



HICHROM

Chromatography Columns and Supplies

LC COLUMNS
Regis
CHIROSIL

Catalogue 9

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CHIROSil®

- Efficient analysis of amino acids and primary amines
- Excellent durability due to covalent bonding
- Ability to invert elution order
- Robust crown ether phase for HPLC

The ChiroSil® RCA(+) and SCA(-) crown ether chiral stationary phases were developed by RStech Corporation in South Korea. These specialised phases are effective in separating various natural and unnatural amino acids, as well as compounds containing a primary amino group near the chiral centre. They are also successfully used for chiral resolution of chiral amino alcohols including therapeutically active compounds such as amphetamine, phenylethanolamine, octopamine and norepinephrine.

These phases are prepared by a covalent trifunctional bonding (+) or (-)-(18-crown-6)-tetracarboxylic acid chiral selector to aminopropyl silica (see Figure 9). This results in a material which shows excellent durability and reproducibility. The high resolution capability of the phases enables applications to be scaled up from analytical to preparative dimensions. The availability of both enantiomeric forms of the phase enables the elution order to be inverted so that a trace enantiomer can be eluted first.

ChiroSil RCA(+) and SCA(-) phases

Particle Size (µm)	5, 10
Pore Size (Å)	100
Maximum Recommended Operating Temperature (°C)	50
Recommended pH Range	2 – 7.5

Figures 10 and 11 show the enantiomeric separation of glutamic acid and 1,2,3,4-tetrahydro-1-naphthylamine respectively using ChiroSil SCA(-).

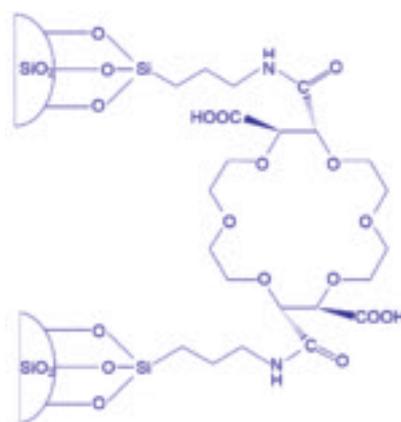
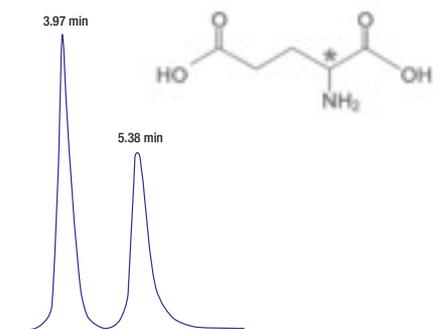
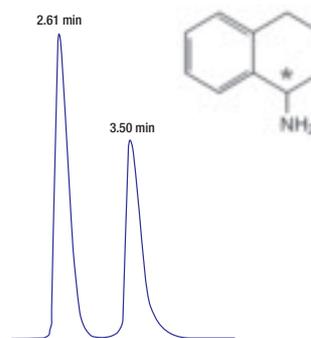


Figure 9. Bonding of ChiroSil phase



Eluent: CH₃OH - H₂O (84:16) in 5mM HClO₄
Flow rate: 0.8ml/min

Figure 10. Analysis of glutamic acid



Eluent: CH₃OH - H₂O (84:16) in 10mM H₂SO₄ + 1ml Et₃N
Flow rate: 1ml/min

Figure 11. Analysis of 1,2,3,4-tetrahydro-1-naphthylamine

Ordering Information – ChiroSil Phases

ChiroSil Phase (5µm)	Column Dimensions (mm)			Guard Cartridge ¹ (for 4.6mm i.d. columns)
	150 x 2.1	150 x 4.6	250 x 4.6	
RCA(+)	799003	799001	799002	799200
SCA(-)	799103	799101	799102	799100

¹ Use with guard cartridge holder 731441