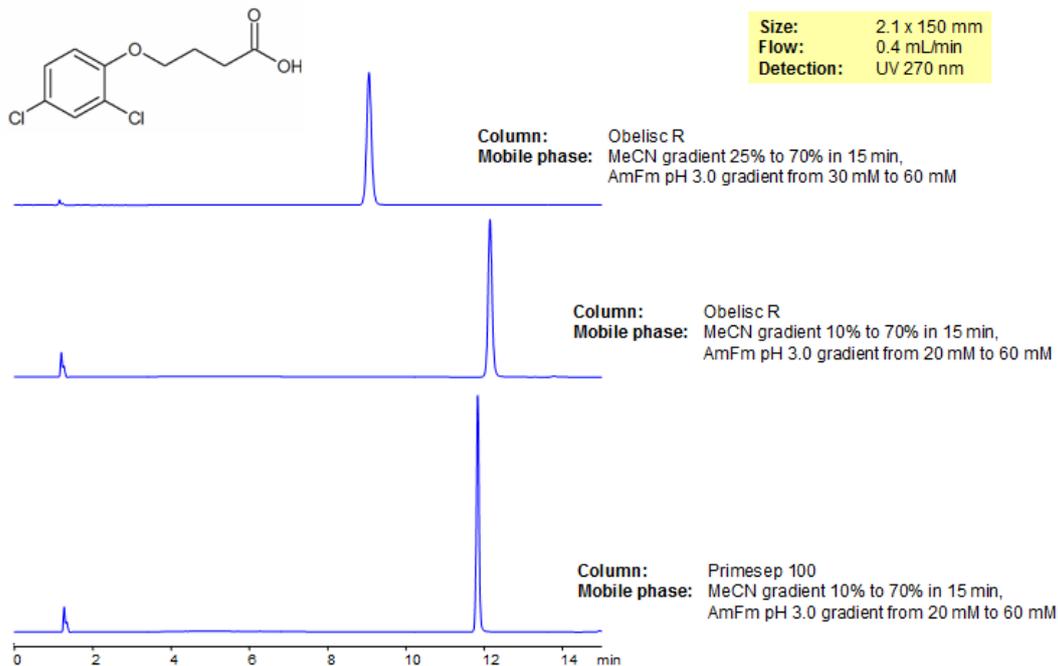


## Controlling Retention of 2,4-DB on Mixed-Mode HPLC Columns



4-(2,4-dichlorophenoxy)butyric acid or 2,4-DB is a herbicides used in alfalfa, peanuts, and soybean production. 2,4-DB selectively controls broadleaf weeds inhibiting growth at the root and stem tips. It is considered slightly toxic, as is its metabolite 2,4-D. The EURL (European Union Reference Laboratory) included 2,4-DB in an analysis of acidic pesticides using QuEChERS methodology. Primesep 100 and Obelisc R were used to retain and separate 2,4-DB from impurities. Method is LC/MS compatible and developed to be used for many pesticides.

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

|                     |  |
|---------------------|--|
| <b>Column</b>       | Primesep 100, 2.1x150 mm, 5 µm, 100 Å  |
| <b>Mobile Phase</b> | Gradient MeCN – 10-70%, 15 min         |
| <b>Buffer</b>       | Gradient AmAc pH 3.0- 20-60 mM, 15 min |
| <b>Flow Rate</b>    | 0.4 mL/min                             |
| <b>Detection</b>    | UV, 270 nm                             |

Quelle: <https://sielc.com/Application-Controlling-Retention-of-2-4-DB-on-Mixed-Mode-HPLC-Columns>