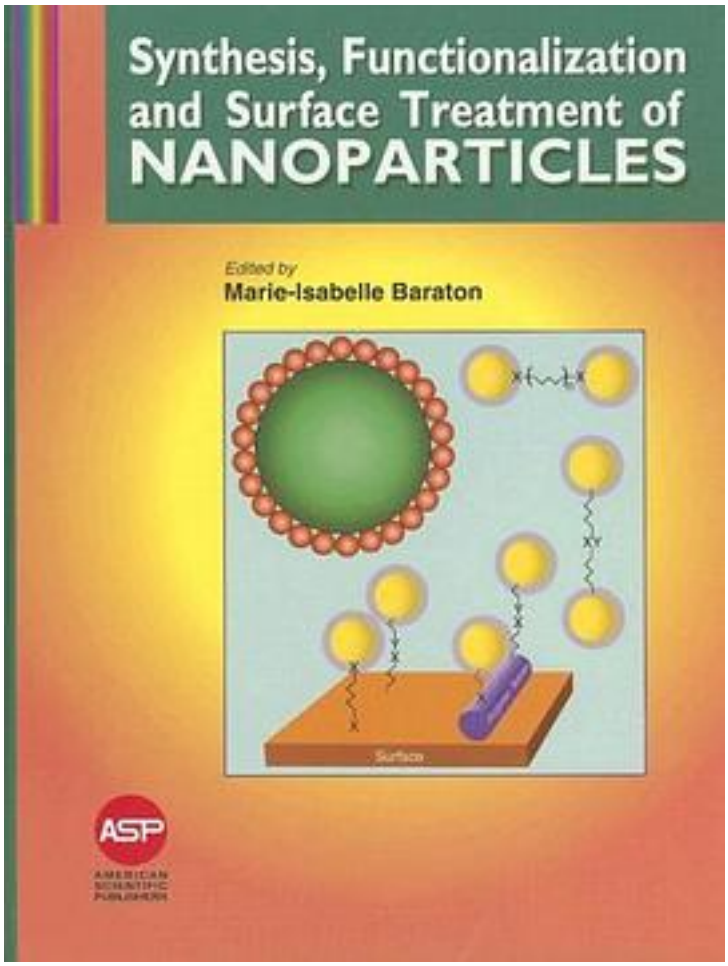
Synthesis, Functionalization and Surface Treatment of Nanoparticles



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Synthesis, functionalization and surface treatment of nanoparticles is an area of crucial

importance in the emerging field of nanotechnology. Controlling the surface chemical composition and mastering its modification at the nanometer scale are critical issues for high-added value applications involving nanoparticles. The basic applications of surface functionalization range from altering the wetting or adhesion characteristics and improving the nanoparticles dispersion in matrices to enhancing the catalytic properties and ordering the interfacial region, and such. The creation of specific surface sites on nanoparticles for selective molecular attachment is considered a promising approach for their applications in nanofabrication, nanopatterning, selfassembly, nanosensors, bioprobes, drug delivery, pigments, photocatalysis, LEDs, etc. This book presents novel and improved synthesis methods and approaches for controlling and functionalizing the nanoparticle surfaces to enhance the overall performance of the nanoparticles for targeted applications. A valuable reference source for students, researchers, college and university professors, and specialists working in the fields of nanoparticle technology, surface science, chemistry, nanotechnology, solid-state physics, materials science, polymer science, colloid science, aerosol technology, environmental science, pharmacy, biotechnology, etc

SELECTED CONTENTS:

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