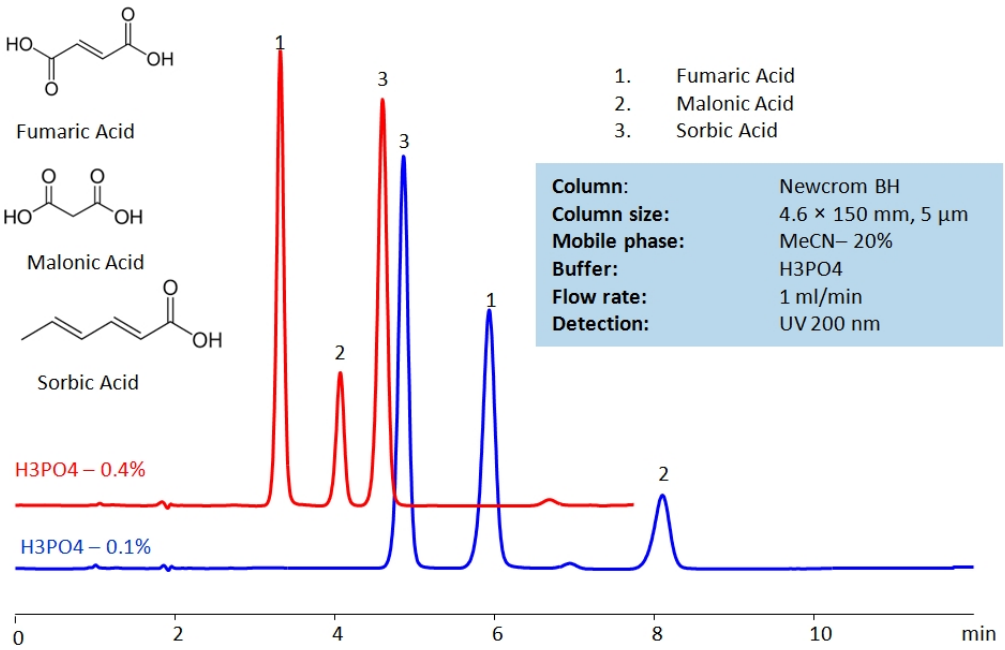
HPLC Separation of Sorbic, Fumaric, Malonic Acids on Newcrom BH Column



High Performance Liquid Chromatography (HPLC) Method for Analysis of Sorbic acid , Fumaric Acid , Malonic Acid .

Sorbic acid is used as a preservative in food, drinks, and cosmetics. It works through inhibiting the growth of molds, yeasts, and some bacteria. While it is considered safe, studies have connected it to hyperactivity in children when mixed with other additives. It has the chemical formula C6H8O2 .

Fumaric Acid , also known as trans-butenedioic acid, is an organic compound with C4H4O4chemical formula. It is used across food, industrial, and medical industries. In food, is it often used as a preservative, pH regulator, and flavoring akin to citric acid. Industrially, it is used in making polyester resins, polyhydric alcohols, and more. Medically, it is used in denture cleaners and it's derivatives are used in treating psoriasis.

Malonic Acid is an organic acid with the C3H4O4chemical formula. It has a variety of uses from synthesis to preservatives. When it comes to synthesis, it is often used in industrial means. and especially dyes for natural fibers. Besides industrial use, in laboratory environments, it is used in preparation of tris-maleate, sodium maleate buffers, and maleate salts.

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

Acids with different strengths can be retained and elution order controlled by the use of a mixed-mode column, which has an ion-exchange component in addition to hydrophobic retention. In this example, the Newcrom BH mixed-mode column was used to separate fumaric, malonic and sorbic acids in HPLC. Sorbic acid was mostly retained by hydrophobicity, while fumaric and malonic acids were also retained by

the adjustment strength of the mobile phase

Method Parameters

Column	Newcrom BH, 4.6 x 150 mm, 5 µm, 100 Å, dual ended
Mobile Phase	MeCN/H2O – 20/80%
Buffer	H3PO4
Flow Rate	1.0 mL/min
Detection	UV 200 nm

Quelle: https://sielc.com/hplc-separation-of-sorbic-fumaric-malonic-acids-on-newcrom-bh-column