

Journal of Materials Chemistry A

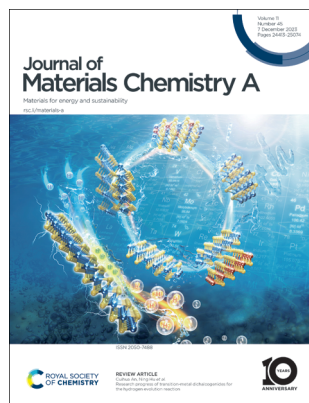
Materials for energy and sustainability

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See Joyce Cavalcante and Gyorgy Szekely, pp. 24598–24607. Image reproduced by permission of King Abdullah University of Science and Technology; Ivan Gromicho from *J. Mater. Chem. A*, 2023, **11**, 24598.

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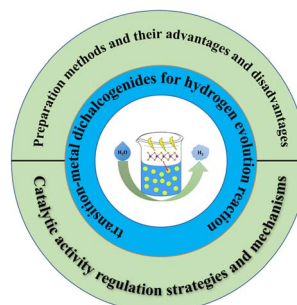


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Research progress of transition-metal dichalcogenides for the hydrogen evolution reaction

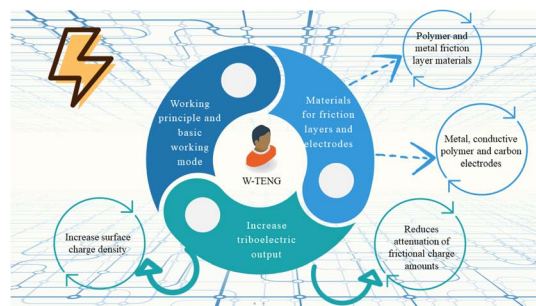
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Material selection and performance optimization strategies for a wearable friction nanogenerator (W-TENG)

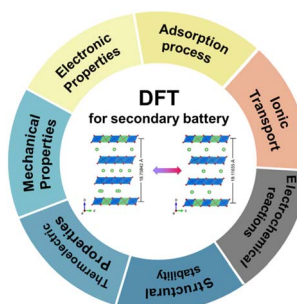
Haohao Zhang, Xiaoran Gong and Xue Li*



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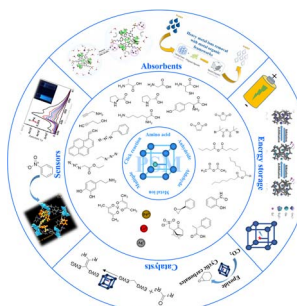
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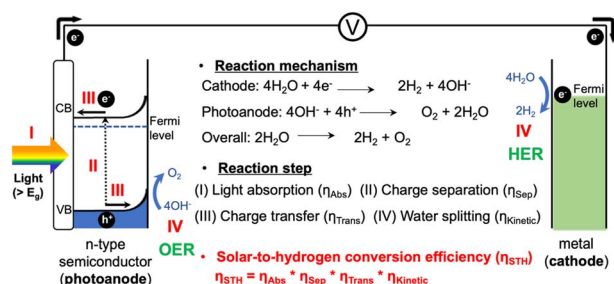
Post-synthesis modification of metal–organic frameworks: synthesis, characteristics, and applications

Wanjun He, Danyu Lv, Yongguang Guan* and Siming Yu*



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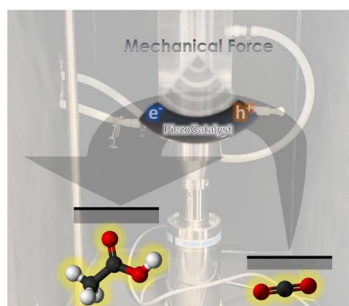
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Recent progress and perspectives on heteroatom doping of hematite photoanodes for photoelectrochemical water splitting

Juhyung Park, Jihun Kang, Sourav Chaule and Ji-Hyun Jang*

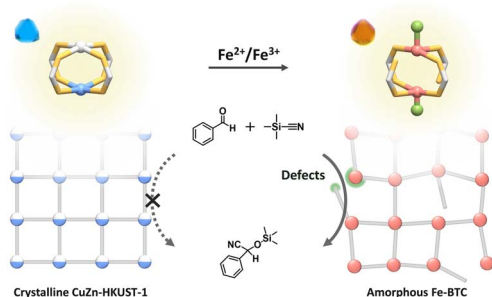
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Piezocatalysis: a promising alternative route for CO₂ reduction

Hanggara Sudrajat,* Ilenia Rossetti and Juan Carlos Colmenares

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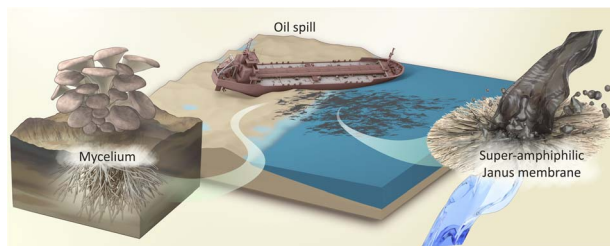


Amorphous porous Fe-BTC prepared via the post-synthetic metal-ion metathesis of HKUST-1

Asong Byun, Dohyun Moon, Byeongchan Lee and Jinhee Park*

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Surface engineering of a superamphiphilic, self-growing fibrous Janus membrane prepared from mycelium

Joyce Cavalcante and Gyorgy Szekely*

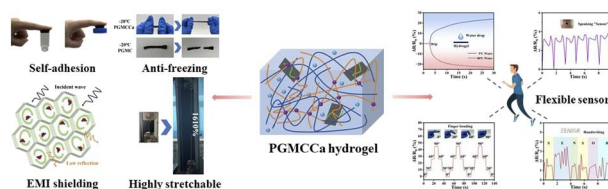


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A highly stretchable, self-adhesive, anti-freezing, and highly sensitive dual-network conductive hydrogel sensor for multifunctional electronic skin

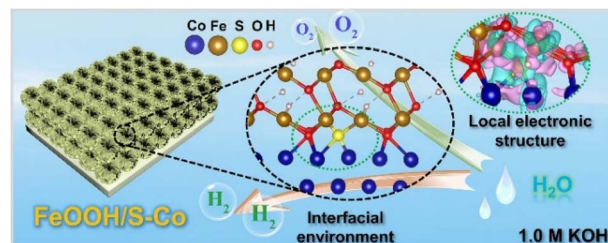
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Interfacial microenvironment regulation of FeOOH/S-Co heterostructure catalysts *via* S atoms for overall water splitting

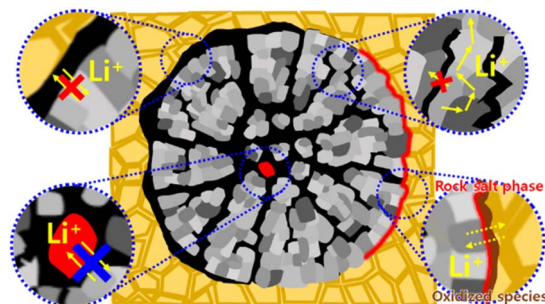
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Limitation of Ni-rich layered cathodes in all-solid-state lithium batteries

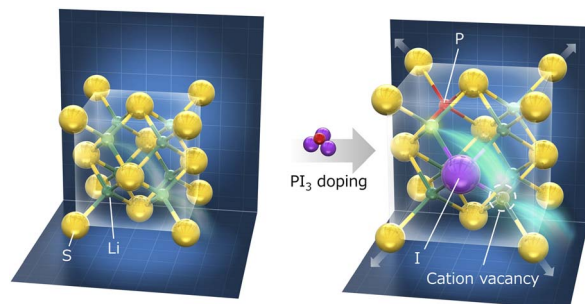
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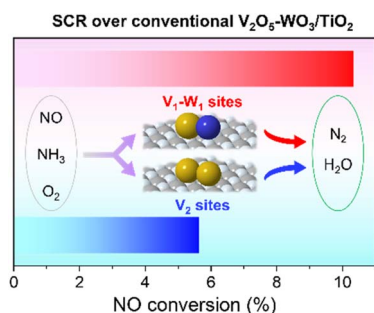
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Improving the electrochemical performance of Li2S cathodes based on point defect control with cation/anion dual doping

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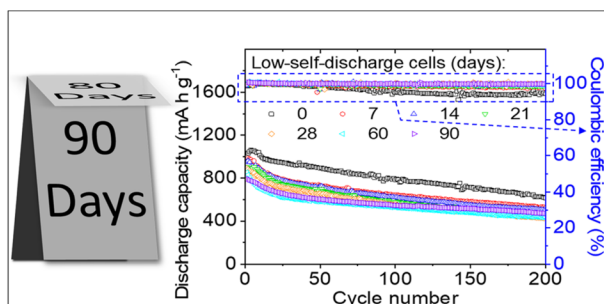
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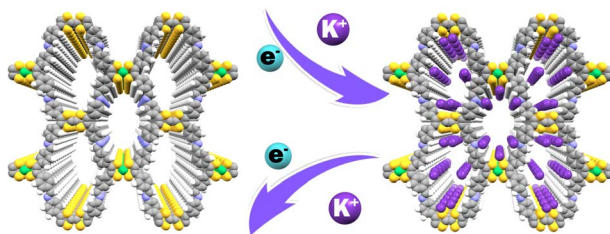
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A low-self-discharge high-loading polysulfide cathode design for lithium-sulfur cells

Cheng-Che Wu, Yun-Chung Ho and Sheng-Heng Chung*

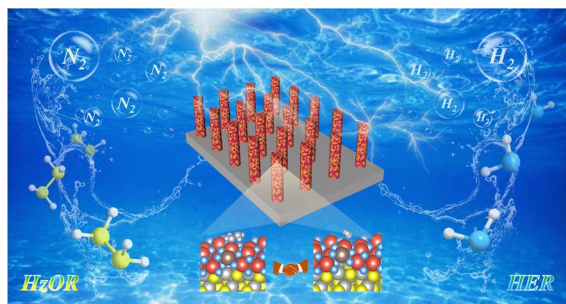
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A robust conductive covalent organic framework for ultra-stable potassium storage

Yu-Yang Li, Ji-Miao Xiao, Mo Xie, Lei-Feng Wu, Yan-Fei Chen, Shuai Yuan,* De-Shan Bin* and Jing-lin Zuo*

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Interface engineering of amorphous/crystalline heterojunctions with synergistic Ru doping for efficient hydrazine oxidation assisted overall water splitting

Zhengyuan Liu, Yanyan Li, Haoran Guo, Jiayang Zhao, Haotian Zhang and Rui Song*

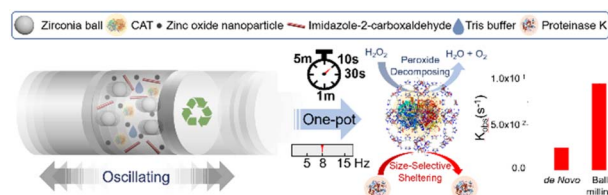


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A green and ultrafast one-pot mechanochemical approach for efficient biocatalyst encapsulation in MOFs: insights from experiments and computation

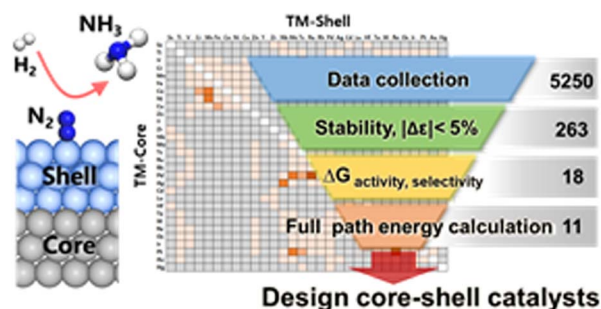
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High-throughput design of bimetallic core-shell catalysts for the electrochemical nitrogen reduction reaction

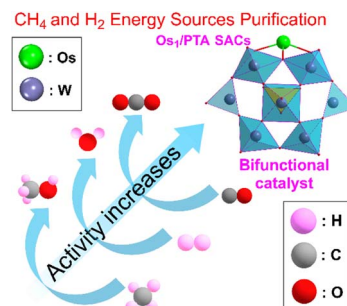
Sooyeon Kim, Min-Cheol Kim, Byung Chul Yeo and Sang Soo Han*



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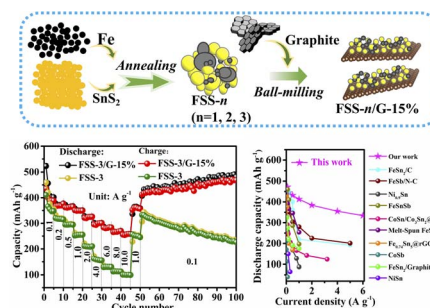
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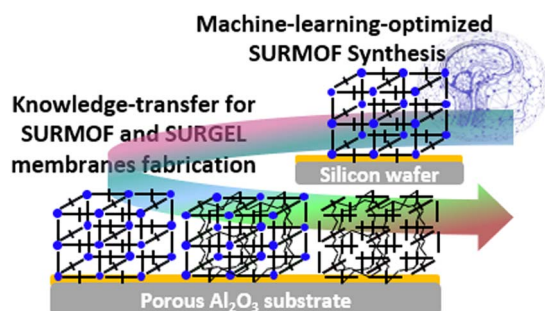
High capacity/reversible Fe/Sn alloys for Na-storage anodes enabled by thermal reaction and then anchoring on exfoliated graphite

Tianbiao Zeng, Xinxin Zhu, Xintong Wang, Lichen Zhang, Yihong Ding* and Huile Jin



PAPERS

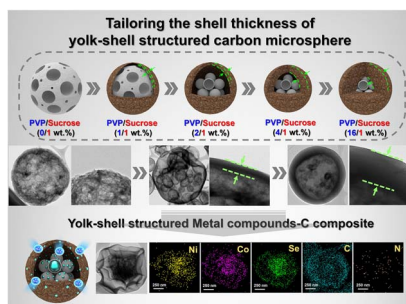
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Utilizing machine learning to optimize metal–organic framework-derived polymer membranes for gas separation

Lena Pilz, Carsten Natzeck, Jonas Wohlgemuth, Nina Scheuermann, Simon Spiegel, Simon Oßwald, Alexander Knebel, Stefan Bräse, Christof Wöll, Manuel Tsotsalas* and Nicholas Prasetya*

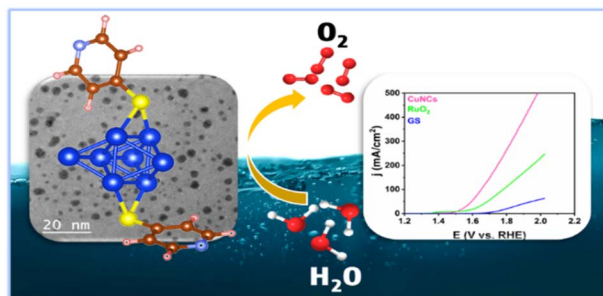
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Tailoring the shell thickness of yolk–shell structured carbon microspheres: applications in metal selenide and carbon composite microspheres for enhanced sodium ion storage properties

Hyo Yeong Seo, Jae Hyeon Choi, Yeong Beom Kim, Jung Sang Cho,* Yun Chan Kang* and Gi Dae Park*

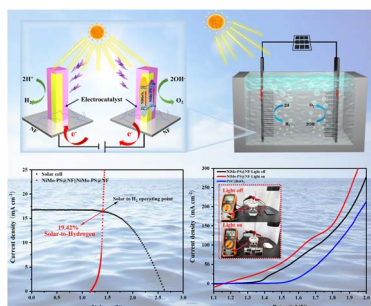
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Atomically precise copper nanoclusters as a potential catalyst for the electrochemical oxygen evolution reaction

Vishal Saini, Krishankant, Shweta Choudhary, Ashish Gaur, Swastika Banerjee,* Vivek Bagchi* and V. Venkatesh*

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MoP₄/Ni₃S₂/MoO₃ heterogeneous structure nanorod arrays for efficient solar-enhanced overall water splitting

Yikun Cheng, Pengjie Fu, Xiaodong Yang,* Yangrui Zhang, Shan Jin, Huan Liu, Yunfei Shen, Xuhong Guo* and Long Chen*

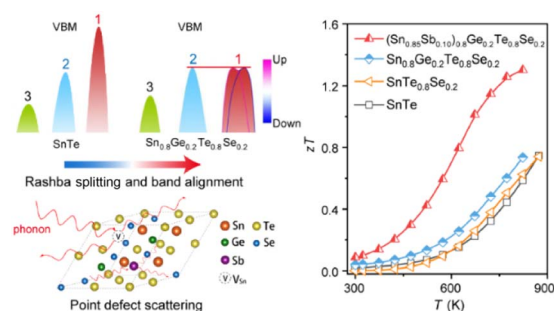


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Rashba effect and point-defect engineering synergistically improve the thermoelectric performance of the entropy-stabilized $\text{Sn}_{0.8}\text{Ge}_{0.2}\text{Te}_{0.8}\text{Se}_{0.2}$ alloy

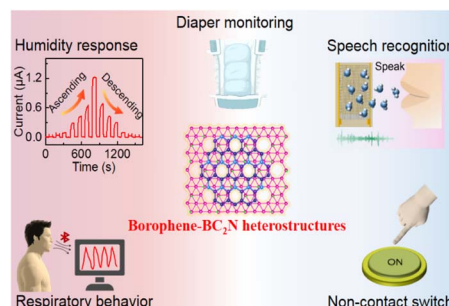
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Borophene and BC_2N quantum dot heterostructures: ultrasensitive humidity sensing and multifunctional applications

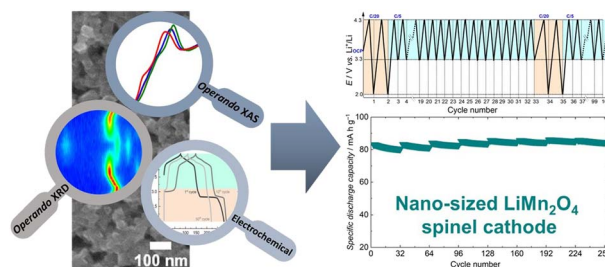
Xiang Liu, Chuang Hou, Yi Liu, Shifan Chen, Zitong Wu, Xinchao Liang and Guoan Tai*



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Unveiling the (de-)lithiation mechanism of nano-sized LiMn_2O_4 allows the design of a cycling protocol for achieving long-term cycling stability

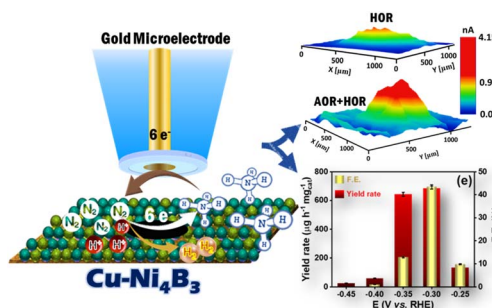
Juliana B. Falqueto,* Adam H. Clark, Łukasz Kondracki, Nerilso Bocchi and Mario El Kazzi*



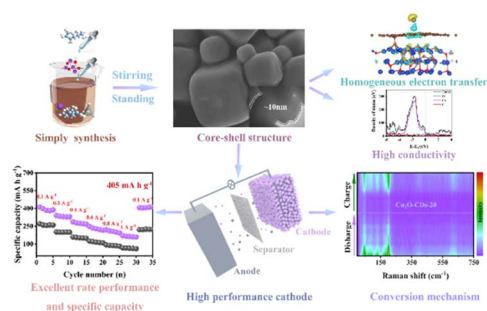
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Operando scanning electrochemical microscopic investigation and visualization of NRR-HER competition in electrochemical NH_3 synthesis

Divyani Gupta, Alankar Kafle, Man Singh, Devyani Dahare and Tharamani C. Nagaiah*



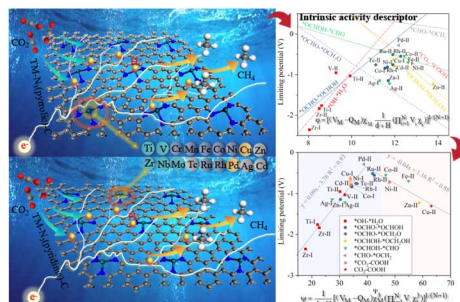
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Core-shell structures of Cu_2O constructed by carbon quantum dots as high-performance zinc-ion battery cathodes

Qu Zhang, Penggao Liu, Tao Wang, Qian Liu and Dongling Wu*

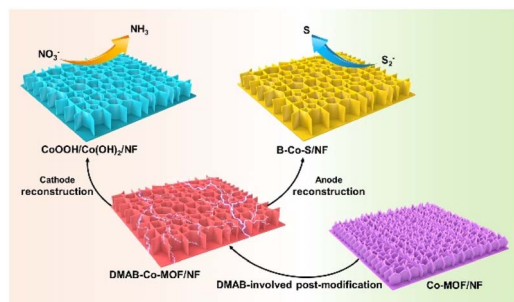
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The intrinsic activity descriptor of TM- N_3 -C single-atom catalysts for electrochemical CO_2 reduction: a DFT study

Linmeng Wang, Zhiyuan Liu, Rushuo Li, Hongyi Gao,* Ping Yang,* Wei Wang, Xiangdong Xue, Shihao Feng, Lingjing Yu and Ge Wang*

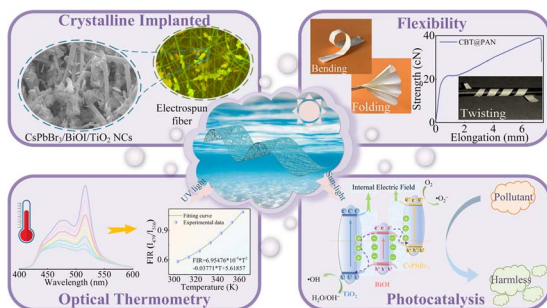
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Coupling post-modification with reconstruction over Co-based metal-organic frameworks for electrochemical collective value-added recycling of nitrate and sulfon in wastewater

Tianlun Ren, Huizhen Wang, Shan Xu, Hongjie Yu, Kai Deng, Ziqiang Wang, Hongjing Wang, Liang Wang and You Xu*

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Synergistic multi-selective photocatalysis and real-time optical thermometry of $\text{CsPbBr}_3/\text{BiOI}/\text{TiO}_2@\text{PAN}$ flexible nanofibers

Yanyan Li, Lifan Shen,* Edwin Yue Bun Pun and Hai Lin*

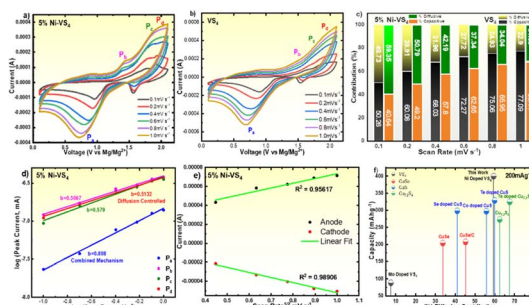


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Strategy for enhancement of magnesium ion diffusion in a vanadium tetra sulfide-layered structure for rechargeable magnesium batteries

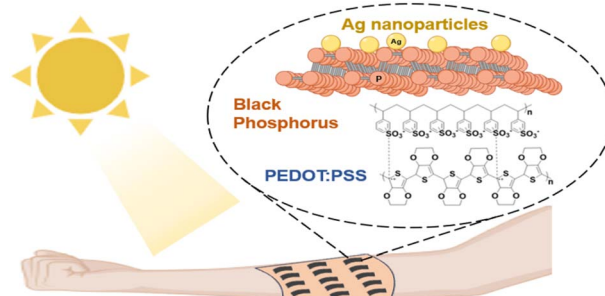
Muhammad Kashif Naseem, Mian Azmat, Changliang Du, Rong Jiang, Hajra, Youqi Zhu,* Meishuai Zou* and Chuanbao Cao*



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A PEDOT:PSS nanocomposite film doped with black phosphorus modified with silver nanoparticles for wearable photothermoelectric generators

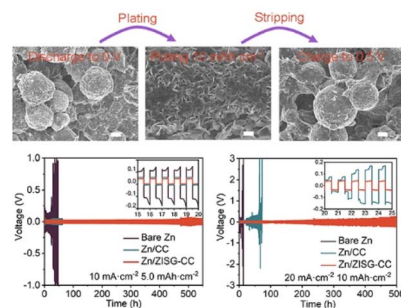
Chia-Hao Tsai, Shih-Hung Tung, Jhih-Min Lin and Cheng-Liang Liu*



24902

In situ formation of a ZnS/In interphase for reversible Zn metal anodes at ultrahigh currents and capacities

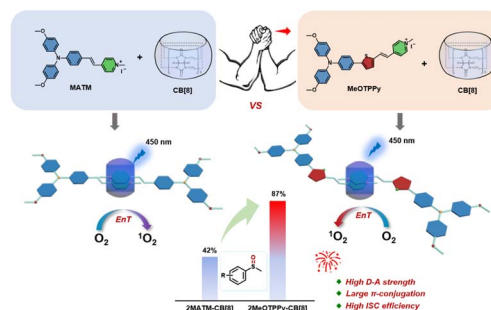
Chengwu Yang, Pattaraporn Woottapanit, Jin Cao, Yilei Yue, Dongdong Zhang, Jin Yi, Zhiyuan Zeng, Xinyu Zhang,* Jiaqian Qin* and Yonggang Wang*



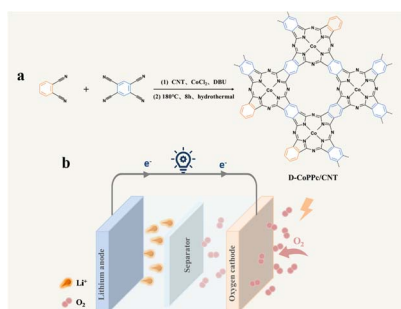
24911

Construction of supramolecular dimer photosensitizers based on triphenylamine derivatives and cucurbit[8]uril for photocatalysis

Xin-Long Li, Dong-Liang Cheng, Kai-Kai Niu,* Hui Liu, Sheng-Sheng Yu, Yue-Bo Wang and Ling-Bao Xing*



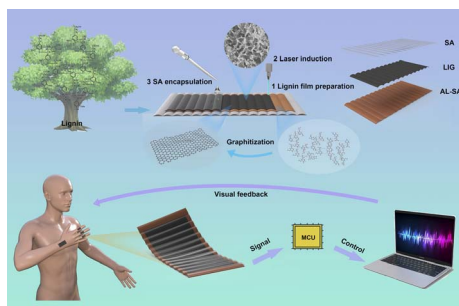
24918



Highly effective bifunctional defective cobalt phthalocyanine for photo-involved lithium-oxygen batteries

Yujiao Xia, Xingyu Yu, Yunyun Xu, Xiaoli Fan,^{*} Bin Gao, Cheng Jiang, Mingyue Zhang, Xianli Huang, Hao Gong,^{*} Jianping He and Tao Wang^{*}

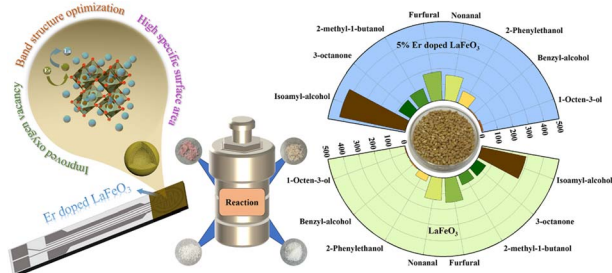
24928



A solely biobased strain sensor with an ultra-precision response via a surface graphitization strategy

Zhihao Yang, Ying Yuan, Bin Wang, Xiaojun Shen, Xiluan Wang^{*} and Tong-Qi Yuan^{*}

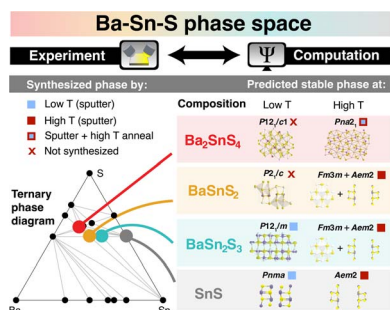
24939



Role of Er doping on isoamyl alcohol sensing performance of LaFeO_3 microspheres and its prospects in wheat mildew detection

Kaichun Xu, Mengjie Han, Zichen Zheng, Jinyong Xu, Marc Debliquy and Chao Zhang^{*}

24948



Stability and synthesis across barium tin sulfide material space

Rachel Woods-Robinson,^{*} Kristin A. Persson and Andriy Zakutayev^{*}

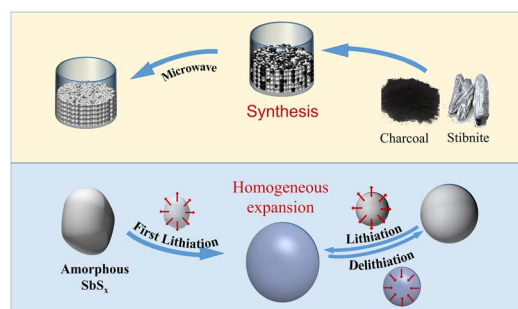


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24959

Amorphous C/SbS_x composites from natural stibnite as low cost and high performance lithium/sodium-ion battery anodes

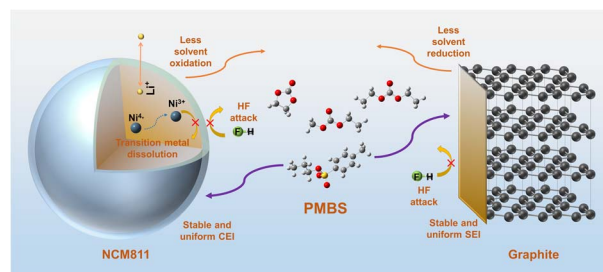
Shuonan Wang, Yao Hao, Kai Zhang, Hao Liu* and Libing Liao*



24970

A functional electrolyte containing propyl 4-methylbenzene sulfonate (PMBS) additive to improve the cycling performance of the LiNi_{0.8}Co_{0.1}Mn_{0.1}O₂/graphite full cell under the low temperature of −10 °C

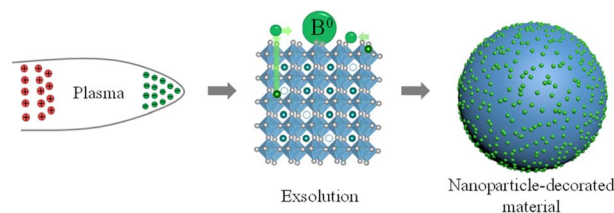
Haijia Li, Jian Cai, Jianping Liao, Yiting Li, Xueyi Zeng, Xin He, Weizhen Fan, Chaojun Fan, Zhen Ma* and Junmin Nan*



24982

Rapidly tuning the electrocatalytic activity of perovskite oxides by plasma treatment

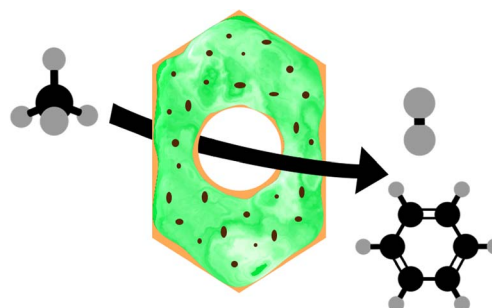
Zhu Sun,* Weiwei Fan* and Tianquan Lin



24991

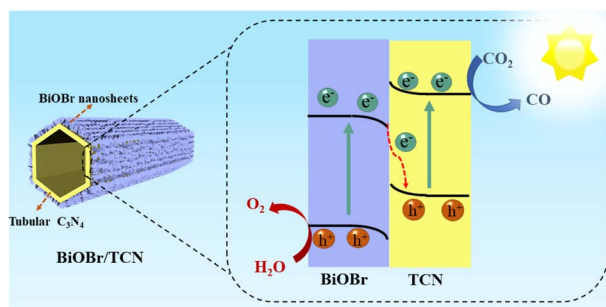
Coke relocation and Mo immobilization in donut-shaped Mo/HZSM-5 catalysts for methane dehydroaromatization

Ming Cheng, Hugo Cruchade, Ludovic Pinard, Eddy Dib, Honghai Liu, Jiujiang Wang, Xinmei Liu, Zi-Feng Yan, Zhengxing Qin* and Svetlana Mintova*



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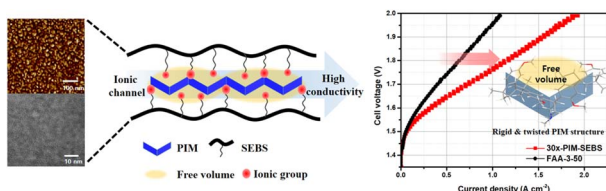
24999



Construction of a hierarchical BiOBr/C₃N₄ S-scheme heterojunction for selective photocatalytic CO₂ reduction towards CO

Wei Tao, Qiaoya Tang, Jianqiang Hu, Zhipeng Wang,^{*}
 Baojiang Jiang,^{*} Yuting Xiao, Renjie Song and Shien Guo^{*}

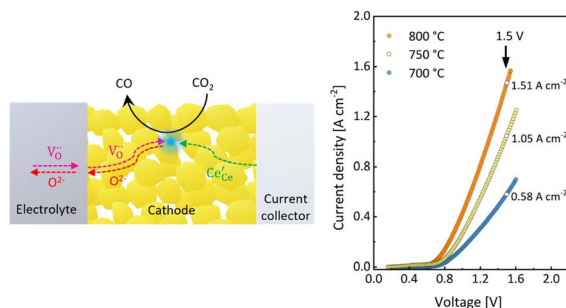
25008



Development of highly conductive anion exchange membranes based on crosslinked PIM-SEBS with high free volume

Yerim Lee, Kyungwhan Min, Jiyong Choi, Garam Choi,
 Hyungjun Kim and Tae-Hyun Kim^{*}

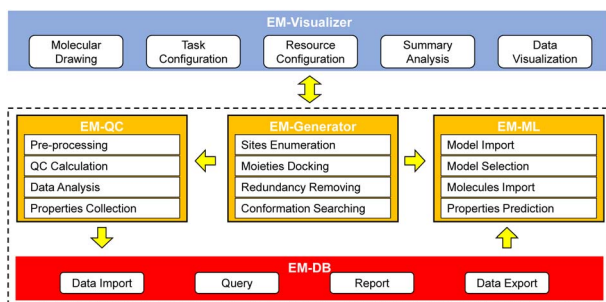
25020



A single-phase gadolinium-doped ceria cathode for highly efficient CO₂ electrolysis

Ahmad Shaur, Michel Drazkowski, Shaochen Zhu,
 Bernard Boukamp and Henny J. M. Bouwmeester^{*}

25031



High-throughput design of energetic molecules

Jian Liu,^{*} Shicao Zhao, Bowen Duan, Xudong He,
 Chunming Yang, Xuemei Pu, Xinben Zhang,
 Yonghao Xiao, Fude Nie, Wen Qian, Geng Li
 and Chaoyang Zhang^{*}

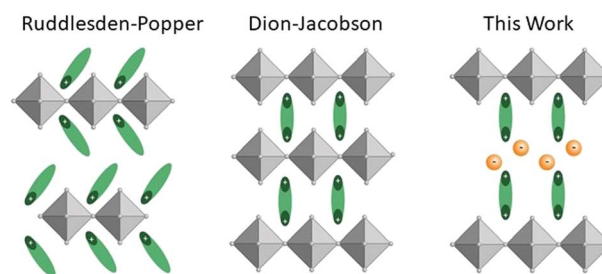


PAPERS

25045

A new class of organic–inorganic single and double hybrid perovskites with a diammonium-halide-diammonium spacer layer

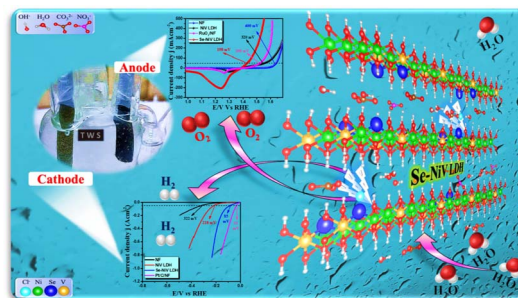
Walter P. D. Wong, Xinyun Wang, Rongrong Zhang and Kian Ping Loh*



25055

Deciphering the amplification of dual catalytic active sites of Se-doped NiV LDH in water electrolysis: a hidden gem exposure of anion doping at the core-lattice LDH framework

Aditi De, Ragunath Madhu, Krishnendu Bera, Hariharan N. Dhandapani, Sreenivasan Nagappan, Suprobhat Singha Roy and Subrata Kundu*



CORRECTION

25072

Correction: Hydrothermal synthesis of α -MnO₂ and β -MnO₂ nanorods as high capacity cathode materials for sodium ion batteries

Dawei Su, Hyo-Jun Ahn and Guoxiu Wang*

