

Book Review of *Advances in Chromatography, Vol. 49*

Advances in Chromatography, Vol. 49. Edited by Eli Grushka (Hebrew University of Jerusalem, Israel) and Nelu Grinberg (Boehringer-Ingelheim Pharmaceuticals, Inc., Ridgefield, CT, USA). CRC Press (an imprint of Taylor & Francis Group): Boca Raton, FL. 2011. viii + 438 pp. \$229.95. ISBN 978-1-4398-4091-7.

The *Advances in Chromatography* series by CRC Press has provided the scientific community with new developments and advances in chromatographic science for nearly four decades. The editors of the volumes often choose leaders in the field of chromatography to contribute chapters that are closely related to their research area(s). This volume consists of 10 chapters on topics that include mechanistic aspects of ion-pair chromatography; enantiomeric separations using protein-based stationary phases and ligand-exchange chromatography; glycosylation analysis of proteins, proteoglycans, and glycolipids; analysis of oligonucleotide adducts as biomarkers for DNA damage; examination of graphitic carbon specificity; high-performance liquid chromatography (HPLC) column-switching methods in pharmacokinetic analysis; chromatographic procedures in regulated pharmaceutical environments; new sorbent materials for solid phase extraction; and use of thin-layer chromatography (TLC) in the analysis of biological samples.

In addition to descriptions of advances in traditional areas of chromatography, this volume also includes developments in bioanalytical chemistry and sample preparation. The organization of the chapters within the book is logical and allows for easy transitioning. Each chapter generally begins with an introduction on the theoretical/practical aspects of the topic presented. The topic is then further expanded in subsequent sections with data or models that highlight recent advances in the field. A chapter devoted to the development of chromatographic procedures in highly regulated pharmaceutical environments is also included. A very detailed discussion of procedures for analytical validation is given and should be of interest to a broad readership.

Unfortunately, several of the chapters concern areas in chromatography that have seen very little advancement in recent years. For example, there are two chapters devoted to enantiomeric separation, but neither chapter covers advances in chiral selectors that are used to prepare coated or bonded chiral stationary phases, e.g., cellulose, amylose, and cyclodextrin. For the chapters on glycosylation and analysis of oligonucleotide adducts and developments of sorbent materials in solid-phase extraction, the authors do a superb job of presenting the advances in these fields, which have undergone tremendous growth, and they have provided very recent references. These chapters nicely highlight the dramatic impact that high-efficiency chromatographic and electrophoretic separations are having in the field of bioanalytical chemistry when they are combined with mass spectrometry.

Despite the fact that the field of chromatography is well over a century old, there are many developments within the field that continue to make it one of the most commonly employed

practices within science and engineering. This volume is yet another significant contribution to a large series of books that superbly demonstrate how advances in chromatography have allowed for the emergence of new methods that are being used to solve complex chemical and biochemical problems.

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