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Gradient Separation of Morphine and Metabolites on ACQUITY UPLC BEH HILIC

Waters Corporation

For forensic toxicology use only.

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 BEH HILIC Columns.

Introduction

The compounds used in this study are:

1. 10-Hydroxymorphine
2. Morphine-3β-D-glucuronide
3. Morphine-6β-D-glucuronide
4. Morphine
5. Morphine N-oxide
6. 6-Acetylmorphine

Experimental

Test Conditions

Column:	ACQUITY UPLC BEH HILIC, 2.1 x 100 mm, 1.7 µm
Part Number:	186003461
Mobile Phase A:	10 mM NH_4COOH in H_2O, 0.125% HCOOH in 50:50 ACN:H_2O

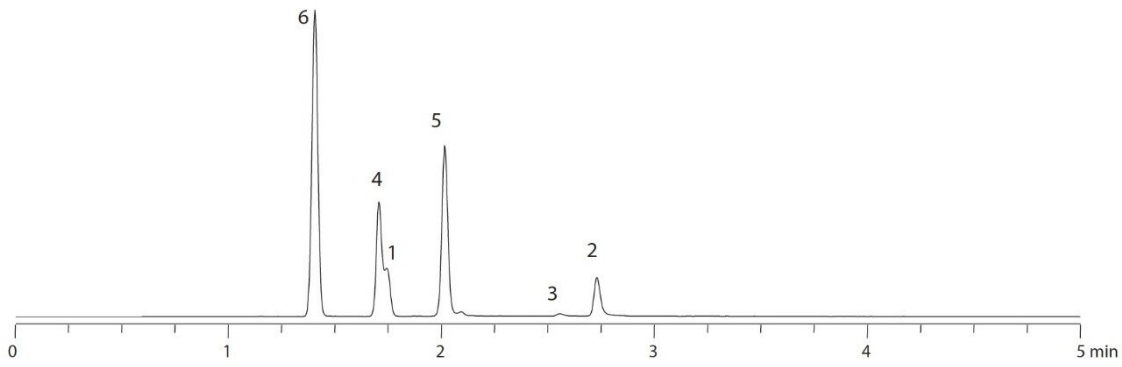
Mobile Phase B:	10 mM NH_4COOH in H_2O, 0.125% HCOOH in 90:10 ACN:H_2O
Flow Rate:	0.5 mL/min
Injection Volume:	15 µL
Sample Concentration:	50 ng/mL each
Sample Diluent:	75:25 ACN:MeOH
Column Temperature:	30 °C
Instrument:	Waters ACQUITY UPLC with TQD
MRM:	Morphine 286 > 201 Morphine-3β-D-glucuronide 462 > 286 Morphine-6β-D-glucuronide 462 > 286 Morphine N-oxide 302 > 162 6-acetylmorphine 328 > 165 10-hydroxymorphine 302 > 58
Dwell Time:	25 ms
ISD:	10 ms
ICD:	10 ms

Gradient

Time (min)	Profile
	%A

Time (min)	Profile
0.00	0.1
5.00	99.9
7.00	99.9
7.10	0.1
10.00	0.1

Results and Discussion



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