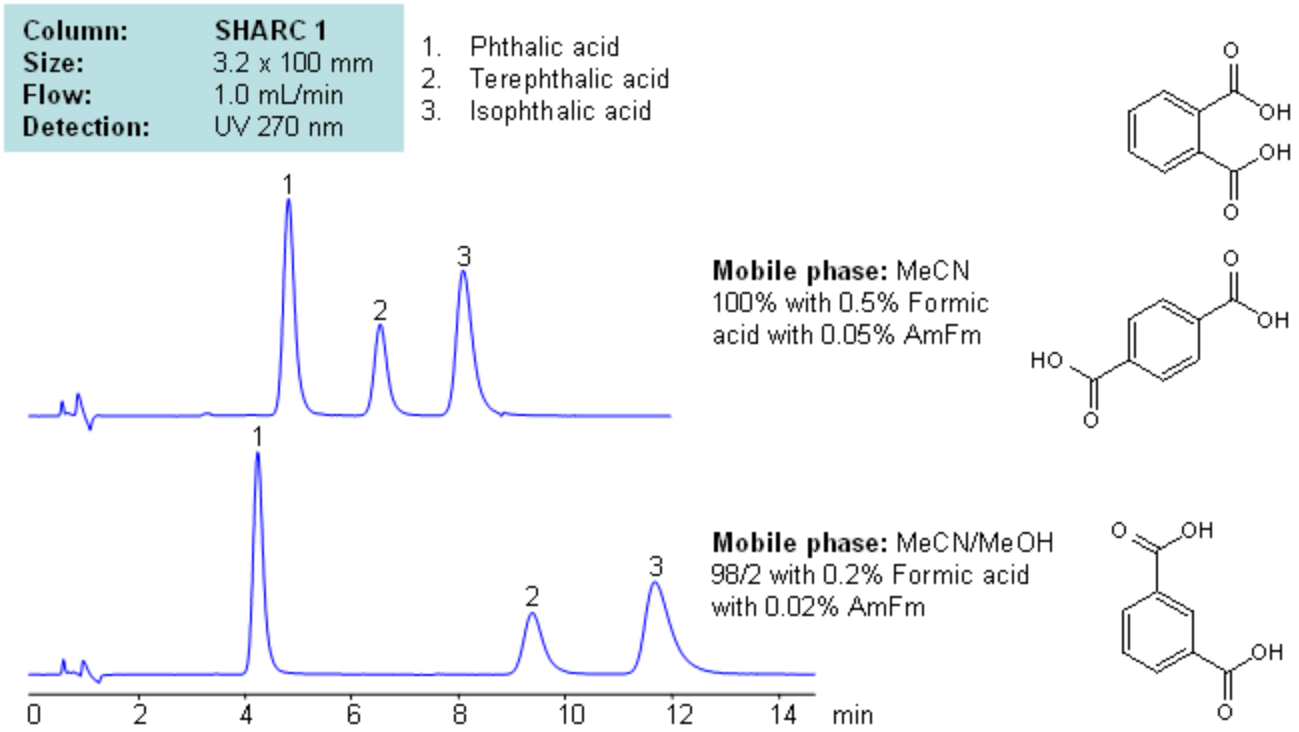
HPLC Separation of Phthalic Acids using Hydrogen Bonding

https://sielc.com/The_Separation_of_Phthalic_Acids_using_Hydrogen_Bonding

Chromatogram



Description

Phthalic acid, isophthalic acid and terephthalic acid are all isomers of each other. Being structurally similar, they can present difficulties to reverse-phase HPLC separation. Methods that require high organic concentrations in the mobile phase can cause dewetting in many reverse-phase columns. SHARC 1 column can be operated in anhydrous conditions and uses hydrogen bonding as the mechanism of separation. Here, phthalic acids were separated in pure acetonitrile (ACN), with the ability to adjust retention times by adding methanol (MeOH) to the mobile phase with formic acid and ammonium formate as buffer, making the method MS-compatible. Can also be UV detected at 270nm.

Method Parameters

Mobile Phase	MeCN/MeOH
Buffer	AmFm, Formic acid
Flow Rate	1.0 ml/min
Detection	UV, 270 nm
Class of Compounds	Drug, Acid, Hydrophilic, Ionizable, Vitamin, Supplements
Analyzing Compounds	Phthalic acid, Terephthalic acid, Isophthalic acid

HPLC Column Used

Sharc 1, 3.2×100 mm, 5 µm, 100A

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