

Special Issue

Electrocatalytic Water Oxidation

Message from the Guest Editors

Water electrolysis to produce oxygen and hydrogen gas is a promising option to convert solar energy to fuel. Electrolyzers using an alkaline solutions as the electrolyte have been commercially available for many years. Electrolyzers using a liquid alkaline solution of sodium or potassium hydroxide as the electrolyte have been commercially available for many years, but their effective electrical efficiency is rather low, 70–80%. Water oxidation on anode is the 4-electron process and requires use of a cost-effective catalyst. Despite numerous efforts, such catalysts for a new generation of electrolyzers are not yet developed. This Special Issue will be mostly focused on understanding of the mechanism of water oxidation in the presence of homogeneous or immobilized molecular catalysts. The catalysts with thorough characterized reactive centers will be also considered.

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