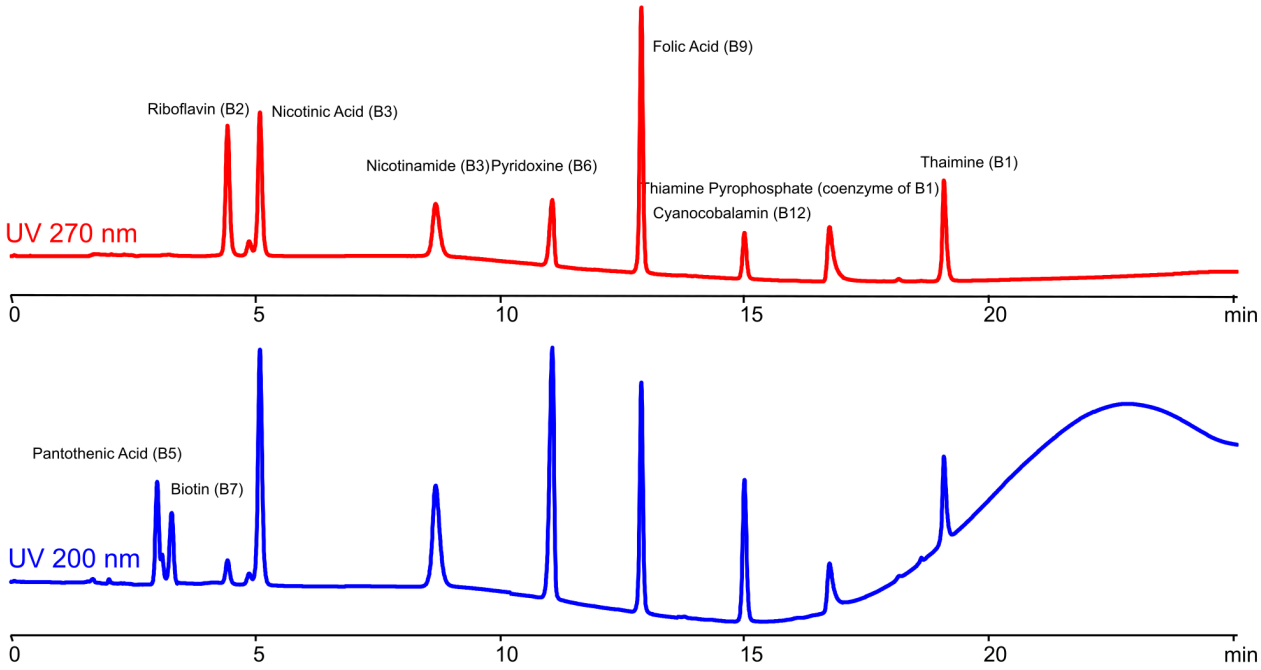
HPLC Method for Separation of 10 Water-Soluble Vitamins on Chromni Column

https://sielc.com/hplc-method-for-analysis-of-10-water-soluble-vitamins

Chromatogram



Column:	Chromni™
Column size:	4.6 × 150 mm, 3 µm
Column part number:	CHR-46.150.0310
Mobile phase:	Gradient MeCN
Buffer:	Gradient H_3PO_4
Flow rate:	1.0 mL/min
Detection:	UV 275 nm, 200 nm

Description

High Performance Liquid Chromatography (HPLC) Method for separation of Vitamin B2 (Riboflavin) , Nicotinic Acid/Niacin (3-pyridinecarboxylic acid) , Nicotinamide , Vitamin B6 (Pyridoxine) , Folic Acid , Cyanocobalamin , Thiamine diphosphate (Thiamine pyrophosphate) , Vitamin B1 (Thiamine) , Pantothenic Acid (Vitamin B5) , Biotin

Riboflavin (B2), Nicotinic Acid (B3), Nicotinamide (B3), Pyridoxine (B6), Folic Acid (B9), Cyanocobalamin (B12), Thiamine Pyrophosphate (coenzyme of B1), Thiamine (B1), Pantothenic Acid (B5), Biotin (B7) are water soluble vitamins with a key function of energy metabolism. These coenzymes are responsible for converting food into usable energy.

Vitamin B2 (Riboflavin) , Nicotinic Acid/Niacin (3-pyridinecarboxylic acid) , Nicotinamide , Vitamin B6 (Pyridoxine) , Folic Acid , Cyanocobalamin , Thiamine diphosphate (Thiamine pyrophosphate) , Vitamin B1 (Thiamine) , Pantothenic Acid (Vitamin B5) , Biotin 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, acetonitrile (MeCN). Detection is performed using UV.

Method Parameters

Mobile Phase	MeCN/H2O – see table
Buffer	H3PO4 – see table
Flow Rate	1.0 ml/min
Detection	UV 275 nm, 200 nm
Time (min)	A – H2O (%)
0	0
4	0
20	20
20.01	0
30	0
Class of Compounds	Vitamins
Analyzing Compounds	Vitamin B2 (Riboflavin),Nicotinic Acid/Niacin (3-pyridinecarboxylic acid),Nicotinamide,Vitamin B6 (Pyridoxine),Folic Acid,Cyanocobalamin,Thiamine diphosphate (Thiamine pyrophosphate),Vitamin B1 (Thiamine),Pantothenic Acid (Vitamin B5),Biotin

HPLC Column Used

Chromni, 4.6 x 150 mm, 3 µm, 100 A, dual ended

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