Special Issue

Lanthanide Coordination Complexes: Advances in Ligand Design, Structure, and Luminescent Applications

Message from the Guest Editor

Lanthanide coordination complexes are considered to be the most promising novel advanced materials because of their fascinating optical and electrochemical properties. Trivalent lanthanide complexes are currently utilized in dye-sensitized solar cells (DSSCs), optical devices such as light emitting diodes (LEDs), or optical displays. In addition, their luminescence properties make them useful for medical diagnosis procedures for cell imaging and antimicrobial activities or as biosensing chemicals in aqueous media. More importantly, to achieve the efficient sensitization of a lanthanide(III) ion, the design and manipulation of its ligand's triplet state energy are the key. Therefore, this Special Issue focuses on the recent research advances in the field of lanthanide coordination chemistry in the course of a ligand's design and the structural features associated with luminescence properties, as well as potential applications of their complexes.

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Welcome to *Crystals*, the journal dedicated to the fascinating world of crystallographic research! Crystals are more than mere decorative elements; they hold the key to understanding the fundamental structure of matter. Our mission is to explore the crucial significance of this research across various fields. From medicine to technology, chemistry to geology, crystals play a vital role. Their structure provides insights into new advanced materials, innovative drugs, and groundbreaking technologies. Through *Crystals*, we delve into the microscopic world to discover solutions that will shape the future. Join us on a journey through the *Crystals*, where science merges with beauty and innovation.

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