



FAME, C₄ – C₁₈ Separation of C₄-C₁₈ FAME isomers in milk fat

Application Note

Food Testing & Agriculture

Authors

Agilent Technologies, Inc.

Introduction

Gas chromatography with an Agilent CP-Select CB for Fame column separates 19 fatty acid methyl esters in under 60 minutes.



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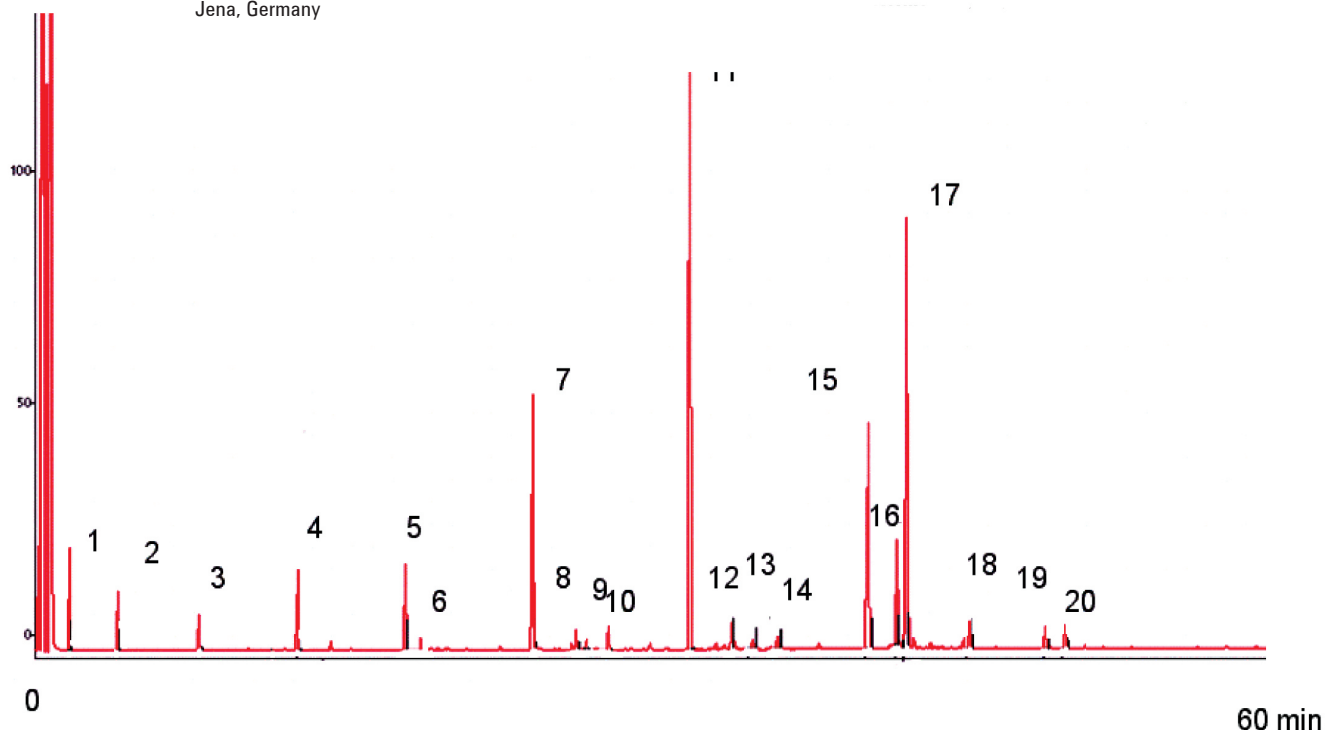
Conditions

Technique : GC
Column : Agilent CP-Select CB for FAME,
0.25 mm x 200 m fused silica
(optimized filmthickness) (Part no. CP7421)
Temperature : 100 °C, (10 min) → 165 °C (10 min), 10 °C/min
→ 220 °C, 1.5 °C/min → 240 °C, (10 min), 2 °C/min
Carrier Gas : Hydrogen, 27 cm/s
Injector : Split, 1:50
T = 260 °C
Detector : FID
T = 270 °C
Sample Size : 1 µL
Concentration Range : 1%
Solvent Sample : hexane
Derivatization : with TMSH

Peak identification

1. C4:0	butyric acid
2. C6:0	caproic acid; hexanoic acid.
3. C8:0	caprylic acid; octanoic acid.
4. C10:0	capric acid; decanoic acid.
5. C12:0	lauric acid; dodecanoic acid.
6. unknown	
7. C14:0	myristic acid; tetradecanoic acid.
8. C14:1c9	cis-9-tetradecanoic acid.
9. unknown	
10. C15:0	pentadecanoic acid.
11. C16:0	hexadecanoic acid
12. C16:1c9	palmitoleic acid; cis-9-hexadecanoic acid
13. unknown	
14. C17:0	margaric acid; heptadecanoic acid.
15. C18:0	stearic acid; octadecanoic acid.
16. C18:1c9	oleic acid; cis-9-octadecanoic acid.
17. C18:1t11	trans-11-octadecanoic acid.
18. C18:2c9,12	linoleic acid; cis,cis-9, 12-octadecanoic acid.
19. aC18:3n3	linolenic acid; cis,cis ,cis-9,12,15-octadecanoic acid

Courtesy : P. Möckel, Institute für ernährungswissenschaften,
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