

## Book Reviews

**Enzyme Induction, Mutagen Activation and Carcinogen Testing in Yeast.** Edited by A. Wiseman, Ellis Horwood Ltd., Chichester, 1987, 215 pp. ISBN 0-85312-963-0. Price: £25.00.

Whilst the study of yeast and its traditional brewing uses have evolved over many centuries, it is the advent of recombinant DNA technology in recent years which has stimulated the considerable current interest in the genetics and synthetic capabilities of yeast. The study of the important biopolymer, deoxyribonucleic acid, in terms of the sequence of its monomeric components, has led to the use of yeast as a means of detecting mutagenic and carcinogenic agents in the environment, foodstuffs and pharmaceutical preparations. Such a system is more sensitive than the earlier techniques, which involved animals or animal cells. However, yeasts have figured extensively in the interests of carbohydrate chemists for many years because of the mannan etc., contents of yeasts, and the carbohydrate orientated (inducible) enzymes present in yeasts. This book provides an introduction to the subject of the genetic features of yeast and reviews the important mitochondrial DNA system and petite mutants. So many aspects impinge upon carbohydrate polymers that progressive carbohydrate technologists should want to peruse this book.

This volume consists of six chapters in which Chapter 2 outlines some distinct genetic features of yeast and their application to the screening of drugs. It also has a review of the very important mitochondrial DNA system. Another chapter considers a detailed description of the mechanisms and controls known to act during the transcription of yeast nuclear protein coding genes by RNA polymerase II and during the ensuing maturation of functional unRNAs. A review of the status of research into mutagenesis and DNA repair in *Saccharomyces cerevisiae* is followed by a discussion of the nature and roles of the cytochrome P-448 enzymes on the activation of mutagens, including carcinogens. A practical detection

of mutagens in yeast which is of great interest in relation to the account of DNA repair and mutagenesis in yeast and other microorganisms is discussed in detail in the final chapter.

Polymers have had an important utilization and application in academic and industrial studies for many years. This book describes the mechanism of gene induction and repression, the DNA repair and mutagenesis, the activation of mutagens and carcinogens and the detection of mutagens of the important biopolymers DNA, RNA polymerase II and cytochrome P-448 enzymes into the genetic systems in yeast and some of their applications such as in drug resistance. A reference section with over 800 entries covering literature up to 1986 with a comprehensive subject index gives an excellent overview of the earlier and current researches on genetic engineering. Carbohydrate technologists will want to consider the implications of such engineering on polysaccharide structures and development of their industrial utility.

**John F. Kennedy**  
**Charles A. White**

**Introduction to Microscale High-Performance Liquid Chromatography.** Edited by Daido Ishii, VCH Verlagsgesellschaft, Weinheim, Basel, Cambridge, New York, 1988, pp. xiii + 208. ISBN 0-89573-309-9 VCH Publishers, ISBN 3-527-26636-4 VCH Verlagsgesellschaft. Price: £41.45.

HPLC has long been recognized as a valuable piece of instrumentation in the laboratory either in research, analytical or preparative works. Continuous innovations in equipment and column design have brought about improvements in sensitivity, selectivity, resolution and speed, which are the primary goals of an HPLC analysis.

The microscale HPLC technique which was introduced in the past decade, and which utilizes columns of 0.2–0.5 mm i.d., boasted of economy in both mobile and stationary phases, increased mass sensitivity and the possibility of coupling with mass spectrometer, in addition to improved selectivity, sensitivity and speed.

'Introduction to Microscale High-Performance Liquid Chromatography' aims to present the basic information on microscale HPLC. It is edited by one of the pioneers of this technique and ten authors have made their contributions to this book which is divided into seven chapters. The book starts with a brief introduction on microscale HPLC, its