

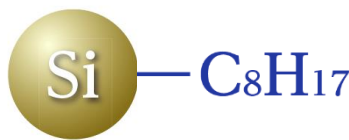
# InertSustainSwift™ C8

New!

InertSustainSwift C8 is an octyl group (C8) bonded column offering the same extreme inertness to any type of compounds just like InertSustainSwift C18, which is ideal for analyzing low polarity analytes. In addition, the optimized 200 Å pore size silica enables to analyze and retain peptides and oligonucleotides which have a molecular weight from several kDa to several dozen kDa.

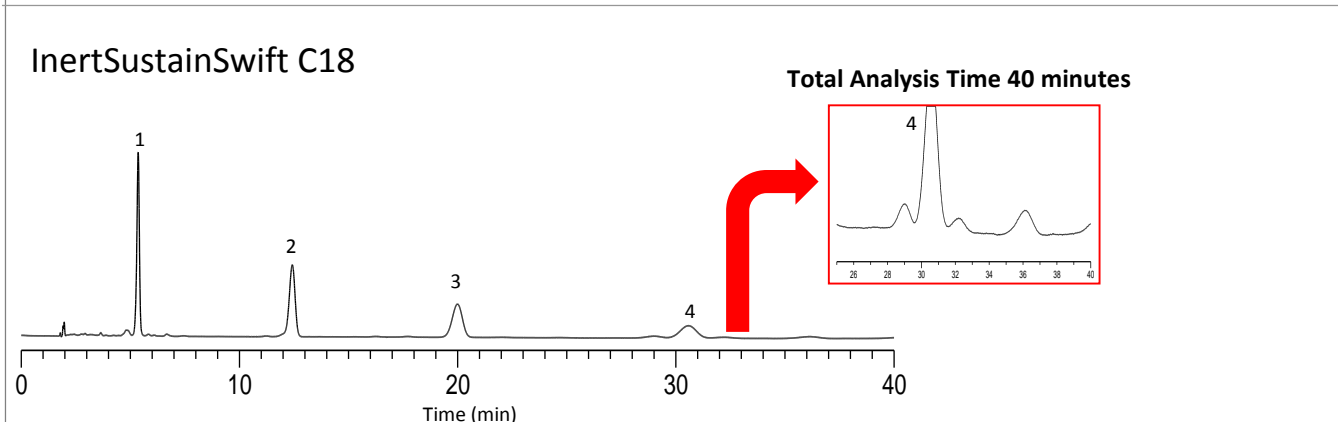
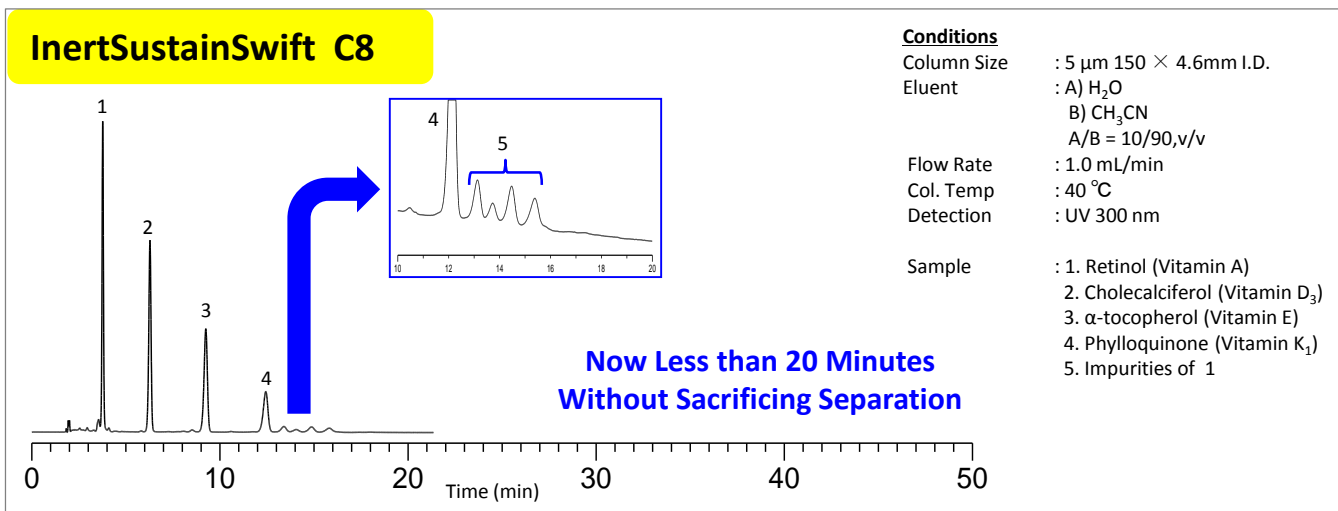
## Physical Properties

- Silica : ES (Evolved Surface) Silica Gel
- Particle Size : 1.9 μm, 3 μm, 5 μm
- Surface Area : 200 m<sup>2</sup>/g
- Pore Size : 200 Å (20 nm)
- Pore Volume : 1.00 mL/g
- Bonded Phase : Octyl Groups
- End-capping : Complete
- Carbon Loading : 6 %
- pH Range : 1~10
- USP Code : L7



## Fat-Soluble Vitamins

Many chromatographers prefer a C8 column when an ODS phase shows excessive retention values. In this example, the InertSustainSwift C8 provides shorter analysis time with better selectivity on the impurities eluted after sample no. 4 due to the shorter alkyl chain length of the stationary phase.



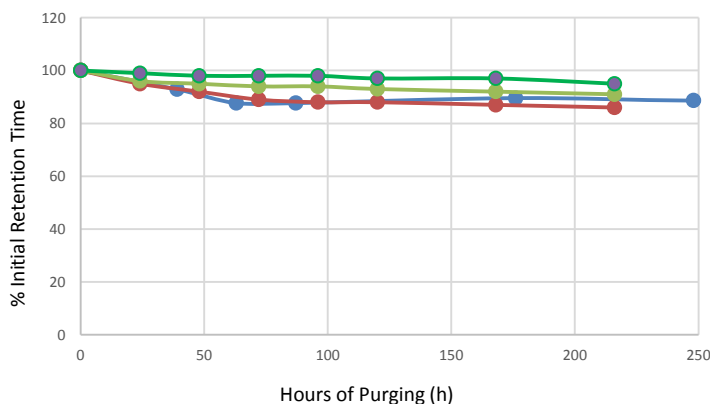
## Extreme Resistance to Low and High pH Mobile Phases

The most popular way to start method development is to use a buffered low pH mobile phase. Using a low pH mobile phase frequently delivers the best peak shape for basic compounds on silica-based columns. However, low pH solvents tend to cause poor column lifetime due to the acid hydrolysis of the bonded phase.

For samples that were not well retained at low or mid pH, the usage of high pH mobile phases is required to achieve satisfactory retention and separation. High pH separations on silica-based columns are generally avoided due to the short column lifetimes.

As shown below, InertSustainSwift C8 not only show high resistance to low pH but also to high pH due to the usage of a radically new type of silica, in which the surface of the silica is uniquely modified, enabling precise control of the silica properties.

### Low pH Resistance Test



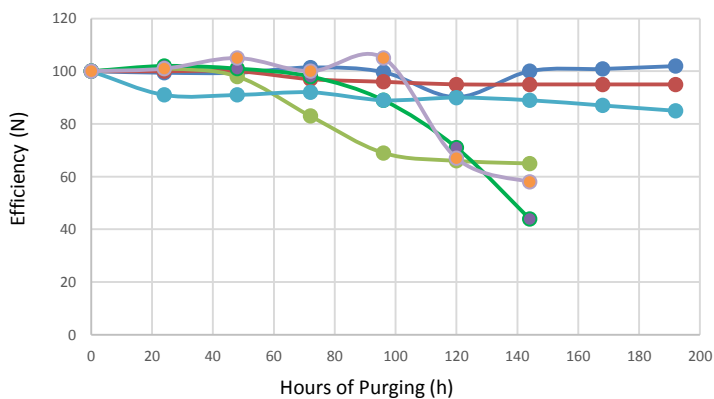
#### Conditions

Purging Solvent : 0.1 % TFA (pH 2.0)/CH<sub>3</sub>CN = 90/10, v/v  
Column Temp. : 60 °C  
Sample : Naphthalene

#### Testing Procedure

- 1) Purging solvent is introduced into column.
- 2) The column is then flushed with 10 % CH<sub>3</sub>CN .
- 3) Naphthalene is used to verify the % initial retention.

### High pH Resistance Test



#### Conditions

Purging Solvent : 50 mM TEA (pH 9.0)/CH<sub>3</sub>OH = 70/30, v/v  
Column Temp. : 50 °C  
Sample : Naphthalene

#### Testing Procedure

- 1) Purging solvent is introduced into column.
- 2) The column is then flushed with 30 % CH<sub>3</sub>OH .
- 3) Naphthalene is used to verify the efficiency.

## About InertSustainSwift columns

InertSustainSwift, the name of our brand comes from the key word “INERT”, which is the most important factor in the separation analysis. GL Sciences’ InertSustainSwift columns deliver the maximum performance of an HPLC column. Reversed phase C8 columns comprise the vast majority of columns used in the HPLC separation industry. We selected a wide variety of popular brands and compared them with GL Sciences’ InertSustainSwift C8.

## Comparison Table

Column	Surface Area (m <sup>2</sup> /g)	Pore Size (Å)	Pore Volume (mL/g)	Carbon Loading (%)	pH Range
<b>InertSustainSwift C8</b>	<b>200</b>	<b>200</b>	<b>1.00</b>	<b>6</b>	<b>1-10</b>
Hypersil BDS C8	170	130	0.65	7	2-9
Triart C8	—	120	—	17	1-12
Luna C8(2)	400	100	—	13.5	1.5-10
YMC-Pack Pro C8	325	120	0.97	10	2-7.5
L-column C8	340	120	1.1	10	2-7.5
SunFire C8	340	100	0.86	11.5	2-8
XBridge C8	185	130	0.77	13	1-12
Zorbax Eclipse Plus C8	95	160	—	8	2-9

- Particle size: all 5 µm
- Column size: all 250 x 4.6 mm I.D.



## Explanation of Analytical Tests and Conditions (1/2)

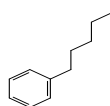
By conducting the following tests, we can evaluate the selectivity, degree of inertness of the column and whether it can be used in a 100 % aqueous mobile phase condition. To strictly evaluate all columns, the below mentioned samples were used, which are all known as strong adsorptive challenging compounds.

### Selectivity Test

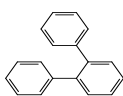
Sample No.4, *n*-Butylbenzene and Sample No.5, *n*-Amylbenzene were used to determine the hydrophobic property of the column. *n*-Amylbenzene elutes later against *n*-Butylbenzene when the hydrophobicity of the column is high. Stereoselectivity is indicated by Sample No.6, *o*-Terphenyl and Sample No.7, Triphenylene. *o*-Terphenyl has a twisted tertiary structure and Triphenylene has a planar structure. Triphenylene elutes later against *o*-Terphenyl when the stereoselectivity of the column is high.



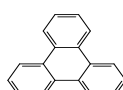
4. *n*-Butylbenzene



5. *n*-Amylbenzene



6. *o*-Terphenyl



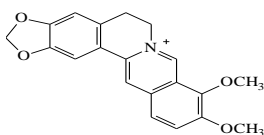
7. Triphenylene

#### Conditions

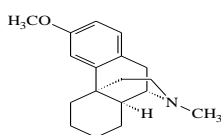
Eluent	: A) CH <sub>3</sub> OH B) H <sub>2</sub> O A/B = 80/20, v / v
Flow Rate	: 1.0 mL/min
Col. Temp.	: 40 °C
Detection	: UV 254 nm
Sample	: 1. Uracil 2. Caffeine 3. Phenol 4. <i>n</i> -Butylbenzene 5. <i>n</i> -Amylbenzene 6. <i>o</i> -Terphenyl 7. Triphenylene

### Basic Compound Test (1)

Dextromethorphan and Berberine chloride are strong basic compounds. Severe tailing can be confirmed when the packing material contains residual silanol groups.



4. Berberine chloride



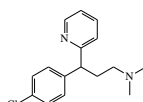
5. Dextromethorphan

#### Conditions

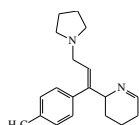
Eluent	: A) CH <sub>3</sub> CN B) 25mM K <sub>2</sub> HPO <sub>4</sub> (pH 7.0, KH <sub>2</sub> PO <sub>4</sub> ) A/B = 30/70, v / v
Flow Rate	: 1.0 mL/min
Col. Temp.	: 40 °C
Detection	: UV 230 nm
Sample	: 1. Uracil 2. Pyridine 3. Phenol 4. Berberine chloride 5. Dextromethorphan

### Basic Compound Test (2)

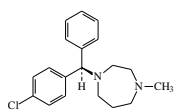
A basic compound test using antihistamine drugs and are highly basic, which can show tailing of peaks and different elution pattern on columns with insufficient end-capping. Column with insufficient end-capping will show later elution of sample 1, 2, 3 and 5.



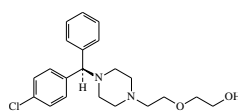
1. Chlorpheniramine



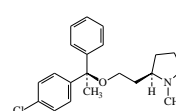
2. Triprolidine



3. Homochlorcyclizine



4. Hydroxyzine



5. Clemastine

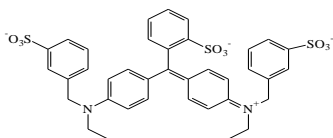
#### Conditions

Eluent	: A) CH <sub>3</sub> CN B) 25mM K <sub>2</sub> HPO <sub>4</sub> (pH 7.0, KH <sub>2</sub> PO <sub>4</sub> ) A/B = 60/40, v / v
Flow Rate	: 1.0 mL/min
Col. Temp.	: 40 °C
Detection	: UV 220 nm
Sample	: 1. Chlorpheniramine 2. Triprolidine 3. Homochlorcyclizine 4. Hydroxyzine 5. Clemastine

## Explanation of Analytical Tests and Conditions (2/2)

### Acidic Compound Test

Sharp peaks can be obtained when analyzing Phenol or Salicylic Acid. However, as Brilliant Blue FCF has three sulfonic groups in its chemical structure, tailing will occur when the surface of the packing material is slightly basic.



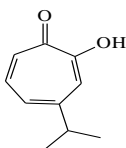
1. Brilliant Blue FCF

#### Conditions

Eluent	: A) CH <sub>3</sub> CN B) 0.1% H <sub>3</sub> PO <sub>4</sub> A/B = 25/75, v/v
Flow Rate	: 1.0 mL/min
Col. Temp.	: 40 °C
Detection	: UV 254 nm
Sample	: 1. Brilliant Blue FCF    2. Phenol 3. Salicylic acid

### Chelating Compound Test

Hinokitiol is a strong chelating compound, which coordinately binds with the surface of residual trace metal impurities, resulting in severe tailing. However, the peak shape improves as the injection increases since the surface of the packing material of the adsorption active sites eventually become masked.



2. β-Thujaplicin (Hinokitiol)

#### Conditions

Eluent	: A) CH <sub>3</sub> CN B) 0.1% H <sub>3</sub> PO <sub>4</sub> A/B = 40/60, v/v
Flow Rate	: 1.0 mL/min
Col. Temp.	: 40 °C
Detection	: UV 254 nm
Inject Vol.	: 1 μL, 10ppm
Sample	: 1. Phenol    2. β-Thujaplicin (Hinokitiol)

### Dewetting Test

When analyzing hydrophilic compounds under water rich mobile phase condition, once the pump is stopped, the hydrophobic bonded group pushes the aqueous mobile phase out of the pore in an irreversible fashion, in what has become known as the dewetting phenomenon.

#### Conditions

Eluent	: 100 % H <sub>2</sub> O
Flow Rate	: 1.0 mL/min
Col. Temp.	: 40 °C
Detection	: UV 254 nm
Sample	: 1. Cytosine    2. Uracil 3. Guanine    4. Thymine 5. Adenine

#### Testing Procedure:

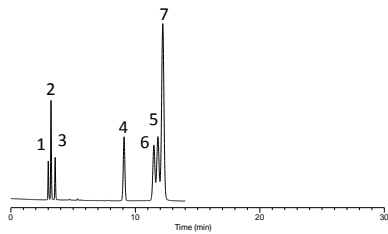
- 1) 100 % water is introduced into column over 60 minutes.
- 2) Conduct Analysis (Upper chromatogram in the following pages)
- 3) Stop flow for 15 minutes.
- 4) 100 % water is introduced again into column over 30 minutes.
- 5) Stop flow for 15 minutes again.
- 6) Conduct Analysis (Lower chromatogram in the following pages)

# Comparison of Performance 1/8

## Selectivity Test

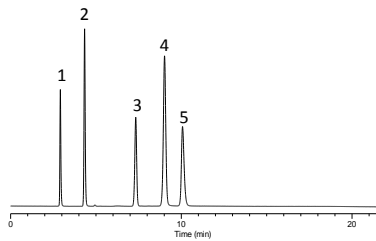
### InertSustainSwift C8

- 1. Uracil
- 2. Caffeine
- 3. Phenol
- 4. n-Butylbenzene
- 5. n-Amylbenzene
- 6. o-Terphenyl
- 7. Triphenylene



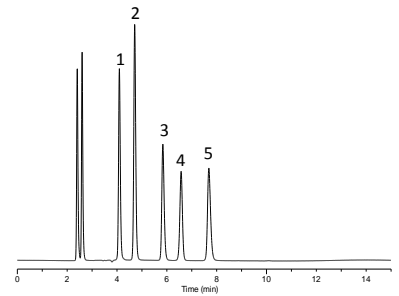
## Basic Compound Test (1)

- 1. Uracil
- 2. Pyridine
- 3. Phenol
- 4. Berberine chloride
- 5. Dextromethorphan



## Basic Compound Test (2)

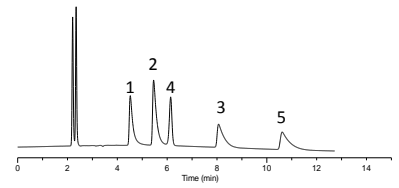
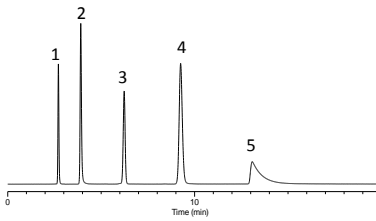
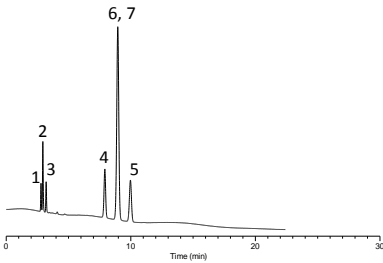
- 1. Chlorpheniramine
- 2. Triprolidine
- 3. Homochlorcyclizine
- 4. Hydroxyzine
- 5. Clemastine



## Hypersil BDS C8

5: Adsorption observed

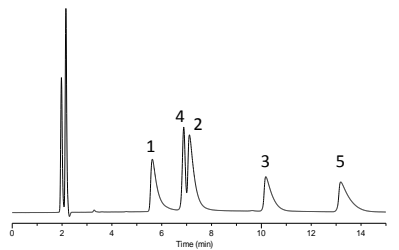
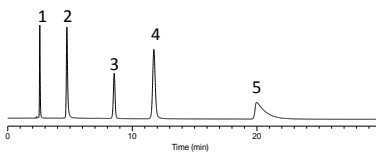
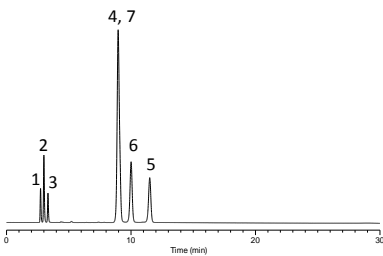
Severe tailing of peaks



## Luna C8(2)

5: Adsorption observed

Severe tailing of peaks

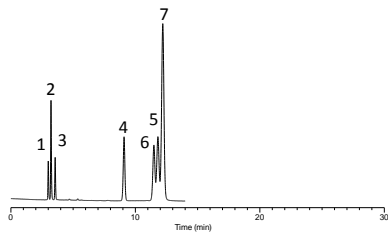


## Comparison of Performance 2/8

### Selectivity Test

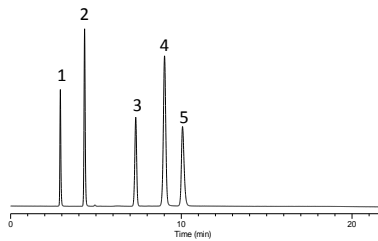
#### InertSustainSwift C8

1. Uracil
2. Caffeine
3. Phenol
4. n-Butylbenzene
5. n-Amylbenzene
6. o-Terphenyl
7. Triphenylene



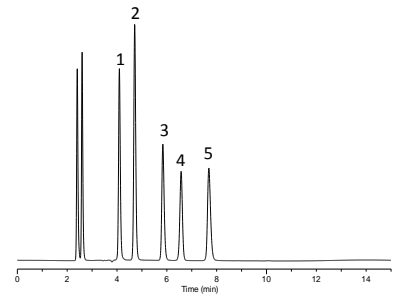
### Basic Compound Test (1)

1. Uracil
2. Pyridine
3. Phenol
4. Berberine chloride
5. Dextromethorphan

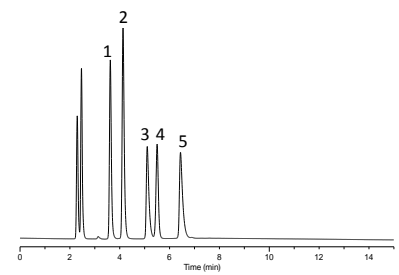
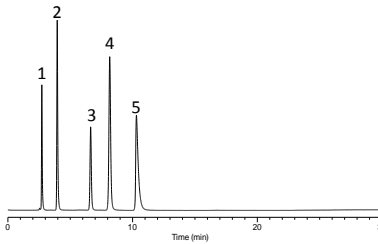
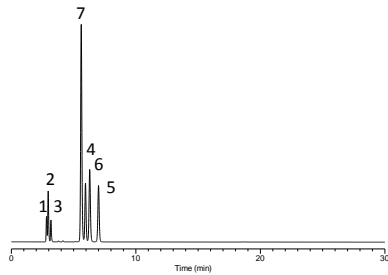


### Basic Compound Test (2)

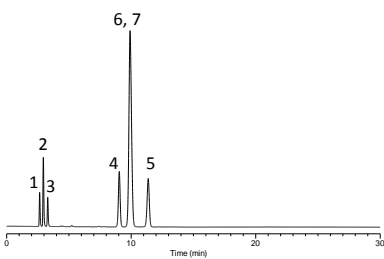
1. Chlorpheniramine
2. Triprolidine
3. Homochlorcyclizine
4. Hydroxyzine
5. Clemastine



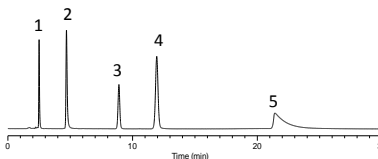
### XBridge C8



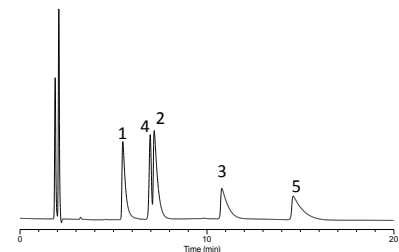
### SunFire C8



5: Adsorption observed



Severe tailing of peaks

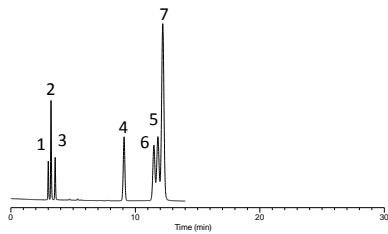


## Comparison of Performance 3/8

### Selectivity Test

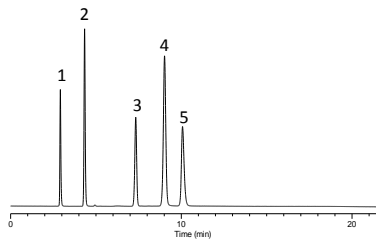
#### InertSustainSwift C8

1. Uracil
2. Caffeine
3. Phenol
4. n-Butylbenzene
5. n-Amylbenzene
6. o-Terphenyl
7. Triphenylene



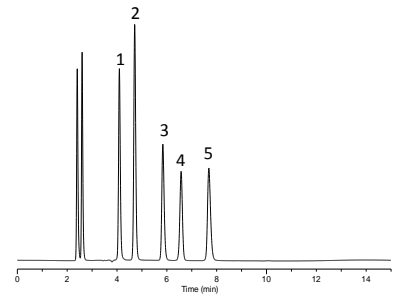
### Basic Compound Test (1)

1. Uracil
2. Pyridine
3. Phenol
4. Berberine chloride
5. Dextromethorphan

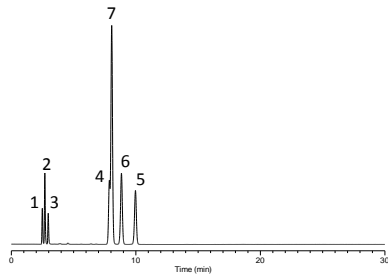


### Basic Compound Test (2)

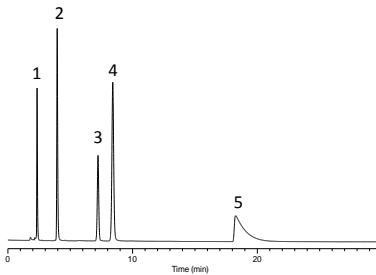
1. Chlorpheniramine
2. Triprolidine
3. Homochlorcyclizine
4. Hydroxyzine
5. Clemastine



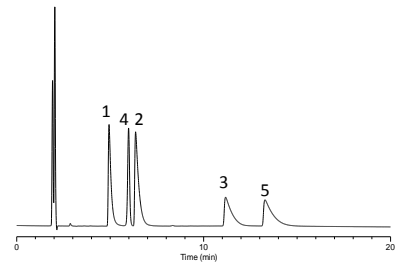
### ZORBAX Eclipse Plus C18



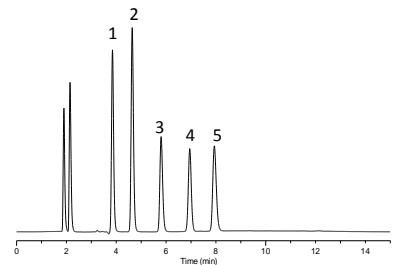
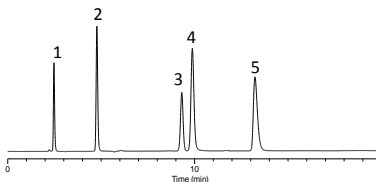
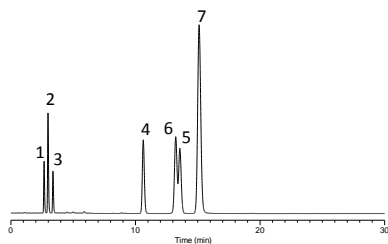
#### 5: Adsorption observed



#### Tailing of peaks



### Triart C8



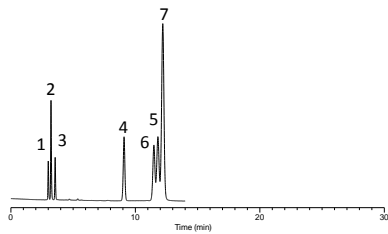


## Comparison of Performance 4/8

### Selectivity Test

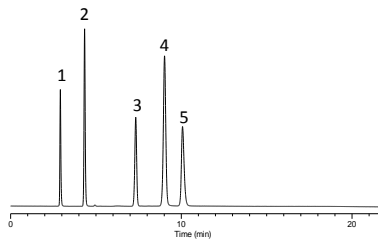
#### InertSustainSwift C8

- |                  |                   |
|------------------|-------------------|
| 1. Uracil        | 2. Caffeine       |
| 3. Phenol        | 4. n-Butylbenzene |
| 5. n-Amylbenzene | 6. o-Terphenyl    |
| 7. Triphenylene  |                   |



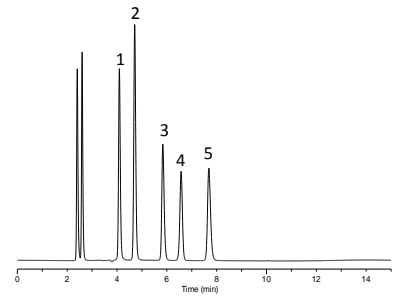
### Basic Compound Test (1)

- |                     |                       |
|---------------------|-----------------------|
| 1. Uracil           | 2. Pyridine           |
| 3. Phenol           | 4. Berberine chloride |
| 5. Dextromethorphan |                       |



### Basic Compound Test (2)

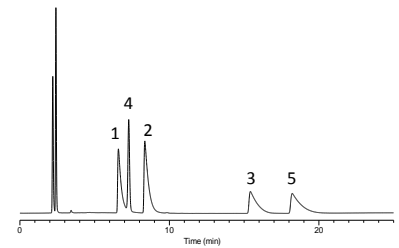
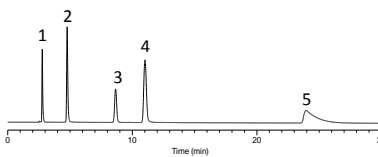
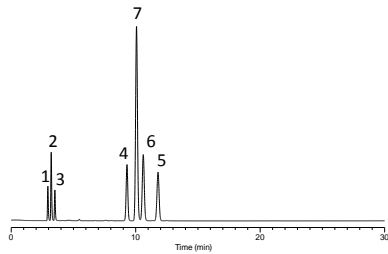
- |                       |                 |
|-----------------------|-----------------|
| 1. Chlorpheniramine   | 2. Triprolidine |
| 3. Homochlorcyclizine | 4. Hydroxyzine  |
| 5. Clemastine         |                 |



### YMC-Pack Pro C8

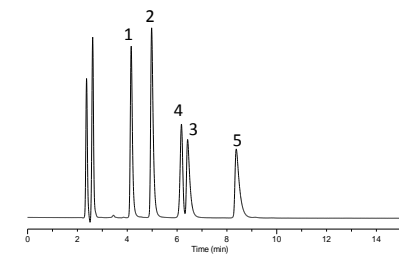
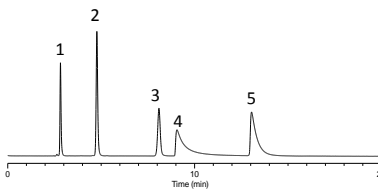
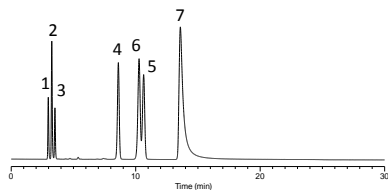
5: Adsorption observed

Severe tailing of peaks



### L-column C8

4, 5: Severe tailing of peaks

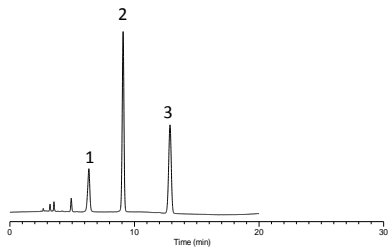


# Comparison of Performance 5/8

## Acidic Compound Test

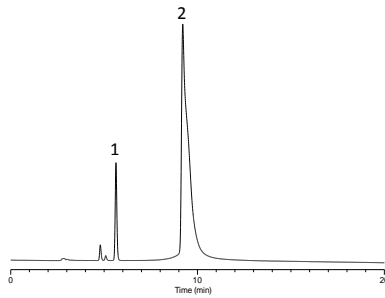
### InertSustainSwift C8

- 1.Brilliant Blue FCF
- 2.Phenol
- 3.Salicylic acid



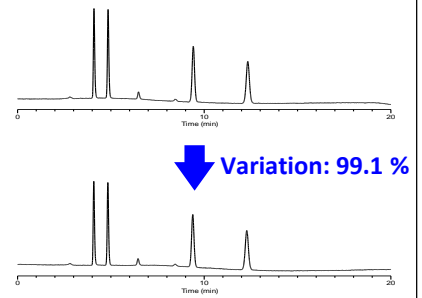
## Chelating Compound Test

- 1. Phenol
- 2.  $\beta$ -Thujaplicin (Hinokitiol)



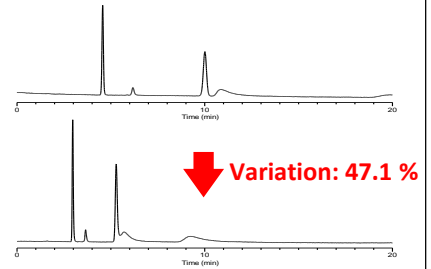
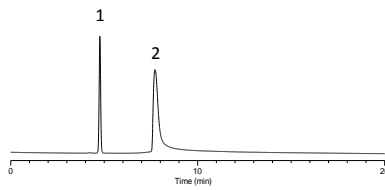
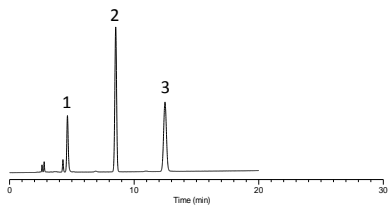
## Dewetting Test

- 1.Cytosine
- 3.Guanine
- 5.Adenine
- 2.Uracil
- 4.Thymine



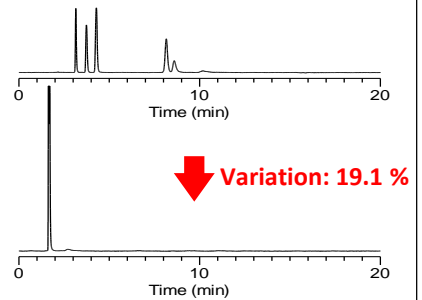
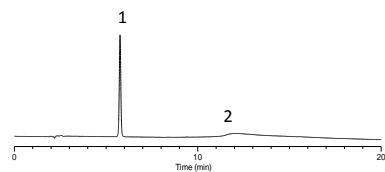
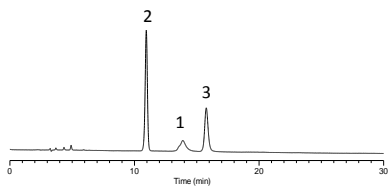
## Hypersil BDS C8

2:Tailing of peak



## Luna C8(2)

2:Adsorption observed

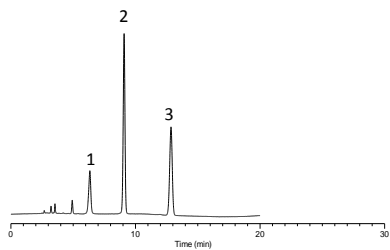


# Comparison of Performance 6/8

## Acidic Compound Test

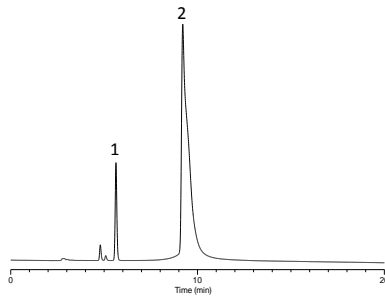
### InertSustainSwift C8

- 1.Brilliant Blue FCF
- 2.Phenol
- 3.Salicylic acid



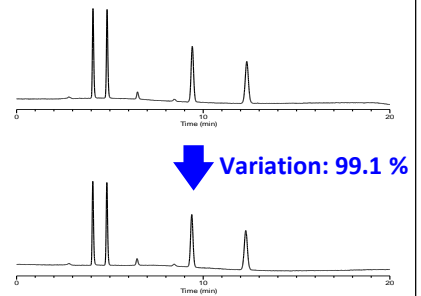
## Chelating Compound Test

- 1. Phenol
- 2.  $\beta$ -Thujaplicin (Hinokitiol)



## Dewetting Test

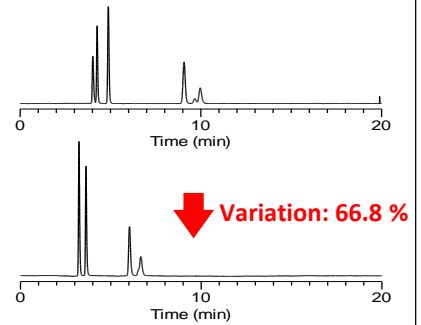
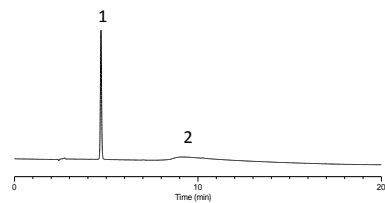
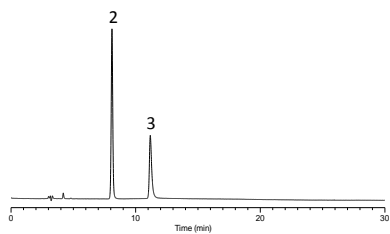
- 1.Cytosine
- 3.Guanine
- 5.Adenine
- 2.Uracil
- 4.Thymine



## XBridge C8

1:Not eluted

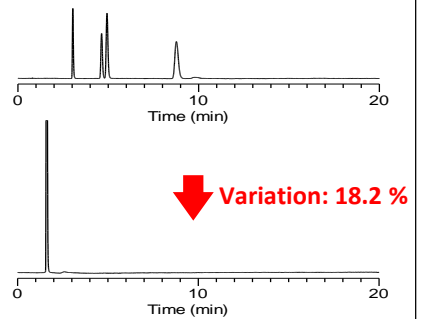
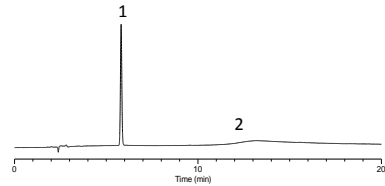
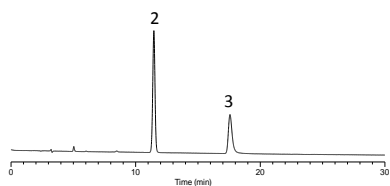
2:Adsorption observed



## SunFire C8

1:Not eluted

2:Adsorption observed

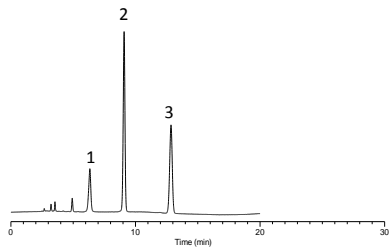


# Comparison of Performance 7/8

## Acidic Compound Test

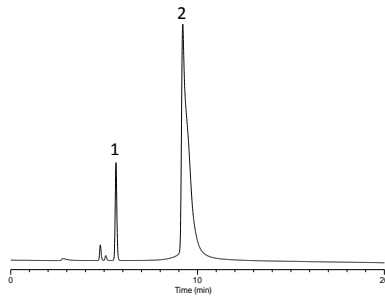
### InertSustainSwift C8

- 1.Brilliant Blue FCF
- 2.Phenol
- 3.Salicylic acid



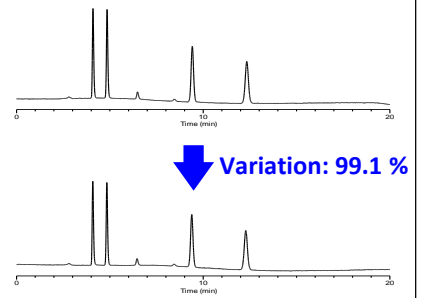
## Chelating Compound Test

- 1. Phenol
- 2.  $\beta$ -Thujaplicin (Hinokitiol)



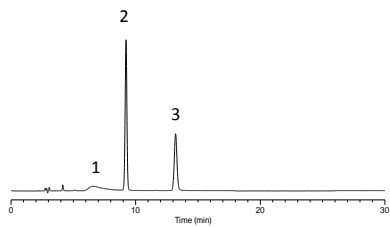
## Dewetting Test

- 1.Cytosine
- 3.Guanine
- 5.Adenine
- 2.Uracil
- 4.Thymine

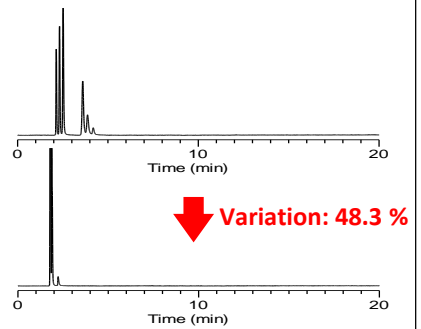
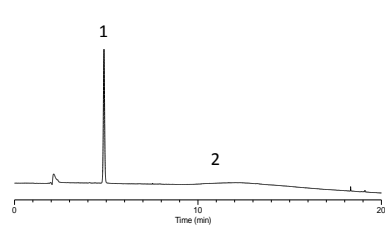


## ZORBAX Eclipse Plus C18

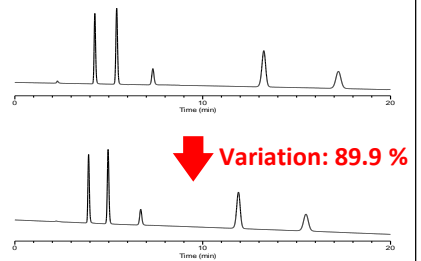
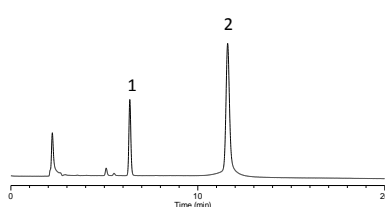
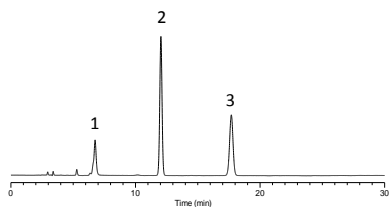
1:Adsorption observed



2:Adsorption observed



## Triart C8

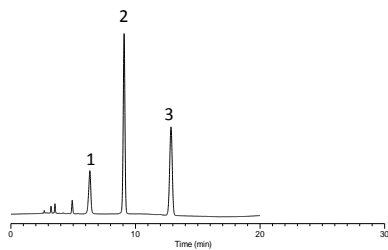


# Comparison of Performance 8/8

## Acidic Compound Test

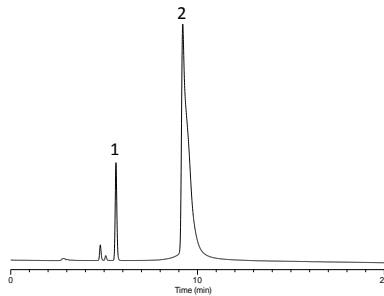
### InertSustainSwift C8

- 1.Brilliant Blue FCF
- 2.Phenol
- 3.Salicylic acid



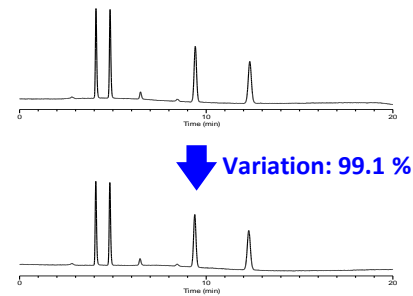
## Chelating Compound Test

- 1. Phenol
- 2.  $\beta$ -Thujaplicin (Hinokitiol)



## Dewetting Test

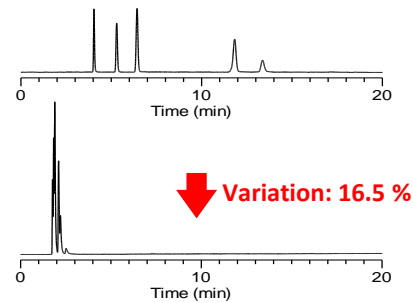
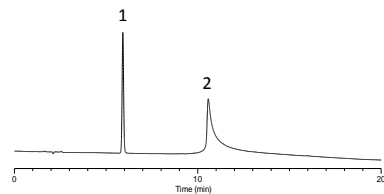
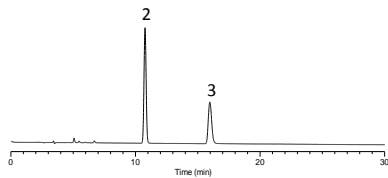
- 1.Cytosine
- 3.Guanine
- 5.Adenine
- 2.Uracil
- 4.Thymine



## YMC-Pack Pro C8

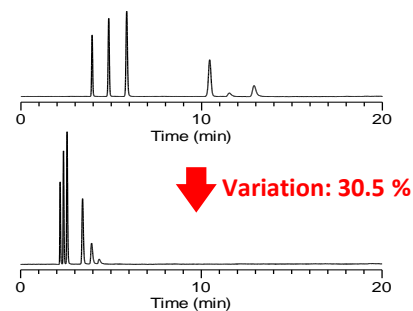
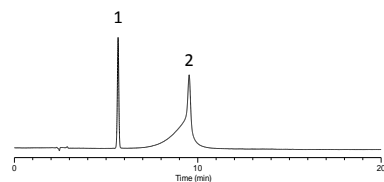
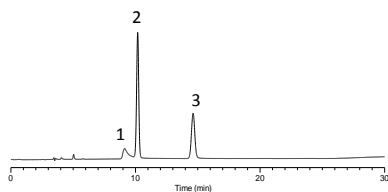
1:Not eluted

2:Severe tailing of peak



## L-column C8

2:Severe fronting of peak



## Analytical Columns

Cat No.	Description	Max. Operating Pressure (MPa)
5020-88533	InertSustainSwift C8 1.9 $\mu$ m 2.1x50mm	80
5020-88534	InertSustainSwift C8 1.9 $\mu$ m 2.1x100mm	80
5020-88535	InertSustainSwift C8 1.9 $\mu$ m 2.1x150mm	80
5020-88536	InertSustainSwift C8 1.9 $\mu$ m 3.0x50mm	80
5020-88537	InertSustainSwift C8 1.9 $\mu$ m 3.0x100mm	80
5020-88538	InertSustainSwift C8 1.9 $\mu$ m 3.0x150mm	80
5020-88515	InertSustainSwift C8 HP 3 $\mu$ m 2.1x50mm	50
5020-88516	InertSustainSwift C8 HP 3 $\mu$ m 2.1x100mm	50
5020-88517	InertSustainSwift C8 HP 3 $\mu$ m 2.1x150mm	50
5020-88518	InertSustainSwift C8 HP 3 $\mu$ m 2.1x250mm	50
5020-88519	InertSustainSwift C8 HP 3 $\mu$ m 3.0x50mm	50
5020-88520	InertSustainSwift C8 HP 3 $\mu$ m 3.0x100mm	50
5020-88521	InertSustainSwift C8 HP 3 $\mu$ m 3.0x150mm	50
5020-88522	InertSustainSwift C8 HP 3 $\mu$ m 3.0x250mm	50
5020-88523	InertSustainSwift C8 HP 3 $\mu$ m 4.6x50mm	50
5020-88524	InertSustainSwift C8 HP 3 $\mu$ m 4.6x100mm	50
5020-88525	InertSustainSwift C8 HP 3 $\mu$ m 4.6x150mm	50
5020-88526	InertSustainSwift C8 HP 3 $\mu$ m 4.6x250mm	50

\* End-fittings are 1/16" Parker style.



## Analytical Columns

Cat No.	Description	Max. Operating Pressure (MPa)
5020-88466	InertSustainSwift C8 3 µm 1.0x 30mm	20
5020-88467	InertSustainSwift C8 3 µm 1.0x 50mm	20
5020-88468	InertSustainSwift C8 3 µm 1.0x 75mm	20
5020-88469	InertSustainSwift C8 3 µm 1.0x100mm	20
5020-88470	InertSustainSwift C8 3 µm 1.0x150mm	20
5020-88471	InertSustainSwift C8 3 µm 1.0x250mm	20
5020-88472	InertSustainSwift C8 3 µm 1.5x 30mm	20
5020-88473	InertSustainSwift C8 3 µm 1.5x 50mm	20
5020-88474	InertSustainSwift C8 3 µm 1.5x 75mm	20
5020-88475	InertSustainSwift C8 3 µm 1.5x100mm	20
5020-88476	InertSustainSwift C8 3 µm 1.5x150mm	20
5020-88477	InertSustainSwift C8 3 µm 1.5x250mm	20
5020-88426	InertSustainSwift C8 3 µm 2.1x 30mm	20
5020-88427	InertSustainSwift C8 3 µm 2.1x 50mm	20
5020-88428	InertSustainSwift C8 3 µm 2.1x 75mm	20
5020-88429	InertSustainSwift C8 3 µm 2.1x 100mm	20
5020-88430	InertSustainSwift C8 3 µm 2.1x125mm	20
5020-88431	InertSustainSwift C8 3 µm 2.1x150mm	20
5020-88432	InertSustainSwift C8 3 µm 2.1x250mm	20
5020-88434	InertSustainSwift C8 3 µm 3.0x 30mm	20
5020-88435	InertSustainSwift C8 3 µm 3.0x 50mm	20
5020-88436	InertSustainSwift C8 3 µm 3.0x 75mm	20
5020-88437	InertSustainSwift C8 3 µm 3.0x100mm	20
5020-88438	InertSustainSwift C8 3 µm 3.0x125mm	20
5020-88439	InertSustainSwift C8 3 µm 3.0x150mm	20
5020-88440	InertSustainSwift C8 3 µm 3.0x250mm	20
5020-88442	InertSustainSwift C8 3 µm 4.0x 30mm	20
5020-88443	InertSustainSwift C8 3 µm 4.0x 50mm	20
5020-88444	InertSustainSwift C8 3 µm 4.0x 75mm	20
5020-88445	InertSustainSwift C8 3 µm 4.0x100mm	20
5020-88446	InertSustainSwift C8 3 µm 4.0x125mm	20
5020-88447	InertSustainSwift C8 3 µm 4.0x150mm	20
5020-88448	InertSustainSwift C8 3 µm 4.0x250mm	20
5020-88450	InertSustainSwift C8 3 µm 4.6x 30mm	20
5020-88451	InertSustainSwift C8 3 µm 4.6x 50mm	20
5020-88452	InertSustainSwift C8 3 µm 4.6x 75mm	20
5020-88453	InertSustainSwift C8 3 µm 4.6x100mm	20
5020-88454	InertSustainSwift C8 3 µm 4.6x125mm	20
5020-88455	InertSustainSwift C8 3 µm 4.6x150mm	20
5020-88456	InertSustainSwift C8 3 µm 4.6x250mm	20

\* End-fittings are 1/16" Waters-compatible.

## Analytical Columns

Cat No.	Description	Max. Operating Pressure (MPa)
5020-88342	InertSustainSwift C8 5 µm 1.0x 30mm	20
5020-88343	InertSustainSwift C8 5 µm 1.0x 50mm	20
5020-88344	InertSustainSwift C8 5 µm 1.0x 75mm	20
5020-88345	InertSustainSwift C8 5 µm 1.0x100mm	20
5020-88346	InertSustainSwift C8 5 µm 1.0x150mm	20
5020-88347	InertSustainSwift C8 5 µm 1.0x250mm	20
5020-88348	InertSustainSwift C8 5 µm 1.5x 30mm	20
5020-88349	InertSustainSwift C8 5 µm 1.5x 50mm	20
5020-88350	InertSustainSwift C8 5 µm 1.5x 75mm	20
5020-88351	InertSustainSwift C8 5 µm 1.5x100mm	20
5020-88352	InertSustainSwift C8 5 µm 1.5x150mm	20
5020-88353	InertSustainSwift C8 5 µm 1.5x250mm	20
5020-88302	InertSustainSwift C8 5 µm 2.1x 30mm	20
5020-88303	InertSustainSwift C8 5 µm 2.1x 50mm	20
5020-88304	InertSustainSwift C8 5 µm 2.1x 75mm	20
5020-88305	InertSustainSwift C8 5 µm 2.1x100mm	20
5020-88306	InertSustainSwift C8 5 µm 2.1x125mm	20
5020-88307	InertSustainSwift C8 5 µm 2.1x150mm	20
5020-88308	InertSustainSwift C8 5 µm 2.1x250mm	20
5020-88310	InertSustainSwift C8 5 µm 3.0x 30mm	20
5020-88311	InertSustainSwift C8 5 µm 3.0x 50mm	20
5020-88312	InertSustainSwift C8 5 µm 3.0x 75mm	20
5020-88313	InertSustainSwift C8 5 µm 3.0x100mm	20
5020-88314	InertSustainSwift C8 5 µm 3.0x125mm	20
5020-88315	InertSustainSwift C8 5 µm 3.0x150mm	20
5020-88316	InertSustainSwift C8 5 µm 3.0x250mm	20
5020-88318	InertSustainSwift C8 5 µm 4.0x 30mm	20
5020-88319	InertSustainSwift C8 5 µm 4.0x 50mm	20
5020-88320	InertSustainSwift C8 5 µm 4.0x 75mm	20
5020-88321	InertSustainSwift C8 5 µm 4.0x100mm	20
5020-88322	InertSustainSwift C8 5 µm 4.0x125mm	20
5020-88323	InertSustainSwift C8 5 µm 4.0x150mm	20
5020-88324	InertSustainSwift C8 5 µm 4.0x250mm	20
5020-88326	InertSustainSwift C8 5 µm 4.6x 30mm	20
5020-88327	InertSustainSwift C8 5 µm 4.6x 50mm	20
5020-88328	InertSustainSwift C8 5 µm 4.6x 75mm	20
5020-88329	InertSustainSwift C8 5 µm 4.6x100mm	20
5020-88330	InertSustainSwift C8 5 µm 4.6x125mm	20
5020-88331	InertSustainSwift C8 5 µm 4.6x150mm	20
5020-88332	InertSustainSwift C8 5 µm 4.6x250mm	20

\* End-fittings are 1/16" Waters-compatible.



## Guard Columns for UHPLC

Cat No.	Description	Max. Operating Pressure (MPa)
5020-08630	Holder for Guard Columns for UHPLC	-
5020-88542	Guard Columns for UHPLC, Holder/Cartridge Set, 1 Holder with 2 pcs 1.5x10 mm Cartridges, InertSustainSwift C8 1.9 µm	80
5020-88543	Guard Columns for UHPLC, Holder/Cartridge Set, 1 Holder with 2 pcs 2.1x10 mm Cartridges, InertSustainSwift C8 1.9 µm	80
5020-88544	Guard Columns for UHPLC, Holder/Cartridge Set, 1 Holder with 2 pcs 3.0x10 mm Cartridges, InertSustainSwift C8 1.9 µm	80
5020-88530	Guard Columns for UHPLC, Holder/Cartridge Set, 1 Holder with 2 pcs 1.5x10 mm Cartridges, InertSustainSwift C8 3 µm	80
5020-88531	Guard Columns for UHPLC, Holder/Cartridge Set, 1 Holder with 2 pcs 2.1x10 mm Cartridges, InertSustainSwift C8 3 µm	80
5020-88532	Guard Columns for UHPLC, Holder/Cartridge Set, 1 Holder with 2 pcs 3.0x10 mm Cartridges, InertSustainSwift C8 3 µm	80
5020-88539	Guard Columns for UHPLC, 1.5x10 mm, 2 pcs, InertSustainSwift C8 1.9 µm	80
5020-88540	Guard Columns for UHPLC, 2.1x10 mm, 2 pcs, InertSustainSwift C8 1.9 µm	80
5020-88541	Guard Columns for UHPLC, 3.0x10 mm, 2 pcs, InertSustainSwift C8 1.9 µm	80
5020-88527	Guard Columns for UHPLC, 1.5x10 mm, 2 pcs, InertSustainSwift C8 3 µm	80
5020-88528	Guard Columns for UHPLC, 2.1x10 mm, 2 pcs, InertSustainSwift C8 3 µm	80
5020-88529	Guard Columns for UHPLC, 3.0x10 mm, 2 pcs, InertSustainSwift C8 3 µm	80

## Cartridge Guard Column Ei (Non-Metal)

Cat#	Description	Max. Operating Pressure (MPa)
5020-88422	Holder for 10 mm, Cartridge Guard Column Ei	-
5020-88420	Cartridge Ei Holder/Cartridge Set, 1 Holder with 2 pcs 1.0x10 mm Cartridges, InertSustainSwift C8 5 µm	20
5020-88418	Cartridge Ei Holder/Cartridge Set, 1 Holder with 2 pcs 2.1x10 mm Cartridges, InertSustainSwift C8 5 µm	20
5020-88421	Cartridge Ei Holder/Cartridge Set, 1 Holder with 2 pcs 3.0x10 mm Cartridges, InertSustainSwift C8 5 µm	20
5020-88419	Cartridge Ei Replacement Cartridges, 2 pcs 1.0x10mm, InertSustainSwift C8 5 µm	20
5020-88417	Cartridge Ei Replacement Cartridges, 2 pcs 2.1x10mm, InertSustainSwift C8 5 µm	20
5020-88422	Cartridge Ei Replacement Cartridges, 2 pcs 3.0x10mm, InertSustainSwift C8 5 µm	20

\* End-fittings are 1/16" Waters-compatible.

## Cartridge Guard Column E

Cat No.	Description	Max. Operating Pressure (MPa)
5020-08500	Holder for 10 mm, Cartridge Guard Column E	-
5020-08550	Holder for 20 mm, Cartridge Guard Column E	-
5020-88506	Cartridge E Holder/Cartridge Set, 1 Holder with 2 pcs 1.0x10 mm Cartridges, InertSustainSwift C8 3 µm	20
5020-88508	Cartridge E Holder/Cartridge Set, 1 Holder with 2 pcs 1.5x10 mm Cartridges, InertSustainSwift C8 3 µm	20
5020-88504	Cartridge E Holder/Cartridge Set, 1 Holder with 2 pcs 3.0x10 mm Cartridges, InertSustainSwift C8 3 µm	20
5020-88502	Cartridge E Holder/Cartridge Set, 1 Holder with 2 pcs 4.0x10 mm Cartridges, InertSustainSwift C8 3 µm	20
5020-88512	Cartridge E Holder/Cartridge Set, 1 Holder with 2 pcs 3.0x20 mm Cartridges, InertSustainSwift C8 3 µm	20
5020-88510	Cartridge E Holder/Cartridge Set, 1 Holder with 2 pcs 4.0x20 mm Cartridges, InertSustainSwift C8 3 µm	20
5020-88410	Cartridge E Holder/Cartridge Set, 1 Holder with 2 pcs 1.0x10 mm Cartridges, InertSustainSwift C8 5 µm	20
5020-88412	Cartridge E Holder/Cartridge Set, 1 Holder with 2 pcs 1.5x10 mm Cartridges, InertSustainSwift C8 5 µm	20
5020-88408	Cartridge E Holder/Cartridge Set, 1 Holder with 2 pcs 3.0x10 mm Cartridges, InertSustainSwift C8 5 µm	20
5020-88406	Cartridge E Holder/Cartridge Set, 1 Holder with 2 pcs 4.0x10 mm Cartridges, InertSustainSwift C8 5 µm	20
5020-88416	Cartridge E Holder/Cartridge Set, 1 Holder with 2 pcs 3.0x20 mm Cartridges, InertSustainSwift C8 5 µm	20
5020-88414	Cartridge E Holder/Cartridge Set, 1 Holder with 2 pcs 4.0x20 mm Cartridges, InertSustainSwift C8 5 µm	20
5020-88505	Cartridge E Replacement Cartridges, 2 pcs 1.0x10mm, InertSustainSwift C8 3 µm	20
5020-88507	Cartridge E Replacement Cartridges, 2 pcs 1.5x10mm, InertSustainSwift C8 3 µm	20
5020-88503	Cartridge E Replacement Cartridges, 2 pcs 3.0x10mm, InertSustainSwift C8 3 µm	20
5020-88511	Cartridge E Replacement Cartridges, 2 pcs 4.0x10mm, InertSustainSwift C8 3 µm	20
5020-88501	Cartridge E Replacement Cartridges, 2 pcs 3.0x20mm, InertSustainSwift C8 3 µm	20
5020-88509	Cartridge E Replacement Cartridges, 2 pcs 4.0x20mm, InertSustainSwift C8 3 µm	20
5020-88409	Cartridge E Replacement Cartridges, 2 pcs 1.0x10mm, InertSustainSwift C8 5 µm	20
5020-88411	Cartridge E Replacement Cartridges, 2 pcs 1.5x10mm, InertSustainSwift C8 5 µm	20
5020-88407	Cartridge E Replacement Cartridges, 2 pcs 3.0x10mm, InertSustainSwift C8 5 µm	20
5020-88405	Cartridge E Replacement Cartridges, 2 pcs 4.0x10mm, InertSustainSwift C8 5 µm	20
5020-88415	Cartridge E Replacement Cartridges, 2 pcs 3.0x20mm, InertSustainSwift C8 5 µm	20
5020-88413	Cartridge E Replacement Cartridges, 2 pcs 4.0x20mm, InertSustainSwift C8 5 µm	20

\* End-fittings are 1/16" Waters-compatible.

## GL Cart Guard Columns

Cat No.	Description	Max. Operating Pressure (MPa)
5020-08710	Holder for GL Cart Multipurpose Type	-
5020-88514	GL Cart Holder/Cartridge Set, 1 Holder with 5 pcs 4.6x5 mm Cartridges, InertSustainSwift C8 3 µm	20
5020-88513	GL Cart Replacement Cartridges, 10 pcs 4.6x5 mm, InertSustainSwift C8 3 µm	20
5020-88424	GL Cart Holder/Cartridge Set, 1 Holder with 5 pcs 4.6x5 mm Cartridges, InertSustainSwift C8 5 µm	20
5020-88423	GL Cart Replacement Cartridges, 10 pcs 4.6x5 mm, InertSustainSwift C8 5 µm	20

\* End-fittings are 1/16" Waters-compatible.

## Conventional Guard Columns

Cat No.	Description	Max. Operating Pressure (MPa)
5020-88481	Guard Column 1.0x33mm InertSustainSwift C8 3 µm	20
5020-88479	Guard Column 1.0x50mm InertSustainSwift C8 3 µm	20
5020-88480	Guard Column 1.5x33mm InertSustainSwift C8 3 µm	20
5020-88478	Guard Column 1.5x50mm InertSustainSwift C8 3 µm	20
5020-88465	Guard Column 2.1x33mm InertSustainSwift C8 3 µm	20
5020-88460	Guard Column 2.1x50mm InertSustainSwift C8 3 µm	20
5020-88464	Guard Column 3.0x33mm InertSustainSwift C8 3 µm	20
5020-88459	Guard Column 3.0x50mm InertSustainSwift C8 3 µm	20
5020-88461	Guard Column 4.0x10mm InertSustainSwift C8 3 µm	20
5020-88463	Guard Column 4.0x33mm InertSustainSwift C8 3 µm	20
5020-88458	Guard Column 4.0x50mm InertSustainSwift C8 3 µm	20
5020-88462	Guard Column 4.6x33mm InertSustainSwift C8 3 µm	20
5020-88457	Guard Column 4.6x50mm InertSustainSwift C8 3 µm	20
5020-88357	Guard Column 1.0x33mm InertSustainSwift C8 5 µm	20
5020-88355	Guard Column 1.0x50mm InertSustainSwift C8 5 µm	20
5020-88356	Guard Column 1.5x33mm InertSustainSwift C8 5 µm	20
5020-88354	Guard Column 1.5x50mm InertSustainSwift C8 5 µm	20
5020-88341	Guard Column 2.1x33mm InertSustainSwift C8 5 µm	20
5020-88336	Guard Column 2.1x50mm InertSustainSwift C8 5 µm	20
5020-88340	Guard Column 3.0x33mm InertSustainSwift C8 5 µm	20
5020-88335	Guard Column 3.0x50mm InertSustainSwift C8 5 µm	20
5020-88337	Guard Column 4.0x10mm InertSustainSwift C8 5 µm	20
5020-88339	Guard Column 4.0x33mm InertSustainSwift C8 5 µm	20
5020-88334	Guard Column 4.0x50mm InertSustainSwift C8 5 µm	20
5020-88338	Guard Column 4.6x33mm InertSustainSwift C8 5 µm	20
5020-88333	Guard Column 4.6x50mm InertSustainSwift C8 5 µm	20

\* End-fittings are 1/16" Waters-compatible.

## Preparative Columns

Cat No.	Description	Max. Operating Pressure (MPa)
5020-88358	InertSustainSwift C8 5 µm 6.0x 50mm	20
5020-88359	InertSustainSwift C8 5 µm 6.0x100mm	20
5020-88360	InertSustainSwift C8 5 µm 6.0x150mm	20
5020-88361	InertSustainSwift C8 5 µm 6.0x250mm	20
5020-88362	InertSustainSwift C8 5 µm 7.6x 50mm	20
5020-88363	InertSustainSwift C8 5 µm 7.6x100mm	20
5020-88364	InertSustainSwift C8 5 µm 7.6x150mm	20
5020-88365	InertSustainSwift C8 5 µm 7.6x250mm	20
5020-88366	InertSustainSwift C8 5 µm 10x 50mm	20
5020-88367	InertSustainSwift C8 5 µm 10x100mm	20
5020-88368	InertSustainSwift C8 5 µm 10x150mm	20
5020-88369	InertSustainSwift C8 5 µm 10x250mm	20
5020-88370	InertSustainSwift C8 5 µm 14x 50mm	20
5020-88371	InertSustainSwift C8 5 µm 14x100mm	20
5020-88372	InertSustainSwift C8 5 µm 14x150mm	20
5020-88373	InertSustainSwift C8 5 µm 14x250mm	20
5020-88374	InertSustainSwift C8 5 µm 20x 50mm	20
5020-88375	InertSustainSwift C8 5 µm 20x100mm	20
5020-88376	InertSustainSwift C8 5 µm 20x150mm	20
5020-88377	InertSustainSwift C8 5 µm 20x250mm	20

\* End-fittings are 1/16" Waters-compatible.

## Preparative Columns

Cat No.	Description	Max. Operating Pressure (MPa)
5020-88378	InertSustainSwift C8 5 µm 6.0x 50mm Guard	20
5020-88379	InertSustainSwift C8 5 µm 7.6x 50mm Guard	20
5020-88380	InertSustainSwift C8 5 µm 10x 50mm Guard	20
5020-88381	InertSustainSwift C8 5 µm 14x 50mm Guard	20
5020-88382	InertSustainSwift C8 5 µm 20x 50mm Guard	20

\* End-fittings are 1/16" Waters-compatible.

## Cartridge Guard Columns for Preparative Columns

Cat No.	Description	Max. Operating Pressure (MPa)
5020-06920	Holder for Prep Guard Cartridge	-
5020-88424	Prep Guard Cartridges, 2 pcs, 7.6x30 mm, InertSustainSwift C8 5 µm	20
5020-88423	Prep Guard Holder/Cartridge Set, 1 Holder with 2 pcs 7.6x30 mm Cartridges, InertSustainSwift C8 5 µm	20

## Capillary Columns

Cat No.	Description	Max. Operating Pressure (MPa)
5020-88489	Capillary EX-NANO 0.05x 50mm InertSustainSwift C8 3 µm	15
5020-88490	Capillary EX-NANO 0.05x150mm InertSustainSwift C8 3 µm	15
5020-88491	Capillary EX-NANO 0.05x250mm InertSustainSwift C8 3 µm	15
5020-88492	Capillary EX-NANO 0.075x 50mm InertSustainSwift C8 3 µm	15
5020-88493	Capillary EX-NANO 0.075x150mm InertSustainSwift C8 3 µm	15
5020-88494	Capillary EX-NANO 0.075x250mm InertSustainSwift C8 3 µm	15
5020-88495	Capillary EX-NANO 0.1x 50mm InertSustainSwift C8 3 µm	15
5020-88496	Capillary EX-NANO 0.1x150mm InertSustainSwift C8 3 µm	15
5020-88497	Capillary EX-NANO 0.1x250mm InertSustainSwift C8 3 µm	15
5020-88498	Capillary EX-NANO 0.2x 50mm InertSustainSwift C8 3 µm	15
5020-88499	Capillary EX-NANO 0.2x150mm InertSustainSwift C8 3 µm	15
5020-88500	Capillary EX-NANO 0.2x250mm InertSustainSwift C8 3 µm	15
5020-88482	Capillary EX 0.3x 50mm InertSustainSwift C8 3 µm	20
5020-88483	Capillary EX 0.3x150mm InertSustainSwift C8 3 µm	20
5020-88484	Capillary EX 0.5x 50mm InertSustainSwift C8 3 µm	20
5020-88485	Capillary EX 0.5x150mm InertSustainSwift C8 3 µm	20
5020-88486	Capillary EX 0.7x 50mm InertSustainSwift C8 3 µm	20
5020-88487	Capillary EX 0.7x150mm InertSustainSwift C8 3 µm	20
5020-88488	EX Micro Guard (Metal) 0.3x2mm InertSustainSwift C8 3 µm	20
5020-88393	Capillary EX-NANO 0.05x 50mm InertSustainSwift C8 5 µm	15
5020-88394	Capillary EX-NANO 0.05x150mm InertSustainSwift C8 5 µm	15
5020-88395	Capillary EX-NANO 0.05x250mm InertSustainSwift C8 5 µm	15
5020-88396	Capillary EX-NANO 0.075x 50mm InertSustainSwift C8 5 µm	15
5020-88397	Capillary EX-NANO 0.075x150mm InertSustainSwift C8 5 µm	15
5020-88398	Capillary EX-NANO 0.075x250mm InertSustainSwift C8 5 µm	15
5020-88399	Capillary EX-NANO 0.1x 50mm InertSustainSwift C8 5 µm	15
5020-88400	Capillary EX-NANO 0.1x150mm InertSustainSwift C8 5 µm	15
5020-88401	Capillary EX-NANO 0.1x250mm InertSustainSwift C8 5 µm	15
5020-88402	Capillary EX-NANO 0.2x 50mm InertSustainSwift C8 5 µm	15
5020-88403	Capillary EX-NANO 0.2x150mm InertSustainSwift C8 5 µm	15
5020-88404	Capillary EX-NANO 0.2x250mm InertSustainSwift C8 5 µm	15
5020-88385	Capillary EX 0.3x 50mm InertSustainSwift C8 5 µm	20
5020-88386	Capillary EX 0.3x150mm InertSustainSwift C8 5 µm	20
5020-88387	Capillary EX 0.5x 50mm InertSustainSwift C8 5 µm	20
5020-88388	Capillary EX 0.5x150mm InertSustainSwift C8 5 µm	20
5020-88389	Capillary EX 0.7x 50mm InertSustainSwift C8 5 µm	20
5020-88390	Capillary EX 0.7x150mm InertSustainSwift C8 5 µm	20
5020-88391	EX Micro Guard (Metal) 0.3x2mm InertSustainSwift C8 5 µm	20
5020-88392	EX Micro Guard (Non-Metal) 0.3x2mm InertSustainSwift C8 5 µm	20

\* End-fittings are Valco 1/16" (10-32 UNF).

\* Valco 1/32" (6-40 UNF) end-fittings are available, indicate "1/32" when ordering.

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