

Caffeine metabolites

The HPLC/UV method was developed, optimized and validated for the analysis of caffeine and its selected metabolites (1-methyluric acid, theobromine, paraxanthine, theophylline) in urine. The method is also used for the quantification of caffeine in various food samples.

Substance

1-Methyluric acid, CAS Number 708-79-2

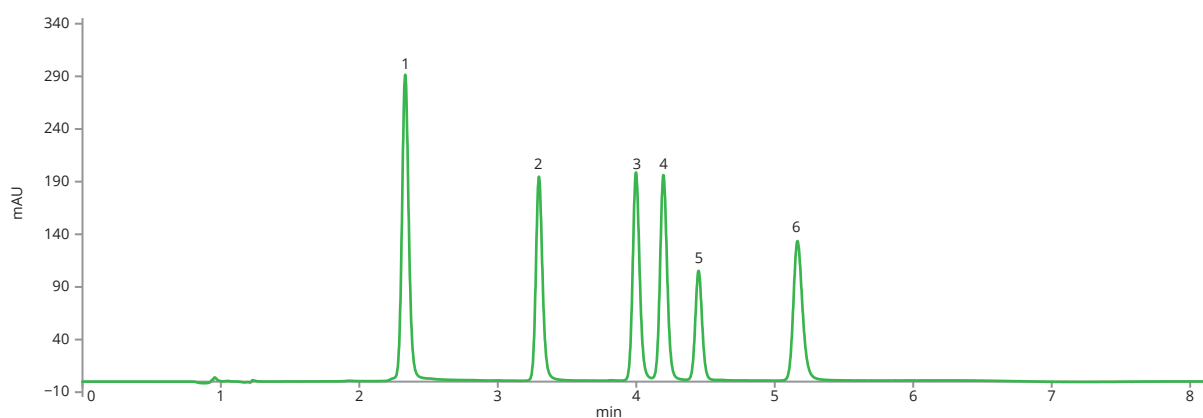
Theobromine, CAS Number 519-41-5

Paraxanthine, CAS Number 611-59-6

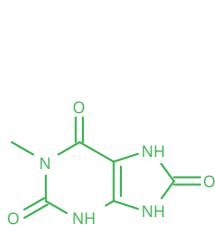
Theophylline, CAS Number 58-55-9

Etofylline (IS), CAS Number 519-37-9

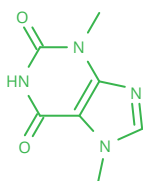
Caffeine, CAS Number 58-08-2



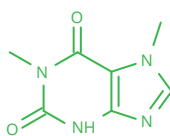
Beverage sample on Arion® HPLC column



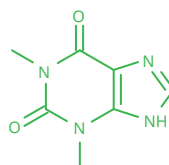
1-Methyluric acid



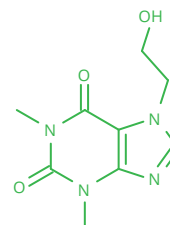
Theobromine



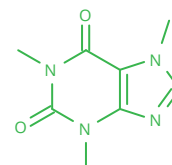
Paraxanthine



Theophylline



Etofylline (IS)



Caffeine



Caffeine metabolites

Column	Arion® Plus C18, 5 µm		
Dimensions	150 mm × 3.0 mm		
Part number	ARI-5720-LK30		
Mobile phase	A: 1% acetic acid in Milli-Q water (v/v) B: methanol		
Gradient elution	Retention (min)	%A	%B
	0.0	94	6
	3.0	75	25
	5.0	75	25
	5.5	94	6
	11.0	94	6
Flow rate	1.0 ml/min		
Temperature	35 °C		
Detection	UV @270 nm		
Injection volume	65 µl		
Analytes	1. 1-Methyluric acid 2. Theobromine 3. Paraxanthine 4. Theophylline 5. Etofylline (IS) 6. Caffeine		

