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Publisher *Taylor & Francis*

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## Journal of Liquid Chromatography & Related Technologies

Publication details, including instructions for authors and subscription information:

<http://www.informaworld.com/smpp/title~content=t713597273>

### Pharmaceutical and Biomedical Applications of Capillary Electrophoresis

**To cite this Article** (1998) 'Pharmaceutical and Biomedical Applications of Capillary Electrophoresis', *Journal of Liquid Chromatography & Related Technologies*, 21: 19, 3076 – 3078

**To link to this Article:** DOI: 10.1080/10826079808006890

**URL:** <http://dx.doi.org/10.1080/10826079808006890>

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50. Thermal Analysis Techniques, A. J. Pasztor, (911).

51. Mechanical Testing Techniques, B. Furches, (935).

Haleem J. Issaq, Ph.D.  
Editor  
The Book Corner

**PHARMACEUTICAL AND BIOMEDICAL APPLICATIONS OF CAPILLARY ELECTROPHORESIS**, S. M. Lunte, D. M. Radzik, eds., Pergamon, 1996, 511 pp., \$135.00

*Pharmaceutical and Biomedical Applications of Capillary Electrophoresis* is volume 2 of Progress in Pharmaceutical and Biomedical Analysis series. Capillary Electrophoresis (CE) in its various formats (CZE, CGE, MECC, IEF, etc) have witnessed a phenomenal growth since its introduction in 1981 by Jorgenson as a working instrumental technique. This growth was fueled by the introduction of MECC in 1984 by Terabe whereby small neutral organic molecules, as well as ionic ones, can be resolved in the same experiment in most cases. Many of the applications are in the pharmaceutical and biomedical industry.

The editors in the Introduction state their objective for writing the book, "Our original goal for this book was to present an evenhanded, comprehensive overview of the technique rather than just a 'snapshot' of current understanding and research. However, this became an almost impossible task because CE was evolving so rapidly. Therefore, we have tried to supply the basic information needed to understand the working aspects of CE as well as examples of applications of CE that would be of interest to pharmaceutical and biomedical scientists. It is our hope that this book will provide the necessary foundation for a better understanding of the current and future developments in CE." The book does that very successfully.

This book is divided into three major sections. The first part offers an overview of CE theory, beginning with a general informational chapter about the instrumentation and a brief discussion of the various separation modes.

More detailed information on capillary modification and micellar electrokinetic chromatography is provided in the next two chapters. Part 2 deals with detection, and includes chapters on optical, mass spectrometric and electrochemical detection methods.

Part 3 of the book is dedicated to some of the more exciting applications of CE in pharmaceutical and biomedical analysis. The first chapter in this section concerns the issue of sample preparation for capillary electrophoresis, especially with regard to biological samples. The next three chapters consider some of the more conventional uses of CE - the isolation and determination of amino acids, peptides, proteins and nucleic acids. Next, an informational chapter is provided on the use of CE in the pharmaceutical industry, with special emphasis on regulatory considerations. In particular, the issues of validation and technology transfer are addressed. Finally, there is a discussion of applications of CE for single cell analysis and for use in conjunction with microsampling techniques such as microdialysis.

Although chiral separations are an important part of the pharmaceutical industry, there is not a chapter devoted to it. Anyway, this is a well written and well edited book which I believe should be used as a reference to all those in the pharmaceutical and biomedical industry who want to learn about the capabilities of this fast growing micro-analytical technique. I recommend it for them and other analytical chemists.

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Editor

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