HALO®

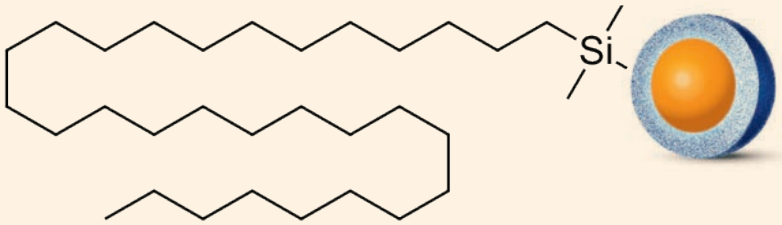
C30

ISOMERS HAVE MET THEIR MATCH

HALO® C30

INTRODUCING THE NEW HALO® C30!

Built on proven Fused-Core® particle technology, the HALO® C30 is designed to deliver fast separations ideal for lipids and isomers compared to your C18.



FEATURES OF HALO® C30

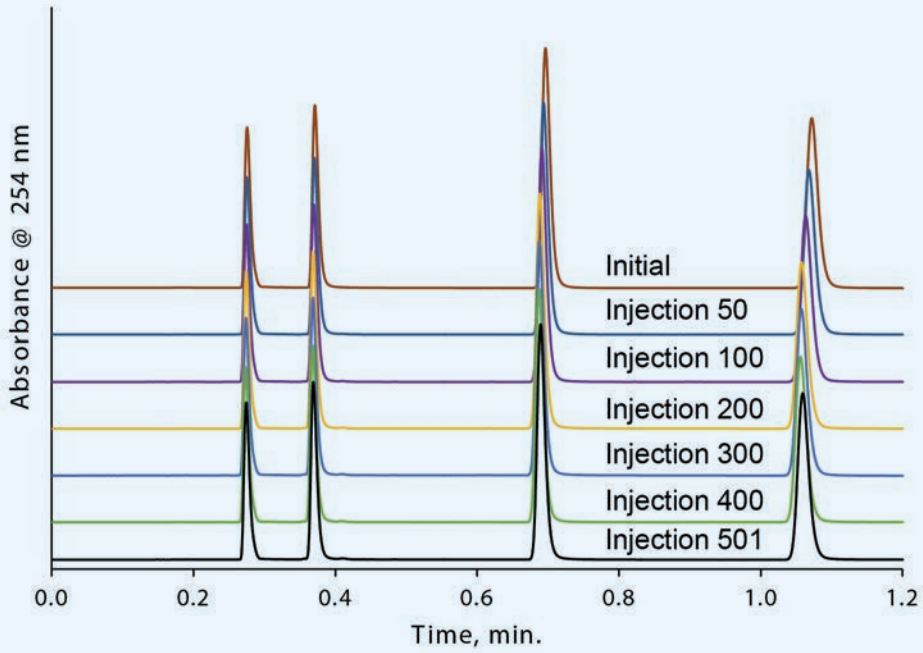
- High shape selectivity for hydrophobic, long-chain structurally related isomers
- Highly reproducible bonded phase coverage resulting in fast, highly efficient, rugged separations
- 100 % Aqueous Compatibility

Best Applications:

- Fat/Water Soluble Vitamins
- Carotenoids
- Lipids
- Steroids

QUALITY YOU CAN COUNT ON

The HALO® C30 exhibits reliable stability providing you assurance in your separations – injection to injection.

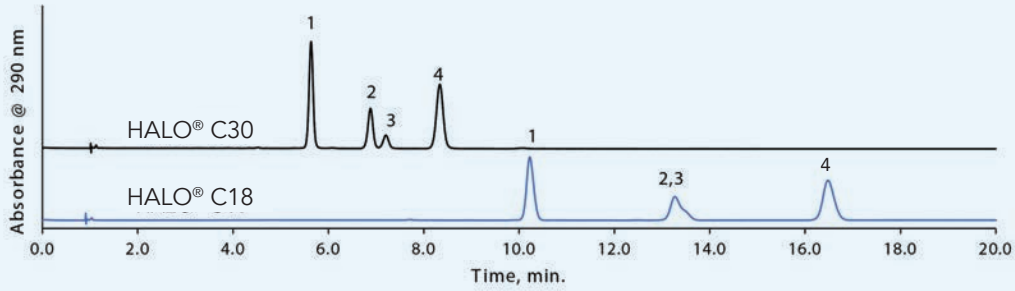


TEST CONDITIONS

Column: HALO 160 Å C30, 2.7µm, 2.1 x 150mm
Isocratic: 50-50 ACN/H2O
Flow Rate: 1.1 mL/min.
Back Pressure: 602 bar
Temperature: 60°C
Injection Volume: 1 µl test mix containing uracil, phenol, 1-chloro-4-nitrobenzene, and naphthalene
Instrument: Shimadzu Nexera
Detection: UV 254 nm, PDA

ISOMERS HAVE MET THEIR MATCH

Tocopherols, a form of vitamin E, known for their antioxidant properties contain many isomers which are easily baseline separated on the HALO® C30 compared to a C18 due to the shape selectivity property of the phase.



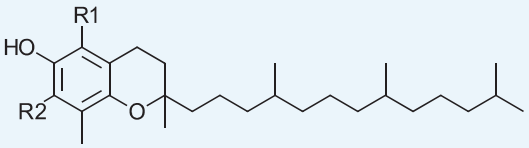
PEAK IDENTITIES

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

TEST CONDITIONS

Columns: HALO 160 Å C30 and 90 Å C18 , 2.7 µm, 4.6 x 150mm
Mobile Phase A: Water
Mobile Phase B: Methanol
Isocratic: 95% B
Flow Rate: 1.5 mL/min
Temperature: 10°C
Injection Volume: 1.5 µL
Instrument: Agilent 1200 SL
Detection: UV 290 nm, PDA

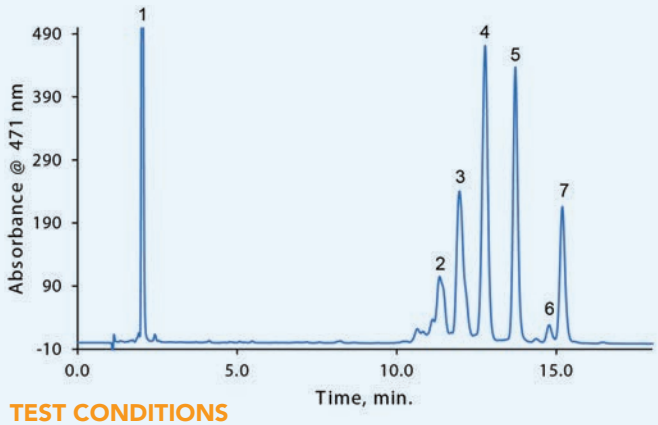
STRUCTURE



Tocopherol	R1	R2
Alpha (α)	CH_3	CH_3
Beta (β)	CH_3	H
Gamma (γ)	H	CH_3
Delta (δ)	H	H

CAROTENOID SEPARATION

These seven carotenoids and related isomers from a commercially available vitamin formulation are easily resolved under simple mobile phase conditions.



TEST CONDITIONS

Column: HALO 160 Å C30, 2.7 µm, 3.0 x 150 mm
Mobile Phase A: Methanol
Mobile Phase B: Ethanol
Gradient: 100% A with gradient to 40% B at 20 min.
Flow Rate: 0.65 mL/min
Temperature: 38°C
Data acquisition rate: 2.5 Hz
Injection volume: 0.60 µL
Instrument: Agilent 1100
Detection: UV 471 nm, PDA

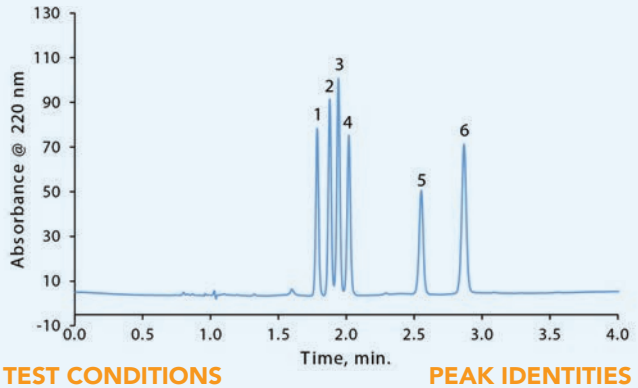
PEAK IDENTITIES

1. Lutein
2. cis-carotenoid 1
3. cis-carotenoid 2
4. α-carotene
5. β-carotene
6. cis-lycopene
7. Lycopene

Data courtesy of Nature's Sunshine Products.

STEROID SEPARATIONS USING HALO® C30

Glucocorticoids are a powerful form of steroid hormone both naturally produced and prescribed as a means to control a number of conditions caused by inflammation. In the example below six glucocorticoids are separated within three minutes and demonstrate excellent peak shape.



TEST CONDITIONS

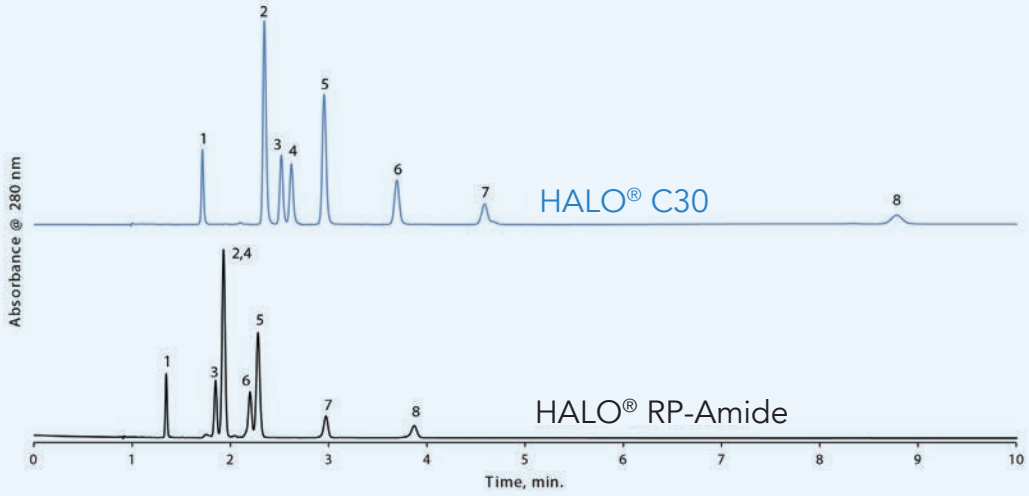
Column: HALO 160 Å C30, 2.7 µm, 4.6 x 150 mm
Mobile Phase A: Water
Mobile Phase B: 50/50 Acetonitrile/ Methanol
Isocratic: 50% B
Flow Rate: 1.5 mL/min
Back Pressure: 309 bar
Temperature: 60°C
Injection Volume: 0.5 µL
Instrument: Shimadzu Nexera X2
Detection: UV 220 nm, PDA

PEAK IDENTITIES

1. Prednisone
2. Cortisone
3. Prednisolone
4. Hydrocortisone
5. Dexamethasone
6. Corticosterone

ENHANCED SELECTIVITY AND RESOLUTION FOR FAT SOLUBLE VITAMINS

For a panel of fat soluble vitamins, the HALO® C30 demonstrates superior resolution and selectivity in comparison with a commonly employed RP-Amide phase.



PEAK IDENTITIES

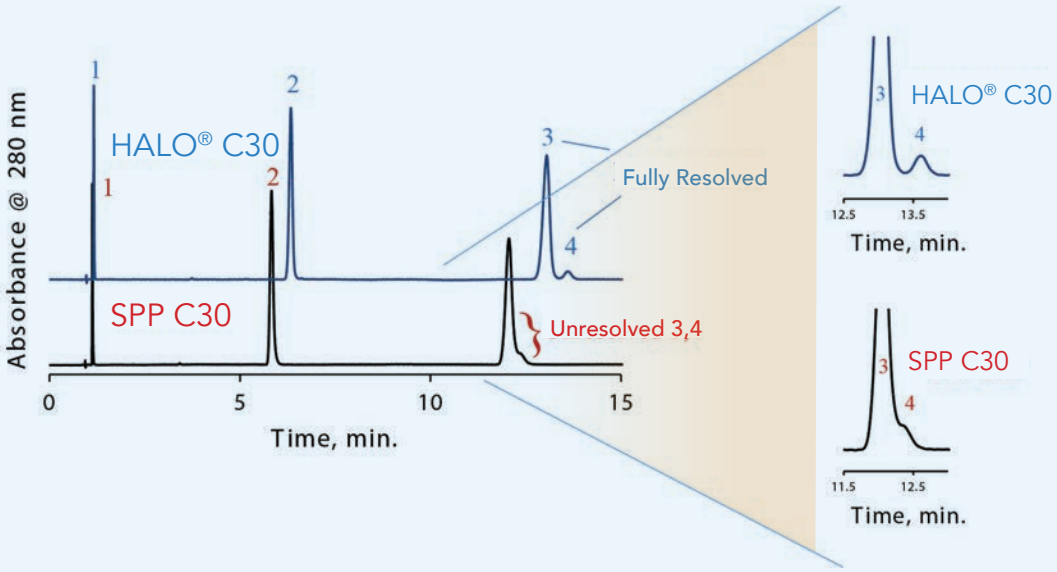
1. Retinyl acetate (A)
2. Delta tocopherol (E)
3. Ergocalciferol (D2)
4. Cholecalciferol (D3)
5. Alpha tocopherol (E)
6. DL-alpha-tocopherol acetate (E)
7. 2,3-trans-phylloquinone (K)
8. Retinyl palmitate (A)

TEST CONDITIONS

Columns: HALO C30, RP-Amide, 2.7 µm, 4.6 x 150 mm
Isocratic: 100% Methanol
Flow Rate: 1.5 mL/min.
Temperature: 30 °C
Injection: 2 µl
Instrument: Nexera 062
Detection: UV 280 nm, PDA

COMPETITIVE ADVANTAGE

A HALO® C30 column shows increased retention and baseline resolution of vitamin K1 trans and cis isomers compared to a SPP C30 column. Since the cis isomer of K1 is biologically inactive, it is important to know how much of each isomer is present in vitamin enriched products.



PEAK IDENTITIES

1. Menadione (K3)
2. Menaquinone 4 (K2)
3. 2,3-trans-phylloquinone (K1)
4. cis-phylloquinone (K1)

TEST CONDITIONS

Columns: HALO 160 Å C30, 2.7 µm, 4.6 x 150 mm; SPP C30, 2.6 µm, 4.6 x 150 mm
Mobile Phase A: Water
Mobile Phase B: Methanol
Isocratic: 95% B
Flow Rate: 1.5 mL/min
Temperature: 25 °C
Injection Volume: 1 µL
Instrument: Shimadzu Nexera
Detection: UV 280 nm, PDA

SPECIFICATIONS

Ligand: Triacontyldimethyl
Particle Size: 2.7 µm
Pore Size: 160 Å

USP Designation: L62
Carbon Load: 4.5 %
Surface Area: 90 m^2/g

Endcapped: Yes
Low pH Limit /Max T: 2/60°C
High pH Limit/Max T: 9/40°C

PART NUMBERS

ANALYTICAL COLUMNS	
Dimensions: ID x Length (in mm)	**Part Number**
2.1 x 20	92112-230
2.1 x 30	92112-330
2.1 x 50	92112-430
2.1 x 75	92112-530
2.1 x 100	92112-630
2.1 x 150	92112-730
2.1 x 250	92112-930
3.0 x 20	92113-230
3.0 x 30	92113-330
3.0 x 50	92113-430
3.0 x 75	92113-530
3.0 x 100	92113-630
3.0 x 150	92113-730
3.0 x 250	92113-930
4.6 x 20	92114-230
4.6 x 30	92114-330
4.6 x 50	92114-430
4.6 x 75	92114-530
4.6 x 100	92114-630
4.6 x 150	92114-730
4.6 x 250	92114-930
10.0 x 50	92110-402
10.0 x 75	92110-502
10.0 x 100	92110-602
10.0 x 150	92110-702

CAPILLARY COLUMNS	
Dimensions: ID x Length (in mm)	**Part Number**
0.075 x 50	91219-402
0.075 x 100	91219-602
0.075 x 150	91219-702
0.1 x 50	91218-402
0.1 x 100	91218-602
0.1 x 150	91218-702
0.2 x 50	91217-402
0.2 x 100	91217-602
0.2 x 150	91217-702
0.3 x 50	91216-402
0.3 x 100	91216-602
0.3 x 150	91216-702
0.5 x 50	91215-402
0.5 x 100	91215-602
0.5 x 150	91215-702
1.0 x 30	92111-302
1.0 x 50	92111-402
1.0 x 75	92111-502
1.0 x 100	92111-602
1.0 x 150	92111-702

GUARD COLUMNS	
Guard columns, 3-pack	
Dimensions: ID x Length (in mm)	**Part Number**
2.1 x 5	92112-130
3.0 x 5	92113-130
4.6 x 5	92114-130
Guard Column Holder	94900-001

INNOVATION YOU CAN TRUST – PERFORMANCE YOU CAN RELY ON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