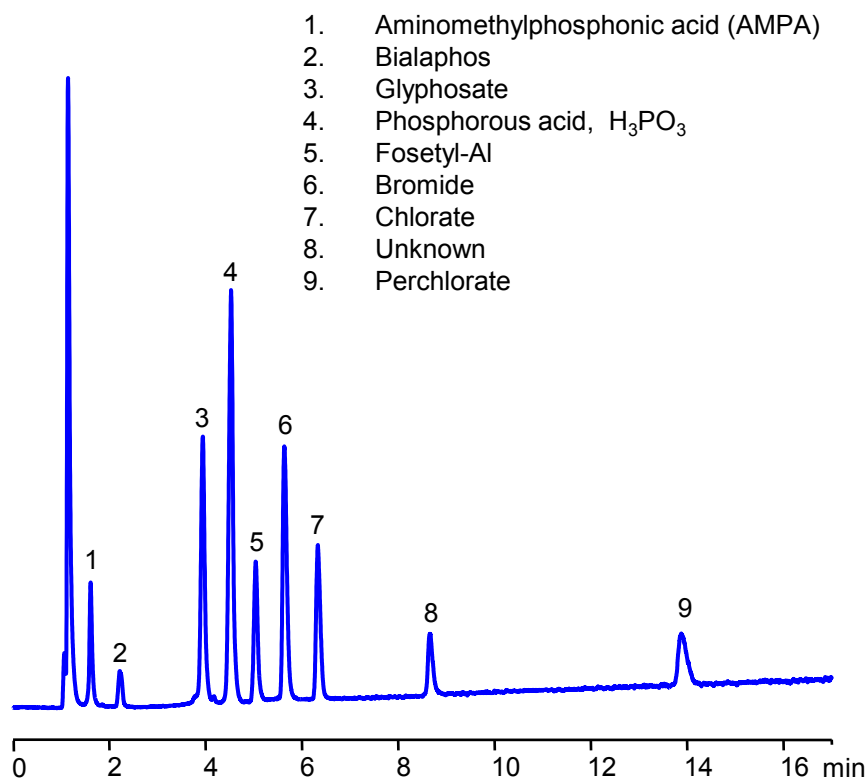


# Cool Applications

"Making Tough LC Applications Look Cool"

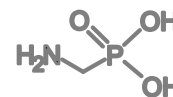
## HPLC SEPARATION OF POLAR PESTICIDES



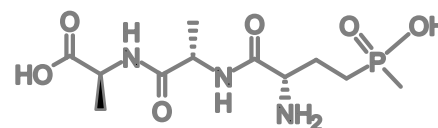
1. Aminomethylphosphonic acid (AMPA)
2. Bialaphos
3. Glyphosate
4. Phosphorous acid,  $H_3PO_3$
5. Fosetyl-Al
6. Bromide
7. Chlorate
8. Unknown
9. Perchlorate

**Column:** Newcrom B  
**Column size:** 4.6 × 150 mm, 5 μm  
**Mobile phase:** MeCN/H<sub>2</sub>O – 10/90%  
**Buffer:** AmFm pH 3.0 Gradient 5 - 60 mM 15 min  
**Detection:** CAD  
**Flow rate:** 1.0 ml/min

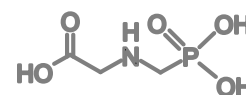
### 1. Aminomethylphosphonic acid (AMPA)



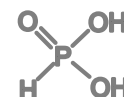
### 2. Bialaphos



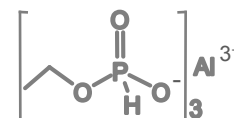
### 3. Glyphosate



### 4. Phosphorous acid, $H_3PO_3$



### 5. Fosetyl-Al



## Application Comments

Polar pesticides are not the type of molecules that can be separated by a reverse phase (RP) column due to their poor retention. Different techniques are used to increase retention and separation efficiency. Among such techniques are: using ion-pairing reagents in the mobile phase, using HILIC mode and ion-exchange (IE) mode of separation. Each technique has its own benefits and drawbacks.

Our Newcrom B column provides both RP and IE characteristics and offers good retention and selectivity for several polar pesticides, especially acidic molecules. The mobile phase composition is well suited for mass spec (MS) detection when trace amount of pesticides need to be measured. The mobile phase is no different from the common RP mobile phase composition when MeCN is used as an organic modifier and Ammonium Formate buffer as an ionic modifier. This method offers a simple and convenient way to measure polar acidic molecules with CAD, ELSD or MS detection.

Visit [www.sielc.com/newcrom-b.html](http://www.sielc.com/newcrom-b.html) to learn more about Newcrom B columns and see other applications.