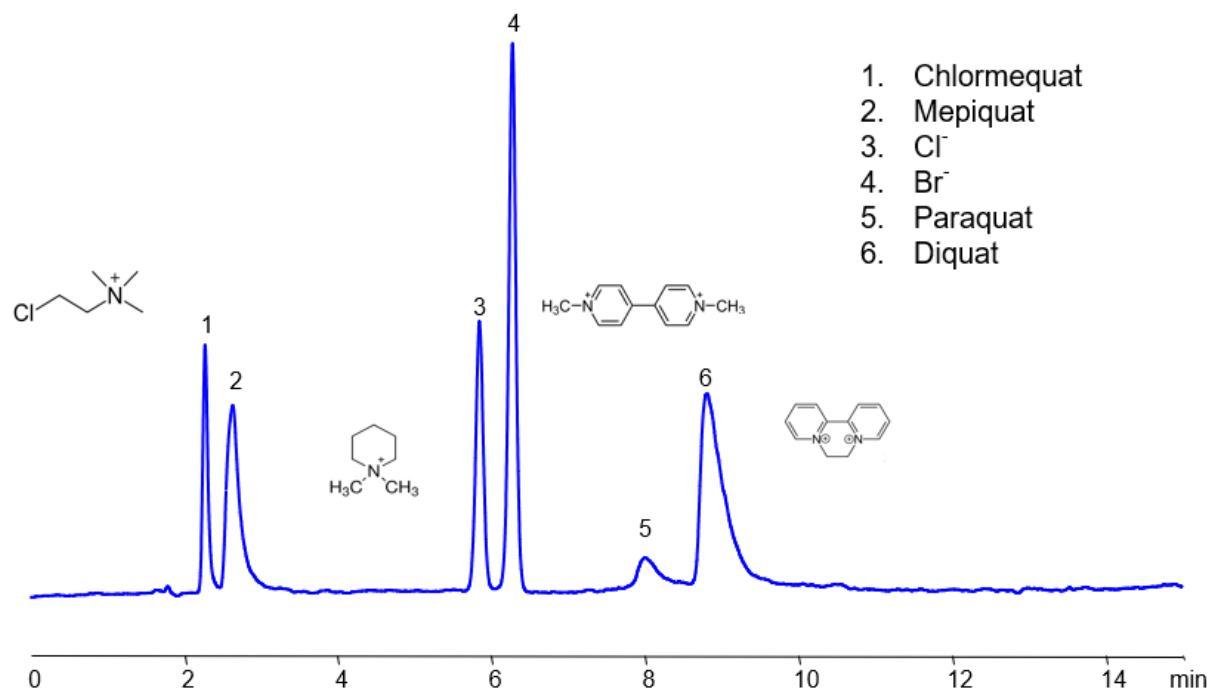


HPLC Method for Simultaneous Determination of -Quat Herbicides on Obelisc R Column

<https://sielc.com/hplc-method-for-simultaneous-determination-of-quat-herbicides>

Chromatogram



Column:	Obelisc R
Column size:	4.6 × 150 mm, 5 μm
Column part number:	OR-46.150.0510
Mobile phase:	MeCN/H ₂ O – 40/60%
Buffer:	Gradient Ammonium Formate pH 3.0 20 – 50 mM, 15 min
Flow rate:	1.0 mL/min
Detection:	ELSD 50°C

Description

High Performance Liquid Chromatography (HPLC) Method for Analysis of Mepiquat , Paraquat , Diquat , Chlorocholine .

Chlormequat is a plant growth regulator with the chemical formula C₅H₁₃ClN . It works through inhibiting gibberellin biosynthesis, which leads to reduced cell elongation and thicker stalks.

Mepiquat is a plant growth regulator with the chemical formula C₇H₁₆N⁺ . It is used primarily to control the growth rate and quality of the yield.

Paraquat is a widely used, non-selective herbicide known for its high efficacy in controlling a wide range of weeds. It has been an important tool in agriculture since its introduction in the mid-20th century. However, its use is accompanied by significant safety concerns due to its high toxicity.

Diquat is an organic dication that is used as a contact herbicide. It has the chemical formula $C_{12}H_{12}Br_2N_2$. It is considered moderately toxic and harmful if swallowed, inhaled, or absorbed through skin. It degrades slowly when in nature due to bonding strongly to minerals and organic particles. Due to that, it is no longer approved for use in the European Union.

Mepiquat, Paraquat, Diquat, Chlorocholine can be retained and analyzed using the Obelisc R stationary phase column. The analysis utilizes an isocratic method with a simple mobile phase consisting of water and acetonitrile (MeCN) with an ammonium formate buffer. Detection is performed using UV.

Method Parameters

Mobile Phase	MeCN – 40%
Buffer	Ammonium Formate pH 3.0
Flow Rate	1.0 ml/min
Detection	ELSD 50C
Class of Compounds	Herbicides
Analyzing Compounds	Mepiquat, Paraquat, Diquat, Chlorocholine

HPLC Column Used

Obelisc R, 4.6 x 150 mm, 5 μ m, 100 A, dual ended

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