

# Green Chemistry

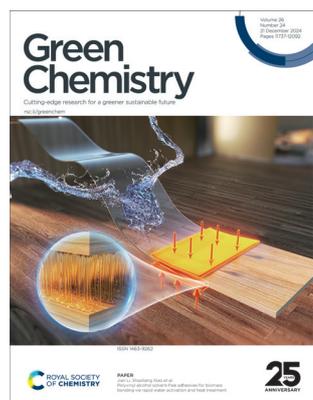
Cutting-edge research for a greener sustainable future

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## IN THIS ISSUE

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### Cover

See Jian Li, Shaoliang Xiao  
*et al.*, pp. 11873–11884.

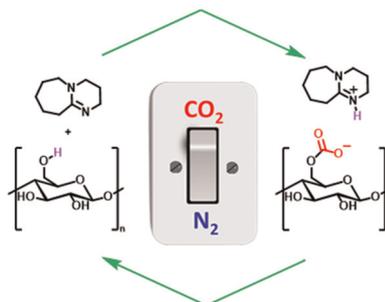
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from *Green Chem.*, 2024, **26**,  
11873.

## CRITICAL REVIEWS

11747

### CO<sub>2</sub> switchable solvents for sustainable dissolution, modification, and processing of cellulose materials: a critical review

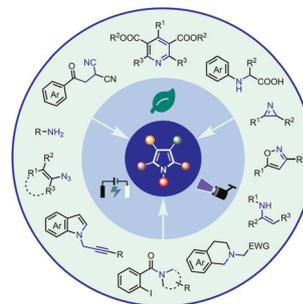
Peter McNeice\* and Ben L. Feringa\*



11773

### Photo- and electro-chemical synthesis of substituted pyrroles

Binbin Huang



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Fundamental questions  
Elemental answers

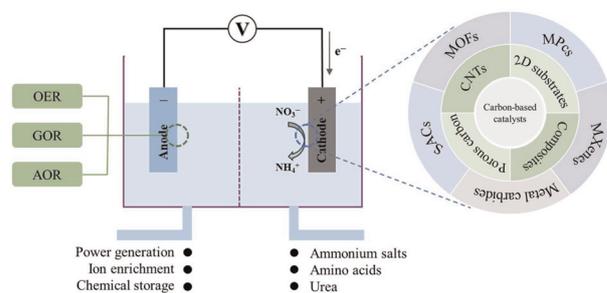


## TUTORIAL REVIEWS

11797

## Review of carbon-based catalysts for electrochemical nitrate reduction and green ammonia synthesis

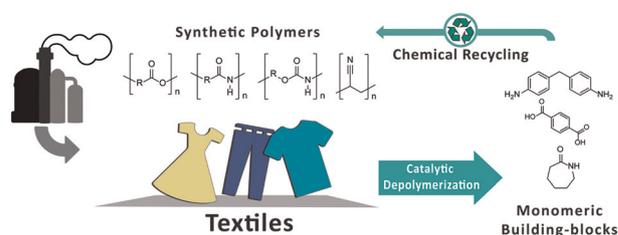
Guanting Liao, Richard L. Smith Jr., Haixin Guo\* and Xinhua Qi\*



11832

## Advances in catalytic chemical recycling of synthetic textiles

Carmen Moreno-Marrodán, Francesco Brandi, Pierluigi Barbaro\* and Francesca Liguori

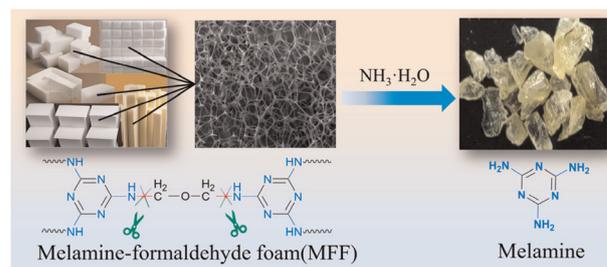


## COMMUNICATIONS

11860

## Efficient decomposition of a melamine–formaldehyde foam into melamine via selective disconnection of bonds

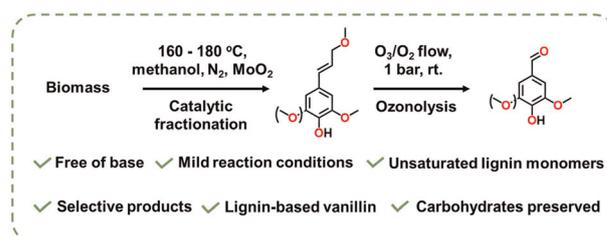
Chaohui Yang, Xinyu Li, Hongyan Li, Chizhou Wang, Qianqian Xing, Xiaoliang Jia, Xiaojing Cui,\* Xianglin Hou\* and Tiansheng Deng\*



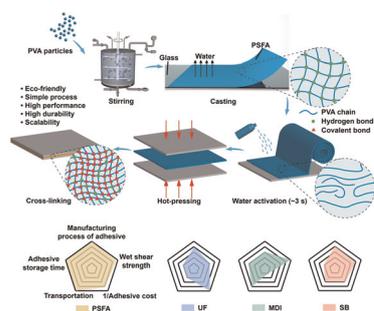
11866

## Green aromatic aldehyde production from biomass via catalytic fractionation and ozonolysis

Tianyu Ren, Peidong Li, Zhuo He, Xinfeng Pan, Yutao Yang, Yuhe Liao, Haiyong Wang, Yanbin Cui\* and Chenguang Wang\*



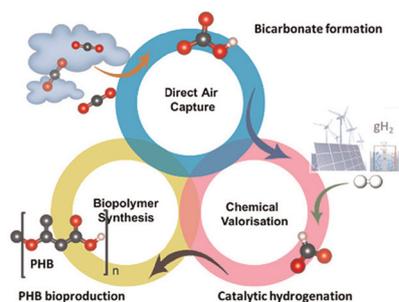
11873



### Polyvinyl alcohol solvent-free adhesives for biomass bonding *via* rapid water activation and heat treatment

Liangxian Liu, Ming Wei, Haiyu Li, Yutong Chen, Yuyan Jiang, Tian Ju, Zetan Lu, Guoqing Mu, Lijian Cai, Dexiu Min, Yanjun Xie, Jian Li\* and Shaoliang Xiao\*

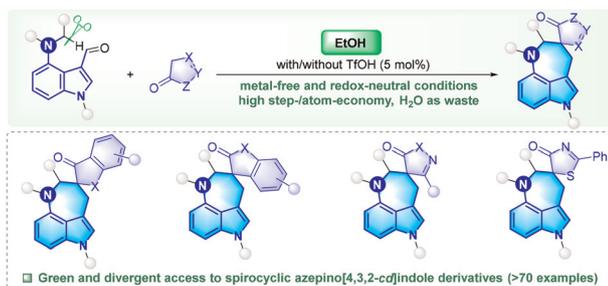
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### Upcycling atmospheric CO<sub>2</sub> to polyhydroxy-alkanoates *via* sequential chemo-biocatalytic processes

Manuel Bruch, Julian E. Sanchez-Velandia, Jhonatan Rodríguez-Pereira, Michelle Rich, Nicole Percy, Tanja Narančić, Eduardo Garcia-Verdugo, Victor Sans, Kevin O'Connor\* and Marcileia Zanatta\*

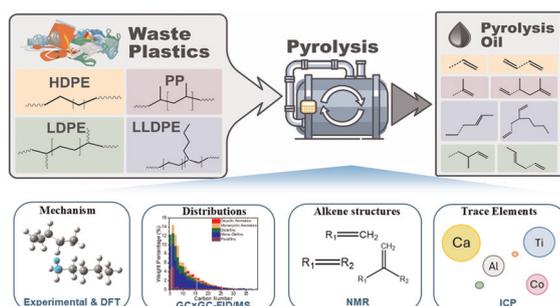
11899



### EtOH-mediated cascade C(sp<sup>3</sup>)-H alkylation *via* aromatization-driven [1,6]-hydride transfer: green and divergent synthesis of spirocyclic azepino [4,3,2-cd]indoles

Yao-Bin Shen,\* Qian-Hao Zhuang, Xiao-Lin Wang, Xiao-De An, Bin Qiu, Tiesheng Shi and Jian Xiao\*

11908



### The effects of polyolefin structure and source on pyrolysis-derived plastic oil composition

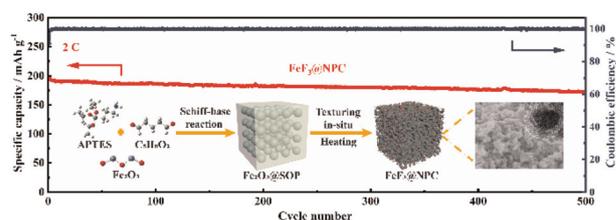
Jiayang Wu, Zhen Jiang, Victor S. Cecon, Greg Curtzwiler, Keith Vorst, Manos Mavrikakis and George W. Huber\*



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### Engineering *in situ*: N-doped porous carbon-confined FeF<sub>3</sub> for efficient lithium storage

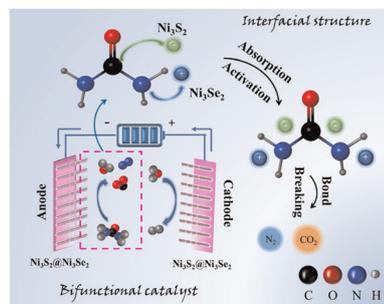
Jinlong Hu, Weijun Xu and Lingzhi Zhang\*



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### Engineering high-valence nickel sites in Ni<sub>3</sub>S<sub>2</sub>/Ni<sub>3</sub>Se<sub>2</sub> architectures enabling urea-assisted hydrogen evolution reactions

Taotao Ai,\* Miaomiao Bai, Weiwei Bao,\* Jie Han, Xueling Wei, Xiangyu Zou, Jungang Hou, Lizhai Zhang, Zhifeng Deng and Yuxin Zhang\*



11948

### Green synthesis of *N*-sulfonyl amidine using a CuI-incorporated CoFe<sub>2</sub>O<sub>4</sub> nano-catalyst in aqueous medium

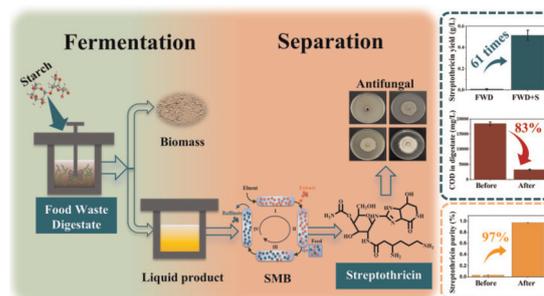
Samrat Charaimuria and Prodeep Phukan\*



11963

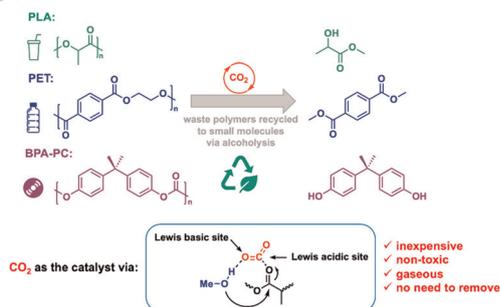
### Biological production and simulated moving bed purification of streptothricin F from food waste digestate

Xiaofang Zhou, Peiyi Li, Yuchen Sun, Zeyang Zhang, Chuanyi Yao, Qingbiao Li\* and Yuanpeng Wang\*



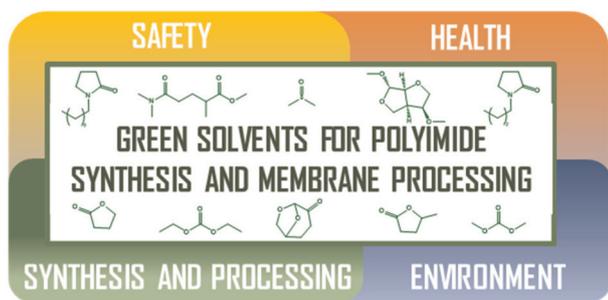
## PAPERS

11976

CO<sub>2</sub> catalyzed recycling of polyester and polycarbonate plastics

Qiao Zhang, Nan Wang, Chenyang Hu, Peng-Yuan Li, Fu-Quan Bai, Xuan Pang,\* Xuesi Chen and Xianhong Wang

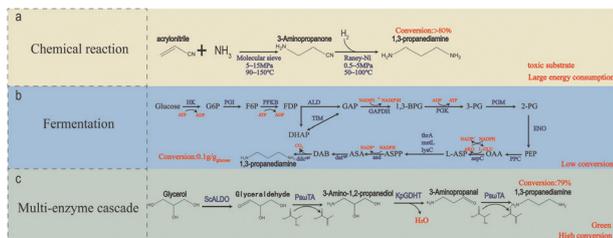
11984



## Green dipolar aprotic solvents for the dynamic polycondensation of high-performance polyimide membranes

E. San José, M. R. de la Viuda,\* F. J. Carmona, C. Soto, L. Palacio, P. Prádanos, A. Hernández and A. Tena\*

12008

A green and sustainable multi-enzyme cascade for the biosynthesis of 1,3-propanediamine from crude glycerol *in vitro*

Daocheng Liao, Shiming Tang, Ying Lin\* and Suiping Zheng\*

12019



## Utilize rather than create: transforming phthalonitrile resin into N-rich hierarchical porous carbon for supercapacitor materials

Yi Li, Qiancheng Liu, Qian Zhang, Xiaoxiao Li, Yang Yang, Pan Wang, Kui Li, Ying Li, Fei Zhong, Qi Liu, Yun Zheng, Xulin Yang\* and Peng Zhao\*

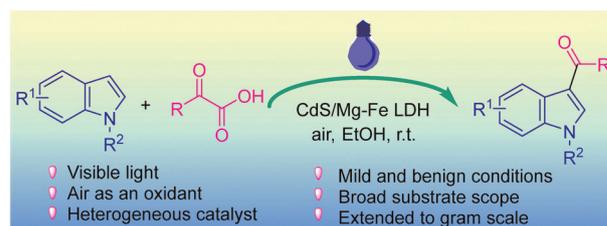


## PAPERS

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**CdS/Mg–Fe layered double hydroxide: a versatile heterogeneous photocatalyst for the acylation of indoles with  $\alpha$ -keto acids**

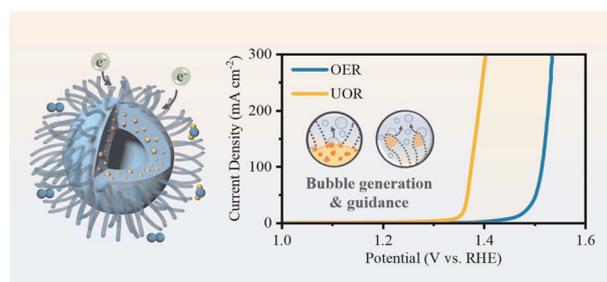
Jun-Bo Wang, Tong Yue, Ling Xu, Zhi-Qiang Hao\* and Zhan-Hui Zhang\*



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**1D/3D hierarchical carbon skeleton confined NiFe nanoparticles with optimized three-phase interfaces as tri-functional electrocatalysts**

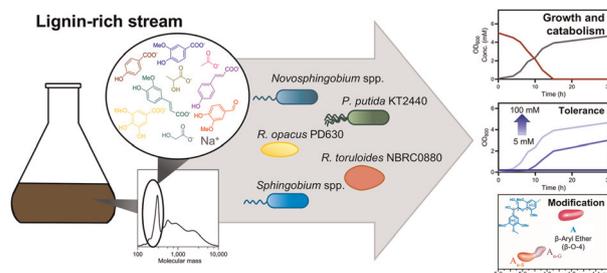
Yuqing Chen, Binyang Liu, Xuesong Liu, Jiahui Ye, Kuan Deng, Chengjie Wu, Qiang Niu, Tao Yang, Wen Tian and Junyi Ji\*



12053

**Comparison of microbial strains as candidate hosts and genetic reservoirs for the valorization of lignin streams**

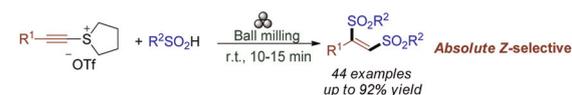
Rebecca A. Wilkes, Andrew J. Borchert, Valentina E. Garcia, Gina M. Geiselman, Sarah Liu, Adam M. Guss, Joshua K. Michener, Daniel R. Noguera, Eiji Masai, John M. Gladden, John Ralph and Gregg T. Beckham\*



12070

**Ball milling-promoting difunctionalization of alkynyl sulfonium salts with sulfinic acids towards (Z)-1,2-disulfonylethenes**

Li-Hua Yang, Bei Li, Lin Chen, Wen-Shi Yao, Han-Yue Peng, Sha Peng\* and Long-Yong Xie\*

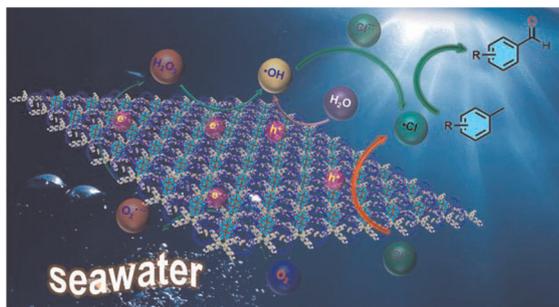


- Metal-, oxidant- and additive-free
- Organic solvent- and extraction-free
- Room temperature and short reaction time
- Ball milling-promoted transformation
- Rarely reported Z-selective disulfonyl products
- Wide substrate scope and satisfactory yields



## PAPERS

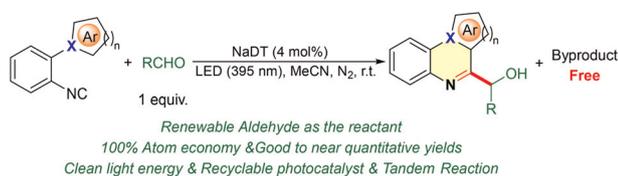
12076



**Single-layer 2D supramolecular-organic-framework-supported polyoxometalates: efficient selective oxidation of toluene in seawater under sunlight**

Yan Fan, Yi Luo, Xu Luo and Xin-Long Ni\*

12084



**Decatungstate-photocatalyzed tandem acylation/cyclization/self-hydrogenation of isocyanides with aldehydes to hydroxyalkylated N-heteroarenes via multiple hydrogen atom transfer**

Hong-Tao Ji, Qiong-Hui Peng, Jia-Sheng Wang, Yu-Han Lu, Hui Dai, Qing-Xia Luo and Wei-Min He\*

## RETRACTION

12090

**Retraction: Copper catalyzed direct C–H double methylation of aromatic aldehydes employing methanol as an alkylating agent**

Sereena Sunny and Ramasamy Karvembu\*

