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### The Book Corner

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## THE BOOK CORNER

**CAPILLARY ELECTROPHORESIS: Principles, Practice and Applications**, S. F. Y. Li, Elsevier Science Publishers BV, Amsterdam, New York, 1992, XXVI+581 pages, ISBN: 0-444-89433-0, US\$ 225.50/Df395.00

This book represents volume 52 of the series published by Journal of Chromatography Library. The book provides an excellent comprehensive reference for capillary electrophoresis (CE), its principles and wide range of applications as a significant useful analytical tool in chemical, pharmaceutical, environmental and biochemical analysis.

The book consists of eight chapters. **Chapter 1** covers the principles of various modes of operation of the technique, such as capillary zone electrophoresis (CZE), capillary gel electrophoresis (CGE), micellar electrokinetic capillary chromatography (MEKC), capillary electrochromatography (CEC), capillary isoelectric focusing (CIEF) and capillary isotachopheresis (CITP). This is followed by a discussion of comparison of CE to other separation techniques e.g. HPLC and slab-gel electrophoresis. Methods of sample introduction are discussed in **Chapter 2**. In **Chapter 3**, detection techniques are presented in detail.

**Chapter 4** addresses the column technology suitable for CE. The uses of coated, uncoated column and gel-filled column with application in DNA sequencing are presented. In **Chapter 5**, a detailed survey is given on various electrolyte systems used e.g. the effects of chiral and biological surfactants on MEKC. Also the use of cyclodextrins and crown ethers to form inclusion complexes. **Chapter 6** discusses special instrumental features and separation methodologies not found in routine CE operations with a section of the use of CE in hyphenated techniques e.g. HPLC-CE.

Various applications of CE are presented in **Chapter 7**, in 155 pages, introducing various examples dealing with amino acids, proteins, peptides, nucleic acid pharmaceuticals, cells, viruses and bacteria, natural products, explosives, dyes among others. This chapter does signify the importance of the CE as a rapid, reproducible mode for separation, identification and analysis of

various chemicals, biochemicals and pharmaceuticals. Finally, **Chapter 8** discusses the latest advances in CE and its future trends.

Each chapter ends with a list of references as recent as 1991, related to the topics discussed. This book is a quite useful reference and is highly recommended for libraries and laboratories applying this ever - growing analytical technique, both in industry and academic institutions.

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**PREPARATIVE AND PRODUCTION SCALE CHROMATOGRAPHY**, Edited by G. Ganestos and P. E. Barker, Chromatographic Science Series, Volume 61, J. Cazes, ed., Marcel Dekker, Inc., New York, 808 pages, 1993. Price: \$195.00 (USA)

The aim of this book is to describe up-to-date developments in scaling-up the chromatographic process by focusing mainly on liquid-chemical and bio-chemical applications. Its content is balanced to include contributions from industry active in the development and use of chromatographic processes and from research groups that have pioneered new pilot-scale chromatographic systems with commercial potential and new-found applications. The contributions have been classified under six separate parts according to the nature of operation and application.

Part I concentrates on the batchwise operation, explaining general practical considerations that are important during the chromatographic operation and also covers supercritical fluid chromatography. Parts II and III deal with continuous chromatography. Part II concentrates on cross-current operation, while Part III concentrates on the countercurrent operation. Part III is further subdivided according to the way the countercurrent movement is achieved, that is, either by moving-bed or simulated moving columns.

In Part IV, developments in the relatively new and very promising field of combined chromatographic reaction and separation are described. Detailed reference to the developments in both liquid and gas chromatographic fields are also included because of the potential of this combined operation.

Some of the key applications of chromatography in biotechnology are discussed in Part V. Part VI covers the theory of chromatography and describes the mathematical modeling and computer simulation of batch and continuous chromatographic systems considered in the earlier chapters.

This book is a practical resource for design, chemical/biochemical, and research and development engineers; process development managers; bioprocess technologists; analytical and clinical chemists and biochemists; pharmacists; and others interested in this subject.

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