

The Study of Separation for Chiral Compounds Using Liquid Chromatography with Metal Ion Stationary Phase

박영수, 김진일, 이주원¹, 김정근¹, 구윤모*
인하대학교; ¹인하대학교 초정밀분리기술연구센터
(ymkoo@inha.ac.kr*)

It is considered that the chiral separation for a medication is an important issue and it has been, also issuing in the pharmaceutical industries. Almost pharmaceutical products are composed of the chiral compounds with similar ratio owing to its synthetic method. The racemic mixture can lead to a dangerous disease like as case of thalidomide. A chiral stationary phase (CSP) has a difficulty to be applied to industrial production scale because its cost is exceedingly expensive to scale-up and the adoption of CSP has a limitation other than a specific chiral compound. Recently, the chiral separation on widely used stationary phase in laboratory scale by chiral mobile phase additives (CMPA) are reported. The almost studies of chiral separation by CMPA were carried to high performance liquid chromatography (HPLC). Although chiral selectivity is high, HPLC is hard to apply to production scale. To overcome several disadvantages of chiral separation by HPLC, liquid chromatography (LC) was carried out in this study. The functional group on ion exchange resin can be changed to another metal ion which was effective for chiral compounds. By using these easily available metal ion, retentions of chiral amino acids was measured.