Journal of Materials Chemistry A

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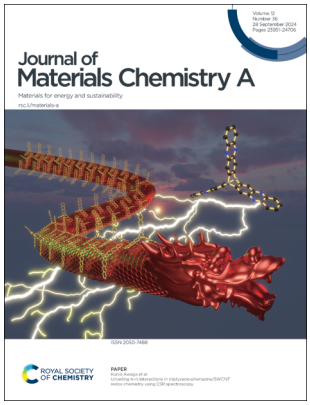

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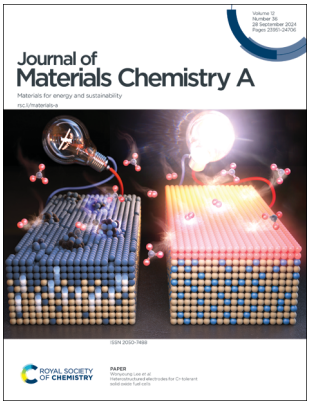

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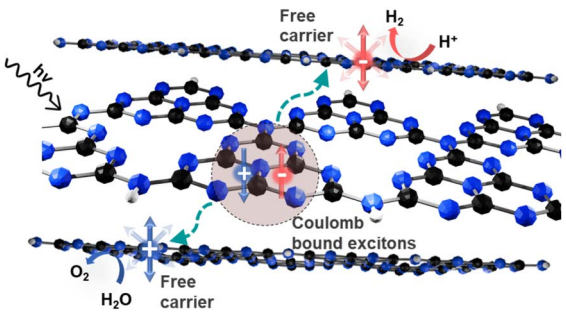

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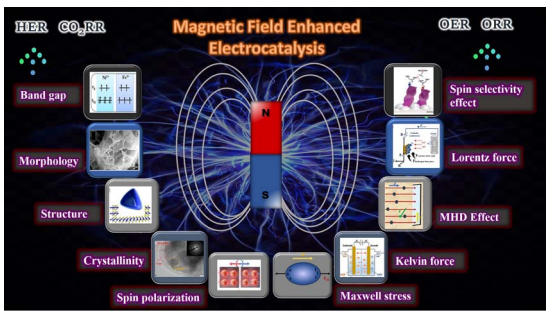
Mohammed Arkham Belgami, Abhinandan Patra, Sang Mun Jeong* and Chandra Sekhar Rout*



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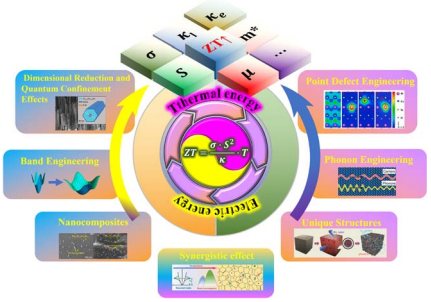
Advancements in thermoelectric materials: optimization strategies for enhancing energy conversion

Haiwei Han, Lijun Zhao,* Xinmeng Wu, Bin Zuo, Shunuo Bian, Tao Li, Xinyue Liu, Yaohong Jiang, Chunyan Chen, Jiali Bi, Junhua Xu* and Lihua Yu*



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Piezoelectric MoS_2 with expanded interlayers: a flexible anode for a "zero" interfacial quasi-solid-state ammonium-ion asymmetric supercapacitor

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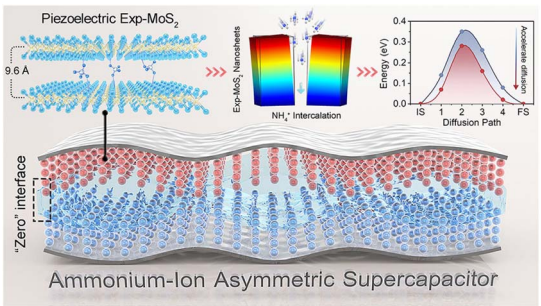

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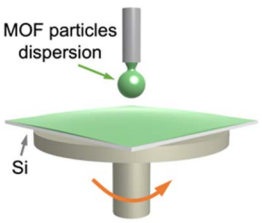
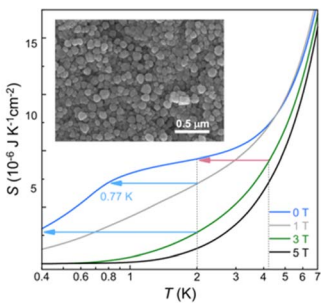
Spin-coated films of gadolinium formate for cryogenic cooling

Inés Tejedor, María Isabel Calvo, Jesús Gandara-Loe, Víctor Rubio-Giménez, Rob Ameloot, Ignacio Gascón and Olivier Roubeau*





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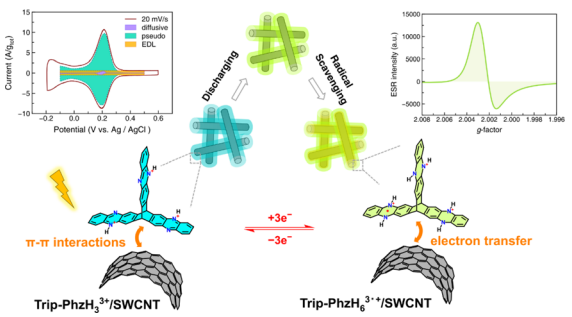
Unveiling π–π interactions in triptycene-phenazine/SWCNT redox chemistry using ESR spectroscopy

Qi Chen, Rie Suizu, Yoshiaki Shuku, Haruka Omachi, Michio M. Matsushita, Shuta Fukuura, Takashi Yumura, Shunji Bandow and Kunio Awaga*



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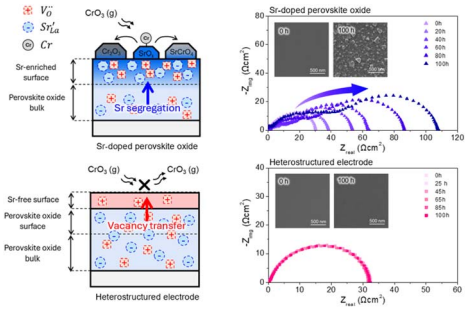

Heterostructured electrodes for Cr-tolerant solid oxide fuel cells

Sehee Bang, Jongseo Lee, Joon Gyu Kim, Jinwoo Kim, Mingi Choi, Yan Chen and Wonyoung Lee*

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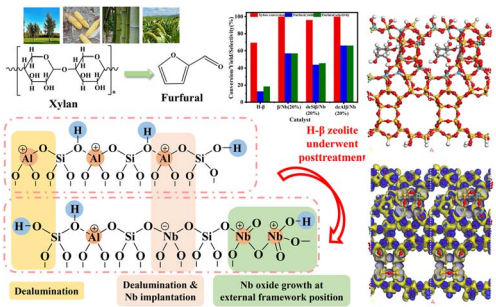

Atomic scale niobium implantation in a dealuminated industrial H-β zeolite catalyst for enhanced furfural production

Yuhui Huang, Yehan Tao,* Qingqing Wang, Jian Du, Jinwen Hu, Jie Lu, Yanna Lv and Haisong Wang*

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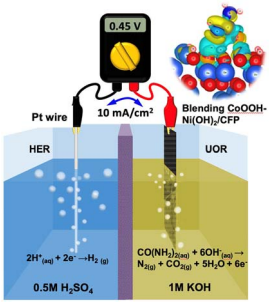

Boosted urea electrooxidation activity by dynamic steady blending CoOOH–Ni(OH)$_2$ nanoclusters for H$_2$ production in a pH-asymmetric electrolyzer

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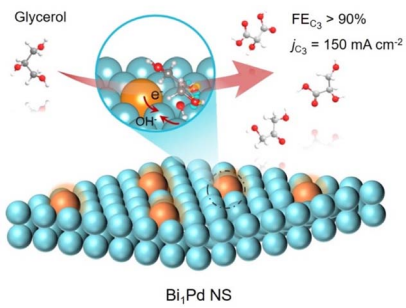

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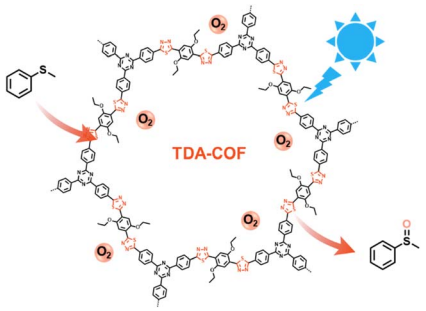
Converting the covalent organic framework linkage from hydrazone to thiadiazole toward blue light-powered selective conversion of organic sulfides

Yuexin Wang, Ji-Long Shi, Xiaoyun Dong, Fulin Zhang and Xianjun Lang*



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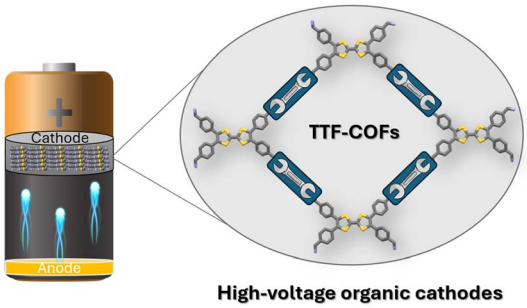

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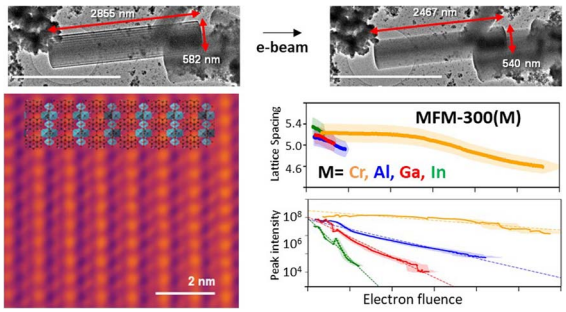

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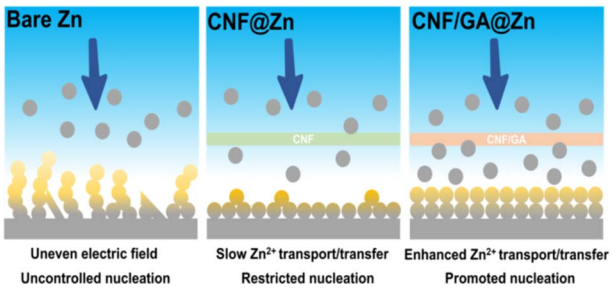
Graphene acid-enhanced interfacial layers with high Zn^{2+} ion selectivity and desolvation capability for corrosion-resistant Zn-metal anodes

Kailai Xia, Liuyan Li, Yanbin Qiu, Jianqiang Weng, Shengtao Shen, Meixin Chen, Yuhang Zhuang, Yeye Wen,* Chengkai Yang,* Zheyuan Liu, Mingmao Wu* and Zhigang Zou



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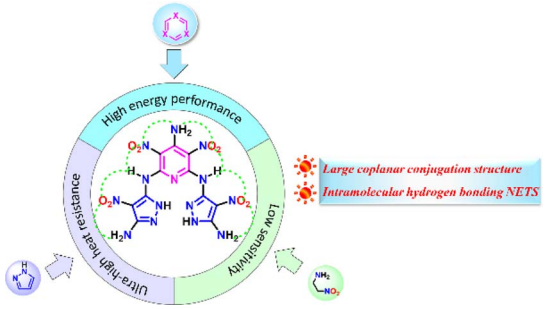

Advanced ultra heat-resistant explosives with multiple heterocyclic skeletons of hydrogen bond network

Chengchuang Li, Teng Zhu, Chao Wang, Luyao Chen, Caijin Lei, Jie Tang, Hongwei Yang,* Chuan Xiao* and Guangbin Cheng*

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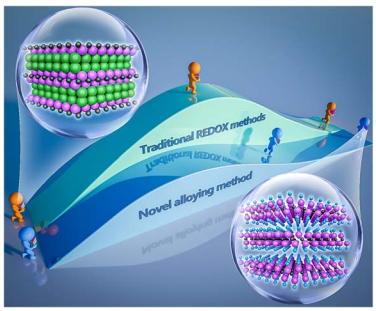

Synthesis of two-dimensional N-terminated molybdenum carbides using an alloying strategy in molten salt

Weiyan Jiang, Zihan Gao, Miao Shen,* Rui Tang, Jing Zhou,* Chuanqiang Wu, Linjuan Zhang and Jian-Qiang Wang*

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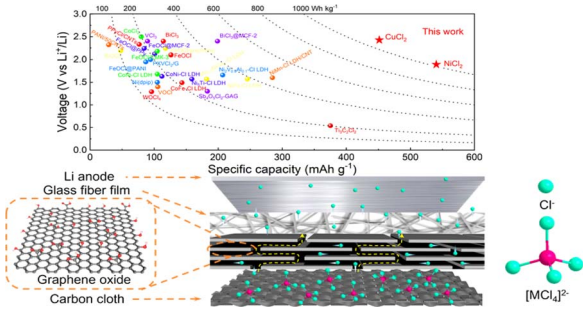

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Chang Zhang, Shijiao Sun,* Kan-Hao Xue, Yingchun Miao, Xiulan Hu* and Xiangyu Zhao*

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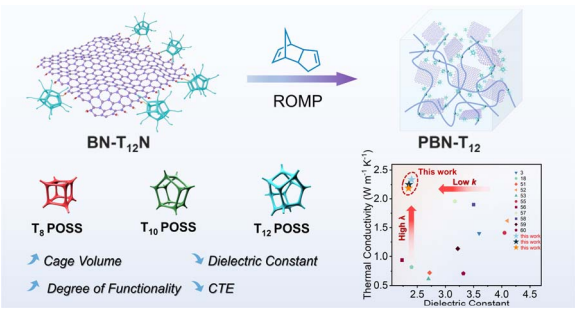

Achieving low dielectric constant and high thermal conductivity polymer composites by using larger POSS functionalized boron nitride nanosheets

Ming-Xi Nie, Jian Wang, Qin Zhang,* Di Han* and Qiang Fu

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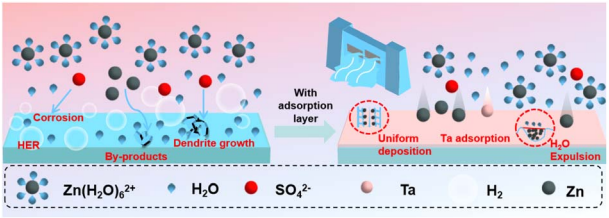
Zhenxin Lin, Yufei Zhang,* Xiaoting Lin, Hanlin Ding, Minghui Ye, Zhipeng Wen, Yongchao Tang, Xiaoqing Liu and Cheng Chao Li*



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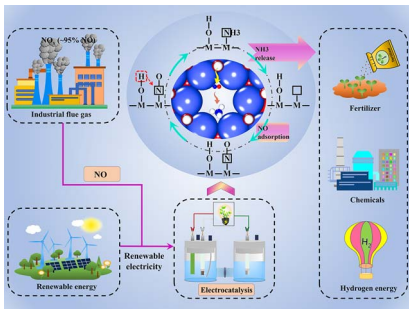
Frustrated Lewis pairs on metal-cation vacancy catalysts enhanced the electroreduction of NO to NH_3

Honghong Yi, Ruzhu Jia, Xiaolong Tang, Dongjuan Kang, Qingjun Yu, Fengyu Gao, Shunzheng Zhao* and Yunpeng Liu*



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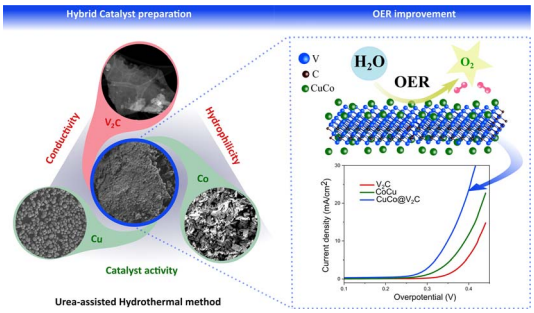

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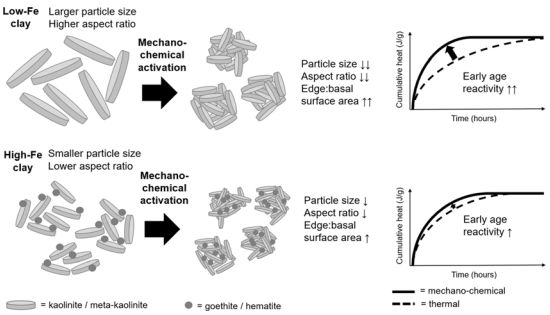
Mineralogical characteristics influence the structure and pozzolanic reactivity of thermally and mechano-chemically activated meta-kaolinites

Alastair T. M. Marsh,* Andy P. Brown, Helen M. Freeman, Anke Neumann, Brant Walkley, Helen Pendlowski and Susan A. Bernal



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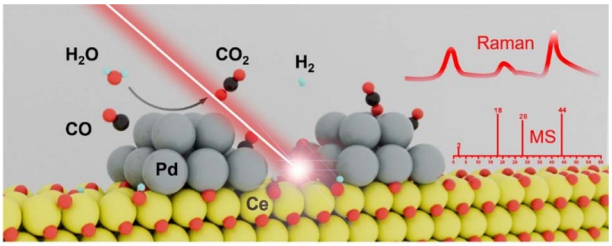

Understanding water-gas shift reaction mechanisms at palladium–ceria interfaces using *in situ* SERS coupled with online mass spectrometry

Di-Ye Wei, Ge Zhang, Hong-Jia Wang, Qing-Na Zheng, Jing-Hua Tian, Hua Zhang* and Jian-Feng Li*

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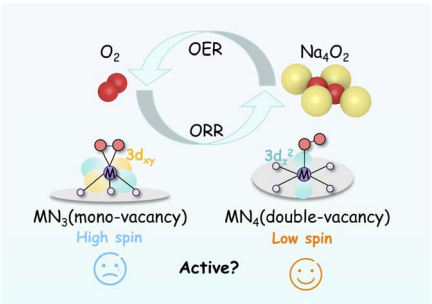

Evolution of high spin state single-atom catalyst active centers in Na–O_2 batteries

Jing Li, Aixiang Mao, Jia-hui Li,* Honglai Liu and Cheng Lian*

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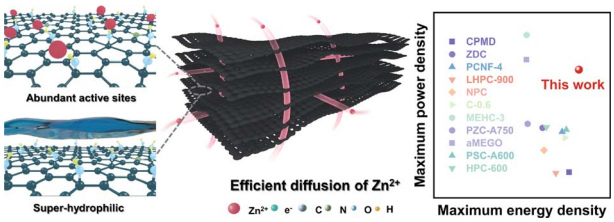

2D metal–organic framework derived ultra-thin nitrogen-doped oxygen rich porous carbon nanosheets for zinc-ion hybrid supercapacitors

Yu Han, Chiyu Zhang, Kai-Jie Chen* and Teng Wang*

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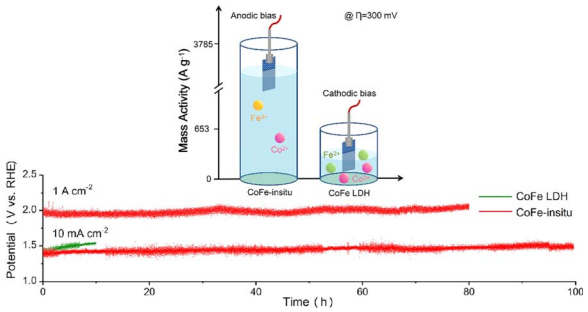

A dynamically stable self-assembled CoFe (oxy) hydroxide-based nanocatalyst with boosted electrocatalytic performance for the oxygen-evolution reaction

Ming Zhu, Hengyue Xu, Jie Dai, Daqin Guan,* Zhiwei Hu, Sixuan She, Chien-Te Chen, Ran Ran,* Wei Zhou and Zongping Shao*

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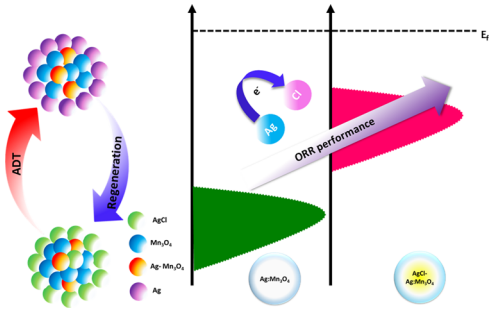
Synergistic effect of Ag-doped Mn_3O_4 and AgCl composite as a regenerable and high-performance catalyst for the oxygen reduction reaction

Anagha Yatheendran, Aswathy M. Narayanan, Jeetu S. Babu, Rahul Rajan and N. Sandhyarani*



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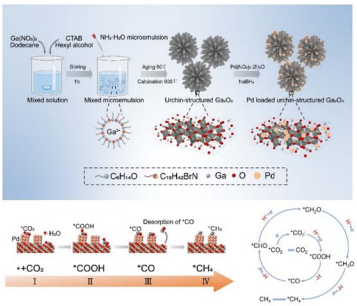
Pd-loaded unique urchin-structured Ga_2O_3 for selective CO_2 photoreduction to CH_4

Wei Qiu, Pengjian Lu, Xiaoxu Kuang,* Baowen Li, Rong Tu and Song Zhang*



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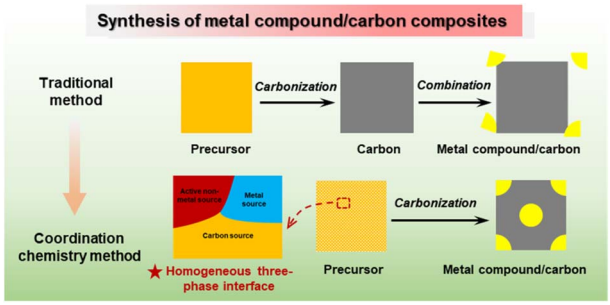
Sustainable synthesis of metal compound/carbon composites *via* coordination chemistry for high-performance lithium-ion batteries

Weicai Zhang, Xiaomin Lin, Yawei Fang, Chaowei Yang, Mingtao Zheng and Yeru Liang*



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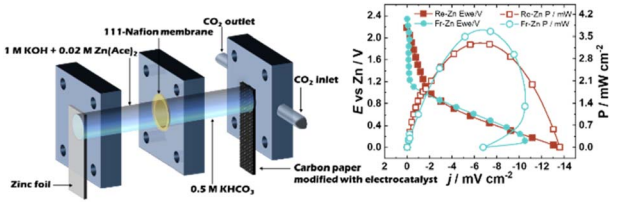
A bismuth-atom electrocatalyst for a stable and economical aqueous Zn–CO_2 battery

Mahboob Alam, Jia Xu, Evan J. Hansen, Ela Nurlaela, Li Tao, Alexander R. Uhl and Jian Liu*



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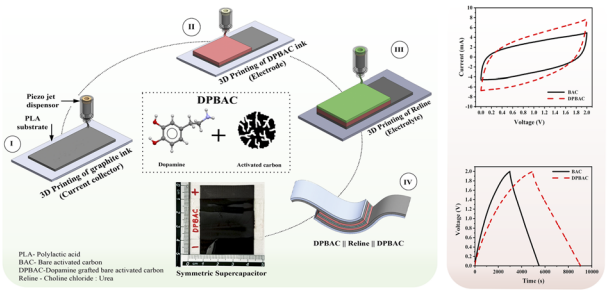

A 3D-printed fully biocompatible supercapacitor

Chirag Mevada,* Jonne Tissari, Vijay Singh Parihar,* Amit Tewari, Jari Keskinen, Minna Kellomäki and Matti Mäntysalo

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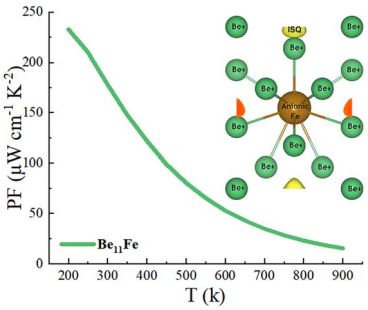

Distinctive electronic characteristics and ultra-high thermoelectric power factor of Be–Fe intermetallics

Qi D. Hao, H. Wang, Xiang R. Chen* and Hua Y. Geng*

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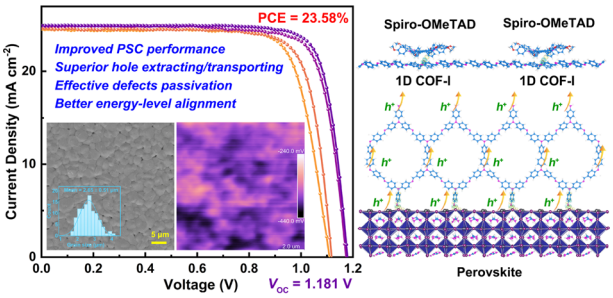

Rational design of one-dimensional triarylamine-based covalent organic frameworks for perovskite solar cells with improved efficiency and stability

Jun He, Longfei Yuan, Sixiao Gu, Jiaxv Bai, Yaxin Li, Shirong Wang, Dewang Li* and Hongli Liu*

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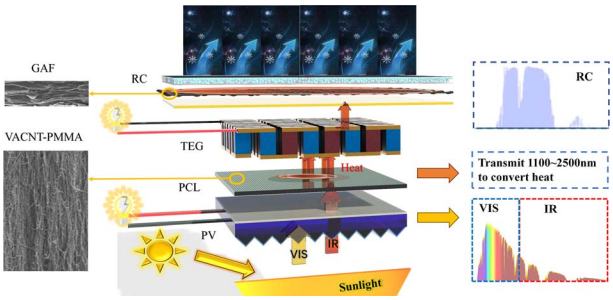

Collecting bidirectional flow energy through a photovoltaic thermoelectric radiative cooling hybrid system to maximize the utilization of electricity from the sun and outer space

Song Lv,* Mengqi Feng, Zuoqin Qian, Ying Guo, Yangyang Wu, Jingcai Deng, Mingming Zhang and Shangzhen Xie

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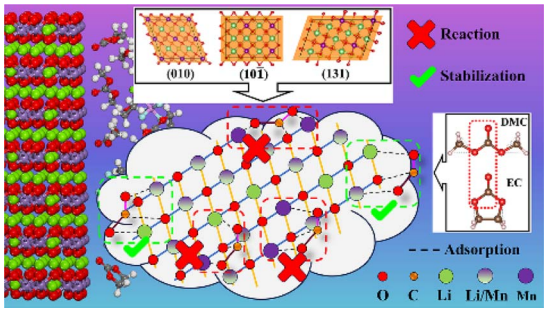
Insights into the interface reaction between electrolyte and Li_2MnO_3 from *ab initio* molecular dynamics simulations

Xiaotong Yan, Chunwei Zhu, Weijie Huang and Yu-Jun Zhao*



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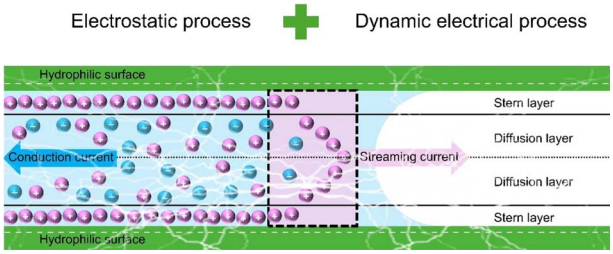
Insights into hydroelectric nanogenerators: numerical simulation and experimental verification

Hongli Su, Azadeh Nilghaz,* Kunning Tang, Dan Liu, Shuaifei Zhao, Junfei Tian, Yiming Bu and Jingliang Li*



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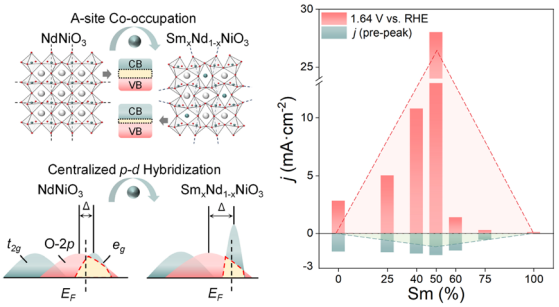
Enhancing the water oxidation electrocatalysis of correlated perovskite nickelates by disordering NiO_6 octahedra

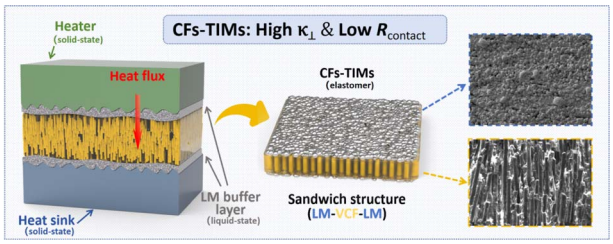
Haifan Li, Yuzhao Wang, Jingxin Gao, Vei Wang,* Kaiqi Nie, Fanqi Meng, Xiaoguang Xu, Yong Jiang, Nuofu Chen, Yifei Sun* and Jikun Chen*



24428

Enhanced thermal conductivity and reduced thermal resistance in carbon fiber-based thermal interface materials with vertically aligned structure

Zhenbang Zhang, Rongjie Yang, Yandong Wang, Kang Xu, Wen Dai, Jianxiang Zhang, Maohua Li, Linhong Li, Yingying Guo, Yue Qin, Boda Zhu, Yiwei Zhou, Xingye Wang, Tao Cai, Cheng-Te Lin, Kazuhito Nishimura, Hao Nan Li,* Nan Jiang* and Jinhong Yu*



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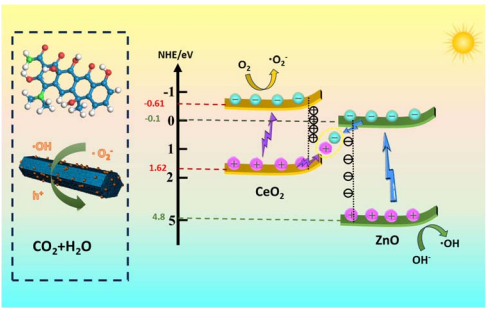
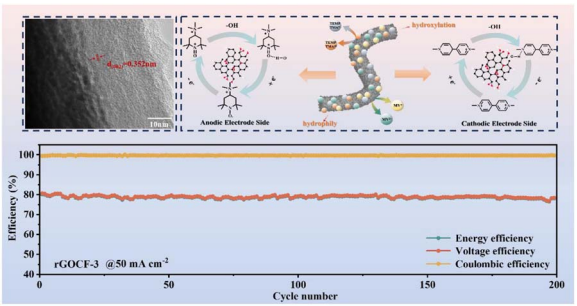
24441



1D rod-like {220}-faceted CeO_2/ZnO S-scheme heterojunctions: design, photocatalytic mechanism and DFT calculations

Qiang Wang, Chao Yao, Xin Liu, Junfeng Qiu, Rongchen Wang, Jialong Liu* and Wei Wang*

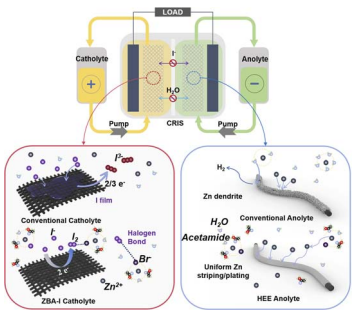
24459



Enhanced energy efficiency of aqueous organic redox flow batteries: carbon-based heterostructure electrodes guided by an interface engineering strategy

Xiaohui Yang, Xiong Li, Tongle Xu, Hongyun Cai, Can Zhao, Na Song and Peng Ding*

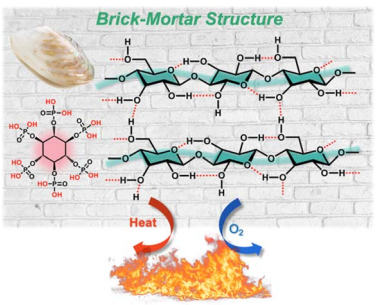
24468



Regulating the electrolyte network to accelerate reversible I^-/I_2Br^- conversion and suppress zinc dendrite formation in advanced zinc–iodine flow batteries

Ruhan Zhao, Ke Lu, Mohsin Pasha, Rongqian Kuang, Hong Zhang* and Songtao Lu*

24477



Bioinspired sustainable cellulose-based nanocomposites with remarkable flame-retardant performance

Yang Wang,* Mengfei Zhang, PengPeng Wang, Dong Wang, Ting Li, Huiyu Bai, Xuhui Zhang, Bihua Xia and Weifu Dong*

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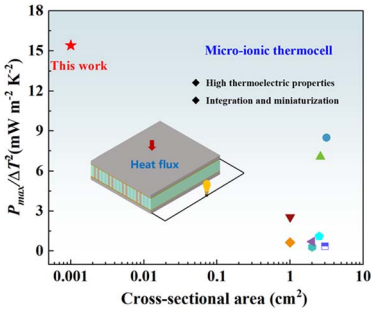
24488

Significantly enhanced properties of micro-ionic thermocells through the microstructure interfacial effect

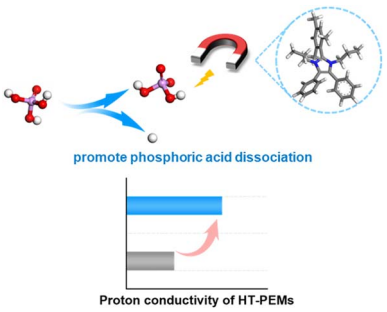
Hongwei Chen, Shuqi Zhao, Haoyu Zou, Ming Qu, Fanghao Zhong, Xiang Wei, Yangfan Song and Zhuo Liu*



24499

The impact of imidazolium with steric hindrance on the dissociation of phosphoric acid and the performance of high-temperature proton exchange membranes

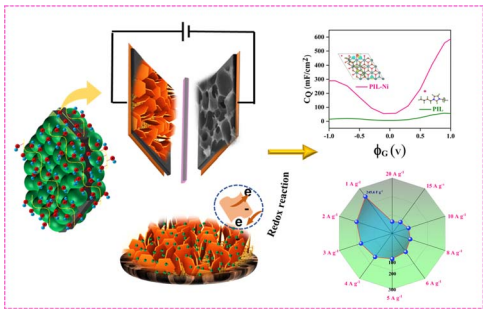
Xi Sun, Huiting Yu, Jiayu Guan, Bin Zhang, Jifu Zheng,* Shenghai Li and Suobo Zhang*



24508

***In situ* cascade steric stabilization of poly(ionic liquid) mediated hexagonal nickel hydroxide morphogenesis for high-performance flexible supercapacitors**

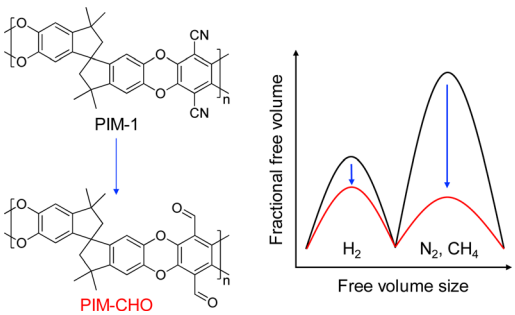
Abhishek Narayanan, Nagaraj S. Naik, Samadhan Kapse, Ranjit Thapa, R. Geetha Balakrishna, Chandra Sekhar Rout and Mahesh Padaki*



24519

Fine-tuning ultramicroporosity in PIM-1 membranes by aldehyde functionalization for efficient hydrogen separation

Tae Hoon Lee, Taigyu Joo, Philippe Jean-Baptiste, Pablo A. Dean, Jing Ying Yeo and Zachary P. Smith*



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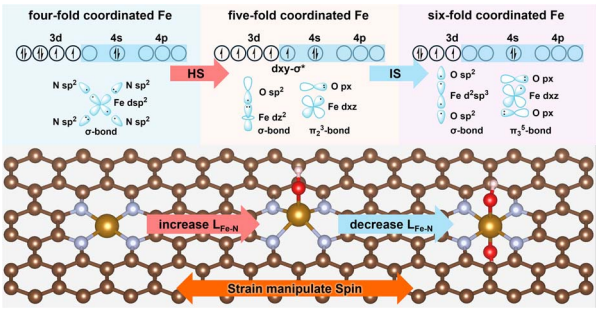
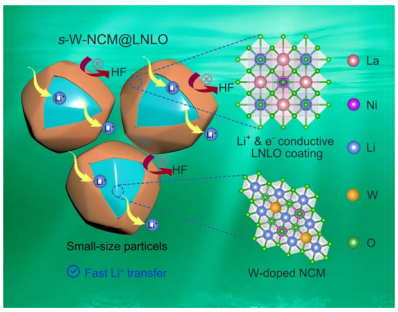


Strain-controlled spin regulation in Fe–N–C catalysts for enhanced oxygen reduction reaction activity

Mingyuan Yu, Jiaxiang Wu, Yashi Chen, Yongping Du, Ang Li, Erjun Kan* and Cheng Zhan*

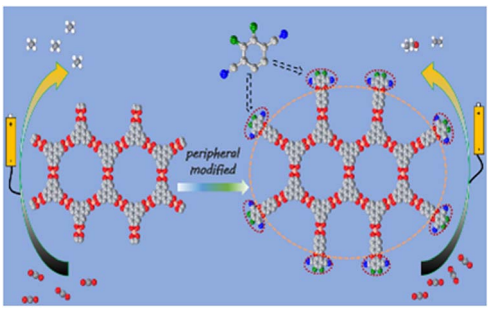
24542



Perovskite-coated small-size single-crystalline W-doped Ni-rich cathodes with greatly enhanced power density for Li-ion batteries

Hujun Zhang, Li Qin, Xing Huang, Yaoguo Fang,* Haifeng Yu, Qilin Cheng* and Hao Jiang*

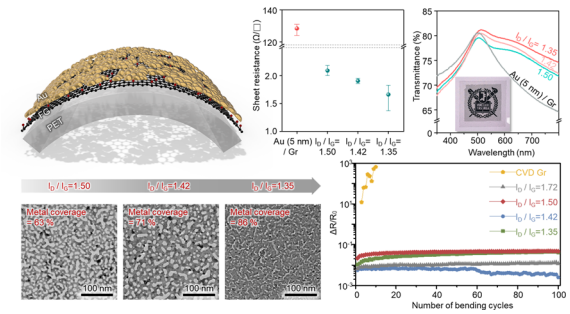
24549



In situ post-modification of substoichiometric 2D conjugated MOFs to boost ethylene selectivity in electrocatalytic CO_2 reduction

Yijun Li, Jianning Lv, Shuai Li, Lu Dai, Bo Wang and Pengfei Li*

24556



Flexible and transparent gold network electrodes on fluorinated graphene

Yuna Lee, Eunji Ji, Min Jung Kim and Gwan-Hyoung Lee*

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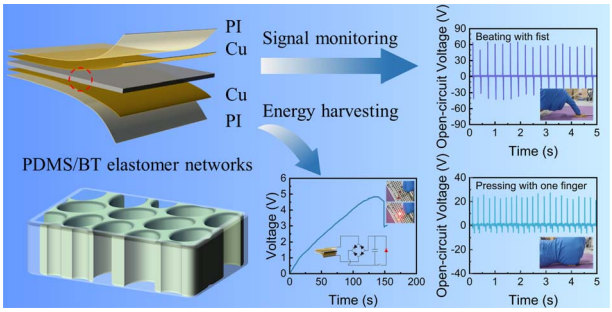
24565

Three-dimensional polydimethylsiloxane/barium titanate elastomer networks for piezoelectric energy harvesters

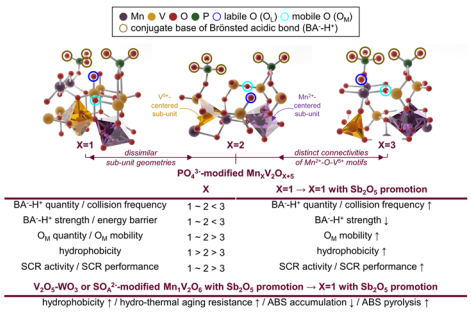
Yuanbiao Gong, Weijia Wang,* Xiuzi Che, Yao Su, Yuxin Jia, Xiaohu Ren* and Huiqing Fan*



24574

Locating manganese vanadate phase with PO_4^{3-}-modified Mn^{2+}–O–V^{5+} motifs optimized for catalytic NO_X and poison abatement under oxidative wet conditions

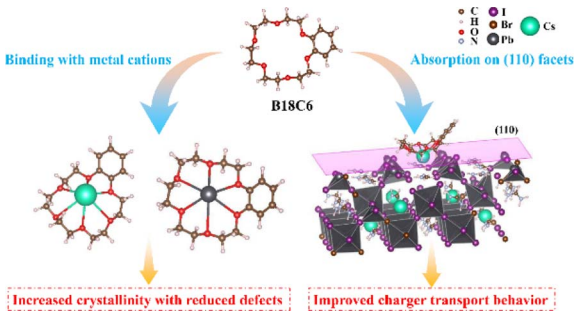
Seokhyun Lee, So Hyeon Park and Jongsik Kim*



24593

Enhanced charge transport of wide-bandgap perovskite solar cells enabled by crown ether-mediated crystal modulation

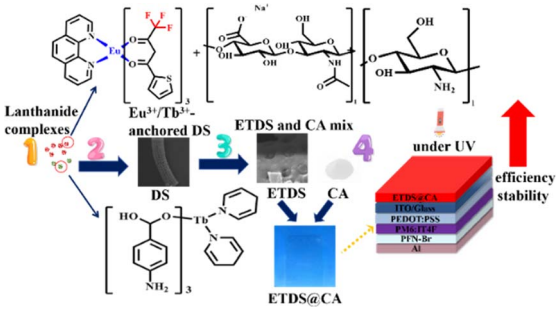
Han Zhong, Xuanling Liu, Xuanyu Wang, Jianfei Yang, Ziling Zhang, Jinxian Li, Jianbo Liu, Heping Shen* and Hong Lin*



24601

Effective UV-protection and photovoltaic efficiency enhancement of polymer solar cells using diatom shells doped with Eu^{3+}/Tb^{3+}complexes

Tonghui Li, Wenfei Shen, Zaixin Long, Yanying Zhang, Yao Wang, Wei Wang, Zhonglin Du, Jiuxing Wang, Laurence A. Belfiore, Olle Inganäs and Jianguo Tang*



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24610

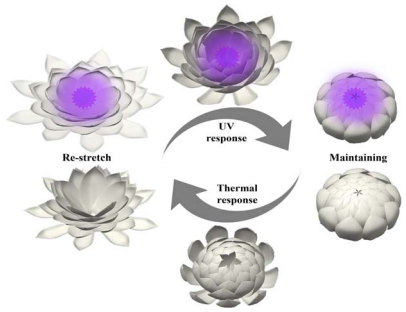
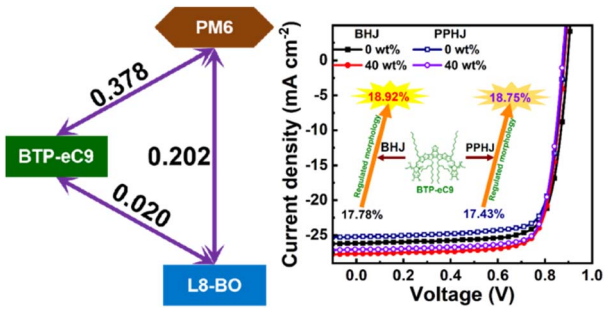


Photo-thermal staged-responsive shape memory polymers prepared by fused granular fabrication 4D printing

Xianhao Mao, Guocheng Ma, Yujie Deng, Ling Lin, Wei Lu, Bing Wu,* Haitao Zhuo* and Shaojun Chen*

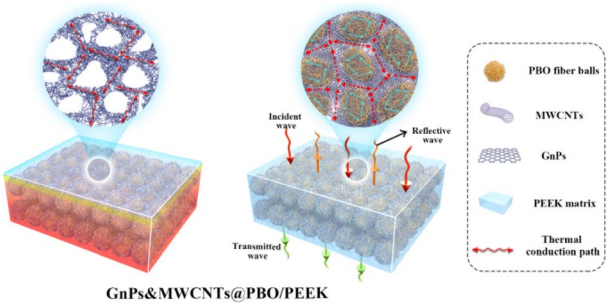
24622



Over 18.7% efficiency for bulk heterojunction and pseudo-planar heterojunction organic solar cells achieved by regulating intermolecular compatibility

Zijian Zhang, Yu Zhang, Shixiu Sun, Hang Zhou, Jian Wang,* Yujie Xu, Xiaoyan Du, Sang Young Jeong, Han Young Woo, Fujun Zhang* and Qianqian Sun*

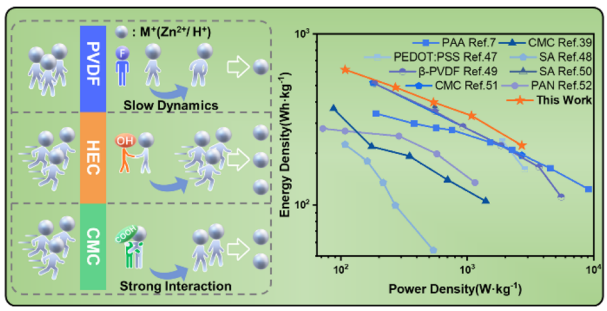
24633



Three-dimensional thermal network structured GnPs&MWCNTs@PBO/PEEK composites integrating high thermal conductivity and electromagnetic shielding

Yageng Bai, Hongxia Qian, Xueling Cao, Fengyu Wen, Yashu He, Jierun Ma, Lin Cheng, Yifan Wang, Haoyuan Tan, Yuxuan Gu, Pengbo Lian, Rui Chen* and Jianxin Mu*

24647



Hydroxyethyl cellulose optimized cathode–electrolyte interfaces in aqueous zinc ion batteries

Sheng Lu, Yuyang Gu, Guangyu Cheng, Yueni Mei, Dongqing Wu,* Yu Gao, Xuemin Yu, Liang Wu, Yuezeng Su and Han Wang*

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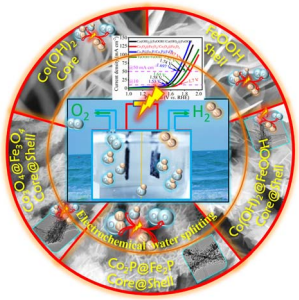
24656

Counter ion-regulated heterostructured Co@Fe-based core@shell materials: as remarkable bifunctional electrodes for green H_2 production

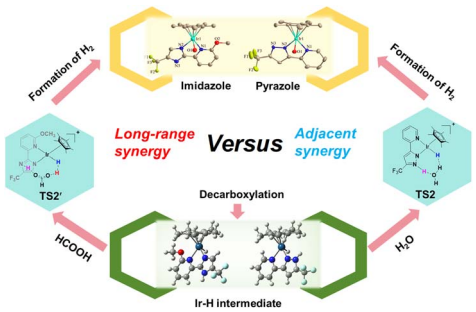
Gaddam Rajeshkhanna,* Apurba Borah, Thangjam Ibomcha Singh, Thanh Hai Nguyen, Van An Dinh, Nam Hoon Kim* and Joong Hee Lee*



24670

Functionalized pyridyl diazole iridium complex catalyzed FA dehydrogenation: synergistic effect of adjacent *versus* long-range interaction

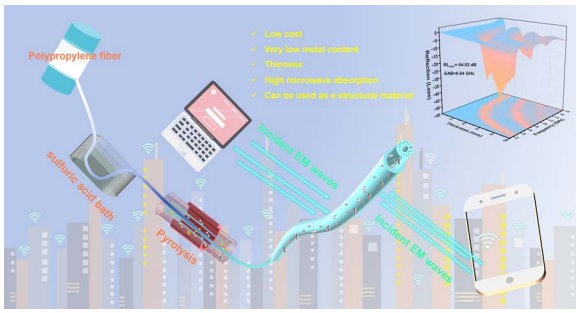
Shun Ge, Yipei Liu, Xiufang Mo, Pingping Yi, Xiao-Yi Yi and Piao He*



24682

Simple preparation of 1D hierarchical magnetic CNTs/hollow porous macroscopic carbon fiber composites for efficient microwave absorption

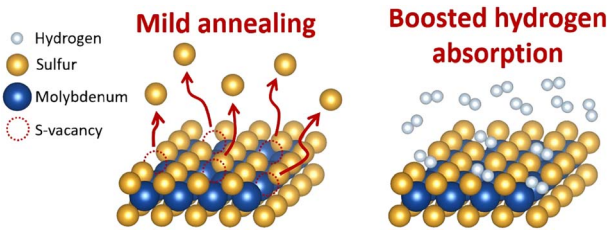
Minghang Yang, Yu Deng, Mingguang Zhang, Shuaining Zhou, Cheng Liu,* Xigao Jian and Yousi Chen*



24694

Hydrogen absorption boosting in mildly annealed bulk MoS_2

Jairo Obando-Guevara,* Álvaro González-García, Marcin Rosmus, Natalia Olszowska, César González, Guillermo Morón-Navarrete, Jun Fujii, Antonio Tejeda, Miguel Ángel González-Barrio and Arantzazu Mascaraque



CORRECTIONS

24702

Correction: Wasted rose-derived porous carbons with unique hierarchical heteroatom-enriched structures as a high-performance supercapacitor electrode

Amir Mahdi Homayounfard, Mahdi Maleki,* Hosein Banna Motejadded Emrooz,* Hajar Ghanbari, Samira Mohammadi and Ahmad Shokrieh

24703

Correction: Redox-active conductive metal–organic framework with high lithium capacities at low temperatures

Yogendra Kumar, Tae Hyeong Kim, Iyan Subiyanto, Winda Devina, Segi Byun, Subhajit Nandy, Keun Hwa Chae, Suim Lim, Bumjin Kim, Sanghui Kang, Seong Ok Han, Kanghoon Yim,* Jungjoon Yoo* and Hyunuk Kim*