

$\text{Fe}_3\text{S}_4(\text{SR})_6]^{2-}$  clusters, have not yet been detected among the principal products of the reaction systems above but may be accessible by removal of the bridging Fe atom in III or IV. Further studies are in progress.

**Acknowledgments.** This research was supported by NSF Grants CHE 77-04397 and PCM 17105 at Stanford University and by the National Science Foundation at the Francis Bitter National Magnet Laboratory, M.I.T. We thank C. Warrick for experimental assistance.

## References and Notes

- W. H. Orme-Johnson and L. C. Davis in "Iron-Sulfur Proteins", W. Lovenberg, Ed., Academic Press, New York, 1977, Chapter 2.
- R. Zimmerman, E. Münck, W. J. Brill, V. K. Shah, M. T. Henzl, J. Rawlings, and W. H. Orme-Johnson, *Biochim. Biophys. Acta*, **537**, 185 (1978).
- S. P. Cramer, K. O. Hodgson, W. O. Gillum, and L. E. Mortenson, *J. Am. Chem. Soc.*, **100**, 3398 (1978).
- S. P. Cramer, W. O. Gillum, K. O. Hodgson, L. E. Mortenson, E. I. Stiefel, J. R. Chisnell, W. J. Brill, and V. K. Shah, *J. Am. Chem. Soc.*, **100**, 3814 (1978).
- B. A. Averill, T. Herskovitz, R. H. Holm, and J. A. Ibers, *J. Am. Chem. Soc.*, **95**, 3523 (1973).
- R. H. Holm, *Acc. Chem. Res.*, **10**, 427 (1977).
- Yields are based on Mo. Spectral data refer to acetonitrile solutions. New compounds gave satisfactory elemental analyses; purity was also established by  $^1\text{H}$  NMR. Multiple recrystallizations from the indicated solvents were usually required to obtain satisfactorily pure products.
- T. E. Wolff, J. M. Berg, C. Warrick, K. O. Hodgson, R. H. Holm, and R. B. Frankel, *J. Am. Chem. Soc.*, **100**, 4630 (1978).
- The salt of III-W was prepared in ethanol solution; the W analogue of II has not been as isolated in purity.  $(\text{Et}_4\text{N})_3$  (III) was also prepared in ethanol solution.
- Data were collected on a Syntex P2, diffractometer using Mo  $K\alpha$  radiation; structures were solved by direct methods and refined to  $R \lesssim 6\%$ .
- T. E. Wolff, J. M. Berg, K. O. Hodgson, R. B. Frankel, and R. H. Holm, *J. Am. Chem. Soc.*, **101**, 4140 (1979).
- G. Christou, C. D. Garner, and F. E. Mabbs, *Inorg. Chim. Acta*, **28**, L189 (1978); G. Christou, C. D. Garner, F. E. Mabbs, and T. J. King, *J. Chem. Soc., Chem. Commun.*, 740 (1978).
- G. Christou, C. D. Garner, F. E. Mabbs, and M. G. B. Drew, *J. Chem. Soc., Chem. Commun.*, 91 (1979).
- The anion lies on an inversion center. The asymmetric unit contains one half of the anion, one entire cation, and another cation disordered about a twofold axis.
- R. E. DeSimone, T. Ontko, L. Wardman, and E. L. Blinn, *Inorg. Chem.*, **14**, 1313 (1975).
- All such data refer to 77 K and metallic Fe as the  $\delta$  reference.
- Measured by cyclic voltammetry in acetonitrile solution vs. SCE at 100 mV/s.
- Alfred P. Sloan Foundation Fellow, 1976-1978.

Thomas E. Wolff, Jeremy M. Berg, Philip P. Power,  
Keith O. Hodgson,<sup>18</sup> R. H. Holm\*

Department of Chemistry, Stanford University,  
Stanford, California 94305

Richard B. Frankel

Francis Bitter National Magnet Laboratory  
Massachusetts Institute of Technology  
Cambridge, Massachusetts 02139

Received April 5, 1979

## Additions and Corrections

**Synthesis Using Transition Metal Diatomic Molecules. Dimeric Rhodium Octacarbonyl,  $\text{Rh}_2(\text{CO})_8$ , and Diiridium Octacarbonyl,  $\text{Ir}_2(\text{CO})_8$**  [*J. Am. Chem. Soc.*, **96**, 6324 (1974)]. By L. A. HANLAN and G. A. OZIN,\* Lash Miller Chemistry Department and Erindale College, University of Toronto, Toronto, Ontario, Canada.

A recently unveiled supplier's error in our original publication of purported  $\text{Ir}_2(\text{CO})_8$  (rhodium metal confused for iridium) necessitated a complete reinvestigation and reappraisal of the products of Ir/CO matrix cocondensations at 10-12 K. The reactions (*J. Organomet. Chem.*, in press) of Ir/CO have been shown to yield authentic samples of  $\text{Ir}(\text{CO})_4$  which can be induced to dimerize to  $\text{Ir}_2(\text{CO})_8$ . Unlike  $\text{Rh}_2(\text{CO})_8$ ,  $\text{Ir}_2(\text{CO})_8$  is found to exist as the metal-metal bonded, nonbridged isomer (analogous to nonbridged  $\text{Co}_2(\text{CO})_8$ ) which around 200 K undergoes what appears to be decomposition to quite large iridium clusters onto which CO is chemisorbed, rather than to a well-defined disproportionation product such as  $\text{Ir}_4(\text{CO})_{12}$  or  $\text{Ir}_6(\text{CO})_{12}$ .

**The Structure of 1,3,6,8-Tetra-*tert*-butylnaphthalene** [*J. Am. Chem. Soc.*, **99**, 3345 (1977)]. By JADY HANDAL, JOHN G. WHITE,\* RICHARD W. FRANCK,\* Y. H. YUH, and NORMAN L. ALLINGER,\* Departments of Chemistry, Fordham University, Bronx, New York, 10458, and the University of Georgia, Athens, Georgia 30602.

In the numbering diagram 3, the *tert*-butyl group 15-18 should be bonded to 3 via 15, and the *tert*-butyl group 11-14 should be bonded to 6 via 11.

In Figure 3 the labels C20 and C21 should be reversed, as should labels C24 and C26; the interhydrogen distance labeled 1.998A should be 1.855A, and that labeled 1.885A should be 1.998A.

**Catalytic Homogeneous Hydrogenation of Arenes. 6. Reaction Scope for the  $\eta^3\text{-C}_3\text{H}_5\text{Co}[\text{P}(\text{OCH}_3)_3]_3$  Catalyst** [*J. Am. Chem. Soc.*, **100**, 2405 (1978)]. By L. S. STUHL, M. RAKOWSKI DUBOIS, F. J. HIRSEKORN, J. R. BLEEKE, A. E. STEVENS, and E. L. MUETTERTIES,\* Department of Chemistry and Cornell Materials Science Center, Cornell University, Ithaca, New York 14853.

In Table II, p 2408, under the column entitled Reactant, the 7th to the last entry "allylbenzene" should read "propenylbenzene (*cis* and *trans*)".

**"Increased Valence" When the Octet Rule Is Obeyed. A Reply to a Challenge** [*J. Am. Chem. Soc.*, **100**, 8060 (1978)]. By RICHARD D. HARCOURT, Department of Physical Chemistry, University of Melbourne, Parkville, Victoria 3052, Australia.

In References and Notes (8), nine lines down, replace "they need to overlap . . ." with "there must be an antiferromagnetic (and partial) interaction between them and another pair of atomic spin orbitals". In the next sentence, replace " $\bar{y}$  or  $y$ " with " $\bar{y}$  and  $y$ ".

**Intramolecular Dibromo Ketone-Iron Carbonyl Reaction in Terpene Synthesis** [*J. Am. Chem. Soc.*, **101**, 220 (1979)]. By R. NOYORI,\* M. NISHIZAWA, F. SHIMIZU, Y. HAYAKAWA, Department of Chemistry, Nagoya University, Chikusa, Nagoya 464, Japan, and KEIJI MARUOKA, SHINSAKU HASHIMOTO, HISASHI YAMAMOTO,\* and HITOSHI NOZAKI, Department of Industrial Chemistry, Kyoto University, Yoshida, Kyoto 606, Japan.

The name of one of the authors is incorrect; Shinsaku Hashimoto should be Shinsuke Hashimoto.