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Polymers; VI. Polymers with Metal-Coordinated Cyclobutadienes; VII. Polymers Containing Metal Carbonyl Complexes; VIII. Polymers with Metal-Carbon σ -Bonds; A. Transition Metal Polyynes; 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.
