Oxygenates, C$_1$ - C$_7$
Separation of oxygenated compounds

Application Note

Energy & Fuels

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Introduction
Gas chromatography using an Agilent Lowox column separates 20 C$_1$ - C$_6$ oxygenated compounds in a hydrocarbon matrix in 42 minutes.
**Conditions**

Technique: GC-wide-bore

Column: Agilent Lowox, 0.53 mm x 10 m fused silica PLOT (Part no. CP8587)

Temperature: 50 °C (5 min) → 270 °C, 30 °C/min

Carrier Gas: He, 41 cm/s, 15 kPa (15 bar, 2.3 psi)

Injector: Valve, 1 and stack of 10 injections

T = 150 °C

Detector: FID

T = 300 °C

Concentration Range: 10 - 50 ppm oxygenates in pentane

Solvent Sample: pentane

Courtesy: J. Luong, C. Mork, L. Sieben and B. Winniford,
The Dow Chemical Company

**Peak identification**

1. diethylether
2. acetaldehyde
3. ethyl-t-butyl ether
4. methyl-t-butyl ether
5. diisopropylether
6. propanal
7. t-amylmethyl ether
8. propylether
9. isobutanal
10. butanal
11. methanol
12. acetone
13. i-valeraldehyde
14. valeraldehyde
15. 2-butanone
16. ethanol
17. 1-propanol
18. t-butanol
19. isobutanol
20. 1-butanol

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