




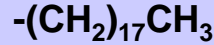


Inertsil[®] ODS Sprint

An important new column in the Inertsil series

-  Perfect balance of retention for both polar and non-polar compounds.
1/2 of Inertsil ODS-3 retention for Hydrophobic compounds.
-  Special new **Sprint HG** column hardware improves peak shape and efficiency
-  **2.1X20mm Sprint HG column** is ideal for High-Throughput LC/MS Separations.
-  Superior Inertness.
-  Compatible with 100% aqueous eluents.

Bonded-Phase Structure

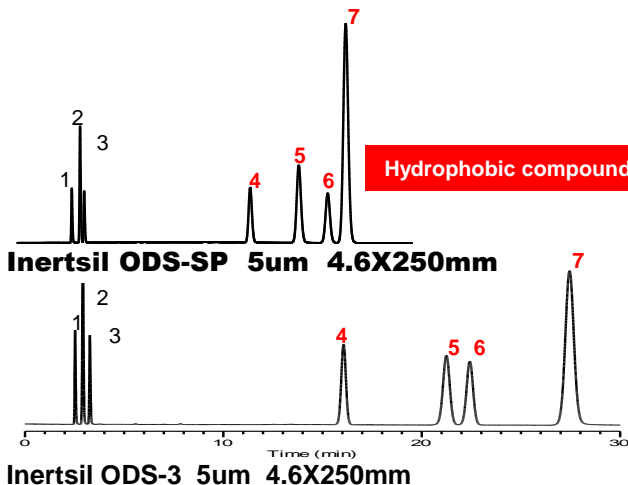


Base Silica Physical Properties and Chemical Modification

Particle Size:	5µm
Particle Shape:	Spherical
Specific Surface Area:	450m ² /g
Pore Size:	100Å
Pore Volume:	1.05mL/g
Purity:	99.999%
Bonded Phase:	Octadecyl groups
Endcapped:	Yes
Carbon Load:	8.5%
Recommended pH Range:	2 to 7.5
USP:	L1
Guaranteed Theoretical Plate Numbers for 150 and 250mm Column Length:	100,000/m
QC Tests Employed:	SEM, M, Ph, C, Schro, T, Py, Am, Ac, Cu, D, CP

Perfectly Balanced Retention

Our newly-developed chemical bonding technology allows **Inertsil ODS Sprint** to retain hydrophilic compounds (see peaks 1 to 3, below) without excessive retention of non-polar compounds (see peaks 4 to 7).



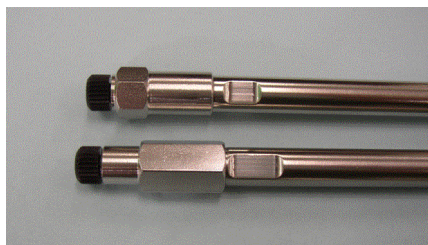
Hydrophobic compounds can be eluted quickly

System:	GL7400 HPLC system
Eluent	CH ₃ OH / H ₂ O = 80 / 20
Flow rate:	1.0 mL/min
Col.Temp.:	40C
Detection:	245nm

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

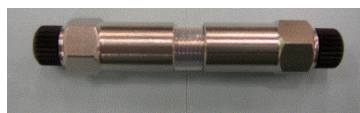
Sprint HG High Performance Column Hardware

To help maximize the performance of Inertsil Sprint, GL Sciences developed a completely new column hardware design, called Sprint HG hardware. This hardware provides far less column dead-volume compared to other designs, resulting in higher theoretical number of plates and better peak shape. Sprint HG column hardware guarantees at least 100,000 plates/m for 150 and 250mm column lengths. The 2.1X20mm Sprint HG column combines sharp peaks with fast elution time and is ideal for High-Throughput LC/MS Separations.

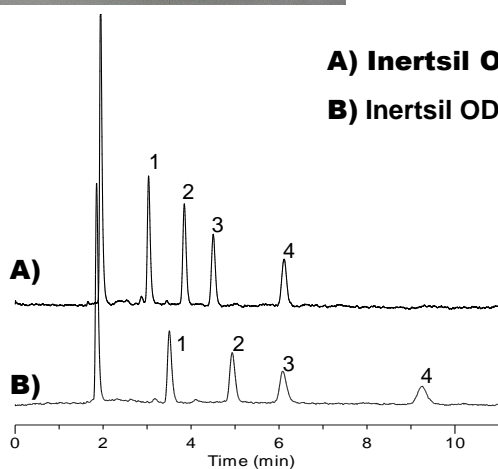


→ **New HG type hardware**

→ **The current hardware EX type**



→ **20mm length column can be packed too!!!**



A) Inertsil ODS-SP 5um 4.6X150mm

B) Inertsil ODS-3 5um 4.6X150mm

Theoretical Plates Number of Peak No. 4
= **15,295**

↑ **Sharper Peaks!!!**

Theoretical Plates Number of Peak No. 4
= **11,320**

System: GL7400 HPLC system
Eluent: A) CH₃CN B) 0.1% H₃PO₄
A:B=95:5
Flow rate: 1.0 mL/min
Col. Temp.: 40 °C
Detection: 245 nm
Injection Vol.: 5mL

1. Sudan 1 (0.5ug/mL)
2. Sudan 2 (0.5ug/mL)
3. Sudan 3 (0.5ug/mL)
4. Sudan 4 (0.5ug/mL)

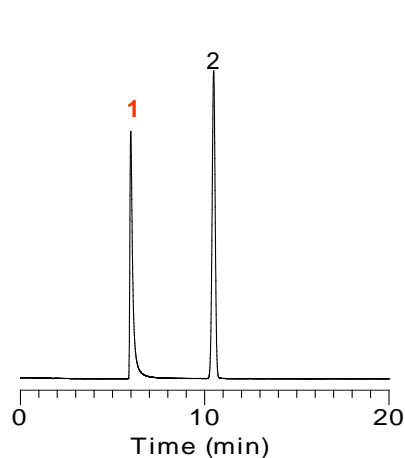
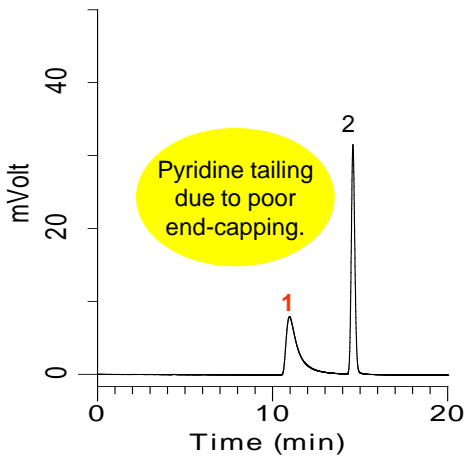
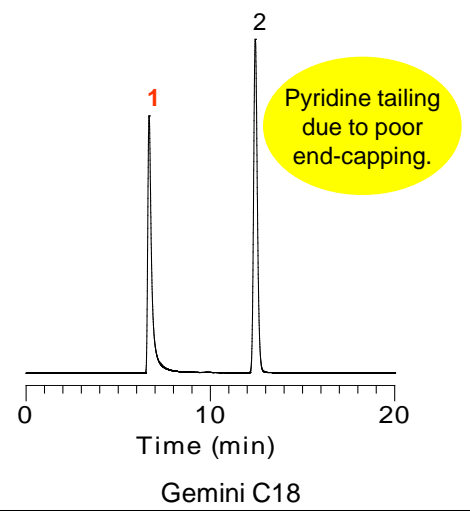
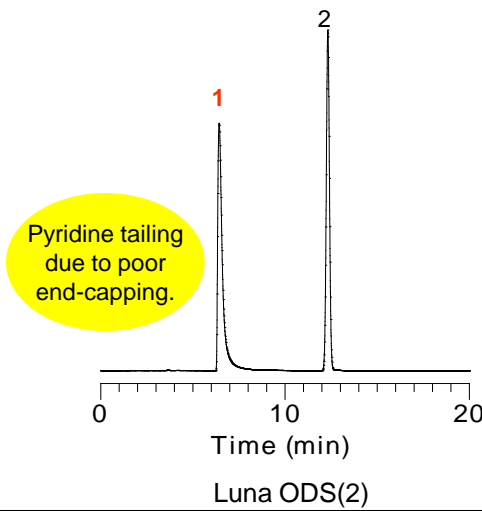
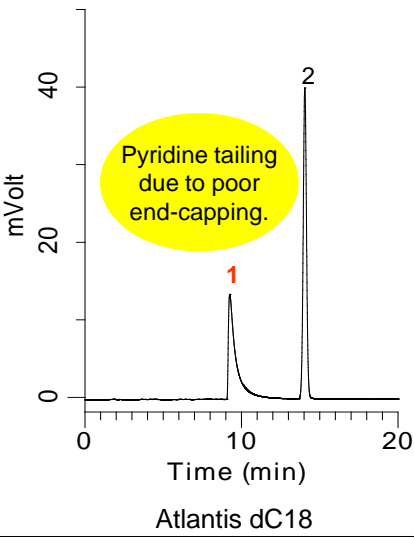
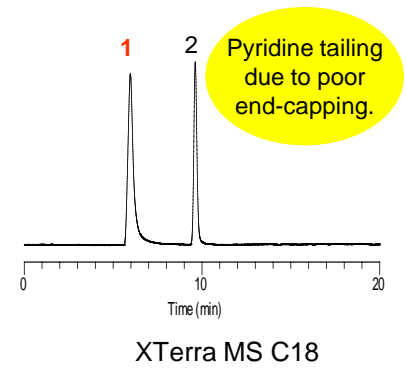
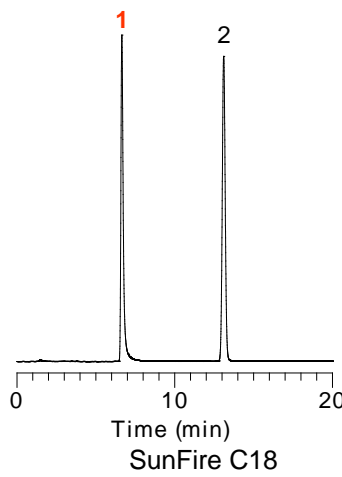
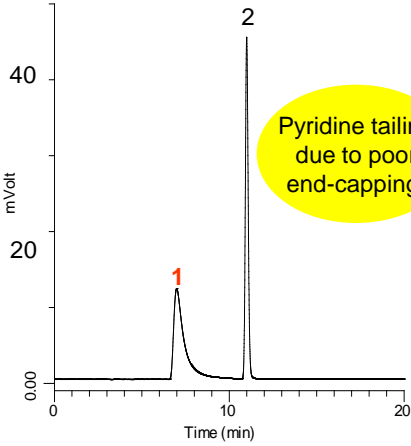
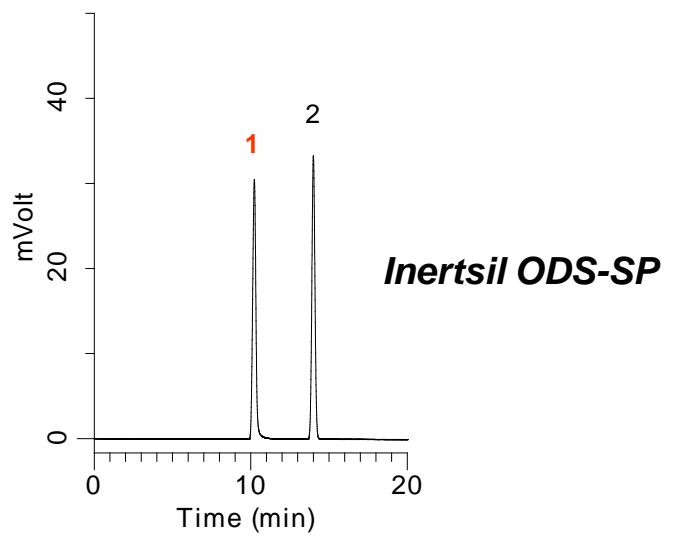
Superior Inertness

Inertsil Sprint is created by using a completely new bonding technique invented by GL Sciences. After bonding octadecyl silane (ODS) to highly purified base-silica gel, intensive end-capping is performed to eliminate residual silanols, creating an exceptionally inert column for reverse phase chromatography. Inertsil ODS Sprint phase shows excellent peak shapes for a wide range of polar analytes, including both basic compounds and acidic compounds, as shown in the chromatograms below.

See the difference for yourself!!!

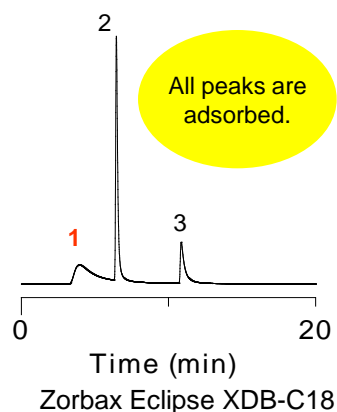
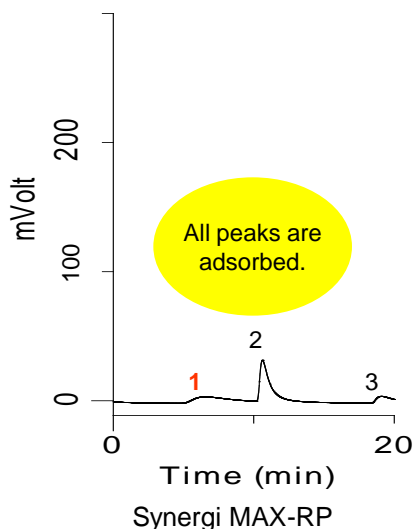
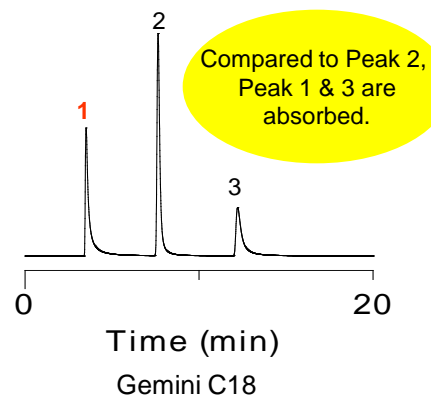
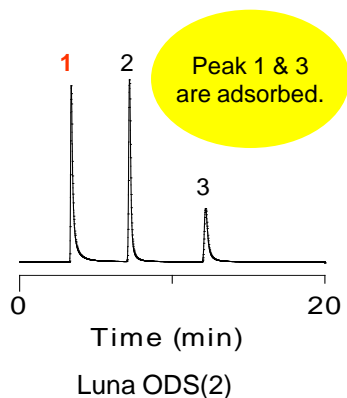
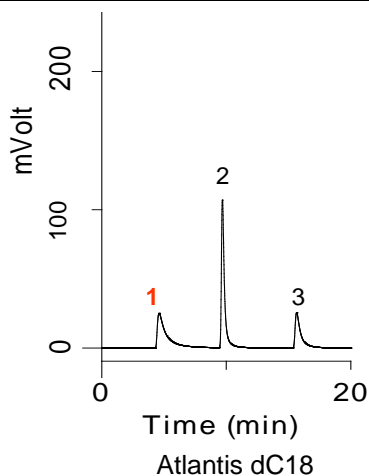
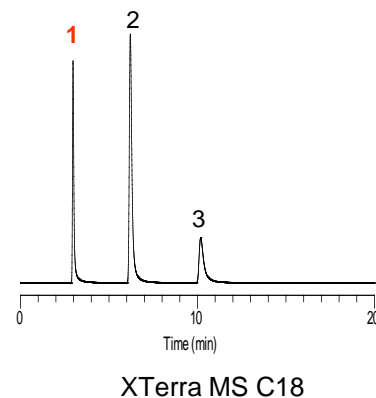
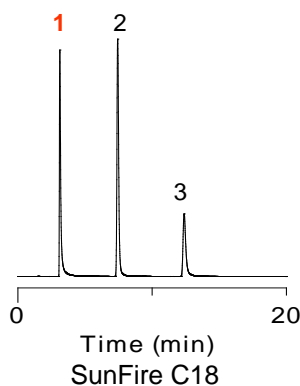
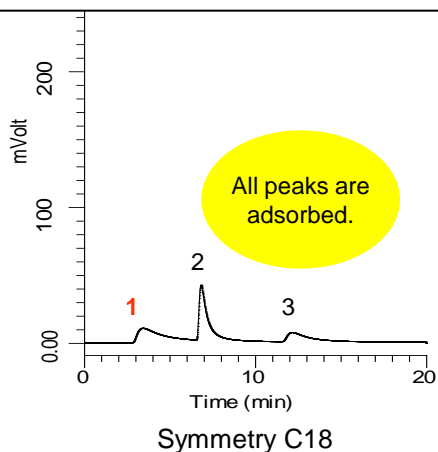
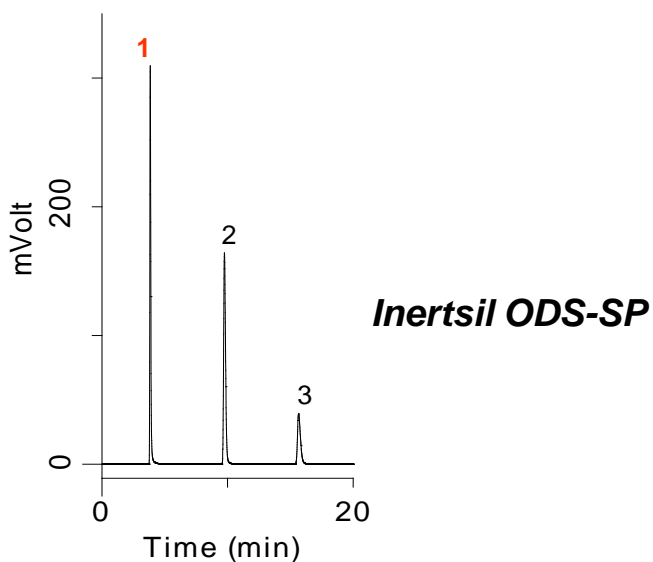
Pyridine Test for Base Deactivation

Column Length: 4.6X250mm 5um
 Eluent: CH3OH / H2O = 30 / 70
 Flow Rate: 1.0 mL/min
 Col.Temp.: 40C
 Detector:: UV254nm
 Sample Volume: 4uL
 Samples: 1) Pyridine 0.09 mg/mL
 2) Phenol 0.41 mg/mL



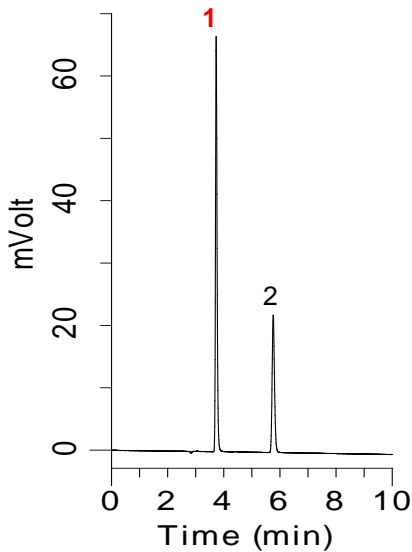
Aminopyridine Test for Base Deactivation

Column Length: 4.6X250mm 5um
 Eluent: CH3OH / 20mM Phosphate Buffer (pH7.6) 10:90
 Flow Rate: 1.0 mL/min
 Col.Temp.: 40C
 Detector:: UV254nm
 Sample Volume: 4uL
 Samples:
 1) 4-Aminopyridine 0.1mg/mL
 2) 3-Aminopyridine 1.0mg/mL
 3) 2-Aminopyridine 1.0mg/mL

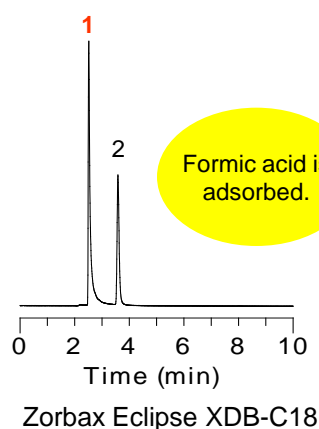
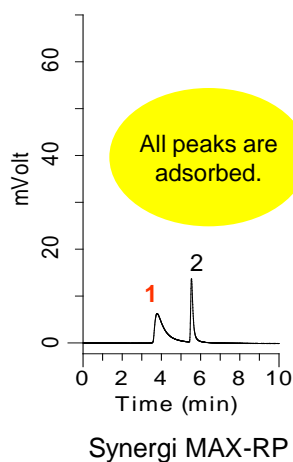
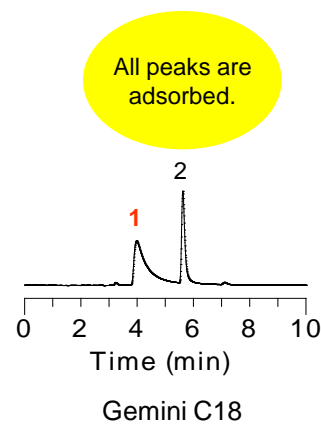
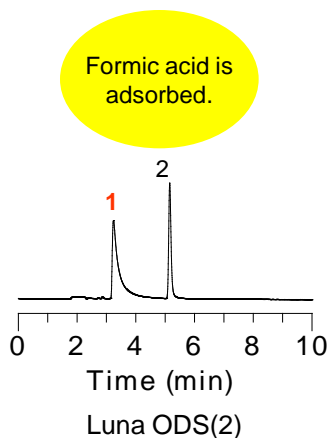
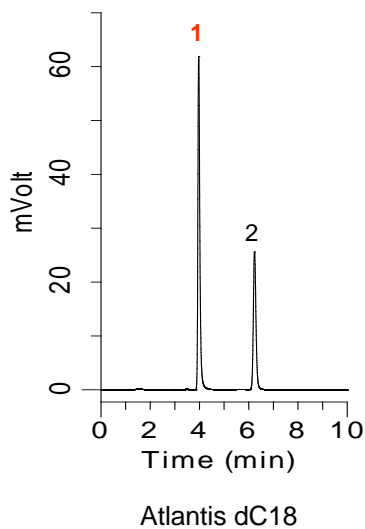
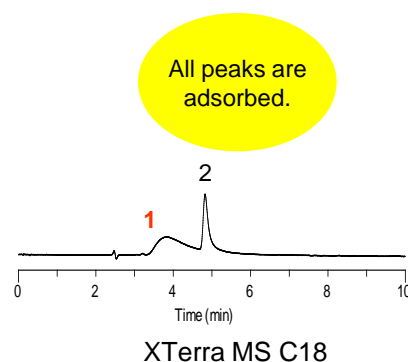
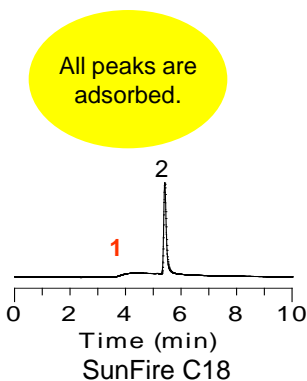
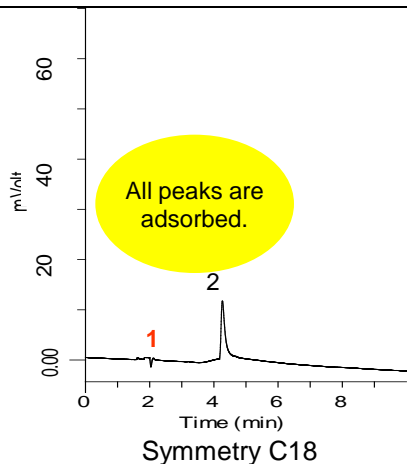


Carboxylic Acid Test for Silanol Activity

Column Length: 4.6X250mm 5um
 Mobile Phase: 0.1% H3PO4(v/v)
 Flow Rate: 1.0 mL/min
 Col.Temp.: 40C
 Detector: UV210nm
 Sample Volume: 4uL
 Samples: 1) Formic Acid 0.1 %(v/v)
 2) Acetic Acid 0.1 %(v/v)

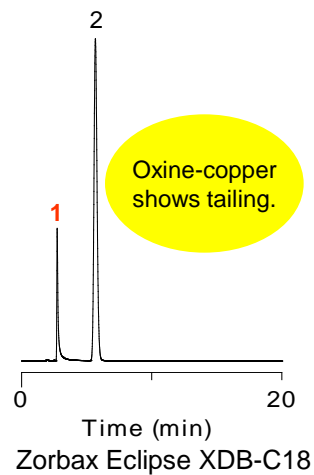
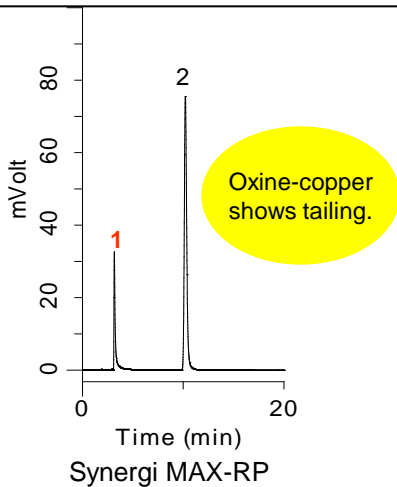
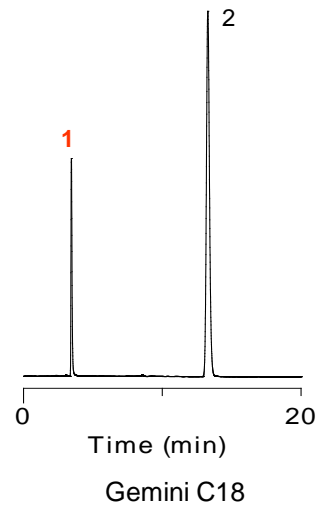
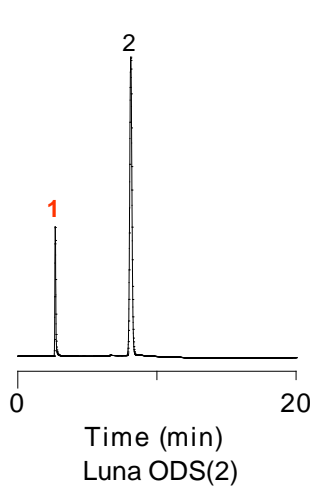
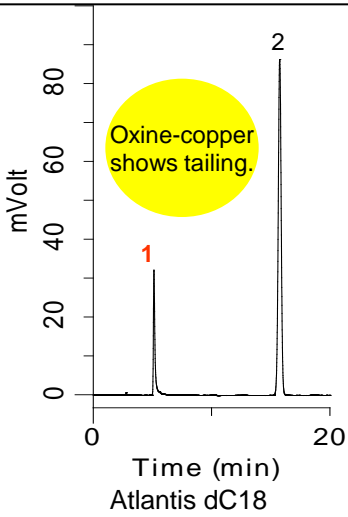
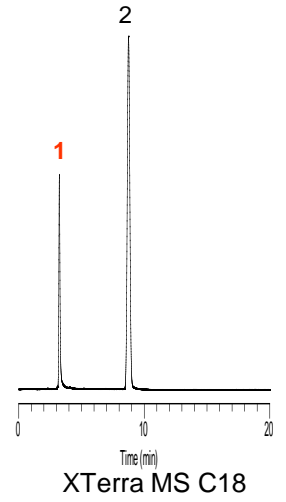
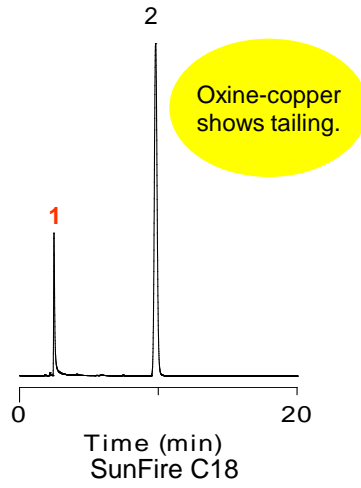
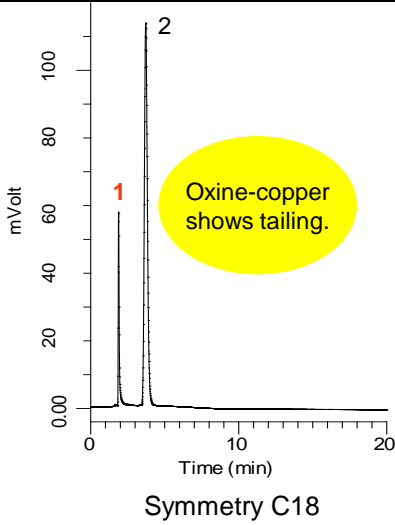
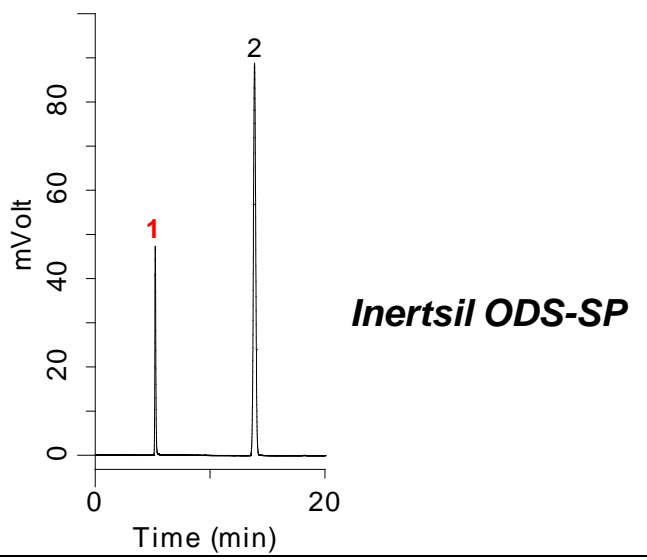


Inertsil ODS-SP



Oxine-copper Teest for Silica Purity

Column Length: 4.6X250mm 5µm
Eluent: CH3OH / 20mM H3PO4 (10/90, w:w)
Flow Rate: 1.0 mL/min
Col.Temp.: 40C
Detector:: UV254nm
Sample Volume: 2.5µL
Samples: 1) Oxine-copper 0.01 mg/mL
 2) Caffeine 0.4 mg/mL



Compatible with 100% aqueous eluents

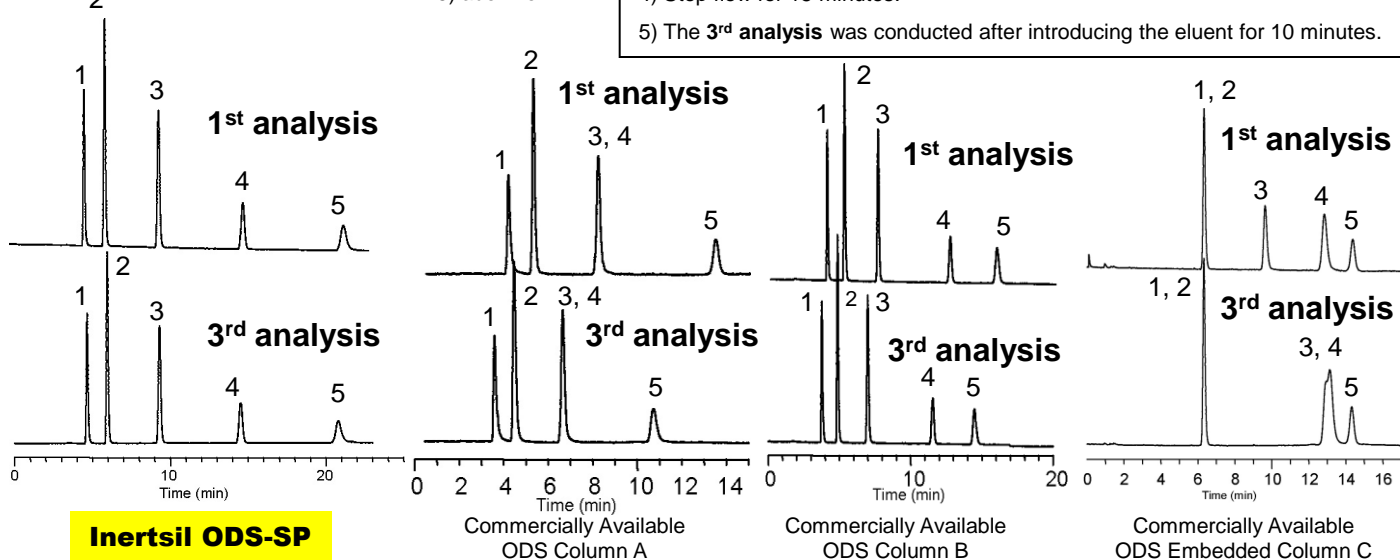
Inertsil ODS Sprint is designed to have enhanced retention of polar compounds without an embedded polar group in the bonded phase ligand. To retain water-soluble organic compounds, the use of mobile phases that contain little or no organic modifier are sometimes needed. Under these highly aqueous conditions, conventional C18 columns often show sudden loss of retention, known as "phase collapse." This phenomenon is caused by "dewetting" of the bonded phase inside the pores of the silica. The following data shows the results of a stop-flow test, which demonstrates Inertsil ODS Sprint's resistance to dewetting and phase collapse.

Column: 4.6X250MM 5um
Eluent: Water 100%
Col.Temp.: 40C
Flow rate: 1.0mL/min
Detection: UV254nm

- 1) Cytosine
- 2) Uracil
- 3) guanine
- 4) thymine
- 5) adenine

Testing Procedure

- 1) The 1st analysis was conducted after introducing the eluent for 20 minutes.
- 2) Stop flow for 15 minutes.
- 3) The 2nd analysis was conducted after introducing the eluent for 10 minutes.
- 4) Stop flow for 15 minutes.
- 5) The 3rd analysis was conducted after introducing the eluent for 10 minutes.



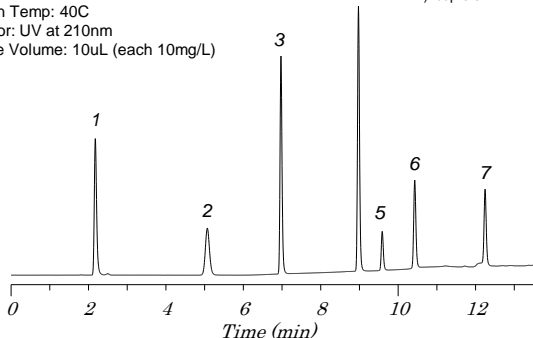
Applications

Analysis of Cold Medicine

Analytical Condition

System: GL-7400 HPLC System
 Column: Inertsil ODS-SP 5um 150X4.6 mm I.D.
 Mobile Phase: A) Acetonitrile B) 0.1% Phosphoric acid
 (A/B) = (10/90)-2min-(10/90)-10min-(100/0)
 Flow Rate: 1.0 mL/min
 Column Temp: 40C
 Detector: UV at 210nm
 Sample Volume: 10uL (each 10mg/L)

- 1) Potassium guaiacolsulfonate
- 2) Acetaminophen
- 3) Caffeine
- 4) Ethenzamide
- 5) Allyl isopropyl acetyl urea
- 6) Isopropylantipyrine
- 7) Ibuprofen

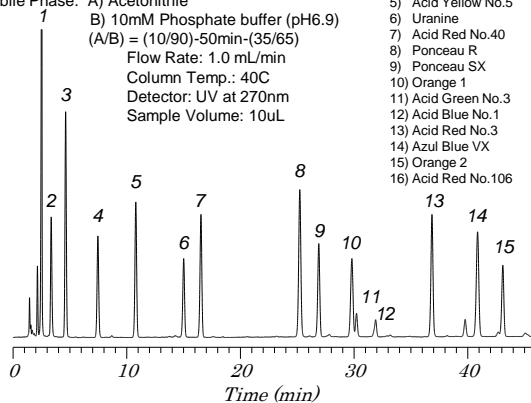


Analysis of Food Colorants

Analytical Condition

System: GL-7400 HPLC System
 Column: Inertsil ODS-SP 5um 150X4.6 mm I.D.
 Mobile Phase: A) Acetonitrile
 B) 10mM Phosphate buffer (pH6.9)
 (A/B) = (10/90)-50min-(35/65)
 Flow Rate: 1.0 mL/min
 Column Temp.: 40C
 Detector: UV at 270nm
 Sample Volume: 10uL

- 1) Acid Yellow No.4 7.6mg/L
- 2) Acid Red No.2 3.8mg/L
- 3) Acid Blue No.2 7.6mg/L
- 4) Acid Red No.102 3.8mg/L
- 5) Acid Yellow No.5 5.3mg/L
- 6) Uranine 3.8mg/L
- 7) Acid Red No.40 5.3mg/L
- 8) Ponceau R 7.6mg/L
- 9) Ponceau SX 5.3mg/L
- 10) Orange 1 5.3mg/L
- 11) Acid Green No.3 3.0mg/L
- 12) Acid Blue No.1 3.0mg/L
- 13) Acid Red No.3 5.3mg/L
- 14) Azul Blue VX 3.0mg/L
- 15) Orange 2 7.6mg/L
- 16) Acid Red No.106 3.0mg/L

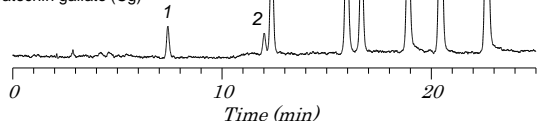


Analysis of Catechins

Analytical Condition

System: GL-7400 HPLC System
 Column: Inertsil ODS-SP 5um 150X4.6 mm I.D.
 Mobile Phase: A) Methanol B) 10mM Sodium dihydrogen phosphate
 (A/B) = (10/90)-30min-(50/50)
 Flow Rate: 1.0 mL/min
 Column Temp.: 40C
 Detector: UV at 280nm
 Sample Volume: 10uL (each 2mg/L)

- 1) Gallocatechin (GC)
- 2) Epigallocatechin (EGC)
- 3) Catechin (C)
- 4) Epigallocatechin gallate (EGCG)
- 5) Epicatechin (EC)
- 6) Gallocatechin gallate (GCg)
- 7) Epicatechin gallate (ECg)
- 8) Catechin gallate (Cg)

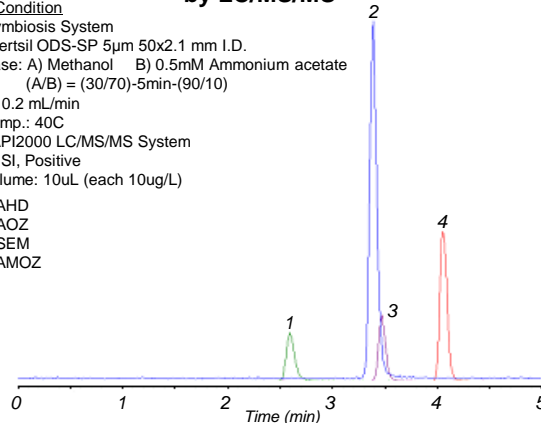


Analysis of Antibacterial Agents by LC/MS/MS

Analytical Condition

System: Symbiosis System
 Column: Inertsil ODS-SP 5um 50x2.1 mm I.D.
 Mobile Phase: A) Methanol B) 0.5mM Ammonium acetate
 (A/B) = (30/70)-5min-(90/10)
 Flow Rate: 0.2 mL/min
 Column Temp.: 40C
 Detector: API2000 LC/MS/MS System
 ESI, Positive
 Sample Volume: 10uL (each 10ug/L)

- 1) 2-NBA-AHD
- 2) 2-NBA-AOZ
- 3) 2-NBA-SEM
- 4) 2-NBA-AMOZ



Inertsil ODS-SP Ordering Information

ID(mm)	2,1	4,6
Length(mm)	Cat.No.	Cat.No.
20	5020-02711	5020-02741
50	5020-02712	5020-02742
75	5020-02713	5020-02743
100	5020-02714	5020-02744
150	5020-02715	5020-02745
250	5020-02716	5020-02746

* HG type hardware are used for all the sizes above.

* End-fitting is Waters 1/16" type.

* For other column sizes, please give us an enquiry. (Upon request)

Cartridge Guard Column E Ordering Information

Cartridge Guard Column E			Cartridge Guard Column E (2EA. / Set)		Cartridge Guard Column E Holder Set (2 Cartridges & 1 Holder)	
Analytical Column I.D.mm Size	Guard Column I.D.mm Size	Guard Column Length mm Size	Cat.No.		Cat.No.	
2.1 mm	3.0 mm	10 mm	5020-08515		5020-08525	
4.6 mm	4.0 mm	10 mm	5020-08510		5020-08520	

* When ordering, please specify the packing material and the particle size.

* Only Waters 1/16" end-fitting type is compatible for our Cartridge Guard Column E.

* Conventional Guard Columns and GL-Cart Guard Columns are also available. For more information, please feel free to contact us.

* EX type hardware are used for all the Cartridge Guard Column E columns.

- The specification and the column type are subject to change without notice due to continual improvements.
- All brand names and product names are trademarks or registered trademarks of GL Sciences Inc.
- TM or ® are not described in this brochure.

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ISO14001: Save Energy and Resources!!
Reduce Amount of Eluent with Smaller ID Inertsil Columns!!