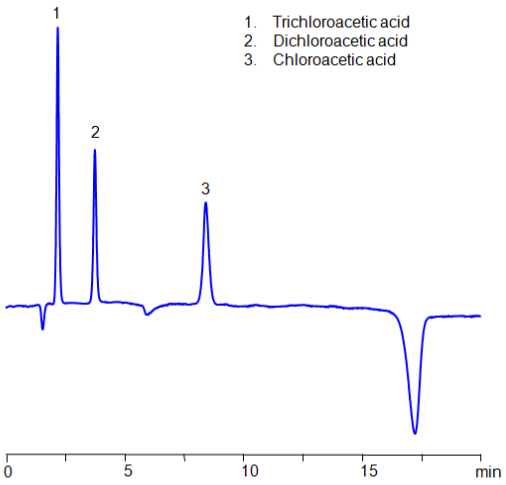
HPLC Method for Analysis of Chloroacetic acid, Dichloroacetic acid and Trichloroacetic acid on BIST™ A+ Column



Column:	BIST™ A +
Column size:	2.1 × 100 mm, 3 µm
Column part number:	TAP-21.100.0310
Mobile phase:	MeCN - 90%
Buffer:	TMDAP formate – 5 mM pH 4.0
Flow rate:	0.4 mL/min
Detection:	Conductivity

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

High Performance Liquid Chromatography (HPLC) Method for Analysis of Chloroacetic acid, Dichloroacetic acid and Trichloroacetic acid

Chloroacetic acid is a popular building block in organic syntheses. Dichloroacetic acid and Trichloroacetic acid are frequently used in cosmetic treatments to remove tattos and in chemical peels, as well as topical medication for the ablation of warts. Using SIELC's newly introduced BIST™ method, a mixture of these three aicds can be separated on a negatively-charged, cation-exchange BIST™ A+ column, contrary to conventional chromatographic wisdom. 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 Calcium acetate and Magnesium acetate. Using this new and unique analysis method, these anions can be separated, retained, and detected with a Conductivity Detector.

Method Parameters

Mobile Phase	MeCN – 90%
Buffer	TMDAP (N,N,N',N'-Tetramethyl-1,3-diaminopropane) formate – 5 mM pH 4.0
Flow Rate	0.4 mL/min
Detection	Conductivity

Quelle: https://sielc.com/hplc-method-for-analysis-of-chloroacetic-acid-dichloroacetic-acid-and-trichloroacetic-acid