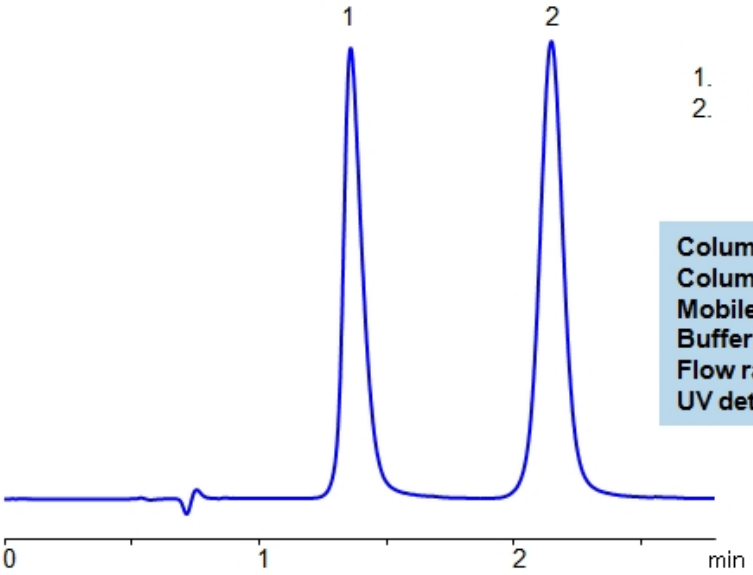
HPLC Separation of Isomers of Amino Salicylic Acid



1. 5-aminosalicylic acid
2. 4-aminosalicylic acid

Column:	Newcrom A
Column size:	3.2 × 50 mm, 5 µm
Mobile phase:	MeCN/H2O - 20/80%
Buffer:	H3PO4 - 0.5%
Flow rate:	0.5 mL/min
UV detection:	275 nm

4-Aminosalicylic acid (PAS) is an antibiotic used in treatment of tuberculosis. It is a polar amino acid with limited retention on traditional C18 (reversed-phase) columns. Other isomers of aminosalicylic acid exist, but the main impurity in PAS is 5-Aminosalicylic acid, which also serves as anti-inflammatory drug. Both compounds are isomers with similar empirical structure and properties. These two isomers were separated on a Primesep 100 column with UV, ELSD and LC/MS compatible mobile phase. Method can be used a generic approach for separation of isomers of basic and zwitter ionic compounds. Isomers are retained and separated based on reversed-phase and cation-exchange properties. Retention time is controlled by the amount of acetonitrile, buffer concentration and buffer pH. Buffer pH is affecting ionization of these two compounds and thus serves as a powerful tool to adjust selectivity of separation.

The Newcrom columns are a family of reverse-phase-based columns. Newcrom A , AH , B , and BH are all mixed-mode columns with either positive or negative ion-pairing groups attached to either short (25 Å) or long (100 Å) ligand chains. Newcrom R1 is a special reverse-phase column with low silanol activity.

Method Parameters

Column	Newcrom A, 4.6×150 mm, 5 µm, 100 Å
Mobile Phase	MeCN/H2O – 50/50%
Buffer	AmFm pH 3.0- 40 mM
Flow Rate	1.0 mL/min
Detection	UV 256 nm, MS-compatible mobile phase

Quelle: https://sielc.com/Application-HPLC-Separation-of-Isomers-of-Amino-Salicylic-Acid

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