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Recycling Preparative HPLC
LaboACE LC-5060

Related product : Recycling Preparative HPLC Series

Recycling by GPC Column 5
Purification of OLED Material

Keyword:
Purification of OLED Materials, GPC column, Size Exclusion Chromatography

Introduction

In preparative HPLC, the column length is one of the key factors to get better separation. However, there is a limit in length due to restriction on the pressure the column can endure.

Recycling preparative HPLC is the solution to the problem. By cycling the sample solution back to the same column repeatedly, it causes the same effect as a longer column is used. Further, no solvent is consumed during the cycles. So it is the ideal way to efficiently increase separation (resolution) ability.

Moreover, combined use of SEC column, which separates compounds by their size, has gained great popularity among synthetic organic chemists since it can considerably save labor and time for method development as far as the sample is dissolved in some solvent.

Here is an example of purification by recycling preparative HPLC using organic GPC column.

Experiment and Results

Sample: $Ir(ppy)_3$ (Tris(2-phenylpyridinato)iridium(III)) (analytical reagent grade)
We tried to remove impurities by recycling HPLC.

Instrument	: LC-9204 (Detector : UV (254 nm))
Column	: JAIGEL-2H + JAIGEL-2.5H in series
Mobile phase	: Chloroform
Flow rate	: 3.5 mL/min

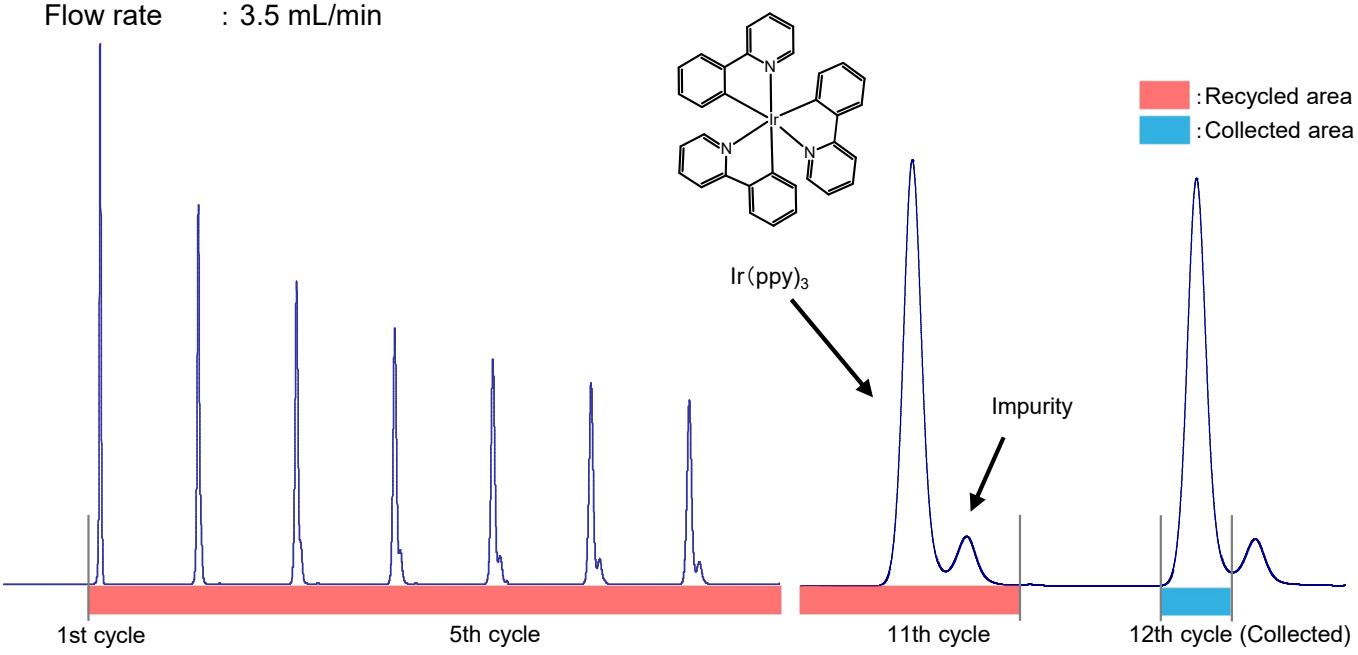

Fig. 1

Conclusion

$Ir(ppy)_3$ was isolated from the impurity at the 12th cycle.

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