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## of Nanoparticles

Chapter 19. Organs from Nanomaterials Chapter 20. Nanotechnology for Implants; Chapter 21. Nanotechnology for the Urologist; Part IV: Medical Imaging; Chapter 22. Quantum Dots for Nanomedicine; Chapter 23. Relaxivity of Nanoparticles for Magnetic Resonance Imaging; Chapter 24. Nanoparticle Contrast Agents for Medical Imaging; Chapter 25. Optical Nanosensors for Medicine and Health Effect Studies; Part V: Drug Delivery; Chapter 26. Multifunctional Pharmaceutical Nanocarriers; Chapter 27. Nanotechnology and Drug Delivery; Chapter 28. Targeting Magnetic Particles for Drug Delivery Chapter 29. Biodegradable Nanoparticles for Drug Delivery Part VI: Response to Nanomaterials; Chapter 30. Uptake of Carbon-Based Nanoparticles by Mammalian Cells and Plants; Chapter 31. Penetration of Metallic Nanomaterials in Skin; Chapter 32. Nanoparticulate Systems and the Dermal Barrier; Chapter 33. Cellular Response to Continuous Nanostructures; Part VII: Cancer Therapy; Chapter 34. Nanotechnology for Targeting Cancer; Chapter 35. Cancer Nanotechnology: Targeting Tumors with Nanoparticles; Chapter 36. Gold Nanoparticles for Plasmonic Photothermal Cancer Therapy Chapter 37. Fullerenes in Photodynamic Therapy of Cancer Part VIII: Quantum Engines and Nanomotors; Chapter 38. Energy Transport and Heat Production in Quantum Engines; Chapter 39. Artificial Chemically Powered Nanomotors; Chapter 40. Nanobatteries; Chapter 41. Nanoheaters; Part IX: Nanorobotics; Chapter 42. Atomic-Force-Microscopy-Based Nanomanipulation Systems; Chapter 43. Nanomanipulation and Nanorobotics with the Atomic Force Microscope; Chapter 44. Nanorobotic Manipulation; Chapter 45. MRI-Guided Nanorobotic Systems for Drug Delivery; Chapter 46. Medical Micro- and Nanorobots Chapter 47. Nanohandling Robot Cells

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### Sommario/riassunto

This comprehensive reference covers both the fundamental and applied aspects of nanophysics. Although the book is a reference, the information is presented in a tutorial style, providing state-of-the-art scientific contents enriched with fundamental equations and illustrations. This presentation facilitates wider access to the material, giving it a broad readership that includes students and professionals in materials science, solid-state physics, electrical engineering, mechanical engineering, computer science, chemistry, pharmaceutical science, biotechnology, molecular biology, biomedicine,

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