

Special Issue

Rare Earth Luminescent Materials and Complexes: Structure, Properties and Applications

Message from the Guest Editors

Rare earth luminescent materials and complexes continue to stand at the forefront of materials research due to their outstanding optical properties, structural diversity, and broad application potential. The sharp emission lines, long-lived excited states, and excellent photostability of lanthanide-based systems make them indispensable for next-generation technologies in areas such as optical telecommunications, advanced lighting, sensing, and bioimaging. This Special Issue, "Rare Earth Luminescent Materials and Complexes: Structure, Properties and Applications", aims to highlight recent advances in the synthesis, characterization, and application of rare earth luminescent materials, ranging from molecular complexes to hybrid systems and nanostructures. We are particularly interested in contributions that explore structure–property relationships, innovative synthetic strategies, photophysical mechanisms (including upconversion and downshifting), and real-world applications. We look forward to your valuable contributions.

Guest Editors

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Message from the Editor-in-Chief

As the premier open access journal dedicated to molecular chemistry, now in its 30th 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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