

1. Record Nr.	UNINA9911019804403321
Titolo	Transition metal-containing polymers // edited by Alaa S. Abd-El-Aziz ... [et al.]
Pubbl/distr/stampa	Hoboken, NJ, : Wiley, c2006
ISBN	9786610235650 9781280235658 1280235659 9780470294819 0470294817 9780471747314 0471747319 9780471747307 0471747300
Descrizione fisica	1 online resource (235 p.)
Collana	Macromolecules containing metal and metal-like elements ; ; v. 6
Altri autori (Persone)	Abd-El-AzizAlaa S
Disciplina	546.6 547.7
Soggetti	Transition metal compounds Metal complexes Organometallic polymers Macromolecules
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	Macromolecules Containing Metal and Metal-Like Elements Volume 6; Contributors; Contents; Preface; Series Preface; 1. Introduction; I. Coverage; II. General Concepts; III. Historical; IV. Polymers Containing Bis(Cyclopentadienyl) Metal Complexes; A. Polymerization of Olefin-Functionalized Metallocenes; B. Alkyne Metathesis Polymerization of Substituted Metallocenes; C. Polycondensation of Metallocenes; D. Ring-Opening Polymerization; E. Coordination of Metals to Cyclopentadienyl Rings; F. Introduction of Metallocenes into Preformed Polymers; V. Arene-Transition Metal Polymers A. Polymerization of Olefin-Containing ArenesB. Ring-Opening

Metathesis Polymerization of Substituted Norbornenes; C. Nucleophilic Aromatic Substitution Polymerization of Chloroarene Complexes; D. Polycondensation of Arene Complexes; E. Coordination of Organometallic Moieties to Arenes; F. Supramolecular Assembly of Polymers; VI. Polymers with Metal-Coordinated Cyclobutadienes; VII. Polymers Containing Metal Carbonyl Complexes; VIII. Polymers with Metal-Carbon σ -Bonds; A. Transition Metal Polyyne; B. Metal-Aryl and Metal-Alkyl Systems; IX. Metal-Metal Bonded Systems; X. Conclusion XI. References

2. Lithographic Applications of Highly Metallized Polyferrocenylsilanes; I. Introduction; II. Polyferrocenylsilanes as Electron Beam Lithography Resists; III. Polyferrocenylsilanes as Reactive Ion Etch Resists; IV. Polyferrocenylsilanes as UV Photoresists; V. Conclusions; VI. Acknowledgments; VII. References;

3. Polymers Possessing Reactive Metallacycles in the Mainchain; I. Introduction; II. Synthesis and Reactions of Organometallic Polymers Possessing Metallacycles in the Mainchain; A. Cobaltacyclopentadiene-Containing Polymers

B. Conversion of Cobaltacyclopentadiene-Containing Polymers into Polymers Possessing Various Mainchain Structures

i. Conversion into Other Organometallic Polymers; ii. Conversion into Organic Polymers with Various Functional Groups in the Mainchain; C. Synthesis and Reactions of Titanacycle-Containing Polymers; i. Polymers Containing Titanacyclopentadiene Unit in the Mainchain; ii. Polymers Possessing Other Titanacycle Units; III. Summary; IV. References;

4. Mechanistic Aspects of the Photodegradation of Polymers Containing Metal-Metal Bonds Along Their Backbones; I. Introduction

II. General Overview of Polymer Photodegradation

A. The Auto-Oxidation Mechanism; B. Reactions of Hydroperoxide Species That Lead to Backbone Degradation; C. Other Photochemical Degradation Mechanisms; D. Methods for Intentionally Making Polymers Photodegradable; III. Metal-Metal Bond-Containing Polymers; A. Synthesis and Characterization; B. Synthesis of the Difunctional Dimers; C. Synthesis of the Polymers; D. Characterization of the Polymers; E. Photochemical Reactions in Solution; F. Photochemistry in the Solid State; IV. Factors Controlling the Rate of Photochemical Degradation

A. Cage Effects

Sommario/riassunto

This series provides a useful, applications-oriented forum for the next generation of macromolecules and materials. The sixth volume in this series provides useful descriptions of the transition metals and their applications, edited by high-quality team of macromolecular experts from around the world.