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BOOK REVIEW

Advances in Chromatography

(Brown, P. R., and Grushka, E., eds., Vol. 40, Marcel Dekker, N. Y., 2000, 651 p., $225)

The book consists of 13 chapters written by a large group of authors from many countries (including Russia).

Chapter 1 (K. Miyabe and G. Guiochon) considers the problems of interpretation of the peak profiles in linear reversed-phase liquid chromatography.

Chapter 2 (J. M. Davis) analyzes dispersion in micellar electrokinetic chromatography. The theoretical background of the method is discussed, and numerous data on processing chromatographic results are presented.

Chapter 3 (C. F. Poole et al.) is devoted to searching for a chromatographic model for biopartitioning. The advances in determination of physicochemical parameters in inverse gas chromatography are discussed.

Chapter 4 (N. A. Katsanos and F. Roubani-Kalantzopoluolu) presents different mathematical models and calculations regarding absorption energies, local isotherms, etc.

Chapter 5 (J. A. Koropchak et al.) considers the fundamental aspects of aerosol-based light-scattering detectors used in different types of chromatographic separation.

Chapter 6 (T. Hanai) contains new developments concerning the studies of stationary phases used in liquid chromatography. The results of electron microscopic studies of silica gel surface, analysis of silica gel particle pores, and the data on purity and stability of silica gel adsorbents are presented.

Chapter 7 (E. Forgacs and T. Cserhati) considers non-silica gel stationary phases. The characteristics of metal oxides and carbon-containing stationary phases are presented.

Chapter 8 (M.-C. Millot and C. Vidal-Madjar) reviews the data on capillary electrophoresis of proteins performed using different types of modified silica gel.

Chapter 9 (J.-I. Liao) describes the results of capillary chromatography obtained with the use of different types of polyacrylamide gel as stationary phase. This method has been used for separation of oligonucleotides and analysis of immunoglobulins G and adenoviruses.

Chapter 10 (A. Bertold and B. Billardello) describes the technique of countercurrent chromatography. The authors analyze the problems and advances in this type of chromatography and describe the choice of solvents and characteristic features of detecting different compounds.

Chapter 11 (D. L. Deforce and E. G. van den Eeckhout) considers the analysis of oligonucleotides using electrospray ionization and mass spectrometry. This method was used for the analysis of short (less than 50 bases) and long (more than 50 bases) oligonucleotides.

Chapter 12 (G. D'Ascezo et al.) describes determination of herbicides in aqueous solutions using the combination of high-performance liquid chromatography and mass spectroscopy.

Chapter 13 (V. G. Berezkin) discusses the effect of adsorption on the parameters of capillary gas–liquid chromatography.

This is a helpful handbook for specialists in different fields who use chromatographic methods for the analysis and isolation of natural and artificial compounds. The bibliography to each chapter and the indexes successfully complement the material presented in the book.

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