

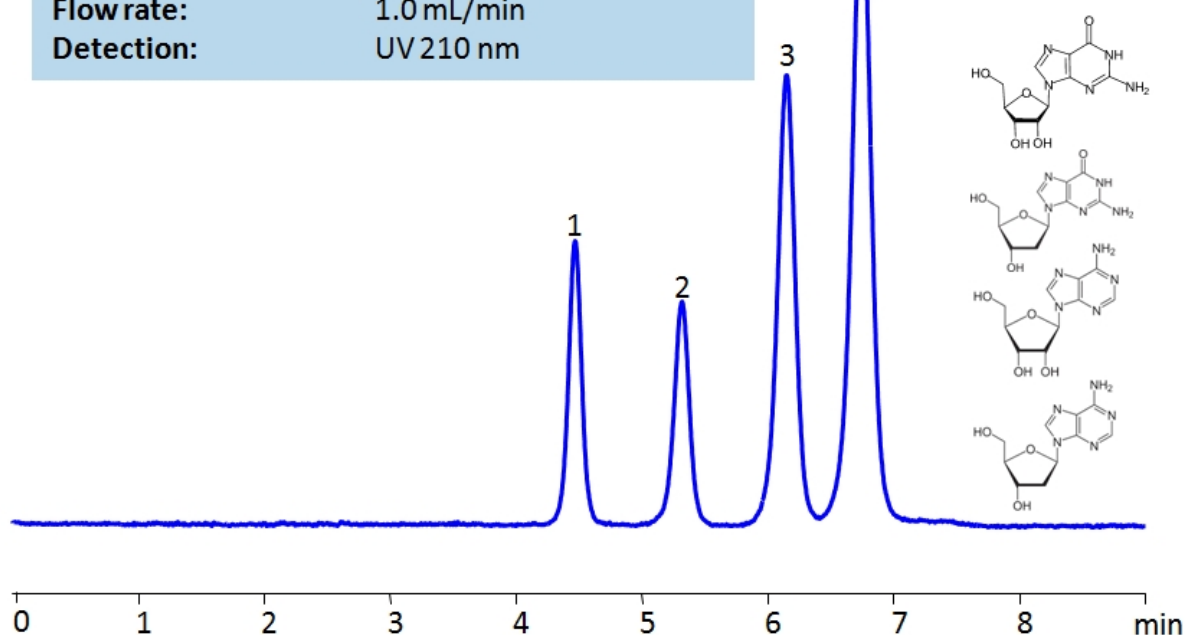
HPLC Separation of Guanosine, Deoxyguanosine, Adenosine, Deoxyadenosine on Newcrom AH Column

<https://sielc.com/hplc-separation-of-guanosine-deoxyguanosine-adenosine-deoxyadenosine>

Chromatogram

Column: Newcrom AH
Column size: 4.6 × 150 mm, 5 μm
Column part number: NAH-46.150.0510
Mobile phase: MeCN/H₂O – 20/80%
Buffer: H₃PO₄ – 0.5%
Flow rate: 1.0 mL/min
Detection: UV 210 nm

1. Guanosine
2. Deoxyguanosine
3. Adenosine
4. Deoxyadenosine



Description

High Performance Liquid Chromatography (HPLC) Method for Analysis of Adenosine , Guanosine , Deoxyguanosine , Deoxyadenosine .

Guanosine is a purine nucleoside with the chemical formula C₁₀ H₁₃ N₅ O₅ . It can be phosphorylated into many other forms, which play vital roles in biochemical processes like synthesis of nucleic acids, proteins, photosynthesis, and more. It is also required for RNA splicing.

Deoxyguanosine is a deoxyribonucleoside with the chemical formula C₁₀ H₁₃ N₅ O₄ . It is a vital part of what makes up DNA.

Adenosine is a key building block of energy-carrying molecules with the chemical formula C₁₀ H₁₃ N₅ O₄ . It has a variety of other uses, including being an inhibitory neurotransmitter which helps with sleep and acting as a blood flow regulator. Medicinally, it is used as treatment for supraventricular tachycardia (SVT). You can find detailed UV spectra of Adenosine and information about its various lambda maxima by visiting the following link.

Deoxyadenosine is a deoxyribonucleoside with the chemical formula C₁₀ H₁₃ N₅ O₃ . It is a derivative of adenosine. High presence of it can kill T lymphocytes and kill those cells, leading to adenosine deaminase severe combined immunodeficiency

disease, also known as ADA-SCID.

Adenosine , Guanosine , Deoxyguanosine , Deoxyadenosine are the building blocks for DNA and RNA as well as other roles in biomechanical processes such as signal transduction. By using a Newcrom AH mixed-mode column with a cation-exchange mechanism, nucleosides: guanosine, deoxyguanosine, adenosine, and deoxyadenosine, can be baseline separated in a short time using an isocratic method with a simple mobile phase of water, acetonitrile (MeCN, ACN), and H₃PO₄ as a buffer. UV detection at 210 nm.

Method Parameters

Mobile Phase	MeCN/H ₂ O – 20/80%
Buffer	H ₃ PO ₄ – 0.5%
Flow Rate	1.0 ml/min
Detection	UV, 210 nm
Class of Compounds	Nucleoside, Hydrophilic, Ionizable
Analyzing Compounds	Adenosine, Guanosine, Deoxyguanosine, Deoxyadenosine

HPLC Column Used

Newcrom AH, 4.6 x 150 mm, 5 µm, 100 A, dual ended

[Order this column at hplc-shop.de →](http://hplc-shop.de)