ketone **8** was identified. Furthermore small quantities of the furan **9** were observed in the acylation of *n*-butylacetylene, but **9** could be shown to arise from isomerization of the allene **7**.

The somewhat surprising failure to isolate any of the substitution products **6** upon reaction with **4** suggests a significant change in some energy parameter in going from the acyclic acyl to cycloacyl cations. While the enhanced strain in forming a fused ring system may be important, the fact that the intermediate carbenium ion C in the present case is secondary, whereas in the substitution reactions with the acyl tetrafluoroborates it would have to be primary, is also undoubtedly significant. Studies are presently underway to examine these various possibilities.

References and Notes

(1) Portions of this work were reported at 169th National Meeting of the American Chemical Society, Philadelphia, Pa., April 6–11, 1975, and 9th Great Lakes Regional Meeting of the American Chemical Society, St. Paul, Minn., June 4–6, 1975.
(2) A. A. Schegolev, W. A. Smit, G. V. Roitburd, and V. F. Kucherov, *Tetrahedron Lett.*, 3373 (1974).
(3) The acyl cation is undoubtedly linear: G. A. Olah and M. B. Comisarow, *J. Am. Chem. Soc.*, **88**, 4442 (1966).
(4) G. Olah et al., *J. Am. Chem. Soc.*, **95**, 6827 (1973), and references cited therein.
(5) D. M. Brower and H. Hogeveen, *Prog. Phys. Org. Chem.*, 9, 179 (1972).
(6) For recent reviews on vinyl cation chemistry see (a) M. Hanack, *Acc. Chem. Res.*, **3**, 209 (1970); (b) G. Modena and U. Tonellato, *Adv. Phys. Org. Chem.*, **9**, 185 (1971); (c) P. J. Stang, *Prog. Phys. Org. Chem.*, **10**, 205 (1973); (d) L. R. Subramanian and M. Hanack, *J. Chem. Educ.*, **52**, 80 (1975).
(7) Hydride shifts of this order have been known for a long time in transannular reactions of trivalent carbenium ions; for a review see E. L. Eliel, "Stereochemistry of Carbon Compounds", McGraw-Hill, New York, N. Y., 1962, Chapter 9.
(8) Origin of chlorine is abstraction from solvent: see W. S. Johnson, M. B. Gravestock, R. J. Parry, and D. A. O'Korie, *J. Am. Chem. Soc.*, 94, 8604 (1972).
(9) This product corresponds to the addition of Friedel-Crafts acid chloride-$AlCl_3$ complexes to acetylenes; see H. Martens, F. Janssens, and G. Hoornaert, *Tetrahedron*, **31**, 177 (1975), and references cited therein.

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Additions and Corrections

The Laser Initiated Oxidative Photoaddition of *p*-Benzoquinone to Cyclooctatetraene [*J. Am. Chem. Soc.*, **96**, 2955 (1974)]. By R. MARSHALL WILSON,* EDWARD J. GARDNER, R. C. ELDER, RICHARD H. SQUIRE, and L. ROXANE FLORIAN, Department of Chemistry, University of Cincinnati, Cincinnati, Ohio 45221.

Owing to an inadvertent interchange of data files, the final cycles of least-squares refinement of the crystal structure of **13** were performed on data not corrected for absorption. We anticipate that little, if any bias has been introduced into the reported atom positions or the bond lengths and angles derived therefrom. On the other hand, the anisotropic temperature parameters reported in Table II and the root-mean-square displacements in Table V are undoubtedly systematically biased by this error and should not be taken to describe the vibrational amplitudes in the crystalline sample of **13.**

Stereochemistry of Cobalt Porphyrins. I. The Structure and Characterization of 2,3,7,8,12,13,17,18-Octaethylporphinatobis(3-methylpyridine)cobalt(II) [*J. Am. Chem. Soc.*, **96**, 4440 (1974)]. By ROBERT G. LITTLE and JAMES A. IBERS,* Department of Chemistry, Northwestern University, Evanston, Illinois 60201.

The value of γ should be 66.72° rather than 113.28°.

Stereochemistry of Cobalt Porphyrins. II. The Characterization and Structure of *meso*-Tetraphenylporphinatobis(imidazole)cobalt(III) Acetate Monohydrate Monochloroformate, $[(\mathrm{Co(Im)_2(TPP)}][\mathrm{OAc}]\cdot\mathrm{H_2O}\cdot\mathrm{CHCl_3}$ [*J. Am. Chem. Soc.*, **96**, 4447 (1974)]. By JOSEPH W. LAUHER and JAMES A. IBERS,* Department of Chemistry and Materials Research Center, Northwestern University, Evanston, Illinois 60201.

The value of α should be 103.94° rather than 105.94°.

The following corrections should be made in Table III:
z for H of PB-C(4) should be -0.016 rather than 0.157.
z for PD-C(6) should be 0.5446 (12) rather than p.5446 (12).
y for H-C(2) should be -0.231 rather than 0.231.
y for H-C(3) should be -0.111 rather than 0.111.

Matrix Photolysis of 1,2,3-Thiadiazole. On the Possible Involvement of Thiirene [*J. Am. Chem. Soc.*, **96**, 6768 (1974)]. By A. KRANTZ* and J. LAURENI, Department of Chemistry, State University of New York, Stony Brook, New York 11790.

The sentence beginning on the sixth line in the left-hand column on page 6769 should read, "The assignment of these bands to a single species is most clearly evident upon irradiation with light of $\lambda > 220$ nm, which results in loss of the thioketene spectrum and the appearance of a band at 1520 cm^{-1}, perhaps due to a secondary product from carbon monosulfide."

A Sensitive Probe for Double Layer Structure. Potential Dependent Competitive Cyanation and Methoxylation of 1,4-Dimethoxybenzene [*J. Am. Chem. Soc.*, **97**, 1499 (1975)]. By N. L. WEINBERG,* D. H. MARR, and C. N. WU, Hooker Chemical and Plastics Corporation, Research Center, Grand Island, New York 14302.

Page 1501 (under eq 4): A solution of 0.5 M NaCN/CH_3OH will actually contain approximately 0.48 M cyanide and 0.02 M methoxide ions.

Page 1503 (left-hand column, line 4): Case II, $k_3/k_4 = 1/40$, and the ratio (CN^-/CH_3O^-) at $E = 1.35$ V is 0.48/0.02. Here an arbitrary potential is chosen midway in the potential region under consideration at which point the relative bulk concentration of nucleophiles is assumed to be equal to that available for reaction at the electrode. Significantly, a potential less than about $E = 1.15$ V cannot be selected, since the value of **3y** would then be greater than **3**. In case III, $k_3/k_4 = 1/40$, $\mathbf{3x} = 0$, hence $\mathbf{3y} = 28.4$; case IV, $k_3/k_4 = 1/40$, $\mathbf{3y} = 0$, hence $\mathbf{3x} = 28.4$; case V, $k_3/k_4 = 1/40$, $\mathbf{3x} = \mathbf{3y} = 14.2$; case VI, $k_3/k_4 = 1/40$, $\mathbf{3x}/\mathbf{3y} = 0.10$, hence $\mathbf{3x} = 2.6$; case VII, $k_3/k_4 = 1/40$, $\mathbf{3x}/\mathbf{3y} = 10$, hence $\mathbf{3x} = 25.8$.

Page 1503 (left-hand column, last sentence in paragraph 2): "It is apparent from these results that the quantity (CN^-/CH_3O^-) should actually be designated as $(CN^-/CH_3O^-)_E$, . . .".

Page 1503 (Table III): For case II the values in the table are $k_1/k_2 = 0.028$, $k_3/k_4 = 0.025$,^{b} $k_5/k_6 = 0.22$, and $k_5/k_7 = 8.8$.

Figures 1-3: The concentration of 1,4-DMB should be 0.100 *M*.

Irreversible Inhibition of Δ^5-3-Ketosteroid Isomerase by 5,10-Secosteroids [*J. Am. Chem. Soc.*, **97**, 2576 (1975)]. By F. H. BATZOLD and C. H. ROBINSON,* Department of Pharmacology and Experimental Therapeutics, The Johns Hopkins University School of Medicine, Baltimore, Maryland 21205.

On page 2577, second column, 25 lines down, the equation

$$\frac{\ln(\epsilon)}{[E_t]} = \frac{-k_3}{1 + (K_I/[I])}$$

should read:

$$\frac{\ln(\epsilon)}{[E_t]} = \frac{-k_3 t}{1 + (K_I/[I])}$$

Reference 14 should read: R. Kitz and I. B. Wilson, *J. Biol. Chem.*, **237**, 3245 (1962).

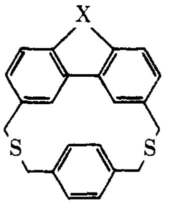
Chemical Consequences of Orbital Interactions. II. Ethylene and Butadiene Bridged Polycyclic Hydrocarbons Containing Three- and Four-Membered Rings [*J. Am. Chem. Soc.*, **97**, 3082 (1975)]. By WILLIAM L. JORGENSEN, Department of Chemistry, Harvard University, Cambridge, Massachusetts 02138.

Equation 3 should read:

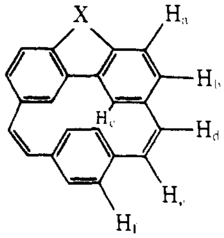
1 + *cisoid*-butadiene → **7** + ethylene

Bridged [18]Annulenes. Dependency of the Ring Current Contribution to Chemical Shift on the Contour of the Annulene Perimeter [*J. Am. Chem. Soc.*, **97**, 1629 (1975)]. By RICHARD B. DUVERNET, TETSUO OTSUBO, JOHN A. LAWSON, and V. BOEKELHEIDE,* Department of Chemistry, University of Oregon, Eugene, Oregon 97403.

Structures **2** and **3** are incorrectly drawn. The correct structures are



2



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Book Reviews

Geochemical Tables. By H. J. RÖSLER and H. LANGE (Freiberg Mining Academy). Translated from German by H. LIEBSCHER. Elsevier Publishing Co., New York, N.Y. 1972. 468 pp. $27.95.

This book does an admirable job of accomplishing its stated purpose of providing a ". . . source of information about the essentials of geochemistry and a guide to the literature in this field" in order that students and scientists concerned with geochemistry can ". . . familiarize themselves quickly with the special subjects in which they are particularly interested." Part of the motivation for this text is that ". . . it is no longer possible to include the whole subject matter of geochemistry in the syllabi of university courses." In connection with this latter consideration, the broad coverage, even though synoptic, is an especially desirable feature of this book.

Unfortunately the title is not a good choice either in terms of the aims of the authors or the content of the book and may serve to limit the readership. The authors had also intended this book as a text for students, and it seems like an excellent choice, when properly supplemented with lecture material and problems sets, for a one-term, introductory course in geochemistry with appeal to a broad audience, such as geology, natural resources, environmental sciences, and oceanography concentrators. Such students should, however, have a good introductory course in general chemistry. The treatment of atomic properties such as ionic radius, ionization potential, polarization, etc., is particularly useful for the abovementioned audience of students and professional scientists.

The data in the tables are not the latest—even at the time of publication—but are adequate for most geochemical purposes. In fact, the tables by themselves are not *the* strong point of this book, but rather it is the introductory material, treatment of elementary concepts essential to understanding and using the tables, and the overall cohesiveness of the text that make it a worthwhile purchase. The treatment of dating techniques is quite good and should enable both student and researcher with no previous exposure to dating techniques to understand and assess the validity of age determination data in the primary literature. The treatment of analytical methods in geochemistry is well balanced and contains a surprisingly large amount of purely practical information such as the purity of commercial graphite electrodes and the availability of standard rocks. The advantages and disadvantages of different techniques are also discussed. The treatment of applied geochemistry as it relates to economic geology and ore prospecting is good.

Even though the treatment of the various topics is abbreviated, the extensive list of references at the end of most subchapters permits the interested reader to go to more authoritative treatments with little effort. This format should be particularly useful to the person starting-up or contemplating a project in a new area. The last chapter on units and sundry measurement techniques is also more complete than one usually finds and is at the same time quite compact. There is also a table of transliterations of cyrillic characters which would be useful to the person who does not read Russian.

This is a well-balanced synoptic treatment of the broad spectrum of geochemistry and is highly recommended for the professional person interested in geochemistry, for the student of natural resources, geology, environmental sciences, and oceanography. It also looks like an excellent text for a one-term, introductory course in geochemistry which is designed to appeal to a broad audience.

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