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## Preface

In modern “omics” times, capillary electrophoresis (CE) still finds its place as a powerful high-resolution separation tool with many advantages in terms of small sample consumption, green chemistry environmental-friendly technology, and versatility. CE found its place orthogonally in classical chromatographic, spectrometric, and spectroscopic approaches for the analysis of small to macromolecules and even particles or living cells. The high flexibility of CE is in the many types of applications, and this aspect is illustrated in this new edition of the book *Capillary Electrophoresis: Methods and Protocols*. The goal of this book edition was again to actualize the approaches and relevant applications and techniques from the first edition and present in a few chapters the state of the art in these CE applications and developments. The readers should be able to find essential references in the various fields presented and have some selected methods illustrated as protocols. The combination of focused mini-review and application notes may be very useful for beginners and students to get a quick overview of the field.

Capillary electrophoresis found its place with routine applications in biology, biotechnology, food sciences, and the environment with possible quantitative analysis of various inorganic/organic ions in relevant sensitivity. We present in this edition the principal methods in CE separation involving CZE, MEKC, MECC, NACE, and corresponding hyphenated techniques to organic mass spectrometry and ICP-MS and techniques of single-cell analysis as well as derivatization, enantioseparation, or the use of ionic liquids that are newly highlighted. The use of CZE for the separation of living cells is also highlighted. In terms of applications, various methods for the analysis of small ions, organic acids, amino acids, and (poly)saccharides to peptides are shown with pollutants and biomarkers in food and health. Overall, the book covers a wide field of interest which I hope will again be used for applications.

I thank my colleagues and friends for having participated in the setup of this new edition and for having given shape to the new edition.

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<http://www.springer.com/978-1-4939-6401-7>

Capillary Electrophoresis

Methods and Protocols

Schmitt-Kopplin, P. (Ed.)

2016, XI, 527 p. 156 illus., 28 illus. in color., Hardcover

ISBN: 978-1-4939-6401-7

A product of Humana Press