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A Review of: “Chromatographic Enantioseparation: Methods and Applications, 2nd Edition Stig Allenmark, Ellis Horwood Series in Analytical Chemistry, Ellis Horwood, Ltd., England, 1991, 282 pp., ISBN: 0-13-132978-2”

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THE BOOK CORNER

CHROMATOGRAPHIC ENANTIOSEPARATION: Methods and Applications
2nd Edition, Stig Allenmark, Ellis Horwood Series in Analytical Chemistry, Ellis Horwood, Ltd., England, 1991, 282 pp., ISBN: 0-13-132978-2.

With the increasing application of chiral chromatography in the separation of enantiomers, this book offers the reader a good background of the theory and practice involved in this technique. Furthermore, the book is authored by Dr. S. Allenmark who is considered as one of the well-known experts in the field and who gives a comprehensive account of the various applications and future anticipated developments.

The book consists of eleven chapters, including an excellent introduction to chirality. The author discusses the following topics:

- * The development of modern stereochemical concepts.
- * Techniques used for studies of optically-active compounds including the determination of optical or enantiomeric purity and determination of absolute configuration.
- * Modern chromatographic separation methods including a review of basic chromatographic theory and a survey of separation of enantiomers by means of covalent diastereomers.
- * Theory of chiral chromatography for direct optical resolution: this chapter deals with the prerequisite for enantioselective interaction with chiral stationary phase, some general aspects regarding chiral recognition models and chromatographic enantioselectivity, computational and molecular modelling studies and, finally, some thermodynamic and kinetic considerations.
- * Chapters 6 and 7 deal with chiral gas chromatography and chiral liquid chromatography with details on the various chiral stationary phases used in both modes.

The author discusses, in Chapter 8, analytical applications in academic research and industry. Various applications for the enantiomeric separation of

amino acids, pharmaceuticals, among other applications, e.g., evaluation of enantiomeric purity from chromatographic partial optical resolution (Manschreck's method) are presented.

Preparative scale enantioseparations are discussed in Chapter 9. Future trends of enantioseparation is presented in Chapter 10, where the author presents the development of new detector systems, column improvements, among other interesting topics such as the future of supercritical fluid chromatography in chiral separation of enantiomers.

Chapter 11 offers the scientist experimental procedures for the synthesis of chiral sorbents, which is a very useful subject that is missed in a number of books published previously in the field of chiral separation.

Finally, the book contains an appendix with the main manufacturers of materials for chiral gas and liquid chromatography, which is informative for easy access of various commercially-available phases.

All the chapters are well-referenced with literature citations up to 1991, preceded with a bibliography list of selected references on the topic discussed.

The book is highly recommended for analytical, organic, medicinal chemists and biochemists involved in development of drugs, pharmaceuticals, agrochemicals and related substances. This book is definitely a welcome addition to the Ellis Horwood Series in Analytical Chemistry.

Reviewed by

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