

Journal of Materials Chemistry A

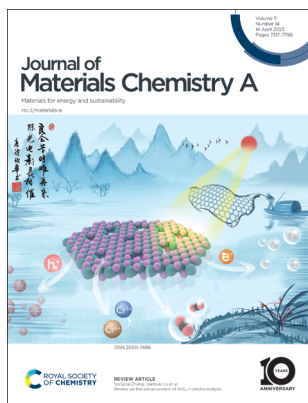
Materials for energy and sustainability

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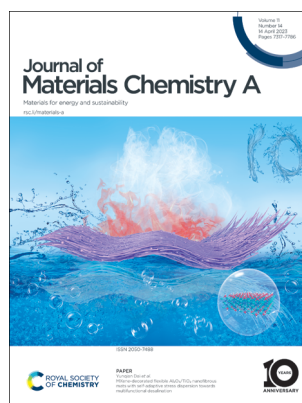
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See Yongcai Zhang, Junhua Hu *et al.*, pp. 7331–7343.
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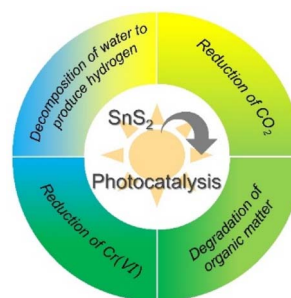
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See Yunqian Dai *et al.*, pp. 7422–7431. Image reproduced by permission of Yunqian Dai from *J. Mater. Chem. A*, 2023, **11**, 7422.

REVIEWS

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Review on the advancement of SnS₂ in photocatalysis

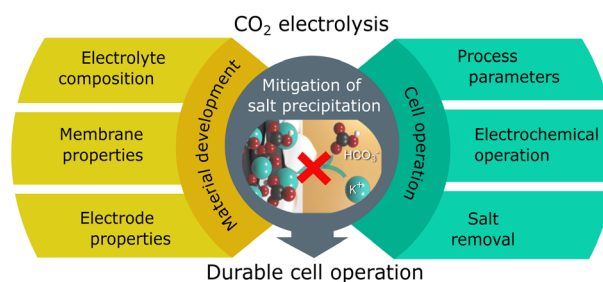
Xiaowen Guo, Fen Zhang, Yongcai Zhang* and Junhua Hu*



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Strategies for the mitigation of salt precipitation in zero-gap CO₂ electrolyzers producing CO

Joey Disch, Luca Bohn, Lukas Metzler and Severin Vierrath*



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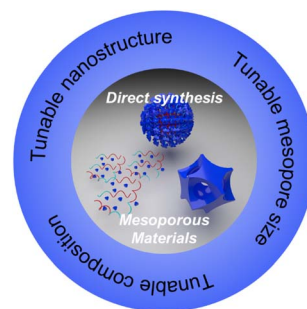


REVIEWS

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Recent progress in block copolymer soft-template-assisted synthesis of versatile mesoporous materials for energy storage systems

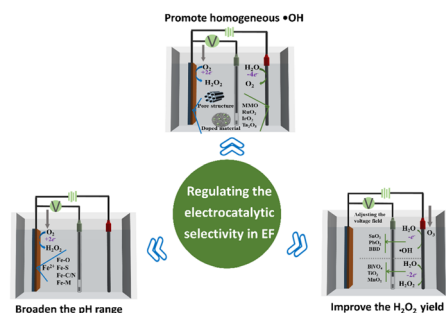
Keon-Woo Kim, Bomi Park, Jun Kim, Changshin Jo* and Jin Kon Kim*



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Recent progress in electrocatalytic selectivity in heterogeneous electro-Fenton processes

Hong-yu Liu, Jun Jiang,* Lu Tang, Ying Liang and Sheng-guo Xue

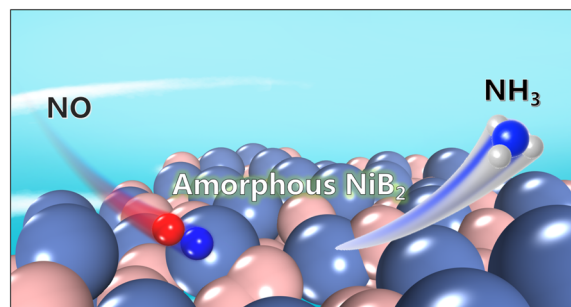


COMMUNICATIONS

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Amorphous NiB₂ for electroreduction of NO to NH₃

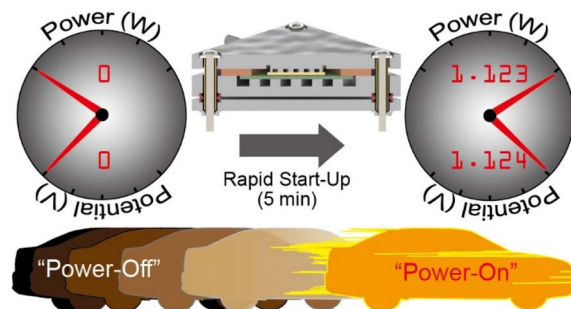
Kai Chen, Ye Tian, Yunhe Li, Yaping Liu and Ke Chu*



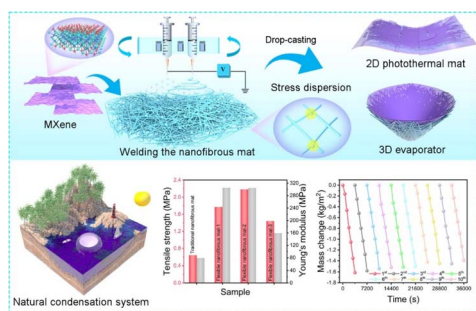
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Advancing towards ready-to-use solid oxide fuel cells: 5 minute cold start-up with high-power performance

Hyeseong Jeong, Channyung Lee, Ji-Won Son, Seung Yong Lee, Kyung Joong Yoon, Dongwook Shin, Mansoo Choi, Sung Soo Shin* and Hyoungchul Kim*



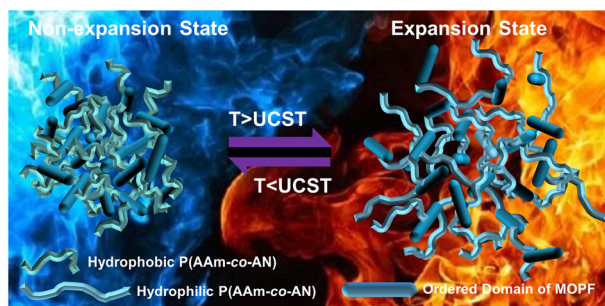
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MXene-decorated flexible Al₂O₃/TiO₂ nanofibrous mats with self-adaptive stress dispersion towards multifunctional desalination

Yunpeng Wang, Wanlin Xu, Xixi Zou, Wanlin Fu, Xiangyu Meng, Jingyi Jiang, Yiqun Zheng, Seeram Ramakrishna, Yueming Sun and Yunqian Dai*

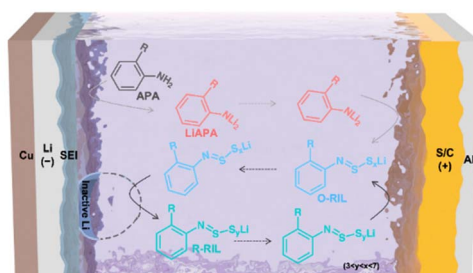
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Thermo-regulating mesoporous semi-rigid metal-organic-polymer frameworks for controllable adsorption and confinement

Wanjiang Li, Jiao Dong, Yancong Feng, Yao Wang,* Hao Li* and Guofu Zhou

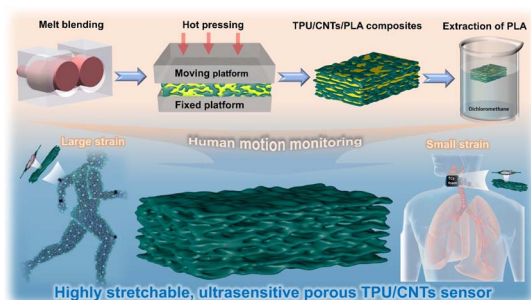
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Recycling inactive lithium in lithium-sulfur batteries using organic polysulfide redox

Li-Yang Yao, Li-Peng Hou, Yun-Wei Song, Meng Zhao, Jin Xie, Bo-Quan Li, Qiang Zhang, Jia-Qi Huang and Xue-Qiang Zhang*

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Efficient fabrication of highly stretchable and ultrasensitive thermoplastic polyurethane/carbon nanotube foam with anisotropic pore structures for human motion monitoring

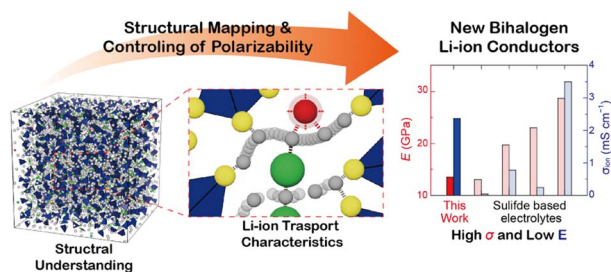
Qing-wen Yuan, Hao-wei Jiang, Tian-yuan Gao, Sen-hao Zhang, Shun-heng Jia, Ting Wu* and Jin-ping Qu*



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Structural mapping and tuning of mixed halide ions in amorphous sulfides for fast Li-ion conduction and high deformability

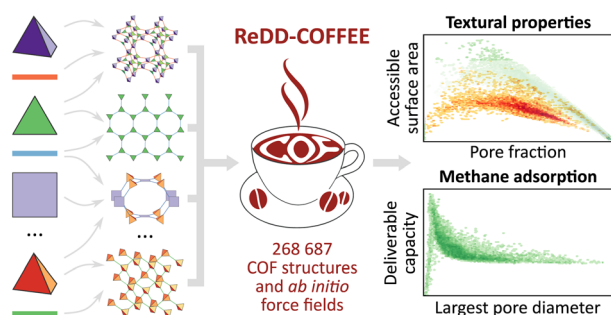
Ji-Su Kim, Young Jung Kim, Daseul Han, Kyung-Wan Nam, Gihan Kwon, Tae Wook Heo, Hun-Gi Jung, Kyung Joong Yoon and Hyoungchul Kim*



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ReDD-COFFEE: a ready-to-use database of covalent organic framework structures and accurate force fields to enable high-throughput screenings

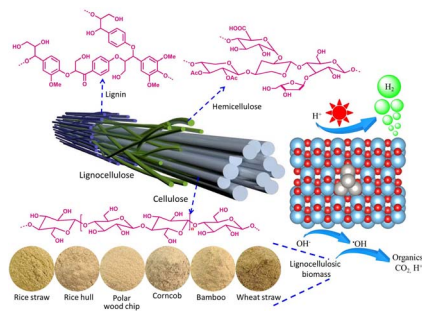
Juul S. De Vos, Sander Borgmans, Pascal Van Der Voort, Sven M. J. Rogge* and Veronique Van Speybroeck*



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Sub-10 nm anatase TiO₂ nanoparticles for rapid photocatalytic H₂ production from lignocellulosic biomass

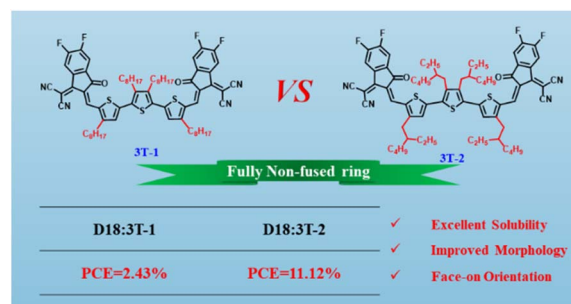
Ze-Xin Huang, Chi Ma, Fu-Guang Zhang, Quan Cheng, Qing-Yu Liu, Yong-Jun Yuan* and Xuefeng Zhang



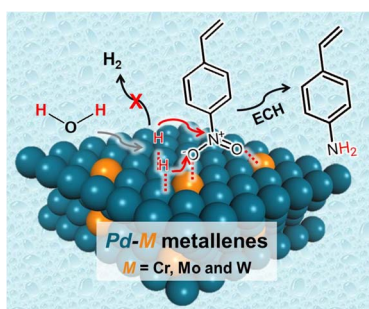
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Terthiophene based low-cost fully non-fused electron acceptors for high-efficiency as-cast organic solar cells

Yuanyuan Zhou, Peng Liu, Shuaishuai Shen, Miao Li,* Ruiping Qin, XiaoDan Tang, ChaoChao Qin, Jinsheng Song,* Zhishan Bo* and Lei Zhang*



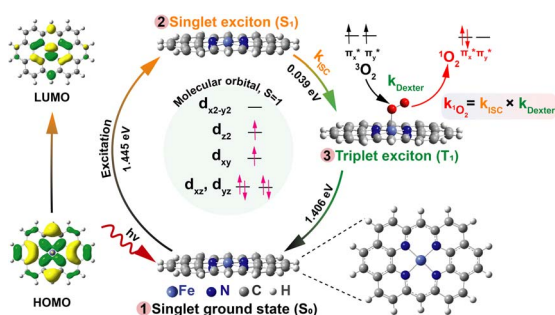
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Alloying promotion of Pd-based metallenes in electrocatalytic hydrogenation of functionalized nitroarenes

Wenbiao Zhang, Wanling Zhang, Jingwen Tan, Di Pan, Yi Tang* and Qingsheng Gao*

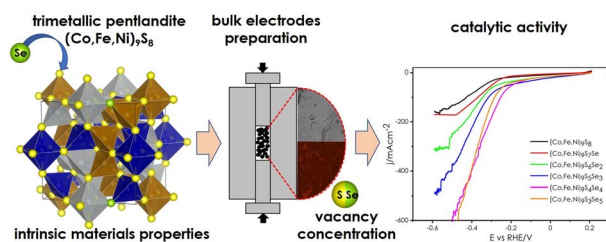
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Single and dual metal atom catalysts for enhanced singlet oxygen generation and oxygen reduction reaction

Mohsen Tamtaji, Songhua Cai, Wenting Wu, Tongchao Liu, Zhimin Li, Hsun-Yun Chang, Patrick Ryan Galligan, Shin-ichi Iida, Xiangrong Li, Faisal Rehman, Khalil Amine,* William A. Goddard, III* and Zhengtang Luo*

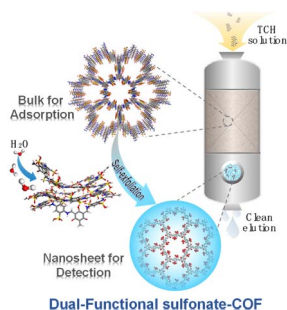
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Tailoring the electrocatalytic activity of multicomponent (Co,Fe,Ni)₉S_{8-x}Se_x pentlandite solid electrodes

Andrzej Mikuta,* Maciej Kubowicz, Julia Mazurków, Krzysztof Mars, Mathias Smialkowski, Ulf-Peter Apfel and Marta Radecka

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Designed sulfonate-based covalent organic frameworks with dual functions of recognition and encapsulation

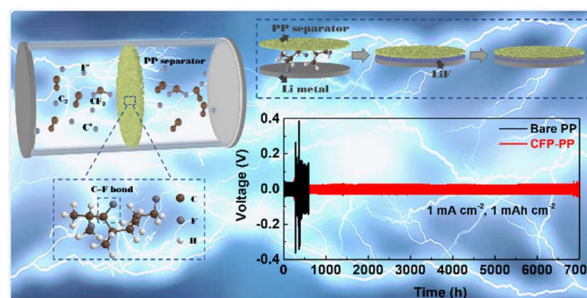
Shuaishuai Shang, Shuhao An, He Li, Jianping Li, Shenping Zhang, Changjun Peng, Honglai Liu and Jun Hu*



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A CF₄ plasma functionalized polypropylene separator for dendrite-free lithium metal anodes

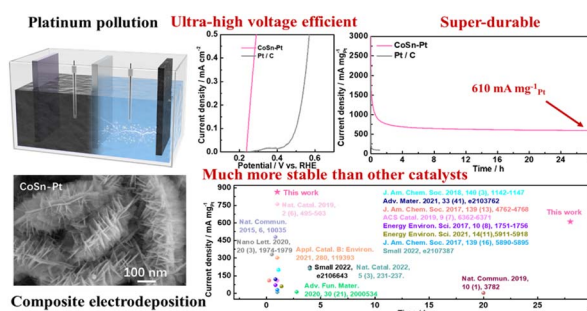
Shengling Cao, Xin He, Manlin Chen, Yu Han, Kangli Wang, Kai Jiang and Min Zhou*



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Facile preparation of a methanol catalyst with ultra-high voltage efficiency and super-durability: Pt pollution introduction by composite electrodeposition

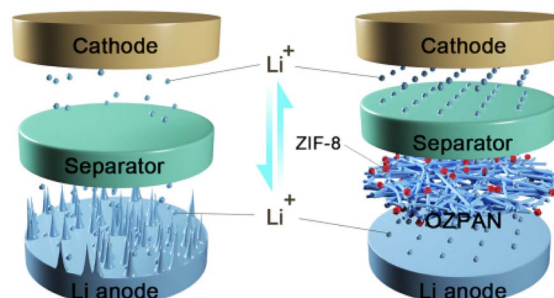
Hao Lei, Mangwei Cui, Wenzheng Li and Yan Huang*



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Regulating Li-ion flux via engineering oxidized ZIF-8/polyacrylonitrile fiber interlayer for Li metal batteries with high performance

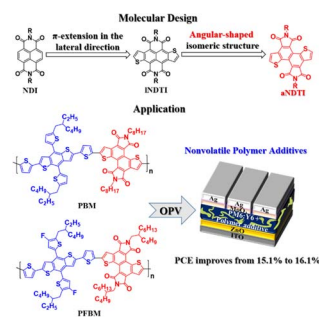
Ye Chen Si, Yunhao Jiang, Jiayi Liu, Hongyu Guan,* Xing-Long Wu and Changsheng Shan*



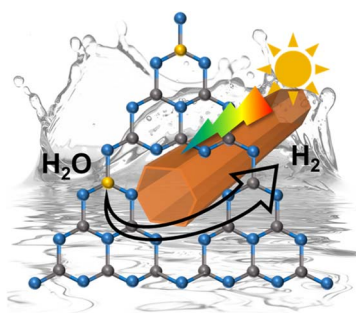
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Synthesis of angular-shaped naphthodithiophenediimide and its donor-acceptor copolymers as nonvolatile polymer additives for organic solar cells

Chia-Lin Tsai, Tung-Hsien Chan, Han-Cheng Lu, Ching-Li Huang, Kai-En Hung, Yu-Ying Lai* and Yen-Ju Cheng*



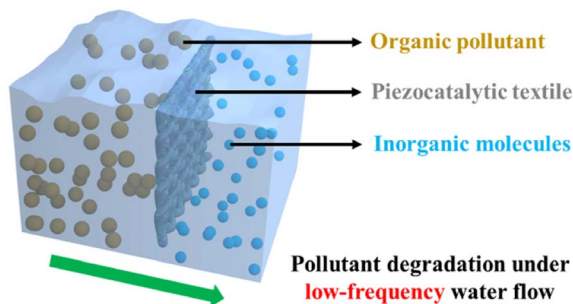
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Highly-efficient photocatalytic hydrogen evolution triggered by spatial confinement effects over co-crystal templated boron-doped carbon nitride hollow nanotubes

Wei Dai, Ranhao Wang, Zhijie Chen, Shimao Deng, Changzhu Huang, Wenjun Luo* and Hong Chen*

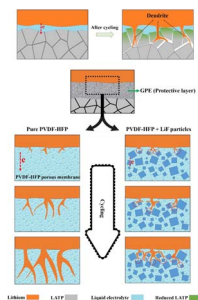
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Textile-based piezocatalytic platform for organics degradation under low-frequency water flow

Jidong Shi,* Su Yang, Zetao Zheng, Jiyu Li, Liu Wang,* Wei Zeng, Liusi Yang, Ying Xiong, Zhengyuan Jin and Xiaoming Tao*

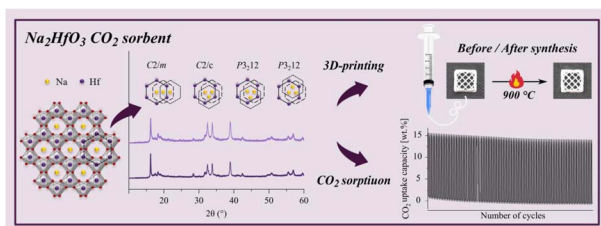
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Realization of high-performance room temperature solid state Li-metal batteries using a LiF/PVDF-HFP composite membrane for protecting an LATP ceramic electrolyte

Mahmoud Ghafari, Zeinab Sanaee,* Alireza Babaei and Shams Mohajerzadeh

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Synthesis and characterization of sodium hafnium oxide (Na_2HfO_3) and its high-temperature CO_2 sorption properties

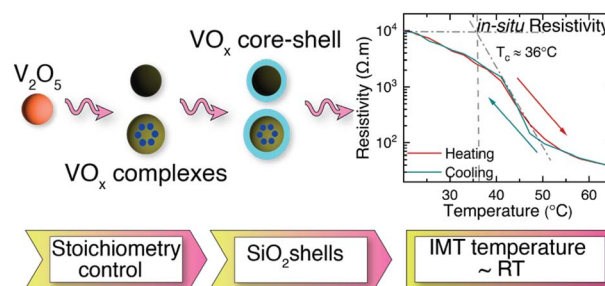
Ribooga Chang, Erik Svensson Grape, Teva Clairefond, Evgenii Tikhomirov, A. Ken Inge and Ocean Cheung*



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Infrared modulation via near-room-temperature phase transitions of vanadium oxides & core-shell composites

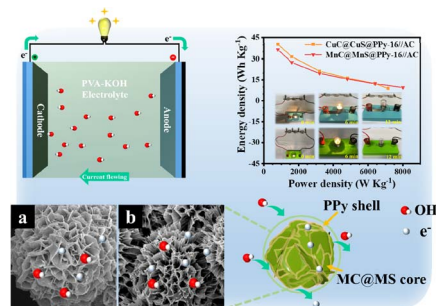
Mohammad Taha,* Sivacarendran Balendhran, Peter C. Sherrell, Nick Kirkwood, Dingchen Wen, Shifan Wang, Jiajun Meng, James Bullock, Kenneth B. Crozier and Len Sciacca



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3D nanoflower-like and core-shell structured MCo₂O₄@MCo₂S₄@polypyrrole (M = Cu, Mn) composites as supercapacitor electrode materials with ultrahigh specific capacitances

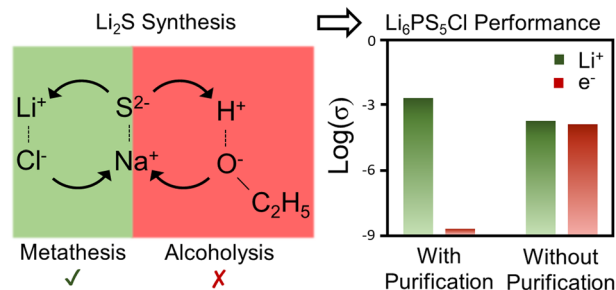
Chunxiao Wang, Yawen Liu, Yuesheng Sun, Liang Cui* and Jingquan Liu*



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Synthesis of high-purity Li₂S nanocrystals via metathesis for solid-state electrolyte applications

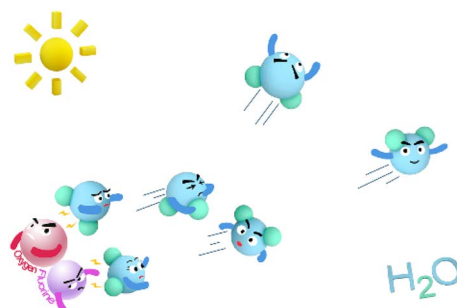
William H. Smith, Saeed Ahmadi Vasselabadi and Colin A. Wolden*



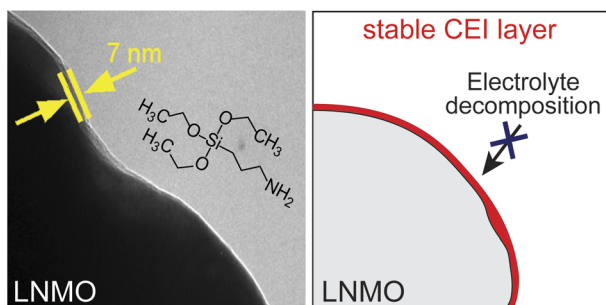
7662

Interfacial charge transfer weakens hydrogen bonds between water molecules to accelerate solar water evaporation

Liru Wang, Jinguo Lin, Yuanyuan Li, Yanan Yang, Xiaoting Liu, Zhe Wang, Feng Liu,* Xiaotong Sun, Tian Yang, Nan Chen* and Liangti Qu



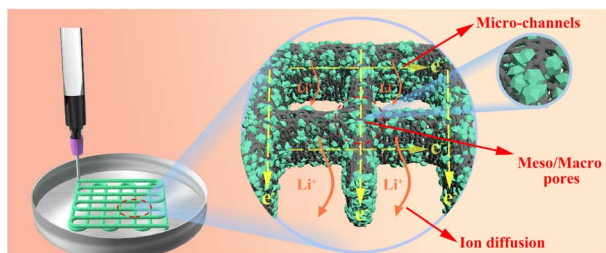
7670



An electrolyte additive for the improved high voltage performance of $\text{LiNi}_{0.5}\text{Mn}_{1.5}\text{O}_4$ (LNMO) cathodes in Li-ion batteries

Minh Tri Nguyen, Hieu Quang Pham, José Augusto Berrocal, Ilja Gunkel* and Ullrich Steiner*

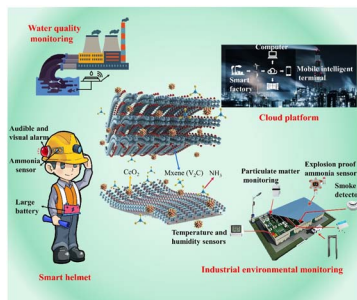
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A 3D-printed Al metal–organic framework/S cathode with efficient adsorption and redox conversion of polysulfides in lithium–sulfur batteries

Wen Xi, Junpu Zhang, Youfang Zhang, Rui Wang, Yansheng Gong, Beibei He, Huanwen Wang and Jun Jin*

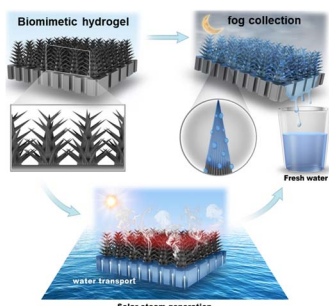
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A room temperature ammonia gas sensor based on cerium oxide/MXene and self-powered by a freestanding-mode triboelectric nanogenerator and its multifunctional monitoring application

Xingwei Wang, Likun Gong, Zheng Li, Yingda Yin and Dongzhi Zhang*

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Setaria viridis-inspired hydrogels with multilevel structures for efficient all-day fresh water harvesting

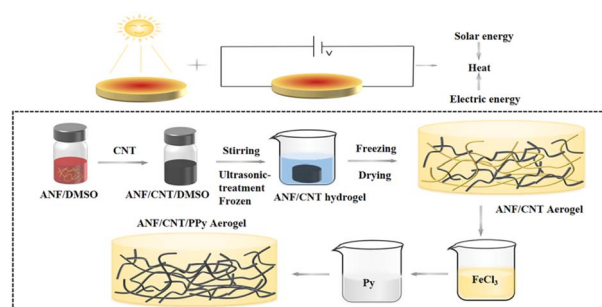
Xin Su, Dezhao Hao, Pei Li, Ming Yang, Xinglin Guo,* Xicheng Ai,* Tong Zhao and Lei Jiang



7711

Aramid-based aerogels for driving water evaporation through both photo-thermal and electro-thermal effects

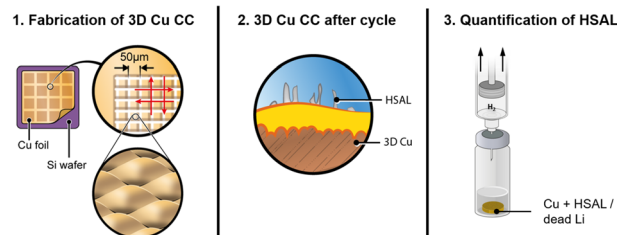
Min Wang, Xuezhong Zhang, Chuanliang Chen, Yong Wen, Qichao Wen, Qiang Fu and Hua Deng*



7724

On the direct correlation between the copper current collector surface area and 'dead Li' formation in zero-excess Li metal batteries

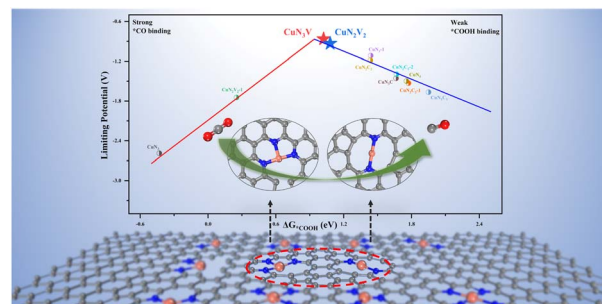
Egy Adhitama,* Andam Deatama Refino, Tobias Brake, Jan Pleie, Christina Schmidt, Feleke Demelash, Kerstin Neuhaus, Steffen Bornemann, Simon Wiemers-Meyer, Erwin Peiner, Martin Winter, Hutomo Suryo Wasisto and Tobias Placke*



7735

Theoretical exploration on the activity of copper single-atom catalysts for electrocatalytic reduction of CO₂

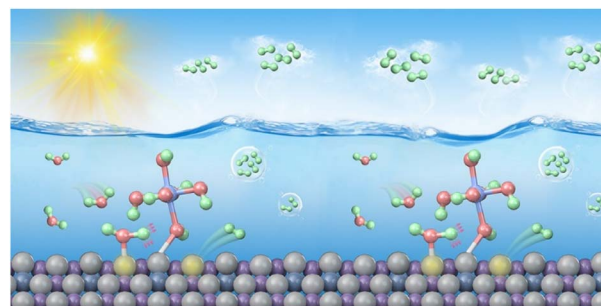
Junyong Min, Lei Liu, Fengjuan Chen,* Xuekun Jin, Tianjiao Yuan and Xiaoqian Yao*



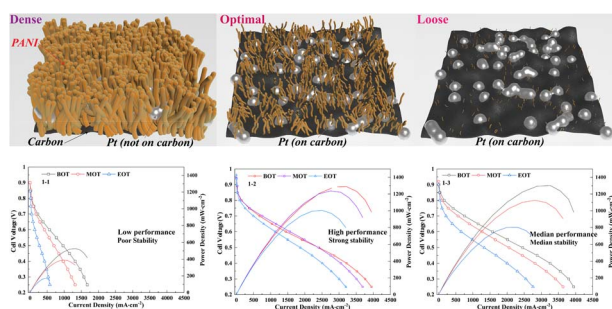
7746

Single transition metal atom centered clusters activating semiconductor surface lattice atoms for efficient solar fuel production

Kai Zhang, Chen Sun, Tao Chen, Fujun Niu, Zhiyi Huang, Qi Gao, Cuiping Xu, Xingjian Zhang, Qixiang Pian, Kunhong Che, Lei Gao, Xianglei Liu and Yimin Xuan*



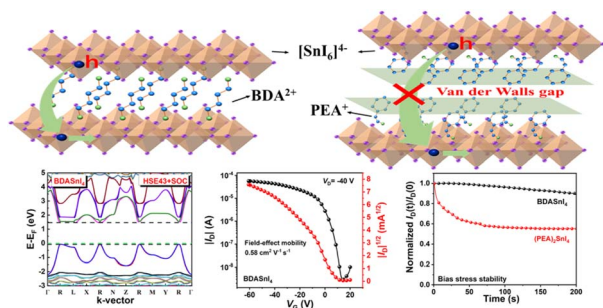
7756



Synergistic effect of polyaniline on stabilizing Pt nanoparticles in PEMFCs

Chenzhao Li, Limin Zhu,* Liang Song, Guangqi Zhu, Qi Zhang, Yuyue Zhao, Qing Gong, Chengjun Sun, Yuzi Liu, Kotaro Sasaki and Jian Xie*

7767



Two-dimensional layered Dion–Jacobson phase organic–inorganic tin iodide perovskite field-effect transistors

Hongyu Ji, Xin Liu, Longtao Li, Fan Zhang, Liang Qin, Zhidong Lou,* Dan Li,* Yufeng Hu, Yanbing Hou and Feng Teng

7780

Correction: Tuning aprotic solvent properties with long alkyl chain ionic liquid for lithium-based electrolytes

Tuanan C. Lourenço, Leticia M. S. Barros, Chayene G. Anchieta, Thayane C. M. Nepel, Júlia P. O. Júlio, Luis Gustavo Dias, Rubens Maciel Filho, Gustavo Doubek* and Juarez L. F. Da Silva*

7783

Correction: Single and dual metal atom catalysts for enhanced singlet oxygen generation and oxygen reduction reaction

Mohsen Tamtaji, Songhua Cai, Wenting Wu, Tongchao Liu, Zhimin Li, Hsun-Yun Chang, Patrick Ryan Galligan, Shin-ichi Iida, Xiangrong Li, Faisal Rehman, Khalil Amine,* William A. Goddard, III* and Zhengtang Luo*

