1. Record Nr. UNINA9911019987203321

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| Autore | Manners Ian <1961-> |
| Titolo | Synthetic metal-containing polymers / / Ian Manners |
| Pubbl/distr/stampa | Weinheim ; ; Cambridge, : Wiley-VCH, c2004 |
| ISBN | 9786610520237<br>9781280520235<br>128052023X<br>9783527605088<br>3527605088<br>9783527601684<br>3527601686 |
| Descrizione fisica | 1 online resource (291 p.) |
| Disciplina | 547.7<br>620.192 |
| Soggetti | Copolymers - Analysis<br>Metal-filled plastics - Analysis<br>Metallic composites<br>Polymeric composites<br>Polymerization - Analysis |
| Lingua di pubblicazione | Inglese |
| Formato | Materiale a stampa |
| Livello bibliografico | Monografia |
| Note generali | Description based upon print version of record. |
| Nota di bibliografia | Includes bibiographical references and index. |
| Nota di contenuto | Synthetic Metal-Containing Polymers; Preface; Contents; Abbreviations; 1 Introduction; 1.1 Metal-Containing Polymers; 1.2 Fundamental Characteristics of Polymeric Materials; 1.2.1 Polymer Molecular Weights; 1.2.2 Amorphous, Crystalline, and Liquid-Crystalline Polymers: Thermal Transitions; 1.2.3 Polymers versus Oligomers: Why are High Molecular Weights Desirable?; 1.2.4 Polymer Solubility; 1.2.5 Block Copolymers; 1.2.6 Dendrimers and Hyperbranched Polymers; 1.2.7 Electrically Conducting Polymers; 1.3 Motivations for the Incorporation of Metals into Polymer Structures<br>1.3.1 Conformational, Mechanical, and Morphological Characteristics1. 3.2 Precursors to Ceramics; 1.3.3 Magnetic, Redox, Electronic, and Optical Properties; 1.3.4 Catalysis and Bioactivity; 1.3.5 Supramolecular |

Chemistry and the Development of Hierarchical Structures; 1.4 Historical Development of Metal-Based Polymer Science; 1.5 Synthetic Routes to Metal-Containing Polymers; 1.5.1 The Synthesis of Side-Chain Metal-Containing Polymers; 1.5.2 Main-Chain Metal-Containing Polymers; 1.5.2.1 Why are Transition Metals in the Polymer Main Chain Desirable?
1.5.2.2 The Synthesis of Main-Chain Metal-Containing Polymers1. 5.2.2.1 Addition Polymerization; 1.5.2.2.2 Polycondensations; 1.5.2.2.3 Ring-Opening Polymerization (ROP); 1.6 References; 2 Side-Chain Metal-Containing Polymers; 2.1 Introduction; 2.2 Side-Chain Polymetallocene Homopolymers and Block Copolymers; 2.2.1 Organic Polymers with Metallocene Side Groups; 2.2.1.1 Poly(vinylferrocene); 2.2.1.2 Other Organic Polymers with Metallocene-Containing Side Groups; 2.2.2 Inorganic Polymers with Metallocene Side Groups; 2.2.2.1 Polyphosphazenes with Ferrocene- or Ruthenocene-Containing Side Groups
2.2.2.2 Polysilanes, Polysiloxanes, and Polycarbosilanes with Metallocene Side Groups2.3 Other Side-Chain Metallopolymers; 2.3.1 Polymers with -Coordinated Metals; 2.3.2 Polymers with Pendant Polypyridyl Complexes; 2.3.3 Polymers with Other Pendant Metal-Containing Units, Including the Area of Polymer-Supported Catalysts; 2.3.4 Block Copolymers with Pendant Metal-Containing Groups; 2.3.4.1 Approaches using Ring-Opening Metathesis Polymerization (ROMP); 2.3.4.2 Coordination to Pyridyl Substituents in Preformed Blocks; 2.3.4.3 Coordination to Other Substituents in Preformed Blocks
2.4 References3 Main-Chain Polymetallocenes with Short Spacer Groups; 3.1 Introduction; 3.2 Polymetallocenylenes and Polymetallocenes with Short Spacers Obtained by Condensation Routes; 3.2.1 Polymetallocenylenes; 3.2.2 Other Polymetallocenes with Short Spacers Obtained by Polycondensation Routes; 3.3 Ring-Opening Polymerization (ROP) of Strained Metallocenophanes; 3.3.1 Thermal ROP of Silicon-Bridged [1]Ferrocenophanes; 3.3.2 Thermal ROP of Other Strained Metallocenophanes; 3.3.3 Living Anionic ROP of Strained Metallocenophanes
3.3.4 Transition Metal-Catalyzed ROP of Strained Metallocenophanes

Sommario/riassunto

The development of the field of synthetic metal-containing polymers - where metal atoms form an integral part of the main chain or side group structure of a polymer - aims to create new materials which combine the processability of organic polymers with the physical or chemical characteristics associated with the metallic element or complex. This book covers the major developments in the synthesis, properties, and applications of synthetic metal-containing macromolecules, and includes chapters on the preparation and characterization of metal-containing polymers, metallocene-based polymers, rig

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| Record Nr. | UNINA9910954979903321 |
| Autore | Edgar Timothy H. |
| Titolo | Beyond Snowden : Privacy, Mass Surveillance, and the Struggle to Reform the NSA / / Timothy H. Edgar |
| Pubbl/distr/stampa | Washington, D.C. : , : Brookings Institution Press, , 2017<br>New York : , : Bloomsbury Publishing (US), , 2017 |
| ISBN | 0-8157-5100-1<br>0-8157-4304-1 |
| Edizione | [1st ed.] |
| Descrizione fisica | 1 online resource (1 PDF (viii, 276 pages)) |
| Disciplina | 342.7308/58 |
| Soggetti | Privacy, Right of<br>Official secrets<br>National security - Law and legislation<br>Leaks (Disclosure of information)<br>Government information - Law and legislation<br>Electronic surveillance - Law and legislation<br>Government information - Law and legislation - United States<br>Electronic surveillance - Government policy - United States<br>Official secrets - United States<br>National security - Law and legislation - United States<br>Electronic surveillance - Law and legislation - United States<br>Privacy, Right of - United States<br>United States |
| Lingua di pubblicazione | Inglese |
| Formato | Materiale a stampa |
| Livello bibliografico | Monografia |
| Note generali | Issued as part of book collections on Project MUSE. |
| Nota di bibliografia | Includes bibliographical references and index. |
| Nota di contenuto | 1. Introduction : making a difference -- part i. Into the shadows -- 2. Phantoms of lost liberty -- 3. Transnational surveillance -- 4. Stone knives and bearskins -- part II. Out of the shadows -- 5. Breaking the secrecy habit -- 6. Passing the buck -- 7. Behind the judge's curtains -- part III. The struggle for reform -- 8. Technological magic -- 9. The virtues of hypocrisy -- 10. Listening to allies -- 11. Libertarian panic -- 12. Conclusion : beyond Snowden -- Appendix A. National security surveillance timeline -- Appendix B. Mass surveillance : a guide for the |

perplexed.

Sommario/riassunto

America's mass surveillance programs, once secret, can no longer be ignored. While Edward Snowden began the process in 2013 with his leaks of top secret documents, the Obama administration's own reforms have also helped bring the National Security Agency and its programs of signals intelligence collection out of the shadows. The real question is: What should we do about mass surveillance? Timothy Edgar, a long-time civil liberties activist who worked inside the intelligence community for six years during the Bush and Obama administrations, believes that the NSA's programs are profound threat to the privacy of everyone in the world. At the same time, he argues that mass surveillance programs can be made consistent with democratic values, if we make the hard choices needed to bring transparency, accountability, privacy, and human rights protections into complex programs of intelligence collection. Although the NSA and other agencies already comply with rules intended to prevent them from spying on Americans, Edgar argues that the rules--most of which date from the 1970s--are inadequate for this century. Reforms adopted during the Obama administration are a good first step but, in his view, do not go nearly far enough. Edgar argues that our communications today--and the national security threats we face--are both global and digital. In the twenty first century, the only way to protect our privacy as Americans is to do a better job of protecting everyone's privacy. Beyond Surveillance: Privacy, Mass Surveillance, and the Struggle to Reform the NSA explains both why and how we can do this, without sacrificing the vital intelligence capabilities we need to keep ourselves and our allies safe. If we do, we set a positive example for other nations that must confront challenges like terrorism while preserving human rights. The United States already leads the world in mass surveillance. It can lead the world in mass surveillance reform.