Additions and Corrections

Neutral Hyperconjugation [*J. Am. Chem. Soc.* **1992**, *114*, 10246−10248]. JOSEPH B. LAMBERT* AND R. A. SINGER

Page 10247, Table II: K. Kamińska-Trela has pointed out to us that two one-bond coupling constants in Table II are incorrect. $J(CH_2-C_i)$ for **4** (M = Si; X = H and NO_2) should be 43.8 and 42.6 Hz rather than 36.0 and 36.0 Hz, the error having arisen from the absence of a peak in our INADEQUATE spectra. The values of $J(CH_2-C_i)$ for **4** (M = Si; X = Me and MeO) presumably are also incorrect. The remaining 67 one-bond couplings appear to be correct. Although there is now no case for neutral hyperconjugation based on $J(CH_2-C_i)$, the much stronger case based on $J(CH_2-M)$ and the case for double hyperconjugation based on $J(CH_3-M)$ remain unaffected. All conclusions stated in the Summary stand except for the second sentence, regarding $J(CH_2-C_i)$.

JA944150J

Book Reviews

Mechanisms of Inorganic and Organometallic Reactions. Volume 8. Edited by M. V. Twigg (Johnson Matthey, U.K.). Plenum Press: New York. 1994. xii + 502 pp. $125.00. ISBN 0-306-44437-2.

Volume 8 of *Mechanisms of Inorganic and Organometallic Reactions* continues this useful series. Volume 8 provides a review of the literature from January 1990 to June 1991. Since this volume was not published until mid-1994, the references were a bit dated before the volume appeared. The format of the book is identical to that of the previous volumes: Part I—Electron Transfer Reactions with Chapter 1, Electron Transfer: General and Theoretical (32 references); Chapter 2, Redox Reactions between Two Metal Complexes (90 references); and Chapter 3, Metal−Ligand Redox Reactions (205 references). Part II—Substitution and Related Reactions with Chapter 4, Reactions of Compounds of the Nonmetallic Elements (380 references); Chapter 5, Ligand Exchange Reactions of Inert-Metal Complexes of Coordination Numbers 4 and 5 (80 references); Chapter 6, Substitution Reactions of Inert-Metal Complexes of Coordination Numbers 6 and Above: Chromium (231 references); Chapter 7, Substitution Reactions of Inert-Metal Complexes of Coordination Numbers 6 and Above: Cobalt (35 references); Chapter 8, Substitution Reactions of Inert-Metal Complexes of Coordination Numbers 6 and Above: Other Inert Centers (248 references); and Chapter 9, Substitution Reactions of Labile Metal Complexes (86 references). Part III—Reactions of Organometallic Compounds with Chapter 10, Substitution and Insertion Reactions (167 references); Chapter 11, Metal−Alkyl and Metal−Hydride Bond Formation and Fission (247 references); Chapter 12, Reactivity of Coordinated Ligands (126 references); Chapter 13, Rearrangements, Intramolecular Exchange and Isomerization of Organometallic Compounds (179 references); and Chapter 14, Homogeneous Catalysis of Organic Reactions by Transition Metal Complexes (141 references). Part IV—Compilations of Numerical Data with Chapter 15, Volumes of Activation for Inorganic and Organometallic Reactions (118 references).

Persons who have found Volumes 1−7 useful will want to add Volume 8 to their collection. The collection of references at the end of the book remains an inconvenience. I note that in comparison to previous volumes, where the publishing lag was two years, Volume 8 has a lag of three years. Any further increase in the time to publishing is unacceptable for a publication that exists to survey the literature.

Jim D. Atwood, *State University of New York at Buffalo*

JA944902+

Surfaces and Interfaces of Solids. By Hans Lüth (Rheinisch-Westfälische Technische Hochschule). Springer-Verlag: New York, Berlin, and Heidelberg. 1993. x + 487 pp. $59.00. ISBN 0-387-56840-9.

The objectives of the author were to write a text for his own beginning research students, in order to provide them with an introduction to the physical properties of solid surfaces and interfaces, as well as to introduce them to his own field of research.

The first part of the text covers several basic theoretical and experimental elements of a significant part of current surface solid state physics, with an emphasis on preparation and experimental techniques, at times described in separate panels.

The book's forte is obviously experiment rather than theory; the former is treated with care and clarity, and while the theoretical parts are not always as convincing as the experimental ones, there are nevertheless several theoretical discussions with illuminating explicit calculations. In particular, it is enlightening to see surface phonons (Chapter 5) and electronic surface states (Chapter 6) emerge from straightforward generalizations of simple analytical one-dimensional models.

The applications are contained in Chapters 7 and 8 and deal exclusively with electronic properties of semiconductor interfaces, metal−semiconductor junctions, and semiconductor heterostructures. The references are current, many being to the author's own works and to those of his German colleagues.

While the author's objectives described above have largely been reached, it must be said that much of the physics of solid surfaces and interfaces is not covered, such as surface and interface magnetism, ferroelectricity, and superconductivity, not to mention phase transitions, which are barely touched upon. Although not part of the author's own research interests, these are presently very active fields of research in surface physics.

Indeed, the title of the book is misleading; a more appropriate one would be, for example, Introduction to Electronic Properties of Solid Surfaces and Interfaces.

While this text is mainly intended for physics students, students of physical chemistry will find it precious for its pedagogical descriptions of many experimental techniques which also play important roles in surface chemistry.

M. Robert, *Rice University*

JA945114N