

## Gradient Separation of Morphine and Metabolites on ACQUITY UPLC BEH HILIC

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Waters Corporation



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

### Abstract

This application brief demonstrates the gradient separation of morphine and metabolites on ACQUITY UPLC

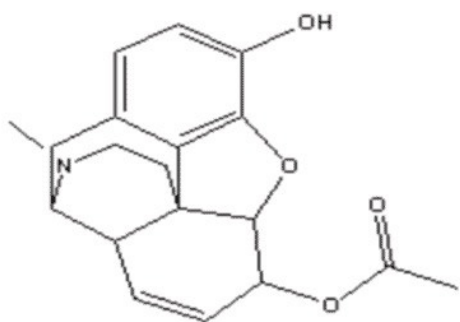
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BEH HILIC Columns.

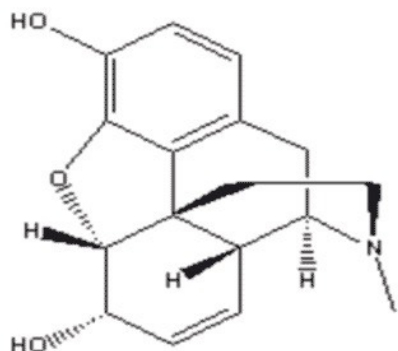
## Introduction

The compounds used in this study are:

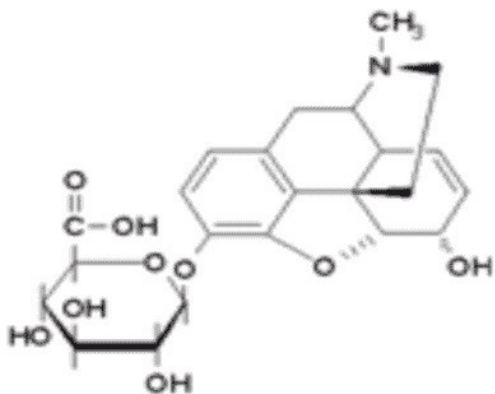
1. 6-Acetylmorphine
2. Morphine
3. Morphine-3 $\beta$ -D-glucuronide



6-Acetylmorphine



Morphine



Morphine-3β-D-glucuronide

## Experimental

### Test Conditions

Column:

ACQUITY UPLC BEH HILIC, 2.1 x 50 mm, 1.7 μm

Part Number:

186003460

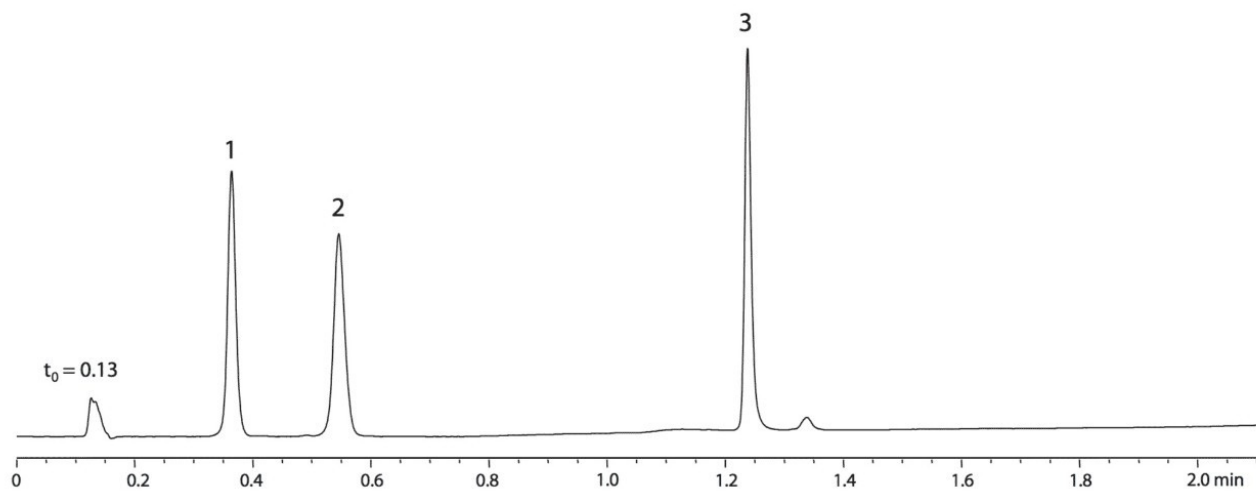
Mobile Phase A:	10 mM NH <sub>4</sub> COOH in H <sub>2</sub> O, 0.125% HCOOH in 50:50 ACN:H <sub>2</sub> O
Mobile Phase B:	10 mM NH <sub>4</sub> COOH in H <sub>2</sub> O, 0.125% HCOOH in 90:10 ACN:H <sub>2</sub> O
Flow Rate:	1.235 mL/min
Injection Volume:	5 µL
Sample Concentration:	25 ng/mL each
Sample Diluent:	75:25 ACN:MeOH
Column Temperature:	30 °C
Sample Temperature:	15 °C
Weak Needle Wash:	ACN/H <sub>2</sub> O 95/5
Detection:	UV @ 280 nm
Sampling Rate:	20 points/sec
Time Constant:	0.1
Instrument:	Waters ACQUITY UPLC with ACQUITY PDA

## Gradient:

Time(min)	Profile
	%A

Time(min)	Profile
0.00	0.1
0.51	0.1
2.11	99.9
2.19	0.1
2.91	0.1

## Results and Discussion



## Featured Products

- [ACQUITY UPLC System <https://www.waters.com/514207>](https://www.waters.com/514207)
- [ACQUITY UPLC PDA Detector <https://www.waters.com/514225>](https://www.waters.com/514225)

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