

HPLC Column Packer &amp; Manufacturer since 1985

## Silicas for (U)HPLC, LC-Preparative & Flash Columns

### Uptisphere® CS Evolution

Core Shell columns for fast & highly efficient identification & quantification of small molecules.

### Uptisphere® Strategy™

(U)HPLC, Analytical & Prep LC Columns with high surface area for identification, quantification & purification of small molecules & pharma compounds.

### Uptisphere® 120 Å

HPLC & Prep LC Columns for the identification, quantification of small molecules & pharma compounds.

### puriFlash®

Analytical, Prep LC & Flash columns with High Load-ability for routine analysis & easy transfer to purification of small organic molecules in pharma applications.

### puriFlash® Bio

(U)HPLC, Analytical, Prep LC & Flash columns for the identification, quantification & purification of Peptides, Polypeptides & Proteins at high & low pH.

### Uptisphere® Bio

X-serie™ Uptisphere® 300Å Uptisphere® TP

HPLC & prep LC columns for the identification, quantification of Proteins, Peptides & Polypeptides at high & low pH.





### Our silica technologies from Advion Interchim Scientific

All Advion Interchim Scientific Uptisphere® silicas (120 Å, CS Evolution, Strategy™, puriFlash® & puriFlash® Bio) follow rigorous and innovative manufacturing processes. Base silicas are produced in ceramic reactors from standard particles for purification are totally free of all traces of metals for analysis. Each of the different synthesis steps are strictly controlled.

This rigour leads to extremely mechanically stable particles. The particle size and porosity distributions as well as the specific surface areas are perfectly defined and reproducible.

Our puriFlash® & puriFlash® Bio silicas are specifically designed to meet the requirements of preparative liquid chromatography. They combine quality and cost effectiveness.

Our silicas have three major advantages:

1. A perfect control of the surface state.  
We physically or chemically modify the surface of the silica to choose the type, the amount of silanols or the overall surface energy according to the objective to be achieved.
2. Cylindrical pores.  
The quantity of free silanols and their excellent accessibility enable acquisition of a homogeneous and particularly dense functionalization (grafting). This results in very good loading capacity and stability of these stationary phases under aggressive mobile phase conditions such as basic buffers.
3. High mechanical stability.  
Our stationary phases can withstand multiple packings and de-packings without damaging the integrity of the substrate. They are the tool of choice for preparative chromatography.

### Modified silicas

The Laboratoire d'Etude des Techniques et des Instruments d'Analyse Moléculaire (LETIAM), a constituent unit of the analytical chemistry group of Paris Sud located at the IUT of Orsay, played a fundamental role in our vision, which led to the development of our stationary phases.

The laboratory of Sciences and Separative Methods - (SMS) of the Institute of Research in Fine Organic Chemistry - (IRCOF) has also helped in our development process with their innovative synthesis schemes for the modification of our "Core-Shell" silicas Uptisphere® CS Evolution.

Today, we offer about 50 selectivities to meet the needs of analysts and chemists for the identification, quantification and purification of small organic molecules, peptides and proteins.

Silica base: standard Pure & Ultra Pure (99.995%)

Particles: irregular, granular, spherical

Particulate Size:

1.7 µm [+/- 0.1]  
2.2 µm [+/- 0.15]  
2.5 - 2.6 µm [+/- 0.1]  
3 - 3.5 µm [+/- 0.2]  
5 µm [+/- 0.3]  
10 µm [+/- 1.0]  
15 µm [+/- 2.0]  
25 - 30 µm [+/- 5]  
50 µm [+/- 10]

Surface / Pore Size:

60Å [+/- 10] / 500m<sup>2</sup>/g [+/- 50]  
85Å [+/- 5] / 130m<sup>2</sup>/g [+/- 25]  
100Å [+/- 15] / 425m<sup>2</sup>/g [+/- 40]  
120Å [+/- 15] / 320m<sup>2</sup>/g [+/- 40]  
130Å [+/- 15] / 300m<sup>2</sup>/g [+/- 40]  
200Å [+/- 15] / 150m<sup>2</sup>/g [+/- 40]  
220Å [+/- 15] / 200m<sup>2</sup>/g [+/- 40]  
300Å [+/- 40] / 100m<sup>2</sup>/g [+/- 20]

Metal Traces: Pure standard < 500 ppm - Ultra Pure < 10 ppm (Fe < 1 ppm)

pH Stability: depending on the physical and / or chemical modification



## Advion Interchim Scientific Stationary Phase: Selection Guide

Name	AIS Code	USP Code	Pores size	Surface	Particles size $\mu\text{m}$					Bonding	Functionalization	% Carbon	End-Capping
					1.7	2.2	2.6	3.0	5.0				
<b>Small Organic Molecules</b>													
Uptisphere® CS Evolution™	C18	L1	85 Å	130 m <sup>2</sup> /g			x			C18 - octadecyl	mono-functional	9.0 %	One step
Uptisphere® CS Evolution™	C18-HB	L1	85 Å	130 m <sup>2</sup> /g			x			C18 - octadecyl	mono-functional	8.0 %	One step
Uptisphere® CS Evolution™	C18-RP	L1	85 Å	130 m <sup>2</sup> /g			x			C18 - octadecyl	mono-functional	6.0 %	Mixte
Uptisphere® CS Evolution™	C18-AQ	L1	85 Å	130 m <sup>2</sup> /g			x			C18 - octadecyl	mono-functional	6.5 %	Mixte
Uptisphere® CS Evolution™	HIT	L3	85 Å	130 m <sup>2</sup> /g			x			Proprietary	Proprietary		Proprietary
Uptisphere® CS Evolution™	SI	L3	85 Å	130 m <sup>2</sup> /g			x			Ultra pure silica			None
Uptisphere® Strategy™	C18-HQ	L1	100 Å	425 m <sup>2</sup> /g	x	x		x	x	C18 - octadecyl	mono-functional	19.0 %	Multi step
Uptisphere® Strategy™	C18-3	L1	100 Å	425 m <sup>2</sup> /g				x	x	C18 - octadecyl	mono-functional	22.0 %	Multi step
Uptisphere® Strategy™	C18-RP	L1	100 Å	425 m <sup>2</sup> /g		x		x	x	C18 - octadecyl	mono-functional	16.0 %	Multi step Mixte
Uptisphere® Strategy™	C12	L87	100 Å	425 m <sup>2</sup> /g		x			x	C12 - dodecyl	mono-functional	16.0 %	One step
Uptisphere® Strategy™	PHC4	L11	100 Å	300 m <sup>2</sup> /g		x		x	x	Phenyl - Butyl	mono-functional	12.0 %	One step
Uptisphere® Strategy™	BPH	L11	100 Å	300 m <sup>2</sup> /g				x	x	Bi-Phenyl	mono-functional	12.0 %	One step
Uptisphere® Strategy™	PPF	L43	100 Å	425 m <sup>2</sup> /g				x	x	Penta Fluoro Phenyl	mono-functional	14.5 %	One step
Uptisphere® Strategy™	HILIC-HIT	L3	100 Å	425 m <sup>2</sup> /g		x		x	x	Proprietary	Proprietary		Proprietary
Uptisphere® Strategy™	HILIC-HIA		100 Å	300 m <sup>2</sup> /g		x		x	x	Proprietary	Proprietary		Proprietary
Uptisphere® Strategy™	SI	L3	100 Å	425 m <sup>2</sup> /g		x		x	x	Ultra pure silica			none
Uptisphere®	C18-HSC	L1	60 Å					x	x	C18 - octadecyl	mono-functional	20.0 %	Multi step
Uptisphere®	C18-ODB	L1	120 Å	320 m <sup>2</sup> /g		x		x	x	C18 - octadecyl	mono-functional	18.0 %	One step
Uptisphere®	C18-HDO	L1	120 Å	320 m <sup>2</sup> /g		x		x	x	C18 - octadecyl	mono-functional	17.0 %	Mixte
Uptisphere®	C18-NEC	L1	120 Å	320 m <sup>2</sup> /g		x		x	x	C18 - octadecyl	mono-functional	16.0 %	none
Uptisphere®	C18TF	L1							x	C18 - octadecyl	poly-functional	14.0 %	One step
Uptisphere®	C8	L7	120 Å	320 m <sup>2</sup> /g					x	C8 - octyl	mono-functional	11.0 %	One step
Uptisphere®	MM1	L44	120 Å	320 m <sup>2</sup> /g					x	C8 /SCX	mono-functional		One step
Uptisphere®	CN	L10	120 Å	320 m <sup>2</sup> /g				x	x	CN - cyano	mono-functional	8.0 %	One step
Uptisphere®	OH	L20	120 Å	320 m <sup>2</sup> /g					(x)	OH - diol	mono-functional	6.0 %	none
Uptisphere®	NH2	L8	120 Å	320 m <sup>2</sup> /g		x		x	x	NH2 - amino	mono-functional	5.0 %	none
Uptisphere®	SCX	L9	120 Å	320 m <sup>2</sup> /g					x	Strong Cation Exchanger	mono-functional		none
Uptisphere®	SAX	L14	120 Å	320 m <sup>2</sup> /g					x	Strong Anion Exchanger	mono-functional		none
puriFlash® Prep	C18-XS	L1	100 Å	300 m <sup>2</sup> /g					x	C18 - octadecyl	mono-functional	17.0 %	Multi-step
puriFlash® Prep	C18-HP	L1	100 Å	300 m <sup>2</sup> /g					x	C18 - octadecyl	mono-functional	16.5 %	One-step
puriFlash® Prep	C18-AQ	L1	100 Å	300 m <sup>2</sup> /g					x	C18 - octadecyl	mono-functional	14.0 %	Mixte



## HPLC - Advion Interchim Scientific Technologies - Selection guide



pH Stability	Chromatographic Mode	Application
1.5 - 7.5	Reverse	Serves a broad-ship of analytical & prep LC requirements for separating non polar compounds.
1.5 - 8.0	Reverse	Suitable for non polar compound separation. Exhibits a very hydrophobic surface. HB shows excellent stability under high temperature.
1.5 - 8.0	Reverse	Suitable for mid & non polar compounds separation. RP shows excellent mechanical stability that makes it an excellent tool for analysis under acidic or basic conditions.
1.5 - 7.0	Reverse	Suitable for mid & non polar compound separation. Shows excellent stability under 100% aqueous mobile phase condition.
1.5 - 7.0	Hilic	Aqueous normal phase separation (ANP) of water-soluble compounds. Typical mobile phase: water / ACN (> 70%). ANP is an excellent alternative to RP purification for highly polar compounds.
1.5 - 7.0	Normal	Non-ionic, polar organic compounds
1.0 - 10	Reverse	This utility phase serves many pharmaceutical applications. Its 425 m <sup>2</sup> /g surface area provide sexcellent loading capacity.
1.0 - 12	Reverse	The high bonding density of the C18-3 facilitates a high separation of non polar compounds. Multi step bonding technology guarantees a fully end-capped phase, stable under basic pH conditions. C18-3 is an excellent phase for the separation of basic drugs at up to pH: 12.
1.5 - 8.0	Reverse	Suitable for mid & non polar compounds separation. RP shows excellent mechanical stability that makes it an excellent tool for purification under acidic or basic conditions.
1.5 - 8.0	Reverse	Non polar compounds. Less retentive than C18 with greater capacity
1.5 - 7.5	Reverse	Very selective for compounds with aromatic cycles and mid-polar compounds
1.5 - 7.5	Reverse	Excellent discrimination of aromatic compounds, unsaturated compounds, ketones, alkenes, ...
1.5 - 7.5	Reverse	Complementary to C18, C8 to separate electron rich compounds.
1.5 - 7.0	Hilic	Aqueous normal phase separation (ANP) of water-soluble compounds. Typical mobile phase: water / ACN (> 70%) ANP is an excellent alternative to RP purification for highly polar compounds
2.0 - 7.0	Hilic	Aqueous normal phase separation (ANP) of water-soluble compounds. Typical mobile phase: water / ACN (> 70%) ANP is an excellent alternative to RP purification for highly polar compounds
1.5 - 7.0	Normal	Non-ionic, polar organic compounds
1.5 - 8.0	Reverse	Non-polar compounds
1.5 - 7.0	Reverse	Serves a broad-ship of analytical & prep LC requirements for separating non polar compounds.
1.5 - 7.0	Reverse	Suitable for mid & non polar compound separation. Shows excellent stability under 100% aqueous mobile phase condition.
1.5 - 6.5	Reverse	NEC strongly retains the polar and mid-polar compounds. It overcome peak tailing with compounds that contains chains and /or carbon cycles combined with numerous polar groups and/or basic in character.
1.5 - 8.0	Reverse	Alternative selectivity for challenging separations for - but not limited to - aromatic, polyphenol, PAHs etc.
2.0 - 7.0	Reverse	Mid-polar and non polar compounds. Less retentive than C18
2.0 - 6.5	Reverse / Ion Exchange	Ion exchange and hydrophobic chains are bonded onto the surface of silica providing unique selectivity. Compounds that possess basic functionality are retained by ion exchange functionality. An organic solvent will elute hydrophobic compounds.
2.0 - 7.0	Reverse / Normal	CN functional groups can be used either in normal phase to purify polar compounds or in reversed phase for mid-polar compounds.
1.5 - 6.5	Reverse / Normal	The diol function provides globally a neutral surface onto the silica. It leads to greater separation of basic compounds by normal phase vs. regular silica.
2.0 - 6.5	Reverse / Normal / Ion Exchange	Can be either weak anion exchangers for strong acids, or polar media that can interact with OH, NH, SH ...
1.0 - 7.5	Ion Exchange	Strong cation exchange (SCX) contains sulfonic acid used to analyze weak basic compounds which have one or more positive charges.
1.0 - 7.5	Ion Exchange	Strong anion exchanger (SAX) contains quaternary amine, used to analyze weak acid compounds which have one or more negative charges, nucleotides, nucleosides, organic acids ...
1.0 - 10.0	Reverse	The proprietary multi-step bonding technology guarantees a fully end-capped phase, stable under basic pH conditions up to pH: 10. It's an excellent phase for the integral purification of basic drugs.
1.5 - 7.5	Reverse	Serves many pharmaceutical applications. Excellent choice for routine purification in reverse phase mode.
2.0 - 7.5	Reverse	The bonding chemistry enables a starting gradient with 100% of water. Suitable for the purification of mid and non polar compounds.



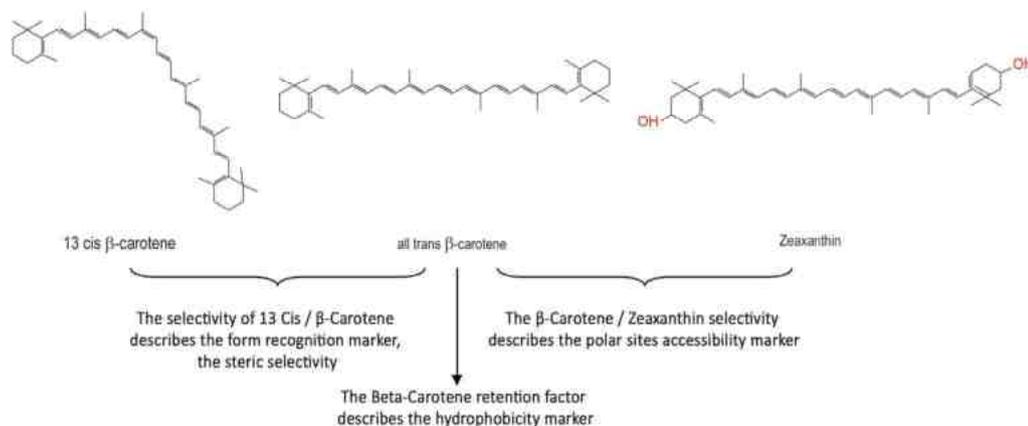
## HPLC stationary phases classification model

Over the years, scientists have learned how to characterize and classify liquid chromatography stationary phases. The study of these tests and the collaboration developed with the LETIAM, Analytical Chemistry Group of the University of Paris South, have been the development inspiration of most of our HPLC stationary phases.

### 1. Test of Lesellier & Tchaplà - sub-critical analysis of isomers of carotenoids

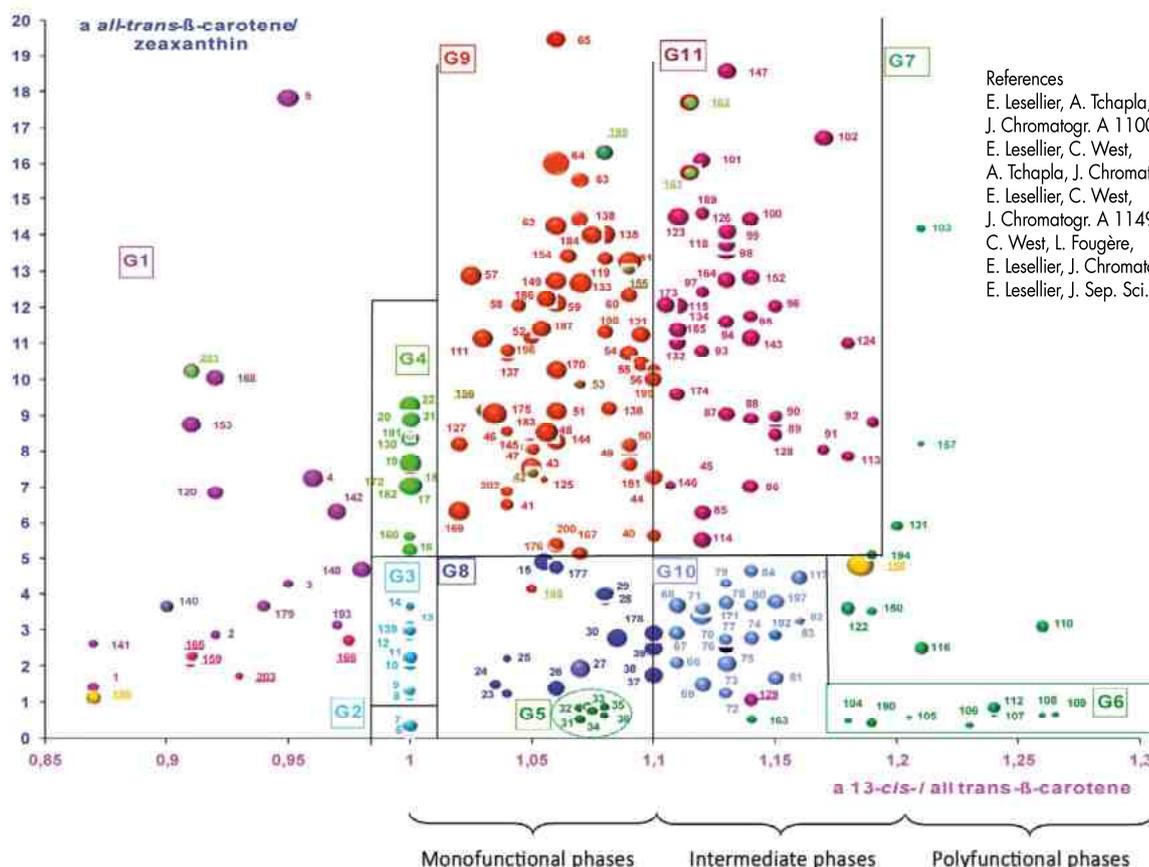
This test compares the major properties of bonded silicas, mainly C18.

It is discriminant for a dozen groups of stationary phases. ~ 200 columns have been evaluated so far.



### Results

In the domain of values between 20 and 10 of the y-axis, the stationary phases have a very low accessibility to polar sites. Between 10 and 5, the accessibility to polar sites is medium main, it becomes very important for the values less than 5.



#### References

- E. Lesellier, A. Tchaplà, J. Chromatogr. A 1100 (2005) 45
- E. Lesellier, C. West, A. Tchaplà, J. Chromatogr. A 1111 (2006) 62
- E. Lesellier, C. West, J. Chromatogr. A 1149 (2007) 345
- C. West, L. Fougère, E. Lesellier, J. Chromatogr. A 1189 (2008) 227
- E. Lesellier, J. Sep. Sci. 33 (2010) 3097

# HPLC stationary phases classification model

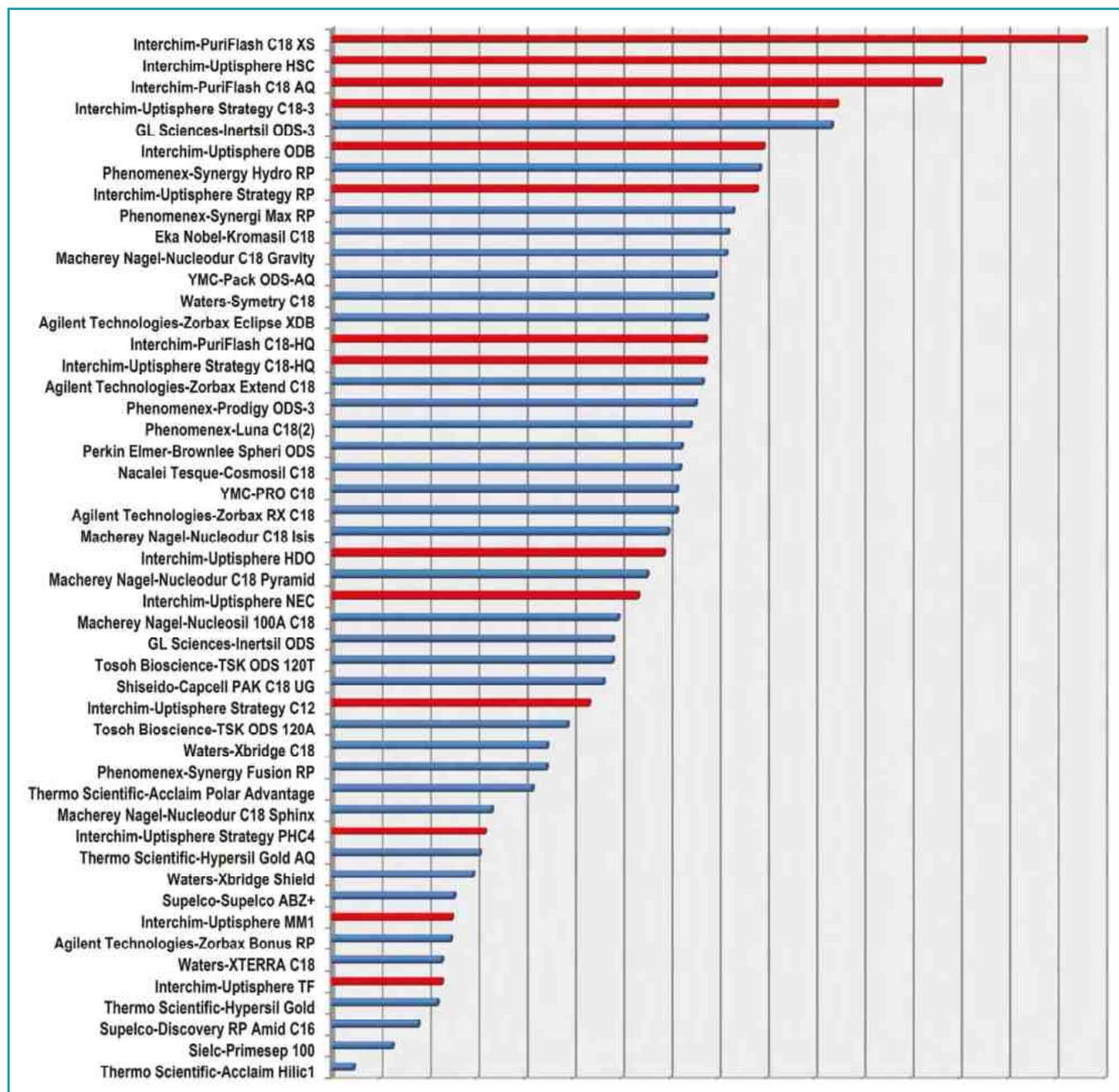
## HPLC columns evaluated

Ace	ACE 5 C18	Interchim®	Uptisphere® Strategy™ C18-HQ	SGE	Wakosil C18-RS
Ace	ACE C18 AQ	Interchim®	Uptisphere® Strategy™ C18-3	Shiseido	Capcell Pak C18
Ace	ACE C18 HL	Interchim®	Uptisphere® Strategy™ RP	SMT	SMT C18
Agilent Technologies	Zorbax 300 SB C18	Interchim®	Uptisphere® Strategy™ NEC	Supelco	Acclaim Polar Advantage II
Agilent Technologies	Zorbax Bonus-RP	Interchim®	Uptisphere® Strategy™ PHC4	Supelco	Ascentis C18
Agilent Technologies	Zorbax Eclipse Plus	Interchim®	Uptisphere® Strategy™ C12	Supelco	Ascentis Express C18 - 2,7µm
Agilent Technologies	Zorbax Eclipse Plus C18	Interchim®	Uptisphere® ODB	Supelco	Ascentis RP Amide
Agilent Technologies	Zorbax Eclipse Plus PAH	Interchim®	Uptisphere® HDO	Supelco	Discovery C18
Agilent Technologies	Zorbax Eclipse Plus Phenyl hexyl	Interchim®	Uptisphere® HSC	Supelco	Discovery HS C18
Agilent Technologies	Zorbax Eclipse XDB C18	Interchim®	Uptisphere® NEC	Supelco	Discovery RP amide C16
Agilent Technologies	Zorbax Extend C18	Interchim®	Uptisphere® TF	Supelco	Supelcosil ABZ
Agilent Technologies	Zorbax ODS	Interchim®	Uptisphere® MMT	Supelco	Supelcosil ABZ+
Agilent Technologies	Zorbax RX C18	Interchim®	Uptisphere® BioP I	Supelco	Supelcosil LC 18-DB
Agilent Technologies	Zorbax SB C18	Interchim®	Uptisphere® BioP II	Supelco	Supelcosil LC-18
Agilent-Varian	Pursuit Diphenyl	Interchim®	Uptisphere® WOD	Supelco	Supelcosil LC-18S
Agilent-Varian	Pursuit XRs C18	Interchim®	Uptisphere® WRP	Supelco	Supelcosil LC-18T
AMT	Halo C18 - 2,7µm	Interchim®	PuriFlash® C18-HQ 5µm	Supelco	Suplex PKB
Baker	Baker C18-NP	Interchim®	PuriFlash® C18-AQ 5µm	Tessek	Separon C18
Baker	Baker C18-WP	Interchim®	PuriFlash® C18-XS 5µm	Tessek	Separon C18 ec
Beckmann	Ultrasphere ODS	Macherey Nagel	Nautilus C18	Thermo separation	Aquasil C18
Beckmann	Ultrasphere XL ODS	Macherey Nagel	Nucleodur 100 C18ec	Thermo separation	Betabasic C18
Biotage	Unisphere C18	Macherey Nagel	Nucleodur Gravity C18	Thermo separation	Hypersil 100 C18
Cluzeau	Satisfaction RP 18-AB	Macherey Nagel	Nucleodur Isis	Thermo separation	Hypersil BDS C18
Cluzeau	Stability BS C23e	Macherey Nagel	Nucleodur Pyramid	Thermo separation	Hypersil Elite C18
Cluzeau	Stability BS C23ne	Macherey Nagel	Nucleodur Sphinx	Thermo separation	Hypersil Gold
Cluzeau	Stability ODS2	Macherey Nagel	Nucleosil 100 C18	Thermo separation	Hypersil Green-PAH
Cogent	C18 bidentate	Macherey Nagel	Nucleosil 100 C18-HD	Thermo separation	Hypersil ODS
Colochrom	Colosphere C18	Macherey Nagel	Nucleosil 100 C18-PAH	Thermo separation	Hypersil PAH
Colochrom	Excelsphere 120 C18-H	Macherey Nagel	Nucleosil 300 C18	Thermo separation	HyPurity Aquastar
Colochrom	Exelsphere 120 ODS2	Macherey Nagel	Nucleosil 50 C18	Thermo separation	HyPurity C18
Colochrom	Normalsphere ODS2	Macherey Nagel	Nucleosil 50 C18ec	Thermo separation	HyPurity C8 Advance
Dionex	Acclaim C18	Macherey Nagel	Nucleosil C18-AB	Tosoh Biosciences	TSK OD 80-TM
Dionex	Acclaim Polar Advantage	Macherey Nagel	Nucleosil C18-AB	Tosoh Biosciences	TSK ODS-120A
Eichrom	Synchropak C18	Macherey Nagel	Nucléosil Nautilus C18	Tosoh Biosciences	TSK ODS-120T
Eka Nobel	Kromasil C18	Macherey Nagel	Nucleosil Protect C8	Tosoh Biosciences	TSK ODS-80TS
ES Industries	Chromegabond C22	Merck	Chromolith C18	Varian	Omnisphere C18
ES Industries	Gamma-bond C18	Merck	Lichrosorb RP18	Varian	Polaris A C18
GL sciences	Inertsil ODS-2	Merck	Lichrospher 100 RP18	Varian	Polaris amide C18
GL sciences	Inertsil ODS-3	Merck	Lichrospher 100 RP18e	Varian	Polaris B C18
Grace - Alltech	Adsorbosil C18	Merck	Lichrospher PAH	Varian	Polaris ether C18
Grace - Alltech	Adsorbosphere HS C18	Merck	Purospher 100 RP18	Varian	Pursuit C18
Grace - Alltech	Adsorbosphere XL C18	Merck	Purospher 100 RP18e	Varian	ResElut C18
Grace - Alltech	Alltima C18	Merck	Purospher star RP18e	Waters	Atlantis dcC18
Grace - Alltech	Alltima HP C18	Merck	Superspher 100 RP18	Waters	Delta-Pak C18
Grace - Alltech	Alltima HP C18 amide	Merck	Superspher 100 RP18e	Waters	microBondapak C18
Grace - Alltech	Alltima HP C18 HL	Nacalai Tesque	Cosmosil C18-AR II	Waters	Nova-Pak C18
Grace - Alltech	Alphabond C18	Nacalai Tesque	Cosmosil C18-MS II	Waters	Resolve C18
Grace - Alltech	Brava BDS C18	Nacalai Tesque	Cosmosil C18-PAQ	Waters	Spherisorb ODB
Grace - Alltech	Econosil C18	Nacalai Tesque	Cosmosil Pi naphthyl	Waters	Spherisorb ODS1
Grace - Alltech	Econosphere C18	Nomura	Develosil C18	Waters	Spherisorb ODS2
Grace - Alltech	Platinum EPS C18	Perkin Elmer	PE CR C18	Waters	Symmetry C18
Grace - Alltech	Platinum C18	Perkin Elmer	Spheri-5 ODS	Waters	Symmetry Shield RP18
Grace - Alltech	Prevail amide C18	Phenomenex	Gemini C18	Waters	X Bridge
Grace - Alltech	Prevail C18	Phenomenex	Gemini NX	Waters	Xterra MS C18
Grace - Alltech	Prosphere 300 C18	Phenomenex	Gemini Phenyl hexyl	Waters	Xterra RP 18
Grace - Jones	Apex C18	Phenomenex	Luna C18 (1)	Whatman	Partisil ODS1
Grace - Jones	Genesis C18	Phenomenex	Luna C18-2	Whatman	Partisil ODS2
Grace - Vydac	Vydac 201HS	Phenomenex	Luna Phenyl hexyl	Whatman	Partisil ODS3
Grace - Vydac	Vydac 201TP	Phenomenex	Prodigy ODS 2	YMC	Hydrosphere C18
Grace - Vydac	Vydac 202TP	Phenomenex	Prodigy ODS 3	YMC	J'Sphere 80H
Grace - Vydac	Vydac 218MR	Phenomenex	Synergy Fusion RP	YMC	J'Sphere 80L
Grace - Vydac	Vydac 218TP	Phenomenex	Synergy Hydro RP	YMC	J'Sphere 80M
Grace - Vydac	Vydac 238TP	Restek	Allure C18	YMC	ODS A 120 A
Higgins	Clipeus C18	Restek	Ultra C18	YMC	ProC18 RS
Higgins	HAIsil C18	SFCC	Bondasorb C18	YMC	YMC Pack ODS-AQ
Higgins	HAIsil C18-HL	SGE	Exsil ODS	YMC	YMC Pack ProC18
Higgins	Targa C18	SGE	SGE-250 GL4 P-C18		

## HPLC stationary phases classification model

### 2. Tanaka Test: Pentylbenzene retention factor

Pentylbenzene retention factor is a hydrophobicity marker.

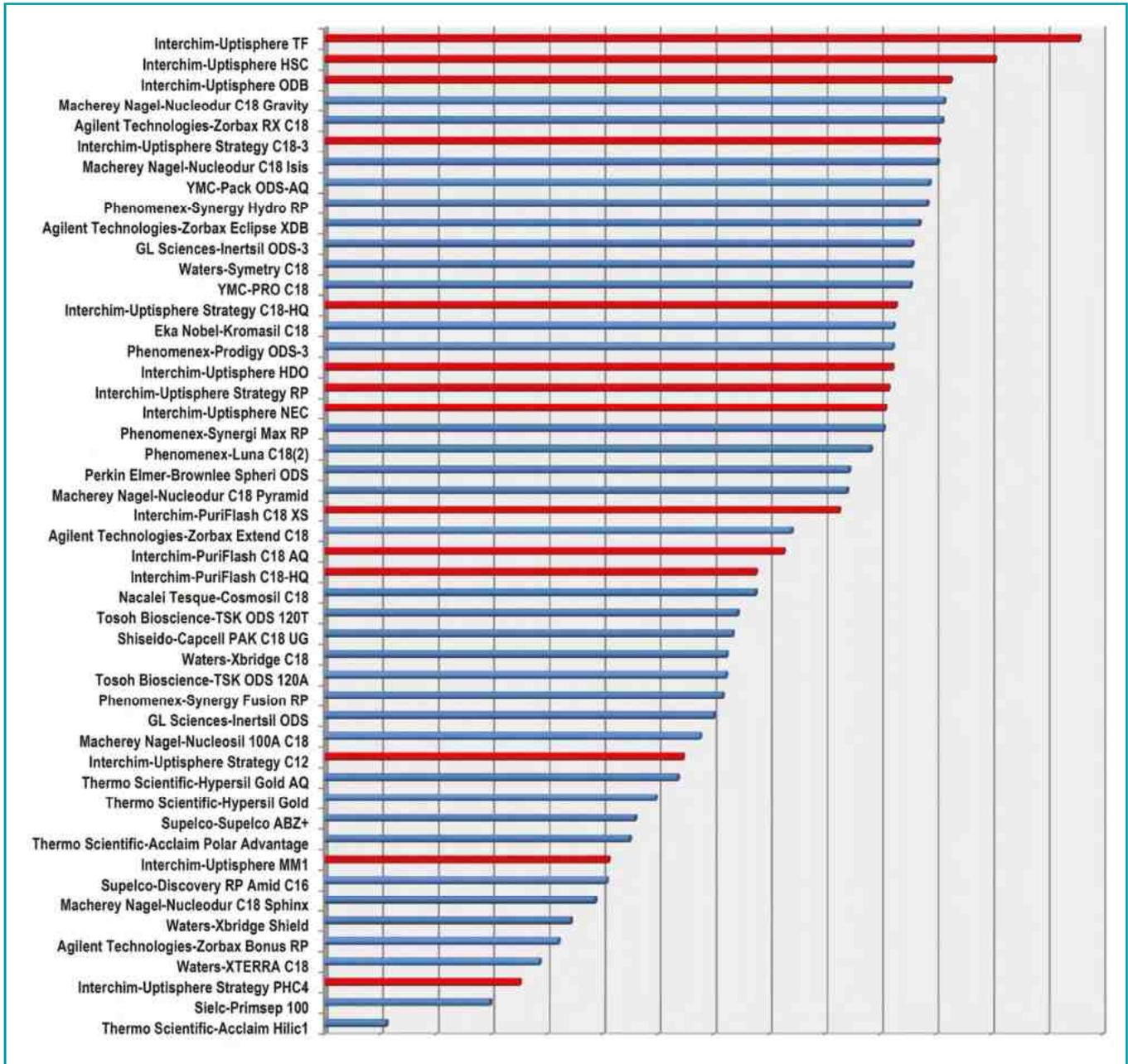


Studies developed in partnership with LETIAM, IUT Orsay, France, Dr. Sylvie Héron & Pr. Alain Tchaplal.



### 3. Tanaka Test: Methylene selectivity

Amylbenzene / Butylbenzene selectivity is a hydrophobicity marker.



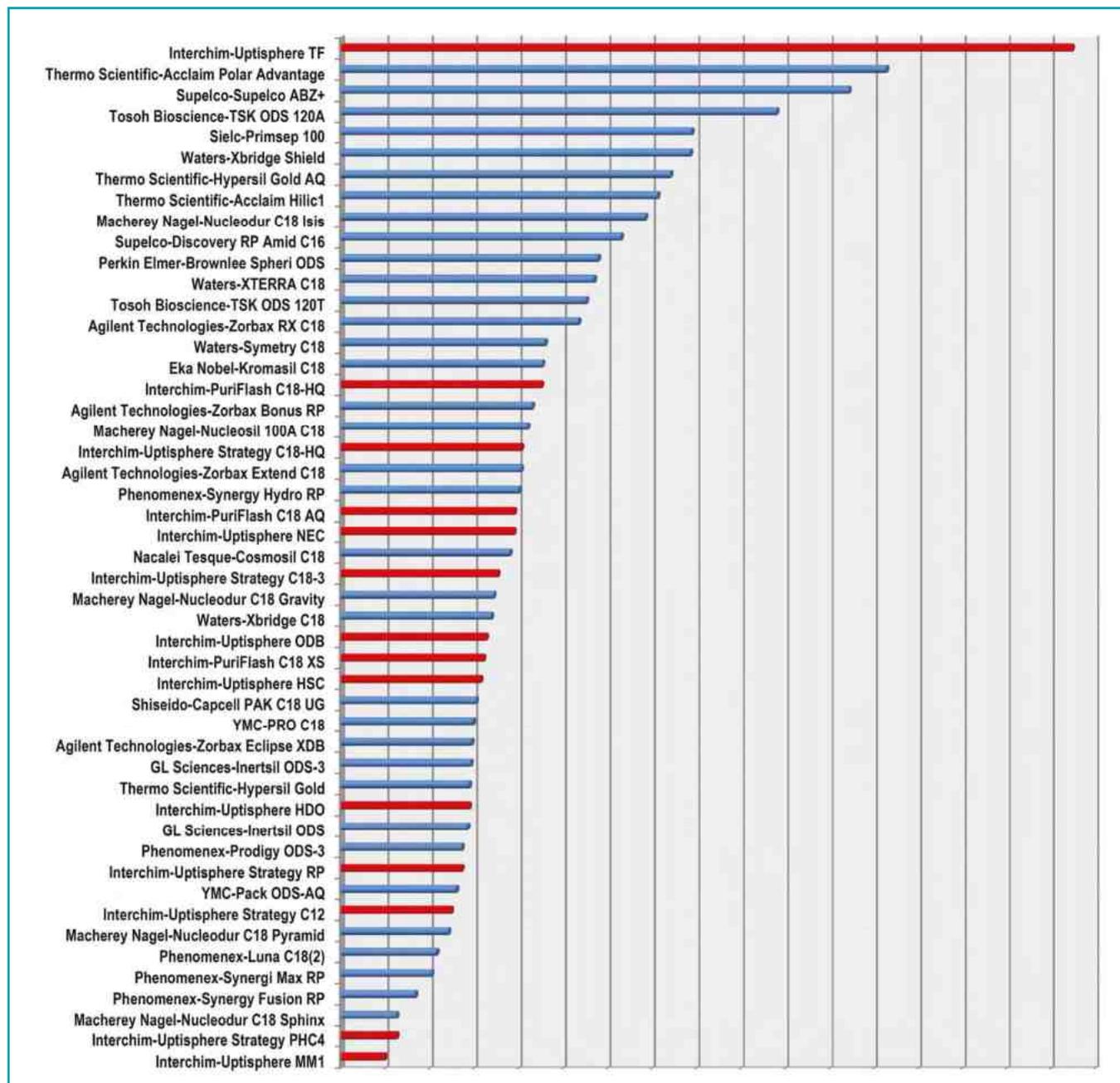
Studies developed in partnership with LETIAM, IUT Orsay, France, Dr. Sylvie Héron & Pr. Alain Tchaplà.



## HPLC stationary phases classification model

### 4. Tanaka Test: Steric selectivity

Triphenylene / O-ter-Phenyl selectivity is a steric resistance marker and a form recognition marker.

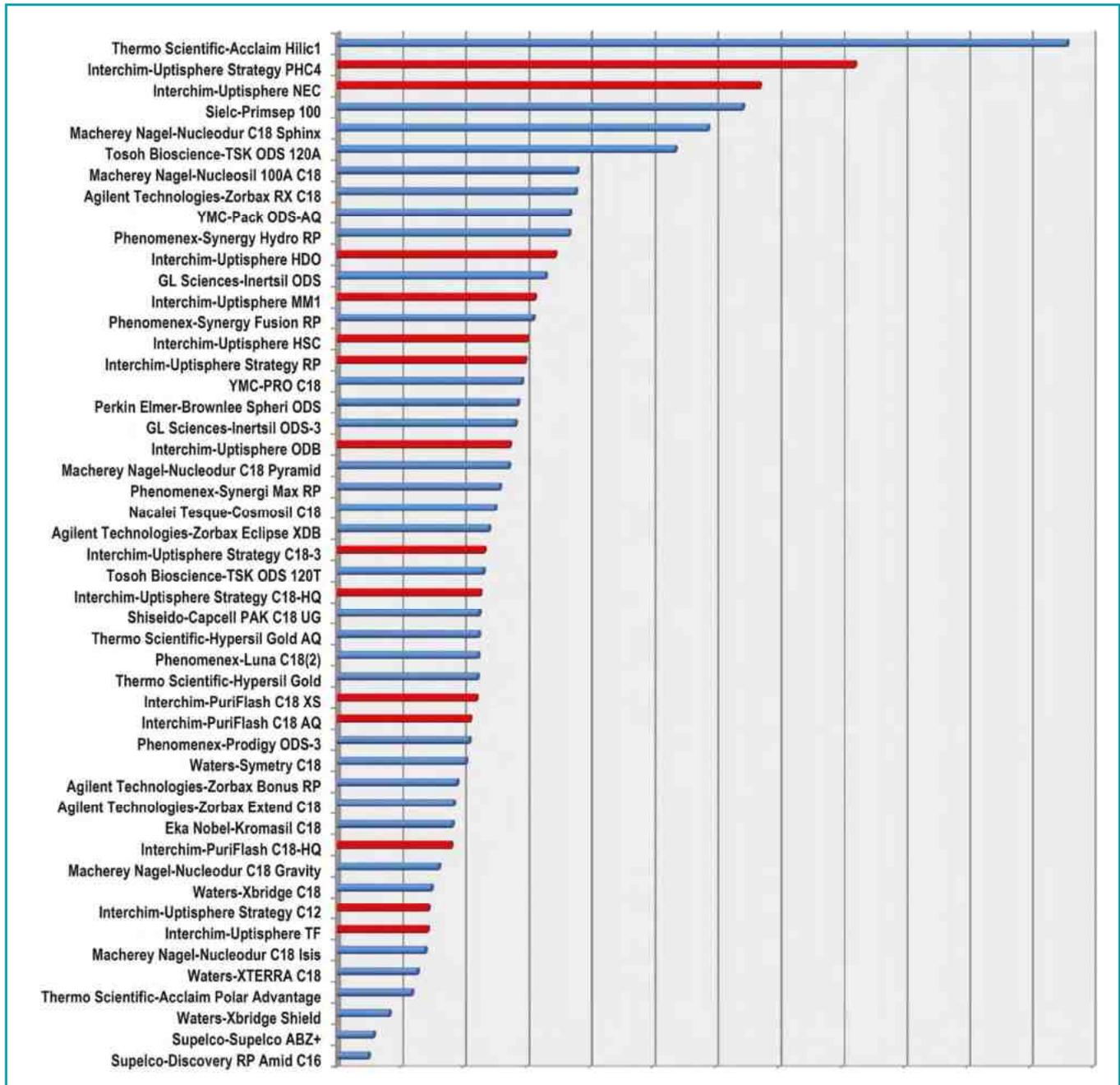


Studies developed in partnership with LETIAM, IUT Orsay, France, Dr. Sylvie Héron & Pr. Alain Tchaplà.



### 5. Tanaka Test: Neutral

Caffeine / Phenol selectivity is a polar selectivity marker. (Study performed under neutral conditions.)



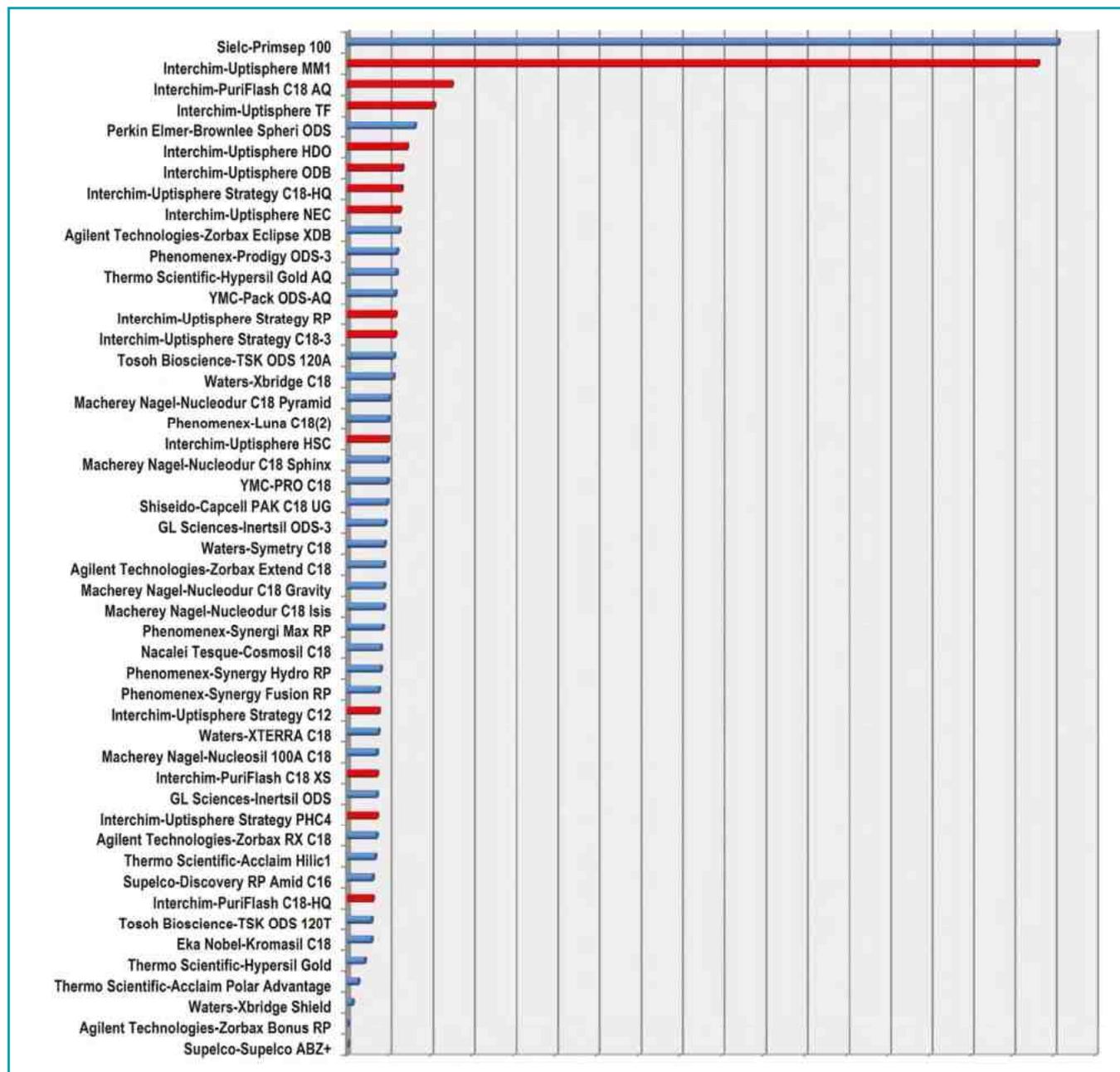
Studies developed in partnership with LETIAM, IUT Orsay, France, Dr. Sylvie Héron & Pr. Alain Tchaplal.



## HPLC stationary phases classification model

### 6. Tanaka Test: Acid

Benzylamine / Phenol selectivity is a polar selectivity marker. (Study performed under acidic conditions.)

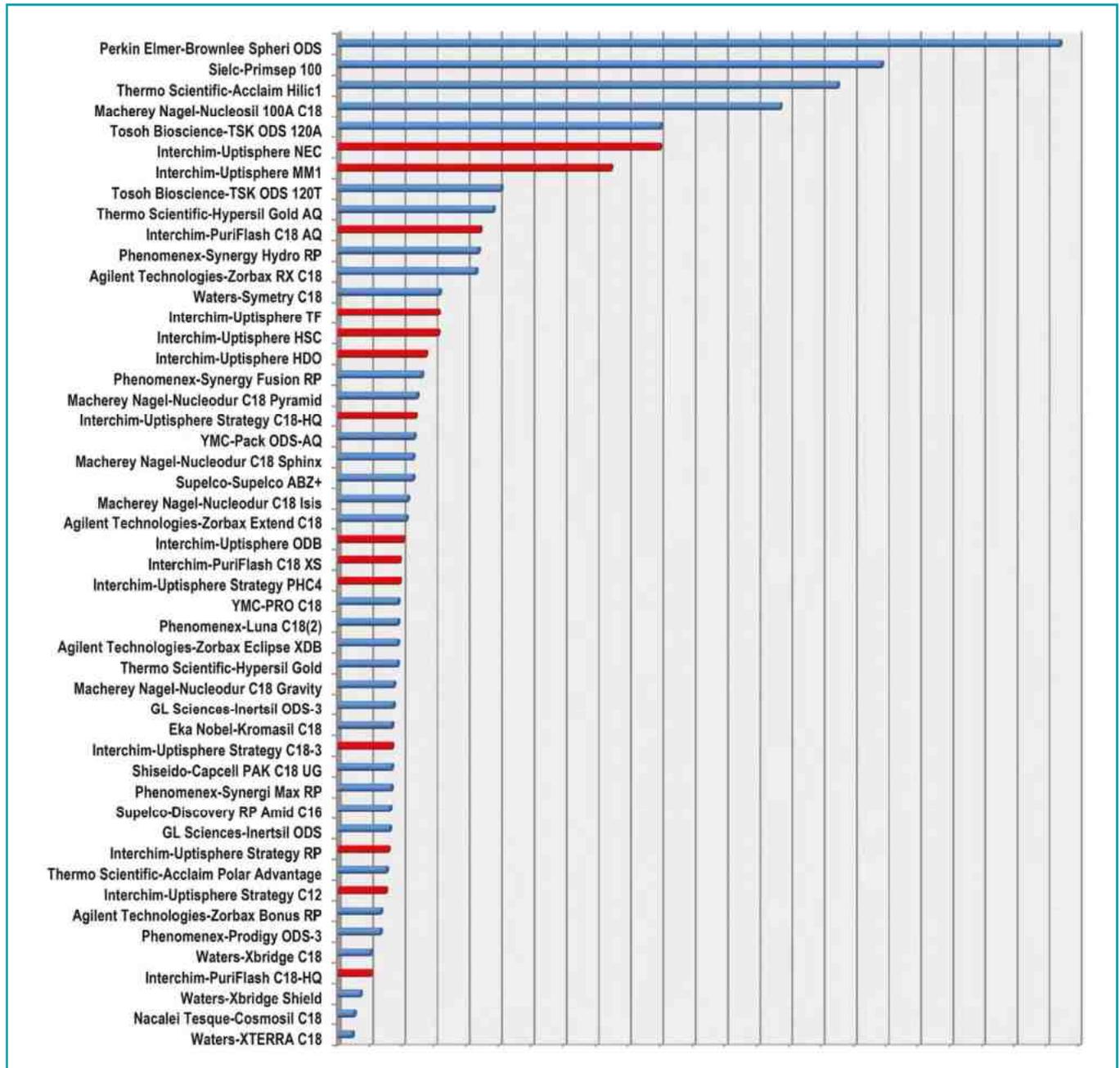


Studies developed in partnership with LETIAM, IUT Orsay, France, Dr. Sylvie Héron & Pr. Alain Tchaplà.



## 7. Tanaka Test: Basic

Benzylamine / Phenol selectivity is a polar selectivity marker. (Study performed under basic conditions.)



Studies developed in partnership with LETIAM, IUT Orsay, France, Dr. Sylvie Héron & Pr. Alain Tchaplà.



## HPLC stationary phases classification model

### 8. LPAC Test from Geneva

Since 1993, the LPAC (Laboratory of Pharmaceutical Analytical Chemistry) in Geneva has developed and proposed the chromatographic tests that classify the columns for basic compounds separation.

The tests developed at LPAC, with a mixture of 7 basic compounds with different and complementary properties, determine under real conditions (hydro-organic mixtures buffered to pH 3 and 7) the behavior of stationary phases.

The chemometric tools such as the Principal Component Analysis (PCA) and the Hierarchical Cluster Analysis (HCA) were used in order to visualize the performance of columns and rank them by similarity.

The results achieved classify the columns based on their hydrophobic retention capacities and their residual interactions with basic compounds.

More information is available on the LPAC website (<https://ispso.unige.ch/labs/fanal/:en>)

### Example with an Uptisphere® Strategy™ C18-RP stationary phase

Test pH 3			Test pH 7		
Molecules used*	pka	Values of asymmetry peaks	Molecules used*	pka	Values of asymmetry peaks
Quinine	5.4 & 10	1.17	Carvedilol	7.99	1.03
Nicotine	8.5	1.52	Quinine	5.4 & 10	1.3
Chlorprocaine	8.7	1.07	Nicotine	8.5	2.89
Pyridine	5.23	0.79	Penbutolol	9.3	1.53
Procainamide	9.23	0.8	Chlorprocaine	8.7	1.07
			Pyridine	5.23	1.18
			Procainamide	9.23	1.33

\*Modified Veuthey test

### 9. Additional General Tests

The stationary phases were evaluated following other general tests, such as:

\*"Sander and Wise" to measure the Benzo- $\alpha$ -pyrène / Tetrabenzonaphthalene selectivity, marker of steric resistance and form recognition.

\*"Engelhardt" to measure the butyl paraben / Dipropylphthalate selectivity, marker polar selectivity.

### 10. Application testing

Application testing was performed on a selection of compounds families, like Alkaloids, Beta Blockers, Sun Filters, Pesticides, fat-soluble vitamins, digitalis, catecholamines, PAH, steroids, phenols ...

This comparative study of selective reverse phase stationary phases, provides informations on the correlation between the general tests and the application testing.

### 11. Our unique stationary phases classification model

Advion Interchim Scientific and our scientific partners have worked to solve the essential question of all people doing liquid chromatography: the column selection.

Considering that:

- more than 800 RPLC columns are available on the market.
- 2 similar silica chemistries can lead to different chromatographic results.
- 2 different silica chemistries can lead to similar chromatographic result.

To quickly reach an objective set in liquid chromatography, it is very difficult to independently select the appropriate stationary phase by application without having knowledge of the behavior of the stationary phases.

Our unique stationary phase classification model is a valuable tool for all the people working in liquid chromatography.

#### a) Stationary phases enclosed in our classification

- + 300 RPLC representative stationary phases of the current market
- Porous silica or Core Shell
- Particles sizes from 1.7 to 15 $\mu$ m



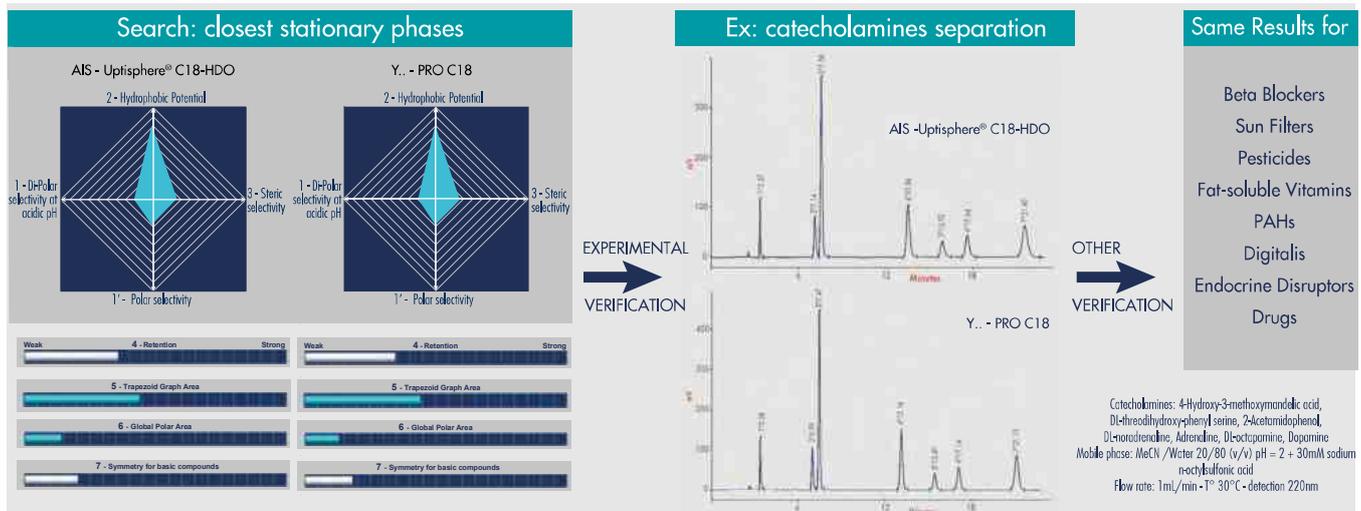
b) Model development for stationary phases classification

From all chromatographic tests above, our scientists:

- Identified the main criteria that define the behavior of each stationary phase by a statistical correlation.
- Created a statistical model that ranks stationary phases by "similarity" and "orthogonality."
- The stationary phases which are close by ranking are then compared one to each other thanks to their visual representation which characterizes their selectivity.

c) Experimental verification of our statistical model

Experimental verifications confirm the accuracy of the ranking method for various analyte families.



d) Stationary phase visual representation

**1 - Di-polar selectivity at acidic pH**

A low selectivity value indicates a low silanol activity on the silica surface. The higher the value is, the higher the silanol activity will be.

=> By dipole interactions for ketone, ether, halogen, amide, congested alcohol functions,...

**1' - Polar selectivity**

The higher the value is, the higher the polar selectivity will be.

=> By hydrogen interactions.

**5 - Trapezoid Graph Area**

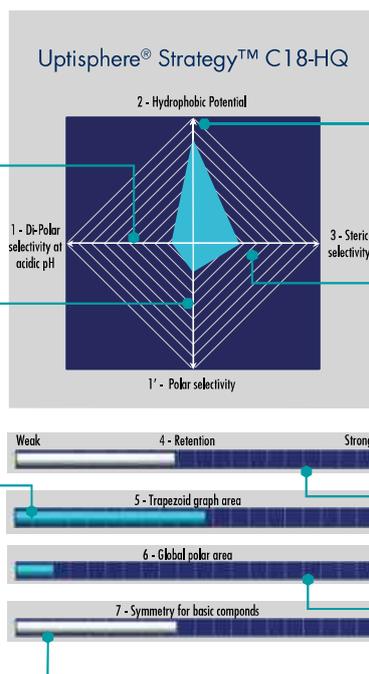
Represents 4 major markers which characterize the stationary phase behavior.

=> Similar phases in selectivity have similar trapezoids forms.

=> The more different the trapezoid forms are, the more orthogonal in selectivity the stationary phases are & the more different the separation potential of the stationary phases is.

**7 - Symmetry for basic compounds**

=> A low value leads to a higher probability in getting a symmetric basic compounds peak shape.



**2 - Hydrophobic Potential**

The higher the hydrophobic potential is, the higher the resolution of homologous compounds will be.

=> A high hydrophobic potential is required for the separation of molecules with low carbon content.

=> A lower hydrophobic potential is required for the separation of molecules with high carbon content.

**3 - Steric selectivity**

From a certain value, this marker allows the selectivity of rigid isomers.

=> Molecules with the same carbon load (identical hydro-carbon volume) but different spatial conformations.

=> Isomers Z & E, steroids  $\alpha$  &  $\beta$ , planar & non-planar aromatic hydrocarbons.

**4 - Retention**

Marker of the stationary phases hydrophobicity.

=> A high retention is required for the separation of molecules with high carbon content.

=> A lower retention is required for the separation of molecules with high carbon content.

**6 - Global Polar Area**

Indicator of the stationary phase 1 & 1' polar selectivities.

=> The more different the polar area is, the more different the polar selectivity will be.



## Conclusion

For 30 years, Interchim has been working with numerous university research teams, especially with the laboratory of Analytical Chemistry of Paris-South. Our common goal, beyond a detailed knowledge of the behavior of stationary phases for liquid chromatography, is to offer to analysts the tools that allow a relevant selection of columns.

We have tested more 300 stationary phases for reverse phase liquid chromatography between the totally porous silicas from 1.7 to 15 microns and the superficially porous silicas.

Building our stationary phase classification model has allowed us to develop various tools that make our customers analytical development and their daily work easier by:

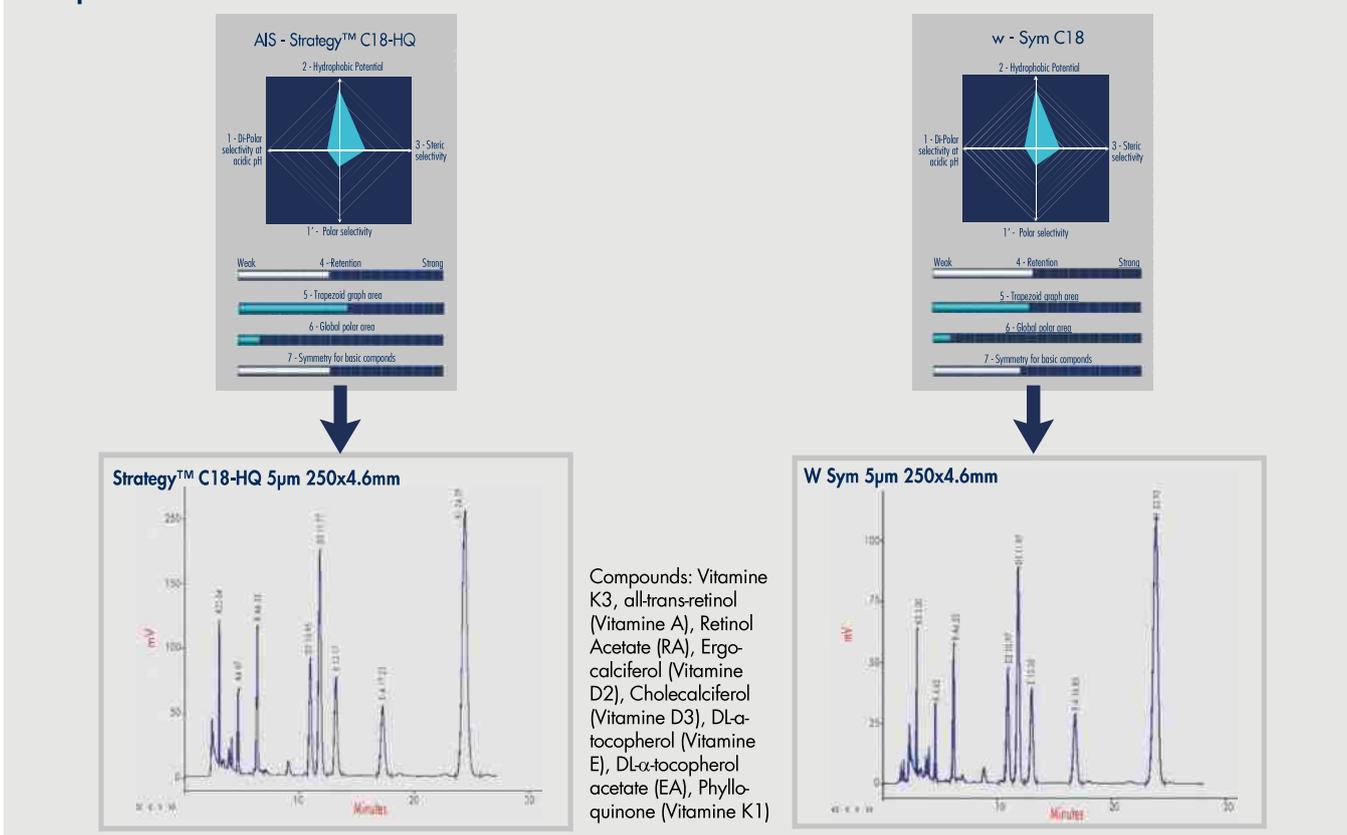
1. Proposing alternatives to their current columns
  - transfer from HPLC to UHPLC
  - transfer from HPLC to purification
  - in case of a separation problem
2. Proposing orthogonal alternatives
  - when current columns don't succeed in the new development
  - to optimize existing methods
  - to improve separation of a critical pair

Advion Interchim Scientific's Uptisphere® CS Evolution™, Uptisphere® Strategy™, Uptisphere® 120 Å, puriflash®, puriflash® BIO, Uptisphere® BIO column ranges provide effective solutions to today's analytical methods.

## 12. Using Advion Interchim Scientific classification model to obtain alternative stationary phases

Our model shows that stationary phases with similar visual representations are similar in terms of selectivity while chemistries & silica bases are different.

### Example with Vitamins





## HPLC stationary phases classification model



### Xrefs Tools

Tool that facilitates the transposition of a manufacturer's reference into an Advion Interchim Scientific product reference while ensuring the closest possible selectivity.

More than 18,500 manufacturer references / 25 suppliers are currently referenced

Extract from our full database:

Manufacturer	Mfg P/N	Column descriptions	AIS P/N	AIS Column descriptions
Agilent Tech.	A0520150X021	Metasil AQ C18 3µm 150x2.1mm HPLC Column	UP3HDO-150/021	Uptisphere C18-HDO 3µm 150x2.1mm HPLC Column
Agilent Tech.	A0530150X046	Metasil AQ C18 5µm 150x4.6mm HPLC Column	UP5HDO-150/046	Uptisphere C18-HDO 5µm 150x4.6mm HPLC Column
Agilent Tech.	79925PE-564	Purospher RP18 EC 5µm 125x4.0mm HPLC Cartridge	US5C18HQ-125/040	Uptisphere Strategy C18-HQ 5µm 125x4.0mm HPLC Column
Agilent Tech.	79925PE-584	Purospher RP18 EC 5µm 250x4.0mm HPLC Cartridge	US5C18HQ-250/040	Uptisphere Strategy C18-HQ 5µm 250x4.0mm HPLC Column
Agilent Tech.	A6001100C020	Pursuit XRS C18 3µm 100x2.0mm HPLC Column	US3C183-100/021	Uptisphere Strategy C18-3 3µm 100x2.1mm HPLC Column
Agilent Tech.	A6000250C046	Pursuit XRS C18 5µm 250x4.6mm HPLC Column	US5C183-250/046	Uptisphere Strategy C18-3 5µm 250x4.6mm HPLC Column
Agilent Tech.	959764-902	Zorbax Eclipse Plus C18 1.8µm 100x2.1mm RR HPLC Column, 600bar	US1.7C18HQ-100/021	Uptisphere Strategy C18-HQ 1.7µm 100x2.1mm HPLC Column
Agilent Tech.	959963-902	Zorbax Eclipse Plus C18 3.5µm 150x4.6mm RR HPLC Column	US3C18HQ-150/046	Uptisphere Strategy C18-HQ 3µm 150x4.6mm HPLC Column
Agilent Tech.	959990-902	Zorbax Eclipse Plus C18 5µm 250x4.6mm HPLC Column	US5C18HQ-250/046	Uptisphere Strategy C18-HQ 5µm 250x4.6mm HPLC Column
Agilent Tech.	990967-902	Zorbax Eclipse XDB C18 5µm 250x4.6mm HPLC Column	US5C18HQ-250/046	Uptisphere Strategy C18-HQ 5µm 250x4.6mm HPLC Column
Beckman	235329	Ultrasphere C18 5µm 250x4.6mm HPLC Column	UP5ODB-250/046	Uptisphere C18-ODB 5µm 250x4.6mm HPLC Column
Eka Nobel - Nouryon	MF1CLC10	Kromasil C18 1.8µm 100x3.0mm 100Å HPLC Column	US1.7C18HQ-100/030	Uptisphere Strategy C18-HQ 1.7µm 100x3.0mm HPLC Column
Eka Nobel - Nouryon	MH2CLC10	Kromasil C18 2.5µm 100x3.0mm 100Å HPLC Column	US2.2C18HQ-100/030	Uptisphere Strategy C18-HQ 2.2µm 100x3.0mm HPLC Column
Eka Nobel - Nouryon	MH3CLA10	Kromasil C18 3.5µm 100x4.6mm 100Å HPLC Column	US3C18HQ-100/046	Strategy C18-HQ 3µm 100x4.6mm HPLC Column
Eka Nobel - Nouryon	M05CLA25	Kromasil C18 5µm 250x4.6mm 100Å HPLC Column	US5C18HQ-250/046	Strategy C18-HQ 5µm 250x4.6mm HPLC Column
GL Sciences	5020-01128	Inertsil ODS-2 5µm 250x4.6mm HPLC Column	US5C18HQ-250/046	Uptisphere Strategy C18-Hq 5µm 250x4.6mm HPLC Column
GL Sciences	5020-01772	Inertsil ODS-3 3µm 250x4.6mm HPLC Column	US3RP-250/046	Uptisphere Strategy C18-RP 3µm 250x4.6mm HPLC Column
GL Sciences	5020-01702	Inertsil SI3µm 250x4.6mm 100Å HPLC Column	US3SI-250/046	Uptisphere Strategy SI 3µm 250x4.6mm HPLC Column
Macherey Nagel	760076.20	Nucleodur Gravity C18 1.8µm 100x2.0mm HPLC Column	US1.7C18HQ-100/021	Uptisphere Strategy C18-HQ 1.7µm 100x2.1mm HPLC Column
Macherey Nagel	760083.46	Nucleodur Gravity C18 3µm 150x4.6mm HPLC Column	US3C18HQ-150/046	Uptisphere Strategy C18-HQ 3µm 150x4.6mm HPLC Column
Macherey Nagel	760103.30	Nucleodur Gravity C18 5µm 150x3.0mm HPLC Column	US5C18HQ-150/030	Uptisphere Strategy C18-HQ 5µm 150x3.0mm HPLC Column
Merck-Millipore	1.50168.0001	Purospher RP18 EC 5µm 125x4.0mm HPLC Cartridge	US5C18HQ-125/040	Uptisphere Strategy C18-HQ 5µm 125x4.0mm HPLC Column
Merck-Millipore	1.50036.0001	Purospher Star RP18 EC 5µm 125x4.0mm HPLC Column	US5C18HQ-125/040	Uptisphere Strategy C18-HQ 5µm 125x4.0mm HPLC Column
Phenomenex-Danaher	00F-4263-E0	Jupiter C18 3µm 150x4.6mm HPLC Column	UP3WOD-150/046	Uptisphere 300Å WOD 3µm 150x4.6mm HPLC Column
Phenomenex-Danaher	00G-4053-B0	Jupiter C18 5µm 250x2.1mm HPLC Column	UP5WOD-250/021	Uptisphere 300Å WOD 5µm 250x2.1mm HPLC Column
Phenomenex-Danaher	00C-4251-E0	Luna C18(2) 3µm 75x4.6mm HPLC Column	US3C18HQ-075/046	Uptisphere Strategy C18-HQ 3µm 75x4.6mm HPLC Column
Phenomenex-Danaher	00G-4252-E0	Luna C18(2) 5µm 250x4.6mm HPLC Column	US5C18HQ-250/046	Uptisphere Strategy C18-HQ 5µm 250x4.6mm HPLC Column





Manufacturer	Mfg P/N	Column descriptions	AIS P/N	AIS Column descriptions
Phenomenex-Danaher	00G-3300-E0	Prodigy ODS-2 5µm 250x4.6mm HPLC Column	US5C18HQ-250/046	Uptisphere Strategy C18-HQ 5µm 250x4.6mm HPLC Column
Phenomenex-Danaher	00F-4097-E0	Prodigy ODS-3 5µm 150x4.6mm HPLC Column	US5RP-150/046	Uptisphere Strategy C18-RP 5µm 150x4.6mm HPLC Column
Restek	9164515	Allure C18 5µm 100x4.6mm HPLC Column	US5C183-100/046	Uptisphere Strategy C18-3 5µm 100x4.6mm HPLC Column
Shiseido	92475	Capcell Pak MGII C18 3µm 100x3.0mm 100Å HPLC Column	US3C183-100/030	Uptisphere Strategy C18-3 3µm 100x3.0mm HPLC Column
Shiseido	92529	Capcell Pak Mgii C18 5µm 50x4.6mm 100Å HPLC Column	US5C183-050/046	Uptisphere Strategy C18-3 5µm 50x4.6mm HPLC Column
Thermo Scientific	059132	Acclaim C18 3µm 100x4.6mm 120Å HPLC Column	UP3ODB-100/046	Uptisphere C18-ODB 3µm 100x4.6mm HPLC Column
Thermo Scientific	059149	Acclaim C18 5µm 250x4.6mm 120Å HPLC Column	UP5ODB-250/046	Uptisphere C18-ODB 5µm 250x4.6mm HPLC Column
Thermo Scientific	97305-254630	Synchronis C18 AQ 5µm 250x4.6mm HPLC Column	UP5HDO-250/046	Uptisphere C18-HDO 5µm 250x4.6mm HPLC Column
Tosoh Bioscience	21462	Tsk-Gel ODS-100Z 5µm 250x4.6mm HPLC Column	US5C183-250/046	Uptisphere Strategy C18-3 5µm 250x4.6mm HPLC Column
Waters	186003534	Acquity UPLC HSS C18 1.8µm 2.1x150mm HPLC Column	US1.7C18HQ-150/021	Uptisphere Strategy C18-HQ 1.7µm 150x2.1mm HPLC Column
Waters	176001820	Acquity UPLC HSS C18 1.8µm 3.0x150mm HPLC Column	US1.7C18HQ-150/030	Uptisphere Strategy C18-HQ 1.7µm 150x3.0mm HPLC Column
Waters	186001309	Atlantis DC18 5µm 3.0x150mm HPLC Column	UP5HDO-150/030	Uptisphere C18-HDO 5µm 150x3.0mm HPLC Column
Waters	186001346	Atlantis DC18 5µm 4.6x250mm HPLC Column	UP5HDO-250/046	Uptisphere C18-HDO 5µm 250x4.6mm HPLC Column
Waters	186004773	HSS C18 5µm 4.6x150mm HPLC Column	US5C18HQ-150/046	Uptisphere Strategy C18-HQ 5µm 150x4.6mm HPLC Column
Waters	186002535	Sunfire C18 3.5µm 2.1x150mm HPLC Column	US3C18HQ-150/021	Uptisphere Strategy C18-HQ 3µm 150x2.1mm HPLC Column
Waters	186002559	Sunfire C18 5µm 4.6x150mm HPLC Column	US5C18HQ-150/046	Uptisphere Strategy C18-HQ 5µm 150x4.6mm HPLC Column
Waters	WAT058965	Symmetry C18 3.5µm 2.1x100mm HPLC Column	US3C18HQ-100/021	Uptisphere Strategy C18-HQ 3µm 100x2.1mm HPLC Column
Waters	WAT054210	Symmetry C18 5µm 4.6x150mm HPLC Column	US5C18HQ-150/046	Uptisphere Strategy C18-HQ 5µm 150x4.6mm HPLC Column
Waters	186000196	Symmetry C18 300Å 3.5µm 2.1x150mm HPLC Cartridge	UP3WOD-150/021	Uptisphere 300Å WOD 3µm 150x2.1mm HPLC Column
YMC Europe	AA30S05-25Q1QT	YMC ODS-A 300Å 5µm 250x2.1mm HPLC Column	UP5WOD-250/021	Uptisphere 300Å WOD 5µm 250x2.1mm HPLC Column
YMC Europe	AQ12S03-10Q1QT	YMC ODS-AQ 3µm 100x2.1mm 120Å HPLC Column	UP3HDO-100/021	Uptisphere C18-HDO 3µm 100x2.1mm HPLC Column
YMC Europe	AQ12S05-2546WT	YMC ODS-AQ 5µm 250x4.6mm 120Å HPLC Column (Waters Type)	UP5HDO-250/046	Uptisphere C18-HDO 5µm 250x4.6mm HPLC Column



## HPLC stationary phases classification model



### Advion Interchim Scientific's alternatives to the leading HPLC brands

The selection of AIS HPLC columns to competitors brand is an issue from a scientific perspective. The statistical Euclidean model that we have developed enables an accurate ranking. It gives you a quick and easy solution to provide our customers with a secured proposal of HPLC columns.

Suppliers	Brands	Particle size	AIS alternative in selectivity	Proximity	Particle size of the available AIS columns						
					1.7µm	2.2µm	2,6µm	3µm	5µm	10µm	15µm
ACE	C18	3, 5µm	Uptisphere Strategy C18-HQ	>95%	x	x		x	x	x	x
ACE	C18 Generix	3, 5µm	Uptisphere Strategy C18-HQ	>95%	x	x		x	x	x	x
ACE	300 C18	3, 5µm	Uptisphere BIO 300A WOD	>95%				x	x		
Agilent Tech.	Metasil AQ C18	3, 5µm	Uptisphere C18-HDO	>95%		x		x	x		
Agilent Tech.	Poroshell 120 EC-C18	2.7µm	Uptisphere CS Evolution C18	>95%			x				
Agilent Tech.	Pursuit XRS C18	3, 5µm	Uptisphere Strategy C18-3	>97%				x	x	x	x
Agilent Tech.	Zorbax Eclipse Plus C18	1.8, 3.5, 5µm	Uptisphere Strategy C18-HQ	>97%	x	x		x	x	x	x
Agilent Tech.	Zorbax Eclipse XDB C18	1.8, 3.5, 5µm	Uptisphere C18-ODB	>97%		x		x	x	x	
Agilent Tech.	Zorbax Stable Bond C18	1.8, 3.5, 5µm	Uptisphere C18-ODB	>97%		x		x	x	x	
Agilent Tech.	Zorbax ODS	5µm	puriFlash C18-HP	>95%				x	x	x	x
Beckman	Ultrasphere C18	3, 5 µm	Uptisphere C18-ODB	>97%		x		x	x	x	
Beckman	Ultrasphere C8	3, 5 µm	Uptisphere C8	>95%					x		
Beckman	Ultrasphere CN	3, 5 µm	Uptisphere CN	>93%				x	x		
Beckman	Ultrasphere SI	3, 5 µm	Uptisphere Strategy SI	>93%		x		x	x	x	x
Bischoff	Prontosil 120 C18-AQ	3, 5 µm	Uptisphere C18-HDO	>95%		x		x	x		
Bonna Agela	Venusil AQ	3, 5 µm	Uptisphere C18-HDO	>95%		x		x	x		
Eka nobel - Nouryon	Kromasil 100A C18	1.8, 2.5, 3, 5, 10, 15µm	Uptisphere Strategy C18-HQ	>97%	x	x		x	x	x	x
Eka nobel - Nouryon	Kromasil 100A C8	3, 5µm	Uptisphere C8	>97%					x		
Eka nobel - Nouryon	Kromasil 100A NH2	3, 5µm	Uptisphere NH2	>93%				x	x		
Eka nobel - Nouryon	Kromasil 100A PH	3, 5µm	Uptisphere Strategy PH/C4	>95%		x		x	x	x	x
Eka nobel - Nouryon	Kromasil 100A SI	3, 5µm	Uptisphere Strategy SI	>93%		x		x	x	x	x
Eka nobel - Nouryon	Kromasil 300A C18	5µm	Uptisphere BIO 300A WOD	>95%				x	x		
Fortis	C18	1.7, 3, 5µm	Uptisphere Strategy C18-HQ	>97%	x	x		x	x	x	x
Fortis	H2O	1.7, 3, 5µm	Uptisphere Strategy C18-RP	>97%		x	x	x	x	x	x
Gl Sciences	Inertsil OD2	5µm	Uptisphere Strategy C18-HQ	>97%	x	x		x	x	x	x
Gl Sciences	Inertsil ODS-3	3, 5 µm	Uptisphere Strategy C18-RP	>97%		x	x	x	x	x	x
Gl Sciences	Inertsil PH-3	2, 3, 5µm	Uptisphere Strategy PH/C4	>95%		x		x	x	x	x
Gl Sciences	Inertsil SI	3, 5 µm	Uptisphere Strategy SI	>93%		x		x	x	x	x
Halo	C18	2.7µm	Uptisphere CS Evolution C18	>95%			x				
Grace - Jones	Genesis C18	3, 5 µm	Uptisphere C18-ODB	>95%		x		x	x	x	
Grace - Jones	Genesis AQ	3, 5 µm	Uptisphere Strategy C18-RP	>97%		x	x	x	x	x	x
Grace	Alltima C18	3, 5 µm	Uptisphere Strategy C18-HQ	>97%	x	x		x	x	x	x
Macherey Nagel	Nucleodur Gravity C18	3, 5µm	Uptisphere Strategy C18-HQ	>97%	x	x		x	x	x	x
Macherey Nagel	Nucleodur Pyramid C18	1.8, 3, 5µm	Uptisphere C18-HDO	>97%		x		x	x		
Macherey Nagel	Nucleoshell C18	2.7µm	Uptisphere CS Evolution C18-RP	>95%		x	x	x	x	x	x
Macherey Nagel	Nucleosil 100 C18	3, 5µm	Uptisphere C18-ODB	>97%		x		x	x	x	
Macherey Nagel	Nucleosil 100 C18 HD	3, 5µm	Uptisphere Strategy C18-HQ	>97%	x	x		x	x	x	x
Macherey Nagel	Nucleosil 100 SI	5µm	Uptisphere Strategy SI	>93%		x		x	x	x	x
Macherey Nagel	Nucleosil C18 EC	3, 5µm	Uptisphere Strategy C18-HQ	>97%	x	x		x	x	x	x



Suppliers	Brands	Particle size	AIS alternative in selectivity	Proximity	Particle size of the available AIS columns						
					1.7µm	2.2µm	2,6µm	3µm	5µm	10µm	15µm
Merck-Millipore	Lichrospher CN	5µm	Uptisphere CN	>93%				x	x		
Merck-Millipore	Lichrospher NH2	5µm	Uptisphere NH2	>93%				x	x		
Merck-Millipore	Purospher 100 RP18E	5µm	Uptisphere Strategy C18-HQ	>97%	x	x		x	x	x	x
Merck-Millipore	Purospher Star RP18E	2, 3, 5µm	Uptisphere Strategy C18-HQ	>97%	x	x		x	x	x	x
Phenomenex-Danaher	Gemini C18	3, 5 µm	Uptisphere Strategy C18-RP	>97%		x	x	x	x	x	x
Phenomenex-Danaher	Jupiter 300 C18	3, 5 µm	Uptisphere BIO 300A WOD	>97%				x	x		
Phenomenex-Danaher	Jupiter 300 C4	3, 5 µm	Uptisphere BIO 300A WC4	>93%				x	x		
Phenomenex-Danaher	Kinetex C18	2.6,5µm	Uptisphere CS Evolution C18	>95%			x				
Phenomenex-Danaher	Luna C18(2)	2.5, 3.5, 5µm	Uptisphere Strategy C18-HQ	>97%	x	x		x	x	x	x
Phenomenex-Danaher	Prodigy ODS-2	5µm	Uptisphere Strategy C18-HQ	>97%				x			
Phenomenex-Danaher	Prodigy ODS-3	3, 5 µm	Uptisphere Strategy C18-RP	>97%		x	x	x	x	x	x
Phenomenex-Danaher	Synergi Fusion RP	2.5, 4µm	Uptisphere Strategy C18-RP	>95%		x		x	x		
Phenomenex-Danaher	Synergi Hydro RP	2.5, 4µm	Uptisphere C18-HDO	>95%		x		x	x		
Phenomenex-Danaher	Synergi Max RP	2.5, 4µm	Uptisphere Strategy C12	>97%		x			x		
Restek	Allure C18	3, 5 µm	Uptisphere Strategy C18-3	>95%				x	x	x	x
Restek	Ultra C18	3, 5 µm	Uptisphere Strategy C18-3	>95%				x	x	x	x
Supelco	Ascentis C18	3, 5 µm	Uptisphere Strategy C18-HQ	>97%	x	x		x	x	x	x
Supelco	Ascentis Express C18	2,7µm	Uptisphere CS Evolution C18	>95%			x				
Supelco	Supelcosil LC18-DB	3, 5 µm	Uptisphere C18-HDO	>95%		x		x	x		
Shiseido	Capcell pak C18 MGII	3, 5 µm	Uptisphere C18-ODB	>95%		x		x	x	x	
Thermo Scientific	Acclaim 300A C18	3µm	Uptisphere BIO 300A WOD	>95%				x	x		
Thermo Scientific	Acclaim C18	2.2, 3, 5µm	Uptisphere C18-ODB	>97%		x		x	x	x	
Thermo Scientific	Accucore C18	4, 2.6µm	Uptisphere CS Evolution C18	>95%			x				
Thermo Scientific	Betabscic C18	3, 5µm	Uptisphere Strategy C18-HQ	>95%	x	x		x	x	x	x
Thermo Scientific	Hypersil Gold AQ	1.9µm	Uptisphere C18-HDO	>95%		x		x	x		
Thermo Scientific	Hypersil Gold C18	1.9, 3, 5µm	Uptisphere Strategy C18-HQ	>97%	x	x		x	x	x	x
Thermo Scientific	Hypersil NH2 APS2	3, 5µm	Uptisphere NH2	>93%				x	x		
Thermo Scientific	Synchronis AQ	1.7, 5µm	Uptisphere C18-HDO	>95%		x		x	x		
Thermo Scientific	Synchronis C18	1.7, 5µm	Uptisphere C18-ODB	>95%		x		x	x	x	
Tosoh Bioscience	TSK-GEL ODS-100Z	3, 5 µm	Uptisphere Strategy C18-3	>95%				x	x	x	x
Tosoh Bioscience	TSK-GEL ODS-80TM	5 µm	Uptisphere C18-NEC	>95%		x		x	x		
Tosoh Bioscience	TSK-GEL ODS-80TS	5 µm	Uptisphere C18-HDO	>95%		x		x	x		
Waters	Atlantis dC18	3, 5µm	Uptisphere C18-HDO	>97%		x		x	x		
Waters	Atlantis T3	3, 5µm	Uptisphere Strategy C18-RP	>95%		x	x	x	x	x	x
Waters	HSS C18	1.8µm	Uptisphere Strategy C18-HQ	>97%	x	x		x	x	x	x
Waters	Sunfire C18	2.5, 3.5, 5µm	Uptisphere Strategy C18-HQ	>97%	x	x		x	x	x	x
Waters	Symmetry C18	3.5, 5µm	Uptisphere Strategy C18-HQ	>97%	x	x		x	x	x	x
Waters	Symmetry 300 C18	3, 5µm	Uptisphere BIO 300A WOD	>95%				x	x		
Waters	Symmetry 300 C4	3, 5µm	Uptisphere BIO 300A WC4	>93%				x	x		
Waters	XSelect HSS C18	3, 5µm	Uptisphere Strategy C18-HQ	>95%	x	x		x	x	x	x
Waters	XSelect HSS T3	3, 5µm	Uptisphere C18-HDO	>95%		x		x	x		



# HPLC stationary phases classification model

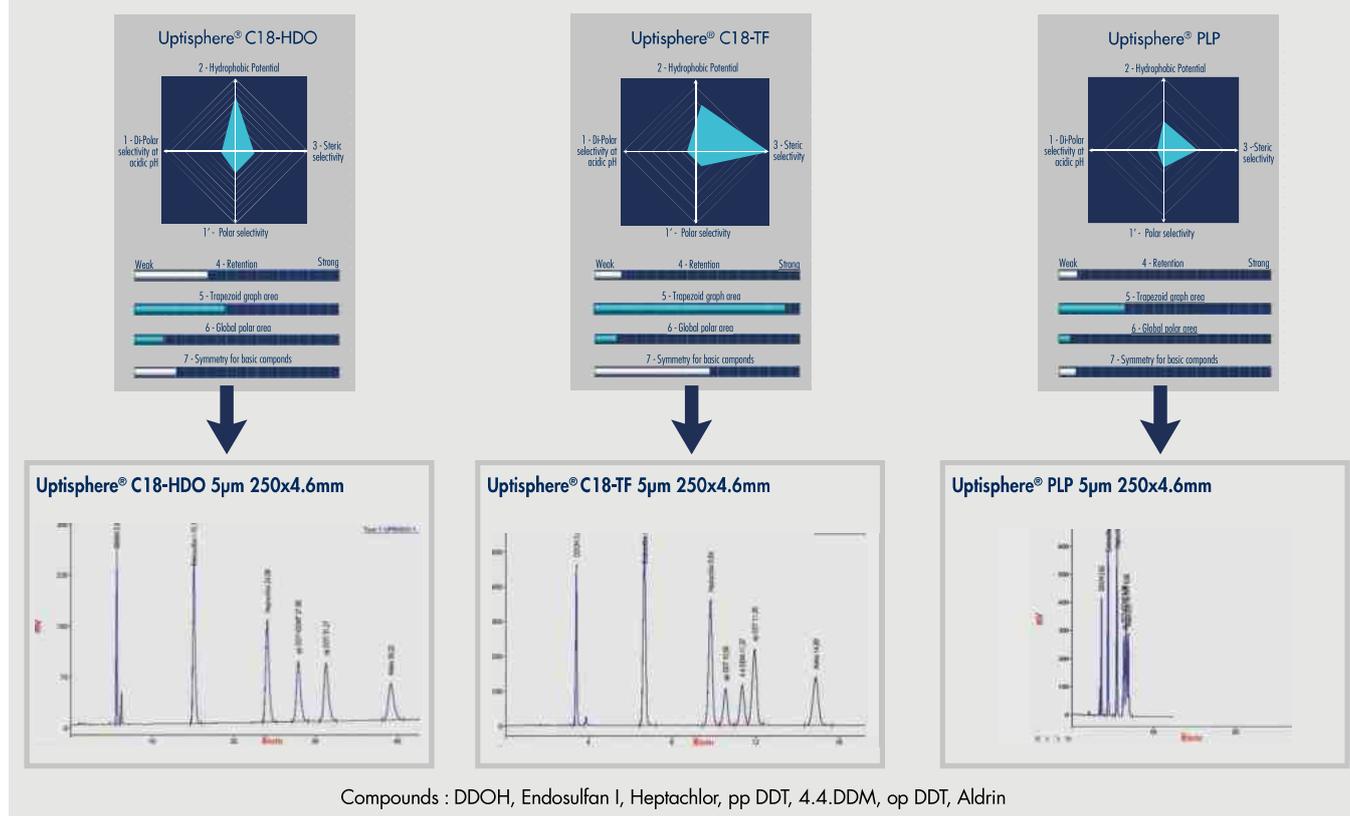


Suppliers	Brands	Particle size	AIS alternative in selectivity	Proximity	Particle size of the available AIS columns						
					1.7µm	2.2µm	2,6µm	3µm	5µm	10µm	15µm
YMC Europe	J'Sphere ODS-H80	3, 5µm	Uptisphere C18-HSC	>95%				x	x		
YMC Europe	Meteoric	2.7µm	Uptisphere CS Evolution C18-RP	>97%		x	x	x	x	x	x
YMC Europe	ODS-A 120A	3, 5µm	Uptisphere C18-ODB	>97%		x		x	x	x	
YMC Europe	ODS-A 300A	5µm	Uptisphere BIO 300A WOD	>97%				x	x		
YMC Europe	ODS-AQ 120A	3, 5µm	Uptisphere C18-HDO	>97%		x		x	x		
YMC Europe	Pack C4 300A	5µm	Uptisphere BIO 300A WC4	>93%				x	x		
YMC Europe	Pack C8 120A	3, 5µm	Uptisphere C8	>95%					x		
YMC Europe	Pack CN 120A	3, 5µm	Uptisphere CN	>93%				x	x		
YMC Europe	Pack NH2 120A	3, 5µm	Uptisphere NH2	>93%				x	x		
YMC Europe	Pack SIL 120A	3, 5µm	Uptisphere Strategy SI	>93%		x		x	x	x	x
YMC Europe	Pro C18	2, 3, 5µm	Uptisphere C18-HDO	>97%		x		x	x		

## 13. Using Advion Interchim Scientific classification model to find orthogonal stationary phases

Our model shows that stationary phases with different visual representations are different in selectivity.

### Example with Pesticides



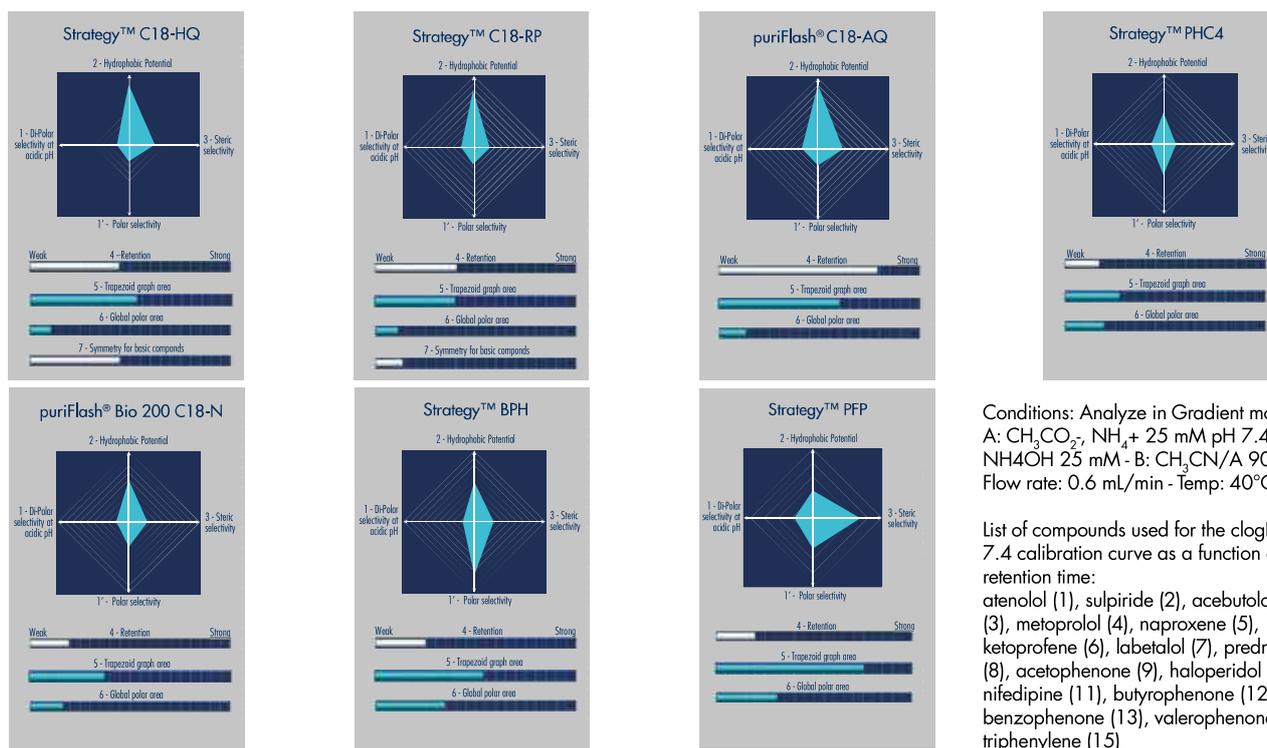
## Comparative study of Advion Interchim Scientific stationary phases selectivity in pharma

### Customer's goal:

- clogD pH 7.4 extrapolation of pharmaceutical compounds from chromatographic data.
- Screening of the behavior of 7 stationary phases

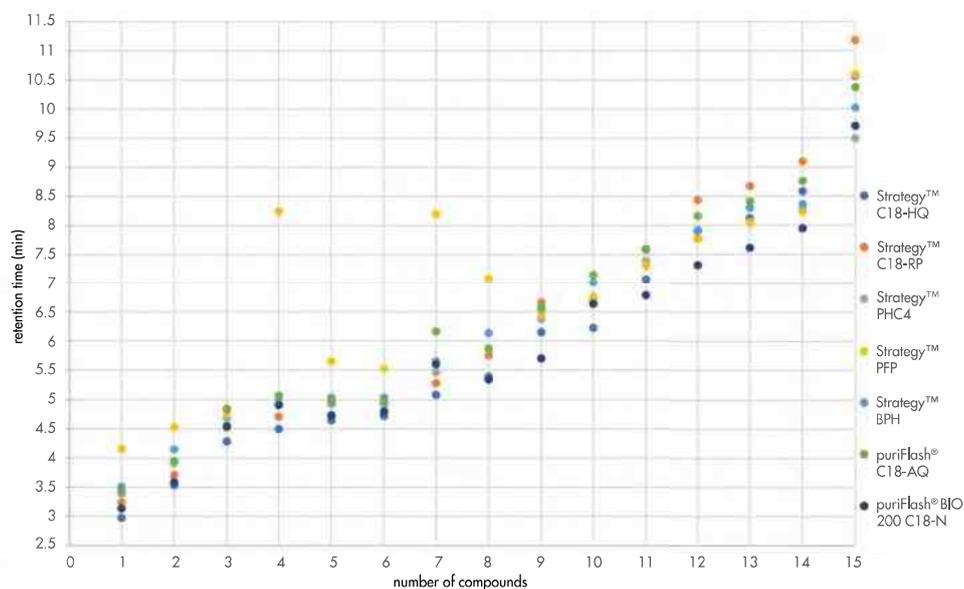
HPLC column size: 5µm 150x3.0mm

7 stationary phases tested:



### Results:

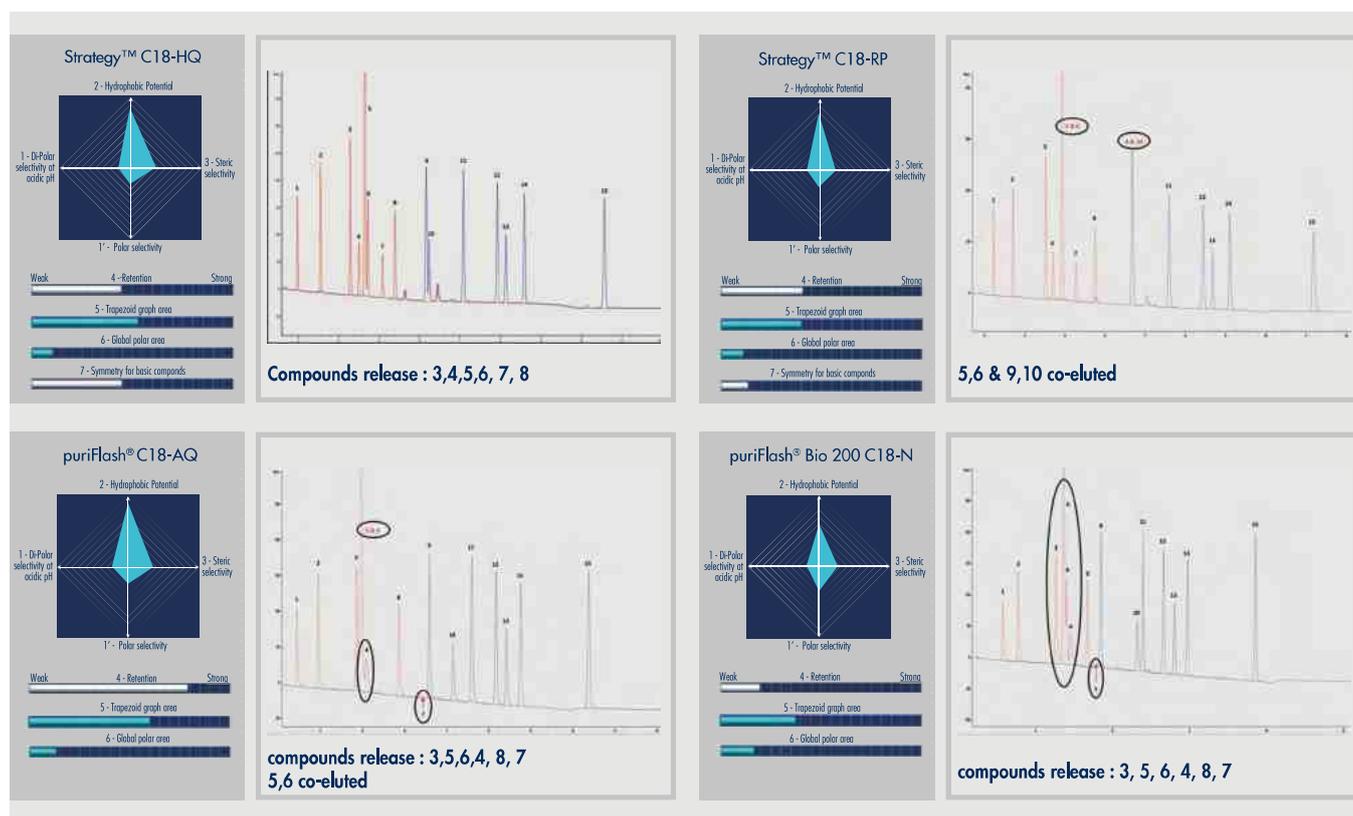
Difference in selectivity for each compound under the same analytical conditions





Our Advion Interchim Scientific stationary phases provide different selectivities for the HPLC method development. PHC4, BPH, PFP stationary phases provide orthogonal selectivities and confirm our model. The more different the trapezoid forms are, the more orthogonal in selectivity the stationary phases are & the more different the separation potential of the stationary phases are.

### Comparative selectivity on 4 stationary phases bonded C18bonded



The C18-HQ, C18-RP, C18-AQ, C18-N stationary phases provide different selectivities. Our prediction model is confirmed: a small difference in the trapezoid forms induces a difference in selectivity. Nevertheless, these stationary phases, similar in appearance, show different separation potential.

### Conclusion:

This example of application involving pharmaceutical compounds shows that these 7 phases can be used for the development of HPLC methods.

The visual representation of each stationary phase of our model finds stationary phases of different selectivities for the method development, for the optimization of an existing method, or for the improvement of the separation of a critical pair.

NB: Achieved with the cooperation of a pharmaceutical laboratory

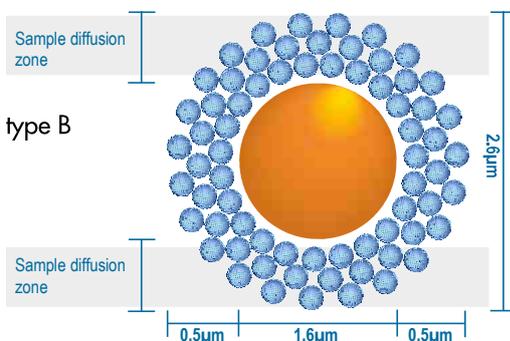


## Advion Interchim Scientific Core Shell columns for small organic molecules

### Uptisphere® CS Evolution™

Core Shell columns for fast & highly efficient identification & quantification of small molecules.

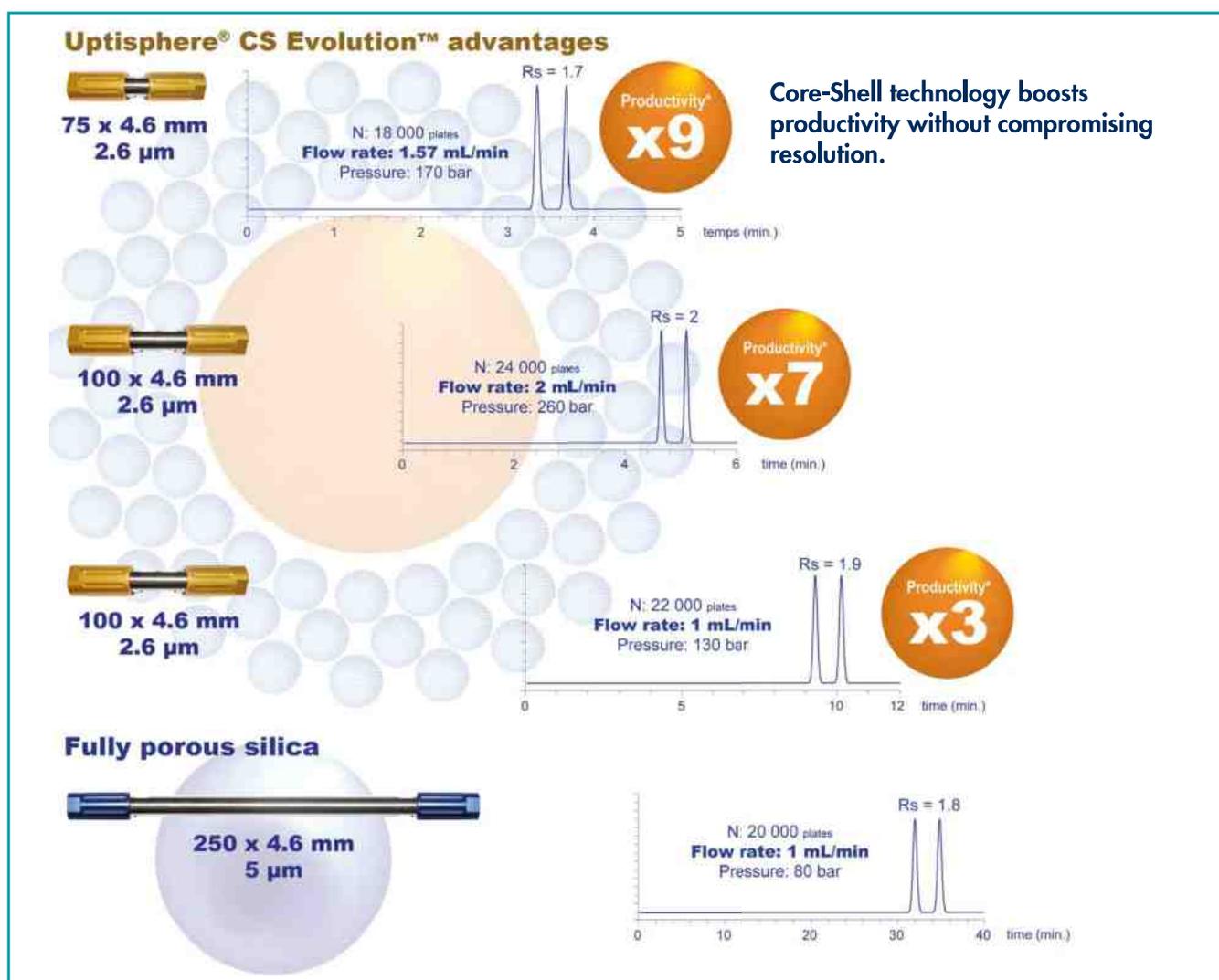
Ultra pure spherical silica, type B  
Pore Size: 85Å  
Surface Area: 130m<sup>2</sup>/g



These particles are formed from a solid core of 1.6 μm diameter and, welded to their surface, a totally porous silica layer of 0,50μm thickness.

### Advantages of Core Shell silicas

- Core-shell silicas allow faster mass transfer and, therefore, faster exchanges with the sample. The result, compared to fully porous silica, is a high performance, rapid and ultra-resolutive analysis for small molecules.
- As denser material, core-shells guarantee high efficiencies and highly reproducible columns.



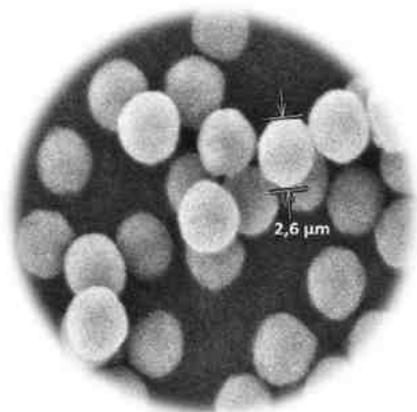
## Advion Interchim Scientific Core Shell columns for small organic molecules



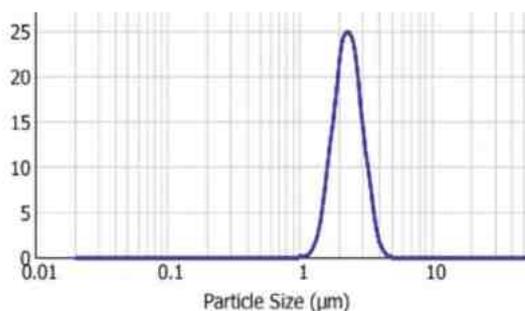
### Quality controls of Uptisphere® CS Evolution™ silicas

Advion Interchim Scientific implements a set of modern characterization techniques to develop and control its Uptisphere® CS Evolution™ core shell phases

#### SCANNING ELECTRON MICROSCOPY (SEM)

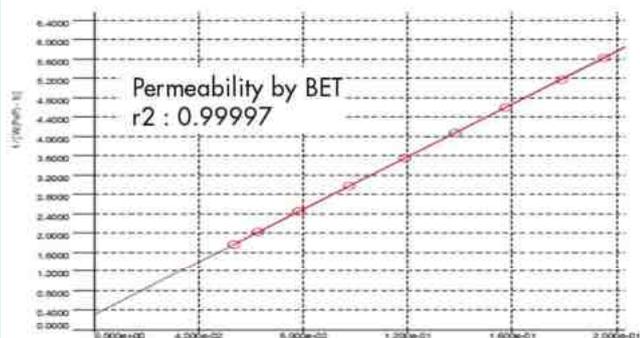


#### CORRELATION OF 3 DIFFERENT BATCHES

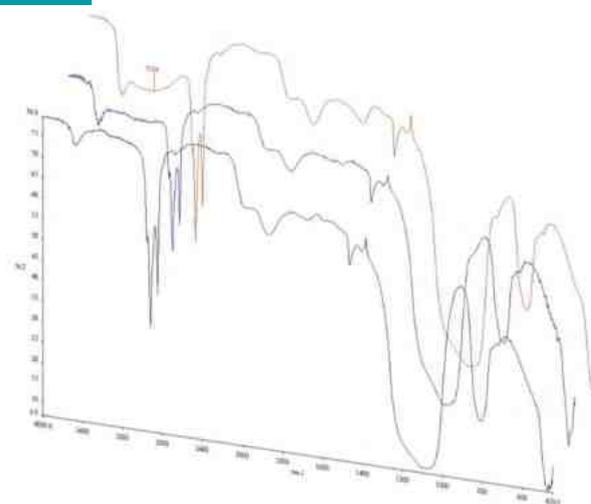


Very homogeneous distribution  
Perfect batch-to-batch reproducibility

#### CONTROL OF THE SPECIFIC SURFACE BEFORE TREATMENTS, MODIFICATIONS & BONDING



#### INFRARED CONTROL OF THE SURFACE OF C18 BONDED SILICAS



### Advion Interchim Scientific column packing performance vs. competitors

	Uptisphere® CS Evolution™	Column P	Column W-C	Column W-A	Column A
Silica	Core Shell	Core Shell	Core Shell	100 % poreuse	100 % poreuse
Particle Size	2.6 µm	1.3 µm	1.6 µm	1.7 µm	1.8 µm
h - (Reduced HETP)	2.2	3.2	2.5	2.4	3.1

Tests performed in Hilic mode

Kinetic studies show that tests on Uptisphere® CS Evolution™ columns give lower h (reduced equivalent height) values than any other similar columns on the market. This confirms the excellent quality and performance of Advion Interchim Scientific packing.



## Advion Interchim Scientific Core Shell columns for small organic molecules

### "Maximum Operational Surface Technology" - "MOST"

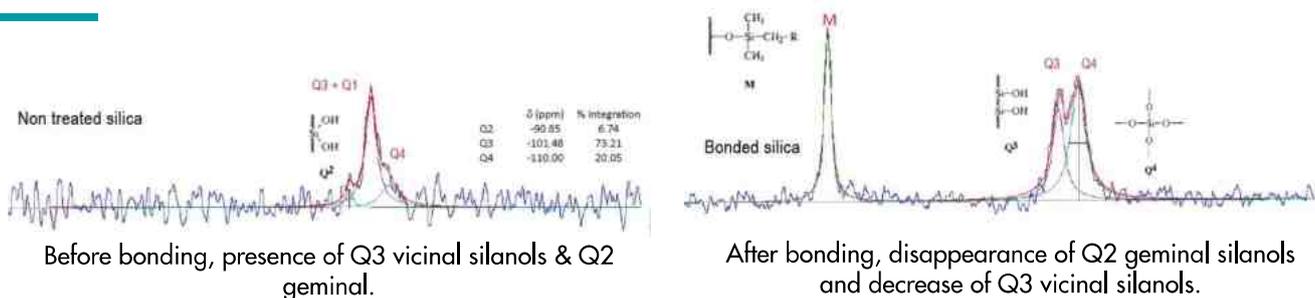
Silica is made up of different silanols as Q1 types (isolated), Q2 types (geminal), types Q3 (vicinal); Q4 types represent the siloxanes of the silica structure.

"MOST" (Maximum Operational Surface Technology) is an Advion Interchim Scientific innovative & proprietary technology, extremely differentiating from other Core-Shell silicas.

Prior to bonding, Core Shell Uptisphere® CS Evolution™ particles undergo a proprietary treatment, similar to a recondensation of the porous silica layer, which maximizes the operational surface density.

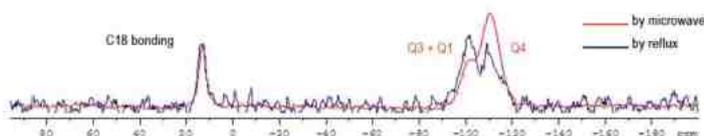
### Study of the surface of the original silica before & after bonding in classical mode

#### COMPARISON BEFORE/AFTER GRAFTING OF A "MOST" PRETREATED SILICA



### "MOST" Technology

#### COMPARATIVE MICROWAVE SYNTHESIS VS REFLUX SYNTHESIS OF A C18 BONDING - "MOST" TYPE I



The ratio of Q3/Q4 silanols shows that a microwave C18 grafting synthesis is preferable compared to a reflux synthesis.

#### Influence of "MOST" treatments on a C18 bonded silica

##### Type I & C18 bonding



A "MOST" type I treatment eliminates a large part of the of the Q2 geminal silanols.

##### Type II & C18 bonding



A "MOST" type II treatment completely eliminates the Q2 geminal silanols & a large part of the Q3 vicinal. The surface is very hydrophobic.

Non-quantitative Si NMR carried out by the University of Normandy, EA3233, Sciences et Méthodes Séparatives, IRCOF, Mont Saint-Aignan, France



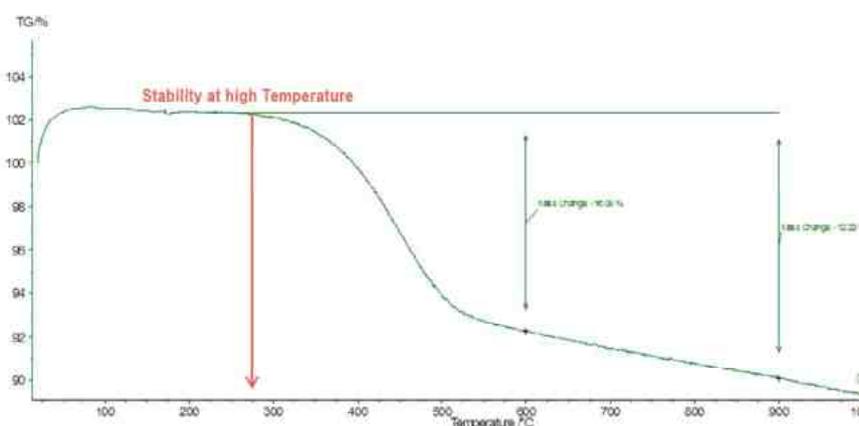
### Elemental analysis & chromatographic impacts of "MOST" treatments

Treatments	% C	Bonding rate (μmol/m <sup>2</sup> )	Treatments	Amount of Alkyl chain	Hydrophobicity	Hydrogene bonding capacity	Ion exchange capacity at pH 2.7	Ion exchange capacity at pH 7.6	Steric recognition
standard	9.54	3.60	standard	5.24	1.51	0.43	0.06	0.30	1.50
MOST type I	9.06	3.39	MOST type I	4.53	1.53	0.37	0.05	0.30	1.74
MOST type II	7.68	2.82	MOST type II	5.34	1.51	0.52	0.05	0.68	1.55

The "MOST" Type II treatment has overall high hydrophobicity, although, the amount of bonded silanols is lower. Chromatographic tests confirm that the quality of the original silica surface has a major impact on the chromatographic exchanges. Our "MOST" technology allows the selection of a particular surface condition that brings into play the desired interactions for a given stationary phase.

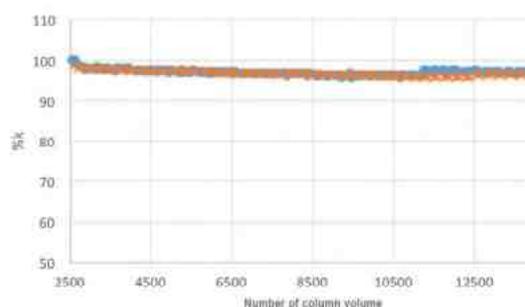
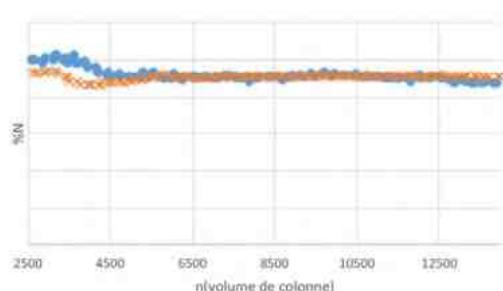
### THERMOGRAVIMETRIC STUDY AFTER "MOST" TREATMENTS

Thermogravimetric analysis shows that Uptisphere® CS Evolution™ stationary phases, MOST treated & grafted, are stable for high temperature analysis



### EXCELLENT STABILITY AFTER "MOST" TREATMENTS IN DIFFICULT CONDITIONS

Temperature: 70°C - Flow rate greater than 3 times the optimum flow rate



#### Efficiency and retention after 15,000 column volumes

50 x 2.1 mm columns packed with "MOST" type 1 treatment (blue) and "MOST" type 2 treatment (orange)  
Compound: Cytosine - Mobile phase: 95/5 - ACN / 20 mM ammonium acetate pH 6 - Temp: 70°C - Flow rate: 1mL/min - UV: 254 nm

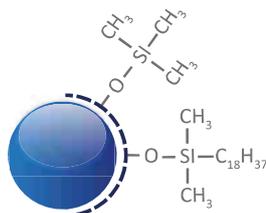
### MOST™ technology benefits

- The "MOST" treatments developed by Advion Interchim Scientific allow a precise control of the silica surface state, especially about the hydrophobicity / hydrophilicity balance by increasing the exchange density, which results in unique selectivities for the C18-HB, C18 and HILIC products.
- Stability of the bonded phases at high temperature.



## LC ANALYSIS

### Advion Interchim Scientific Core Shell columns for small organic molecules



#### Uptisphere® CS Evolution™ C18-HB

C18 - Octadecyl

USP code: L1

Particle size: 2.6 µm

Ø pores: 85 Å

Surface area: 130 m<sup>2</sup>/g

Pre-treatment: MOST

Functionalization: Mono-functional

% Carbon: 8 %

End-Capping : One-step

PH Stability: 1.5 - 8

Mode: Reverse

Usable at high temperature

Maximum pressure: 600 bar

#### Uptisphere® CS Evolution™ C18-HB

Suitable for non polar compounds separation.

Exhibits a very hydrophobic surface. C18-HB phase shows excellent stability under high temperature.

Dimensions	Uptisphere® CS Evolution™ C18-HB
25 x 2.1 mm	UE2.6HB-025/021
50 x 2.1 mm	UE2.6HB-050/021
75 x 2.1 mm	UE2.6HB-075/021
100 x 2.1 mm	UE2.6HB-100/021
125 x 2.1 mm	UE2.6HB-125/021
150 x 2.1 mm	UE2.6HB-150/021
25 x 3.0 mm	UE2.6HB-025/030
50 x 3.0 mm	UE2.6HB-050/030
75 x 3.0 mm	UE2.6HB-075/030
100 x 3.0 mm	UE2.6HB-100/030
125 x 3.0 mm	UE2.6HB-125/030
150 x 3.0 mm	UE2.6HB-150/030
25 x 4.6 mm	UE2.6HB-025/046
50 x 4.6 mm	UE2.6HB-050/046
75 x 4.6 mm	UE2.6HB-075/046
100 x 4.6 mm	UE2.6HB-100/046
125 x 4.6 mm	UE2.6HB-125/046
150 x 4.6 mm	UE2.6HB-150/046

#### Field of application

UHPLC	●
HPLC	●
PrepLC	○
Flash	○

#### RELATED PRODUCTS

##### Columns Protection

Find our Guard Cartridges & Holder on page G.66



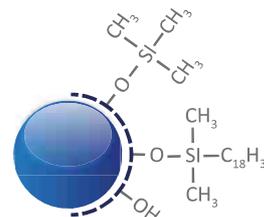


## Advion Interchim Scientific Core Shell columns for small organic molecules



### Uptisphere® CS Evolution™ C18

Serves a broad-scope of analytical & prep LC requirements for separating non polar compounds.



Dimensions	Uptisphere® CS Evolution™ C18
25 x 2.1 mm	UE2.6C18-025/021
50 x 2.1 mm	UE2.6C18-050/021
75 x 2.1 mm	UE2.6C18-075/021
100 x 2.1 mm	UE2.6C18-100/021
125 x 2.1 mm	UE2.6C18-125/021
150 x 2.1 mm	UE2.6C18-150/021
25 x 3.0 mm	UE2.6C18-025/030
50 x 3.0 mm	UE2.6C18-050/030
75 x 3.0 mm	UE2.6C18-075/030
100 x 3.0 mm	UE2.6C18-100/030
125 x 3.0 mm	UE2.6C18-125/030
150 x 3.0 mm	UE2.6C18-150/030
25 x 4.6 mm	UE2.6C18-025/046
50 x 4.6 mm	UE2.6C18-050/046
75 x 4.6 mm	UE2.6C18-075/046
100 x 4.6 mm	UE2.6C18-100/046
125 x 4.6 mm	UE2.6C18-125/046
150 x 4.6 mm	UE2.6C18-150/046

#### Uptisphere® CS Evolution™ C18

C18 - Octadecyl

USP code : L1

Particle size: 2.6 µm

Pores size: 85 Å

Surface area: 130 m<sup>2</sup>/g

Pre-treatment: MOST

Functionalization: Mono-functional

% Carbon: 9 %

End-Capping: One-step

pH Stability: 1.5 - 7.5

Mode: Reverse

Maximum pressure: 600 bar

#### Field of application

UHPLC

HPLC

PrepLC

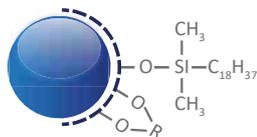
Flash

#### RELATED PRODUCTS

**Columns Protection**  
Find our Guard Cartridges  
& Holder on page G.66



## Advion Interchim Scientific Core Shell columns for small organic molecules



**Uptisphere® CS Evolution™ C18-RP**  
 C18 - Octadecyl  
 USP Code: L1  
 Particle size: 2.6 µm  
 Pore size: 85 Å  
 Surface area: 130 m<sup>2</sup>/g  
 Pre-treatment: MOST  
 Functionalization: Mono-functional  
 % Carbon: 6 %  
 End-capping : Mixte  
 pH Stability: 1.5 - 8  
 Mode: Reverse  
 Maximum Pressure: 600 bar

### Uptisphere® CS Evolution™ C18-RP

Suitable for mid & non polar compounds separation. C18-RP shows excellent mechanical stability that makes it an excellent tool for analysis under acidic or basic conditions.

Dimensions	Uptisphere® CS Evolution™ C18-RP
25 x 2.1 mm	UE2.6RP-025/021
50 x 2.1 mm	UE2.6RP-050/021
75 x 2.1 mm	UE2.6RP-075/021
100 x 2.1 mm	UE2.6RP-100/021
125 x 2.1 mm	UE2.6RP-125/021
150 x 2.1 mm	UE2.6RP-150/021
25 x 3.0 mm	UE2.6RP-025/030
50 x 3.0 mm	UE2.6RP-050/030
75 x 3.0 mm	UE2.6RP-075/030
100 x 3.0 mm	UE2.6RP-100/030
125 x 3.0 mm	UE2.6RP-125/030
150 x 3.0 mm	UE2.6RP-150/030
25 x 4.6 mm	UE2.6RP-025/046
50 x 4.6 mm	UE2.6RP-050/046
75 x 4.6 mm	UE2.6RP-075/046
100 x 4.6 mm	UE2.6RP-100/046
125 x 4.6 mm	UE2.6RP-125/046
150 x 4.6 mm	UE2.6RP-150/046

### Field of application

UHPLC ●  
 HPLC ●  
 Prep-LC ○  
 Flash ○

#### RELATED PRODUCTS

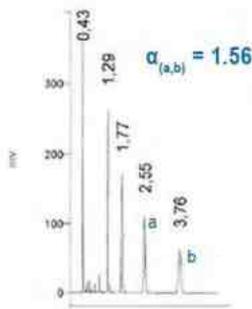
**Columns Protection**  
 Find our Guard Cartridges  
 & Holder on page G.66



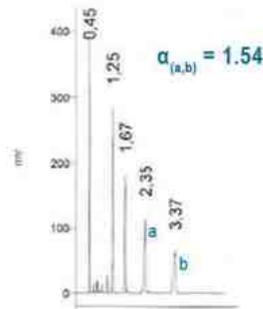
Advion Interchim Scientific Core Shell columns for small organic molecules

Uptisphere® CS Evolution™ C18-RP vs. competitor columns

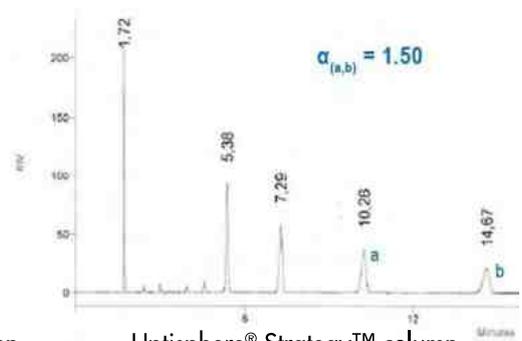
SIMILAR SELECTIVITY FOR HYDROPHOBIC COMPOUNDS



Core Shell competitor column  
2.7 µm C18 50 x 4.6 mm



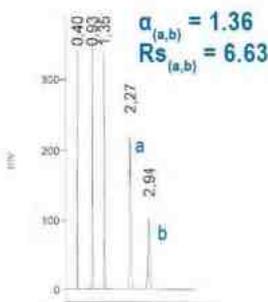
Uptisphere® CS Evolution™ column  
2.6 µm C18-RP - 50 x 4.6 mm



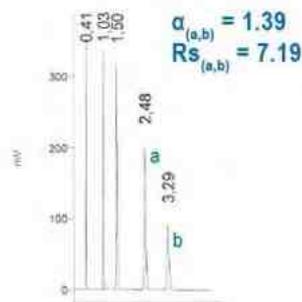
Uptisphere® Strategy™ column  
3 µm C18-RP - 150 x 4.6 mm

Compounds : 1) Uracile, 2) Ethylbenzene, 3) n-propylbenzene, 4) n-butylbenzene, 5) n-pentylbenzene  
Mobile Phase : MeOH:H<sub>2</sub>O ; Flow rate : 1 ml/min, UV 254nm

BETTER POLAR SELECTIVITY & BETTER RESOLUTION



Core Shell competitor column  
2.7 µm C18 50 x 4.6 mm



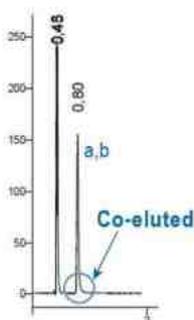
Uptisphere® CS Evolution™ column  
2.6 µm C18-RP - 50 x 4.6 mm

Compounds:

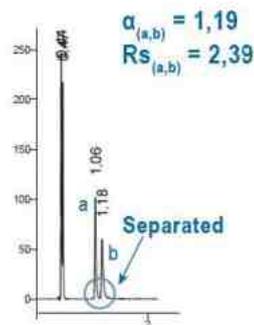
- 1) Uracile,
- 2) benzoic acid,
- 3) 4-methylbenzoic acid,
- 4) pethylbenzoic acid,
- 5) methyl benzoate

Mobile Phase: ACN:H<sub>2</sub>O buffer pH 2.8  
Flow rate: 1mL/min, UV 254 nm

GOOD RESOLUTION & SYMMETRIC PEAK FOR BASIC COMPOUNDS



Core Shell competitor column  
2.7 µm C18 50 x 4.6 mm



Uptisphere® CS Evolution™ column  
2.6 µm C18-RP - 50 x 4.6 mm

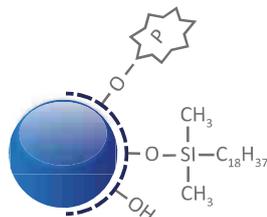
Compounds:

- 1) Uracile,
- 2) p-hydroxybenzoic acid,
- 3) pyridine,
- 4) dimethylpyridine

Mobile Phase: ACN:H<sub>2</sub>O acetate buffer pH 5.7  
Flow rate: 1 mL/min, UV 254nm



## Advion Interchim Scientific Core Shell columns for small organic molecules



### Uptisphere® CS Evolution™ C18-AQ C18 - Octadecyl

USP code: L1

Particle size: 2.6µm

Pore size: 85 Å

Surface area: 130 m<sup>2</sup>/g

Pre-treatment: MOST

Functionalization: Mono-functional

% Carbon: 6.5 %

End-Capping: Mixte

pH Stability: 1.5 - 7

Mode: Inverse

Maximum pressure: 600 bar

### Uptisphere® CS Evolution™ C18-AQ

Suitable for mid & non polar compound separation.

Shows excellent stability under 100% aqueous mobile phase condition.

Dimensions	Uptisphere® CS Evolution™ C18-AQ
25 x 2.1 mm	UE2.6AQ-025/021
50 x 2.1 mm	UE2.6AQ-050/021
75 x 2.1 mm	UE2.6AQ-075/021
100 x 2.1 mm	UE2.6AQ-100/021
125 x 2.1 mm	UE2.6AQ-125/021
150 x 2.1 mm	UE2.6AQ-150/021
25 x 3.0 mm	UE2.6AQ-025/030
50 x 3.0 mm	UE2.6AQ-050/030
75 x 3.0 mm	UE2.6AQ-075/030
100 x 3.0 mm	UE2.6AQ-100/030
125 x 3.0 mm	UE2.6AQ-125/030
150 x 3.0 mm	UE2.6AQ-150/030
25 x 4.6 mm	UE2.6AQ-025/046
50 x 4.6 mm	UE2.6AQ-050/046
75 x 4.6 mm	UE2.6AQ-075/046
100 x 4.6 mm	UE2.6AQ-100/046
125 x 4.6 mm	UE2.6AQ-125/046
150 x 4.6 mm	UE2.6AQ-150/046

### Field of application

UHPLC	●
HPLC	●
PrepLC	○
Flash	○

### RELATED PRODUCTS

#### Columns Protection

Find our Guard Cartridges  
& Holder on page G.66



### Uptisphere® CS Evolution™ Hilic-HIT

Aqueous normal phase separation (ANP) of water-soluble compounds.  
Typical mobile phase: water / ACN (> 70%).

ANP is an excellent alternative to RP purification for highly polar compounds.



Dimensions	Uptisphere CS Evolution Hilic-HIT
25 x 2.1 mm	UE2.6HIT-025/021
50 x 2.1 mm	UE2.6HIT-050/021
75 x 2.1 mm	UE2.6HIT-075/021
100 x 2.1 mm	UE2.6HIT-100/021
125 x 2.1 mm	UE2.6HIT-125/021
150 x 2.1 mm	UE2.6HIT-150/021
25 x 3.0 mm	UE2.6HIT-025/030
50 x 3.0 mm	UE2.6HIT-050/030
75 x 3.0 mm	UE2.6HIT-075/030
100 x 3.0 mm	UE2.6HIT-100/030
125 x 3.0 mm	UE2.6HIT-125/030
150 x 3.0 mm	UE2.6HIT-150/030
25 x 4.6 mm	UE2.6HIT-025/046
50 x 4.6 mm	UE2.6HIT-050/046
75 x 4.6 mm	UE2.6HIT-075/046
100 x 4.6 mm	UE2.6HIT-100/046
125 x 4.6 mm	UE2.6HIT-125/046
150 x 4.6 mm	UE2.6HIT-150/046

#### Uptisphere® CS Evolution™ Hilic-HIT

Hilic-HIT  
 USP Code: L3  
 Particle size: 2.6 µm  
 Pore size: 85 Å  
 Surface area: 130 m<sup>2</sup>/g  
 Pre-treatment: MOST  
 Functionalization: Proprietary  
 % Carbon: n.a.  
 End-Capping: Proprietary  
 pH Stability: 1.5 - 7  
 Mode: Hilic  
 Maximum Pressure: 600 bar

#### Field of application

UHPLC   
 HPLC   
 PrepLC   
 Flash

#### RELATED PRODUCTS

**Columns Protection**  
 Find our Guard Cartridges  
 & Holder on page G.66



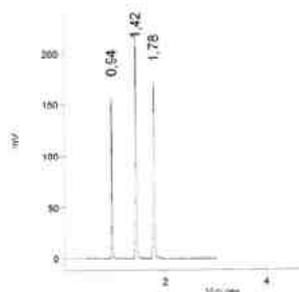
## Advion Interchim Scientific Core Shell columns for small organic molecules

### SELECTIVITY, EFFICIENCY, RESOLUTION

#	Peak Name	Rt.	Tailing	Plates (USP)	Resolution (USP)	#	Peak Name	Rt.	Tailing	Plates (USP)	Resolution (USP)
1	Tri-tert-butylbenzene	0,94	1,19	21285,62	0,00	1	Tri-tert-butylbenzene	0,97	1,03	22714,51	0,00
2	Diethylphthalate	1,43	1,02	21584,83	14,96	2	Diethylphthalate	1,61	1,05	22918,27	19,75
3	Dimethylphthalate	1,78	1,02	20426,69	8,01	3	Dimethylphthalate	2,10	1,13	20861,99	9,79

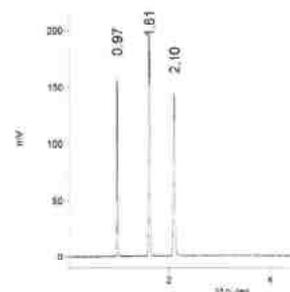
SUM

CS competitor 2.7µm Hilic - 50 x 4.6mm



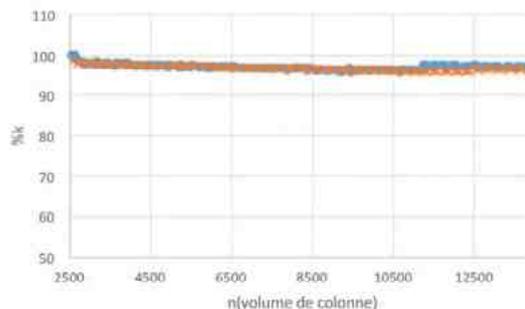
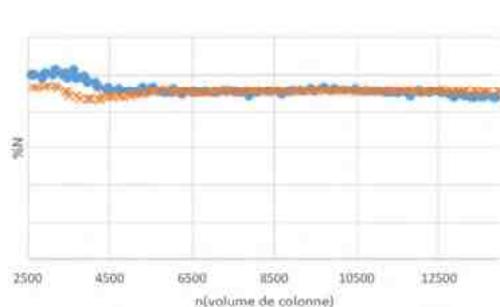
SUM

Uptisphere CS Evolution 2.6µm HIT - 50 x 4.6mm



### SYMMETRY FOR BASIC COMPOUNDS

Temperature 70°C - Flow rate greater than 3 times the optimum flow rate



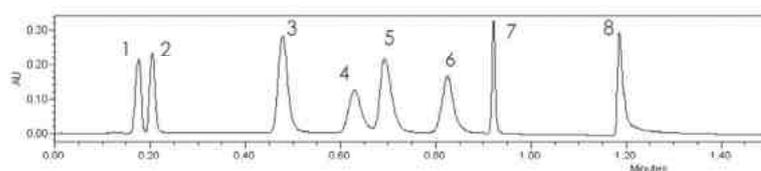
### Efficiency and retention after 15.000 column volumes

Column 50 x 2.1 mm columns packed with "MOST" type 1 treatment (blue) and "MOST" type 2 treatment (orange)

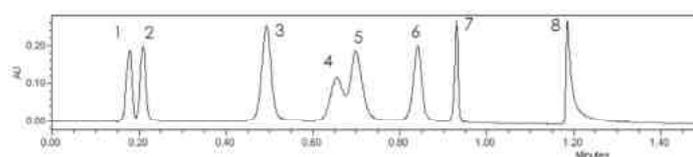
Compound: Cytosine - Mobile phase: 95/5 - ACN / 20 mM ammonium acetate pH 6 - Temp: 70°C - Flow rate: 1 mL/min - UV: 254 nm

### NUCLEOBASES APPLICATIONS, NUCleosIDES & NUCLEOTIDES APPLICATIONS

	pKa <sub>acid</sub>	pKa <sub>basic</sub>	logP
Uracil	9.80-13.80	-	-0.86
Uridine	9.70-12.60	-	-2.42
Adenine	9.90	5.20	-0.53
Adenosine	12.45	4.99	-2.09
Adenosine monophosphate	-	-	-5.19
Cytosine	9.98	2.35	-1.24
Cytidine	12.80-13.60	-	-2.80
Guanosine	10.20	1.8	-2.71

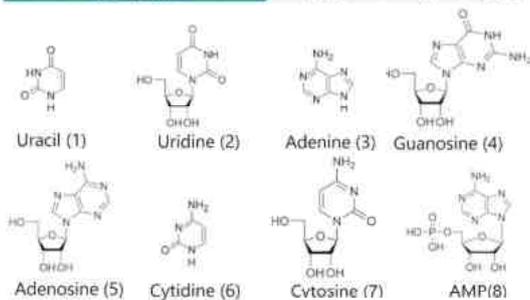


Uptisphere® CS Evolution™ 2.6 µm HIT 50 x 2.1 mm column



Competitor's column

Gradient: ACN / 20mM ammonium formate pH 3 - Flow rate: 1 mL/min,  
Temp: 30°C, UV 254 nm

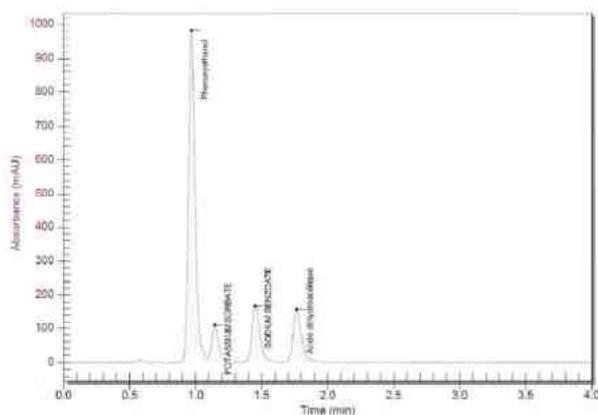


Carried out by the University of Normandy, Laboratory of Science and Separative Methods, IRCOF, Mont Saint-Aignan, France

Advion Interchim Scientific Core Shell columns for small organic molecules

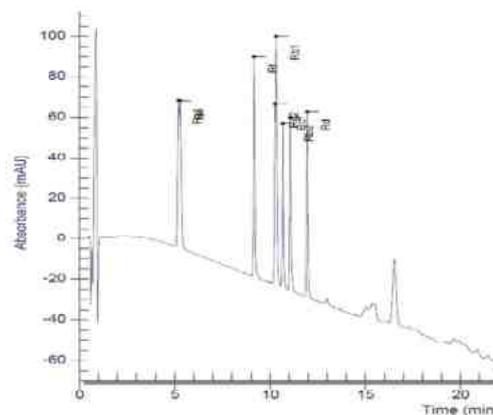


CONSERVATIVES IN REMOVING LOTIONS



Uptisphere® CS Evolution™ 2.6 µm C18-RP 100 x 3.0 mm column  
 Sample: Phenoxyethanol, Potassium sorbate, Sodium Benzoate, Dehydroacetic acid  
 Mobile phase: Sodium acetate buffer / ACN  
 Flow rate: 0.7 mL/min, Temp.: 40°C, UV 230 nm

SEPARATION OF 8 GINSENOSES

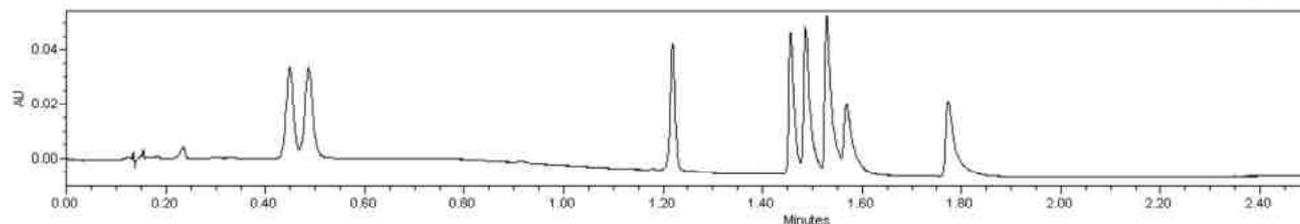
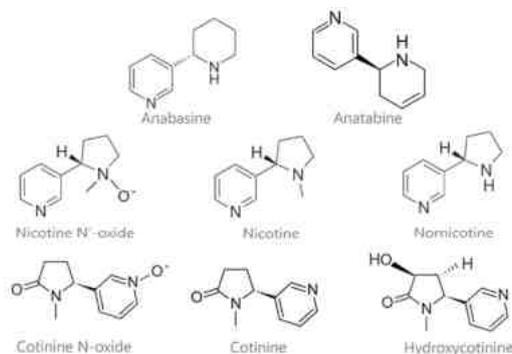


Uptisphere® CS Evolution™ 2.6 µm C18-RP 100 x 3.0 mm column  
 Sample: 8 ginsenosides  
 Mobile phase: gradient H<sub>2</sub>O / ACN  
 Flow rate: 0.6 mL/min, Temp.: 40°C, UV 203 nm

Applications carried out by Mr. Cedric Reyes, R&D Shadeline dermo cosmetics, drugstore laboratory

ULTRA FAST ANALYSIS OF DERIVATIVES NICOTINE IN HILIC MODE

	pKa <sub>acid</sub>	pKa <sub>basic</sub>	logP
Nicotine	-	2.70-8.86	1.16
Nornicotine	-	3.10-10.21	0.78
Cotinine	-	4.79	0.21
Cotinine oxide	-	0.80	-1.05
Nicotine oxide	-	0.41-8.12	-0.85
Anabasine	-	3.13-9.29	1.22
Anatabine	-	3.12-8.81	1.02
Hydroxycotinine	13.11	4.79	-0.73



Uptisphere® CS Evolution™ 2.6 µm HIT 50 x 2.1 mm column  
 Gradient: ACN / 20mM ammonium formiate buffer pH 3, Flow rate: 1 mL/min, Temp: 30°C, UV 254 nm  
 Elution order of sample : hydroxycotinine, cotinine, cotinine oxide, anatabine, anabasine, nornicotine, nicotine, nicotine oxide

Carried out by the University of Normandy, Laboratory of Science and Separative Methods, IRCOF, Mont Saint-Aignan, France



## Advion Interchim Scientific columns for small organic molecules

### Uptisphere® Strategy™ C18-HQ

This stationary phase has a special place within the Uptisphere® family. It is indeed the only phase on the market available from 1.7  $\mu\text{m}$  to 15  $\mu\text{m}$  showing exactly the same bonding chemistry. A single phase, to cover all analytical and preparative needs.

Its chemistry gives it high pH stability - from 1 to 10 - and temperature stability up to 100°C.

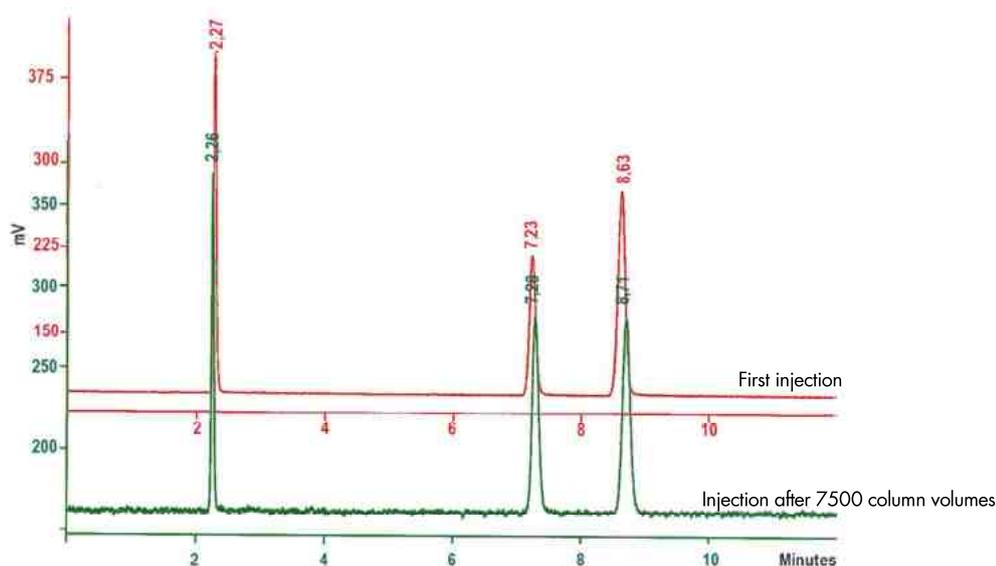
It is extremely efficient and productive, reaching efficiencies of  $\sim 200,000$  plates/m for 2.2  $\mu\text{m}$ .

Its loading capacity is almost 4 times higher than Uptisphere® C18-ODB, so it can be used naturally as a preparative column and as a flash chromatography column, perfectly meeting the requirements of Ultra Performance Flash Purification.

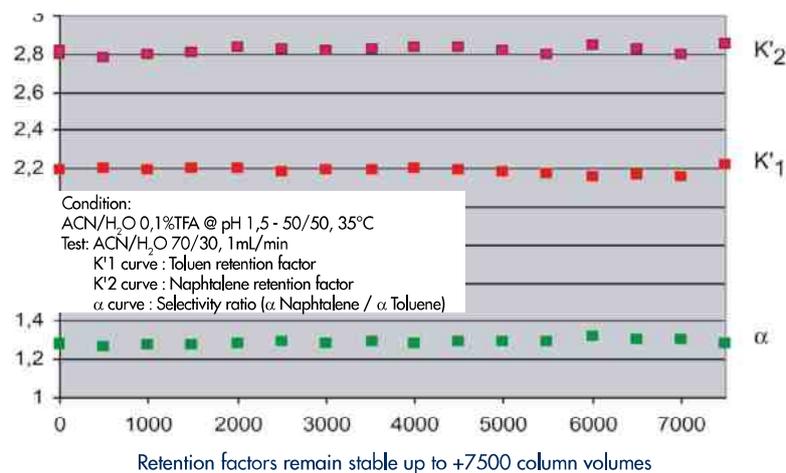
### Stability

#### 1. Stability under acidic conditions

Uptisphere® Strategy™ C18-HQ 5 $\mu\text{m}$  250 x 4.6 mm column



Test done at pH 1,5 on Uptisphere® Strategy™ C18-HQ



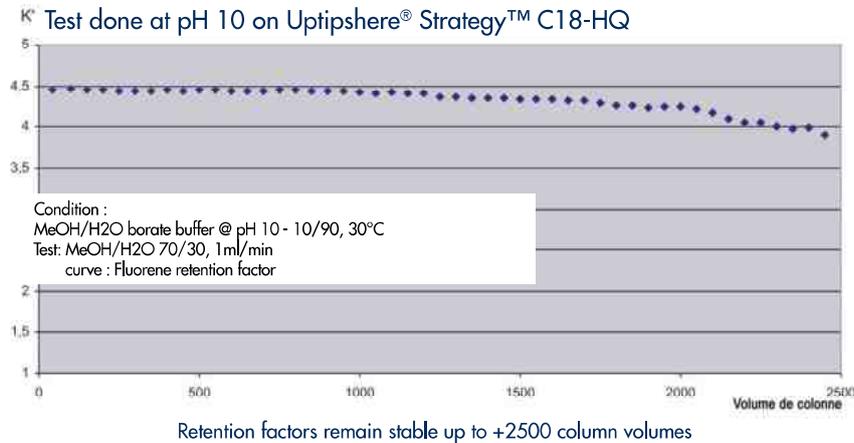


Advion Interchim Scientific columns for small organic molecules



2. Stability under basic conditions

Uptisphere® Strategy™ C18-HQ 5 µm 250 x4.6 mm column.



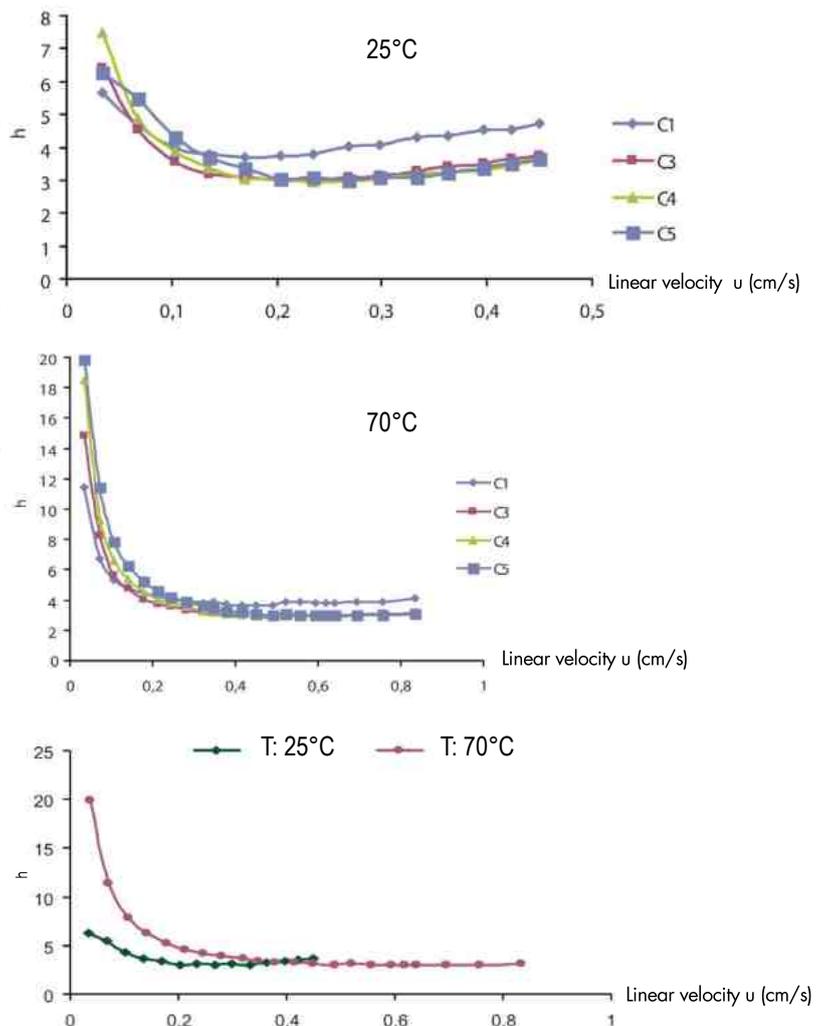
3. Stability in Temperature

The mobile phase is a mixture of MeOH/water.  
0.3 µL of sample comprising alkyl benzenes (C1, C3, C4, and C5) is injected.  
The most retained alkyl benzene (C5) is used for the temperature comparison.

Comparison of h as a function of linear velocity at 25°C and 70°C  
With a low linear velocity, h is better at 25°C.  
With an increase of the linear velocity, the curves 25°C and 70°C cross and h is better at 70°C.

A higher temperature allows to work at higher flow rates and therefore to reduce the analysis time.  
The smaller the value of h is, the higher the efficiency of the chromatographic system is.

Strategy C18-HQ is stable up to more than 100°C.

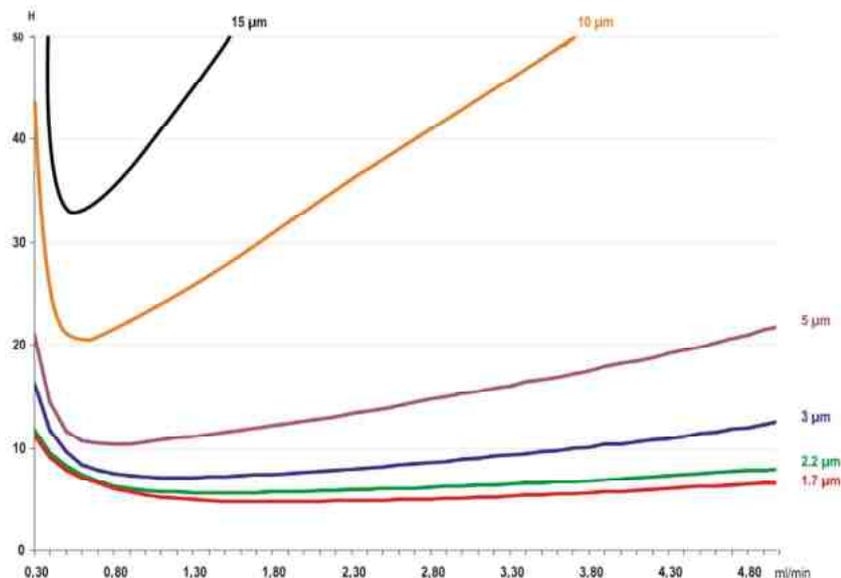


# Advion Interchim Scientific columns for small organic molecules

## Performance & Productivity

### 1. Typical values of separation optima

$$H_{(\text{Height equivalent to a theoretical plate})} = \frac{L}{N} = \frac{\text{Column length}}{\text{Theoretical plate number}}$$



The data obtained results from the use of a 4.6mm diameter column and depends on the dead volume of the chromatographic system, the hardware of the column, the injector, the temperature and retention factors of the analytes.

### 2. H : Height equivalent to a theoretical plate

	Efficiente p/m	Optimum flow rate mL/min	H	h
1,7 μm	216 500	1.8	4.61	2.71
2,2 μm	186 700	1.4	5.35	2.43
3 μm	141 000	1.2	7.09	2.36
5 μm	96 200	0.8	10.4	2.08
10 μm	49 000	0.6	20.41	2.04
15 μm	30 100	0.5	33.22	2.21

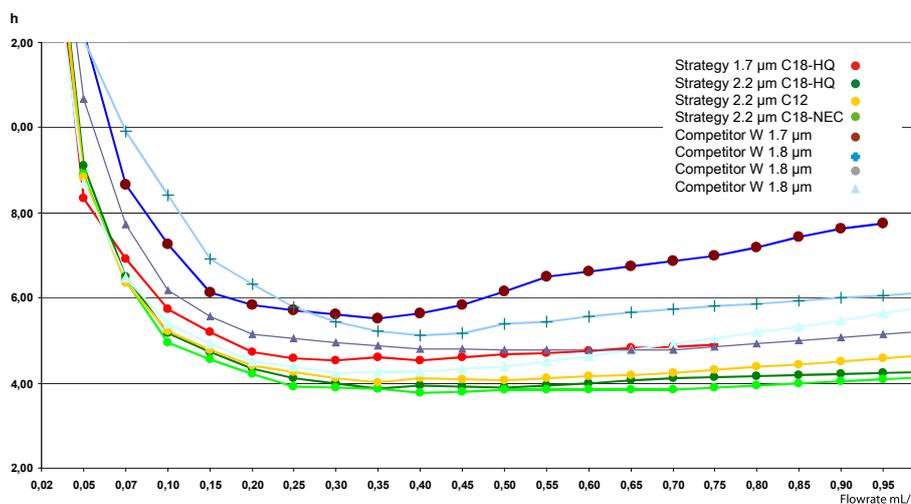
$$h_{(\text{reduced plate height})} = \frac{H}{dp} = \frac{\text{Height equivalent to a theoretical plate}}{\text{Particle diameter}}$$

He is used to measure the performance of a chromatographic system as well as the quality of column packing.

For (U)HPLC analysis, the theoretical values of h for a given column are between 2 and 3.

The Advion Interchim Scientific packing technologies combined with the physical characteristics of the Uptisphere® Strategy™ stationary phase guarantee perfectly packed, efficient and durable columns.

Thanks to their high efficiency, the Uptisphere® Strategy™ 1.7 μm & 2.2 μm C18-HQ columns push the limits of ultra-fast analysis while providing lower back pressure due to their permeability.



$$h = H/dp = \text{reduced plate height}$$

Advion Interchim Scientific columns for small organic molecules

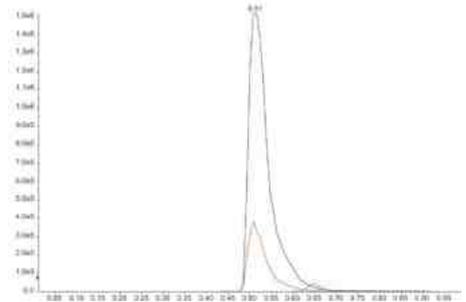
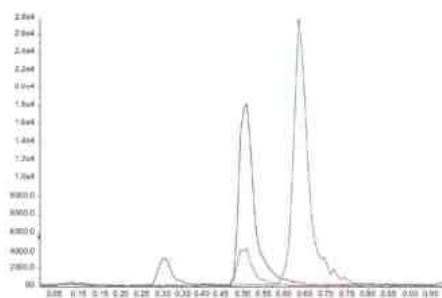
3. Application

Characterization of Furosemide in rat plasma & bronchoalveolar washing  
Uptisphere® Strategy™ 1.7 µm C18-HQ, 50 x 2.1 mm

Agilent 1200 RRLC + Qtrap 4 000  
Solvent A: 0,1 % CH<sub>3</sub>COOH  
Solvent B: ACN + 0,1 % CH<sub>3</sub>COOH  
Isocratic (50/50)  
Flow rate: 600 µL/min @ 500 bar (7 000 psi)  
LD: 2.14 µg/L  
Injection: 10 µL  
MS: 329 a 285

Run time: 1.0 min

Conditions :



Analytical transposition: 5 µm up to 1.7 µm - with resolution preservation

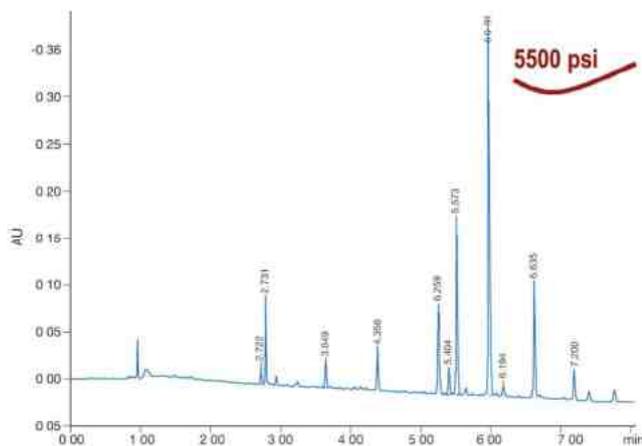
Particle size	Dimension	N/col.	Flow rate	Time	Resolution
5 µm	250 x 4.6 mm	20 000	1.0 mL/min	20 min	2.00
3 µm	150 x 4.6 mm	18 500	1.0 mL/min	12.6 min	1.90
2.2 µm	100 x 4.6 mm	15 500	1.0 mL/min	8 min	1.75
2.2 µm	100 x 4.6 mm	16 500	2.0 mL/min	4 min	1.80
1.7 µm	100 x 4.6 mm	18 500	1.0 mL/min	8 min	1.90
1.7 µm	100 x 4.6 mm	20 000	2.5 mL/min	3.2 min	1.97
1.7 µm	50 x 4.6 mm	9 250	1.0 mL/min	4 min	1.35
1.7 µm	50 x 4.6 mm	10 000	2,5 mL/min	1.6 min	1.40

Tests condition: separation of two compounds with a resolution of 2.0 on a 5 µm, 250 x 4.6 mm column at a flow rate of 1.0 mL/min.

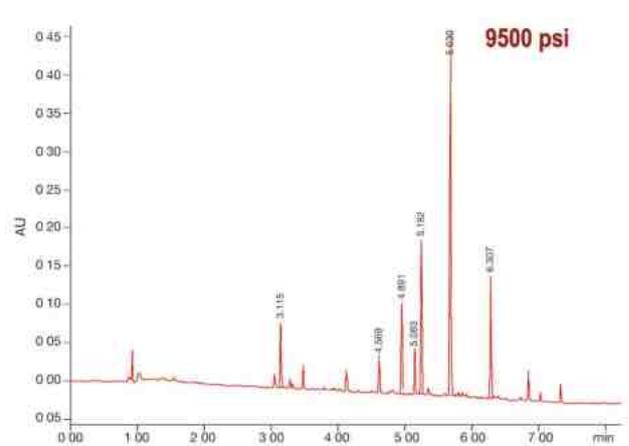
4. Permeability

The combination of permeability and efficiency is one of the major strength of the Strategy™ C18-HQ phase. This allows for more efficient analysis to be performed at lower pressure which ensures a longer lifetime of the column.

Compounds: KHN913  
ACN/H<sub>2</sub>O 20 % to 100 %: 6.10 min  
Step: 1 min then 20 %  
T°: 40°C  
Flow rate: 0.4 mL/min



Strategy 2.2 µm C18 HQ, 150 x 2.0 mm



W 1.7 µm C18, 150 x 2.1 mm



## Advion Interchim Scientific columns for small organic molecules



### Capacity

#### Comparative purifications of [Dimethylphenol 3.4 / 2.6 Dimethylphenol]

#### on Uptisphere® 120Å-5 µm C18-ODB 150 x 4.6 mm & Strategy™ C18 100Å-5 µm C18-HQ 150 x 4.6 mm

For higher concentrations, the isothermic adsorption is no longer linear. A higher concentration of solutes results in a deformation of the peaks and a modification of the retention time. The column is overloaded: it is the preparative mode. The loading capacity of a column is related to the number of active sites of the stationary phase. The Strategy™ column maintains satisfactory resolution at very high loading values.

The graph below shows the benefits of using Strategy silica for purification.

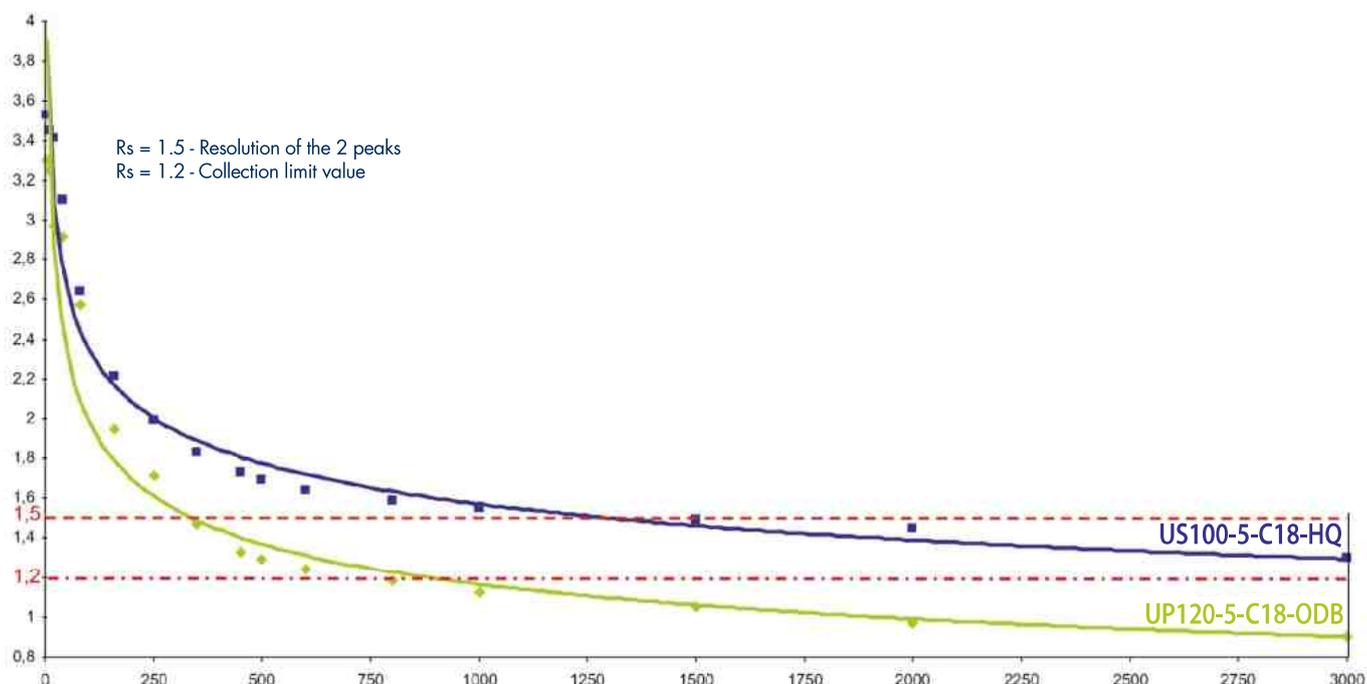
Standard capacity of Strategy™ C18 HQ on function of column's I.D.

Ø ID.	L : 50 mm	L : 150 mm	L : 250 mm
4.6 mm	0.25 - 1 mg	0.5 - 12 mg	1 - 20 mg
10.0 mm	4 - 25 mg	15 - 65 mg	25 - 110 mg
21.2 mm	10 - 50 mg	30 - 150 mg	50 - 250 mg
28.0 mm	25 - 150 mg	90 - 420 mg	150 - 700 mg
50.0 mm	80 - 400 mg	240 - 1.2 g	400 - 2 g

The capacity depends on the resolution ( $R_s$ ) (peak of interest/impurities) to be purified, on the internal diameter of the column and its length.

#### Resolution as a function of the loading (mg)

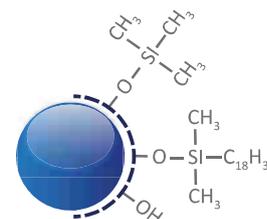
Comparison of 250 x 21.2 mm Strategy™ C18-HQ and Uptisphere® C18-ODB columns



## Advion Interchim Scientific columns for small organic molecules

### Uptisphere® Strategy™ C18-HQ

This utility phase serves many pharmaceutical applications. Its 425 m<sup>2</sup>/g surface area provides excellent loading capacity.



Dimensions	1.7 µm	2.2 µm	3 µm	5 µm
25 x 2.1 mm	US1.7C18HQ-025/021	US2.2C18HQ-025/021	US3C18HQ-025/021	---
30 x 2.1 mm	US1.7C18HQ-030/021	US2.2C18HQ-030/021	US3C18HQ-030/021	---
50 x 2.1 mm	US1.7C18HQ-050/021	US2.2C18HQ-050/021	US3C18HQ-050/021	US5C18HQ-050/021
75 x 2.1 mm	US1.7C18HQ-075/021	US2.2C18HQ-075/021	US3C18HQ-075/021	US5C18HQ-075/021
100 x 2.1 mm	US1.7C18HQ-100/021	US2.2C18HQ-100/021	US3C18HQ-100/021	US5C18HQ-100/021
125 x 2.1 mm	US1.7C18HQ-125/021	US2.2C18HQ-125/021	US3C18HQ-125/021	US5C18HQ-125/021
150 x 2.1 mm	US1.7C18HQ-150/021	US2.2C18HQ-150/021	US3C18HQ-150/021	US5C18HQ-150/021
250 x 2.1 mm	---	---	---	US5C18HQ-250/021
25 x 3.0 mm	US1.7C18HQ-025/030	US2.2C18HQ-025/030	US3C18HQ-025/030	---
30 x 3.0 mm	US1.7C18HQ-030/030	US2.2C18HQ-030/030	US3C18HQ-030/030	---
50 x 3.0 mm	US1.7C18HQ-050/030	US2.2C18HQ-050/030	US3C18HQ-050/030	US5C18HQ-050/030
75 x 3.0 mm	US1.7C18HQ-075/030	US2.2C18HQ-075/030	US3C18HQ-075/030	US5C18HQ-075/030
100 x 3.0 mm	US1.7C18HQ-100/030	US2.2C18HQ-100/030	US3C18HQ-100/030	US5C18HQ-100/030
125 x 3.0 mm	US1.7C18HQ-125/030	US2.2C18HQ-125/030	US3C18HQ-125/030	US5C18HQ-125/030
150 x 3.0 mm	US1.7C18HQ-150/030	US2.2C18HQ-150/030	US3C18HQ-150/030	US5C18HQ-150/030
250 x 3.0 mm	---	---	---	US5C18HQ-250/030
30 x 4.0 mm	---	US2.2C18HQ-030/040	---	US5C18HQ-030/040
50 x 4.0 mm	---	US2.2C18HQ-050/040	---	US5C18HQ-050/040
125 x 4.0 mm	---	US2.2C18HQ-125/040	US3C18HQ-125/040	US5C18HQ-125/040
150 x 4.0 mm	---	---	---	US5C18HQ-150/040
250 x 4.0 mm	---	---	---	US5C18HQ-250/040
25 x 4.6 mm	US1.7C18HQ-025/046	US2.2C18HQ-025/046	US3C18HQ-025/046	US5C18HQ-025/046
30 x 4.6 mm	US1.7C18HQ-030/046	US2.2C18HQ-030/046	US3C18HQ-030/046	US5C18HQ-030/046
50 x 4.6 mm	US1.7C18HQ-050/046	US2.2C18HQ-050/046	US3C18HQ-050/046	US5C18HQ-050/046
75 x 4.6 mm	US1.7C18HQ-075/046	US2.2C18HQ-075/046	US3C18HQ-075/046	US5C18HQ-075/046
100 x 4.6 mm	US1.7C18HQ-100/046	US2.2C18HQ-100/046	US3C18HQ-100/046	US5C18HQ-100/046
125 x 4.6 mm	US1.7C18HQ-125/046	US2.2C18HQ-125/046	US3C18HQ-125/046	US5C18HQ-125/046
150 x 4.6 mm	US1.7C18HQ-150/046	US2.2C18HQ-150/046	US3C18HQ-150/046	US5C18HQ-150/046
250 x 4.6 mm	---	---	---	US5C18HQ-250/046

### Uptisphere® Strategy™ C18-HQ

C18 - Octadecyl

USP code: L1

Pore size: 100 Å

Surface area: 425 m<sup>2</sup>/g

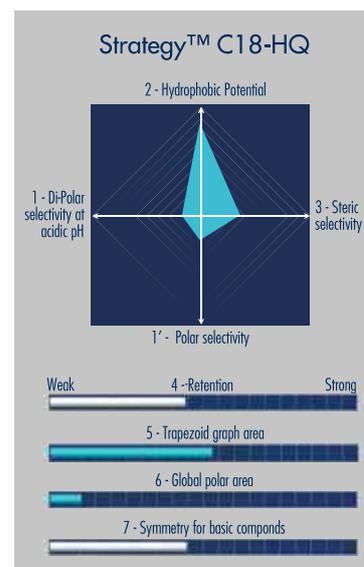
Functionalization : Mono-functional

% Carbon: 19 %

End-Capping: Multi-step

pH Stability: 1 - 10

Mode: Reverse



### Field of application

UHPLC  
HPLC  
Prep-LC  
Flash

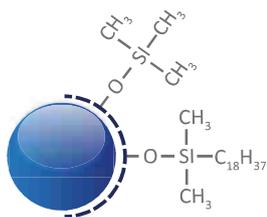


### RELATED PRODUCTS

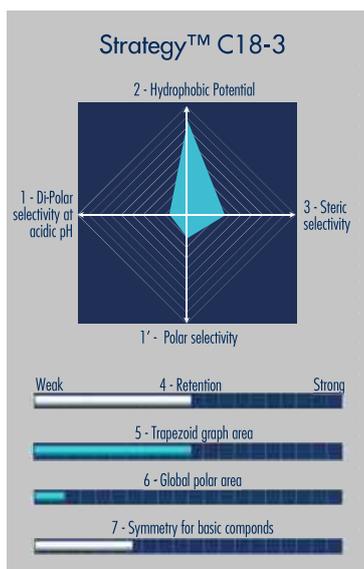
Columns Protection  
Find our Guard Cartridges  
& Holder on page G.66



## Advion Interchim Scientific columns for small organic molecules



**Uptisphere® Strategy™ C18-3**  
 C18 - Octadecyl  
 USP code: L1  
 Pore size: 100 Å  
 Surface area: 425 m<sup>2</sup>/g  
 Functionalization: Mono-functional  
 % Carbon: 22 %  
 End-Capping: Multi-step  
 pH Stability: 1 - 12  
 Mode: Reverse



### Field of application

UHPLC   
 HPLC   
 Prep-LC   
 Flash 

### Uptisphere® Strategy™ C18-3

The high bonding density of the C18-3 facilitates a high separation of non polar compounds. Multi step bonding technology guarantees a fully end-capped phase, stable under basic pH conditions. C18-3 is an excellent phase for the separation of basic drugs up to pH 12.

Dimensions	3 µm C18-3	5 µm C18-3
25 x 2.1 mm	US3C183-025/021	---
30 x 2.1 mm	US3C183-030/021	---
50 x 2.1 mm	US3C183-050/021	US5C183-050/021
75 x 2.1 mm	US3C183-075/021	US5C183-075/021
100 x 2.1 mm	US3C183-100/021	US5C183-100/021
125 x 2.1 mm	US3C183-125/021	US5C183-125/021
150 x 2.1 mm	US3C183-150/021	US5C183-150/021
250 x 2.1 mm	---	US5C183-250/021
25 x 3.0 mm	US3C183-025/030	---
30 x 3.0 mm	US3C183-030/030	---
50 x 3.0 mm	US3C183-050/030	US5C183-050/030
75 x 3.0 mm	US3C183-075/030	US5C183-075/030
100 x 3.0 mm	US3C183-100/030	US5C183-100/030
125 x 3.0 mm	US3C183-125/030	US5C183-125/030
150 x 3.0 mm	US3C183-150/030	US5C183-150/030
250 x 3.0 mm	---	US5C183-250/030
30 x 4.0 mm	---	US5C183-030/040
50 x 4.0 mm	---	US5C183-050/040
125 x 4.0 mm	US3C183-125/040	US5C183-125/040
150 x 4.0 mm	---	US5C183-150/040
250 x 4.0 mm	---	US5C183-250/040
25 x 4.6 mm	US3C183-025/046	US5C183-025/046
30 x 4.6 mm	US3C183-030/046	US5C183-030/046
50 x 4.6 mm	US3C183-050/046	US5C183-050/046
75 x 4.6 mm	US3C183-075/046	US5C183-075/046
100 x 4.6 mm	US3C183-100/046	US5C183-100/046
125 x 4.6 mm	US3C183-125/046	US5C183-125/046
150 x 4.6 mm	US3C183-150/046	US5C183-150/046
250 x 4.6 mm	---	US5C183-250/046

### RELATED PRODUCTS

#### Dispenser box : Uptivials kit

A single reference for your vials , your caps and closures, an attractive price and a dispenser box  
 Available on stock  
 See chapter: Vials

### RELATED PRODUCTS

**Columns Protection**  
 Find our Guard Cartridges  
 & Holder on page G.66

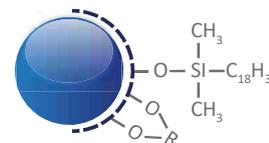


## Advion Interchim Scientific columns for small organic molecules

### Uptisphere® Strategy™ C18-RP

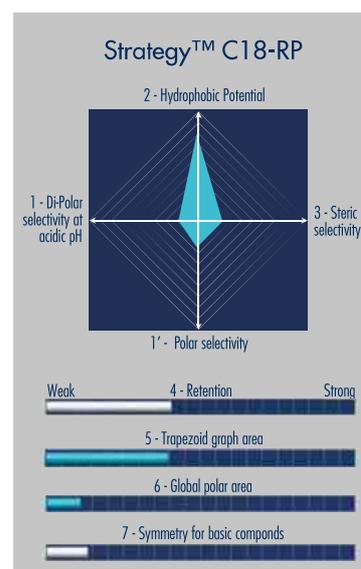
Suitable for mid & non polar compounds separation.

C18-RP shows excellent mechanical stability that makes it an excellent tool for purification under acidic or basic conditions.



Dimensions	2.2 µm	3 µm	5 µm
25 x 2.1 mm	US2.2RP-025/021	US3RP-025/021	US5RP-025/021
30 x 2.1 mm	US2.2RP-030/021	US3RP-030/021	US5RP-030/021
50 x 2.1 mm	US2.2RP-050/021	US3RP-050/021	US5RP-050/021
75 x 2.1 mm	US2.2RP-075/021	US3RP-075/021	US5RP-075/021
100 x 2.1 mm	US2.2RP-100/021	US3RP-100/021	US5RP-100/021
125 x 2.1 mm	US2.2RP-125/021	US3RP-125/021	US5RP-125/021
150 x 2.1 mm	US2.2RP-150/021	US3RP-150/021	US5RP-150/021
250 x 2.1 mm	---	---	US5RP-250/021
25 x 3.0 mm	US2.2RP-025/030	US3RP-025/030	---
30 x 3.0 mm	US2.2RP-030/030	US3RP-030/030	---
50 x 3.0 mm	US2.2RP-050/030	US3RP-050/030	US5RP-050/030
75 x 3.0 mm	US2.2RP-075/030	US3RP-075/030	US5RP-075/030
100 x 3.0 mm	US2.2RP-100/030	US3RP-100/030	US5RP-100/030
125 x 3.0 mm	US2.2RP-125/030	US3RP-125/030	US5RP-125/030
150 x 3.0 mm	US2.2RP-150/030	US3RP-150/030	US5RP-150/030
250 x 3.0 mm	---	---	US5RP-250/030
30 x 4.0 mm	US2.2RP-030/040	---	US5RP-030/040
50 x 4.0 mm	US2.2RP-050/040	---	US5RP-050/040
125 x 4.0 mm	US2.2RP-125/040	US3RP-125/040	US5RP-125/040
150 x 4.0 mm	---	---	US5RP-150/040
250 x 4.0 mm	---	---	US5RP-250/040
25 x 4.6 mm	US2.2RP-025/046	US3RP-025/046	US5RP-025/046
30 x 4.6 mm	US2.2RP-030/046	US3RP-030/046	US5RP-030/046
50 x 4.6 mm	US2.2RP-050/046	US3RP-050/046	US5RP-050/046
75 x 4.6 mm	US2.2RP-075/046	US3RP-075/046	US5RP-075/046
100 x 4.6 mm	US2.2RP-100/046	US3RP-100/046	US5RP-100/046
125 x 4.6 mm	US2.2RP-125/046	US3RP-125/046	US5RP-125/046
150 x 4.6 mm	US2.2RP-150/046	US3RP-150/046	US5RP-150/046
250 x 4.6 mm	---	---	US5RP-250/046

Uptisphere® Strategy™ C18-RP  
C18 - Octadecyl  
USP code: L1  
Pore size: 100 Å  
Surface area: 425 m<sup>2</sup>/g  
Functionalization : Mono-functional  
% Carbon: 16 %  
End-Capping: Mixte  
pH Stability: 1.5 - 8  
Mode: Reverse



### Field of application

UHPLC  
HPLC  
Prep-LC  
Flash

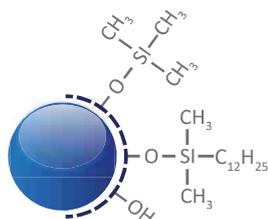


### RELATED PRODUCTS

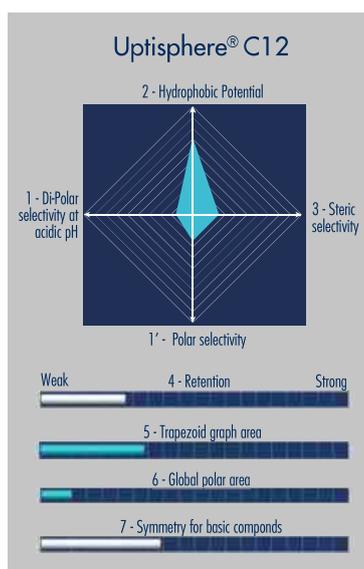
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## Advion Interchim Scientific columns for small organic molecules



**Uptisphere® Strategy™ C12**  
 C12 - dodecyl  
 USP code: L87  
 Pore size: 100 Å  
 Surface area : 425 m<sup>2</sup>/g  
 Functionalization: Mono-functional  
 % Carbon: 16 %  
 End-Capping: One step  
 pH Stability: 1.5 - 8  
 Mode: Reverse



### Uptisphere® Strategy™ C12

Non polar compounds. Less retentive than C18 with greater capacity.

Dimensions	2.2 µm	5 µm
25 x 2.1 mm	US2.2C12-025/021	---
30 x 2.1 mm	US2.2C12-030/021	---
50 x 2.1 mm	US2.2C12-050/021	US5C12-050/021
75 x 2.1 mm	US2.2C12-075/021	US5C12-075/021
100 x 2.1 mm	US2.2C12-100/021	US5C12-100/021
125 x 2.1 mm	US2.2C12-125/021	US5C12-125/021
150 x 2.1 mm	US2.2C12-150/021	US5C12-150/021
250 x 2.1 mm	---	US5C12-250/021
25 x 3.0 mm	US2.2C12-025/030	---
30 x 3.0 mm	US2.2C12-030/030	---
50 x 3.0 mm	US2.2C12-050/030	US5C12-050/030
75 x 3.0 mm	US2.2C12-075/030	US5C12-075/030
100 x 3.0 mm	US2.2C12-100/030	US5C12-100/030
125 x 3.0 mm	US2.2C12-125/030	US5C12-125/030
150 x 3.0 mm	US2.2C12-150/030	US5C12-150/030
250 x 3.0 mm	---	US5C12-250/030
30 x 4.0 mm	US2.2C12-030/040	US5C12-030/040
50 x 4.0 mm	US2.2C12-050/040	US5C12-050/040
125 x 4.0 mm	US2.2C12-125/040	US5C12-125/040
150 x 4.0 mm	---	US5C12-150/040
250 x 4.0 mm	---	US5C12-250/040
300 x 4.0 mm	---	---
25 x 4.6 mm	US2.2C12-025/046	US5C12-025/046
30 x 4.6 mm	US2.2C12-030/046	US5C12-030/046
50 x 4.6 mm	US2.2C12-050/046	US5C12-050/046
75 x 4.6 mm	US2.2C12-075/046	US5C12-075/046
100 x 4.6 mm	US2.2C12-100/046	US5C12-100/046
125 x 4.6 mm	US2.2C12-125/046	US5C12-125/046
150 x 4.6 mm	US2.2C12-150/046	US5C12-150/046
250 x 4.6 mm	---	US5C12-250/046

### Field of application

UHPLC   
 HPLC   
 Prep-LC   
 Flash

#### RELATED PRODUCTS

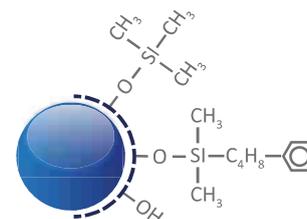
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## Advion Interchim Scientific columns for small organic molecules

### Uptisphere® Strategy™ PHC4

Very selective for compounds with aromatic cycles and mid-polar compounds.



Dimensions	2.2 µm	3 µm	5 µm
25 x 2.1 mm	US2.2PHC4-025/021	US3PHC4-025/021	---
30 x 2.1 mm	US2.2PHC4-030/021	US3PHC4-030/021	---
50 x 2.1 mm	US2.2PHC4-050/021	US3PHC4-050/021	US5PHC4-050/021
75 x 2.1 mm	US2.2PHC4-075/021	US3PHC4-075/021	US5PHC4-075/021
100 x 2.1 mm	US2.2PHC4-100/021	US3PHC4-100/021	US5PHC4-100/021
125 x 2.1 mm	US2.2PHC4-125/021	US3PHC4-125/021	US5PHC4-125/021
150 x 2.1 mm	US2.2PHC4-150/021	US3PHC4-150/021	US5PHC4-150/021
250 x 2.1 mm	---	---	US5PHC4-250/021
25 x 3.0 mm	US2.2PHC4-025/030	US3PHC4-025/030	---
30 x 3.0 mm	US2.2PHC4-030/030	US3PHC4-030/030	---
50 x 3.0 mm	US2.2PHC4-050/030	US3PHC4-050/030	US5PHC4-050/030
75 x 3.0 mm	US2.2PHC4-075/030	US3PHC4-075/030	US5PHC4-075/030
100 x 3.0 mm	US2.2PHC4-100/030	US3PHC4-100/030	US5PHC4-100/030
125 x 3.0 mm	US2.2PHC4-125/030	US3PHC4-125/030	US5PHC4-125/030
150 x 3.0 mm	US2.2PHC4-150/030	US3PHC4-150/030	US5PHC4-150/030
250 x 3.0 mm	---	---	US5PHC4-250/030
30 x 4.0 mm	US2.2PHC4-030/040	---	US5PHC4-030/040
50 x 4.0 mm	US2.2PHC4-050/040	---	US5PHC4-050/040
125 x 4.0 mm	US2.2PHC4-125/040	US3PHC4-125/040	US5PHC4-125/040
150 x 4.0 mm	---	---	US5PHC4-150/040
250 x 4.0 mm	---	---	US5PHC4-250/040
25 x 4.6 mm	US2.2PHC4-025/046	US3PHC4-025/046	US5PHC4-025/046
30 x 4.6 mm	US2.2PHC4-030/046	US3PHC4-030/046	US5PHC4-030/046
50 x 4.6 mm	US2.2PHC4-050/046	US3PHC4-050/046	US5PHC4-050/046
75 x 4.6 mm	US2.2PHC4-075/046	US3PHC4-075/046	US5PHC4-075/046
100 x 4.6 mm	US2.2PHC4-100/046	US3PHC4-100/046	US5PHC4-100/046
125 x 4.6 mm	US2.2PHC4-125/046	US3PHC4-125/046	US5PHC4-125/046
150 x 4.6 mm	US2.2PHC4-150/046	US3PHC4-150/046	US5PHC4-150/046
250 x 4.6 mm	---	---	US5PHC4-250/046

### Uptisphere® Strategy™ PHC4

PHC4 - Butyl-Phenyl

USP code: L11

Pore size: 100 Å

Surface area: 425 m<sup>2</sup>/g

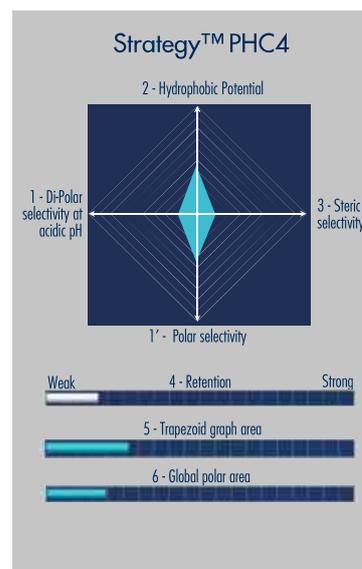
Functionalization: Mono-functional

% Carbon: 12 %

End-Capping: One step

pH Stability: 1.5 - 7.5

Mode: Reverse



### Field of application

UHPLC  
HPLC  
Prep-LC  
Flash

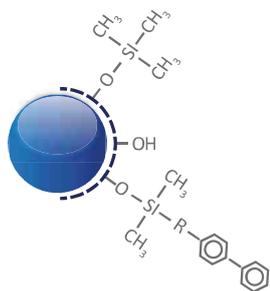


### RELATED PRODUCTS

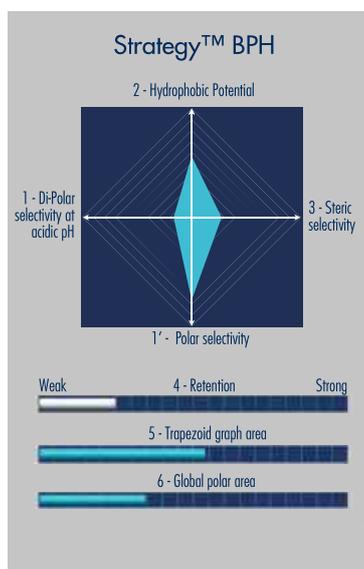
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## Advion Interchim Scientific columns for small organic molecules



**Uptisphere® Strategy™ BPH**  
 BPH - Bi-Phenyl  
 USP code: L11  
 Pore size: 100 Å  
 Surface area: 300 m<sup>2</sup>/g  
 Functionalization : Mono-functional  
 % Carbon: 12 %  
 End-Capping: One step  
 pH Stability: 1.5 - 7.5  
 Mode: Reverse



### Field of application

UHPLC   
 HPLC   
 Prep-LC   
 Flash

### Uptisphere Strategy™ BPH

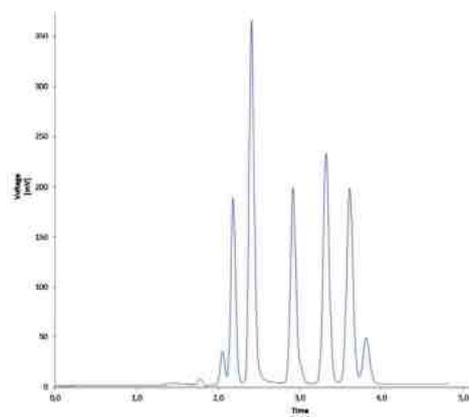
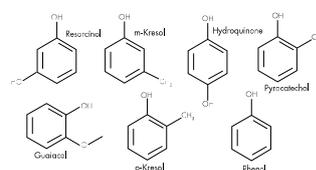
Excellent discrimination of aromatic compounds, unsaturated compounds, ketones, alkenes, ...

Dimensions	3 µm	5 µm
25 x 2.1 mm	US3BPH-025/021	---
30 x 2.1 mm	US3BPH-030/021	---
50 x 2.1 mm	US3BPH-050/021	US5BPH-050/021
75 x 2.1 mm	US3BPH-075/021	US5BPH-075/021
100 x 2.1 mm	US3BPH-100/021	US5BPH-100/021
125 x 2.1 mm	US3BPH-125/021	US5BPH-125/021
150 x 2.1 mm	US3BPH-150/021	US5BPH-150/021
250 x 2.1 mm	---	US5BPH-250/021
25 x 3.0 mm	US3BPH-025/030	---
30 x 3.0 mm	US3BPH-030/030	---
50 x 3.0 mm	US3BPH-050/030	US5BPH-050/030
75 x 3.0 mm	US3BPH-075/030	US5BPH-075/030
100 x 3.0 mm	US3BPH-100/030	US5BPH-100/030
125 x 3.0 mm	US3BPH-125/030	US5BPH-125/030
150 x 3.0 mm	US3BPH-150/030	US5BPH-150/030
250 x 3.0 mm	---	US5BPH-250/030
30 x 4.0 mm	---	US5BPH-030/040
50 x 4.0 mm	---	US5BPH-050/040
125 x 4.0 mm	US3BPH-125/040	US5BPH-125/040
150 x 4.0 mm	---	US5BPH-150/040
250 x 4.0 mm	---	US5BPH-250/040
25 x 4.6 mm	US3BPH-025/046	US5BPH-025/046
30 x 4.6 mm	US3BPH-030/046	US5BPH-030/046
50 x 4.6 mm	US3BPH-050/046	US5BPH-050/046
75 x 4.6 mm	US3BPH-075/046	US5BPH-075/046
100 x 4.6 mm	US3BPH-100/046	US5BPH-100/046
125 x 4.6 mm	US3BPH-125/046	US5BPH-125/046
150 x 4.6 mm	US3BPH-150/046	US5BPH-150/046
250 x 4.6 mm	---	US5BPH-250/046

### APPLICATIONS ON HYDROXY AROMATIC DERIVATIVE

Column: Uptisphere Strategy™ BPH  
 5 µm 150 x 4.6mm  
 Conditions:  
 Isocratic A/B 35/65 V/V  
 A: 100 mM ammonium acetate,  
 B: methanol  
 Flow rate: 1 mL/min  
 Temp.: 35°C, UV: 265 nm

Compounds: Hydroquinone,  
 resorcinol, pyrocatechol, phenol,  
 gualacol, m-kresol, o-kresol

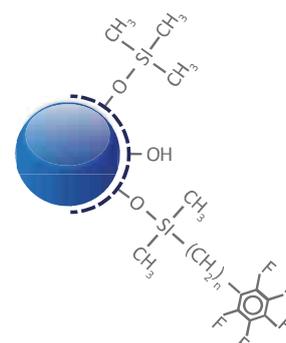


## Advion Interchim Scientific columns for small organic molecules

### Uptisphere® Strategy™ PFP

Complementary to C18, C8 to separate electron rich compounds.

Dimensions	3 µm	5 µm
25 x 2.1 mm	US3PFP-025/021	---
30 x 2.1 mm	US3PFP-030/021	---
50 x 2.1 mm	US3PFP-050/021	US5PFP-050/021
75 x 2.1 mm	US3PFP-075/021	US5PFP-075/021
100 x 2.1 mm	US3PFP-100/021	US5PFP-100/021
125 x 2.1 mm	US3PFP-125/021	US5PFP-125/021
150 x 2.1 mm	US3PFP-150/021	US5PFP-150/021
250 x 2.1 mm	---	US5PFP-250/021
25 x 3.0 mm	US3PFP-025/030	---
30 x 3.0 mm	US3PFP-030/030	---
50 x 3.0 mm	US3PFP-050/030	US5PFP-050/030
75 x 3.0 mm	US3PFP-075/030	US5PFP-075/030
100 x 3.0 mm	US3PFP-100/030	US5PFP-100/030
125 x 3.0 mm	US3PFP-125/030	US5PFP-125/030
150 x 3.0 mm	US3PFP-150/030	US5PFP-150/030
250 x 3.0 mm	---	US5PFP-250/030
30 x 4.0 mm	---	US5PFP-030/040
50 x 4.0 mm	---	US5PFP-050/040
125 x 4.0 mm	US3PFP-125/040	US5PFP-125/040
150 x 4.0 mm	---	US5PFP-150/040
250 x 4.0 mm	---	US5PFP-250/040
25 x 4.6 mm	US3PFP-025/046	US5PFP-025/046
30 x 4.6 mm	US3PFP-030/046	US5PFP-030/046
50 x 4.6 mm	US3PFP-050/046	US5PFP-050/046
75 x 4.6 mm	US3PFP-075/046	US5PFP-075/046
100 x 4.6 mm	US3PFP-100/046	US5PFP-100/046
125 x 4.6 mm	US3PFP-125/046	US5PFP-125/046
150 x 4.6 mm	US3PFP-150/046	US5PFP-150/046
250 x 4.6 mm	---	US5PFP-250/046



### Uptisphere® Strategy™ PFP

PFP - Penta Fluoro Phenyl

USP code: L43

Pore size: 100 Å

Surface area: 425 m<sup>2</sup>/g

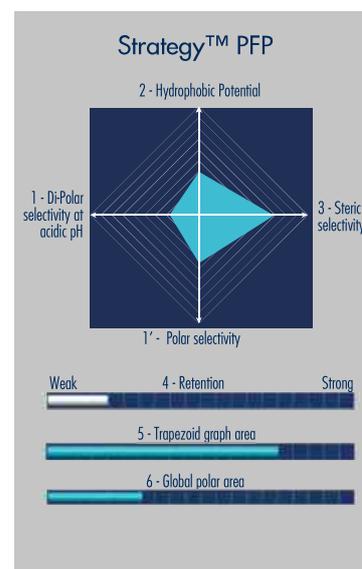
Functionalization: Mono-functional

% Carbon: 14.5 %

End-Capping: One step

pH Stability: 1.5 - 7.5

Mode: Reverse



### Field of application

UHPLC  
HPLC  
Prep-LC  
Flash



## Advion Interchim Scientific columns for small organic molecules



**Uptisphere® Strategy™ Hilic-HIT**  
 USP code: L3  
 Pore size: 100 Å  
 Surface area: 425 m<sup>2</sup>/g  
 Pre-treatment: MOST  
 Functionalization: Proprietary  
 % Carbon: n.a.  
 End-Capping: Proprietary  
 pH Stability: 1.5 - 7  
 Mode: Hilic

### Field of application

UHPLC   
 HPLC   
 Prep-LC   
 Flash 

### Uptisphere® Strategy™ Hilic-HIT

Aqueous normal phase separation (ANP) of water-soluble compounds.  
 Typical mobile phase: water / ACN (> 70%).

ANP is an excellent alternative to RP purification for highly polar compounds.

Dimensions	2.2 µm HIT	3 µm HIT	5 µm HIT
25 x 2.1 mm	US2.2HIT-025/021	US3HIT-025/021	US5HIT-050/021
30 x 2.1 mm	US2.2HIT-030/021	US3HIT-030/021	US5HIT-075/021
50 x 2.1 mm	US2.2HIT-050/021	US3HIT-050/021	US5HIT-100/021
75 x 2.1 mm	US2.2HIT-075/021	US3HIT-075/021	US5HIT-125/021
100 x 2.1 mm	US2.2HIT-100/021	US3HIT-100/021	US5HIT-150/021
125 x 2.1 mm	US2.2HIT-125/021	US3HIT-125/021	US5HIT-250/021
150 x 2.1 mm	US2.2HIT-150/021	US3HIT-150/021	---
25 x 3.0 mm	US2.2HIT-025/030	US3HIT-025/030	---
30 x 3.0 mm	US2.2HIT-030/030	US3HIT-030/030	---
50 x 3.0 mm	US2.2HIT-050/030	US3HIT-050/030	US5HIT-050/030
75 x 3.0 mm	US2.2HIT-075/030	US3HIT-075/030	US5HIT-075/030
100 x 3.0 mm	US2.2HIT-100/030	US3HIT-100/030	US5HIT-100/030
125 x 3.0 mm	US2.2HIT-125/030	US3HIT-125/030	US5HIT-125/030
150 x 3.0 mm	US2.2HIT-150/030	US3HIT-150/030	US5HIT-150/030
250 x 3.0 mm	---	---	US5HIT-250/030
30 x 4.0 mm	US2.2HIT-030/040	---	US5HIT-030/040
50 x 4.0 mm	US2.2HIT-050/040	---	US5HIT-050/040
125 x 4.0 mm	US2.2HIT-125/040	US3HIT-125/040	US5HIT-125/040
150 x 4.0 mm	---	---	US5HIT-150/040
250 x 4.0 mm	---	---	US5HIT-250/040
25 x 4.6 mm	US2.2HIT-025/046	US3HIT-025/046	US5HIT-025/046
30 x 4.6 mm	US2.2HIT-030/046	US3HIT-030/046	US5HIT-030/046
50 x 4.6 mm	US2.2HIT-050/046	US3HIT-050/046	US5HIT-050/046
75 x 4.6 mm	US2.2HIT-075/046	US3HIT-075/046	US5HIT-075/046
100 x 4.6 mm	US2.2HIT-100/046	US3HIT-100/046	US5HIT-100/046
125 x 4.6 mm	US2.2HIT-125/046	US3HIT-125/046	US5HIT-125/046
150 x 4.6 mm	US2.2HIT-150/046	US3HIT-150/046	US5HIT-150/046
250 x 4.6 mm	---	---	US5HIT-250/046

### RELATED PRODUCTS

**Columns Protection**  
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 & Holder on page G.66



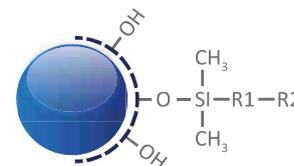
## Advion Interchim Scientific columns for small organic molecules

### Uptisphere® Strategy™ Hilic-HIA

Aqueous normal phase separation (ANP) of water-soluble compounds.

Typical mobile phase: water / ACN (> 70%)

ANP is an excellent alternative to RP purification for highly polar compounds.



Dimensions	2.2 µm HIA	3 µm HIA	5 µm HIA
25 x 2.1 mm	US2.2HIA-025/021	US3HIA-025/021	US5HIA-050/021
30 x 2.1 mm	US2.2HIA-030/021	US3HIA-030/021	US5HIA-075/021
50 x 2.1 mm	US2.2HIA-050/021	US3HIA-050/021	US5HIA-100/021
75 x 2.1 mm	US2.2HIA-075/021	US3HIA-075/021	US5HIA-125/021
100 x 2.1 mm	US2.2HIA-100/021	US3HIA-100/021	US5HIA-150/021
125 x 2.1 mm	US2.2HIA-125/021	US3HIA-125/021	US5HIA-250/021
150 x 2.1 mm	US2.2HIA-150/021	US3HIA-150/021	---
25 x 3.0 mm	US2.2HIA-025/030	US3HIA-025/030	---
30 x 3.0 mm	US2.2HIA-030/030	US3HIA-030/030	---
50 x 3.0 mm	US2.2HIA-050/030	US3HIA-050/030	US5HIA-050/030
75 x 3.0 mm	US2.2HIA-075/030	US3HIA-075/030	US5HIA-075/030
100 x 3.0 mm	US2.2HIA-100/030	US3HIA-100/030	US5HIA-100/030
125 x 3.0 mm	US2.2HIA-125/030	US3HIA-125/030	US5HIA-125/030
150 x 3.0 mm	US2.2HIA-150/030	US3HIA-150/030	US5HIA-150/030
250 x 3.0 mm	---	---	US5HIA-250/030
30 x 4.0 mm	US2.2HIA-030/040	---	US5HIA-030/040
50 x 4.0 mm	US2.2HIA-050/040	---	US5HIA-050/040
125 x 4.0 mm	US2.2HIA-125/040	US3HIA-125/040	US5HIA-125/040
150 x 4.0 mm	---	---	US5HIA-150/040
250 x 4.0 mm	---	---	US5HIA-250/040
25 x 4.6 mm	US2.2HIA-025/046	US3HIA-025/046	US5HIA-025/046
30 x 4.6 mm	US2.2HIA-030/046	US3HIA-030/046	US5HIA-030/046
50 x 4.6 mm	US2.2HIA-050/046	US3HIA-050/046	US5HIA-050/046
75 x 4.6 mm	US2.2HIA-075/046	US3HIA-075/046	US5HIA-075/046
100 x 4.6 mm	US2.2HIA-100/046	US3HIA-100/046	US5HIA-100/046
125 x 4.6 mm	US2.2HIA-125/046	US3HIA-125/046	US5HIA-125/046
150 x 4.6 mm	US2.2HIA-150/046	US3HIA-150/046	US5HIA-150/046
250 x 4.6 mm	---	---	US5HIA-250/046

### Uptisphere® Strategy™ Hilic-HIA

USP code: n.a.

Pore size: 100 Å

Surface area: 300 m<sup>2</sup>/g

Functionalization: Proprietary

% Carbon: n.a.

End-Capping: Proprietary

pH Stability: 2 - 7

Mode: Hilic

### Field of application

UHPLC ●  
HPLC ●  
Prep-LC ●  
Flash ●

### RELATED PRODUCTS

Advion Interchim Scientific offers a complete SPE products portfolio with several dozens of selectivities, find these products in the chapter: Sample preparation

### RELATED PRODUCTS

Columns Protection  
Find our Guard Cartridges  
& Holder on page G.66



## Advion Interchim Scientific columns for small organic molecules



### Uptisphere® Strategy™ SI

USP code: L3

Pore size: 100 Å

Surface area : 425 m<sup>2</sup>/g

Functionalization: Proprietary

% Carbon: n.a.

End-Capping: None

pH Stability: 1.5 - 7

Mode: Normal

### Uptisphere® Strategy™ SI

Non-ionic, polar organic compounds.

Dimensions	2.2 µm	3 µm	5 µm
25 x 2.1 mm	US2.2SI-025/021	US3SI-025/021	US5SI-050/021
30 x 2.1 mm	US2.2SI-030/021	US3SI-030/021	US5SI-075/021
50 x 2.1 mm	US2.2SI-050/021	US3SI-050/021	US5SI-100/021
75 x 2.1 mm	US2.2SI-075/021	US3SI-075/021	US5SI-125/021
100 x 2.1 mm	US2.2SI-100/021	US3SI-100/021	US5SI-150/021
125 x 2.1 mm	US2.2SI-125/021	US3SI-125/021	US5SI-250/021
150 x 2.1 mm	US2.2SI-150/021	US3SI-150/021	---
25 x 3.0 mm	US2.2SI-025/030	US3SI-025/030	---
30 x 3.0 mm	US2.2SI-030/030	US3SI-030/030	---
50 x 3.0 mm	US2.2SI-050/030	US3SI-050/030	US5SI-050/030
75 x 3.0 mm	US2.2SI-075/030	US3SI-075/030	US5SI-075/030
100 x 3.0 mm	US2.2SI-100/030	US3SI-100/030	US5SI-100/030
125 x 3.0 mm	US2.2SI-125/030	US3SI-125/030	US5SI-125/030
150 x 3.0 mm	US2.2SI-150/030	US3SI-150/030	US5SI-150/030
250 x 3.0 mm	---	---	US5SI-250/030
30 x 4.0 mm	US2.2SI-030/040	---	US5SI-030/040
50 x 4.0 mm	US2.2SI-050/040	---	US5SI-050/040
125 x 4.0 mm	US2.2SI-125/040	US3SI-125/040	US5SI-125/040
150 x 4.0 mm	---	---	US5SI-150/040
250 x 4.0 mm	---	---	US5SI-250/040
25 x 4.6 mm	US2.2SI-025/046	US3SI-025/046	US5SI-025/046
30 x 4.6 mm	US2.2SI-030/046	US3SI-030/046	US5SI-030/046
50 x 4.6 mm	US2.2SI-050/046	US3SI-050/046	US5SI-050/046
75 x 4.6 mm	US2.2SI-075/046	US3SI-075/046	US5SI-075/046
100 x 4.6 mm	US2.2SI-100/046	US3SI-100/046	US5SI-100/046
125 x 4.6 mm	US2.2SI-125/046	US3SI-125/046	US5SI-125/046
150 x 4.6 mm	US2.2SI-150/046	US3SI-150/046	US5SI-150/046
250 x 4.6 mm	---	---	US5SI-250/046

### Field of application

UHPLC	●
HPLC	●
Prep-LC	●
Flash	○

### RELATED PRODUCTS

#### Columns Protection

Find our Guard Cartridges  
& Holder on page G.66



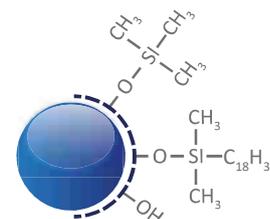


## Advion Interchim Scientific columns for small organic molecules



### Uptisphere® C18-HSC

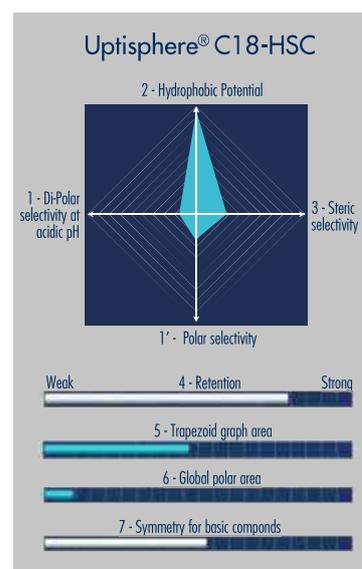
Non-polar compounds.



Dimensions	3 µm	5 µm
25 x 2.1 mm	UP3HSC-025/021	---
30 x 2.1 mm	UP3HSC-030/021	---
50 x 2.1 mm	UP3HSC-050/021	UP5HSC-050/021
75 x 2.1 mm	UP3HSC-075/021	UP5HSC-075/021
100 x 2.1 mm	UP3HSC-100/021	UP5HSC-100/021
125 x 2.1 mm	UP3HSC-125/021	UP5HSC-125/021
150 x 2.1 mm	UP3HSC-150/021	UP5HSC-150/021
250 x 2.1 mm	---	UP5HSC-250/021
25 x 3.0 mm	UP3HSC-025/030	---
30 x 3.0 mm	UP3HSC-030/030	---
50 x 3.0 mm	UP3HSC-050/030	UP5HSC-050/030
75 x 3.0 mm	UP3HSC-075/030	UP5HSC-075/030
100 x 3.0 mm	UP3HSC-100/030	UP5HSC-100/030
125 x 3.0 mm	UP3HSC-125/030	UP5HSC-125/030
150 x 3.0 mm	UP3HSC-150/030	UP5HSC-150/030
250 x 3.0 mm	---	UP5HSC-250/030
30 x 4.0 mm	---	UP5HSC-030/040
50 x 4.0 mm	---	UP5HSC-050/040
125 x 4.0 mm	UP3HSC-125/040	UP5HSC-125/040
150 x 4.0 mm	---	UP5HSC-150/040
250 x 4.0 mm	---	UP5HSC-250/040
25 x 4.6 mm	UP3HSC-025/046	UP5HSC-025/046
30 x 4.6 mm	UP3HSC-030/046	UP5HSC-030/046
50 x 4.6 mm	UP3HSC-050/046	UP5HSC-050/046
75 x 4.6 mm	UP3HSC-075/046	UP5HSC-075/046
100 x 4.6 mm	UP3HSC-100/046	UP5HSC-100/046
125 x 4.6 mm	UP3HSC-125/046	UP5HSC-125/046
150 x 4.6 mm	UP3HSC-150/046	UP5HSC-150/046
250 x 4.6 mm	---	UP5HSC-250/046

### Uptisphere® C18-HSC

C18 - Octadecyl  
 USP code: L1  
 Pore size: n.a.  
 Surface area: n.a.  
 Functionalization: Mono-functional  
 % Carbon: 20 %  
 End-Capping: Multi step  
 pH Stability: 1.5 - 8  
 Mode: Reverse



### Field of application

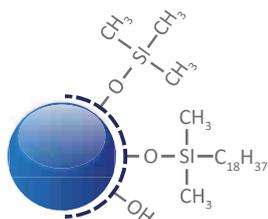
- UHPLC
- HPLC
- Prep-LC
- Flash

### RELATED PRODUCTS

**Columns Protection**  
 Find our Guard Cartridges  
 & Holder on page G.66



## Advion Interchim Scientific columns for small organic molecules



### Uptisphere® C18-ODB

C18 - Octadecyl

USP code: L1

Pore size: 120 Å

Surface area: 320 m<sup>2</sup>/g

Functionalization: Mono-functional

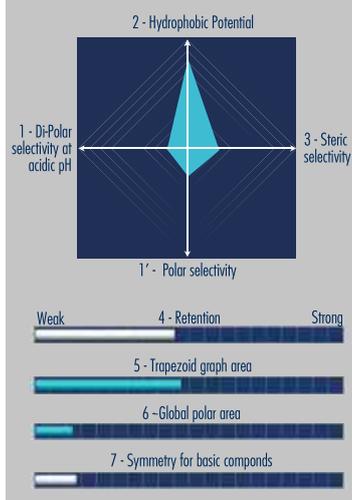
% Carbon: 18 %

End-Capping: One step

pH Stability: 1.5 - 7

Mode: Reverse

### Uptisphere® C18-ODB



### Field of application

UHPLC

HPLC

Prep-LC

Flash

### Uptisphere® C18-ODB

Serves a broad-spectrum of analytical & prep LC requirements for separating non polar compounds.

Dimensions	2.2 µm	3 µm	5 µm	10 µm
25 x 2.1 mm	UP2.2ODB-025/021	UP3ODB-025/021	---	---
30 x 2.1 mm	UP2.2ODB-030/021	UP3ODB-030/021	---	---
50 x 2.1 mm	UP2.2ODB-050/021	UP3ODB-050/021	UP5ODB-050/021	---
75 x 2.1 mm	UP2.2ODB-075/021	UP3ODB-075/021	UP5ODB-075/021	---
100 x 2.1 mm	UP2.2ODB-100/021	UP3ODB-100/021	UP5ODB-100/021	---
125 x 2.1 mm	UP2.2ODB-125/021	UP3ODB-125/021	UP5ODB-125/021	---
150 x 2.1 mm	UP2.2ODB-150/021	UP3ODB-150/021	UP5ODB-150/021	---
250 x 2.1 mm	---	---	UP5ODB-250/021	---
25 x 3.0 mm	UP2.2ODB-025/030	UP3ODB-025/030	---	---
30 x 3.0 mm	UP2.2ODB-030/030	UP3ODB-030/030	---	---
50 x 3.0 mm	UP2.2ODB-050/030	UP3ODB-050/030	UP5ODB-050/030	---
75 x 3.0 mm	UP2.2ODB-075/030	UP3ODB-075/030	UP5ODB-075/030	---
100 x 3.0 mm	UP2.2ODB-100/030	UP3ODB-100/030	UP5ODB-100/030	---
125 x 3.0 mm	UP2.2ODB-125/030	UP3ODB-125/030	UP5ODB-125/030	---
150 x 3.0 mm	UP2.2ODB-150/030	UP3ODB-150/030	UP5ODB-150/030	UP10ODB-150/030
250 x 3.0 mm	---	---	UP5ODB-250/030	UP10ODB-250/030
30 x 4.0 mm	UP2.2ODB-030/040	---	UP5ODB-030/040	---
50 x 4.0 mm	UP2.2ODB-050/040	---	UP5ODB-050/040	---
125 x 4.0 mm	UP2.2ODB-125/040	UP3ODB-125/040	UP5ODB-125/040	UP10ODB-125/040
150 x 4.0 mm	---	---	UP5ODB-150/040	---
250 x 4.0 mm	---	---	UP5ODB-250/040	UP10ODB-250/040
300 x 4.0 mm	---	---	---	UP10ODB-300/040
25 x 4.6 mm	UP2.2ODB-025/046	UP3ODB-025/046	UP5ODB-025/046	---
30 x 4.6 mm	UP2.2ODB-030/046	UP3ODB-030/046	UP5ODB-030/046	---
50 x 4.6 mm	UP2.2ODB-050/046	UP3ODB-050/046	UP5ODB-050/046	---
75 x 4.6 mm	UP2.2ODB-075/046	UP3ODB-075/046	UP5ODB-075/046	---
100 x 4.6 mm	UP2.2ODB-100/046	UP3ODB-100/046	UP5ODB-100/046	---
125 x 4.6 mm	UP2.2ODB-125/046	UP3ODB-125/046	UP5ODB-125/046	---
150 x 4.6 mm	UP2.2ODB-150/046	UP3ODB-150/046	UP5ODB-150/046	UP10ODB-150/046
250 x 4.6 mm	---	---	UP5ODB-250/046	UP10ODB-250/046

### RELATED PRODUCTS

The efficiency of your SPE methods depends on the cleanliness of your samples. An upstream filtration step is often necessary. Our UptiDisc™ syringe filters ensure optimal sample processing. Find them in the Sample Preparation - Filtration-UptiDisc™ Syringe Filters chapter.

### RELATED PRODUCTS

**Columns Protection**  
Find our Guard Cartridges & Holder on page G.66



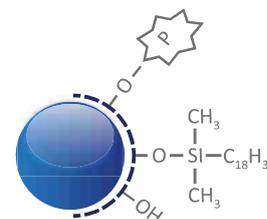


## Advion Interchim Scientific columns for small organic molecules



### Uptisphere® C18-HDO

Suitable for mid & non polar compound separation. Shows excellent stability under 100% aqueous mobile phase conditions.



Dimensions	2.2 µm	3 µm	5 µm
25 x 2.1 mm	UP2.2HDO-025/021	UP3HDO-025/021	---
30 x 2.1 mm	UP2.2HDO-030/021	UP3HDO-030/021	---
50 x 2.1 mm	UP2.2HDO-050/021	UP3HDO-050/021	UP5HDO-050/021
75 x 2.1 mm	UP2.2HDO-075/021	UP3HDO-075/021	UP5HDO-075/021
100 x 2.1 mm	UP2.2HDO-100/021	UP3HDO-100/021	UP5HDO-100/021
125 x 2.1 mm	UP2.2HDO-125/021	UP3HDO-125/021	UP5HDO-125/021
150 x 2.1 mm	UP2.2HDO-150/021	UP3HDO-150/021	UP5HDO-150/021
250 x 2.1 mm	---	---	UP5HDO-250/021
25 x 3.0 mm	UP2.2HDO-025/030	UP3HDO-025/030	---
30 x 3.0 mm	UP2.2HDO-030/030	UP3HDO-030/030	---
50 x 3.0 mm	UP2.2HDO-050/030	UP3HDO-050/030	UP5HDO-050/030
75 x 3.0 mm	UP2.2HDO-075/030	UP3HDO-075/030	UP5HDO-075/030
100 x 3.0 mm	UP2.2HDO-100/030	UP3HDO-100/030	UP5HDO-100/030
125 x 3.0 mm	UP2.2HDO-125/030	UP3HDO-125/030	UP5HDO-125/030
150 x 3.0 mm	UP2.2HDO-150/030	UP3HDO-150/030	UP5HDO-150/030
250 x 3.0 mm	---	---	UP5HDO-250/030
30 x 4.0 mm	UP2.2HDO-030/040	---	UP5HDO-030/040
50 x 4.0 mm	UP2.2HDO-050/040	---	UP5HDO-050/040
125 x 4.0 mm	UP2.2HDO-125/040	UP3HDO-125/040	UP5HDO-125/040
150 x 4.0 mm	---	---	UP5HDO-150/040
250 x 4.0 mm	---	---	UP5HDO-250/040
25 x 4.6 mm	UP2.2HDO-025/046	UP3HDO-025/046	UP5HDO-025/046
30 x 4.6 mm	UP2.2HDO-030/046	UP3HDO-030/046	UP5HDO-030/046
50 x 4.6 mm	UP2.2HDO-050/046	UP3HDO-050/046	UP5HDO-050/046
75 x 4.6 mm	UP2.2HDO-075/046	UP3HDO-075/046	UP5HDO-075/046
100 x 4.6 mm	UP2.2HDO-100/046	UP3HDO-100/046	UP5HDO-100/046
125 x 4.6 mm	UP2.2HDO-125/046	UP3HDO-125/046	UP5HDO-125/046
150 x 4.6 mm	UP2.2HDO-150/046	UP3HDO-150/046	UP5HDO-150/046
250 x 4.6 mm	---	---	UP5HDO-250/046

### Uptisphere® C18-HDO

C18 - Octadecyl

USP code: L1

Pore size: 120 Å

Surface area: 320 m<sup>2</sup>/g

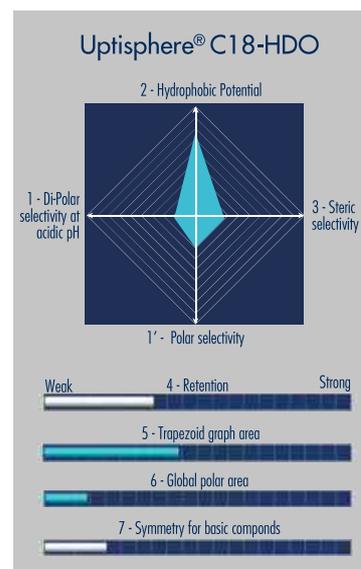
Functionalization: Mono-functional

% Carbon: 17 %

End-Capping: Mixte

pH Stability: 1.5 - 7

Mode: Reverse



### Field of application

UHPLC

HPLC

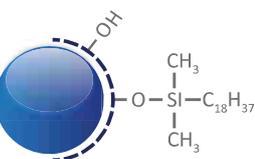
Prep-LC

Flash

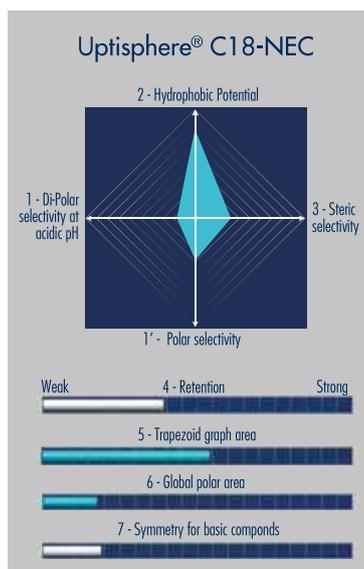
### RELATED PRODUCTS

**Columns Protection**  
Find our Guard Cartridges  
& Holder on page G.66





**Uptisphere® C18-NEC**  
 C18 - Octadecyl  
 USP code: L1  
 Pore size: 120 Å  
 Surface area: 320 m<sup>2</sup>/g  
 Functionalization: Mono-functional  
 % Carbon: 16 %  
 End-Capping: None  
 pH Stability: 1.5 - 6.5  
 Mode: Reverse



### Uptisphere® C18-NEC

C18-NEC strongly retains the polar and mid-polar compounds. It overcomes peak tailing with compounds that contains chains and /or carbon cycles combined with numerous polar groups and/or basic in character.

	2.2 μm	3 μm	5 μm
25 x 2.1 mm	UP2.2NEC-025/021	UP3NEC-025/021	---
30 x 2.1 mm	UP2.2NEC-030/021	UP3NEC-030/021	---
50 x 2.1 mm	UP2.2NEC-050/021	UP3NEC-050/021	UP5NEC-050/021
75 x 2.1 mm	UP2.2NEC-075/021	UP3NEC-075/021	UP5NEC-075/021
100 x 2.1 mm	UP2.2NEC-100/021	UP3NEC-100/021	UP5NEC-100/021
125 x 2.1 mm	UP2.2NEC-125/021	UP3NEC-125/021	UP5NEC-125/021
150 x 2.1 mm	UP2.2NEC-150/021	UP3NEC-150/021	UP5NEC-150/021
250 x 2.1 mm	---	---	UP5NEC-250/021
25 x 3.0 mm	UP2.2NEC-025/030	UP3NEC-025/030	---
30 x 3.0 mm	UP2.2NEC-030/030	UP3NEC-030/030	---
50 x 3.0 mm	UP2.2NEC-050/030	UP3NEC-050/030	UP5NEC-050/030
75 x 3.0 mm	UP2.2NEC-075/030	UP3NEC-075/030	UP5NEC-075/030
100 x 3.0 mm	UP2.2NEC-100/030	UP3NEC-100/030	UP5NEC-100/030
125 x 3.0 mm	UP2.2NEC-125/030	UP3NEC-125/030	UP5NEC-125/030
150 x 3.0 mm	UP2.2NEC-150/030	UP3NEC-150/030	UP5NEC-150/030
250 x 3.0 mm	---	---	UP5NEC-250/030
30 x 4.0 mm	UP2.2NEC-030/040	---	UP5NEC-030/040
50 x 4.0 mm	UP2.2NEC-050/040	---	UP5NEC-050/040
125 x 4.0 mm	UP2.2NEC-125/040	UP3NEC-125/040	UP5NEC-125/040
150 x 4.0 mm	---	---	UP5NEC-150/040
250 x 4.0 mm	---	---	UP5NEC-250/040
25 x 4.6 mm	UP2.2NEC-025/046	UP3NEC-025/046	UP5NEC-025/046
30 x 4.6 mm	UP2.2NEC-030/046	UP3NEC-030/046	UP5NEC-030/046
50 x 4.6 mm	UP2.2NEC-050/046	UP3NEC-050/046	UP5NEC-050/046
75 x 4.6 mm	UP2.2NEC-075/046	UP3NEC-075/046	UP5NEC-075/046
100 x 4.6 mm	UP2.2NEC-100/046	UP3NEC-100/046	UP5NEC-100/046
125 x 4.6 mm	UP2.2NEC-125/046	UP3NEC-125/046	UP5NEC-125/046
150 x 4.6 mm	UP2.2NEC-150/046	UP3NEC-150/046	UP5NEC-150/046
250 x 4.6 mm	---	---	UP5NEC-250/046

### Field of application

UHPLC   
 HPLC   
 Prep-LC   
 Flash 

### RELATED PRODUCTS

**Columns Protection**  
 Find our Guard Cartridges  
 & Holder on page G.66



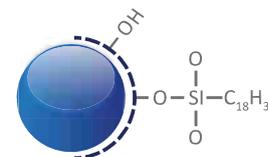


## Advion Interchim Scientific columns for small organic molecules



### Uptisphere® C18-TF

Alternative selectivity to classical C18 for challenging separations for - but not limited to - aromatic, polyphenol, PAHs...



Dimensions	5 µm
50 x 2.1 mm	UP5TF-050/021
75 x 2.1 mm	UP5TF-075/021
100 x 2.1 mm	UP5TF-100/021
125 x 2.1 mm	UP5TF-125/021
150 x 2.1 mm	UP5TF-150/021
250 x 2.1 mm	UP5TF-250/021
50 x 3.0 mm	UP5TF-050/030
75 x 3.0 mm	UP5TF-075/030
100 x 3.0 mm	UP5TF-100/030
125 x 3.0 mm	UP5TF-125/030
150 x 3.0 mm	UP5TF-150/030
250 x 3.0 mm	UP5TF-250/030
30 x 4.0 mm	UP5TF-030/040
50 x 4.0 mm	UP5TF-050/040
125 x 4.0 mm	UP5TF-125/040
150 x 4.0 mm	UP5TF-150/040
250 x 4.0 mm	UP5TF-250/040
25 x 4.6 mm	UP5TF-025/046
30 x 4.6 mm	UP5TF-030/046
50 x 4.6 mm	UP5TF-050/046
75 x 4.6 mm	UP5TF-075/046
100 x 4.6 mm	UP5TF-100/046
125 x 4.6 mm	UP5TF-125/046
150 x 4.6 mm	UP5TF-150/046
250 x 4.6 mm	UP5TF-250/046

### Uptisphere® C18-TF

C18 - Octadecyl

USP code: L1

Pore size: n.a.

Surface area: n.a.

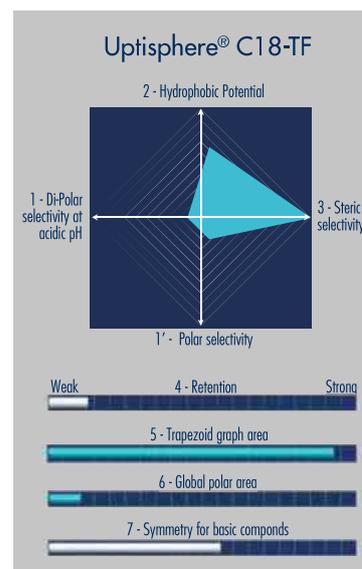
Functionalization: Poly-functional

% Carbon: 14 %

End-Capping: One step

pH Stability: 1.5 - 8

Mode: Reverse



### Field of application

UHPLC

HPLC

Prep-LC

Flash

### RELATED PRODUCTS

Evaporating your sample allows you to optimize the pre-concentration factor for sensitive analysis.

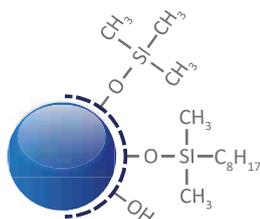
See the puriFlash® XS-Vap stand-alone evaporator in the section: Sample preparation

### RELATED PRODUCTS

Columns Protection  
Find our Guard Cartridges  
& Holder on page G.66



## Advion Interchim Scientific columns for small organic molecules



### Uptisphere® C8

C8 - Octyl

USP code: L7

Pore size: 120 Å

Surface area: 320 m<sup>2</sup>/g

Functionalization: Mono-functional

% Carbon: 11 %

End-Capping: One step

pH Stability: 2 - 7

Mode: Reverse

### Field of application

UHPLC	○
HPLC	●
Prep-LC	●
Flash	○

### Uptisphere® C8

Mid-polar and non polar compounds. Less retentive than C18.

Dimensions	5 µm
25 x 2.1 mm	---
30 x 2.1 mm	---
50 x 2.1 mm	UP5C8-050/021
75 x 2.1 mm	UP5C8-075/021
100 x 2.1 mm	UP5C8-100/021
125 x 2.1 mm	UP5C8-125/021
150 x 2.1 mm	UP5C8-150/021
250 x 2.1 mm	UP5C8-250/021
25 x 3.0 mm	---
30 x 3.0 mm	---
50 x 3.0 mm	UP5C8-050/030
75 x 3.0 mm	UP5C8-075/030
100 x 3.0 mm	UP5C8-100/030
125 x 3.0 mm	UP5C8-125/030
150 x 3.0 mm	UP5C8-150/030
250 x 3.0 mm	UP5C8-250/030
30 x 4.0 mm	UP5C8-030/040
50 x 4.0 mm	UP5C8-050/040
125 x 4.0 mm	UP5C8-125/040
150 x 4.0 mm	UP5C8-150/040
250 x 4.0 mm	UP5C8-250/040
25 x 4.6 mm	UP5C8-025/046
30 x 4.6 mm	UP5C8-030/046
50 x 4.6 mm	UP5C8-050/046
75 x 4.6 mm	UP5C8-075/046
100 x 4.6 mm	UP5C8-100/046
125 x 4.6 mm	UP5C8-125/046
150 x 4.6 mm	UP5C8-150/046
250 x 4.6 mm	UP5C8-250/046

### RELATED PRODUCTS

#### Columns Protection

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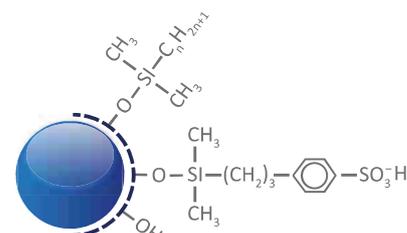


## Advion Interchim Scientific columns for small organic molecules

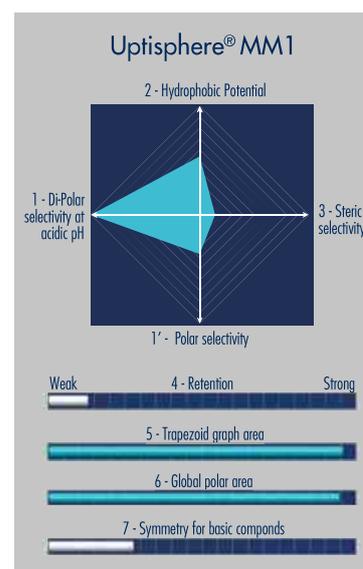
### Uptisphere® MM1

Ion exchange and hydrophobic chains are bonded onto the surface of silica providing unique selectivity. Compounds that possess basic functionality are retained by ion exchange functionality. An organic solvent will elute hydrophobic compounds.

Dimensions	5µm
50 x 2.1 mm	UP5MM1-050/021
75 x 2.1 mm	UP5MM1-075/021
100 x 2.1 mm	UP5MM1-100/021
125 x 2.1 mm	UP5MM1-125/021
150 x 2.1 mm	UP5MM1-150/021
250 x 2.1 mm	UP5MM1-250/021
50 x 3.0 mm	UP5MM1-050/030
75 x 3.0 mm	UP5MM1-075/030
100 x 3.0 mm	UP5MM1-100/030
125 x 3.0 mm	UP5MM1-125/030
150 x 3.0 mm	UP5MM1-150/030
250 x 3.0 mm	UP5MM1-250/030
30 x 4.0 mm	UP5MM1-030/040
50 x 4.0 mm	UP5MM1-050/040
125 x 4.0 mm	UP5MM1-125/040
150 x 4.0 mm	UP5MM1-150/040
250 x 4.0 mm	UP5MM1-250/040
25 x 4.6 mm	UP5MM1-025/046
30 x 4.6 mm	UP5MM1-030/046
50 x 4.6 mm	UP5MM1-050/046
75 x 4.6 mm	UP5MM1-075/046
100 x 4.6 mm	UP5MM1-100/046
125 x 4.6 mm	UP5MM1-125/046
150 x 4.6 mm	UP5MM1-150/046
250 x 4.6 mm	UP5MM1-250/046



Uptisphere® MM1  
C8 / SCX  
USP code: L44  
Pore size: 120 Å  
Surface area: 320 m<sup>2</sup>/g  
Functionalization: Mono-functional  
% Carbon: n.a.  
End-Capping: One step  
pH Stability: 2 - 6.5  
Mode: Reverse / Ion Exchange



### Field of application

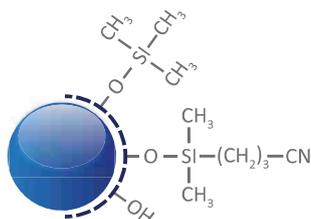
UHPLC   
HPLC   
Prep-LC   
Flash

### RELATED PRODUCTS

Columns Protection  
Find our Guard Cartridges  
& Holder on page G.66



## Advion Interchim Scientific columns for small organic molecules



### Uptisphere® CN

CN - Cyano

USP code: L26

Pore size: 120 Å

Surface area: 320 m<sup>2</sup>/g

Functionalization: Mono-functional

% Carbon: 8 %

End-Capping: One step

pH Stability: 2 - 7

Mode: Reverse / Normal

### Uptisphere® CN

CN functional groups can be used either in normal phase to purify polar compounds or in reverse phase for mid-polar compounds.

Dimensions	3 µm	5 µm
25 x 2.1 mm	UP3CN-025/021	---
30 x 2.1 mm	UP3CN-030/021	---
50 x 2.1 mm	UP3CN-050/021	UP5CN-050/021
75 x 2.1 mm	UP3CN-075/021	UP5CN-075/021
100 x 2.1 mm	UP3CN-100/021	UP5CN-100/021
125 x 2.1 mm	UP3CN-125/021	UP5CN-125/021
150 x 2.1 mm	UP3CN-150/021	UP5CN-150/021
250 x 2.1 mm	---	UP5CN-250/021
25 x 3.0 mm	UP3CN-025/030	---
30 x 3.0 mm	UP3CN-030/030	---
50 x 3.0 mm	UP3CN-050/030	UP5CN-050/030
75 x 3.0 mm	UP3CN-075/030	UP5CN-075/030
100 x 3.0 mm	UP3CN-100/030	UP5CN-100/030
125 x 3.0 mm	UP3CN-125/030	UP5CN-125/030
150 x 3.0 mm	UP3CN-150/030	UP5CN-150/030
250 x 3.0 mm	---	UP5CN-250/030
30 x 4.0 mm	---	UP5CN-030/040
50 x 4.0 mm	---	UP5CN-050/040
125 x 4.0 mm	UP3CN-125/040	UP5CN-125/040
150 x 4.0 mm	---	UP5CN-150/040
250 x 4.0 mm	---	UP5CN-250/040
25 x 4.6 mm	UP3CN-025/046	UP5CN-025/046
30 x 4.6 mm	UP3CN-030/046	UP5CN-030/046
50 x 4.6 mm	UP3CN-050/046	UP5CN-050/046
75 x 4.6 mm	UP3CN-075/046	UP5CN-075/046
100 x 4.6 mm	UP3CN-100/046	UP5CN-100/046
125 x 4.6 mm	UP3CN-125/046	UP5CN-125/046
150 x 4.6 mm	UP3CN-150/046	UP5CN-150/046
250 x 4.6 mm	---	UP5CN-250/046

### Field of application

UHPLC	<input type="checkbox"/>
HPLC	<input checked="" type="checkbox"/>
Prep-LC	<input checked="" type="checkbox"/>
Flash	<input type="checkbox"/>

### RELATED PRODUCTS

#### Columns Protection

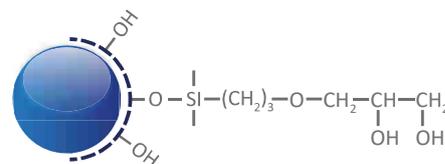
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## Advion Interchim Scientific columns for small organic molecules

### Uptisphere® OH

The diol function provides globally a neutral surface onto the silica. It leads to greater separation of basic compounds by normal phase vs. regular silica.



Dimensions	6 µm
250 x 2.1 mm	UP6OH-250/021
150 x 3.0 mm	UP6OH-150/030
250 x 3.0 mm	UP6OH-250/030
125 x 4.0 mm	UP6OH-125/040
150 x 4.0 mm	UP6OH-250/040
150 x 4.6 mm	UP6OH-150/046
250 x 4.6 mm	UP6OH-250/046

#### Uptisphere® OH

OH - Diol

USP code: L20

Pore size: 120 Å

Surface area: 320 m<sup>2</sup>/g

Functionalization: Mono-functional

% Carbon: 6 %

End-Capping: None

pH Stability: 1.5 - 6.5

Mode: Reverse / Normal

#### Field of application

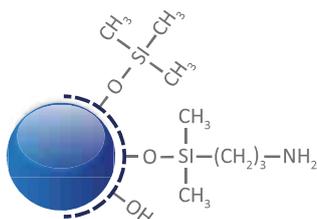
- UHPLC
- HPLC
- PrepLC
- Flash

#### RELATED PRODUCTS

**Columns Protection**  
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& Holder on page G.66



## Advion Interchim Scientific columns for small organic molecules



### Uptisphere® NH2

NH2 - Amino

USP code: L8

Pore size: 120 Å

Surface area: 320 m<sup>2</sup>/g

Functionalization: Mono-functional

% Carbon: 5 %

End-Capping: None

pH Stability: 2 - 6.5

Mode: Reverse / Normal / Ion Exchange

### Uptisphere® NH2

Can be both a weak anion exchanger for strong acids or a polar phase that can interact with OH, NH, SH, ... functions

Dimensions	2.2 µm	3 µm	5 µm
25 x 2.1 mm	UP2.2NH2-025/021	UP3NH2-025/021	---
30 x 2.1 mm	UP2.2NH2-030/021	UP3NH2-030/021	---
50 x 2.1 mm	UP2.2NH2-050/021	UP3NH2-050/021	UP5NH2-050/021
75 x 2.1 mm	UP2.2NH2-075/021	UP3NH2-075/021	UP5NH2-075/021
100 x 2.1 mm	UP2.2NH2-100/021	UP3NH2-100/021	UP5NH2-100/021
125 x 2.1 mm	UP2.2NH2-125/021	UP3NH2-125/021	UP5NH2-125/021
150 x 2.1 mm	UP2.2NH2-150/021	UP3NH2-150/021	UP5NH2-150/021
250 x 2.1 mm	---	---	UP5NH2-250/021
25 x 3.0 mm	UP2.2NH2-025/030	UP3NH2-025/030	---
30 x 3.0 mm	UP2.2NH2-030/030	UP3NH2-030/030	---
50 x 3.0 mm	UP2.2NH2-050/030	UP3NH2-050/030	UP5NH2-050/030
75 x 3.0 mm	UP2.2NH2-075/030	UP3NH2-075/030	UP5NH2-075/030
100 x 3.0 mm	UP2.2NH2-100/030	UP3NH2-100/030	UP5NH2-100/030
125 x 3.0 mm	UP2.2NH2-125/030	UP3NH2-125/030	UP5NH2-125/030
150 x 3.0 mm	UP2.2NH2-150/030	UP3NH2-150/030	UP5NH2-150/030
250 x 3.0 mm	---	---	UP5NH2-250/030
30 x 4.0 mm	UP2.2NH2-030/040	---	UP5NH2-030/040
50 x 4.0 mm	UP2.2NH2-050/040	---	UP5NH2-050/040
125 x 4.0 mm	UP2.2NH2-125/040	UP3NH2-125/040	UP5NH2-125/040
150 x 4.0 mm	---	---	UP5NH2-150/040
250 x 4.0 mm	---	---	UP5NH2-250/040
25 x 4.6 mm	UP2.2NH2-025/046	UP3NH2-025/046	UP5NH2-025/046
30 x 4.6 mm	UP2.2NH2-030/046	UP3NH2-030/046	UP5NH2-030/046
50 x 4.6 mm	UP2.2NH2-050/046	UP3NH2-050/046	UP5NH2-050/046
75 x 4.6 mm	UP2.2NH2-075/046	UP3NH2-075/046	UP5NH2-075/046
100 x 4.6 mm	UP2.2NH2-100/046	UP3NH2-100/046	UP5NH2-100/046
125 x 4.6 mm	UP2.2NH2-125/046	UP3NH2-125/046	UP5NH2-125/046
150 x 4.6 mm	UP2.2NH2-150/046	UP3NH2-150/046	UP5NH2-150/046
250 x 4.6 mm	---	---	UP5NH2-250/046

### Field of application

UHPLC	●
HPLC	●
PrepLC	●
Flash	○

### RELATED PRODUCTS

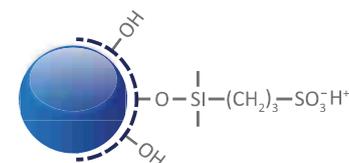
#### Columns Protection

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## Advion Interchim Scientific columns for small organic molecules



### Uptisphere® SCX

Strong cation exchanger (SCX) contains sulfonic acid used to analyze weak basic compounds which have one or more positive charges.

Dimensions	5 µm	10 µm
50 x 2.1 mm	UP5SCX-050/021	---
75 x 2.1 mm	UP5SCX-075/021	---
100 x 2.1 mm	UP5SCX-100/021	---
125 x 2.1 mm	UP5SCX-125/021	---
150 x 2.1 mm	UP5SCX-150/021	---
250 x 2.1 mm	UP5SCX-250/021	---
50 x 3.0 mm	UP5SCX-050/030	---
75 x 3.0 mm	UP5SCX-075/030	---
100 x 3.0 mm	UP5SCX-100/030	---
125 x 3.0 mm	UP5SCX-125/030	---
150 x 3.0 mm	UP5SCX-150/030	UP10SCX-150/030
250 x 3.0 mm	UP5SCX-250/030	UP10SCX-250/030
30 x 4.0 mm	UP5SCX-030/040	---
50 x 4.0 mm	UP5SCX-050/040	---
125 x 4.0 mm	UP5SCX-125/040	UP10SCX-125/040
150 x 4.0 mm	UP5SCX-150/040	---
250 x 4.0 mm	UP5SCX-250/040	UP10SCX-250/040
300 x 4.0 mm	---	UP10SCX-300/040
25 x 4.6 mm	UP5SCX-025/046	---
30 x 4.6 mm	UP5SCX-030/046	---
50 x 4.6 mm	UP5SCX-050/046	---
75 x 4.6 mm	UP5SCX-075/046	---
100 x 4.6 mm	UP5SCX-100/046	---
125 x 4.6 mm	UP5SCX-125/046	---
150 x 4.6 mm	UP5SCX-150/046	UP10SCX-150/046
250 x 4.6 mm	UP5SCX-250/046	UP10SCX-250/046

### Uptisphere® SCX

SCX - Strong cation Exchanger

USP code: L9

Pore size: 120 Å

Surface area: 320 m<sup>2</sup>/g

Functionalization: Mono-functional

% Carbon: n.a.

End-Capping: None

pH Stability: 1 - 7.5

Mode: Ion Exchange

### Field of application

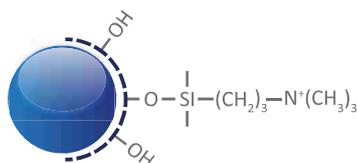
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HPLC	<input checked="" type="checkbox"/>
Prep-LC	<input checked="" type="checkbox"/>
Flash	<input type="checkbox"/>

### RELATED PRODUCTS

**Columns Protection**  
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## Advion Interchim Scientific columns for small organic molecules



**Uptisphere® SAX**  
 SAX - Strong Anion Exchanger  
 USP code: L14  
 Pore size: 120 Å  
 Surface area: 320 m<sup>2</sup>/g  
 Functionalization: Mono-functional  
 % Carbon: n.a.  
 End-Capping: None  
 pH Stability: 1 - 7.5  
 Mode: Ion Exchange

### Field of application

UHPLC   
 HPLC   
 Prep-LC   
 Flash

### Uptisphere® SAX

Strong anion exchanger (SAX) contains quaternary amine, used to analyze weak acid compounds which have one or more negative charges nucleotides, nucleosides, organic acids...

Dimensions	5 µm	10 µm
50 x 2.1 mm	UP5SAX-050/021	---
75 x 2.1 mm	UP5SAX-075/021	---
100 x 2.1 mm	UP5SAX-100/021	---
125 x 2.1 mm	UP5SAX-125/021	---
150 x 2.1 mm	UP5SAX-150/021	---
250 x 2.1 mm	UP5SAX-250/021	---
50 x 3.0 mm	UP5SAX-050/030	---
75 x 3.0 mm	UP5SAX-075/030	---
100 x 3.0 mm	UP5SAX-100/030	---
125 x 3.0 mm	UP5SAX-125/030	---
150 x 3.0 mm	UP5SAX-150/030	UP10SAX-150/030
250 x 3.0 mm	UP5SAX-250/030	UP10SAX-250/030
30 x 4.0 mm	UP5SAX-030/040	---
50 x 4.0 mm	UP5SAX-050/040	---
125 x 4.0 mm	UP5SAX-125/040	UP10SAX-125/040
150 x 4.0 mm	UP5SAX-150/040	---
250 x 4.0 mm	UP5SAX-250/040	---
300 x 4.0 mm	---	UP10SAX-250/040
25 x 4.6 mm	UP5SAX-025/046	UP10SAX-300/040
30 x 4.6 mm	UP5SAX-030/046	---
50 x 4.6 mm	UP5SAX-050/046	---
75 x 4.6 mm	UP5SAX-075/046	---
100 x 4.6 mm	UP5SAX-100/046	---
125 x 4.6 mm	UP5SAX-125/046	---
150 x 4.6 mm	UP5SAX-150/046	UP10SAX-150/046
250 x 4.6 mm	UP5SAX-250/046	UP10SAX-250/046

### RELATED PRODUCTS

**Columns Protection**  
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 & Holder on page G.66





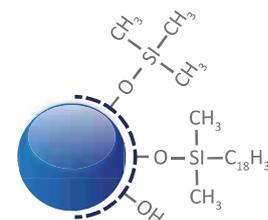
## Advion Interchim Scientific columns for small organic molecules



### puriFlash® C18-XS

The proprietary multi-step bonding technology guarantees a fully end-capped phase, stable under basic pH conditions up to pH: 10.

It's an excellent phase for the integral purification of basic drugs.



Dimensions	5 µm
50 x 2.1 mm	PF5C18XS-050/021
75 x 2.1 mm	PF5C18XS-075/021
100 x 2.1 mm	PF5C18XS-100/021
125 x 2.1 mm	PF5C18XS-125/021
150 x 2.1 mm	PF5C18XS-150/021
250 x 2.1 mm	PF5C18XS-250/021
50 x 3.0 mm	PF5C18XS-050/030
75 x 3.0 mm	PF5C18XS-075/030
100 x 3.0 mm	PF5C18XS-100/030
125 x 3.0 mm	PF5C18XS-125/030
150 x 3.0 mm	PF5C18XS-150/030
250 x 3.0 mm	PF5C18XS-250/030
50 x 4.0 mm	PF5C18XS-050/040
125 x 4.0 mm	PF5C18XS-125/040
150 x 4.0 mm	PF5C18XS-150/040
250 x 4.0 mm	PF5C18XS-250/040
25 x 4.6 mm	PF5C18XS-025/046
30 x 4.6 mm	PF5C18XS-030/046
50 x 4.6 mm	PF5C18XS-050/046
75 x 4.6 mm	PF5C18XS-075/046
100 x 4.6 mm	PF5C18XS-100/046
125 x 4.6 mm	PF5C18XS-125/046
150 x 4.6 mm	PF5C18XS-150/046
250 x 4.6 mm	PF5C18XS-250/046

### puriFlash® C18-XS

C18 - Octadecyl

USP code: L1

Pore size: 100 Å

Surface area: 300 m<sup>2</sup>/g

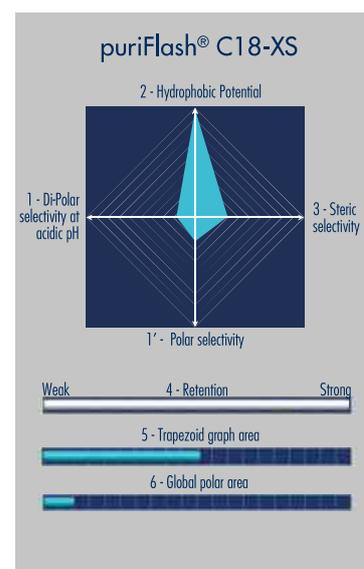
Functionalization: Mono-functional

% Carbon: 17 %

End-Capping: Multi step

pH Stability: 1 - 10

Mode: Reverse



### Field of application

UHPLC

HPLC

Prep-LC

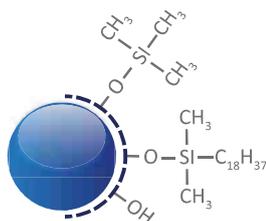
Flash

### RELATED PRODUCTS

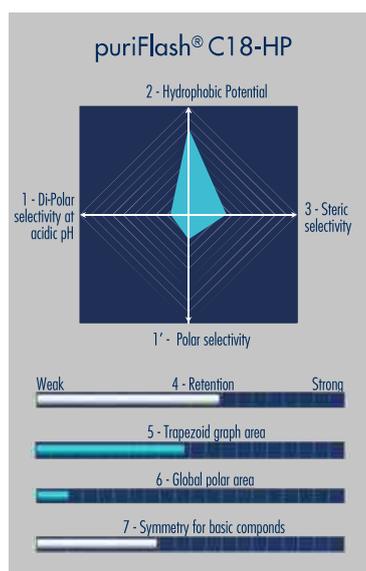
**Columns Protection**  
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& Holder on page G.66



## Advion Interchim Scientific columns for small organic molecules



**puriFlash® C18-HP**  
 C18 - Octadecyl  
 USP code: L1  
 Pore size: 100 Å  
 Surface area: 300 m<sup>2</sup>/g  
 Functionalization: Mono-functional  
 % Carbon: 16.5 %  
 End-Capping: One step  
 pH Stability: 1.5 - 7.5  
 Mode: Reverse



### Field of application

UHPLC   
 HPLC   
 Prep-LC   
 Flash 

### puriFlash® C18-HP

Serves many pharmaceutical applications.

Excellent choice for routine purification in reverse phase mode.

Dimensions	5 µm
50 x 2.1 mm	PF5C18HP-050/021
75 x 2.1 mm	PF5C18HP-075/021
100 x 2.1 mm	PF5C18HP-100/021
125 x 2.1 mm	PF5C18HP-125/021
150 x 2.1 mm	PF5C18HP-150/021
250 x 2.1 mm	PF5C18HP-250/021
50 x 3.0 mm	PF5C18HP-050/030
75 x 3.0 mm	PF5C18HP-075/030
100 x 3.0 mm	PF5C18HP-100/030
125 x 3.0 mm	PF5C18HP-125/030
150 x 3.0 mm	PF5C18HP-150/030
250 x 3.0 mm	PF5C18HP-250/030
50 x 4.0 mm	PF5C18HP-050/040
125 x 4.0 mm	PF5C18HP-125/040
150 x 4.0 mm	PF5C18HP-150/040
250 x 4.0 mm	PF5C18HP-250/040
25 x 4.6 mm	PF5C18HP-025/046
30 x 4.6 mm	PF5C18HP-030/046
50 x 4.6 mm	PF5C18HP-050/046
75 x 4.6 mm	PF5C18HP-075/046
100 x 4.6 mm	PF5C18HP-100/046
125 x 4.6 mm	PF5C18HP-125/046
150 x 4.6 mm	PF5C18HP-150/046
250 x 4.6 mm	PF5C18HP-250/046

### RELATED PRODUCTS

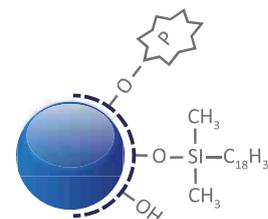
**Columns Protection**  
 Find our Guard Cartridges  
 & Holder on page G.66



## Advion Interchim Scientific columns for small organic molecules

### puriFlash® C18-AQ

The bonding chemistry enables a starting gradient of 100% of water. Suitable for the purification of mid and non polar compounds.



Dimensions	5 µm
50 x 2.1 mm	PF5C18AQ-050/021
75 x 2.1 mm	PF5C18AQ-075/021
100 x 2.1 mm	PF5C18AQ-100/021
125 x 2.1 mm	PF5C18AQ-125/021
150 x 2.1 mm	PF5C18AQ-150/021
250 x 2.1 mm	PF5C18AQ-250/021
50 x 3.0 mm	PF5C18AQ-050/030
75 x 3.0 mm	PF5C18AQ-075/030
100 x 3.0 mm	PF5C18AQ-100/030
125 x 3.0 mm	PF5C18AQ-125/030
150 x 3.0 mm	PF5C18AQ-150/030
250 x 3.0 mm	PF5C18AQ-250/030
50 x 4.0 mm	PF5C18AQ-050/040
125 x 4.0 mm	PF5C18AQ-125/040
150 x 4.0 mm	PF5C18AQ-150/040
250 x 4.0 mm	PF5C18AQ-250/040
25 x 4.6 mm	PF5C18AQ-025/046
30 x 4.6 mm	PF5C18AQ-030/046
50 x 4.6 mm	PF5C18AQ-050/046
75 x 4.6 mm	PF5C18AQ-075/046
100 x 4.6 mm	PF5C18AQ-100/046
125 x 4.6 mm	PF5C18AQ-125/046
150 x 4.6 mm	PF5C18AQ-150/046
250 x 4.6 mm	PF5C18AQ-250/046

### puriFlash® C18-AQ

C18 - Octadecyl

USP code: L1

Pore size: 100 Å

Surface area: 300 m<sup>2</sup>/g

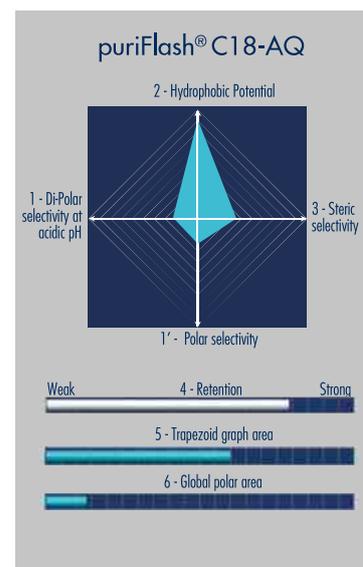
Functionalization: Mono-functional

% Carbon: 14 %

End-Capping: Mixte

pH Stability: 2 - 7.5

Mode: Reverse



### Field of application

UHPLC

HPLC

Prep-LC

Flash

### RELATED PRODUCTS

**Columns Protection**  
Find our Guard Cartridges  
& Holder on page G.66



## Advion Interchim Scientific (U)HPLC Columns protection

### HPLC Column Protection & Prevention:

To achieve the full benefits from your HPLC column, it must be protected from physical and chemical aggressors.

### Analytical Guard Cartridges

The use of a guard cartridge is the best protection against chemical pollution from the sample. A real "fuse", it must be replaced periodically to ensure optimal protection. The indicators of change can be an abnormal pressure before injection or a changing chromatographic profile.

### (U)HPLC Guard Cartridge System: silicas from 1.7 $\mu$ m up to 5 $\mu$ m



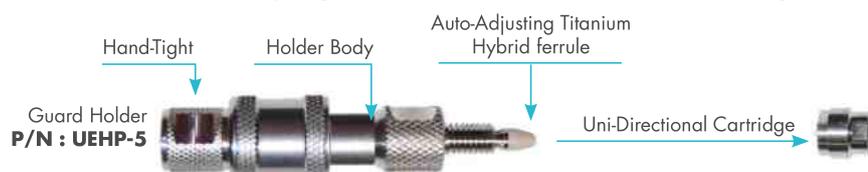
- 900 bar maximum pressure
- High performance
- Low dead volume
- Compatibles 2.6 - 2.7  $\mu$ m Core Shell silicas

Core Shell Guard cartridges	Reverse Phase	Hilic Mode	Normal Phase
2.6 $\mu$ m - 5 x 2.1mm - 3u	CS-RP-2.6-005/021	CS-HILIC-2.6-005/021	---
2.6 $\mu$ m - 5 x 4.0mm - 3u	CS-RP-2.6-005/046	CS-HILIC-2.6-005/046	---

### 1.7 up to 5 $\mu$ m Fully Porous Silicas

Guard cartridges	Reverse Phase	Hilic Mode	Normal Phase
1.7 $\mu$ m - 5 x 2.1 mm - 3 u	UP-RP-1.7-005/021	---	---
1.7 $\mu$ m - 5 x 4.0 mm - 3 u	UP-RP-1.7-005/046	---	---
2.2 $\mu$ m - 5 x 2.1 mm - 3 u	UP-RP-2.2-005/021	UP-HILIC-2.2-005/021	UP-NP-2.2-005/021
2.2 $\mu$ m - 5 x 4.0 mm - 3 u	UP-RP-2.2-005/046	UP-HILIC-2.2-005/046	UP-NP-2.2-005/046
3 $\mu$ m - 5 x 2.1 mm - 3 u	UP-RP-3-005/021	UP-HILIC-3-005/021	UP-NP-3-005/021
3 $\mu$ m - 5 x 4.0 mm - 3 u	UP-RP-3-005/046	UP-HILIC-3-005/046	UP-NP-3-005/046
5 $\mu$ m - 5 x 2.1 mm - 3 u	UP-RP-5-005/021	UP-HILIC-5-005/021	UP-NP-5-005/021
5 $\mu$ m - 5 x 4.0 mm - 3 u	UP-RP-5-005/046	UP-HILIC-5-005/046	UP-NP-5-005/046

### (U)HPLC Guard Cartridge System: Core shell Silicas for 2.6 – 2.7 $\mu$ m



- 1000 bar maximum pressure
- High performance
- Low dead volume

Uptisphere® CS-HP Guard cartridges	Reverse Phase	Hilic Mode
5 x 2.1mm - 3u	UE-RP-2.6-005/021	UE-HILIC-2.6-005/021
5 x 3.0mm - 3u	UE-RP-2.6-005/030	UE-HILIC-2.6-005/030
5 x 4.6mm - 3u	UE-RP-2.6-005/046	UE-HILIC-2.6-005/046

### HPLC in-line filters

- Protection from physical contamination
- Compatible with 1/16" fittings
- Porosity 0.5 or 2  $\mu$ m



Porosity	P/N	Qty /pack
0,5 $\mu$ m	T50270	10 u
2,0 $\mu$ m	R21281	10 u



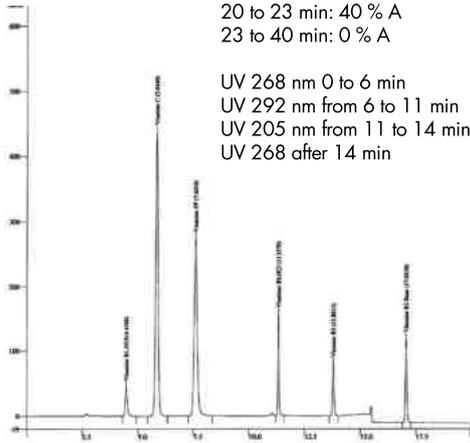
**WATER-SOLUBLE VITAMINS**

Uptisphere® 120 Å,  
5 µm C18-HDO,  
250 x 4.6 mm

A : ACN  
B : 0.05M Buffer (pH : 2.6)  
0 to 20 min: 0 % A  
20 to 23 min: 40 % A  
23 to 40 min: 0 % A

UV 268 nm 0 to 6 min  
UV 292 nm from 6 to 11 min  
UV 205 nm from 11 to 14 min  
UV 268 after 14 min

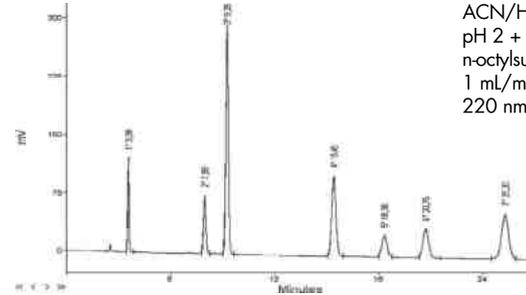
- 4,5 B1,NO3
- 5,8 C
- 7,6 PP
- 11,3 B6,HCl
- 13,8 B5
- 17 B2 base



**CATECHOLAMINES**

Strategy™ 5 µm C18-HQ, 250 x 4,6 mm

ACN/H<sub>2</sub>O 20/80  
pH 2 + 30 mM sodium  
n-octylsulfonic acid  
1 mL/min  
220 nm



Sample	tr	As	N	Rs
4-Hydroxy-3-methoxymandelic acid	3.59	0.93	13611.09	0
DL-threodihydroxy-phenyl serine	7.99	1.08	14845.64	22.84
2-Acetamidophenol	9.28	1.02	17871.29	4.81
DL-noradrenaline	15.45	1.02	18212.13	16.75
adrenaline	18.36	1.01	16933.1	5.71
DL-octapamine	20.75	1.01	18519.6	4.07
dopamine	25.33	0.99	18129.81	6.72

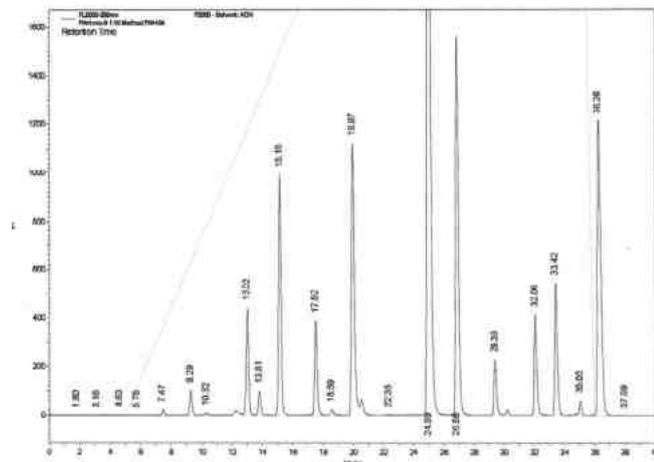
**PAH'S 610 STANDARD**

Uptisphere® 5 µm  
C18-TF, 250 x 4,6 mm

Solvent A: ACN : H<sub>2</sub>O, 50: 50, v/v  
Solvent B: ACN  
Flow rate: 1.0 mL/min  
Column temp.: 30°C

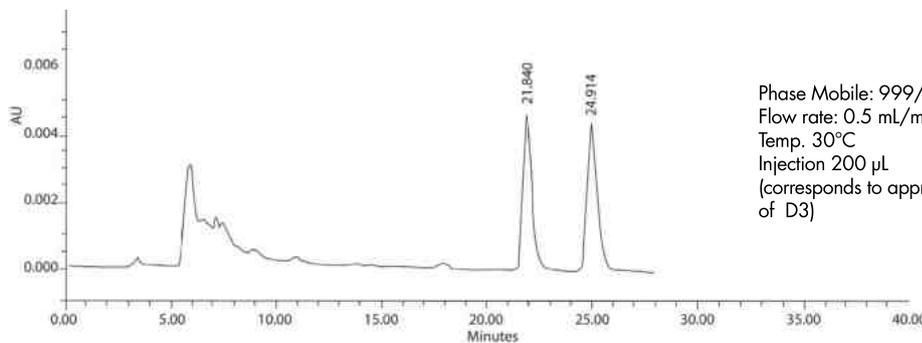
Gradient:  
Min % A  
0.0 80.0  
5.0 80.0  
30.0 1.0  
35.0 1.0  
36.0 80.0  
40.0 80.0

Detection : FL ex 270 nm, em 380 nm



**VITAMIN D3 ANALYSIS**

Uptisphere® 5 µm  
C18-TF, 250 x 4.6 mm



Phase Mobile: 999/1 ACN/MeOH  
Flow rate: 0,5 mL/mm  
Temp. 30°C  
Injection 200 µL  
(corresponds to approximately 40 ng of D3)

Other applications available on request.



# LC ANALYSIS FOR PEPTIDES & PROTEINS

Summary

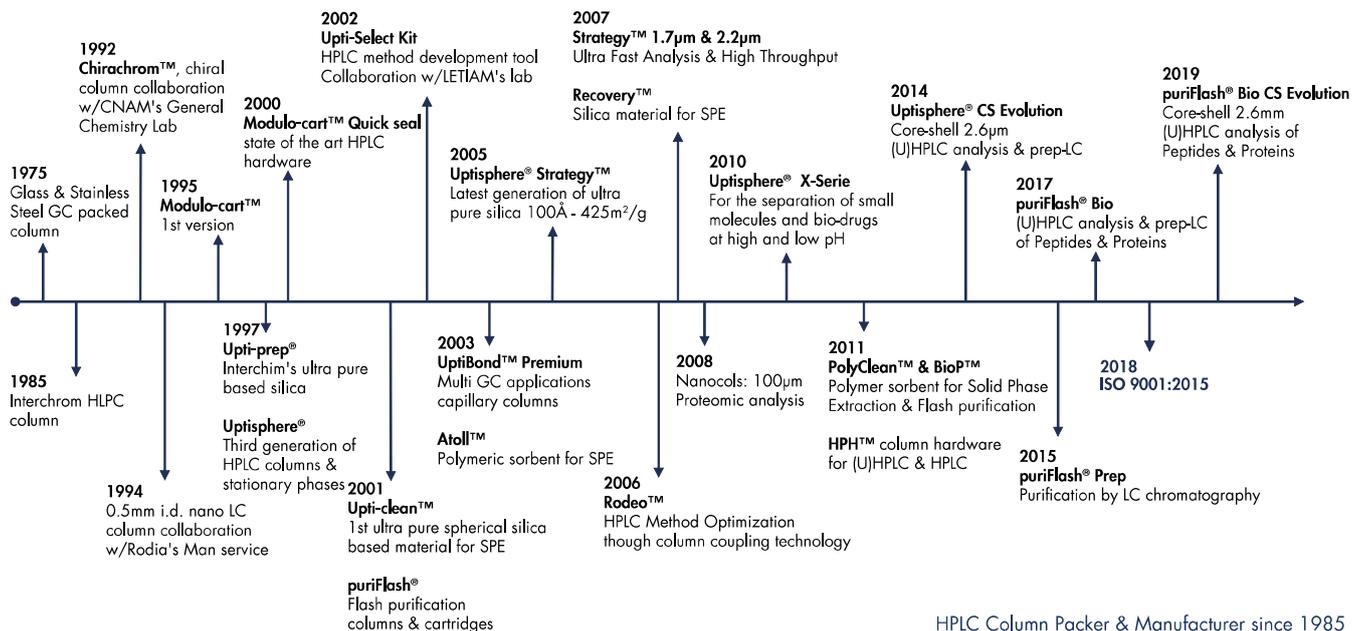




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puriFlash® BIO 200 C18-N	H.11
puriFlash® BIO 200 C18-T	H.12
puriFlash® BIO 200 C18-XS	H.13
puriFlash® BIO 200 C8-N	H.14
puriFlash® BIO 300 C4-AQ	H.15
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# LC ANALYSIS FOR PEPTIDES & PROTEINS

## HPLC - Advion Interchim Scientific Technologies



### Silicas for (U)HPLC, LC-Preparative & Flash Columns

#### Uptisphere® CS Evolution

Core Shell columns for fast & highly efficient identification & quantification of small molecules.

#### Uptisphere® Strategy™

(U)HPLC, Analytical & Prep LC Columns with high surface area for identification, quantification & purification of small molecules & pharma compounds.

#### Uptisphere® 120 Å

HPLC & Prep LC Columns for the identification, quantification of small molecules & pharma compounds.

#### puriFlash®

Analytical, Prep LC & Flash columns with High Load-ability for routine analysis & easy transfer to purification of small organic molecules in pharma applications.

#### puriFlash® Bio

(U)HPLC, Analytical, Prep LC & Flash columns for the identification, quantification & purification of Peptides, Polypeptides & Proteins at high & low pH.

#### Uptisphere® Bio

X-serie™ Uptisphere® 300Å Uptisphere® TP

HPLC & prep LC columns for the identification, quantification of Proteins, Peptides & Polypeptides at high & low pH.





## FOR PEPTIDES & PROTEINS

### HPLC - Advion Interchim Scientific Technologies



#### Our silica technologies from Advion Interchim Scientific

All Advion Interchim Scientific Uptisphere® silicas (120 Å, CS Evolution, Strategy™, puriFlash® & puriFlash® Bio) follow rigorous and innovative manufacturing processes. Base silicas are produced in ceramic reactors from standard particles for purification are totally free of all traces of metals for analysis. Each of the different synthesis steps are strictly controlled.

This rigour leads to extremely mechanically stable particles. The particle size and porosity distributions as well as the specific surface areas are perfectly defined and reproducible.

Our puriFlash® & puriFlash® Bio silicas are specifically designed to meet the requirements of preparative liquid chromatography. They combine quality and cost effectiveness.

Our silicas have three major advantages:

1. A perfect control of the surface state.  
We physically or chemically modify the surface of the silica to choose the type, the amount of silanols or the overall surface energy according to the objective to be achieved.
2. Cylindrical pores.  
The quantity of free silanols and their excellent accessibility enable acquisition of a homogeneous and particularly dense functionalization (grafting). This results in very good loading capacity and stability of these stationary phases under aggressive mobile phase conditions such as basic buffers.
3. High mechanical stability.  
Our stationary phases can withstand multiple packings and de-packings without damaging the integrity of the substrate. They are the tool of choice for preparative chromatography.

#### Modified silicas

The Laboratoire d'Etude des Techniques et des Instruments d'Analyse Moléculaire (LETIAM), a constituent unit of the analytical chemistry group of Paris Sud located at the IUT of Orsay, played a fundamental role in our vision, which led to the development of our stationary phases.

The laboratory of Sciences and Separative Methods - (SMS) of the Institute of Research in Fine Organic Chemistry - (IRCOF) has also helped in our development process with their innovative synthesis schemes for the modification of our "Core-Shell" silicas Uptisphere® CS Evolution.

Today, we offer about 50 selectivities to meet the needs of analysts and chemists for the identification, quantification and purification of small organic molecules, peptides and proteins.

Silica base: standard Pure & Ultra Pure (99.995%)

Particles: irregular, granular, spherical

Particulate Size:

1.7 µm [+/- 0.1]  
2.2 µm [+/- 0.15]  
2.5 - 2.6 µm [+/- 0.1]  
3 - 3.5 µm [+/- 0.2]  
5 µm [+/- 0.3]  
10 µm [+/- 1.0]  
15 µm [+/- 2.0]  
25 - 30 µm [+/- 5]  
50 µm [+/- 10]

Surface / Pore Size:

60Å [+/- 10] / 500m<sup>2</sup>/g [+/- 50]  
85Å [+/- 5] / 130m<sup>2</sup>/g [+/- 25]  
100Å [+/- 15] / 425m<sup>2</sup>/g [+/- 40]  
120Å [+/- 15] / 320m<sup>2</sup>/g [+/- 40]  
130Å [+/- 15] / 300m<sup>2</sup>/g [+/- 40]  
200Å [+/- 15] / 150m<sup>2</sup>/g [+/- 40]  
220Å [+/- 15] / 200m<sup>2</sup>/g [+/- 40]  
300Å [+/- 40] / 100m<sup>2</sup>/g [+/- 20]

Metal Traces: Pure standard < 500 ppm - Ultra Pure < 10 ppm (Fe < 1 ppm)

pH Stability: depending on the physical and / or chemical modification



# LC ANALYSIS FOR PEPTIDES & PROTEINS

## HPLC - Advion Interchim Scientific Technologies

### Advion Interchim Scientific Stationary Phase Selection Guide

Name	AIS code	USP Code	Pore Size	Surface	Particle size					Bonding	Functionalization	% C.	End-Capping
					2,5	2,6	3,0	3,5	5,0				
<b>Peptides &amp; Proteins</b>													
puriFlash Bio CS Evolution™	C18-N	L1	85 Å	130 m <sup>2</sup> /g		x				C18 - octadecyl	mono-functional		None
puriFlash® Bio 100	C18-N	L1	100 Å	320 m <sup>2</sup> /g	x			x	x	C18 - octadecyl	mono-functional	15.5 %	none
puriFlash® Bio 100	C18-T	L1	100 Å	320 m <sup>2</sup> /g	x			x	x	C18 - octadecyl	tri-functional	17.0 %	One-step
puriFlash® Bio 100	C18-XS	L1	100 Å	320 m <sup>2</sup> /g	x			x	x	C18 - octadecyl	mono-functional	17.0 %	Multi-step
puriFlash® Bio 200	C18-N	L1	200 Å	150 m <sup>2</sup> /g	x			x	x	C18 - octadecyl	mono-functional	7.0 %	none
puriFlash® Bio 200	C18-T	L1	200 Å	150 m <sup>2</sup> /g	x			x	x	C18 - octadecyl	tri-functional	10.0%	One-step
puriFlash® Bio 200	C18-XS	L1	200 Å	150 m <sup>2</sup> /g	x			x	x	C18 - octadecyl	mono-functional	8.0 %	Multi-step
puriFlash® Bio 200	C8-N	L7	200 Å	150 m <sup>2</sup> /g	x			x	x	C8 - octyl	mono-functional	5.0 %	none
puriFlash® Bio 300	C4-AQ	L26	300 Å	100 m <sup>2</sup> /g				x	x	C4 - butyl	mono-functional	3.0 %	Mixte
puriFlash® Bio 100	RPNH		100 Å	320 m <sup>2</sup> /g	x					RP - Alkyl chain / Amines	mono-functional	4.0 %	none
puriFlash® Bio 200	RPNH		200 Å	150 m <sup>2</sup> /g				x	x	RP - Alkyl chain / Amines	mono-functional	4.0 %	none
puriFlash® Bio 300	RPNH		300 Å	100 m <sup>2</sup> /g				x	x	RP - Alkyl chain / Amines	mono-functional	2.0 %	none
Uptisphere® X-Serie	OD2	L1	130 Å	300 m <sup>2</sup> /g			x		x	C18 - octadecyl	poly-functional type II	20.0 %	Multi-step
Uptisphere® X-Serie	C18-AQ	L1	220 Å	200 m <sup>2</sup> /g			x		x	C18 - octadecyl	poly-functional type II	14.0 %	Mixte
Uptisphere® X-Serie	C8	L7	220 Å	200 m <sup>2</sup> /g			x		x	C8 - octyl	poly-functional type II	8.0 %	Multi-step
Uptisphere® 300Å	WOD	L1	300 Å	100 m <sup>2</sup> /g			x		x	C18 - octadecyl	mono-functional	10.0 %	One step
Uptisphere® 300Å	WC4	L26	300 Å	100 m <sup>2</sup> /g			x		x	C4 - butyl	mono-functional	4.0 %	One step
Uptisphere® TP	TP18	L1	300 Å	100 m <sup>2</sup> /g			x		x	C18 - octadecyl	Poly-functional	8,0 %	One step
Uptisphere® TP	TP14	L26	300 Å	100 m <sup>2</sup> /g			x		x	C4 - butyl	Poly-functional	3,5 %	One step
Uptisphere® TP	TP01	L1	300 Å	100 m <sup>2</sup> /g					x	C18 - octadecyl	Poly-functional	8,0 %	none



pH Stability	Chromatographic Mode	Application
1.5 - 7.0	Reverse	In-Process QA/QC of Peptides synthesis.
1.5 - 8.0	Reverse	In-Process QA/QC of Peptides Synthesis. Analysis & Purification of polar Peptides with less than 40AA & mw. up to 5KDa under pseudo hilic mode with 85%-to- 95% ACN. Analysis & Purification of hydrophobic Peptides with less than 40AA & mw. up to 5KDa.
1.5 - 8.0	Reverse	Analysis & Purification of mid & non-polar Peptides, hydrophobic Peptides with less than 40AA & mw. up to 5KDa.
1.0 - 10.0	Reverse	Analysis & Purification of mid & non-polar Peptides, hydrophobic Peptides with less than 40AA & mw. up to 5KDa under basic conditions up to pH: 10.0.
1.5 - 8.0	Reverse	Analysis & Purification of polar Peptides less than 160AA & mw. up to 20KDa under pseudo hilic mode with 85%-to- 95% ACN Analysis & Purification of hydrophobic Peptides with less than 80AA & mw. up to 10KDa.
1.5 - 8.0	Reverse	Analysis & Purification of mid & non-polar Peptides, hydrophobic Peptides with less than 80AA & mw. up to 10KD.
1.0 - 10.0	Reverse	Analysis & Purification of mid & non-polar Peptides, hydrophobic Peptides with less than 80AA & mw. up to 10KDa under basic conditions up to pH: 10.0.
1.5 - 8.0	Reverse	Analysis & Purification of mid & non-polar Peptides, hydrophobic Peptides with less than 160AA & mw. up to 20KDa.
1.5 - 8.0	Reverse	Analysis & Purification of natural Peptides, fatty acids with larger than 80AA & mw. up to 100KDa.
1.5 - 8.0	Reverse / Ion Exchange	Ultra fast & efficient analysis of oligonucleotides up to 25 mer.
1.5 - 8.0	Reverse / Ion Exchange	Analysis & Purification of oligonucleotides up to 40 mer.
1.5 - 8.0	Reverse / Ion Exchange	Analysis & Purification of large oligos, aptamers, DNA.
1 - 13	Reverse	BioDrugs with low molecular weight.
1 - 10	Reverse	Mid-polar BioDrugs & Peptides with medium molecular weight. 100% water compatible.
1 - 13	Reverse	BioDrugs & Peptides with medium molecular weight.
1.5 - 7	Reverse	Weakly hydrophobic peptides & oligopeptides up to 50 kD.
2 - 7	Reverse	Hydrophobic proteines & polypeptides, 50 up to from 50 kD.
1.5 - 7	Reverse	Weakly hydrophobic peptides & oligopeptides up to 50 kDa.
2 - 7	Reverse	Hydrophobic proteins & polypeptides, 50 up to 150 kDa.
1.5 - 7	Reverse	PAH's.



# LC ANALYSIS FOR PEPTIDES & PROTEINS

## PuriFlash® BIO Selection Guide

puriFlash® BIO, dedicated to the analysis & purification of peptides & oligonucleotides

### I Peptides selection guide I

Peptides	Polar	Mid & non-polar	Hydrophobic	Natural, Fatty Acids
<p>&lt; 40 AA MW: up to 5 KDa</p> <p>pH: 1.5 up to 8.0</p> <p>max. pH: 10</p>	puriFlash® BIO 100 C18N	<p>puriFlash® BIO 100 C18T</p> <p>puriFlash® BIO 100 C18XS</p>	<p>Screening puriFlash® BIO 100 (C18N / C18T)</p> <p>puriFlash® BIO 100 C18XS</p>	
<p>&lt; 80 AA MW: up to 10 KDa</p> <p>pH: 1.5 up to 8.0</p> <p>max. pH: 10</p>	puriFlash® BIO 200 C18N	<p>puriFlash® BIO 200 C18T</p> <p>puriFlash® BIO 200 C18XS</p>	<p>Screening puriFlash® BIO 200 (C18N / C18T)</p> <p>puriFlash® BIO 200 C18XS</p>	
<p>&lt; 160 AA MW: up to 20 KDa</p> <p>pH: 1.5 up to 8.0</p>	puriFlash® BIO 200 C18N	puriFlash® BIO 200 C8N	puriFlash® BIO 200 C8N	
<p>&lt; 80AA MW: up to 100 KDa</p> <p>pH: 1.5 up to 8.0</p>				puriFlash® BIO 300 C4AQ

### Oligonucleotides

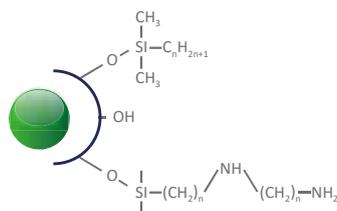
In-Process QA/QC of Peptides Synthesis

In-Process QA/QC of Peptides Synthesis  
puriFlash® BIO CS 2.6C18N => puriFlash® BIO 100 2.5C18N

#### Notes:

Polar Peptides => HILIC mode using higher % of ACN 95 to 85%

Hydrophobic Peptides => it is useful to work with Water/ACN using a few % Formic Acid or 0.05% TFA ~ pH 2. In case your peptides have Lysine, Arginine etc. it is better to have an alkali environment in the solvent. You need real buffer and according to buffer solubility it is to suggest to switch to MeOH instead of ACN. Usually step-Gradients (Ramp Gradients) or Pseudoisocratic or very flat gradients lead to highest capacity.



### puriFlash® BIO RPNH

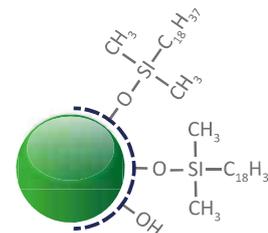
Oligonucleotides < 25 mer.....puriFlash® BIO 100 2.5RPNH  
Oligonucleotides < 40 mer.....puriFlash® BIO 200 RPNH  
Aptamers, DNA.....puriFlash® BIO 300 RPNH



**puriFlash® Bio CS Evolution™ C18-N**

In-Process QA/QC of Peptides synthesis

Dimensions	2.6 µm
25 x 2.1 mm	PFB2.6C18N-025/021
50 x 2.1 mm	PFB2.6C18N-050/021
75 x 2.1 mm	PFB2.6C18N-075/021
100 x 2.1 mm	PFB2.6C18N-100/021
125 x 2.1 mm	PFB2.6C18N-125/021
150 x 2.1 mm	PFB2.6C18N-150/021
25 x 3.0 mm	PFB2.6C18N-025/030
50 x 3.0 mm	PFB2.6C18N-050/030
75 x 3.0 mm	PFB2.6C18N-075/030
100 x 3.0 mm	PFB2.6C18N-100/030
125 x 3.0 mm	PFB2.6C18N-125/030
150 x 3.0 mm	PFB2.6C18N-150/030
25 x 4.6 mm	PFB2.6C18N-025/046
50 x 4.6 mm	PFB2.6C18N-050/046
75 x 4.6 mm	PFB2.6C18N-075/046
100 x 4.6 mm	PFB2.6C18N-100/046
125 x 4.6 mm	PFB2.6C18N-125/046
150 x 4.6 mm	PFB2.6C18N-150/046



**puriFlash® Bio CS Evolution™ C18-N**  
 C18 - Octadecyl  
 USP code: L1  
 Pore size: 85Å  
 Surface area: 130 m<sup>2</sup>/g  
 Functionalization: n.a.  
 % Carbon: n.a.  
 End-Capping: None  
 pH Stability: 1.5 - 8  
 Mode: Reverse  
 Maximum pressure: 600 bar

**FIELD OF APPLICATION**

- UHPLC
- HPLC
- PrepLC
- Flash

**RELATED PRODUCTS**

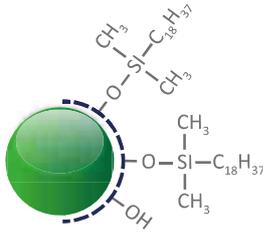
**Columns Protection**

Find our Guard Cartridges & Holder on page H.28



# LC ANALYSIS FOR PEPTIDES & PROTEINS

## Advion Interchim Scientific Columns



**puriFlash® BIO 100 C18-N**  
 C18 - Octadecyl  
 USP code: L1  
 Pore size: 10Å  
 Surface area: 320 m<sup>2</sup>/g  
 Functionalization: Mono functional  
 % Carbon: 15.5 %  
 End-Capping: None  
 pH Stability: 1.5 - 8  
 Mode: Reverse

### Field of application

UHPLC ●  
 HPLC ●  
 PrepLC ●  
 Flash ●

### puriFlash® BIO 100 C18-N

On-line quality control of peptide synthesis.

Analysis & purification of polar peptides of less than 40AA or molecular weight up to 5 KDa, in reverse phase condition or in pseudo-HILIC mode (95% to 85% ACN).  
 Analysis & purification of hydrophobic peptides of less than 40AA or molecular weight up to 5 KDa.

Dimensions	2.5 µm	3.5 µm	5 µm
25 x 2.1 mm	PFB2.5C18N-025/021	---	---
50 x 2.1 mm	PFB2.5C18N-050/021	PFB3.5C18N-050/021	PFB5C18N-050/021
75 x 2.1 mm	PFB2.5C18N-075/021	PFB3.5C18N-075/021	PFB5C18N-075/021
100 x 2.1 mm	PFB2.5C18N-100/021	PFB3.5C18N-100/021	PFB5C18N-100/021
125 x 2.1 mm	PFB2.5C18N-125/021	PFB3.5C18N-125/021	PFB5C18N-125/021
150 x 2.1 mm	PFB2.5C18N-150/021	PFB3.5C18N-150/021	PFB5C18N-150/021
250 x 2.1 mm	---	---	PFB5C18N-250/021
25 x 3.0 mm	PFB2.5C18N-025/030	---	---
50 x 3.0 mm	PFB2.5C18N-050/030	PFB3.5C18N-050/030	PFB5C18N-050/030
75 x 3.0 mm	PFB2.5C18N-075/030	PFB3.5C18N-075/030	PFB5C18N-075/030
100 x 3.0 mm	PFB2.5C18N-100/030	PFB3.5C18N-100/030	PFB5C18N-100/030
125 x 3.0 mm	PFB2.5C18N-125/030	PFB3.5C18N-125/030	PFB5C18N-125/030
150 x 3.0 mm	PFB2.5C18N-150/030	PFB3.5C18N-150/030	PFB5C18N-150/030
250 x 3.0 mm	---	---	PFB5C18N-250/030
25 x 4.6 mm	PFB2.5C18N-025/046	PFB3.5C18N-025/046	PFB5C18N-025/046
50 x 4.6 mm	PFB2.5C18N-050/046	PFB3.5C18N-050/046	PFB5C18N-050/046
75 x 4.6 mm	PFB2.5C18N-075/046	PFB3.5C18N-075/046	PFB5C18N-075/046
100 x 4.6 mm	PFB2.5C18N-100/046	PFB3.5C18N-100/046	PFB5C18N-100/046
125 x 4.6 mm	PFB2.5C18N-125/046	PFB3.5C18N-125/046	PFB5C18N-125/046
150 x 4.6 mm	PFB2.5C18N-150/046	PFB3.5C18N-150/046	PFB5C18N-150/046
250 x 4.6 mm	---	---	PFB5C18N-250/046

### RELATED PRODUCTS

#### Columns Protection

Find our Guard Cartridges  
& Holder on page H.28

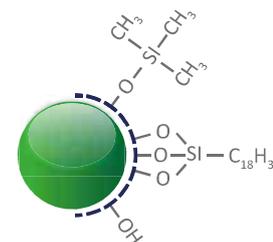




### puriFlash® BIO 100 C18-T

Analysis & purification of mid polar & non polar peptides, hydrophobic peptides of less than 40 AA or molecular weight up to 5 KDa.

Dimensions	2.5 µm	3.5 µm	5 µm
25 x 2.1 mm	PFB2.5C18T-025/021	---	---
50 x 2.1 mm	PFB2.5C18T-050/021	PFB3.5C18T-050/021	PFB5C18T-050/021
75 x 2.1 mm	PFB2.5C18T-075/021	PFB3.5C18T-075/021	PFB5C18T-075/021
100 x 2.1 mm	PFB2.5C18T-100/021	PFB3.5C18T-100/021	PFB5C18T-100/021
125 x 2.1 mm	PFB2.5C18T-125/021	PFB3.5C18T-125/021	PFB5C18T-125/021
150 x 2.1 mm	PFB2.5C18T-150/021	PFB3.5C18T-150/021	PFB5C18T-150/021
250 x 2.1 mm	---	PFB3.5C18T-250/021	PFB5C18T-250/021
25 x 3.0 mm	PFB2.5C18T-025/030	---	---
50 x 3.0 mm	PFB2.5C18T-050/030	PFB3.5C18T-050/030	PFB5C18T-050/030
75 x 3.0 mm	PFB2.5C18T-075/030	PFB3.5C18T-075/030	PFB5C18T-075/030
100 x 3.0 mm	PFB2.5C18T-100/030	PFB3.5C18T-100/030	PFB5C18T-100/030
125 x 3.0 mm	PFB2.5C18T-125/030	PFB3.5C18T-125/030	PFB5C18T-125/030
150 x 3.0 mm	PFB2.5C18T-150/030	PFB3.5C18T-150/030	PFB5C18T-150/030
250 x 3.0 mm	---	PFB3.5C18T-250/030	PFB5C18T-250/030
25 x 4.6 mm	PFB2.5C18T-025/046	PFB3.5C18T-025/046	PFB5C18T-025/046
50 x 4.6 mm	PFB2.5C18T-050/046	PFB3.5C18T-050/046	PFB5C18T-050/046
75 x 4.6 mm	PFB2.5C18T-075/046	PFB3.5C18T-075/046	PFB5C18T-075/046
100 x 4.6 mm	PFB2.5C18T-100/046	PFB3.5C18T-100/046	PFB5C18T-100/046
125 x 4.6 mm	PFB2.5C18T-125/046	PFB3.5C18T-125/046	PFB5C18T-125/046
150 x 4.6 mm	PFB2.5C18T-150/046	PFB3.5C18T-150/046	PFB5C18T-150/046
250 x 4.6 mm	---	PFB3.5C18T-250/046	PFB5C18T-250/046



**puriFlash® BIO 100 C18-T**  
C18 - Octadecyl  
USP code : L1  
Pore size: 200Å  
Surface area: 150 m<sup>2</sup>/g  
Functionalization: Tri functional  
% Carbon: 10 %  
End-Capping: One step  
pH Stability: 1.5 - 8  
Mode: Reverse

#### Field of application

- UHPLC ●
- HPLC ●
- PrepLC ●
- Flash ●

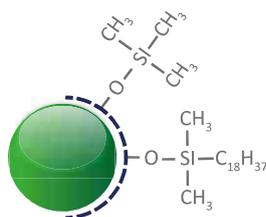
#### RELATED PRODUCTS

**Columns Protection**  
Find our Guard Cartridges  
& Holder on page H.28



# LC ANALYSIS FOR PEPTIDES & PROTEINS

## Advion Interchim Scientific Columns



**puriFlash® BIO 100 C18-XS**  
 C18 - Octadecyl  
 USP code: L1  
 Pore size: 100Å  
 Surface area: 320 m<sup>2</sup>/g  
 Functionalization: Mono functional  
 % Carbon: 17 %  
 End-Capping: Multi step  
 pH Stability: 1 - 10  
 Mode: Reverse

### Field of application

UHPLC ●  
 HPLC ●  
 Prep-LC ●  
 Flash ●

### puriFlash® BIO 100 C18-XS

Analysis & purification of mid polar & non polar peptides, hydrophobic peptides of less than 40 AA or molecular weights up to 5 KDa.

Can be used under basic mobile phase conditions up to pH 10.

Dimensions	2.5 µm	3.5 µm	5 µm
25 x 2.1 mm	PFB2.5C18XS-025/021	---	---
50 x 2.1 mm	PFB2.5C18XS-050/021	PFB3.5C18XS-050/021	PFB5C18XS-050/021
75 x 2.1 mm	PFB2.5C18XS-075/021	PFB3.5C18XS-075/021	PFB5C18XS-075/021
100 x 2.1 mm	PFB2.5C18XS-100/021	PFB3.5C18XS-100/021	PFB5C18XS-100/021
125 x 2.1 mm	PFB2.5C18XS-125/021	PFB3.5C18XS-125/021	PFB5C18XS-125/021
150 x 2.1 mm	PFB2.5C18XS-150/021	PFB3.5C18XS-150/021	PFB5C18XS-150/021
250 x 2.1 mm	---	PFB3.5C18XS-250/021	PFB5C18XS-250/021
25 x 3.0 mm	PFB2.5C18XS-025/030	---	---
50 x 3.0 mm	PFB2.5C18XS-050/030	PFB3.5C18XS-050/030	PFB5C18XS-050/030
75 x 3.0 mm	PFB2.5C18XS-075/030	PFB3.5C18XS-075/030	PFB5C18XS-075/030
100 x 3.0 mm	PFB2.5C18XS-100/030	PFB3.5C18XS-100/030	PFB5C18XS-100/030
125 x 3.0 mm	PFB2.5C18XS-125/030	PFB3.5C18XS-125/030	PFB5C18XS-125/030
150 x 3.0 mm	PFB2.5C18XS-150/030	PFB3.5C18XS-150/030	PFB5C18XS-150/030
250 x 3.0 mm	---	PFB3.5C18XS-250/030	PFB5C18XS-250/030
25 x 4.6 mm	PFB2.5C18XS-025/046	PFB3.5C18XS-025/046	PFB5C18XS-025/046
50 x 4.6 mm	PFB2.5C18XS-050/046	PFB3.5C18XS-050/046	PFB5C18XS-050/046
75 x 4.6 mm	PFB2.5C18XS-075/046	PFB3.5C18XS-075/046	PFB5C18XS-075/046
100 x 4.6 mm	PFB2.5C18XS-100/046	PFB3.5C18XS-100/046	PFB5C18XS-100/046
125 x 4.6 mm	PFB2.5C18XS-125/046	PFB3.5C18XS-125/046	PFB5C18XS-125/046
150 x 4.6 mm	PFB2.5C18XS-150/046	PFB3.5C18XS-150/046	PFB5C18XS-150/046
250 x 4.6 mm	---	PFB3.5C18XS-250/046	PFB5C18XS-250/046

### RELATED PRODUCTS

#### Columns Protection

Find our Guard Cartridges & Holder on page H.28

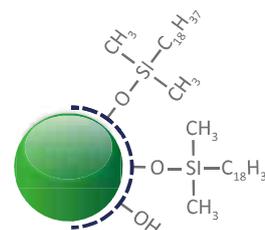




## puriFlash® BIO 200 C18-N

Analysis & purification of polar peptides of less than 160 AA or molecular weight up to 20 KDa, in reverse phase condition or in pseudo-HILIC mode (95 % to 85 % ACN).

Analysis & purification of hydrophobic peptides of less than 80 AA or molecular weight up to 10 KDa.



Dimensions	2.5 µm	3.5 µm	5 µm
25 x 2.1 mm	PT2.5C18N-025/021	---	---
50 x 2.1 mm	PT2.5C18N-050/021	PT3.5C18N-050/021	PT5C18N-050/021
75 x 2.1 mm	PT2.5C18N-075/021	PT3.5C18N-075/021	PT5C18N-075/021
100 x 2.1 mm	PT2.5C18N-100/021	PT3.5C18N-100/021	PT5C18N-100/021
125 x 2.1 mm	PT2.5C18N-125/021	PT3.5C18N-125/021	PT5C18N-125/021
150 x 2.1 mm	PT2.5C18N-150/021	PT3.5C18N-150/021	PT5C18N-150/021
250 x 2.1 mm	---	---	PT5C18N-250/021
25 x 3.0 mm	PT2.5C18N-025/030	---	---
50 x 3.0 mm	PT2.5C18N-050/030	PT3.5C18N-050/030	PT5C18N-050/030
75 x 3.0 mm	PT2.5C18N-075/030	PT3.5C18N-075/030	PT5C18N-075/030
100 x 3.0 mm	PT2.5C18N-100/030	PT3.5C18N-100/030	PT5C18N-100/030
125 x 3.0 mm	PT2.5C18N-125/030	PT3.5C18N-125/030	PT5C18N-125/030
150 x 3.0 mm	PT2.5C18N-150/030	PT3.5C18N-150/030	PT5C18N-150/030
250 x 3.0 mm	---	---	PT5C18N-250/030
25 x 4.6 mm	PT2.5C18N-025/046	PT3.5C18N-025/046	PT5C18N-025/046
50 x 4.6 mm	PT2.5C18N-050/046	PT3.5C18N-050/046	PT5C18N-050/046
75 x 4.6 mm	PT2.5C18N-075/046	PT3.5C18N-075/046	PT5C18N-075/046
100 x 4.6 mm	PT2.5C18N-100/046	PT3.5C18N-100/046	PT5C18N-100/046
125 x 4.6 mm	PT2.5C18N-125/046	PT3.5C18N-125/046	PT5C18N-125/046
150 x 4.6 mm	PT2.5C18N-150/046	PT3.5C18N-150/046	PT5C18N-150/046
250 x 4.6 mm	---	---	PT5C18N-250/046

### puriFlash® BIO 200 C18-N

C18 - Octadecyl

USP code: L1

Pore size: 200Å

Surface area: 150 m<sup>2</sup>/g

Functionalization: Mono functional

% Carbon: 7 %

End-Capping: None

pH Stability: 1.5 - 8

Mode: Reverse

### Field of application

UHPLC  
HPLC  
PrepLC  
Flash



### RELATED PRODUCTS

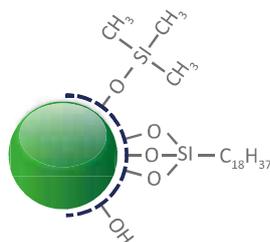
#### Columns Protection

Find our Guard Cartridges & Holder on page H.28



# LC ANALYSIS FOR PEPTIDES & PROTEINS

## Advion Interchim Scientific Columns



**puriFlash® BIO 200 C18-T**  
 C18 - Octadecyl  
 USP code: L1  
 Pore size: 200Å  
 Surface area: 150 m<sup>2</sup>/g  
 Functionalization: Tri functional  
 % Carbon: 10 %  
 End-Capping: One step  
 pH Stability: 1.5 - 8  
 Mode: Reverse

### Field of application

UHPLC  
 HPLC  
 Prep-LC  
 Flash



### puriFlash® BIO 200 C18-T

Analysis & purification of mid polar & non polar peptides, hydrophobic peptides of less than 80 AA or molecular weight up to 10 KDa.

Dimensions	2.5 µm	3.5 µm	5 µm
25 x 2.1 mm	PT2.5C18T025/021	---	---
50 x 2.1 mm	PT2.5C18T050/021	PT3.5C18T050/021	PT5C18T050/021
75 x 2.1 mm	PT2.5C18T075/021	PT3.5C18T075/021	PT5C18T075/021
100 x 2.1 mm	PT2.5C18T100/021	PT3.5C18T100/021	PT5C18T100/021
125 x 2.1 mm	PT2.5C18T125/021	PT3.5C18T125/021	PT5C18T125/021
150 x 2.1 mm	PT2.5C18T150/021	PT3.5C18T150/021	PT5C18T150/021
250 x 2.1 mm	---	PT3.5C18T250/021	PT5C18T250/021
25 x 3.0 mm	PT2.5C18T025/030	---	---
50 x 3.0 mm	PT2.5C18T050/030	PT3.5C18T050/030	PT5C18T050/030
75 x 3.0 mm	PT2.5C18T075/030	PT3.5C18T075/030	PT5C18T075/030
100 x 3.0 mm	PT2.5C18T100/030	PT3.5C18T100/030	PT5C18T100/030
125 x 3.0 mm	PT2.5C18T125/030	PT3.5C18T125/030	PT5C18T125/030
150 x 3.0 mm	PT2.5C18T150/030	PT3.5C18T150/030	PT5C18T150/030
250 x 3.0 mm	---	PT3.5C18T250/030	PT5C18T250/030
25 x 4.6 mm	PT2.5C18T025/046	PT3.5C18T025/046	PT5C18T025/046
50 x 4.6 mm	PT2.5C18T050/046	PT3.5C18T050/046	PT5C18T050/046
75 x 4.6 mm	PT2.5C18T075/046	PT3.5C18T075/046	PT5C18T075/046
100 x 4.6 mm	PT2.5C18T100/046	PT3.5C18T100/046	PT5C18T100/046
125 x 4.6 mm	PT2.5C18T125/046	PT3.5C18T125/046	PT5C18T125/046
150 x 4.6 mm	PT2.5C18T150/046	PT3.5C18T150/046	PT5C18T150/046
250 x 4.6 mm	---	PT3.5C18T250/046	PT5C18T250/046

### RELATED PRODUCTS

#### Columns Protection

Find our Guard Cartridges  
& Holder on page H.28





## puriFlash® BIO 200 C18-XS

Analysis & purification of mid polar & non polar peptides, hydrophobic peptides of less than 80 AA or molecular weight up to 10 KDa.

Can be used under basic mobile phase conditions up to pH 10.0.



Dimensions	2.5 µm	3.5 µm	5 µm
25 x 2.1 mm	PT2.5C18XS-025/021	---	---
50 x 2.1 mm	PT2.5C18XS-050/021	PT3.5C18XS-050/021	PT5C18XS-050/021
75 x 2.1 mm	PT2.5C18XS-075/021	PT3.5C18XS-075/021	PT5C18XS-075/021
100 x 2.1 mm	PT2.5C18XS-100/021	PT3.5C18XS-100/021	PT5C18XS-100/021
125 x 2.1 mm	PT2.5C18XS-125/021	PT3.5C18XS-125/021	PT5C18XS-125/021
150 x 2.1 mm	PT2.5C18XS-150/021	PT3.5C18XS-150/021	PT5C18XS-150/021
250 x 2.1 mm	---	PT3.5C18XS-250/021	PT5C18XS-250/021
25 x 3.0 mm	PT2.5C18XS-025/030	---	---
50 x 3.0 mm	PT2.5C18XS-050/030	PT3.5C18XS-050/030	PT5C18XS-050/030
75 x 3.0 mm	PT2.5C18XS-075/030	PT3.5C18XS-075/030	PT5C18XS-075/030
100 x 3.0 mm	PT2.5C18XS-100/030	PT3.5C18XS-100/030	PT5C18XS-100/030
125 x 3.0 mm	PT2.5C18XS-125/030	PT3.5C18XS-125/030	PT5C18XS-125/030
150 x 3.0 mm	PT2.5C18XS-150/030	PT3.5C18XS-150/030	PT5C18XS-150/030
250 x 3.0 mm	---	PT3.5C18XS-250/030	PT5C18XS-250/030
25 x 4.6 mm	PT2.5C18XS-025/046	PT3.5C18XS-025/046	PT5C18XS-025/046
50 x 4.6 mm	PT2.5C18XS-050/046	PT3.5C18XS-050/046	PT5C18XS-050/046
75 x 4.6 mm	PT2.5C18XS-075/046	PT3.5C18XS-075/046	PT5C18XS-075/046
100 x 4.6 mm	PT2.5C18XS-100/046	PT3.5C18XS-100/046	PT5C18XS-100/046
125 x 4.6 mm	PT2.5C18XS-125/046	PT3.5C18XS-125/046	PT5C18XS-125/046
150 x 4.6 mm	PT2.5C18XS-150/046	PT3.5C18XS-150/046	PT5C18XS-150/046
250 x 4.6 mm	---	PT3.5C18XS-250/046	PT5C18XS-250/046

### puriFlash® BIO 200 C18-XS

C18 - Octadecyl

USP code: L1

Pore size: 200Å

Surface area: 150 m<sup>2</sup>/g

Functionalization: Mono functional

% Carbon: 8 %

End-Capping: Multi step

pH Stability: 1 - 10

Mode: Reverse

### Field of application

UHPLC  
HPLC  
Prep-LC  
Flash



### RELATED PRODUCTS

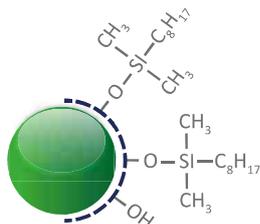
#### Columns Protection

Find our Guard Cartridges & Holder on page H.28



# LC ANALYSIS FOR PEPTIDES & PROTEINS

## Advion Interchim Scientific Columns



**puriFlash® BIO 200 C8-N**  
 C8 - Octyl  
 USP code: L7  
 Pore size: 200Å  
 Surface area: 150 m<sup>2</sup>/g  
 Functionalization: Mono functional  
 % Carbon: 5 %  
 End-Capping: None  
 pH Stability: 1.5 - 8  
 Mode: Reverse

### Field of application

UHPLC  
 HPLC  
 Prep-LC  
 Flash



### puriFlash® BIO 200 C8-N

Analysis & purification of mid polar & non polar peptides, hydrophobic peptides of less than 160 AA or molecular weight up to 20 KD.

Dimensions	2.5 µm	3.5 µm	5 µm
25 x 2.1 mm	PT2.5C8N-025/021	---	---
50 x 2.1 mm	PT2.5C8N-050/021	PT3.5C8N-050/021	PT5C8N-050/021
75 x 2.1 mm	PT2.5C8N-075/021	PT3.5C8N-075/021	PT5C8N-075/021
100 x 2.1 mm	PT2.5C8N-100/021	PT3.5C8N-100/021	PT5C8N-100/021
125 x 2.1 mm	PT2.5C8N-125/021	PT3.5C8N-125/021	PT5C8N-125/021
150 x 2.1 mm	PT2.5C8N-150/021	PT3.5C8N-150/021	PT5C8N-150/021
250 x 2.1 mm	---	---	PT5C8N-250/021
25 x 3.0 mm	PT2.5C8N-025/030	PT3.5C8N-050/030	---
50 x 3.0 mm	PT2.5C8N-050/030	PT3.5C8N-075/030	PT5C8N-050/030
75 x 3.0 mm	PT2.5C8N-075/030	PT3.5C8N-100/030	PT5C8N-075/030
100 x 3.0 mm	PT2.5C8N-100/030	PT3.5C8N-125/030	PT5C8N-100/030
125 x 3.0 mm	PT2.5C8N-125/030	PT3.5C8N-150/030	PT5C8N-125/030
150 x 3.0 mm	PT2.5C8N-150/030	---	PT5C8N-150/030
250 x 3.0 mm	---	---	PT5C8N-250/030
25 x 4.6 mm	PT2.5C8N-025/046	PT3.5C8N-025/046	PT5C8N-025/046
50 x 4.6 mm	PT2.5C8N-050/046	PT3.5C8N-050/046	PT5C8N-050/046
75 x 4.6 mm	PT2.5C8N-075/046	PT3.5C8N-075/046	PT5C8N-075/046
100 x 4.6 mm	PT2.5C8N-100/046	PT3.5C8N-100/046	PT5C8N-100/046
125 x 4.6 mm	PT2.5C8N-125/046	PT3.5C8N-125/046	PT5C8N-125/046
150 x 4.6 mm	PT2.5C8N-150/046	PT3.5C8N-150/046	PT5C8N-150/046
250 x 4.6 mm	---	---	PT5C8N-250/046

### RELATED PRODUCTS

#### Columns Protection

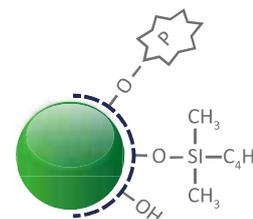
Find our Guard Cartridges  
& Holder on page H.28





## puriFlash® BIO 300 C4-AQ

Analysis & purification of natural peptides, fatty acids of more than 80 AA or molecular weight up to 100 KDa.



Dimensions	3.5 µm	5 µm
50 x 2.1 mm	PP3.5C4AQ-050/021	PP5C4AQ-050/021
75 x 2.1 mm	PP3.5C4AQ-075/021	PP5C4AQ-075/021
100 x 2.1 mm	PP3.5C4AQ-100/021	PP5C4AQ-100/021
125 x 2.1 mm	PP3.5C4AQ-125/021	PP5C4AQ-125/021
150 x 2.1 mm	PP3.5C4AQ-150/021	PP5C4AQ-150/021
250 x 2.1 mm	---	PP5C4AQ-250/021
50 x 3.0 mm	PP3.5C4AQ-050/030	PP5C4AQ-050/030
75 x 3.0 mm	PP3.5C4AQ-075/030	PP5C4AQ-075/030
100 x 3.0 mm	PP3.5C4AQ-100/030	PP5C4AQ-100/030
125 x 3.0 mm	PP3.5C4AQ-125/030	PP5C4AQ-125/030
150 x 3.0 mm	PP3.5C4AQ-150/030	PP5C4AQ-150/030
250 x 3.0 mm	---	PP5C4AQ-250/030
25 x 4.6 mm	PP3.5C4AQ-025/046	PP5C4AQ-025/046
50 x 4.6 mm	PP3.5C4AQ-050/046	PP5C4AQ-050/046
75 x 4.6 mm	PP3.5C4AQ-075/046	PP5C4AQ-075/046
100 x 4.6 mm	PP3.5C4AQ-100/046	PP5C4AQ-100/046
125 x 4.6 mm	PP3.5C4AQ-125/046	PP5C4AQ-125/046
150 x 4.6 mm	PP3.5C4AQ-150/046	PP5C4AQ-150/046
250 x 4.6 mm	---	PP5C4AQ-250/046

### puriFlash® BIO 300 C4-AQ

C4 - Butyl

USP code: L26

Pore size: 300Å

Surface area: 100 m<sup>2</sup>/g

Functionalization: Mono functional

% Carbon: 3 %

End-Capping: Mixte

pH Stability: 1.5 - 8

Mode: Reverse

### Field of application

UHPLC	○
HPLC	●
PrepLC	●
Flash	●

### RELATED PRODUCTS

#### Columns Protection

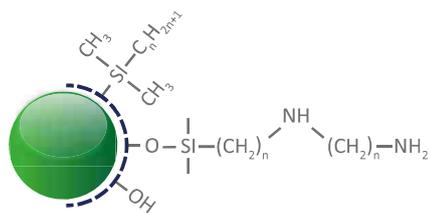
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# LC ANALYSIS

## FOR PEPTIDES & PROTEINS

### Advion Interchim Scientific Columns



#### puriFlash® BIO 100 RPNH

RP - Alkyl chain / Amines

Pore size: 100 Å

Surface area: 320 m<sup>2</sup>/g

Functionalization: Mono functional

% Carbon: 4 %

End-Capping: None

pH Stability: 1.5 - 8

Mode: Reverse / Ion Exchange

#### Field of application

UHPLC  
 HPLC  
 Prep-LC  
 Flash



#### puriFlash® BIO 100 RPNH

Ultra fast & efficient analysis of oligonucleotides up to 25 mers.

Dimensions	2.5 µm
25 x 2.1 mm	PFB2.5RPNH-025/021
50 x 2.1 mm	PFB2.5RPNH-050/021
75 x 2.1 mm	PFB2.5RPNH-075/021
100 x 2.1 mm	PFB2.5RPNH-100/021
125 x 2.1 mm	PFB2.5RPNH-125/021
150 x 2.1 mm	PFB2.5RPNH-150/021
250 x 2.1 mm	---
25 x 3.0 mm	PFB2.5RPNH-025/030
50 x 3.0 mm	PFB2.5RPNH-050/030
75 x 3.0 mm	PFB2.5RPNH-075/030
100 x 3.0 mm	PFB2.5RPNH-100/030
125 x 3.0 mm	PFB2.5RPNH-125/030
150 x 3.0 mm	PFB2.5RPNH-150/030
250 x 3.0 mm	---
25 x 4.6 mm	PFB2.5RPNH-025/046
50 x 4.6 mm	PFB2.5RPNH-050/046
75 x 4.6 mm	PFB2.5RPNH-075/046
100 x 4.6 mm	PFB2.5RPNH-100/046
125 x 4.6 mm	PFB2.5RPNH-125/046
150 x 4.6 mm	PFB2.5RPNH-150/046

#### RELATED PRODUCTS

##### Columns Protection

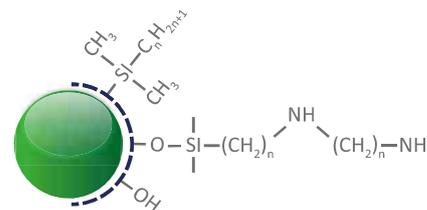
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## puriFlash® BIO 200 RPNH

Analysis & Purification of oligonucleotides up to 40 mers.



Dimensions	3.5 µm	5 µm
50 x 2.1 mm	PT3.5RPNH-050/021	PT5RPNH-050/021
75 x 2.1 mm	PT3.5RPNH-075/021	PT5RPNH-075/021
100 x 2.1 mm	PT3.5RPNH-100/021	PT5RPNH-100/021
125 x 2.1 mm	PT3.5RPNH-125/021	PT5RPNH-125/021
150 x 2.1 mm	PT3.5RPNH-150/021	PT5RPNH-150/021
250 x 2.1 mm	---	PT5RPNH-250/021
50 x 3.0 mm	PT3.5RPNH-050/030	PT5RPNH-050/030
75 x 3.0 mm	PT3.5RPNH-075/030	PT5RPNH-075/030
100 x 3.0 mm	PT3.5RPNH-100/030	PT5RPNH-100/030
125 x 3.0 mm	PT3.5RPNH-125/030	PT5RPNH-125/030
150 x 3.0 mm	PT3.5RPNH-150/030	PT5RPNH-150/030
250 x 3.0 mm	---	PT5RPNH-250/030
25 x 4.6 mm	PT3.5RPNH-025/046	PT5RPNH-025/046
50 x 4.6 mm	PT3.5RPNH-050/046	PT5RPNH-050/046
75 x 4.6 mm	PT3.5RPNH-075/046	PT5RPNH-075/046
100 x 4.6 mm	PT3.5RPNH-100/046	PT5RPNH-100/046
125 x 4.6 mm	PT3.5RPNH-125/046	PT5RPNH-125/046
150 x 4.6 mm	PT3.5RPNH-150/046	PT5RPNH-150/046
250 x 4.6 mm	---	PT5RPNH-250/046

**puriFlash® BIO 200 RPNH**  
 RP - Alkyl chain / Amines  
 Pore size: 200Å  
 Surface area: 150 m<sup>2</sup>/g  
 Functionalization: Mono functional  
 % Carbon: 4 %  
 End-Capping: None  
 pH Stability: 1.5 - 8  
 Mode: Reverse / Ion Exchange

### Field of application

- UHPLC
- HPLC
- Prep-LC
- Flash

### RELATED PRODUCTS

#### Columns Protection

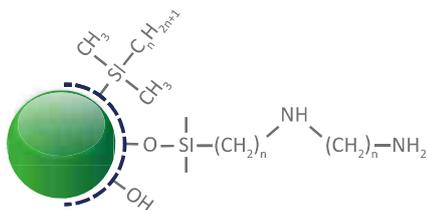
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# LC ANALYSIS

## FOR PEPTIDES & PROTEINS

### Advion Interchim Scientific Columns



**puriFlash® BIO 300 RPNH**  
 RP - Alkyl chain / Amines  
 Pore size: 300Å  
 Surface area: 100 m<sup>2</sup>/g  
 Functionalization: Mono functional  
 % Carbon: 2 %  
 End-Capping: None  
 pH Stability: 1.5 - 8  
 Mode: Reverse / Ion Exchange

#### Field of application

UHPLC   
 HPLC   
 Prep-LC   
 Flash

#### puriFlash® BIO 300 RPNH

Analysis & Purification of large oligonucleotides, aptamers, DNA

Dimensions	3.5 μm	5 μm
50 x 2.1 mm	PP3.5RPNH-050/021	PP5RPNH-050/021
75 x 2.1 mm	PP3.5RPNH-075/021	PP5RPNH-075/021
100 x 2.1 mm	PP3.5RPNH-100/021	PP5RPNH-100/021
125 x 2.1 mm	PP3.5RPNH-125/021	PP5RPNH-125/021
150 x 2.1 mm	PP3.5RPNH-150/021	PP5RPNH-150/021
250 x 2.1 mm	---	PP5RPNH-250/021
50 x 3.0 mm	PP3.5RPNH-050/030	PP5RPNH-050/030
75 x 3.0 mm	PP3.5RPNH-075/030	PP5RPNH-075/030
100 x 3.0 mm	PP3.5RPNH-100/030	PP5RPNH-100/030
125 x 3.0 mm	PP3.5RPNH-125/030	PP5RPNH-125/030
150 x 3.0 mm	PP3.5RPNH-150/030	PP5RPNH-150/030
250 x 3.0 mm	---	PP5RPNH-250/030
25 x 4.6 mm	PP3.5RPNH-025/046	PP5RPNH-025/046
50 x 4.6 mm	PP3.5RPNH-050/046	PP5RPNH-050/046
75 x 4.6 mm	PP3.5RPNH-075/046	PP5RPNH-075/046
100 x 4.6 mm	PP3.5RPNH-100/046	PP5RPNH-100/046
125 x 4.6 mm	PP3.5RPNH-125/046	PP5RPNH-125/046
150 x 4.6 mm	PP3.5RPNH-150/046	PP5RPNH-150/046
250 x 4.6 mm	---	PP5RPNH-250/046

#### RELATED PRODUCTS

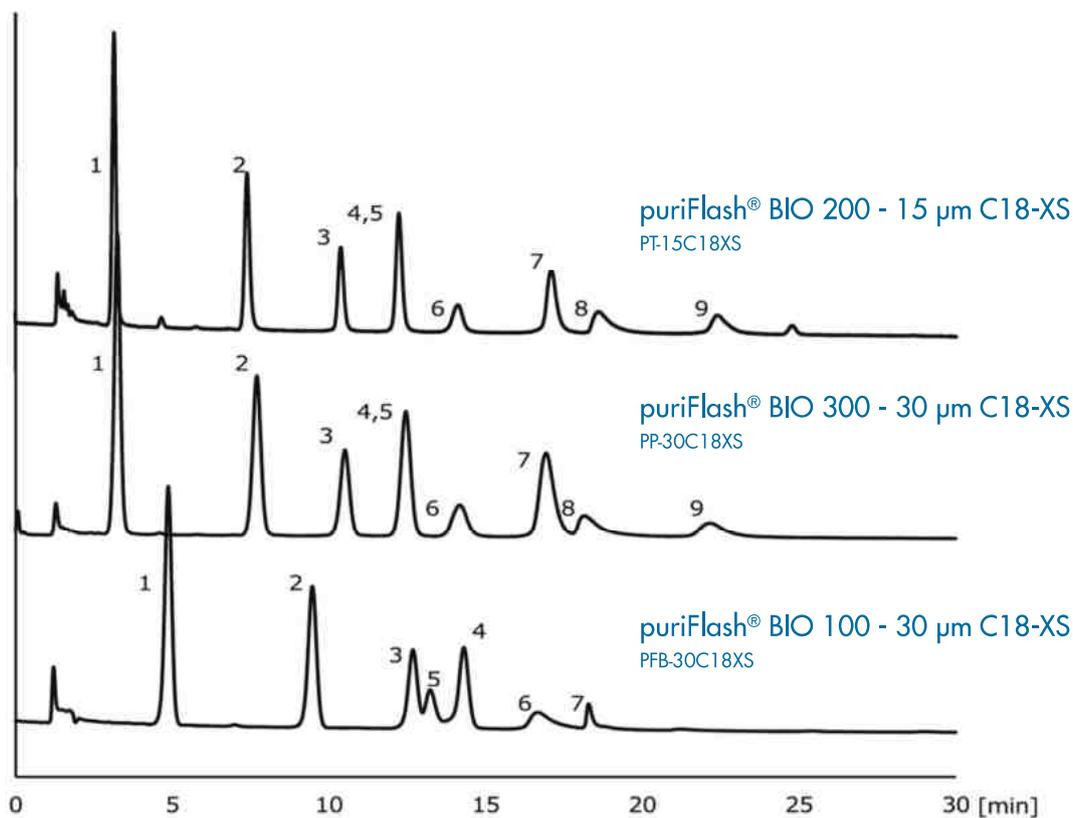
##### Columns Protection

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SEPARATION / PURIFICATION OF PEPTIDES AND PROTEINS BY HPLC / UV



1. Gly-Tyr (238 Da)
2. Val-Tyr-Val (380 Da)
3. Met-Enkephalin (574 Da)
4. Leu-Enkephalin (556 Da)
5. Angiotensin II acetate (1 kDa)
6. Ribonuclease A (13.7 kDa)
7. Cytochrome C (12 kDa)
8. Holo-transferrin (80 kDa)
9. Aponyoglobin (16.95 kDa)

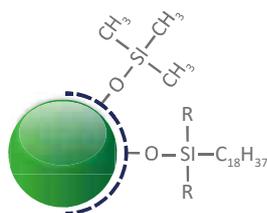
Acetonitrile / Water = 5:95 - 60:40 (v/v), tg: 0 - 30 min,  
Flowrate: 2 mL/min, T°: 40°C, 280 nm, injection 10 µL,  
Column size 250 x 4.6 mmID  
Standard peptides (0.25 mg/mL) + standard proteins (0.5 mg/mL)



# LC ANALYSIS

## FOR PEPTIDES & PROTEINS

### Advion Interchim Scientific Columns



**Uptisphere® BIO X-Serie OD<sub>2</sub>**  
 C18 - Octadecyl  
 USP code: L1  
 Pore size: 130Å  
 Surface area: 300 m<sup>2</sup>/g  
 Functionalization: Poly-functional type II  
 % Carbon: 20 %  
 End-Capping: Multi step  
 pH Stability: 1 - 13  
 Mode: Reverse

#### Field of application

UHPLC   
 HPLC   
 Prep-LC   
 Flash

#### Uptisphere® BIO X-Serie OD<sub>2</sub>

BioDrugs with low molecular weight.

Dimensions	3 µm	5 µm
25 x 2.1 mm	UX3OD2-025/021	---
30 x 2.1 mm	UX3OD2-030/021	---
50 x 2.1 mm	UX3OD2-050/021	UX5OD2-050/021
75 x 2.1 mm	UX3OD2-075/021	UX5OD2-075/021
100 x 2.1 mm	UX3OD2-100/021	UX5OD2-100/021
125 x 2.1 mm	UX3OD2-125/021	UX5OD2-125/021
150 x 2.1 mm	UX3OD2-150/021	UX5OD2-150/021
250 x 2.1 mm	---	UX5OD2-250/021
25 x 3.0 mm	UX3OD2-025/030	---
30 x 3.0 mm	UX3OD2-030/030	---
50 x 3.0 mm	UX3OD2-050/030	UX5OD2-050/030
75 x 3.0 mm	UX3OD2-075/030	UX5OD2-075/030
100 x 3.0 mm	UX3OD2-100/030	UX5OD2-100/030
125 x 3.0 mm	UX3OD2-125/030	UX5OD2-125/030
150 x 3.0 mm	UX3OD2-150/030	UX5OD2-150/030
250 x 3.0 mm	---	UX5OD2-250/030
30 x 4.0 mm	---	UX5OD2-030/040
50 x 4.0 mm	---	UX5OD2-050/040
125 x 4.0 mm	UX3OD2-125/040	UX5OD2-125/040
150 x 4.0 mm	---	UX5OD2-150/040
250 x 4.0 mm	---	UX5OD2-250/040
25 x 4.6 mm	UX3OD2-025/046	UX5OD2-025/046
30 x 4.6 mm	UX3OD2-030/046	UX5OD2-030/046
50 x 4.6 mm	UX3OD2-050/046	UX5OD2-050/046
75 x 4.6 mm	UX3OD2-075/046	UX5OD2-075/046
100 x 4.6 mm	UX3OD2-100/046	UX5OD2-100/046
125 x 4.6 mm	UX3OD2-125/046	UX5OD2-125/046
150 x 4.6 mm	UX3OD2-150/046	UX5OD2-150/046
250 x 4.6 mm	---	UX5OD2-250/046

#### RELATED PRODUCTS

##### Columns Protection

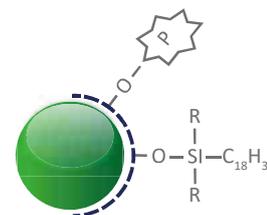
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## Uptisphere® BIO X-Serie C18-AQ

Mid-polar BioDrugs & medium molecular weight peptides.  
Compatible with 100% aqueous mobile phases.



Dimensions	3 µm	5 µm
25 x 2.1 mm	UX3AQ-025/021	---
30 x 2.1 mm	UX3AQ-030/021	---
50 x 2.1 mm	UX3AQ-050/021	UX5AQ-050/021
75 x 2.1 mm	UX3AQ-075/021	UX5AQ-075/021
100 x 2.1 mm	UX3AQ-100/021	UX5AQ-100/021
125 x 2.1 mm	UX3AQ-125/021	UX5AQ-125/021
150 x 2.1 mm	UX3AQ-150/021	UX5AQ-150/021
250 x 2.1 mm	---	UX5AQ-250/021
25 x 3.0 mm	UX3AQ-025/030	---
30 x 3.0 mm	UX3AQ-030/030	---
50 x 3.0 mm	UX3AQ-050/030	UX5AQ-050/030
75 x 3.0 mm	UX3AQ-075/030	UX5AQ-075/030
100 x 3.0 mm	UX3AQ-100/030	UX5AQ-100/030
125 x 3.0 mm	UX3AQ-125/030	UX5AQ-125/030
150 x 3.0 mm	UX3AQ-150/030	UX5AQ-150/030
250 x 3.0 mm	---	UX5AQ-250/030
30 x 4.0 mm	---	UX5AQ-030/040
50 x 4.0 mm	---	UX5AQ-050/040
125 x 4.0 mm	UX3AQ-125/040	UX5AQ-125/040
150 x 4.0 mm	---	UX5AQ-150/040
250 x 4.0 mm	---	UX5AQ-250/040
25 x 4.6 mm	UX3AQ-025/046	UX5AQ-025/046
30 x 4.6 mm	UX3AQ-030/046	UX5AQ-030/046
50 x 4.6 mm	UX3AQ-050/046	UX5AQ-050/046
75 x 4.6 mm	UX3AQ-075/046	UX5AQ-075/046
100 x 4.6 mm	UX3AQ-100/046	UX5AQ-100/046
125 x 4.6 mm	UX3AQ-125/046	UX5AQ-125/046
150 x 4.6 mm	UX3AQ-150/046	UX5AQ-150/046
250 x 4.6 mm	---	UX5AQ-250/046

### Uptisphere® BIO X-Serie C18-AQ

C18 - Octadecyl  
USP code: L1  
Pore size: 220Å  
Surface area: 200 m<sup>2</sup>/g  
Functionalization: Poly-functional type II  
% Carbon: 14 %  
End-Capping: Mixte  
pH Stability: 1 - 10  
Mode : Reverse

### Field of application

- UHPLC
- HPLC
- Prep-LC
- Flash

### RELATED PRODUCTS

#### Columns Protection

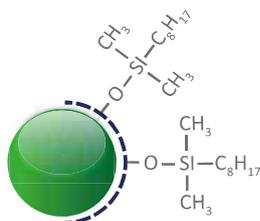
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# LC ANALYSIS

## FOR PEPTIDES & PROTEINS

### Advion Interchim Scientific Columns



#### Uptisphere® BIO X-Serie C8

C8 - Octyl

USP code: L7

Pore size: 220Å

Surface area: 200 m<sup>2</sup>/g

Functionalization: Poly-functional type II

% Carbon: 8 %

End-Capping: Multi step

pH Stability: 1 - 13

Mode: Reverse

#### Field of application

UHPLC	<input type="checkbox"/>
HPLC	<input checked="" type="checkbox"/>
Prep-LC	<input checked="" type="checkbox"/>
Flash	<input type="checkbox"/>

#### Uptisphere® BIO X-Serie C8

BioDrugs & Peptides with medium molecular weight.

Dimensions	3 µm	5 µm
25 x 2.1 mm	UX3C8-025/021	---
30 x 2.1 mm	UX3C8-030/021	---
50 x 2.1 mm	UX3C8-050/021	UX5C8-050/021
75 x 2.1 mm	UX3C8-075/021	UX5C8-075/021
100 x 2.1 mm	UX3C8-100/021	UX5C8-100/021
125 x 2.1 mm	UX3C8-125/021	UX5C8-125/021
150 x 2.1 mm	UX3C8-150/021	UX5C8-150/021
250 x 2.1 mm	---	UX5C8-250/021
25 x 3.0 mm	UX3C8-025/030	---
30 x 3.0 mm	UX3C8-030/030	---
50 x 3.0 mm	UX3C8-050/030	UX5C8-050/030
75 x 3.0 mm	UX3C8-075/030	UX5C8-075/030
100 x 3.0 mm	UX3C8-100/030	UX5C8-100/030
125 x 3.0 mm	UX3C8-125/030	UX5C8-125/030
150 x 3.0 mm	UX3C8-150/030	UX5C8-150/030
250 x 3.0 mm	---	UX5C8-250/030
30 x 4.0 mm	---	UX5C8-030/040
50 x 4.0 mm	---	UX5C8-050/040
125 x 4.0 mm	UX3C8-125/040	UX5C8-125/040
150 x 4.0 mm	---	UX5C8-150/040
250 x 4.0 mm	---	UX5C8-250/040
25 x 4.6 mm	UX3C8-025/046	UX5C8-025/046
30 x 4.6 mm	UX3C8-030/046	UX5C8-030/046
50 x 4.6 mm	UX3C8-050/046	UX5C8-050/046
75 x 4.6 mm	UX3C8-075/046	UX5C8-075/046
100 x 4.6 mm	UX3C8-100/046	UX5C8-100/046
125 x 4.6 mm	UX3C8-125/046	UX5C8-125/046
150 x 4.6 mm	UX3C8-150/046	UX5C8-150/046
250 x 4.6 mm	---	UX5C8-250/046

#### RELATED PRODUCTS

##### Columns Protection

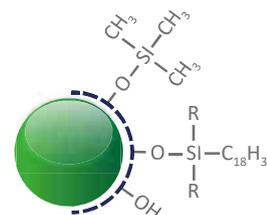
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## Uptisphere® BIO 300Å WOD

Weakly hydrophobic peptides & oligopeptides up to 50 kD.



Dimensions	3 µm	5 µm
25 x 2.1 mm	UP3WOD-025/021	---
30 x 2.1 mm	UP3WOD-030/021	---
50 x 2.1 mm	UP3WOD-050/021	UP5WOD-050/021
75 x 2.1 mm	UP3WOD-075/021	UP5WOD-075/021
100 x 2.1 mm	UP3WOD-100/021	UP5WOD-100/021
125 x 2.1 mm	UP3WOD-125/021	UP5WOD-125/021
150 x 2.1 mm	UP3WOD-150/021	UP5WOD-150/021
250 x 2.1 mm	---	UP5WOD-250/021
25 x 3.0 mm	UP3WOD-025/030	---
30 x 3.0 mm	UP3WOD-030/030	---
50 x 3.0 mm	UP3WOD-050/030	UP5WOD-050/030
75 x 3.0 mm	UP3WOD-075/030	UP5WOD-075/030
100 x 3.0 mm	UP3WOD-100/030	UP5WOD-100/030
125 x 3.0 mm	UP3WOD-125/030	UP5WOD-125/030
150 x 3.0 mm	UP3WOD-150/030	UP5WOD-150/030
250 x 3.0 mm	---	UP5WOD-250/030
30 x 4.0 mm	---	UP5WOD-030/040
50 x 4.0 mm	---	UP5WOD-050/040
125 x 4.0 mm	UP3WOD-125/040	UP5WOD-125/040
150 x 4.0 mm	---	UP5WOD-150/040
250 x 4.0 mm	---	UP5WOD-250/040
25 x 4.6 mm	UP3WOD-025/046	UP5WOD-025/046
30 x 4.6 mm	UP3WOD-030/046	UP5WOD-030/046
50 x 4.6 mm	UP3WOD-050/046	UP5WOD-050/046
75 x 4.6 mm	UP3WOD-075/046	UP5WOD-075/046
100 x 4.6 mm	UP3WOD-100/046	UP5WOD-100/046
125 x 4.6 mm	UP3WOD-125/046	UP5WOD-125/046
150 x 4.6 mm	UP3WOD-150/046	UP5WOD-150/046
250 x 4.6 mm	---	UP5WOD-250/046

**Uptisphere® BIO 300Å WOD**  
 C18 - OctadEcyI  
 USP code: L1  
 Pore size: 300Å  
 Surface area: 100 m<sup>2</sup>/g  
 Functionalization : Mono-functional  
 % Carbon: 10 %  
 End-Capping: One step  
 pH Stability: 1.5 - 7  
 Mode: Reverse

### Field of application

- UHPLC
- HPLC
- Prep-LC
- Flash

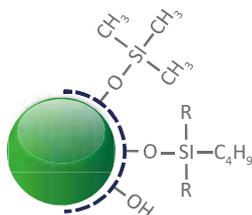
### RELATED PRODUCTS

**Columns Protection**  
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# LC ANALYSIS FOR PEPTIDES & PROTEINS

## Advion Interchim Scientific Columns



**Uptisphere® BIO 300Å WC4**  
 C4 - Butyl  
 USP code: L26  
 Pore size: 300Å  
 Surface area: 100 m<sup>2</sup>/g  
 Functionalization : Mono-functional  
 % Carbon: 4 %  
 End-Capping: One step  
 pH Stability: 2 - 7  
 Mode: Reverse

### Field of application

UHPLC

HPLC

Prep-LC

Flash

### Uptisphere® BIO 300Å WC4

Hydrophobic proteins & polypeptides, from 50 up to 150 kD.

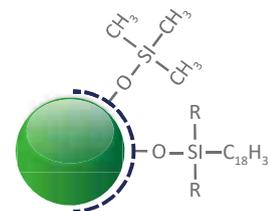
Dimensions	3 µm	5 µm
25 x 2.1 mm	UP3WC4-025/021	---
30 x 2.1 mm	UP3WC4-030/021	---
50 x 2.1 mm	UP3WC4-050/021	UP5WC4-050/021
75 x 2.1 mm	UP3WC4-075/021	UP5WC4-075/021
100 x 2.1 mm	UP3WC4-100/021	UP5WC4-100/021
125 x 2.1 mm	UP3WC4-125/021	UP5WC4-125/021
150 x 2.1 mm	UP3WC4-150/021	UP5WC4-150/021
250 x 2.1 mm	---	UP5WC4-250/021
25 x 3.0 mm	UP3WC4-025/030	---
30 x 3.0 mm	UP3WC4-030/030	---
50 x 3.0 mm	UP3WC4-050/030	UP5WC4-050/030
75 x 3.0 mm	UP3WC4-075/030	UP5WC4-075/030
100 x 3.0 mm	UP3WC4-100/030	UP5WC4-100/030
125 x 3.0 mm	UP3WC4-125/030	UP5WC4-125/030
150 x 3.0 mm	UP3WC4-150/030	UP5WC4-150/030
250 x 3.0 mm	---	UP5WC4-250/030
30 x 4.0 mm	---	UP5WC4-030/040
50 x 4.0 mm	---	UP5WC4-050/040
125 x 4.0 mm	UP3WC4-125/040	UP5WC4-125/040
150 x 4.0 mm	---	UP5WC4-150/040
250 x 4.0 mm	---	UP5WC4-250/040
25 x 4.6 mm	UP3WC4-025/046	UP5WC4-025/046
30 x 4.6 mm	UP3WC4-030/046	UP5WC4-030/046
50 x 4.6 mm	UP3WC4-050/046	UP5WC4-050/046
75 x 4.6 mm	UP3WC4-075/046	UP5WC4-075/046
100 x 4.6 mm	UP3WC4-100/046	UP5WC4-100/046
125 x 4.6 mm	UP3WC4-125/046	UP5WC4-125/046
150 x 4.6 mm	UP3WC4-150/046	UP5WC4-150/046
250 x 4.6 mm	---	UP5WC4-250/046

### RELATED PRODUCTS

#### Columns Protection

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& Holder on page H.28





## Uptisphere® BIO TP 18

Weakly hydrophobic peptides & oligopeptides up to 50 kDa.

Dimensions	3 µm	5 µm
25 x 2.1 mm	UP3TP18-025/021	---
30 x 2.1 mm	UP3TP18-030/021	---
50 x 2.1 mm	UP3TP18-050/021	UP5TP18-050/021
75 x 2.1 mm	UP3TP18-075/021	UP5TP18-075/021
100 x 2.1 mm	UP3TP18-100/021	UP5TP18-100/021
125 x 2.1 mm	UP3TP18-125/021	UP5TP18-125/021
150 x 2.1 mm	UP3TP18-150/021	UP5TP18-150/021
250 x 2.1 mm	---	UP5TP18-250/021
25 x 3.0 mm	UP3TP18-025/030	---
30 x 3.0 mm	UP3TP18-030/030	---
50 x 3.0 mm	UP3TP18-050/030	UP5TP18-050/030
75 x 3.0 mm	UP3TP18-075/030	UP5TP18-075/030
100 x 3.0 mm	UP3TP18-100/030	UP5TP18-100/030
125 x 3.0 mm	UP3TP18-125/030	UP5TP18-125/030
150 x 3.0 mm	UP3TP18-150/030	UP5TP18-150/030
250 x 3.0 mm	---	UP5TP18-250/030
25 x 4.6 mm	UP3TP18-025/046	UP5TP18-025/046
30 x 4.6 mm	UP3TP18-030/046	UP5TP18-030/046
50 x 4.6 mm	UP3TP18-050/046	UP5TP18-050/046
75 x 4.6 mm	UP3TP18-075/046	UP5TP18-075/046
100 x 4.6 mm	UP3TP18-100/046	UP5TP18-100/046
125 x 4.6 mm	UP3TP18-125/046	UP5TP18-125/046
150 x 4.6 mm	UP3TP18-150/046	UP5TP18-150/046
250 x 4.6 mm	---	UP5TP18-250/046

### Uptisphere® BIO TP 18

C18 - Octadecyl

USP code: L1

Pore size: 300Å

Surface area: 100 m<sup>2</sup>/g

Functionalization: Poly-functional

% Carbon: 8 %

End-Capping: One step

pH Stability: 1.5 - 7.5

Mode: Reverse

### Field of application

UHPLC	<input type="checkbox"/>
HPLC	<input checked="" type="checkbox"/>
PrepLC	<input checked="" type="checkbox"/>
Flash	<input type="checkbox"/>

### RELATED PRODUCTS

#### Columns Protection

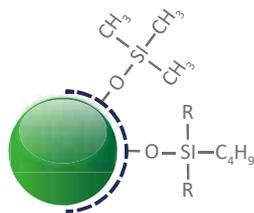
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# LC ANALYSIS

## FOR PEPTIDES & PROTEINS

### Advion Interchim Scientific Columns



**Uptisphere® BIO TP 14**  
 C4 - Butyl  
 USP code: L26  
 Pore size: 300Å  
 Surface area: 100 m<sup>2</sup>/g  
 Functionalization: Poly-functional  
 % Carbon: 3.5 %  
 End-Capping: One Step  
 pH Stability: 2 - 7  
 Mode: Reverse

#### Field of application

UHPLC   
 HPLC   
 Prep-LC   
 Flash

#### Uptisphere® BIO TP 14

Hydrophobic proteins & polypeptides, from 50 to 150 kDa.

Dimensions	3 µm	5 µm
25 x 2.1 mm	UP3TP14-025/021	---
30 x 2.1 mm	UP3TP14-030/021	---
50 x 2.1 mm	UP3TP14-050/021	UP5TP14-050/021
75 x 2.1 mm	UP3TP14-075/021	UP5TP14-075/021
100 x 2.1 mm	UP3TP14-100/021	UP5TP14-100/021
125 x 2.1 mm	UP3TP14-125/021	UP5TP14-125/021
150 x 2.1 mm	UP3TP14-150/021	UP5TP14-150/021
250 x 2.1 mm	---	UP5TP14-250/021
25 x 3.0 mm	UP3TP14-025/030	---
30 x 3.0 mm	UP3TP14-030/030	---
50 x 3.0 mm	UP3TP14-050/030	UP5TP14-050/030
75 x 3.0 mm	UP3TP14-075/030	UP5TP14-075/030
100 x 3.0 mm	UP3TP14-100/030	UP5TP14-100/030
125 x 3.0 mm	UP3TP14-125/030	UP5TP14-125/030
150 x 3.0 mm	UP3TP14-150/030	UP5TP14-150/030
250 x 3.0 mm	---	UP5TP14-250/030
25 x 4.6 mm	UP3TP14-025/046	UP5TP14-025/046
30 x 4.6 mm	UP3TP14-030/046	UP5TP14-030/046
50 x 4.6 mm	UP3TP14-050/046	UP5TP14-050/046
75 x 4.6 mm	UP3TP14-075/046	UP5TP14-075/046
100 x 4.6 mm	UP3TP14-100/046	UP5TP14-100/046
125 x 4.6 mm	UP3TP14-125/046	UP5TP14-125/046
150 x 4.6 mm	UP3TP14-150/046	UP5TP14-150/046
250 x 4.6 mm	---	UP5TP14-250/046

#### RELATED PRODUCTS

##### Columns Protection

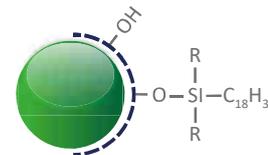
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& Holder on page H.28





## Uptisphere® TP 01

Dedicated to the analysis of PAH (Polycyclic Aromatic Hydrocarbons).



Dimensions	5 µm
50 x 2.1 mm	UP5TP01-050/021
75 x 2.1 mm	UP5TP01-075/021
100 x 2.1 mm	UP5TP01-100/021
125 x 2.1 mm	UP5TP01-125/021
150 x 2.1 mm	UP5TP01-150/021
250 x 2.1 mm	UP5TP01-250/021
50 x 3.0 mm	UP5TP01-050/030
75 x 3.0 mm	UP5TP01-075/030
100 x 3.0 mm	UP5TP01-100/030
125 x 3.0 mm	UP5TP01-125/030
150 x 3.0 mm	UP5TP01-150/030
250 x 3.0 mm	UP5TP01-250/030
25 x 4.6 mm	UP5TP01-025/046
30 x 4.6 mm	UP5TP01-030/046
50 x 4.6 mm	UP5TP01-050/046
75 x 4.6 mm	UP5TP01-075/046
100 x 4.6 mm	UP5TP01-100/046
125 x 4.6 mm	UP5TP01-125/046
150 x 4.6 mm	UP5TP01-150/046
250 x 4.6 mm	UP5TP01-250/046

Uptisphere® TP 01  
C18 - OctadEcyI  
USP code: L1  
Pore size: 300Å  
Surface area: 100 m<sup>2</sup>/g  
Functionalization: Poly-functional  
% Carbon: 8 %  
End-Capping: None  
pH Stability: 1.5 - 7.5  
Mode: Reverse

### Field of application

- UHPLC
- HPLC
- PrepLC
- Flash

### RELATED PRODUCTS

**Columns Protection**  
Find our Guard Cartridges  
& Holder on page H.28



# LC ANALYSIS FOR PEPTIDES & PROTEINS

## Advion Interchim Scientific HPLC Columns Protection



### HPLC Column Protection & Prevention:

To achieve the full benefits from your HPLC column potential, it must be protected from physical and chemical aggressors.

### Analytical Guard Cartridges

The use of a guard cartridge is certainly the best protection against chemical pollution from the sample. A real "fuse", it must be replaced periodically to ensure optimal protection.

The indicators of change can be an anormal pressure before injection or a changing chromatographic profile.

### HPLC Guard Cartridge System: Wide Pore Silicas > 150Å

Guard Holder  
P/N : AGHP-5



Guard Cartridges



- 900 bar maximum pressure
- High performance
- Low dead volume

3 & 5µm Wide Pore Silicas - Pore size > 150Å

Description	3 µm	5 µm
Uptisphere HP for Reverse Phase		
Guard cartridges 5 x 2.1 mm (3u)	UW-RP-3-005/021	UW-RP-5-005/021
Guard cartridges 5 x 4.0 mm (3u)	UW-RP-3-005/046	UW-RP-5-005/046

### HPLC in-line filters

- Protection from physical contamination
- Compatible with 1/16" fittings
- Porosity 0.5 or 2 µm



Porosity	P/N	Qty /pack
0.5 µm	T50270	10 u
2.0 µm	R21281	10 u



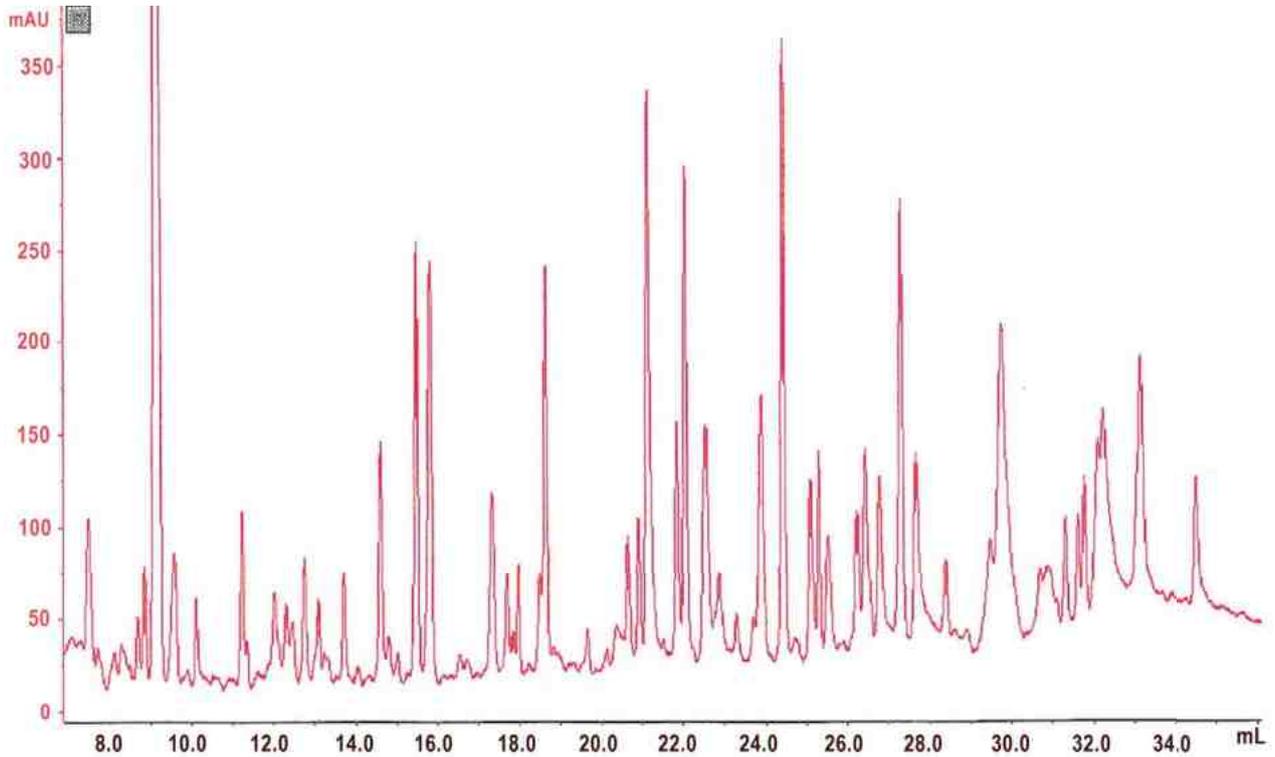
# LC ANALYSIS FOR PEPTIDES & PROTEINS

Advion Interchim Scientific Columns Applications



## TRYPsin DIGEST OF MONOCLONAL IGG

Uptisphere 300Å 5 µm C18-ODB, 250 x 3.0 mm (P/N UPWOD-250/030)



A: TFA 0.115%  
B: MeCN + TFA 0.1%  
Flow rate: 0.5 mL/min  
0-5%: 0.1 cv ; 45% :20 cv ; 80% :3 cv

(Courtesy of LFB)

