

1. Record Nr.	UNINA9910141573303321
Titolo	Encapsulation nanotechnologies [[electronic resource] /] / edited by Vikas Mittal
Pubbl/distr/stampa	Hoboken, N.J., : ill., : John Wiley & Sons, Inc., 2013
ISBN	1-118-72904-8 1-118-72917-X 1-118-72906-4
Descrizione fisica	1 online resource (729 p.)
Classificazione	TEC009010
Altri autori (Persone)	MittalVikas
Disciplina	620/.5
Soggetti	Microencapsulation Nanotechnology
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	Cover; Half Title page; Title page; Copyright page; Preface; List of Contributors; Chapter 1: Copper Encapsulation of Multi-Walled Carbon Nanotubes; 1.1 Introduction; 1.2 Preparation of Copper Encapsulated CNTs; References; Chapter 2: Novel Nanocomposites: Intercalation of Ionically Conductive Polymers into Molybdic Acid; 2.1 Introduction; 2.2 Experimental; 2.3 Intercalation into Molybdic Acid; 2.4 Preparation of Polymer-Lithium Complexes; 2.5 Instrumentation; 2.6 Results and Discussion; 2.7 Conclusions; Acknowledgements; References Chapter 3: Fluid-Bed Technology for Encapsulation and Coating Purposes3.1 Introduction; 3.2 Principles of Fluidization; 3.3 Classification of Powders; 3.4 Fluidized Bed Coaters; 3.5 Fluid-Bed Coating and Encapsulation Processes; 3.6 The Design, Optimization and Scale-Up of the Coating Process and the Apparatus; 3.7 Numerical Modeling of Fluid-Bed Coating; References; Chapter 4: Use of Electrospinning for Encapsulation; 4.1 Introduction; 4.2 Electrospun Structures for the Encapsulation of Bioactive Substances in the Food Area 4.3 Electrospun Encapsulation Structures for Biomedical Applications4.4 Other Uses of Electrospinning for Encapsulation; 4.5 Outlook and Conclusions; References; Chapter 5: Microencapsulation by Interfacial Polymerization; 5.1 Introduction; 5.2 Generalities; 5.3 Encapsulation by

Heterophase Polymerization; 5.4 Microencapsulation by Polyaddition & Polycondensation Interfacial; 5.5 Microencapsulation by In Situ Polymerization; 5.6 Conclusion; References; Chapter 6: Encapsulation of Silica Particles by a Thin Shell of Poly(Methyl) Methacrylate; 6.1 Introduction  
 6.2 Synthesis of Silica (Nano)Particles and Their Surface Modification6.3 Encapsulation of Silica Particles in a Thin PMMA Shell; 6.4 Summary; References; Chapter 7: Organic Thin-Film Transistors with Solution-Processed Encapsulation; 7.1 Introduction; 7.2 Environment-Induced Degradations of OTFTs; 7.3 Encapsulation of OTFTs; 7.4 Summary and Outlook; References; Chapter 8: Tunable Encapsulation Property of Amphiphilic Polymer Based on Hyperbranched Polyethylenimine; 8.1 Introduction; 8.2 Synthesis of PEI-CAMs; 8.3 Unimolecularity versus Aggregate of PEI-CAMs  
 8.4 Host-Guest Chemistry of PEI-CAMs8.5 Charge Selective Encapsulation and Separation; 8.6 Recognition and Separation of Anionic-Anionic Mixtures by Core Engineering of a CAM; 8.7 Modulation of the Guest Release of a CAM; 8.8 Concluding Remarks; Acknowledgements; References; Chapter 9: Polymer Layers by Initiated CVD for Thin Film Gas Barrier Encapsulation; 9.1 Introduction; 9.2 Initiated CVD Polymerization; 9.3 Coating by Initiated CVD; 9.4 Advantages of iCVD in Hybrid Multilayer Gas Barriers; 9.5 Specific Requirements for the Use in Hybrid Multilayers  
 9.6 Multilayer Gas Barriers Containing Polymers by iCVD

---

## Sommario/riassunto

"The process of encapsulation by which living creatures are engulfed in a protective shell is both well understood and widely used in industry. This work highlights the growing interest and use of nanotechnologies for the generation of nano-capsules or nano-containers with desirable properties and behaviors. It introduces readers to many significant processes and technologies that have been developed and applied successfully to generate encapsulated materials, addressing the high potential of these technologies and products in a large number of commercial processes"--

---