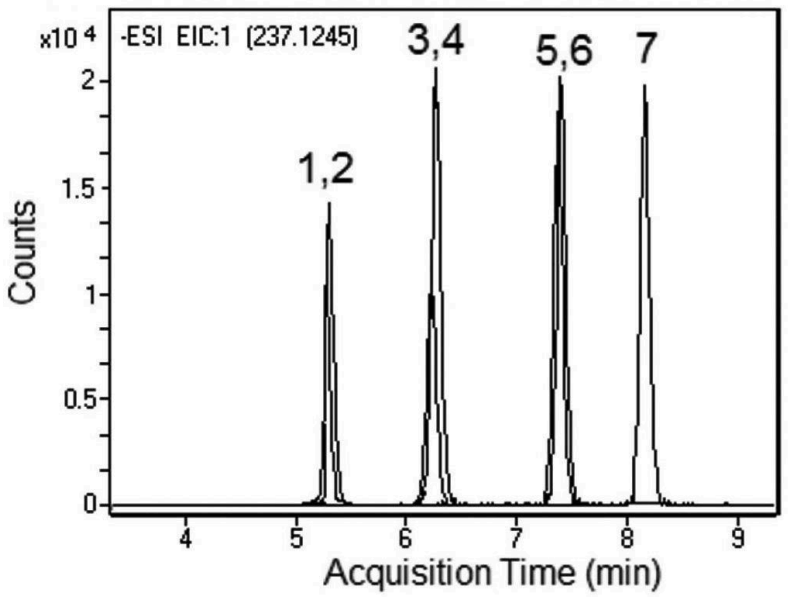
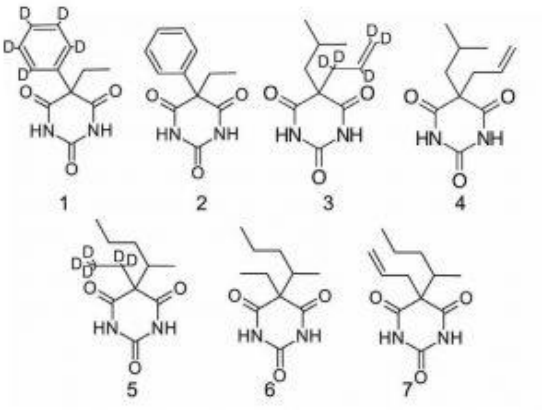
# Phenobarbital-D5, Phenobarbital, Butalbital-D5, Butalbital, Pentobarbital-D5, Pentobarbital and SecobarbitalBarbiturates Analyzed with LCMS - AppNote

## 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.**: 1µL
**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 0.45µm Nylon Syringe Filter (MICROSOLV Tech Corp.) into Autosampler Vials.
$t_0$ : 0.3 minutes

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

**Attachment No 270 Barbiturates Analyzed with LCMS pdf** 0.3 Mb Download File

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