

# Hydrocarbons, $C_{18} - C_{90}$

## Separation of a heavy wax sample

### Application Note

Energy & Fuels

#### Authors

Agilent Technologies, Inc.

#### Introduction

Wax samples contain high boiling compounds which require a high temperature column to elute. In a typical heavy-wax type sample, hydrocarbons up to  $C_{100}$  are present. The best injection for this type of components is cold-on-column injection, preventing discrimination. The Agilent CP-SimDist column is a methyl silicone which is stabilized by the deactivation used for the UltiMetal surface. Due to this stabilization, the CP-SimDist column can be used up to 430 °C. Working at these high temperatures care has to be taken on possible leaks. Also, the purity of the carrier gas must be assured.



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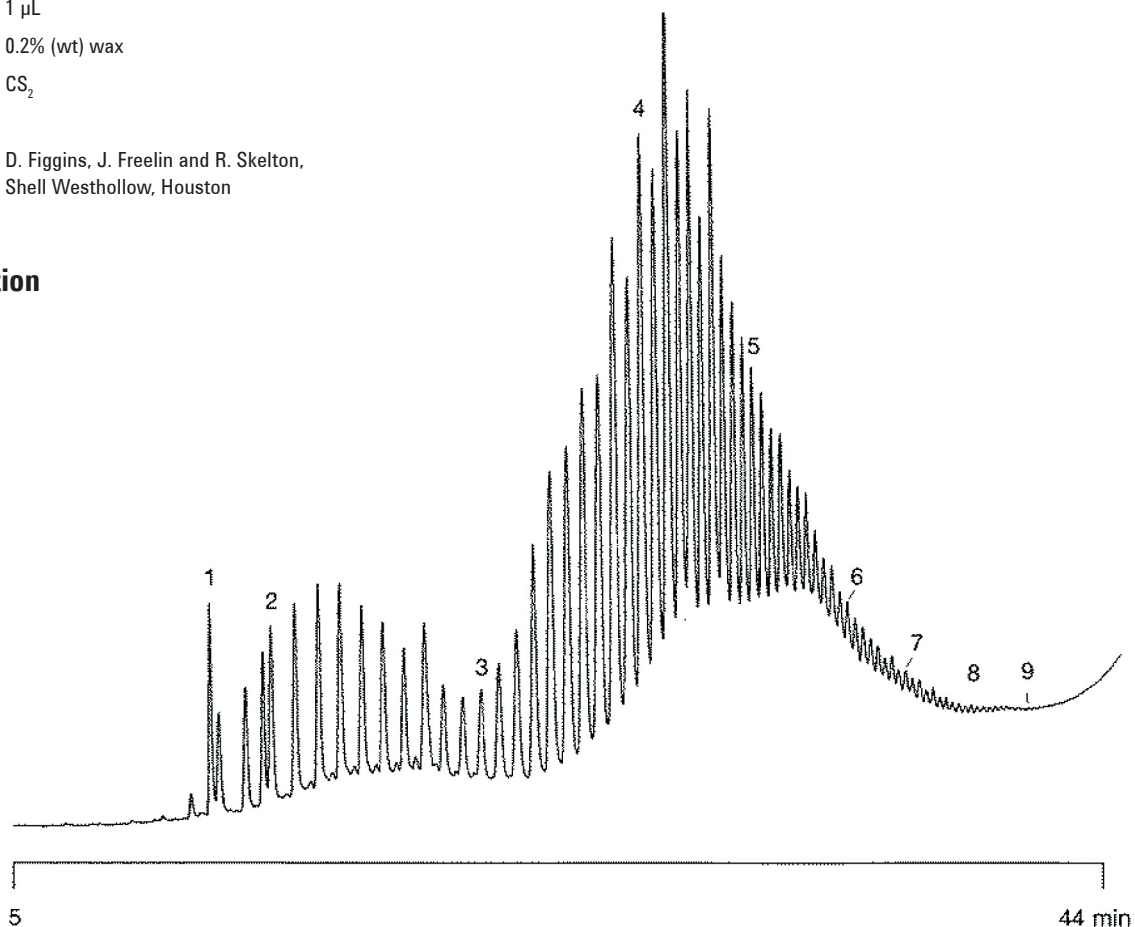
## Conditions

Technique : GC-wide-bore  
Column : Agilent CP-SimDist UltiMetal, 0.53 mm x 5 m fused silica WCOT (df = 0.17  $\mu\text{m}$ ) (Part no. CP7532)  
Temperature : 40 °C (2 min)  $\rightarrow$  430 °C, 20 °C/min  
Carrier Gas : He, 4 kPa (0.04 bar, 0.6 psi)  
Injector : On-column,  
T = °C  
Detector : FID  
T = 430 °C  
Sample Size : 1  $\mu\text{L}$   
Concentration Range : 0.2% (wt) wax  
Solvent Sample :  $\text{CS}_2$

Courtesy : D. Figgins, J. Freelin and R. Skelton,  
Shell Westhollow, Houston

## Peak identification

1.  $\text{C}_{18}$
2.  $\text{C}_{20}$
3.  $\text{C}_{30}$
4.  $\text{C}_{40}$
5.  $\text{C}_{50}$
6.  $\text{C}_{60}$
7.  $\text{C}_{70}$
8.  $\text{C}_{80}$
9.  $\text{C}_{90}$



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