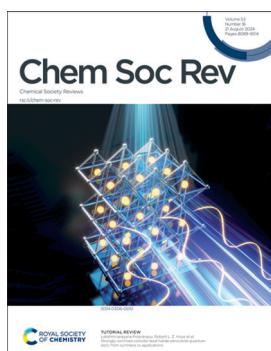


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#### Cover

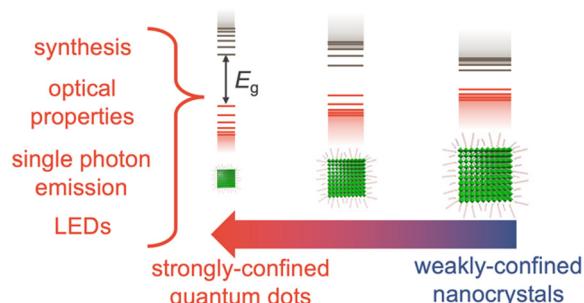
See Lakshminarayana Polavarapu,  
Robert L. Z. Hoye *et al.*,  
pp. 8095–8122.  
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*Chem. Soc. Rev.*,  
2024, 53, 8095.

### TUTORIAL REVIEWS

8095

#### Strongly-confined colloidal lead-halide perovskite quantum dots: from synthesis to applications

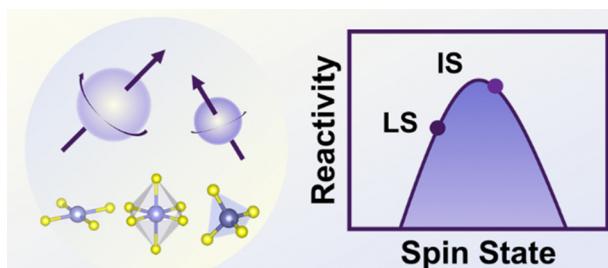
Junzhi Ye, Deepika Gaur, Chenjia Mi, Zijian Chen, Iago López Fernández, Haitao Zhao, Yitong Dong, Lakshminarayana Polavarapu\* and Robert L. Z. Hoye\*



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#### Spin states of metal centers in electrocatalysis

Yuwei Zhang, Qian Wu, Justin Zhu Yeow Seow, Yingjie Jia, Xiao Ren\* and Zhichuan J. Xu\*



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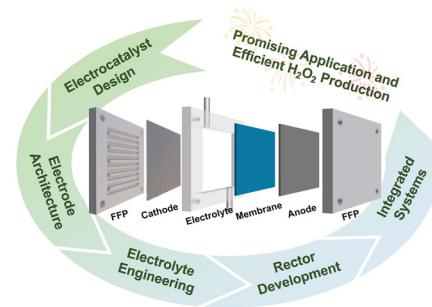


## REVIEW ARTICLES

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**Advancing H<sub>2</sub>O<sub>2</sub> electrosynthesis: enhancing electrochemical systems, unveiling emerging applications, and seizing opportunities**

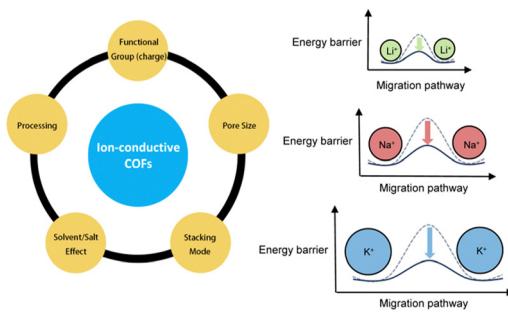
Zhiping Deng, Seung Joon Choi, Ge Li\* and Xiaolei Wang\*



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**Ion transport mechanisms in covalent organic frameworks: implications for technology**

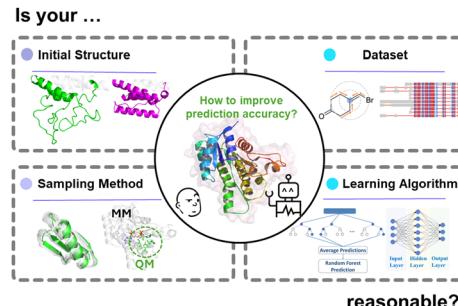
Wonmi Lee, Haochen Li, Zhilin Du and Dawei Feng\*



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**Navigating the landscape of enzyme design: from molecular simulations to machine learning**

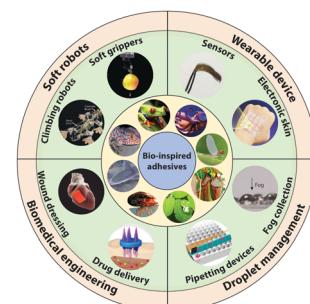
Jiahui Zhou and Meilan Huang\*



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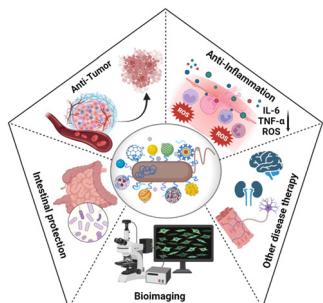
**Nature-inspired adhesive systems**

Ming Li,\* Anran Mao, Qingwen Guan and Eduardo Saiz\*



## REVIEW ARTICLES

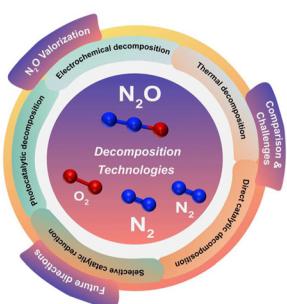
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## Microbe-material hybrids for therapeutic applications

Meng Chen, Lili Xia, Chenyao Wu, Zeyu Wang, Li Ding,\* Yujie Xie,\* Wei Feng\* and Yu Chen\*

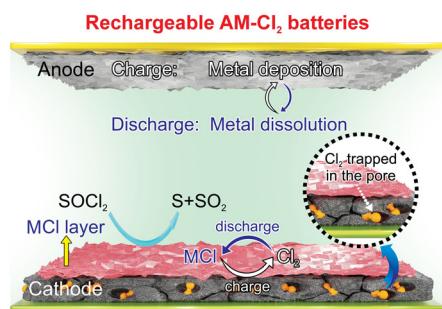
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## Progress and challenges in nitrous oxide decomposition and valorization

Xuanhao Wu, Jiaxin Du, Yanxia Gao, Haiqiang Wang, Changbin Zhang, Runduo Zhang,\* Hong He,\* Gaoqing (Max) Lu\* and Zhongbiao Wu\*

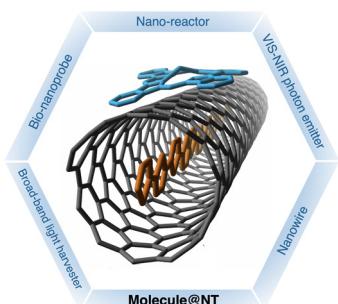
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## Rechargeable alkali metal–chlorine batteries: advances, challenges, and future perspectives

Zehui Xie, Lidong Sun, Muhammad Sajid, Yuancheng Feng, Zhenshan Lv and Wei Chen\*

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## Advanced 1D heterostructures based on nanotube templates and molecules

Charlotte Allard, Laurent Alvarez, Jean-Louis Bantignies, Nedjma Bendiab, Sofie Cambré, Stephane Campidelli, Jeffrey A. Fagan, Emmanuel Flahaut, Benjamin Flavel, Frédéric Fossard, Etienne Gaufrès,\* Sebastian Heeg, Jean-Sebastien Lauret, Annick Loiseau, Jean-Baptiste Marceau, Richard Martel, Laëtitia Marty, Thomas Pichler, Christophe Voisin, Stephanie Reich, Antonio Setaro, Lei Shi and Wim Wenseleers

