

Journal of Materials Chemistry A

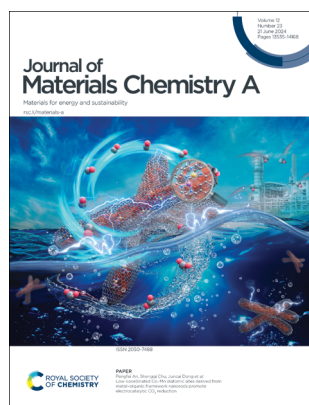
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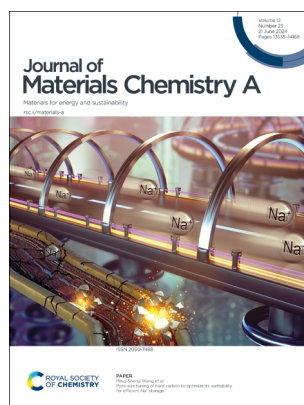
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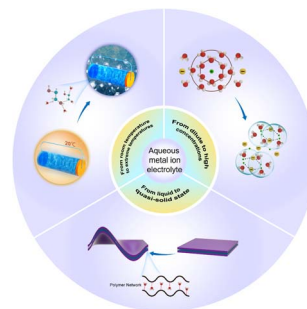
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REVIEWS

13551

The critical role of water molecules in the development of aqueous electrolytes for rechargeable metal-ion batteries

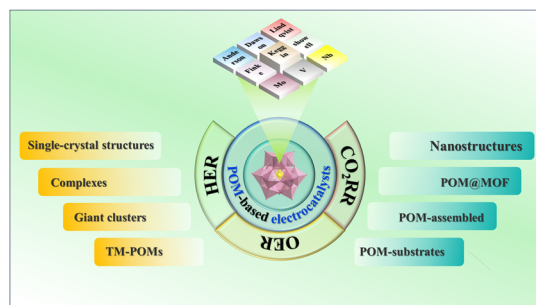
Tong Xu, Jiaojiao Yu, Junchao Ma, Wei Ren, Mingliang Hu* and Xifei Li*



13576

Recent research progress on polyoxometalate-based electrocatalysts in energy generation

Kai Li, Tao Liu, Jun Ying,* Aixiang Tian and Xiuli Wang*



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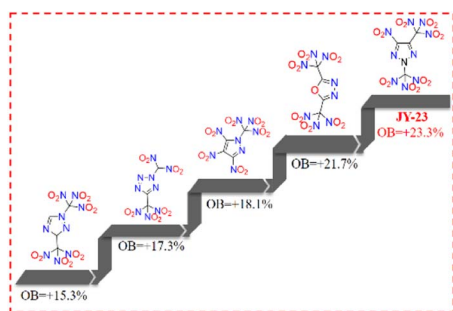
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Fundamental questions
Elemental answers

COMMUNICATIONS

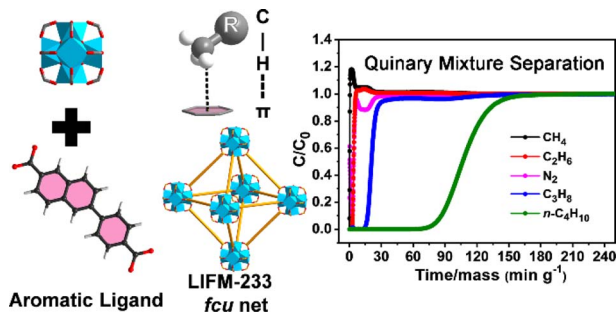
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A green oxidizer based on 1,2,3-triazole with a high oxygen balance of +23.3%: a promising replacement of ammonium perchlorate in solid propellants

Pinxu Zhao, Long Chen, Qingzhong Zhang, Yifei Ling, Qiuhan Lin,* Haifeng Huang* and Jun Yang*

13689

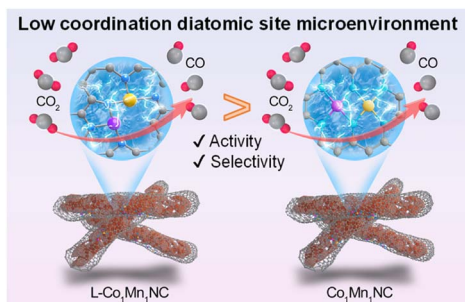


Introducing π -electron-rich aromatic rings into a robust Zr-MOF for efficient natural gas purification and C₃H₈/n-C₄H₁₀ recovery

Liu-Li Meng, Xiao-Hong Xiong, Liang Zhang, Liang Song, Cheng-Xia Chen,* Zhang-Wen Wei* and Cheng-Yong Su*

PAPERS

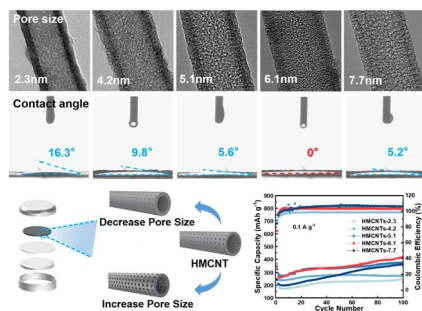
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Low-coordinated Co–Mn diatomic sites derived from metal–organic framework nanorods promote electrocatalytic CO₂ reduction

Jiajing Pei, Guikai Zhang, Jiangwen Liao, Shufang Ji, Huan Huang, Ping Wang, Pengfei An,* Shengqi Chu* and Juncai Dong*

13703



Pore-size tuning of hard carbon to optimize its wettability for efficient Na⁺ storage

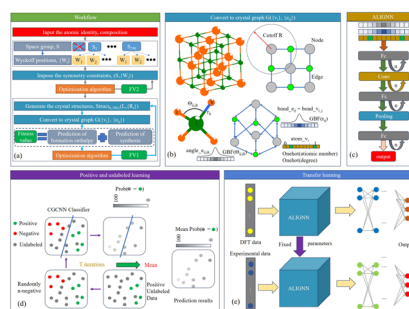
Lin Guo, Minyi Huang, Weicheng Liu, Hanqi Zhu, Yong Cheng and Ming-Sheng Wang*



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Inverse design of experimentally synthesizable crystal structures by leveraging computational and experimental data

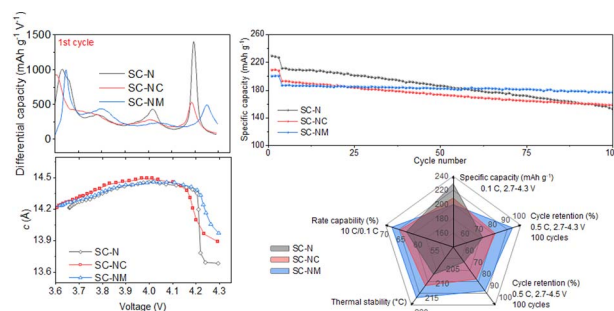
Chenglong Qin, Jinde Liu, Shiyin Ma, Jiguang Du, Gang Jiang and Liang Zhao*



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Intrinsic mechanism of Co/Mn elemental manipulation in enhancing the cycling stability of single-crystal ultrahigh-nickel layered cathodes

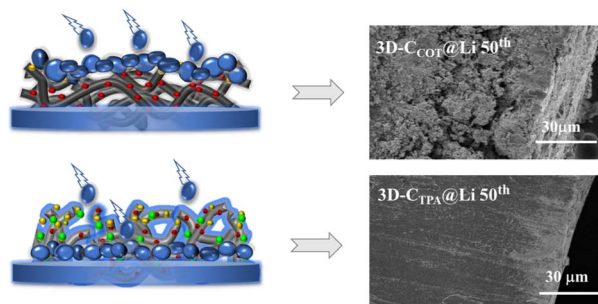
Duzhao Han, Jinniu Chen, Weipeng Li, Liang Xie, Zheng Yan, Zexun Tang, Hao Wu, Jiali Peng, Oleksandr Dolotko, Yuxin Zhao,* Weibo Hua,* Yuping Wu and Wei Tang*



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Bottom-up deposition of lithium on 3D lithiophobic–lithiophilic host for long-life lithium metal anodes

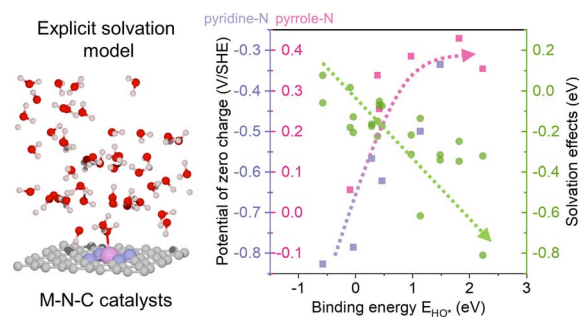
Bendong Huang, Ziwei Cai, Tao Peng, Yingxiang Tan, Nan Zhang, Wei Liu, Hai Zhong* and Yaohua Mai



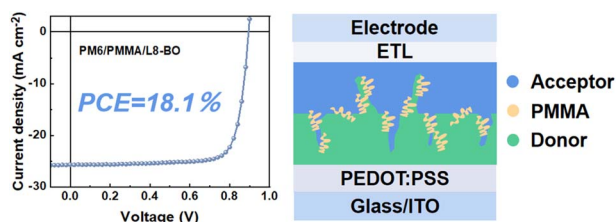
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The potential of zero charge and solvation effects on single-atom M–N–C catalysts for oxygen electrocatalysis

Di Zhang* and Hao Li*



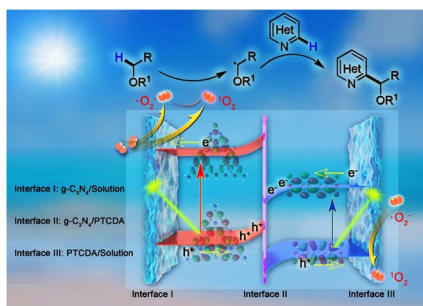
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Multifunctional PMMA intermediate layer for sequentially deposited organic photovoltaics

Songtao Wei, Hongxiang Li,* Ruohao Wang, Top Archie Dela Peña, Hua Tang, Hailin Yu, Sandra P. Gonzalez Lopez, Jiayu Wang, Mingjie Li, Jiaying Wu, Guanghao Lu, Shirong Lu, Dewei Zhao, Cenqi Yan,* Frédéric Laquai and Pei Cheng*

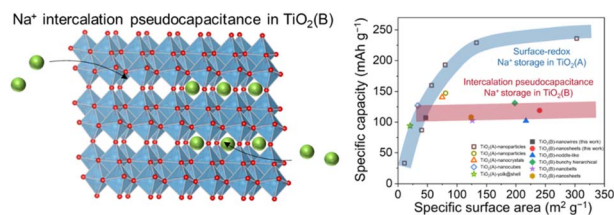
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Metal-free polymeric and molecular disorder/order semiconductor heterojunctions for the visible-light photocatalytic Minisci reaction

Peihe Li,* Qingguang Li, Gelan Wang, Ye Lu, Limei Duan, Jie Bai, Sarina Sarina and Jinghai Liu*

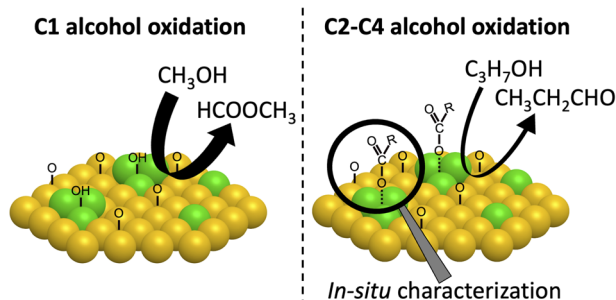
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Intercalation pseudocapacitance of sodium-ion storage in TiO₂(B)

Xia Zou, Zerui Yan, Dafu Tang, Sicheng Fan, Dong-Liang Peng, Yalong Jiang* and Qiulong Wei*

13778



Selective oxidation of linear alcohols: the promotional effect of water and inhibiting effect of carboxylates over dilute PdAu catalysts

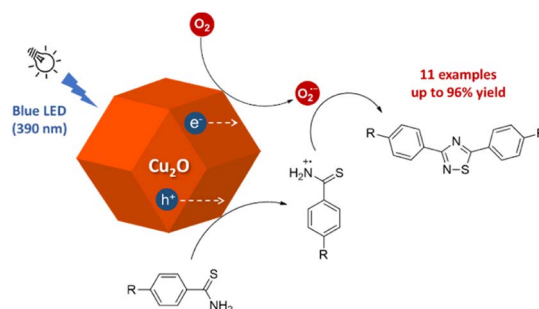
Jennifer D. Lee,* Amanda Filie, Leigh Wilson, Karin Nguyen, Tanya Shirman, Erjia Guan, Mathilde Luneau, Michael Aizenberg, Joanna Aizenberg, Robert J. Madix and Cynthia M. Friend*



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Photocatalytic oxidative cyclization of aromatic thioamides catalyzed by Cu₂O rhombic dodecahedra

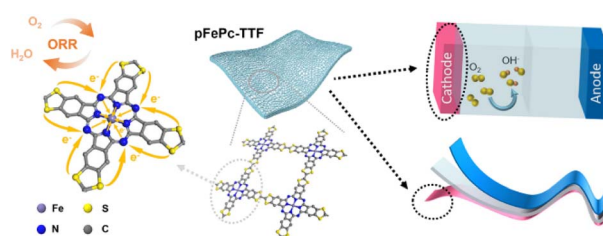
Guan-Ru Wang and Michael H. Huang*



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Donor–acceptor iron phthalocyanine-based hyper-crosslinked polymers with a modulated electronic structure for efficient oxygen reduction reaction in aluminum–air batteries

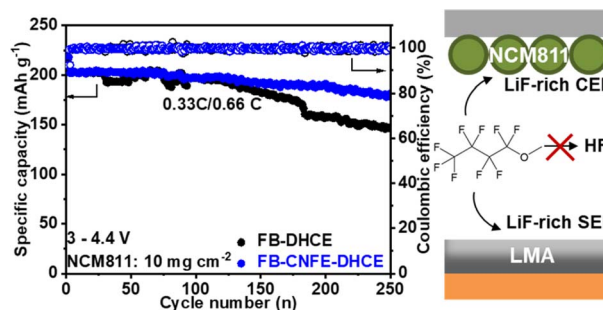
Xinran Dong, Yingjian Luo, Shuhui Tao, Jiayao Liu, Xing Tan, Ze Lu, Gang Wang, Jinwei Chen, Ruilin Wang* and Jie Zhang*



13810

Nonfluorobutyl ether enhancing the stability of fluorobenzene-based diluted high-concentration electrolytes in high-voltage lithium metal batteries

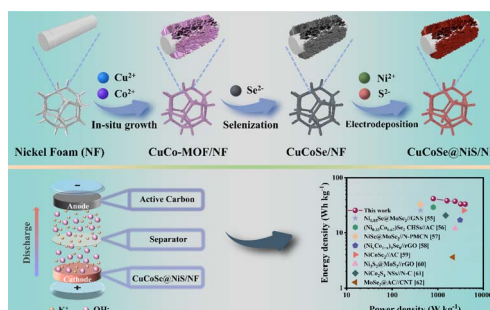
Xinlan Wang, Ziqi Zeng,* Han Zhang, Yixuan Dong, Shijie Cheng and Jia Xie*



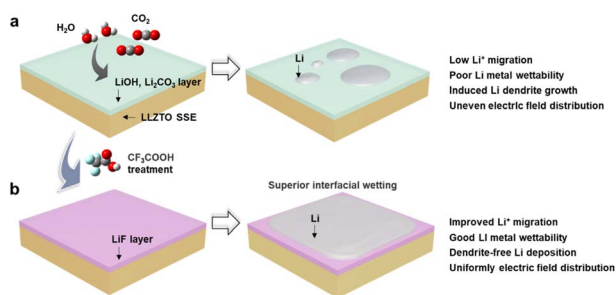
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Interface construction of CuCoSe@NiS based on an ultrathin nanosheet for high-performance supercapacitors

Wenrui Wu, Yue Yan, Xing Wang, Chengzhi Wei, Yang, Tao Xu and Xianfu Li*



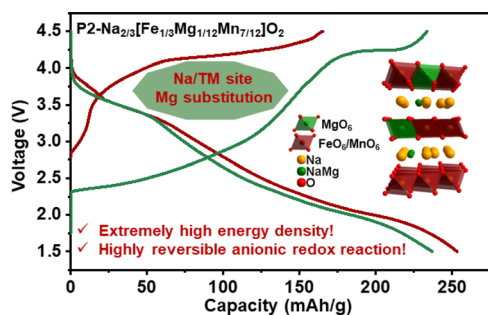
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Garnet-based solid lithium metal batteries with ultralong lifespan enabled by solvent-free trifluoroacetic acid-induced interfacial engineering

Xia Hu, Yao Wang, Weiqian Guo, Yao Tian, Xiang Zhang, Feiyu Kang, Dong Zhou* and Baohua Li*

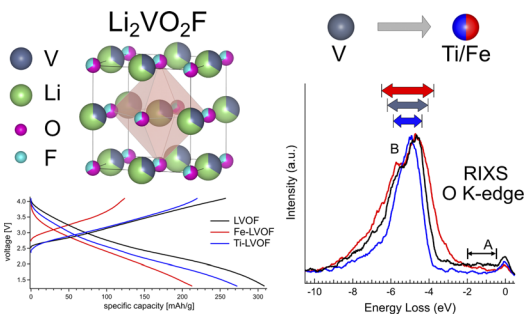
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An Na/TM-site Mg substituted P2-Na_{2/3}[Fe_{1/3}Mg_{1/12}Mn_{7/12}]O₂ cathode with extremely high capacity for sodium-ion batteries

Ming-Hui Cao,* Ren-Yan Li, Qing-Wen Sun, Miao Cui, Ze-Wei Guo, Lu Ma, Zulipiya Shadike* and Zheng-Wen Fu*

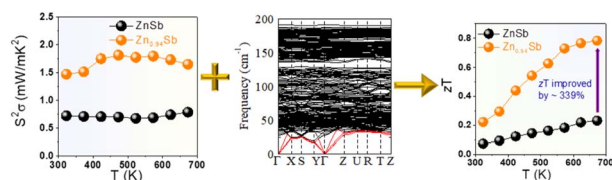
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Effects of partial isovalent substitution of V with (Ti,Fe) on redox reactivity in Li₂VO₂F battery cathodes

Moritz Hirsbrunner, Ida Källquist, Jolla Kullgren, Håkan Rensmo, Maria Hahlin and Laurent C. Duda*

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High thermoelectric performance in p-type ZnSb upon increasing Zn vacancies: an experimental and theoretical study

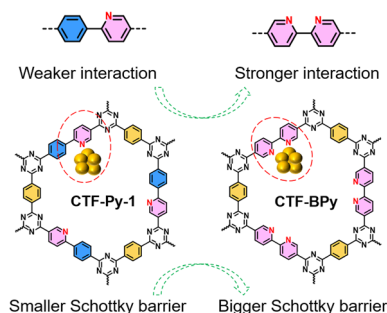
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13876

Regulating Pt-covalent triazine framework Schottky junctions by using tailor-made nitrogen sites towards efficient photocatalysis

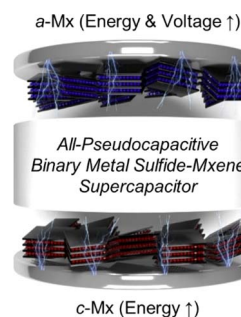
Chao Li, Lijiang Guan, Jin Zhang, Cheng Cheng,*
Zhaoqi Guo,* Zhihong Tian, Li-Ming Yang
and Shangbin Jin*



13882

Ultrahigh-energy-density supercapacitors based on all-pseudocapacitive binary metal sulfide–MXene composites

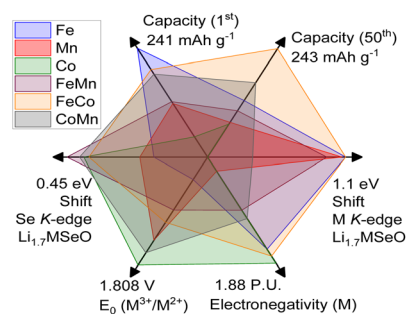
Asrar Alam, Keon-Woo Kim, Hangjun Jo,
Dhirendra Sahoo, Se Hyun Kim,* Jin Kon Kim*
and Sooman Lim*



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Correlation between the cationic composition and anionic electrochemical activity of Li_2MSeO anti-perovskites

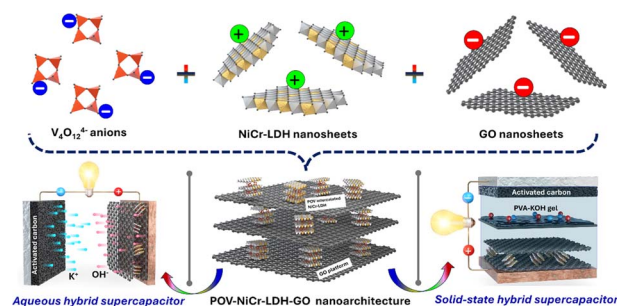
Mikhail V. Gorbunov,* Oleg Janson, Max Stöber,
Volodymyr Baran and Daria Mikhailova*



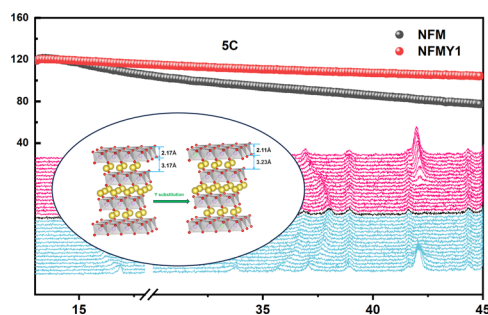
13901

Self-assembled polyoxovanadate-intercalated layered double hydroxide nanosheets hybridized with graphene oxide for extrinsic supercapacitors

Navnath S. Padalkar, Deepak P. Dubal and Jong Pil Park*



13915



A high-rate and air-stable cathode material for sodium-ion batteries: yttrium-substituted O3-type Ni/Fe/Mn-based layered oxides

Chunyu Jiang, Yingshuai Wang, Yuhang Xin, Qingbo Zhou, Yanfei Pang, Baorui Chen, Ziyue Wang and Hongcai Gao*

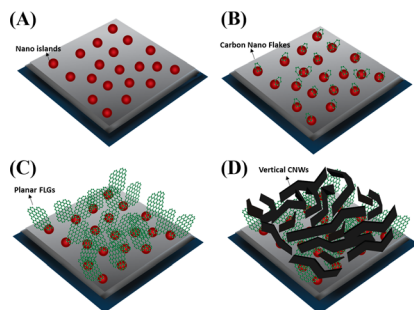
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Kinetic modulation-eliminated precursor liquid inclusions in solution-grown CsPbBr₃ bulk crystals for gamma-ray detection

Ruichen Bai, Bangzhi Ge, Xin Liu, Xinkai Peng, Xin Zhang, Shilin Liu, Menghua Zhu, Chongjian Zhou, Alain Dubois, Wanqi Jie and Yadong Xu*

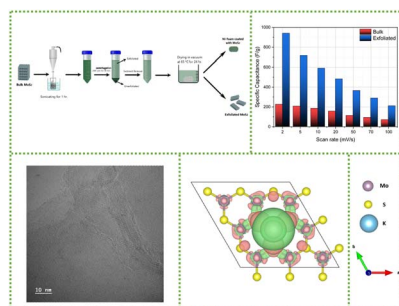
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Synthesis and growth mechanism of vertically aligned graphene sheets with precise control over the number of layers for lithium–oxygen batteries

Atul Kumar, Akansha Dager,* Mukesh Kumar, Sudhanshu Shamra, Ankur Baliyan* and Vinit Kumar*

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Highly boosted energy storage performance of few-layered MoS₂ utilized for improved electrode fabrication: experimental and theoretical studies

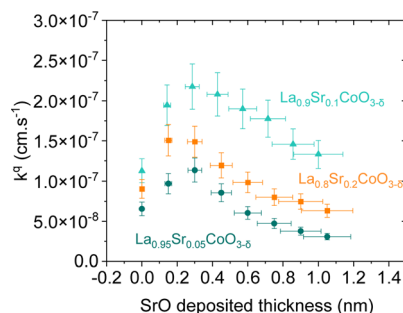
Zeyad M. Abdulhamid, A. C. Lokhande, Adewale H. Pasanaje, Daniel Choi, Nirpendra Singh, Kyriaki Polychronopoulou and Dalaver H. Anjum*



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Oxygen surface exchange kinetics of $\text{La}_{1-x}\text{Sr}_x\text{CoO}_{3-\delta}$ thin-films decorated with binary oxides: links between acidity, strontium doping, and reaction kinetics

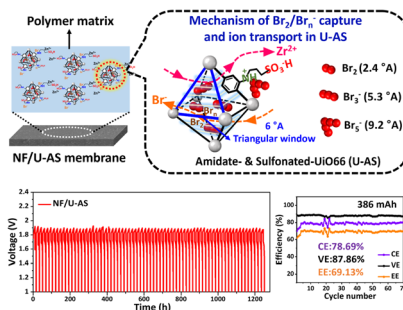
Alexandre Merieau,* Matthäus Siebenhofer, Christin Böhme, Markus Kubicek, Olivier Joubert, Juergen Fleig and Clément Nicollet



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Functionalized metal–organic framework modified membranes with ultralong cyclability and superior capacity for zinc/bromine flowless batteries

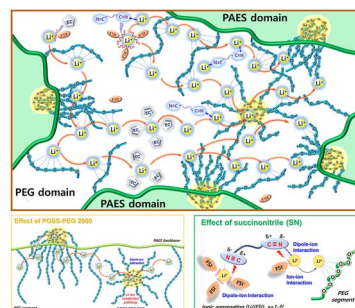
Dabin Han, Kyungjae Shin, Hee-Tak Kim and Sangaraju Shanmugam*



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Tough and single lithium-ion conductive nanocomposite electrolytes based on PAES-g-PEG and POSS-PEG for lithium–sulfur batteries

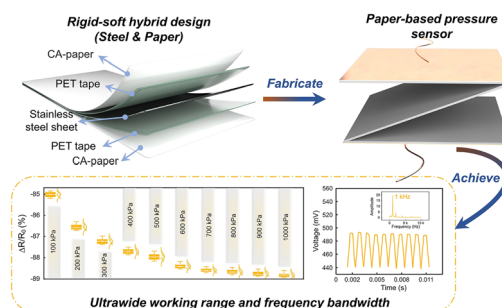
Yunho Shin, Anh Le Mong, Chi Nguyen Thi Linh and Dukjoon Kim*



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A rigid–soft hybrid paper-based flexible pressure sensor with an ultrawide working range and frequency bandwidth

Cong Wang, Jiamin Quan, Linpeng Liu,* Peilin Cao, Kaiwen Ding, Yulong Ding, Xianshi Jia, Dejin Yan, Nai Lin and Ji'an Duan



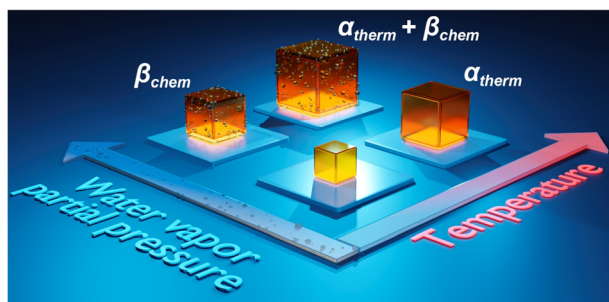
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Donor–acceptor hetero[6]radialene-based three-dimensional covalent organic frameworks for organic pollutant adsorption, photocatalytic degradation, and hydrogen production activity

Jing Han Wang, Ahmed E. Hassan, Ahmed M. Elewa and Ahmed F. M. EL-Mahdy*

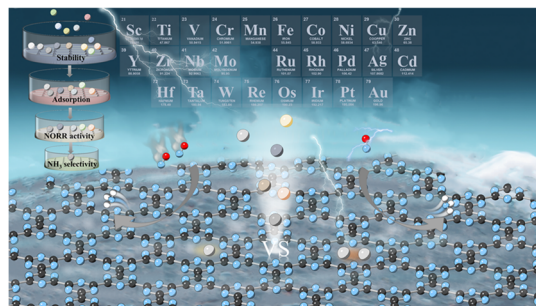
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Fundamental and technological aspects of thermochemical expansion of proton-conducting oxides: a case study of $\text{BaSn}_{1-x}\text{Sc}_x\text{O}_{3-\delta}$

G. N. Starostin, D. S. Tsvetkov,* I. A. Starostina, V. V. Sereda, M. T. Akopian, D. A. Malyskin, I. L. Ivanov, A. A. Murashkina, A. Yu Zuev and D. A. Medvedev*

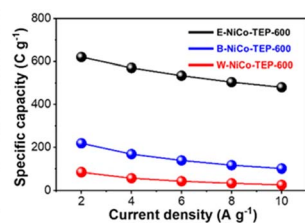
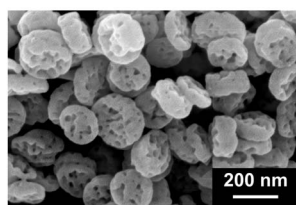
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Evaluating the efficiency of single-double atom catalysts in electrochemical NH_3 production from NO based on CN monolayers

Mengshan Chen, Zhouhao Zhu, Jing Chen, Lu Xia, Liyong Gan* and Yingtang Zhou*

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Selective synthesis of monodisperse bimetallic nickel–cobalt phosphates with different nanoarchitectures for battery-like supercapacitors

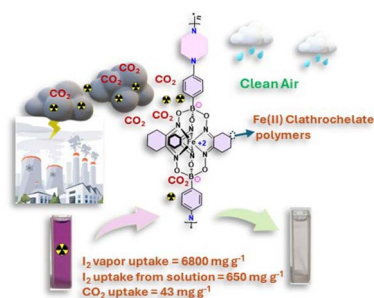
Ni Luh Wulan Septiani, Silvia Chowdhury, Andri Hardiansyah, Mia Rinawati, Min-Hsin Yeh, Hiroki Nara,* Yusuke Yamauchi, Yusuf Valentino Kaneti* and Brian Yuliarto*



14059

Construction of polyimide structures containing iron(II) clathrochelate intercalators: promising materials for CO₂ gas uptake and salient adsorbents of iodine from gaseous and liquid phases

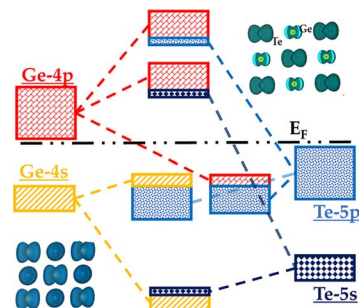
Suchetha Shetty, Noorullah Baig, Mikhael Bechelany and Bassam Alameddine*



14072

The interplay of chemical bonding and thermoelectric properties in doped cubic GeTe

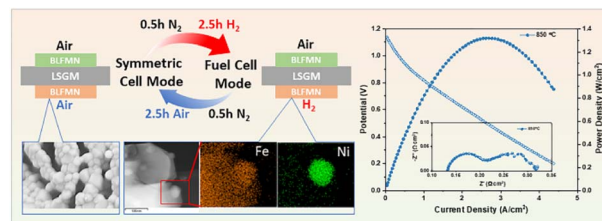
Sree Sourav Das, Safoura Nayeb Sadeghi, Keivan Esfarjani and Mona Zebarjadi*



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A redox-reversible A/B-site co-doped BaFeO₃ electrode for direct hydrocarbon solid oxide fuel cells

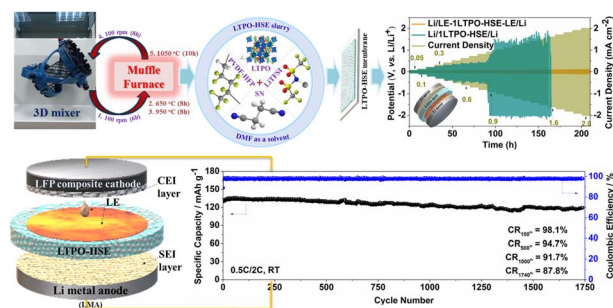
Haixia Li, Wanhua Wang, Kai Zhao, Ka-Young Park, Taehee Lee, Ramin Babazadeh Dizaj, Andreas Heyden, Dong Ding* and Fanglin Chen*



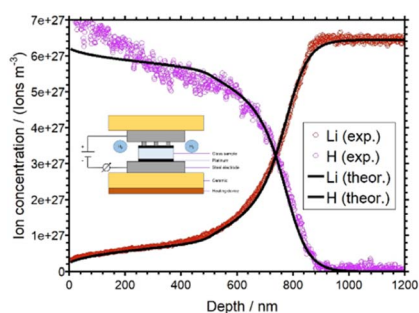
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Highly stable LiTa₂PO₈-based hybrid solid electrolytes via the *in situ* interfacial formation technique for solid-state lithium-metal batteries

Kumlachew Zelalem Walle, Yi-Shiuan Wu, Wen-Chen Chien, Masashi Kotobuki, She-Huang Wu and Chun-Chen Yang*



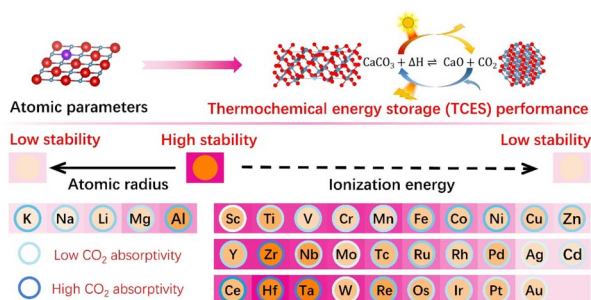
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Energy landscapes in alkali aluminum germanium phosphate glasses as probed by alkali proton substitution

Kevin Rein and Karl-Michael Weitzel*

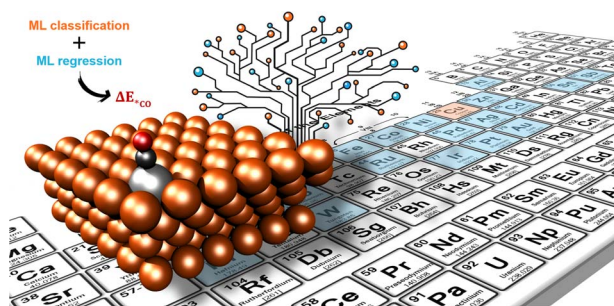
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Performance enhancement mechanisms of calcium-based thermochemical energy storage compounds: insights from first-principles and experimental investigations

S. J. Guo, X. K. Tian, J. Yan, S. H. Ju and C. Y. Zhao*

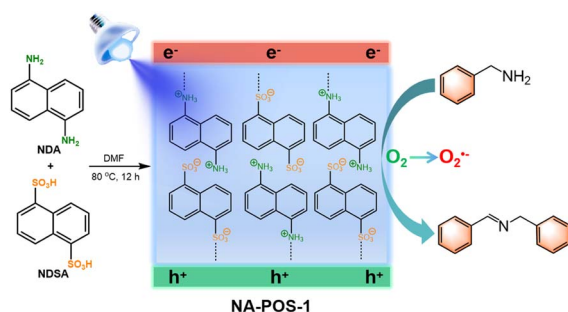
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Efficient mapping of CO adsorption on Cu_{1-x}M_x bimetallic alloys via machine learning

Mattia Salomone,* Michele Re Fiorentin, Francesca Risplendi, Federico Raffone, Timo Sommer, Max García-Melchor* and Giancarlo Cicero*

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Facile synthesis of naphthalene-based porous organic salts for photocatalytic oxidative coupling of amines in air

Shijie Wang, Juan Chen, Yanan Chang, Shuo Wang, Chaoran Meng, Zhouyang Long and Guojian Chen*

