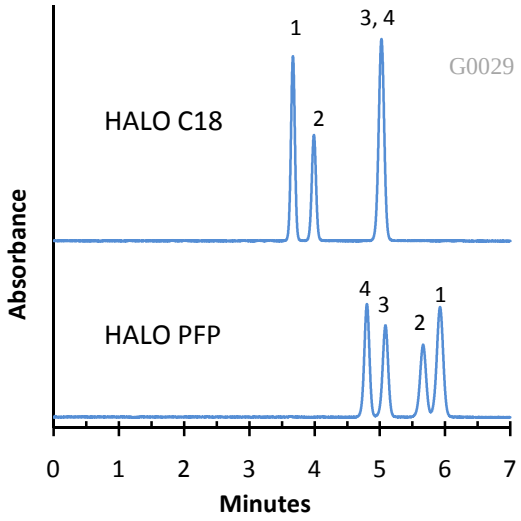
Application Note: 047-STR

Separation of Structurally Similar Steroids on HALO C18 and PFP



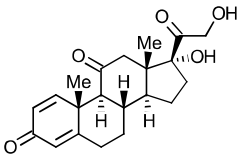
PEAK IDENTITIES:

1. Prednisone
2. Cortisone
3. Prednisolone
4. Hydrocortisone

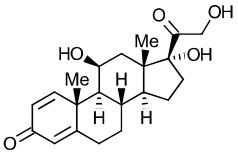
TEST CONDITIONS:

Columns: 4.6 x 100 mm, HALO C18
4.6 x 100 mm, HALO PFP
Part Numbers: C18, 92814-602
PFP, 92814-609
Mobile Phase: 50/50: water/methanol
Flow Rate: 1.0 mL/min.
Pressure: About 230 Bar
Temperature: 35°C
Detection: UV 240 nm, VWD
Injection Volume: 0.5 µL
Sample Solvent: 80% methanol in water
Response Time: 0.02 sec.
Flow Cell: 2.5 µL semi-micro
LC System: Shimadzu Prominence UFLC XR
ECV: ~14 µL

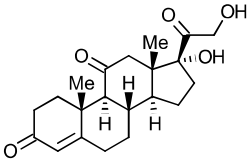
STRUCTURES:



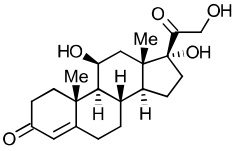
Prednisone



Prednisolone



Cortisone



Hydrocortisone

The unique selectivity of HALO PFP is useful in the separation of the closely related steroids prednisolone and hydrocortisone. The electron-deficient ring structure of the perfluorophenyl group aids in separating compounds through pi-pi interactions with the sample.