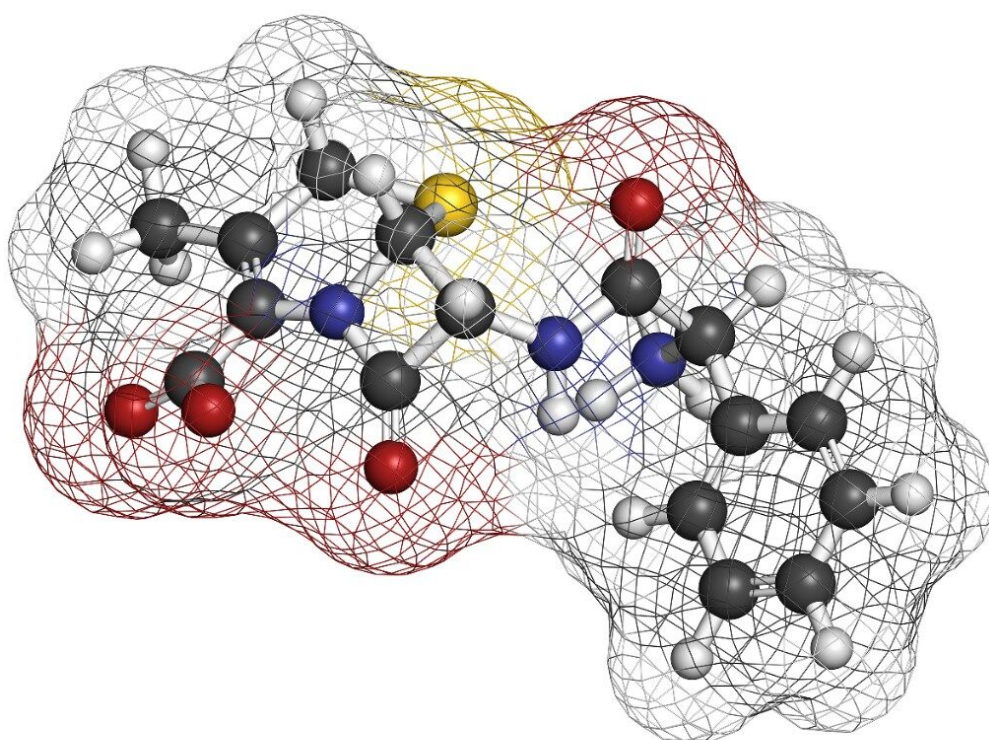


Cephalexin on Oasis MCX

Waters Corporation



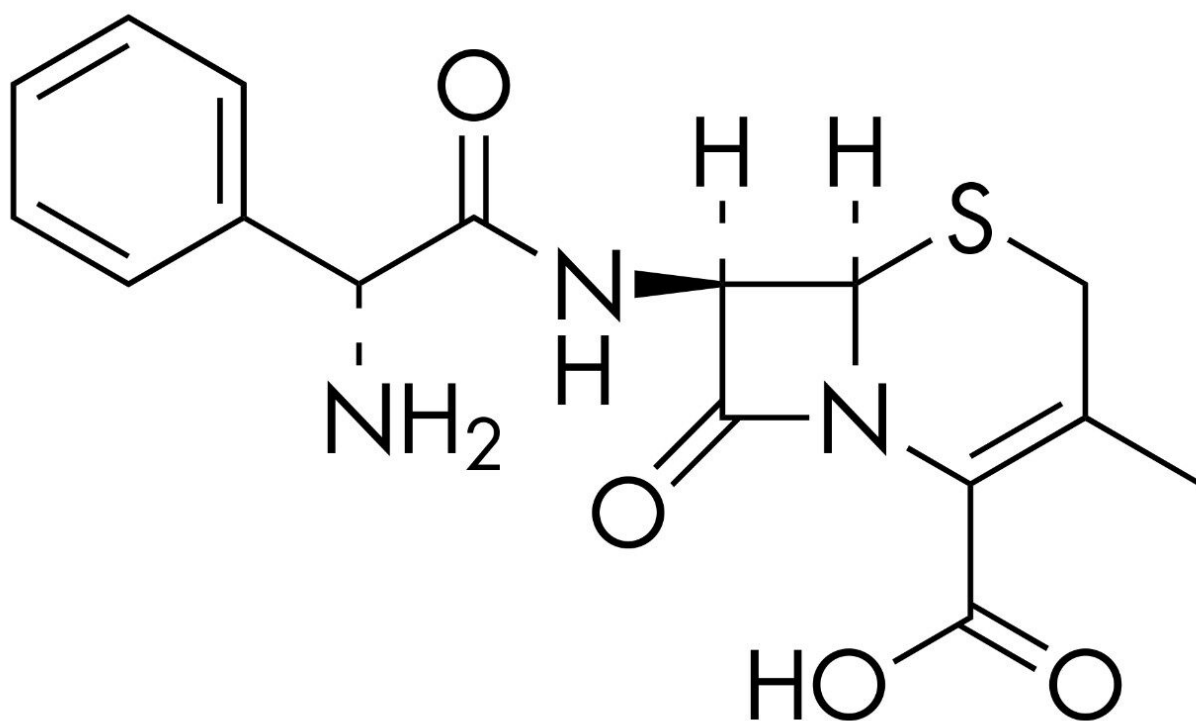
This is an Application Brief and does not contain a detailed Experimental section.

Abstract

This application brief demonstrates the analysis of cephalexin on Oasis MCX.

Introduction

Cephalexin is a member of the cephalosporin class of antibiotics used for the treatment of bronchitis, pneumonia, UTI's and infections of the ears and throat. This molecule is zwitterionic, meaning it has both carboxylic acid and amine moieties. Because the molecule has ionizable functionalities that can be either positively or negatively charged, screening all 4 Oasis sorbents following the Oasis 2x4 Method is clearly the mechanism for identifying the best sorbent. Oasis MCX resulted in the best recoveries and would be used for further sample preparation method development.



Experimental

Test Conditions

Oasis MCX 10-mg plate (P/N 186000259)

Condition: 500 μ L MeOH

Equilibrate: 500 μ L H₂O

Load: 500 μ L (250 μ L
rat plasma, diluted
1:1 with 4% H₃PO₄
in H₂O)

Wash 1: 500 μ L 2%
HCOOH

Wash 2: 500 μ L MeOH

Elute: 250 μ L (125 μ L x
2) 5% NH₄OH in
MeOH

Options: 1. Dilute 250 μ L H
2O with 2% FA
2. Evaporate/
Reconstitute
3. Direct inject

Inject: 10 μ L

Column: ACQUITY UPLC
BEH C₁₈ 2.1 x 50
mm, 1.7 μ m

Mobile phase A: 0.1% HCOOH in H
2O

Oasis MCX 10-mg plate (P/N 186000259)

Mobile phase B: 0.1% HCOOH in
MeOH

Flow rate: 0.4 mL /min

Injection volume: 10.0 µL

Column temperature: 45 °C

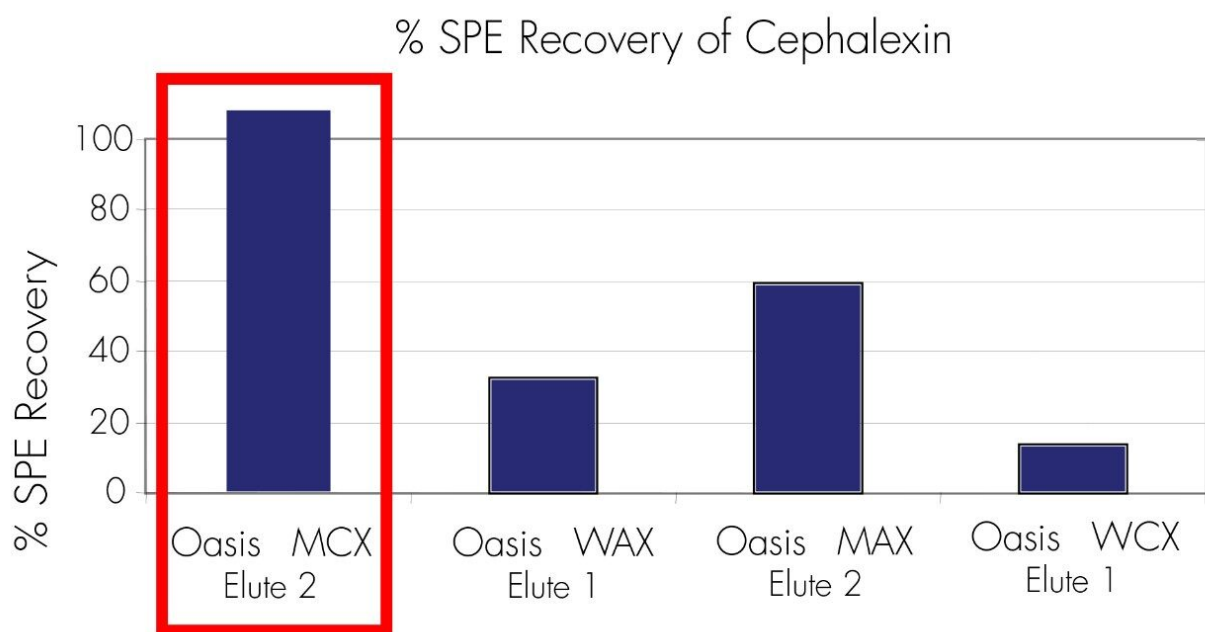
Sample temperature: 15 °C

Sample diluent: 50/50
water/methanol

Instrument: ACQUITY UPLC
with Quattro
Premier

Gradient

Time (min)	Profile	
	%A	%B
Initial	98	2
0.5	98	2
2.5	0	100
3.0	0	100
3.1	98	2
4.0	98	2



Clearly, Oasis MCX is the sorbent of choice.

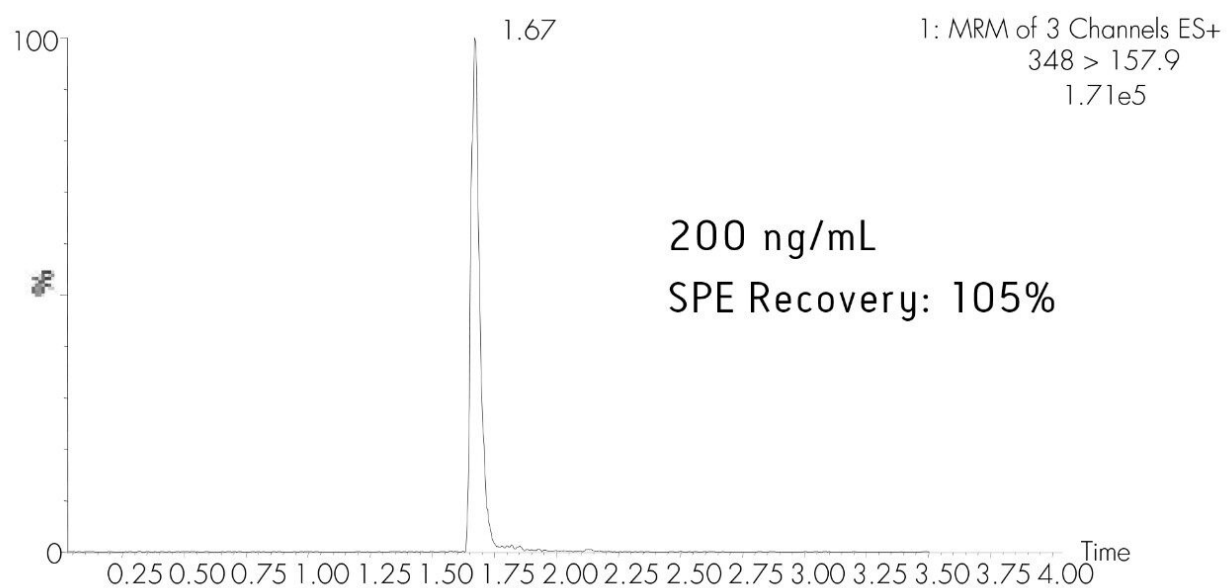
Quattro Premier

ESI+ capillary:	3.0kV
Source temp.:	120 °C
Desolvation temp.:	350 °C
Cone gas flow:	50 L /Hr
Desolvation gas flow:	700 L /Hr
Collision cell pressure:	2.59 e ⁻³ mbar
MRM transition:	348 → 157.9
Cone voltage:	20V

Collision energy:

18eV

Results and Discussion



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

WA60085, June 2007

