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Cover

See Satish K. Nune,
David J. Heldebrant *et al.*,
pp. 2392–2403.

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2392.

COMMUNICATION

2386

Photo-induced intramolecular alkyl/aryl group transfer and SO₂ insertion: a new strategy for the synthesis of 3-(alkyl/arylsulfonyl)benzothiophenes

Tiantian Xu, Fen-Dou Wang, Wen-Chao Yang,* Tong Lu, Min Wang* and Pinhua Li*

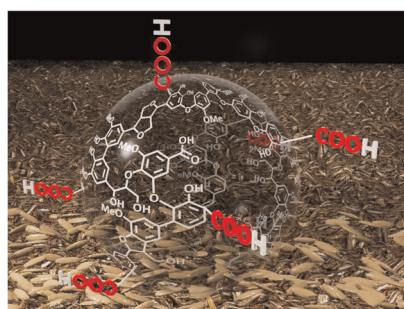


PAPERS

2392

Carbon dioxide-negative composite materials: an economically viable solution for CO₂ sequestration

Keerti S. Kappagantula, Yuan Jiang, Francesca Pierobon, MD Reza E. Rabby, Jose Ramos, Yelin Ni, Aditya Nittala, Jaelynn King, Ethan Nickerson, Nicholas C. Nelson, Wontae Joo, Raveen John, John C. Linehan, Raul N. Aranzazu, Satish K. Nune* and David J. Heldebrant*



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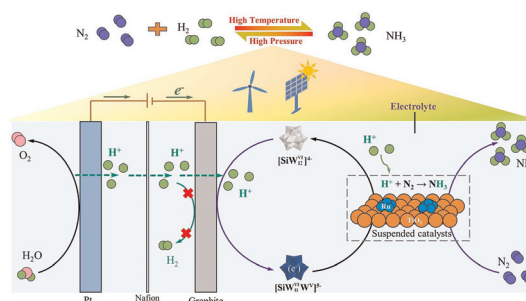
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2404

Electrochemical hydrogenation of nitrogen to ammonia under ambient conditions in a suspended dual-catalyst system

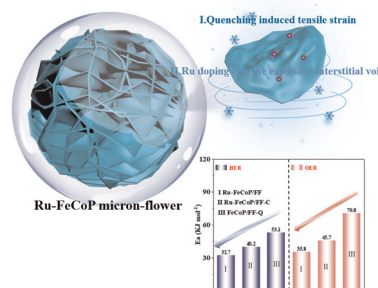
Yue Zhang, Wei Sun,* Rui-shuang Zhang, Yan Feng, Bin Dai* and Jichang Liu



2417

Tensile-strain-driven interstitial Ru doping structure on an FeCoP/FF electrode accelerates the reaction kinetics of water electrolysis

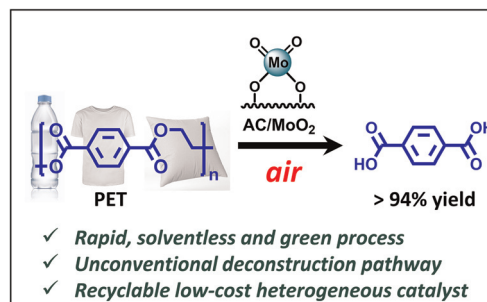
Lu Zhan, Yanru Liu, Guizhong Zhou,* Kang Liu, Yunmei Du* and Lei Wang



2427

Thermodynamically leveraged solventless aerobic deconstruction of polyethylene-terephthalate plastics over a single-site molybdenum-dioxo catalyst

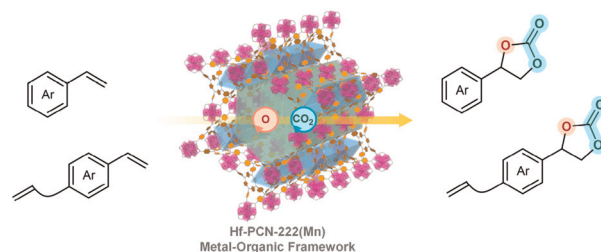
Naveen Malik, Jiaqi Li, Amol Agarwal, Yosi Kratish* and Tobin J. Marks*



2439

Auto-relay catalysis for the oxidative carboxylation of alkenes into cyclic carbonates by a MOF catalyst

Ha Phan, Pol de la Cruz-Sánchez, María Jesús Cabrera-Afonso and Belén Martín-Matute*

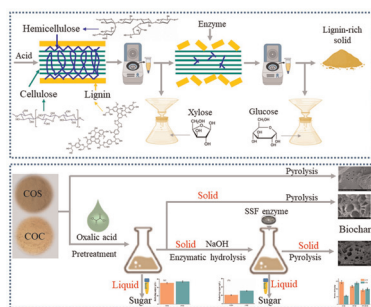


- ☑ Single recyclable catalyst.
- ☑ Neat conditions, 1 atm of CO₂.
- ☑ New Hf-PCN-222(Mn) microwave-assisted synthesis.
- ☑ Very broad scope, chemo- and size-selectivity.



PAPERS

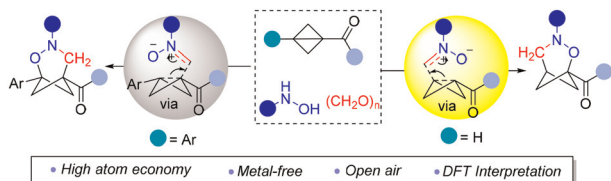
2449



Advancing biomass utilization: conversion of solid residues from pretreatment and enzymatic hydrolysis into porous carbon materials

Wubliker Dessie, Qiao Wang, Xiaofang Luo, Meifeng Wang, Yunhui Liao, Wufei Tang, Fulin He, Jianhua Wang, Mohammad Rizwan Khan, Zuodong Qin* and Buxing Han*

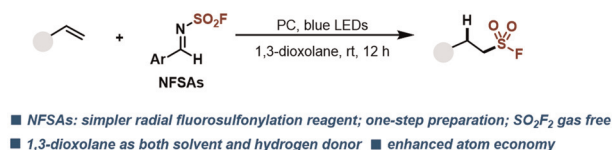
2464



Amine-promoted three-component cycloaddition of bicyclo[1.1.0]butanes with hydroxylamine and polyformaldehyde: expedient access to 2-oxa-3-azabicyclo[3.1.1]heptanes

Yu Zhu, Xueli Lv, Jun Hong, Shengxing Wu, Zhi Li, Minyan Wang* and Xinpeng Jiang*

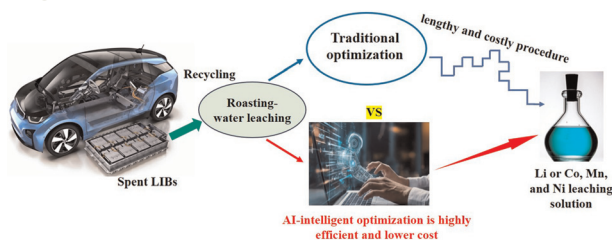
2471



Photocatalytic hydro-fluorosulfonylation of alkenes with *N*-fluorosulfonyl aldimines

Xiang Zhou, Sheng-Cai Wang, Qi-Long Chen, Zi-Yan Zhang, Yan-Shi Xiong,* Gui Lu and Jiang Weng*

2478



Intelligent metal recovery from spent Li-ion batteries: machine learning breaks the barriers of traditional optimizations

Shanshan E, Bo Niu,* Jia Liu, Yilin Yuan, Jiefeng Xiao and Zhenming Xu

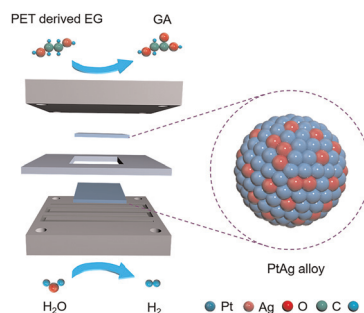


PAPERS

2493

Bifunctional PtAg-enabled oscillation electrorefining of PET waste-derived ethylene glycol and water for rapid glycolic acid and H₂ coproduction

Xin Hu, Luliang Liao, Li-Ming Yang, Bao Yu Xia* and Bo You*



2504

Tunable selective electrochemical selenization of tetrahydroquinolines with diselenides

Lan-Xi Zong, Yu-Fang Tan, Yu-Hao Yang, Yan-Hong He* and Zhi Guan*

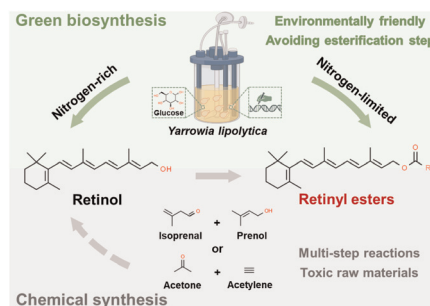


- ◆ tunable selectivity for different products
- ◆ good functional group tolerance
- ◆ insensitivity to air and moisture
- ◆ oxidant- and metal-free processes
- ◆ 42 examples with yields of up to 91%

2511

Biosynthesis of retinyl esters in *Yarrowia lipolytica* through metabolic engineering and fermentation condition optimization

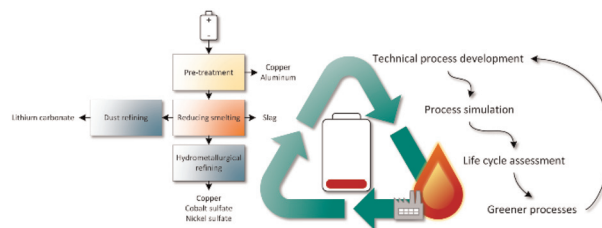
Jin Zhang, Lingxuan Sun, Wenli Yang, Huangwei Xu, Juzheng Sheng, Mengmeng Liu, Qingsheng Qi and Jin Hou*



2522

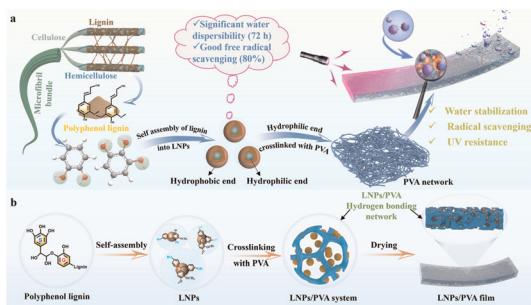
Evaluating the possibilities and limitations of the pyrometallurgical recycling of waste Li-ion batteries using simulation and life cycle assessment

Marja Rinne, Heikki Lappalainen and Mari Lundström*



PAPERS

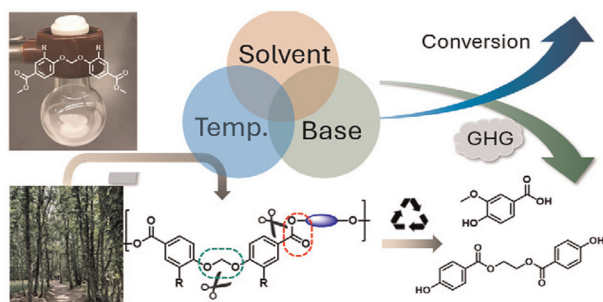
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Green extraction of polyphenolic lignin using FeCl₃-mediated tartaric acid-DES and its derived lignin nanoparticles for enhancing the application performance of PVA film in green agriculture

Yadan Luo, Linlin Liang, Huaying Luo, Fanyan Zeng, Chengrong Qin,* Chen Liang, Baojie Liu, Caixing Huang and Shuangquan Yao*

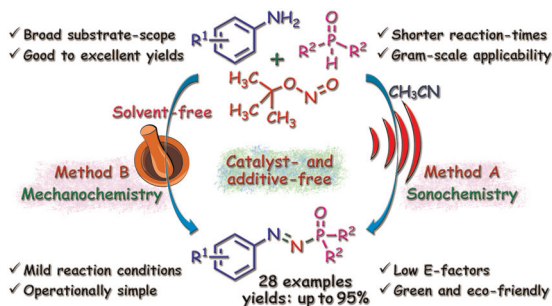
2554



Synthesis and chemical recycling of biobased poly(acetal-ester)s with a non-cyclic acetal unit

Niklas Warlin, Sathiyaraj Subramaniyan, Maria Nelly Garcia Gonzalez, Rafael N. L. de Menezes, Smita V. Mankar, Nitin G. Valsange, Nicola Rehnberg, Patric Jannasch* and Baozhong Zhang*

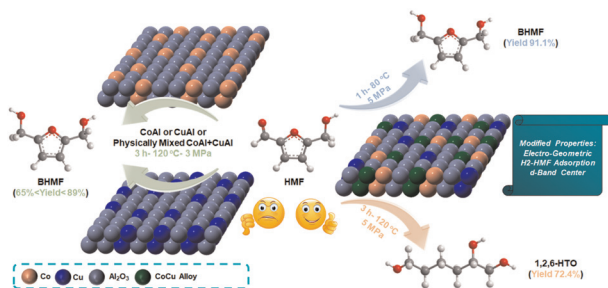
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Sono- and mechanochemical dual syntheses of bio-relevant aryldiazonyl-substituted phosphine oxides/phosphonates via P(O)-H functionalisation

Debojyoti Mukherjee, Indrajit Karmakar and Goutam Brahmachari*

2578



Efficient and switchable production of bio-diol/triol chemicals from 5-hydroxymethylfurfural

Armin Rezayan, Dan Wu, Zhen Zhang, Xiaomeng Yang, Renfeng Nie, Tianliang Lu, Jianshe Wang, Xiaoqin Si, Yongsheng Zhang* and Chunbao Xu*



CORRECTIONS

2592

Correction: Sustainable pathway to furanics from biomass via heterogeneous organo-catalysis

Sanny Verma, R. B. Nasir Baig, Mallikarjuna N. Nadagouda, Christophe Len and Rajender S. Varma*

2593

Correction: Efficient separation of oil–phenol mixtures and removal of neutral oil entrainment via an *in situ* deep eutectic method

Wanxiang Zhang, Yangchangqing Zhao, Bingru Wang, Zhigang Lei, Shuhang Ren, Yucui Hou and Weize Wu*

