

Nanoscale Horizons

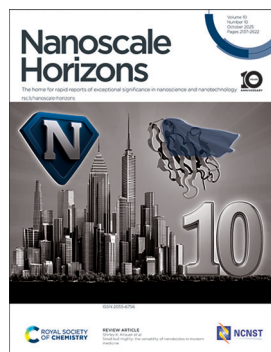
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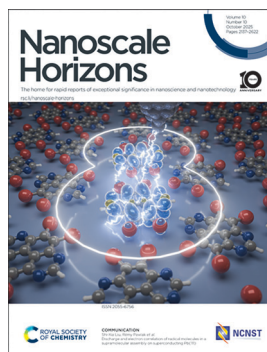
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Inside cover

See Shi-Xia Liu, R my Pawlak *et al.*, pp. 2365–2373. Image reproduced by permission of R my Pawlak from *Nanoscale Horiz.*, 2025, 10, 2365.

EDITORIAL

2150

Introduction to the editor's choice collection on Nanoarchitectonics: fine structure construction in nanoscale

Katsuhiko Ariga

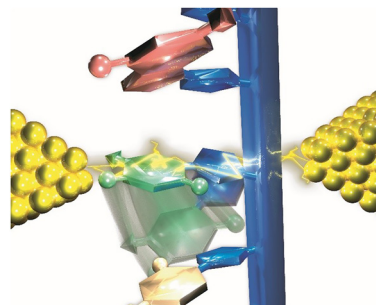


COMMENTARY

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A reflection on 'Dipole effects on the formation of molecular junctions'

Makusu Tsutsui



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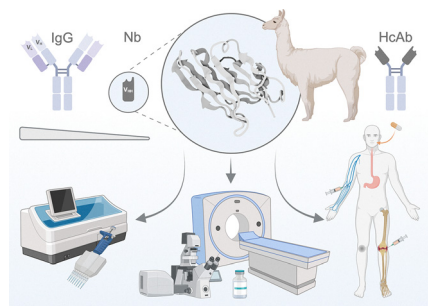


REVIEWS

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Small but mighty: the versatility of nanobodies in modern medicine

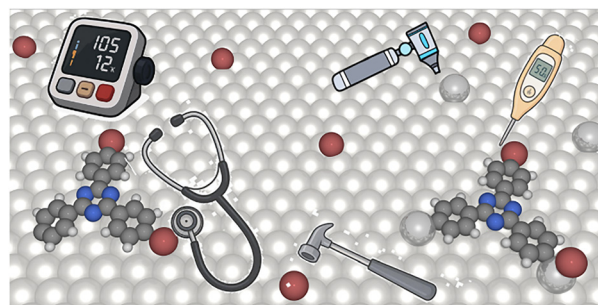
Mike Blueggel, Désirée Gül, Roland H. Stauber and Shirley K. Knauer*



2172

On the utility of complementary analytics for on-surface synthesis

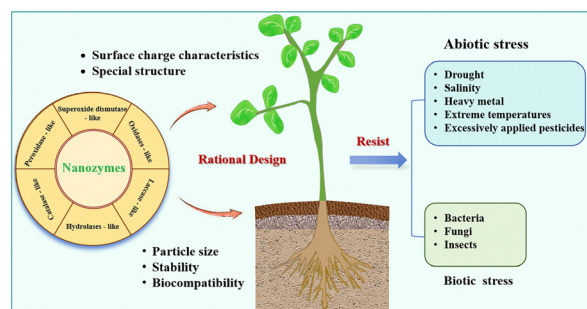
Markus Lackinger



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Nanozymes: recent advances for sustainable agricultural development

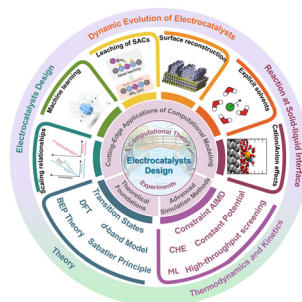
Runxin Hou, Na Yin,* Yinghui Wang,* Shuyan Song and Hongjie Zhang



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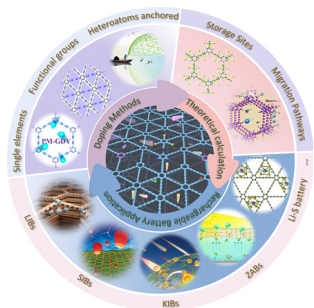
Advances in computational approaches for bridging theory and experiments in electrocatalyst design

Yaqin Zhang, Yu Xiong, Yuhang Wang, Qianqian Wang and Jun Fan*



REVIEWS

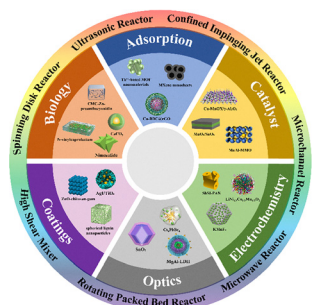
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Doped-graphdiyne: synthesis, theoretical prediction and application for electrochemical energy storage

Ziqi Chen, Deyi Zhang, Ze Yang,* Yan Xu,* Xuqi Wang, Hao Huang, Fangcheng Qiu and Changshui Huang*

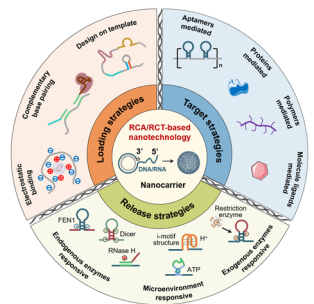
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From microchannels to high shear reactors: process intensification strategies for controlled nanomaterial synthesis

Zixuan Feng, Junheng Guo,* Yingcheng Wang, Jiaoyan Shi, Huiwen Shi, Haojie Li, Jinli Zhang and Jiangjiexing Wu*

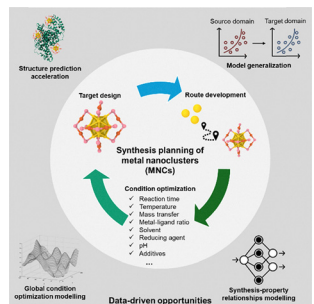
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Rolling circle amplification/transcription-based nanotechnology for efficient delivery of nucleic acid drugs

Xun You, Qingxuan Zeng, Tianshuang Xia, Xiaocui Guo,* Chi Yao* and Dayong Yang*

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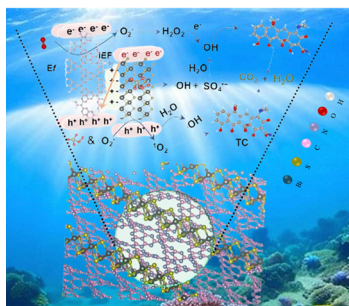


Synthesis planning for atomically precise metal nanoclusters

Jingkuang Lyu, Jing Qian, Zhucheng Yang and Jianping Xie*



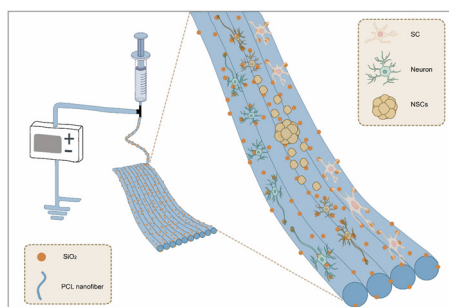
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In situ interfacial engineering of 1D Bi₂S₃/2D g-C₃N₄ heterostructures for antibiotics degradation in aqueous media *via* light mediated peroxymonosulfate activation

Muhammad Mateen,* Guanrong Chen, Na Guo* and Wee Shong Chin*

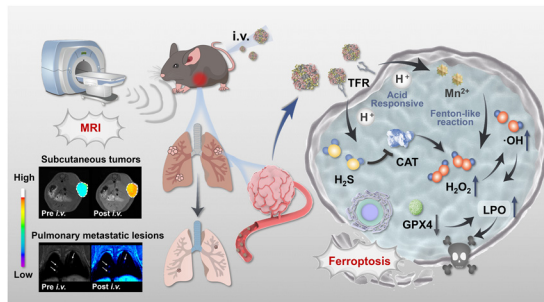
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“Cell climbing stones” – varying the surfaces of electrospun nanofibers with protrusions as secondary structures to manipulate neural cell behaviors

Yawen Wang, Xiaopei Zhang, Lijie Yao, Yuying Yan, Yuanfei Wang and Tong Wu*

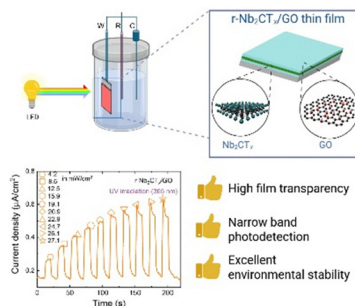
2422



A transferrin-targeted nanoplatform for MRI-guided visualization and potent suppression of tumors and pulmonary metastatic lesions

Liya Tian, Pengju Ma, Wenxiu Zhuang, Yinlong Xu, Lihua Pang, Kai Guo, Ke Ren, Xueli Xu, Xiao Sun* and Shunzhen Zheng*

2434



Unraveling interfacial interactions in reduced Nb₂CT_x/GO heterostructures for highly stable and transparent narrow-band photoelectrochemical photodetectors

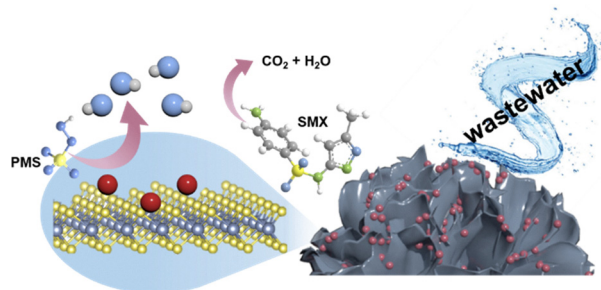
Muhammad Abiyu Kenichi Purbayanto,* Subrata Ghosh, Dorota Moszczyńska, Carlo S. Casari and Agnieszka Maria Jastrzębska*



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Upscaled wood@MoS₂/Fe₃O₄ bulk catalysts for sustainable catalytic water pollutant removal

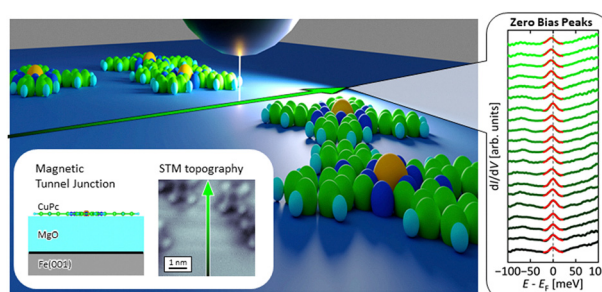
Lingli Zhu, Wei Ren,* Ya Liu, Zhong-Shuai Zhu, Shuang Zhong, Shaobin Wang and Xiaoguang Duan*



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Emergence of a zero-bias peak on the MgO/Fe(001) surface induced by the adsorption of a spin-1/2 molecule

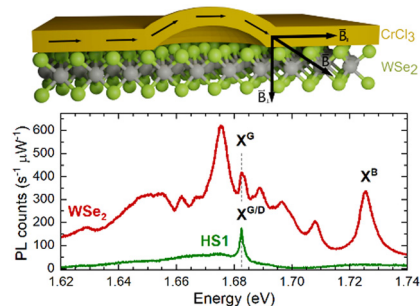
Kyosei Ishii, Nana K. M. Nazriq, Peter Krüger and Toyo Kazu Yamada*



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Interplay between charge transfer and magnetic proximity effects in WSe₂/CrCl₃ heterostructures

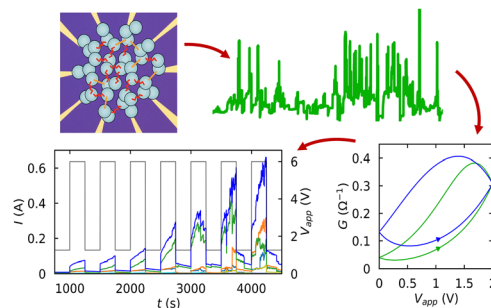
Łucja Kipczak,* Zhaolong Chen, Magdalena Grzeszczyk, Sergey Grebenchuk, Pengru Huang, Kristina Vaklinova, Kenji Watanabe, Takashi Taniguchi, Adam Babiński, Maciej Koperski* and Maciej R. Molas*



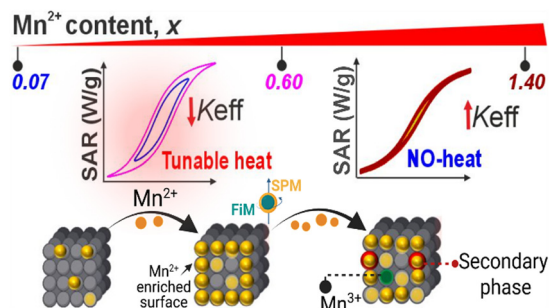
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Learning and spiking dynamics in brain-like nanoscale networks

B. L. Monaghan, Z. E. Heywood, S. J. Studholme, F. Houard, J. Grisolia, S. Tricard and S. A. Brown*



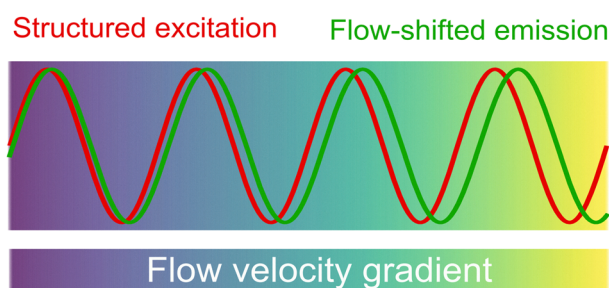
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Unraveling the Mn²⁺ substitution effect on the anisotropy control and magnetic hyperthermia of Mn_xFe_{3-x}O₄ nanoparticles

Oscar F. Odio, Giuseppina Tommasini, F. J. Teran, Jesus G. Ovejero, Javier Rubin, Maria Moros* and Susel Del Sol-Fernández*

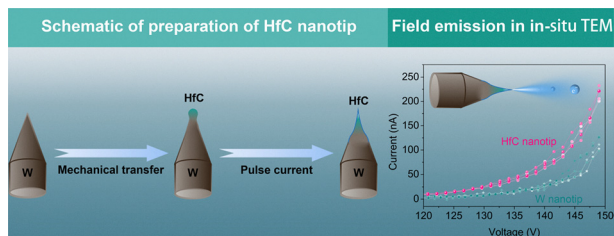
2504



Photophysical structured illumination velocimetry based on the long-lasting emission response of lanthanide luminescent nanoparticles

Haichun Liu* and Jerker Widengren*

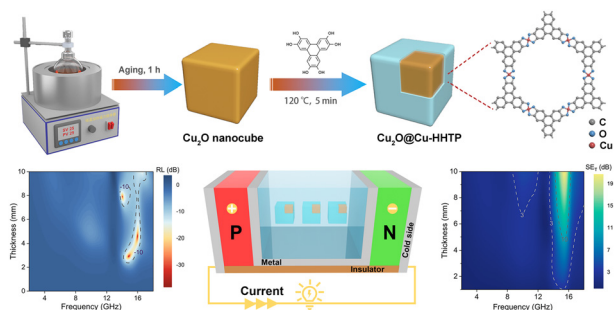
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In situ growth and field emission of single-crystal HfC nanotips

Chaojie Li, Jianxun Xu,* Lihua Wang* and Xiaodong Han

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A core-shell Cu₂O@Cu-MOF for electromagnetic wave absorption and selective shielding

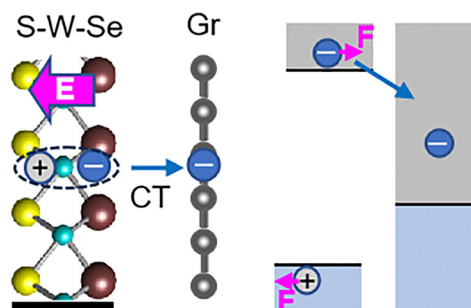
Ji-You Zong, Zhan-Zhan Wang, Meng-Qi Wang, Jin-Cheng Shu,* Wen-Qiang Cao* and Mao-Sheng Cao*



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Photodoping of graphene with long-lived electrons by interfacing with Janus WS₂

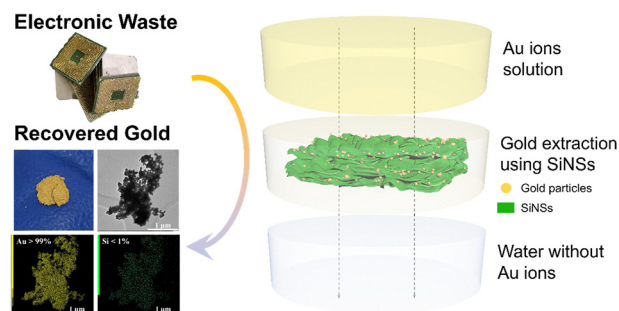
Ting Zheng, Yu-Chuan Lin,* Zhenhua Ni, Kai Xiao and Hui Zhao*



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High-efficiency gold recovery from electronic waste with 2D silicon nanosheets

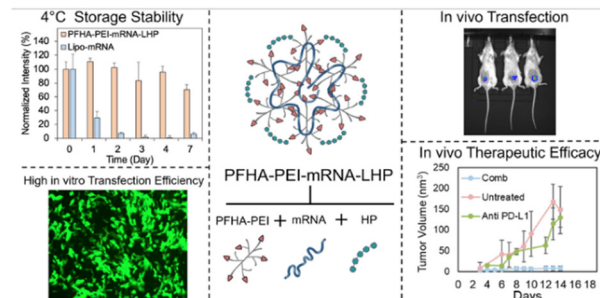
Dingxuan Kang, Chuanwang Xing, Chengcheng Zhang, Shenghua Wang, Yuhang Dong, Deren Yang and Wei Sun*



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A modular polymer platform for efficient mRNA delivery in cancer immunotherapy

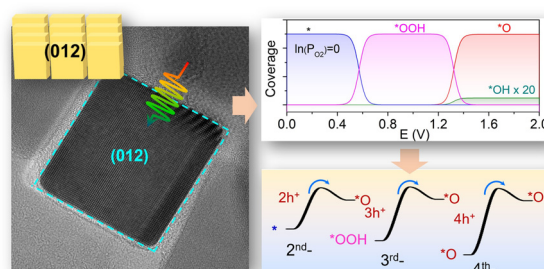
Guanyou Lin, Jianxi Huang, Xinqi Li, Yunshan Liu, Taylor Juenke, Arthur Finstad and Miqin Zhang*



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Potential-driven reaction order transitions of water oxidation on hematite photoanodes

Yanjie Liu, Zhixuan Dong, Qingqing Li, Jundie Hu,* Jiafu Qu, Meiyong Gong, Wei Sun, Chang Ming Li and Xiaogang Yang*



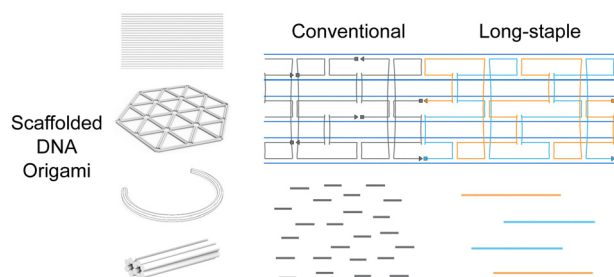
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$$\frac{\hat{E}}{k_B \theta} = \frac{E}{k_B T}$$

A finite-size statistical mechanics approach to quantum confinement effects on nanoscale energy-related properties

A. Pérez-Madrid* and I. Santamaría-Holek*

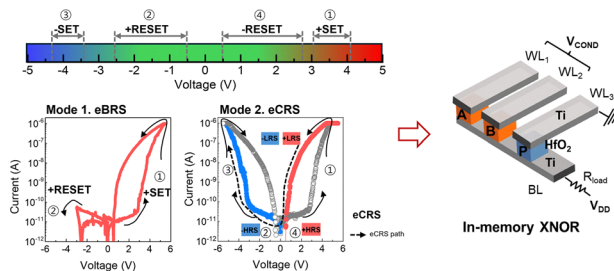
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A long-staple design approach towards the scalable production of scaffolded DNA origami

Chanseok Lee,* Yanggyun Kim, Kyoung-hwa Jeon, Taeyoung Ryu and Do-Nyun Kim*

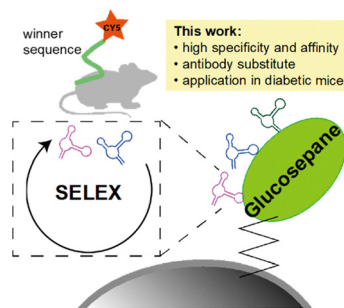
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Dual-mode switching of a bidirectional self-rectifying Ti/HfO₂/Ti device for bipolar and electronic complementary resistive switching

Hyun Young Kim, Néstor Ghenzi, Hyungjun Park, Dong Hoon Shin, Dong Yun Kim, Tae Won Park, Jea Min Cho, Taegyun Park* and Cheol Seong Hwang*

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FluMag-SELEX derived specific individual aptamers can fluorescently label the ageing immanent protein-crosslinker glucosepane in diabetic mouse tissues

Runliu Li, Bastian Draphoen, Mika Lindén, Karmveer Singh, Karin Scharffetter-Kochanek, Andreas Stürmer, Frank Rosenau* and Ann-Kathrin Kissmann*



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Tunable directional thermal emission using a phase change material-based multilayer structure

Kandammathe Valiyaveedu Sreekanth,*
Qing Yang Steve Wu, Sambhu Jana,
Ranjan Singh and Jinghua Teng*

