

Book Reviews

***Enzymatic Degradation of Insoluble Carbohydrates*, Edited by J.H. Saddler and M.H. Penner, American Chemical Society, Washington, DC 1995. ix + 374 pp. Price \$96.95. ISBN 0-8412-3341-1**

The enormous variety of biochemical reactions in living life are nearly all influenced by a series of remarkable biological catalysts known as enzymes. Enzymes have successfully been used as valuable analytical tools in the elucidation of the fine structure of polysaccharides. An advantage of enzymatic hydrolysis over acidic hydrolysis is that much higher yields can be expected. The potential use of enzymic fragmentation in the elucidation of the structure of polysaccharides depends largely on the purity of the enzyme used, and on a thorough knowledge of their substrate specificity and pattern of action.

This book, *Enzymatic Degradation of Insoluble Carbohydrates*, is an attempt to bring together the current state of knowledge regarding the enzymes catalysing the hydrolysis of insoluble polysaccharides. Twenty-three chapters cover enzymatic degradation of insoluble carbohydrates. The first

section provides a general review of the enzyme and substrate factors influencing the hydrolysis of insoluble carbohydrates. The sections on catalytic mechanisms discuss several glycosidases and their mechanism of catalysis. A particularly useful section is the final one dealing with applications. It provides a more in-depth description of cellulase and hemicellulase enzymes and their possible application such as ethanol production and pulp/paper industries. The most significant groups of industrially important bulk enzymes include amylases, pectinases and cellulases. In addition, several other carbohydrate transforming enzymes such as glucose isomerase, invertase and lactase are also involved in significant commercial markets. Such enzymes are also discussed in this book.

In short, this book is indispensable reading for researchers in this field and a valuable reference work for those with wider interests.

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***Nonconventional Yeasts in Biotechnology: A Handbook*. Edited by K. Wolf, Springer, Berlin, 1996. Pp. xx + 617, Price £60.00. ISBN 3-540-59482-5**

Yeasts are becoming increasingly important to mankind over and above their applications in the traditional food and beverage industries. They have been adopted by the gene manipulators of the modern biotechnology world. Genetic engineering technology has opened new possibilities for yeast breeding and today new yeast strains can be obtained by a wide variety of techniques.

All yeasts other than *Saccharomyces* and *Schizosaccharomyces* are classified as nonconventional. Due to their exceptional metabolic pathways, they have been used in various biotechnological processes for producing foods or food additives, drugs or a variety of biochemicals.

Nonconventional Yeasts in Biotechnology brings together a concise assessment of the state of the subject. It enables the reader to get a sense of historical perspective, what is known

about the field today, and a description of the frontiers of research where knowledge is increasing steadily. In addition to useful background information, detailed protocols are included, allowing investigation on basic and applied aspects of a wide range of nonconventional yeast species.

The thirteen chapters of this book cover principles and methods in yeast classification, protoplast fusion of yeast and electrophoretic karyotyping of yeasts. In addition, the book examines the following yeasts: *Schwanniomyces occidentalis*; *Kluyveromyces lactis*; *Pichia pastoris*; *Pichia guilliermondii*; *Pichia methanolica*; *Hansenula polymorpha*; *Yarrowia lipolytica*; *Arxula adeninivorans*; *Candida maltosa*; and *Trichosporon*.

This book is an important research reference tool for the student, experienced researcher, and new comer to the field, and is necessary to all libraries concerned with microbiology, biochemistry and molecular biology.

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