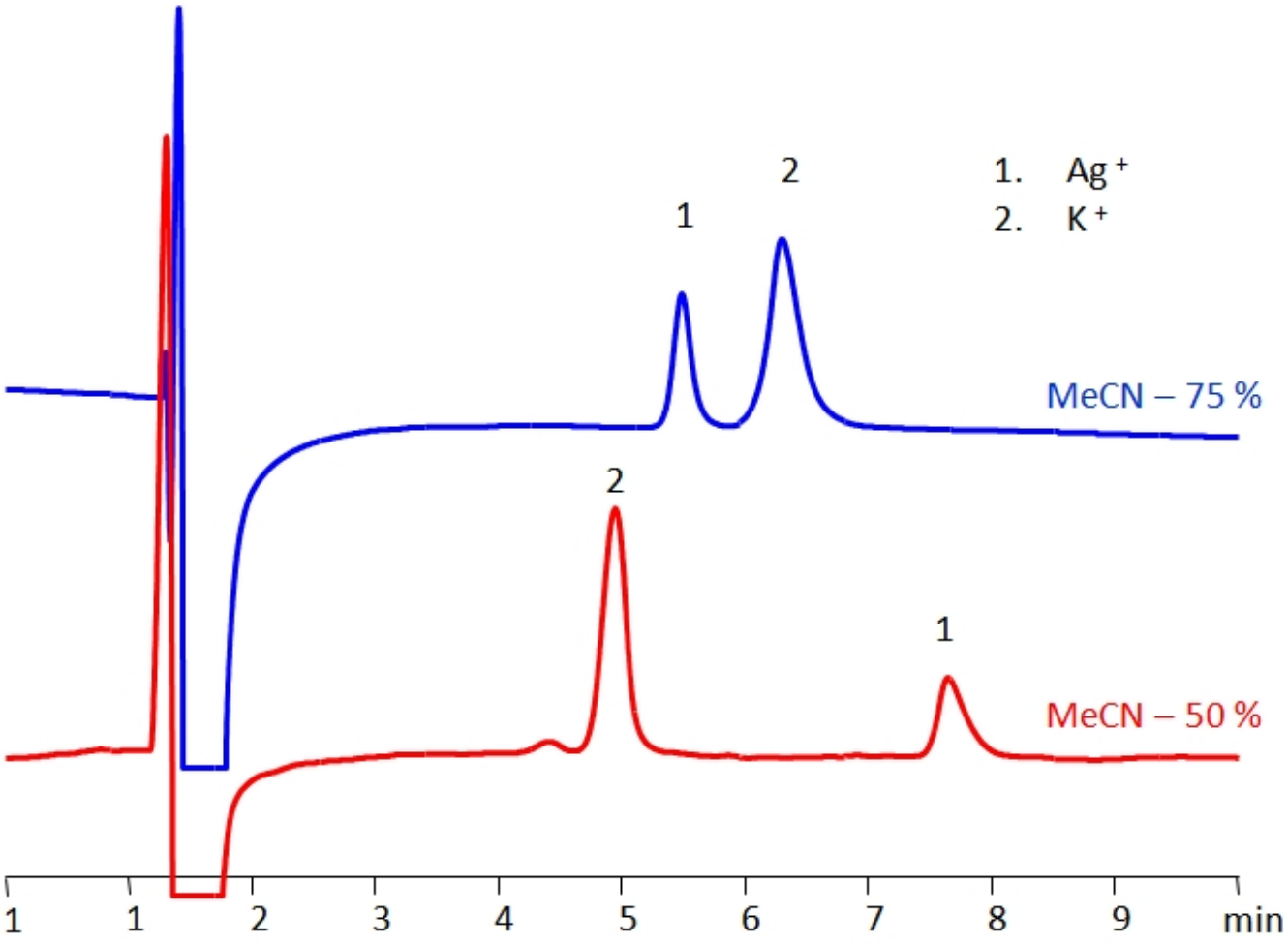
Separation of Silver and Potassium Ions on Newcrom AH Column

https://sielc.com/separation-of-silver-and-potassium-ions-on-newcrom-ah-column

Chromatogram



Column:	Newcrom AH
Column size:	4.6 × 150 mm, 5 µm
Mobile phase:	MeCN
Buffer:	Methanesulfonic acid - 10 mM
Flow rate:	1 ml/min
Detection:	Conductivity

Description

· High Performance Liquid Chromatography (HPLC) Method for Analysis of Potassium , Silver .

Silver ions, Ag + , are positively charged silver atoms. They are known for having antimicrobial properties and can damage essential protein in microorganisms. Silver can also alter bacterial cell membranes, block the copying of genetic material, and prevent the formation of biofilms; though, most people tend to know silver as a shiny grey metal that is often used in jewelry.

Potassium ions, K + , are essential for cell function. They work as charge carriers inside animal cells to create the membrane. Imbalance of potassium can lead to debilitating health problems, but consumption of it through a diet can help regulate the negative effects of sodium on blood flow.

Silver and potassium ions can be separated on a mixed-mode Newcrom AH column with a simple isocratic mobile phase consisting of water, acetonitrile (ACN) and methanesulfonic acid. By adjusting the amount of acetonitrile used in the mobile phase, the elution order of the ions can be reversed. The ions can be detected using a conductivity detector.

Method Parameters

Mobile Phase	MeCN
Buffer	Methanesulfonic acid – 10 mM
Flow Rate	1.0 ml/min
Detection	Conductivity
Class of Compounds	Hydrophilic, Metal, Ion
Analyzing Compounds	Potassium,Silver

HPLC Column Used

Newcrom AH, 4.6 x 150 mm, 5 µm, 100 A, dual ended

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