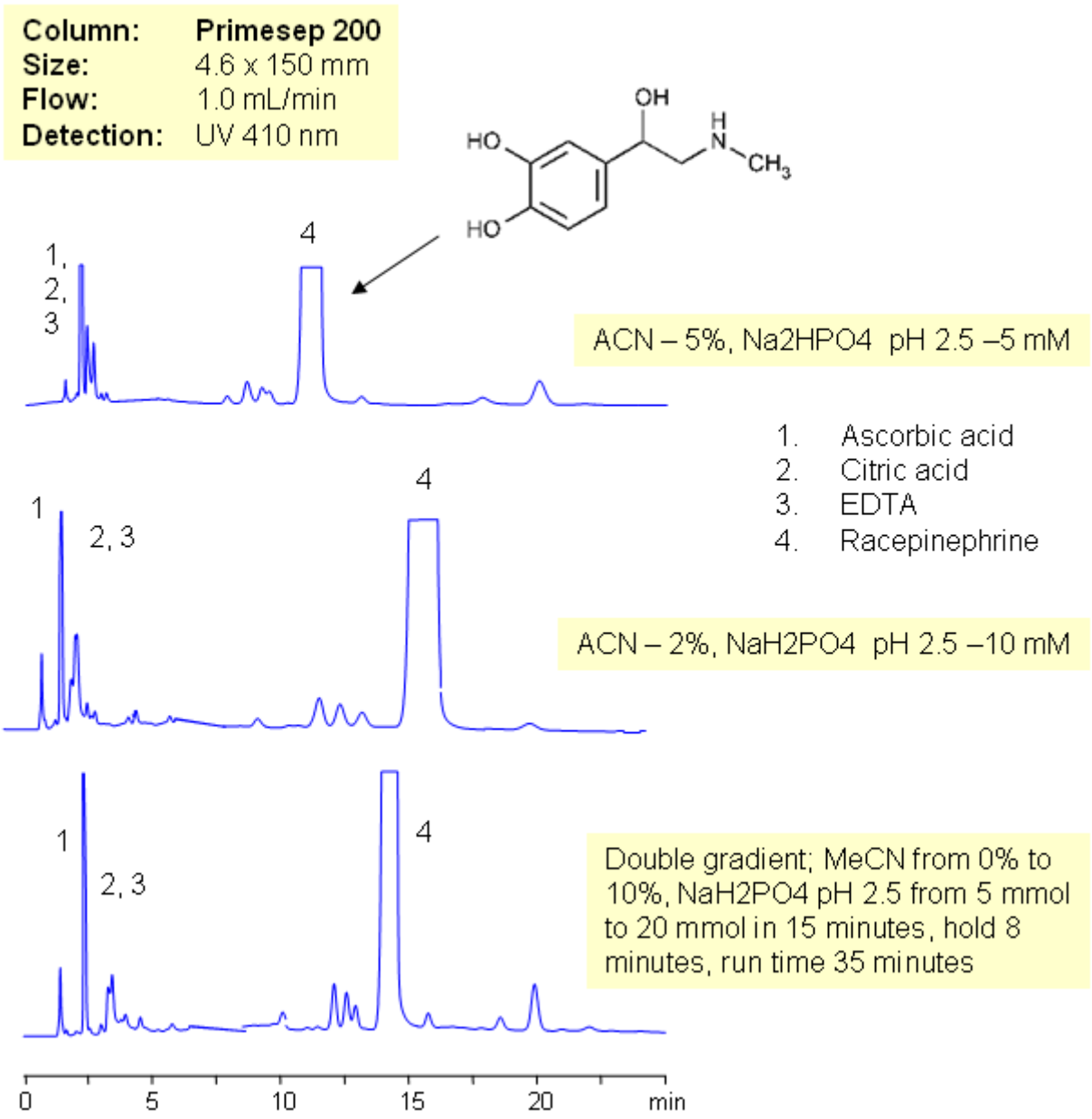
HPLC Separation of Epinephrine and Related Impurities

https://sielc.com/Application-HPLC-Separation-of-Epinephrine-and-Related-Impurities

Chromatogram



Description

Epinephrine (also referred to as adrenaline) is a hormone and neurotransmitter. It is a catecholamine, a sympathomimetic monoamine derived from the amino acids phenylalanine and tyrosine. Epinephrine is polar basic compounds and it is retained on mixed-mode cation exchange columns without ion-pairing reagent. Epinephrine is retained by weak reversed phase and strong cation-exchange mechanisms. Formulations for epinephrine might have citric and ascorbic acid and EDTA. These three compounds are not retained by cation-exchange or reversed-phase mechanisms and elute in the void. Current HPLC method can be used for quantitation of epinephrine and recepinephrine (recemate) in various compositions. Epinephrine and related impurity can be monitored by UV, ELCD/MS, ELSD or Corona CAD. Corresponding buffer is required for each detection technique.

Method Parameters

Mobile Phase	MeCN/H2O
Buffer	NaH2PO4
Flow Rate	1.0 ml/min
Detection	410
Class of Compounds	Ions, Hydrophilic, Ionizable
Analyzing Compounds	Ascorbic acid, Citric acid, EDTA, Racepinephrine

HPLC Column Used

Primesep 200, 4.6×150 mm, 5 µm, 100A

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