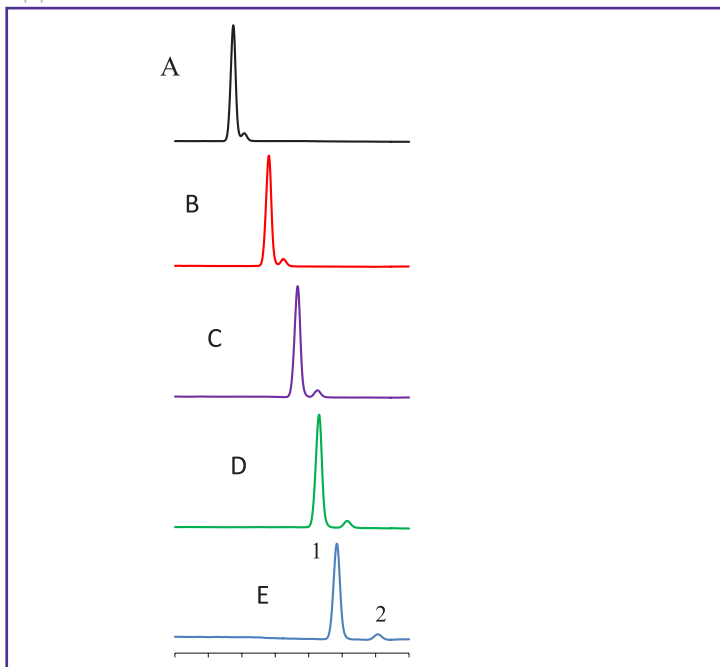




## Vitamin K1 Analysis: Temperature vs. Resolution

Application Note 197-V



### PEAK IDENTITIES:

1. 2,3-trans-phyloquinone (K1)
2. cis-phyloquinone (K1)

Vitamin K, a fat-soluble vitamin, is beneficial for blood clotting and bone health.

Vitamin K1 is produced from plants and can be found in high amounts in green vegetables. Baseline resolution of the vitamin K1 isomers is increased as the temperature of the column decreases.

### TEST CONDITIONS:

**Column:** HALO 160 Å C30, 2.7  $\mu\text{m}$   
4.6 x 150 mm

**Part Number:** 92114-730

**Mobile Phase A:** Water

**Mobile Phase B:** Methanol

**Isocratic:** 95% B

**Flow Rate:** 1.5 mL/min

**Back Pressure:** 341 bar

**Detection:** 280 nm, PDA

**Injection Volume:** 1.0  $\mu\text{L}$

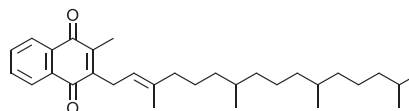
**Sample Solvent:** Methanol

**Response Time:** 0.12 sec.

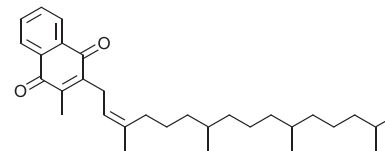
**Flow Cell:** 5  $\mu\text{L}$  Semi-Micro

**LC System:** Agilent 1100 Series

### STRUCTURES:



Vitamin K1: 2,3-trans-phyloquinone



Vitamin K1: cis-phyloquinone

	Resolution	Temperature
A	1.53	35 °C
B	1.58	30 °C
C	1.78	25 °C
D	2.2	20 °C
E	3.03	15 °C

