

Green Chemistry

Cutting-edge research for a greener sustainable future

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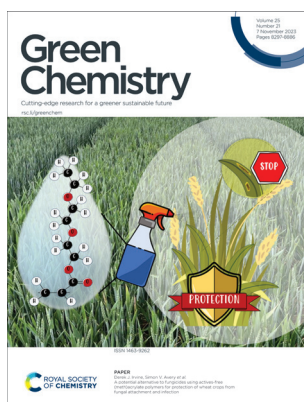
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Cover

See Mara G. Freire, Verónica Pino *et al.*, pp. 8544–8557.

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See Derek J. Irvine, Simon V. Avery *et al.*, pp. 8558–8569.

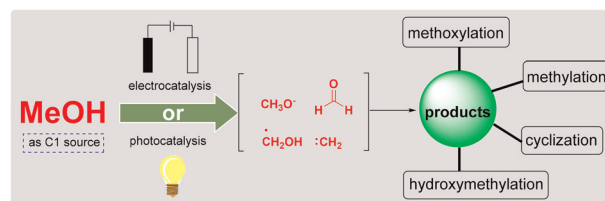
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Research progress in electrochemical/photochemical utilization of methanol as a C1 source

Hai-Tao Tang, Yong-Zhou Pan and Ying-Ming Pan*



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Deep eutectic solvents as a versatile platform toward CO₂ capture and utilization

Jiawei Ruan, Lifang Chen* and Zhiwen Qi*



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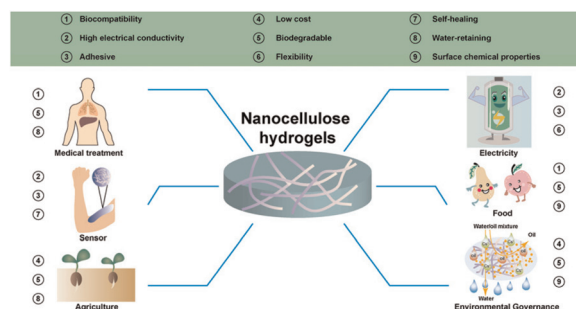


TUTORIAL REVIEWS

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When nanocellulose meets hydrogels: the exciting story of nanocellulose hydrogels taking flight

Yuanchun Du and Guangfu Feng*

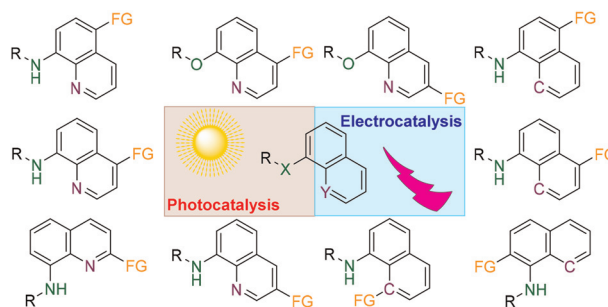


CRITICAL REVIEWS

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Photo/electrocatalytic site-selective C–H functionalization of 8-aminoquinolines and their analogues

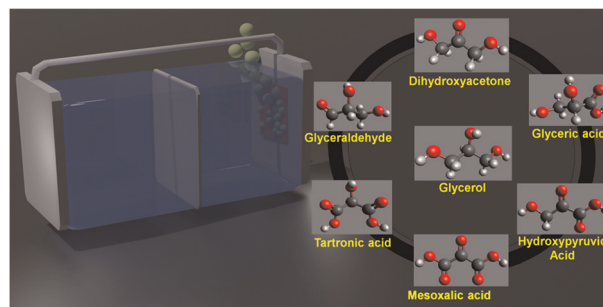
Huijie Qiao, Kun Zhao, Yuwei Li, Liting Yang and Fan Yang*



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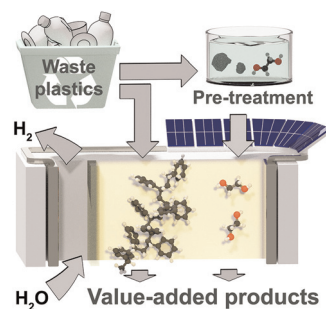
Mohit Kumar, Bhagatram Meena, Aimin Yu, Chenghua Sun* and Subrahmanyam Challapalli*



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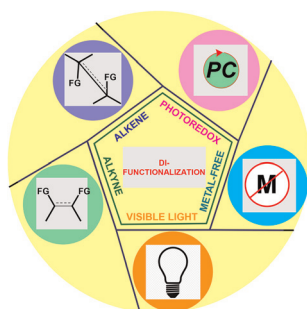
Electrocatalytic upcycling of plastic waste

Juhyun Cho, Byeongyoon Kim, Taehyun Kwon, Kwangyeol Lee* and Sang-Il Choi*



CRITICAL REVIEWS

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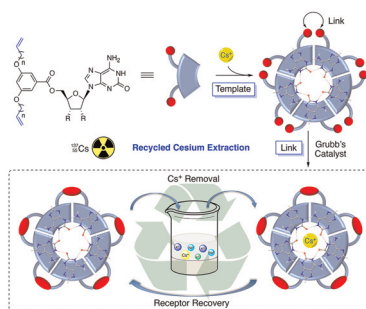


Visible light-induced organophotoredox-catalyzed difunctionalization of alkenes and alkynes

Subham Gupta, Abhishek Kundu, Sumit Ghosh, Amrita Chakraborty and Alakananda Hajra*

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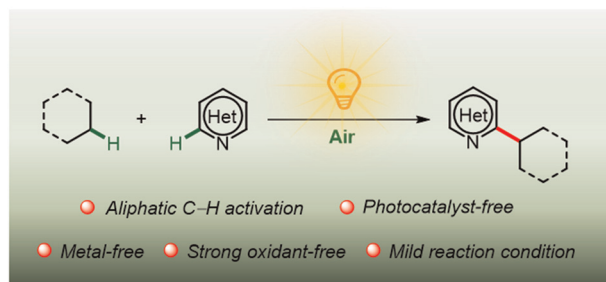
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Design and synthesis of covalently tethered "isoG-star" as a recyclable host for selective cesium separation

Mengjia Liu, Ying He, Lukasz Wojtas and Xiaodong Shi*

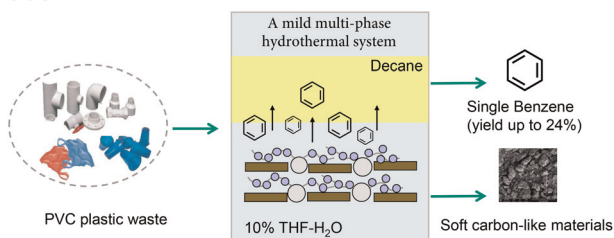
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Aliphatic C–H arylation with heteroarenes without photocatalysts

Rui-Nan Ci, Jia Qiao, Qi-Chao Gan, Bin Chen, Chen-Ho Tung and Li-Zhu Wu*

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Transforming PVC plastic waste to benzene via hydrothermal treatment in a multi-phase system

Bo Feng, Yong Guo, Xiaohui Liu and Yanqin Wang*

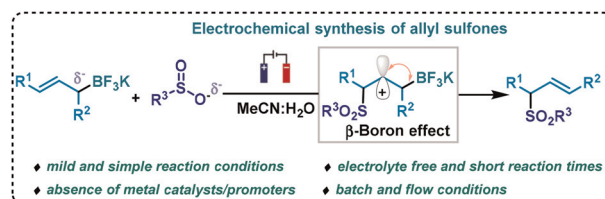


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Batch and flow electrochemical synthesis of allyl sulfones *via* sulfonation of allyl trifluoroborates: a robust, regioselective, and scalable approach

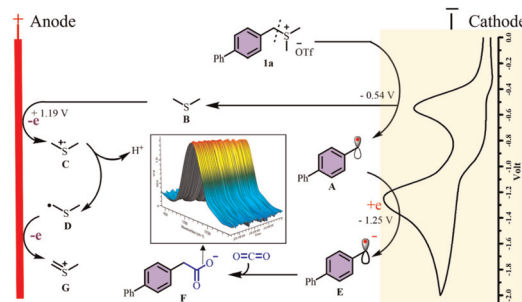
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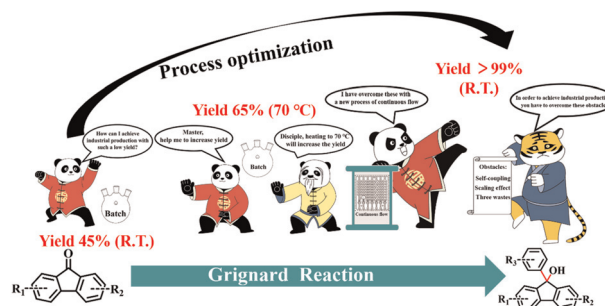
Sanjeev Kumar and Ajay K. Singh*



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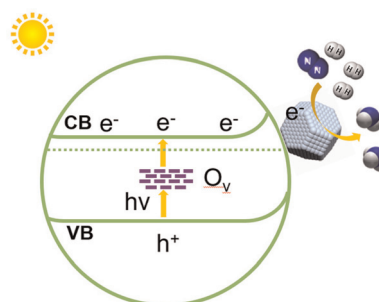
Xiao-Yan Li, Xin Chen, Qiu-Jing Bao, Yang Li, Zheng Zhang, Ying Wei,* Ling-Hai Xie* and Wei Huang*



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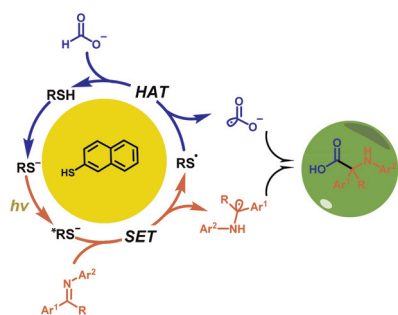
Defective ZrO_{2-x} supported Ru nanoparticles as a Mott–Schottky photocatalyst for efficient ammonia synthesis under ambient conditions

Rong Fu,* Yan Wang, Guangming Wang, Qingyun Zhan, Lili Zhang and Le Liu



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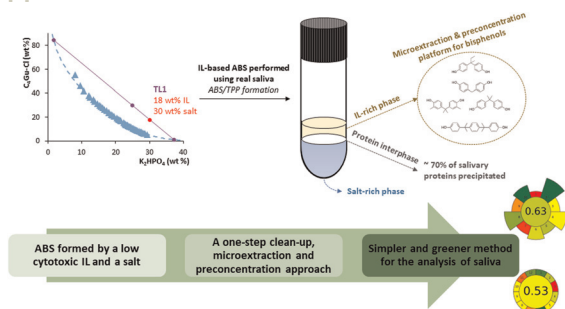


A novel approach for synthesizing α -amino acids *via* formate mediated hydrogen transfer using a carbon source

Tian-Tian Zhao, Xu-Gang Zhang, Wen-Bo He and Peng-Fei Xu*

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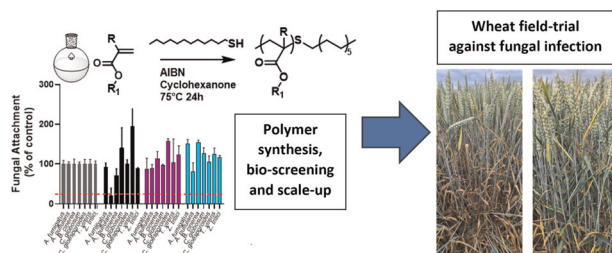
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Ionic liquid-based aqueous biphasic systems as one-step clean-up, microextraction and preconcentration platforms for the improved determination of salivary biomarkers

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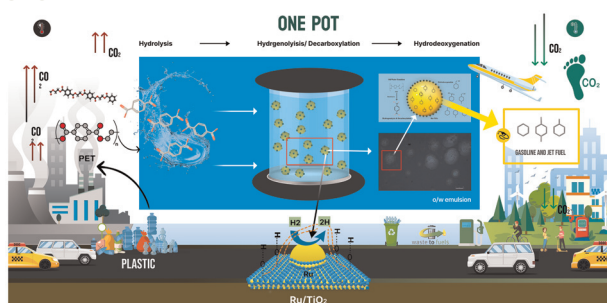
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A potential alternative to fungicides using actives-free (meth)acrylate polymers for protection of wheat crops from fungal attachment and infection

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Vishnu Murali, Jung Rae Kim, Young-Kwon Park, Jeong-Myeong Ha and Jungho Jae*

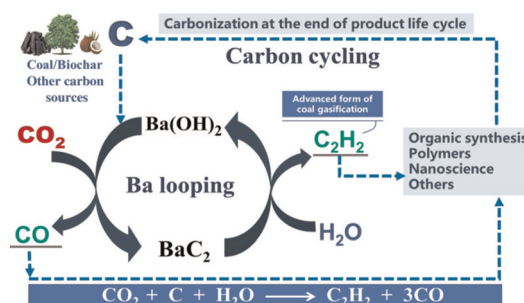


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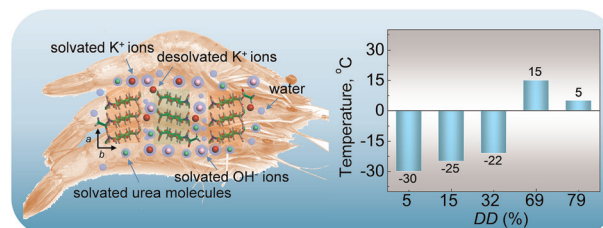
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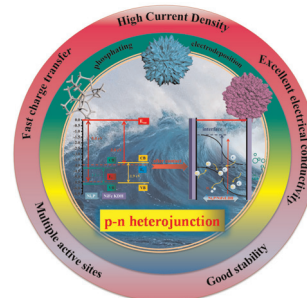
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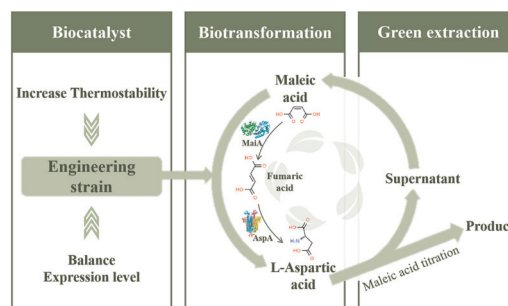
Xiaochen Zhang, Hui Xue,* Jing Sun, Niankun Guo, Tianshan Song, Jiawen Sun, Yi-Ru Hao and Qin Wang*



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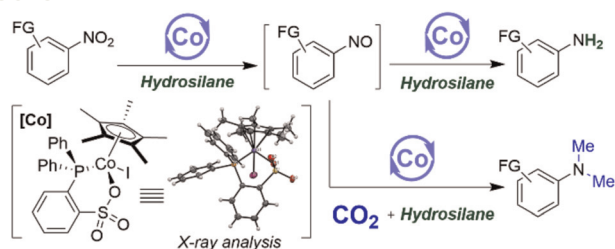
Developing a green and efficient biosynthesis system for L-aspartic acid by addressing enzyme imbalance and catalysis-extraction circulation processes

Chang Wang, Xiangyu Wang, Zhemin Zhou* and Zhongmei Liu*



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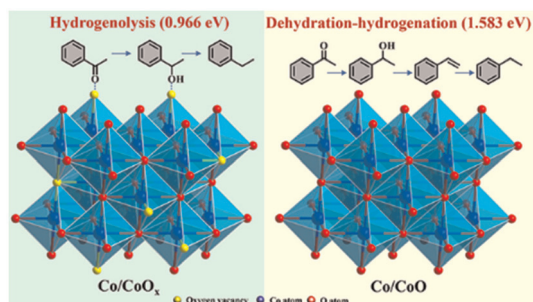
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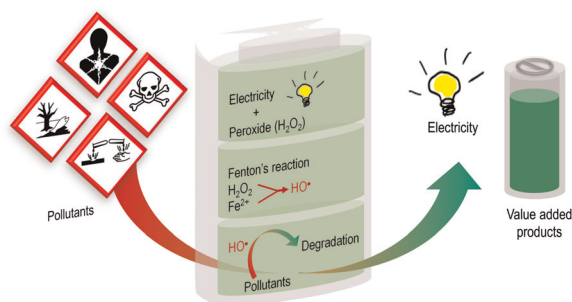
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Electro Fenton's reaction coupled Zn-air battery for *in situ* pollutant degradation

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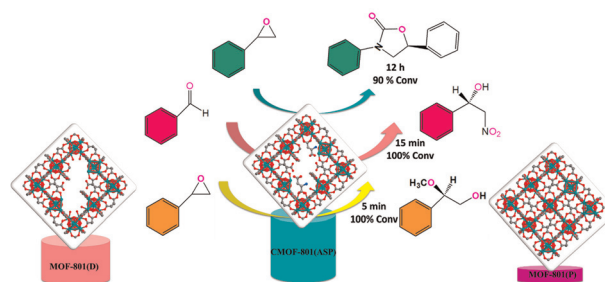


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Construction of hierarchically chiral metal–organic frameworks for fast and mild asymmetric catalysis

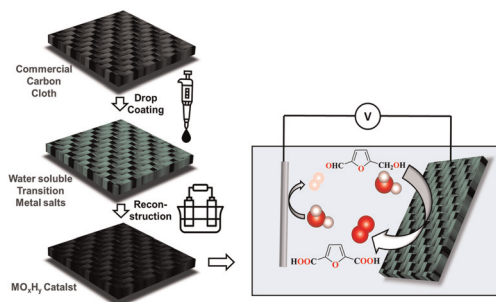
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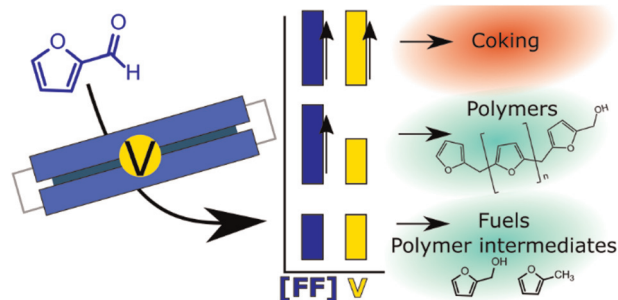
Till Kahlstorf, J. Niklas Hausmann,* Indranil Mondal, Konstantin Laun, Ingo Zebger, Tobias Sontheimer and Prashanth W. Menezes*



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Speciation of potential-dependent fouling on copper foil electrodes during electrochemical hydrogenation and hydrogenolysis of furfural in strong acid

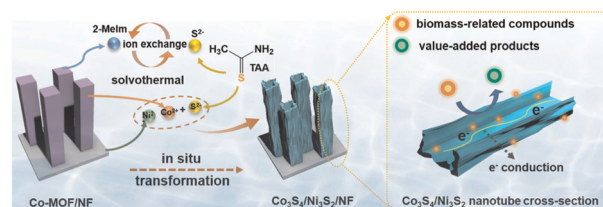
Andrew S. May and Elizabeth J. Biddinger*



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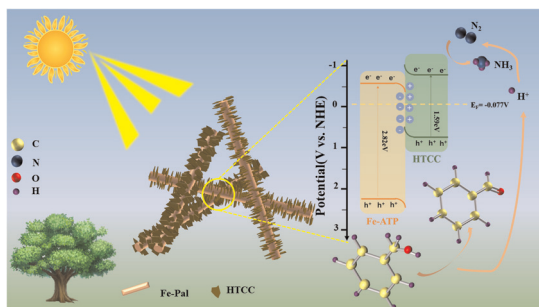
In situ transformation of Co-MOF nanorods into Co₃S₄/Ni₃S₂ nanotube arrays for electrochemical biomass upgrading

Yixuan Feng, Richard Lee Smith, Jr, Junyan Fu and Xinhua Qi*



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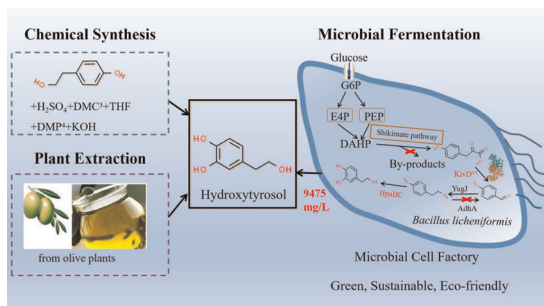
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Integrating biomass and minerals into photocatalysts for efficient photocatalytic N₂ fixation coupled with biomass conversion

Rongrong Gao, Yuying Zhang, Chaoya Han, Haoguan Gui, Chao Yao, Chaoying Ni* and Xiazhang Li*

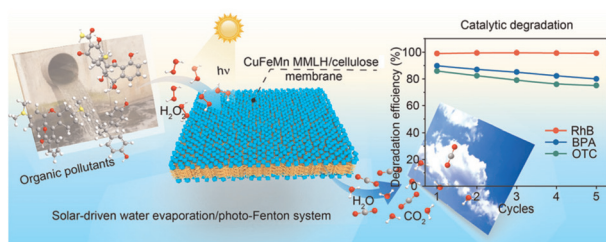
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Systematic metabolic engineering of *Bacillus licheniformis* for hyperproduction of the antioxidant hydroxytyrosol

Yangyang Zhan, Fei Zhou, Wenqi Ruan, Hao Yin, Zhi Li, Huan Wang, Tao Li, Dongbo Cai, Shihui Yang, Xin Ma* and Shouwen Chen*

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A facile *in situ* interfacial construction strategy of hierarchically distributed mixed-metal layered hydroxide/cellulose membranes towards efficient wastewater purification

Shuo Zhang, Liping Shu, Haohang Fang, Weizhi Zhu, Jianping Sun, Fang Yang, Yiqiang Wu, Shaohong Shi* and Fangchao Cheng*

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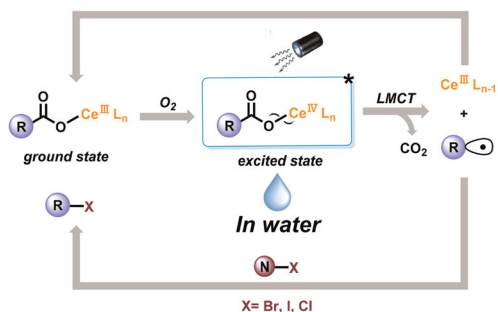


Photo-triggered halodecarboxylation of aliphatic carboxylic acids *via* cerium-mediated ligand-to-metal charge transfer in water

Yan Xu, Panyi Huang, Yu Jiang, Chun Lv, Peixuan Li, Jiayang Wang, Bin Sun* and Can Jin*

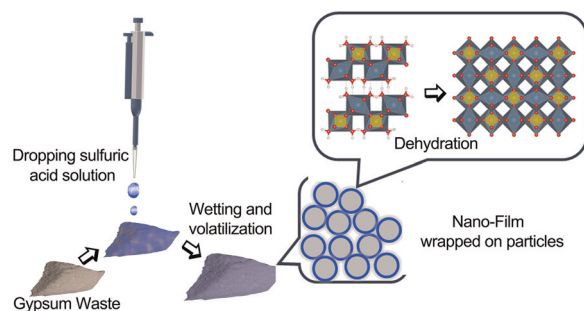


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Dehydration of gypsum waste to recyclable anhydrite using a nano-film reservoir under ambient conditions

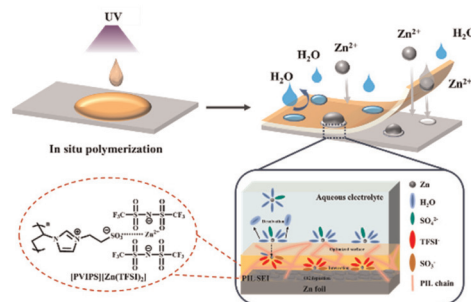
Chunli Wang, Wenjing Li, Chunli Gou, Zhihao Zhang, Zhang Lin* and Jing Zhang*



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Tailoring the hydrophobicity and zincophilicity of poly(ionic liquid) solid–electrolyte interphases for ultra-stable aqueous zinc batteries

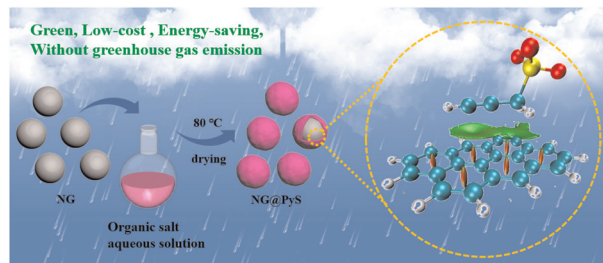
Xiao Zhang, Long Su, Fei Lu, Ye Tian, Fengjin Xie, Liping Liang, Liqiang Zheng* and Xinpei Gao*



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π – π stacking of unsaturated sulfonates on natural graphite enables a green and cost-effective cathode for high-voltage dual-ion batteries

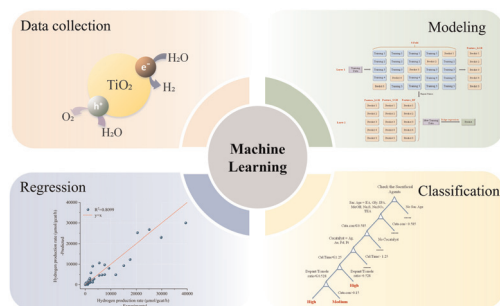
Kejia Zhang, Decheng Li, Qunting Qu,* Jie Shao,* Yu Jiang, Linze Lv, Ziyang Lin and Honghe Zheng*



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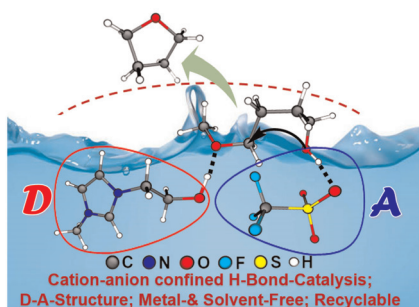
Ensemble learning to predict solar-to-hydrogen energy conversion based on photocatalytic water splitting over doped TiO₂

Qing Liu, Kewei Pan, Lanyan Zhu, Yi Zhou, Ying Lu, Shixing Wang, Zhao Ding,* Wenjia Du and Yang Zhou*



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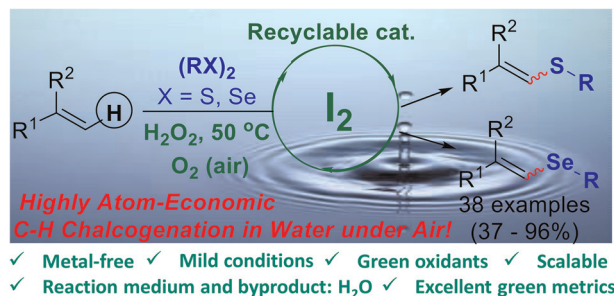
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Cation–anion confined hydrogen-bonding catalysis strategy for ring-closing C–O/O–H metathesis of alkoxy alcohols under metal-free conditions

Huan Wang, Zhi-Hao Zhao, Yanfei Zhao, Fengtao Zhang, Junfeng Xiang, Buxing Han and Zhimin Liu*

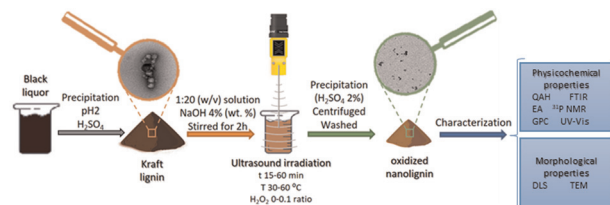
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Recyclable iodine-catalyzed oxidative C–H chalcogenation of 1,1-diarylethenes in water: green synthesis of trisubstituted vinyl sulfides and selenides

Nilanjana Mukherjee and Tanmay Chatterjee*

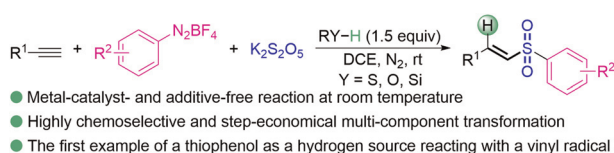
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Sonochemical oxidation of technical lignin to obtain nanoparticles with enhanced functionality

Nagore Izaguirre, Javier Fernández-Rodríguez, Eduardo Robles and Jalel Labidi*

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Multicomponent hydrosulfonylation of alkynes for the synthesis of vinyl sulfones

Lan Mei, Xiao-Rong Shu, Fa-Liang Liu, Jiao-Zhe Li, Jian-Feng Zhang, Keqi Tang* and Wen-Ting Wei*

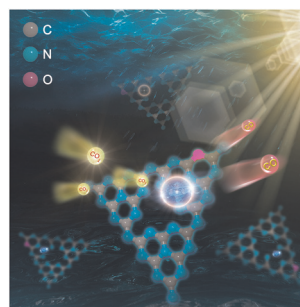


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Boosting CO production from visible-light CO₂ photoreduction via defects-induced electronic-structure tuning and reaction-energy optimization on ultrathin carbon nitride

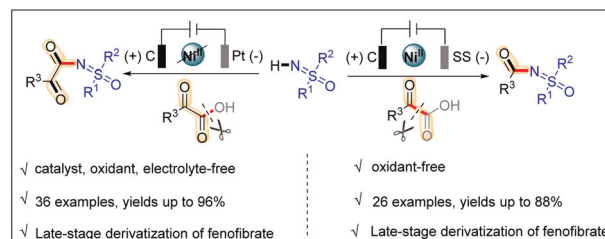
Jiaying Li, Chengxuan He, Jinlong Wang, Xiaoyi Gu, Zehan Zhang, Huizi Li, Mingyang Li, Lingzhi Wang, Shiqun Wu* and Jinlong Zhang*



8838

Electrochemical *N*-acylation and *N*- α -ketoacylation of sulfoximines via the selective decarboxylation and dehydration of α -ketoacids

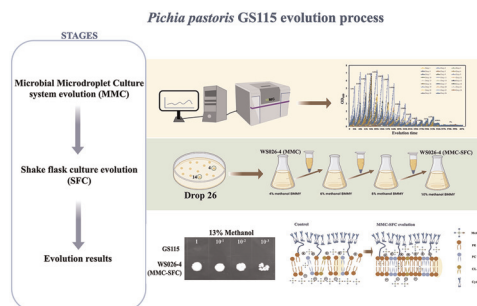
Chen Kang, Mingzhe Li, Wenxiu Huang, Shoucai Wang, Mengyu Peng, Longqiang Zhao, Guangbin Jiang* and Fanghua Ji*



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Development of high methanol-tolerance *Pichia pastoris* based on iterative adaptive laboratory evolution

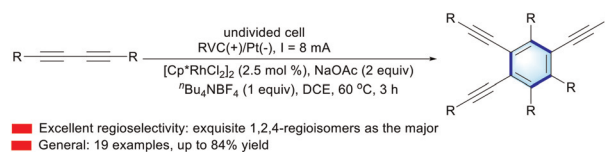
Shuai Wang, Yuanyuan Wang, Qingyan Yuan, Liu Yang, Fengguang Zhao, Ying Lin and Shuangyan Han*



8858

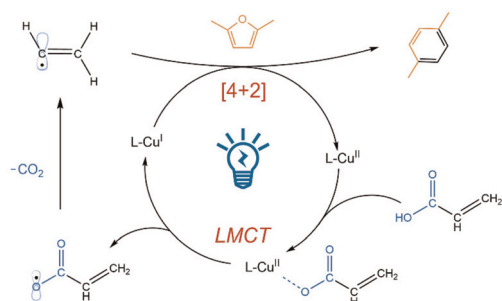
Rhodium-catalyzed electrochemical [2 + 2 + 2] cyclootrimerization of 1,3-butadiynes toward hexasubstituted arenes

Mu-Jia Luo, Gui-Fen Lv, Jing-Hao Qin,* Chong-Hui Xu,* Yang Li* and Jin-Heng Li*



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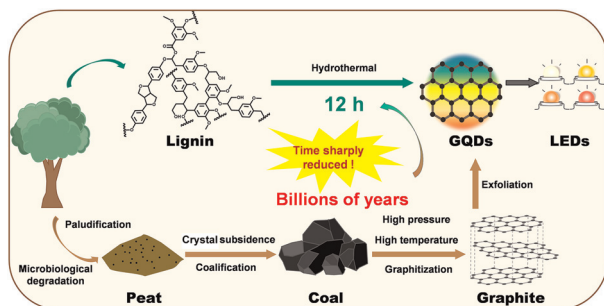
8863



Decarboxylative [4 + 2] cycloaddition via ligand-to-metal charge transfer photoexcitation of a Cu-MOF

Wenjing Wang, Di Zeng, Juxue Wang, Bingkun Cui, Taikang Jia, Ruofan Li, Hongxiang Chu, Yu Zhang, Ling Zhang* and Wenzhong Wang*

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Red, yellow, green, and blue light-emitting highly crystallized graphene quantum dots derived from lignin: controllable syntheses and light-emitting diode applications

Tian Gao,* Shengnan Guo, Jiaojiao Zhang, Jintao Chen, Shiru Yin, Na Peng, Qun Cai, Huan Xu and Yi Liu*

