No.A-047E

Recycling Preparative HPLC
LaboACE LC-5060

Related product：Recycling Preparative HPLC Series

Recycling by Reversed Phase Column Purification of Acanthoside D

Keyword:
Herbal Medicine, SEC Column, Size Exclusion, Separation by Polarity

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.

This recycling system, which is free of time-consuming method development work, can be basically applied to any kinds of columns including those for adsorption and partition chromatographies.

Here is a good example of recycling preparative HPLC using a reversed phase column.

Experiment & Results

Sample: Extract of Siberian Ginseng (Araliaceae)

We fractionated the peak and its proximity (Fig.1) which was thought to be Acanthoside D (Fig. 2) using a reversed phase column and obtained solution of about 8% content. Then we tried to purify it by Recycling Preparative HPLC on the same conditions. (Fig. 3)

Instrument	: LC-9201 (Detector : RI)
Column	: JAIGEL-ODS-AP, SP-120-15 × 2 pcs in series
Mobile phase	: Water / Methanol / Acetonitrile (80/6/14)
Flow rate	: 9 mL/min

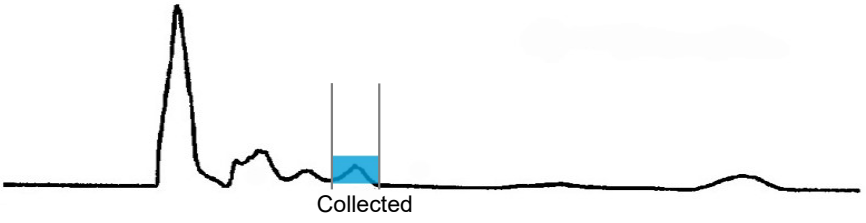

Fig. 1

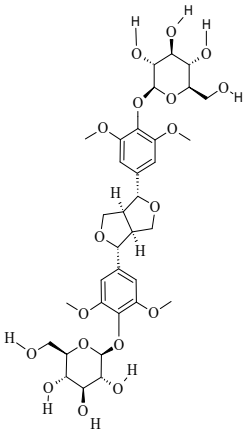

Fig. 2

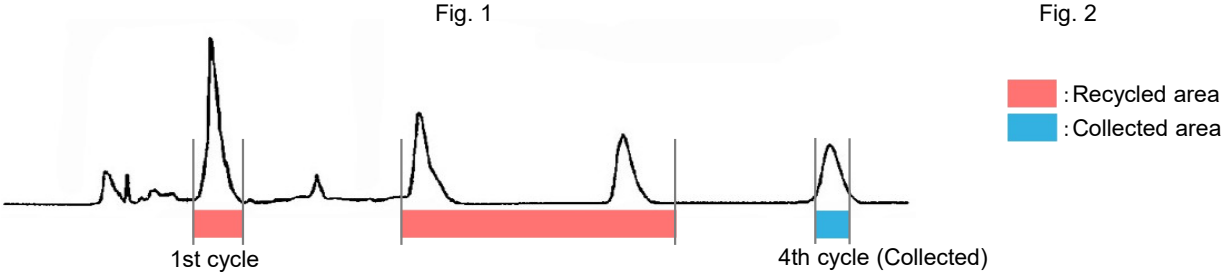

Fig. 3

Conclusion

The peak of low purity, which was fractionated from the raw extract liquid, was further purified to 93% by running Recycling Preparative HPLC.

Japan Analytical Industry Co., Ltd.
Head Office 208 Musashi, Mizuho, Nishitama, Tokyo 190-1213 JAPAN
TEL +81-42-557-2331
URL https://www.jai.co.jp/english

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