1. Record Nr. UNINA990001044590403321

Autore	Phua, K.K.
Titolo	Proceedings of the 1978 International Meeting on Frontier of Physics, Singapore / Edited by K.K. Phua, C.K. Chew, Y.L. Lim
Pubbl/distr/stampa	Singapore : Singapore National Academy of Science, 1978
Disciplina	539.72539.73
Locazione	FI1
Collocazione	33-225 33-225.001
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Vol. 1. Vol. 2.

2. Record Nr. UNINA9910831094603321

Autore	Hirsch Andreas, Dr. rer. nat.
Titolo	The chemistry of the fullerenes [[electronic resource] /] / Andreas Hirsch
Pubbl/distr/stampa	Stuttgart ; ; New York, : G. Thieme Verlag, 1994
ISBN	1-281-84341-5 9786611843410 3-527-61921-6 3-527-61922-4
Descrizione fisica	1 online resource (218 p.)
Collana	Thieme organic chemistry monograph series
Disciplina	543.0894 546.681
Soggetti	Fullerenes
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	The Chemistry of the Fullerenes; Contents; Chapter 1. The Parent Fullerenes; 1.1 The Fullerenes: Molecular Allotropes of Carbon; 1.2 The Discovery of the Fullerenes; 1.3 Fullerene Production; 1.3.1 Fullerene Generation by Vaporization of Graphite; 1.3.1.1 Resitive Heating of Graphite; 1.3.1.2 Arc heating of Graphite; 1.3.1.3 Solar Generators; 1.3.1.4 Inductive Heating of Graphite; 1.3.2 Fullerene Synthesis in Combustion; 1.3.3 Formation of Fullerenes by Pyrolysis of Naphthalene; 1.3.4 Endohedrals; 1.3.5 The Formation Process; 1.4 Separation and Purification; 1.5 Properties; 1.5.1 Structures 1.5.2 Physical and Spectroscopic PropertiesReferences; Chapter 2. Reduction; 2.1 Introduction; 2.2 Fulleride Anions; 2.3 Reductive Electrosynthesis; 2.3.1 Electrocrystallization; 2.3.2 Electrophilic Additions to Fulleride Anions; 2.4 Reduction with Metals; 2.4.1 Alkali Metal Fullerides; 2.4.1.1 Generation in Solution and Quenching Experiments; 2.4.1.2 Synthesis and Properties of Alkali Metal Fulleride Solids; 2.4.2 Alkaline Earth Metal Fullerides; 2.4.3 Reduction with Mercury; 2.5 Reduction with Organic Donor Molecules; References; Chapter 3. Nucleophilic Additions; 3.1 Introduction 3.2 Addition of Carbon Nucleophiles3.2.1 Hydroalkylation and Hydroarylation of C60 and C70; 3.2.2 Langmuir - Blodgett Films of C60Ht-Bu; 3.2.3 Addition of Macromolecular Carbanions - Fullerene Polymers; 3.2.4 Cyclopropanation of C60 and C70; 3.3 Addition of Amines; 3.4 Addition of Hydroxide; References; Chapter 4. Cycloadditions; 4.1 Introduction; 4.2 [4+2] Cycloadditions; 4.3 [3+2] Cycloadditions; 4.3.1 Addition of Diazomethanes. Diazoacetates and Diazoamides; 4.3.2 Addition of Azides; 4.3.3 Addition of Trimethylenemethanes; 4.3.4 Addition of Azomethine Ylides 4.3.5 Addition of Nitrile Oxides4.3.6 Addition of Sulfinimides; 4.3.7 Addition of Disiliranes; 4.4 [2+2] Cycloadditions; 4.4.1 Addition of Benzyne; 4.4.2 Addition of Enones; 4.4.3 Addition of Quadricyclane; 4.4.4 Addition of Electron Rich Alkynes; 4.4.5 Photopolymerization of C60; 4.5 [2+1] Cycloadditions; 4.5.1 Addition of Carbenes; 4.5.2 Addition of Silylenes; References; Chapter 5. Hydrogenation; 5.1 Introduction; 5.2 Oligohydrofullerenes C60Hzn and C70H2n (n = 1 - 6); 5.2.1 Hydrogenation via Hydroboration, Hydrozirconation and Zinc/Acid Reduction; 5.2.2 Theoretical Investigations 5.3 Polyhydrofullerenes C60H2n and C70H2n (n = 7 - 70)5.3.1 Birch - Huckel Reduction; 5.3.2 Transfer Hydrogenation of C60 and C70; 5.3.3 Catalytic Hydrogenation; 5.3.4 Theoretical Investigations; References; Chapter 6. Radical Additions; 6.1 Introduction; 6.2 ESR Investigations of Radical Additions; 6.2.1 Addition of Single Radicals; 6.2.2 Multiple Radical Additions; 6.3 Metalation of C60 with Pentacarbonylrhenium Radicals; 6.4 Hydrostannylation of C60; 6.5 Addition of Bis (trifluoromethyl)nitroxide; 6.6 Radical Copolymerization of C60 and Paracyclophane; References Chapter 7. Transition Metal Complex Formation
Sommario/riassunto	Although synthetic fullerenes have only been around for a few years, there are thousands of scientific articles dealing with them. This is the first monograph in the field and thus represents a vital source of information summarizing the most important and fundamental aspects of the organic and organometallic chemistry of the fullerenes. The book is logically arranged so that information is easy to retrieve, and the style lends itself to effortless reading and to learning more about the chemical properties of a family of molecules that constitute new building blocks for novel architectures