

Pro inert

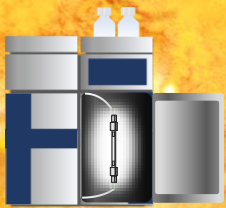
The Highest Deactivation
Universal Reversed-Phase Columns

Prominert



The Best Separation

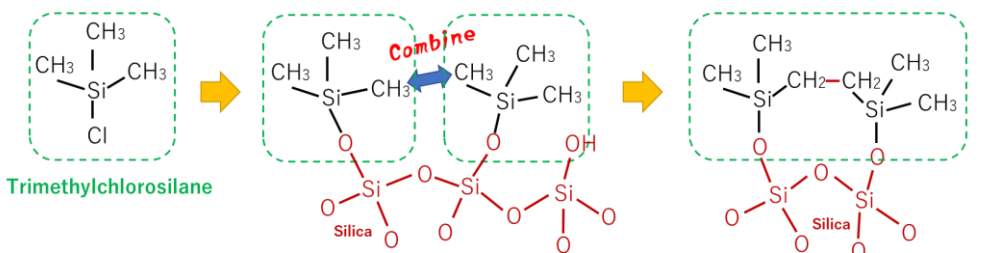
At Less Than 20 MPa



Works with any
HPLC system

* Tandem TMS end-capping

The ultimate end-capping method at the present



Dramatically improved

Denser end-capping than TMS

Tandem TMS deactivation
provides alkaline durability
comparable to hybrid silica,

High durability

ProMinert

The highest resolution
for any HPLC



ChromaNik Technologies Brief history of successive HPLC columns and an overview of the new column Prominert

2005. Established ChromaNik 2006: Started research and development of a unique hybrid column (Post-X2) that fused the knowledge of silica and polymers.

2007. Established silanol activity control technology (SAC) and developed Sunrise C18-SAC with the most unique selectivity.

2008. Released the highly stable and low-adsorption fully-porous column Sunniest series, and established advanced deactivation technology (Sunniest End-capping).

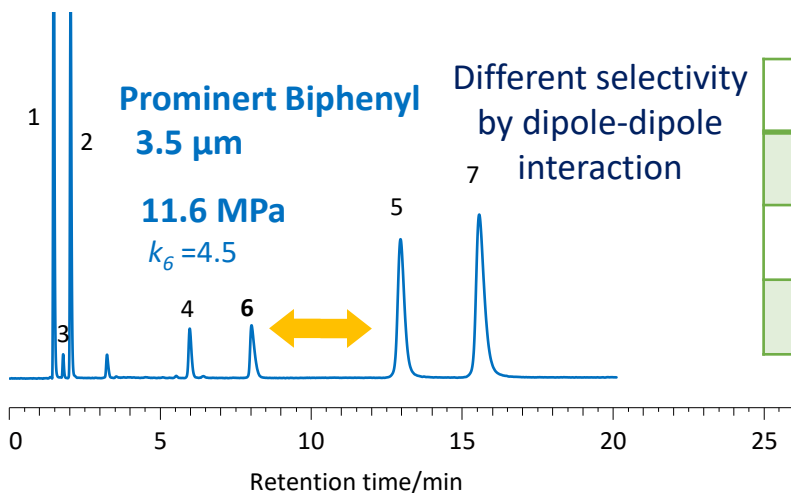
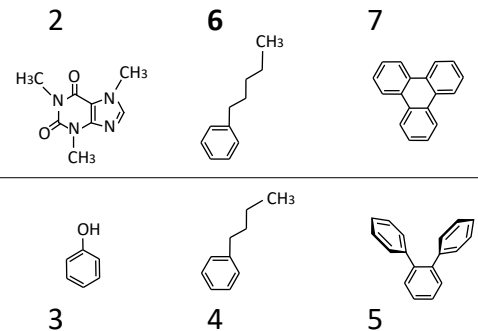
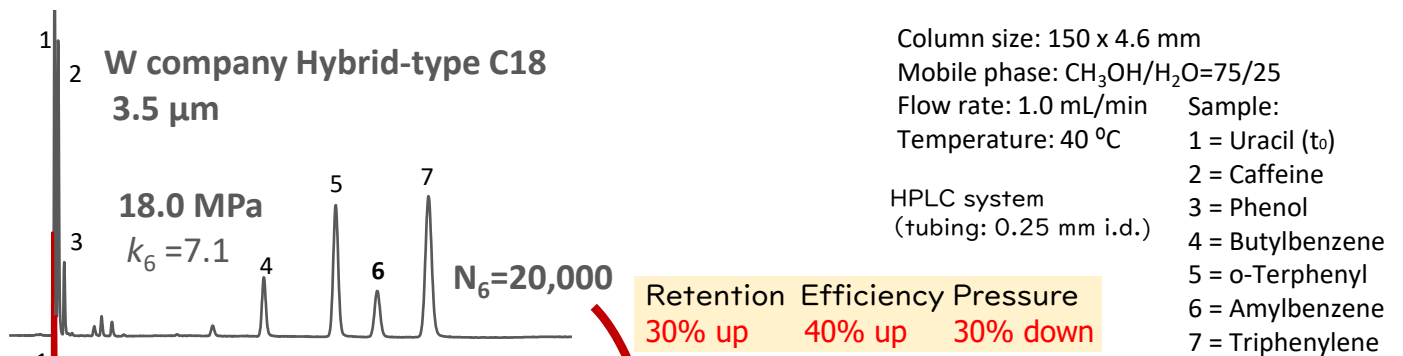
2011. A column that applies a high degree of deactivation treatment to superficially porous (core-shell type) particles, SunShell was launched. Since then, we developed a series of new particles and new stationary phases (PFP&C18, Biphenyl, etc.).

2015. Released SunArmor, a fully porous column with high alkali durability.

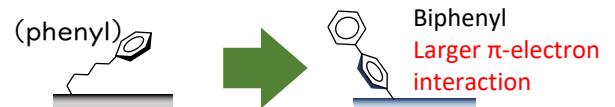
In 2023, we released the column "Prominert" developed with the technology we have built so far. The concept is "highest resolution in HPLC". It delivers the best separation performance in conventional HPLC, not UHPLC, and is durable.

Basic column performance

Prominert C18: Lower pressure, larger retention, and higher efficiency than hybrid type



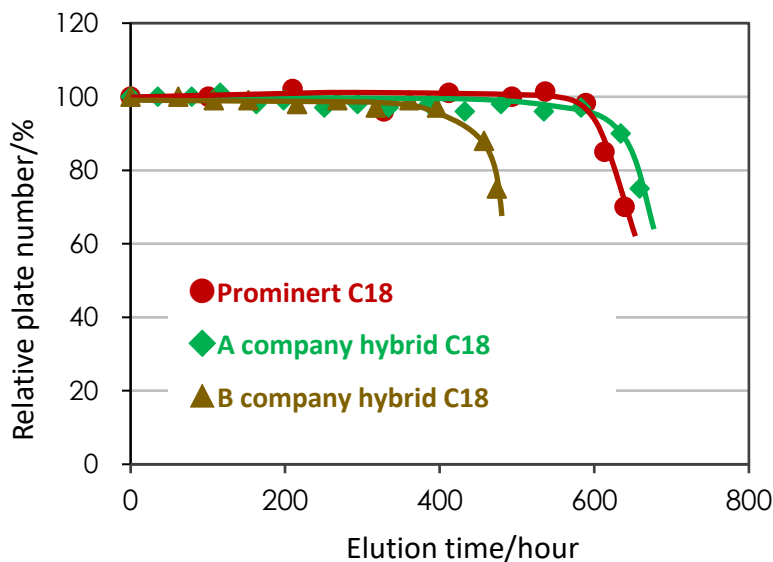
	Hydrogen bonding*	Hydrophobicity	Steric selectivity
Separation factor (α)	Caffeine/Phenol	Amylbenzene/Butylbenzene	Triphenylene/o-Terphenyl
Prominert C18	0.38	1.58	1.47
Prominert Biphenyl	1.81	1.46	1.23



Prominert Biphenyl: Separation behavior different from C18 in methanol mobile phase

*"Hydrogen bonding" is originally a separation characteristic derived from silanol groups, but in this column it takes a larger value due to π electron.

Prominert C18: High pH durability comparison with hybrid C18 column



With new advanced end-capping technology, Achieves durability equivalent to hybrid C18

Stable under basic pH condition

Furthermore, Stable under acidic pH condition (to pH 1)

Durable test condition

Column size: 50 x 2.1 mm
Mobile phase: CH₃OH/10mM Ammonium bicarbonate (pH10.5)=30/70
Flow rate: 0.8 mL/min
Temperature: 60 °C

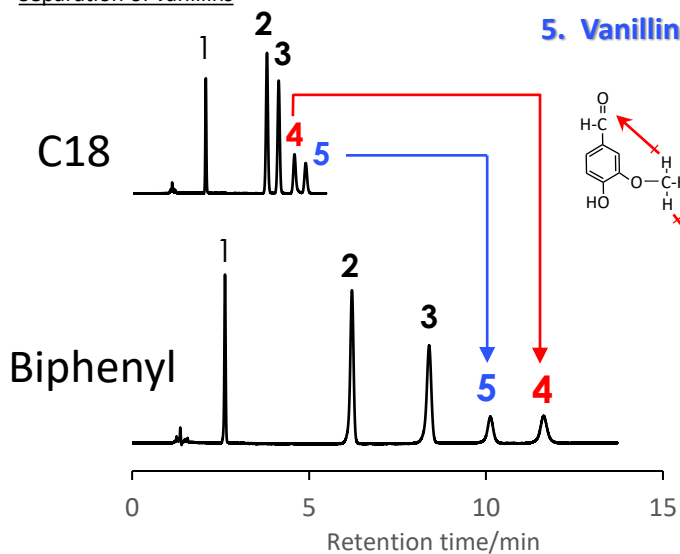
Measurement condition

Column size: 50 x 2.1 mm
Mobile phase: CH₃CN/H₂O=60/40
Flow rate: 0.2 mL/min
Temperature: 40 °C
Sample: 1 = Butylbenzene

low high

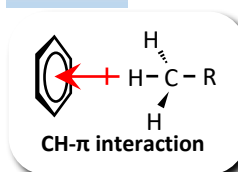
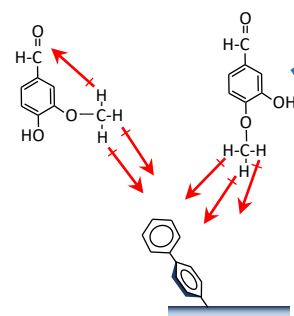
Prominert Biphenyl: Effect of retention and selectivity by unique interaction

Separation of vanillins



5. Vanillin 4. Isovanillin

Image of CH-π interaction between Biphenyl stationary phase and sample

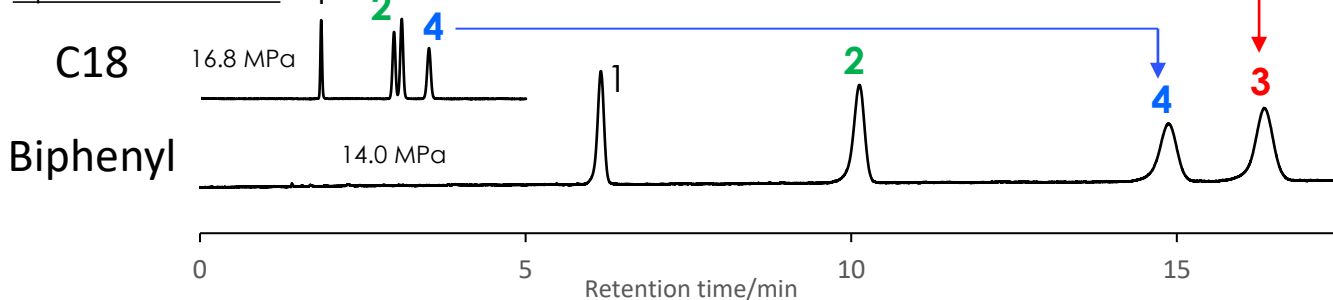


Column: Prominert 3.5 μm, 150 x 4.6 mm
Mobile phase: CH₃OH / 0.1% H₃PO₄ = 25/75
Flow rate: 1.0 mL/min
Temperature: 40 °C
Detection: UV@250nm
Sample: 1. Protocatechuic Acid
2. Vanillic Acid
3. Isovanillic Acid
4. Isovanillin
5. Vanillin

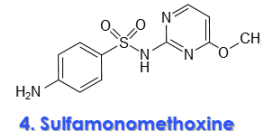
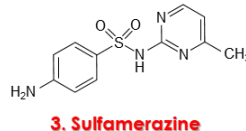
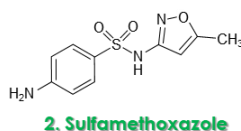
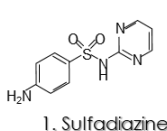
CH-π interaction differences due to intramolecular interactions occurring at substituent positions

CH-π selectivity

Separation of Sulfonamides



Column: Prominert C18 or Biphenyl 3.5 μm, 150 x 4.6 mm
Mobile phase: Methanol:50 mM Ammonium acetate = 20/80
Flow rate: 1.0 mL/min
Temperature: 40 °C
Detection: UV@265nm



Prominert

Works with any HPLC system

【Specification】

• Porous silica

Carbon Loading

C18: 7%

Biphenyl: 4%

Particle size: 3.5 μm

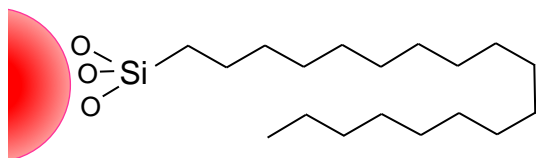
End-capping: Tandem TMS

Pore diameter: 9 nm

Surface area: 140 m^2/g

low  high

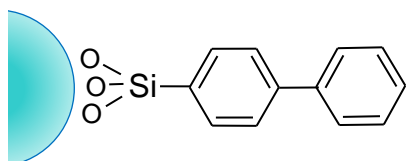
Usable over a wide pH rang



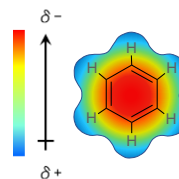
**Stable and Robust
First Choice column**

- Best performance even using a conventional HPLC
- 20 MPa or less in methanol/water mobile phase

Column	Length (mm)	Part number / Inner diameter			Maximum pressure (Available pH range)
		2.1 mm	3 mm	4.6 mm	
Prominert C18	50	PB9941	PB9341	PB9441	60 MPa (1 - 12)
	100	PB9961	PB9361	PB9461	
	150	PB9971	PB9371	PB9471	
	250	PB9981	PB9381	PB9481	



**widen the separation
Second choice column**



Unique interaction allows separation different from C18.

Column	Length (mm)	Part number / Inner diameter			Maximum pressure (Available pH range)
		2.1 mm	3 mm	4.6 mm	
Prominert Biphenyl	50	P89941	P89341	P89441	60 MPa (1 - 10)
	100	P89961	P89361	P89461	
	150	P89971	P89371	P89471	
	250	P89981	P89381	P89481	

*Tips for selecting a Biphenyl mobile phase: Methanol is the basic organic solvent, but selectivity can be changed by adding 2-propanol or acetonitrile.