

Additions and Corrections

Direct Observation of a Transition Metal Alkane Complex, CpRe(CO)₂(cyclopentane), Using NMR Spectroscopy [*J. Am. Chem. Soc.* **1998**, *120*, 9953-9954]. SPILI GEFTAKIS AND GRAHAM E. BALL*

Our initial paper omitted discussion of the first X-ray structure of a transition metal complex containing a simple alkane as a ligand, Fe(DAP)(*n*-heptane).¹ The double A-frame porphyrin (DAP) ligand contains a hydrophobic pocket that aids stabilization of the heptane complex through a host/guest effect. While the hydrogen atoms of the bound heptane moiety were not located, density functional calculations on model complexes support an unsymmetrical bidentate structure. In this case, the calculations reveal one short and one long Fe–H bonding distance of 2.01–2.13 and 2.62–2.65 Å, respectively. Such an unsymmetrical binding mode is also consistent with our reported NMR data for CpRe(CO)₂(cyclopentane). It provides a further alternative binding mode to the cases in which either just one hydrogen atom is involved in direct contact with the metal center or there is a symmetrical binding motif involving two hydrogen atoms with equidistant binding contacts to the metal center.

(1) Evans, D. R.; Drovetskaya, T.; Bau, R.; Reed, C. A.; Boyd, P. D. W. *J. Am. Chem. Soc.* **1997**, *119*, 3633–3644.

JA995514G

10.1021/ja995514g

Published on Web 06/17/1999

Book Reviews

Onium Ions. By George A. Olah (University of Southern California), Kenneth K. Laali (Kent State University), Qi Wang (Occidental Chemical Corporation), and G. K. Surya Prakash (University of Southern California). Wiley-Interscience: New York, 1998. xv + 479 pp. \$110.00. ISBN 0-471-14877-6.

This valuable text does an excellent job gathering and organizing a vast amount of current information on the preparations, properties, reactions, and spectroscopy of hypervalent cations of carbon and a significant number of heteroatoms. The authors wisely avoided attempting to duplicate the efforts of other workers (notably Zollinger, Perst, and Patai) in onium ions and instead gave a workable, systematic overview of the field, citing leading works where appropriate.

The rapidly burgeoning field of onium ion chemistry makes this

work by Olah and his coauthors significant and timely. The text is well-structured and flows in a reasonable and useful fashion. It is highly recommended for organic and inorganic chemistry researchers (since onium ions of one kind or another are essentially ubiquitous in organic research); it is also useful as a reference text for lecturers and students in upper level and graduate courses.

The references are current and adequate.

Ron W. Darbeau, *McNeese University*

JA9857615

10.1021/ja9857615