



## Oxygenates, C<sub>1</sub> - C<sub>7</sub>

# Analysis of oxygenated compounds in botanical air

## Application Note

Energy & Fuels

### Authors

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### 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.



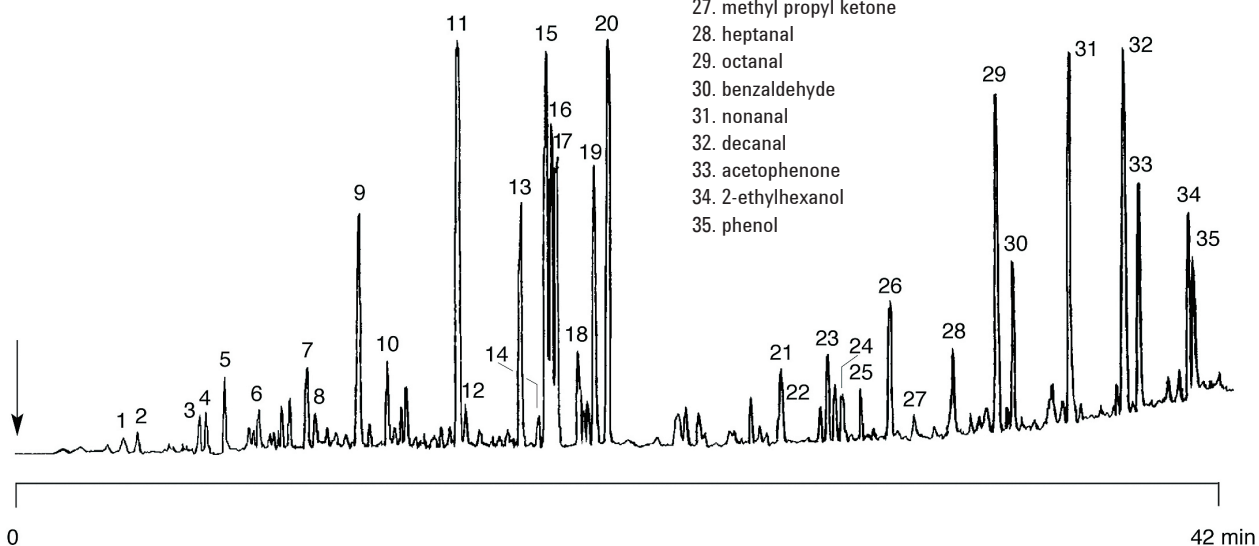
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## Conditions

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 : Injection via thermal desorption using a Tenax trap  
Desorption: 5 min at 280 °C  
Detector : FID  
T = 300 °C  
Sample Size : 10 liters of air  
Concentration Range : ppb-ppm level  
  
Courtesy : U. Felix, K. Dettmer, W. Engewald\* & M. Mohnke\*\*  
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## Peak identification

1. iso-pentane/n-pentane
2. hexane
3. 3-methylhexane
4. 2-methylhexane
5. heptane
6. isoprene
7. octane
8. 1-heptene
9. benzene
10. nonane
11. toluene
12. decane
13. ethylbenzene
14. undecane
15. m-xylene
16. p-xylene
17. o-xylene
18. C<sub>3</sub>-alkylbenzene
19. C<sub>3</sub>-alkylbenzene
20. C<sub>3</sub>-alkylbenzene
21. acetone
22. pentanal
23. methyl vinyl ketone
24. ethyl methyl ketone
25. naphthalene
26. hexanal
27. methyl propyl ketone
28. heptanal
29. octanal
30. benzaldehyde
31. nonanal
32. decanal
33. acetophenone
34. 2-ethylhexanol
35. phenol



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