

# Chem Soc Rev

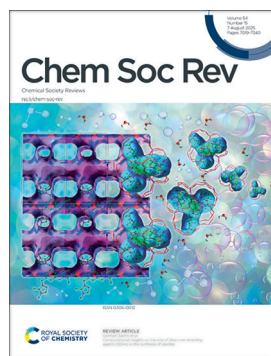
Chemical Society Reviews

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## IN THIS ISSUE

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### Cover

See German Sastre *et al.*, pp. 7067–7092. Image reproduced by permission of Katya Cuevas and German Sastre from *Chem. Soc. Rev.*, 2025, 54, 7067.



### Inside cover

See Ruth Pérez-Fernández *et al.*, pp. 7093–7113. Image reproduced by permission of Ruth Pérez-Fernández from *Chem. Soc. Rev.*, 2025, 54, 7093.

## TUTORIAL REVIEWS

7025

### New guidelines and definitions for type I photodynamic therapy

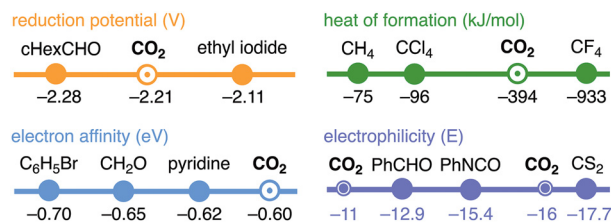
Mingle Li,\* Jianhua Xiong, Yingying Zhang, Le Yu, Lizhou Yue, Changyu Yoon, Yujin Kim, Yang Zhou, Xiaoqiang Chen,\* Yunjie Xu,\* Xiaojun Peng\* and Jong Seung Kim\*



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### Revisiting the reactivity of carbon dioxide: from physical and chemical properties to reactive carbon capture

Jerik Mathew Valera Lauridsen\* and Ji-Woong Lee\*



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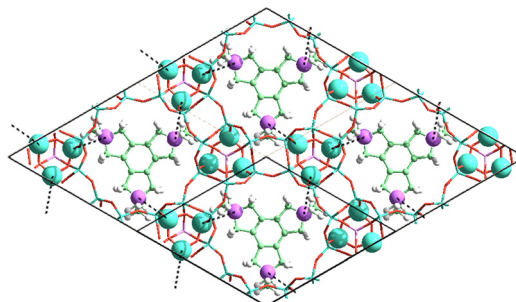
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7067

### Computational insights on the role of structure-directing agents (SDAs) in the synthesis of zeolites

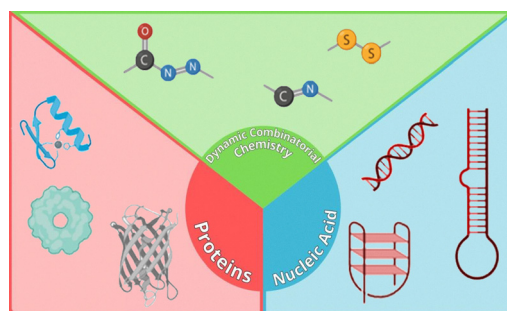
Xiaomin Tang, Omer F. Altundal, Frits Daeyaert, Zhiqiang Liu and German Sastre\*



7093

### Dynamic combinatorial chemistry directed by proteins and nucleic acids: a powerful tool for drug discovery

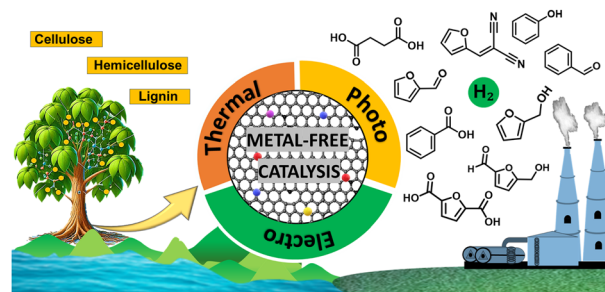
Antonio Aguanell, Marc Hennebelle, Miguel Ángel Ortega and Ruth Pérez-Fernández\*



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### Biomass valorization with metal-free catalysts: innovations in thermocatalytic, photocatalytic, and electrocatalytic approaches

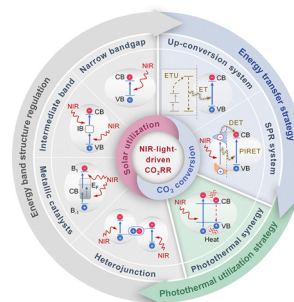
Arzoo Chauhan and Rajendra Srivastava\*



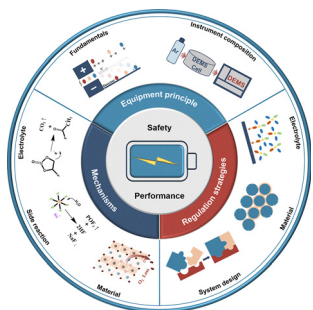
7174

### Advancements and prospects of near-infrared-light driven CO<sub>2</sub> reduction reaction

Siheng Yang, Wei Che, Yanhua Shao, Woo Jin Byun, Xiaodong Li, Xingchen Jiao, Ruixiang Li,\* Jae Sung Lee, Jiaqi Xu\* and Jong-Beom Baek\*



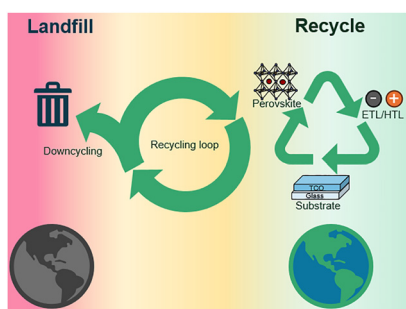
7216



### Unveiling gas production in rechargeable batteries via *in situ* differential electrochemical mass spectrometry

Guochuan Tang, Jiyu Zhang, Siyu Ma, Junyu Li, Zhangquan Peng\* and Weihua Chen\*

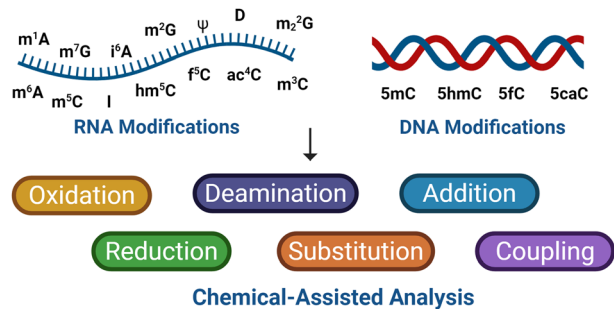
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### Sustainable decommissioning of perovskite solar cells: from waste to resources

Valentina Larini, Matteo Degani, Silvia Cavalli and Giulia Grancini\*

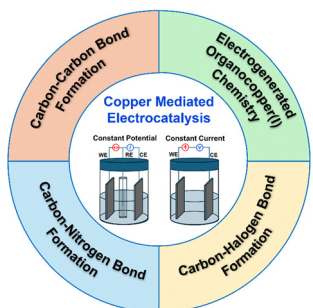
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### Chemical-assisted analysis of epigenetic modifications

Xucong Teng, Qiushuang Zhang, Yicong Dai, Hongwei Hou and Jinghong Li\*

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### Emerging applications and mechanistic insights of copper mediated electrocatalysts in organic transformations

Masnun Naher,\* Miguel A. González, Craig M. Williams and Paul V. Bernhardt

