



Capillary columns for enantiomer separation



LIPODEX® cyclodextrin phases for enantiomer separation

★ Key features

- Base material: cyclic oligosaccharides consisting of six (α -cyclodextrin), seven (β -cyclodextrin) or eight (γ -cyclodextrin) glucose units bonded through 1,4-linkages
- Regioselective alkylation and/or acylation of the hydroxyl groups leads to lipophilic phases with varying enantioselectivity, which are well suited for GC enantiomer analysis
- Important advantage: many compounds can be analyzed without derivatization (however, for certain substances enantioselectivity can be favorably influenced by formation of derivatives)

Note

- Water as solvent is strictly forbidden for all cyclodextrin phases
- Dry the sample with our CHROMAFIX® Dry (Na_2SO_4) cartridges (see page 62)
- Use suitable nonpolar solvent

✓ Recommended application

- A large number of separations have been achieved, however, it is not possible to make a general prediction, which phase could solve a given separation task. Even for compounds with small structural differences or within homologous series the enantiodifferentiation can be quite different. The following table shows typical applications.

Phase	Cyclodextrin derivate	T _{max} [°C]	Recommended application
LIPODEX® A	hexakis-(2,3,6-tri-O-pentyl)- α -CD	200 / 220	carbohydrates, polyols, diols, hydroxycarboxylic acid esters, (epoxy-) alcohols, glycerol derivatives, spiroacetals, ketones, alkyl halides
LIPODEX® B	hexakis-(2,6-di-O-pentyl-3-O-acetyl)- α -CD	200 / 220	lactones, diols (cyclic carbonates), aminols, aldols (O-TFA), glycerol derivatives (cyclic carbonates)
LIPODEX® C	heptakis-(2,3,6-tri-O-pentyl)- β -CD	200 / 220	Alcohols, cyanhydrins, olefins, hydroxycarboxylic acid esters, alkyl halides
LIPODEX® D	heptakis-(2,6-di-O-pentyl-3-O-acetyl)- β -CD	200 / 220	aminols (TFA), β -amino acid esters, trans-cycloalkane-1,2-diols, trans-cycloalkane-1,2-diols, trans-cycloalkane-1,3-diols (TFA)
LIPODEX® E	octakis-(2,6-di-O-pentyl-3-O-butyryl)- γ -CD	200 / 220	α -amino acids, α - and β -hydroxycarboxylic acid esters, alcohols (TFA), diols (TFA), ketones, pheromones (cyclic acetals), amines, alkyl halides, lactones
LIPODEX® G	octakis-(2,3-di-O-pentyl-6-O-methyl)- γ -CD	220 / 240	menthol isomers, ketones, alcohols, carboxylic acid esters, terpenes

LIPODEX®

Length →	10 m 0.10 mm ID	25 m 0.25 mm ID	50 m 0.25 mm ID
FS-LIPODEX® A		723360.25	723360.50
FS-LIPODEX® B		723362.25	723362.50
FS-LIPODEX® C		723364.25	723364.50
FS-LIPODEX® D		723366.25	723366.50
FS-LIPODEX® E	723382.10	723368.25	723368.50
FS-LIPODEX® G		723379.25	723379.50
All columns with 0.4 mm OD			