

CONTENTS

I. MODES

| | |
|---|-----|
| Chapter 1 | |
| Introduction to Capillary Electrophoresis | 1 |
| Robert P. Oda and James P. Landers | |
| Chapter 2 | |
| Micellar Electrokinetic Chromatography | 49 |
| Jeffrey R. Mazzeo | |
| Chapter 3 | |
| Capillary Electrophoresis Separation of Enantiomers by Cyclodextrin Array Chiral Analysis | 75 |
| András Guttmann | |
| Chapter 4 | |
| Capillary Isoelectric Focusing | 101 |
| Roberto Rodríguez-Díaz, Tim Wehr, Mingde Zhu, and Vikorya Levi | |
| Chapter 5 | |
| Theory and Practice of Capillary Electrochromatography | 139 |
| Monika M. Dittman and Gerard P. Rozing | |
| II. ANALYTE | |
| Chapter 6 | |
| Capillary Ion Electrophoresis | 155 |
| William R. Jones | |
| Chapter 7 | |
| Analysis of Small Organic Molecules by Capillary Electrophoresis | 189 |
| Kevin D. Altria | |
| Chapter 8 | |
| Capillary Electrophoresis of Peptides | 213 |
| Tom van de Goor, Alex Apffel, John Chakel, and William Hancock | |
| Chapter 9 | |
| Capillary Electrophoresis of Proteins | 259 |
| Tom Pritchett and Frank A. Robey | |
| Chapter 10 | |
| Carbohydrate Analysis by Capillary Electrophoresis | 297 |
| Joseph D. Olechno and Judith A. Nolan | |
| Chapter 11 | |
| Separation of DNA by Capillary Electrophoresis | 347 |
| Kathi J. Ulfelder and Bruce R. McCord | |

III. ESSENTIAL ASPECTS OF CAPILLARY ELECTROPHORESIS

Chapter 12

- Optical Detection Techniques for Capillary Electrophoresis 379
Stephen L. Pentoney, Jr. and Jonathan V. Sweedler

Chapter 13

- Electrochemical Detection in Capillary Electrophoresis 425
Carsten Haber

Chapter 14

- Data Analysis in Capillary Electrophoresis 449
Bart J. Wanders

Chapter 15

- Effects of Sample Matrix on Capillary Electrophoretic Analysis 457
Zak K. Shihabi

Chapter 16

- On-Line Sample Preconcentration for Capillary Electrophoresis 479
Dean S. Burgi and Ring-Ling Chien

IV. APPLICATIONS

Chapter 17

- Capillary Electrophoresis for the Analysis of Single Cells: Electrochemical,
Mass Spectrometric, and Radiochemical Detection 495
Franklin D. Swanek, Sandra S. Ferris, and Andrew G. Ewing

Chapter 18

- Capillary Electrophoresis for the Analysis of Single Cells: Laser-Induced
Fluorescence Detection 523
Sheri J. Lillard and Edward S. Yeung

Chapter 19

- Capillary Gel Electrophoresis for Large Scale DNA Sequencing:
Separation and Detection 545
Norman J. Dovichi

Chapter 20

- Capillary Electrophoresis for the Analysis of Drugs in Biological Fluids 567
Robert P. Oda, Matt E. Roche, James P. Landers, and Zak K. Shihabi

Chapter 21

- Use of Capillary Electrophoresis for Binding Studies 591
Frank A. Robey

Chapter 22

- Immunoassays and Enzyme Assays Using Capillary Electrophoresis 611
Nicole M. Schultz, Li Tao, Donald J. Rose, Jr., and Robert T. Kennedy

| | |
|---|-----|
| Chapter 23 | |
| Clinical Applications of Capillary Electrophoresis | 639 |
| Robert P. Oda, Valerie J. Bush, and James P. Landers | |
| V. SPECIALIZED ASPECTS OF CAPILLARY ELECTROPHORESIS | |
| Chapter 24 | |
| Capillary Surface Modification in Capillary Electrophoresis | 675 |
| Ann M. Dougherty, Nelson Cooke, and Paul Shieh | |
| Chapter 25 | |
| Improved Capillary Electrophoretic Separations Associated with Controlling Electroosmotic Flow | 717 |
| Cheng S. Lee | |
| Chapter 26 | |
| Continuous Separations by Electrophoresis in Rectangular Channels | 741 |
| Peter F. Gavin and Andrew G. Ewing | |
| Chapter 27 | |
| Two-Dimensional Liquid Chromatography-Capillary Electrophoresis | 765 |
| Dorothea J. Jeffery, Thomas F. Hooker, and James W. Jorgenson | |
| Chapter 28 | |
| Capillary Electrophoresis-Mass Spectrometry | 791 |
| Joanne C. Severs and Richard D. Smith | |
| Chapter 29 | |
| Microfabricated Devices for Performing Capillary Electrophoresis | 827 |
| Stephen C. Jacobson and J. Michael Ramsey | |
| Chapter 30 | |
| Fraction Collection with Micro-Preparative Capillary Electrophoresis | 841 |
| Michael A. Strausbauch and Peter J. Wettstein | |
| Appendix 1 | |
| Calculations for Practical Use | 865 |
| Appendix 2 | |
| Troubleshooting | 873 |
| Appendix 3 | |
| Separation Conditions for Classes of Analytes | 877 |
| Index | 885 |