

专论与综述

亲水作用色谱固定相及其在中药分离中的应用

郭志谋, 张秀莉, 徐青, 梁鑫淼*

中国科学院大连化学物理研究所, 中国科学院分离分析重点实验室, 辽宁 大连 116023

收稿日期 2009-9-9 修回日期 2009-9-15 网络版发布日期 2009-10-10 接受日期 2009-9-15

摘要 亲水作用色谱(HILIC)作为一种分离极性化合物的液相色谱模式,近年来越来越受到关注和重视。一方面是因为强极性化合物的分离问题引起了各个研究领域的重视,如药物分析、代谢组学、蛋白质组学等研究领域不同程度地涉及强极性化合物的分离问题;另一方面是由于HILIC具有流动相组成简单、分离效率较高、与质谱兼容以及反压较低等优势。固定相是HILIC发展的基础,本文主要从固定相分子结构的角度对HILIC固定相的结构特征、保留特性以及应用概况等进行了综述。对传统正相色谱固定相用于HILIC以及专门设计的HILIC固定相进行了介绍,评述了各自的优缺点和应用概况;对近年来HILIC固定相在中药分离中的应用进行了介绍;并对HILIC固定相的发展进行了展望。

关键词 [亲水作用色谱](#) [固定相](#) [强极性化合物](#) [色谱保留特性](#) [中药分离](#)

Stationary phases for hydrophilic interaction liquid chromatography and their applications in separation of traditional Chinese medicines

GUO Zhimou, ZHANG Xiuli, XU Qing, LIANG Xinmiao*

Key Laboratory of Separation Science for Analytical Chemistry, Dalian Institute of Chemical Physics, the Chinese Academy of Sciences, Dalian 116023, China

Abstract

Hydrophilic interaction liquid chromatography (HILIC) is an alternative of reversed-phase liquid chromatography (RPLC) for the separation of polar compounds. The main characteristic of HILIC is the use of polar stationary phases and aqueous/organic (usually acetonitrile) mobile phases. In recent years, HILIC has attracted more and more attentions for the demanding of the separation of polar compounds in many research fields and the advantages of HILIC, such as the good retention of polar compounds, orthogonality to RPLC and compatibility with mass spectrometry (MS), etc. Stationary phases are the basis of the development and application of HILIC. The structure of the bonded phases, retention properties and applications of the HILIC stationary phases are reviewed in the present article. The conventional stationary phases for normal phase liquid chromatography used in HILIC and the stationary phases specially developed for HILIC are introduced. The advantages, drawbacks and the general situation of applications of the different stationary phases are commented. The applications in the separation of traditional Chinese medicines are also reviewed. The further development of HILIC stationary phases is looked ahead.

Key words [hydrophilic interaction liquid chromatography \(HILIC\)](#) [stationary phases](#) [very polar compounds](#) [chromatographic retention properties](#) [separation of traditional Chinese medicines](#)

DOI:

通讯作者 梁鑫淼 liangxm@dicp.ac.cn

扩展功能

本文信息

▶ [Supporting info](#)

▶ [PDF\(247KB\)](#)

▶ [HTML全文\(0KB\)](#)

▶ [参考文献](#)

服务与反馈

▶ [把本文推荐给朋友](#)

▶ [加入我的书架](#)

▶ [加入引用管理器](#)

▶ [复制索引](#)

▶ [Email Alert](#)

相关信息

▶ [本刊中包含“亲水作用色谱”的相关文章](#)

▶ 本文作者相关文章

· [郭志谋](#)

· [张秀莉](#)

· [徐青](#)

· [梁鑫淼](#)