

# Analysis of FAME in partially hydrogenated soybean oil

## Application Note

Food Testing & Agriculture

### Authors

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### Introduction

FAME components can be separated on several stationary phases. Highest resolution for FAME will be obtained using polar phases, like the Agilent CP-Sil 88. The Agilent CP-Select CB for FAME is a 100% bonded polar phase with a selectivity comparable to the CP-Sil 88, but with a unique stability as it is 100% immobilized. As a result the CP-Select CB for FAME can be used repeatedly with splitless or on-column injection techniques without losing efficiency.

The bonded polar phase is also stable up to 290 °C, allowing a fast bake-out. Column bleed is very low providing excellent quantification for trace compounds especially in combination with sensitive detectors such as MS. Another characteristic of the CP-Select CB for FAME is the high loadability, which is at least a factor 3 higher allowing better separations for FAME isomers eluting close together.



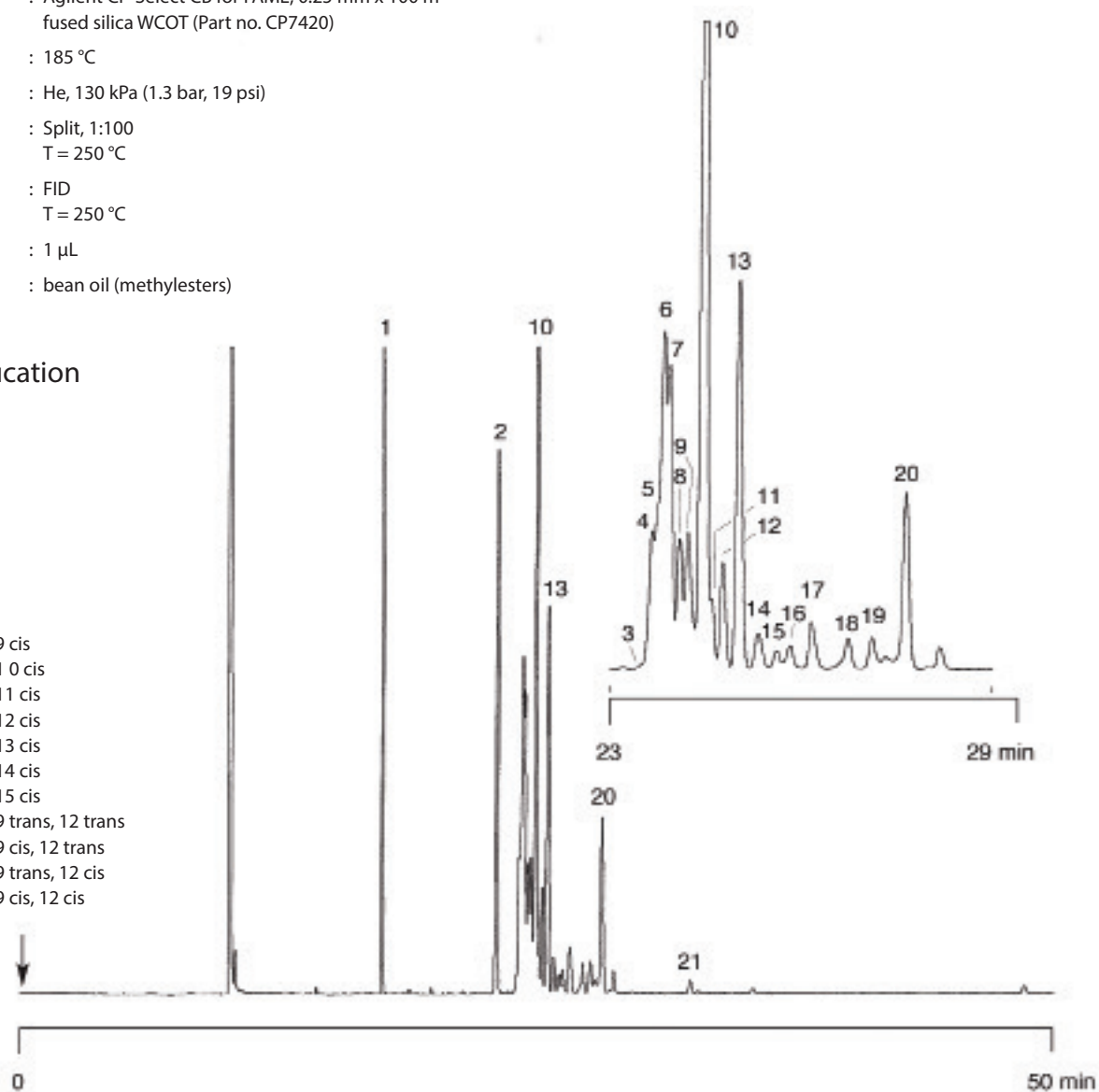
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## Conditions

Technique : GC-capillary  
Column : Agilent CP-Select CB for FAME, 0.25 mm x 100 m fused silica WCOT (Part no. CP7420)  
Temperature : 185 °C  
Carrier Gas : He, 130 kPa (1.3 bar, 19 psi)  
Injector : Split, 1:100  
T = 250 °C  
Detector : FID  
T = 250 °C  
Sample Size : 1 µL  
Sample : bean oil (methylesters)

## Peak identification

1. C16:0
2. C18:0
3. C18:1 7 trans
4. C18:1 8 trans
5. C18:1 9 trans
6. C18:1 10 trans
7. C18:1 11 trans
8. C18:1 12 trans
9. C18:1 13 trans
10. C18:1 9 cis
11. C18:1 10 cis
12. C18:1 11 cis
13. C18:1 12 cis
14. C18:1 13 cis
15. C18:1 14 cis
16. C18:1 15 cis
17. C18:2 9 trans, 12 trans
18. C18:2 9 cis, 12 trans
19. C18:2 9 trans, 12 cis
20. C18:2 9 cis, 12 cis
21. C20:0



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