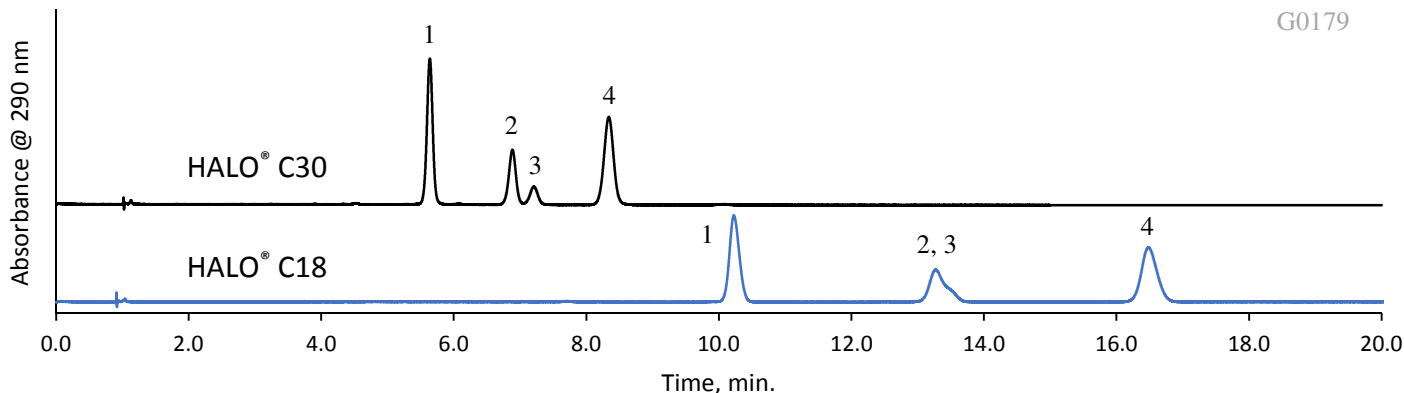


Separation of Tocopherols on HALO® C30

G0179



TEST CONDITIONS:

Columns: HALO 160 Å C30, 2.7 µm, 4.6 x 150mm
 Part Number: 92114-730
 HALO 90 Å C18, 2.7 µm, 4.6 x 150mm
 Part Number: 92814-702

Mobile Phase A: Water
 Mobile Phase B: Methanol
 Isocratic: 95% B

Flow Rate: 1.5 mL/min
 C30 Pressure: 337 bar
 C18 Pressure: 348 bar
 Temperature: 10°C

Detection: UV 290 nm, PDA

Injection Volume: 1.5 µL

Sample Solvent: Ethanol/ Methanol

Data Rate: 80 Hz

Response Time: 0.02 sec

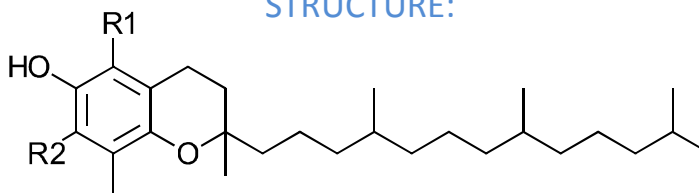
Flow Cell: 2 µL

LC System: Agilent 1200 SL

PEAK IDENTITIES:

1. δ-tocopherol
2. γ-tocopherol
3. β-tocopherol
4. α-tocopherol

STRUCTURE:



Tocopherol	R1	R2
Alpha (α)	CH ₃	CH ₃
Beta (β)	CH ₃	H
Gamma (γ)	H	CH ₃
Delta (δ)	H	H

Tocopherols are a form of vitamin E (fat-soluble) that have antioxidant properties in both the body and in food. They are also used for cosmetics and many personal care products. Here, tocopherols are separated on a 160 Å pore size HALO® C30 column with baseline resolution between the beta and gamma isomers compared to a 90 Å HALO® C18 column. While the HALO® C18 has more surface area (135 m²/g vs. 90 m²/g) and exhibits twice the retention, it produces a coelution of the isomers. Due to the C30's shape selectivity, complete separation of the isomers is achieved.