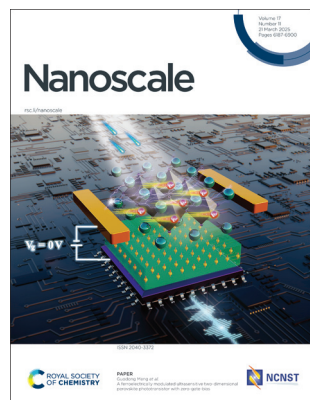


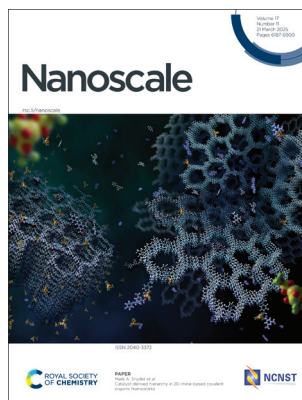
IN THIS ISSUE

ISSN 2040-3372 CODEN NANOHL 17(11) 6187-6900 (2025)



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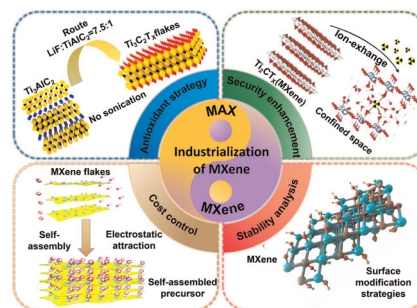
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REVIEWS

6204

Engineering the next generation of MXenes: challenges and strategies for scalable production and enhanced performance

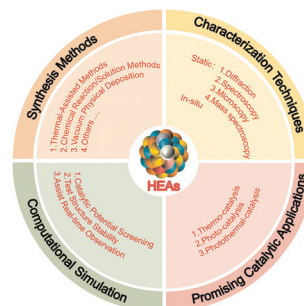
Weizhai Bao,* Hao Shen, Guozhao Zeng, Yangyang Zhang, Yaoyu Wang, Dingyu Cui, Jingjie Xia, King Jing, He Liu, Cong Guo, Feng Yu, Kaiwen Sun* and Jingfa Li*



6266

Nanoscale high-entropy alloys for solar and thermal applications

Xinyang Li, Yalong Zou, Haijiao Lu* and Lianzhou Wang



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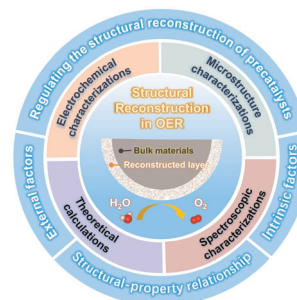


REVIEWS

6287

Insight into the structural reconstruction of alkaline water oxidation electrocatalysts

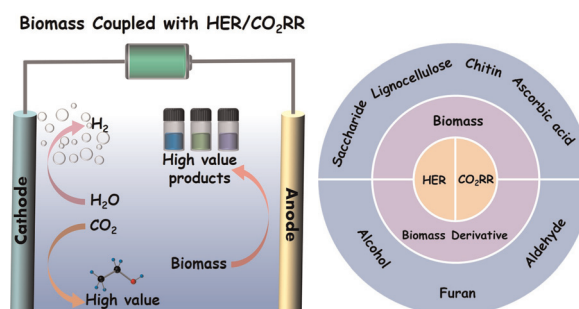
Kaixi Wang, Yifei Xu, Vahid Daneshvariesfahlan, Moniba Rafique, Qiang Fu,* Hang Wei, Yumin Zhang, Jiheng Zhang, Bing Zhang and Bo Song*



6308

Electrocatalytic biomass upgrading coupled with hydrogen evolution and CO₂ reduction

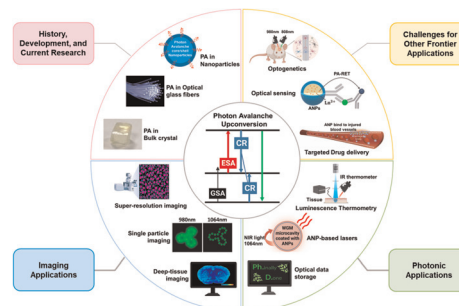
Shuke Li, Lin Ye, Wanglai Cen and Dengrong Sun*



6329

Recent advances in fundamental research on photon avalanches on the nanometre scale

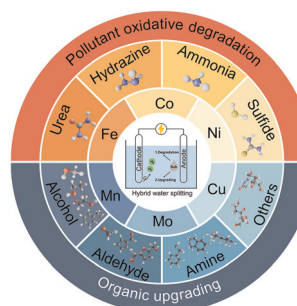
Shradha Aggarwal



6362

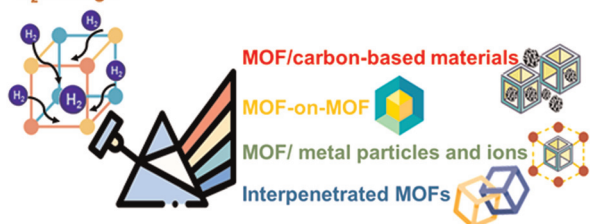
Recent progress in non-noble metal nano-electrocatalysts for hybrid water splitting

Ye-Zhou Hu, Shu-Feng Zhang, Xiao-Le Han* and Yi Liu*



REVIEWS

6390

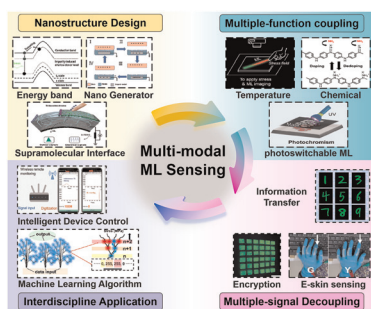
MOF hybrids for H₂ storage

Latest developments in the synthesis of metal–organic frameworks and their hybrids for hydrogen storage

Laura Jimenez-Lopez, Rafael Morales Ospino, Leandro Goulart de Araujo, Alain Celzard and Vanessa Fierro*

MINIREVIEWS

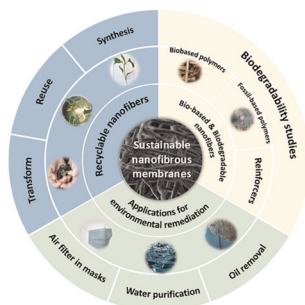
6414



Recent advances in multimodal mechanoluminescent sensors enabled by nanostructure design

Zihao Wang, Jiaman Hu, Minglin Yang, Jize Liu* and Xinxing Zhang*

6427

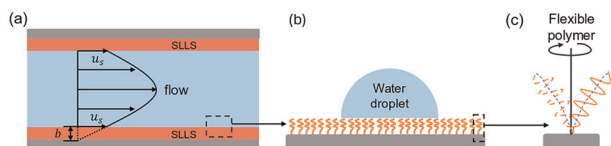


Sustainable nanofibrous membranes for air filtration, water purification and oil removal

Nayli Erdeanna Binte Surat'man, Xin Lin Quek, Nannan Wang, Enyi Ye, Jianwei Xu, Zibiao Li* and Bofan Li*

COMMUNICATIONS

6448



Slippy liquid-like surfaces as a promising solution for sustainable drag reduction

Lingxuan Hao and Bei Fan*

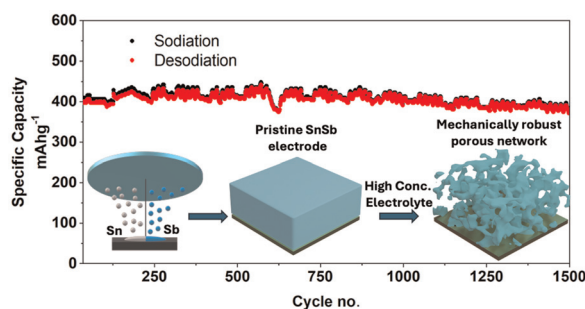


COMMUNICATIONS

6460

SnSb as a long cycle life anode material for sodium-ion batteries enabled by a high concentration electrolyte

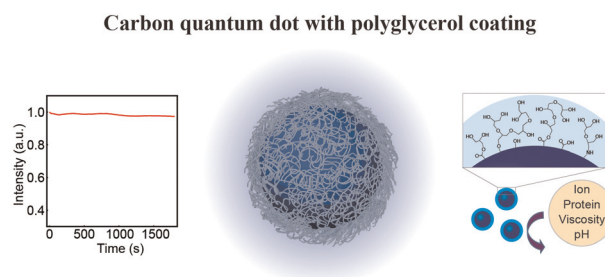
Stephen O'Sullivan, Temilade Esther Adegoke, Kevin M. Ryan, Hugh Geaney and Tadhg Kennedy*



6466

Carbon quantum dots modified with hyperbranched polyglycerol for bioapplications: improved photostability and temperature selectivity

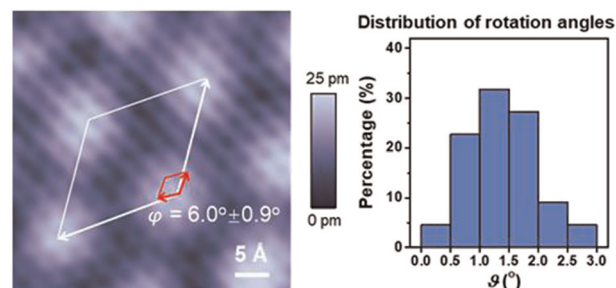
Shingo Sotoma,* Kota Shiraya, Suzune Shimomura, Yumi Yoshida and Kohji Maeda



6474

Small-rotation-angle moiré structures of 2H TaSe₂ monolayers on Au(111)

Lina Liu,* Dmitry Y. Zemlyanov and Yong P. Chen*

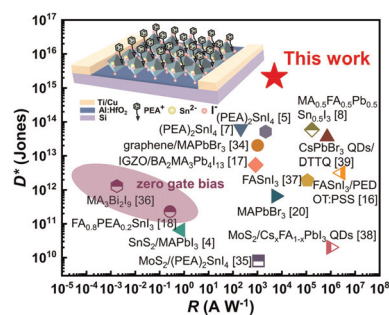


PAPERS

6481

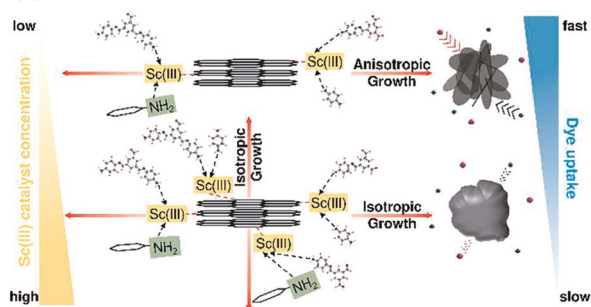
A ferroelectrically modulated ultrasensitive two-dimensional perovskite phototransistor with zero-gate-bias

Junyi She, Hanlin Cen, Zhiheng Shen, Jianyu Wang, Xin Liu, Jun Xi, Yonghong Cheng and Guodong Meng*



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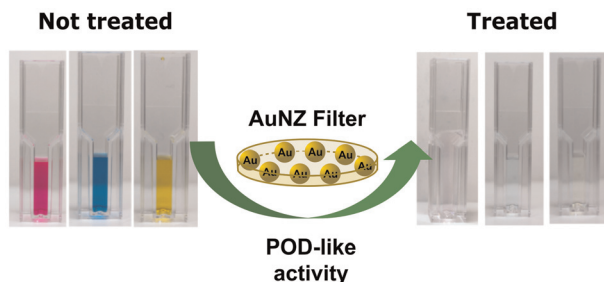
6488



Catalyst-derived hierarchy in 2D imine-based covalent organic frameworks

Hao Guo, Joseph P. Cline, Ryan Thorpe, Christopher J. Kiely, Srinivas Rangarajan and Mark A. Snyder*

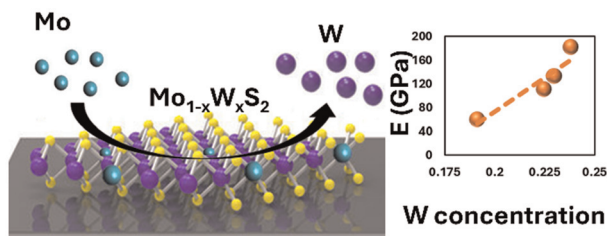
6505



Gold nanozymes for efficient degradation of organic dye pollutants: outperforming natural enzymes

Giulia Mirra, Lorenzo Cursi, Marina Veronesi, Luca Boselli and Pier Paolo Pompa*

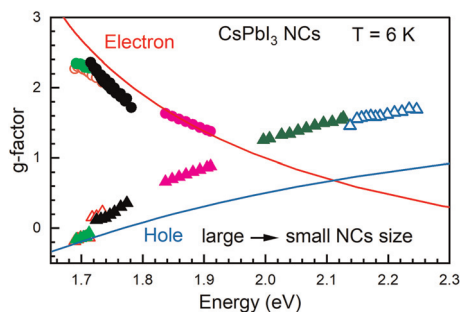
6512



Mechanical modulation of 2D transition metal dichalcogenide alloys

Guy Alboteanu, Dan Mordehai and Assaf Ya'akovitz*

6522



Landé *g*-factors of electrons and holes strongly confined in CsPbI₃ perovskite nanocrystals in glass

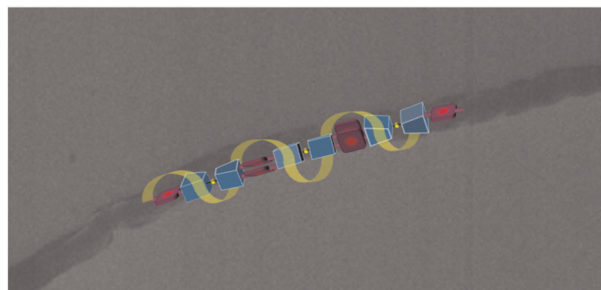
Sergey R. Melnikov,* Evgeny A. Zhukov, Vasilii V. Belykh, Mikhail O. Nestoklon, Elena V. Kolobkova, Maria S. Kuznetsova, Manfred Bayer and Dmitri R. Yakovlev*



6530

Towards 1D supramolecular chiral assemblies based on porphyrin–calixarene complexes

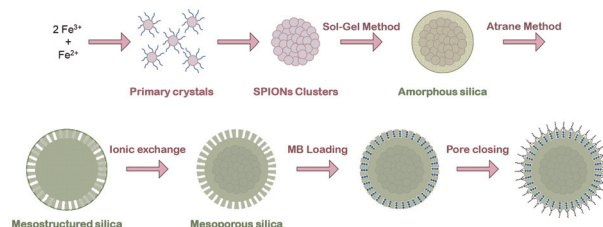
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6539

A rapid synthesis of magnetic-core mesoporous silica-shell nanostructures – as potential theranostic agents – by means of microwave irradiation and the atrane method

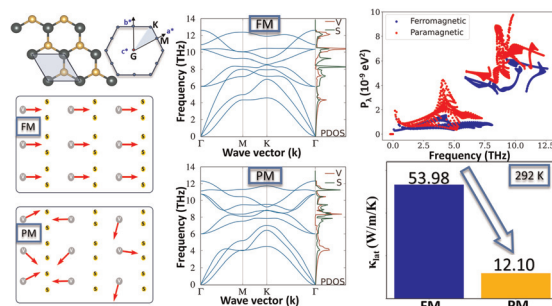
M. Dolores Garrido,* Bejan Hamawandi, José Francisco Serrano-Claumarchirant, Giovanni Marco Saladino, Adem B. Ergül, M. Dolores Marcos, José Vicente Ros-Lis, Pedro Amorós and Muhammet S. Toprak*



6550

Unveiling magnetic transition-driven lattice thermal conductivity switching in monolayer VS₂

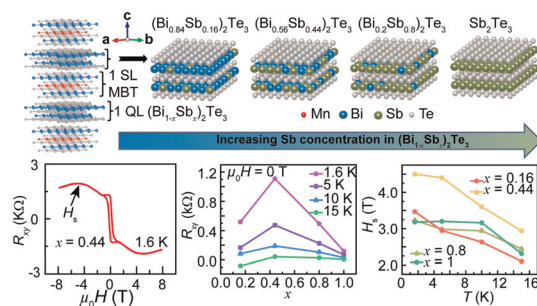
Zimmi Singh, Abhishek Kumar and Sankha Mukherjee*



6562

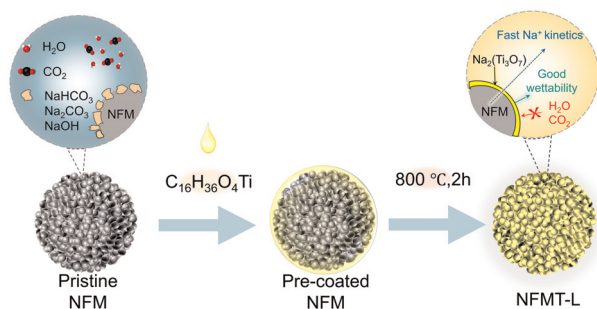
Controllable magnetism and an anomalous Hall effect in (Bi_{1-x}Sb_x)₂Te₃-intercalated MnBi₂Te₄ multilayers

Peng Chen, Jieyi Liu,* Yifan Zhang, Puyang Huang, Jack Bollard, Yiheng Yang, Ethan L. Arnold, Xinqi Liu, Qi Yao, Fadi Choueikani, Gerrit van der Laan, Thorsten Hesjedal and Xufeng Kou*



PAPERS

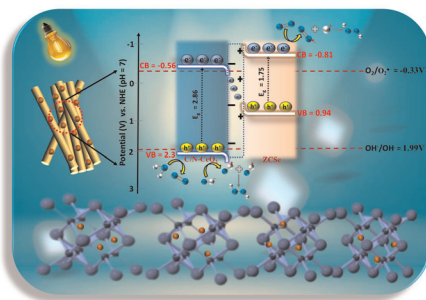
6570



Dual-enhancements of stability and wettability in O3-Na_{0.95}Ni_{1/3}Fe_{1/3}Mn_{1/3}O₂ cathodes by converting surface residual alkali into ultrathin Na₂Ti₃O₇ coatings

Haotian Gong, Baiyao Gan, Xinkang Li, Ting Long, Biaobing Chen, Li Zou, Tong Zhou, Ziyang Ma, ZhiYe Yuan, Jiang Yin, Yahui Yang* and Lishan Yang*

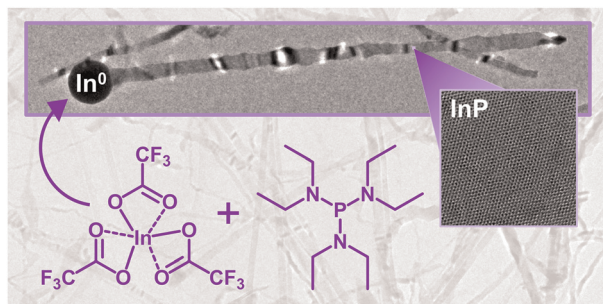
6580



Zn_{0.5}Cd_{0.5}Se quantum dot-integrated MOF-derived C/N-CeO₂ photocatalyst for enhanced H₂O₂ production and O₂ evolution reactions

Jayashree Panda, Jyotirmayee Sahu and Kulamani Parida*

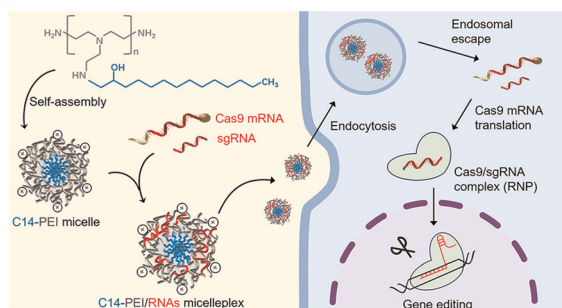
6593



Alternate InP synthesis with aminophosphines: solution-liquid-solid nanowire growth

Helen C. Larson, Zhixing Lin, François Baneyx and Brandi M. Cossairt*

6604



A novel micelleplex for tumour-targeted delivery of CRISPR-Cas9 against KRAS-mutated lung cancer

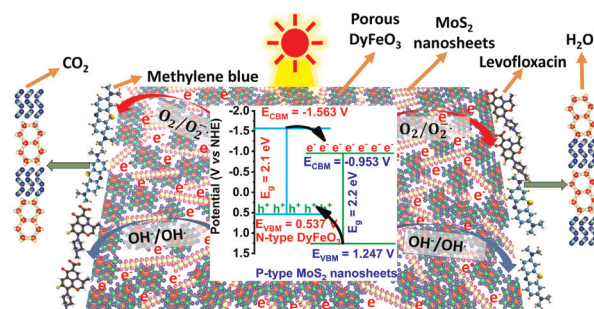
Siyu Chen, Mariem Triki, Simone Pinto Carneiro and Olivia Monika Merkel*



6620

Mechanistic insights into the enhanced photocatalytic efficiency of MoS₂-tuned DyFeO₃ heterojunction nanocomposites for pollutant degradation

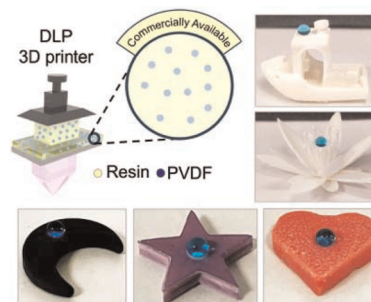
Mohasin Tarek, Ferdous Yasmeen and M. A. Basith*



6637

3D printing of superhydrophobic and multifunctional objects *via* simple and inexpensive vat photopolymerization

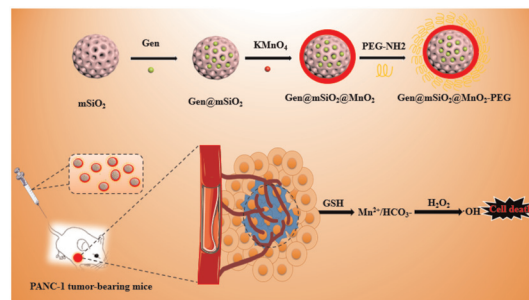
Adil Majeed Rather, Mohammed Barrubeeah, Mohammad Javad Zarei, Young Jae Kim, Sravanthi Vallabhuneni and Arun Kumar Kota*



6646

Mesoporous SiO₂ based nanocomplex enzymes for enhanced chemodynamic therapy of pancreatic tumors

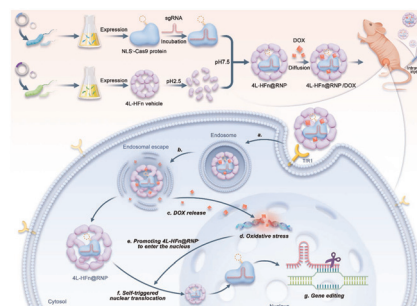
Yue Fan, Shulin Yu, Zhaoshuo Yang and Dingfang Cai*



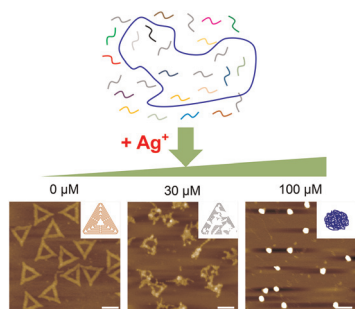
6660

Non-nuclear localization signal-guided CRISPR/Cas9 ribonucleoproteins for translocation and gene editing *via* apoferritin delivery vectors

Peng Sun, Shiping Wang, Qi Yan, Jia Zeng, Zhenghong Wu* and Xiaole Qi*



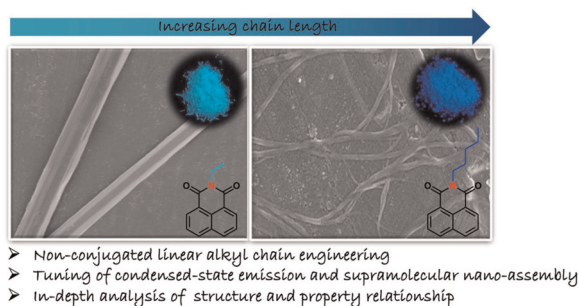
6676



Nonspecific metal-coordination-driven control over higher-order DNA self-assembly

Mengzhou Wei, Zhiyuan Zhu, Lingjun Wan and Yulin Li*

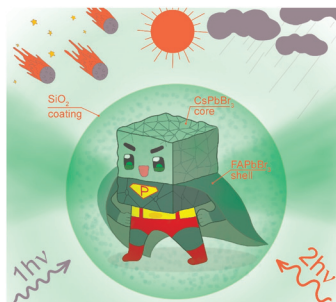
6685



Non-conjugated alkyl chain engineering to tune condensed state photophysical and supramolecular assembly properties

Niranjan Meher,* Mst Nasima Khatun, Retwik Parui and Parameswar Krishnan Iyer*

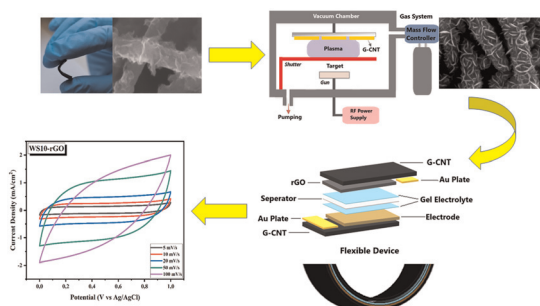
6695



Enhanced stability and optical performance of CsPbBr₃@FAPbBr₃ core-shell perovskite nanocrystals

Danila A. Tatarinov, Azat O. Ismagilov, Aleksandra V. Koroleva, Evgeniy V. Zhizhin, Weitao Zheng, Alexander V. Baranov and Aleksandr P. Litvin*

6704



Advanced flexible supercapacitors: vertical 2D MoS₂ and WS₂ nanowalls on graphenated carbon nanotube cotton

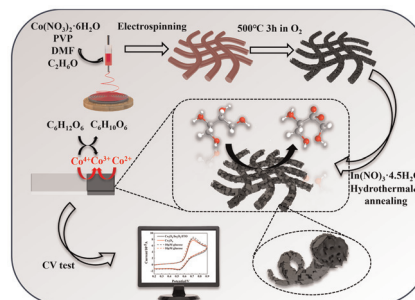
Ufuk Perişanoğlu,* Esra Kavaz Perişanoğlu, Züleyha Kudaş, Duygu Ekinci, İsmayadi İsmail and Emre Gür*



6718

Nanofiber-shaped $\text{Co}_3\text{O}_4@\text{In}_2\text{O}_3$ composite for high-performance enzymeless glucose sensing

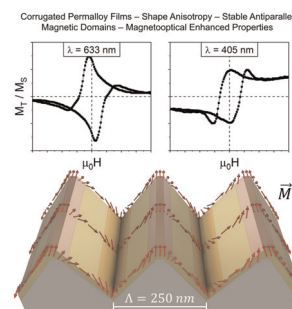
Xinda Xu, Chao Zhang, Woochul Yang,* Yujia Li, Bing Li,* Yuvaraj Haldorai, Jiang Zhenyu and Wanfeng Xie*



6727

Stable antiparallel domains in 3D corrugated magnetic thin films

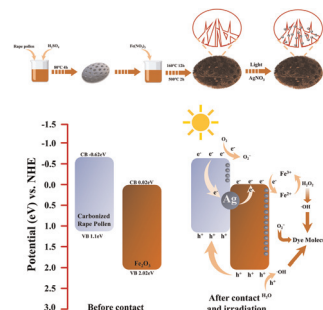
Rafael Delgado-García,* Ruben Guerrero, Gabriel Rodríguez-Rodríguez, Fernando Gálvez, Miguel Ángel Arranz and Jose Miguel Colino



6741

Unveiling the synergistic interface effects of Ag-deposited Fe_2O_3 /biochar catalysts to enhance wastewater degradation

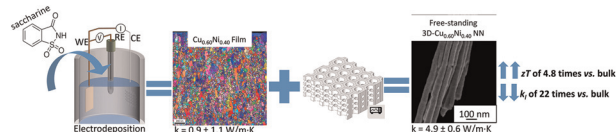
Jialin Gu, Xinshang Li, Yanping Ma, Tianyi Yang, Rui Zhang, Wenquan Zhou, He Wang and Jiangan Jiang*



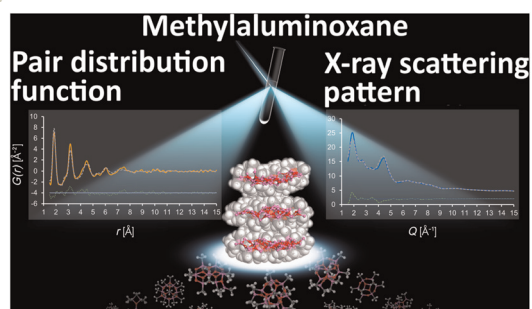
6757

~5-Fold enhancement in the thermoelectric figure of merit of sustainable 3D-CuNi interconnected nanonetworks due to ultralow lattice thermal conductivity

Cristina V. Manzano,* Olga Caballero-Calero, Daniele Casari, Amit Sharma, Alba Díaz-Lobo, Xavier Maeder and Marisol Martín-González



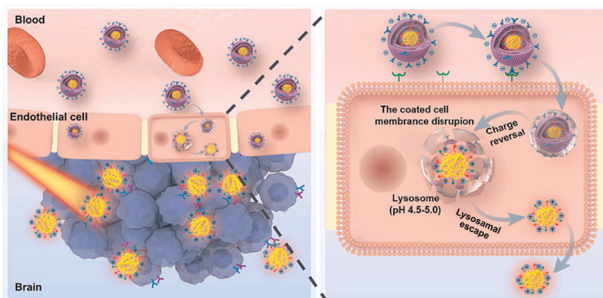
6767



Elucidation of the nano-sized molecular structure of methylaluminoxane using synchrotron X-ray total scattering

Toru Wada* and Toshiaki Taniike*

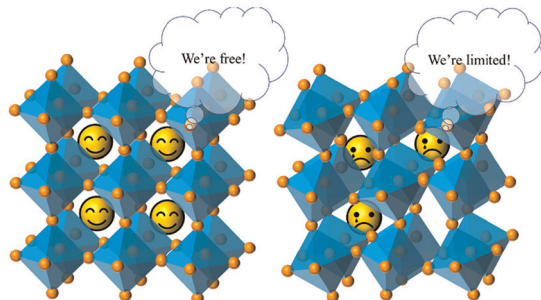
6780



Promoting transcellular traversal of the blood–brain barrier by simultaneously improving cellular uptake and accelerating lysosomal escape

Li Zhang, Weibin Li, Zhen Xu, Zhennan Mao, Mengqian Yang, Caixia Wang* and Zhihong Liu*

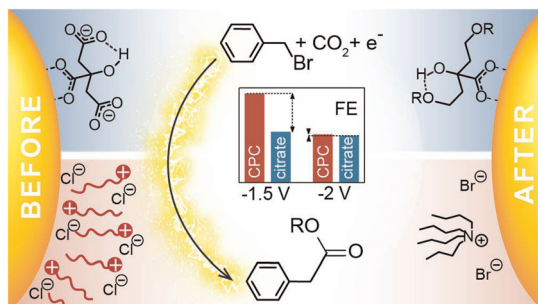
6793



Effect of Cs vacancy on thermal conductivity in CsPbBr₃ perovskites unveiled by deep potential molecular dynamics

Shuhao Han, Yujin Ji* and Youyong Li*

6804



The fate of nanoparticle surface chemistry during reductive electro-synthesis in aprotic media

Xenia V. Medvedeva, Jury J. Medvedev, Xingya Zhao, Elena Smith and Anna Klinkova*

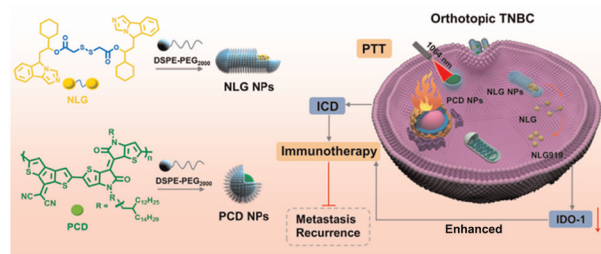


PAPERS

6815

NIR-II photothermal therapy combined with activatable immunotherapy against the recurrence and metastasis of orthotopic triple-negative breast cancer

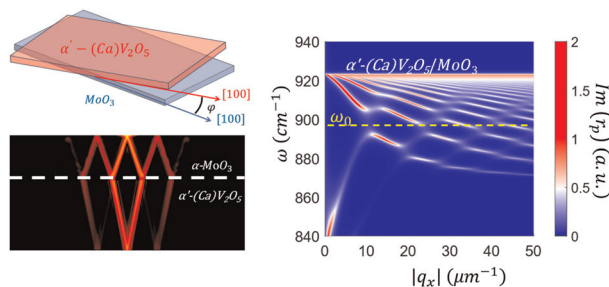
Wentao Lei, Yinghui Wang, Tangyue Zheng, Qihang Wu, Hui Wen, Tingting Sun,* Jun Liu* and Zhigang Xie*



6827

Tuning polariton hybridization in hyperbolic hetero-bicrystals by twist angle engineering

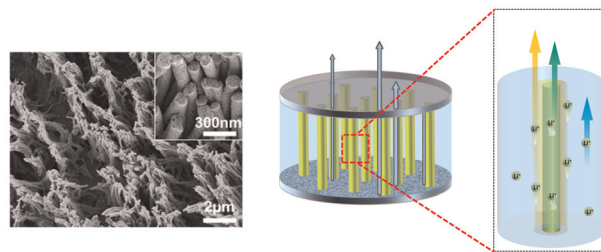
Yaohong Wang, Guolong Ma, Zhiqiang Li* and Lu Wen*



6833

Constructing vertically aligned Li⁺ transport pathways in a flexible solid polymer composite electrolyte by a soft template approach

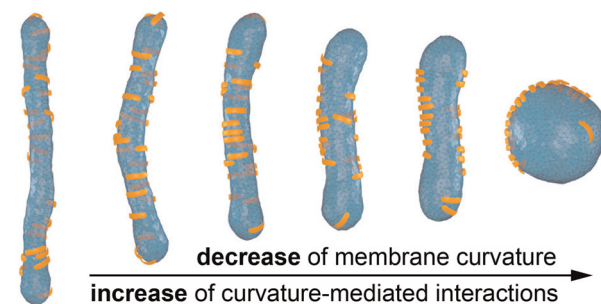
Shaoyin Li, Yunke Wang, Jose Anguita, Kai Yang and S. Ravi P. Silva*



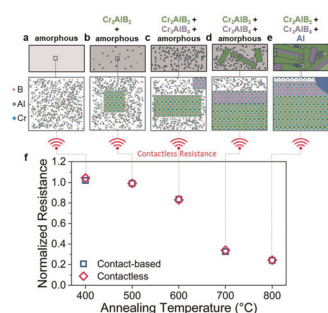
6841

Membrane-mediated interactions between arc-shaped particles strongly depend on membrane curvature

Francesco Bonazzi and Thomas R. Weikl*



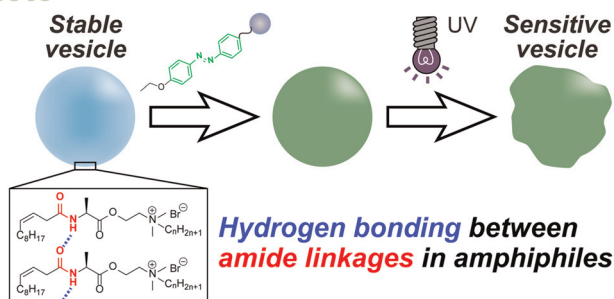
6854



Contactless health monitoring in autonomous self-reporting ceramic coatings

Peter J. Pöllmann,* Sebastian Lellig,*
Dimitri Bogdanovski, Amir Hossein Navidi Kashani,
Damian M. Holzapfel, Clio Azina, Peter Schweizer,
Marcus Hans, Paula Zöll, Daniel Primetzhofer,
Szilárd Kolozsvári, Peter Polcik, Johann Michler and
Jochen M. Schneider

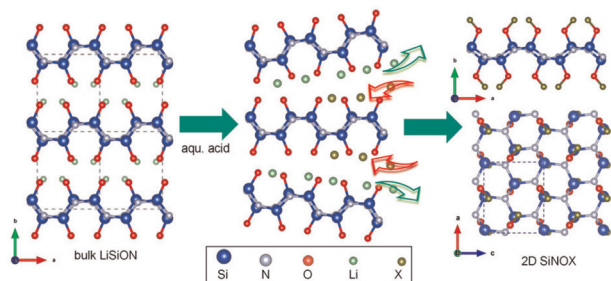
6863



A molecular strategy for creating functional vesicles with balancing structural stability and stimuli-responsiveness

Shoi Sasaki, Hibiki Ueno, Noriyoshi Arai, Kouichi Asakura
and Taisuke Banno*

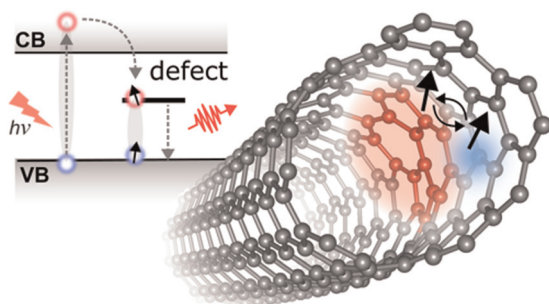
6874



Theoretical design of 2D $Pca2_1$ SiNOX (X = H, F, and Cl) phases: a new family of flexible wide bandgap semiconductors

Heng Zhang, Jiahao Yu, Sylvain Pitié, Frédéric Guégan,
Junjie Wang* and Gilles Frapper*

6884



Topological defects in semiconducting carbon nanotubes as triplet exciton traps and single-photon emitters

Timur Biktagirov,* Uwe Gerstmann and
Wolf Gero Schmidt



CORRECTIONS

6892

Correction: Copper nitroprusside analogue nanoparticles against melanoma: detailed *in vitro* and *in vivo* investigation

Sanchita Tripathy, Swapnali Londhe, Arti Patel, Sudipta Saha, Yogesh Chandra and Chitta Ranjan Patra*

6893

Correction: Cost-effective carbon fiber precursor selections of polyacrylonitrile-derived blend polymers: carbonization chemistry and structural characterizations

Qian Mao, Siavash Rajabpour, Mahdi Khajeh Talkhoncheg, Jiadeng Zhu, Malgorzata Kowalik and Adri C. T. van Duin*

6894

Correction: Optical response of magnetically actuated biocompatible membranes

H. Joisten,* A. Truong, S. Ponomareva, C. Naud, R. Morel, Y. Hou, I. Joumard, S. Auffret, P. Sabon and B. Dieny

