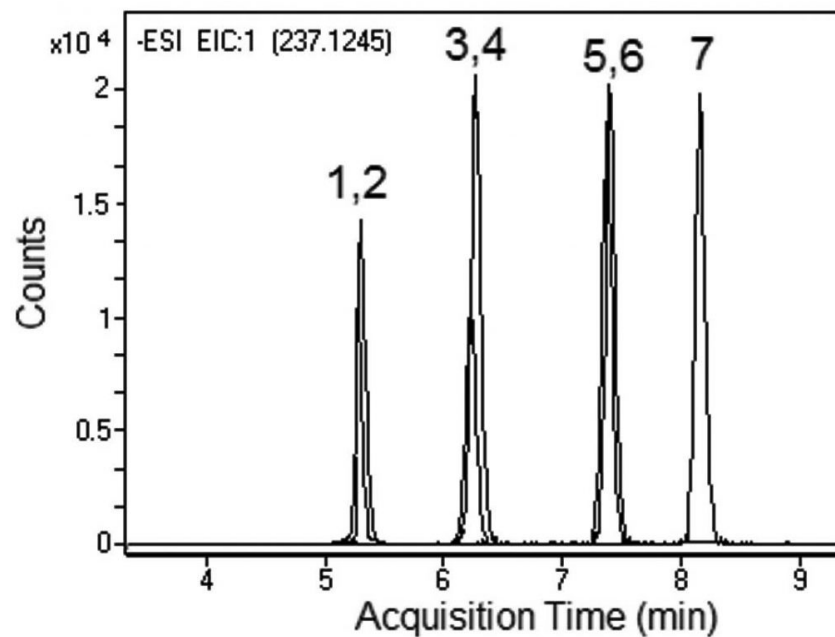


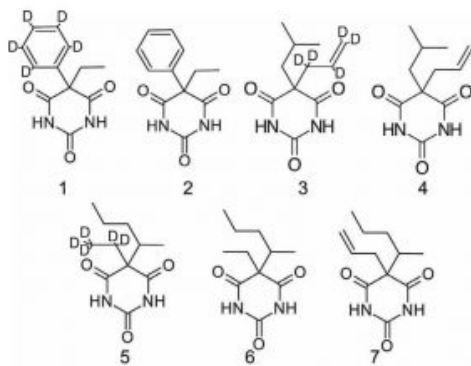
Barbiturates Analyzed with LCMS - AppNote

Standard Solutions in Human Urine Spiked with Barbiturates

After minimal sample preparation (*dilute-and-shoot approach*), spiked urine samples were analyzed using a C18 Column. The analysis was based on a Separation of Standards [1]. The obtained Peaks were Symmetrical ($As < 1.05$) and Efficient (> 106 pl/m). No shift in retention Times was observed after the samples were diluted ten-fold (*data not shown*). Matrix effects that would diminish the signal intensity were less than 5%.

This Method shows a possible Application for Analysis of these Compounds in Forensic Samples.





Peaks:

1. Phenobarbital-D5 $m/z = 236.1089$,
2. Phenobarbital $m/z = 231.0775$,
3. Butalbital-D5 $m/z = 228.1402$,
4. Butalbital $m/z = 223.1088$,
5. Pentobarbital-D5 $m/z = 230.1558$,
6. Pentobarbital $m/z = 225.1245$,
7. Secobarbital $m/z = 237.1245$

Method Conditions

Column: Cogent Bidentate C18™, 4μm, 100Å

Catalog No.: 40018-05P-2



Dimensions: 2.1 x 50mm

Mobile Phase:

A: DI Water with 10mM Ammonium Formate

B: 95:5 Acetonitrile / DI Water with 10mM Ammonium Formate (v/v)

Gradient:

Time (minutes)	%B
0	10
1	10
10	45

Post Time: 3 minutes

Injection vol.: 1 μ L

Flow rate: 0.4mL / minute

Detection: ESI - NEG - Agilent 6210 MSD TOF Mass Spectrometer

Sample Preparation: Stock solutions of Barbiturates were prepared at a concentration of 1mg / mL in Methanol. Then 2mL of a urine sample was spiked with the stock solutions diluted, (*dilution 1:100*) and filtered through a 0.45 μ m Nylon Syringe Filter (MicroSolv Tech Corp.) into Autosampler Vials.

t₀: 0.3 minutes



[1] J.J. Pesek, M.T. Matyska, A.M. Kim, J. Sep. Sci. 2013, 36, 2760–2766.

Attachment

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