α-Hydroxyacids

Enantiomer separation of hydroxyacids as dioxolanone derivatives

Application Note

Materials Testing & Research

Authors

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Introduction

Enantiomeric separation of eight α-hydroxyacids (dioxolanone derivatives) by gas chromatography with an Agilent CP-Cyclodextrin-B-2,3,6-M-19 column is accomplished in 30 minutes.

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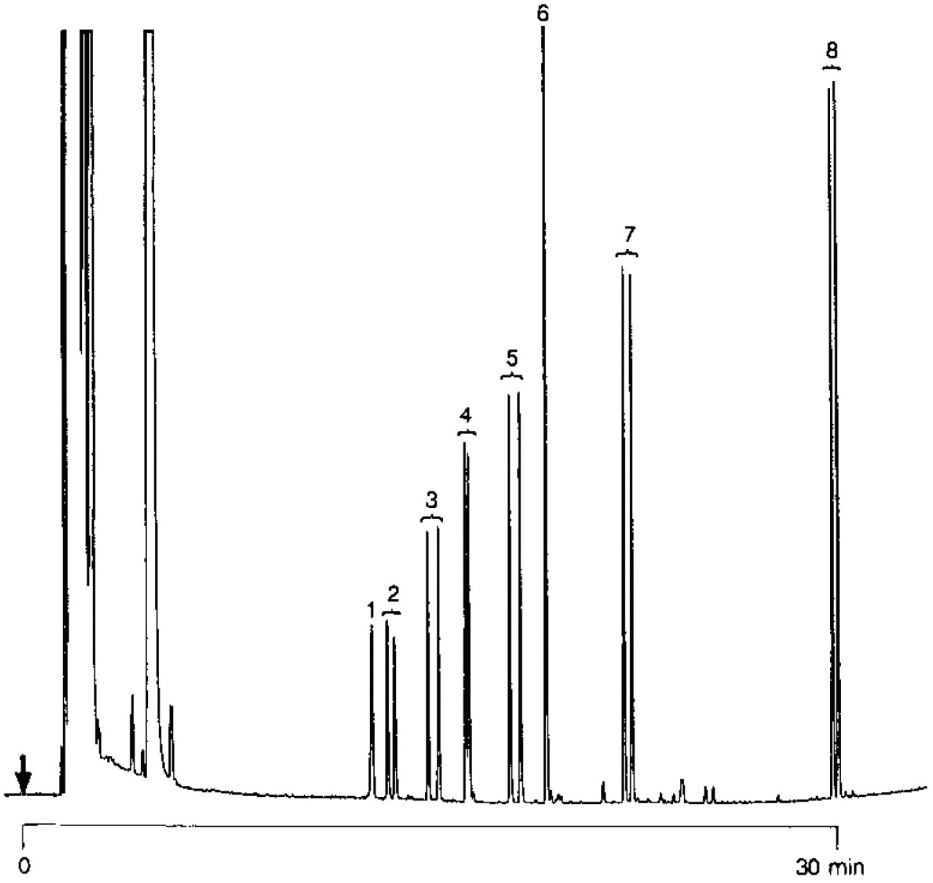
Conditions

Technique	: GC-capillary
Column	: Agilent CP-Cyclodextrin-B-2,3,6-M-19, 0.25 mm x 25 m fused silica WCOT Cyclodextrin-B-2,3,6-M-19 (df = 25 µm) (Part no. CP7500)
Temperature	: 70 °C, 5 min + 5 °C/min ⟶ 200 °C
Carrier Gas	: H_2, 60 kPa (0.6 bar, 8.6 psi)
Injector	: Split, 100 mL/min T = 250 °C
Detector	: FID, 4 x 10^{-12} Afs T = 275 °C
Concentration Range	: 0.01% in hexane

Peak identification

1. glycolic acid
2. lactic acid
3. 2-hydroxy butanoic acid
4. 2-hydroxy-3-methyl butanoic acid
5. 2-hydroxy pentanoic acid
6. 2-hydroxy isohexanoic acid
7. 2-hydroxy hexanoic acid
8. 2-hydroxy octanoic acid



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