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COMPOUNDS; 2.9. OTHER METAL COMPOUNDS WITH BRIDGING ALKYL GROUPS; 2.10. AGOSTIC SYSTEMS CONTAINING CARBON-HYDROGEN-METAL 3c-2e BONDS; 2.11. CONCLUSIONS; REFERENCES; 3: CARBORANES AND METALLACARBORANES; 3.1. INTRODUCTION; 3.2. CARBORANE STRUCTURES AND SKELETAL ELECTRON NUMBERS; 3.2.1. Closo Carboranes; 3.2.2. Nido and Arachno Carboranes; 3.2.3. Carbon Sites in Carboranes Skeletal Connectivities k; 3.2.4. Skeletal Bond Orders in Boranes and Carboranes; 3.3. LOCALIZED BOND SCHEMES FOR CLOSO BORANES AND CARBORANES; 3.3.1. Lipscomb's Styx Rules and Williams' Stx Rules; 3.3.2. Bond Orders and Skeletal Connectivities; 3.3.3. Bond Networks and Skeletal Connectivities; 3.3.4. Calculated Charge Distributions and Edge Bond Orders; 3.4. MO TREATMENTS OF CLOSO BORANES AND CARBORANES; 3.5. THE BONDING IN NIDO AND ARACHNO CARBORANES; 3.5.1. Localized Bond Schemes; 3.5.2. MO Treatments of Nido and Arachno Boranes and Carboranes

4: MIXED METAL-CARBON CLUSTERS AND METAL CARBIDES4.1. INTRODUCTION; 4.2. COMPLEXES OF C_nH_n RING SYSTEMS WITH A METAL ATOM: NIDO-SHAPED MC_n CLUSTERS; 4.3. METAL COMPLEXES OF ACYCLIC UNSATURATED LIGANDS, C_nH_{n+2} ; 4.4. COMPLEXES OF UNSATURATED ORGANIC LIGANDS WITH TWO OR MORE METAL ATOMS: MIXED METAL-CARBON CLUSTERS; 4.5. METAL CLUSTERS INCORPORATING CORE HYPERCARBON ATOMS; 4.6. BULK METAL CARBIDES; 4.7. METALLATED CARBOCATIONS; 4.8. CONCLUSIONS; REFERENCES; 5: HYPERCOORDINATE CARBOCATIONS AND THEIR BORANE ANALOGS; 5.1. GENERAL CONCEPT OF CARBOCATIONS: CARBENIUM VERSUS CARBONIUM IONS

5.1.1. Trivalent-Tricoordinate (Classical) Carbenium Ions

Sommario/riassunto

The essential new edition of the book that put hypercarbon chemistry on the map A comprehensive and contemporary treatment of the chemistry of hydrocarbons (alkanes, alkenes, alkynes, and aromatics) towards electrophiles, Hypercarbon Chemistry, Second Edition deals with all major aspects of such chemistry involved in hydrocarbon transformations, and of the structural and reaction chemistry of carboranes, mixed hydrides in which both carbon and boron atoms participate in the polyhedral molecular frameworks. Despite the firmly established tetravalency, carbon can bond simultane
