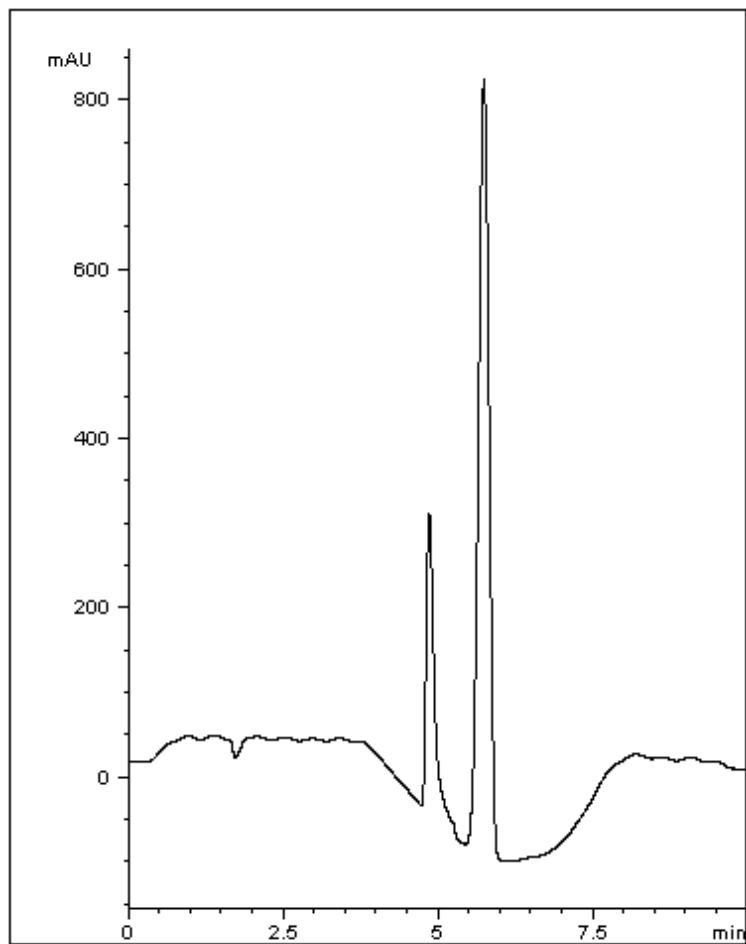


Adenine Nucleotides Analyzed with HPLC - AppNote

Retention and Separation of Nucleotides

This Method demonstrates the ability to retain two Adenosine analytes using an Aqueous Normal Phase (ANP) Gradient. As the Amide is good for Retaining and Separating Sugars, this Method demonstrates a simple Gradient that can work with many other similar compounds.





Peaks:

1. Adenosine 5'-Triphosphate (ATP)
2. Adenosine 5'-Monophosphate (AMP)

Method Conditions

Column: Cogent Amide™, 4μm, 100Å

Catalog No.: 40036-10P

Dimensions: 4.6mm x 100mm

Mobile Phase:

A: Acetonitrile / 0.1% Triethylamine (TEA) (v/v)

B: DI Water / 0.1% Triethylamine (TEA) (v/v)

Gradient:

Time (<i>minutes</i>)	%B
0	95
1	95
3	80
4	80
5	95
6	95



Flow rate: 1.0 mL / minute

Detection: UV @ 254nm

Injection vol.: 1µL

Sample Preparation: Reference standards (1 mg/mL) in diluent of 50% Acetonitrile / 50% DI Water (v/v)

Needle Wash: 2uL DI Water

t₀: 1.30 Minutes

K₁: 2.65

K₂: 3.25

α: 1.22

Note: Nucleotides are important Phosphate-containing compounds that are found in living cells and are associated with a broad array of metabolic and biological processes. They have significant roles in the synthesis of DNA and RNA, are involved in signal transduction pathways, function as coenzymes in biosynthetic pathways and serve as energy reservoirs in biological systems.

Capacity Factor – Relative Retention $k = (t_R - t_0)/t_0$