GL Sciences

New!

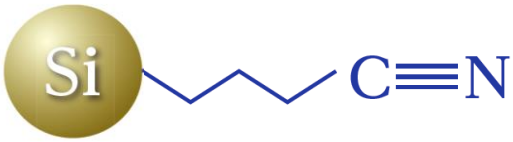
HPLC, LC/MS Columns

InertSustain® Cyano

The Most Reliable and Reproducible Cyano Column

Physical Properties

- Silica : Newly Developed ES Silica Gel
- Particle Size : 3 µm, 5 µm
- Surface Area : 350 m^2/g
- Pore Size : 100 Å (10 nm)
- Pore Volume : 0.85 mL/g
- Bonded Phase : Cyanopropyl Groups
- End-capping : Yes
- Carbon Loading : 8 %
- pH Range : 2～7.5
- USP Code : L10



InertSustain® Cyano

The Most Reliable and Reproducible Cyano Column

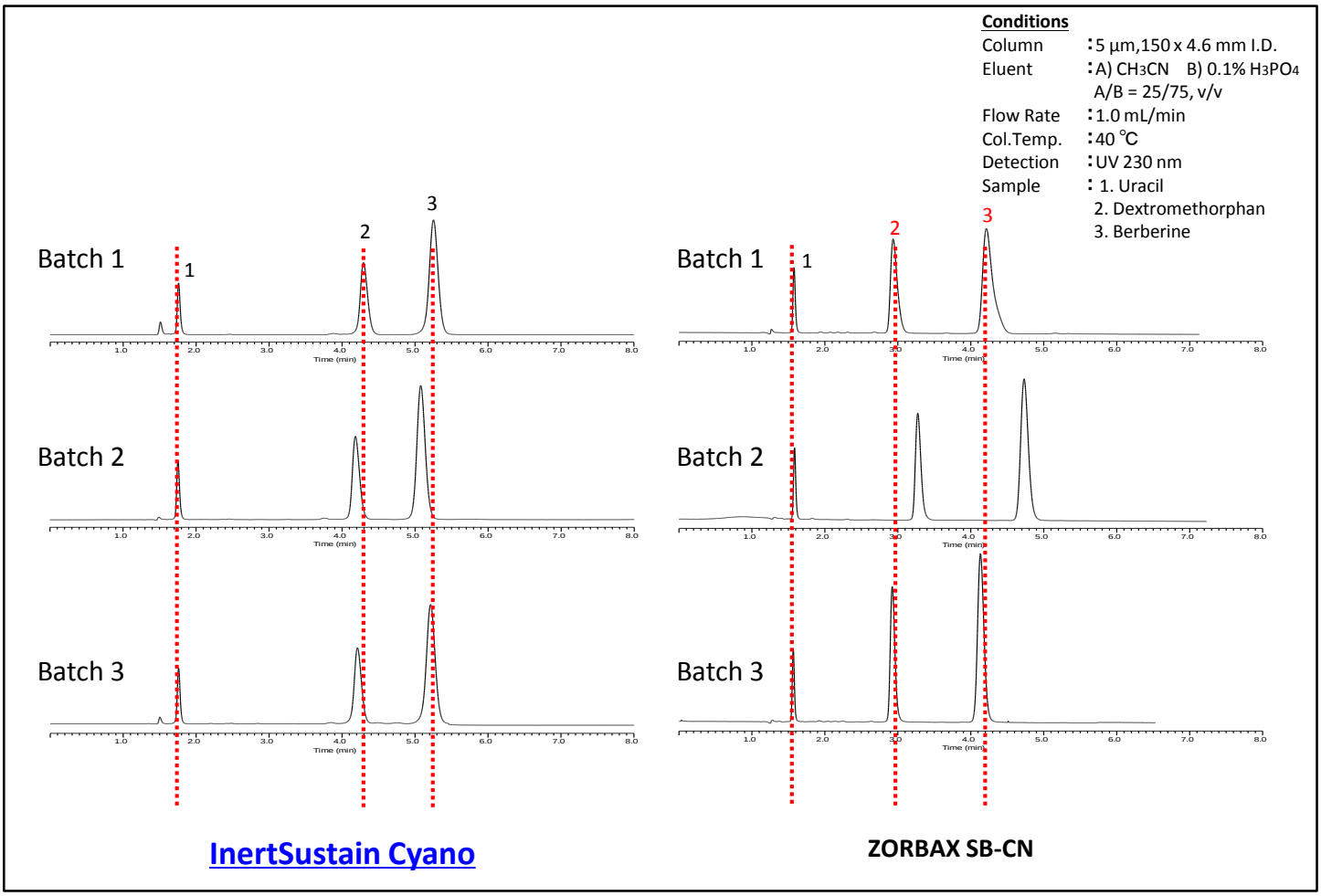
In general, the stability and reproducibility of the Cyano phase available in the market are poor. Many batch-to-batch or lot-to-lot reproducibility issues are occurring at many laboratories.
The InertSustain Cyano columns were developed to resolve these problems and are designed using the most modern LC column technology available providing them to be extremely inert, stable and reproducible.
The InertSustain Cyano columns are highly recommended for all pharmacopeia methods requiring a Cyano phase to be used. (Ex: USP L10)

Benefits

- Endlessly reproducible from column-to-column and batch-to-batch
- Highly recommended for all pharmacopeia methods requiring a Cyano phase to be used (Ex: USP L10)
- Highly inert packing material results in less tailing of peaks for virtually any type of analytes
- A new selectivity option for method development due to the multiple retention mechanisms
- Originally shipped in reversed-phase solvents and is ready to use for reversed-phase methods
- Can be used for both reversed-phase separations as well as normal-phase separations

Comparison of Batch-To-Batch Reproducibility

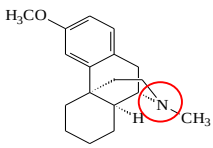
As proven below, InertSustain Cyano provide exceptional reproducibility from batch-to-batch even with those challenging strong basic compounds such as Dextromethorphan or Berberine.



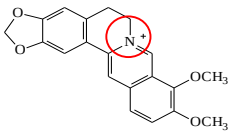
Highly Inert Packing Material

As shown below, InertSustain Cyano columns provide symmetric peaks for strong bases and chelating compounds, delivering highly stable chromatograms for qualitative and quantitative analysis.

Figure 1. Comparison of Peak Shapes using Strong Basic Compounds



2. Dextromethorphan

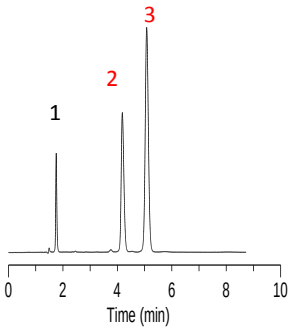


3. Berberine

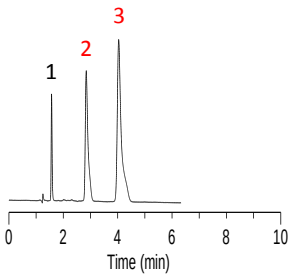
Conditions

Column	: 5 µm,150 x 4.6 mm I.D.
Eluent	: A) CH_3CN B) 0.1% H_3PO_4 A/B = 25/75, v/v
Flow Rate	: 1.0 mL/min
Col.Temp.	: 40 ℃
Detection	: UV 230 nm
Sample	: 1. Uracil 2. Dextromethorphan 3. Berberine

InertSustain Cyano



ZORBAX SB-CN



XSelect HSS CN

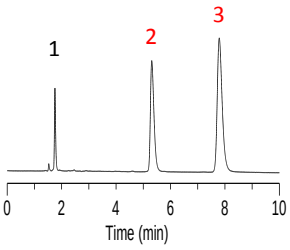
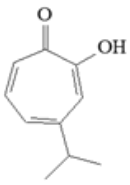


Figure 2. Comparison of Peak Shape using Strong Chelating Compound

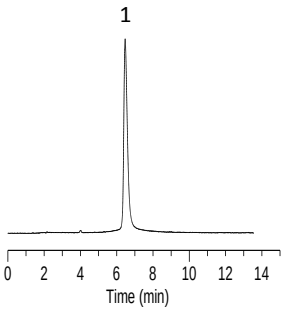


1. Hinokitiol

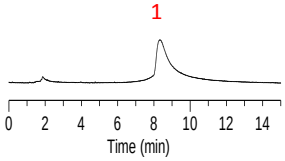
Conditions

Column	: 5 µm,150 × 4.6 mm I.D.
Eluent	: A) CH_3CN B) 0.1% H_3PO_4 A/B = 25/75, v/v
Flow Rate	: 1.0 mL/min
Col.Temp.	: 40 ℃
Detection	: UV 310 nm
Sample	: 1. Hinokitiol

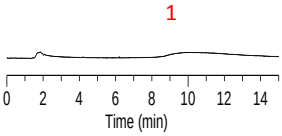
InertSustain Cyano



ZORBAX SB-CN



XSelect HSS CN

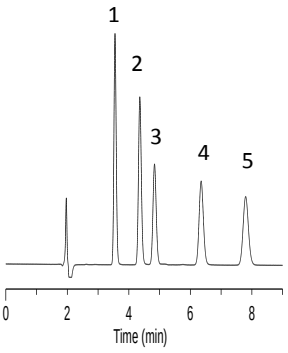


InertSustain® Cyano

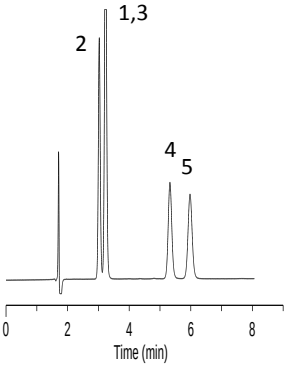
Highly Stable Chemistry for Normal-Phase Separations

Although the InertSustain Cyano columns are originally shipped in reversed-phase solvents, it can also be used for normal-phase separations by properly equilibrating the column with ethanol or 2-propanol prior to the analysis.

InertSustain Cyano

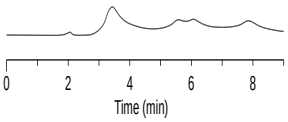


ZORBAX SB-CN



XSelect HSS CN

A packing down of packing material was observed at the column inlet side



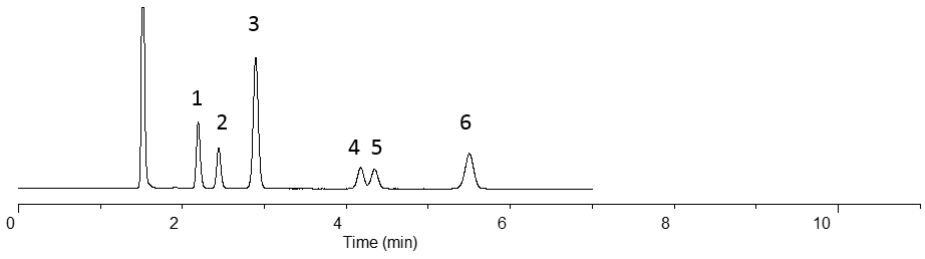
Conditions

Column	: 5 µm, 150 x 4.6 mm I.D.
Eluent	: A) *n*-Hexane B) Ethanol A/B = 90/10, v/v
Flow Rate	: 1.0 mL/min
Col.Temp.	: 40 ℃
Detection	: UV 220 nm
Sample	1. Progesterone 2. Estrone 3. β-Estradiol 4. Corticosterone 5. Hydrocortisone

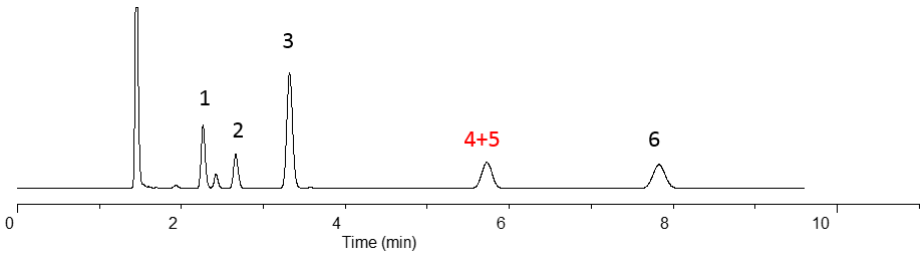
A New Selectivity Option

The InertSustain Cyano column uses multiple retention mechanisms which can lead to achieving the desired separation where a C18 or Phenyl column failed to separate. The Cyano column provides different separation pattern and decreased retention for hydrophobic compounds when comparing to a C18 or Phenyl column.

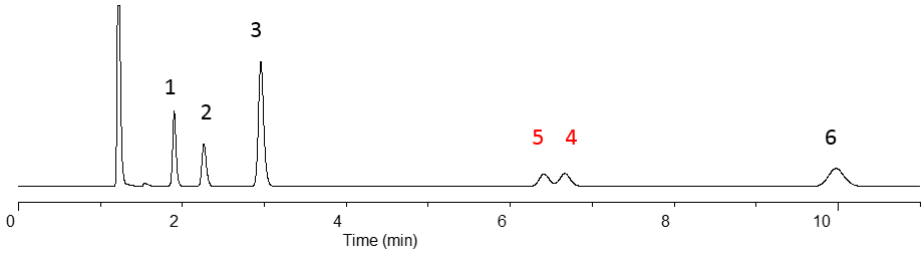
InertSustain Cyano



InertSustain Phenyl



InertSustain C18



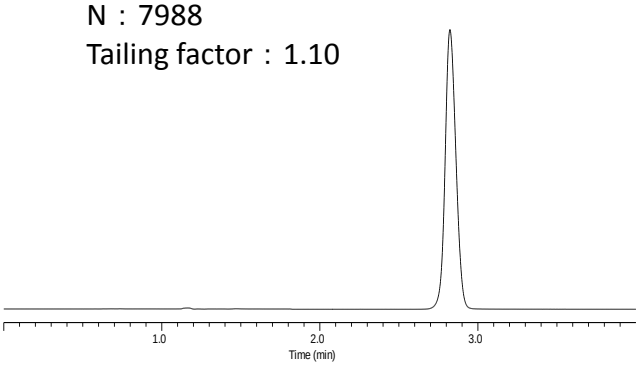
Conditions

Column	: 5 µm,150 x 4.6 mm I.D.
Eluent	: A) CH_3CN B) 0.1% H_3PO_4 A/B = 25/75, v/v
Flow Rate	: 1.0 mL/min
Col.Temp.	: 40 ℃
Detection	: UV 280 nm
Sample	: 1. 4-Hydroxybenzamide 2. Hydroquinone 3. 4-Hydoroxybenzoic acid 4. Phenol 5. 4-Hydoroxybenzonitoril 6. *p*-Nitrophenol

Applications

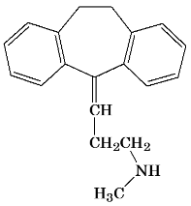
Analysis of Nortriptyline Hydrochloride Capsules [USP Method]

N：7988
Tailing factor：1.10



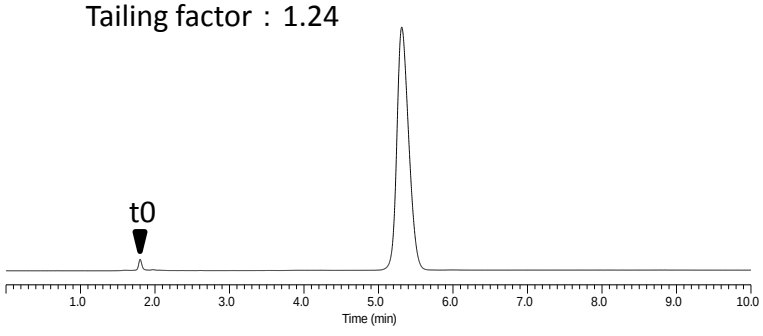
USP Column：5 µm, 150 x 4.6 mm I.D. (L10)
System suitability requirements:
Efficiency (N)：＞500
Tailing factor：＜3.0

Sample Conc. ：0.38 mg/mL (in Methanol)
Mobile Phase ：ACN：CH_3OH：12 mM Potassium phosphate (pH 6.7)
= 40：43：17
Flow Rate ：2.5 mL
Detection ：UV 239 nm
Injection ：5 µL



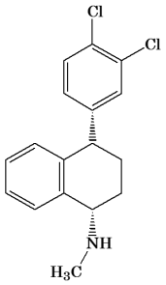
Analysis of Sertraline Hydrochloride [USP Method]

Tailing factor：1.24



USP Column：5 µm, 150 x 4.6 mm I.D. (L10)
System suitability requirements:
Tailing factor：＜2.0

Sample Conc. ：0.050 mg/mL (in Mobile Phase)
Mobile Phase ：CH_3OH：0.1% (v/v) Phosphoric acid
= 1：1
Flow Rate ：1.5 mL
Detection ：UV 210 nm
Colum Temp. ：30 ℃
Injection ：10 µL



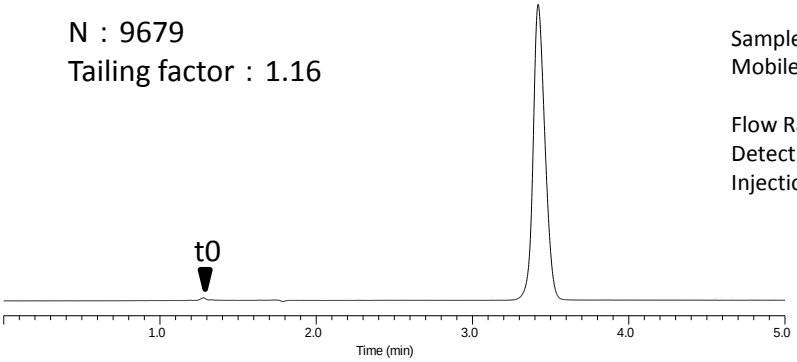
InertSustain® Cyano

Applications

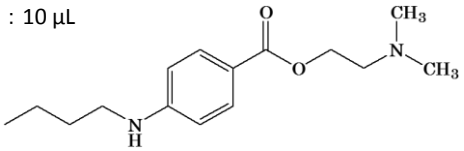
Analysis of Tetracaine Hydrochloride Ophthalmic Solution [USP Method]

USP Column: 5 µm, 150 x 4.6 mm I.D. (L10)
System suitability requirements:
Efficiency (N) : ＞500
Tailineg factor : ＜ 2.0

N : 9679
Tailing factor : 1.16



Sample Conc. : 0.1 mg/mL (in Water)
Mobile Phase : ACN : 10 mM Ammonium phosphate (pH 3.0) = 30 : 70
Flow Rate : 2.0 mL
Detection : UV 280 nm
Injection : 10 µL



Ordering Information

InertSustain® Cyano Analytical Columns

	Length / I .D. (mm)	2.1	3.0	4.6
HP Series Particle Size: 3 µm Max. Operating Pressure: 50 MPa (500 Bar)	30	5020-89459	5020-89465	5020-89471
	50	5020-89460	5020-89466	5020-89472
	75	5020-89461	5020-89467	5020-89473
	100	5020-89462	5020-89468	5020-89474
	150	5020-89463	5020-89469	5020-89475
	250	5020-89464	5020-89470	5020-89476

* End-fittings are 1/16” Waters-compatible.

	Length / I .D. (mm)	2.1	3.0	4.0	4.6
Particle Size: 3 µm	30	5020-89374	5020-89381	5020-89388	5020-89395
	50	5020-89375	5020-89382	5020-89389	5020-89396
	75	5020-89376	5020-89383	5020-89390	5020-89397
	100	5020-89377	5020-89384	5020-89391	5020-89398
	150	5020-89378	5020-89385	5020-89392	5020-89399
	250	5020-89379	5020-89386	5020-89393	5020-89400
	Length / I .D. (mm)	2.1	3.0	4.0	4.6
Particle Size: 5 µm	30	5020-89251	5020-89258	5020-89265	5020-89272
	50	5020-89252	5020-89259	5020-89266	5020-89273
	75	5020-89253	5020-89260	5020-89267	5020-89274
	100	5020-89254	5020-89261	5020-89268	5020-89275
	150	5020-89255	5020-89262	5020-89269	5020-89276
	250	5020-89256	5020-89263	5020-89270	5020-89277

* End-fittings are 1/16” Waters-compatible.
* Max. Operating Pressure: 20 MPa (200 Bar)

Ordering Information

Cartridge Guard Column E

I.D. of the Analytical Column Applicable (mm)	Length (mm)	I.D. (mm)	Replacement Cartridge E Guard Column (2 EA.) Particle Size		Cartridge E Holder / Cartridge Set (2 Cartridge E Guard Columns & 1 Holder) Particle Size	
			3 µm	5 µm	3 µm	5 µm
1.0	10	1.0	5020-89449	5020-89355	5020-89450	5020-89356
1.5,2.1		1.5	5020-89451	5020-89357	5020-89452	5020-89358
2.1,3.0		3.0	5020-89447	5020-89353	5020-89448	5020-89354
4.0,4.6		4.0	5020-89445	5020-89351	5020-89446	5020-89352
2.1,3.0	20	3.0	5020-89455	5020-89361	5020-89456	5020-89362
4.0,4.6		4.0	5020-89453	5020-89359	5020-89454	5020-89360
Holder for Cartridge Guard Column E				For 10 mm Length		5020-08500
				For 20 mm Length		5020-08550

* End-fittings are 1/16” Waters-compatible.
* Max. Operating Pressure: 20 MPa (200 Bar)

Cartridge Guard Column E

Worldwide Ordering Information

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