

Thesis Title Hydrolysis of Cassava Starch by α -Amylase and
Amyloglucosidase Mixed Enzyme

Author Ms. Harutai Jittpukdee

M.S. Chemistry

Examining Committee :

Lecturer Dr. Pairoje Kijjanapanich Chairman

Assoc.Prof. Dr. Poonsook Sriyotha Member

Lecturer Dr. Nuansri Rakariyatham Member

Abstract

In this project, the hydrolysis of cassava starch by mixed α -amylase and amyloglucosidase was studied. The optimum condition for this hydrolytic process which gave the highest dextrose equivalent was found to be at 70 °C and pH 5. Under this condition the activity of α -amylase in the mixed enzyme was about a half of its own activity at its optimum pH and temperature. The similar result was observed with amyloglucosidase. Furthermore the dextrose equivalent value of the hydrolysate increased with the concentration of both enzymes in the reaction mixture. The effect of α -amylase concentration on the percentage of glucose and maltose in the hydrolysate was not clear. However, the percentage of glucose in the hydrolysate was found to be dependent on amyloglucosidase concentration.