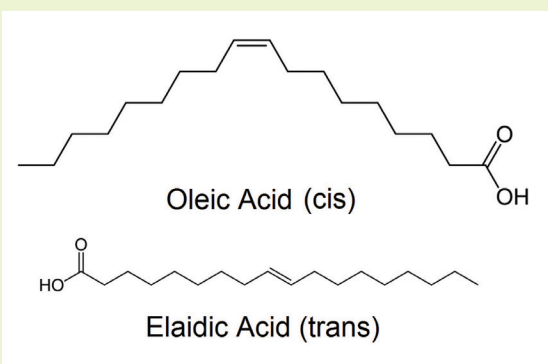
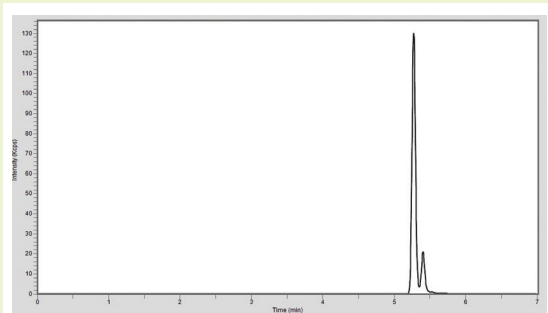


Oleic Acid & Elaidic Acid

Advantages of shape selectivity in cis/trans separations



Method Conditions

Column: **Cogent UDC-Cholesterol 2.0™**, 2.2µm, 120Å

Catalog No.: 69269-05P-2

Dimensions: 2.1 x 50 mm

Solvents: A: DI water / 2 mM ammonium fluoride
B: 75% Acetonitrile / 25% methanol (v/v)

Gradient:	time (min.)	%B
	0	30
	2.5	30
	5	75
	7	95
	8	30

Injection vol.: 2.0 µL

Flow rate: 0.5mL/min

Detection: ESI - NEG - Agilent 6210 MSD TOF mass spectrometer

Peaks: (1) Oleic acid and (2) elaidic Acid (cis and trans isomers),
[M - H]⁻ ions

Sample: 100 ppm oleic acid standard in diluent of 65/30/5
acetonitrile/IPA/DI water

Discussion

The separation of cis and trans isomers by reversed phase can be challenging, as the two compounds often have little difference in hydrophobicity. In cases such as these, additional selectivity mechanisms may be necessary to obtain resolution. Furthermore, they cannot be resolved by MS because they have the same molecular weight. Using the UDC-Cholesterol 2.0 column was highly beneficial in overcoming these obstacles, since the column has the ability to distinguish based on shape differences.

Note: Oleic acid is found in such foods as canola oil, olive oil, and avocados. It has a number of health benefits. In diabetics for example, oleic acid helps stabilize glucose levels by slowing digestion and hence leading to more gradual release of glucose into the bloodstream.