

Enantioseparation of L/D-Mandelic Acid by Crystal Growth Technique

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Nowadays the increasing use of chiral molecules for pharmaceutical and agrochemical application promoted the development of separation method of pure enantiomer from racemate compound. The most commonly used classical method is resolution via the formation of diastereomeric salt in industry, but the direct crystallization methods such as crystal growth technique or preferential crystallization are more cost-effective resolution. In this research, the pure enantiomer L-mandelic acid, a chiral drug, was separated from the asymmetric DL-mandelic liquid solution by crystal growth technique. Solubility of the different mechanical mixture of L-mandelic acid and D-mandelic acid was presented

.and effects of initial enantiomer excess of mother liquid, subcooling, seed mass... were also investigated. The crystals were collected and XRD was used for the qualitative method, HPLC for analysing the optical purity of L-mandelic acid product.