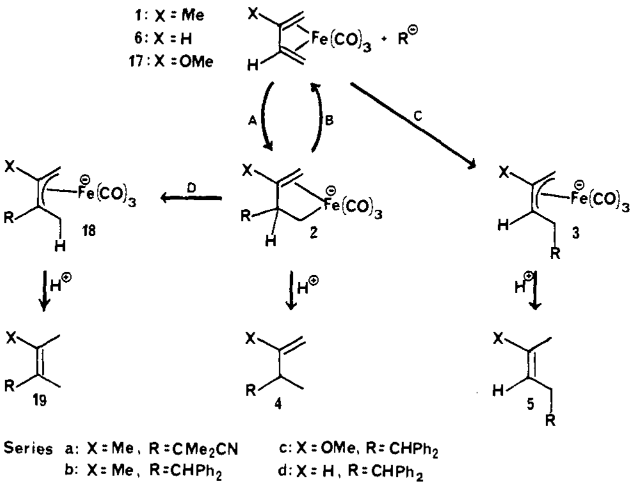
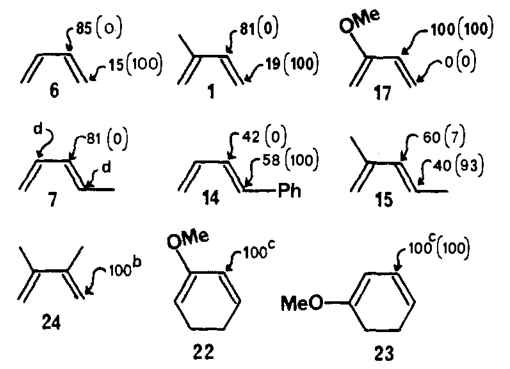
should be replaced by the one below.

Scheme I



Page 2716: Several parts of the drawings of the structures in Table II were left out. The correct version is shown below.

Table II. Selectivity in Addition of LiCHPh$_2$ to Diene-Fe(CO)$_3$ Complexes



Vibration-Induced Electron Detachment in Molecular Anions [*J. Am. Chem. Soc.* **1984**, *106*, 3402–3407]. P. K. Acharya, Rick A. Kendall, and Jack Simons*

Page 3405: Table II is in error and should be replaced by the table given below.

Table II. OH$^-$ Detachment Rates (10^5 s^{-1}) and Lifetimes (10^{-6} s)[a]

v', v	O–H bond length	5	6	7	8	9	10	11
0	*M*	0.632	0.758	0.186	0.038	0.009	0.003	0.002
	N	0.001	0.173	0.206	0.095	0.029	0.007	0.001
	P	0.370	1.14	0.396	0.064	0.004	0.000	0.001
1	*M*			2.81	1.23	0.327	0.084	0.026
	N			0.229	0.767	0.566	0.254	0.088
	P			3.36	2.37	0.683	0.109	0.005
2	*M*				1.60	3.35	1.37	0.436
	N				0.018	1.00	1.40	0.938
	P				1.44	5.51	2.88	0.851
3	*M*						2.50	2.89
	N						0.257	1.50
	P						3.27	5.44
lifetimes	*M*		13.2	3.34	3.49	2.71	2.53	2.98
	N		57.8	23.0	11.4	6.27	5.21	3.96
	P		8.77	2.66	2.58	1.61	1.60	1.59

[a] *N* denotes the equilibrium bond length (R_e = 0.9705 Å) for OH, and *M* and *P* denote OH bond lengths of $R_e - 0.0164$ and $R_e + 0.0159$ Å, respectively.

The numerical values given in this corrected Table II are not sufficiently different from those reported earlier to affect the conclusions drawn in the original paper. However, it appears that at the equilibrium bond length of OH, the corrected OH$^-$ → OH + e$^-$ detachment rates are lower than those obtained when the OH bond length is slightly increased or decreased. This is attributed to the fact that, at the actual equilibrium bond lengths, the separation between the OH and OH$^-$ potential curves remains virtually constant for all values of *R*; any shift in the relative separation of OH and OH$^-$ curves gives rise to an increase in detachment rate.

Book Reviews

Comprehensive Treatise of Electrochemistry. Volume 7. Kinetics and Mechanisms of Electrode Processes. Edited by Brian E. Conway (University of Ottawa), J. O'M. Bockris (Texas A&M University), Ernest Yeager (Case Western Reserve University), S. U. M. Khan (Texas A&M University), and Ralph E. White (Texas A&M University). Plenum Press, New York. 1983, xviii + 762 pp.

The stated purpose of the series, "Comprehensive Treatise of Electrochemistry", is to present"... a mature statement about the present position..." in the vast area of electrochemistry; Volume 7, covering Kinetics and Mechanisms of Electrode Processes, lives up to this purpose. Moreover, it tries to present a fair treatment in a subject that is still unsettled and hotly disputed.

The book contains ten contributions. The first two introductory articles deal with complementary (and often contradictory) approaches to a quantum theory of electrode processes. This is followed by a more traditional or phenomenological description of electrochemical kinetics. As expected, electrocatalysis, both organic and inorganic, receives a well-deserved and thorough treatment. Other articles deal with deposition and electrodissolution of metals and alloys, molten salt electrochemistry, and semiconductor electrodes. A well-balanced combination of theoretical approaches and experimental facts provides the reader with an in-depth and valuable understanding of these areas.

Taken together, these articles constitute an encylcopedic source of essential knowledge on electrode kinetics. Most of the contributions show a great deal of diligence and a high level of competence.

The editors have succeeded, in spite of obvious difficulties, in selecting authors and subjects that cover a wide spectrum of the field.

This volume is recommended to all those deeply interested in electrochemical kinetics and electrochemistry generally.

Norman Hackerman, *Rice University*

Quantitative Analysis of Steroids. Studies in Analytical Chemistry. Volume 5. By S. Görög (Chemical Works G. Richter Ltd., and Semmelweis University Medical School [Budapest]). Elsevier Scientific Publishing Co., Amsterdam, Oxford and New York. 1983. 440 pp. $95.75.

The present volume is the latest in the series of "Studies in Analytical Chemistry". Like its predecessors, the high standards of production and content are maintained in the present work.

The emphasis of this book is to give a survey of the quantitative analysis of steroids, with special emphasis on the developments in this area during the last 10 years. The author restricts his coverage to the quantitative aspects of analysis, omitting the problems associated with identification and structure elucidation. Spectroscopic methods such as infrared and NMR spectroscopy, together with mass spectrometry, are considered only from the point of view of their quantitative analytical applications. In addition, chromatography is also treated as a quantitative analytical tool, with special emphasis on gas chromatography, high-performance liquid chromatography, and thin-layer densitometry. The techniques of column and thin-layer chromatography are treated as sample preparation steps for quantitative analysis. Theoretical and practical aspects of chromatography including structure–chromatographic mobility relationships, solvent composition–mobility relationships, and qualitative detection methods are discussed only briefly. In general, the work is an excellent source of information on the present state of art in the field of steroid analysis. If a more detailed discussion is required, the reader will find the specialized monographs and approximately 2500 papers listed at the ends of individual chapters an excellent entry into the literature.

The content of the book is arranged into individual chapters with each chapter being devoted to a main group of steroids. The groups of steroids surveyed include: sex hormones and related materials, corticosteroids, cholesterol and related sterols, vitamins D and related materials, bile acids, cardiac glycosides, diosgenin and related sapogenins, and a group of miscelaneous steroids which includes the ecdysones, salosodine and related alkaloids, together with pancuronium bromide and related quaternary ammonium compounds.

The chemistry (including structures) of the various groups of steroids is briefly outlined at the beginning of the individual chapters, together with a short description of the main features of the various analytical techniques. The structure of each chapter is the same. The fundamentals of the chemistry of the group of steroids in question are outlined in the first section. The second section provides a detailed description of the use of various spectroscopic, chromatographic, protein-binding, and other methods. The third section of each chapter deals with problems encountered in the analysis of the group of steroids being considered and with their solution using the methods described in the second section. This format makes information readily accessible to the reader preferentially interested in the methods of analysis rather than the problems or vice versa.

The book is well organized and very well written. As an aid to information retrieval, a work of this type obviously has considerable value.

Edward J. Parish, *Auburn University*

Controlled-Release Technology: Bioengineering Aspects. Edited by K. G. Das (Regional Research Laboratory, Hyderabad, India). John Wiley & Sons, New York. 1983. ix + 225 pp. $50.00.

This book presents a sampling of some of the methods used and problems encountered in the development of controlled release systems, with primary emphasis on agricultural applications. There are eight chapters in the book contributed by nine authors from academia, government, and industry.

The first chapter is a rather brief and cursory discussion of some of the applications of controlled release technology to pesticides and drugs. Although several examples of controlled release pharmaceuticals are described, no pesticide examples are given. Chapter 2 is similarly brief. Entitled Design Parameters, the chapter does not meet the difficult task of fully addressing the many parameters that affect the design and performance of controlled release systems. In addition, the reader is given no references with either Chapter 1 or 2. Chapters 3 and 4 present chemical and physical methods, respectively, of achieving controlled release. Various descriptions and examples of these methods are included, especially as applied to pesticides, and references are numerous and thorough. Chapter 5 describes in detail materials and processes used in, and products resulting from, one physical method, microencapsulation. The sixth chapter reviews the methodology employed for the experimental determination of release rates from controlled release agricultural formulations. The discussion centers on formulations intended to deliver their active agents to the atmosphere, aquatic environments, or soils and plants. Chapter 7 presents a discussion of the possible impact of environmental factors on controlled release pesticide formulations and, conversely, the possible adverse effect of these formulations on nontarget organisms in the environment. The final chapter addresses the problem of determining appropriate doses for incorporation into controlled release formulations. Only aquatic environments and the application of herbicides, insect larvicides, and molluscicides are considered.

The purpose of the book and the audience to whom it is directed are rather obscure. It is not a comprehensive treatise on the subject of controlled release, and at the same time it does not present papers of ongoing research. The book would appear to be most useful to agricultural scientists working in the controlled release field, but it may be of interest to any scientist involved with controlled release. It is rather narrow in scope, however, and would not be appropriate for an introduction to the field.

Joseph R. Robinson, *University of Wisconsin—Madison*

Microstructure and Thermal Analysis of Solid Surfaces. By R. Sh. Mikhail (Ain-Shams University and The Institute of Paper Chemistry) and E. Robens (Battelle-Institut e.V.). John Wiley & Sons Publishers, New York. 1983. x + 496 pp. $64.95.

Surface science has been revolutionized by the availability of techniques that could look at the surface monolayer on the atomic scale. Atomic structure and composition have been the focus of attention in the physical science and chemistry community. In all of this excitement, one of the most important areas of surface science, studies of microstructure and adsorption by macroscopic techniques to obtain surface areas and adsorption isoterms, has by and large been neglected. The book by Mikhail and Robens brings back into focus this very important area of surface science, important especially in the characterization of real and practical surfaces. The book is comprised of nine chapters grouped in three parts. The first part deals with the geometry of solid surfaces as determined by adsorption isotherms and several other techniques of macroscopic surface analysis. This part well summarizes most useful techniques for macroscopic surface studies. In particular, Chapter 3 indicates methods of adsorbed structure analysis, a very important and often neglected area of surface science. In the second part of the book, the chemistry of solid surfaces is discussed with detailed concepts of surface acidity and basicity as an introduction. Various technqiues of spectroscopy and diffraction are described in this part rather well with the key references displayed. In the third part of the book, thermogravimetry studies of surfaces are described with special emphasis on various microbalance techniques.

While the book clearly contains very little or no surface science information that provides for the atomic level scrutiny of solid surfaces, it is very useful to those practitioners in the field who are interested in macroscopic determinations of surface structure and surface areas. This book is a useful addition to the library of technologists and scientists who are engaged in macroscopic surface science studies.

Gabor A. Somorjai, *University of California, Berkeley*

Molecular Shapes. Theoretical Models of Inorganic Stereochemistry. By Jeremy K. Burdett (University of Chicago). John Wiley & Sons, New York. 1980. xi + 287 pp. $29.50.

"Molecular Shapes" is intended to provide a "view" of structure and bonding in inorganic chemistry with an emphasis on simple molecular orbital approaches. Inorganic stereochemistry is an area which has been only rarely dealt with in a single volume and has, instead, usually been covered in bits and pieces in basic inorganic texts. Unfortunately the present text falls far short of providing an overview of this important field. In fact, the purpose of the author in writing this book is not clear. The treatment of material is too shallow to be used for specialists, but the range of topics is insufficiently broad for the book to be employed as a primary text in a course on stereochemistry.

Even taking into account the emphasis for molecular orbital approaches, a number of important areas are treated superficially or not at all. VSEPR theory is dealt with in only a few pages, and a better treatment can be found in most basic inorganic texts. Double bonding (in particular $p\pi$–$d\pi$ bonding) in compounds of the main-group elements is covered in a few paragraphs. Isovalent hybridization and resonance structures are not discussed at all. The absence of these last two topics might be fitting if the book were intended to cover *only* MO theory, but this is apparently not the case since other non-MO topics are presented. Finally, the crystal field and molecular orbital treatments of transition element compounds are essentially duplicates of those available in any good inorganic text.

It is in its presentations on Walsh diagrams, Jahn–Teller arguments, and the angular overlap model that this book makes a contribution. These subjects are covered nicely at a level suitable for first-year graduate students and for nonspecialists wishing to review basic principles. The book would be best used as a secondary reference for graduate-level courses in inorganic stereochemistry or basic inorganic chemistry.

Rober E. Tapscott, *University of New Mexico*

The Best of the Journal of Irreproducible Results. Edited by G. H. Scherr (Technam, Inc.). Workman Publishing Company, Inc., New York. 1982. 195 pp. $8.95.

Shameless neophytes might find this book a serviceable primer for contriving schemes to salvage equivocal experiments and make bungling look creative. Otherwise this frothy paperback is scarcely designed to enhance the expertise of members of our profession, for it is a compilation of whimsey and fiction. As such, of course, its contributions bear an unmistable resemblance to various communications that have graced the pages of *this Journal* over the years. This is not to say that open-minded readers meandering through this houlse of mirrors could not profit from the fresh perspectives flashing into view. Every contribution in this collection is brief. While some of the spoofs are too heavy handed to be digested in large doses, many others are just plain fun. This lighthearted compilation of gems from "The Journal of Irreproducible Results", 1955–1983, would not make the least substantial addition to a technical library.

Lawrence S. Bartell, *University of Michigan*