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Cover
See Filipe S. Buarque, Mara G. Freire *et al.*, pp. 8328–8358.

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Inside cover
See Hideo Hosono, Joongjai Panpranot *et al.*, pp. 8405–8425.

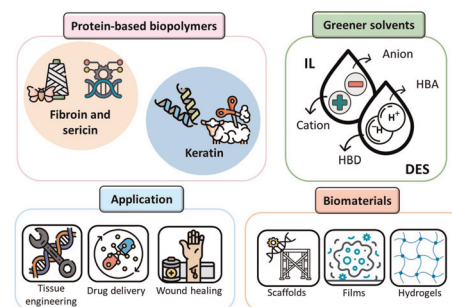
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CRITICAL REVIEWS

8328

From textile waste to sustainable biomaterials: the role of ionic liquids and deep eutectic solvents in protein-based textile waste valorization

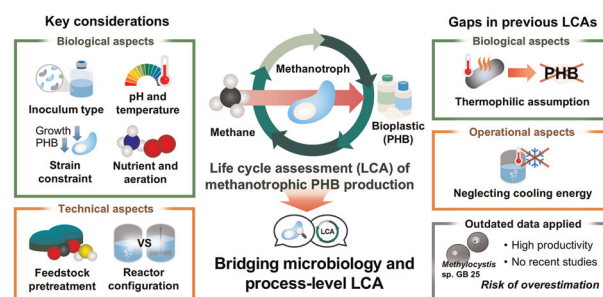
Filipe S. Buarque,* Cariny Polesca, Bernardo D. Ribeiro, Maria Alice Z. Coelho and Mara G. Freire*



8359

Toward realistic LCAs of methanotrophic PHB: biological, operational, and environmental considerations

Jaeho Choi, Sunho Park, Muhammad Shafique and Jaewook Myung*



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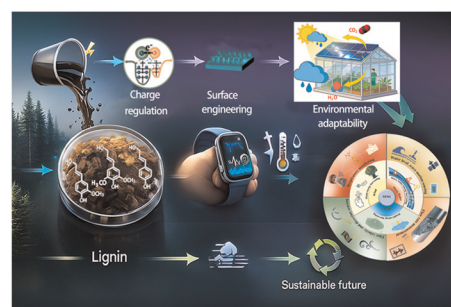
Fundamental questions
Elemental answers

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The impact and application of lignin fillers in triboelectric nanogenerators: from performance optimization to sustainable energy technology

Zepeng Zhang, Xiaoxue Zhao, Caoxing Huang, Chenhuan Lai and Qiang Yong*

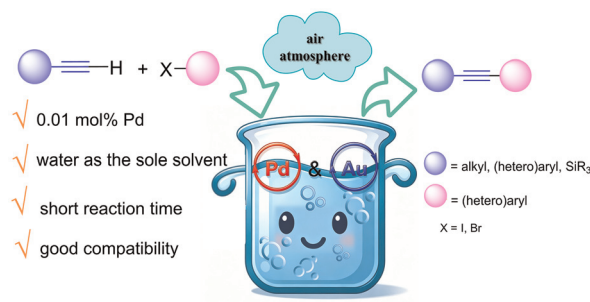


COMMUNICATION

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Synergistic Au–Pd catalysis of Sonogashira couplings of terminal alkynes with aryl iodides in water

Yilin Zhao, Zhangrong Lou, Zhenhua Fan, Masahiko Yamaguchi, Sheng Zhang* and Ming Bao

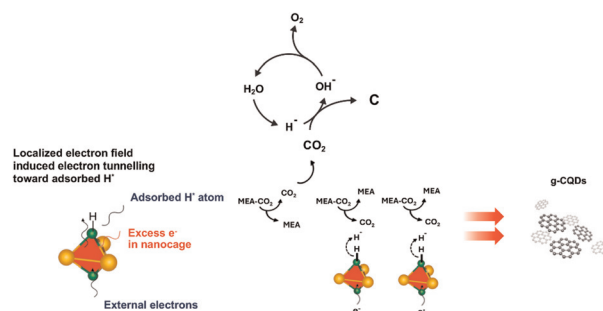


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Sustainable room-temperature, water-driven conversion of CO₂ to graphitic carbon quantum dots on electrode

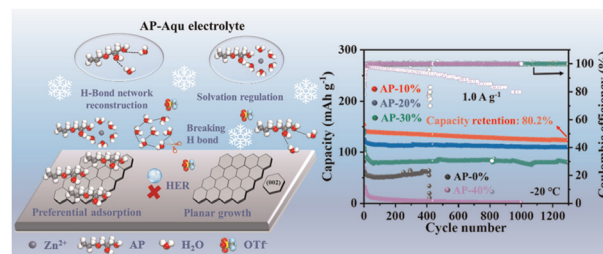
Rungkiat Nganglumpoon, Jiang Li, Krongkwan Poolboon, Nattha Lertsukprasert, Theerawat Waiyaka, Thanayuth Jongrungrotbaworn, Anuchida Charuchit, Weerachon Tolek, Natthasini Sakulkittimasak, Paisan Kittisupakorn, Jakkapat Seeyangnok, Udomsilp Pinsook, Hideo Hosono* and Joongjai Panpranot*



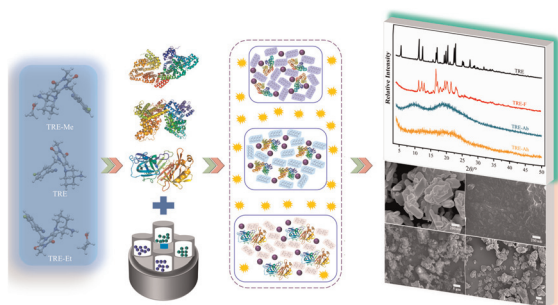
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Unlocking cryogenic zinc-ion batteries with a glycerol monoallyl ether-modulated aqueous electrolyte

Shuang Li, Yating Wang, Mengyu Zhu, Danling Chen, Jidao Li, Huicai Wang, Wenjing Cheng, Xinning Liang, Zhengshuai Bai, Shi Chen, Yuxin Tang and Yanyan Zhang*



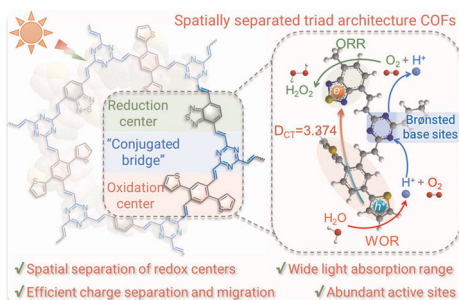
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A protein-mediated and mechanochemical coupling strategy for the discovery and regulation of solid forms of the active pharmaceutical ingredient, trelagliptin

Kailin Xu,* Shujin Liao, Jianping Wang, Liyin Liang, Xinyu Liu, Jierui Huo, Qiaomei Sun, Jie Bai and Suqing Zhao

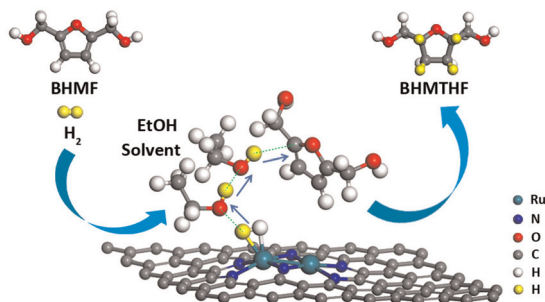
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Covalent organic frameworks with spatially separated triad architecture for sacrificial agent-free H₂O₂ photosynthesis

Jing-Yi Li, Xiu Wang and Wei-Rong Cui*

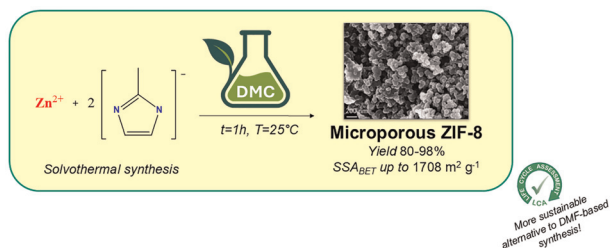
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Mechanistic insights into solvent-assisted BHMf hydrogenation: diatomic catalysts beyond conventional pathways

Liyuan Huai,* Jian Zhang* and William A. Goddard III*

8479



Highly efficient synthesis of microporous zeolitic imidazolate framework-8 in dimethyl carbonate under ambient conditions

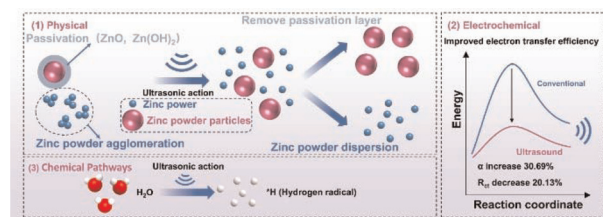
Alessandra Sessa, Sara Vllahu, Prisco Prete, Ida Ritacco, Laura Falivene, Alessia Carbone, Giovanni Pierri, Federico Rossi, Istvan Lagzi, Maria Bastianini and Raffaele Cucciniello*



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Sustainable and green ultrasound-assisted zinc cementation for efficient removal of Cu^{2+} and Cd^{2+} from zinc sulfate electrolytes: mechanism, kinetics, and environmental benefits

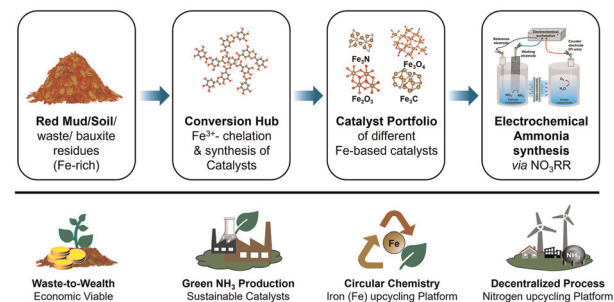
Jianqiang Ye, Rong Zhu, Shixing Wang,* Yihui Wu, Jiaying Luo, Xiyan Ding, Hong Liu, Likang Fu,* Jingxiang Ma and Gengwei Zhang*



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Soil to society: Red-mud-derived iron oxide electrocatalysts for circular nitrogen upcycling via green ammonia production

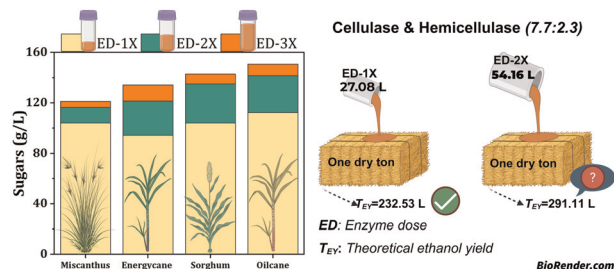
Kanhai Kumar and Karuna Kar Nanda*



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Optimization of pre-commercial enzyme dosage for a potential lignocellulosic biorefinery

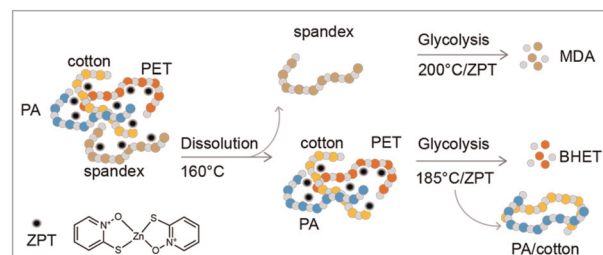
Narendra Naik Deshavath, Mounika Durga Nenavath and Vijay Singh*



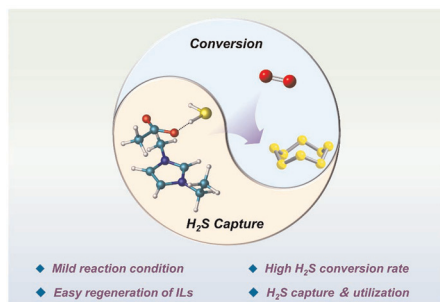
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Autocatalytic depolymerization for polyester blended textile waste

Wei Chen, Huaxing Liang, Linna Chen, Jiachen Dong, Yunlong Bai, Hanwei Shen, Zhiguang Li, Shaohai Fu* and Jingjing Cao*



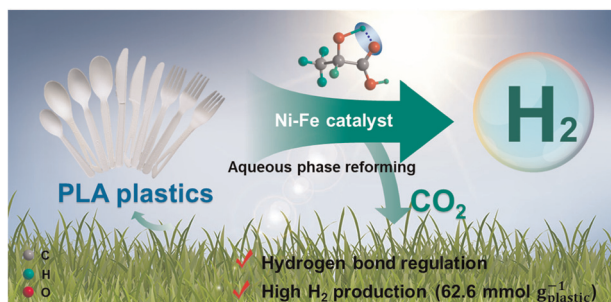
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Metal-free ionic liquids serve as integrated catalyst–solvent systems for green H₂S oxidation to sulfur by O₂

Mingzhen Shi, Hongchao Lan, Hailong Ning, Xiaomin Zhang,* Xingbang Hu and Youting Wu*

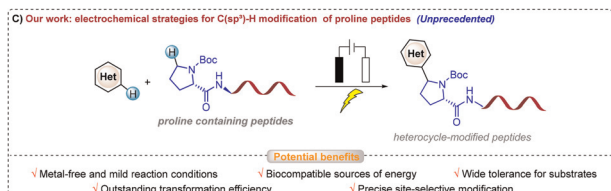
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Hydrogen bond regulation to enhance catalytic C–C bond cleavage of polylactic acid wastes in H₂O to produce H₂

Jianfeng Wang, Zirui Peng, Ziyue Hou, Shuaijun Huang, Tianliang Lu, Yuxuan Liu, Xin Liu and Xiaoqin Si*

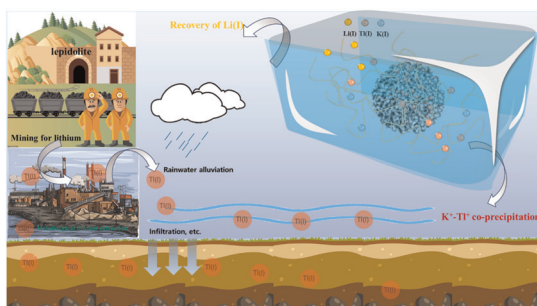
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Electrochemical site-selective C(sp³)-H heteroarylation of proline-containing peptides

Gaochen Liu, Hui Zhou, Xing Liu, Bingchuan Hong and Jing Zhou*

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Mechanochemically activating lepidolite to allow easier lithium extraction and safer thallium handling through alunite formation

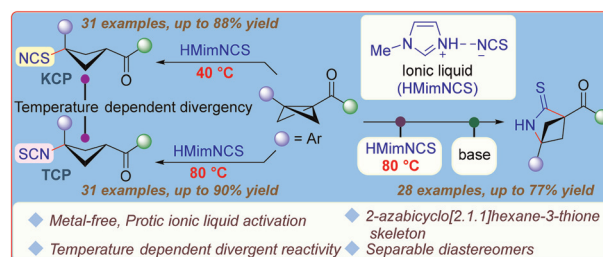
Chao Wang,* Xueyan He, Junwei Huang, Ting Jiang, Huimin Hu and Qiwu Zhang



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Temperature-controlled divergent reactions of bicyclo[1.1.0] butanes with thiocyanate-based protic ionic liquids

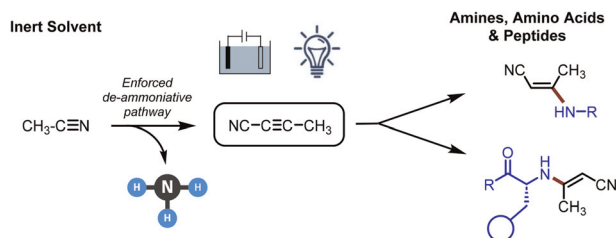
Palash Roy, Rohan Chandra Das and Akkattu T. Biju*



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Sustainable photoelectrochemical activation of acetonitrile via transient alkynitrile intermediates

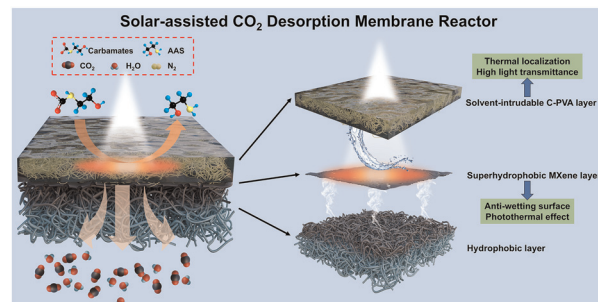
Hung-Li Li, Kung-Jui Ho, Pei-Chi Kuo, Ci-Yang Sun, Hung-Chi Chen, Ting-Jun Lin, Yu-Lin Hung and Chien-Wei Chiang*



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Engineering a thermally localized Janus membrane for solar-assisted CO₂ desorption

Wenqiang Xu, Qiu-hui Xie, Yiran Wu, Yang Ma, Tingting Shu,* Ruizhe Wu,* Jianjia Yu and Lusi Zou*



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Life cycle assessment of a layered metal-organic framework for supercapacitor applications

Chloe J. Balhatchet, Alexander C. Forse and Taylor Uekert*

