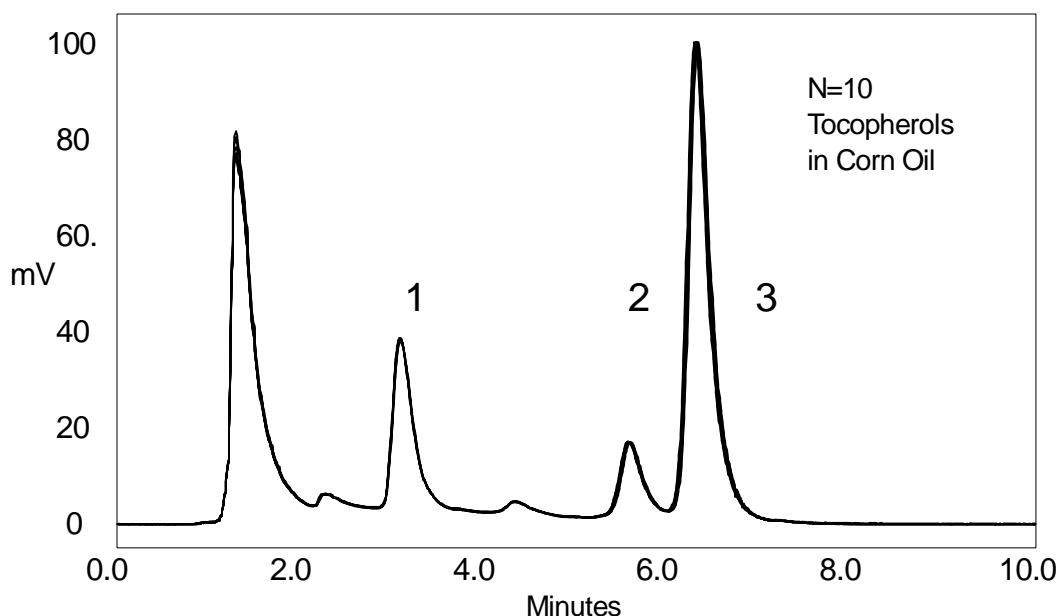


Improved Normal Phase Performance

Waters Alliance Separations Module provides High Performance delivery of normal phase solvents.



Delivering high precision flow of normal phase solvents such as hexane has traditionally been difficult. The Waters Alliance Performance by Design serial flow path provides a new level of flow performance when running common normal phase solvents. The results shown above represents an overlay of 10 injections and demonstrates the excellent flow reproducibility of the Waters Alliance Separations Module with normal phase solvents.

Waters Alliance System
consisting of:
Waters Alliance
Separations Module
Waters 474 Scanning
Fluorescence Detector
Mobile phase:
99.7% hexane
0.3% IPA

Normal phase chromatography incorporates mobile phases which typically consist of volatile, non-polar solvents. A disadvantage to pumping these mobile phases is that they tend to evaporate in the refill stroke of reciprocating piston pumps. This leads to the pump head not fully filling with solvent.[1] The result is poor flow precision and accuracy, and increased baseline noise. The Performance by Design serial flow path of the Waters Alliance Separations Module is perfectly suited to delivering normal phase solvents such as hexane with high precision. The results shown below exemplify this excellent performance of the Alliance with normal phase solvents.

Retention time % RSD
n=10

Peak 1	Peak 2	Peak 3
0.114	0.160	0.173

1- Practical Aspects of Modern High Performance Liquid Chromatography
Proceedings, Dec. 7-8, 1981, West Berlin
Imre Molnar, Editor
Walter de Gruyter, Berlin, New York, 1983