비뉴톤액막을 이용한 에멀젼형 액막법에서 w/o 비가 추출 효율에 미치는 영향

이상철*, 이현규, 임안나, 김정권, 고덕규
군산대학교
(lee40f@kunsan.ac.kr*)

A dilute polymer solution as the organic membrane phase was used to improve emulsion stability during extraction of penicillin G in emulsion liquid membrane (ELM) systems. Viscoelastic polymers were used to prepare the dilute polymer solution, which followed behavior of a non-Newtonian fluid. The effects of composition of polymer and surfactant in the membrane phase on extraction efficiency of penicillin G were investigated at three different w/o ratios. Simultaneously, emulsion swelling and membrane breakage were observed in order to analyze the ELM system. Use of the dilute polymer solution resulted in an increase in enrichment ratio of penicillin G concentration due to improvement of emulsion stability, independent of the w/o ratio. Also, an optimal composition of the membrane phase at each w/o ratio was obtained, which seems to be useful for development of a more practical ELM system having a high enrichment ratio and degree of extraction.