Special Issue

Advances in Polyoxometalates for Supramolecular Architecture, Biomimetics and Bioapplications

Message from the Guest Editor

Polyoxometalate (POM) chemistry spans across coordination compounds and hierarchical supramolecular ensembles. Only five elements (V, Mo, W, Nb and Ta) possess the unique combination of ionic radius and atom shell configuration to produce diversity in polynuclear iso- and hetero-complexes: Evans–Anderson, Keggin, Well–Dawson and even giant POM-like Keplerates, etc. POM exhibit various scenarios when being embedded into hybrid organic structures via coordination and electrostatic interactions, weak van der Waals forces and hydrogen bonding. Along with the possibility to graft the organic linkers, the POM are a powerful platform for the design of supramolecular architectures. Using POM as a nano-scaled template, the supramolecular structure of biomimetic ensembles can be flexibly tuned, providing the desired geometry for electrons and energy transfer or molecular recognition. In this Special Issue, we wish to cover artificial molecular architectures, such as hybrid structures, coordination complexes with enzyme-like activity or other POM-embedded systems for biological applications.

Guest Editor

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