FAME, C_{18} - C_{20}

FAME analysis of conjugated linoleic acids

Application Note

Food Testing & Agriculture

Authors

Agilent Technologies, Inc.

Introduction

This method, prior to GC analysis, isolates the different geometric isomers of C20:3 and C20:4 by a combination of RP-HPLC, and fractionation on a silver-loaded HPLC column, Agilent ChromSpher Lipids, to separate the conjugated fatty acids according to their double bond positions.

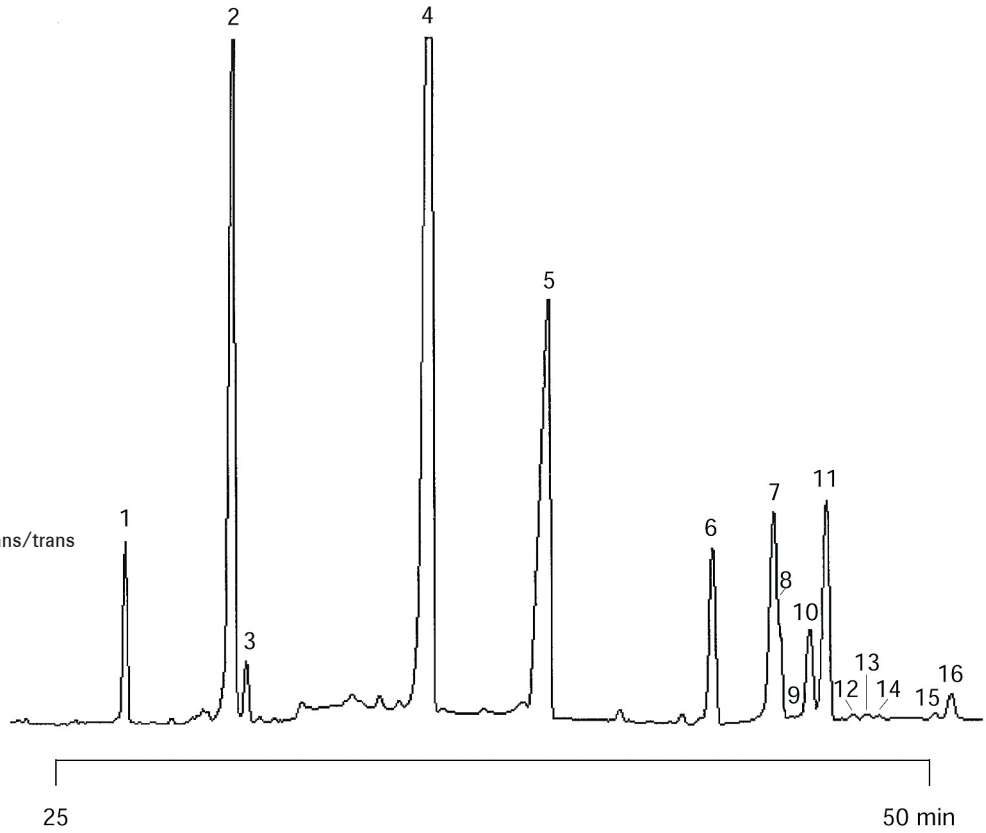
Agilent Technologies

Conditions

Technique	: GC-capillary
Column	: Agilent CP-Sil 88 for FAME, 0.25 mm x 100 m (df = 0.2 µm) (Part no. CP7489)
Temperature	: 60 °C (1 min) ⟶ 170 °C, @ 20 °C/min
Carrier Gas	: H_2, 0.7 mL/min
Injector	: Splitless, T = 250 °C
Detector	: FID, T = 280 °C
Sample Size	: FAME mixture of conjugated linoleic acids, C20:0 and soybean oil
Courtesy	: P. Juaneda, INRA, Unité de Nutrition Lipidique, Dijon, France

Peak identification

1. FAME C18:0
2. FAME C18:1w9
3. FAME C18:1w7
4. FAME C18:2w6
5. FAME C20:0
6. FAME C18:3w3
7. FAME C18:2 9-cis,11-trans
8. FAME C18:2 8-trans,10-cis
9. FAME C18:2 9-cis,11-trans
10. FAME C18:2 11-cis,13-trans
11. FAME C18:2 10-trans,12-cis
12. FAME C18:2 9-cis,11-cis
13. FAME C18:2 10-cis,12-cis
14. FAME C18:2 11-cis,13-cis
15. FAME C18:2 11-trans,13-trans
16. FAME C18:2 8,10-, 9,11- and 10, 12-trans/trans



www.agilent.com/chem

Printed in the USA
31 October, 2011
First published prior to 11 May, 2010
A01530

Agilent Technologies