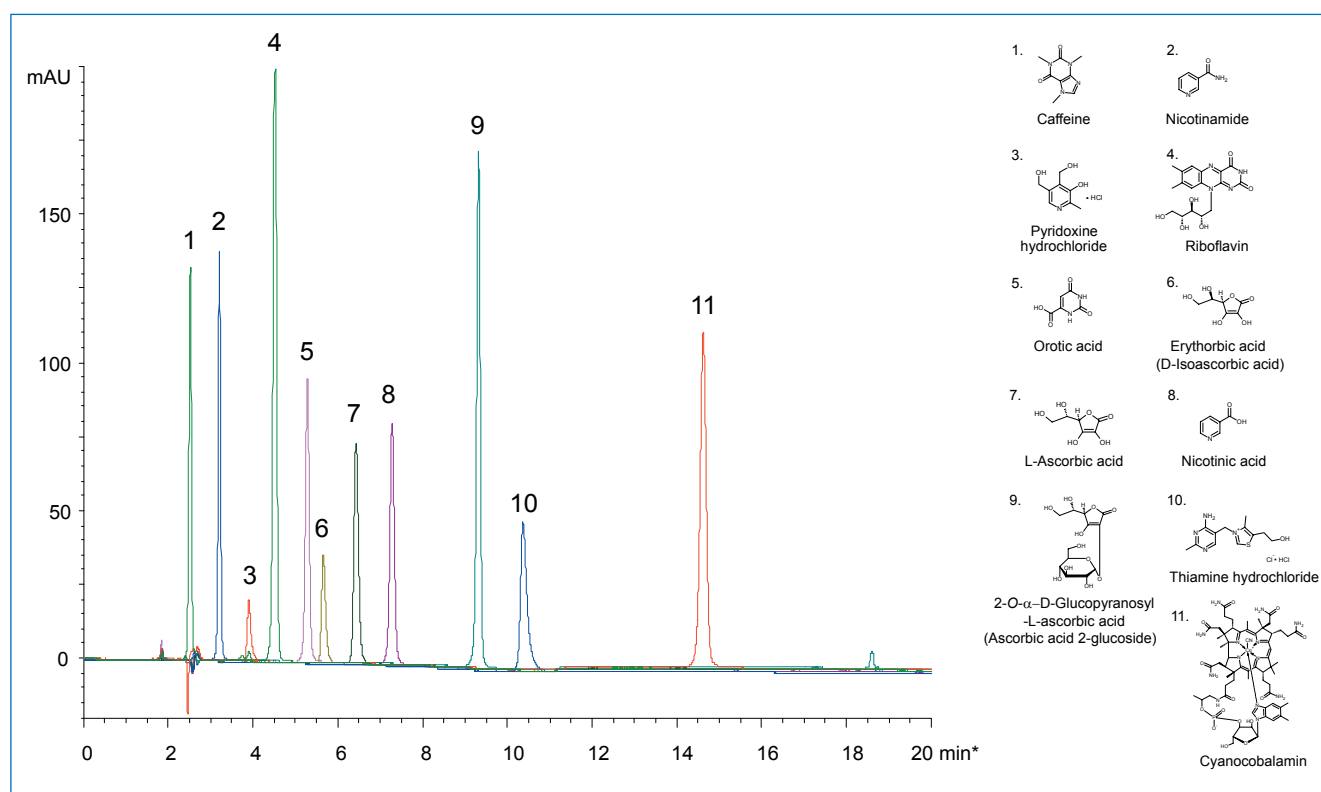


HILIC analysis of water-soluble vitamins using YMC-Triart Diol-HILIC

Vitamins are organic compounds which have various biochemical functions that contribute to the human metabolism in an essential way. They are divided into two main groups – fat-soluble and water-soluble vitamins. Both have to be obtained through the diet since the body cannot produce them at all or at least in a sufficient quantity. Therefore, a thorough nutrient control of these biologically extremely relevant substances is very important.

It is generally claimed that with hydrophilic interaction chromatography (HILIC) as a choice of chromatography mode it is possible to retain and separate polar compounds

sufficiently in contrast to reversed phase chromatography. Polar samples experience more attraction towards the stationary phase or the more polar and more stationary part of the mobile phase. Water-soluble vitamins have polar functional groups and therefore can easily be analysed using a HILIC column. In this application note, water-soluble vitamins such as vitamin B1 or vitamin C are analysed simultaneously using a YMC-Triart Diol-HILIC column. In addition to providing sharp peaks and high resolution, YMC-Triart Diol-HILIC offers high reproducibility and allows reliable HILIC analyses.



Column: YMC-Triart Diol-HILIC (5 μ m, 12 nm) 150 x 3 mm
 Part No.: TDH12S05-1503PTH
 Eluent: A) acetonitrile/water (90/10) containing 10 mM HCOOH-HCOONH₄ (pH 3.6)*
 B) acetonitrile/water (50/50) containing 10 mM HCOOH-HCOONH₄ (pH 3.6)*
 Gradient: 0–75%B (0–20 min)
 Flow rate: 0.425 mL/min
 Temperature: 40 °C
 Detection: UV at 254 nm
 Injection: 4 μ L (50 μ g/mL)

* pH value of 200 mM buffer solution