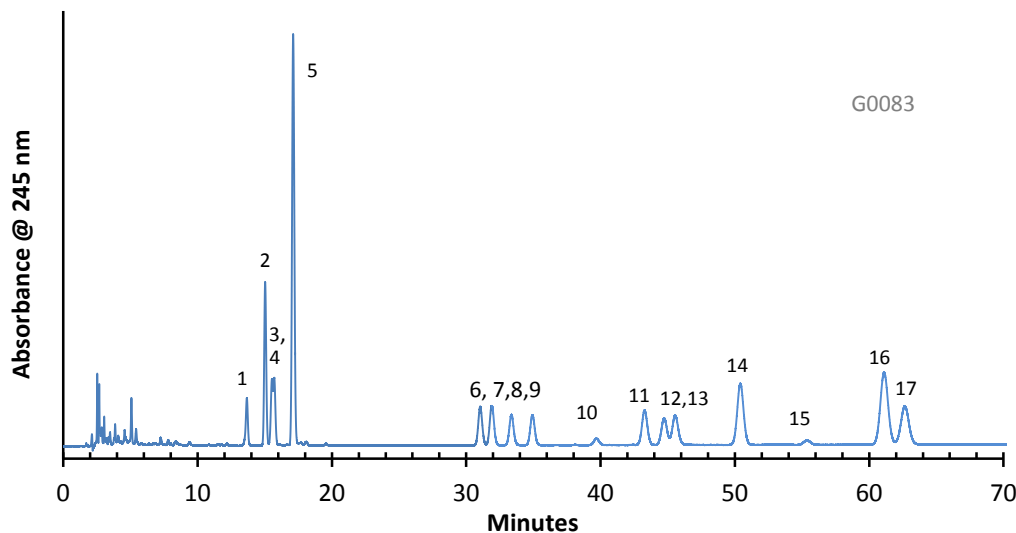


## Separation of Pyrethrins/Pyrethroids on 2.7 µm HALO C18



### PEAK IDENTITIES:

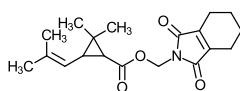
Tetramethrin: 1, 2  
 Allethrin: 3, 4, 5  
 Cyfluthrin: 6, 7, 8, 9  
 Resmethrin: 10, 11  
 Fenvalerate: 12, 13  
 Permethrin: 14, 17  
 Phenothrin: 15, 16

Draft #2  
 9/05/13

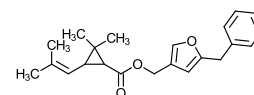
### TEST CONDITIONS:

Column: Coupled 4.6 x 150 mm and 4.6 x 100 mm, 2.7 µm HALO C18  
 Part Numbers: 92814-702 and 92814-602  
 Mobile Phase: 25/75: A/B  
 A= Water  
 B= 50/50: Acetonitrile/methanol  
 Flow Rate: 1.0 mL/min.  
 Pressure: 317 Bar  
 Temperature: 30°C  
 Detection: UV 245 nm, VWD  
 Injection Volume: 10 µL  
 Sample Solvent: 50/50: Acetonitrile/methanol  
 Response Time: 0.02 sec.  
 Flow Cell: 2.5 µL semi-micro  
 LC System: Shimadzu Prominence UFLC XR  
 ECV: ~14 µL

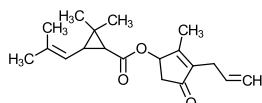
### STRUCTURES:



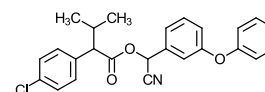
Tetramethrin



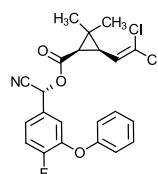
Resmethrin



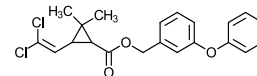
Allethrin



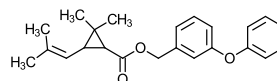
Fenvalerate



Cyfluthrin



Permethrin



Phenothrin

This separation of pyrethrins/pyrethroids was adapted from EPA method 1660 which describes the use of coupled 5 µm C18 columns. The tandem high performance Fused-Core, 2.7 µm HALO C18 columns achieve better resolution of the various isomers of these compounds with a slightly longer run time.