(U)HPLC Analysis :
C18AQ stationary phases

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(U)HPLC, prep-LC & Flash columns

Uptisphere® CS Evolution

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

Uptisphere® 120Å

HPLC & prep LC columns for the identification, quantification & purification of **small molecules & pharma compounds.**

Uptisphere® Strategy™

(U)HPLC, Analytical & prep LC columns with **high loadability** for identification, quantification & purification of **small molecules & pharma compounds**.

Uptisphere® X-serie™

HPLC & prep LC columns for the identification, quantification & purification of **small molecules & bio-drugs at high & low pH**.

Uptisphere® 300Å

HPLC & prep LC columns for identification, quantification & purification of **Proteins, Peptides & Polypeptides.**

puriFlash® Prep

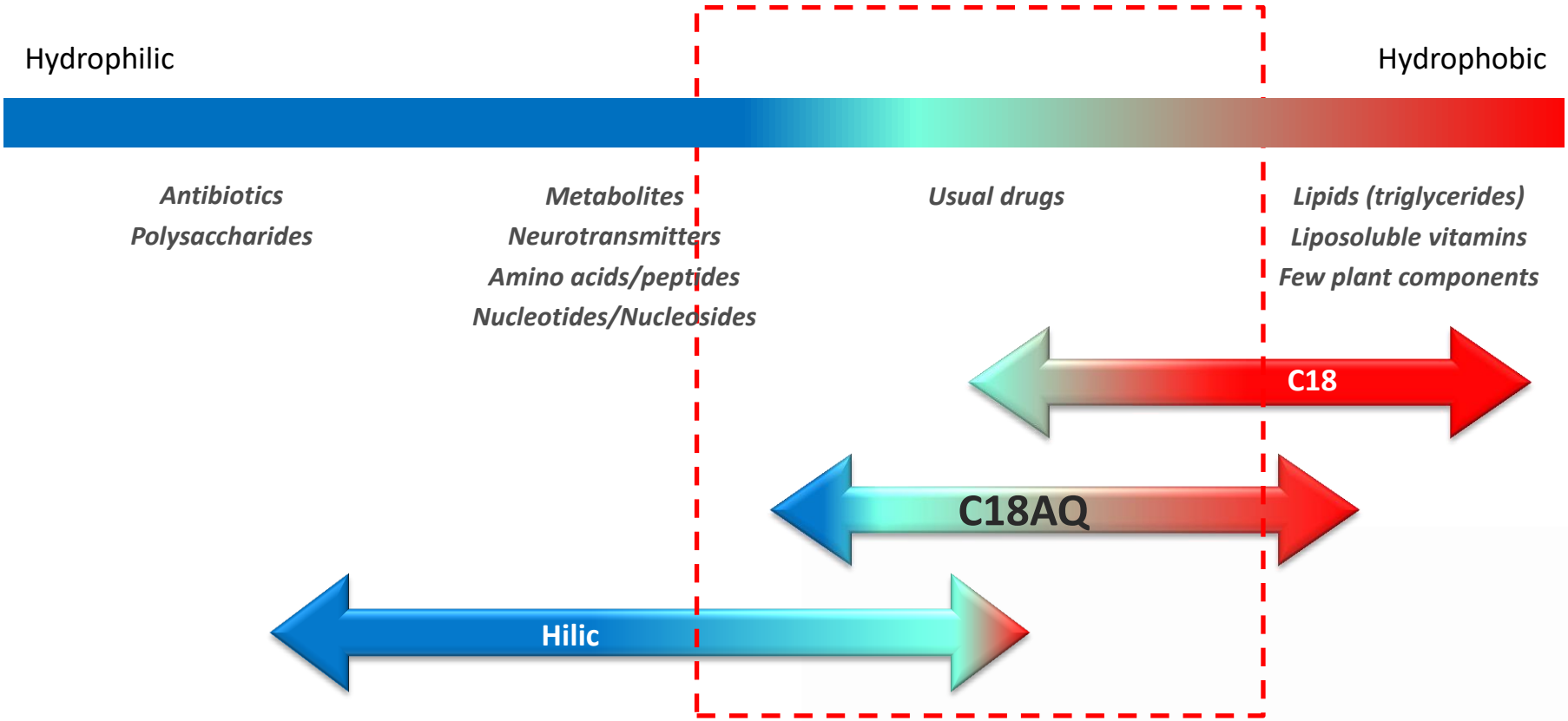
prep LC columns for sophisticated purification of **small & bio-molecules & pharma compounds.**

puriFlash®

Flash columns for routine purification of **small & bio-molecules & pharma compounds.**

(U)HPLC Analysis <=>		**Purification**	
Small molecules	Oligonucleotides, Peptides & Polypeptides	Small molecules	Oligonucleotides, Peptides & Polypeptides
70% C18 30% Hilic, C8, C4, Ph/Hex, PFP, …	50% C18 35% C8, C4 15% Hilic	25% Reverse phase 75% Normal phase	80% Reverse phase 20% Normal phase/Hilic

C18AQ stationary phases Versatility



Using polar or hydrophilic endcapping along with bonding of longer alkyl chains such as C18 is a successful development approach for stationary phases that can retain polar analytes reproducibly under highly aqueous conditions.
For solubility reasons, many polar compounds prefer a highly aqueous mobile phase and can be retained only with a minimal concentration of organic modifier, sometimes less than 5%....
… we demonstrated and discussed the phenomenon of phase collapse and mentioned approaches to solve the problem and successfully separate polar analytes using mobile-phase systems with a very high percentage of water, even as great as 100% water ….. to separate polar compounds in highly aqueous environments.

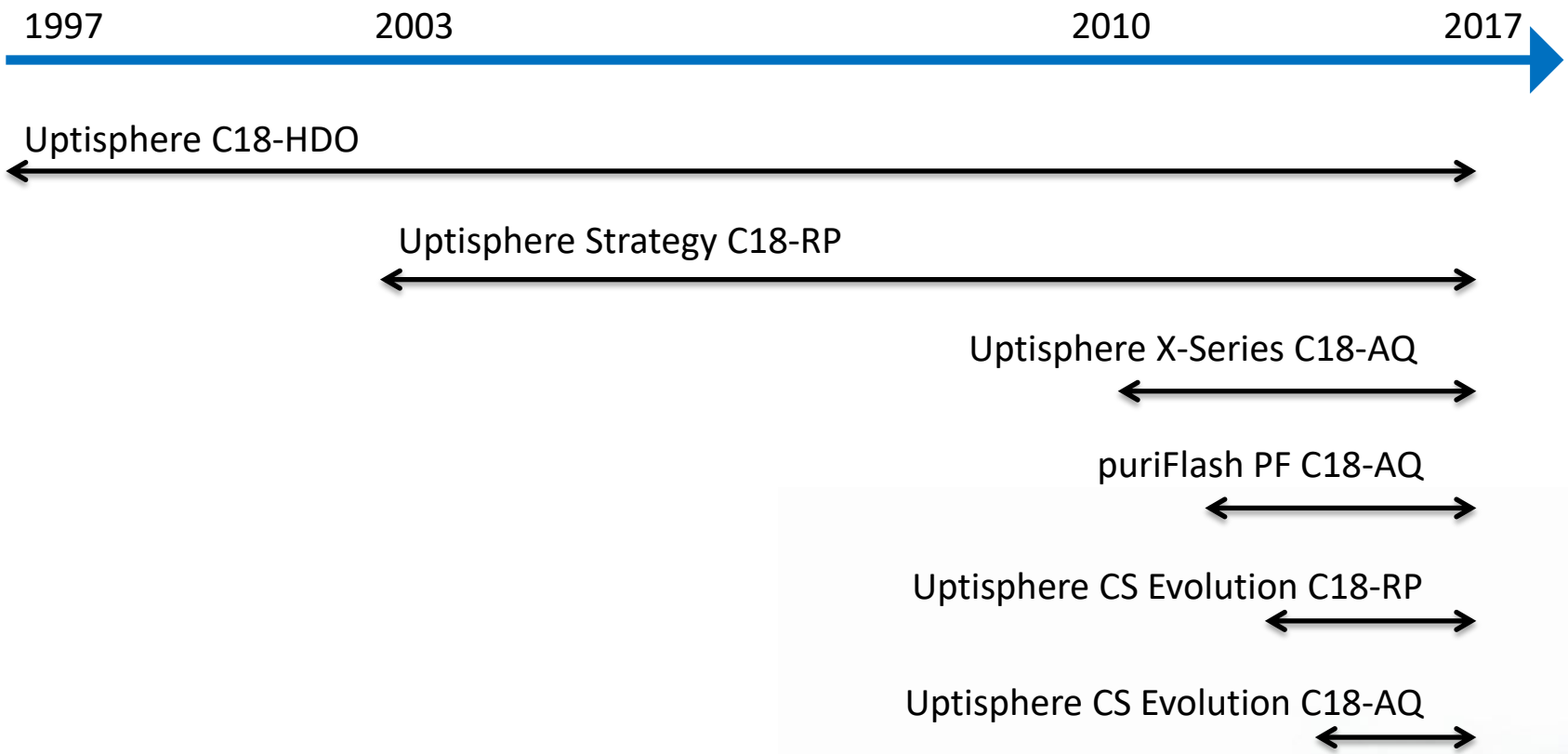
LCGC Europe dec 2002 ; Columns for Reversed-Phase LC Separations in Highly Aqueous Mobile Phases
Ronald E. Majors, Agilent Technologies, Wilmington, Delaware, USA, *and Matthew Przybyciel, ES Industries, West Berlin, New Jersey, USA*

interchim

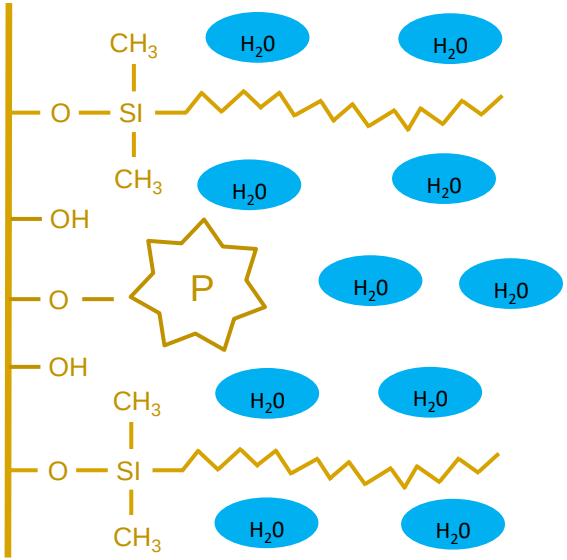
Benefits of C18AQ stationary phases

- ✓ Stable under 100% H2O conditions
- ✓ Retentive and Selective for polar compounds which represent the main molecules to be analyzed and purified today
- ✓ Good peak shape with basic compounds
- ✓ Available from analytical scale to purification, Core-Shell particles up to preparative => Interchim, unique offer on the market!

History & Evolution of Interchim C18 AQ technologies



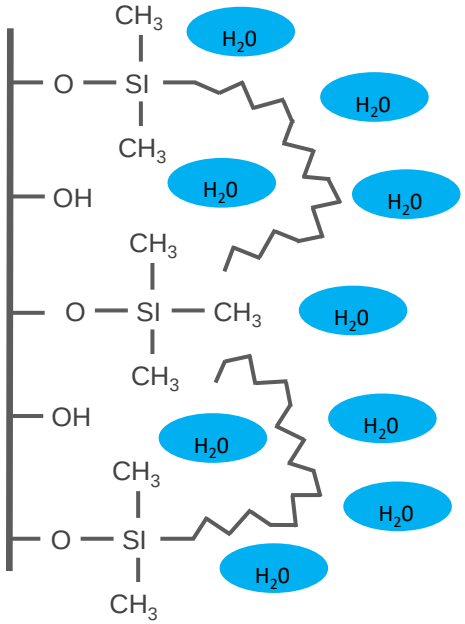
Interchim C18-AQ : stable under 100% H2O conditions



Interchim C18-AQ Phases

=> Perfectly usable with 100% aqueous mobile phases

Repeatability of analysis times under 100% H2O conditions

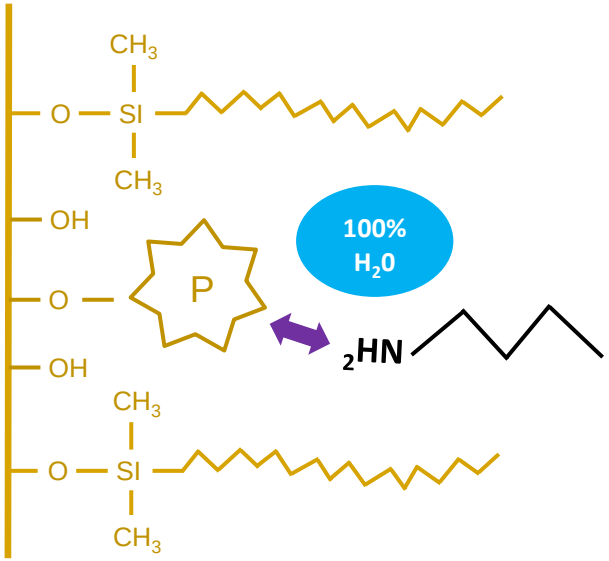


C18 Silica

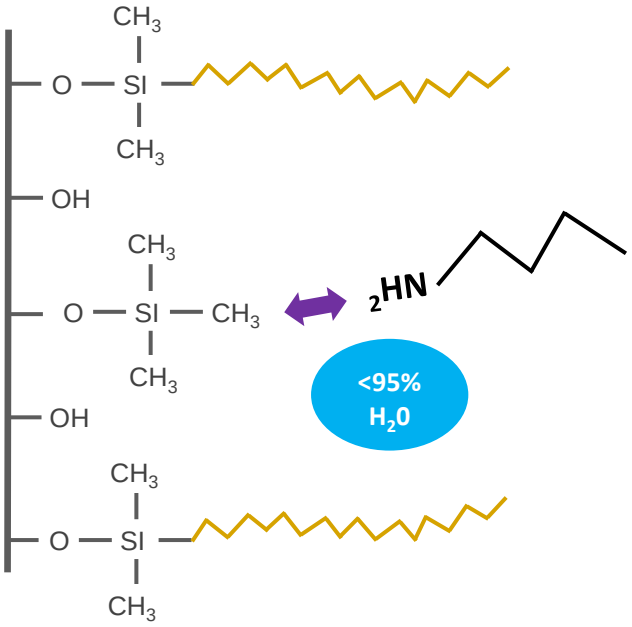
⇒ The C18 bonding condenses towards the silica surface using mobile phases containing > 95% H2O

⇒ No or loss of retention & separation

Interchim C18-AQ : retention with polar compounds



Interchim C18-AQ Phases
=> Better retention of polar compounds

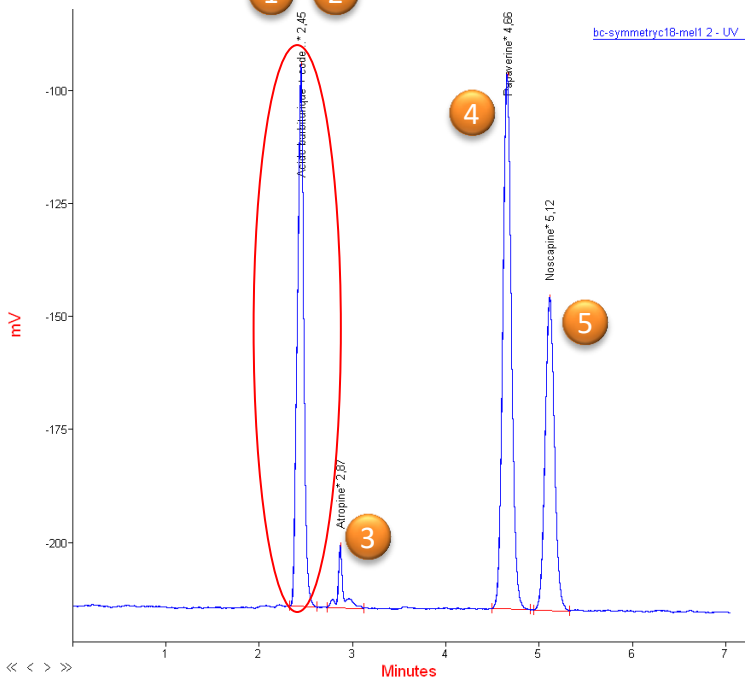


Conventional C18 silica
=> Less retention of polar compounds

Interchim C18-AQ : selective for polar compounds

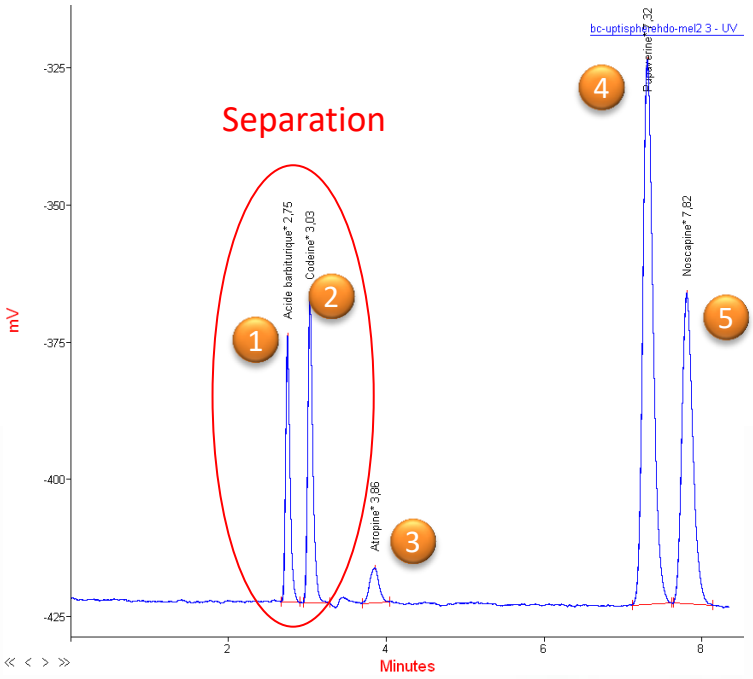
Acidic Drugs Separation

Coelution



W..... S..... C18 5µm 250 x 4.6mm

Separation



Uptisphere C18-HDO 5µm 250 x 4.6mm

1) Barbituric Acid, 2) Atropine, 3) Codeine, 4) Pavaverine, 5)Noscapine

30/70 ACN-buffer pH: 2.3 @ 1 ml/min – 30°T, UV: 220 nm

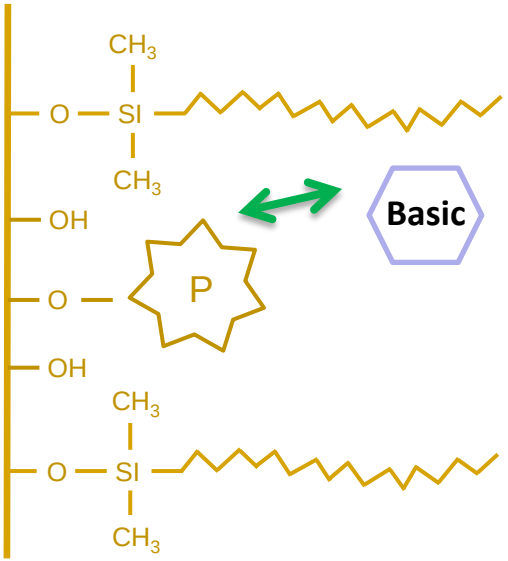
Interchim C18-AQ : selectivity with basic polar compounds

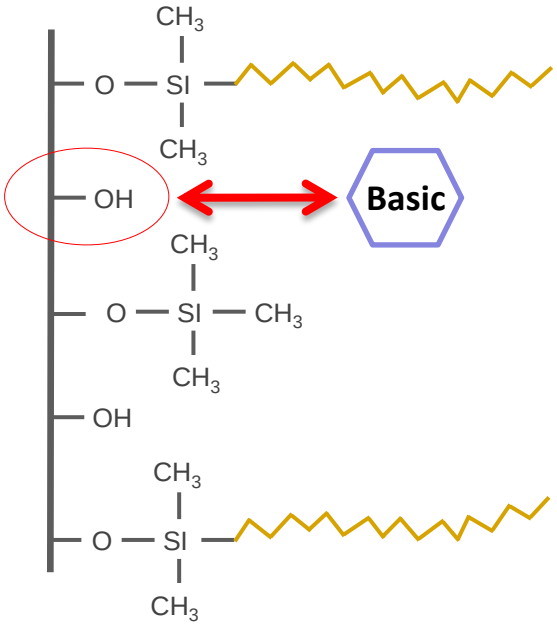
	α 2,6 diMPyridine/Pyridine	
CS Evolution 2.6µm C18-AQ	1,18	
CS Evolution 2.6µm C18-RP	1,12	
AMT Halo 2.7µm C18	1,00	
Uptisphere 3µm C18-HDO	1,08	
Uptisphere 5µm C18-HDO	1,09	
Uptisphere Strategy 3µm C18-RP	1,06	
Y.. 3µm ODS-AQ	1,05	
PuriFlash 5µm C18AQ 70A	1,43	

Test Conditions

Mobile Phase : Acetonitrile/Buffer pH=5.5 - (20/80)
Flow Rate (mL/min) : 1.0

Interchim C18-AQ : good peak shape with basic compounds

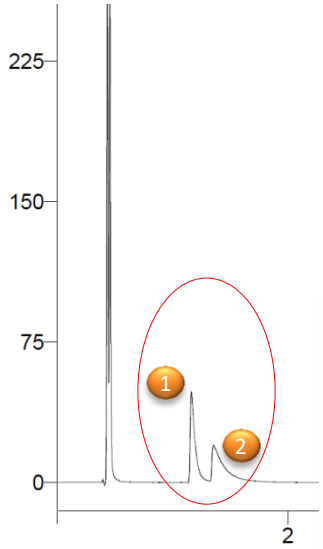




Interchim C18-AQ

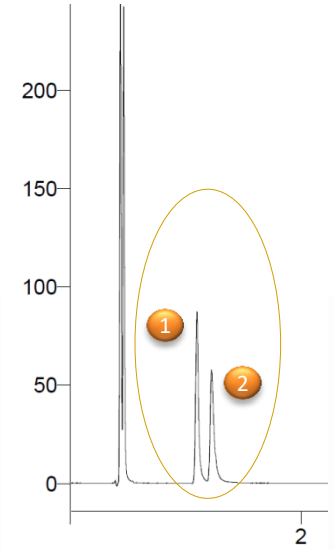
⇒ Low activity of surface silanols

⇒ Good peak shape for basic compounds



Core Shell Competitor
2.7µm 50x4.6mm

=>



Uptisphere CS Evolution C18-AQ
2.6µm 50x4.6mm

1) Pyridine, 2) 2,6 Dimethylpyridine

Mobile phase 20/80 ACN-buffer pH: 5.7 @ 1 ml/min – UV: 254nm

CS Evolution 2.6µm C18-AQ
CS Evolution 2.6µm C18-RP
Uptisphere 2.2µm C18-HDO

UHPLC > 650 bars

CS Evolution 2.6µm C18-AQ
CS Evolution 2.6µm C18-RP
Uptisphere 2.2µm C18-HDO

HPLC > 400 bars

PuriFlash 5µm C18-AQ
Uptisphere 3 & 5µm C18-HDO
Uptisphere Strategy 3 & 5µm C18-RP
Uptisphere X-Series 3 & 5µm C18-AQ

HPLC < 400 bars

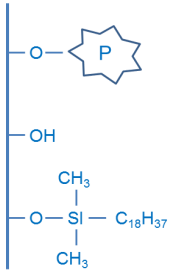
PuriFlash 5-10-15µm C18-AQ
Uptisphere Strategy 5-10-15µm C18-RP

Prep LC

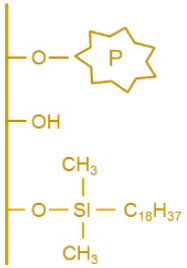
Availability of Interchim C18AQ stationary phases

	UHPLC	HPLC	Prep LC	Flash
Uptisphere C18-HDO	☺	☺		
Uptisphere Strategy C18-RP	☺	☺	☺	
Uptisphere X-Series C18-AQ		☺	☺	
puriFlash PF C18-AQ		☺	☺	☺
Uptisphere CS Evolution C18-RP	☺	☺		
Uptisphere CS Evolution C18-AQ	☺	☺		

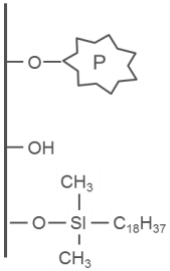
Uptisphere C18-HDO



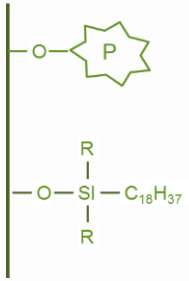
CS Evolution C18-AQ



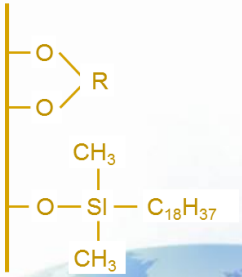
puriFlash PF C18-AQ



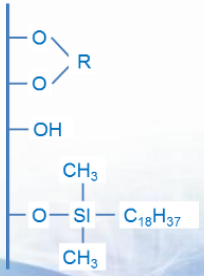
X-Series C18-AQ



CS Evolution C18-RP



Strategy C18-RP

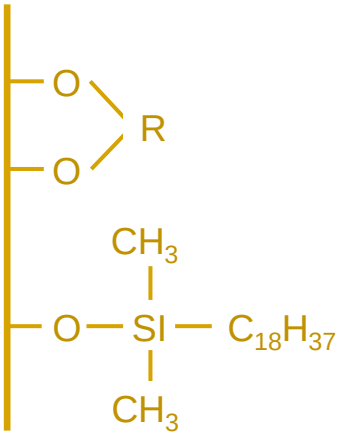


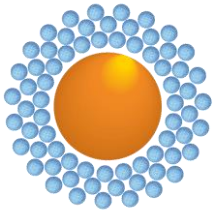
C18-RP

Selectivity

Uptisphere® CS Evolution™

Capacity | Productivity





Uptisphere® CS Evolution™ C18-RP
85Å - 130m²/g

2.6 µm

Bonding: C18 monofunctional
%C: 6,0
End-capping: multi step mixte

pH stability: 1.5 to 8.0

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

USP code: L1

Application:
mid-polar organic compounds

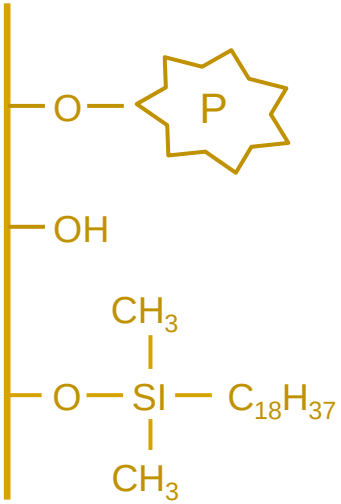
interchim®

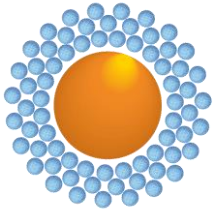
C18-AQ

Selectivity

Uptisphere® CS Evolution™

Capacity | Productivity





Uptisphere® CS Evolution™ C18-AQ

85Å - 130m^2/g

2.6 µm

Bonding: C18 monofunctional
%C: 6.5%
End-capping: Mixte

pH stability: 1.5 to 7.0

Suitable for mid & non polar compounds separation. RP shows excellent mechanical stability under 100% aqueous mobile phase conditions.

USP code: L1

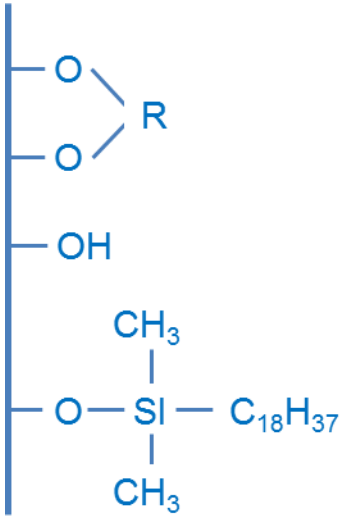
Application:
mid-polar organic compounds
100% water compatible

C18-RP

Selectivity

Uptisphere® Strategy™

Capacity | Productivity



Strategy™ C18-RP
100Å - 425m²/g

2.2, 3, 5, 10 & 15 µm

Bonding: C18 monofunctional
%C: 16
End-capping: multi step mixte

pH stability: 1.5 to 8.0

Suitable for mid & non polar compounds separation. RP shows excellent mechanical stability that make it an excellent tool for purification under acidic or basic conditions.

USP code: L1

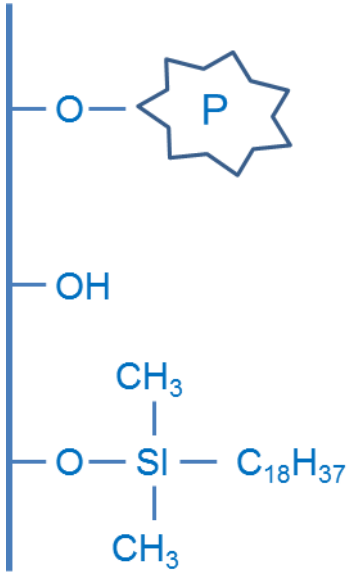
Application:
mid-polar organic compounds

C18-HDO

Selectivity

Uptisphere® 120Å

Capacity | Productivity



Uptisphere® C18-HDO
120Å - 320m²/g

2.2, 3, 5µm

Bonding: C18 monofunctional
%C: 17
End-capping: Mixte

pH stability: 1.5 to 7.0

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

USP code: L1

Application:
mid-polar organic compounds
100% water compatible

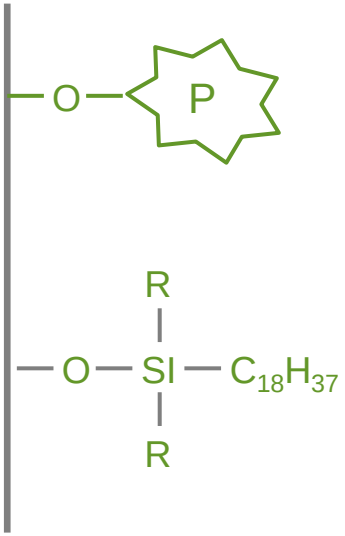
C18-AQ

Selectivity

Uptisphere® X-serie™

Capacity

Productivity



Uptisphere® X-serie ™ C18-AQ
220Å - 200m^2/g

3, 5 & 15 µm

Bonding: C18
%C: 14

End-capping: mixte

pH stability: 1.0 to 10.0

mid-polar BioDrugs & Peptides with medium molecular weight.
100% water compatible

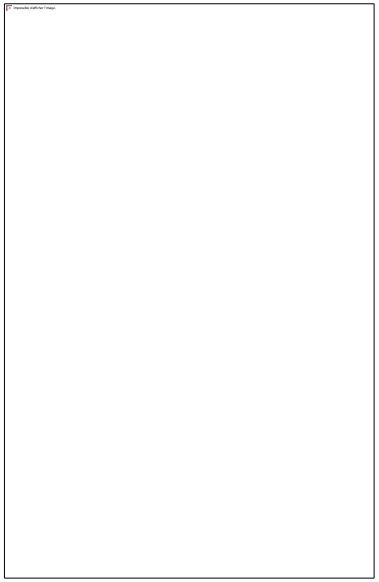
Reusable columns

Application:
Bio-molecules, Bio-Drugs

C18-AQ | Selectivity

puriFlash® Prep

Capacity | Productivity



Reusable columns

Application:
mid-polar organic compounds
100% water compatible

puriFlash® Prep C18-AQ
Spherical silica
60Å - 500m^2/g

5, 10, 15 & 30 µm

Bonding: C18
%C: 14

End-capping: one-step hydrophilic

pH stability: 2.0 to 7.5

The bonding chemistry allow to start gradient with 100% of water.
Suitable for the purification of mid and non polar compounds.

interchim®

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