

A study on factors influencing the stability of colloidal liquid aphrons in predispersed solvent extraction of succinic acid

전영시, 전봉식, 홍원희*, 홍연기¹
한국과학기술원 생명화학공학과; ¹충주대학교
(whhong@kaist.ac.kr*)

A key factor that influences the extractability in the predispersed solvent extraction (PDSE) is the stability of colloidal liquid aphrons (CLAs). The stability of CLAs is important in application of CLAs to the reactive extraction of succinic acid in fermentation broth. CLAs were formulated from a TOA/1-Octanol solvent phase. Trioctylamine (TOA) was used as extractant and 1-Octanol was used as diluent. Water soluble surfactant for preparing CLAs was sodium dodecyl benzene sulfonate (SDBS) and oil soluble surfactant was Tergitol 15-S-3. Stability of CLAs was measured by UV spectrophotometer. In this work, the effect of composition of organic solvent was measured to optimize solvent composition in column PDSE, and the effect of pH and ion species of continuous aqueous phase was investigated for application to fermentation broth.