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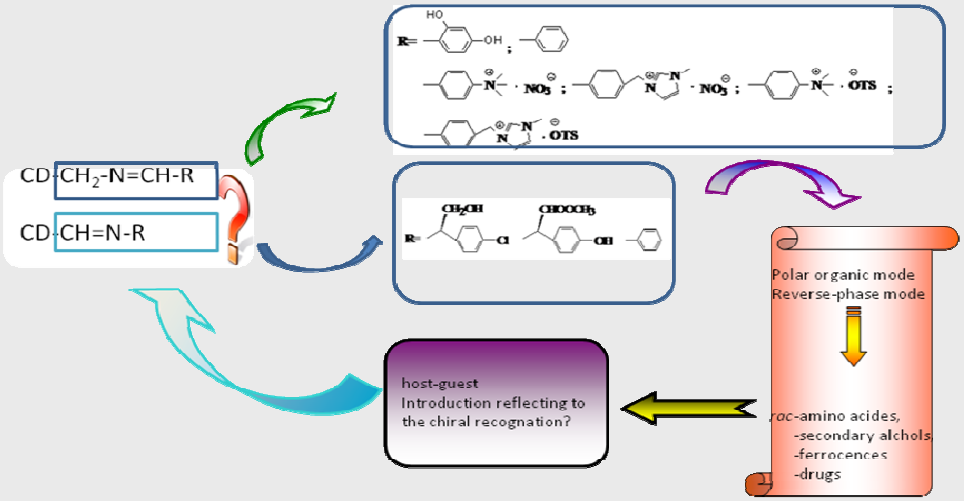
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The preparation and separation performance of Imino-β-Cyclodextrin derivatives chiral stationary phase

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Abstract

Different substituent groups were introduced onto the rim of β-cyclodetrin through rigid C=N or CH_2-N=C bonds to form a series of imino-modified β-cyclodextrin derivatives, and bonded to silica gel to obtain chiral stationary phase(CSPs), which were applied in high-performance liquid chromatography(HPLC). The separation performance of these CSPs were examined with a variety of different rac-amino acids, -secondary alcohols, -ferrocene derivatives, and chiral drugs under the polar organic and the reversed phase modes. Excellent enantioseparations were achieved for most of the analytes. The results demonstrated that the former CSPs was more effective for rigid analytes and the latter for flexible molecules, and for selectors containing ionic segements better chiral separation was observed with the highly polar and even ionic analytes. The essential differences between the driving force factors and function mechanism of chiral recognition were elucidated through investigating and comparing the differences of separation performance among these analytes.



Biography

Zhiming Zhou has completed his PhD from Parma University Italy. 2001-2008, He was the Dean of School of Chemical Engineering and the Environment of Beijing Institute of Technology (BIT) China. He is the director of R & D Center of Pharmaceuticals 0f BIT. He has published more than 90 papers in reputed journals and has been serving as an editorial board member or vice-director of several Chinese Journals.