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Nota di contenuto	Silicon Chemistry; Foreword; Acknowledgement; Contents; Part I Reactive Intermediates in Silicon Chemistry - Synthesis, Characterization, and Kinetic Stabilization; Introduction; 1 Investigations on the Reactivity of Atomic Silicon: A Playground for Matrix Isolation Spectroscopy; 2 Reactions with Matrix-Isolated SiO Molecules; 3 In situ Diagnostics of Amorphous Silicon Thin Film Deposition; 4 The Gas-Phase Oxidation of Silyl Radicals by Molecular Oxygen: Kinetics and Mechanisms; 5 Oxidation of Matrix-Isolated Silylenes 13 Structural and Electronic Systematics in Zintl Phases of the Tetrrels14 Zintl Phases MSi(2) (M = Ca, Eu, Sr, Ba) at Very High Pressure; 15 Silicon- and Germanium-Based Sheet Polymers and Zintl Phases; 16 Kautsky-Siloxene Analogous Monomers and Oligomers; 17 Silicon-based Nanotubes: A Theoretical Investigation; 18 Structure and Reactivity of Solid SiO; 19 Si Nanocrystallites in SiO(x) Films by Vapour

Deposition and Thermal Processing; 20 Theoretical Treatment of Silicon Clusters; 21 Isomers of Neutral Silicon Clusters
22 Investigation of the Influence of Oxidation and HF Attack on the Photoluminescence of Silicon Nanoparticles
23 Localization Phenomena and Photoluminescence from Nano-structured Silicon and from Silicon/Silicon Dioxide Nanocomposites; Part III Si-O Systems: From Molecular Building Blocks to Extended Networks; Introduction; 24 Higher-Coordinate Silicon Compounds with SiO(5) and SiO(6) Skeletons; 25 Functionalized Silanols and Silanolates; 26 Transition Metal Fragment Substituted Silanols of Iron and Tungsten - Synthesis, Structure, and Condensation Reactions
27 Rational Syntheses of Cyclosiloxanes and Molecular Alumo- and Gallosiloxanes
28 Synthesis, Structure, and Reactivity of Novel Oligomeric Titanasiloxanes; 29 Metallasilsesquioxanes - Synthetic and Structural Studies; 30 Spin-Spin Interactions in Silsesquioxanes and Transition Metal Substitution; 31 Characterization of Silicon-Containing Polymers by Coupling of HPLC-Separation Methods with MALDI-TOF Mass Spectrometry; 32 The Stepwise Formation of Si-O Networks; 33 Mechanism of Ring and Cage Formation in Siloxanes; 34 Structurally Well-Defined Amphiphilic Polysiloxane Copolymers
35 Synthesis and Functionalization of Mesostructured Silica-Based Films

Sommario/riassunto

The combined results from an international research project involving 40 interdisciplinary groups, providing the latest knowledge from the past few years. Adopting an application-oriented approach, this handy reference is a must-have for every silicon chemist, whether working in inorganic, organic, physical or polymer chemistry, materials science or physics.
