

# NATIONAL TRANSPORTATION SAFETY BOARD

Office of Research and Engineering  
Materials Laboratory Division  
Washington, D.C. 20594



March 09, 2016

MATERIALS LABORATORY FACTUAL REPORT

Report No. 15-120

## A. ACCIDENT INFORMATION

Place : Moline, Illinois  
Date : August 28, 2011  
Vehicle : Embraer 145XR (N27152)  
NTSB No. : ENG11IA047  
Investigator : Tom Jacky

## B. COMPONENTS EXAMINED

An o-ring was removed from a Woodward HRT Electric-Hydraulic Servo Valve (EHSV) assembly, part number 22253282-1003, Serial Number 278A during a component examination and teardown. The o-ring had been installed for approximately 2 years.

The Woodward part number for the o-ring is 82005512-034. The o-ring material is specified to be in accordance with NAS1613. The specified inside diameter is 0.125 inch to 0.135 inch and the cross section diameter is 0.037inch to 0.043 inch.

## C. DETAILS OF THE EXAMINATION

Dimensional analysis of the o-ring was conducted using a 50X to 200X digital microscope with optical measuring system (see Figure 1). The o-ring dimensions are listed below.

	Average diameter (inch)
Outside diameter	0.207
Inside diameter	0.132
Section diameter	0.037

The o-ring was examined using a scanning electron microscope to characterize damage on the outside periphery of the o-ring as indicated in Figures 2-4. A raised step is present on the OD surface as well as a delaminated lip as identified in Figure 3. An approximately 0.017 inch by 0.048 inch semicircular fragment of the delaminated lip has fractured from the o-ring as shown in Figures 2-4. Using a single-edge razor-blade, a cross section of the o-ring taken at an arbitrary location is shown in Figure 5. Steps are present on the outside and inside diameter surfaces. The steps and delaminated lip on the outside periphery are consistent with typical extrusion damage in o-rings.

Compositional analysis of the o-ring was conducted using pyrolysis mass spectroscopy (PYMS) and evolved gas analysis (EGA) at Jordi Labs, Mansfield, MA. Based on the spectra, the o-ring is manufactured from either ethylene propylene rubber (EPR) or ethylene propylene diene monomer rubber (EPDM). A small spectral peak consistent with butylated hydroxytoluene (BHT) (typical antioxidant) was also observed. The Jordi Labs report is attached as an appendix.

Michael Budinski  
Chief, Materials Laboratory Division

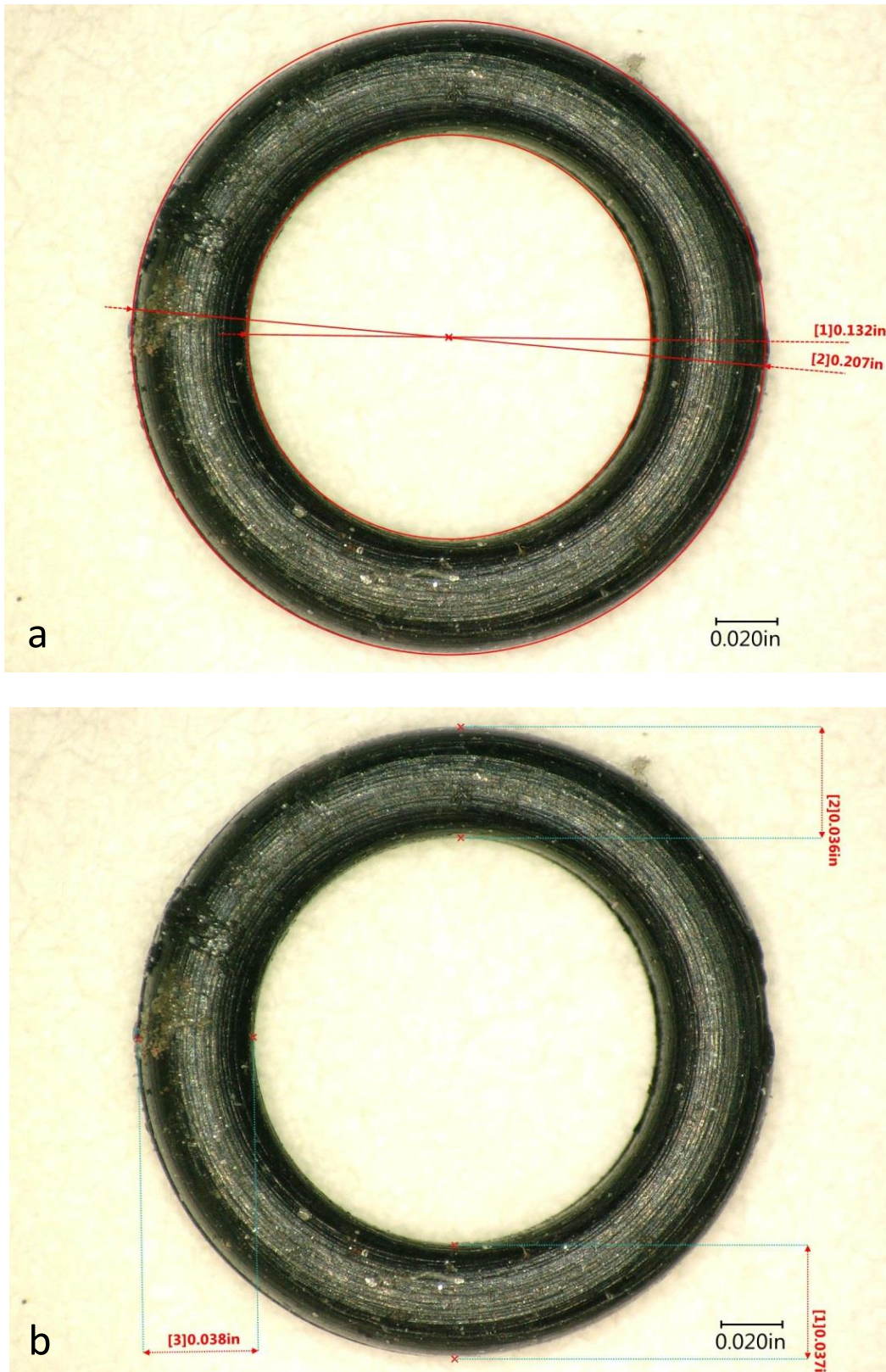


Figure 1 Digital microscope image of the o-ring, with dimensional annotations shown.

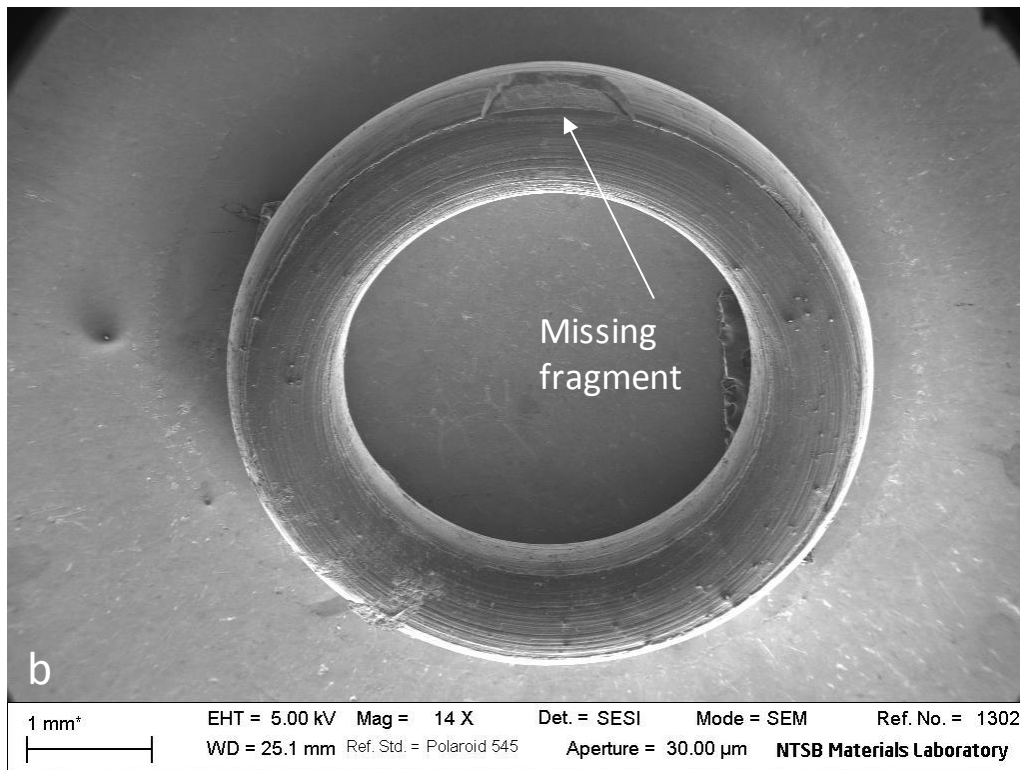
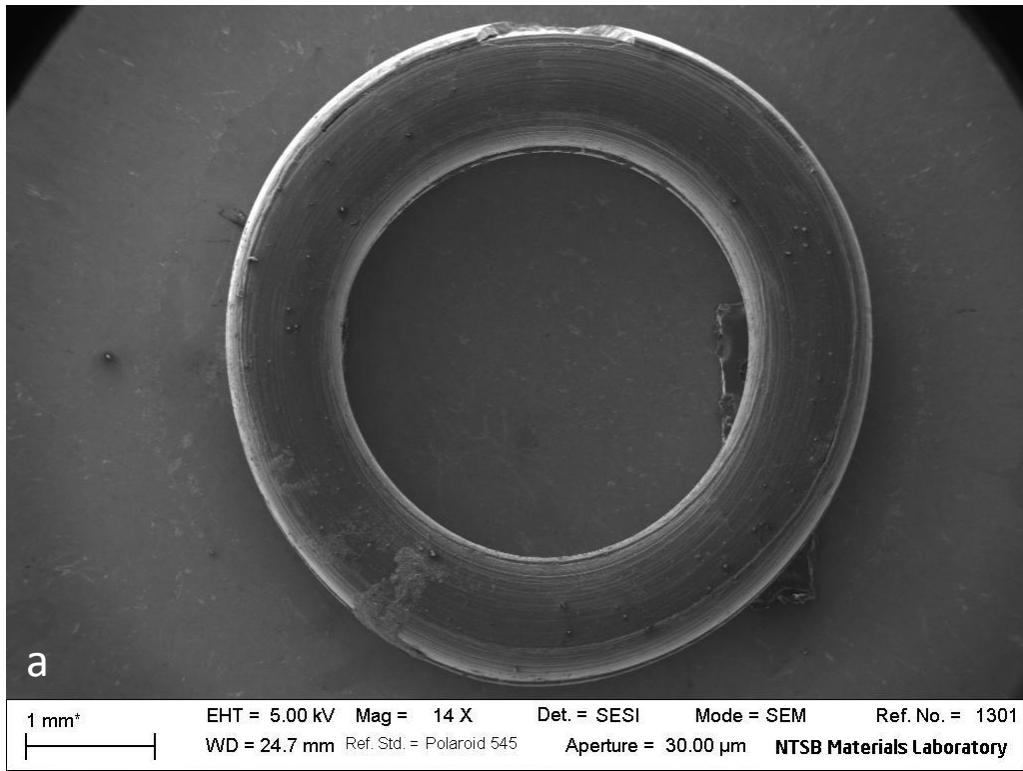


Figure 2 Two scanning electron microscope views of the o-ring. The location of a missing semicircular fragment is shown in view b.



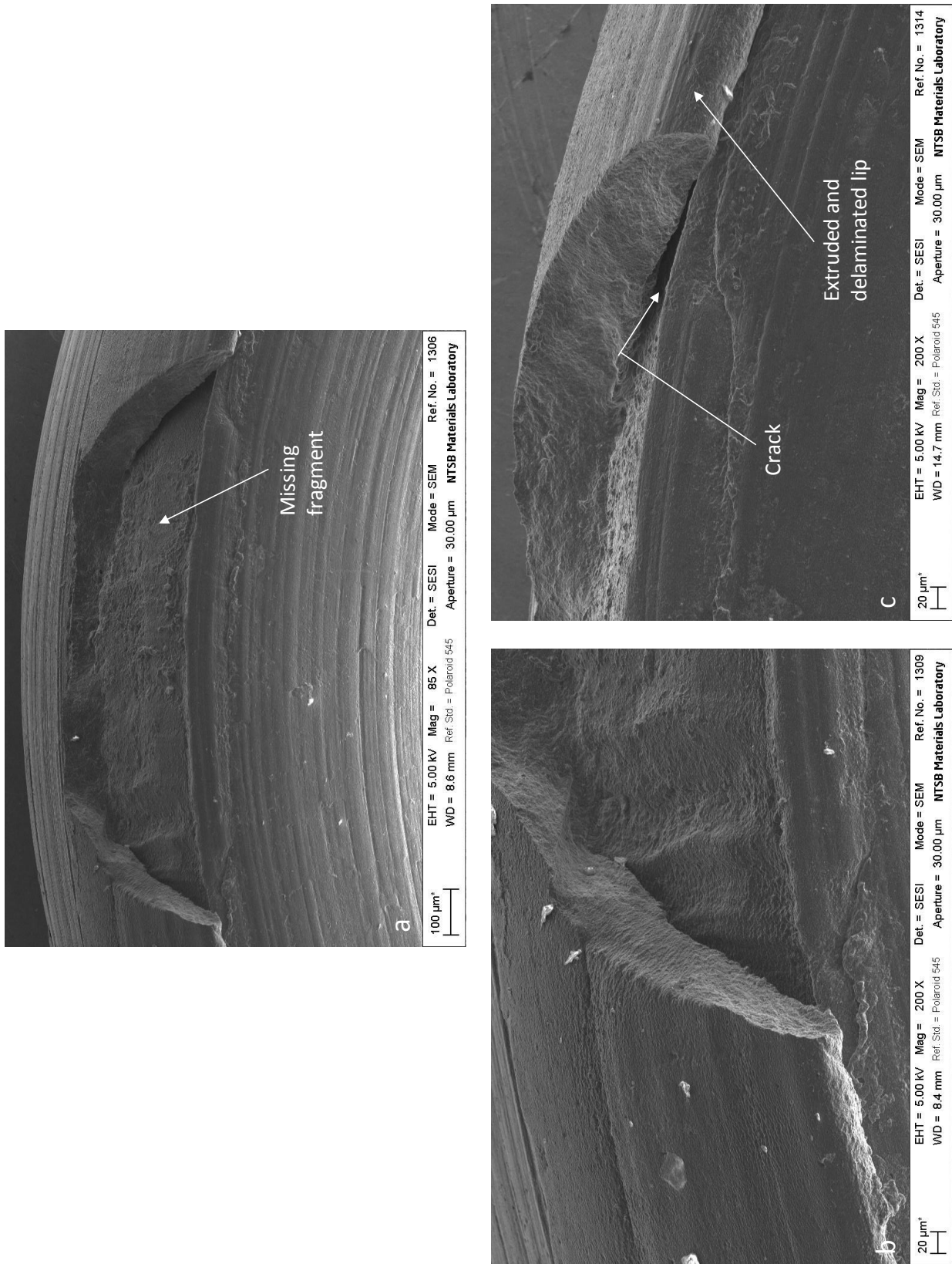


Figure 3 Scanning electron micrographs of the region of the missing semicircular fragment. Details of the delaminated and extruded lip are shown in views b and c.

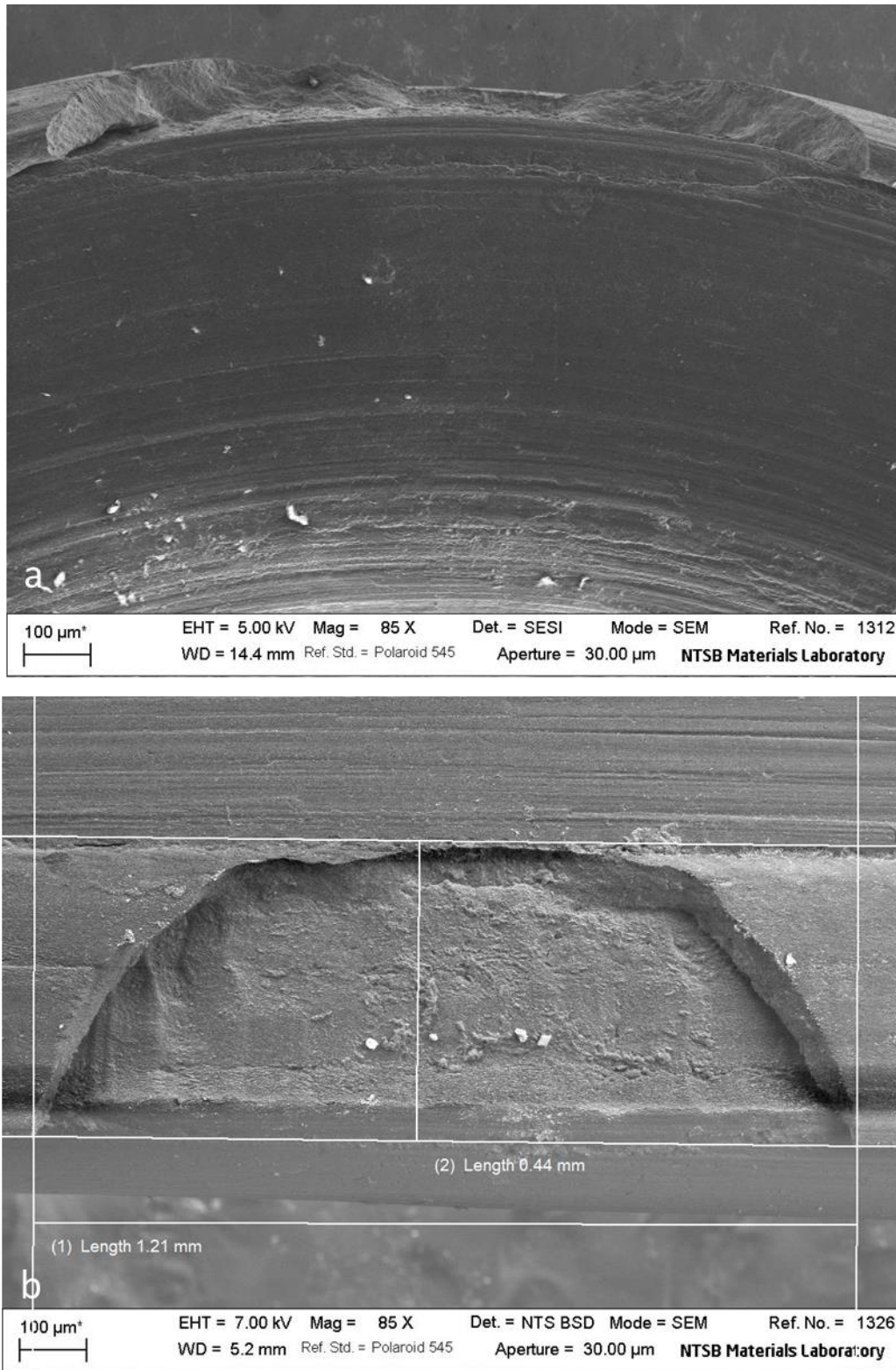


Figure 4 Closer scanning electron micrographs of the area with the missing semicircular fragment. View a is in profile and view b is top down.

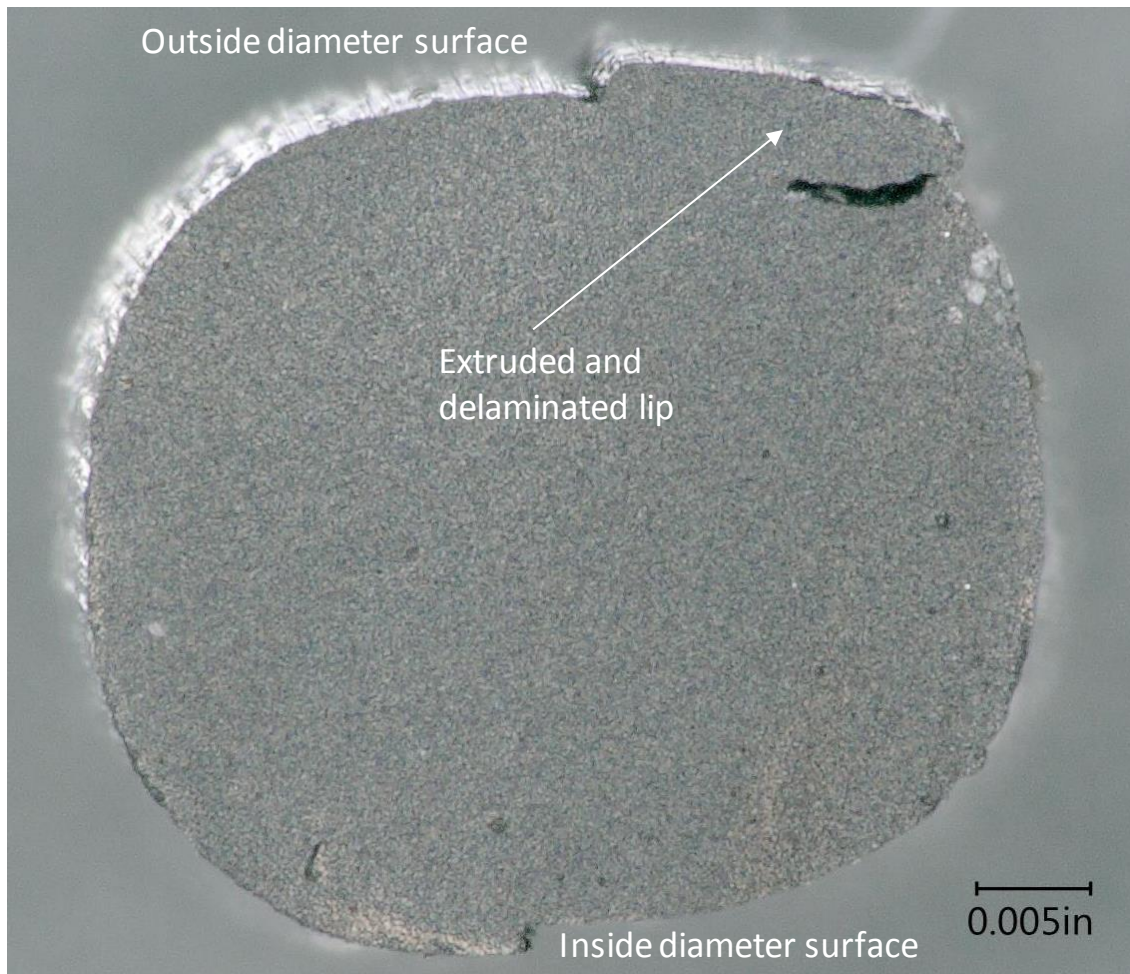


Figure 5 Razor-blade cross section of the o-ring revealing steps at the outside and inside diameter surfaces.

Appendix 1—Jordi Labs Report



# National Transportation Safety Board

## Michael Budinski

Released by:

Mark Jordi, Ph.D.  
President

Job Number: J10630

**CONFIDENTIAL**

January 22, 2016

Mr Michael Budinski  
National Transportation Safety Board  
Office of Research and Engineering  
Material Laboratory Division  
Washington, DC 20594  
490 L'Enfant Plaza East, SW

P: (202) 314-6516  
E: michael.budinski@ntsb.com

Dear Michael,

Please find enclosed the test results for your sample described as:

1. *NTSB ENG 11 IA047*

The following test was performed:

1. Evolved Gas Analysis (EGA) <sup>\*Provided at no additional cost</sup>
2. Pyrolysis Gas Chromatography Mass Spectrometry (PYMS)

## Objective

One (1) rubber o-ring sample was submitted for chemical characterization analysis, in terms of polymeric composition. ***The goal of this analysis was to identify the bulk chemical composition of the o-ring.***

## Summary of Results

The bulk chemistry of *NTSB ENG 11 IA047* was consistent with either ethylene propylene rubber (EPR) *or* ethylene propylene diene rubber (EPDM), as both polymers produce similar pyrolysis products. The PYMS data is summarized in **Table 1**. EGA analysis resulted in a strong match for EPR, highlighted in **Figure 1**.

## Recommended Next Steps

Due to the similarity between EPR and EPDM, it was not possible to distinguish between these two potential chemistries using PYMS. As EPDM is expected to have a greater concentration of C=C double bonds present, FTIR is suggested to aid in identification of the bulk chemistry.

## Individual Test Results

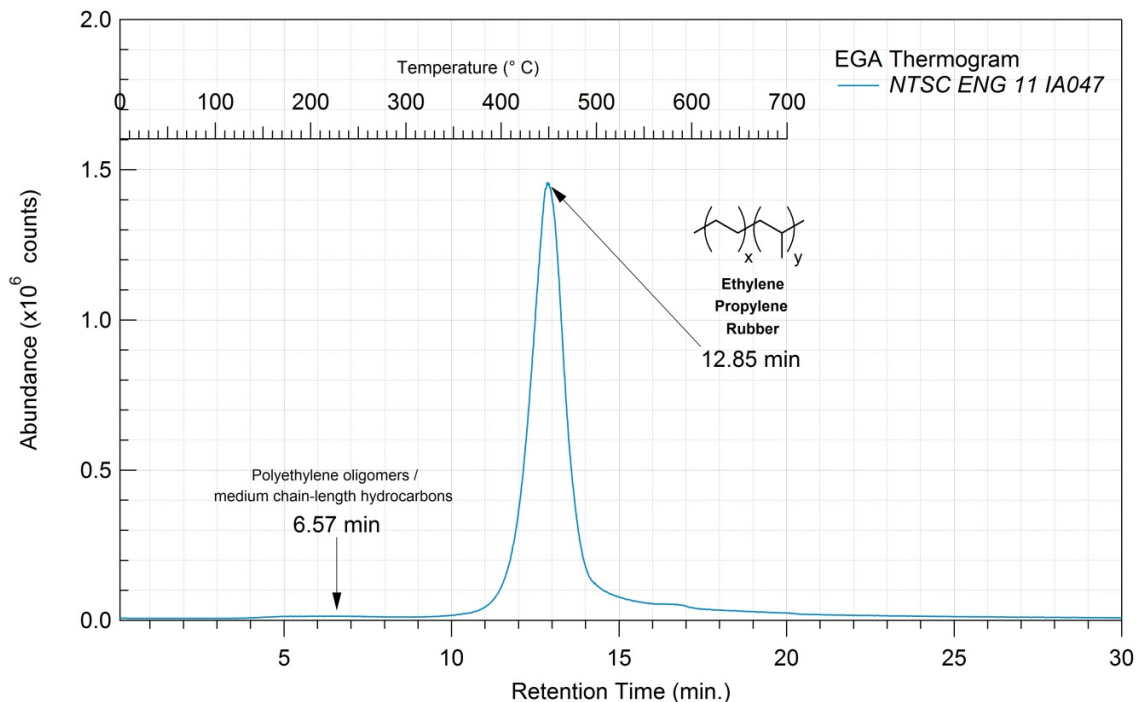
A summary of the individual test results is provided below. All accompanying data, including spectra, has been included in the data section of this report.

### EGA

Rubber o-ring sample *NTSB ENG 11 IA047* was subjected to EGA analysis primarily to determine the parameters for the PYMS analysis. In addition to determining the thermal profile of the sample (used to choose temperatures for the 1<sup>st</sup> and 2<sup>nd</sup> heat temperatures for the PYMS analysis), EGA can also be used to determine the general chemical structure of any components which are volatilized. The sample was heated from 100-700 °C at 30 °C/min while the mass spectrum was continuously recorded. No chromatographic separation mechanism is used in EGA analysis; however the summed mass spectra can be compared to Jordi Labs' polymer/additive mass spectral database.

Approximately 0.1 mg of *NTSB ENG 11 IA047* was analyzed. The EGA profile consists of one large peak consistent with a copolymer of ethylene and propylene; ethylene propylene rubber (EPR). A strong database match of 97% was obtained. A small shoulder at low retention time/temperature was consistent with either medium chain length alkanes/alkenes (potentially a slip agent, lubricant oil) or polyolefin oligomers.

An EGA thermogram of *NTSB ENG 11 IA047* is presented in **Figure 1**. Database matches are provided in the data section of this report.



**Figure 1.** EGA chromatogram of *NTSB ENG 11 IA047*

## **PYMS**

Analysis by PYMS was conducted using a double shot technique. The double shot experiment consists of heating a sample to release volatiles which were then cryogenically trapped and then analyzed by GCMS. Following completion of the 1<sup>st</sup> pass analysis, the remaining portion of the sample was then heated above the decomposition temperature rapidly and pyrolyzed components were passed into a gas chromatography column and analyzed by mass spectroscopy.

Prominent peaks found in PYMS typically include fragments of the polymer as well as monomer, antioxidants and other additives. Sample peaks were compared with over 796,613 reference compounds using the NIST/EPA/NIH mass spectral search program.

### **Sample Preparation**

The rubber o-ring was cut with a clean blade and approximately 0.1 mg was placed into a flame-cleaned PYMS cup. The sample was analyzed without further preparation.

### **Results**

The bulk chemistry of sample *NTSB ENG 11 IA047* is consistent with either ethylene propylene rubber (EPR) *or* ethylene propylene diene rubber (EPDM); pyrolysis fragments observed consist of short-to-long chain alkenes including polypropylene oligomers, and a small peak in the 1<sup>st</sup> heat consistent with the antioxidant butylated hydroxytoluene (BHT). The pyrolysis fragments of these two rubbers are extremely similar, and it is possible that the bulk chemistry of the o-ring is either EPR *or* EPDM.

The 1<sup>st</sup> heat (thermal desorption) and 2<sup>nd</sup> heat (pyrolysis) chromatograms with highlighted desorption and pyrolysis products are presented in **Figure 2** and **Figure 3** respectively. The best database matches for the major peaks detected in the chromatograms are compiled in **Table 1**.



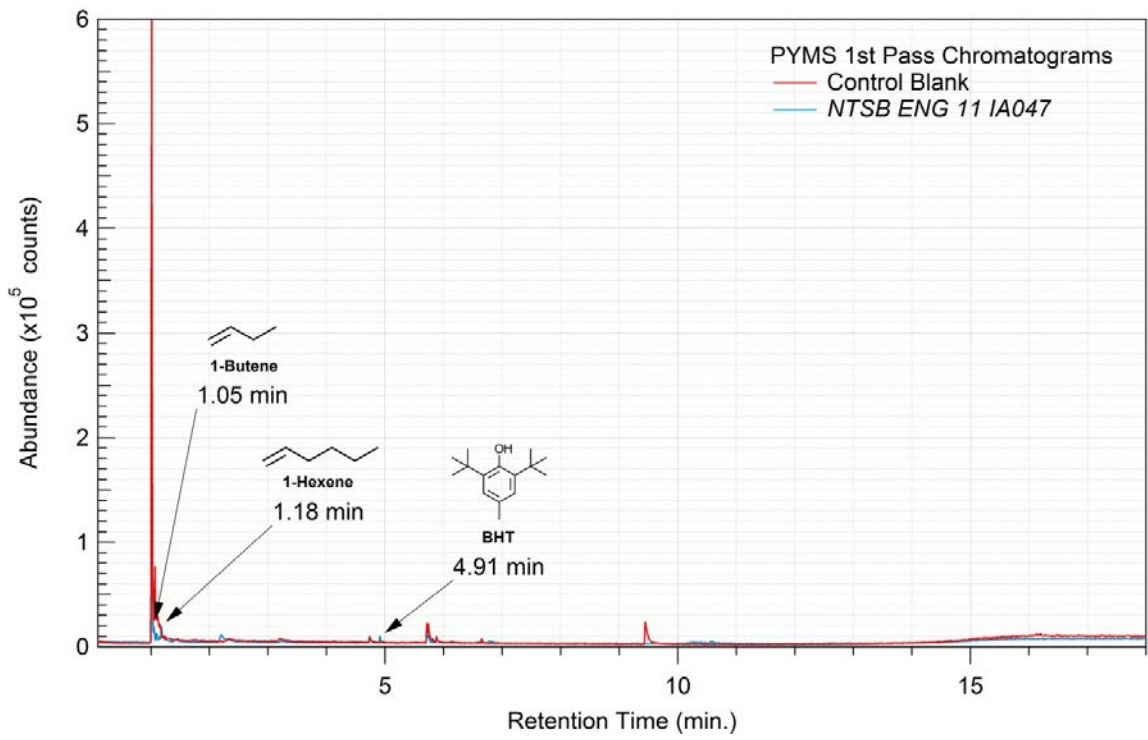


Figure 2. Overlay of the 1<sup>st</sup> heat PYMS chromatograms of *NTSB ENG 11 IA047* and control blank

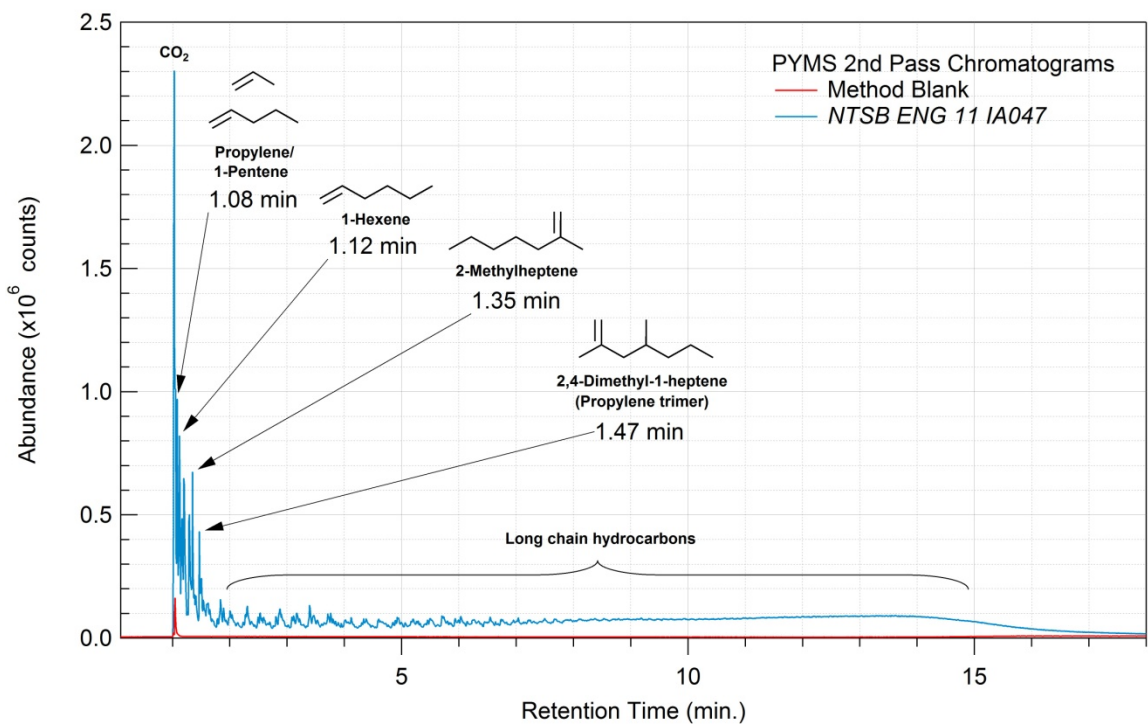


Figure 3. Overlay of the 2<sup>nd</sup> heat PYMS chromatograms of *NTSB ENG 11 IA047* and control blank

<b>Table 1.</b> Identification of thermal and pyrolysis degradation products (1 <sup>st</sup> and 2 <sup>nd</sup> heats)				
RT (mins)		Probable ID	CAS #	Comment/Common Source
1 <sup>st</sup> Heat	2 <sup>nd</sup> Heat			
	1.076	Propylene	115-07-1	EPR/EPDM
1.046		1-Butene	106-98-9	EPR/EPDM
	1.076	1-Pentene	109-64-1	EPR/EPDM
1.174	1.121	1-Hexene	592-41-6	EPR/EPDM
	1.152	1-Heptene	592-76-7	EPR/EPDM
	1.348	2-Methylheptene	15870-10-7	EPR/EPDM
	1.469	2,4-Dimethyl-1-heptene (Propylene trimer)	19549-87-2	EPR/EPDM
	1.642	1-Nonene	124-11-8	EPR/EPDM
	1.831	1-Decene	872-05-9	EPR/EPDM
	1.906	4-Methylnonane	17301-94-9	EPR/EPDM
	1.982-2.683	<i>m/z 154</i> Dimethylnonene 1-Undecene	- 821-95-4	EPR/EPDM
	2.585-3.083	<i>m/z 168</i> 2,4,6-Trimethyl-1-nonene (propylene tetramer) 2-Methyl-1-undecene 1-Dodecene	55771-40-9 18516-37-5 112-41-4	EPR/EPDM
	3.393	1-Tridecene	2437-56-1	EPR/EPDM
	3.702-4.117	<i>m/z 196</i> 2,6,8-Trimethyl-1-undecene 1-Tetradecene	- 1120-36-1	EPR/EPDM
	4.336-4.585	<i>m/z 210</i> 2,4,6,8-Tetramethyl-1-undecene (isotactic) 2,4,6,8-Tetramethyl-1-undecene (syndiotactic) 1-Pentadecene	59920-26-2 13360-61-7	EPR/EPDM
4.910		Butylated hydroxytoluene (BHT)	128-37-0	Additive/Antioxidant
	4.925-5.257	<i>m/z 224</i> 1-Hexadecene (isomers)	629-73-2	EPR/EPDM
	5.483	1-Heptadecene	6765-39-5	EPR/EPDM
	5.928	1-Octadecene	112-88-9	EPR/EPDM

## **Analysis Conditions**

### **EGA**

Solid samples were analyzed using a Hewlet 6890 gas chromatograph in conjunction with a 5975B mass selective detector using a Frontier Laboratories double shot Pyrolyzer model PY2020ID. Data acquisition was accomplished using chemstation software. Sample peaks were compared with over 796,613 reference compounds using the NIST/EPA/NIH mass spectral search program. A blank cup/vial was analyzed immediately before analysis of the samples to insure the absence of contaminants.

The following run conditions were applied for analysis:

Sample Size = ~0.1 mg  
GC Temperature: 325 °C  
EGA Temperature: 100-700 °C  
EGA ramp rate: 30 °C per minute  
Detector Temperature: 315 °C  
Injector Split = 20:1  
Mass Range: Low Mass = 18 High Mass = 800  
Column = None (transfer line)

### **PYMS**

Sample was analyzed using a Hewlet 6890 gas chromatograph in conjunction with a 5975B mass selective detector using a Frontier Laboratories double shot Pyrolyzer model PY2020ID. Data acquisition was accomplished using chemstation software. Sample peaks were compared with over 796,613 reference compounds using the NIST/EPA/NIH mass spectral search program.

The following run conditions were applied for gas chromatographic analysis:

Sample Size = ~0.1 mg  
Initial Delay = 2.0 minutes  
Initial Temperature: 50 °C  
Final Temperature: 350 °C  
Temperature Ramp Rate 1: 20 °C per minute  
Hold Time: 15 minutes  
Pyrolysis Temperature: 1<sup>st</sup> pass = 100-350 °C, 2<sup>nd</sup> pass = 600 °C  
Detector Temperature: 315 °C  
Injector Split = 80:1  
Mass Range: Low Mass = 30 High Mass = 700  
Column = Ultra Alloy -PBDE

## Closing Comments

Deformulation of an unknown material is intended to provide a best estimate of the chemical nature of the sample. All chemical structures are supported by the evidence presented but are subject to revision upon receipt of additional evidence. Additional factors such as material processing conditions may also affect final material properties.

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Jordi Labs specializes in polymer testing and has 30 years experience doing complete polymer deformulations. We are one of the few labs in the country specialized in this type of testing. We will work closely with you to help explain your test results and solve your problem. We appreciate your business and are looking forward to speaking with you concerning these results.

Sincerely,



Anthony Grice, Ph.D.  
Senior Chemist  
Jordi Labs LLC



Mark Jordi, Ph. D.  
President  
Jordi Labs LLC



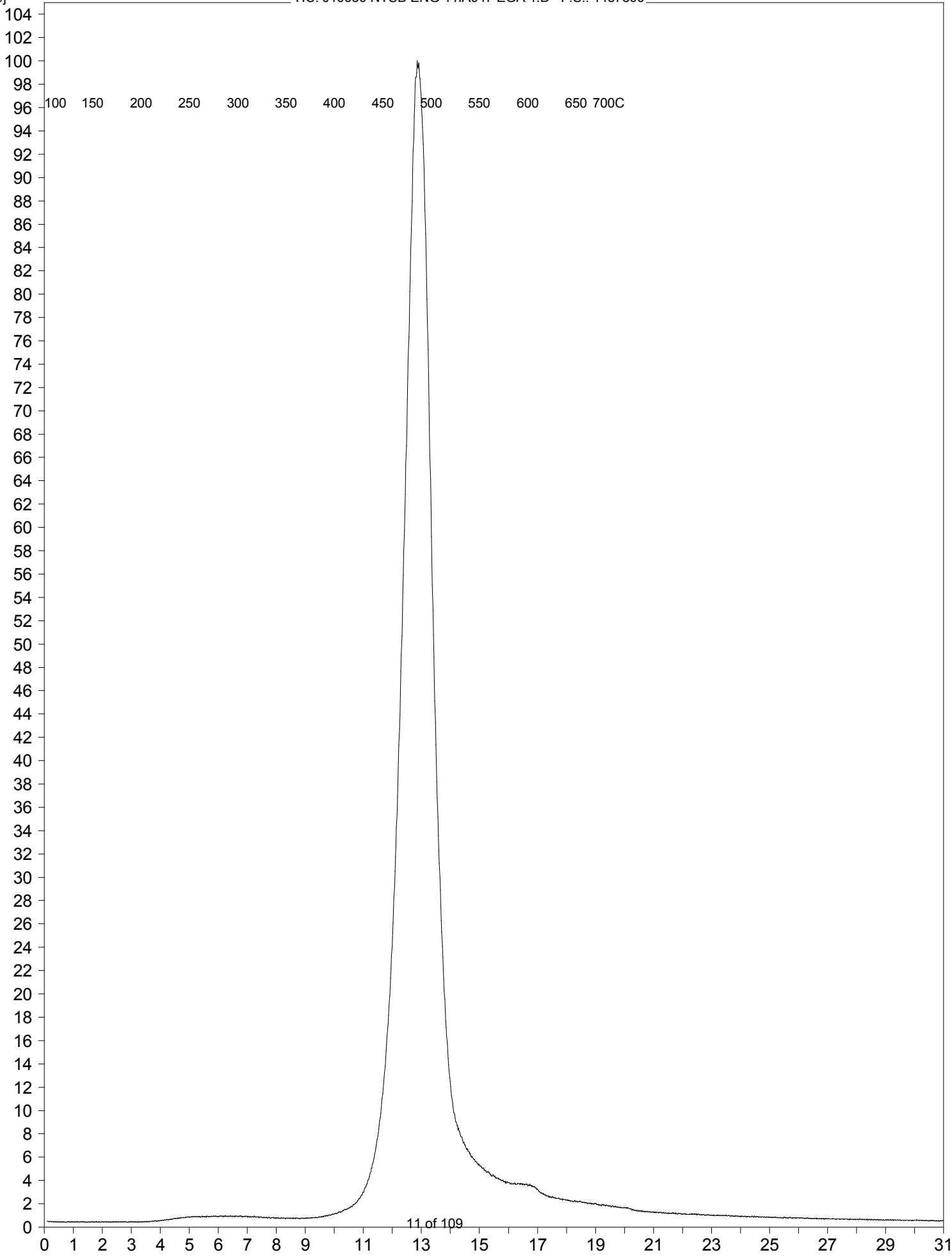
# Appendix:

- Pages 10 – 16 EGA Data
- Pages 17 – 109 PYMS Data

# EGA Data

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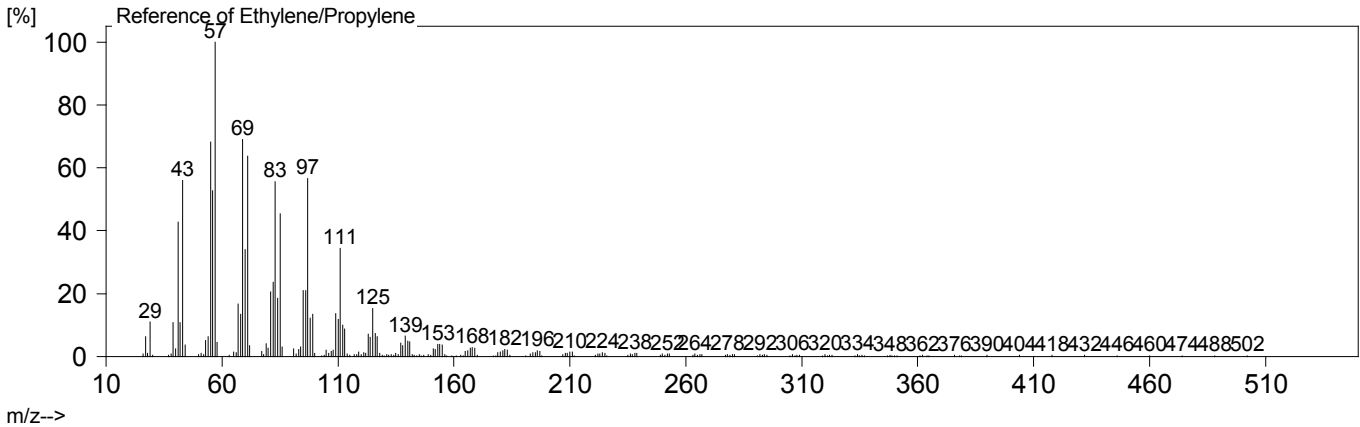
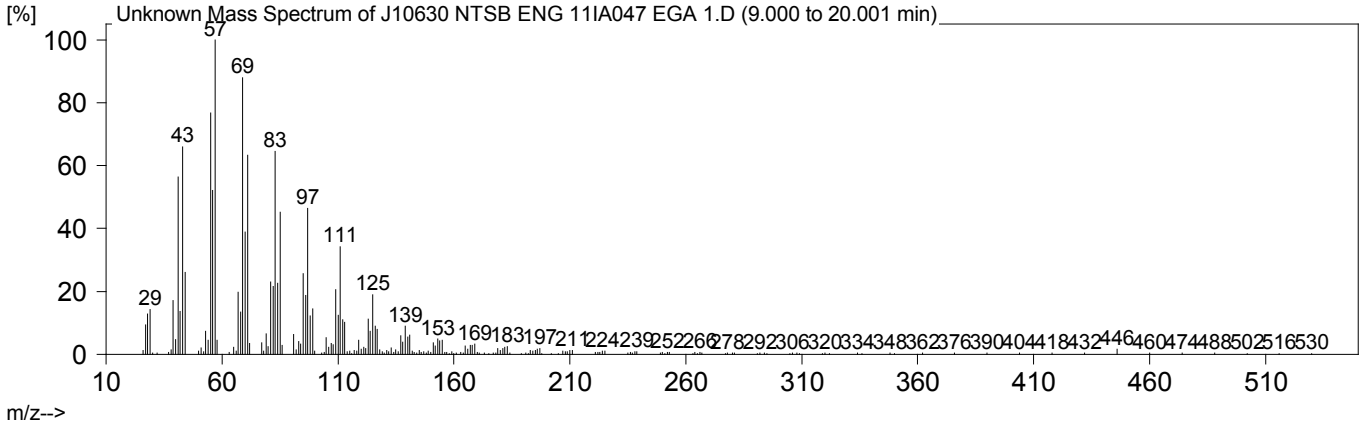
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Min -->

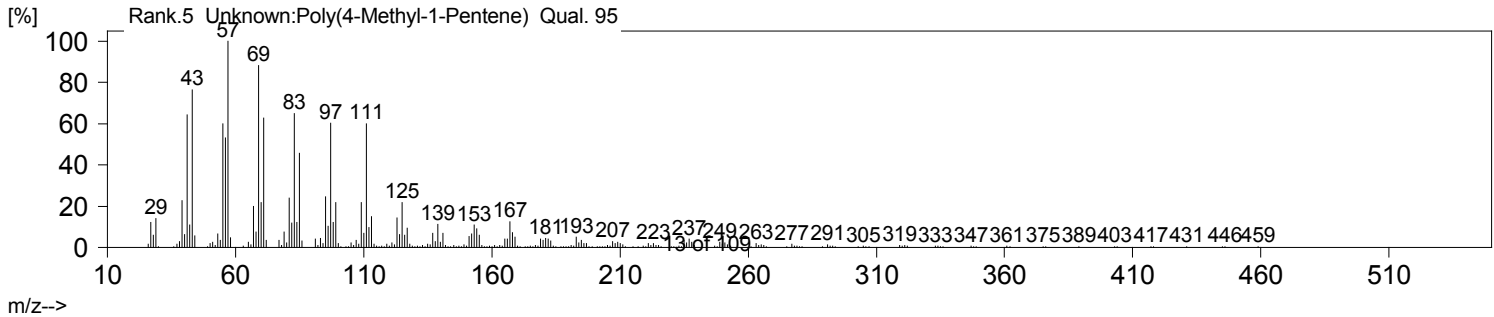
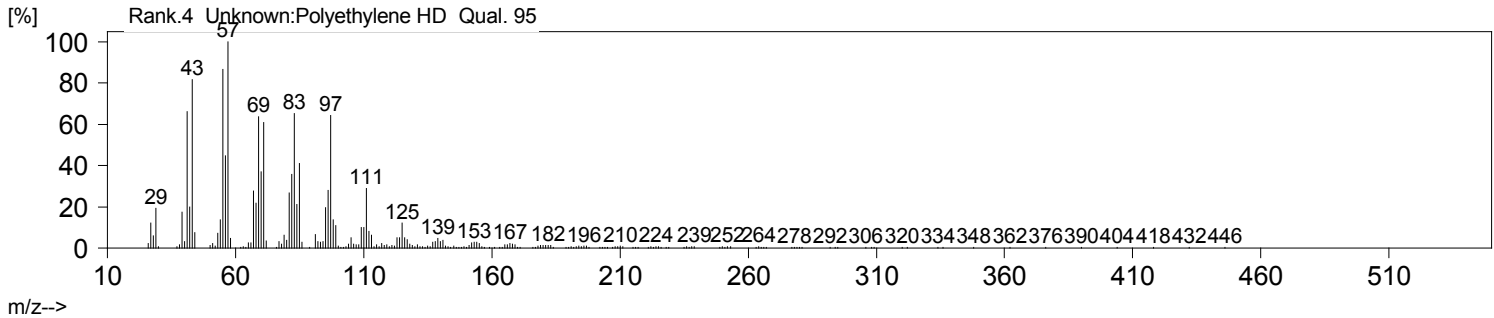
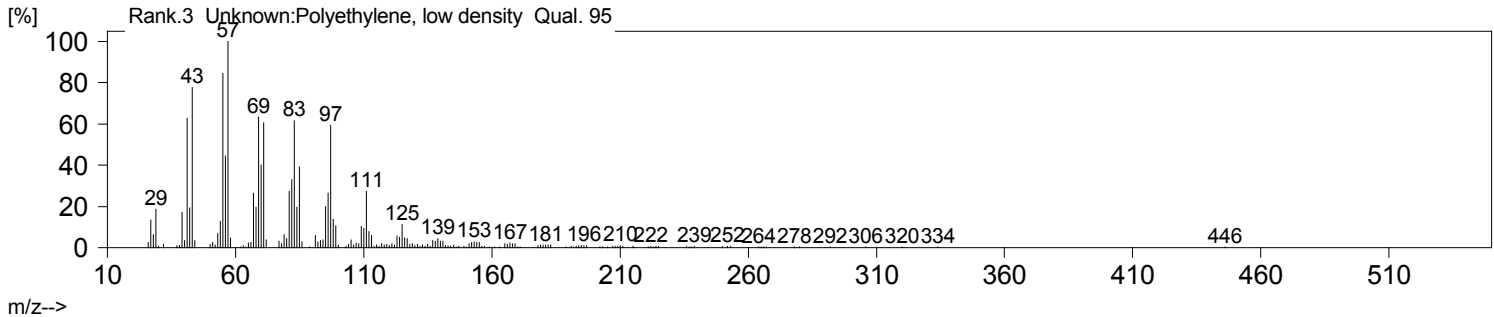
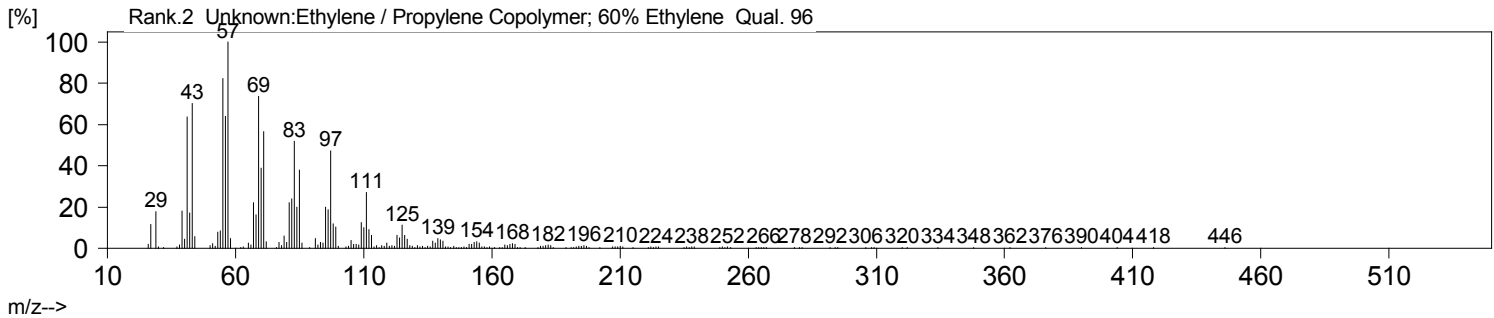
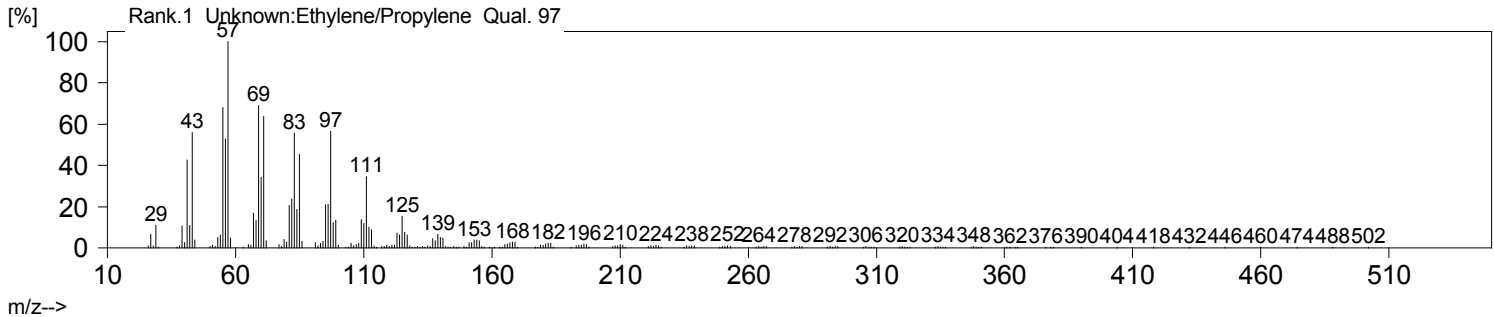
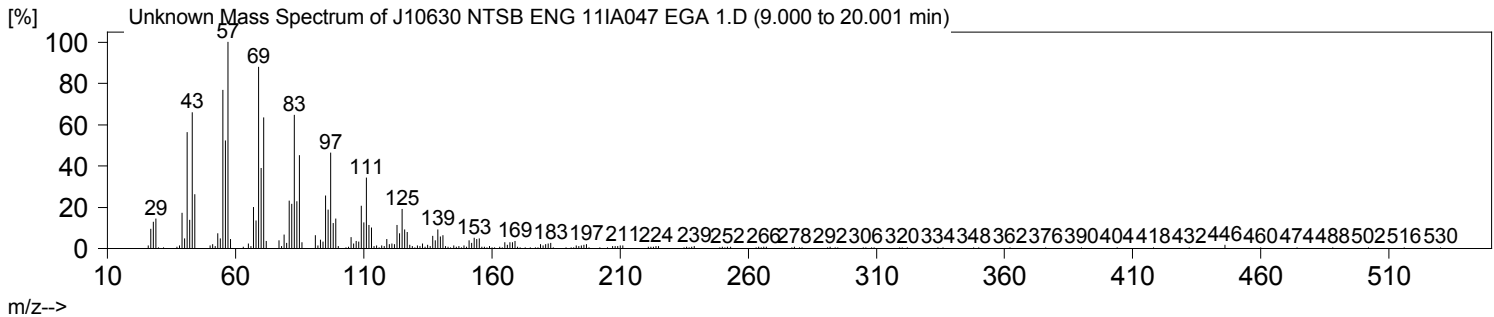
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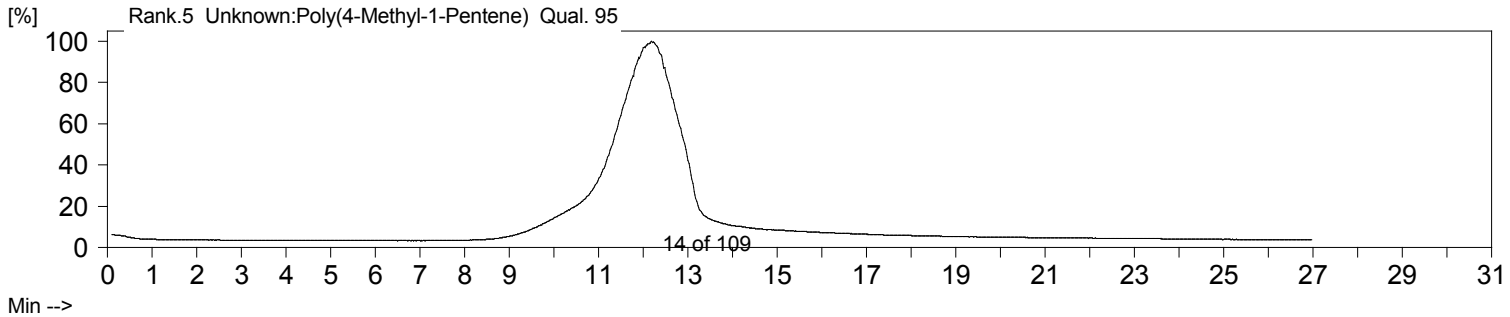
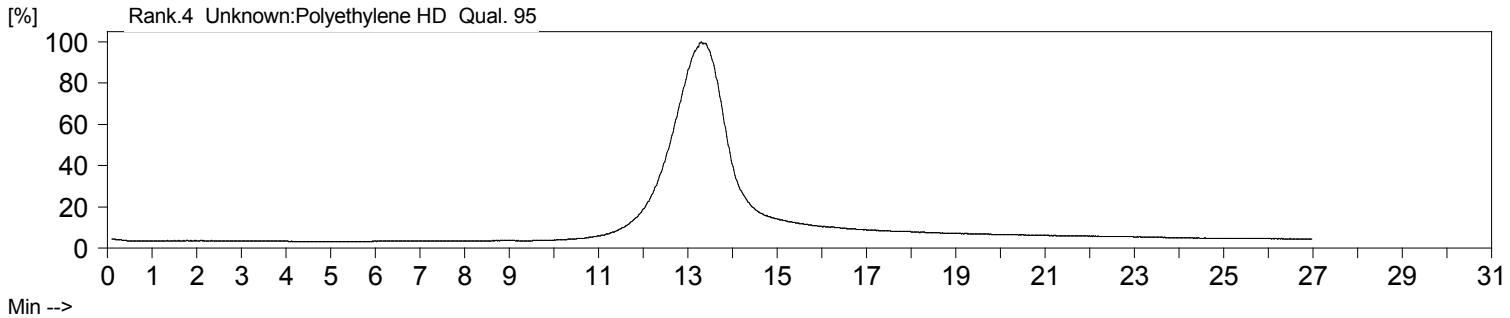
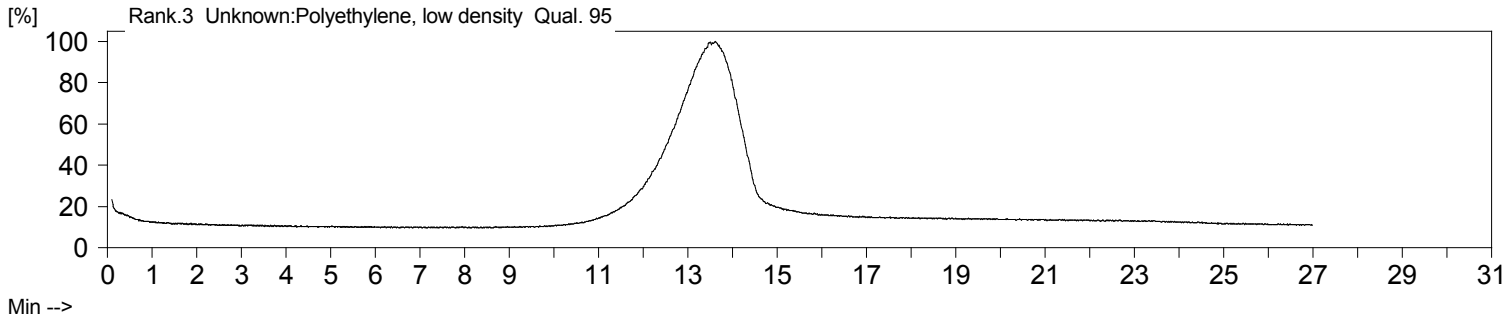
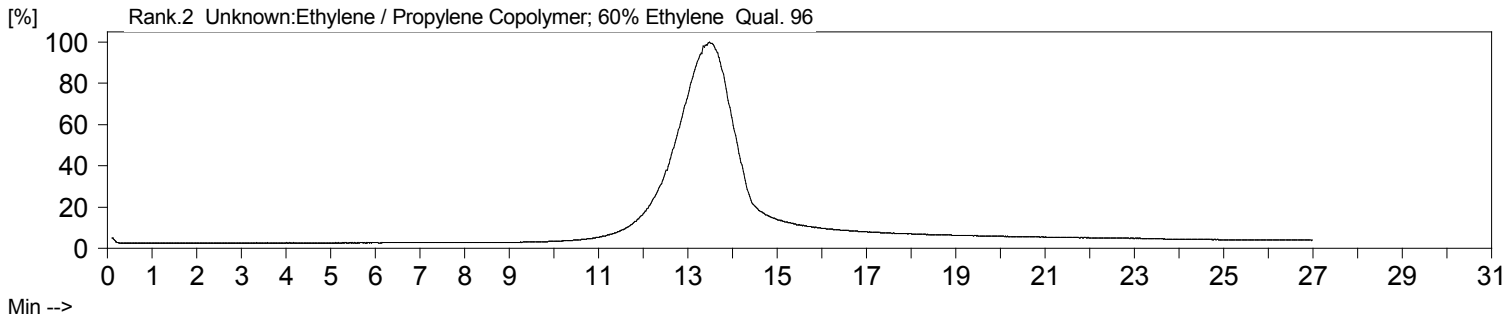
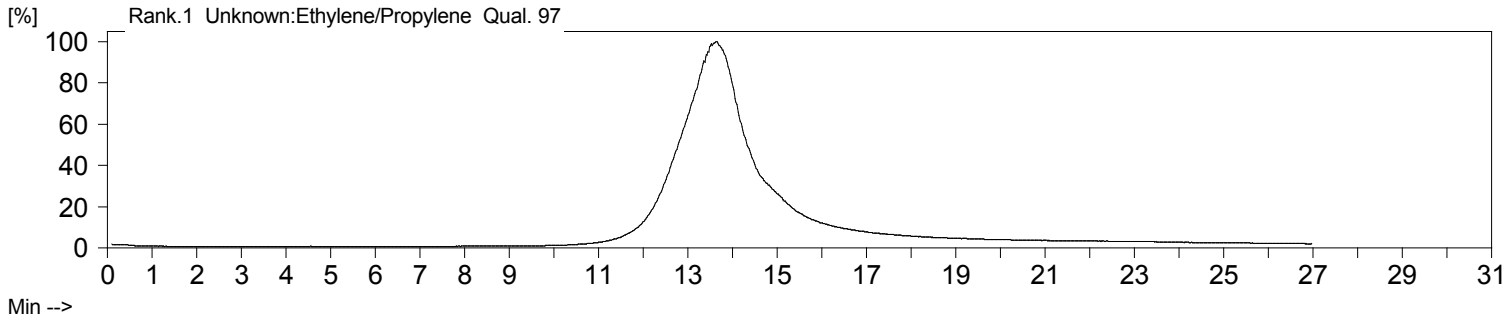
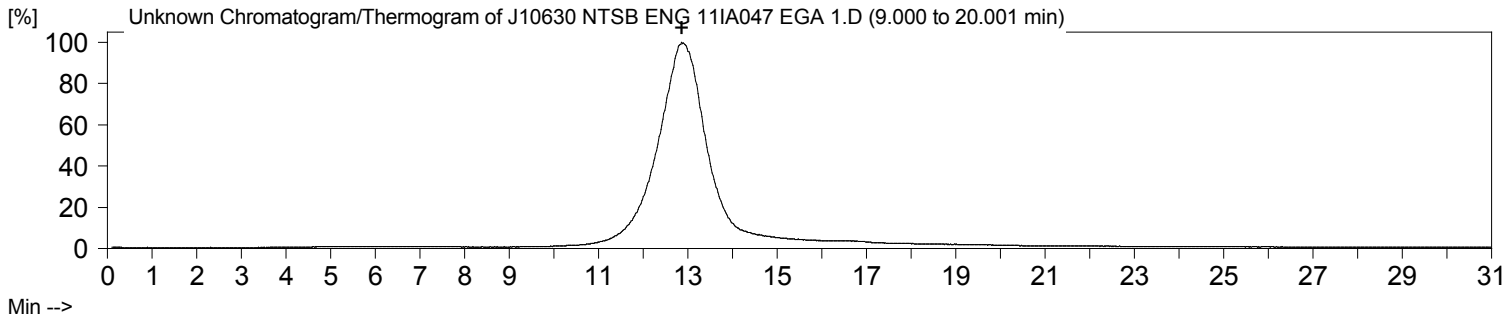
# F-Search Results --- Mass Spectrum Comparison



Compound	Polymer / Additive	Entry ID	Rt Idx	Rt Time	MW	Qual [%]
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2	Ethylene / Propylene Copolymer; 60% EtI		-	13.49	0	96
3	Polyethylene, low density		-	13.62	-	95
4	Polyethylene HD		-	13.30	-	95
5	Poly(4-Methyl-1-Pentene)		-	12.19	-	95
6	Polyethylene LD		-	13.06	-	95
7	Polyethylene, oxidized, Acid number 16m		-	13.25	-	95
8	Ethylene/Acrylic Acid		-	12.99	-	95
9	Ethylene/Methacrylic acid		-	12.84	-	95
10	Poly(4-Methyl-1-Pentene)		-	12.11	-	94
11	Oxidized Polyethylene		-	12.58	-	94
12	Polyethylene, high density		-	13.75	-	94
13	Ethylene/Ethyl Acrylate		-	12.77	-	93

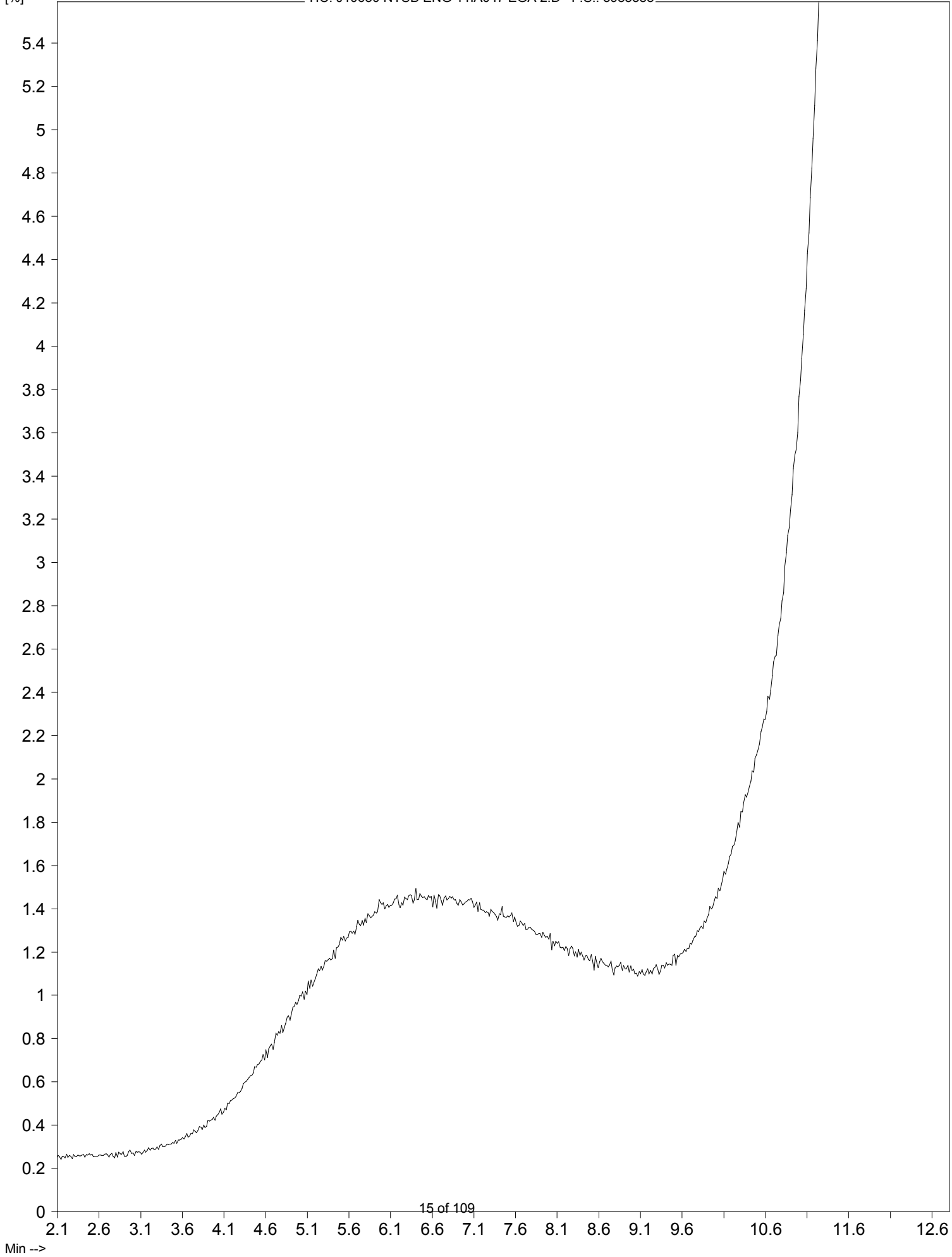


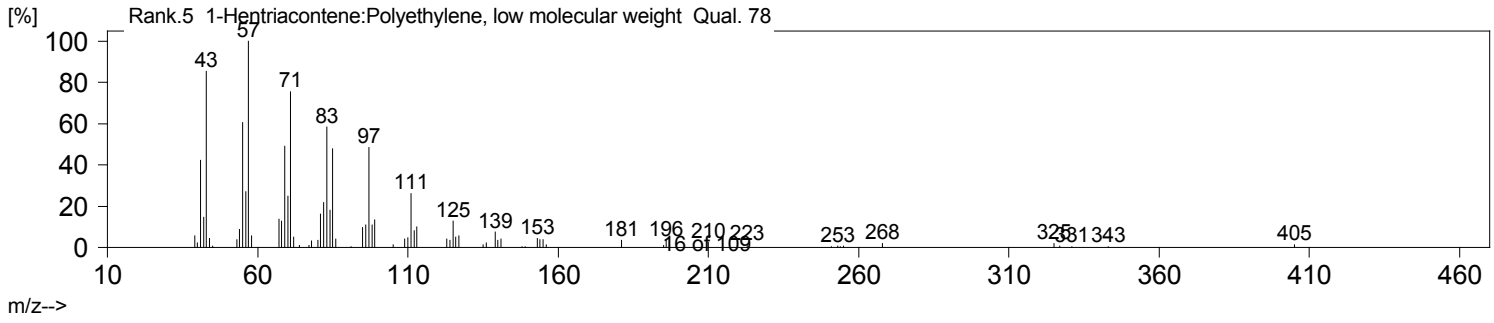
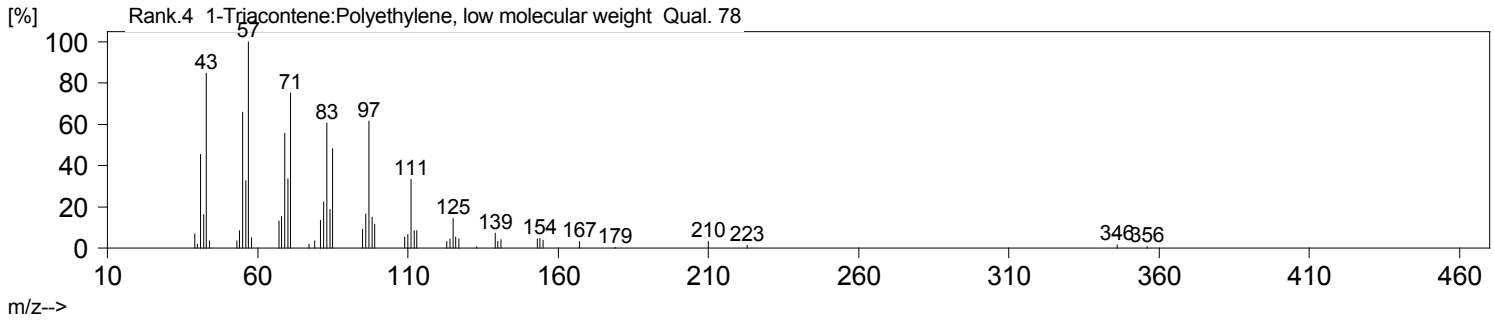
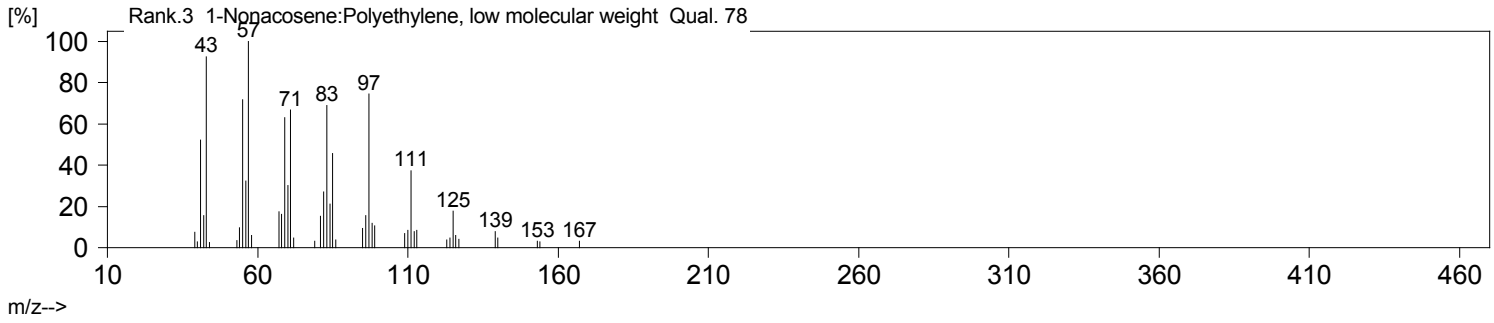
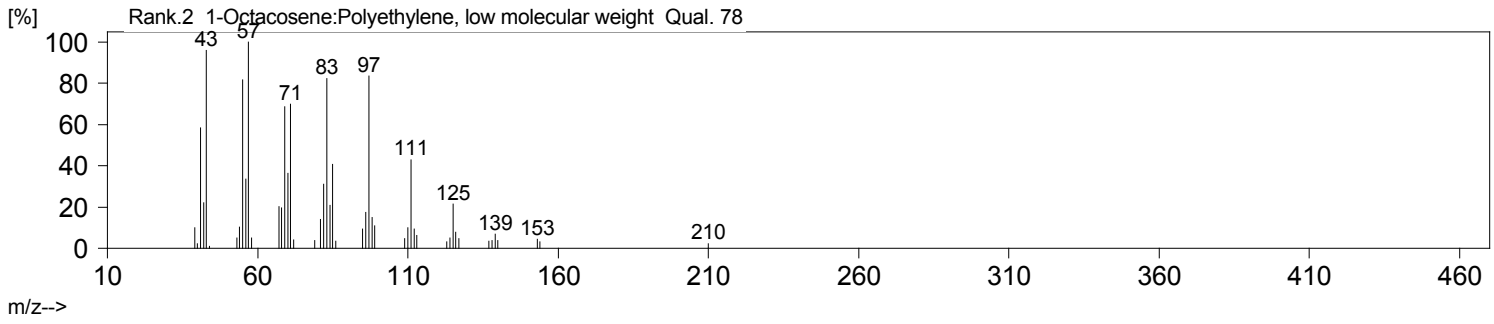
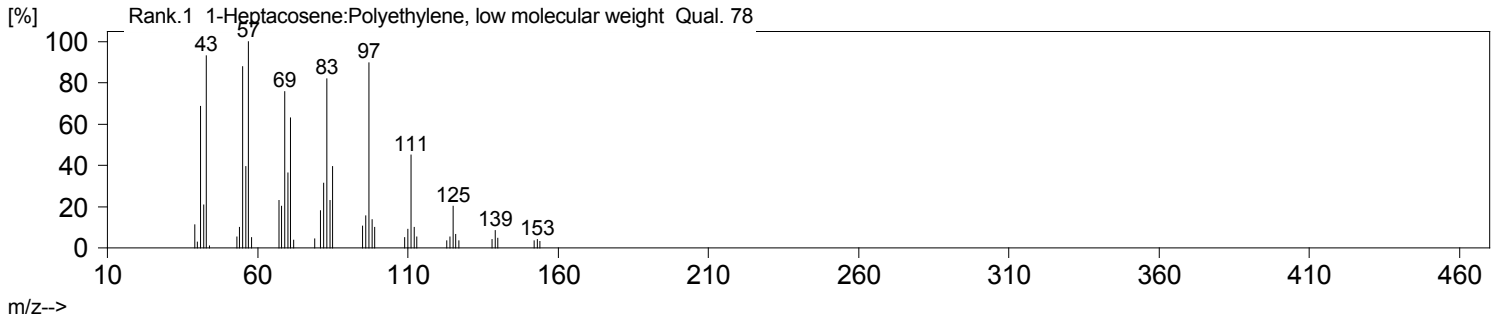
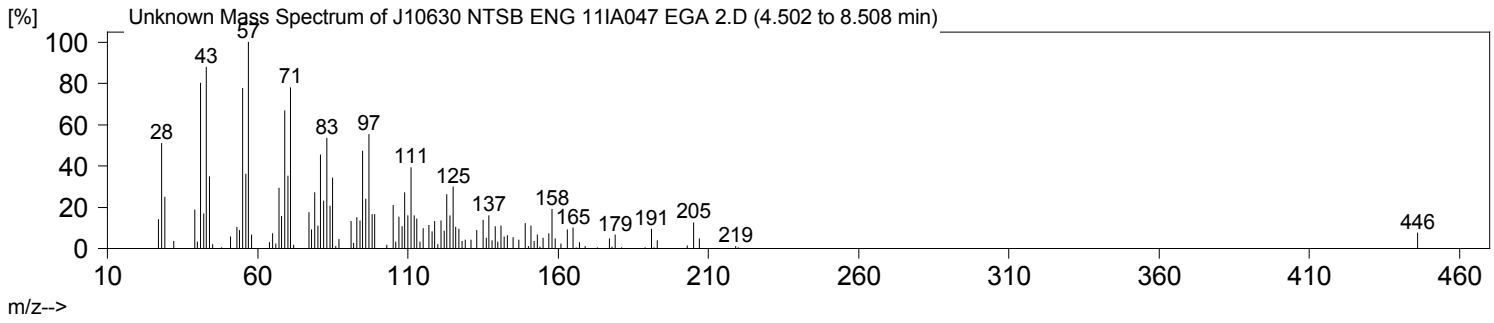




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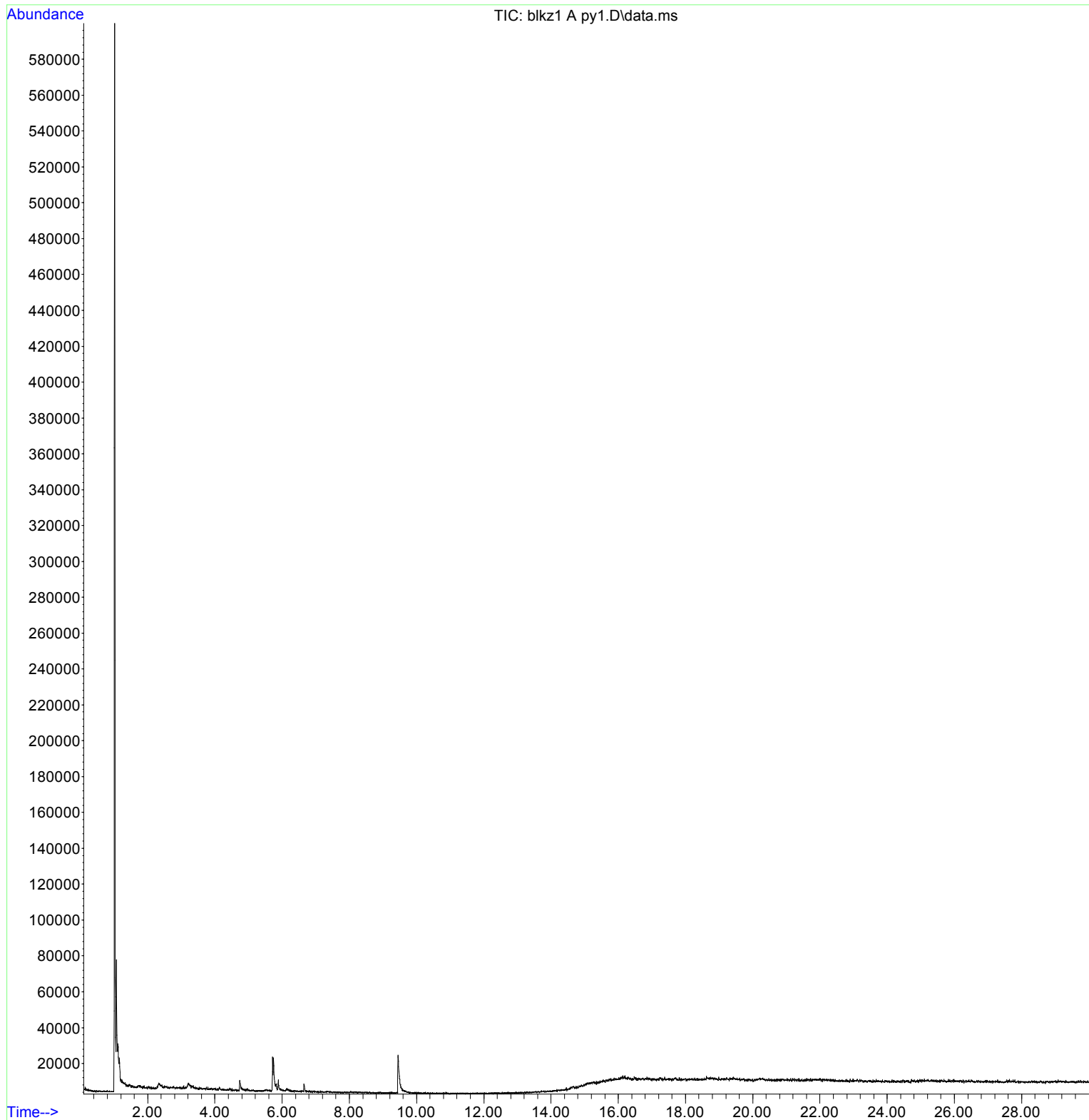
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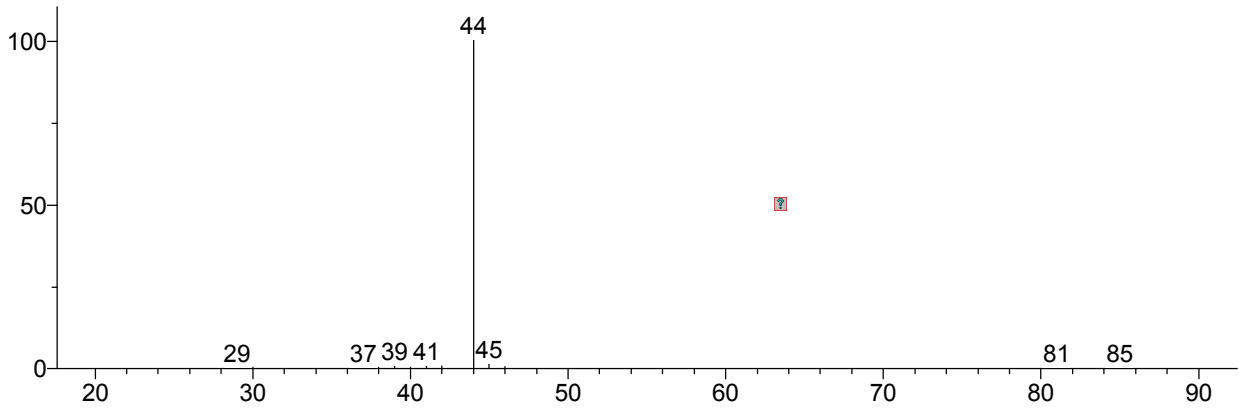
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Sample Name: Blank  
Misc Info : Blank  
Vial Number: 6

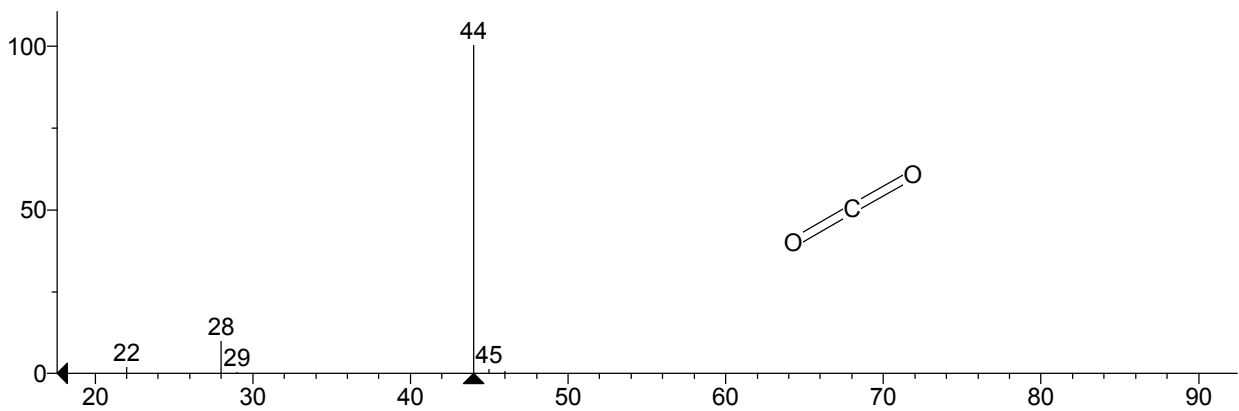


\*\* Search Report Page 1 of 1 \*\*

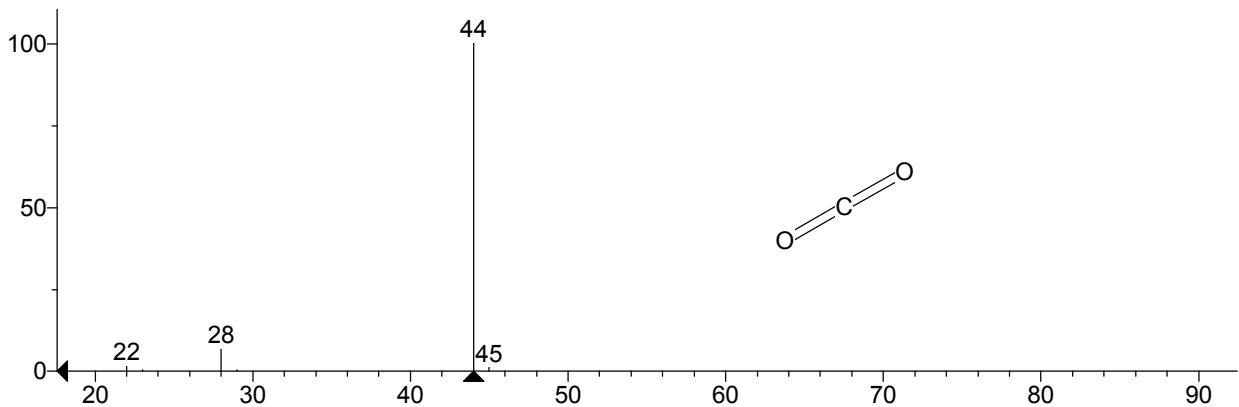
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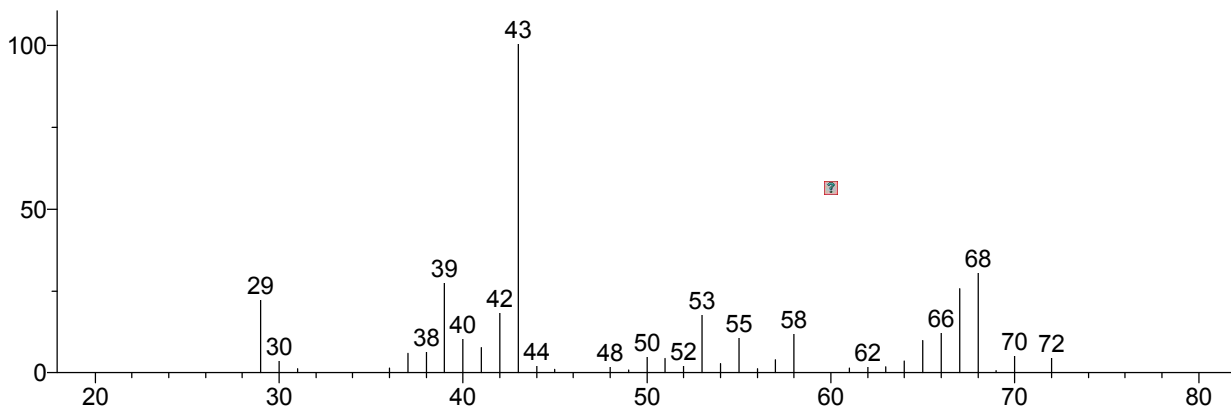


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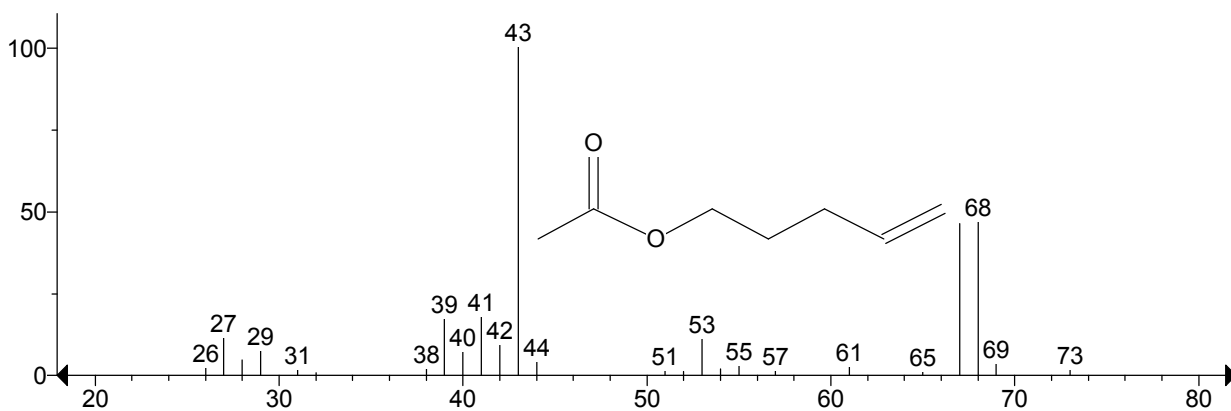




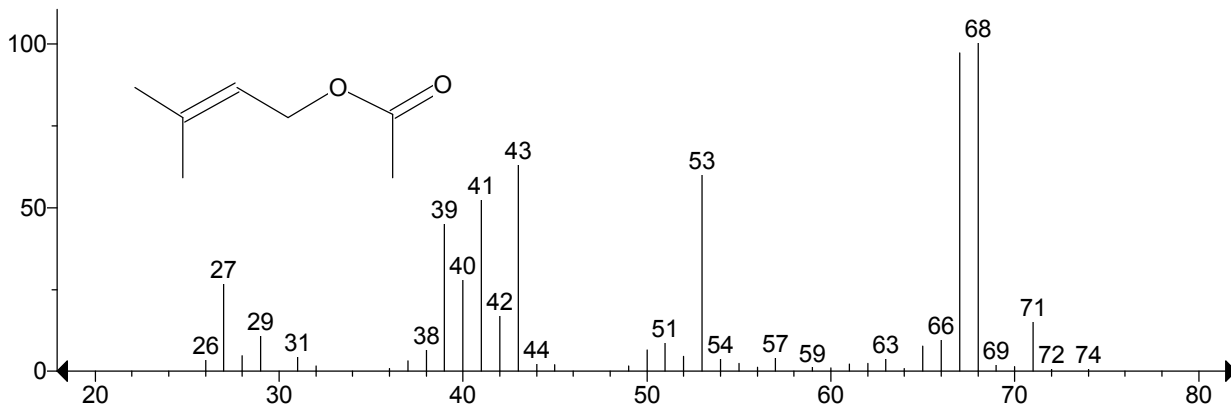
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Compound in Library Factor = -752



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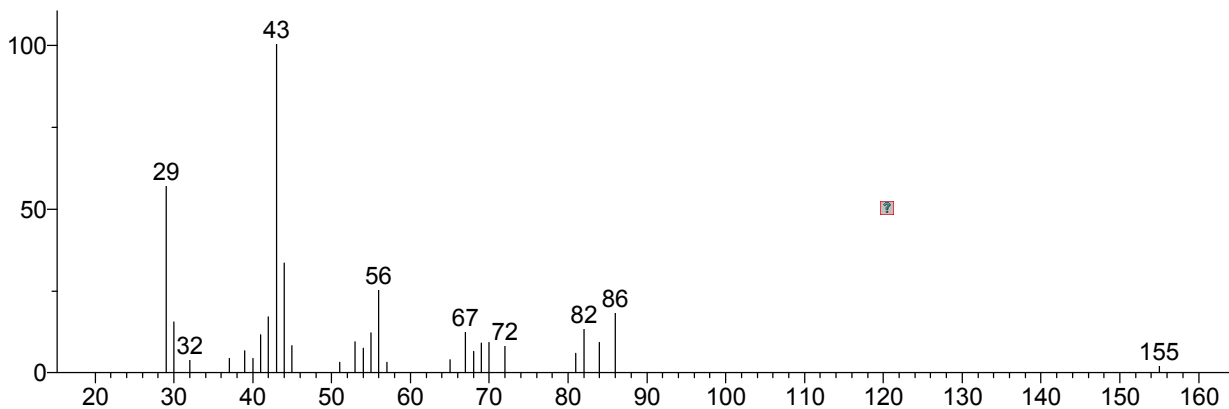


Hit 2 : 2-Buten-1-ol, 3-methyl-, acetate  
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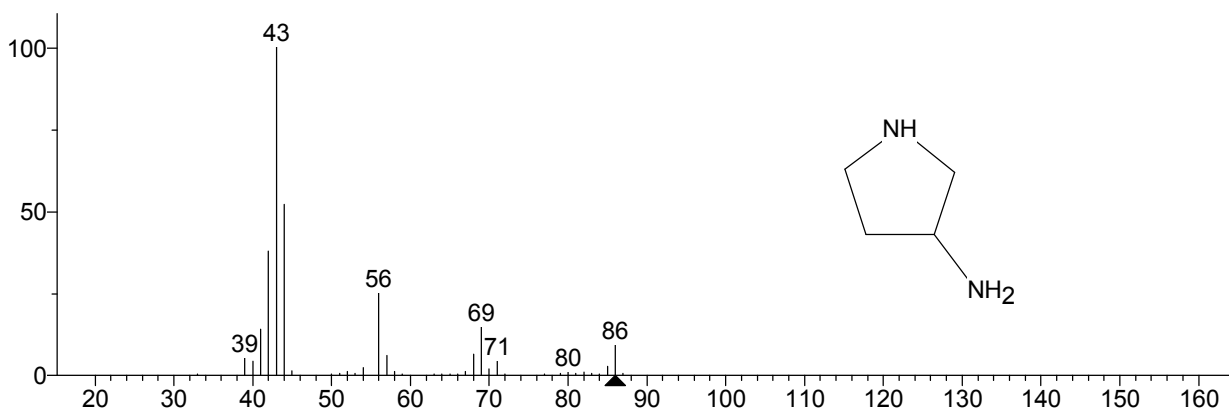


\*\* Search Report Page 1 of 1 \*\*

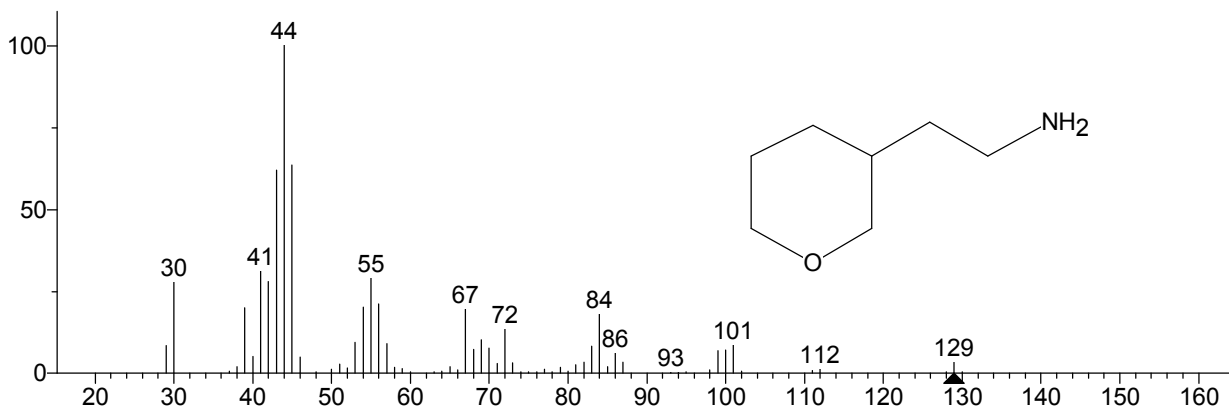
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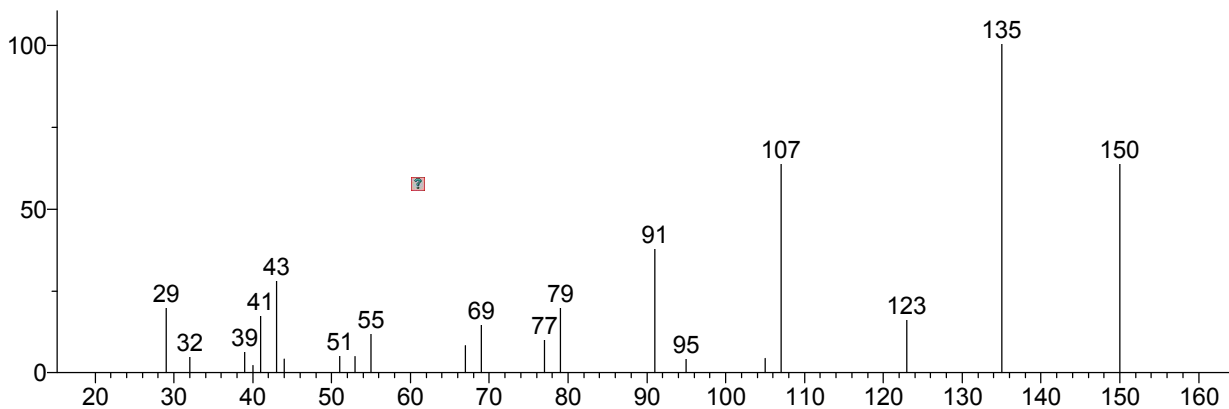


Hit 2 : 2-(Oxan-3-yl)ethanamine  
C7H15NO; MF: 678; RMF: 687; Prob 14.7%; Lib: mainlib; ID: 15459.

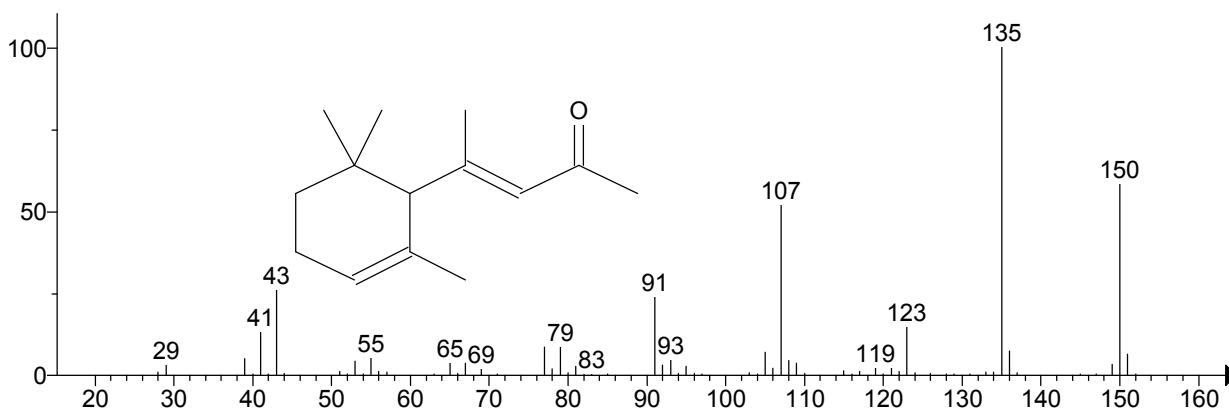


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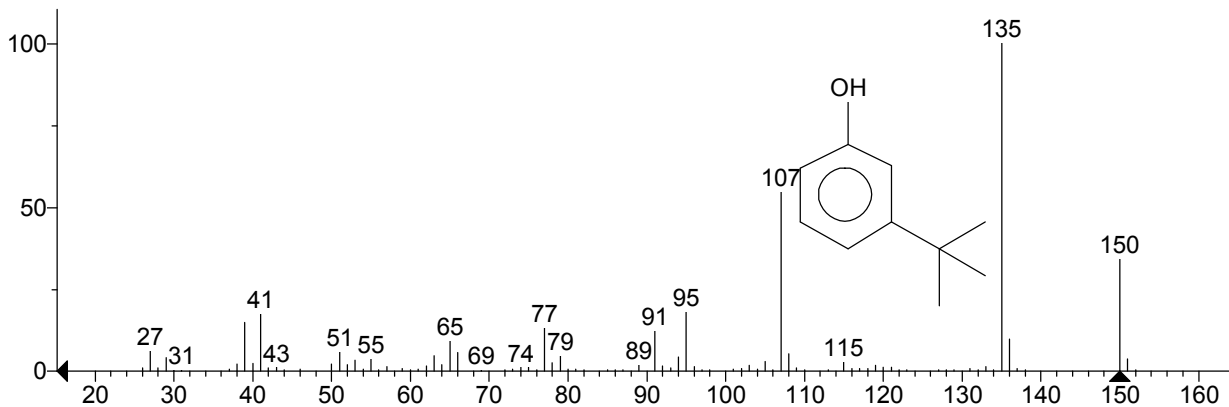
Unknown: + Scan (rt: 4.736-4.759 min, 4 scans) blkz1 A py1.D Subtract  
Compound in Library Factor = -819



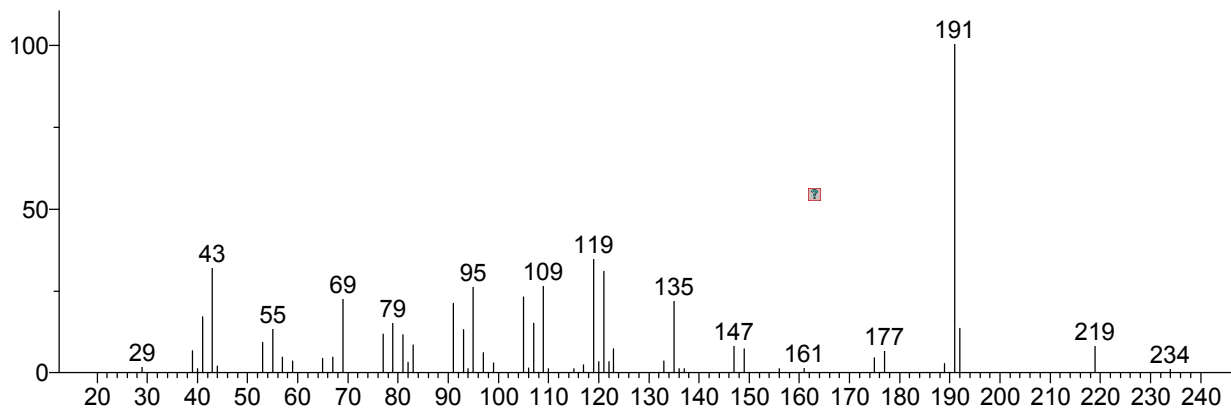
Hit 1 : 3-Penten-2-one, 4-(2,6,6-trimethyl-2-cyclohexen-1-yl)-  
C<sub>14</sub>H<sub>22</sub>O; MF: 715; RMF: 717; Prob 21.4%; CAS: 114933-28-7; Lib: mainlib; ID: 120911.



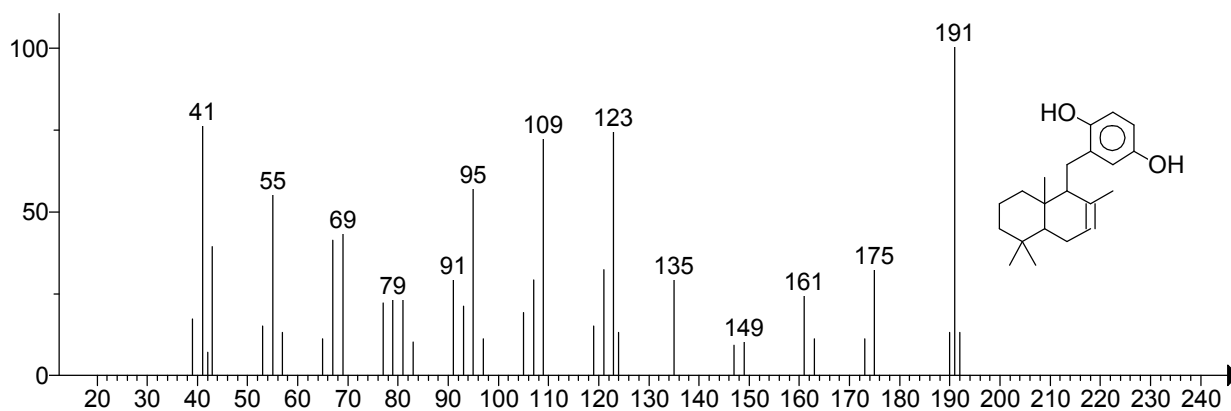
Hit 2 : Phenol, m-tert-butyl-  
C<sub>10</sub>H<sub>14</sub>O; MF: 713; RMF: 749; Prob 19.7%; CAS: 585-34-2; Lib: replib; ID: 21461.



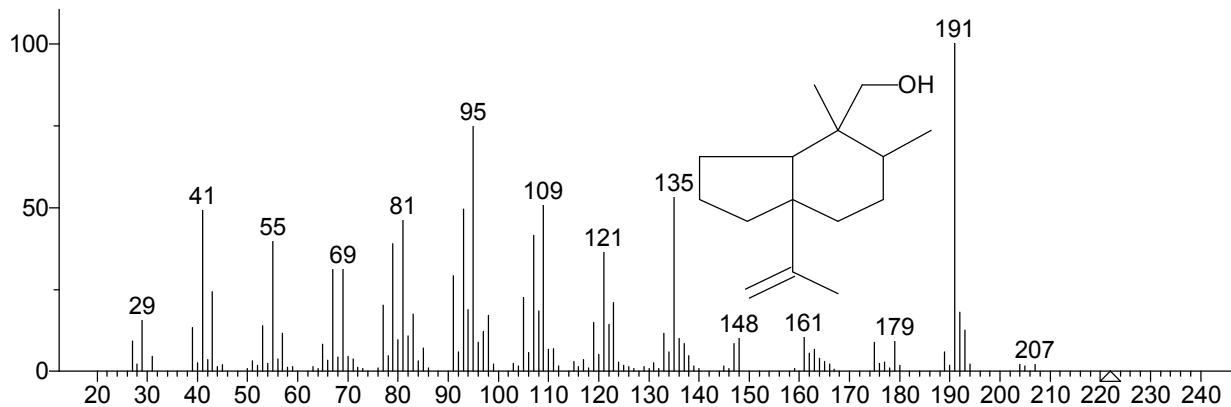
Unknown: + Scan (rt: 5.709-5.755 min, 7 scans) blkz1 A py1.D Subtract  
Compound in Library Factor = -526



Hit 1 : 1,4-Benzenediol, 2-[(1,4,4a,5,6,7,8,8a-octahydro-2,5,5,8a-tetramethyl-1-naphthalenyl)methyl]-, [1R-(1 $\alpha$ ,4 $\alpha$  $\beta$ ,8 C21H30O2; MF: 728; RMF: 783; Prob 56.2%; CAS: 39707-55-6; Lib: mainlib; ID: 177061.

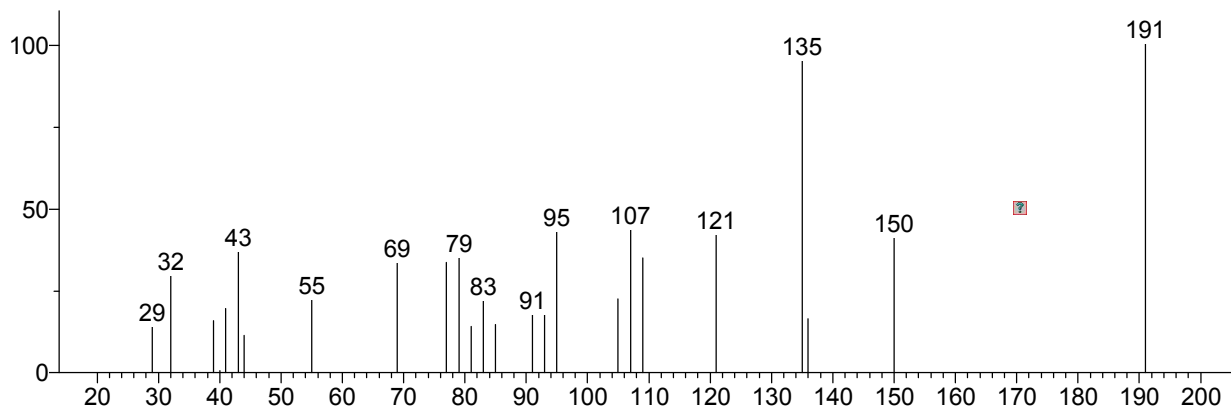


Hit 2 : (7a-Isopropenyl-4,5-dimethyloctahydroinden-4-yl)methanol  
C15H26O; MF: 688; RMF: 714; Prob 13.0%; Lib: mainlib; ID: 177311.

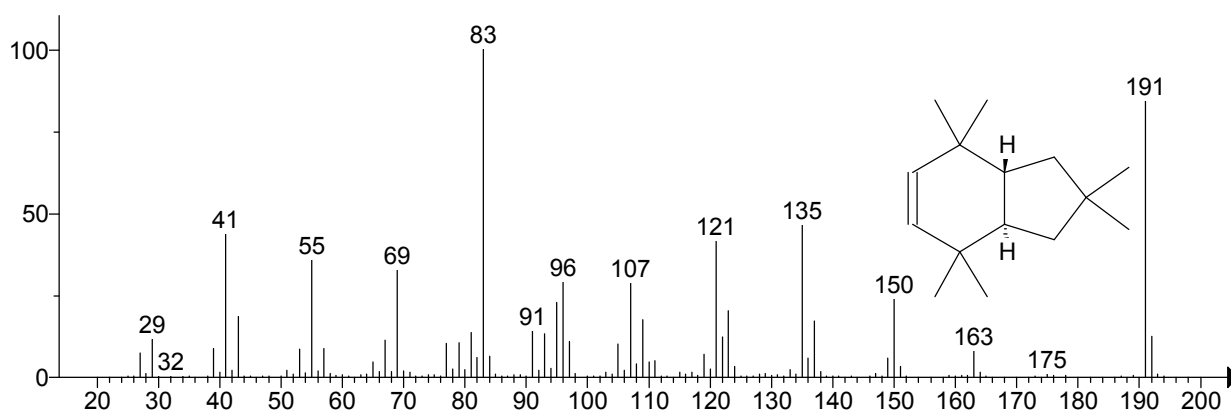


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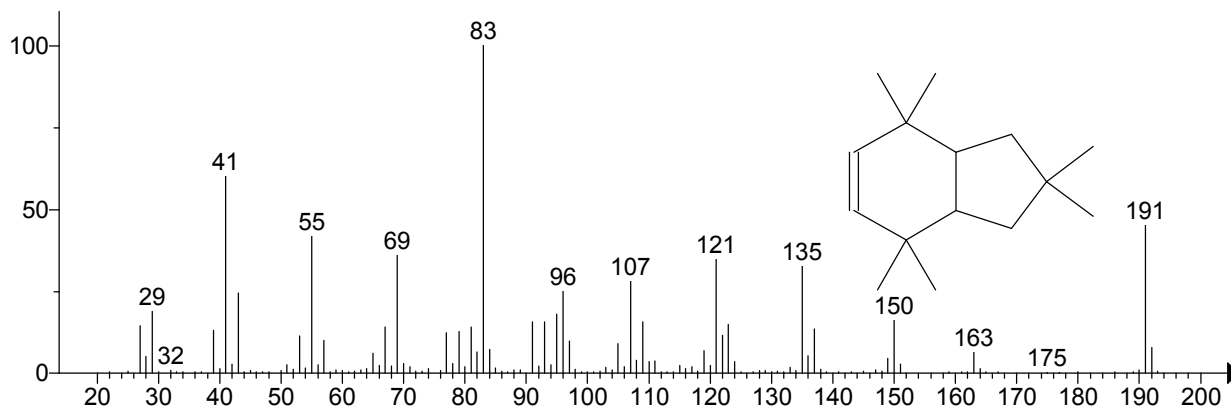
Unknown: + Scan (rt: 5.883-5.891 min, 2 scans) blkz1 A py1.D Subtract  
Compound in Library Factor = -1187



Hit 1 : 1H-Indene, 2,3,3a,4,7,7a-hexahydro-2,2,4,4,7,7-hexamethyl-, trans-  
C15H26; MF: 625; RMF: 628; Prob 25.8%; CAS: 54832-81-4; Lib: mainlib; ID: 53333.

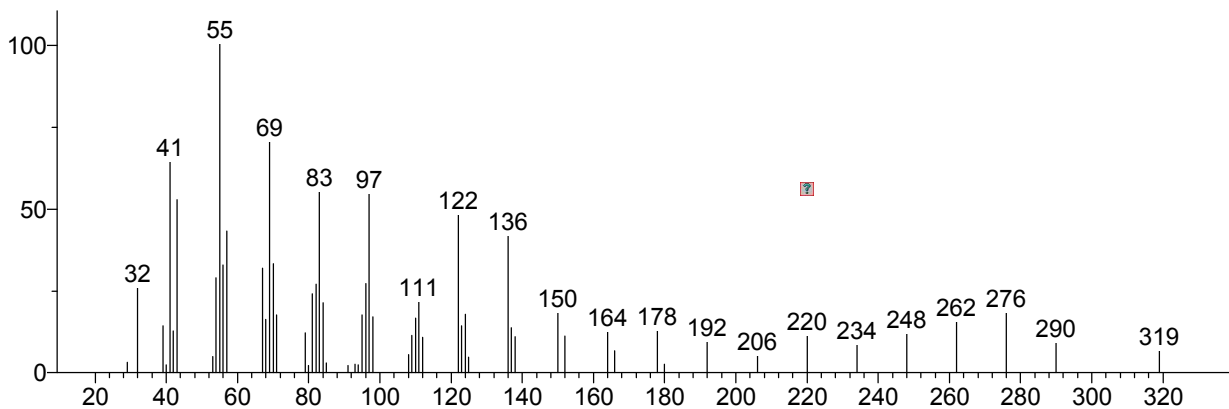


Hit 2 : 1H-Indene, 2,3,3a,4,7,7a-hexahydro-2,2,4,4,7,7-hexamethyl-  
C15H26; MF: 614; RMF: 618; Prob 17.7%; CAS: 61142-60-7; Lib: mainlib; ID: 51954.

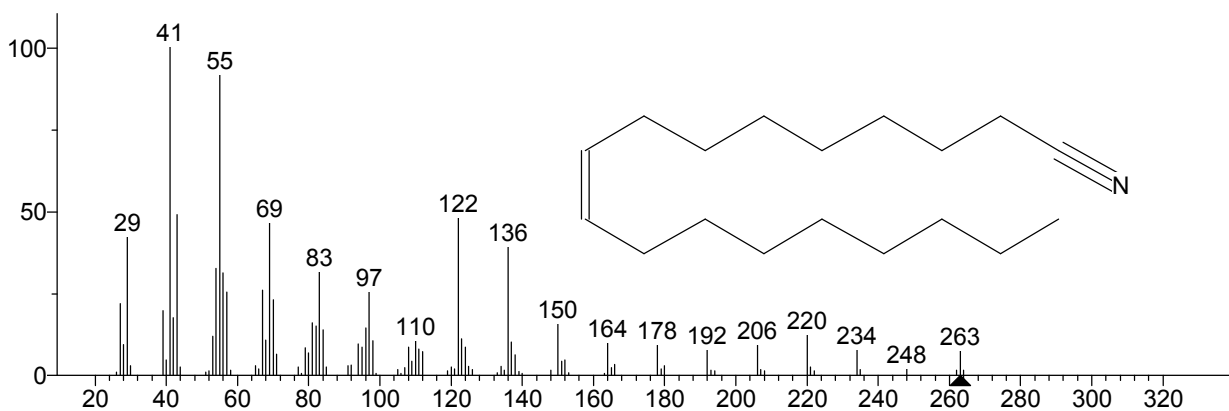


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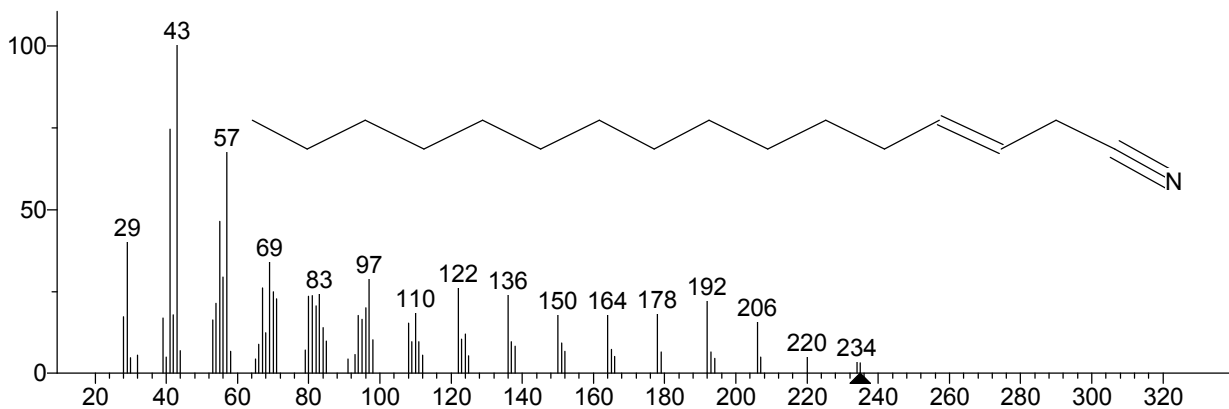
Unknown: + Scan (rt: 9.445-9.475 min, 5 scans) blkz1 A py1.D Subtract  
Compound in Library Factor = -282



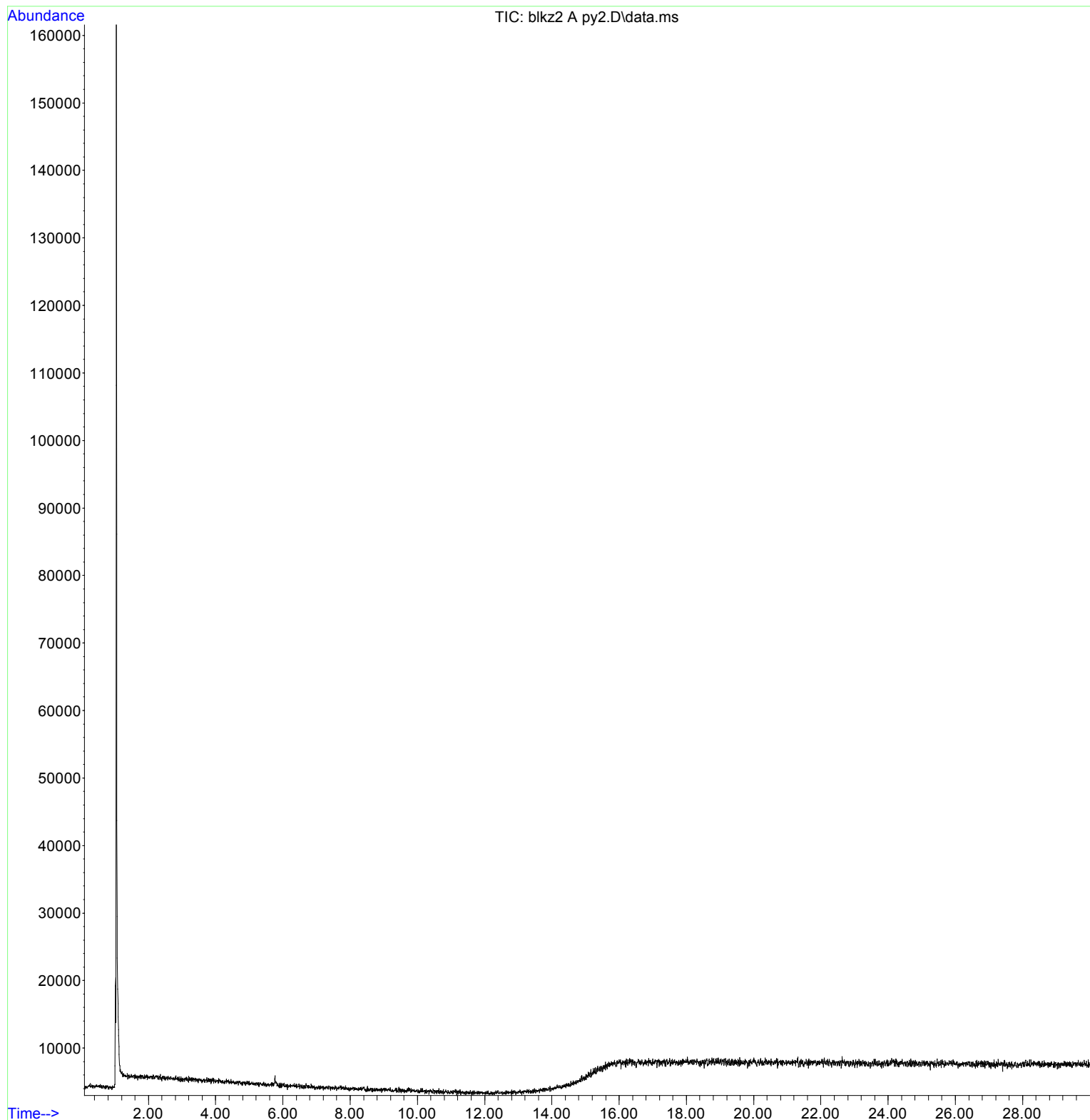
Hit 1 : Oleanitrile  
C18H33N; MF: 772; RMF: 819; Prob 62.6%; Lib: mainlib; ID: 2682.



Hit 2 : Hexadecenitrile  
C16H29N; MF: 727; RMF: 794; Prob 13.3%; CAS: 88592-11-4; Lib: mainlib; ID: 6113.



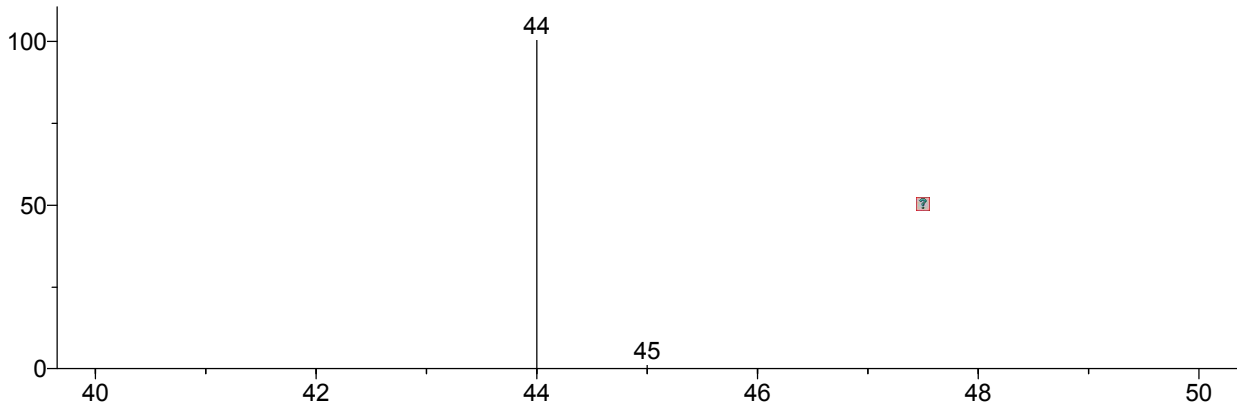
File :C:\msdchem\1\DATA\2016\Temp\011916\blkz2 A py2.D  
Operator : Courtney McGowan  
Acquired : 11 Jan 2016 20:44 using AcqMethod PYMS.M  
Instrument : Instrument #1  
Sample Name: Blank  
Misc Info : Blank  
Vial Number: 10





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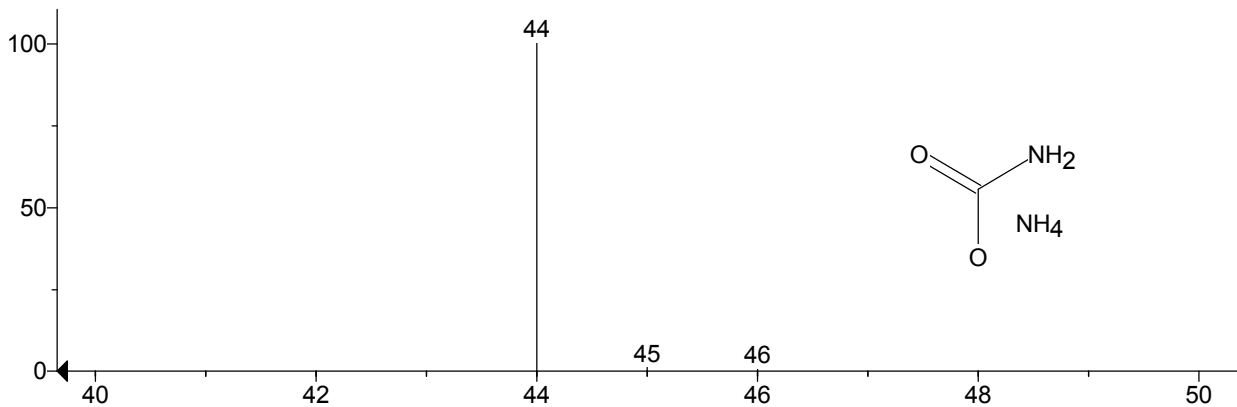
Unknown: + Scan (rt: 1.008-1.016 min, 2 scans) blkz1 A py2.D Subtract  
Compound in Library Factor = 203



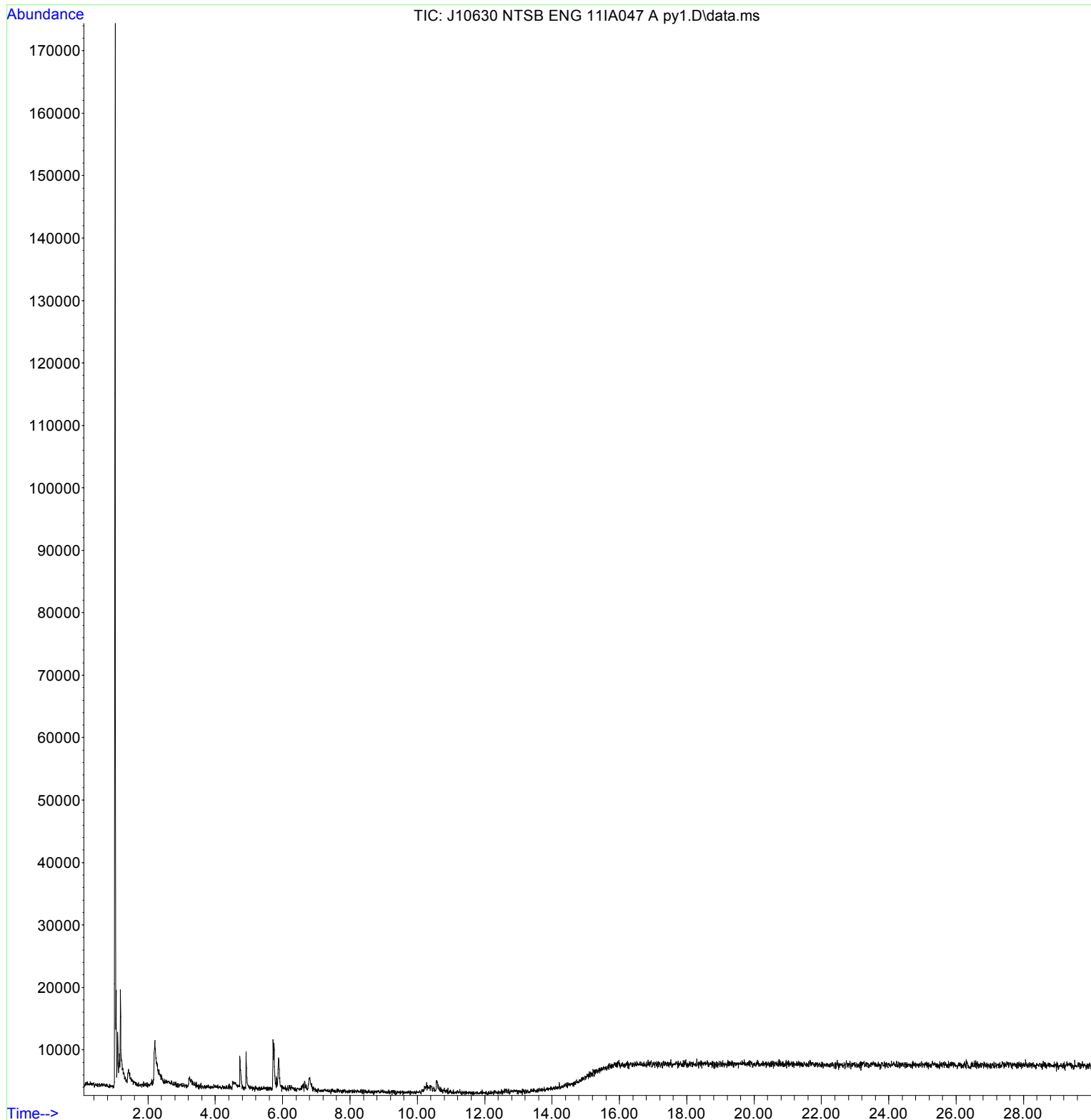
Hit 1 : Carbon dioxide  
CO<sub>2</sub>; MF: 999; RMF: 999; Prob 44.4%; CAS: 124-38-9; Lib: replib; ID: 3511.



Hit 2 : Carbamic acid, monoammonium salt  
CH<sub>6</sub>N<sub>2</sub>O<sub>2</sub>; MF: 997; RMF: 997; Prob 41.0%; CAS: 1111-78-0; Lib: mainlib; ID: 15086.

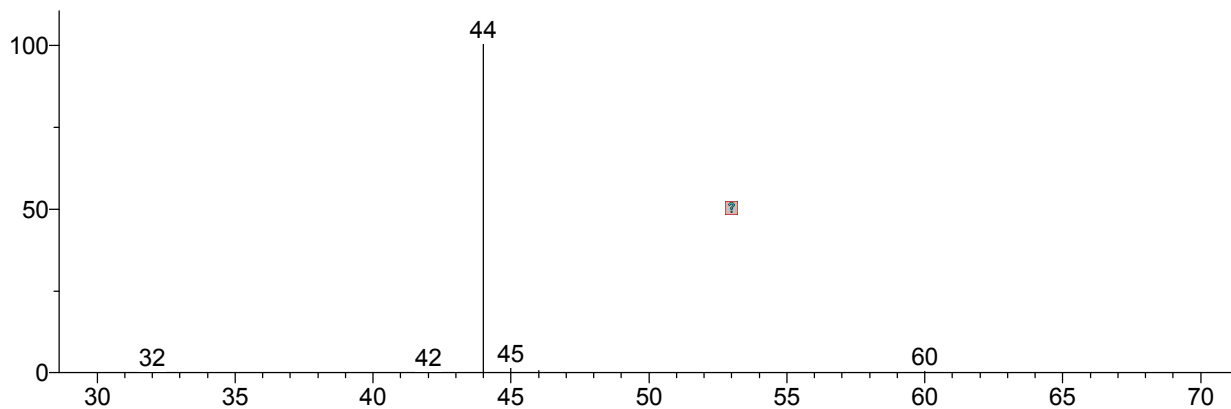


File :C:\msdchem\1\DATA\2016\Temp\011916\J10630 NTSB ENG 11IA047 A  
... py1.D  
Operator : Courtney McGowan  
Instrument : Instrument #1  
Acquired : 11 Jan 2016 22:10 using AcqMethod PYMS.M  
Sample Name: J10630 NTSB ENG 11IA047  
Misc Info : J10630 NTSB ENG 11IA047

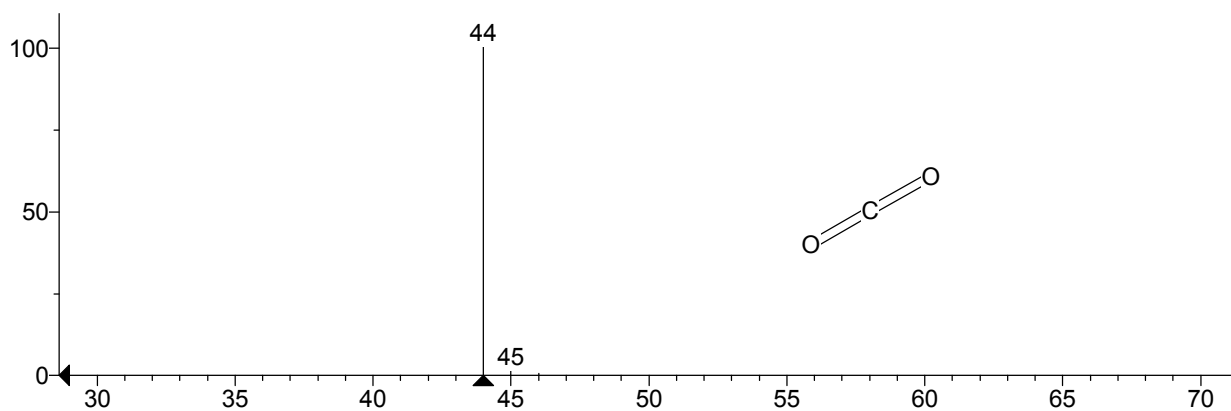


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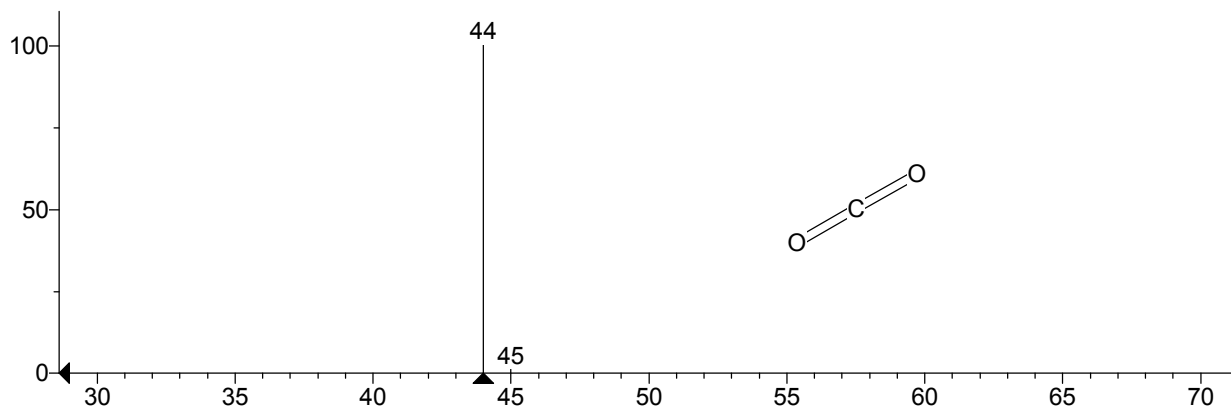
Unknown: + Scan (rt: 1.016-1.023 min, 2 scans) J10630 NTSB ENG 11IA047 A py1.D Subtract  
Compound in Library Factor = 216



Hit 1 : Carbon dioxide  
CO<sub>2</sub>; MF: 996; RMF: 999; Prob 59.9%; CAS: 124-38-9; Lib: mainlib; ID: 15097.

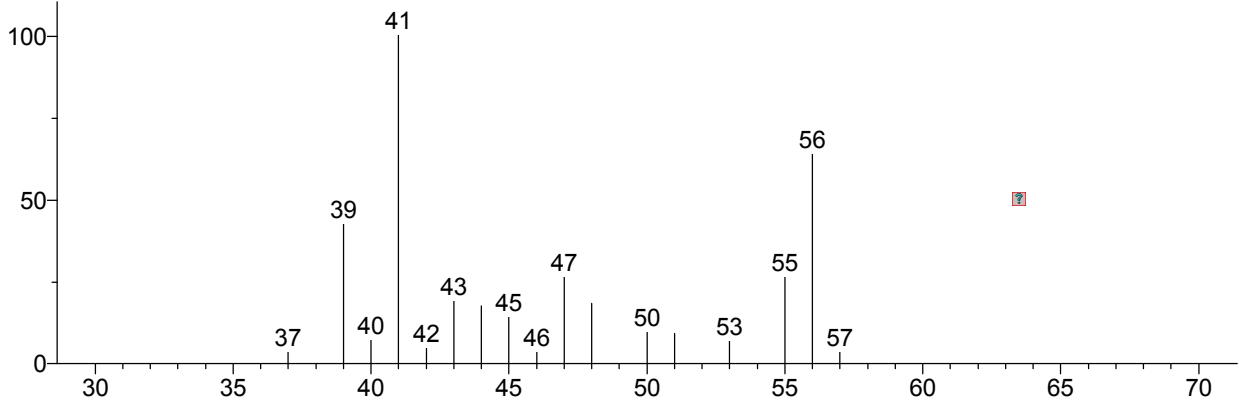


Hit 2 : Carbon dioxide  
CO<sub>2</sub>; MF: 979; RMF: 985; Prob 59.9%; CAS: 124-38-9; Lib: replib; ID: 3511.

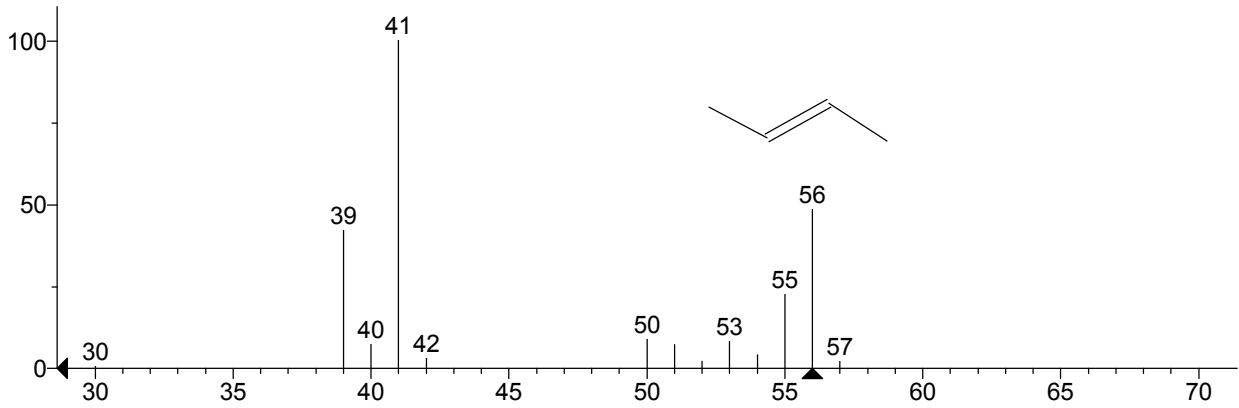


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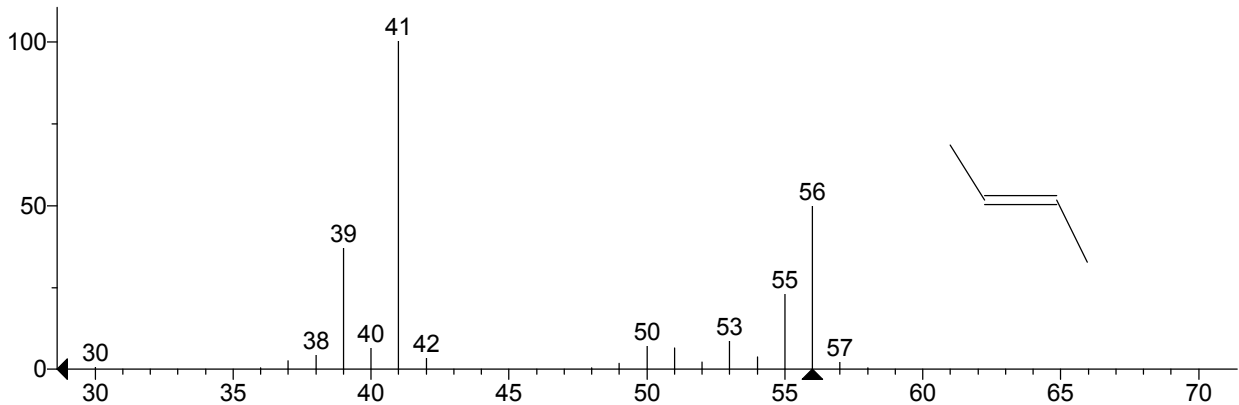
Unknown: + Scan (rt: 1.046-1.061 min, 3 scans) J10630 NTSB ENG 11IA047 A py1.D Subtract  
Compound in Library Factor = -474



Hit 1 : 2-Butene  
C4H8; MF: 789; RMF: 950; Prob 26.9%; CAS: 107-01-7; Lib: replib; ID: 1054.

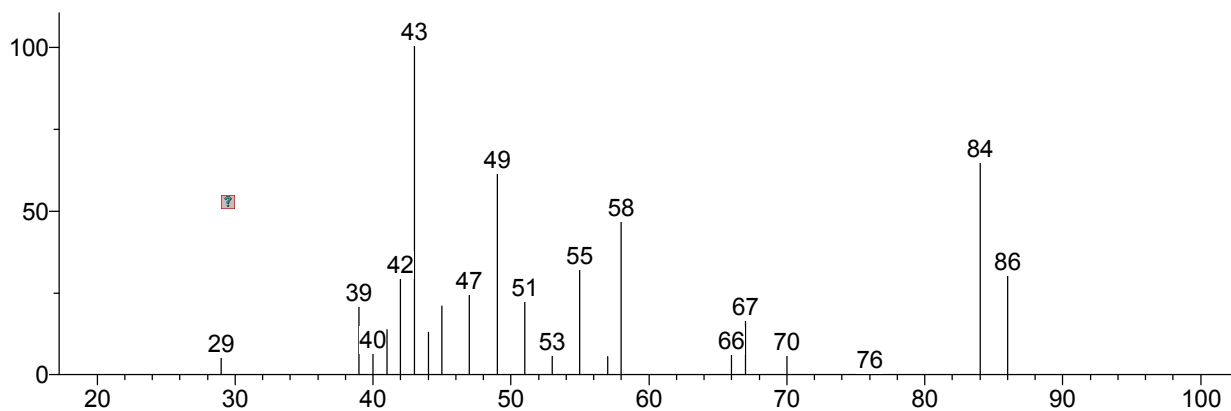


Hit 2 : 2-Butene, (E)-  
C4H8; MF: 783; RMF: 908; Prob 21.1%; CAS: 624-64-6; Lib: replib; ID: 1051.

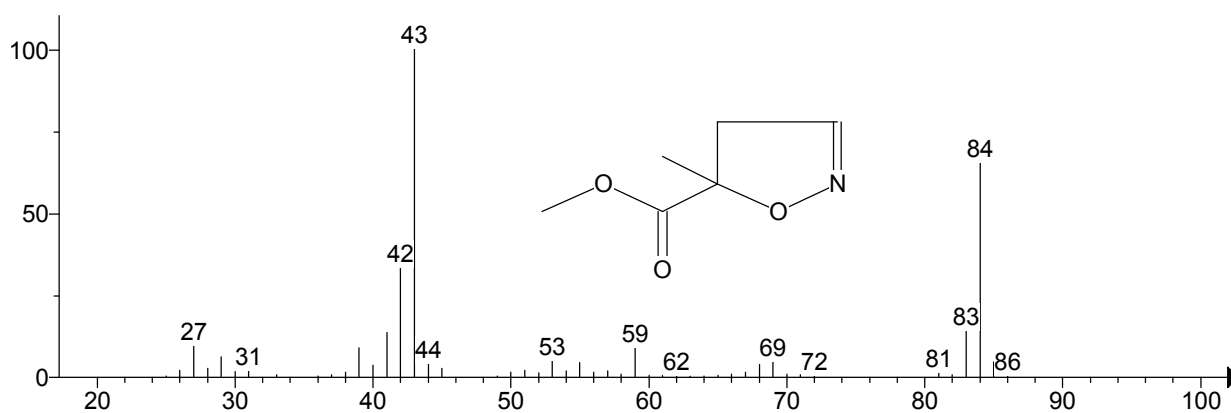


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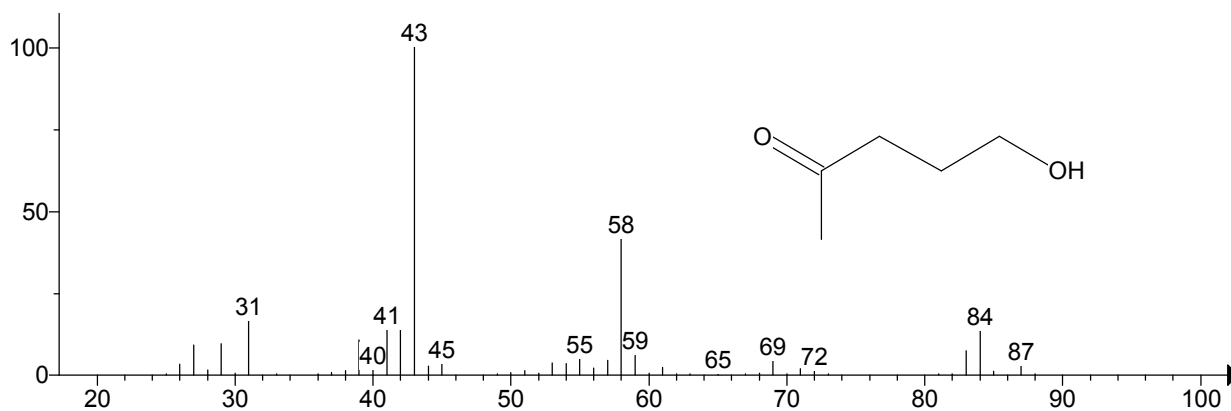
Unknown: + Scan (rt: 1.091-1.106 min, 3 scans) J10630 NTSB ENG 11IA047 A py1.D Subtract  
Compound in Library Factor = -1589



Hit 1 : 5-Methyl-4,5-dihydroisoxazole-5-carboxylic acid, methyl ester  
C<sub>6</sub>H<sub>9</sub>NO<sub>3</sub>; MF: 565; RMF: 580; Prob 9.56%; Lib: mainlib; ID: 9706.

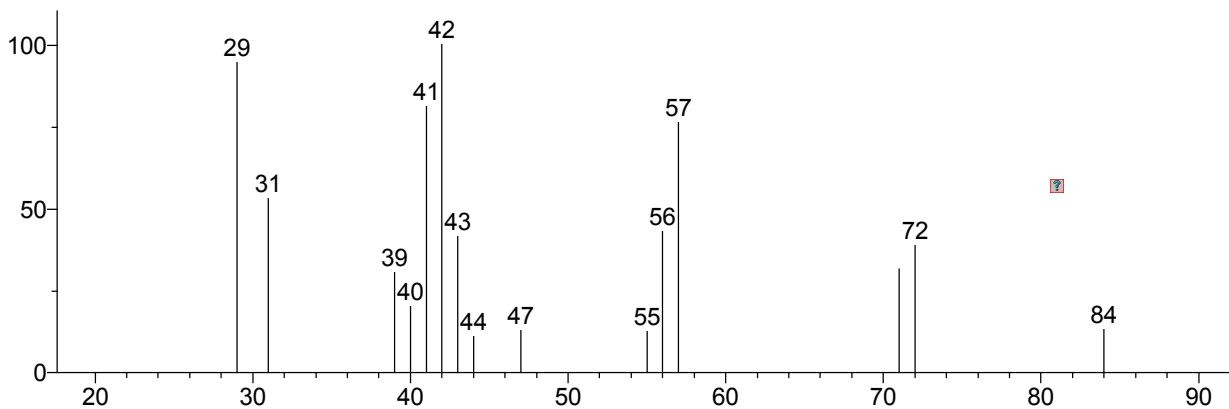


Hit 2 : 2-Pentanone, 5-hydroxy-  
C<sub>5</sub>H<sub>10</sub>O<sub>2</sub>; MF: 553; RMF: 628; Prob 6.37%; CAS: 1071-73-4; Lib: replib; ID: 2383.

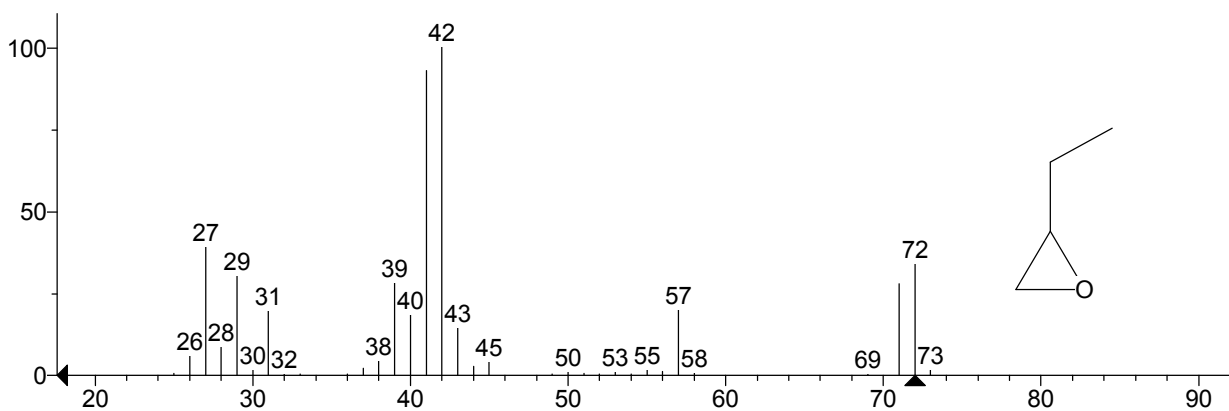


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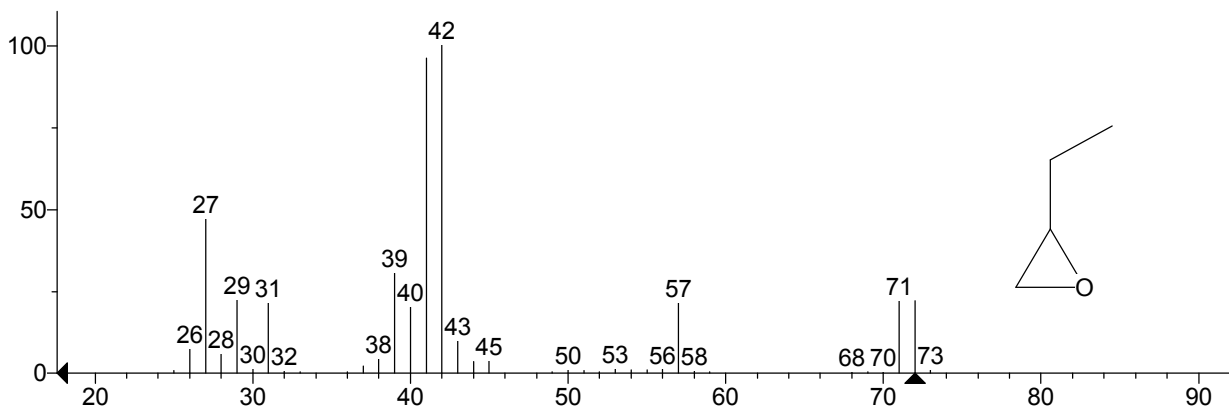
Unknown: + Scan (rt: 1.144-1.159 min, 3 scans) J10630 NTSB ENG 11IA047 A py1.D Subtract  
Compound in Library Factor = -484



Hit 1 : Oxirane, ethyl-  
C4H8O; MF: 769; RMF: 798; Prob 54.3%; CAS: 106-88-7; Lib: replib; ID: 1445.

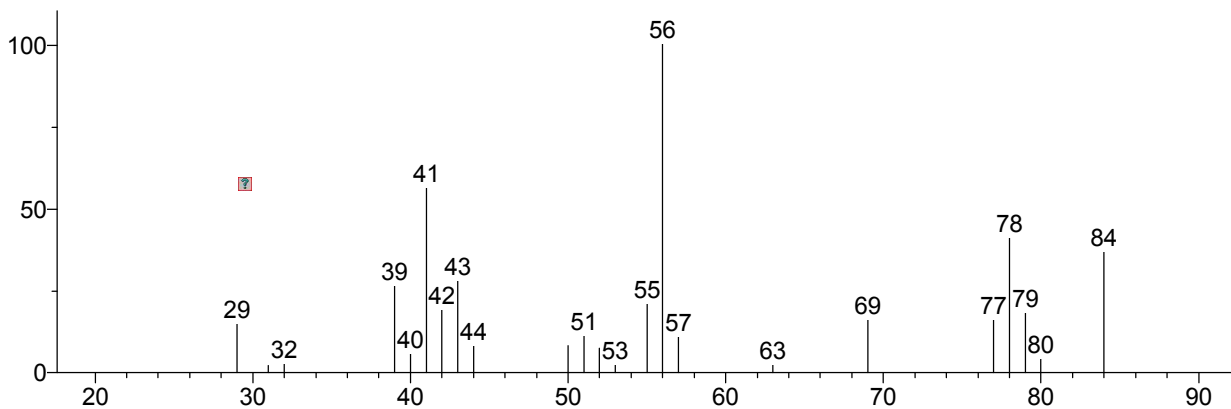


Hit 2 : Oxirane, ethyl-  
C4H8O; MF: 759; RMF: 788; Prob 54.3%; CAS: 106-88-7; Lib: mainlib; ID: 4424.

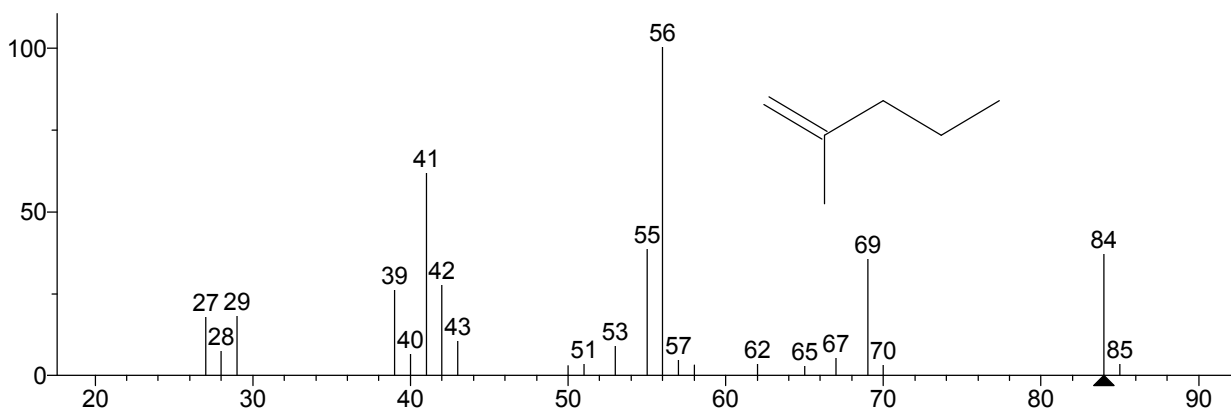


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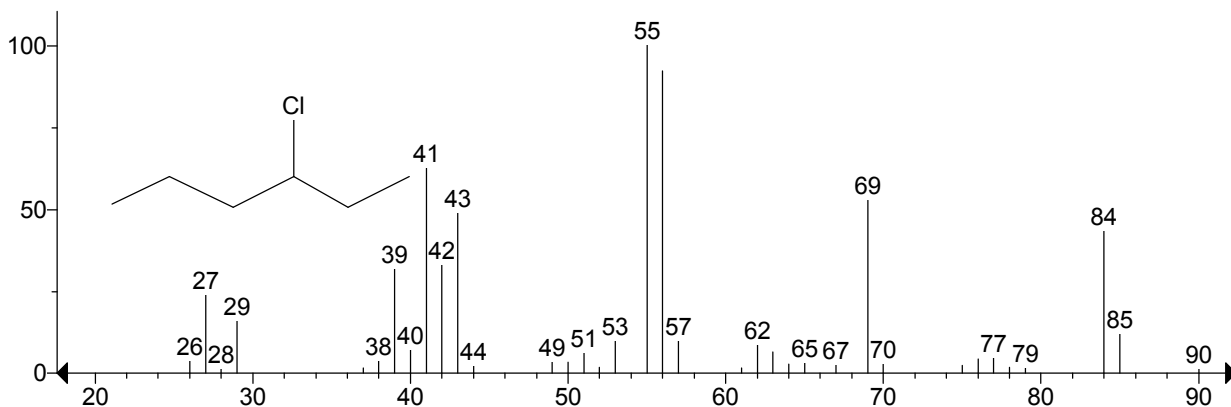
Unknown: + Scan (rt: 1.174-1.189 min, 3 scans) J10630 NTSB ENG 11IA047 A py1.D Subtract  
Compound in Library Factor = -1032



Hit 1 : 1-Pentene, 2-methyl-  
C6H12; MF: 688; RMF: 845; Prob 11.7%; CAS: 763-29-1; Lib: replib; ID: 5417.



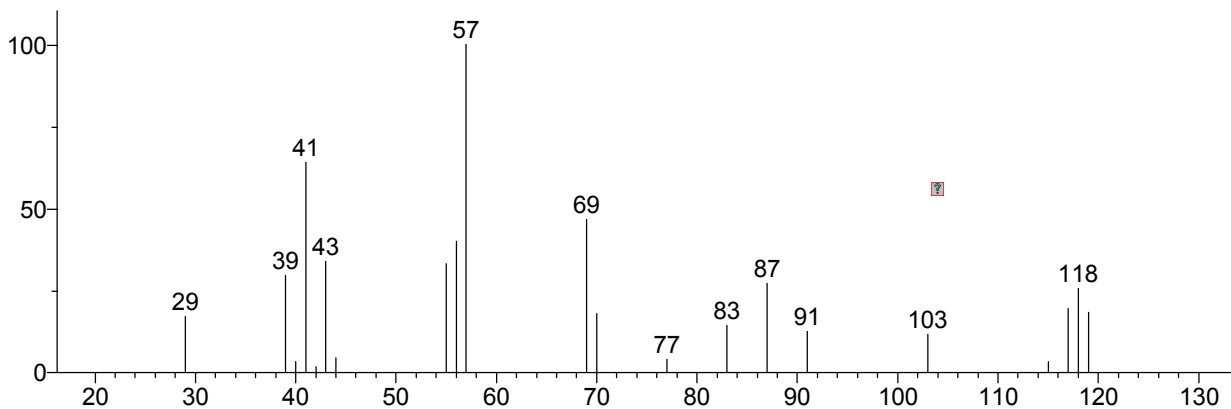
Hit 2 : 3-Chlorohexane  
C6H13Cl; MF: 686; RMF: 693; Prob 10.8%; CAS: 2346-81-8; Lib: mainlib; ID: 19834.



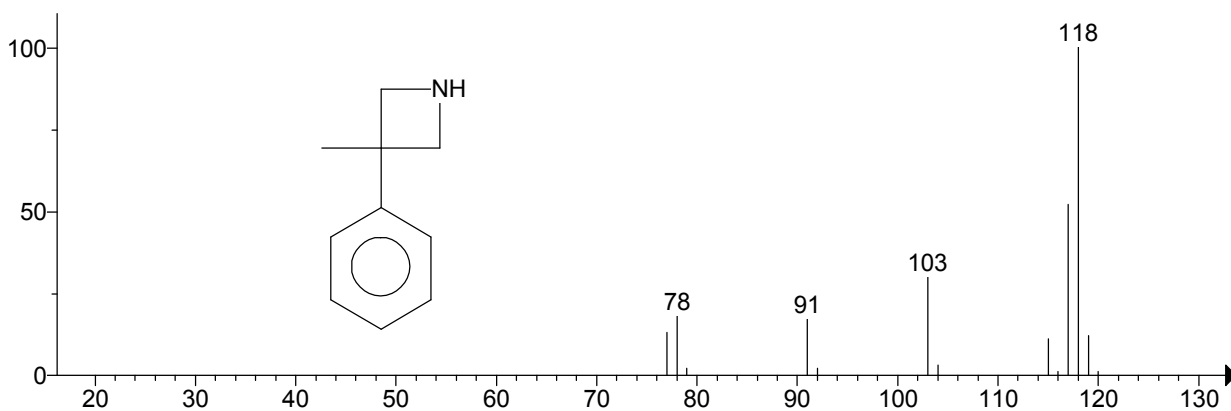


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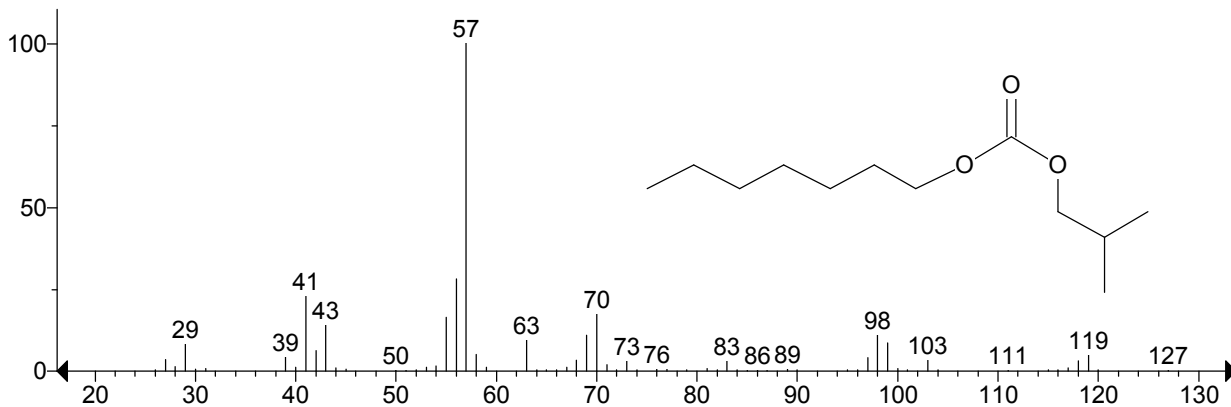
Unknown: + Scan (rt: 2.178-2.238 min, 9 scans) J10630 NTSB ENG 11IA047 A py1.D Subtract  
Compound in Library Factor = -1302



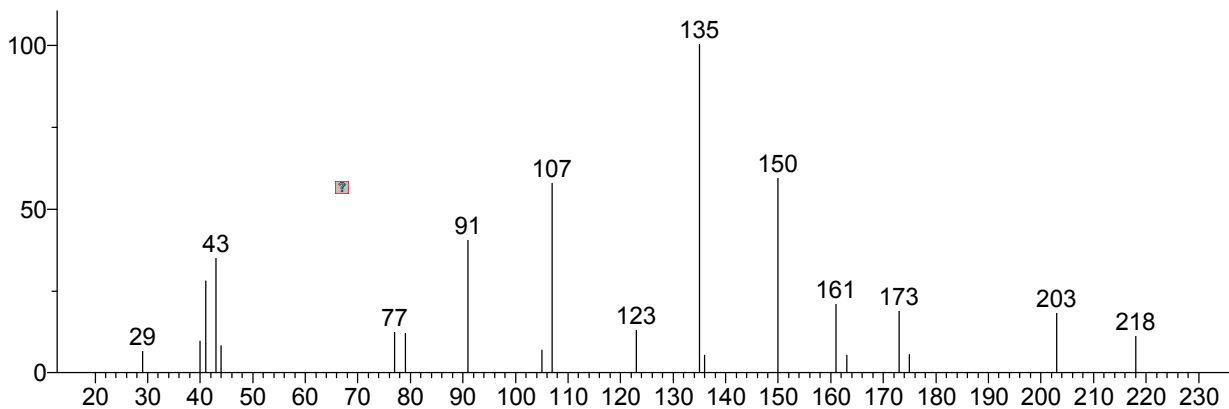
Hit 1 : Azetidine, 3-methyl-3-phenyl-  
C10H13N; MF: 629; RMF: 796; Prob 16.1%; CAS: 5961-33-1; Lib: mainlib; ID: 98334.



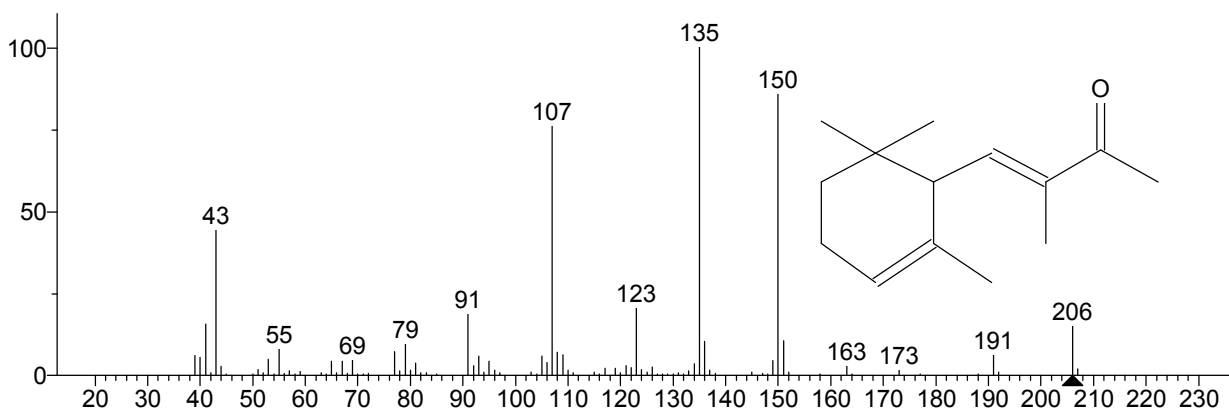
Hit 2 : Heptyl isobutyl carbonate  
C12H24O3; MF: 612; RMF: 625; Prob 8.79%; CAS: 959068-08-7; Lib: mainlib; ID: 24862.



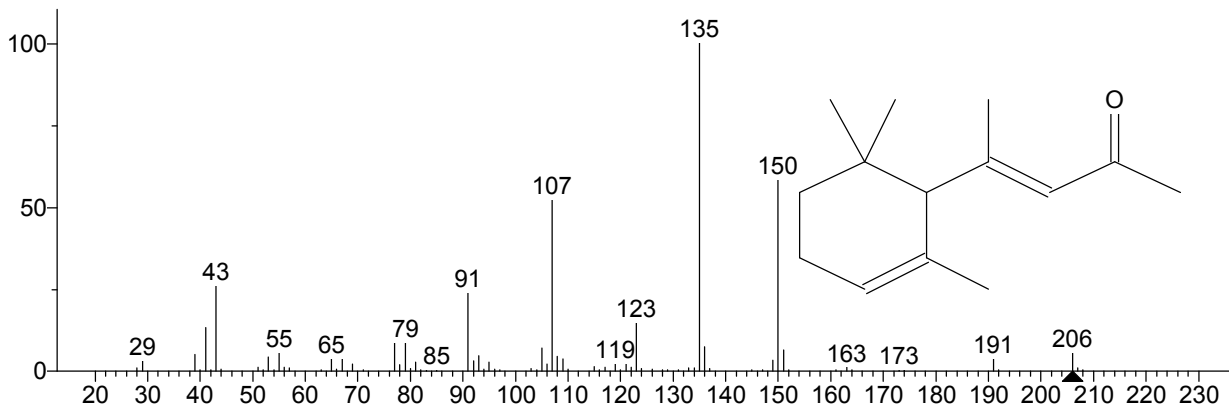
Unknown: + Scan (rt: 4.728-4.751 min, 4 scans) J10630 NTSB ENG 11IA047 A py1.D Subtract  
Compound in Library Factor = -1589



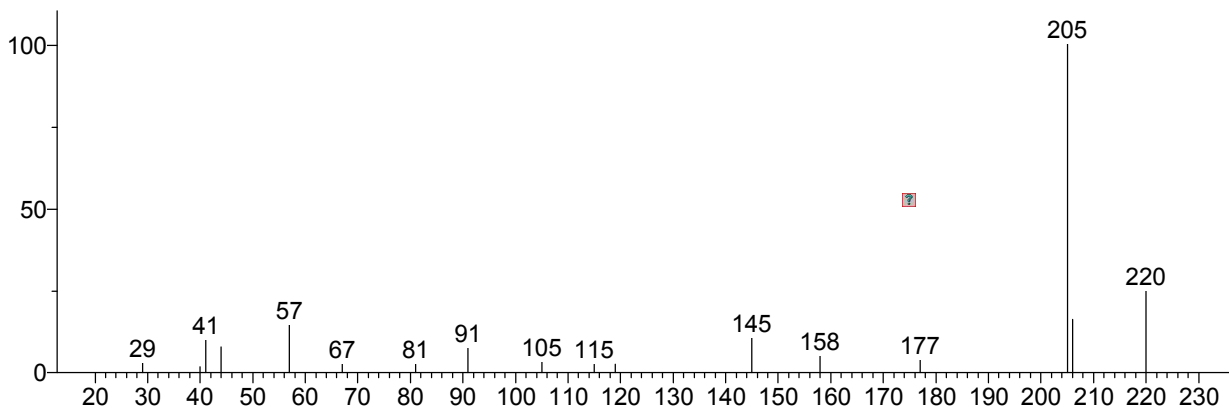
Hit 1 :  $\alpha$  Isomethyl ionone  
C<sub>14</sub>H<sub>22</sub>O; MF: 578; RMF: 685; Prob 14.1%; CAS: 127-51-5; Lib: replib; ID: 21563.



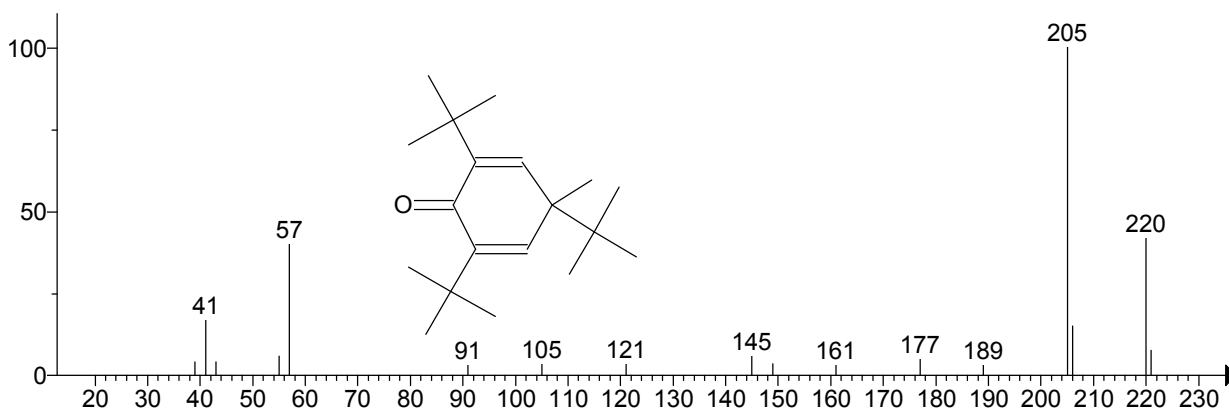
Hit 2 : 3-Penten-2-one, 4-(2,6,6-trimethyl-2-cyclohexen-1-yl)-  
C<sub>14</sub>H<sub>22</sub>O; MF: 569; RMF: 680; Prob 10.3%; CAS: 114933-28-7; Lib: mainlib; ID: 120911.



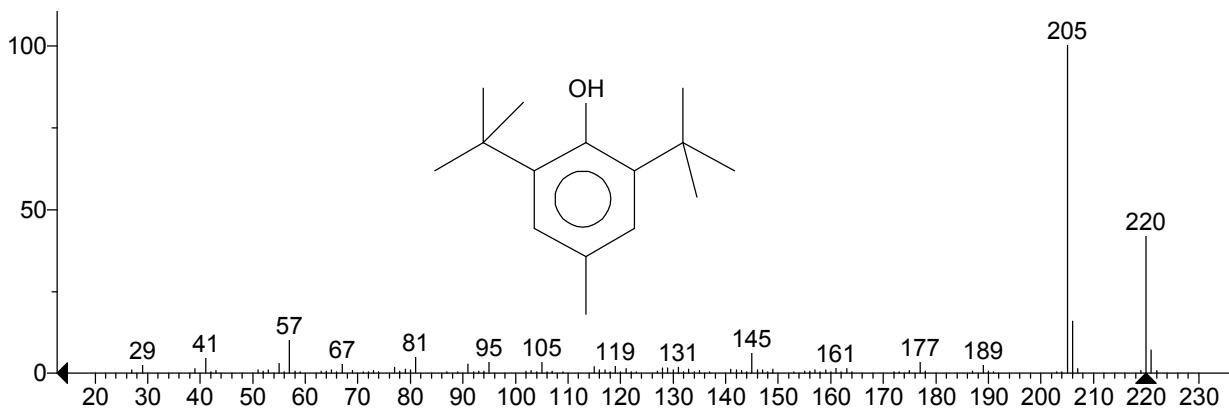
Unknown: + Scan (rt: 4.910-4.925 min, 3 scans) J10630 NTSB ENG 11IA047 A py1.D Subtract  
Compound in Library Factor = -194



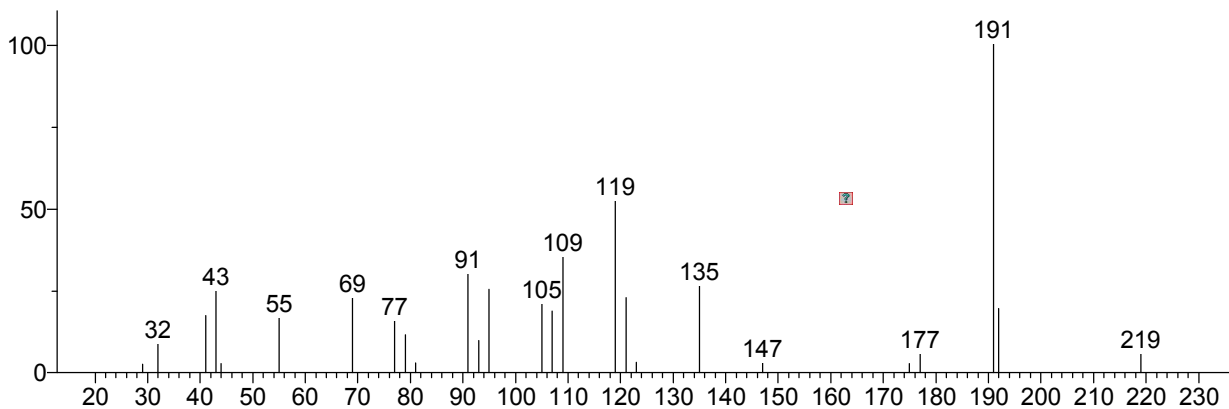
Hit 1 : 2,4,6-Tris(1,1-dimethylethyl)-4-methylcyclohexa-2,5-dien-1-one  
C<sub>19</sub>H<sub>32</sub>O; MF: 813; RMF: 853; Prob 45.9%; CAS: 19687-22-0; Lib: mainlib; ID: 187805.



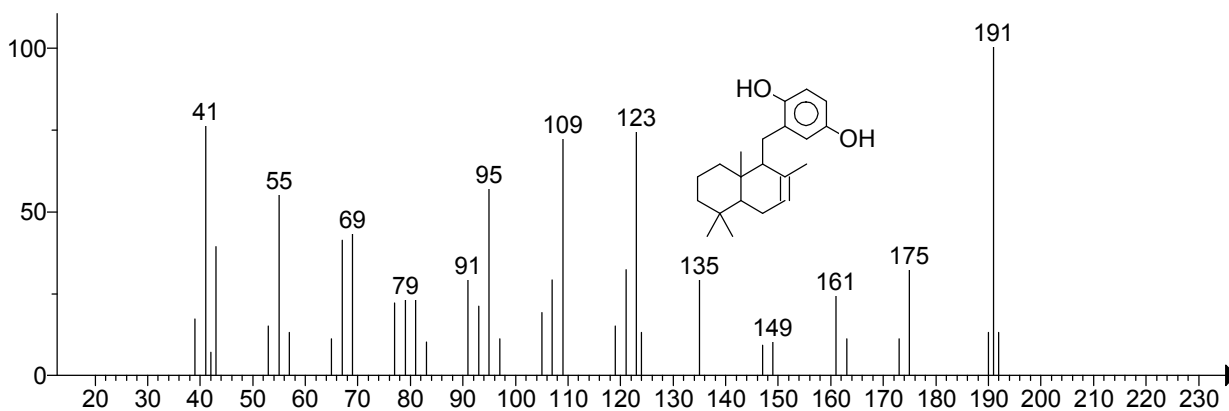
Hit 2 : Butylated Hydroxytoluene  
C<sub>15</sub>H<sub>24</sub>O; MF: 794; RMF: 803; Prob 22.3%; CAS: 128-37-0; Lib: replib; ID: 29013.



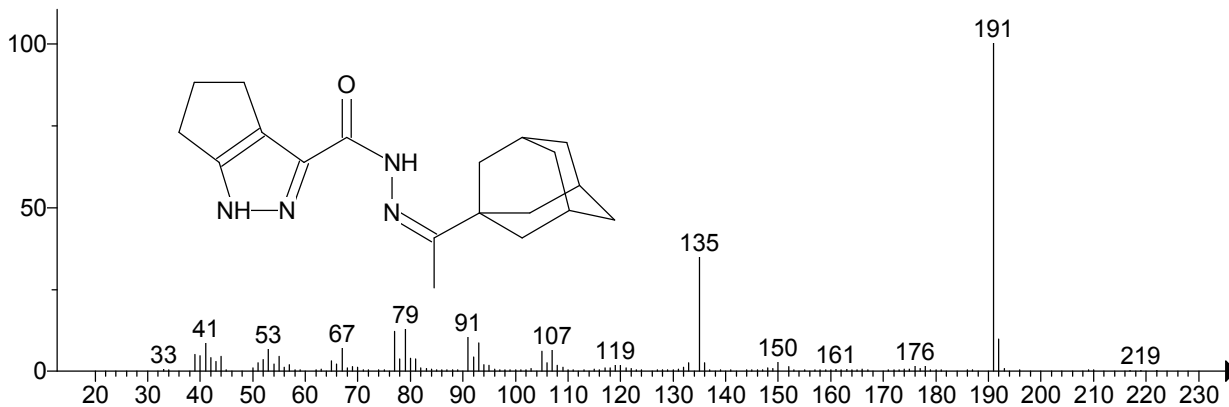
Unknown: + Scan (rt: 5.709-5.747 min, 6 scans) J10630 NTSB ENG 11IA047 A py1.D Subtract  
Compound in Library Factor = -1302



Hit 1 : 1,4-Benzenediol, 2-[(1,4,4a,5,6,7,8,8a-octahydro-2,5,5,8a-tetramethyl-1-naphthalenyl)methyl]-, [1R-(1 $\alpha$ ,4 $\alpha$  $\beta$ ,8  
C<sub>21</sub>H<sub>30</sub>O<sub>2</sub>; MF: 623; RMF: 639; Prob 33.5%; CAS: 39707-55-6; Lib: mainlib; ID: 177061.

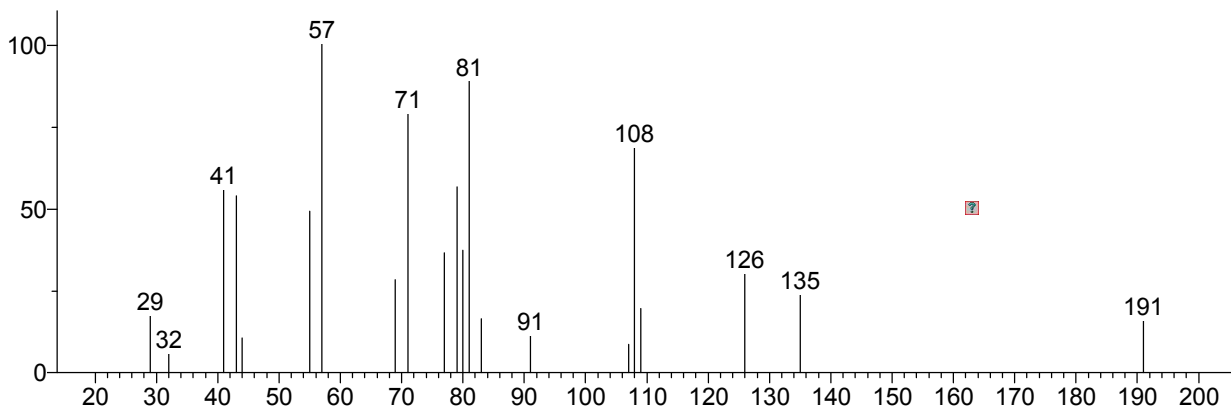


Hit 2 : 1,4,5,6-Tetrahydrocyclopentapyrazole-3-carboxylic acid, (1-adamantan-1-ylethylidene)hydrazide  
C<sub>19</sub>H<sub>26</sub>N<sub>4</sub>O; MF: 604; RMF: 604; Prob 16.2%; Lib: mainlib; ID: 177422.

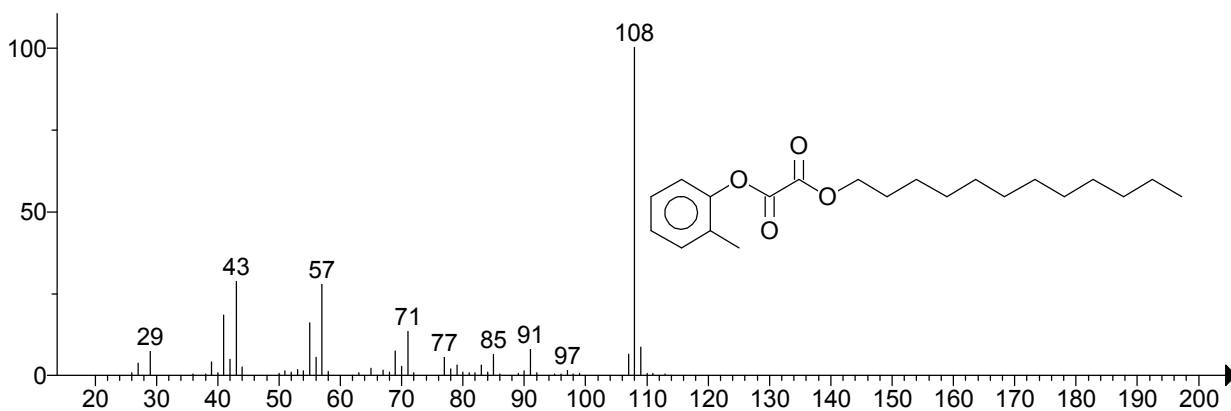


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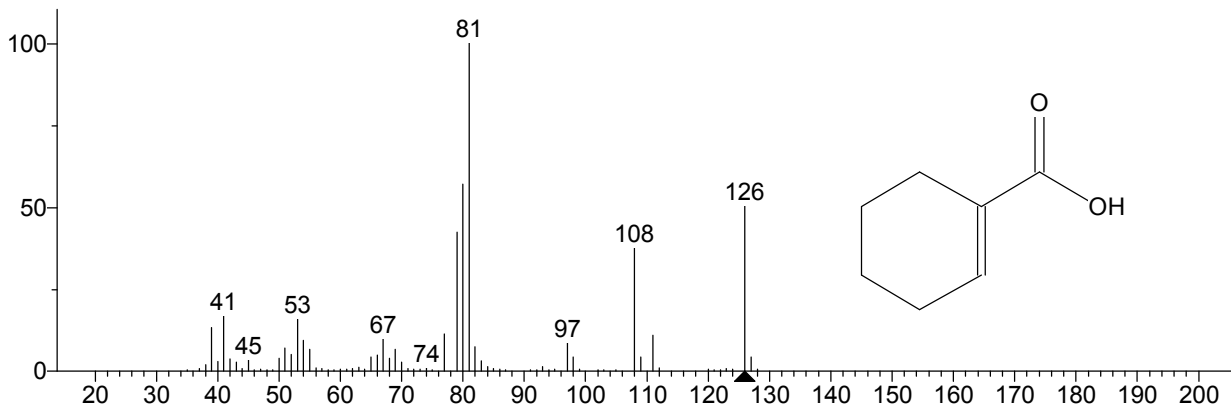
Unknown: + Scan (rt: 5.868-5.898 min, 5 scans) J10630 NTSB ENG 11IA047 A py1.D Subtract  
Compound in Library Factor = -1647



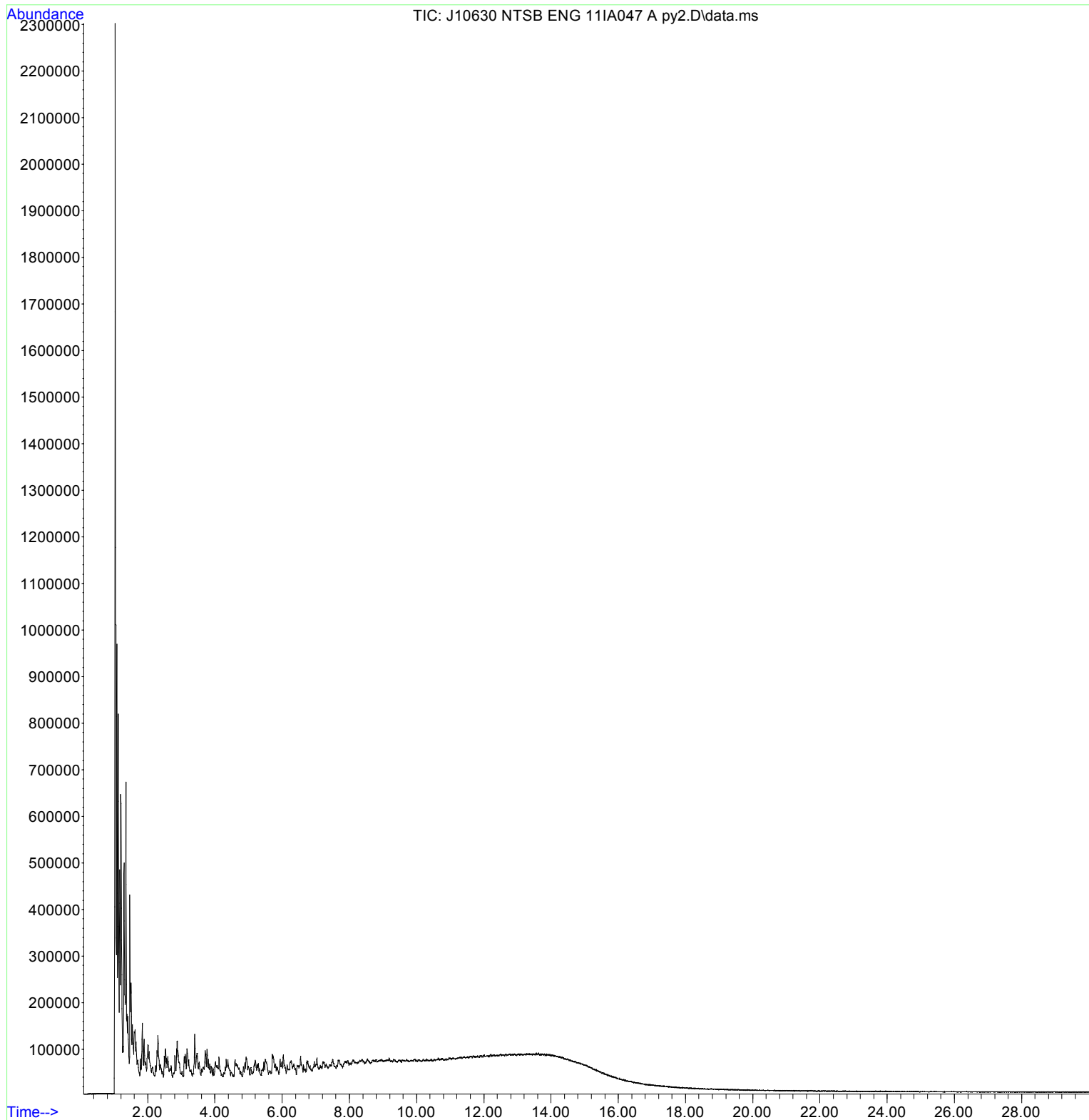
Hit 1 : Oxalic acid, dodecyl 2-methylphenyl ester  
C<sub>21</sub>H<sub>32</sub>O<sub>4</sub>; MF: 533; RMF: 609; Prob 8.41%; Lib: mainlib; ID: 84652.



Hit 2 : 1-Cyclohexene-1-carboxylic acid  
C<sub>7</sub>H<sub>10</sub>O<sub>2</sub>; MF: 528; RMF: 581; Prob 6.78%; CAS: 636-82-8; Lib: replib; ID: 11555.

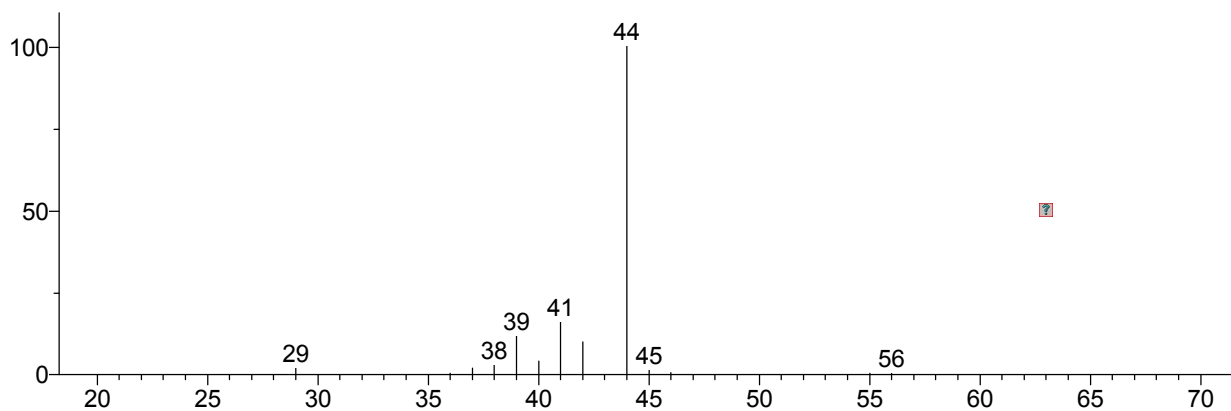


File :C:\msdchem\1\DATA\2016\Temp\011916\J10630 NTSB ENG 11IA047 A  
... py2.D  
Operator : Courtney McGowan  
Instrument : Instrument #1  
Acquired : 11 Jan 2016 22:53 using AcqMethod PYMS.M  
Sample Name: J10630 NTSB ENG 11IA047  
Misc Info : J10630 NTSB ENG 11IA047

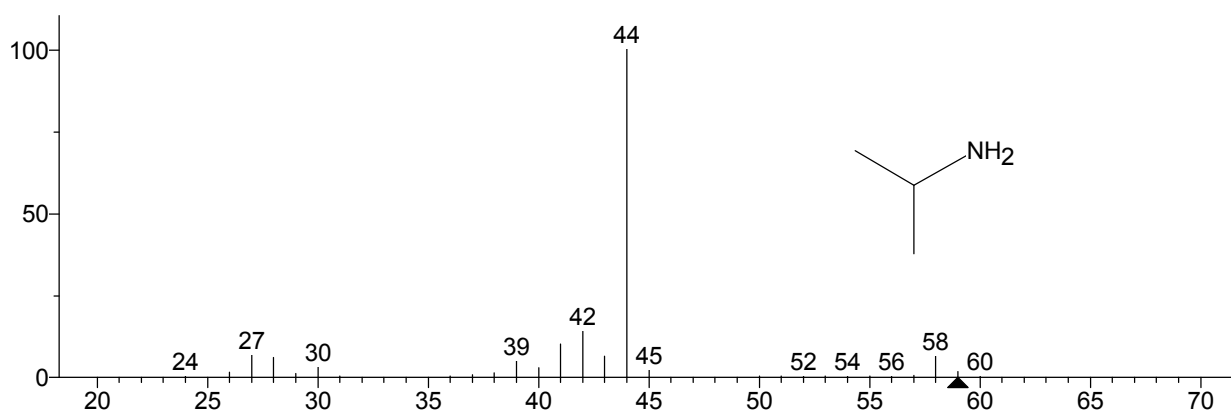


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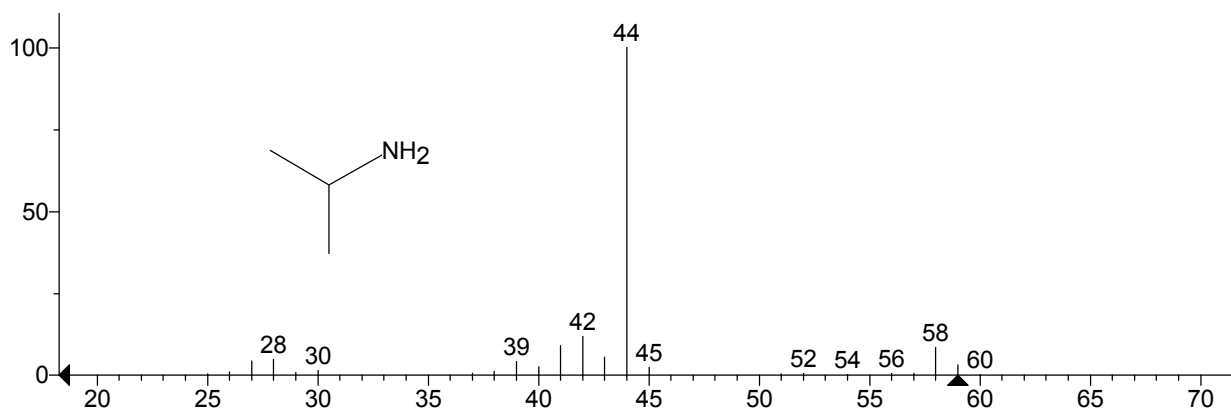
Unknown: + Scan (rt: 1.023-1.038 min, 3 scans) J10630 NTSB ENG 11IA047 A py2.D Subtract  
Compound in Library Factor = -278



Hit 1 : 2-Propanamine  
C3H9N; MF: 837; RMF: 840; Prob 44.5%; CAS: 75-31-0; Lib: replib; ID: 3572.

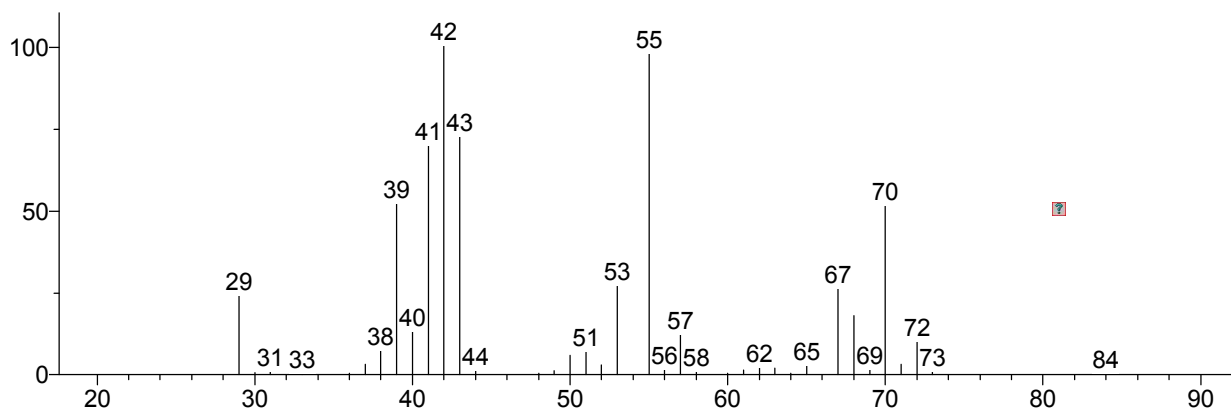


Hit 2 : 2-Propanamine  
C3H9N; MF: 816; RMF: 818; Prob 44.5%; CAS: 75-31-0; Lib: replib; ID: 3573.

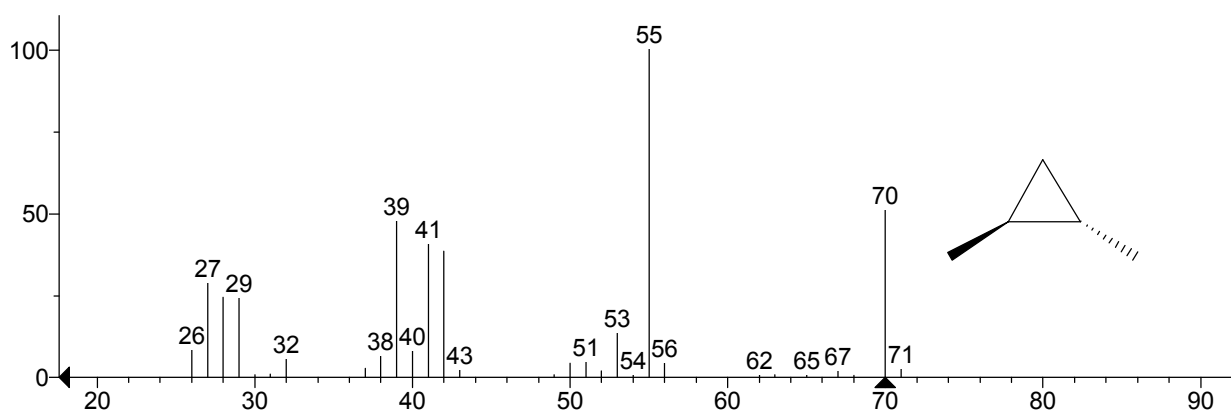


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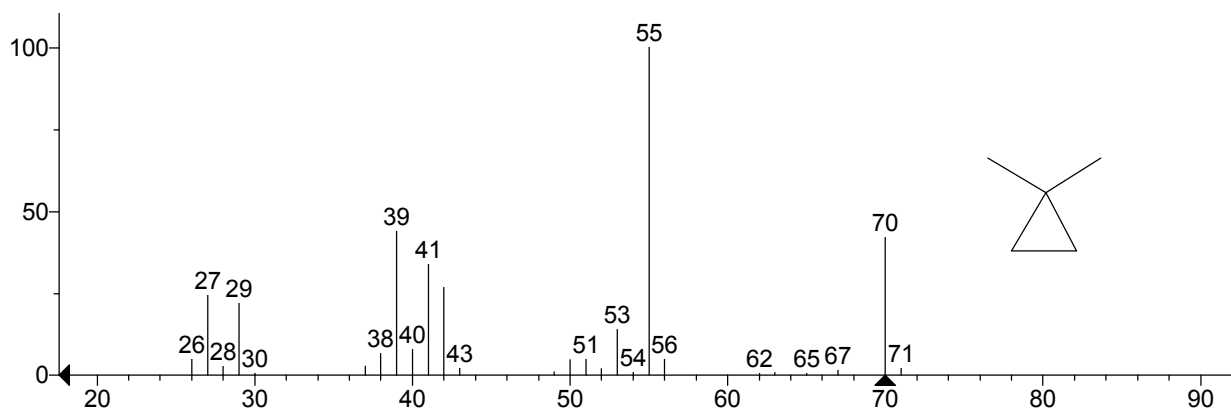
Unknown: + Scan (rt: 1.076-1.084 min, 2 scans) J10630 NTSB ENG 11IA047 A py2.D Subtract  
Compound in Library Factor = -509



Hit 1 : Cyclopropane, 1,2-dimethyl-, trans-  
C5H10; MF: 799; RMF: 827; Prob 15.1%; CAS: 2402-06-4; Lib: replib; ID: 5026.



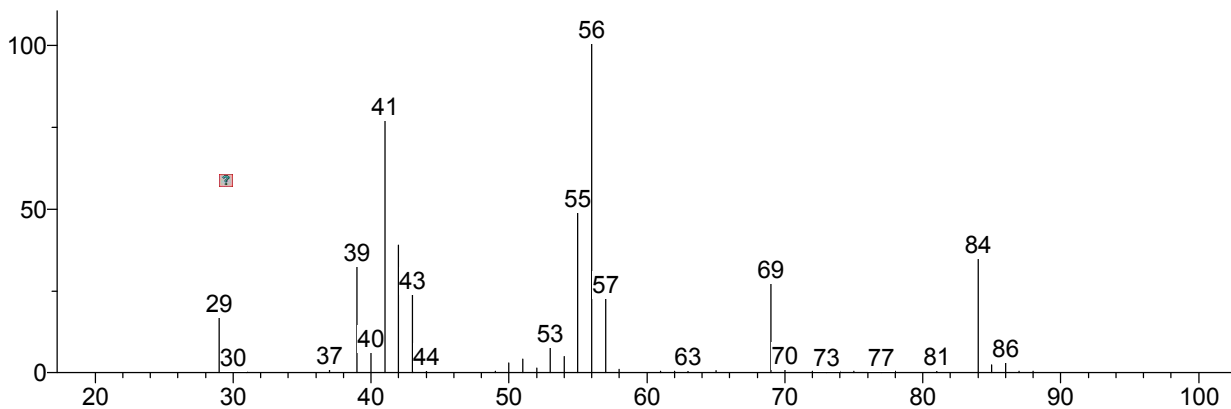
Hit 2 : Cyclopropane, 1,1-dimethyl-  
C5H10; MF: 793; RMF: 843; Prob 11.9%; CAS: 1630-94-0; Lib: mainlib; ID: 18962.



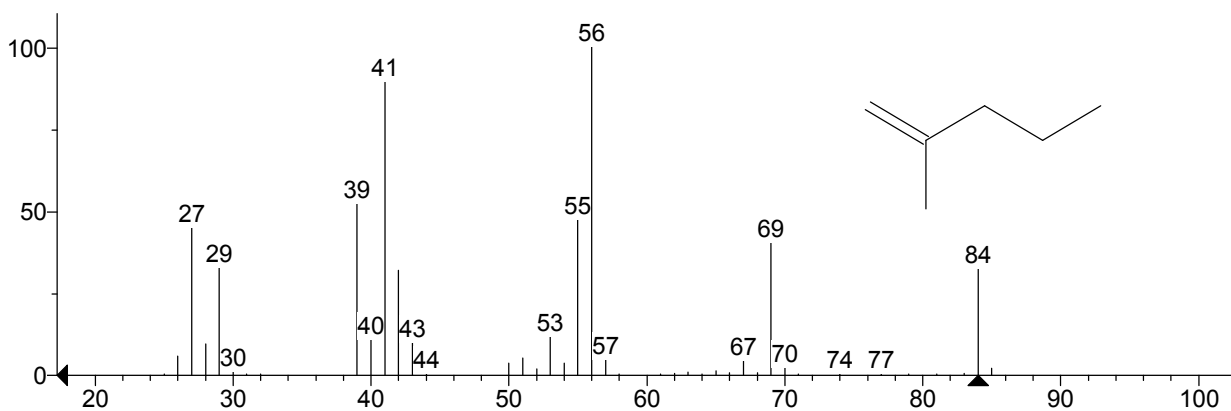


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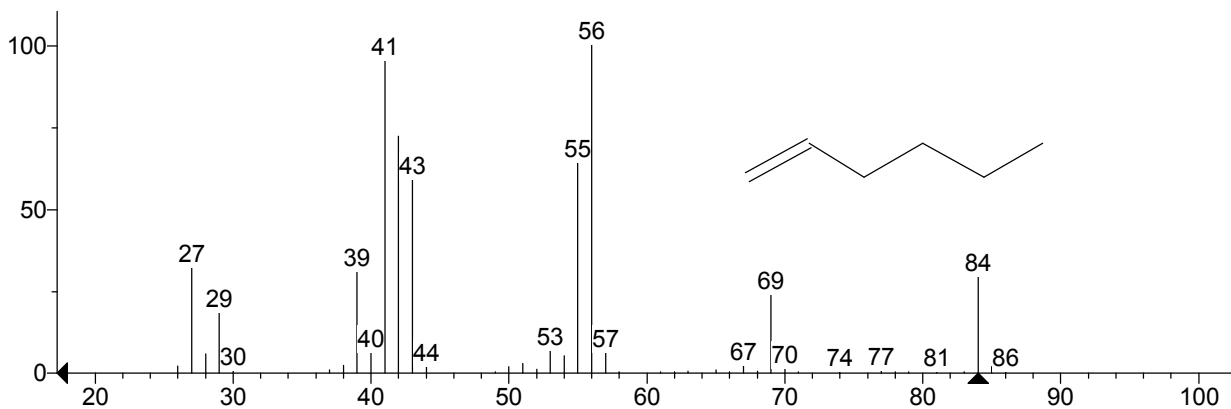
Unknown: + Scan (rt: 1.121-1.129 min, 2 scans) J10630 NTSB ENG 11IA047 A py2.D Subtract  
Compound in Library Factor = -197



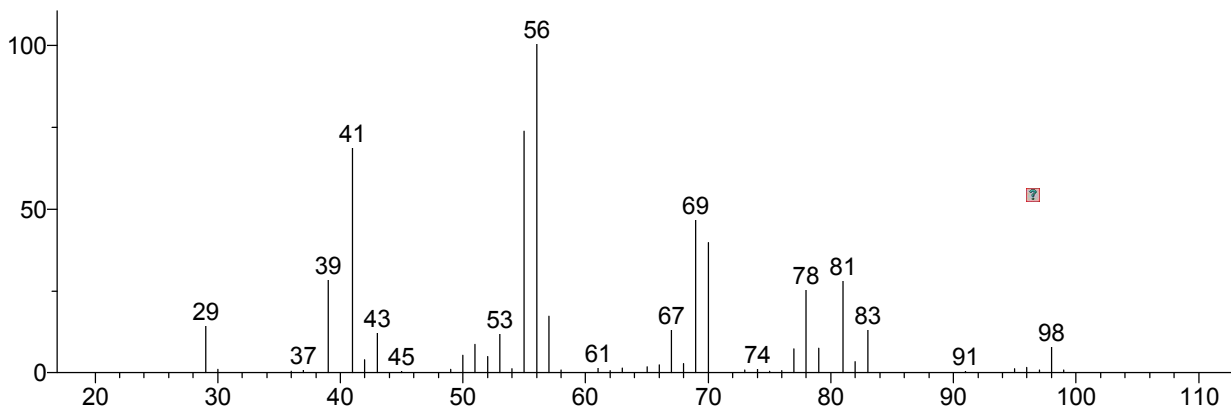
Hit 1 : 1-Pentene, 2-methyl-  
C6H12; MF: 878; RMF: 886; Prob 18.1%; CAS: 763-29-1; Lib: mainlib; ID: 21975.



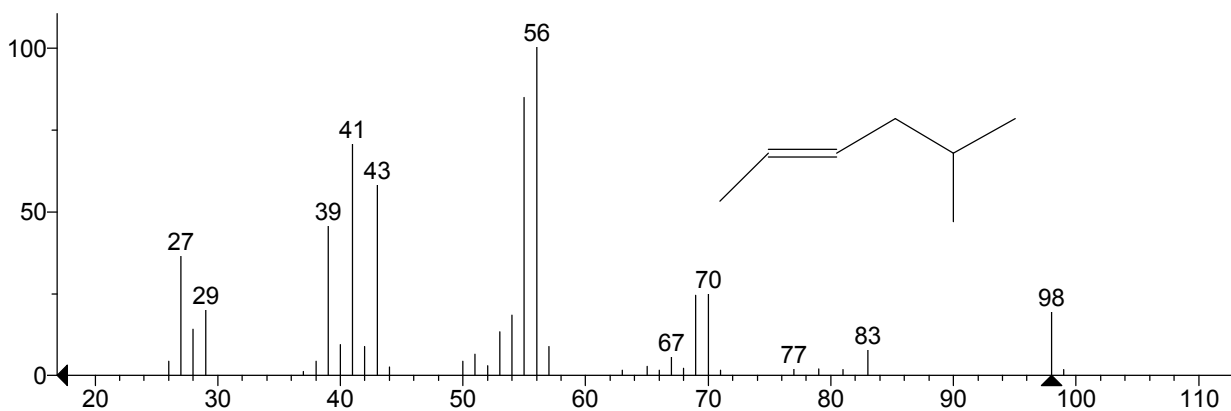
Hit 2 : 1-Hexene  
C6H12; MF: 868; RMF: 869; Prob 12.8%; CAS: 592-41-6; Lib: mainlib; ID: 21979.



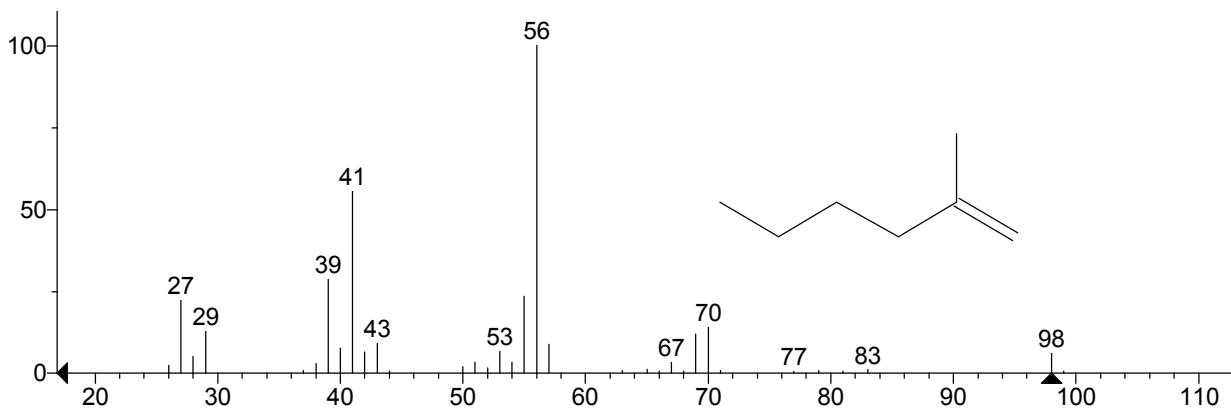
Unknown: + Scan (rt: 1.152-1.182 min, 5 scans) J10630 NTSB ENG 11IA047 A py2.D Subtract  
Compound in Library Factor = -1067



Hit 1 : 2-Hexene, 5-methyl-, (E)-  
C7H14; MF: 755; RMF: 802; Prob 6.62%; CAS: 7385-82-2; Lib: replib; ID: 5488.

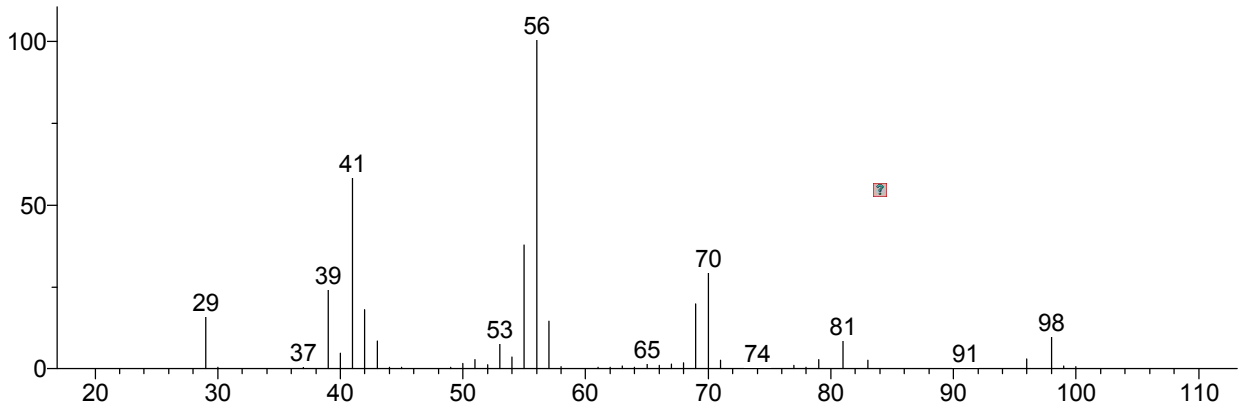


Hit 2 : 1-Hexene, 2-methyl-  
C7H14; MF: 748; RMF: 794; Prob 5.07%; CAS: 6094-02-6; Lib: replib; ID: 5385.

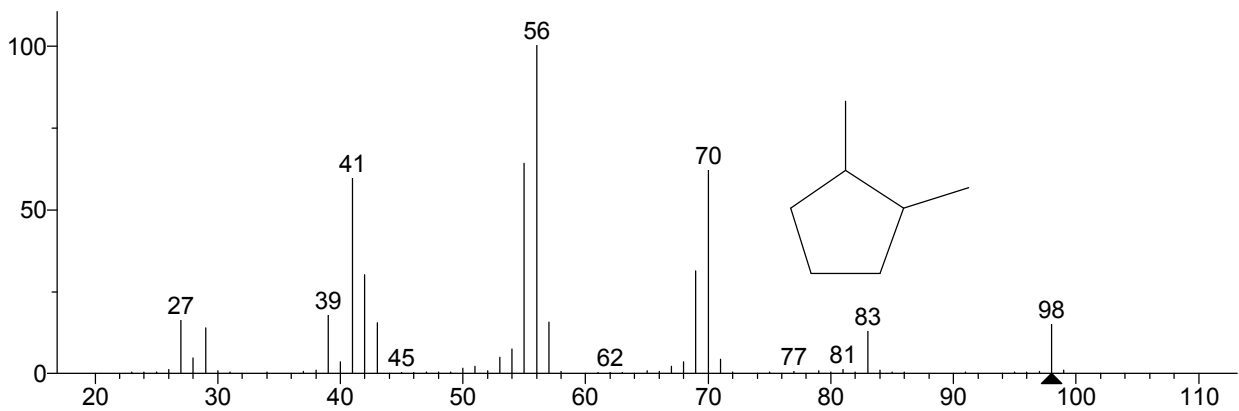


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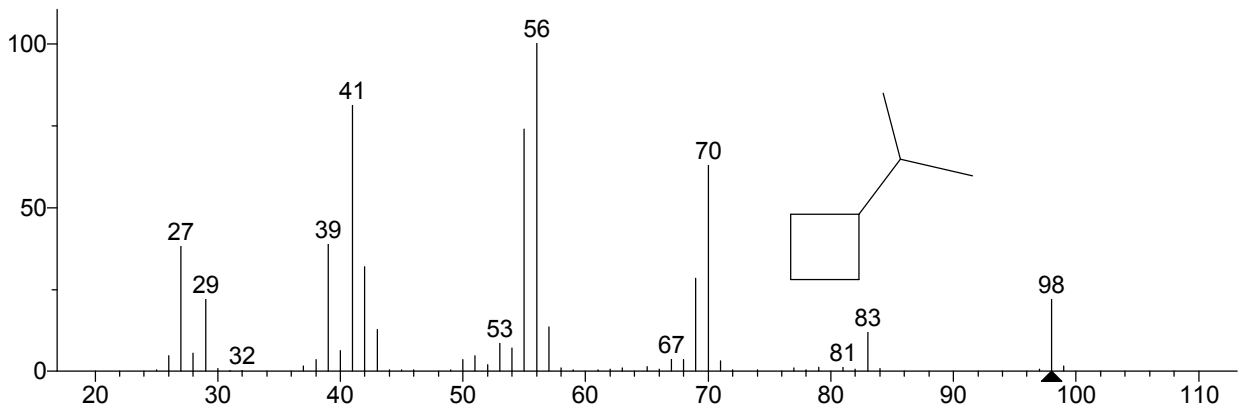
Unknown: + Scan (rt: 1.197-1.212 min, 3 scans) J10630 NTSB ENG 11IA047 A py2.D Subtract  
Compound in Library Factor = -297



Hit 1 : Cyclopentane, 1,2-dimethyl-  
C7H14; MF: 875; RMF: 884; Prob 13.3%; CAS: 2452-99-5; Lib: mainlib; ID: 22349.

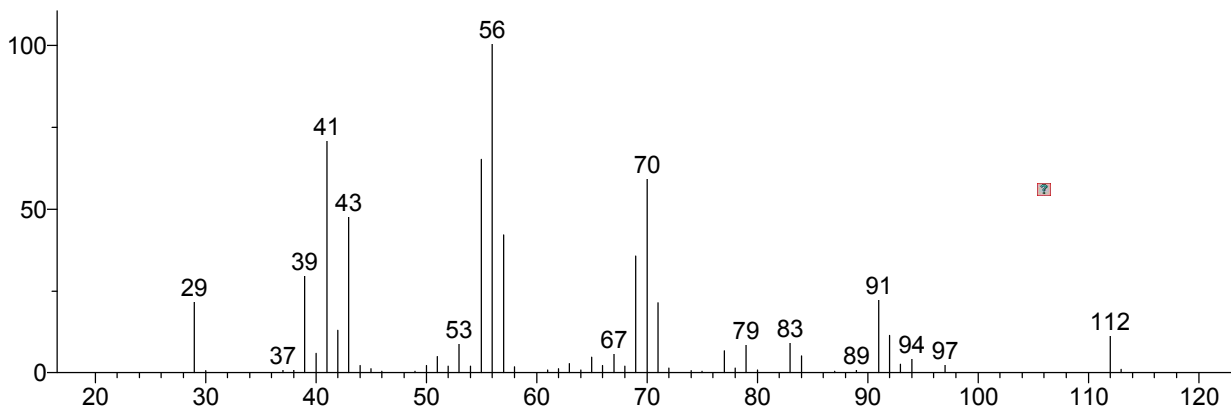


Hit 2 : Isopropylcyclobutane  
C7H14; MF: 867; RMF: 876; Prob 9.95%; CAS: 872-56-0; Lib: mainlib; ID: 22021.

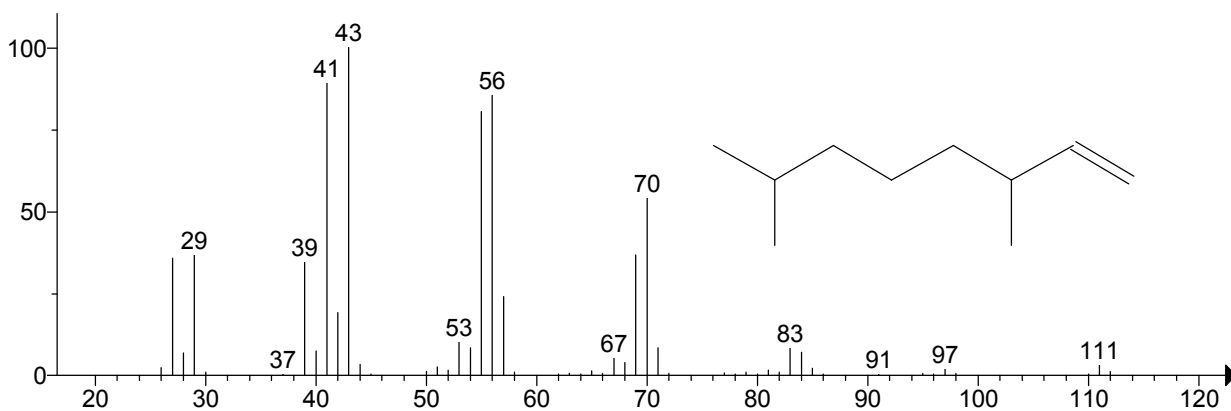


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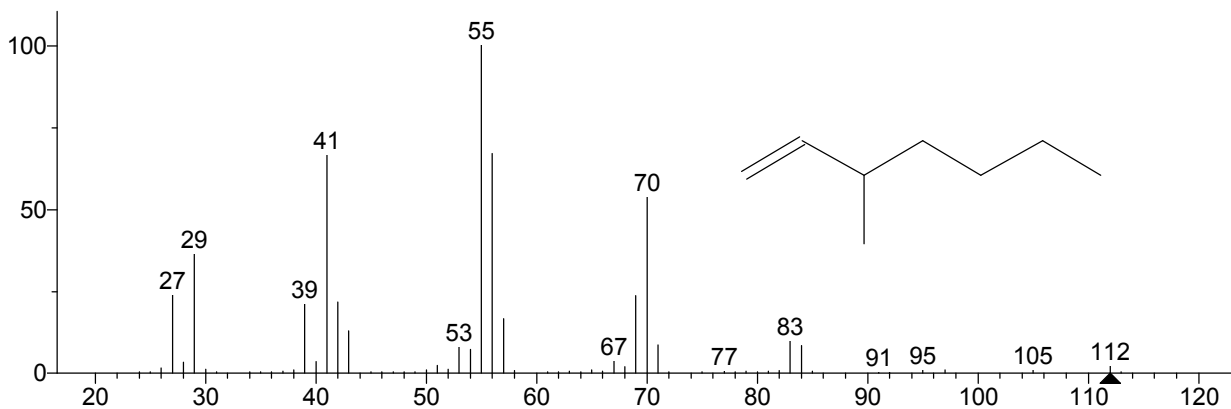
Unknown: + Scan (rt: 1.287-1.303 min, 3 scans) J10630 NTSB ENG 11IA047 A py2.D Subtract  
Compound in Library Factor = -698



Hit 1 : 1-Octene, 3,7-dimethyl-  
C10H20; MF: 792; RMF: 817; Prob 5.16%; CAS: 4984-01-4; Lib: replib; ID: 1845.

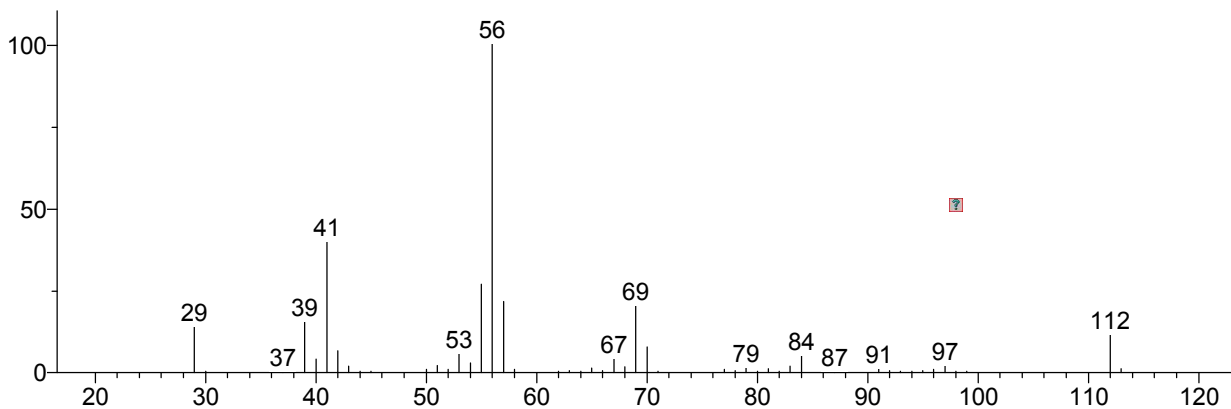


Hit 2 : 1-Heptene, 3-methyl-  
C8H16; MF: 789; RMF: 813; Prob 4.56%; CAS: 4810-09-7; Lib: mainlib; ID: 19840.

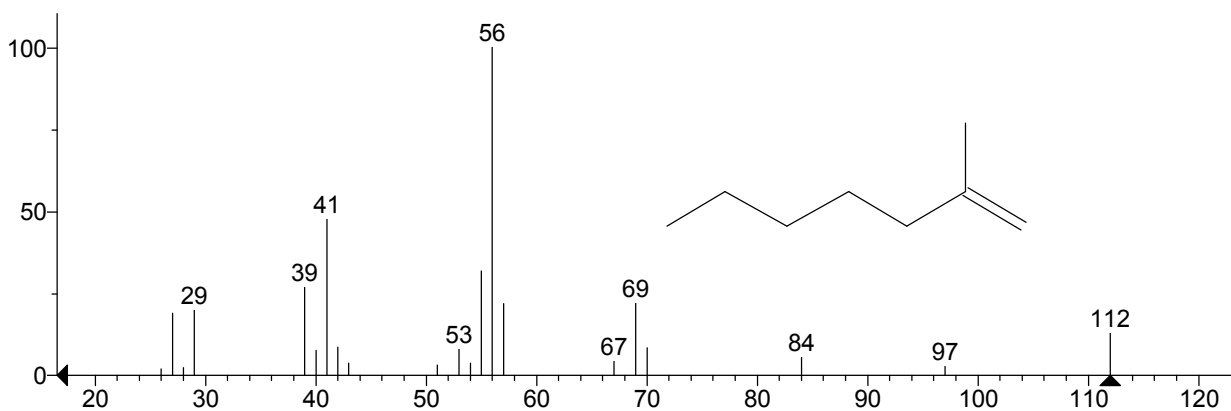


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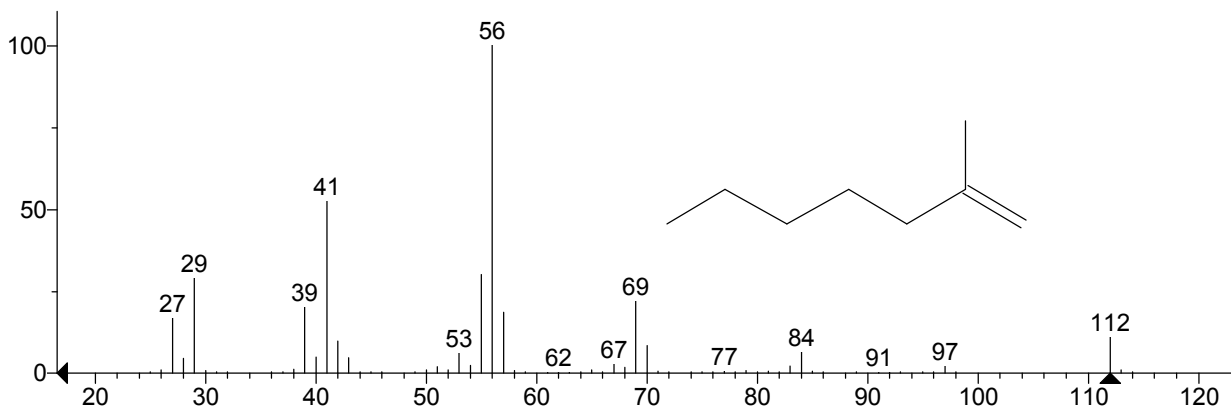
Unknown: + Scan (rt: 1.348-1.355 min, 2 scans) J10630 NTSB ENG 11IA047 A py2.D Subtract  
Compound in Library Factor = 177



Hit 1 : 1-Heptene, 2-methyl-  
C<sub>8</sub>H<sub>16</sub>; MF: 925; RMF: 973; Prob 60.3%; CAS: 15870-10-7; Lib: replib; ID: 5414.

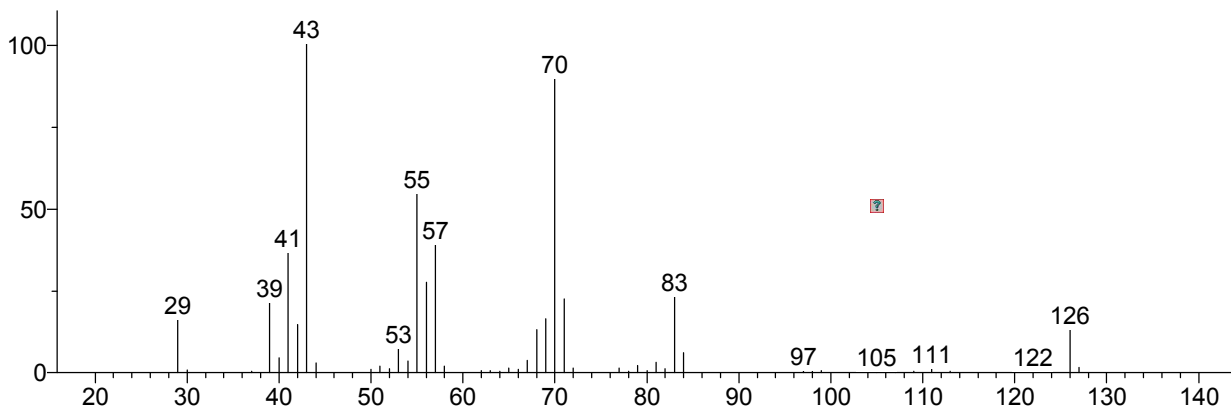


Hit 2 : 1-Heptene, 2-methyl-  
C<sub>8</sub>H<sub>16</sub>; MF: 895; RMF: 899; Prob 60.3%; CAS: 15870-10-7; Lib: mainlib; ID: 22028.

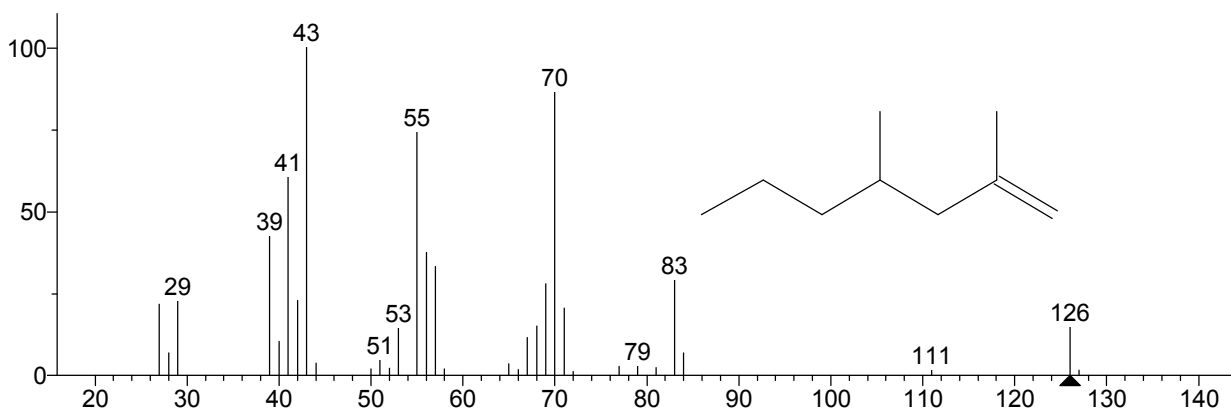


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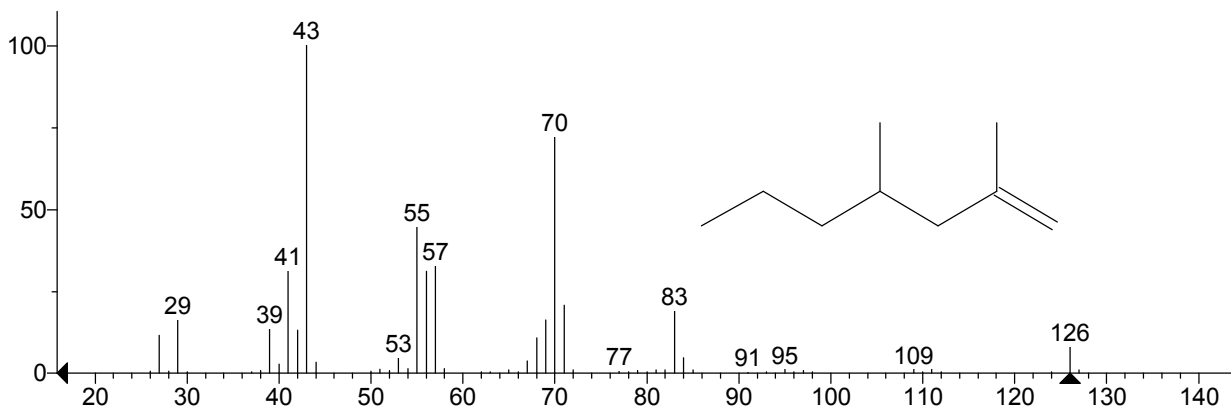
Unknown: + Scan (rt: 1.469-1.476 min, 2 scans) J10630 NTSB ENG 11IA047 A py2.D Subtract  
Compound in Library Factor = 167



Hit 1 : 2,4-Dimethyl-1-heptene  
C9H18; MF: 918; RMF: 929; Prob 61.5%; CAS: 19549-87-2; Lib: replib; ID: 2571.

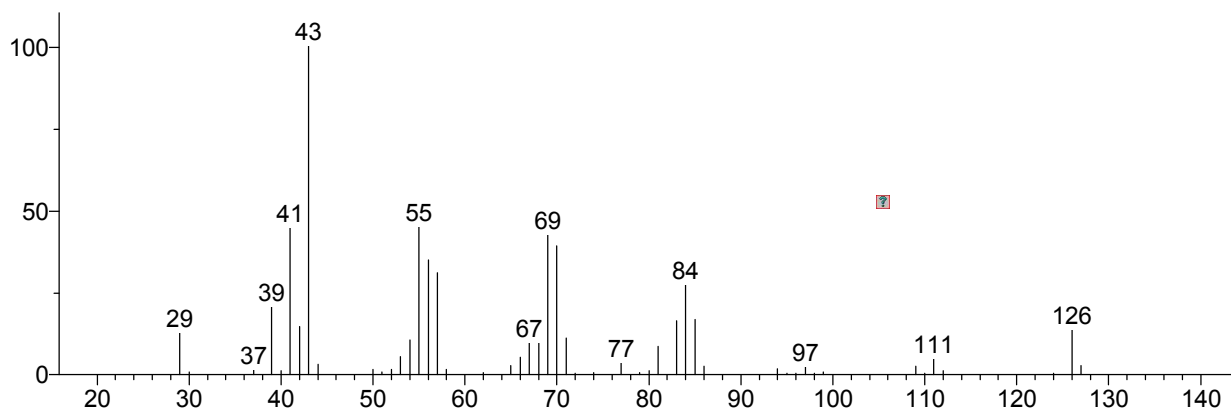


Hit 2 : 2,4-Dimethyl-1-heptene  
C9H18; MF: 914; RMF: 916; Prob 61.5%; CAS: 19549-87-2; Lib: mainlib; ID: 8667.

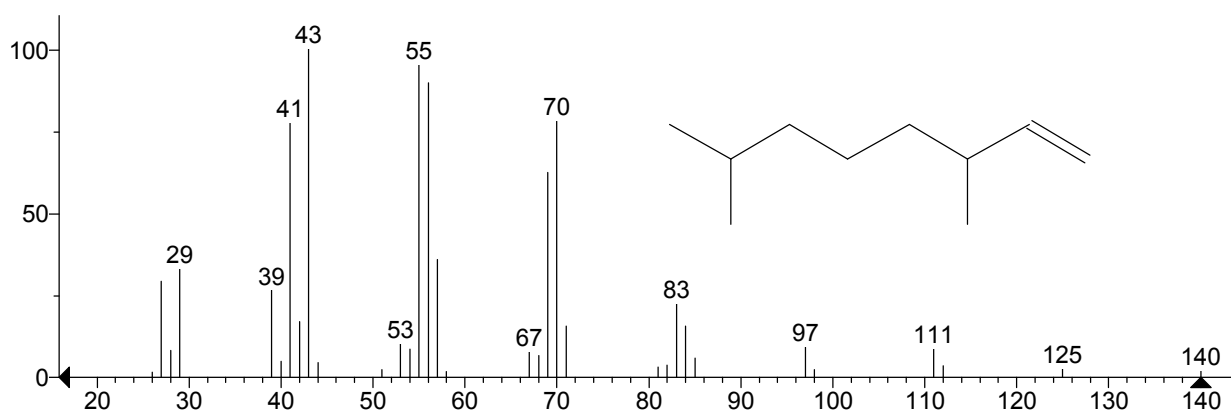


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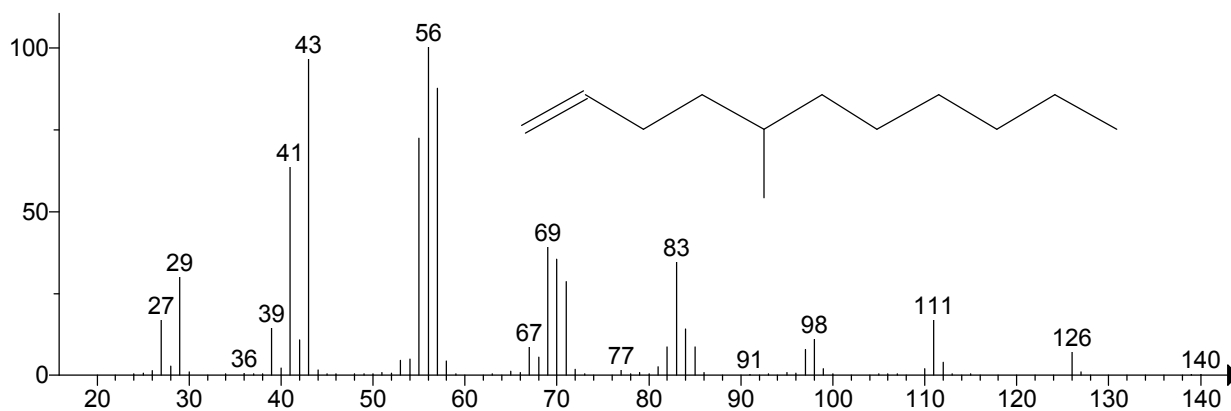
Unknown: + Scan (rt: 1.484-1.514 min, 5 scans) J10630 NTSB ENG 11IA047 A py2.D Subtract  
Compound in Library Factor = -520



Hit 1 : 1-Octene, 3,7-dimethyl-  
C10H20; MF: 786; RMF: 851; Prob 8.25%; CAS: 4984-01-4; Lib: replib; ID: 2104.

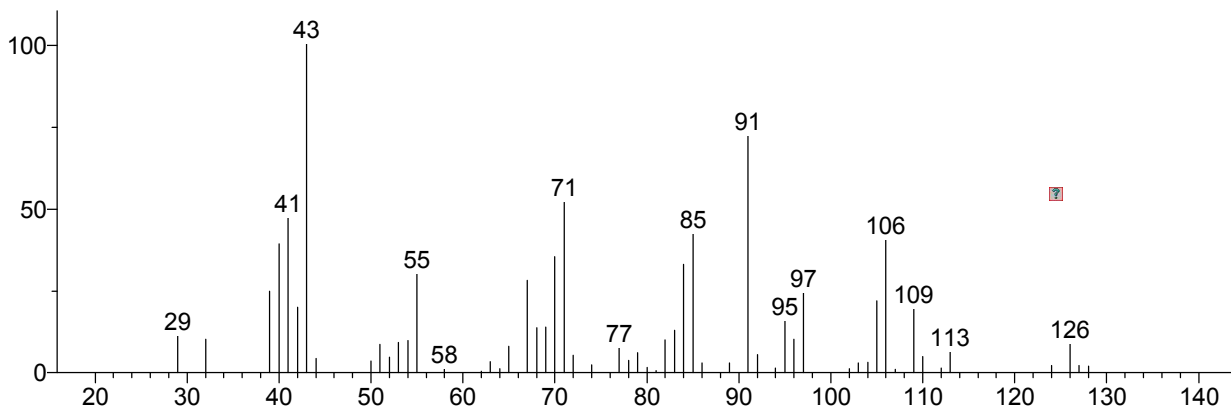


Hit 2 : 1-Undecene, 5-methyl-  
C12H24; MF: 777; RMF: 784; Prob 5.99%; CAS: 74630-38-9; Lib: mainlib; ID: 22198.

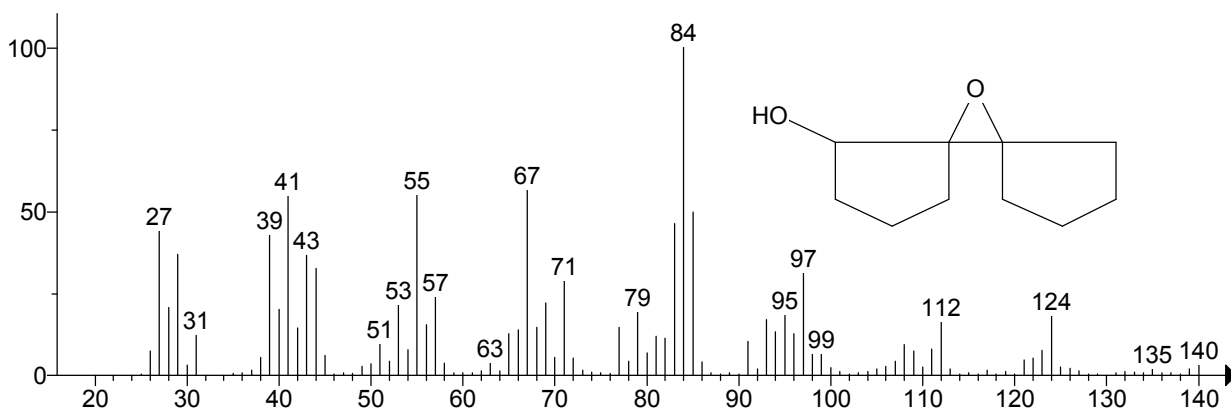


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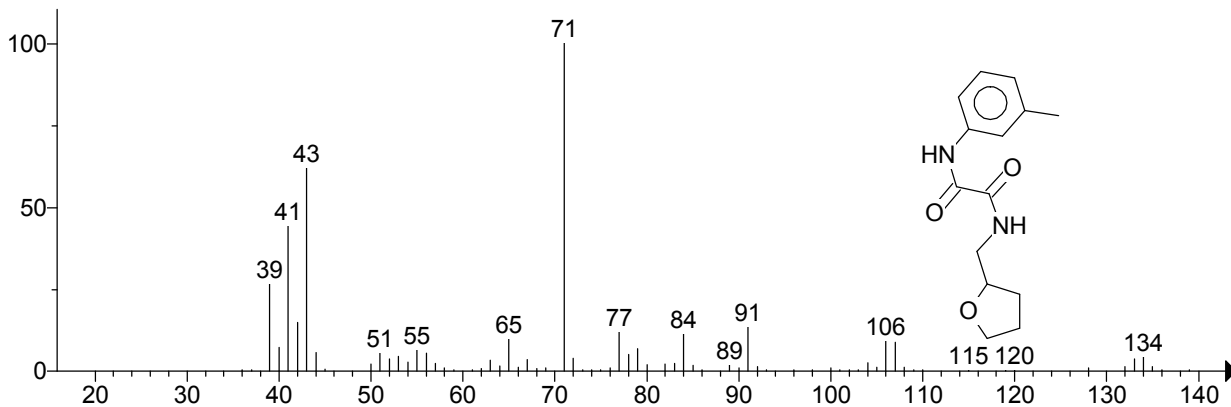
Unknown: + Scan (rt: 1.529-1.574 min, 7 scans) J10630 NTSB ENG 11IA047 A py2.D Subtract  
Compound in Library Factor = -1302



Hit 1 : 11-Oxa-dispiro[4.0.4.1]undecan-1-ol  
C10H16O2; MF: 608; RMF: 610; Prob 10.4%; Lib: mainlib; ID: 53891.



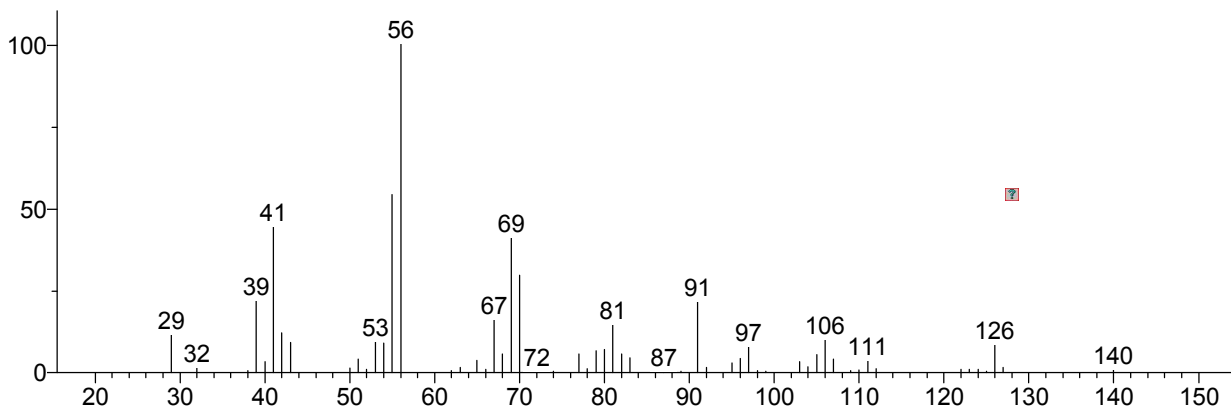
Hit 2 : N1-(m-Tolyl)-N2-(tetrahydrofurfuryl)oxamide  
C14H18N2O3; MF: 589; RMF: 653; Prob 5.02%; CAS: 332065-24-4; Lib: mainlib; ID: 38337.



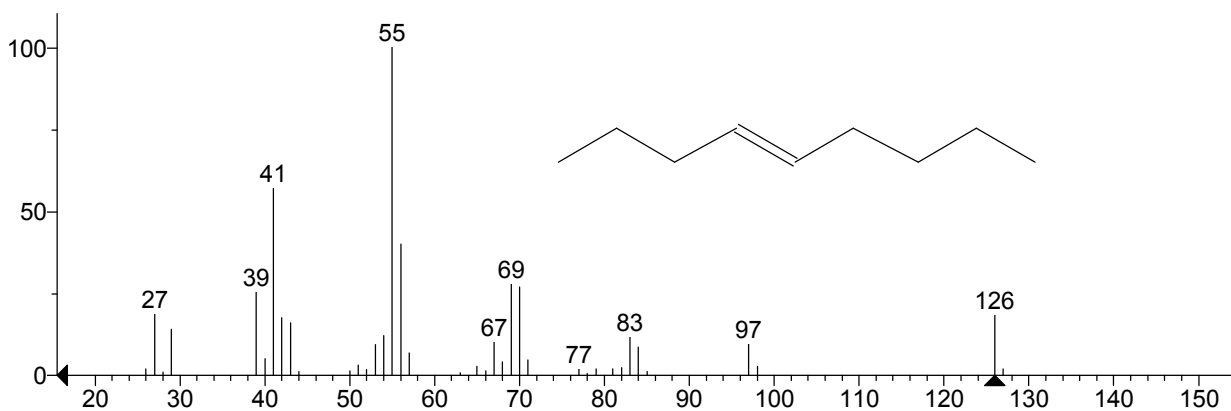


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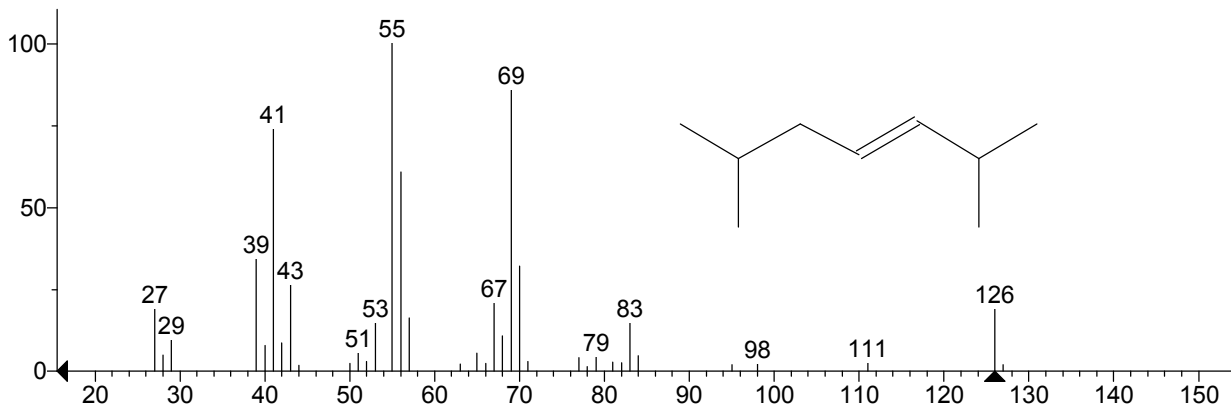
Unknown: + Scan (rt: 1.589-1.642 min, 8 scans) J10630 NTSB ENG 11IA047 A py2.D Subtract  
Compound in Library Factor = -1381



Hit 1 : 4-Nonene  
C9H18; MF: 694; RMF: 801; Prob 5.50%; CAS: 2198-23-4; Lib: replib; ID: 4666.

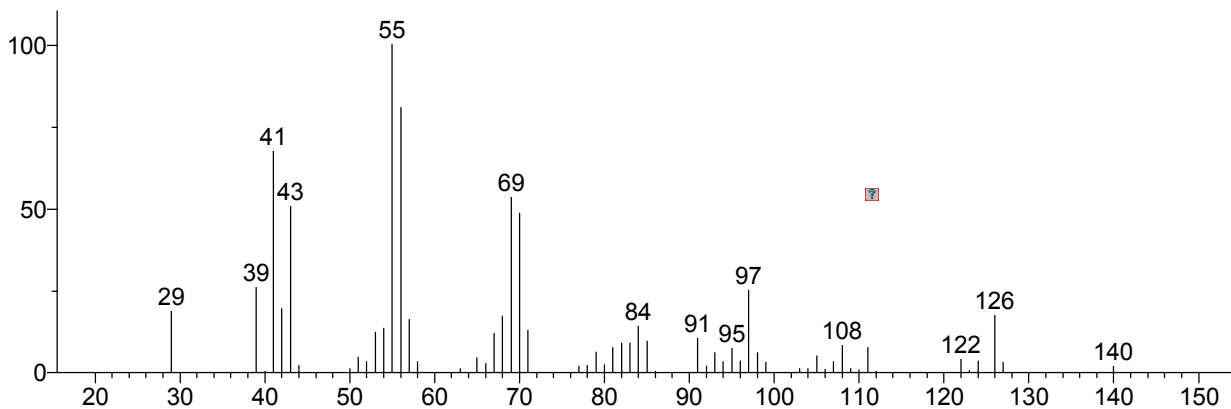


Hit 2 : 3-Heptene, 2,6-dimethyl-  
C9H18; MF: 691; RMF: 818; Prob 4.86%; CAS: 2738-18-3; Lib: replib; ID: 4956.

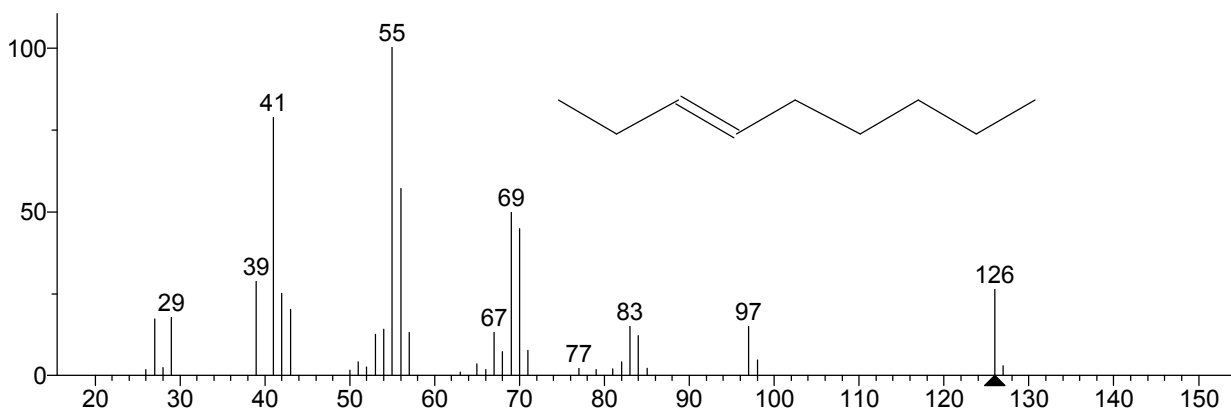


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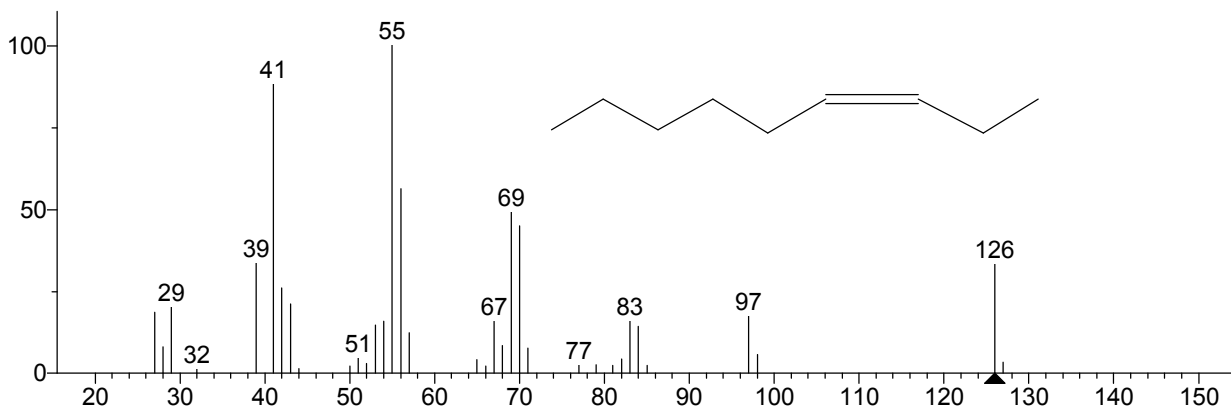
Unknown: + Scan (rt: 1.642-1.665 min, 4 scans) J10630 NTSB ENG 11IA047 A py2.D Subtract  
Compound in Library Factor = -698



Hit 1 : 3-Nonene  
C9H18; MF: 794; RMF: 886; Prob 8.43%; CAS: 20063-77-8; Lib: mainlib; ID: 19116.

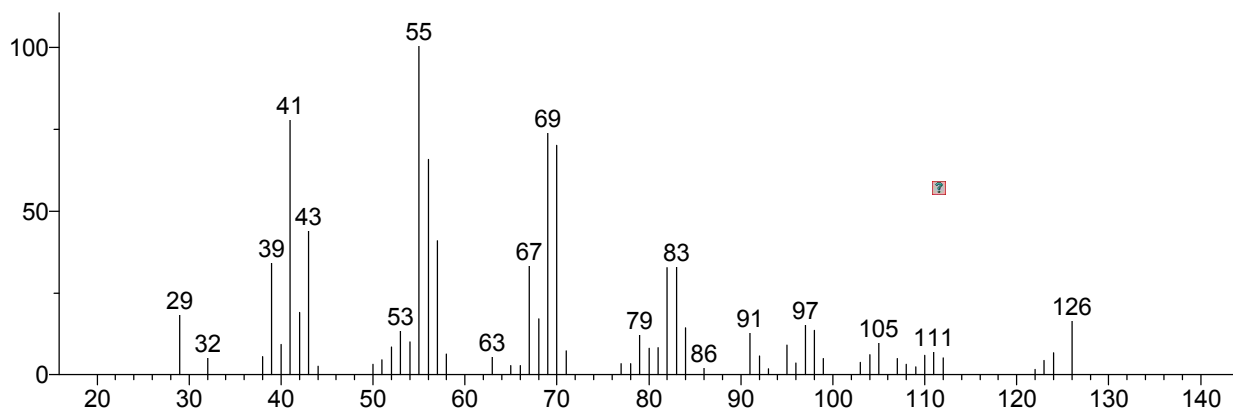


Hit 2 : cis-3-Nonene  
C9H18; MF: 785; RMF: 877; Prob 6.12%; CAS: 20237-46-1; Lib: mainlib; ID: 19129.

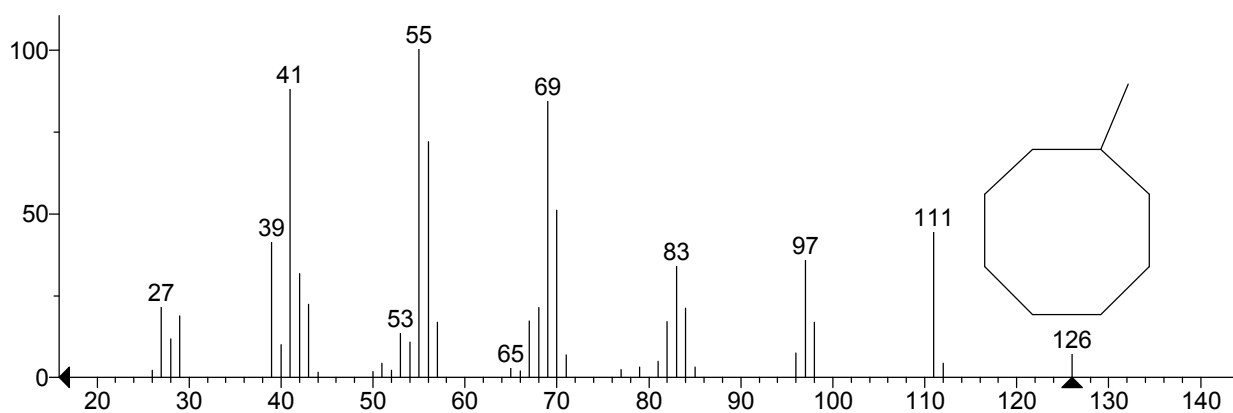


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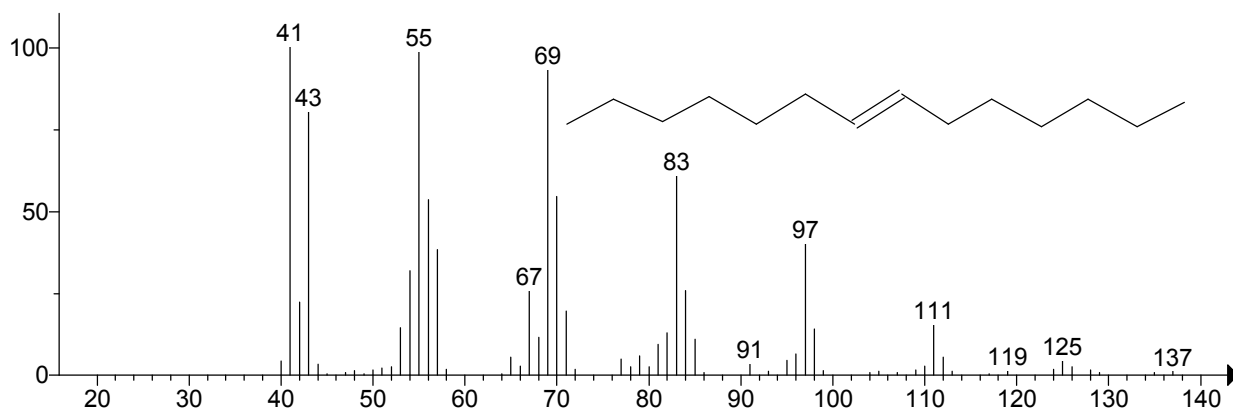
Unknown: + Scan (rt: 1.680-1.718 min, 6 scans) J10630 NTSB ENG 11IA047 A py2.D Subtract  
Compound in Library Factor = -625



Hit 1 : Cyclooctane, methyl-  
C9H18; MF: 770; RMF: 858; Prob 4.50%; CAS: 1502-38-1; Lib: mainlib; ID: 19295.

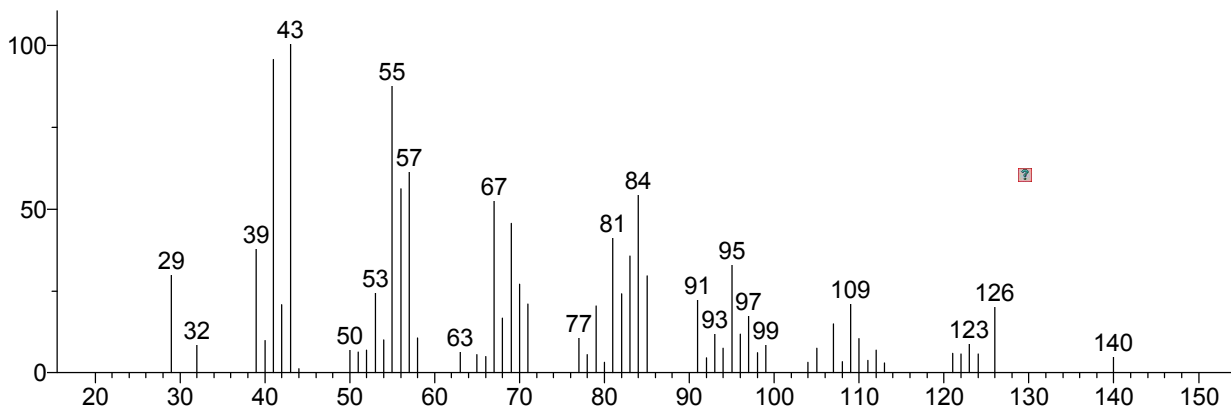


Hit 2 : 7-Tetradecene  
C14H28; MF: 769; RMF: 787; Prob 4.32%; CAS: 10374-74-0; Lib: replib; ID: 1011.

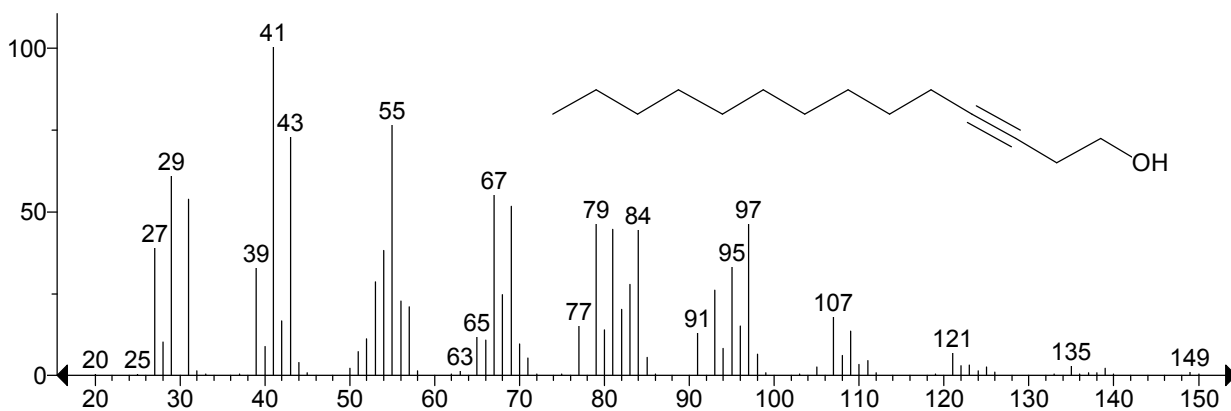


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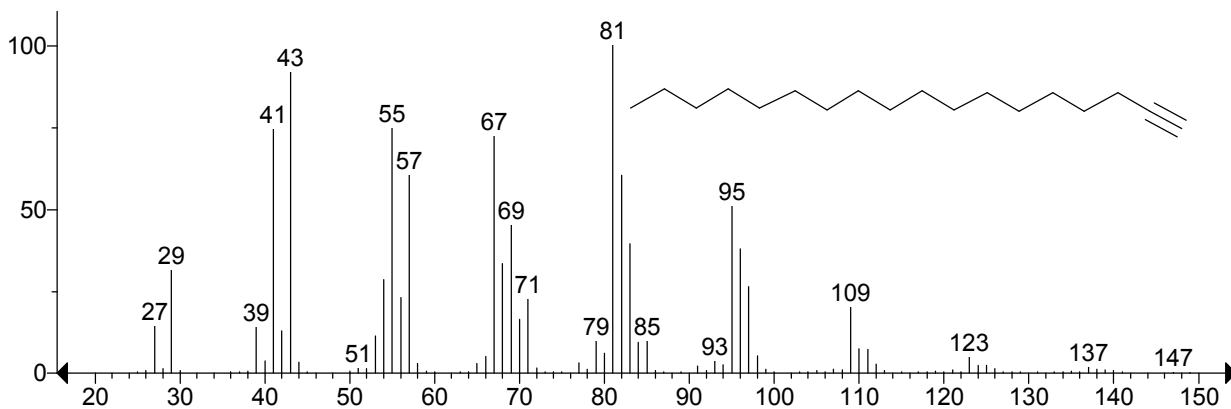
Unknown: + Scan (rt: 1.778-1.793 min, 3 scans) J10630 NTSB ENG 11IA047 A py2.D Subtract  
Compound in Library Factor = -570



Hit 1 : 3-Tetradecyn-1-ol  
C<sub>14</sub>H<sub>26</sub>O; MF: 766; RMF: 774; Prob 8.74%; CAS: 55182-74-6; Lib: mainlib; ID: 2709.

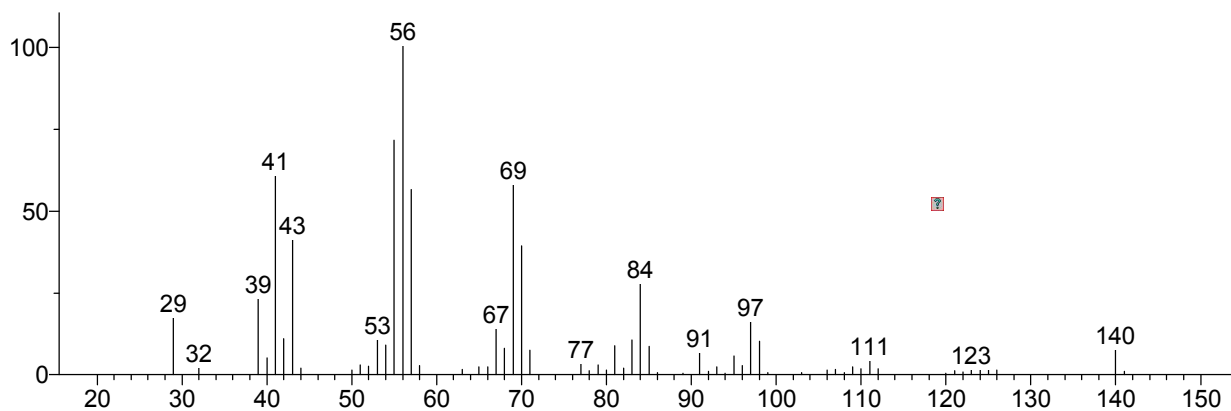


Hit 2 : 1-Octadecyne  
C<sub>18</sub>H<sub>34</sub>; MF: 744; RMF: 745; Prob 3.45%; CAS: 629-89-0; Lib: replib; ID: 11434.

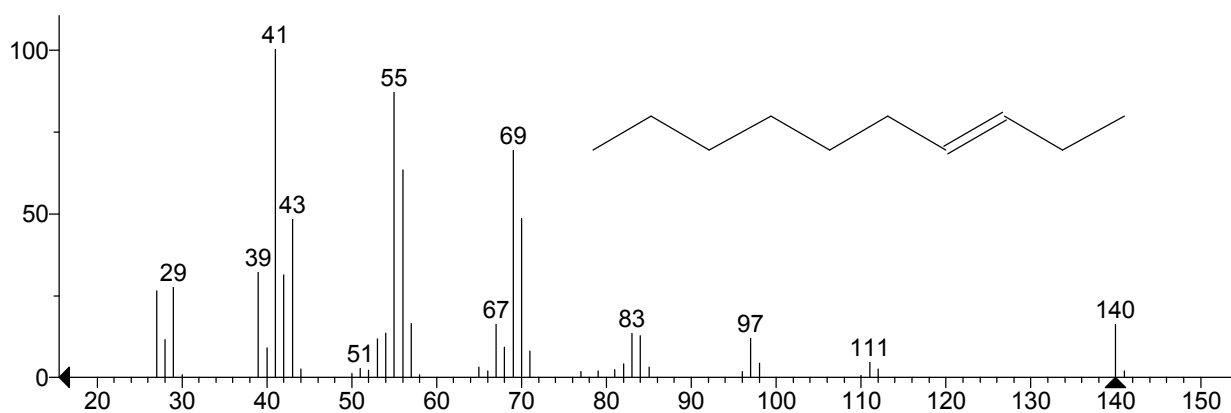


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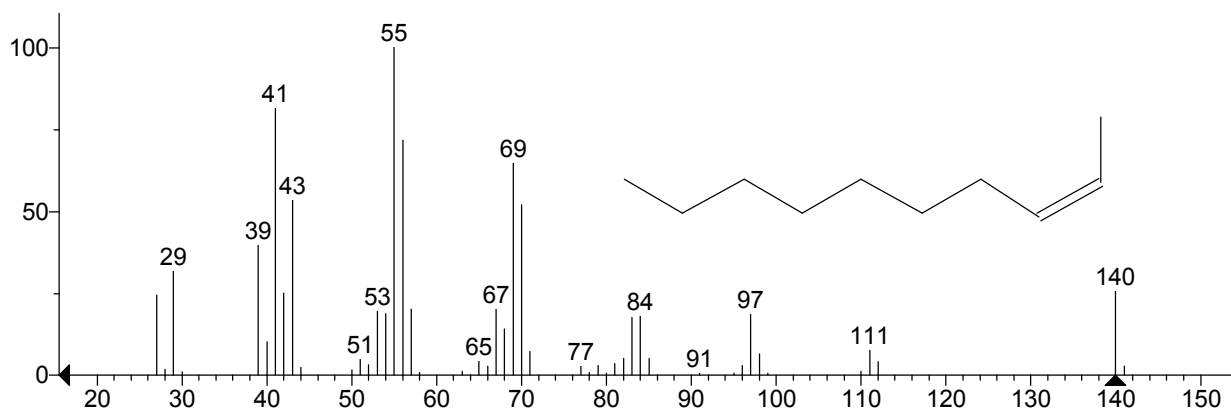
Unknown: + Scan (rt: 1.831-1.853 min, 4 scans) J10630 NTSB ENG 11IA047 A py2.D Subtract  
Compound in Library Factor = -493



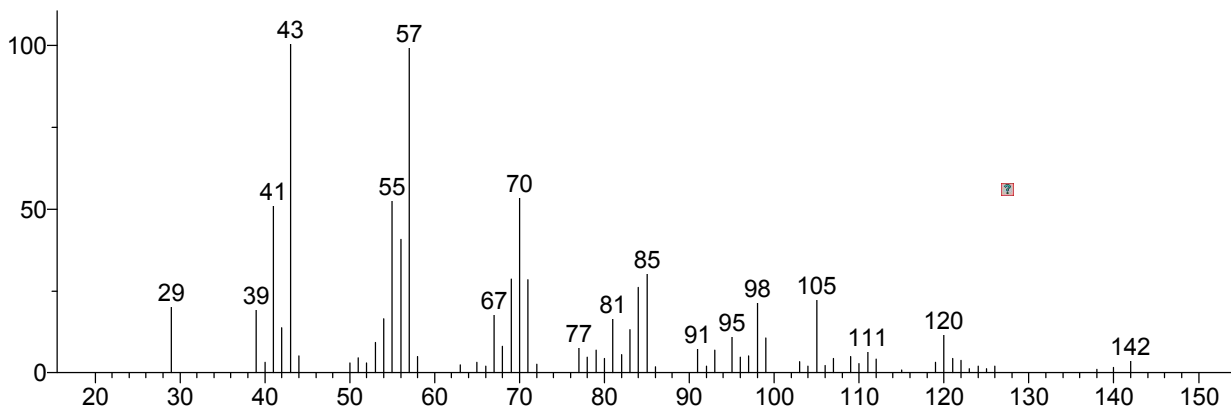
Hit 1 : trans-3-Decene  
C10H20; MF: 839; RMF: 879; Prob 3.82%; CAS: 19150-21-1; Lib: mainlib; ID: 2826.



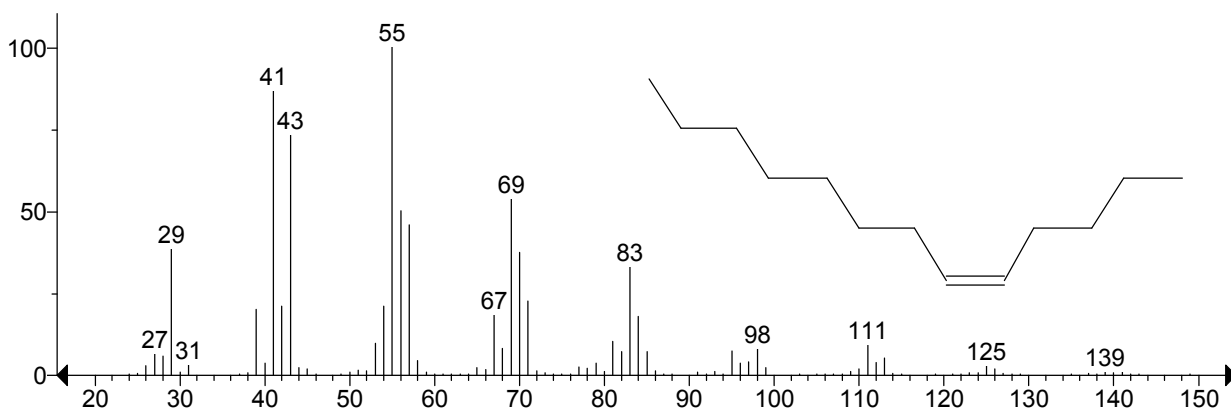
Hit 2 : 2-Decene, (Z)-  
C10H20; MF: 839; RMF: 861; Prob 3.82%; CAS: 20348-51-0; Lib: mainlib; ID: 19123.



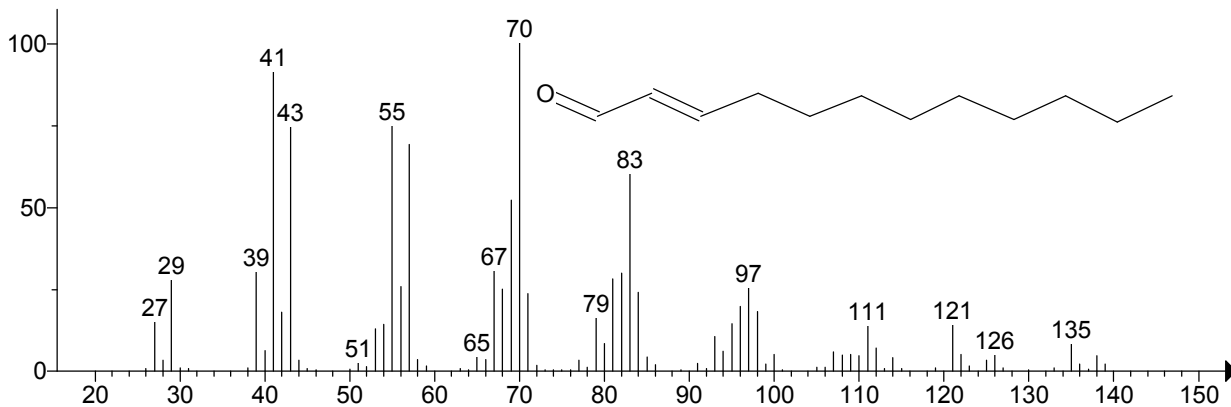
Unknown: + Scan (rt: 1.884-1.906 min, 4 scans) J10630 NTSB ENG 11IA047 A py2.D Subtract  
Compound in Library Factor = -1103



Hit 1 : 5-Tridecene, (Z)-  
C13H26; MF: 750; RMF: 774; Prob 6.06%; CAS: 25524-42-9; Lib: mainlib; ID: 19091.

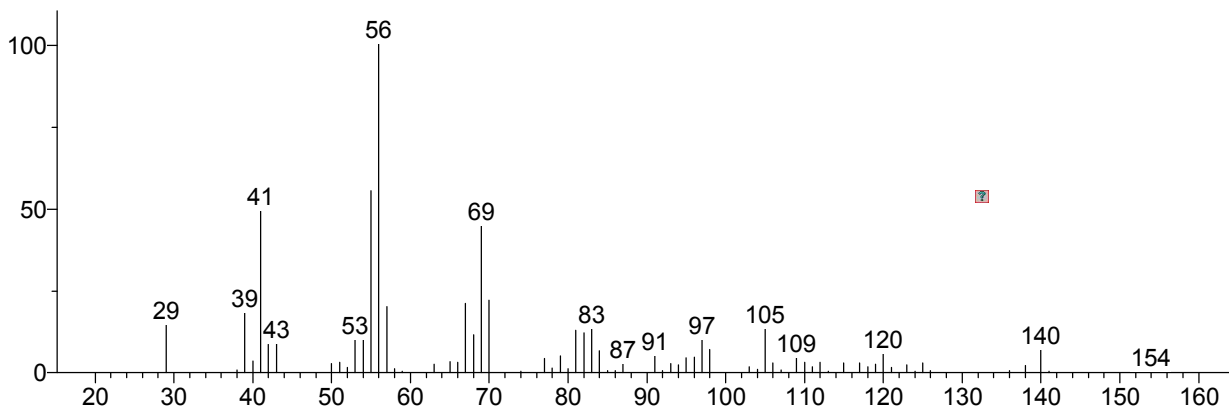


Hit 2 : 2-Dodecenal, (E)-  
C12H22O; MF: 742; RMF: 764; Prob 4.52%; CAS: 20407-84-5; Lib: replib; ID: 8888.

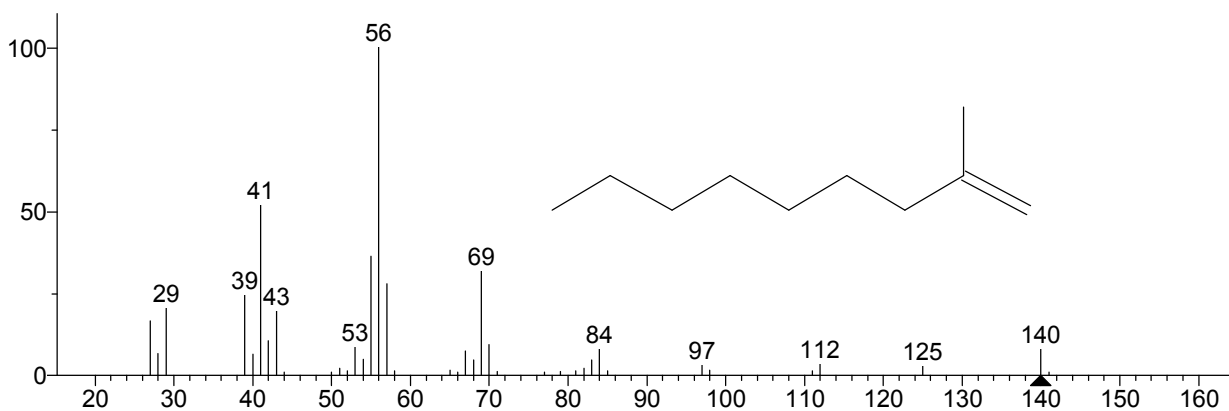


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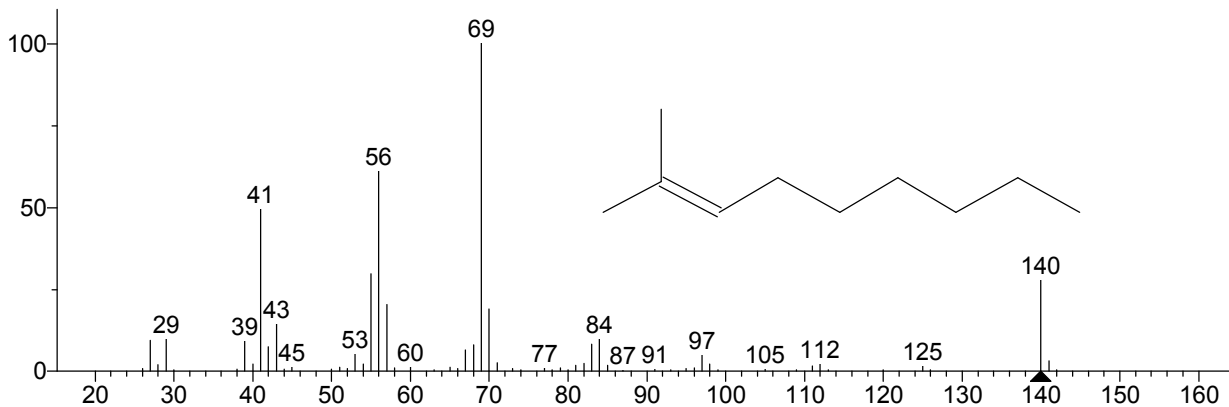
Unknown: + Scan (rt: 1.982-2.050 min, 10 scans) J10630 NTSB ENG 11IA047 A py2.D Subtract  
Compound in Library Factor = -1103



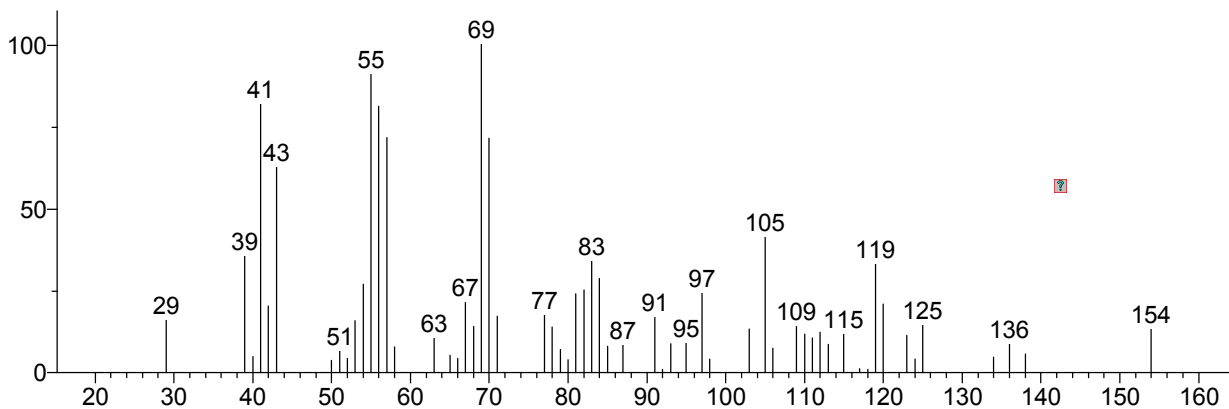
Hit 1 : 2-Methyl-1-nonene  
C<sub>10</sub>H<sub>20</sub>; MF: 741; RMF: 854; Prob 4.40%; CAS: 2980-71-4; Lib: mainlib; ID: 22019.



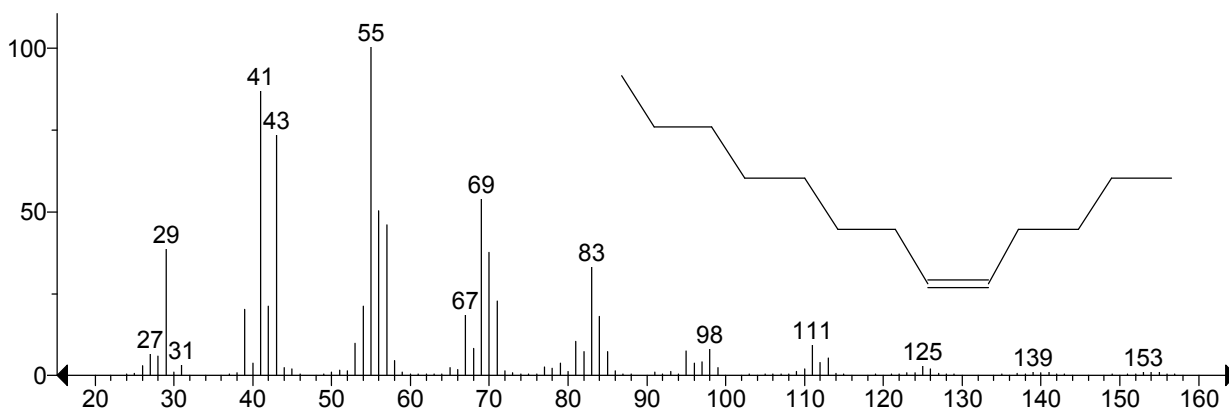
Hit 2 : 2-Nonene, 2-methyl-  
C<sub>10</sub>H<sub>20</sub>; MF: 738; RMF: 777; Prob 3.89%; CAS: 2129-95-5; Lib: mainlib; ID: 35074.



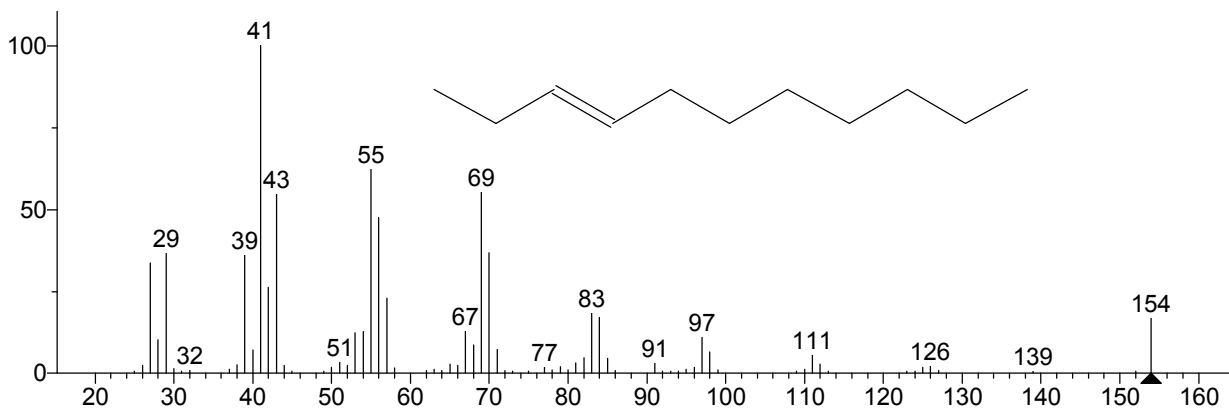
Unknown: + Scan (rt: 2.125-2.155 min, 5 scans) J10630 NTSB ENG 11IA047 A py2.D Subtract  
Compound in Library Factor = -1231



Hit 1 : 5-Tridecene, (Z)-  
C13H26; MF: 712; RMF: 764; Prob 5.07%; CAS: 25524-42-9; Lib: mainlib; ID: 19091.

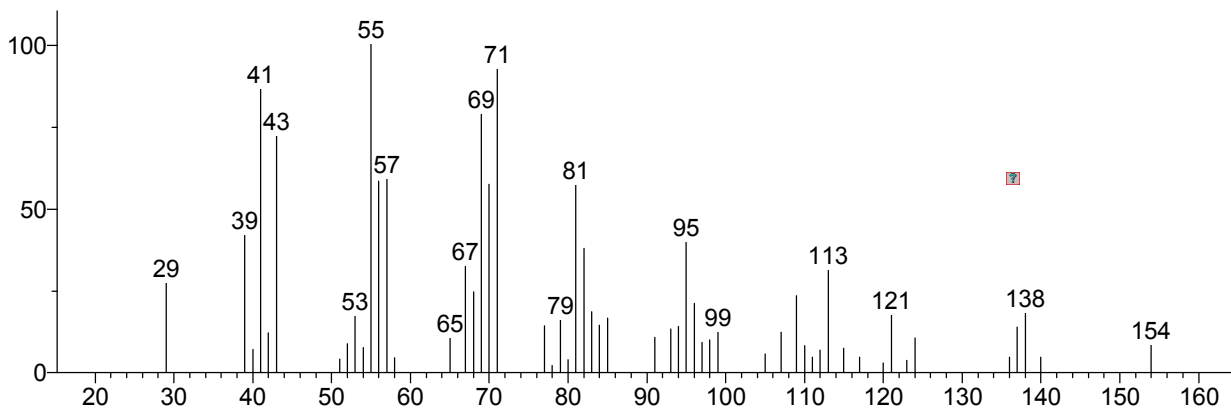


Hit 2 : 3-Undecene, (E)-  
C11H22; MF: 710; RMF: 803; Prob 4.68%; CAS: 1002-68-2; Lib: replib; ID: 1016.

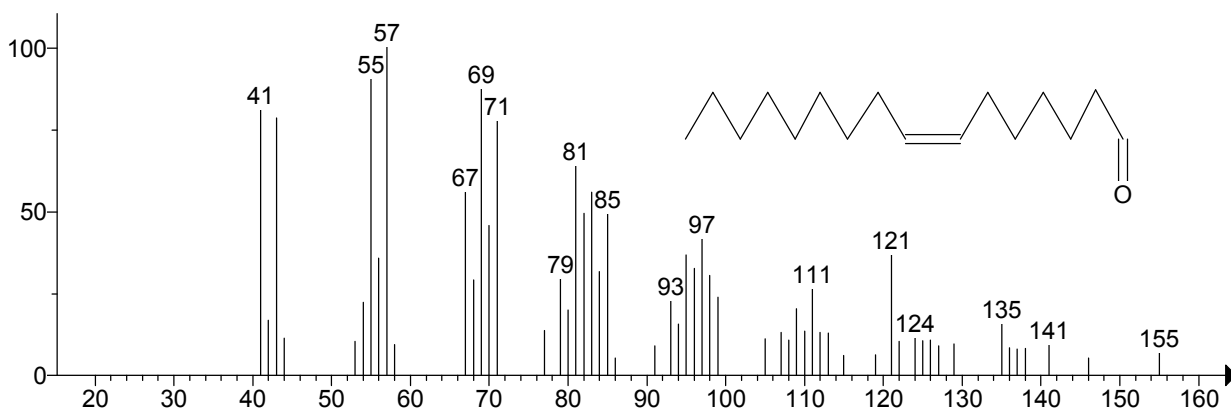




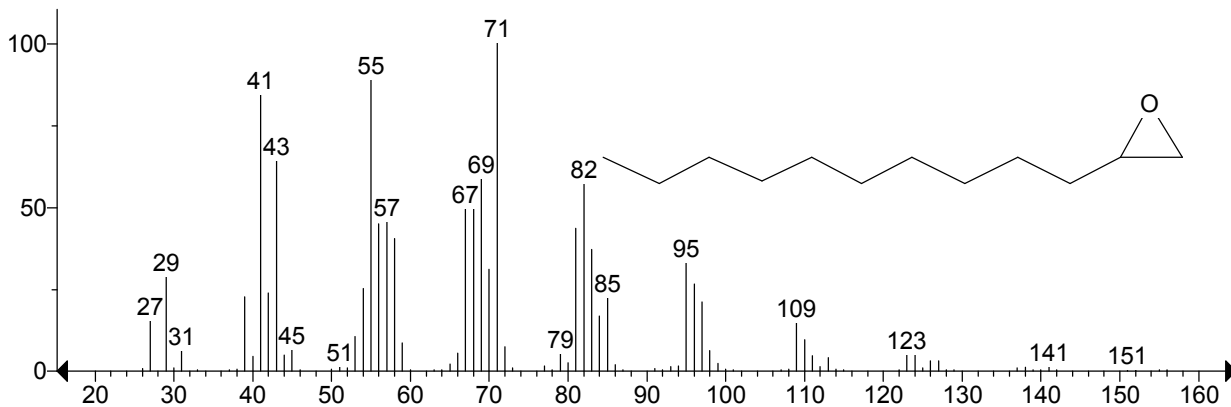
Unknown: + Scan (rt: 2.231-2.246 min, 3 scans) J10630 NTSB ENG 11IA047 A py2.D Subtract  
Compound in Library Factor = -1067



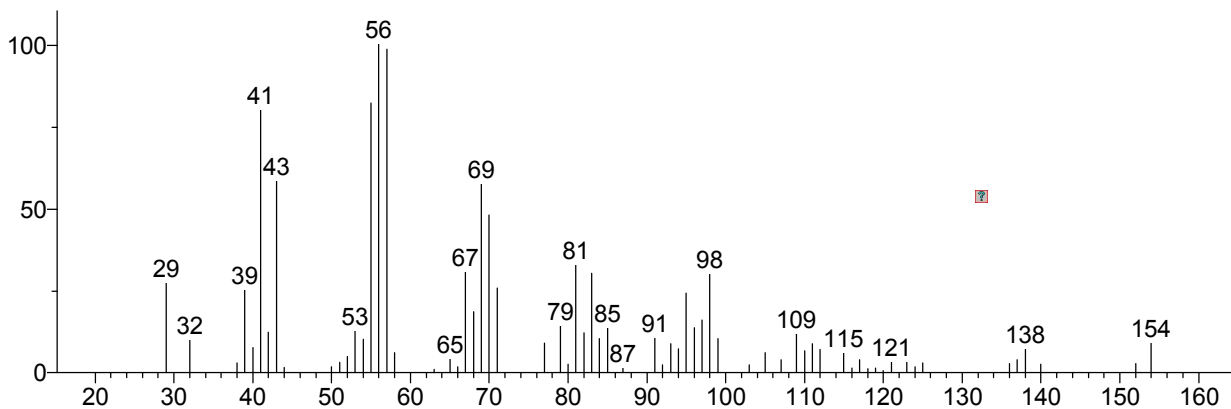
Hit 1 : 7-Hexadecenal, (Z)-  
C16H30O; MF: 752; RMF: 776; Prob 7.50%; CAS: 56797-40-1; Lib: replib; ID: 6249.



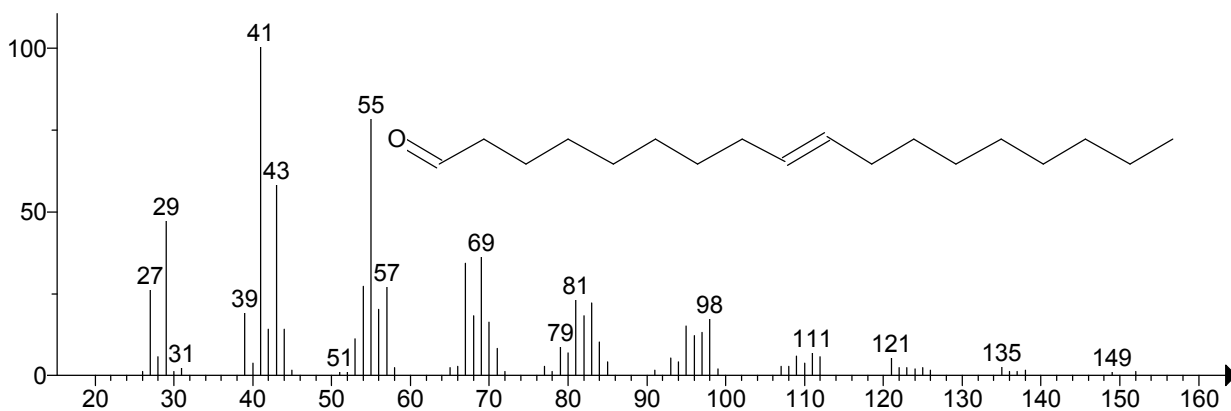
Hit 2 : Oxirane, decyl-  
C12H24O; MF: 747; RMF: 773; Prob 6.04%; CAS: 2855-19-8; Lib: mainlib; ID: 38723.



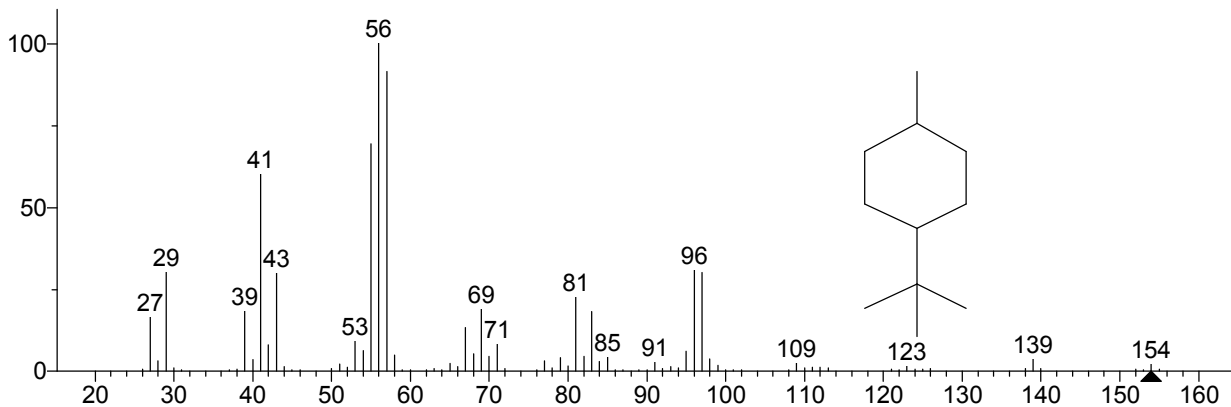
Unknown: + Scan (rt: 2.268-2.284 min, 3 scans) J10630 NTSB ENG 11IA047 A py2.D Subtract  
Compound in Library Factor = -520



Hit 1 : 9-Octadecenal  
C18H34O; MF: 786; RMF: 821; Prob 6.22%; CAS: 5090-41-5; Lib: mainlib; ID: 2702.

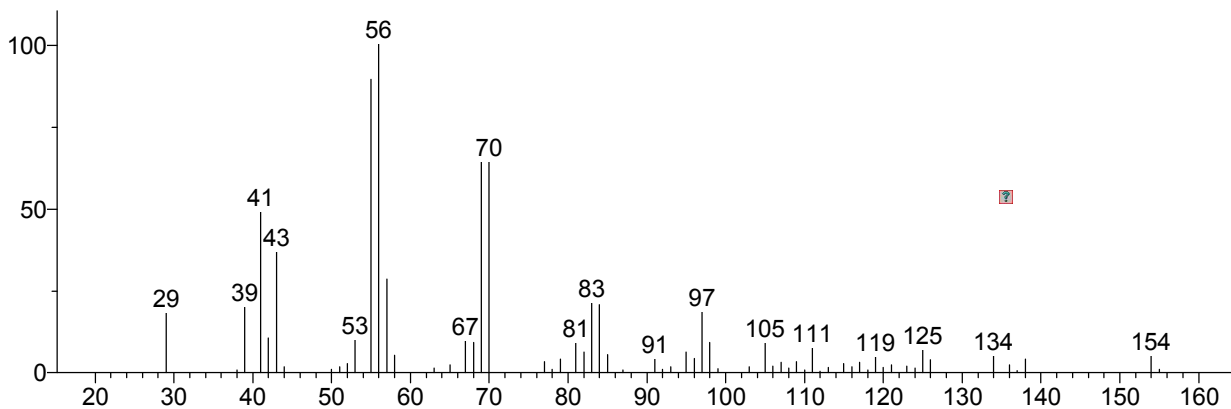


Hit 2 : Cyclohexane, 1-(1,1-dimethylethyl)-4-methyl-  
C11H22; MF: 783; RMF: 810; Prob 5.50%; CAS: 75736-66-2; Lib: mainlib; ID: 22422.

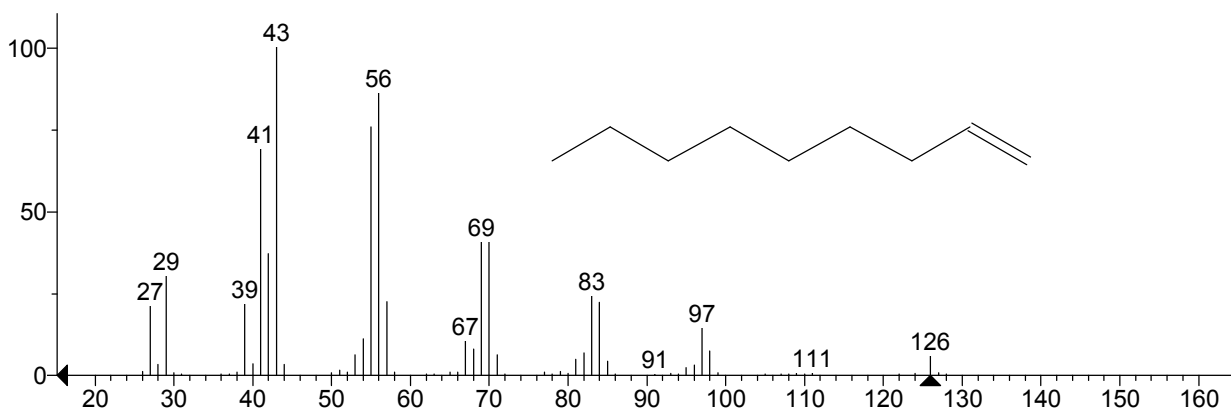


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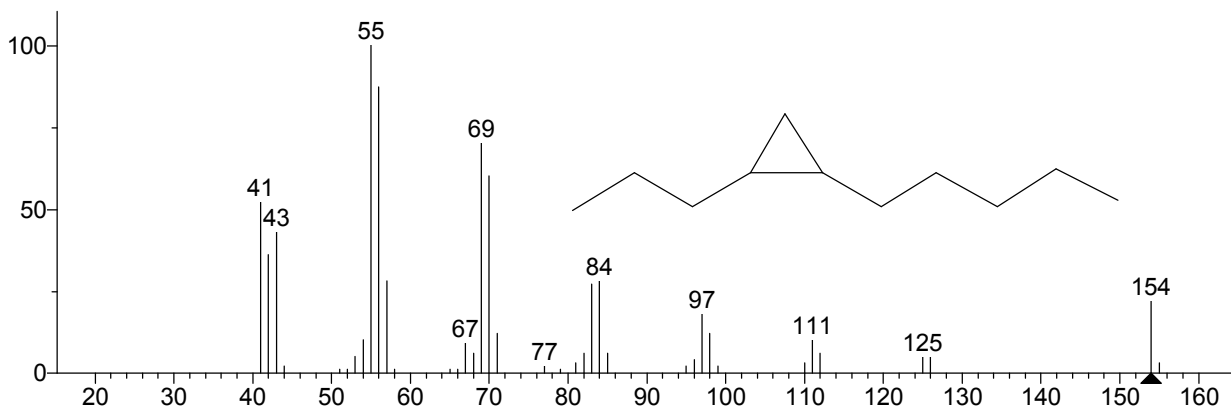
Unknown: + Scan (rt: 2.299-2.321 min, 4 scans) J10630 NTSB ENG 11IA047 A py2.D Subtract  
Compound in Library Factor = -388



Hit 1 : 1-Nonene  
C9H18; MF: 801; RMF: 867; Prob 13.1%; CAS: 124-11-8; Lib: mainlib; ID: 7539.

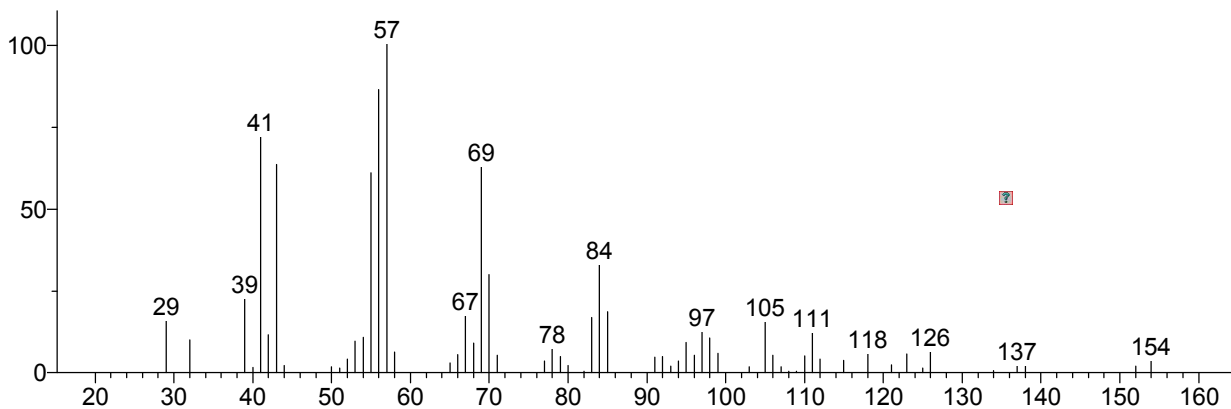


Hit 2 : Cyclopropane, 1-pentyl-2-propyl-  
C11H22; MF: 771; RMF: 851; Prob 3.64%; CAS: 41977-33-7; Lib: replib; ID: 4913.

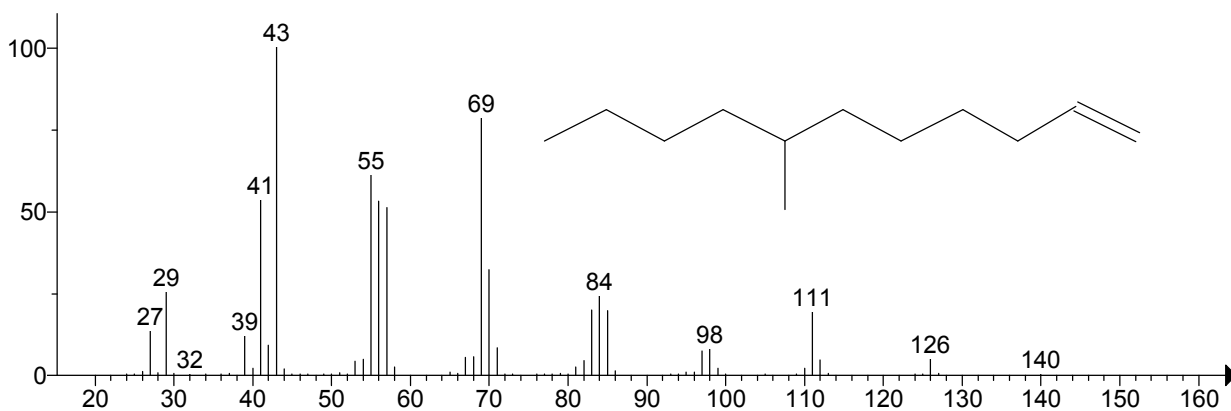


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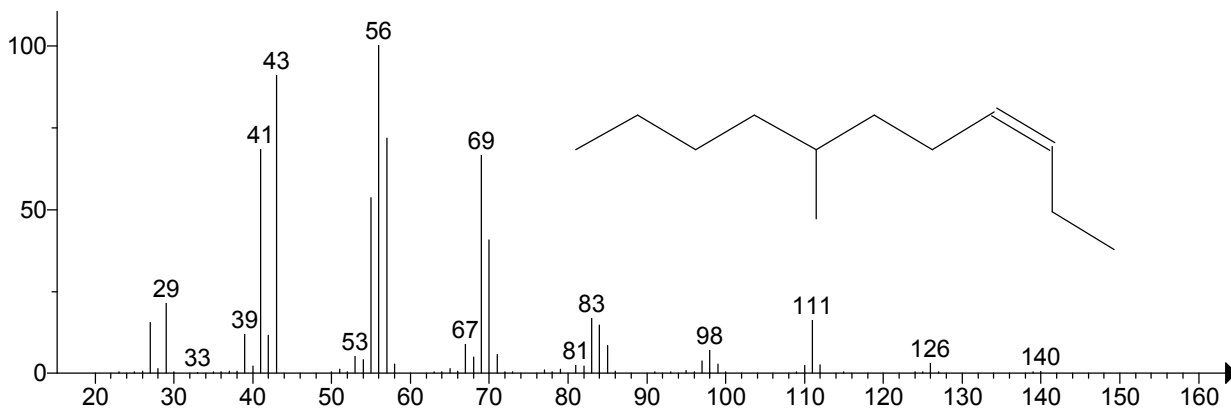
Unknown: + Scan (rt: 2.367-2.404 min, 6 scans) J10630 NTSB ENG 11IA047 A py2.D Subtract  
Compound in Library Factor = -1120



Hit 1 : 1-Undecene, 7-methyl-  
C12H24; MF: 733; RMF: 798; Prob 3.33%; CAS: 74630-42-5; Lib: mainlib; ID: 8524.

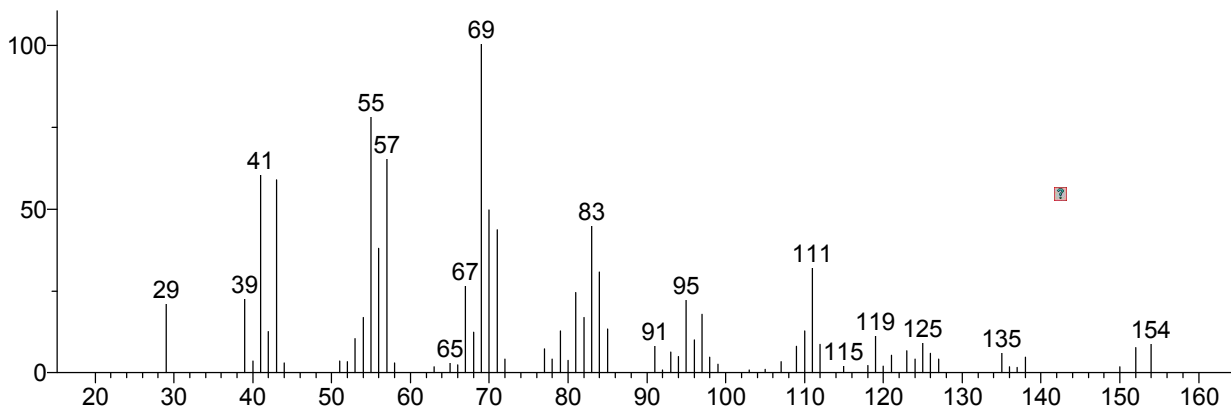


Hit 2 : 3-Undecene, 7-methyl-, (Z)-  
C12H24; MF: 732; RMF: 813; Prob 3.20%; CAS: 74630-49-2; Lib: mainlib; ID: 22195.

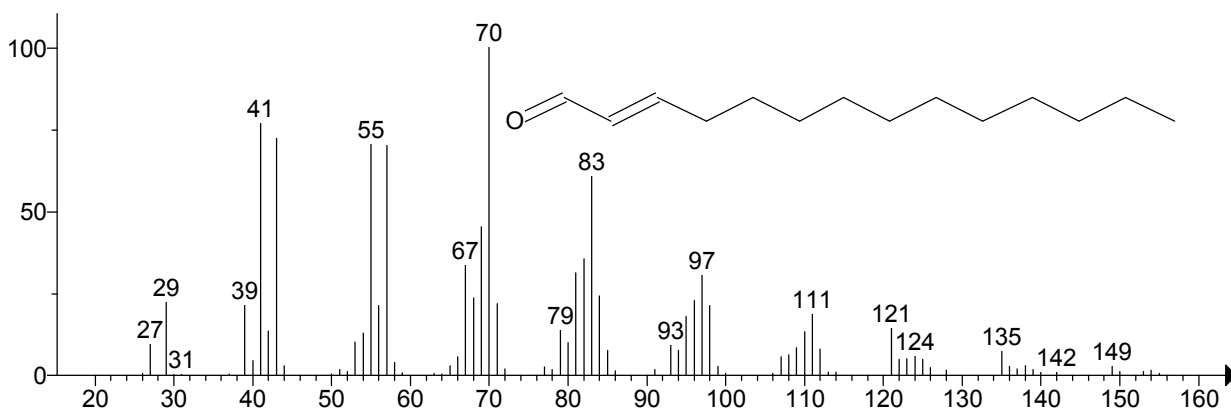


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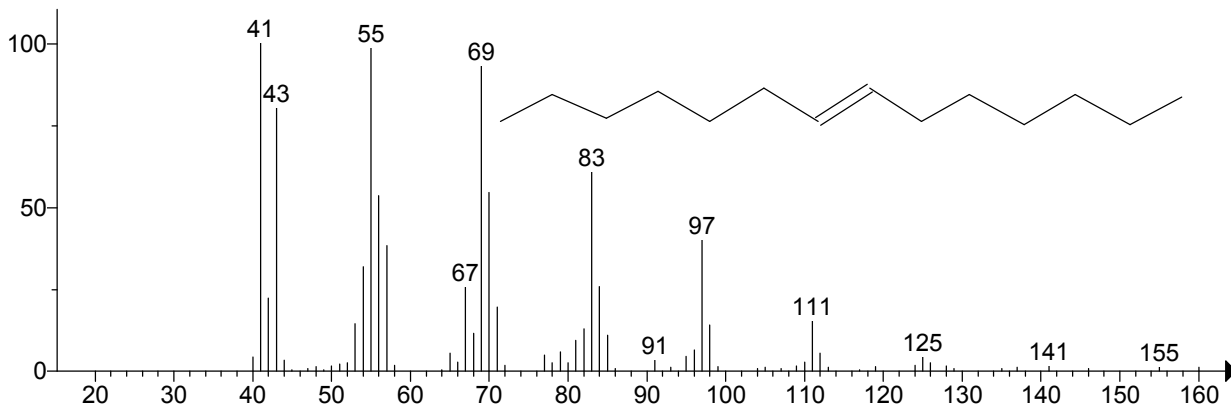
Unknown: + Scan (rt: 2.487-2.510 min, 4 scans) J10630 NTSB ENG 11IA047 A py2.D Subtract  
Compound in Library Factor = -698



Hit 1 : (E)-Tetradec-2-enal  
C<sub>14</sub>H<sub>26</sub>O; MF: 799; RMF: 825; Prob 3.62%; CAS: 51534-36-2; Lib: mainlib; ID: 37039.

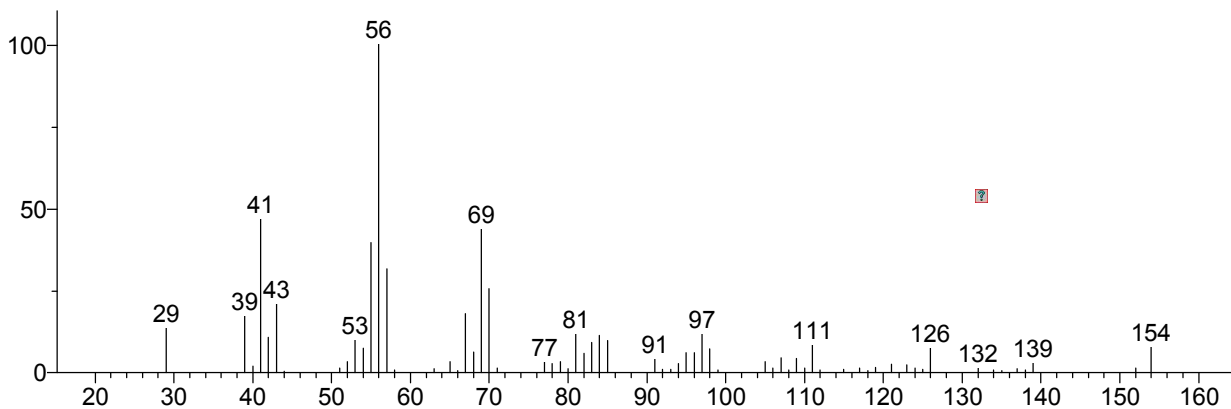


Hit 2 : 7-Tetradecene  
C<sub>14</sub>H<sub>28</sub>; MF: 793; RMF: 839; Prob 2.85%; CAS: 10374-74-0; Lib: replib; ID: 1011.

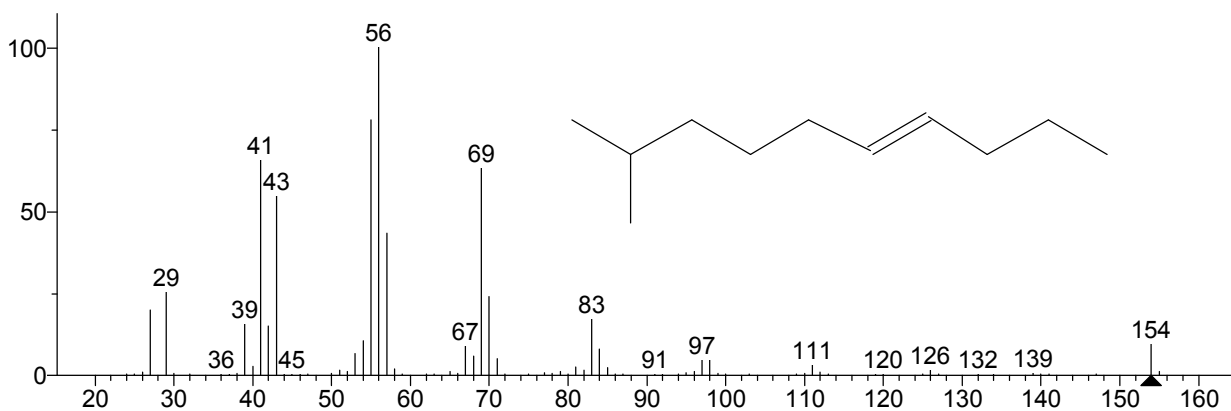


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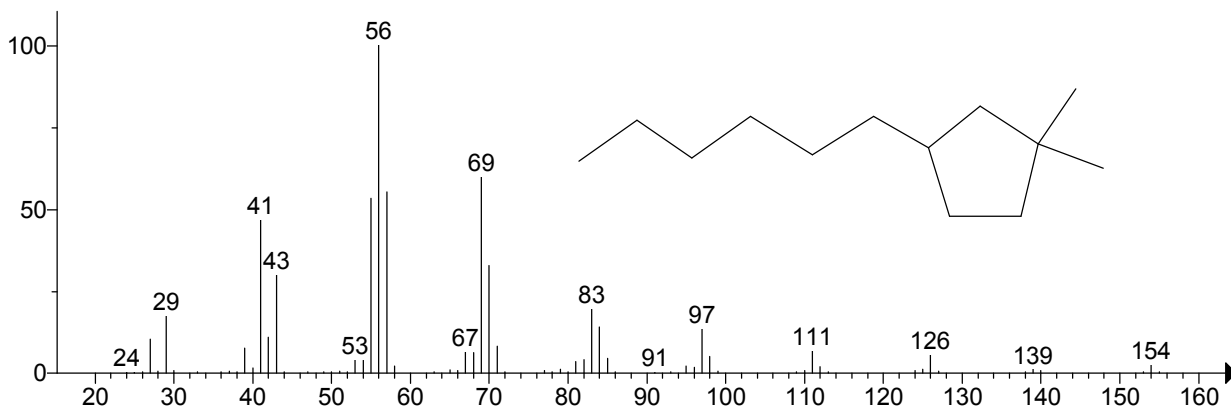
Unknown: + Scan (rt: 2.525-2.570 min, 7 scans) J10630 NTSB ENG 11IA047 A py2.D Subtract  
Compound in Library Factor = -778



Hit 1 : 4-Decene, 9-methyl-, (E)-  
C11H22; MF: 760; RMF: 796; Prob 5.52%; CAS: 62338-49-2; Lib: mainlib; ID: 22312.

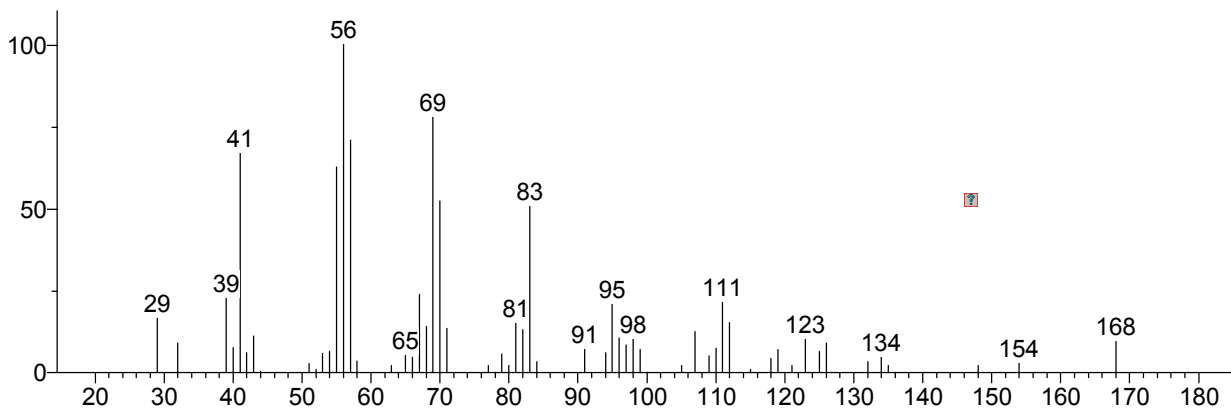


Hit 2 : Cyclopentane, 3-hexyl-1,1-dimethyl-  
C13H26; MF: 759; RMF: 802; Prob 5.31%; CAS: 61142-65-2; Lib: mainlib; ID: 22505.

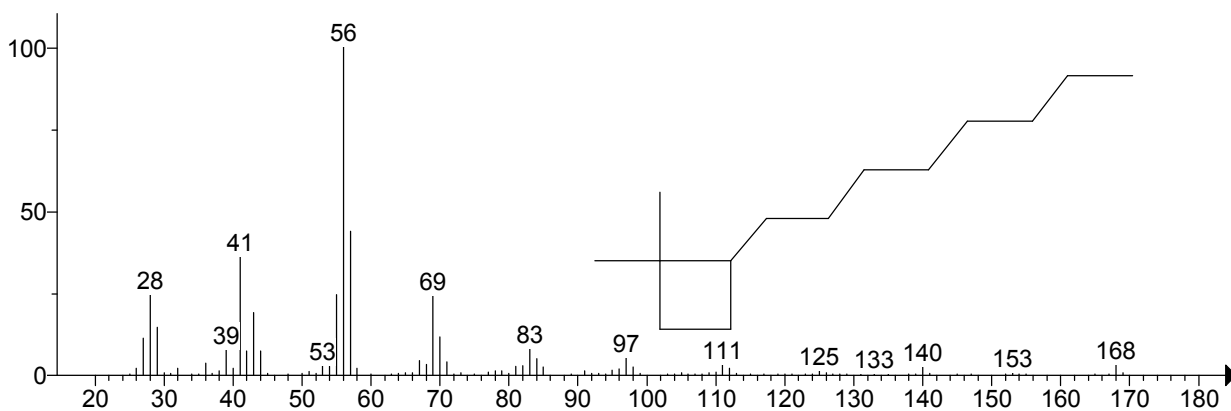


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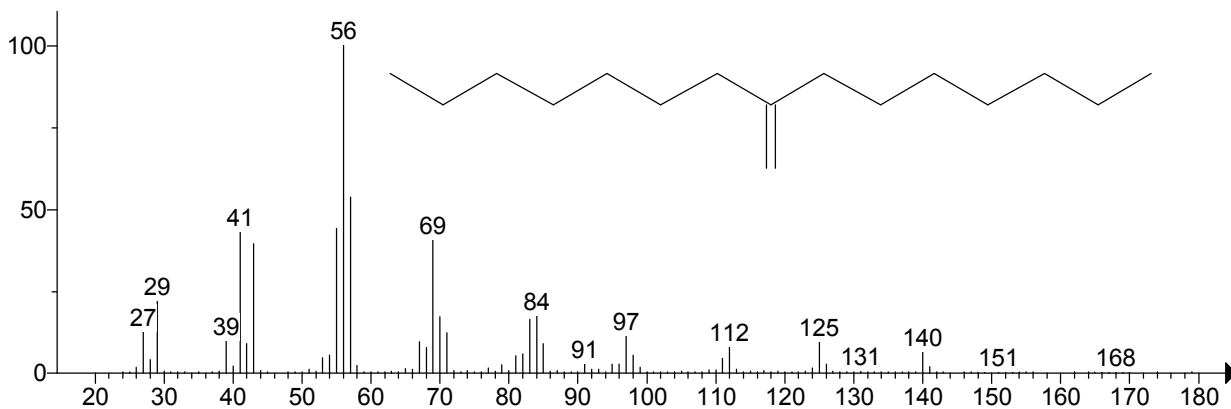
Unknown: + Scan (rt: 2.585-2.616 min, 5 scans) J10630 NTSB ENG 11IA047 A py2.D Subtract  
Compound in Library Factor = -1103



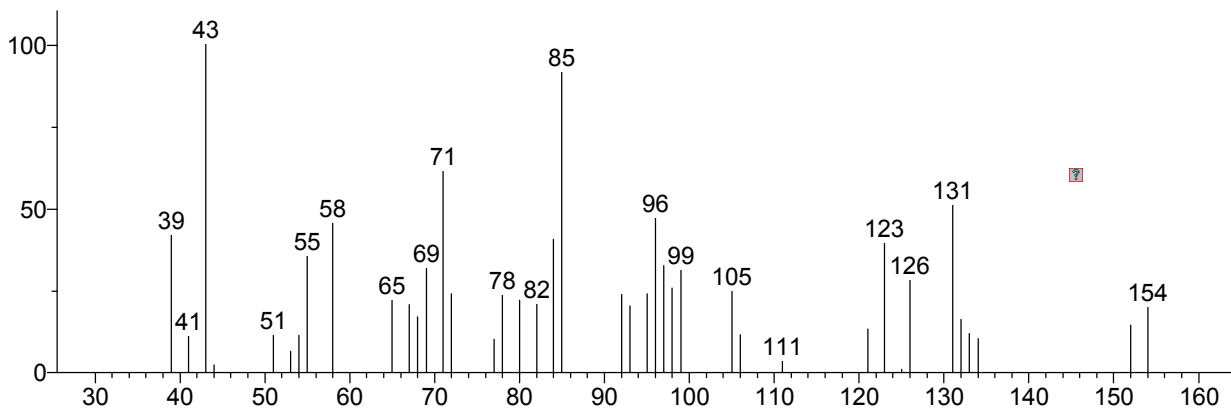
Hit 1 : Cyclobutane, 1,1-dimethyl-2-octyl-  
C14H28; MF: 744; RMF: 758; Prob 3.91%; CAS: 62338-30-1; Lib: mainlib; ID: 22388.



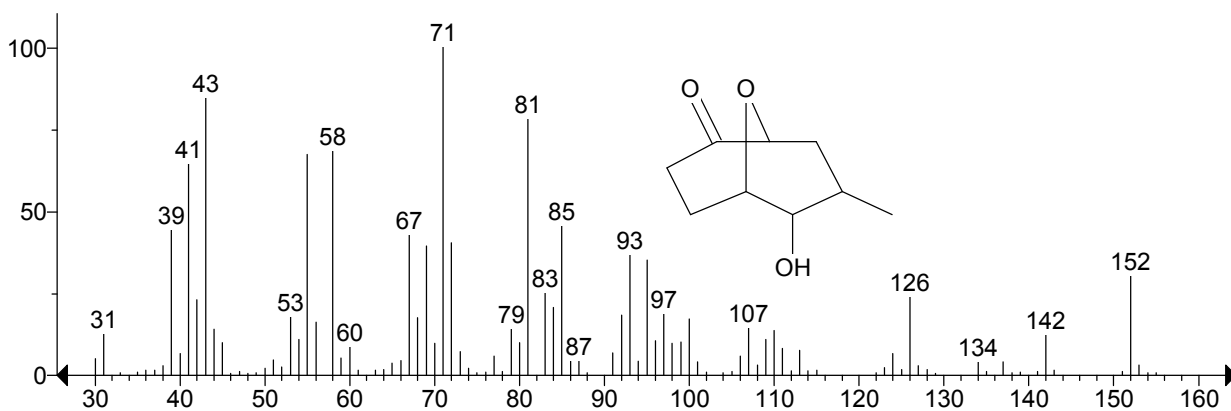
Hit 2 : Pentadecane, 8-methylene-  
C16H32; MF: 739; RMF: 743; Prob 3.15%; CAS: 55668-09-2; Lib: mainlib; ID: 22424.



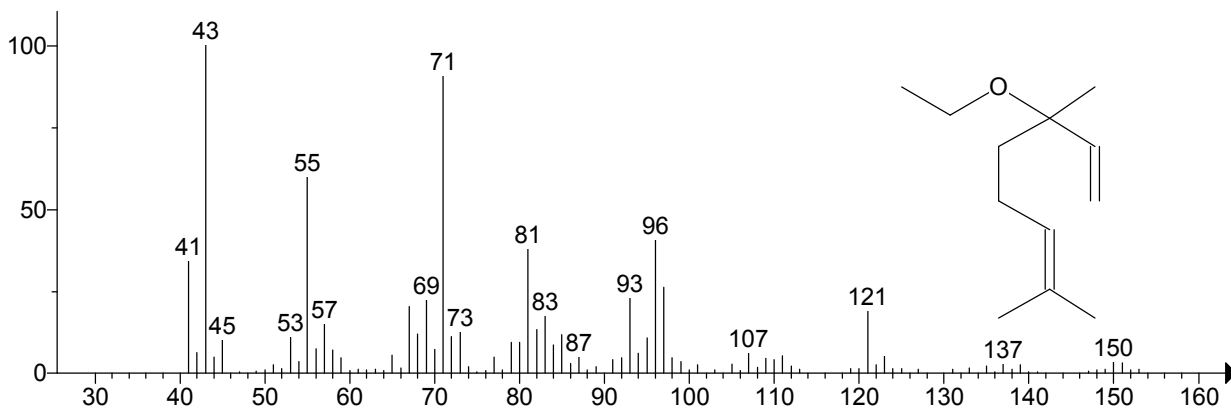
Unknown: + Scan (rt: 2.638-2.683 min, 7 scans) J10630 NTSB ENG 11IA047 A py2.D Subtract  
Compound in Library Factor = -1647



Hit 1 : 6-Hydroxy-7-methyl-9-oxabicyclo[3.3.1]nonan-2-one  
C<sub>9</sub>H<sub>14</sub>O<sub>3</sub>; MF: 514; RMF: 569; Prob 10.7%; Lib: mainlib; ID: 38505.



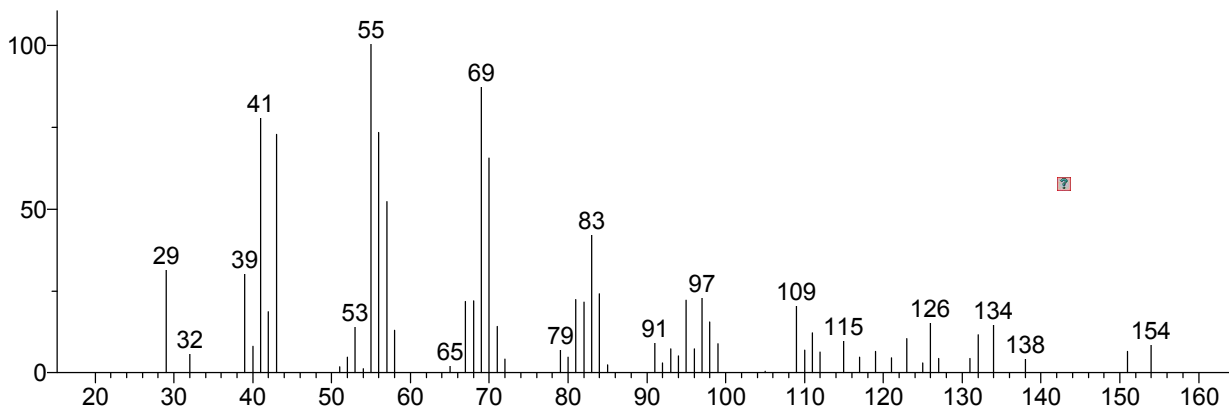
Hit 2 : 1,6-Octadiene, 3-ethoxy-3,7-dimethyl-  
C<sub>12</sub>H<sub>22</sub>O; MF: 514; RMF: 555; Prob 10.7%; CAS: 72845-33-1; Lib: mainlib; ID: 8842.



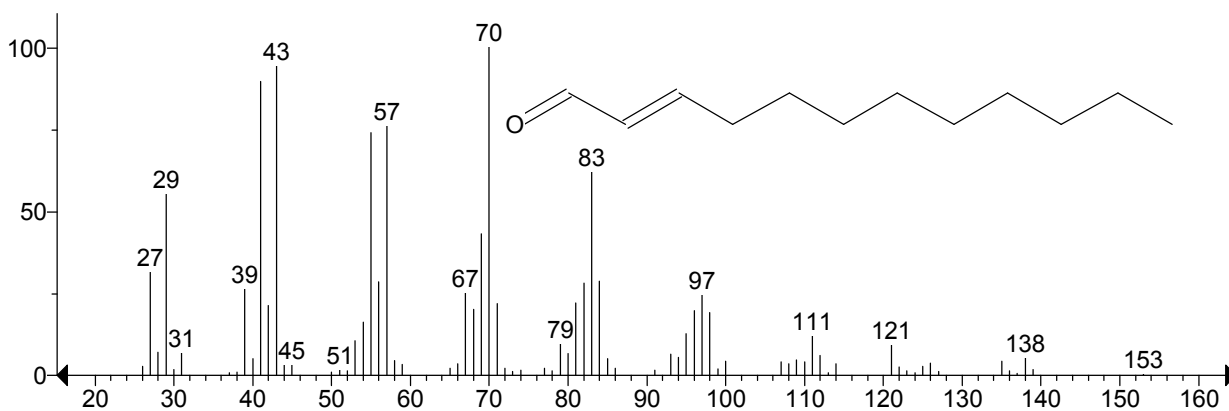


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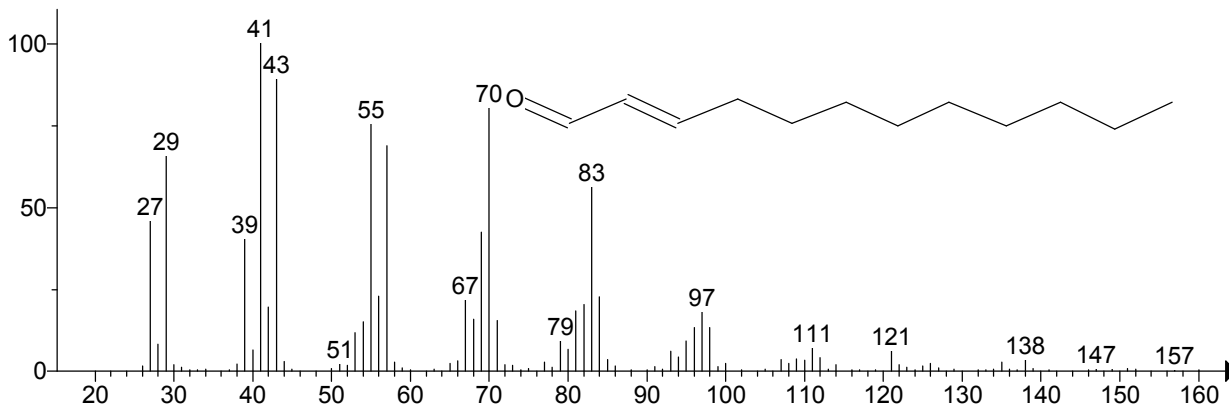
Unknown: + Scan (rt: 2.683-2.706 min, 4 scans) J10630 NTSB ENG 11IA047 A py2.D Subtract  
Compound in Library Factor = -1120



Hit 1 : 2-Dodecenal  
C<sub>12</sub>H<sub>22</sub>O; MF: 738; RMF: 796; Prob 4.33%; CAS: 4826-62-4; Lib: mainlib; ID: 37183.

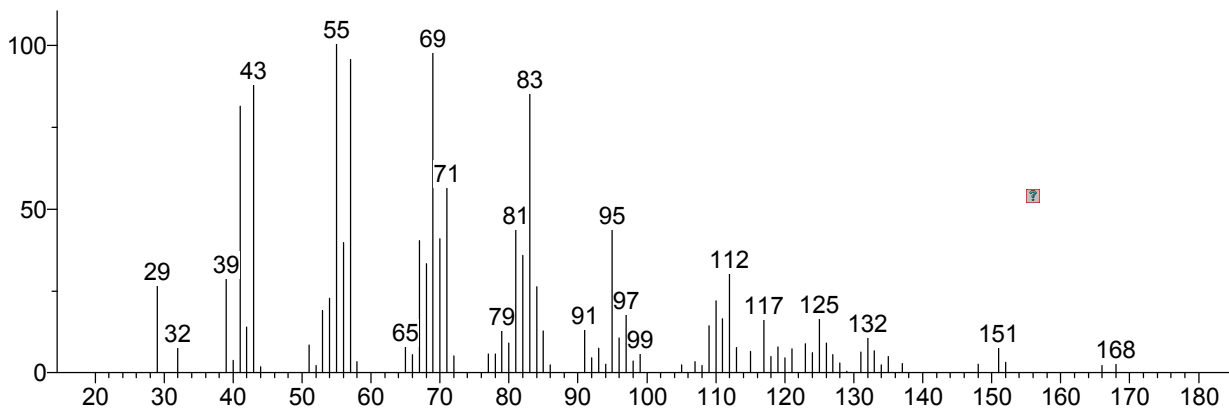


Hit 2 : 2-Dodecenal, (E)-  
C<sub>12</sub>H<sub>22</sub>O; MF: 738; RMF: 756; Prob 4.33%; CAS: 20407-84-5; Lib: mainlib; ID: 2494.

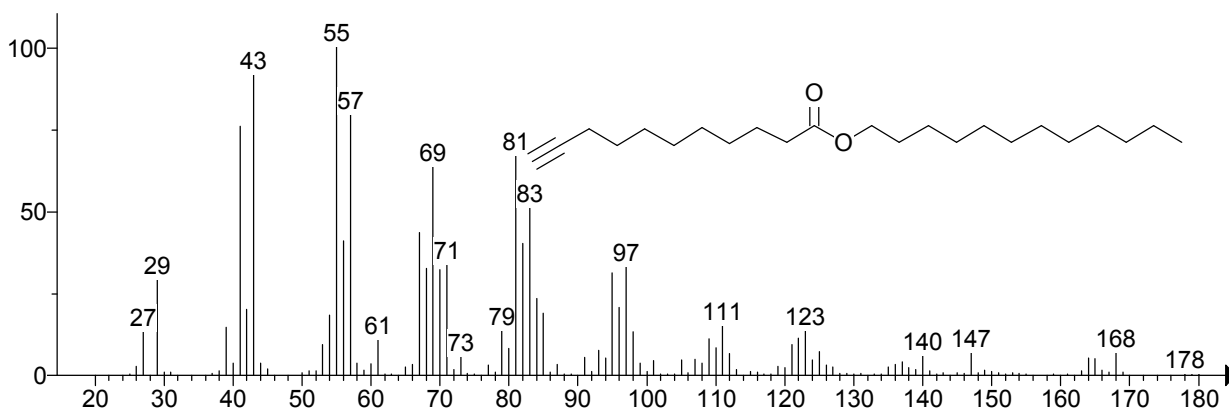


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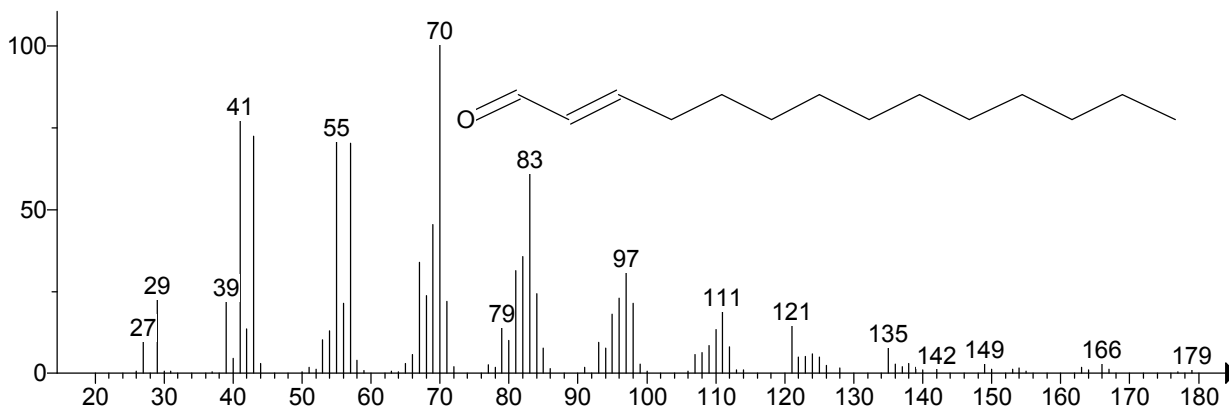
Unknown: + Scan (rt: 2.804-2.819 min, 3 scans) J10630 NTSB ENG 11IA047 A py2.D Subtract  
Compound in Library Factor = -1103



Hit 1 : Undec-10-ynoic acid, dodecyl ester  
C<sub>23</sub>H<sub>42</sub>O<sub>2</sub>; MF: 748; RMF: 755; Prob 2.97%; Lib: mainlib; ID: 19663.

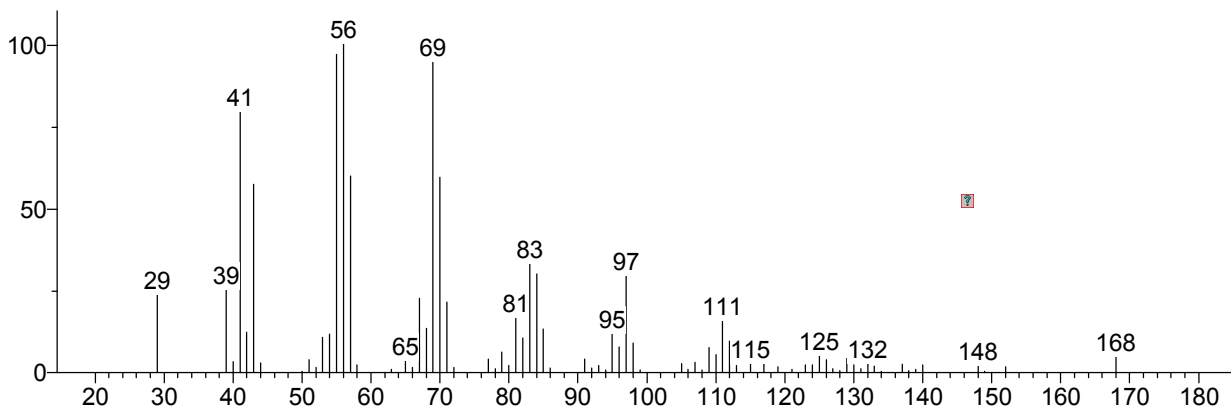


Hit 2 : (E)-Tetradec-2-enal  
C<sub>14</sub>H<sub>26</sub>O; MF: 747; RMF: 802; Prob 2.85%; CAS: 51534-36-2; Lib: mainlib; ID: 37039.

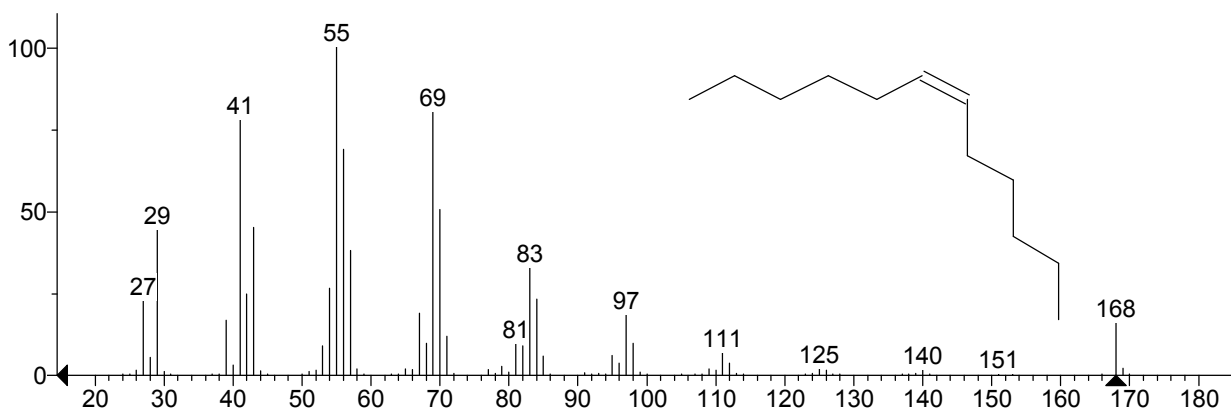


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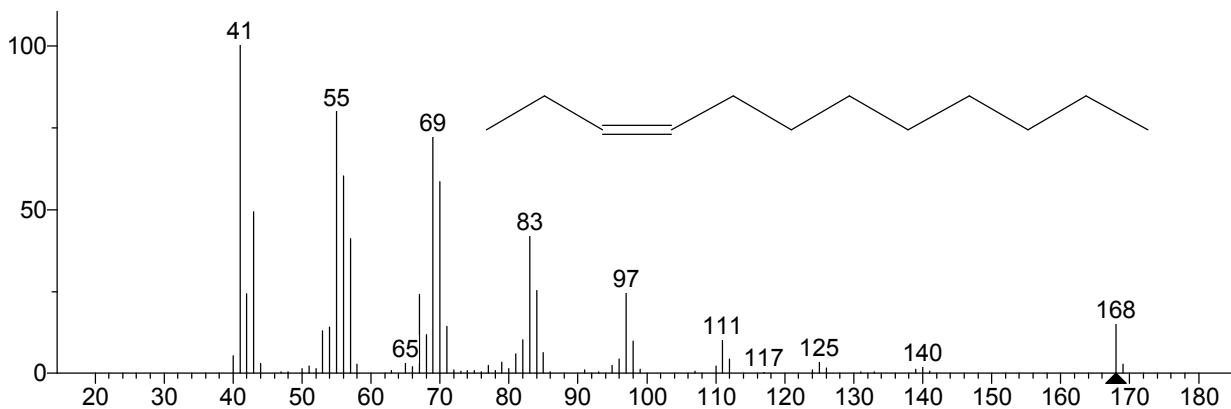
Unknown: + Scan (rt: 2.849-2.910 min, 9 scans) J10630 NTSB ENG 11IA047 A py2.D Subtract  
Compound in Library Factor = -331



Hit 1 : 6-Dodecene, (Z)-  
C<sub>12</sub>H<sub>24</sub>; MF: 847; RMF: 873; Prob 6.15%; CAS: 7206-29-3; Lib: replib; ID: 4973.

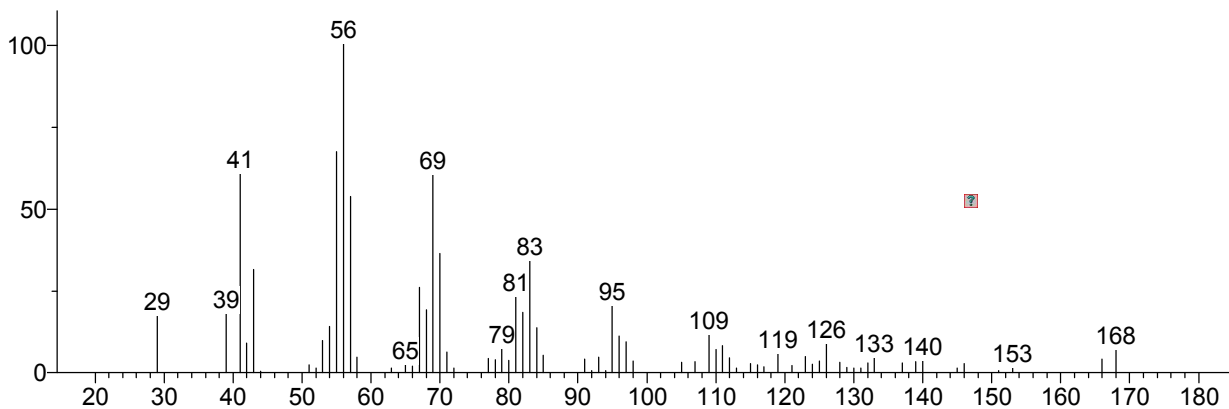


Hit 2 : 3-Dodecene, (Z)-  
C<sub>12</sub>H<sub>24</sub>; MF: 843; RMF: 883; Prob 5.19%; CAS: 7239-23-8; Lib: replib; ID: 1007.

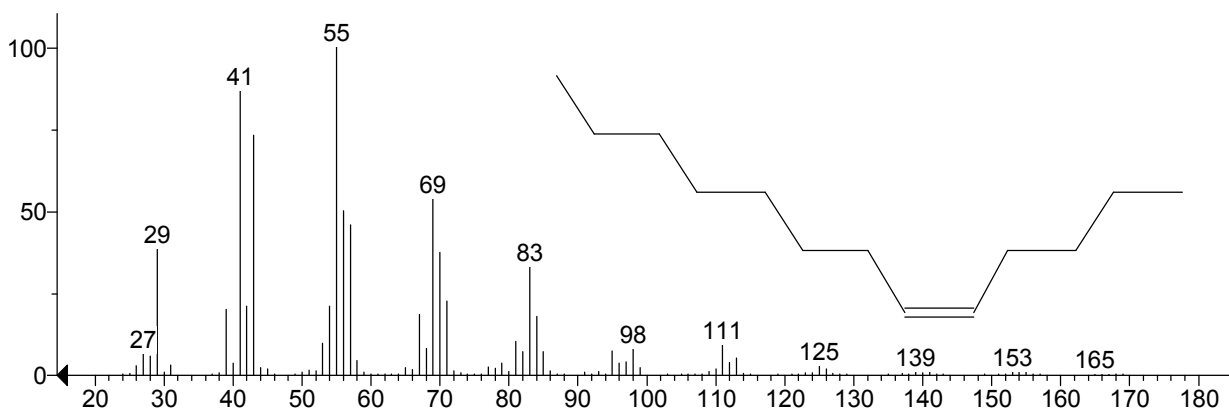


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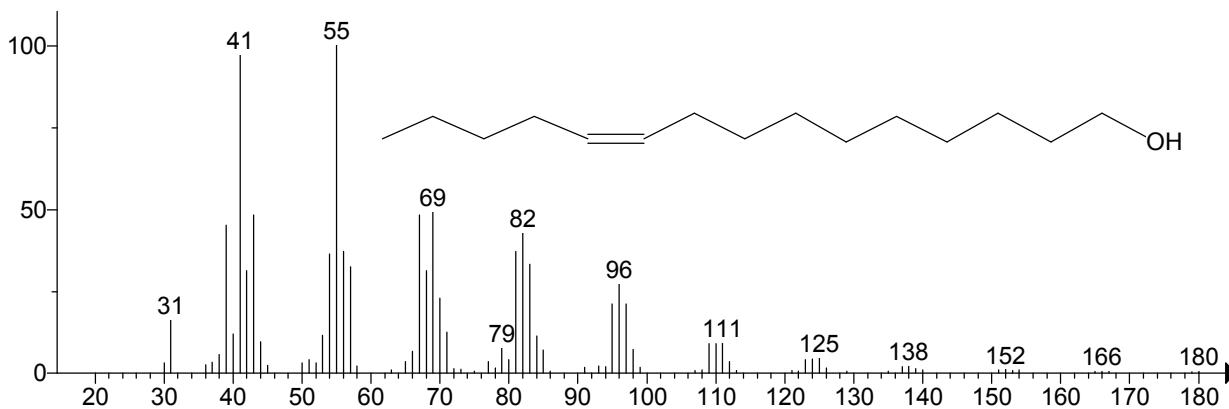
Unknown: + Scan (rt: 3.083-3.106 min, 4 scans) J10630 NTSB ENG 11IA047 A py2.D Subtract  
Compound in Library Factor = -625



Hit 1 : 5-Tridecene, (Z)-  
C13H26; MF: 768; RMF: 798; Prob 4.60%; CAS: 25524-42-9; Lib: mainlib; ID: 19091.

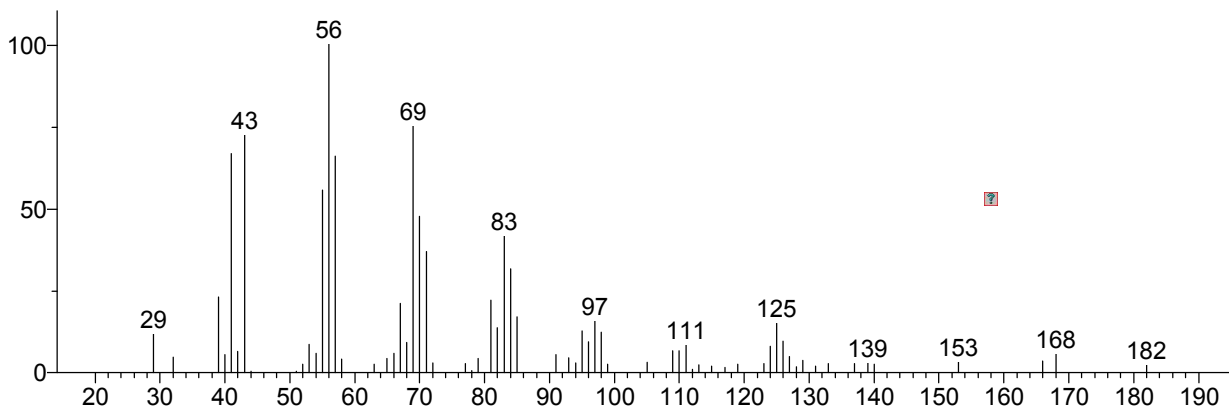


Hit 2 : Z-10-Pentadecen-1-ol  
C15H30O; MF: 758; RMF: 802; Prob 3.25%; Lib: mainlib; ID: 19226.

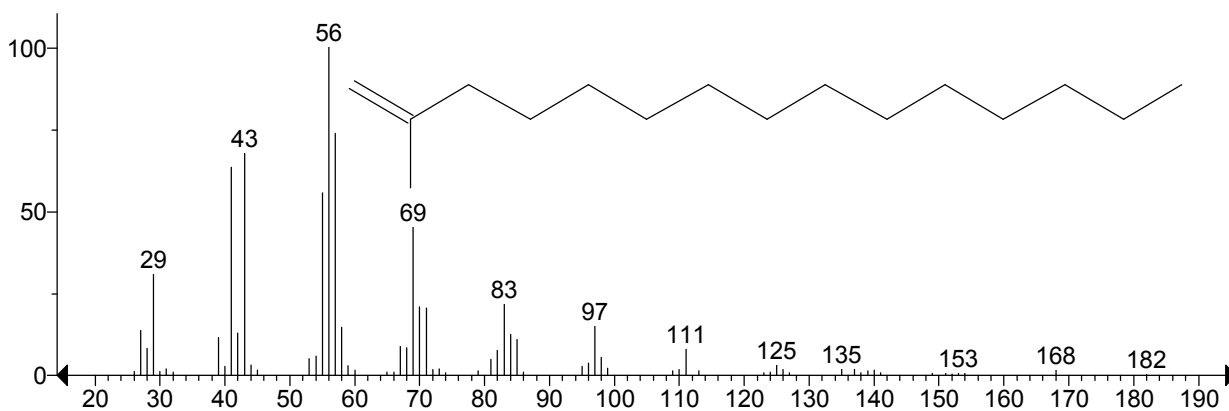


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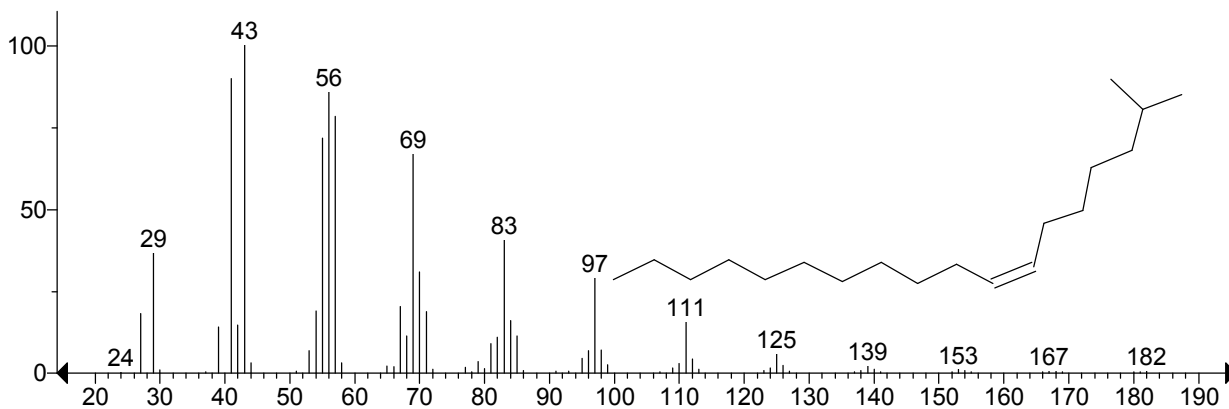
Unknown: + Scan (rt: 3.106-3.129 min, 4 scans) J10630 NTSB ENG 11IA047 A py2.D Subtract  
Compound in Library Factor = -509



Hit 1 : 1-Pentadecene, 2-methyl-  
C16H32; MF: 794; RMF: 830; Prob 4.42%; CAS: 29833-69-0; Lib: mainlib; ID: 22409.

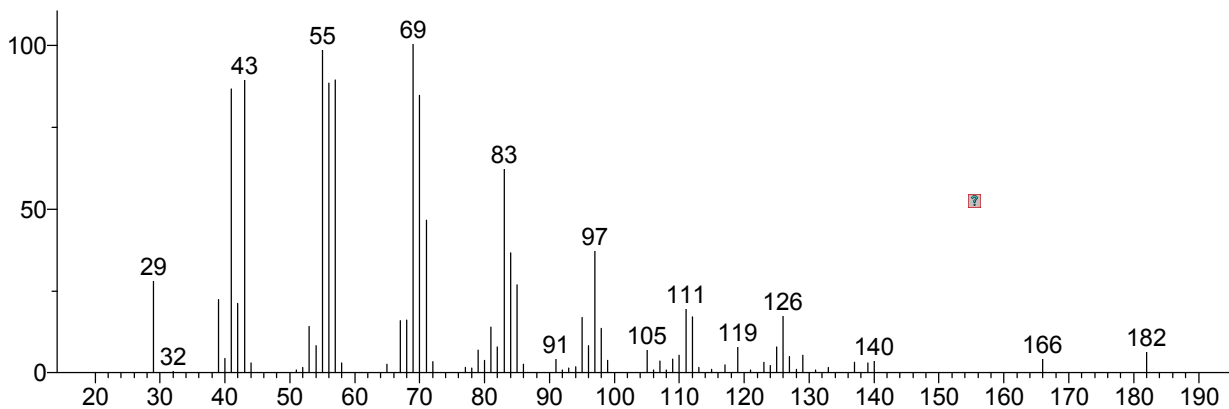


Hit 2 : cis-2-Methyl-7-octadecene  
C19H38; MF: 782; RMF: 806; Prob 2.94%; CAS: 35354-39-3; Lib: mainlib; ID: 6044.

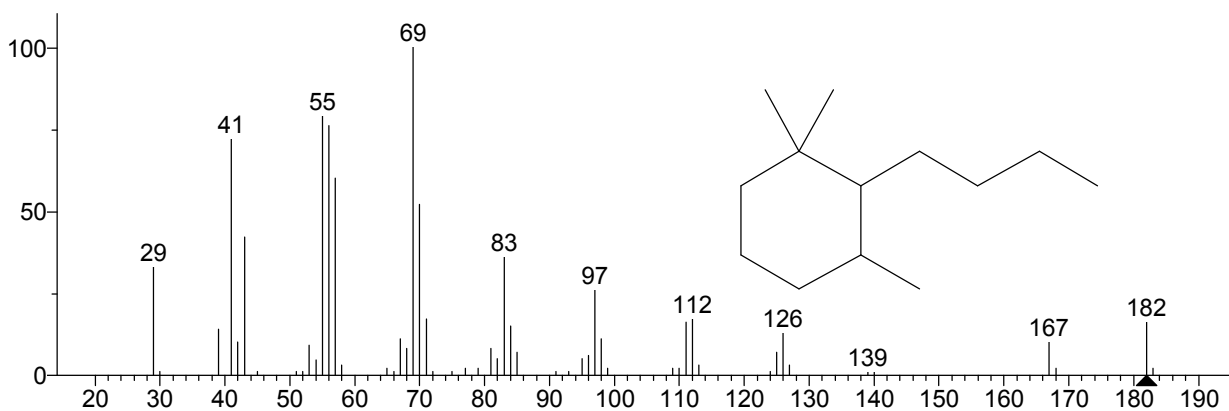


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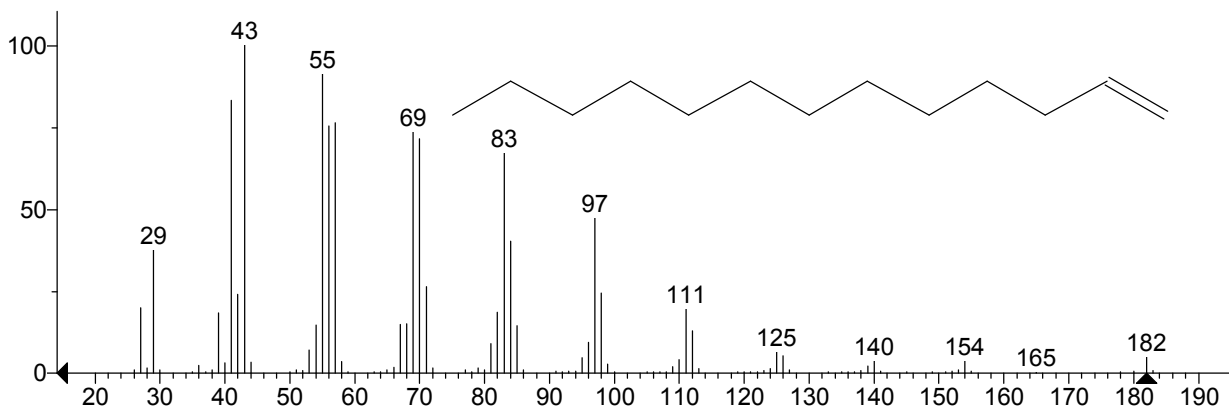
Unknown: + Scan (rt: 3.159-3.219 min, 9 scans) J10630 NTSB ENG 11IA047 A py2.D Subtract  
Compound in Library Factor = -331



Hit 1 : Cyclohexane, 2-butyl-1,1,3-trimethyl-  
C13H26; MF: 846; RMF: 887; Prob 6.07%; CAS: 54676-39-0; Lib: mainlib; ID: 34958.

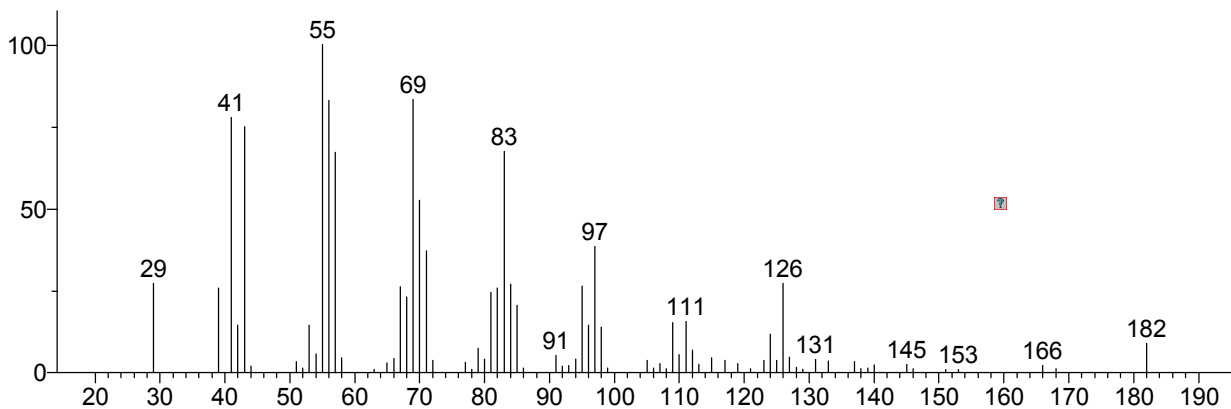


Hit 2 : 1-Tridecene  
C13H26; MF: 836; RMF: 848; Prob 4.29%; CAS: 2437-56-1; Lib: mainlib; ID: 7145.

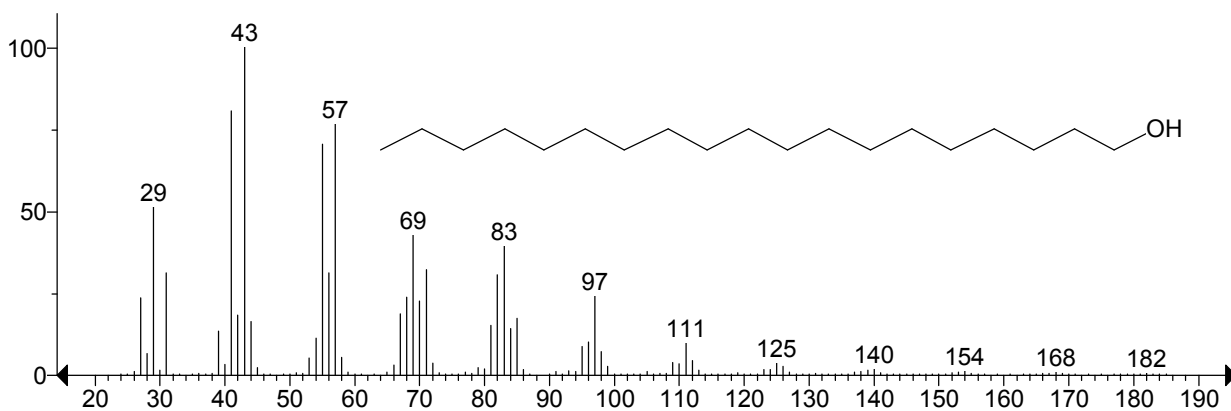


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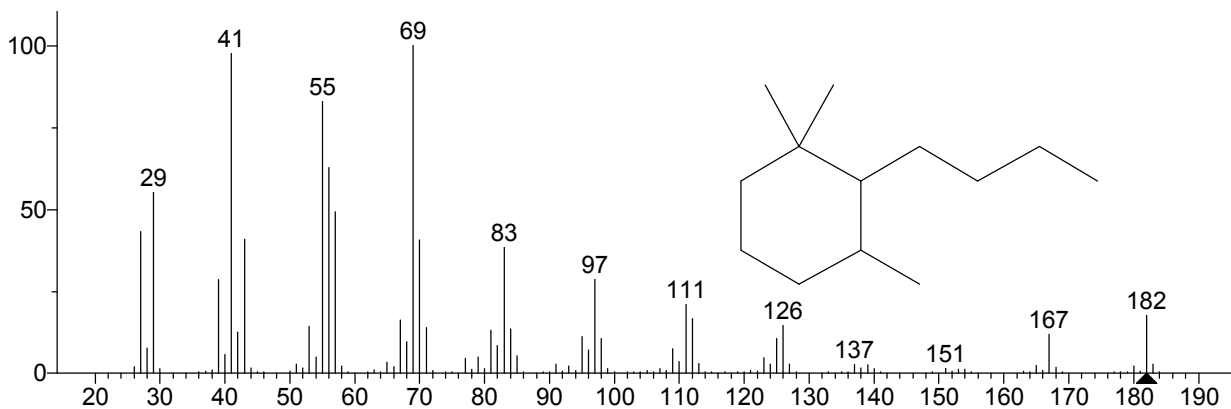
Unknown: + Scan (rt: 3.393-3.408 min, 3 scans) J10630 NTSB ENG 11IA047 A py2.D Subtract  
Compound in Library Factor = -688



Hit 1 : n-Nonadecanol-1  
C19H40O; MF: 804; RMF: 805; Prob 4.54%; CAS: 1454-84-8; Lib: replib; ID: 1846.

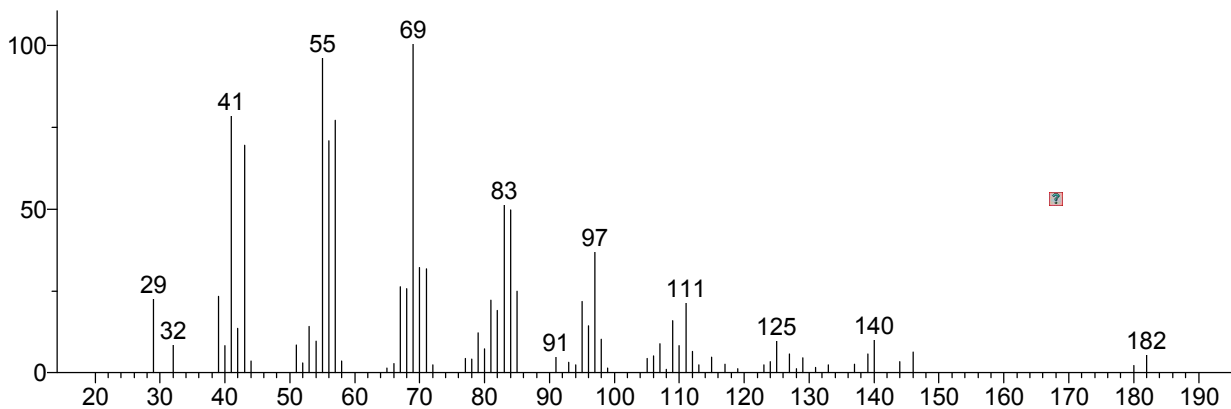


Hit 2 : Cyclohexane, 2-butyl-1,1,3-trimethyl-  
C13H26; MF: 800; RMF: 807; Prob 3.84%; CAS: 54676-39-0; Lib: replib; ID: 8463.

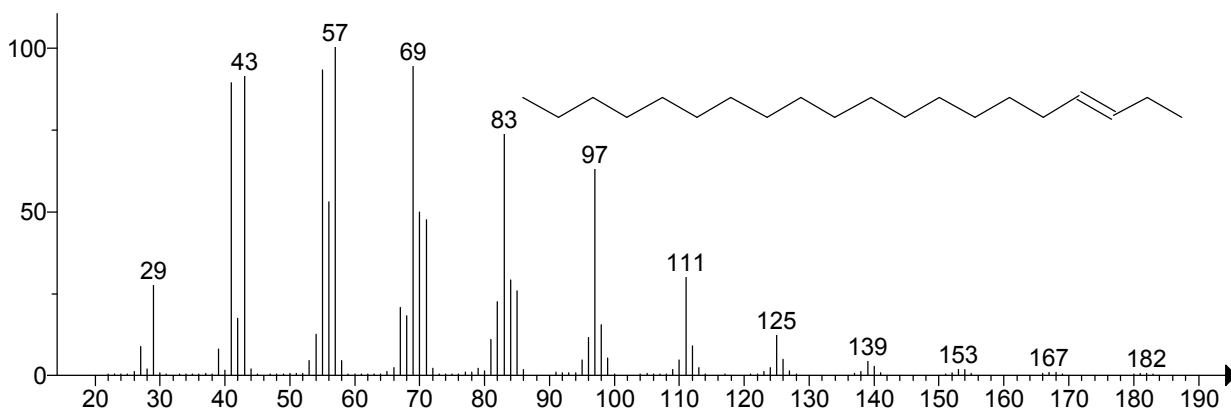


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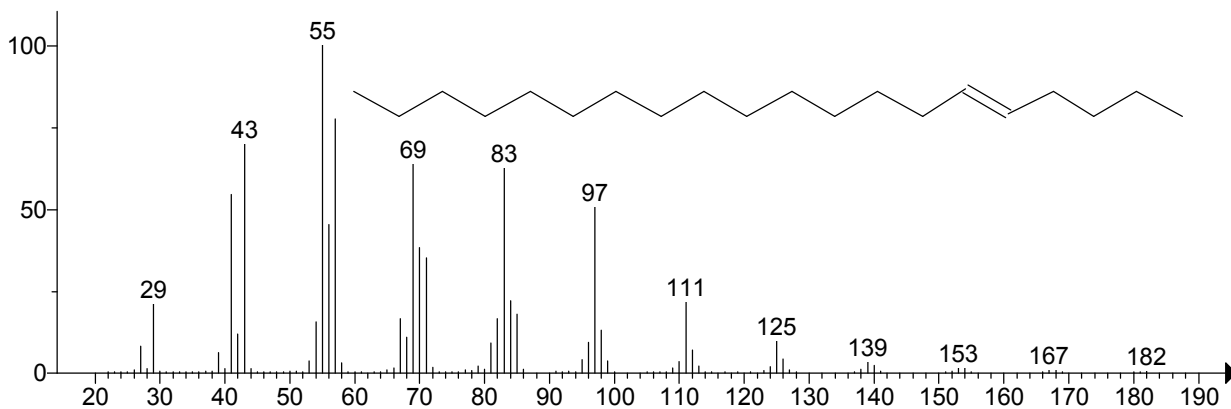
Unknown: + Scan (rt: 3.438-3.491 min, 8 scans) J10630 NTSB ENG 11IA047 A py2.D Subtract  
Compound in Library Factor = -698



Hit 1 : 3-Eicosene, (E)-  
C<sub>20</sub>H<sub>40</sub>; MF: 795; RMF: 818; Prob 2.82%; CAS: 74685-33-9; Lib: mainlib; ID: 25133.



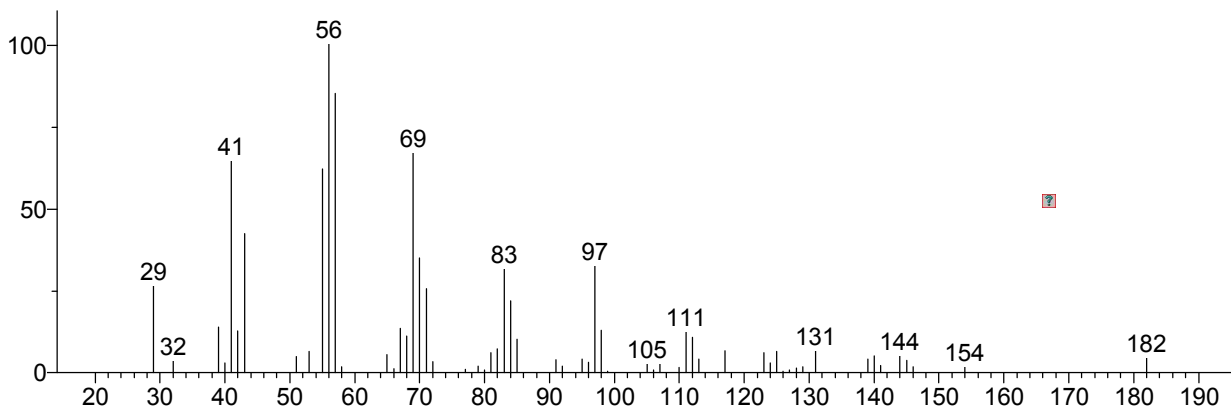
Hit 2 : 5-Eicosene, (E)-  
C<sub>20</sub>H<sub>40</sub>; MF: 794; RMF: 816; Prob 2.71%; CAS: 74685-30-6; Lib: mainlib; ID: 19936.



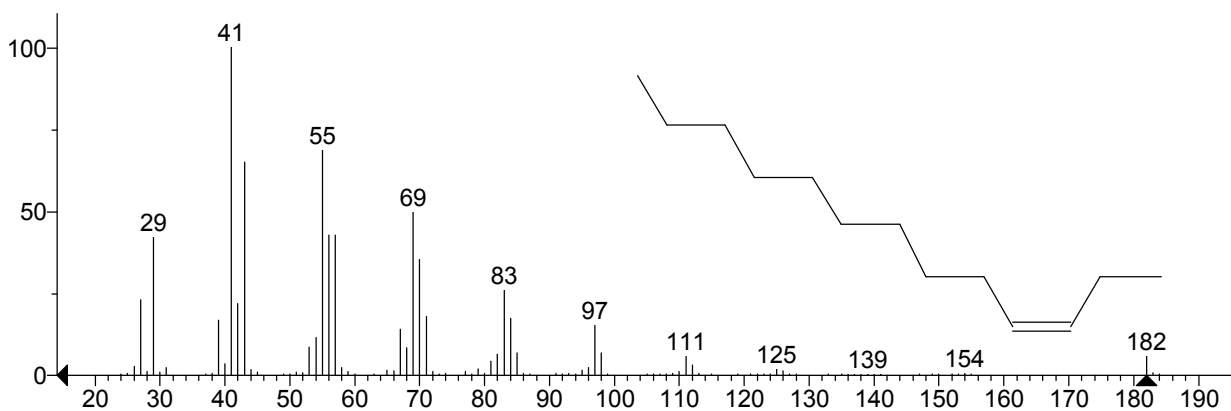


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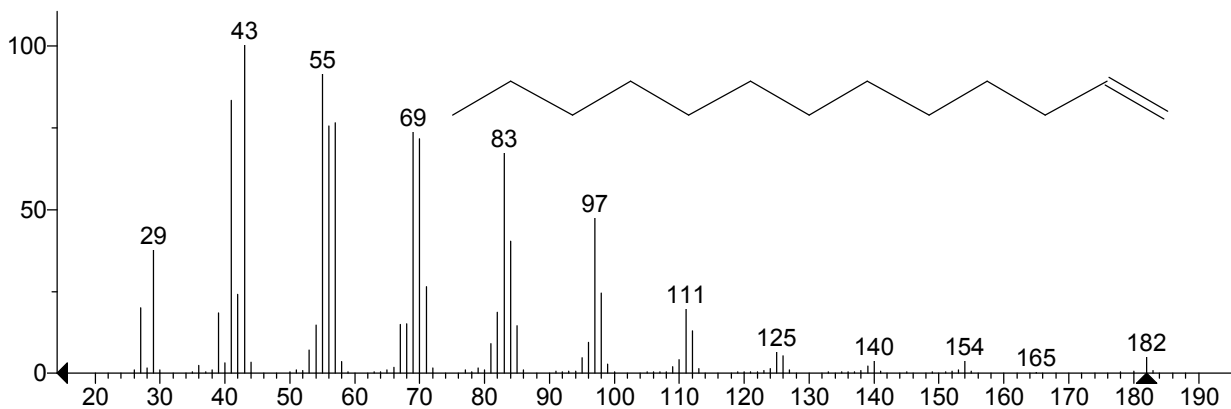
Unknown: + Scan (rt: 3.514-3.544 min, 5 scans) J10630 NTSB ENG 11IA047 A py2.D Subtract  
Compound in Library Factor = -713



Hit 1 : 3-Tridecene, (Z)-  
C13H26; MF: 783; RMF: 817; Prob 3.52%; CAS: 41446-53-1; Lib: mainlib; ID: 2706.

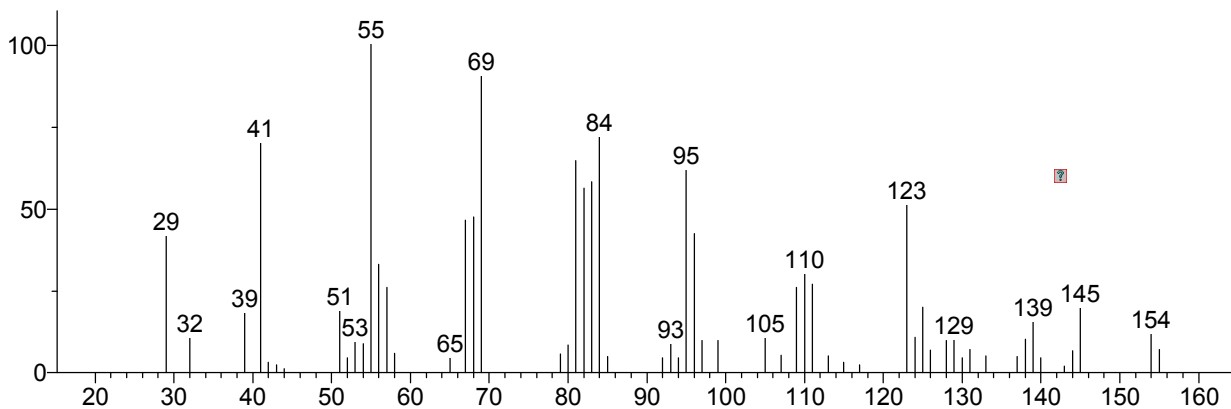


Hit 2 : 1-Tridecene  
C13H26; MF: 780; RMF: 809; Prob 3.11%; CAS: 2437-56-1; Lib: mainlib; ID: 7145.

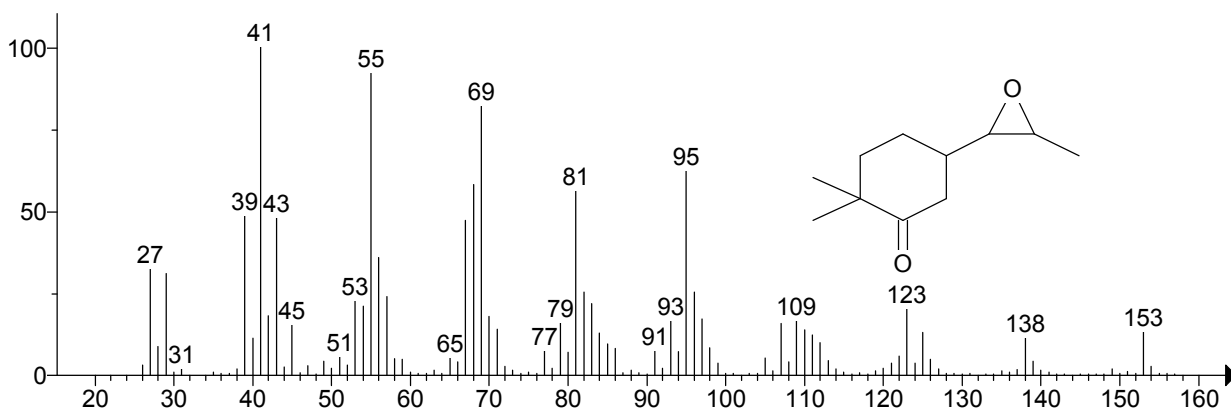


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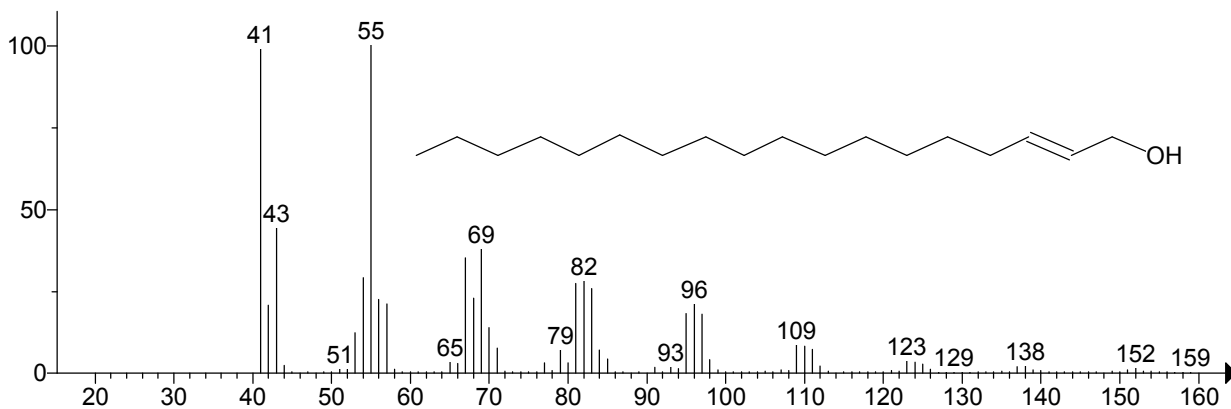
Unknown: + Scan (rt: 3.642-3.680 min, 6 scans) J10630 NTSB ENG 11IA047 A py2.D Subtract  
Compound in Library Factor = -897



Hit 1 : Cyclohexanone, 2,2-dimethyl-5-(3-methyloxiranyl)-, [2 $\alpha$ (R\*),3 $\alpha$ ]-(.+.-)-  
C11H18O2; MF: 709; RMF: 715; Prob 11.3%; CAS: 141033-65-0; Lib: mainlib; ID: 2834.

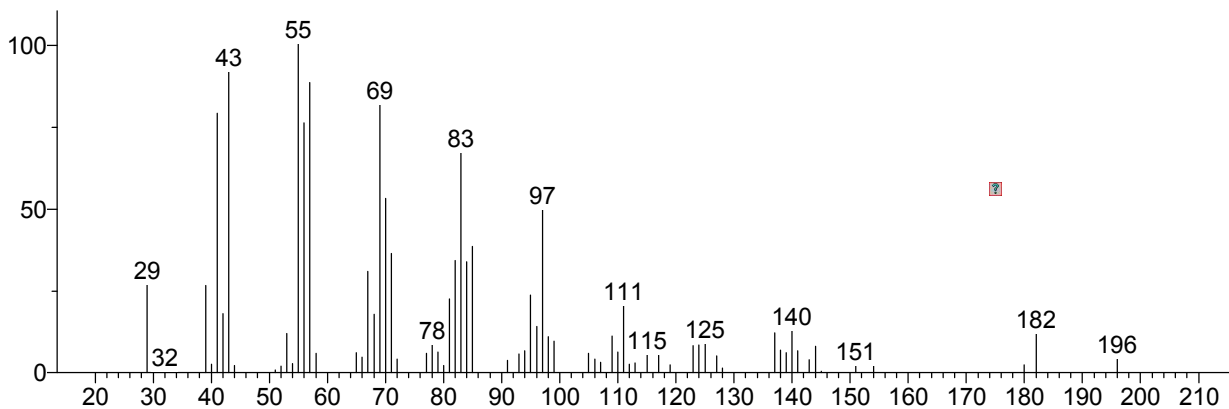


Hit 2 : E-2-Octadecadecen-1-ol  
C18H36O; MF: 683; RMF: 686; Prob 3.39%; Lib: mainlib; ID: 19022.

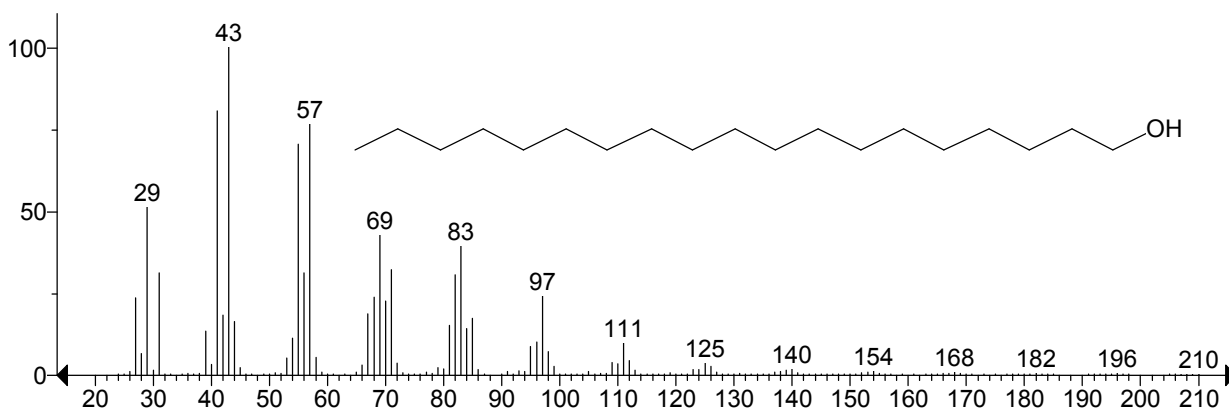


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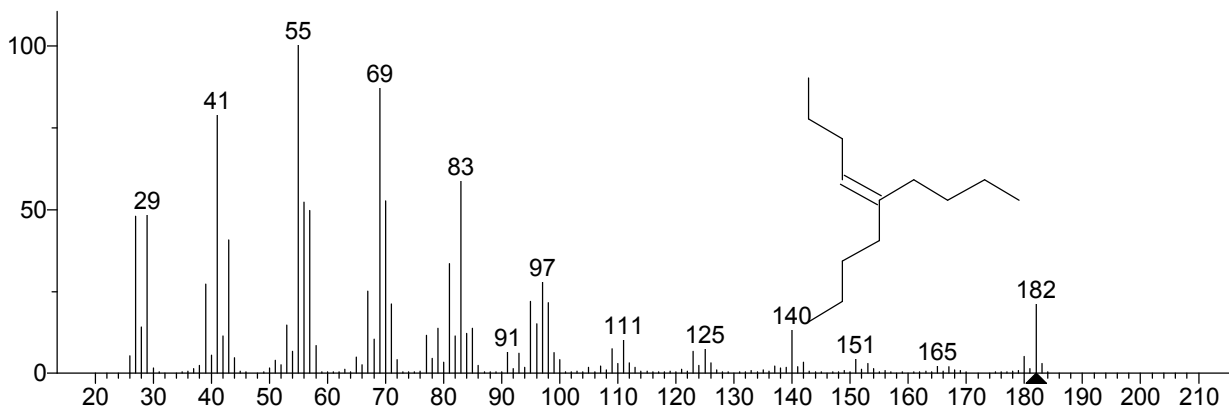
Unknown: + Scan (rt: 3.702-3.732 min, 5 scans) J10630 NTSB ENG 11IA047 A py2.D Subtract  
Compound in Library Factor = -713



Hit 1 : n-Nonadecanol-1  
C19H40O; MF: 782; RMF: 788; Prob 3.73%; CAS: 1454-84-8; Lib: replib; ID: 1846.

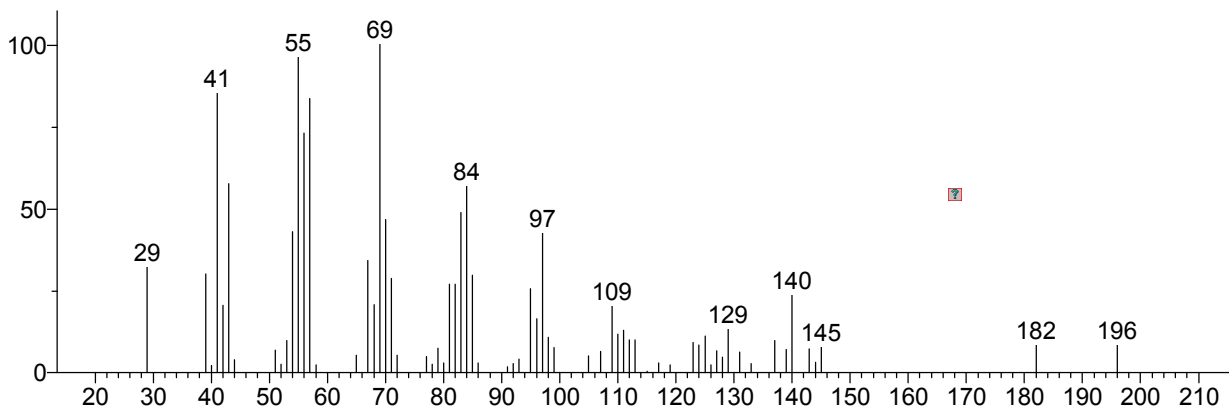


Hit 2 : 4-Nonene, 5-butyl-  
C13H26; MF: 778; RMF: 788; Prob 3.15%; CAS: 7367-38-6; Lib: replib; ID: 4986.

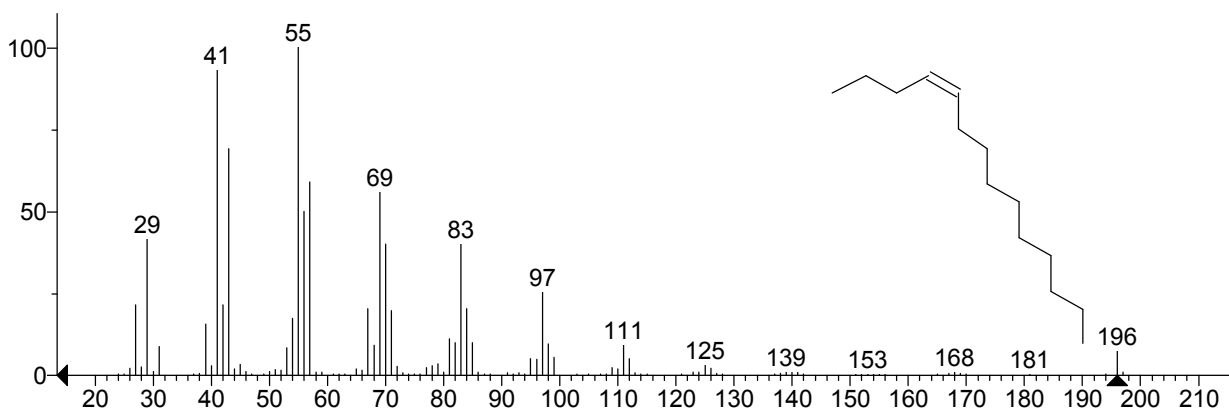


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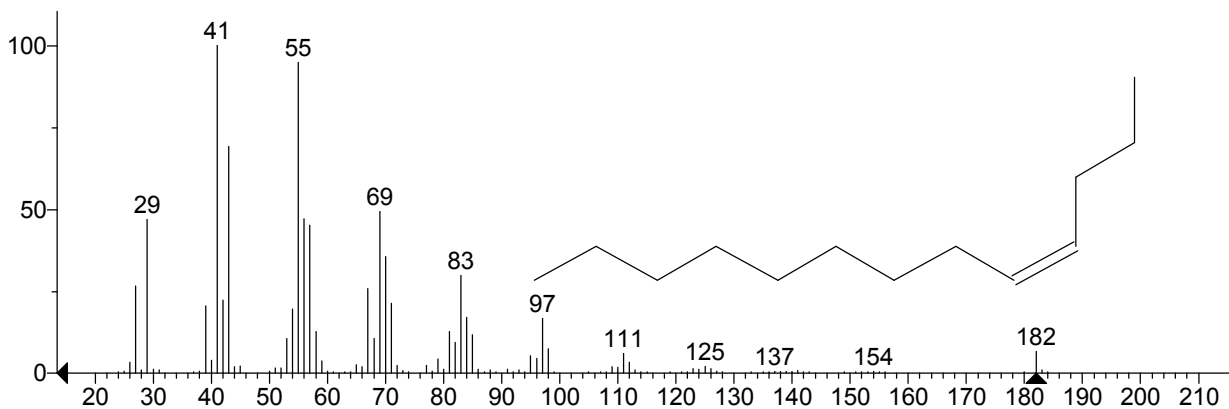
Unknown: + Scan (rt: 3.755-3.770 min, 3 scans) J10630 NTSB ENG 11IA047 A py2.D Subtract  
Compound in Library Factor = -1067



Hit 1 : 4-Tetradecene, (Z)-  
C14H28; MF: 751; RMF: 790; Prob 3.09%; CAS: 41446-65-5; Lib: mainlib; ID: 19102.

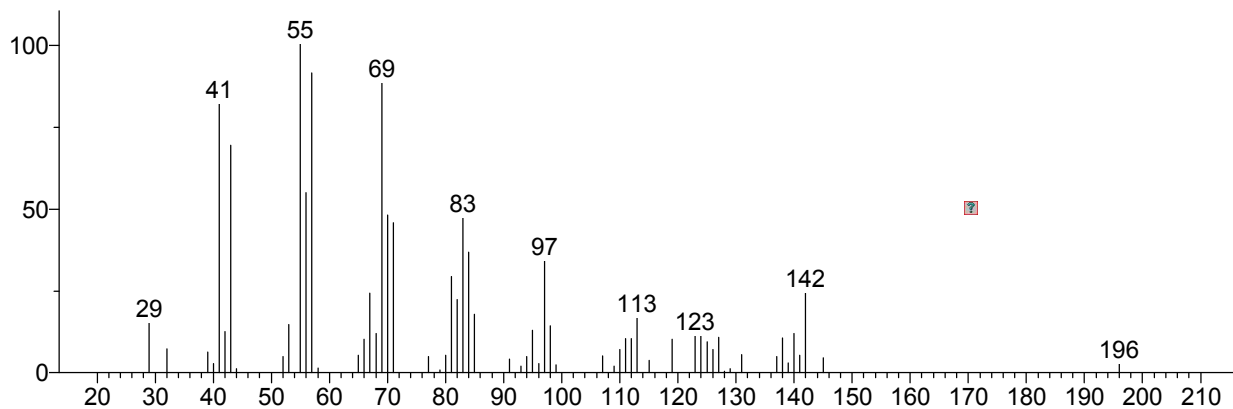


Hit 2 : 4-Tridecene, (Z)-  
C13H26; MF: 747; RMF: 776; Prob 2.61%; CAS: 41446-54-2; Lib: mainlib; ID: 2707.

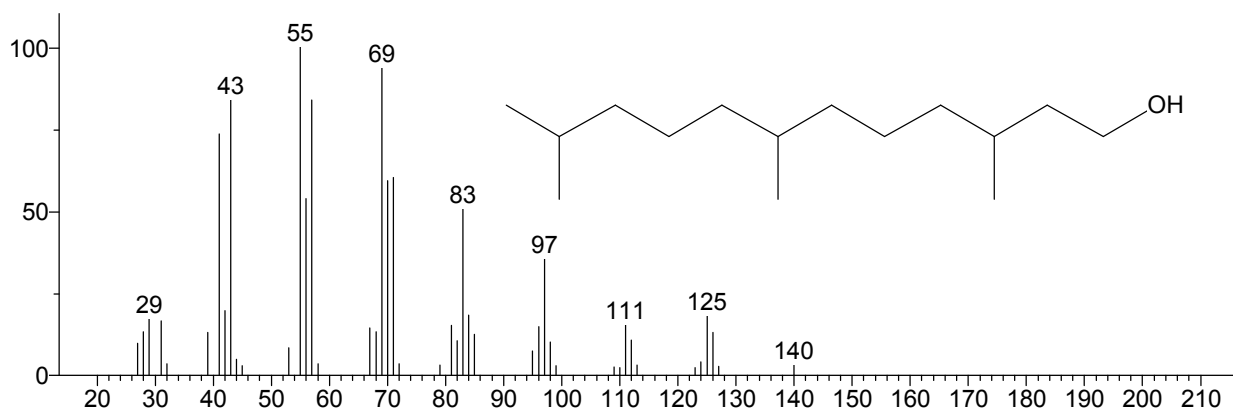


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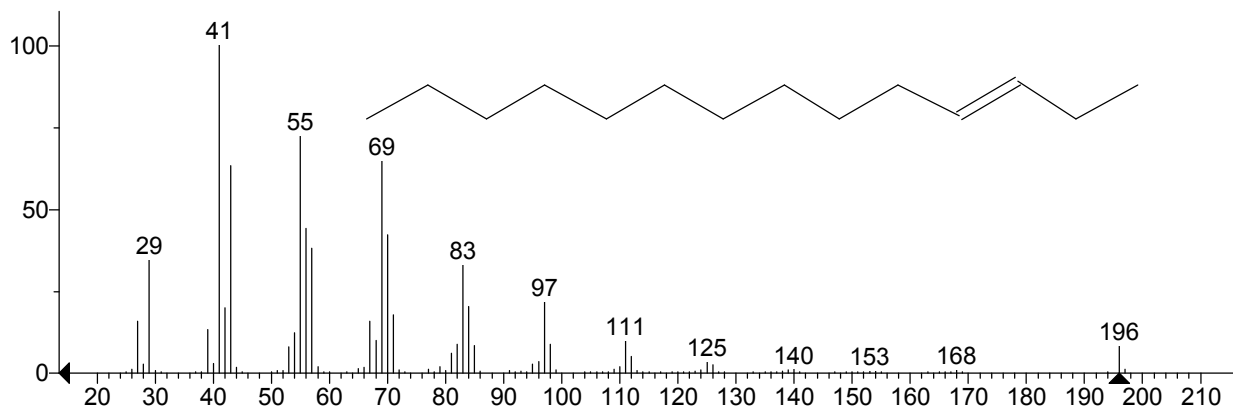
Unknown: + Scan (rt: 3.800-3.815 min, 3 scans) J10630 NTSB ENG 11IA047 A py2.D Subtract  
Compound in Library Factor = -816



Hit 1 : 1-Dodecanol, 3,7,11-trimethyl-  
C<sub>15</sub>H<sub>32</sub>O; MF: 735; RMF: 825; Prob 4.11%; CAS: 6750-34-1; Lib: mainlib; ID: 20142.

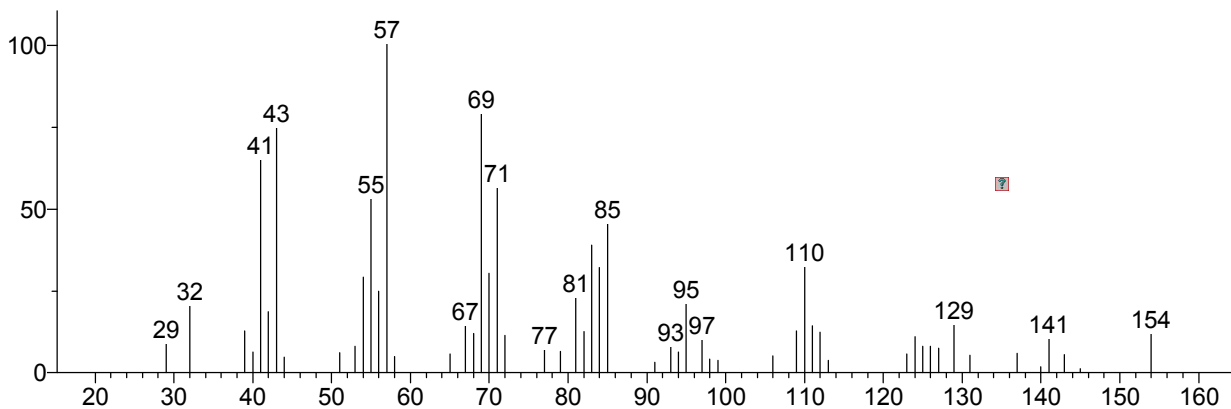


Hit 2 : 3-Tetradecene, (E)-  
C<sub>14</sub>H<sub>28</sub>; MF: 724; RMF: 752; Prob 2.82%; CAS: 41446-68-8; Lib: replib; ID: 1005.

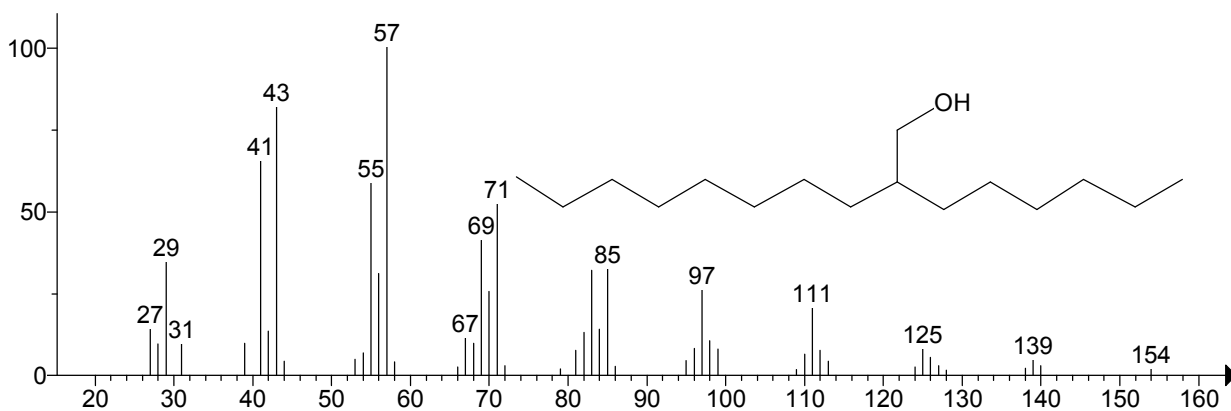


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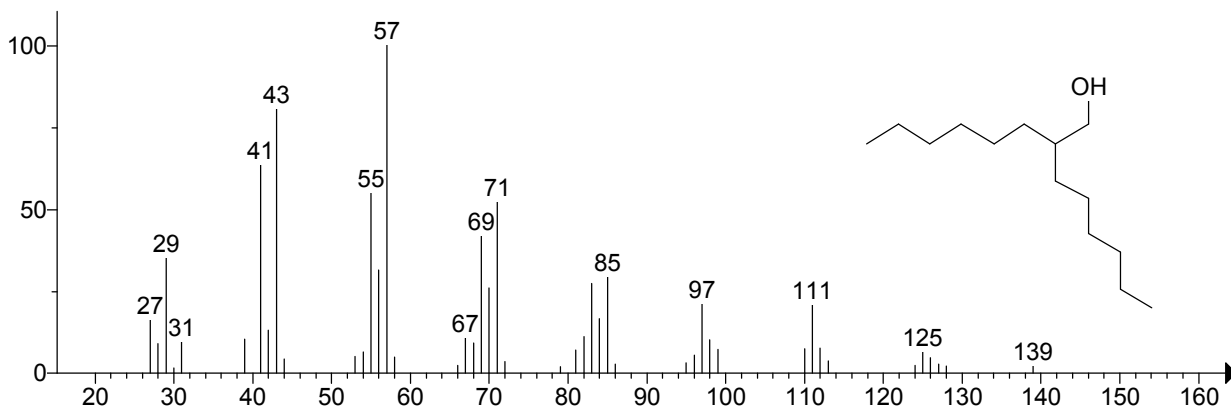
Unknown: + Scan (rt: 3.838-3.853 min, 3 scans) J10630 NTSB ENG 11IA047 A py2.D Subtract  
Compound in Library Factor = -804



Hit 1 : 1-Decanol, 2-hexyl-  
C16H34O; MF: 742; RMF: 812; Prob 4.56%; CAS: 2425-77-6; Lib: replib; ID: 6004.

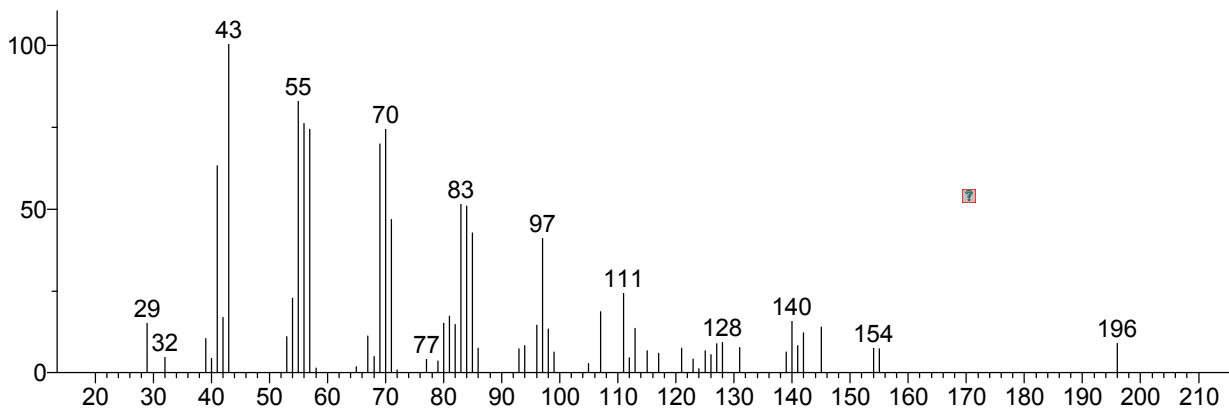


Hit 2 : 2-Hexyl-1-octanol  
C14H30O; MF: 739; RMF: 832; Prob 4.03%; CAS: 19780-79-1; Lib: mainlib; ID: 24046.

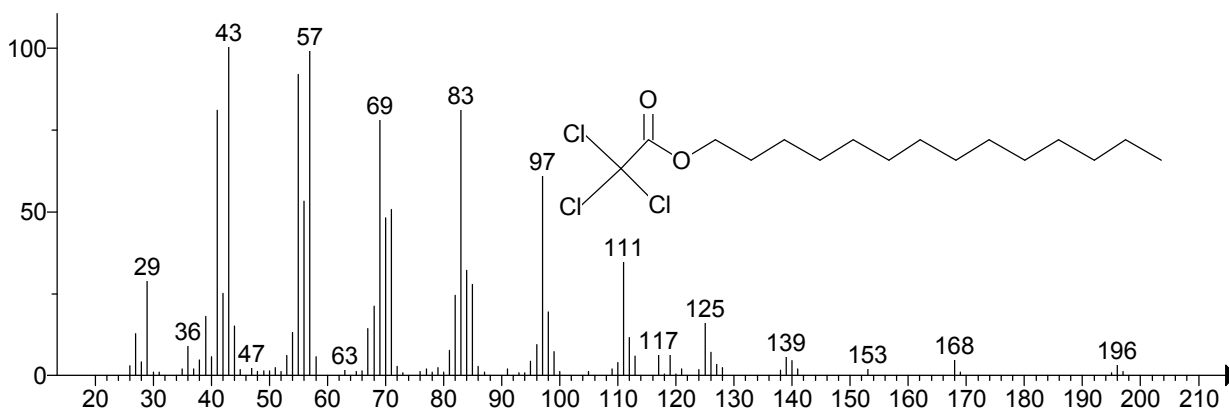


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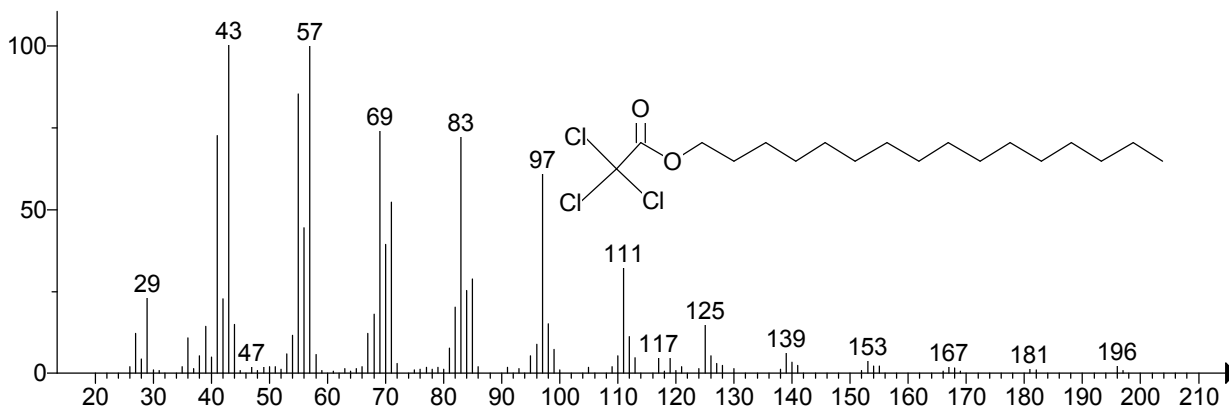
Unknown: + Scan (rt: 3.891-3.898 min, 2 scans) J10630 NTSB ENG 11IA047 A py2.D Subtract  
Compound in Library Factor = -1120



Hit 1 : Trichloroacetic acid, tetradecyl ester  
C16H29Cl3O2; MF: 738; RMF: 796; Prob 4.68%; CAS: 74339-52-9; Lib: mainlib; ID: 7750.

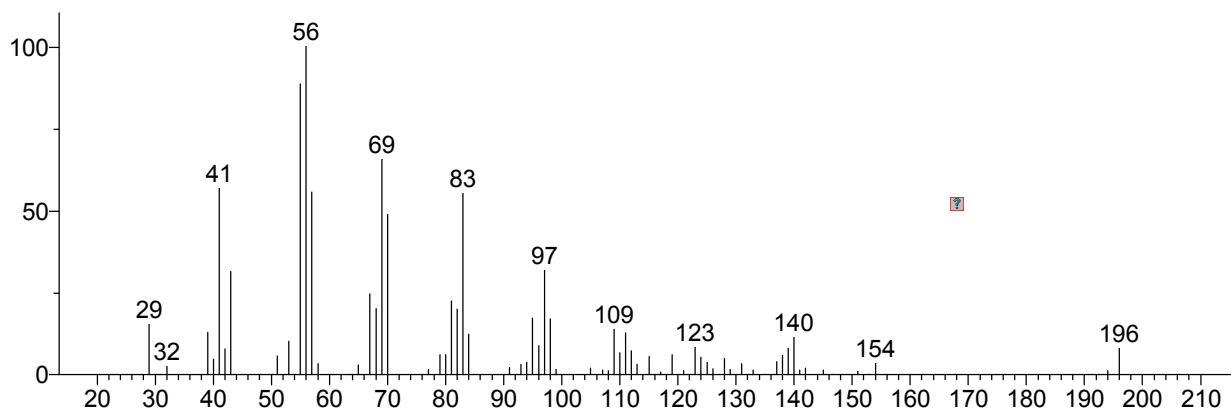


Hit 2 : Trichloroacetic acid, hexadecyl ester  
C18H33Cl3O2; MF: 733; RMF: 782; Prob 3.77%; CAS: 74339-54-1; Lib: mainlib; ID: 7756.

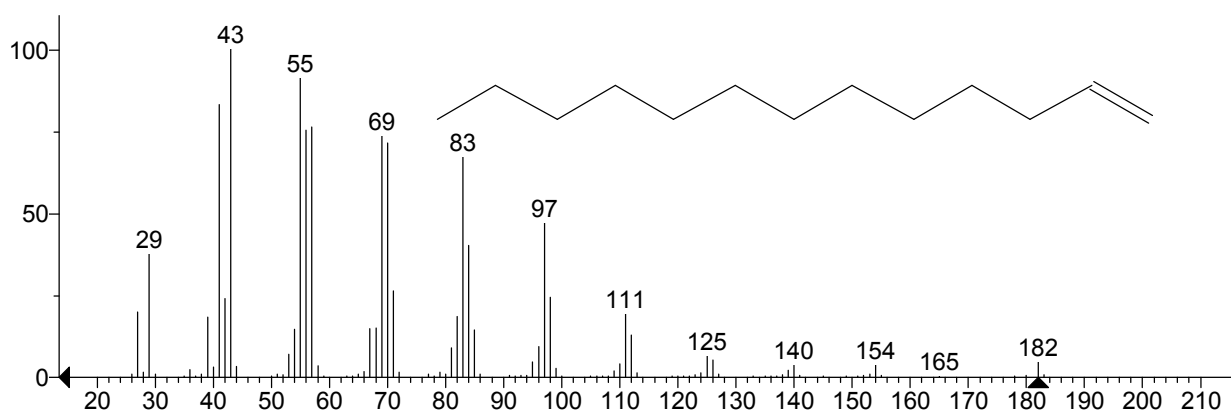


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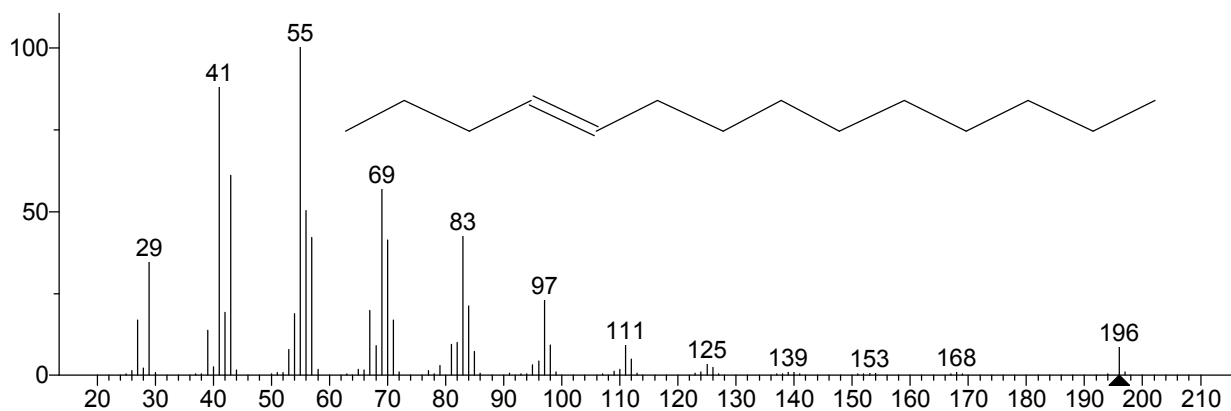
Unknown: + Scan (rt: 3.996-4.057 min, 9 scans) J10630 NTSB ENG 11IA047 A py2.D Subtract  
Compound in Library Factor = -1103



Hit 1 : 1-Tridecene  
C13H26; MF: 748; RMF: 776; Prob 3.53%; CAS: 2437-56-1; Lib: mainlib; ID: 7145.



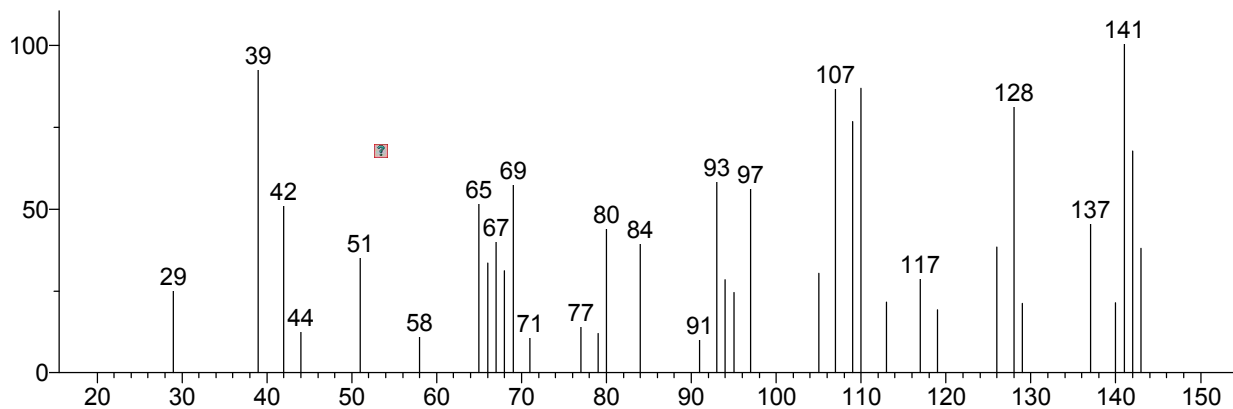
Hit 2 : 4-Tetradecene, (E)-  
C14H28; MF: 746; RMF: 780; Prob 3.26%; CAS: 41446-78-0; Lib: mainlib; ID: 19072.



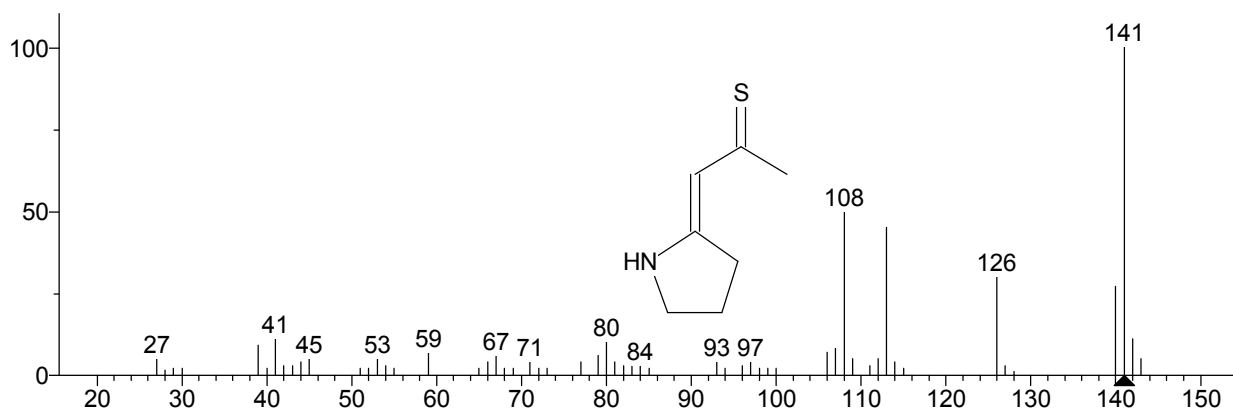


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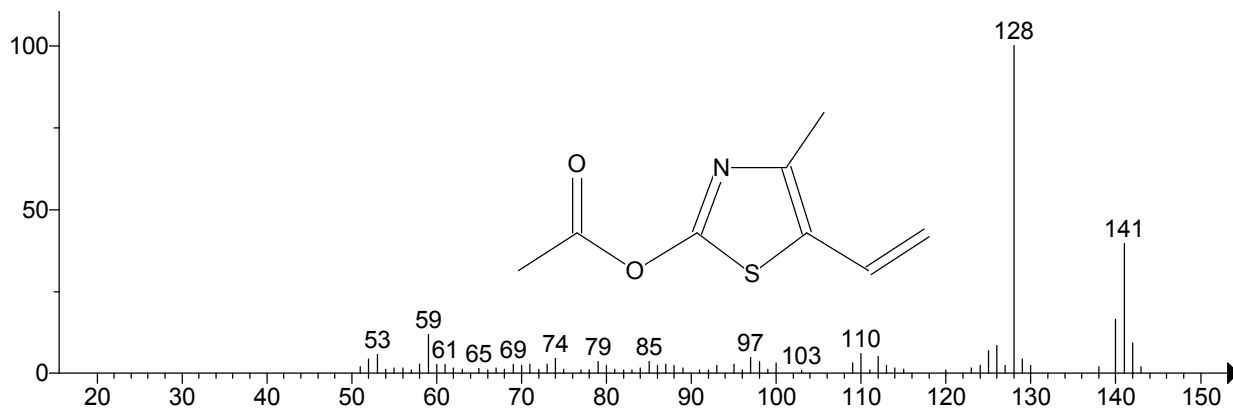
Unknown: + Scan (rt: 4.057-4.102 min, 7 scans) J10630 NTSB ENG 11IA047 A py2.D Subtract  
Compound in Library Factor = -1709



Hit 1 : 2-Propanethione, 1-(2-pyrrolidinylidene)-  
C7H11NS; MF: 478; RMF: 552; Prob 21.0%; CAS: 54031-27-5; Lib: mainlib; ID: 128512.

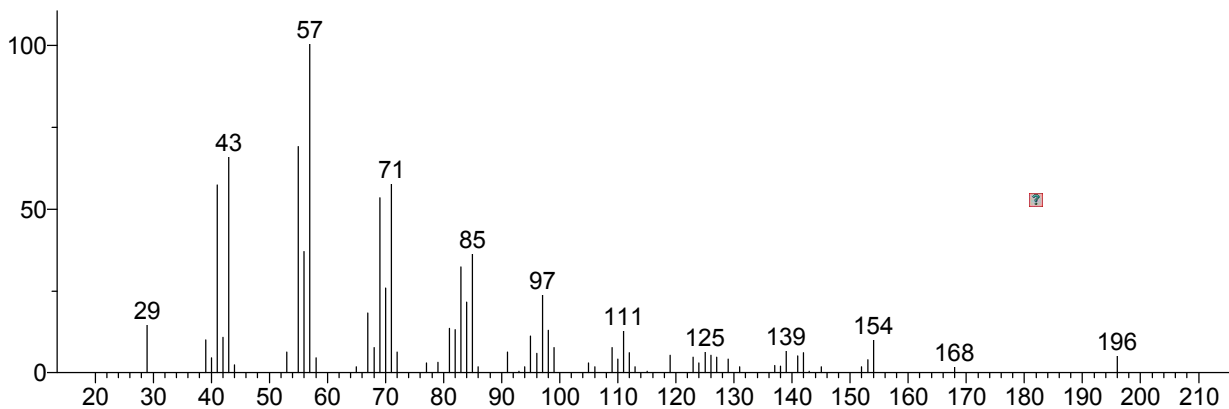


Hit 2 : 2-Acetoxy-5-ethenyl-4-methyl-thiazole  
C8H9NO2S; MF: 460; RMF: 527; Prob 10.8%; Lib: mainlib; ID: 112665.

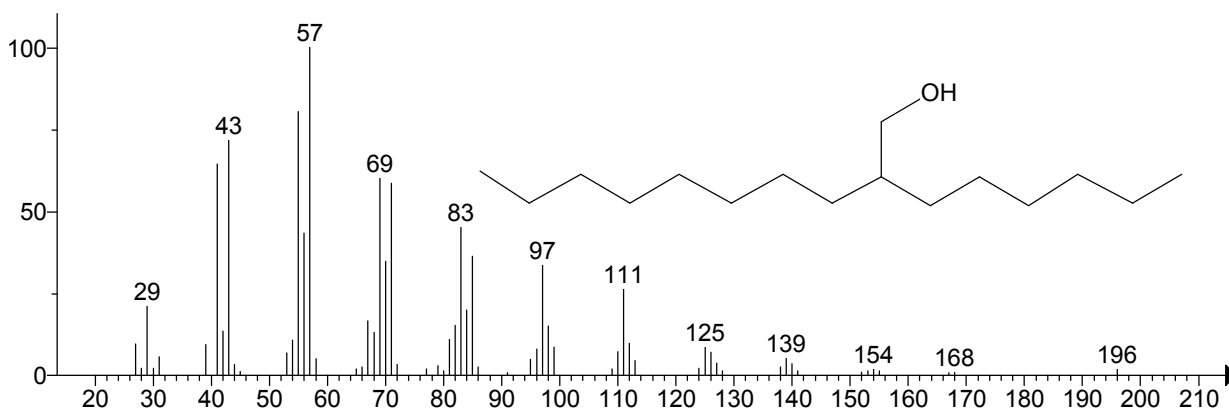


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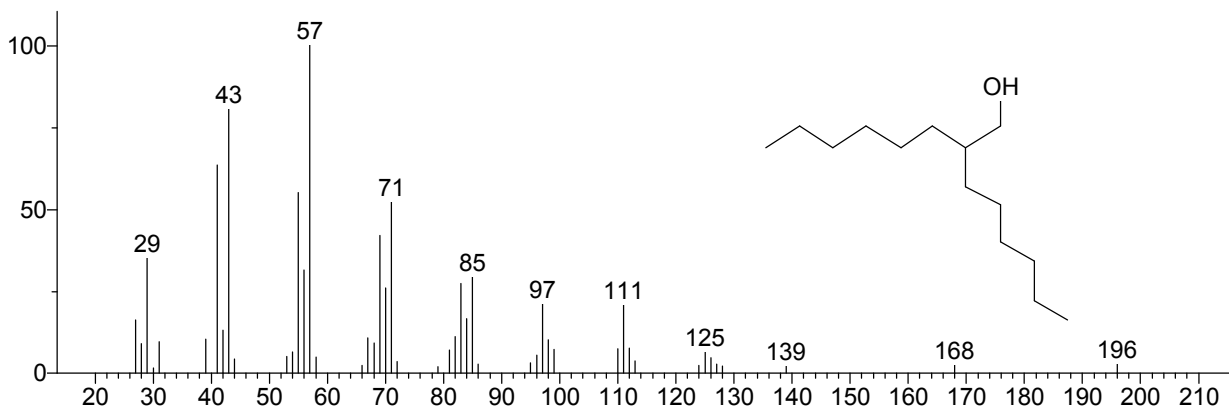
Unknown: + Scan (rt: 4.117-4.132 min, 3 scans) J10630 NTSB ENG 11IA047 A py2.D Subtract  
Compound in Library Factor = -328



Hit 1 : 1-Decanol, 2-hexyl-  
C16H34O; MF: 840; RMF: 875; Prob 14.1%; CAS: 2425-77-6; Lib: mainlib; ID: 24720.

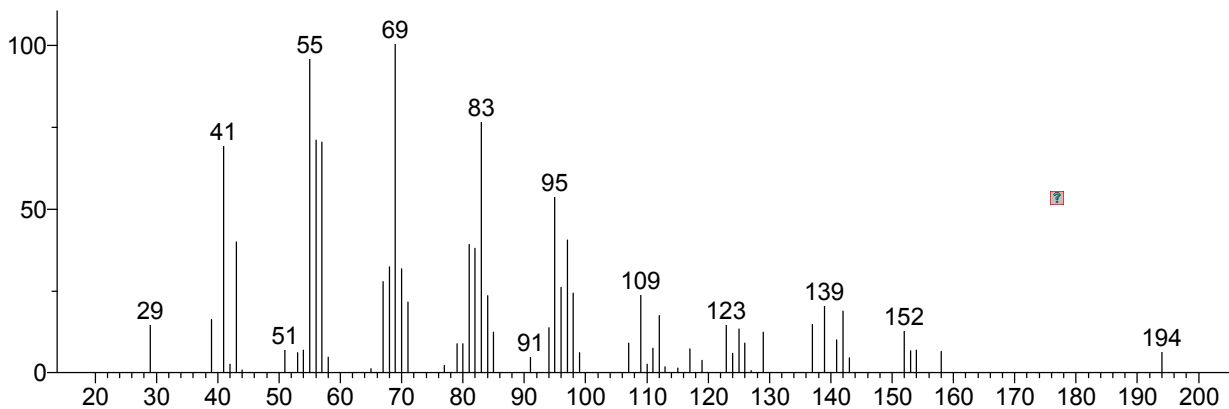


Hit 2 : 2-Hexyl-1-octanol  
C14H30O; MF: 827; RMF: 907; Prob 9.10%; CAS: 19780-79-1; Lib: mainlib; ID: 24046.

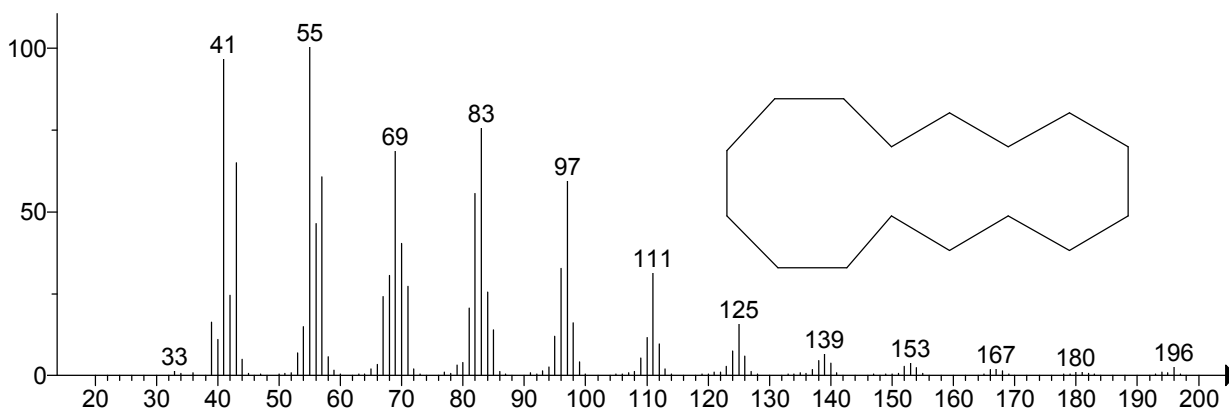


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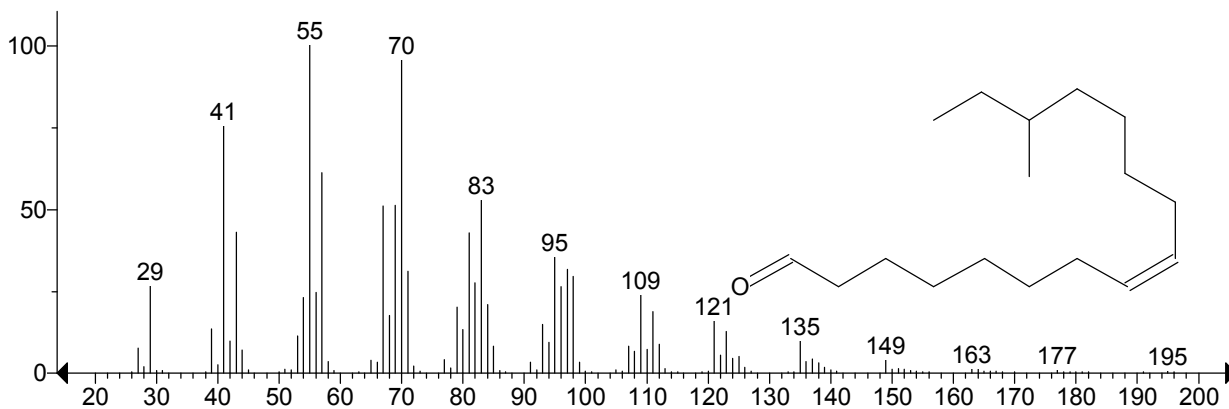
Unknown: + Scan (rt: 4.298-4.313 min, 3 scans) J10630 NTSB ENG 11IA047 A py2.D Subtract  
Compound in Library Factor = -825



Hit 1 : Cyclohexadecane  
C16H32; MF: 725; RMF: 758; Prob 4.80%; CAS: 295-65-8; Lib: replib; ID: 4771.

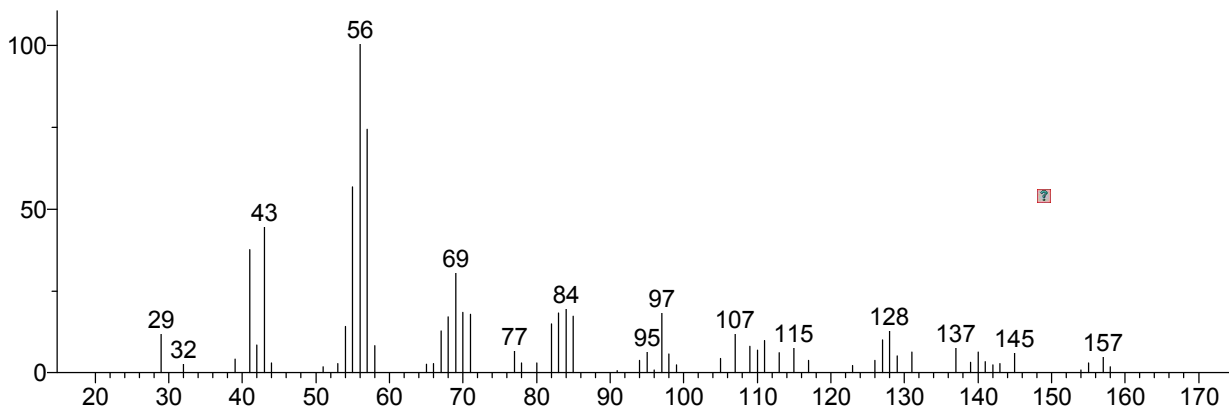


Hit 2 : 8-Hexadecenal, 14-methyl-, (Z)-  
C17H32O; MF: 715; RMF: 752; Prob 3.38%; CAS: 60609-53-2; Lib: mainlib; ID: 20337.

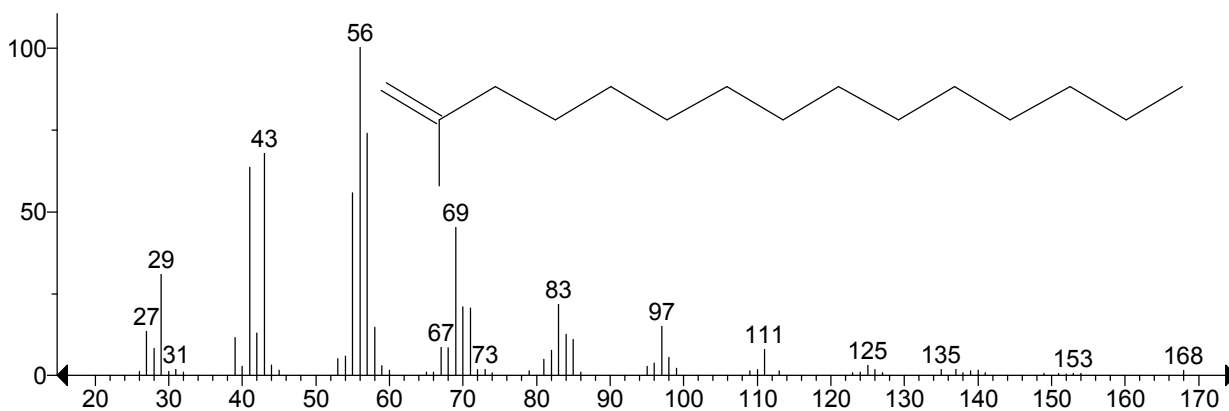


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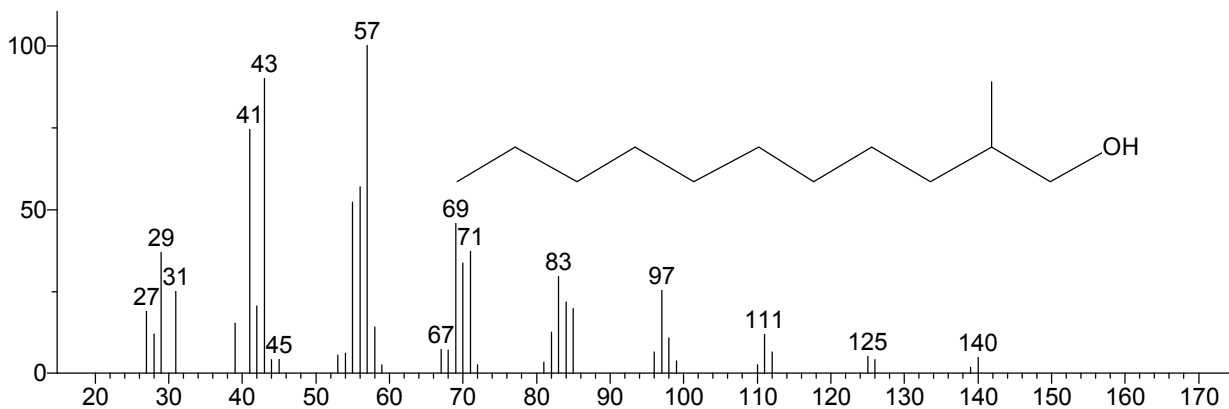
Unknown: + Scan (rt: 4.329-4.344 min, 3 scans) J10630 NTSB ENG 11IA047 A py2.D Subtract  
Compound in Library Factor = -1006



Hit 1 : 1-Pentadecene, 2-methyl-  
C16H32; MF: 694; RMF: 792; Prob 5.32%; CAS: 29833-69-0; Lib: mainlib; ID: 22409.

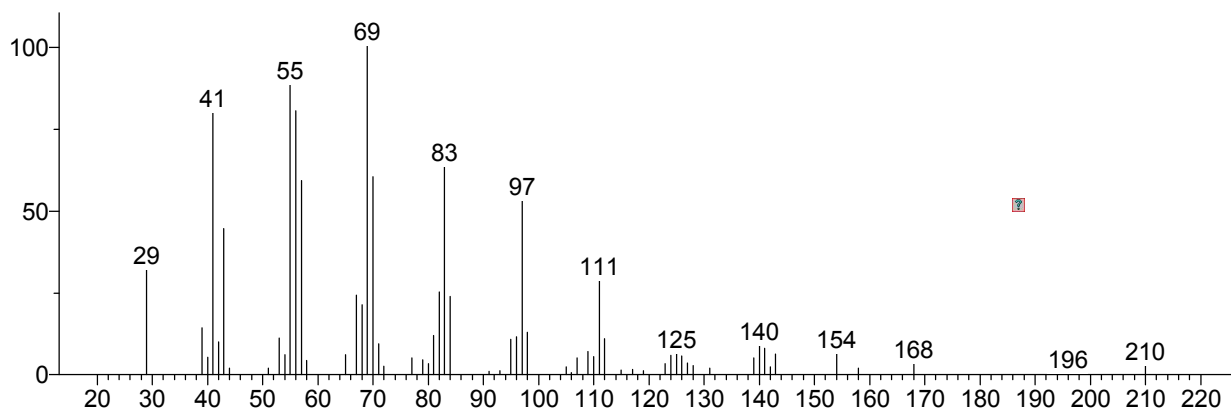


Hit 2 : 2-Methyl-1-undecanol  
C12H26O; MF: 677; RMF: 833; Prob 2.90%; CAS: 10522-26-6; Lib: mainlib; ID: 24033.

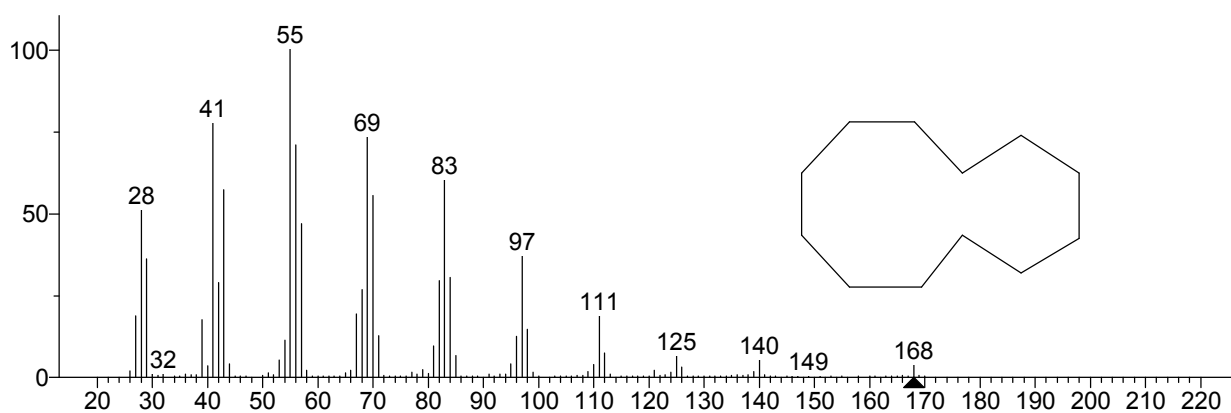


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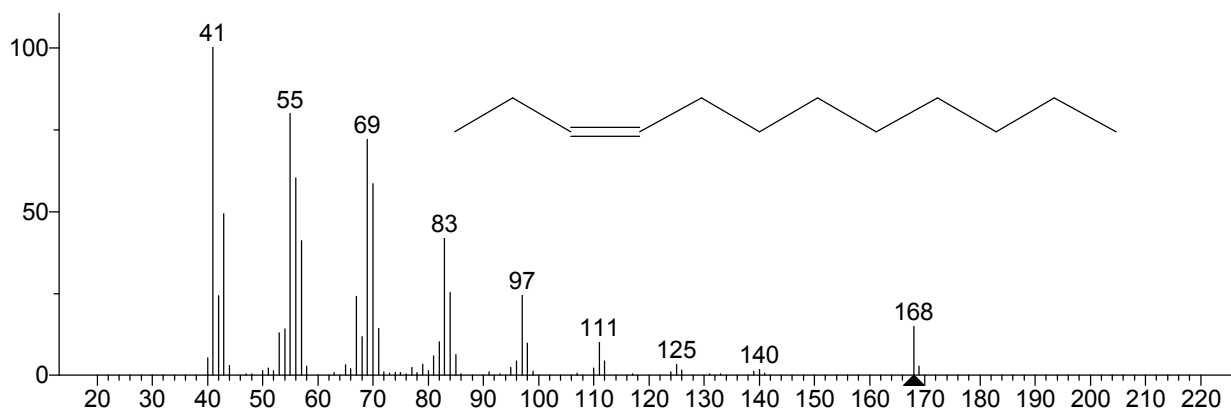
Unknown: + Scan (rt: 4.366-4.404 min, 6 scans) J10630 NTSB ENG 11IA047 A py2.D Subtract  
Compound in Library Factor = -407



Hit 1 : Cyclododecane  
C<sub>12</sub>H<sub>24</sub>; MF: 818; RMF: 841; Prob 6.05%; CAS: 294-62-2; Lib: replib; ID: 4736.

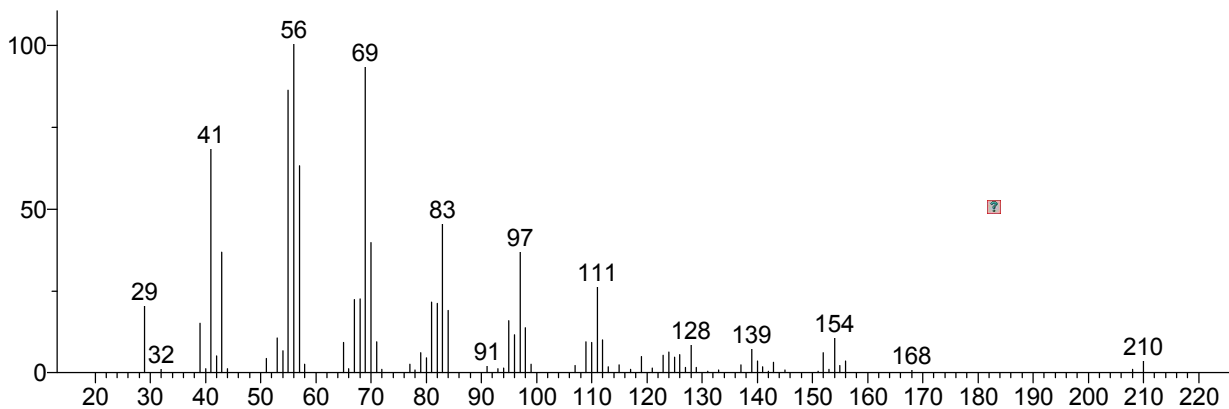


Hit 2 : 3-Dodecene, (Z)-  
C<sub>12</sub>H<sub>24</sub>; MF: 806; RMF: 847; Prob 4.03%; CAS: 7239-23-8; Lib: replib; ID: 1007.

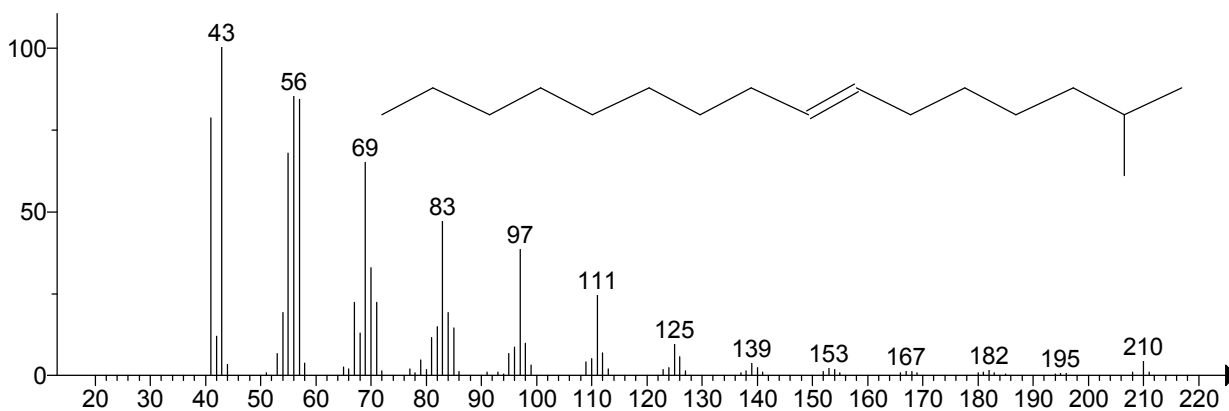


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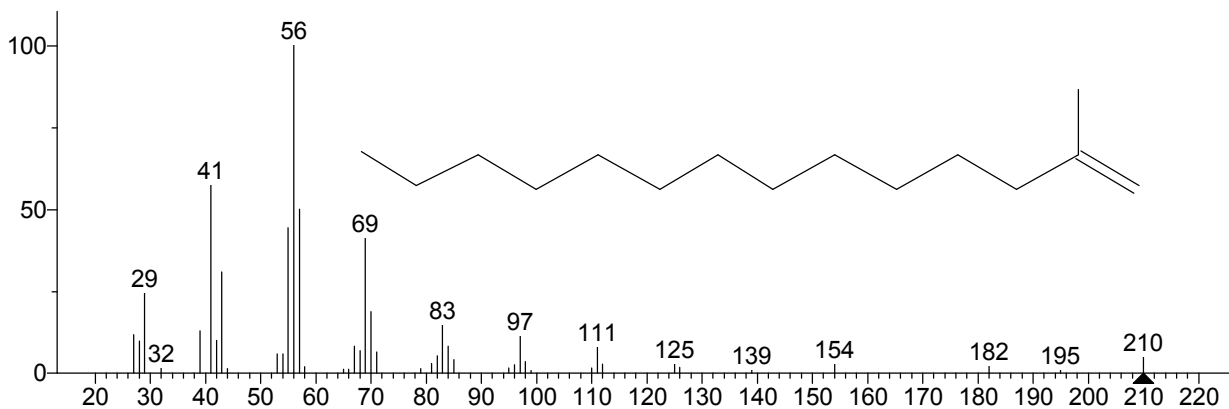
Unknown: + Scan (rt: 4.585-4.668 min, 12 scans) J10630 NTSB ENG 11IA047 A py2.D Subtract  
Compound in Library Factor = -811



Hit 1 : 2-Methyl-E-7-hexadecene  
C17H34; MF: 774; RMF: 799; Prob 3.56%; CAS: 64183-52-4; Lib: mainlib; ID: 7546.

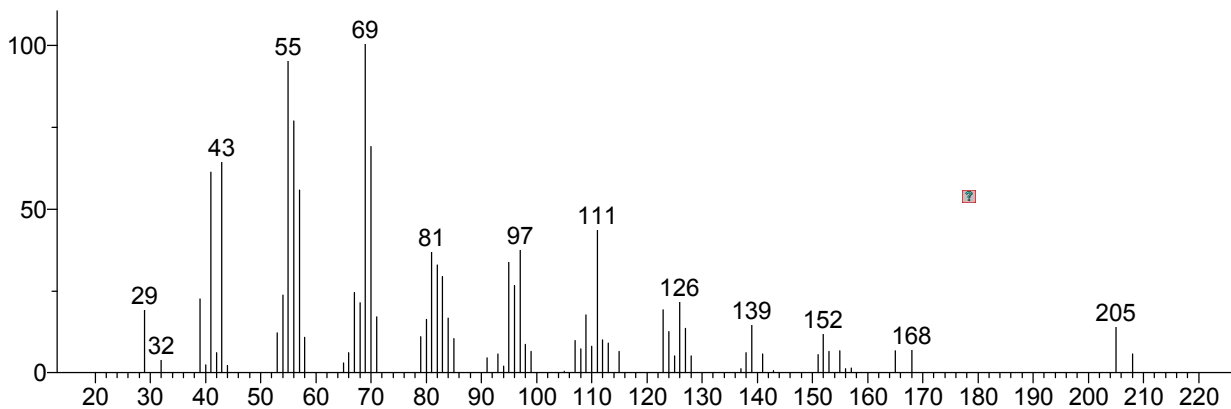


Hit 2 : 2-Methyl-1-tetradecene  
C15H30; MF: 770; RMF: 847; Prob 3.01%; CAS: 52254-38-3; Lib: mainlib; ID: 22047.

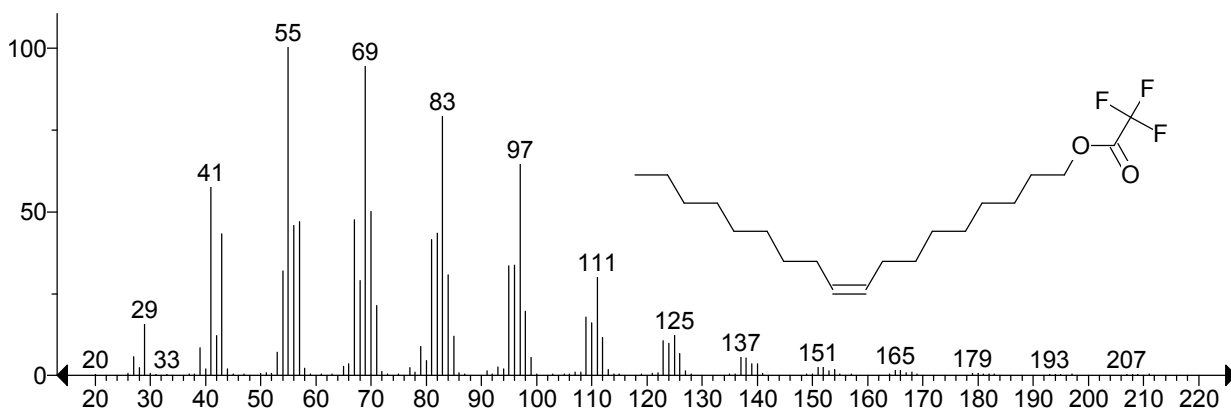


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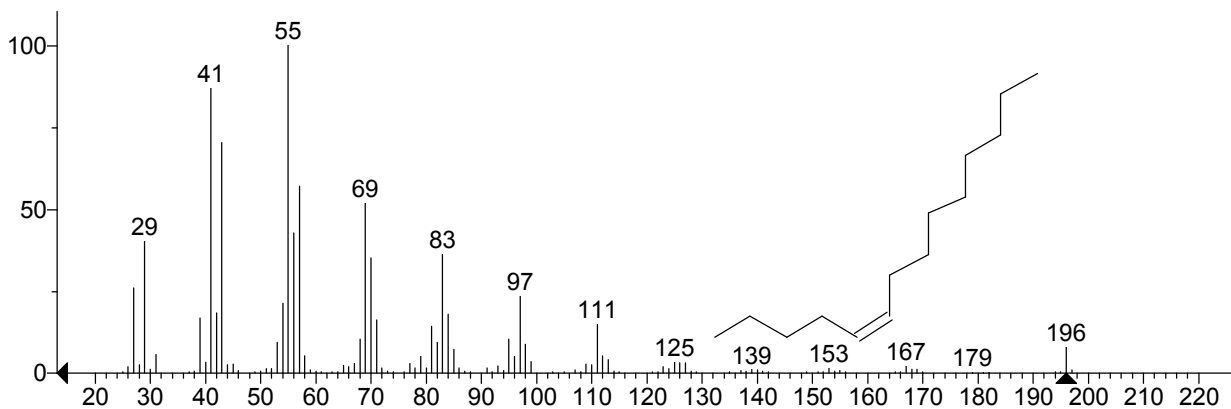
Unknown: + Scan (rt: 4.887-4.902 min, 3 scans) J10630 NTSB ENG 11IA047 A py2.D Subtract  
Compound in Library Factor = -1120



Hit 1 : Oleyl alcohol, trifluoroacetate  
C<sub>20</sub>H<sub>35</sub>F<sub>3</sub>O<sub>2</sub>; MF: 733; RMF: 747; Prob 4.19%; Lib: mainlib; ID: 20253.

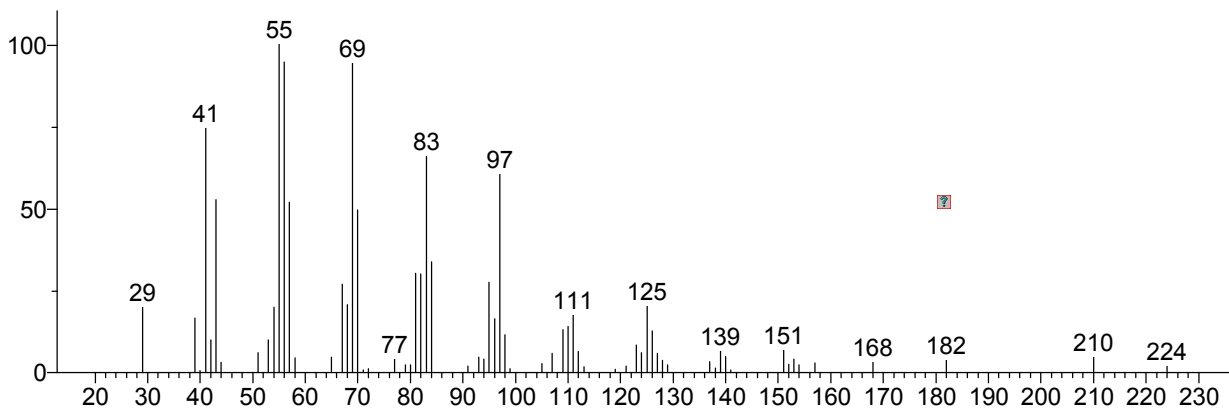


Hit 2 : 5-Tetradecene, (Z)-  
C<sub>14</sub>H<sub>28</sub>; MF: 726; RMF: 746; Prob 3.21%; CAS: 41446-62-2; Lib: mainlib; ID: 19095.

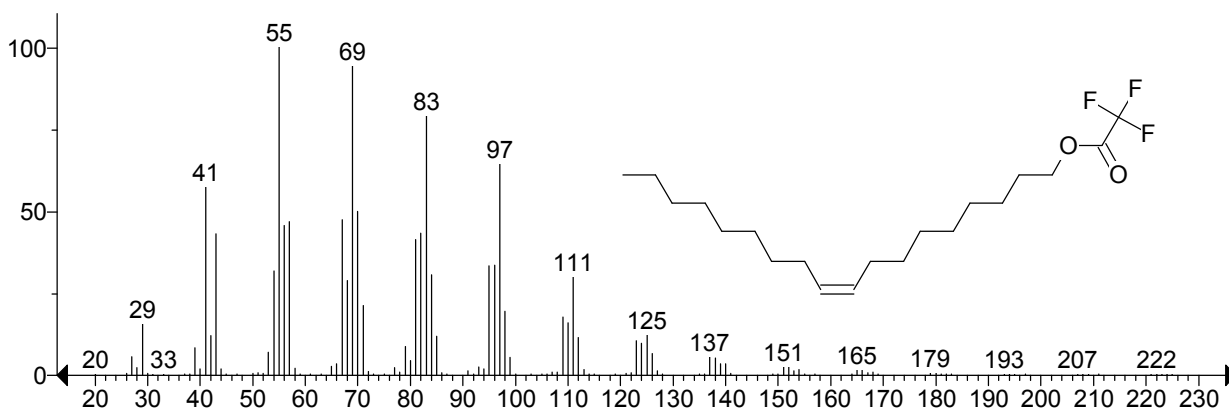


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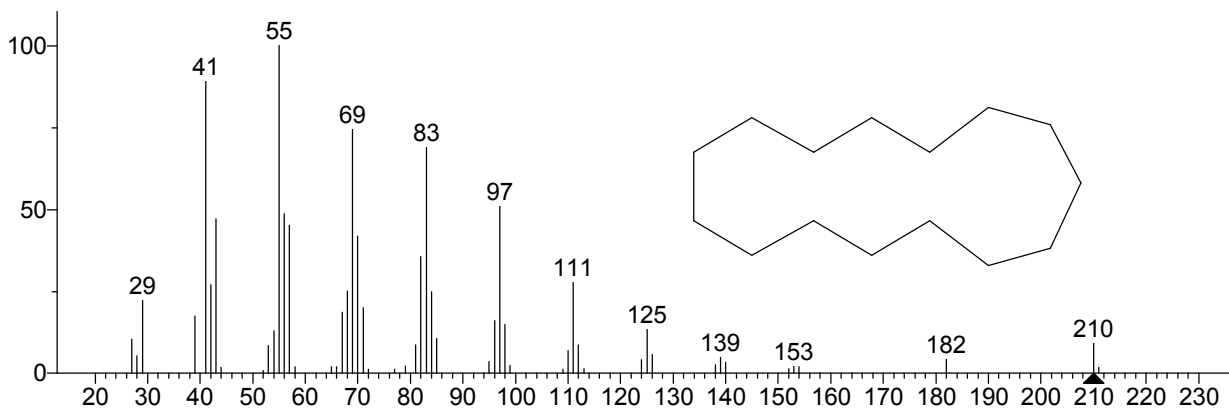
Unknown: + Scan (rt: 4.925-4.955 min, 5 scans) J10630 NTSB ENG 11IA047 A py2.D Subtract  
Compound in Library Factor = -713



Hit 1 : Oleyl alcohol, trifluoroacetate  
C<sub>20</sub>H<sub>35</sub>F<sub>3</sub>O<sub>2</sub>; MF: 788; RMF: 795; Prob 4.27%; Lib: mainlib; ID: 20253.



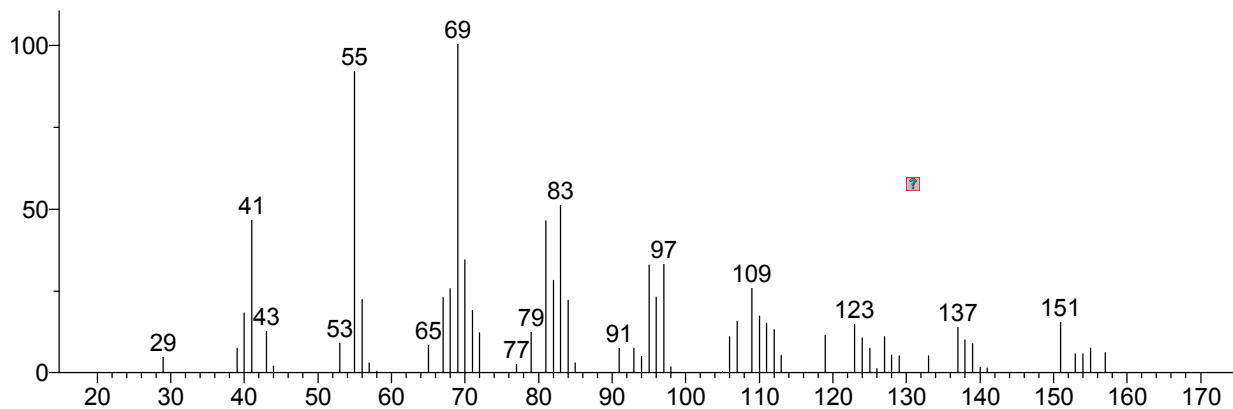
Hit 2 : Cyclopentadecane  
C<sub>15</sub>H<sub>30</sub>; MF: 787; RMF: 836; Prob 4.11%; CAS: 295-48-7; Lib: replib; ID: 4710.



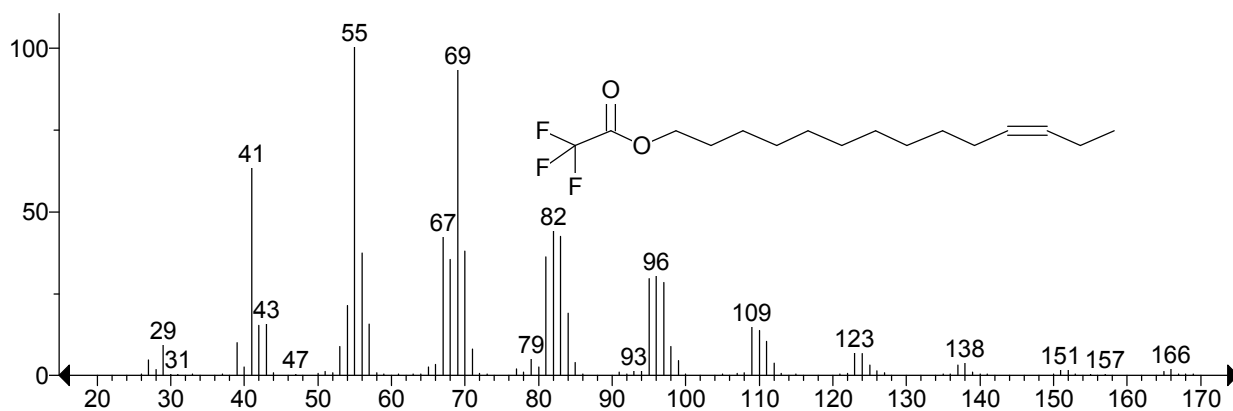


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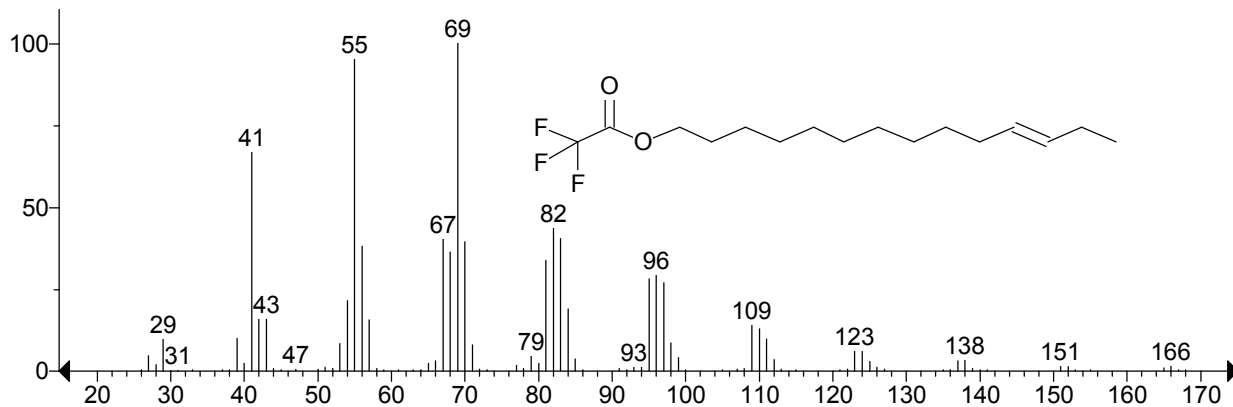
Unknown: + Scan (rt: 5.053-5.076 min, 4 scans) J10630 NTSB ENG 11IA047 A py2.D Subtract  
Compound in Library Factor = -984



Hit 1 : (Z)-Tetradec-11-en-1-yl 2,2,2-trifluoroacetate  
C16H27F3O2; MF: 708; RMF: 738; Prob 4.26%; Lib: mainlib; ID: 20075.

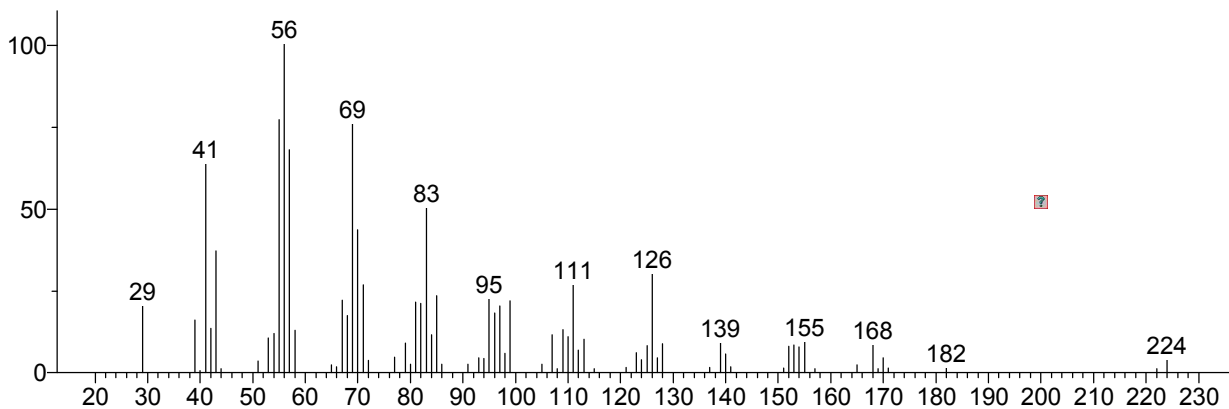


Hit 2 : E-11-Tetradecen-1-ol trifluoroacetate  
C16H27F3O2; MF: 697; RMF: 732; Prob 2.92%; CAS: 35-25-6; Lib: mainlib; ID: 34924.

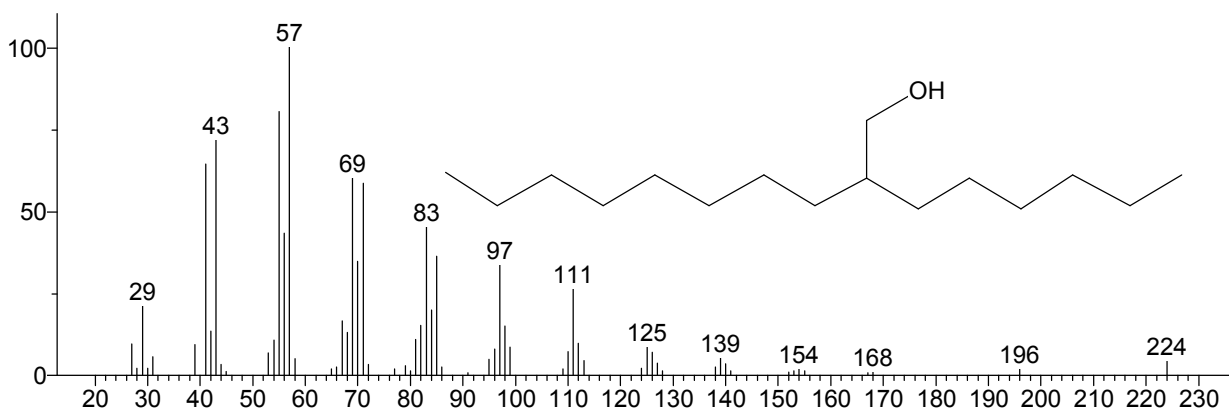


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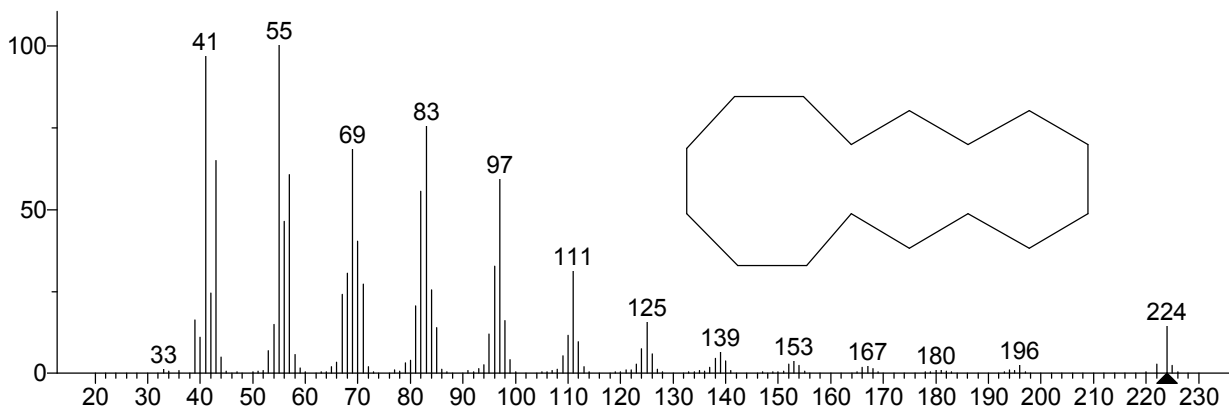
Unknown: + Scan (rt: 5.159-5.219 min, 9 scans) J10630 NTSB ENG 11IA047 A py2.D Subtract  
Compound in Library Factor = -591



Hit 1 : 1-Decanol, 2-hexyl-  
C16H34O; MF: 776; RMF: 811; Prob 6.25%; CAS: 2425-77-6; Lib: mainlib; ID: 24720.

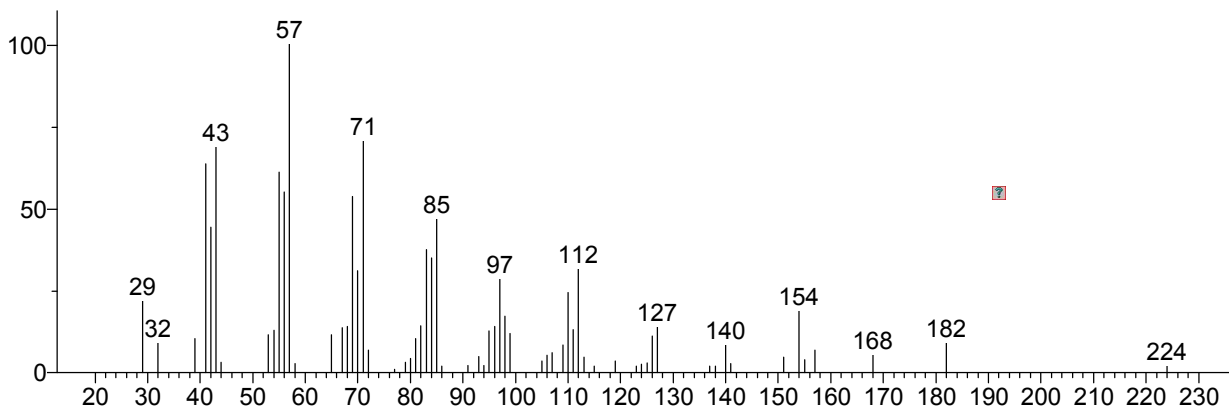


Hit 2 : Cyclohexadecane  
C16H32; MF: 769; RMF: 782; Prob 4.79%; CAS: 295-65-8; Lib: replib; ID: 4771.

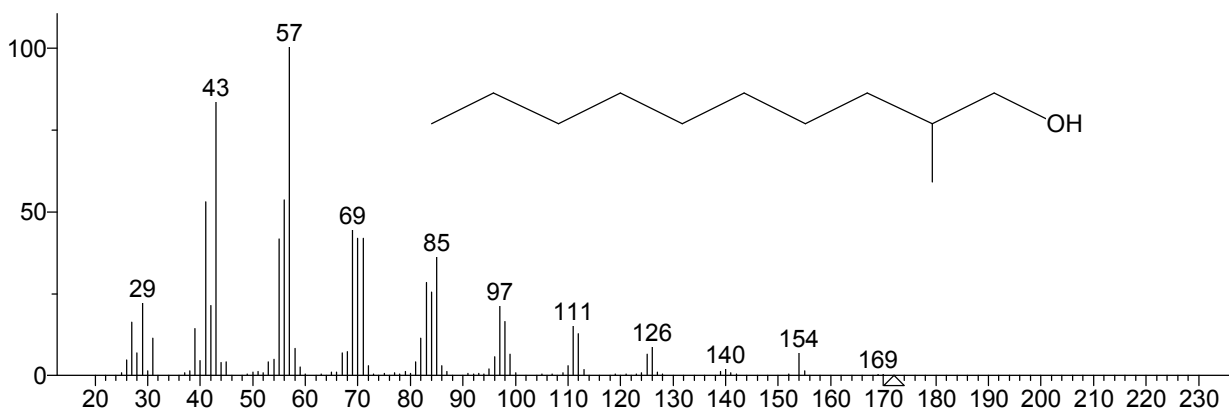


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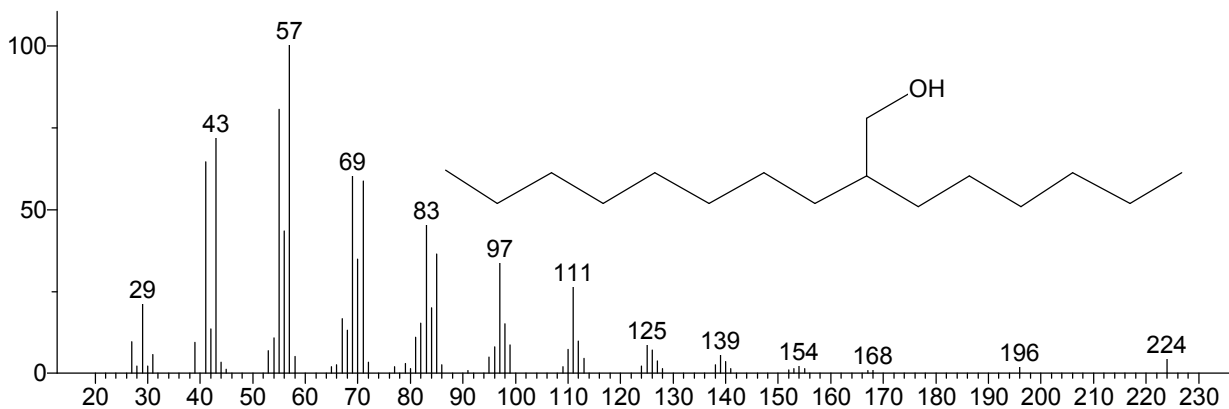
Unknown: + Scan (rt: 5.257-5.294 min, 6 scans) J10630 NTSB ENG 11IA047 A py2.D Subtract  
Compound in Library Factor = -520



Hit 1 : 1-Decanol, 2-methyl-  
C11H24O; MF: 785; RMF: 824; Prob 9.26%; CAS: 18675-24-6; Lib: mainlib; ID: 24136.

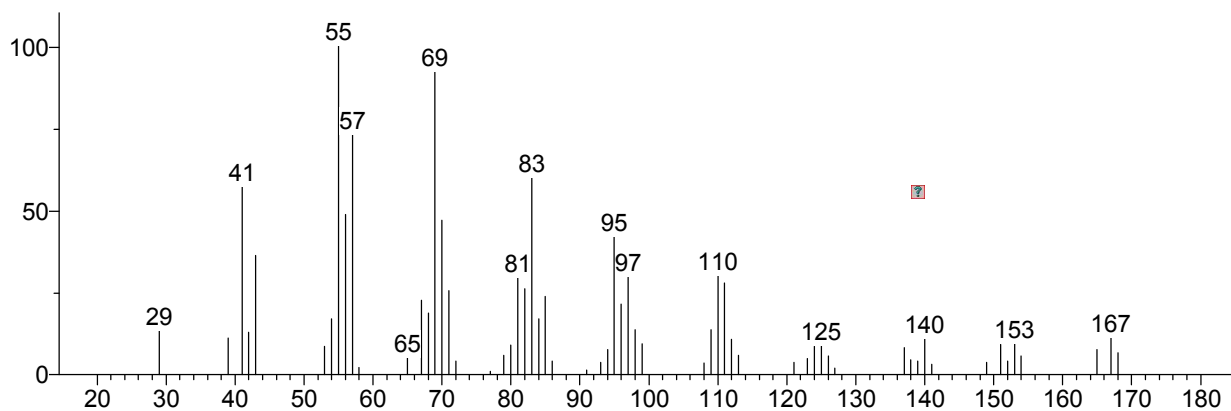


Hit 2 : 1-Decanol, 2-hexyl-  
C16H34O; MF: 769; RMF: 811; Prob 5.33%; CAS: 2425-77-6; Lib: mainlib; ID: 24720.

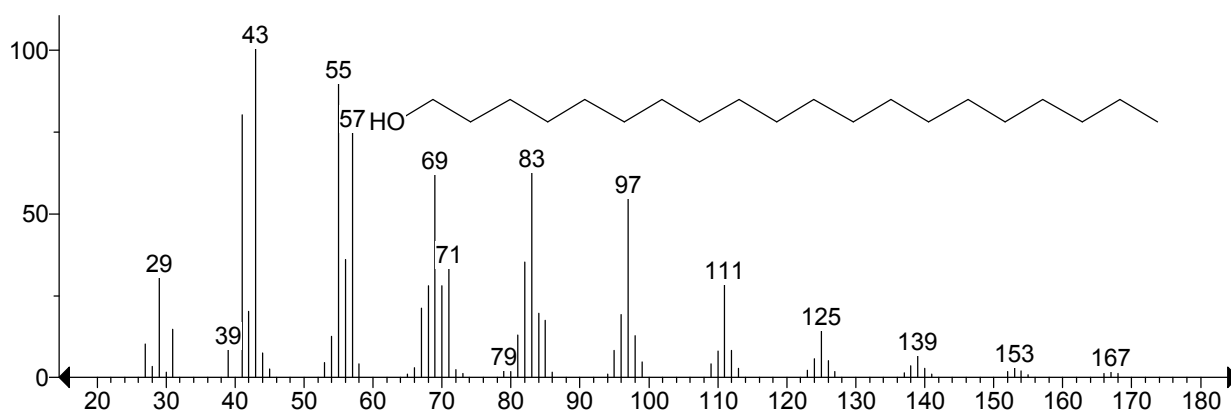


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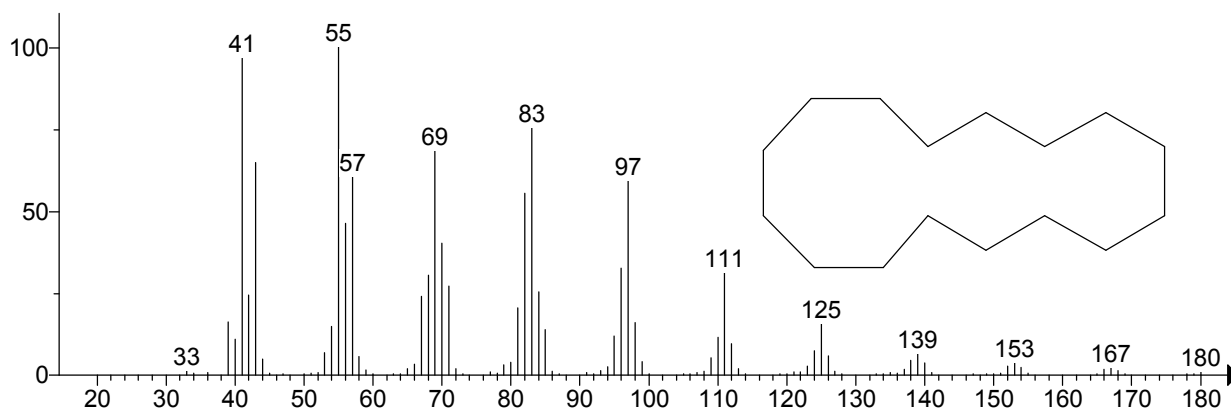
Unknown: + Scan (rt: 5.453-5.468 min, 3 scans) J10630 NTSB ENG 11IA047 A py2.D Subtract  
Compound in Library Factor = -713



Hit 1 : 1-Eicosanol  
C<sub>20</sub>H<sub>42</sub>O; MF: 790; RMF: 815; Prob 4.51%; CAS: 629-96-9; Lib: replib; ID: 2098.

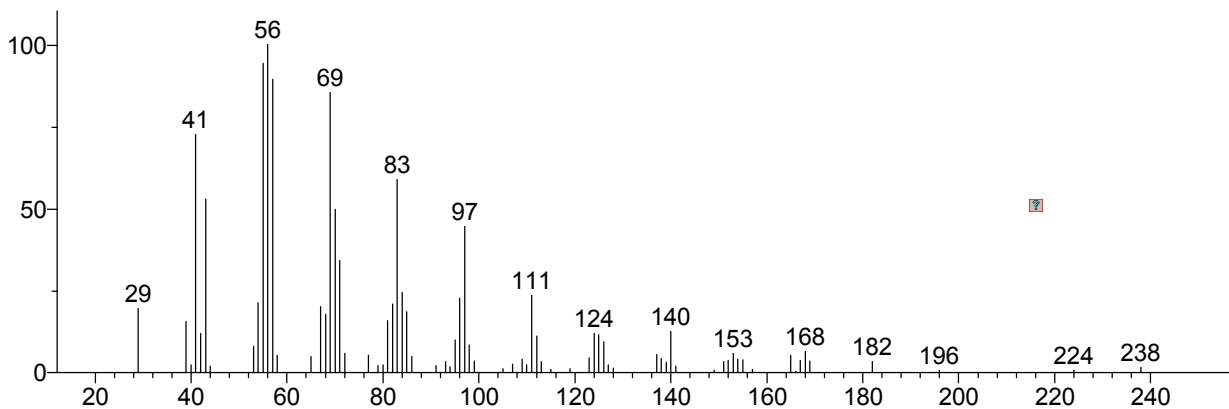


Hit 2 : Cyclohexadecane  
C<sub>16</sub>H<sub>32</sub>; MF: 789; RMF: 789; Prob 4.33%; CAS: 295-65-8; Lib: replib; ID: 4771.

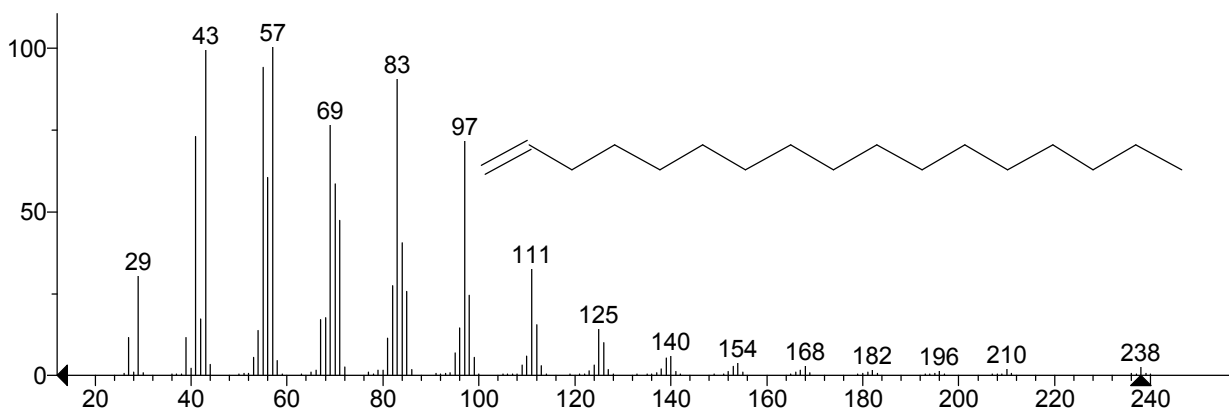


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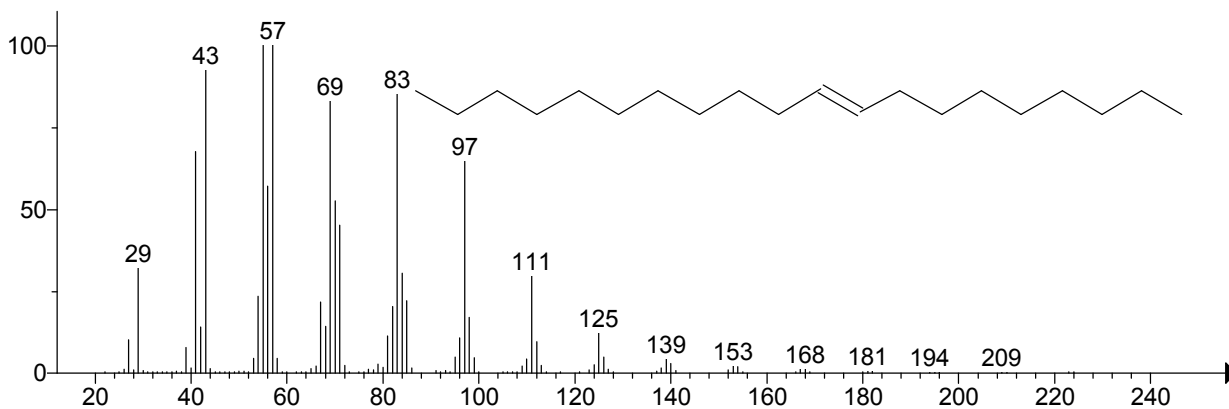
Unknown: + Scan (rt: 5.483-5.551 min, 10 scans) J10630 NTSB ENG 11IA047 A py2.D Subtract  
Compound in Library Factor = -558



Hit 1 : 1-Heptadecene  
C17H34; MF: 820; RMF: 822; Prob 3.75%; CAS: 6765-39-5; Lib: replib; ID: 6036.

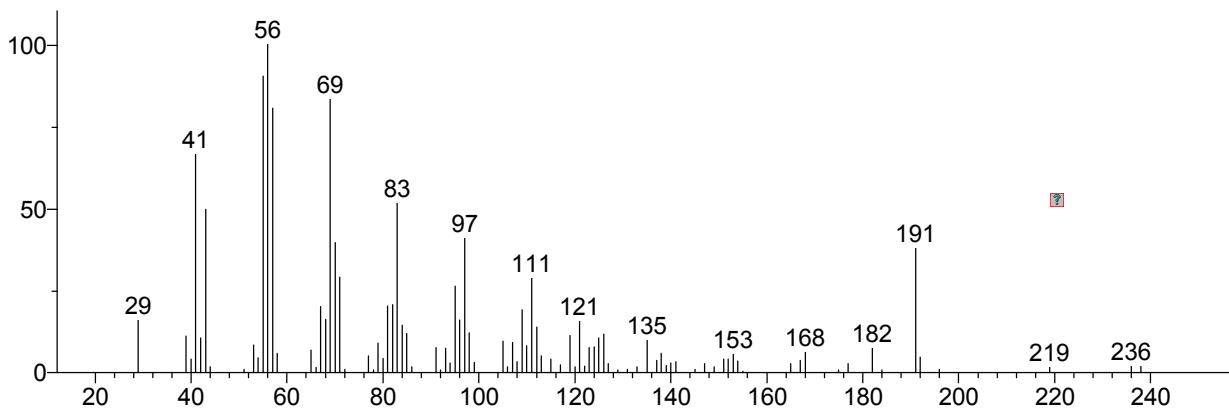


Hit 2 : 9-Eicosene, (E)-  
C20H40; MF: 815; RMF: 832; Prob 3.02%; CAS: 74685-29-3; Lib: mainlib; ID: 24718.

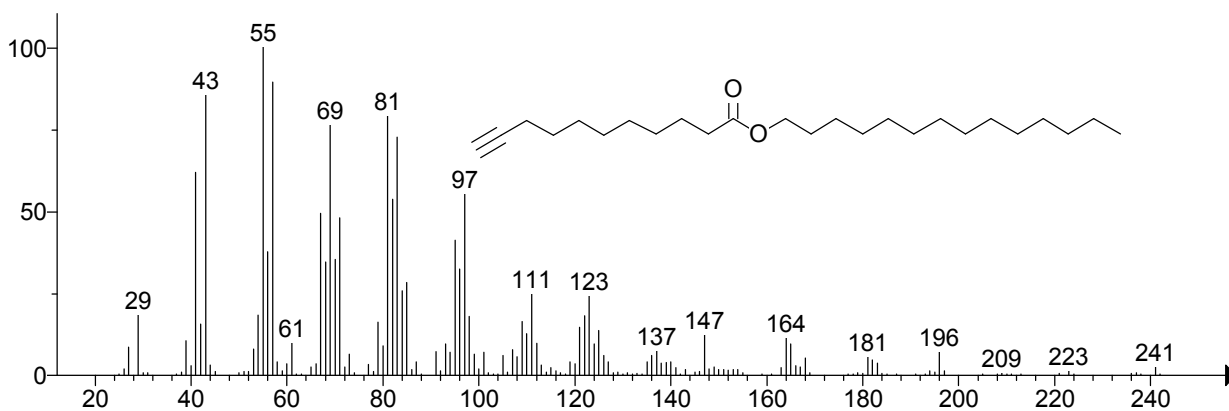


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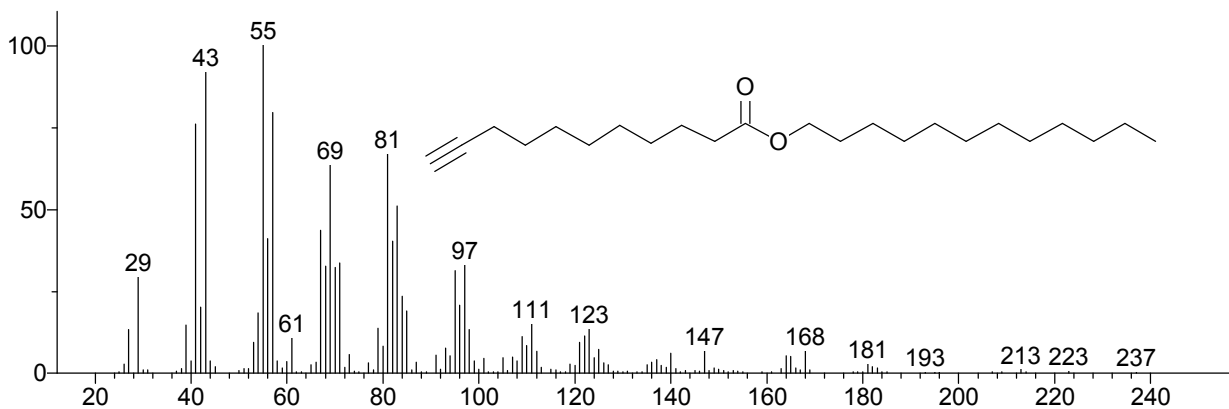
Unknown: + Scan (rt: 5.702-5.755 min, 8 scans) J10630 NTSB ENG 11IA047 A py2.D Subtract  
Compound in Library Factor = -1103



Hit 1 : Undec-10-ynoic acid, tetradecyl ester  
C<sub>25</sub>H<sub>46</sub>O<sub>2</sub>; MF: 750; RMF: 756; Prob 5.77%; Lib: mainlib; ID: 19926.

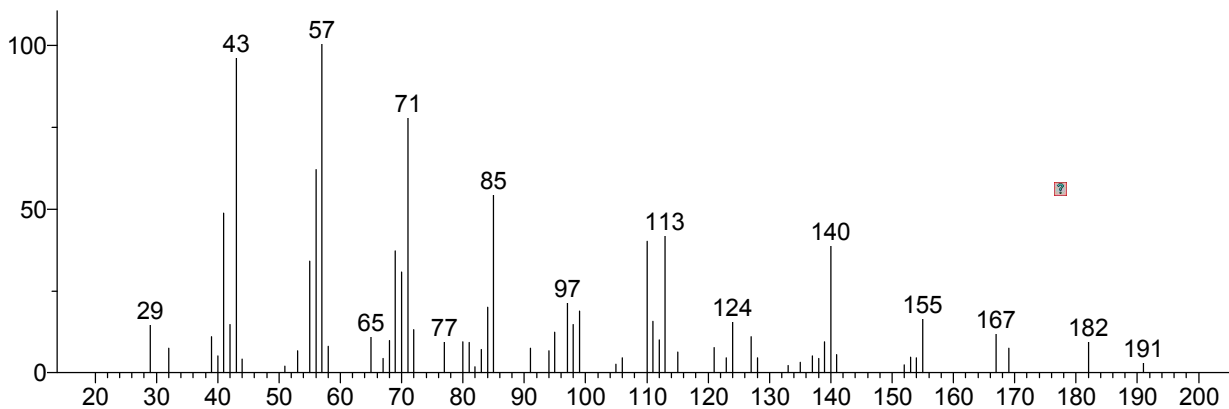


Hit 2 : Undec-10-ynoic acid, dodecyl ester  
C<sub>23</sub>H<sub>42</sub>O<sub>2</sub>; MF: 745; RMF: 793; Prob 4.65%; Lib: mainlib; ID: 19663.

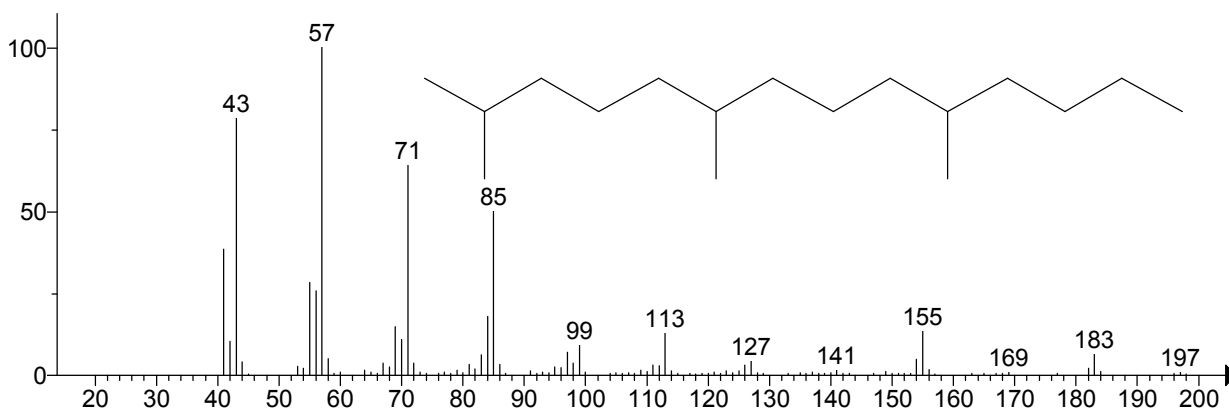


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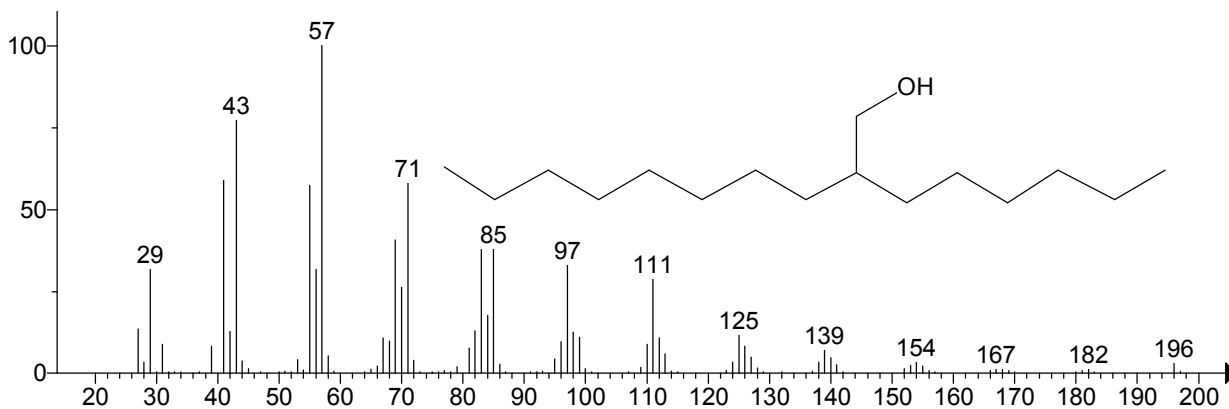
Unknown: + Scan (rt: 5.777-5.860 min, 12 scans) J10630 NTSB ENG 11IA047 A py2.D Subtract  
Compound in Library Factor = -1032



Hit 1 : Tetradecane, 2,6,10-trimethyl-  
C17H36; MF: 688; RMF: 691; Prob 8.62%; CAS: 14905-56-7; Lib: mainlib; ID: 24375.

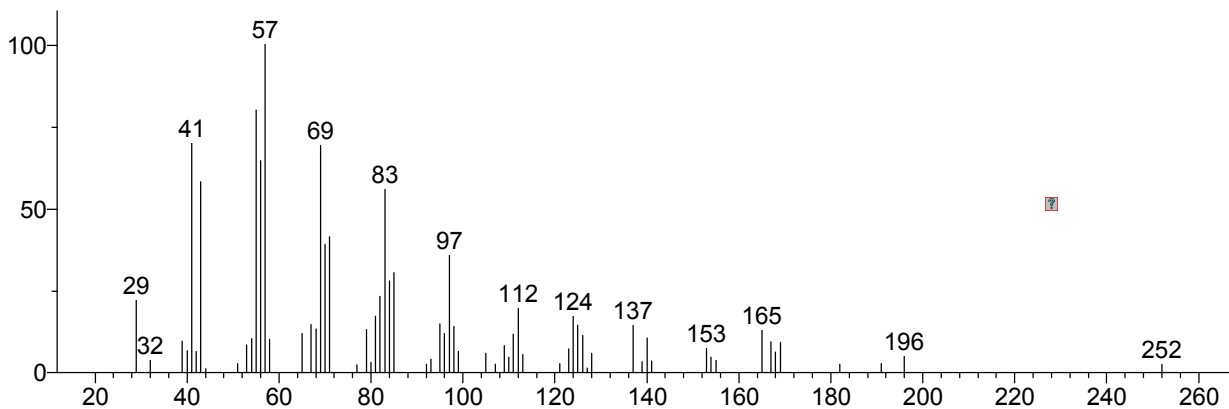


Hit 2 : 1-Decanol, 2-hexyl-  
C16H34O; MF: 682; RMF: 705; Prob 6.77%; CAS: 2425-77-6; Lib: replib; ID: 6005.

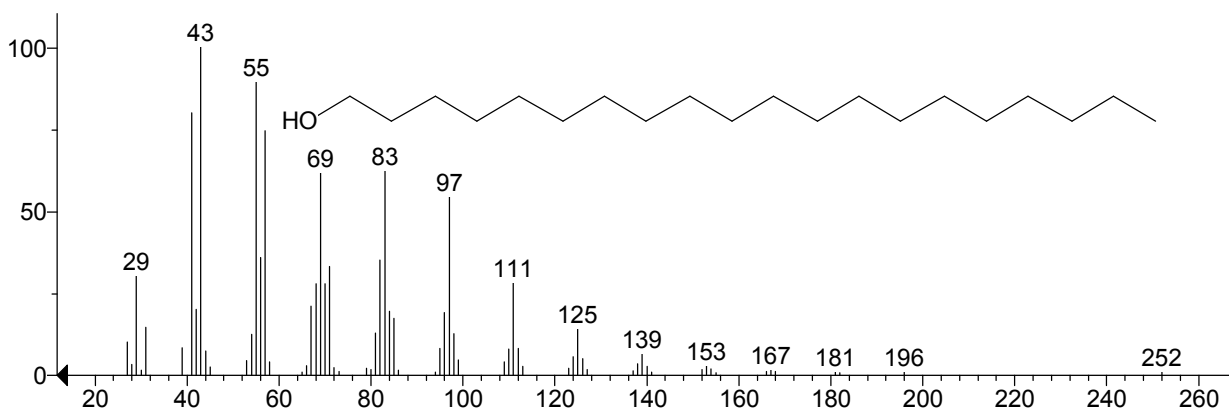


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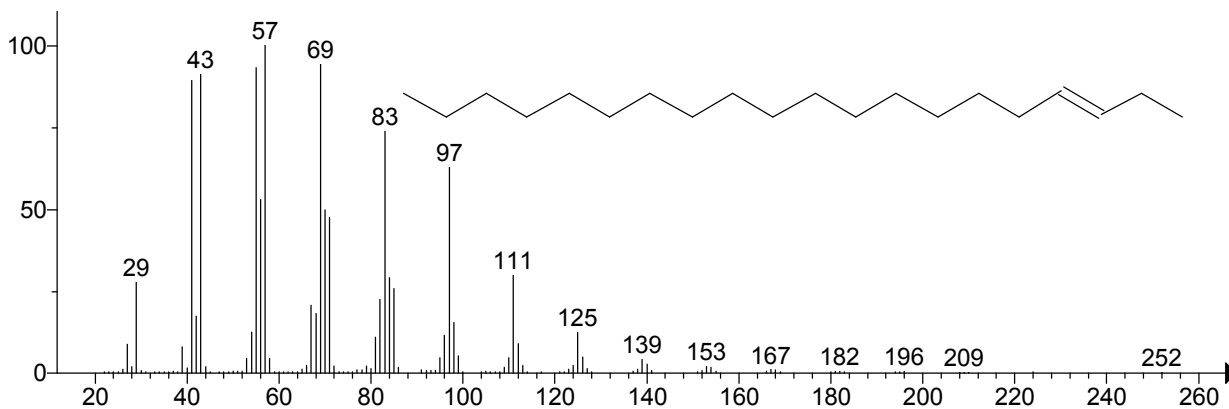
Unknown: + Scan (rt: 5.928-5.951 min, 4 scans) J10630 NTSB ENG 11IA047 A py2.D Subtract  
Compound in Library Factor = -811



Hit 1 : 1-Eicosanol  
C<sub>20</sub>H<sub>42</sub>O; MF: 774; RMF: 817; Prob 3.14%; CAS: 629-96-9; Lib: replib; ID: 2098.

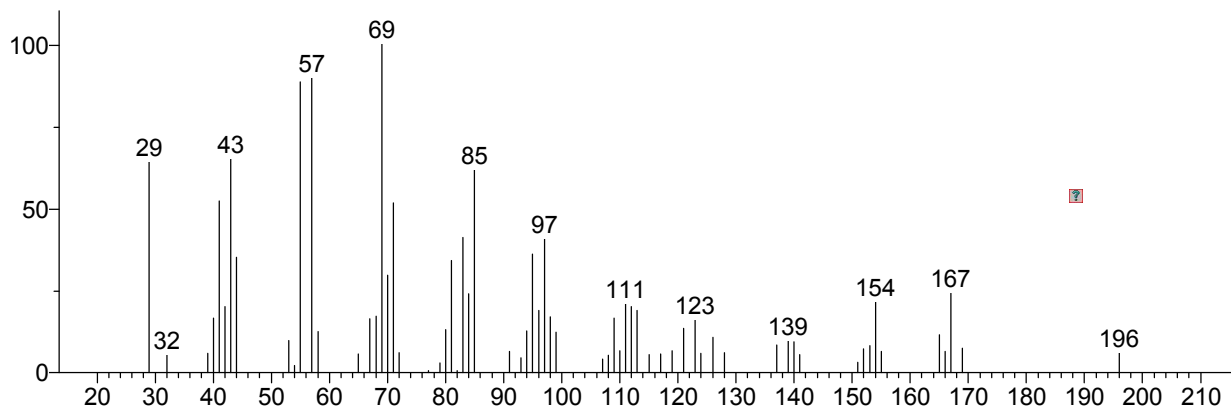


Hit 2 : 3-Eicosene, (E)-  
C<sub>20</sub>H<sub>40</sub>; MF: 771; RMF: 793; Prob 2.77%; CAS: 74685-33-9; Lib: mainlib; ID: 25133.

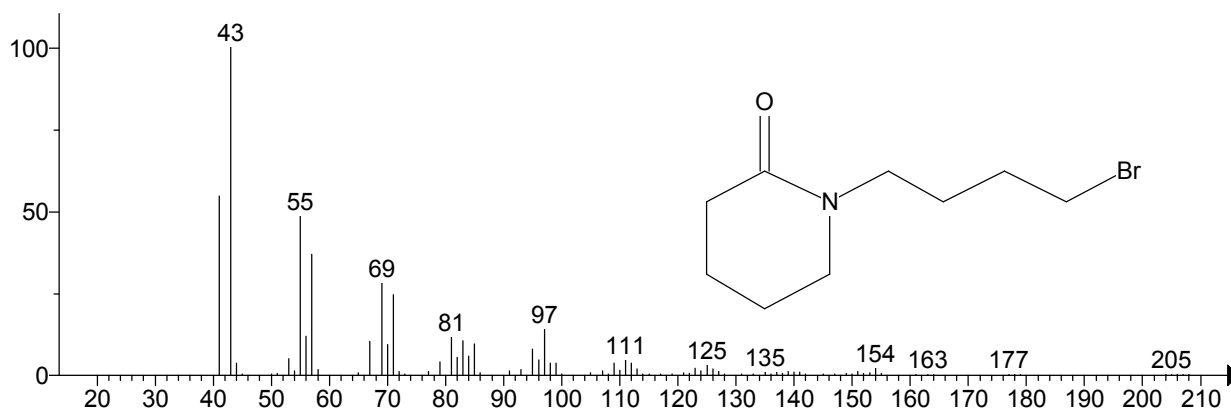




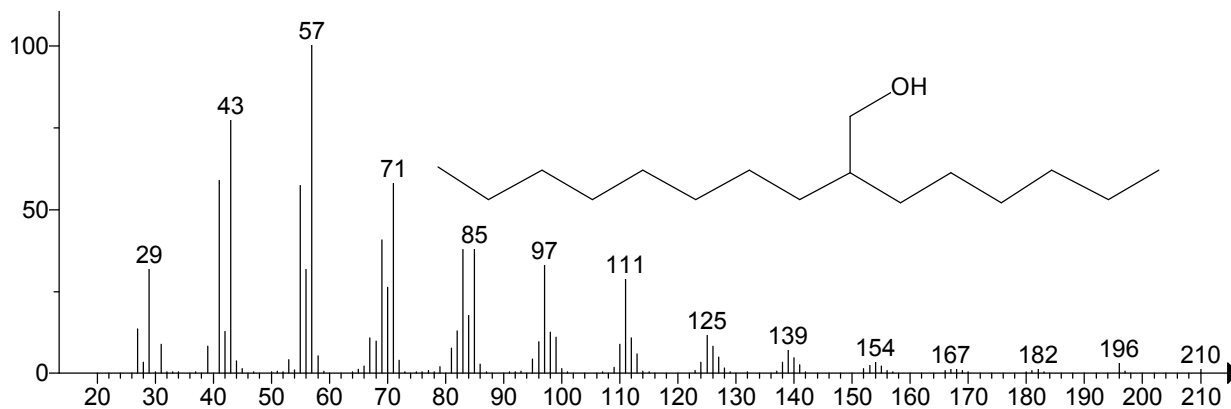
Unknown: + Scan (rt: 5.974-6.004 min, 5 scans) J10630 NTSB ENG 11IA047 A py2.D Subtract  
Compound in Library Factor = -1381



Hit 1 : 2-Piperidinone, N-[4-bromo-n-butyl]-  
C9H16BrNO; MF: 698; RMF: 762; Prob 5.24%; CAS: 195194-80-0; Lib: mainlib; ID: 6015.

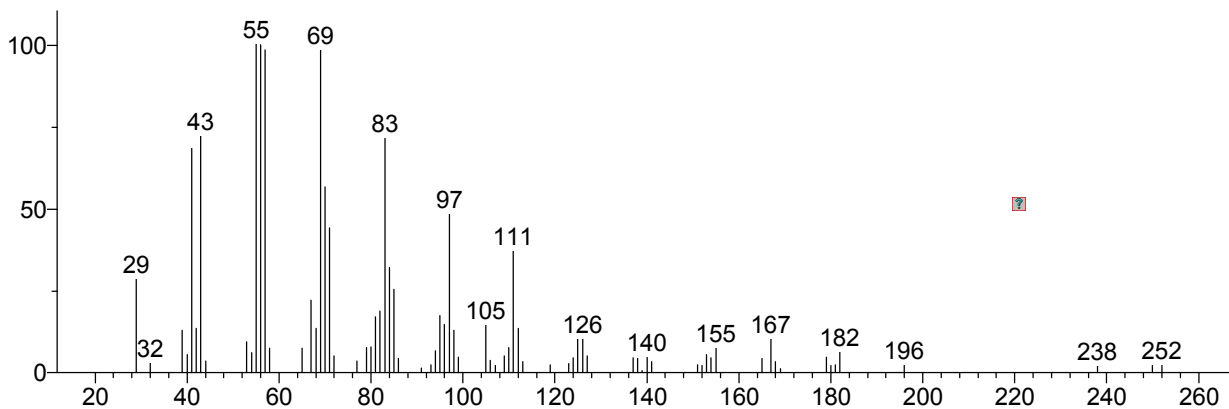


Hit 2 : 1-Decanol, 2-hexyl-  
C16H34O; MF: 691; RMF: 731; Prob 4.01%; CAS: 2425-77-6; Lib: replib; ID: 6005.

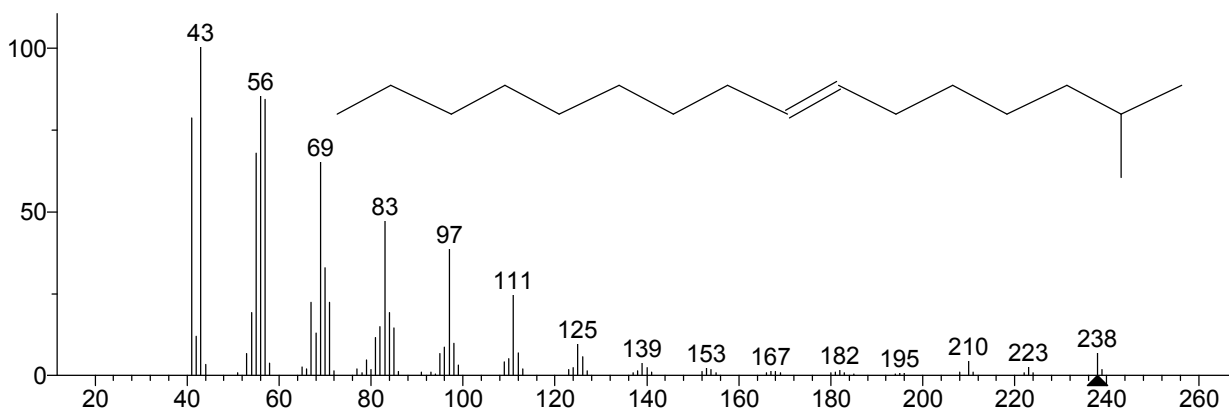


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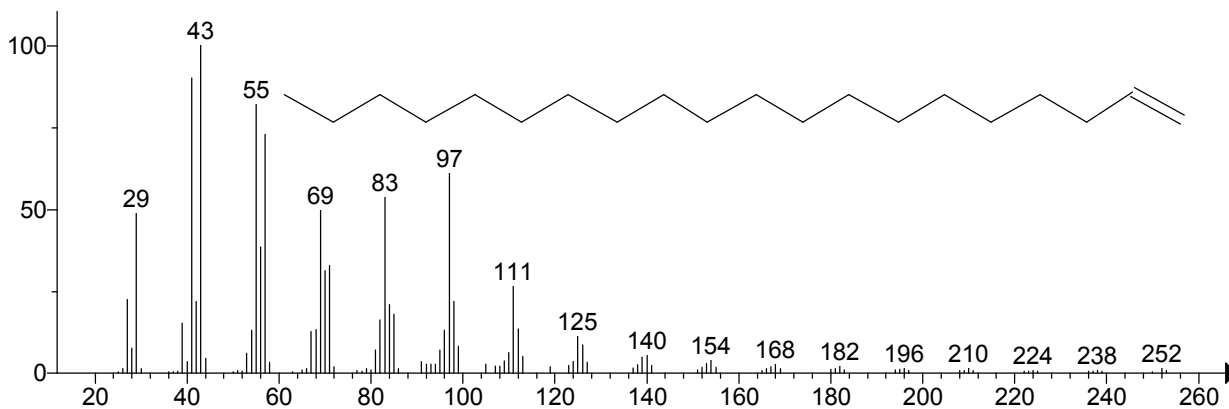
Unknown: + Scan (rt: 6.026-6.049 min, 4 scans) J10630 NTSB ENG 11IA047 A py2.D Subtract  
Compound in Library Factor = -688



Hit 1 : 2-Methyl-E-7-hexadecene  
C17H34; MF: 803; RMF: 831; Prob 3.47%; CAS: 64183-52-4; Lib: mainlib; ID: 7546.

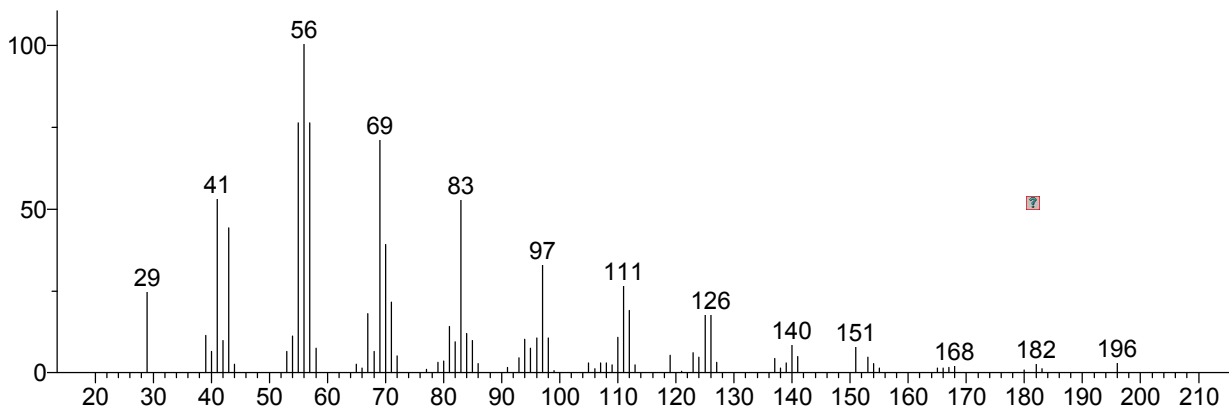


Hit 2 : 1-Eicosene  
C20H40; MF: 801; RMF: 807; Prob 3.20%; CAS: 3452-07-1; Lib: replib; ID: 1829.

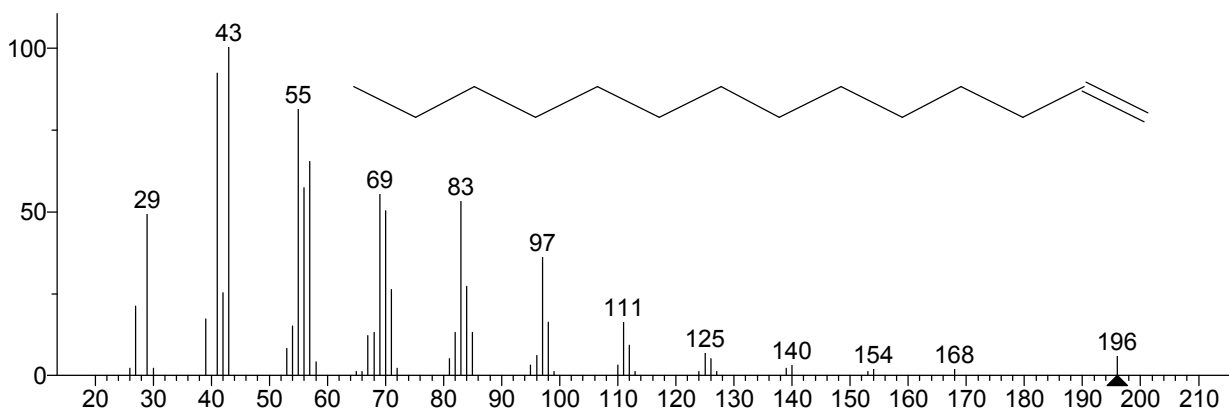


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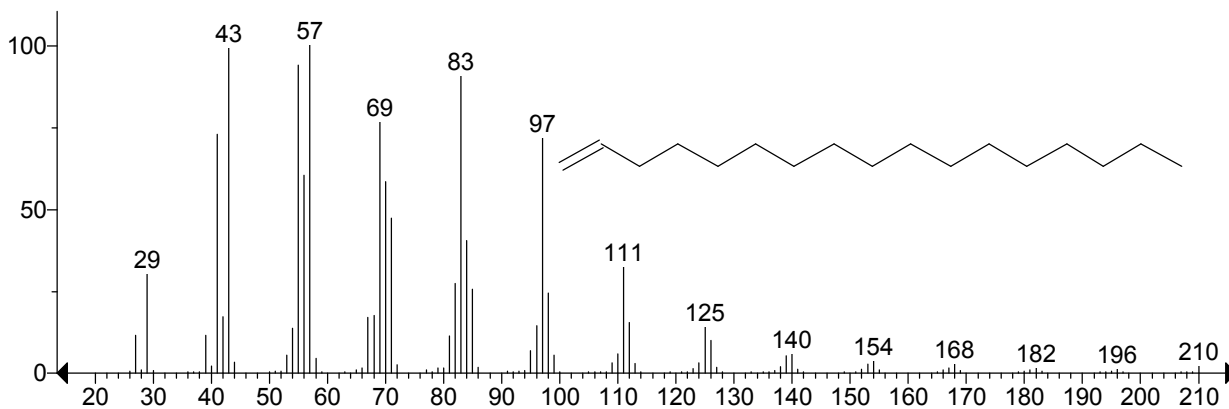
Unknown: + Scan (rt: 6.230-6.290 min, 9 scans) J10630 NTSB ENG 11IA047 A py2.D Subtract  
Compound in Library Factor = -698



Hit 1 : 1-Tetradecene  
C14H28; MF: 792; RMF: 863; Prob 3.09%; CAS: 1120-36-1; Lib: replib; ID: 1814.

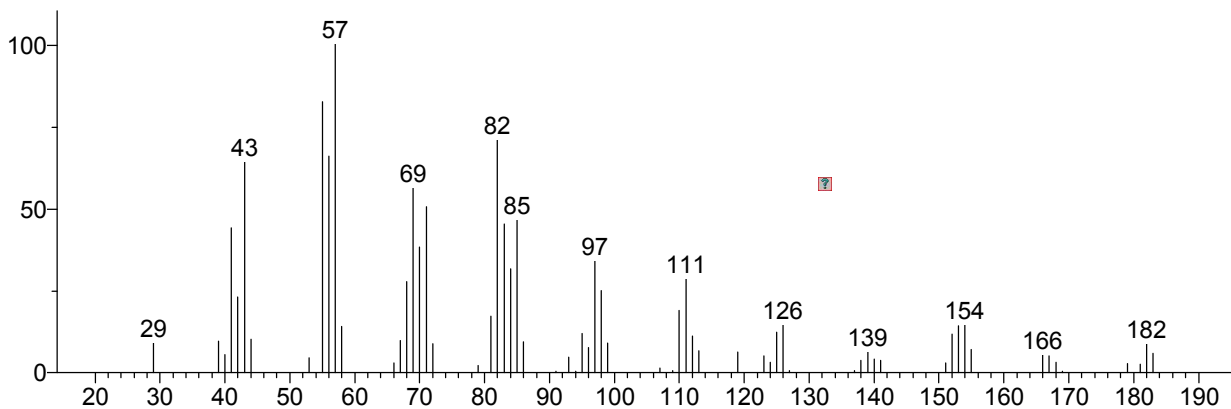


Hit 2 : 1-Heptadecene  
C17H34; MF: 788; RMF: 788; Prob 2.61%; CAS: 6765-39-5; Lib: replib; ID: 6036.

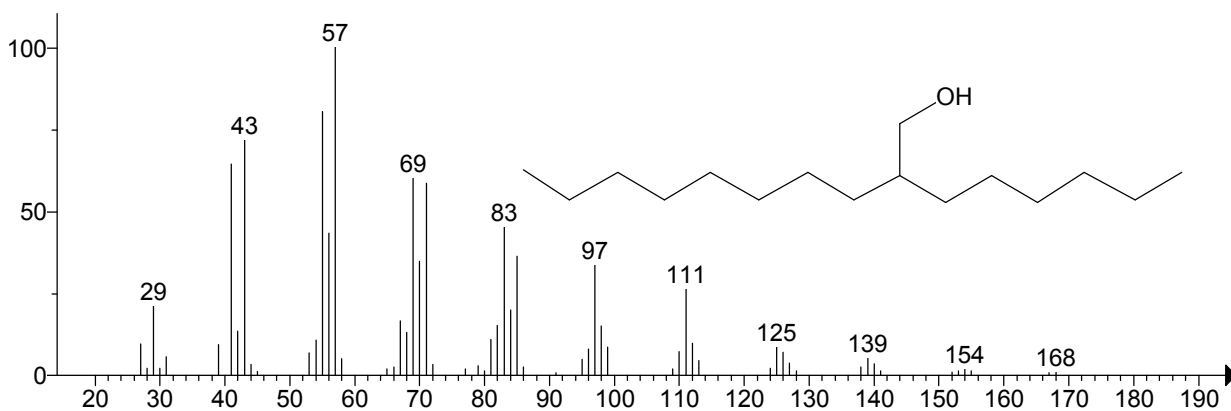


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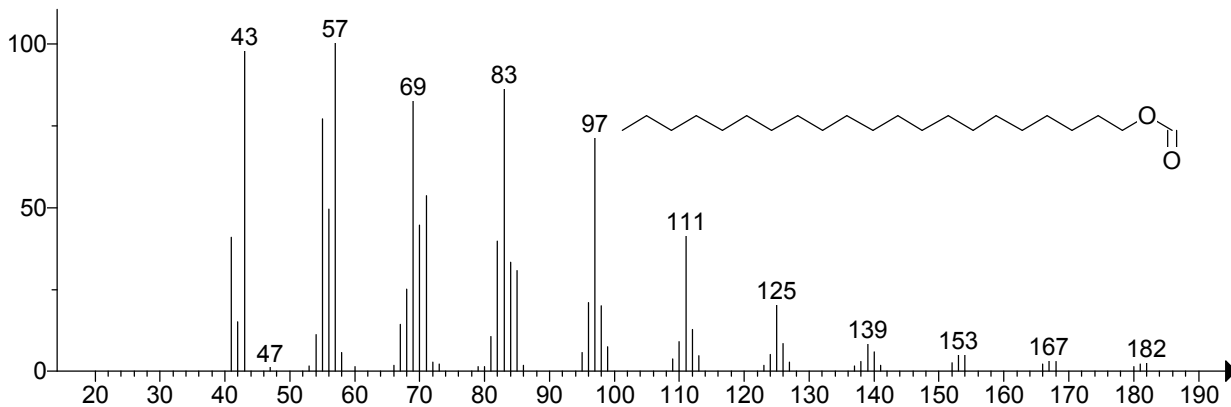
Unknown: + Scan (rt: 6.321-6.358 min, 6 scans) J10630 NTSB ENG 11IA047 A py2.D Subtract  
Compound in Library Factor = -811



Hit 1 : 1-Decanol, 2-hexyl-  
C16H34O; MF: 777; RMF: 817; Prob 3.28%; CAS: 2425-77-6; Lib: mainlib; ID: 24720.

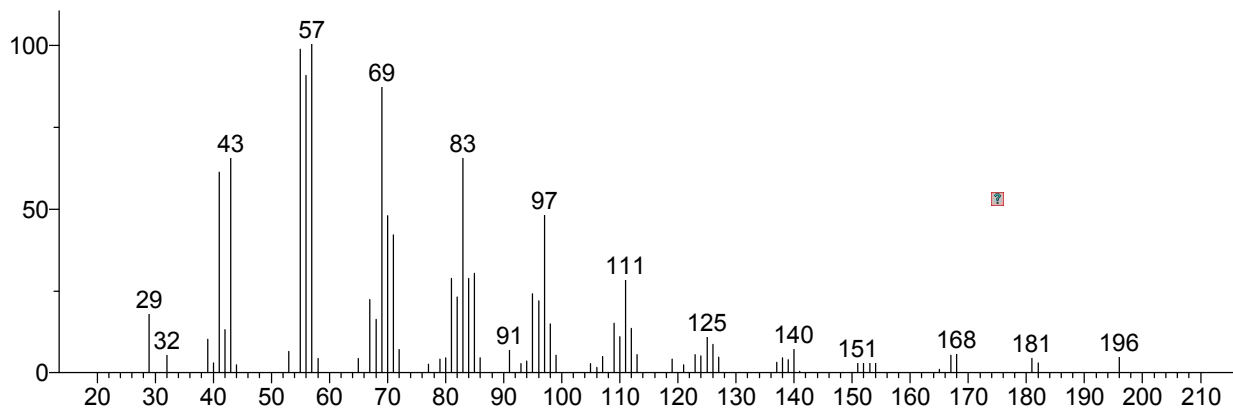


Hit 2 : 1-Heneicosyl formate  
C22H44O2; MF: 776; RMF: 802; Prob 3.16%; CAS: 77899-03-7; Lib: mainlib; ID: 24437.

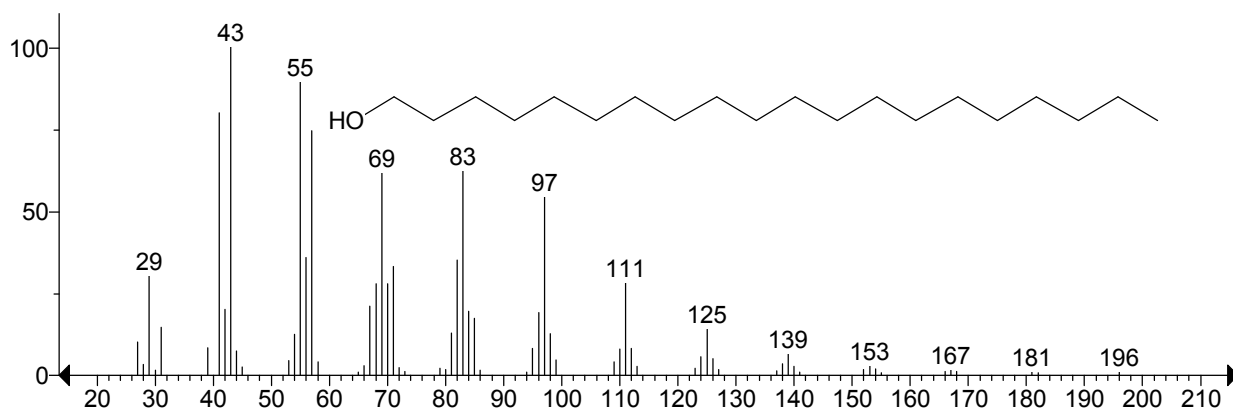


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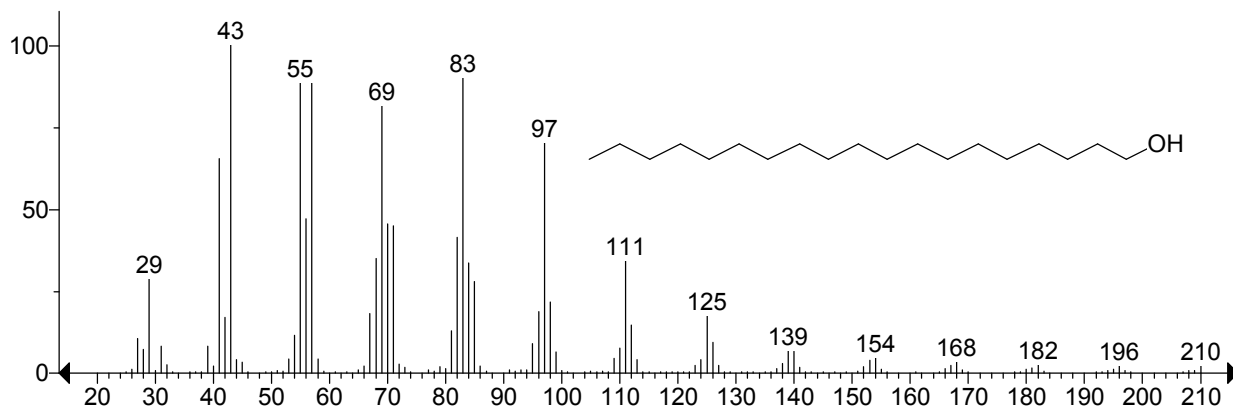
Unknown: + Scan (rt: 6.539-6.555 min, 3 scans) J10630 NTSB ENG 11IA047 A py2.D Subtract  
Compound in Library Factor = -493



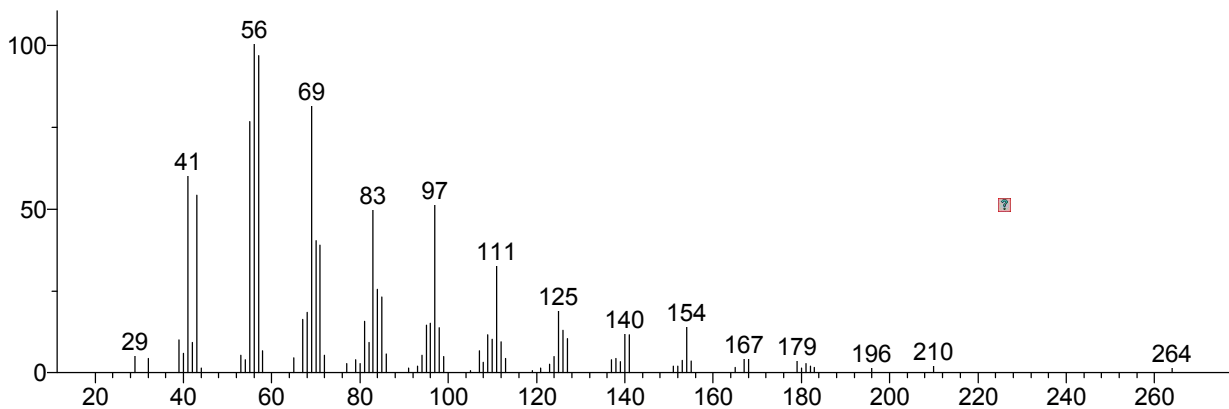
Hit 1 : 1-Eicosanol  
C<sub>20</sub>H<sub>42</sub>O; MF: 834; RMF: 854; Prob 4.86%; CAS: 629-96-9; Lib: replib; ID: 2098.



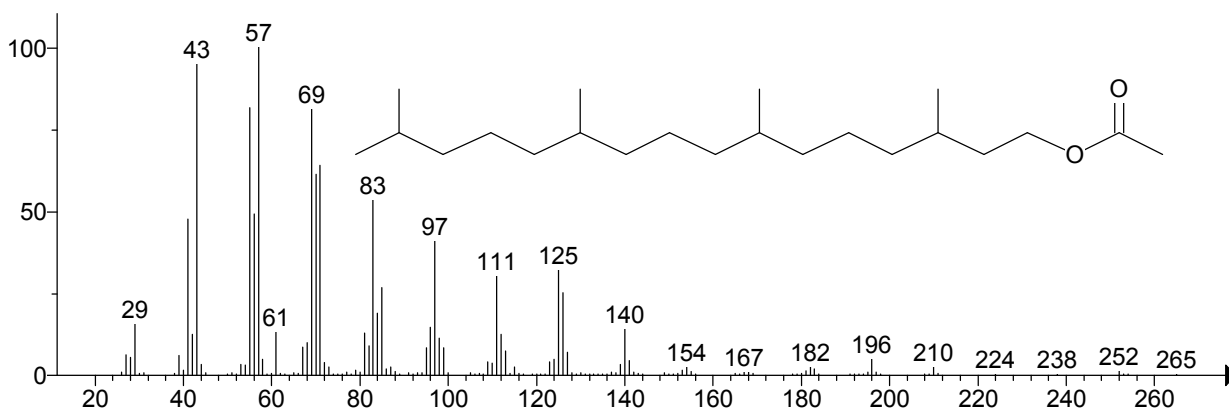
Hit 2 : n-Nonadecanol-1  
C<sub>19</sub>H<sub>40</sub>O; MF: 827; RMF: 827; Prob 3.72%; CAS: 1454-84-8; Lib: replib; ID: 2857.



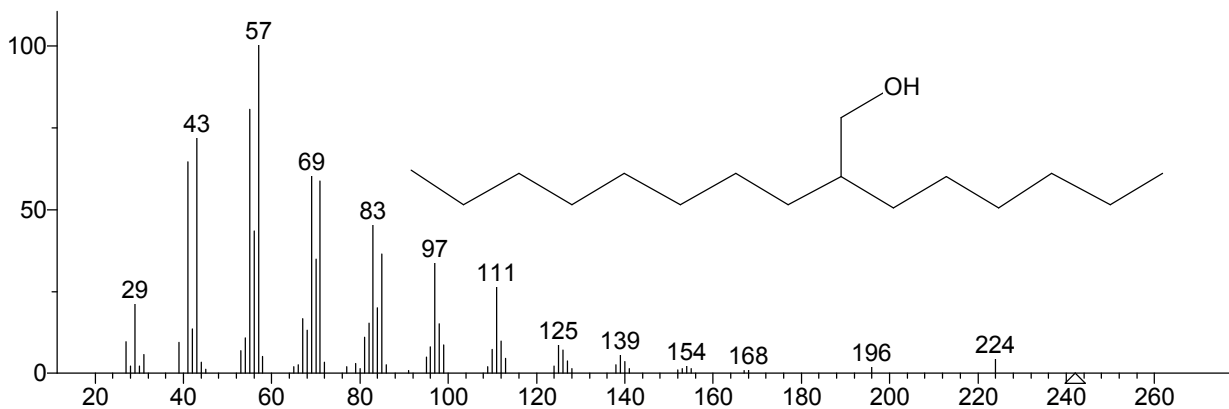
Unknown: + Scan (rt: 6.728-6.781 min, 8 scans) J10630 NTSB ENG 11IA047 A py2.D Subtract  
Compound in Library Factor = -558



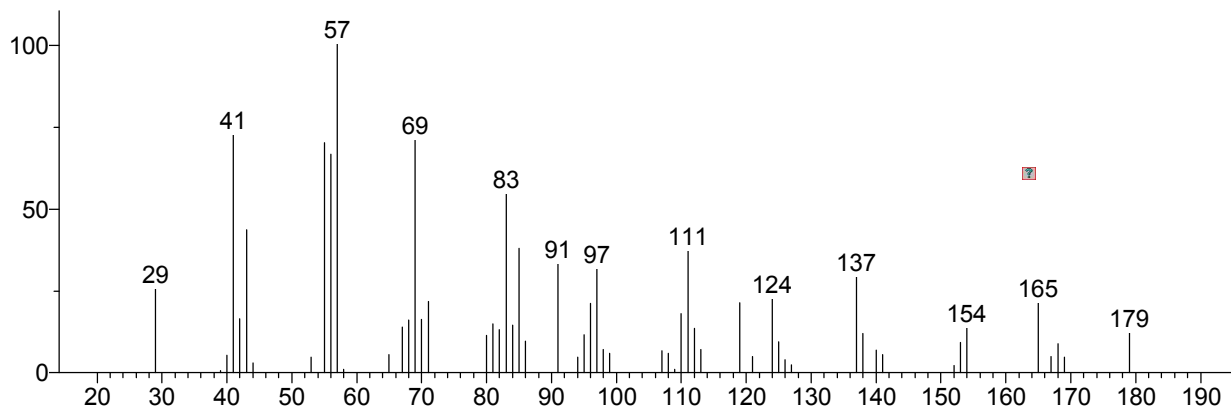
Hit 1 : Acetic acid, 3,7,11,15-tetramethyl-hexadecyl ester  
C<sub>22</sub>H<sub>44</sub>O<sub>2</sub>; MF: 816; RMF: 819; Prob 4.23%; Lib: mainlib; ID: 24074.



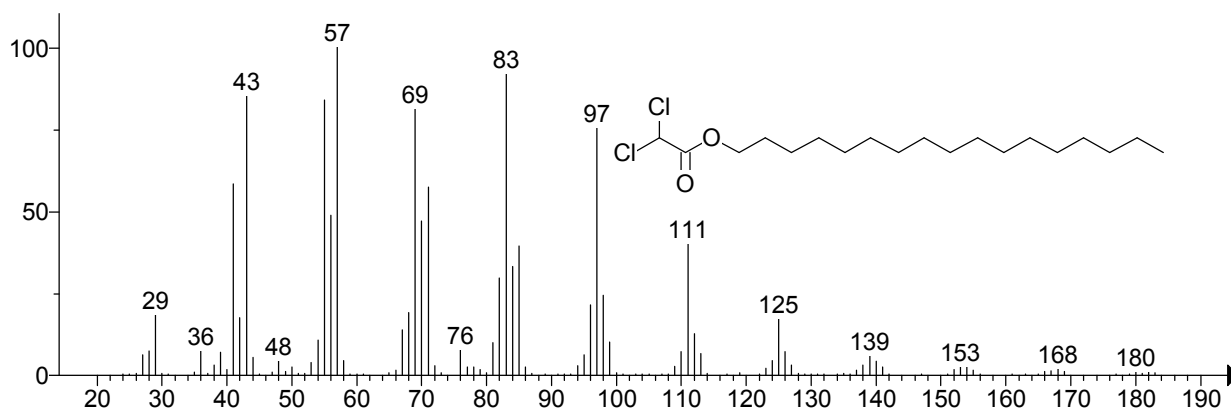
Hit 2 : 1-Decanol, 2-hexyl-  
C<sub>16</sub>H<sub>34</sub>O; MF: 811; RMF: 849; Prob 3.41%; CAS: 2425-77-6; Lib: mainlib; ID: 24720.



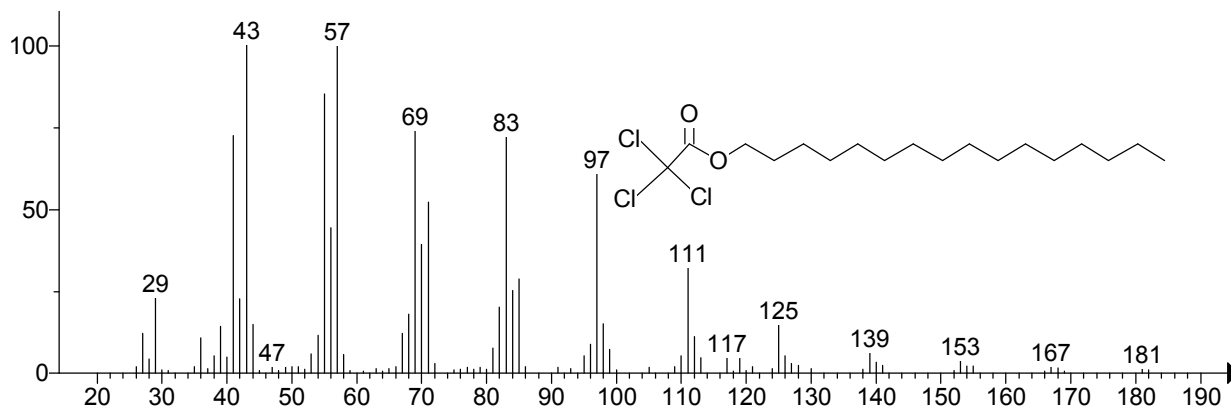
Unknown: + Scan (rt: 6.947-6.962 min, 3 scans) J10630 NTSB ENG 11IA047 A py2.D Subtract  
Compound in Library Factor = -1381



Hit 1 : Dichloroacetic acid, heptadecyl ester  
C19H36Cl2O2; MF: 699; RMF: 701; Prob 3.60%; Lib: mainlib; ID: 25747.

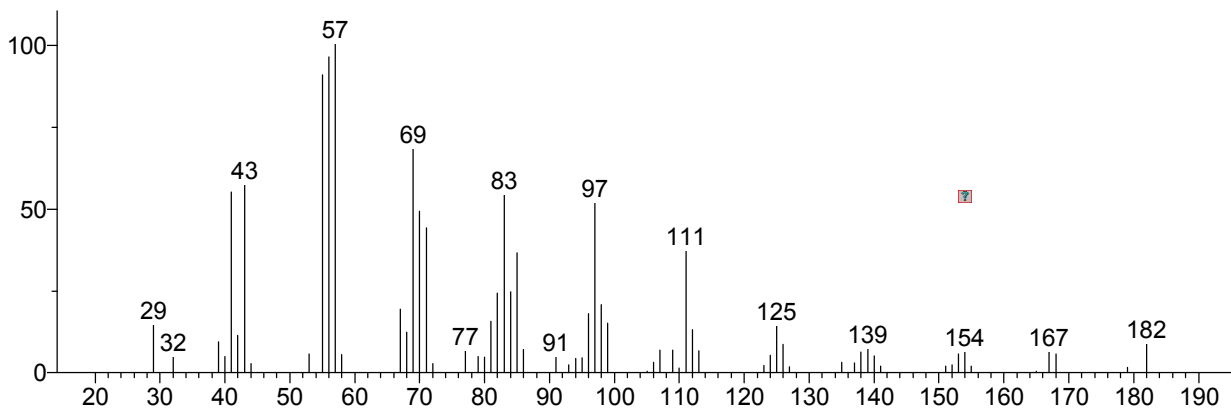


Hit 2 : Trichloroacetic acid, hexadecyl ester  
C18H33Cl3O2; MF: 695; RMF: 751; Prob 3.04%; CAS: 74339-54-1; Lib: mainlib; ID: 7756.

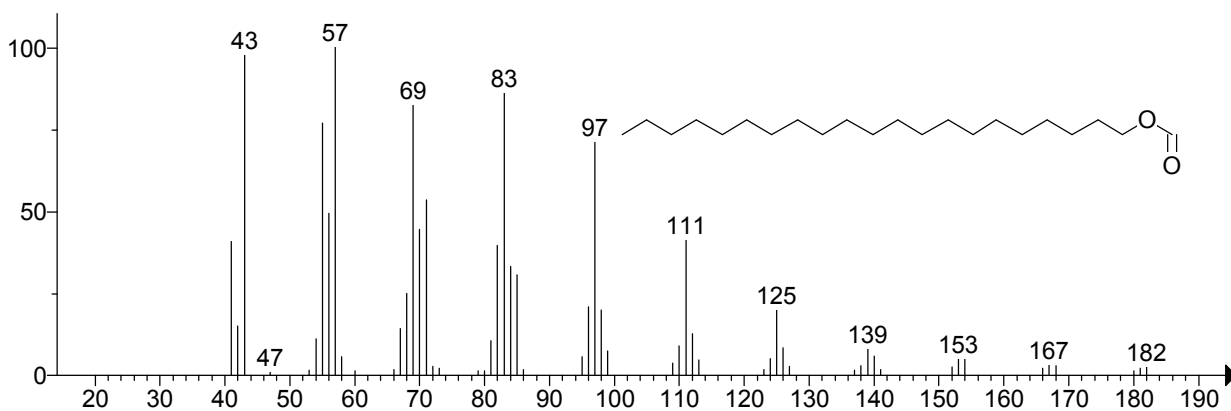


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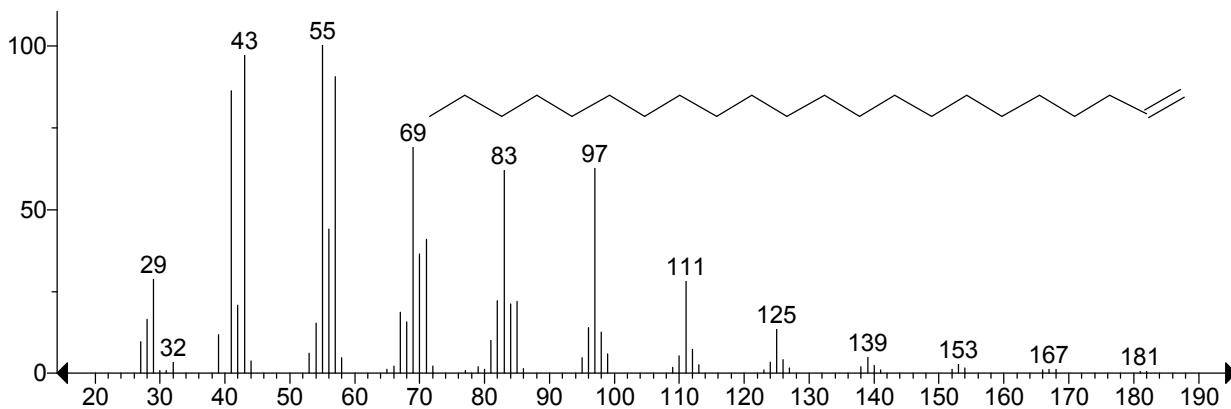
Unknown: + Scan (rt: 7.030-7.045 min, 3 scans) J10630 NTSB ENG 11IA047 A py2.D Subtract  
Compound in Library Factor = -493



Hit 1 : 1-Heneicosyl formate  
C<sub>22</sub>H<sub>44</sub>O<sub>2</sub>; MF: 836; RMF: 860; Prob 4.02%; CAS: 77899-03-7; Lib: mainlib; ID: 24437.



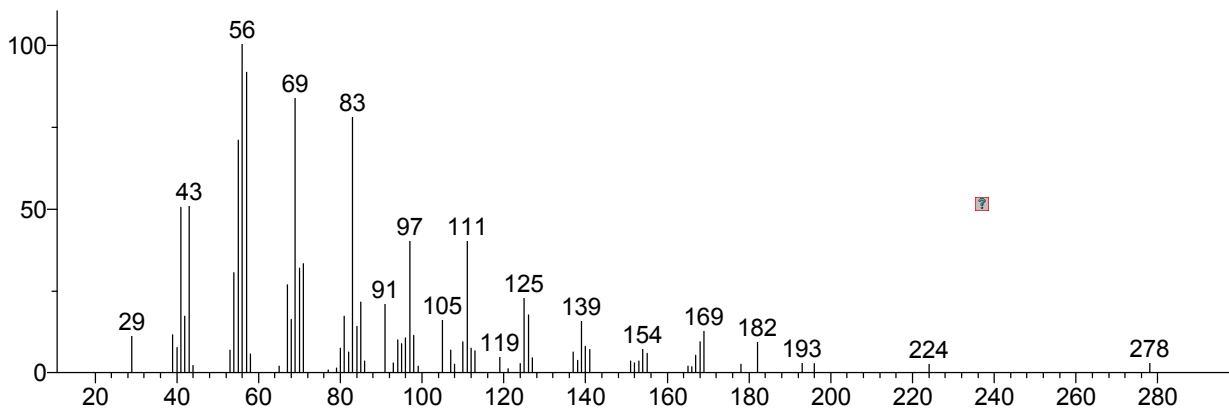
Hit 2 : 1-Docosene  
C<sub>22</sub>H<sub>44</sub>; MF: 832; RMF: 855; Prob 3.40%; CAS: 1599-67-3; Lib: replib; ID: 4854.



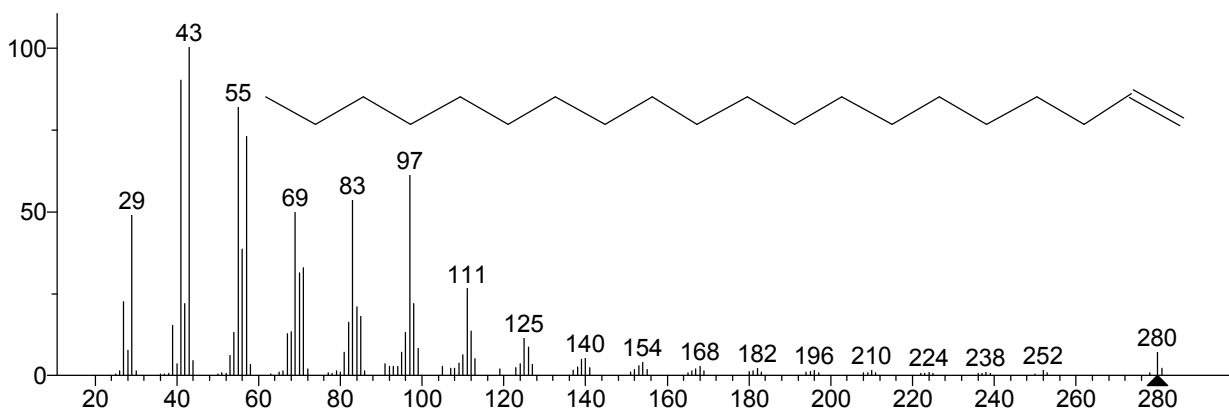


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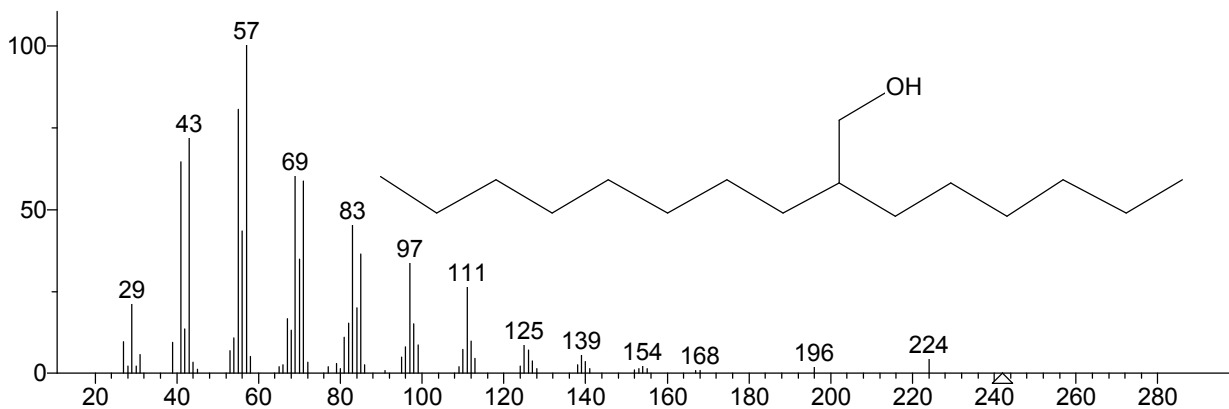
Unknown: + Scan (rt: 7.204-7.256 min, 8 scans) J10630 NTSB ENG 11IA047 A py2.D Subtract  
Compound in Library Factor = -1067



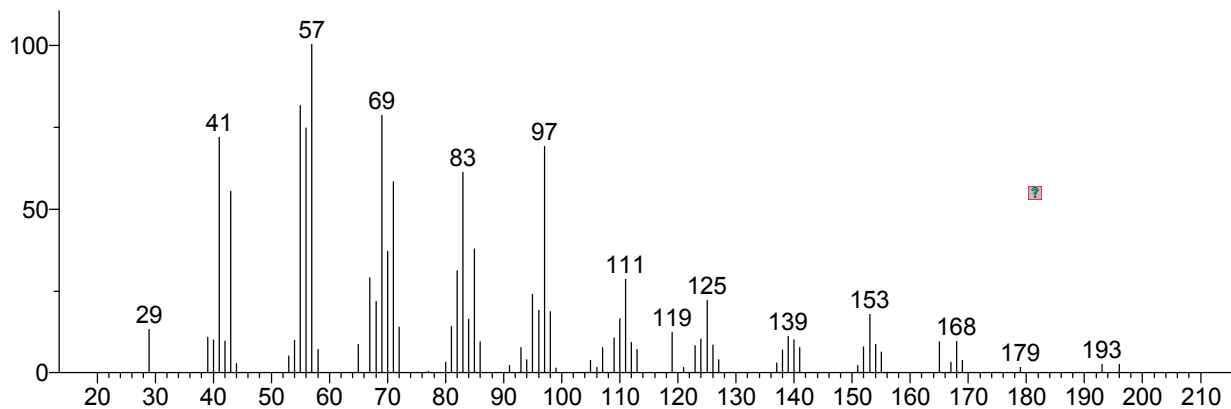
Hit 1 : 1-Eicosene  
C<sub>20</sub>H<sub>40</sub>; MF: 760; RMF: 765; Prob 3.39%; CAS: 3452-07-1; Lib: replib; ID: 1829.



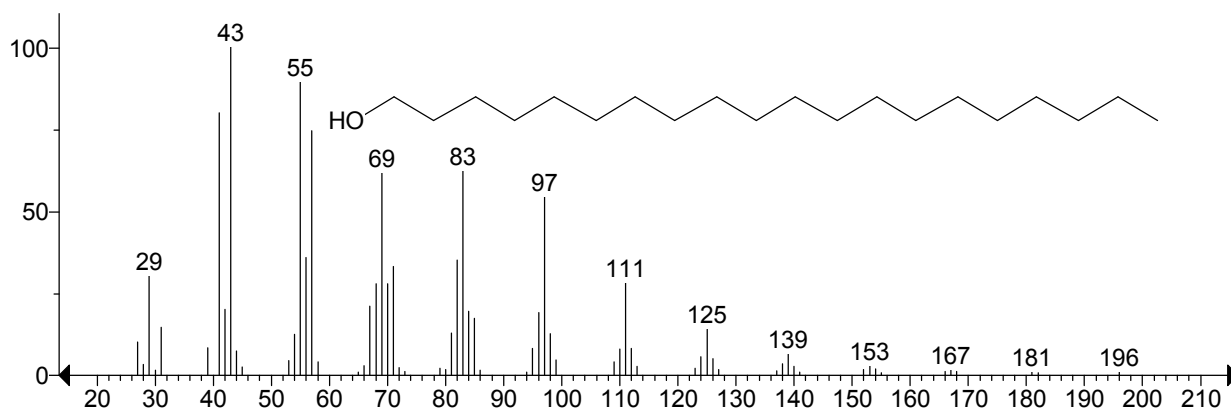
Hit 2 : 1-Decanol, 2-hexyl-  
C<sub>16</sub>H<sub>34</sub>O; MF: 759; RMF: 826; Prob 3.26%; CAS: 2425-77-6; Lib: mainlib; ID: 24720.



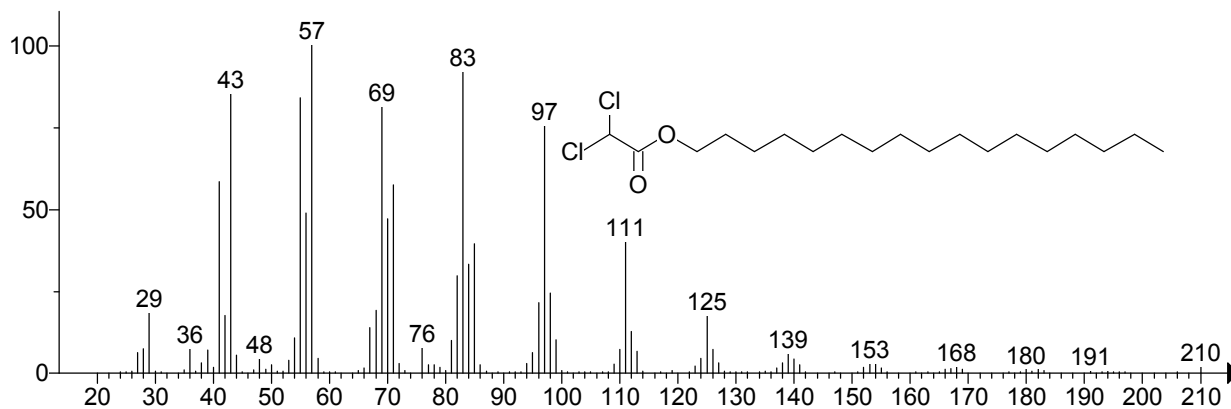
Unknown: + Scan (rt: 7.475-7.513 min, 6 scans) J10630 NTSB ENG 11IA047 A py2.D Subtract  
Compound in Library Factor = -558



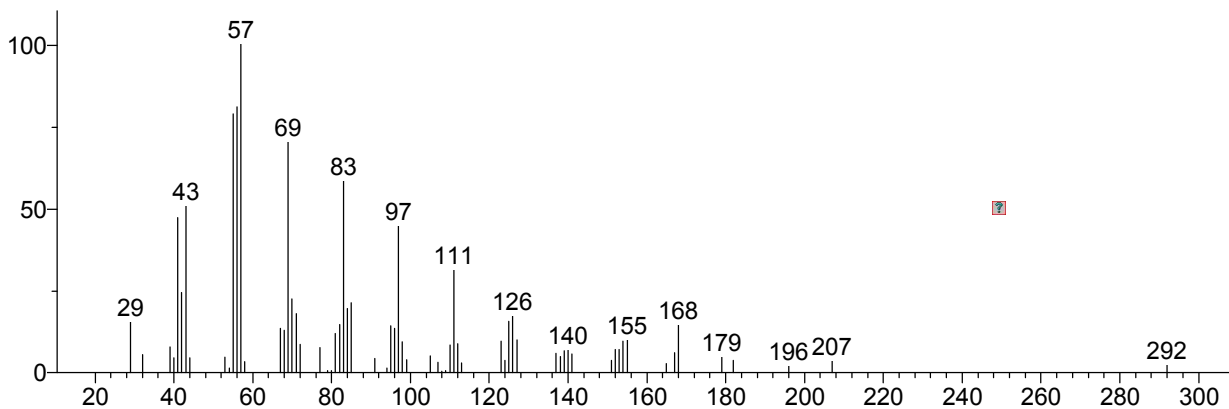
Hit 1 : 1-Eicosanol  
C<sub>20</sub>H<sub>42</sub>O; MF: 812; RMF: 849; Prob 4.16%; CAS: 629-96-9; Lib: replib; ID: 2098.



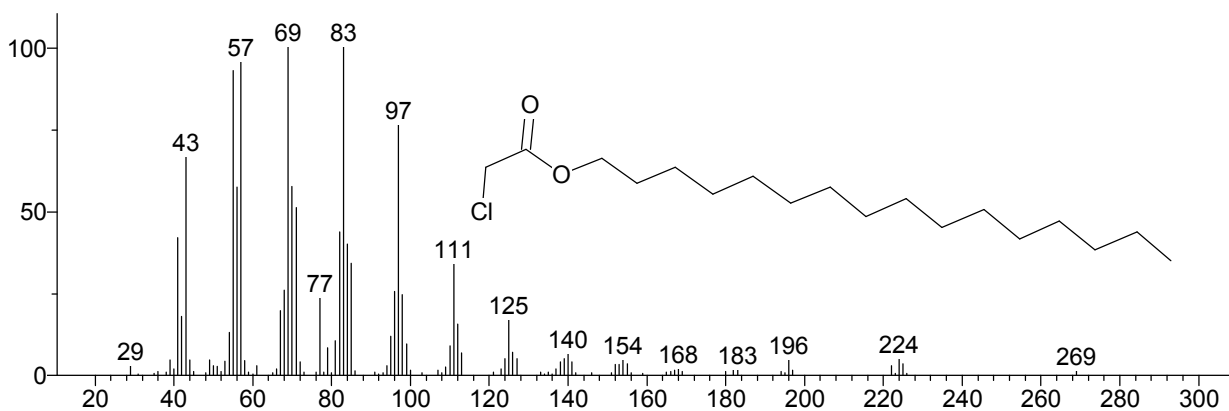
Hit 2 : Dichloroacetic acid, heptadecyl ester  
C<sub>19</sub>H<sub>36</sub>Cl<sub>2</sub>O<sub>2</sub>; MF: 805; RMF: 806; Prob 3.19%; Lib: mainlib; ID: 25747.



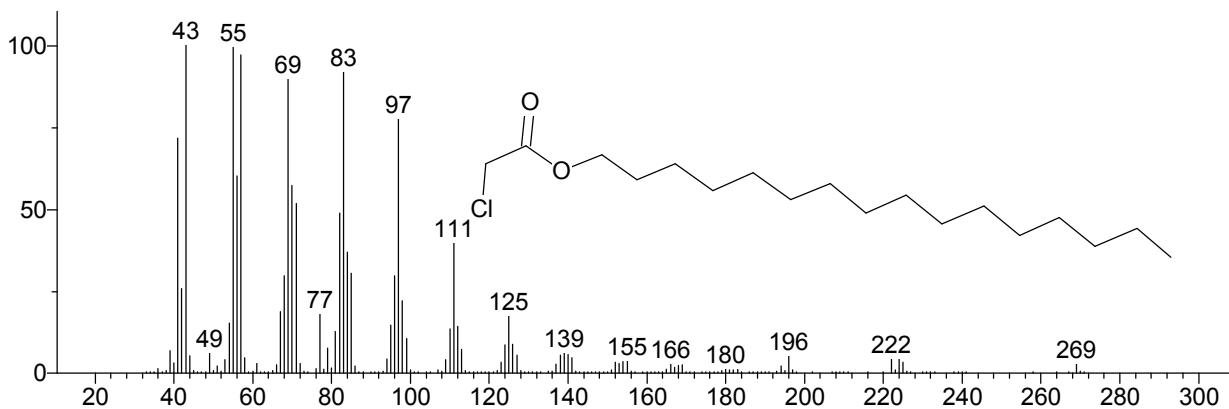
Unknown: + Scan (rt: 7.656-7.709 min, 8 scans) J10630 NTSB ENG 11IA047 A py2.D Subtract  
Compound in Library Factor = -713



Hit 1 : Acetic acid, chloro-, hexadecyl ester  
C18H35ClO2; MF: 787; RMF: 805; Prob 4.39%; CAS: 52132-58-8; Lib: mainlib; ID: 35494.

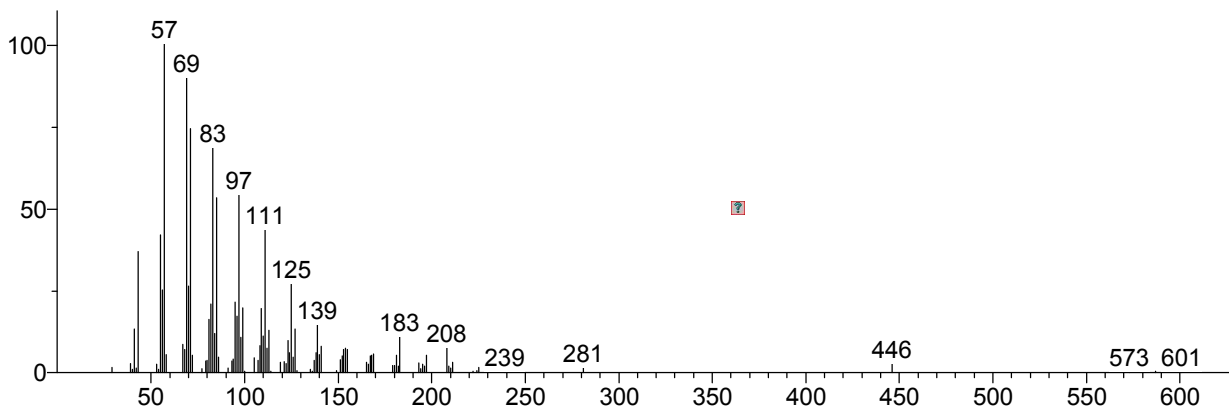


Hit 2 : Acetic acid, chloro-, hexadecyl ester  
C18H35ClO2; MF: 783; RMF: 791; Prob 4.39%; CAS: 52132-58-8; Lib: replib; ID: 2116.

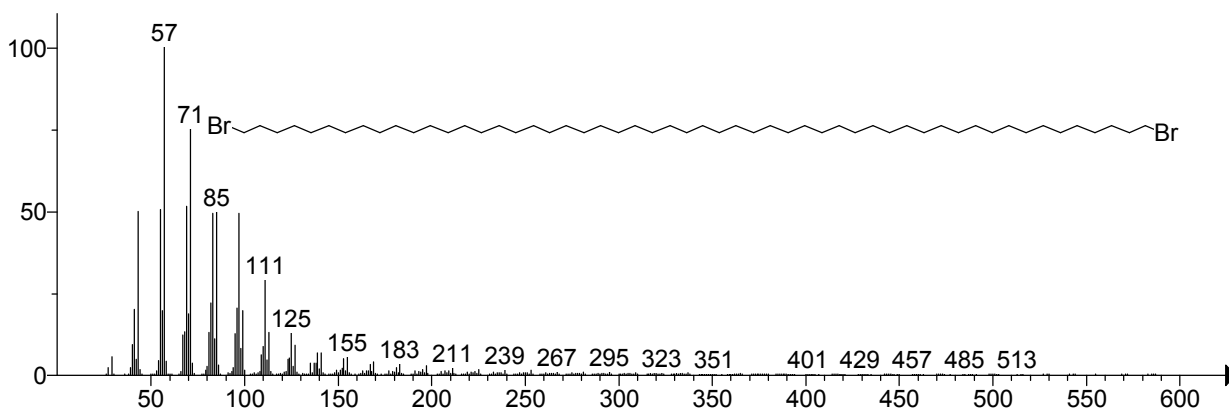


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Unknown: + Scan (rt: 13.391-14.727 min, 178 scans) J10630 NTSB ENG 11IA047 A py2.D Subtract  
Compound in Library Factor = -858



Hit 1 : Tetrapentacontane, 1,54-dibromo-  
C<sub>54</sub>H<sub>108</sub>Br<sub>2</sub>; MF: 764; RMF: 765; Prob 3.74%; Lib: mainlib; ID: 25430.



Hit 2 : Octatriacontyl pentafluoropropionate  
C<sub>41</sub>H<sub>77</sub>F<sub>5</sub>O<sub>2</sub>; MF: 764; RMF: 765; Prob 3.74%; Lib: mainlib; ID: 25256.

