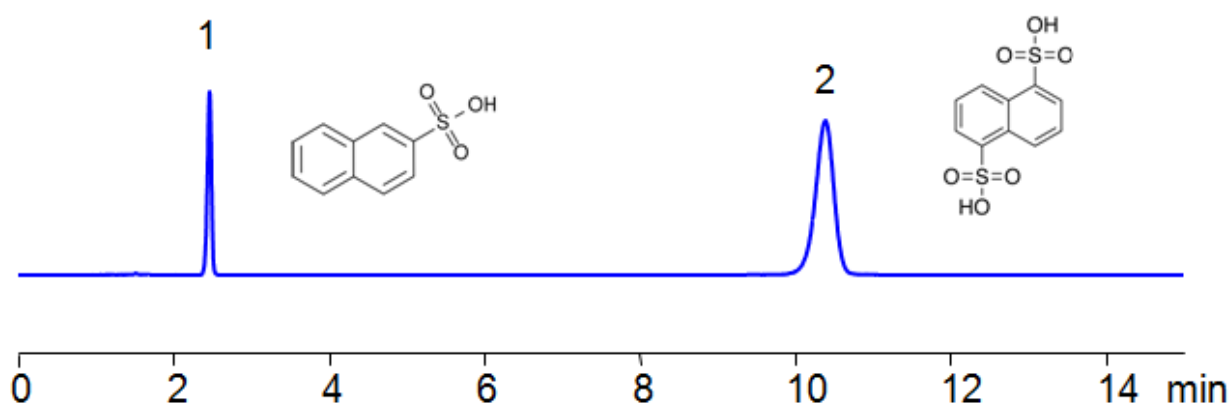


HPLC Method for Analysis of 2 - Naphthalenesulfonic acid and 1,5-Naphthalenedisulfonic acid on BIST A Column

<https://sielc.com/hplc-determination-of-nds>

Chromatogram

1. 2 - Naphthalenesulfonic acid
2. 1,5-Naphthalenedisulfonic acid



| | |
|----------------------------|--------------------------------|
| Column: | BIST TM A |
| Column size: | 4.6 × 150 mm, 5 μm |
| Column part number: | TA-46. 150.0510 |
| Mobile phase: | MeCN/H ₂ O - 80/20% |
| Buffer: | TMDAP formate pH 4.0 - 5 mM |
| Flow rate: | 1.0 mL/min |
| Detection: | 270 nm |

Description

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 its 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 BISTTM 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.

Method Parameters

| | |
|----------------------------|--|
| Mobile Phase | MeCN – 80/20% |
| Buffer | TMDAP formate pH 4.0 – 5,0 mM |
| Flow Rate | 1.0 ml/min |
| Detection | 270 nm |
| Class of Compounds | Acid, Sulfonic acid |
| Analyzing Compounds | 2-Naphthalenesulfonic Acid, 1,5-Naphthalenedisulfonic Acid |

HPLC Column Used

BIST A, 4.6 x 150 mm, 5 µm, 100 A, dual ended

[Order this column at hplc-shop.de →](http://hplc-shop.de)