

Back-extraction of succinic acid from the organic phase with the effect of temperature, pH and oleic acid

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Succinic acid is a dicarboxylic acid which has attracted great interest as a green feed stock for the manufacture of synthetic resins, biodegradable polymers and chemical intermediates. For the recovery of carboxylic acids from fermentation broth, many methods such as distillation, precipitation, membrane separation were used. However, reactive extraction has higher distribution coefficient which means more acids are recovered from fermentation broth. In the case of succinic acid, many research was performed about reactive extraction using TOA as a extractant. Extracted succinic acids by TOA had to strip from the TOA-succinic acid complex in the organic phase for the final production. The effect of temperature and pH in the aqueous phase on the back-extraction was investigated. And the effect of oleic acid which is a displacer of succinic acid in succinic acid-TOA complex was also investigated. The back-extraction was performed in the range of 40~90°C to study the effect of temperature. The study for the effect of pH was performed in the range of pH5~10. The effect of oleic acid as a displacer was observed in the range of 0~2.5M (concentration of oleic acid).