

## Book Review of Inorganic Nanoparticles: Synthesis, Applications, and Perspectives

**Inorganic Nanoparticles: Synthesis, Applications, and Perspectives.** Edited by Claudia Altavilla (University of Salerno, Fisciano, Italy) and Enrico Ciliberto (University of Catania, Italy). CRC Press (an imprint of Taylor & Francis Group): Boca Raton, FL. 2010. xviii + 558 pp. \$129.95. ISBN 978-1-4398-1761-2.

technology from the first decade of the 21st century, this book provides an excellent starting point. The risk for this type of book is that it will be rapidly outdated since it covers ongoing areas of intense research that have yet to reach maturity.

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10.1021/ja2045277

For this volume, the editors have collected an assortment of excellent chapters from contributors around the world. A quick perusal of the Table of Contents will reveal reviews of a vast range of nanoparticle applications delivered by experts in their fields. Roughly half of the contributions come from Europe. Readers in the U.S. will enjoy an interesting view into current European trends in nanoparticle research. In addition, students will benefit from an excellent survey of nanoparticle applications in which both today's most promising areas and some of the more high-risk, high-reward research efforts are discussed.

In their selection of topics, the editors emphasize applications of nanoparticles, with detailed treatments of topics that include areas such as photovoltaic cells and batteries and more specialized applications like the use of metal-hydroxide nanoparticles in the preservation of art and metal powders for explosives. Other more conventional applications include light-emitting devices, drug delivery, and catalysis. As expected, there are authoritative discussions on different uses of quantum dots, but the editors avoid overemphasis on semiconductor nanocrystals by dedicating many chapters to other materials, such as inorganic fullerenes and metal and metal oxide particles. Those seeking a monograph on semiconductor nanocrystals should look elsewhere. Researchers who are interested in the wider range of inorganic nanoparticles will find many of them here, and in this respect, the book fills an important need for the chemical community.

Readers with a particular interest in syntheses will find that the majority of descriptions occur within the chapters involving applications. The level of detail about the various syntheses varies greatly and ranges from explicit instructions to cursory overviews of current methods. Some of the syntheses described in greater detail include those of magnetic nanoparticles, such as FePt, CoPt, and iron oxides, metal-based nanoparticles, and production of aluminum nanopowders.

The book itself is well produced and reasonably priced. It is well indexed and includes a section of color photos and illustrations located near the middle. Each chapter is organized much like a review article. In most, research aimed toward using a certain type of inorganic nanoparticle for a specific application is described, and the perspectives of the authors on the state of the field are often included. Considering the effort and time line involved in producing a volume of this type, the chapters are up to date. The cited literature is current with the newest citations from 2009–10, and all chapters reference work from the past five years. For a reader desiring a broad view of nanoparticle

**Published:** May 27, 2011