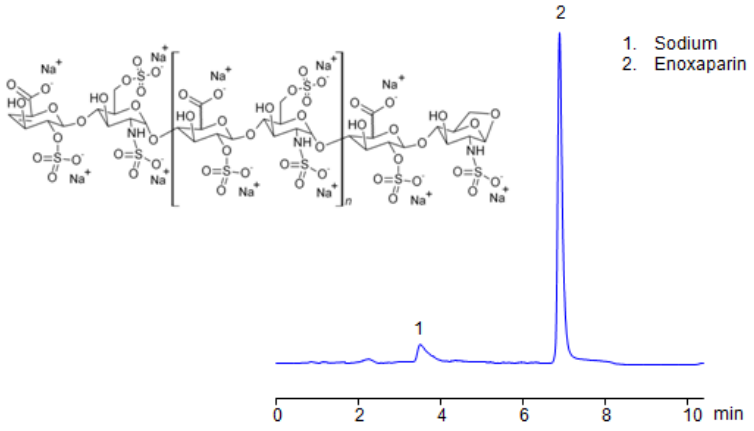
HPLC Method for Analysis of Enoxaparin on BIST™ A Column



Column:	BIST™ A
Column Size:	4.6 × 150 mm, 5 µm
Column part number:	TA 46.150.0510
Mobile phase:	A: 60% MeCN with 10 mM N,N'-Dimethylpiperazine acetate pH 4.0 B: 10% MeCN with 10 mM N,N'-Dimethylpiperazine acetate pH 4.0
Gradient:	100% A for 5 min then 100% B for 7 min
Flow rate:	1.0 mL/min
Detection:	ELSD, temperature 70°C

Separation type: Bridge Ion Separation Technology, or BIST™

BIST Ionic Modifier Preparation

High Performance Liquid Chromatography (HPLC) Method for Analysis of Enoxaparin

Enoxaparin sodium is a popular anticoagulant used to treat deep vein thrombosis, pulmonary embolisms, and heart attacks. Using SIELC's newly introduced BIST™ method, Enoxaparin sodium, which ionizes in water, can be retained 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'-Dimethylpiperazine (DMP), which acts as a bridge, linking the negatively-charged Enoxaparin 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. With a fairly simple 2-stage gradient, Enoxaparin and sodium can be separated and retained on a BIST™ A column. The gradient is necessary because of the extremely strong retention in BIST. Mobile Phase A, with its high-organic concentration, induces the initial Enoxaparin retention. But an isocratic MP with just MP A would result in extremely long retention times. By introducing a low-organic mobile phase, the solvation layer increases, reducing BIST interactions and the analyte is able to elute in an appropriate amount of time. This method is compatible with mass spectrometry (MS), evaporative light scattering detection (ELSD), charged aerosol detection (CAD).

Method Parameters

Mobile Phase	Gradient MeCN
Buffer	N,N'-Dimethylpiperazine acetate pH 4.0
Flow Rate	1.0 mL/min
Detection	ELSD, 70C

Quelle: https://sielc.com/hplc-method-for-analysis-of-enoxaparin-on-bist-a-column