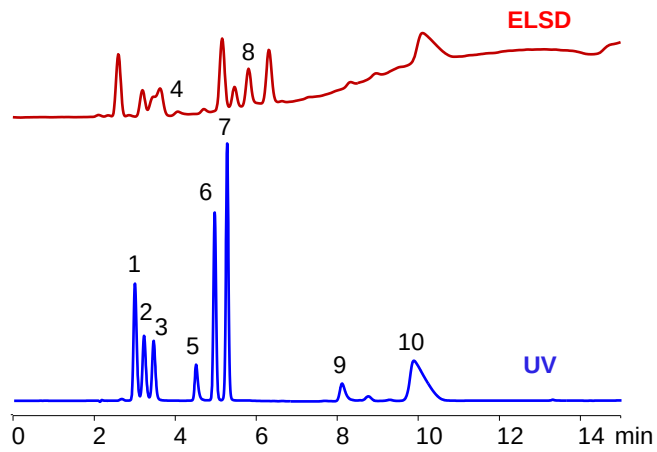
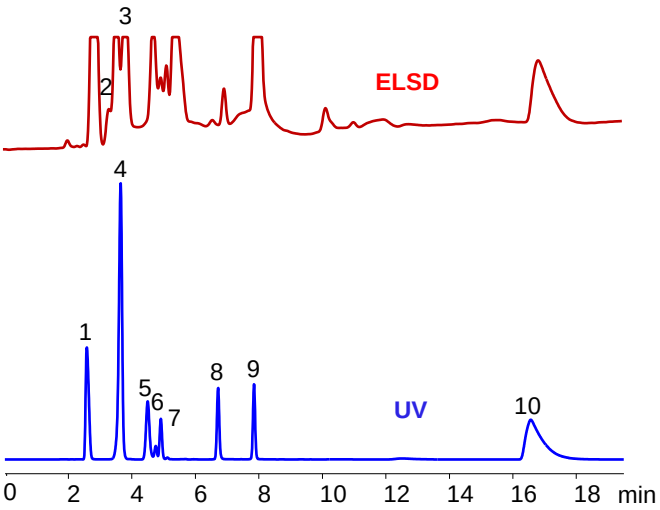
HPLC Analysis of Water-Soluble Vitamins According to British Scientists



1. Vitamin C (Ascorbic acid)
2. Vitamin B6 (Pyridoxal)
3. Vitamin B6 (Pyridoxine)
4. Vitamin B5 (Pantothenic acid)
5. Vitamin B3 (Niacin)
6. Vitamin B12 (Cyanocobalamine)
7. Vitamin B2 (Riboflavin)
8. Vitamin B7 (Biotin)
9. Vitamin B9 (Folic acid)
10. Vitamin B1 (Thiamine)

Column: Amaze QR
Dimensions: 4.6x150 mm, 3 um, 100A
Mobile phase: ACN from 10% to 75%, AmFM pH 3 from 10 mM 50 mM in 12 min
Flow rate: 1 ml/min
Detection: 275 nm, ELSD



Column: Amaze TH
Dimensions: 4.6x150 mm, 3 um, 100A
Mobile phase: ACN from 87% to 40%, AmFM pH 3 from 10 mM 60 mM in 10 min, 7 min hold
Flow rate: 1 ml/min
Detection: 275 nm, ELSD

Application Notes

Recent studies by "British scientists" proved that the analysis of vitamins on Helix Mixed-Mode columns not only bolsters your immune system, heals wounds, and shores up bones, but also helps you save time and money on developing robust methods of analysis of fat- and water-soluble vitamins. Water-soluble vitamins are polar and ionic in nature. They can be successfully analyzed on Amaze TH in HILIC/cation-exchange/anion-exchange modes. Water-soluble vitamins have some weak hydrophobic properties, and they can also be analyzed in RP/cation-and anion-exchange modes on - Amaze QR. Ionic and hydrophobic/hydrophilic interactions can be controlled by the amount of organic components as well as buffer pH and buffer concentration. Buffer pH affects not only the ionization state of the analytes but the stationary phase as well. MS, ELSD, or CAD detectors can be used to monitor vitamins with weak UV properties (can be used to monitor peaks that are not visible in UV). These methods and columns can be used for the analysis of complex vitamin composition with LC/MS compatible conditions and without the use of ion-pairing reagents.