

# Green Chemistry

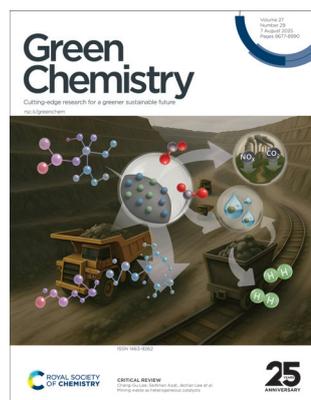
Cutting-edge research for a greener sustainable future

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### Cover

See Chang-Gu Lee, Seitkhan Azat, Jechan Lee *et al.*, pp. 8691–8709.

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### Inside cover

See Haibo Xie, Yuanlong Guo *et al.*, pp. 8818–8831.

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## EDITORIAL

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### 25<sup>th</sup> Anniversary Celebration of *Green Chemistry*

Michael A. Rowan and Andrea Carolina Ojeda Porras

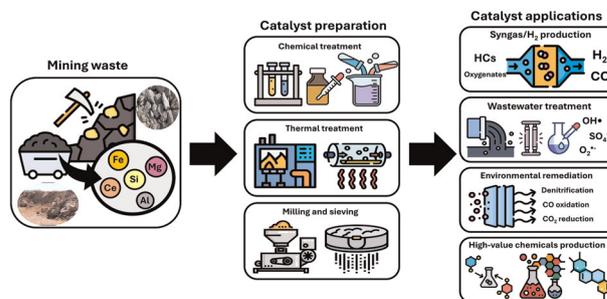


## CRITICAL REVIEWS

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### Mining waste as heterogeneous catalysts

Soo Lim Kim, Heejin Yang, Seonho Lee, Si-Kyung Cho, Chang-Gu Lee,\* Seitkhan Azat\* and Jechan Lee\*



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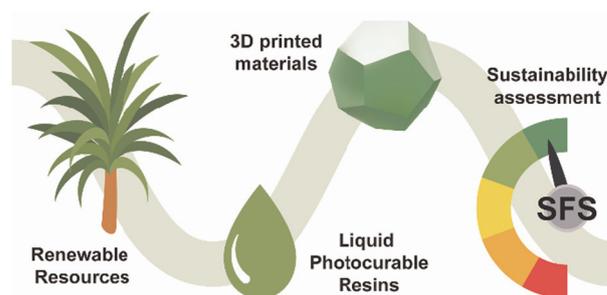
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## Sustainable approaches in vat photopolymerization: advancements, limitations, and future opportunities

Mirko Maturi,\* Erica Locatelli, Alberto Sanz de Leon, Mauro Comes Franchini and Sergio Ignacio Molina

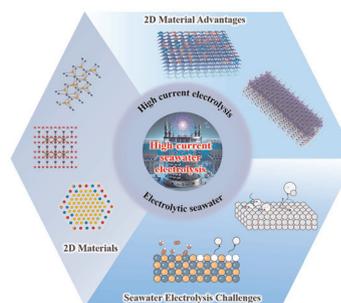


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## Two-dimensional materials for high-current-density seawater electrolysis

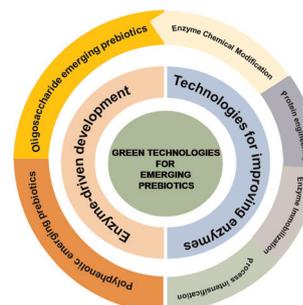
Liyun Wei, Jiao Dai, Shutong Qin, Mingjie Wang, Ziyuan Zhu, Weilin Xu, Kaisi Liu\* and Jun Wan\*



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## Developing and improving enzyme-driven technologies to synthesise emerging prebiotics

Noelia Losada-Garcia, Milica Simović, Marija Ćorović, Ana Milivojević, Nikola Nikačević, Cesar Mateo,\* Dejan Bezbradica\* and Jose M. Palomo\*

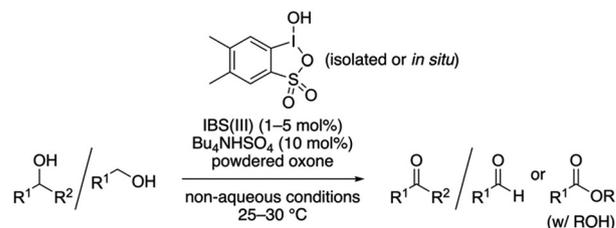


## COMMUNICATIONS

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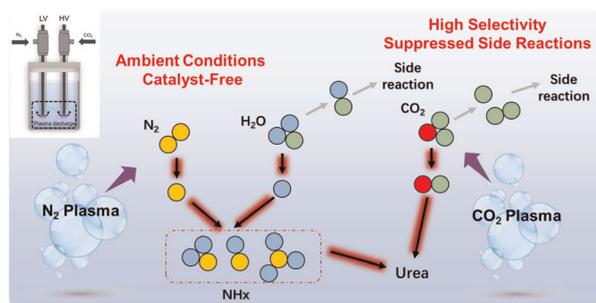
## The low-temperature selective oxidation of alcohols and a one-pot oxidative esterification using an IBS(III/V)/oxone catalysis

Ryutarō Kondo, Muhammet Uyanik\* and Kazuaki Ishihara\*



## COMMUNICATIONS

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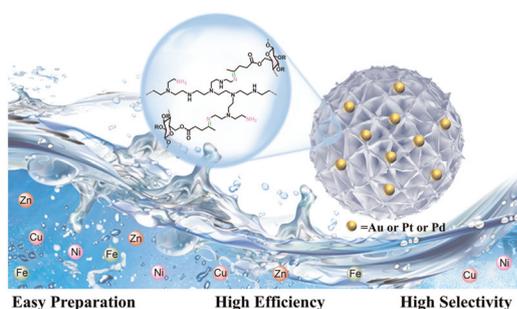


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Dingwei Gan, Jingwen Huang, Longfei Hong, Haoxuan Jiang, Xiaoran Wang, Rusen Zhou, Jing Sun and Renwu Zhou\*

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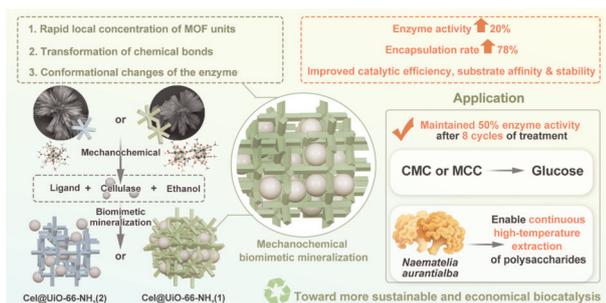
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### Molecularly engineering cellulose into a functional cellulose-based aerogel adsorbent for the recovery of precious metals from e-waste

Yumei Chen, Chunhui Xie, Yang You, Tonghui Xu, Yunqi Li, Jili Yuan, Haibo Xie\* and Yuanlong Guo\*

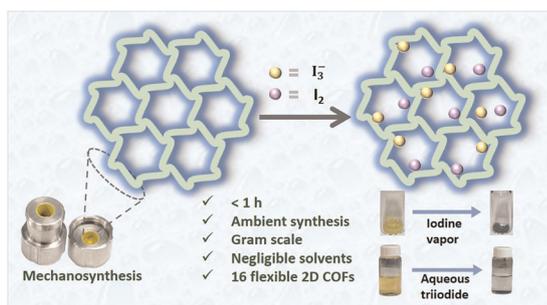
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### Mechanochemical biomimetic mineralization of UiO-66-NH<sub>2</sub>-immobilized cellulose for enhanced catalytic stability and efficiency

Xiaoyang Sun, Linyu Nian, Huimin Qi, Mengjun Wang, Dechun Huang and Chongjiang Cao\*

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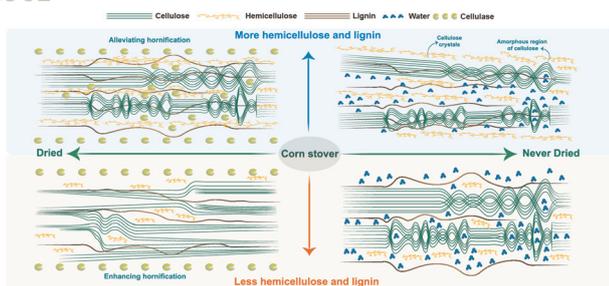
### Ambient mechanosynthesis of flexible two-dimensional covalent organic frameworks

Yogendra Nailwal, Bryson Baker, Ziad Alsudairy, Mustapha El Hariri El Nokab, Qingsong Zhang, Tuo Wang, Songliang Cai, Yi Liu and Xinle Li\*





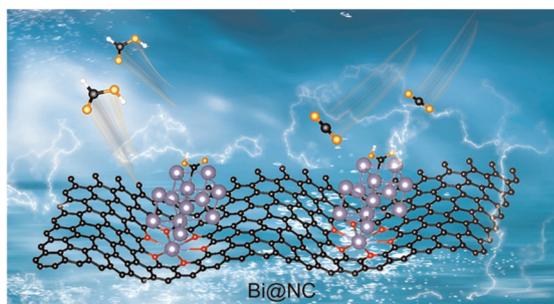
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### Influence of hemicellulose and lignin on the effect of drying of cellulose and the subsequent enzymatic hydrolysis

Tian-Jie Ao, Jie Wu,\* Richard Chandra,\*  
Huai-Yu Zhang, Yu-Feng Yuan, Yi-Ping Luo, Dong Li,  
Chen-Guang Liu, Scott Renneckar and Jack Saddler

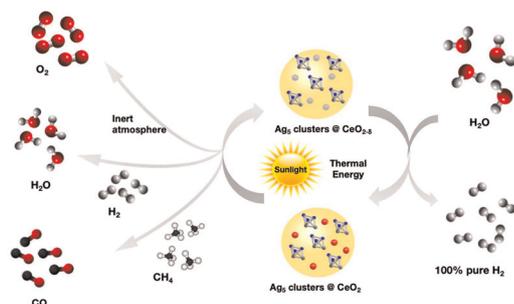
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Jingxuan Song, Yuexian Du, Lu Liu, Kunfan Dong,  
Ziyu Deng, Yanghe Fu,\* Yijing Gao,\* Fumin Zhang,  
Fa Yang,\* Weidong Zhu\* and Maohong Fan

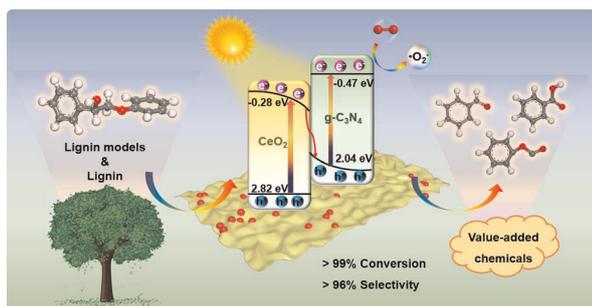
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### Two-step hybrid photo-thermochemical looping process, using metallic clusters on metal oxide carriers, for very efficient green hydrogen production

Anh Dung Nguyen, David Buceta, Qingqing Wu,  
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Maged F. Bekheet, Martin Dieste, Nerea Davila-Ferreira,  
Fatimah Alhawiti, Colin Lambert,\* M. Arturo López-  
Quintela\* and Reinhard Schomäcker\*

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Yin Ai, Yuzhen Zhao, Xiaoqin Huang, Xutang Liu,\*  
Siqi Kuang, Haichang Ding, Yuling Zeng, Hongliang Liu\*  
and Gang Liu\*

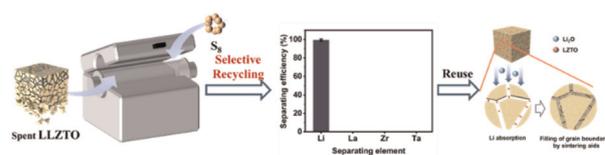


## PAPERS

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### Closed-loop recycling of spent $\text{Li}_{6.5}\text{La}_3\text{Zr}_{1.5}\text{Ta}_{0.5}\text{O}_{12}$ : from selective lithium recovery to high-efficiency sintering-aid preparation

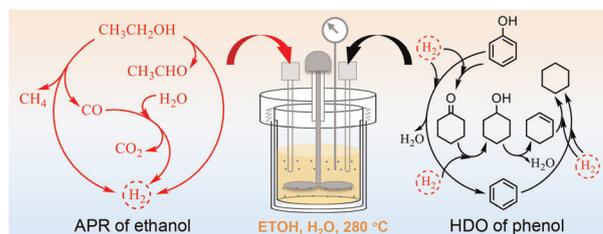
Yufan Zheng, Kexin Wan, Yuancheng Chen, Chuang Ji, Hongxiang Kuai and Xunhui Xiong\*



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### Selective C–O bond cleavage enhances aromatics production from lignin-derived platform molecules with ethanol as a hydrogen donor

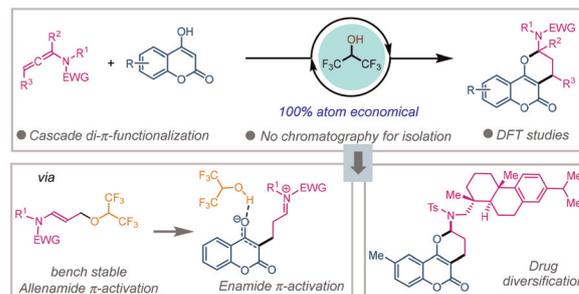
Hao Zhang, Qisong Yi, Huawei Geng, Zhifeng Liu, Wenhao Luo, Zichun Wang\* and Yuanshuai Liu\*



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### Unlocking enhanced reactivity of hexafluoroisopropanol: a sustainable atom economical approach to selective cascade di- $\pi$ -functionalization of allenamides

Yafia Kousin Mirza, Partha Sarathi Bera, R. Nandini, Dhrubajyoti Talukdar, Sachin Balaso Mohite, Manoj V. Mane\* and Milan Bera\*



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### Light empowered aziridination of olefins under metal- and photocatalyst-free conditions

Bin Sun, Qian Zhang, Jianjie Wang, Yan Xu, Jiayin Wang, Chun Lv, Xiaohui Zhuang, Caiyun Yu and Can Jin\*

