

Sonication Effects for Radical Removal on Fermentation of Radical Saccharified Cellulose

박서진, 이인화*

조선대학교

(ihlee@chosun.ac.kr*)

We have been study on the production of ethanol by *Zymomonas mobilis*(KCTC, 1534) fermentation with chemically saccharified methyl cellulose(MC). For the purpose of remove the remain radicals, sonication was performed before the fermentation. *Z. mobilis* fermented with sonicated materials as a glucose substrate in the RM modified medium for 48hr at 33°C. The maximum yield of ethanol is 0.02 g/g from sonicated substrate whereas is 0.0017 g/g from untreated substrate, 91.5% increased. The radical removal efficiency was analyzed by of 2,2-diphenyl-1-picryl-hydrazyl(DPPH) UV absorption method. The saccharide with chemically depolymerized methyl cellulose was determined by the 3,5-dinitrosalicylic acid(DNS) method. As determined by DNS reducing sugar concentration was 13g/L at MC 50 wt% treated with H₂O₂, Fe ion at 100°C for 6hr.