Special Issue

Emerging Trends in Two-Dimensional Materials: Synthesis, Properties and Applications

Message from the Guest Editor

Two-dimensional (2D) materials, such as graphene, transition metal dichalcogenides, and MXenes, have revolutionized the fields of nanotechnology and material science. With their unique properties—ranging from extraordinary mechanical strength and electronic conductivity to tunable optical and catalytic characteristics—these materials are at the forefront of scientific innovation.

This Special Issue aims to spotlight the latest advancements in the synthesis, characterization, and application of 2D materials. We invite contributions that explore novel fabrication techniques, uncover fundamental properties, and demonstrate transformative applications across fields such as electronics, energy storage, catalysis, and biomedicine. By bringing together cutting-edge research, this Special Issue seeks to inspire collaboration and chart the future directions of 2D material research.

We welcome original research articles, comprehensive reviews, and insightful perspectives to advance our understanding of this rapidly evolving field.

Guest Editor

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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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