Additions and Corrections

Solvent Mass Transfer across Ion-Exchange Membranes [*J. Am. Chem. Soc.*, **88**, 661 (1966)]. By A. S. Tombalakian, M. Worsley, and W. F. Graydon, Department of Chemical Engineering and Applied Chemistry, University of Toronto, Toronto, Ontario, Canada.

The interaction coefficients reported in Table V were incorrect. The corrected table is printed below.

Table V. Ion–Water and Water–Membrane Interaction Coefficients

Membrane no.	Ion-pair exchange system	Interaction coefficients, dynes sec $cm^{-1} \times 10^{13}$	
		f_{IW}*	f_{Ww}
1	K^+–H^+	K^+, 0.89	1.7
	Na^+–H^+	Na^+, 1.5	1.5
	Li^+–H^+	Li^+, 2.3	0.84
	$(CH_3)_4N^+$–H^+	$(CH_3)_4N^+$, 2.8	0.41
	$(C_2H_5)_4N^+$–H^+	$(C_2H_5)_4N^+$, >3.4	<0

Oxidative Dimerization of Carbanions in Liquid Ammonia [*J. Am. Chem. Soc.*, **89**, 3659 (1967)]. By Edwin M. Kaiser, Department of Chemistry, University of Missouri, Columbia, Missouri 65201.

The correct formula for compound **2** in eq 1 should be $(C_6H_5)_2CHCH(C_6H_5)_2$.

Photochemical Formation of a Substituted Bicyclo[1.1.1]pentane [*J. Am. Chem. Soc.*, **89**, 6376 (1967)]. By Albert Padwa and Edward Alexander, Department of Chemistry, State University of New York at Buffalo, Buffalo, New York 14214.

On page 6377, column 1, line 28, $\Phi_{III} = 0.004$ should read $\Phi_{II} = 0.006$.

Equilibration Studies. The Energy Differences for Some Six-Membered Heterocyclic Methyl Amide–Imidate Isomer Pairs [*J. Am. Chem. Soc.*, **90**, 1569 (1968)]. By Peter Beak, James Bonham, and James T. Lee, Jr., W. A. Noyes Chemical Laboratory, University of Illinois, Urbana, Illinois 61801.

On page 1570 in Table I, the column $\Delta G_g°$ should be deleted.

On page 1571 in Figure 1, the expressions involving G and $\Delta G°$ and in column 2, line 10, the sentence beginning "No free energy. . ." should be deleted.

On page 1572, column 1, line 1, delete the sentence beginning "The limiting values. . ."

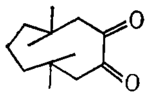
In Table VII, the last energy under $\Delta H_l°$ should be −17.0.

Thallium in Organic Synthesis. III. Coupling of Aryl and Alkyl Grignard Reagents [*J. Am. Chem. Soc.*, **90**, 2423 (1968)]. By Alexander McKillop, L. F. Elson, and Edward C. Taylor, Department of Chemistry, Princeton University, Princeton, New Jersey 08540.

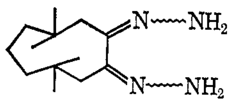
Reference 6 should read: H. Gilman and R. G. Jones, *J. Am. Chem. Soc.*, **62**, 2357 (1940).

A Rigid, Internally Saturated Derivative of Cyclononane [*J. Am. Chem. Soc.*, **90**, 3233 (1968)]. By Alfred T. Blomquist and Robert D. Miller, Department of Chemistry, Cornell University, Ithaca, New York 14850.

The structures of compounds **1** and **2** shown on page 3233 are incorrect. They should be as shown below.



1



2

The Structure of the *trans*-Dioxotetracyanomolybdate(IV) Ion in the Crystalline Salt $NaK_3MoO_2(CN)_4 \cdot 6H_2O$ [*J. Am. Chem. Soc.*, **90**, 3374 (1968)]. By V. W. Day and J. L. Hoard, Department of Chemistry, Cornell University, Ithaca, New York 14850.

On page 3374, in line 6 of the abstract, and in the headings of both Table I and Table II, the chemical formula of the salt should be $NaK_3MoO_2(CN)_4 \cdot 6H_2O$.

On page 3377, last paragraph, the first sentence should read, "The MoCN chain length (or Mo–N distance) of 3.372 Å. . . ."

Book Reviews

The Chemistry of Organometallic Compounds. The Main Group Elements. By John J. Eisch, the Catholic University of America. The Macmillan Co., 866 Third Ave., New York, N. Y. 1967. xi + 178 pp. 16 × 24 cm. $5.95.

This brief book provides a unique treatment of its subject. As the author states in the introduction, the emphasis is on the organic behavior of the group R in different RM compounds, and on the reactivity of such organometallics toward organic substrates This is, then, very much an organic chemist's view of organometallic chemistry.

The introductory pages are followed by an excellent chapter on the behavior of metals toward organic systems, wherein all such

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interactions are viewed as proceeding through primary electron transfer to form an anion radical. Nowhere else is this subject treated so carefully and authoritatively. Two short chapters follow on structure and bonding in organometallic compounds. These are clearly written but only serve to outline their complex topics. Chapters 5 through 7 deal effectively and concisely with various reactions of main-group organometallic compounds; the treatment is selective rather than exhaustive, with much attention given to mechanisms of the more important reactions. Except for a few pages in Chapter 8 on ferrocene chemistry, coverage is largely restricted to reactions of nontransition metal compounds.

Serious students of organometallic chemistry will want to own this book, and it should find a place in good chemical libraries. As a text, it might be useful in a section of an advanced organic chemistry course dealing with syntheses employing organometallic compounds, but probably not for a course in organometallic chemistry *per se*.

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Cyclobutadiene and Related Compounds. By M. P. Cava and M. J. Mitchell, Wayne State University. Academic Press Inc., 111 Fifth Ave., New York, N. Y. 1967. xiii + 503 pp. 16 × 23.5 cm. $22.00.

The authors state in the preface "the aim of this monograph is to present in readily accessible form all of the information available on four membered carbocyclic compounds having only trigonally hybridized carbon atoms in the ring." It is clear that they have very largely succeeded in their task and, in doing so, have produced an extremely useful book for persons intimately interested in this area of chemistry. As well as from the standard journals, the authors have obtained extensive information from less accessible sources such as personal communications and obscure dissertations and this makes the book especially valuable.

The first two chapters, which constitute approximately one-quarter of the subject matter of the book, deal with cyclobutadiene and its simple derivatives and with the metal complexes derived from these. Then follow sections devoted to the ions derived from cyclobutadiene, "cyclobutadienequinone," and the methylene analogs of the latter. Subsequent chapters treat benzocyclobutadiene and its "quinone" and methylene analogs and higher aromatic systems including the biphenylenes.

The last formal chapter of the book (written by H. E. Simmons and A. G. Anastassiou) is devoted to a summary of the theoretical work associated with the cyclobutadiene problem. It is only natural that such a section be included in the book but, through no fault of the authors, this chapter can only be digested by those well versed in quantum mechanical methods.

Finally there is an addendum containing abstracts of pertinent papers appearing in the period 1964–1965 which appeared too late for inclusion in the main text. An excellent author index and subject index complete the volume.

The book is very well written and is made more interesting through infusion of the authors appreciation of the historical development of the cyclobutadiene problem (for example, the finding of Finkelstein's dissertation). The organization of the material has lent itself to slight duplication but this is not serious; also, only a couple of errors were noted among the many structural formulas given throughout the book.

The relationship between cyclobutadiene, benzene, and cyclooctatetraene is truly fascinating to organic chemists, and much more needs to be done before the comparative chemistry of these basic molecules is fully understood. Because the "cyclobutadiene problem" remains largely unsolved, other books will certainly be devoted to this area of chemistry as time progresses. However, with the appearance of the present volume, the very large amount of work carried out during almost 10 decades prior to 1965 has now been most adequately surveyed. To those actively engaged in this area of chemistry, this book will be invaluable; however, the price will deter those whose own research interests lie elsewhere.

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