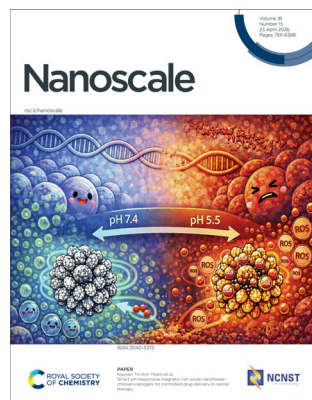


IN THIS ISSUE

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Cover

See Nguyen Thi Kim Thanh
et al., pp. 8041–8053.

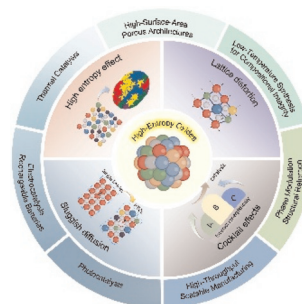
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REVIEWS

7825

Nanostructured high-entropy oxides for catalysis: linking entropy to function

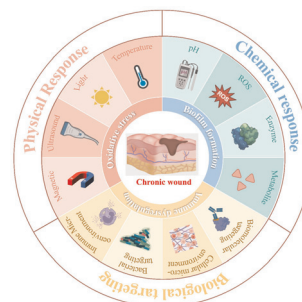
Zhuxin Lyu, Yunpeng Wang, Yueming Sun and
Yunqian Dai*



7849

Multifunctional ruthenium-based complexes for chronic wound therapy: from ligand engineering to intelligent microenvironment remodeling

Yulong Lan, Jianliang Shen* and Lifeng Tan*



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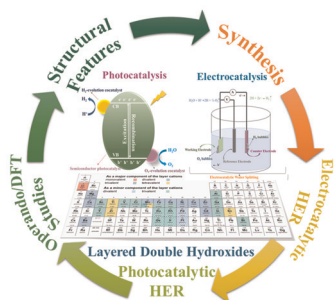
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REVIEWS

7981

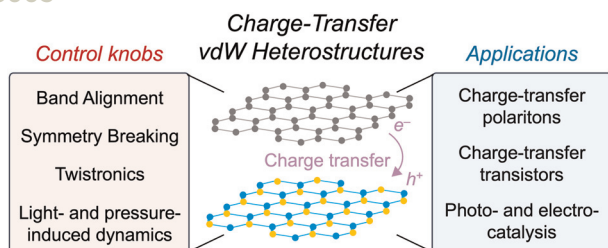


Engineering layered double hydroxides for photochemical and electrochemical hydrogen evolution: mechanistic insights and structure–property relationships

Iqra Sadiq, Syed Asim Ali and Tokeer Ahmad*

MINIREVIEW

8005

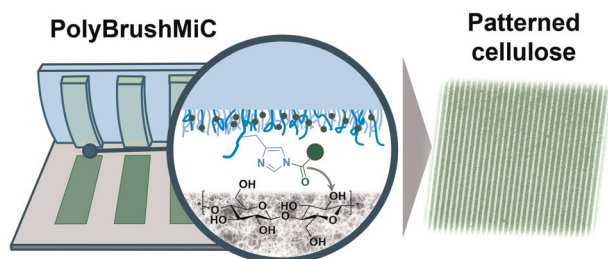


Designer charge-transfer van der Waals heterostructures

T. Huynh, N. Lee, Y. Hassan, N. Battulga, K. Muralidharan, O. L. A. Monti, M. S. Choi* and B. S. Y. Kim*

COMMUNICATIONS

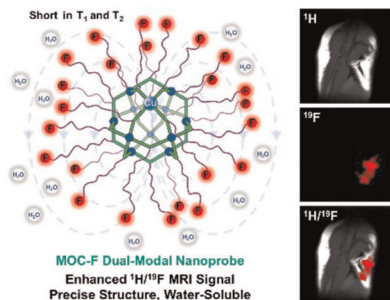
8025



(Sub-)microscale structuring of cellulose thin films using a polymer brush-assisted microcontact printing (PolyBrushMiC) routine

Nazim Pallab, Maurice Schmette, Sergio Kogikoski, Jr., Kay Hettrich, Matthias Schenderlein and Martin Reifarth*

8033



A water-soluble fluorinated metal–organic cage based on paramagnetic copper as an efficient ^1H and ^{19}F MRI nanoprobe

Xin Fang, Hongyu Yang, Meina Liu,* Xinyuan Zhu, Xin Jin* and Youfu Wang*

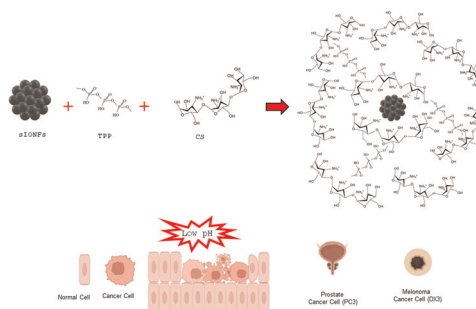


PAPERS

8041

Smart pH-responsive magnetic iron oxide nanoflower–chitosan nanogels for controlled drug delivery in cancer therapy

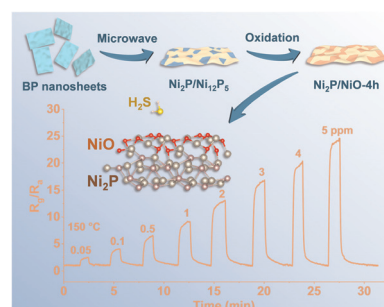
Bengi Ozkahraman, Liudmyla Storozhuk, Dongdong Guo, Le Duc Tung, Stefanos Mourdikoudis and Nguyen Thi Kim Thanh*



8054

A phosphorene-derived Ni₂P/NiO lateral heterostructure for highly sensitive and selective H₂S gas detection

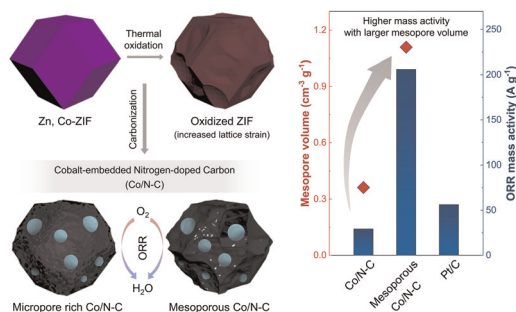
Shutong He, Lei Li,* Yaoda Liu, Jie Su, Yudong Sun* and Zhengfei Dai*



8063

Enhancing oxygen reduction reaction activity in ZIF-derived catalysts through thermal oxidation-induced micropore enlargement

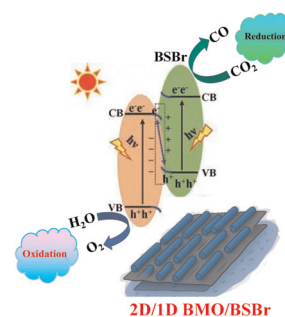
Yu Joong Kim, Ki Hwan Koh, Hyeong Jun Kim, Hyeonhoo Lee, Sima Umrao, Youn Jeong Jang* and Tae Hee Han*



8074

Design of a 2D/1D Bi₂MoO₆/Bi₁₉S₂₇Br₃ direct Z-scheme heterojunction with a built-in internal electric field for enhanced photocatalytic CO₂ reduction performance

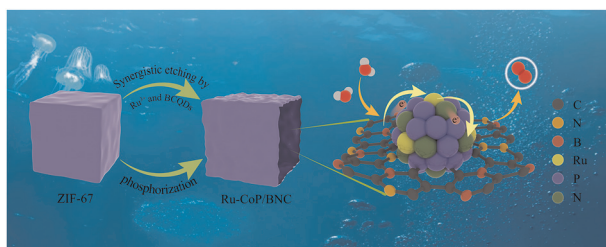
Zakaria Ismail, You Li, Jian Lei, Saira Man, Khadija Tul Kubra, Chao Zhang,* Jingxiang Low and Yujie Xiong*



2D/1D BMO/BSBr



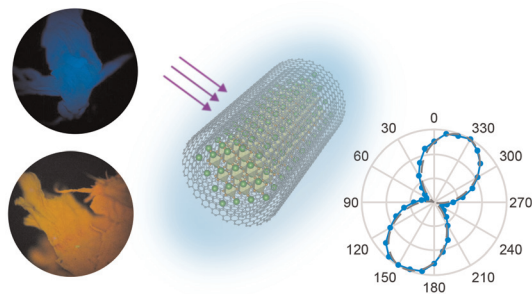
8085



Rational design of open hollow nanoboxes via Ru and B synergistic electronic modulation in cobalt phosphide for efficient oxygen evolution reaction

Zhao Li, Wenjing Cheng, Xuena Gao, Chunmei Ni, Jianguo Dong, Huiming Yang, Ju Wang, Wenyi Tan and Lin Tian*

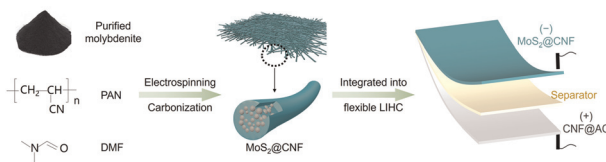
8093



Emissive perovskite quantum wires in robust nanocontainers: CsPbX₃ confined inside boron nitride nanotubes

Bea Botka,* Erzsébet Dodony, Gergely Németh, Michael Stratton, Ildikó Harsányi, János Mózer, Éva Kováts, Ferenc Borondics and Katalin Kamarás

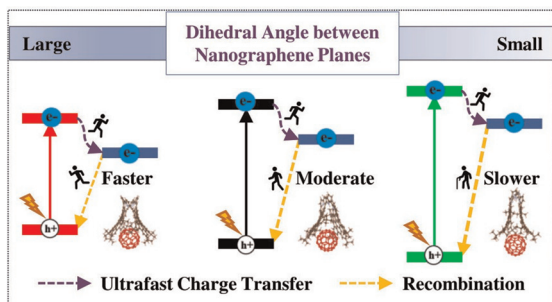
8106



Purified molybdenite encapsulated in N-doped carbon nanofibers as binder-free anodes for flexible lithium-ion hybrid capacitors

Lingyao Li, Zhixuan Zhou, Fang Xu, Yuan Zhao, Tao Chen, Jie Gao, Yifu Zhang, Tian Liang,* Yuzhu Li* and Xiaoming Zhu*

8115



Quantum simulation of carrier dynamics in nanographene-fused carbaporphyrin tweezers@C60 heterojunctions: role of dihedral-angle engineering

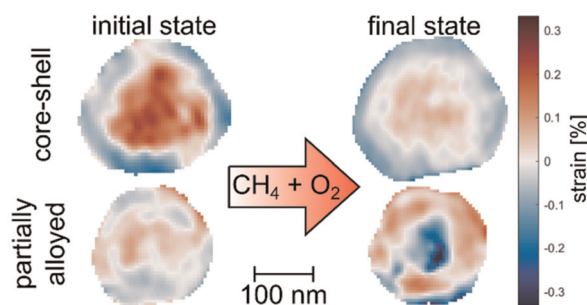
Uttam Chowdhury, Ritabrata Sarkar, Pranab Sarkar* and Sougata Pal*



8127

In situ X-ray imaging of segregation and mixing in PtPd core-shell nanoparticles under methane oxidation conditions

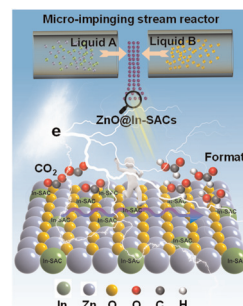
Lydia J. Bachmann, Jagrati Dwivedi, Dmitry Lapkin, Bihan Wang, Jan-Christian Schober, Gerard N. Hinsley, Sarah Bernart, Kuan Hoon Ngoi, Rustam Rysov, Arti Dangwal Pandey, Thomas F. Keller, Ivan A. Vartanyants and Andreas Stierle*



8138

Large-scale synthesis of zinc oxide-supported indium single-atom catalysts for efficient electrocatalytic CO₂ reduction reaction

Wenzhao Duan, Tianrui Lu, Qiuyue Xiang, Heng Chen,* Xi Yu, Ge Meng, Zheng-Jun Wang,* Hailong Zhang, Lilong Zhang,* Huile Jin, Shun Wang and Jing-Jing Lv*



8147

Noble-metal-free recyclable electronic nanoinks for wireless wearable sensors

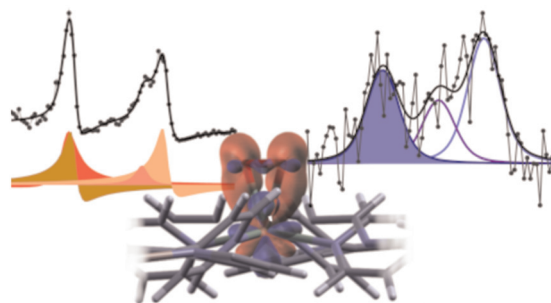
Naimul Arefin, Kwame Afrifa Obeng Ofori, Curtis Borden, Nishat Paul, Thomas Jones, Nicolas Constantinides, Kai Wu* and Minxiang Zeng*



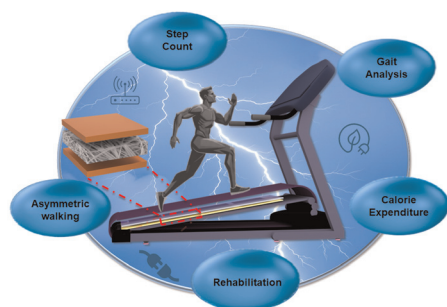
8158

Pressure-controlled oxygen activation at single metal atom sites in a manganese-cobalt coordination network on graphene: from triplet-singlet spin transition to superoxo dissociation

Asha Yadav, Stefania Baronio, Michela De Col, Danilo Comini, Valentin Mischke, Alessandro Namar, Nikolay Vinogradov, Mattia Scardamaglia, Mirko Cinchetti, Giovanni Zamborlini, Paolo Giannozzi* and Erik Vesselli*



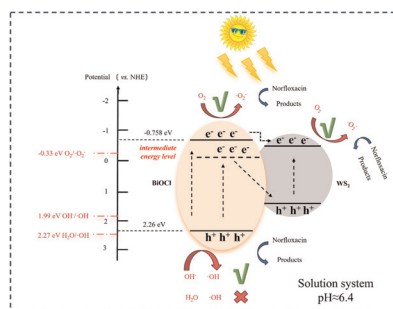
8172



High-performance PVDF/borophene-based TENG for energy harvesting and self-sustaining health monitoring in manual treadmill systems

Sithara Radhakrishnan, K. V. Vijoy, Youhong Tang, Mats R. Andersson, T. Santhanakrishnan and Honey John*

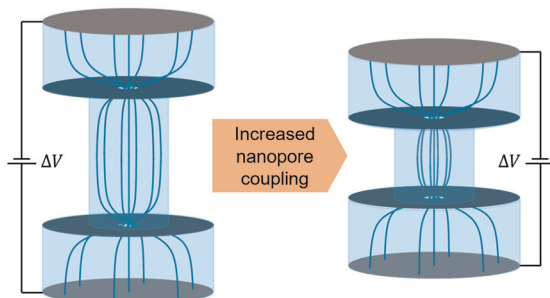
8185



Dual modulation of BiOCl: enhancing photocatalytic antibiotic degradation through Co surface bonding and a WS₂ heterojunction

Wenhao Yang, Xueling Hu, Jing Sun, Jiemo Zong, Linxing Wang, Xiaohang Fang,* Yang Yu, Kun Liu and Hanbing Zhang*

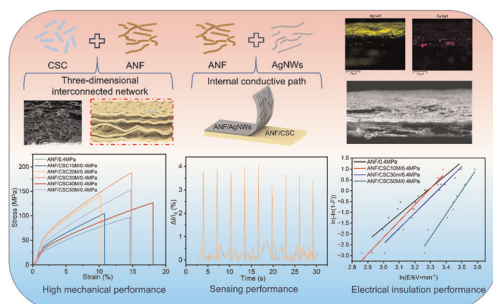
8199



Coupling effects on access resistance of in-series nanopores

Jacob Bair, Thor Burkhardt, Zachery Gottshall and Matthias Kuehne*

8212



A high-strength Janus-structured aramid nanofiber/calcium sulfate crystal-silver nanowire composite film for integrated insulation, sensing, and Joule heating

Yijie Du, Jizhen Huang,* Jiaoyang Li, Chunyao Liu, Changrong Shi and Yuxin Liu*

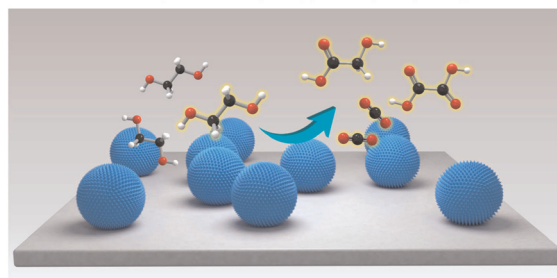


8225

The controlled synthesis of PdAg alloy nanospheres and the selective oxidation of ethylene glycol

Anqi Zhao, Mengyun Hu, Jie Li, Xinyu Gu, Changqing Ye* and Yukou Du*

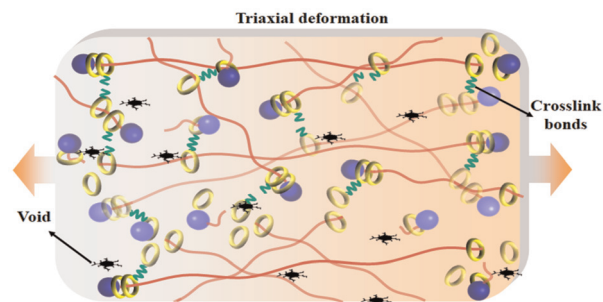
The oxidized products of ethylene glycol catalyzed by Pd₄Ag NSs.



8234

Molecular mechanism of the fracture properties of slide-ring crosslinked elastomers

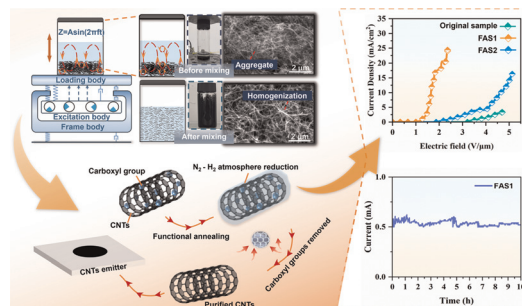
Ruibin Ma, Yang Zhang, Xiangbao Wang, Xiuying Zhao, Xiaolin Li, Liqun Zhang and Yangyang Gao*



8249

Outstanding field emission performance via superior carbon nanotubes dispersion by acoustic resonance mixing and synergistic function-oriented annealing strategy

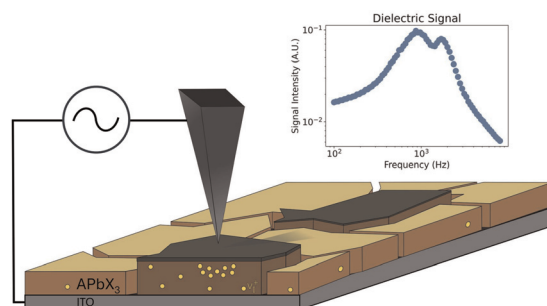
Weiwei Yu, Ziqin Ai, Zhe Liu, Shulan Jiang,* Zirong Tang, Xiaobin Zhan and XiuGuo Chen



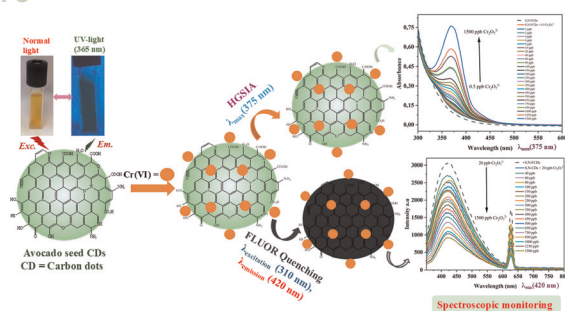
8263

Resolving ionic spectra of lead-halide perovskites to the nanometer

Lukas D. Čavar, Emilia R. Schütz, Yenal Yalçinkaya, Constantin Bach, Carsten Deibel, Lukas Schmidt-Mende and Stefan A. L. Weber*



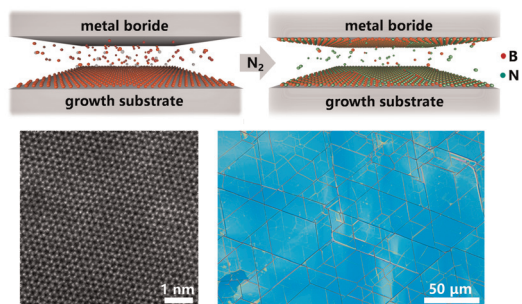
8278



Enhanced absorption and fluorescence quenching methods for the quantitative analysis of Cr(vi) ions using avocado seed-derived carbon quantum dots as pseudo-derivatising reagents

Amahle Mkhize, Xolani Nocanda, Irvin Noel Booysen* and Allen Mambanda*

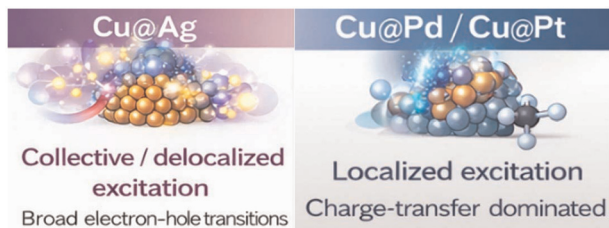
8297



Growth of centimeter-scale multilayer hexagonal boron nitride films using metal-boride-vapor CVD

Jiawen Liu, Yanping Sui, Chenxi Liu, Xiaolong Ming, Chuang Tian, Runhan Xiao, Jie Cheng, Yangjian Xu, Haomin Wang, Shujie Tang, Haidi Wang and Guanghui Yu*

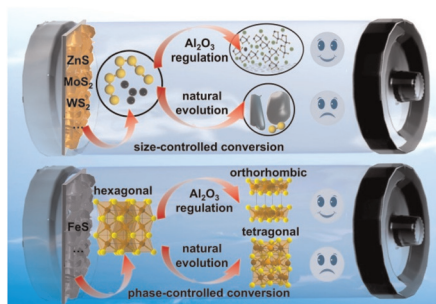
8306



Dopant-rich surface alloying effects on photoexcited carrier pathways in Cu nanoclusters with adsorbed CH₄ and CO₂

Mufasila Mumthaz Muhammed and Junais Habeeb Mokkath*

8318



Enhancing the Li⁺ storage capability of transition metal sulfides by *in situ* regulation of the phase conversion in operating batteries

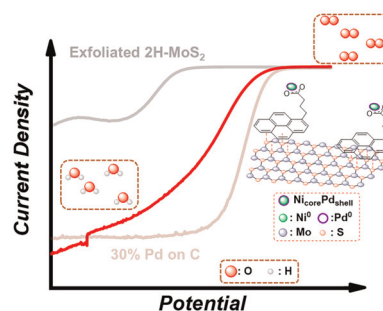
Guannan Zu, Hexiong Liu, Peng Liu, Yunfei Yang,* Juan Wang, Yilong Li, Yonghong Fu, Liangliang Wang, Yongfeng Cai and Hongyi Li*



8329

High-performance oxygen reduction electrocatalysis enabled by Ni_{core}Pd_{shell} nanoparticles immobilized on MoS₂ nanosheets

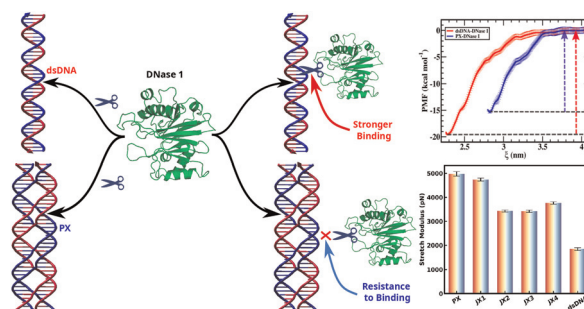
Michail P. Minadakis, Yuta Sato, Ruben Canton-Vitoria, Kazu Suenaga and Nikos Tagmatarchis*



8339

Mechanistic insights into crossover-dependent nuclease resistance of PX vs. dsDNA using enhanced sampling

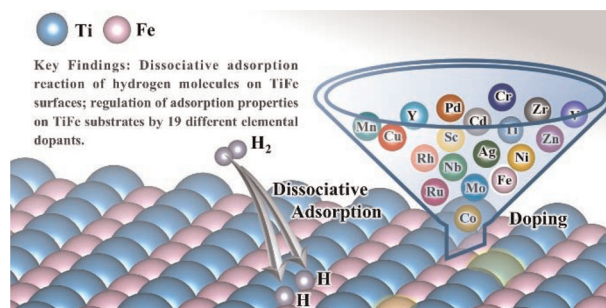
Sandip Mandal, Arun Richard Chandrasekaran and Prabal K. Maiti*



8352

First-principles investigation of transition metal doping effects on H₂ dissociative adsorption in TiFe-based alloys

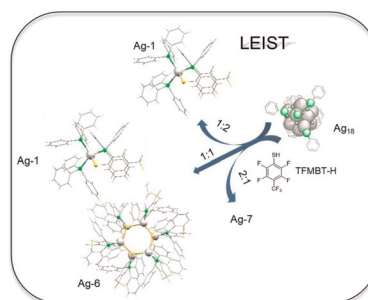
Mengxue Li, Xueqing Zhang, Dong Xu, Chengwu Yang and Xinyu Zhang*



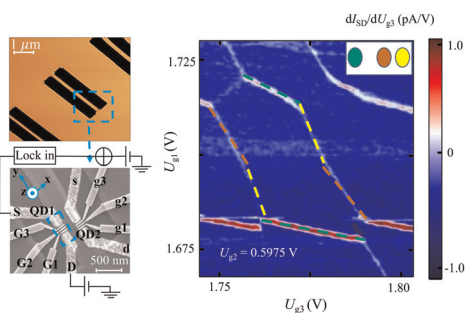
8361

Unravelling the reactions between a hydride-protected Ag₁₈ nanocluster and thiol by the crystallization of intermediates

Subrata Duary, Samapti Mondal, Souvik Manna, Soham Chowdhury, Biswarup Pathak* and Thalappil Pradeep*



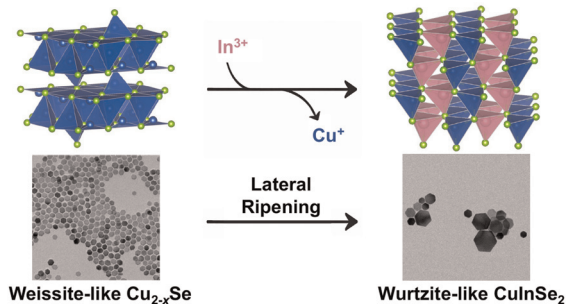
8368



Site-controlled Ge hut wire-based multiple quantum dots with integrated charge sensing capability

Jin Leng, Fei Gao, Yu-Chen Zhou, Chu Wang, Hao-Tian Jiang, Zhi-Tao Wu, Gang Cao, Jianjun Zhang, Hai-Ou Li* and Guo-Ping Guo

8376



Cation-exchange and lateral ripening in wurtzite-like CuInSe_2 formation from weissite-like Cu_{2-x}Se

Christopher P. Pakhyan, Allison P. Forsberg and Richard L. Brutchey*

EXPRESSION OF CONCERN

8385

Expression of concern: Null current hysteresis for acetylacetonate electron extraction layer in perovskite solar cells

Abd. Rashid bin Mohd Yusoff, Mohd Asri Mat Teridi and Jin Jang*

