

Journal of Materials Chemistry A

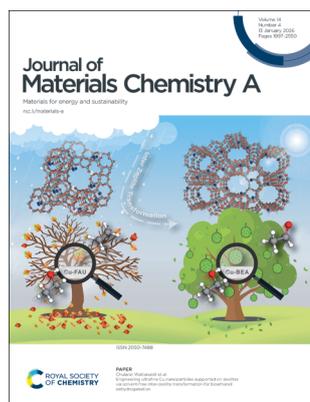
Materials for energy and sustainability

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IN THIS ISSUE

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Cover
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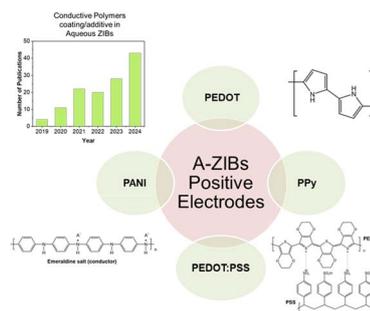
Inside cover
See Jing-Fang Huang *et al.*, pp. 2136–2142. Image reproduced by permission of Jing-Fang Huang from *J. Mater. Chem. A*, 2026, 14, 2136.

REVIEWS

2011

A comprehensive and critical review on the application of conductive polymers as coatings for aqueous zinc-ion battery positive electrode materials

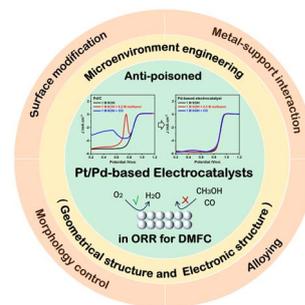
Mohsen Baghodrat, Fabio La Mantia* and Giorgia Zampardi*



2030

Microenvironment engineering to modulate the tolerance of Pt/Pd-based electrocatalysts for methanol crossover in oxygen reduction reaction

Hui Fu, Kaibin Chu,* Kangqi Chang, Kexin Shu, Longsheng Zhang,* Fulai Zhao* and Yiyu Feng



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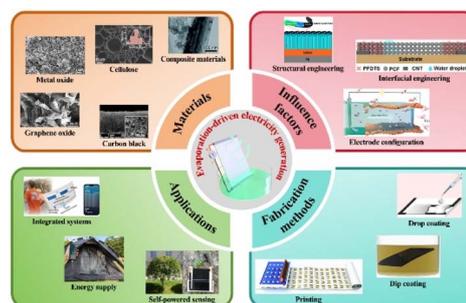
Fundamental questions
Elemental answers

REVIEWS

2051

Harnessing water evaporation: flexible generators for next-generation self-powered systems

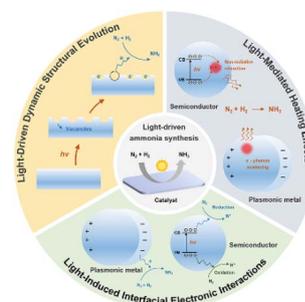
Qun Liu, Jing Liang and Wei Wu*



2071

Light-driven ammonia synthesis from nitrogen and hydrogen

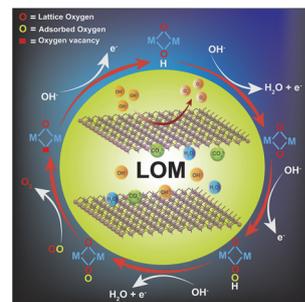
Yuqing Xu, Yifei Xue, Chaoran Li, Yu Ji, Yuxuan Zhou, Qianyue Feng, Jiahui Shen, Xingda An,* Kai Feng* and Le He*



2084

Structure–activity correlation in layered double hydroxides: facilitating oxygen evolution through the lattice oxygen mechanism

Arun Karmakar, Suhana Karim, Rathindranath Biswas and Arnab Dutta*

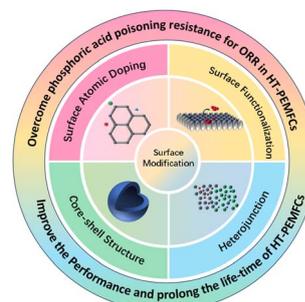


PERSPECTIVE

2102

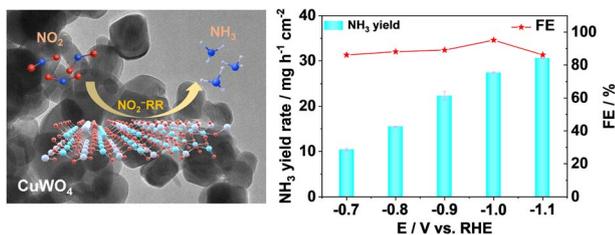
Surface engineering strategies to mitigate phosphoric acid poisoning resistance in oxygen reduction catalysts for HT-PEMFCs

Jiahui Mo, Jiawei Shi, Weiwei Cai, Jing Li* and Ligang Feng



COMMUNICATION

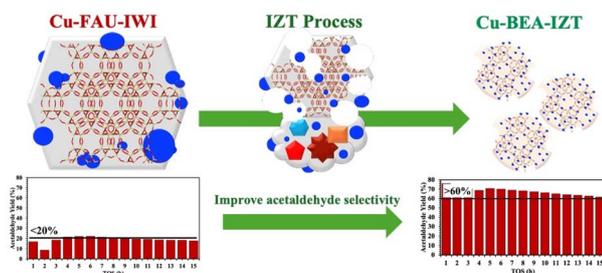
2113

Highly selective electrochemical reduction of nitrite to ammonia over CuWO_4 nanoparticles

Baofang Zhao, Lisi Xie,* Hao Chen, Qiuyue Chen, Xuguang An, Qian Liu, Jing Zhang, Weitang Yao and Qingquan Kong*

PAPERS

2120



Engineering ultrafine Cu nanoparticles supported on zeolites via solvent-free inter-zeolite transformation for bioethanol dehydrogenation

Krissanapat Yomthong, Ammarika Makdee, Asadawut Soyphet, Kachaporn Saenluang, Narasiri Mainewklang, Somlak Ittisanronnachai, Wanwisa Limphirat, Pinit Kidkhunthod and Chularat Wattanakit*

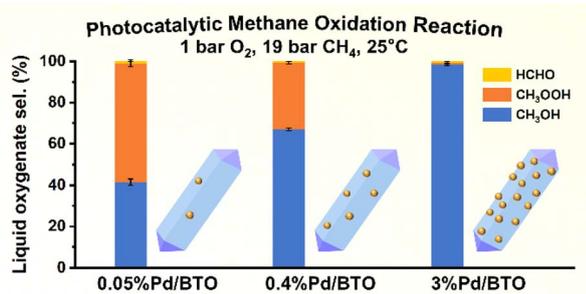
2136



Gradient-wettability oxide-Pt/C electrocatalysts for stable seawater hydrogen evolution via superaerophobicity and surface acidity

Jing-Fang Huang,* Jung-Hung Huang and Che-Jung Hsu

2143



Pd composition and dispersion control selectivity in photocatalytic methane oxidation

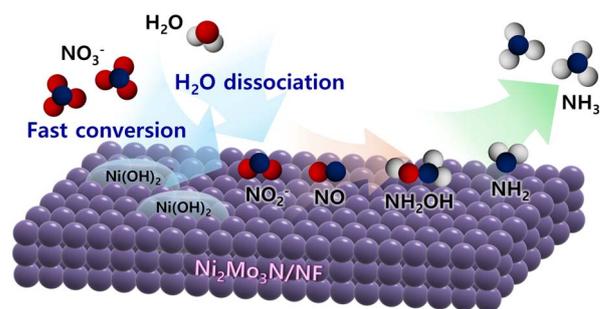
Jiawei Wu, Hu Ding, Yan Wang, Ulfi Muliane, Shuji Anabuki, Naoya Murakami, Xinli Zhu, Akira Yamakata, Teruhisa Ohno and Shi Nee Lou*



2158

Accelerated electrochemical nitrate-to-ammonia conversion over bimetallic $\text{Ni}_2\text{Mo}_3\text{N}$ with mechanistic insights

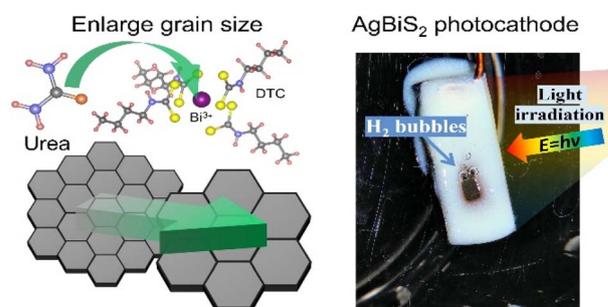
So Eun Jang, Jae Young Kim* and Duck Hyun Youn*



2167

Simultaneous engineering of cation disorder and morphology of molecular-ink derived AgBiS_2 photocathodes for solar water splitting

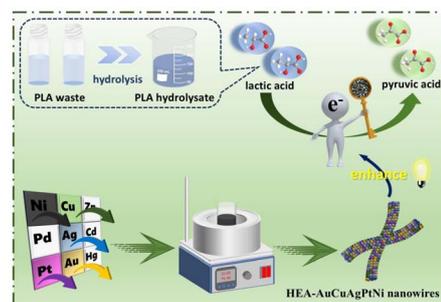
Neul Ha, Jisu Jung, Dayeon Lee, Jaemin Park, Hyunjung Shin, Sang Uck Lee and Wooseok Yang*



2179

Multisite synergism-induced electron regulation of high-entropy alloy nanowires for electrocatalytic reforming of polylactic acid plastic hydrolysate

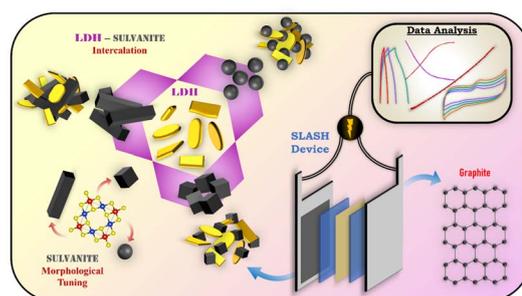
Ruichen Geng, Ranran Wei, Xiaoying Zhang, Zhihan Zhang, Yinglong Wang, Guoxuan Li and Shuli Yin*



2188

Surface engineered sylvanite integrated with layered double hydroxide for asymmetric hybrid supercapacitor

Sachin Sreedhar, Ganesan Shanmugam*, Chandru Gunasekaran and Monisha Venkatesan



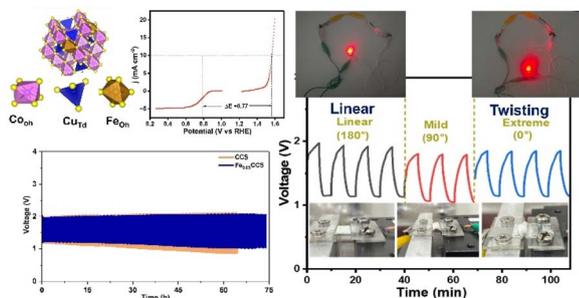
2202



Green flower-like Bi_2WO_6 supported on chitosan beads: a powerful and sustainable visible-light-driven water treatment photocatalyst

Abdelmalik Brik, Mustapha El Kadiri, Taha El Assimi, Omar Lakbita, Zouhair Hanani, Blaz Jaklic, Hicham Ben Youcef, Said Laassiri, Geraldine Gouhier, Abdellatif El meziane, Abdelkrim El Kadib and Mohammed Lahcini*

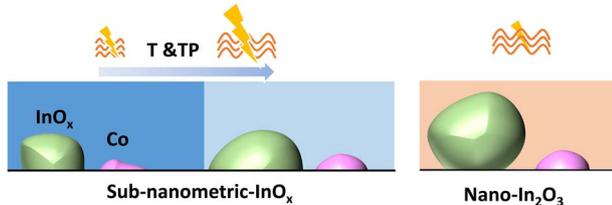
2218



Fe-doped CuCo_2S_4 thiospinel as a high-performance oxygen electrocatalyst for rechargeable all-solid-state zinc–air batteries

Ravinder Sharma, Abhay Rawat, Arkaj Singh, Jinta Merlin johny, Akriti Gautam, Jayanta Parui, Tisita Das and Aditi Halder*

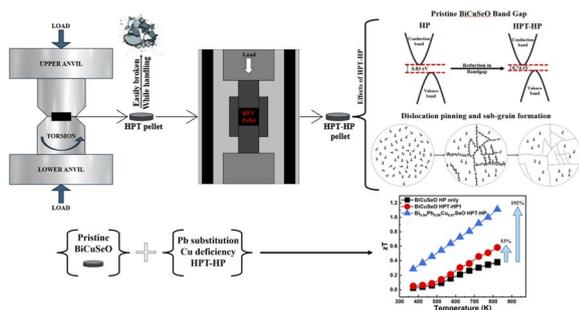
2235



Cobalt promotion of the $\text{InO}_x\text{-TiO}_2$ heterojunction for dual photothermal reduction of CO_2

Rocio Sayago-Carro, Esperanza Fernández-García, Irene Barba-Nieto, Uriel Caudillo-Flores, Lu Ma, José A. Rodríguez, Marcos Fernández-García* and Anna Kubacka*

2250



Effect of severe plastic deformation on thermoelectric properties of BiCuSeO

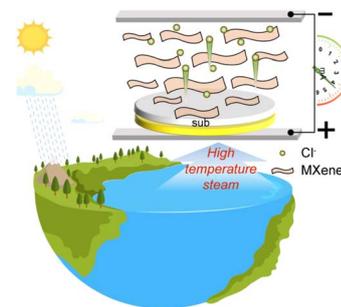
Gowtham Venkatesan, Srashti Vishvakarma, Inder Kumar, Satyam Suwas and Ramesh Chandra Mallik*



2264

Ionic liquid-armed MXene membranes enabling high-performance moisture-driven power generation

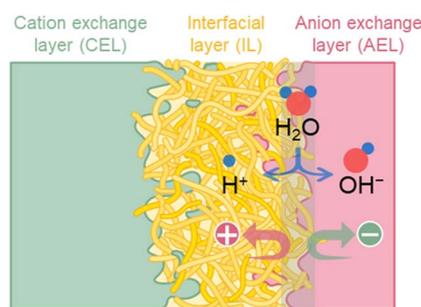
Wenjia Guo, Shiwei Chen, Yanlei Wang,* Kun Li, Rongrong Wang, Ping Zhang, Xiuhong Yang and Hongyan He*



2274

Manipulating interlayer morphology in electrospun bipolar membranes: a key to overcoming the trade-off between perm-selectivity and resistance

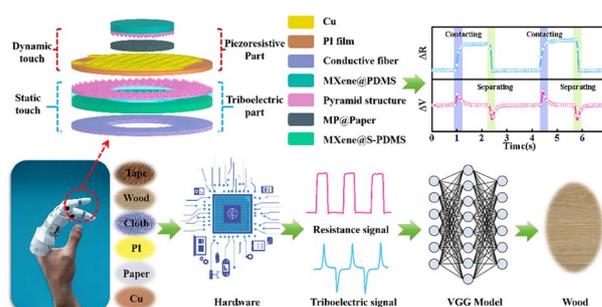
Tao Wang, Nadia Boulif, Zandrie Borneman and Kitty Nijmeijer*



2284

Dual-modal flexible tactile sensor for complex scenario material recognition

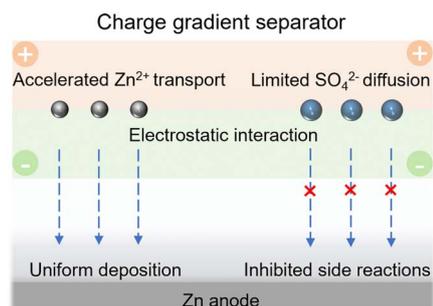
Jingchao Yuan, Junbin Yu,* Jian He,* Jiliang Mu, Junfei Lin, Jie Li, Yanxiang Chang and Xiujian Chou*



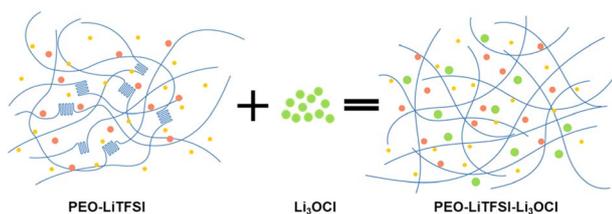
2295

Charge gradient separator regulating ion transport towards stabilizing Zn metal anodes

Zhikai Li, Wenjie Fan,* Xinlei Yu, Xingjie Wang, Yanying Dong, Haisheng Huang, Weiqian Tian* and Jingyi Wu*



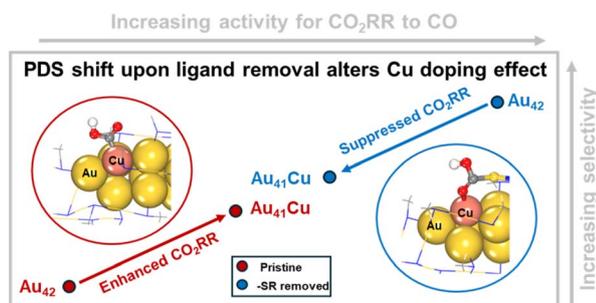
2303



Embedding antiperovskite nanophases into polymer hosts boosts ionic conductivity and interfacial compliance for all-solid-state lithium metal batteries

Bing-Ni Gu, Luc-Phuong-Nhu Tran, Zih-Siyuan Lin, Yo-Shun Chen, Shih-Ming Lin, Yu-Ting Chen, Yang-Hsin Shih, Yun-Shuo Chan, Shu-Chi Wu, Kai-Siang Jhang, Hsing-Yu Tuan and Yu-Lun Chueh*

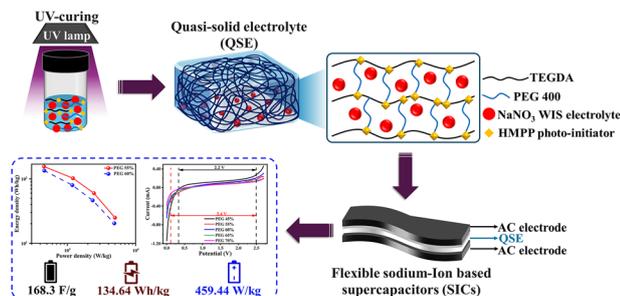
2310



Atomically precise Au₄₂ and Cu-doped Au₄₂ nanorods for CO₂ reduction: the critical role of ligand removal

Rahul Somni, Anik Sarkar, Lianshun Luo, Rongchao Jin, Gangli Wang* and Guoxiang Hu*

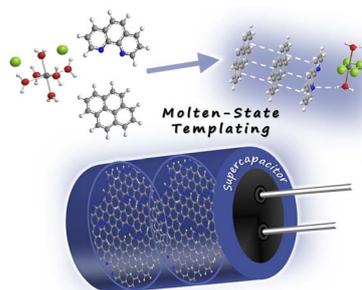
2319



Quasi-solid electrolyte based on cost-effective sodium salt for high-performance sodium-ion supercapacitors

Natthawut Suebsing, Kornkanok Noulta, Channarong Puchongkawarin, Oruethai Jaiboon, Adulvit Chuaephon, Arisa Phukhrongthung and Santamon Luanwuthi*

2333

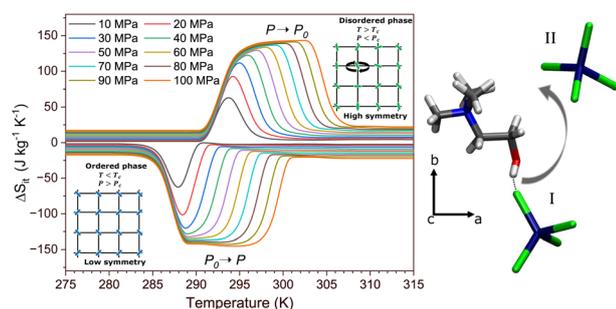


Magnesium chloride salt-assisted synthesis of porous N-doped carbons from molten polycyclic aromatic hydrocarbons for high-performance supercapacitors

Keren Barchichat, Alagar Raja Kottaichamy,* Michael Volokh, Rotem Geva, Alexander Upcher, Jonathan Tzadikov,* Jesús Barrio and Menny Shalom*



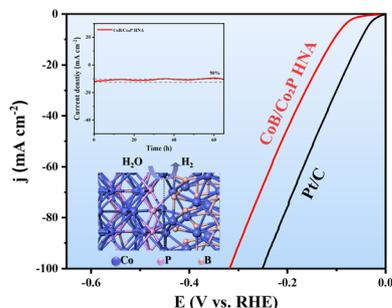
2397



Understanding the barocaloric response of choline-based hybrid ionic plastic crystals [choline]₂CoCl₄ and [choline]₂ZnCl₄

Joshua J. B. Levinsky, Shivani Grover, Phillippa Partridge, Eliza K. Dempsey, Emmanouil K. Charkiolakis, David Gracia, Marco Evangelisti, Charles J. McMonagle and Claire L. Hobday*

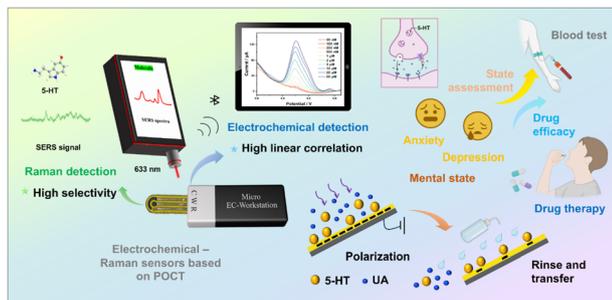
2411



Interfacial electron transfer of a MOF-derived Co–B–P catalyst for the hydrogen evolution reaction with improved activity and stability

Qi Zhang, Siyuan Xu, Qunlong Wang, Ruijing Wang,* Guangfeng Wei* and Xuefeng Wang*

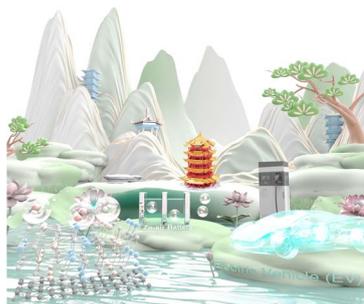
2423



Portable high-sensitivity Raman-electrochemical microsensor utilizing a polarization shift strategy for anti-interference detection of 5-hydroxytryptamine

Ruwei Liu, Yuyang He, Fan Zhao, Yunhan Ling,* Xiaoming Yuan, Shilin Li and Zhengjun Zhang*

2435



Interfacial and electronic modulation of FeP–CoP on reduced graphene aerogel boosts bifunctional catalysis for overall water splitting

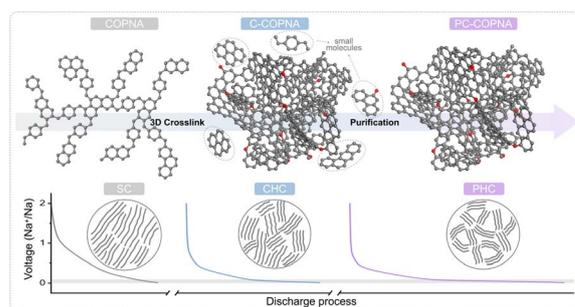
Yifeng Xue, Mingyue Qiu, Jie Luo, Hongke Qiao, Tianyi Yang, Hong Chen, Guiyu Zhu, Xiaoli Li, Lu Zou, Xiaoxiao Zhang, Jianzhi Wang* and Faquan Yu*



2450

COPNA resin-derived hard carbon: enhanced low-voltage plateau behavior from three-dimensional structured precursors

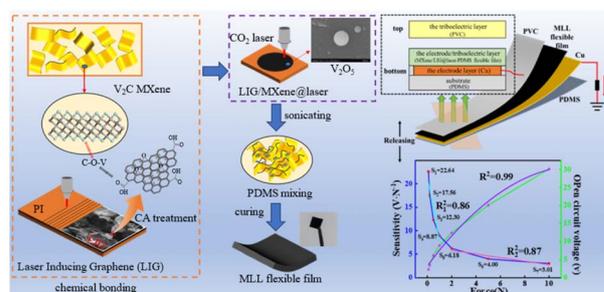
Hengjian Pu, Jikun Li, Tailong Zhang, Yiwen Yang, Yanchen Liu, Lingrui Cui, Jie Lei, Jin Li, Fahai Cao, Teng Zhai* and Hui Xia



2460

Laser-induced MXene/LIG ternary heterostructure: construction and health monitoring application of a high performance self-powered friction sensor

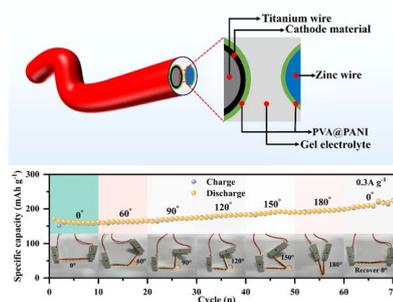
Qiancheng Liu, Changxia Liu,* Xudong Wei, Junlong Sun and Xueye Chen*



2476

Defect-engineered VO_x cathode and novel polyvinyl alcohol@polyaniline hydrogel separator for ultra-stable fiber Zn-ion batteries

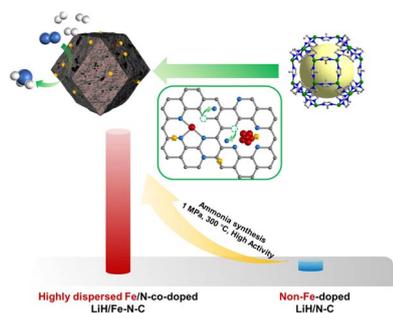
Yahui Zhang, Juan Xu,* Yuezhou Jing, Mengge Ding, Jiayi Li, Pibin Bing* and Zhongyang Li*



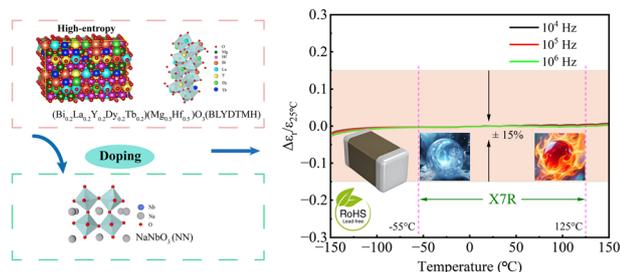
2487

Lithium hydride synergy with Fe/N-co-doped porous carbon for efficient ammonia synthesis

Yefei Wang and Fei Chang*



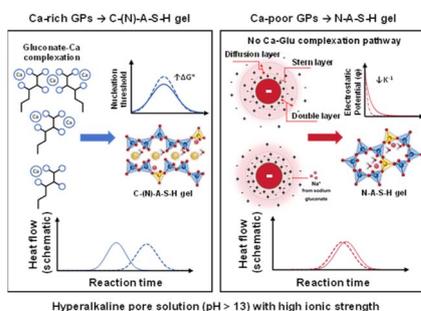
2497



Modification of sodium niobate energy storage ceramics via doping with a high-entropy phase

Shuai Zou, Wenjie Fan, Lida Tong, Yaohang Gu,*
Xiaoyan Zhang* and Xiwei Qi*

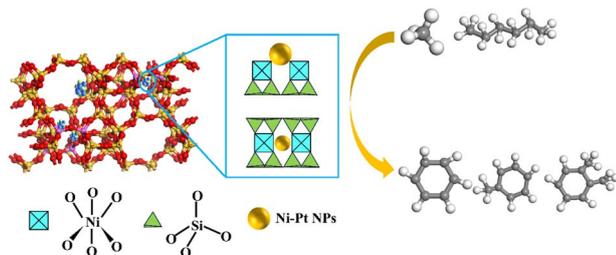
2507



Effect of gluconate molecules on the reaction kinetics of C-(N)-A-S-H and N-A-S-H gel formation

Jiafeng Kong, Chao Sun, Zuhua Zhang,* Chenglong Cai,
Yubin Cao, Yanru Wang, Hongyan Ma, Xuesen Zeng*
and Hao Wang

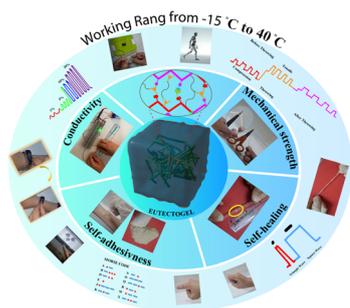
2521



Insights into the mechanism of enhanced methane low-temperature coupling conversion over zeolite-encaged Ni-Pt catalysts

Lunan Wu, Xiu-Jie Yang,* Jun Li, Weichao Chou, Bin Lou,*
Jing Wu, Nan Shi, Fushan Wen and Dong Liu*

2536



Fabrication of multifunctional eutectogels for wearable sensing applications

Al Nimra, Muhammad Sher, Luqman Ali Shah* and Jun Fu

