# Hydrocarbons, $C_1 - C_6$
## Analysis of natural gas

## Application Note

Energy & Fuels

**Authors**

Agilent Technologies, Inc.

## Introduction

The separation of natural gas can be done very well on an Agilent CP-SilicaPLOT column. The 0.53 mm id column is ideal for using the direct injection technique. Due to the high separation factor between methane and ethane, we obtain a very narrow methane peak even with direct injection. Branched paraffins elute before the linear paraffin of the same carbon number. The mechanical stability of the CP-SilicaPLOT column is very high. This also allows applications with valve switching, high flow rates and backflush techniques.
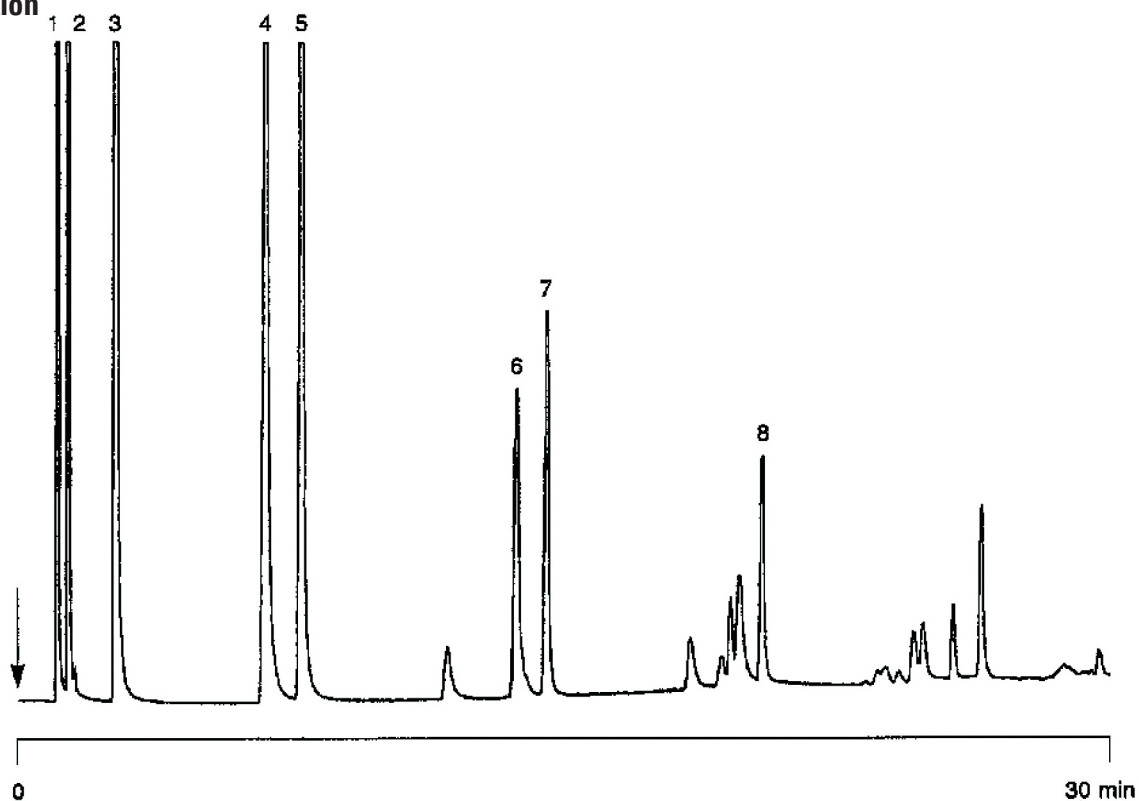
**Agilent Technologies**

# Conditions

| | | |
|---|---|---|
| Technique | : | GC-wide-bore |
| Column | : | Agilent CP-SilicaPLOT, 0.53 mm x 30 m, fused silica PLOT CP-SilicaPLOT (df = 6 µm)  (Part no. CP8570) |
| Temperature | : | 50 °C (5 min) → 225 °C, 5 °C/min |
| Carrier Gas | : | He, 20 kPa (0.2 bar, 2.9 psi) |
| Injector | : | Direct T = 225 °C |
| Detector | : | FID T = 250 °C |
| Sample Size | : | 2 µL |

# Peak identification

1. methane
2. ethane
3. propane
4. isobutane
5. butane
6. isopentane
7. pentane
8. hexane

**Agilent Technologies**