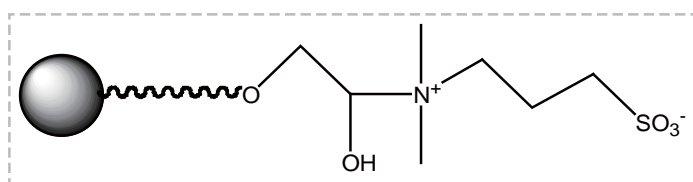


# Ultisil™ HILIC Amphion II Column

----Hydrophilic Interaction Liquid Chromatography

welch

- Amphion-bonded silica stationary phase
- Enhanced hydrophilic interaction brings higher retention for polar and hydrophilic compounds
- Different selectivity from common HILIC packing materials
- Simple mobile phase used for the separation of polar compounds



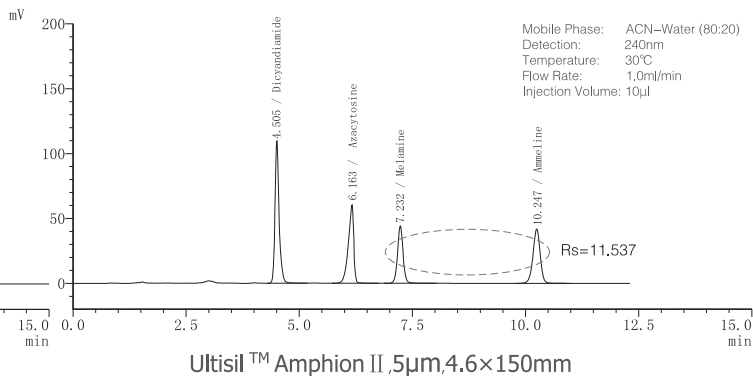
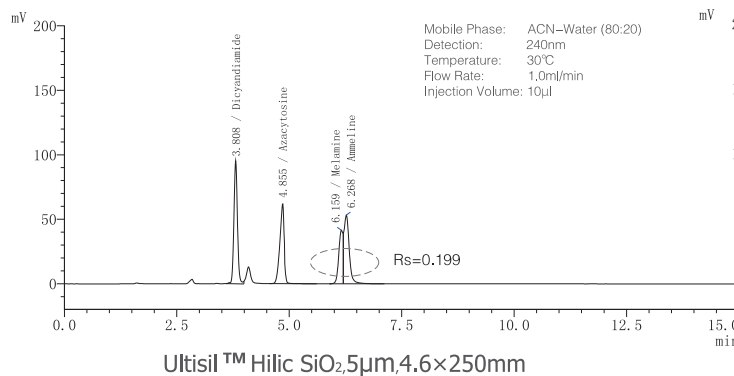
Chemical Structure Formula

Packing Material	High-purity spherical porous silica
Particle Size	5 $\mu\text{m}$
Pore Size	120 $\text{\AA}$
Stationary Phase	Amphion
Interaction	Hydrophilic, Ion-exchange
Application	Polar and Hydrophilic compounds

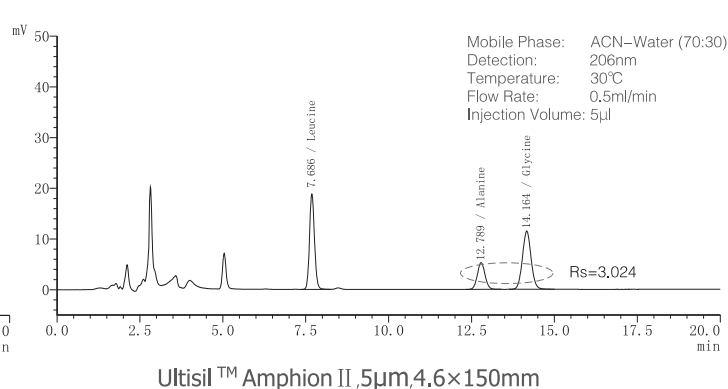
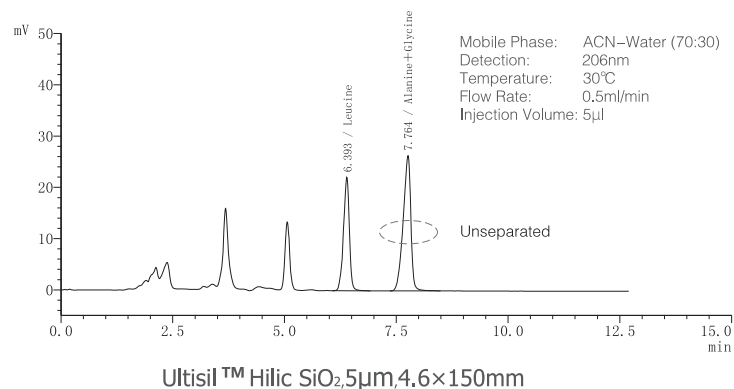
Ultisil™ HILIC Amphion II is a newly developed HILIC column, using amphion-bonded silica as packing material. It applies to the separation of most polar compounds, using ACN or Water other than ion-pairing reagents as mobile phase. The Amphion, containing both Positive Charge Centre and Negative Charge Centre, brings high retention for acid and alkaline compounds through ion-exchange mechanism. Compared with common HILIC packing materials like silica and amino groups, the Amphion-bonded packing material provides better reproducibility and stability.

## Comparison

### ► Separation of 4 Polar Compounds (Dicyandiamide, Azacytosine, Melamine, Ammeline)



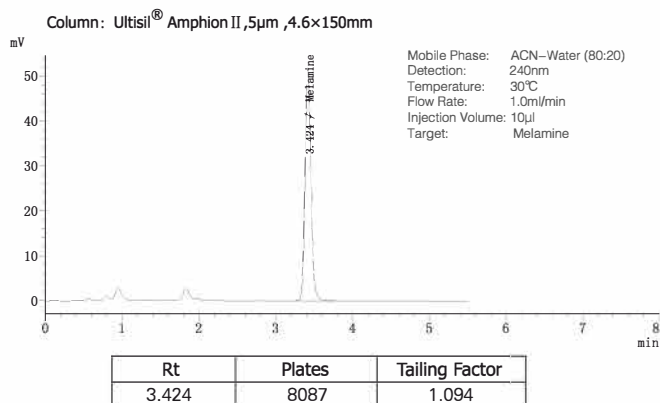
### ► Separation of 3 Aliphatic Amino Acids (Leucine, Alanine, Glycine)



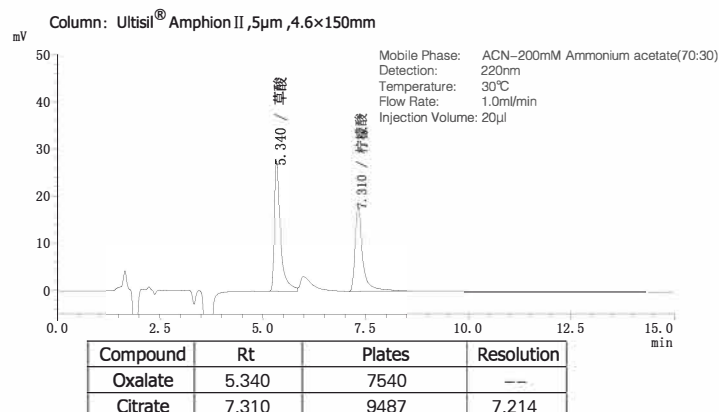
## Applications

Ultisil™ HILIC Amphion II column applies to the separation of most polar compounds. The interactions during separation include hydrophilic, ion-exchange and hydrogen-bond interaction etc. The retention time of targets can be adjusted by changing the ratio of mobile phase.

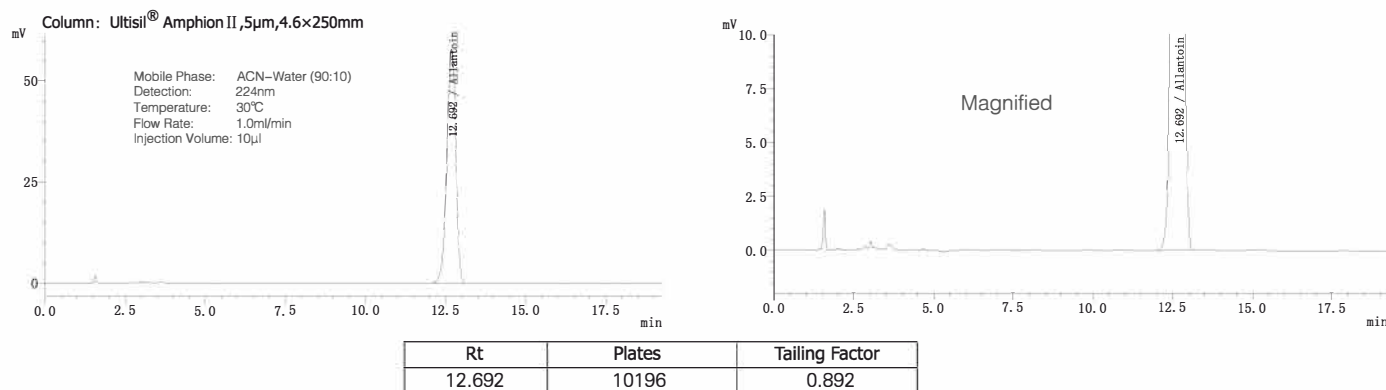
### ► Determination of Melamine



### ► Separation of Citrate and Oxalate



### ► Determination of Allantoin



## Precautions

Before use, flush with 50 column volumes of mobile phase (ACN/water, 80:20) to equilibrate. Before injection, flush with 20 column volumes of mobile phase to equilibrate. For gradient analysis, flush with 10 column volumes of original mobile phase between injections.

### Note:

- Shifts of retention time may occur, if not sufficiently equilibrated.
- ACN is the most common mobile phase solvent in HILIC mode. Other water-soluble polar organic solvents can also be used as mobile phases. The comparison of elution strength is: THF<Acetone<ACN<Isopropanol<Ethanol<Methanol<Water.
- Long-period equilibration required, after using buffer salt mobile phase (like ammonium formate, ammonium acetate etc.) and buffer salt being flushed off.
- After use, flush off the buffer salt in the column and store in 100% ACN solvent.

## Dimensions

P/N	Dimension	Particle Size	Pore Size	Surface Area	Max Temp	pH Range
00274-31039	4.6×100mm	5µm	120Å	300m <sup>2</sup> /g	60°C	2-8
00274-31041	4.6×150mm	5µm	120Å	300m <sup>2</sup> /g	60°C	2-8
00274-31043	4.6×250mm	5µm	120Å	300m <sup>2</sup> /g	60°C	2-8