

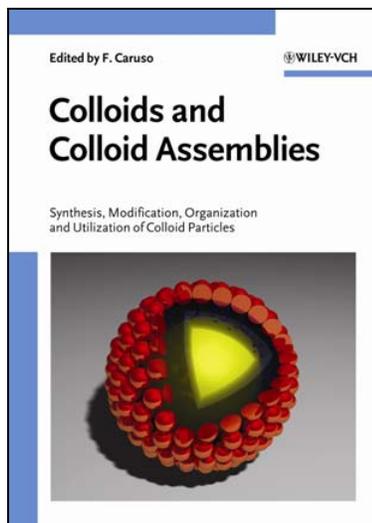
MATERIALS SCIENCE

Caruso, F. (ed.)

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Colloids and Colloid Assemblies

Synthesis, Modification, Organization and Utilization of Colloidal Particles



2003. 621 pages with 273 figures, 20 in color.
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Colloid science is often described as an 'enabling' discipline, and its skills and techniques radiate into a wide spectrum of real scientific and industrial challenges ranging from engineering and physics through materials science and chemistry to biology and medicine. It blends well into the current, powerful nanotechnology drive in which mankind strives to gain control over size, shape and function in the nano dimension, and recent years have brought forth new knowledge and abilities to tailor-make functional colloidal particles in a very wide range of sizes ranging from a few nanometers to many micrometers. Opportunities to create materials with new and superior properties in a whole plethora of application fields are arising and being explored worldwide.

This is the first, authoritative compilation of colloids expertise in book form, collected from many

renowned authors from all over the world. Coverage includes latexes, metal nanoparticles, semiconductor quantum dots, nanocapsules, and miniemulsions. Various methods for the formation of ordered and patterned particle arrays employed in advanced materials preparation are outlined, and further chapters deal with the use of colloids in niche applications such as biolabeling, biological screening, and drug encapsulation and release.

This unique account of colloid science will be of interest to a broad, multidisciplinary audience in both academia and industry. It will also arouse the interest of scientists and engineers who wish to diversify their research, and serves as a reference for graduate students, providing detailed accounts of the current state of colloids research in the various scientific disciplines.

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