Special Issue

Immobilized Molecular Water Oxidation Catalysts

Message from the Guest Editor

Research into water oxidation catalysts (WOCs) that reduce the energy requirements, while boosting the kinetics of the water oxidation half-reaction, is of paramount importance. In general, molecular WOCs possess superior catalytic performances than heterogeneous systems, as well as a higher synthetic amenability and processability. However, the identification of the true active species is not trivial, as the oxidation of the organic counterparts or the lability of the metal centers can lead to the in-situ formation of metal oxides that preclude their proper characterization. Recent research has overcome this problem via the immobilization of the molecular WOCs into solid supports (heterogenization) resulting in hybrid catalysts. Hence, hybrid materials combine the excellent activity of molecular WOCs with the robustness and recyclability of heterogeneous systems. The development of this methodology has also been possible due to the development of sophisticated characterization techniques and modern computational methods, which in turn highlight the multidisciplinarity of the field. This Special Issue brings together the latest advances in the research of molecular WOCs.

Guest Editor

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In the context of global changes, the sustainable management of water cycles, going from global and regional water cycles to urban, industrial and agricultural water cycles, plays a very important role on the water resources and on their relationships with food, energy, biodiversity, ecosystem functioning and human health. *Water* invites authors to provide innovative original full articles, critical reviews and timely short communications and to propose special issues devoted to new technological and scientific domains and to interdisciplinary approaches of the water cycles. We ensure a critical review process and a quick turnaround between submission and final decision.

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