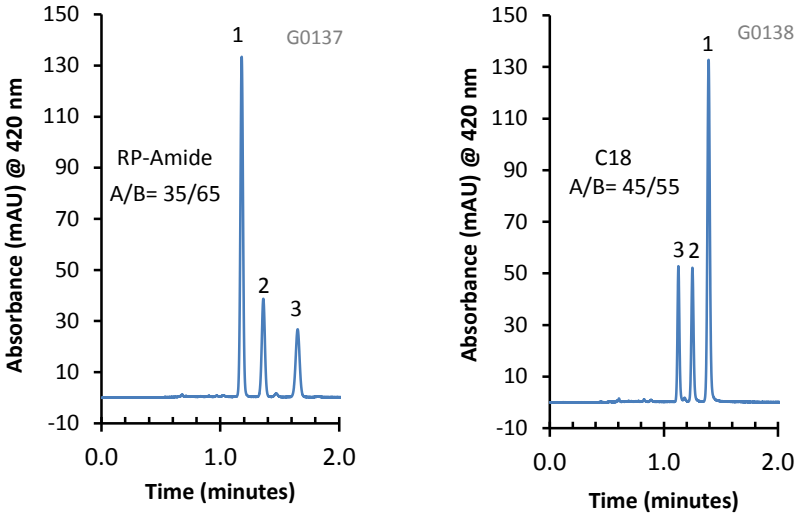
Application Note: 148-F

Analysis of Curcumins on HALO RP-Amide and HALO C18



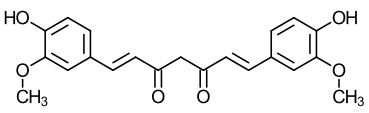
PEAK IDENTITIES:

1 Curcumin
2. Desmethoxycurcumin
3. *bis*-Desmethoxycurcumin

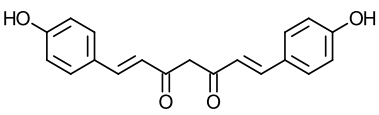
TEST CONDITIONS:

Column: 4.6 x 100 mm, HALO, 2.7 µm
Part Number: 92814-602
Part Number: 92814-607
Mobile Phase: A/B: See chromatograms
A= 0.025M phosphate buffer in water, pH=3
B= Acetonitrile
Flow Rate: 1.8 mL/min.
Pressure: 215 bar
Temperature: 35°C
Detection: UV 420 nm, VWD
Injection Volume: 1.0 µL
Sample Solvent: methanol
Response Time: 0.02 sec.
Data rate: 25 Hz
Flow Cell: 2.5 µL semi-micro
LC System: Shimadzu Prominence UFLC XR
ECV: ~14 µL

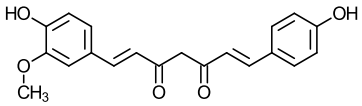
STRUCTURES:



Curcumin



bis-Desmethoxycurcumin



Desmethoxycurcumin

Curcumin isomers were extracted from commercial turmeric spice by adding 0.42 g of as-received turmeric to 20 mL of methanol in a vial. The mixture was vortexed and then sonicated for 5 minutes and allowed to stand overnight. After vortexing and settling, an aliquot of the supernate was filtered through a 0.2 µm porosity Teflon syringe filter. A sample of this clear orange liquid was diluted 1:4 with methanol for injection. The chromatograms show a very different selectivity for the curcumin compounds on the two phases. This difference in selectivity for hydroxy-substituted compounds can be exploited, especially using mobile phases containing acetonitrile.

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