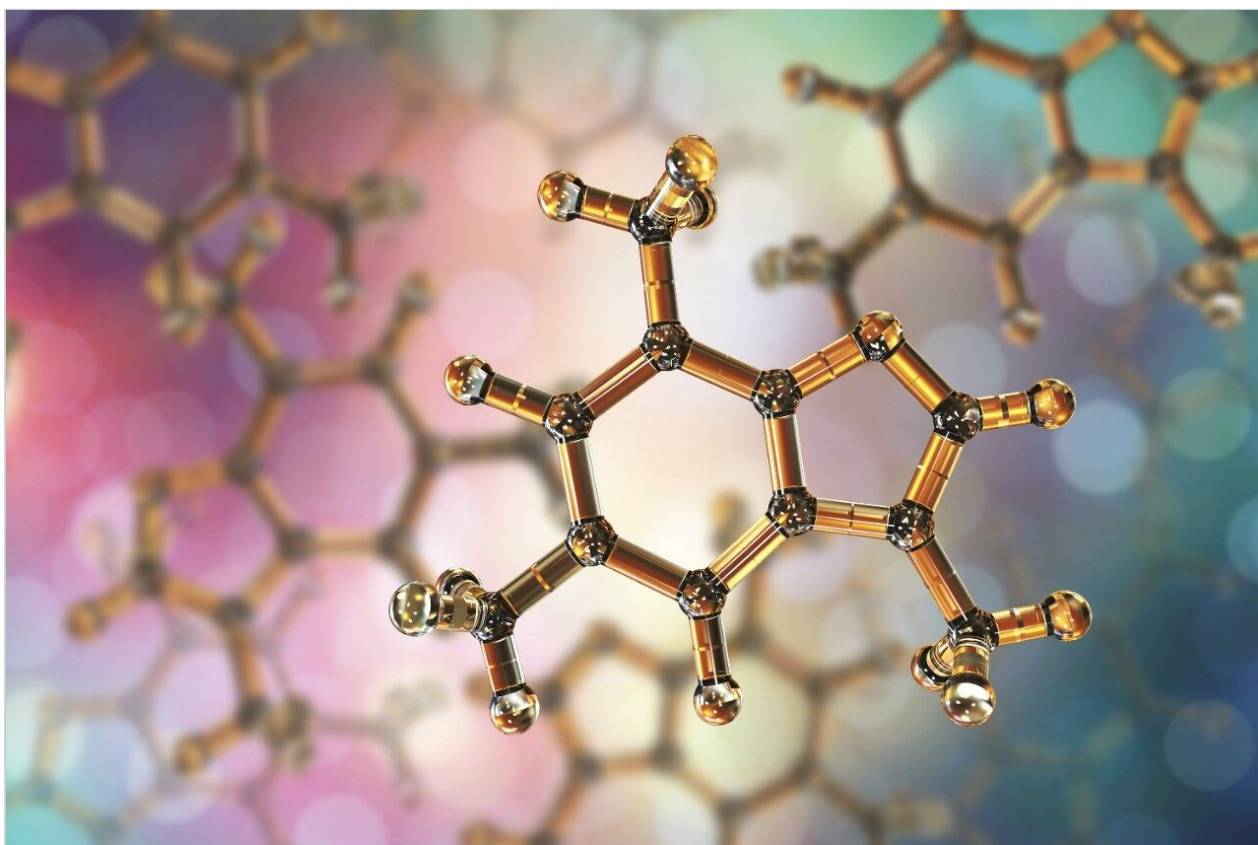


## Caffeine Metabolites- pH 10.0

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Waters Corporation



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

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### Abstract

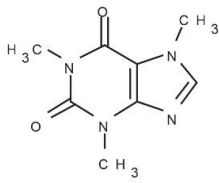
This application brief highlights the analysis of caffeine metabolites using XTerra Phenyl Columns.

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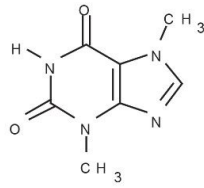
## Introduction

The compounds analyzed in this study are:

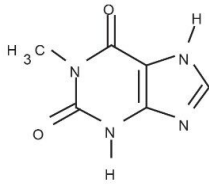
1. 1-Methylxanthine
2. 1, 7-Dimethyluric acid
3. 1, 3-Dimethyluric acid
4. Impurity of 1, 7-Dimethylxathine
5. 1, 7-Dimethylxathine
6. Theobromine
7. Caffeine



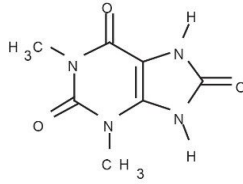
Caffeine



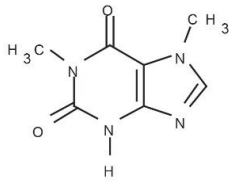
Theobromine



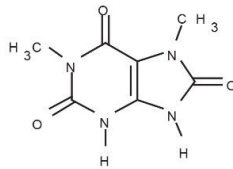
1-Methylxanthine



1,3-Dimethyluric acid



1,7-Dimethylxanthine



1,7-Dimethyluric acid

---

## Experimental

### Conditions

Column:	XTerra Phenyl, 4.6 x 150 mm, 5 $\mu$ m
Part number:	186001146
Mobile phase A:	H <sub>2</sub> O
Mobile phase B:	ACN

Mobile phase C: 100 mM NH<sub>4</sub>HCO<sub>3</sub>, pH 10.0

Flow rate: 1.0 mL/min

Injection volume: 10 µL

Temperature: 30 °C

Detection: UV @ 280 nm

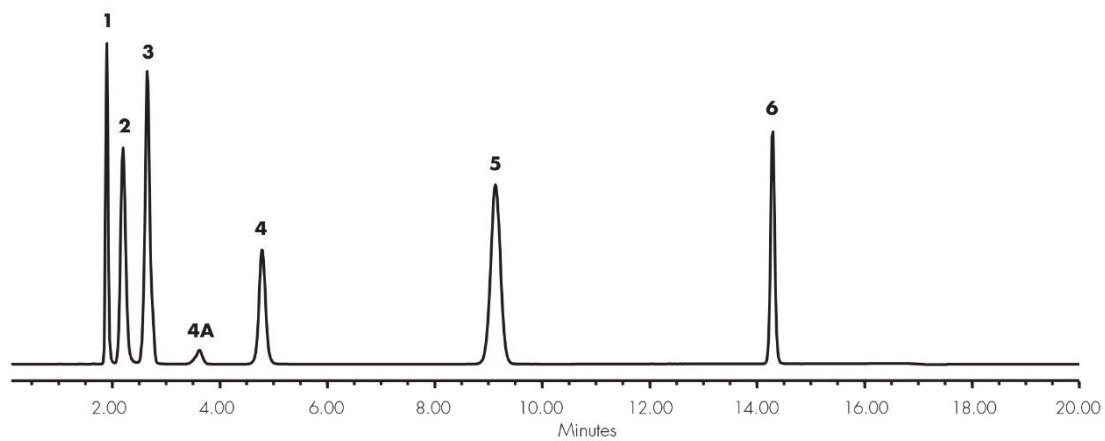
Instrument: Alliance 2695, 2996 PDA

### Gradient Table

Time (min)	Profile		
	%A	%B	%C
0.0	90	0	10
8.0	88	2	10
15.0	70	20	10

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## Results and Discussion



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2998 Photodiode Array (PDA) Detector <<https://www.waters.com/1001362>>

WA20738.019, June 2002