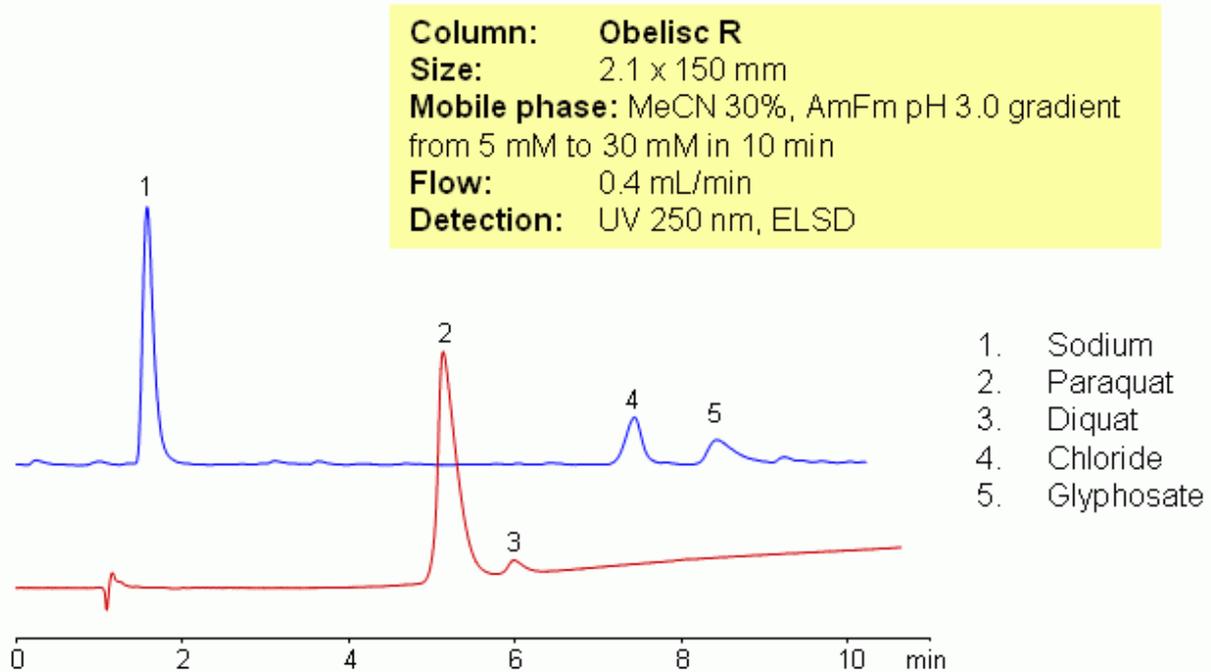


Separation of Herbicides Paraquat, Diquat and Glyphosate in One Run with LC/MS Compatible Conditions



There is a need to separate different herbicides and pesticides in one run with LC/MS compatible conditions. Paraquat, diquat and glyphosate were separated on reversed-phase tri-modal cation- and anion-exchange column (Obelisc R) and on HILIC/ion-exchange columns (Obelisc N). Method explores unique properties of mixed-mode stationary phase which retains and separates cations like paraquat and diquat and anions/zwitter-ions like glyphosate in one run. Since columns are compatible with 100% organic and 100% water, a wide range of gradients can be used for analysis as well as isocratic conditions where it is desired. Method can be used for quantitation of these compounds in various matrices (soil, ground water, crops, food, etc.)

SIELC has developed the Obelisc™ columns, which are mixed-mode and utilize Liquid Separation Cell technology (LiSC™). These cost-effective columns are the first of their kind to be commercially available and can replace multiple HPLC columns, including reversed-phase (RP), AQ-type reversed-phase, polar-embedded group RP columns, normal-phase, cation-exchange, anion-exchange, ion-exclusion, and HILIC (Hydrophilic Interaction Liquid Chromatography) columns. By controlling just three orthogonal method parameters - buffer concentration, buffer pH, and organic modifier concentration - users can adjust the column properties with pinpoint precision to separate complex mixtures.

Method Parameters

Column	Obelisc R, 2.1×150 mm, 5 µm, 100 Å
Mobile Phase	MeCN – 30%
Buffer	Gradient AmFm pH 3.0 – 5-30 mM, 10 min
Flow Rate	0.4 mL/min
Detection	UV, 250 nm, ELSD

Quelle: <https://sielc.com/Application-Separation-of-Herbicides-Paraquat-Diquat-and-Glyphosate-in-One-Run-With-LC-MS-Compatible-Conditions>