

### Book review

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*The Organic Chemistry of Nickel, Vol. 1*, by P.W. Jolly and G. Wilke, Academic Press, New York/London, 1974, XIV + 517 pp., \$58.00, £27.85.

To anyone not directly involved in organonickel chemistry it will probably be a surprise to find that two good-sized volumes have been written on the subject based upon some 3500 primary publications. Clearly, strong interest is continuing in the field since new publications are still appearing at the rate of approximately twelve per week. The authors' goal in Volume I is to comprehensively describe the chemistry of the known organonickel complexes, while Volume II will be devoted to the uses of nickel in organic synthesis.

Volume I quite naturally begins with a chapter on nickel tetracarbonyl whose discovery by Mond in 1890 began organonickel chemistry. Subsequent chapters discuss the closely related Lewis base—nickel carbonyl complexes and tetrakis(ligand)nickel complexes. The last complexes, of course, do not contain carbon—nickel bonds, but are included because of their importance as reagents in preparing organonickel complexes. A long chapter on nickel hydrides, alkyls, and aryl complexes follows. The remaining chapters are each devoted to nickel complexes containing various  $\pi$ -complexed ligands: Olefin and Alkyne Complexes;  $\pi$ -Allyl; Cyclobutadiene;  $\pi$ -Cyclopentadienyl and Arene Complexes.

The great mass of data included in this book is extremely well organized. The extensive use of tables to list properties of complexes, NMR spectra, IR absorptions, bond lengths, etc., makes it easy to find the data and removes this material from the text. The expertise of the authors in their subject is evident throughout the book. The pages are filled with fascinating and unusual chemistry skillfully presented and explained by the authors. A discussion of the chemistry and methods of preparation of the various nickel complexes takes up the major portion of the book, but physical properties, thermodynamic data, structure and bonding considerations, spectral properties, kinetic data, and crystallographic data are also thoroughly covered.

The specialized nature of this book makes it of primary interest as a reference text, but it also can be highly recommended for general reading to anyone interested in organotransition metal chemistry.

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