

## How does efficiency in Aqueous Normal Phase ANP compare to HILIC in HPLC – FAQ

**Aqueous Normal Phase ANP HPLC is a distinctly different retention mode than Hydrophilic Interaction Liquid Chromatography or HILIC.**

In HILIC, evidence has shown that retention is achieved by partitioning in and out of a water layer surrounding the stationary phase surface. With a much less polar surface **TYPE-C silica** columns do not exhibit this same partitioning retention behavior.

Speculated local solvent displacement in ANP retention is likely to lead to faster mass transfer than partitioning in and out of a water layer. The figure below illustrates the difference in efficiency measured as height equivalent of a theoretical plate, (*HETP*) between an ANP column and a HILIC column. The significant difference in van Deemter plots suggests that the two mechanisms are very different.

See also: [What are the main differences between ANP and HILIC?](#)



Printed from the Chrom Resource Center

**MicroSolv Technology Corporation**

9158 Industrial Blvd. NE, Leland, NC 28451

tel. (732) 380-8900, fax (910) 769-9435

Email: [customers@mtc-usa.com](mailto:customers@mtc-usa.com)

Website: [www.mtc-usa.com](http://www.mtc-usa.com)

Date: 03-05-2024