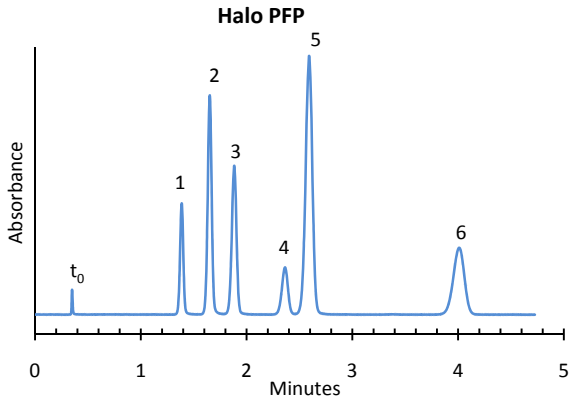
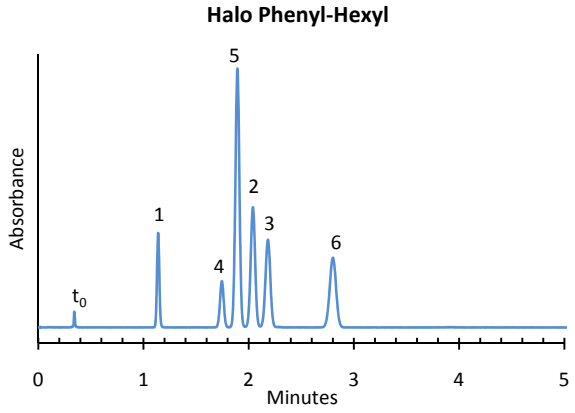
Application Note: 26-P

Separation of Aromatic Nitro compounds on HALO PFP and Phenyl-Hexyl

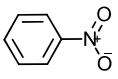




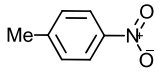
TEST CONDITIONS:
Column: 4.6 x 50 mm, HALO PFP, Phenyl-Hexyl
Part Numbers: 92814-409,-406, resp.
Mobile Phase: 45/55-water/methanol
Flow Rate: 1.5 mL/min.
Pressure: approximately 200 Bar
Temperature: 40 °C
Detection: UV 254 nm, VWD
Injection Volume: 0.5 µL
Sample Solvent: ~20/80-water/methanol
Response Time: 0.02 sec.
Flow Cell: 2.5 µL semi-micro
LC System: Shimadzu Prominence UFLC XR
Extra column volume: ~14 µL

PEAK IDENTITIES:
1. Nitrobenzene
2. 1-Cl-4-Nitrobenzene
3. 2,6-Dinitrotoluene
4. 4-Nitrotoluene
5. 3-Nitrotoluene
6. 4-Cl-3-Nitroanisole

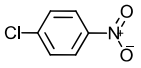
STRUCTURES:



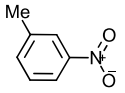
Nitrobenzene



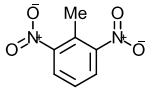
4-Nitrotoluene



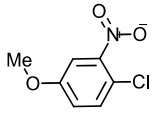
1-Chloro-4-Nitrobenzene



3-Nitrotoluene



2,6-Dinitrotoluene



4-Chloro-3-Nitroanisole

Differences in the interaction of the phenyl rings on the bonded phases with the pi electron systems of the nitro aromatic compounds result in significantly different selectivities that can be used to optimize these separations.