

PC HILIC ~Phosphorylcholine - bound HILIC Column~

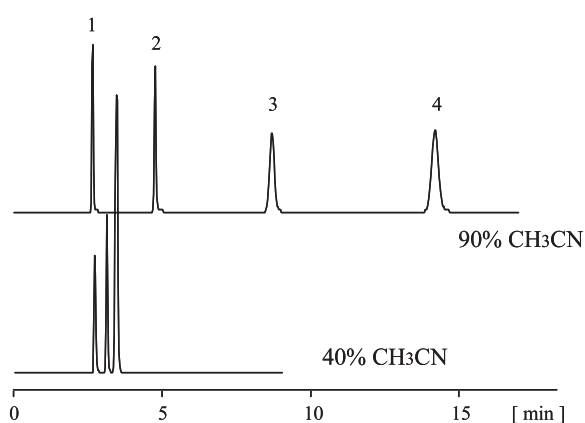
Features

- A silica-based HILIC column with phosphorylcholine (PC) group
- Excellent retention and separation of very polar and hydrophilic compounds
- Large number of theoretical plates and outstanding peak profiles

PC HILIC is a silica-based HILIC column with phosphorylcholine (PC) group. The superhydrophilic character of PC was taken advantage of in preparing an optimum stationary phase for HILIC mode separation. Polar, hydrophilic, and charged compounds, which are hard to handle in reversed-phase mode, are expected to show adequate retention with PC HILIC.

What is HILIC?

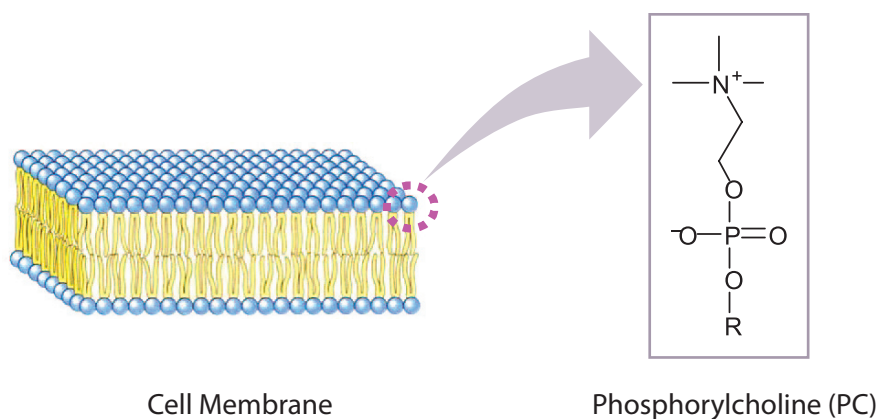
Hydrophilic interaction liquid chromatography (HILIC) is a relatively new LC technique that uses a hydrophilic stationary phase, in most cases, with organic-dominant mobile phase. The elution order of substances in HILIC mode is roughly the reverse of that in reversed-phase mode.



Column	: PC HILIC 4.6 x 250 mm, 5 μ m
M. phase	: 10mmol/L HCOONH ₄ , x% CH ₃ CN
Flow rate	: 1 mL/min
Temp.	: 40 °C
Detection	: UV 254 nm
Sample	: 1. Naphthalene, 2. Thymine, 3. Adenine, 4. Cytosine

What is PC?

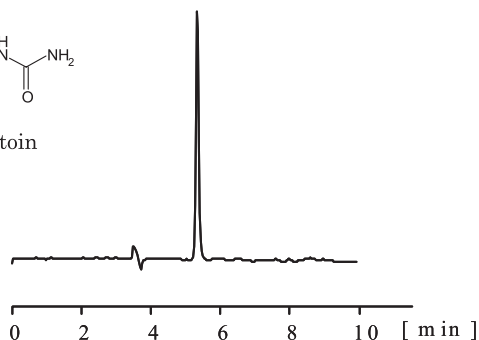
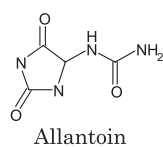
Phosphorylcholine (PC) is a partial structure of phosphatidylcholine (lecitin), one of the phospholipids forming cell membranes. PC has a betaine structure and shows high hydrophilicity, biocompatibility, and inhibitory effect of protein adhesion. Its superhydrophilic character is suitable to the application as a HILIC phase.



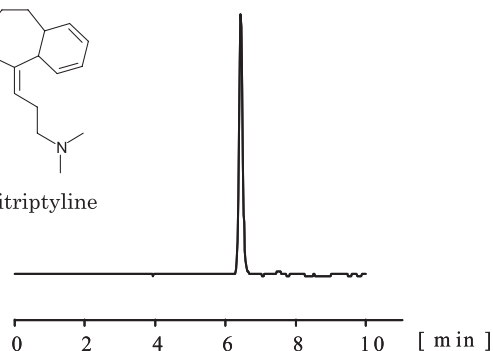
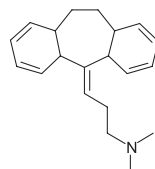


Strong retention of polar compounds

HILIC mode provides another alternative to handle extremely polar and hydrophilic compounds, which are unretainable in reversed-phase (e.g. a chromatogram of allantoin, shown below)



Column : PC HILIC 4.6 x 250 mm, 5 μ m
 M. phase : 80% CH₃CN
 Flow rate : 1 mL/min
 Temp. : 40 °C
 Detection : UV 210 nm
 Sample : Allantoin

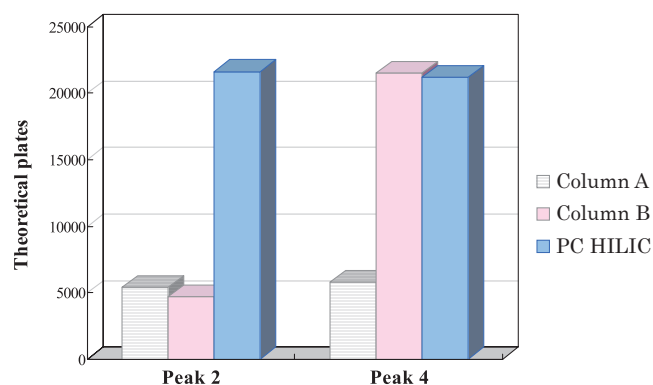
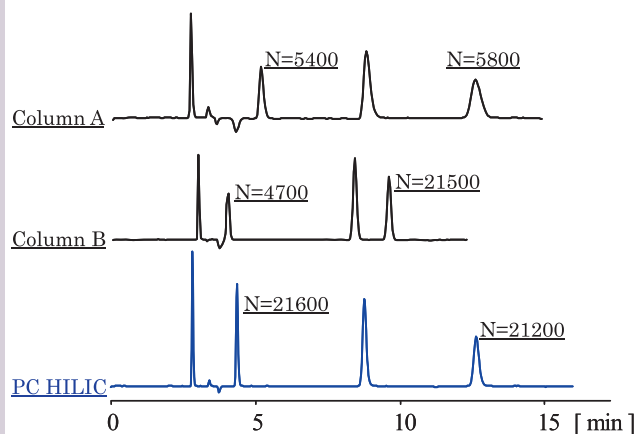


Column : PC HILIC 4.6 x 250 mm, 5 μ m
 M. phase : 10 mmol/L HCOONH₄ in 90% CH₃CN
 Flow rate : 1 mL/min
 Temp. : 30 °C
 Detection : UV 254 nm
 Sample : Amitriptyline

Amitriptyline, a compound with a strong basicity, is often used for discussing the quality of columns. PC HILIC provides excellent peak shapes for basic compounds, too.

High Column Efficiency

PC HILIC shows large numbers of theoretical plates, compared to conventional HILIC columns.



Column : PC HILIC 4.6 x 250 mm, 5 μ m
 M. phase : 10 mmol/L HCOONH₄, CH₃CN/H₂O=90/10, pH=3.5
 Flow rate : 1 mL/min
 Temp. : 40 °C
 Detection : UV 254 nm
 Sample : 1. Naphthalene, 2. Thymine,
 3. Adenine, 4. Cytosine