

Book Reviews

Enzyme Chemistry, Impact and Applications. Edited by C. J. Suckling. Chapman and Hall, London, 1986. ix + 255 pp. ISBN 0-412-25850-1. Price: £19.95.

The study of enzymes falls into the disciplines of both chemistry and biology. From the chemical viewpoint, enzymes are highly selective and efficient catalysts whilst from the biochemical viewpoint, they have had a major impact in synthesis, drug design and biosynthesis. This book brings together eight contributions which describe various aspects of the subject of enzyme chemistry, but the emphasis throughout is on applications.

Following a brief discussion on the historical aspects of enzyme chemistry and the key personnel involved in its development, there is a full discussion on the nature of enzyme catalysis and the mechanisms involved in the reactions. The treatment of this section is more the descriptive rather than mathematic approach. The subject of coenzyme catalyses is reviewed, not from the more traditional mechanistic approach, but from consideration of chemical models.

The subject of selectivity in synthesis and the relative merits and attributes of chemical and enzymic catalysis are discussed, with emphasis on how the two methods compete in the production processes for chiral agents and specific isomeric forms. Chapters with strong medical bias include those which discuss the use of enzymes as targets for drug design, the beneficial or adverse effects of metal ions in biological systems, particularly enzyme reactions, and the biosynthesis of natural products at the enzyme, rather than cellular, level. The text is concluded with a forward-looking discussion of the impact of the study and use of enzymes in biochemistry.

The style and approach taken is such that a readable text has been produced which, although aimed as a text for advanced undergraduates, can also be used as a refresher course for the more advanced reader. The book is also suitable as an introduction for the non-expert who requires an unbiased assessment of the potential of enzyme reactions.

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