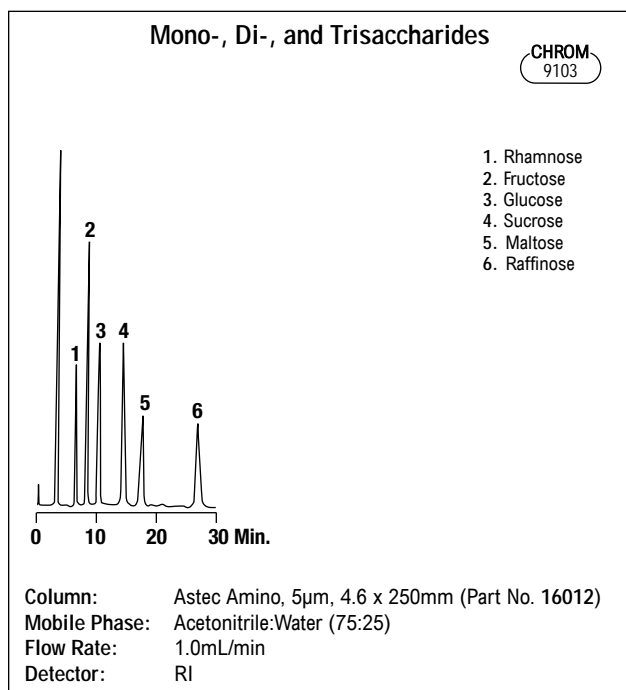


## Astec Amino and Reversed-Phase Columns

- Durable vinyl alcohol copolymer
- Stable from pH 2–13
- Stable and reproducible performance

Choose Astec amino columns for separating mono- and oligosaccharides. Astec's polymer base makes these columns much more stable than silica-based amino columns.

Choose Astec reversed-phase columns for amines and high recoveries of proteins and peptides. Because there are no silanols, elution order is always based on hydrophobicity of the analytes rather than polar interactions with the base material. High recovery of proteins and peptides is typical even at low sample loads.



### Astec Amino and Reversed-Phase 300Å Columns

Packing	Format	i.d. x Length	Part No.
C18, 5µm	Analytical	4.6 x 150mm	<b>16004</b>
	Analytical	4.6 x 250mm	<b>16005</b>
C8, 5µm	Analytical	4.6 x 150mm	<b>16006</b>
	Analytical	4.6 x 250mm	<b>16007</b>
C4, 5µm	Analytical	4.6 x 150mm	<b>16008</b>
	Analytical	4.6 x 250mm	<b>16009</b>
Amino, 5µm	Analytical	4.6 x 250mm	<b>16012</b>

### Astec Amino and Reversed-Phase Guard Columns

Packing	i.d. x Length	Qty.	Part No.
C18, 5µm	4.6 x 10mm	ea	<b>28180</b>
C8, 5µm	4.6 x 10mm	ea	<b>28181</b>
C4, 5µm	4.6 x 10mm	ea	<b>28182</b>
Amino, 5µm	4.6 x 10mm	ea	<b>28187</b>

## Astec Cyclobond™ Columns

### For Chiral Separations

- Versatile chiral selectors
- High-purity 5µm spherical silica

#### Cyclodextrin Phases

Designation	Substituent
<b>I 2000</b>	β-Cyclodextrin
<b>I 2000 Ac</b>	β-Cyclodextrin Acetylate
<b>I 2000 RSP</b>	β-Cyclodextrin R,S-Hydroxypropyl Ether
<b>I 2000 DMP</b>	β-Cyclodextrin 3,5-Dimethylphenyl Carbamate
<b>II</b>	γ-Cyclodextrin

**Cyclobond™ I 2000** has the broadest applicability, and is ideal for small analytes in pharmaceutical, chemical, and environmental applications.

**Cyclobond™ 1 2000 Ac** is ideal for aromatic alcohols or amines that are chiral on the alpha or beta carbon.

**Cyclobond™ I 2000 RSP** is a general-purpose chiral stationary phase. It can separate non-aromatic structures such as t-boc amino acids.

**Cyclobond™ DMP** shows good selectivity when the chiral centers are part of a ring structure or on the alpha carbon. This phase is ideal for derivatized amines such as amphetamine ACQ.

**Cyclobond™ II** is useful for isomeric compounds based on anthracene, chrysene, and pyrene ring structures. Some applications include steroids, porphyrins, and Fmoc amino acids.

#### Astec Cyclobond™ Columns

Packing	Format	i.d. x Length	Part No.
I 2000, 5µm	Analytical	4.6 x 100mm	<b>400101</b>
	Analytical	4.6 x 250mm	<b>410101</b>
I 2000 Ac, 5µm	Analytical	4.6 x 250mm	<b>410121</b>
I 2000 RSP, 5µm	Analytical	4.6 x 250mm	<b>411121</b>
I 2000 DMP, 5µm	Analytical	4.6 x 250mm	<b>412111</b>
II	Analytical	4.6 x 100mm	<b>400201</b>
	Analytical	4.6 x 250mm	<b>410201</b>

#### Astec Cyclobond™ Guard Cartridges\*

Packing	i.d. x Length	Qty.	Part No.
I 2000, 5µm	4.0 x 20mm	ea	<b>430102</b>
I 2000 Ac, 5µm	4.0 x 20mm	ea	<b>430103</b>
I 2000 RSP, 5µm	4.0 x 20mm	ea	<b>430105</b>
I 2000 DMP, 5µm	4.0 x 20mm	ea	<b>430108</b>
II	4.0 x 20mm	ea	<b>430109</b>
Astec Guard Cartridge Holder			ea <b>11014</b>

\*Guard holder required.

# Astec Chirobiotic™ HPLC Columns

## For Multi-Mode Chiral Separations

- Bonded macrocyclic glycopeptide phases
- Three complimentary selectivities
- High-purity 5µm spherical silica

Chirobiotic™ columns demonstrate a broad selectivity in reversed phase, normal phase, and polar organic modes. This gives Chirobiotic™ columns the ability to separate a greater variety of chiral analytes than columns that can only operate in one mode.

### Chirobiotic™ V

#### Chirobiotic™ V Specifications

**Ligand:** Vancomycin  
**Ideal For:** Neutral molecules, amides, acids, esters, cyclic amines

Chirobiotic™ V has a selectivity similar to glycoprotein phases while also being stable from 0–100% organic modifiers. New Chirobiotic™ V2 has enhanced selectivity and capacity in the polar organic mode, and increased capacity.

### Chirobiotic™ T

#### Chirobiotic™ T Specifications

**Ligand:** Teicoplanin  
**Ideal For:** Underivatized amino acids, n-derivatized amino acids, carboxylic acids, phenols, neutral aromatics, cyclic aromatics with aliphatic amines

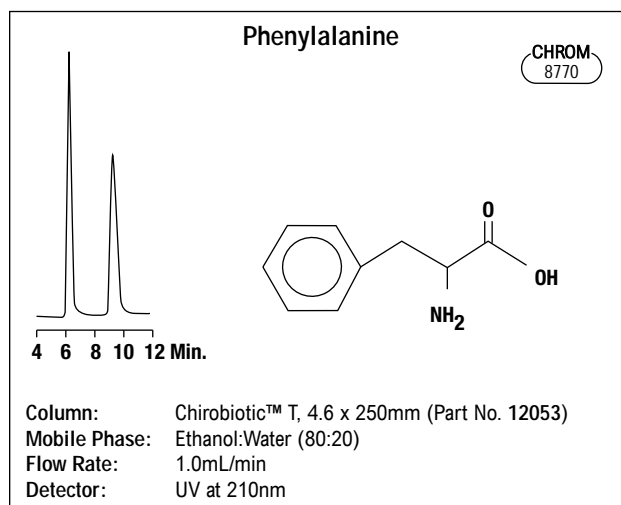
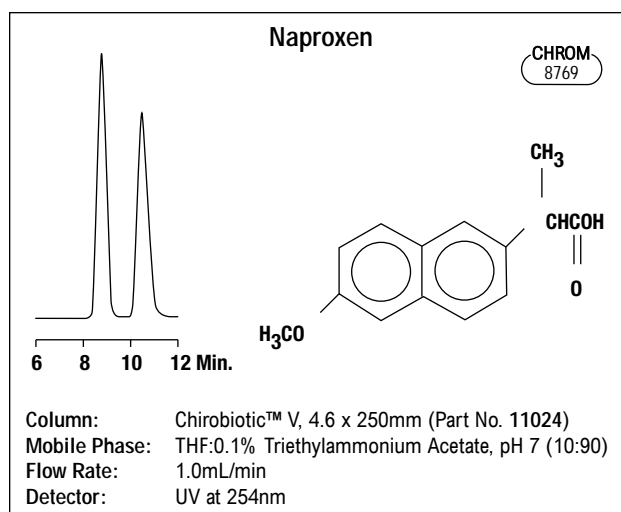
Chirobiotic™ T is an excellent alternative to crown ether and ligand exchange for amino acids and hydroxy acids. New Chirobiotic™ T2 has enhanced selectivity and capacity in the polar organic mode.

### Chirobiotic™ R

#### Chirobiotic™ R Specifications

**Ligand:** Ristocetin A  
**Ideal For:** Anionic molecules, di- and tri-peptides, α-hydroxy acids, substituted aliphatic acids, aromatic esters, chiral alcohols, secondary and tertiary amines

Chirobiotic™ R is the largest and most complex of the Chirobiotic™ ligands. Sugar moieties, a peptide chain, and additional ionizable groups give this structure the complexity and diversity to separate a wide variety of analytes.



#### Astec Chirobiotic™ Columns

Packing	Format	i.d. x Length	Part No.
Chirobiotic™ V	Analytical	4.6 x 50mm	11346
	Analytical	4.6 x 150mm	11023
	Analytical	4.6 x 250mm	11024
Chirobiotic™ V2	Analytical	4.6 x 100mm	A15022
	Analytical	4.6 x 150mm	A15023
	Analytical	4.6 x 250mm	A15024
	Prep	10 x 250mm	A15034
	Prep	21.2 x 250mm	A15044
	Chirobiotic™ T	Analytical	4.6 x 50mm
Analytical		4.6 x 150mm	12051
Analytical		4.6 x 250mm	12053
Chirobiotic™ T2	Analytical	4.6 x 100mm	A16022
	Analytical	4.6 x 150mm	A16023
	Analytical	4.6 x 250mm	A16024
	Prep	10 x 250mm	A16034
	Prep	21.2 x 250mm	A16044
Chirobiotic™ R	Analytical	4.6 x 50mm	12514
	Analytical	4.6 x 150mm	12516
	Analytical	4.6 x 250mm	12518

#### Astec Chirobiotic™ Guard Cartridges\*

Packing	i.d. x Length	Qty.	Part No.
Chirobiotic™ V, 5µm	4.0 x 20mm	ea	11019
Chirobiotic™ T, 5µm	4.0 x 20mm	ea	12445
Chirobiotic™ R, 5µm	4.0 x 20mm	ea	12522
Astec Guard Cartridge Holder		ea	11014

\*Guard holder required.