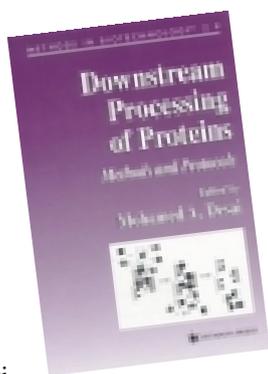


Books

Downstream Processing of Proteins: Methods and Protocols Methods in Biotechnology 9

Edited by Mohamed A. Desai,
Humana Press, Totowa, NJ,
229 pp., \$99.50, March 2000



The subtitle of the book is justified in that it describes the practical steps and protocols that would be useful in developing a strategy for protein purification by the methods covered, so making it is a useful starting point for new postgraduate researchers in this field. To this end, the book contains many tables and figures illustrating the materials and methods of protein purification. Another strength of this book is its emphasis on process validation in an industrial environment.

To return to the subject of undergraduate teaching, I expect to find this a book to dip into for ideas and examples to illustrate my own teaching, for which I give thanks.

The editor of this book bemoans the lack of appreciation in undergraduate teaching of developments in downstream processing and natural product isolation. He also recognizes the need for teaching texts in this area and, as someone teaching this subject at final year level in chemical engineering, I find myself in agreement. His hope that this book fills a gap in this void is only partly realized as the various chapters do not give an overall picture of

all the necessary steps and issues in downstream processing.

However, to be positive, the areas covered by the book include emerging technologies such as expanded bed adsorption; large-scale purification by centrifugation; new roles for ultrafiltration; and the important subject of sterile filtration and virus removal. Several chapters deal with chromatography as the purification technique par excellence. Topics here include affinity ligand technology, high-performance liquid chromatography (HPLC) and radial-flow chromatography.

George M. Hall

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Green Chemistry: Frontiers in Benign Chemical Syntheses and Processes

Edited by Paul T. Anastas and Tracy C. Williamson, Oxford University Press, New York, 384 pp., \$115, 1998

In this compilation, EPA's designated green chemistry leaders Anastas and Williamson have again brought together an interesting variety of papers by distinguished authors, mostly from academia and national labs. The papers challenge the status quo of the laboratory bench by improving on traditionally "antigreen" reactions and by using greener solvents and renewable feedstocks. Particularly tantalizing to this reviewer were papers discussing a photochemical alternative to certain Friedel-Crafts reactions, greener oxidants and nonoxidative approaches to oxygenated organics, a less toxic replacement for phosgene, and opportunities to replace solvents with water.

A word of caution — many articles in this book are written well beyond the undergraduate chemistry level. But buy this book anyway, find the articles that address the process whose waste you are trying to reduce, and challenge your PhD chemist colleagues to transfer these chemistries to their own hoods.

And another word of caution. What the editors and contributors are describing is not exactly green chemistry, at least not yet. Some future compilation of the editors will no doubt describe "nontoxic A" reacting with "nontoxic B" to form "beneficial to society C" in 100% yield with no coproducts, no emissions, and in green packaging. In this work, not-so-heavy metals replace heavier ones, toxic carbon monoxide replaces really toxic phosgene, and byproduct methanol is (easier said than done) recycled. So, perhaps the title of this book and the name of this movement should be "Greener Chemistry." No matter, I look forward to the next book that will be greener still. And that's the point, isn't it?

Scott Berger

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[A review of "Green Chemistry: Theory and Practice," authored by Anastas and Williamson, appeared in the Sept. 2000 issue, p. 54. — Ed.]

An interesting variety of papers by distinguished authors

Practical steps and protocols useful in developing protein purification

"So You're the Safety Director!" An Introduction to Loss Control and Safety Management

Michael V. Manning, *Government Institutes, Inc.*,
Rockville, MD, 174 pp. \$75, 1996

There is an old saying: "Do not judge a book by its cover." With this in mind, don't let the title or the orange "warning" color cover deceive you. Manning's purpose for this manual is to provide the reader, a person who is not a safety professional, with guidance on how to build a "viable framework" for an effective safety program. Although I am uncomfortable with the basis that the design and management of safety programs are assigned to untrained personnel, Manning shares his consulting experience for personnel in businesses that cannot (or do not) assign appropriate resources.

Manning recognizes that each business is different

— there is no "correct" approach to managing a safety program. He uses his 27+ years of experience in the safety profession to write a manual that aims to provide the inexperienced safety program director with successfully applied guidelines.

Manning describes, with real world examples, the basic tasks of the safety director. His manual provides tools on how to identify losses, review claims, work with OSHA, investigate accidents, and establish safety teams and programs.

I believe Manning's approach, albeit written with a light tone, captures the essence of the safety director's responsibilities, and may provide the experienced safety professional with some new insights, as well.

Bruce K. Vaughen

B. K. Vaughen, PhD, PE, is process safety management coordinator with DuPont Teijin Films, Hopewell, VA. [A 2nd edition of this book is now available. — Ed.]

Newly Arrived

Handbook of Supply Chain Management

James B. Ayers
St. Lucie Press, Boca Raton, FL, 460 pp., indexed, \$64.95,
2001

Chemical Engineering: Solutions to the Problems in Chemical Engineering Vol. 1

J. R. Backhurst, J. H. Harker, and J. F. Richardson
Butterworth Heinemann, Oxford, U.K., 332 pp., \$47.95, 2001

Chemical Engineering Fluid Mechanics 2nd ed.

Ron Darby
Marcel Dekker, New York, 559 pp., indexed, \$75, 2001

Sterile Filtration: A Practical Approach

Maik W. Jornitz and Theodore H. Meltzer
Marcel Dekker, New York, 623 pp., indexed, \$195, 2001

Perspectives in Fluid Mechanics: A Collective Introduction to Current Research

G. K. Batchelor, H. K. Moffatt, and M. G. Worster
Cambridge University Press, New York, 631 pp., indexed,
\$160, 2001

Petroleum Refining Technology and Economics 4th ed.

James H. Gary and Glenn E. Handwerker
Marcel Dekker, New York, 441 pp., indexed, \$75, 2001

Principles of Optimal Design Modeling and Computation

Pas Y. Papalambros and Douglas J. Wilde
Cambridge University Press, New York, 390 pp., indexed,
\$120 hb., \$44.95 pb., 2000

Wave Motion

J. Billingham and A. C. King
Cambridge University Press, New York, 468 pp., indexed,
\$110 hb., \$37.95 pb., 2000

Turbulence Structure and Dynamics

J. C. R. Hunt and J. C. Vassilicos
Cambridge University Press, New York, 306 pp., \$80, 2001

How to Use Excel in Analytical Chemistry and in General Scientific Data Analysis

Robert De Levie
Cambridge University Press, New York, 487 pp., indexed,
\$120 hb., \$44.95 pb., 2000

Pharmaceutical Process Engineering (Drugs and the Pharmaceutical Sciences)

Anthony J. Hickey and David Ganderton
Marcel Dekker, New York, 268 pp., indexed, \$135, 2001

Bioseparations Engineering: Principles, Practice, and Economics

Michael R. Ladisch
John Wiley, New York, 735 pp., indexed, \$99.95, 2001

An Introduction to Magnetohydrodynamics

P. A. Davidson
Cambridge University Press, New York, 431 pp., indexed,
\$110 hb., \$39.95 pb., 2000

Thermochemical Processes: Principles and Models **2 copies

C. B. Alcock
Butterworth-Heinemann, Oxford, U.K., 386 pp., indexed, \$95,
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