

Application Note

## Barbiturates in Human Urine

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Waters Corporation



This is an Application Brief and does not contain a detailed Experimental section.

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### Abstract

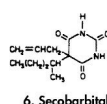
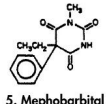
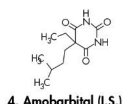
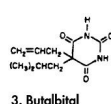
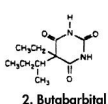
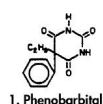
This application brief demonstrates analysis of barbiturates in human urine.

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## Introduction

The compounds used in this study are –

1. Phenobarbital
2. Butabarbital
3. Butalbital
4. Amobarbital (I.S.)
5. Mephobarbital
6. Secobarbital



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## Experimental

### HPLC Method

Column:	Symmetry Shield RP <sub>18</sub> , 2.1 x 150 mm, 5 μm
Guard column:	Sentry Guard Column RP <sub>18</sub> , 3.9 x 20 mm, 5 μm
Part number:	Column - 186000111, Guard - 186000107
Mobile phase:	50 mM potassium phosphate, pH 7.0/acetonitrile 71:29
Flow rate:	1.0 mL/min

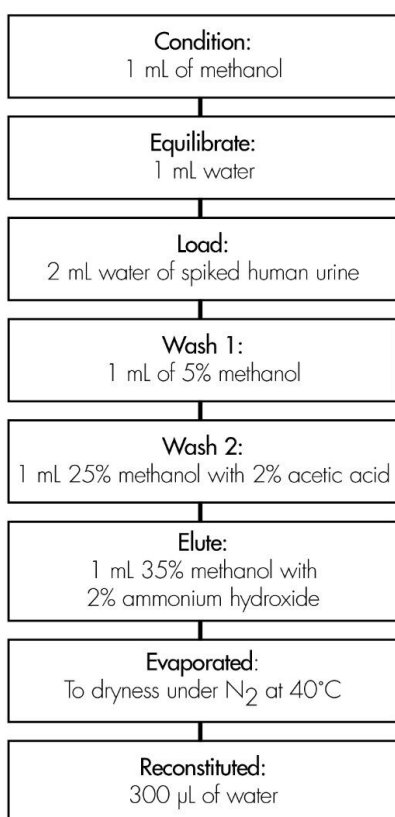
Injection volume: 80  $\mu$ L urine extract

Temperature: 30 °C

Detection: UV @ 214 nm (0.350 AUFS)

### Oasis® HLB Extraction Method

Oasis® HLB Extraction Plate, 30 mg/96-well  
Part Number WAT058951

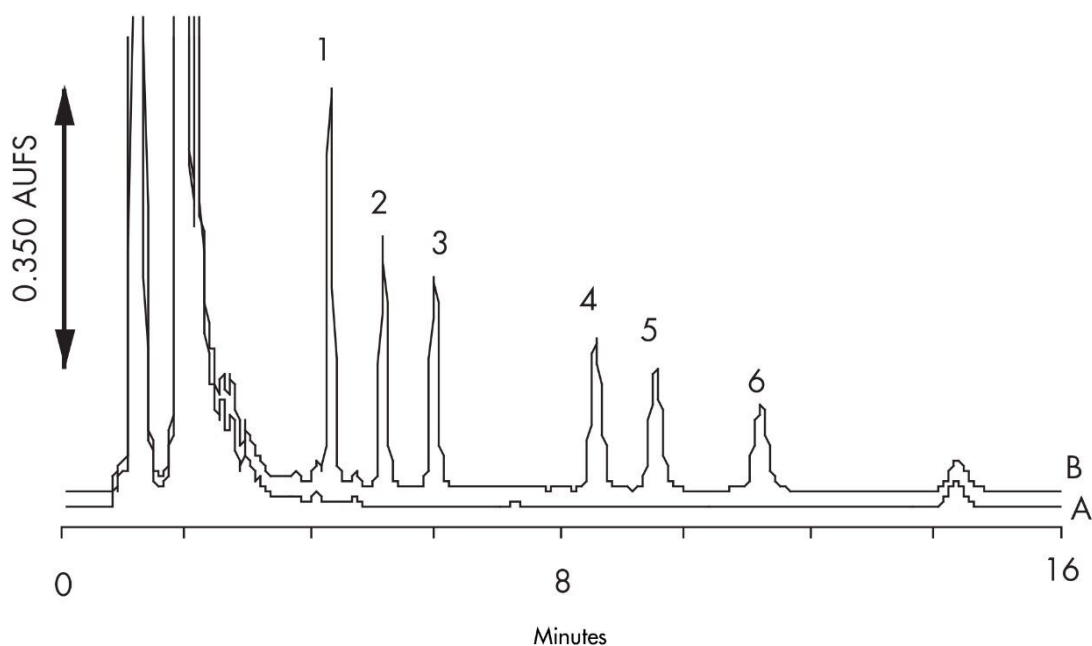


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## Results and Discussion

Compound	% Recovery (n=8) 0.2 µg/mL	%RSD (n=8) 1.0 µg/mL
1. Phenobarbital	114.3 (1.7)	106.5 (0.5)
2. Butabarbital	95.7 (1.3)	105.5 (0.7)
3. Butalbital	109.5 (0.9)	104.2 (0.9)
4. Amobarbital (I.S.)		86.3 (1.7)
5. Mephobarbital	92.5 (3.6)	92.4 (1.7)
6. Secobarbital	101.5 (5.2)	94.8 (2.2)

Chromatogram of A) Blank Urine, B) Spiked Urine



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