Recovery of lactic acid from fermentation broth using membrane filtration technologies

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Lactic acid is one of the important commercial platform chemical for food, chemical, pharmaceutical field and bio-based polymer. The requirement of lactic acid is increasing every year in many industrial applications. Therefore, it is important to have an efficient recovery method following the production of lactic acid. Recently most of the manufacturers use the conventional method of recovery, which is the traditional chemical separation process (by calcium carbonate, hydrolysis, esterification, and distillation). This process of recovery is expensive and unfriendly to the environment as it consumes lime and sulphuric acid and also produces a large quantity of calcium sulphate(gypsum) sludge as solid waste. It is, therefore, reasonable to look for other methods of recovery for lactic acid. In this study, we focused on the developments of recovery methods of lactic acid from fermentation broth using the membrane filtration technologies that do not yield salt waste.