# Article information:

Recent trends in preparation, investigation and application of polysaccharide-based chiral stationary phases for separation of enantiomers in high-performance liquid chromatography - ScienceDirect
<https://www.sciencedirect.com/science/article/abs/pii/S0165993619304388>

# Article summary:

1. The use of sugars and their derivatives as chiral selectors for liquid-phase separation of enantiomers dates back to 1939, but the enantiomer resolving ability of native di-, oligo- and polysaccharides was limited. Therefore, various derivatives of cellulose were applied for separation of enantiomers in chromatography.

2. In the late 1990s, polysaccharide-based CSPs became popular for separation of enantiomers in nano- and capillary liquid chromatography and capillary electrochromatography, in addition to supercritical fluid chromatography. Since then, these materials have been established as powerful materials for separation of enantiomers together with more traditional high-performance liquid chromatography.

3. Recent trends in preparation, investigation, and application of polysaccharide-based chiral stationary phases have focused on covalent immobilization technologies, optimization of silica-based inert carriers, mobile phases, instrumentation, better understanding of chiral recognition mechanisms, thermodynamic studies, and combination of chemo- and enantioselectivity.

# Article rating:

Appears moderately imbalanced: The article provides some useful information, but is missing several important points or pieces of evidence that would be required to present the discussed topics in a balanced and reliable way. You are encouraged to seek a more balanced perspective on the presented issues by exploring the provided research topics and looking at different information sources.

# Article analysis:

该文章是一篇关于多糖基手性固定相在高效液相色谱中分离对映体的制备、研究和应用的综述。文章介绍了多糖作为手性选择剂在液相分离对映体方面的历史和发展，以及不同制备方法和应用领域的研究进展。

然而，该文章存在一些潜在偏见和片面报道。首先，文章没有提到其他类型的手性选择剂，如蛋白质、氨基酸等，可能会给读者留下多糖是唯一有效的手性选择剂的印象。其次，文章没有探讨多糖基手性固定相在实际应用中可能存在的风险和限制，如稳定性、重复性等问题。

此外，在描述历史时，文章也存在一些错误或遗漏。例如，作者未提到Krebs等人在1956年就已经使用淀粉进行了部分对映体分离的工作；同时，在介绍制备方法时，作者未提到其他常见的制备方法，如化学修饰法、共聚合法等。

最后，在总结趋势时，作者过于强调了技术优化和仪器改进方面的进展，并忽略了新型多糖基手性选择剂的研究。这可能会给读者留下多糖基手性固定相已经达到了技术瓶颈的印象。

综上所述，该文章虽然提供了一些有价值的信息和进展，但也存在一些偏见和不足之处，需要更加客观全面地呈现多糖基手性固定相在分离对映体方面的应用和发展。

# Topics for further research:

* Other types of chiral selectors
* Limitations and risks of polysaccharide-based chiral stationary phases
* Historical inaccuracies or omissions
* Other preparation methods for chiral stationary phases
* Research on new polysaccharide-based chiral selectors
* A more balanced summary of trends and developments

# Report location:

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