

Application Note

Fractionation of Acidic from Base and Neutral Drugs in Urine

Waters Corporation



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

Abstract

This application brief demonstrates fractionation of acidic from base and neutral drugs in urine.

Introduction

The compounds used in this study are -

1. Nortriptyline
2. Secobarbital
3. Ketoprofen
4. Naproxen
5. Butylparaben (I.S.)

Experimental

LC Conditions

Column:	Symmetry Shield, RP ₁₈ 4.6 x 100 mm, 3.5 µm
Guard column:	Sentry, 3.9 x 20 mm, 5 µm
Part numbers:	Column- 186000179, Guard- 186000701
Mobile phase:	20 mM KH ₂ PO ₄ /H ₃ PO ₄ , pH 2.7/CH ₃ OH, 52/48 v/v
Flow rate:	2 mL/min
Injection volume:	10 µL of extract with internal standard

Temperature:

30 °C

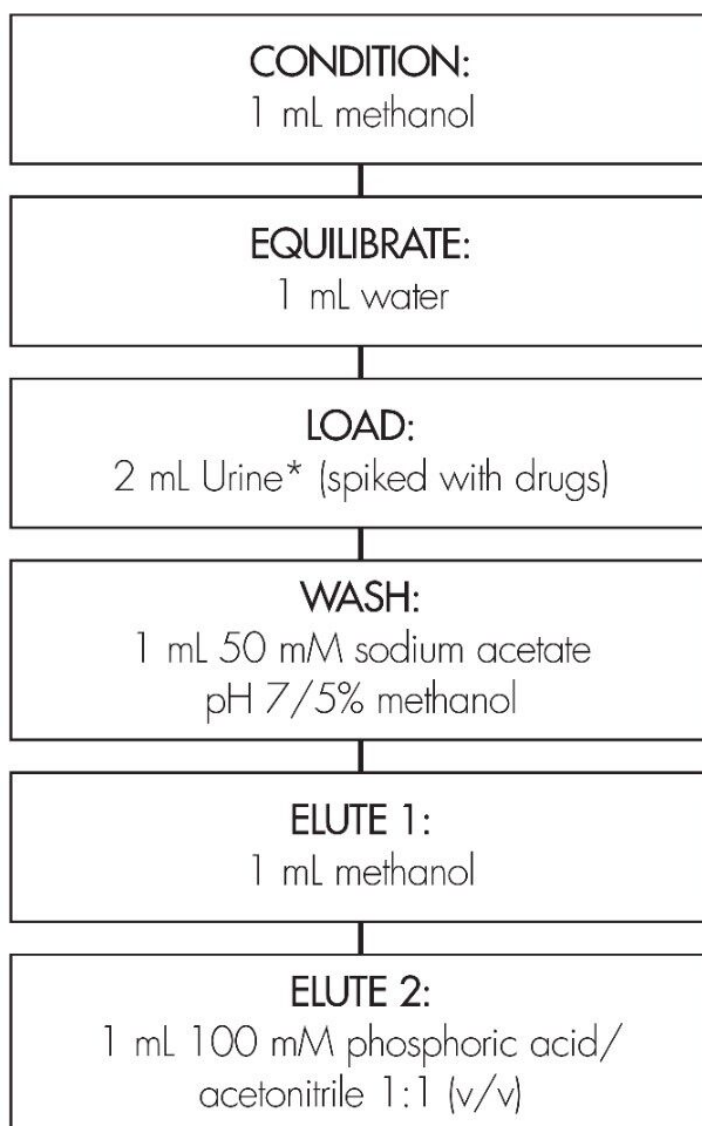
Detection:

UV @ 214 nm

OASIS® MAX EXTRACTION METHOD

Oasis® MAX 1 cc/30 mg Extraction Cartridge

Part Number 186000366

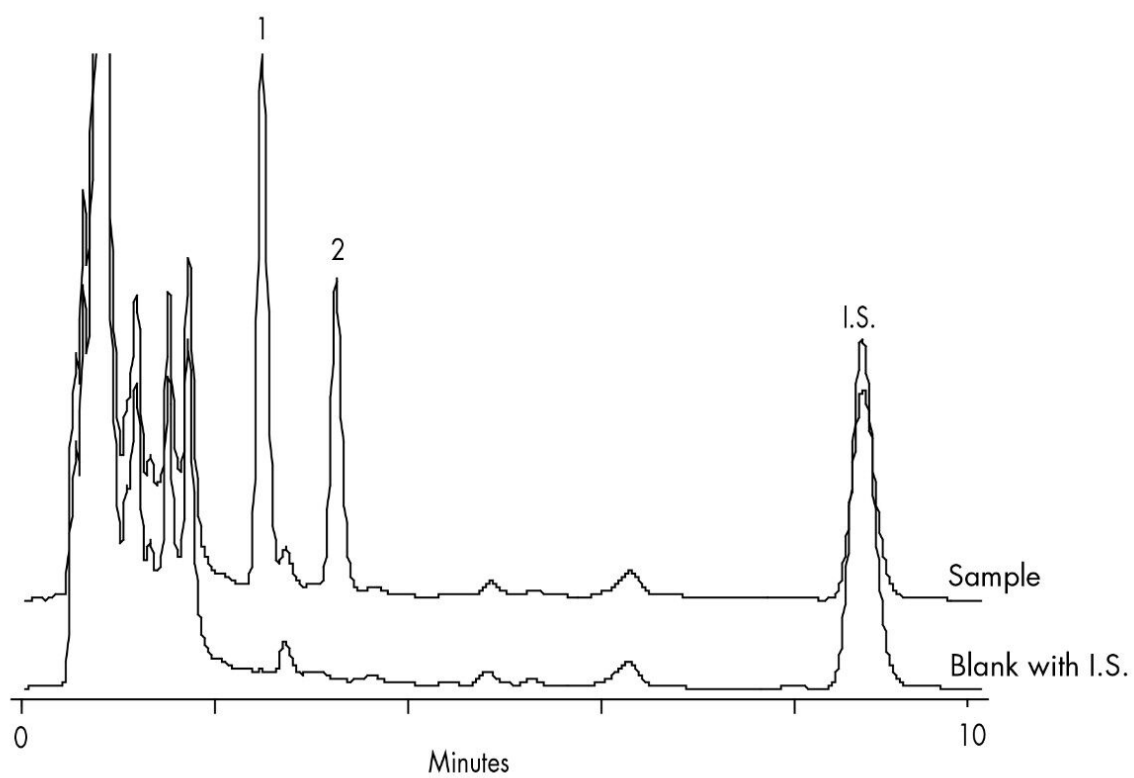


1 mL urine hydrolyzed (1M KOH 60 °C, 15 minutes) and adjusted to pH 2 with phosphoric acid; diluted 1:1 with 10 mM sodium acetate, pH 2.

Results and Discussion

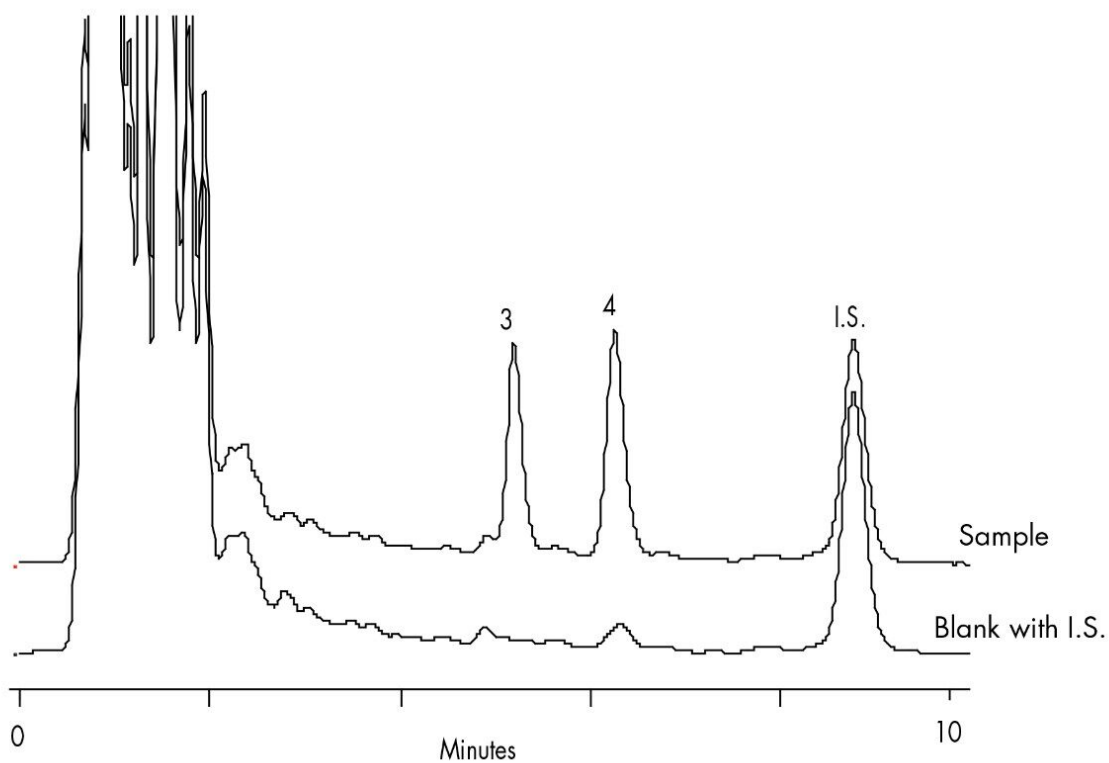
HPLC Chromatogram of Elute 1 (Basic and Neutral Drugs)

ELUTE 1 (BASIC AND NEUTRAL DRUGS)



HPLC Chromatogram of Elute 2 (Acidic Drugs)

ELUTE 2 (ACIDIC DRUGS)



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