

Increase enzyme assessibility on herbaceous biomass using hot compressed water

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In the conversion of biomass to valuable products, a pretreatment method is an important process. An efficient pretreatment that fractionate the major components, hemicellulose, cellulose and lignin from biomass has great potential to enhance the enzymatic activity for high sugar recovery with economically feasible. In this work, autohydrolysis experiment of herbaceous biomass (corn stover) in hot compressed water (HCW) was performed in a batch-type reactor to increase enzyme assessibility. The parameters (reaction temperature and time) were investigated to increase enzyme efficiency. Through the pretreatment, the chemical and physical features of biomass had changed and these changed were characterized by HPLC, XRD, SEM and DSC.