Drugs

Analysis of drugs of abuse (underivatized) standard mixture

Application Note

Forensic Toxicology

Authors

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Introduction

Gas chromatography using an Agilent CP-Sil 8 CB column separates 18 underivatized drugs of abuse in a standard mixture in 15 minutes.

As a retention gap, a high temperature stable, thin film coated piece of a nonpolar fused silica column was used. This resulted in a better peak shape for the basic compounds and a longer lifetime of the precolumn under these injection conditions.

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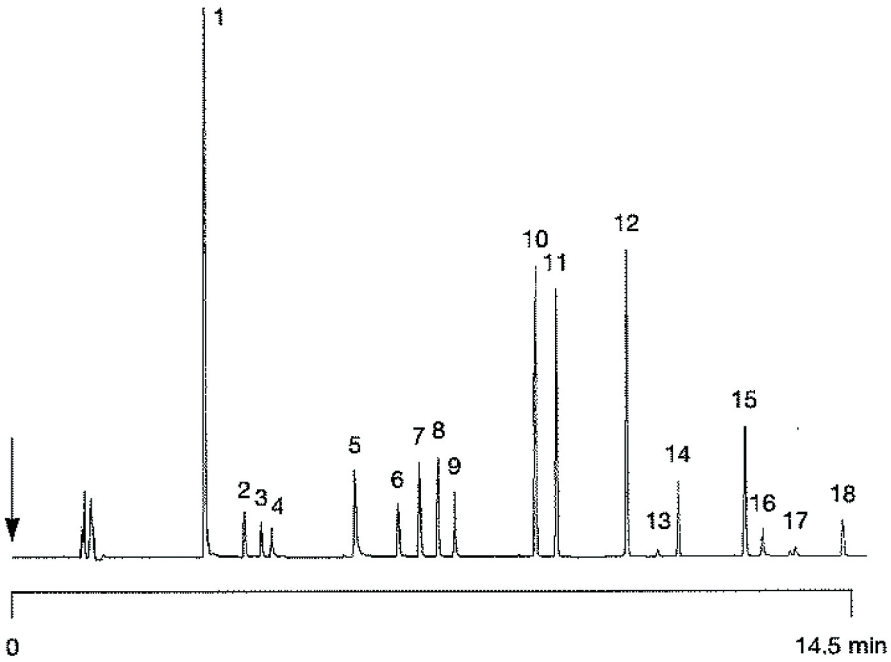
Conditions

Technique	:	GC-capillary
Column	:	Agilent CP-Sil 8 CB, 0.32 mm x 25 m, fused silica WCOT CP-Sil 8 CB (df = 0.25 µm) (Part no. 7452)
Precolumn	:	Agilent CP-SimDist, 0.53 mm x 2 m, fused silica WCOT (df = 0.1 µm) (Part no. CP7541) (for 10 m column)
Temperature	:	75 °C (1 min) ⟶ 200 °C, 20 °C/min; 200 °C ⟶ 280 °C. 15 °C/min; 280 °C (3 min)
Carrier Gas	:	He, 80 kPa (0.8 bar, 11 psi)
Injector	:	on-column, T = 75 °C
Detector	:	NPD, T = 300 °C
Sample Size	:	1.0 µL
Concentration Range	:	0-10 mg/L
Solvent Sample	:	hexane

Peak identification

1. α-phenylethylamine (a-MBMA)
2. amphetamine
3. α,α-dimethylphenethylamine (phentermine)
4. methamphetamine
5. ephedrine
6. MDA (a-methyl-3,4-methylene-dioxyphenethylamine)
7. MDMA (3,4-methylenedioxymethamphetamine)
8. MDEA (3,4-methylenedioxyethylamphetamine)
9. MBDB (2-methylamino-1-(3,4-methylene-dioxyphenyl)butane)
10. caffeine
11. lidocaine
12. chirald (internal standard)
13. methadone
14. cocaine
15. codeine
16. morphine
17. artefacts
18. heroin



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