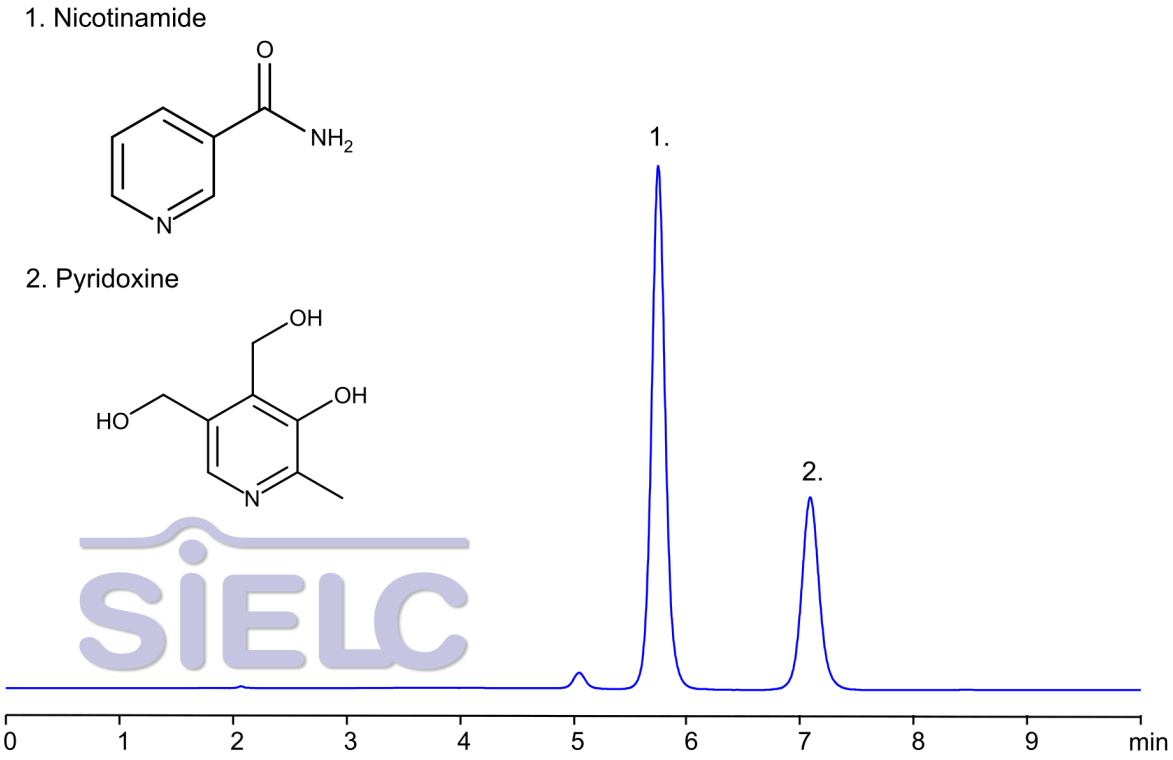
HPLC Method for Analysis of Nicotinamide and Pyridoxine on Primesep 100 Column

https://sielc.com/hplc-method-nicotinamide-pyridoxine

Chromatogram



Column:	Primesep 100
Column size:	4.6 × 150 mm, 5 µm
Column part number:	100-46.150.0510
Mobile phase:	MeCN/H_2O - 20/80%
Buffer:	H_2SO_4 - 0.1%
Flow rate	1.0 mL/min
Detection:	UV 270 nm
Concentration:	1. 0.1 mg/mL, 2. 0.1 mg/mL
Injection Volume:	5 µL
Diluent:	MeCN/H2O - 20/80%
Limit of Detection:	1. 22.1 ppb, 2. 61.1 ppb

Description

· Separation type: Liquid Chromatography Mixed-mode SIELC Technologies · HPLC Method for Analysis of Nicotinamide , Vitamin B6 (Pyridoxine) on Primesep 100 Column

Nicotinamide is a specific form of vitamin B3, an essential nutrient that is crucial for various bodily functions. Along with niacin (nicotinic acid), nicotinamide is one of the primary forms of vitamin B3 that the body uses. Both of these forms are converted into coenzymes NAD+ and NADP+, which play vital roles in energy production, DNA repair, and cellular communication. This

conversion is essential for maintaining the body's metabolic processes, highlighting the importance of nicotinamide as a form of vitamin B3.

Pyridoxine is a form of vitamin B6, which is essential for numerous biochemical processes in the body. Vitamin B6 exists in three natural forms—pyridoxine, pyridoxal, and pyridoxamine—all of which are converted into the active coenzyme pyridoxal 5′-phosphate (PLP). This active form is critical for amino acid metabolism, neurotransmitter synthesis, and hemoglobin production. As a form of vitamin B6, pyridoxine is key to maintaining proper neurological and immune function, ensuring that the body can perform a wide range of essential functions.

Nicotinamide , Vitamin B6 (Pyridoxine) can be retained, separated and analyzed using a Primesep 100 mixed-mode stationary phase column. The analysis employs an isocratic method with a simple mobile phase comprising water, acetonitrile (MeCN), and sulfuric acid as a buffer. This method allows for detection using UV 270 nm.

You can find detailed UV spectra of Nicotinamide , Vitamin B6 (Pyridoxine) and information about its various lambda maxima by visiting the following links: UV-Vis Spectrum of Nicotinamide , UV-Vis Spectrum of Pyridoxine .

Method Parameters

Mobile Phase	MeCN – 20%
Buffer	H2SO4 – 0.1%
Flow Rate	1.0 ml/min
Detection	UV 270 nm
Limit of Detection	1. 22.1 ppb, 2. 61.1
Class of Compounds	Vitamin B
Analyzing Compounds	Nicotinamide,Vitamin B6 (Pyridoxine)

HPLC Column Used

Primesep 100, 4.6 x 150 mm, 5 µm, 100 A, dual ended

Order this column at hplc-shop.de →