

Progress of enzyme immobilization and its potential application

Yanhui Wang^{a*}, Jinchang Zhang^{b**}, Jingmei Yin^b

^aCollege of Life Science and Technology, Beijing University of Chemical Technology, Beijing 100029, China
Tel. +86 10 6441 6428; Fax: +86 10 6442 3254; email: yhwang@mail.buct.edu.cn

^bCollege of Environmental and Chemical Engineering, Dalian University, Dalian 116622, China

Received 19 June 2007; Accepted 29 June 2008

ABSTRACT

This paper briefly introduces the enzyme obvious advantages compared to the conventional chemical catalysts, and focuses on the benefits of enzyme immobilized in/onto supports, particularly, membranes, various methods of enzymes immobilized on membranes, and industrial applications. Some important research trends related to membrane bioreactors with enzyme immobilization are also listed, in which the study of enzyme stability, product separation, integrated system and waste aqueous treatment, etc., are believed to be the important areas in the future to introduce this promising technology for applied in industries.

Keywords: Enzyme; Enzyme immobilization; Membrane; Bioreactor; Integration; Separation

* Co-corresponding author. Current address: Nanyang Technological University, Singapore 639798. Tel.: +65 6790-6911; email: jczhang@ntu.edu.sg; zhangjc2005@yahoo.com.cn.