

Green Chemistry

Cutting-edge research for a greener sustainable future

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Cover

See Daan S. van Es, Pieter C. A. Bruijninx *et al.*, pp. 7739–7751.

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Inside cover

See Luigi Vaccaro *et al.*, pp. 7752–7758.

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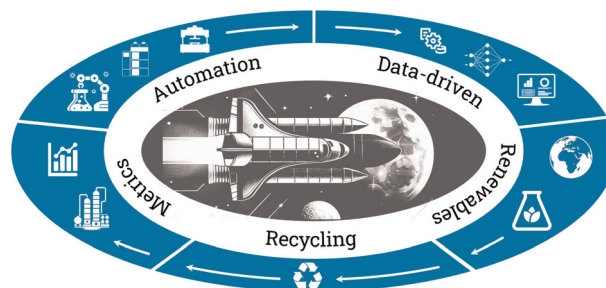
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Matthew B. Plutschack* and Peter H. Seeberger

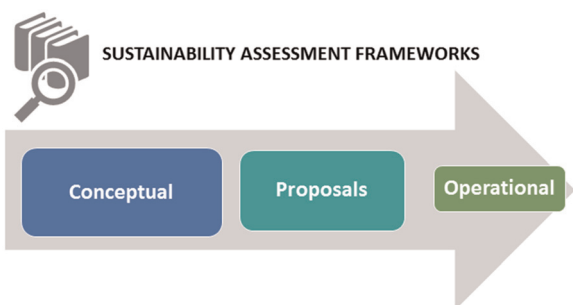


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Carla Caldeira, Elisabetta Abbate, Christian Moretti, Lucia Mancini and Serenella Sala*



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CRITICAL REVIEWS

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Deep eutectic solvents as green solvents for materials preparation

Dongkun Yu, Depeng Jiang, Zhimin Xue* and Tiancheng Mu*



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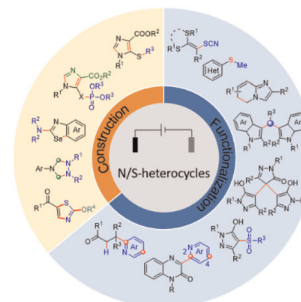
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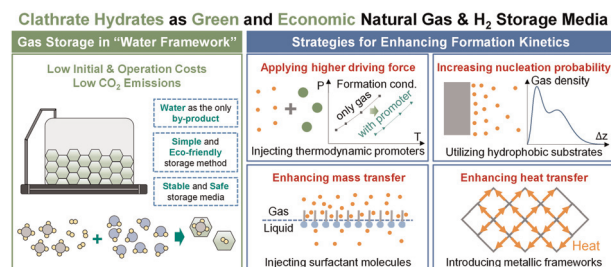
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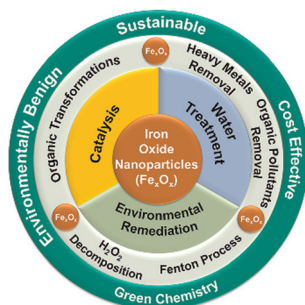
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Wonhyeong Lee, Kwangbum Kim, Jeongwoo Lee, Yun-Ho Ahn and Jae W. Lee*



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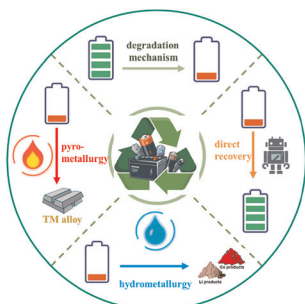
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A review on sustainable iron oxide nanoparticles: syntheses and applications in organic catalysis and environmental remediation

Dinesh S. Chaudhari, Rohit P. Upadhyay, Gajanan Y. Shinde, Manoj B. Gawande,* Jan Filip, Rajender S. Varma* and Radek Zbořil*

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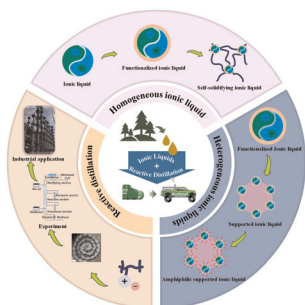


Recycling spent lithium-ion battery cathode: an overview

Xun Zhang and Maiyong Zhu*

PERSPECTIVE

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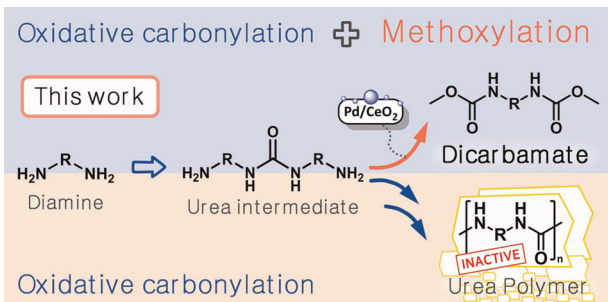


Challenges and perspectives on using acidic ionic liquids for biodiesel production *via* reactive distillation

Zhaoyang Qi, Rongkai Cui, Hao Lin, Changshen Ye, Jie Chen* and Ting Qiu*

COMMUNICATION

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A dual-functional catalyst for selective dicarbamate synthesis *via* oxidative carbonylation: enhanced methoxylation for suppressing urea polymer formation

Seulgi Han, Young-Woo You, Kwanyong Jeong, Mintae Im, Jung-Ae Lim, Soo Min Kim, Jin Hee Lee* and Ji Hoon Park*

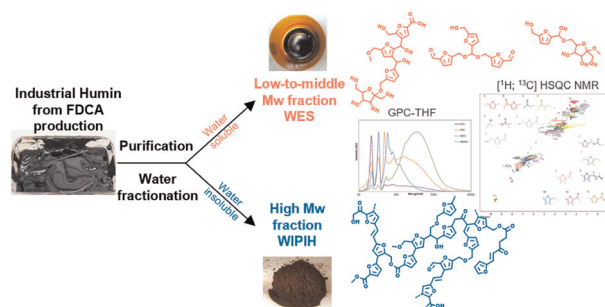


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Molecular structure and composition elucidation of an industrial humin and its fractions

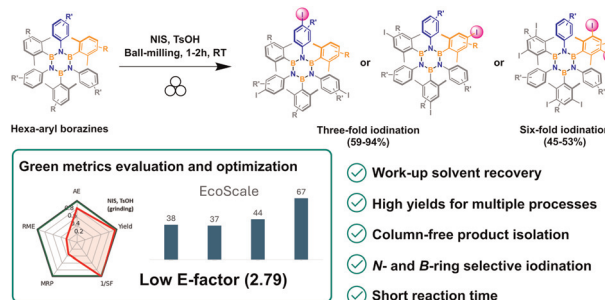
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A waste-minimized approach for the synthesis of iodinated organic borazines

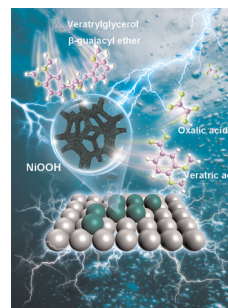
Dario Marchionni, Daniele Gernini, Alireza Nazari Khodadadi, Ejdi Cela, Fan Huang and Luigi Vaccaro*



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Electrochemical oxidation of lignin model compounds over metal oxyhydroxides on nickel foam

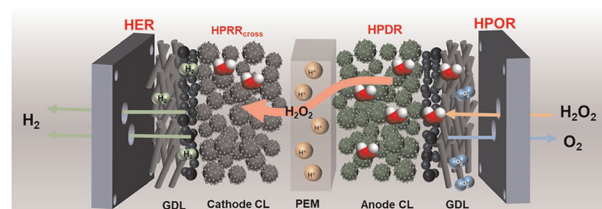
Zhang Danlu, Zeng Xu,* Wang Sinong, Xu Yan, Dai Qiqi, Yue Fengxia, Wang Peng, Liu Chuanfu and Lan Wu*



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Maximization of hydrogen peroxide utilization in a proton exchange membrane H₂O₂ electrolyzer for efficient power-to-hydrogen conversion

Jie Yang, Ruimin Ding,* Chang Liu, Lifang Chen, Qi Wang, Shanshan Liu, Qinchao Xu and Xi Yin*

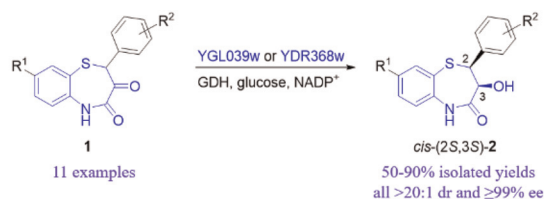


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Ketoreductase-catalyzed dynamic reductive kinetic resolution of sterically hindered 2-aryl-1,5-benzothiazepin-3,4(2*H*,5*H*)-diones: asymmetric synthesis of a key diltiazem precursor and its analogues

Zijun Guo, Zexin Wu, Xiaofan Wu, Li Zhang, Zedu Huang* and Fener Chen*

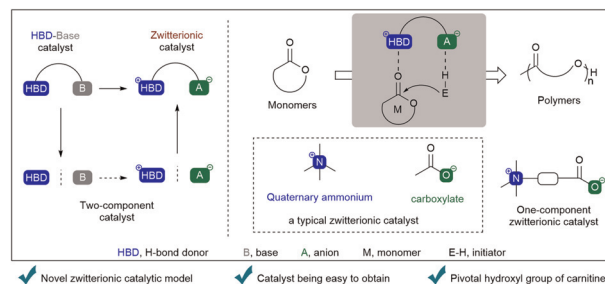


Dynamic reductive kinetic resolution ✓ Excellent stereoselectivity ✓
Gram scale synthesis of diltiazem precursor ✓ Enzyme immobilization and reuse ✓

7825

Zwitterionic organocatalysis for ring-opening polymerization of cyclic esters

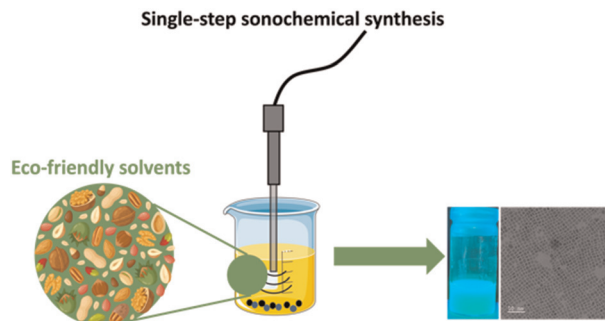
Yue Xu, Peng Guo, Zhenjiang Li,* Ziqi Liu, Tianyu Zhu, Yujia Wang, Hao Zhang, Wei He, Mingfu Lyu and Kai Guo*



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Sonochemical-assisted synthesis of CsPbBr₃ perovskite quantum dots using vegetable oils

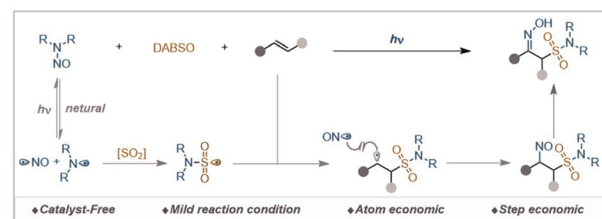
Pedro Conceição, Andrés Perdomo, Diogo F. Carvalho, Jennifer P. Teixeira, Pedro M. P. Salomé and Tito Trindade*



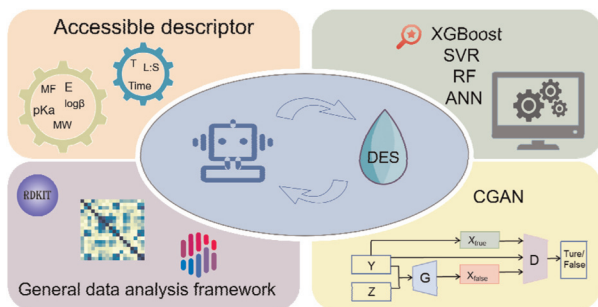
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Photo-mediated radical relay oximinosulfonamidation of alkenes with *N*-nitrosamines triggered by DABSO

Ji-Wei Sang, Hong Chen, Yu Zhang,* Jinxin Wang* and Wei-Dong Zhang*



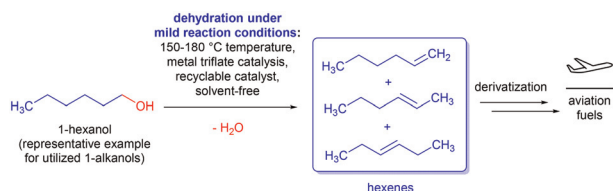
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Machine learning models accelerate deep eutectic solvent discovery for the recycling of lithium-ion battery cathodes

Fengyi Zhou, Dingyi Shi, Wenbo Mu, Shao Wang, Zeyu Wang, Chenyang Wei, Ruiqi Li* and Tiancheng Mu*

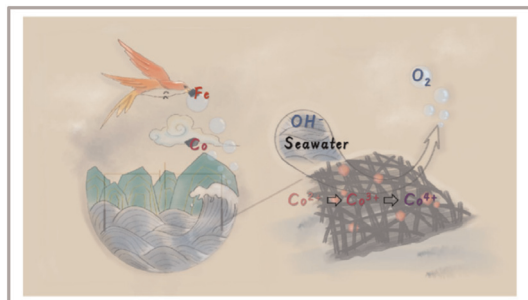
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Catalyst screening for dehydration of primary alcohols from renewable feedstocks under formation of alkenes at energy-saving mild reaction conditions

Adil Allahverdiyev, Jianing Yang and Harald Gröger*

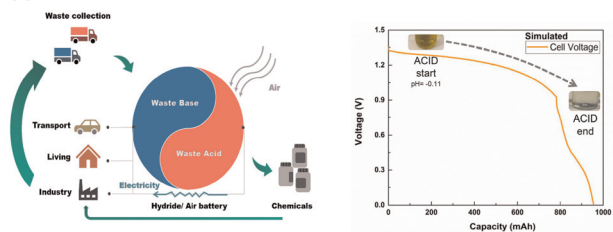
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Eggshell membrane-derived metal sulfide catalysts for seawater splitting

Lingyu Cui, Lan Zhang* and Yi Shen*

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An air/metal hydride battery for simultaneous neutralization treatment of acid–base wastewater and power generation

Kangqiang Ye, Yu'an Du, Yuxin Yang, Rong Chen, Chao Deng* and Guo-Ming Weng*

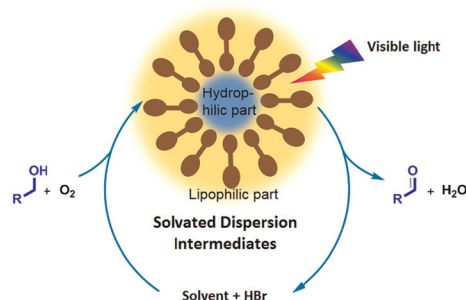


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Wenlong Lei, Runze Liu, Rengui Li, Yan Liu and Can Li*



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Sustainable upgrading of glycerol into glycidol and its derivatives under continuous-flow conditions

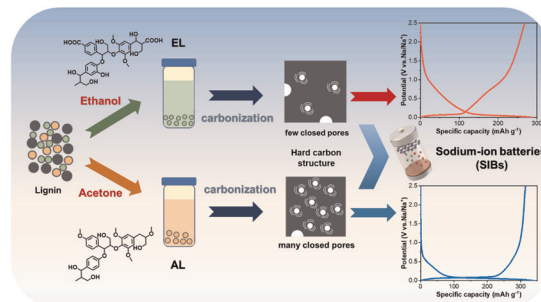
Alessandra Sivo, Ilaria Montanari, Mert Can Ince and Gianvito Vilé*



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Lignin molecular sieving engineering enables high-plateau-capacity hard carbon anodes for sodium-ion batteries

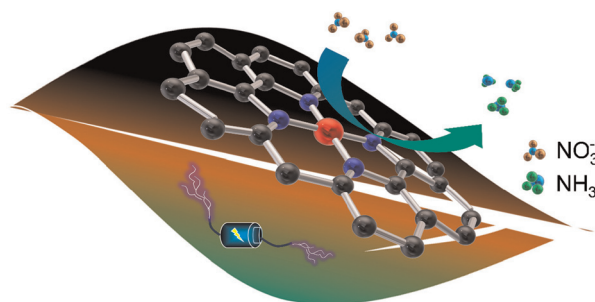
Binyi Chen, Lei Zhong, Manjia Lu, Wenbin Jian, Shirong Sun, Qingwei Meng,* Tiejun Wang, Wenli Zhang* and Xueqing Qiu



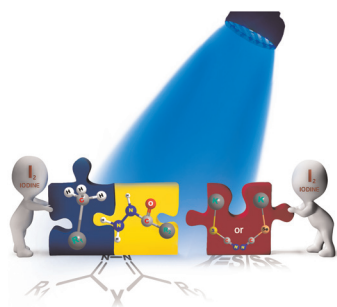
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Green synthesis of a magnesium single-atom catalyst from *Spinacia oleracea* chlorophyll extracts for sustainable electrocatalytic nitrate reduction to ammonia

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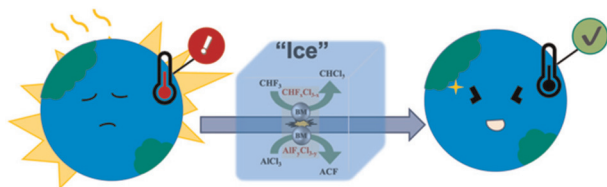
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Light-assisted green and efficient construction of thiadiazole/selenadiazole derivatives

Changting Wen, Guojin Sun, Lang Liu, Jun Zhang, Mengyao She, Zheng Yang,* Ping Liu,* Shengyong Zhang and Jianli Li*

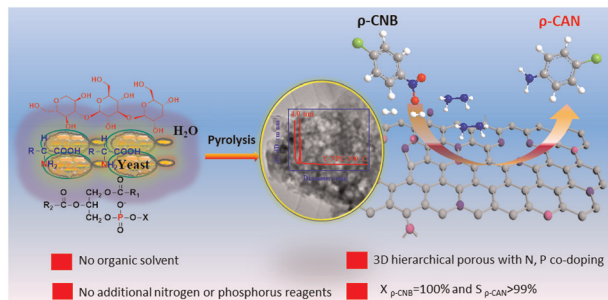
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Conversion of fluoroform to CHCl_3 and $\text{AlCl}_3\text{F}_{3-x}$ via its mechanochemical reaction with AlCl_3

Yiwei Tang, Hui Shao, Yingzhou Lu,* Hong Meng, Hongwei Fan and Chunxi Li*

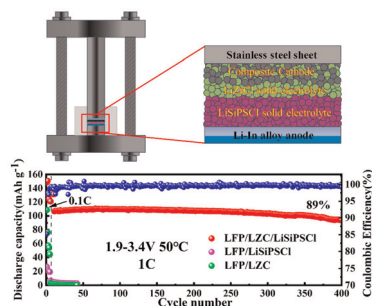
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Yeast-derived N, P co-doped porous green carbon materials as metal-free catalysts for selective hydrogenation of chloronitrobenzene

Xiaohua Wang,* Hongfan Zhao, Yebin Zhou, Chunyu Yin, Wei He, Feng Feng, Fengli Wang, Chunshan Lu* and Xiaonian Li*

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Halide-sulfide bilayer electrolytes for LiFePO_4 -based all-solid-state batteries

Guoyao Zhang, Xixi Shi, Qili Su, Yiming Sun, Yong Lu, Kai Liu,* Zhe Li,* Haijing Liu* and Lianqi Zhang*

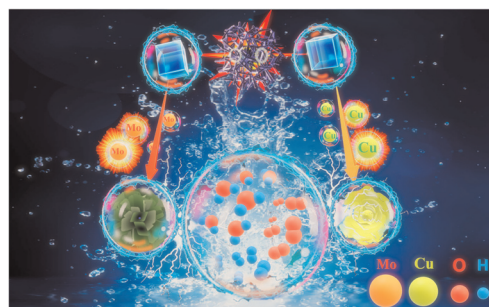


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Efficient oxygen evolution activity of CoFe-PBA heterojunctions using a bimetallic probe (Mo/Cu) at room temperature: construction of multilayered activated structures and cationic vacancies

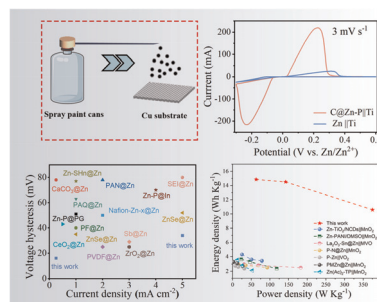
Lihai Wei, Zhihao Liu, Xiaodong Wu,* Huabo Huang,* Qianqian Jiang* and Jianguo Tang*



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Spraying amorphous carbon coated zinc to prepare powder-based anodes for long-life zinc-ion batteries

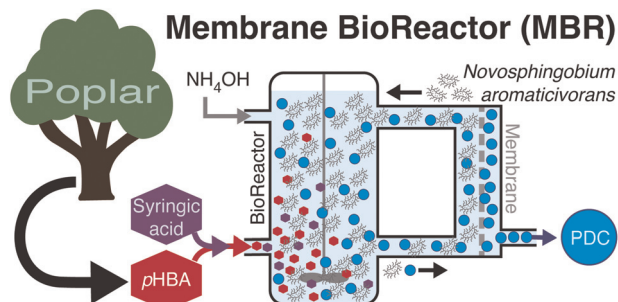
Jiahao Tang, Jiale Cao, Yunxuan Jiang, Siying Gou, Ruiqi Yao, Yingqi Li* and Bo-Tian Liu*



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Achieving high productivity of 2-pyrone-4,6-dicarboxylic acid from aqueous aromatic streams with *Novosphingobium aromaticivorans*

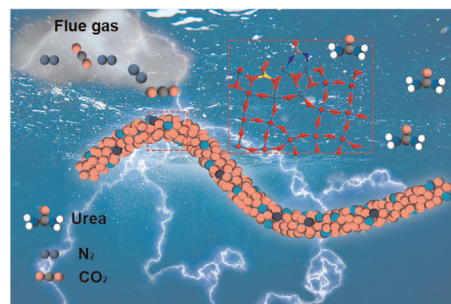
Bumkyu Kim, Jose M. Perez, Steven D. Karlen, Jason Coplien, Timothy J. Donohue and Daniel R. Noguera*



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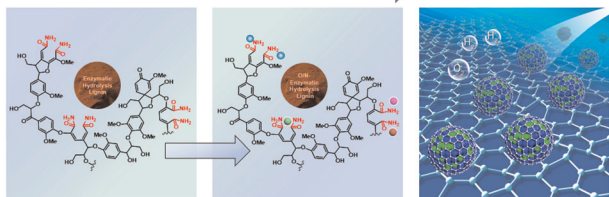
Boosting urea synthesis in simulated flue gas electroreduction by adjusting W–W electronic properties

Xiaohui Yao, Changyan Zhu, Jie Zhou, Kunhao Zhang, Chunyi Sun,* Man Dong, Guogang Shan,* Zhuo Wu, Min Zhang,* Xinlong Wang and Zhongmin Su



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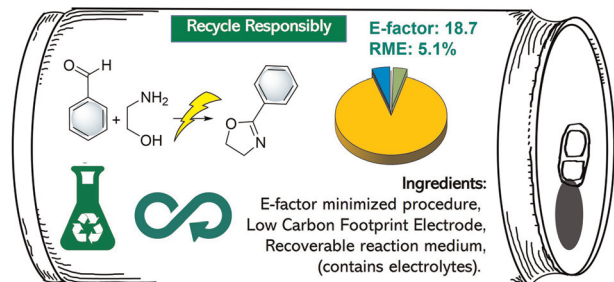
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Lignin-Metal Supramolecular Framework \rightarrow Carbon-based Catalyst

Synthesis of highly dispersed carbon-encapsulated Ru–FeNi nanocatalysts by a lignin–metal supramolecular framework strategy for durable water-splitting electrocatalysis

Jianglin Liu, Xueqing Qiu,* Shirong Sun,* Bowen Liu, Yuhui Tian, Yanlin Qin and Xuliang Lin*

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Sustainability in a can: upcycling aluminium scrap in the waste-minimized electrochemical synthesis of 2-oxazoline

Simone Trastulli Colangeli, Francesco Ferlin* and Luigi Vaccaro*

CORRECTION

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Correction: CO₂-derived non-isocyanate polyurethanes (NIPUs) and their potential applications

Rita Turnaturi, Chiara Zagni,* Vincenzo Patamia, Vincenzina Barbera, Giuseppe Floresta and Antonio Rescifina*

