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Book review

Molecular Supramolecular Photochemistry: Organic and Inorganic Photochemistry, V. Ramamurthy and K.S. Schanze (Eds.), Vol. 2, Marcel Dekker, New York, ISBN 0-8247-0174-7

The photochemistry of complex molecular structures of assemblies is a new area of significant development and curiosity amongst scientists world-wide. These relatively new and often intricate molecular structures have resulted in or have the potential for many industrial developments. This book is obviously the second in what appears to be a series of monographs dealing with this very promising subject. It contains a total of seven chapters written by a total of ten authors all of whom are authorities in their respective fields. This series highlights many important developments in both natural and synthetic supramolecular arrays providing the reader with a state-of-the-art picture of the different fields involved.

DNA is well known to form complex structures by binding to various molecules. The first two chapters in this book features recent work dealing with the binding of DNA to inorganic transition metal complexes. Here the behaviour of the DNA as a molecular wire support for the surrounding photochemistry is an important fundamental question in terms of the efficiencies of electron transfer processes in duplexes. This process is further extended in Chapter 3 to cover metal-organic dyads. The next two chapters explore the properties and mode of action of liquid crystalline polymers where long-range order plays an important role in determining the photophysical and photochemical properties of the system. Here light can be a viable means of

switching the material properties for mechanical and optical devices. With the development of time-resolved techniques it is now possible to gain a deeper understanding of the behaviour of reactive species and transition states produced during photochemical processes and these are highlighted in Chapter 6. The final chapter covers a very important and growing area of interest in photochemistry, that dealing with photocatalytic chemistry. Not only does this field have relevance to photoelectrochemical and semiconductor chemistry but has important implications in the development of environmental photochemistry for the treatment of organic waste products. Here the development and nature of the catalyst has resulted in the discovery of a wide variety of highly novel active organic-inorganic complexes with high reactivity.

In conclusion, whilst the book is an edited text, it nevertheless provides a most valuable source for focusing a number of the most important academic and industrial areas of development in photochemistry that will inevitably provide significant advances for the future of mankind. It makes interesting reading and provides a valuable reference source for chemists, physicists and biologists working in the field, both in academia and industry alike.

N.S. Allen
Department of Chemistry
Manchester Metropolitan University, Chester Street
Manchester
M15 6GD
UK