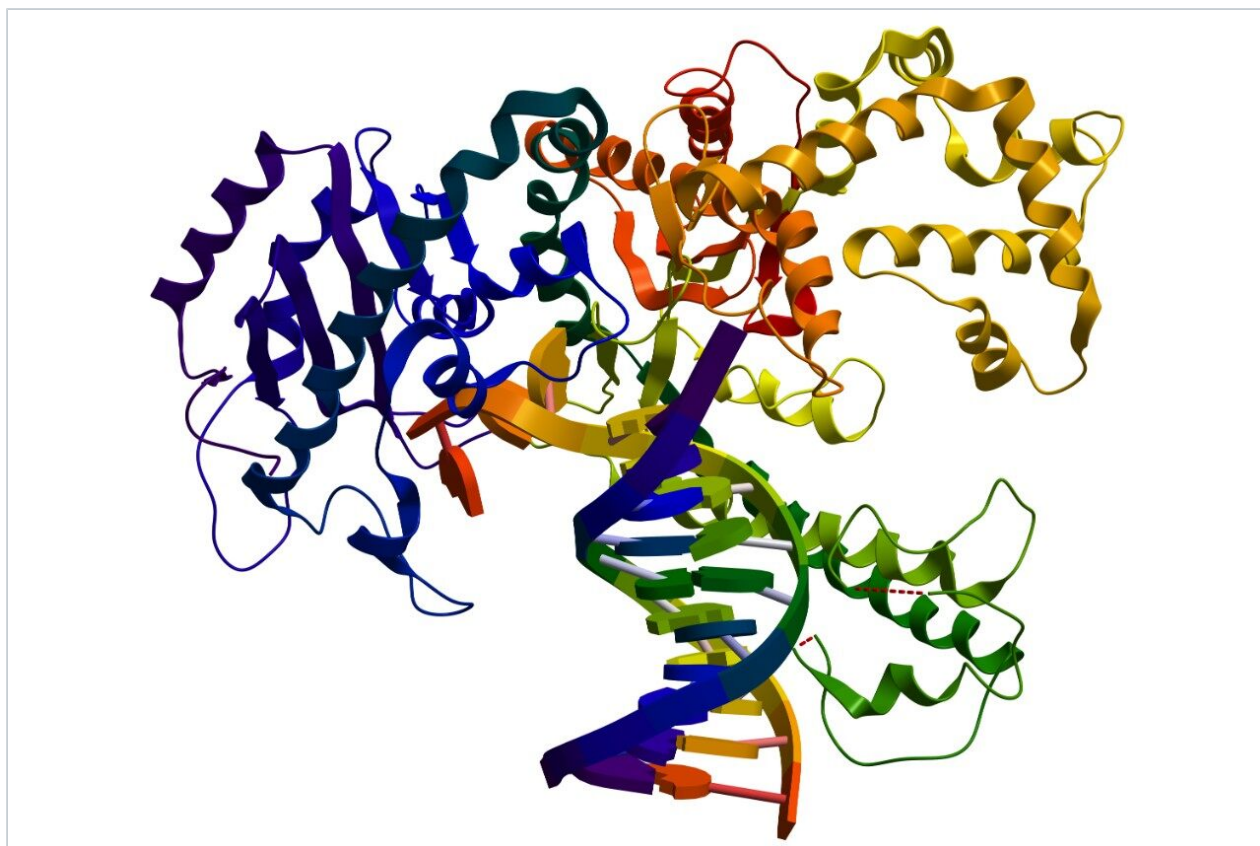


## Separation of Nucleotide Phosphates on ACQUITY UPLC BEH Amide

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Waters Corporation



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

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### Abstract

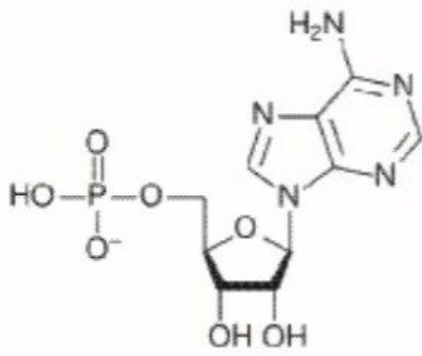
This application brief describes the separation of nucleotide phosphates on ACQUITY UPLC BEH Amide column.

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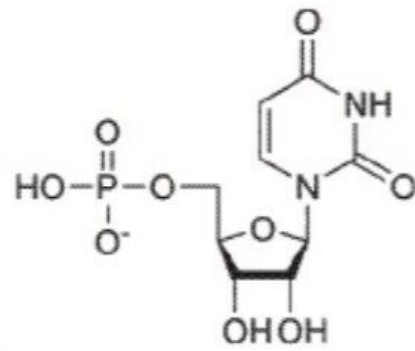
## Introduction

The nucleotide phosphates used in this study are-

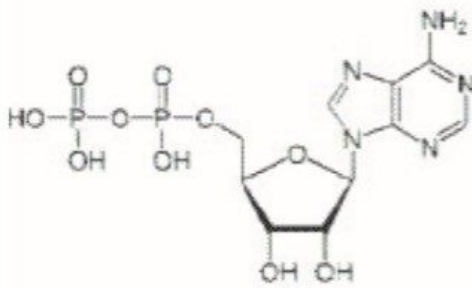
1. Adenosine monophosphate (AMP)
2. Uridine monophosphate (UMP)
3. Adenosine diphosphate (ADP)
4. Uridine diphosphate (UDP)
5. Adenosine triphosphate (ATP)
6. Uridine triphosphate (UTP)



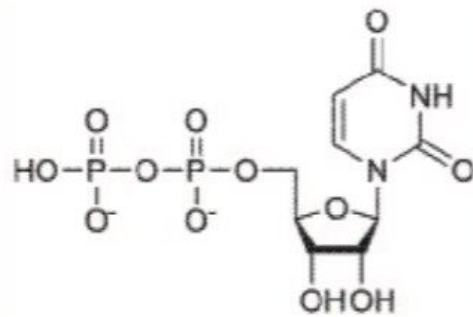
Adenosine  
monophosphate  
(AMP)



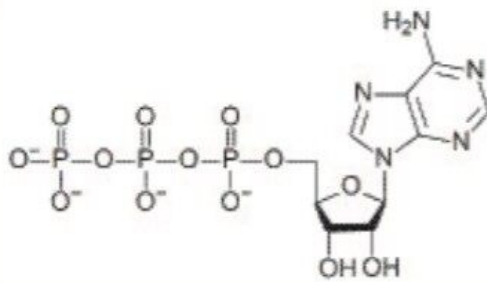
Uridine  
monophosphate  
(UMP)



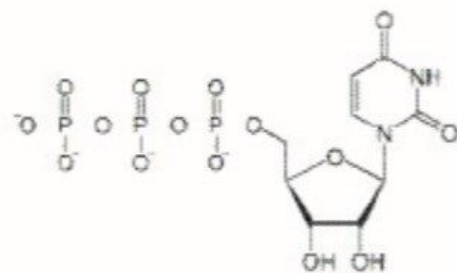
Adenosine  
diphosphate (ADP)



Uridine  
diphosphate  
(UDP)



Adenosine  
triphosphate (ATP)



Uridine  
triphosphate  
(UTP)

Figure 1. Structures of the compounds used in this study.

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## Experimental

### Test conditions

Column:	ACQUITY UPLC BEH Amide, 2.1 x 100 mm, 1.7 $\mu$ m
Part Number:	186004801
Isocratic Mobile Phase:	70/30 ACN/H <sub>2</sub> O with 27 mM KH <sub>2</sub> PO <sub>4</sub> , pH 4.5
Flow Rate:	0.5 mL/min
Injection Volume:	5 $\mu$ L (PLNO)
Sample Concentration:	shown on chromatogram
Sample Diluent:	80/20 ACN/H <sub>2</sub> O
Column Temperature:	25 °C
Weak Needle Wash:	95/5 ACN/H <sub>2</sub> O
Instrument:	Waters ACQUITY UPLC with ACQUITY PDA
Detection:	UV 260 nm
Sampling Rate:	20 Hz
Time Constant:	0.1 s

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## Results and Discussion

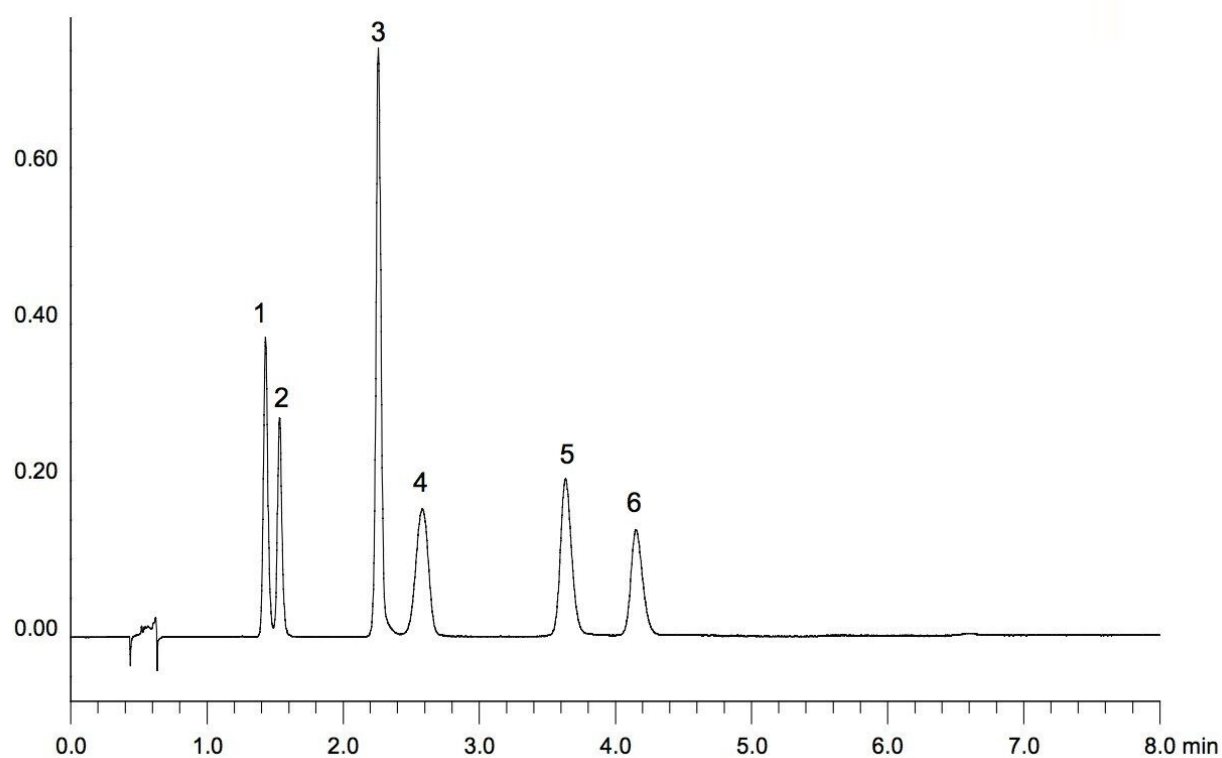


Figure 2. Sample Concentration

1- AMP (50  $\mu\text{g}/\text{mL}$ ), 2- UMP (50  $\mu\text{g}/\text{mL}$ ), 3- ADP (100  $\mu\text{g}/\text{mL}$ ), 4- UDP (100  $\mu\text{g}/\text{mL}$ ), 5- ATP (100  $\mu\text{g}/\text{mL}$ ), 6- UTP (100  $\mu\text{g}/\text{mL}$ )

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[ACQUITY UPLC System <https://www.waters.com/514207>](https://www.waters.com/514207)

[ACQUITY UPLC PDA Detector <https://www.waters.com/514225>](https://www.waters.com/514225)

WA64069, August 2009

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