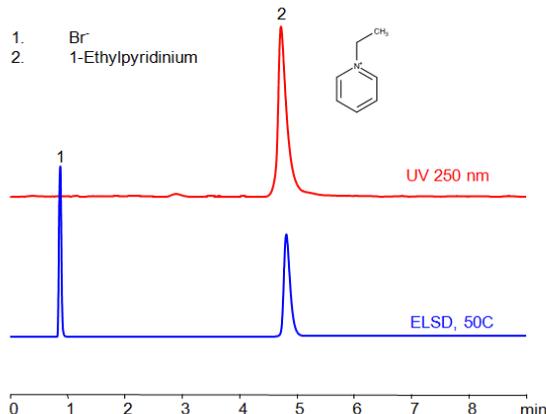


## HPLC Method for Analysis of 1-Ethylpyridinium Bromide on Newcrom AH Column



<b>Column:</b>	Newcrom AH
<b>Column size:</b>	4.6 × 100 mm, 5 µm, 100A
<b>Column part number:</b>	NAH-46.100.0510
<b>Mobile phase:</b>	MeCN – 50%
<b>Buffer:</b>	AmFm pH 3.0 – 10 mM
<b>Flow rate:</b>	1.0 mL/min
<b>Detection:</b>	ELSD, 50C, UV 250 nm

Separation type: Liquid Chromatography Mixed-mode

1-Ethylpyridinium bromide is a type of ionic liquid. An ionic liquid is a salt where the ions are poorly coordinated, resulting in these solvents being liquid below 100°C, or even at room temperature (ambient temperature). At least one ion will have a delocalized charge and one component will be organic, which prevents the formation of a stable crystal lattice.

In 1-ethylpyridinium bromide, the cation is an ethylpyridinium ion, a pyridine ring (an aromatic six-membered ring with five carbon atoms and one nitrogen atom) with an ethyl group (a two-carbon alkyl chain) attached. The anion is chloride (Cl<sup>-</sup>).

Ionic liquids, including 1-ethylpyridinium chloride, have a wide range of applications, such as in electrochemistry, catalysis, and as solvents for a variety of chemical reactions. Their properties, including melting point, viscosity, and solvation potential, can be modified by selecting different cations and anions, which gives them great versatility.

The 1-Ethylpyridinium bromide can be retained, analyzed, on a Newcrom AH column using an isocratic analytical method with a simple mobile phase of water, Acetonitrile (MeCN), and an Ammonium formate (AmFm) ionic modifier. This analysis method can be detected with an Evaporative Light Scattering Detector (ELSD) or any other evaporative detection method (CAD, ESI-MS).

LOD was determined for this combination of instrument, method, and analyte, and it can vary from one laboratory to another even when the same general type of analysis is being performed.

## Method Parameters

<b>Column</b>	Newcrom AH, 4.6 x 100 mm, 5 µm, 100 Å, dual ended
<b>Mobile Phase</b>	MeCN/H <sub>2</sub> O – 50/50%
<b>Buffer</b>	AmFm pH 3.0- 10 mM
<b>Flow Rate</b>	1.0 mL/min
<b>Detection</b>	ELSD, the nebulizer and evaporator temperatures 50 °C, with a gas flow rate of 1.6 Standard Liters per Minute (SLM) (MS- compatible mobile phase)
<b>Limit of Detection</b>	UV- 30 ppb, ELSD – 70 ppb
<b>Injection Volume</b>	1 µl

Quelle: <https://sielc.com/hplc-method-of-ethylpyridinium>