

Green Chemistry

Cutting-edge research for a greener sustainable future

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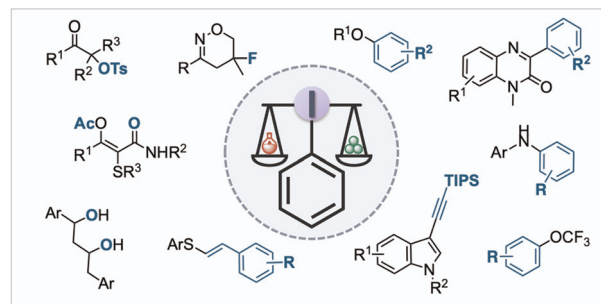
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CRITICAL REVIEWS

5896

Reactivity under mechanochemical conditions: a new and more sustainable era for hypervalent iodine?

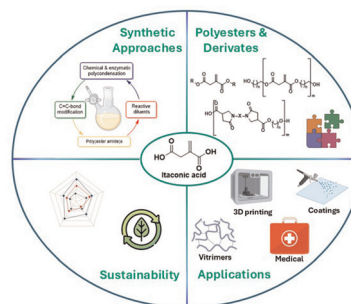
Pernilla Öberg, Sayad Doobary* and Berit Olofsson*



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Revisiting applications of itaconic acid-based polymers obtained by (poly)condensation chemistry

Nicola Bragato, Lazaros Papadopoulos,
Andrea Pasquale, Sacha Pérocheau Arnaud,
Minna Hakkarainen, Alessandro Pellis and
Tobias Robert*



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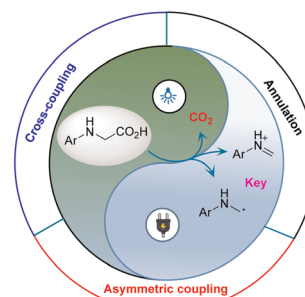
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CRITICAL REVIEWS

5941

Recent advances in decarboxylative functionalization of *N*-arylglycines via photo- and electro-catalysis: a green chemistry perspective

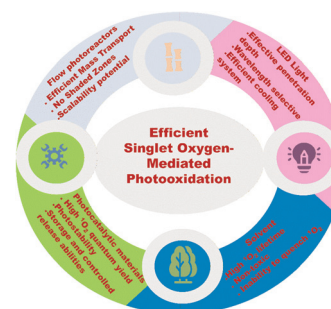
Ming-Zhong Zhang, Haiyan Liu, Jianjing Yang, Sheng-Rong Guo* and Jiangwei Wen*



5967

Recent advancements in process intensification for singlet oxygen-mediated photooxidative transformations using flow photoreactors and photocatalytic materials

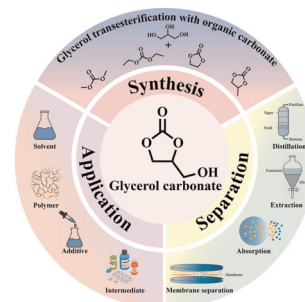
Mohsin Pasha,* Muthumariappan Akilarasan, Maryum Ali, Wasif Farooq, Muhammad Nawaz Tahir, Mohsin Saleem and Muhammad Bilal Khan Niazi*



6006

Advancing biorefineries: catalytic frontiers in the synthesis and application of glycerol carbonate

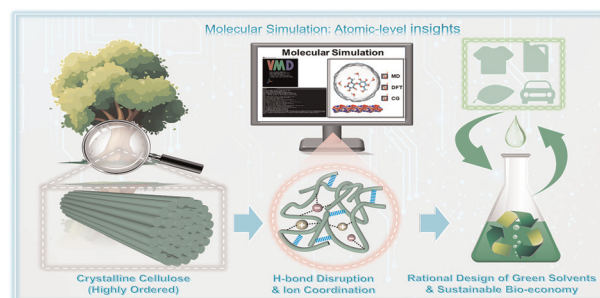
Haoru Tang, Xian Yi Ng, Cong Luo, Hwai Chyuan Ong and Hwei Voon Lee*



6028

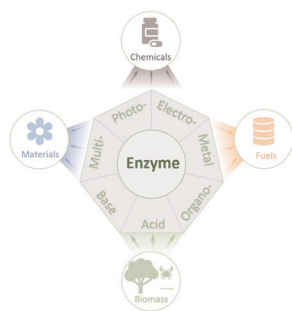
Molecular simulation in cellulose dissolution: mechanisms, green solvent design, and future directions

Dongqi Yang, Xin Li and Jinxia Ma*



CRITICAL REVIEWS

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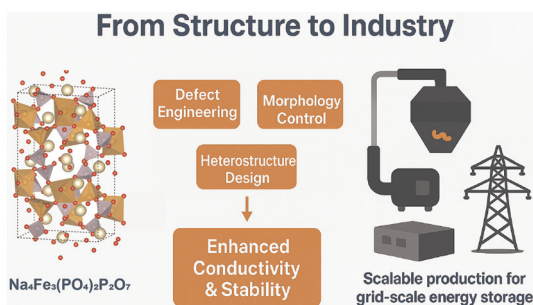


Recent progress in sustainable biomass valorization via chemoenzymatic catalysis

Guang-Hui Lu and Ning Li*

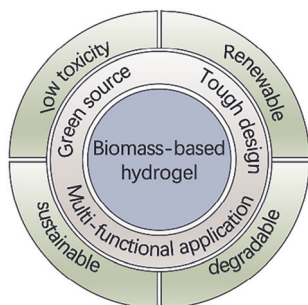
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Bridging fundamental mechanisms and scalable manufacturing of $\text{Na}_4\text{Fe}_3(\text{PO}_4)_2\text{P}_2\text{O}_7$ for large-scale sodium-ion storage

Yuhang Xin, Hexiao Zhang, Kunyu Zhao, Mamdouh M. Abdelghany, Yinshuai Wang, Qianchen Wang, Feng Wu and Hongcai Gao*

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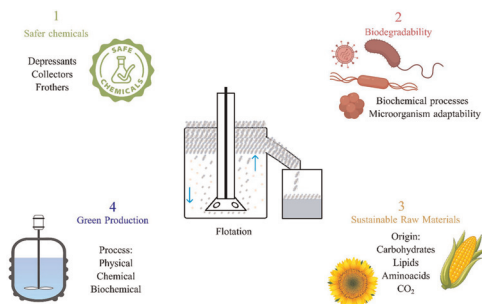


High-strength biomass-based hydrogels: mechanisms, applications and perspectives

Yi Li, Mingjin Yang, Shaohua Jiang,* Gaigai Duan, Bin He,* Yong Huang, Zhao Liang,* Xiaoshuai Han, Qilu Zhang, Shuijian He and Chunxin Ma*

PERSPECTIVE

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Shades of green: the path to flotation reagents development

Gabriela Budenberg,* Rickard Jolsterå, Tommy Karlkvist and Saeed Chehreh Chelgani

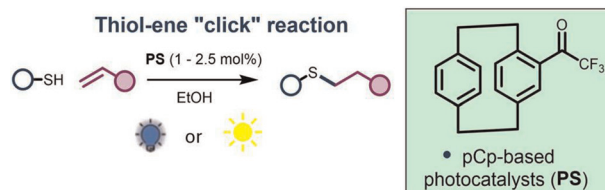


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A sunlight-compatible photochemical thiol–ene reaction promoted by a paracyclophane-derived photocatalyst

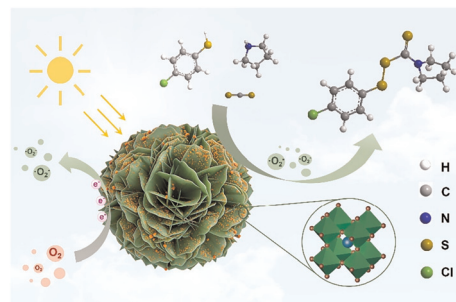
Gaétan Archer, Solenne Lécuyer, Jean-Louis Clément, Didier Gimes, Malek Nechab* and Anne-Doriane Manick*



6175

Photocatalytic synthesis of carbamo(dithioperoxo)thioates via a Z-scheme $\text{H}_2\text{WO}_4/\text{CsPbBr}_3$ heterojunction

Haibo Zhu, Yahui Yang, Yong Wen, Shuying Guo, Liu Yang, Qiangwen Fan,* Zhanggao Le* and Zongbo Xie*

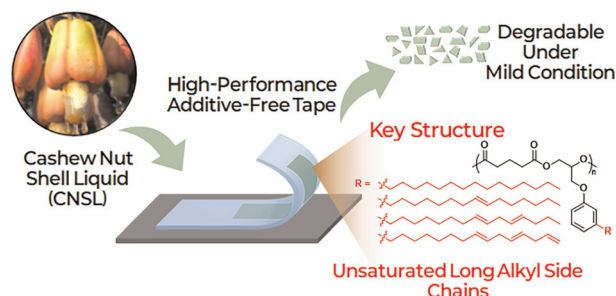


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Biodegradable polyurethane non-tackifier pressure-sensitive adhesive derived from cashew nut shells

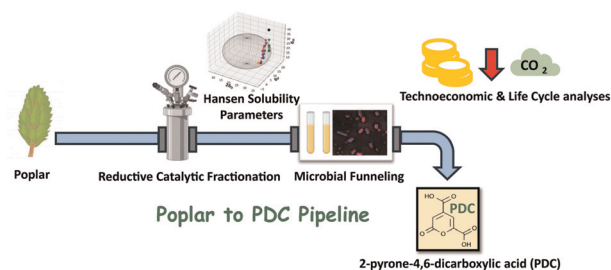
Seo Jeong Hur, Yongha Jeon, Haemin Jeong, Jimin Shim, Jihoon Shin, Kwon Yong Choi, U Hyeok Choi* and Hee Joong Kim*



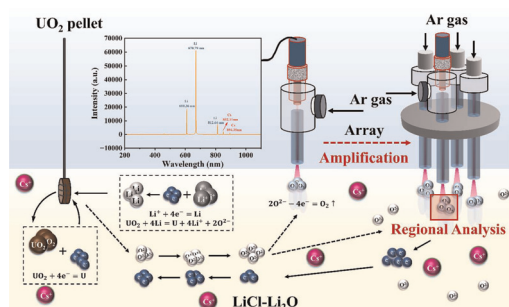
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Solvent selection for a biomass-to-bioproduct pipeline through integrated reductive catalytic fractionation and microbial funneling

Sarada Sripada, Juriti Rajbangshi, Emmanuel A. Aboagye, Maximiliano García-Mancilla, Timothy J. Donohue, Daniel R. Noguera, Reid C. Van Lehn, Christos T. Maravelias, Steven D. Karlen and Canan Sener*



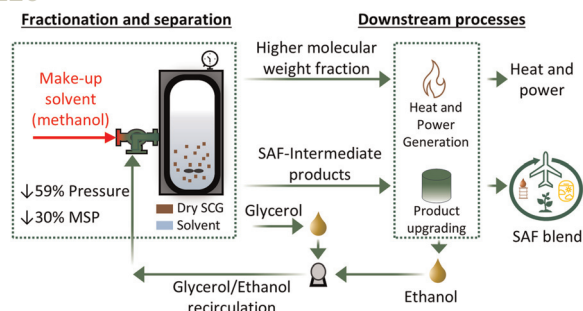
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Corrosion-resistant microplasma anode arrays for high-temperature molten salt electrolysis and *in situ* analysis

Junhan Luo, Qi Qing, Bo Liang, Shuang Liu, Zhe Wang,* Jing Chen and Yuexiang Lu*

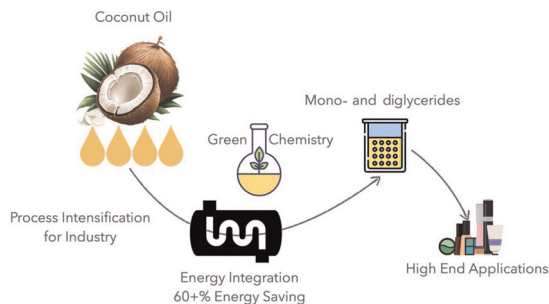
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Facile fractionation of spent coffee grounds into sustainable aviation fuel-relevant streams using methanol and potential endogenous alcohol-glycerol solvent mixtures

Christopher Acquah, Kerby C. Jones, Victor T. Wyatt, Valerie García-Negrón, Emmanuel A. Aboagye, Wo Bin Bae, Ishmaiah E. Small, Jack E. Kleissler, Joseph F. Stanzione, III and Jun Hee Jang*

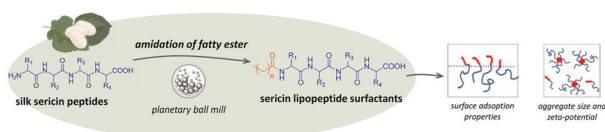
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Eco-efficient hydrolysis of coconut oil: a continuous hydrothermal and water-only process for the production of oleochemicals

Enkeledo Menalla, Diego Martin, Luis Vaquerizo, Jefferson W. Tester, María José Cocero and Danilo Cantero*

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Innovative mechanochemical synthesis of lipopeptide surfactants through direct amidation of fatty esters: application to silk-derived amphiphilic lipopeptides

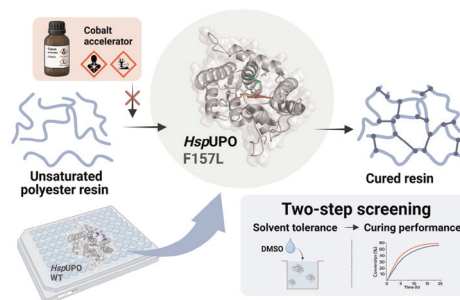
Lara Wehbe, Erwann Guénin and Alla Nesterenko*



6275

A two-step high-throughput screening platform for engineering enzymes to cure unsaturated polyester resins

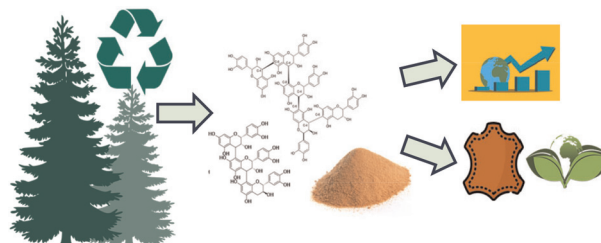
Christoph Janknecht, Francisca Contreras, Thomke Belthle, Maximilian Nöth, Lukas Kalinka, Tina Radespiel and Ulrich Schwaneberg*



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Techno-economic and life cycle assessment of tannin production from spruce bark for leather industry applications

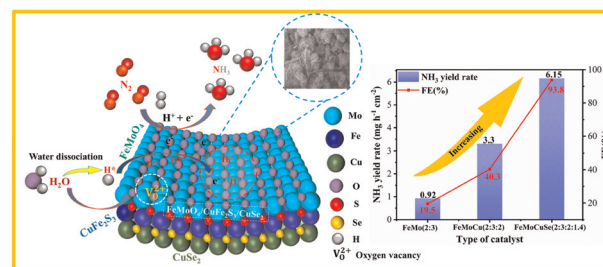
Ilmari Niiranen, Susanna Forssell, Pekka Oinas and Rofice Dickson*



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Solid-state interrupted chemical reaction-based tri-phase design of the $\text{FeMoO}_4/\text{CuFe}_2\text{S}_3/\text{CuSe}_2$ electrocatalyst for enhancing electrochemical nitrogen reduction

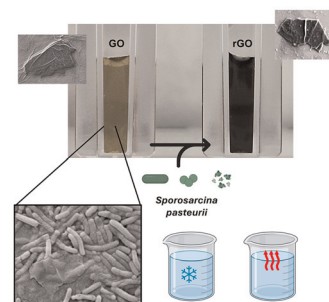
Meselu Eskezia Ayalew, Abambagade Abera Mitiku, Tsegaye Girma Eshetu, Quoc-Nam Ha, Van-Nho Tran, Li-Duan Tsai, Yin-Wen Tsai and Dong-Hau Kuo*



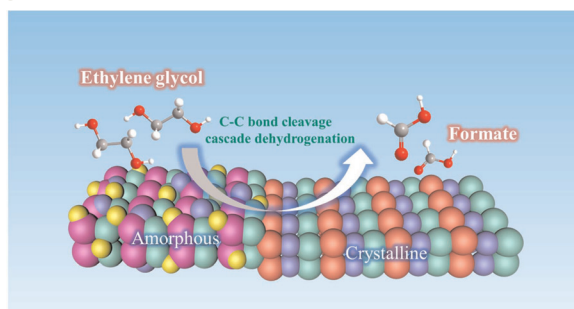
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Green reduction of graphene oxide mediated by *Sporosarcina pasteurii* under harsh conditions, changing the paradigm of rGO production with a non-pathogenic, nanomaterial-resistant bacterium

Massimiliano Papi, Francesco Amato, Andrea Giacomo Marrani, Leonardo Giaccari, Francesca Sciandra, Marco De Spirito and Valentina Palmieri*



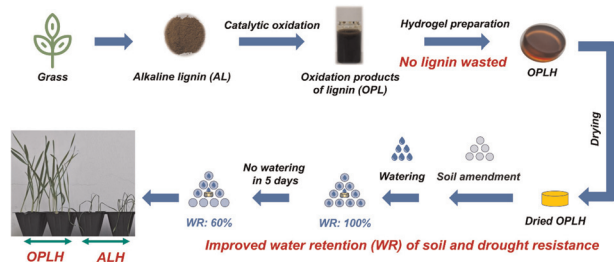
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Electrochemical upcycling of PET to value-added chemicals via amorphous–crystalline interface engineering

Jinyong Sun, Yuxiao Wang, Shuixing Dai,*
Arafat Toghian* and Minghua Huang

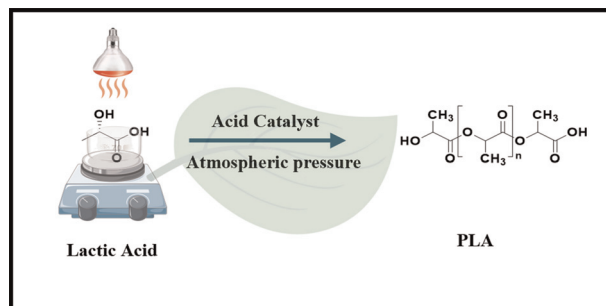
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Holistic utilization of lignin-derived oligomers and polymers from oxidative catalysis to fabricate highly swelling agro-hydrogels

Zhichao Ma, Wenshuang Feng, Yuting Zhu, Xuhai Zhu,
Haisong Wang,* Ning Li* and Feng Wang

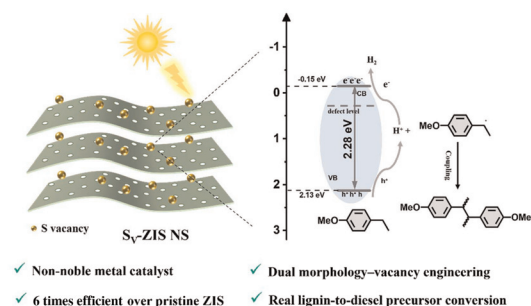
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Solvent-free infrared polymerization of lactic acid: toward greener PLA production

Maria Montrone, Cosimo Cardellicchio,
Jennifer Gubitosa, Paola Fini, Mattia Di Maro,
Donatella Duraccio, Paola Amazio, Pietro Cotugno,
Gianluca M. Farinola and Maria Annunziata M. Capozzi*

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Zinc–indium sulfide nanosheets with anion vacancies promote photocatalytic upgrading of lignin oil to biodiesel

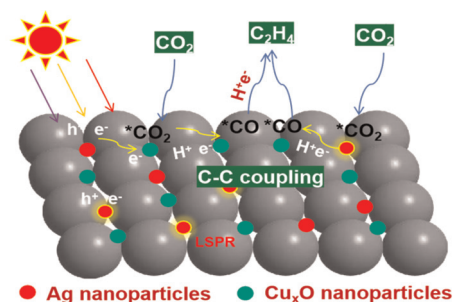
Xiao Lian, Jiabing Chen, Jie Yang, Mingxiang Zhu* and Fang Zhang*



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Zeolite confinement and defect engineering steering the photocatalytic conversion of CO₂ to C₂H₄

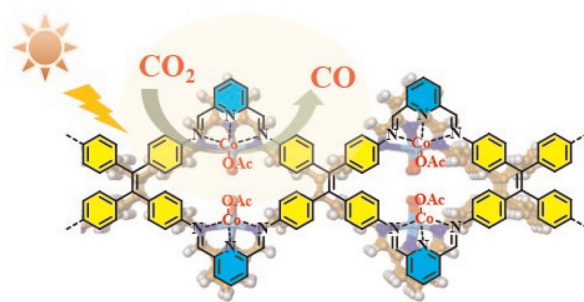
Jun Hong, Xiaoxia Zhou,* Jixing Fan, Xiaoxiao Yu, Zihua Wu* and Huaqing Xie



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Engineered atomically dispersed cobalt sites in one-dimensional pyridine-based covalent organic frameworks for enhanced photocatalytic CO₂ reduction

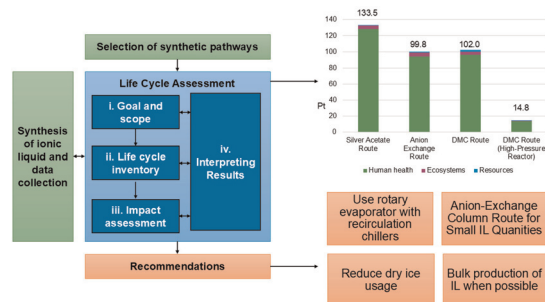
Siting Ma, Zijie Fu, Chenxi Sun, Ying Ha, Xiaohong Yin, Manman Mu* and Guoyi Bai*



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Evaluation of a lab-scale ionic liquid synthesis using life cycle assessment

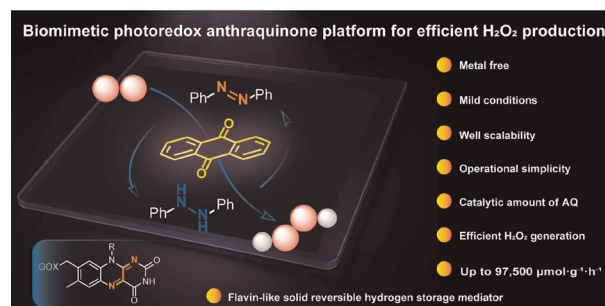
Rhea Mathew, Sirui Chen, Agnieszka Brandt-Talbot, Jacqueline S. Edge and Tom Welton*



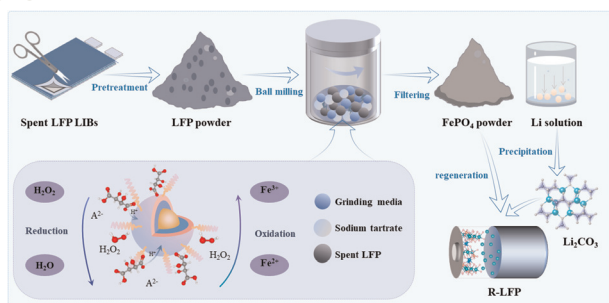
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A biomimetic photoredox anthraquinone platform for efficient hydrogen peroxide production

Jing Cui, Kai-Kai Niu,* Xiao-Zhong Wu,* Ling-Bao Xing* and Qing-Min Wang



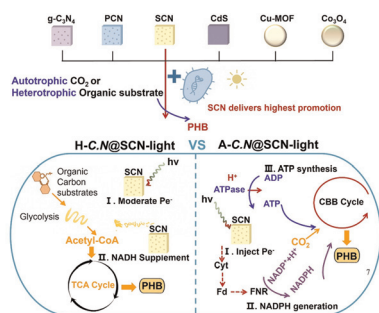
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Mechanical force-induced proton transfer promotes the selective extraction of spent lithium iron phosphate

Di Zhang, Ersha Fan,* Qiyue Zhang, Xiaodong Zhang, Renjie Chen and Li Li*

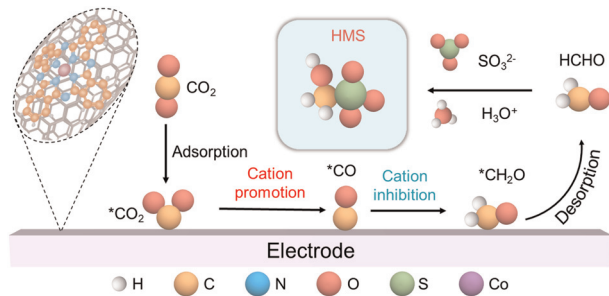
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From semiconductor diversity to mechanistic specificity: S-doped graphitic carbon nitride reprogramming metabolic pathways for bioplastic production

Heng Li, Weidong Zhang, Ruixiang Zhao, Haiyan Li, Dong Xia* and Yuanpeng Wang*

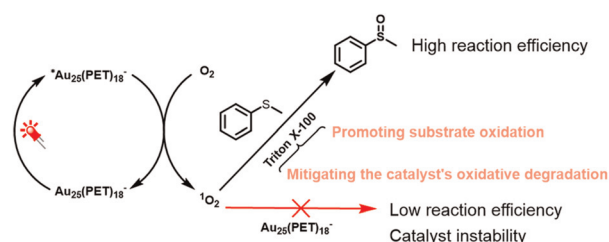
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Sustainable electrosynthesis of hydroxymethanesulfonate from CO₂ and sulfite

Mengjie Liu, Aimin Li, Hsiwen Wu, Alan M. Bond and Jie Zhang*

6468



Quenching of singlet oxygen plays a decisive role in the efficiency and stability of ligand-protected Au clusters for photocatalytic oxidation

Wen-Wen Ren, Yuhsuan Lee, Li-Jia Cao, Shu-Ming Bai,* Song Gao and Li-Nan Zhou*



CORRECTION

6477

Correction: Phosphorescent bio-based resin for digital light processing (DLP) 3D-printing

Mirko Maturi, Carolina Pulignani, Erica Locatelli, Veronica Vetri Buratti, Silvia Tortorella, Letizia Sambri and Mauro Comes Franchini*

