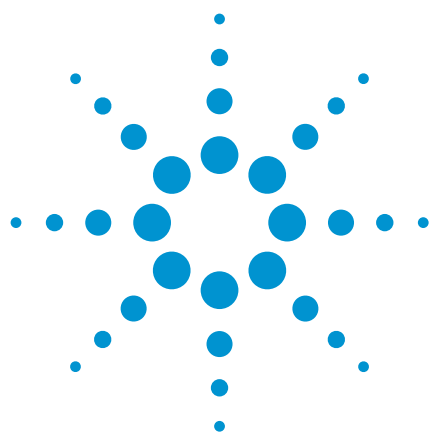




Aliphatic and cyclic hydrocarbons, $C_1 - C_9$ Naphtha analysis

Application Note

Energy & Fuels

Authors

Agilent Technologies, Inc.

Introduction

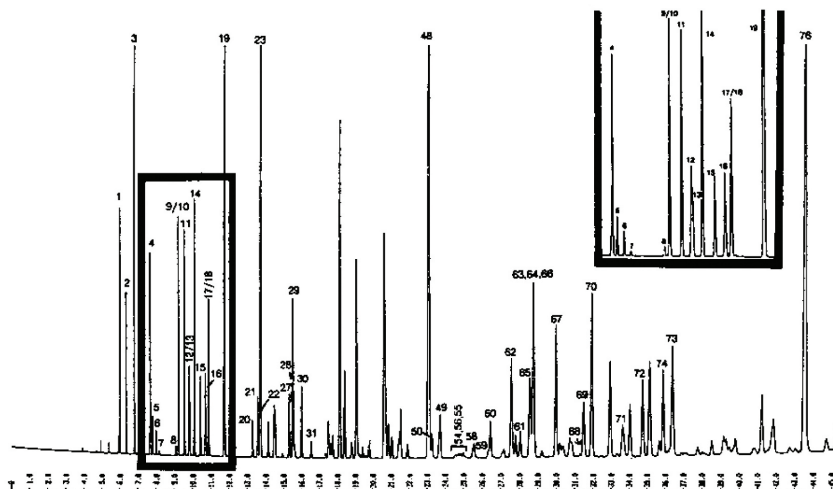
Gas chromatography with an Agilent CP-Squalene column separates 76 C_1 to C_9 aliphatic and cyclic hydrocarbons in naphtha in 45 minutes.



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Conditions

Technique : GC-capillary
Column : Agilent CP-Squalene, 0.25 mm x 100 m WCOT fused silica coated with squalene (df = 0.2 µm)
(Part no. CP7520)
Temperature : 40 °C → 70 °C, 0.5 °C/min
Carrier Gas : H₂, 210 kPa (2.1 bar, 30.5 psi)
Injector : Split, 1:100, 0.1 µL
Detector : FID, 2 x 10⁻¹¹ Afs
Sample : naphtha



Peak identification

- | | | | |
|--------------------------------|--------------------------------------|--------------------------------------|---------------------------------|
| 1. 2-me-pentane | 20. 2-2-di-me-hexane | 39. 3-me-heptane | 58. 1-me-cis-2-eth-cyclopentane |
| 2. 3-me-pentane | 21. 1-cis-2-de-me-cyclopentane | 40. 2-2-4-4-tetra-me-pentane | 59. 2-2-3-tri-me-hexane |
| 3. hexane | 22. 1-1-3-tri-me-cyclopentane | 41. 1-cis-2-tr-4-tri-me-cyclopentane | 60. 2-2-di-me-3-eth-pentane |
| 4. 2-2-di-me-pentane | 23. me-cyclohexane | 42. 3-me-3-eth-pentane | 61. 1-cis-2-di-me-cyclohexane |
| 5. me-cyclopentane | 24. 2-5-di-me-hexane | 43. 2-2-5-tri-me-hexane | 62. n-prop-cyclopentane |
| 6. 2-4-di-me-pentane | 25. 2-4-di-me-hexane | 44. 1-cis-3-di-me-cyclohexane | 63. eth-cyclohexane |
| 7. benzene | 26. eth-cyclopentane | 45. 1-1-di-me-cyclopentane | 64. eth-benzene |
| 8. 3-3-di-me-pentane | 27. 1-tr-2-cis-4-tri-me-cyclopentane | 46. 2-2-4-tri-me-hexane | 65. 3-3-di-me-heptane |
| 9. cyclohexane | 28. 3-3-di-me-hexane | 47. 1-me-cis-3-eth-cyclopentane | 66. 2-4-di-me-3-eth-pentane |
| 10. 2-me-hexane | 29. toluene | 48. octane | 67. 1-1-3-tri-me-cyclohexane |
| 11. 2-3-di-me-pentane | 30. 1-tr-2-cis-3-tri-me-cyclopentane | 49. 1-tr-2-di-me-cyclopentane | 68. 2-3-1-tri-me-hexane |
| 12. 1-1-di-me-cyclopentane | 31. 2-3-4-tri-me-pentane | 50. 1-cis-2-cyclohexane | 69. p-xylene |
| 13. 3-me-hexane | 32. 3-3-3-tri-me-pentane | 51. 1-cis-4-di-me-cyclohexane | 70. m-xylene |
| 14. 1-cis-3-di-me-cyclopentane | 33. 2-3-di-me-hexane | 52. 1-tr-di-me-cyclohexane | 71. 2-2-3-3-tetra-me-pentane |
| 15. 3-eth-pentane | 34. 2-me-3-eth-pentane | 53. 2-4-4-tri-me-hexane | 72. 2-3-3-4-tetra-me-pentane |
| 16. 1-tr-3-di-me-cyclopentane | 35. 1-1-2-tri-me-cyclopentane | 54. 2-3-5-tri-me-hexane | 73. o-xylene |
| 17. 1-tr-2-di-me-cyclopentane | 38. 2-me-heptane | 55. iso-prop-cyclopentane | 74. 3-me-octane |
| 18. 2-2-4-tri-me-pentane | 37. 4-me-heptane | 56. 2-2-di-me-heptane | 75. 3-3-di-eth-pentane |
| 19. heptane | 38. 3-4-di-me-hexane | 57. 2-2-3-4-tetra-me-pentane | 76. nonane |

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This information is subject to change without notice.

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