Special Issue

MOF/COFs Based Functional Materials: Design, Synthesis and Modification for Energy Storage and Conversion

Message from the Guest Editor

Among emerging materials for energy storage and conversion, metal–organic frameworks (MOFs) and covalent–organic frameworks (COFs) have shown great potential for such applications. MOFs and COFs are both porous materials. MOFs are constructed by linking multidentate ligands with metal/cluster nodes to form infinite crystalline networks, while COFs are solely organic frameworks connected by covalent bonds with better thermal and chemical stability. They share the common feature of high surface area, permanent porosity, and tunable structures and can act as excellent precursors to obtain hierarchical nanostructures, which have a significant impact on the performance in energy-related applications. This Special Issue is to provide recent development in the field of MOF/COFs and their derived materials for energy storage (hydrogen storage, batteries, and supercapacitors) and conversion (solar cell and fuel cells, adsorption-driven heat-pumps and chillers, electrocatalysts, as well as photocatalysts). The development of the synthetic strategy as well as morphological control in MOF/COFs and their related hybrid materials are also fits in this theme.

Guest Editor

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Message from the Editor-in-Chief

Materials (ISSN 1996-1944) was launched in 2008. The journal covers twenty-five comprehensive topics: biomaterials, energy materials, advanced composites, advanced materials characterization, porous materials, manufacturing processes and systems, advanced nanomaterials and nanotechnology, smart materials, thin films and interfaces, catalytic materials, carbon materials, materials chemistry, materials physics, optics and photonics, corrosion, construction and building materials, materials simulation and design, electronic materials, advanced and functional ceramics and glasses, metals and alloys, soft matter, polymeric materials, quantum materials, mechanics of materials, green materials, general. *Materials* provides a unique opportunity to contribute high quality articles and to take advantage of its large readership.

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