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Recycling Preparative HPLC
LaboACE LC-5060

Separation of Structural Isomers by GPC by Column 4

Keyword:

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

Introduction

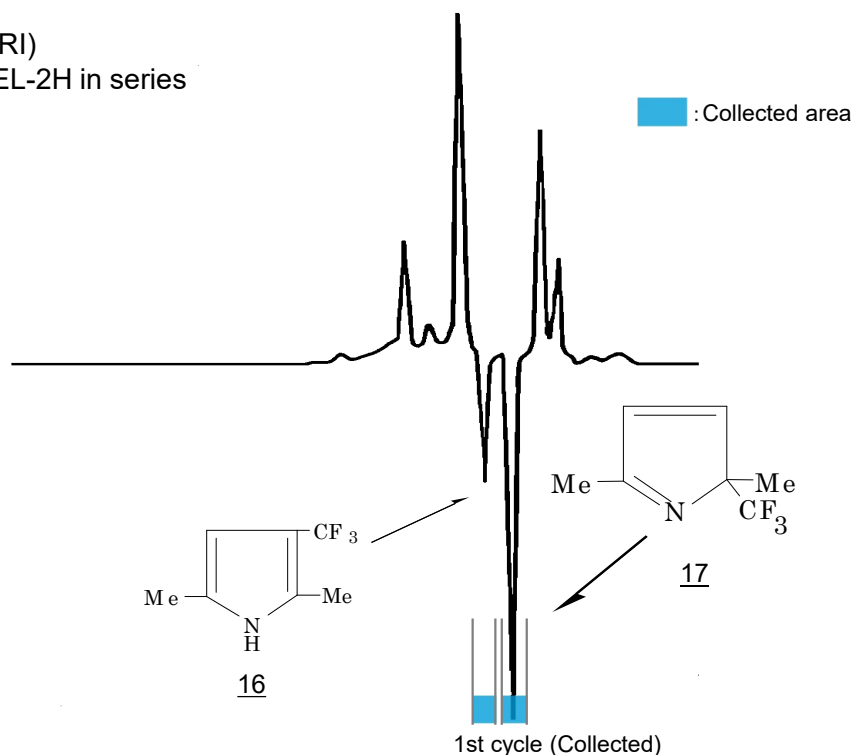
GPC (Gel Permeation Chromatography) separates compounds on the basis of molecular size. Therefore GPC is often considered unsuited for separation of isomers or compounds with similar molecular weight. However, there are cases where such compounds are easily separated by applying Recycling Preparative HPLC.

Here is an example of such studies by a professional who uses our Recycling Preparative HPLC system.

Experiment

Trifluoromethylation of 2,5-Dimethylpyrrole gives the compounds 16 and 17. We tried to separate these isomers using GPC column.

Instrument : LC-908 (Detector : RI)
Column : JAIGEL-1H + JAIGEL-2H in series
Solvent : Chloroform
Flow rate : 3.5 mL/min
Injection qty. : 300 mg



Separation of 2,5-Dimethyl -2- and -3-trifluoropyrroles.

Result

These isomers were completely separated with just one cycle of HPLC.

Reference

M. Yoshida, T. Yoshida, M. Kobayashi, and N. Kamigata, J. Chem. Soc., Perkin Trans. 1, 1989, 909-914