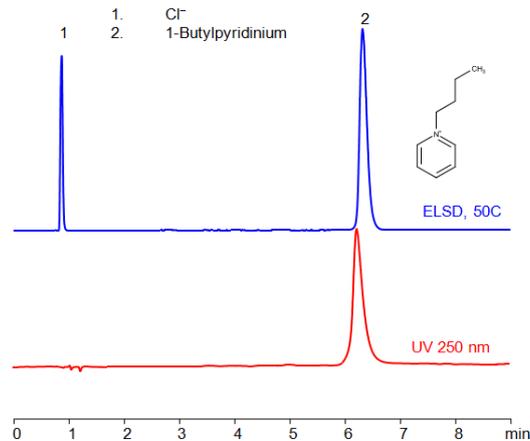


## HPLC Method for Analysis of 1-Butylpyridinium Chloride on Newcrom AH Column



<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-Butylpyridinium chloride is a type of ionic liquid. An ionic liquid is a salt in which the ions are poorly coordinated, and at least one ion has a delocalized charge. One component is organic, which prevents the formation of a stable crystal lattice, so these substances are often liquid at room temperature.

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

Ionic liquids, including 1-Butylpyridinium chloride, have various applications in fields such as electrochemistry, catalysis, and as solvents for a variety of chemical reactions. Their properties, like their melting point, viscosity, and solvation potential, can be adjusted by choosing different cations and anions, which makes them very versatile.

The 1-Butylpyridinium chloride 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-butylpyridinium>