

ZIC®-pHILIC

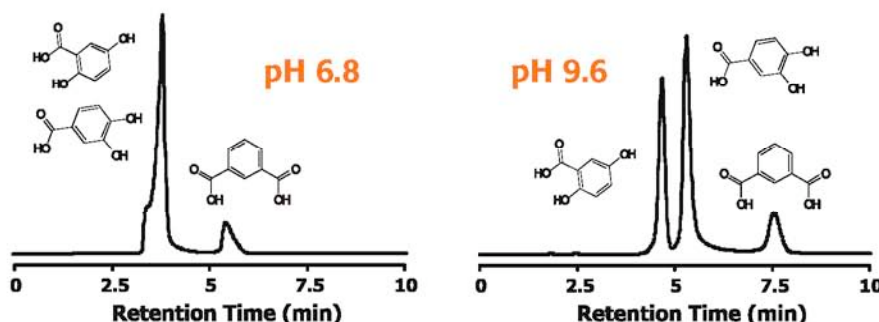
HYDROPHILIC POLYMER PHASE FOR LIQUID CHROMATOGRAPHY

- ◆ Permanent zwitterionic groups covalently attached to porous polymer beads
- ◆ Excellent properties for Hydrophilic Interaction Liquid Chromatography (HILIC)
- ◆ Designed for separations utilizing eluents in a wide pH range

Unique Zwitterionic Polymeric Material

The ZIC®-pHILIC material comprises a highly polar zwitterionic functional group anchored to porous polymer beads. This stationary phase provides a unique environment, not only particularly capable of solvating hydrophilic compounds, but also offering the possibility of weak electrostatic interactions with analytes carrying positive or negative charges. When utilized for Hydrophilic Interaction Liquid Chromatography (HILIC) separations, the selectivity of the ZIC®-pHILIC can easily be tuned while maintaining a high content of organic solvent and a low ionic strength in the mobile phase. These properties make the ZIC®-pHILIC material excellent for separations of a wide range of polar and hydrophilic compounds and an ideal choice for LC/MS analysis. Anchored to polymeric beads, the selectivity of the zwitterionic ZIC®-pHILIC stationary phase can safely be explored in a wide pH-range, thereby extending the classes of analytes that can be separated by HILIC and facilitating the selection of optimum ionization conditions for high MS-sensitivity.

Enhanced Selectivity, Higher Retention and Improved Peak Shape at High pH



Column: ZIC®-pHILIC (100 x 4.6 mm, 5 µm, 200 Å, P/N 2812-105). Eluent: 75:25 acetonitrile/aqueous buffer pumped at 0.5 mL/min. Buffer salt: ammonium acetate (17 mM, pH 6.8) or ammonium carbonate (17 mM, pH 9.6).

Example of Enhanced Selectivity at High pH

The application example above illustrates how the selectivity of the ZIC®-pHILIC material can be enhanced by performing the separation at elevated pH. The chromatograms show isocratic separations of gentisic acid, protocatechuic acid and isophthalic acid on a ZIC®-pHILIC column. The pH-increase also results in higher retention and improved peak shape for these analytes.

Ordering Information

The ZIC®-pHILIC porous polymer material is available in PEEK columns containing PEEK frits to retain the material. The zwitterionic ZIC®-pHILIC functionality is also available as a silica-based material with a wider selection of particle sizes and column dimensions. Other options may be available upon request.

Analytical Columns

P/N	dp µm	Porosity Å	Length mm	ID mm	Description
2812-052	5	200	50	2.1	Analytical column, PEEK
2812-102	5	200	100	2.1	Analytical column, PEEK
2812-055	5	200	50	4.6	Analytical column, PEEK
2812-105	5	200	100	4.6	Analytical column, PEEK

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