Thermophilic Microorganisms

Preface

Thermophiles thrive in various environments in both marine and terrestrial habitats. The ability of microorganisms to proliferate under extreme conditions is of widespread importance in microbial physiology, biological evolution, ecological cycle, industry biotechnology. The discovery of thermophilic microorganisms and their enzyme systems has opened new opportunities for various industrial applications over the past decades. Temperature is one of the most important factors controlling the adaptation and evolution of organisms, and high temperature environments are of special interest for scientists, in that they reveal the extremes to which evolution has been pushed.

In this book, leading scientists in this field highlight the current achievements of the most updated topic areas. The diversity and ecological roles of thermophiles, biochemical properties of thermostable biocatalysts and their application, role of polyamines and virus in thermophiles, DNA replication and metabolic engineering of thermophiles, are all covered. Extensive focus is given to industrial application of thermostable catalyst including alcohol dehydrogenase, glycoside hydrolase, protease, lipases. In addition, authors discussed technical challenges and future development trends.

International experts in this field from Canada, China, Germany, Japan, and United States of America collaborated on this book. Thank you for all your valuable contribution. Also give my thanks to Caister Academic Press. I hope and I do believe that the book will be useful to students, scientists and engineers who are interested in extreme microbial research.

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