



# Hydrocarbons, $C_2 - C_4$

## Separation of $C_3 + C_4$ hydrocarbons

### Application Note

Energy & Fuels

#### Authors

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#### Introduction

Gas chromatography with an Agilent CP- $Al_2O_3/Na_2SO_4$  column separates  $C_2$  to  $C_4$  hydrocarbons in a light hydrocarbon stream in 27 minutes, with complete separation at elevated temperature.



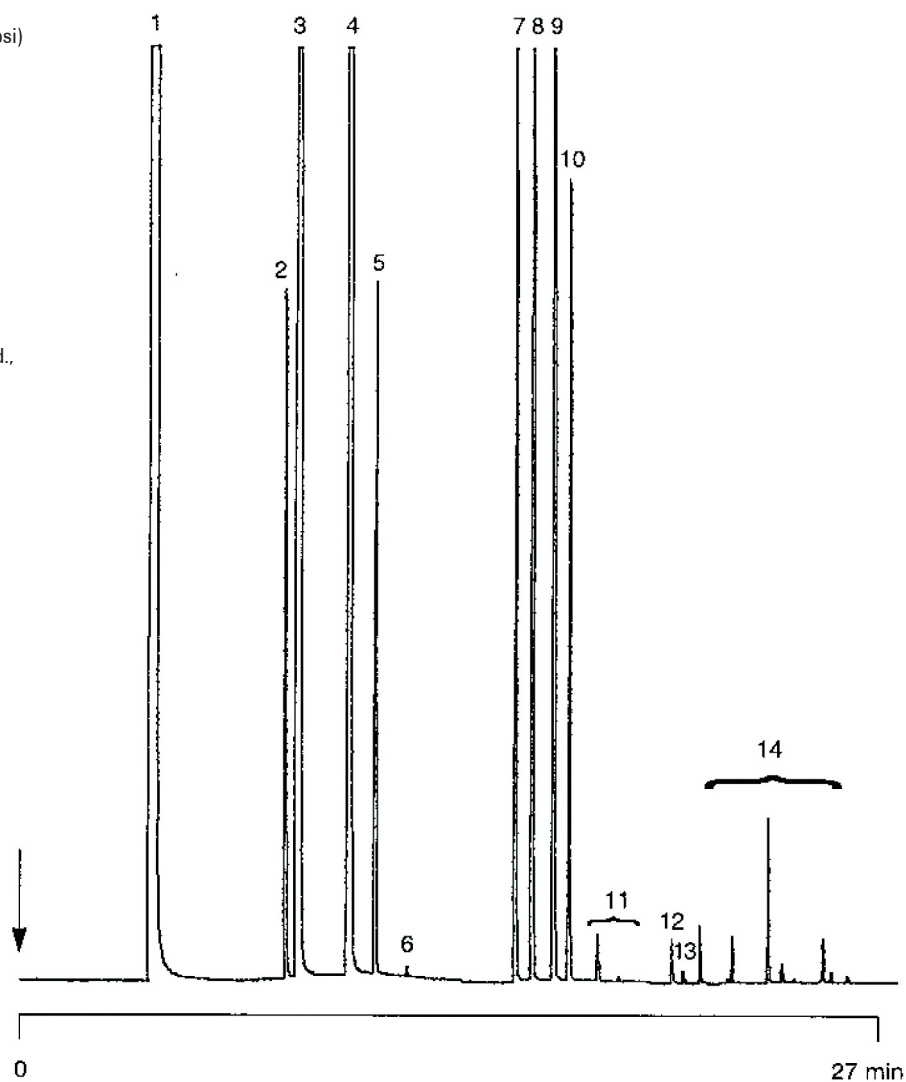
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## Conditions

Technique : GC-wide-bore  
Column : Agilent CP-Al<sub>2</sub>O<sub>3</sub>/Na<sub>2</sub>SO<sub>4</sub> PLOT, 0.32 mm x 50 m fused silica PLOT (df = 5 µm) (Part no. CP6968)  
Temperature : 60 °C (5 min) → 135 °C, 5 °C/min; 135 °C → 185 °C, 15 °C/min  
Carrier Gas : He, 69 kPa (0.69 bar, 10.2 psi)  
Injector : Split, T = 200 °C  
Detector : FID, T = 250 °C  
Sample Size : 2000 µL  
Concentration Range : 100 ppm - 1%  
Solvent Sample : gas  
Courtesy : A. Katzir, Carmel Olefins Ltd., Haifa, Israel

## Peak identification

1. propane
2. cyclopropane
3. propylene
4. isobutane
5. n-butane
6. propadiene
7. trans-2-butene
8. 1-butene
9. isobutene
10. cis-2-butene
11. C<sub>5</sub>-isomers
12. 1,3-butadiene
13. propyne
14. pentenes



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