

# EES Catalysis

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### Cover

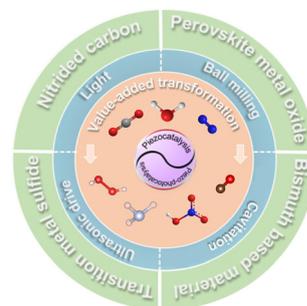
See Jan Rossmeisl, Maria Escudero-Escribano *et al.*, pp. 941–952. Image reproduced by permission of Jack Kirk Pedersen from *EES Catal.*, 2024, 2, 941.

## REVIEW

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### Advancements and opportunities in piezo-(photo)catalytic synthesis of value-added chemicals

Weiliang Qi, Yaping Fu, Enbo Liu, Zhixing Cheng, Yuxiu Sun, Siqi Liu and Minghui Yang\*

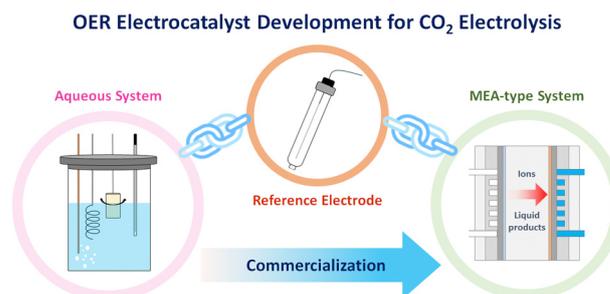


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### Direction of oxygen evolution reaction electrocatalyst evaluation for an anion exchange membrane CO<sub>2</sub> electrolyzer

Seontaek Kwon, Tae-Hoon Kong, Namgyoo Park, Pandiarajan Thangavel, Hojeong Lee, Seokmin Shin, Jihoo Cha and Youngkook Kwon\*



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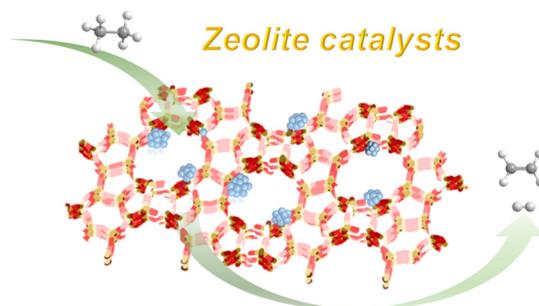
Fundamental questions  
Elemental answers

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**Zeolite catalysts for non-oxidative ethane dehydrogenation to ethylene**

Lu Liu, Liang Wang\* and Feng-Shou Xiao\*

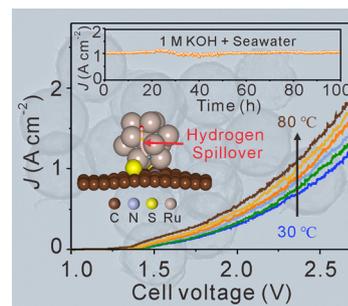


## COMMUNICATION

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**Sulfur-regulated metal–support interaction boosting the hydrogen evolution performance of Ru clusters in seawater at industrial current densities**

Ranran Tang, Ping Yan, Yitong Zhou\* and Xin-Yao Yu\*

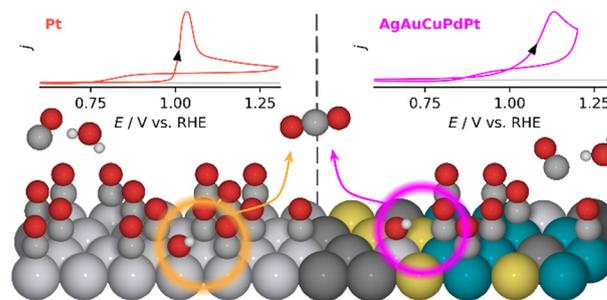


## PAPERS

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**Toward understanding CO oxidation on high-entropy alloy electrocatalysts**

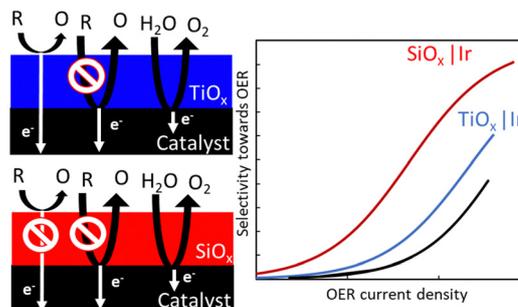
María Paula Salinas-Quezada, Jack K. Pedersen, Paula Sebastián-Pascual, Ib Chorkendorff, Krishanu Biswas, Jan Rossmeisl\* and María Escudero-Escribano\*



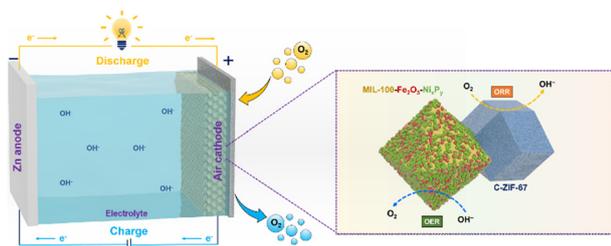
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**Probing the active sites of oxide encapsulated electrocatalysts with controllable oxygen evolution selectivity**

William D. H. Stinson, Robert S. Stinson, Jingjing Jin, Zejie Chen, Mingjie Xu, Fikret Aydin, Yinxian Wang, Marcos F. Calegari Andrade, Xiaoqing Pan, Tuan Anh Pham, Katherine E. Hurst, Tadashi Ogitsu, Shane Ardo and Daniel V. Esposito\*



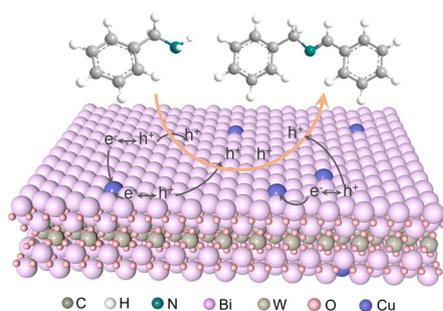
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### A bi-functional air electrode developed from a dual-MOF strategy for high-performance zinc–air batteries

Yasir Arafat, Muhammad Rizwan Azhar, Yijun Zhong, Xiaomin Xu, Moses O. Tadé and Zongping Shao\*

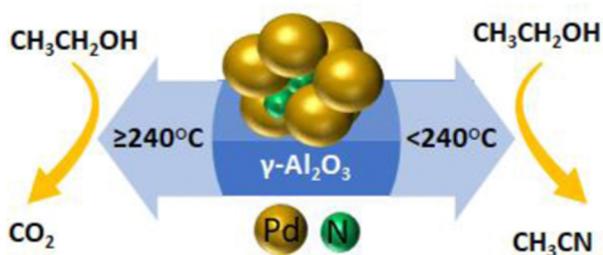
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### Variable-valence element doping mediated photogenerated electron trapping for selective oxidation reactions

Xia Zhong, Yan Zhao, Lei Li, Xin He, Hui Wang,\* Xiaodong Zhang\* and Yi Xie\*

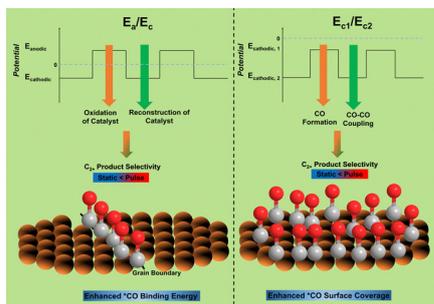
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### Structural selectivity of supported Pd nanoparticles: selective ethanol ammoxidation to acetonitrile

Khaled Mohammed, Reza Vakili, Donato Decarolis, Shaojun Xu, Luke Keenan, Apostolos Kordatos, Nikolay Zhelev, Chris K. Skylaris, Marina Carravetta, Emma K. Gibson, Haresh Manyar, Alexandre Goguet and Peter P. Wells\*

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### Operational strategies of pulsed electrolysis to enhance multi-carbon product formation in electrocatalytic CO<sub>2</sub> reduction

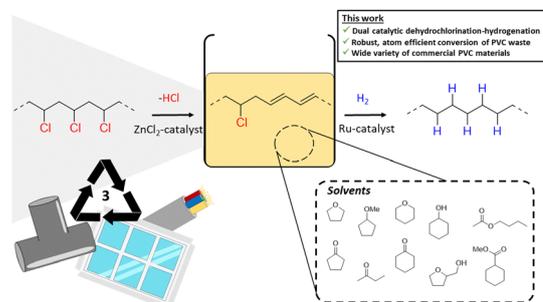
Takashi Ito, Jithu Raj, Tianyu Zhang, Soumyabrata Roy and Jingjie Wu\*



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## Conversion of diverse post-consumer PVC waste materials to PE via dual catalytic tandem dehydrochlorination–hydrogenation

Galahad O'Rourke, Alina Skorynina, Igor Beckers, Sam Van Minnebruggen, Christel Colemonts, Philippe Gabriels, Peter Van der Veken and Dirk De Vos\*



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## Understanding the charge transfer dynamics in 3D–1D nanocomposites over solar driven synergistic selective valorization of lignocellulosic biomass: a new sustainable approach

Arpna Jaryal, Ajit Kumar Singh, Shivali Dhingra, Himanshu Bhatt, Manvi Sachdeva, Hirendra N. Ghosh,\* Arindam Indra\* and Kamalakannan Kailasam\*

