Special Issue

Novel Nanomaterials for Photocatalysis

Message from the Guest Editors

Recent advances in photocatalytic nanomaterials have introduced innovative materials with enhanced light absorption, charge separation, and catalytic efficiency. These achievements address critical challenges in environmental remediation, clean energy production, and sustainable chemistry. Key innovations include plasmonic hybrids, Earth-abundant cocatalysts, and biomass conversion strategies driven by structural and compositional engineering. Nanomaterials are considered the best photocatalysts due to their high stability, safety, low cost, and superior photoactivity. Photocatalysis is an environmentally friendly, cost-effective, and highly efficient approach for removing various pollutants, such as heavy metals, organic, inorganic, and microbial contaminants, in the presence of light and catalysts, and it is also a key technology for producing clean fuels. We hope this Special Issue of *Molecules* will cover the recent progress in nanomaterials for photocatalysis, including the synthesis of new and improved photocatalysts using chemical, physical, and biological approaches, new applications, and the in-depth comprehension of reaction mechanisms.

Guest Editors

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Message from the Editor-in-Chief

As the premier open access journal dedicated to experimental organic chemistry, and now in its 25th year of publication, the papers published in *Molecules* span from classical synthetic methodology to natural product isolation and characterization, as well as physicochemical studies and the applications of these molecules as pharmaceuticals, catalysts and novel materials. Pushing the boundaries of the discipline, we invite papers on multidisciplinary topics bridging biochemistry, biophysics and materials science, as well as timely reviews and topical issues on cutting edge fields in all these areas.

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