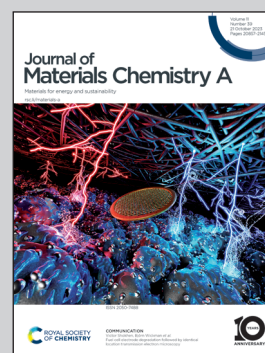


**Highlighting a study on the octadecahedron  $\text{SrTiO}_3$  with a nano step-shaped facet structure by CAS Key Laboratory of Green Process and Engineering, the Institute of Process Engineering, Chinese Academy of Sciences, China.**

A unique octadecahedron  $\text{SrTiO}_3$  perovskite oxide with a nano step-shaped facet structure for enhanced photoredox and hydrogen evolution performance

The novel octadecahedron  $\text{SrTiO}_3$  has nano step-shaped facets. These facets are parallel to the (100) and (110) facets and have the characteristics of Sr-rich, O- and Ti-deficient. The crystal facet and vacancy effect improve the photocatalytic activity of  $\text{SrTiO}_3$ . Consequently, combined with DFT, it revealed that the effective combination of cocatalysts and the novel  $\text{SrTiO}_3$  achieves higher hydrogen evolution.

**As featured in:**



See Dongping Duan, Qibo Jia *et al.*,  
*J. Mater. Chem. A*, 2023, **11**, 21046.