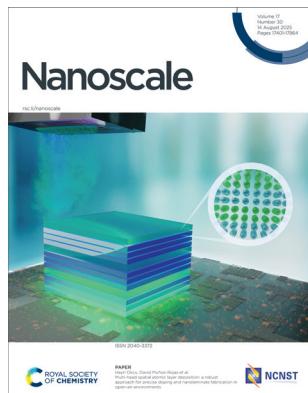


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See Hayri Okcu,
David Muñoz-Rojas et al.,
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Inside cover

See Changying Xue,
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EDITORIAL

17414

Introduction to the *Nanoscale* and *Nanoscale Advances* joint themed collection: Synthesis, physical properties and applications of advanced nanocrystalline materials

Aurora Rizzo, Ermelinda M. S. Maçôas, Tayebeh Ameri, Renjie Chen and Raghvendra Singh Yadav*

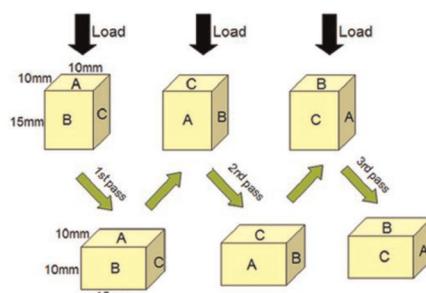


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Recent advances in using severe plastic deformation for the processing of nanomaterials

Terence G. Langdon





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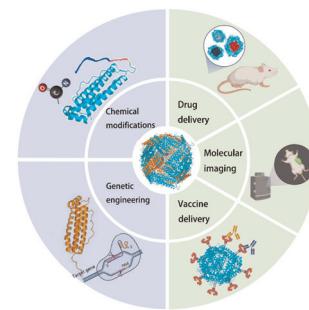
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Structural modification strategies for ferritin nanoparticles and their applications in biomedicine: a narrative review

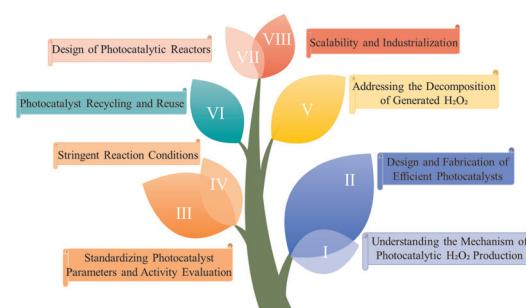
Yinxin Wang, Lei Shi, Chengzhi Zou, Zizhong Liu* and Jia Wang*



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Photocatalytic synthesis of hydrogen peroxide: recent advances, challenges, and future perspectives

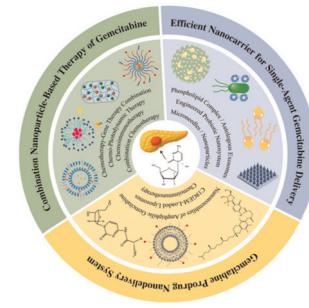
Yaoyang Wang, Ting Xu, Zhongxing Zhang, Yaowen Wang, Jiming Huang, Ping Xue, Mi Tang,* Lingjun Kong* and Zhengbang Wang*



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Recent progress in gemcitabine-loaded nanoparticles for pancreatic cancer therapy: a review

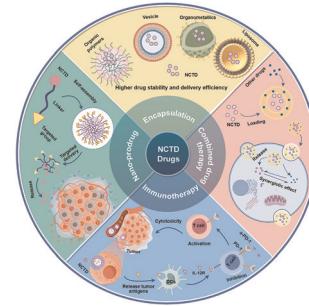
Zhaokai Li, Ruobei Shu, Meichai Li, Xinyu Wang, Xinmei Chen, Hang Chen, Xin Wu* and Jianping Chen*



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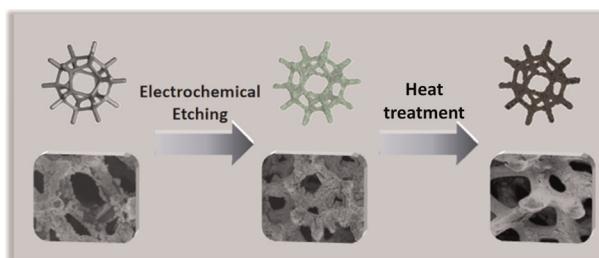
Research progress of norcantharidin nanodrugs for tumor treatment

Zhi-Yu Xia, Hao-Liang Peng, Yong You, Lu Zhang, Qiu-Ying Deng, Lei Zhou, Si-Lin Chen, Xin-Yi Guo, Jing-Xing Guo* and Dong-Bing Cheng*



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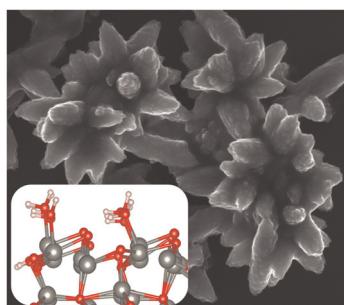
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Molybdenum *in situ* etching-treated ultrathin NiFeMo LDHs nanosheet arrays as a performance anodic catalyst for efficient industrial production of hydrogen

Zhiqun Bai, Ruoxuan Guo, Jingwang Kuang, Huifang Chen, WeiHao Sha, Ao Xie, Jingchao Liu,* Pingyu Wan and Yang Tang*

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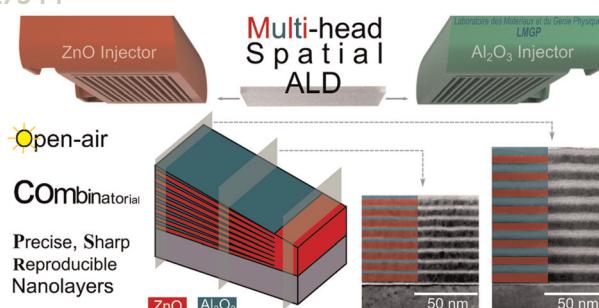


Solvation directed morphological control in metal oxide nanostructures

Duo Song, Lili Liu, Andrew Ritchhart and Maria L. Sushko*

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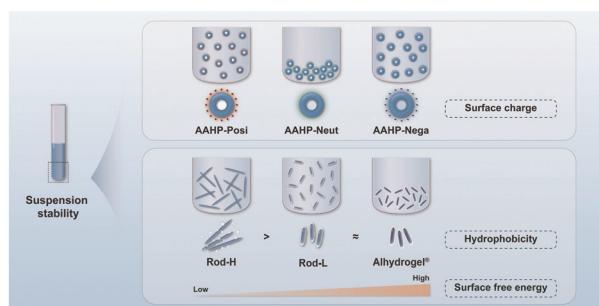
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Multi-head spatial atomic layer deposition: a robust approach for precise doping and nanolaminate fabrication in open-air environments

Hayri Okcu,* Martin Ignacio Broens, Vijaya Shanthi Paul Raj, Pia Javiera Vasquez Rivera, Gustavo Ardila and David Muñoz-Rojas*

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Suspension stability of aluminum-based adjuvants

Zhihui Liang, Hongyang Gao, Qian Ren, Xin Li, Yubin Ma, Changying Xue* and Bingbing Sun*

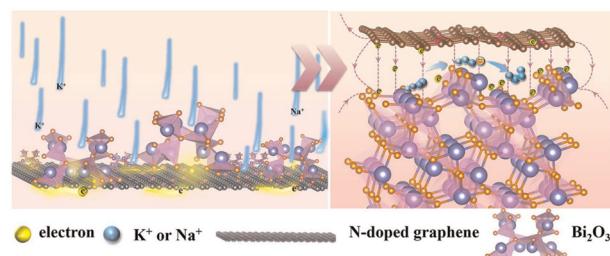


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Interface-engineered $\text{Bi}_2\text{O}_3/\text{N}$ -doped carbon heterostructure enabling synergistic effects for advanced energy storage

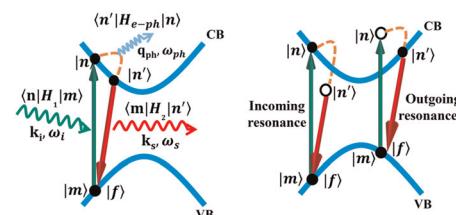
Yuan Wang, Zhongtao Shang, Tao Zhang, Chen Wu, Yiyang Dai and Shaojun Yuan*



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Tunable resonant Raman scattering with temperature in vertically aligned 2H-SnS₂

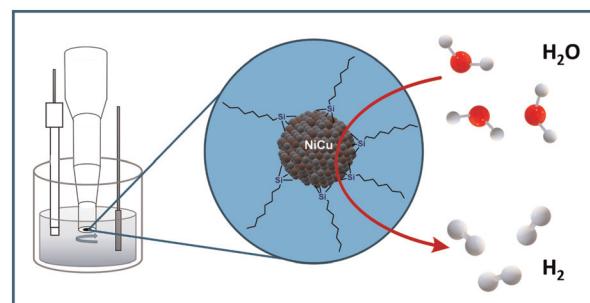
Atul G. Chakkar,* Deepu Kumar, Ashok Kumar, Mahesh Kumar and Pradeep Kumar*



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Nanoscale NiCu electrocatalyst for the hydrogen evolution reaction

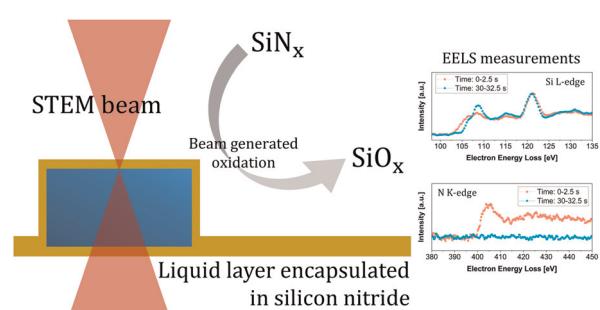
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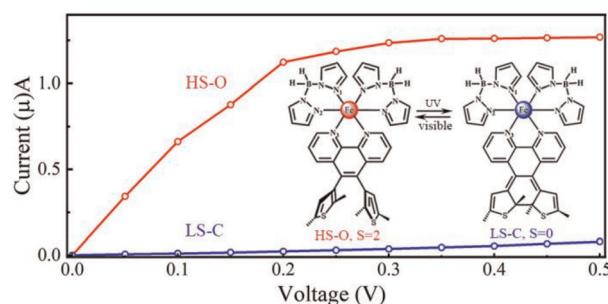
Electron beam oxidation of silicon nitride membranes in liquid phase transmission electron microscopy

Sofie Tidemand-Lichtenberg, Shima Kadkhodazadeh and Kristian Speranza Mølhave*



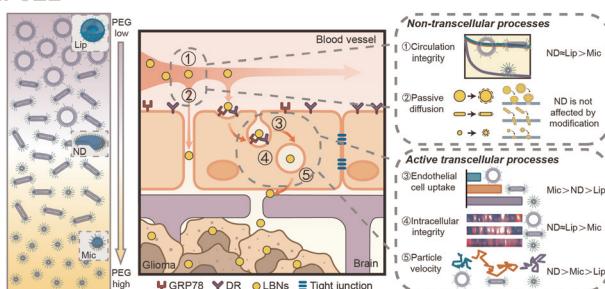
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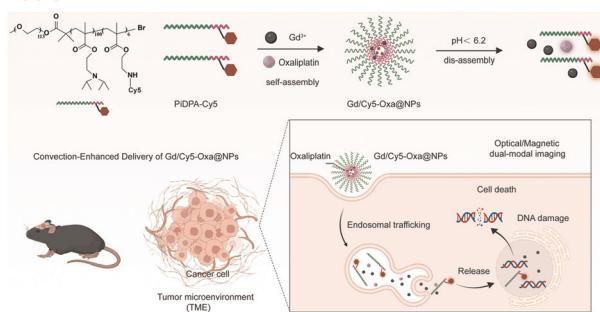
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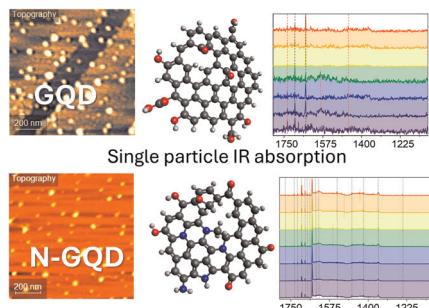
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**An optical/magnetic imaging nanoplatform-mediated convection-enhanced delivery of oxaliplatin for glioma treatment**

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Gradient CNT/PMN-PT/PVDF piezoelectric composites for gait monitoring during weight-bearing walking

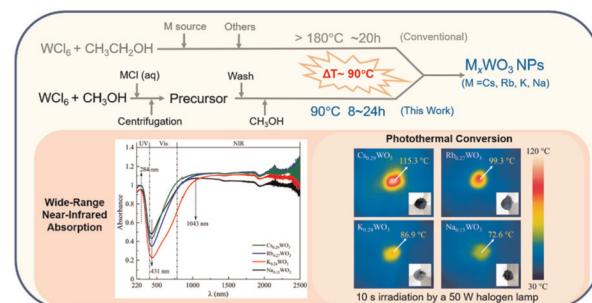
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Synthesis of hexagonal tungsten bronze nanoparticles at a significantly lower temperature and in a shorter time

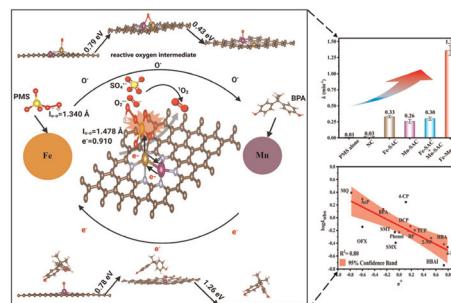
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Breaking scaling relationship limitations in peroxymonosulfate activation through electronegativity-driven Fe–Mn dual-metal synergy

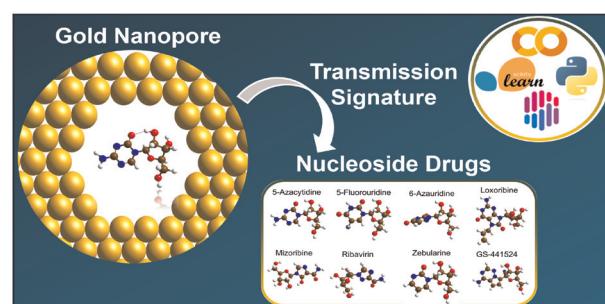
Manoj Kumar Panjwani, Yuqi Liu, Shihao Han, Danish Khan, Shaoxia Yang, Feng Xiao and Pan Gao*



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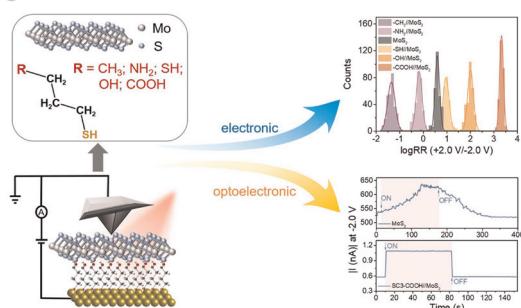
A hybrid supervised and unsupervised machine learning approach for identifying nucleoside drugs using nanopore readouts

Sneha Mittal, Milan Kumar Jena and Biswarup Pathak*



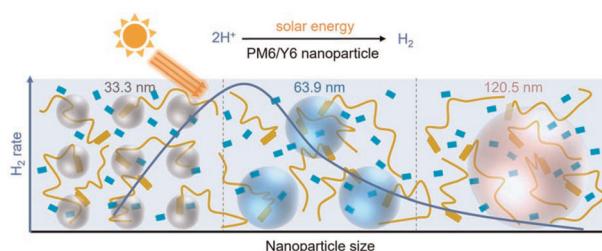
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**Enhanced MoS₂ heterojunctions by interface engineering with self-assembled monolayers**

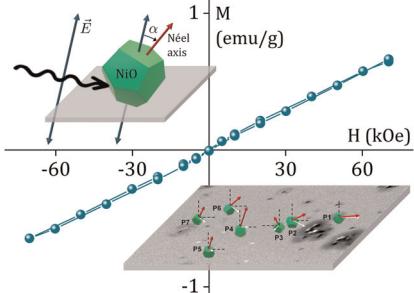
Fei Bao, Zhongchen Xu, Ying Wang, Pan Qi and Cunlan Guo*

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**Size-dependent hydrogen evolution in organic photovoltaic catalysts: balancing exciton dissociation and charge transport**

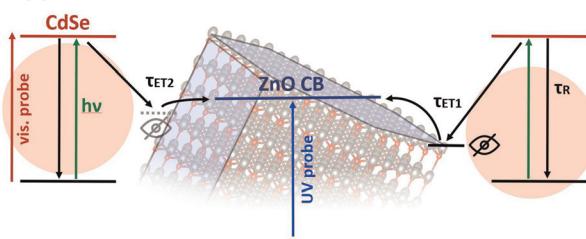
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**Bimodal interfacial charge transfer in quantum dot heterostructures revealed by donor-/acceptor-specific broadband transient absorption spectroscopy**

Conner P. Dykstra, Thomas C. Rossi, Michael J. Enright, Josh Vura-Weis and Renske M. van der Veen*

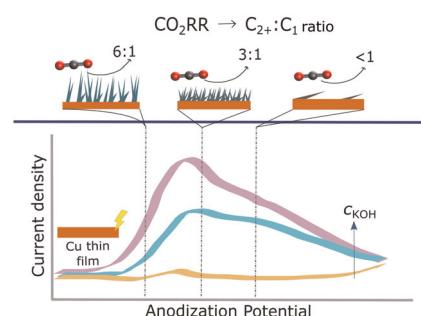


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Nanostructuring copper thin film electrodes for CO₂ electroreduction to C₂₊ products

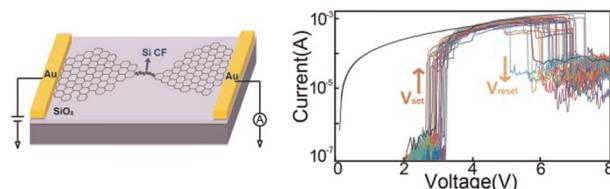
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Temperature-dependent resistive switching statistics and mechanisms in nanoscale graphene–SiO₂–graphene memristors

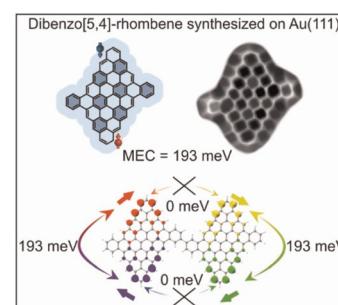
Yuwen Cai, Wei Yu, Qiuhan Zhu, Xiyuan Liu, Xiao Guo and Wenjie Liang*



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Strong magnetic exchange coupling of a dibenzo-fused rhomboidal nanographene and its homocoupling with tunable periodicities on a metal surface

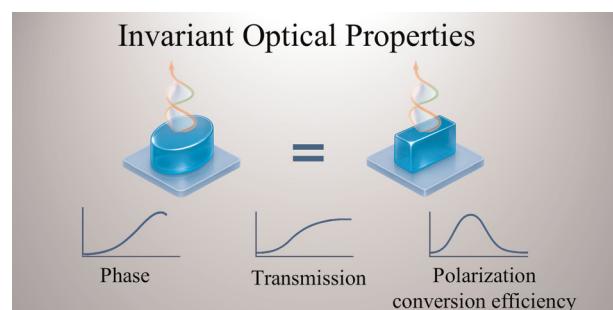
Ana Barragán, Goudappagouda, Manish Kumar, Diego Soler-Polo, Elena Pérez-Elvira, Andrés Pinar Solé, Alba García-Frutos, Zhiqiang Gao, Koen Lauwaet, José M. Gallego, Rodolfo Miranda, David Écija,* Pavel Jelínek,* Akimitsu Narita* and José I. Ugel*



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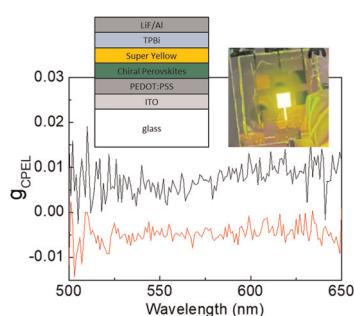
Invariant optical properties of dielectric nanofins in geometric phase metasurfaces

J. Carlos Basilio-Ortiz* and Iván Moreno



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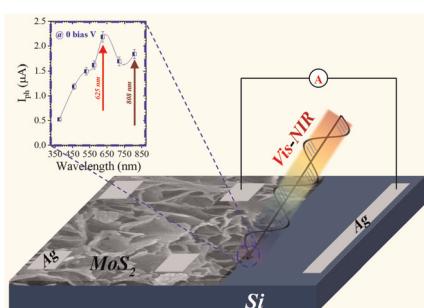
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Room-temperature solution-processed spin organic light-emitting diodes based on chiral 2D halide perovskites

Lan-Sheng Yang,* Chun-Yao Huang, Chin-An Hsu, Hao-Zhe Chiu, Pei-Hsuan Lo and Yu-Chiang Chao*

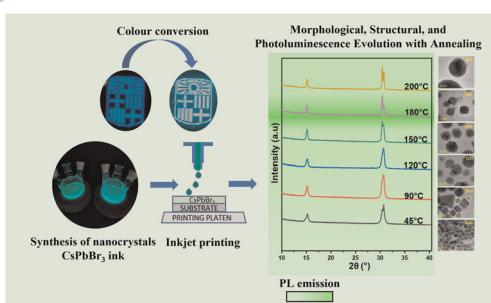
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Perpendicular sheet-like alignment of a self-driven MoS₂/Si heterostructure for Vis-NIR wavelength detection

Othman Abed Fahad, Abubaker S. Mohammed, Ethar Yahya Salih* and Mustafa K. A. Mohammed

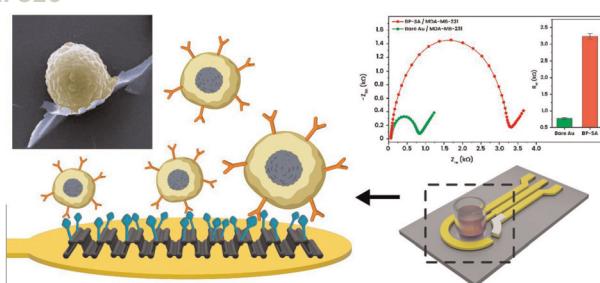
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Effect of annealing temperature on the properties of CsPbBr₃ nanocrystal films via inkjet printing and its application in colour conversion layers

Junaid Khan,* Júlia Mari-Guaita, Kenneth Lobo, Giovanni Vescio, Carina Pareja-Rivera, Iván Mora-Seró, Sergi Hernández, Albert Cirera and Blas Garrido

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A novel high-sensitivity electrochemical sensor for cancer cell detection by means of phosphorene functionalized with sialic acid biomolecules

Asma Souri, Behzad Dadashnia, Nasrin Khazamipour, Omid Babaee, Ziba Torkashvand, Mehran Habibi-Rezaei and Shams Mohajerzadeh*

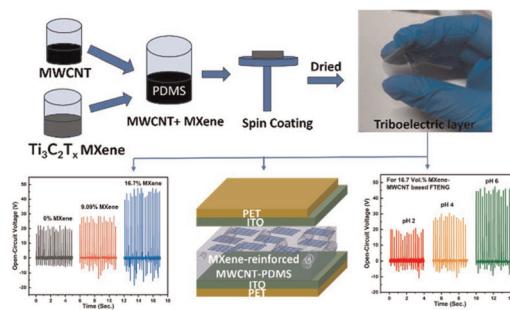


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A flexible MXene–carbon nanotube-based triboelectric nanogenerator for self-powered pH sensors

Sheetal Sharma, Vinod Kumar Singh* and Manoj Kumar Gupta*



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2 eV band gap tuning and optical properties of AgIn_5S_8 quantum dots

Biljana Pejova,* Julio A. do Nascimento, Fayzah Talbi, Thomas Jack Fawcett-Houghton, Adam Kerrigan, Leonardo Lari, Richard E. Douthwaite, Ljupcho Pejov and Vlado K. Lazarov*

