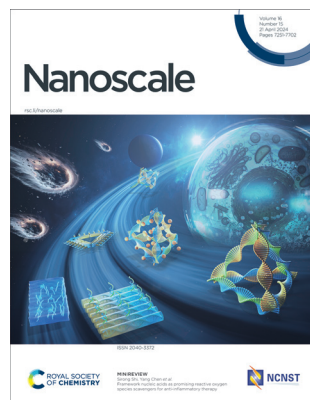


IN THIS ISSUE

ISSN 2040-3372 CODEN NANOHL 16(15) 7251–7702 (2024)



Cover

See Sirong Shi, Yang Chen *et al.*, pp. 7363–7377.

Image reproduced by permission of Yujie Zhu, Ruijianghan Shi, Weitong Lu, Sirong Shi & Yang Chen from *Nanoscale*, 2024, **16**, 7363.



Inside cover

See Yuanjing Lin *et al.*, pp. 7264–7286.

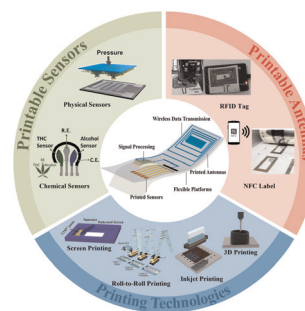
Image reproduced by permission of Yuanjing Lin from *Nanoscale*, 2024, **16**, 7264.

REVIEWS

7264

Printable and flexible integrated sensing systems for wireless healthcare

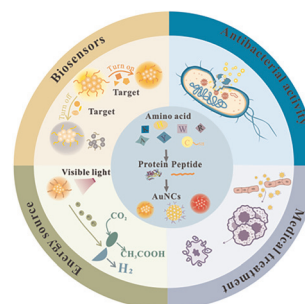
Kemeng Zhou, Ruochen Ding, Xiaohao Ma and Yuanjing Lin*



7287

The roles of templates consisting of amino acids in the synthesis and application of gold nanoclusters

Jinliang Ma,* Mengmeng Yang, Bin Zhang and Mingfu Niu



Royal Society of Chemistry approved training courses

Explore your options.
Develop your skills.
Discover learning
that suits you.

**Courses in the classroom,
the lab, or online**

Find something for every
stage of your professional
development. Search our
database by:

- subject area
- location
- event type
- skill level

Members **get at least 10% off**

Visit [rsc.li/cpd-training](https://www.rsc.li/cpd-training)



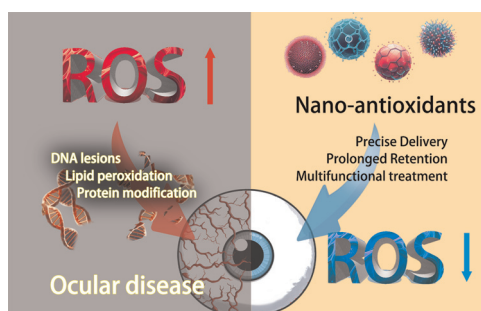
**SAVE
10%**

REVIEWS

7307

Revolutionizing eye care: the game-changing applications of nano-antioxidants in ophthalmology

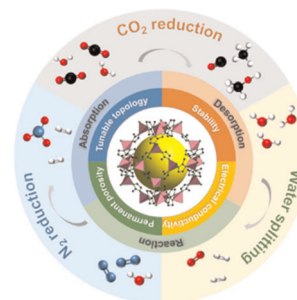
Yuhang Cheng, Shundong Cai, Han Wu, Jintao Pan, Min Su,* Xingyuan Wei, Jinfa Ye, Lang Ke, Gang Liu* and Chengchao Chu*



7323

Advances in zeolitic-imidazolate-framework-based catalysts for photo-/electrocatalytic water splitting, CO₂ reduction and N₂ reduction applications

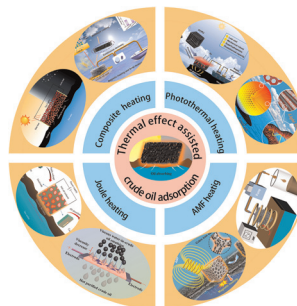
Jiaorong Wang, Lihong Yuan, Pan Zhang, Jing Mao, Jiajie Fan* and Xiao Li Zhang*



7341

Recent advances in functional micro/nanomaterials for removal of crude oil via thermal effects

Duanhong Yan, Kai Yin,* Yuchun He, Yao Liu, Lingxiao Wang, Qinwen Deng, Jun He,* Saif Ullah Awan and Ahmed S. G. Khalil

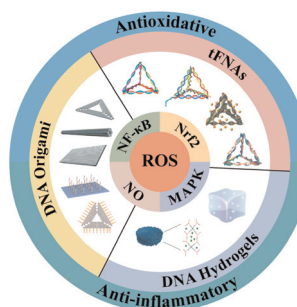


MINIREVIEWS

7363

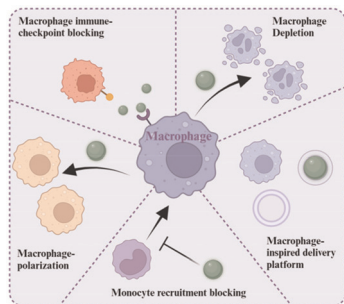
Framework nucleic acids as promising reactive oxygen species scavengers for anti-inflammatory therapy

Yujie Zhu, Ruijianghan Shi, Weitong Lu, Sirong Shi* and Yang Chen*



MINIREVIEWS

7378

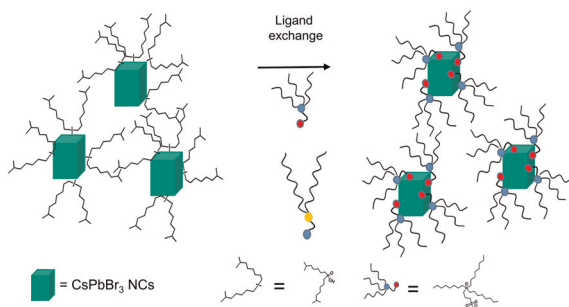


Macrophage-modulating nanomedicine for cancer immunotherapy

Muhammad Muzamil Khan, Yongjiang Li, Zhuoming Zhou, Abigale Ni, Qimanguli Saiding, Duotian Qin, Wei Tao* and Wei Chen*

COMMUNICATION

7387

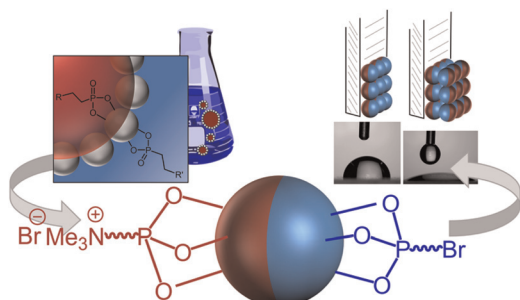


Short-branched alkyl sulfobetaine-passivated CsPbBr₃ nanocrystals for efficient green light emitting diodes

Lian-Yue Li, Yong-Hui Song, Jun-Nan Yang, Xue-Chen Ru, Yi-Chen Yin and Hong-Bin Yao*

PAPERS

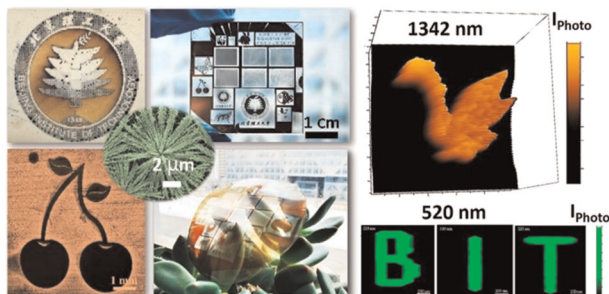
7396



Amphiphilic titania Janus nanoparticles containing ionic groups prepared in oil–water Pickering emulsion

Lucas Niedner and Guido Kickelbick*

7409



Patterned growth of AgBiS₂ nanostructures on arbitrary substrates for broadband and eco-friendly optoelectronic sensing

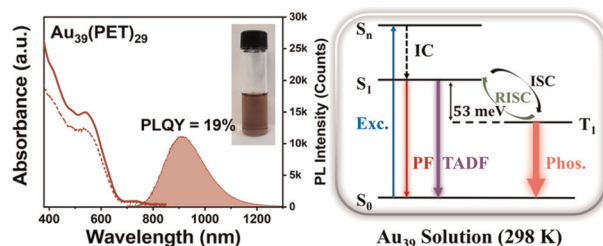
Yu Miao, Zhuoran Wang,* Zhongming Wei and Guozhen Shen*



7419

Bright near-infrared emission from the Au₃₉(SR)₂₉ nanocluster

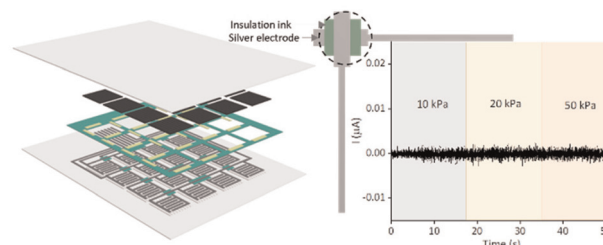
Zhongyu Liu, Lianshun Luo, Jie Kong, Ellen Kahng, Meng Zhou and Rongchao Jin*



7427

Fully printed minimum port flexible interdigital electrode sensor arrays

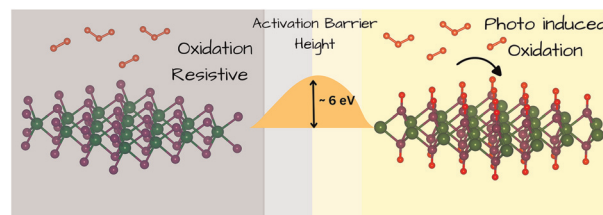
Yanyue Teng, Xin Wang, Zhidong Zhang, Shixuan Mei, Xueli Nan,* Yunlong Zhao, Xikuan Zhang, Chenyang Xue, Libo Gao* and Junyang Li*



7437

First-principles study of the oxidation susceptibility of WS₂, WSe₂, and WTe₂ monolayers

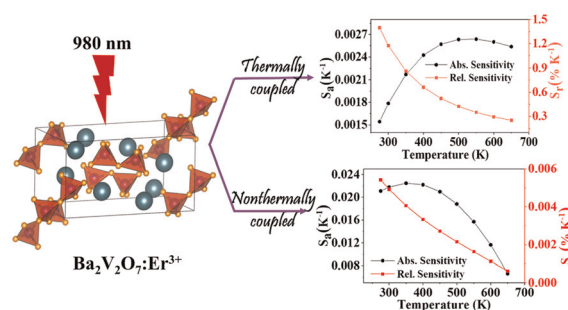
Ashima Rawat,* Lokanath Patra, Ravindra Pandey and Shashi P. Karna*



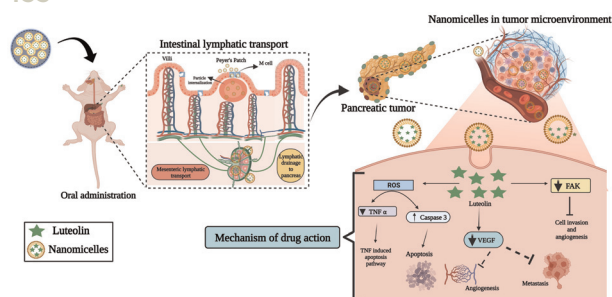
7443

Er³⁺-activated Ba₂V₂O₇ upconversion nanosheets for dual-mode temperature sensing

Satish Kumar Samal, Sahana Kulkarni, Jyoti Yadav and Boddu S. Naidu*



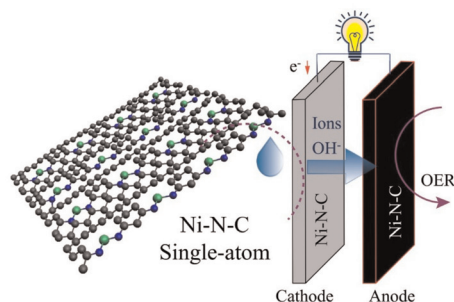
7453



Self-assembled nanomicelles for oral delivery of luteolin utilizing the intestinal lymphatic pathway to target pancreatic cancer

Archana Karole, Yirivinti Hayagreeva Dinakar, Poonam Sagar and Shyam Lal Mudavath*

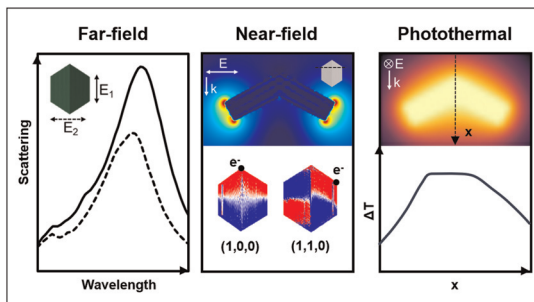
7467



Elevated temperature-driven coordinative reconstruction of an unsaturated single-Ni-atom structure with low valency on a polymer-derived matrix for the electrolytic oxygen evolution reaction

Rahul Patil, Anubha Rajput, Babasaheb M. Matsagar, Norman C. R. Chen, Masaki Ujihara, Rahul R. Salunkhe, Praveen Yadav, Kevin C.-W. Wu, Biswarup Chakraborty* and Saikat Dutta*

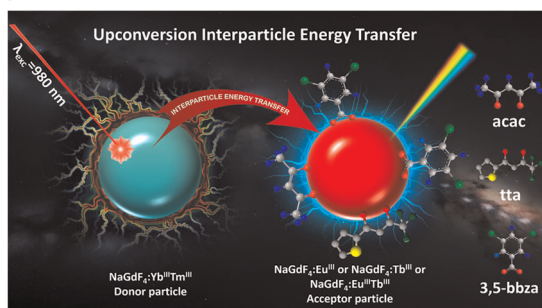
7480



Far-field, near-field and photothermal response of plasmonic twinned magnesium nanostructures

Christina Boukouvala, Claire A. West, Andrey Ten, Elizabeth Hopper, Quentin M. Ramasse, John S. Biggins and Emilie Ringe*

7493



Eu^{III} and Tb^{III} upconversion intermediated by interparticle energy transfer in functionalized NaLnF_4 nanoparticles

Sergio Fernando Nunes Coelho, Airton Germano Bispo-Jr, Nagyla Alves de Oliveira, Italo Odone Mazali and Fernando Aparecido Sigoli*

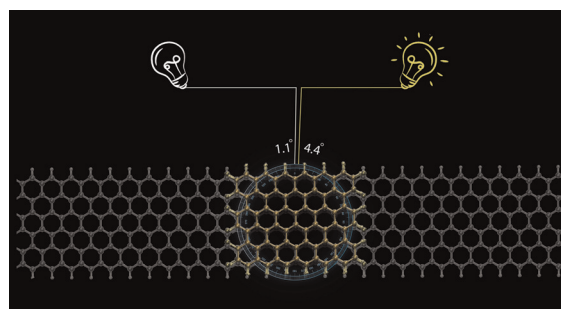


PAPERS

7504

A twist for tunable electronic and thermal transport properties of nanodevices

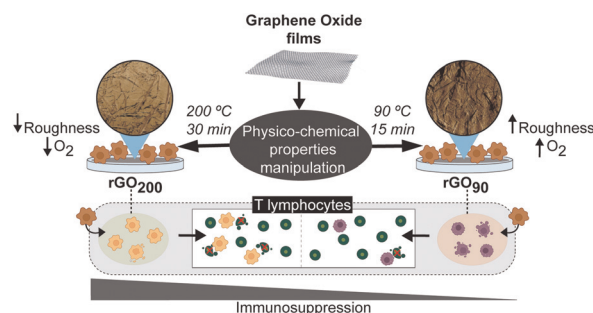
Azar Ostovan,* Karolina Z. Milowska and Carlos J. García-Cervera*



7515

Graphene oxide films as a novel tool for the modulation of myeloid-derived suppressor cell activity in the context of multiple sclerosis

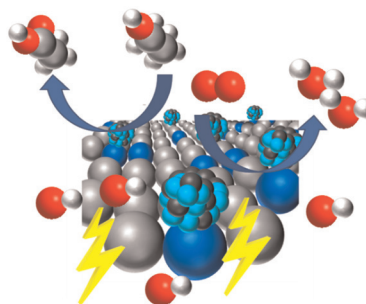
Celia Camacho-Toledano, Isabel Machín-Díaz, Rafael Lebrón-Galán, Ankor González-Mayorga, Francisco J. Palomares, María C. Serrano* and Diego Clemente*



7532

Intermetallic Pd–Y nanoparticles/N-doped carbon nanotubes as multi-active catalysts for oxygen reduction reaction, ethanol oxidation reaction, and zinc–air batteries

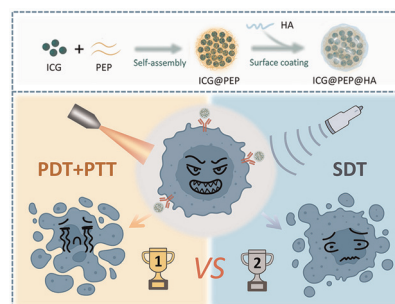
Nipa Roy, Mohammad Shamsuddin Ahmed, Hyo Kyoung Lee and Seungwon Jeon*



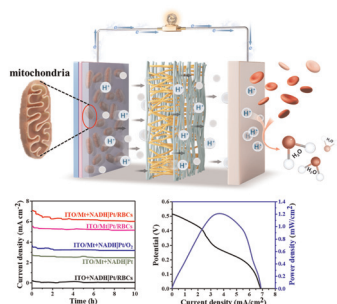
7547

External stimuli-triggered photodynamic and sonodynamic therapies in combination with hybrid nanomicelles of ICG@PEP@HA: laser vs. ultrasound

Xinru Kong, Yanxi Yang, Xueli Ren, Yandai Lin, Yu Shi and Zhe Liu*



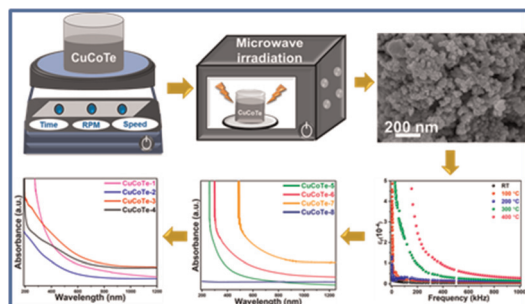
7559



Biological electricity generation system based on mitochondria-nanochannel-red blood cells

Yuting Wang, Huaxiang Chen, Xiaoda Yang, Xungang Diao and Jin Zhai*

7566



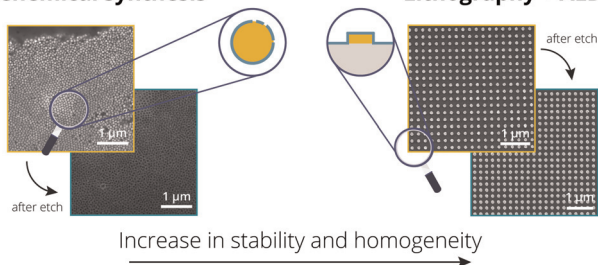
Rapid microwave-assisted synthesis and characterization of a novel CuCoTe nanocomposite material for optoelectronic and dielectric applications

Swikruti Supriya, Subhashree Das, Satish K. Samal, Subrata Senapati* and Ramakanta Naik*

7582

Chemical synthesis

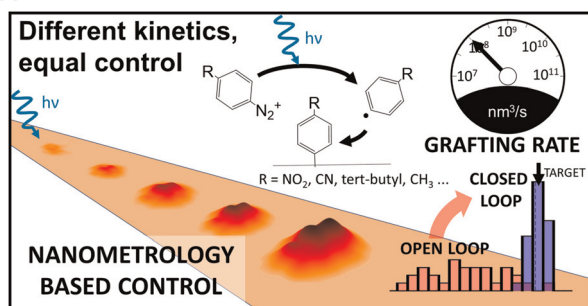
Lithography + ALD



Alternative nano-lithographic tools for shell-isolated nanoparticle enhanced Raman spectroscopy substrates

Ketki Srivastava, Thimo S. Jacobs, Stefan Ostendorp, Dirk Jonker, Floor A. Brzesowsky, Arturo Susarrey-Arce, Han Gardeniers, Gerhard Wilde, Bert M. Weckhuysen, Albert van den Berg, Ward van der Stam* and Mathieu Odijk*

7594



Nanometrology based control: taming radical grafting reactions with attoliter precision

Baptiste Maillot, Jean-Frédéric Audibert, Fabien Miomandre and Vitor Brasiliense*

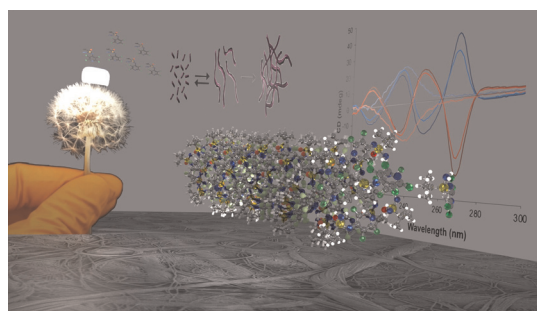


PAPERS

7603

Ultralight aerogels via supramolecular polymerization of a new chiral perfluoropyridine-based sulfonimidamide organogelator

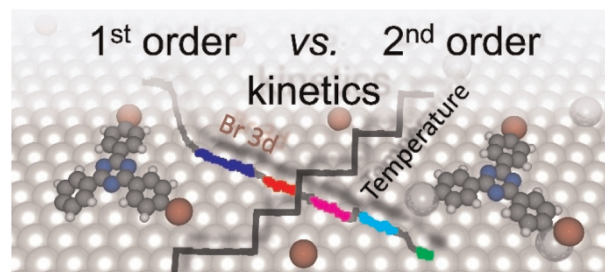
Giampiero Proietti, Anton Axelsson, Antonio J. Capezza, Yogesh Tadarwal, Julius Kuzmin, Mathieu Linares, Patrick Norman, Zoltán Szabó, Christofer Lendel, Richard T. Olsson and Peter Dinér*



7612

Mechanistic insights into on-surface reactions from isothermal temperature-programmed X-ray photoelectron spectroscopy

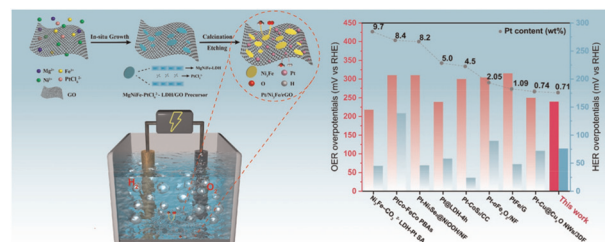
Lukas Grossmann, Manuela Hocke, Gianluca Galeotti, Giorgio Contini, Luca Floreano, Albano Cossaro, Amit Ghosh, Michael Schmittel, Johanna Rosen, Wolfgang M. Heckl, Jonas Björk* and Markus Lackinger*



7626

Ultralow-content Pt nanodots/Ni₃Fe nanoparticles: interlayer nanoconfinement synthesis and overall water splitting

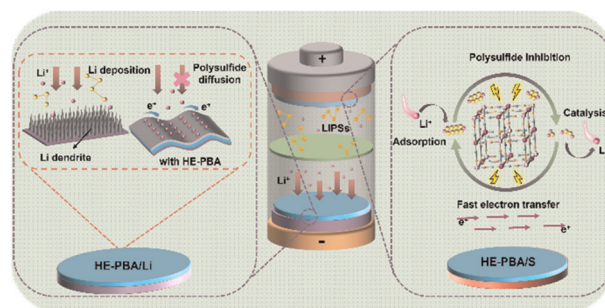
Yajun Ni, Wei Zhang, Yaru Li, Shui Hu,* Hong Yan* and Sailong Xu*



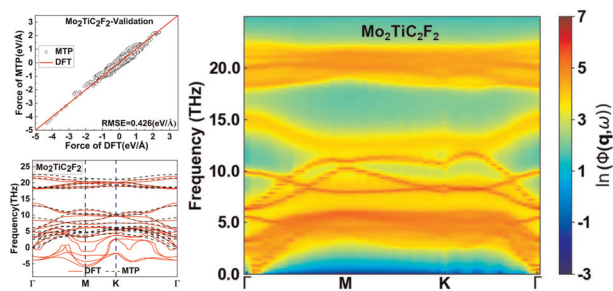
7634

Dual-functional mediators of high-entropy Prussian blue analogues for lithiophilicity and sulfiphilicity in Li–S batteries

Nan Shen, Tianqi Li, Boya Li, Yi Wang, He Liu, Cong Guo, Xiaoyu Chen and Jingfa Li*



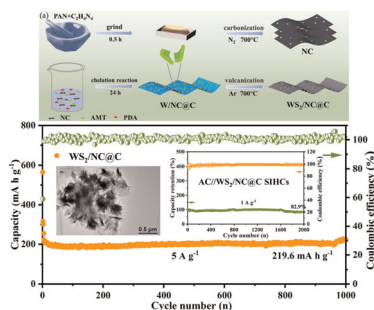
7645



Fast access of the lattice thermal conductivity and phonon quasiparticle spectra of $\text{Mo}_2\text{TiC}_2\text{T}_2$ ($\text{T} = -\text{O}$ and $-\text{F}$) and Janus $\text{Mo}_2\text{TiC}_2\text{OF}$ MXenes from machine learning potentials

Yiding Qiu, Ziang Jing, Haoliang Liu, Huaxuan He, Kai Wu, Yonghong Cheng and Bing Xiao*

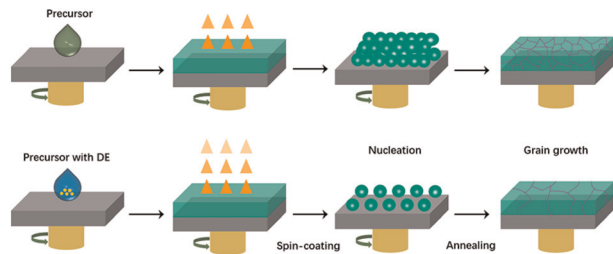
7660



Construction of $\text{WS}_2/\text{NC}@\text{C}$ nanoflake composites as performance-enhanced anodes for sodium-ion batteries

Chun Yuan, Baolin Liu, Hongyu Zhang, Huan Ma, Zhenjiang Lu,* Jing Xie, Jindou Hu and Yali Cao*

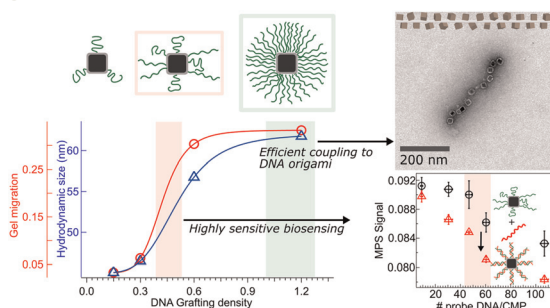
7670



Crystallization control of wide-bandgap perovskites for efficient solar cells *via* adding an anti-solvent into the perovskite precursor

Zhihai Liu, Lei Wang, Xi Liu, Xiaoyin Xie* and Ping Chen*

7678



Cooperative dynamics of DNA-grafted magnetic nanoparticles optimize magnetic biosensing and coupling to DNA origami

Aidin Lak,* Yihao Wang, Pauline J. Kolbeck, Christoph Pauer, Mohammad Suman Chowdhury, Marco Cassani, Frank Ludwig, Thilo Viereck, Florian Selbach, Philip Tinnfeld, Meinhard Schilling, Tim Liedl, Joe Tavaoli and Jan Lipfert



7690

A scalable fabrication method for gold nanodisk-upconverting nanoparticle hybrid nanostructures

Taleb Ba Tis, Cobi Sabo, Bo Xu, Conrad Corbella Bagot, Eric Rappeport and Wounjhang Park*

