Special Issue

Gold Nanoparticles as Host Nanosystems

Message from the Guest Editor

Host nanosystems based on gold nanoparticles enjoy a sustained development because of the synthetic flexibility allowed by the self-assembled nature of the organic shell coating the nanoparticles. Gold nanoparticles can also act as endo-receptors in which the synergistic combination of hydrophobic and other non-covalent interactions provides the driving force for small molecule recognition by the monolayer inner regions. In addition, host nanosystems based on gold nanoparticles, with sizes that compare to those of many naturally evolved objects such as protein, protein complexes, nucleic acid–protein complexes or cellular substructures, have prompted researchers to push the target guests beyond the limit of small molecules to include biopolymers, lipid aggregates, and functionalized surfaces. This Special Issue aims at covering all aspects of the synthesis, development, and implementation of gold-nanoparticle-based host nanosystems for a span of guests including small molecules, polymers, and biopolymers. Studies aimed at understanding how the host–guest chemistry of gold nanoparticles is controlled by the properties of their coating shell are also welcomed.

Guest Editor

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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. We are proud of our increasing impact factor and ability to provide rapid decisions to authors.

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