

Book Reviews

Chromatography: Methods and Protocols. Volume 147, Methods in Molecular Biology. Edited by Pascal Bailon, George K. Ehrlich, Wen-Jian Fung, and Wolfgang Berthold. Humana Press, Totowa, NJ. 2000. x + 230 pp. 15.5 × 23.5 cm. ISBN 0-89603-694-4. \$79.50.

Since its conception over 32 years ago, affinity chromatography has contributed to the successful purification, scavenging, catalysis, and analysis of countless numbers of proteins and other biological molecules. The PubMed database (HYPERLINK <http://www.ncbi.nlm.nih.gov/entrez/query.fcgi>) lists nearly 32 000 references that make use of the technique. The U.S. Patent and Trademark Office (HYPERLINK <http://www.uspto.gov/>) records almost 10 000 patents that mention affinity chromatography in their description or specification sections. Amazon.com lists 34 books that have been published on affinity methods, 22 of which are still in print.

With such a crowded publication field, is another book on affinity chromatography really needed? This book fills a worthwhile niche with chapters covering major applications explicitly pertinent to cutting-edge life science research. It does not attempt to rehash the entire theory and all of the reactions involved in coupling ligands to affinity supports. Other books have provided ample resources on how to prepare these resins and their properties. This book stands out from the pack in that it addresses practical affinity application areas that have potentially broad use in modern technology.

Beginning with a concise overview of affinity chromatography that documents its wide scope and utility, the book follows with chapters focusing on weak affinity chromatography, fluidized bed separations, antibody immobilization and purification, immunoaffinity techniques, affinity partitioning, boronate affinity chromatography, dye–ligand separations, DNA chromatography, affinity removal of pyrogens, Western cross-blot techniques, analytical affinity perfusion chromato-

graphy, and phage display technology. Each chapter includes an introduction to the technology with literature references, a materials section, and detailed methods on performing the technique. The methods are spattered with tips that only experts in their respective fields can provide. A notes section at the end of each chapter gives additional information not usually found in journal articles. Chapters with particular usefulness to the biotechnology industry include those on antibody purification and immunoaffinity separations, fluidized bed chromatography, and phage display. The last two topics are especially needed additions to books on affinity techniques.

The book contains a total of 401 references extending through 1999, located at the ends of the chapters. Some chapters are liberally backed by literature citations, but others, such as Chapter 5 on the purification of monoclonal antibodies and Chapter 16 on the Western cross-blot technique, contain only a few citations. The index section is adequate (10 pages of primary and nested citations), but it could have been made longer to render the book more user-friendly. Some terms that should have been listed, such as “IgY” (mentioned on p 53) and “Fv” (found on p 32) were not listed. But these are minor omissions.

Overall, this latest book on affinity chromatography is a worthwhile addition to the bookshelf. Its practical methods are certain to make it a frequently consulted reference in the laboratory.

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