

Nitriles, C₁ – C₄, Hydrocarbons, C₁ – C₆

Application Note

Energy & Fuels

Authors

Agilent Technologies, Inc.

Introduction

Gas chromatography using an Agilent CP-Sil 5 CB column separates 42 C₁ to C₄ nitriles and C₁ to C₆ hydrocarbons in 35 minutes.



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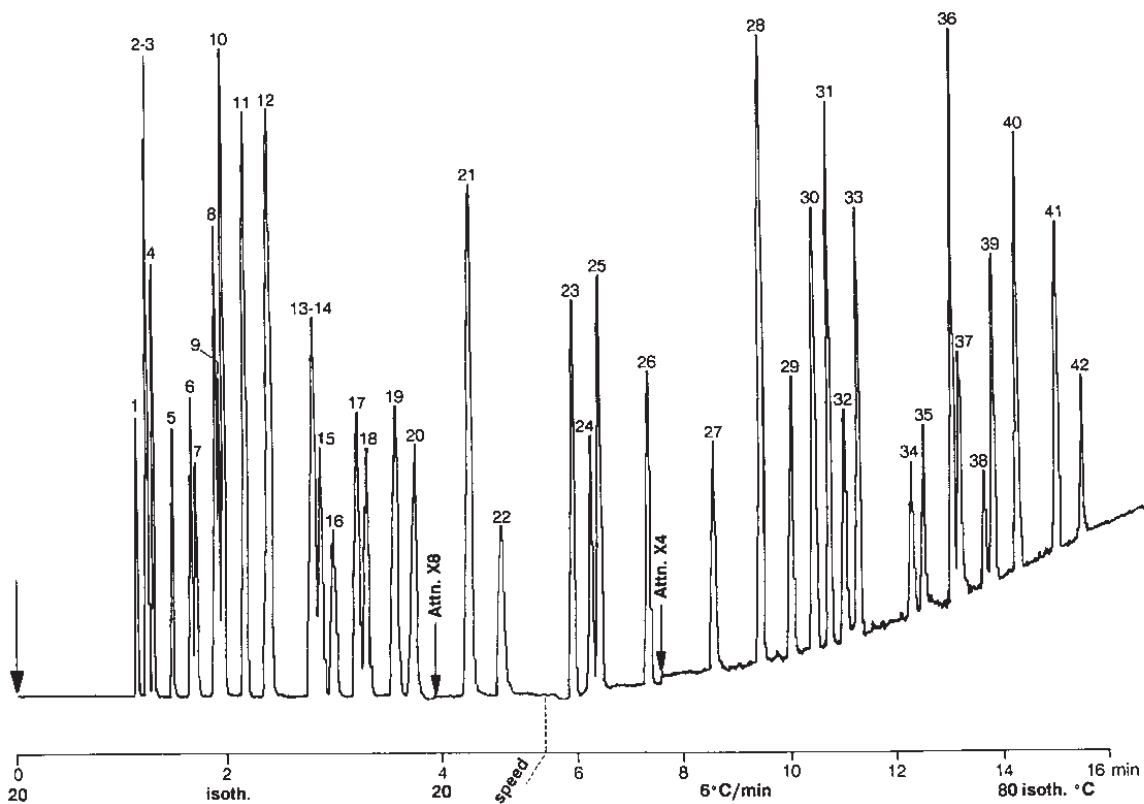
Conditions

Technique : GC-capillary
Column : Agilent CP-Sil 5 CB, 0.15 mm x 50 m fused silica
WCOT CP-Sil 5 CB (df = 2.0 μ m) (Part no. CP7692)
Temperature : 20 °C (4 min) \rightarrow 6 °C/min \rightarrow 80 °C (2 min)
Carrier Gas : H₂, 0.6 mL/min, 160 kPa (1.6 bar, 22.4 psi)
Injector : Split, 1:300
Detector : FID
Concentration Range : 1 - 5 nmol injected

Courtesy : Prof. F. Raulin and M. L. Do,
University Paris, France

Peak identification

- | | | |
|---------------------|-----------------------|------------------------------|
| 1. methane | 15. 1,3-butadiene | 29. methacrylonitrile |
| 2. ethylene | 16. butane | 30. 3-methylpentane |
| 3. ethyne | 17. trans-2-butene | 31. 1-hexene |
| 4. ethane | 18. 1-butyne | 32. isobutyronitrile |
| 5. cyanogen | 19. cis-2-butene | 33. n-hexane |
| 6. propene | 20. butadiyne | 34. trans-2-butenenitrile |
| 7. propane | 21. cyanoacetylene | 35. 3-butenenitrile |
| 8. hydrocyanic acid | 22. acetonitrile | 36. 2-butyne |
| 9. propyne | 23. 1-pentene | 37. butyronitrile |
| 10. propadiene | 24. acrylonitrile | 38. cis-2-butenenitrile |
| 11. cyclopropane | 25. n-pentane | 39. benzene |
| 12. isobutane | 26. 2-methyl-2-butene | 40. cyclohexane |
| 13. 1-butene | 27. propionitrile | 41. cyclohexene |
| 14. isobutene | 28. cyclopentane | 42. cyclopropanecarbonitrile |



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