Special Issue

Nanomaterials in Photochemical Devices: Advances and Applications

Message from the Guest Editor

The integration of nanomaterials in photochemical devices has transformed energy, environmental, and biomedical applications. Recent advancements highlight their role in enhancing efficiency and functionality. Photochemical synthesis offers a promising method for producing metallic nanoparticles, operating at room temperature with simple equipment and minimal environmental impact. Gold and silver nanoparticles are particularly valued for their unique properties in biomedicine, catalysis, and electronics. In environmental applications, metal oxide-based nanomaterials like TiO_2, ZnO, and CuO exhibit high photocatalytic activity, aiding wastewater treatment and pollutant degradation. In biomedicine, photo-responsive nanomaterials support diagnostic and therapeutic applications such as photodynamic and photothermal therapy. Polymer-based nanocarriers encapsulate photosensitizers, improving targeted delivery and reducing toxicity. Carbon nanomaterials also enable advancements in photoacoustic imaging for non-invasive diagnostics. We welcome original research articles, reviews, and short communications on nanomaterials in photochemical devices.

Guest Editor

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Deadline for manuscript submissions

31 December 2025

Molecules

an Open Access Journal by MDPI

Impact Factor 4.6
CiteScore 8.6
Indexed in PubMed

mdpi.com/si/230597

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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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