

Book Review

Progress in Inorganic Chemistry, Vol. 36. Editor: S. J. Lippard. Wiley Interscience, New York, 1989, pp. 514. Price, \$85.00.

This volume is organized into five chapters.

The first one deals with the carbon–hydrogen–transition metal bonds, giving a complete and detailed description of different C–H bonds in metal complexes. General physical and chemical properties and the nature of agostic bonding with examples of compounds containing agostic M–H–C groups are then treated. Compounds containing metal–hydrogen–metal bridges are described. The implications of agostic interaction in transition metal catalyzed reactions are studied. C–H is not an invisible ligand but it plays a possible role in many aspects of organometallic chemistry.

The second chapter is concerned with mechanistic aspects of organometallic radical reactions treating either reactions of organometallic radicals or reactions involving metal radicals.

The third chapter deals with chemical and physical properties of triangular bridged metal complexes with

an initial descriptive section with many examples; crystallography, vibrational and electronic spectroscopy, electron spin resonance and Mössbauer spectra are then studied. Finally mixed-valence complexes are reviewed.

The fourth chapter is concerned with cyclic and heterocyclic thiazenes. Binary sulfur–nitrogen compounds and heterocyclic thiazenes are studied. Synthetic routes and chemical properties are reported. In particular, addition reactions and 1,3-nitrogen shifts are considered.

The last part of the volume consists of a detailed study on metal carbonyl derivatives with recent selected references. Ligand activity in vibrational spectroscopy, electrochemistry and photoelectron spectroscopy is studied. The authors reaffirm here that ligand effects upon experimentally observable properties are additive.

In summary, all chapters of the book are very interesting, well organized and contain the relevant references for the arguments treated.

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