Nittaya Yaosang 2009: Immobilization of Protease on Chitosan by Covalent Bond. Master of Engineering (Chemical Engineering), Major Field: Chemical Engineering, Department of Chemical Engineering. Thesis Advisor: Assistant Professor Nanthiya Hansupalak, Ph.D. 87 pages.

The protease immobilization on chitosan beads, activated by glutaraldehyde, including mass transfer, pH stability and temperature stability, reuse and storage was investigated. Kinetics and thermal deactivation were also covered. Results showed the increases in stabilities immobilization while V_{max} was decreased but free and immobilized enzyme showed almost same K_{m} value. Residual activities of free enzyme were lower than those of immobilized enzyme when the reuse and storage experiments were applied. Due to the shaker's limitation, mass transfer problem still existed and might be the cause of the lower V_{max} upon immobilization.