Solubility of Organic Acids in Various Solvents

이종우, 강정원†, 안은경
고려대학교
(jwkang@korea.ac.kr†)

Organic acids are building block chemical which is a transferable compound with broad application in chemical and biological industry. Recently, the production of organic acid using the fermentation method has been paid attention due to its higher yield and lower cost than chemical synthesis. Since products from fermentation have a complex mixture of broth and byproducts, separation method for increasing purity of specific acid is essential. Among separation methods, approaches based on crystallization such as drowning-out are reported and solubility is used as basic data of process design. In this study, the solubilities of organic acids in various solvents are measured from solid-liquid equilibria (SLE) of organic acids and solvents. The solubilities of organic acids produced in fermentation are measured using various solvents for drowning-out in binary, ternary and quaternary systems. From solubility data, solvents for drowning-out is evaluated. A result of this study would be helpful to design the process of organic acid separation.