Special Issue

Metal-Organic Framework Based Catalysts for Energy Applications

Message from the Guest Editors

The demand for clean and sustainable energy has increased research into catalytic materials and processes. As a group of highly porous crystalline material, metal–organic frameworks (MOFs) show great potential for catalytic material development. As catalysts, the intrinsic functionalities of metal nodes and organic linkers provide the MOFs with special physicochemical properties. These highly designable materials also provide ideal platforms to investigate the relationship between the structure and properties. As porous hosts, the high porousity and adjustable pore size make MOFs exceptional hosts with regard to immobilizing various catalytic-active species, including metal/metal oxide nanoparticles, enzymes, etc. Moreover, as precursors or templates, MOFs have also been employed to synthesize various kinds of porous materials and single-atom catalysts (SACs), which all show unique properties in energy-related catalysis.

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