

# EES Catalysis

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## IN THIS ISSUE

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### Cover

See Zongyuan Wang, Huan Pang, Feng Yu *et al.*, pp. 407–419. Image reproduced by permission of Feng Yu from *EES Catal.*, 2025, 3, 407.



### Inside cover

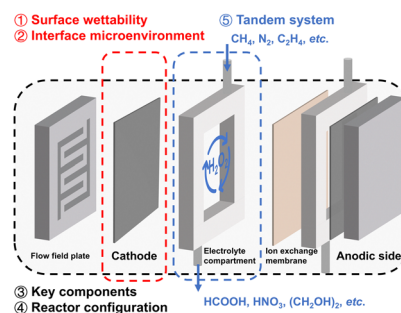
See Eunjoo Jang, Jong Wook Bae *et al.*, pp. 420–434. Image reproduced by permission of Jong Wook Bae from *EES Catal.*, 2025, 3, 420.

## REVIEW

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### Aspects in cell design for H<sub>2</sub>O<sub>2</sub> electrosynthesis and its integration in tandem systems

Wenhao Chen, Chang Sun and Wenchao Sheng\*

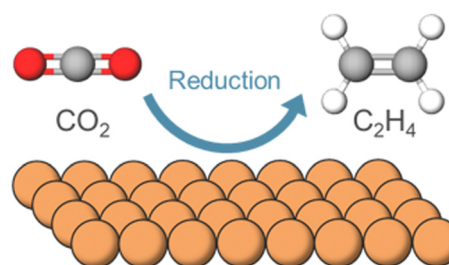


## PERSPECTIVE

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### Identification of catalyst optimization trends for electrocatalytic CO<sub>2</sub> reduction to ethylene

Stefan J. Raaijman, Maarten P. Schellekens, Yoon Jun Son, Marc T. M. Koper\* and Paul J. Corbett\*



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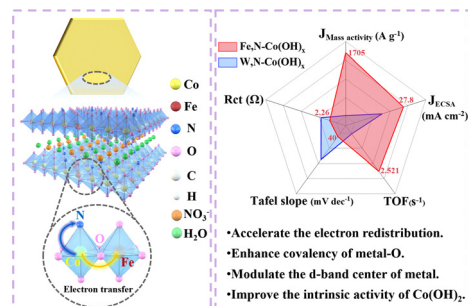
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### A plasma-triggered N–Co–O–Fe motif in $\text{Co}(\text{OH})_2$ for efficient electrocatalytic oxygen evolution

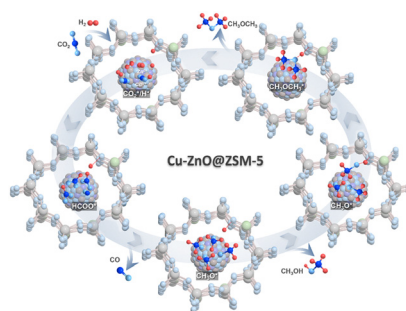
Qian Yang, Yao Li, Yaoxin Wu, Yuxiang Li, Chenxia Yang, Lili Ban, Yunxia Zhao, Bin Dai, Gang Wang, Yongsheng Li, Jinli Zhang, Zongyuan Wang,\* Huan Pang\* and Feng Yu\*



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### Cu–ZnO nanoparticles encapsulated in ZSM-5 for selective conversion of carbon dioxide into oxygenates

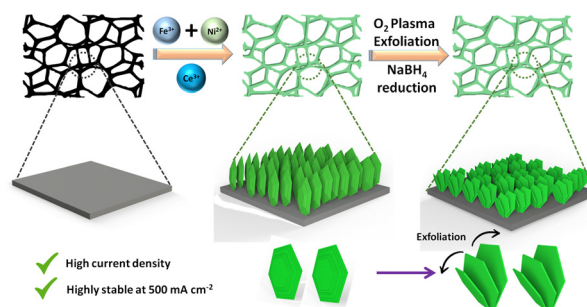
Xu Wang, Hwi Yeon Woo, Dongming Shen, Min Jung Park, Mansoor Ali, Faisal Zafar, Kyun Yeon Kang, Jae-Soon Choi, Eunjoo Jang\* and Jong Wook Bae\*



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### Tailoring the electronic structure of an exfoliated layered double hydroxide using a lanthanide for chloride-ion blocking in seawater splitting

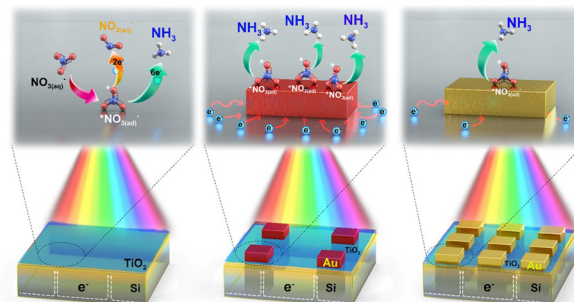
Ashish Gaur, Jiseok Kwon, Jatin Sharma, Ghulam Ali, Enkhtuvshin Enkhbayar, Chan-Yeup Chung,\* HyukSu Han\* and Taeseup Song\*



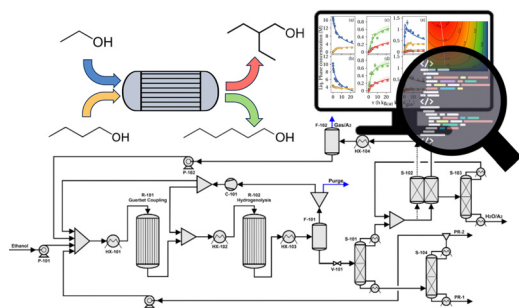
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### High-performance and stable $\text{NH}_3$ production using a $\text{TiO}_2$ -protected Si photocathode and patterned Au loading

Ahmad Tayyebi,\* Jeong Juyeon, Mahsa Haddadi Moghaddam, Mohammad Zafari, Hyun-ju Go, Dukhyung Lee, Meysam Tayebi, Hwa-Young Yang, Changhwan Shin, Maria del Carmen Gimenez-Lopez, Geunsik Lee,\* Dai Sik Kim\* and Ji-Wook Jang\*



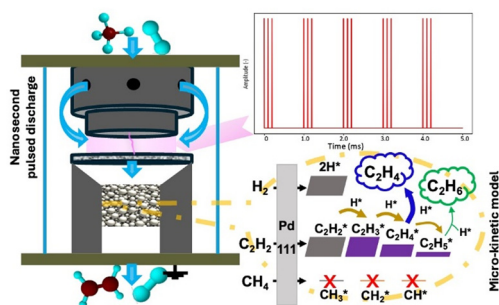
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### Kinetic and process modeling of Guerbet coupling chemistry over Cu–Mg–Al mixed oxides

Javier E. Chavarrio, Christoph Markowitsch, Erick Votava, Markus Lehner and George W. Huber\*

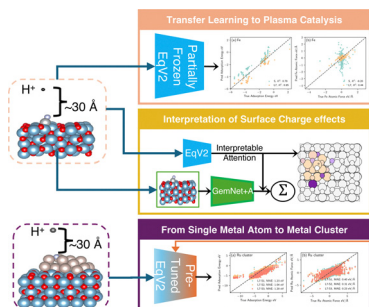
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### Selective catalytic hydrogenation of $C_2H_2$ from plasma-driven $CH_4$ coupling without extra heat: mechanistic insights from micro-kinetic modelling and reactor performance

Eduardo Morais, Fabio Cameli, Georgios D. Stefanidis\* and Annemie Bogaerts\*

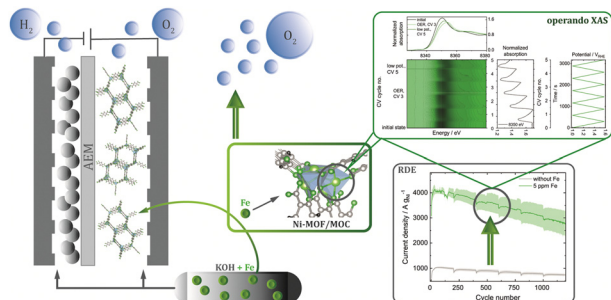
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### Interpretable attention-based transfer learning in plasma catalysis: a study on the role of surface charge

Ketong Shao, Aditya Dilip Lele, Zhiyu Shi, Victor Von Miller, Yiguang Ju and Ali Mesbah\*

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### The role of Fe incorporation into Ni-MOF-74 derived oxygen evolution electrocatalysts for anion exchange membrane water electrolysis

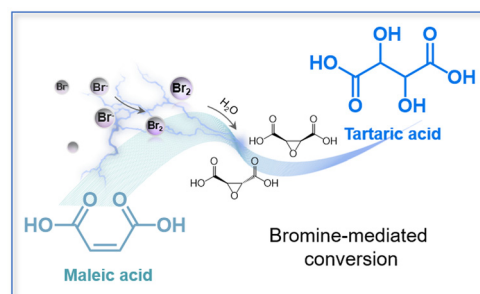
Julia Linke, Thomas Rohrbach, Adam Hugh Clark, Camelia Borca, Thomas Huthwelker, Fabian Luca Buchauer, Mikkel Rykær Kraglund, Christodoulos Chatzichristodoulou, Eibhlin Meade, Julie Guehl, Mateusz Wojtas, Marco Ranocchiari, Thomas Justus Schmidt and Emiliana Fabbri\*



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### Bromine-mediated electrochemical refinery towards tartaric acid

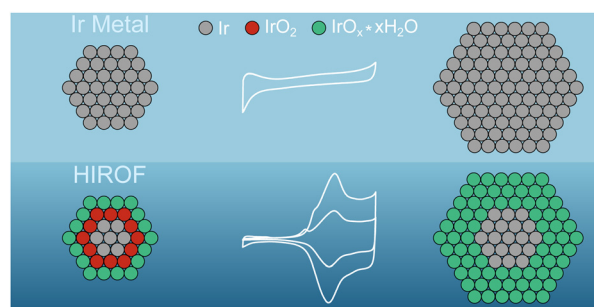
Chenglin Liang, Zhaoyu Wen, Yuchen Yan, Zhenghao Mao, Na Han\* and Yanguang Li\*



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### On the growth and water oxidation stability of hydrous iridium oxide

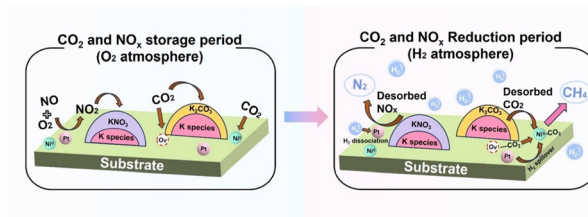
Matej Zlatar,\* Xianxian Xie, Carlo Franke, Tomáš Hrbek, Zdeněk Krtouš, Tong Li, Ivan Khalakhan and Serhiy Cherevko\*



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### CO<sub>2</sub>/NO<sub>x</sub> storage and reduction (CNSR) technology—a new concept for flue gas treatment

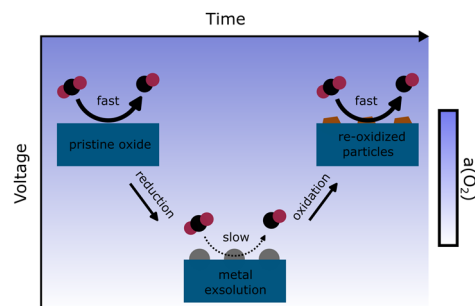
Jiaqi Wei, Yanshan Gao,\* Cheng Zhang and Qiang Wang\*



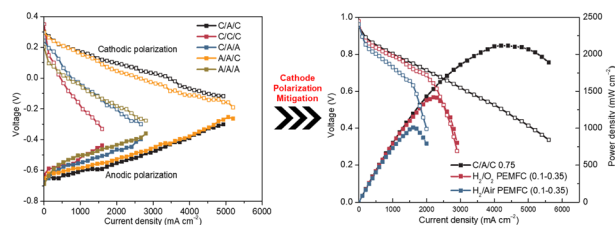
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### The dark side of metal exsolution: a combined *in situ* surface spectroscopic and electrochemical study on perovskite-type cathodes for high-temperature CO<sub>2</sub> electrolysis

Christian Melcher,\* Andreas Nenning, Florian Schrenk, Kirsten Rath, Christoph Rameshan and Alexander Karl Opitz



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## Above 2 W cm<sup>-2</sup> direct liquid fuel cells enabled by mitigating cathode polarization

Yu Guo, Fukang Gui, Yangkai Han, Yingjian Cao, Zijun Hu, Yongkang Han, Qinggang Tan, Yong Che, Cunman Zhang, Yun Zhao\* and Qiangfeng Xiao\*

## CORRECTION

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### Correction: Single atom catalysts for water electrolysis: from catalyst-coated substrate to catalyst-coated membrane

Sol A Lee, Sang Eon Jun, Sun Hwa Park, Ki Chang Kwon, Jong Hun Kang,\* Min Sang Kwon\* and Ho Won Jang\*

