

Book Reviews

HPLC Analysis of Biological Compounds: A Laboratory Guide. By William S. Hancock and James T. Sparrow. Marcel Dekker, New York, 1984. 352 pp. 18.5 × 26 cm. ISBN 0-8247-7140-0. \$39.75.

It is important to note in reviewing this book that the most descriptive portion of title is the subheading "A Laboratory Guide", for indeed this is precisely what the authors have compiled. Although useful as a beginning HPLC text (there are better ones available), this book's real strength lies in its ability to advise the practicing chromatographer who is not an expert in the field. Following a brief introduction, there are three chapters dealing with many of the practical aspects of HPLC operation with the focus on the separation chemistry. (There is no discussion of HPLC hardware and operation as this is strictly a separations manual.) The first of these describes the column supports available for biological separations and most importantly descriptions of which separation requires which type of column. Discussions of pore size, end-capping, and ligand loading level are particularly useful. The biggest gaps are the lack of discussion concerning resin-based protein ion-exchange columns, which is to be expected due to these packings' recent introduction, and the absence of any material on scaling up for preparative (>0.1 g) separations.

The next two chapters discuss the mobile phases used for biological HPLC and a general discussion of various chromatographic parameters. Of particular interest here are the many practical hints the authors give for operating a given system. For example, they state that dilute acetic acid is generally a poor mobile phase for peptides, and better results can be expected by substituting trifluoroacetic acid, an observation that holds up well in practice. There is an abundance of other useful information in the three chapters, much of it in table form, ranging from lists of columns and manufacturers to common ion-pairing reagents and solvent properties.

There is even more good news in the final chapter in which numerous actual separations are taken from the literature or the

authors' laboratories. These are grouped by compound class for easy reference with sections on amino acids, peptides, proteins, nucleotides, carbohydrates, and lipids. The only problem here is that because of publishing delays, not everything is fresh, and the practicing expert will find only background material in his area of interest rather than much that is new. However, if one only has a modest familiarity with separations of a particular compound class or is new to HPLC, there is a wealth of well-organized material, including numerous references, that can quickly bring the average user to a level needed for most biological separations.

More distressing is the lack of material on catecholamines, organic acids, and prostaglandins, significant areas of research that deserve more than a passing reference. Also missing is a discussion of sugar separations on ion-exchange resins, probably the most widely used columns for simple sugar separations. Two other small limitations deserve mention. First, there are too many typos for this kind of book, some of which can be confusing (e.g., p 116, $k' > 2$ instead of $k' < 2$). Secondly, the photographic reproduction is tiring to read for any length of time.

Despite these drawbacks, which I admit are relatively minor, this book would be a very worthwhile addition to any practitioner doing biological separations, if just for the final section on specific compound separations. At under \$40, it is quite a bargain.

Steven Cohen

Books of Interest

Epilepsy. An Update on Research and Therapy. Edited by Guiseppe Nistico, Raoul Di Perri, and H. Meinardi. Alan R. Liss, Inc., New York, 1983. xiv + 381 pp. 15.5 × 23.5 cm. ISBN 0-8451-0124-2. \$76.00.

Receptor Biochemistry and Methodology, Volume 2. Receptor Purification Procedures. Edited by J. Craig Venter and Len C. Harrison. Alan R. Liss, Inc., New York, 1984. xii + 171 pp. 18 × 26 cm. ISBN 0-8451-3701-8. \$34.00.