

1. Record Nr.	UNINA9910144302603321
Titolo	Silicon chemistry [[electronic resource] ] : from the atom to extended systems // Peter Jutzi, Ulrich Schubert (eds.)
Pubbl/distr/stampa	Weinheim ; ; [Cambridge], : Wiley-VCH, c2003
ISBN	1-281-08785-8 1-282-13983-5 9786612139833 9786611087852 3-527-61076-6 3-527-61121-5
Descrizione fisica	1 online resource (508 p.)
Altri autori (Persone)	JutziPeter SchubertU (Ulrich)
Disciplina	540.8 546.683
Soggetti	Silicon Silicon compounds Electronic books.
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references and index.
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<sub>2</sub>; 19 Si Nanocrystallites in SiO<sub>x</sub> 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<sub>5</sub> and SiO<sub>6</sub> 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.

---