Analysis of underivatized anabolic steroids with a 100 µm column

Application Note

Forensics & Drug Testing

Authors

Agilent Technologies, Inc.

Introduction

Gas chromatography using an Agilent CP-Sil 8 CB column separates five anabolic steroids in urine in 20 minutes.

Agilent Technologies

Anabolic steroids

100 µm internal diameter fused silica columns show high column inertness as well as high resolution power and high speed of analysis. This high column inertness is a result of a perfect deactivation in combination with the reduced column wall surface area. As an illustration, the analysis of underivatized anabolic steroids is performed on a 0.10 mm x 10 m fused silica column coated with 0.12 µm CP-Sil 8 CB.

The chromatograms 1-3 show the underivatized steroids, male urine and urine spiked with steroids. As is clear from the chromatograms, derivatization is not necessary.

Courtesy

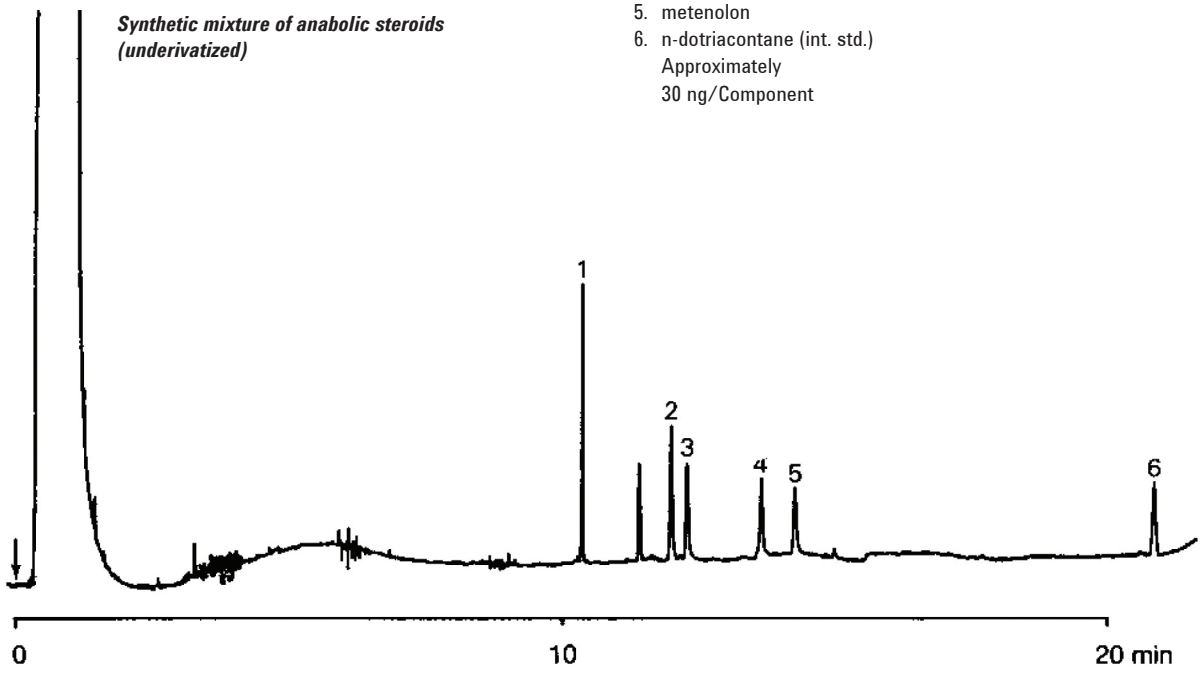
Or. Ir. J. A. Rijks, Eindhoven University of Technology, Eindhoven, The Netherlands.

Conditions

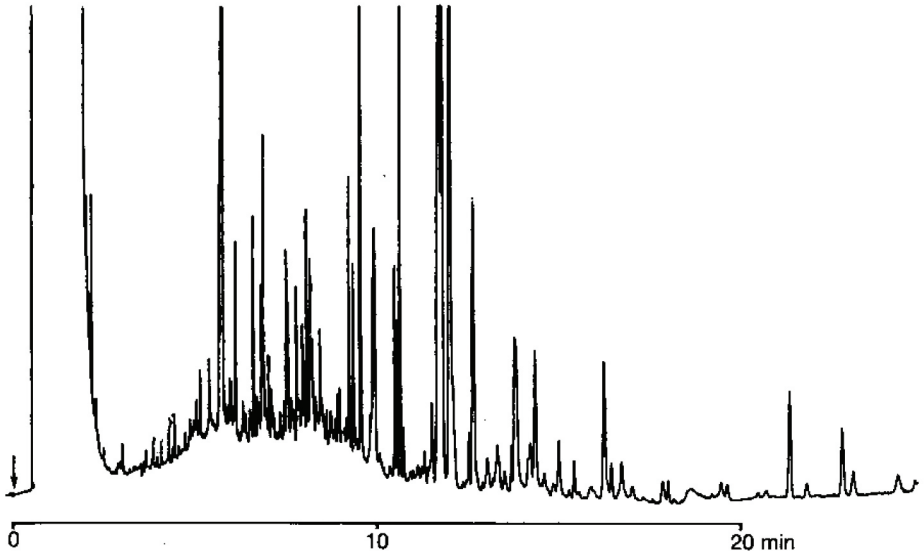
Technique	: GC-capillary
Column	: 10 m x 0.10 mm fused silica WCOT CP-Sil 8 CB (0.12 µm) (Cat. no. 7781)
Temperature	: 60 °C (1.5 min) 60 °C → 280 °C, 15 °C/min
Carrier Gas	: He
Injector	: Splitless
Detector	: FID, 16 x 10^{-12}

Peak identification

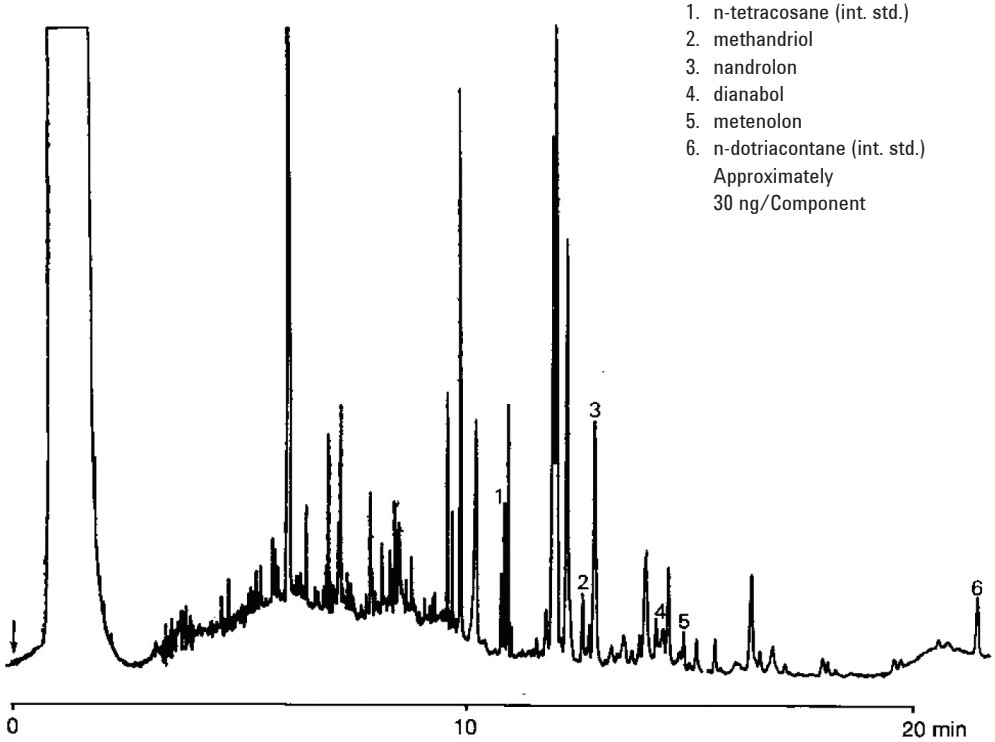
1. n-tetracosane (int. std.)
2. methandriol
3. nandrolon
4. dianabol
5. metenolon
6. n-dotriacontane (int. std.)
   Approximately
   30 ng/Component



Male urine



Male urine, spiked with anabolic steroids



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