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The Book Corner

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THE BOOK CORNER

PROCESS SCALE LIQUID CHROMATOGRAPHY, Edited by G. Subramanian, VCH Publishers, Weinheim, Germany, 1995. xvi + 225 pp., DM178.00; ISBN: 3-527-28672-1.

This book discusses preparative and process scale liquid chromatography which are rapidly becoming important techniques in research and development. This modality offers more advantages over the traditional purification techniques.

The book consists of 9 chapters and discusses a theoretical basis and practical application of large-scale liquid chromatography. Chapter 1 discusses chromatography systems, designs and control systems for process scale chromatography. Chapter 2 discusses the practical application of theory in preparative liquid chromatography with two useful appendices dealing with calculation of column saturation capacity and mathematical models for preparative chromatography.

Alternative modes of operation of chromatography columns in the process situation are presented in Chapter 3. In this chapter, elution chromatography, displacement chromatography, frontal chromatography, among other operating modes, are discussed. The application of size-exclusion chromatography in process-scale purification of proteins is discussed in Chapter 4. Chapters 5 and 6 give an account of the application of polymeric media in preparative separation and non-exchange liquid chromatography in the biochemical field.

Supercritical-fluid chromatography and its application in industrial scaling up, including instrument design, are described in Chapters 7 and 8.

Finally, Chapter 9 deals with affinity chromatography and its application in large-scale separations.

The book is well illustrated and each chapter ends with list of references as recent as 1993.

The book is highly recommended to scientists and technical staff in pharmaceuticals, agrochemicals, industrial chemicals and the biochemical industry.

Reviewed by

Hassan Y. Aboul-Enein, PhD, FRSC
Bioanalytical and Drug Development Laboratory
Biological and Medical Research Department (MBC-03)
King Faisal Specialist Hospital & Research Centre
P.O. Box 3354, Riyadh 11211 Saudi Arabia

THIN-LAYER CHROMATOGRAPHY. TECHNIQUES AND APPLICATIONS, Chromatographic Science Series, Volume 66, 3rd Edition, Revised & Expanded. B. Fried and J. Sherma publ. by Marcel Dekker, Inc., New York, 1994, viii + 451 pages, US\$165.00; ISBN: 0-8247-9171-1

This book represents volume 66 in the Chromatographic Science Series published by Marcel Dekker. It is the third and expanded edition of this book on thin-layer chromatography (TLC); the second edition was published in 1986.

The book gives an detailed overview of current TLC techniques and equipment and also is well illustrated. The text comprises two sections. The first section discusses the general practices of TLC and consists of the following topics:

- Introduction and History
- Mechanism and Theory
- Sorbents, Layers, and Precoated Plates
- Obtaining Material for TLC and Sample Preparation
- Application of Samples
- Solvent Systems
- Development Techniques

Detection and Visualization
Qualitative Evaluation and Documentation
Quantification
Reproducibility of Results
Preparative Layer Chromatography
Radiochemical Techniques

The second section discusses the applications of TLC to different classes of compounds including lipids, amino acids, carbohydrates, natural pigments, vitamins, nucleic acids, vitamins, steroids and terpenoids, pharmaceuticals and miscellaneous compounds. I believe that the chapter on pharmaceuticals needs more expansion, as the examples cited in this edition are limited. Also, certain topics were not adequately covered, e.g., discussion of multi-modal TLC, and the section on chiral phases. Each chapter ends with a list of references up to 1993. The book includes a directory of manufacturers and sources of standards, sample preparation supplies and TLC instruments, plates and reagents which is useful as well as a glossary. The book is highly recommended for analytical, pharmaceutical chemists, biologists and both graduate and undergraduate students applying this technique.

The book is a valuable reference as it presents up-to-date developments in modern instrumental TLC, along with the conventional techniques of planar chromatography.

Reviewed by

Hassan Y. Aboul-Enein, PhD, FRSC
Bioanalytical and Drug Development Lab.
Biological & Medical Research Department (MBC-03)
King Faisal Specialist Hospital & Research Centre
P.O. Box 3354, Riyadh 11211 Saudi Arabia

CAPILLARY ELECTROPHORESIS TECHNOLOGY, Chromatographic Science Series Volume 64, Edited by N. A. Guzman, publ. by Marcel Dekker Inc., New York, 1993, xv + 857 pages US\$165.00, ISBN: 0-8247-9042-1

This book represents volume 64 in the Chromatographic Science Series which is edited by Dr. Jack Cazes and published by Marcel Dekker. It is

a quite useful source for analytical and clinical chemists, biochemists, scientists and technical staff who are involved in this new separation modality, Capillary Electrophoresis, which is a rapidly expanding technique of separation science.

The book is written by over 50 experts widely recognized for their contributions to this area. The book consists of 5 separate parts.

- Part I: Overview includes 3 chapters
- Part II: Buffer system includes 4 chapters
- Part III: Capillary Column includes 5 chapters
- Part IV: Instrumentation includes 7 chapters
- Part V: Applications includes 11 chapters

Each chapter ends with a list of references up to 1992. However, it is of interest to mention that there is some information and even some figures being reproduced in two or three different chapters, but this does not represent a significant drawback.

The book is a welcome addition to academic, industrial and research centers libraries and is highly recommended for its up-to-date discussion of several topics of capillary electrophoresis. Finally, congratulations are extended for Dr. Guzman as an Editor for this volume and a job well done for being able to compile 30 chapters written by this impressive list of scientists.

Reviewed by

Hassan Y. Aboul-Encin, PhD, FRSC
Biological & Medical Research Department (MBC-03)
King Faisal Specialist Hospital & Research Centre
P.O. Box 3354, Riyadh 11211
Saudi Arabia