

## Application Note

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

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Waters Corporation



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

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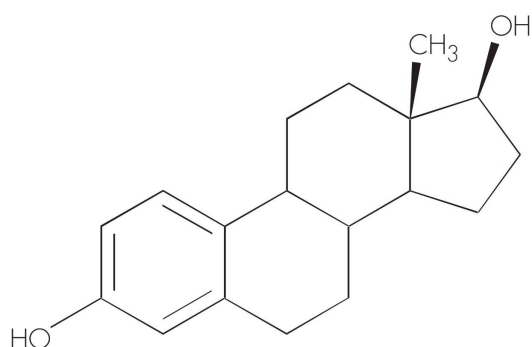
## Abstract

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

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## Introduction

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



## 17β-ESTRADIOL

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## Experimental

### LC Conditions

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

Injection volume: 20  $\mu$ L

Flow rate: 200  $\mu$ L/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)

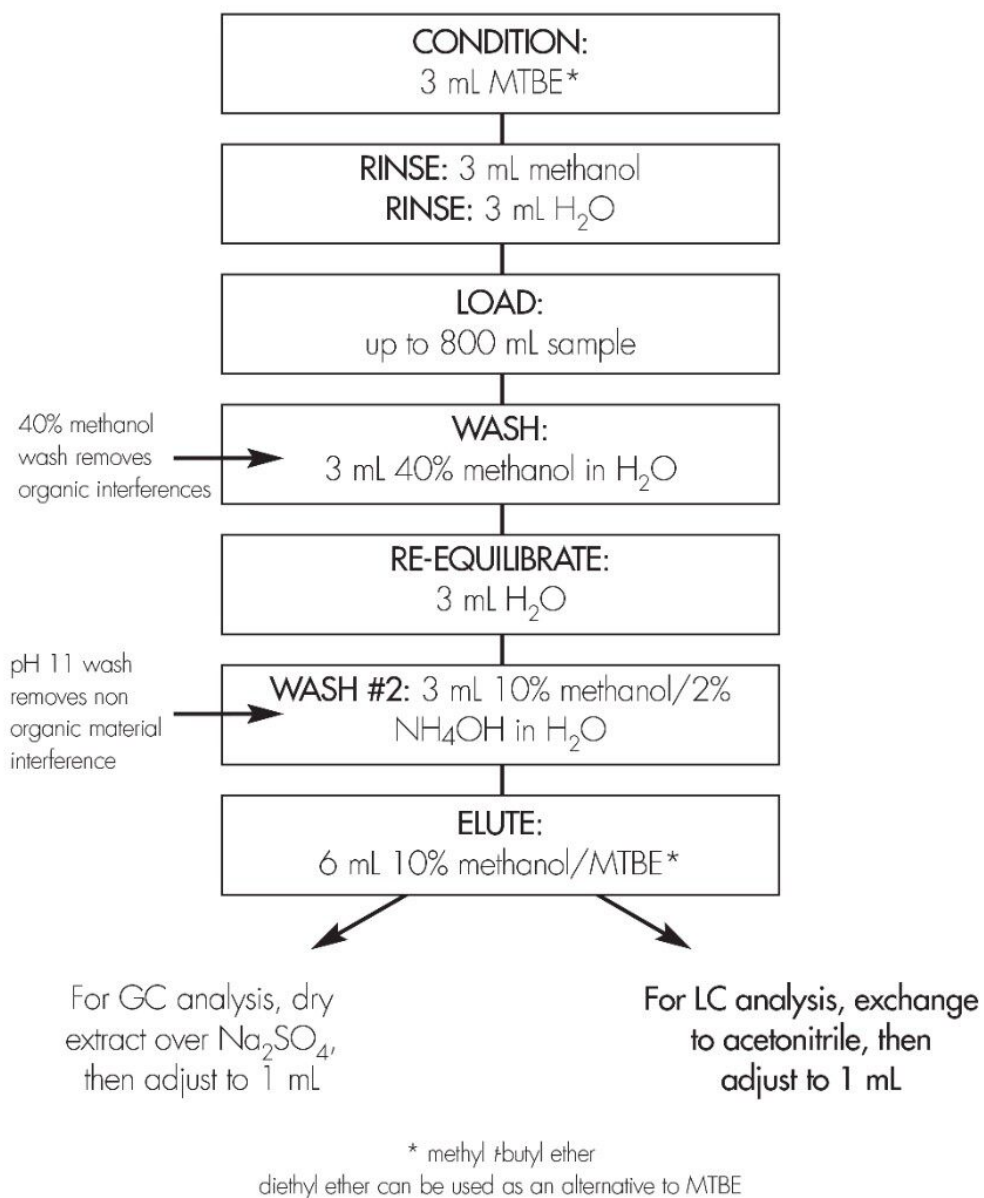
Core voltage 27 V

## 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



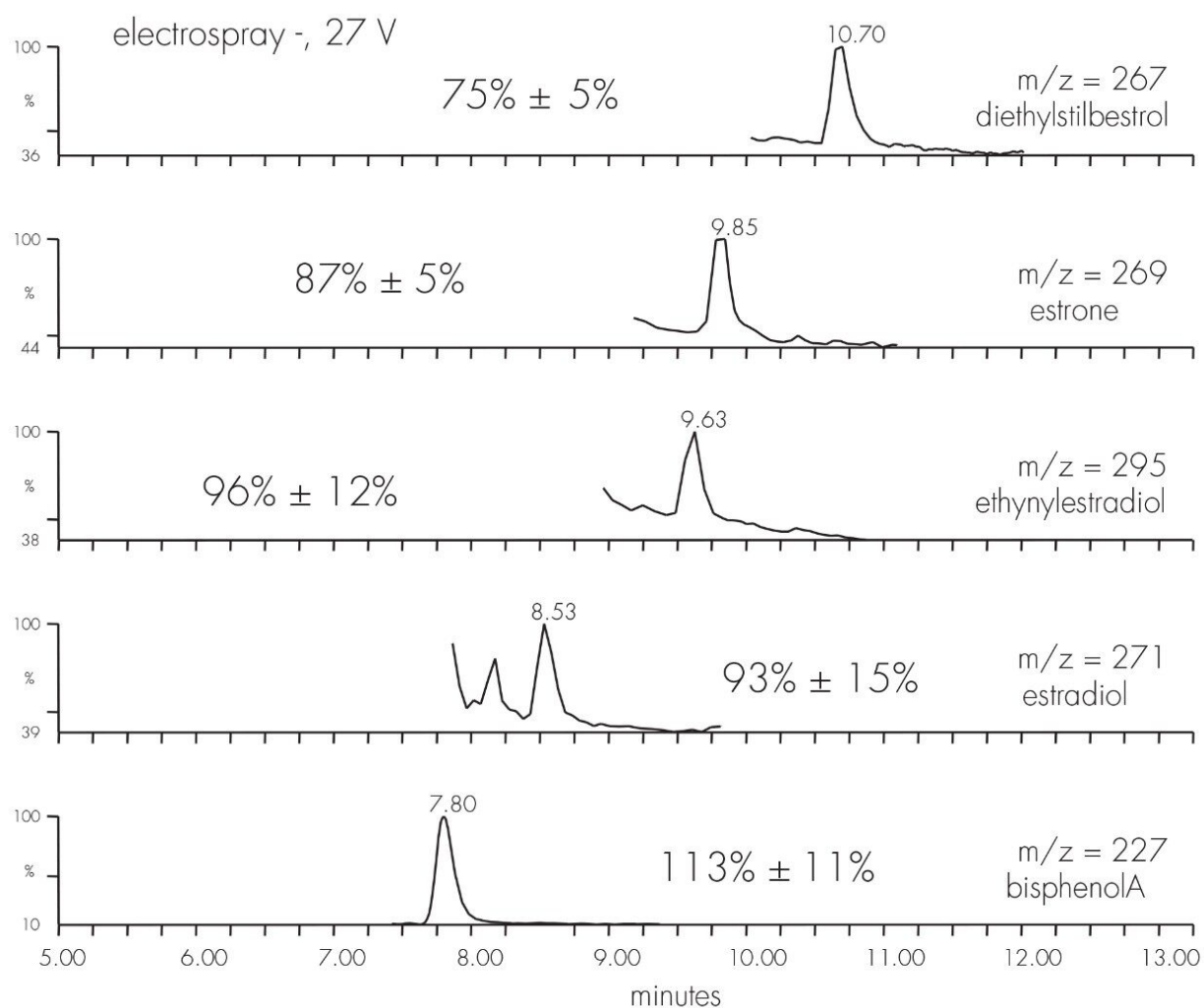
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## Results and Discussion

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%

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5 ng/L Spike level



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## Featured Products

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

WA31764.80, June 2003

