

This article was downloaded by:

On: 24 January 2011

Access details: *Access Details: Free Access*

Publisher *Taylor & Francis*

Informa Ltd Registered in England and Wales Registered Number: 1072954 Registered office: Mortimer House, 37-41 Mortimer Street, London W1T 3JH, UK



Journal of Liquid Chromatography & Related Technologies

Publication details, including instructions for authors and subscription information:

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

Handbook of Capillary Electrophoresis

To cite this Article (1998) 'Handbook of Capillary Electrophoresis', *Journal of Liquid Chromatography & Related Technologies*, 21: 1, 263 – 266

To link to this Article: DOI: 10.1080/10826079808001954

URL: <http://dx.doi.org/10.1080/10826079808001954>

PLEASE SCROLL DOWN FOR ARTICLE

Full terms and conditions of use: <http://www.informaworld.com/terms-and-conditions-of-access.pdf>

This article may be used for research, teaching and private study purposes. Any substantial or systematic reproduction, re-distribution, re-selling, loan or sub-licensing, systematic supply or distribution in any form to anyone is expressly forbidden.

The publisher does not give any warranty express or implied or make any representation that the contents will be complete or accurate or up to date. The accuracy of any instructions, formulae and drug doses should be independently verified with primary sources. The publisher shall not be liable for any loss, actions, claims, proceedings, demand or costs or damages whatsoever or howsoever caused arising directly or indirectly in connection with or arising out of the use of this material.

THE BOOK CORNER

HANDBOOK OF CAPILLARY ELECTROPHORESIS, Second Edition, J. P. Landers, ed., CRC Press, Boca Raton, Florida, 1996, 894 pp.

The Second Edition of the Handbook of Capillary Electrophoresis is a massive volume which comprises 30 chapters totaling 894 pages and contains 400 figures and 65 tables. The editor writes, "This fully updated Second Edition covers all areas of interest in the field of capillary electrophoresis (CE);" however, he failed to tell those who own the First Edition why they should pay a handsome amount of money to invest in a Second Edition of a book they already have. It is a normal procedure that an editor or author who updates a book would tell the interested prospective buyer of another copy why he should buy it and what he would miss if he did not. A quick glance would tell us the Second Edition is different from the First Edition in the following obvious points: (a) the Dedication is different; (b) the Foreword to the First Edition was written by Professor Karger while, for the Second Edition by Professor Hjerten, and both Forewords are different. The First Edition was divided into 23 chapters, i.e., seven chapters and about 200 pages less than the Second Edition. Other obvious changes are: the disappearance in the Second Edition of CE: Historical Perspectives, and changes in authors of some of the chapters. The First Edition, in addition to Chapter 1, was divided into: (I) Modes of CE (Chapters 2-6); (II) Detection (Chapters 7-8); (III) General Applications (Chapters 9-14); (IV) Specialized Applications (Chapters 15-17); and (V) Practical and Theoretical Considerations (Chapters 18-23). The Second Edition is divided into: (I) Modes (Chapters 1-5); (II) Analyte (Chapters 6-11); (III) Essential Aspects (Chapters 12-16); (IV) Applications (Chapters 17-23); and (V) Specialized Aspects of CE (Chapters 24-30).

The Second Edition is definitely an improved and more informative book than the First Edition. The topics in the present edition are well selected, of general interest, up to date, and are written by experts in their areas. The book is a welcome addition to the CE Library. It is a useful reference for those involved in biotechnology and clinical chemistry, as well as the pharmaceutical, bioscience, chemical, and instrument-manufacturing industries.

Table of Contents**PART I: Modes**

Chapter 1. **Introduction to Capillary Electrophoresis**, R. P. Oda and J. P. Landers (1).

Chapter 2. **Micellar Electrokinetic Chromatography**, J. R. Mazzeo (49).

Chapter 3. **Capillary Electrophoresis Separation of Enantiomers by Cyclodextrin Array Chiral Analysis**, A. Guttman (75).

Chapter 4. **Capillary Isoelectric Focusing**, R. Rodriguez-Diaz, T. Wehr, M. Zhu, and V. Levi (101).

Chapter 5. **Theory and Practice of Capillary Electrochromatography**, M. M. Dittman and G. P. Rozing (139).

PART II: Analyte

Chapter 6. **Capillary Ion Electrophoresis**, W. R. Jones (155).

Chapter 7. **Analysis of Small Organic Molecules by Capillary Electrophoresis**, K. D. Altria (189).

Chapter 8. **Capillary Electrophoresis of Peptides**, T. van de Goor, A. Apffel, J. Chakel, and W. Hancock (213).

Chapter 9. **Capillary Electrophoresis of Proteins**, T. Pritchett and F. A. Robey (259).

Chapter 10. **Carbohydrate Analysis by Capillary Electrophoresis**, J. D. Olechno and J.A. Nolan (297).

Chapter 11. **Separation of DNA by Capillary Electrophoresis**, K. J. Ulfelder and B. R. McCord (347).

PART III: Essential Aspects of Capillary Electrophoresis

Chapter 12. **Optical Detection Techniques for Capillary Electrophoresis**, S. L. Pentoney, Jr. and J. V. Sweedler (379).

Chapter 13. **Electrochemical Detection in Capillary Electrophoresis**, C. Haber (425).

Chapter 14. **Data Analysis in Capillary Electrophoresis**, B. J. Wanders (449).

Chapter 15. **Effects of Sample Matrix on Capillary Electrophoretic Analysis**, Z. K. Shihabi (457).

Chapter 16. **On-Line Sample Preconcentration for Capillary Electrophoresis**, D. S. Burgi and R.-L. Chien (479).

PART IV: Applications

Chapter 17. **Capillary Electrophoresis for the Analysis of Single Cells: Electrochemical, Mass Spectrometric, and Radiochemical Detection**, F. D. Swanek, S. S. Ferris, and A. G. Ewing (495).

Chapter 18. **Capillary Electrophoresis for the Analysis of Single Cells: Laser-Induced Fluorescence Detection**, S. J. Lillard and E. S. Yeung (523).

Chapter 19. **Capillary Gel Electrophoresis for Large Scale DNA Sequencing: Separation and Detection**, N. J. Dovichi (545).

Chapter 20. **Capillary Electrophoresis for the Analysis of Drugs in Biological Fluids**, R. P. Oda, M.E. Roche, J.P. Landers, and Z.K. Shihabi (567).

Chapter 21. **Use of Capillary Electrophoresis for Binding Studies**, F. A. Robey (591).

Chapter 22. **Immunoassays and Enzyme Assays Using Capillary Electrophoresis**, N. M. Schultz, L. Tao, D. J. Rose, Jr., and R. T. Kennedy (611).

Chapter 23. **Clinical Applications of Capillary Electrophoresis**, R. P. Oda, V. J. Bush, and J. P. Landers (639).

PART V: Specialized Aspects of Capillary Electrophoresis

Chapter 24. **Capillary Surface Modification in Capillary Electrophoresis**, A. M. Dougherty, N. Cooke, and P. Shieh (675).

Chapter 25. Improved Capillary Electrophoretic Separations Associated with Controlling Electroosmotic Flow, C. S. Lee (717).

Chapter 26. Continuous Separations by Electrophoresis in Rectangular Channels, P. F. Gavin and A. G. Ewing (741).

Chapter 27. Two-Dimensional Liquid Chromatography-Capillary Electrophoresis, D. J. Jeffery, T. F. Hooker, and J. W. Jorgenson (765).

Chapter 28. Capillary Electrophoresis-Mass Spectrometry, J. C. Severs and R. D. Smith (791).

Chapter 29. Microfabricated Devices for Performing Capillary Electrophoresis, S. C. Jacobson and J. M. Ramsey (827).

Chapter 30. Fraction Collection with Micro-Preparative Capillary Electrophoresis, M. A. Strausbauch and P. J. Wettstein (841).

APPENDIX 1. Calculations for Practical Use (865).

APPENDIX 2. Troubleshooting (873).

APPENDIX 3. Separation Conditions for Classes of Analytes (877).

CAPILLARY GAS ADSORPTION CHROMATOGRAPHY, V. G. Berezkin and J. de Zeeuw, Huthig GmbH, Heidelberg, Germany, 1996, 320 pp.

The Chromatographic Methods Series by Huthig has proven to be a successful and useful one. The published books deal with the topic selected, effectively and simply, without any complications. We, at this Journal, have reviewed quite a few of these books and the reviewers liked them and praised them. The present book, *Capillary Gas Adsorption Chromatography*, by Berezkin and de Zeeuw is no different. Capillary gas chromatography is probably the most widely used separation technique. This book deals with all aspects of GC. The book is divided into seven chapters and a conclusion. It is well illustrated with 164 figures and 32 tables.

The authors state, in the Preface, that they followed the proverb, "A picture is worth a thousand words." They did not tell how many words the table is worth!

The first chapter is an introduction which discusses the advantages and limitations of gas-solid chromatography, which continues into the second chapter. Chapter 3 deals with the fundamentals of gas solid chromatography. The discussion in this chapter is very good and straightforward. Adsorbents (carbon, silica gel, alumina, molecular sieves ...) are discussed in Chapter 4, and modified adsorbents (chemically and dynamically) are discussed in Chapter 5. Preparation of adsorbent layer open tubular columns is discussed in detail in Chapter 6. Chapters 4-6 are very useful for those who want to prepare their own columns and are helpful in optimizing the separation. Chapter 7 deals with applications and discusses the use of carrier gas, pre columns, particle traps, separation of gases, hydrocarbons, polar volatiles, halogenated hydrocarbons and others.

Overall, the book is well written and definitely well illustrated. It is recommended to all those interested in using GC.

Table of Contents

Chapter 1. **Introduction** (1).

Chapter 2. **Capillary Gas-Solid Chromatography (Advantages and Limitations)** (20).

Chapter 3. **Fundamentals of Gas-Solid Chromatography** (57).

Chapter 4. **Chromatographic Adsorbents** (89).

Chapter 5. **Modified Gas-Solid Chromatography** (113).

Chapter 6. **Preparation of Adsorbent Layer Open Tubular Columns** (183).

Chapter 7. **Applications of A LOT Columns** (247).

Chapter 8. **Conclusion** (310).

ADVANCES IN CHROMATOGRAPHY, Vol. 37, P. R. Brown and E. Grushka, eds., Marcel Dekker, Inc., New York, 1997, 462 pp., \$195.00.

The explosive growth of chromatography and capillary electrophoresis has made it difficult for any individual to maintain a coherent view of progress in the field. Individual investigators trying to stay abreast of advances must rely

on authoritative surveys, rather than attempt to read the avalanche of original research papers. Volume 37 of this continuing series, which presents current, critical reviews of important developments in separation science, is an excellent example. The current volume is made up of eight sections, each comprising a critical and useful review of the topic.

The subject matter, as in past volumes, is widely different, from assessment of peak purity, to carbon packed materials for HPLC, to SFC-GC applications, to CE of proteins and analysis of derivatized peptides by HPLC and CE.

Each chapter in the book includes a brief and informative introduction followed by discussion of the selected topic. It is worth noting here that each chapter in Volume 37 is written by experts in their areas, which makes this volume a useful one, an interesting reading, and a good reference.

As usual, this volume is no different than the other 36 volumes in this series; it is well edited and free of typographical and scientific errors. The book is recommended to all those who use separation science as a tool to achieve their analytical chemistry objectives.

Table of Contents

Chapter 1. Assessment of Chromatographic Peak Purity, M. A. Sharaf (1).

Chapter 2. Fluorescence Detectors in HPLC, M. B. Smalley and L. B. McGown (29).

Chapter 3A. Carbon-Based Packing Materials for Liquid Chromatography: Structure, Performance, and Retention Mechanisms, J. H. Knox and P. Ross (73).

Chapter 3B. Carbon-Based Packing Materials for Liquid Chromatography: Applications, P. Ross and J. H. Knox (121).

Chapter 4. Directly Coupled (On-Line) SFE-GC: Instrumentation and Applications, M. D. Burford, S. B. Hawthorne, and K. D. Bartle (163).

Chapter 5. Sample Preparation for Gas Chromatography with Solid-Phase Extraction and Solid-Phase Microextraction, Z. E. Penton (205).

Chapter 6. Capillary Electrophoresis of Proteins, T. Wehr, R. Rodriguez-Diaz, and C.-M. Liu (237).

Chapter 7. Chiral Micelle Polymers for Chiral Separations in Capillary Electrophoresis, C. C. Williams, S. A. Shamsi, and I. M. Warner (363).

Chapter 8. Analysis of Derivatized Peptides Using High-Performance Liquid Chromatography and Capillary Electrophoresis, K. M. De Antonis and P. R. Brown (425).

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