Special Issue

New Applications of Layered Double Hydroxide-Based Materials

Message from the Guest Editors

Layered double hydroxides (LDHs), known also as hydrotalcite-like compounds, are two-dimensional anionic clays with a unique structure due to the uniform distribution of metal cations in the brucite layers and a good ability to intercalate different anions in the interlayer space. They are promising materials with various applications in chemistry, biochemistry, and pharmaceutics. Functionalized layered double hydroxides are also investigated in the environmental chemistry for organic contaminants' degradation; in the energy field for hydrogen generation, and for enhancing photoelectrochemical water splitting. As they are easy to synthesize, have interesting acid-base and redox properties, and possess good thermal and chemical stability, LDH-based materials offer numerous advantages for applications in all domains of chemistry and materials science.

The aim of this Special Issue is to update recent developments regarding layered double hydroxides preparation, characterization, and uses in various fields, especially new applications and new strategies to improve the properties of LDH-based materials.

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Deadline for manuscript submissions

closed (31 October 2021)

Molecules

an Open Access Journal by MDPI

Impact Factor 4.6
CiteScore 8.6
Indexed in PubMed

mdpi.com/si/66888

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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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