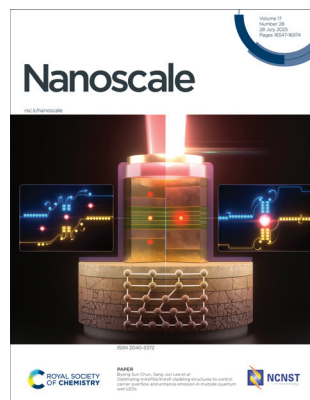


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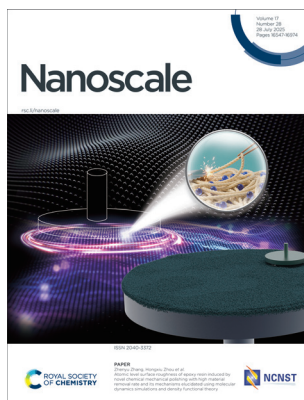
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Cover

See Byong Sun Chun, Sang Jun Lee *et al.*, pp. 16622–16629.

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Inside cover

See Zhenyu Zhang, Hongxiu Zhou *et al.*, pp. 16630–16645.

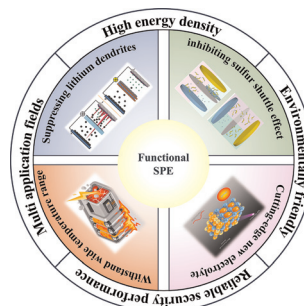
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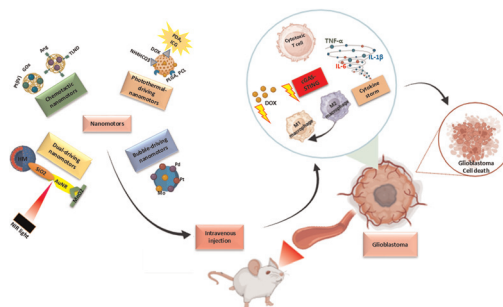
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Banafsheh Nikfar,* Maryam Musavi, Shahla Chaichian, Gang Guo and Amir Abbas Momtazi-Borojeni*



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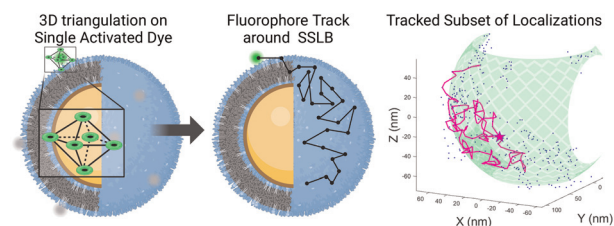
**Fundamental questions
Elemental answers**

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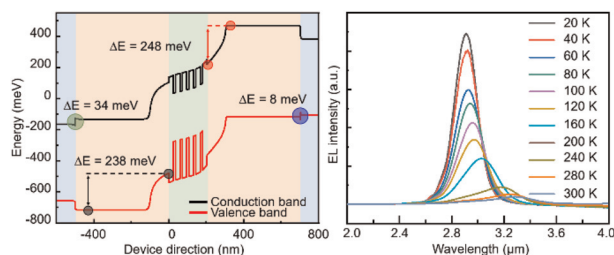


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Optimizing InAsPSb/InAsP cladding structures to control carrier overflow and enhance emission in multiple quantum well LEDs

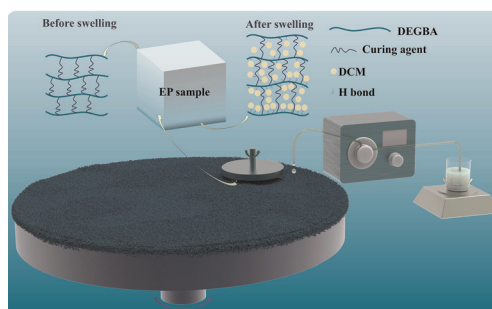
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Atomic level surface roughness of epoxy resin induced by novel chemical mechanical polishing with high material removal rate and its mechanisms elucidated using molecular dynamics simulations and density functional theory

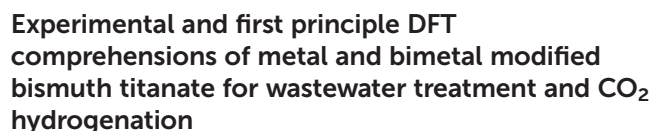
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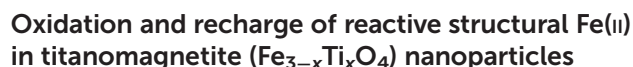
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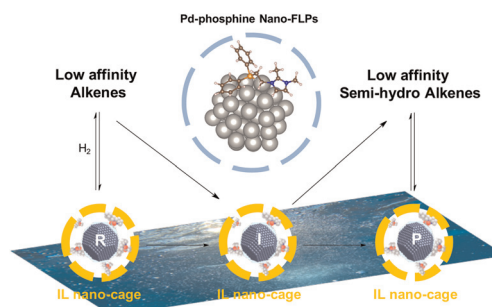
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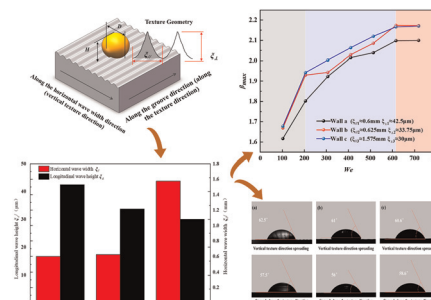
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Wetting and spreading characteristics of oil droplet impact on textured surfaces

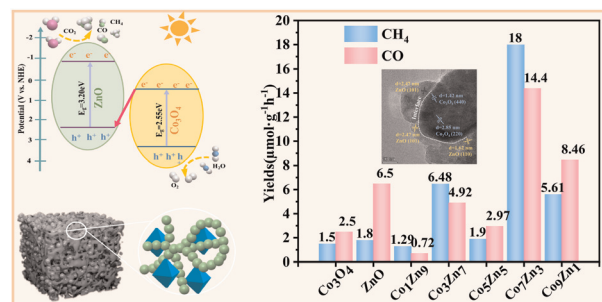
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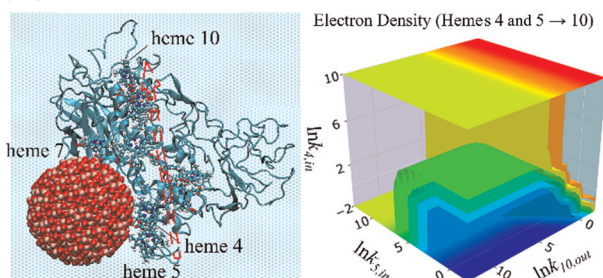
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Regulating a Co₃O₄/ZnO heterojunction aerogel with a built-in electric field for enhanced CO₂ photoreduction to solar fuels from DFT insights

Wei Zhao, Sijia Ren, Yanfang Zheng, Yunlong Sun, Xiaodong Wu,* Caiyue Liu, Jinpeng Shi,* Kun Yang, Xiaobin Ma, Sheng Cui and Xiaodong Shen*



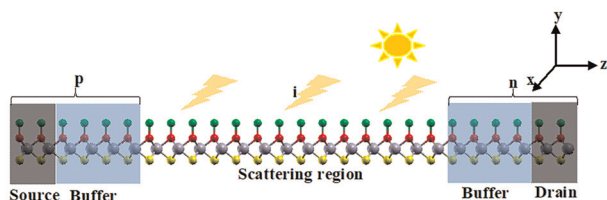
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Adsorption and electron transfer of metal-reducing decaheme cytochrome protein MtrF on iron oxide nanoparticle surfaces

Jiahuiyu Fang, Pranab Sarker, Xiaoxue Qin, Shuting Zhang, Size Zheng and Tao Wei*

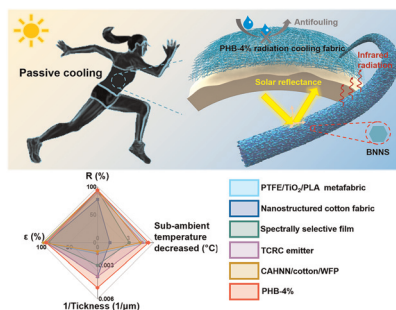
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Janus MoXYCl (X = S, Se, Te; Y = N, P, As) monolayers: a promising family of 2D materials for high-performance p–i–n photodetectors and spintronic applications

Samaneh Soleimani-Amiri, Somayeh Gholami Rudi and Nayereh Ghobadi*

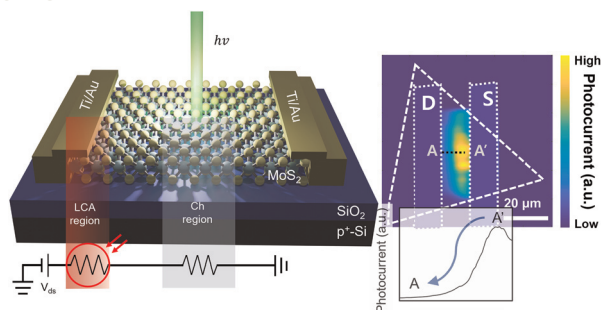
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Surface-engineered PVDF-HFP/BNNS micro-nano fibers enable high-performance radiative cooling through synergistic photon scattering

Yuanxiang Xiao,* Weishi Zheng, Jibiao Guan, Yingyao Chen, Runxin Chen, Yini Zhao and Shuangfei Xiang*

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Impacts of localized charge accumulation on photocurrent dynamics in metal–MoS₂ contacts

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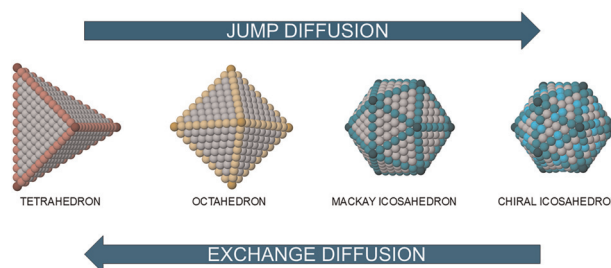


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In search of the smoothest nanoparticle surface: diffusion and mobility on Ag clusters

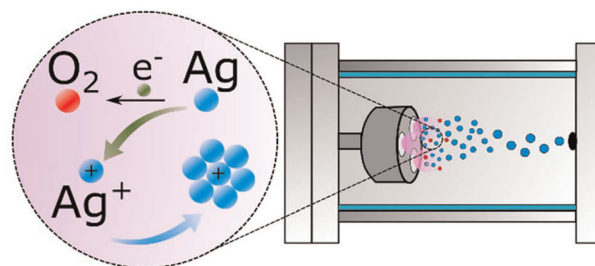
Nicolò Canestrari, Riccardo Ferrando and Diana Nelli*



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Role of nitrogen and oxygen in the nucleation and growth of silver nanoparticles in gas-phase synthesis

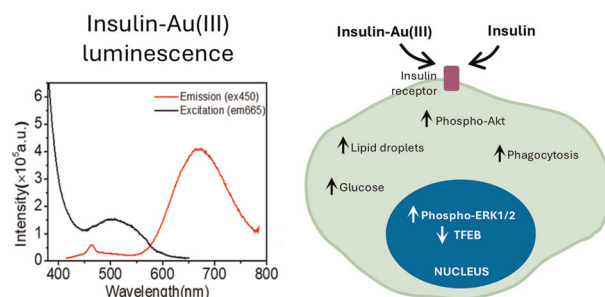
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Luminescent insulin–Au(III) conjugate retains insulin biological properties in human microglia

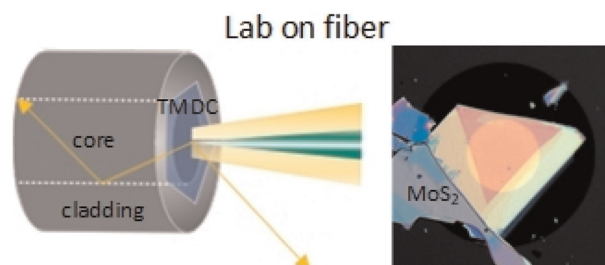
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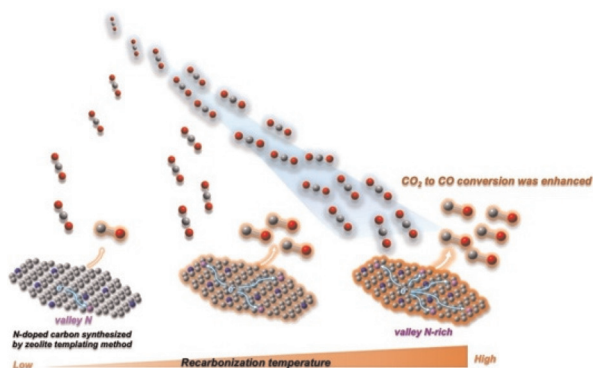
Thermotransmittance spectroscopy of layered crystals using lab on fiber

K. Ciesiótkiewicz,* J. Kopaczek and R. Kudrawiec*



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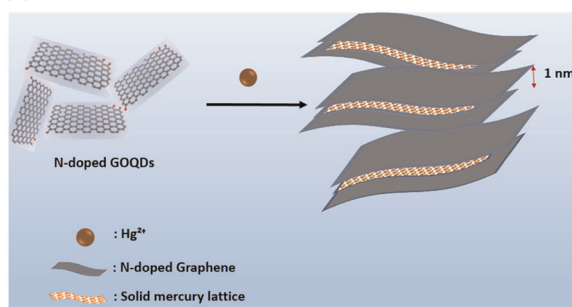
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Verifying the efficient functional N species of metal-free N-doped carbons for CO₂-to-CO electrochemical conversion using zeolite-templated carbons with N species tuned by a recarbonization treatment

Kotaro Narimatsu, Ryuji Takada,* Koji Miyake,* Yoshiaki Uchida and Norikazu Nishiyama

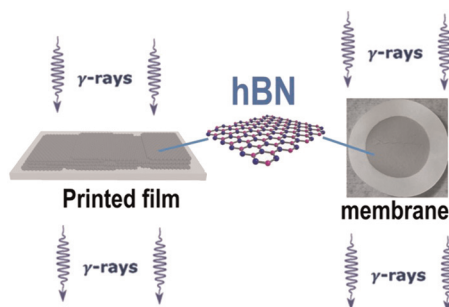
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van der Waals pressure assisted synthesis of solid state nanomercury from mercury salts under ambient conditions: a sustainable approach for effortless Hg(II) removal from wastewater and safe storage thereof

T. P. Amrutha, Vakayil K. Praveen and Renuka Neeroli Kizhakayil*

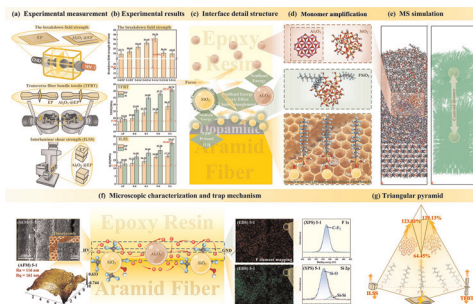
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Effect of γ -irradiation on hexagonal boron nitride membranes and printed films

Jingjing Wang, Towseef I. Ahmad, William Lee, Benjamin P. Reed, Yashoda Abeykoon, Khaled Parvez, Zixing Peng, Andrew J. Pollard, Aliaksandr Baidak, Jordan Knapp and Cinzia Casiraghi*

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Enhanced dielectric performance of AFRP via bidirectional modification: a fluorinated SiO₂ honeycomb-like architecture on fiber surfaces and Al₂O₃ nanoparticle doping in a resin matrix

Jun Xie,* Xiaoyu Shi, Guowei Xia, Bobin Xu, Longyin Qiao, Chengming Hu and Qing Xie*

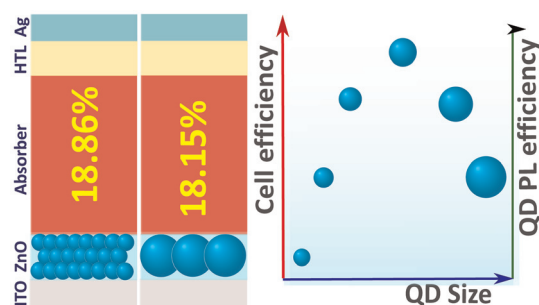


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ZnO quantum dots as an electron-transport layer for highly efficient and stable organic solar cells

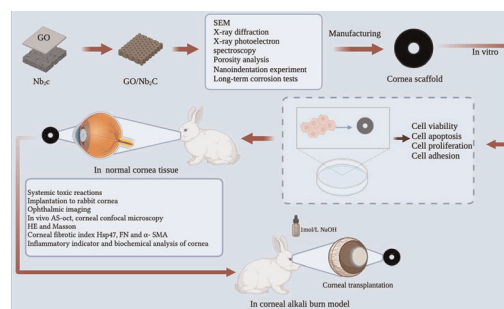
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A graphene oxide/niobium carbide MXene composite-based functional nanocomposite scaffold for artificial corneas

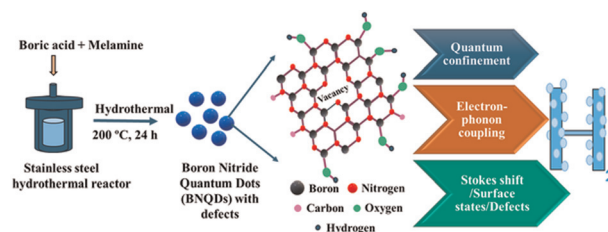
Li Peng, Wei Ma, Liwei Zhang, Siming Liu, Kai Han* and
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Impact of electron–phonon coupling, Stokes shift and quantum confinement in boron nitride quantum dots for hydrogen production *via* water splitting

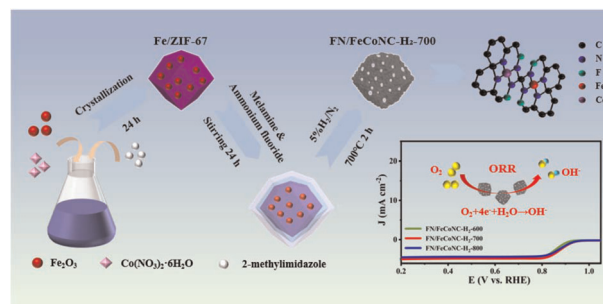
Masuda U. and Laxmi Narayan Tripathi*



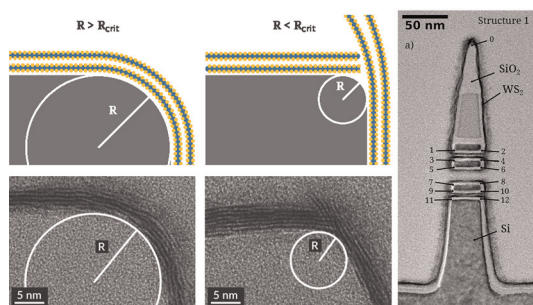
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Nano-Fe₂O₃ guided synthesis of an F,N-coordinated FeCo bimetallic catalyst *via* H₂-mediated reductive pyrolysis for the oxygen reduction reaction

Xinfu He, Jianglong Zhou, Hongzhang Yang,
 Lining Zhang, Hongju Wu, Di Gao, Chi Ma,
 Yating Zhang* and Anning Zhou



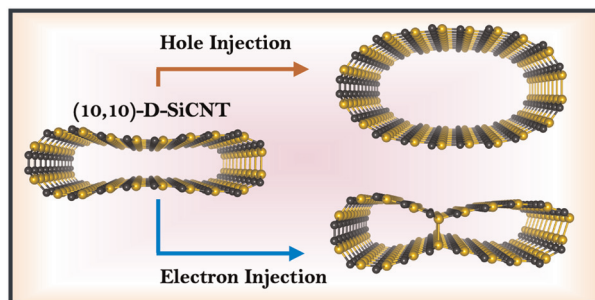
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Conformality limits of 2D WS₂ on 3D nanostructures

Jeff J. P. M. Schulpen, Saravana B. Basuvalingam, Marcel A. Verheijen and Ageeth A. Bol*

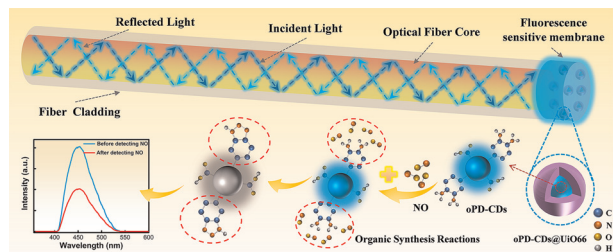
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Reducing deformation of single-walled defective silicon carbide nanotubes under charge injection: a first principles study

D. Mahendiran, P. Murugan* and Michelle J. S. Spencer*

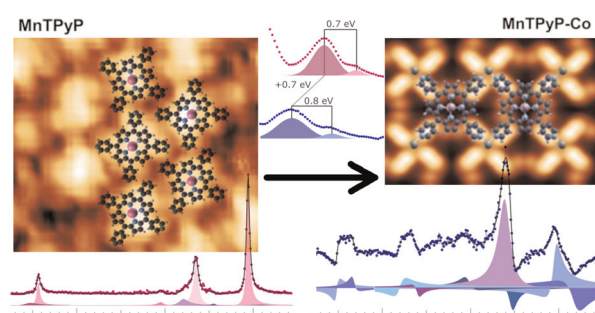
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A new optical fiber sensor based on the CDs@UiO66 complex fluorescence probe for nitric oxide detection

Liyun Ding,* Zelin Gao, Botao Zhang, Baoquan Xiao, Li Yang, Dekui Zhang, Siyu Chen, Linzhu Gou, Tuanjie Che and Xiaoling Zheng

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Single atom coordination in a manganese–cobalt bi-metallic framework on graphene: geometric and electronic structures

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Effectively modulating hydrophobicity and surface nanobubble distribution on graphene through uniaxial compressive strain

Hui Qi, Zhe Wang, Jing Guo, Guohui Wu, Siliang Yue, Zhiyu Fan and Chenliang Li*

