

In situ recovery of succinic acid from fermentation broth using ion exchange resin

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Succinic acid is a four carbon dicarboxylic acid which has attracted great interest as a green feed stock for the manufacture of synthetic resins, biodegradable polymers and chemical intermediates. It is produced as an intermediate in the tricarboxylic acid cycle (TCA) and also as one of the fermentation products of anaerobic metabolism. However, in the case of fermentation process, accumulation of produced succinic acid in the fermentation broth inhibits its further production. Therefore, the total production of succinic acid could be increased with in situ recovery of succinic acid from fermentation broth using anion exchange resin packed column. In this study, adsorption isotherm and breakthrough curves for the separation of succinic acid were obtained and the effects of pH and temperature on adsorption of succinic acid were investigated.