

Production of Poly(3-hydroxybutyrate) by *Ralstonia eutropha* from sunflower stalks hydrolysate solution

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Lignocellulosic biomass is considered as one of the alternative raw materials for the production of biofuels, valuable chemicals, and polymers that are being produced from fossil fuels. Thus, xylose, which is one of the major components of the hydrolyzed lignocelluloses, is a promising substrate in lignocellulosic biomass based fermentation processes. In this study, recombinant *R. eutropha* NCIMB11599 expressing the *E. coli xyxAB* genes encoding xylose isomerase and xylulokinase respectively, was constructed and examined for the synthesis of poly(3-hydroxybutyrate) [P(3HB)] using xylose. Recombinant *R. eutropha* (pKM212-XylAB) successfully utilized xylose as a sole carbon source and also was able to co-utilize xylose and glucose. Finally, recombinant *R. eutropha* (pKM212-XylAB) completely consumed glucose and xylose in the sunflower stalk based medium. Detailed results will be presented in this presentation.