

# Sustainable Energy & Fuels

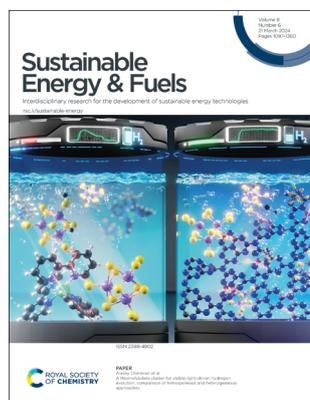
Interdisciplinary research for the development of sustainable energy technologies

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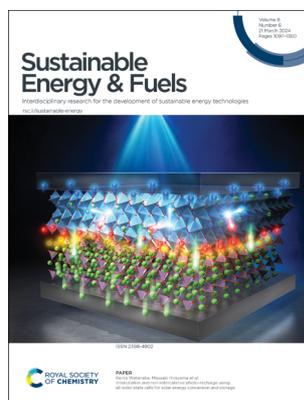
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## IN THIS ISSUE

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**Cover**  
See Alexey Cherevan *et al.*, pp. 1225–1235. Image reproduced by permission of Stephen Myakala.



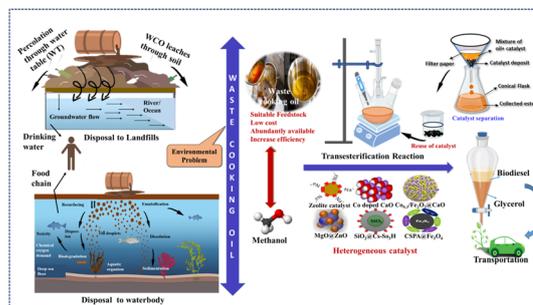
**Inside cover**  
See Kenta Watanabe, Masaaki Hirayama *et al.*, pp. 1236–1244. Image reproduced by permission of Kenta Watanabe from *Sustainable Energy Fuels*, 2024, 8, 1236.

## REVIEWS

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### Current advances and future outlook of heterogeneous catalytic transesterification towards biodiesel production from waste cooking oil

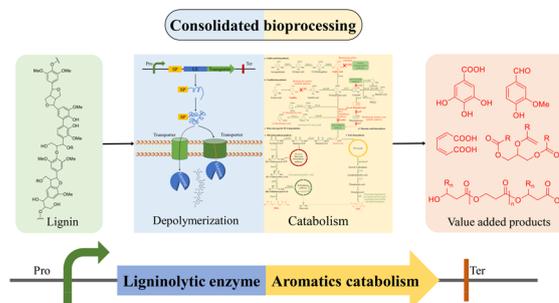
Nabanita Ghosh, Mehulee Patra and Gopinath Halder\*



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### Perspectives and advances in consolidated bioprocessing strategies for lignin valorization

Jianming Guo, Dylan Liu and Yong Xu\*



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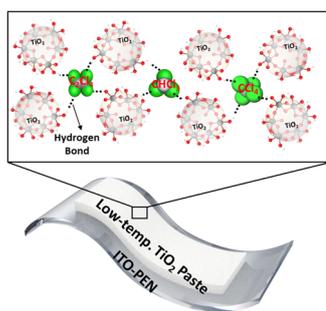
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Fundamental questions  
Elemental answers



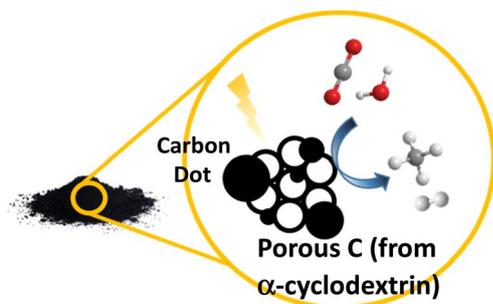
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### Chemical sintering by chlorinated carbon compounds for flexible photoanodes of dye-sensitized photovoltaic cells

Hyeong Cheol Kang, Kicheon Yoo, Md. Mahbubur Rahman, Senthilkumar Muthu, Jun Hwan Jang, Ashok Kumar Kaliyamurthy and Jae-Joon Lee\*

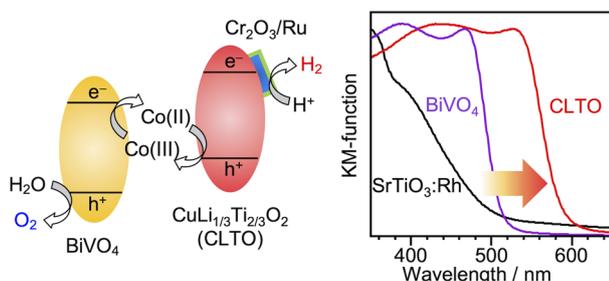
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### Metal-free carbon dot-microporous graphitic carbon heterojunctions as photocatalysts for CO<sub>2</sub> reduction

Ana Garcia-Mulero, María Cabrero-Antonino, Hermenegildo García\* and Ana Primo\*

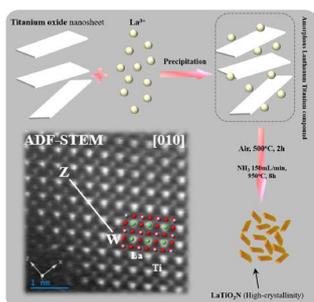
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### Z-scheme water splitting utilizing CuLi<sub>1/3</sub>Ti<sub>2/3</sub>O<sub>2</sub> as a hydrogen-evolving photocatalyst with photo-response up to 600 nm

Shunya Yoshino, Tanya Kurutach, Qingshan Liu, Toshiki Yamanaka, Shunsuke Nozawa, Makoto Kobayashi, Hiromu Kumagai and Hideki Kato\*

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### Synthesis and photocatalytic activity of LaTiO<sub>2</sub>N using titanium oxide nanosheet/La<sup>3+</sup> hybrids as a precursor

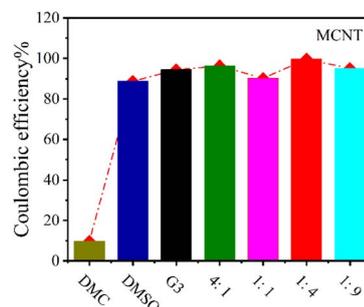
Xiong Tao, Tatsuki Tsugawa, Kzuto Hatakeyama and Shintaro Ida\*



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## The effect of electrolyte with binary solvents on improving the performance of rechargeable lithium–oxygen batteries

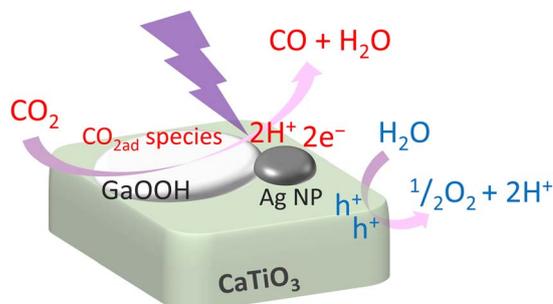
Tie Liu,\* Wenjing Li, Guangwei Zhang and Aishui Yu



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## Surface gallium oxide hydroxide species adsorbing carbon dioxide to enhance the photocatalytic activity of silver-loaded calcium titanate for carbon dioxide reduction with water

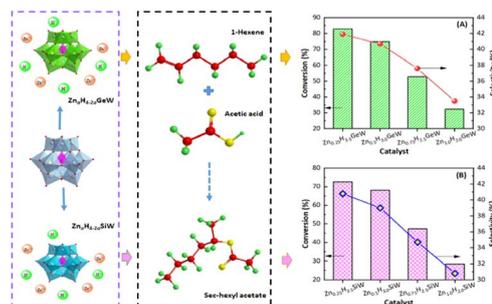
Hongxuan Qiu, Akira Yamamoto and Hisao Yoshida\*



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## Zn-substituted heteropoly acids as efficient catalysts for the addition–esterification of 1-hexene

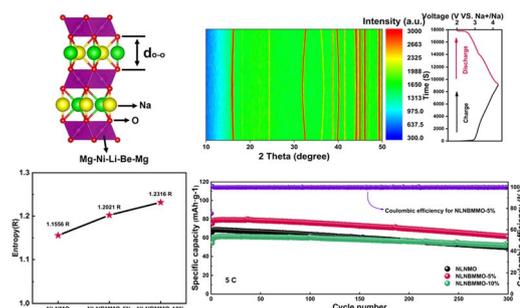
Xiaoyan Xue, Yan Sun, Qiwen Sun,\* Weiren Bao,\* Zongsen Zhang, Liping Chang, Jiancheng Wang and Kechang Xie



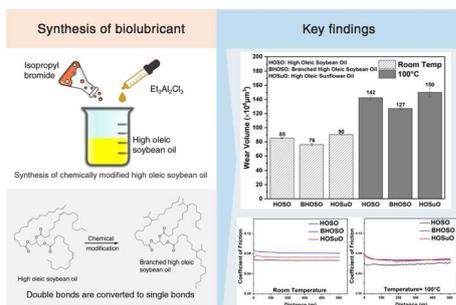
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## A high-entropy layered P2-type cathode with high stability for sodium-ion batteries

Hongfeng Liu, Yingshuai Wang, Xiangyu Ding, Yusong Wang, Feng Wu and Hongcai Gao\*



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### Investigating the impact of a newly developed chemical modification technique on improving the tribological properties of high oleic soybean oil

Piash Bhowmik, Brajendra K. Sharma, Majher I. Sarker, Hyunsuk Choi, Clement Tang and Sougata Roy\*

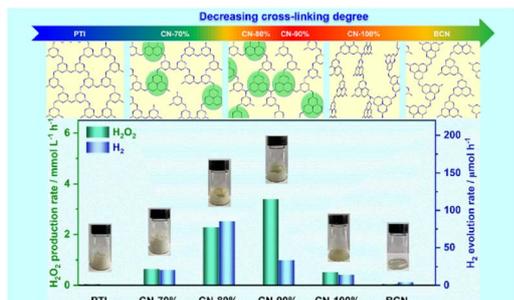
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### From biomass to fuels: a carbon-efficient route combining ketalization and fluid catalytic cracking

Juliana Carvalho, Alessandra Vieira, Alviclérr Magalhães, Leandro S. Mariz e Miranda, Yiu Lau Lam and Marcelo M. Pereira\*

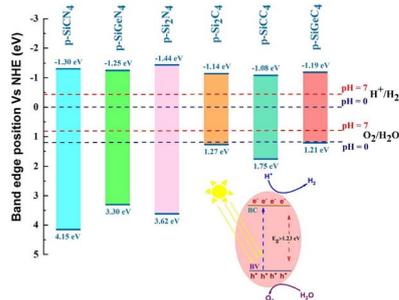
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### Effective inter-chain charge transfer and high charge mobility in polymeric carbon nitride arising from controllable molecular structures for enhanced photocatalytic $\text{H}_2\text{O}_2$ and $\text{H}_2$ production

Zonglin Li, Qing Yang, Hui Zhang,\* Fukai Zheng, Yonghai Wang and Jianhua Sun\*

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### Potential application of ternary pentagonal p-SiXY<sub>4</sub> (X = Si, C, Ge; Y = C, B, N) materials for optoelectronics and photocatalytic water splitting: a first-principles study

M. Maymoun,\* S. Oukahou, A. Elomrani, A. Benaddi, A. Etrini, H. Ataalite, Y. Bahou, A. Hasnaoui and K. Sbiaai

