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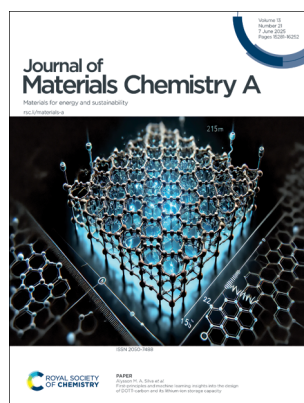
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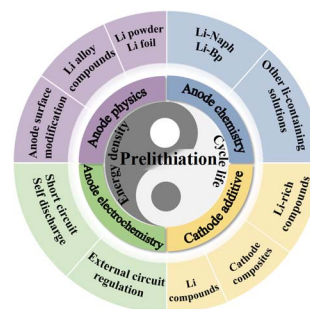
See Alysson M. A. Silva *et al.*, pp. 15609–15619. Image reproduced by permission of Luiz Antonio Ribeiro Junior from *J. Mater. Chem. A*, 2025, **13**, 15609.

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15302

Prelithiation of lithium-ion batteries towards commercialization: concepts, challenges, and application prospects

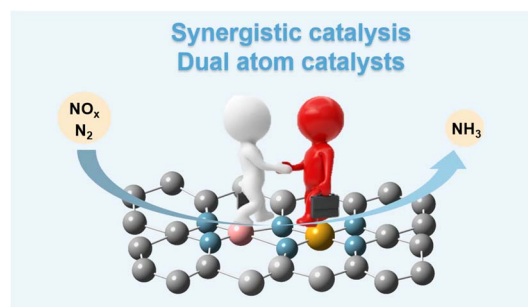
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Emerging paired diatomic sites toward synergistic NH₃ synthesis

Sana Taimoor, Xinyi Fan, Xiaohong Li, Xiaofang Zhang,* Ming Xu,* Xinyi Tan,* Alex W. Robertson, Nadeem Hussain Solangi and Zhenyu Sun*



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Strategically designed catalysts for ammonia synthesis under mild conditions: recent advances and challenges

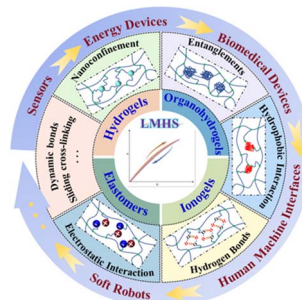
Sai Sundara Sandeep Ganti, Pintu Kumar Roy, Nayanay Wagh, Kona Naga Surya Siva Sai and Sushant Kumar*



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Low mechanical-hysteresis soft materials: materials, design, and applications

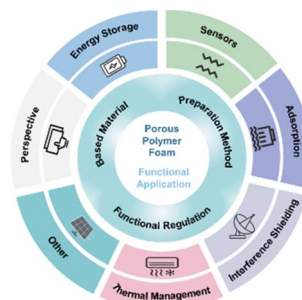
Bai Huang,* Zongming Lv, Meilin Zhang, Jiang Liu, Huidong Liu, Tongcan Li, Lihua Fu, Baofeng Lin and Chuanhui Xu



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Recent progress in functional applications of polymer foams

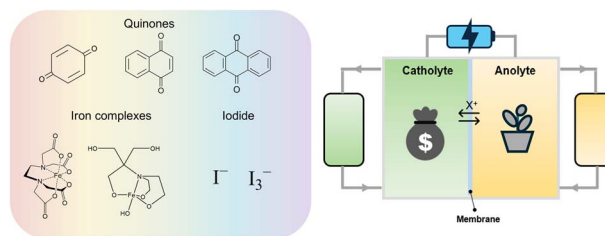
Xianhang Yan, Guoqun Zhao,* Zhiping Chen and Lei Zhang*



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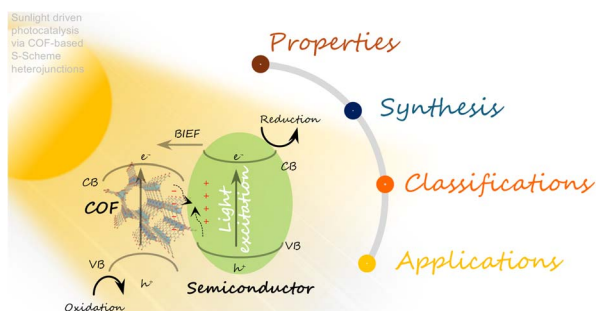
Challenges and advances in redox flow batteries utilizing sustainable and cost-effective non-vanadium active materials

Wonmi Lee, Gyunho Park, Mingyu Shin, Dominik Emmel, Daniel Schröder* and Yongchai Kwon*



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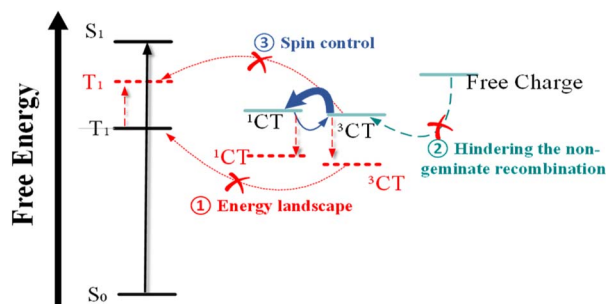
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Unlocking sunlight driven photocatalysis: synthesis, diversity, and applications of COF-based S-scheme heterojunctions

Irshad Ahamd,^{*} Zaheer Ud Din Babar, Yifei Zhang,^{*} Ayman Al-Qattan, Samia Ben Ahmed and Gao Li^{*}

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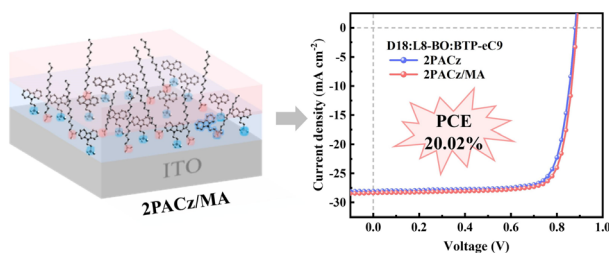


Recent progress in minimizing the loss channel via triplet excitons in nonfullerene-based organic solar cells

Ruize Zhou, Xiang Gao,^{*} Hui Chen, Jianhong Gao and Zhitian Liu^{*}

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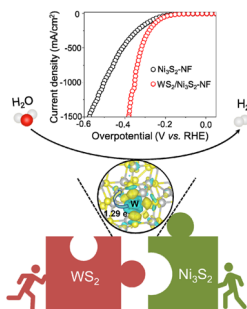
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A multifunctional strategy to improve the efficiency and stability of organic solar cells via a 2PACz/MA composite hole transport layer

Zixin Huang, Yao Xu, Longfei Liu, Juxuan Xie, Hui Li, Zhiyuan Yang, Kai Zhang^{*} and Fei Huang

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An efficient WS₂/Ni₃S₂ monolithic electrode for the hydrogen evolution reaction at industrial current densities

Huifang Wei, Denghui Ma, Guomin Li, Wangwang Zhang, Shiyao Cao^{*} and Jianming Li^{*}

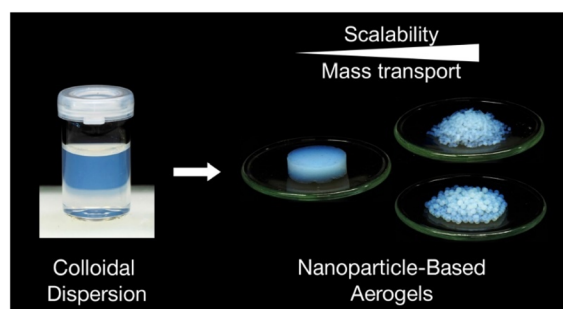


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Shaping nanoparticle-based aerogels for efficient light-driven catalysis

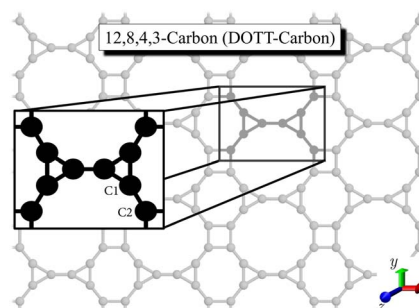
Fabian Matter, David Kiwic, Marco Bernet, Elena Tervoort and Markus Niederberger*



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First-principles and machine learning insights into the design of DOTT-carbon and its lithium-ion storage capacity

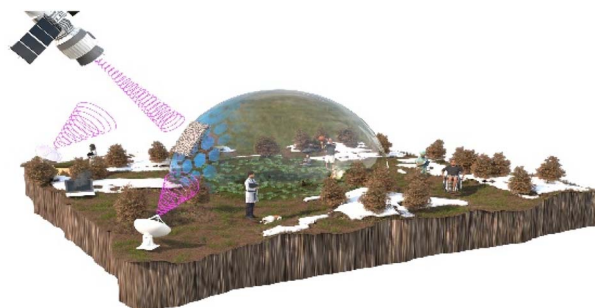
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Multiscale-void-containing low-density polyethylene/waste plastic porous carbon composites with electromagnetic shielding interference and thermal management capabilities

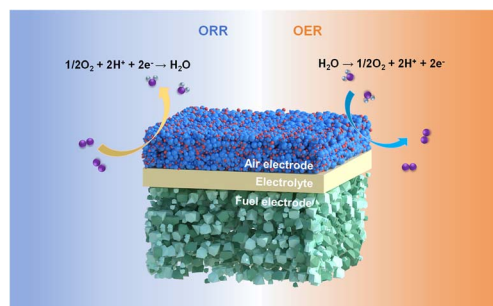
Youpeng Zhang, Na Zhang,* Xiaojun Zhang, Shouhang Cui, Chengqian Zhang, Xuemei Wang, Yingge Zhang, Hongfen Li and Yihe Zhang*



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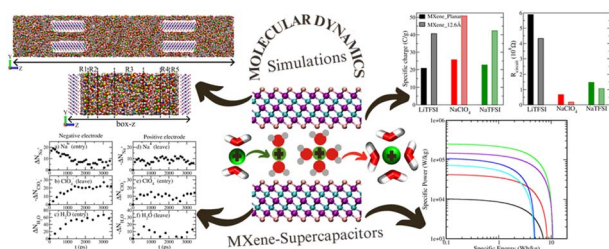
Achieving active and durable oxygen reduction/evolution reactions on protonic ceramic electrochemical cells with spinel-based air electrodes

Wanqing Deng, Yangsen Xu, Xirui Zhang, Jiaojiao Xia, Kang Xu, Hui Gao, Bote Zhao and Yu Chen*



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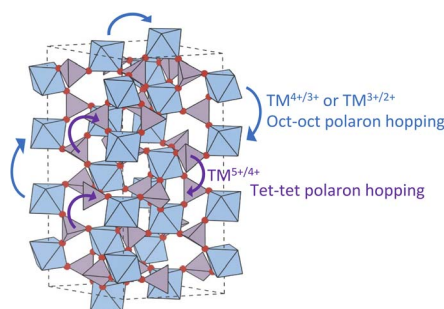
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Unveiling the energy storage of supercapacitors containing water-in-salt electrolytes confined in MXenes by molecular dynamics simulations

Isabel Amaral Silva, Abner M. Sampaio, Mathieu Salanne and Leonardo J. A. Siqueira*

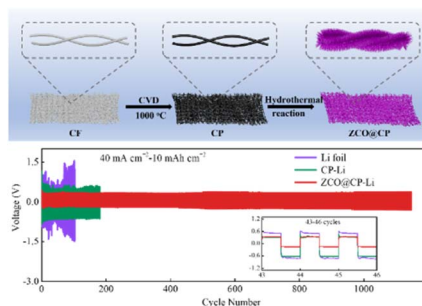
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Computational design of polaronic conductive Li-NASICON mixed ionic–electronic conductors

Jiawei Lin, KyuJung Jun* and Gerbrand Ceder*

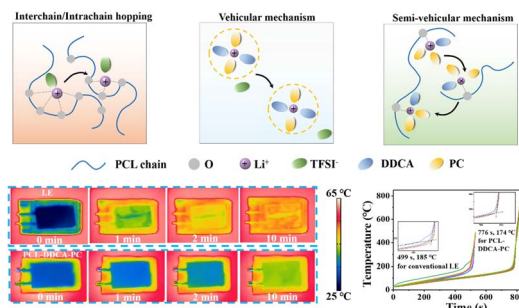
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A lithiophilic bimetallic oxide interlayer enabling high-rate and dendrite-free lithium metal anodes

Tengjun Yang, Wenrui Zheng, Yonghui Xie, Hong Zhang,* Caixia Zhang, Zhong-Zhen Luo, Shuying Cheng and Xinghui Wang*

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Boosting the lithium transport in phase-change polymer electrolytes towards stable cycling lithium metal batteries with thermal robustness

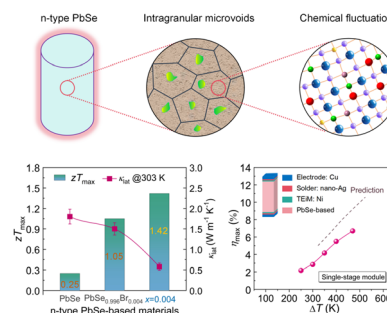
Yulong He, Zicheng Luo, Hongfei Xu, Zehong Yuan, Songmei Li, Shubin Yang* and Bin Li*



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Synergistic engineering of atomic disorder and porous architectures for ultralow lattice thermal conductivity and enhanced thermoelectric performance in n-type high-entropy lead chalcogenides

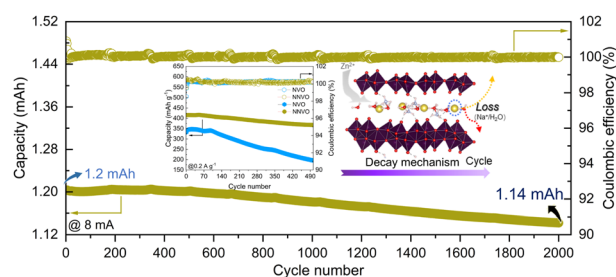
Qian Deng, Xiaobo Tan, Ruiheng Li, Yin Xie, Zhilong Zhao, Jiaping Luo and Ran Ang*



15702

Hybrid ternary co-intercalation in the interlayer of a vanadium oxide cathode enables high-capacity and stable zinc ion batteries

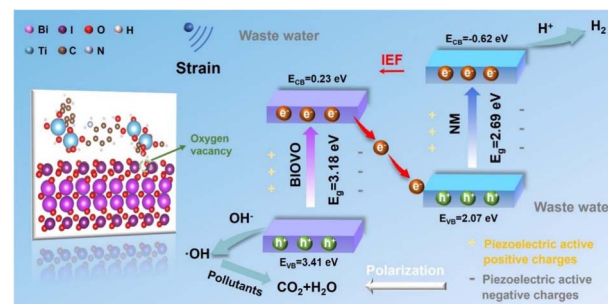
Minggang Zhang,* Heng Wu, Peng Chang and Longkai Pan*



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Polarization synergizes defective interface heterojunctions boosting piezocatalytic hydrogen production and simultaneous pollutant degradation

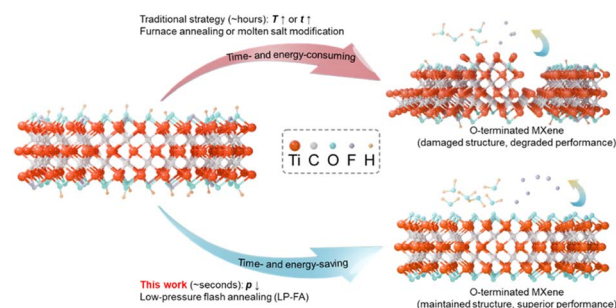
Chaofan Yuan, Na Tian,* Hongwei Huang* and Yihe Zhang*



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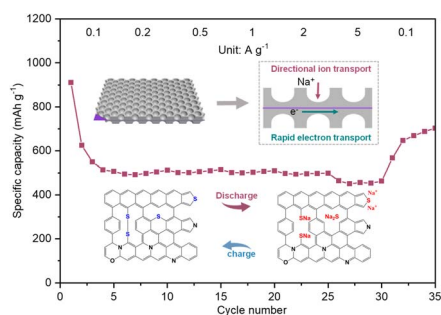
A general method for precise modification of –O termination on MXenes by low-pressure flash annealing

Shi-Hao Yin, Pei-Yu Cao, Tianze Zhang, Su-Fan Hu, Ming-Ze Yang, Hong-Yang Yuan, Xu Xiao,* Li Zhang* and Ye-Chuang Han*



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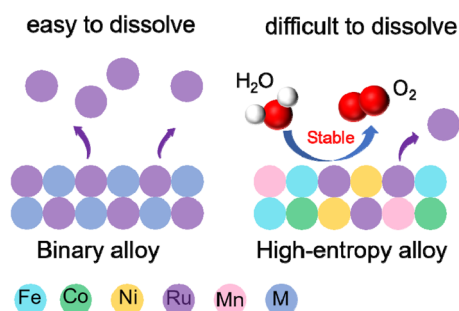
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Two-dimensional conductive mesopore engineering of ultrahigh content covalent sulfur-doped carbon for superior sodium storage

Jie He, Zhihao Sun, Lei Huang, Zijia Zhu, Wei Luo,^{*} Dongliang Chao^{*} and Fanxing Bu^{*}

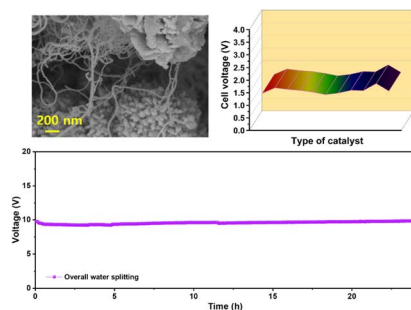
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Suppressing migration of Ru in a high-entropy alloy for durable acidic oxygen evolution

Le Su, Xiaokang Chen, Yi Tan, Wei-Qiao Deng, Hao Wu^{*} and Xiangyang Miao^{*}

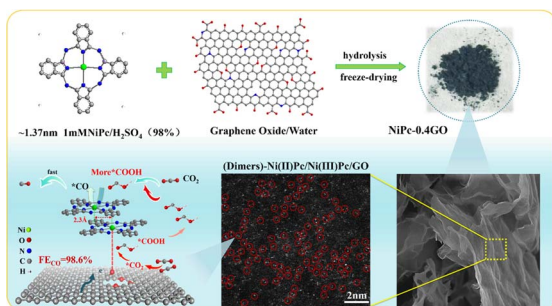
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Engineering of interfacial active sites in composites of troilite phase nano-leaves interacting with nickel oxide adorned carbon nanotubes for robust overall water splitting

Sajjad Hussain, Zulfqar Ali Sheikh, Ghazanfar Nazir, Iftikhar Hussain, Shoyebmohamad F. Shaikh, Hyun-Seok Kim, Deok-Kee Kim, Jongwan Jung and Dhanasekaran Vikraman^{*}

15762



Controllable dispersion of nickel phthalocyanine molecules on graphene oxide for efficient electrocatalytic CO₂ reduction

Jiaxin He, Yu Han, Xiao Xu, Miao Sun, Longtian Kang,^{*} Wenlie Lin^{*} and Jingjing Liu^{*}

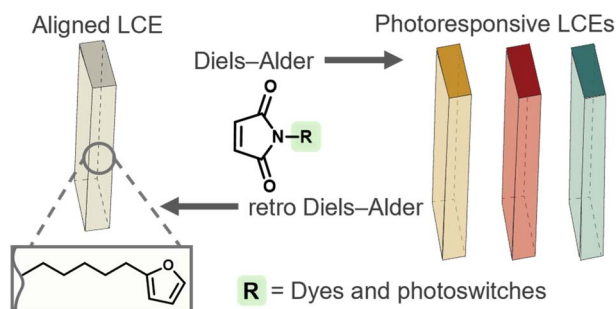


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Synthesis of photoresponsive liquid crystal elastomers: a general chemical approach

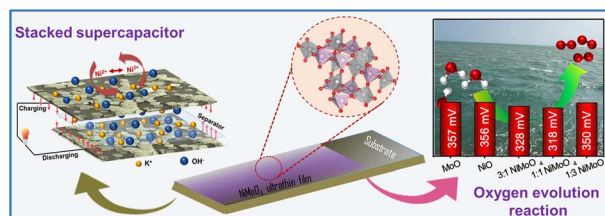
Jesus Guillen Campos, Minwook Park, Yuhang Wu, Sara Sandlass, Egor M. Novikov, Sophia J. Bailey, Michael Gordon, Tatiana V. Timofeeva and Javier Read de Alaniz*



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Structural engineering of bimetallic NiMoO₄ for high-performance supercapacitors and efficient oxygen evolution reaction catalysts

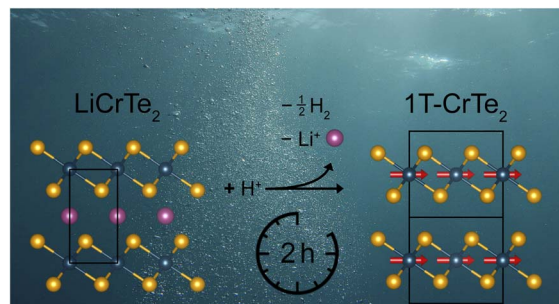
Sayali Ashok Patil,* Pallavi Bhaktapralhad Jagdale, Asif Iqbal, Samim Reza, Mallamma Jinagi, Parasmani Rajput, Amanda Sfeir, Sébastien Royer, Ranjit Thapa, Akshaya Kumar Samal and Manav Saxena*



15798

Efficient soft-chemical synthesis of large van-der-Waals crystals of the room-temperature ferromagnet 1T-CrTe₂

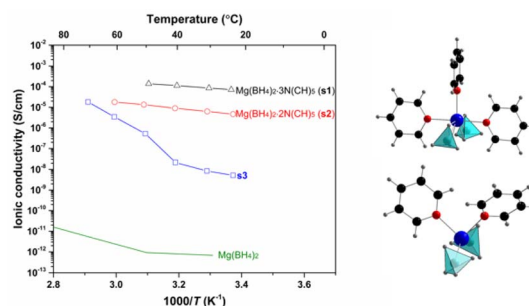
Kai D. Röseler, Catherine Witteveen, Céline Besnard, Vladimir Pomjakushin, Harald O. Jeschke and Fabian O. von Rohr*



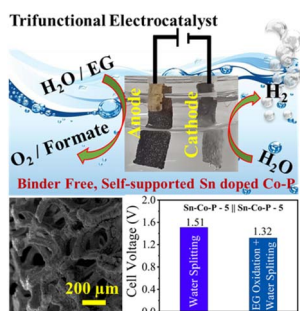
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Magnesium borohydride pyridine derivatives as electrolytes for all-solid-state batteries

Jakob B. Grinderslev and Torben R. Jensen*



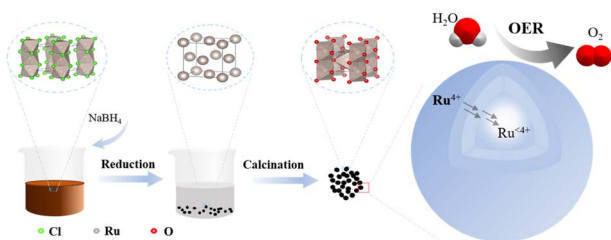
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Sn-doped Co–P-based trifunctional electrocatalysts for accelerating water splitting and hydrogen generation concurrent with ethylene glycol electrooxidation

Tanu Bagaria, Sougata Saha, Swapan K. Pati,^{*}
Anustup Sadhu^{*} and Bharati Debnath^{*}

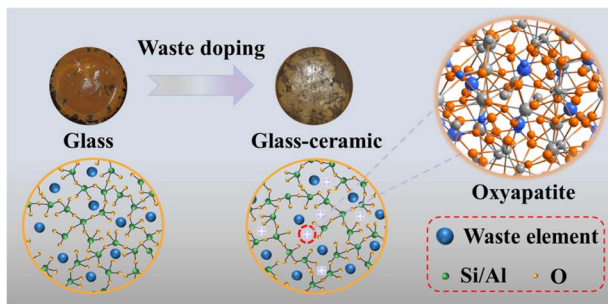
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Gradient oxygen vacancy engineering of RuO_{2-x} for efficient acidic water oxidation

Jieyu Yang, Chenyu Zhang, Ting Zhou, Yuanyuan Chen,
Yanqiu Wang, Kuang Sheng, Luqiong Liu, Jie Li,
Wenzhang Li and Yang Liu^{*}

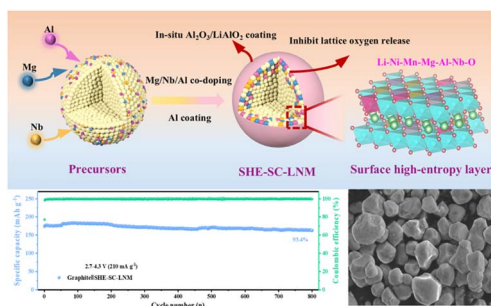
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Immobilize simulated Am–Np–RE–Pu product waste from trialkyl phosphine oxide process in natural granite-based aluminum silicate glass or glass–ceramic

Jiaqin Wei, Xiaoyan Shu,^{*} Wenhong Han, Ran Tan,
Mingfen Wen, Zhanqiang Li and Xirui Lu^{*}

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An ultra-high nickel cobalt-free cathode material toward high-energy and long-cycle stable Li-ion batteries: a single-crystal and surface high-entropy design strategy

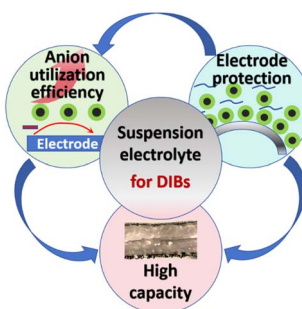
Jianyao Ma, Xin Huang, Ruijian Huang, Yang Tang,
Shengyi Huang, Yuhang Wang, Bin Huang, Jianwen Yang,
Yanwei Li,^{*} Meng Qin^{*} and Shunhua Xiao^{*}



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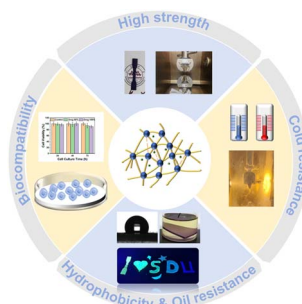
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Salt particle suspension electrolyte with trace-water for improving ionic concentrations at interfaces in zinc-based dual-ion batteries

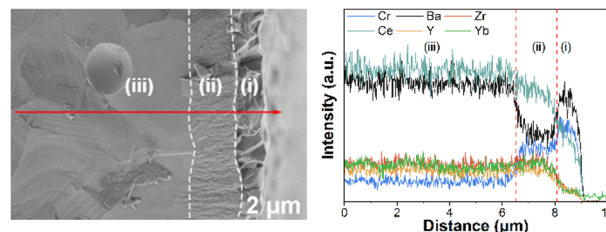
Yitao He,^{*} Fafa Yu and Jiří Červenka^{*}

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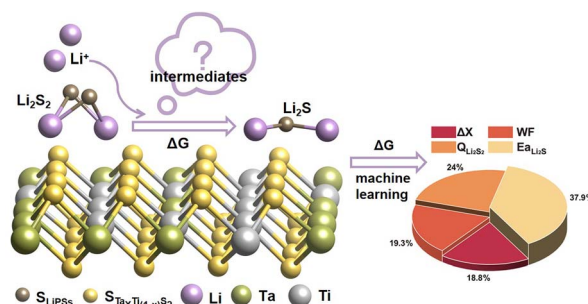
High-strength millable polydimethylsiloxane-based polyurethane elastomers with a broader application temperature range

Lanxin Qin, Jinfeng Cao, Shengyu Feng^{*} and Jie Zhang^{*}

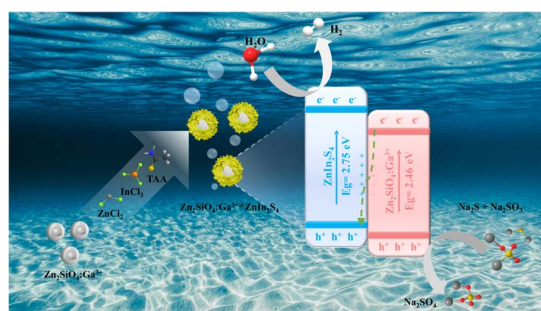
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Chromium deposition and poisoning of the proton-conducting BaZr_{0.1}Ce_{0.7}Y_{0.1}Yb_{0.1}O_{3-δ} electrolyte of protonic ceramic cellsMeiting Guo, Zhishan Li, Lang Tang, Jingwei Li, Zehua Wang, Bo Wang, Zongping Shao,^{*} San Ping Jiang^{*} and Zhongwei Yue^{*}

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Density functional theory studies on tuning Ta_xTi_(1-x)S₂ for insoluble Li₂S₂–Li₂S conversion in lithium–sulfur batteriesJinyan Chen, Shuai Zhao, Yuhan Wang, Ruiyu Hao, Chao Gao and Jianhua Hou^{*}

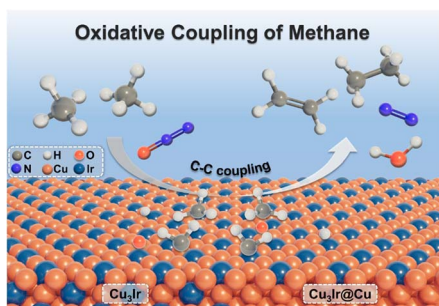
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An *in situ* grown ZnIn_2S_4 on $\text{Zn}_2\text{SiO}_4\cdot\text{Ga}^{3+}$ core–shell heterojunction for photocatalytic hydrogen production

Wenchao Wei, Mamutjan Tursun, Peng Yan, Aikelaimu Aihemaiti and Abdukader Abdukayum*

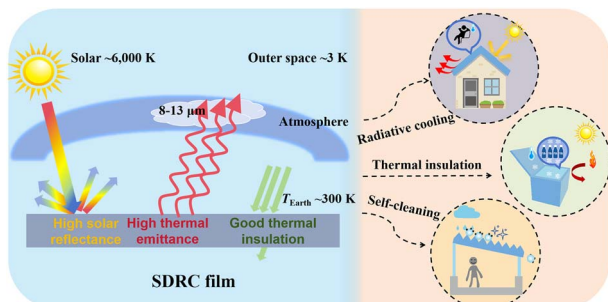
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Theoretical study of Cu-based alloy catalysts for oxidative coupling of methane

Ying-Fei Huo, Lei Zhou, Min Feng and Tong-Liang Hu*

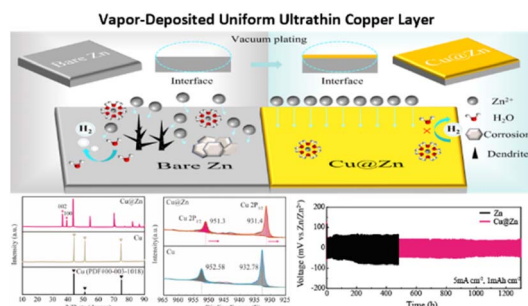
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Hierarchically structured superhydrophobic composite films for efficient radiative cooling and energy saving

Ruiming Tan, Hongbin Zhang, Le Wang, Yinyan Li, Peng Xue,* Shiqing Xu and Gongxun Bai*

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Improving zinc anodes with a vapor-deposited uniform ultrathin copper layer for enhanced ion distribution and dendrite suppression

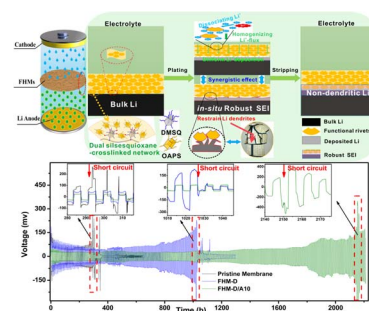
Weihoa Zhou, Junrun Feng,* Zhuo Chen, Ziming Wan, Haoyu Feng, Lin Sheng, Zhuo Peng, Wenyuan Zhang and Zhangxiang Hao*



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Constructing dual silsesquioxane-crosslinked network channels in hybrid polymer membranes for dendrite-free and durable high-power LMBs

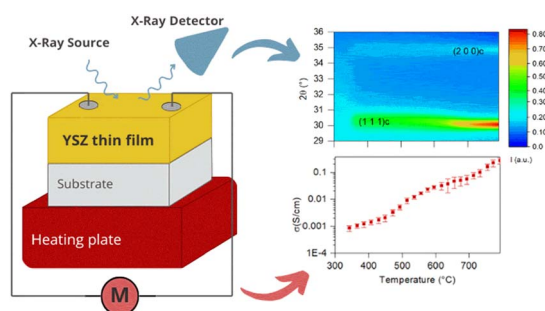
Lingli Liu,* Xuefeng Gui, Dongxia Li, Qiong Lin, Tian Zhang, Longfeng Sun, Zhongxin Wang, Xuan Song, Xiangfeng Sun, Yuxin Xue, Chongxian Luo and Kai Xu*



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Thermal evolution of sol-gel-synthesized 8YSZ thin films: insights from coupled *in situ* synchrotron diffraction and electrical conductivity measurements

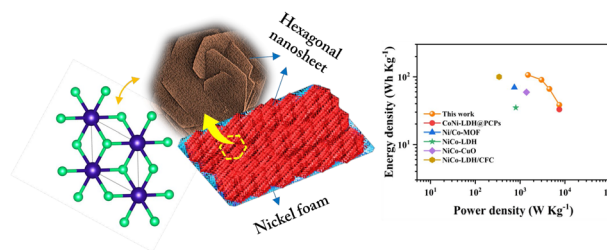
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Architecture of imidazolium-based poly(ionic liquid) s-cobalt hexagonal thin nanosheets for high-energy density, using membrane electrolytes

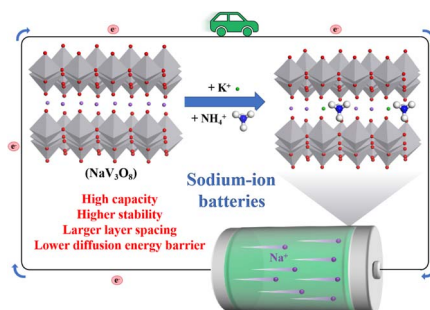
Abhishek Narayanan, Pavan T., Narad Barman, Nagaraj S. Naik, Ranjit Thapa, Chandra Sekhar Rout and Mahesh Padaki*



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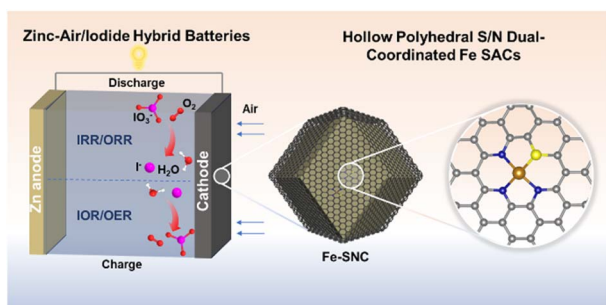
Boosting stability and rate performance in sodium-ion batteries: first-principles insights into K^+/NH_4^+ doped NaV_3O_8 cathodes

Xingyu Chen, Qiu He,* Yasi Liu, You Hu, Junhua Chen, Dingran Duan, Jing Su, Lele Tong, Chuanfang Zhang and Yan Zhao*



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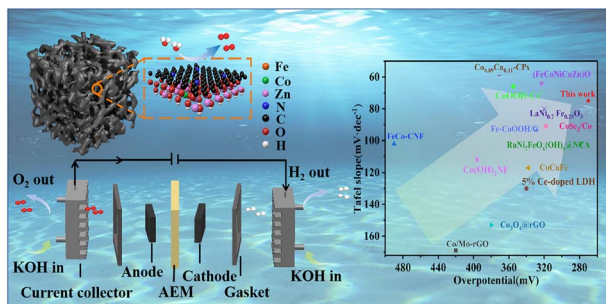
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Hollow polyhedral Fe single-atom catalysts with S/N dual coordination boosting oxygen and iodide redox for high-efficiency zinc–air/iodide hybrid batteries

Yuhao Liu, Huaipeng Pang, Ming Chen, Xueli Ji and Fanlu Meng*

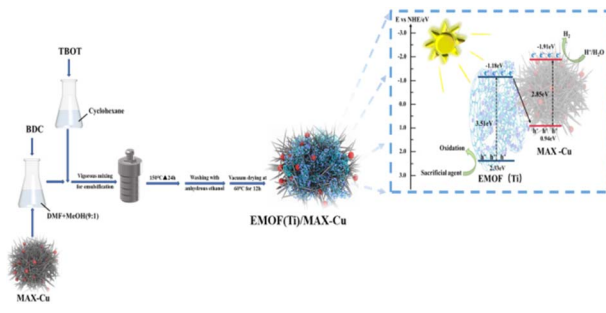
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An electronic structure tailored all non-precious Zn-promoted FeCo alloy anchored on a porous N-doped carbon aerogel by thermal reduction for boosting the oxygen evolution reaction

Yangxin Bai, Jiaxin Lu, Yanli Qi, Yitian Shao, Ran Xie, Xiaodong Wu,* Xiaodong Shen,* Sheng Cui and Zhanwu Wu

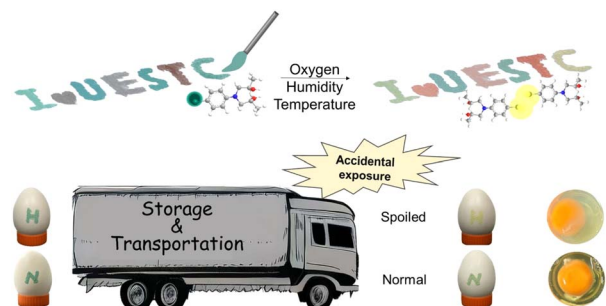
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Efficient hydrogen evolution by using two-dimensional EMOF(Ti)/MAX-Cu novel photocatalysts synthesized via the bi-phase emulsification method

Yuyi Wang, Jui-yeh Rau,* Zhujiang Mao, Qi Huang, Qiuhui Zhu, Zhiting Chen and Jian Huang*

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Thiol radical-based writable colormetric indicators

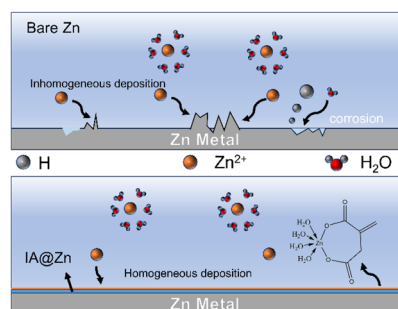
Ziming Zhang, Xin Hong, Weiming Xu, Xinhong Xiong, Jing Tu, Luzhi Zhang* and Jiaxi Cui*



16052

Constructing coordination compound interphases for superior zinc-ion battery performance

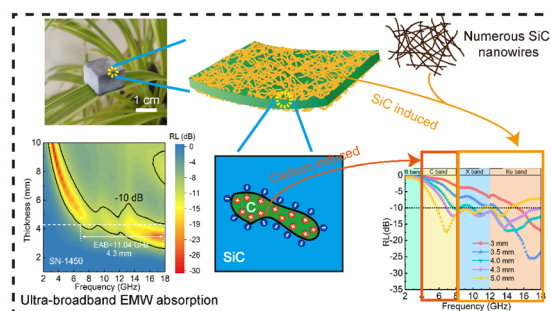
Kaiyuan Zhan, Di Li, Yujuan Pu, Qiwen Zhang, Danmei Yu, Zaifang Yuan, Xiaoyu Luo, Wenjing Yang* and Xueming Li*



16061

Optimizing the electromagnetic wave absorption bandwidth of SiC/C aerogels using continuous multi-band absorption

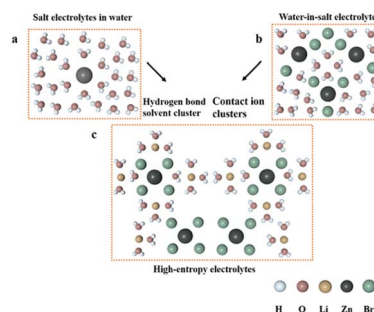
Jingxiang Liu, Haoquan Hao, Yuheng Zhang, Lishu Wei, Yi Cui, Qinghe Jing, Shouqing Yan, Jie Guo and Zhijiang Wang*



16070

Regulating the solvation structures through a high-entropy strategy for wide-temperature zinc-ion batteries

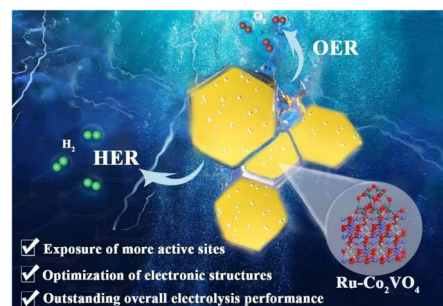
Jiahong Fan, Qian Li, Yu Chen, Jinyao Cui, Dedong Shan, Ximei Lv, Houfu Tu, Yang Zhang, Yuping Wu, Yuhui Chen* and Dengji Xiao*



16081

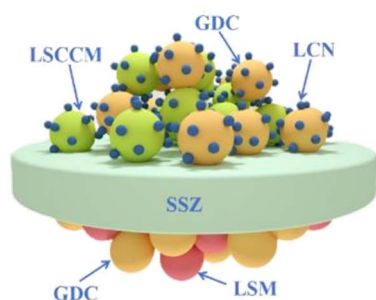
Cobalt vanadium bimetallic oxide nanoplates modified with RuO₂ for efficient electrocatalytic overall water splitting

Yang Huang, Ying Gu,* Jing Zhang, Bingyang Zhang, Dongxu Wang, Ying Xie, Aiping Wu* and Chungui Tian*



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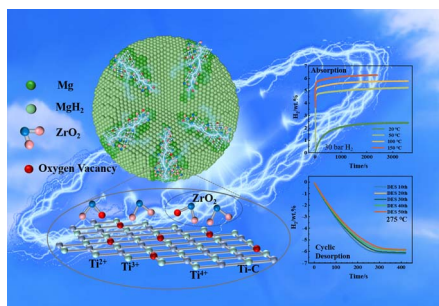
16092



An active and robust $\text{La}_{0.75}\text{Sr}_{0.25}\text{Cr}_{0.5}\text{Mn}_{0.5}\text{O}_3$ -based fuel electrode coated with *in situ* grown nanoparticles via electron conduction and oxygen exchange enhancements for solid oxide electrolysis cells

Bin Qian, Di Zhang, Pengkai Shan, Hui Ye and Yifeng Zheng*

16102

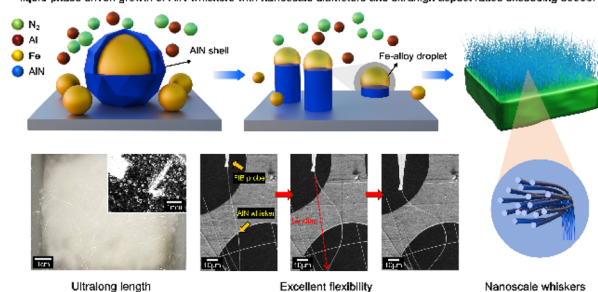


Synergistic effect of multivalent Ti, Zr, and oxygen vacancies to significantly enhance the hydrogen sorption properties of MgH_2

Fanqi Bu, Ali Wajid, Mengyue Gu, Ting Liu, Siyuan Liu, Xin Ji, Xin Liu, Shujiang Ding, Yonghong Cheng and Jinying Zhang*

16112

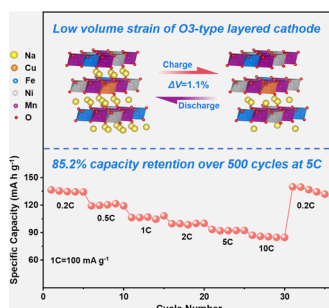
liquid-phase driven growth of AlN whiskers with nanoscale diameters and ultrahigh aspect ratios exceeding 80000.



Liquid-phase driven growth of ultralong, flexible AlN whiskers

Xiao Wang, Shengnan Meng, Cunyi Zhao,* Jianyong Yu and Yang Si*

16122



Cu and Fe doping realized a high rate and low volume strain O3-type layered oxide cathode for sodium ion batteries

Lin-Tao Lv, Zhi-Jie Zhu, Ming-Yuan Shen, Tao Wu, Bin He and Wen-Cui Li*

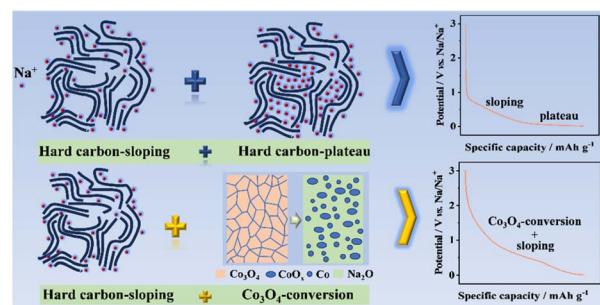


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16132

Sodiation-driven amorphous Co-based species in slope-dominated hard carbon with ultralong cycling life for sodium-ion hybrid capacitors

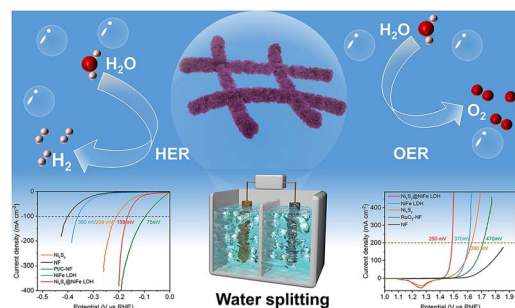
Ziyang Jia, Yibo Wang, Xi Chen, Lili Liu, Lijun Fu, Yuhui Chen, Xinhai Yuan,* Xinbing Cheng, Faxing Wang* and Yuping Wu*



16143

Efficient bifunctional water splitting catalysts enabled by crystalline–amorphous $\text{Ni}_x\text{S}_y\text{@NiFe}$ LDH heterojunctions

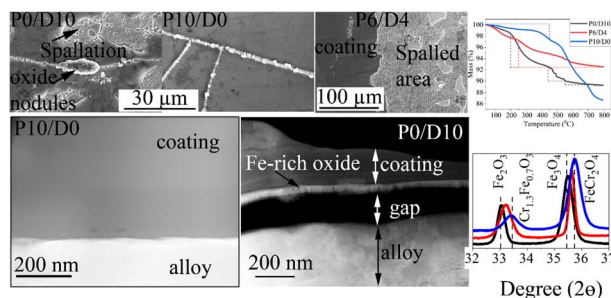
Shaobo Ye, Yong Xu, Xiaoyu Bai, Zhao Liang, Qiao Liu, Qiliang Wei, Dongjiang Yang, Weiyu Yang, Fengmei Gao* and Qing Shi*



16155

Oxidation behaviors of SiOCN coatings with tunable carbon content on stainless steel at 800 °C in Ar, Ar + H_2O , and air atmospheres

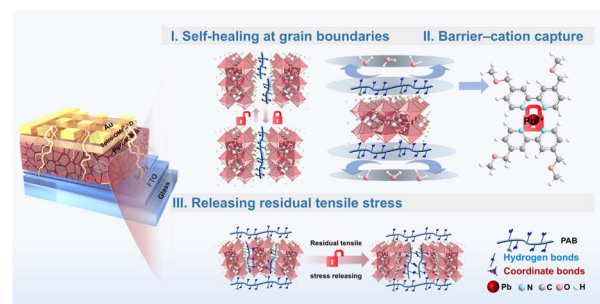
Mohammad Hassan Shirani Bidabadi, Hyeon Joon Choi and Kathy Lu*

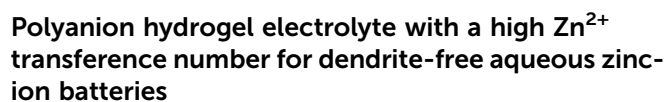


16171

Enhancing the stability of air-processed perovskite solar cells through a self-healing polymer with dynamic molecular locks for grain boundary engineering

Juxiang Chen, Jiangning Li, Tian Wang, Qisong Yuan, Xiangrong Shi, Xin Li* and Bo Jiang*





Juan Yu,^{*} Ming Li, Xuan Kong, Tian Wang, Hao Zhang,
Xiaojie Zhu, Junkai Zhao, Zhiyuan Ma and Hongying Yang

Hollow spherical Cu/CuO-Fe₃O₄ composites for high-efficiency photothermal co-catalysis of hydrogen evolution

Nan Lu, Fozia Sultana, Zhenyong Ying, Xiaofan Zhang,
Tongtong Li, Renhong Li,* Benxia Li* and Xiaoqing Yan*

Identifying rate-limiting steps in photocatalysis: a temperature- and light intensity-dependent diagnostic of charge supply vs. charge transfer

Yohei Cho,* Kyo Yanagiyama, Poulami Mukherjee,
Panitha Phulkard, Krishnamoorthy Sathian, Emi Sawade,
Toru Wada and Toshiaki Taniike*

Figure 1 illustrates the synthesis and electrochemical performance of the $M-TiO_2/\beta-Ag_2MoO_4$ heterostructure. The top part shows the chemical structures of $Ti_3C_2T_x$ and $\beta-Ag_2MoO_4$, and a schematic of their assembly into a heterostructure. The bottom part shows a stack of electrodes. The left graph shows the potential (V) vs. time (s) for a symmetric supercapacitor at 2k, 4k, 6k, 8k, and 10k cycles. The right graph shows the specific capacity (mAh/g) vs. cycle number for a full cell LIB at 3 C rate, with data for $M-TiO_2/\beta-Ag_2MoO_4$ (blue circles), $\beta-Ag_2MoO_4$ (red squares), and $M-TiO_2$ (green triangles).

MXene derived-TiO₂/β-Ag₂MoO₄ nanocomposite: a multifunctional electrode for enhanced energy storage in supercapacitors and lithium-ion batteries

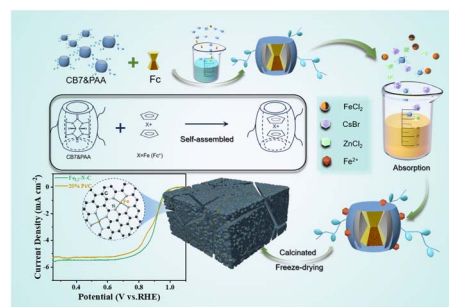
Neha D. Panchal and Helen Annal Therese*

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16228

A nitrogen-rich porous carbon electrocatalyst derived from supramolecular polymer-encapsulated iron precursors for the oxygen reduction reaction

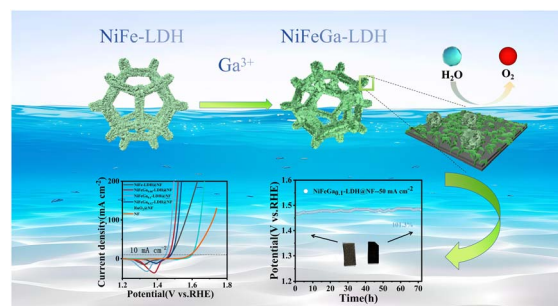
Shufei Zhu, Tao Wu, Jia Liu, Hai Huang, Biaohuang Liu, Jiashen Meng,^{*} Yiming Xie^{*} and Canzhong Lu^{*}



16241

Ga doping enhances the oxygen evolution reaction performance and stability of NiFe layered double hydroxides

Zhenghang Tian, Yuanyi Liu, Zhiyuan Chen, Zhi Wan, Jizhou Yang, Peilin Zuo, Mingxin Ren, Peng Hu, Feng Teng and Haibo Fan^{*}



CORRECTION

16250

Correction: Yolk-shell structured microspheres consisting of CoO/CoP hetero-interfaced nanocomposites as highly active hydrogen evolution reaction electrocatalysts for AEM electrolyzer stacks

In Tae Kim, Tae Ha Kim, Seong Jun Moon, Gi Dae Park^{*} and Yoo Sei Park^{*}

