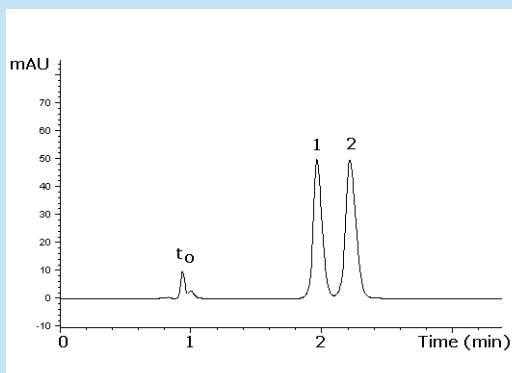
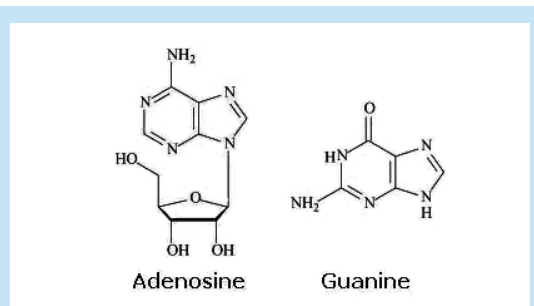


Purine Base and Nucleoside Guanine and Adenosine



Notes:

Separation and determination of purine bases (guanine) is of interest because of their involvement in a variety of biochemical processes. Guanine and other purine bases are building blocks in both DNA and RNA as they play a crucial role in protein biosynthesis and in the storage of genetic information. Adenosine is an endogenous purine nucleoside that modulates many physiologic processes and exhibits various bioactivities. For instance, all purines can inhibit the activity of mononamine oxidase and show anti-oxidant effect, nucleoside analogues have been used as anti-HIV drugs.

A purine base (guanine) and a purine nucleoside (adenosine) are two of many metabolites that can be retained on the Diamond Hydride™ HPLC columns

Method Conditions

Column: Cogent Diamond Hydride™ 4µm, 100Å.
Catalog No.: 70000-7.5P
Dimensions: 4.6 x 75 mm
Mobile phase: A: DI water, 0.1% formic acid + 0.001% TFA
 B: acetonitrile, 0.1% formic acid, 0.001% TFA 85% B/15% A
Flow rate: 1.00 mL/min.
Peaks: 1. Adenosine
 2. Guanine
Sample Matrix: Adenosine: 1 mg/mL was dissolved in 80% acetonitrile/ 20% DI water + 0.1% formic acid
 Guanine: 1 mg/mL was dissolved in 80% DI water with 0.1% TFA /20% acetonitrile
Detection: UV 245 nm

Discussion

Both guanine and adenosine are polar compounds which elute at the void volume on many leading (excellent) C18 columns. Using a simple mobile phase and the Cogent Diamond Hydride™ column it is possible to retain guanine and adenosine, as well as many other polar compounds.

Mixture of the two samples were prepared: 100 µL of each sample and 800 µL of the mobile phase.

For more information visit www.MTC-USA.com

Cat. No.	Description
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70000-7.5P	Cogent Diamond Hydride™ HPLC Column, 100Å, 4µm, 4.6 x 75 mm
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