contributions) and more the lack of a cohesive critical overview. What currently are the most compelling β-amino acid targets (beyond the Taxol side chain!)? Which are the best ways to synthesize the Taxol side chain? Which methodologies are best at delivering the remaining β-amino acid structural types of current interest? Potential purchasers (and those responsible for library acquisition recommendations) will be left to decide whether enough of the high-quality, stand-alone chapters are of sufficient interest to merit buying the volume. Readers (especially graduate students) looking for a well-organized evaluative introduction to the field will be disappointed.

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Bioorganic Chemistry: Peptides and Proteins. Edited by Sidney M. Hecht (University of Virginia). Oxford University Press: New York. 1998. vii + 532 pp. $75.00. ISBN 0-195-08468-3.

This book, the second offering in the Topics in Bioorganic and Biological Chemistry series, covers the chemistry of peptides and proteins. Each volume in this series, which also includes the excellent first book on nucleic acids and an upcoming book on carbohydrates, is designed to present a survey of a broad area of bioorganic chemistry. These volumes are intended to serve as textbooks for one-semester graduate courses in each of the topics covered. Furthermore, books in this series are meant to provide a starting point for researchers interested in the field. This second volume should fulfill both of these roles. While 32 pages longer than the first volume, this book is well-suited for a special topics course on the structure, synthesis, analysis, and function of peptides and proteins. The 14 chapters each average more than 120 references, citing primary literature and key reviews from 1996 and earlier. This allows interested readers to easily delve into any of the topics covered.

The chapters of the book can roughly be divided into two groups: background topics and specific research areas. The former group includes chapters introducing basic peptide and protein biochemistry, the chemical synthesis of peptides, the chemical synthesis of proteins, structural analysis of proteins, and protein structure and folding. This group comprises roughly half of the book and provides concise but thorough coverage of these basic topics. This section is a most valuable resource for people entering the peptide and protein field. Especially good are the descriptions of methods for the chemical syntheses of peptides and proteins. The latter section presents more narrowly focused coverage of individual areas of current research. These include classic bioorganic subjects such as enzyme mechanisms, current techniques such as site-directed mutagenesis and the use of enzymes in organic synthesis, and current topics such as catalytic antibodies and peptide mimetics. Unfortunately, not every chapter works well in a textbook setting. For example, the chapters on zinc finger domains and engineered proteins in materials research are rather narrowly focused. While these chapters are well-written and interesting, their scope should have been expanded with more general examples of the type of research being discussed. The other topics in this section are of satisfactory scope for a textbook, and all of the chapters provide a flavor for the diversity of research being performed and should certainly spark the creativity of students and others entering the field.

Bioorganic chemistry is a rapidly expanding and evolving discipline. This book provides an excellent foundation of basic knowledge necessary to study the bioorganic chemistry of peptides and proteins. This valuable resource is enhanced by the collection of well-written snapshots of current research topics presenting some of the directions in which this field has moved. Overall, this book is highly recommended to graduate level bioorganic students as well as to all others interested in the organic and biological chemistry of peptides and proteins.

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Hydrocarbon Resins. By Rolf Mildenberg, Gerd Collin, and Mechthild Zander. Wiley-VCH: New York. 1997. xii + 179 pp. $140.00. ISBN 3-527-286179.

The authors have written an interesting book in a clear easy-to-read style. Their stated purpose, "This book is not meant to be a comprehensive manual of hydrocarbon resins; it aims to provide chemists, process engineers, applications technologist, technical sales personnel, and students of chemistry and chemical engineering, with a concise, overall view of raw materials, manufacture, physical and chemical properties, and the manifold applications offered by the various commercially available hydrocarbon resins.", seems to be well met.

Appoximately half (79 out of 170 pages) of the book is devoted to applications of hydrocarbon resins. In fact 65 separate applications are listed and discussed and consider such diverse topics as water and solvent borne adhesives, woodworking, book binding, tapes, labels, paints, inks, chewing gum, waterproofing, and many others. Although 32 pages are devoted to structure and properties of resins, some of the topics are not well referenced and are somewhat vague. However, they have a short discussion on almost any measurement of interest to the resin chemist.

In general the book is well written but has a few shortcomings; for example, some acronyms such as GLC are not defined. It has several typographical errors; for example, on p 18 they have two spellings for the same author Marshall or Maréchal and gasolin for gasoline, on p 14 the structure for β-pinene has an extra double bond, etc. The sections on raw materials and resin manufacture should be interesting to professionals in the area of resin processing; they comprise approximately one-fourth of the book.

Interestingly, the authors have devoted three chapters (although short) to areas of great interest to manufacturers and users of resins, i.e., Quantity and Quality Assurance, Toxicology and Legal Aspects, and Economic Aspects. These are areas not usually covered in a technical reference book.

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Transition Metals in Organic Synthesis: A Practical Approach. Edited by Susan E. Gibson. Oxford University Press: Oxford. 1997. vii + 234 pp. $125.00. ISBN 0-19-855845-7.

This text consists primarily of background and procedures for the more useful transition metal promoted/catalyzed organic reactions. The authors note that many of these processes, despite their significant value in organic synthesis, are not taught in undergraduate laboratories, and this text is partially intended to remedy this. Each procedure is preceded by a brief but reasonably comprehensive discussion of the chemistry involved, including limitations and major variants. The text emphasizes those reactions involving Pd, Fe, Ti, Zr, and Cr. In addition, the first chapter is devoted to oxidations mediated by metals in each of the groups 4 through 10, including the asymmetric epoxidations of Sharpless and Jacobsen, and the Sharpless dihydroxylation. Other chapters discuss palladium-catalyzed processes (the Heck, Stille, Suzuki, and Shonogashira reactions); dienyl iron tricarbonyl and acyl iron chemistry, including rather extensive treatment of ferrocene and derivatives; titanocene and zirconocene complexes; and arene chromium tricarbonyl chemistry. In addition, there is a chapter devoted to techniques for handling air-sensitive compounds. The contributing authors were almost entirely from the United Kingdom, and the procedures have a decidedly British feel (and spelling). While necessarily selective in its coverage, the text provides an excellent summary of the chemistry involved, and the procedures are so thoroughly explained (including *cautions*) that this could easily serve as an advanced organometallic laboratory manual (one of the author's stated aims). While some of these reactions might be found in *Organic Syntheses*, the background given here is far more comprehensive and the procedures are more appropriate for undergraduates. The references are slightly dated (none more recent than 1994) but acceptable for the intended purpose. This very practical text is an excellent addition to any chemistry library and, further, should be considered by those interested in teaching organometallic chemistry in undergraduate laboratories.

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