

1. Record Nr.	UNINA9910830373603321
Titolo	Macromolecules containing metal and metal-like elements . Volume 8 Boron-containing polymers [[electronic resource] /] / edited by Alaa S. Abd-El-aziz ... [et al.]
Pubbl/distr/stampa	Hoboken, N.J., : Wiley-Interscience, c2007
ISBN	1-280-90028-8 9786610900282 0-470-13965-X 0-470-13964-1
Descrizione fisica	1 online resource (222 p.)
Collana	Macromolecules Containing Metal and Metal-like Elements ; ; v.8
Altri autori (Persone)	Abd-El-AzizAlaa S
Disciplina	540 547.7
Soggetti	Organoboron polymers Macromolecules Organometallic compounds
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di contenuto	Macromolecules Containing Metal and Metal-Like Elements Volume 8; Contributors; Contents; Preface; Series Preface; 1. The State of the Art in Boron Polymer Chemistry; I. Introduction; A. A Brief Historical Perspective on Boron and Its Polymers; II. Recent Advances in Boron- Containing Polymers; A. Polymers Containing Boron Atoms in the Backbone or in Pendent Groups; i. -Conjugated Organoboron Polymers Used in Optical and Sensing Applications; a. Formed by the Hydroboration Route; b. Formed by Other Synthetic Routes; ii. Boron Polymers Containing P, Si, or Organometallic Units a. Boron Polymers Containing P Atomsb. Silicon-Containing Boron Polymers; c. Boron Polymers Containing Organometallic Moieties; iii. Organoboron Polymers Used as Catalysts in Organic Transformations; a. Boron Ligands/Polymers Used in Olefin Polymerization Reactions; b. Organoboron Polymers Used in Other Organic Transformations; iv. Organoboron Polymers that Function as Flame-Retardant Materials; B. Polymers Containing Boron Ring Systems in the Backbone or in Pendent

Groups; i. Organoboron Polymers that Contain Borazine or 9-BBN with Utility in the Production of High-Performance Fibers
 a. SiC-Producing Borazine Polymer Systemsb. Si/B/C/N-Producing Systems; ii. Organoboron Polymers that Contain Boroxine or Triphosphatiborin Ring Systems; iii. Organoboron Polymers that Contain Polypyrazolylborate or Pyrazabole Ring Systems; iv. Organoboron Polymers that Contain Other Boron Ring Systems; C. Polymers Containing Boron Clusters in the Backbone or in Pendent Groups; i. Monomeric and Polymeric Organic Analogs of Boron Cluster Systems; ii. Poly(carboranylenesiloxanes) and Related Polymers; iii. Conducting Polymers Containing Carborane Clusters; iv. Carborane Polymers in Medicine
 v. Carborane Polymers Used in the Production of High-Performance Fibersvi. Miscellaneous Carborane Polymers; a. Carborane Polymers of Polyetherketones; b. Carborane Polymers for Use in Catalytic Reactions; vii. Carborane Supramolecular Chemistry; III. Summary; IV. References; 2. Polymers Incorporating Icosahedral Closo-Dicarbaborane Units; I. Introduction; A. Polymers Incorporating Decaborane; B. Polymers with Pendant Carborane Groups; II. Poly(M-Carborane-Siloxane) Rubbers; III. Synthesis; A. Bis(ureido)silanes: Condensation Polymerization; B. Dilithiocarborane: Salt Elimination Route
 IV. CharacterizationA. Nuclear Magnetic Resonance Spectroscopy; B. Gel-Permeation Chromatography; C. Thermal and Chemical Properties; V. Thermal and Radiation Stability; A. Stability to Neutrons; VI. Other Carborane-Containing Polymers; A. Poly(ether-ketone-carbaborane); B. Polyphosphazene Incorporating Carboranyl Units; VII. Energetic Carborane Polymer Systems; VIII. Summary; IX. References; 3. Boron- and Nitrogen-Containing Polymers for Advanced Materials; I. Introduction; II. Polymeric Precursors of BN Fibers; A. tris(Alkylamino) boranes-Derived Poly[B-(alkylamino)borazines]
 B. tris(B-Alkylamino)borazine-Derived Poly[B-(alkylamino)borazines]

Sommario/riassunto

This series provides a useful, applications-oriented forum for the next generation of macromolecules and materials. Applications include non-linear optical materials, specialty magnetic materials, liquid crystals, anticancer and antiviral drugs, treatment of arthritis, antibacterial drugs, antifouling materials, treatment of certain vitamin deficiencies, electrical conductors and semiconductors, piezoelectronic materials, electrodes, UV absorption applications, super-strength materials, special lubricants and gaskets, selective catalytic and multi-site catalytic agents.