

Green Chemistry

Cutting-edge research for a greener sustainable future

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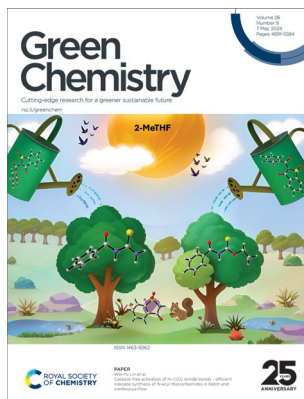
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See Zhicheng Jiang, Daniel CW Tsang, Bi Shi, et al., pp. 5178–5186.

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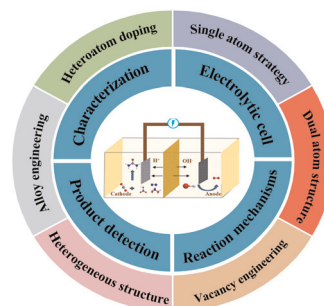
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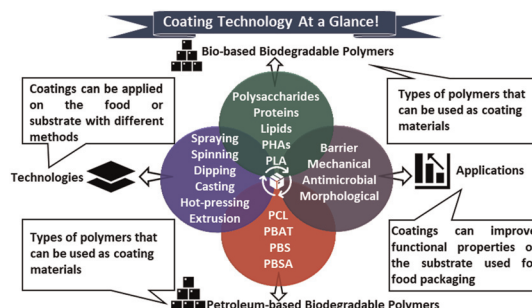
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Fatemeh Jahangiri, Amar K. Mohanty and Manjusri Misra*



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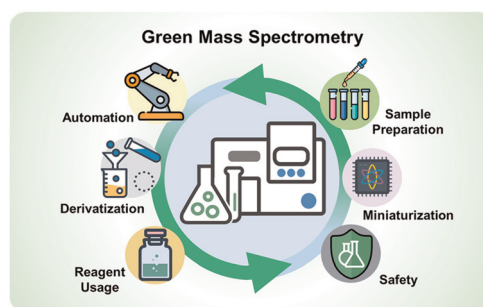
Fundamental questions
Elemental answers

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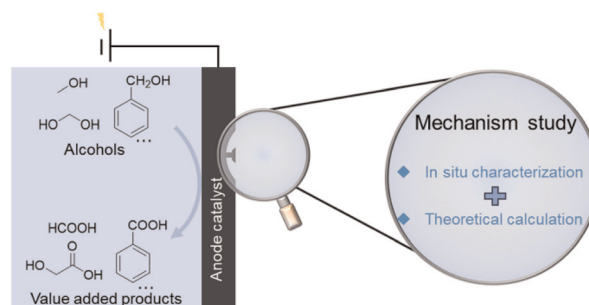
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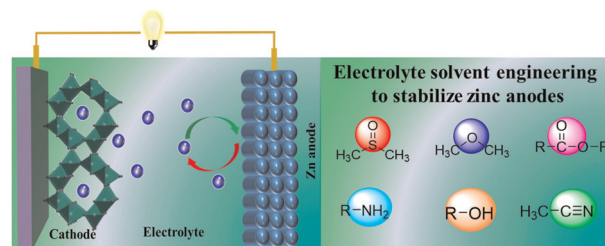
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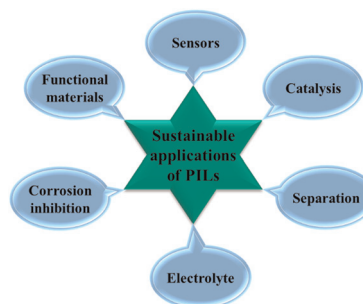
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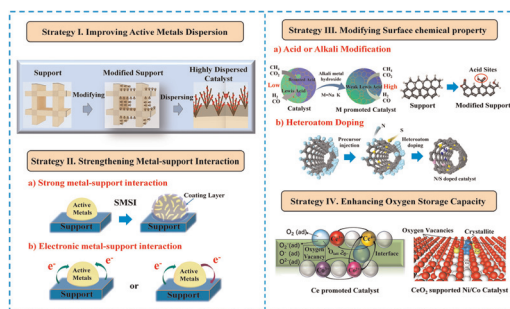
Poly(ionic liquid)s: an emerging platform for green chemistry

Maiyong Zhu* and Yu Yang



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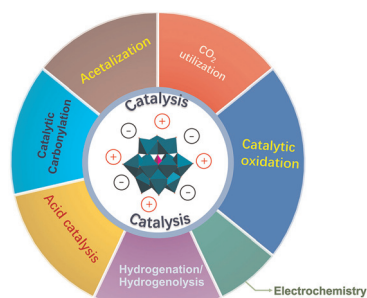


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Yinghui Sun,* Yanbin Zhang, Xifei Yin, Chenghu Zhang, Ying Li and Jie Bai*

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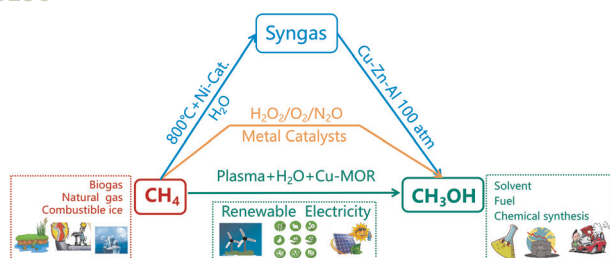


Ionic liquid-stabilized metal oxoclusters: from design to catalytic application

Yunxiang Qiao, Enting Shi, Xinjia Wei and Zhenshan Hou*

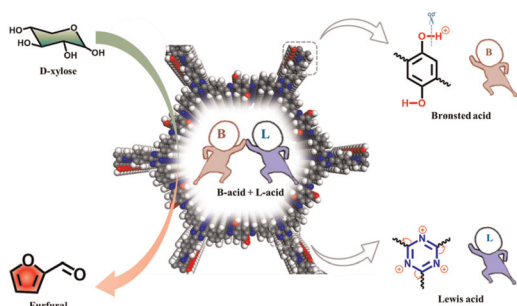
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Peng Gan, Kai Zhang,* Zhihao Li, Chengxiang Zhang, Guihua Yang,* Lei Zhang, Baobin Wang and Jiachuan Chen*

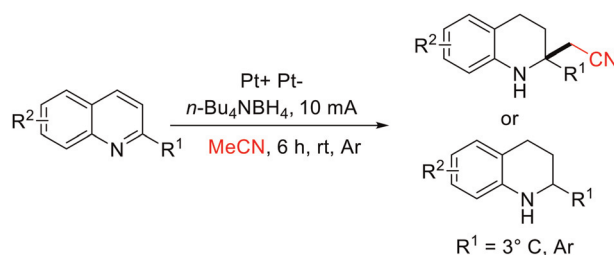


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Synthesis of tetrahydroquinoline derivatives via electrochemical hydrocyanomethylation or hydrogenation of quinolines with MeCN

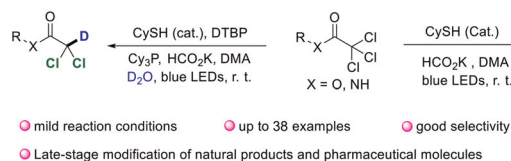
Jie Xia, Dahan Wang,* Ruitong Yang, Yujie Deng and Guo-Jun Deng*



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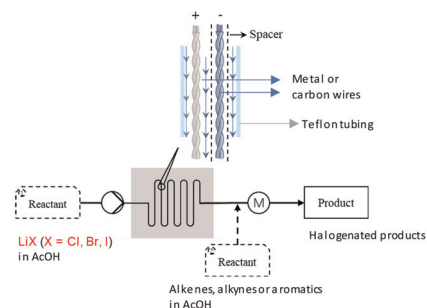
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A continuous flow electrochemical reactor using readily available metal wires and carbon fibers as electrodes: environmentally benign halogenations of alkenes, alkynes, and aromatics

Yinqing Xie, Long Lin and Bo Xu*

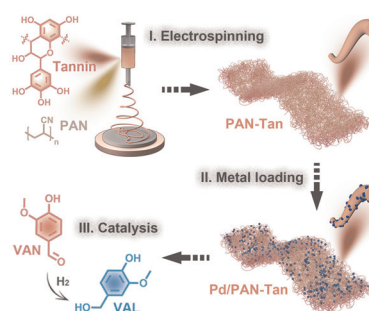


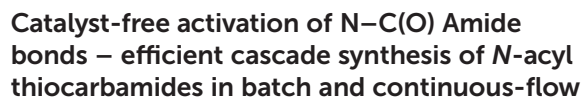
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Composite fiber as a multifunctional catalyst support for the upgradation of lignin-based chemicals

Zuzhi Li, Ya Ma, Xingjie Guo, Yang Cao, Qian Jiang, Mi Gao, Xudong Liu, Daniel C. W. Tsang,* Zhicheng Jiang* and Bi Shi





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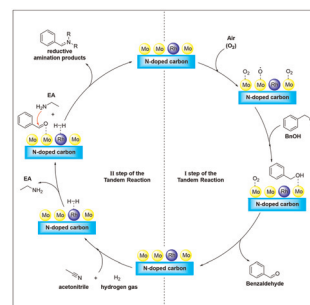
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Interactions of multiple metrics and environmental indicators to assess processes, detect environmental hotspots, and guide future development

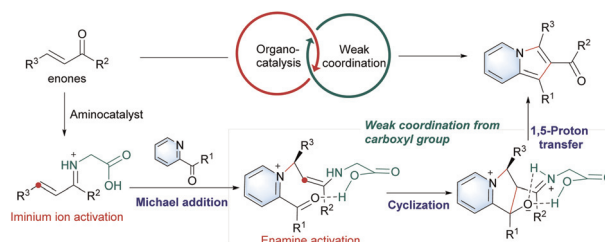
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Weak-coordination-auxiliary aminocatalysis enables directed [3 + 2] cyclization for 2-acylindolizines

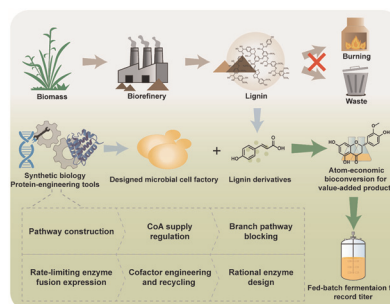
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Pathway and enzyme engineering for the bioconversion of lignin derivatives into homoeriodictyol in *Saccharomyces cerevisiae*

Si-Yu Zhu, Shi-Chang Liu, Chuan-Xi Zhang, Xin Xin, Zhi-Hua Liu, Lu-Jia Zhang, Bing-Zhi Li* and Ying-Jin Yuan



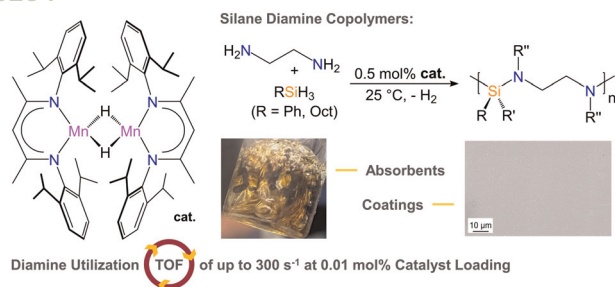
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Comparative environmental assessment of zeolites synthesized from chemicals and natural minerals

Xiaoling Chen, Guoxi Xiao, Tiesen Li,* Chan Wang, Qingyan Cui, Xiaojun Bao and Yuanyuan Yue*

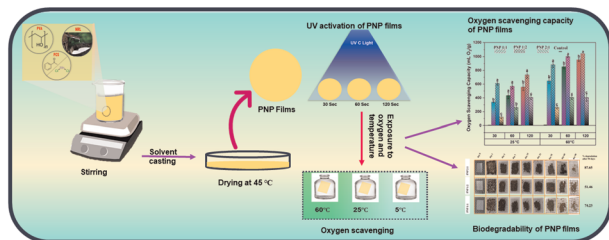
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Silane diamine copolymers: efficient synthesis, solvent absorption capacity, and limitations as coatings

Thao T. Nguyen, Anuja Sharma, Tam Le Phuong Nguyen, Michael A. Trimble, Dong-Kyun Seo and Ryan J. Trovitch*

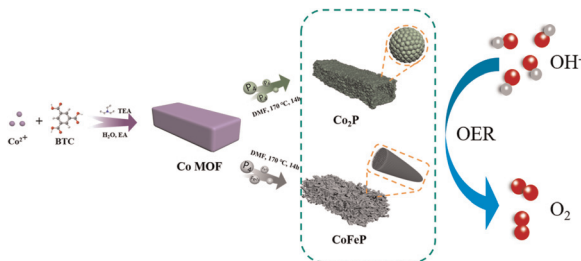
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Ultra-violet light-driven green oxygen scavenging composite made of PVA/NRL for active packaging: an alternative to metallic oxygen scavengers

Dakuri Ramakanth, Konala Akhila, Bittu Prudhvi Kumar, Kirtiraj K. Gaikwad* and Pradip K. Maji*

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Iron-doped cobalt phosphide nanowires prepared via one-step solvothermal phosphidization of metal–organic frameworks for the oxygen evolution reactions

Jianbo Tong,* Yichuang Xing, Xuechun Xiao, Yuan Liu, Zhikai Hu, Zeyi Wang, Yanling Hu, Bowen Xin, Shuling Liu, He Wang* and Chao Wang*

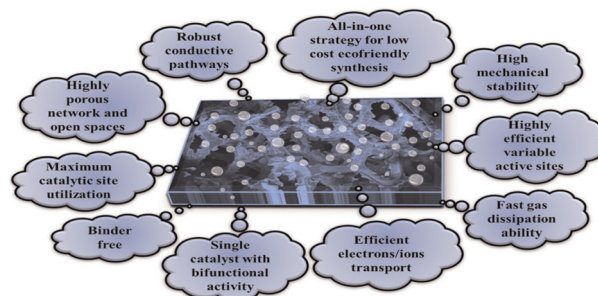


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In situ hierarchical self-assembly of NiFeHCF nanoparticles on nickel foam: highly active and ultra-stable bifunctional electrocatalysts for water splitting and their environmental assessment towards green energy

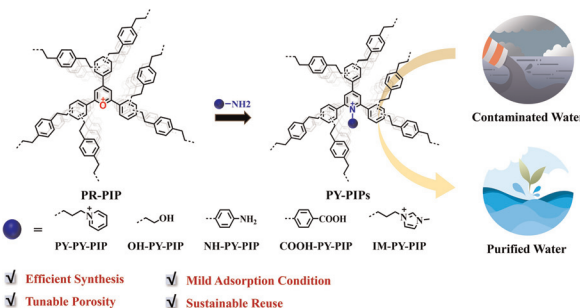
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Construction of a tunable pyrylium based porous ionic polymer network for efficient waterborne pollutant treatment

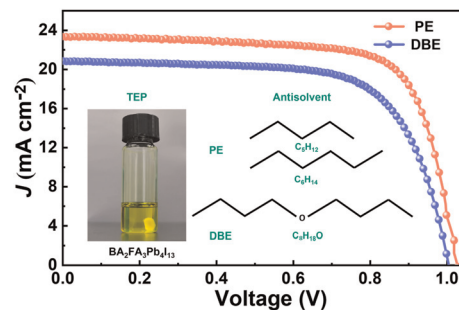
Xueye Zhu, Jiayu Han, Zhiwei Chen, Zheng Shi, Jiamin Zhang and Siyu Guo*



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Antisolvent effects in green solvent engineering of FA-based quasi-2D Ruddlesden–Popper perovskite films for efficient solar cells

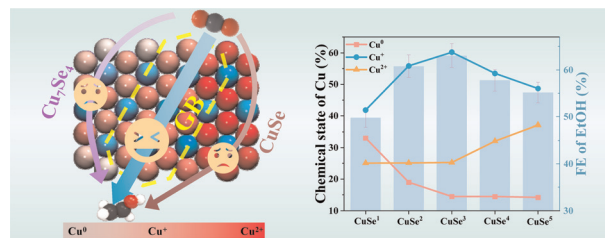
Guoshuai Zhang, Jun Tang, Chenming Wang, Xianyao Wu, Jie Chen, Xi Wang, Kai Wang, Xixiang Zhu, Haomiao Yu and Jinpeng Li*



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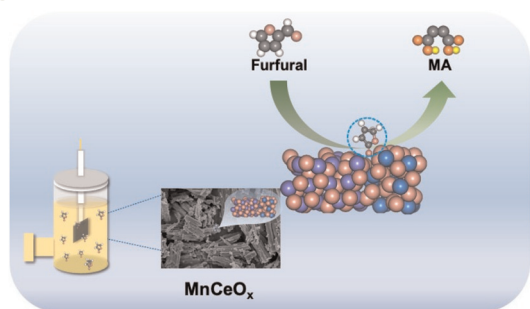
Grain boundaries assisting the generation of abundant Cu⁺ for highly selective electroreduction of CO₂ to ethanol

Xinze Bi, Yuezhu Zhao, Yifan Yan, Hongzhi Wang* and Mingbo Wu*



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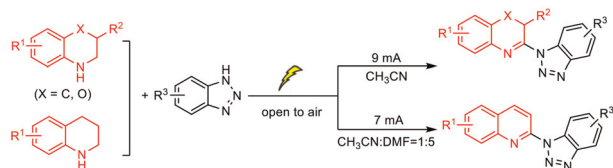
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Highly efficient electrocatalytic oxidation of furfural to maleic acid over MOF-derived MnCeO_x

Xue Yuan, Xin Huang,* Meimin Hu, Jinjia Liu,*
Wenhao Guo, Yuchen Hao, Zhenting Li, Kai Zhang and
Buxing Han*

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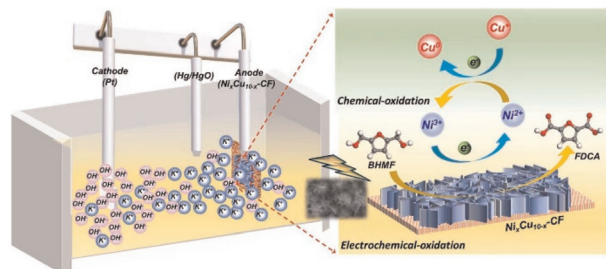


- mild and green conditions
- insensitive to air
- atomic economy
- suitable for structurally diverse benzotriazoles
- broad functional group tolerance
- diversity of products

Electrochemical oxidative cross-coupling of tetrahydroquinolines and azoles

Dan Yang, Yu-Fang Tan, Ya-Nan Zhao, Jin-Feng Lv,
Zhi Guan* and Yan-Hong He*

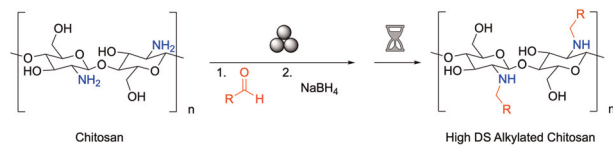
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Interaction between copper and nickel species for electrooxidation of 2,5-bis(hydroxymethyl)furan

Peiyuan Liu, Liyuan Huai, Bin Zhu, Yang Zhong,
Jian Zhang* and Chunlin Chen*

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- No dissolution
- No heating
- Wide scope
- PMI 36

Mechanochemical and aging-based reductive amination with chitosan and aldehydes affords high degree of substitution functional biopolymers

Galen Yang, Sophie Régner, Noah Huin, Tracy Liu,
Edmond Lam* and Audrey Moores*

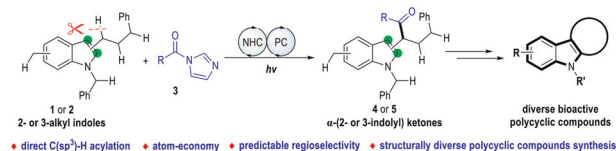


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N-heterocyclic carbene and photocatalyst-catalyzed rapid access to indole ketones via radical C(sp³)-H acylation

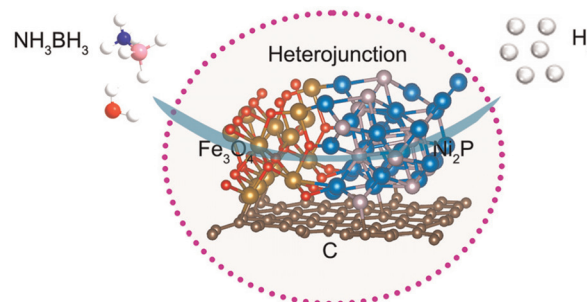
Guihua Nie, Ting Tu, Tianhui Liao, Donghan Liu, Wenjun Ye and Shi-Chao Ren*



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In situ formed nickel phosphide/iron oxide heterojunction for accelerating hydrogen generation

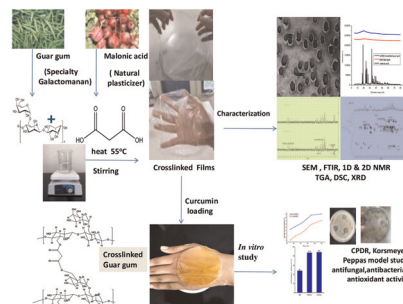
Wenjing Xu,* Wei Li, Wei Chen, Mei Liu, Xianji Guo and Baojun Li*



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Galactomannan crosslinking with a green plasticizer malonic acid and its biomedical applications

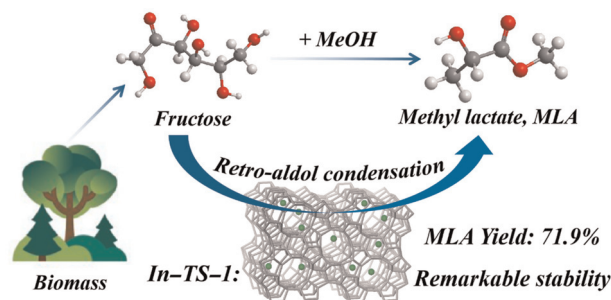
Jyoti Rajput, Vineet Kumar,* Kalpana Chauhan, Vipin Parkash and Sushil Bhattarai



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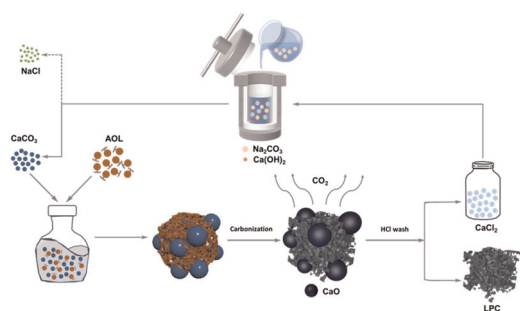
An encapsulation strategy to design an In-TS-1 zeolite enabling high activity and stability toward the efficient production of methyl lactate from fructose

Yuxi Jiang, Xilei Lyu,* Chao Chen, Aotian Ren, Wenqi Qin, Hao Chen* and Xiuyang Lu*



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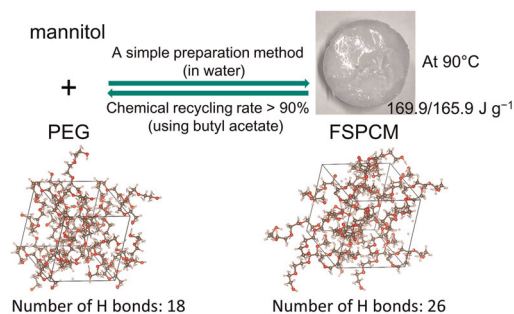
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Sustainable lignin-derived hierarchical mesoporous carbon synthesized by a renewable nano-calcium carbonate hard template method and its utilization in zinc ion hybrid supercapacitors

Jiahao Zhu, Tao Huang, Manjia Lu, Xueqing Qiu* and Wenli Zhang*

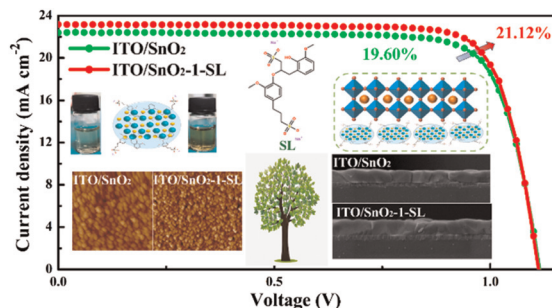
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A form-stable phase change material based on intermolecular hydrogen bonding with a high chemical recycling rate

Xinyi Shen, Yulin Liu, Na Li, Haiyan Ju,* Xiaowei Fu, Liang Jiang, Yao Xiao,* Ping He* and Jingxin Lei*

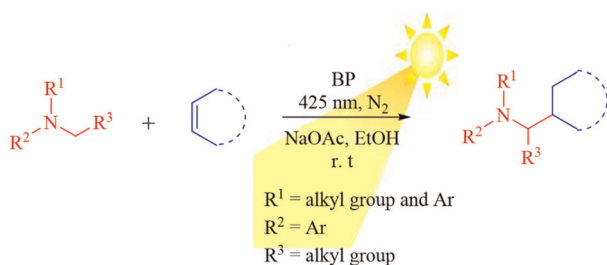
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Performance enhancement of perovskite solar cells by doping non-toxic multifunctional natural sodium lignosulfonate into SnO₂

Zezhuan Jiang, Fuling Li, Huaqing Yan, Rathes Kannan R, Lijia Chen, Ping Li* and Qunliang Song*

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Photocatalytic α -aminoalkyl radical addition of amines mediated by benzophenone under visible light

Jinke Chen, Qi Lian, Xinru Jiang, Juan Zhang, Xiang Luo,* Jiansong Fang* and Wentao Wei*

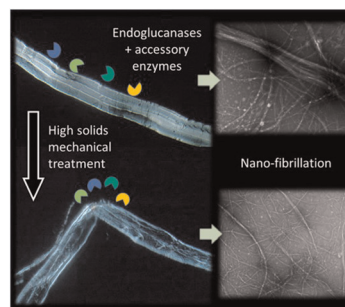


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Production of lignin containing cellulose nanofibrils (CNF) after enzymatic treatment of curl-induced, unbleached kraft pulps

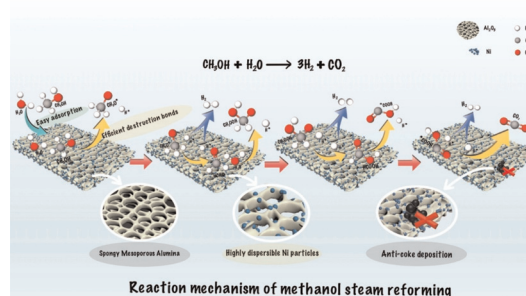
Jie Wu, Yintian Dong, Xia Sun, Peipei Wang, Jiaying Zhu, Yeling Zhu, Feng Jiang and Jack Saddler*



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Enhancement of hydrogen production via methanol steam reforming using a Ni-based catalyst supported by spongy mesoporous alumina

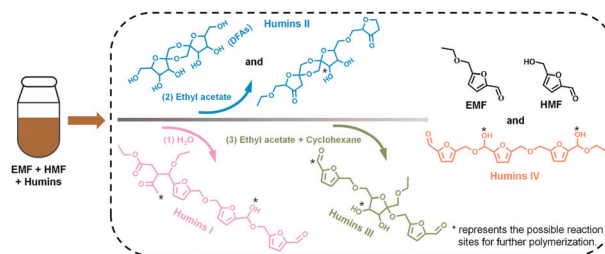
Bin Hu, Riyang Shu,* Zhipeng Tian, Chao Wang, Ying Chen and Ying Xu*



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Sequential extraction and separation of soluble humins from fructose conversion for structural and evolutionary understanding

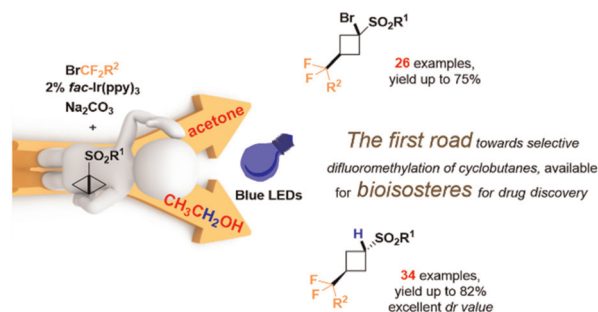
Hui Li, Yexin Hu, Ping Hu, Linzhen Li, Di Wu, Zhidan Xue, Changwei Hu and Liangfang Zhu*



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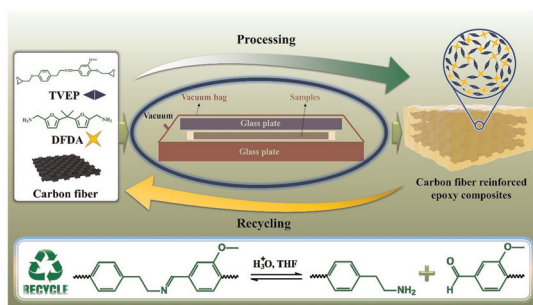
Photochemical selective difluoroalkylation reactions of bicyclobutanes: direct sustainable pathways to functionalized bioisosteres for drug discovery

Yunxin Duan, Yerong Xu, Yunzhe Li, Lin Mao, Jianquan Feng, Ruyue Zhang, Weifang Tang, Tao Lu,* Yadong Chen* and Jie Feng*



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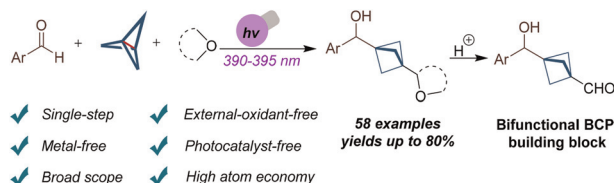
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High biomass content, anti-flammable and degradable epoxy thermosets by curing a tyramine-derived epoxy monomer with a furan-derived diamine for non-destructively recyclable carbon fiber composite application

Hao-Xin Niu, Tian-Mo Yang, Xin Wang,* Ping Zhang, Wenwen Guo, Lei Song and Yuan Hu*

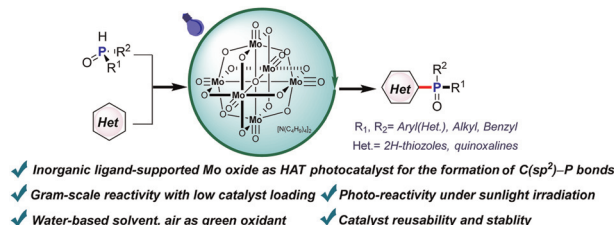
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Metal- and photocatalyst-free three-component strategy to prepare benzylalcohol-, aldehyde-substituted BCP building blocks

Fei Li, Huijuan Liao, Jianyang Dong, Weikang Xiong, Yonggang Yan, Gang Li and Dong Xue*

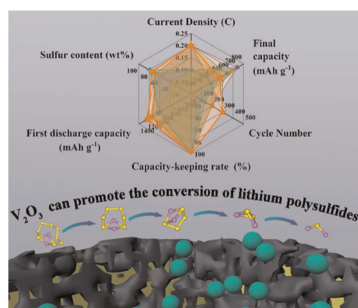
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Inorganic ligand-supported Mo oxide as a hydrogen atom transfer photocatalyst for direct $C(sp^2)-H$ phosphorylation

Zeqi Jiang,* Shuangfei Jiang, Jin Gao, Junmei Xia, Hongwei Yu, Lixin Ma, Xi Chen, Bo Chen, Xinghua Zhang* and Wenchao Zhu*

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Conductive V_2O_5 electrocatalyst on carbon hollow spheres to accelerate polysulfide conversion for long-cycle and high-rate lithium sulfur batteries

Jiangnan Zhang, Mingjun Xiao,* Tingting Liu, Yanshuang Meng, Fuliang Zhu* and Zhaoyang Fan*



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Preparation of chemically recyclable bio-based semi-aromatic polyamides using continuous flow technology under mild conditions

Yirong Feng, Xiaowei Li, Tingting Ma, Yuguang Li, Dong Ji, Hong Qin, Zheng Fang, Wei He* and Kai Guo*



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Carbonic anhydrase assisted acidogenic fermentation of forest residues for low carbon hydrogen and volatile fatty acid production: enhanced *in situ* CO₂ reduction and microbiological analysis

Omprakash Sarkar,* Io Antonopoulou,* Charilaos Xiros, Ylva Bruce, Sarra Souadkia, Ulrika Rova, Paul Christakopoulos and Leonidas Matsakas*

