

The Separation for Chiral Amino Acids Using Liquid Chromatography with Chiral Mobile Phase Additives

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The chiral separation for using as medication is the most important process. Almost pharmaceutical products are composed of the chiral compounds with similar ratio owing to its chemically synthetic method. The case of amino acids was same with that. 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 almost studies of chiral separation by chiral mobile phase additives (CMPA) were carried using high performance liquid chromatography (HPLC). The scale-up for separation of chiral compounds using HPLC has been limitation in point of cost and equipments. For high productivity and low operating cost, Liquid chromatography (LC) and ion-exchange stationary phase were carried out in this study. LC has lower column efficiency than HPLC. However, the high selectivity and scale-up could make overcoming disadvantage, such as low column efficiency. For enhancing selectivity, the various operating conditions of CMPA were performed.