

Pharmaceutical Residues in Environmental Samples - LC/UV, 2.5 ppb

Waters Corporation



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

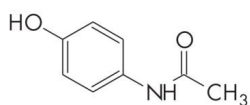
Abstract

This application brief highlights the analysis of pharmaceutical residues in environmental samples using XTerra

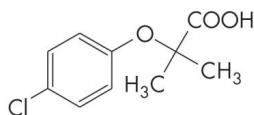
MS C₁₈ columns.

Introduction

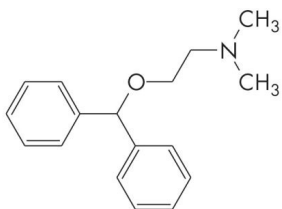
Compounds used in this study are: 1. Acetaminophen 2. Phenylpropanolamine 3. Salicylic acid 4. Diphenhydramine 5. Clofibric acid 6. Ethynylestradiol 7. Tamoxifen 8. Ibuprofen



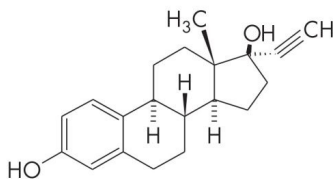
Acetaminophen



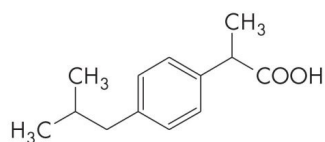
Clofibric acid



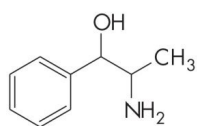
Diphenhydramine



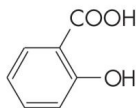
Ethynylestradiol



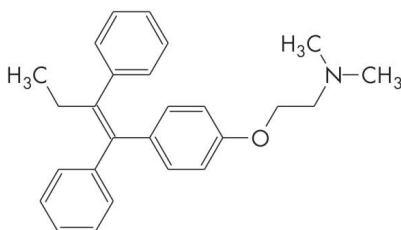
Ibuprofen



Phenylpropanolamine



Salicylic acid



Tamoxifen

Experimental

HPLC Conditions

Column:	XTerra MS C ₁₈ 4.6 x 100 mm, 3.5µm (p/n: 186000436)
Mobile phase A:	15 mM NH ₄ COOH, pH 4.0
Mobile phase B:	MeOH
Flow rate:	1.0 mL/min
Injection volume:	40 µL
Detection:	UV @ 230 nm
Instrument:	Alliance 2695, 2996 PDA

Gradient

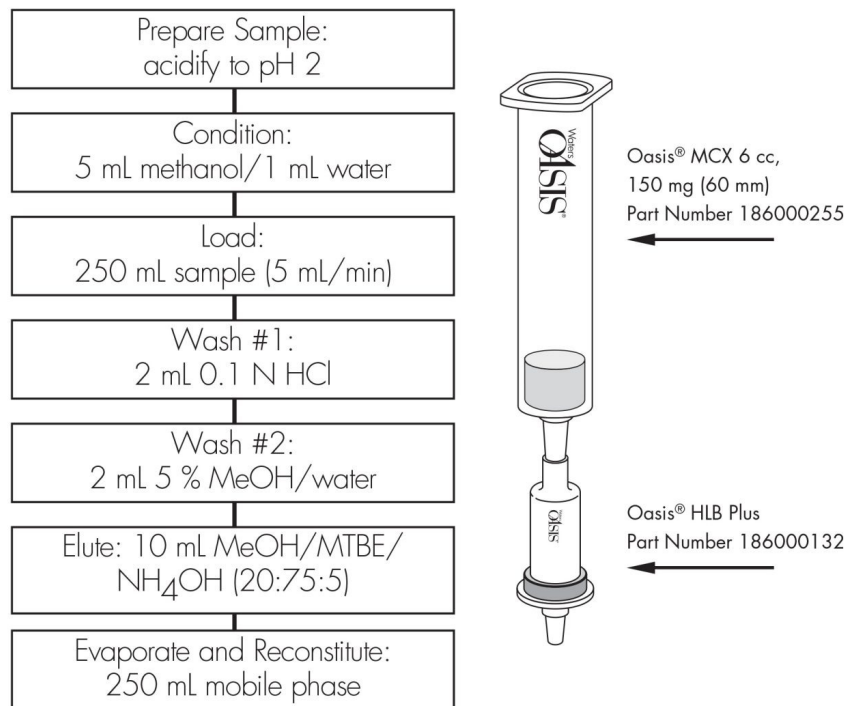
Time (min)	Profile	
	%A	%B
0.0	75	25
10.0	10	90

Optimized SPE Method for LC/MS Determination of Pharmaceutical
Residues in Environmental Samples

Conditions for

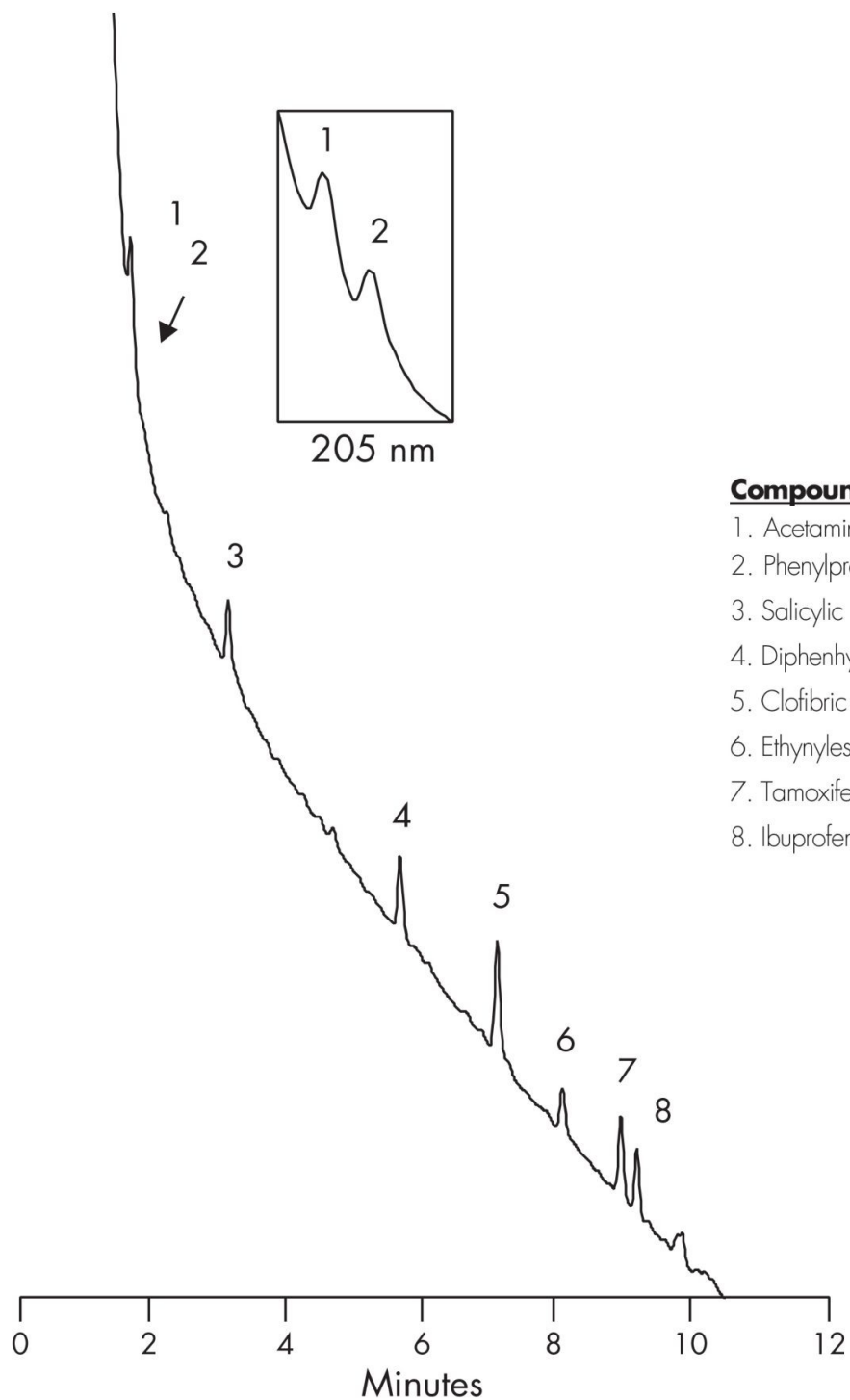
Oasis® MCX 6 cc/150 mg (60 µm) Part Number 186000255

Oasis® HLB Plus Part Number 186000132



MeOH - methanol MTBE - methyl tbutyl ether
NH₄OH - 30% ammonium hydroxide

Results and Discussion



Compounds

1. Acetaminophen
2. Phenylpropanolamine
3. Salicylic acid
4. Diphenhydramine
5. Clofibric acid
6. Ethynylestradiol
7. Tamoxifen
8. Ibuprofen

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