Electrochemical Surface Science. Molecular Phenomena at Electrode Surfaces. Editor, Manuel P. Soriaga. Texas A&M University, American Chemical Society Symposium Series No. 378, American Chemical Society, Washington, D.C., 1988, xi + 545 pp. clothbound, U.S. and Canada US$94.95; export US$113.95. ISBN 0-8412-1542-1.

This volume was developed from a symposium which brought together the three interrelated disciplines of electrochemistry, surface science and metal cluster chemistry. There are 36 chapters in the volume, beginning with an overview. Eleven chapters describe the use of ultrahigh vacuum surface spectroscopic methods to study the electrode solution interface. Eight chapters are concerned with advances in newer techniques such as scanning tunneling microscopy. Aspects of in situ vibrational spectroscopy are dealt with in seven chapters while the final nine chapters discuss various electrode processes such as CO_2 methanation, surface organometallic chemistry and polymer chemistry.

The book is produced by photo offset from camera-ready copy but it seems that care has been taken to make sure that all this copy is of a uniform high standard. There are subject and author indexes which enhance one's ability to use this book which will be a useful addition to the electrochemical bookshelf.

The Editor's Desk

Mechanisms of Inorganic and Organometallic Reactions, Vol. 5. Editor, M.V. Twigg. Plenum, New York, 1988, 466 pp., US$85.00. ISBN 428415.

This series of books continues critical reviews of mechanistic aspects of inorganic and organometallic reactions in solution. Following the philosophy of the Chemical Society specialist publications, these volumes cover the whole area for a particular time period; in this volume the papers published during the 18-month period from July 1985 through December 1986, together with some earlier work where appropriate are covered. The topic areas are grouped into four sections: electron transfer reactions, substitution and related reactions, reactions of organometallic compounds and compilations of numerical data.

Electron transfer reactions are covered in three chapters by Cannon (general and theoretical), Lappin (redox reactions between two metal complexes), and Bakàc and Espenson (metal–ligand redox reactions). Cannon's contribution is simply a textual list of the various reviews that have come

out in this field during the relevant time period. Chapters 2 and 3 are a detailed survey of redox reduction kinetics with extensive tabulated data.

The section on substitution and related reactions contains five chapters. One by Winterton deals with reactions of compounds of the non-metallic elements. Four further chapters by Cross, House, Hay and Burgess discuss substitution reactions of inert metallic complexes of coordination numbers four and five, six and above (chromium), six and above (cobalt), and six and above (other inert centers) respectively. The fifth chapter by Lincoln considers the substitution reactions of labile metal complexes.

The third section, the reactions of organometallic compounds, contains five chapters by Darensbourg and Mangold (substitution and insertion reactions), Sweigart and Stone (metal–alkyl and metal–hydride bond formation and fission), Kane-Maguire (reactivity of coordinated hydrocarbons), Mann (rearrangements, intramolecular exchange and isomerizations of organometallic compounds) and Riley and Tremont (homogenous catalysis of organic reactions by complexes of metal ions).

The final chapter, a compilation of numerical data, is by van Eldik and cites specifically volumes of activation for inorganic and organometallic reactions.

There is a detailed subject index. This book is a necessary purchase for those in the field of inorganic kinetics and mechanisms. As a final note, I might add that the typesetting accuracy is of particular importance in a book such as this which contains a vast amount of data which people will use for reference. One hopes that this accuracy is better than that illustrated on page xiii of the index which has numerous problems.

The Editor's Desk

Stereochemical and Stereophysical Behaviour of Macrocycles. Stereochemistry of Organometallic and Inorganic Compounds, 2. Editor, I. Bernal. Elsevier, Amsterdam, 1987, 256 pp., US$95.00, Dfl. 195.00. ISBN 0-44-42815-1.

Chapter 1 by Boeyens and Dobson describes the stereochemistry of metallic macrocycles. It is restricted to monomacrocycles with ring sizes not exceeding 16 and excludes crown ethers. This chapter contains a large amount of structural information providing details of the geometries of a wide range of macrocyclic complexes.

In Chapter 2 by Buschmann the relationship between thermodynamics and the stereochemistry of macrocycles and cryptates is discussed. The chapter includes extensive tables of stability constant information for a large number of complexes.