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Carel J. van Oss

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BOOK REVIEW

IMMOBILIZED ENZYMES

Research and Development

I. Chibata, Ed.

Kodansha, Ltd., Tokyo; John Wiley and Sons/Halsted Press,
New York, 1978; hardbound, 284 pages, \$35.00

Co-authors of this book are T. Tosa, T. Sato and T. Mori; it is not made clear who the authors are of the various chapters. In the four chapters the work treats: 1, Introduction (Background, Definition of immobilized enzymes, Definition of immobilized microbial cells); 2, Preparation of immobilized enzymes and microbial cells (Immobilization methods for enzymes, Immobilization methods for microbial cells, Immobilized coenzymes); 3, Properties of immobilized enzymes and microbial cells (Substrate specificity, pH Dependence of enzyme reactions, Temperature dependence of enzyme reactions, Kinetic constants, Stability, Other properties); and 4, Applications of immobilized enzymes and microbial cells (Chemical engineering of immobilized systems, Chemical processes using immobilized systems, Analytical applications, Medical applications, Applications in food processing, Affinity chromatography, Treatment of waste water, Fuel cells and biochemical batteries, Miscellaneous applications, Conclusion and prospects). The book contains, in the form of Appendices, a table of commercially available water-insoluble carriers, a table of commercially available immobilized enzymes, and a list of abbreviations. The book ends with a subject index.

This is an excellent and up-to-date work on the preparative and analytical uses of immobilized enzymes and coenzymes with extremely interesting sections on the immobilization and use of whole microbial cells. Chapter 4, which discusses chemical engineering aspects, is especially useful for various preparative applications, while it also has an excellent section on enzyme electrodes, mainly for analytical use, as well as a treatment of affinity chromatography. The book is highly recommended to all biochemists and biochemical engineers who are, or are going to be, involved in any aspect or use of immobilized enzymes.

Carel J. van Oss