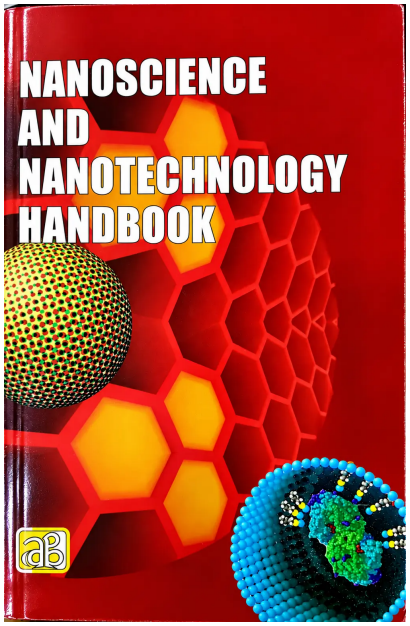
Entrepreneur India

106-E, Kamla Nagar, New Delhi-110007, India.
Tel: 91-11-23843955, +91 9097075054
Mobile: +91-9097075054
Email: npcs.ei@gmail.com, info@entrepreneurindia.co
Website: www.entrepreneurIndia.co



Nanoscience and Nanotechnology Habdbook

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Description

Nanotechnology is the engineering of functional systems at the molecular scale. In its original sense, nanotechnology refers to the projected ability to construct items from the bottom up, using techniques and tools being developed today to make complete, high performance products. In this rising world of rapid technological developments, the role of state of art materials & composites is pivotal in frontier applications like aerospace, aviation, automobile, defense, electronics, chemical, biomedical, energy & nuclear sectors etc. with the advent of 21st century & initiation of Nanotechnology the atomic & molecular structures of materials is redefined. This shall result in new smart materials namely nanoparticles, powder, wires, rods, carbon nano tubes & so on. Nanotechnology is very diverse, ranging from novel extensions of conventional device physics, to completely new approaches based upon molecular self-assembly, to developing new materials with dimensions on the nanoscale, even to speculation on whether we can directly control matter on the atomic scale. Potential of nanotechnology to manipulate and program matter with atomic precision has invited the attention of scientists to explore innumerable applications of nanotechnology was an inspiration for the benefit of researchers, academicians and industries associated with this field. The global market for nanotechnology products is worth an estimated compound annual growth rate (CAGR) of 11.1% from 2010 to 2015.The largest segment of the market, made up of nanomaterials, is expected to increase at a 5 year CAGR of 14.7%.
This book basically deals with design of protein based nanomachines, metastabilities in nanocrystalline, nanoscale characterization of nanowires, thermopower measurements on nickel nanowires, a nanoporous tio2 electrode, nanoscale in investigation of ultrathin, silicone oxide thermal decomposition, cylindrical nanodot arrays, nanocrystalline silicon films, dispersion of carbon nanotubes, electrical conductivity study of nanocomposite films, magnetic properties of nanospheres, generation spectroscopy of nanoparticle monolayer, au nanoparticles on light emitting polymers, etc.

This handbook deals with the technology frontiers, its applications, the current & future challenges etc. This book will be an invaluable resource to all academicians, industrialists, scientists, upcoming entrepreneurs & technocrats.

Content

PREFACE
1. DESIGN OF PROTEIN BASED NANOMACHINES
Introduction

Renowned Nanomachines of the Biological Cell Confirm Engineering Principles and Inspire Nanomachine Design
De Novo Design of Diverse Elastic-Contractile Protein Machines
Hydrophobic and Elastic Consilient Mechanisms: Definitions
Hydrophobic Consilient Mechanism and the Inverse Temperature Transition
The Elastic Consilient Mechanism and the Nature of Near Ideal Elasticity
Coupled Hydrophobic and Elastic Consilient Mechanisms
Principal Thermodynamic Quantities Controlling Diverse Energy Conversions in Model Proteins
The Change in Gibbs Free Energy for Solubility, ï„ï, G(solubility) = ï„ï, H-Tï„ï, S
The Change in Gibbs Free Energy for a Phase Transition
The Change in Gibbs Free Energy for an Inverse Temperature Transition
Apolar-Polar Repulsive Gibbs Free Energy of Hydration, ï„ï, Gap
Calculations of the Entropic Elastic Force and Energy
Biologyâ€™s Protein-based Nanomachines Confirm the Hydrophobic and Elastic Consilient Mechanisms
The Three Classes of Energy Conversion Within the Cell
Complex III of the Electron Transport Chain Within the Inner Mitochondrial Membrane
ATP Synthase of the Inner Mitochondrial Membrane
The Myosin II Motor of Muscle Contraction
Confirmation of the Hydrophobic and Elastic Consilient Mechanisms
Designing Protein-based Nanomachines Using the Hydrophobic and Elastic Consilient Mechanisms
Design of an AFM-Based Stress-Strain Nanomachine for the Detection of a Single Molecular Event
Use of the 3 kHz Mechanical Resonances in the Design of an AFM-Based Nanomachine for Detection of Interactions at Fixed Length
An Additional Opportunity in the Deciphering of Engineering Principles for the Design of Protein-Based Nanomachines
2. METASTABILITIES IN NANOCRYSTALLINE
SILICON
Experimental Procedure
Results
Discussion
Conclusion
3. INTERACTION OF SULPHURIC ACID WITH
GRAPHENE
Sulphuric Acid in Gas and Solid Phases
Sulphuric Acid on Graphene
Conclusions
4. NANOSCALE CHARACTERIZATION OF

NANOWIRES
Experimental Methods
Nanowire Morphology, Periodicity and Diameter
Chemical Analysis of the CoPt/Pt Nanowires
Structural Analysis of the CoPt/Pt Nanowires
Discussion
Conclusions
5. THERMOPOWER MEASUREMENTS ON NICKEL NANOWIRES
Experimental Details
Results and Discussion
Structural Characterization of the NWs
Initial Characterization of the Measurement Device
6. MULTI-WALLED CARBON NANOTUBE EMITTERS EXPERIMENT
Fabrication of CNT Cathode
Experimental Structures
Current-Voltage Characteristics
Simulations
Simulated Structures
Predicted Iâ€”V Characteristics
Cathode Support Structure Geometry
Conclusion
7. VIBRATION OF A CARBON NANOTUBE
The Model for a CNT filled with a C-chain
Vibration of a CNT filled with a C-chain
Axisymmetric Radial Breathing Vibration (n = 0)
Coupled Vibration with n = 1
Vibration of Higher-order Modes (n > 2)
Conclusions
8. A NANOPOROUS TiO2 ELECTRODE
Experimental Details
Preparation of the ILSE Films
Characterization of the ILSE Films
Electrode and DSSC Fabrication Containing the ILSE
Electrode Characterization
Results and Discussion
Conclusions
9. FREEZING BEHAVIOUR OF AN NANOMETER-SIZED Au DROPLET
Numerical Simulations

Results and Discussion
Conclusions
10. NANOSCALE IN INVESTIGATION OF ULTRATHIN
SILICONE OXIDE THERMAL DECOMPOSITION
Experimental Details
Results and Discussion
High Temperature STM in situ Observation of the Thermal Decomposition Process
Individual Void Growth Kinetics at the Initial Decomposition Stage
Decomposition Rate Variation and Rate Limiting Steps
Morphology Effects on the Decomposition Process
Conclusions
11. CARBON NANOTUBE FIELD-EFFECT
TRANSISTOR
Methodology
Results and Discussion
Conclusions
12. CYLINDRICAL NANODOT ARRAYS
System and Units
Theoretical Model
Vortex-core Magnetization
Total Energy Calculation
Results and Discussion
Conclusions
13. SUPERELASTICITY OF ENGINEERING
CERAMICS BY NANOTUBES
Experimental Details
Results and Discussion
Conclusion
14. POROUS ANODIC ALUMINA
Experimental Details
Results
Initial Specimens and Anodizing
Film Morphology
Film Composition
Discussion
Conclusions
15. METAL NANOCLUSTERS IN GLASS
Experimental Procedure
Results and Discussion
Ion-Beam Mixed Ag in Silica
Ion-Exchanged Ag in Soda Lime Glass

Conclusion
16. LIGHT EMISSION FROM NANOCOMPOSITES
Experiments
Results and Discussion
Conclusion
17. NANOCRYSTALLINE SILICON FILMS
Experimental Details
Results
Optical Absorption Study
X-ray Diffraction Study
Infrared Absorption Study
Raman Study
Electron Microscopy
Discussion
Conclusion
18. CARBON NANOTUBES IN CHEMICAL VAPOUR DEPOSITION
19. NANOSCALE DEEP INDENTATION
Simulation Methodology
Results and Discussion
Conclusion
20. REDUCTION OF NANOWIRES
Experimental Details
Results and Discussions
Summary and Conclusion
21. DISPERSION OF CARBON NANOTUBES
Experimental Details
Purification and Dispersion of MWCNTs
Preparation of Nanocomposite Films
Carbon Nanotube Dispersion Study in Solution and in Nanocomposite Films
Electrical Conductivity Measurement
Results and Discussion
MWCNT Dispersion in Solution
Nanocomposite Preparation and Carbon Nanotube Distribution in Composite Films
Electrical Conductivity Study of Nanocomposite Films
Conclusion
22. CREATION OF CARBON ONIONS AND COILS
Experimental Details
Result and Discussion
Conclusions
23. MAGNETIC PROPERTIES OF NANOSPHERES

Experimental Details
Results and Discussion
Conclusion
24. LUMINESCENCE OF CRYSTALS NANORODS
Experimental Section
Results and Discussion
Conclusions
25. NANONECKLACE MORPHOLOGY
Experimental Details
Growth of Cu-Pt Nanoparticles
Growth of Cu-Pt Nanonecklace Nanowires
Conclusions
26. OPTICAL PROPERTIES OF NANODOT ARRAYS
Experimental Details
Results and Discussion
Conclusions
27. GENERATION SPECTROSCOPY OF NANOPARTICLE MONOLAYER
Experimental Section
Materials
Synthesis of AuNPs
Synthesis of Dense AuNPs Monolayer
Dodecanethiol SAM Formation
Characterization
SFG Set-up
Results and Discussion
Conclusions
28. CHEMICAL DOPING WITH CARBON NANOTUBES
Experimental Details
Results and Discussion
Summary
29. DIRECT-WRITE PROGRAMMING OF
NANOSCALE DEMULTIPLEXER ARRAYS
30. POLY(N-ISOPROPYLACRYLAMIDE)
NANOPARTICLES
Introduction
Experimental Details
PNIPAM-coated Fe3O4@SiO4@CdTe Nanoparticles and ZnPcS Loading
Biological Systems
PL and Fluorescence Measurements
ZnPcS Released from the Nanoparticles in PBS Solution
ZnPcS Released from the Nanoparticles in the CHO Cells

Results and Discussion
ZnPcS Embedded in the PNIPAM of Nanoparticles
Release of ZnPcS from the ZnPcSâ€“loaded Nanoparticles in PBS Solution
Release of ZnPcS from the ZnPcS-loaded Nanoparticles in CHO Cells
Release of ZnPcS from the ZnPcS-loaded Nanoparticles in Zebra Fish
Movement of the Nanoparticles in Zebra Fish by the Magnetic Field Gradient
Phthalocyanines and PDT
Conclusion
31. COBALT FERRITE NANOPARTICLES
Experimental Details
Sythesis
Characterization Methods
Results and Discussion
Fundamental Characteristics, Crystallite size Versus Coercivity and Remanence
Mossbauer Spectra and Distribution of Cations
Heating Efficiency from Calorimetric Measurements and ac
Hysteresis Loops
Conclusions
32. Au NANOPARTICLES ON LIGHT-EMITTING POLYMERS
Experimental Section
Measurements
Device Fabrication and Characterization
Materials
Synthesis of PDOFT-bis-4-thiol
End-capping at AuNP onto PDOFT-bis-4-thiol (PDOFT-Au 10, PDOFT-Au15, PDOFT-Au 20 and PDOFT-Au 30)
Results and Discussion
Synthesis and Characterization
Photophysical Properties
Electroluminescent Properties and Current Density-Voltage-Luminescence (J-V-L) Characteristics of the PLED Devices
Conclusions
33. CARBON NANOSTRUCTURE BASED NANOCOMPOSITES
Experimental Details
Results and Discussion
Conclusions
34. Au NANOPARTICLE CHAINS
Experimental Results and Discussion
Sample Preparation and Measuring System
General Considerations on Dielectrophoresis
Dielectrophoresis on Flat Substrates

Dielectrophoresis on V-groove-etched Substrates
Discussion of Results on Patterned Substrates, Electric Field Numerical Calculation
CONCLUSION
35. GOLD-SILICA NANOCOMPOSITES
36. NANOPINS BY CHEMICAL VAPOUR DEPOSITION
Experimental Section
Preparation
Characterization
Results and Discussion
Conclusions
37. OXIDATION RESISTANT METAL NANOPARTICLES
Experimental Details
Thermo-Gravimetric Studies
Particle Size Reduction
Synthesis and Coating of Metal Nanoparticles
Results and Discussion
Thermo-Gravimetric Analysis
Fluidized Bed Processing
Particle Size Reduction
Passivation of Metal Nanoparticles by in situ ALD
Conclusions
38. MOLECULAR CARBON-ONIONS
Experimental Details
Discussion of Results
Conclusion
39. ATOMIC SCALE MANIPULATION
Tip-Surface Interaction
Experimental Response
Discussion and Conclusion
40. SILICONE NANOWIRES
Experimental Session
Results and Discussion
Conclusion
41. CARBON NANOFIBERS
Experimental Details
Results
Discussion and Conclusion
42. SINGLE-CRYSTALLINE NANOWIRES
Experiments
Results and Discussion
Conclusion

43. SILICONE OXIDE NANOSTRUCTURES
Experimental Details
Results and Discussion
Conclusion
44. A SQUARE TITANIUM NANOMESH
Experimental Details
Results and Discussion
Conclusions
45. NANO-POROUS ANODIC ALUMINIUM OXIDE MEMBRANES
Experimental Details
Results and Discussion
Conclusions
46. Co NANOPARTICLES
Experimental Section
Materials
Synthesis and Assembly of Cobalt Nanoparticles
Characterization
Results and Discussion
Conclusions
47. ZERO-BIAS CONDUCTANCE OF GOLD MOLECULAR JUNCTION
Methodology
Results and Discussion
Conclusion
48. ALL-INKJET-PRINTED ELECTRONICS OF METAL NANOPARTICLES
Fabrication and Experimental Details
Nanoparticle Solution Preparation
Semi-conducting Polymer Preparation
Organic Field Effect Transistor Fabrication Process and Characterization (Inkjet Printing of Nanoparticle Solution, Polymer Dielectric Layer and Semi-conducting Polymer)
Results and Discussion
Nanoparticle Sintering Characterization
OFET Charactrization
Summary
49. TRIODE TYPE CARBON NANOTUBE FIELD EMITTER
Experimental Details
Results and Discussion
Conclusions
50. PROTEIN AND POLYMER IMMOBILIZED NANOPARTICLES FOR BIOMEDICAL APPLICATIONS
Methodology

Chemicals and Materials
Experimental Set-up
Analyses
Results and Discussion
Protein Estimation
Conjugation Studies
Magnetic Studies
Microscopy Studies
Cytotoxicity Studies
Leaching Studies
Hyperthermia Studies
Conclusion
51. 3D STRUCTURES OF NANOWIRES
Methods
Nanowire Growth
TEM Characterization
Image Simulations
Result
Crystal Structure
lmage Simulations
Discussion
Summary
52. SUPERIOR CONDUCTIVITY OF NANOPARTICLES
Experimental Details
Synthesis of Nanocomposites
Characterization
Results and Discussion
Conclusions
53. STRUCTURAL AND ELECTRONIC PROPERTIES OF ZnO NANOTUBES
Computational Method
Results and Discussion
Conclusions
54. SYNTHESIS OF NANOCRYSTALLINE CERAMIC POWDERS
Experimental Procedure
Results and Discussion
Nanocrystalline CeO2 Powders Through Glycine-Nitrate and Citrate-Nitrate Combustion
Auto-Ignition Synthesis of Monophasic BaTi4O9 and Ba2Ti9O12 Powders
Combustion Synthesis of TbO2, and MTbO3 (M = Ba and Sr)
Conclusions
55. NANOCLUSTERS ON POLYMER SURFACES

Organization of Nanoparticles on the Polymer Matrices: Why?
Nanoclusters Organization on Polymers: How?
Electrostatic Organization
Covalent Organization
Vander-Waals Organization
Different Preparation Strategies
Nanocomposites Versus Surface Functionalisation
Selection of Polymers
Selection of Clusters
Metallic Nanoclusters
Semi-conducting Nanoclusters
Characterisation Techniques
Selected Applications
Catalytic Applications
Photovoltaic Applications
Biological Applications
Limiations of Cluster Organization on Polymers
Conclusion

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