BOOK REVIEW

COMPREHENSIVE ENZYME KINETICS
by Vladimir Leskovac

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Pages: ii + 438. 125 Figures, 50 Tables, 900 Equations, EURO 118.00/USD 125.00/GBP 77.50,
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Today, in the post-genomic era, no fundamental or applied work can be thought about in biochemistry and its related molecular biology, and in life sciences in general without considering enzymes. Above all, enzymes are becoming powerful reagents and tool in all other fields of chemistry too, but also an integral part of everyday life. Biotechnology, as one of the branches of science, and its applications, which shall determine the trends in civilization in the forthcoming century, are inconceivable without enzymes and their activity. These are only some of the reasons why the book “Comprehensive Enzyme Kinetics” by Professor Vladimir Léskovac from the Faculty of Technology, University of Novi Sad (Serbia & Montenegro) is welcome.

Through 18 chapters, the author takes the user of the Book systematically, simply and clearly, in a modern and an expert way into the complex kinetic relations of the interactions of enzymes and substrates, starting from the introduction which relates to the structure of enzymes and their active sites, through the bases of chemical kinetics, indispensable for an understanding of enzyme kinetics, in order to reach the basic topic. The next 11 chapters are dedicated to a gradual survey of monosubstrate, bisubstrate and trisubstrate reactions, including nonhyperbolic rate equations and allosteric and cooperative effects. Simple but also complex kinetic models are explained in this Book. Sections 14 and 15 are dedicated to the effect of pH and temperature on enzyme catalysis.

The Author emphasizes the importance of the graphic presentation of kinetic models owing to which the Book abounds in graphs – such a way of presenting results. Mathematical models are often in the form of double-reciprocal plots.

In the last 3 chapters, special attention is paid to isotope exchange, kinetic isotope effects and statistical analysis of the initial rate and binding data, which relate to enzyme reactions. The Book also contains a Subject Index.

The Book is of special value due to the numerous examples which illustratively support a simpler understanding of the reported contents.
Pertaining references (almost 600 in total) are cited after each chapter and with the exception of 3 places (chapters 1, 7 and 11) are systematized as books, review articles and specific references which facilitate their utilization. A certain number of examples are from the Author’s and associates’ references.

The Book is a modern textbook but also a contemporary handbook intended for students of Biochemistry first and foremost, but also for all those who meet enzymes in their research work. "Comprehensive Enzyme Kinetics" by Professor Leskovac is a novelty written in a "scholarly fashion", as stated in the Preface by the Author himself, which exceeds the limits of textbook literature and makes up the shortage among a large number of books dedicated to this topic since it presents understandably and concisely, free from unneeded details and excessive explanations, on a relatively small number of pages, all that is necessary for the comprehension and application of kinetic enzymes. It is quite certain that such a book can only be written by a successful scientist and a pedagogue with great experience.

Students, professors, and researchers would greatly benefit if this excellent book "Comprehensive Enzyme Kinetics" by Professor Leskovac could be found in the libraries of their faculties, institutes and industry, as well as in the laboratories – in all places where enzymes are taught and dealt with.

Miroslav M. Vrvić, D. Sc. Chem.  
Professor of Biotechnology  
Faculty of Chemistry  
University of Belgrade, P. O. Box 158,  
11001 Belgrade, Studentski trg 16, Serbia and Montenegro.  
E-mail: mmvchem@drenik.net