

main group organometallics and the introduction to clusters, which competing texts largely ignore. New in the second edition are descriptions of C_{60} complexes and unusual metal-metal bonded organometallics, and there is increased emphasis on catalytic reactions such as C-H bond activation.

A few errors remain from the first edition, such as the assertion (pp. 15 and 140) that MeI and PbI_2 react to give $MePbI_3$, and some terminology is unconventional, such as the description of alkyne complexes, all bound through two carbons, as monodentate to quadridentate. However, these are trivial problems. Overall, the text is a valuable resource to teachers and students of organometallic chemistry and it can be strongly recommended.

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Bonding and Structure: Structural Principles in Inorganic Chemistry, by N. W. Alcock (Ellis Horwood Series in Inorganic Chemistry, edited by John Burgess), Ellis Horwood, New York, 1990, 314 pp. + Appendix, US \$50.95. ISBN 0-13-465253-3.

The author's purpose in writing this little volume is to try to overcome some of the problems which students encounter in studying structure and bonding. The result is a text of the medium level of difficulty, which does not overload the student with an excessive amount of factual material. Emphasis is placed on applying the theoretical principles of chemical bonding to classes of compounds and experimental phenomena which are likely to be of importance to the student in the coming decade, e.g. magnetic oxides, superconductivity, ferroelectricity.

Topics covered include electronegativity, introductory crystallography and diffraction, molecular energies and bond energies, the metallic state, ionic and covalent compounds, alloys, the hydrogen bond, electron-deficient bonding in boranes, semiconductors, intercalation compounds, silicates and clays. The relatively light treatment of crystal field theory and transition metal complexes is in keeping with current trends in research in inorganic chemistry. The absence of significant material on transition metal cluster compounds, carbonyls, and classical organometallic compounds may be somewhat of a disadvantage to the student.

In the reviewer's opinion, this book would be most suitable for a one semester undergraduate course on the properties of inorganic materials, probably at the third or fourth year level.

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