

Application Note

Estrogens in River Water at 5 ng/L - Endocrine Disruptors

Waters Corporation



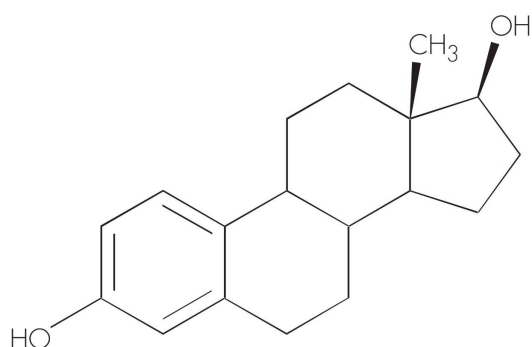
This is an Application Brief and does not contain a detailed Experimental section.

Abstract

This application brief highlights on analysis of Estrogens in river water.

Introduction

The compounds analyzed in this application brief are Diethylstilbestrol, Estrone, Ethynylestradiol, Estradiol, Bisphenol A.



17β-ESTRADIOL

Experimental

LC Conditions

Column:	XTerra MS C ₁₈ , 2.1 x 100 mm, 3.5 μm
Part Number:	186000404
Mobile phase A:	NH ₄ OH in water, pH 10.5
Mobile Phase B:	Acetonitrile

Injection volume: 20 µL

Flow rate: 200 µL/min, plumbed directly to detector

Instrument: Waters Alliance Separations Module

Gradient

Time (min)	Profile	
	%A	%B
0	70	30
8	35	65
9	10	90

MS Conditions

Instrument: Waters/Micromass Platform LC

Interface: Negative Electrospray (ESI-)

Multiple Selected-Ion Recording (SIR)

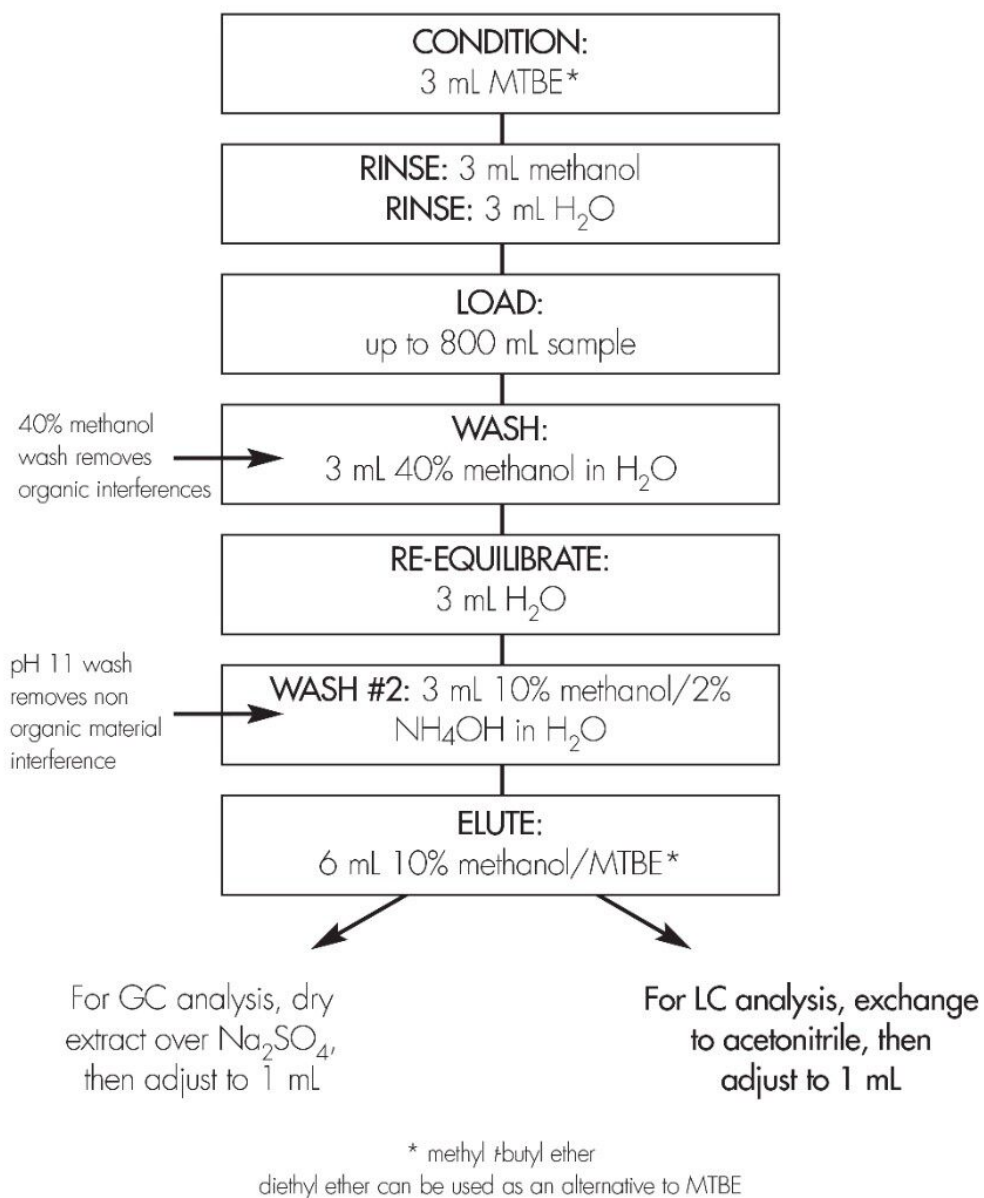
Core voltage 27 V

OASIS® SPE METHOD FOR ENDOCRINE DISRUPTORS

Modifications for low ppt analysis by LC/MS and GC/MS

Conditions for Oasis® HLB Glass Cartridge, 5 cc/200 mg

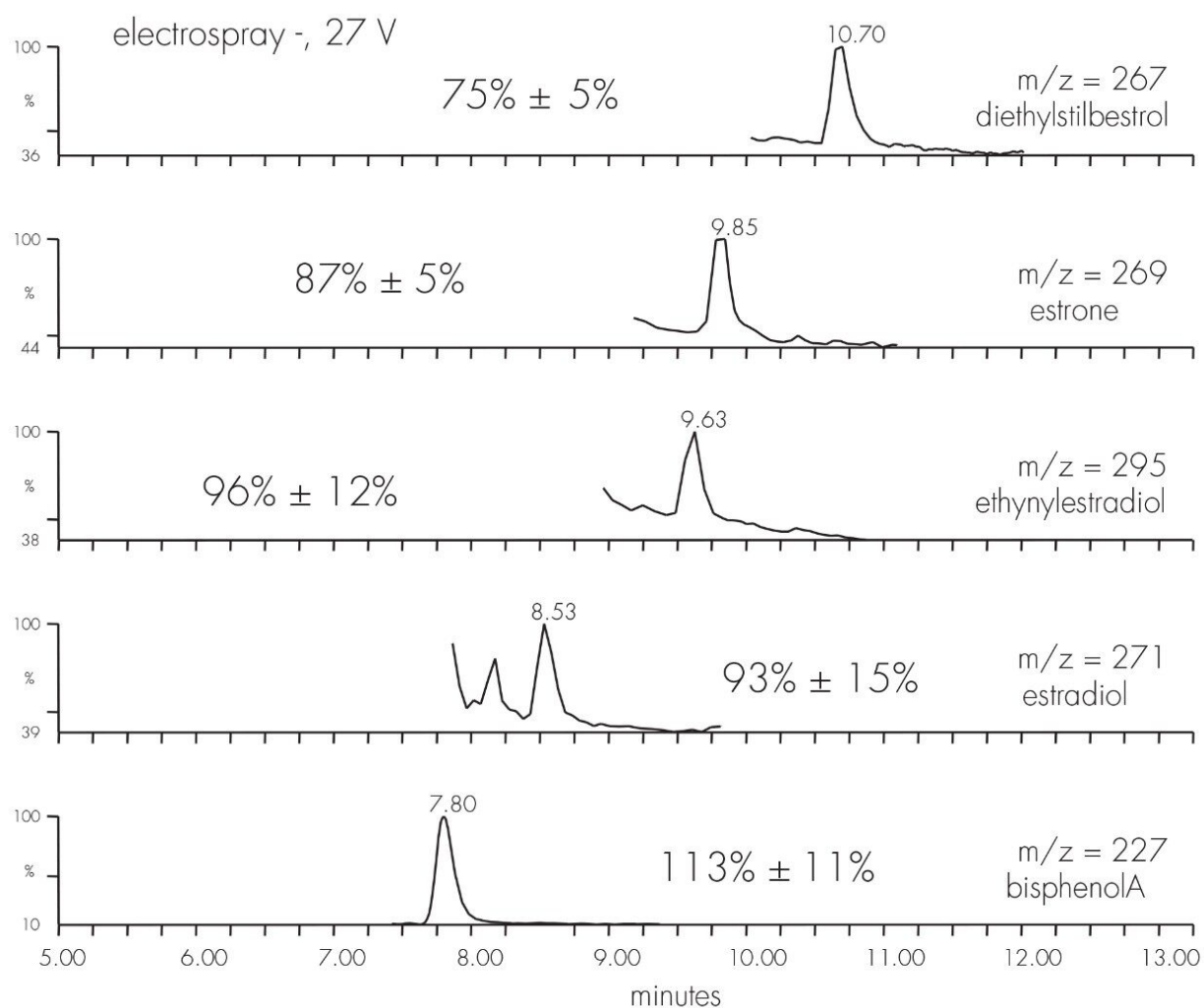
Part Number 186000683



Results and Discussion

Compounds	Results, n=4
1. Diethylstilbestrol	75% \pm 5%
2. Estrone	87% \pm 5%
3. Ethynylestradiol	94% \pm 12%
4. Estradiol	93% \pm 15%
5. Bisphenol A	113% \pm 11%

5 ng/L Spike level



Featured Products

Alliance HPLC System <<https://www.waters.com/534293>>

WA31764.80, June 2003

