

Contents

Preface.....	v
List of Contributors	ix
Introduction	1
1. Thermodynamic Properties of Diamondoids.....	7
<i>G. R. Vakili-Nezhaad</i>	
2. Development of Composite Materials Based on Improved Nanodiamonds	29
<i>P. Y. Detkov, V. A. Popov, V. G. Kulichikhin, and S. I. Chukhaeva</i>	
3. Diamondoids as Molecular Building Blocks for Nanotechnology	44
<i>Hamid Ramezani and G. Ali Mansoori</i>	
4. Surface Modification and Application of Functionalized Polymer Nanofibers.....	72
<i>Renuga Gopal, Ma Zuwei, Satinderpal Kaur, and Seeram Ramakrishna</i>	
5. Zinc Oxide Nanorod Arrays: Properties and Hydrothermal Synthesis	92
<i>Kian Ping Loh and Soo Jin Chua</i>	
6. Nanoparticles, Nanorods, and Other Nanostructures Assembled on Inert Substrates	118
<i>Xue-Sen Wang</i>	
7. Thermal Properties of Carbon Nanotubes	154
<i>Mohamed. A. Osman, Aron W. Cummings, and Deepak Srivastava</i>	

8. Chemical Vapor Deposition of Organized Architectures of Carbon Nanotubes for Applications.....	188
<i>Robert Vajtai, Binqing Wei, Thomas F. George, and Pulickel M. Ajayan</i>	
9. Online Size Characterization of Nanofibers and Nanotubes	212
<i>C. J. Unrau, R. L. Axelbaum, P. Biswas, and P. Fraundorf</i>	
10. Theoretical Investigations in Retinal and Cubane.....	246
<i>G. P. Zhang and Thomas F. George</i>	
11. Polyhedral Heteroborane Clusters for Nanotechnology.....	256
<i>Fabio Pichierri</i>	
12. Squeezing Germanium Nanostructures	275
<i>K. L. Teo and Z. X. Shen</i>	
13. Nanoengineered Biomimetic Bone-Building Blocks.....	301
<i>R. Murugan and S. Ramakrishna</i>	
14. Use of Nanoparticles as Building Blocks for Bioapplications.....	353
<i>Yong Zhang and Feng Wang</i>	
15. Polymer Nanofibers for Biosensor Applications	377
<i>S. Ramakrishna, Neeta L. Lala, Hota Garudadhvaj, Ramakrishnan Ramaseshan, and V. K. Ganesh</i>	
16. High-Pressure Synthesis of Carbon Nanostructured Superhard Materials	393
<i>V.D. Blank, S.G. Buga, G.A. Dubitsky, K.V. Gogolinsky, V.M. Prokhorov, N.R. Serebryanaya, and V.A. Popov</i>	
Index.....	419