SYNTHESIS OF ROBUST OXYGEN EVOLUTION ELECTROCATALYSTS FROM CALIXARENE-TEMPLATED

Tech ID: 34118 / UC Case 2025-167-0

PATENT STATUS

Patent Pending

BRIEF DESCRIPTION

Oxygen Evolution Reaction (OER) is crucial for various renewable energy applications, but current electrocatalysts often face issues with stability, efficiency, and cost. This invention addresses these challenges by introducing a novel method for synthesizing robust oxygen evolution electrocatalysts. The technology, developed by UC Berkeley researchers, utilizes calixarene-templated iridium compositions. This approach yields highly stable and efficient electrocatalysts, offering significant advantages over traditional iridium-based catalysts. Specifically, this innovation provides superior performance and durability, making it a valuable tool for energy systems like electrolyzers and fuel cells.

SUGGESTED USES

- Renewable Energy: Enhancing the efficiency and longevity of water electrolyzers for hydrogen production.
- Fuel Cells: Improving the performance of OER in regenerative fuel cells.
- Industrial Chemistry: Serving as a catalyst in various electrochemical processes requiring OER.
- Energy Storage: Integration into certain types of batteries and energy storage systems.

ADVANTAGES

- Enhanced Stability: The calixarene template provides a more durable structure, extending the lifespan of the catalyst.
- Improved Efficiency: The unique composition boosts the catalyst's performance in OER, leading to higher energy conversion rates.
- Cost-Effectiveness: The method allows for more efficient use of iridium, a costly material, potentially lowering overall production costs.
- Versatility: The synthesis method can be adapted to produce catalysts for various applications beyond OER.

RELATED MATERIALS

CONTACT

Craig K. Kennedy
craig.kennedy@berkeley.edu
tel: .



INVENTORS

» Katz, Alexander S.

OTHER INFORMATION

CATEGORIZED AS

» **Energy**
» Hydrogen
» Other
» Storage/Battery
» **Materials & Chemicals**
» Nanomaterials
» Other

RELATED CASES

2025-167-0

ADDITIONAL TECHNOLOGIES BY THESE INVENTORS

- Ligand-Modified Metal Clusters For Gas Separation And Purification
- Delamination Of Layered Zeolite Precursors Under Mild Condition

University of California, Berkeley Office of Technology Licensing
2150 Shattuck Avenue, Suite 510, Berkeley,CA 94704
Tel: 510.643.7201 | Fax: 510.642.4566
https://ipira.berkeley.edu/ | otl-feedback@lists.berkeley.edu
© 2025, The Regents of the University of California
Terms of use | Privacy Notice