



Oxygenates, C₁ - C₇

Separation of oxygenated compounds

Application Note

Energy & Fuels

Authors

Agilent Technologies, Inc.

Introduction

Gas chromatography using an Agilent Lowox column separates 20 C₁ – C₅ oxygenated compounds in a hydrocarbon matrix in 42 minutes.



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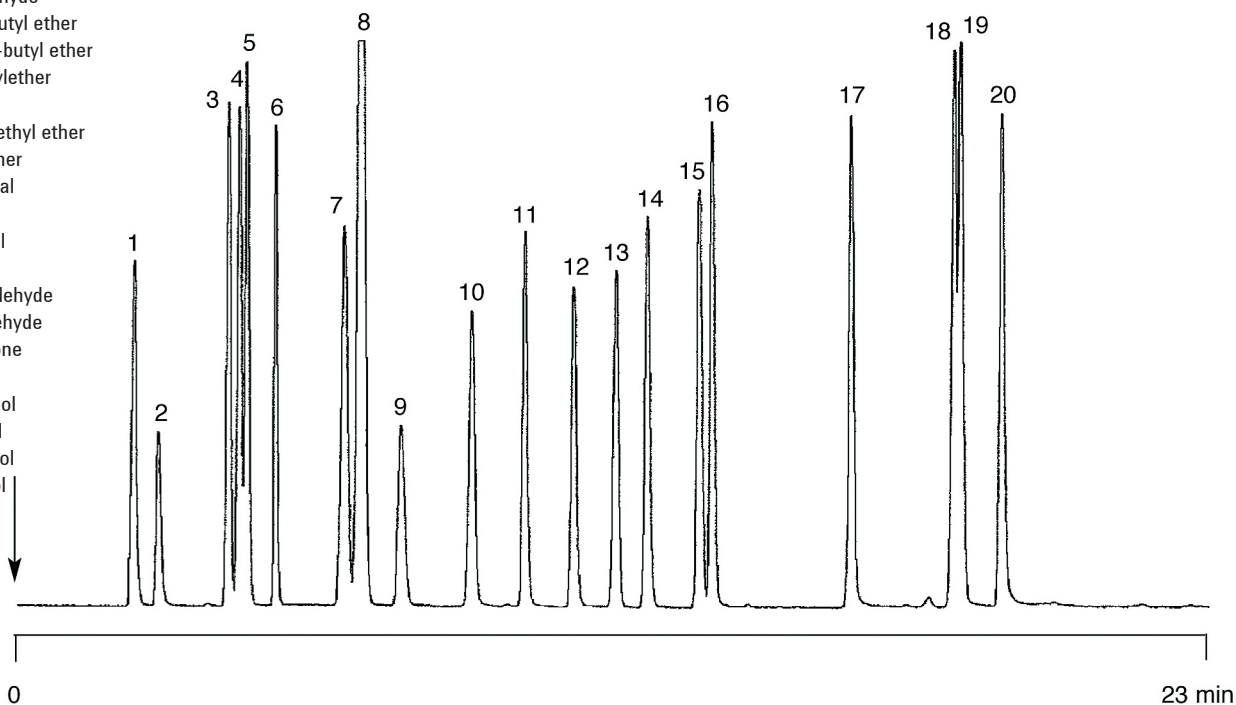
Conditions

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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