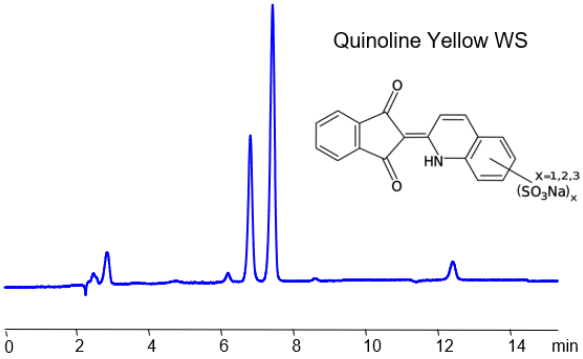
HPLC Method for Analysis of Quinoline Yellow WS on BIST A+ Column by SIELC Technologies



Column:	BIST A +
Column size:	4.6 × 150 mm, 5 µm
Column part number:	TAP-46.150.0510
Mobile phase:	Gradient MeCN - 80-60%, 15 min
Buffer:	TMDAP formate – 5 mM pH 4.0
Flow rate:	1.0 mL/min
Detection:	Vis 412, 435 nm
Injection volume:	5 µL
Sample:	0.4 mg/ml Quinoline Yellow WS

Quinoline Yellow WS (E104 , D&C Yellow 10) is a mixture of 3 different derivatives of Quinoline Yellow SS, consisting of monosulfonates, disulfonates, and trisulfonates. The dye is typically neon-yellow (yellow with a hint of green). It has the chemical formula C18H13NO5/8/11 S1/2/3 Na1/2/3 . The “WS” in it’s title stands in for “water-soluble.” It is used in foods, decorations, and coatings.

Using SIELC’s newly introduced BIST™ method, Quinoline Yellow WS can be retained and separated into its component compounds easily 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 anion 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. Other positively-charged buffers that can generate BIST™ include DMP, Calcium acetate, and Magnesium acetate. Using this new and unique analysis method, [comounds] can be retained and separated with high selectivity and great peak shape. This method can be detected and is compatible with ELSD, CAD, and Mass Spectrometry (LC-MS).

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Method Parameters

Column	BIST A+, 4.6 x 150 mm, 5 µm, 100 Å, dual ended
Mobile Phase	Gr MeCN – 80-60%, 15 min
Buffer	TMDAP formate – 5 mM pH 4.0
Flow Rate	1.0 mL/min
Detection	VIS412nm

Quelle: https://sielc.com/hplc-method-for-determination-of-quinoline-yellow-ws