

Journal of Materials Chemistry A

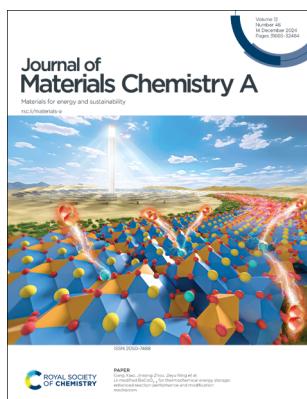
Materials for energy and sustainability

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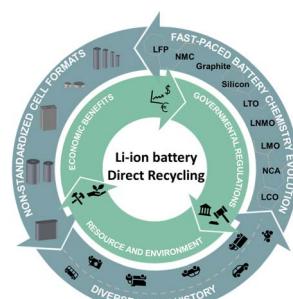


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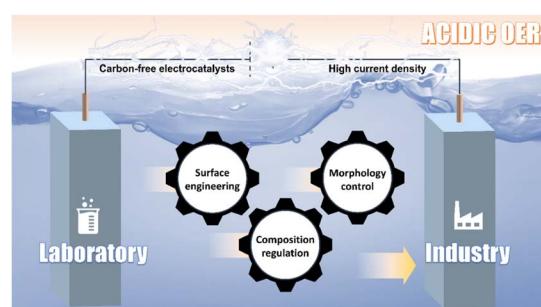
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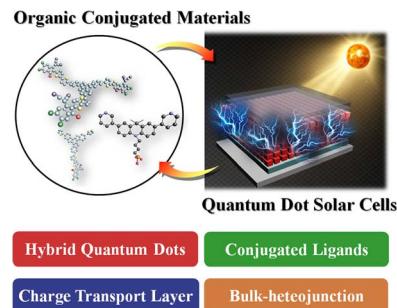
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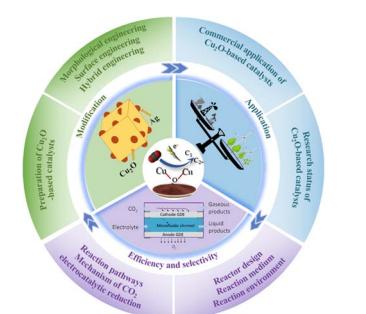
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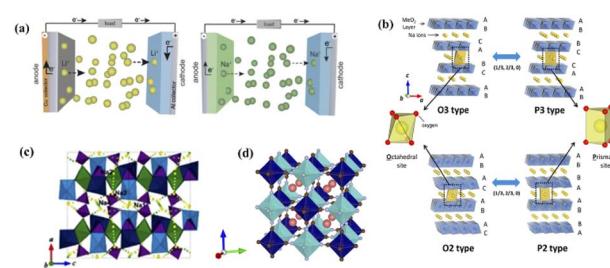
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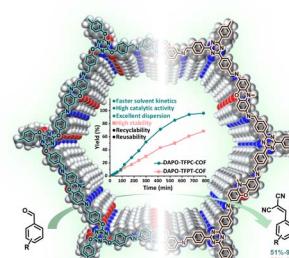


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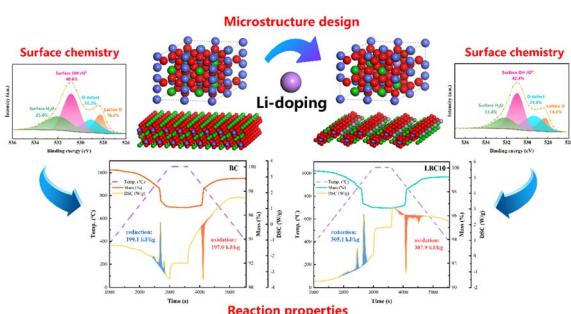


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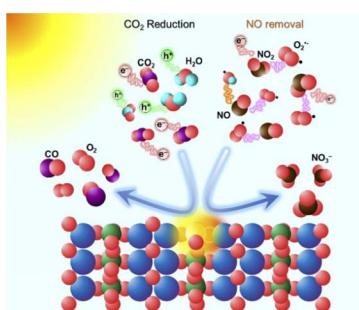
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Li-modified BaCoO_{3-δ} for thermochemical energy storage: enhanced reaction performance and modification mechanism

Zeyu Ning, Changdong Gu, Yibin He, Haoran Xu, Peiwang Zhu, Jinsong Zhou* and Gang Xiao*

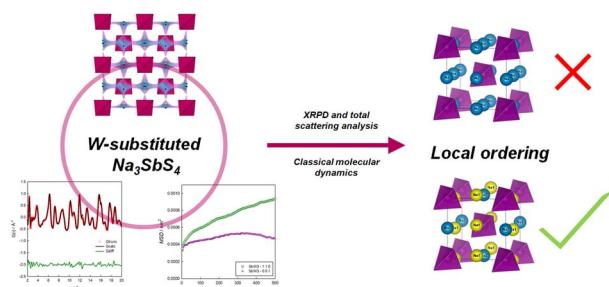
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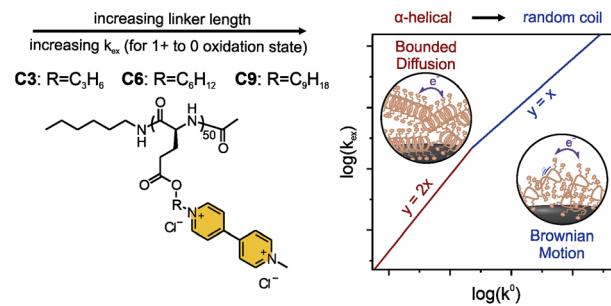


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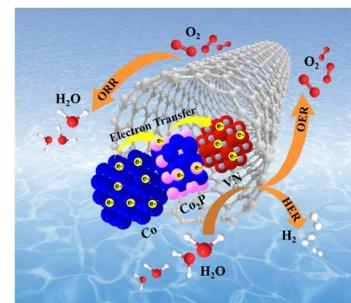
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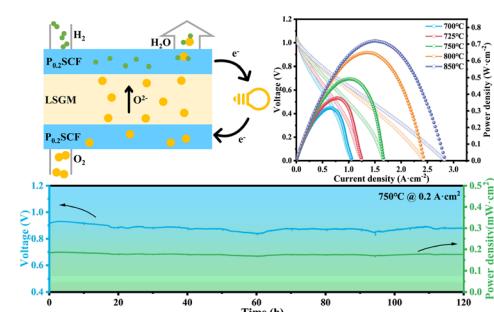
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Enhanced electrocatalytic activity and stability of high performance symmetrical solid oxide fuel cells with praseodymium-doped SrCo_{0.2}Fe_{0.8}O_{3-δ} electrodes

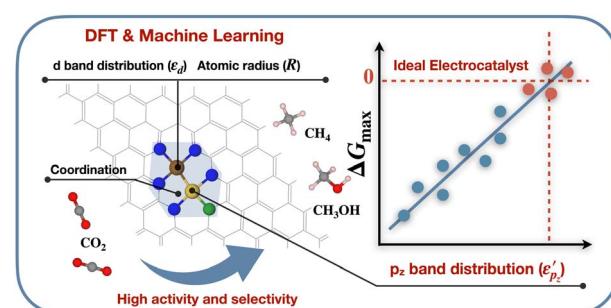
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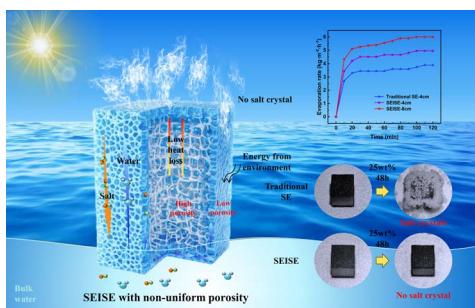
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Meijie Wang, Yaowei Xiang, Yuxing Lin, Yang Sun, Zi-zhong Zhu, Shunqing Wu and Xinrui Cao*



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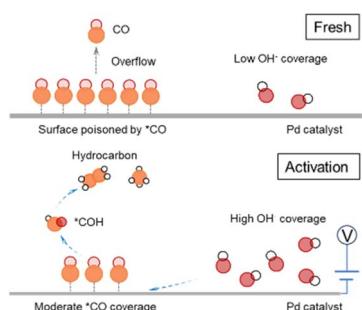
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A skin-effect-inspired 3D solar evaporator for simultaneously achieving highly efficient steam generation and ultra-high salt resistance

Renzhong Deng, Yunqi Li, Qing Li,* Yu Qiu, Haixiang Feng and Yangming Liu

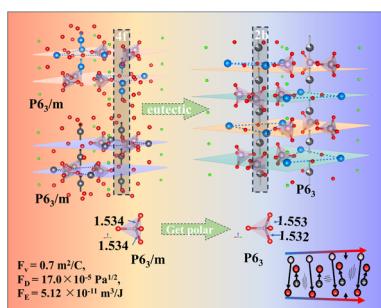
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Non-copper metals catalyzing deep CO_2 electroreduction to hydrocarbon

Chaojie Chen, Xiaowan Bai, Yan Jiao, Yao Zheng* and Shi-Zhang Qiao*

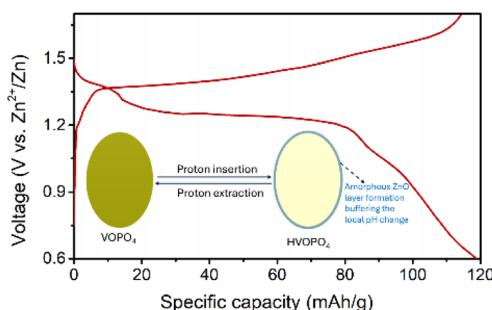
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Novel polar oxides with exceptional pyroelectric performance: doping-induced polar transition in $\text{Ba}_6\text{Pb}_{3.2}(\text{PO}_4)_6\text{Cl}_2$

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An unconventional charge compensation mechanism for proton insertion in aqueous Zn-ion batteries

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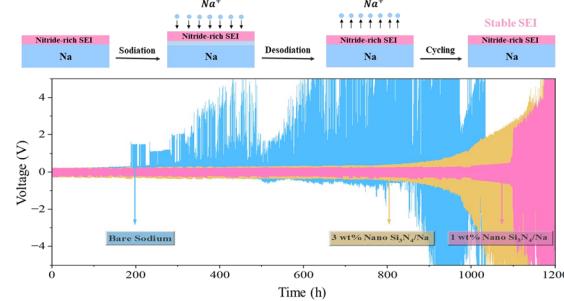


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Highly uniform nitride-rich artificial solid electrolyte interphase enabled by nano-silicon nitride for superior performance in advanced sodium metal batteries

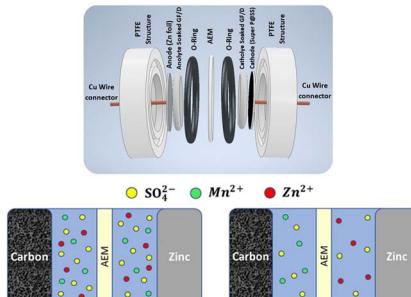
Roya Damircheli, Binh Hoang, Victoria Castagna Ferrari and Chuan-Fu Lin*
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Novel insights into aqueous Zn–MnO₂ batteries: a simple and robust approach to refute the Zn²⁺ intercalation mechanism

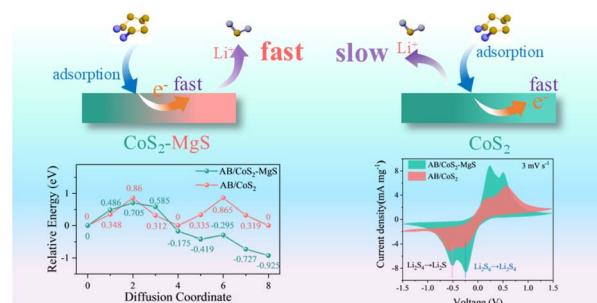
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Accelerating sulfur conversion kinetics via CoS₂–MgS heterostructure for lithium sulfur batteries

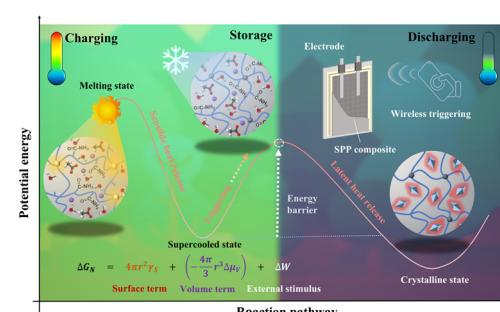
Xinliang Men, Teng Deng, Jiangxuan Che and Juan Wang*



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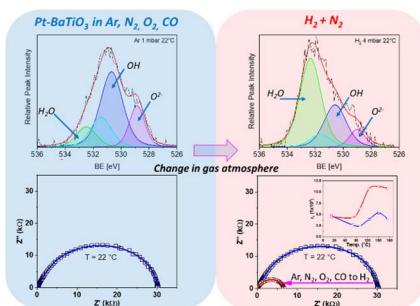
Hydrogel-stabilized supercooled salt hydrates for seasonal storage and controlled release of solar-thermal energy

Yizhe Liu, Xiaoxiang Li, Yangzhe Xu, Benwei Fu, Chengyi Song, Wen Shang, Peng Tao* and Tao Deng*



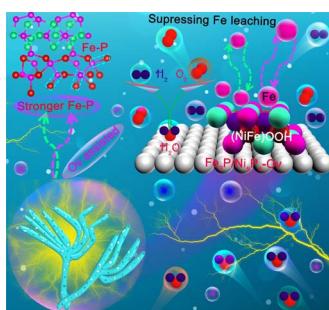
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**Hydrogen spillover drives room temperature sensing on spark plasma sintered BaTiO₃ with Pt electrodes**

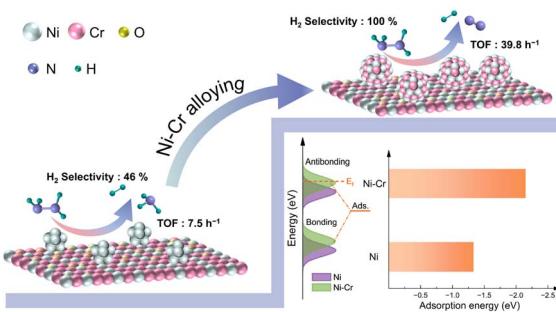
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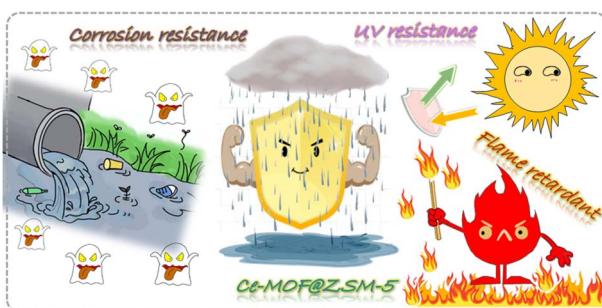
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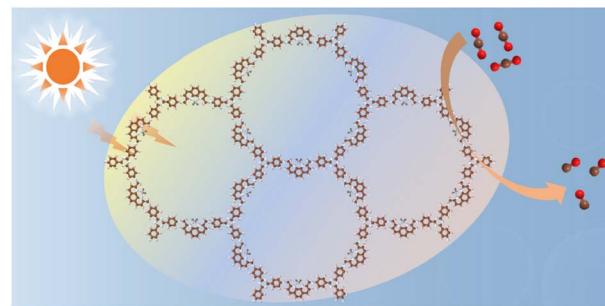


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Installing active metal species in a covalent triazine framework for highly efficient and selective photocatalytic CO₂ reduction

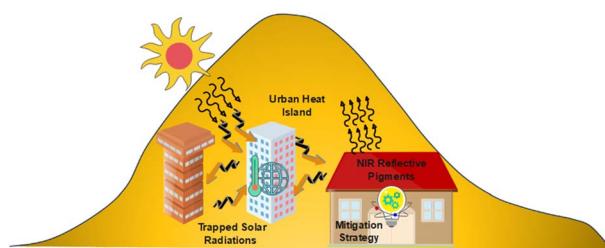
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Composite oxide cooling pigments mitigate the impact of urban heat islands

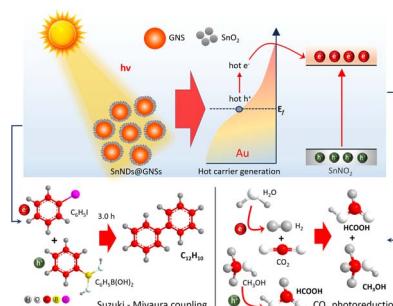
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Increasing electron density through an n-type semiconductor to accelerate hot electrons from plasmonic Au nanospheres for artificial photosynthesis and cross-coupling reactions

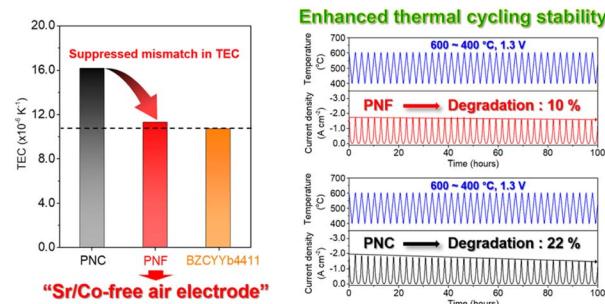
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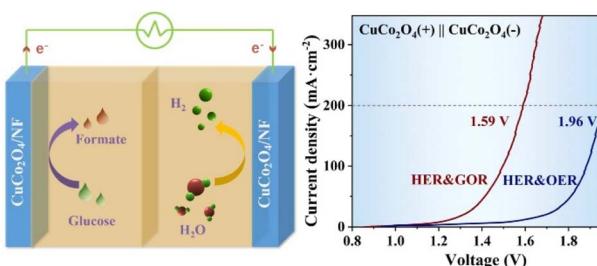
High-performance and excellent thermal cycling stability of reversible protonic ceramic cells enabled by a promising Sr/Co-free PrNi_{0.5}Fe_{0.5}O_{3-δ} air electrode

Boseok Seong, Jiwon Yun and Sihyuk Choi*



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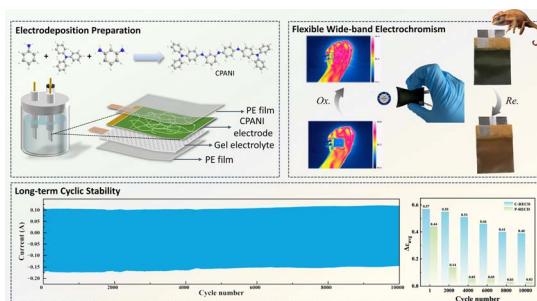
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Electrochemical glucose-to-formic acid conversion coupled with alkaline hydrogen production over nanostructured CuCo₂O₄ catalysts

Xinxuan Lin, Xiongbiao Xue and Jing Du*

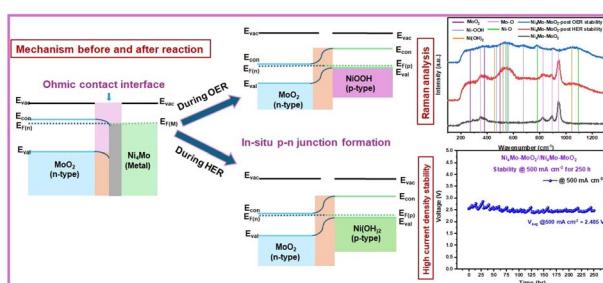
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Yulin Liu, Hengzhi Zhang, Shengwei Tang, Rongzong Zheng and Chunyang Jia*

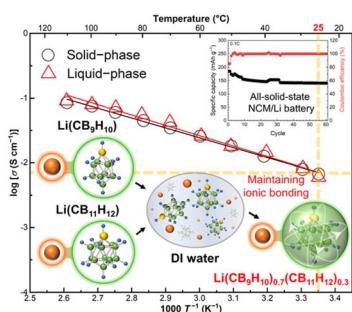
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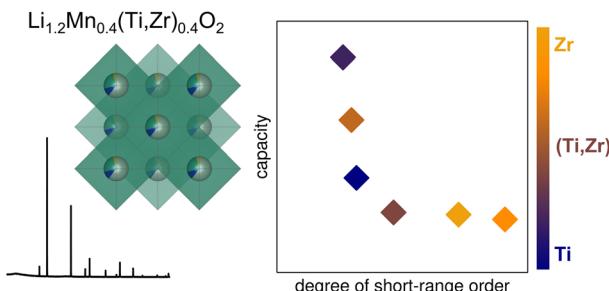


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Isovalent substitution modulates average and short-range structure in disordered rocksalt oxides

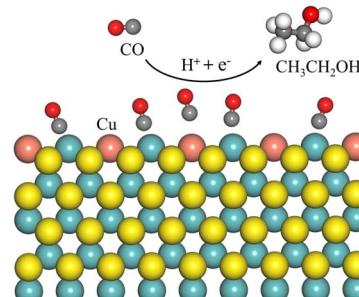
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Enhanced reduction of CO to C₂ products on MoS₂ nanoribbons by edge engineering

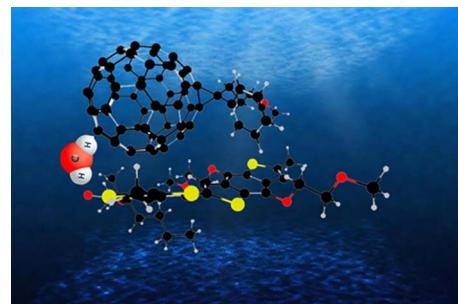
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Hydrophilic conjugated polymer additives in fullerene-heterojunction photocatalytic systems for efficient photocatalytic hydrogen evolution

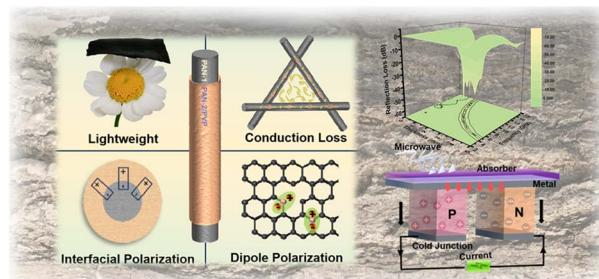
Li Tian,* Shukui Guo, Lingwei Feng, Jichao Wang, Airong Wang* and Cheng-xing Cui*



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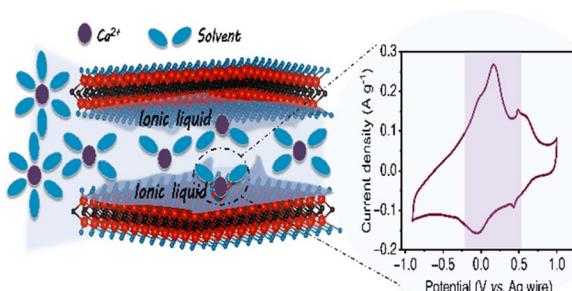
Lure the “enemy” deep: an innovative biomimetic strategy for enhancing the microwave absorption performance of carbon nanofibers

Yu Deng, Minghang Yang, Yining Wang, Mingguang Zhang, Shuaining Zhou, Xiangyang Lu, Xigao Jian and Yousi Chen*



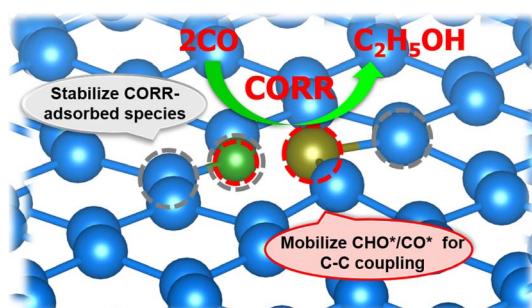
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Nanoconfinement-induced calcium ion redox charge storage of V₂CT_x MXene

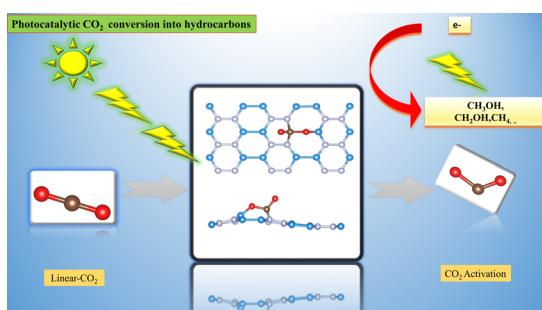
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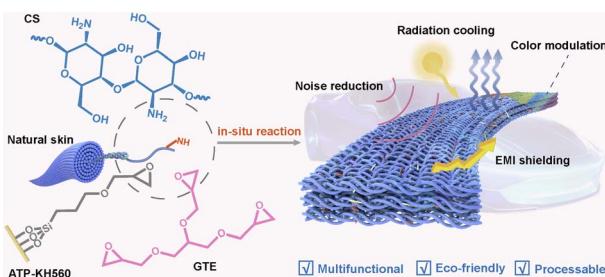
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 $\text{o-B}_2\text{N}_2$: a promising metal-free photocatalyst for highly efficient conversion of CO₂ to hydrocarbons

Rajesh Chitara, Himalay Kolavada, Madhu Menon, P. N. Gajjar* and Sanjeev K. Gupta*

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Rationally engineered smart automotive upholstery leather based on gradient feeding *in situ* one-pot reaction in microreactors of natural skin

Qingxin Han,* Huishu Fan, Xuechuan Wang, Junli Zhang, Xinhua Liu and Xiaoyu Guan*

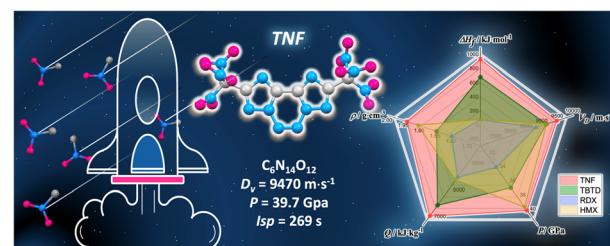


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Zero-oxygen balanced fused 1,2,3,4-tetrazine (TNF) as a high-performance energetic material

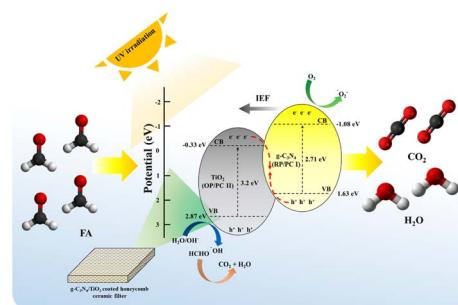
Hui Zhang, Xinyu Du, Xudong Han, Gong Cheng, Wenchuan Chen, Yingqi Xia,* Qi Lai,* Ping Yin and Siping Pang*



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The superior mineralization potential of a graphitic carbon nitride/titanium dioxide composite and its application in the construction of a portable photocatalytic air purification system against gaseous formaldehyde

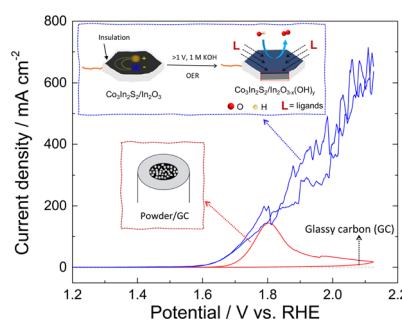
Myeon-Seong Cho, Sherif A. Younis, Caroline. S. Lee, Xiaowei Li and Ki-Hyun Kim*



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Ultra-stable and poison tolerant oxygen evolution activity enabled by surface $\text{In}_2\text{O}_{3-x}(\text{OH})_y$ of $\text{Co}_3\text{In}_2\text{S}_2$ large single crystals

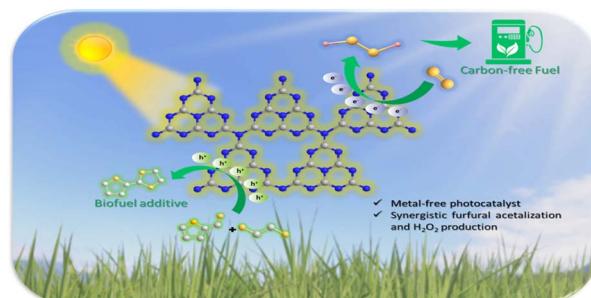
Anjaiah Sheelam, Ariel Whitten, Carrington Gates Moore, Mark Engelhard, Jean-Sabin McEwen and Jeffrey G. Bell*



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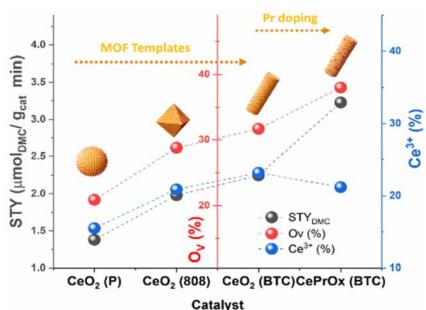
Unveiling the solar-driven synergistic production of a cyclic fuel-additive and carbon-free solar fuel from biogenic furfural: mediated by a metal-free organic semiconductor

Shivali Dhingra, Arpna Jaryal, Deepak Kumar Chauhan and Kamalakkannan Kailasam*



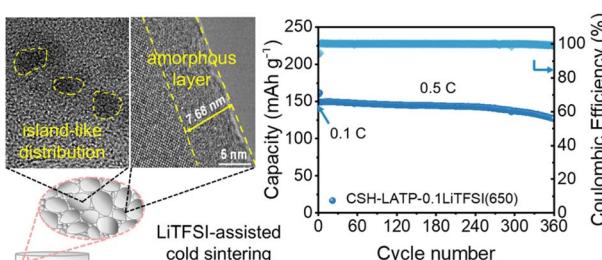
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**MOF-derived CeO₂ catalysts with Pr doping: engineering oxygen vacancies for improved CO₂ conversion to dimethyl carbonate**

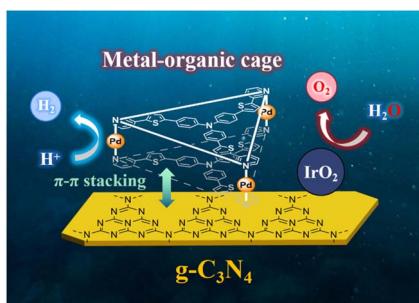
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**Achieving high ionic conductivity of LATP solid electrolyte via a LiTFSI-assisted cold sintering process**

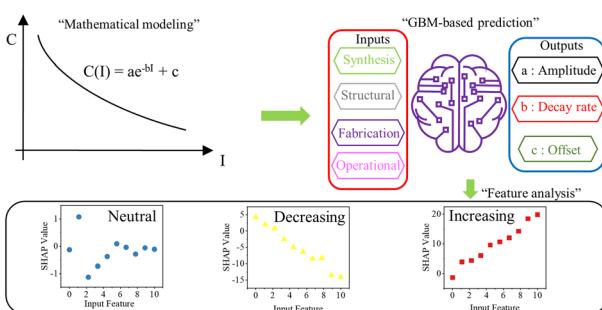
Shanshan Yi, Shuyu Zhou, Yudong Liu, PengPeng Dai, Yuxin Liu, Shixi Zhao* and Guozhong Cao*

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**A Z-scheme photosensitive MOC/g-C₃N₄ composite catalyst for efficient visible-light driven half and overall water splitting**

Xin-Ao Li, Li-Lin Tan, Xiao-Lin Wang, Yang Liu, Zi-Zhan Liang, Jian-Feng Huang,* Li-Min Xiao and Jun-Min Liu*

32318

**Insights on the rate performance of polyaniline supercapacitors by integrated mathematical modeling and machine learning**

Elham Rahmanian, Rasoul Malekfar and Ali Sajedi-Moghaddam*



PAPERS

32328

Highly transparent ternary bulk-heterojunctions for semi-transparent organic photovoltaics

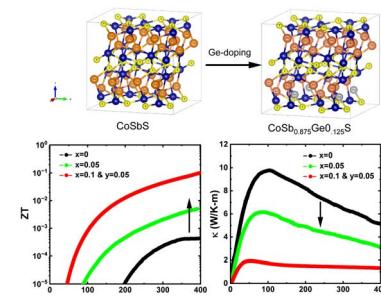
Hryhorii P. Parkhomenko, Andrii I. Mostovyi, Nora Schopp, Mykhailo M. Solovan and Viktor V. Brus*



32338

Massive reduction in lattice thermal conductivity and strongly enhanced thermoelectric properties in Ge- and Se-doped CoSbS

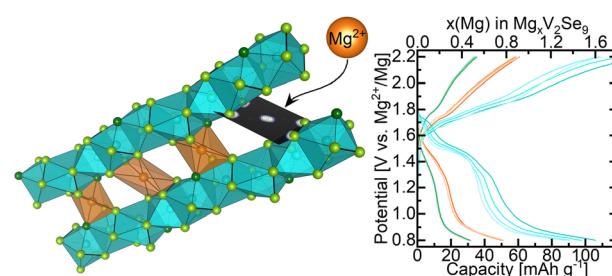
H. Sajida Kousar, Divya Srivastava, Antti J. Karttunen, Maarit Karppinen* and Girish C. Tewari*



32349

Fast Mg-ion insertion kinetics in V_2Se_9

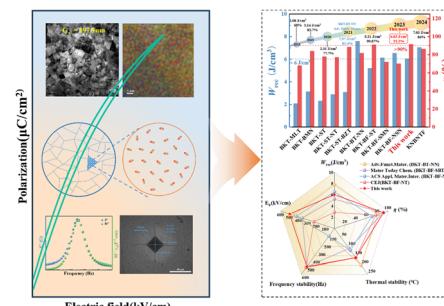
Matthew A. Wright, Jungwoo Lim, Raul A. Pacheco Muino, Anna E. Krowitz, Cara J. Hawkins, Mounib Bahri, Luke M. Daniels, Ruiyong Chen, Luciana Gomes Chagas, James Cookson, Paul Collier, Alan V. Chadwick, Nigel D. Browning, John B. Claridge, Laurence J. Hardwick* and Matthew J. Rosseinsky*



32359

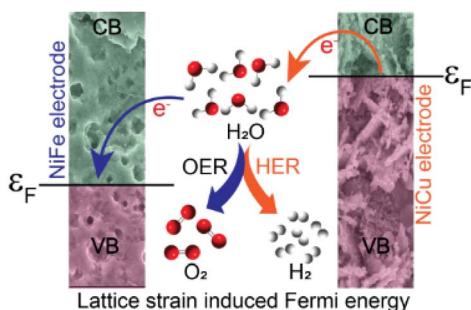
Multiple-design and synergism toward superhigh capacitive energy storage with $(Bi_{0.5}K_{0.5})TiO_3$ -based lead-free superparaelectrics

Xinyao Li, Jiachen Xi, Chongyang Li, Wangfeng Bai,* Shiting Wu, Peng Zheng, Peng Li and Jiwei Zhai*



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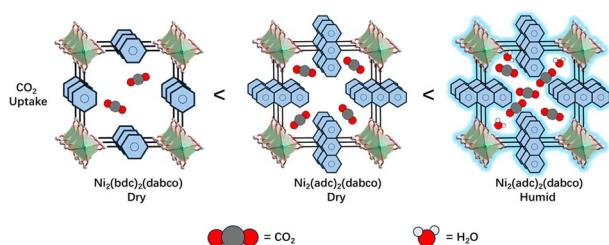
32371



Lattice strain-induced electronic effects on a heteroatom-doped nickel alloy catalyst for electrochemical water splitting

Shouvik Mete, Manish S. Sengar, Marshal Dhayal, Vijay Kumar and Santosh K. Singh*

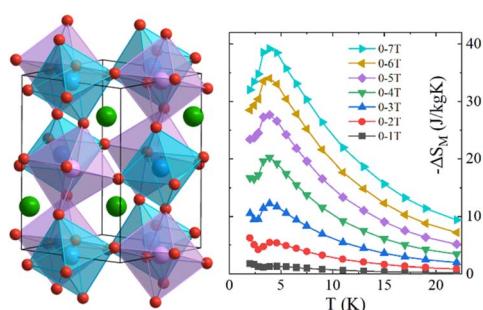
32385



Enhancing carbon dioxide capture under humid conditions by optimizing the pore surface structure

Guoyu Zhang, Feng Xie, Saif Ullah, Lulu Ma, Simon J. Teat, Shengqian Ma, Timo Thonhauser, Kui Tan, Hao Wang* and Jing Li*

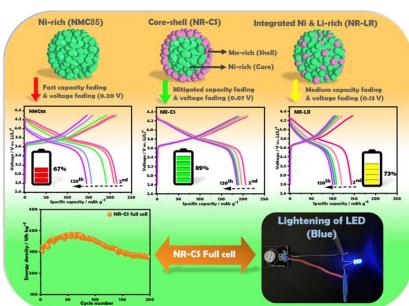
32396



Experimental and theoretical insights into the structural, magnetic, and low-temperature magnetocaloric properties of $\text{RE}_2\text{CoTiO}_6$ ($\text{RE} = \text{Gd, Dy, and Er}$) double perovskite oxides

Yikun Zhang,* Yang Xie, Jingjing Wei and Weixiang Hao

32408



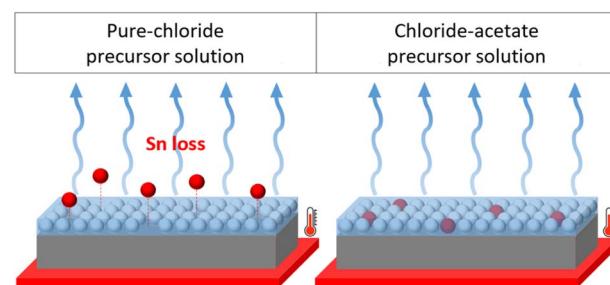
Advantageous electrochemical behaviour of new core–shell structured cathodes over nickel-rich ones for lithium-ion batteries

Yuvashri Jayamkondan, Boris Markovsky, Doron Aurbach and Prasant Kumar Nayak*

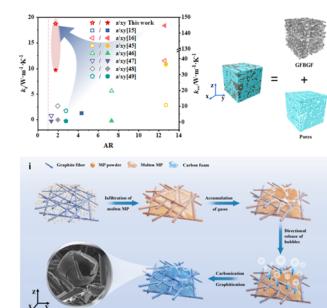


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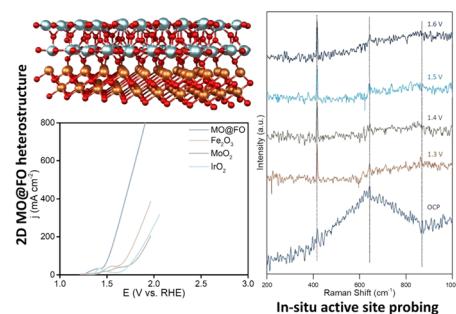
32424

Mitigating Sn loss via anion substitution in the Cu²⁺–Sn²⁺ precursor system for Cu₂ZnSn(S, Se)₄ solar cellsSimon Moser,* Jasmin Krummenacher,
Abdessalem Aribia, Jędrzej Morzy and Romain Carron

32436

Confined vertical foaming induces graphite crystal orientation: exceptional isotropy of thermal conductivity and anti-leakage properties for phase change systemsYu Qin, Le Ding, Zhao Jiang, Yafang Zhang, Chong Ye,
Jinshui Liu, Yudi Zhang, M.-Sadeeq Balogun*
and Ting Ouyang*

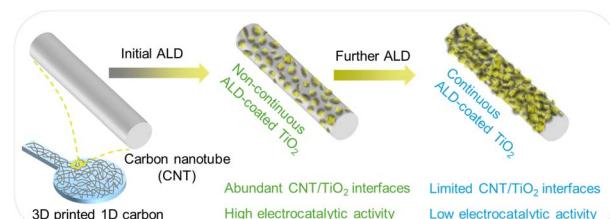
32447

Sacrificial Fe sites making 2D heterostructure an efficient catalyst for oxygen evolution reaction in alkaline seawaterSuraj Loomba, Muhammad Waqas Khan,
Ashakiran Maibam, Muhammad Haris,
Sharafadeen Gbadamasi, Vasundhara Nettem,
Seyedmahdi Mousavi, Anton Tadich, Lars Thomsen,
Karishma Jain, Babar Shabbir, Asif Mahmood,
Ravichandar Babarao,* Jian Xian and Nasir Mahmood*

32458

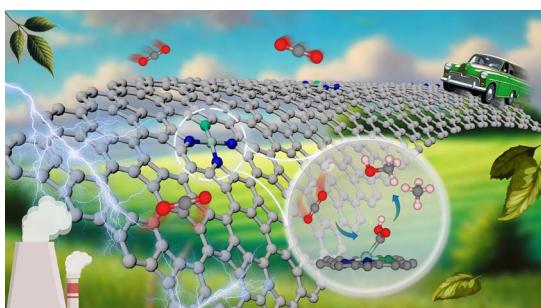
Atomic tuning of 3D printed carbon surface chemistry for electrocatalytic nitrite oxidation and reduction to ammonia

Wanli Gao, Jan Michalička and Martin Pumera*



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32471



Towards efficient CO₂RR electrocatalysts: a study of structure and properties of M–N–E active moieties embedded in a biphenylene framework (M = Mn, Fe, Co, Ni, Cu; E = C, B)

Zhengqin Zhao, Andrey V. Zibarev, Hui Wang,* Jinbo Hao and Lijia Luo

CORRECTIONS

32480

Correction: Achieving dynamic stability of single-crystal low-Co Ni-rich cathode material for high performance lithium batteries

Adil Saleem, Leon L. Shaw,* Mehwish Khalid Butt, Javed Rehman, Arshad Hussain, Zawar Hussain, Rashid Iqbal* and Muhammad Kashif Majeed*

32481

Correction: MOF-derived CeO₂ catalysts with Pr doping: engineering oxygen vacancies for improved CO₂ conversion to dimethyl carbonate

Jungseob So, Min Hye Jeong, Jungwon Yun, Byeong-Seon An, Seung-ik Kim, Geun-yeong Kim, Hyun-Tak Kim, Tae Sun Chang, Jin Hee Lee, Iljeong Heo, Jinjoo An, Young-Woo You,* Minkyu Kim* and Young Jin Kim*

