

Analysis - HPLC - Interchim technology

C18 Uptisphere® stationary phases & QS columns

Uptisphere® and Uptisphere® Strategy™ C18 stationary phases

Interchim manufactured their first Uptisphere® stationary phase almost 15 years ago. The development was seen as a natural progression as Interchim had established an unique technological understanding of HPLC requirement through the product supply of many of the recognized HPLC brands both within manufacturers hardware and within Interchim's Interchrom HPLC range that utilizes the benefits associated with Interchim packing expertise and Modulo-cart hardware.

Uptisphere® ODB and HDO were Interchim's first stationary phases. They are referenced in a multitude of HPLC analytical methods throughout the pharmaceutical sector and beyond. Interchim's initial manufacturing directive was to establish consistent column to column reproducibility - through an intensive management of stationary phase production, the packing process and column hardware.

Our long standing on-going working relationship with the Molecular Analysis Instruments and Technique studies laboratory (LETIAM), a part of the Paris Sud analytical chemistry group located at the Orsay IUT, has heavily influenced our thoughts on subsequent C18 stationary phase development.

The LETIAM are globally cited as providing HPLC expertise, particularly relative to silica sorbent characterization, developing a simple, rapid test from carotenoid pigment analysis to compare three principle criteria of stationary phase i.e.

- Hydrophobicity (related to the carbon content)
- Shape recognition (dependent on bonding density, bonding type & specific surface area)
- Polar interaction site accessibility (relative to the base silica, end-capping, or the type of bonded C18)

Uptisphere® and Uptisphere® Strategy™ bonded C18 stationary phases have been manufactured to compliment the criteria defined by this test. This is discussed in greater detail within the 'HPLC method development' section at the beginning of this chapter. Additional collaborations with other scientific laboratories have assisted in the tailoring of our phase development and improve the accuracy and capabilities of our chosen chemistries.

Stationary Phase

Uptisphere® stationary phases are manufactured from Upti-prep® 120Å silica. The more recently developed Uptisphere® Strategy™ phases utilize Upti-prep® 100Å silica.

Synthesis

Interchim adopt four principal processes for the synthesis of their range of stationary phase i.e :

- Mono functional + 'one step' end-capping
- Mono functional + 'multi step' end-capping
- Mono functional + 'mixed' end-capping
- Poly functional + 'one step' end-capping

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Uptisphere® & Uptisphere® Strategy™ are a complimentary family of C18 phases manufactured to provide the analyst with a diverse phase selection that target a broad spectra of applications. Manufacture has been guided by method development studies highlighted earlier in this chapter and exhibit tailored hydrophobicity and silanol accessibility within a given parameter of phase selectivity.

Uptisphere® C18-ODB

Historically our C18-phase of reference for method development. Serves a broad-ship of analytical requirements for separating mid to non polar compounds.

Uptisphere® C18-HDO

The final steps of the HDO manufacturing process creates a selectivity for mid-polar compounds in 100% aqueous mobile phase. C18-HDO has no hydrophilic end-capping and is not a PLAP type phase.

Uptisphere® C18-NEC

Displays characteristics similar to ODB without the end-capping. NEC strongly retains the polar and mid-polar compounds from the solvent front. Today most pharmaceutical compounds contains chains and /or carbon cycles combined with numerous polar groups and are generally more basic in character. Such compounds create a tailing effect on classical C18 phases, C18-NEC can overcome this characteristic in the majority of cases.

Uptisphere® C18-HSC

HSC displays excellent selectivity for non-polar compounds thanks to Interchim's proprietary end-capping process.

Uptisphere® C18-TF

TF provides an alternative selectivity to classical existing phases and has been adopted for challenging separations. C18-TF is a polyfunctional end-capped C18, and is recommended for - but not limited to - aromatic, polyphenol, PAHs etc.

Uptisphere® Strategy™ C18-2

Seen by Interchim as a progressive development to Uptisphere® ODB, this utility phase serves many pharmaceutical applications. Strategy™ C18-2 has a 425 m²/g surface area providing excellent loading capacity capabilities.

Uptisphere® Strategy™ C18-3

The high bonding density of C18-3 facilitates a stronger 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 integral separation of basic drugs up to pH : 12.

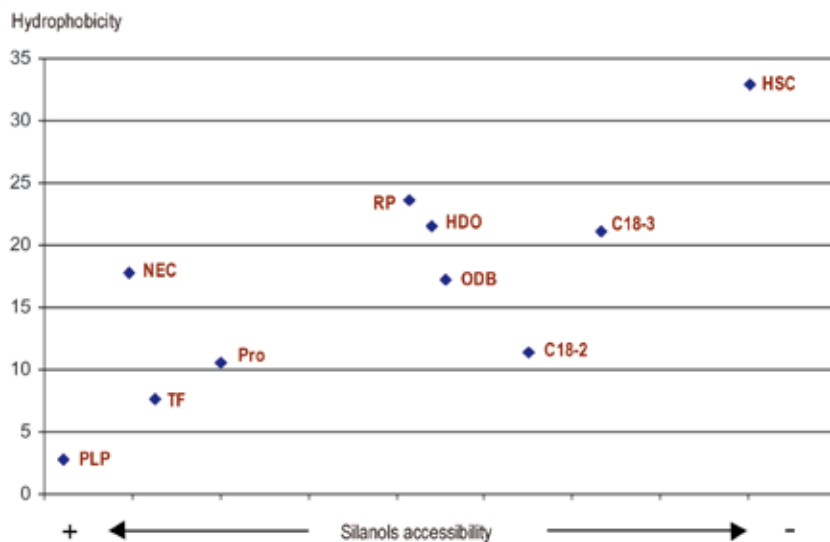
Uptisphere® Strategy™ RP

Strategy™ RP mixed type proprietary end-capping establishes this phase as suitable for extreme polar compound separation. RP shows excellent mechanical stability under 100% aqueous mobile phase condition.

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Phase	Bonding	Pore size Å	Surface area m ² /g	% C	end-capping	USP code
Strategy C18-2	C18	100	425	19	multi step	L1
Strategy C18-3	C18	100	425	22	multi step	L1
Strategy RP	C18	100	425	16	mixed	L1
Uptisphere ODB	C18	120	320	18	one step	L1
Uptisphere HDO	C18	120	320	17	mixed	L1
Uptisphere NEC	C18	120	320	16	non	L1
Uptisphere HSC	C18	120	320	20	multi step	L1
Uptisphere TF	t C18	120	320	14	one step	L1



Interchim column guarantee

1. Each phase batch undergoes strict quality control.
2. Every Modulo-Cart Quick Seal column is individually tested and delivered with its own chromatogram certificate.
3. Every Modulo-Cart Quick Seal produced fits the companies stringent standards of production
4. Every Modulo-Cart Quick Seal is shipped within 24 working hours of receipt of order

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C18 Uptisphere® stationary phases & QS columns

Uptisphere® HPLC Columns

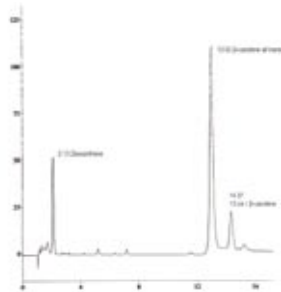
Uptisphere® Strategy™

Octadecyl - USP code L1

100 Å - 425 m²

%C : 19

mono functional + "multi-step" end capping



Selectivity 13 cis/ β -carotene all trans : 1.11

Selectivity β -carotene/zeaxanthine : 11

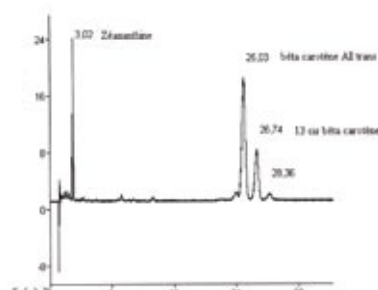
Hydrophobicity β -carotene all trans : 11.4

Octadecyl - USP code L1

100 Å - 425 m²/g

%C : 22

mono functional + "multi-step" end-capping



Selectivity 13 cis/ β -carotene all trans : 1.07

Selectivity β -carotene/zeaxanthine : 12.66

Hydrophobicity β -carotene all trans : 21.15

Phase	Particle size	Dimension	Modulo-Cart QS	Modulo-Cart QK
Strategy C18-2	3 μ m	100 x 2.0 mm	US0730	US0930
Strategy C18-2	3 μ m	150 x 2.0 mm	US0740	US0940
Strategy C18-2	5 μ m	100 x 2.0 mm	US0750	US0950
Strategy C18-2	5 μ m	150 x 2.0 mm	US0760	US0960
Strategy C18-2	5 μ m	250 x 2.0 mm	US0770	US0970
Strategy C18-2	3 μ m	150 x 3.0 mm	US0700	US0900
Strategy C18-2	5 μ m	150 x 3.0 mm	US0710	US0910
Strategy C18-2	5 μ m	250 x 3.0 mm	US0720	US0920
Strategy C18-2	3 μ m	125 x 4.0 mm	US0640	US0840
Strategy C18-2	3 μ m	150 x 4.0 mm	US0650	US0850
Strategy C18-2	5 μ m	125 x 4.0 mm	US0660	US0860
Strategy C18-2	5 μ m	150 x 4.0 mm	US0670	US0870
Strategy C18-2	5 μ m	250 x 4.0 mm	US0680	US0880
Strategy C18-2	10 μ m	250 x 4.0 mm	US0690	US0890
Strategy C18-2	3 μ m	100 x 4.6 mm	US0580	US0780
Strategy C18-2	3 μ m	150 x 4.6 mm	US0590	US0790
Strategy C18-2	5 μ m	100 x 4.6 mm	US0600	US0800
Strategy C18-2	5 μ m	150 x 4.6 mm	US0610	US0810
Strategy C18-2	5 μ m	250 x 4.6 mm	US0620	US0820
Strategy C18-2	10 μ m	250 x 4.6 mm	US0630	US0830

Strategy C18-3	3 μ m	100 x 2.0 mm	US1970	US2170
Strategy C18-3	3 μ m	150 x 2.0 mm	US1980	US2180
Strategy C18-3	5 μ m	100 x 2.0 mm	US1990	US2190
Strategy C18-3	5 μ m	150 x 2.0 mm	US2000	US2200
Strategy C18-3	5 μ m	250 x 2.0 mm	US2010	US2210
Strategy C18-3	3 μ m	150 x 3.0 mm	US1940	US2140
Strategy C18-3	5 μ m	150 x 3.0 mm	US1950	US2150
Strategy C18-3	5 μ m	250 x 3.0 mm	US1960	US2160
Strategy C18-3	3 μ m	125 x 4.0 mm	US1880	US2080
Strategy C18-3	3 μ m	150 x 4.0 mm	US1890	US2090
Strategy C18-3	5 μ m	125 x 4.0 mm	US1900	US2100
Strategy C18-3	5 μ m	150 x 4.0 mm	US1910	US2110
Strategy C18-3	5 μ m	250 x 4.0 mm	US1920	US2120
Strategy C18-3	10 μ m	250 x 4.0 mm	US1930	US2130
Strategy C18-3	3 μ m	100 x 4.6 mm	US1820	US2020
Strategy C18-3	3 μ m	150 x 4.6 mm	US1830	US2030
Strategy C18-3	5 μ m	100 x 4.6 mm	US1840	US2040
Strategy C18-3	5 μ m	150 x 4.6 mm	US1850	US2050
Strategy C18-3	5 μ m	250 x 4.6 mm	US1860	US2060
Strategy C18-3	10 μ m	250 x 4.6 mm	US1870	US2070

Modulo-cart information
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Phase	Particle size	Dimension	Modulo-Cart QS	Modulo-Cart QK
Strategy RP	3 µm	100 x 2.0 mm	US0260	US0400
Strategy RP	3 µm	150 x 2.0 mm	US0270	US0410
Strategy RP	5 µm	100 x 2.0 mm	US0060	US0130
Strategy RP	5 µm	150 x 2.0 mm	US0050	US0120
Strategy RP	5 µm	250 x 2.0 mm	US0040	US0110
Strategy RP	3 µm	150 x 3.0 mm	US0230	US0370
Strategy RP	5 µm	150 x 3.0 mm	US0240	US0380
Strategy RP	5 µm	250 x 3.0 mm	US0250	US0390
Strategy RP	3 µm	125 x 4.0 mm	US0170	US0310
Strategy RP	3 µm	150 x 4.0 mm	US0180	US0320
Strategy RP	5 µm	125 x 4.0 mm	US0190	US0330
Strategy RP	5 µm	150 x 4.0 mm	US0200	US0340
Strategy RP	5 µm	250 x 4.0 mm	US0210	US0350
Strategy RP	10 µm	250 x 4.0 mm	US0220	US0360
Strategy RP	3 µm	100 x 4.6 mm	US0140	US0280
Strategy RP	3 µm	150 x 4.6 mm	US0150	US0290
Strategy RP	5 µm	100 x 4.6 mm	US0020	US0100
Strategy RP	5 µm	150 x 4.6 mm	US0010	US0090
Strategy RP	5 µm	250 x 4.6 mm	US0000	US0080
Strategy RP	10 µm	250 x 4.6 mm	US0160	US0300

ODB	3 µm	100 x 2.0 mm	UP30DB#10QS	UP30DB#10QK
ODB	3 µm	125 x 2.0 mm	UP30DB#12QS	UP30DB#12QK
ODB	3 µm	150 x 2.0 mm	UP30DB#15QS	UP30DB#15QK
ODB	5 µm	100 x 2.0 mm	UP50DB#10QS	UP50DB#10QK
ODB	5 µm	125 x 2.0 mm	UP50DB#12QS	UP50DB#12QK
ODB	5 µm	150 x 2.0 mm	UP50DB#15QS	UP50DB#15QK
ODB	5 µm	250 x 2.0 mm	UP50DB#25QS	UP50DB#25QK
ODB	3 µm	100 x 3.0 mm	UP30DB#10QS	UP30DB#10QK
ODB	3 µm	125 x 3.0 mm	UP30DB#12QS	UP30DB#12QK
ODB	3 µm	150 x 3.0 mm	UP30DB#15QS	UP30DB#15QK
ODB	5 µm	100 x 3.0 mm	UP50DB#10QS	UP50DB#10QK
ODB	5 µm	125 x 3.0 mm	UP50DB#12QS	UP50DB#12QK
ODB	5 µm	150 x 3.0 mm	UP50DB#15QS	UP50DB#15QK
ODB	5 µm	250 x 3.0 mm	UP50DB#25QS	UP50DB#25QK
ODB	3 µm	100 x 4.0 mm	UP30DB#10QS	UP30DB#10QK
ODB	3 µm	125 x 4.0 mm	UP30DB#12QS	UP30DB#12QK
ODB	3 µm	150 x 4.0 mm	UP30DB#15QS	UP30DB#15QK
ODB	5 µm	100 x 4.0 mm	UP50DB#10QS	UP50DB#10QK
ODB	5 µm	125 x 4.0 mm	UP50DB#12QS	UP50DB#12QK
ODB	5 µm	150 x 4.0 mm	UP50DB#15QS	UP50DB#15QK
ODB	5 µm	250 x 4.0 mm	UP50DB#25QS	UP50DB#25QK
ODB	5 µm	300 x 4.0 mm	UP50DB#30QS	UP50DB#30QK
ODB	10 µm	250 x 4.0 mm	UP100DB#25QS	UP100DB#25QK
ODB	10 µm	300 x 4.0 mm	UP100DB#30QS	UP100DB#30QK
ODB	3 µm	100 x 4.6 mm	UP30DB-10QS	UP30DB-10QK
ODB	3 µm	125 x 4.6 mm	UP30DB-12QS	UP30DB-12QK
ODB	5 µm	150 x 4.6 mm	UP30DB-15QS	UP30DB-15QK
ODB	5 µm	100 x 4.6 mm	UP50DB-10QS	UP50DB-10QK
ODB	5 µm	125 x 4.6 mm	UP50DB-12QS	UP50DB-12QK
ODB	5 µm	150 x 4.6 mm	UP50DB-15QS	UP50DB-15QK
ODB	5 µm	200 x 4.6 mm	UP50DB-20QS	UP50DB-20QK
ODB	5 µm	250 x 4.6 mm	UP50DB-25QS	UP50DB-25QK
ODB	10 µm	250 x 4.6 mm	UP100DB-25QS	UP100DB-25QK

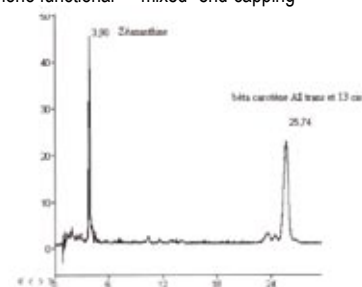
Uptisphere® Strategy™

Octadecyl - USP code L1

100Å - 425 m²/g

%C : 16

mono functional + "mixed" end-capping



Selectivity 13 cis/β-carotene all trans : 1

Selectivity β-carotene/Zeaxanthine : 8.3

Hydrophobicity β-carotene all trans : 23.66

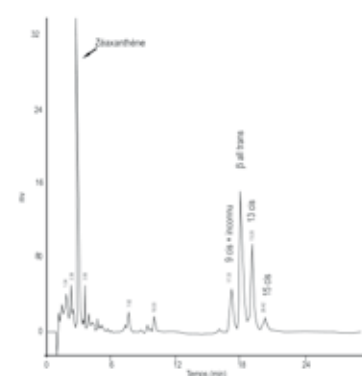
Uptisphere®

Octadecyl - USP code L1

120Å - 320 m²/g

%C : 18

mono functional + "one step" end-capping



Selectivity 13 cis/β-carotene all trans : 1.06

Selectivity β-carotene/Zeaxanthine : 9.1

Hydrophobicity β-carotene all trans : 17.21

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C18 Uptisphere® stationary phases & QS columns

Uptisphere® HPLC Columns cont.

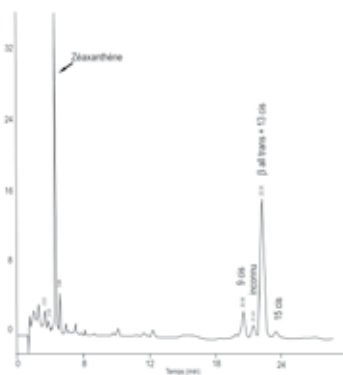
Uptisphere®

Octadecyl - USP code L1

120Å - 320 m²/g

%C : 17

mono functional + "mixed" end-capping



Selectivity 13 cis/β-carotene all trans : 1.0
 Selectivity β-carotene/Zeaxanthine : 8.81
 Hydrophobicity β-carotene all trans : 21.54

Phase	Particle size	Dimension	Modulo-Cart QS	Modulo-Cart QK
HDO	3 µm	100 x 2.0 mm	UP3HDO#10QS	UP3HDO#10QK
HDO	3 µm	125 x 2.0 mm	UP3HDO#12QS	UP3HDO#12QK
HDO	3 µm	150 x 2.0 mm	UP3HDO#15QS	UP3HDO#15QK
HDO	5 µm	100 x 2.0 mm	UP5HDO#10QS	UP5HDO#10QK
HDO	5 µm	125 x 2.0 mm	UP5HDO#12QS	UP5HDO#12QK
HDO	5 µm	150 x 2.0 mm	UP5HDO#15QS	UP5HDO#15QK
HDO	5 µm	250 x 2.0 mm	UP5HDO#25QS	UP5HDO#25QK
HDO	3 µm	100 x 3.0 mm	UP3HDO\$10QS	UP3HDO\$10QK
HDO	3 µm	125 x 3.0 mm	UP3HDO\$12QS	UP3HDO\$12QK
HDO	3 µm	150 x 3.0 mm	UP3HDO\$15QS	UP3HDO\$15QK
HDO	5 µm	100 x 3.0 mm	UP5HDO\$10QS	UP5HDO\$10QK
HDO	5 µm	125 x 3.0 mm	UP5HDO\$12QS	UP5HDO\$12QK
HDO	5 µm	150 x 3.0 mm	UP5HDO\$15QS	UP5HDO\$15QK
HDO	5 µm	250 x 3.0 mm	UP5HDO\$25QS	UP5HDO\$25QK
HDO	3 µm	100 x 4.0 mm	UP3HDO*10QS	UP3HDO*10QK
HDO	3 µm	125 x 4.0 mm	UP3HDO*12QS	UP3HDO*12QK
HDO	3 µm	150 x 4.0 mm	UP3HDO*15QS	UP3HDO*15QK
HDO	5 µm	100 x 4.0 mm	UP5HDO*10QS	UP5HDO*10QK
HDO	5 µm	125 x 4.0 mm	UP5HDO*12QS	UP5HDO*12QK
HDO	5 µm	150 x 4.0 mm	UP5HDO*15QS	UP5HDO*15QK
HDO	5 µm	250 x 4.0 mm	UP5HDO*25QS	UP5HDO*25QK
HDO	5 µm	300 x 4.0 mm	UP5HDO*30QS	UP5HDO*30QK
HDO	10 µm	250 x 4.0 mm	UP10HDO*25QS	UP10HDO*25QK
HDO	10 µm	300 x 4.0 mm	UP10HDO*30QS	UP10HDO*30QK
HDO	3 µm	100 x 4.6 mm	UP3HDO-10QS	UP3HDO-10QK
HDO	3 µm	125 x 4.6 mm	UP3HDO-12QS	UP3HDO-12QK
HDO	3 µm	150 x 4.6 mm	UP3HDO-15QS	UP3HDO-15QK
HDO	5 µm	100 x 4.6 mm	UP5HDO-10QS	UP5HDO-10QK
HDO	5 µm	125 x 4.6 mm	UP5HDO-12QS	UP5HDO-12QK
HDO	5 µm	150 x 4.6 mm	UP5HDO-15QS	UP5HDO-15QK
HDO	5 µm	200 x 4.6 mm	UP5HDO-20QS	UP5HDO-20QK
HDO	5 µm	250 x 4.6 mm	UP5HDO-25QS	UP5HDO-25QK
HDO	10 µm	250 x 4.6 mm	UP10HDO-25QS	UP10HDO-25QK

Modulo-cart information
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Phase	Particle size	Dimension	Modulo-Cart QS	Modulo-Cart QK
NEC	3 µm	100 x 2.0 mm	UP3NEC#10QS	UP3NEC#10QK
NEC	3 µm	125 x 2.0 mm	UP3NEC#12QS	UP3NEC#12QK
NEC	3 µm	150 x 2.0 mm	UP3NEC#15QS	UP3NEC#15QK
NEC	5 µm	100 x 2.0 mm	UP5NEC#10QS	UP5NEC#10QK
NEC	5 µm	125 x 2.0 mm	UP5NEC#12QS	UP5NEC#12QK
NEC	5 µm	150 x 2.0 mm	UP5NEC#15QS	UP5NEC#15QK
NEC	5 µm	250 x 2.0 mm	UP5NEC#25QS	UP5NEC#25QK
NEC	3 µm	100 x 3.0 mm	UP3NEC\$10QS	UP3NEC\$10QK
NEC	3 µm	125 x 3.0 mm	UP3NEC\$12QS	UP3NEC\$12QK
NEC	3 µm	150 x 3.0 mm	UP3NEC\$15QS	UP3NEC\$15QK
NEC	5 µm	100 x 3.0 mm	UP5NEC\$10QS	UP5NEC\$10QK
NEC	5 µm	125 x 3.0 mm	UP5NEC\$12QS	UP5NEC\$12QK
NEC	5 µm	150 x 3.0 mm	UP5NEC\$15QS	UP5NEC\$15QK
NEC	5 µm	250 x 3.0 mm	UP5NEC\$25QS	UP5NEC\$25QK
NEC	3 µm	100 x 4.0 mm	UP3NEC*10QS	UP3NEC*10QK
NEC	3 µm	125 x 4.0 mm	UP3NEC*12QS	UP3NEC*12QK
NEC	3 µm	150 x 4.0 mm	UP3NEC*15QS	UP3NEC*15QK
NEC	5 µm	100 x 4.0 mm	UP5NEC*10QS	UP5NEC*10QK
NEC	5 µm	125 x 4.0 mm	UP5NEC*12QS	UP5NEC*12QK
NEC	5 µm	150 x 4.0 mm	UP5NEC*15QS	UP5NEC*15QK
NEC	5 µm	250 x 4.0 mm	UP5NEC*25QS	UP5NEC*25QK
NEC	5 µm	300 x 4.0 mm	UP5NEC*30QS	UP5NEC*30QK
NEC	3 µm	100 x 4.6 mm	UP3NEC-10QS	UP3NEC-10QK
NEC	3 µm	125 x 4.6 mm	UP3NEC-12QS	UP3NEC-12QK
NEC	3 µm	150 x 4.6 mm	UP3NEC-15QS	UP3NEC-15QK
NEC	5 µm	100 x 4.6 mm	UP5NEC-10QS	UP5NEC-10QK
NEC	5 µm	125 x 4.6 mm	UP5NEC-12QS	UP5NEC-12QK
NEC	5 µm	150 x 4.6 mm	UP5NEC-15QS	UP5NEC-15QK
NEC	5 µm	200 x 4.6 mm	UP5NEC-20QS	UP5NEC-20QK
NEC	5 µm	250 x 4.6 mm	UP5NEC-25QS	UP5NEC-25QK

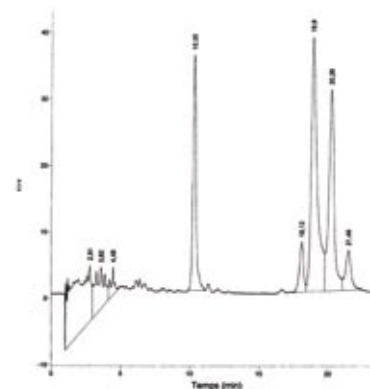
Uptisphere®

Octadecyl - USP code L1

120Å - 320 m²/g

%C : 16

mono functional + non end-capped



Selectivity 13 cis/ β -carotene all trans : 1.07

Selectivity β -carotene/*Zeaxanthine* : 1.92

Hydrophobicity β -carotene all trans : 17.76

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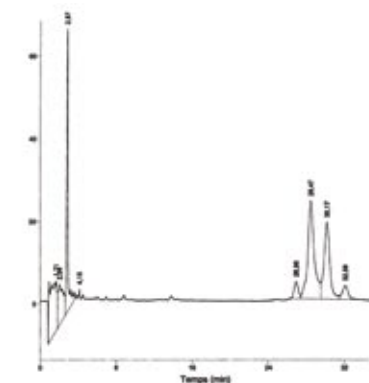
Uptisphere®

Octadecyl - USP code L1

120Å - 320 m²/g

%C : 20

mono functional + "multi step" end-capping



Selectivity 13 cis/β-carotene all trans : 1.06

Selectivity β-carotene/Zeaxanthine : 16.02

Hydrophobicity β-carotene all trans : 32.9

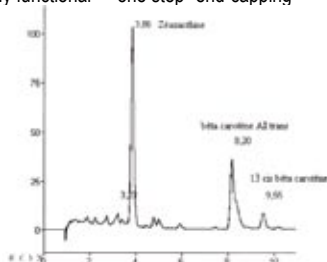
Modulo-cart information

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Octadecyl - USP code L1

%C : 14

poly functional + "one step" end-capping



Selectivity 13 cis/β-carotene all trans : 1.205

Selectivity β-carotene/Zeaxanthine : 2.5

Hydrophobicity β-carotene all trans : 9

Phase	Particle size	Dimension	Modulo-Cart QS	Modulo-Cart QK
HSC	3 µm	100 x 2.0 mm	UP3HSC#10QS	UP3HSC#10QK
HSC	3 µm	125 x 2.0 mm	UP3HSC#12QS	UP3HSC#12QK
HSC	3 µm	150 x 2.0 mm	UP3HSC#15QS	UP3HSC#15QK
HSC	5 µm	100 x 2.0 mm	UP5HSC#10QS	UP5HSC#10QK
HSC	5 µm	125 x 2.0 mm	UP5HSC#12QS	UP5HSC#12QK
HSC	5 µm	150 x 2.0 mm	UP5HSC#15QS	UP5HSC#15QK
HSC	5 µm	250 x 2.0 mm	UP5HSC#25QS	UP5HSC#25QK
HSC	3 µm	100 x 3.0 mm	UP3HSC\$10QS	UP3HSC\$10QK
HSC	3 µm	125 x 3.0 mm	UP3HSC\$12QS	UP3HSC\$12QK
HSC	3 µm	150 x 3.0 mm	UP3HSC\$15QS	UP3HSC\$15QK
HSC	5 µm	100 x 3.0 mm	UP5HSC\$10QS	UP5HSC\$10QK
HSC	5 µm	125 x 3.0 mm	UP5HSC\$12QS	UP5HSC\$12QK
HSC	5 µm	150 x 3.0 mm	UP5HSC\$15QS	UP5HSC\$15QK
HSC	5 µm	250 x 3.0 mm	UP5HSC\$25QS	UP5HSC\$25QK
HSC	3 µm	100 x 4.0 mm	UP3HSC*10QS	UP3HSC*10QK
HSC	3 µm	125 x 4.0 mm	UP3HSC*12QS	UP3HSC*12QK
HSC	3 µm	150 x 4.0 mm	UP3HSC*15QS	UP3HSC*15QK
HSC	5 µm	100 x 4.0 mm	UP5HSC*10QS	UP5HSC*10QK
HSC	5 µm	125 x 4.0 mm	UP5HSC*12QS	UP5HSC*12QK
HSC	5 µm	150 x 4.0 mm	UP5HSC*15QS	UP5HSC*15QK
HSC	5 µm	250 x 4.0 mm	UP5HSC*25QS	UP5HSC*25QK
HSC	5 µm	300 x 4.0 mm	UP5HSC*30QS	UP5HSC*30QK
HSC	3 µm	100 x 4.6 mm	UP3HSC-10QS	UP3HSC-10QK
HSC	3 µm	125 x 4.6 mm	UP3HSC-12QS	UP3HSC-12QK
HSC	3 µm	150 x 4.6 mm	UP3HSC-15QS	UP3HSC-15QK
HSC	5 µm	100 x 4.6 mm	UP5HSC-10QS	UP5HSC-10QK
HSC	5 µm	125 x 4.6 mm	UP5HSC-12QS	UP5HSC-12QK
HSC	5 µm	150 x 4.6 mm	UP5HSC-15QS	UP5HSC-15QK
HSC	5 µm	200 x 4.6 mm	UP5HSC-20QS	UP5HSC-20QK
HSC	5 µm	250 x 4.6 mm	UP5HSC-25QS	UP5HSC-25QK
TF	5 µm	100 x 2.0 mm	UP5TF#10QS	UP5TF#10QK
TF	5 µm	125 x 2.0 mm	UP5TF#12QS	UP5TF#12QK
TF	5 µm	150 x 2.0 mm	UP5TF#15QS	UP5TF#15QK
TF	5 µm	250 x 2.0 mm	UP5TF#25QS	UP5TF#25QK
TF	5 µm	100 x 3.0 mm	UP5TF\$10QS	UP5TF\$10QK
TF	5 µm	125 x 3.0 mm	UP5TF\$12QS	UP5TF\$12QK
TF	5 µm	150 x 3.0 mm	UP5TF\$15QS	UP5TF\$15QK
TF	5 µm	250 x 3.0 mm	UP5TF\$25QS	UP5TF\$25QK
TF	5 µm	100 x 4.0 mm	UP5TF*10QS	UP5TF*10QK
TF	5 µm	125 x 4.0 mm	UP5TF*12QS	UP5TF*12QK
TF	5 µm	150 x 4.0 mm	UP5TF*15QS	UP5TF*15QK
TF	5 µm	250 x 4.0 mm	UP5TF*25QS	UP5TF*25QK
TF	5 µm	100 x 4.6 mm	UP5TF-10QS	UP5TF-10QK
TF	5 µm	125 x 4.6 mm	UP5TF-12QS	UP5TF-12QK
TF	5 µm	150 x 4.6 mm	UP5TF-15QS	UP5TF-15QK
TF	5 µm	200 x 4.6 mm	UP5TF-20QS	UP5TF-20QK
TF	5 µm	250 x 4.6 mm	UP5TF-25QS	UP5TF-25QK

Analysis - HPLC - Interchim technology

PLP Uptisphere® stationary phases & columns

Uptisphere® PLP, Reverse phase with polar linked group

The Uptisphere® PLP stationary phase has a polar group embedded within a hydrophobic chain.

PLP exhibits :

- 100% compatibility with aqueous mobile phases
- Excellent peak symmetry with basic compounds
- Very good retention of polar compounds

Uptisphere® PLP is available in 5 µm and is stable between pH 2.5-to-7.5

Uptisphere 5 PLP, 250 x 4.6 mm

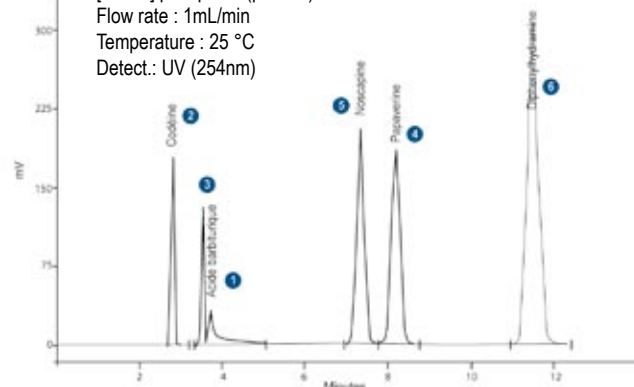
Mobile Phase : (15/85) MeOH/H₂O

[50mM] phosphate (pH2.31)

Flow rate : 1mL/min

Temperature : 25 °C

Detect.: UV (254nm)



Phase	Particle size	Dimension	Modulo-Cart HS
PLP	5 µm	20 x 4.6 mm	UP5PLP-2HS
PLP	5 µm	33 x 4.6 mm	UP5PLP-3HS
PLP	5 µm	50 x 4.6 mm	UP5PLP-5HS
PLP	5 µm	75 x 4.6 mm	UP5PLP-7HS
PLP	5 µm	33 x 4.0 mm	UP5PLP*3HS
PLP	5 µm	50 x 3.0 mm	UP5PLP\$5HS
PLP	5 µm	20 x 2.0 mm	UP5PLP#2HS
PLP	5 µm	33 x 2.0 mm	UP5PLP#3HS
PLP	5 µm	50 x 2.0 mm	AUP5PLP#5HS

Compound	k'	As
1 Barbituric acid	0.06	1.1
2 Codeine	0.33	0.9
3 Atropine	0.40	#
4 Papaverine	1.77	1.01
5 Noscapine	2.1	1.01
6 Diphenylhydramine	1.34	1.13

Phase	Particle size	Dimension	Modulo-Cart QS	Modulo-Cart QK
PLP	5 µm	100 x 2.0 mm	UP5PLP#10QS	UP5PLP#10QK
PLP	5 µm	125 x 2.0 mm	UP5PLP#12QS	UP5PLP#12QK
PLP	5 µm	150 x 2.0 mm	UP5PLP#15QS	UP5PLP#15QK
PLP	5 µm	250 x 2.0 mm	UP5PLP#25QS	UP5PLP#25QK
PLP	5 µm	100 x 3.0 mm	UP5PLP\$10QS	UP5PLP\$10QK
PLP	5 µm	125 x 3.0 mm	UP5PLP\$12QS	UP5PLP\$12QK
PLP	5 µm	150 x 3.0 mm	UP5PLP\$15QS	UP5PLP\$15QK
PLP	5 µm	250 x 3.0 mm	UP5PLP\$25QS	UP5PLP\$25QK
PLP	5 µm	100 x 4.0 mm	UP5PLP*10QS	UP5PLP*10QK
PLP	5 µm	125 x 4.0 mm	UP5PLP*12QS	UP5PLP*12QK
PLP	5 µm	150 x 4.0 mm	UP5PLP*15QS	UP5PLP*15QK
PLP	5 µm	250 x 4.0 mm	UP5PLP*25QS	UP5PLP*25QK
PLP	5 µm	100 x 4.6 mm	UP5PLP-10QS	UP5PLP-10QK
PLP	5 µm	125 x 4.6 mm	UP5PLP-12QS	UP5PLP-12QK
PLP	5 µm	150 x 4.6 mm	UP5PLP-15QS	UP5PLP-15QK
PLP	5 µm	200 x 4.6 mm	UP5PLP-20QS	UP5PLP-20QK
PLP	5 µm	250 x 4.6 mm	UP5PLP-25QS	UP5PLP-25QK

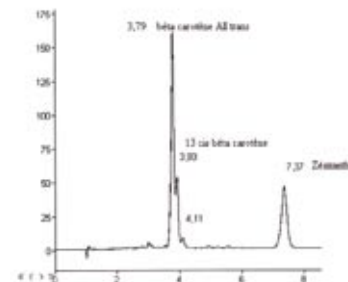
Uptisphere® PLP

Polar linked reverse phase

USP code L1

%C : 14

poly functional + end-capping "one step"



Selectivity 13 cis/β-carotene all trans : 1.05

Selectivity β-carotene/Zeaxanthin : 0.43

Hydrophobicity β-carotene all trans : 2.7

Analysis - HPLC - Interchim technology

Uptisphere® Strategy™ Hilic stationary phases & columns

Upti-prep® technology establishes major advantages that subsequently assist the separation process:

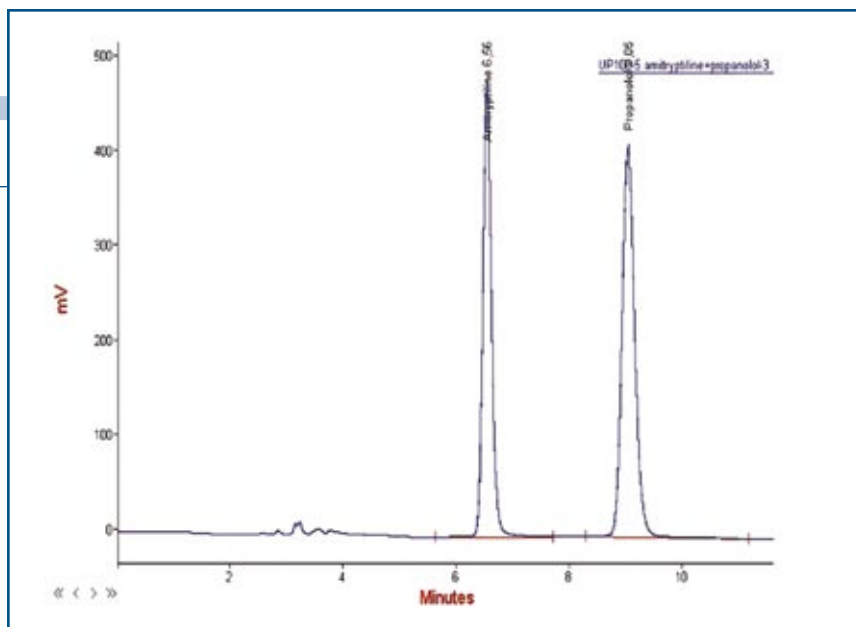
1. A weaker surface energy compared to first generation silicas (A type) and a number of second generation silicas (B type). This ultimately facilitates narrow peaks with basic compounds.
2. A very high quantity of free silanols combined with excellent accessibility leads to homogeneous & dense bonding chemistry. This establishes very high loading capacities and stability of the subsequent stationary phase under aggressive mobile phase conditions such as basic buffers.

An optimized version - 100Å - 450 m²/g - has been developed for Hilic separation

Separation of strong basic drugs on Uptisphere® Strategy™ Hilic 5 µm, 250 x 4.6 mm

MeOH - Buffer pH : 6.3 (70/30)

	tr	As
Amitriptylin	6.55	1.15
Propranolol	9.05	1.16



Columns are shipped under 100% Ethanol

Mobile phase should contain at least 40% organic and 5% polar solvent.

pH stability : 1 to 7.5

Analysis - HPLC - Interchim technology

Uptisphere® Strategy™ Hilic stationary phases & columns

		Dimensions	P/N
Modulo-cart HS	Strategy™ 5 µm Hilic SI	30 x 4.6 mm	US5540
		50 x 4.6 mm	US5550
		50 x 3.0 mm	US5560
		33 x 2.0 mm	US5570
		50 x 2.0 mm	US5580
Modulo-cart QS	Strategy™ 5 µm Hilic SI	100 x 4.6 mm	US5380
		150 x 4.6 mm	US5390
		250 x 4.6 mm	US5400
		150 x 3.0 mm	US5410
		250 x 3.0 mm	US5420
		100 x 2.0 mm	US5430
		150 x 2.0 mm	US5440
		250 x 2.0 mm	US5450
Modulo-cart QK	Strategy™ 5 µm Hilic SI	100 x 4.6 mm	US5460
		150 x 4.6 mm	US5470
		250 x 4.6 mm	US5480
		150 x 3.0 mm	US5490
		250 x 3.0 mm	US5500
		100 x 2.0 mm	US5510
		150 x 2.0 mm	US5520
		250 x 2.0 mm	US5530

Modulo-cart information
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QS

QK

Analysis - HPLC - Interchim technology

Additional Uptisphere® stationary phases & QS columns

Additional Uptisphere® and Uptisphere® Strategy™ stationary phases

Fifteen additional chemistries are offered within the Uptisphere® range to complement the C18 Uptisphere® offering. They support a variety of analyte to stationary phase interaction.

All Uptisphere® phases are manufactured using Upti-prep™ silica technology as detailed earlier in this chapter. Uptisphere® stationary phases are made using Upti-prep™ 120Å silica; whilst Uptisphere® Strategy™ phases are manufactured on Upti-prep™ 100Å silica.

Available chemistries are detailed in the table below.

Phase	Bonding	Pore size Å	Surface area m ² /g	% C	end-capping	USP code
Strategy C8-2	C8	100	425	14	one step	L7
Strategy SI	OH	100	425		non	L4
Uptisphere C8	C8	120	320	11	one step	L7
Uptisphere C8U	C8	120	320	6	non	L7
Uptisphere C4	C4	120	320	7	one step	L26
Uptisphere CN	Cyano	120	320	8	one step	L10
Uptisphere PH	phenyl	120	320	9	one step	L11
Uptisphere NH2	amino	120	320	11	non	L8
Uptisphere SCX	Exchange cations	120	320		non	L50
Uptisphere MM1	C8/SCX	120	320		non	L44
Uptisphere SAX	Exchange anions	120	320		non	L14
Uptisphere MM3	C8/SAX	120	320		non	L28
Uptisphere SI	OH	120	320		non	L4
Uptisphere OH	diol	120	320		non	L20
Uptisphere DNAP	DNAP	120	320		non	

Analysis - HPLC - Interchim technology

Additional Uptisphere® stationary phases & QS columns

Phase	Particle size	Dimension	Modulo-Cart QS	Modulo-Cart QK
C8-2	3 µm	100 x 2.0 mm	US2550	US2750
C8-2	3 µm	150 x 2.0 mm	US2560	US2760
C8-2	5 µm	100 x 2.0 mm	US2570	US2770
C8-2	5 µm	150 x 2.0 mm	US2580	US2780
C8-2	5 µm	250 x 2.0 mm	US2590	US2790
C8-2	3 µm	150 x 3.0 mm	US2520	US2720
C8-2	5 µm	150 x 3.0 mm	US2530	US2730
C8-2	5 µm	250 x 3.0 mm	US2540	US2740
C8-2	3 µm	125 x 4.0 mm	US2460	US2660
C8-2	3 µm	150 x 4.0 mm	US2470	US2670
C8-2	5 µm	125 x 4.0 mm	US2480	US2680
C8-2	5 µm	150 x 4.0 mm	US2490	US2690
C8-2	5 µm	250 x 4.0 mm	US2500	US2700
C8-2	10 µm	250 x 4.0 mm	US2510	US2710
C8-2	3 µm	100 x 4.6 mm	US2400	US2600
C8-2	3 µm	150 x 4.6 mm	US2410	US2610
C8-2	5 µm	100 x 4.6 mm	US2420	US2620
C8-2	5 µm	150 x 4.6 mm	US2430	US2630
C8-2	5 µm	250 x 4.6 mm	US2440	US2640
C8-2	10 µm	250 x 4.6 mm	US2450	US2650
SI	5 µm	100 x 2.0 mm	US1550	US1680
SI	5 µm	150 x 2.0 mm	US1560	US1690
SI	5 µm	250 x 2.0 mm	US1570	US1700
SI	5 µm	150 x 3.0 mm	US1530	US1660
SI	5 µm	250 x 3.0 mm	US1540	US1670
SI	5 µm	125 x 4.0 mm	US1490	US1620
SI	5 µm	150 x 4.0 mm	US1500	US1630
SI	5 µm	250 x 4.0 mm	US1510	US1640
SI	10 µm	250 x 4.0 mm	US1520	US1650
SI	5 µm	100 x 4.6 mm	US1450	US1580
SI	5 µm	150 x 4.6 mm	US1460	US1590
SI	5 µm	250 x 4.6 mm	US1470	US1600
SI	10 µm	250 x 4.6 mm	US1380	US1610

Uptisphere® Strategy™

Octyl - (USP code L7)

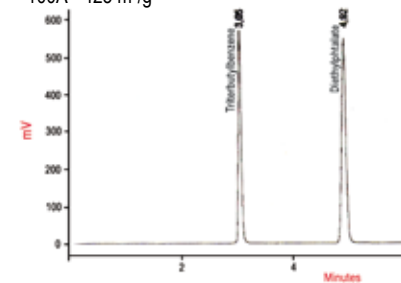
100Å - 425 m²/g

%C : 14

mono functional + "one step" end-capping

Silica - (USP code L4)

100Å - 425 m²/g



	tr	As	N
Triterbutylbenzene	3.05	1.24	19105
Diethylphthalate	4.92	1.07	20437

Modulo-cart information
page B.26 - B.30

Analysis - HPLC - Interchim technology

Additional Uptisphere® stationary phases & QS columns

Uptisphere®

Octyl - (USP code L7)
 120Å - 320 m²/g
 %C : 11
 mono functional + "one step" end-capping

Phase	Particle size	Dimension	Modulo-Cart QS	Modulo-Cart QK
C8	3 µm	100 x 2.0 mm	UP3C8#10QS	UP3C8#10QK
C8	3 µm	125 x 2.0 mm	UP3C8#12QS	UP3C8#12QK
C8	3 µm	150 x 2.0 mm	UP3C8#15QS	UP3C8#15QK
C8	5 µm	100 x 2.0 mm	UP5C8#10QS	UP5C8#10QK
C8	5 µm	125 x 2.0 mm	UP5C8#12QS	UP5C8#12QK
C8	5 µm	150 x 2.0 mm	UP5C8#15QS	UP5C8#15QK
C8	5 µm	250 x 2.0 mm	UP5C8#25QS	UP5C8#25QK
C8	3 µm	100 x 3.0 mm	UP3C8\$10QS	UP3C8\$10QK
C8	3 µm	125 x 3.0 mm	UP3C8\$12QS	UP3C8\$12QK
C8	3 µm	150 x 3.0 mm	UP3C8\$15QS	UP3C8\$15QK
C8	5 µm	100 x 3.0 mm	UP5C8\$10QS	UP5C8\$10QK
C8	5 µm	125 x 3.0 mm	UP5C8\$12QS	UP5C8\$12QK
C8	5 µm	150 x 3.0 mm	UP5C8\$15QS	UP5C8\$15QK
C8	5 µm	250 x 3.0 mm	UP5C8\$25QS	UP5C8\$25QK
C8	3 µm	100 x 4.0 mm	UP3C8*10QS	UP3C8*10QK
C8	3 µm	125 x 4.0 mm	UP3C8*12QS	UP3C8*12QK
C8	3 µm	150 x 4.0 mm	UP3C8*15QS	UP3C8*15QK
C8	5 µm	100 x 4.0 mm	UP5C8*10QS	UP5C8*10QK
C8	5 µm	125 x 4.0 mm	UP5C8*12QS	UP5C8*12QK
C8	5 µm	150 x 4.0 mm	UP5C8*15QS	UP5C8*15QK
C8	5 µm	250 x 4.0 mm	UP5C8*25QS	UP5C8*25QK
C8	10 µm	250 x 4.0 mm	UP10C8*25QS	UP10C8*25QK
C8	3 µm	100 x 4.6 mm	UP3C8-10QS	UP3C8-10QK
C8	3 µm	125 x 4.6 mm	UP3C8-12QS	UP3C8-12QK
C8	3 µm	150 x 4.6 mm	UP3C8-15QS	UP3C8-15QK
C8	5 µm	100 x 4.6 mm	UP5C8-10QS	UP5C8-10QK
C8	5 µm	125 x 4.6 mm	UP5C8-12QS	UP5C8-12QK
C8	5 µm	150 x 4.6 mm	UP5C8-15QS	UP5C8-15QK
C8	5 µm	200 x 4.6 mm	UP5C8-20QS	UP5C8-20QK
C8	5 µm	250 x 4.6 mm	UP5C8-25QS	UP5C8-25QK
C8	10 µm	250 x 4.6 mm	UP10C8-25QS	UP10C8-25QK

Modulo-cart information
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Analysis - HPLC - Interchim technology

Additional Uptisphere® stationary phases & QS columns

Phase	Particle size	Dimension	Modulo-Cart QS	Modulo-Cart QK
C8U	5 µm	100 x 2.0 mm	UP5C8U#10QS	UP5C8U#10QK
C8U	5 µm	125 x 2.0 mm	UP5C8U#12QS	UP5C8U#12QK
C8U	5 µm	150 x 2.0 mm	UP5C8U#15QS	UP5C8U#15QK
C8U	5 µm	250 x 2.0 mm	UP5C8U#25QS	UP5C8U#25QK
C8U	5 µm	100 x 3.0 mm	UP5C8U\$10QS	UP5C8U\$10QK
C8U	5 µm	125 x 3.0 mm	UP5C8U\$12QS	UP5C8U\$12QK
C8U	5 µm	150 x 3.0 mm	UP5C8U\$15QS	UP5C8U\$15QK
C8U	5 µm	250 x 3.0 mm	UP5C8U\$25QS	UP5C8U\$25QK
C8U	5 µm	100 x 4.0 mm	UP5C8U*10QS	UP5C8U*10QK
C8U	5 µm	125 x 4.0 mm	UP5C8U*12QS	UP5C8U*12QK
C8U	5 µm	150 x 4.0 mm	UP5C8U*15QS	UP5C8U*15QK
C8U	5 µm	250 x 4.0 mm	UP5C8U*25QS	UP5C8U*25QK
C8U	5 µm	100 x 4.6 mm	UP5C8U-10QS	UP5C8U-10QK
C8U	5 µm	125 x 4.6 mm	UP5C8U-12QS	UP5C8U-12QK
C8U	5 µm	150 x 4.6 mm	UP5C8U-15QS	UP5C8U-15QK
C8U	5 µm	200 x 4.6 mm	UP5C8U-20QS	UP5C8U-20QK
C8U	5 µm	250 x 4.6 mm	UP5C8U-25QS	UP5C8U-25QK
<hr/>				
C4	3 µm	100 x 2.0 mm	UP3C4#10QS	UP3C4#10QK
C4	3 µm	125 x 2.0 mm	UP3C4#12QS	UP3C4#12QK
C4	3 µm	150 x 2.0 mm	UP3C4#15QS	UP3C4#15QK
C4	5 µm	100 x 2.0 mm	UP5C4#10QS	UP5C4#10QK
C4	5 µm	125 x 2.0 mm	UP5C4#12QS	UP5C4#12QK
C4	5 µm	150 x 2.0 mm	UP5C4#15QS	UP5C4#15QK
C4	5 µm	250 x 2.0 mm	UP5C4#25QS	UP5C4#25QK
C4	3 µm	100 x 3.0 mm	UP3C4\$10QS	UP3C4\$10QK
C4	3 µm	125 x 3.0 mm	UP3C4\$12QS	UP3C4\$12QK
C4	3 µm	150 x 3.0 mm	UP3C4\$15QS	UP3C4\$15QK
C4	5 µm	100 x 3.0 mm	UP5C4\$10QS	UP5C4\$10QK
C4	5 µm	125 x 3.0 mm	UP5C4\$12QS	UP5C4\$12QK
C4	5 µm	150 x 3.0 mm	UP5C4\$15QS	UP5C4\$15QK
C4	5 µm	250 x 3.0 mm	UP5C4\$25QS	UP5C4\$25QK
C4	3 µm	100 x 4.0 mm	UP3C4*10QS	UP3C4*10QK
C4	3 µm	125 x 4.0 mm	UP3C4*12QS	UP3C4*12QK
C4	3 µm	150 x 4.0 mm	UP3C4*15QS	UP3C4*15QK
C4	5 µm	100 x 4.0 mm	UP5C4*10QS	UP5C4*10QK
C4	5 µm	125 x 4.0 mm	UP5C4*12QS	UP5C4*12QK
C4	5 µm	150 x 4.0 mm	UP5C4*15QS	UP5C4*15QK
C4	5 µm	250 x 4.0 mm	UP5C4*25QS	UP5C4*25QK
C4	3 µm	100 x 4.6 mm	UP3C4-10QS	UP3C4-10QK
C4	3 µm	125 x 4.6 mm	UP3C4-12QS	UP3C4-12QK
C4	3 µm	150 x 4.6 mm	UP3C4-15QS	UP3C4-15QK
C4	5 µm	100 x 4.6 mm	UP5C4-10QS	UP5C4-10QK
C4	5 µm	125 x 4.6 mm	UP5C4-12QS	UP5C4-12QK
C4	5 µm	150 x 4.6 mm	UP5C4-15QS	UP5C4-15QK
C4	5 µm	200 x 4.6 mm	UP5C4-20QS	UP5C4-20QK
C4	5 µm	250 x 4.6 mm	UP5C4-25QS	UP5C4-25QK

Uptisphere®

Octyl - (USP code L7)

120Å - 320 m²/g

%C : 6

mono functional + non end-capped

Butyl - (USP code L26)

120Å - 320 m²/g

%C : 7

mono functional + "one step" end-capping

Analysis - HPLC - Interchim technology

Additional Uptisphere® stationary phases & QS columns

Uptisphere®

Cyano - (USP code L10)

120Å - 320 m²/g

%C : 8

mono functional + "one step" end-capping

Phase	Particle size	Dimension	Modulo-Cart QS	Modulo-Cart QK
CN	3 µm	100 x 2.0 mm	UP3CN#10QS	UP3CN#10QK
CN	3 µm	125 x 2.0 mm	UP3CN#12QS	UP3CN#12QK
CN	3 µm	150 x 2.0 mm	UP3CN#15QS	UP3CN#15QK
CN	5 µm	100 x 2.0 mm	UP5CN#10QS	UP5CN#10QK
CN	5 µm	125 x 2.0 mm	UP5CN#12QS	UP5CN#12QK
CN	5 µm	150 x 2.0 mm	UP5CN#15QS	UP5CN#15QK
CN	5 µm	250 x 2.0 mm	UP5CN#25QS	UP5CN#25QK
CN	3 µm	100 x 3.0 mm	UP3CN\$10QS	UP3CN\$10QK
CN	3 µm	125 x 3.0 mm	UP3CN\$12QS	UP3CN\$12QK
CN	3 µm	150 x 3.0 mm	UP3CN\$15QS	UP3CN\$15QK
CN	5 µm	100 x 3.0 mm	UP5CN\$10QS	UP5CN\$10QK
CN	5 µm	125 x 3.0 mm	UP5CN\$12QS	UP5CN\$12QK
CN	5 µm	150 x 3.0 mm	UP5CN\$15QS	UP5CN\$15QK
CN	5 µm	250 x 3.0 mm	UP5CN\$25QS	UP5CN\$25QK
CN	3 µm	100 x 4.0 mm	UP3CN*10QS	UP3CN*10QK
CN	3 µm	125 x 4.0 mm	UP3CN*12QS	UP3CN*12QK
CN	3 µm	150 x 4.0 mm	UP3CN*15QS	UP3CN*15QK
CN	5 µm	100 x 4.0 mm	UP5CN*10QS	UP5CN*10QK
CN	5 µm	125 x 4.0 mm	UP5CN*12QS	UP5CN*12QK
CN	5 µm	150 x 4.0 mm	UP5CN*15QS	UP5CN*15QK
CN	5 µm	250 x 4.0 mm	UP5CN*25QS	UP5CN*25QK
CN	10 µm	250 x 4.0 mm	UP10CN*25QS	UP10CN*25QK
CN	3 µm	100 x 4.6 mm	UP3CN-10QS	UP3CN-10QK
CN	3 µm	125 x 4.6 mm	UP3CN-12QS	UP3CN-12QK
CN	3 µm	150 x 4.6 mm	UP3CN-15QS	UP3CN-15QK
CN	5 µm	100 x 4.6 mm	UP5CN-10QS	UP5CN-10QK
CN	5 µm	125 x 4.6 mm	UP5CN-12QS	UP5CN-12QK
CN	5 µm	150 x 4.6 mm	UP5CN-15QS	UP5CN-15QK
CN	5 µm	200 x 4.6 mm	UP5CN-20QS	UP5CN-20QK
CN	5 µm	250 x 4.6 mm	UP5CN-25QS	UP5CN-25QK
CN	10 µm	250 x 4.6 mm	UP10CN-25QS	UP10CN-25QK

Phényl - (USP code L11)

120Å - 320 m²/g

%C : 9

mono functional + "one step" end-capping

PH	5 µm	100 x 2.0 mm	UP5PH#10QS	UP5PH#10QK
PH	5 µm	125 x 2.0 mm	UP5PH#12QS	UP5PH#12QK
PH	5 µm	150 x 2.0 mm	UP5PH#15QS	UP5PH#15QK
PH	5 µm	250 x 2.0 mm	UP5PH#25QS	UP5PH#25QK
PH	5 µm	100 x 3.0 mm	UP5PH\$10QS	UP5PH\$10QK
PH	5 µm	125 x 3.0 mm	UP5PH\$12QS	UP5PH\$12QK
PH	5 µm	150 x 3.0 mm	UP5PH\$15QS	UP5PH\$15QK
PH	5 µm	250 x 3.0 mm	UP5PH\$25QS	UP5PH\$25QK
PH	5 µm	100 x 4.0 mm	UP5PH*10QS	UP5PH*10QK
PH	5 µm	125 x 4.0 mm	UP5PH*12QS	UP5PH*12QK
PH	5 µm	150 x 4.0 mm	UP5PH*15QS	UP5PH*15QK
PH	5 µm	250 x 4.0 mm	UP5PH*25QS	UP5PH*25QK
PH	5 µm	100 x 4.6 mm	UP5PH-10QS	UP5PH-10QK
PH	5 µm	125 x 4.6 mm	UP5PH-12QS	UP5PH-12QK
PH	5 µm	150 x 4.6 mm	UP5PH-15QS	UP5PH-15QK
PH	5 µm	200 x 4.6 mm	UP5PH-20QS	UP5PH-20QK
PH	5 µm	250 x 4.6 mm	UP5PH-25QS	UP5PH-25QK

Analysis - HPLC - Interchim technology

Additional Uptisphere® stationary phases & QS columns

Phase	Particle size	Dimension	Modulo-Cart QS	Modulo-Cart QK
NH2	5 µm	150 x 2.0 mm	UP5NH2#15QS	UP5NH2#15QK
NH2	5 µm	250 x 2.0 mm	UP5NH2#25QS	UP5NH2#25QK
NH2	5 µm	150 x 3.0 mm	UP5NH2\$15QS	UP5NH2\$15QK
NH2	5 µm	250 x 3.0 mm	UP5NH2\$25QS	UP5NH2\$25QK
NH2	5 µm	150 x 4.0 mm	UP5NH2*15QS	UP5NH2*15QK
NH2	5 µm	250 x 4.0 mm	UP5NH2*25QS	UP5NH2*25QK
NH2	5 µm	150 x 4.6 mm	UP5NH2-15QS	UP5NH2-15QK
NH2	5 µm	250 x 4.6 mm	UP5NH2-25QS	UP5NH2-25QK
SCX	5 µm	250 x 4.0 mm	UP5SCX*25QS	UP5SCX*25QK
SCX	10 µm	250 x 4.0 mm	UP10SCX*25QS	UP10SCX*25QK
SCX	5 µm	250 x 4.6 mm	UP5SCX-25QS	UP5SCX-25QK
SCX	10 µm	250 x 4.6 mm	UP10SCX-25QS	UP10SCX-25QK
MM1	5 µm	250 x 4.6 mm	UP5MM1-25QS	UP5MM1-25QK
MM1	5 µm	250 x 4.0 mm	UP5MM1*25QS	UP5MM1*25QK
SAX	5 µm	250 x 4.0 mm	UP5SAX*25QS	UP5SAX*25QK
SAX	10 µm	250 x 4.0 mm	UP10SAX*25QS	UP10SAX*25QK
SAX	5 µm	250 x 4.6 mm	UP5SAX-25QS	UP5SAX-25QK
SAX	10 µm	250 x 4.6 mm	UP10SAX-25QS	UP10SAX-25QK
MM3	5 µm	250 x 4.6 mm	UP5MM3-25QS	UP5MM3-25QK
MM3	5 µm	250 x 4.0 mm	UP5MM3*25QS	UP5MM3*25QK

Uptisphere®

Amino - (USP code L8)
120Å - 320 m²/g
%C : 5
mono functional non end-capped

Strong Cation exchanger
(USP code L50) - 120Å - 320 m²/g

Octyl / Strong Cation exchanger
(USP code L44) - 120Å - 320 m²/g

Strong Anion exchanger
(USP code L14) - 120Å - 320 m²/g

Octyl / Strong Anion exchanger
(USP code L28) - 120Å - 320 m²/g

Modulo-cart information
page B.26 - B.30

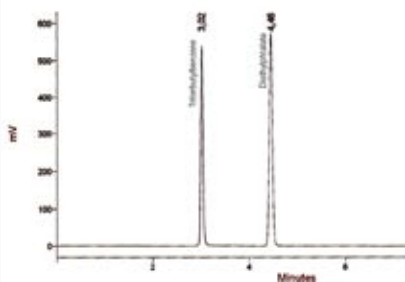
Analysis - HPLC - Interchim technology

Additional Uptisphere® stationary phases & QS columns

Uptisphere®

Silica - (USP code L4)

120Å - 320 m²/g



	tr	As	N
Triterbutylbenzene	3.02	1.14	19243
Diethylphthalate	4.46	0.96	21859

Modulo-cart information
page B.26 - B.30

Diol - (USP code L20)

120Å - 320 m²/g

%C : 6

Dinitroanilidopropyl

120Å - 320 m²/g

Phase	Particle size	Dimension	Modulo-Cart QS	Modulo-Cart QK
SI	3 µm	100 x 2.0 mm	UP3SI#10QS	UP3SI#10QK
SI	3 µm	125 x 2.0 mm	UP3SI#12QS	UP3SI#12QK
SI	3 µm	150 x 2.0 mm	UP3SI#15QS	UP3SI#15QK
SI	5 µm	100 x 2.0 mm	UP5SI#10QS	UP5SI#10QK
SI	5 µm	125 x 2.0 mm	UP5SI#12QS	UP5SI#12QK
SI	5 µm	150 x 2.0 mm	UP5SI#15QS	UP5SI#15QK
SI	5 µm	250 x 2.0 mm	UP5SI#25QS	UP5SI#25QK
SI	3 µm	100 x 3.0 mm	UP3SI\$10QS	UP3SI\$10QK
SI	3 µm	125 x 3.0 mm	UP3SI\$12QS	UP3SI\$12QK
SI	3 µm	150 x 3.0 mm	UP3SI\$15QS	UP3SI\$15QK
SI	5 µm	100 x 3.0 mm	UP5SI\$10QS	UP5SI\$10QK
SI	5 µm	125 x 3.0 mm	UP5SI\$12QS	UP5SI\$12QK
SI	5 µm	150 x 3.0 mm	UP5SI\$15QS	UP5SI\$15QK
SI	5 µm	250 x 3.0 mm	UP5SI\$25QS	UP5SI\$25QK
SI	3 µm	100 x 4.0 mm	UP3SI*10QS	UP3SI*10QK
SI	3 µm	125 x 4.0 mm	UP3SI*12QS	UP3SI*12QK
SI	3 µm	150 x 4.0 mm	UP3SI*15QS	UP3SI*15QK
SI	5 µm	100 x 4.0 mm	UP5SI*10QS	UP5SI*10QK
SI	5 µm	125 x 4.0 mm	UP5SI*12QS	UP5SI*12QK
SI	5 µm	150 x 4.0 mm	UP5SI*15QS	UP5SI*15QK
SI	5 µm	250 x 4.0 mm	UP5SI*25QS	UP5SI*25QK
SI	5 µm	300 x 4.0 mm	UP5SI*30QS	UP5SI*30QK
SI	10 µm	250 x 4.0 mm	UP10SI*25QS	UP10SI*25QK
SI	10 µm	300 x 4.0 mm	UP10SI*30QS	UP10SI*30QK
SI	3 µm	100 x 4.6 mm	UP3SI-10QS	UP3SI-10QK
SI	3 µm	125 x 4.6 mm	UP3SI-12QS	UP3SI-12QK
SI	3 µm	150 x 4.6 mm	UP3SI-15QS	UP3SI-15QK
SI	5 µm	100 x 4.6 mm	UP5SI-10QS	UP5SI-10QK
SI	5 µm	125 x 4.6 mm	UP5SI-12QS	UP5SI-12QK
SI	5 µm	150 x 4.6 mm	UP5SI-15QS	UP5SI-15QK
SI	5 µm	200 x 4.6 mm	UP5SI-20QS	UP5SI-20QK
SI	5 µm	250 x 4.6 mm	UP5SI-25QS	UP5SI-25QK
SI	10 µm	250 x 4.6 mm	UP10SI-25QS	UP10SI-25QK
OH	6 µm	150 x 2.0 mm	UP6OH#15QS	UP6OH#15QK
OH	6 µm	250 x 2.0 mm	UP6OH#25QS	UP6OH#25QK
OH	6 µm	150 x 3.0 mm	UP6OH\$15QS	UP6OH\$15QK
OH	6 µm	250 x 3.0 mm	UP6OH\$25QS	UP6OH\$25QK
OH	6 µm	150 x 4.0 mm	UP6OH*15QS	UP6OH*15QK
OH	6 µm	250 x 4.0 mm	UP6OH*25QS	UP6OH*25QK
OH	6 µm	150 x 4.6 mm	UP6OH-15QS	UP6OH-15QK
OH	6 µm	250 x 4.6 mm	UP6OH-25QS	UP6OH-25QK
DNAP	5 µm	250 x 4.6 mm	UP5DNAP-25QS	UP5DNAP-25QK

Analysis - HPLC - Interchim technology

Uptisphere® stationary phases & HS columns

Modulo-Cart HS

Reduce analysis time whilst maintaining resolution

Modulo-Cart HS columns are designed to achieve, within a smaller length format, rapid and efficient analysis. Interchim have established tailored packing processes for their 3 μm and 5 μm Uptisphere® and Uptisphere® Strategy™ stationary phases within short column lengths to maximize subsequent short column performance and lifetime. The HS range is available in 1.0, 2.0 and 4.6mm i.d and 20, 25, 33, 50 and 75 mm lengths.

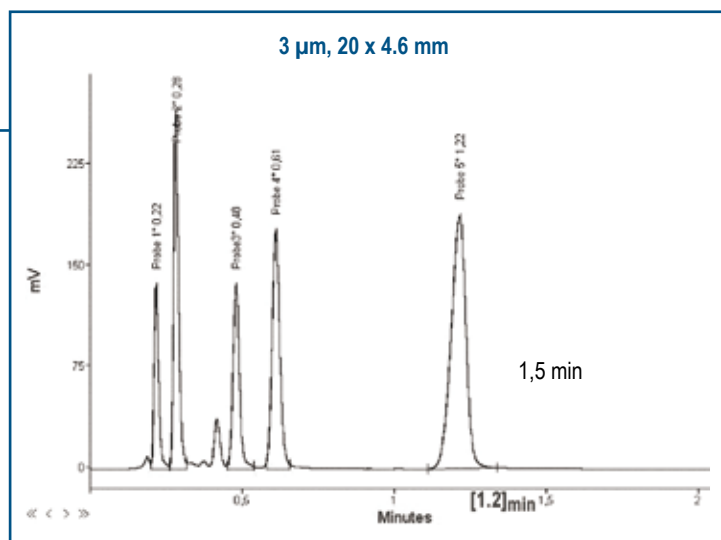
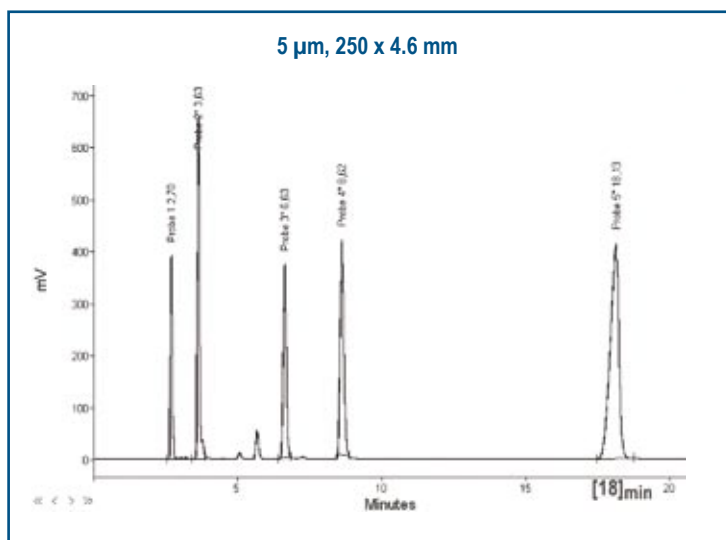
- Dedicated to rapid analysis
- Ideal for rapid gradients and LC/MS
- Zero dead volume

Considerations toward enhancing column performance

Care should be taken to remove the additional column dead volumes to maximize the performance of Modulo-cart HS columns. The tube connection between column and the injector must have a 0.005" diameter. It is also important to reduce the rotor valve volume of the injector and to use a nano volume cell within the detector.

Interchim column guarantee

1. Each phase batch undergoes strict quality control.
2. Every Modulo-Cart Quick Seal column is individually tested and delivered with its own chromatogram certificate.
3. Every Modulo-Cart Quick Seal produced fits the companies stringent standards of production
4. Every Modulo-Cart Quick Seal is shipped within 24 working hours of receipt of order



Analysis - HPLC - Interchim technology

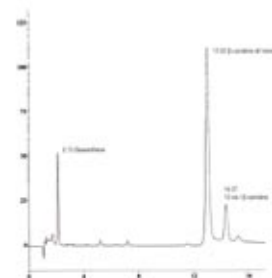
Uptisphere® stationary phases & HS columns

Uptisphere® Strategy™

Octadecyl - USP code L1

100Å - 425 m²/g ; %C : 19

mono functional + "multi step" end-capping



Selectivity 13 cis/ β -carotene all trans : 1.11

Selectivity β -carotene/Zeaxanthine : 11

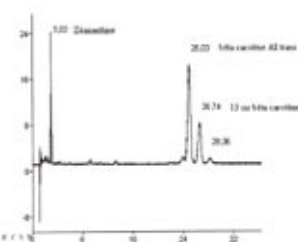
Hydrophobicity β -carotene all trans : 11.4

Octadecyl - USP code L1

100Å - 425 m²/g

%C : 22

mono functional + "multi step" end-capping

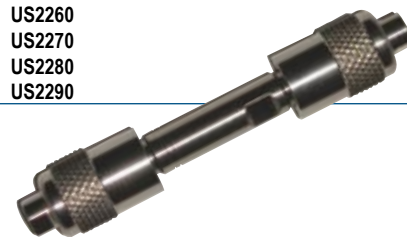


Selectivity 13 cis/ β -carotene all trans : 1.07

Selectivity β -carotene/Zeaxanthine : 12.66

Hydrophobicity β -carotene all trans : 21.15

Phase	Particle size	Dimension	Modulo-Cart HS
C18-2	3 μ m	20 x 2.0 mm	US1100
C18-2	3 μ m	33 x 2.0 mm	US1110
C18-2	3 μ m	50 x 2.0 mm	US1120
C18-2	5 μ m	20 x 2.0 mm	US1130
C18-2	5 μ m	33 x 2.0 mm	US1140
C18-2	5 μ m	50 x 2.0 mm	US1150
C18-2	3 μ m	50 x 3.0 mm	US1080
C18-2	5 μ m	50 x 3.0 mm	US1090
C18-2	3 μ m	33 x 4.0 mm	US1060
C18-2	5 μ m	33 x 4.0 mm	US1070
C18-2	3 μ m	20 x 4.6 mm	US0980
C18-2	3 μ m	33 x 4.6 mm	US0990
C18-2	3 μ m	50 x 4.6 mm	US1000
C18-2	3 μ m	75 x 4.6 mm	US1010
C18-2	5 μ m	20 x 4.6 mm	US1020
C18-2	5 μ m	33 x 4.6 mm	US1030
C18-2	5 μ m	50 x 4.6 mm	US1040
C18-2	5 μ m	75 x 4.6 mm	US1050
C18-3	3 μ m	20 x 2.0 mm	US2340
C18-3	3 μ m	33 x 2.0 mm	US2350
C18-3	3 μ m	50 x 2.0 mm	US2360
C18-3	5 μ m	20 x 2.0 mm	US2370
C18-3	5 μ m	33 x 2.0 mm	US2380
C18-3	5 μ m	50 x 2.0 mm	US2390
C18-3	3 μ m	50 x 3.0 mm	US2320
C18-3	5 μ m	50 x 3.0 mm	US2330
C18-3	3 μ m	33 x 4.0 mm	US2300
C18-3	5 μ m	33 x 4.0 mm	US2310
C18-3	3 μ m	20 x 4.6 mm	US2220
C18-3	3 μ m	33 x 4.6 mm	US2230
C18-3	3 μ m	50 x 4.6 mm	US2240
C18-3	3 μ m	75 x 4.6 mm	US2250
C18-3	5 μ m	20 x 4.6 mm	US2260
C18-3	5 μ m	33 x 4.6 mm	US2270
C18-3	5 μ m	50 x 4.6 mm	US2280
C18-3	5 μ m	75 x 4.6 mm	US2290



Analysis - HPLC - Interchim technology

Uptisphere® stationary phases & HS columns

Phase	Particle size	Dimension	Modulo-Cart HS
RP	3 µm	20 x 2.0 mm	US0530
RP	3 µm	33 x 2.0 mm	US0540
RP	3 µm	50 x 2.0 mm	US0550
RP	5 µm	20 x 2.0 mm	US0560
RP	5 µm	33 x 2.0 mm	US0570
RP	5 µm	50 x 2.0 mm	US0070
RP	3 µm	50 x 3.0 mm	US0510
RP	5 µm	50 x 3.0 mm	US0520
RP	3 µm	33 x 4.0 mm	US0490
RP	5 µm	33 x 4.0 mm	US0500
RP	3 µm	20 x 4.6 mm	US0420
RP	3 µm	33 x 4.6 mm	US0430
RP	3 µm	50 x 4.6 mm	US0440
RP	3 µm	75 x 4.6 mm	US0450
RP	5 µm	20 x 4.6 mm	US0460
RP	5 µm	33 x 4.6 mm	US0470
RP	5 µm	50 x 4.6 mm	US0030
RP	5 µm	75 x 4.6 mm	US0480

C8-2	3 µm	20 x 2.0 mm	US2920
C8-2	3 µm	33 x 2.0 mm	US2930
C8-2	3 µm	50 x 2.0 mm	US2940
C8-2	5 µm	20 x 2.0 mm	US2950
C8-2	5 µm	33 x 2.0 mm	US2960
C8-2	5 µm	50 x 2.0 mm	US2970
C8-2	3 µm	50 x 3.0 mm	US2900
C8-2	5 µm	50 x 3.0 mm	US2910
C8-2	3 µm	33 x 4.0 mm	US2880
C8-2	5 µm	33 x 4.0 mm	US2890
C8-2	3 µm	20 x 4.6 mm	US2800
C8-2	3 µm	33 x 4.6 mm	US2810
C8-2	3 µm	50 x 4.6 mm	US2820
C8-2	3 µm	75 x 4.6 mm	US2830
C8-2	5 µm	20 x 4.6 mm	US2840
C8-2	5 µm	33 x 4.6 mm	US2850
C8-2	5 µm	50 x 4.6 mm	US2860
C8-2	5 µm	75 x 4.6 mm	US2870

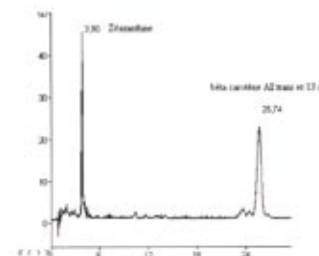
Uptisphere® Strategy™

Octadecyl - USP code L1

100Å - 425 m²/g

%C : 16

mono functional + "mixed" end-capping



Selectivity 13 cis/β-carotene all trans : 1

Selectivity β-carotene/Zeaxanthine : 8.3

Hydrophobicity β-carotene all trans : 23.66

Octyl - USP code L7

100Å - 425 m²/g

%C : 14

mono functional + "one step" end-capping

Modulo-cart information
page B.26 - B.30

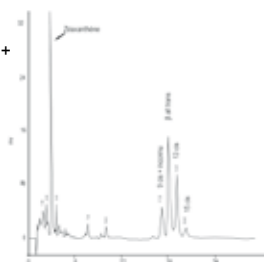
Analysis - HPLC - Interchim technology

Uptisphere® stationary phases & HS columns

Uptisphere®

Octadecyl - USP code L1

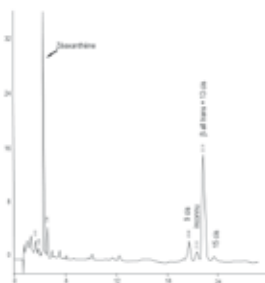
120Å - 320 m²/g
%C : 18
mono functional +
"one step"
end-capping



Selectivity 13 cis/ β -carotene all trans : 1.06
Selectivity β -carotene/Zeaxanthine : 9.1
Hydrophobicity β -carotene all trans : 17.21

Octadecyl - USP code L1

120Å - 320 m²/g
%C : 17
mono functional +
+ "mixed"
end-capping



Selectivity 13 cis/ β -carotene all trans : 1.0
Selectivity β -carotene/Zeaxanthine : 8.81
Hydrophobicity β -carotene all trans : 21.54

Phase	Particle size	Dimension	Modulo-Cart HS
ODB	3 μ m	20 x 2.0 mm	UP30DB#2HS
ODB	3 μ m	33 x 2.0 mm	UP30DB#3HS
ODB	3 μ m	50 x 2.0 mm	UP30DB#5HS
ODB	5 μ m	33 x 2.0 mm	UP50DB#3HS
ODB	5 μ m	50 x 2.0 mm	UP50DB#5HS
ODB	3 μ m	50 x 3.0 mm	UP30DB\$5HS
ODB	5 μ m	50 x 3.0 mm	UP50DB\$5HS
ODB	3 μ m	33 x 4.0 mm	UP30DB*3HS
ODB	5 μ m	33 x 4.0 mm	UP50DB*3HS
ODB	3 μ m	20 x 4.6 mm	UP30DB-2HS
ODB	3 μ m	33 x 4.6 mm	UP30DB-3HS
ODB	3 μ m	50 x 4.6 mm	UP30DB-5HS
ODB	3 μ m	75 x 4.6 mm	UP30DB-7HS
ODB	5 μ m	33 x 4.6 mm	UP50DB-3HS
ODB	5 μ m	50 x 4.6 mm	UP50DB-5HS
ODB	5 μ m	75 x 4.6 mm	UP50DB-7HS
HDO	3 μ m	20 x 2.0 mm	UP3HDO#2HS
HDO	3 μ m	33 x 2.0 mm	UP3HDO#3HS
HDO	3 μ m	50 x 2.0 mm	UP3HDO#5HS
HDO	5 μ m	33 x 2.0 mm	UP5HDO#3HS
HDO	5 μ m	50 x 2.0 mm	UP5HDO#5HS
HDO	3 μ m	50 x 3.0 mm	UP3HDO\$5HS
HDO	5 μ m	50 x 3.0 mm	UP5HDO\$5HS
HDO	3 μ m	33 x 4.0 mm	UP3HDO*3HS
HDO	5 μ m	33 x 4.0 mm	UP5HDO*3HS
HDO	3 μ m	20 x 4.6 mm	UP3HDO-2HS
HDO	3 μ m	33 x 4.6 mm	UP3HDO-3HS
HDO	3 μ m	50 x 4.6 mm	UP3HDO-5HS
HDO	3 μ m	75 x 4.6 mm	UP3HDO-7HS
HDO	5 μ m	33 x 4.6 mm	UP5HDO-3HS
HDO	5 μ m	50 x 4.6 mm	UP5HDO-5HS
HDO	5 μ m	75 x 4.6 mm	UP5HDO-7HS



Analysis - HPLC - Interchim technology

Uptisphere® stationary phases & HS columns

Phase	Particle size	Dimension	Modulo-Cart HS
NEC	3 µm	20 x 2.0 mm	UP3NEC#2HS
NEC	3 µm	33 x 2.0 mm	UP3NEC#3HS
NEC	3 µm	50 x 2.0 mm	UP3NEC#5HS
NEC	5 µm	33 x 2.0 mm	UP5NEC#3HS
NEC	5 µm	50 x 2.0 mm	UP5NEC#5HS
NEC	3 µm	50 x 3.0 mm	UP3NEC#5HS
NEC	5 µm	50 x 3.0 mm	UP5NEC#5HS
NEC	3 µm	33 x 4.0 mm	UP3NEC*3HS
NEC	5 µm	33 x 4.0 mm	UP5NEC*3HS
NEC	3 µm	20 x 4.6 mm	UP3NEC-2HS
NEC	3 µm	33 x 4.6 mm	UP3NEC-3HS
NEC	3 µm	50 x 4.6 mm	UP3NEC-5HS
NEC	3 µm	75 x 4.6 mm	UP3NEC-7HS
NEC	5 µm	33 x 4.6 mm	UP5NEC-3HS
NEC	5 µm	50 x 4.6 mm	UP5NEC-5HS
NEC	5 µm	75 x 4.6 mm	UP5NEC-7HS
<hr/>			
HSC	3 µm	20 x 2.0 mm	UP3HSC#2HS
HSC	3 µm	33 x 2.0 mm	UP3HSC#3HS
HSC	3 µm	50 x 2.0 mm	UP3HSC#5HS
HSC	5 µm	33 x 2.0 mm	UP5HSC#3HS
HSC	5 µm	50 x 2.0 mm	UP5HSC#5HS
HSC	3 µm	50 x 3.0 mm	UP3HSC#5HS
HSC	5 µm	50 x 3.0 mm	UP5HSC#5HS
HSC	3 µm	33 x 4.0 mm	UP3HSC*3HS
HSC	5 µm	33 x 4.0 mm	UP5HSC*3HS
HSC	3 µm	20 x 4.6 mm	UP3HSC-2HS
HSC	3 µm	33 x 4.6 mm	UP3HSC-3HS
HSC	3 µm	50 x 4.6 mm	UP3HSC-5HS
HSC	3 µm	75 x 4.6 mm	UP3HSC-7HS
HSC	5 µm	33 x 4.6 mm	UP5HSC-3HS
HSC	5 µm	50 x 4.6 mm	UP5HSC-5HS
HSC	5 µm	75 x 4.6 mm	UP5HSC-7HS
<hr/>			
TF	5 µm	33 x 2.0 mm	UP5TF#3HS
TF	5 µm	50 x 2.0 mm	UP5TF#5HS
TF	5 µm	50 x 3.0 mm	UP5TF#5HS
TF	5 µm	33 x 4.0 mm	UP5TF*3HS
TF	5 µm	33 x 4.6 mm	UP5TF-3HS
TF	5 µm	50 x 4.6 mm	UP5TF-5HS
TF	5 µm	75 x 4.6 mm	UP5TF-7HS

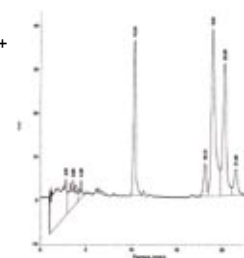
Uptisphere®

Octadecyl - USP code L1

120Å - 320 m²/g

%C : 16

mono functional +
non end-capped



Selectivity 13 cis/β-carotene all trans : 1.07

Selectivity β-carotene/Zeaxanthine : 1.92

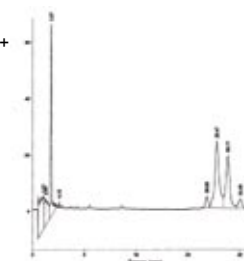
Hydrophobicity β-carotene all trans : 17.76

Octadecyl - USP code L1

120Å - 320 m²/g

%C : 20

mono functional +
"multi step"
end-capping



Selectivity 13 cis/β-carotene all trans : 1.06

Selectivity β-carotene/Zeaxanthine : 16.02

Hydrophobicity β-carotene all trans : 32.9

Octadecyl - USP code L1

%C : 14

poly functional + "one step" end-capping

Selectivity 13 cis/β-carotene all trans : 1.205

Selectivity β-carotene/Zeaxanthine : 2.5

Hydrophobicity β-carotene all trans : 9

Modulo-cart information
page B.26 - B.30

Analysis - HPLC - Interchim technology

Uptisphere® stationary phases & HS columns

Uptisphere®

Octyl - USP code L7

120Å - 320 m²/g

%C : 11

mono functional + "one step" end-capping

Phase	Particle size	Dimension	Modulo-Cart HS
C8	3 µm	20 x 2.0 mm	UP3C8#2HS
C8	3 µm	33 x 2.0 mm	UP3C8#3HS
C8	3 µm	50 x 2.0 mm	UP3C8#5HS
C8	5 µm	33 x 2.0 mm	UP5C8#3HS
C8	5 µm	50 x 2.0 mm	UP5C8#5HS
C8	3 µm	50 x 3.0 mm	UP3C8\$5HS
C8	5 µm	50 x 3.0 mm	UP5C8\$5HS
C8	3 µm	33 x 4.0 mm	UP3C8*3HS
C8	5 µm	33 x 4.0 mm	UP5C8*3HS
C8	3 µm	20 x 4.6 mm	UP3C8-2HS
C8	3 µm	33 x 4.6 mm	UP3C8-3HS
C8	3 µm	50 x 4.6 mm	UP3C8-5HS
C8	3 µm	75 x 4.6 mm	UP3C8-7HS
C8	5 µm	33 x 4.6 mm	UP5C8-3HS
C8	5 µm	50 x 4.6 mm	UP5C8-5HS
C8	5 µm	75 x 4.6 mm	UP5C8-7HS

Butyl - USP code L26

120Å - 320 m²/g

%C : 7

mono functional + "one step" end-capping

C4	3 µm	20 x 2.0 mm	UP3C4#2HS
C4	3 µm	33 x 2.0 mm	UP3C4#3HS
C4	3 µm	50 x 2.0 mm	UP3C4#5HS
C4	5 µm	33 x 2.0 mm	UP5C4#3HS
C4	5 µm	50 x 2.0 mm	UP5C4#5HS
C4	3 µm	50 x 3.0 mm	UP3C4\$5HS
C4	5 µm	50 x 3.0 mm	UP5C4\$5HS
C4	3 µm	33 x 4.0 mm	UP3C4*3HS
C4	5 µm	33 x 4.0 mm	UP5C4*3HS
C4	3 µm	20 x 4.6 mm	UP3C4-2HS
C4	3 µm	33 x 4.6 mm	UP3C4-3HS
C4	3 µm	50 x 4.6 mm	UP3C4-5HS
C4	3 µm	75 x 4.6 mm	UP3C4-7HS
C4	5 µm	33 x 4.6 mm	UP5C4-3HS
C4	5 µm	50 x 4.6 mm	UP5C4-5HS
C4	5 µm	75 x 4.6 mm	UP5C4-7HS

Cyano - USP code L10

120Å - 320 m²/g

%C : 8

mono functional + "one step" end-capping

CN	3 µm	20 x 2.0 mm	UP3CN#2HS
CN	3 µm	33 x 2.0 mm	UP3CN#3HS
CN	3 µm	50 x 2.0 mm	UP3CN#5HS
CN	5 µm	33 x 2.0 mm	UP5CN#3HS
CN	5 µm	50 x 2.0 mm	UP5CN#5HS
CN	3 µm	50 x 3.0 mm	UP3CN\$5HS
CN	5 µm	50 x 3.0 mm	UP5CN\$5HS
CN	3 µm	33 x 4.0 mm	UP3CN*3HS
CN	5 µm	33 x 4.0 mm	UP5CN*3HS
CN	3 µm	20 x 4.6 mm	UP3CN-2HS
CN	3 µm	33 x 4.6 mm	UP3CN-3HS
CN	3 µm	50 x 4.6 mm	UP3CN-5HS
CN	3 µm	75 x 4.6 mm	UP3CN-7HS
CN	5 µm	33 x 4.6 mm	UP5CN-3HS
CN	5 µm	50 x 4.6 mm	UP5CN-5HS
CN	5 µm	75 x 4.6 mm	UP5CN-7HS

Modulo-cart information
page B.26 - B.30



Analysis - HPLC - Interchim technology

Uptisphere® Strategy™ 1.7 - 2.2 µm & XS columns

HT/HR - High throughput, rapid analysis and high resolution

HPLC market trends demand analytical tools that can achieve a high throughput of sample within ever reducing time frames.

Interchim's 1.7 & 2.2 µm Uptisphere® Strategy™ stationary phases facilitate faster analyses, with high efficiency, whilst retaining sample resolution. They achieve unique separation and performance benefits through a combination of phase features, Interchim's proprietary packing processes, and the specifically designed Modulo-Cart XS hardware.

Interchim's new 1.7 and 2.2 micron Strategy™ stationary phase.

Strategy™ stationary phase has been developed upon 100 Å, 425m²/g & 450m²/g Upti-prep™ silica technology and is suitable for a diverse range of polar, mid-polar and non-polar compounds within the pH scale 1 –to- 10. A large quantity of accessible silanol groups are available for bonding due to Upti-prep's perfectly hydroxylated surface & cylindrical pores maximizing the loading capacity. The low surface energy ensures a perfect peak symmetry for basic compounds. The resultant Uptisphere® Strategy™ displays a higher loading capacity and excellent stability under aggressive mobile phase conditions such as basic buffers (pH: 1 to 10).

Uptisphere® Strategy™ 1.7 and 2.2 µm columns push the boundaries even further for high throughput of sample, maintaining high efficiencies and providing significant reductions in back pressure due to excellent permeability.

Modulo Cart XS Hardware

The Modulo-Cart XS hardware is an innovative, all-metal column that is extremely resistant to tearing and stable up to 3500 bars.

Stringent manufacturing processes ensure that the high pressure demands, typically placed upon a 2 micron stationary phase, are comfortably managed.

Modulo-Cart XS is available in 2.1, 3.0 and 4.6 mm i.d and lengths of 20, 25, 30, 50, 100 and 150 mm. Product details are found on subsequent pages.



Modulo-cart XS



Analysis - HPLC - Interchim technology

Uptisphere® Strategy™ 1.7 - 2.2 µm & XS columns

Principle advantages of using 1.7 & 2.2 µm columns

Economic consideration

The table below highlights the significant economic benefit when comparing sample analysis using a classical 5µm column compared to a 2µm column. The evaluation considers the analysis of 1000 samples and the calculation is based upon an indice 100 for a 5µm, 250 x 4.6 mm column including column cost, solvent, accessories, transposition and labor. The study shows a 15 fold financial saving and the runtime of the separation drops down a factor of 10 and thus the dramatic gains both financially and in terms of productivity are self evident.

Separation of two compounds with a resolution of 2.0 on a 5µm, 250 x 4.6 column at a flow 1.0 ml /min

Particle size	Dimension	Flow rate ml/min	Estimated cost
5µm	250 x 4.6 mm	1.0	100
3µm	150 x 4.6 mm	1.0	64
2.2µm	100 x 4.6 mm	1.0	42
2.2µm	100 x 4.6 mm	2.0	24
1.7µm	100 x 4.6 mm	1.0	42
1.7µm	100 x 4.6 mm	2.5	21
1.7µm	50 x 4.6 mm	1.0	23
1.7µm	50 x 4.6 mm	2.5	6

Chromatographic consideration

Retaining the same column length whilst moving to a smaller particle size provides an increase in sample resolution, working flow rate, the chromatographic cycle and decreases runtime. A reduction in column length provides the additional benefit of extensive savings in solvent usage.

Direct transposition with same resolution

Separation of two compounds with a resolution of 2.0 on a 5µm, 250 x 4.6 column at a flow 1.0 ml /min

Particle size	Dimension	N/column	Flow rate ml/min	Retention time min	Rs
5µm	250 x 4.6 mm	20 000	1.0	20	2.00
3µm	150 x 4.6 mm	18 500	1.0	12.6	1.90
2.2µm	100 x 4.6 mm	15 500	1.0	8	1.74
2.2µm	100 x 4.6 mm	16 500	2.0	4	1.80
1.7µm	100 x 4.6 mm	18 500	1.0	8	1.90
1.7µm	100 x 4.6 mm	20 000	2.5	3.2	1.97
1.7µm	50 x 4.6 mm	9250	1.0	4	1.34
1.7µm	50 x 4.6 mm	10 000	2.5	1.6	1.40

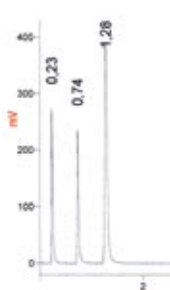
Analysis - HPLC - Interchim technology

Uptisphere® Strategy™ 1.7 - 2.2 µm & XS columns

Unrivalled quality

Uptisphere® Strategy™ 1.7 µm C18-2

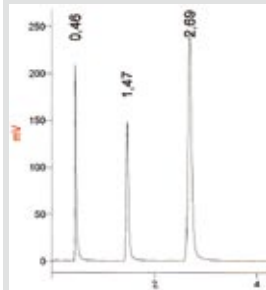
25 x 2.0 mm
P/N : US5040



Pressure : 72 bars

Fluorene
Tr : 1.28 min
As : 1.28
Plates : 4734

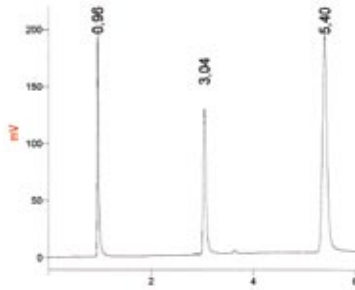
50 x 2.0 mm
P/N : US3170



Pressure : 124 bars

Fluorene
Tr : 2.69 min
As : 1.18
Plates : 8937

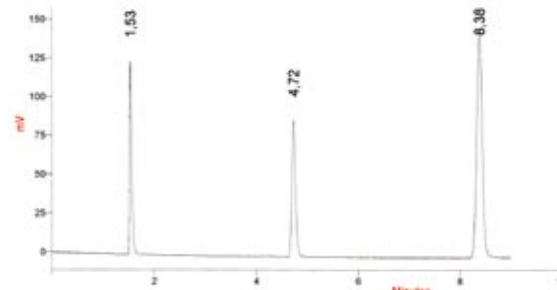
100 x 2.0 mm
P/N : US3180



Pressure : 221 bars

Fluorene
Tr : 5.40 min
As : 1.22
Plates : 18623

150 x 2.0 mm
P/N : US3190



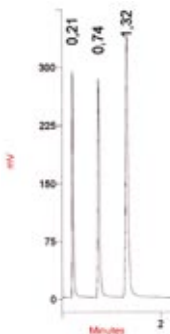
Pressure : 307 bars

Fluorene
Tr : 8.38 min
As : 1.08
Plates : 28457



Uptisphere® Strategy™ 2.2 µm C18-2

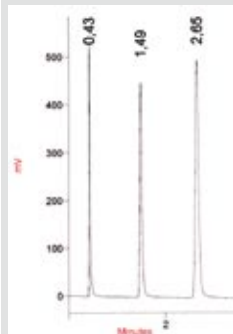
25 x 2.0 mm
P/N : US5060



Pressure : 42 bars

Fluorene
Tr : 1.32 min
As : 1.18
Plates : 3520

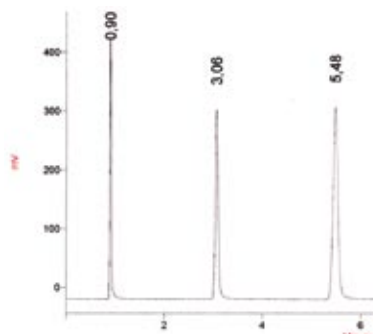
50 x 2.0 mm
P/N : US3060



Pressure : 66 bars

Fluorene
Tr : 2.65 min
As : 1.12
Plates : 7097

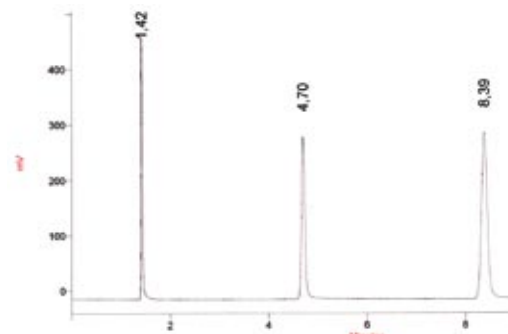
100 x 2.0 mm
P/N : US3070



Pressure : 117 bars

Fluorene
Tr : 5.48 min
As : 1.09
Plates : 15100

150 x 2.0 mm
P/N : US4900



Pressure : 157 bars

Fluorene
Tr : 8.39 min
As : 1.08
Plates : 23910

Conditions :
ACN /H₂O (70/30)
0.2 ml /min
UV : 254 nm - 22°C

Analysis - HPLC - Interchim technology

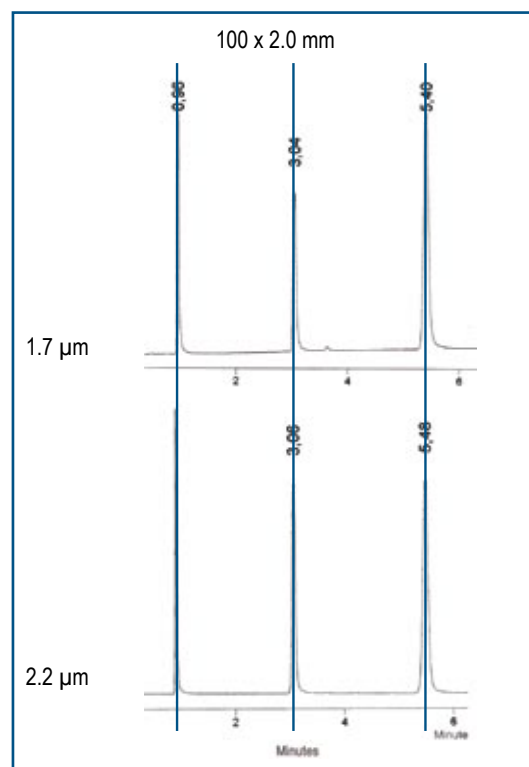
Uptisphere® Strategy™ 1.7 - 2.2 µm & XS columns

Unrivalled quality

Uptisphere® Strategy™ 1.7 µm, 2.2 µm and 5 µm display perfect harmony in selectivity irrespective of column length or i.d.

		Uracil	Toluene	Fluorene	K'1	K'2	α
25 x 2.1 mm	1.7 µm	0.23	0.74	1.28	2.22	4.57	0.49
	2.2 µm	0.21	0.74	1.32	2.52	5.29	0.48
50 x 2.1 mm	1.7 µm	0.46	1.47	2.69	2.20	4.85	0.45
	2.2 µm	0.43	1.49	2.65	2.47	5.16	0.48
100 x 2.1 mm	1.7 µm	0.96	3.04	5.4	2.17	4.63	0.47
	2.2 µm	0.9	3.06	5.48	2.40	5.09	0.47
150 x 2.1 mm	1.7 µm	1.53	4.72	8.38	2.08	4.48	0.46
	2.2 µm	1.42	4.7	8.39	2.31	4.91	0.47

Conditions : ACN /H₂O (70/30) 0.2 ml /min - UV : 254 nm - 22°C



Analysis - HPLC - Interchim technology

Uptisphere® Strategy™ 1.7 - 2.2 µm & XS columns

Efficiency and pressure relative to flow rate

for a 50 x 2.0 mm column

Uptisphere® Strategy™ 1.7 µm and 2.2 µm exhibit high permeability that allow higher flow rates compared to competitor columns utilizing similar particle sizes. High pressure benefits are retained and therefore analysis can be performed at high speed without compromising the separation. E.g. up to 215 000 plates /m at 0.6 ml/min for a 1.7 µm. Phase permeability and innovate packing processes establishes the additional benefit of an extensive column lifetime.

	Flow rate ml/min	Pressure bars	Symmetry	Efficiency
Strategy™ 1.7 µm C18-2 US3170	0.2	121	1.18	8937
	0.3	172	1.18	10203
	0.4	204	1.20	10272
	0.5	214	1.19	10396
	0.6	331	1.21	10754
	0.7	390	1.25	10257
	0.8	430	1.28	9697
	0.9	450	1.37	8840
	1	510		

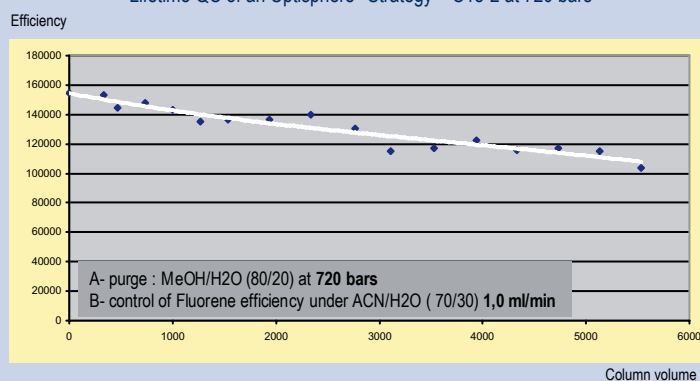
	Flow rate ml/min	Pressure bars	Symmetry	Efficiency
Strategy™ 2.2 µm C18-2 US3060	0.2	66	1.23	6570
	0.3	97	1.2	6869
	0.4	124	1.2	6986
	0.5	154	1.2	7115
	0.6	180	1.2	7006
	0.7	200	1.15	6215
	0.8	217	1.17	7025
	0.9	262	1.12	5697
	1	293	1.09	5173

ACN - H₂O (70/30) - UV : 254 nm - 22 C - compound : Fluorene

Maximum efficiency depends upon the nature of organic solvent within the mobile phase. i.e. Uptisphere® Strategy™ 2.2 µm C18-2 - maximum efficiency is obtained between 0.5 to 2 ml/min with Methanol and 1.75 to 3 ml/min using Acetonitrile. Temperature increases improve the mass transfer and should be considered for a given analysis to enhance separation whilst decreasing back pressure.

Care should be taken with optimization of the chromatography instrument to maximize benefit. This is particularly relevant with rapid analysis utilizing smaller stationary phase particles such as the Uptisphere® Strategy™ 1.7 and 2.2 µm columns. Tubing, detector acquisition, injection and pump must be carefully checked to adhere to the demands of small particle technology.

Lifetime QC of an Uptisphere® Strategy™ C18-2 at 720 bars



Analysis - HPLC - Interchim technology

Uptisphere® Strategy™ 1.7 & 2.2 µm & XS columns

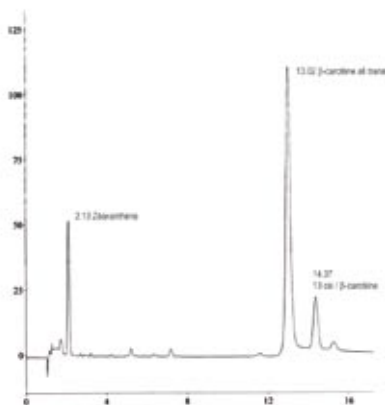
Uptisphere® Strategy™

Octadecyl - USP code L1

100Å - 425 m²/g

%C : 19

mono functional + "multi step" end-capping



Selectivity 13 cis/β-carotene all trans : 1.11

Selectivity β-carotene/Zeaxanthin : 11

Hydrophobicity β-carotene all trans : 11.4

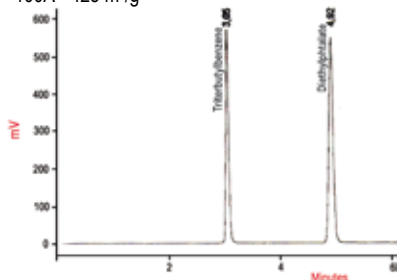
Phase	Particle size	Dimension	Modulo-Cart XS
C18-2	1.7 µm	20 x 4.6 mm	US3080
C18-2	1.7 µm	25 x 4.6 mm	US5050
C18-2	1.7 µm	30 x 4.6 mm	US3090
C18-2	1.7 µm	50 x 4.6 mm	US3100
C18-2	1.7 µm	100 x 4.6 mm	US3110
C18-2	1.7 µm	150 x 4.6 mm	US3120
C18-2	1.7 µm	50 x 3.0 mm	US3130
C18-2	1.7 µm	100 x 3.0 mm	US3140
C18-2	1.7 µm	20 x 2.0 mm	US3150
C18-2	1.7 µm	25 x 2.0 mm	US5040
C18-2	1.7 µm	30 x 2.0 mm	US3160
C18-2	1.7 µm	50 x 2.0 mm	US3170
C18-2	1.7 µm	100 x 2.0 mm	US3180
C18-2	1.7 µm	150 x 2.0 mm	US3190
C18-2	2.2 µm	20 x 4.6 mm	US2980
C18-2	2.2 µm	25 x 4.6 mm	US5070
C18-2	2.2 µm	30 x 4.6 mm	US2990
C18-2	2.2 µm	50 x 4.6 mm	US3000
C18-2	2.2 µm	100 x 4.6 mm	US3010
C18-2	2.2 µm	150 x 4.6 mm	US5150
C18-2	2.2 µm	50 x 3.0 mm	US3020
C18-2	2.2 µm	100 x 3.0 mm	US3030
C18-2	2.2 µm	20 x 2.0 mm	US3040
C18-2	2.2 µm	25 x 2.0 mm	US5060
C18-2	2.2 µm	30 x 2.0 mm	US3050
C18-2	2.2 µm	50 x 2.0 mm	US3060
C18-2	2.2 µm	100 x 2.0 mm	US3070
C18-2	2.2 µm	150 x 2.0 mm	US4900
C18-HT	2.2 µm	20 x 4.6 mm	US4800
C18-HT	2.2 µm	25 x 4.6 mm	US5090
C18-HT	2.2 µm	30 x 4.6 mm	US4810
C18-HT	2.2 µm	50 x 4.6 mm	US4820
C18-HT	2.2 µm	100 x 4.6 mm	US4830
C18-HT	2.2 µm	150 x 4.6 mm	US5290
C18-HT	2.2 µm	50 x 3.0 mm	US4780
C18-HT	2.2 µm	100 x 3.0 mm	US4790
C18-HT	2.2 µm	20 x 2.0 mm	US4740
C18-HT	2.2 µm	25 x 2.0 mm	US5080
C18-HT	2.2 µm	30 x 2.0 mm	US4750
C18-HT	2.2 µm	50 x 2.0 mm	US4760
C18-HT	2.2 µm	100 x 2.0 mm	US4770
C18-HT	2.2 µm	150 x 2.0 mm	US5300

Analysis - HPLC - Interchim technology

Uptisphere® Strategy™ 1.7 - 2.2 µm & XS columns

Uptisphere® Strategy™

Silica - (USP code L4)
100Å - 425 m²/g



	tr	As	N
Triterbutylbenzene	3.05	1.24	19105
Diethylphthalate	4.92	1.07	20437

Phase	Particle size	Dimension	Modulo-Cart XS
HILIC SI	2.2 µm	20 x 4.6 mm	US5590
HILIC SI	2.2 µm	25 x 4.6 mm	US5600
HILIC SI	2.2 µm	30 x 4.6 mm	US5610
HILIC SI	2.2 µm	50 x 4.6 mm	US5620
HILIC SI	2.2 µm	100 x 4.6 mm	US5630
HILIC SI	2.2 µm	150 x 4.6 mm	US5640
HILIC SI	2.2 µm	50 x 3.0 mm	US5650
HILIC SI	2.2 µm	100 x 3.0 mm	US5660
HILIC SI	2.2 µm	20 x 2.0 mm	US5670
HILIC SI	2.2 µm	25 x 2.0 mm	US5680
HILIC SI	2.2 µm	30 x 2.0 mm	US5690
HILIC SI	2.2 µm	50 x 2.0 mm	US5700
HILIC SI	2.2 µm	100 x 2.0 mm	US5710
HILIC SI	2.2 µm	150 x 2.0 mm	US5720

SI	2.2 µm	20 x 4.6 mm	US5160
SI	2.2 µm	25 x 4.6 mm	US5170
SI	2.2 µm	30 x 4.6 mm	US5180
SI	2.2 µm	50 x 4.6 mm	US5190
SI	2.2 µm	100 x 4.6 mm	US5200
SI	2.2 µm	150 x 4.6 mm	US5210
SI	2.2 µm	50 x 3.0 mm	US5220
SI	2.2 µm	100 x 3.0 mm	US5230
SI	2.2 µm	20 x 2.0 mm	US5240
SI	2.2 µm	25 x 2.0 mm	US5250
SI	2.2 µm	30 x 2.0 mm	US5260
SI	2.2 µm	50 x 2.0 mm	US5270
SI	2.2 µm	100 x 2.0 mm	US4960
SI	2.2 µm	150 x 2.0 mm	US5280

Analysis - HPLC - Interchim technology

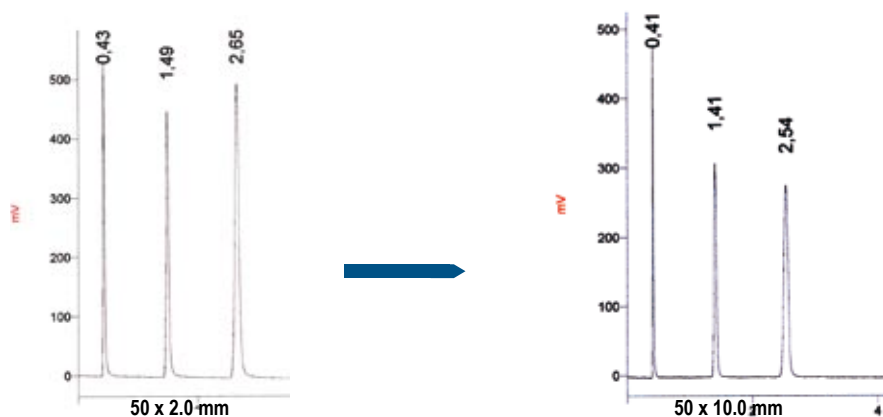
Uptisphere® Strategy™ 2.2 µm for purification

2.2 µm for prep LC and LC/MS prep

The combination of Upti-prep™ silica technology with Interchim's silane synthesis process ensures a perfect particle size continuity and facilitates effortless chromatographic transposition from analytical development to prep LC or LC/MS purification.

LC/MS Prep application

		Uracil	Toluene	Fluorene	K'1	K'2	α
50 x 2.0 mm	1.7 µm	0.46	1.47	2.69	2.2	4.85	0.45
	2.2 µm	0.43	1.49	2.65	2.47	5.16	0.48
50 x 10.0 mm	2.2 µm	0.41	1.41	2.54	2.44	5.19	0.47



ACN / H₂O (70/30) UV : 254 nm - 22°C
 50 x 2.0 mm : 0.2 ml /min - P : 66 bars
 50 x 10.0 mm : 5 ml /min - P : 69 bars

Uptisphere® Strategy™

Octadecyl - USP code L1
 100Å - 425 m²/g
 %C : 19
 mono functional + "multi step" end-capping

Silica - (USP code L4)
 100Å - 425 m²/g

Phase	Particle size	Dimension	Modulo-Cart XS
C18-2	2.2 µm	50 x 10.0 mm	US5870
C18-2	2.2 µm	50 x 21.2 mm	US5860
SI	2.2 µm	50 x 10.0 mm	US5890
SI	2.2 µm	50 x 21.2 mm	US5880

Analysis - HPLC - Interchim technology

Uptisphere® stationary phase & MC columns

1.0 mm internal diameter for high sensitivity

The Modulo-Cart MC range is a state-of-the-art engineered 1.0 mm internal diameter hardware providing optimal sensitivity. A 20-fold increase in sensitivity has been demonstrated in Interchim's laboratories in comparison to a 4.6 mm i.d. column. Modulo-Cart MC has proven value for trace analysis, LC/MS & LC/NMR applications, and in the bio-analytical market where there is limited availability of sample volume.

- working flow range : 20 μ l to 60 μ l/mn. Optimal : 40 μ l/mn
- maximum volume of injection is approximately 2 μ l for a maximum sample mass of approximately 50 μ g ($f^{on} k'$ of compounds)
- working flow range : 20 μ l to 60 μ l/mn. Optimal : 40 μ l/mn
- MC available column length : 20, 50, 100 & 150 mm

Modulo-Cart MCK

Delivered with a pre-installed guard cartridge of 1 mm length that is packed with the stationary phase of your own requirement.

Replacement guard cartridges are available i.e.

- Q95960, pack of 10
- Q95961, pack of 3



Analysis - HPLC - Interchim technology

Uptisphere® stationary phase & MC columns

Uptisphere® Strategy™

Octadecyl - USP code L1
100Å - 425 m²/g
%C : 19
mono functional + "multi-step" end-capping

Octadecyl - USP code L1
100Å - 425 m²/g
%C : 22
mono functional + "multi-step" end-capping

Phase	Particle size	Dimension	Modulo-Cart MC	Modulo-Cart MCK
C18-2	3 µm	20 x 1.0 mm	US3670	
C18-2	3 µm	50 x 1.0 mm	US3680	US4010
C18-2	3 µm	150 x 1.0 mm	US3690	US4020
C18-2	5 µm	50 x 1.0 mm	US3700	US4030
C18-2	5 µm	150 x 1.0 mm	US3710	US4040
C18-3	3 µm	20 x 1.0 mm	US3720	
C18-3	3 µm	50 x 1.0 mm	US3730	US4050
C18-3	3 µm	150 x 1.0 mm	US3740	US4060
C18-3	5 µm	50 x 1.0 mm	US3750	US4070
C18-3	5 µm	150 x 1.0 mm	US3760	US4080

Uptisphere®

Octadecyl - USP code L1
120Å - 320 m²/g
%C : 18
mono functional + "one-step" end-capping

Octadecyl - USP code L1
120Å - 320 m²/g
%C : 17
mono functional + "mixed" end-capping

Octadecyl - USP code L1
120Å - 320 m²/g
%C : 16
mono functional + non end-capped

Octadecyl - USP code L1
%C : 14
poly functional + "one-step" end-capping

Octyl - USP code L7
120Å - 320 m²/g
%C : 11
mono functional + "one-step" end-capping

Phase	Particle size	Dimension	Modulo-Cart MC	Modulo-Cart MCK
ODB	3 µm	20 x 1.0 mm	UP30DBD2MC	
ODB	3 µm	50 x 1.0 mm	UP30DBD5MC	UP30DBD5MCK
ODB	3 µm	150 x 1.0 mm	UP30DBD15MC	UP30DBD15MCK
ODB	5 µm	20 x 1.0 mm	UP50DBD2MC	
ODB	5 µm	50 x 1.0 mm	UP50DBD5MC	UP50DBD5MCK
ODB	5 µm	150 x 1.0 mm	UP50DBD15MC	UP50DBD15MCK
HDO	3 µm	20 x 1.0 mm	UP3HDOD2MC	
HDO	3 µm	50 x 1.0 mm	UP3HDOD5MC	UP3HDOD5MCK
HDO	3 µm	150 x 1.0 mm	UP3HDOD15MC	UP3HDOD15MCK
HDO	5 µm	20 x 1.0 mm	UP5HDOD2MC	
HDO	5 µm	50 x 1.0 mm	UP5HDOD5MC	UP5HDOD5MCK
HDO	5 µm	150 x 1.0 mm	UP5HDOD15MC	UP5HDOD15MCK
NEC	3 µm	20 x 1.0 mm	UP3NECD2MC	
NEC	3 µm	50 x 1.0 mm	UP3NECD5MC	UP3NECD5MCK
NEC	3 µm	150 x 1.0 mm	UP3NECD15MC	UP3NECD15MCK
NEC	5 µm	20 x 1.0 mm	UP5NECD2MC	
NEC	5 µm	50 x 1.0 mm	UP5NECD5MC	UP5NECD5MCK
NEC	5 µm	150 x 1.0 mm	UP5NECD15MC	UP5NECD15MCK
TF	5 µm	20 x 1.0 mm	UP5TFD2MC	
TF	5 µm	50 x 1.0 mm	UP5TFD5MC	UP5TFD5MCK
TF	5 µm	150 x 1.0 mm	UP5TFD15MC	UP5TFD15MCK
C8	3 µm	20 x 1.0 mm	UP3C8D2MC	
C8	3 µm	50 x 1.0 mm	UP3C8D5MC	UP3C8D5MCK
C8	3 µm	150 x 1.0 mm	UP3C8D15MC	UP3C8D15MCK
C8	5 µm	20 x 1.0 mm	UP5C8D2MC	
C8	5 µm	50 x 1.0 mm	UP5C8D5MC	UP5C8D5MCK
C8	5 µm	150 x 1.0 mm	UP5C8D15MC	UP5C8D15MCK

Analysis - HPLC - Interchim technology

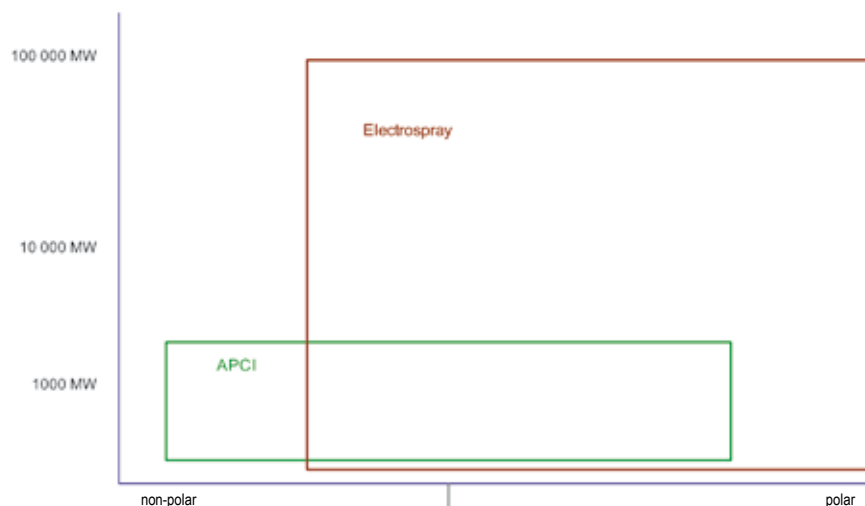
Uptisphere® stationary phase & MC columns

Optimized columns for LC/MS applications

The evolution of packing technology facilitates development of specific protocols for a number of applications. Modulo-Cart MS has been optimized for LC/MS coupling, improving efficiency and sensitivity. Available in 100, 150 & 250 mm lengths with different i.d.

For applications requiring shorter length columns the Modulo-Cart HS range, highlighted earlier in this section, should be considered.

Note :The choice of internal column diameter is relative to the MS interface and application.



	Interface	Interface flow rate	Optimal column flow rate
2.1 mm i.d.	Electrospray	5 µl – 1 ml/min	0.2 ml/min
3.0 mm i.d.	Electrospray /APCI	5 µl – 1 ml/min	0.35 ml/min
4.6 mm i.d.	APCI	0.2 – 1 ml/min	0.8 ml/min

Column protection with a guard cartridge requires the use of a specific guard cartridge holder.

P/N : **CH797540**

Guard cartridges are available in packs of 3 or 10. P/N are highlighted in the column protection section later in this chapter.



LC/MS Surefit™



The LC/MS Surefit™ connector allows a quick and easy column connection to the MS interface. A 50 µm i.d. ensures a minimum dead volume.
P/N : **T80590**

Analysis - HPLC - Interchim technology

Uptisphere® stationary phase & MS columns

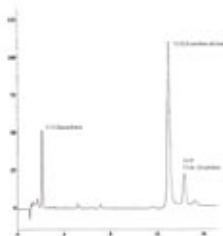
Uptisphere® Strategy™

Octadecyl - USP code L1

100Å - 425 m²/g

%C : 19

mono functional +
"multi step"
end-capping



Selectivity 13 cis/ β -carotene all trans : 1.11

Selectivity β -carotene/Zeaxanthine : 11

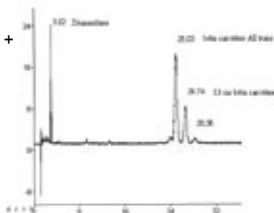
Hydrophobicity β -carotene all trans : 11.4

Octadecyl - USP code L1

100Å - 425 m²/g

%C : 22

mono functional +
"multi step"
end-capping



Selectivity 13 cis/ β -carotene all trans : 1.07

Selectivity β -carotene/Zeaxanthine : 12.66

Hydrophobicity β -carotene all trans : 21.15

Phase	Particle size	Dimension	Modulo-Cart MS
C18-2	3 μ m	100 x 2.0 mm	US3300
C18-2	3 μ m	150 x 2.0 mm	US3310
C18-2	5 μ m	100 x 2.0 mm	US3320
C18-2	5 μ m	150 x 2.0 mm	US3330
C18-2	5 μ m	250 x 2.0 mm	US3340
C18-2	3 μ m	100 x 3.0 mm	US3250
C18-2	3 μ m	150 x 3.0 mm	US3260
C18-2	5 μ m	100 x 3.0 mm	US3270
C18-2	5 μ m	150 x 3.0 mm	US3280
C18-2	5 μ m	250 x 3.0 mm	US3290
C18-2	3 μ m	100 x 4.6 mm	US3200
C18-2	3 μ m	150 x 4.6 mm	US3210
C18-2	5 μ m	100 x 4.6 mm	US3220
C18-2	5 μ m	150 x 4.6 mm	US3230
C18-2	5 μ m	250 x 4.6 mm	US3240
C18-3	3 μ m	100 x 2.0 mm	US3450
C18-3	3 μ m	150 x 2.0 mm	US3460
C18-3	5 μ m	100 x 2.0 mm	US3470
C18-3	5 μ m	150 x 2.0 mm	US3480
C18-3	5 μ m	250 x 2.0 mm	US3490
C18-3	3 μ m	100 x 3.0 mm	US3400
C18-3	3 μ m	150 x 3.0 mm	US3410
C18-3	5 μ m	100 x 3.0 mm	US3420
C18-3	5 μ m	150 x 3.0 mm	US3430
C18-3	5 μ m	250 x 3.0 mm	US3440
C18-3	3 μ m	100 x 4.6 mm	US3350
C18-3	3 μ m	150 x 4.6 mm	US3360
C18-3	5 μ m	100 x 4.6 mm	US3370
C18-3	5 μ m	150 x 4.6 mm	US3380
C18-3	5 μ m	250 x 4.6 mm	US3390

Analysis - HPLC - Interchim technology

Uptisphere® stationary phase & MS columns

Phase	Particle size	Dimension	Modulo-Cart MS
ODB	3 µm	100 x 4.6 mm	UP3ODB-10MS
ODB	3 µm	150 x 4.6 mm	UP3ODB-15MS
ODB	5 µm	100 x 4.6 mm	UP5ODB-10MS
ODB	5 µm	150 x 4.6 mm	UP5ODB-15MS
ODB	5 µm	250 x 4.6 mm	UP5ODB-25MS
ODB	3 µm	100 x 3.0 mm	UP3ODB\$10MS
ODB	3 µm	150 x 3.0 mm	UP3ODB\$15MS
ODB	5 µm	100 x 3.0 mm	UP5ODB\$10MS
ODB	5 µm	150 x 3.0 mm	UP5ODB\$15MS
ODB	5 µm	250 x 3.0 mm	UP5ODB\$25MS
ODB	3 µm	100 x 2.0 mm	UP3ODB#10MS
ODB	3 µm	150 x 2.0 mm	UP3ODB#15MS
ODB	5 µm	100 x 2.0 mm	UP5ODB#10MS
ODB	5 µm	150 x 2.0 mm	UP5ODB#15MS
ODB	5 µm	250 x 2.0 mm	UP5ODB#25MS
<hr/>			
HDO	3 µm	100 x 4.6 mm	UP3HDO-10MS
HDO	3 µm	150 x 4.6 mm	UP3HDO-15MS
HDO	5 µm	100 x 4.6 mm	UP5HDO-10MS
HDO	5 µm	150 x 4.6 mm	UP5HDO-15MS
HDO	5 µm	250 x 4.6 mm	UP5HDO-25MS
HDO	3 µm	100 x 3.0 mm	UP3HDO\$10MS
HDO	3 µm	150 x 3.0 mm	UP3HDO\$15MS
HDO	5 µm	100 x 3.0 mm	UP5HDO\$10MS
HDO	5 µm	150 x 3.0 mm	UP5HDO\$15MS
HDO	5 µm	250 x 3.0 mm	UP5HDO\$25MS
HDO	3 µm	100 x 2.0 mm	UP3HDO#10MS
HDO	3 µm	150 x 2.0 mm	UP3HDO#15MS
HDO	5 µm	100 x 2.0 mm	UP5HDO#10MS
HDO	5 µm	150 x 2.0 mm	UP5HDO#15MS
HDO	5 µm	250 x 2.0 mm	UP5HDO#25MS
<hr/>			
NEC	3 µm	100 x 4.6 mm	UP3NEC-10MS
NEC	3 µm	150 x 4.6 mm	UP3NEC-15MS
NEC	5 µm	100 x 4.6 mm	UP5NEC-10MS
NEC	5 µm	150 x 4.6 mm	UP5NEC-15MS
NEC	5 µm	250 x 4.6 mm	UP5NEC-25MS
NEC	3 µm	100 x 3.0 mm	UP3NEC\$10MS
NEC	3 µm	150 x 3.0 mm	UP3NEC\$15MS
NEC	5 µm	100 x 3.0 mm	UP5NEC\$10MS
NEC	5 µm	150 x 3.0 mm	UP5NEC\$15MS
NEC	5 µm	250 x 3.0 mm	UP5NEC\$25MS
NEC	3 µm	100 x 2.0 mm	UP3NEC#10MS
NEC	3 µm	150 x 2.0 mm	UP3NEC#15MS
NEC	5 µm	100 x 2.0 mm	UP5NEC#10MS
NEC	5 µm	150 x 2.0 mm	UP5NEC#15MS
NEC	5 µm	250 x 2.0 mm	UP5NEC#25MS

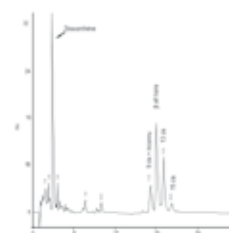
Uptisphere®

Octadecyl - USP code L1

120Å - 320 m²/g

%C : 18

mono functional +
"one step"
end-capping



Selectivity 13 cis/β-carotene all trans : 1.06

Selectivity β-carotene/Zeaxanthine : 9.1

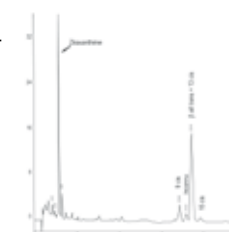
Hydrophobicity β-carotene all trans : 17.21

Octadecyl - USP code L1

120Å - 320 m²/g

%C : 17

mono functional +
"mixed"
end-capping



Selectivity 13 cis/β-carotene all trans : 1.0

Selectivity β-carotene/Zeaxanthine : 8.81

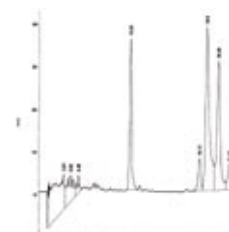
Hydrophobicity β-carotene all trans : 21.54

Octadecyl - USP code L1

120Å - 320 m²/g

%C : 16

mono functional +
non end-capped



Selectivity 13 cis/β-carotene all trans : 1.07

Selectivity β-carotene/Zeaxanthine : 1.92

Hydrophobicity β-carotene all trans : 17.76

Analysis - HPLC - Interchim technology

Uptisphere® stationary phase & MS columns

Uptisphere®

Octadecyl - USP code L1

%C : 14

poly functional + "one step" end-capping

Selectivity 13 cis/ β -carotene all trans : 1,205

Selectivity β -carotene/Zeaxanthine : 2,5

Hydrophobicity β -carotene all trans : 9

Octyl - USP code L7

120Å - 320 m²/g

%C : 11

mono functional + "one step" end-capping

Phase	Particle size	Dimension	Modulo-Cart MS
TF	5 μ m	100 x 4.6 mm	UP5TF-10MS
TF	5 μ m	150 x 4.6 mm	UP5TF-15MS
TF	5 μ m	250 x 4.6 mm	UP5TF-25MS
TF	5 μ m	100 x 3.0 mm	UP5TF\$10MS
TF	5 μ m	150 x 3.0 mm	UP5TF\$15MS
TF	5 μ m	250 x 3.0 mm	UP5TF\$25MS
TF	5 μ m	100 x 2.0 mm	UP5TF#10MS
TF	5 μ m	150 x 2.0 mm	UP5TF#15MS
TF	5 μ m	250 x 2.0 mm	UP5TF#25MS
C8	3 μ m	100 x 4.6 mm	UP3C8-10MS
C8	3 μ m	150 x 4.6 mm	UP3C8-15MS
C8	5 μ m	100 x 4.6 mm	UP5C8-10MS
C8	5 μ m	150 x 4.6 mm	UP5C8-15MS
C8	5 μ m	250 x 4.6 mm	UP5C8-25MS
C8	3 μ m	100 x 3.0 mm	UP3C8\$10MS
C8	3 μ m	150 x 3.0 mm	UP3C8\$15MS
C8	5 μ m	100 x 3.0 mm	UP5C8\$10MS
C8	5 μ m	150 x 3.0 mm	UP5C8\$15MS
C8	5 μ m	250 x 3.0 mm	UP5C8\$25MS
C8	3 μ m	100 x 2.0 mm	UP3C8#10MS
C8	3 μ m	150 x 2.0 mm	UP3C8#15MS
C8	5 μ m	100 x 2.0 mm	UP5C8#10MS
C8	5 μ m	150 x 2.0 mm	UP5C8#15MS
C8	5 μ m	250 x 2.0 mm	UP5C8#25MS

Analysis - HPLC - Interchim technology

Uptisphere® stationary phase & nano LC columns

Optimal sensitivity through novel hardware solutions

The Modulo-Cart Nano LC is a state-of-the-art engineered column hardware with a 250 μm & 500 μm internal diameter providing optimal sensitivity. A 50-100 fold increase in sensitivity has been demonstrated in Interchim's laboratories in comparison to a 4.6 mm i.d. column.

Modulo-Cart Nano has proven value for trace analysis and in the bio-analytical market where there is limited availability of valuable sample.

- State-of-the art column engineering
- Frit minimizes sample interactions and hold up volume.
- Internal diameters 250 μm & 500 μm
- LC Nano available column length : 50,100 & 150 mm

i.d.	Flow rate range	Optimal flow rate	loading capacity
500 μm	4 to 12 μl	9 μl	0.1 μg
250 μm	1.2 to 3 μl	2.2 μl	0.001 μg



Analysis - HPLC - Interchim technology

Uptisphere® stationary phase & nano LC columns

Uptisphere® Strategy™

Octadecyl - USP code L1

100Å - 425 m²/g

%C : 19

mono functional + "multi-step" end-capping

Selectivity 13 cis/β-carotene all trans : 1.11

Selectivity β-carotene/Zeaxanthine : 11

Hydrophobicity β-carotene all trans : 11.4

Octadecyl - USP code L1

100Å - 425 m²/g

%C : 22

mono functional + "multi-step" end-capping

Selectivity 13 cis/β-carotene all trans : 1.07

Selectivity β-carotene/Zeaxanthine : 12.66

Hydrophobicity β-carotene all trans : 21.15

Phase	Particle size	Dimension	Modulo-Cart Nano
C18-2	3 µm	50 x 0.25 mm	US3830
C18-2	3 µm	100 x 0.25 mm	US3840
C18-2	3 µm	150 x 0.25 mm	US3850
C18-2	5 µm	50 x 0.25 mm	US3860
C18-2	5 µm	100 x 0.25 mm	US3870
C18-2	5 µm	150 x 0.25 mm	US3880
C18-2	3 µm	50 x 0.5 mm	US3770
C18-2	3 µm	100 x 0.5 mm	US3780
C18-2	3 µm	150 x 0.5 mm	US3790
C18-2	5 µm	50 x 0.5 mm	US3800
C18-2	5 µm	100 x 0.5 mm	US3810
C18-2	5 µm	150 x 0.5 mm	US3820
C18-3	3 µm	50 x 0.25 mm	US3950
C18-3	3 µm	100 x 0.25 mm	US3960
C18-3	3 µm	150 x 0.25 mm	US3970
C18-3	5 µm	50 x 0.25 mm	US3980
C18-3	5 µm	100 x 0.25 mm	US3990
C18-3	5 µm	150 x 0.25 mm	US4000
C18-3	3 µm	50 x 0.5 mm	US3890
C18-3	3 µm	100 x 0.5 mm	US3900
C18-3	3 µm	150 x 0.5 mm	US3910
C18-3	5 µm	50 x 0.5 mm	US3920
C18-3	5 µm	100 x 0.5 mm	US3930
C18-3	5 µm	150 x 0.5 mm	US3940

Analysis - HPLC - Interchim technology

Uptisphere® stationary phase & nano LC columns

Phase	Particle size	Dimension	Modulo-Cart Nano
ODB	3 µm	50 x 0.5 mm	UP30DBB5
ODB	3 µm	100 x 0.5 mm	UP30DBB10
ODB	3 µm	150 x 0.5 mm	UP30DBB15
ODB	5 µm	50 x 0.5 mm	UP50DBB5
ODB	5 µm	100 x 0.5 mm	UP50DBB10
ODB	5 µm	150 x 0.5 mm	UP50DBB15
ODB	3 µm	50 x 0.25 mm	UP30DBA5
ODB	3 µm	100 x 0.25 mm	UP30DBA10
ODB	3 µm	150 x 0.25 mm	UP30DBA15
ODB	5 µm	50 x 0.25 mm	UP50DBA5
ODB	5 µm	100 x 0.25 mm	UP50DBA10
ODB	5 µm	150 x 0.25 mm	UP50DBA15
NEC	3 µm	50 x 0.5 mm	UP3NECB5
NEC	3 µm	100 x 0.5 mm	UP3NECB10
NEC	3 µm	150 x 0.5 mm	UP3NECB15
NEC	5 µm	50 x 0.5 mm	UP5NECB5
NEC	5 µm	100 x 0.5 mm	UP5NECB10
NEC	5 µm	150 x 0.5 mm	UP5NECB15
NEC	3 µm	50 x 0.25 mm	UP3NECA5
NEC	3 µm	100 x 0.25 mm	UP3NECA10
NEC	3 µm	150 x 0.25 mm	UP3NECA15
NEC	5 µm	50 x 0.25 mm	UP5NECA5
NEC	5 µm	100 x 0.25 mm	UP5NECA10
NEC	5 µm	150 x 0.25 mm	UP5NECA15
TF	5 µm	50 x 0.5 mm	UP5TFB5
TF	5 µm	100 x 0.5 mm	UP5TFB10
TF	5 µm	150 x 0.5 mm	UP5TFB15
TF	5 µm	50 x 0.25 mm	UP5TFA5
TF	5 µm	100 x 0.25 mm	UP5TFA10
TF	5 µm	150 x 0.25 mm	UP5TFA15

Uptisphere®

Octadecyl - USP code L1

120Å - 320 m²/g

%C : 18

mono functional + "one-step" end-capping

Selectivity 13 cis/β-carotene all trans : 1.06

Selectivity β-carotene/Zeaxanthine : 9.1

Hydrophobicity β-carotene all trans : 17.21

Octadecyl - USP code L1

120Å - 320 m²/g

%C : 16

mono functional + non end-capped

Selectivity 13 cis/β-carotene all trans : 1.07

Selectivity β-carotene/Zeaxanthine : 1.92

Hydrophobicity β-carotene all trans : 17.76

Octadecyl - USP code L1

%C : 14

poly functional + "one-step" end-capping

Selectivity 13 cis/β-carotene all trans : 1.205

Selectivity β-carotene/Zeaxanthine : 2.5

Hydrophobicity β-carotene all trans : 9

Analysis - HPLC - Interchim technology

Uptisphere® BioP I & BioP II stationary phase & columns

Optimized for bio analysis

Uptisphere® BioP I & BioP II are Interchim's proprietary stationary phases to serve bio-analysis /DMPK Lab requirement. They achieve excellent analysis for crude samples without the risk of contaminating the column head or clogging and subsequently maintain a longer column life. Based upon a C18 chemistry, BioP I and BioP II display similar separation selectivity to Uptisphere® ODB and HDO. Uptisphere® BioP I & BioP II are available in a range of Modulo-Cart hardware relative to separation requirements.

Phase	Bonding	Pore size	Surface area	% C	end-capping	USP code
Uptisphere BioP I	C18	n.c.	n.c.	18	one step	L1
Uptisphere BioP II	C18	n.c.	n.c.	17	mixed	L1

A sample preparation pre-step should be performed, if feasible, with an appropriate SPE sorbent, prior to HPLC injection.



Analysis - HPLC - Interchim technology

Uptisphere® BioP I & BioP II stationary phase & columns

Phase	Particle size	Dimension	Modulo-Cart MC	Modulo-Cart MCK
BP1	3 µm	20 x 1.0 mm	UP3BP1D2MC	
BP1	3 µm	50 x 1.0 mm	UP3BP1D5MC	UP3BP1D5MCK
BP1	3 µm	150 x 1.0 mm	UP3BP1D15MC	UP3BP1D15MCK
BP1	5 µm	20 x 1.0 mm	UP5BP1D2MC	
BP1	5 µm	50 x 1.0 mm	UP5BP1D5MC	UP5BP1D5MCK
BP1	5 µm	150 x 1.0 mm	UP5BP1D15MC	UP5BP1D15MCK

Phase	Particle size	Dimension	Modulo-Cart HS
BP1	3 µm	20 x 4.6 mm	UP3BP1-2HS
BP1	3 µm	33 x 4.6 mm	UP3BP1-3HS
BP1	3 µm	50 x 4.6 mm	UP3BP1-5HS
BP1	3 µm	75 x 4.6 mm	UP3BP1-7HS
BP1	5 µm	20 x 4.6 mm	UP5BP1-2HS
BP1	5 µm	33 x 4.6 mm	UP5BP1-3HS
BP1	5 µm	50 x 4.6 mm	UP5BP1-5HS
BP1	5 µm	75 x 4.6 mm	UP5BP1-7HS
BP1	3 µm	33 x 4.0 mm	UP3BP1*3HS
BP1	5 µm	33 x 4.0 mm	UP5BP1*3HS
BP1	3 µm	50 x 3.0 mm	UP3BP1\$5HS
BP1	5 µm	50 x 3.0 mm	UP5BP1\$5HS
BP1	3 µm	20 x 2.0 mm	UP3BP1#2HS
BP1	3 µm	33 x 2.0 mm	UP3BP1#3HS
BP1	3 µm	50 x 2.0 mm	UP3BP1#5HS
BP1	5 µm	20 x 2.0 mm	UP5BP1#2HS
BP1	5 µm	33 x 2.0 mm	UP5BP1#3HS
BP1	5 µm	50 x 2.0 mm	UP5BP1#5HS

Phase	Particle size	Dimension	Modulo-Cart QS	Modulo-Cart QK
BP1	5 µm	100 x 2.0 mm	UP5BP1#10QS	UP5BP1#10QK
BP1	5 µm	125 x 2.0 mm	UP5BP1#12QS	UP5BP1#12QK
BP1	5 µm	150 x 2.0 mm	UP5BP1#15QS	UP5BP1#15QK
BP1	5 µm	100 x 3.0 mm	UP5BP1\$10QS	UP5BP1\$10QK
BP1	5 µm	125 x 3.0 mm	UP5BP1\$12QS	UP5BP1\$12QK
BP1	5 µm	150 x 3.0 mm	UP5BP1\$15QS	UP5BP1\$15QK
BP1	5 µm	100 x 4.0 mm	UP5BP1*10QS	UP5BP1*10QK
BP1	5 µm	125 x 4.0 mm	UP5BP1*12QS	UP5BP1*12QK
BP1	5 µm	150 x 4.0 mm	UP5BP1*15QS	UP5BP1*15QK
BP1	5 µm	100 x 4.6 mm	UP5BP1-10QS	UP5BP1-10QK
BP1	5 µm	125 x 4.6 mm	UP5BP1-12QS	UP5BP1-12QK
BP1	5 µm	150 x 4.6 mm	UP5BP1-15QS	UP5BP1-15QK

Uptisphere®

Octadecyl - USP code L1

%C : 18

mono functional + "one step"end-capping

Selectivity 13 cis/β-carotene all trans : 1.072

Selectivity β-carotene/Zeaxanthine : 8.31

Hydrophobicity β-carotene all trans : 8.15



Analysis - HPLC - Interchim technology

Uptisphere® BioP I & BioP II stationary phase & columns

Uptisphere®

Octadecyl

%C : 17

mono functional + "mixed" end-capping

Selectivity 13 cis/ β -carotene all trans : 1.026

Selectivity β -carotene/Zeaxanthine : 6.96

Hydrophobicity β -carotene all trans : 10.24



Phase	Particle size	Dimension	Modulo-Cart MC	Modulo-Cart MCK
BP2	3 μ m	20 x 1.0 mm	UP3BP2D2MC	
BP2	3 μ m	50 x 1.0 mm	UP3BP2D5MC	UP3BP2D5MCK
BP2	3 μ m	150 x 1.0 mm	UP3BP2D15MC	UP3BP2D15MCK
BP2	5 μ m	20 x 1.0 mm	UP5BP2D2MC	
BP2	5 μ m	50 x 1.0 mm	UP5BP2D5MC	UP5BP2D5MCK
BP2	5 μ m	150 x 1.0 mm	UP5BP2D15MC	UP5BP2D15MCK

Phase	Particle size	Dimension	Modulo-Cart HS
BP2	3 μ m	20 x 4.6 mm	UP3BP2-2HS
BP2	3 μ m	33 x 4.6 mm	UP3BP2-3HS
BP2	3 μ m	50 x 4.6 mm	UP3BP2-5HS
BP2	3 μ m	75 x 4.6 mm	UP3BP2-7HS
BP2	5 μ m	20 x 4.6 mm	UP5BP2-2HS
BP2	5 μ m	33 x 4.6 mm	UP5BP2-3HS
BP2	5 μ m	50 x 4.6 mm	UP5BP2-5HS
BP2	5 μ m	75 x 4.6 mm	UP5BP2-7HS
BP2	3 μ m	33 x 4.0 mm	UP3BP2*3HS
BP2	5 μ m	33 x 4.0 mm	UP5BP2*3HS
BP2	3 μ m	50 x 3.0 mm	UP3BP2\$5HS
BP2	5 μ m	50 x 3.0 mm	UP5BP2\$5HS
BP2	3 μ m	20 x 2.0 mm	UP3BP2#2HS
BP2	3 μ m	33 x 2.0 mm	UP3BP2#3HS
BP2	3 μ m	50 x 2.0 mm	UP3BP2#5HS
BP2	5 μ m	20 x 2.0 mm	UP5BP2#2HS
BP2	5 μ m	33 x 2.0 mm	UP5BP2#3HS
BP2	5 μ m	50 x 2.0 mm	UP5BP2#5HS

Phase	Particle size	Dimension	Modulo-Cart QS	Modulo-Cart QK
BP2	5 μ m	100 x 2.0 mm	UP5BP2#10QS	UP5BP2#10QK
BP2	5 μ m	125 x 2.0 mm	UP5BP2#12QS	UP5BP2#12QK
BP2	5 μ m	150 x 2.0 mm	UP5BP2#15QS	UP5BP2#15QK
BP2	5 μ m	100 x 3.0 mm	UP5BP2\$10QS	UP5BP2\$10QK
BP2	5 μ m	125 x 3.0 mm	UP5BP2\$12QS	UP5BP2\$12QK
BP2	5 μ m	150 x 3.0 mm	UP5BP2\$15QS	UP5BP2\$15QK
BP2	5 μ m	100 x 4.0 mm	UP5BP2*10QS	UP5BP2*10QK
BP2	5 μ m	125 x 4.0 mm	UP5BP2*12QS	UP5BP2*12QK
BP2	5 μ m	150 x 4.0 mm	UP5BP2*15QS	UP5BP2*15QK
BP2	5 μ m	100 x 4.6 mm	UP5BP2-10QS	UP5BP2-10QK
BP2	5 μ m	125 x 4.6 mm	UP5BP2-12QS	UP5BP2-12QK
BP2	5 μ m	150 x 4.6 mm	UP5BP2-15QS	UP5BP2-15QK

Analysis - HPLC - Interchim technology

Upti-trap™ sample preparation columns

On-line extraction

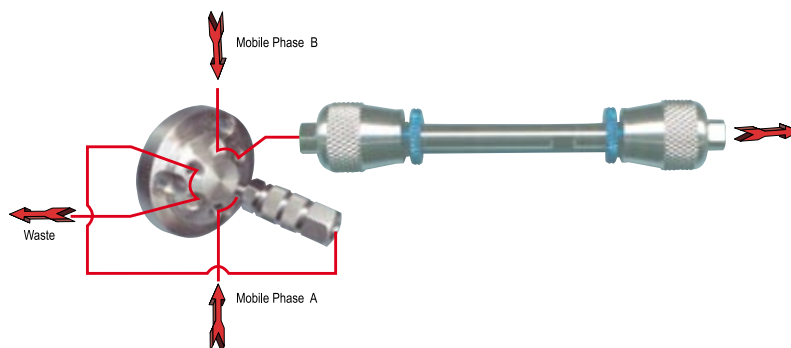
The Modulo-cart Upti-trap™ provides an easy on-line extraction and /or sample pre concentration prior to HPLC analysis. It prevents clogging and potential damage to the analytical column. Easily automated, Upti-trap™ are available in two sizes.

Upti-trap has proven valuable as a pre-concentration tool for environmental samples (PAH analysis, PCB, phenyl-ureas, triazines, carbamate etc) and for biological fluid analysis.

Name	Dimension	Loading Capacity
Upti-trap	15 x 2.1mm	1.5 -to- 3mg
Upti-trap	15 x 4.0mm	8 -to- 12mg

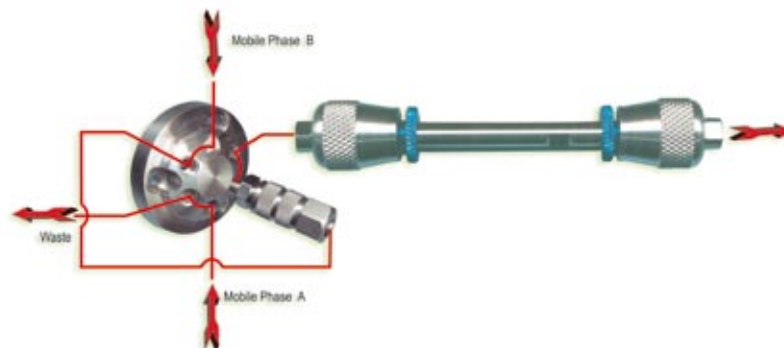
1. Extraction mode

The compounds of interest are trapped onto the sorbent while the residual sample is removed through the waste port with the washing solvent (mobile phase A). Two HPLC pumps are necessary, one for extraction the other for elution.



2. Elution mode

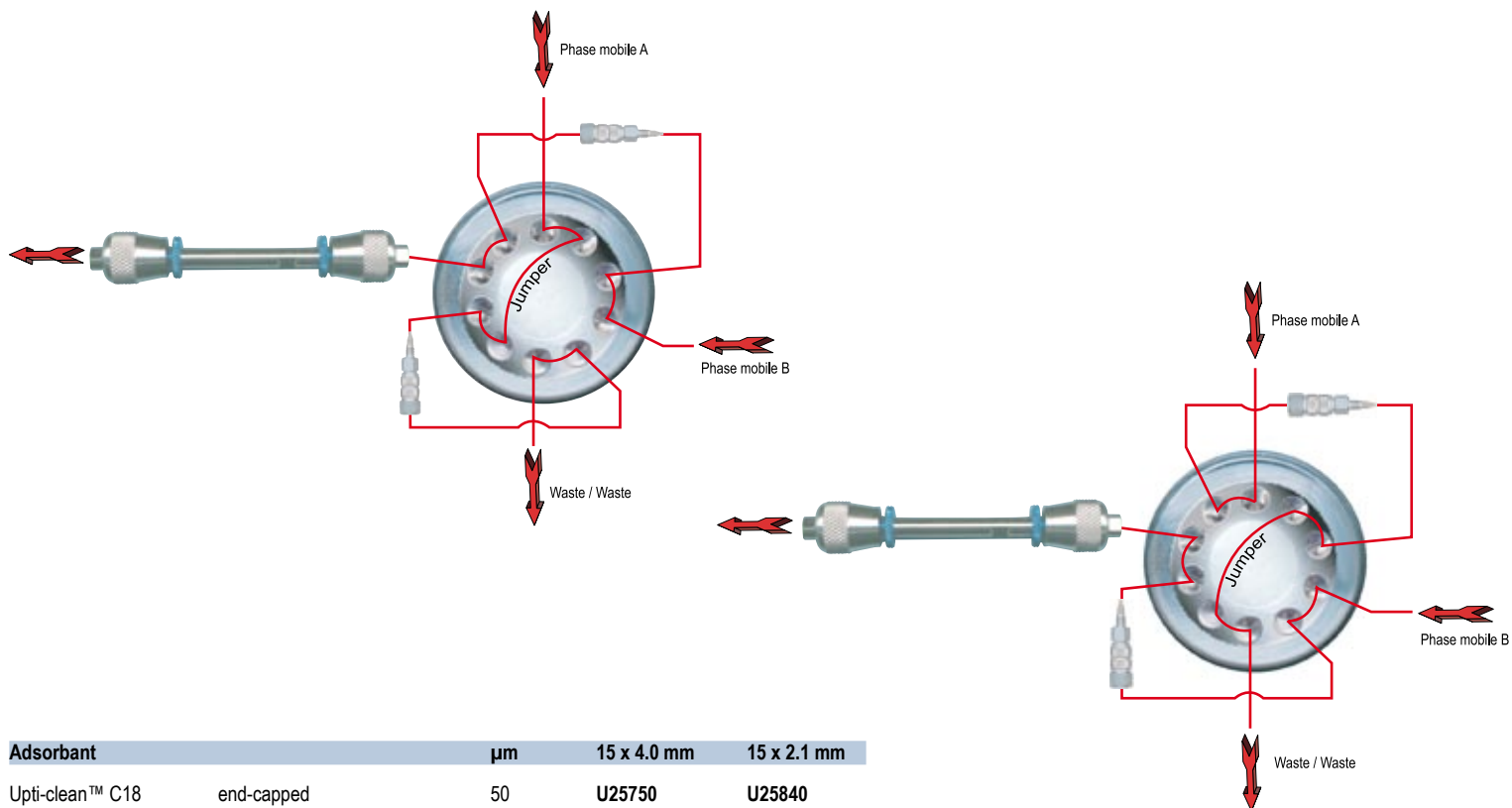
The compounds of interest are eluted by the mobile phase via the second pump (mobile phase B) and passed into the HPLC column.



Analysis - HPLC - Interchim technology

Upti-trap™ sample preparation columns

A 10 port, 2 position valve simultaneously facilitates sample extraction and second sample analysis, improving productivity.



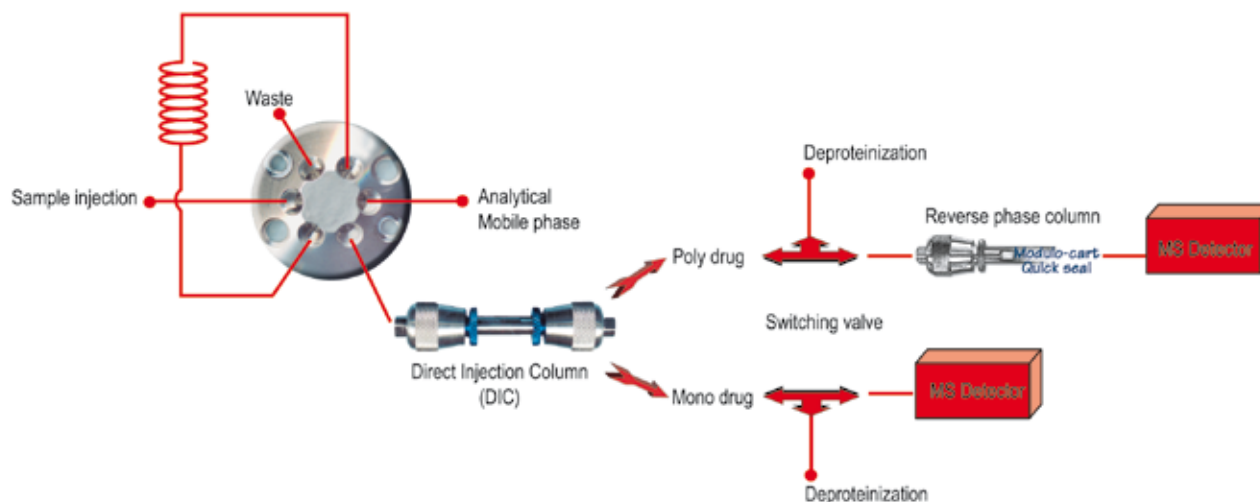
Adsorbant		µm	15 x 4.0 mm	15 x 2.1 mm
Upti-clean™ C18	end-capped	50	U25750	U25840
Upti-clean™ C8	end-capped	50	BG6090	CE0580
Upti-clean™ RPAQ	C18 100% hydrophilic	75	U25760	U25850
Upti-clean™ NH2		50	BV3700	BV3720
Upti-clean™ SCX	strong cation exchanger	60	U25770	U25860
Upti-clean™ SAX	strong anion exchanger	60	BB8650	BG6950
Upti-clean™ MM1	RP / strong cation exchanger	60	U25780	U25870
Atoll XC	Xtrem Capacity	30	U70480	U70500
Atoll ATH	hydrophilic	30	CE0560	CE0590
Atoll AEV	hydrophilic / hydrophobic	75	U25820	U25910
Atoll ATL	hydrophobic	75	U25800	U25890
Atoll XWP	wide pore Xtrem Capacity	90	BU5550	BU5560

Analysis - HPLC - Interchim technology

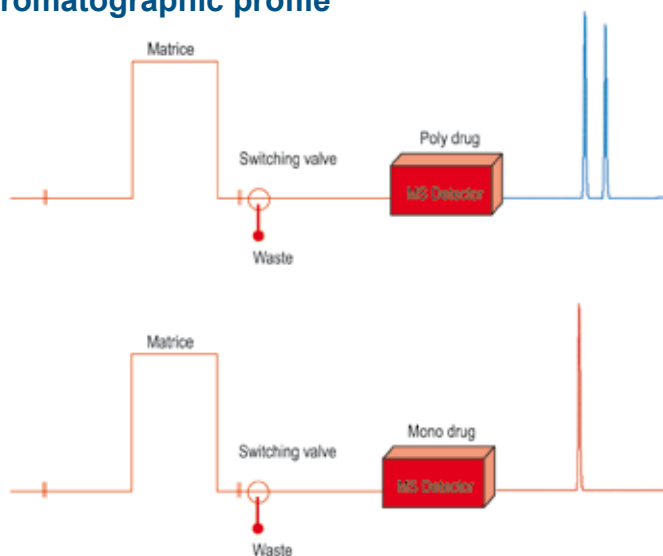
Upti-trap™ sample preparation columns

Direct injection of complex matrix

The Uptisphere® RP.AQ stationary phase is a mixed hydrophilic /hydrophobic polarity phase that allows direct drug injection from biological matrices. A selection valve is used to initially remove the matrix. Drugs are directed either to the MS detector or, in the case of a drug mix, a C18-based analytical column prior to detection.



Chromatographic profile



Phase	Dimension	P/N
Uptisphere® RP.AQ	50 x 1.0 mm	CE9010
Uptisphere® RP.AQ	50 x 2.1 mm	CE9020

Analysis - HPLC - Interchim technology

Uptisphere® stationary phase & Modulo-cart US columns

Compound identification and pre-purification

Modulo-cart US is designed to facilitate rapid sample identification prior to the purification step. They are generally used as a control on purity for compounds that have just been synthesized. This format is particularly suited to the organic chemist working in drug discovery, medchem, chemical development and HTS services.

The Uptisphere® Strategy™ C18-2 and C18-3 phases provide optimal efficiency and high loading capacity. Interchim's proprietary packing processes optimize the number of samples that can be analyzed with high mobile phase flow rates.

Uptisphere® Strategy™	Phase	Particle size	Dimension	Modulo-Cart US
Octadecyl - USP code L1 100Å - 425 m ² /g %C : 19 mono functional + "multi-step" end-capping	C18-2	3 µm	33 x 4.6 mm	US3500
	C18-2	3 µm	50 x 4.6 mm	US3510
	C18-2	3 µm	75 x 4.6 mm	US3520
	C18-2	3 µm	100 x 4.6 mm	US3530
	C18-2	5 µm	33 x 4.6 mm	US3540
	C18-2	5 µm	50 x 4.6 mm	US3560
	C18-2	5 µm	75 x 4.6 mm	US3570
	C18-2	5 µm	100 x 4.6 mm	US3580
Octadecyl - USP code L1 100Å - 425 m ² /g %C : 22 mono functional + "multi-step" end-capping	C18-3	3 µm	33 x 4.6 mm	US3590
	C18-3	3 µm	50 x 4.6 mm	US3600
	C18-3	3 µm	75 x 4.6 mm	US3610
	C18-3	3 µm	100 x 4.6 mm	US3620
	C18-3	5 µm	33 x 4.6 mm	US3630
	C18-3	5 µm	50 x 4.6 mm	US3640
	C18-3	5 µm	75 x 4.6 mm	US3650
	C18-3	5 µm	100 x 4.6 mm	US3660



Analysis - HPLC - Interchim technology

Uptisphere® stationary phase & Modulo-cart US columns

Phase	Particle size	Dimension	Modulo-CartUS
ODB	3 µm	33 x 4.6 mm	UP30DB-3US
ODB	3 µm	50 x 4.6 mm	UP30DB-5US
ODB	3 µm	75 x 4.6 mm	UP30DB-7US
ODB	3 µm	100 x 4.6 mm	UP30DB-10US
ODB	5 µm	33 x 4.6 mm	UP50DB-3US
ODB	5 µm	50 x 4.6 mm	UP50DB-5US
ODB	5 µm	75 x 4.6 mm	UP50DB-7US
ODB	5 µm	100 x 4.6 mm	UP50DB-10US
<hr/>			
NEC	3 µm	33 x 4.6 mm	UP3NEC-3US
NEC	3 µm	50 x 4.6 mm	UP3NEC-5US
NEC	3 µm	75 x 4.6 mm	UP3NEC-7US
NEC	3 µm	100 x 4.6 mm	UP3NEC-10US
NEC	5 µm	33 x 4.6 mm	UP5NEC-3US
NEC	5 µm	50 x 4.6 mm	UP5NEC-5US
NEC	5 µm	75 x 4.6 mm	UP5NEC-7US
NEC	5 µm	100 x 4.6 mm	UP5NEC-10US
<hr/>			
TF	5 µm	33 x 4.6 mm	UP5TF-3US
TF	5 µm	50 x 4.6 mm	UP5TF-5US
TF	5 µm	75 x 4.6 mm	UP5TF-7US
TF	5 µm	100 x 4.6 mm	UP5TF-10US
<hr/>			
C8	3 µm	33 x 4.6 mm	UP3C8-3US
C8	3 µm	50 x 4.6 mm	UP3C8-5US
C8	3 µm	75 x 4.6 mm	UP3C8-7US
C8	3 µm	100 x 4.6 mm	UP3C8-10US
C8	5 µm	33 x 4.6 mm	UP5C8-3US
C8	5 µm	50 x 4.6 mm	UP5C8-5US
C8	5 µm	75 x 4.6 mm	UP5C8-7US
C8	5 µm	100 x 4.6 mm	UP5C8-10US

Uptisphere®

Octadecyl - USP code L1

120Å - 320 m²/g

%C : 18

mono functional + "one-step" end-capping

Octadecyl - USP code L1

120Å - 320 m²/g

%C : 16

mono functional non end-capped

Octadecyl - USP code L1

%C : 14

poly functional + "one-step" end-capping

Octyl - USP code L7

120Å - 320 m²/g

%C : 11

mono functional + "one-step" end-capping

Interchim column guarantee

1. Each phase batch undergoes strict quality control.
2. Every Modulo-Cart Quick Seal column is individually tested and delivered with its own chromatogram certificate.
3. Every Modulo-Cart Quick Seal produced fits the companies stringent standards of production
4. Every Modulo-Cart Quick Seal is shipped within 24 working hours of receipt of order

Analysis - HPLC - Interchim technology

Uptisphere® stationary phase & Modulo-cart Prep columns

Preparative HPLC

Interchim Preparative columns range from 4.6 to 50.8 mm i.d and are for the purification of samples ranging from 0.5 mg to 1 gram. Preparative HPLC places specific demands on the components that form a preparative column. Interchim's Modulo-cart preparative columns pay particular attention to both the component and collective manufacturing processes.

Column tubing & column packing

The tube polishing value (Ra) has a fundamental importance in preparative chromatography. A primary reason for broadening peaks and low efficiency is the utilization of a poorer quality tubing. Molecules in the center of the mobile phase stream can move more rapidly than the molecules closer to the side due to friction against the tubing surface. The lower the Ra value, the smoother the surface is, and the less "drag" the tubing will place upon a given separation. Modulo-cart preparative columns pay particular attention to this potential negative phenomenon. All columns have extremely smooth internal surfaces (typically 8 µ inch of Ra) to considerably reduce issues of drag and maintain column efficiency. Efficiency is also managed through Interchim's state-of-the art proprietary packing processes - Modulo-cart Prep withstand packing pressures up to 550 bars contributing strongly to a good bed stability and column life time.

Sample dispersion

The loading of sample onto a preparative column requires stringent management to establish quality separations. Column overloading results in a poor retention of pure fraction and therefore particular attention needs to be placed upon selecting the appropriate column dimension and the properties of the stationary phase. In addition, a careful control of the introduction of sample to the column is necessary to establish a homogeneous sample dispersion through the sorbent bead head. Sample typically enters a preparative column through a 1/16" fitting; poor sample loading will lead to overloading certain areas of the stationary phase whilst other areas will be underloaded. E.g. For a 50 mm i.d column with a 500 µm i.d capillary fitting - sample introduced to the column (without any sample distributor) will only interact with 0.01% of the surface column head. As well as a dramatic loss in capacity there will also be a high potential for the column head to prematurely clog, rapidly reducing column life times. To prevent this problem Interchim's Modulo-cart Preparative columns are outfitted with a sample distributor. The sample distributor design maximizes the efficiency of sample volume dispersion and the sample mass introduced to the surface of the column head.

Stationary phase

Upti-prep® technology not only provides extreme mechanical stability for all Uptisphere® stationary phases, stability is also assured for all particle sizes for a given stationary phase. Interchim's proprietary Uptisphere® (320 m²/g) and Uptisphere® Strategy™ (425 m²/g) stationary phases guarantee perfect batch to batch reproducibility and feature high loading capacities in a range of different selectivities. The seamless retention of quality from analytical phases with sub 2, 3 and 5 µm silica particles to preparative 10 and 15 µm particles place Interchim's Modulo-cart preparative range at the forefront of preparative HPLC.

Purification capacity for a 250 mm length column relative to internal diameter

Internal diameter	Purification capacity*
4.6 mm	0.5 to 10 mg
10.0 mm	2 to 50 mg
21.2 mm	20 to 200 mg
28.0 mm	50 to 400 mg
50.8 mm	100 mg to 1 g

*Capacity depends on the ratio : peak of interest Resolution (Rs) /impurities to purify

Analysis - HPLC - Interchim technology

Uptisphere® stationary phase & Modulo-cart Prep columns

Uptisphere® Strategy™ 100 Å

I.D.	Length	Particle size	C18-3	C18-2	RP	C8	Silica
10.0 mm	50 mm	5 µm	US4120	US4270	US4350	US4470	US4620
	250 mm	5 µm	US4130	US1300	US4360	US4480	US4630
	250 mm	10 µm	US4140	US1770	US4370	US4490	US1760
21.2 mm	50 mm	5 µm	US4150	US1180	US4380	US4500	US4640
	250 mm	5 µm	US4160	US1210	US4390	US4510	US4650
	250 mm	10 µm	US4170	US1190	US4400	US4520	US4660
	250 mm	15 µm	US4180	US4280	US4410	US4530	US4670
28.0 mm	50 mm	5 µm	US4190	US4290	US4420	US4540	US4680
	250 mm	5 µm	US4210	US1270	US1780	US4550	US4690
	250 mm	10 µm	US4220	US4300	US1790	US4560	US4700
	250 mm	15 µm	US4230	US4310	US4430	US4570	US4710
50.8 mm	50 mm	5 µm					
	250 mm	10 µm	US4250	US4330	US4450	US4600	US1350
	250 mm	15 µm	US4260	US4340	US4590	US4610	US4730

Uptisphere® 120 Å

I.D.	Length	Particle size	ODB	TF	C8	SI
10.0 mm	50 mm	5 µm	UP5ODB.5M	UP5TF.5M	UP5C8.5M	UP5SI.5M
	250 mm	5 µm	UP5ODB.25M	UP5TF.25M	UP5C8.25M	UP5SI.25M
	250 mm	10 µm	UP10ODB.25M		UP10C8.25M	UP10.25M
21.2 mm	50 mm	5 µm	UP5ODB/5M	UP5TF/5M	UP5C8/5M	UP5SI/5M
	250 mm	5 µm	UP5ODB/25M	UP5TF/25M	UP5C8/25M	UP5SI/25M
	250 mm	10 µm	UP10ODB/25M		UP10C8/25M	UP10/25M
	250 mm	15 µm	UP15ODB/25M		UP15C8/25M	UP15/25M
28.0 mm	50 mm	5 µm	UP5ODB&5M	UP5TF&5M	UP5C8&5M	UP5SI&5M
	250 mm	5 µm	UP5ODB&25M	UP5TF&25M	UP5C8&25M	UP5SI&25M
	250 mm	10 µm	UP10ODB&25M		UP10C8&25M	UP10&25M
	250 mm	15 µm	UP15ODB&25M		UP15C8&25M	UP15&25M
50.8 mm	50 mm	5 µm	UP5ODB@5M	UP5TF@5M	UP5C8@5M	UP5SI@5M
	250 mm	10 µm	UP10ODB@25M		UP10C8@25M	UP10@25M
	250 mm	15 µm	UP15ODB@25M		UP15C8@25M	UP15@25M



Analytical to Preparative transposition

Interchim offer kits to provide a seamless transposition from the analytical to the preparative process.

Kits contain the analytical and prep column packed with the same batch of stationary phase. Kits are available upon request.

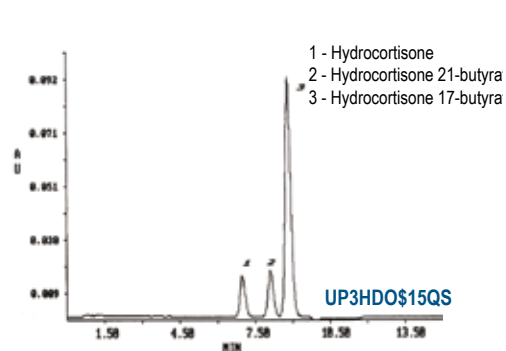


Analysis - HPLC - Interchim technology

Applications

Hydrocortisone butyrate

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

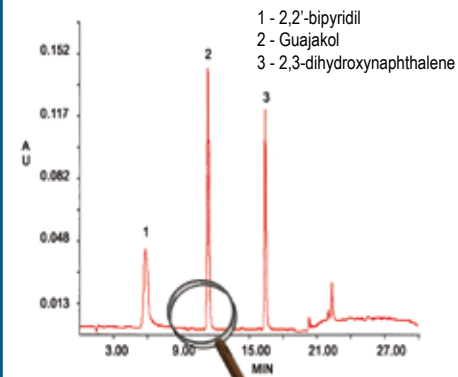


ACN H₂O (44/56)
UV : 232 nm

Courtesy of VDS Optilabs

Guaiacol probe for Zeolite

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

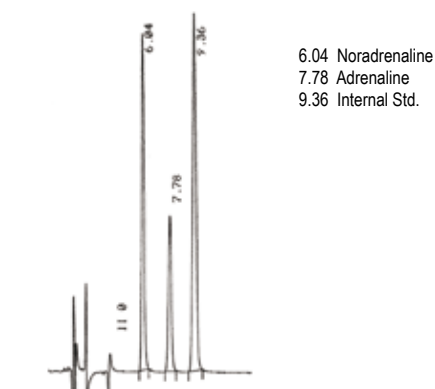


MeOH H₂O (80/20)
Flow rate : 1 ml/min
UV : 254 nm

Courtesy of VDS Optilabs

Catecholamines

Uptisphere 120 Å, 3 µ C18-ODB, 125 x 3.9 mm



Flow rate : 0.60 ml/min
Injection : 10 µl

Catecholamines from CD1 Mouse Brain Structure

Uptisphere 120 Å, 3 µ C18-ODB, 150 x 4.6 mm

Striatum + cortex + sea-horse

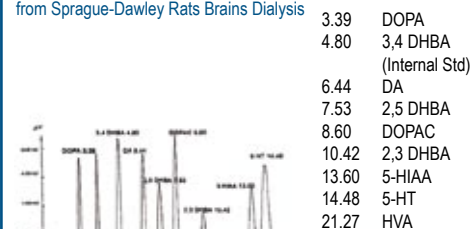


(Na₂HPO₄ 50 mmoles/l + EDTA 2.69 mmoles/l + Pic B7 1.25 mmoles/l), MeOH 13% v/v - pH 3.95 Flow rate : 0.9 ml/min - Inj. 40 µl at 8°C - Column temperature : 24 °C - Electrochemical detection (E1 : 100 mV - E2 : + 450 mV)

Catechol derivatives, Indol & Salicylate

Uptisphere 120 Å, 3 µ C18-ODB, 150 x 4.6 mm

from Sprague-Dawley Rats Brains Dialysis



(Na₂HPO₄ 50 mmoles/l + EDTA 2.69 mmoles/l + Pic B7 1.25 mmoles/l)

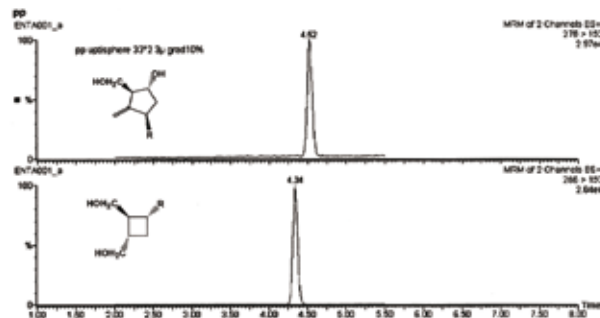
MeOH 13% v/v - pH - Flow rate : 1 ml/min - Inj : 10 µl at 8 °C
Column temperature : 40 °C - Electrochemical detection (E1 : - 100mV ; E2 : + 180 mV)

Analysis - HPLC - Interchim technology

Applications

Bioanalysis

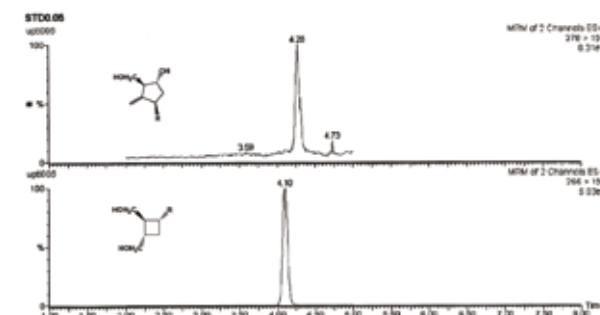
Uptisphere 120 Å, 3 µ C18-ODB, 30 x 2.0 mm
Pure product



Injection 30 µl
266 > 152 4 ng ISTD
278 > 152 0.04 ng

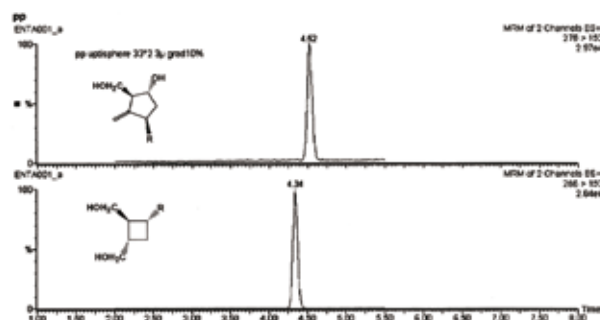
Detection : MS/MS Electrospray
+ CID Argon. Micromass QuattroLCZ

Uptisphere 120 Å, 3 µ C18-ODB, 30 x 2.0 mm
Limit of Quantification



Injection quantity :
278 > 152 5 pg
266 > 152 4 ng

Uptisphere 120 Å, 3 µ C18-ODB, 30 x 2.0 mm
Extract : 500 µl of plasma after SPE C18 extraction



Injection quantity : 30 µl
266 > 152 4 ng ISTD
278 > 152 0.04 ng

Detection : MS/MS Electrospray + CID
Argon. Micromass QuattroLCZ

Flow rate : 0,150 ml/min
A : H₂O + 0.1% Formic acid - B : Acetonitrile + 0.1% Formic acid
Gradient : 10% B in 1.5 min; 3 min a 10% B ; 0% phase B en 0.5 min
2 min stabilisation - Run time : 6 min

(Courtesy of Dpt Bioanalyse /PRI /MAP Bristol-Myers Squibb Saint-Nazaire France)

Analysis - HPLC - Interchim technology

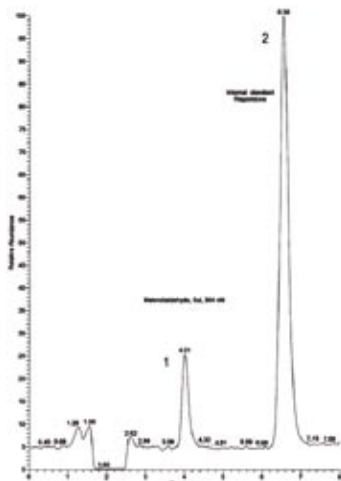
Applications

Malondialdehyde

Uptisphere 3 μ BioP 2, 100 x 2.0 mm

- 1- Malondialdehyde
- 2- IS Risperidone

NH₄ 15 mM, pH : 2
11 % Methanol
11 % ACN
Flow rate : 190 μ l /min
Temp : 55°C
Detection : MS

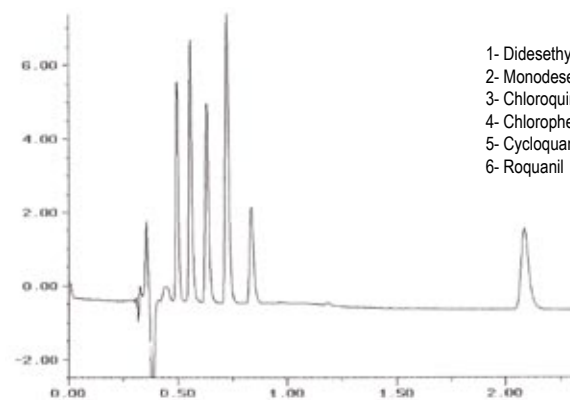


Courtesy of Dr Steghens Biochimie C scc Pr Collombel HEH

Anti-paludeen drugs

Uptisphere 120 \AA , 5 μ C18-ODB, 250 x 4.6 mm

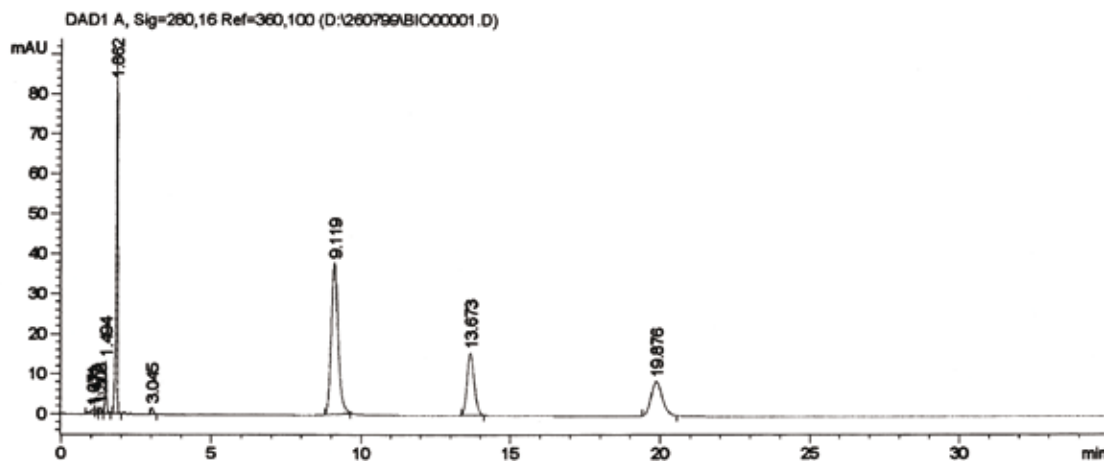
- 1- Didesethylchloroquine
- 2- Monodesethylchloroquine
- 3- Chloroquine
- 4- Chlorophenylquanil
- 5- Cycloquanyl
- 6- Roquanil



ACN 28%
MeOH 20% - HClO₄ 30 mM - (pH : 4) 52% - 0,6 ml/min

Syrup (Pharmaceutical + preservatives, without sugar)

Uptisphere 120 \AA , 5 μ C18-ODB, 250 x 4.6 mm



83 % KH₂PO₄ 0,05 M including
15 % heptane sulfonate Na
17 % ACN
Flow : 1.5 ml/min
UV : 280 nm

Analysis - HPLC - Interchim technology

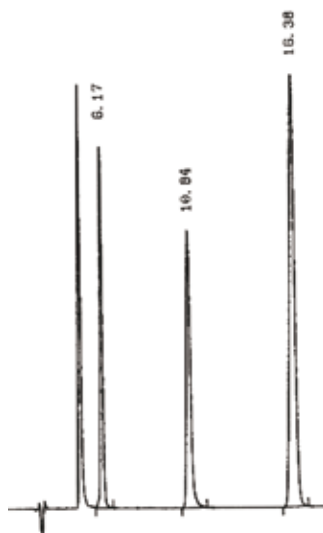
Applications

Basic Drugs

Uptisphere 120 Å, 5 µ C18-ODB, 250 x 4.6 mm

5,03	Nicotine
6,17	Tranhydroxycotin
10,84	Cotinin
16,38	Caffeine

27% MeOH
73% Acetate buffer pH : 5.73
Flow rate : 1 ml/min

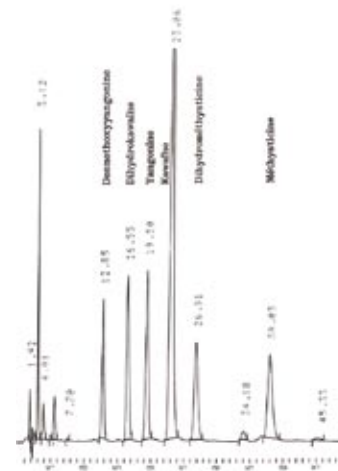


Kawalactone from piper methysticum FORST

Uptisphere 120 Å, 5 µ ODB, 250 x 3.9 mm

12,85	Desmethoxyyangonine
16,55	Dihydrokawaine
19,50	Yangonine
23,06	Kawaine
26,91	Dihydromethysticine
38,03	Methysticine

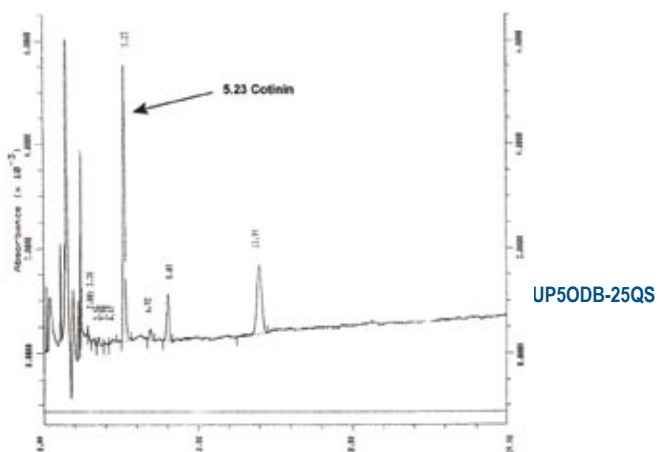
Hexane
Dioxane
1.5 ml/min
UV 240 nm



(Courtesy of Pr Ch Bartomeuf PhD Clermont-FD University)

Cotinine (urinary pool std 100µ/l)

Uptisphere 120 Å 5 µ C18-ODB, 250 x 4.6 mm

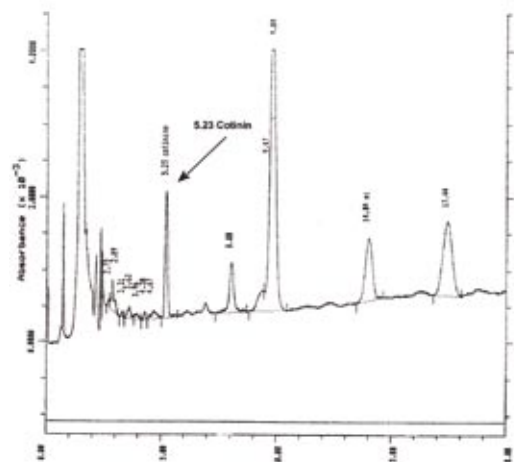


UP50DB-25QS

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

Urine extract (cotinine 52 µ/l)

Uptisphere 120 Å 5 µ ODB, 250 x 4.6 mm



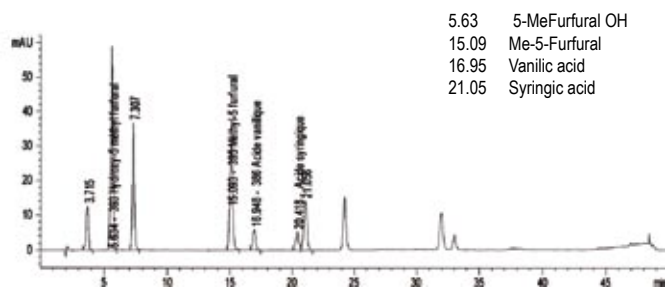
ACN 10% - Buffer (pH : 4.4) 90%
1.5 ml/min - 45°C - UV 262 nm

Analysis - HPLC - Interchim technology

Applications

Flavors & Fragrances

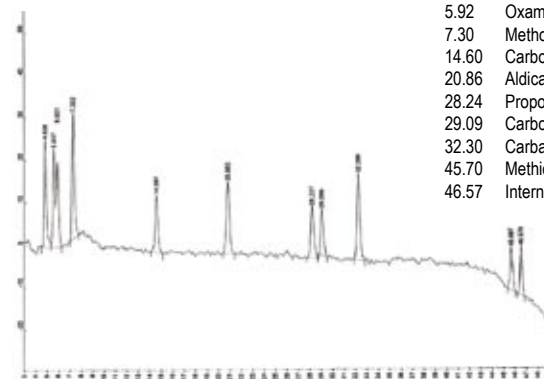
Uptisphere 120 Å, 5 µ HDO, 150 x 3.9 mm



UV 295 nm

N-Methylcarbamates in water

Uptisphere 120 Å, 5 µ C18-HDO, 150 x 4.6 mm

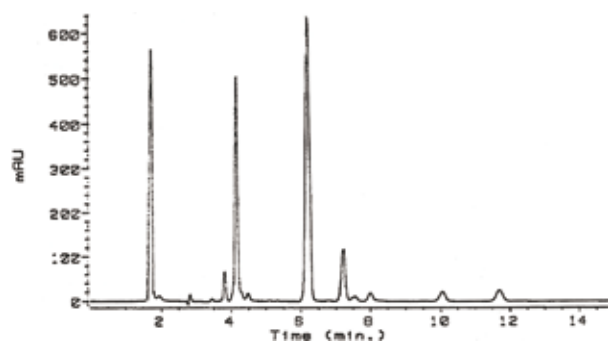


4.84	Aldicarb sulfoxide
5.62	Aldicarb sulfon
5.92	Oxamyl
7.30	Methomyl
14.60	Carbofuran 3-hydroxide
20.86	Aldicarb
28.24	Propoxur
29.09	Carbofuran
32.30	Carbaryl
45.70	Methiocarb
46.57	Internal std BDMC

H₂O-MeOH (t = 0 (80/20) ;
t = 40 (45/55) ;
t = 50 (0/100) during 5 min) 1 ml/min
OPA derivatization : ex 330 nm ; em 466 nm

Amine oxides

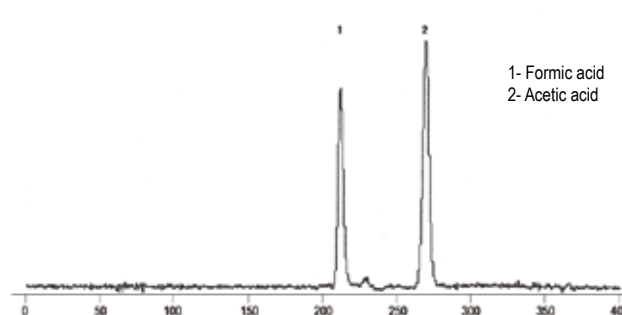
Uptisphere 120 Å, 5 µ C18-ODB, 250 x 4.6 mm



MeOH 72% - ACN 9%
H₂O 19%
1 ml/min
40°C

Organic Acids

Uptisphere 120 Å, 5 µ C18-ODB, 250 x 4.6 mm



1- Formic acid
2- Acetic acid

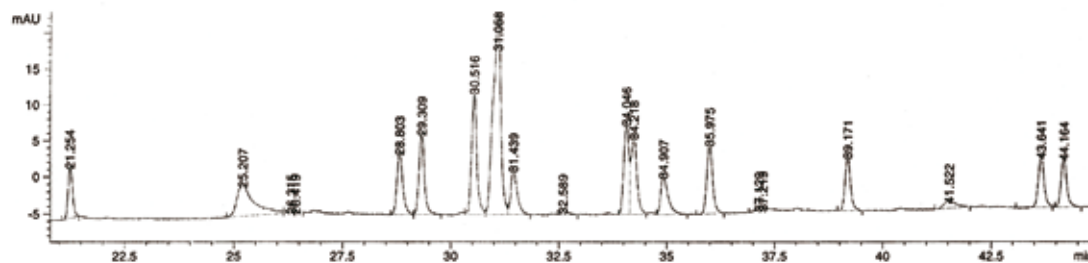
H₂O-ACN (95/5) + 0.1 % TFA
1 ml/min
120 bars
UV 210

Analysis - HPLC - Interchim technology

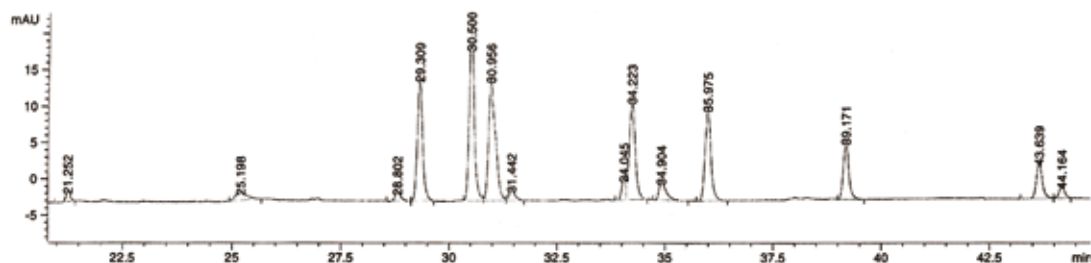
Applications

Herbicides

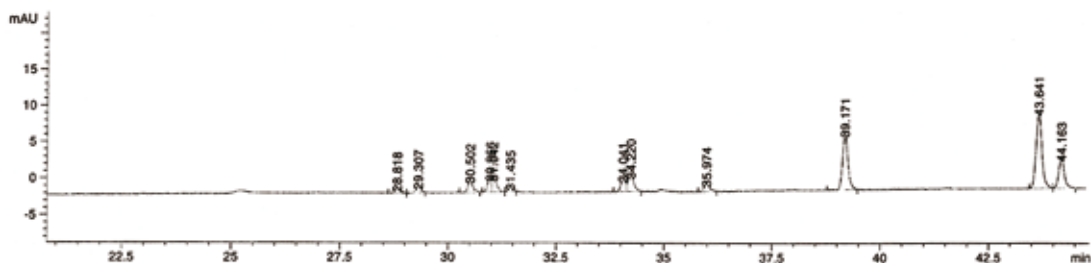
Uptisphere 120 Å 5 µ ODB, 250 x 4.6 mm



UV 220 nm
21,25 Mevinphos
28,80 Dicamba
31,06 Bromoxynil
31,44 2,4-D
34,46 MCPA
34,90 2,4,5-T
44,16 Coumaphos



UV 240 nm
29,31 Chlorotoluron
30,50 Isoproturon
30,95 Diuron
34,22 Ioxynil
35,97 Linuron



UV 270 nm
39,17 Diflubenzuron
43,64 Dinoterbe

Analysis - HPLC - Interchim technology

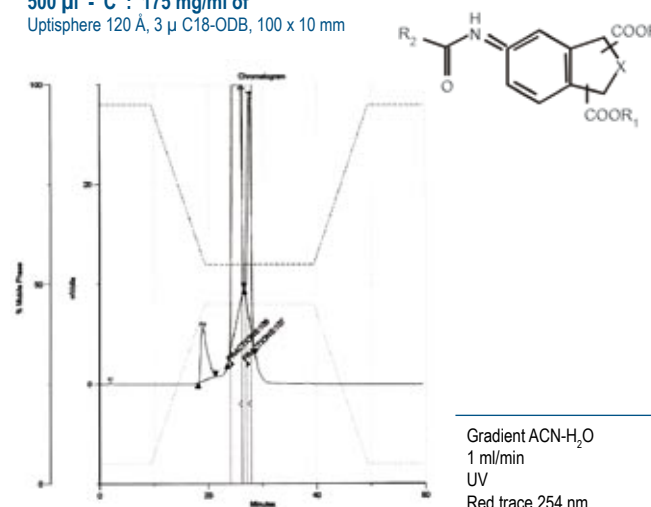
Applications

20 μ l - C : 175 mg/ml of
Uptisphere 120 Å 3 μ C18-ODB, 50 x 4.6 mm



Gradient ACN-H₂O
1 ml/min
UV
Blue trace 220 nm
Red trace 254 nm

500 μ l - C : 175 mg/ml of
Uptisphere 120 Å, 3 μ C18-ODB, 100 x 10 mm

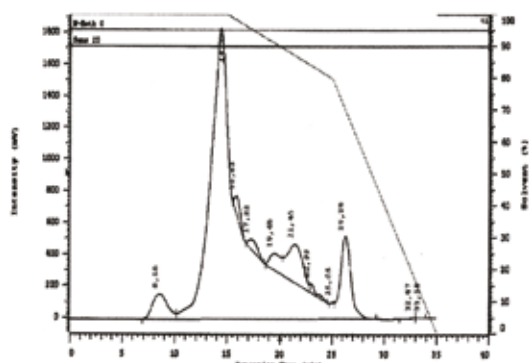


Gradient ACN-H₂O
1 ml/min
UV
Red trace 254 nm

Courtesy of Dr Filoche R&D dept of RP Vitry - France

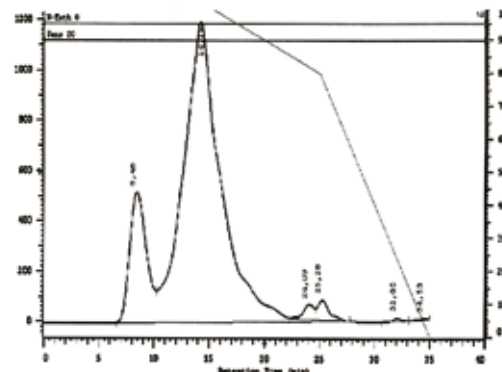
Oil cuts separation on DNAP (C17-C19 n-alkanes range)

Arjuna (terrestrial o.m.)



0-11 min : hexane 0,5 ml/min ; 11-15 min : hexane 1 ml/min
15-25 min : 1 ml/min gradient hexane /DCM 80/20 ; 25-35 min : 1 ml/min gradient DCM 100
UV detection 254 nm (GC/MS identification)

Boscan (marine o.m)



7-10 min : monoaromatics
10-18 min : C3/C4 naphthalenes
18-25 min : C1 fluorenes dibenzothiophenes
25-28 min : phenanthrene

Courtesy of Mme Vandembroucke IFP

Analysis - HPLC - Interchim technology

Applications

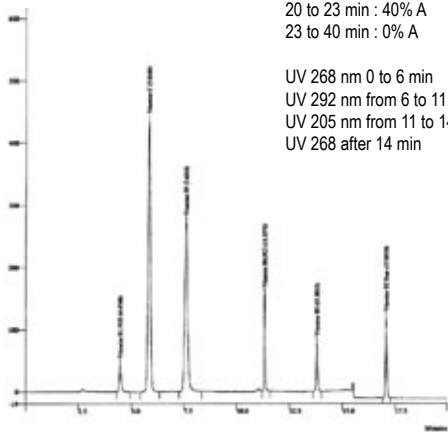
Hydrosoluble vitamins

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

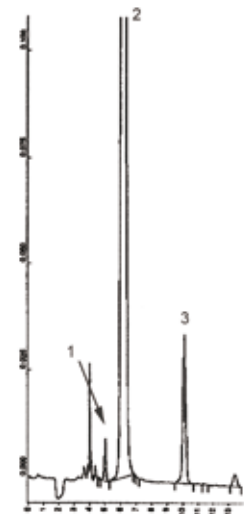
4,5 B1,NO3
5,8 C
7,6 PP
11,3 B6,HCl
13,8 B5
17 B2 base



Hydrosoluble vitamins

Uptisphere 120 Å 5 µ C18-ODB, 150 x 4.6 mm

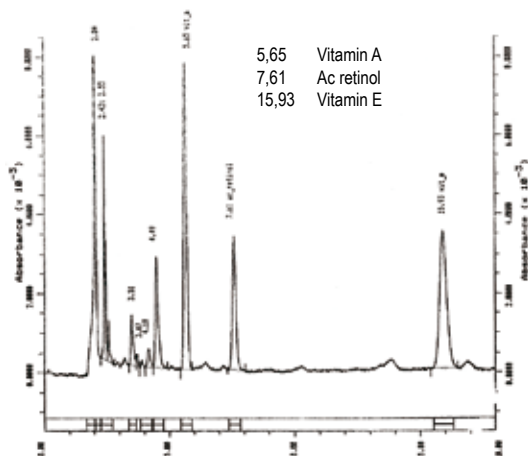
1- Riboflavin
2- Nicotinamide
3- Pyridoxine



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

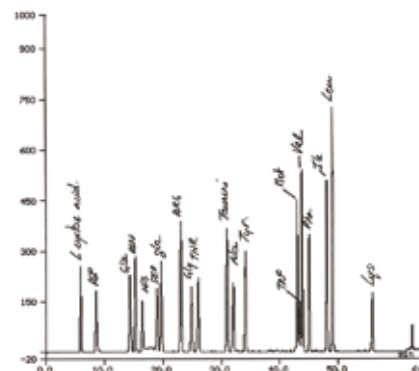


MeOH 100%
1 ml/min
UV 295 nm

OPA Amino acids

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

1-L-cysteic acid
2-ASP
3-Glu
4-ASN
5-His
6-Ser
7-Gln
8-ARG
9-Gly
10-THR
11-Taurine
12-Ala
13-Tyr
14-Met
15-Trp
16-Val
17-Phe
18-Ile
19-Leu
20-Lys



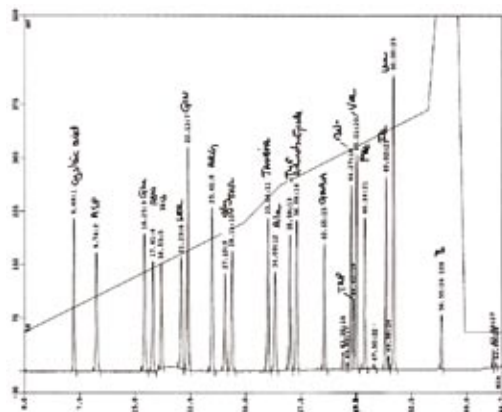
A: (50 mM Acetate Na pH : 5,7) ; 3% THF
B: 100% MeOH ; 0.05 THF
Flow : 1 ml/min ; 37 °C - inj : 250 pmole of each AA
Fluo : ex : 346 nm . em : 455 nm

Analysis - HPLC - Interchim technology

Applications

Amino acids

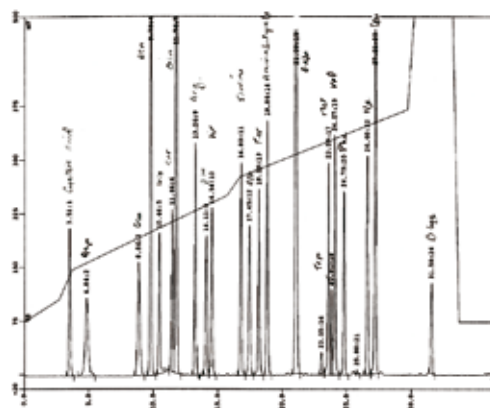
Uptisphere 120 Å 5 µ C18-HDO, 250 x 4.6 mm



Analysis time for the last peak : b- Lys : 56.55 min

Amino acids

Uptisphere 120 Å 3 µ C18-HDO, 150 x 4.6 mm



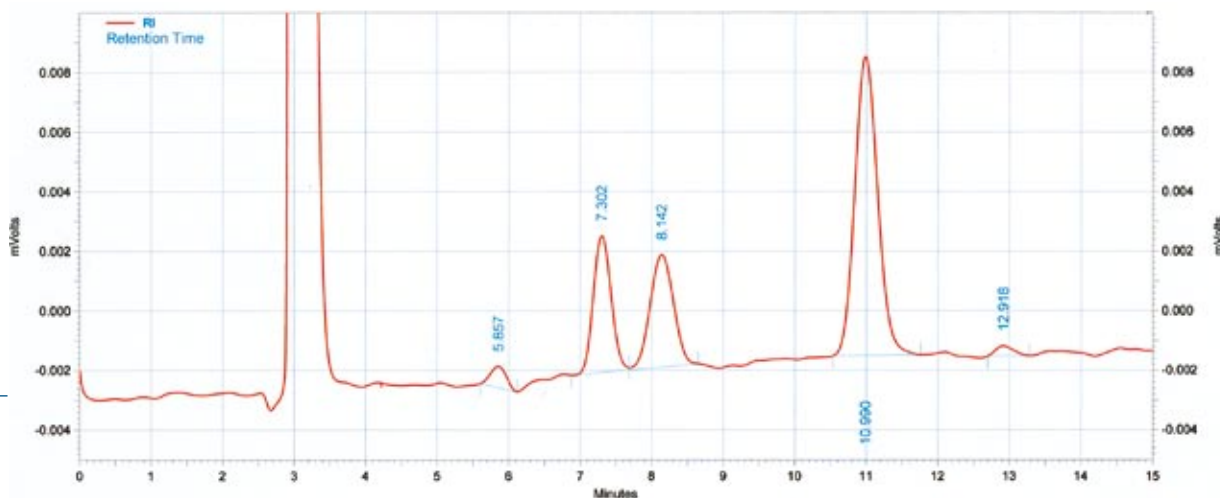
Analysis time for the last peak : b- Lys : 31.58 min

Gains :

- same resolution
- increased productivity
- less solvent consumption

Sugars in strong alcohol

Uptisphere 5 µ NH₂, 200 x 4.6 mm



Mobile Phase : CH₃CN/H₂O - 75/25
Temp. : 35°C
Flow rate : 1.5 ml /min
Injection : 1 µl
Detector : RI

Analysis - HPLC - Interchim technology

Applications

PAH's mixture (610)

Uptisphere 5 μ TF, 250 x 4.6 mm

Solvent A : ACN:H₂O, 50:50, v/v

Solvent B : ACN

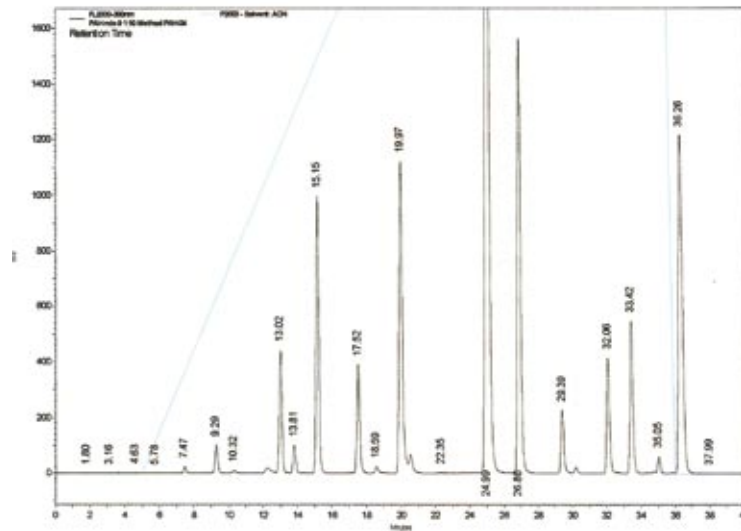
Flow rate : 1.0 ml/min

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

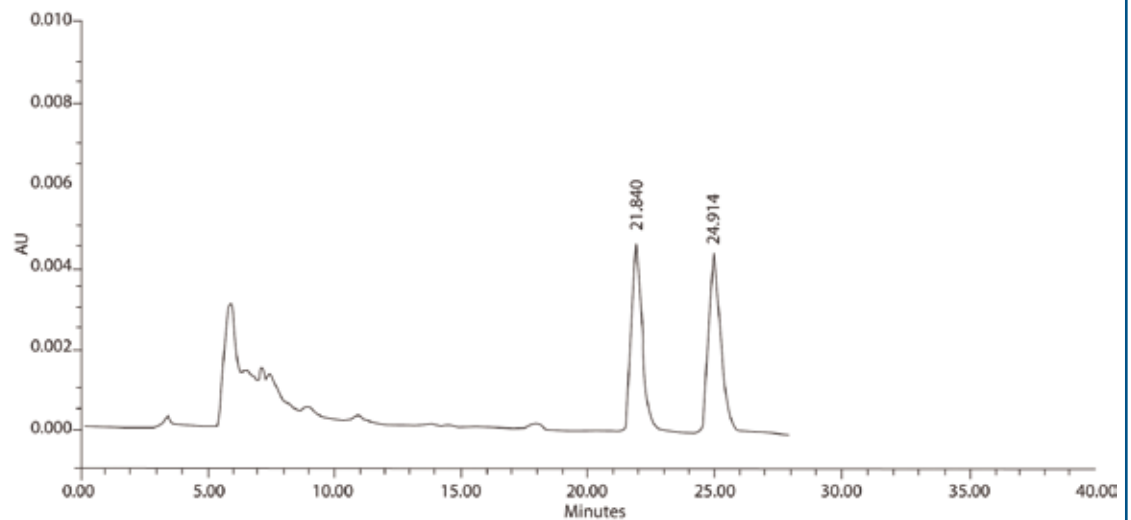
Uptisphere 5 μ TF, 250 x 4.6 mm

Mobile Phase : 999/1 ACN/MeOH

Flow rate : 0.5 ml/min

Temp. 30°C

Injection 200 μ l (~ 40 ng of D3)

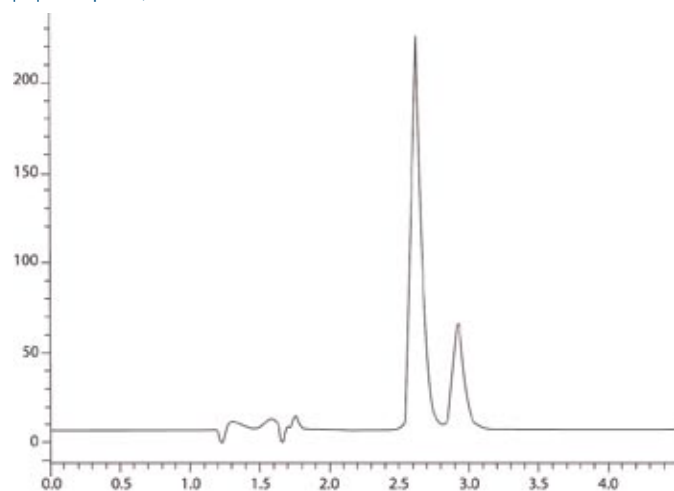


Analysis - HPLC - Interchim technology

Applications

Dipyridone

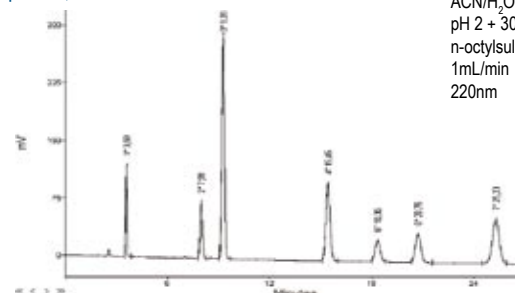
Uptisphere 5 μ HDO, 100 x 4.6 mm



Catecholamine

Strategy™ 5 μ C18-2, 250 x 4.6 mm

ACN/H₂O 20/80
pH 2 + 30mM sodium
n-octylsulfonic acid
1mL/min
220nm



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

Selection of publications with Uptisphere® columns

Uptisphere® 5 µm C18-ODB

Marjorie Chèze and all, Laboratoire TOXLAB, 7 rue Jacques Cartier, F-75018 Paris, France ; Science Direct, Forensic Science International 153 (2005) 3–10 ; Hair analysis by liquid chromatography–tandem mass spectrometry in toxicological investigation of drug-facilitated crimes: Report of 128 cases over the period June 2003–May 2004 in metropolitan Paris.

Uptisphere® 5 µm C18-ODB

Hend Bejaoui and all, Laboratoire de Génie Chimique UMR5503 (CNRS-INPT-UPS), Département: Bioprocédés et Systèmes Microbiens, ENSAT/INPT : 1, Auzeville-Tolosane, Castanet-Tolosan, France ; FEMS Microbiol Lett 255 (2006) 203–208, Biodegradation of ochratoxin A by Aspergillus section Nigri Species isolated from French grapes : a potential means of ochratoxin A decontamination in grape juices and musts.

Uptisphere® 5 µm C18

BERTRAND GAKIÈRE, LAURENCE DENIS, MICHEL DROUX, STEPHANE RAVANEL, DOMINIQUE JOB; Laboratoire mixte CNRS-RPA (UMR1932), 14-20 rue Pierre Baizet, 69263 Lyon Cedex 9, France ; METHIONINE SYNTHESIS IN HIGHER PLANTS: SENSE STRATEGY APPLIED TO CYSTATHIONINE γ -SYNTHASE AND CYSTATHIONINE β -LYASE IN ARABIDOPSIS THALIANA

Uptisphere® 5 µm C18-ODB, C18-HDO, C18-NEC, C18-TF, C18-HSC

Cinzia Stella (a,b), Serge Rudaz (a,b), Jean-Yves Gauvrit (c), Pierre Lantéri (c), Alban Huteau (d), Alain Tchaplà (d), Jean-Luc Veuthey (a), (a)Laboratory of Pharmaceutical Analytical Chemistry, School of Pharmaceutical Sciences, University of Geneva, Switzerland, (b)Laboratory of Pharmaceutical Analytical Chemistry, School of Pharmaceutical Sciences, University of Lausanne, Switzerland, (c)Laboratory of Chemometrics, ESPCE Lyon, University Claude Bernard Lyon I, Villeurbanne, France, (d)Groupe de Chimie, Analytique de Paris Sud, EA 33-43 LETIAM IUT d'Orsay, Université Paris XI, Orsay, France ; Science Direct, Journal of Pharmaceutical and Biomedical Analysis, xxx (2006) xxx-xxx, Characterization and comparison of the chromatographic performance of different types of reversed-phase stationary phases.

Uptisphere® 5 µm C18-ODB, C18-HDO, C18-NEC, C18-TF, C18-HSC

Lesellier, Alain Tchaplà Groupe de Chimie Analytique de Paris Sud, LETIAM IUT d'Orsay EA 3343, Plateau du Moulon, F-91400 Orsay, France Received 9 May 2005; received in revised form 5 September 2005; accepted 9 September 2005. A simple subcritical chromatographic test for an extended ODS high performance liquid chromatography column classification

Uptisphere® 5 µm C18-NEC

Souleiman El Balkh and all, Laboratoire de Toxicologie Biologique, Hopital Lariboisiere, 2 rue Ambroise Paré, 75475 Paris, France ; Journal of Analytical Toxicology, Vol. 29, May / June 2005, Determination of Ethylene Thiourea in Urine by HPLC-DAD