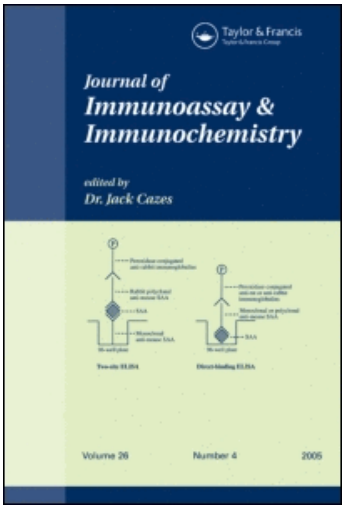


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# The Book Corner

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# The Book Corner

**Chemical Genomics**, Ferenc Darvas, András Guttman, György Dormán, Eds., Marcel Dekker, Inc., New York, NY, 2004, 357 pp. Price: $135.00.



After the completion of the sequencing phase of the Human Genome Project, the focus of contemporary science shifts to reveal gene functions, i.e., the examination of proteins that are encoded within. The goal of chemical genomics is to dissect the function of organisms and cells by having a small-molecule partner for every gene product. Chemical genomics holds the promise for the determination of the function and biological role of any genes through small-molecule interactions with the protein or proteins that is expressed by that particular gene. In addition, various chemical genomics methods can address such biological questions that are not amenable to genetic manipulation or to structural genomic approaches. In the last couple of years, significant advances have been made in the fields of genomics-driven drug discovery, chemoinformatics, and high-throughput screening, proven by the increasing number of papers that have appeared in the literature already utilizing chemical genomics tools.

This book is dedicated solely to chemical genomics, discussing a full spectrum of chemical genomics topics, as well as related technologies ranging from *in silico* approaches to experimental techniques. The first part describes the definition and basics of chemical genomics. The second part focuses on specific approaches, discussing the generation and utility of small-molecule probes in the study of specific gene products. The last three chapters are practical case studies related to the area of drug discovery.

This book provides an overview of this emerging field to practitioners in drug discovery, medicinal chemistry, and molecular biology as well as scientists working in the laboratories and for students at the graduate and undergraduate levels. It is well written and presented.

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*Book Corner Editor*



**Biotransformations and Bioprocesses**, Mukesh Doble, Anil Kumar Kruthiventi, and Vilas Gajanan Gaikar, Marcel Dekker, Inc., New York, NY, 2004, 371 pp. Price: $175.00.

Biotransformation deals with the use of a biocatalyst for the mediation of a chemical reaction, for the synthesis of an organic chemical or destruction of an unwanted chemical. Bioprocess deals with the application of technology and engineering principles to design, develop, and analyze these processes.

This book is concise, covering chemistry and engineering aspects of biotransformation and giving an overview of the various steps involved during the transition from a lab to the plant.

The book is not intended to be an encyclopedia, but covers the current and relevant matter in a succinct way, addressed to an interdisciplinary audience. The book has illustrations, homework problems, and innovative extensions. This approach will encourage students to obtain a more in-depth understanding of key scientific and engineering concepts. It is designed to be a textbook for undergraduate and graduate-level courses in biotechnology (including fermentation) and other interdisciplinary courses in pharmacy, biosciences, and organic synthesis.

The book will appeal to a diverse audience of chemists, biologists, and chemical technologists/engineers. It will be useful for biologists who would like an overview of chemical and engineering principles and to chemical engineers with no knowledge of biotransformations and biochemical engineering fundamentals. The book assumes that engineers have very little background in synthetic chemistry, and therefore builds up the knowledge from

the basics. Similarly, the book assumes that organic chemists have very little knowledge in chemical reaction engineering. The book is not written for chromatographers.

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**Unraveling Lipid Metabolism with Microarrays**, Alvin Berger, Matthew A. Roberts, Eds., Marcel Dekker, New York, NY, 2005, 445 pp. Price: $179.95.

Spanning technologies in genomics, transcriptomics, and metabolomics, this reference demonstrates the utilization of microarrays and transcriptomic approaches to clarify the biological function of lipids – reviewing current studies and previously unpublished research.

Lipids are known to affect a plethora of physiological functions in numerous organisms. Lipids have known structural roles as components of biological membranes, where they associate with proteins and affect membrane biophysical properties. In *Understanding Lipid Metabolism with Microarrays and Other "Omic" Approaches* the editors aim was to demonstrate the power of microarrays and transcriptomic approaches to dramatically increase our understanding of how lipids function, and to expand the known biological functions of lipids. Furthermore, the focus on microarray technology provides guidance of how to handle omic datasets, which will benefit the lipid and scientific community.

This is an interesting book, which is remotely related to the work of chromatographers.

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