Special Issue

Coordination Complexes: Synthesis, Characterization and Application

Message from the Guest Editors

Coordination polymers are solid-state structures constructed from metal ions (commonly d- or f- block metals) and bridging ligands, extending in one (1D), two (2D) or three dimensions (3D). The resulting networks are strongly influenced by the employed organic ligand(s) through the number, nature and position of the donor atoms, as well as the stereochemical preferences of the metal ions. When possessing voids able to accommodate guest molecules, two- and three-dimensional polymers are often referred to as metal-organic networks (MOFs). Following Robson's seminal paper in the early 1990s, significant synthetic developments have been made that allowed isolation of specific structural topologies. The judicious selection of assembly units allows fine-tuning of properties or even the combination of multiple properties within the material. Thus, coordination polymers have promising applications in fields ranging from adsorption and separation processes to catalysis, sensor technologies, luminescence, magnetism, drug delivery, proton conductivity, non-linear optics, etc.

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Deadline for manuscript submissions

closed (30 April 2024)

Crystals

an Open Access Journal by MDPI

Impact Factor 2.4
CiteScore 5.0

mdpi.com/si/154339

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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.

Editor-in-Chief

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