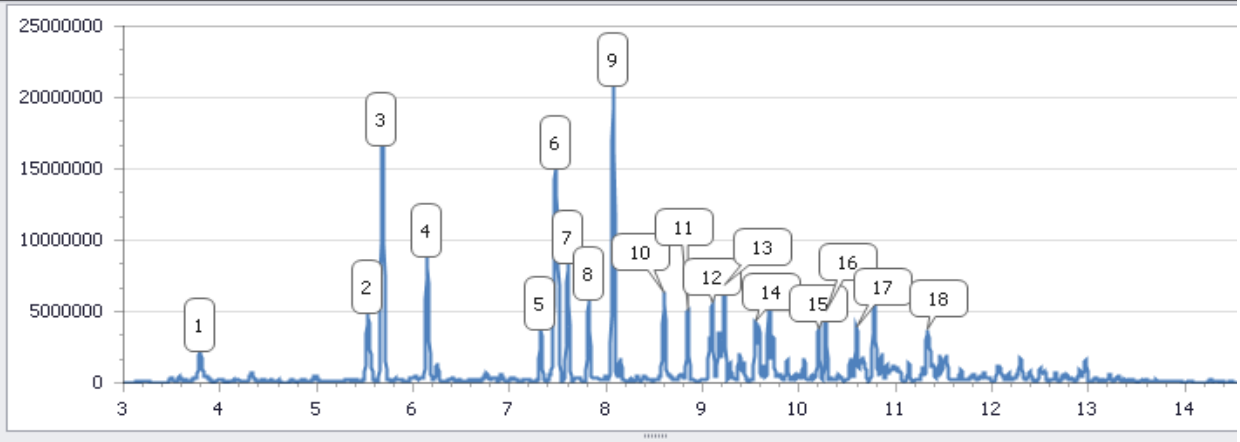
Sherlock X™ Fire Debris Analysis

Automated Ignitable Liquid Identification using Agilent GC-MS

The Sherlock X Fire Debris Software automatically names over 130 different hydrocarbons associated with fire debris samples. No longer will technicians need to analyze individual peaks on GC-MS chromatograms, which can be a tedious and potentially error-prone task.

Fire Debris Sample with Sherlock X Automated Analysis



1. Toluene
2. Ethylbenzene
3. m,p-Xylene
4. o-Xylene
5. Propylbenzene
6. m,p-Ethyltoluene
7. 1,3,5-Trimethylbenzene
8. o-Ethyltoluene
9. 1,2,4-Trimethylbenzene
10. 1,2,3-Trimethylbenzene
11. Indane
12. m-Propyltoluene
13. p-Ethylxylene
14. m-Ethylxylene-4
15. 1,2,4,5-Tetramethylbenzene
16. 1,2,3,5-Tetramethylbenzene
17. Methylindan
18. Naphthalene

Sherlock X determines an absolute response, as well as a relative percentage for each compound.

Building upon MIDI, Inc.'s twenty five years of experience developing automated chromatography identification systems, Sherlock X applies the full range of information available from Agilent GC-MS systems to yield highly accurate compound naming.

RT	Response	Percent	Name
3.2227	4635538	0.27	Dimethylhexane
3.4731	5352233	0.31	2,3,4-Trimethylpentane
3.5553	6712700	0.39	2,3,3-Trimethylpentane
3.7123	3851491	0.23	2-Methylheptane
3.7759	36825007	2.16	Toluene
3.8432	6447851	0.38	3-Methylheptane
3.9740	1986426	0.12	cis-Dimethylcyclohexane
3.9964	7378118	0.43	2,2,5-Trimethylhexane
4.3066	8404253	0.49	Octane
4.4375	2284199	0.13	trans-Dimethylcyclohexane
4.5907	3281173	0.19	2,3,5-Trimethylhexane
4.9645	5870164	0.34	Ethylcyclohexane
5.3121	2517540	0.15	1,2,4-Trimethylcyclohexane
5.5176	28923193	1.70	Ethylbenzene
5.5326	17985528	1.06	4-Methyloctane
5.6672	137209430	8.06	m,p-Xylene
…	…	…	…

Sherlock X Automates Categorization of Hydrocarbons

Along with its ability to identify individual compounds, Sherlock X includes categorization capabilities, combining compounds into functional groups, in accordance with ASTM E1618.

In addition, Sherlock X includes unique summary reports. When evaluating a sample against a particular type of ignitable liquid, the *Standard Comparison Report* shows what compounds are "required" and "expected" according to the ASTM E1618 standard and which of those compounds were actually found in the sample.

Sherlock X Categorization View

Response	Percent	Name
1150576970	67.40	Aromatics
29984107	1.76	Cycloalkanes
161603921	9.47	Condensed Rings
109688212	6.43	Alkanes-straight
249763403	14.63	Alkanes-branched
5471586	0.32	Heterocyclic Rings

Sherlock X Standard Comparison Report

Expected Compounds for MPD. Found 11 of 13

☑ Nonane	☐ Decalin
☑ 1,2,4-Trimethylbenzene	☑ Pentylcyclohexane
☑ Butylcyclohexane	☑ 1,3,5-Trimethylbenzene
☑ 1,2,3,5-Tetramethylbenzene	☑ 1,2,3-Trimethylbenzene
☐ Hexylcyclohexane	☑ Undecane
☑ Propylcyclohexane	☑ Dodecane
☑ Decane	

Sherlock X Names All Major Compounds in

- Diesel
- Biodiesel
- Kerosene
- Charcoal Light Fluid
- Mineral Spirits
- Camp Fuels
- and others

Sherlock X Advantages

- ✓ **Objective**
  Computerized peak naming
- ✓ **Reproducible**
  Consistent results
- ✓ **Rapid Analysis**
  Saves 30 min./sample

System Requirements:

- ❑ Agilent 6890 / 7890 GC
- ❑ Agilent 5973 / 5975 / 5977 MS
- ❑ MS ChemStation / MassHunter Software

Agilent Technologies
Channel Partner

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