

Journal of Materials Chemistry A

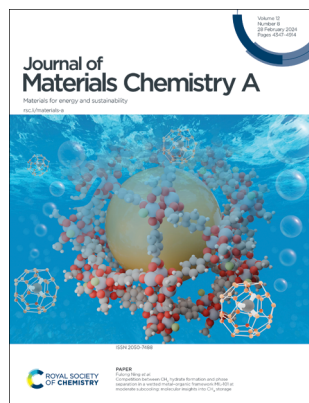
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IN THIS ISSUE

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Cover

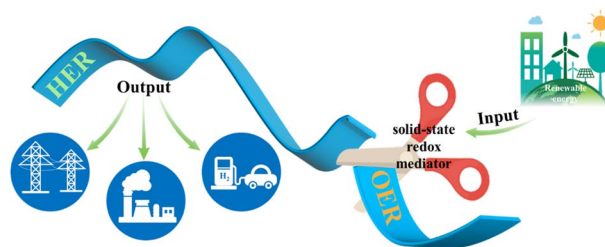
See Fulong Ning *et al.*, pp. 4447–4459. Image reproduced by permission of Zhongjin He from *J. Mater. Chem. A*, 2024, 12, 4447.

REVIEWS

4363

Breaking boundaries: advancements in solid-state redox mediators for decoupled water electrolysis

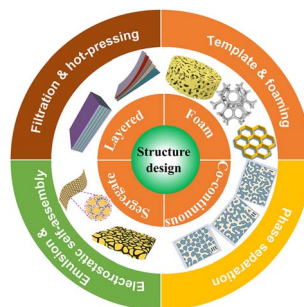
Tianci Wu, Yue Hu, Meng Li, Bin Han and Dongsheng Geng*



4383

Strategies to construct conductive structures of polymer-based electromagnetic wave attenuation composites

Wenhong Jiang, Dawei Jiang,* Yudong Huang and Bo Jiang*



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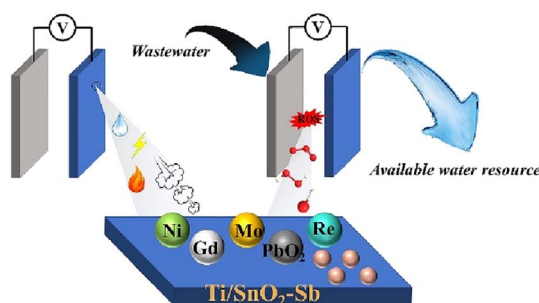


REVIEWS

4397

Recent advancements in modified $\text{SnO}_2\text{-Sb}$ electrodes for electrochemical treatment of wastewater

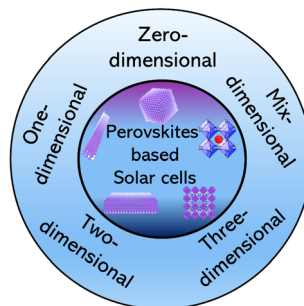
Tao Guo, Xiang Chen and Lifeng Yin*



4421

Dimensional diversity (0D, 1D, 2D, and 3D) in perovskite solar cells: exploring the potential of mixed-dimensional integrations

Xin Li, Sikandar Aftab,* Sajjad Hussain, Fahmid Kabir, A. M. A. Henaish, Abdullah G. Al-Sehemi, Mohan Reddy Pallavolu* and Ganesh Koyyada*

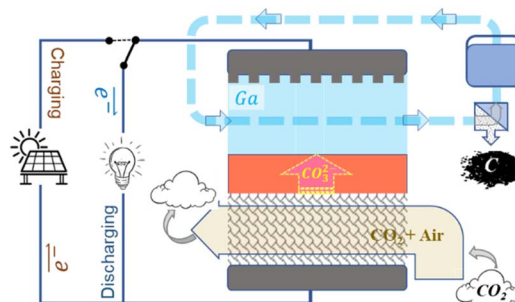


COMMUNICATION

4441

A rechargeable liquid metal- CO_2 battery for energy storage and CO_2 reduction to carbon

Jan Gabski, Xinhui Sun, Landysh Iskhakova and Junhang Dong*

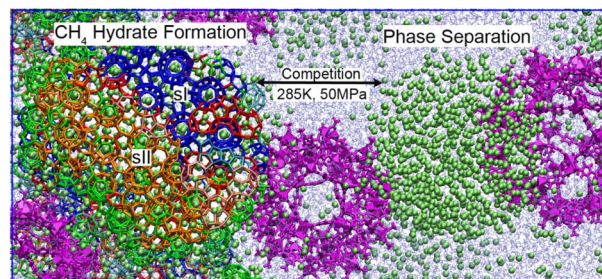


PAPERS

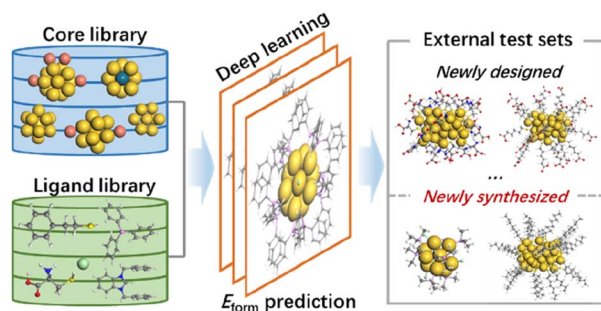
4447

Competition between CH_4 hydrate formation and phase separation in a wetted metal-organic framework MIL-101 at moderate subcooling: molecular insights into CH_4 storage

Zhongjin He, Jianwen Jiang, Guosheng Jiang and Fulong Ning*



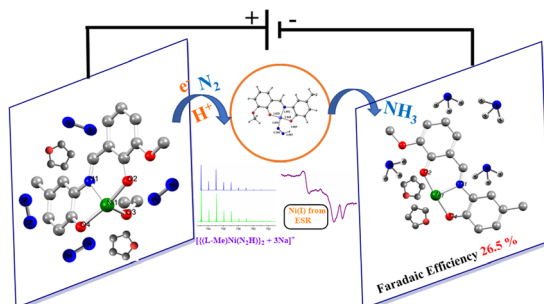
4460



Stability prediction of gold nanoclusters with different ligands and doped metals: deep learning and experimental tests

Yuming Gu, Shisi Tang, Xu Liu, Xinyi Liang, Qin Zhu, Hongfeng Wu, Xiao Yang, Weihao Jin, Hongwei Chen, Chunyan Liu,* Yan Zhu* and Jing Ma*

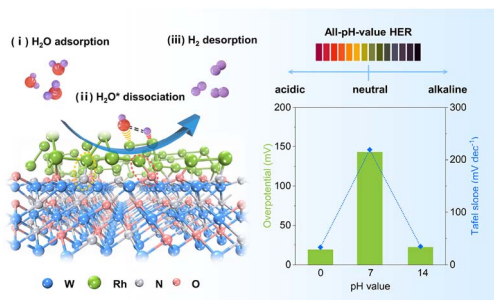
4473



Electrochemical dinitrogen to ammonia reduction at a nickel(II) site: an easy access to an air-stable catalyst

Jayasree Kumar, Nikhil George Mohan, Tamilselvi Gurusamy, Sai Manoj N. V. T. Gorantla, Prathap Ravichandran, Kartik Chandra Mondal* and Kothandaraman Ramanujam*

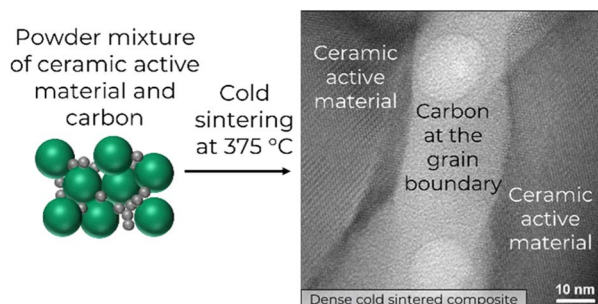
4484



Interfacial electron-engineered tungsten oxynitride interconnected rhodium layer for highly efficient all-pH-value hydrogen production

Ben Zhang, Yijuan Zheng, Zhenyu Xing, Zihe Wu, Chong Cheng, Tian Ma* and Shuang Li*

4492



Conductivity of cold sintered diphasic composites containing a ceramic active material and a solid-state electrolyte or carbon for all solid-state batteries

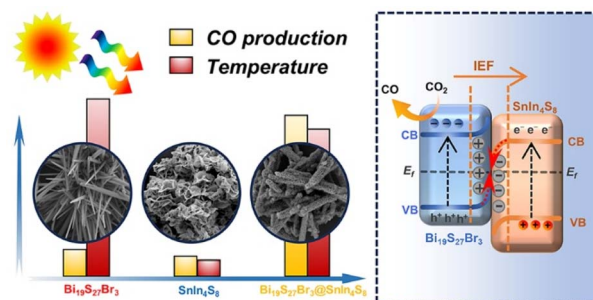
Zane M. Grady,* Zhongming Fan, Julian Fanghanel and Clive A. Randall*



4513

A well-designed hierarchical $\text{Bi}_{19}\text{S}_{27}\text{Br}_3$ nanorods@ SnIn_4S_8 nanosheet core-shell S-scheme heterostructure for robust photothermal-assisted photocatalytic CO_2 reduction

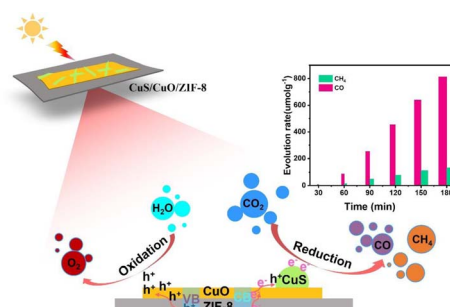
Weifeng Jia, Renzhi Xiong, Yiting Sun, Yanhe Xiao, Baochang Cheng and Shuijin Lei*



4525

Enhancing CO_2 photoreduction through unique 2D MOF-based heterostructures with metalloid doping

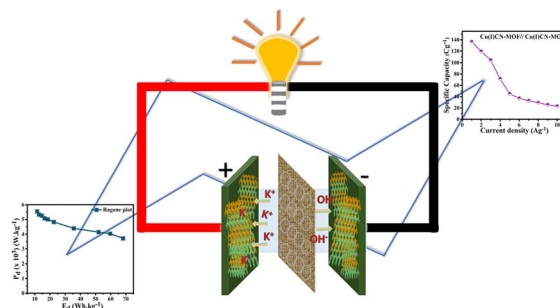
Xiaoxiong Hou, Zhuangzhuang Ma, Zhilei Zhang, Peijin Zou, Hongqiang Wang* and Lichao Jia*



4534

A two-dimensional semiconducting Cu(I)-MOF for binder and conductive additive-free supercapattery

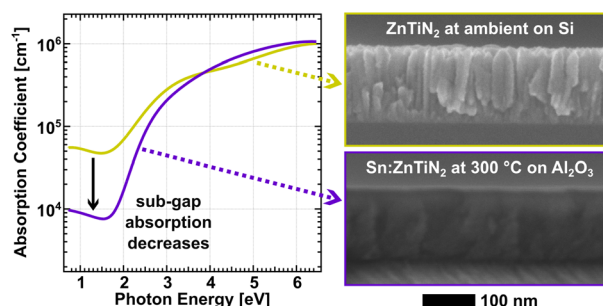
Shivendu Mishra, Mayank K. Singh, Dilip Pandey, Dharendra K. Rai* and Abhinav Raghuvanshi*



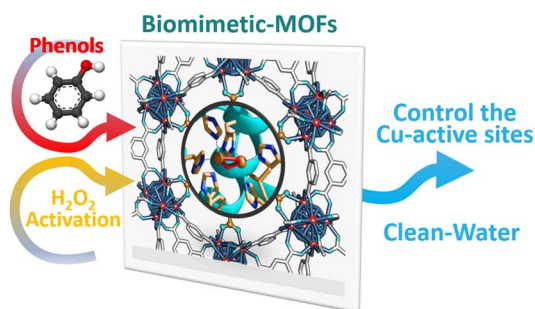
4544

Sn-assisted heteroepitaxy improves ZnTiN_2 photoabsorbers

John S. Mangum,* Sijia Ke, Melissa K. Gish, Emily K. Raulerson, Craig L. Perkins, Jeffrey B. Neaton, Andriy Zakutayev and Ann L. Greenaway*



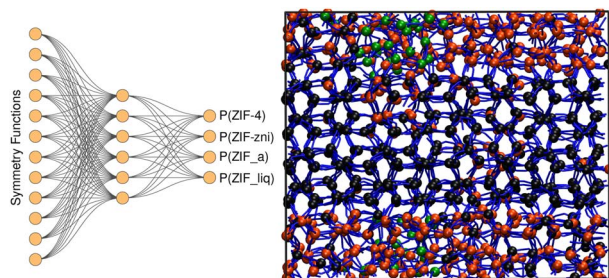
4555



Enzyme-mimicking of copper-sites in metal–organic frameworks for oxidative degradation of phenolic compounds

Ainara Valverde, Eneko Alkain, Natalia Ahiova Rio-López, Luis Lezama, Arkaitz Fidalgo-Marijuan, José Manuel Laza, Stefan Wuttke,* José María Porro, Itziar Oyarzabal, Mónica Jiménez-Ruiz, Victoria García Sakai, Pedro Luis Arias, Iker Agirrezabal-Telleria and Roberto Fernández de Luis*

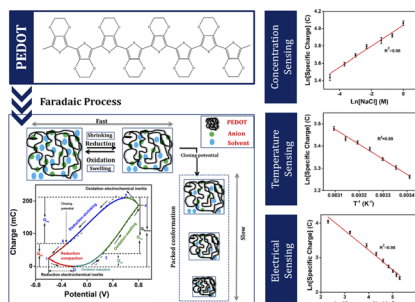
4572



Microscopic mechanism of thermal amorphization of ZIF-4 and melting of ZIF-zni revealed *via* molecular dynamics and machine learning techniques

Emilio Méndez and Rocio Semino*

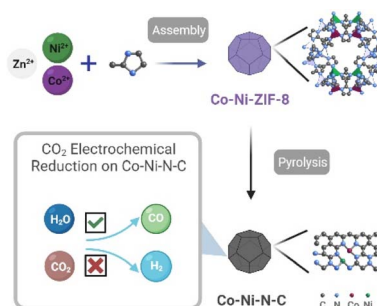
4583



Structural electrochemistry of poly(3,4-ethylenedioxythiophene) and its applicability as simultaneous sensor of environmental surroundings: self-sensing electrical, thermal, and chemical working conditions

Lijin Rajan, Madari Palliyalil Sidheekha, Aranhikundan Shabeeba, Toribio F. Otero and Yahya A. Ismail*

4601



Highly efficient CO₂ electrochemical reduction on dual metal (Co–Ni)–nitrogen sites

Jianping Chen, Md Robayet Ahasan, Jin-Su Oh, Jake A. Tan, Stephen Hennessey, Mahmoud M. Kaid, Hani M. El-Kaderi, Lin Zhou, Ka Un Lao, Ruigang Wang and Wei-Ning Wang*

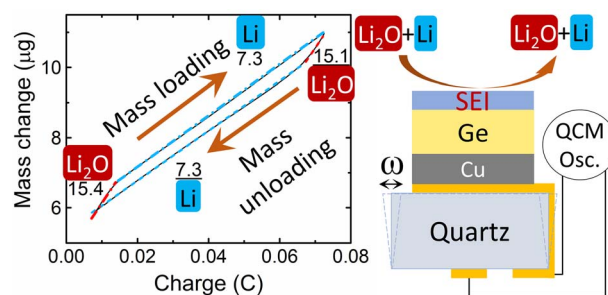


PAPERS

4610

Reversible interfacial Li-oxide formation on germanium and silicon anodes revealed by time-resolved microgravimetry

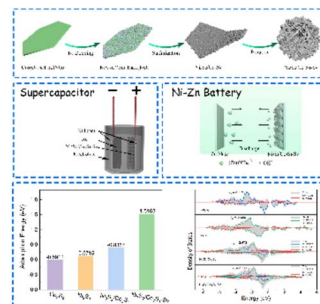
Ke Wang, Yug Joshi,* Tobias Kohler, Monica Mead and Guido Schmitz*



4623

Ni₃S₂/Co₃S₄ with controlled surface electron arrangement for high-performance aqueous energy storage

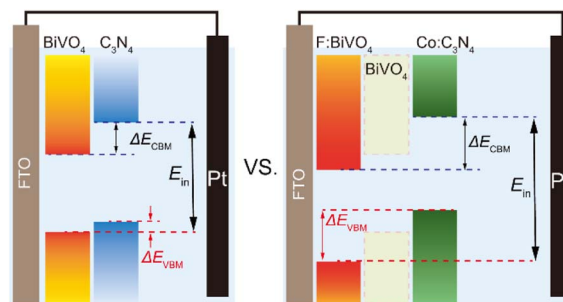
Miaomiao Liang, Zhenyang Li, Yongxia Kang, Xiaoliang Zhao, Xiaozhe Zhang, Hemeng Zhang, Haiyang Wang,* Zongcheng Miao* and Chong Fu*



4635

An optimized heterointerface of BiVO₄/C₃N₄ by Co single atom and F-doping for boosting photoelectrochemical water splitting

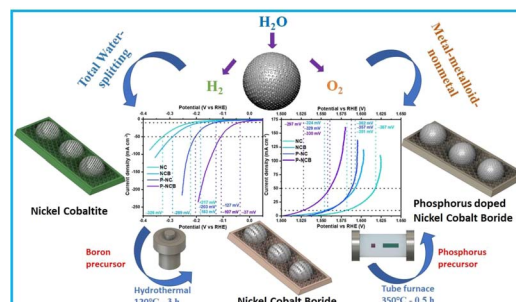
Sihong Xia, Fenghua Xu and Baicheng Weng*



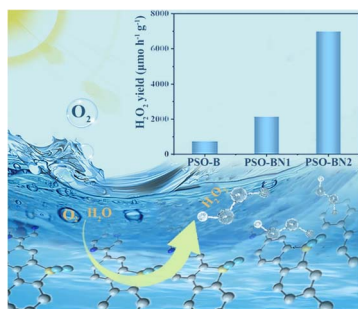
4643

Phosphorus doping of nickel–cobalt boride to produce a metal–metalloid–nonmetal electrocatalyst for improved overall water splitting

Amarnath T. Sivagurunathan, Selvaraj Seenivasan, T. Kavinkumar and Do-Heyoung Kim*



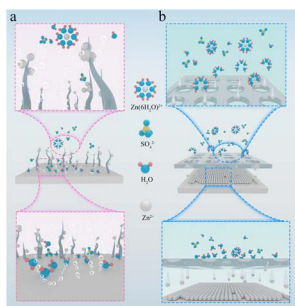
4656



Rational design of dibenzothiophene-*S,S*-dioxide-containing conjugated polymers for highly efficient photosynthesis of hydrogen peroxide in pure water

Jun Wu, Qi Zhang and Feng Wang*

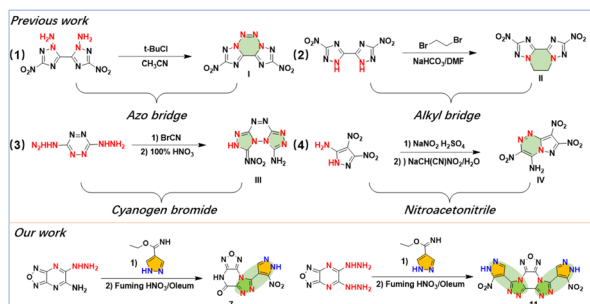
4666



A hydrophobic phenolic polymer layer with high-flux Zn²⁺-specific regular channels for stabilizing aqueous zinc anodes

Tie Shu, Xin Yang, Zhou Huang, Min Qiao, Jiaoyi Ning, Kailin Li, Yuxin Zhang, Liang Li, Xin Liu and Ke Xin Yao*

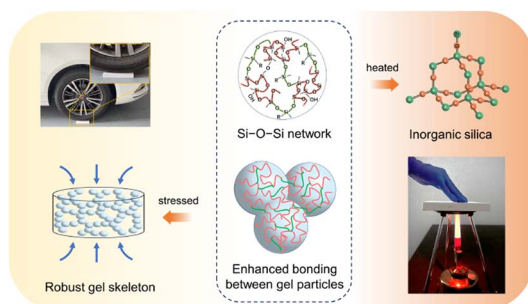
4678



Preparation of novel heat-resistant and insensitive fused ring energetic materials

Teng Zhu, Caijin Lei, Chengchuang Li, Hongwei Yang, Chuan Xiao* and Guangbin Cheng*

4684



A robust silicone aerogel *via* copolymerization of a difunctional organoalkoxysilane and polymethylmethoxysiloxane for high-temperature thermal insulation

Yi Luo, Aoqing Yan, Hao Tian, Bo Niu, Yayun Zhang, Hualin Wang and Donghui Long*

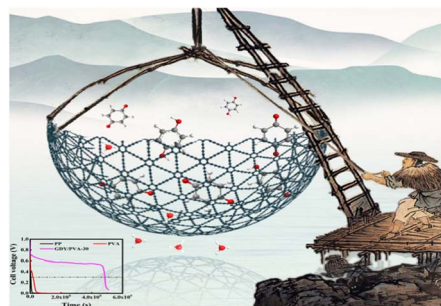


PAPERS

4695

A graphdiyne based separator toward high performance activated electrolyte-enhanced supercapacitors

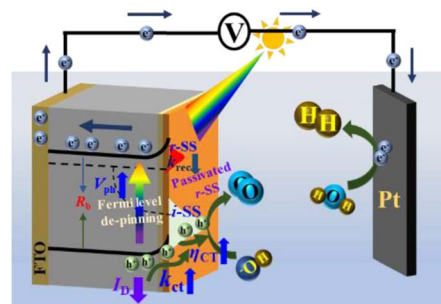
Na Liang, Xueyan Wu, Xiuli Zhang, Yan Lv, Jixi Guo,*
Renhe Guo, Yingfu Zhu, Huibiao Liu* and Dianzeng Jia*



4702

Expediting hole transfer kinetics through surface state modulation of a Ru–FeOOH and FeNi(OH)_x dual-layer cocatalyst coated Zr–Fe₂O₃ photoanode for boosting photoelectrochemical water splitting

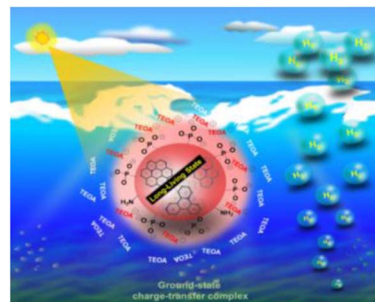
Periyasamy Anushkaran, Weon-Sik Chae, Jungho Ryu,*
Sun Hee Choi* and Jum Suk Jang*



4712

Unveiling the role of a ground state charge transfer complex in carbon nanoparticles for highly efficient metal-free solar hydrogen production

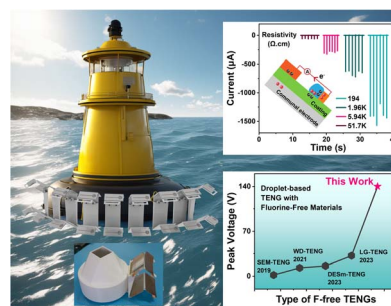
Subhajit Kar, Amit Kumar, Ramesh Mandal, Sakshi Chawla,
Shanti Gopal Patra, Arijit K. De*
and Santanu Bhattacharyya*



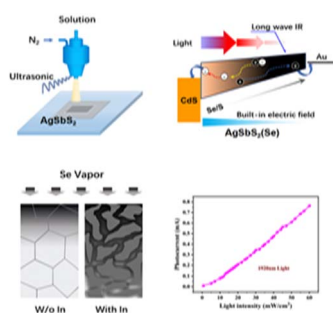
4727

Fluorine-free coating-based droplet triboelectric nanogenerators for highly efficient energy harvesting

Hanchao Wang, Min Feng, Wenpeng Wang, Wenqi Wang,
Jie Meng, Yupeng Liu, Qiang Wang* and Daoai Wang*



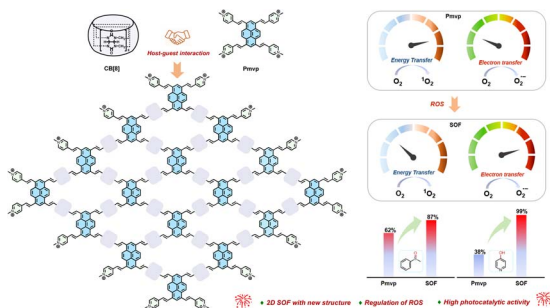
4739



Ultrafast and broadband photodetection based on selenized AgSbS_2 thin films prepared by spray pyrolysis deposition and modified with indium nitrate

Zhen Zhang, Jiang Cheng,^{*} Xin Yang, Dongyu Bai, Hua Tang, Xihao Chen, Xiang Meng, Genglong Chen, Shenghao Wang^{*} and Lu Li^{*}

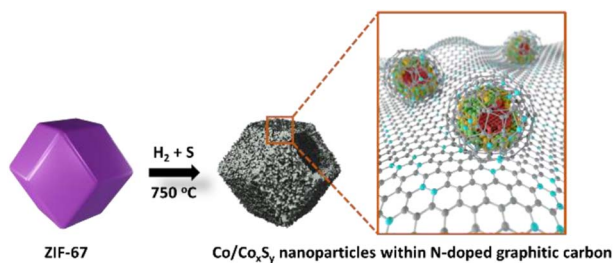
4752



Construction of a novel pyrene-based two-dimensional supramolecular organic framework and the selective regulation of reactive oxygen species for photocatalysis

Man Jiang, Ying Wang, Hui Liu, Shengsheng Yu, Kai-Kai Niu^{*} and Ling-Bao Xing^{*}

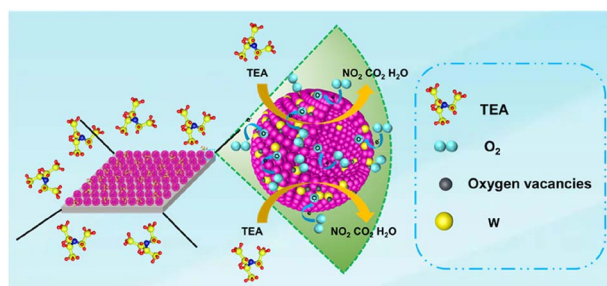
4761



Metallic cobalt/cobalt sulfide hetero-nanostructures embedded within N-doped graphitic carbon nanocages for the hydrogen evolution reaction

Hien Duy Mai, Poong Mo Park, Gi-Nam Bae, Sangmin Jeong, Beomwon Seo, Minsong Cho, Sunyoung Park, Nguyen Duc Cuong, Tran Viet Cuong, Ngoc Minh Tran, Cheol-Min Park^{*} and Ki-Joon Jeon^{*}

4770



Synergy of W doping and oxygen vacancy engineering on d-band center modulation for enhanced gas sensing performance

Yushu Shi, Tongyao Liu,^{*} Riming Hu, Huiyan Xu, Chengxiang Yang, Likai Yang, Liang Feng^{*} and Xuchuan Jiang^{*}

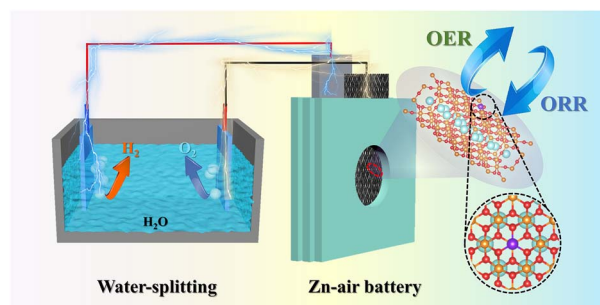


PAPERS

4782

Potassium ferrite nanosheets with tin doping for enhanced large-current-density H₂ production and ultra-long life rechargeable Zn–air batteries

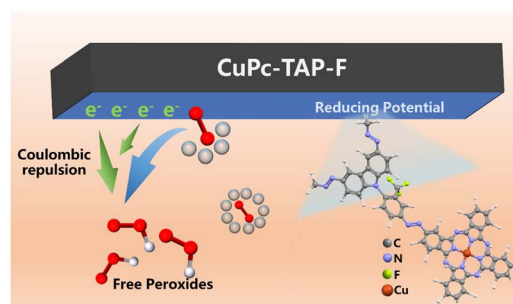
Juan Jian, Zhuo Wang, Yu Qiao, Fen Yao, Meiting Wang, Limin Chang* and Ping Nie*



4788

Highly selective hydrogen peroxide electrosynthesis on copper phthalocyanine: interface engineering with an azo-polymer

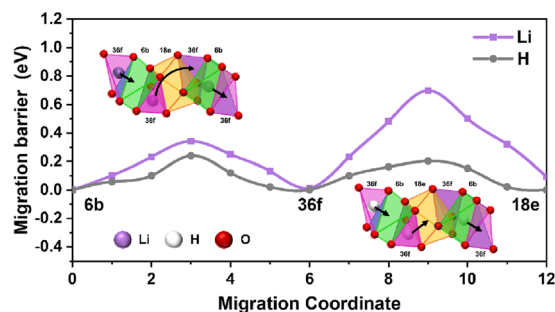
Zebang Sun, Xingyu Lu,* Xuanzhi Wang, Di Wang, Jian Luan, Yu Liu* and Wei Qi*



4796

Proton conductor NASICON-structure Li_{1+x}Cd_{x/2}Zr_{2-x/2}(PO₄)₃ as solid electrolyte for intermediate-temperature fuel cells

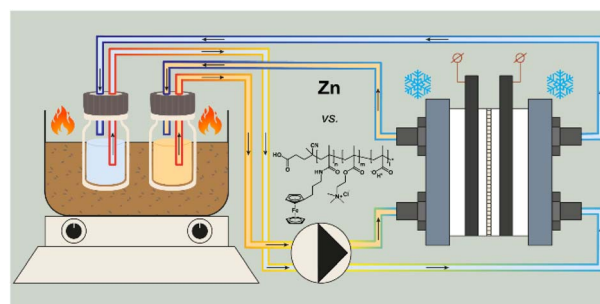
Xiuxiu Li, Enyi Hu, Faze Wang,* Peter Lund, Bin Zhu and Jun Wang*



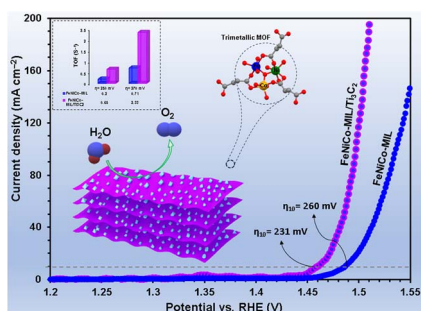
4806

Evaluation of *in situ* thermal stability assessment for flow batteries and deeper investigation of the ferrocene co-polymer

Ivan A. Volodin, Katrin Wulf, Felix Tzschoeckell, Steffi Stumpf, Stephanie Hoepfner, Nicole Fritz, Cristina F. Morales-Reyes, Thomas Wichard, Nico Ueberschaar, Christian Stolze, Martin D. Hager and Ulrich S. Schubert*



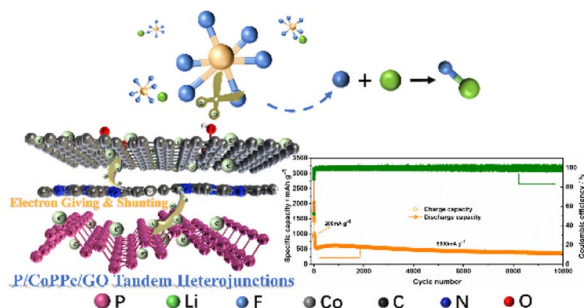
4826



Trimetallic-organic framework/MXene composite as an oxygen evolution reaction electrocatalyst with elevated intrinsic activity

Mahrokh Nazari and Ali Morsali*

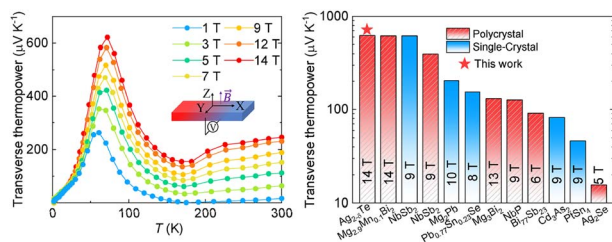
4835



A chemical–mechanical coupling effect induced by charge distribution engineering yields a long-lived phosphorus anode for lithium-ion batteries

Weiqiang Kong, Wenruo Li, Wenhao Yu, Haoyuan Zhu, Shaofeng Xu, Shun Liu, Liying Cui and Zhongsheng Wen*

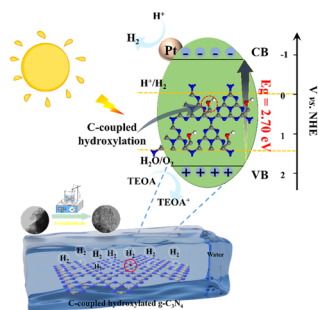
4846



Large transverse magneto-thermoelectric effect in narrow-band-gap polycrystalline $\text{Ag}_{2-\delta}\text{Te}$

Mingyu Chen, Tao Feng, Nan Yin, Quan Shi, Peng Jiang* and Xinhe Bao*

4854



Strengthened H_2O adsorption and photogenerated carrier separation: surface C-coupled hydroxylation of $\text{g-C}_3\text{N}_4$ photocatalysts for efficient H_2 production

Jun Hu, Lixu Wu, Hongyin Liu, Chun Sun, Syed Aamir Hussain, Fei-peng Jiao* and Yaochi Liu*

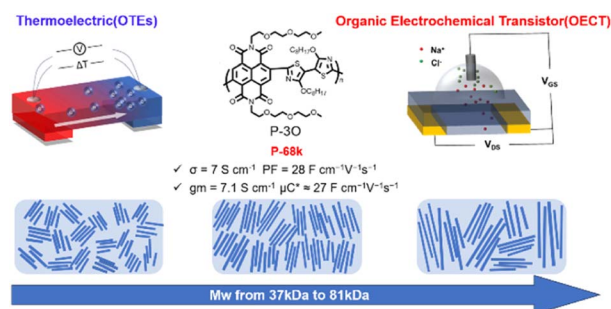


PAPERS

4866

Adjusting molecular weight optimizes electronic transport of extrinsically N-type doped conjugated polymer incorporating glycolated side chains

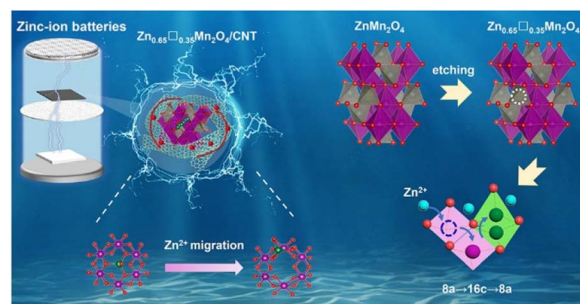
Yazhuo Kuang, Sander Heester, Shuyan Shao, Gang Ye,*
Tangqing Yao, Zhiyuan Xie,* L. Jan Anton Koster
and Jian Liu*



4877

Diminishing the migration resistance of zinc ions by cation vacancy engineering in a spinel-framework

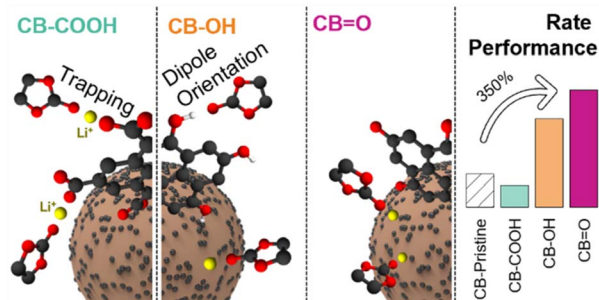
Jingjing Yuan,* Yifan Qiao, Yifan Li, Hui Xu,
Wenyao Zhang, Zhihao Zhang, Guangyu He
and Haiqun Chen*



4884

Improved lithium-ion battery cathode rate performance via carbon black functionalization

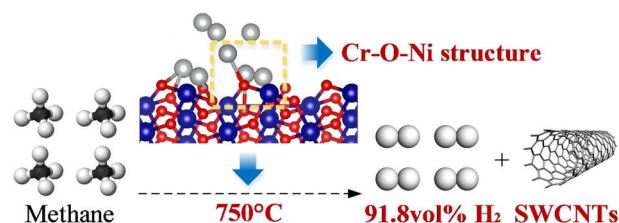
Donghyuck Park, Peter C. Sherrell, Fangxi Xie
and Amanda V. Ellis*



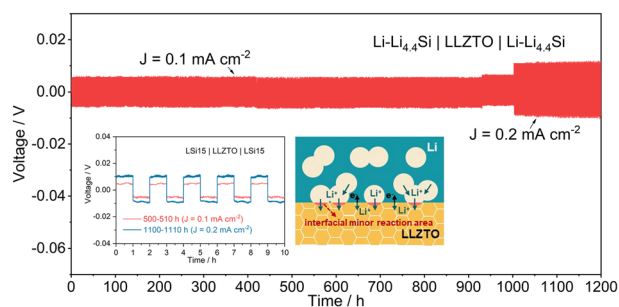
4893

Reinforcing hydrogen and carbon nanotube co-production via Cr–O–Ni catalyzed methane decomposition

Zhao Sun, Yunhan Gong, Dongfang Cheng
and Zhiqiang Sun*



4903



Construction of an intimately riveted Li/garnet interface with ultra-low interfacial resistance for solid-state batteries

Jie Wang, Saisai Zhang, Hailei Zhao,* Jintao Liu, Min-An Yang, Zhaolin Li and Konrad Świerczek

