

All dimensions and lengths available for micro bore
1.0 mm, semi-preparative, preparative,
specialty sizes, and threaded modular column,
please refer to page 5.

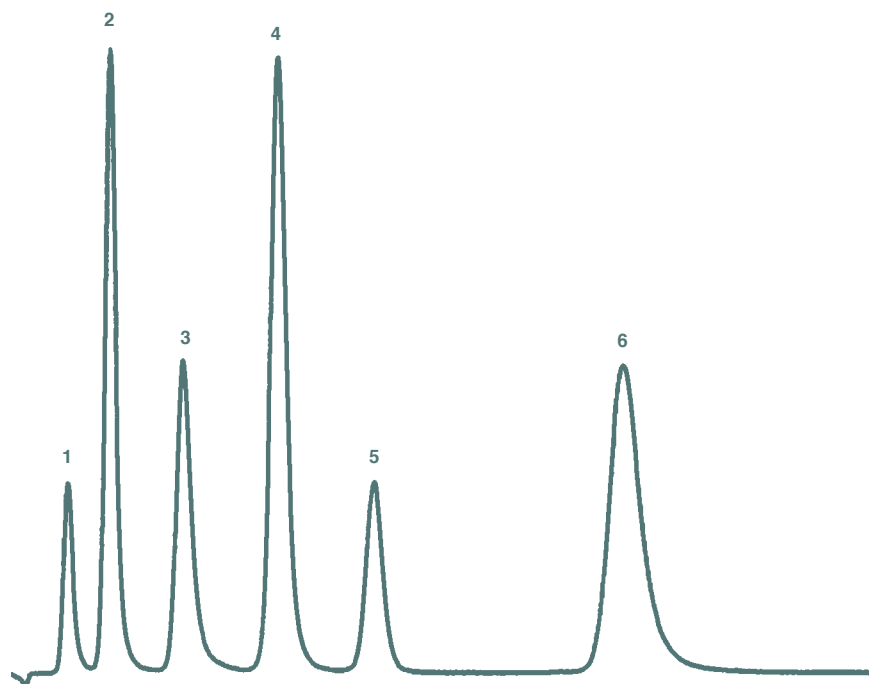
Chromegabond® BAS

- Proven patented technology
- Base deactivation and excellent high aqueous stability
- Available as a C8, C18, Phenyl, and Cyano
- Highly efficient columns packed with either 3 or 5 micron particles

Chromegabond BAS (Basic) C8, C18, Phenyl, or Cyano is prepared using the same bonding technology and ultra high purity silica as AquaSep columns, but in a lower surface area silica.

Chromegabond BAS: pore size = 120° A;
surface area = 180 g²/m;
Carbon: C18 = 12%, C8 = 8%,
Phenyl = 5%, Cyano = 4%;
pH range = 2-8

In addition, it is available in a 3 micron particle size. It exhibits high aqueous stability and excellent base deactivation characteristics. Unfortunately, it does not retain low molecular polar compounds as well as AquaSep.



Caffeine Metabolites

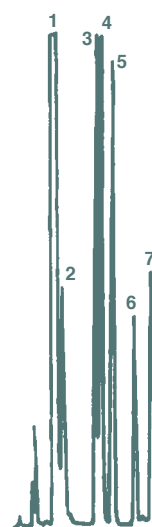
Column: Chromegabond BAS-C8 150 x 4.6 mm 5 μ

Eluent: 5% Acetonitrile/95% Water

Flow rate: 1 mL/min.

Detection: UV @ 254 nm

- | | |
|---------------------------|---------------------------|
| 1. Methylxanthine | 4. 1,7 Dimethyl xanthine |
| 2. Theobromine | 5. Theophylline |
| 3. 1,3 Dimethyl uric acid | 6. 1,7 Dimethyl uric acid |



Aromatic Hydrocarbons

Column: 15 cm x 4.6 mm

Packing: Chromegabond BAS Phenyl 3μ

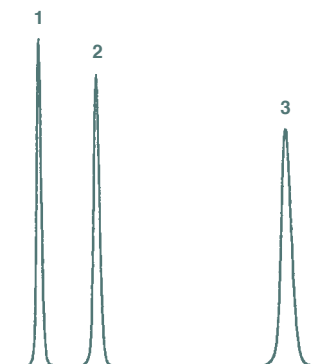
Mobile phase: 85% Methanol, 15% Water

Flow rate: 0.8 mL/min.

Detection: 254 nm

- | | |
|-----------------|-----------------|
| 1. Toluene | 5. Fluorene |
| 2. Naphtalene | 6. Fluoranthene |
| 3. Phenanthrene | 7. Pyrene |
| 4. Anthracene | |

Chromegabond® BAS



Alkylbenzoic Acids

Column: Chromegabond BAS-C18

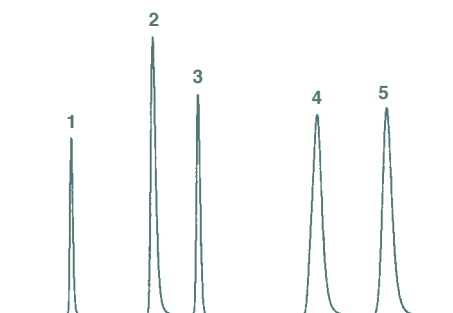
150 x 4.6 mm 3 μ

Eluent: 80% Acetonitrile/20% 10 nM Sodium phosphate pH = 3.2

Flow rate: 1 mL/min.

Detection: UV @ 254 nm

1. 4-butyl benzoic acid
2. 4-hexyl benzoic acid
3. 4-octyl benzoic acid



Highly Basic Compounds

Column: Chromegabond BAS-C18 250 x .46 mm ID

Eluent: 80% Methanol/20% Potassium phosphate 25 nM; pH = 6

Flow rate: 1 mL/min.

Detection: UV @ 215 nm

1. Norephedrine
2. Nortriptyline
3. Toluene
4. Imipromine
5. Amitriptyline

Description	Particle Size (μ)	Length (mm)	Standard-bore P/N (4.6 mm)	Standard-bore P/N (4.0 mm)	Small-bore P/N (3.2 mm)	Small-bore P/N (2.0 mm)
BAS-C18	3	50	115191-BAS-C18	114191-BAS-C18	11d191-BAS-C18	112191-BAS-C18
BAS-C18	3	100	125191-BAS-C18	124191-BAS-C18	12d191-BAS-C18	122191-BAS-C18
BAS-C18	3	150	135191-BAS-C18	134191-BAS-C18	13d191-BAS-C18	132191-BAS-C18
BAS-C8	3	50	115191-BAS-C8	114191-BAS-C8	11d191-BAS-C8	112191-BAS-C8
BAS-C8	3	100	125191-BAS-C8	124191-BAS-C8	12d191-BAS-C8	122191-BAS-C8
BAS-C8	3	150	135191-BAS-C8	134191-BAS-C8	13d191-BAS-C8	132191-BAS-C8
BAS-P	3	50	115191-BAS-P	114191-BAS-P	11d191-BAS-P	112191-BAS-P
BAS-P	3	100	125191-BAS-P	124191-BAS-P	12d191-BAS-P	122191-BAS-P
BAS-P	3	150	135191-BAS-P	134191-BAS-P	13d191-BAS-P	132191-BAS-P
BAS-CN	3	50	115191-BAS-CN	114191-BAS-CN	11d191-BAS-CN	112191-BAS-CN
BAS-CN	3	100	125191-BAS-CN	124191-BAS-CN	12d191-BAS-CN	122191-BAS-CN
BAS-CN	3	150	135191-BAS-CN	134191-BAS-CN	13d191-BAS-CN	132191-BAS-CN
BAS-C18	5	50	115291-BAS-C18	114291-BAS-C18	11d291-BAS-C18	112291-BAS-C18
BAS-C18	5	100	125291-BAS-C18	124291-BAS-C18	12d291-BAS-C18	122291-BAS-C18
BAS-C18	5	150	135291-BAS-C18	134291-BAS-C18	13d291-BAS-C18	132291-BAS-C18
BAS-C18	5	250	155291-BAS-C18	154291-BAS-C18	15d291-BAS-C18	152291-BAS-C18
BAS-C8	5	50	115291-BAS-C8	114291-BAS-C8	11d291-BAS-C8	112291-BAS-C8
BAS-C8	5	100	125291-BAS-C8	124291-BAS-C8	12d291-BAS-C8	122291-BAS-C8
BAS-C8	5	150	135291-BAS-C8	134291-BAS-C8	13d291-BAS-C8	132291-BAS-C8
BAS-C8	5	250	155291-BAS-C8	154291-BAS-C8	15d291-BAS-C8	152291-BAS-C8
BAS-P	5	50	115291-BAS-P	114291-BAS-P	11d291-BAS-P	112291-BAS-P
BAS-P	5	100	125291-BAS-P	124291-BAS-P	12d291-BAS-P	122291-BAS-P
BAS-P	5	150	135291-BAS-P	134291-BAS-P	13d291-BAS-P	132291-BAS-P
BAS-P	5	250	155291-BAS-P	154291-BAS-P	15d291-BAS-P	152291-BAS-P
BAS-CN	5	50	115291-BAS-CN	114291-BAS-CN	11d291-BAS-CN	112291-BAS-CN
BAS-CN	5	100	125291-BAS-CN	124291-BAS-CN	12d291-BAS-CN	122291-BAS-CN
BAS-CN	5	150	135291-BAS-CN	134291-BAS-CN	13d291-BAS-CN	132291-BAS-CN
BAS-CN	5	250	155291-BAS-CN	154291-BAS-CN	15d291-BAS-CN	152291-BAS-CN

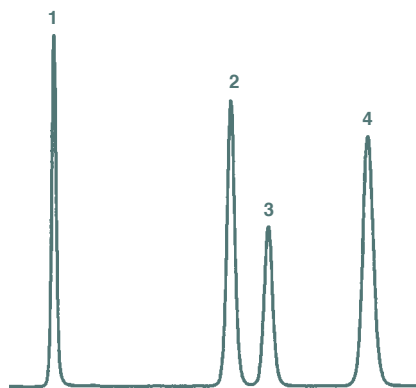
All dimensions and lengths available for micro bore 1.0 mm, semi-preparative, preparative, specialty sizes, and threaded modular column, please refer to page 5.

Chromegabond® C22

- Unique bonded C22 group
- Highly retentive for reverse phase chromatography
- Useful for PAHs, triglycerides, and steroids
- Highly durable

Chromegabond C22 is a highly retentive stationary phase in which hydrocarbon C22 groups are bonded to an ultra-high purity support. The C22 is monomeric bound and is nonendcapped allowing this stationary to be used under wide variety of mobile phase compositions. This phase exhibits even greater hydrophobic interaction than the Chromegabond HC column. The Chromegabond C22 is ideally suited for the separation of triglycerides, PAHs, and steroids.

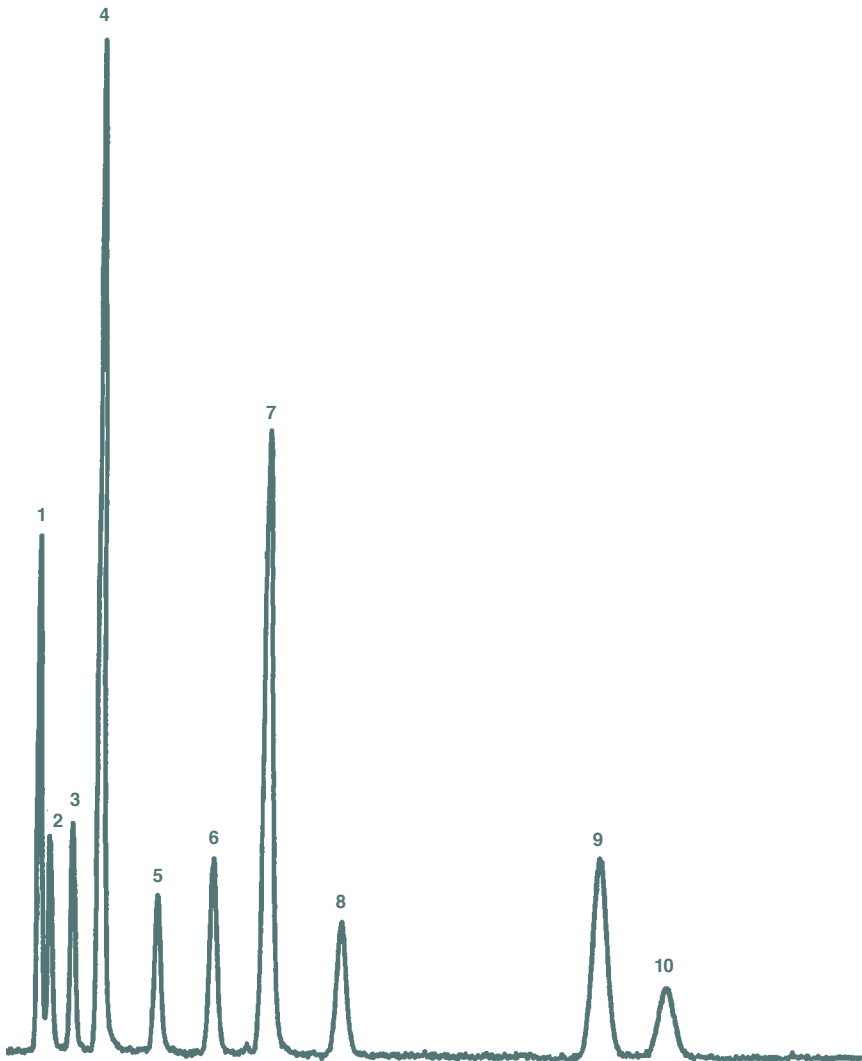
Chromegabond C22: pore size = 100° A; surface area = 350 g²/m; Carbon = 22%; pH range = 2-8.



Phenol Mixture

Column: Chromegabond C22 100 x 4.6 mm
 Eluent: 30% Acetonitrile/70% Water 0.1% TFA
 Flow rate: 1 mL/min.
 Detection: UV @ 254 nm

1. Phenol
2. 2-Chlorophenol
3. 4-Nitrophenol
4. 3,5-Dimethylphenol



PAH Mixture

Column: Chromegabond C22 150 x 4.6 mm 5 μ
 Mobile Phase: 80/20 ACN/Water
 Flow rate: 1 mL/min.
 Detection: UV @ 254 nm
 Injection Volume: 5 μl

- | | |
|-----------------|----------------------------|
| 1. Fluorene | 6. Pyrene |
| 2. Acenaphthene | 7. Triphenylene |
| 3. Phenanthrene | 8. Benz (a) Anthracene |
| 4. Anthracene | 9. Benzo (b) Fluoranthene |
| 5. Fluoranthene | 10. Benzo (k) Fluoranthene |

Description	Particle Size (μ)	Length (mm)	Standard-bore P/N (4.6 mm)	Standard-bore P/N (4.0 mm)	Small-bore P/N (3.2 mm)	Small-bore P/N (2.0 mm)
n-C22	5	50	115221-C22	114221-C22	11d221-C22	112221-C22
n-C22	5	100	125221-C22	124221-C22	12d221-C22	122221-C22
n-C22	5	150	135221-C22	134221-C22	13d221-C22	132221-C22
n-C22	5	250	155221-C22	154221-C22	15d221-C22	152221-C22

All dimensions and lengths available for micro bore 1.0 mm, semi-preparative, preparative, specialty sizes, and threaded modular column, please refer to page 5.

Chromegabond HC-C18

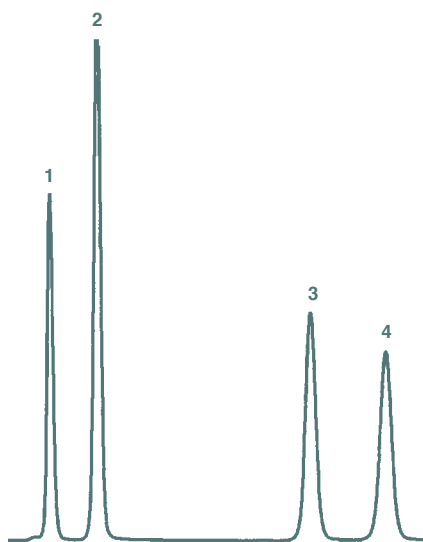
- ODS stationary phase with 22% bonded carbon
- Excellent for difficult to retain compounds
- Dense ODS coverage
- Highly efficient columns packed with either 3 or 5 micron particles

Chromegabond HC (high carbon) contains 22% of monomerically bonded carbon producing a highly retentive ODS column. This dense high carbon coverage forms an hydrophobic shield and prevents interaction with underlying silica support. Chromegabond HC is nonendcapped, extremely stable and can be used with a wide variety of mobile

phase compositions. Unfortunately, Chromegabond HC columns are subject to phase collapse under highly aqueous mobile phase conditions (Organic compositions of less than 10%). Chromegabond HC columns are useful for compounds that are incompatible with 100% aqueous mobile phases (%Organic less than 10%), but are difficult to retain or have low retention on traditional ODS columns (Carbon = 14-19%). The 3 micron Chromegabond HC columns are highly

efficient and exhibit theoretical plate measurements of between 160,000 to 170,000 plates/meter.

Chromegabond HC-C18:
pore size = 100° A;
surface area = 350 g²/m; Carbon = 22%;
pH range = 2-8

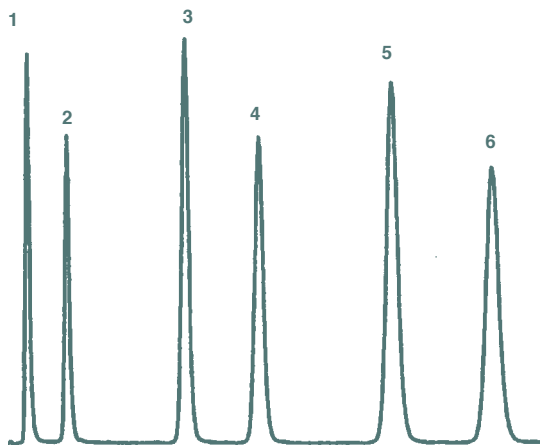


Aromatic Acids

Column: Chromegabond HC-C18 150 x 4.6 mm ID
Eluent: 20% Acetonitrile/80% Water 01.% TFA

Flow rate: 1 mL/min.
Detection: UV @ 254 nm

1. Phenylacetic acid
2. Benzoic acid
3. o-toluic acid
4. p-toluic acid

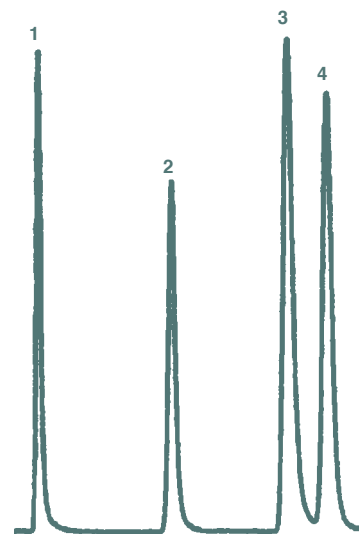


Substituted Anilines

Column: Chromegabond HC-C18 150 x 4.6 mm 3 μ
Eluent: 48% Methanol/52% 10 nM sodium phosphate pH = 2.5

Flow rate: 1 mL/min.
Detection: UV @ 254 nm

1. p-anisidine
2. m-toluidine
3. 3-aminobenzonitrile
4. 4-chloroaniline
5. 3-chloroaniline
6. 2-chloroaniline



Acids and Bases

Column: Chromegabond HC-C18 150 x 4.6 mm
Eluent: 50% Methanol/50% Buffer 100 nM H₃PO₄ pH = 2.4

Flow rate: 1 mL/min.
Detection: UV @ 254 nm

1. p-Amino benzoic acid
2. o-Amino benzoic acid
3. p-Hydroxybenzoic acid
4. Benzyl Alcohol

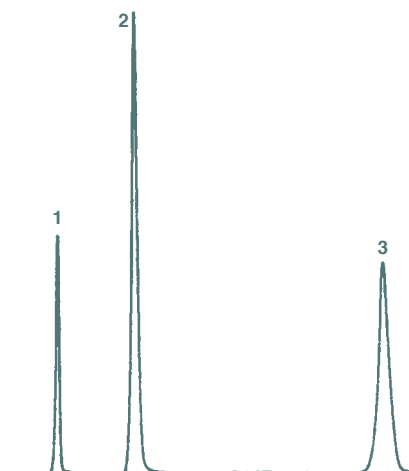
Description	Particle Size (μ)	Length (mm)	Standard-bore P/N (4.6 mm)	Standard-bore P/N (4.0 mm)	Small-bore P/N (3.2 mm)	Small-bore P/N (2.0 mm)
High Carbon ODS	3	50	115121-HC-C18	114121-HC-C18	11d121-HC-C18	112121-HC-C18
High Carbon ODS	3	100	125121-HC-C18	124121-HC-C18	12d121-HC-C18	122121-HC-C18
High Carbon ODS	3	150	135121-HC-C18	134121-HC-C18	13d121-HC-C18	132121-HC-C18
High Carbon ODS	5	50	115221-HC-C18	114221-HC-C18	11d221-HC-C18	112221-HC-C18
High Carbon ODS	5	100	125221-HC-C18	124221-HC-C18	12d221-HC-C18	122221-HC-C18
High Carbon ODS	5	150	135221-HC-C18	134221-HC-C18	13d221-HC-C18	132221-HC-C18
High Carbon ODS	5	250	155221-HC-C18	135221-HC-C18	15d221-HC-C18	152221-HC-C18

Chromegabond® NPI (Natural Product Isolation)

- Bonded monoalcohol functionality
- Available in large particle diameters for preparative chromatography
- Bonded phase alternative to silica gel
- Useful for natural product separations

Chromegabond NPI is a polar bonded column for normal phase chromatography. This new phase is produced by bonding a monoalcohol to ultra-high purity silica. This phase provides similar selectivity to silica gel but is considerably less active. Relative to analysis using silica gel, peak shapes are greatly improved and irreversible adsorption is minimal. The selectivity is similar to coated polyvinyl alcohol packings,

however, unlike these coated packings the NPI chemistry can be bonded to large diameter particles for preparative columns. The Chromegabond NPI column also exhibits different selectivity other than polar bonded columns such as diol and cyano. An NPI column is very useful for separation and isolation of compounds found in natural products. In addition, it is useful in the separation of steroids and fat-soluble vitamins.



Phenols and Alcohol

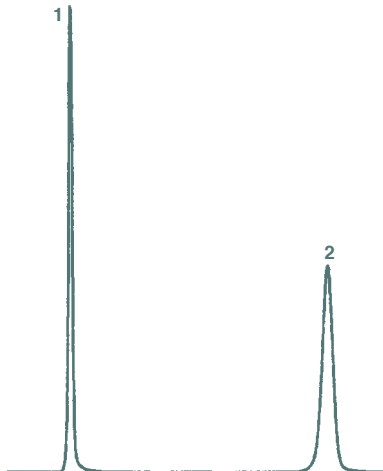
Column: Chromegabond NPI 150 x 4.6 mm

Eluent: 80/20 Hexane/Ethyl Acetate

Flow rate: 1 mL/min.

Detection: UV @ 254 nm

1. Phenol
2. Benzyl Alcohol
3. 4-Nitrophenol



Steroids

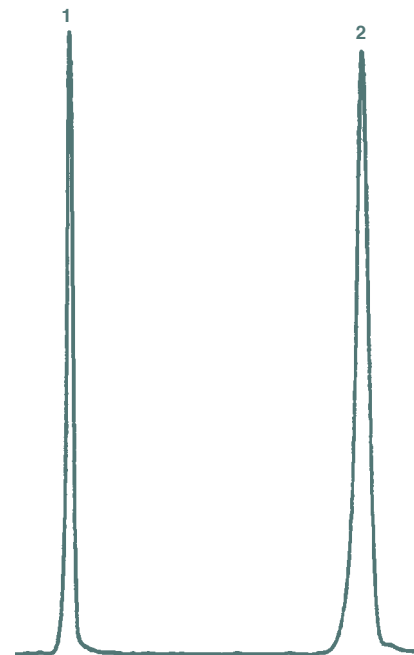
Column: Chromegabond NPI 150 x 4.6 mm

Eluent: 80% Isooctane/20% Isopropanol

Flow rate: 1 mL/min.

Detection: UV @ 254 nm

1. Progesterone
2. Prednisone



Fat-Soluble Vitamins

1. Vitamin A
2. Vitamin E acetate

Description	Particle Size (μ)	Length (mm)	Standard-bore P/N (4.6 mm)	Standard-bore P/N (4.0 mm)	Small-bore P/N (3.2 mm)	Small-bore P/N (2.0 mm)
NPI	5	50	115211-NPI	114211-NPI	11d211-NPI	112211-NPI
NPI	5	100	125211-NPI	124211-NPI	12d211-NPI	122211-NPI
NPI	5	150	135211-NPI	134211-NPI	13d211-NPI	132211-NPI
NPI	5	250	155211-NPI	154211-NPI	15d211-NPI	152211-NPI

Description	Particle Size (μ)	Length (mm)	Semi-preparative P/N (9.6 mm)	Price	Preparative P/N (23 mm)	Price
NPI	5	50	117211-NPI	Call	118211-NPI	Call
NPI	5	100	127211-NPI	Call	128211-NPI	Call
NPI	5	150	137211-NPI	Call	138211-NPI	Call
NPI	5	250	157211-NPI	Call	158211-NPI	Call

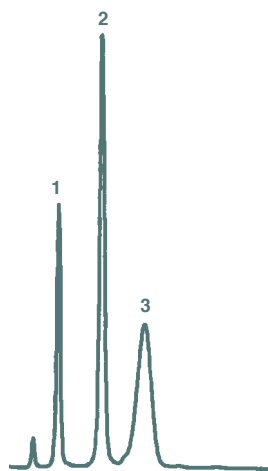
Chromegabond® PSC

- Unique C8/C18 combination stationary phase
- Versatile column for many pharmaceutical applications
- Excellent column for gradient applications
- Highly efficient columns packed with either 3 or 5 micron particles
- Extended polar selectivity

Chromegabond PSC (pharmaceutical separation column) is prepared by using a mixture of C8 and C18 groups. In addition to this unique bonding arrangement, PSC columns incorporate technology that we have developed which enables us to tightly control the level of residual silanol groups. We utilize this technology to produce PSC columns with

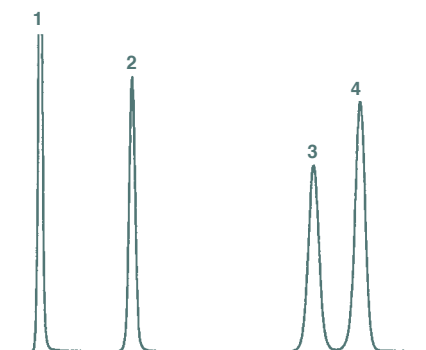
a tightly controlled number of residual silanol groups. These columns are able to retain both highly polar and hydrophobic compounds. The Chromegabond PSC is a versatile column that can be used for applications requiring either a C8 or C18. This column is similar to other columns with extended polar selectivity but with significantly more carbon.

Chromegabond PSC: pore size = 100° A; surface area = 350 g²/m; Carbon = 14%; pH range = 2-8.



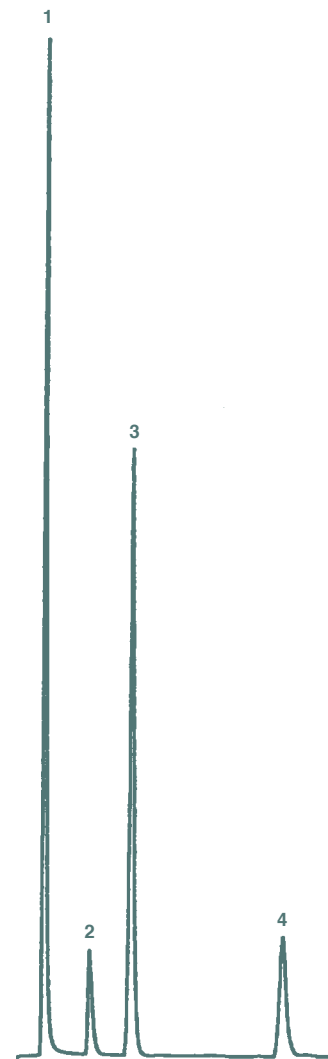
Antibiotics

Column: Chromegabond PSC 150 x 4.6 mm
 Eluent: 40% Methanol/60%
 100 mM Sodium phosphate, pH = 6.25
 Flow rate: 1 mL/min.
 Detection: UV @ 254 nm
 1. Tetracycline
 2. Methacycline
 3. Doxycycline



Stimulants

Column: Chromegabond PSC 150 x 4.6 mm 5 μ
 Eluent: 5% Acetonitrile/95% Potassium dihydrogen
 phosphate 20 mM, pH = 7.0
 Flow rate: 1 mL/min.
 Detection: UV @ 254 nm
 1. Uracil
 2. Theobromine
 3. Theobromine
 4. Theophylline



Pharmaceuticals

Column: Chromegabond PSC 150 mm x 4.6 mm
 Eluent: 20% Acetonitrile/90% 0.05M KH₂PO₄
 pH = 3.2
 Flow rate: 1 mL/min.
 Detection: UV @ 254 nm
 1. Procainamide HCL
 2. (+)-ψ-Ephedrine HCL
 3. Acetaminophen
 4. Caffeine

Description	Particle Size (μ)	Length (mm)	Standard-bore P/N (4.6 mm)	Standard-bore P/N (4.0 mm)	Small-bore P/N (3.2 mm)	Small-bore P/N (2.0 mm)
Octyl/ODS	3	50	115121-PSC	114121-PSC	11d121-PSC	112121-PSC
Octyl/ODS	3	100	125121-PSC	124121-PSC	12d121-PSC	122121-PSC
Octyl/ODS	3	150	135121-PSC	134121-PSC	13d121-PSC	132121-PSC
Octyl/ODS	5	50	115221-PSC	114221-PSC	11d221-PSC	112221-PSC
Octyl/ODS	5	100	125221-PSC	124221-PSC	12d221-PSC	122221-PSC
Octyl/ODS	5	150	135221-PSC	134221-PSC	13d221-PSC	132221-PSC
Octyl/ODS	5	250	155221-PSC	154221-PSC	15d221-PSC	152221-PSC

All dimensions and lengths available for micro bore 1.0 mm, semi-preparative, preparative, specialty sizes, and threaded modular column, please refer to page 5.

Chromegabond® WR (Wide Range)

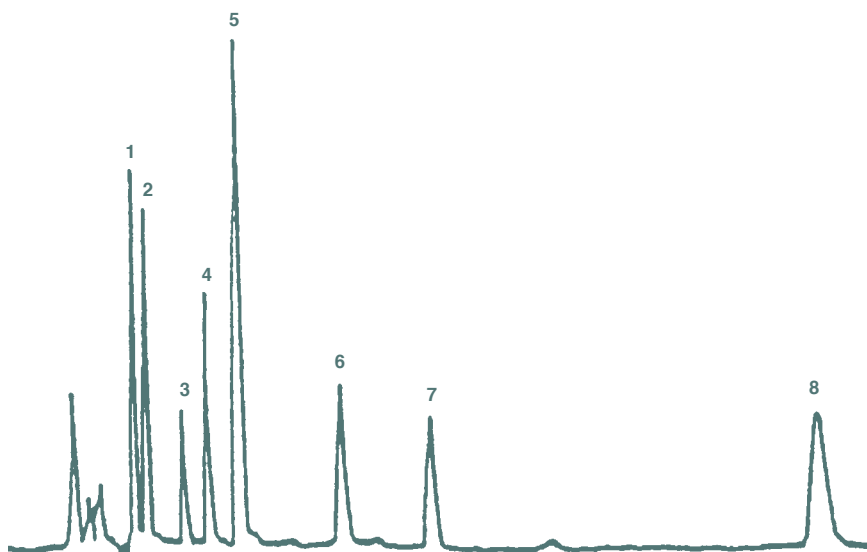
- For the analysis of both basic and acidic compounds
- Deactivated using our proprietary endcapping technology
- C8 and C18 stationary phases
- Highly efficient columns packed with either 3 or 5 micron particles

Chromegabond WR is a highly base deactivated phase that is produced via a two step process. The first step involves bonding monomerically either C8 or C18 alkyl chains to an ultra high purity synthetically produced spherical silica. The second step utilizes a proprietary multiple endcapping bonding process that produces highly base deactivated columns. This state-of-the-art bonding procedure uses mixtures of C2 and C4 alkyl silanes to react with residual silanol groups. Unlike the traditional TMS endcapping, the C2 and C4 groups are much more resistant to degradation by acidic and basic mobile phase compositions. The WR product can be used over

the pH range of 2-8. The Chromegabond WR product, as a result of our special bonding treatment, is highly hydrophobic and exceptionally inert for the analysis of both acids and bases. It is useful for the separation of molecules that contain polar groups along with hydrophobic groups. The 3 micron Chromegabond WR columns are highly efficient and exhibit theoretical plate measurements of between 160,000 to 170,000 plates/meter. Both Chromegabond WR C8 and C18 are bonded to the same type of ultra high purity silica.

Chromegabond WR C8:
pore size = 120° A;
surface area = 350 m²/gram;
Carbon = 9%; pH range 2-8

Chromegabond WR C18:
pore size = 120° A;
surface area = 350 m²/gram;
Carbon = 16%; pH range 2-8



Anthracyclinone Ring System Compounds

Column: Chromegabond WR-C18, 250 x 4.6 mm ID, 5 μ

Catalog No.: 155291-WR-C18

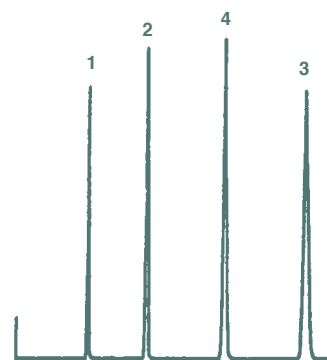
Conditions: Fluorescence detection-

Excitation wavelength 480 nm, Emission wavelength 560 nm

Flow rate: 1 mL/min.

Mobile phase: 32% Acetonitrile/68% 60 mM Na₂HPO₄/30 mM citric acid, pH 4.6

- | | |
|------------------------------|---------------------------------|
| 1. Doxorubicinol | 5. Epirubicin |
| 2. Epirubicinol | 6. 7-OH Doxorubicinol aglycone |
| 3. 7-OH-Doxorubicin aglycone | 7. Daunorubicin |
| 4. Doxorubicin | 8. 7-Deoxy doxorubicin aglycone |



Substituted Anilines and Phenol

Column: Chromegabond WR-C18, 250 x 4.6 mm ID, 5 μ

Catalog No.: 155291-WR-C18

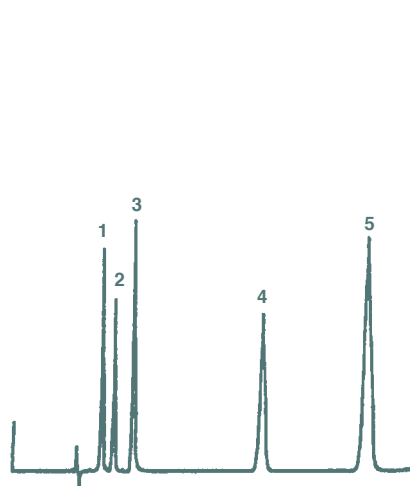
Chromatographic conditions: UV 254 nm

Flow rate: 1 mL/min.

Mobile phase: 70% Acetonitrile 30% Water

1. Phenol
2. Dimethylaniline
3. Diethylaniline
4. Di-N-Butyl Phthalate

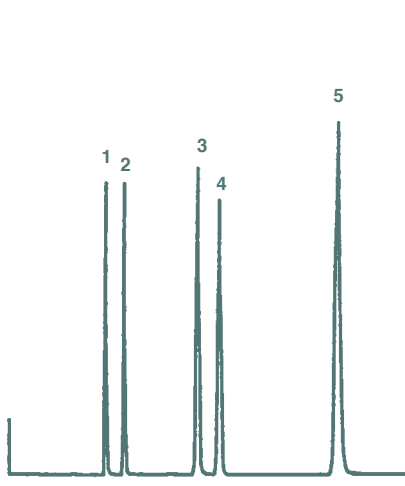
Chromegabond WR (Wide Range)



Drug Related Molecules

Column: Chromegabond WR-C18,
250 x 4.6 mm ID 5 μ
Catalog No.: 155291-WR-C18
Chromatographic conditions: UV 254 nm
Flow rate: 1 mL/min.
Mobile phase: 70% Methanol/30% 4 mM KH_2PO_4 ,
pH = 3

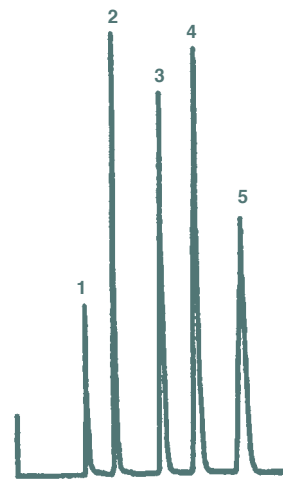
1. Acetylsalicylic acid
2. p-Acetophenetidide
3. Salicylic acid
4. Phenylbutazone
5. Indomethacin



Anilines and Neutrals

Column: Chromegabond WR-C18,
250 x 4.6 mm ID 5 μ
Catalog No.: 155291-WR-C18
Chromatographic conditions: UV 254 nm
Flow rate: 1 mL/min.
Mobile phase: 65% Acetonitrile 35% Water

1. Aniline
2. Dimethyl Phthalate
3. Dimethylaniline
4. Toluene
5. Diethylaniline



Analysis of Basic Drug Mixture

Column: Chromegabond WR-C8,
250 x 4.6 mm ID, 5 μ
Catalog No.: 155291-WR-C8
Chromatographic conditions: UV 254 nm
Flow rate: 1 mL/min.
Mobile phase: 10% Acetonitrile,
90% 50 mM KH_2PO_4

1. Unretained Peak
2. Chlorpheniramine
3. Procainamide
4. Amiloride
5. N-acetylprocainamide

Description	Particle Size (μ)	Length (mm)	Standard-bore P/N (4.6 mm)	Standard-bore P/N (4.0 mm)	Small-bore P/N (3.2 mm)	Small-bore P/N (2.0 mm)
WR-C18	3	50	115191-WR-C18	114191-WR-C18	11d191-WR-C18	112191-WR-C18
WR-C18	3	100	125191-WR-C18	124191-WR-C18	12d191-WR-C18	122191-WR-C18
WR-C18	3	150	135191-WR-C18	134191-WR-C18	13d191-WR-C18	132191-WR-C18
WR-C18	5	50	115291-WR-C18	114291-WR-C18	11d291-WR-C18	112291-WR-C18
WR-C18	5	100	125291-WR-C18	124291-WR-C18	12d291-WR-C18	122291-WR-C18
WR-C18	5	150	135291-WR-C18	134291-WR-C18	13d291-WR-C18	132291-WR-C18
WR-C18	5	250	155291-WR-C18	154291-WR-C18	15d291-WR-C18	152291-WR-C18
WR-C8	3	50	115191-WR-C8	114191-WR-C8	11d191-WR-C8	112191-WR-C8
WR-C8	3	100	125191-WR-C8	124191-WR-C8	12d191-WR-C8	122191-WR-C8
WR-C8	3	150	135191-WR-C8	134191-WR-C8	13d191-WR-C8	132191-WR-C8
WR-C8	5	50	115291-WR-C8	114291-WR-C8	11d291-WR-C8	112291-WR-C8
WR-C8	5	100	125291-WR-C8	124291-WR-C8	12d291-WR-C8	122291-WR-C8
WR-C8	5	150	135291-WR-C8	134291-WR-C8	13d291-WR-C8	132291-WR-C8
WR-C8	5	250	155291-WR-C8	154291-WR-C8	15d291-WR-C8	152291-WR-C8