Chromegabond WR LC Columns

Chromegabond WR is a highly base deactivated phase that is produced via a two-step process. The first step involves bonding monomerically C18, C8, C4, Phenyl, Cyano or Biphenyl ligands 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 short chain alkyl silanes to react with residual silanol groups.

Chromegabond WR is particularly useful for amines and acids and can provide alternative selectivity to the Epic line of LC columns. In comparison with Epic, Chromegabond WR uses a different silica with a lower surface area. In many cases, different silica can provide differences in retention and selectivity.

Features and Benefits

- Highly base deactivated using proprietary endcapping technology to provide an exceptionally inert phase for the analysis of both acids and bases
- Range of stationary phase chemistries to enhance method development
- Preparative dimensions available to allow flexibility and full scalability

Material Characteristics

Brand	Phase*	Particle Size (µm)	Pore Size (Å)	Carbon %	End Cap	pH Range	USP Code
Chromegabond WR	C18	1.8, 3, 5, 7, 10	120	16	Yes	2-8	L1
Chromegabond WR	C8	3, 5, 10	120	9	Yes	2-8	L7
Chromegabond WR	C4	3, 5, 10	120	5	Yes	2-8	L26
Chromegabond WR	Cyano	3, 5,10	120	–	Yes	2-8	L10
Chromegabond WR	Phenyl	3, 5, 10	120	–	Yes	2-8	L11
Chromegabond WR	Biphenyl	3, 5, 10	120	–	Yes	2-8	L11

Preparative columns are also available. Please enquire for more details at LCA.TechSupport@perkinelmer.com

Chromegabond WR C18

Chromegabond WR-C18 is highly base deactivated phase that is produced via a multi-step process. The first step involves bonding C18 groups to an ultra-high purity synthetically produced spherical silica. The next steps utilize a proprietary multiple endcapping bonding process that produces highly base deactivated columns. This state-of-the-art bonding procedure uses mixtures of short chain alkyl silanes to react with residual silanol groups. Chromegabond WR-C18, 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.

In comparison with Epic C18, Chromegabond WR-C18 uses a different silica with a lower surface area. In many cases, different silica can provide differences in retention and selectivity. WR-C18 is the second C18 column of choice after Epic C18 and can be useful for a wider range of samples. WR-C18 is particularly useful for amines and acids.

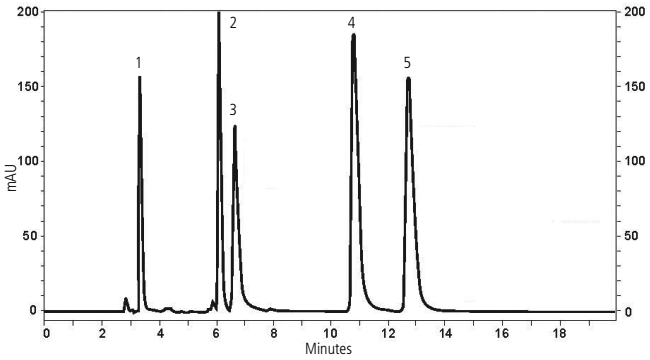
Phase	Length (mm)	ID (mm)	Particle Size (µm)	Part No.
Chromegabond WR C18	50	2.1	1.8	**512A91-WR-C18**
Chromegabond WR C18	50	2.1	3	**112191-WR-C18**
Chromegabond WR C18	50	2.1	5	**112291-WR-C18**
Chromegabond WR C18	50	3.0	3	**113191-WR-C18**
Chromegabond WR C18	50	3.0	5	**113291-WR-C18**
Chromegabond WR C18	50	4.6	10	**115391-WR-C18**
Chromegabond WR C18	50	4.6	3	**115191-WR-C18**
Chromegabond WR C18	50	4.6	5	**115291-WR-C18**
Chromegabond WR C18	100	2.1	3	**122191-WR-C18**
Chromegabond WR C18	100	2.1	5	**122291-WR-C18**
Chromegabond WR C18	100	3.0	3	**123191-WR-C18**
Chromegabond WR C18	100	4.0	3	**124191-WR-C18**
Chromegabond WR C18	100	4.0	5	**124291-WR-C18**
Chromegabond WR C18	100	4.6	10	**125391-WR-C18**
Chromegabond WR C18	100	4.6	3	**125191-WR-C18**
Chromegabond WR C18	100	4.6	5	**125291-WR-C18**
Chromegabond WR C18	120	4.6	5	**1D5291-WR-C18**
Chromegabond WR C18	125	3.0	5	**103291-WR-C18**
Chromegabond WR C18	12	4.0	5	**104291-WR-C18**
Chromegabond WR C18	125	4.0	7	**104491-WR-C18**
Chromegabond WR C18	125	4.6	3	**105191-WR-C18**
Chromegabond WR C18	125	4.6	5	**105291-WR-C18**
Chromegabond WR C18	125	4.6	7	**105491-WR-C18**
Chromegabond WR C18	150	2.1	3	**132191-WR-C18**
Chromegabond WR C18	150	2.1	5	**132291-WR-C18**
Chromegabond WR C18	150	3.9	10	**13e391-WR-C18**
Chromegabond WR C18	150	3.9	5	**13e291-WR-C18**
Chromegabond WR C18	150	4.0	5	**134291-WR-C18**
Chromegabond WR C18	150	4.6	10	**135391-WR-C18**
Chromegabond WR C18	150	4.6	3	**135191-WR-C18**
Chromegabond WR C18	150	4.6	5	**135291-WR-C18**
Chromegabond WR C18	200	4.0	7	**144491-WR-C18**
Chromegabond WR C18	250	3.0	5	**153291-WR-C18**
Chromegabond WR C18	250	4.0	5	**154291-WR-C18**
Chromegabond WR C18	250	4.6	10	**155391-WR-C18**
Chromegabond WR C18	250	4.6	3	**155191-WR-C18**
Chromegabond WR C18	250	4.6	5	**155291-WR-C18**
Chromegabond WR C18	300	3.9	10	**16e391-WR-C18**
Chromegabond WR C18	300	3.9	5	**16e291-WR-C18**
Chromegabond WR C18	300	4.0	10	**164391-WR-C18**
Chromegabond WR C18	300	4.0	5	**164291-WR-C18**
Chromegabond WR C18	300	4.6	10	**165391-WR-C18**
Chromegabond WR C18	300	4.6	5	**165291-WR-C18**
Chromegabond WR C18	300	4.6	7	**164491-WR-C18**
Chromegabond WR C18 Prep	150	30	10	**13N391-WR-C18**
Chromegabond WR C18 Prep	150	50	5	**13F291-WR-C18**
Chromegabond WR C18 Prep	250	10	10	**157391-WR-C18**
Chromegabond WR C18 Prep	250	10	5	**157291-WR-C18**
Chromegabond WR C18 Prep	250	20	10	**158391-WR-C18**
Chromegabond WR C18 Prep	250	20	5	**158291-WR-C18**
Chromegabond WR C18 Analytical Guard Cartridges (Pkg. 5)	10	3.0	5	**500101-WR-C18**
Analytical Guard Cartridge Holder with integrated coupler	–	–	–	**ES500100**

Other column dimensions and guard cartridges are available.
Please enquire for more details at LCA.TechSupport@perkinelmer.com

HPLC analysis of a tricylic antidepressants using Chromegabond WR C18, 250 x 4.6 mm, 5 µm

Peak Identification	
1. Norephedrine	47 µg/mL
2. Toluene	133 µg/mL
3. Nortriptyline	20 µg/mL
4. Imipramine	60 µg/mL
5. Amitriptyline	42 µg/mL

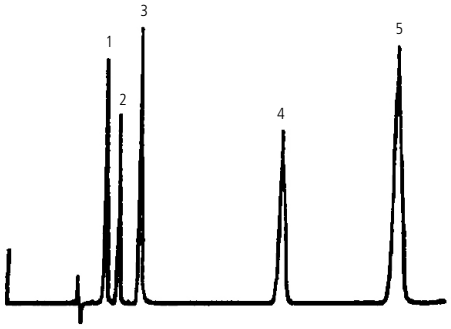
Mobile phase: 80% methanol
20% KH_2PO_4 25 mM
pH = 6.8
Flow rate: 1.0 mL/min
Detection: UV @ 215 nm
Injection vol: 5 µL



HPLC analysis of drug related molecules using Chromegabond WR C18, 250 x 4.6 mm, 5 µm.

Peak Identification
1. Acetylsalicylic acid
2. p-Acetophenetidide
3. Salicyclic acid
4. Phenylbutazone
5. Indomethacin

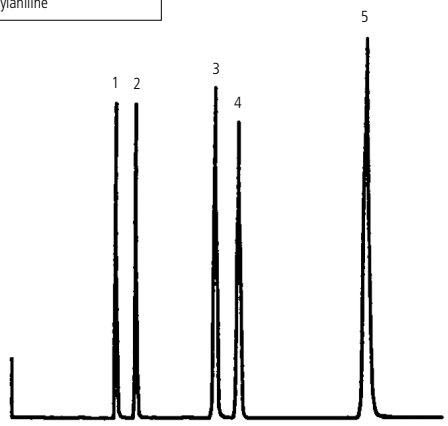
Mobile phase: 70% Methanol
30% 4 mM KH_2PO_4
pH = 3
Flow rate: 1.0 mL/min
Detection: UV @ 254 nm



HPLC analysis of anilines and neutrals using Chromegabond WR C18, 250 x 4.6 mm, 5 µm.

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

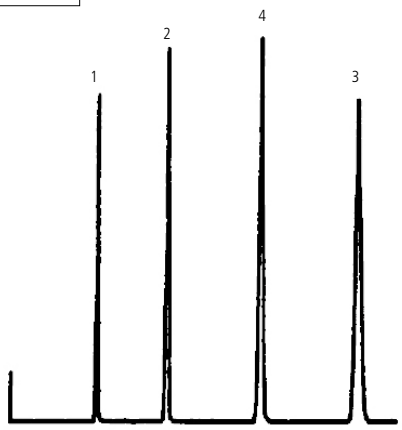
Mobile phase: 65% Acetonitrile
35% Water
Flow rate: 1.0 mL/min
Detection: UV @ 254 nm



HPLC analysis of a substituted anilines and phenol using Chromegabond WR C18, 250 x 4.6 mm, 5 µm.

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

Mobile phase: 70% Acetonitrile
30% Water
Flow rate: 1.0 mL/min
Detection: UV @ 254 nm



Chromegabond WR C8

Chromegabond WR-C8 is highly base deactivated phase that is produced via a multi-step process. The first step involves bonding C8 groups to an ultra-high purity synthetically produced spherical silica. The next steps utilize a proprietary multiple endcapping bonding process that produces highly base deactivated columns. The C8 phase is less hydrophobic than the C18 phase and is, therefore, useful for separations which require less retention. It can be particularly useful for more hydrophobic compounds, both charged and neutral (e.g. lipids and steroids).

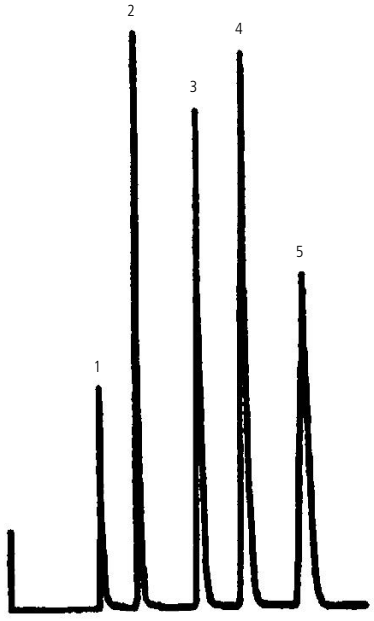
Phase	Length (mm)	ID (mm)	Particle Size (µm)	Part No.
Chromegabond WR C8	50	2.1	3	**112191-WR-C8**
Chromegabond WR C8	50	2.1	5	**112291-WR-C8**
Chromegabond WR C8	50	4.6	3	**115191-WR-C8**
Chromegabond WR C8	100	2.1	3	**122191-WR-C8**
Chromegabond WR C8	100	2.1	5	**122291-WR-C8**
Chromegabond WR C8	100	4.6	3	**125191-WR-C8**
Chromegabond WR C8	100	4.6	5	**125291-WR-C8**
Chromegabond WR C8	125	4.6	5	**105291-WR-C8**
Chromegabond WR C8	150	2.1	3	**132191-WR-C8**
Chromegabond WR C8	150	2.1	5	**132291-WR-C8**
Chromegabond WR C8	150	3.0	3	**133191-WR-C8**
Chromegabond WR C8	150	4.0	5	**134291-WR-C8**
Chromegabond WR C8	150	4.6	10	**135391-WR-C8**
Chromegabond WR C8	150	4.6	3	**135191-WR-C8**
Chromegabond WR C8	150	4.6	5	**135291-WR-C8**
Chromegabond WR C8	250	3.0	5	**183291-WR-C8**
Chromegabond WR C8	250	4.0	10	**154391-WR-C8**
Chromegabond WR C8	250	4.0	5	**154291-WR-C8**
Chromegabond WR C8	250	4.6	5	**155291-WR-C8**
Chromegabond WR C8 Prep	250	10	5	**157291-WR-C8**
Chromegabond WR C8 Prep	250	20	5	**158291-WR-C8**
Chromegabond WR C8 Analytical Guard Cartridges (Pkg. 5)	10	2.0	5	**500103-WR-C8**
Chromegabond WR C8 Analytical Guard Cartridges (Pkg. 5)	10	3.0	5	**500101-WR-C8**
Analytical Guard Cartridge Holder with integrated coupler	–	–	–	**ES500100**

Other column dimensions and guard cartridges are available.
Please enquire for more details at LCA.TechSupport@perkinelmer.com

HPLC analysis of a basic drug mixture using Chromegabond WR C8, 250 x 4.6 mm, 5 µm

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

Mobile phase: 10% Acetonitrile 90% 50 mM KH_2PO_4
Flow rate: 1.0 mL/min
Detection: UV @ 254 nm



Chromegabond WR C4

Chromegabond WR-C4 is highly base deactivated phase that is produced via a multi-step process. The first step involves bonding C4 groups to an ultra-high purity synthetically produced spherical silica. The next steps utilize a proprietary multiple endcapping bonding process that produces highly base deactivated columns. Chromegabond WR C4 is the least hydrophobic of the alkyl phases (C18 and C8) and is useful for lipophilic molecules and applications which require less retention.

Phase	Length (mm)	ID (mm)	Particle Size (µm)	Part No.
Chromegabond WR C4	50	2.1	3	**112191-WR-C4**
Chromegabond WR C4	50	2.1	5	**112291-WR-C4**
Chromegabond WR C4	50	4.6	3	**115191-WR-C4**
Chromegabond WR C4	100	2.1	3	**122191-WR-C4**
Chromegabond WR C4	100	2.1	5	**122291-WR-C4**
Chromegabond WR C4	100	4.6	3	**125191-WR-C4**
Chromegabond WR C4	100	4.6	5	**125291-WR-C4**
Chromegabond WR C4	150	2.1	3	**132191-WR-C4**
Chromegabond WR C4	150	2.1	5	**132291-WR-C4**
Chromegabond WR C4	150	4.6	3	**135191-WR-C4**
Chromegabond WR C4	150	4.6	5	**135291-WR-C4**
Chromegabond WR C4	250	4.6	5	**155291-WR-C4**
Chromegabond WR C4	300	4.0	5	**164291-WR-C4**
Chromegabond WR C4	300	4.6	5	**165291-WR-C4**
Chromegabond WR C4 Prep	150	50	5	**13F291-WR-C4**
Chromegabond WR C4 Prep	250	10	5	**157291-WR-C4**
Chromegabond WR C4 Prep	250	20	5	**158291-WR-C4**
Chromegabond WR C4 Prep	250	30	5	**15N291-WR-C4**
Chromegabond WR C4 Prep	50	20	5	**118291-WR-C4**
Chromegabond WR C4 Analytical Guard Cartridges (Pkg. 5)	10	2.0	5	**500103-WR-C4**
Chromegabond WR C4 Analytical Guard Cartridges (Pkg. 5)	10	3.0	5	**500101-WR-C4**
Analytical Guard Cartridge Holder with integrated coupler	–	–	–	**ES500100**

Other column dimensions and guard cartridges are available.
Please enquire for more details at LCA.TechSupport@perkinelmer.com

Chromegabond WR Cyano

Chromegabond WR Cyano is highly base deactivated phase that is produced via a multi-step process. The first step involves bonding cyano groups to an ultra-high purity synthetically produced spherical silica. The next steps utilize a proprietary multiple endcapping bonding process that produces highly base deactivated columns. The Chromegabond WR Cyano phase is a less hydrophobic phase than the alkyl C8 and C18 phases. The cyano functionality offers increased dipole interactions for alternative selectivity. It is suitable for RP (e.g. higher molecular weight compounds) and NP applications. Unlike Epic Cyano (non-endcapped), Chromegabond WR Cyano is endcapped which may provide a selectivity difference between the two products.

Phase	Length (mm)	ID (mm)	Particle Size (µm)	Part No.
Chromegabond WR Cyano	150	4.6	5	**135291-WR-CN**
Chromegabond WR Cyano	250	4.6	10	**155391-WR-CN**
Chromegabond WR Cyano	250	4.6	5	**155291-WR-CN**
Chromegabond WR Cyano	300	3.9	5	**16e291-WR-CN**
Chromegabond WR Cyano Analytical Guard Cartridges (Pkg. 5)	10	3.0	5	**500101-WR-CN**
Analytical Guard Cartridge Holder with integrated coupler	–	–	–	**ES500100**

Other column dimensions, particle sizes and guard cartridges are available.
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Chromegabond WR Phenyl

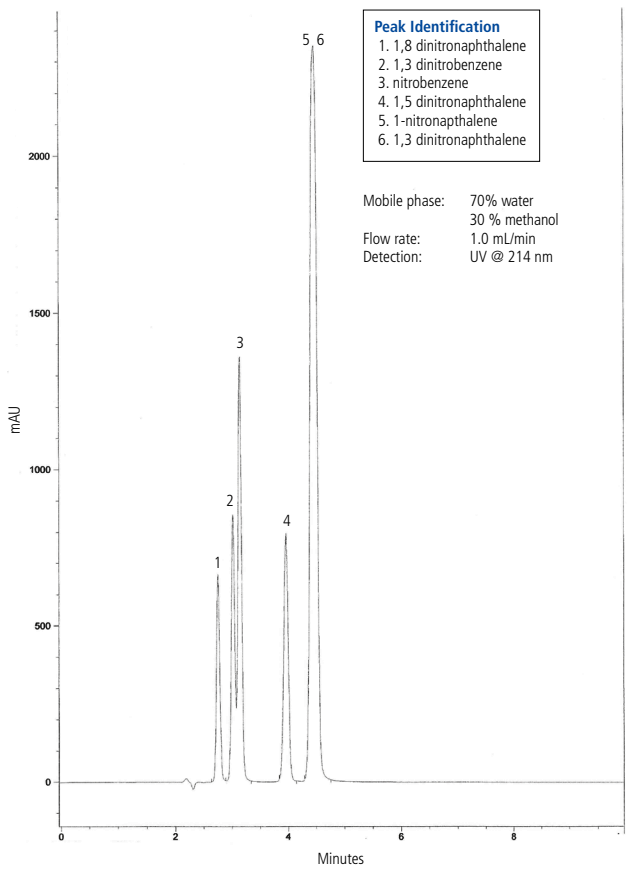
Chromegabond WR Phenyl is highly base deactivated phase that is produced via a multi-step process. The first step involves bonding phenyl groups to an ultra-high purity synthetically produced spherical silica. The next steps utilize a proprietary multiple endcapping bonding process that produces highly base deactivated columns. In comparison with Epic Phenyl, Chromegabond WR Phenyl uses a different silica with a lower surface area. In many cases, different silica can provide differences in retention and selectivity.

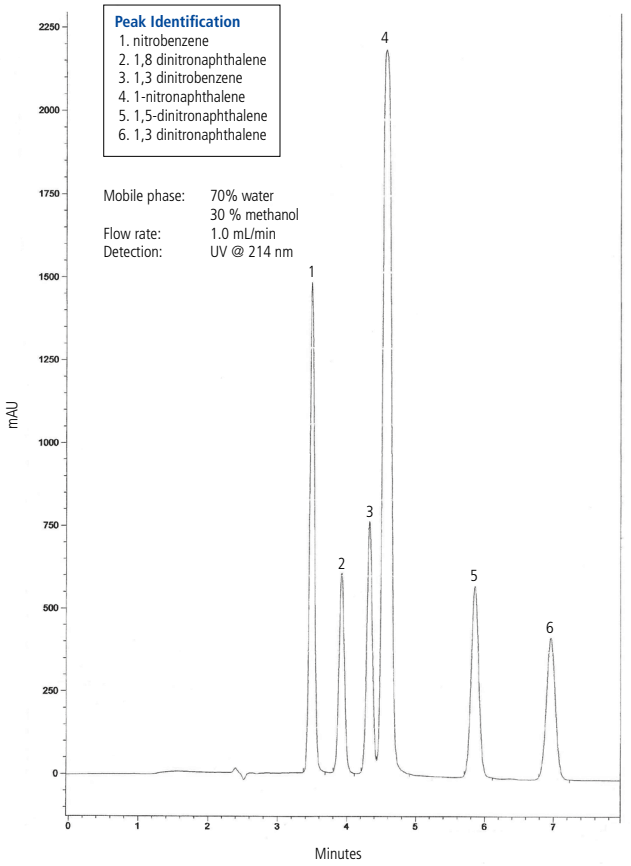
The Chromegabond WR Phenyl phase is π-basic (electron donating) and is similar in overall retention to alkyl phases. The alternate selectivity exhibited by phenyl phases is explained by the π-π interactions available through the phenyl ring. Applications include antibiotics, moderate bases such as anesthetics, and some acidic compounds such as phenols and aromatic acids.

Phase	Length (mm)	ID (mm)	Particle Size (µm)	Part No.
Chromegabond WR Phenyl	150	3.0	3	**133191-WR-PH**
Chromegabond WR Phenyl Analytical Guard Cartridges (Pkg. 5)	10	2.0	5	**500103-WR-PH**
Analytical Guard Cartridge Holder with integrated coupler	–	–	–	**ES500100**

Other column dimensions, particle sizes and guard cartridges are available.
Please enquire for more details at LCA.TechSupport@perkinelmer.com

HPLC analysis of nitroaromatic compounds using Chromegabond WR C18 (left) and Chromegabond WR Phenyl (right), 150 x 4.6 mm, 5 µm.





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Chromegabond WR Biphenyl

Chromegabond WR Biphenyl is highly base deactivated phase that is produced via a multi-step process. The first step involves bonding phenyl groups to an ultra-high purity synthetically produced spherical silica. The next steps utilize a proprietary multiple endcapping bonding process that produces highly base deactivated columns. In comparison with Epic Biphenyl, Chromegabond WR Biphenyl uses a different silica with a lower surface area. In many cases, different silica can provide differences in retention and selectivity.

Chromegabond WR-Biphenyl is a truly unique stationary phase with properties significantly different than ODS phases. The unique character results from bonded biphenyl group imparting a π-π electron interaction which produces an enhanced retention for many compounds, particularly those that contain polarizable electrons. Many classes of compounds contain polarizable electrons including halogenated compounds, aromatics, nitro aromatics and conjugated systems. In many cases, Chromegabond WR-Biphenyl provides alternative selectivity to pentafluorophenyl stationary phases.

Phase	Length (mm)	ID (mm)	Particle Size (µm)	Part No.
Chromegabond WR-Biphenyl	50	2.1	5	**112291-WR-BPH**
Chromegabond WR-Biphenyl	100	2.1	5	**122291-WR-BPH**
Chromegabond WR-Biphenyl	150	2.1	5	**132291-WR-BPH**
Chromegabond WR-Biphenyl	150	4.6	5	**135291-WR-BPH**
Chromegabond WR Biphenyl Analytical Guard Cartridges (Pkg. 5)	10	2.0	5	**500103-WR-BPH**
Chromegabond WR Biphenyl Analytical Guard Cartridges (Pkg. 5)	10	3.0	5	**500101-WR-BPH**
Analytical Guard Cartridge Holder with integrated coupler	–	–	–	**ES500100**

Other column dimensions, particle sizes and guard cartridges are available.
Please enquire for more details at LCA.TechSupport@perkinelmer.com

HPLC analysis of nitroaromatic compounds using Chromegabond WR C18 (left) and Chromegabond WR Biphenyl (right), 150 x 4.6 mm, 5 µm.