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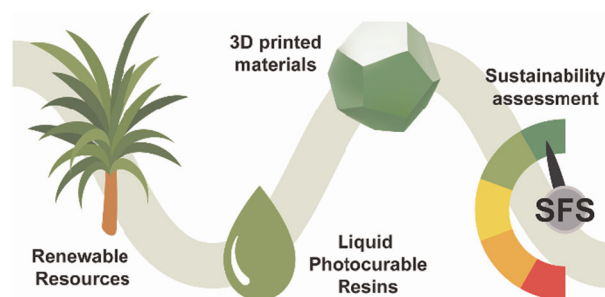
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## CRITICAL REVIEWS

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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

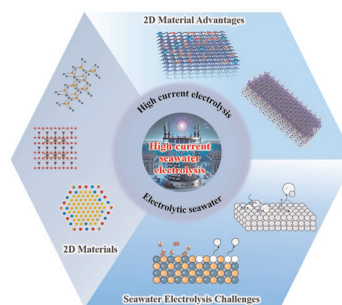


## TUTORIAL REVIEWS

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

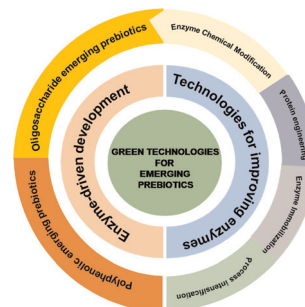
Liyun Wei, Jiao Dai, Shutong Qin, Mingjie Wang, Ziyuan Zhu, Weilin Xu, Kaisi Liu\* and Jun Wan\*



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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\*

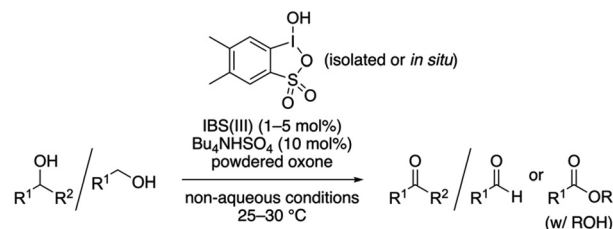


## COMMUNICATIONS

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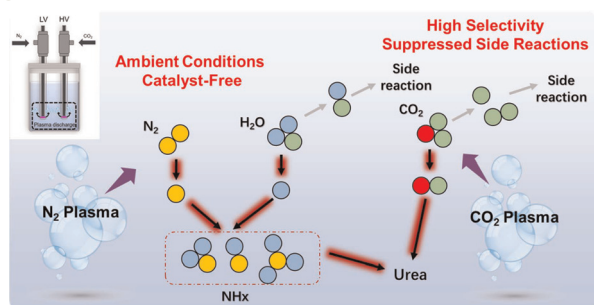
## The low-temperature selective oxidation of alcohols and a one-pot oxidative esterification using an IBS(III/V)/oxone catalysis

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



## COMMUNICATIONS

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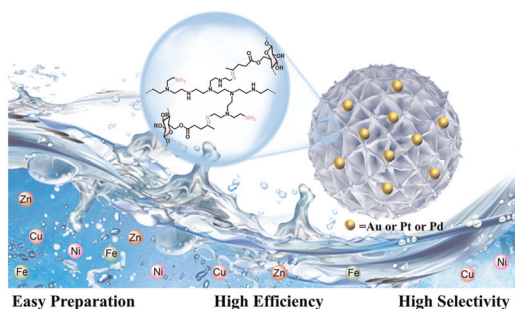


### Catalyst-free urea synthesis *via* plasma-driven direct coupling of $CO_2$ and $N_2$ under ambient conditions

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

## PAPERS

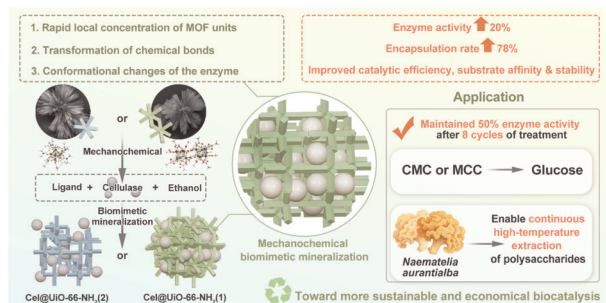
8818



### 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\*

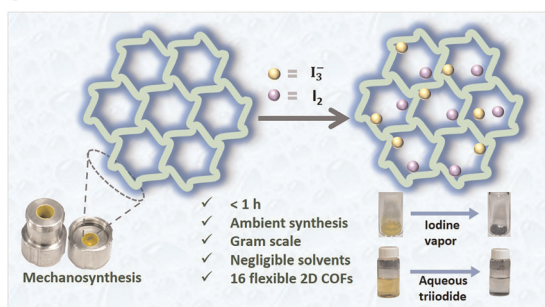
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### Mechanochemical biomimetic mineralization of UiO-66- $NH_2$ -immobilized cellulase for enhanced catalytic stability and efficiency

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\*



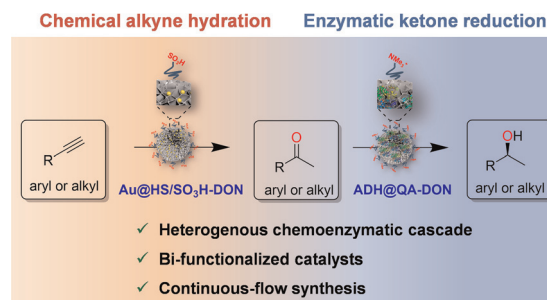


## PAPERS

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### Dual functionalization of mesoporous organosilicon nanoflowers enhances heterogeneous chemoenzymatic conversion of alkynes toward enantiopure alcohols

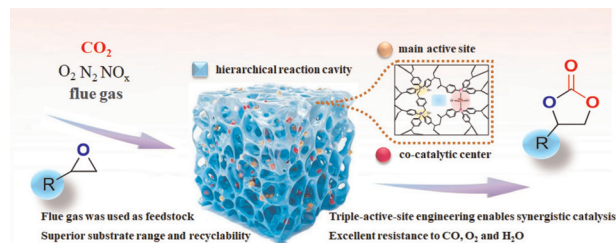
Chen Huang, Qian Zhang, Xiaoyang Yue,\* Aidang Lu, Guanhua Liu, Ying He, Li Ma, Liya Zhou, Yunting Liu\* and Yanjun Jiang\*



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### In situ capture and value-added utilization of CO<sub>2</sub> from flue gas using an ionic liquid polymer supported Zn catalyst

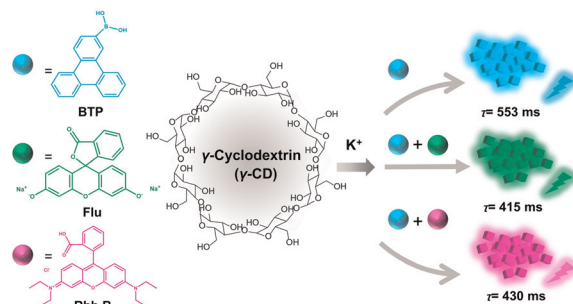
Hongyan Ni, Kang Zhao, Shujuan Liu, Xingchao Dai, Ce Liu, Xionghou Gao, Junyi Zhang, Honghai Liu, Kuo-Wei Huang, Xinjiang Cui\* and Feng Shi\*



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### Multi-color-tunable ultra-long room temperature phosphorescence based on cyclodextrin metal-organic frameworks

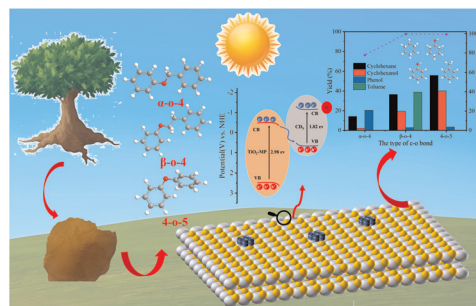
Jiayin Zhang, Jiaxuan Tang, Yongsheng Zhang, Yifu Chen\* and Junbo Gong\*



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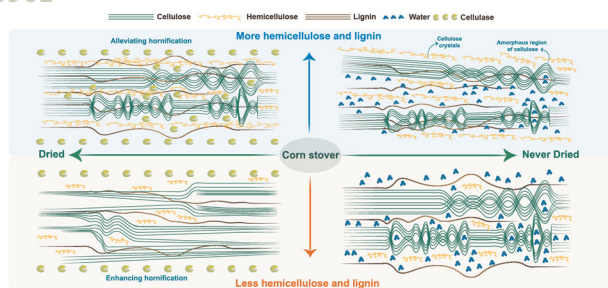
### A mesoporous TiO<sub>2</sub>/carbon dot heterojunction photocatalyst efficiently cleaves entire types of C–O bonds in lignin under visible light

Song Han, Yun Zhao,\* Mina Liang, Xiangxiong Zhai, Qi Zhang, Na Sun, Rong Ma, Guoling Li, Zhubing Xiao and Zhonghai Ni\*



## PAPERS

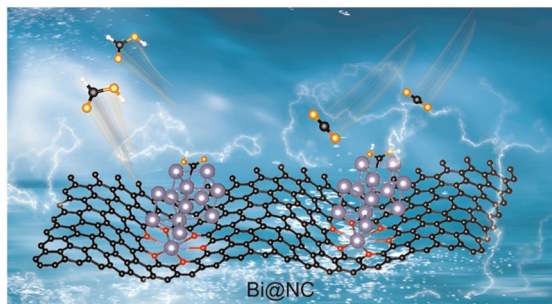
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### Influence of hemicellulose and lignin on the effect of drying of cellulose and the subsequent enzymatic hydrolysis

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

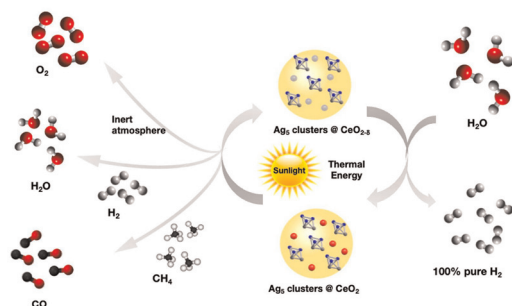
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### MOF-derived Bi@NC electrocatalysts with heteroatomic engineering for high-efficiency CO<sub>2</sub>-to-formate conversion

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

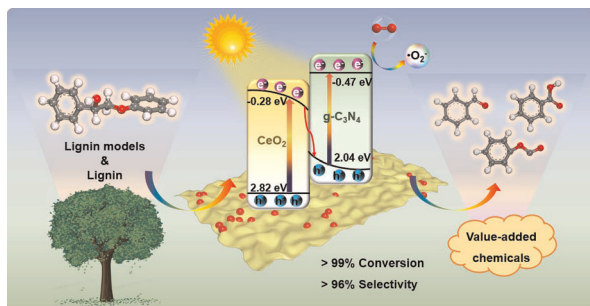
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### Two-step hybrid photo-thermochemical looping process, using metallic clusters on metal oxide carriers, for very efficient green hydrogen production

Anh Dung Nguyen, David Buceta, Qingqing Wu,  
Moteb Alotaibi, Julian T. Müller, Iria R. Arias, Albert Gili,  
Maged F. Bekheet, Martin Dieste, Nerea Davila-Ferreira,  
Fatimah Alhawiti, Colin Lambert,\* M. Arturo López-  
Quintela\* and Reinhard Schomäcker\*

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### Selective and efficient cleavage of C<sub>α</sub>-C<sub>β</sub> bonds in lignin models and native lignin using an S-scheme CeO<sub>2</sub>/g-C<sub>3</sub>N<sub>4</sub> heterojunction photocatalyst

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

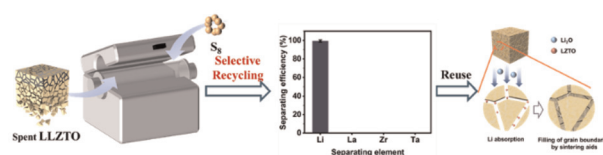


## PAPERS

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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

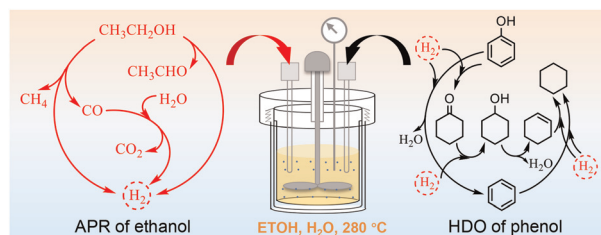
Yufan Zheng, Kexin Wan, Yuancheng Chen, Chuang Ji, Hongxiang Kuai and Xunhui Xiong\*



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

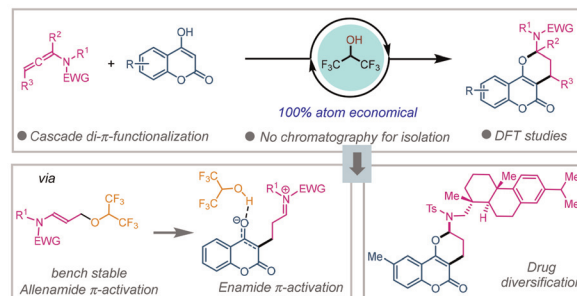
Hao Zhang, Qisong Yi, Huawei Geng, Zhifeng Liu, Wenhao Luo, Zichun Wang\* and Yuanshuai Liu\*



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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\*

