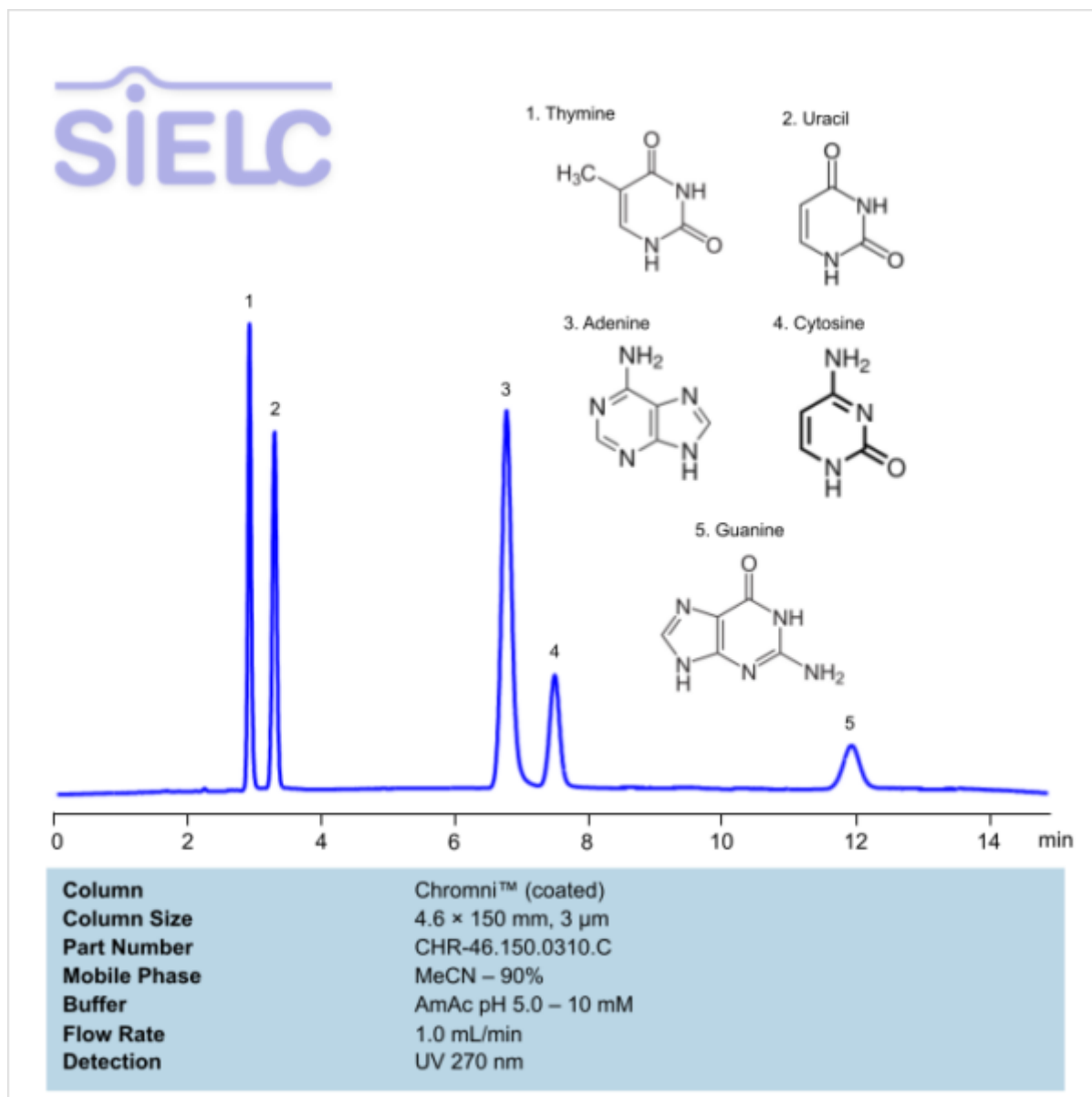


HPLC Method for Analysis of Five Nucleobases on Chromni Column

<https://sielc.com/hplc-method-for-analysis-of-nucleobases>

Chromatogram



Description

High Performance Liquid Chromatography (HPLC) Method for Analysis of Thymine , Adenine , Cytosine , Guanine , Uracil .

Thymine, also noted as T and Thy , has the chemical formula $C_5H_6N_2O_2$. It is a pyrimidine nucleobase that may be produced through methylation of uracil. In DNA, it creates a double hydrogen bond to Adenine to hold together the structure of DNA. You can find detailed UV spectra of Thymine and information about its various lambda maxima by visiting the following link .

Uracil , also noted as U and Ura , has $C_4H_4N_2O_2$ chemical formula. It is a derivative of pyrimidine that is rarely found in DNA, working more often in RNA in transcription by binding to adenine through hydrogen bonds. You can find detailed UV spectra of Uracil and information about its various lambda maxima by visiting the following link .

Adenine , also noted as A and Ade , has the chemical formula $C_5H_5N_5$. Besides DNA and RNA, Adenine can also be found in Adenosine triphosphate (ATP), which is a nucleotide triphosphate that provides energy in cells required for bodily functions. In

DNA, it partners with Thymine via two hydrogen bonds, while in RNA it bonds to Uracil for protein synthesis. You can find detailed UV spectra of Adenine and information about its various lambda maxima by visiting the following link.

Cytosine , also noted as C and Cyt , has the chemical formula $C_4H_5N_3O$. In DNA, it pairs with Guanine to create a base pair. In RNA, it is synonymous with Uracil, being an interchangeable third base. Not only that, due to it's instability, it can change into Uracil through spontaneous deamination. You can find detailed UV spectra of Cytosine and information about its various lambda maxima by visiting the following link.

Guanine , also noted as G and Gua , has the chemical formula $C_5H_5N_5O$. By forming three hydrogen bonds with the Cytosine, it creates a base pair. It's name comes from the Spanish term "guano", meaning bird or bat dropping, as that is said to have been how it was first discovered. Outside of DNA, Guanine that is harvested from fish scales, is occasionally used in cosmetics for it's luster. You can find detailed UV spectra of Guanine and information about its various lambda maxima by visiting the following link.

Thymine , Adenine , Cytosine , Guanine , Uracil can be retained and analyzed using the Chromni stationary phase column. The analysis utilizes a gradient method with a simple mobile phase consisting of water and acetonitrile (MeCN) and ethanol. Detection is performed using UV.

Method Parameters

Mobile Phase	MeCN/H ₂ O -90%
Buffer	AmAc pH 5.0 – 10 mM
Flow Rate	1.0 ml/min
Detection	UV 270 nm
Class of Compounds	Nucleobases
Analyzing Compounds	Thymine,Adenine,Cytosine,Guanine,Uracil

HPLC Column Used

Chromni, 4.6 x 150 mm, 3 µm, 100 Å, surface coated

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