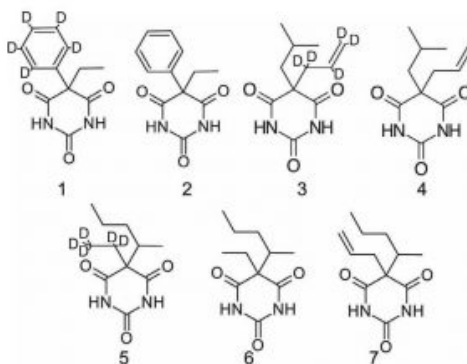
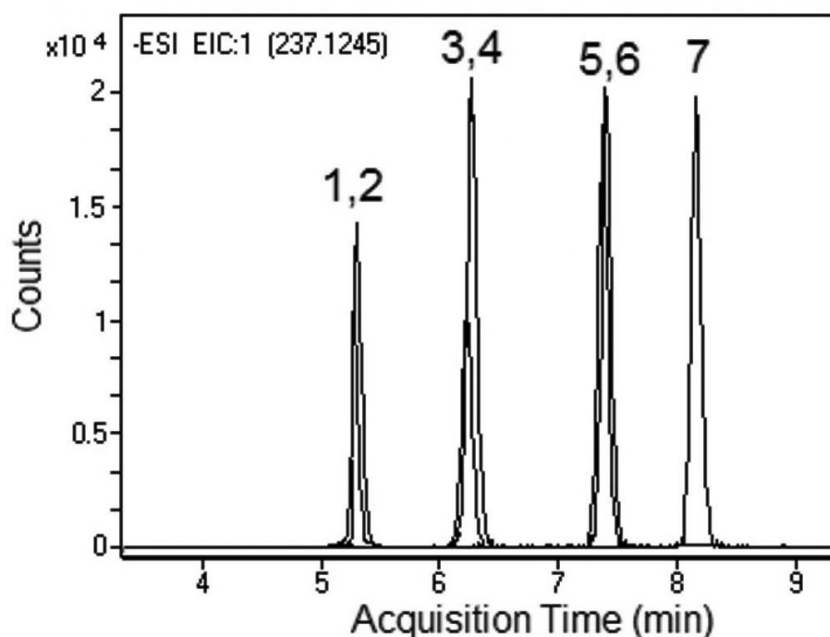


# Barbiturates Analyzed with LCMS – AppNote

## 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.:** 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<sub>0</sub>:** 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](#)