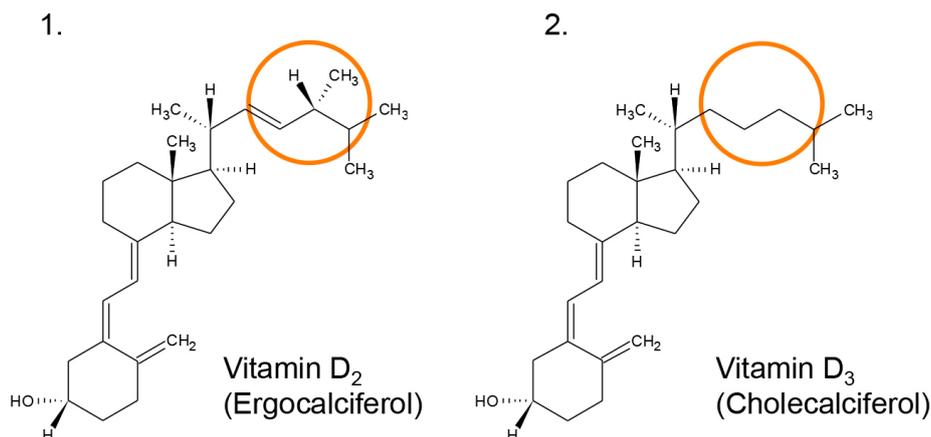


Vitamin D₂ and D₃ separation by new highly hydrophobic UHPLC/HPLC phase

Separations of structurally similar compounds such as vitamin D₂ and vitamin D₃ are very challenging.



Vitamin D₂ (ergocalciferol) and D₃ (cholecalciferol) can be found in different foods including fatty fishes, meat, eggs and some mushrooms. Both compounds are (indirectly) involved in a number of biological functions in the body, including bone metabolism and enhancement of intestinal absorption of calcium, iron, magnesium, phosphate and zinc. A regular intake of vitamin D therefore is essential.

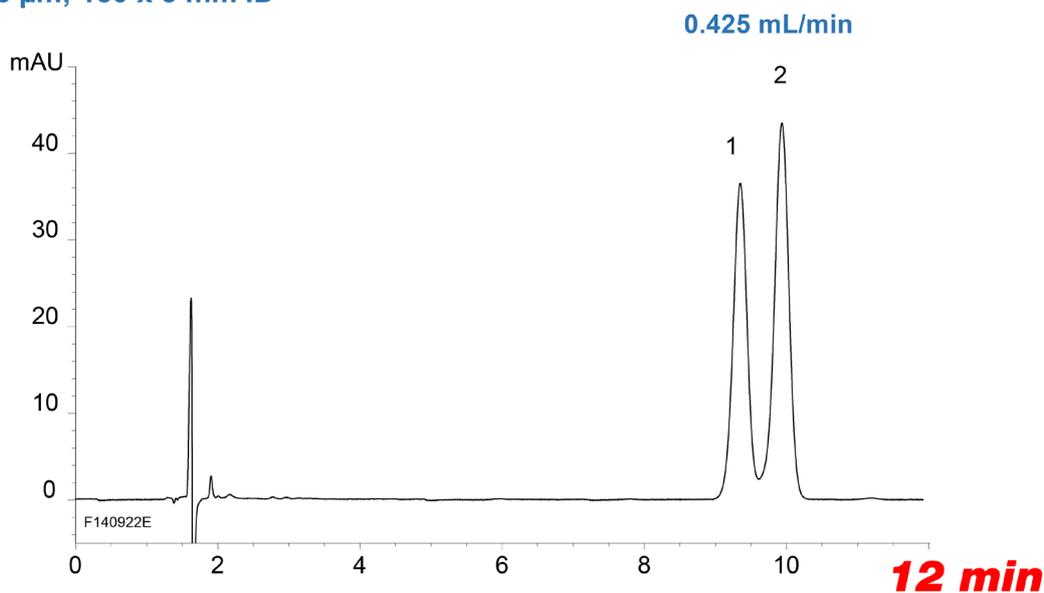


Standard C18 columns are not able to fully separate the two vitamins. A very hydrophobic phase with a higher carbon coverage and therefore a greater density of C18 chains is required. The highly hydrophobic phase YMC-Triart C18 ExRS (carbon load 25%!) is able to separate these two.

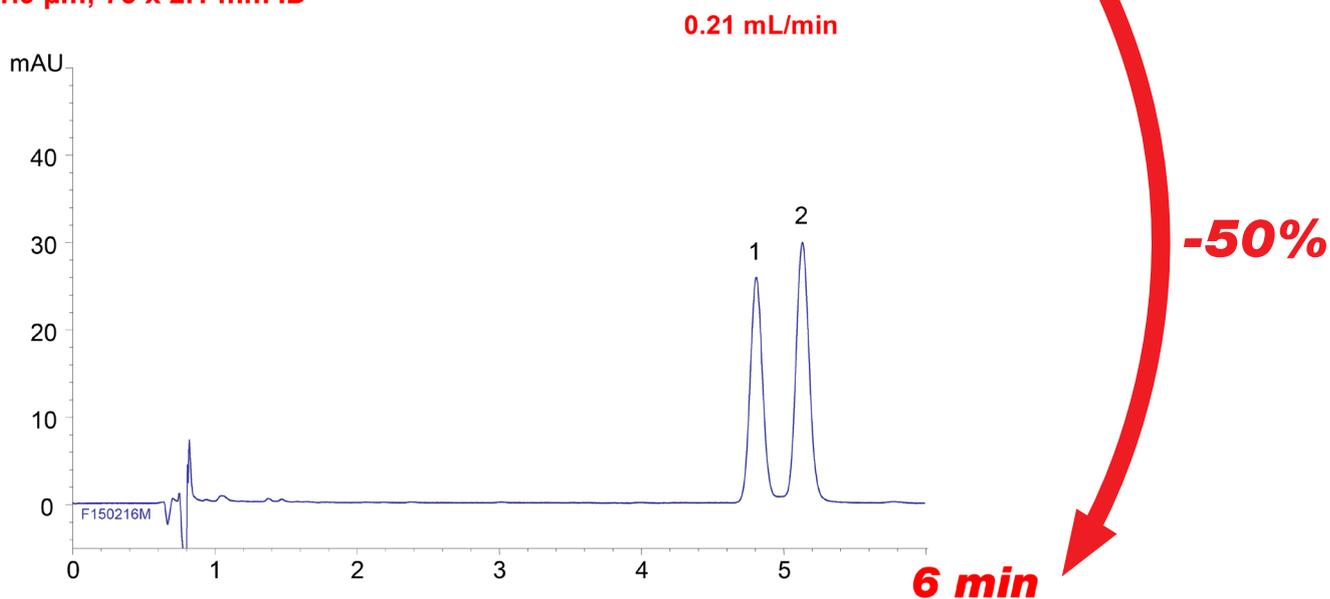
The isocratic HPLC method for vitamin D₂ and D₃ separation, using a 5 µm YMC-Triart C18 ExRS column, can easily be transferred to a UHPLC method using a 1.9 µm column reducing the analyse time by 50%. Furthermore, the resolution can be increased resulting in a full baseline separation.

Vitamin D₂ and D₃ separation
by new highly hydrophobic UHPLC/HPLC phase

HPLC method
5 μ m; 150 x 3 mm ID



UHPLC method
1.9 μ m; 75 x 2.1 mm ID



Part No.: TAR08S05-1503PTH/TAR08SP9-L5Q1PT
Eluent: THF / acetonitrile (10/90)
Flow rate: 0.425 ml/min
Detection: UV at 265 nm
Temperature: 30 °C