

# Green Chemistry

Cutting-edge research for a greener sustainable future

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### Cover

See Camilla Maria Cova, Nouredine Khair, and Alessio Zuliani *et al.*, pp. 11563–11575.

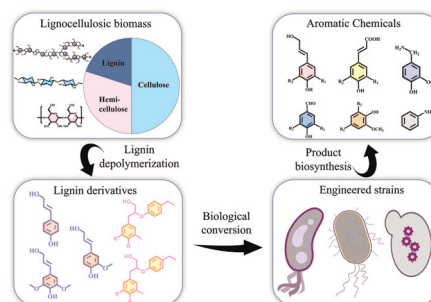
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## CRITICAL REVIEWS

11378

### Tapping into the natural aromatic potential of microbial lignin valorization towards aromatic fine chemicals

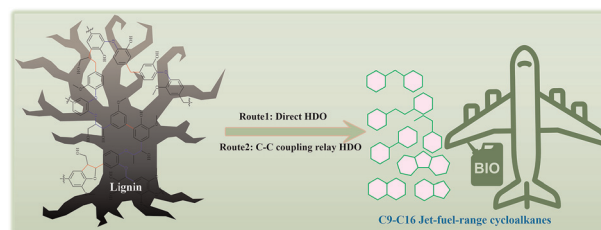
Xiao-Lei Zhang, Zhi-Hua Liu,\* Bing-Zhi Li\* and Ying-Jin Yuan



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### Catalytic hydrodeoxygenation and C–C coupling of lignin and its derivatives into renewable jet-fuel-range cycloalkanes

Xinyong Diao, Ying Xiong, Yawen Shi, Longlong Ma, Chenglong Dong, Shengbo Zhang and Na Ji\*



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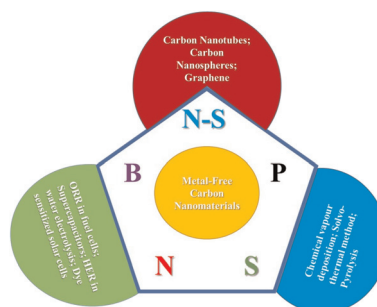
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## CRITICAL REVIEWS

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### Biomass-derived metal-free heteroatom doped nanostructured carbon electrocatalysts for high-performance rechargeable lithium–air batteries

Molla Asmare Alemu,\* Muluken Zegeye Getie, Hailemariam Mulugeta Wassie, Mulat Shitye Alem, Addisu Alemayehu Assegie, Mustafa İlbaş and Rafat Al Afif

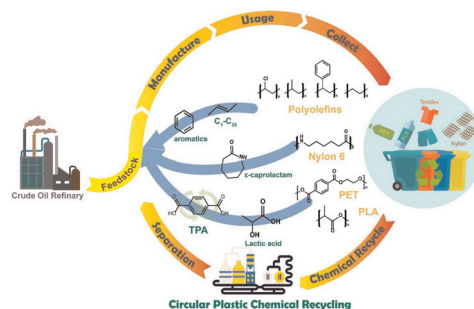


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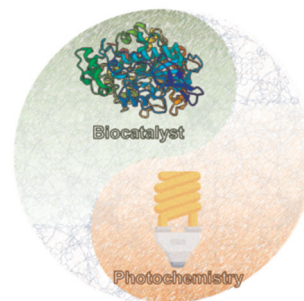
Hui Luo,\* Helen Tyrrell, Jingyang Bai, Rukayya Ibrahim Muazu and Xiangyi Long\*



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### The role of reticular chemistry in photoenzymatic reaction

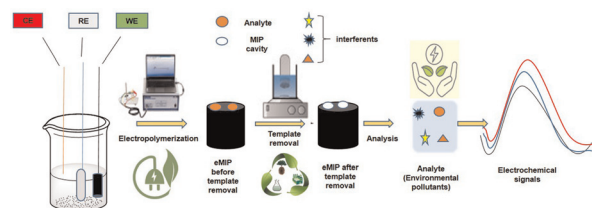
Ying Shu, Jimin Lee, Weibin Liang\* and Jun Huang\*



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### Advancing green chemistry in environmental monitoring: the role of electropolymerized molecularly imprinted polymer-based electrochemical sensors

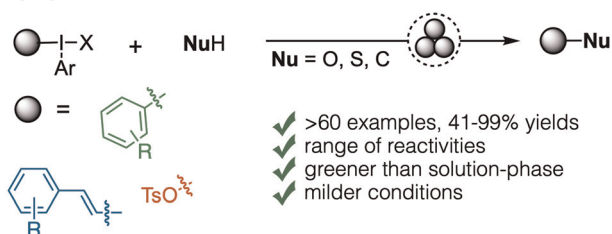
Christopher Mwanza, Wei-Zhi Zhang, Kalulu Mulenga and Shou-Nian Ding\*





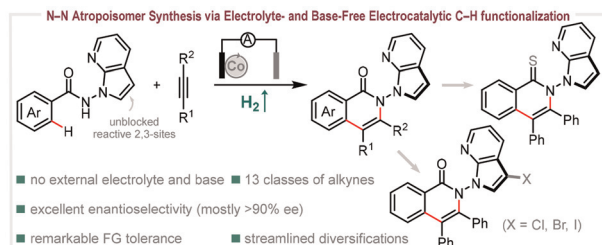
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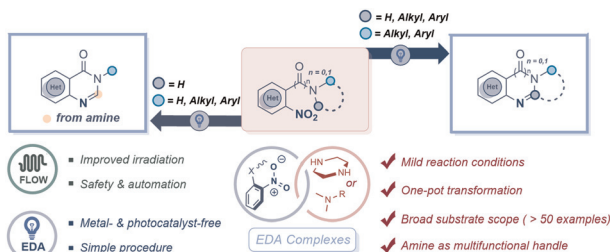
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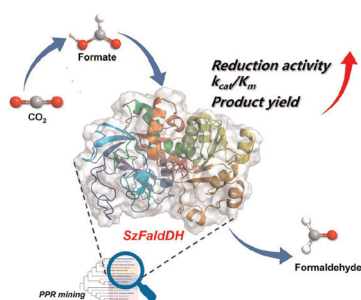
Jiating Cai, Linzai Li, Chuitian Wang, Shi Qin, Yuanyuan Li, Si-Yan Liao, Shengdong Wang, Hui Gao, Zhi Zhou, Yugang Huang,\* Wei Yi\* and Zhongyi Zeng\*

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**Photo-driven reduction/cyclization of nitroarenes via electron donor-acceptor complexes: a novel method for the acquisition of N-heterocycles**

Bin Sun, Chun Lv, Xiaohui Zhuang, Yan Xu, Haijing Song, Jiayin Wang, Zhaokang Zhang, Jiayang Wang and Can Jin\*

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**Formaldehyde dehydrogenase SzFaldDH: an indispensable bridge for relaying  $\text{CO}_2$  bioactivation and conversion**

Boxia Guo, Xiuling Ji, Yaju Xue and Yuhong Huang\*

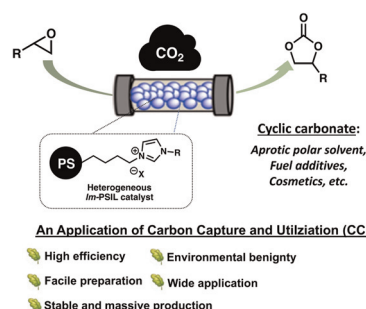


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### Continuous-flow synthesis of cyclic carbonates with polymer-supported imidazolium-based ionic liquid (Im-PSIL) catalysts

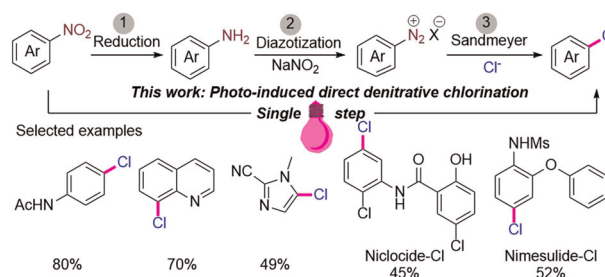
Zhibo Yu, Haruro Ishitani\* and Shu Kobayashi\*



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### Photo-Induced $\text{FeCl}_3$ -catalysed direct denitrative chlorination of (hetero)nitroarenes at room temperature

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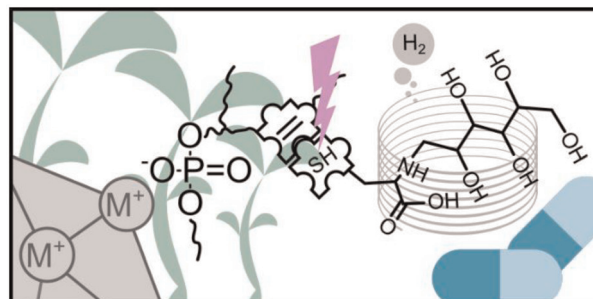


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### A sustainable lecithin-based ligand for the bio-functionalization of iron and hybrid metal organic frameworks (MOFs) nanoparticles with the sugar mannose

Camilla M. Cova, Víctor Ramos, Alberto Escudero, Juan P. Holgado, Noureddine Khier\* and Alessio Zuliani\*



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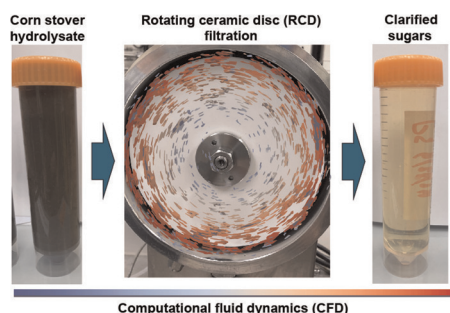
### Thymol: nature's solvent for sustainable hollow fiber fabrication

Usman T. Syed, Lakshmeesha Upadhyaya, Livia M. D. Loiola, Abdul-Hamid Emwas, Alexey Volkov and Suzana P. Nunes\*



## PAPERS

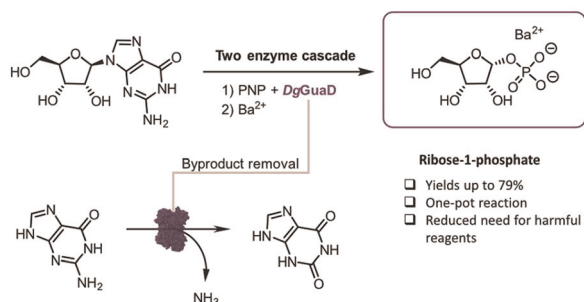
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### Solid-liquid separation of lignocellulosic sugars from biomass by rotating ceramic disc filtration

Patrick O. Saboe, Yudong Li, Emily G. Tomashek, Eric C. D. Tan, Xiaowen Chen, Louis A. Chirban, Yian Chen, Daniel J. Schell, Eric M. Karp and Gregg T. Beckham\*

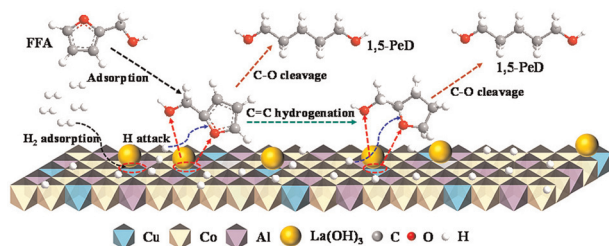
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### A deamination-driven biocatalytic cascade for the synthesis of ribose-1-phosphate

Jonas Motter, Sarah Westarp, Jonas Barsig, Christina Betz, Amin Dagane, Felix Kaspar, Lena Neumair, Sebastian Kemper, Peter Neubauer and Anke Kurreck\*

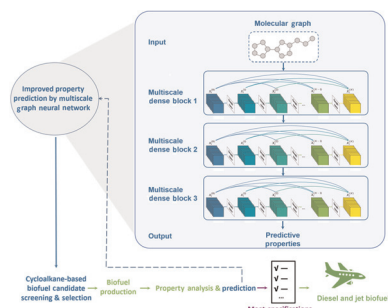
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### Rational design of the La-doped CuCoAl hydrotalcite catalyst for selective hydrogenation of furfuryl alcohol to 1,5-pentanediol

Jingjing Tan,\* Hailong Huang, Yuanna Zhang, Jinglei Cui,\* Jing Zhang, Long Huang, Yongzhao Wang and Yulei Zhu\*

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### A multiscale graph neural network for predicting the properties of high-density cycloalkane-based diesel and jet range biofuels

Yanqiu Yao, Yizhuo Wang, Zhanchao Li, Jing Wang\* and Hong Wang\*

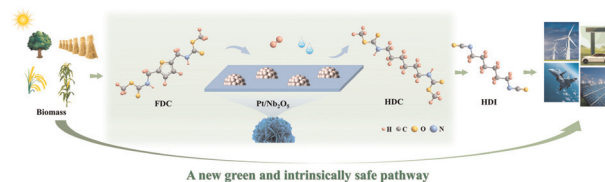


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## A novel method for the green synthesis of biobased hexamethylene-1,6-dicarbamate

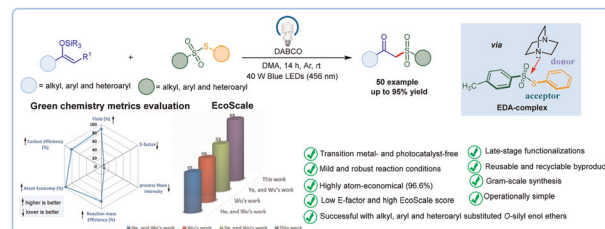
Yunhan Bai, Dule Huhe, Xinyu Du, Yucong Song, Xiaoshu Ding,\* Dongsheng Zhang, Xinqiang Zhao and Yanji Wang\*



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Visible light-driven  $\alpha$ -sulfonylation of ketone-derived silyl enol ethers *via* an electron donor–acceptor complex

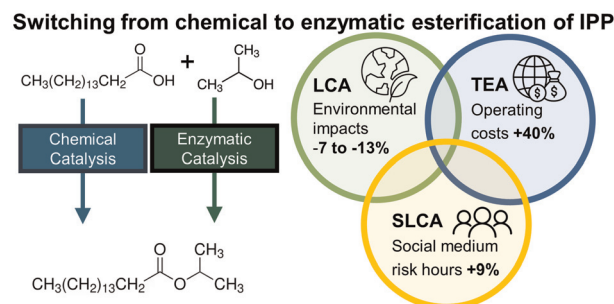
Barakha Saxena, Roshan I. Patel and Anuj Sharma\*



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## Does enzymatic catalysis lead to more sustainable chemicals production? A life cycle sustainability assessment of isopropyl palmitate

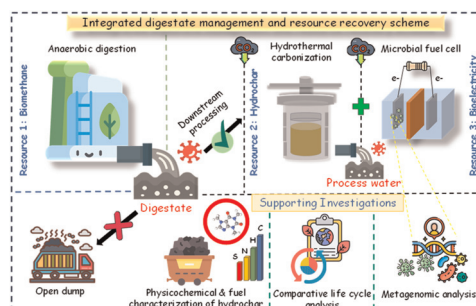
Pieter Nachtergaele,\* Ozan Kocak, Yblin Roman Escobar, Jordy Motte, Dries Gabriels, Leopold Mottet and Jo Dewulf

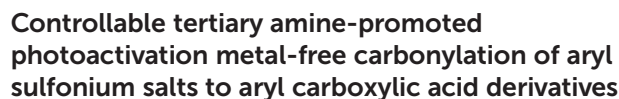


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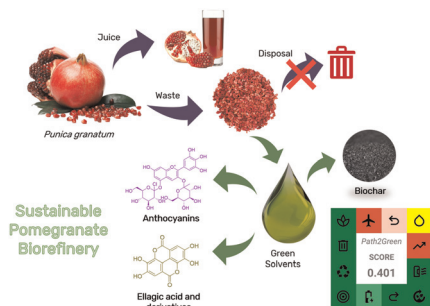
Shraddha Yadav, Manikanta M. Doki, Makarand M. Ghangrekar\* and Brajesh K. Dubey





Jiajun Zhang, Le-Cheng Wang, Yuanrui Wang and  
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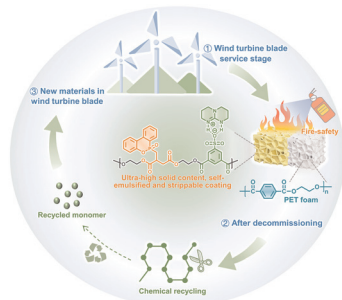
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## Valorization of pomegranate waste through green solvent extraction and biochar production: a zero-waste biorefinery approach

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Bárbara M. C. Vaz, Vitor Sencadas, Filipe H. B. Sosa,  
João A. P. Coutinho, Maurício A. Rostagno and  
Sónia P. M. Ventura\*

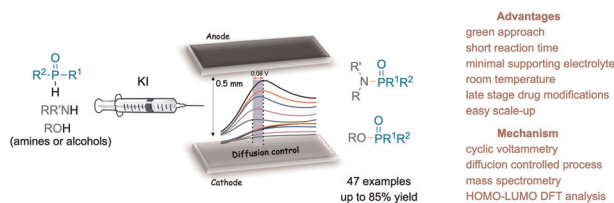
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## A solvent-free, self-emulsified and heat-responsive polyester coating enables chemically-recyclable and fire-safe PET foam

Bei-Bei Zhang, Li-Xia Fan, Lin Chen,\* Xiu-Li Wang and Yu-Zhong Wang\*

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Tribani Boruah, Ren Ishizeki, Alberto Roldan,  
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