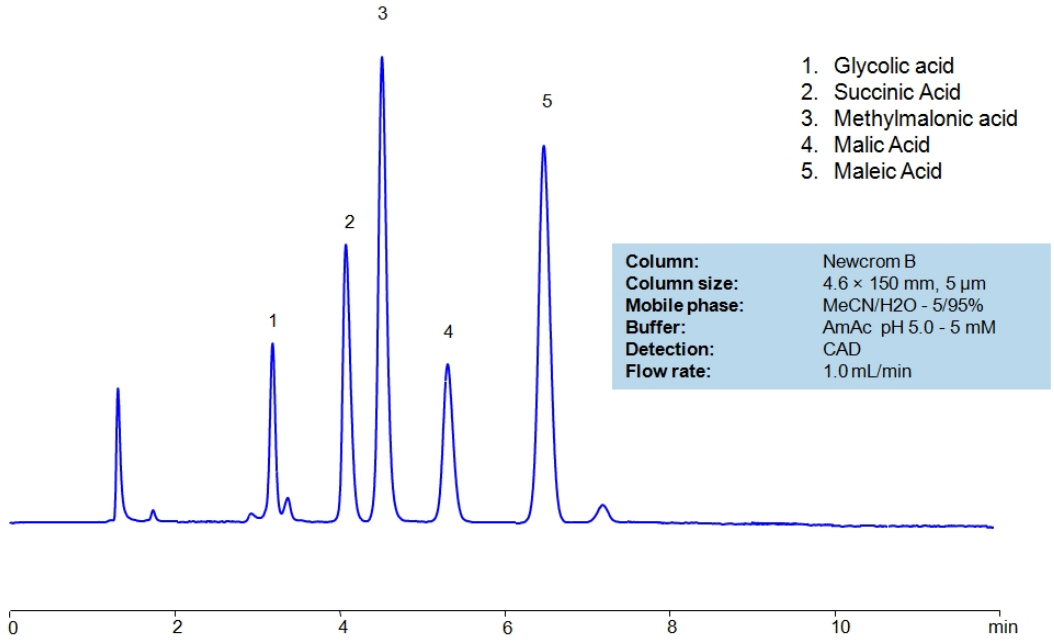
HPLC Separation of Small Organic Acids on Newcrom B Column



High Performance Liquid Chromatography (HPLC) Method for Analysis of Glycolic acid , Malic Acid , Maleic Acid , Methylmalonic Acid , Succinic Acid , Tartaric Acid , dl-Tartaric acid , Fumaric Acid , Citric Acid , Malonic Acid , Gluconic acid .

Gluconic Acid is an organic acid with the chemical formula $C_6H_{12}O_7$. It is naturally found in fruits. Industrially, it is found in honey that is produced by fermenting starch. Typically, it is used in food, beverage, cosmetic, and skin care industries.

Malic Acid is an alpha hydroxy acid with the chemical formula $C_4H_6O_5$. It is most commonly found in fruits and wines. It is sour, which is partially why it is often used as a food additive. Besides food, it is also used in skin-care as an exfoliant.

Citric Acid is a naturally occurring organic acid found in citrus fruits; it is also an intermediate in the citric acid cycle of aerobic organisms. It is used industrially as an acidity regulator, flavoring, detergent, and more than 2 million tons are produced annually. It's chemical formula is $C_6H_8O_7$.

Tartaric Acid is an organic acid with the chemical formula $C_4H_6O_6$. It is found in fruits like grapes and tamarinds and is a vital component of wine. It is also used in metal cleaning, as an antioxidant, and as an acidulant.

Malonic Acid is an organic compound with the chemical formula $C_3H_4O_4$. It is also known as cis-butenedioic acid. It is a trans counterpart of fumaric acid. It has a variety of uses from dyeing natural fibers to oil and fat preservative, to synthesis of hydrogels.

Fumaric Acid , also known as trans-butenedioic acid, is an organic compound with $C_4H_4O_4$chemical 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.

Glycolic acid , Malic Acid , Maleic Acid , Methylmalonic Acid , Succinic Acid , Tartaric Acid , dl-Tartaric acid , Fumaric Acid , Citric Acid , Malonic Acid , Gluconic acid can be retained and analyzed using the Newcrom B stationary phase column. The analysis utilizes an isocratic method with a simple mobile phase consisting of water and acetonitrile (MeCN). Detection is performed using CAD.

Method Parameters

Column	Newcrom B, 4.6 x 150 mm, 5 µm, 100 Å, dual ended
Mobile Phase	MeCN/H2O – 5/95%
Buffer	AmAc pH 5.0, Formic Acid
Flow Rate	1.0 mL/min
Detection	CAD (Corona) MS- compatible mobile phase

Quelle: https://sielc.com/hplc-separation-of-small-organic-acids