

# Chemical Science

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ISSN 2041-6539 CODEN CSHCBM 15(8) 2671–3034 (2024)



**Cover**  
See Otto Dopfer, Shun-ichi Ishiuchi, Masaaki Fujii *et al.*, pp. 2725–2730. Image reproduced by permission of Masaaki Fujii from *Chem. Sci.*, 2024, **15**, 2725.



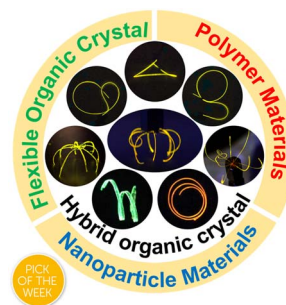
**Inside cover**  
See Jeremiah J. Gassensmith *et al.*, pp. 2731–2744. Image reproduced by permission of Ryanne Ehrman from *Chem. Sci.*, 2024, **15**, 2731.

## PERSPECTIVES

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### Hybrid and composite materials of organic crystals

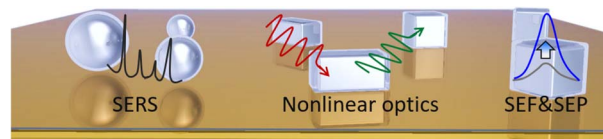
Xuesong Yang, Marieh B. Al-Handawi, Liang Li, Panče Naumov\* and Hongyu Zhang\*



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### Construction of nanoparticle-on-mirror nanocavities and their applications in plasmon-enhanced spectroscopy

Wei Peng, Jing-Wen Zhou, Mu-Lin Li, Lan Sun, Yue-Jiao Zhang\* and Jian-Feng Li\*



# RSC Applied Interfaces

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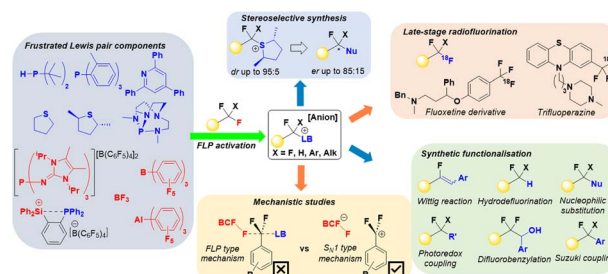
Fundamental questions  
Elemental answers

## PERSPECTIVES

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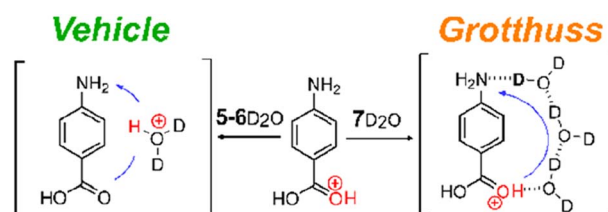
## A review of frustrated Lewis pair enabled monoselective C–F bond activation

Kenneth Lye and Rowan D. Young\*



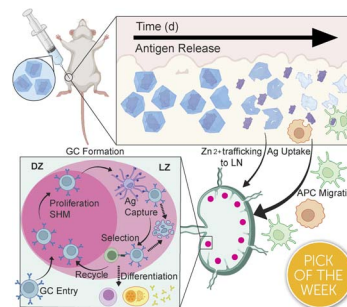
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Shun-ichi Ishiuchi\* and Masaaki Fujii\*

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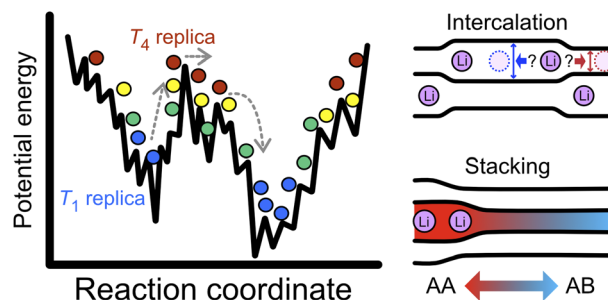
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Wendy Tang, Milinda C. Senarathna, Laurel M. Hagge,  
Ronald A. Smaldone and Jeremiah J. Gassensmith\*

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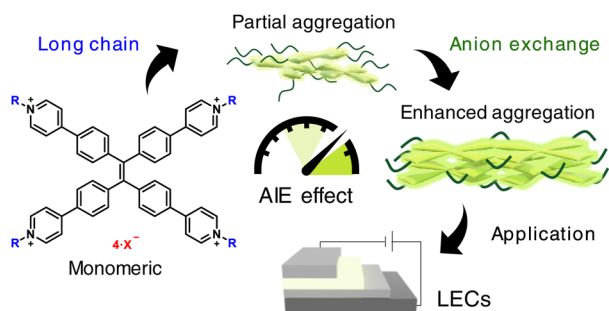
## Replica exchange molecular dynamics for Li-intercalation in graphite: a new solution for an old problem

Heesoo Park,\* David S. Wragg and Alexey Y. Kuposov\*





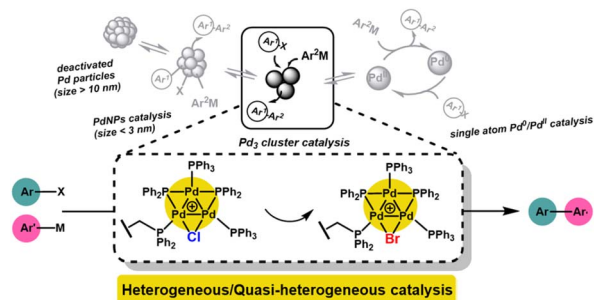
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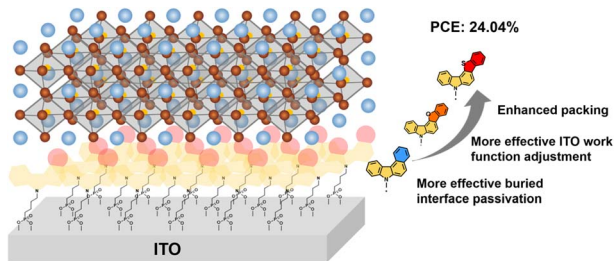
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Neda Jeddi, Neil W. J. Scott, Theo Tanner, Simon K. Beaumont\* and Ian J. S. Fairlamb\*

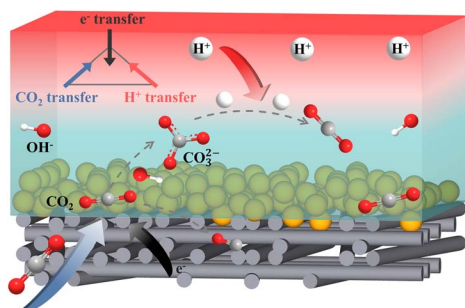
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### Rational molecular design of multifunctional self-assembled monolayers for efficient hole selection and buried interface passivation in inverted perovskite solar cells

Wenlin Jiang, Ming Liu, Yanxun Li, Francis R. Lin and Alex K.-Y. Jen\*

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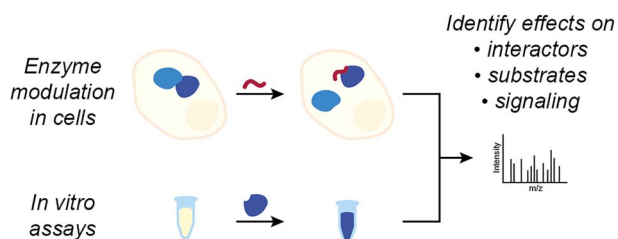
Zhongshuo Zhang, Qian Lu, Jiping Sun, Guangchao Li, Weixing Wu, Zhanyou Xu, Liangfang Xu and Ying Wang\*



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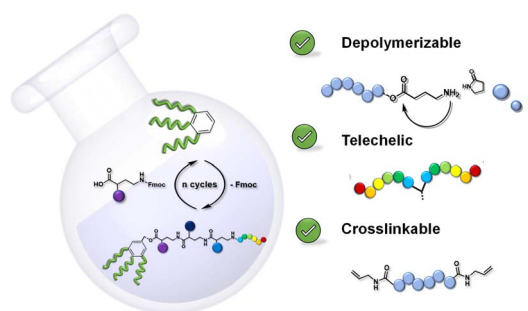
Bernhard Hoermann, Eva-Maria Dürr, Christina Ludwig, Melda Ercan and Maja Köhn\*



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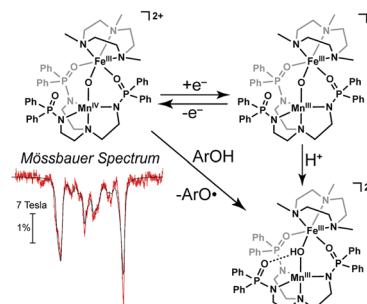
Irene De Franceschi, Nezha Badi\* and Filip E. Du Prez\*



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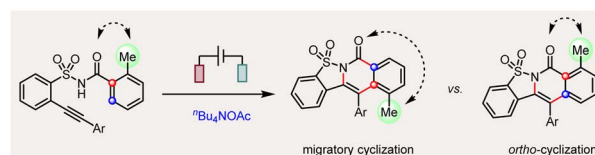
Justin L. Lee, Saborni Biswas, Joseph W. Ziller, Emile L. Bominaar, Michael P. Hendrich and A. S. Borovik\*



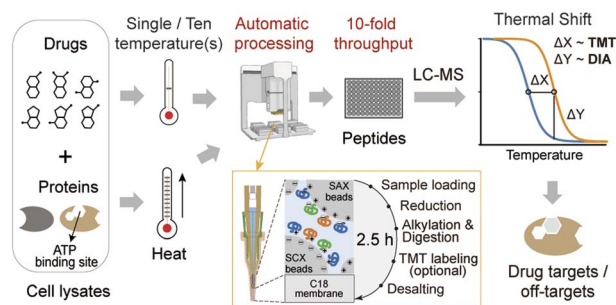
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Zhaojiang Shi, Shicheng Dong, Ting Liu, Wei-Zhen Wang, Nan Li, Yaofeng Yuan, Jun Zhu\* and Ke-Yin Ye\*



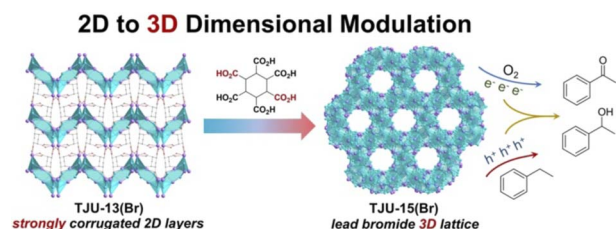
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### High-throughput drug target discovery using a fully automated proteomics sample preparation platform

Qiong Wu, Jiangnan Zheng, Xintong Sui, Changying Fu, Xiaozhen Cui, Bin Liao, Hongchao Ji, Yang Luo, An He, Xue Lu, Xinyue Xue, Chris Soon Heng Tan\* and Ruijun Tian\*

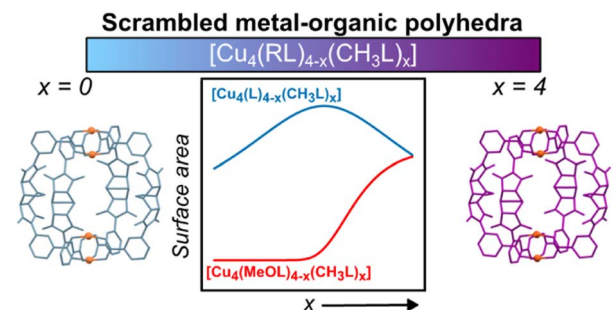
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### Promoting the formation of metal–carboxylate coordination to modulate the dimensionality of ultrastable lead halide hybrids

Yilin Jiang, Jinlin Yin, Ruonan Xi and Honghan Fei\*

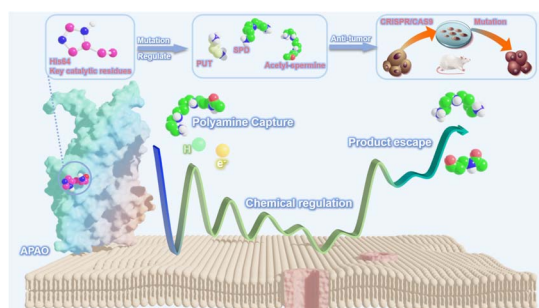
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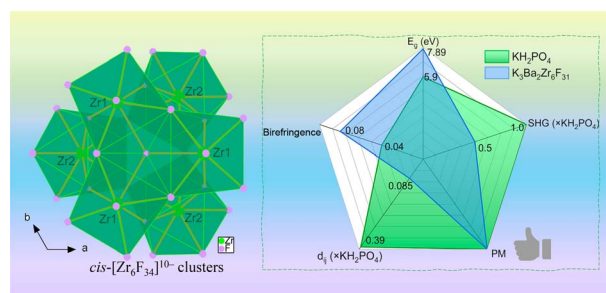
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### Exploring a new short-wavelength nonlinear optical fluoride material featuring unprecedented polar *cis*-[Zr<sub>6</sub>F<sub>34</sub>]<sup>10-</sup> clusters

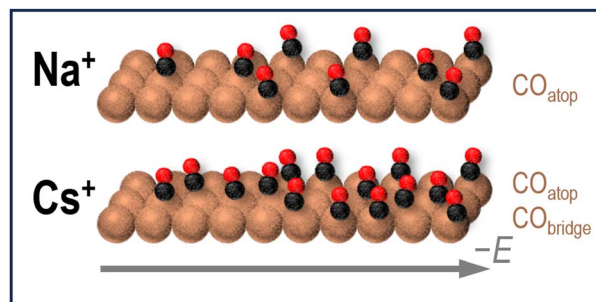
Mei Yan, Ru-Ling Tang,\* Wen-Dong Yao, Wenlong Liu and Sheng-Ping Guo\*



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### Studying the cation dependence of CO<sub>2</sub> reduction intermediates at Cu by *in situ* VSG spectroscopy

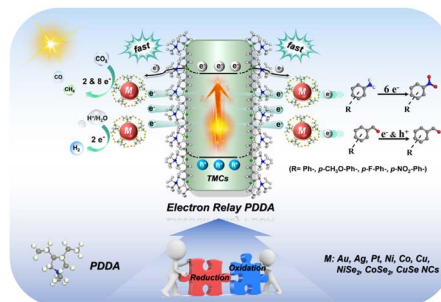
Liam C. Banerji, Hansaem Jang, Adrian M. Gardner and Alexander J. Cowan\*



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### Customizing precise, tunable, and universal cascade charge transfer chains towards versatile photoredox catalysis

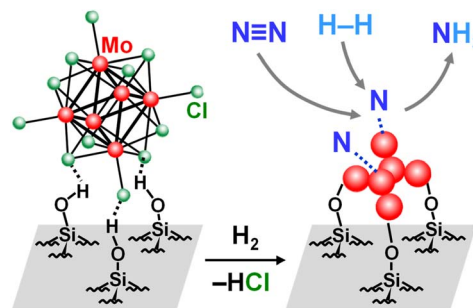
Xian Yan, Jun-Hao Dong, Jing-Ying Zheng, Yue Wu and Fang-Xing Xiao\*



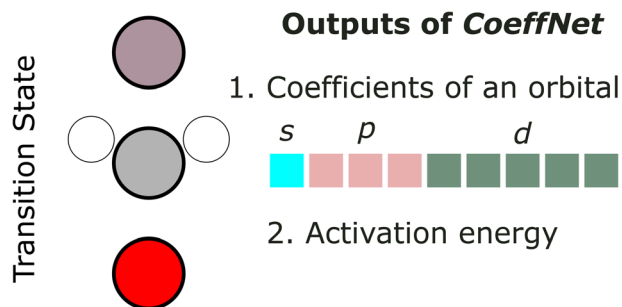
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Sudarshan Vijay, Maxwell C. Venetos, Evan Walter Clark Spotte-Smith, Aaron D. Kaplan, Mingjian Wen and Kristin A. Persson\*

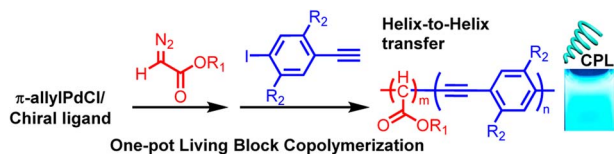
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### Late-stage *gem*-difluoroallylation of phenol in bioactive molecules and peptides with 3,3-difluoroallyl sulfonium salts

Minqi Zhou, Jin-Xiu Ren, Xiao-Tian Feng, Hai-Yang Zhao, Xia-Ping Fu, Qiao-Qiao Min and Xingang Zhang\*

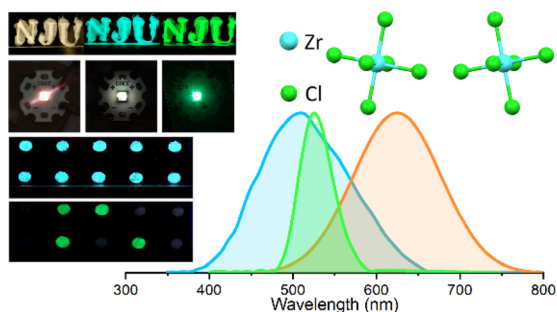
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### RGB tri-luminescence in organic–inorganic zirconium halide perovskites

Chuying Wang, Wen Meng, Guigen Luo, Guangyong Xu, Min Peng, Bin Xu, Shuming Nie and Zhengtao Deng\*

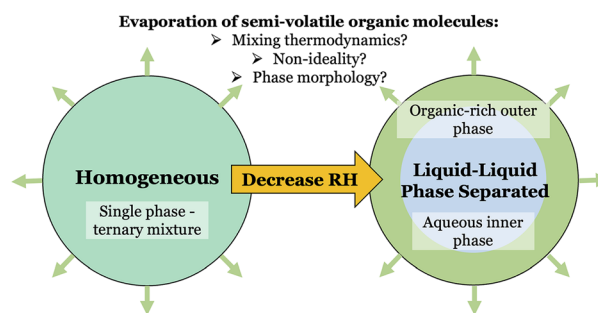




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### Probing the evaporation dynamics of semi-volatile organic compounds to reveal the thermodynamics of liquid–liquid phase separated aerosol

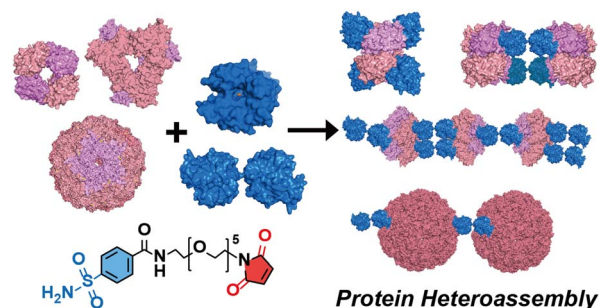
Jack M. Choczynski, Bilal Shokoor, Jorge Salazar, Andreas Zuend and James F. Davies\*



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### Programming interchangeable and reversible heterooligomeric protein self-assembly using a bifunctional ligand

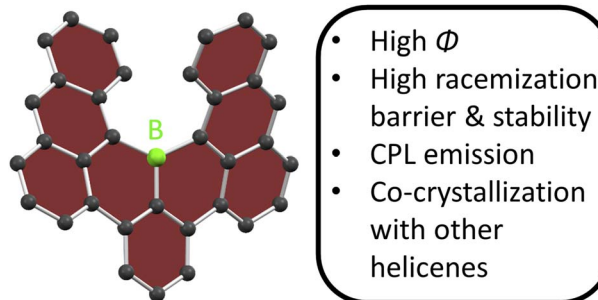
Soyeun Son and Woon Ju Song\*



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### A highly fluorescent bora[6]helicene exhibiting circularly polarized light emission

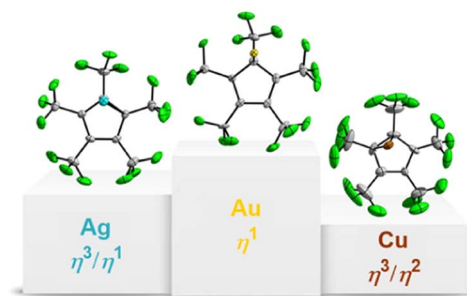
Matthias Schnitzlein, Kazutaka Shoyama and Frank Würthner\*



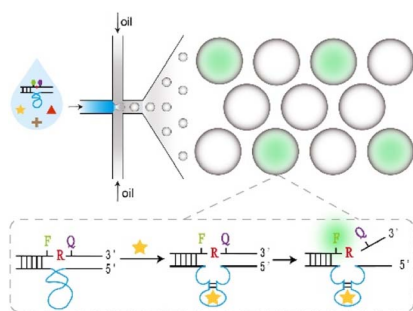
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### Synthesis and structural characterization of stable coinage metal (Cu, Ag, Au) cyclopentadienyl complexes

Robin Sievers, Marc Reimann, Nico G. Kub, Susanne M. Rupf, Martin Kaupp and Moritz Malischewski\*



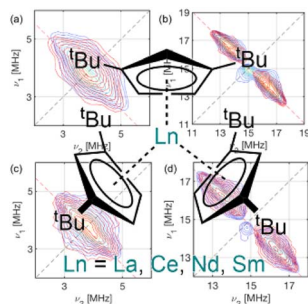
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### A DNAzymes-in-droplets assay for *Burkholderia gladioli pathovar cocovenenans* with single-bacterium sensitivity

Xiaoqian Li, Yangyang Chang, Yunping Wu and Meng Liu\*

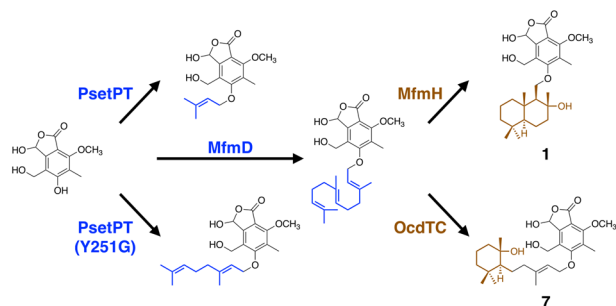
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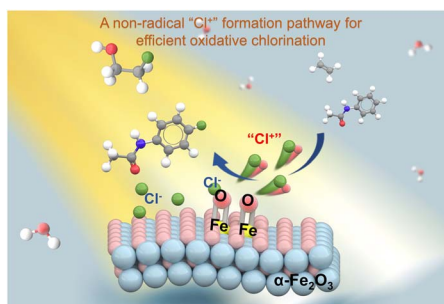
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Dexiu Yan and Yudai Matsuda\*

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Daojian Tang, Lei Wu, Liubo Li, Niankai Fu, Chuncheng Chen, Yuchao Zhang\* and Jincui Zhao



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 **$^{109}\text{Ag}$  NMR chemical shift as a descriptor for Brønsted acidity from molecules to materials**

Colin Hansen, Scott R. Docherty, Weicheng Cao, Alexander V. Yakimov and Christophe Copéret\*

