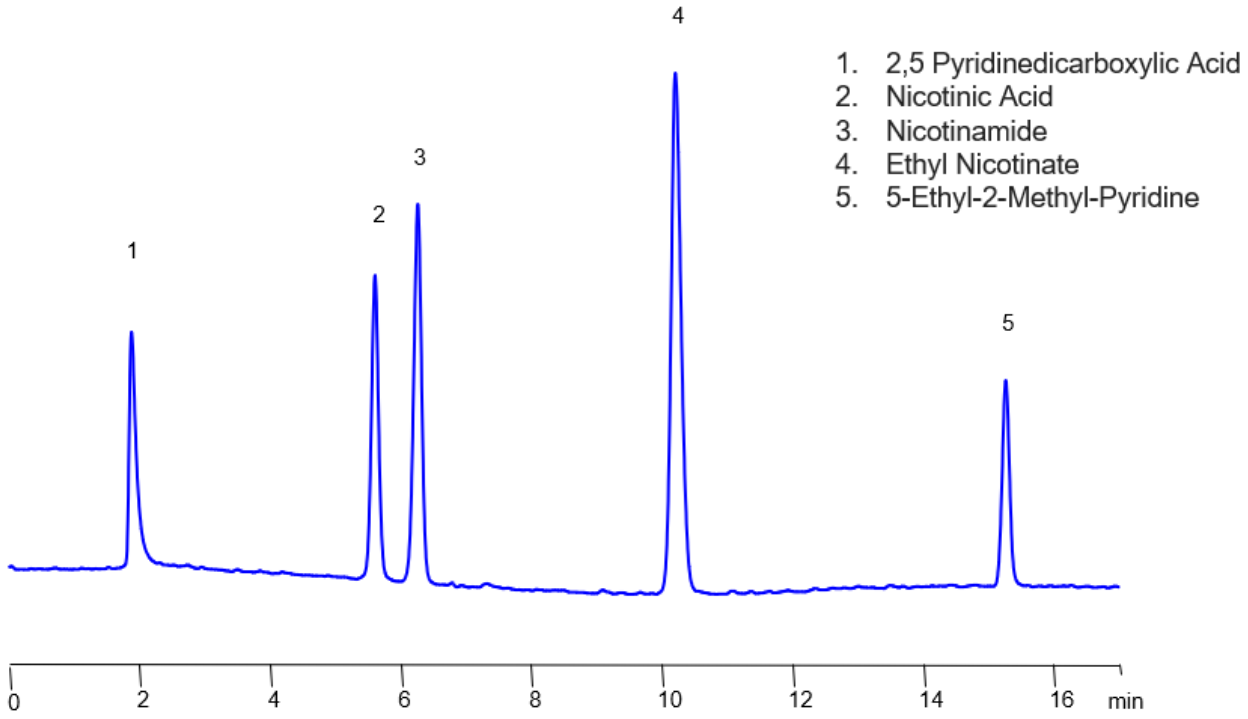
HPLC Method for Simultaneous Determination of Nicotinic Acid, Nicotinamide, Pyridine Dicarboxylic Acid, Ethyl Methyl Pyridine and Ethyl Nicotinate on Primesep 100 Column

https://sielc.com/hplc-method-for-simultaneous-determination-of-nicotinic-acid-nicotinamide-pyridine-dicarboxylic-acid-ethyl-methyl-pyridine-and-ethyl-nicotinate

Chromatogram



Column:	Primesep 100
Column size:	4.6 × 150 mm, 5 µm
Column part number:	100-46.150.0510
Mobile phase:	Gradient MeCN – 40 to 90%, 10 min , hold 7 min
Buffer:	H_2SO_4 - 0.05%
Flow rate:	1.0 mL/min
Detection:	UV 250 nm

Description

High Performance Liquid Chromatography (HPLC) Method for Analysis of Nicotinic Acid/Niacin (3-pyridinecarboxylic acid) , Nicotinamide , Pyridinedicarboxylic Acid , 2,5-Pyridinedicarboxylic acid , 5-Ethyl-2-methylpyridine , Ethyl nicotinate .

2,5-Pyridinedicarboxylic acid (PDA), also known as Dipicolinic acid (DPA), is a key factor in bacterial endospore heat resistance. It also plays an important role in preparing transition metal complexes for ion chromatography.

Nicotinic acid , also known as niacin , is a water-soluble B vitamin with C 6 H 5 NO 2 molecular formula. It is an essential nutrient that plants and animals synthesize from tryptophan. It is also used as a dietary supplement to treat pellagra, which is characterized by dermatitis of sunlight-exposed skin and is said to be caused by a corn-based diet. Nicotinic acid was found on asteroids and meteorites.

Nicotinamide , also known as niacinaminde , is a form of vitamin B 3 with the chemical formula C 6 H 6 N 2 O 2 . It is preferred treatment for pellagra and is a common treatment for acne due to it’s anti-inflammatory properties. If consumed daily, it is shown to decrease the risk of skin cancers other than melanoma. It is a derivative of Nicotinic acid and is a key component of the coenzymes nicotinamide adenine dinucleotide (NAD) and nicotinamide adenine dinucleotide phosphate (NADP+). You can find detailed UV spectra of Nicotinamide and information about its various lambda maxima by visiting the following link.

Ethyl nicotinate , also known as nicotine acid ethyl ester , has the chemical formula C 8 H 9 NO 2 . It is a popular topical treatment for ligament, joint, and muscle pain.

5-Ethyl-2-methylpyridine is a common precursor to Nicotinic acid with the chemical formula C 8 H 11 N . It is produced by condensation of paraldehyde and ammonia.

Nicotinic Acid/Niacin (3-pyridinecarboxylic acid) , Nicotinamide , Pyridinedicarboxylic Acid , 2,5-Pyridinedicarboxylic acid , 5-Ethyl-2-methylpyridine , Ethyl nicotinate can be separated, retained, and analyzed on a Primesep 100 mixed-mode column using an analytical method with a simple gradient mobile phase of water, Acetonitrile (MeCN), and a sulfuric acid (H2SO4) buffer. This analysis method can be UV detected at 250 nm with high resolution and peak symmetry.

Method Parameters

Mobile Phase	MeCN – Gradient
Buffer	H2SO4 – 0.05%
Flow Rate	1.0 ml/min
Detection	UV 250 nm
Class of Compounds	Drug, Acid
Analyzing Compounds	Nicotinic Acid/Niacin (3-pyridinecarboxylic acid),Nicotinamide,Pyridinedicarboxylic Acid,2,5-Pyridinedicarboxylic acid,5-Ethyl-2-methylpyridine,Ethyl nicotinate

HPLC Column Used

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

Order this column at hplc-shop.de →