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Nota di contenuto	Nanomedicine Design of Particles, Sensors, Motors, Implants, Robots, and Devices; Contents; Preface; Chapter 1 A Nanotechnology Framework for Medical Innovation; 1.1 Introduction; 1.2 Descriptive Systems Modeling; 1.2.1 Examples of Descriptive Systems Modeling; 1.3 Instrumentation Needed to Develop DSM; 1.4 Nanomaterials Made for Medicine; 1.5 Implantable Nanomedical Devices; 1.6 Nanorobots; 1.6.1 Nanorobots for Revolutionizing Medicine; 1.6.2 Nanorobot Factory; 1.6.3 Biological Nanorobots; 1.7 Biodegradable Metals for Temporary Implantable Nanomedical Devices 1.8 Integration of Nanodevices in the Body1.9 Safety and Ethical Implications of Nanomedicine; 1.10 Efficiently Working Together Using Shared Resources; 1.11 Chapter Summary and Conclusions; Problems; Acknowledgments; References; Endnote; Part 1 Nanoscale Materials and Particles; Chapter 2 Synthesis of Carbon Nanotube Materials for Biomedical Applications; 2.1 Introduction to Nanoscale Materials; 2.2 Synthesis of Long Carbon Nanotube Arrays; 2.3 Characterization of CNT Arrays; 2.3.1 Scanning Electron Microscopy and Transmission

Electron Microscopy

2.3.2 Raman Spectroscopy and Thermal Gravimetric Analysis 2.4
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2.5.1 Magnetron Sputtering for Substrate Preparation; 2.6 Spinning
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and Substrates for Growing of Spinable CNT Arrays; 2.6.4 Spinning
Thread from DWCNT Arrays; 2.6.5 Pulling Ribbon from CNT Arrays;
2.6.6 Post-Treatment of the CNT Thread; 2.7 Mechanical and Electrical
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2.7.2 Electrical Properties of CNT Thread 2.7.3 Temperature
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2.8.3 Building Nanomedical Devices Using the Nanomanipulator; 2.9
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2.9.1 Wireless Communication and the Modern World; 2.9.2
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2.10.3 Carbon Nanotube Materials as Scaffolds for Supporting
Directional Neurite Growth; 2.11 Summary and Conclusions; Problems;
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Therapy; 3.1 Introduction to Targeted Cancer Therapy; 3.1.1 Cancer
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Problems; 3.1.3 A Brief Insight into Targeting Strategies
3.2 Carbon Nanotubes: A Versatile Material

Sommario/riassunto

Annotation This resource outlines the new tools that are becoming available in nanomedicine. The book presents an integrated set of perspectives that describe where advancements are now and where they should be headed to put nanomedicine devices into applications as quickly as possible.
