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Functionalized Porous Silica-Based Nanoparticles: From Synthesis to Applications

Guest Editor:

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Message from the Guest Editor

Porous silica-based nanoparticles are one of the most commonly-used supports to prepare functional nanomaterials. In general, these materials are synthesized using a self-assembly strategy based on the hydrolysis of an inorganic precursor around a pre-organized organic template such as surfactant micelles or block copolymers. The obtained supports can be easily chemically-modified as silicon oxide functionalization chemistry has been widely studied. At present, it is possible to modulate density, distribution, or even the location of the incorporated functional groups. Decoration of these materials with molecules, super-molecules or even with other inorganic materials confers new advantageous features to the final material, which find application in many fields, such as controlled release, molecular and biomolecular recognition, imaging, self-healing, remediation, catalysis or biomaterials among others.

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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.

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