Special Issue

Preparation, Characterization and Utility of Quantum Dots

Message from the Guest Editor

There is considerable interest in the preparation and study of quantum dots (QDs). Many QDs contained cadmium and telluride, and, although these achieved very high photoluminescence quantum yield (PL QY) and tunability of emission color, their toxicities have to be considered. Nowadays, researchers are more focused on the preparation and application of core/shell or cadmium-free quantum dots. Carbon quantum dots (CQDs) are a relatively new class of nanomaterials that have attracted a great deal of attention as promising substitutes to already-available semiconductor QDs, owing to their unique properties and non-toxicity. Surface passivation and functionalization play very important roles in the properties and utilization of prepared QDs. In this Special Issue, we are especially interested in papers based on all aspects connected with QD syntheses, optical imaging, biosensing, immunosensing, optical tracking, drug delivery, protein/peptide delivery, and diagnostics. In vitro and in vivo toxicity studies are welcomed, as well as other fields of QDs applications, such as optoelectronics, photovoltaics and photocatalysis.

Guest Editor

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Message from the Editor-in-Chief

Nanoscience and nanotechnology are exciting fields of research and development, with wide applications to electronic, optical, and magnetic devices, biology, medicine, energy, and defense. At the heart of these fields are the synthesis, characterization, modeling, and applications of new materials with lower nanometer-scale dimensions, which we call “nanomaterials”. These materials can exhibit unusual mesoscopic properties and include nanoparticles, coatings and thin films, metal–organic frameworks, membranes, nano-alloys, quantum dots, self-assemblies, 2D materials such as graphene, and nanotubes. Our journal, *Nanomaterials*, has the goal of publishing the highest quality papers on all aspects of nanomaterial science to an interdisciplinary scientific audience. All of our articles are published with rigorous refereeing and open access.

Editor-in-Chief

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