

Green Chemistry

Cutting-edge research for a greener sustainable future

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See Ana Rita C. Morais *et al.*,
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Inside cover
See Joshua P. Barham *et al.*,
pp. 6446–6453.

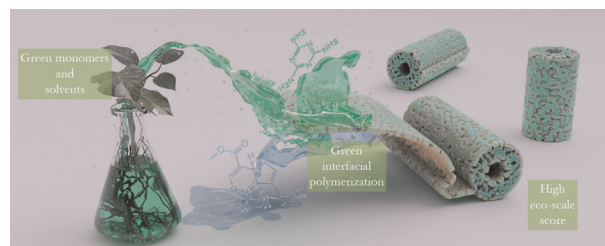
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Alternative materials for interfacial polymerization: recent approaches for greener membranes

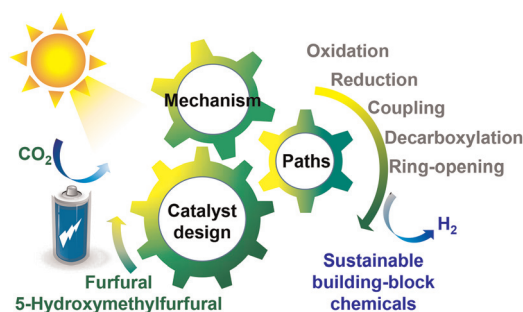
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Sunlight-driven photocatalytic conversion of furfural and its derivatives

Qizhao Zhang, Bang Gu and Wenhao Fang*



Environmental Science: Atmospheres

GOLD
OPEN
ACCESS

Connecting communities
and inspiring new ideas

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Fundamental questions
Elemental answers



CRITICAL REVIEWS

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Towards a sustainable tomorrow: advancing green practices in organic chemistry

Sudripet Sharma, Fabrice Gallou and Sachin Handa*

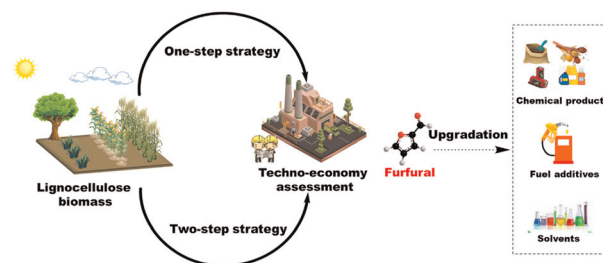


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Recent advances and perspectives of practical modifications of vanadium redox flow battery electrodes

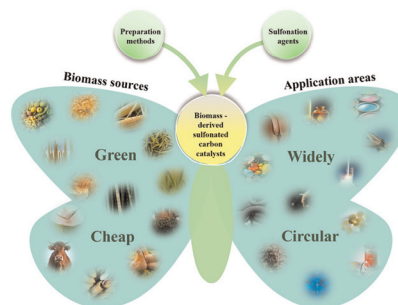
Lin Li, Xingrong Chen, Zemin Feng,* Yingqiao Jiang, Lei Dai, Jing Zhu,* Yongguang Liu, Ling Wang and Zhangxing He*



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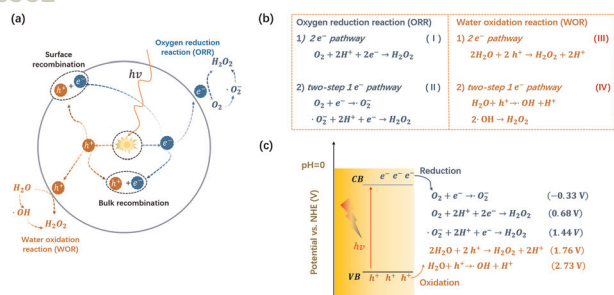
Biomass derived sulfonated carbon catalysts: efficient catalysts for green chemistry

Shangkun Zhu, Jian Ke, Xiang Li, Zixuan Zheng, Ruixin Guo* and Jianqiu Chen*



TUTORIAL REVIEWS

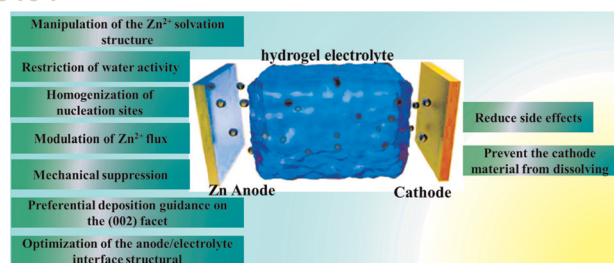
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Polymer photocatalysts for photocatalytic hydrogen peroxide production

Shunhang Wei, Shufang Chang, Huili Li, Zebo Fang,*
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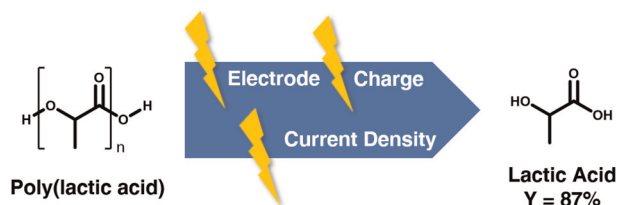


Hydrogel-stabilized zinc ion batteries: progress and outlook

Le Li, Shaofeng Jia, Shi Yue, Conghui Wang,
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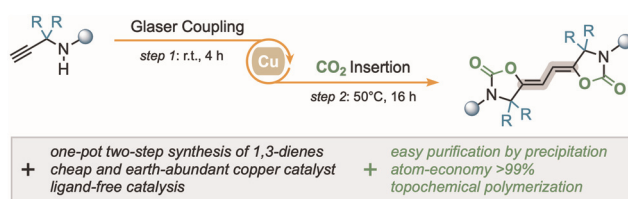
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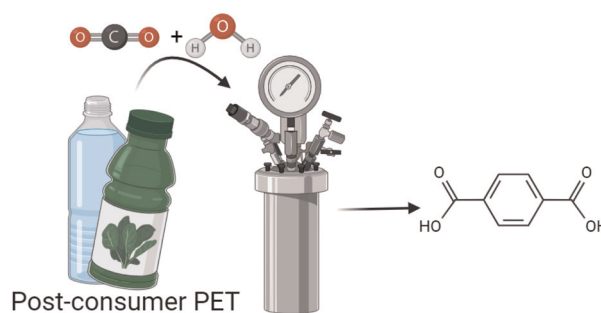
Sequential Glaser reaction – diastereoselective cyclocarboxylation of propargylamines with CO₂: a green catalytic access to bis-oxazolidinonedienes and their topochemical polymerizationFrancesco Mele, Ana Maria Constantin, Filippo Sacchelli,
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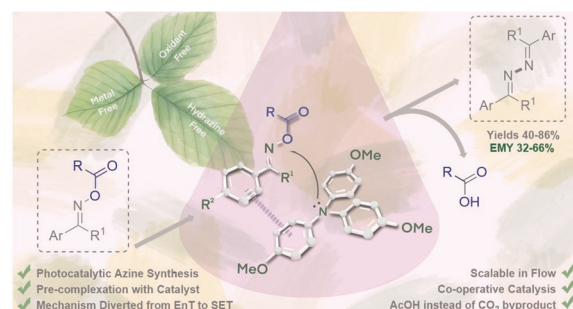
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A hydrazine-free photoredox catalytic synthesis of azines by reductive activation of readily available oxime esters

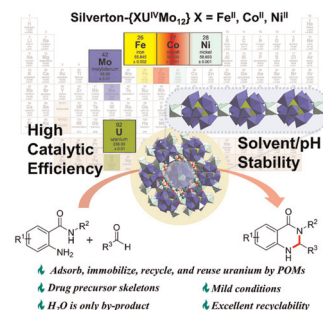
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Ke Li, Yufeng Liu, Guoping Yang,* Zhijian Zheng, Xiaoling Lin, Zhibin Zhang, Shujun Li, Yunhai Liu* and Yongge Wei*



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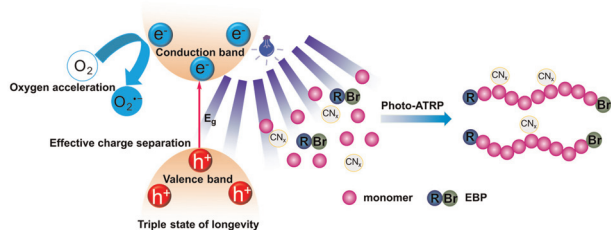
Integrating climate policies in the sustainability analysis of green chemicals

Abhinandan Nabera, Antonio José Martín, Robert Istrate, Javier Pérez-Ramírez* and Gonzalo Guillén-Gosálbez*



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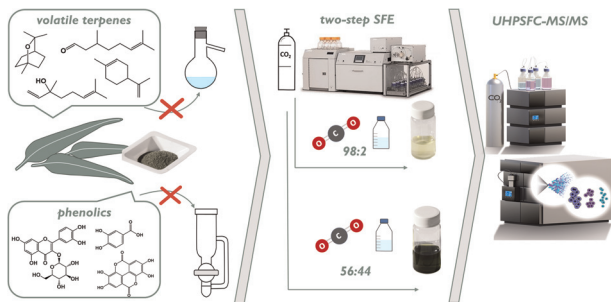
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Long-lived triplet state carbon nitride (urea-CN_x) catalyzed metal-free photo-ATRP with oxygen acceleration

Chen Wang, Bo Hu, Xiaoyu Guo and Lin Lei*

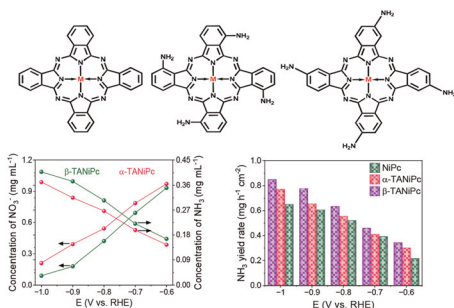
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Comprehensive two-step supercritical fluid extraction for green isolation of volatiles and phenolic compounds from plant material

Veronika Pilařová, Kateřina Plachká, Diana Herbsová, Štefan Kosturko, Frantisek Svec and Lucie Nováková*

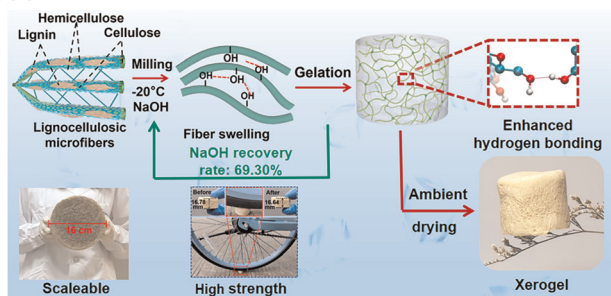
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Fuel from waste: electrosynthesizing ammonia directly from agricultural digestate through ligand isomerization

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Facile preparation of lignocellulosic xerogels by alkali freezing and ambient drying

Qiaoling Huang, Zerong Li, Jialong Hu, Wei Wang and Wei Li*

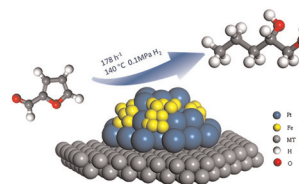


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Selective hydrogenolysis of furfural to 1,2-pentandiol over a Pt–Fe/MT catalyst under mild conditions

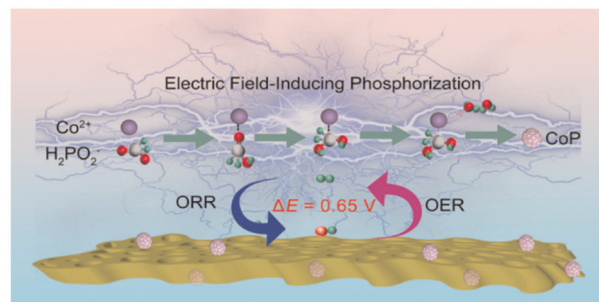
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Electric field-induced phosphorization to prepare CoP@Biochar composites for efficient bifunctional oxygen electrocatalysis

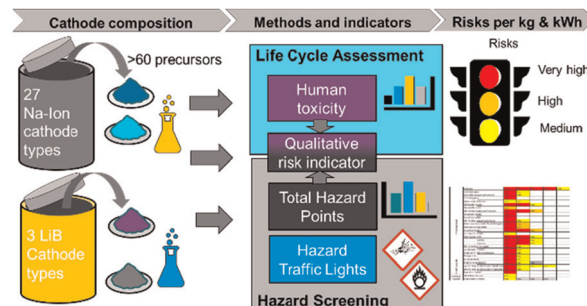
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Prospective hazard and toxicity screening of sodium-ion battery cathode materials

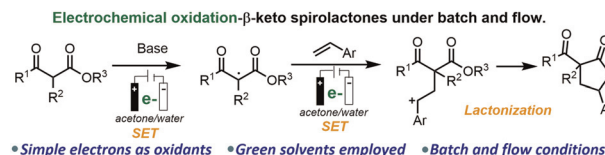
Manuel Baumann,* Jens F. Peters, Marcel Häring, Marius Schmidt, Luca Schneider, Werner Bauer, Joachim R. Binder and Marcel Weil



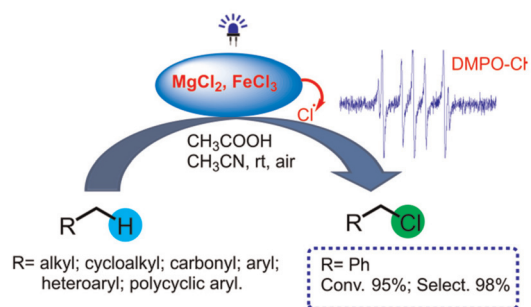
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Electrochemically driven green synthesis to unlock sustainable routes to β-keto spirolactones

Ian MacLean, Montaña J. García, Silvia Cabrera,* Leyre Marzo* and José Alemán*



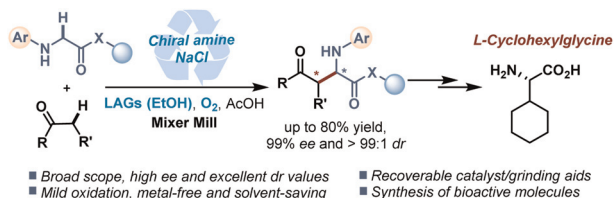
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Visible light-induced FeCl_3 -catalyzed chlorination of C–H bonds with MgCl_2

Jing Huang, Yidong Liu, Xia Tian, Shao-Fei Ni,* Shen Li, Zhan-Hui Zhang,* Dong Li and Shouxin Liu*

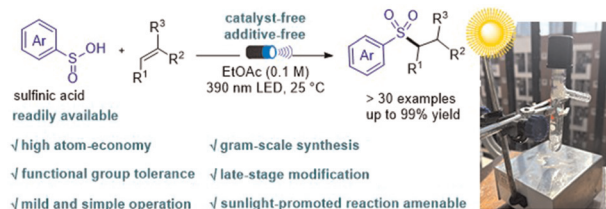
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Ethanol-assisted mechanochemical asymmetric cross-dehydrogenative coupling reaction with recoverable chiral amine/ NaCl for accessing chiral α -alkyl α -glycine derivatives

Jingbo Yu,* Hong Chen, Ziwen Zhang, Yuxin Fang, Tao Ying and Weike Su

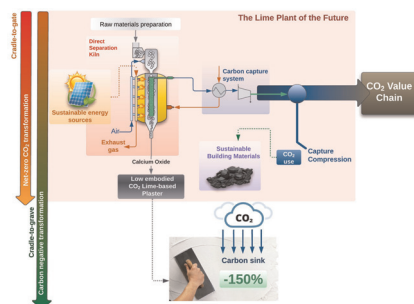
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Light-promoted photocatalyst-free and redox-neutral hydrosulfonylation of unactivated alkenes using sulfonic acid

Yibo Song, Cheng Li, Xueyuan Hu,* Hongdie Zhang, Yujian Mao, Xiachang Wang, Chen Wang, Lihong Hu* and Jianming Yan*

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From quarry to carbon sink: process-based LCA modelling of lime-based construction materials for net-zero and carbon-negative transformation

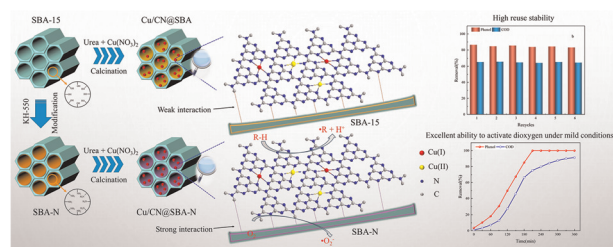
Agustin Laveglia,* Neven Ukrainczyk, Nele De Belie and Eddie Koenders



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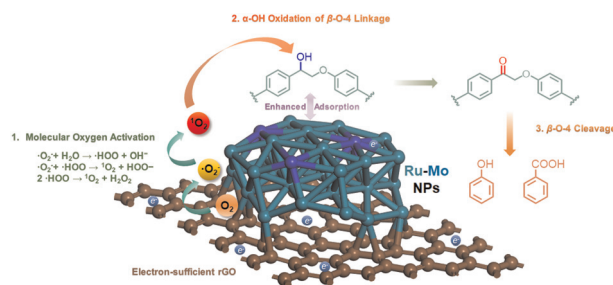
Chao Yuan, Yuan Zhang, Zhiyuan Zong, Shenghui Zhou, Hongyou Cui* and Hongzi Tan*



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Boosting the catalytic performance of Ru nanoparticles in the cleavage of β -O-4 linkages in lignin by doping Mo

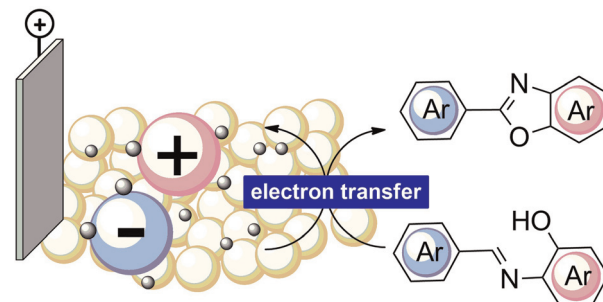
Puyi Lei, Jiali Zhang, Wenzhuo Shen, Min Zhong and Shouwu Guo*



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Introducing the use of a recyclable solid electrolyte for waste minimization in electrosynthesis: preparation of 2-arylbenzoxazoles under flow conditions

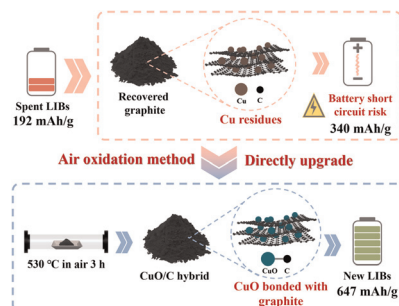
Francesco Ferlin,* Federica Valentini, Filippo Campana and Luigi Vaccaro*



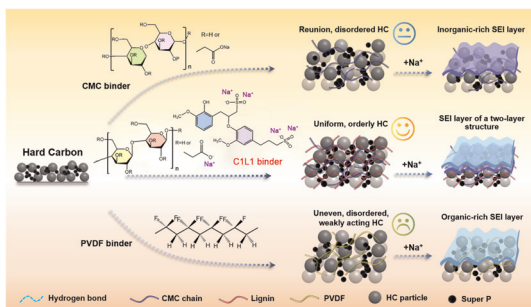
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Directly upgrading spent graphite anodes to stable CuO/C anodes by utilizing inherent Cu impurities from spent lithium-ion batteries

Kechun Chen, Haoxuan Yu, Meiting Huang, Zhihao Wang, Yifeng Li, Lei Zhou, Liming Yang,* Yufa Feng, Liang Chen,* Lihua Wang, Longlu Wang, Chenxi Xu, Penghui Shao and Xubiao Luo*



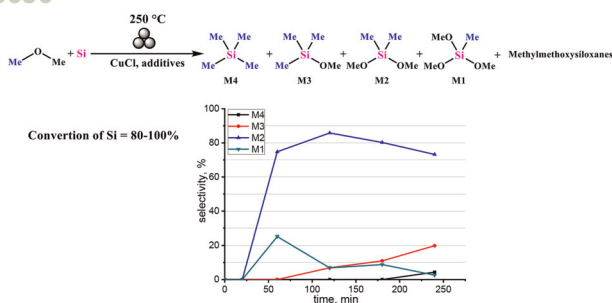
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Green biomass: the impact of high-adhesion and well-dispersed binders on the sodium storage performance and interfacial interaction of hard carbon anodes

Jiaqi Jiao, Conghua Yi,* Xueqing Qiu,* Dongjie Yang, Fangbao Fu and Weifeng Liu

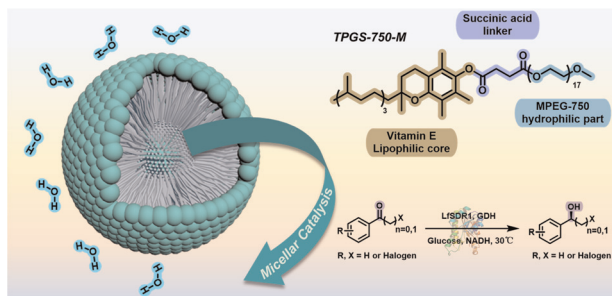
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From silicon to silicones without dimethyldichlorosilane: direct green mechanochemical synthesis of methylmethoxysilanes from silicon and dimethyl ether

I. N. Kryzhanovskii, M. N. Temnikov,* A. A. Anisimov, A. K. Ratnikov, I. V. Frank, A. V. Naumkin, S. M. Chistovalov and A. M. Muzafarov

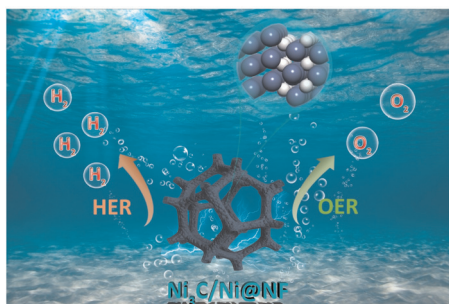
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Enzymatic reduction of halogenated aryl ketones in an aqueous micellar solution with enhanced catalytic performance

Yunting Liu, Jiajing Yan, Quan Yuan, Li Ma, Liya Zhou, Ying He, Guanhua Liu, Xiaoyang Yue* and Yanjun Jiang*

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Uniform nodule-like Ni₃C/Ni heterostructure templated by metal–organic frameworks for high-performance overall water splitting

Shumin Wang, Yi Zhang, Xiaoyang Deng, Zizai Ma, Jinping Li and Xiaoguang Wang*

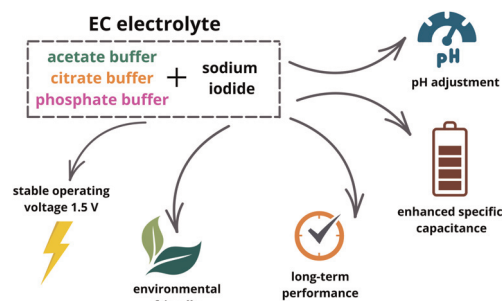


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Effect of a buffer/iodide electrolyte on the performance of electrochemical capacitors

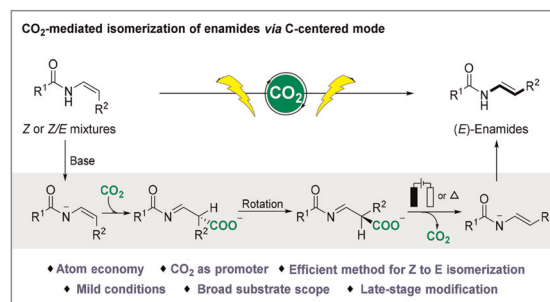
Amelia Klimek, Maciej Tobis and Elzbieta Frackowiak*



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CO₂-mediated isomerization of enamides

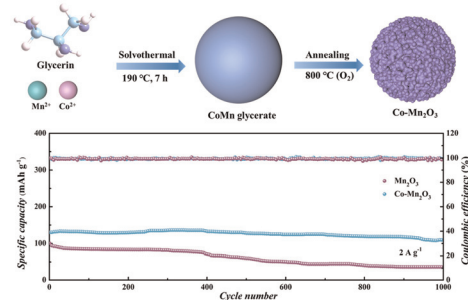
Guoqing Yang, Jingpei Jia, Zile Zhu and Youai Qiu*



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Cobalt-doped manganese(III) oxide cathode materials with enhanced electrochemical performance for aqueous zinc-ion batteries

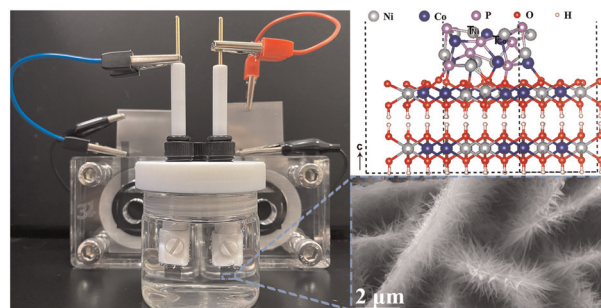
Zixiang Zhou, Jianbo Tong,* Jiale Guo, Shaofeng Guo, Shuhan Liu, Zhipeng Qin, Muxuan Luo, Chao Wang and Shuling Liu*



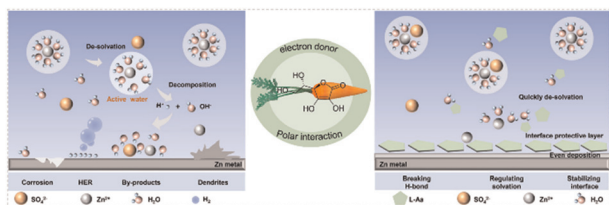
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NiCoP@CoNi-LDH/SSM as a multifunctional catalyst for high-efficiency water splitting and ultra-long-life rechargeable zinc-air batteries

Juan Jian, Zhuo Wang, Yu Qiao, Shuang Gao, Meiting Wang, Limin Chang,* Hairui Wang* and Ping Nie*



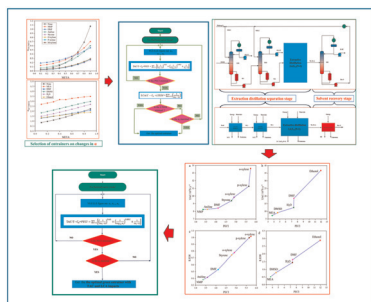
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Bio-inspired hydroxyl-rich electrolyte additive for highly reversible aqueous Zn-ion batteries with strong coordination chemistry

Jinlong Zhang, Qing Wu, Song Yang, Fusheng Luo, Yue Li, Yanhui Zhang, Kui Chen, Jun Huang,* Haibo Xie* and Yiwang Chen*

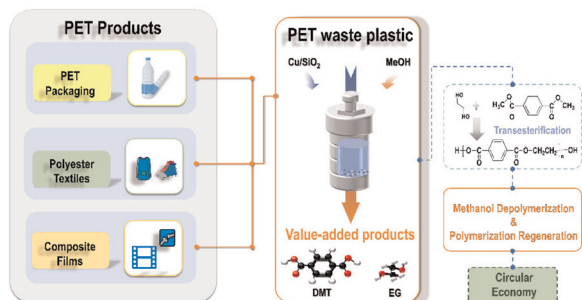
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Heuristic process prediction model for screening optimal green entrainers based on TAC and LCA impacts utilizing PSE concepts

Qinggong Xu, Yangyang Wang, Kexin Yin, Hongwei Xu, Jianguang Qi, Peizhe Cui, Zhaoyou Zhu, Yinglong Wang,* Limei Zhong and Yixin Ma

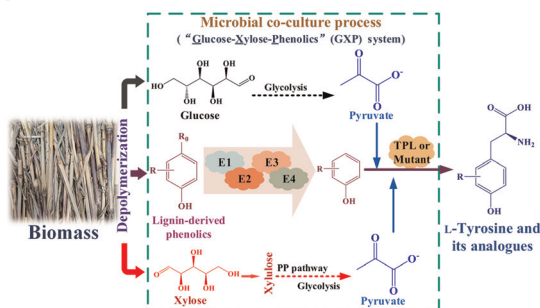
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Copper-supported catalysts for sustainable PET depolymerization: a cost-effective approach towards dimethyl terephthalate (DMT) production

Yitian Zhang, Jie Gao, Chao Jiang, Gang Luo, Jiajun Fan, James H. Clark and Shicheng Zhang*

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Full use of lignocellulosic biomass for efficient synthesis of L-tyrosine and its analogues by engineering microbial consortia

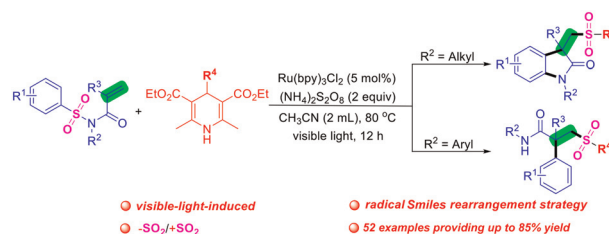
Mingtao Zhao, Xiaofeng Wu, Yankai Tao and Yi Xiao*



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A radical Smiles rearrangement difunctionalization of activated alkenes via desulfonation and insertion of sulfur dioxide relay strategy

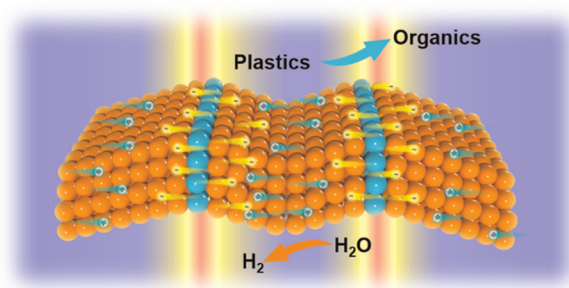
Si-Wei Tian, Zhen-Tao Luo, Bi-Quan Xiong, Ke-Wen Tang, Peng-Fei Huang* and Yu Liu*



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Enhancing the internal electric field via twinning for boosting photocatalytic plastic reformation and H₂ production

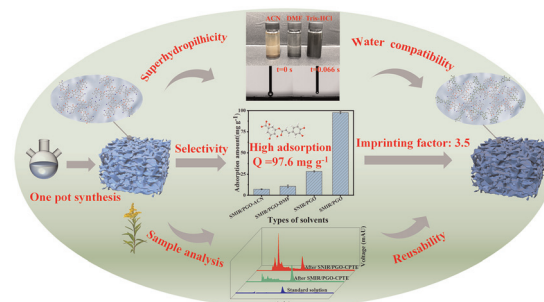
Erling Zhao, Pengfei Yin, Kun Du, Ning Lan, Quanlu Wang, Jiaxin Guo, Min Wang and Tao Ling*



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Green synthesis of water-compatible molecularly imprinted resin on graphene oxide for highly selective extraction of chlorogenic acid in aqueous systems

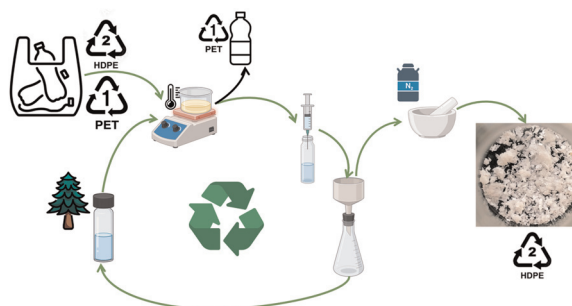
Yanan Yuan, Yanfei Zhang, Zhiqiang Wang and Hongyuan Yan*



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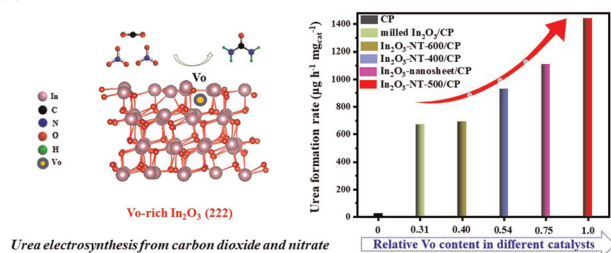
Greening the physical recycling of HDPE: dissolution precipitation with natural solvents

Sofia C. Aparício, Pedro M. Castro, Bernardo D. Ribeiro and Isabel M. Marrucho*



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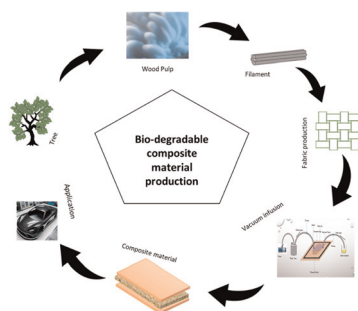
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Durable and efficient urea electrocatalysis using carbon dioxide and nitrate over defect-rich In₂O₃ nanotubes

Hongjun Fang, Chen-Han Kuo, Hongsheng Yang, Ze Wang, Xinzhen Feng, Weijie Ji* and Chak-Tong Au

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Exploring the potential of regenerated loncell fiber composites: a sustainable alternative for high-strength applications

Mahyar Fazeli,* Shariful Islam, Hossein Baniasadi, Roozbeh Abidnejad, Inge Schlapp-Hackl, Michael Hummel and Juha Lipponen

CORRECTIONS

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Correction: Ethanol-assisted mechanochemical asymmetric cross-dehydrogenative coupling reaction with recoverable chiral amine/NaCl for accessing chiral α-alkyl α-glycine derivatives

Jingbo Yu,* Hong Chen, Ziwen Zhang, Yuxin Fang, Tao Ying and Weike Su

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Correction: Retrosynthesis from transforms to predictive sustainable chemistry and nanotechnology: a brief tutorial review

Alicja Mikolajczyk,* Uladzislau Zhdan, Sylvain Antoniotti, Adam Smolinski, Karolina Jagiello, Piotr Skurski, Moussab Harb, Tomasz Puzyn and Jaroslaw Polanski*

