Book Review

Organometallic Photochemistry, by G. L. Geoffroy and M. S. Wrighton; published by Academic Press, New York, 1979; 335 pp.; price $39.50.

Organometallic photochemistry has experienced a great surge of interest in recent years and the present volume is an attempt to provide an up-to-date coverage of developments during this period. In this it succeeds admirably.

The eight chapters differ widely in length but all deal comprehensively with their own subject matter. Chapter one entitled "Electronic structure of organometallic complexes" contains a brief outline of the essential background theory and includes discussions of bonding, excited states and some basic photochemical principles. There then follows a chapter on metal carbonyls and individual chapters on complexes involving olefins, arenes, cyclopentadiene, isocyanides, hydrides and alkyls, the material in each of the chapters being arranged according to the location of the group in the periodic table to which the central atom belongs. Most chapters conclude with a summary, about one-third of a page in length, of the current state of the art. Although hydride complexes do not fall within the normal definition of organometallic compounds, they are nevertheless included in view of their relevance to the central theme. There are nearly 600 references and these appear to cover the original literature up to 1978. Each chapter contains a wealth of figures and there are many tables summarizing important data. The contents page provides a clear breakdown of each chapter although the subject index is perhaps better thought of as a compound index; IUPAC nomenclature rules for coordination compounds are used throughout.

Several points of criticism, however, need to be made. There is no author index, and in the opinion of the present reviewer this is a serious omission in a book so clearly aimed at the research worker. Secondly, but much less important, only the photochemistry of organo derivatives of transition metals (d-block elements) are discussed and this could have been reflected in the title. The reference numbers are inserted in the body of the text in square brackets (rather than as italicized superscripts) making them somewhat tedious to locate, and the references themselves are gathered at the ends of chapters, instead of at the foot of each page where they would be more readily accessible to the reader.

Despite these shortcomings, the book is a most welcome contribution to the literature and it should be available in every chemistry library.

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