HPLC Method for Analysis of Aconitic Acid on BIST A+

Separation type: Bridge Ion Separation Technology, or BIST™ by SIELC Technologies

Aconitic acid is a popular compound used to artificial create nutty flavors in foods. It is also a common intermediate in the Kreb's cycle when Citrate is changed into D-isocitrate. Using SIELC's newly introduced BIST™ method, Aconitic acidcan be retained easily on a negatively-charged, cation-exchange BIST™ A column. There are two keys to this retention method: 1) a multi-charged, positive buffer, such as N,N,N',N'-Tetramethyl-1,3-propanediamine (TMDAP), which acts as a bridge, linking the negatively-charged anion analytes to the negatively-charged column surface and 2) a mobile phase consisting mostly of organic solvent (such as MeCN) to minimize the formation of a solvation layer around the charged analytes. Other positively-charged buffers that can generate BIST™ include DMP, Calcium acetate, and Magnesium acetate. Using this new and unique analysis method, Aconitic acid can be retained with high selectivity and great peak shape. This method can be detected and is compatible with ELSD, CAD, and Mass Spectrometry (LC-MS).

Method Parameters

Mobile Phase	MeCN – 50/50%
Buffer	TMDAP formate pH 5.0 – 5,0 mM
Flow Rate	0.5 mL/min
Detection	MS, ESI-, m/z = 173

Quelle: https://sielc.com/hplc-method-for-analysis-of-aconitic-acid

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