

Journal of Materials Chemistry A

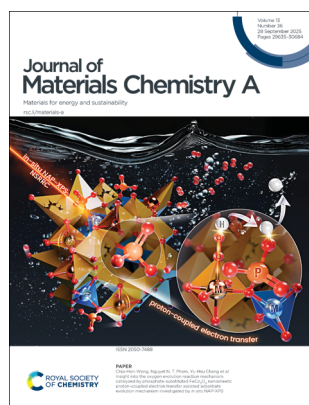
Materials for energy and sustainability

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IN THIS ISSUE

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Cover
See Chia-Hsin Wang, Nguyet N. T. Pham, Yu-Hsu Chang *et al.*, pp. 29900–29910. Image reproduced by permission of Yu-Hsu Chang from *J. Mater. Chem. A*, 2025, 13, 29900.



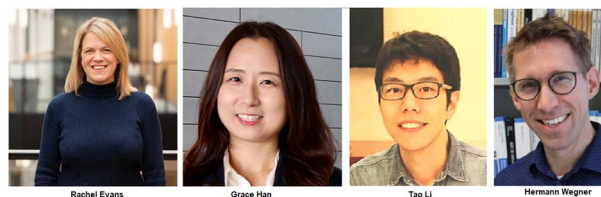
Inside cover
See Mohsin Saleem, Sofia Javed, Muhammad Zubair Khan, Jung-Hyuk Koh *et al.*, pp. 29911–29929. Image reproduced by permission of Mohsin Saleem and Jung-Hyuk Koh from *J. Mater. Chem. A*, 2025, 13, 29911.

EDITORIAL

29659

Molecular photoswitches for energy storage

Rachel Evans, Grace Han, Tao Li and Hermann A. Wegner



Rachel Evans

Grace Han

Tao Li

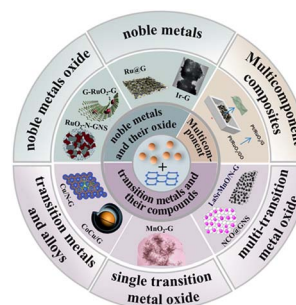
Hermann Wegner

REVIEWS

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Metal/metal oxide–graphene nanocomposites as cathode catalysts for lithium–oxygen batteries

Heyu Xiao, Zhiwei Yu, Yuecheng Xiong, Yunhao Wang, Fengkun Hao, Xichen Zhou, Jingwen Zhou,* Qisheng Fang, Jianli Cheng* and Bin Wang*



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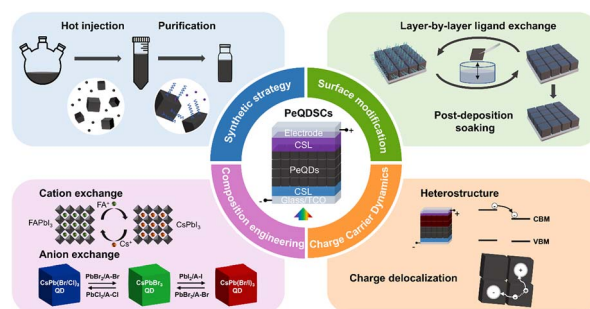
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REVIEWS

29688

Advancing the synthesis strategy and interface modification for efficient perovskite quantum dot solar cells

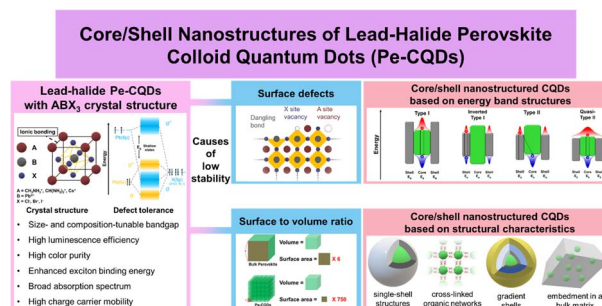
Yuanze Xu, Xiaoyu Zhang, Chenwei Zhu and Qiuming Yu*



29706

A comprehensive review of core/shell nanostructures of lead-halide perovskite quantum dots for improved optoelectronic performance and stability

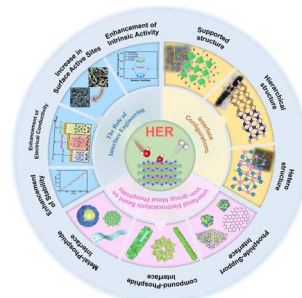
Jae Woo Kim, Jigeon Kim, Ju Young Woo* and Younghoon Kim*



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Recent advances in interface engineering of iron triad metal phosphide electrocatalysts towards enhanced hydrogen evolution reaction performance

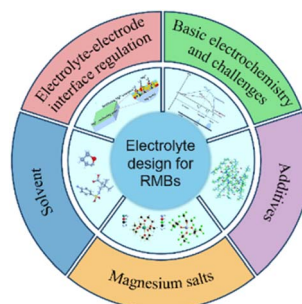
Jing Zhang, Menglei Sun, Hanyu Guo, Zhiliang Wang, Jiarun Cheng, Chaojie Lyu* and Yiming Liu*



29776

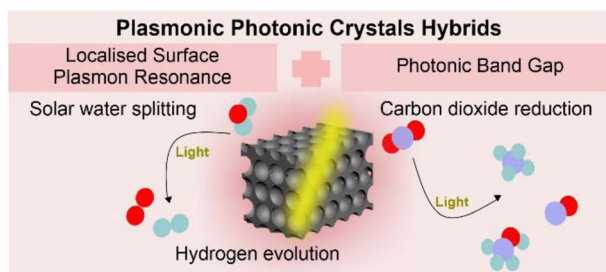
Electrolyte challenges and strategies toward better rechargeable magnesium-metal batteries

Yuanxiang Zhang, Tianlong Huang, Mengting Yuan, Maosheng Cui, Zhen Mu, Yang Zhang and Xiaolan Xue*



REVIEWS

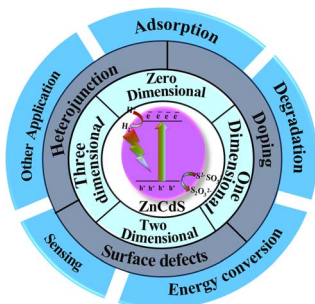
29806



Architecting light for catalysis: emerging frontiers in plasmonic–photonic crystal hybrids for solar energy conversion

Tharishinny Raja Mogan* and Hiang Kwee Lee*

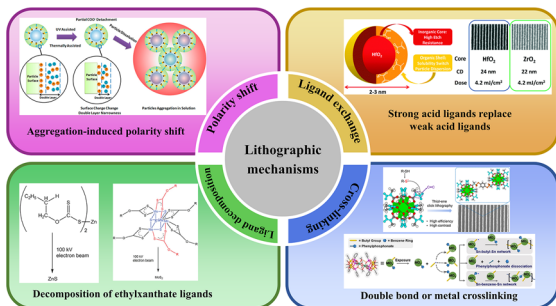
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Tuning ZnCdS heterostructures for enhanced photocatalysis: hybrid architectures for sustainable energy and environmental applications

Shabnam Sambyal, Pankaj Raizada, Akshay Chawla, Aftab Aslam Parwaz Khan, Sourbh Thakur, Van-Huy Nguyen* and Pardeep Singh*

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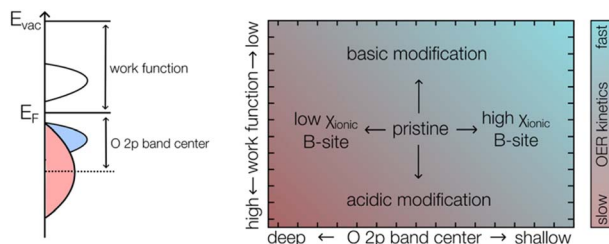


Advances in metal-based photoresist materials for EUV lithography and lithographic mechanisms

Yalong Wang, Haojie Yu,* Li Wang,* Yanhui Zhang, Zheyi Zhu, Ying Zhang, Yuguang Lu and Chenguang Ouyang

PERSPECTIVE

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Reducibility, adsorption energies, surface acidity – fundamental material properties for fast oxygen exchange

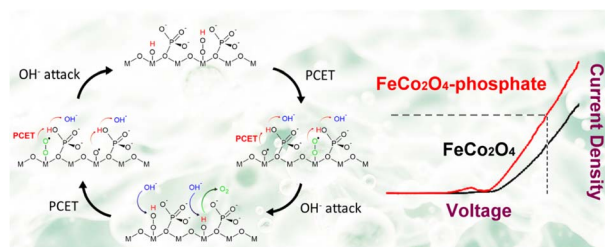
Matthäus Siebenhofer,* Filip Grajkowski, Clément Nicollet, Bilge Yildiz, Jürgen Fleig and Markus Kubicek



29900

Insight into the oxygen evolution reaction mechanism catalyzed by phosphate-substituted FeCo_2O_4 nanosheets: proton-coupled electron transfer assisted adsorbate evolution mechanism investigated by *in situ* NAP-XPS

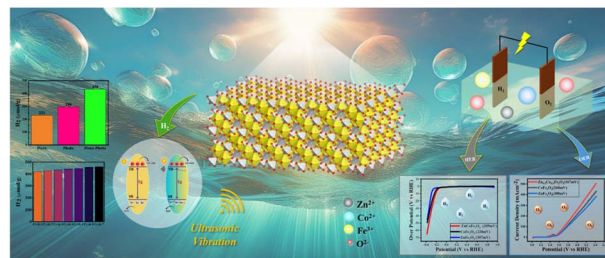
Nut Thanasuwanakul, Chueh-Cheng Yang, Pantita Prapamonton, Chia-Hsin Wang,* Nguyet N. T. Pham* and Yu-Hsu Chang*



29911

Coupling the power of spinel nanoparticles: dual-function metal ferrite catalysts for advanced piezo-photocatalytic and electrocatalytic water splitting

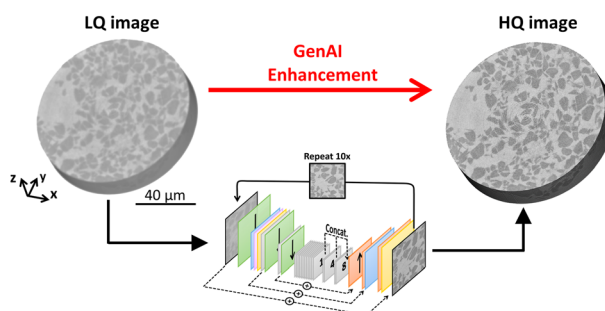
Saima Jabeen, Mohsin Saleem,* Farah Mumtaz, Sofia Javed,* Mukarram Ali, Muhammad Zubair Khan,* Jung-Hyuk Koh,* Adnan Maqbool, Abrar H. Baluch, Muhammad Bilal Khan Niazi and Iftikhar Hussain



29930

GenAI-enhanced 4D nano-tomography for advanced battery microstructure analysis

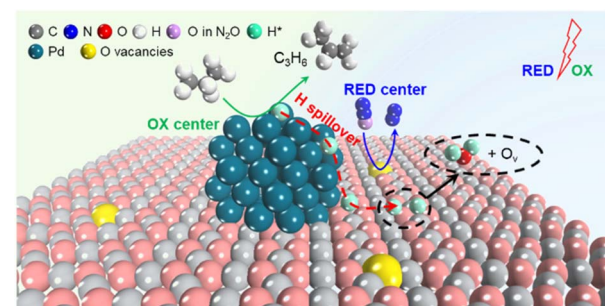
Michael Häusler, Raphael Wilhelmer, Rahulkumar J. Sinojiya, Olga Stamatii, Julie Villanova, Christoph Stangl, Stefan Koller and Roland Brunner*



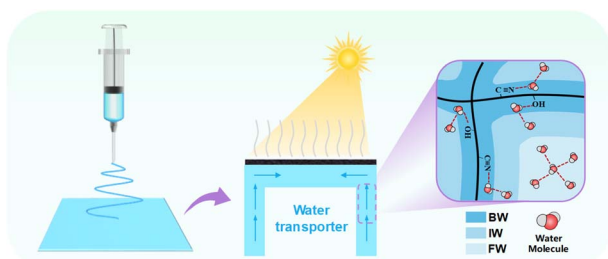
29943

Insights into the catalytic valorization of industrial high-concentration nitrous oxide for propylene synthesis

Yunshuo Wu, Yuxin Sun, Xuanhao Wu, Haiqiang Wang,* Lianzhou Wang* and Zhongbiao Wu*



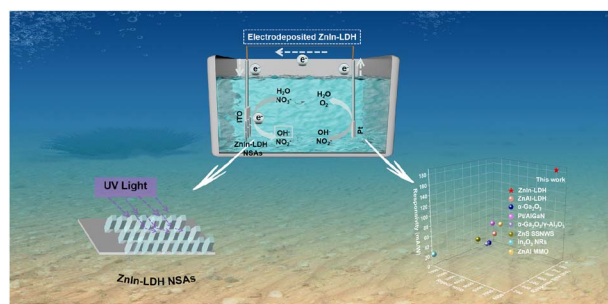
29956



Optimizing water content for high-performance fabric solar steam generation

Zhihao Liang, Maosong Tian, Jingfu Tian, Junbo Chen and Yuanpeng Xie*

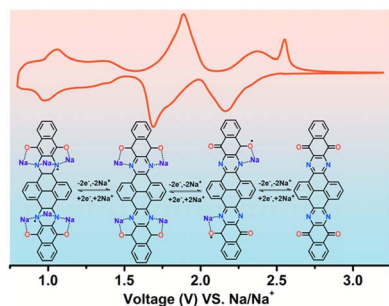
29965



High-performance underwater weak-light photoelectrochemical photodetection based on ZnIn-LDH nanosheet arrays

Wenhui Li, Yuan Zhang, Junxin Zhou, Xinghan Li, Nana Zhang, Sha Zhao, Zhitao Shao, Jiaming Liu, Guangmei Wu* and Wei Feng*

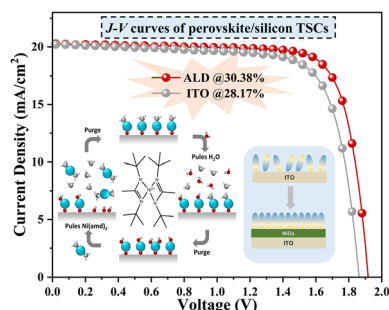
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N-heterocyclic π -conjugated quinone cathodes with multiple chelation for robust sodium batteries

Kun Fan,* Yuan Gu, Xin Kang, Huating Ruan, Lei Chen, Zijun Huang, Jingmei Wu, Yuan Chen, Shantang Liu* and Chengliang Wang*

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Hydroxyl-functionalized ultrathin NiO_x interlayer for minimized energy loss and enhanced interface stability in perovskite photovoltaics

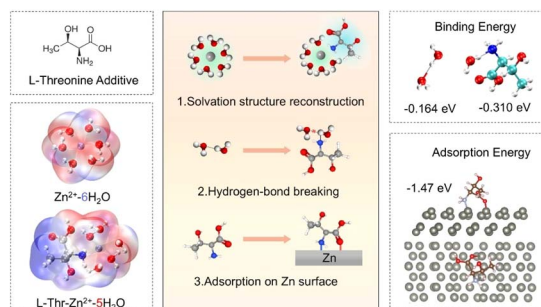
Xiao Jia, Zhen Chang, Kai Wang,* Jianxun Li, Shulin Wang, Hui Wang, Shiqi Rong, Qingshun Dong, Guozhen Liu, Yao Tong,* Siyi Liu, Dongdong Li* and Shengzhong (Frank) Liu*



29994

Synergistic solvation-surface engineering for high-performance aqueous zinc metal batteries

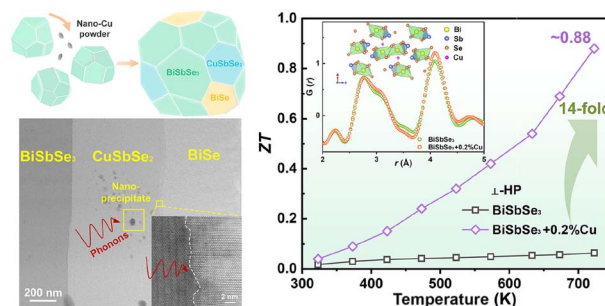
Kuhang Liu, Rui Huo, Dongming Xu,^{*} Chengjun Liu, Lishun Bai, Yue Liu, Ying He, Feiyan Yu, Keli Bu and Zhi Chang^{*}



30006

Multiphase microstructures enable high-performance BiSbSe₃/Cu thermoelectric composites

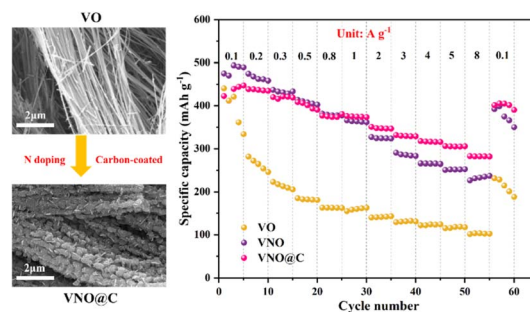
Xiaowei Shi, Saichao Cao, Yu Yan, Quanwei Jiang, Shuyue Tan, Huijun Kang,^{*} Enyu Guo, Zongning Chen, Rongchun Chen^{*} and Tongmin Wang^{*}



30019

VN_xO_y@C nanowires: a high-performance cathode material for aqueous zinc-ion batteries with dual-redox reaction mechanisms

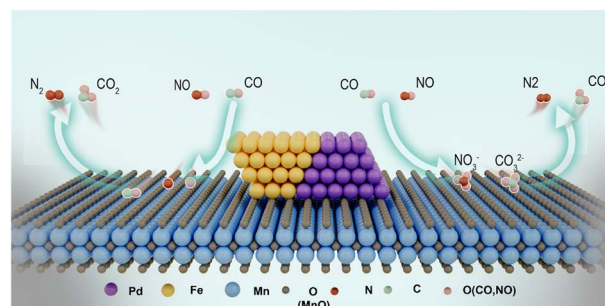
Bin Tang, Yongsheng Xiang, Xinlu Li, Chaohe Xu^{*} and Ronghua Wang^{*}



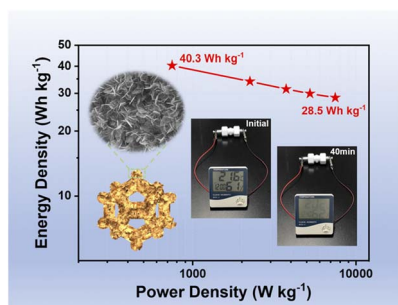
30029

Fe-induced transformation of OMS-2 to MnO with tailored oxygen vacancies for enhanced CO-SCR performance

Qingwei Li, Kaiting Chen, Xinyu Han, Cheng Rao,^{*} Xiangguang Yang and Yibo Zhang^{*}



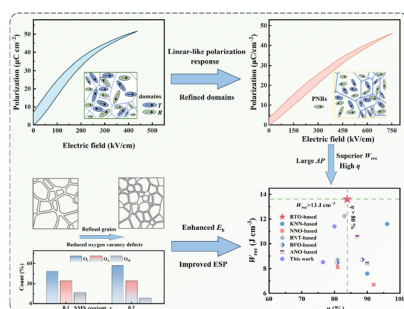
30044



Oxygen vacancy-enriched NiFe-MOF/Ti₃C₂T_x MXene composite as a binder-free cathode for high-performance hybrid supercapacitors

Yuting Hu, Jianing Yu, Jingyuan Zhang, Jing Zhang, Zhuo Wang, Jiawei Wang and Bin Zhao*

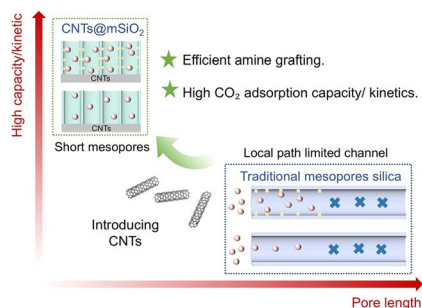
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Synergistically enhanced energy storage performance of Bi_{0.47}Na_{0.47}Ba_{0.06}TiO₃-based relaxor ferroelectrics via dual engineering of dynamic nanodomains and defect regulation

Jiangping Huang, Liang Deng,* Yu Zhang, Yue Pan, Xiuli Chen,* Xu Li* and Huanfu Zhou

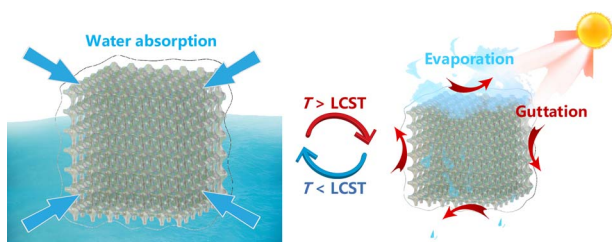
30065



Amine-functionalized CNTs@mSiO₂ with short radical mesochannels for fast and efficient CO₂ capture

Liju Bai, Xiaotong Jiang, Yimin Deng, Shuai Wang and Helei Liu*

30073



A bio-inspired thermo-responsive hydrogel purifier for effective water harvesting in seawater

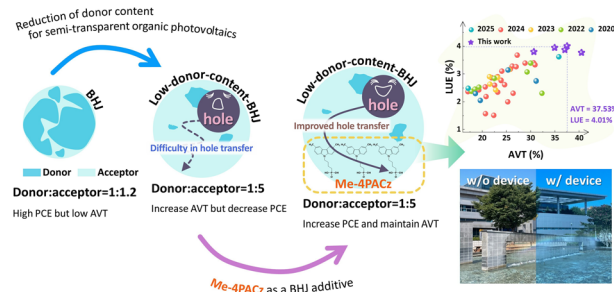
Yang Xiao, Yanqiong Bao, Lang Liu, Wanlin Xu, Da Li, Xiong Zheng,* Guangzhao Qin and Qing Li



30084

Achieving excellent charge balance and transport in low-donor bulk heterojunctions for high-performance semitransparent organic photovoltaics

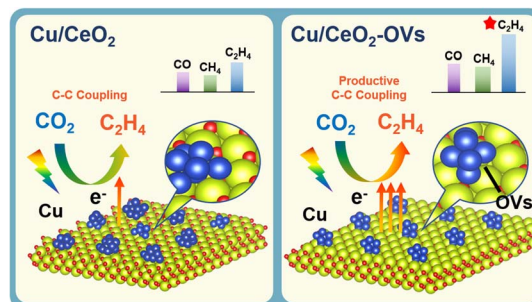
Juhui Oh, Ju-Hyeon Kim, Oskar J. Sandberg, Yong Ryun Kim, Chang-Mok Oh, In-Wook Hwang, Gangadhar Banappanavar, Kiyoung Park, Sanseong Lee, Hongkyu Kang* and Kwanghee Lee*



30095

Interfacial synergy between Cu nanoclusters and oxygen vacancies on CeO₂ for enhanced selective photoreduction of CO₂ to C₂H₄

Shicheng Liu, Xiangyu Chen, Junbo Yu, Na Li and Qulan Zhou*



30108

Scalable template-free synthesis of B, N co-doped carbon bowls anchoring ultrafine Li₃VO₄ nanocrystals for high power density and durable lithium-ion batteries

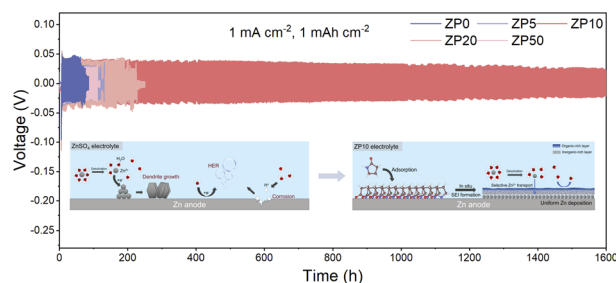
Xiaobin Xian, Guangyu Li, Meichun He, Yuan Du, Dongmei Zhang, Cunyuan Pei, Pengju Li, Bing Sun* and Shibing Ni*



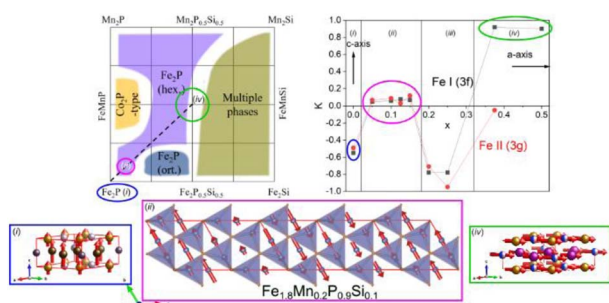
30118

Adsorption-induced dual-layer solid electrolyte interface toward a highly reversible Zn anode

Jie Yang, Tianjiang Sun, Min Cheng, Weijia Zhang, Zhengtai Zha, Diantao Li, Jing Liang* and Zhanliang Tao*



30128

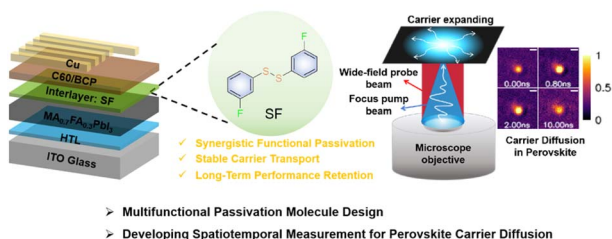


Revealing complex magnetic interactions in Fe₂P-based compounds: a study using Mössbauer spectroscopy and neutron diffraction

Karthika K. Thilakan, Sagar Ghorai, Wei Liu, Lennart Häggström, Fredrik Lindgren, Vladimir Pomjakushin, Premysl Beran, Oliver Gutfleisch, Peter Svedlindh and Johan Cedervall*

30140

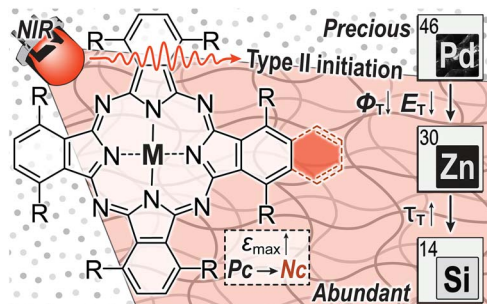
Stable Carrier Transport Enable Efficient Blade-Coat Perovskite Solar Cells Fabricated in Ambient Air



Synergistic passivation and stable carrier transport enable efficient blade-coated perovskite solar cells fabricated in ambient air

Jian-An Li, Hailong Ma, Xiangpeng Ding, Shuoren Li, Bin Han, Wangxian Chen, Sihao Huang, Shuyan Chen, Yuelin Kuang, Zixi Liu and Chang Yan*

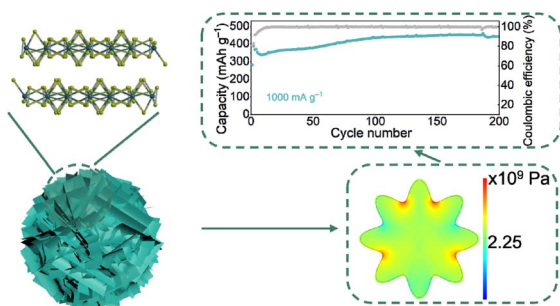
30151



Design of phthalocyanine metal complexes for efficient far-red to near-IR light-initiated photopolymerizations

Connor J. O'Dea, Lauren M. Loftus, Tod A. Grusenmeyer, Jussi Isokuortti, Justin Ong, Sean T. Roberts* and Zachariah A. Page*

30158



Hierarchical vanadium sulfide nanosheets with expanded interchain spacing for high-performance sodium-ion batteries

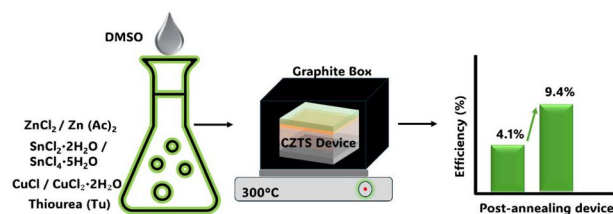
Jianbiao Wang,* Peidian Chong, Wanwisa Limphirat, Haiyi Wang, Wutthikrai Busayaporn, Lei Zhang, Debbie Hwee Leng Seng, Shengnan Sun, Zainul Aabdin, Chaoyu Dong, Mingdeng Wei* and Zhi Wei Seh*



30167

In ambient air processed $\text{Cu}_2\text{ZnSnS}_4$ absorber layers from DMSO-based precursors: enhanced efficiency via device post-annealing

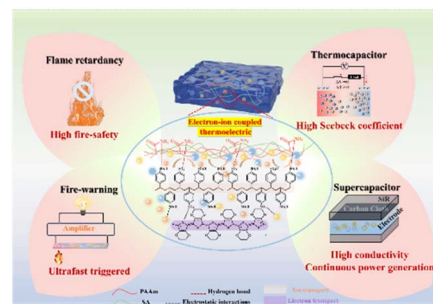
Achmad Nasyori,* Maris Pilvet, Annabel Saar, Jüri Krustok, Mati Danilson, Reelika Kaupmees, Valdek Mikli, Yuancai Gong, Raavo Josepson, Edgardo Saucedo, Maarja Grossberg-Kuusik and Marit Kauk-Kuusik



30180

Electron-ion coupling enables ionic hydrogel with high thermopower for low-grade heat harvest and sensitive fire warning

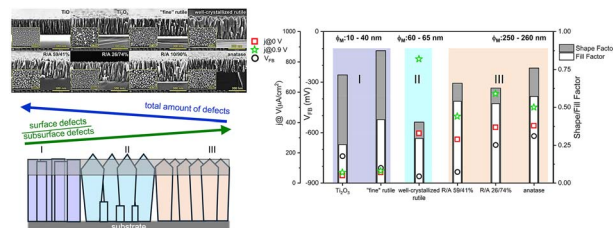
Weiguo Wang, Zexi Zhao, Zhengzhong Wu, Zizheng Xiong, Qingtao Zeng, Jiefeng Gao, Hongqiang Li, Xingrong Zeng* and Xuejun Lai*



30191

Surface and bulk properties of black, blue and transparent TiO_x thin-film photoanodes for green hydrogen generation by water splitting

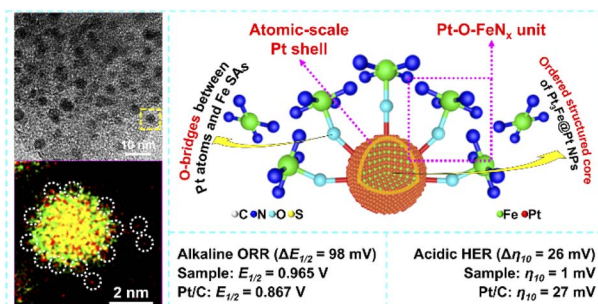
Katarzyna Ptacheta, Matthijs A. van Spronsen, Pilar Ferrer, Marta Radecka and Katarzyna Zakrzewska*



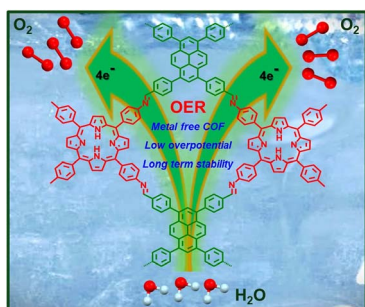
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High-density small $\text{Pt}_3\text{Fe}@\text{Pt}$ nanoparticles in carbon materials becoming superior bi-functional catalysts through oxygen bridges with Fe single atoms

Benteng Sun, Qi Xu, Hang Lv, Zhengxing Lv,* He Tian* and Haibing Xia*



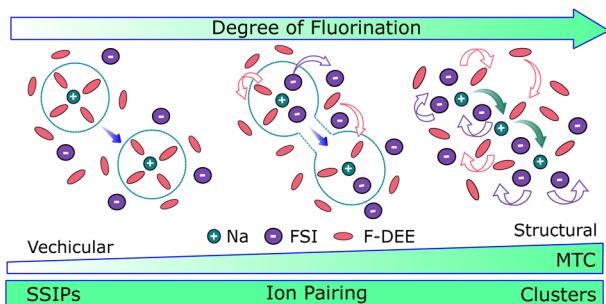
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Metal free donor–acceptor covalent organic frameworks as efficient electrocatalysts for oxygen evolution reaction

Kamal Prakash, Imtiaz Ahmed, Rakesh Deka and Shaikh M. Mobin*

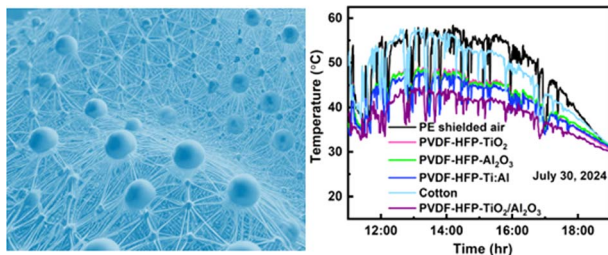
30224



Beyond vehicular transport: fluorination-induced structural diffusion in ether electrolytes

Sidhant Kumar Barik and Hemant Kumar*

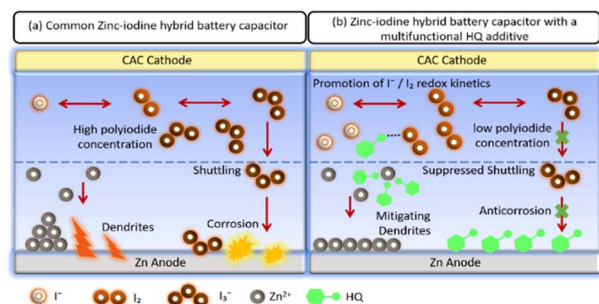
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Electrospun bilayered PVDF-HFP-TiO₂/Al₂O₃ nanofiber membranes for high-performance passive radiative cooling

Dhandayuthapani Thiyagarajan, Shichen Li and Bong-Kee Lee*

30244



Multifunctional hydroquinone additive for enhanced zinc–iodine hybrid battery capacitors: suppressing polyiodide shuttle effects and dendrite growth

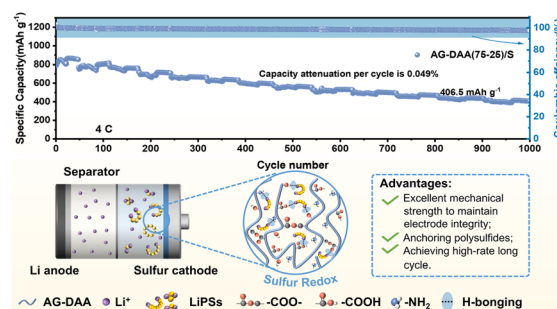
Balamurugan Selvaraj, Sungjin Kim, Junji Piao, Muhammad Hilmy Alfaruqi, Balaji Sambandam, Vinod Mathew and Jaekook Kim*



30254

A novel aqueous aspartic acid modified biomass binder for high-performance Li-S batteries

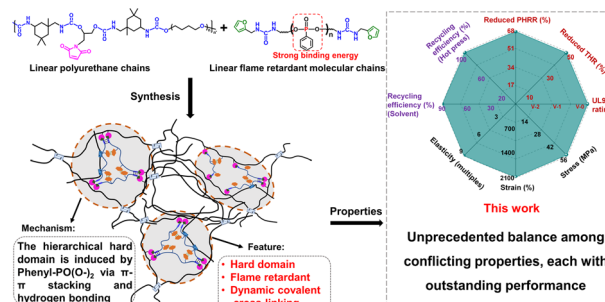
Qian Wang, Shasha Liu, Feifan Liang, Ruiqi Wang, Xiaoqiang Cai, Ya-Xiong Wang* and Xingxing Gu*



30265

Spider silk-mimetic cross-linked elastomer: phenyl phosphonate-driven hierarchical hard domain for unprecedented integrated flame retardancy, mechanical robustness and recyclability

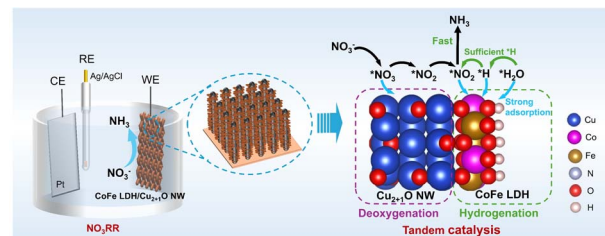
Shihu Han and Xiaoping Hu*



30280

Tandem catalysis for nitrate reduction to ammonia boosted by CoFe-layered double hydroxide on Cu₂O nanowires in neutral media

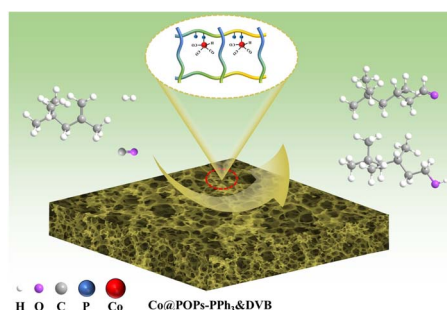
Yijun Duan, Peizhen Yang, Shuo Zhang, Qinan Song, Yameng Li, Xiang Liu and Miao Li*



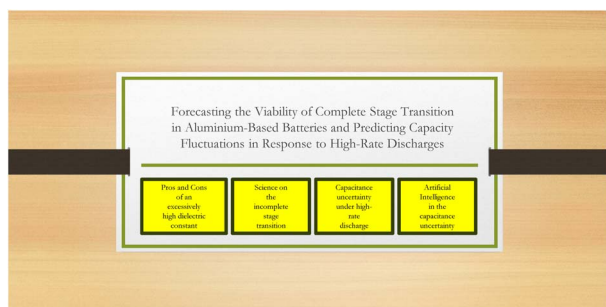
30291

Tuning the coordination microenvironment of Co sites embedded in porous organic polymer for the hydroformylation of diisobutylene

Hong Wei, Cunyao Li, Guangjun Ji, Miao Jiang, Benhan Fan, Sen Feng, Xinyuan Liu, Lei Ma, Li Yan* and Yunjie Ding*



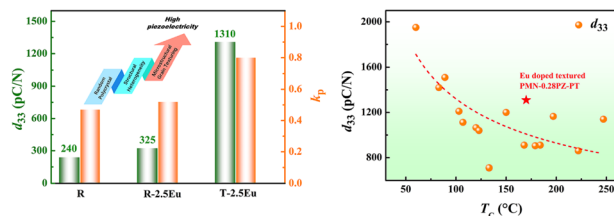
30301



Forecasting the viability of complete stage transitions in aluminium-based batteries and predicting capacity fluctuations in response to high-rate discharges

Xuanming Chen, Ka Chun Li, King Cheong Lam, Zeyuan Di, Wai Keung Loh, Chak-yin Tang, Yuk Ming Tang, Wing Cheung Law, Chi Pong Tsui, Jiyan Dai, Leung Yuk Frank Lam,* Xijun Hu* and Chi Ho Wong*

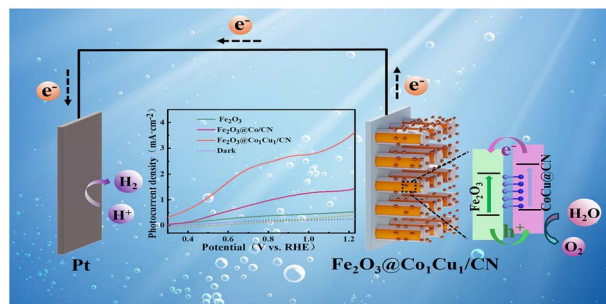
30311



Exceptional piezoelectricity and high electromechanical coupling coefficients in Eu^{3+} -doped PMN-PZ-PT textured ceramics via synergistic heterogeneity engineering

Yan Zhu, Guicheng Jiang,* Shengpeng Han, Ran Lei, Piqi Song, Yingchun Liu, Shan-Tao Zhang, Danqing Liu, Bin Yang* and Wenwu Cao

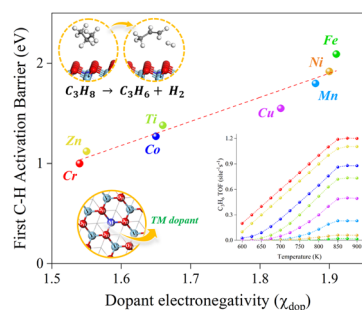
30324



Revealing the synergistic role of the CoCu alloy and CN derived from a bimetallic MOF in promoting photoelectrocatalytic water oxidation

Huanhuan Wu, Xiang Li, Shuangshuang Huai, Shijian Zhang, Wenbin Ruan, Xiuxiu Huang, Congliang Cheng, Mingxuan Qu, Ping Li,* Xinyao Yu* and Xiufang Wang*

30338



Unveiling the role of dopant electronegativity in improving the catalytic performance of MXene catalysts in propane dehydrogenation using microkinetic simulations

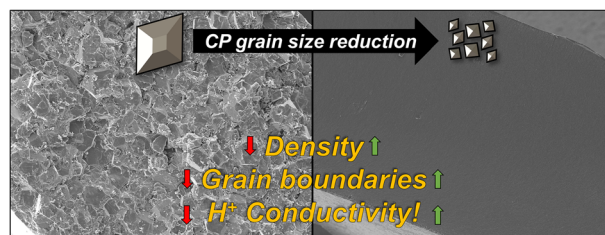
Aqsa Abid, XiaoYing Sun,* Yuqing Tang, HuiJie Wang and Bo Li*



30349

Microstructural effects on intermediate temperature proton conduction in an oxalate-based coordination polymer

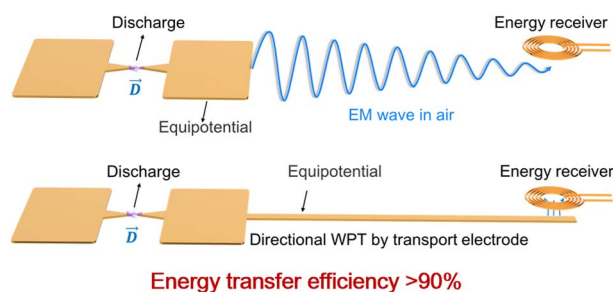
Ellan K. Berdichevsky, Kazuyoshi Kanamori and Satoshi Horike*



30358

Discharge-induced wireless nanogenerator for energy harvesting and directional wireless power transfer with over 90% efficiency

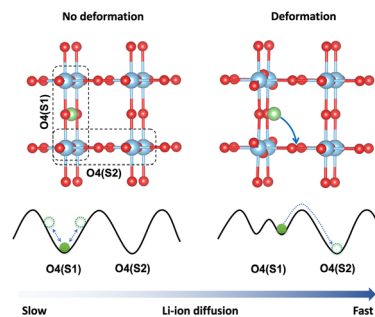
Xin Xia, Bowang Zhang, Haoyu Wang, Zuoqing Luo, Xi Tian, Wei Han* and Yunlong Zi*



30370

Ion diffusion driven by dynamic lattice deformations in perovskite solid electrolytes

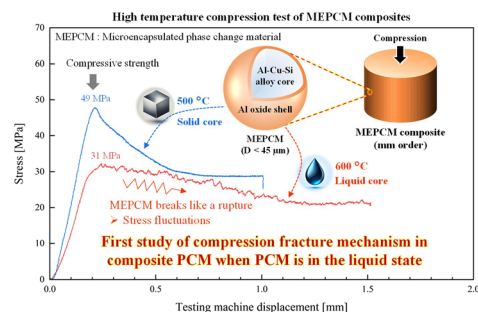
Bo Gao,* Randy Jalem and Yoshitaka Tateyama*



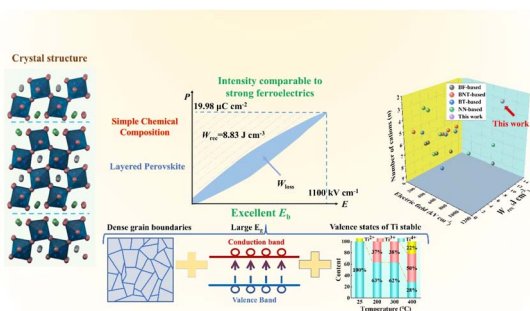
30382

High-temperature composite phase change material with "concrete-like" strength even beyond the eutectic temperature

Yuto Shimizu, Takahiro Kawaguchi, Joshua Chidiebere Mba, Tomokazu Nakamura, Keita Tanahashi, Melbert Jeem and Takahiro Nomura*



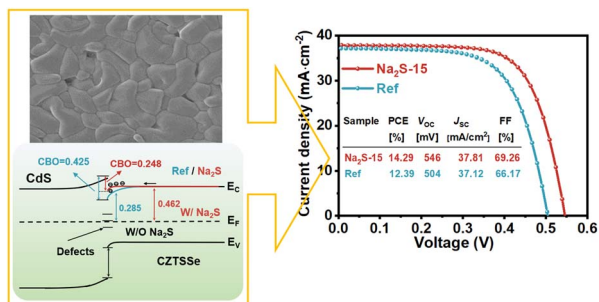
30399



Lead-free $\text{La}_2\text{Ti}_2\text{O}_7$ dielectric ceramics with ultra-high energy storage density and electric field durability through layered ferroelectric layers

Teng Sui, Tao Wang, Qin Feng,* Changlai Yuan, He Qi, Nengneng Luo,* Xiyong Chen, Zhenyong Cen and Jiwei Zhai*

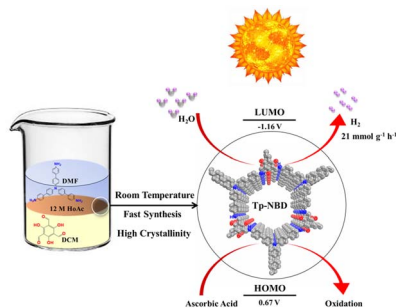
30411



Simultaneously optimizing the heterojunction band alignment and passivating the absorber grain boundaries for kesterite solar cells with 14.26% efficiency

Pengfei Lu, Yuanyuan Wang, Wenxing Zhang, Shuai Cao, Yuena Meng,* Dongxing Kou, Wenhui Zhou, Zhengji Zhou, Yafang Qi, Shengjie Yuan, Litao Han and Sixin Wu*

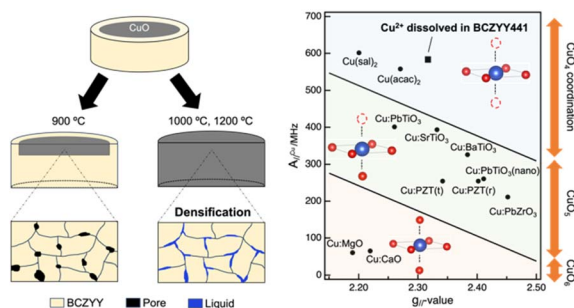
30419



Liquid-liquid interfacial approach for the facile synthesis of Tp-NBD COFs for efficient photocatalytic hydrogen production

Syeda Andleeb Zahra Naqvi, Ateeq Ur Rehman Baloch, Umm Y. Umna, Kamran Muzaffar, Tayyab Sohail Aslam, Jinsong Chen* and Yaobing Wang*

30427



Spectroscopic analysis of Cu^{2+} dissolved in Y- and Yb-doped barium zirconates and its impact on sinterability and proton conduction

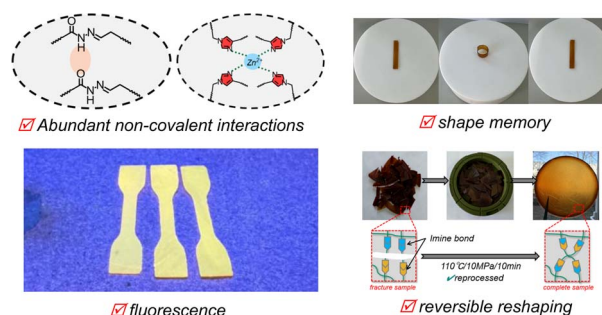
Yuto Unaki, Hiroaki Kawamori, Shohei Kobayashi, Norikazu Osada, Akihiro Ishii, Itaru Oikawa and Hitoshi Takamura*



30436

A degradable and tough supramolecular epoxy network with shape memory and clustering-triggered emission functions

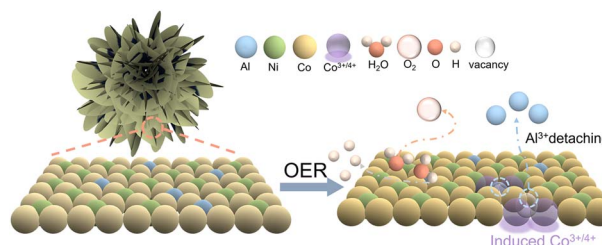
Cheng-wang Shi, Xiao-dong Li, Hao Jiang, Xing Su, Xiao-xuan Wang, Xu-feng Zhang* and Mei-shuai Zou*



30447

Detachment of aluminium in NiCoAl-LDH modulates the active metal species to enhance oxygen evolution reaction activity

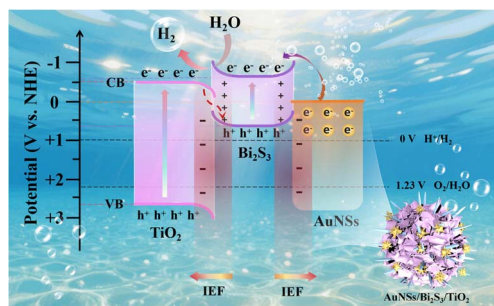
Tong Li, Yan-Kai Huang, Han Feng, Luo-Tian Lv, WenHao Zou, TongXin Tang, Kai-Hang Ye* and Yong-Qing Wang*



30457

Au nanostars/Bi₂S₃/TiO₂ Schottky/S-scheme dual heterojunctions for efficient photocatalytic hydrogen evolution

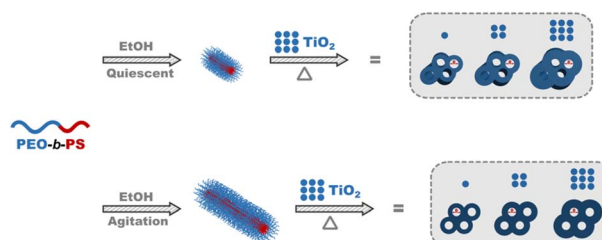
Yuxin Sun, Jinhua Li,* Zhiying Wang and Hancheng Zhu



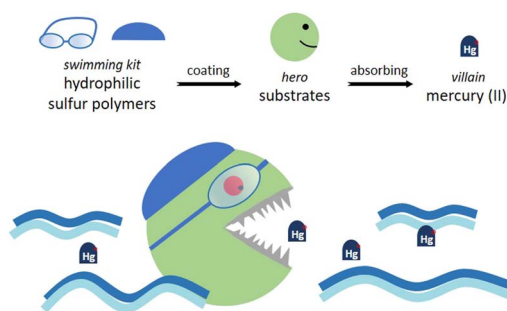
30467

Growth of cylindrical micelles and their use to prepare porous materials with tailored dimensions and alignment

Mengxue Zhang, Xiaomeng Li, Chuanbing Tang and Morgan Stefik*



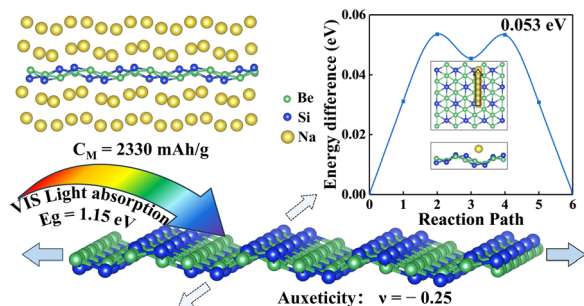
30480



Inverse vulcanised sulfur polymers as hydrophilic coatings

Xi Deng,* Joseph J. Dale, Pan Yang and Tom Hasell*

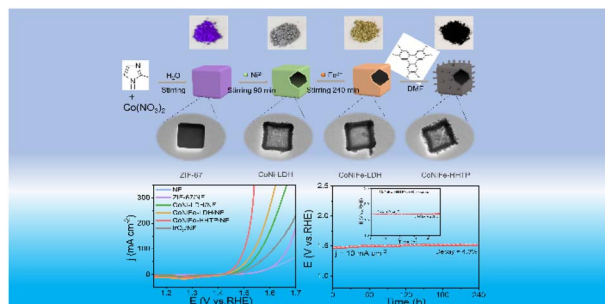
30490



A multifunctional beryllium silicide monolayer with negative Poisson's ratio and high-capacity sodium-ion storage

Zhiyu Fang, Jiaxin Jiang, Hongyan Guo, Weiyi Wang, Zhiwen Zhuo* and Ning Lu*

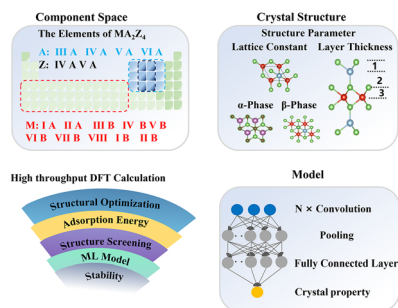
30500



Conductive metal–organic–framework enhanced highly efficient electrocatalytic performance of hollow CoNiFe-LDH nanocages for the oxygen evolution reaction

Saiya Guo, Huihui Li, Manman Shi, Qianqian Zhu, Jieding Wei, Qingqing Zha and Yonghong Ni*

30509



Deep-learning-assisted high-throughput discovery of metallophilic MA₂Z₄ nanomaterials

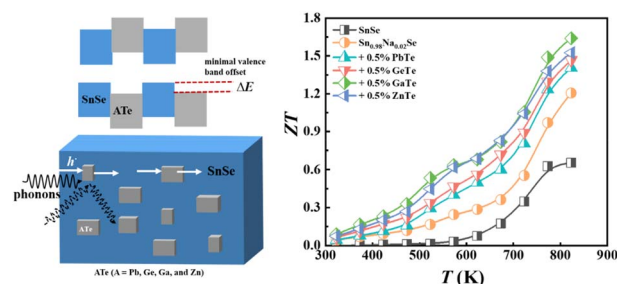
Peng Zhang, Xiang Feng, Dominik Legut, Chao Lin, Haohao Dong, Zhihao Li, Zhi Wei Seh and Qianfan Zhang*



30519

Effects of a second phase with different bandgaps on the thermoelectric performance of polycrystalline SnSe materials

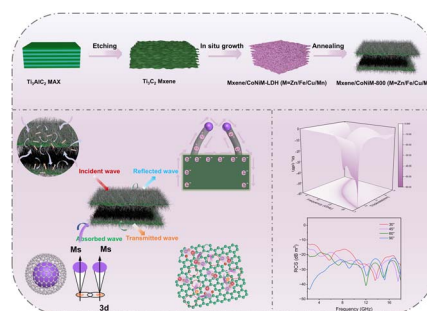
Ze Li, Xing Yang, Tian-En Shi, Yang-Wei Wang, Wang-Qi Bao, Si-Jiang Huang, Yi-Xin Zhang, Jing Feng, Zhen-Hua Ge* and Li-Dong Zhao*



30531

Dual-regulation of magnetization and multi-interfacial strategies in MXene/CoNiM-800 (M = Fe/Cu/Mn/Zn) hierarchical structures for synergistic microwave absorption

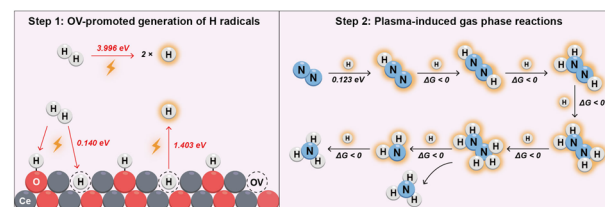
Shan Jian, Hongyu Hu, Ying Zhang, Chenguang Ouyang, Haojie Yu* and Li Wang*



30546

Plasma-derived hydrogen radical-mediated N_2 activation for mild ammonia synthesis: insights into the importance of oxygen vacancies in the reaction mechanism

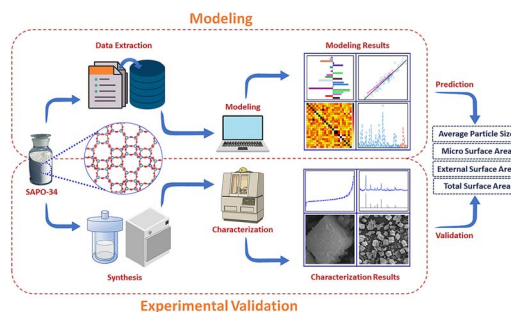
Shijian Luo, Yongduo Liu, Lin Guo, Yang Song, Yuran Yang, Fadong Chen, Linhu Wang, Yanan Chen,* Siguo Chen* and Zidong Wei



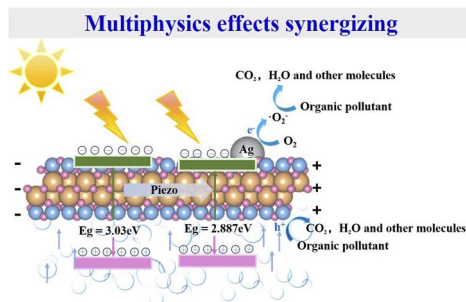
30554

AI-designed hierarchical SAPO-34 catalyst breakthrough with experimental verification

Ali Pourian, Ali Rahmanifard, Sina Maghsoudy,* Mona Torabi Verki, Mehdi Salami-Kalajahi and Sajjad Habibzadeh*



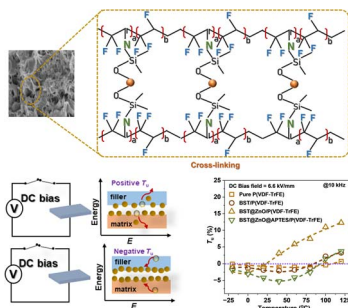
30576



Ultrafast photocatalytic degradation enabled by atomically dispersed Ag on BiOIO₃ nanosheets: unraveling synergistic photo-thermal-ferroelectric effects

Luyu Zhou, Sixiang Liu, Guolong Wu, Quan Xie,*
Wang Zhang,* Jie Peng, Shuhui Sun* and Junlong Tian*

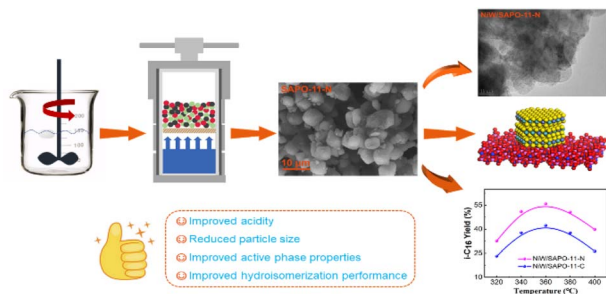
30587



Interface-engineered core-shell nanoparticle embedded polymer nanocomposite demonstrating low voltage and temperature dependent tunable dielectric response

Arif Hussain, Suibin Luo, Jawaria Jawaid, Tengyu Li,
Junyi Yu, Pengpeng Xu, Zijun Wang and Shuhui Yu*

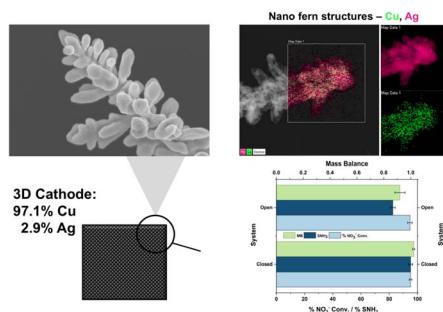
30599



SAPO-11 molecular sieve synthesized *via* a novel alcohol-water solvent vapor-induced self-assembly conversion method and the hydroisomerization performance of its NiWS-supported catalyst

Xiaojun Dai,* Tingting Liu, Lingjuan Mao and Zixuan Lv

30618



Electroless generation of nano-silver fern catalysts upon Cu foam as a highly effective bimetallic electrocatalyst design for ammonia electrosynthesis

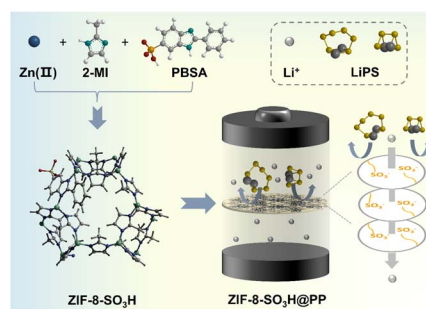
Kenneth Flores,* Colleen Gately, Ivory Flemister,
Emma Mast, Gabriel A. Cerrón-Calle, Manuel A. Roldan
and Sergi Garcia-Segura*



30632

A sulfonate ligand hybrid ZIF-8 modified separator achieved high-performance Li–S batteries

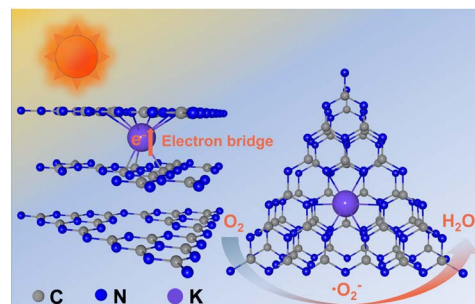
Xinzhao Xia, Yixian Xiao, Wenting Xie, Jiale Liu, Yinuo Yu, Yunxiao Ren, Jiajun Chen, Bo Yang, Jiaying Zhang, Zhou Yang, Wei Hu* and Huai Yang



30642

Surface defect engineering and MOF derivatives regulate the electron transport pathway of polymeric carbon nitride for an efficient photocatalytic 2e⁻ oxygen reduction reaction to form H₂O₂

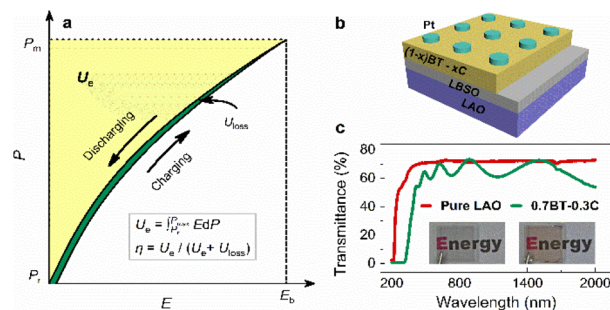
Min Liu, Siyuan Di, Hailan Qin, Pin Chen, Yunkang Liu, Huan Liu, Qiuyue Zhang, Zihan Li and Shukui Zhu*



30652

Highly transparent electrostatic energy storage capacitors based on CeO₂-doped BaTiO₃ lead-free nanocomposite films

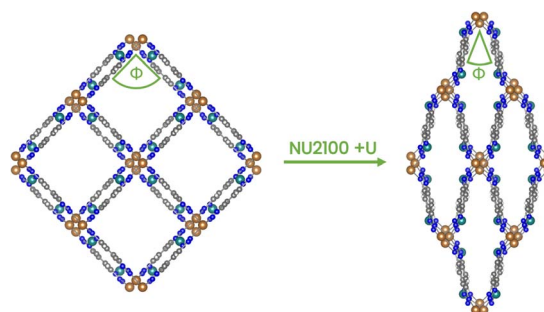
Zhengyang Kong, Jiahang He, Yufan Guo, Xu Wang, Wei Gan, Pingfan Chen, Kun Han, Xianbing Miao,* Zhen Huang* and Liqiang Xu*



30661

Electron-correlation driven structural instability and adsorption mechanism in the metal–organic framework NU2100

W. Graham, T. Jenkins, C. Fivecoat, J. H. West, E. C. Hill, Y. Zeng, S. Ullah and T. Thonhauser*



Hygroscopic films integrated with the fin structure: a long-term cooling solution for fin heat exchangers

Chengzhi Hu,^{*} Yanhui Jiang, Haiyuan Zhang, Yong Cai, Yubai Li and Dawei Tang

