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(Shs) [51-60]
2.7 High-Temperature Preparation Of Metal Vapors And Active Molecules For Use In Cryosynthesis [70-72]2.8 High-temperature electrolysis in molten salt system [73-79]; References; Chapter 3 Synthesis and Purification at Low Temperature; 3.1 Attainment And Measurement Of Low And Ultralow Temperatures; 3.2 Vacuum Technique and its Application in Inorganic Synthesis; 3.3 Purification and Separation of Inorganics at Low Temperature; 3.4 The Synthesis of Volatile Inorganic Compounds at Low Temperature; 3.5 Formation of Rare-gas Molecules at Cryogenic Condition
3.6 Inorganic Synthesis in Liquid Ammonia3.7 Cryosynthesis of Unusual Inorganic Compounds [52-55]; References; Chapter 4 Hydrothermal and Solvothermal Syntheses; 4.1 Foundation of Hydrothermal and Solvothermal Syntheses [1]; 4.2 Functional Materials from Hydrothermal and Solvothermal Systems; 4.3 Hydrothermal Biochemistry; 4.4 Supercritical Water-a Novel Reaction System [106-110]; 4.5 Techniques and Methods; 4.6 Ionothermal Synthesis; References; Chapter 5 High Pressure Synthesis and Preparationof Inorganic Materials; 5.1 Experimental Methods Of Inorganic Synthesis Under High Pressure
5.2 Effects Of High Pressure On Basic States Of Matters5.3 Effects Of High Pressure On Inorganic Chemical Reactions; 5.4 Effects Of High Pressure On Crystal And Electronic Structures Of Inorganic Compounds; 5.5 Major Roles Of High Pressure Method In Inorganic Synthesis; 5.6 Some Important Inorganic Compounds Synthesized Under High Pressure; References; Chapter 6 Inorganic Photochemical Synthesis; 6.1 The Basic Concepts; 6.2 Experimental Techniques; 6.3 Photochemical Synthesis Of Organometallic Complexes; 6.4 Photochemical Synthesis Of Inorganic Compounds
6.5 Synthesis Of Inorganic Thin Films Via Photochemical Reactions

Sommario/riassunto

The book has four main parts. In the first part the discussion centers on inorganic synthesis reactions, dealing with inorganic synthesis and preparative chemistry under specific conditions: high temperature, low temperature and cryogenic, hydrothermal and solvothermal, high pressure and super-high pressure, photochemical, microwave irradiation and plasma conditions. The second part systematically describes the synthesis, preparation and assembly of six important categories of compounds with wide coverage of distinct synthetic chemistry systems: coordination compounds, coordination polymers