Special Issue

New Functional Polyoxometalates: from Fundamental Aspects to Application

Message from the Guest Editor

A huge number of polyoxometalates (POMs) have been prepared and characterized for ca. 200 years. POMs exhibit fascinating chemical properties and many of POMs have complicated structure to form beautiful molecule architecture. Therefore, POMs have been applied to versatile fields, such as catalysts, analytical chemistry and biochemistry and material chemistry. Although POMs are one family of inorganic clusters, organic molecule moiety attached POMs, ionic liquid-type POMs and other types inorganic-organic hybrid POMs have been prepared to exhibit unique chemical properties recently. The POMs chemistry is still promising research area and keeps spreading to wide range of scientific disciplines. This Special Issue focuses on the most recent advances in polyoxometalate-based material chemistry covering synthetic methods and application (perspectives) in catalysis, battery, fuel cell, magnetism, bio-medicine, sensor and other interesting areas. In addition, the detailed mechanistic and theoretical studies for chemical properties of POMs are included in this Special Issue.

Guest Editor

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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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