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Book Review

Photochemistry and Photophysics of Metal Complexes

by D.M. Roundhill (*Modern Inorganic Chemistry Series* editor, John P. Fackler, Jr.). Plenum, New York, ISBN0 306 44694 4.

This book deals with the photochemistry and photophysics of metal complexes and is presented as a guide for both students and teachers. For such a broad subject, the author gives a sufficient number of references on a maximum of topics. However, the book places most of its emphasis on the photochemical aspect of the field as well as its applications. Considering the great number of papers related to inorganic photochemistry, a selection was necessary but the author did not clearly define the choice and the reason for its selection.

Apart from the quite classical complexes such as polypyridyl and iron carbonyl complexes which are widely described, only a few lines are given to the other complexes. At the same time, many references are cited together with the corresponding literature review.

The book contains nine chapters and begins with an introduction in the fundamental principles of photochemistry and photophysics (Chapter 1). Then, the photoreactivity of complexes of first-row transition metals is described in Chapter 2 with special emphasis given to chromium(III), cobalt(II) and copper(I). The photochemistry of second- and third-row transition metal complexes is separated into two chapters: Chapter 3 reports the monomeric complexes and Chapter 4

the dimeric and multimetallic complexes. In these two chapters, the structure is in terms of nature of the ligand. When they exist, the applications of the different complexes are mentioned. Chapter 5 is entirely devoted to the photochemistry and photophysics of $\text{Ru}(\text{bipy})_3^{2+}$ and related complexes. The energy and electron transfer reactions of these complexes are described, together with their various applications. Chapter 6 covers the photochemistry of transition metal carbonyl and isocyanide complexes, again with a classification related to the nature of the ligand. Chapter 7 deals with the photochemistry of organometallic compounds for the three rows of transition metals. The photochemistry and photophysics of lanthanide and actinide complexes are described in Chapter 8 and the last chapter (Chapter 9) covers the field of metal porphyrins, phthalocyanines and metal ions in supramolecular systems, again from a photochemical and photophysical point of view.

Each chapter appears as a synopsis and is as complete as possible, given the broadness of the field and the large number of literature references. Although it is not easy sometimes to read and to digest, the book can be an interesting source of references for inorganic photochemists

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