



Sterols in sunflower oil

Analysis of sterols in sunflower oil as silyl derivatives

Application Note

Food Testing & Agriculture

Authors

Agilent Technologies, Inc.

Introduction

Analysis of sterols in sunflower oil as silyl derivatives by gas chromatography with Agilent FactorFour VF-5ht columns in 12 minutes.



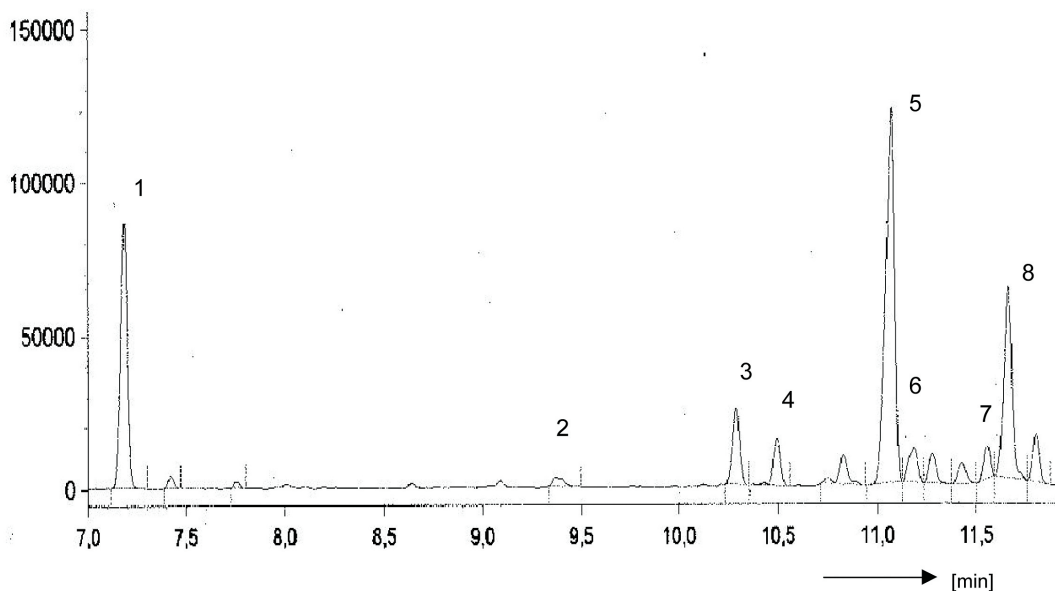
Agilent Technologies

Conditions

Technique	: GC-capillary
Column	: Agilent FactorFour VF-5ht, 0.25 mm x 30 m fused silica (df = 0.1 μ m) (Part no. CP9046)
Temperature	: 240 °C \rightarrow 260 °C, 4 °C/min \rightarrow 300 °C, 8 °C/min (8 min)
Carrier Gas	: He, 137.7 kPa, constant flow
Injector	: Split, 1:20, T: 320 °C
Sample Size	: 1 μ L
Detector	: FID
Solvent	: 1-butanol
Sample prep.	: 1 g sample + 2 mL H ₂ O, 1 mL 15 M NaOH + 2 mL IS (cholestan in 1-butanol); heat at 120 °C, cool, centrifuge. Transfer 1.5 mL of the organic layer to an aluminium oxide column (10 g Al ₂ O ₃ neutral, conditioned with ethanol); elute with 5 mL ethanol and 30 mL diethylether, evaporate to dryness, derivatize.
Derivatization	: silylation with MSTFA in MTBE and TCTFE (trichlorotrifluoroethane)
Courtesy	: Frau Hilleman, Amt für Verbraucherschutz Mettmann, Germany

Peak identification

1. cholestane
2. cholesterol
3. campesterol
4. stigmasterol
5. sitosterol
6. avenasterol-D5
7. stigmasterol-D7
8. avenasterol-D7



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

A02421



Agilent Technologies