



# interchim®

## HPLC Interchim Stationary Phases Products & Applications

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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**.

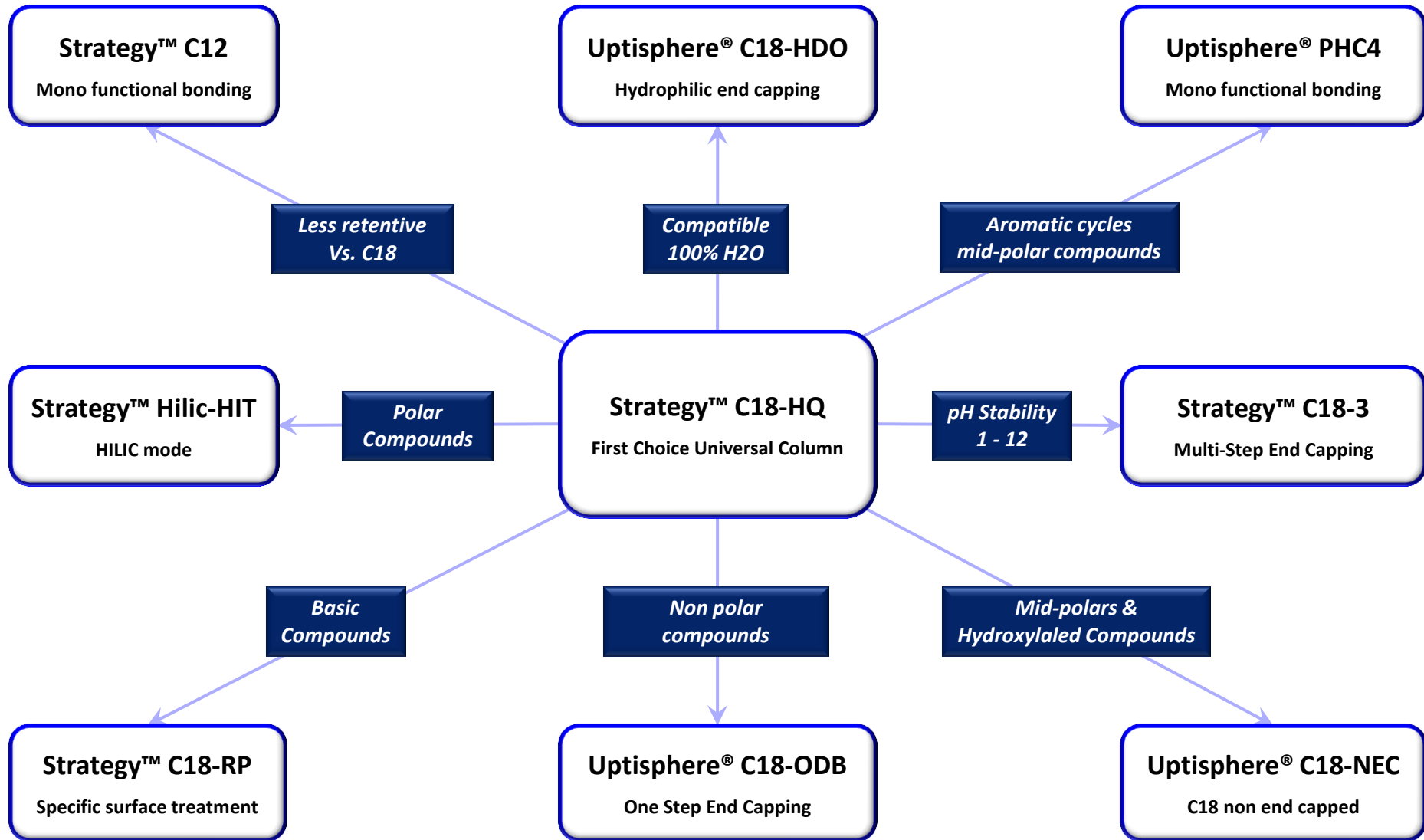
## puriFlash®

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



# (U)HPLC Selection guide for small molecules

## (U)HPLC Fully Porous Silica





## Uptisphere<sup>®</sup> Strategy<sup>™</sup>

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



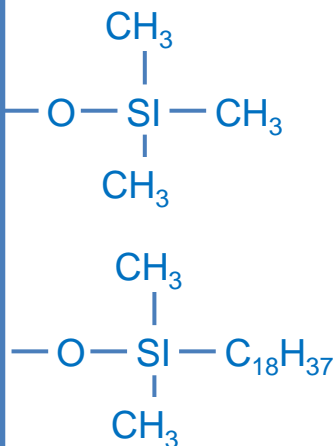
# C18-3

## Selectivity

Uptisphere® Strategy™

## Capacity

## Productivity



### Strategy™ C18-3

100Å - 425m<sup>2</sup>/g

3, 5, 10 & 15 µm

Bonding: C18 monofonctionnal

%C: 22

End-capping: multi-step

pH stability: 1.0 to 10.0

*The high bonding density of C18-3 facilitates a strong 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 : 10.*

**USP code: L1**

**Application:**

*non-polar organic compounds*

C18-HQ

Selectivity

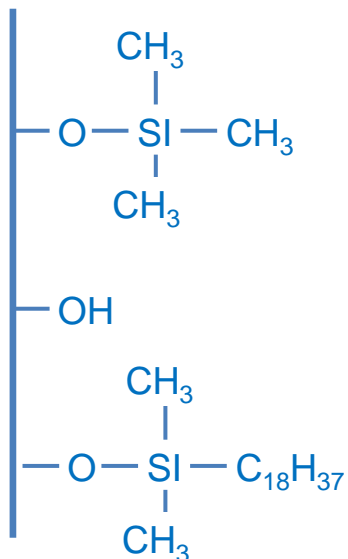
Uptisphere® Strategy™

Capacity

Productivity

HQ

High Quality



### Strategy™ C18-HQ

100Å - 425m<sup>2</sup>/g

1.7, 2.2, 3, 5, 10, 15µm

Bonding: C18 monofonctional

%C: 19

End-capping: multi-step

pH stability: 1.0 to 10.0

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

USP code: L1

**Application:**

*non-polar organic compounds*

# Uptisphere<sup>®</sup> Strategy<sup>™</sup> C18-HQ

**HQ**  
High Quality

Basic stability

1.7  $\mu\text{m}$

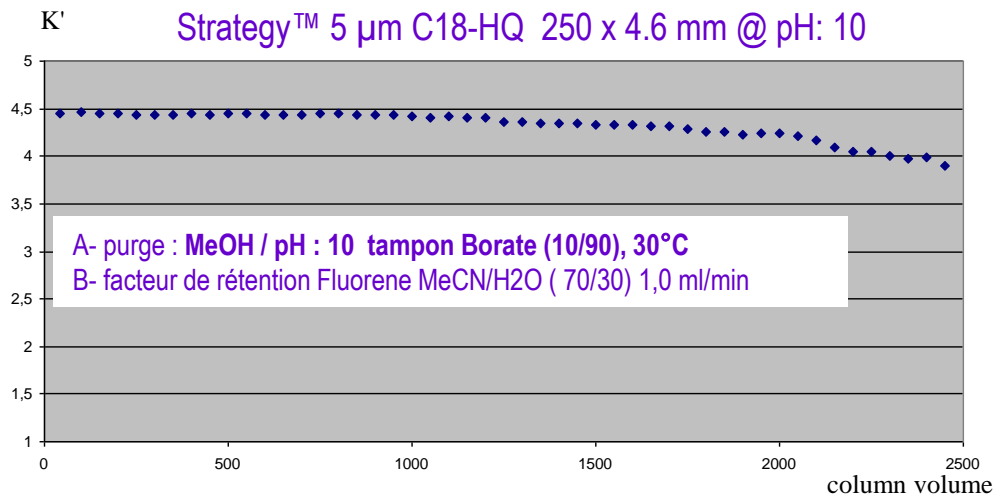
2.2  $\mu\text{m}$

3.0  $\mu\text{m}$

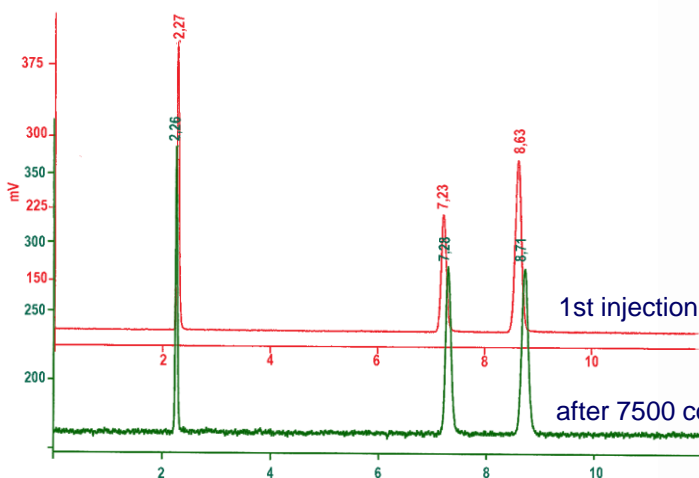
5.0  $\mu\text{m}$

10  $\mu\text{m}$

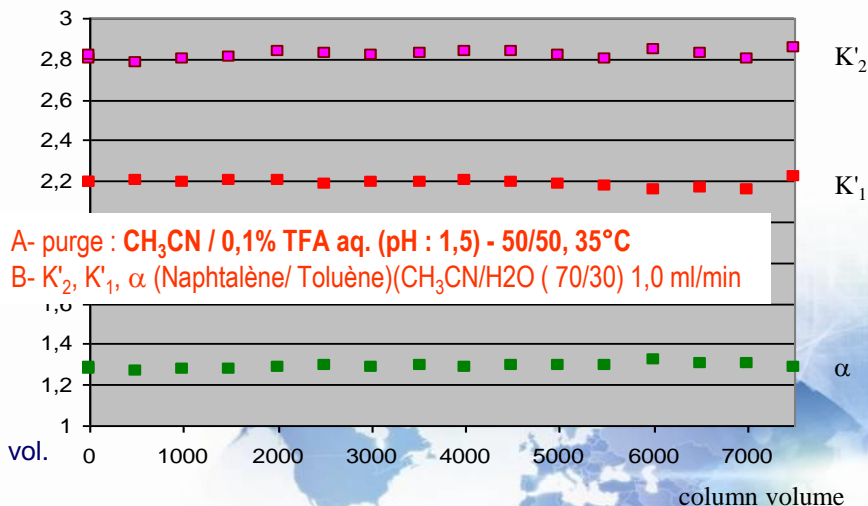
15  $\mu\text{m}$



Acid stability



Strategy<sup>™</sup> 5  $\mu\text{m}$  C18-HQ 250 x 4.6 mm @ pH: 1,5



# Uptisphere® Strategy™ C18-HQ

HQ  
High Quality

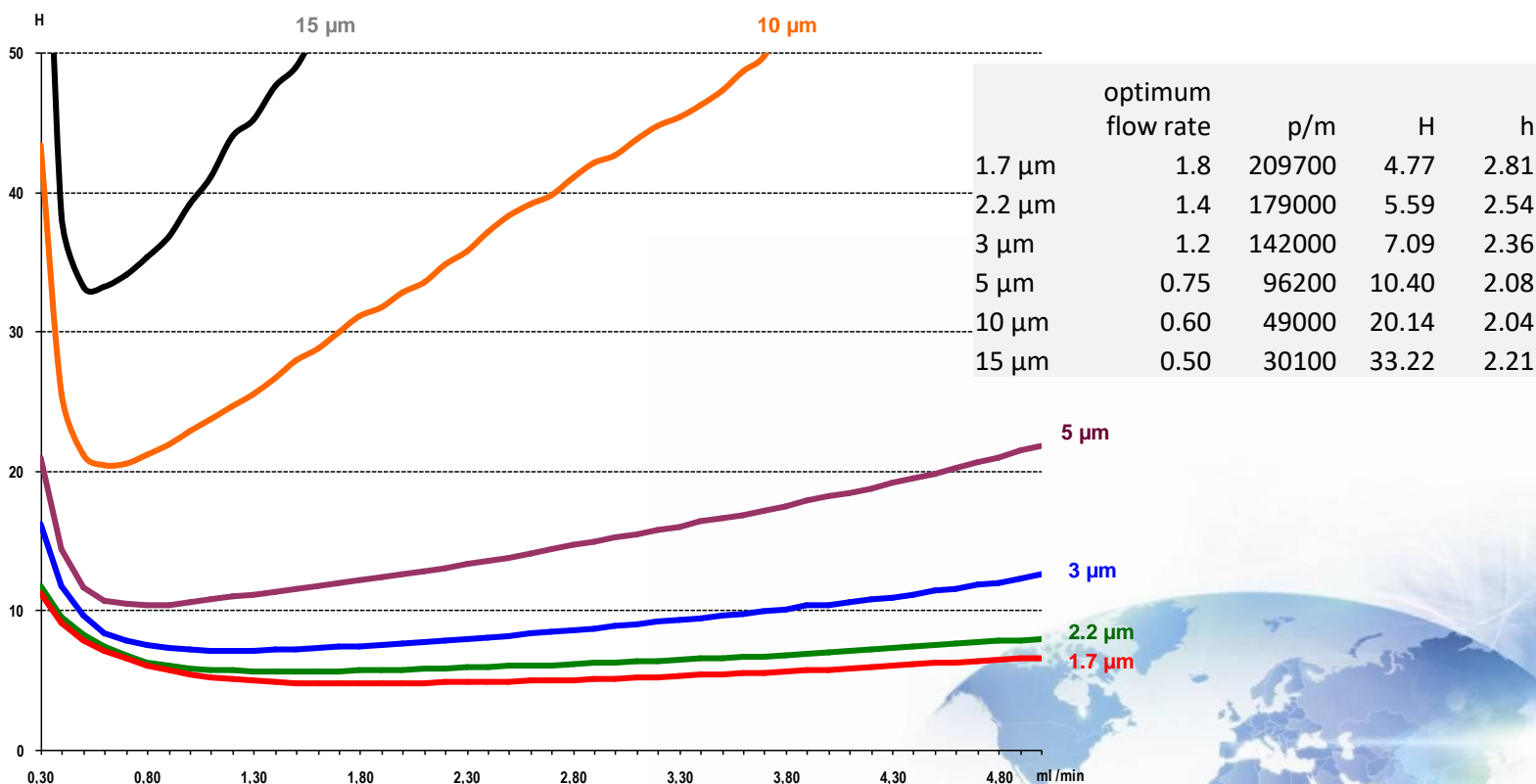
$h = H / dp =$  reduced height

It's sort of the absolute value of the quality of the analytical system as a whole.

**For a good column  $2 \leq h \leq 3$**

H = height equivalent to theoretical plate

The data obtained are dependent mainly dead volume of the chromatographic system, the hardware of the column to the injector and the temperature of the retention factors of the analytes.



1.7 µm

2.2 µm

3.0 µm

5.0 µm

10 µm

15 µm



# Uptisphere® Strategy™ C18-HQ

HQ  
High Quality

1.7 μm

2.2 μm

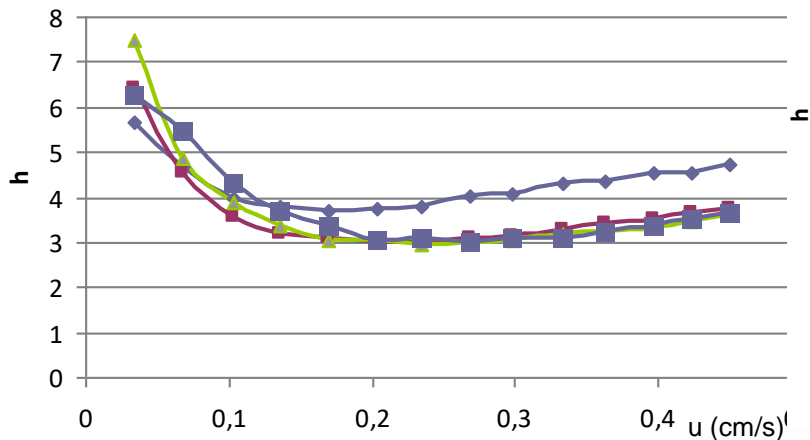
3.0 μm

5.0 μm

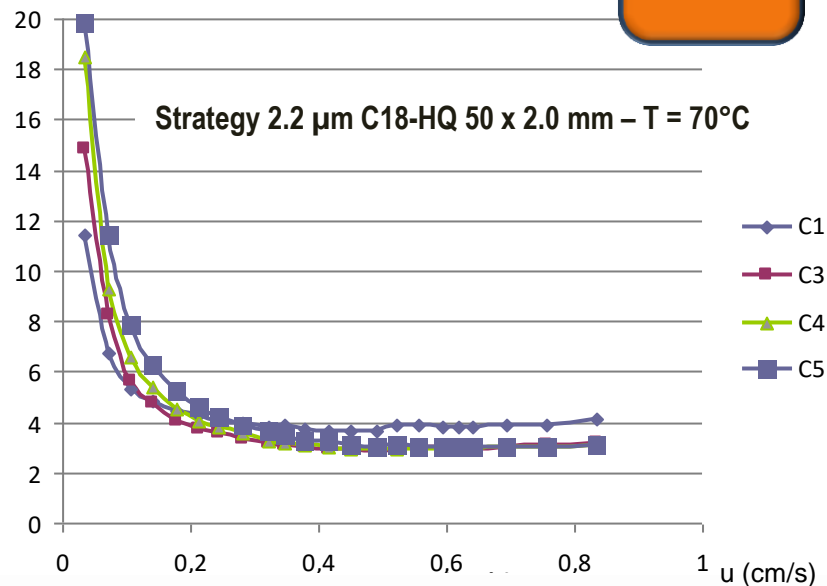
10 μm

15 μm

Strategy 2.2 μm C18-HQ 50 x 2.0 mm – T = 25°C



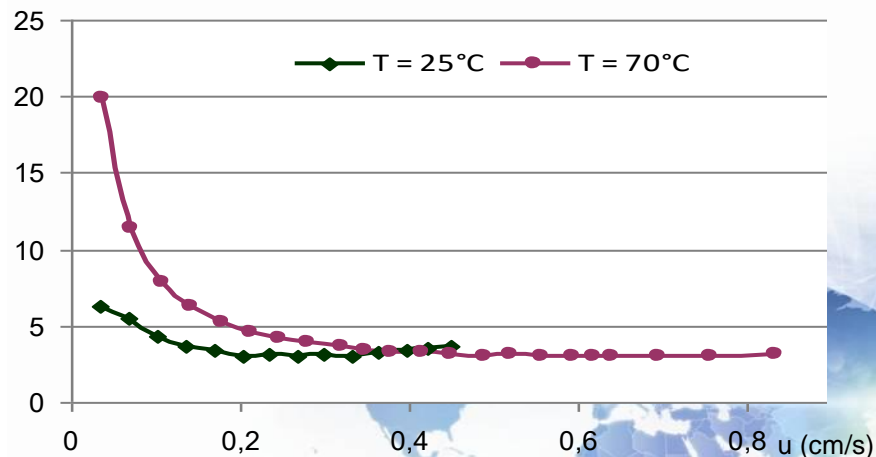
Strategy 2.2 μm C18-HQ 50 x 2.0 mm – T = 70°C



The mobile phase is a mixture MeOH / water, the volume injected is 0.3 μl, injected solutes are alkyl benzenes (C1, C3, C4 and C5). Comparing the two temperatures is performed with the more restrained, the C5. In fact, at low speed, the ambient temperature gives better h but increasing the flow curves 25 ° and 70 ° crossing.

The Strategy C18-2 stage is temperature stable to over 100 ° C.

A higher temperature allows to work at higher flow rates and thus speed up the analysis. The reduced values of h are smaller, a greater efficiency is achieved.

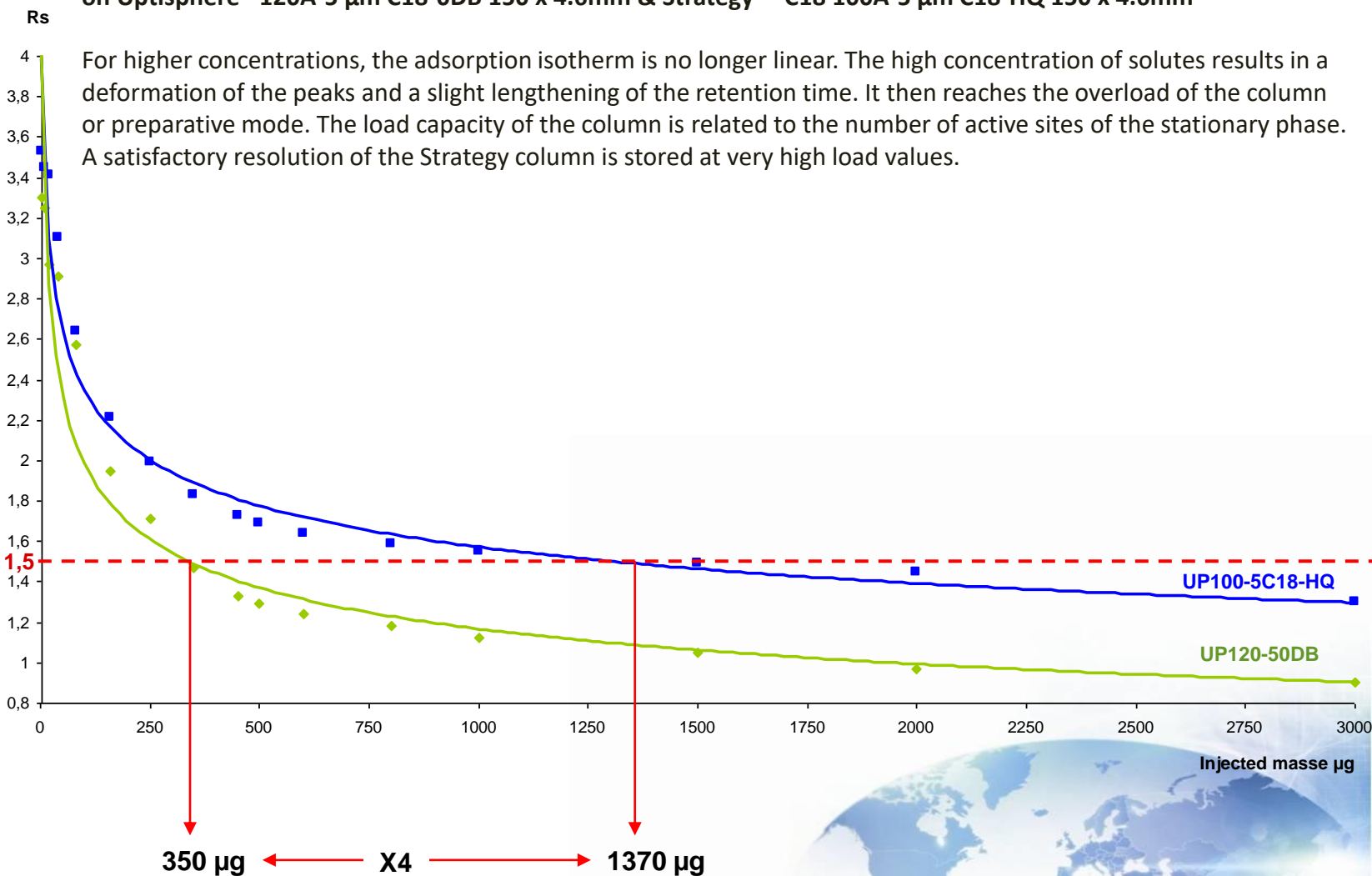


# Uptisphere® Strategy™ C18-HQ

HQ  
High Quality

Comparative purification of [Dimethylphenol 3.4 / 2.6 Dimethylphenol]  
on Uptisphere® 120Å-5 µm C18-ODB 150 x 4.6mm & Strategy™ C18 100Å-5 µm C18-HQ 150 x 4.6mm

For higher concentrations, the adsorption isotherm is no longer linear. The high concentration of solutes results in a deformation of the peaks and a slight lengthening of the retention time. It then reaches the overload of the column or preparative mode. The load capacity of the column is related to the number of active sites of the stationary phase. A satisfactory resolution of the Strategy column is stored at very high load values.



1.7 µm

2.2 µm

3.0 µm

5.0 µm

10 µm

15 µm

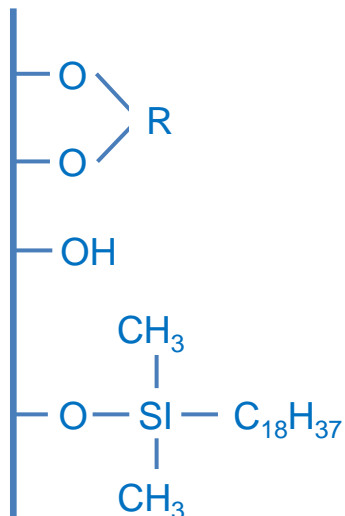
# C18-RP

## Selectivity

Uptisphere® Strategy™

## Capacity

## Productivity



### Strategy™ C18-RP

100Å - 425m<sup>2</sup>/g

2.2, 3, 5, 10 & 15 μm

Bonding: C18 monofonctionnal

%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*

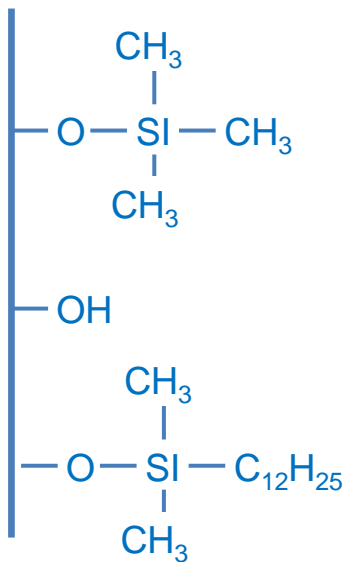
# C12

## Selectivity

Uptisphere® Strategy™

## Capacity

## Productivity



### Strategy™ C12

100Å - 425m<sup>2</sup>/g

2.2 & 5 μm

Bonding: C12 monofonctionnal

%C: 16

End-capping: one-step

pH stability: 1.5 to 8.0

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

**USP code:**

**Application:**

*non-polar organic compounds*

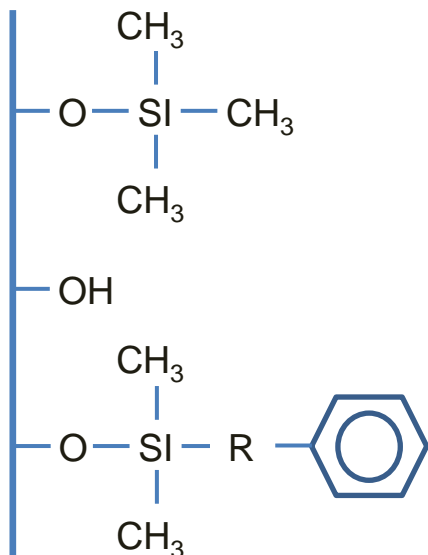
PHC4

Selectivity

Uptisphere® Strategy™

Capacity

Productivity



### Strategy™ PHC4

100Å - 425m<sup>2</sup>/g

2.2, 3, 5, 10, 15µm

Bonding: PH C4 monofonctionnal

%C: 12

End-capping: n.a.

pH stability: 1.5 to 7.5

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

USP code: L11

#### Application:

Aromatic cycles

mid-polar compounds

Hilic-HIT

Selectivity

Uptisphere® Strategy™

Capacity

Productivity



Maximum Operational Surface Technology

### Strategy™ Hilic-HIT

100Å - 400m<sup>2</sup>/g

2.2, 3, 5, 10, 15µm

Bonding: proprietary

End-capping: proprietary

pH stability: 1.5 to 7.0

*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*

O—H

O—H

**USP code: L3**

**Application:**

*water-soluble compounds*



## Uptisphere® 120Å

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



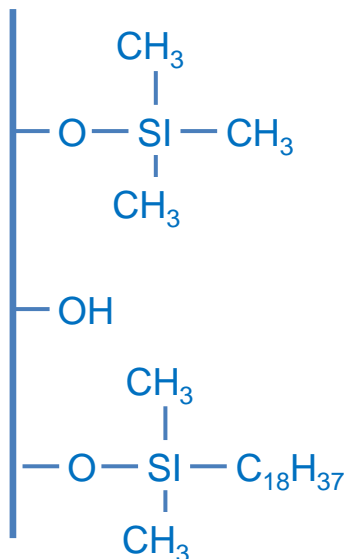
C18-ODB

Selectivity

Uptisphere® 120Å

Capacity

Productivity



### Uptisphere® C18-ODB

120Å - 320m<sup>2</sup>/g

2.2, 3, 5 & 10 μm

Bonding: C18 monofonctional

%C: 18

End-capping: one-step

pH stability: 1.5 to 7.0

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

USP code: L1

**Application:**

*non-polar organic compounds*





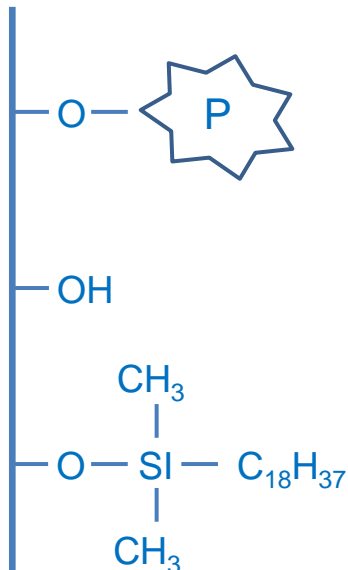
# C18-HDO

## Selectivity

Uptisphere® 120Å

## Capacity

## Productivity



### Uptisphere® C18-HDO

120Å - 320m<sup>2</sup>/g

2.2, 3, 5µm

Bonding: C18 monofonctional

%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

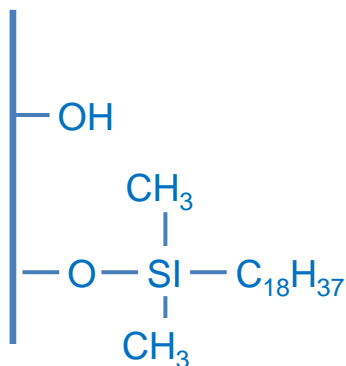
C18-NEC

Selectivity

Uptisphere® 120Å

Capacity

Productivity



### Uptisphere® C18-NEC

120Å - 320m<sup>2</sup>/g

2.2, 3, 5, 10 & 15 μm

Bonding: C18 monofonctionnal

%C: 16

End-capping: none

pH stability: 1.5 to 6.5

*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.*

**USP code: L1**

**Application:**

*mid-polar organic compounds*

# - Prevention is better than cure - (U)HPLC Guard Columns

Protection for 1.7 up to 5 $\mu$ m totally porous silicas

# Maximum pressure : **900 bar** # Low dead volume # High performance

Guard Holder  
P/N : AGHP-5



Guard cartridge



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

ANALYTICAL SCIENCES

ITM-20160119-C/P



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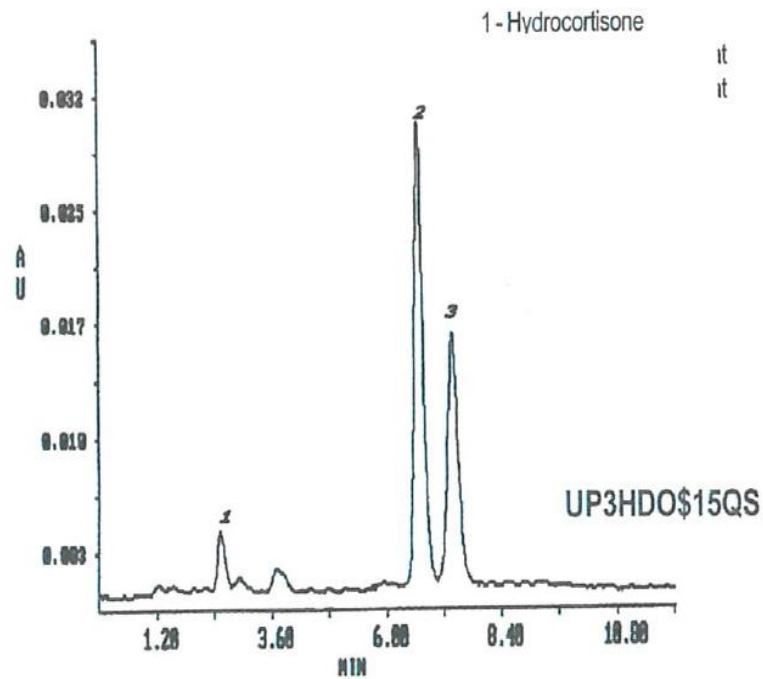
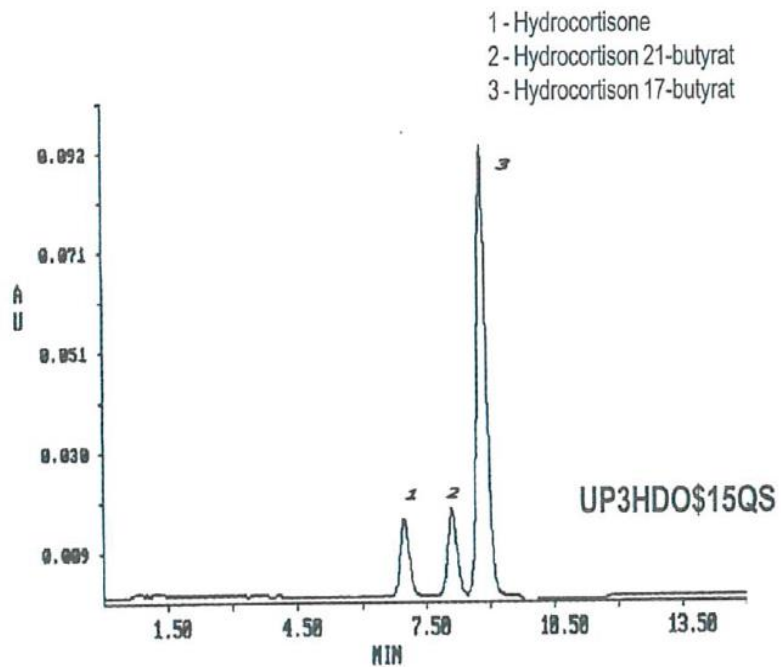


**interchim**

# Applications

## Hydrocortisone butyrate

Uptisphere 120 Å, 3µ C18-HDO, 150 x 3.0 mm



ACN H<sub>2</sub>O (44/56)  
UV : 232 nm

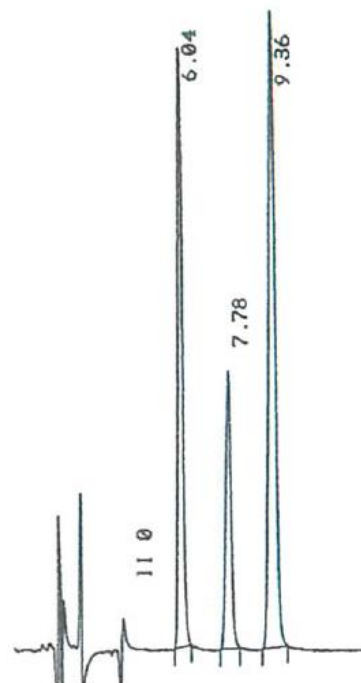
Courtesy of VDS Optilabs



# Applications

## Catecholamines

Uptisphere 120 Å, 3 µ C18-ODB, 125 x 3,9 mm

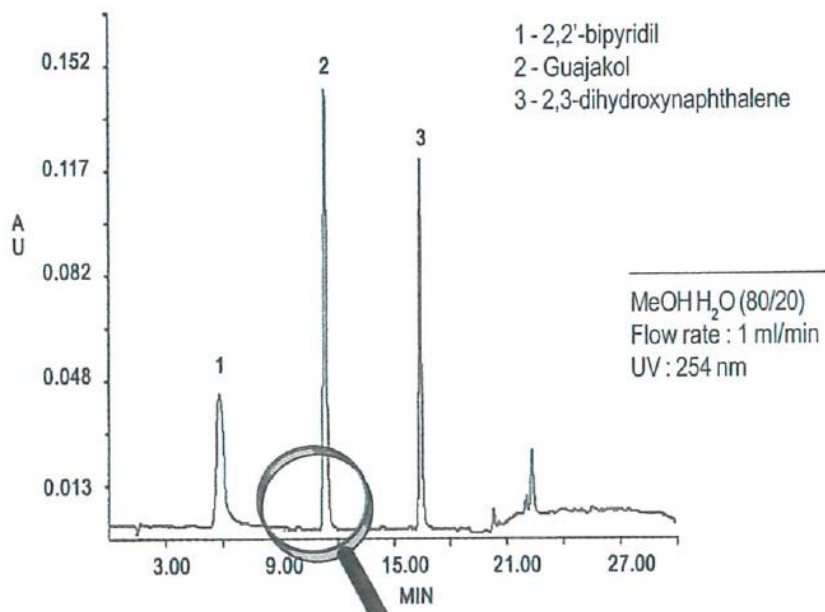


6,04 Noradrenaline  
7,78 Adrenaline  
9,36 Internal Std

Flow rate : 0,60 ml/min  
Injection : 10 µl

## Guaiacol probe for Zeolite

Uptisphere 120 Å, 3 µ C18-HDO, 150 x 3,0 mm



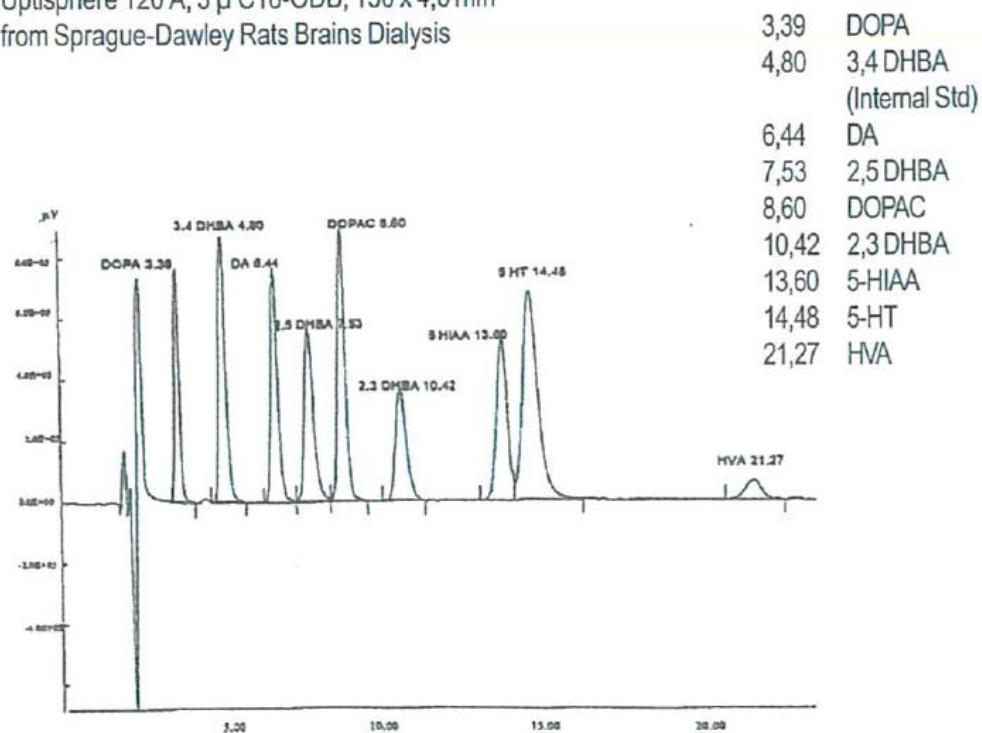
(Courtesy of VDS Optilabs)



# Applications

## Catechol derivatives, Indol & Salicylate

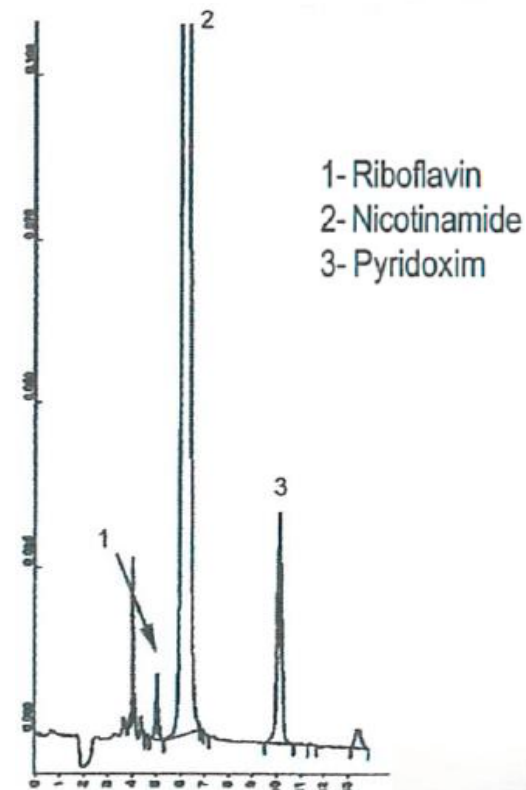
Uptisphere 120 Å, 3 µ C18-ODB, 150 x 4,6 mm  
from Sprague-Dawley Rats Brains Dialysis



(Na<sub>2</sub>HPO<sub>4</sub> 50 mmoles/l + EDTA 2,69 mmoles/l + Pic B7 1,25 mmoles/l)  
MeOH 13% v/v - pH : 3,15 - Flow rate : 1 ml/min - Inj : 10 µl at 8 °C  
Column temperature : 40 °C - Electrochemical detection (E1 : - 100mV ; E2 : + 180 mV)

## Hydrosoluble vitamins

Uptisphere 120 Å 5 µ C18-ODB, 150 x 4,6 mm

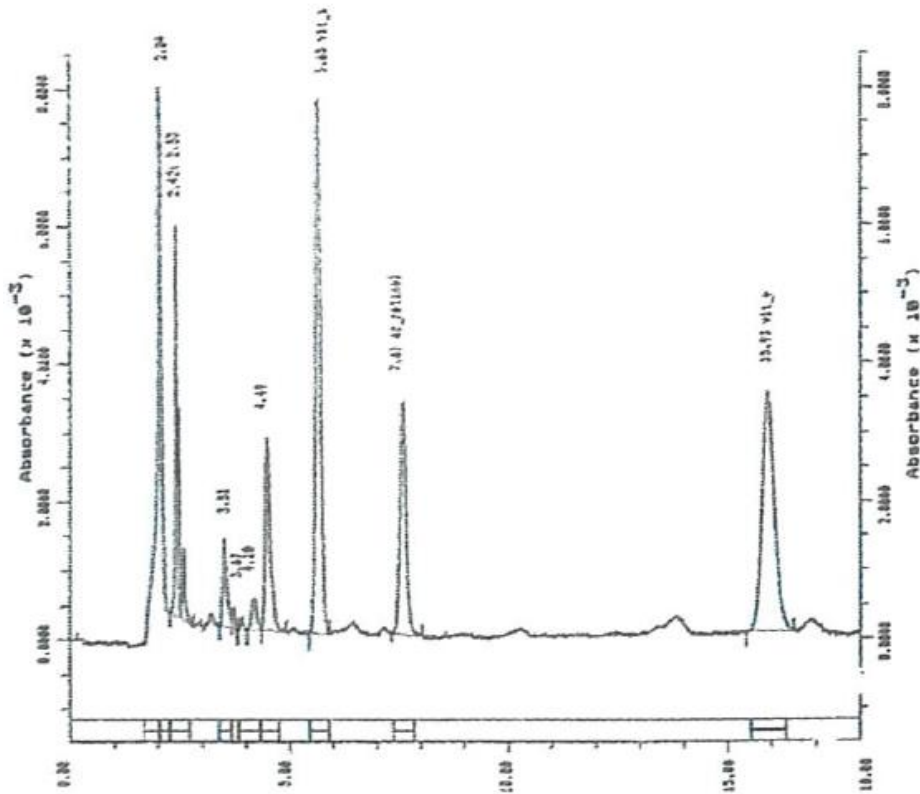


# Applications

## Vitamins from serum extract

Uptisphere 120 Å, 5 µ C18-ODB, 250 x 4,6 mm

5,65 Vitamin A  
7,61 Ac retinol  
15,93 Vitamin E



MeOH 100%  
1 ml/min  
UV 295 nm



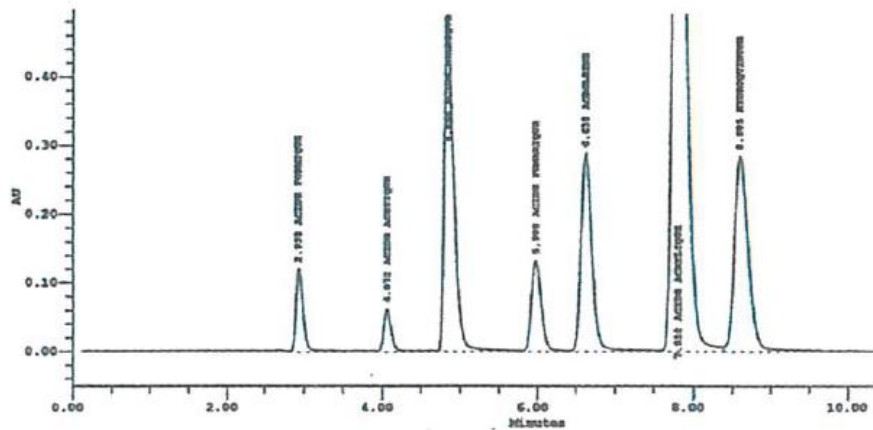
# Applications

## Organic Acids

Uptisphere 120 Å, 5 µ C18-HDO, 250 x 3,9 mm

- 2,94 Formic acid
- 4,07 Acetic acid
- 4,85 Maleic acid
- 5,99 Fumaric acid
- 6,64 acroleine
- 7,82 Acrylic acid
- 8,65 Hydroquinone

H<sub>2</sub>O 100% - 1 µl H<sub>3</sub>PO<sub>4</sub>  
1 ml/min  
30°C  
UV 210 nm



Courtesy of CR&D Elf Atochem





# Applications

## Vitamines hydrosolubles

Uptisphere 120 Å, 5 µ 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

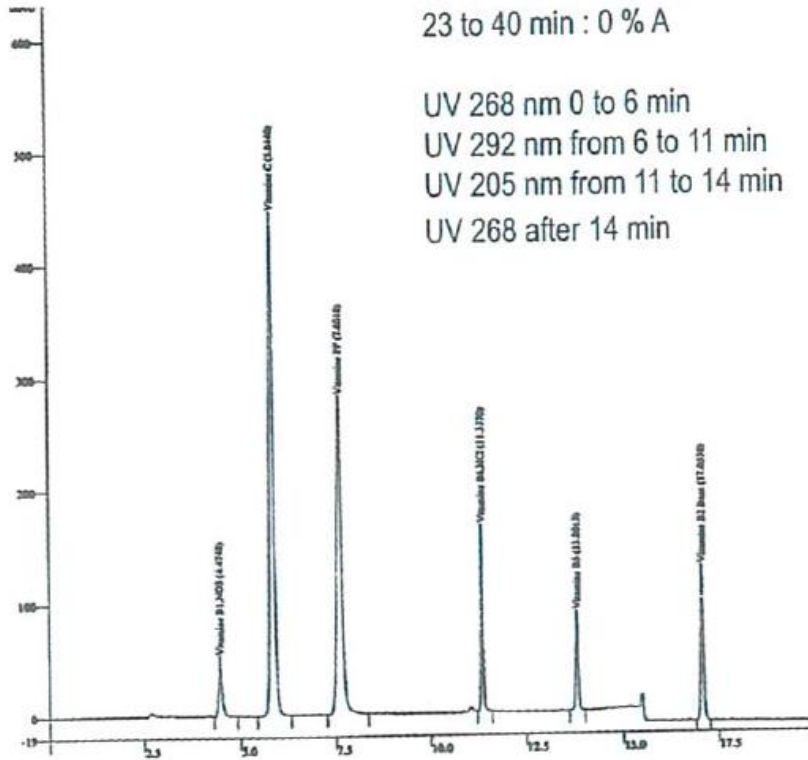
UV 268 nm 0 to 6 min

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

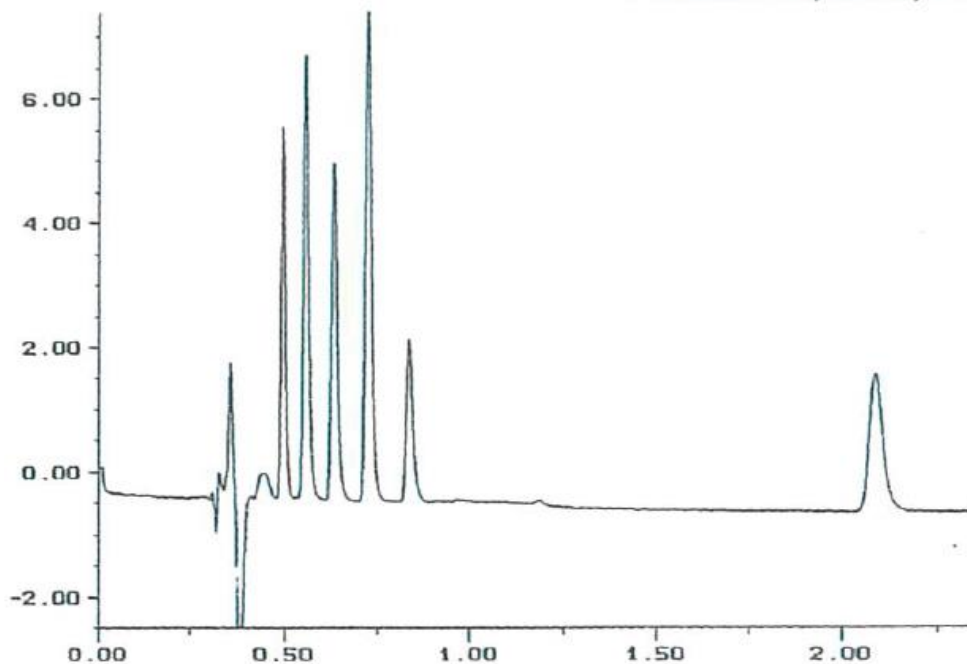


# Applications

## Anti-paludeen drugs

Uptisphere 120 Å, 5 µ C18-ODB, 250 x 4,6 mm

1- Didesethylchloroquine  
2- Monodesethylchloroquine



ACN 28%

MeOH 20% - HClO<sub>4</sub> 30 mM - (pH : 4) 52% - 0,6 ml/min

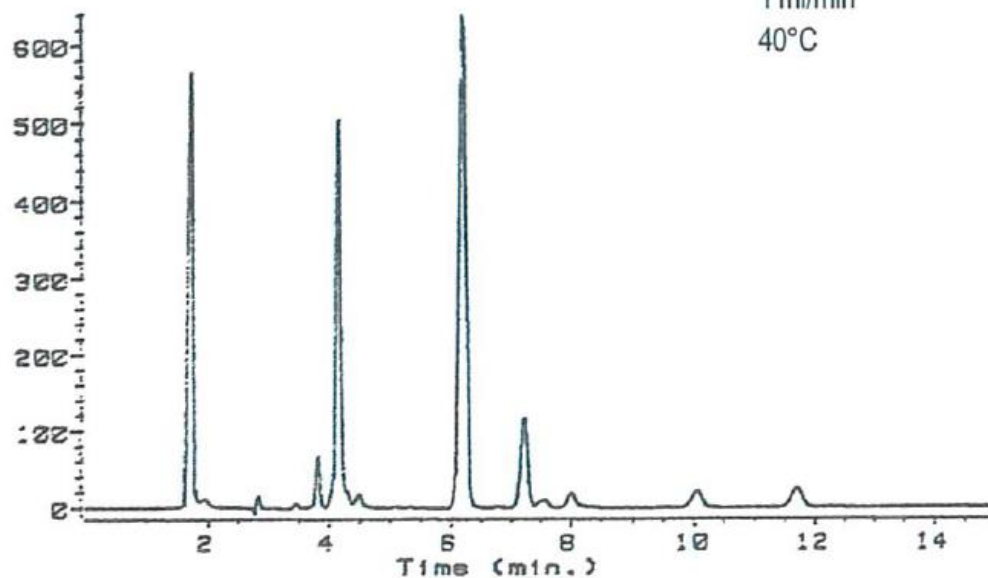


# Applications

## Amines oxides

Uptisphere 120 Å, 5 µ C18-ODB, 250 x 4,6 mm

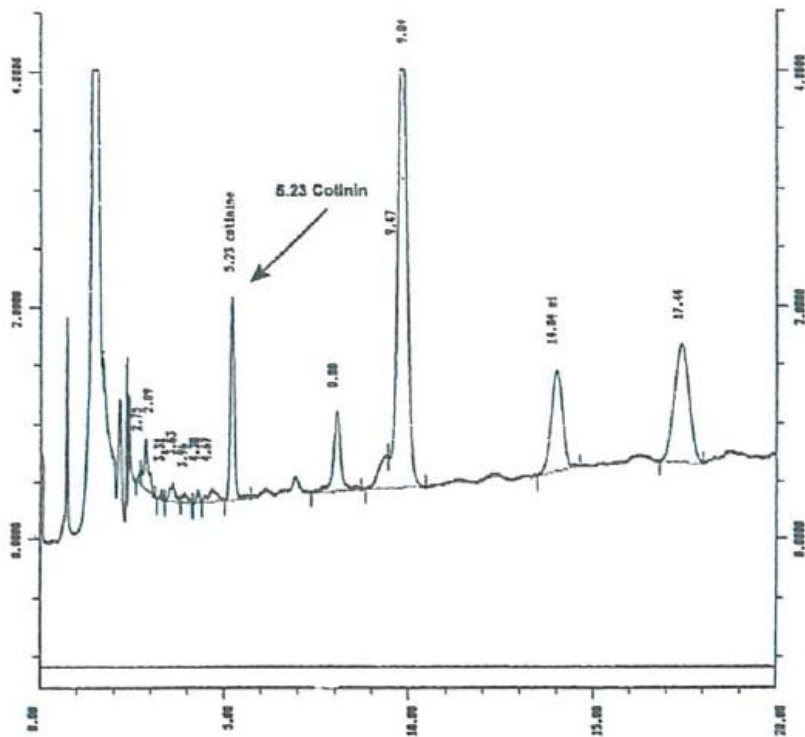
MeOH 72% - ACN 9%  
H<sub>2</sub>O 19%  
1 ml/min  
40°C



# Applications

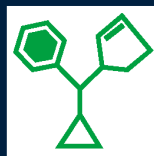
Urine extract (cotinine 52 µ/l)

Uptisphere 120 Å 5 µ ODB, 250 x 4,6 mm



ACN 10% - Buffer (pH : 4,4) 90%  
1,5 ml/min - 45°C - UV 262 nm





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