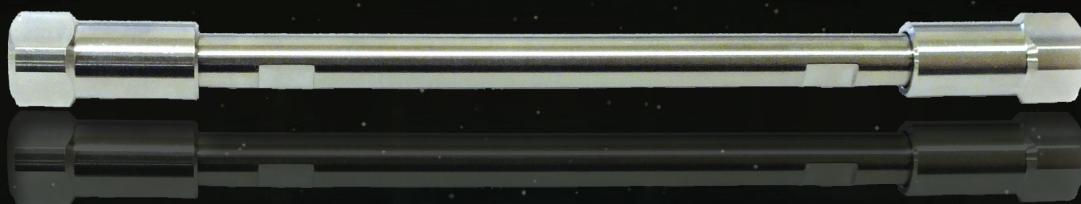


UHPLC COLUMNS
UHPLC COLUMNS



UHPLC COLUMNS

> Horizon Chemistry Physicals

Stationary Phase	%C	Surface Area	Pore Size	pH range	USP
C18	20%	300m ² /g	120Å	1-11	L1
C18/PFP	15%	300m ² /g	120Å	2-10	L1
AQUA	16%	300m ² /g	120Å	2-10	L1
C18/AR	15%	300m ² /g	120Å	2-9	L1
AMIDE 18	16%	300m ² /g	120Å	2-9	L60
PHENYL-HEXYL	15%	300m ² /g	120Å	2-9	L11
BIPHENYL	16%	300m ² /g	120Å	2-9	L11
HILIC Plus	8%	300m ² /g	120Å	2-9	
C8	12%	300m ² /g	120Å	2-10	L7
HILIC	4%	300m ² /g	120Å	2-8	L20
PHENYL	12%	300m ² /g	120Å	2-8	L11
PFP	13%	300m ² /g	120Å	2-8	L43
CYANO	7%	300m ² /g	120Å	1-6	L10
AMINO	5%	300m ² /g	120Å	2-8	L8

> Horizon BIO Physicals

Stationary Phase	%C	Surface Area	Pore Size	pH range	USP
PEP C18	10%	175m ² /g	200Å	1-9	L1
PEP C8	7%	175m ² /g	200Å	2-10	L7
PEP Phenyl	9%	175m ² /g	200Å	2-10	L11
PEP SAX	3%	175m ² /g	200Å	2-9	L14
PRO C4	3%	100m ² /g	300Å	1-9	L26
PRO C8	4%	100m ² /g	300Å	1-9	L7
PRO C18	6%	100m ² /g	300Å	1-9	L1
PRO PHENYL	5%	100m ² /g	300Å	1-8	L11
PRO SAX	2%	100m ² /g	300Å	1.8	L14

> Horizon UHPLC 1.6µm Phase Chemistry Highlights...

Horizon's comprehensive range of phase chemistries provide excellent performance and lifetime. Selectivity is key in providing the analyst with the tools to perform their method development and analysis.

Horizon C18 provides excellent peak shapes for difficult to analyse compounds and is robust at extremes of high and low pH

Horizon C18/PFP offers selectivity unmatched by virtually all commercial C18 products on the market. With the addition of the PFP ligand to the bonded surface, the Horizon C18/PFP provides the extra unique PFP selectivity that helps resolve co-eluting compounds

Horizon Aqua C18 has been developed to separate highly polar compounds in reverse phase conditions. Polar endcapping allows analysis in 100% aqueous mobile phase conditions.

Horizon HILIC Plus this novel polar mixed charge stationary phase surface offers increased hydrophilicity over conventional HILIC phases. Polar analytes are strongly retained.

Horizon Biphenyl perfect for increased retention of hydrophilic amines, increased resolution of polar analytes. Also suitable for aiding isomer separations.



Horizon BIO Peptide and Protein Horizon 1.6µm peptide and protein columns are optimised for larger molecule, high sensitivity, high resolution applications. Ultra pure inert silica template. Multiple pore size options 200Å and 300Å.

Horizon Capillaries increase the sensitivity of your analysis with our capillary options. Useful when samples are limited in size.

Choose from 75µm, 150µm, 300µm options. Also available as microbore 0.5mm and 1mm diameters.

HORIZON C18

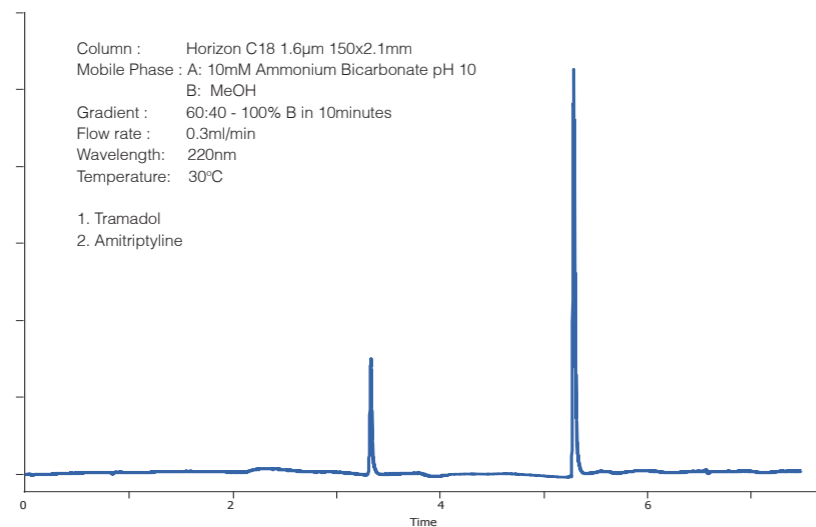
HPLC and UHPLC COLUMNS

Horizon C18 is a unique column based on ultra pure silica possessing excellent stability at extremes of high and low pH, Available in 1.6µm UHPLC format as well as 3µm & 5µm particle size for HPLC.



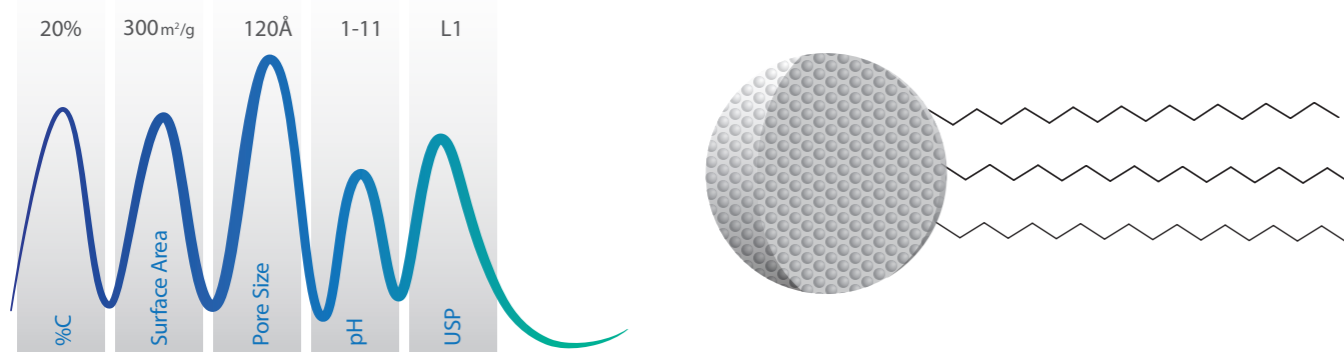
// HORIZON C18

- Ultra pure high surface area silica in UHPLC and HPLC particle sizes
- Excellent performance and stability at extremes of high and low pH
- Excellent peak shapes and selectivity for difficult to analyse compounds
- Guaranteed column to column and batch to batch reproducibility



HORIZON HEADS UP

“It is possible to increase the retention and separation of basic compounds by increasing the pH of the mobile phase, the wide pH stability of the Horizon C18 column will accommodate this mobile phase pH adjustment”



HORIZON C18/PFP

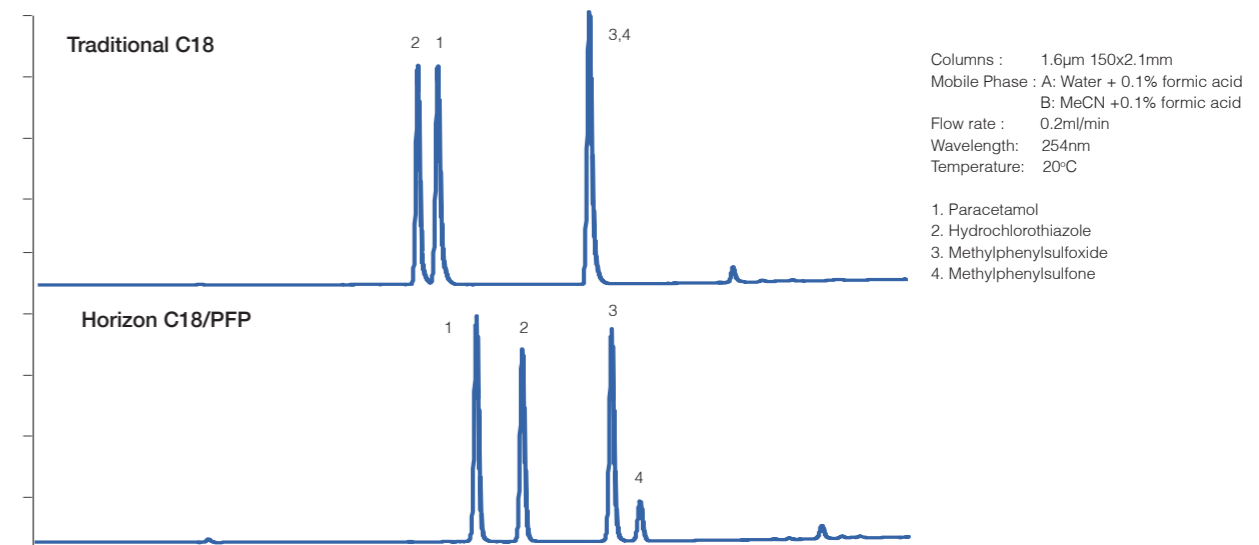
HPLC and UHPLC COLUMNS

Horizon C18/PFP columns offer the analyst increased selectivity changes for many applications including analysis of phenols, benzenes and amines. The unique combination of C18 and PFP means that hydrophobic retention can be maintained whilst extra selectivity and separation is achieved.



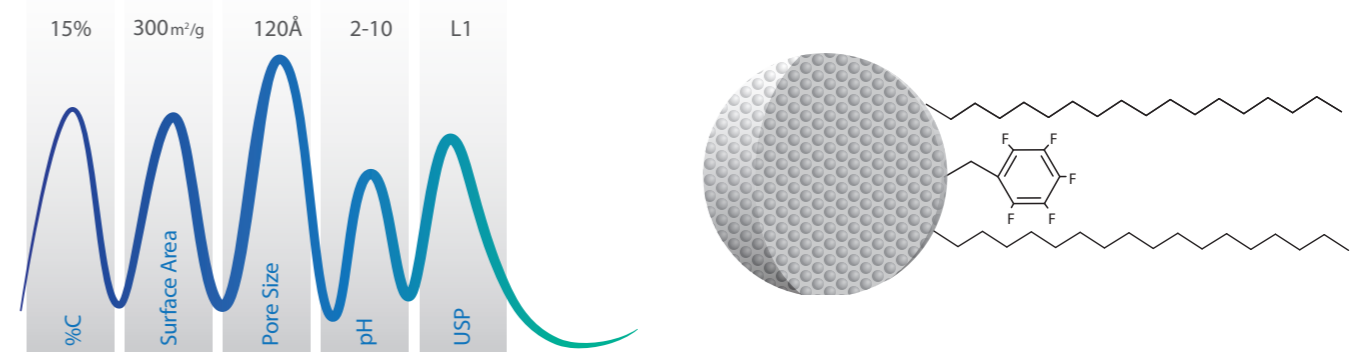
// HORIZON C18/PFP

- Alternative selectivity L1 columns
- Offering strong hydrophobic, pi-pi and dipole interactions
- Extended retention is achievable for halogenated compounds
- Available in analytical columns as well as UHPLC columns allowing simple method transfer



HORIZON HEADS UP

“Many separations are not achievable using a traditional hydrophobic C18 stationary phase, by using a C18/PFP column the additional pi-pi and dipole interactions can often provide the selectivity required”



HORIZON AQUA C18

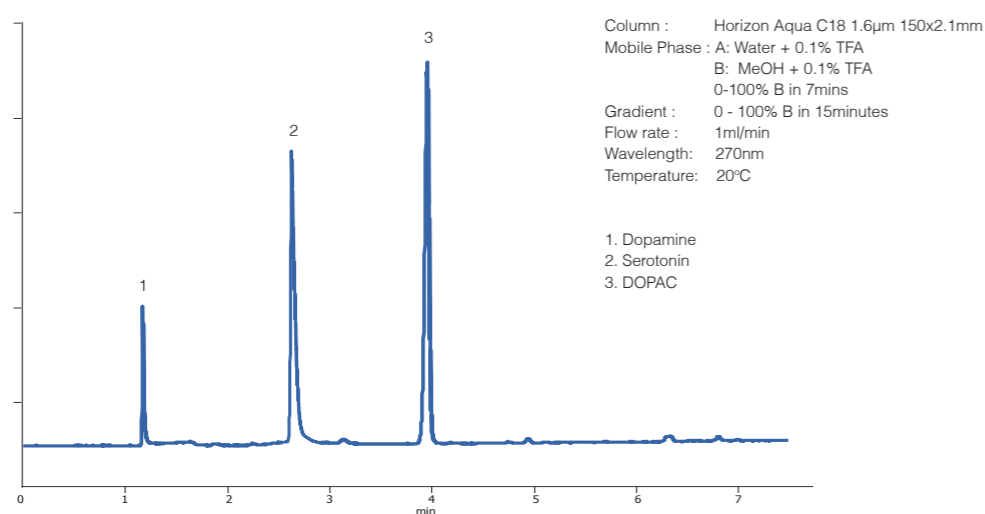
HPLC and UHPLC COLUMNS

Polar endcapped C18 technology used in Horizon Aqua C18 columns means it can be used in 100% aqueous mobile phase for the retention of polar compounds.



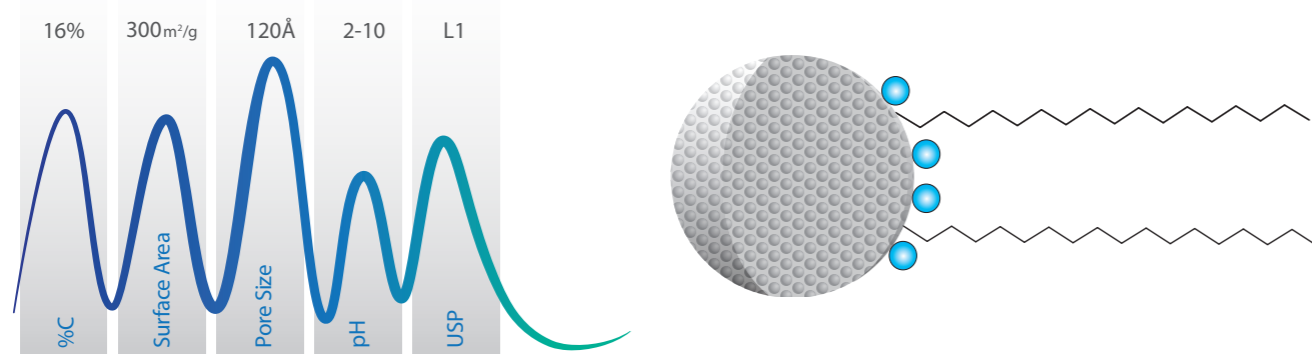
// HORIZON AQUA C18

- Ultra pure silica in UHPLC and HPLC particle sizes
- Excellent peak shapes and column lifetime
- Resistant to retention loss caused by highly aqueous mobile phase conditions
- Analysis of polar compounds including polar acids and bases
- Available in 1.6µm UHPLC format and 3µm & 5µm particle size for HPLC



HORIZON HEADS UP

“The development of Aqua C18 technology has been applied to many problematic applications. This is the ‘go to’ column for the analysis of vitamins, anti-coagulants, HIV drugs, catecholamines, steroids and anti-depressants”



HORIZON C18/AR

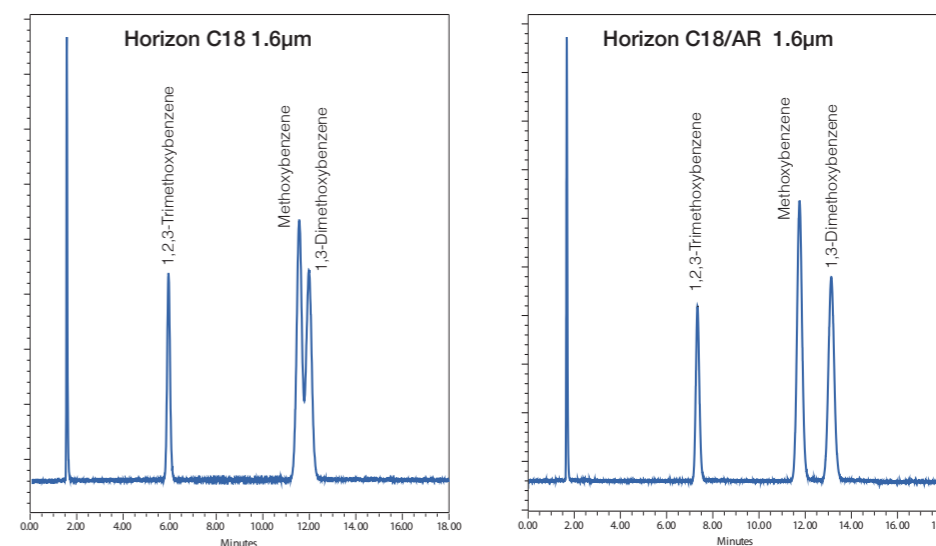
HPLC and UHPLC COLUMNS

Horizon C18/AR is a mixed stationary phase to allow for separation of complex mixtures. Still meets the requirements of the USP L1 category. Alternative selectivity to straight C18 alkyl chain phases.



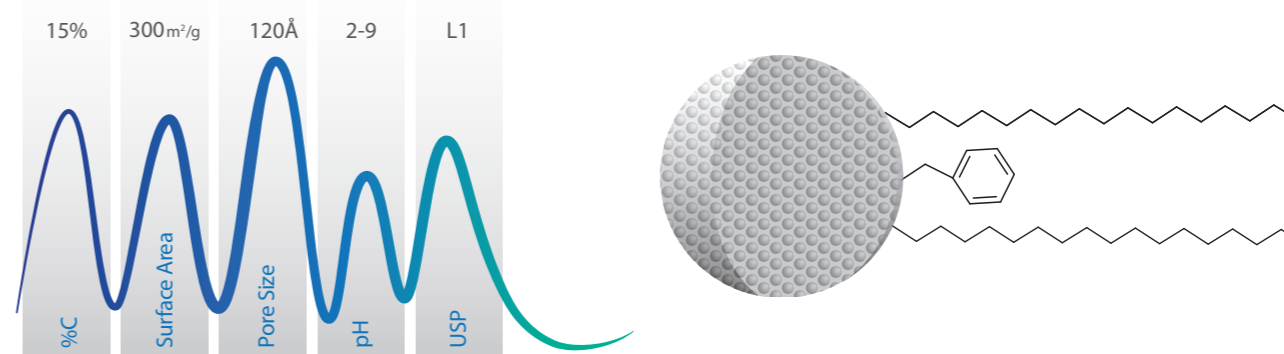
// HORIZON C18/AR

- Alternative selectivity to C18 phases, but still L1 category.
- Retention and separation of aromatic compounds via pi-pi interactions.
- Suitable for highly aqueous mobile phase for retention of polar compounds.
- Resolution of closely related compounds.



HORIZON HEADS UP

“Horizon C18/AR can be used on standard L1 applications, however the extra selectivity of the C18/AR phase can improve resolution of closely eluting compounds.”



HORIZON AMIDE 18

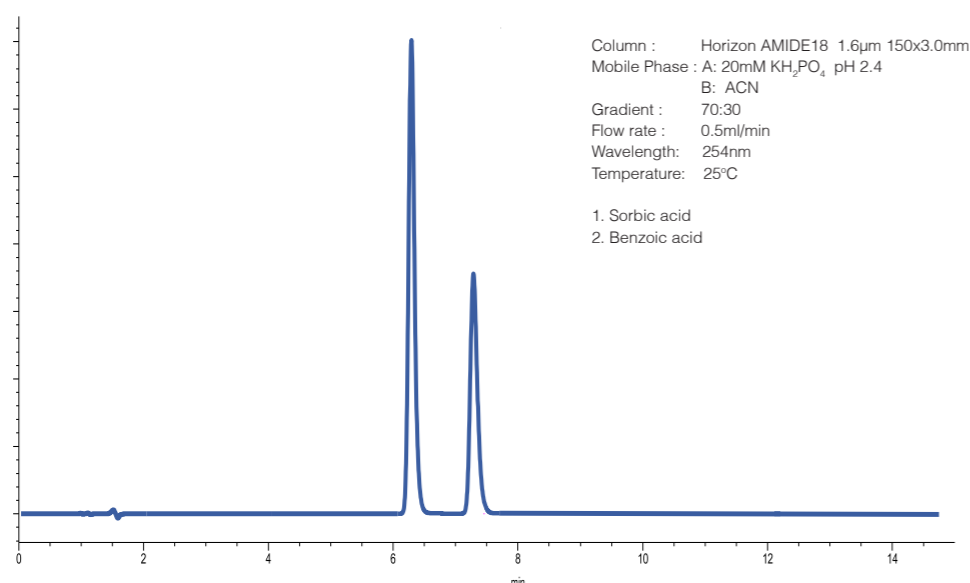
HPLC and UHPLC COLUMNS

Horizon Amide 18 provides extra selectivity over a L1 phase. It contains both alkyl ligand and amide charged functionality to aid in the selectivity required in complex methods.



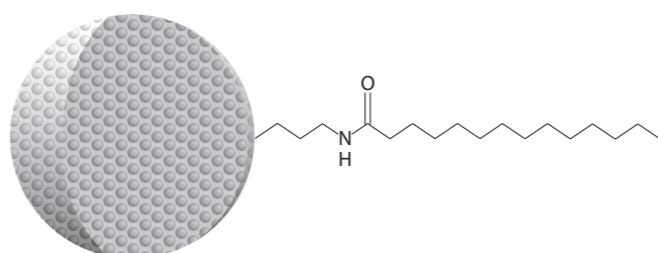
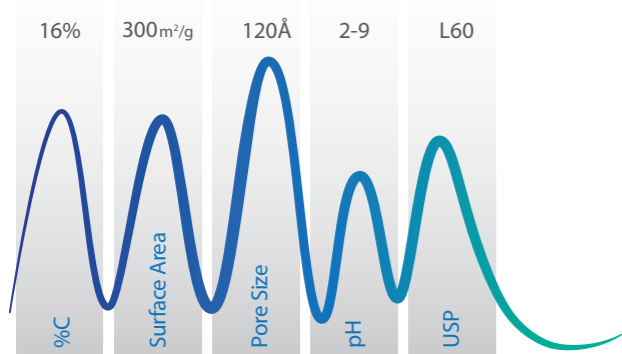
// HORIZON AMIDE 18

- Polar embedded functionality bonded to porous particles
- Alternate selectivity to C18 phases
- 100% aqueous compatible, Strong retention of polar acids
- Ultra High efficiencies with sharper peak shapes



HORIZON HEADS UP

“The development of AMIDE 18 technology has been applied to many problematic applications where extra selectivity is required. This is a L60 column in the USP category”



HORIZON PHENYL-HEXYL

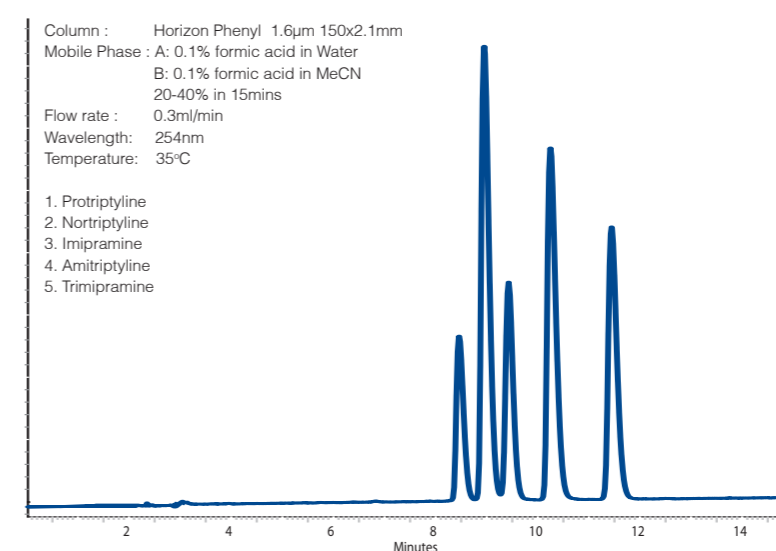
HPLC and UHPLC COLUMNS

Horizon Phenyl-Hexyl offers both hydrophobic and pi-pi interactions, offering alternative selectivity for aromatic compounds.



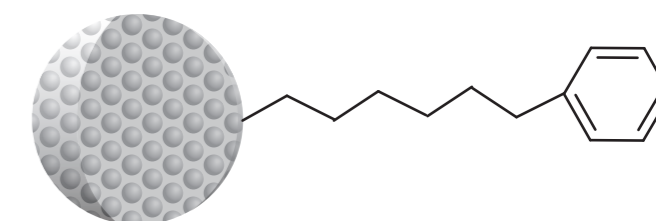
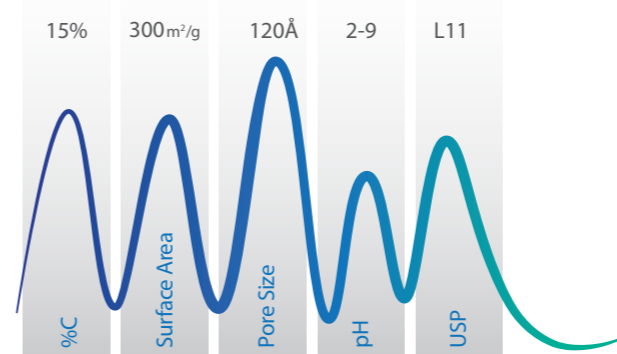
// HORIZON PHENYL-HEXYL

- Offers extra selectivity compared with traditional Phenyl columns
- Ideal for mixtures requiring hydrophobic and aromatic character
- 1.6 μ m, 3 μ m and 5 μ m Horizon Phenyl-Hexyl available



HORIZON HEADS UP

“Horizon Phenyl-Hexyl columns are beneficial in method development for compounds complex mixtures, such as those found in metabolomics and proteomics.”



HORIZON BIPHENYL

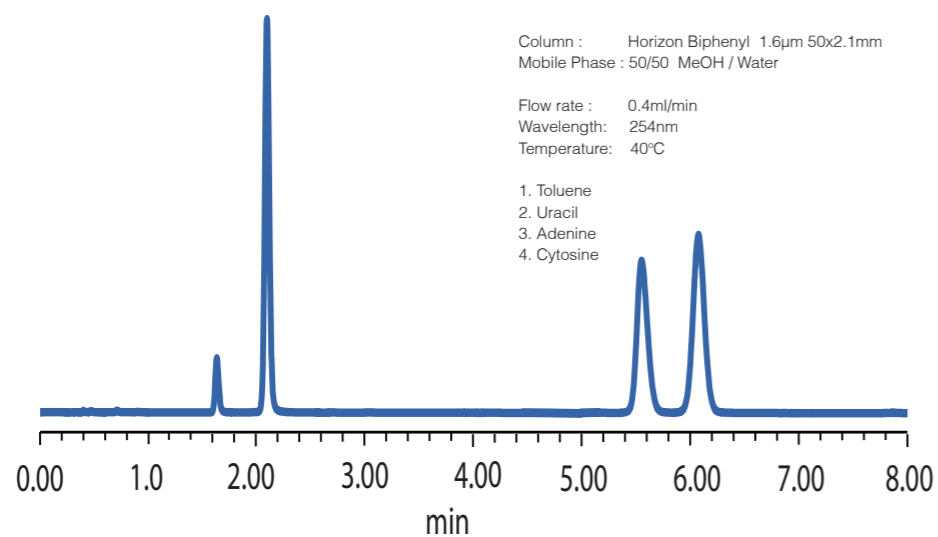
HPLC and UHPLC COLUMNS

Horizon Biphenyl offers shape selectivity to isomer separations to compliment the pi-pi and hydrophobic nature of simple Phenyl stationary phases. Highly reproducible bonding technology.



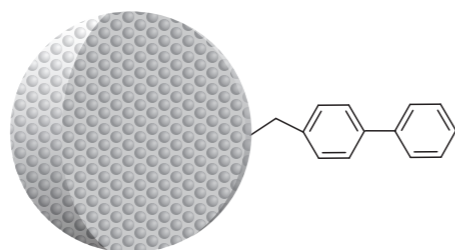
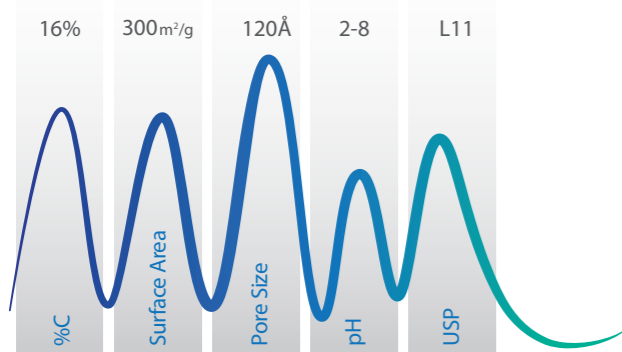
// HORIZON BIPHENYL

- Increased retention of hydrophilic aromatics
- Increased efficiency and sensitivity
- Stable in 100% aqueous mobile phase
- Enhanced polar selectivity



HORIZON HEADS UP

“Horizon Biphenyl columns can be used for basic, acidic or neutral compounds are compatible with a wide range of mobile phases. They are often used as starting columns for method development due to their selectivity and ease of use”



HORIZON HILIC Plus

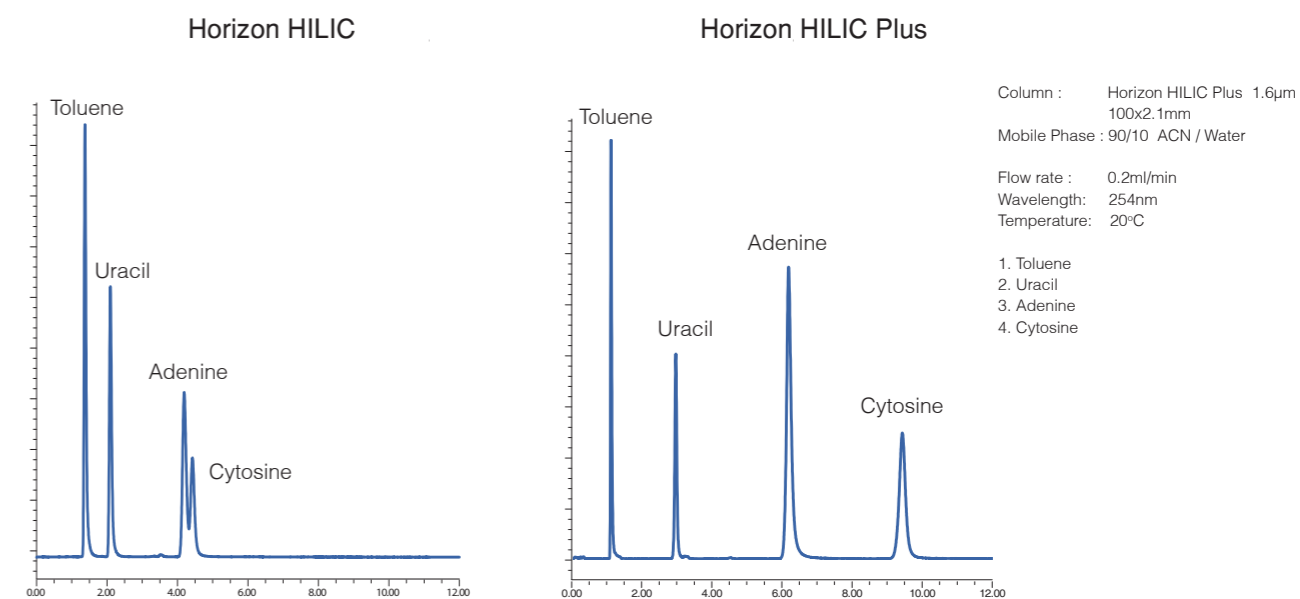
HPLC and UHPLC COLUMNS

Horizon HILIC Plus is a new stationary phase containing both positive and negative charges to aid in the retention of highly hydrophilic compounds.



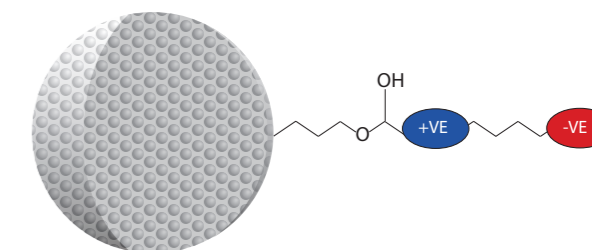
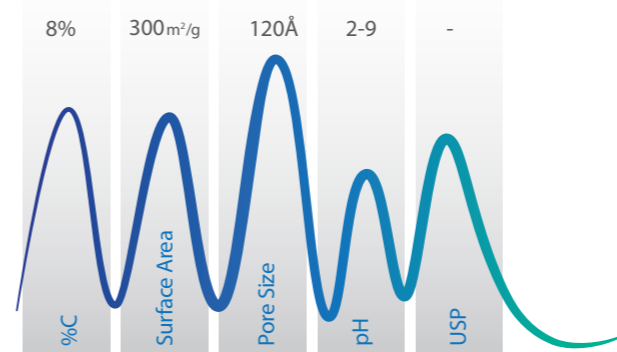
// HORIZON HILIC PLUS

- Applications include, Amino acids, Carbohydrates, polypeptides
- Novel mixed polarity charge gives increased hydrophilicity
- 1.6 μ m Horizon HILIC Plus for increased sensitivity



HORIZON HEADS UP

“Horizon HILIC Plus columns should be run in HILIC mode using less than 25% water content in the mobile phase”



HORIZON C8

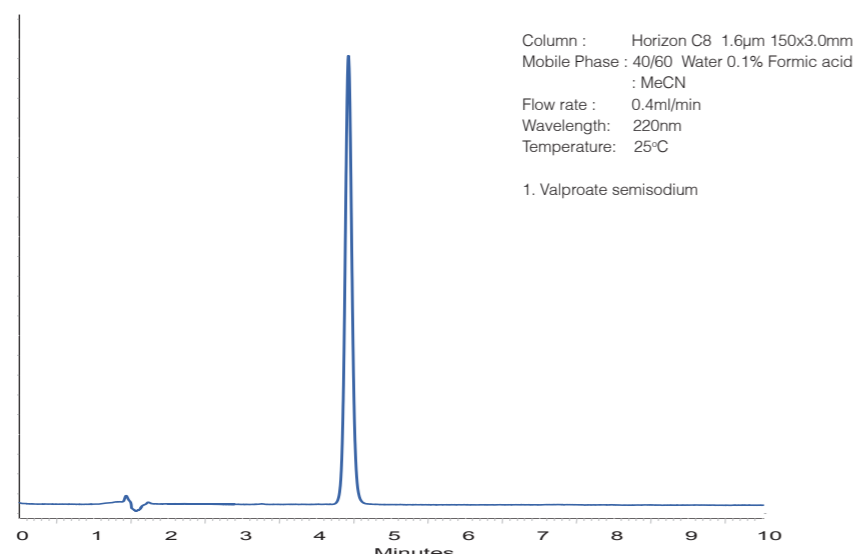
HPLC and UHPLC COLUMNS

Horizon C8 provides less retention than a L1 phase. Perfect when method development involves a range of hydrophobic compounds.



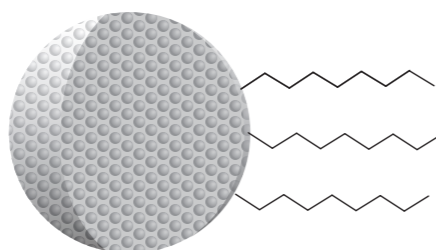
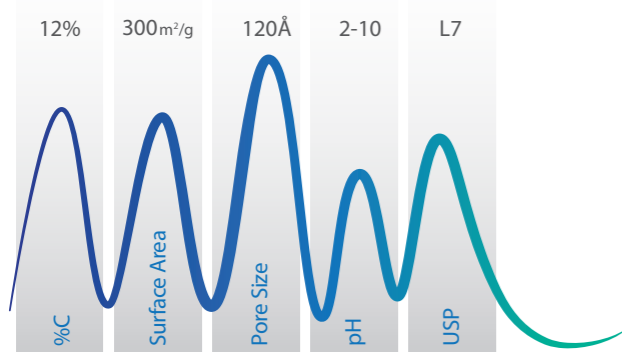
// HORIZON C8

- Great performance column for method development
- Less hydrophobic than classical C18 columns
- Excellent peak shape and stability
- 1.6µm Horizon C8 columns available



HORIZON HEADS UP

“Horizon C8 column is ideal for high throughput laboratories where speed is essential. Its ability to efficiently separate moderately polar compounds with faster analysis times makes it a popular choice in various analytical applications”



HORIZON HILIC

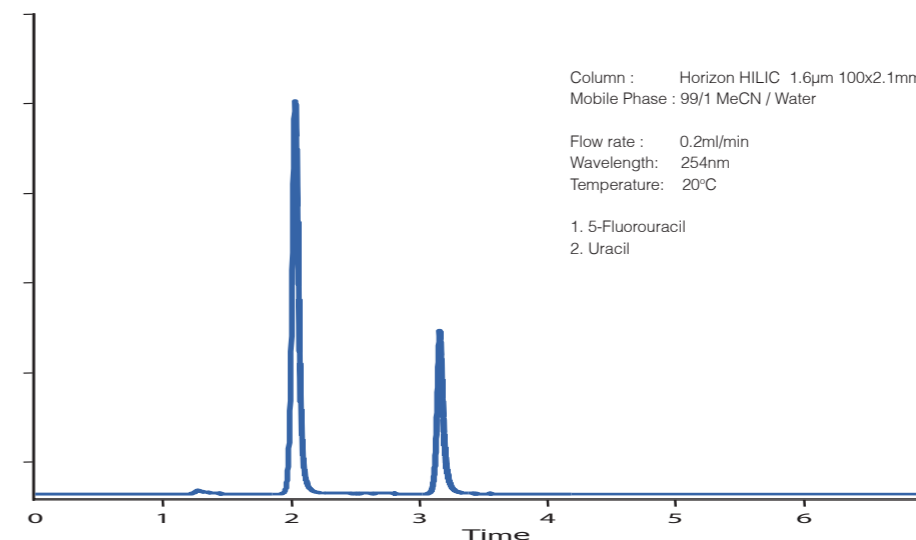
HPLC and UHPLC COLUMNS

Horizon HILIC is a Diol bonded phase, providing retention for very polar analytes. The Diol bonding is highly reproducible providing great robust methods.



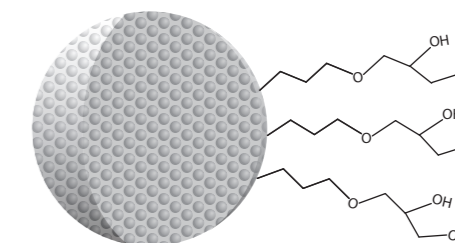
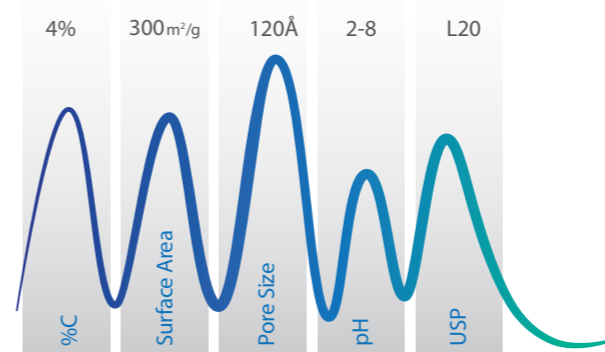
// HORIZON HILIC

- Reproducible Diol bonded stationary phase
- Improved separation and selectivity of polar compounds
- Separation of highly hydrophilic compounds
- Excellent retention and MS sensitivity of polar compounds
- 1.6µm, 3µm and 5µm Horizon HILIC columns available



HORIZON HEADS UP

“HILIC DIOL columns can be used with a wide range of detection techniques, including UV, fluorescence and mass spectrometry, providing flexibility in analytical workflows”



HORIZON PHENYL

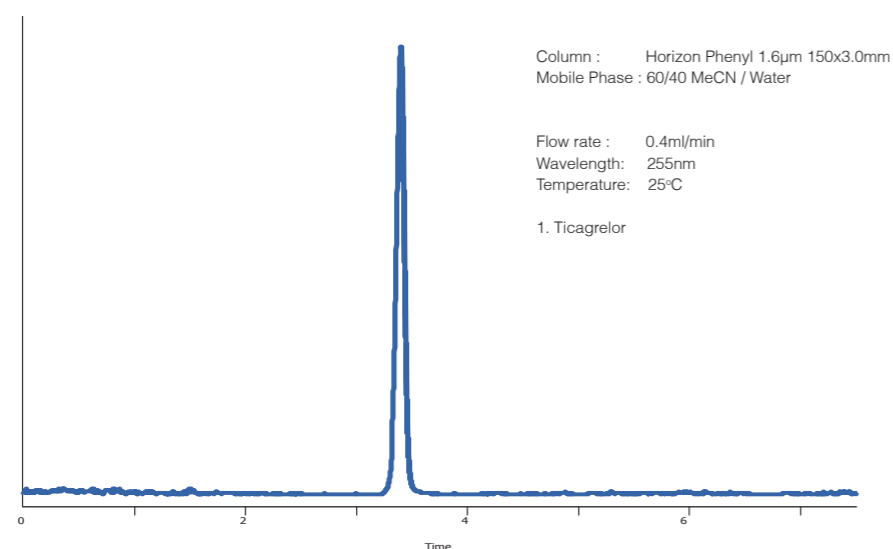
HPLC and UHPLC COLUMNS

Horizon Phenyl provides aromatic character to aid in retention. Strong pi-pi interactions will allow for alternate selectivity to alkyl chain stationary phases.



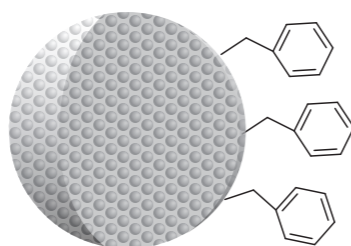
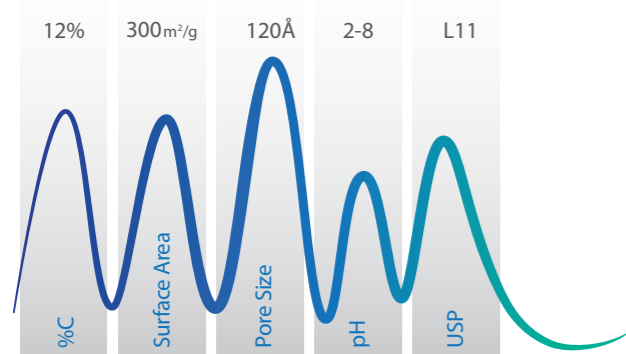
// HORIZON PHENYL

- Suitable for a wide range of aromatic compounds
- Separation of vitamins, herbicides, positional isomers
- Strong pi-pi interactions affording alternative selectivity
- 1.6µm, 3µm and 5µm Horizon Phenyl available



HORIZON HEADS UP

“Horizon Phenyl columns offer enhanced retention for benzene derivatives, halogenated compounds, and aromatic peptides, making them valuable in pharmaceutical, metabolomics and environmental applications.”



HORIZON PFP

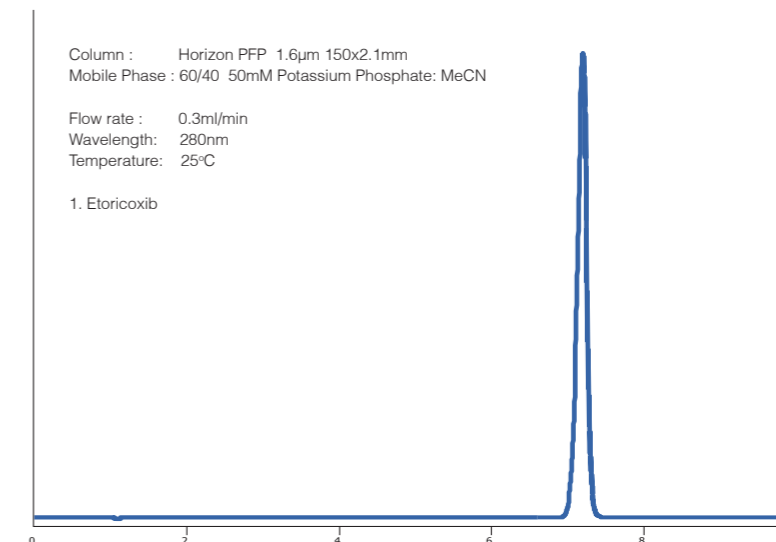
HPLC and UHPLC COLUMNS

Horizon PFP contains fluorine groups providing dipole charge as well as shape selectivity for isomeric species. The PFP bonding is highly reproducible providing great robust methods.



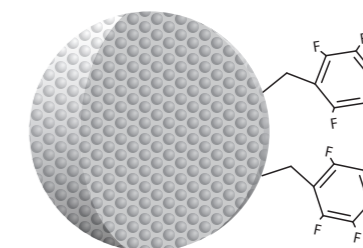
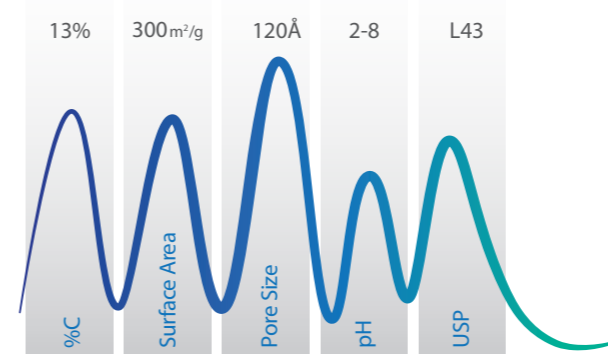
// HORIZON PFP

- Fluorine groups provide extended selectivity
- Separation of positional isomers, halogenated compounds
- Strong pi-pi interactions affording alternative selectivity
- 1.6µm, 3µm and 5µm Horizon PFP available



HORIZON HEADS UP

“Horizon PFP columns can be used for basic, acidic or neutral compounds with alternate selectivity to C18, making them suitable for a wide range of analytical tests.”



HORIZON CYANO

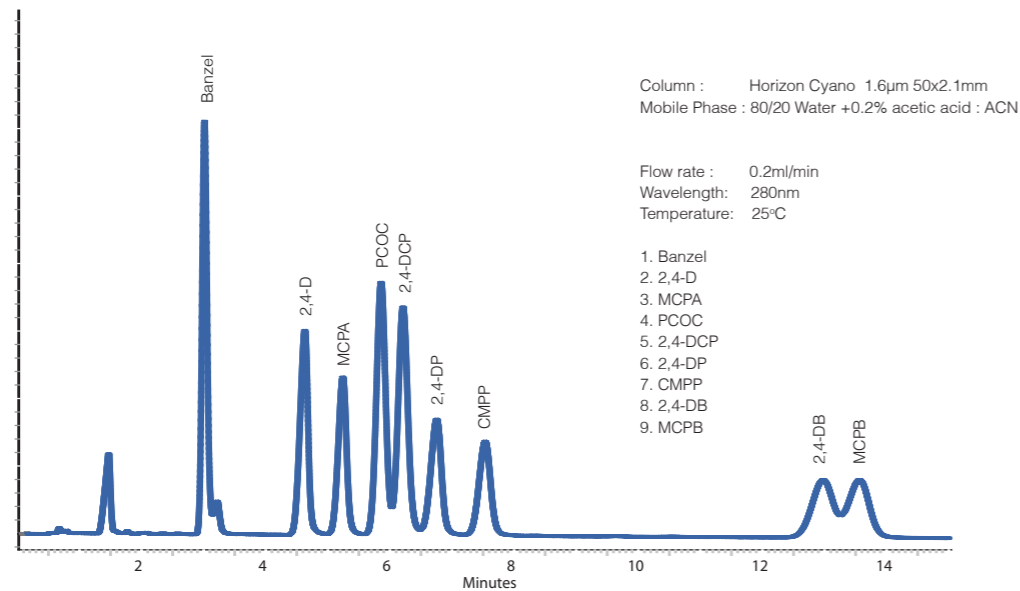
HPLC and UHPLC COLUMNS

Horizon Cyano provides the option to use in normal phase or reversed phase being compatible in both modes. Use for explosives or very polar environmental Herbicide compounds,



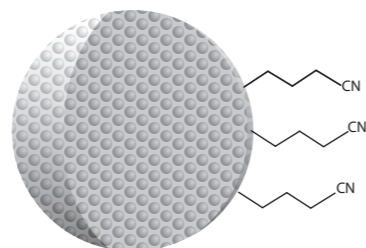
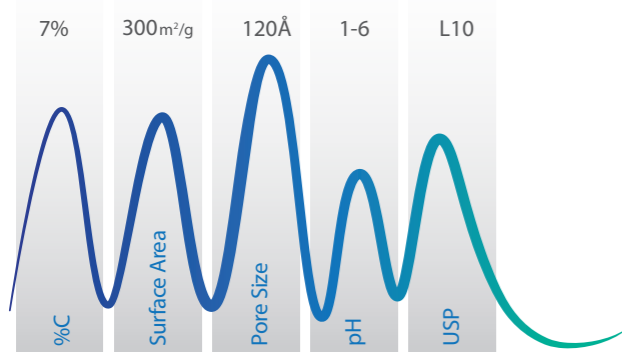
// HORIZON CYANO

- Offers unique selectivity under normal phase or reversed phase conditions
- Provides pi-pi and hydrogen bonding interactions
- Analysis of carboxyl, carbonyl or amine compounds
- 1.6µm, 3µm and 5µm Horizon Cyano available



HORIZON HEADS UP

“Horizon Cyano columns are particularly useful for moderately polar compounds and analytes that are poorly retained on C18 columns.”



HORIZON AMINO

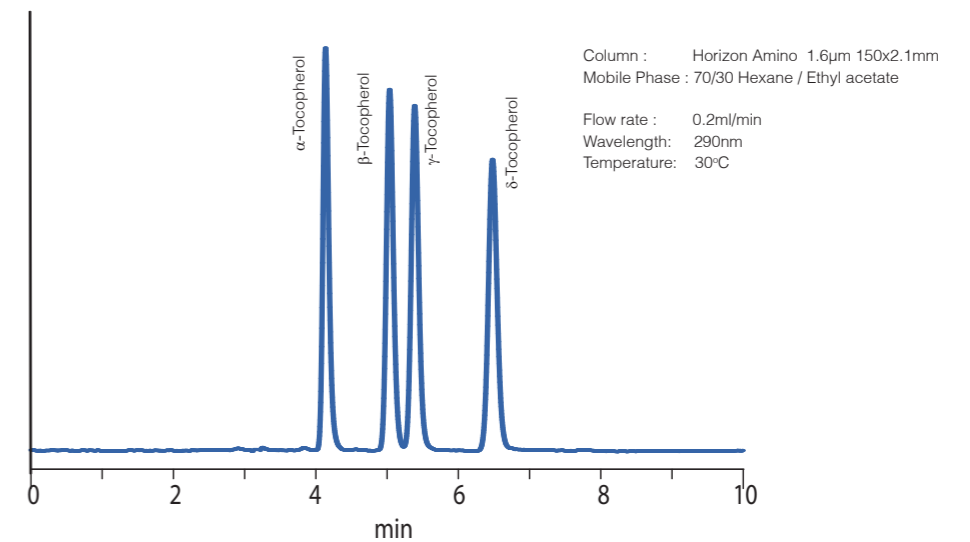
HPLC and UHPLC COLUMNS

Horizon Amino allows can be used in normal phase as well as reversed phase mode. Use for separations of carbohydrates and polar amino acids.



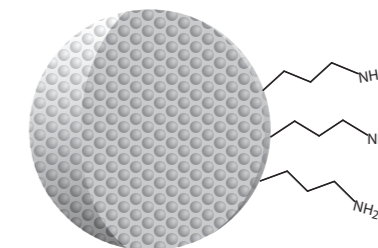
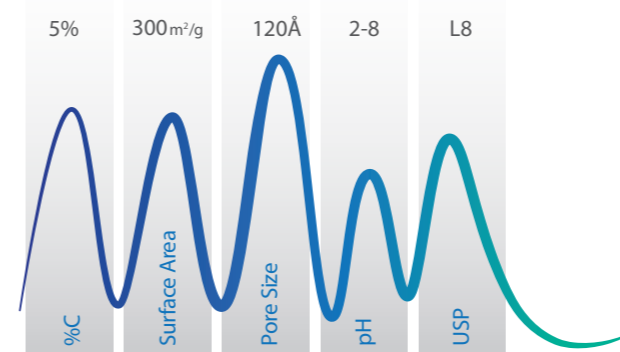
// HORIZON AMINO

- Offers polar selectivity under normal phase, reversed phase, ion-exchange or HILIC conditions
- Ideal for analysis of sugars, anionic or hydrogen bonding compounds
- 1.6µm, 3µm and 5µm Horizon Amino available



HORIZON HEADS UP

“Horizon Amino columns exhibit weak ion-exchange properties, making them ideal for retaining anions and organic acids.”



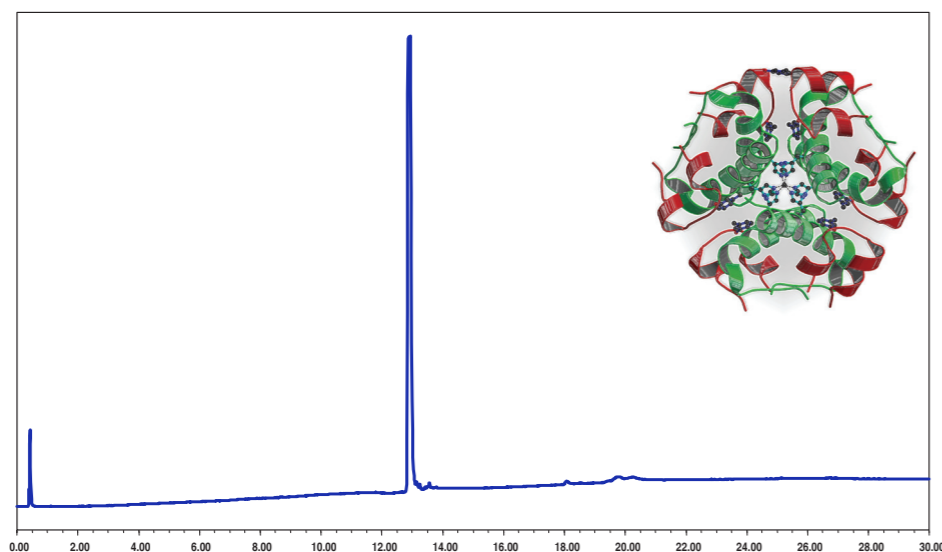
HORIZON BIO

UHPLC COLUMNS



// 1.6µm HORIZON BIO COLUMNS

- Optimised for retention of peptides and proteins
- Increase efficiency and resolution
- Chose pore size and hydrophobicity
- SAX for ion exchange chromatography



- Horizon PEP columns are 200Å pore size ultra pure silica, in order to retain small peptides and tryptic digests.
- Horizon PRO columns are 300Å in order to retain larger protein compounds.
- Chose pore size and hydrophobicity
- Available with C18, C8, C4, Phenyl or SAX stationary phases to facilitate the retention of a variety of hydrophobic, hydrophilic and aromatic functionalities.



Horizon Capillaries increase the sensitivity of your analysis with our capillary options. Useful when samples are limited in size.

Choose from 75µm, 150µm, 300µm options. Also available as microbore 0.5mm and 1mm diameters.

> Horizon Part Number Tables

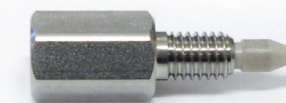
Column Length (mm)	Column Diameter (mm)			
	2.1	3.0	4.0	4.6
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50	XXX-050-21-16	XXX-050-30-16	XXX-050-40-16	XXX-050-46-16
75	XXX-075-21-16	XXX-075-30-16	XXX-075-40-16	XXX-075-46-16
100	XXX-100-21-16	XXX-100-30-16	XXX-100-40-16	XXX-100-46-16
125	XXX-125-21-16	XXX-125-30-16	XXX-125-40-16	XXX-125-46-16
150	XXX-150-21-16	XXX-150-30-16	XXX-150-40-16	XXX-150-46-16
250	XXX-250-21-16	XXX-250-30-16	XXX-250-40-16	XXX-250-46-16

Replace XXX with:	
CODE	Phase Chemistry
C18	Horizon C18
PF18	Horizon C18/PFP
AQUA	Horizon AQUA
AR18	Horizon C18/AR
AMIDE	Horizon AMIDE 18
C8	Horizon C8
HILIC	Horizon HILIC
PHENYL	Horizon PHENYL
CYANO	Horizon CYANO
AMINO	Horizon AMINO
BIPHENYL	Horizon Biphenyl
PHEX	Horizon Phenyl-Hexyl
HIPLUS	Horizon HILIC Plus

Replace XXX with:	
CODE	Phase Chemistry
PEP18	Horizon PEP C18
PEP08	Horizon PEP C8
PEPPH	Horizon PEP PHENYL
PEPSAX	Horizon PEP SAX
PRO18	Horizon PRO C18
PRO08	Horizon PRO C8
PRO04	Horizon PRO C4
PROPH	Horizon PRO PHENYL
PROSAX	Horizon PRO SAX

UHPLC PRE COLUMN FILTERS

- Cost effective protection for UHPLC columns
- 1000 bar pressure rating
- 0.5µm porosity
- Wrench tighten
- Compatible with all UHPLC/HPLC systems
- Acquity® compatible version also available



Horizon UHPLC Pre-column Filter 0.5µm porosity stainless steel filter, 5pk	HPCF-UHP-05
Horizon UHPLC Pre-column Filter 0.5µm porosity stainless steel filter, 10pk	HPCF-UHP-10
Horizon UHPLC Pre-column Filter Acquity® Compatible, 5pk	HPCF-UHPW-05
Horizon UHPLC Pre-column Filter Acquity® Compatible, 10pk	HPCF-UHPW-10



HORIZON
CHROMATOGRAPHY LTD

www.horizonhplc.com

info@horizonhplc.com
Telephone : 0044 (0) 1422 861 991
Horizon Chromatography Ltd



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