Special Issue

Research on the Preparation and Performance of Photocatalytic Materials

Message from the Guest Editor

Photocatalysts possess the ability to efficiently split water into hydrogen, effectively reduce carbon dioxide levels, fix oxynitrides, degrade organic dyes and harmful gases, and generate reactive oxygen species for disinfection and cancer therapies. These advancements offer a promising pathway towards addressing current global environmental and energy challenges. Notably, photocatalytic performance is significantly influenced by the composition, crystal phase structure, and morphology of photocatalysts, which determine the energy band position, carrier separation and recombination behaviors, carrier lifetime, active site exposure, surface redox reaction activity, and so forth. These three influences can be manipulated by the controllable preparation of photocatalysts to achieve high-performance photocatalysis. The present Special Issue, showcasing “Research on the Preparation and Performance of Photocatalytic Materials” may become a status report summarizing the progress achieved in the last five years, aiming to promote the development and application of photocatalytic technology.

Guest Editor

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Message from the Editor-in-Chief

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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