Special Issue

Advances in Organic Materials for Energy, Optoelectronics, and Electronics

Message from the Guest Editors

Both organic (carbon-based) semiconductors and metal halide perovskite semiconductors (MHPs) have been the subject of worldwide research for applications in optoelectronics. Organic semiconductors can be directly designed and synthesized with optoelectronic properties in mind, including efficient and tunable light absorption, high photoluminescence quantum yield, and room-temperature excitonic effects. MHPs also have outstanding photovoltaic properties resulting from extended and balanced carrier diffusion, high defect tolerance, readily tunable band gaps, and self-assembly into quantum confined 2D structures. In both cases, the low materials cost makes such materials of direct interest in a range of optoelectronic applications, including as the active layer in solar cells, light-emitting diodes (LEDs), photodetectors, and lasers. This Special Issue will consider recent developments in the field of organic and halide perovskite semiconductors, focusing on applications in energy harvesting, light emission, and optoelectronics.

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As the premier open access journal dedicated to molecular chemistry, now in its 29th 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 all major fields of molecular chemistry and multidisciplinary topics bridging chemistry with biology, physics, and materials science, as well as timely reviews and topical issues on cutting-edge fields in all of these areas.

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