

Activity and Stability of Lipase in Ionic Liquids by Using Enzyme Coated Magnetic Micro-beads

안광민, 하성호*, 이상목¹, 구윤모²
인하대학교; ¹CJ제일제당 바이오연구소;
²인하대학교 초정밀분리기술연구센터
(shha@inha.ac.kr*)

It is already known that ionic liquids (ILs) is better media for lipase-catalyzed reaction, and the production yield is higher than the conventional solvent-free system. Magnetic microbeads have gained a remarkable interest over the past years as the template for enzyme immobilization because they provides (i) higher specific surface area obtained for the binding of a larger amount of enzymes, (ii) lower mass transfer resistance and less fouling, and (iii) the selective separation of immobilized enzymes from a reaction mixture by the application of a magnetic field. In this study, a lipase-catalyzed esterification reaction in ILs was performed to evaluate enzyme activity and stability, enzyme recovery, and production yield.