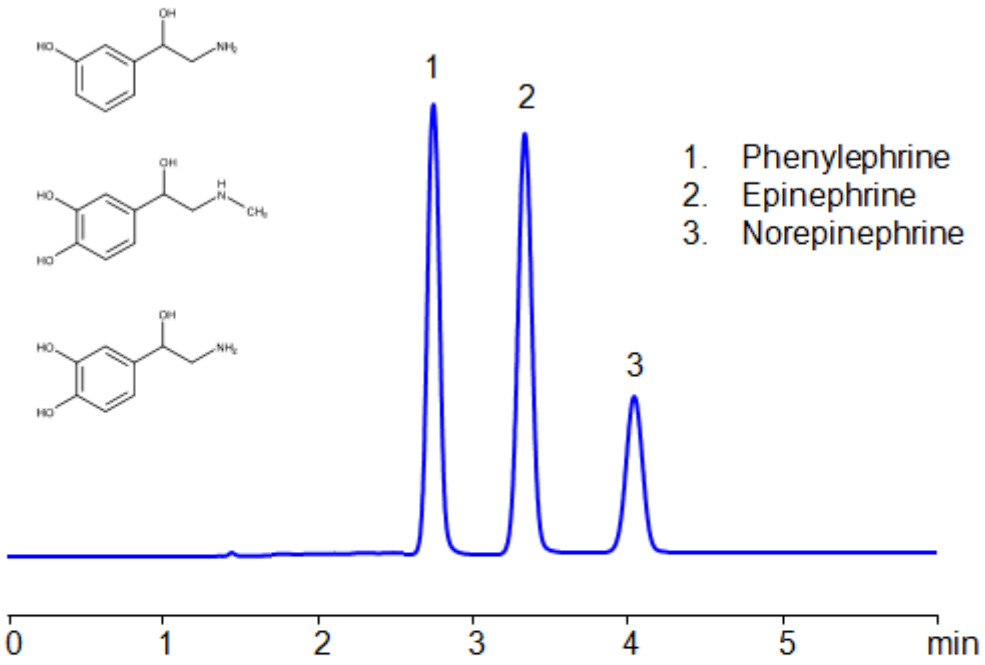
HPLC Method for Analysis of Neurotransmitters Phenylephrine, Epinephrine and Norepinephrine on BIST™B+ Column

https://sielc.com/hplc-method-for-analysis-of-neurotransmitters

Chromatogram



Column:	BIST™ B+
Size:	4.6 × 150mm, 5 µm
Column part number:	TBP-46.150.0510
Flow:	1.0 mL/min
Mobile phase:	MeCN – 80%
Buffer:	H_2SO_4 –0.2%
Detection:	UV 200 nm

Description

High Performance Liquid Chromatography (HPLC) Method for Analysis of Phenylephrine hydrochloride , Phenylephrine , Norphenylephrine , Epinephrine .

Epinephrine , also known as Adrenaline , is a hormone with the chemical formula C 9 H 13 NO 3 . Exercise is one of the main stimulants of epinephrine, but it is epinephrine which has an effect on contributing to stronger emotions and enhancing long-term memory. As a hormone, it is involved in regulating involuntary operations of nearly all internal organs. As a medication, it is used to treat allergic reaction anaphylaxis and cardiac arrest. When other treatments are not effective, it is occasionally used to treat asthma. The name, adrenaline, comes adrenal glands, from which it was extracted and purified. You can find detailed UV spectra of Epinephrine and information about its various lambda maxima by visiting the following link.

Norepinephrine , also known as noradrenaline and noradrenalin, is a catecholamine with the chemical formula C 8 H 11 N O 3 . It functions as a hormone, neurotransmitter, and neuromodulator responsible for improving alertness, focus, memory, and

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

Phenylephrine is a common over-the-counter decongestant, but can also be used for pupil dilation and hemorrhoid treatment. It's chemical formula is C 9 H 13 NO 2 . It is sold under many brand names including Mucinex, Sudafed PE, Sinex, and many other generic brands. While it is best known as a decongestant, it has a wide variety of other pharmaceutical applications, including pupil dilation, hypotension (low blood pressure) treatment, and hemorrhoid relief.

Using SIELC's newly introduced BIST™ method, these three similar neurotransmitters, which protonate in water, can be retained on a positively-charged anion-exchange BIST™ B+ column. There are two keys to this retention method: 1) a multi-charged, negative buffer, such as Sulfuric acid (H2SO4), which acts as a bridge, linking the positively-charged amine analytes to the positively-charged column surface and 2) a mobile phase consisting mostly of organic solvent to minimize the formation of a solvation layer around the charged analytes. Using this new and unique analysis method, Epinephrine, norepinephrine, and phenylephrine can be retained and UV detected at 200 nm.

Method Parameters

Mobile Phase	MeCN -80%
Buffer	H2SO4 – 0.2%
Flow Rate	1.0 ml/min
Detection	UV 200 nm
Class of Compounds	Drug, Neurotransmitter, Catecholamine
Analyzing Compounds	Phenylephrine hydrochloride,Phenylephrine,Norphenylephrine,Epinephrine

HPLC Column Used

BIST B+

Order this column at hplc-shop.de →