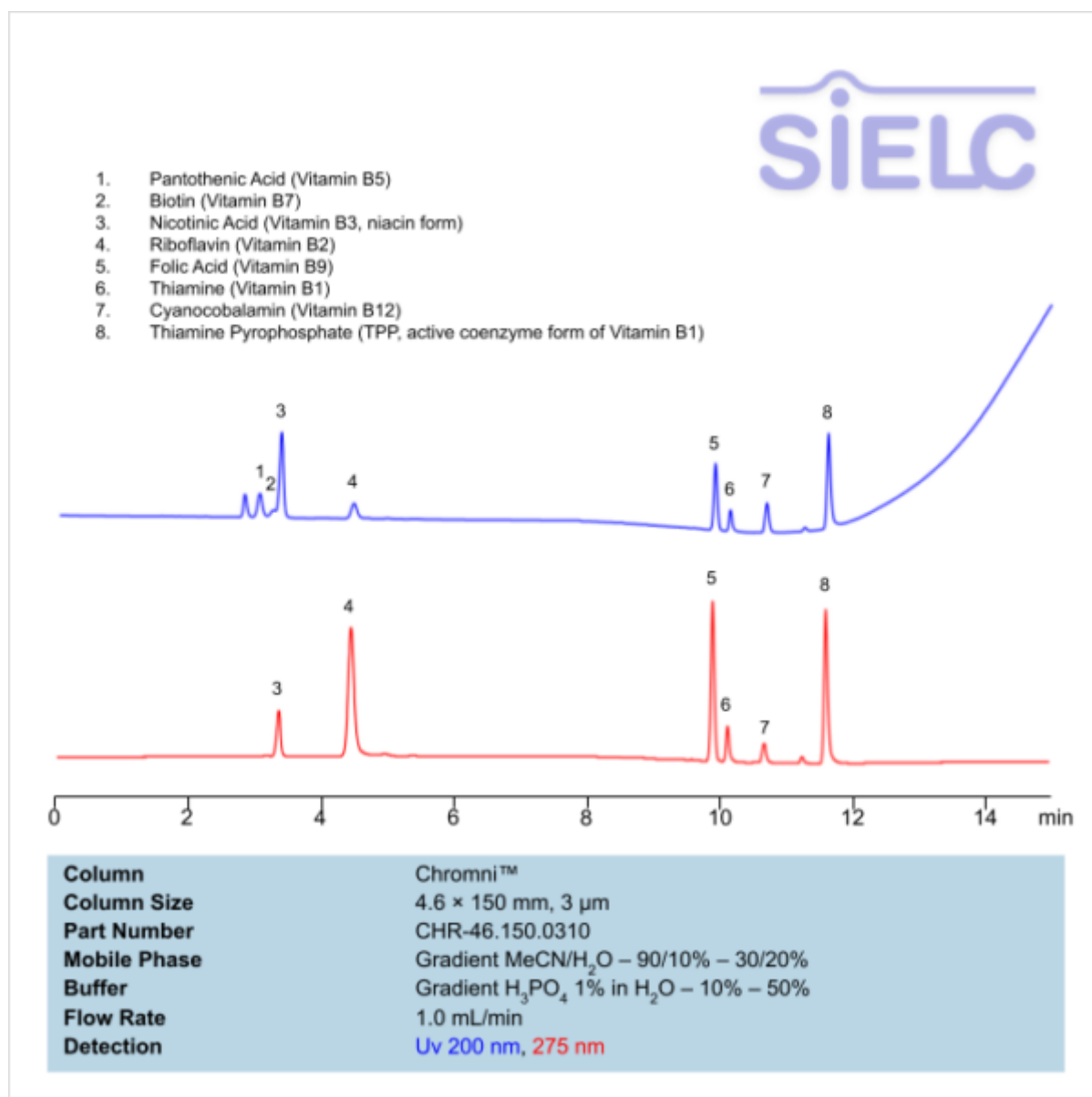


HPLC Method for Separation of 8 Water-Soluble Vitamins on Chromni Column

<https://sielc.com/hplc-method-for-analysis-of-8-water-soluble-vitamins>

Chromatogram



Description

High Performance Liquid Chromatography (HPLC) Method for separation of Vitamin B2 (Riboflavin) , Nicotinic Acid (Vitamin B3) , Vitamin B6 (Pyridoxine) , Folic Acid , Cyanocobalamin , Thiamine diphosphate (Thiamine pyrophosphate) , Vitamin B1 (Thiamine) , Pantothenic Acid (Vitamin B5) , Biotin

Riboflavin (B2), Nicotinic Acid (B3), 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.

Pantothenic Acid , also known as vitamin B5 , is an essential nutrient with the chemical formula C₁₉ H₁₇ NO₅ . It plays a crucial role in energy and coenzyme A production. That energy and coenzyme are used for synthesis and degradation of proteins, carbohydrates, and fats. You can find detailed UV spectra of Pantothenic Acid (Vitamin B5) and information about its various lambda maxima by visiting the following link.

Biotin (Vitamin B7) is a water-soluble vitamin with the chemical formula $C_{10}H_{16}N_2O_3S$. It helps the body breakdown key nutrients in order for it to absorb and utilize them. A lack of biotin can lead to hair loss, rash, and brittle nails. A healthy diet including eggs, milk, and bananas can supply the body with a healthy dose of biotin. You can find detailed UV spectra of Biotin and information about its various lambda maxima by visiting the following link.

Nicotinic acid , also known as niacin and vitamin B3 , is a water-soluble B vitamin with $C_6H_5NO_2$ molecular formula. It is an essential nutrient that is crucial for energy production. Nicotinic acid is commonly used as a dietary supplement to treat vitamin B3 deficiency, and it's also prescribed in higher doses to help lower cholesterol levels. It works by dilating blood vessels, which can lead to a flushing sensation, hence it is sometimes referred to as "flushing niacin." You can find detailed UV spectra of Niacin and information about its various lambda maxima by visiting the following link.

Riboflavin , also known as Vitamin B2 , is an essential vitamin with the chemical formula $C_{17}H_{20}N_4O_6$. It is crucial in the formation of flavin mononucleotide and flavin adenine dinucleotide. Those coenzyme are involved in a large variety of tasks, including but not limited to energy metabolism, cellular respiration, antibody production, and metabolism of niacin and folate. It is also used as yellow food coloring. You can find detailed UV spectra of Riboflavin and information about its various lambda maxima by visiting the following link.

Folic Acid , also known as vitamin B9, folic acid is crucial for many functions in the body, including DNA synthesis and repair, cell division, and growth. As an essential vitamin, Folic acid must be obtained through diet or supplementation, as humans cannot synthesize it. Vitamin B-9 is a crucial prenatal vitamin. that also helps the body use iron properly. It has the chemical formula $C_{19}H_{19}N_7O_6$. You can find detailed UV spectra of Folic Acid and information about its various lambda maxima by visiting the following link.

Method Parameters

Mobile Phase	MeCN/H ₂ O – see table
Buffer	H ₃ PO ₄ – see table
Flow Rate	1.0 ml/min
Detection	UV 200 nm, 275 nm
Time (min)	A – H ₂ O (%)
0	0
4	0
15	20
15.01	0
25	0
Class of Compounds	Vitamins
Analyzing Compounds	Vitamin B2 (Riboflavin),Nicotinic Acid (Vitamin B3),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 Å, dual ended

[Order this column at hplc-shop.de →](#)