



Gradient Separation of Nucleic Acid Bases on ACQUITY UPLC BEH HILIC

Waters Corporation



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

Abstract

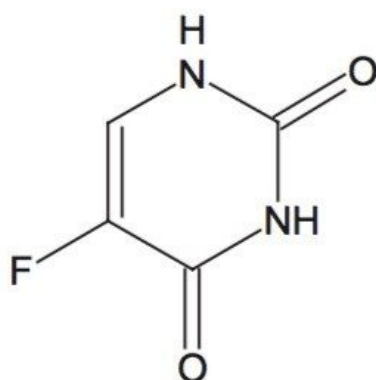
This application brief demonstrates gradient separation of nucleic acid bases.

Introduction

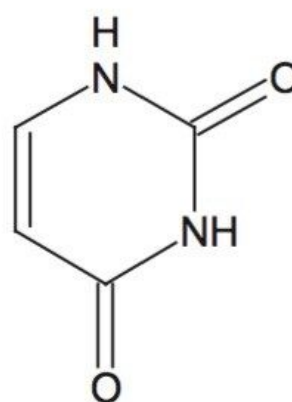
Compounds that are used in this study includes:

1. 5-Fluorouracil
2. Uracil
3. 5-Fluorocytosine
4. Cytosine

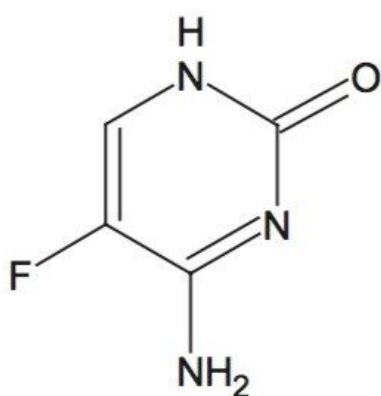
5-Fluorouracil



Uracil



5-Fluorocytosine



Cytosine

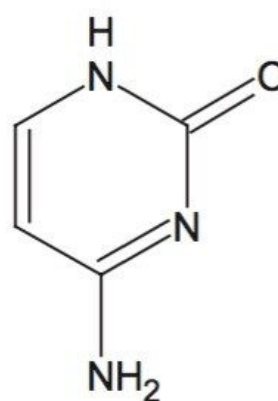


Figure 1: Structure of the compounds analysed.

Experimental

Test Conditions

Column:	ACQUITY UPLC BEH HILIC, 2.1 x 100 mm, 1.7 μ m
Part Number:	186003461
Mobile Phase A:	20 mM CH ₃ COONH ₄ , 0.05% CH ₃ COOH in 50:40:10 ACN:MeOH:H ₂ O
Mobile Phase B:	4 mM CH ₃ COONH ₄ , 0.01% CH ₃ COOH in 95:3:2 ACN:MeOH:H ₂ O
Flow Rate:	0.790 mL/min
Injection Volume:	0.8 μ L
Sample Concentration:	25 μ g/mL
Sample Diluent:	75:25 ACN:MeOH with 0.2% HCOOH
Temperature:	30 $^{\circ}$ C
Detection:	UV @ 254 nm
Sampling Rate:	20 pts/sec
Time Constant:	0.1
Instrument:	Waters ACQUITY UPLC with ACQUITY TUV

Gradient

Time(min)	Profile
	%A
0.0	0.1

Time(min)	Profile
0.37	0.1
1.71	99.9
1.74	0.1
1.98	0.1

Results and Discussion

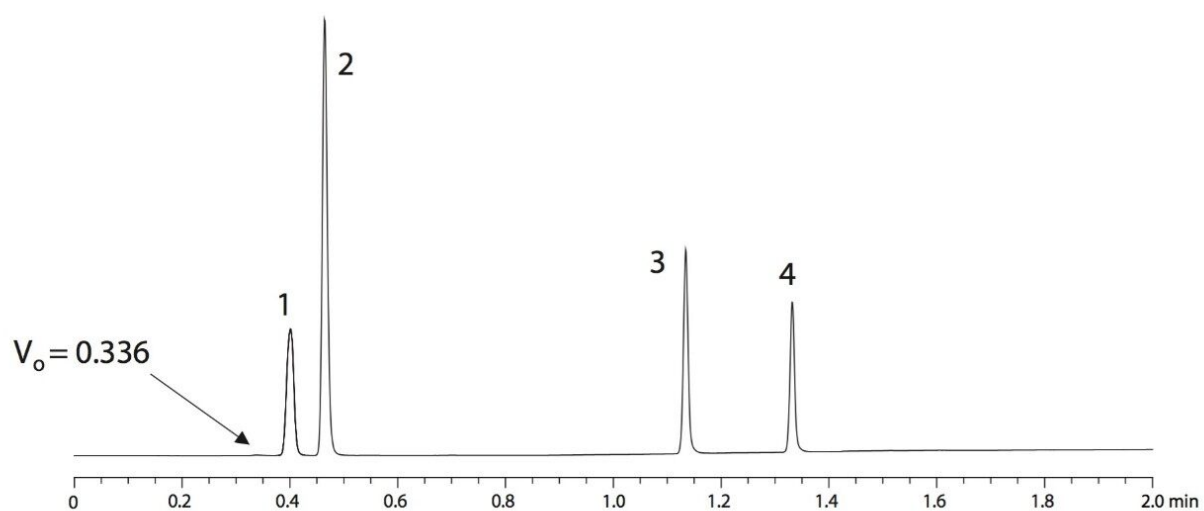


Figure 2: Chromatogram of 1. 5-Fluorouracil 2. Uracil 3. 5- Fluorocytosine 4. Cytosine

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ACQUITY UPLC System <<https://www.waters.com/514207>>

ACQUITY UPLC Tunable UV Detector <<https://www.waters.com/514228>>

WA60138, August 2009

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