

# Green Chemistry

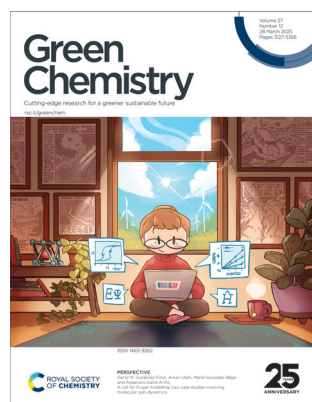
Cutting-edge research for a greener sustainable future

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

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## IN THIS ISSUE

ISSN 1463-9262 CODEN GRCHFJ 27(12) 3127–3366 (2025)



### Cover

See Gerliz M. Gutiérrez-Finol, Aman Ullah, María González-Béjar and Alejandro Gaita-Ariño, pp. 3167–3177.

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### Inside cover

See Alexander M. Kirillov *et al.*, pp. 3178–3185.

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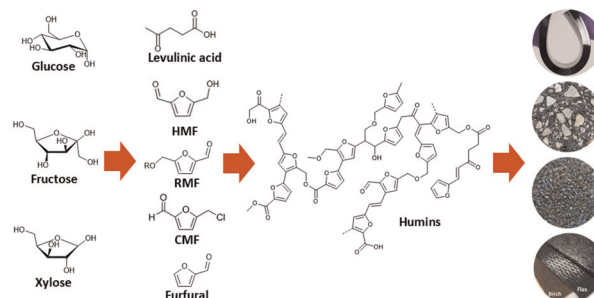
Image created by Dr. Chris H. J. Franco.

## TUTORIAL REVIEW

3136

### The origin, composition, and applications of industrial humins – a review

Ed de Jong,\* Mark Mascall, Sandra Constant, Tom Claessen, Pierluigi Tosi and Alice Mija\*



## PERSPECTIVE

3167

### A call for frugal modelling: two case studies involving molecular spin dynamics

Gerliz M. Gutiérrez-Finol, Aman Ullah, María González-Béjar and Alejandro Gaita-Ariño\*



GOLD  
OPEN  
ACCESS

# RSC Applied Polymers

The application of polymers,  
both natural and synthetic

Interdisciplinary and open access

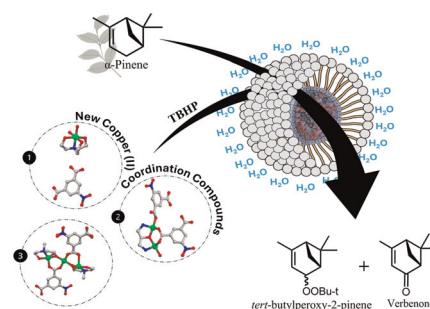
[rsc.li/RSCApplPolym](http://rsc.li/RSCApplPolym)

Fundamental questions  
Elemental answers

3178

### Adding value to terpenes: copper-catalyzed oxidation of $\alpha$ -pinene in water under micellar conditions

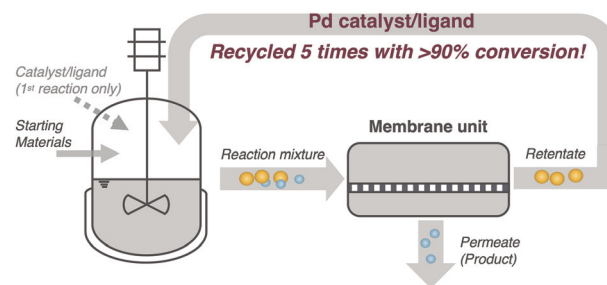
Gilvan A. Correia, Chris H. J. Franco, Marina V. Kirillova, Fabrice Gallou and Alexander M. Kirillov\*



3186

### Recovery and reuse of homogeneous palladium catalysts via organic solvent nanofiltration: application in the synthesis of AZD4625

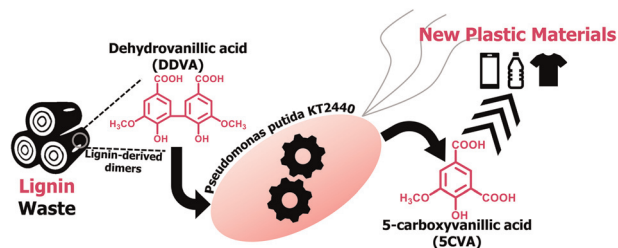
Hui Xiao,\* William R. F. Goundry, Rhys Griffiths, Yanyue Feng and Staffan Karlsson



3197

### Bioconversion of a lignin-derived biphenyl dimer into the strategic building block 5-carboxyvanillic acid in *Pseudomonas putida* KT2440

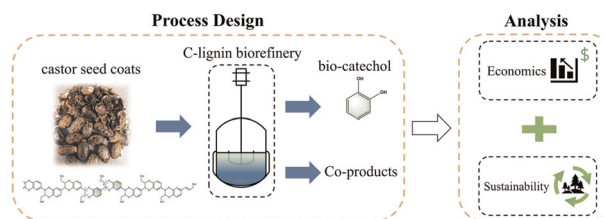
Helena Gómez-Álvarez,\* Carlos del Cerro-Sánchez, Pablo Iturbe, Virginia Rivero-Buceta, Juan Nogales, Timothy D. H. Bugg and Eduardo Díaz\*



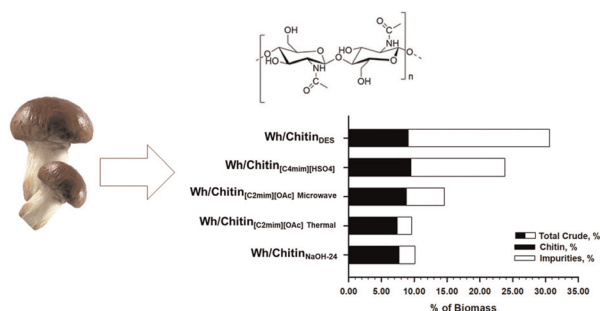
3207

### A techno-economically feasible and sustainable C-lignin biorefinery

Pu Wang, Shuizhong Wang, Shihao Su, Dexin Zhang, Yuhe Liao, Guoyong Song\* and Lei Wang\*



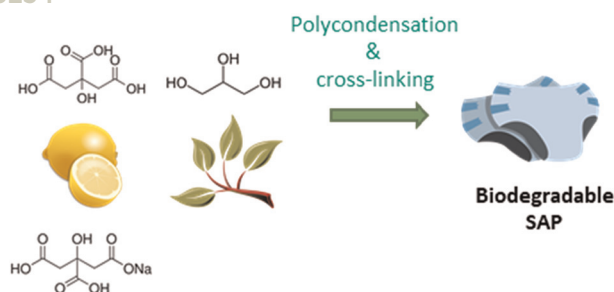
3217



### Comparative analysis of chitin isolation techniques from mushrooms: toward sustainable production of high-purity biopolymer

Akhiri Zannat, Isaac Eason, Benjamin Wylie, Robin D. Rogers, Paula Berton\* and Julia L. Shamshina\*

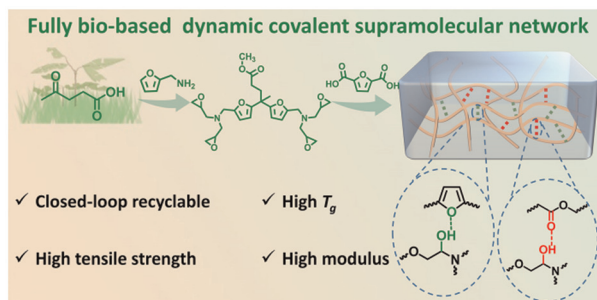
3234



### Bio-degradable, fully bio-based, thermally cross-linked superabsorbent polymers from citric acid and glycerol

Jingying Chen, Deelan Yen Chan, TaoTao Yang, Daniele Parisi, Bart Reuvers, Theo Veldhuis, Francesco Picchioni, Jing Wu,\* Patrizio Raffa\* and Cor Koning

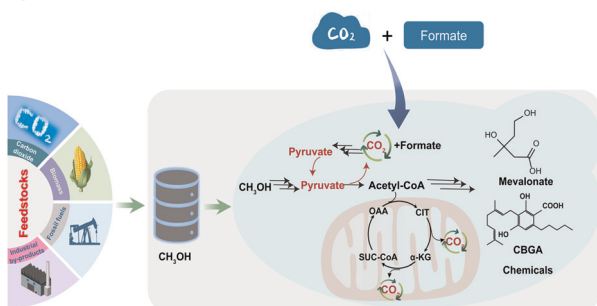
3248



### High-performance fully bio-based dynamic covalent supramolecular epoxy resin: synthesis and properties

Xiangyu Zhou, Zhen Yu, Yajin Fang, Hongyun Hu, Songyue Cheng, Zhaobin Tang and Yanlin Liu\*

3261



### Rewiring methanol assimilation and reductive glycine pathways in *Saccharomyces cerevisiae* to increase one-carbon recovery

Mingming Qi, Chao Zhu, Chi Cheng,\* Wei Kang\* and Chuang Xue\*

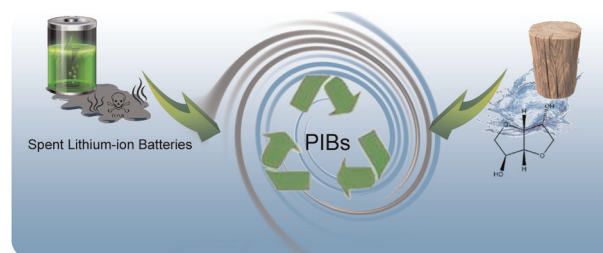


## PAPERS

3272

### Synthesis and characterisation of polycarbonates from spent lithium battery electrolytes

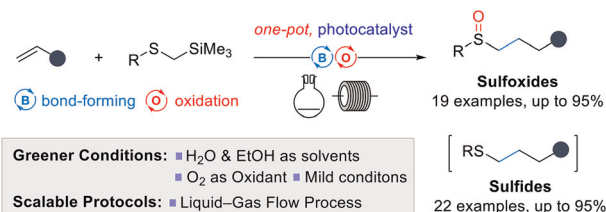
Haiyue Wang, Lili Deng, Bing Fang, Xiaolong Li, Liying Guo\* and Rongrong Zheng



3284

### Batch and flow synthesis of sulfides and sulfoxides using green solvents and oxidant through visible-light photocatalysis

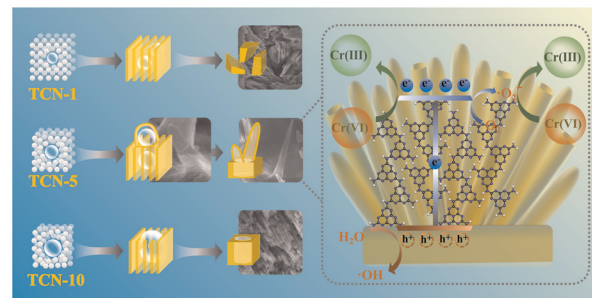
Jin Park, Su Hyeon Kim, Jun-Young Cho, Shafrizal Rasyid Atriardi, Jae-Young Kim, Hanifah Mardhiyah, Boyoung Y. Park\* and Sang Kook Woo\*



3293

### Gas-induced modulation of carbon nitride morphology through a green one-step calcination strategy

Jie Wu, Zheng Liu, Mengjie Li, Jinjuan Zhao, Shuwen Li\* and Honglei Yang\*



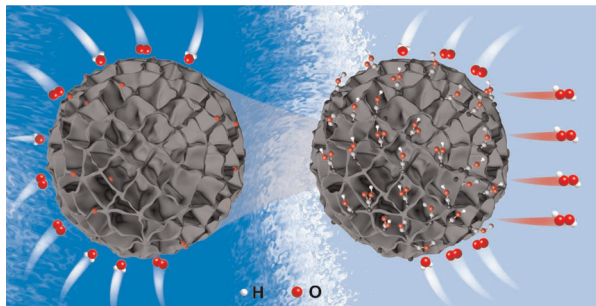
3303

### One material for many uses: facile construction of hydrogel sensors with strong anti-damage, anti-freezing, and anti-drying properties, cancer-killing ability and biocompatibility

Jingwen Lan, Rukuan Liu,\* Yiming Gong, Sisi Liu, Zhihong Xiao and Airong Xu\*



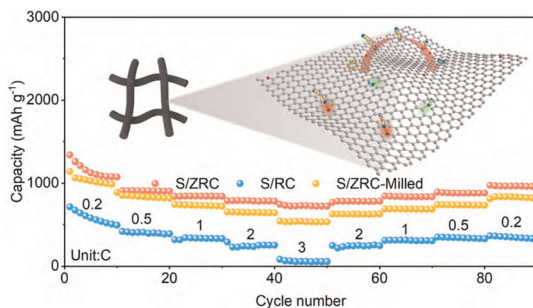
3315



### Regulating the bubble-water/catalyst interface microenvironment for accelerated electrosynthesis of $\text{H}_2\text{O}_2$ via optimizing oxygen functional groups on carbon black

Yuanyuan Zhang, Xuan Zheng, Hui Su, Yun Ling,\*  
Rong Guo, Maosheng Zhang, Qingxiang Wang\* and  
Li Niu\*

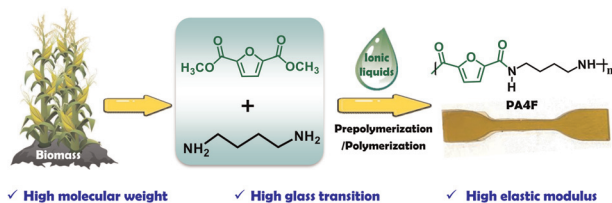
3326



### Monolithic carbon derived from biomass via zinc-assisted pyrolysis for lithium–sulfur batteries

Jiahao Huang, Zongle Huang, Chen Zhang,  
Tianliang Hao, Tao Wang, Dingfei Deng, Zhipeng Sun,  
Yue Wang, Chenyang Xu, Jinjue Zeng,\* Shaochun Tang,\*  
Chaobo Huang, Lijun Yang and Xuebin Wang\*

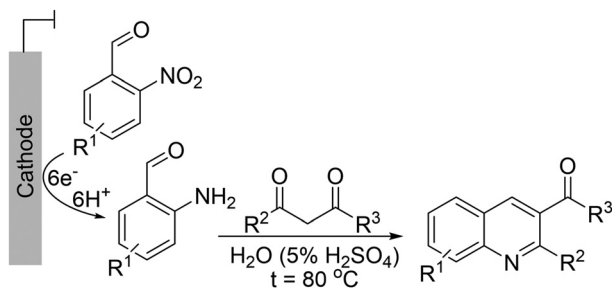
3335



### Efficient synthesis of high molecular weight semi-aromatic polyamides with biobased furans over metal-free ionic liquids

Jian Feng, Dongxia Yan,\* Chunrui Rong, Lingzhi Yu,  
Jiabao Li, Jiayu Xin, Xingmei Lu, Qing Zhou,  
Ziqing Wang\* and Zhong Wei\*

3346



### Electrochemically assisted Friedlander reaction: a highly efficient and sustainable method for quinoline synthesis

Hamid Salehzadeh,\* Zahra Rostami Bigdeli and  
Kevin Lam

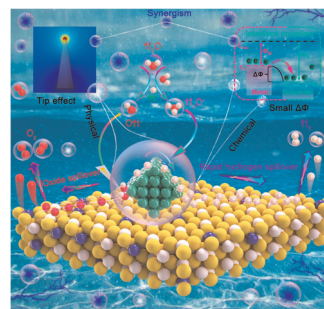


## PAPERS

3355

**Synergism between the gradient dilution work function and the Janus electronic state of Pt-CoP<sub>x</sub>Br<sub>1-x</sub> for boosting alkaline seawater electrolysis**

Lei Jin, Hui Xu,\* Kun Wang, Yang Liu, Jie Chen, Xingyue Qian, Haiqun Chen\* and Guangyu He\*



## CORRECTION

3363

**Correction: Environmentally friendly process design for furan-based long-chain diester production aiming for bio-based lubricants**

Hye Jin Lee, Yoonjae Lee, Eun-hyeok Yang, Jiyun Yoo, Seungjun Choi, Soonho Hwangbo, Young-Woong Suh, Jayeon Baek,\* Jeehoon Han\* and Yong Jin Kim\*

