

Journal of Materials Chemistry A

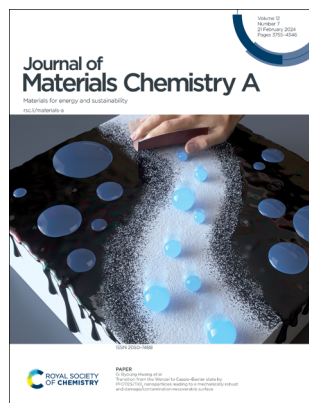
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ISSN 2050-7488 CODEN JMCAET 12(7) 3755–4346 (2024)



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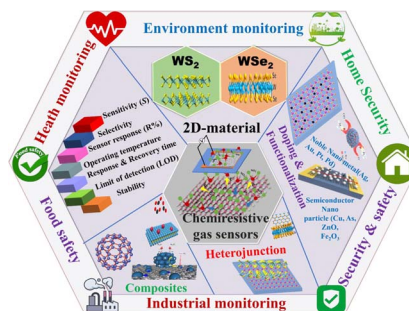
See Gi Byoung Hwang *et al.*, pp. 3886–3895. Image reproduced by permission of Ki Joon Heo from *J. Mater. Chem. A*, 2024, 12, 3886.

REVIEWS

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Strategic review of gas sensing enhancement ways of 2D tungsten disulfide/selenide-based chemiresistive sensors: decoration and composite

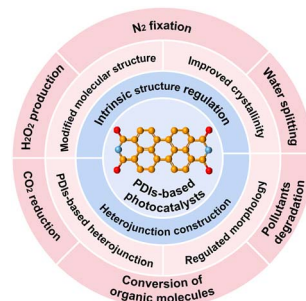
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Bin Yang, Liliang Lu, Shiyu Liu, Wenjin Cheng, Hao Liu, Chao Huang, Xintao Meng,* Raul D. Rodriguez* and Xin Jia*



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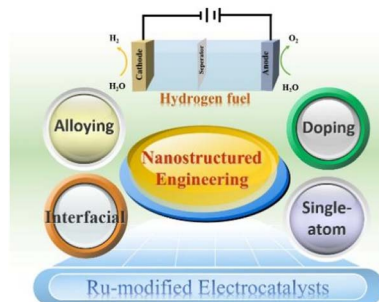
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Nanostructure engineering of ruthenium-modified electrocatalysts for efficient electrocatalytic water splitting

Yun Tong and Pengzuo Chen*

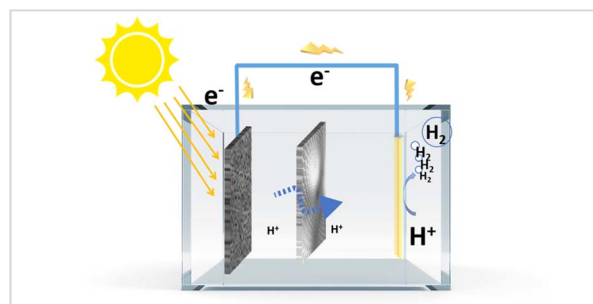


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Enhanced photoelectrocatalysis in porous single crystalline rutile titanium dioxide electrodes

Fangyuan Cheng, Longmei Liang, Guoming Lin* and Shaobo Xi*

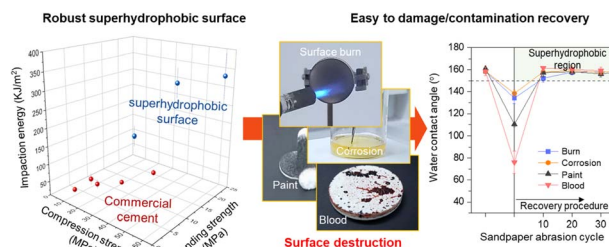


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Transition from the Wenzel to Cassie–Baxter state by PFOTES/TiO₂ nanoparticles leading to a mechanically robust and damage/contamination-recoverable surface

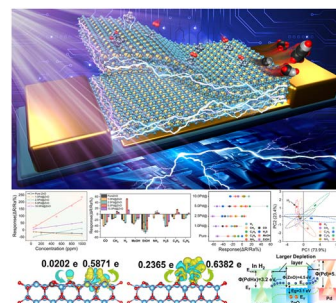
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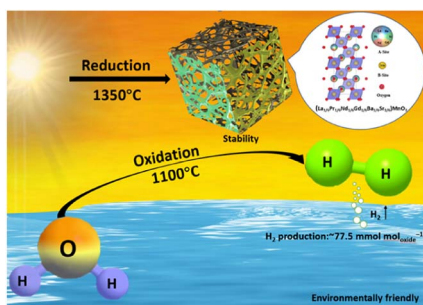
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Ultra-effective room temperature gas discrimination based on monolithic Pd@MOF-derived porous nanocomposites: an exclusive scheme with photoexcitation

Peiyu Duan, Haowen Wang, Qingkui Peng, Shiyao Chen, Hongmin Zhou, Qiangling Duan, Kaiqiang Jin* and Jinhua Sun*



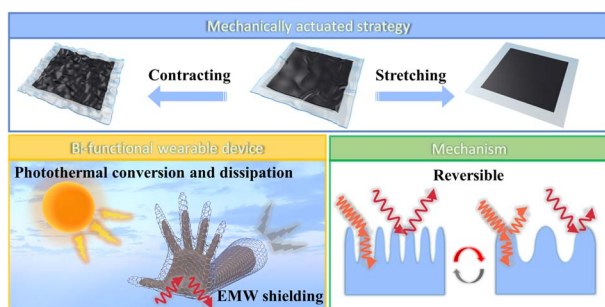
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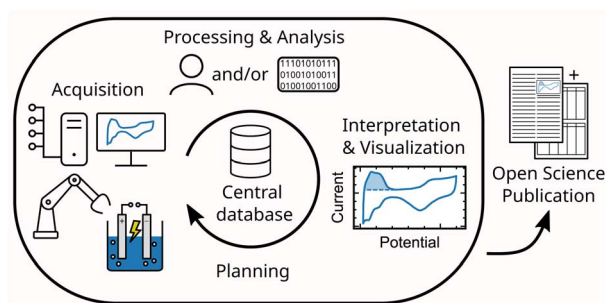
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Flexibly stretchable acrylic resin elastomer films for efficient electromagnetic shielding and photothermal conversion

Ruoling Yu, Leilei Liang, Yue Zhao and Guangbin Ji^{*}

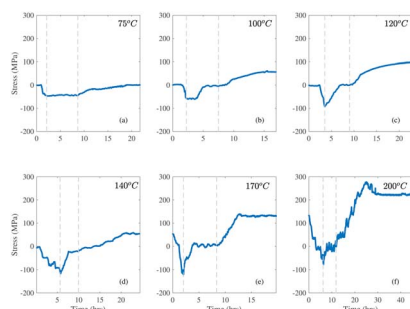
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Accelerating materials research with a comprehensive data management tool: a case study on an electrochemical laboratory

Nico C. Röttcher,^{*} Gun D. Akkoc, Selina Finger, Birk Fritsch, Jonas Möller, Karl J. J. Mayrhofer and Dominik Dworschak^{*}

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Thermo-mechanical characterization and stress engineering of Lipon solid electrolyte

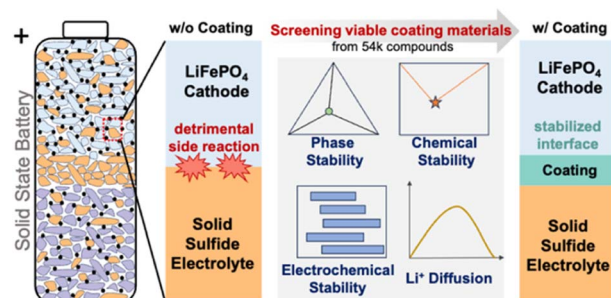
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Electrochemically and chemically stable electrolyte–electrode interfaces for lithium iron phosphate all-solid-state batteries with sulfide electrolytes

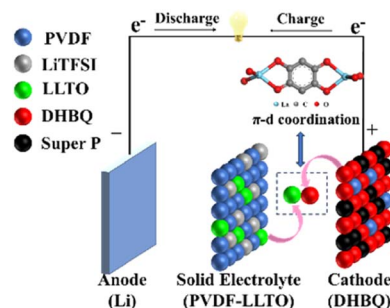
Tenglong Lu, Sheng Meng* and Miao Liu*



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π -d conjugation regulates the cathode/electrolyte interface in all-solid-state lithium-ion batteries

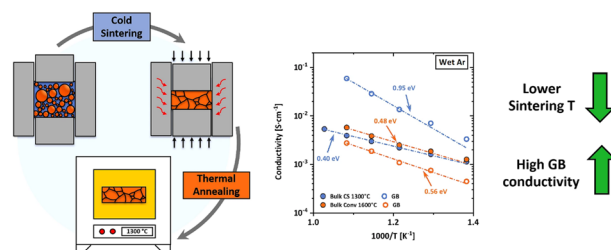
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Highly conductive grain boundaries in cold-sintered barium zirconate-based proton conductors

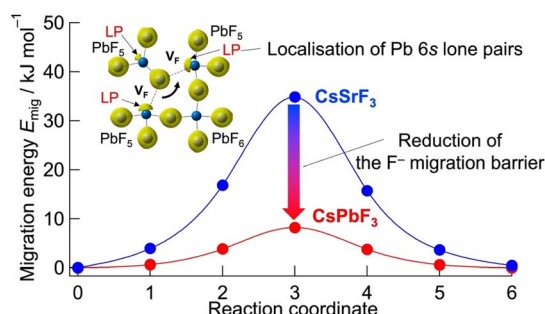
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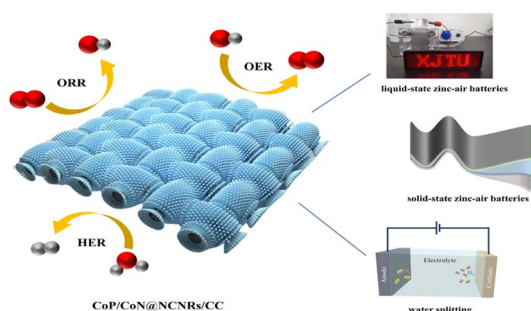
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Effect of Pb 6s² lone pair on the potential flattening of fluoride-ion conduction in perovskite-type fluoride

Naoki Matsui,* Miwa Murakami, Kazuhiro Mori, Takashi Saito, Keisuke Shimizu, Kota Suzuki and Ryoji Kanno*



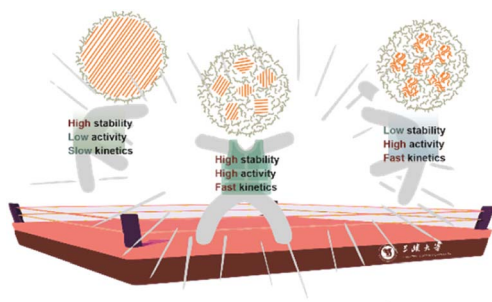
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CoP/CoN heterostructural active centers supported on nitrogen carbon nanorod arrays as freestanding high-performance trifunctional electrocatalysts

Linming Bai, Dan Wang, Hongchen Shen, Wenlong Wang, Shanshan Li* and Wei Yan*

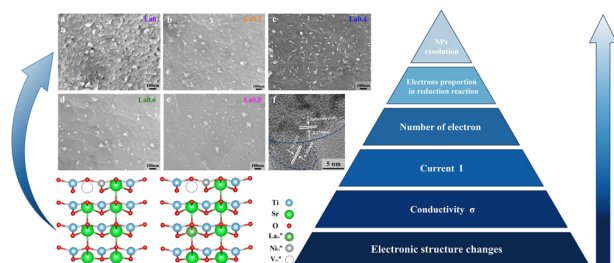
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Prominent long-life and high-rate performance rendered by crystallized Li_3VO_4 embedded in amorphous carbon nanoflakes

Lingling Kuang, Bing Sun,* Song Yang, Dongmei Zhang, Cunyuan Pei, Pengju Li, Ting Xiao and Shibing Ni*

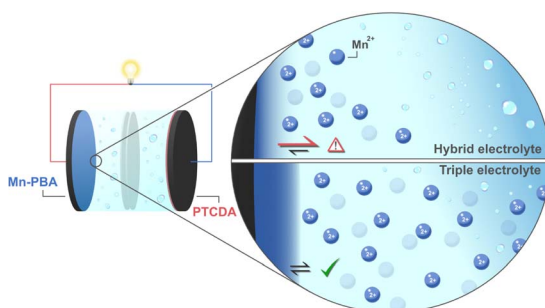
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Conductive origin and design principles of electrically controllable high conductivity La-doped perovskites

Xin Hu, Jingang Qi,* Xing Fu, Juntao Liu, Sifan Qiao, Yong Gao, Rongda Zhao, Jian Shang, Liang Liu, Lidan Tang and Wei Zhang

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Le Chatelier's principle enables stable and sustainable aqueous sodium/magnesium-ion batteries

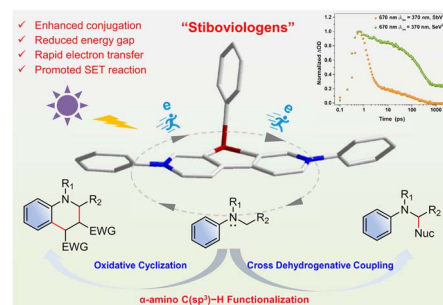
Martin Karlsmo, Tomooki Hosaka and Patrik Johansson*



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Ultrafast charge transfer of stiboviologens for electrochromism and visible light-induced α -amino C(sp³)-H functionalization

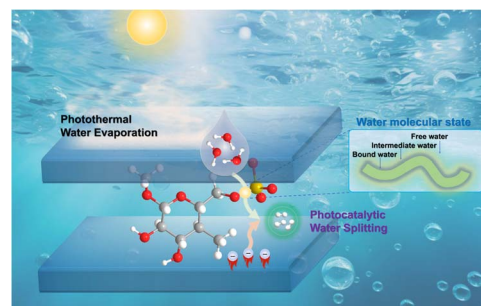
Liang Xu, Lei Zhang,* Yi Qiao, Haifeng Zheng, Guoping Li, Bin Rao, Mingming Zhang, Wenqiang Ma* and Gang He*



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Impact of functional groups on cellulose nanofibers on the state of water molecules, photocatalytic water splitting, and photothermal water evaporation

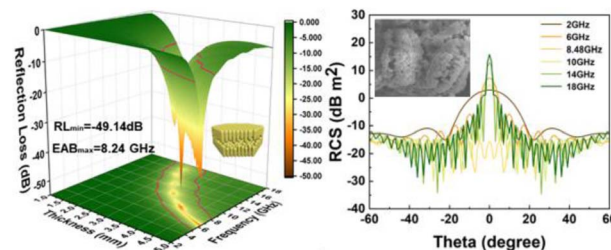
Weiming Zhou, Hongqiang Huang, Zequn Wang, Swellam W. Sharshir, Chong Wang,* Meng An,* Liwei Wang* and Zhanhui Yuan*



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Construction of shell-like carbon superstructures through anisotropically oriented self-assembly for distinct electromagnetic wave absorption

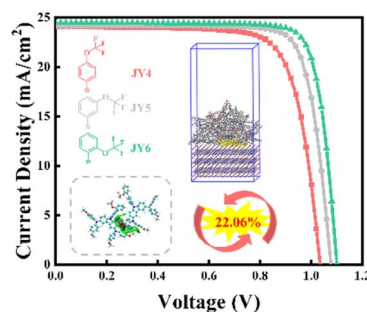
Xiao Li, Haowei Zhou, Jinlin Zhang, Xinyue Zhang, Man Li, Jieyan Zhang, Moustafa Adel Darwish, Tao Zhou, Shi-Kuan Sun, Lei Xie* and Di Zhou*



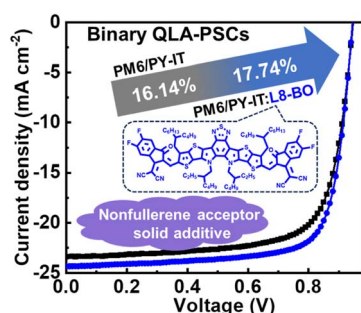
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Modulation of intermolecular interactions in hole transporting materials for improvement of perovskite solar cell efficiency: a strategy of trifluoromethoxy isomerization

Jiayi Qi, Ruiqin Wang, Xin Chen, Fei Wu,* Wei Shen, Ming Li, Rongxing He* and Xiaorui Liu*



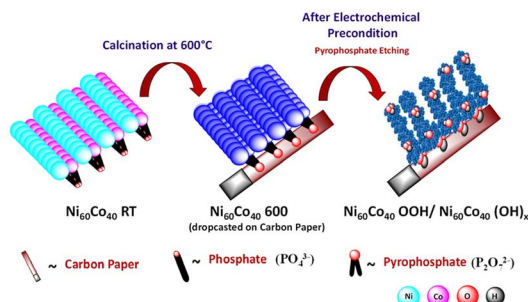
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A nonfullerene acceptor as a solid additive realizing a record efficiency of 17.74% in quasi-layered all-polymer solar cells

Wenjing Xu, Miao Zhang, Zhongyuan Liu, Hongyue Tian, Wenqing Zhang, Shixiu Sun, Sang Young Jeong, Fenghua Zhang, Xiong Li, Qianqian Sun, Xiaotao Hao, Han Young Woo,* Xiaoling Ma* and Fujun Zhang*

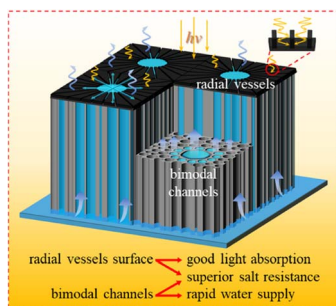
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Electrochemical surface reconstruction of nickel cobalt pyrophosphate to Ni/Co-hydroxide-(oxy) hydroxide: an efficient and highly durable battery-type supercapacitor electrode material

Avishek Roy, Harish Reddy Inta, Sourav Ghosh, Heramba V. S. R. M. Koppiseti, Ayan Mondal, Bhagwat Ram Verma, Saikat Bag and Venkataramanan Mahalingam*

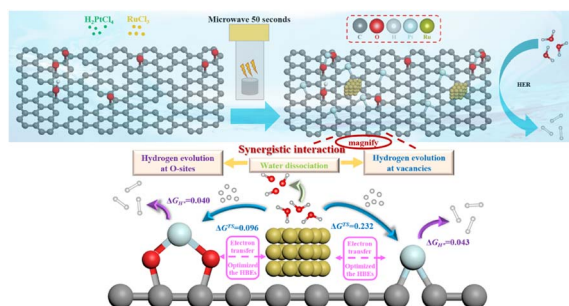
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Regulating the evaporation surface architecture of anisotropic chitosan hydrogels for high-efficiency solar desalination

Yuankun Wang and Defeng Wu*

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Rapid synthesis of active Pt single atoms and Ru clusters on carbon black via a highly efficient microwave strategy for the hydrogen evolution reaction in acidic and alkaline media

Xinyu Zhu, Minghao Fang,* Bozhi Yang, Meiling Zhan, Shaorou Ke, Fan Yang, Xiaowen Wu, Yangai Liu, Zhaohui Huang and Xin Min*

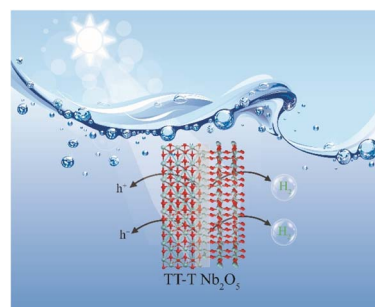


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Facile fabrication of TT-T Nb₂O₅ heterophase junctions *via in situ* phase transformation towards enhanced photocatalytic H₂-production activity

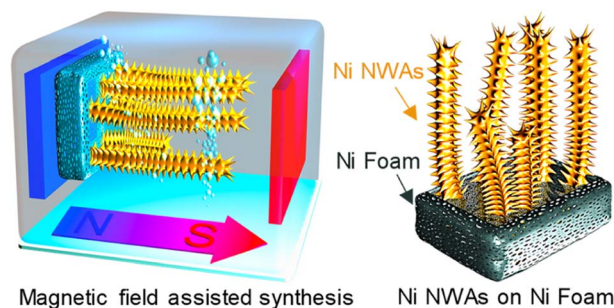
Jinyuan Wang, Chao Zhou,* Jiang Wu and Tierui Zhang*



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Coupling of a thermal and electrochemical activated Ni nanothorn array electrode for highly robust hydrogen generation

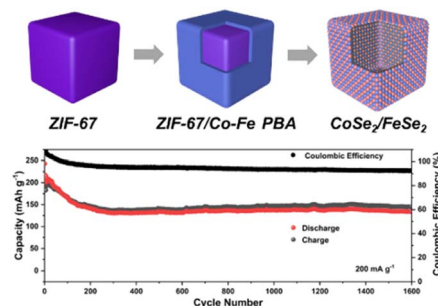
Zhuo Feng, Adeela Nairan, Zhirong Song, Usman Khan* and Junkuo Gao*



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Zeolitic imidazolate framework/Prussian blue analogue derived CoSe₂/FeSe₂ heterostructure for long-cycle aluminum-ion batteries

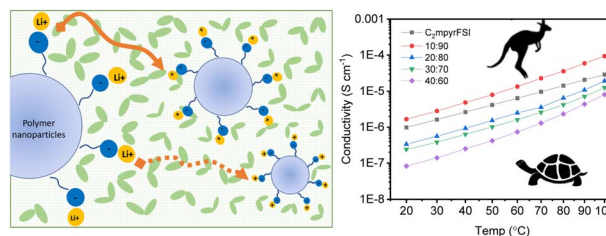
Tianming Liu, Meng Liu, Juchen Guo, Changchun Zhao,* Hao Liu, Xiaowei Li, Libing Liao and Guocheng Lv*



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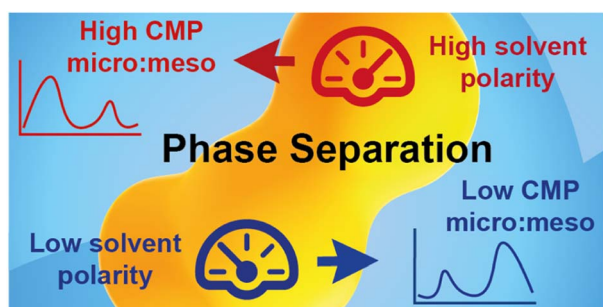
Physical properties and ion dynamics in composites of the organic ionic plastic crystal *N*-ethyl-*N*-methylpyrrolidinium bis(fluorosulfonyl)amide with lithium sulphonamide functional acrylate polymer nanoparticles

Yady García, Luca Porcarelli, Haijin Zhu, David Mecerreyes, Maria Forsyth and Luke A. O'Dell*



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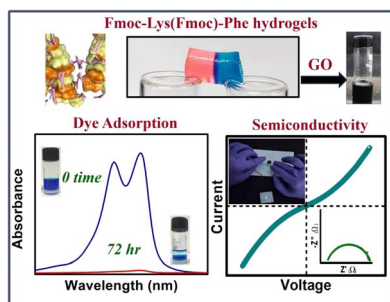
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Conjugated microporous polymer frameworks for sustainable energy materials – elucidating the influence of solvents on the porosity properties for future design principles

Catherine Mollart and Abbie Trewin*

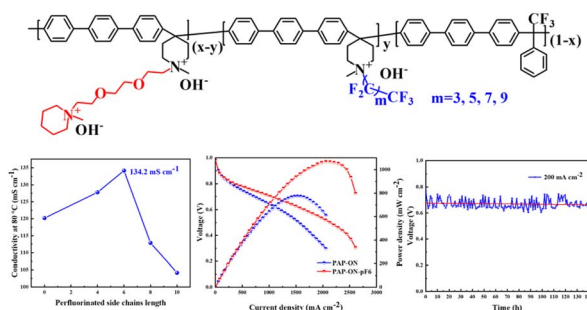
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Bioinspired functional self-healing hydrogels from a minimalistic dipeptide building block

Ipsita Sahu, Yiming Tang, Zichao Wang, Souvik Naskar, Thangavel Vijayakanth, Vivek Vishwanath Adole, Guanghong Wei* and Priyadarshi Chakraborty*

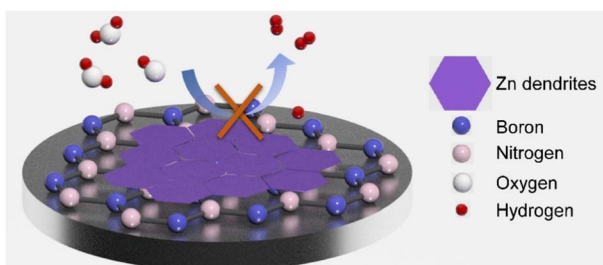
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Adjusting the perfluorinated side chain length in dual-grafted anion exchange membranes for high performance fuel cells

Shoutao Gong, Long Han, Xinli Zhang, Quan Jin, Gaohong He and Fengxiang Zhang*

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Dual role of hBN as an artificial solid-electrolyte interface layer for safe zinc metal anodes

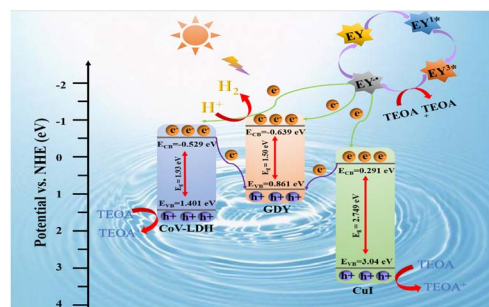
Hoilun Wong, Tsz Wing Tang, Haoliang Chen, Mengyang Xu, Jun Wang, Yuting Cai, William A. Goddard, III* and Zhengtang Luo*



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Novel CoV-LDH/GDY/CuI tandem double S-scheme heterojunction based on graphdiyne ($g\text{-C}_n\text{H}_{2n-2}$) toward photocatalytic hydrogen evolution

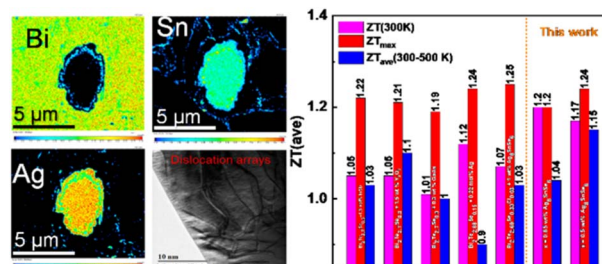
Cancan Chang, Haolin Lu, Yafeng Liu, Guankui Long, Xin Guo,* Xinyi Ji* and Zhiliang Jin*



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Suppression of bipolar excitation and enhanced thermoelectric performance in n-type Bi_2Te_3 with argyrodite Ag_8SnSe_6 inclusion

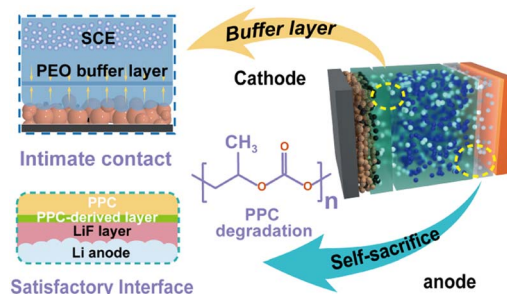
Abubakar Yakubu Haruna, Yubo Luo,* Wang Li, Min An, Peichi Fu, Xin Li, Qinghui Jiang and Junyou Yang*



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A novel asymmetrical multilayered composite electrolyte for high-performance ambient-temperature all-solid-state lithium batteries

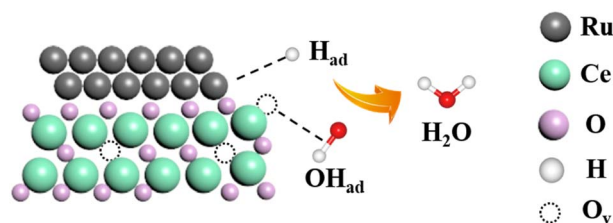
Zhen Wang, Jiewen Tan, Jiawu Cui, Keyu Xie, Yunfei Bai, Zhanhui Jia, Xiangwen Gao,* Yuping Wu and Wei Tang*



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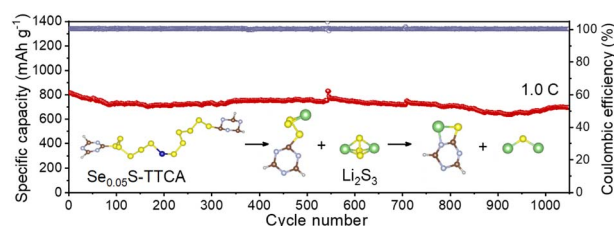
Oxygen-vacancy-rich CeO_2/Ru nanoparticles enable a high-performance catalyst for alkaline hydrogen oxidation

Zhiyu Cheng, Yang Yang, Jiahe Yang, Shi Chen, Peichen Wang, Pengcheng Wang, Huigang Tong, Changlai Wang and Qianwang Chen*



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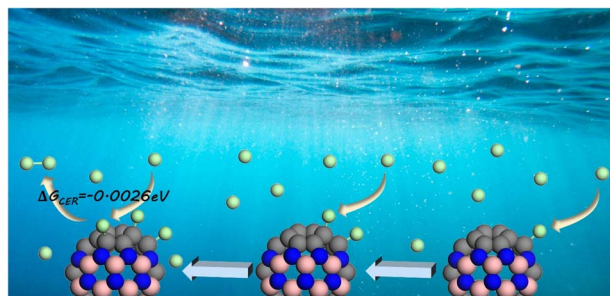
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Suppression of long-chain lithium polysulfide formation through a selenium-doped linear sulfur copolymer cathode for high-performance lithium–organosulfur batteries

Longtao Ren, Lu Qiao, Abdul Hameed Pato, Jun Liu, Yan Wang, Xiwen Lu, Yajun Zhao, Qian Wang,* Wen Liu,* Haijun Xu* and Xiaoming Sun

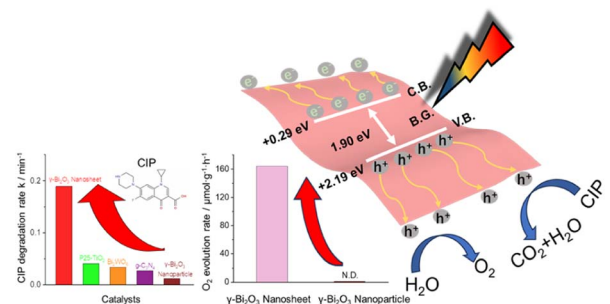
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Low-dimensional lateral heterojunctions made of hexagonal boron nitride and carbon materials as efficient electrocatalysts for the chlorine evolution reaction: a study of DFT and machine learning

Jiake Fan, Lei Yang and Weihua Zhu*

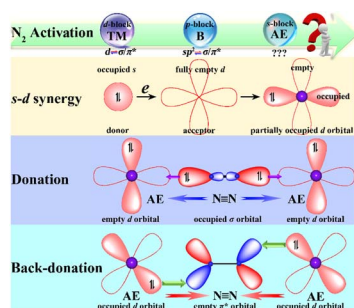
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Ultrathin sillenite nanosheets with wide-spectrum response and high photocatalytic oxidation performance

Hao Sun, Chen Wang, Yaning Zhang, Yunhang Shao, Gaoming Bian, Zhenlin Wang, Chaofeng Chen, Hongyan Liu, Shuai Dou, Jing Xu, Ying Zhang, Yang Lou, Yongfa Zhu and Chengsi Pan*

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Unlocking the potential of alkaline-earth metal active centers for nitrogen activation and ammonia synthesis: the role of s–d orbital synergy

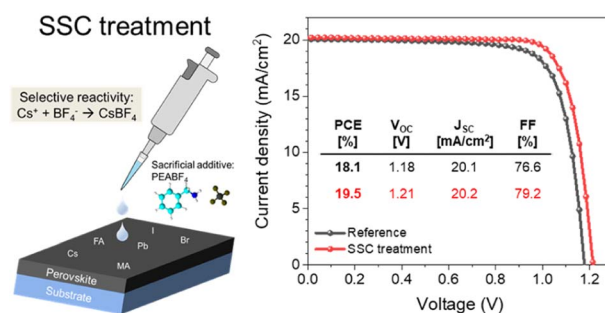
Donghai Wu, Jiarui Wu, Haobo Li, Wenjing Lv, Yanhao Song, Dongwei Ma* and Yu Jia*



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Selective reactivity-assisted sacrificial additive coating for surface passivation of wide bandgap perovskite solar cells with cesium tetrafluoroborate

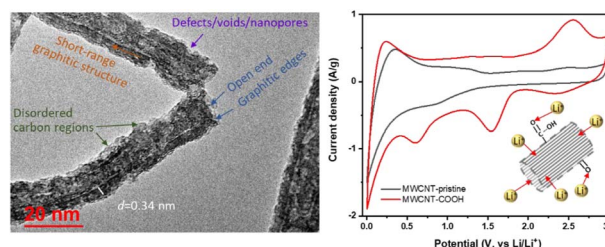
Jaehyuk Koh, Daehan Kim, Sang Woo Park, Hyungjun Kim, Ki-Ha Hong* and Byungha Shin*



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Insights into Li^+ storage mechanisms, kinetics, and reversibility of defect-engineered and functionalized multi-walled carbon nanotubes for enhanced energy storage

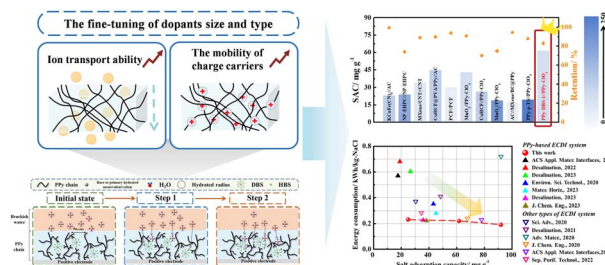
Lingping Kong,* Yuntong Zhu, P. Jason Williams, Mohamad Kabbani, Fikile R. Brushett and Jennifer L. M. Rupp*



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Probing host–dopant interactions in conducting polymers for improved performance of electrochemical deionization

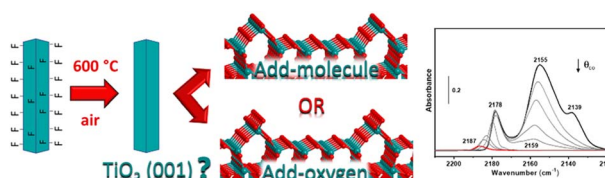
Hung-Yi Huang, Yi-Heng Tu, Yu-Hsiang Yang, Yi-An Chen, Wei-Lin Lee, Meng-Fei Wu, Ho-Hsiu Chou and Chi-Chang Hu*



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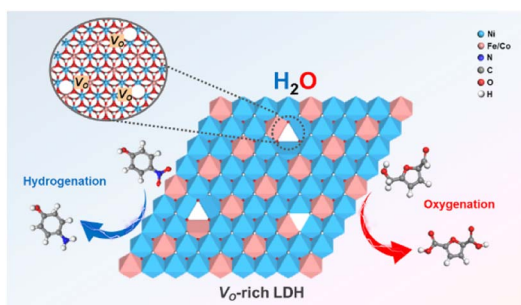
Disclosing the true atomic structure of {001} facets in shape-engineered TiO_2 anatase nanoparticles

Stefano Pantaleone, Francesco Pellegrino, Valter Maurino, Marta Corno, Piero Uglierio and Lorenzo Mino*



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Electrocatalytic hydrogenation coupling oxidation using water in a highly efficient paired cell enabled by an oxygen defect-rich layered double hydroxide

Jing Ren, Jikang Wang, Zixian Li, Chenjun Ning, Wenjing Cao, Shaoquan Li, Geoffrey I. N. Waterhouse, Lirong Zheng, Dermot O'Hare and Yufei Zhao*

CORRECTION

4343

Correction: Reconstruction of the ZIF-67 structure and boosted hydrogen evolution reaction in an alkaline medium

Hanghang Guo, Aibing Chen,* Wanliang Mi, Yajuan Zhang and Xingwei Shi*

