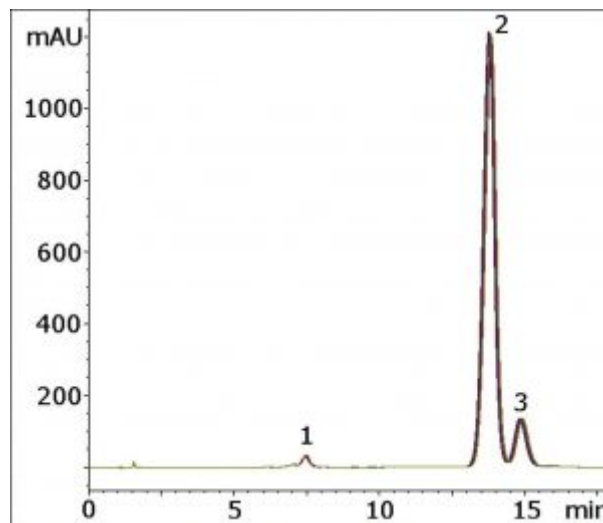
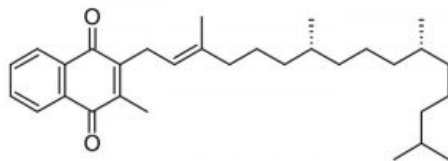


Vitamin K Isomers Analyzed by HPLC - AppNote

Phytonadione Separation by Shape Selectivity

In this Method, we separate the two E and Z isomers of Phytonadione on the basis of shape selectivity. The below chromatogram is a five injection overlay with a resolution value of 1.5.





Peaks:

1. Impurity
2. Phytonadione (E isomer)
3. Phytonadione (Z isomer)

Method Conditions

Column: Cogent UDC-Cholesterol™, 4µm, 100Å

Catalog No.: 69069-15P

Dimensions: 4.6 x 150mm

Mobile Phase:

A: 50% DI Water / 50% MeOH / 0.1% Formic Acid

B: 97% Acetonitrile / 3% DI Water / 0.1% Formic Acid

Gradient:

Time (minutes)	%B
0	80



15	92
16	80

Temperature: 12°C

Post time: 2 minutes

Flow rate: 1.5mL / minute

Detection: UV @ 254nm

Sample Preparation:

Stock Solution: 10µL / mL Phytonadione in Acetonitrile diluent. (The solution was vortexed for 10 minutes.)

Working Solution: Stock solution was diluted 1:10 with Acetonitrile.

t₀: 1.0 minutes

Note: Phytonadione (a.k.a. Phylloquinone, Vitamin K1) is a lipophilic vitamin that can be obtained in the diet from leafy green vegetables. It plays an essential role in blood clotting by acting as a cofactor for formation of coagulation factors II, VII, IX, and X. The letter designation for Vitamin K was based on the first letter of "Koagulationsvitamin" (coagulation vitamin), which is from the German journal that first published its identification by Danish biochemist Henrik Dam.



Attachment

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