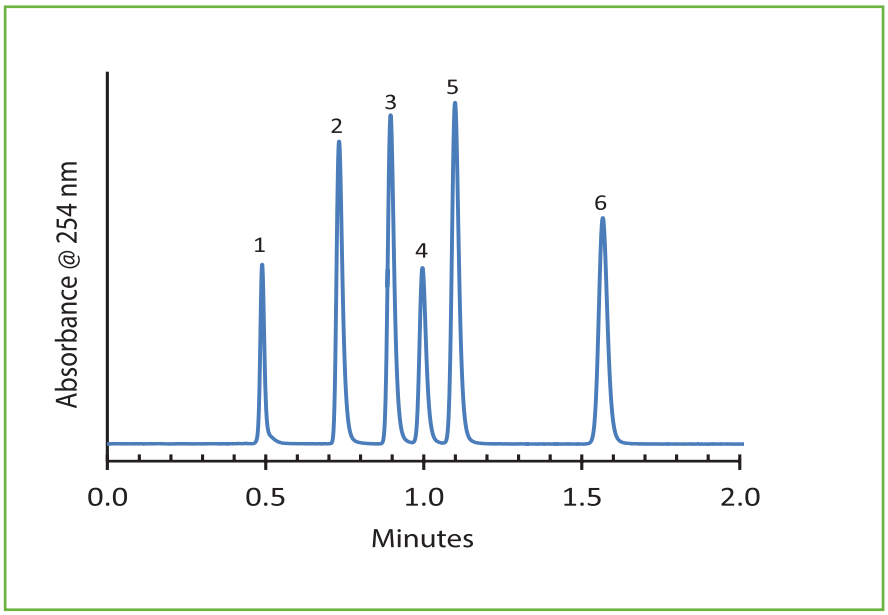
Separation of Neonicotinoids on HALO® C18, 2.7 µm

Application Note 92-PS



PEAK IDENTITIES:

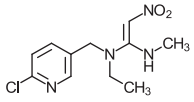
1. Nitenpyram
2. Thiamethoxam
3. Clothianidin
4. Imidacloprid
5. Acetamiprid
6. Thiacloprid

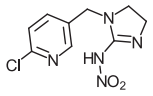
Neonicotinoids are systemic insect neurotoxins that have recently been in the news, since this class of pesticides may have negative effects on bees. This application note shows a rapid separation of six neonicotinoids using a Fused-Core®, 2.7 µm, HALO® C18 column. This superficially porous packing allows high resolution at moderate back pressures.

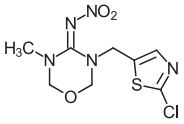
TEST CONDITIONS:

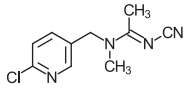
Column: HALO 90 Å C18, 2.7 µm, 3.0 x 100 mm
Part Number: 92813-602
Mobile Phase: 70/30 - A/B
A: 0.1% formic acid in water
B: Acetonitrile
Flow Rate: 0.8 mL/min
Pressure: 252 bar
Temperature: 35 °C
Detection: UV 254 nm, VWD
Injection Volume: 2.0 µL
Sample Solvent: 50/50 water/acetonitrile
Response Time: 0.02 sec
Flow Cell: 2.5 µL semi-micro
LC System: Shimadzu Prominence UFLC XR
Extra Column Volume: ~14 µL

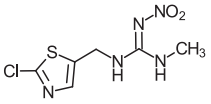
STRUCTURES:

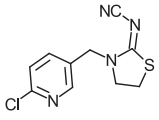

Nitenpyram


Imidacloprid


Thiamethoxam


Acetamiprid


Clothianidin


Thiacloprid