HPLC Method for the Determination of Acetaminophen, Phenylephrine, and Ascorbic Acid on Primesep S2 Column

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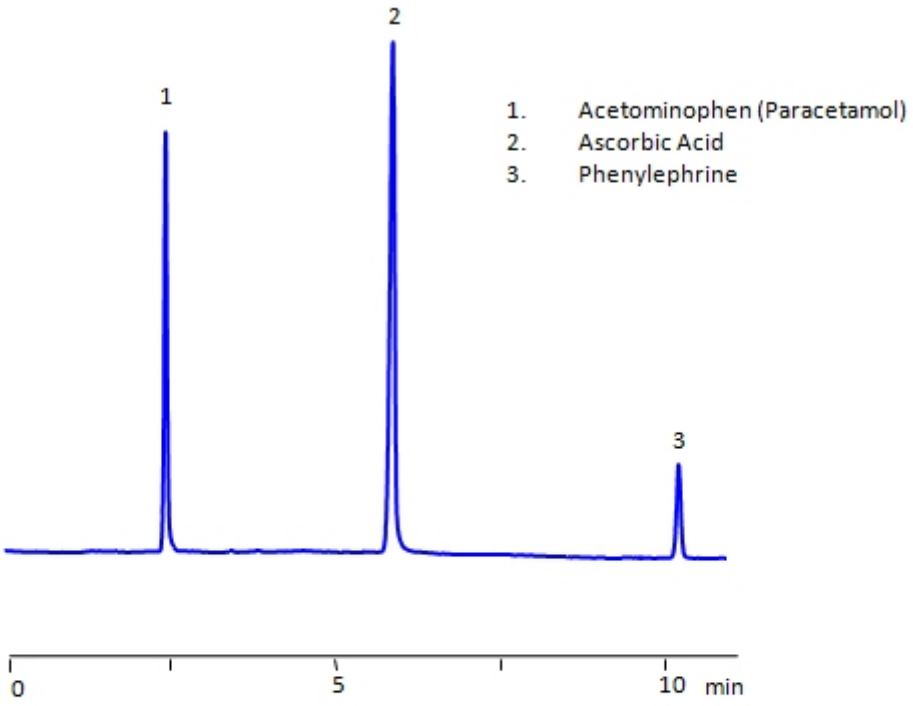
Chromatogram



Column:	Primesep S2
Column size:	4.6 × 150 mm, 5 µm
Column part number:	S2-46.150.0510
Mobile phase:	Gradient MeCN – 97 to 70%
Buffer:	Gradient AmFm pH 3.0 - 10 to 50 mM
Gradient Time:	10 minutes
Flow rate:	1.0 mL/min
Detection:	UV 270nm

Description

High Performance Liquid Chromatography (HPLC) Method for Analysis of Acetaminophen, Phenylephrine, and Ascorbic Acid

Acetaminophen (or paracetamol) is one of the most popular over-the-counter painkillers all over the world (in the US it is best known under the brand name Tylenol). Ascorbic acid (also known as Vitamin C) helps your body build up muscle, cartilage, and other important building blocks in your body. Phenylephrine is a common over-the-counter decongestant, but can also be used for pupil dilation and hemorrhoid treatment. While all of these compounds are available at your local pharmacy, Vitamin C intake can reduce the body's ability to break down acetaminophen.

You can find detailed UV spectra of Acetaminophen and information about its various lambda maxima by visiting the following link.

You can find detailed UV spectra of Ascorbic Acid and information about its various lambda maxima by visiting the following link.

All three of these compounds can be measured at low UV. Using a Primsep S normal phase column and a mobile phase consisting of water and acetonitrile (MeCN) with an Ammonium acetate (AmAc) buffer, these three compounds can be separated and UV detected at 270 nm. Varying the buffer concentration changes the order in which phenylephrine and ascorbic acid are retained. This method is compatible with Mass Spectrometry.

Method Parameters

Mobile Phase	Gradient MeCN – 97 to 70%
Buffer	Gradient Ammonium Formate pH 3.0 – 10 to 50 mM
Flow Rate	1.0 ml/min
Detection	UV 270 nm MS- compatible mobile phase
Class of Compounds	Drug, Acid
Analyzing Compounds	Acetaminophen (Paracetamol),Phenylephrine,Phenylephrine hydrochloride,Ascorbic Acid

HPLC Column Used

Primesep S2, 4.6 x 150 mm, 5 µm, 100 A, dual ended

Order this column at hplc-shop.de →