

Multivitamin Tablet Analysis using Verex™ Filter Vials by HPLC-UV with Synergi™ Hydro-RP Columns

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Overview

Sample preparation is performed in several ways, all of which can influence chromatographic results by negatively affecting the sample that is injected into the system. Ineffective preparation of samples can lead to system damage, reduction in column life, as well as a reduction in chromatographic separation efficiency and reproducibility. Inappropriate choice of sample preparation devices could release extractable compounds into the sample that could bind analytes of interest, influencing the quality of results.

In this application, multivitamin standards were prepared and filtered using Verex Filter Vials. Samples were run by HPLC-UV to determine if there was a loss of sample or unwanted extractables when using the Verex Filter Vials. The filtered standards showed similar results to the multivitamin standards, where no filtration device was used.

LC-UV Conditions

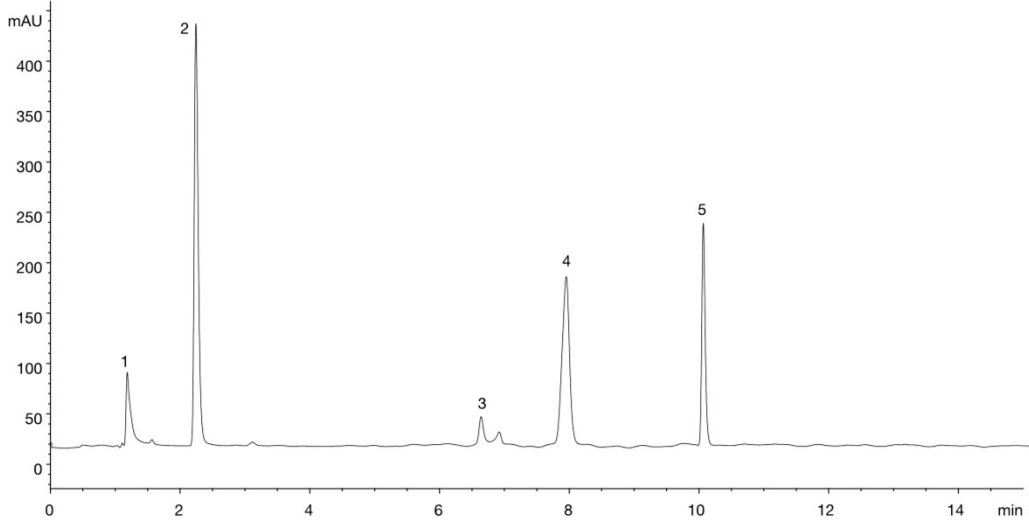
Column:	Synergi 4 µm Hydro-RP	
Dimension:	150 x 4.6 mm	
Part No.:	00F-4375-E0	
Pressure (bar):	142	
Mobile Phase:	A = 20 mM Potassium phosphate + 0.1 % Hexane sulfonate, pH 3.0 B = Acetonitrile	
Gradient:	Time (min)	%B
	0	3
	3	3
	18	50
	18.1	3
	20	3
Flow Rate:	1.5 mL/min	
Temperature:	30 °C	
Detection:	UV @ 210 nm	
Injection Volume:	3 µL	
Instrument:	Agilent® 1100 HPLC with Quaternary Pump	
Samples:	<ol style="list-style-type: none"> 1. Thiamine 2. Pyridoxine 3. Pantothenic Acid 4. P-Aminobenzoic Acid 5. Riboflavin 	

Sample Preparation

Make:	1 mg/mL concentrations of each sample with water from the tablet matrix. For Riboflavin, add 1-2 drops of Ammonium Hydroxide to help dissolve
Mix:	50 µL of each sample into a mastermix
Load:	250 µL of mastermix into Verex Filter Vial 0.45 µm, NY AR0-F207-12
Inject:	3 µL final eluate onto HPLC-UV

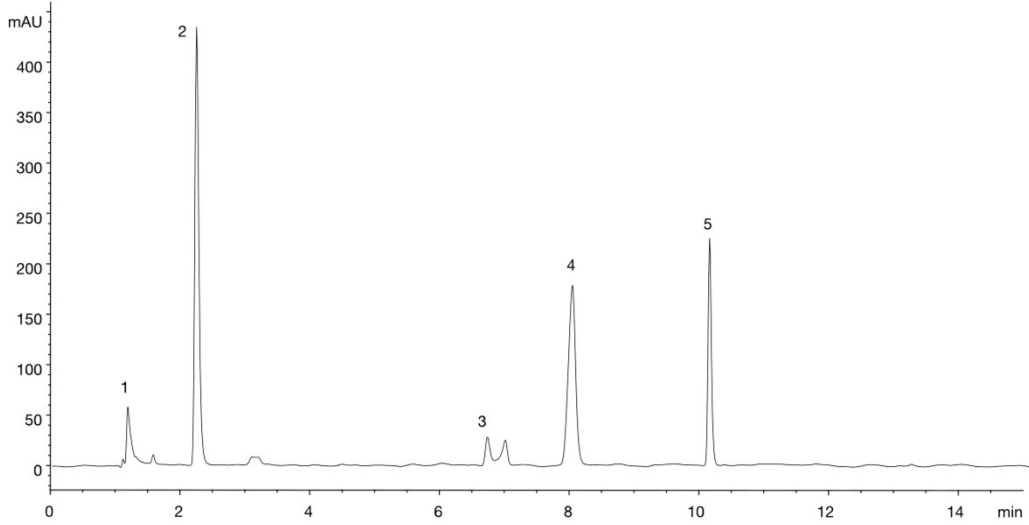


Unfiltered



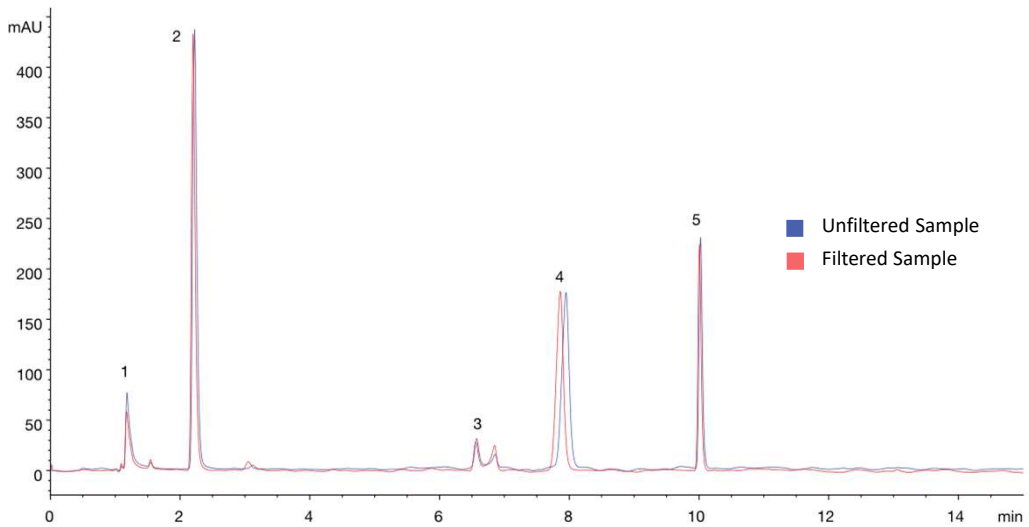
App ID 26459

Filtered



App ID 26459

Overlay



App ID 26459



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