catalytic conditions, yields, etc. with potentially relevant stoichiometric chemistry.

After a brief introduction (Chapter 1), highlights are given for the synthesis of isocyanates (Chapter 2), carbamates and ureas (Chapter 3), amines, imines, azo derivatives, and other noncyclic compounds (Chapter 4), and heterocycles (Chapter 5). A thorough summary of the kinetic and mechanistic studies is included in Chapter 6. Over the past decade and a half, the authors have published extensively on their own research in this field and are two of the leading authorities in this area. This book will be a useful addition to the library of researchers working in this area. It also represents an excellent starting point for someone interested in developing a program in catalytic carbonylations.

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Structure and Properties of Rubberlike Networks. By Burak Erman (Bogazici University) and James E. Mark (University of Cincinnati). Oxford University Press: New York. 1997. xiii + 370 pp. $70.00. ISBN 0-19-508237-0.

Both Erman and Mark are well-known for their research contributions to rubberlike elasticity, and they have brought that experience to the preparation of this work to review a wide range of topics on the subject. This book covers much the same subject matter as their earlier introductory work, *Rubberlike Elasticity: A Molecular Primer*, Wiley, 1988, but at a much more comprehensive level, and does so in a readable, concise style. The authors limit their scope to equilibrium properties throughout, eschewing much discussion of viscoelastic behavior as a subject still too much in progress to be within their scope. The initial chapters of the new book present models for the equilibrium elasticity of network polymers in sufficient detail for the reader to comprehend the development of the field from its earliest days through recent treatments, with citations to much of the relevant original literature. The four chapters comprising this presentation will be a valuable resource, both to the scholar new to the subject and to those with some experience in the field. The models presented are applied in subsequent chapters to the discussion of several experiments, including the stress−strain behavior of network polymers, the swelling of networks, critical phenomena and phase transition in gels (i.e., in highly swollen networks), and thermoelasticity. Developments in numerical simulation of network elasticity are discussed, as are issues of segmental orientation in a strongly deformed network, the use of small-angle neutron scattering to study the chain structure in a network under deformation, and the preparation of model network polymers. These chapters provide useful, concise surveys of the literature on these diverse subjects. An additional four chapters deal with specialized topics, at various levels of development. These include networks from semiflexible chains, networks with complex distributions for the lengths of the chains between cross-links, networks comprising biopolymers, and networks filled with rigid particles. Each of these will be useful entries to the field, and are well documented. The authors emphasize the disparity between the strong technological importance and the relative lack of theoretical treatments available for filled elastomers. Finally, the authors have included an eclectic set of appendices, and a general bibliography to augment the literature cited at the end of each chapter. Each entry in the bibliography is annotated with a comment on the relation of the content to rubberlike elasticity.

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Modern Catalytic Methods for Organic Synthesis with Diazo Compounds from Cyclopropanes to Ylides. By Michael P. Doyle. Wiley: New York. 1998. v + 652 pp. $69.95. ISBN 0-471-13556-9.

This book is a worthy addition to the experimentalist's library with some caveats. The authors have reviewed the, primarily English language, literature covered by the title. They have primarily concentrated on literature which has appeared since 1980. There has been considerable growth in the area since the recognition of the utility of employing chiral ligands to gain enantiomeric excesses and the employing of catalysts based on metals other than copper as a result of the work of Aratani with chiral copper(II) salicylimine systems and that with ruthenium by Robert Paulissen and Andre Hubert at Liege. An earlier treatise of metal salt catalyzed carbenoid reactions published in 1980 does exist. Users are cautioned to employ *Chemical Abstracts* back to 1900 to avoid repeating and reporting work which has already been accomplished.

The primary thrust is toward synthetic applications with numerous clearly presented reaction schemes, which include general conditions and tabulations of the impact of variation. They have included a number of specific experimental procedures which have been interleaved within the text and reaction schemes. Their number is perhaps excessive and occupies considerable space.

There are some mechanistic treatments. Sadly the present treatise is uncritical and repeats a number of simplistic proposals. Some of the mechanisms advanced were originally put forth by workers other than those cited.

Considerable attention is given to the question of the valence state of copper in diazo carbenoid reactions. It is not established, and the work cited to support Cu(I) is severely faulted. An uncited alternative interpretation and rebuttals have been published in full detail and include responses from the copper(I) proponent.

Each chapter ends with full references to the work cited, including titles, but there is no list of authors. The index is primarily one of compounds and at times becomes obscure due to employing acronyms for the multitudinous ligands employed to modify catalyst behavior. A glossary would have been most helpful for the intended users. If they knew what the acronyms meant, they probably would not need the book.

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