ABSTRACT

DETERMINATION OF THE OPTIMUM INCUBATION TIME ENZYMATIC DEGRADATION OF CHITIN BY *Mucor miehei* USING ULTRAVIOLET-VISIBLE SPECTROPHOTOMETRY METHOD

By

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This research was conducted to study the potential of chitinase and chitin deacetylase produced by *Mucor miehei* to degrade chitin into glucosamine every day for seven days fermentation process. Glucosamine was determined using the method of UV-Vis spectrophotometry and the purity of the glucosamine was analysed using HPLC-ELSD method. The results show chitin fermentation with *Mucor miehei* was produced glucosamine from the first day of fermentation and reached the maximum yield of 90 % by mass and 88 % according to UV-Vis spectrophotometry measurement on the fourth day with the purity of 97,342 %. The production of glucosamine was confirmed by HPLC-ELSD analysis. The results show the presence of peak at retention time of 2-3 min, which is similar to the chromatogram of standard glucosamine produced by WAKO, Japan.

Keywords: *Chitin, Glucosamine, Mucor miehei, UV-Vis Spectrophotometry, HPLC-ELSD*