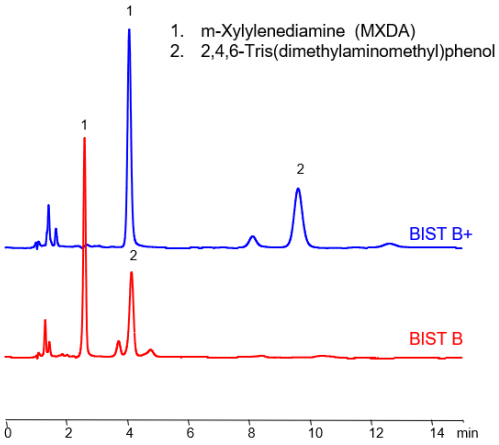
HPLC Method for Separation of Amines on BIST B and BIST B+ Columns



Column:	BIST B , BIST B+
Column size:	3.2 × 100 mm, 5 µm
Column part number:	TBP-32.100.0510
Mobile phase:	MeCN – 70%
Buffer:	H_2SO_4 - 0.2%
Flow rate:	0.5 mL/min
Detection:	UV 210 nm

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

m-Xylylenediamine (MXDA) is a popular curing agent used on epoxy resins. 2,4,6-Tris(dimethylaminomethyl)phenol is another amine-based curing agent used on epoxy resins. Using SIELC's newly introduced BIST™ method, these amines can be retained and separated on a positively charged, anion-exchange BIST™ B or BIST™ B+ column. The surface chemistry of BIST™ B+ columns are designed to have stronger ionic retention capabilities, resulting in the marked increase in retention compared to BIST™ B columns.

There are two keys to this retention method: 1) a multi-charged, negative buffer, such as Sulfuric acid (H2SO4), which acts as a bridge, linking the positively charged dipeptide to the positively 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. Using this new and unique analysis method, these two amines can be UV detected at 210 nm.

Method Parameters

Column	BIST B, 3.2 x 100 mm, 5 µm, 100 Å, dual ended
Mobile Phase	MeCN – 70%
Buffer	H2SO4 – 0.2%
Flow Rate	0.5 mL/min
Detection	UV 210 nm

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