Oxygenates, C_1 - C_7

Separation of C_1-C_7 oxygenated compounds in hydrocarbon matrix

Application Note

Energy & Fuels

Authors

Agilent Technologies, Inc.

Introduction

The highly selective Lowox phase generates highest retention for oxygenated compounds. Majority of oxygenated compounds elute after the hydrocarbon matrix, making accurate quantification possible. The very low bleed combined with the high temperature stability of the Lowox phase, makes trace analysis of oxygenated compounds possible.

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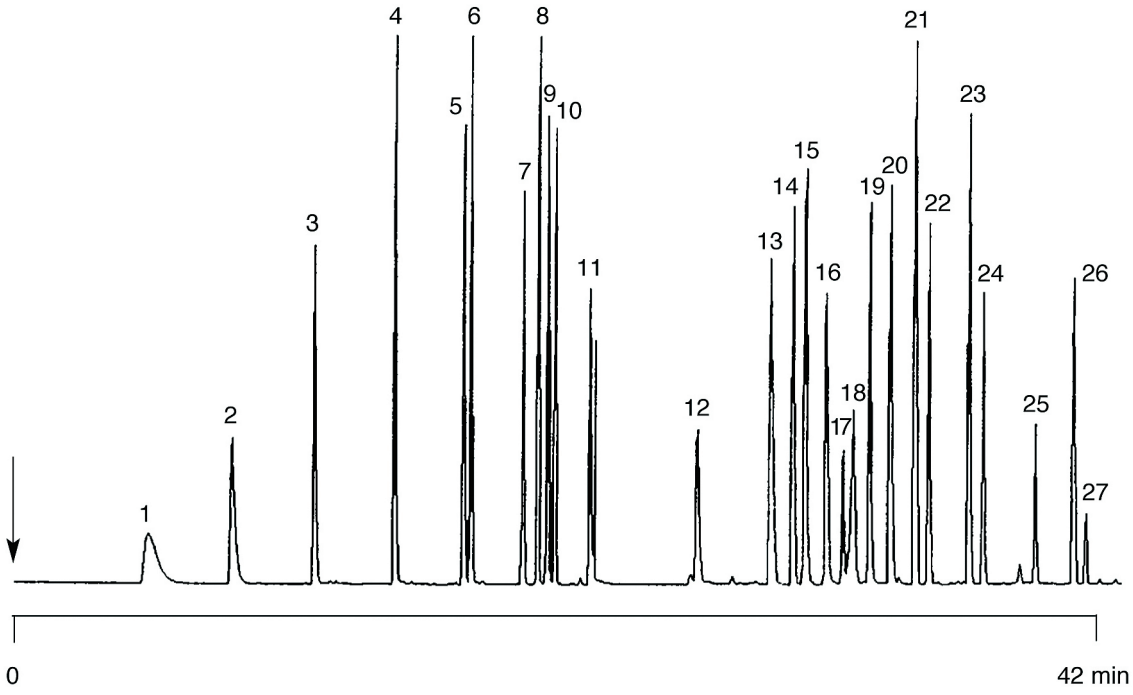
Conditions

Technique	:	GC-wide-bore
Column	:	Agilent Lowox, 0.53 mm x 10 m fused silica PLOT (Part no. CP8587)
Temperature	:	30 °C (3 min) ⟶ 280 °C, 3 °C/min
Carrier Gas	:	He, 3.5 mL/min, 10 kPa (10 bar, 1.2 psi)
Injector	:	Split T = 150 °C
Detector	:	FID T = 300 °C
Concentration Range	:	5 - 10 ng per component
Courtesy	:	U. Felix, K. Dettmer, W. Engewald* & M. Mohnke** *Universitat Leipzig, Istitut fur Analytische Chemie ** Agilent research labor, Middelburg

Peak identification

1. hexane
2. heptane
3. octane
4. nonane
5. toluene
6. decane
7. ethylbenzene
8. undecane
9. p-xylene
10. o-xylene
11. dodecane
12. methylpropanal
13. acetone
14. 2-methylbutanal
15. pentanal
16. ethyl methyl ketone
17. naphthalene
18. crotonaldehyde
19. hexanal
20. methyl propyl ketone
21. diisopropyl ketone
22. heptanal
23. octanal
24. benzaldehyde
25. nonanal
26. p-tolualdehyde
27. decanal



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