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Titolo	Handbook of Functionalized Carbon Nanostructures : From Synthesis Methods to Applications / / edited by Ahmed Barhoum, Kalim Deshmukh
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Soggetti	Nanotechnology Materials Carbon Chemistry Condensed matter Carbon Materials Two-dimensional Materials Nanoscale Design, Synthesis and Processing
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Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Carbon Nanorods, Nanowires, and Nanotubes. - Unique nanostructures of Carbon Nano Onions -- Covalent functionalization of Carbon Nanostructures -- 1D - 3D Carbon Nanostructures for Flexible and Ultrathin Batteries -- Functionalized Carbon Nanostructures for Smart Bioimaging Devices -- Industrial Scale Production, Commercialization, and Global Market of Functionalized Carbon Nanostructures.
Sommario/riassunto	This book highlights all newly reported carbon nanostructures including graphene and its derivatives, carbon nanotubes, metal organic frameworks, fullerenes, nanorods, nanospheres, nano onions, porous nanoparticles, nanohorns, nanofibers and nanoribbons, nanodiamonds, graphitic carbon nitrides, carbon aerogels and hydrogels, graphdiyne and graphenylene. It presents the historical development of carbon nanostructures technologies, different types

and classifications, and different fabrication and functionalization techniques, including outer/inner surface functionalization and covalent and noncovalent functionalization. This Handbook discusses the unique properties of functionalized carbon nanostructures that can be obtained by modifying their structures, composition, and surface. It gives the reader an in-depth look at the current achievements of research and practice while pointing you ahead to new possibilities in functionalizing and using carbon nanomaterials. Finally, it covers the various applications of functionalized carbon nanostructures including adsorbents, additives, active materials in energy accumulating systems (batteries, hydrogen storage systems, and supercapacitors), filtering media, catalysts or supports for catalysts, sensors or substrates for sensors, additives for polymers, ceramic composites, metal and carbon alloys, glasses, digital textiles, and composite materials.