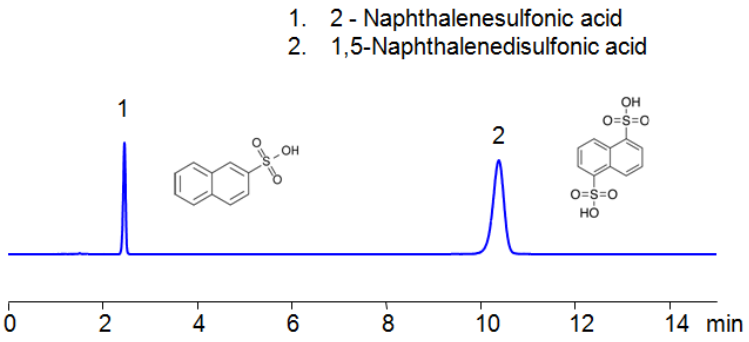
HPLC Method for Analysis of 2 – Naphthalenesulfonic acid and 1,5 -Naphthalenedisulfonic acid on BIST A Column



Column:	BIST™A
Column size:	4.6 × 150 mm, 5 µm
Column part number:	TA-46. 150.0510
Mobile phase:	MeCN/H_2O - 80/20%
Buffer:	TMDAP formate pH 4.0 - 5 mM
Flow rate:	1.0 mL/min
Detection:	270 nm

2-Naphthalenesulfonic acid and 1,5-Naphthalenedisulfonic acid , also known as Armstrong's acid, are two similarly-structured compounds. 2-Naphthalenesulfonic acid is commonly used in dye production and 1,5-Naphthalenedisulfonic acid is used in synthesizing the salts of basic drugs and in electrokinetic chromatography.

2-Naphthalenesulfonic Acid is an organic compound with the formula C10H7SO3H . It is used primarily in the production of dyes, but has also historically been industrially used for a it's various chemical reactions.

1,5-Naphthalenedisulfonic acid is a strong organic acid with a double charge. It has the chemical formula C10H8S2O6 .

Using SIELC's newly introduced BIST™ method, these two acids can be retained on a negatively-charged, cation-exchange BIST A . 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 tartrazine analytes to the negatively-charged column surface and 2) a mobile phase consisting mostly of organic solvent to minimize the formation of a solvation layer around the charged analytes. Using this new and unique analysis method, 2-Naphthalenesulfonic acid and 1,5-Naphthalenedisulfonic acid can be retained and UV detected at 270 nm.

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Method Parameters

Column	BIST A, 4.6 x 150 mm, 5 µm, 100 Å, dual ended
Mobile Phase	MeCN – 80/20%
Buffer	TMDAP formate pH 4.0 – 5,0 mM
Flow Rate	1.0 mL/min
Detection	270 nm

Quelle: https://sielc.com/hplc-determination-of-nds