

Bacterial fatty acid methyl esters

Analysis of bacterial fatty acids in human feces

Application Note

Clinical Research

Authors

Agilent Technologies, Inc.

Introduction

Gas chromatography with an Agilent CP-Sil 8 CB column separates 43 bacterial fatty acid methyl esters in a sample of human feces in 33 minutes.



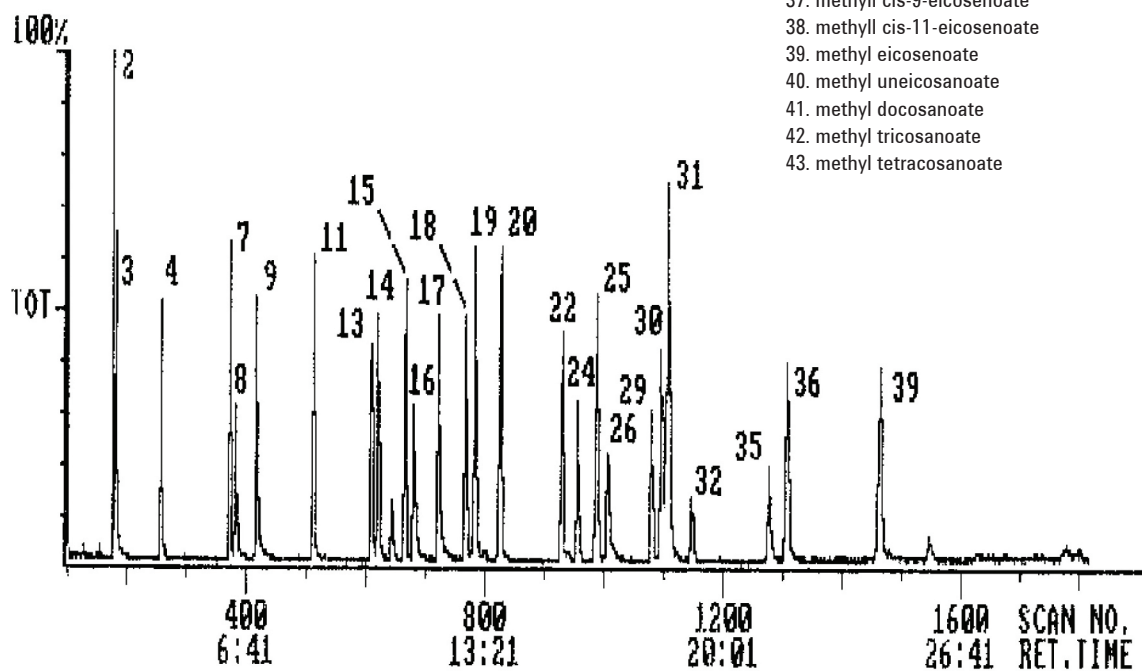
Agilent Technologies

Conditions

Technique : GC-capillary
Column : Agilent CP-Sil 8 CB, 0.32 x 25 m fused silica WCOT
CP-Sil 8 CB (df = 0.25 µm) (Part no. CP7452)
Temperature : 150 °C (4 min) → 280 °C, 4 °C/min
Carrier Gas : He, 112 kPa (1.12 bar, 16 psi)
Injector : Split, 1:20
T = 280 °C
Detector : Ion Trap, Detection in Chemical Ionisation Mode
T = 300 °C
Sample Size : 1 µL
Solvent Sample : hexane
Courtesy : B. Geypens et al, Department of Medicine,
Division of Gastroenterology, Leuven, Belgium

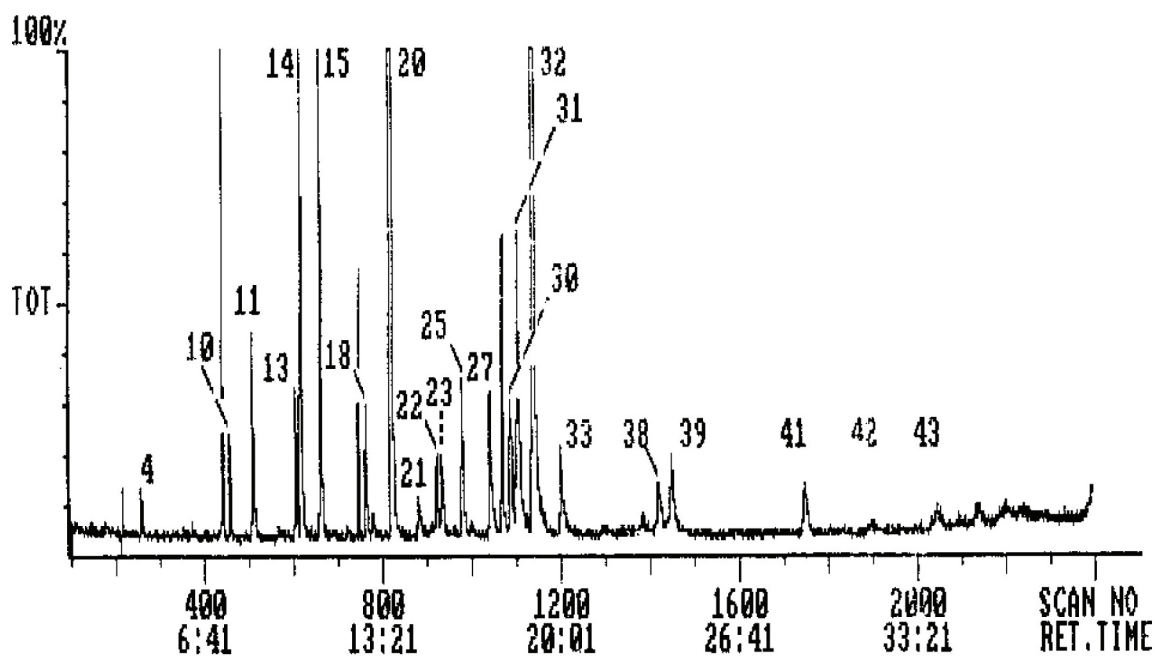
Peak identification

1. methyl decanoate
2. methyl undecanoate
3. methyl 2-hydroxydecanoate
4. methyl dodecanoate
5. methyl 11-methyldodecanoate
6. methyl 10-methyl dodecanoate
7. methyl tridecanoate
8. methyl 2-hydroxytridecanoate
9. methyl 3-hydroxytridecanoate
10. methyl 11-methyltridecanoate
11. methyl tetradecanoate
12. methyl 3-hydroxytetradecanoate
13. methyl 13-methyltetradecanoate
14. methyl 12-methyltetradecanoate
15. methyl pentadecanoate
16. methyl 2-hydroxypentadecanoate
17. methyl 3-hydroxypentadecanoate
18. methyl 14-methylpentadecanoate
19. methyl cis-9-hexadecanoate
20. methyl hexadecanoate
21. methyl 3-hydroxyhexadecanoate
22. methyl 15-methylhexadecanoate
23. methyl 14-methylhexadecanoate
24. methyl cis-9,10-methylhexadecanoate
25. methyl heptadecanoate
26. methyl 2-hydroxyheptadecanoate
27. methyl 3-hydroxyheptadecanoate
28. methyl 16-methylheptadecanoate
29. methyl cis-9,12-octadecadienoate
30. methyl cis-9-octadecenoate
31. methyl cis-11-octadecenoate
32. methyl octadecanoate
33. methyl 3-hydroxyoctadecanoate
34. methyl 17-methyloctadecanoate
35. methyl cis-9,10-methyleneoctadecanoate
36. methyl nonadecanoate
37. methyl cis-9-eicosenoate
38. methyl cis-11-eicosenoate
39. methyl eicosanoate
40. methyl uneicosanoate
41. methyl docosanoate
42. methyl tricosanoate
43. methyl tetracosanoate



Peak identification

- | | | |
|------------------------------------|---|--|
| 1. methyl decanoate | 17. methyl 3-hydroxytetradecanoate | 33. methyl 3-hydroxyheptadecanoate |
| 2. methyl undecanoate | 18. methyl 14-methylpentadecanoate | 34. methyl 17-methyloctadecanoate |
| 3. methyl 2-hydroxydecanoate | 19. methyl cis-9-hexadecanoate | 35. methyl cis-9,10-methyleneoctadecanoate |
| 4. methyl dodecanoate | 20. methyl hexadecanoate | 36. methyl nonadecanoate |
| 5. methyl 11-methyldodecanoate | 21. methyl 3-hydroxypentadecanoate | 37. methyl cis-9-eicosenoate |
| 6. methyl 10-methyldodecanoate | 22. methyl 15-methylhexadecanoate | 38. methyl cis-11-eicosenoate |
| 7. methyl tridecanoate | 23. methyl 14-methylhexadecanoate | 39. methyl eicosenoate |
| 8. methyl 2-hydroxydodecanoate | 24. methyl cis-9,10-methylhexadecanoate | 40. methyl uneicosanoate |
| 9. methyl 3-hydroxydodecanoate | 25. methyl heptadecanoate | 41. methyl docosanoate |
| 10. methyl 11-methyltridecanoate | 26. methyl 2-hydroxyhexadecanoate | 42. methyl tricosanoate |
| 11. methyl tetradecanoate | 27. methyl 3-hydroxyhexadecanoate | 43. methyl tetracosanoate |
| 12. methyl 3-hydroxytridecanoate | 28. methyl 16-methylheptadecanoate | |
| 13. methyl 13-methyltetradecanoate | 29. methyl cis-9,12-octadecadienoate | |
| 14. methyl 12-methyltetradecanoate | 30. methyl cis-9-octadecenoate | |
| 15. methyl pentadecanoate | 31. methyl cis-11-octadecenoate | |
| 16. methyl 2-hydroxytetradecanoate | 32. methyl octadecanoate | |



www.agilent.com/chem

This information is subject to change without notice.

© Agilent Technologies, Inc. 2011

Printed in the USA

31 October, 2011

First published prior to 11 May, 2010

A00573



Agilent Technologies