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Recycling Preparative HPLC
LaboACE LC-5060

Separation of Stereoisomers by GPC by Column 3

Keyword:GPC Column, SEC Column, Separation by Size Exclusion
Chromatography, Recycling Preparative HPLC

Introduction

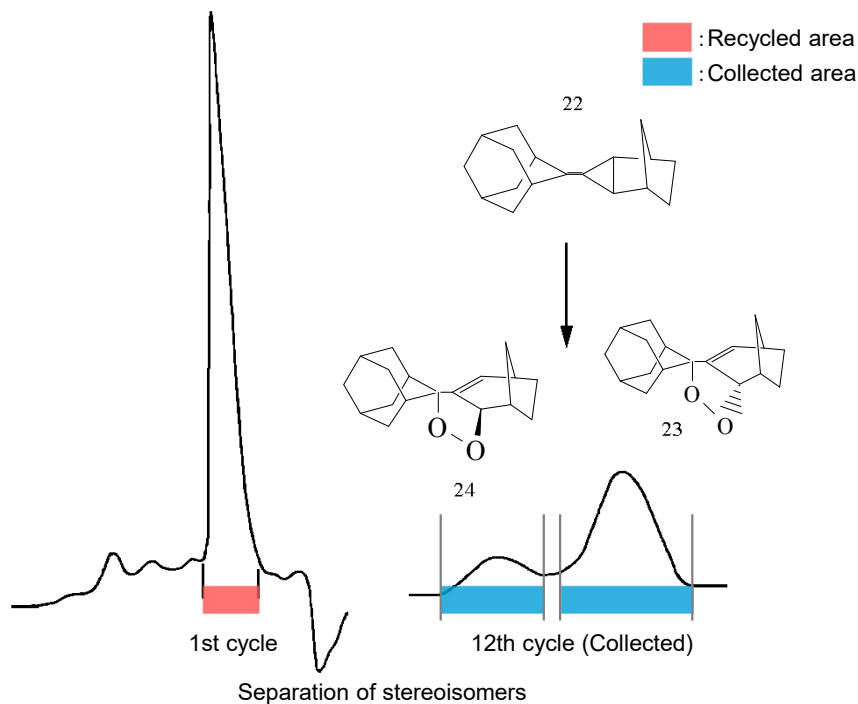
Separation of stereoisomers usually requires columns designed exclusively for them. In separation of enantiomers and diastereomers, such special columns are often used in combination with recycling preparative HPLC. However, the problem is that loading capacity of such columns is extremely small. You can normally inject only 1 or 2mg at most even with 20mm inside diameter column.

GPC column is not good for separation of enantiomers but can easily separate cis/trans isomers and process as much as 200mg at a time when used with recycling Preparative HPLC.

Experiment

Photosensitizing reaction of 22 with oxygen gives two isomers, 23 and 24. We tried to isolate them with Recycling Preparative HPLC using GPC column.

Instrument : LC-908 (Detector : RI)
Column : JAIGEL-1H + JAIGEL-2H in series
Mobile phase : Chloroform
Flow rate : 3.5 mL/min
Injection qty. : 200 mg



Result

These isomers were successfully separated at 12th cycle.

References

Takeshi Akasaka and Wataru Ando, J.Am.Chem Soc., Vol. 109, No. 4, pp 1260-1262 (1987)