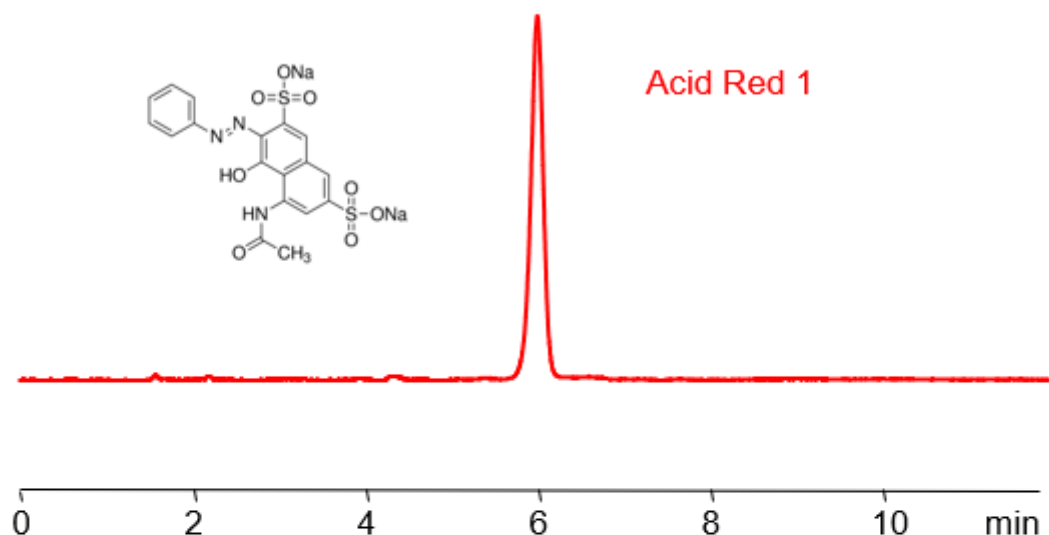


HPLC Method for Analysis of Acid Red 1 on BIST A Column

<https://sielc.com/hplc-determination-of-acid-red-1-2>

Chromatogram



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:	VIS 535 nm

Description

Acid Red 1, also known as Red 2G, is a popular red synthetic dye used in a wide variety of food products with the chemical formula C₁₈H₁₃N₃Na₂O₈S₂. It is banned for food use in Australia, Canada, Japan, Norway, Malaysia, and Israel due to being a potential carcinogen. In certain European countries, it is heavily restricted. Outside of use, it is used in inks and in histology. You can find detailed UV spectra of C.I. Acid Red 1 and information about its various lambda maxima by visiting the following link.

Using SIELC's newly introduced BISTTM method, C.I. Acid Red 1, 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,N',N'-Tetramethyl-1,3-propanediamine (TMDAP), which acts as a bridge, linking the negatively-charged Acid Red 1 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. The effect of reducing the solvation layer by

increasing the organic component concentration in the mobile phase can be clearly seen above. Using this new and unique analysis method, Acid Red 1 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	Vis 535 nm
Class of Compounds	Acid, Dye
Analyzing Compounds	C.I. Acid Red 1

HPLC Column Used

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

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