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Application Note

Pharmaceutical Residues in Environmental Samples – LC-MS, 2.5 ppb

Waters Corporation

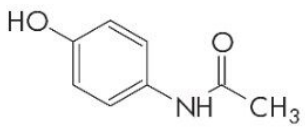
This is an Application Brief and does not contain a detailed Experimental section.

Abstract

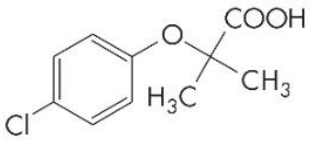
This application brief highlights the analysis of pharmaceutical residues in environmental samples using XTerra MS C_{18} columns.

Introduction

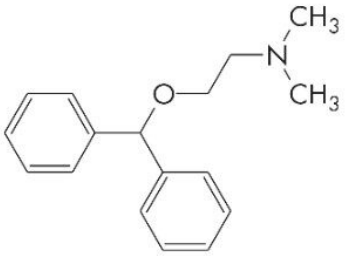
Compounds used in this study includes: 1. Acetaminophen 2. Phenylpropanolamine 3. Salicylic acid 4. Diphenhydramine 5. Clofibric acid 6. Ethynylestradiol 7. Tamoxifen 8. Ibuprofen



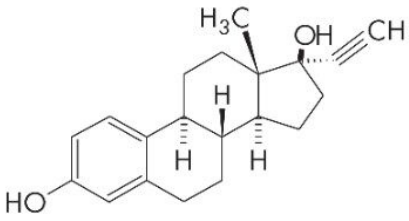
Acetaminophen



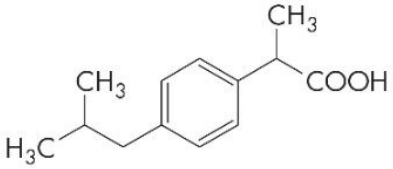
Clofibric acid



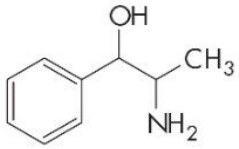
Diphenhydramine



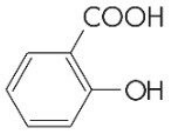
Ethynylestradiol



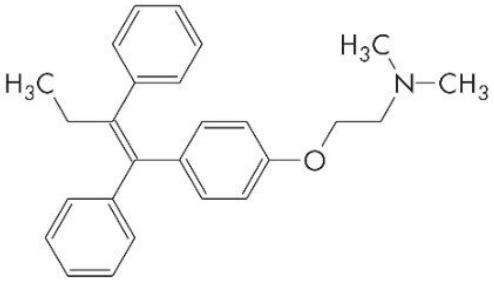
Ibuprofen



Phenylpropanolamine



Salicylic acid



Tamoxifen

Experimental

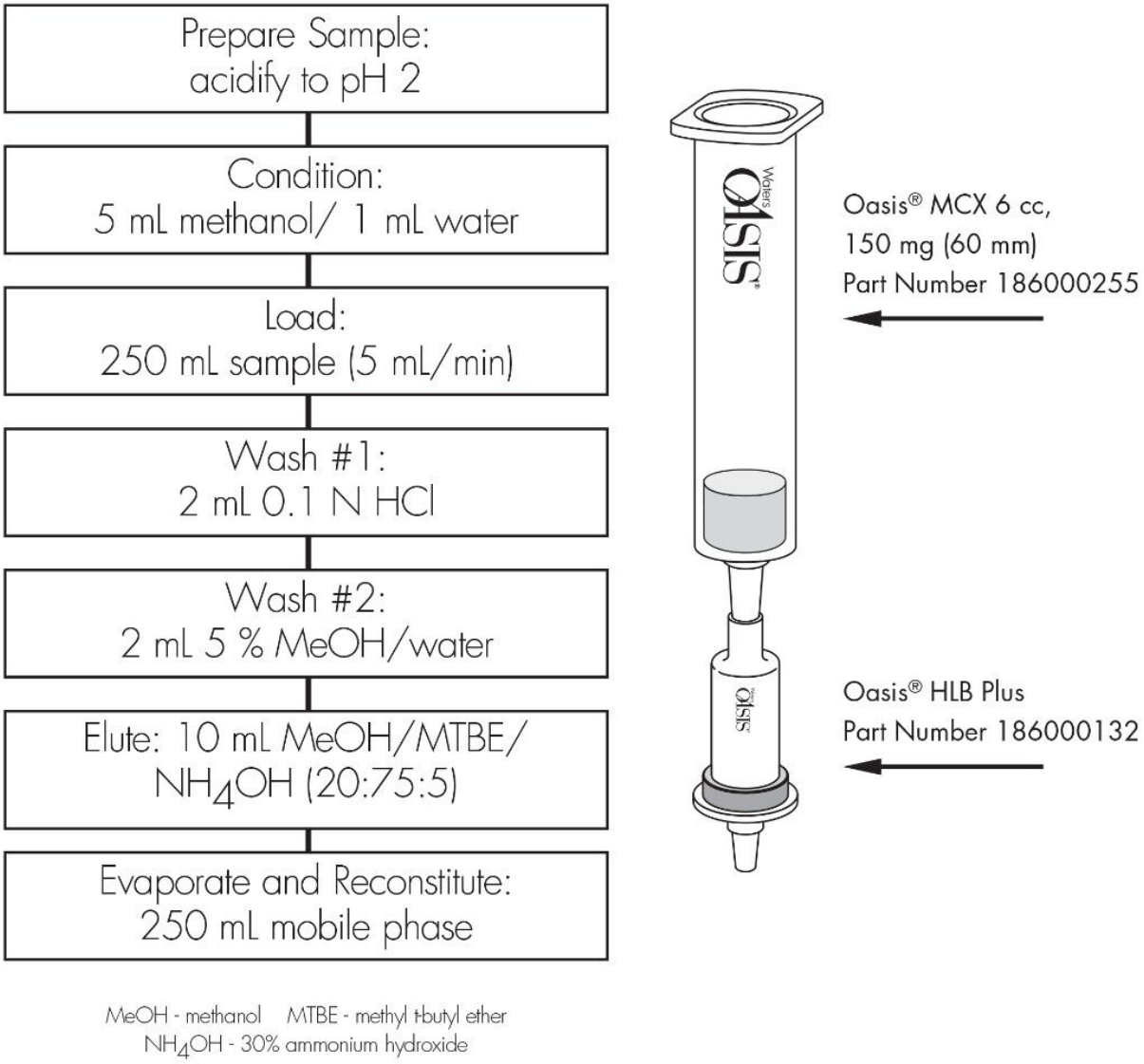
HPLC Conditions

Column:	XTerra MS C_{18} 4.6 x 100 mm, 3.5µm (p/n: 186000436)
Mobile phase A:	15 mM NH_4COOH, pH 4.0
Mobile phase B:	MeOH
Flow rate:	1.0 mL/min
Injection volume:	40 µL
Detection:	MS ESI+
Instrument:	Alliance 2695, Micromass ZQ

Gradient

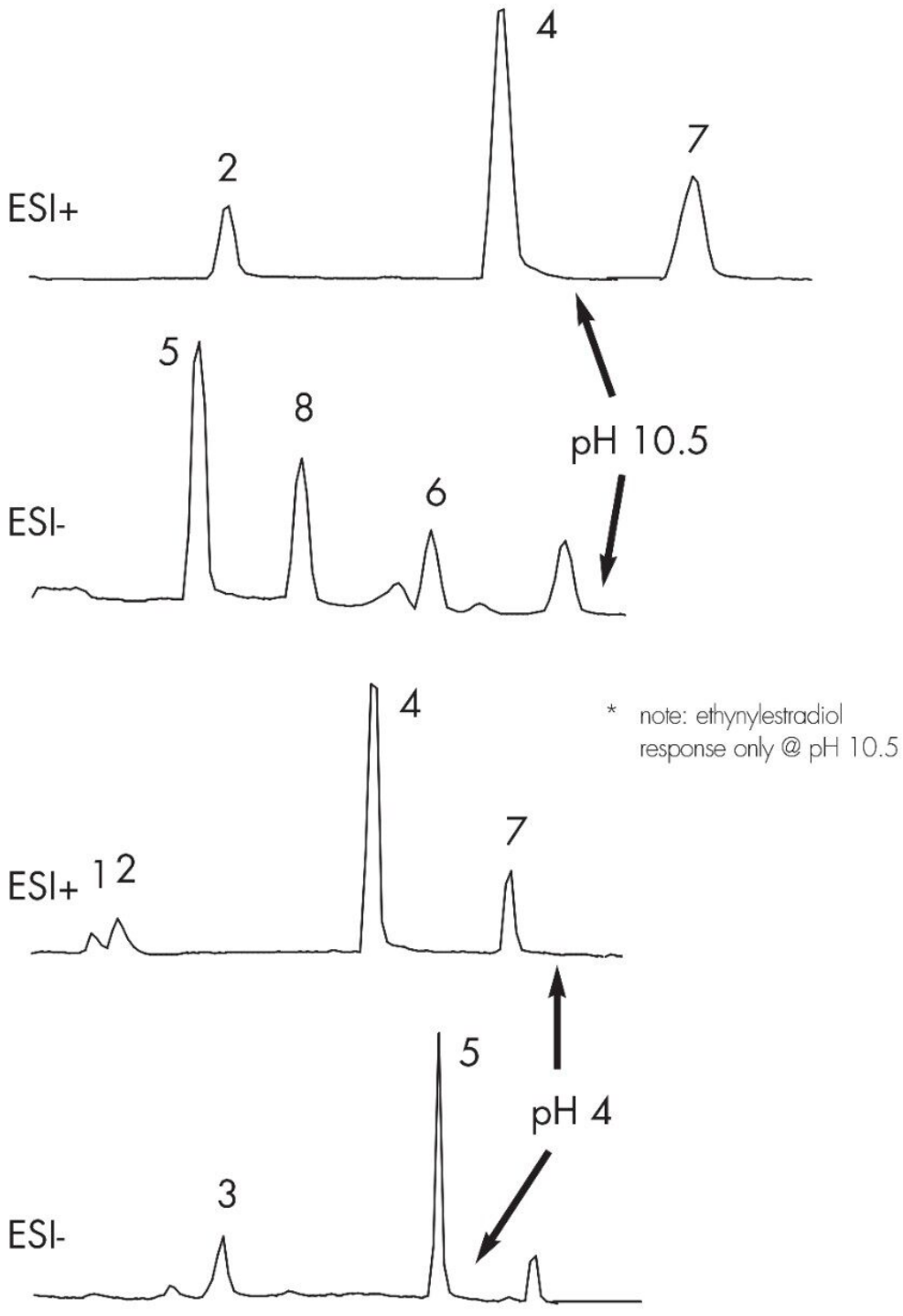
Time (min)	Profile	
	%A	%B
0.0	75	25
10.0	10	90

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 t-butyl ether
NH_4OH - 30% ammonium hydroxide

Results and Discussion



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WA20738.086, June 2002