Special Issue

Application of Nanocatalysts in the Transformation and Degradation of Organic Pollutants

Message from the Guest Editors

Organic pollutants pervade a multitude of environmental media, including water, soil, and air. These substances pose a significant threat to both human health and the natural world, underscoring the critical need for their transformation and degradation to preserve ecological equilibrium. In more recent times, nanocatalysts have emerged as a beacon of hope, promising an efficient means to decompose and eliminate these pollutants. Nanocatalysts have revealed their immense potential in the treatment of organic pollutants within diverse environmental contexts. Their distinctive attributes, such as an expansive surface area and modifiable reactivity, render them exceedingly effective in facilitating the breakdown and conversion of organic contaminants. The integration of nanocatalysts into water purification, air pollution management, and soil decontamination presents an encouraging trajectory toward mitigating the escalating environmental challenges posed by organic pollutants. Undoubtedly, continued exploration and enhancement of nanocatalysts will yield more proficient and sustainable strategies for environmental pollution control.

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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.

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