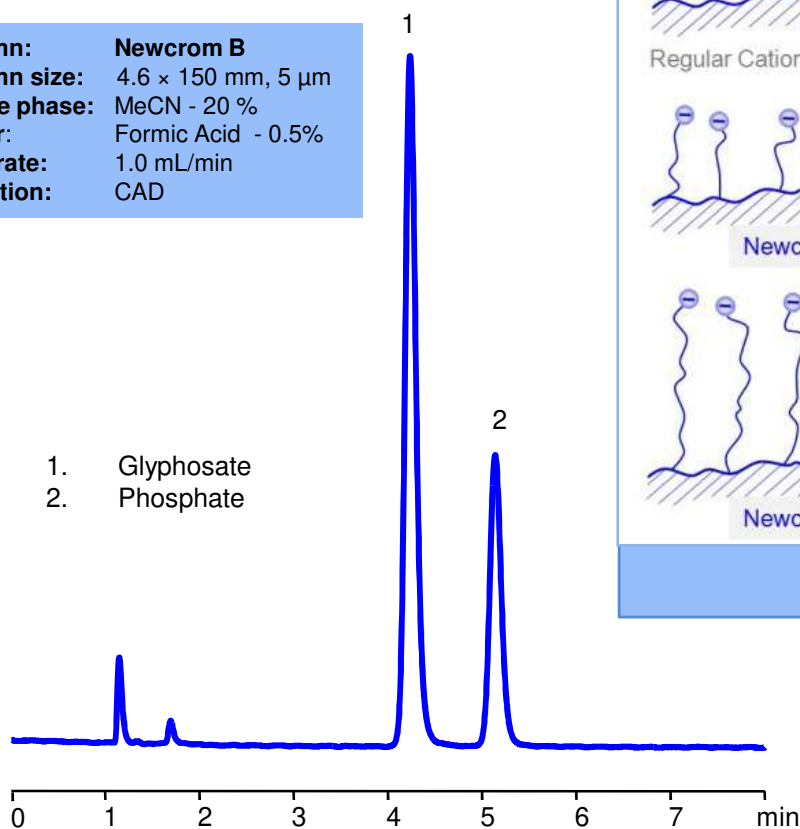


# Cool Applications

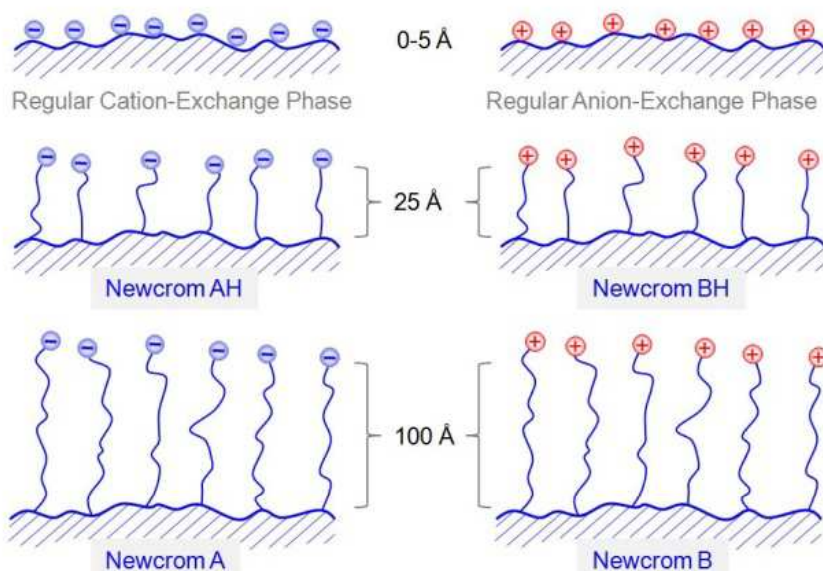
"Making Tough LC Applications Look Cool"

## HPLC SEPARATION OF GLYPHOSATE AND PHOSPHATE ION ON NEWCROM B COLUMN

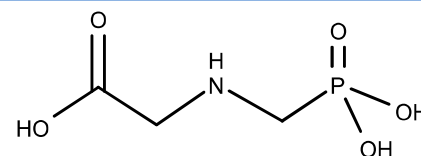
**Column:** Newcrom B  
**Column size:** 4.6 × 150 mm, 5 μm  
**Mobile phase:** MeCN - 20 %  
**Buffer:** Formic Acid - 0.5%  
**Flow rate:** 1.0 mL/min  
**Detection:** CAD



## New type of mixed mode column introduction



### Glyphosate structure



## Application Comments

Recent interest in glyphosate determination, due to the potential toxic properties of this widely used herbicide, resulted in a new development of a convenient MS-compatible analytical method. The development of the method led to a new type of mixed-mode stationary phase. The new stationary phase, Newcrom, allows for the analysis of glyphosate quickly and with a simple MS-compatible mobile phase comprised only of water, acetonitrile and a small amount of formic acid. The Newcrom phase is built on silica support and contains long alkyl chains with terminal positive or negative ionic groups. When fully extended, the chain is up to 100Å long. This creates a type of ion-exchange retention where the stationary phase ions behave like free ions in solution while still being attached to the surface. As a result, symmetrical peaks are observed for most ionic compounds with single or multiple charges. Low ionic strength, less than 1mMol, is all that's required to provide sufficient ion-exchange process. A different concentration of organic modifier can be used without a significant effect on glyphosate retention. However, other molecules can be affected much more if they have some degree of hydrophobicity. This allows for a convenient way to alter the selectivity of the method. Visit [www.sielc.com](http://www.sielc.com) to learn more about Newcrom columns.