

## Purine Alkaloids

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Waters Corporation



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

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### Abstract

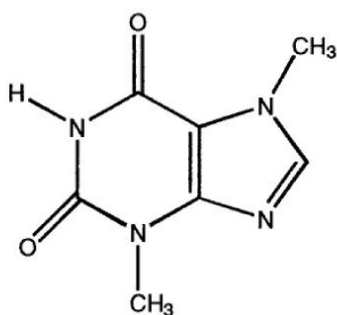
This application brief highlights the analysis of Purine Alkaloids using Symmetry Shield Columns.

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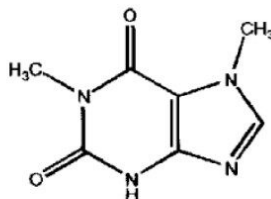
## Introduction

The compounds analyzed in this study are:

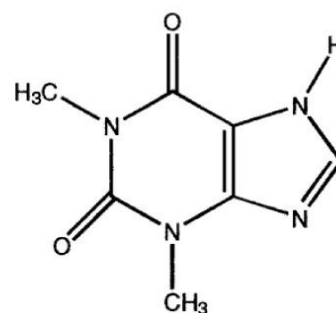
1. Theobromine
2. Paraxanthine
3. Theophylline
4.  $\beta$ -hydroxyethyltheophylline (I.S.)
5. Caffeine



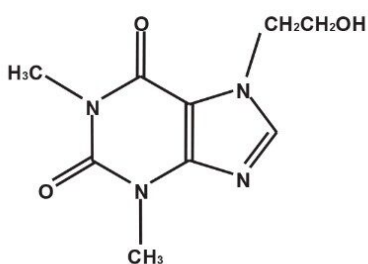
**1. Theobromine**



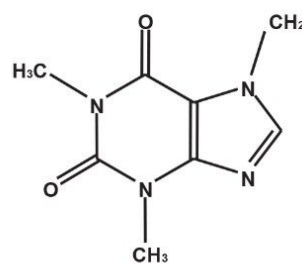
**2. Paraxanthine**



**3. Theophylline**



**4.  $\beta$ -hydroxyethyltheophylline (I.S.)**



**5. Caffeine**

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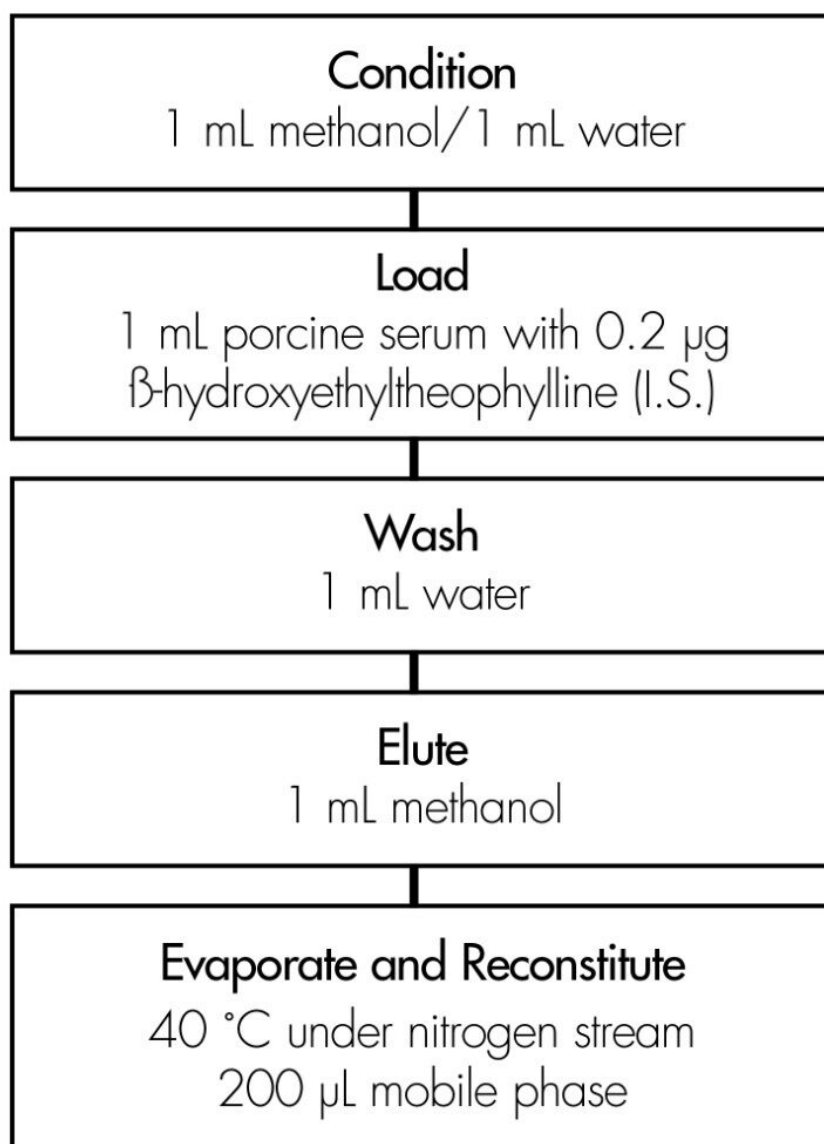
## Experimental

### HPLC Method

Column:	Symmetry Shield RP <sub>8</sub> , 3.9 x 150 mm, 5 μm
Guard column:	Symmetry Guard Column, 3.9 x 20 mm, 5 μm
Part numbers:	Column - WAT094243, Guard - WAT200675
Mobile phase:	20 mM potassium phosphate, pH 5/methanol 95:5
Flow rate:	0.6 mL/min
Injection volume:	20 μL of reconstituted porcine serum extract
Detection:	UV @ 273 nm

# Oasis® HLB Extraction Method

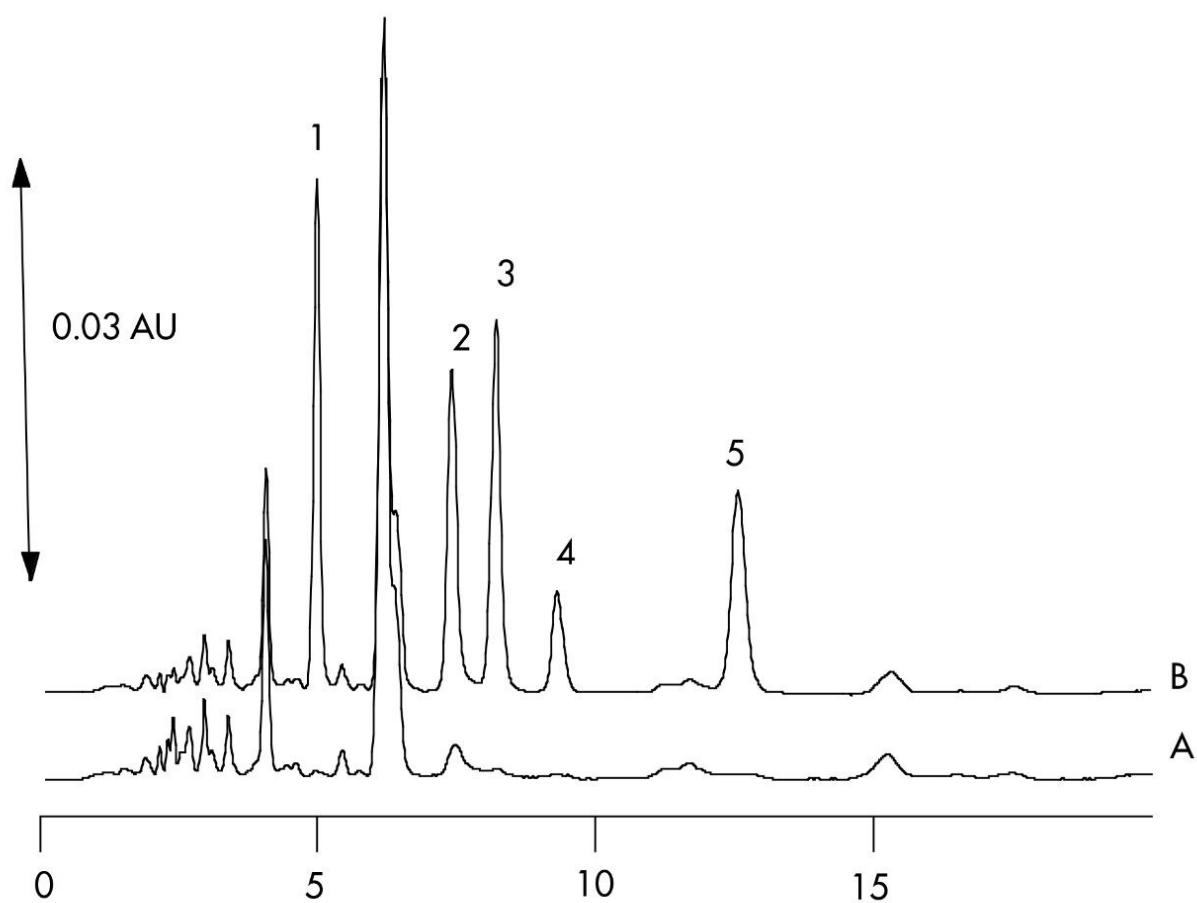
Oasis® HLB 1 cc/30 mg Extraction Cartridge  
Part Number WAT094225



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Results and Discussion

Compounds	% Recovery $\pm$ % RSD
1. Benomyl	65 $\pm$ 10
2. Carbaryl	N/A
3. Atrazine	N/A
4. Bisphenol A	83 $\pm$ 2



Chromatogram of Serum Extracts: A) Blank B) Spiked Sample.

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