

# Green Chemistry

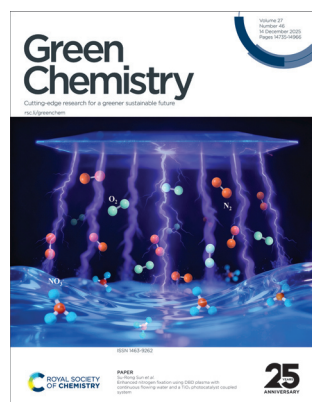
Cutting-edge research for a greener sustainable future

[rsc.li/greenchem](https://rsc.li/greenchem)

The Royal Society of Chemistry is the world's leading chemistry community. Through our high impact journals and publications we connect the world with the chemical sciences and invest the profits back into the chemistry community.

## IN THIS ISSUE

ISSN 1463-9262 CODEN GRCHFJ 27(46) 14735–14966 (2025)



**Cover**  
See Su-Rong Sun *et al.*,  
pp. 14807–14823.

Image reproduced by  
permission of Su-Rong Sun  
from *Green Chem.*, 2025,  
27, 14807.



**Inside cover**  
See Feng Xu *et al.*,  
pp. 14824–14837.

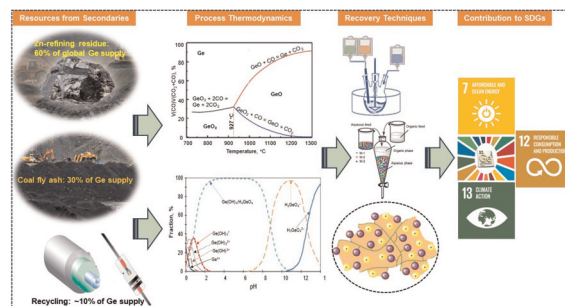
Image reproduced by  
permission of Feng Xu  
from *Green Chem.*, 2025,  
27, 14824.

## CRITICAL REVIEW

14744

### Harnessing germanium from industrial residues and electronic waste for a sustainable energy future

Rajiv Ranjan Srivastava and Sadia Ilyas\*

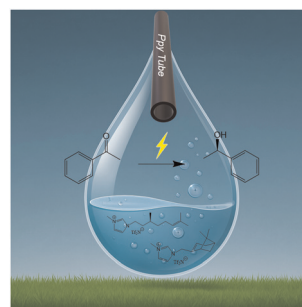


## COMMUNICATIONS

14769

### Tunable stereoselectivity in a wireless electrochemical microreactor using natural chiral ionic liquids

Sara Grecchi,\* Andrea Mezzetta, Lorenzo Guazzelli and Serena Arnaboldi\*



# RSC Applied Interfaces

GOLD  
OPEN  
ACCESS

Interfacial and surface research  
with an applied focus

Interdisciplinary and open access

[rsc.li/RSCApplInter](https://rsc.li/RSCApplInter)

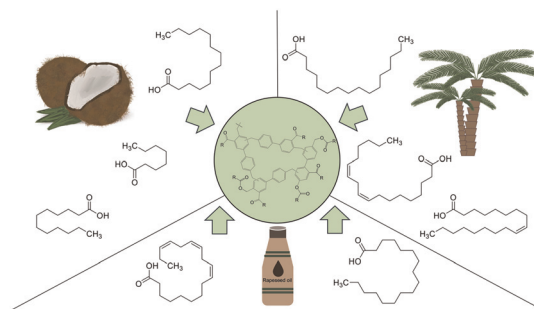
Fundamental questions  
Elemental answers

## COMMUNICATIONS

14776

### Synthesis of hypercrosslinked polymers using coconut oil as a renewable, bio-based solvent

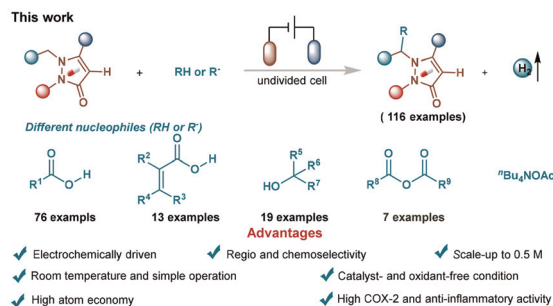
Paul Schweng, Anastasiia Naryshkina, Alexander Blocher and Robert T. Woodward\*



14783

### Site-selective electrochemical C(sp<sup>3</sup>)-H late-stage functionalization of pyrazolones

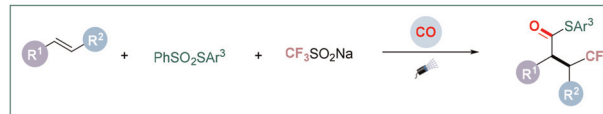
Jing-Yi Zhang, Ming-Han Li, Yu-Shun Cui, Ying Yang, Miao Lai, Zi-Xun Gao, Lin-Yu Zheng, Si-Ao Lu, Bin-Tao Liu, Fang-Ling Lu\* and Yu-Lin Feng\*



14792

### Photoinduced carbonylative synthesis of β-trifluoromethylated thioesters through 1,2-trifluoromethylation and carbonylation of alkenes

Ren-Guan Miao, Zhi-Peng Bao, Yuanrui Wang, Chang-Sheng Kuai and Xiao-Feng Wu\*

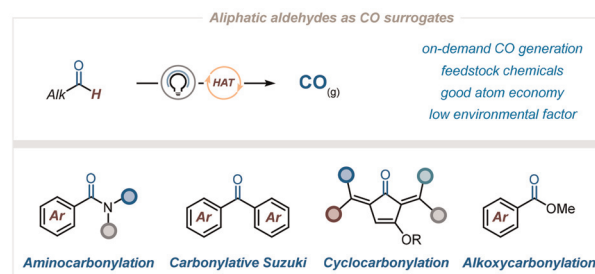


## PAPERS

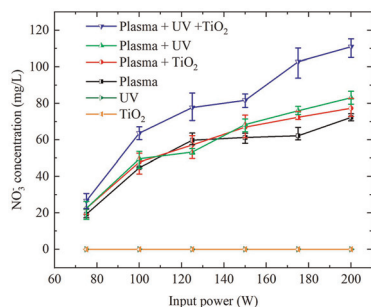
14799

### Aliphatic aldehydes as CO surrogates via photocatalyzed hydrogen atom transfer

Luna Raineri, Valerio Morlacci, Ana Maria Constantin, Aleksandr Voronov, Giovanni Maestri, Nicola Della Ca\* and Luca Capaldo\*



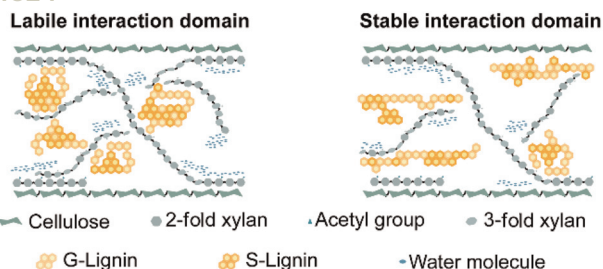
14807



### Enhanced nitrogen fixation using DBD plasma with continuous flowing water and a TiO<sub>2</sub> photocatalyst coupled system

Wen-Dong Wan, Su-Rong Sun,\* Chao Wang, Yury Gorbanev, Hai-Xing Wang and Annemie Bogaerts

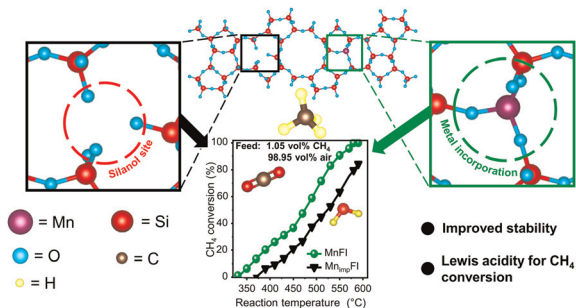
14824



### Domain-specific lignin-carbohydrate interactions govern cell wall deconstruction in wheat straw

Yucheng Hu, Shixu Yu, Guohua Miao, Yuan He, Xiaoying Shen, Haichao Li and Feng Xu\*

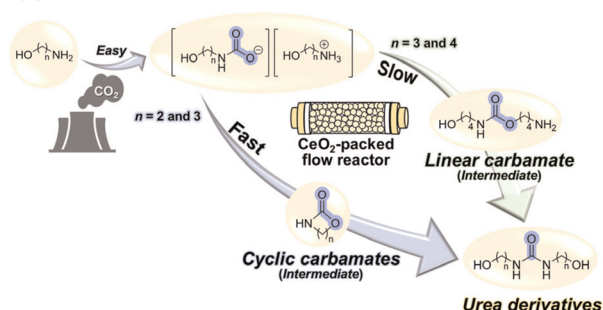
14838



### Enhanced methane combustion over monoclinic single-site Mn-containing nanosized MFI zeolite catalyst

Marco Giuseppe Geloso, Sajjad Ghojavand,\* Chunzheng Wang, Edwin B. Clatworthy, Oleg I. Lebedev, Diogenes Honorato Piva, Francesco Dalena, Glorija Medak, Aymeric Magisson, Hristijan A. Aleksandrov, Georgi N. Vayssilov and Svetlana Mintova\*

14852



### Continuous-flow synthesis of organic urea derivatives from CO<sub>2</sub>-absorbed alkanolamines over a CeO<sub>2</sub> catalyst

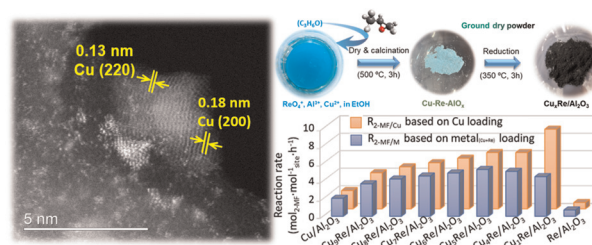
Shogen Mihara, Natsuki Mizutani, Hikari Terada, Mizuho Yabushita, Takaaki Endo, Yoshinao Nakagawa, Akira Nakayama and Keiichi Tomishige\*



14873

### Construction of Cu–Re–O<sub>x</sub> rich interfaces for the catalytic hydrogen transfer of furfural

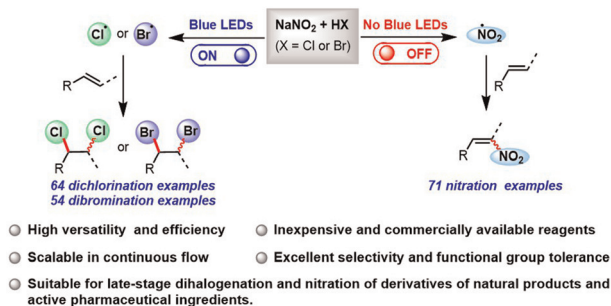
Jingjie Luo, Wenhao Yang, Tao Wang, Hao Liu, Xinyu Mao and Changhai Liang\*



14883

### A versatile, tunable method for NaNO<sub>2</sub>/HX (Cl or Br)-mediated radical dihalogenation or nitration of olefins

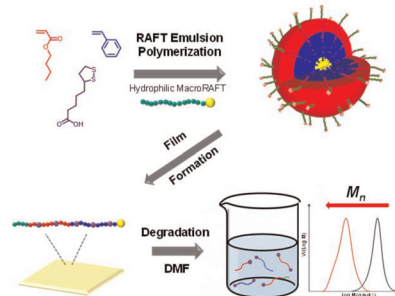
Jinglian Nong, Zehui Cao, Qin He, Yangyang Zhang, Jichao Chen\* and Yaxin Wang\*



14899

### Degradable polymer films: RAFT-mediated emulsion copolymerization of lipoic acid with vinyl monomers

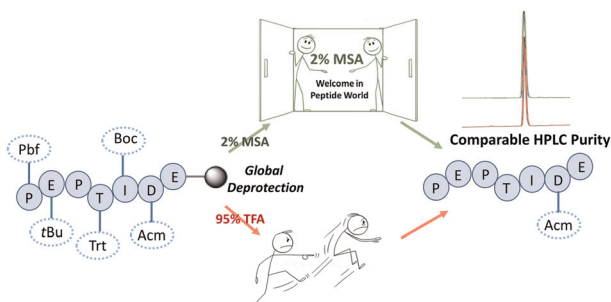
Steven W. Thompson, Yasemin Fadil, Nicholas J. Chan, Graeme Moad, Sébastien Perrier and Per B. Zetterlund\*



14911

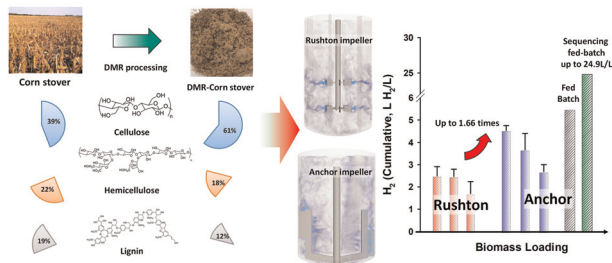
### Advancing sustainable peptide synthesis: methanesulfonic acid–formic acid as a greener substitute for TFA in final global deprotection

Fathima Fidha, Ashish Kumar,\* Maria Leko, Oleg Marder, Sergey Burov, Anamika Sharma, Beatriz G. de la Torre\* and Fernando Albericio\*



## PAPERS

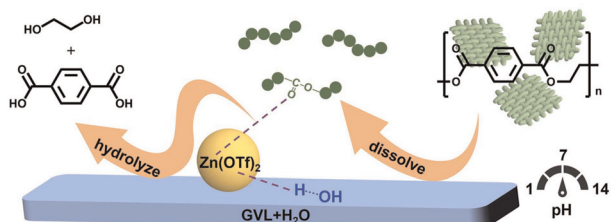
14919



### Maximizing long-term biohydrogen production with *Clostridium thermocellum* for high solids conversion of lignocellulosic biomass

Young Eun Song, Changman Kim, Lydia Rachbauer, Lauren R. Magnusson, Chang Dou, Katherine J. Chou, Steven W. Singer and Eric Sundstrom\*

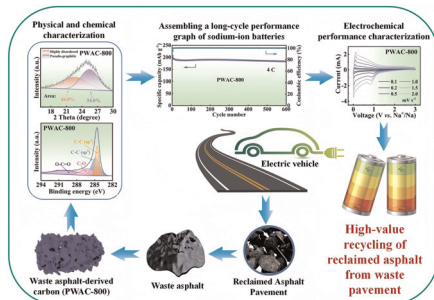
14934



### Dual activation of a zinc salt and solvent-tuned dissolution enable efficient neutral hydrolysis of PET and its blends

Xuan Zhao, Shun Zhang, Jiaying Xu, Chengfeng Shen, Yifan Liu, Xuehui Liu, Zhishan Su,\* Shimei Xu\* and Yu-Zhong Wang

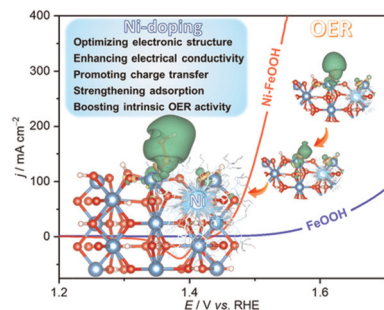
14944



### Green upcycling of retired asphalt into "vortex-crosslinked" carbon anodes for high-performance sodium-ion batteries

Danqing Li, Xin He, Linlin Wang,\* Mei Ding, Chunhui Gao and Chuankun Jia\*

14954



### Electronic modulation of Fe sites in hierarchical FeOOH for lowering the oxygen evolution energy barrier

Xiaoge Li,\* Shuyi Zang, Jun Zhao, Daidi Li, Dandan Wang, Lei Wang, Qin-Chao Wang\* and Jie Han\*



## CORRECTION

14963

**Correction: NAD(H) self-recycling whole-cell biocatalysis for the production of furoic acid and 2,5-furandicarboxylic acid from furfural *via* CO<sub>2</sub> fixation**

Mingzhe Ma and Yajie Wang\*

