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 Recycling Preparative HPLC  
LaboACE LC-5060

## Separation of compounds that are inseparable by Silica columns 2

### Keyword:

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

### Introduction

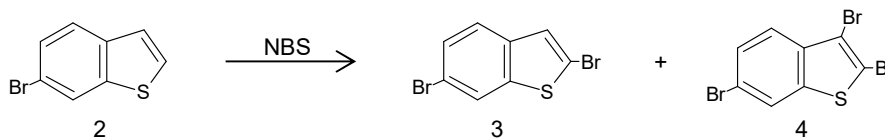
For substances that are unstable against silica fillers or that were found inseparable by TLC, combination of GPC (SEC) column and Recycling Preparative HPLC is often a very effective solution.

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

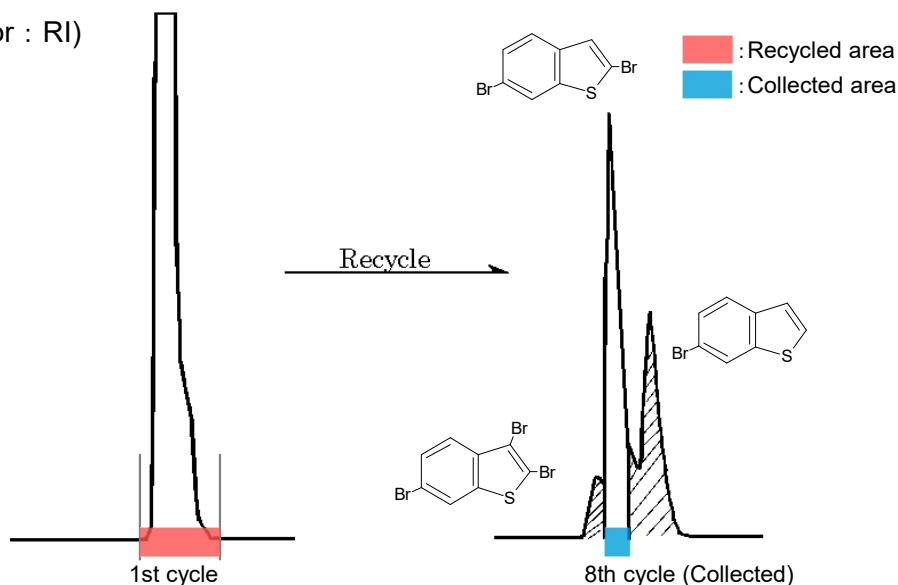
### Experiment and Results

To obtain **3**, **2** was brominated by NBS and it gave **4** as well as **3**.

These reaction products are only slightly separable by TLC. Normal phase silica chromatography does not separate it and also makes the bromine on the position 2 unstable. So we tried to separate it using JAIGEL-GS310, which is a polymer-based SEC column.



Instrument : LC-908 (Detector : RI)  
 Column : JAIGEL-GS310  
 Mobile phase : Chloroform  
 Flow rate : 4.0 mL/min



Isolation of 2,6-Dibromobenzothiophene from reaction products.

### Conclusion

We were able to obtain pure target compound **3** and remove starting material **2** and over-brominated byproduct **4** at the 8th cycle.

### References

By the courtesy of DR. Yoshio Aso, Hiroshima University