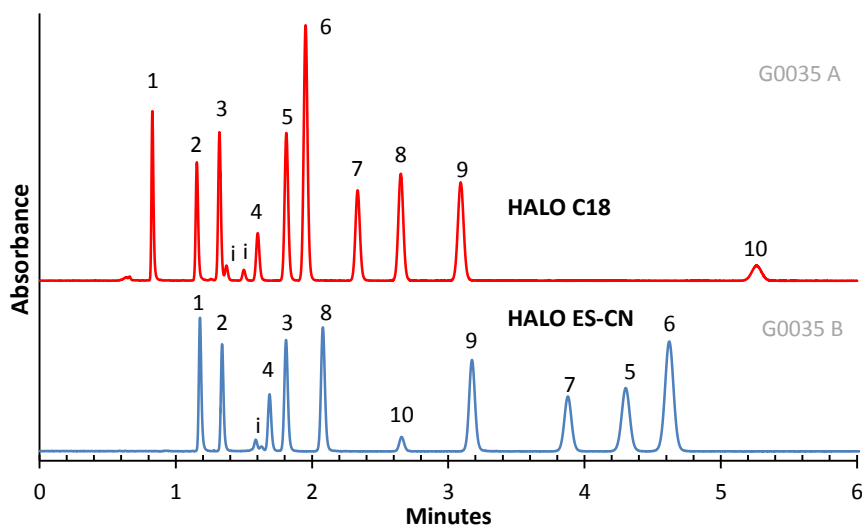


Application Note: 53-G

Separation of Mixed Polarity Compounds on HALO C18 and ES-CN



PEAK IDENTITIES:

1. Resorcinol
 2. Benzyl alcohol
 3. Phenylacetonitrile
 4. 1-Indanol
 5. 3,4-DNT
 6. 2,3-DNT
 7. 2,4-DNT
 8. Anisole
 9. 1-Chloro-4-nitrobenzene
 10. Toluene
- DNT= dinitrotoluene
i = impurity

TEST CONDITIONS:

Column: 4.6 x 100 mm, HALO C18, ES-CN

Part Numbers: C18=92814-402

ES-CN=92814-404

Mobile Phase: 40/60-A/B for C18

50/50-A/B for ES-CN

A=water

B=methanol

Flow Rate: 1.25 mL/min.

Pressure: About 300 Bar

Temperature: 30 °C

Detection: UV 254 nm, VWD

Injection Volume: 1.0 µL

Sample Solvent: water/methanol

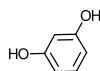
Response Time: 0.02 sec.

Flow Cell: 2.5 µL semi-micro

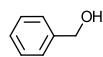
LC System: Shimadzu Prominence UFLC XR

Extra column volume: ~14 µL

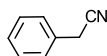
STRUCTURES:



Resorcinol



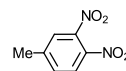
Benzyl alcohol



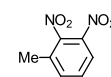
Phenylacetonitrile



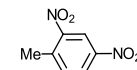
1-Indanol



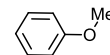
3,4-DNT



2,3-DNT



2,4-DNT



Anisole



1-Chloro-4-nitrobenzene



Toluene

These separations of polar and non-polar compounds show significant differences in selectivity between HALO C18 and ES-CN stationary phases. Note the increased retention of nitro compounds and reduced retention of non-polar compounds on HALO ES-CN phase.