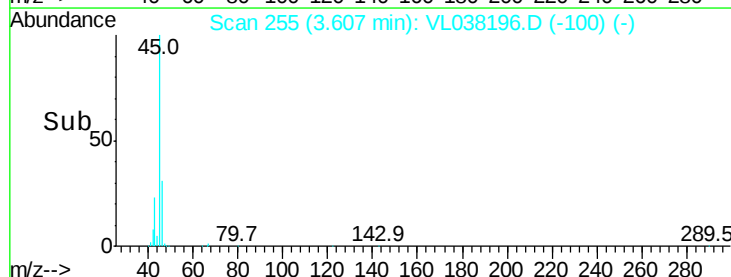
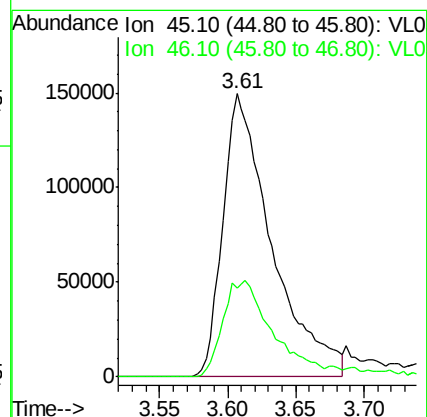
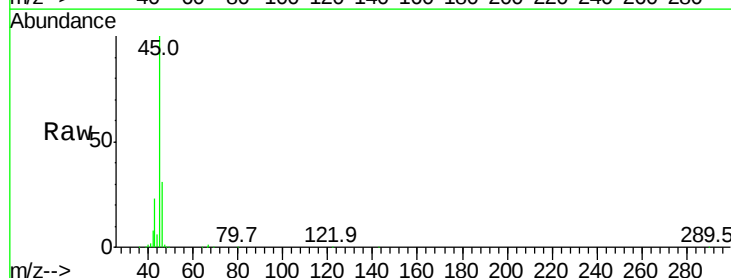
Acq: 16 Dec 2021 19:30

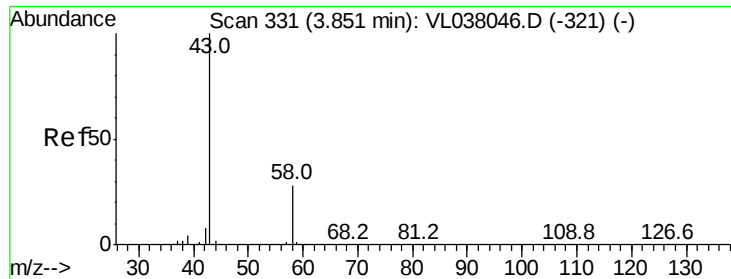
Tgt Ion: 45 Resp: 370269

Ion Ratio Lower Upper

45 100

46 38.3 17.6 70.2



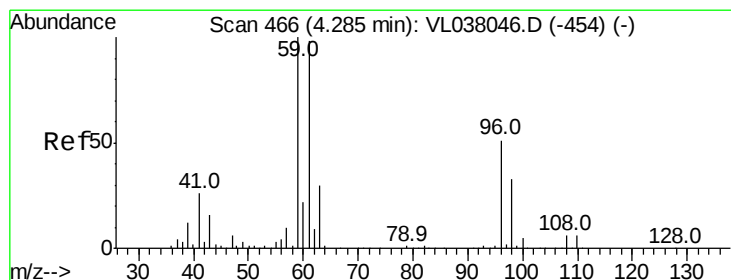
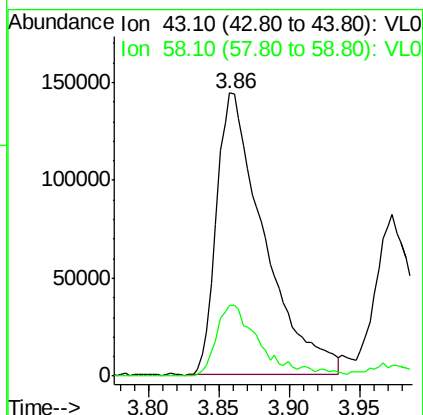
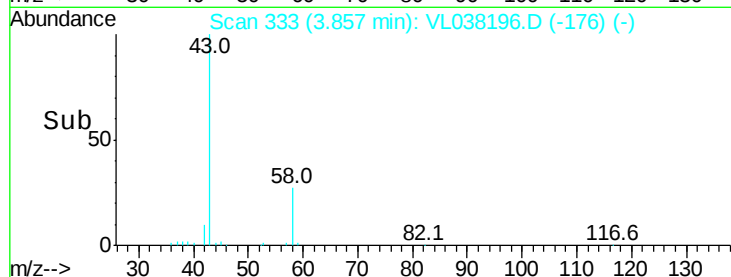
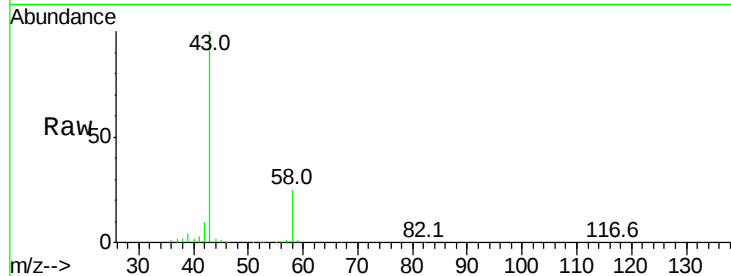


#15  
Acetone  
Concen: 3.971 ppbv  
RT: 3.86  
Delta R.T. MSVOA\_L  
Lab File: ClientSampled :  
Acq: 16 Dec 2021 19:30

Tot Ion:  
Ion Ratio  
43 100  
58 23.

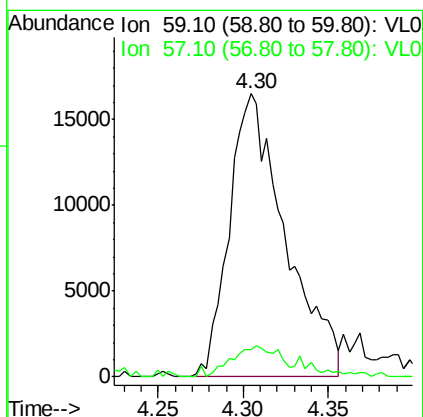
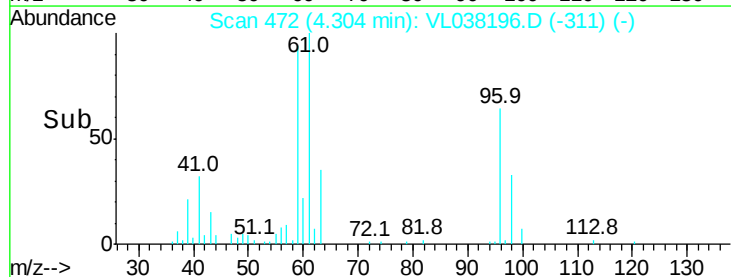
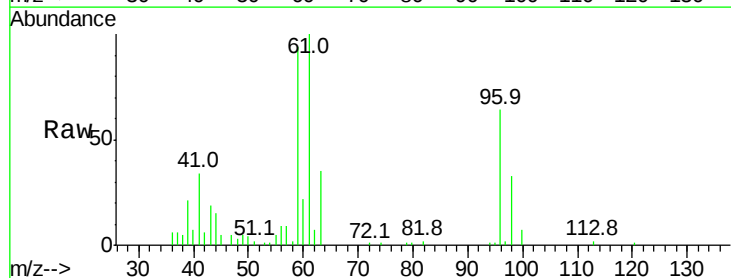
Manual Integrations  
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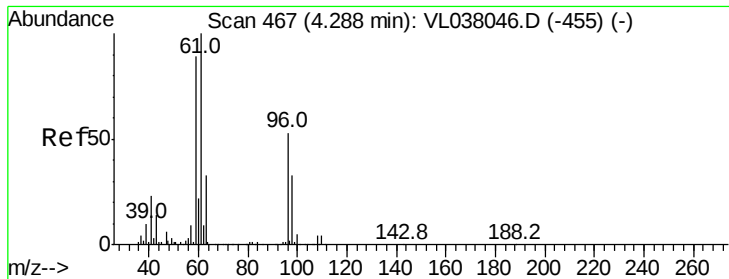
Reviewed By :Amit Patel 12/20/2021  
Supervised By :Mahesh Dadoda 12/20/2021



#17  
tert-Butyl alcohol  
Concen: 0.366 ppbv m  
RT: 4.30 min Scan# 472  
Delta R.T. 0.02 min  
Lab File: VL038196.D  
Acq: 16 Dec 2021 19:30

Tgt Ion: 59 Resp: 37945  
Ion Ratio Lower Upper  
59 100  
57 12.1 8.6 13.0





#18

1,1-Dichloroethene

Concen: 0.433 ppbv m

RT: 4.29 Instrument:

Delta R.T. MSVOA\_L

Lab File: ClientSampleId:

Acq: 16 Dec 2021 19:30 MID

Tot Ion:

Ion Ratio

96 100

61 188.

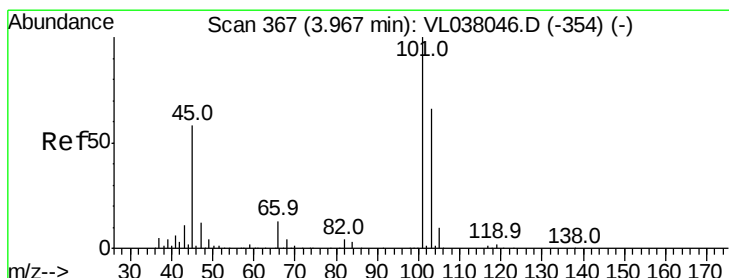
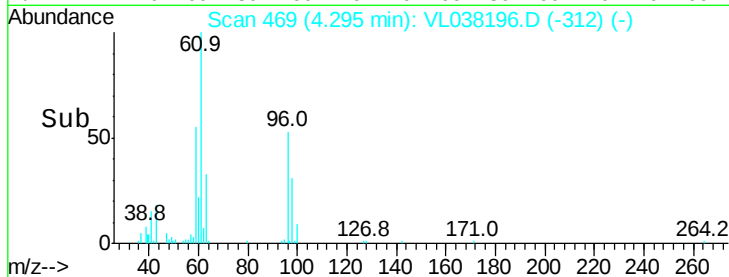
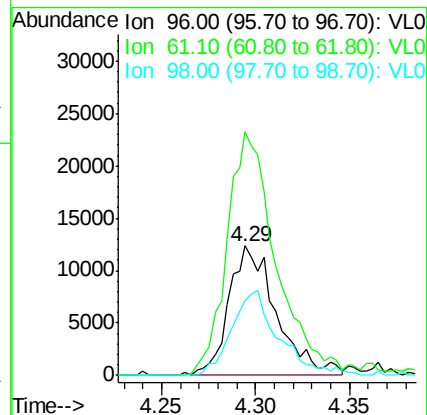
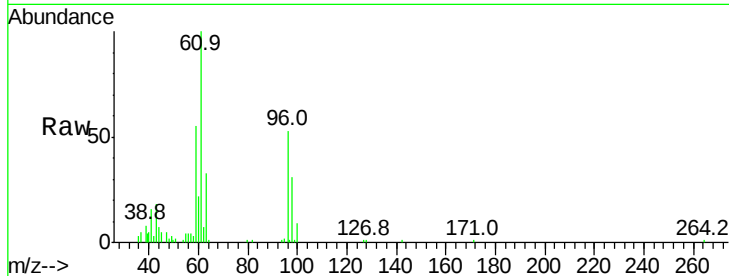
98 58.

Manual Integrations

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Supervised By :Mahesh Dadoda 12/20/2021



#19

Isopropyl Alcohol

Concen: 11.060 ppbv

RT: 3.98 min Scan# 370

Delta R.T. 0.01 min

Lab File: VL038196.D

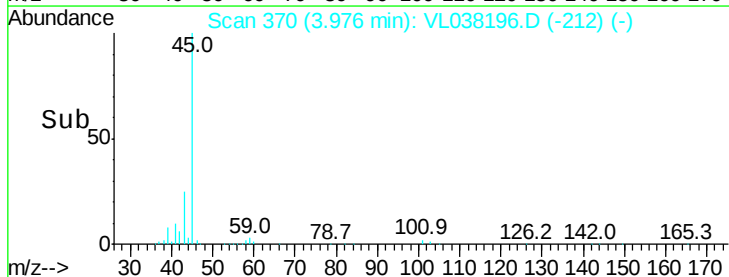
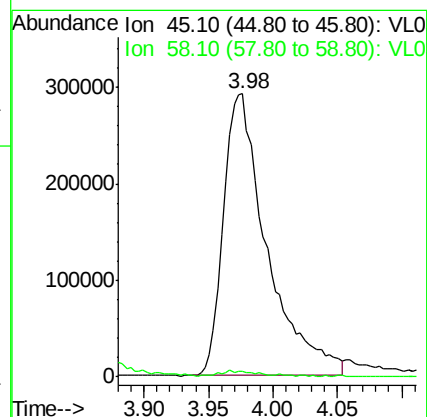
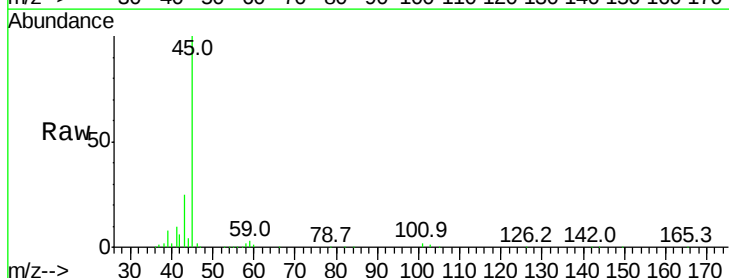
Acq: 16 Dec 2021 19:30

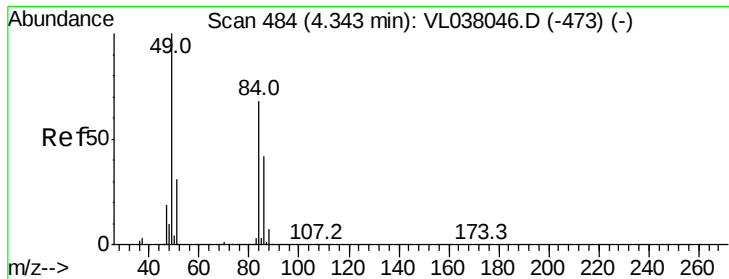
Tgt Ion: 45 Resp: 682549

Ion Ratio Lower Upper

45 100

58 2.4 1.4 2.0#





#20

Methylene Chloride

Concen: 11.808 ppbv

RT: 4.35

Instrument: MSVOA\_1

Delta R.T.:

Lab File: ClientSampleId:

Acq: 16 Dec 2021 19:30

Tot Ion:

Ion Ratio

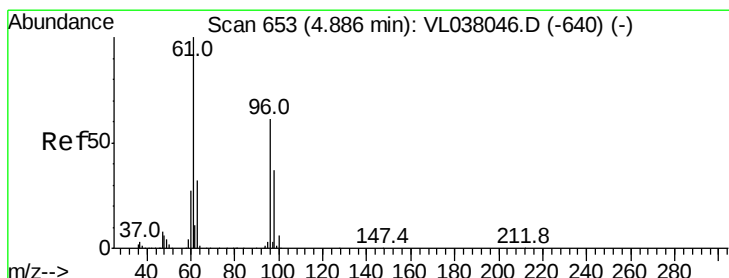
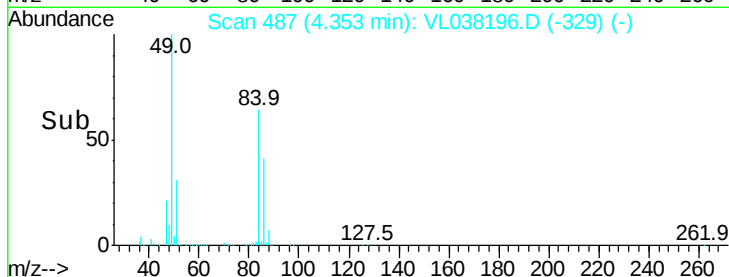
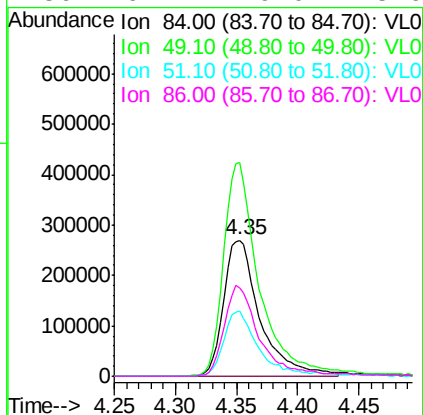
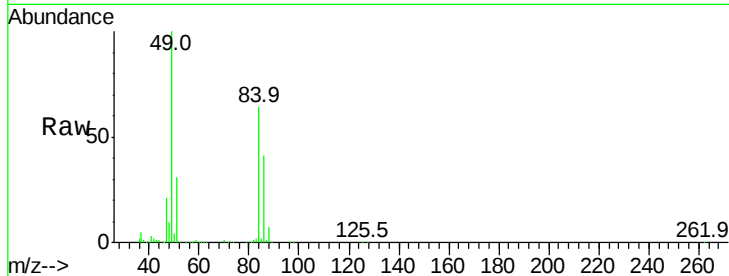
|      |      |
|------|------|
| 84   | 100  |
| 49   | 156. |
| 51   | 48.  |
| 86   | 64.7 |
| 49.0 | 73.6 |

Manual Integrations

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Supervised By :Mahesh Dadoda 12/20/2021



#22

trans-1,2-Dichloroethene

Concen: 0.146 ppbv m

RT: 4.89 min Scan# 654

Delta R.T. 0.00 min

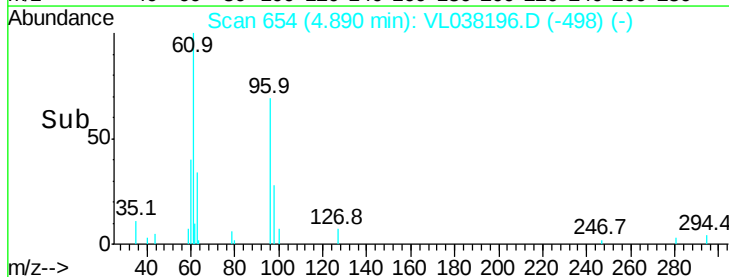
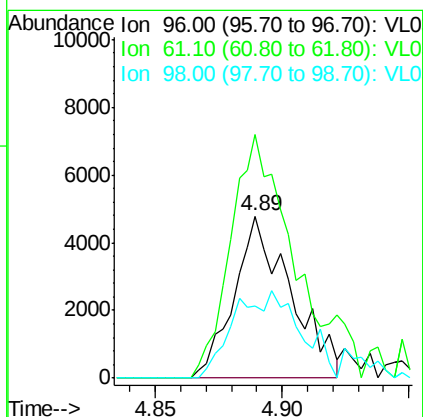
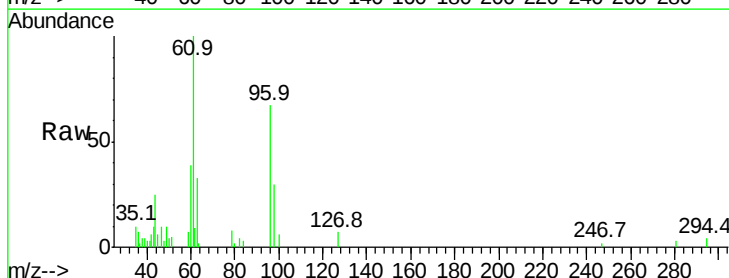
Lab File: VL038196.D

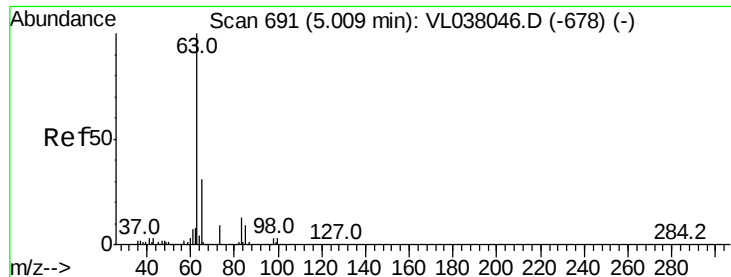
Acq: 16 Dec 2021 19:30

Tgt Ion: 96 Resp: 7419

Ion Ratio Lower Upper

|    |       |       |       |
|----|-------|-------|-------|
| 96 | 100   |       |       |
| 61 | 150.2 | 131.6 | 197.4 |
| 98 | 44.6  | 48.4  | 72.6# |





#24

1,1-Dichloroethane

Concen: 2.800 ppbv

RT: 5.02 Instrument:

Delta R.T. MSVOA\_L

Lab File: ClientSampleId:

Acq: 16 Dec 2021 19:30 MID

Tot Ion:

Ion Ratio

63 100

98 4.

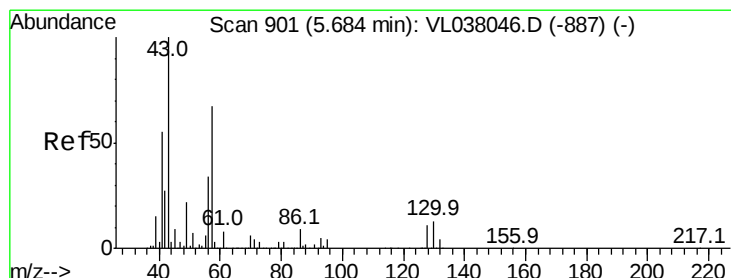
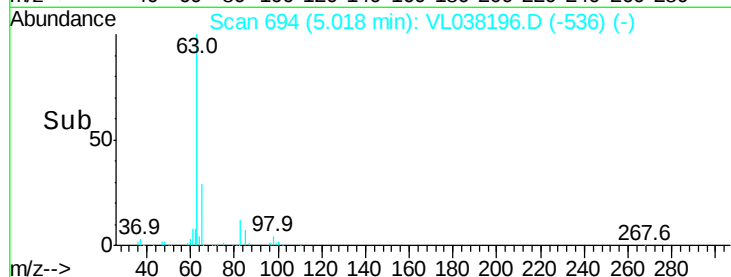
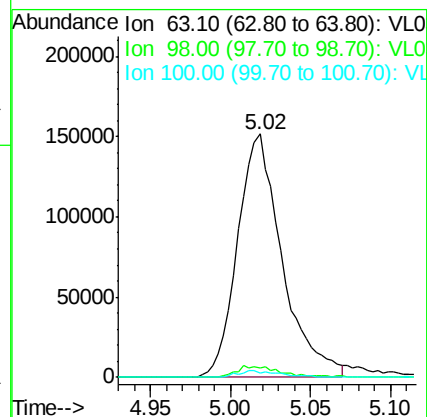
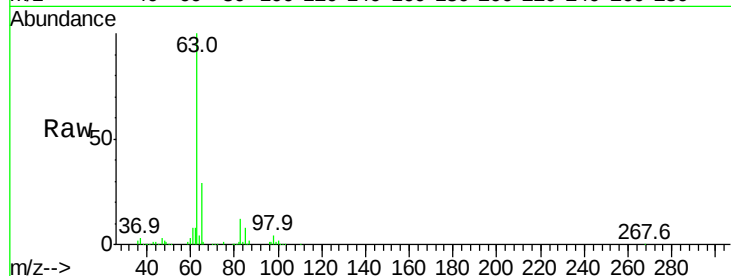
100 1.

Manual Integrations

APPROVED

Reviewed By :Amit Patel 12/20/2021

Supervised By :Mahesh Dadoda 12/20/2021



#26

Hexane

Concen: 2.233 ppbv

RT: 5.69 min Scan# 904

Delta R.T. 0.01 min

Lab File: VL038196.D

Acq: 16 Dec 2021 19:30

Tgt Ion: 57 Resp: 305580

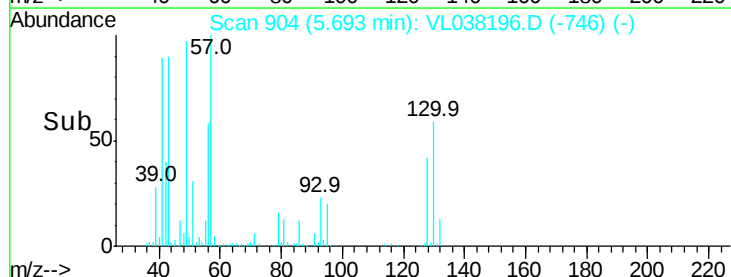
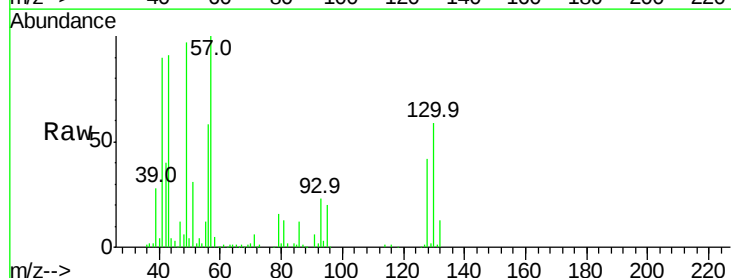
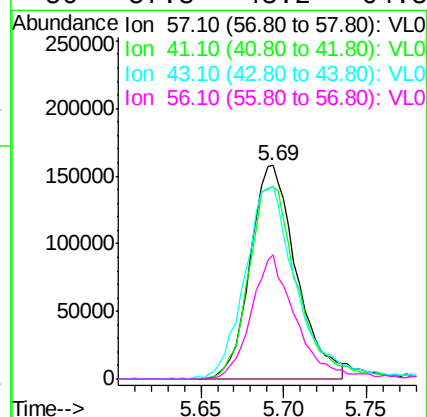
Ion Ratio Lower Upper

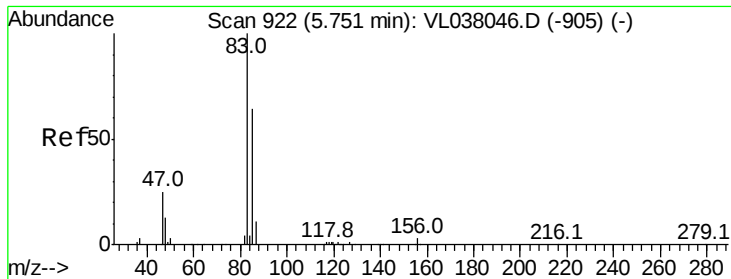
57 100

41 98.1 71.4 107.2

43 103.9 174.6 261.8#

56 57.3 43.2 64.8



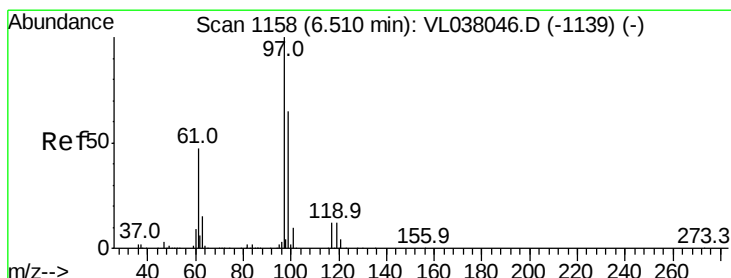
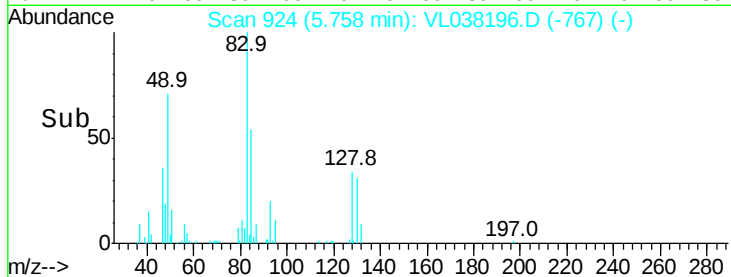
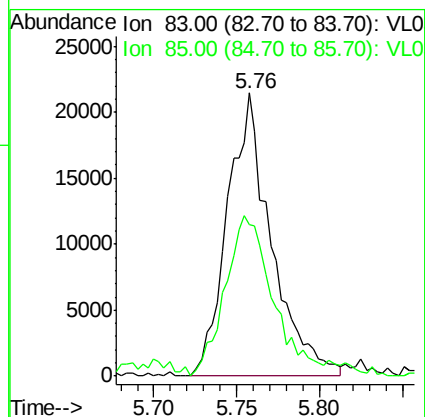
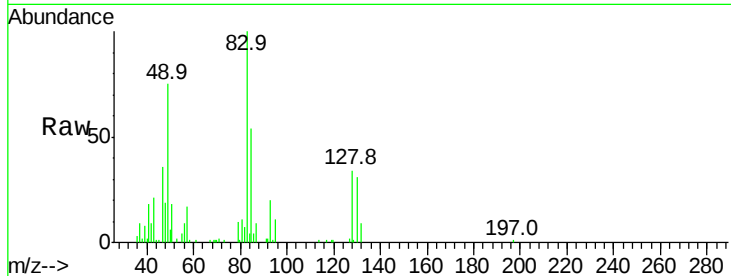


#29  
Chloroform  
Concen: 0.196 ppbv  
RT: 5.76  
Delta R.T. MSVOA\_L  
Lab File: ClientSampleId :  
Acq: 16 Dec 2021 19:30

Tot Ion:  
Ion Ratio  
83 100  
85 53.

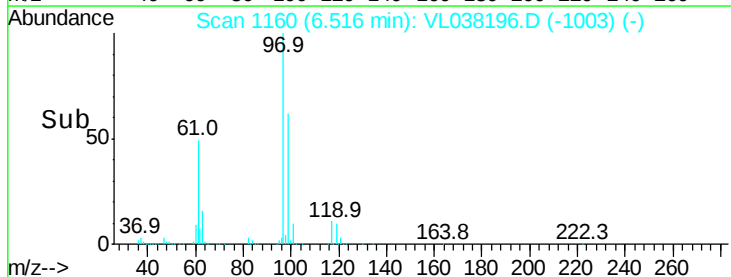
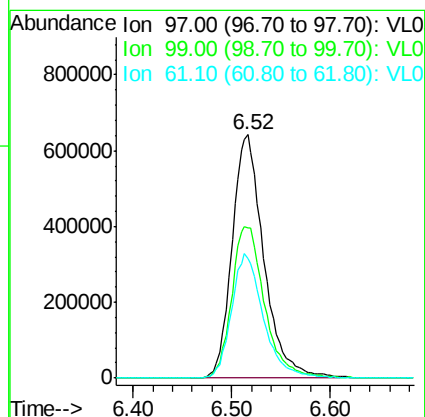
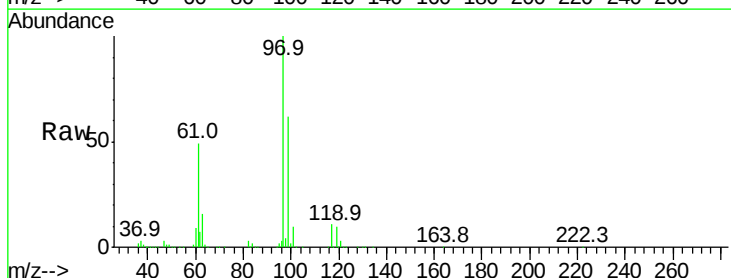
Manual Integrations  
APPROVED

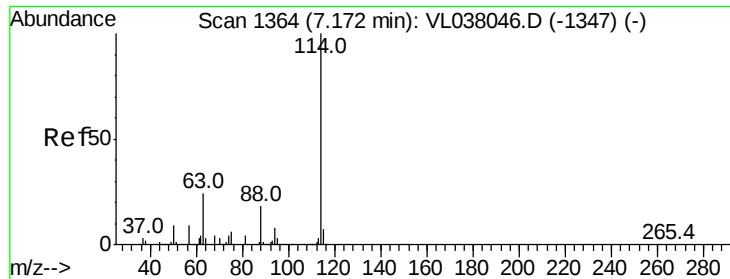
Reviewed By :Amit Patel 12/20/2021  
Supervised By :Mahesh Dadoda 12/20/2021



#32  
1,1,1-Trichloroethane  
Concen: 7.037 ppbv  
RT: 6.52 min Scan# 1160  
Delta R.T. 0.01 min  
Lab File: VL038196.D  
Acq: 16 Dec 2021 19:30

Tgt Ion: 97 Resp: 1440014  
Ion Ratio Lower Upper  
97 100  
99 64.7 52.2 78.4  
61 51.5 37.7 56.5





#33

1,4-Difluorobenzene

Concen: 10.000 ppbv

RT: 7.18

Instrument: MSVOA\_L

Delta R.T.:

Lab File: ClientSampleId:

Acq: 16 Dec 2021 19:30

Tot Ion:1

Ion Rati

114 100

63 27.

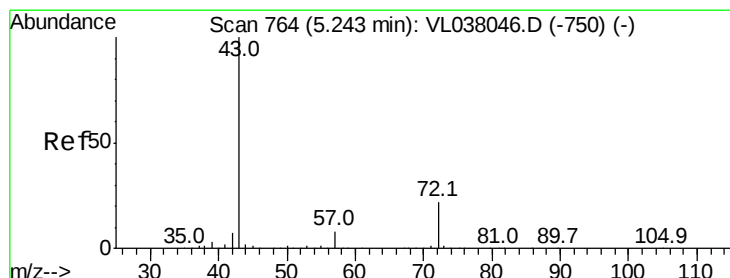
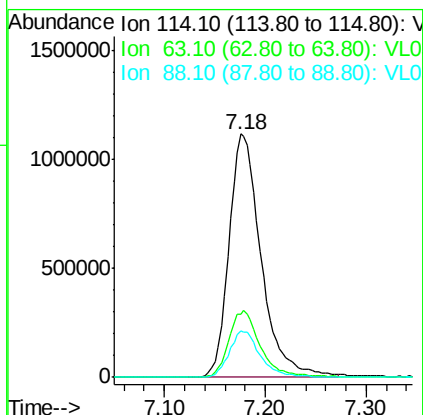
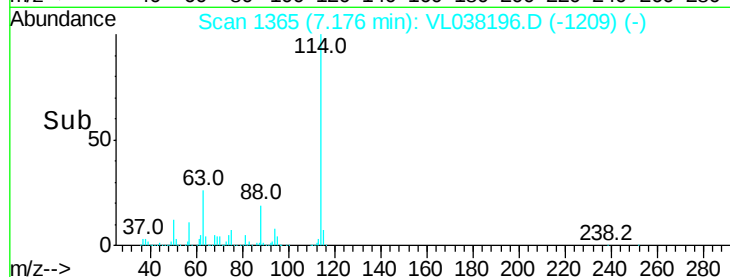
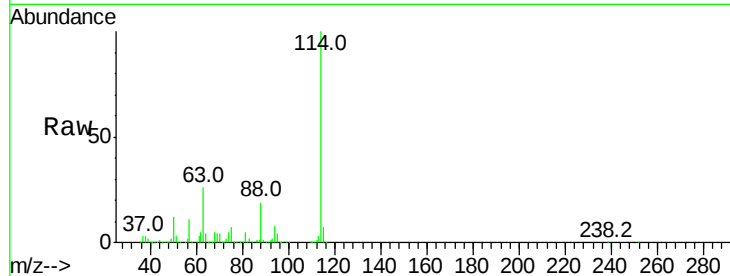
88 18.

Manual Integrations

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Reviewed By :Amit Patel 12/20/2021

Supervised By :Mahesh Dadoda 12/20/2021



#34

2-Butanone

Concen: 0.434 ppbv

RT: 5.26 min Scan# 768

Delta R.T. 0.01 min

Lab File: VL038196.D

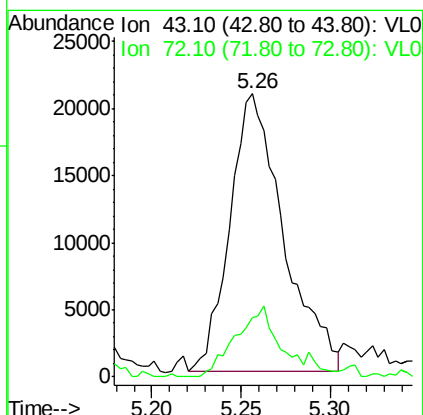
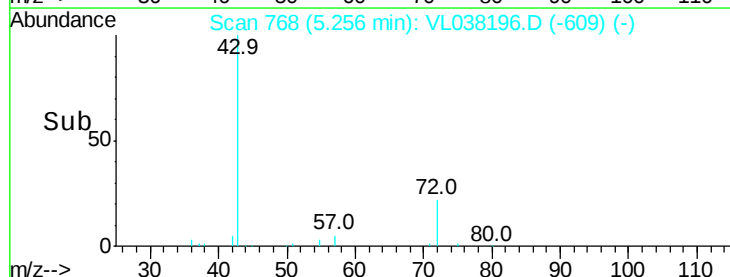
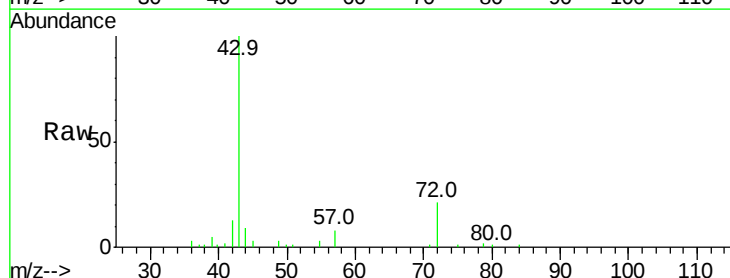
Acq: 16 Dec 2021 19:30

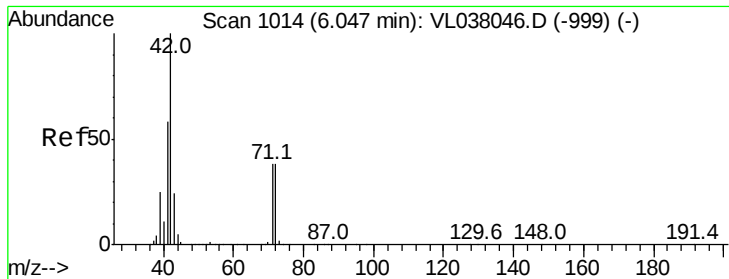
Tgt Ion: 43 Resp: 43354

Ion Ratio Lower Upper

43 100

72 22.4 18.8 28.2





#41

Tetrahydrofuran

Concen: 0.134 ppbv m

RT: 6.07 Instrument:

Delta R.T. MSVOA\_L

Lab File: ClientSampleId:

Acq: 16 Dec 2021 19:30 MID

Tot Ion:

Ion Ratio

42 100

72 27.

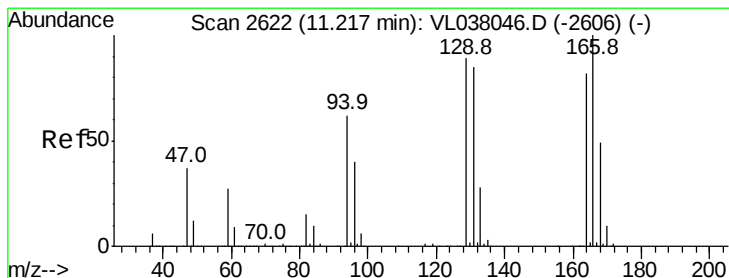
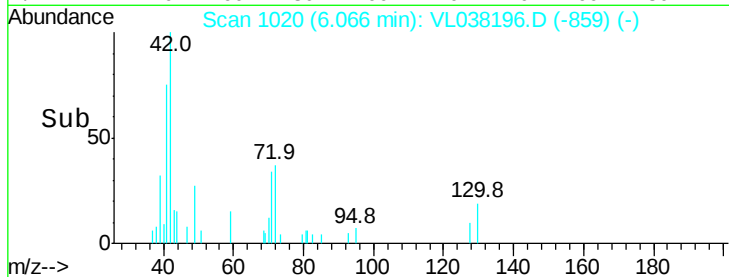
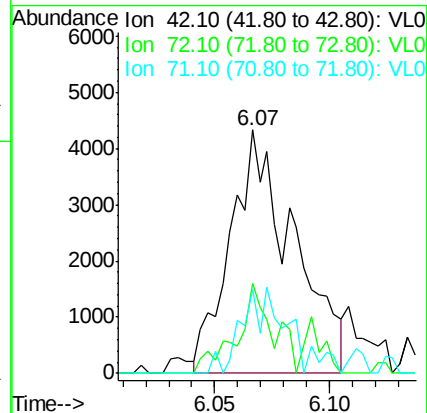
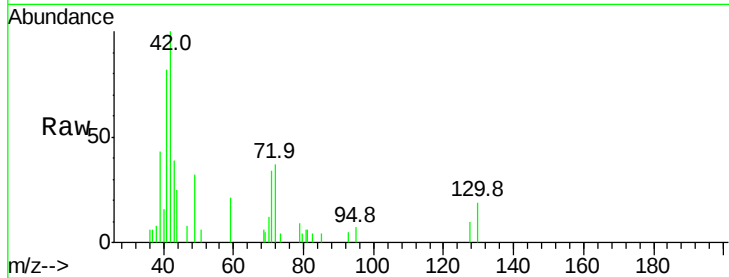
71 28.

Manual Integrations

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Reviewed By :Amit Patel 12/20/2021

Supervised By :Mahesh Dadoda 12/20/2021



#52

Tetrachloroethene

Concen: 0.062 ppbv m

RT: 11.22 min Scan# 2624

Delta R.T. 0.01 min

Lab File: VL038196.D

Acq: 16 Dec 2021 19:30

Tgt Ion:164 Resp: 5656

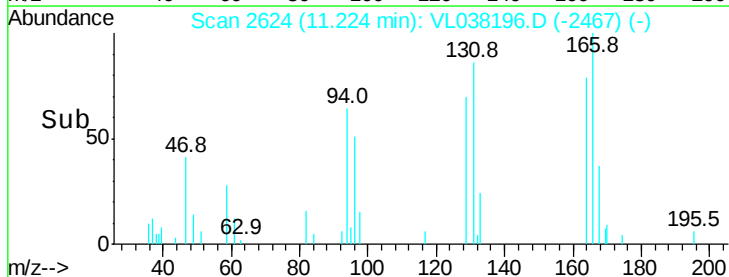
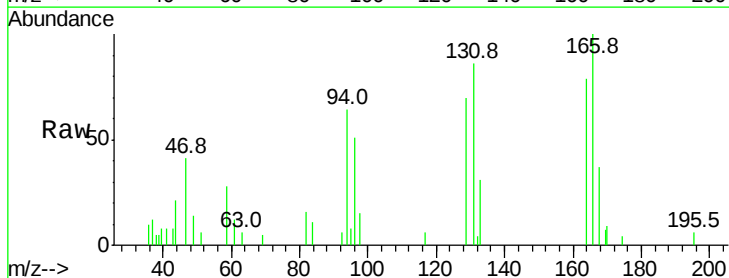
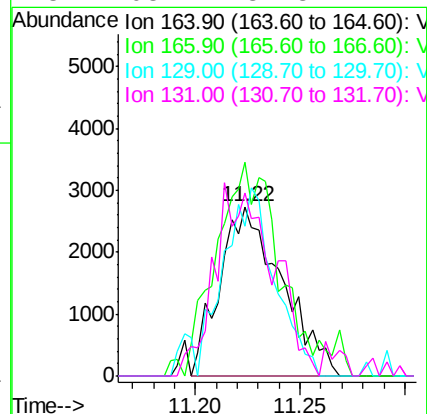
Ion Ratio Lower Upper

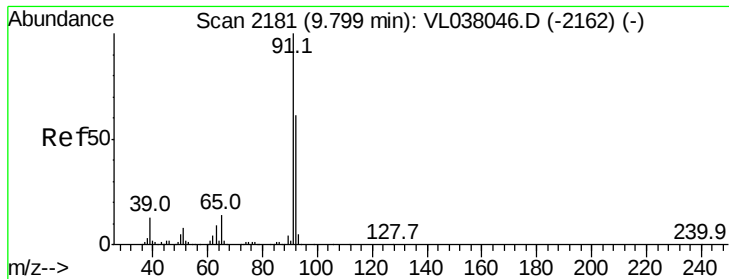
164 100

166 126.4 97.2 145.8

129 88.4 86.9 130.3

131 108.1 82.8 124.2





#53

Toluene

Concen: 0.251 ppbv

RT: 9.81 Instrument:

Delta R.T. MSVOA\_L

Lab File: ClientSampled:

Acq: 16 Dec 2021 19:30 MID

Tot Ion:

Ion Ratio

91 100

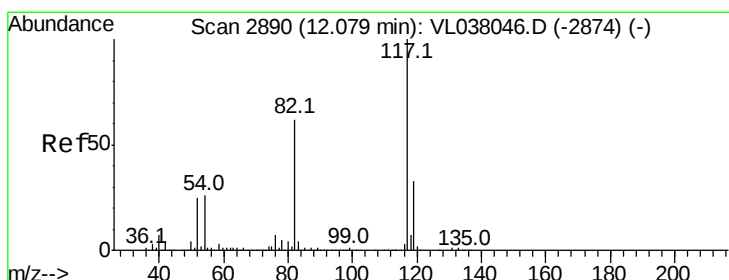
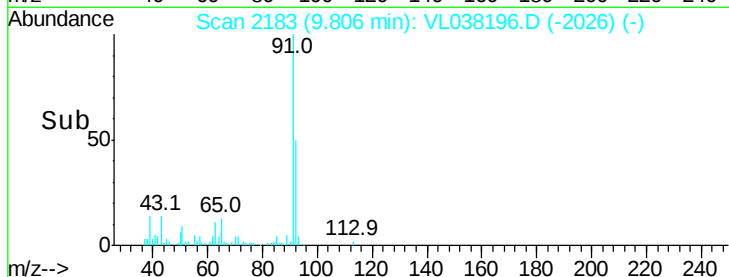
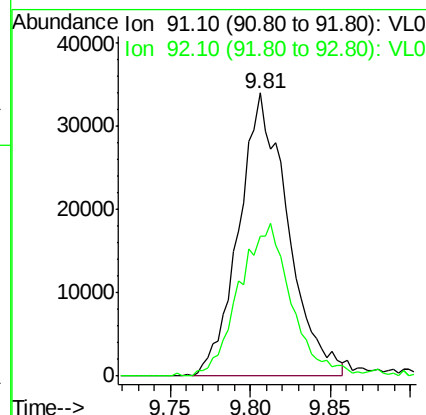
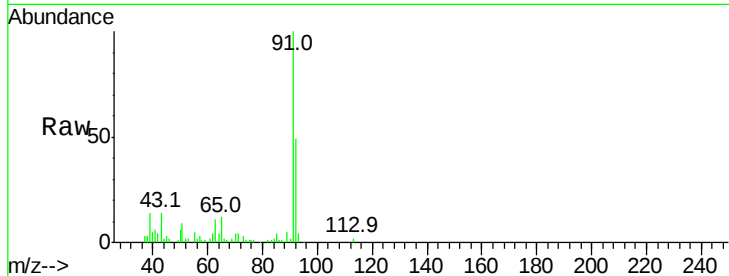
92 58.

Manual Integrations

APPROVED

Reviewed By :Amit Patel 12/20/2021

Supervised By :Mahesh Dadoda 12/20/2021



#55

Chlorobenzene-d5

Concen: 10.000 ppbv

RT: 12.08 min Scan# 2891

Delta R.T. 0.00 min

Lab File: VL038196.D

Acq: 16 Dec 2021 19:30

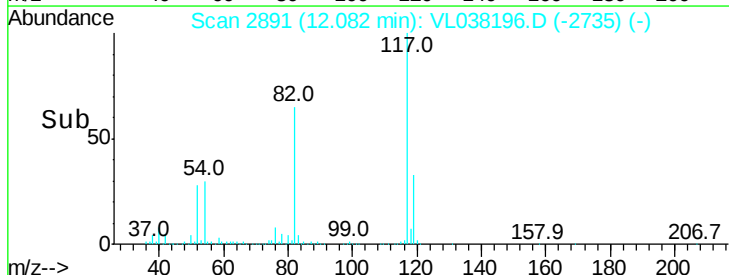
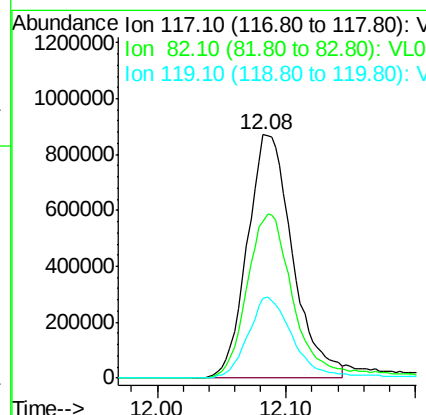
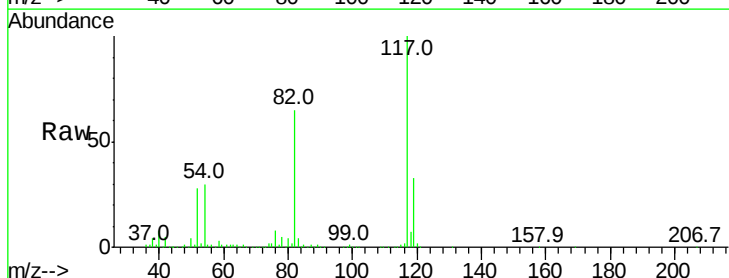
Tgt Ion:117 Resp: 2126753

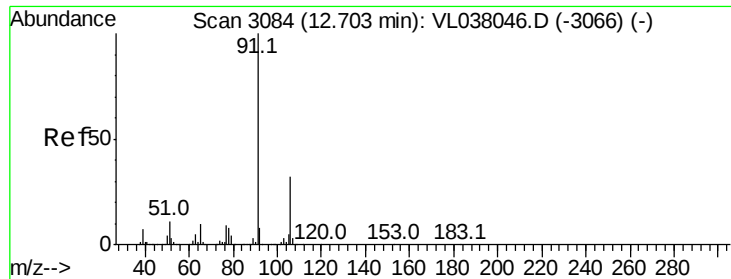
Ion Ratio Lower Upper

117 100

82 72.4 52.8 79.2

119 35.4 26.8 40.2



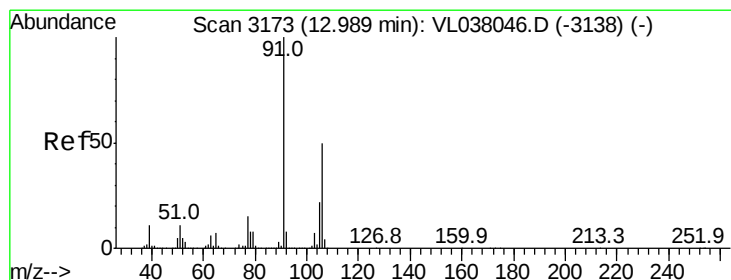
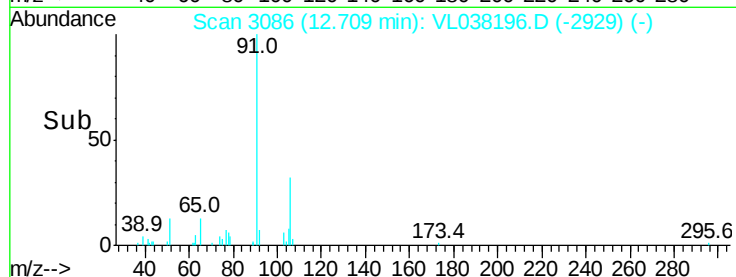
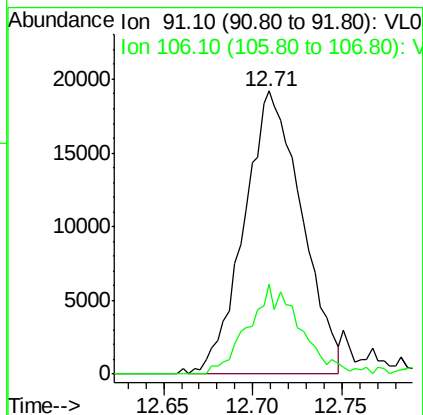
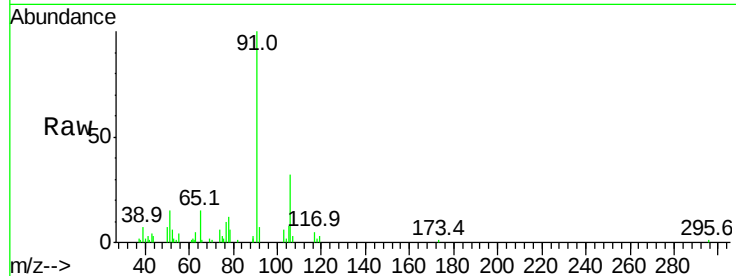


#58  
Ethyl Benzene  
Concen: 0.123 ppbv  
RT: 12.71 min  
Delta R.T.: MSVOA\_L  
Lab File: ClientSampleId :  
Acq: 16 Dec 2021 19:30

Tot Ion:  
Ion Ratio  
91 100  
106 34.

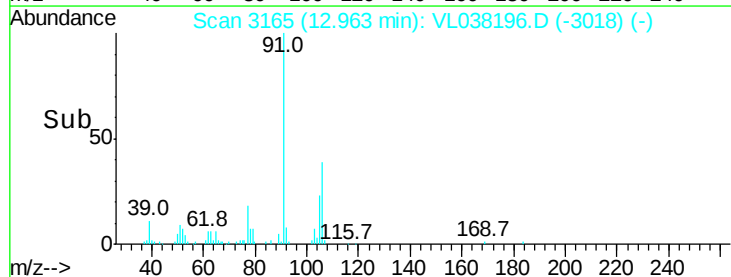
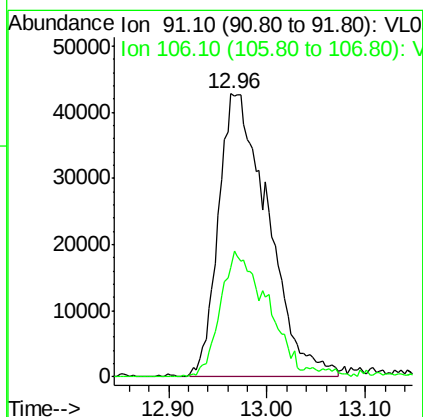
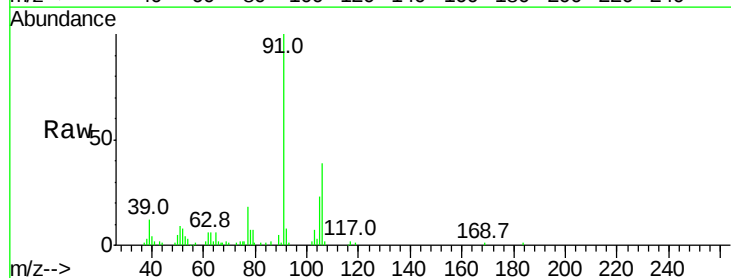
Manual Integrations  
APPROVED

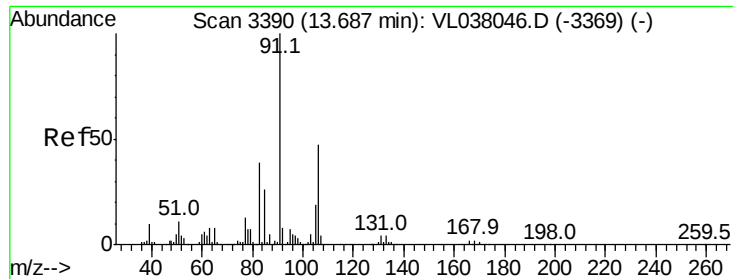
Reviewed By :Amit Patel 12/20/2021  
Supervised By :Mahesh Dadoda 12/20/2021



#59  
m/p-Xylene  
Concen: 0.510 ppbv m  
RT: 12.96 min Scan# 3165  
Delta R.T.: -0.03 min  
Lab File: VL038196.D  
Acq: 16 Dec 2021 19:30

Tgt Ion: 91 Resp: 150825  
Ion Ratio Lower Upper  
91 100  
106 0.0 38.1 57.1#





#60

o-Xylene

Concen: 0.218 ppbv m

RT: 13.69

Delta R.T. MSVOA\_L

Lab File: ClientSampleId :

Acq: 16 Dec 2021 19:30

Tot Ion:

Ion Ratio

91 100

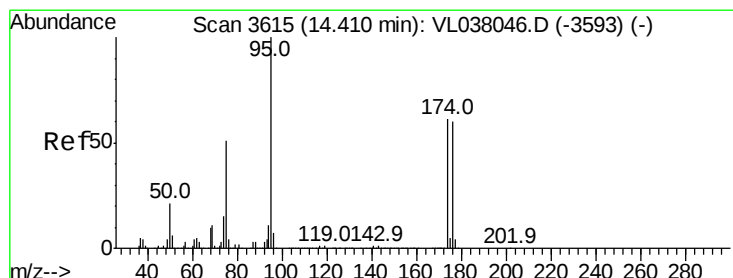
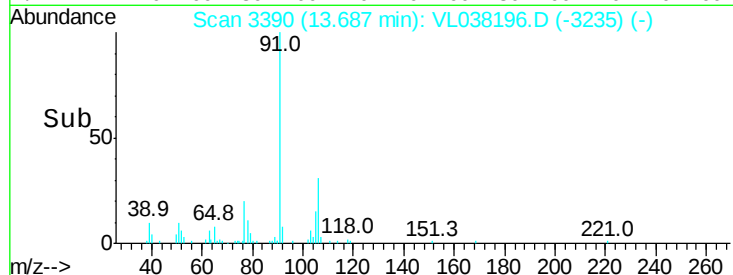
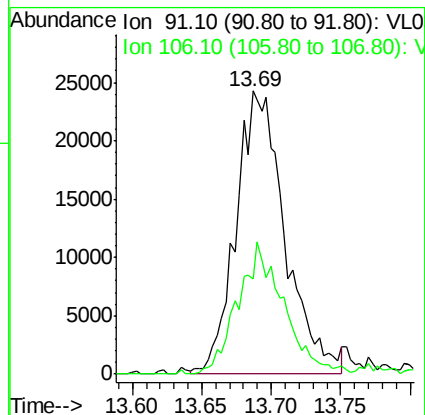
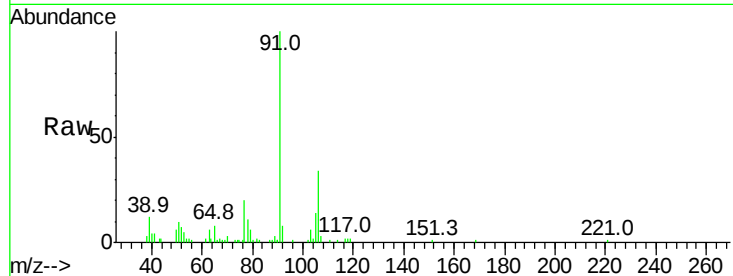
106 43.

Manual Integrations

APPROVED

Reviewed By :Amit Patel 12/20/2021

Supervised By :Mahesh Dadoda 12/20/2021



#68

1-Bromo-4-Fluorobenzene

Concen: 10.294 ppbv

RT: 14.42 min Scan# 3617

Delta R.T. 0.01 min

Lab File: VL038196.D

Acq: 16 Dec 2021 19:30

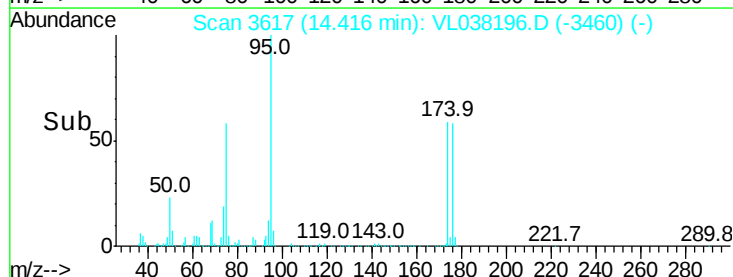
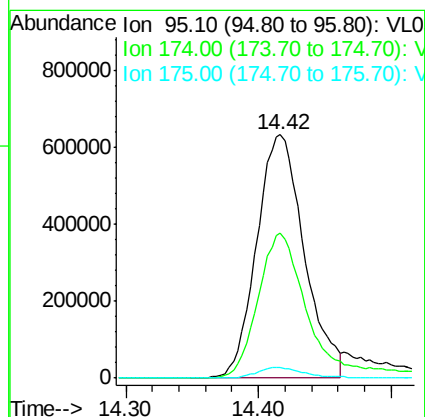
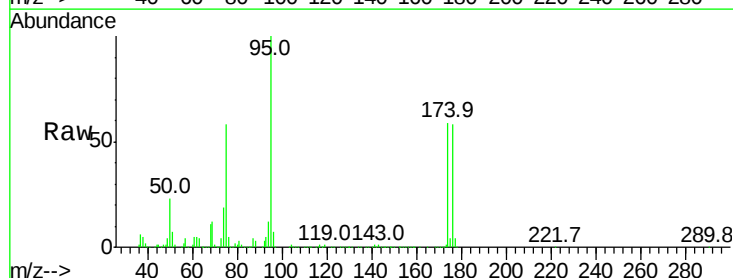
Tgt Ion: 95 Resp: 1579127

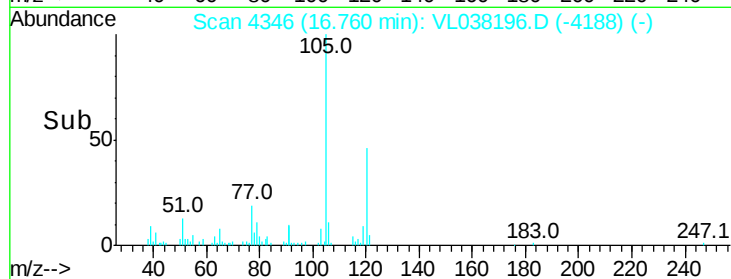
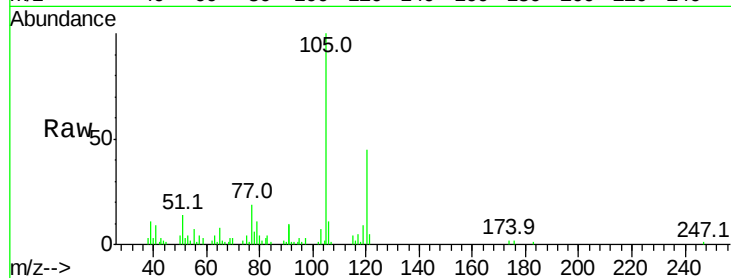
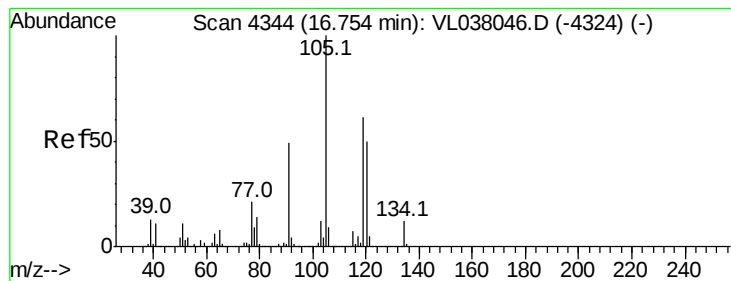
Ion Ratio Lower Upper

95 100

174 66.7 53.1 79.7

175 4.8 4.0 6.0





#74

1,2,4-Trimethylbenzene

Concen: 0.207 ppbv

RT: 16.76

Delta R.T

Lab File: ClientSampleId :

Acq: 16 Dec 2021 19:30

Tot Ion:1

Ion Rati

105 100

120 46.

91 17.

77 19.0 16.6 25.0

Manual Integrations

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Reviewed By :Amit Patel 12/20/2021

Supervised By :Mahesh Dadoda 12/20/2021

