

Preface

Enzyme engineering is one of the main parts of biotechnology. Enzyme engineering has been developing quickly since 1970s; it has got great achievements in the theoretical and application researches and has been playing an important role on the development of science, technology and economy in the world. Enzyme engineering will develop even more quickly and play a much more important role.

Enzyme engineering is a technical process of enzyme production and its applications. The main tasks of enzyme engineering are obtaining the required enzymes through design and artificial operation, improving the enzyme catalytic characters with enzyme improvement technologies, and making full use of enzyme catalytic function.

This book was translated from Chinese "*Enzyme Engineering*" (Third Edition) published in 2009 by Science Press, Beijing, China. The contents of the book include 10 chapters which are; chapter 1: introduction; chapter 2: Enzyme production by microbial fermentation; chapter 3: Enzyme production by animal and plant cell culture; chapter 4: Extraction, isolation and purification of enzymes; chapter 5: Enzyme molecular modifications; chapter 6: Immobilization of Enzymes, Cells and Protoplasts; chapter 7: Enzyme catalysis in non-aqueous phases; chapter 8: Enzyme directed evolutions; chapter 9: Enzyme reactors and chapter 10: Applications of enzymes. There is a review and thinking section given at the of each chapter. Chapter 1, chapter 3 and chapter 7 were translated by Prof. GUO Yong; chapter 2 and chapter 6 were translated by Dr. ZHENG Suiping; chapter 4 and chapter 10 were translated by Prof. LIN Ying; chapter 5 was translated by Dr. HAN Shuangyan; chapter 8 was translated by Dr. WANG Bin and; chapter 9 was translated by Dr. ZHU Mingjun.

The book could be used as a text book for the undergraduate or graduate students specializing in biotechnology, bioengineering, biochemical engineering, enzyme engineering, fermentation engineering, and bioscience and so on. It also could be used at conferences for teachers, scientists, engineers and technicians working in the related fields.

During the writing and the translating of this book, I received a lot of intellectual and insightful assistance from numerous colleagues and friends. I wish to acknowledge their invaluable help. I also wish to acknowledge the pleasant cooperation and assistance provided by the members of the translation committee and the editors involved in the completion of this book.

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In Guangzhou
March 2012