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OPTIMASI KONDISI AMOBILISASI GLUKOMILASE MENGGUNAKAN PADATAN PENDUKUNG BENTONIT BENTUK ION UNTUK KONVERSI PATI MENJADI GLUKOSA

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ABSTRACT

Bentonit is a clay available in a lot of quantity and very chief. It can be activated to cation or anion exchanger like resin. This research was done in order to search a treatment and to get optimum condition for binding the glucoamylase to the bentonit, and to observe the ability of immobilized glucoamylase obtained in hydrolyzing amylum.

It was done three ways to activate the bentonit, to obtained three kinds of bentonit, those are 'active bentonit' (adsorbs enzymes physically) and 'cation exchanger bentonit' consist of B- NH_4^+, and B-H^+ (bind enzymes ionically). The bentonit was contacted to glucoamylase in various conditions to search the optimum conditions (pH, concentration, temperature, and contact duration time). Immobilized glucoamylase obtained was tested it's binding strengthnees and the ability of hydrolyze amylum to glucose.

The conclusion of this research were, (1) bentonit can be used as a supporting material for immobilizing glucoamylase in the form of B-H^+ cation exchanger, (2) the optimum condition of bentonit and glucoamylase binding was in pH = 5,5, and at 25 °C, contact duration time was 30 minutes, (3) immobilized glucoamylase column (height of 1 cm and diameter of 2,5 cm) had conversion ability at the level of 19,88%.