

Agilent LC Columns Overview: Small Molecules

Start with Poroshell 120 for Fast LC performance on any HPLC – phases align with ZORBAX family.

Up to 50% less pressure than sub-2 µm; a total lab productivity enhancer

Poroshell 120

1.7 µm solid core; 0.5 µm porous outer layer for a 2.7 µm particle, id's: 4.6 mm, 3.0 mm, 2.1 mm, Lengths: 30-150 mm.

New phases coming soon! Check www.agilent.com/chem/poroshell120

Compatible with HPLC and UHPLC instruments. Suitable for analysis of acids, bases, and neutrals. Also great for peptide mapping.

Poroshell 120 is for any lab looking for increased analytical speed and resolution with less backpressure.



Poroshell 120 SB-C18 (USP L1), SB-C8
Carbon Load: SB-C18 - 7.5%, SB-C8 - 4.5%

Poroshell 120 EC-C18** (USP L1),
EC-C8** (USP L1), Phenyl-Hexyl (USP L11)
Carbon Load: Phenyl-Hexyl - 8%

Poroshell 120 EC-CN (USP L10)

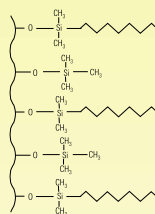
**Best Phase for Method Development

ZORBAX Family

ZORBAX Eclipse Plus**

RRHD: 1.8 µm, stable to 1200 bar;
RRHT: 1.8 µm, 600 bar
Lengths: 30-250 mm
IDs: 4.6 mm, 3.0 mm, 2.1 mm, 1.0 mm; Prep

C18 (USP L1),
C8 (USP L7),
Phenyl-Hexyl (USP L11),
PAH (USP L1)



High performance and excellent peak shape
with acids, bases and neutrals.

Sample Applications

Environmental: EPA Method 1694,
Illicit and prescribed drugs in wastewater
Food Safety: Quinolone antibiotics
Pharmaceutical: Chloramphenicol,
Simvastatin, Chrysophenol (TCM),
amphetamine, ranitidine

Double Endcapped
(except PAH, which
is not endcapped)
Temp limit: 60 °C
Pore size: 95Å
Surface area:
160 m²/g

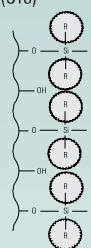
Particle sizes:
1.8, 3.5, 5 µm
pH: 2.0-9.0 for C18,
C8; 2.0-8.0 for PAH,
Phenyl-Hexyl
Carbon load:
C18: 9%; C8: 7%;
Phenyl-Hexyl: 9%;
PAH: 14%

Best all around – exceptional peak shape,
efficiency, resolution, and lifetime

ZORBAX StableBond

RRHD: 1.8 µm, stable to 1200 bar;
RRHT: 1.8 µm, 600 bar
Lengths: 20-250 mm
IDs: 4.6 mm, 3.0 mm, 2.1 mm, 1.0 mm;
Prep, Capillary (C18)

SB-C18 (USP L1),
SB-C8 (USP L7),
SB-C3 (USP L56),
SB-Phenyl (USP L11),
SB-CN (USP L10),
SB-Aq



High performance with acids, bases, and
neutrals with superior lifetime at low pH.

Sample Applications

Chemical/Industrial: Triton
Environmental: Organic acids,
pesticides in drinking water
Food Safety: Anthocyanine,
parabenes, melamine
Pharmaceutical: Analgesics,
anesthetics, traditional Chinese medicine

Non-Endcapped
Temp limit: 80 °C
(90 °C for SB-C18)
Pore size: 80Å
Surface area:
180 m²/g
Particle sizes:
1.8, 3.5, 5, 7 µm

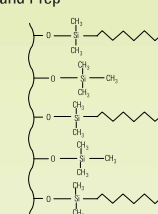
pH: 1.0-8.0
(0.8-8.0 for SB-C18)
Carbon Load:
C18: 10%; C8: 5.5%;
C3: 4%; Phenyl: 5.5%;
CN: 4%;
Aq: Proprietary

Best for low pH mobile phases –
great for method development

ZORBAX Eclipse XDB

RRHD: 1.8 µm, stable to 1200 bar;
RRHT: 1.8 µm, 600 bar
Lengths: 15-250 mm
IDs: 4.6 mm, 3.0 mm, 2.1 mm, 1.0 mm;
Capillary and Prep

C18 (USP L1),
C8 (USP L7),
Phenyl (USP L11),
CN (USP L10)



Good peak shape for basic, acidic, and
neutral compounds with high performance
over a wide pH range (pH 2-9). eXtra Dense
Bonding and double endcapping help give
this column a long lifetime.

Sample Applications

Environmental: Herbicides/pesticides,
steroids in water
Food Safety: Food colors,
aromatic flavorings, mycotoxins,
epoxyphenolic-based can coatings
Pharmaceutical: Goldenseal and related
alkaloids, antidepressants, triamcinolone

Double Endcapped
Temp limit: 60 °C
Pore size: 80Å
Surface area:
180 m²/g
Particle sizes:
1.8, 3.5, 5, 7 µm

pH: 2.0-9.0
(2.0-8.0 for CN)
Carbon load:
C18: 10%; C8: 7.6%;
Phenyl: 7.2%;
CN: 4.3%

High performance
over a wide pH range

Pursuit/
Pursuit XRs

Lengths: 30-250 mm
IDs: 2.0 mm, 3.0 mm, 4.6 mm; Prep

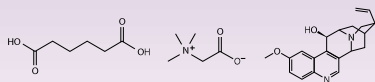
C18 (USP L1), C8 (USP L7),
Diphenyl (USP L11), PFP (USP L43),
PAH (USP L1), Si (USP L3)

Pursuit XRs offers higher loadability
and Pursuit XRs Ultra is loaded
for higher pressure stability.

Endcapped
(except Pursuit XRs Si)
Pore Size: 200Å
(Pursuit),
100Å (Pursuit XRs)
Surface area: 200 m²/g
(Pursuit); 440 m²/g
(Pursuit XRs)
Particle Sizes:
3, 5, 10 µm

pH: 2.0-9.0
Carbon Load:
Pursuit C18: 12.9%;
Pursuit C8: 7.4%;
Pursuit Diphenyl: 7.3%;
PFP: 6.3%; XRs
C18: 22%; XRs Ultra
C18: 23.3%; XRs Ultra
C8: 15%; XRs Ultra
Diphenyl: 14.6%

Reliable Selectivity Alternatives



Endcapped: EC-C18, EC-C8, Phenyl-Hexyl, Bonus-RP (triple), EC-CN

Non-endcapped: SB-C18, SB-C8 and SB-Aq

Temp Limit: 60 °C (EC-C18, EC-C8, Phenyl-Hexyl, Bonus-RP); 80 °C (SB-C8, SB-Aq); 90 °C (SB-C18)

Pore Size: 120Å; Surface Area: 130 m²/g; pH: 2.0-8.0 (EC-C18, EC-C8, Phenyl-Hexyl); 1.0-8.0 (SB-C18, SB-C8, SB-Aq); 2.0-9.0 (Bonus-RP); Carbon Load: 8% (EC-C18); 7% (EC-C8)

Poroshell 120 Bonus-RP (USP L60)
Carbon Load - 7.5%

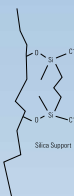
Poroshell 120 SB-AQ
Carbon Load: Proprietary

POLAR Compounds

ZORBAX Extend-C18

RRHD: 1.8 µm, stable to 1200 bar;
RRHT: 1.8 µm, 600 bar
Lengths: 20-250 mm
IDs: 4.6 mm, 3.0 mm, 2.1 mm, 1.0 mm

C18 (USP L1)



High efficiency and long life at high pH – up to pH 11.5. Improve retention, resolution and peak shape of basic compounds. High sensitivity for LC/MS separations of peptides. Unique bidentate bonding and double endcapping provides high pH stability.

Sample Applications

Environmental: EPA 8330 (explosives)

Food Safety: Aflatoxins, mycotoxins

Pharmaceutical: Antihistamines, xanthenes

Double-Endcapped

Temp limit: 60 °C

Pore Size: 80Å

Surface area:

180 m²/g

Particle sizes:

1.8, 3.5, 5 µm

pH: 2.0-11.5

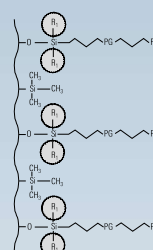
Carbon load: 12.5%

A good option for separations at high pH

ZORBAX Bonus-RP

RRHD: 1.8 µm, stable to 1200 bar;
RRHT: 1.8 µm, 600 bar
Lengths: 30-250 mm
IDs: 4.6 mm, 3.0 mm, 2.1 mm, 1.0 mm; Prep

Bonus-RP (USP-L60)



Polar-embedded to improve peak shapes; for basic compounds at low and mid pH.

Sample Applications

Environmental: Triazine pesticides

Food Safety: Hydroxymethylfurfural

Pharmaceutical: Antifungal medications, anorectics, ulcer medications

Triple-Endcapped

Temp limit: 60 °C

Pore size: 80Å

Surface area:

180 m²/g

Particle sizes:

1.8, 3.5, 5 µm

pH: 2.0-9.0

Carbon load: 9.5%

Alternative selectivity to alkyl, phenyl, cyano phases

SB-AQ

RRHD: 1.8 µm stable to 1200 bar;
RRHT: 1.8 µm, 600 bar
Lengths: 20 - 250 mm
IDs: 4.6 mm, 3.0 mm, 2.1 mm; Prep

ZORBAX SB-Aq

Proprietary phase ideal for polar compounds and high aqueous conditions.

Sample Applications

Environmental: Pesticides in drinking water

Food Safety: Pesticides in food

Pharmaceutical: Water-soluble vitamins

See ZORBAX StableBond for specification and structure.

Exceptional lifetime at low pH – no endcapping

Polaris

Lengths: 30-250 mm, (available in 3 µm and 5 µm particles)
IDs: 2.0 mm, 3.0 mm, 4.6 mm; Prep

C18-A (USP L1), C8-A (USP L7), C18-Ether (USP L1), C8-Ether (USP L7), Amide-C18 (USP L60), NH2 (USP L8), Si-A (USP L3)

Hydrogen-bond accepting and ether group endcapping provide alternate selectivities.

Sample Applications

Environmental: Triazine pesticides

Food Safety: Hydroxymethylfurfural

Pharmaceutical: Antifungal medications, anorectics, ulcer medications

Endcapped

Pore size: 180Å

Surface Area:

200 m²/g

Particle Sizes:

3, 5, 10 µm

pH: 2.0-9.0

Carbon load: Polaris

C18-A: 13.8%;

Polaris C8-A: 7.4%;

Polaris C18-Ether:

12.1%; Polaris

C8-Ether: 7.1%

More options for Polar Compounds

Information about biocolumns can be found in the section beginning on page 350

Looking for a HILIC column?

HILIC Plus is a HILIC column based on Eclipse Plus silica for excellent peak shapes

Poroshell 120 HILIC: 2.7 µm, stable to 600 bar

Non-bonded silica

Pore size: 95Å (120Å, Poroshell 120)

Surface Area: 160 m²/g (130 m²/g for Poroshell 120)

Particle Sizes: 1.8, 2.7, 3.5 µm

pH: 0-8.0

RRHD: 1.8 µm,

stable to 1200 bar

Lengths: 50, 100, 150 mm

IDs: 4.6 mm (3.5 µm only), 3.0 mm, 2.1 mm

High sensitivity for LC/MS applications and recommended for EPA 1694.