Special Issue

Electrocatalytic Hydrogen and Oxygen Evolution Reaction

Message from the Guest Editor

Oxygen evolution reaction (OER), as a fundamental half-reaction, is involved in water splitting and rechargeable metal-air batteries. While, the sluggish kinetics of its four-electron transfer process becomes a bottleneck to the performance enhancement. Thus, rational design and synthesis of electrocatalysts is of vital significance for boosting OER performances. Recently, developments and breakthroughs in experimental achievements on OER electrocatalysts are revealed. More perspectives and future directions are noticed and popular for further electrocatalytic performance enhancement and deeper understanding of design for electrocatalysts and principles. Here, extensive efforts are welcomed, which involves the following aspects: i) The novel synthesis of noble or non-noble metal electrocatalysts for boosting OER performances.
ii) The deeper insights of the understanding on theoretical calculations for OER;
iii) The efficient OER electrocatalysts that show outstanding OER performances for water splitting or metal-air batteries.

- oxygen evolution reaction
- oxygen reduction reaction
- electrocatalysts
- metal-air batteries
- water splitting
- hydrogen evolution reaction

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