Special Issue

Synthesis, Structure and Ultrafast Spectroscopy of Photosensitizers with Earth-Abundant Transition Metals

Message from the Guest Editors

Over the last 10 years, an intense research effort has been devoted to the development of photosensitizers based on Earth-abundant 3d metals, which may ultimately replace the traditional rare and expensive 4 and 5d transition metals for applications such as dye-sensitized solar cells and photoredox catalysis. Many new design principles have been proposed in recent years, leading to breakthrough results, including luminescent metal complexes with high photo-chemical activity. New chemical designs are validated by ultrafast spectroscopy in many different spectral domains from the infrared to X-ray, and advanced quantum chemical simulations rationalise the photophysical properties. The present Special Issue aims at reviewing the most recent advances in the area including the intricate synthesis, quantum dynamics simulations and ultrafast spectroscopy. This Special Issue will not only be a comprehensive report of the state of the art, but will also highlight the most successful approaches and versatile lessons learned in order to foster further research and applications of Earth-abundant transition metal photosensitizers.

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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