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### Introduction to the themed issue on frontiers of hydrogen energy and fuel cells

Lior Elbaz,\* Minhua Shao,\* Jianglan Shui\* and Carlo Santoro\*



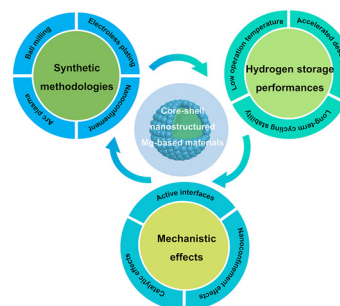
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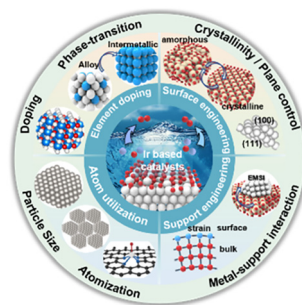


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**Designing active and stable Ir-based catalysts for the acidic oxygen evolution reaction**

Zijie Lin, Tanyuan Wang\* and Qing Li\*

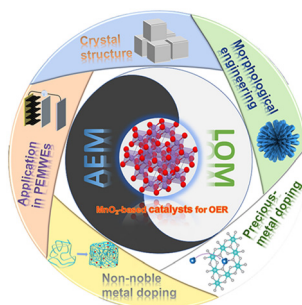


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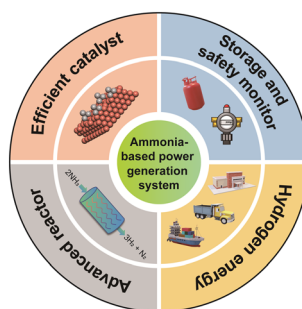


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**Ammonia as a carbon-free hydrogen carrier for fuel cells: a perspective**

Lingling Zhai, Shizhen Liu and Zhonghua Xiang\*

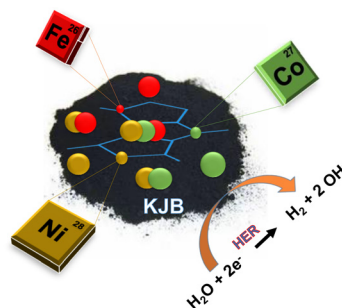


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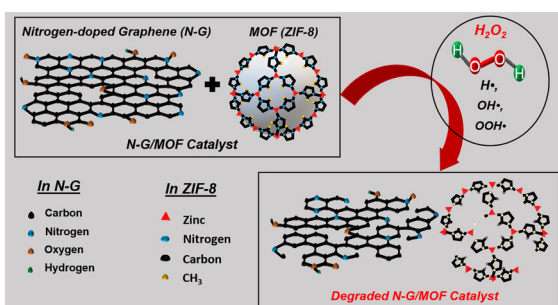
**Mono-, bi- and tri-metallic platinum group metal-free electrocatalysts for hydrogen evolution reaction following a facile synthetic route**

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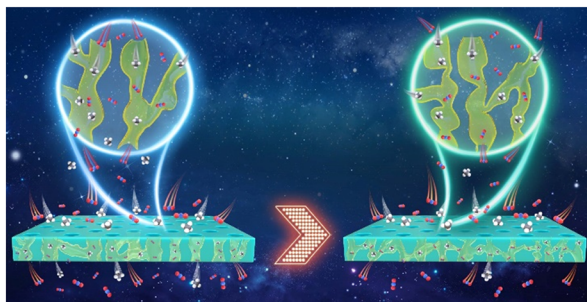
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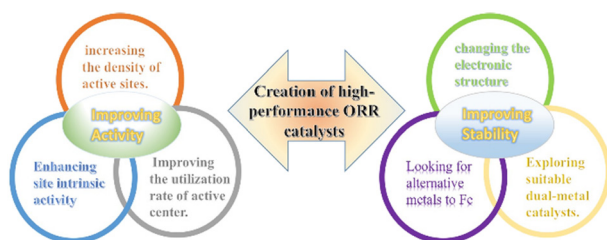


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Shuangjiang Luo, Tianliang Han, Can Wang, Ying Sun, Hongjun Zhang, Ruilan Guo\* and Suojing Zhang\*

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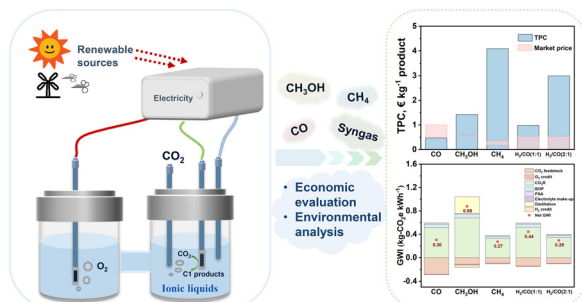
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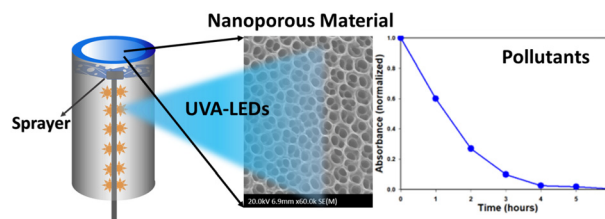
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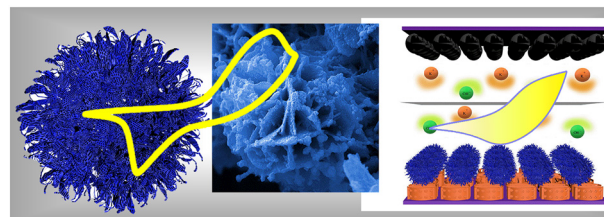
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