

# Green Chemistry

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## IN THIS ISSUE

ISSN 1463-9262 CODEN GRCHFJ 27(7) 1861–2168 (2025)



### Cover

See Nele Schulte, Giacomo Damonte, Valeria Marisa Rocca, Anamaria Todea, Orietta Monticelli and Alessandro Pellis, pp. 1984–1996.

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### Inside cover

See Shengchao Yang, Junyi Ji, Feng Yu *et al.*, pp. 1997–2007.

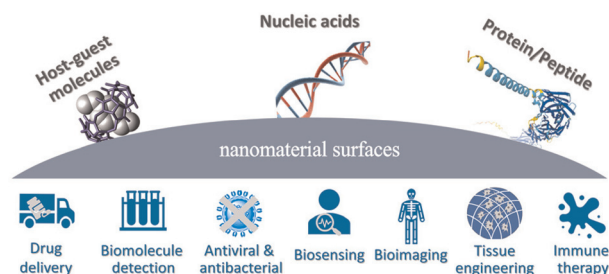
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## TUTORIAL REVIEWS

1871

### Recent advancements of nanostructured surface-specific supramolecular assemblies and their application in biomedical engineering

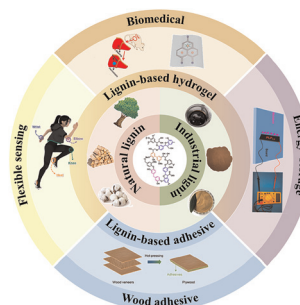
Yujie Li, Chen Shao, Zhichao Pei and Yuxin Pei\*



1895

### Recent advances in the preparation, properties, and applications of lignin-based hydrogels and adhesives

Linmeng Huo, Yumiao Lu,\* Wei-Lu Ding, Yanlei Wang, Xuehui Li and Hongyan He\*





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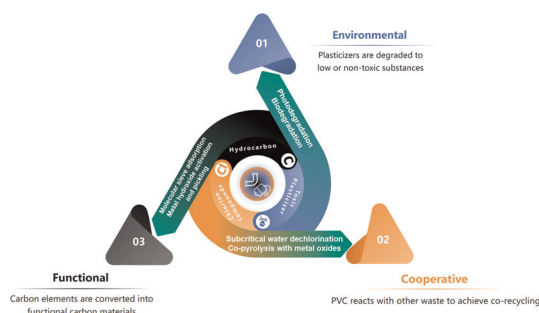


## TUTORIAL REVIEWS

1909

## Valorization of harmful substances in the chemical recycling of polyvinyl chloride

Maiyong Zhu\* and Xinyao Jiang



1939

## Biosynthesis of polyhydroxyalkanoates (PHAs) from organic waste-derived volatile fatty acids (VFAs)

Chunyu Du, Ziqian Wang, Xiaoqian Zhuo, Ruoyan Geng, Chenyan Liu, Hanyi Wang, Dongxian Chu, Shuying Li, Rong Li, Guanyu Zheng and Dahu Ding\*

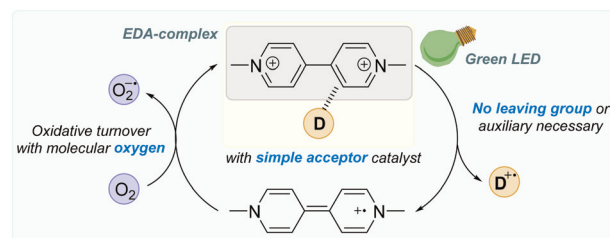


## COMMUNICATIONS

1969

## Methyl viologen as a catalytic acceptor for electron donor–acceptor photoinduced cyclization reactions

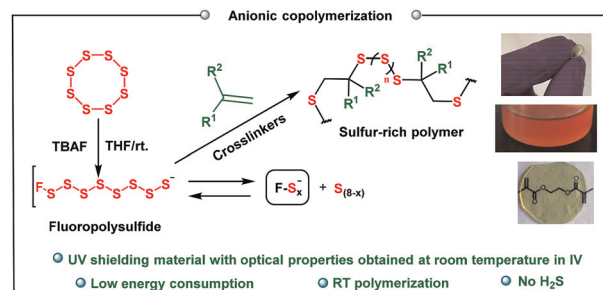
Rubaishan Jeyaseelan, Wenheng Liu, Jens Zumbusch and Line Næsberg\*



1974

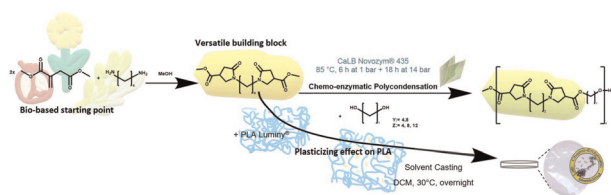
## TBAF-catalyzed inverse vulcanization under mild conditions enabling synthesis of refractive indexing, ultraviolet blocking and light transmitting sulfur-rich polymers

Xing-Rui Cao, Xiao-Jun Liu, Wei-Ping Li, Dong-Ping Chen,\* Tom Hasell, Xiaofeng Wu, Xi-Cun Wang\* and Zheng-Jun Quan\*



## PAPERS

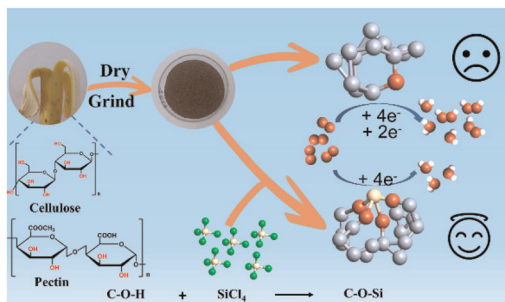
1984



### Bis-pyrrolidone structures as versatile building blocks for the synthesis of bio-based polyesters and for the preparation of additives

Nele Schulte, Giacomo Damonte, Valeria Marisa Rocca, Anamaria Todea, Orietta Monticelli and Alessandro Pellis\*

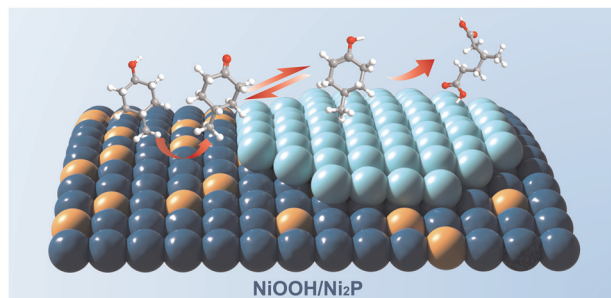
1997



### Modulation of electron distribution and intermediate adsorption by C–O–Si sites for efficient oxygen reduction and lithium storage

Shouhua Yang, Ying Tang, Zhen Yang, Shengchao Yang,\* Boqin Li, Wencai Peng, Banghua Peng, Gang Wang, Jie Liang, Junyi Ji\* and Feng Yu\*

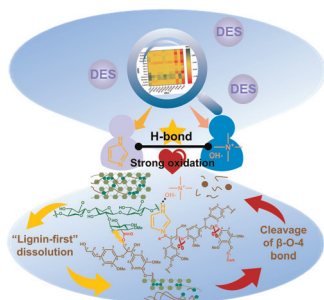
2008



### Anion doping promotes electrocatalyst reconfiguration for efficient C–C bond cleavage of 4-methylcyclohexanol

Yuhang Wang, Ying Chen, Lihao Liu, Linhan Ren, Jieyu Wang, Kai Li, Jiahui He, Suiqing Li, Jinfu Cai, Chuang Qi, Pan Hu, Yongyong Cao,\* Xing Zhong\* and Jianguo Wang\*

2019



### A "lignin-first" biorefinery towards efficient aromatic monomer conversion from coconut shells using mild TMAH-based alkaline deep eutectic solvents

Chenjun He, Fengqi Luo, Yongzhi Zhu, Ao Zhan, Jiajun Fan, James H. Clark, Jie Lv\* and Qiang Yu\*

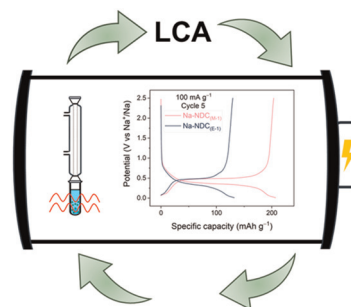


## PAPERS

2035

### Rapid gram-scale microwave-assisted synthesis of organic anodes for sodium-ion batteries with environmental impact assessment

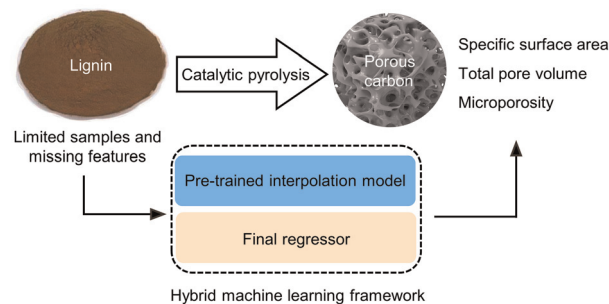
Constantin Puscalau, Aamod V. Desai, Erlantz Lizundia, Romy Ettlinger, Mohamed Adam, Russell E. Morris, A. Robert Armstrong, Begum Tokay and Andrea Laybourn\*



2046

### Machine learning prediction of physical properties of lignin derived porous carbon *via* catalytic pyrolysis

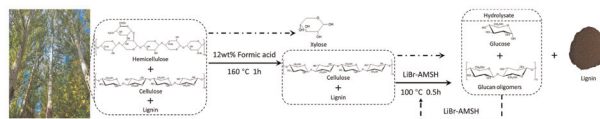
Zihao Xie, Yue Cao\* and Zhicheng Luo\*



2056

### Cascade fractionation of poplar into xylose, glucan oligomers and less-condensed lignin *via* synergistic formic acid–LiBr molten salt hydrate pretreatment

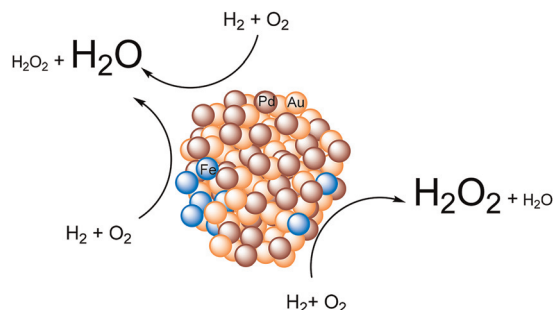
Weiyu Xia, Lupeng Shao,\* Chao Wang, Yu Liu, Xianhai Zeng and Feng Xu



2065

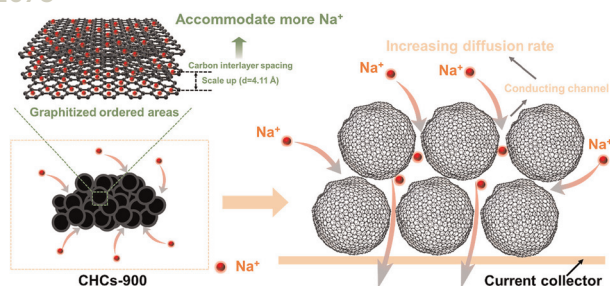
### Promoting H<sub>2</sub>O<sub>2</sub> direct synthesis through Fe incorporation into AuPd catalysts

Rong-Jian Li, Richard J. Lewis,\* Ángeles López-Martín, David J. Morgan, Thomas E. Davies, David Kordus, A. Iulian Dugulan, Beatriz Roldan Cuenya and Graham J. Hutchings\*



## PAPERS

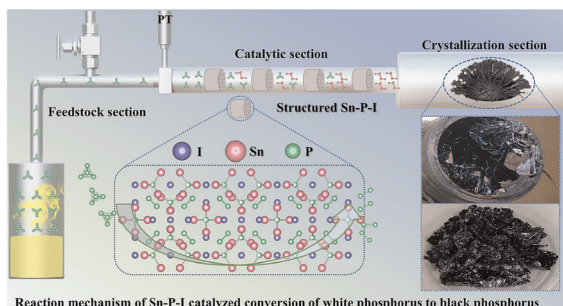
2078



### A green synthesis strategy for lithium/sodium-ion battery anodes: morphology and structure engineering in biochar to boost comprehensive electrochemical performance

Likai Zhu, Bi Luo, Lijuan Men, Jiaying Chen, Fanghua Xie, Wenli Zhang, Jiafeng Zhang and Yefeng Zhou\*

2092



### A vacancy-rich Sn–P–I catalyst for highly efficient black phosphorus preparation and catalytic mechanistic investigation

Junping Zhao, Pengwei Zhao, Guobin Du, Shaobo Li, Xiaobin Fan, Delong Xie, Yuanzhi Zhu\* and Yi Mei\*

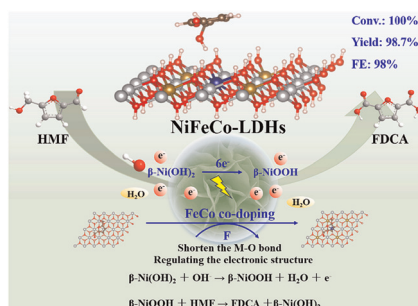
2102



### Synthesis of CO<sub>2</sub>-based biomass derived non-isocyanate polyurethane hybrid adhesives with excellent mechanical properties and water resistance

Ping Zhang, Chen Qin, Hao Yuan, Yu Wang, Yizhong Cao, Zhe Wang\* and Chunde Jin\*

2117



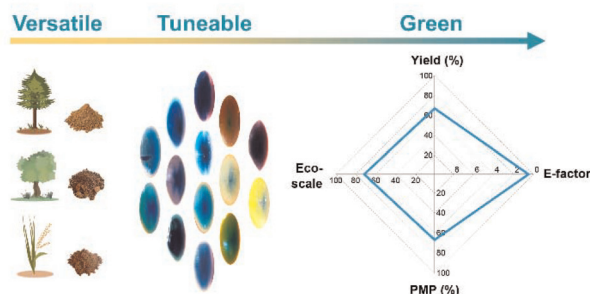
### NiFeCo wrinkled nanosheet electrode for selective oxidation of 5-hydroxymethylfurfural to 2,5-furandicarboxylic acid

Bingkun Chen, Bowen Yang, Yaqiong Su, Qidong Hou, Richard Lee Smith, Jr, Xinhua Qi\* and Haixin Guo\*

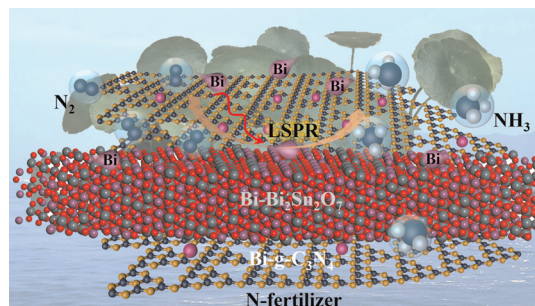


## PAPERS

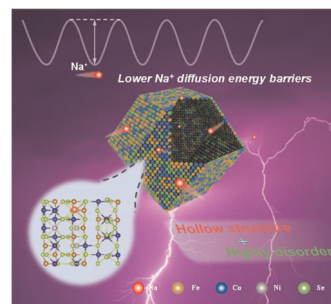
2130

**High-yield production of lignin nanoparticle photonic glasses**Unnimaya Thalakkale Veetil, Alberto J. Huertas-Alonso,\*  
Tomás S. Plivelic and Mika H. Sipponen\*

2138

**Plasmonic Bi-doped Bi-Bi<sub>2</sub>Sn<sub>2</sub>O<sub>7</sub>/Bi-g-C<sub>3</sub>N<sub>4</sub> photo-thermal catalysis for nitrogen fixation**Lei Zhang, Rao Gu, Jianzhong Zhang, Hang Liu,  
Shien Zhu, Dawei Su, Tianyi Wang,\* Yi Mou\* and  
Chengyin Wang\*

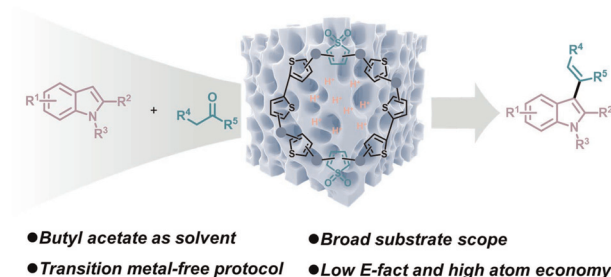
2150

**Hollow structured medium entropy transition metal selenide CoNiFe-Se@NC enables high performance of sodium-ion batteries**Weijie Si, Siyuan Lai, Wendan Jiang, Kanghua Miao,  
Chao Wang,\* Hongyu Wang\* and Xiongwu Kang\*

2160

**Harnessing dipolar microenvironment engineering of PTSA for alkenylation of indole in butyl acetate**

Zijian Wang, Minghao Li\* and Yanlong Gu





## CORRECTION

2165

**Correction: Acid catalyst screening for hydrolysis of post-consumer PET waste and exploration of acidolysis**

Patrícia Pereira, Phillip E. Savage\* and Christian W. Pester\*

