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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Inorganic chemistry remains a lynchpin of modern chemistry, not only embracing the function and reactivity of combinations of most elements of the periodic table, but also providing a footing for studies of materials, catalysts, drugs, fuels and industrial chemicals. Arguably, the role and reach of inorganics in society have never been as great as today. Adventurous research at the heart and at the extremes of inorganic chemistry is vital to further advances and Inorganics offers authors the opportunity to publish exciting new research in an open access format.

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