

Hydrolysis of cellulosic biomass with concentrated sulfuric acid for bioethanol production

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Decrystallization and hydrolysis of cellulosic biomass with concentrated sulfuric acid is investigated to produce glucose and xylose for the feed of following fermentation process in the bioethanol production. Cellulosic biomass species, decrystallization conditions, hydrolysis conditions are varied for the maximum monosaccharide yield. Yield variation of glucose from cellulose and xylose from hemicellulose is interpreted based on the decrystallization and hydrolysis with different sulfuric acid concentration. Analysis method with HPLC is also presented for glucose, xylose yield followed by material balance.