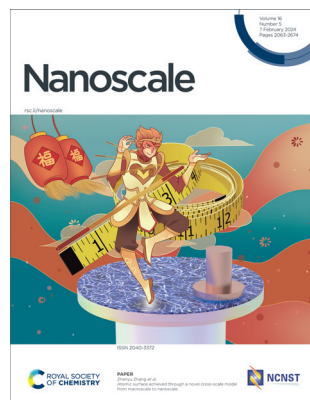


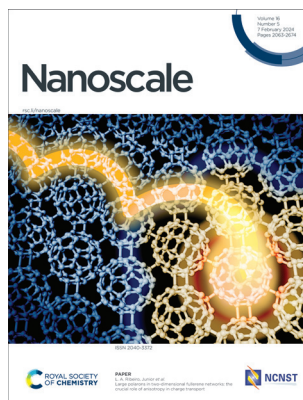
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ISSN 2040-3372 CODEN NANOHL 16(5) 2063–2674 (2024)



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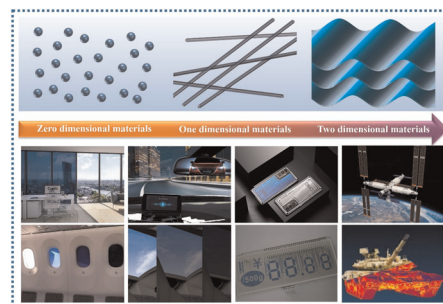
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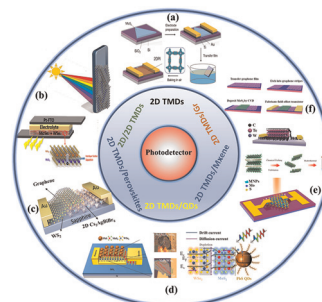
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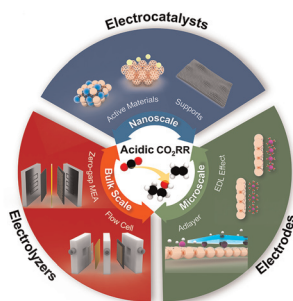
Fundamental questions  
Elemental answers





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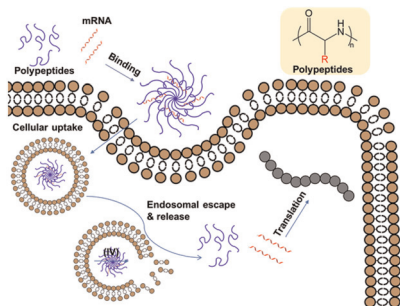
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### Acidic CO<sub>2</sub> electroreduction for high CO<sub>2</sub> utilization: catalysts, electrodes, and electrolyzers

Taemin Lee, Yujin Lee, Jungsu Eo and Dae-Hyun Nam\*

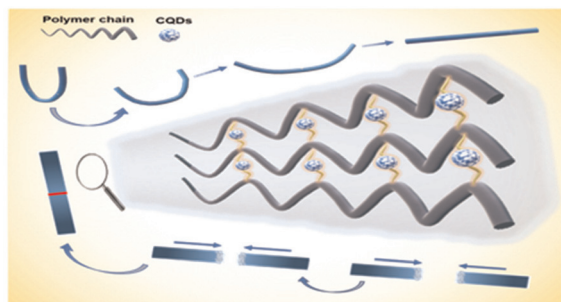
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### Development of polypeptide-based materials toward messenger RNA delivery

Bowen Zhao, Xiao Zhang, Molly S. Bickle, Shiwei Fu, Qingchun Li and Fuwu Zhang\*

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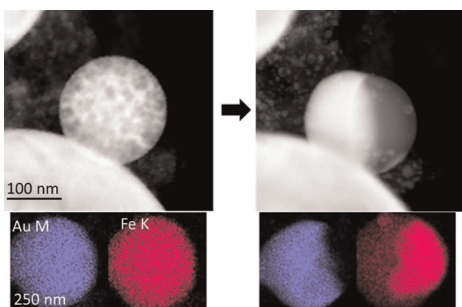


### Carbon quantum dots (CQDs)-modified polymers: a review of non-optical applications

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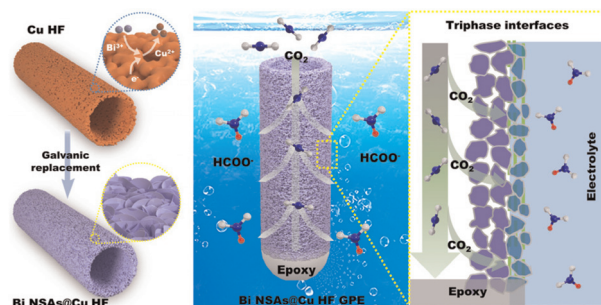


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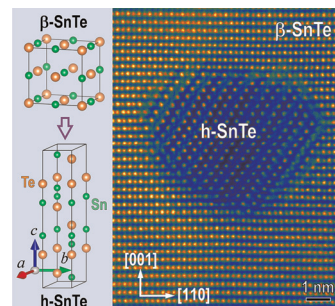
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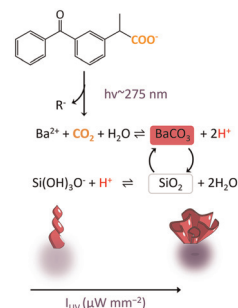
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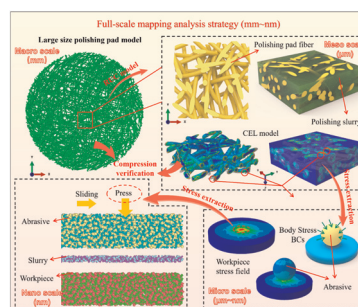


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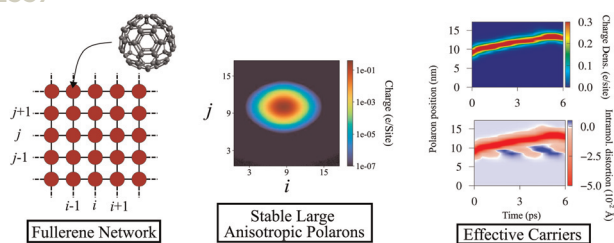
### Atomic surface achieved through a novel cross-scale model from macroscale to nanoscale

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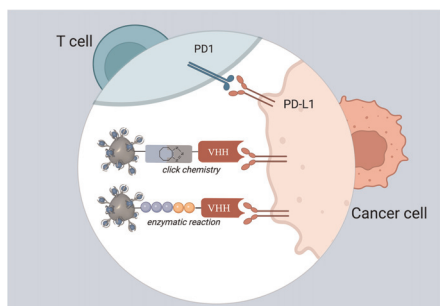
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### Large polarons in two-dimensional fullerene networks: the crucial role of anisotropy in charge transport

T. S. A. Cassiano, M. L. Pereira, Junior, G. M. e Silva, P. H. de Oliveira Neto and L. A. Ribeiro, Junior\*

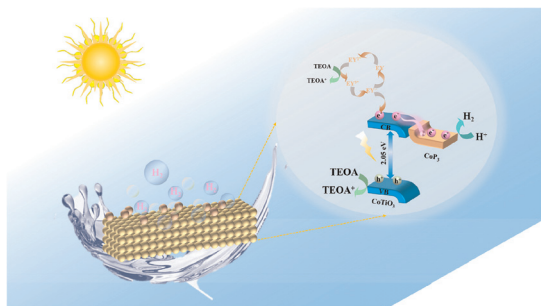
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### AGuIX nanoparticle-nanobody bioconjugates to target immune checkpoint receptors

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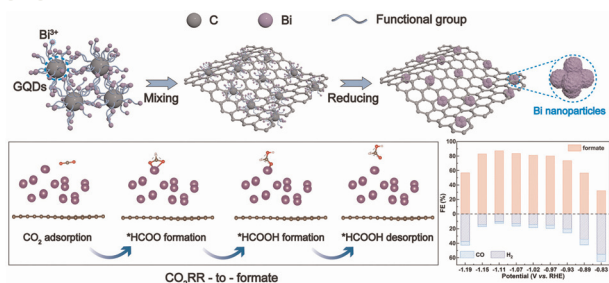
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### Self-induced electron attraction center formation with pyrophosphorylation strategy for photocatalytic hydrogen evolution

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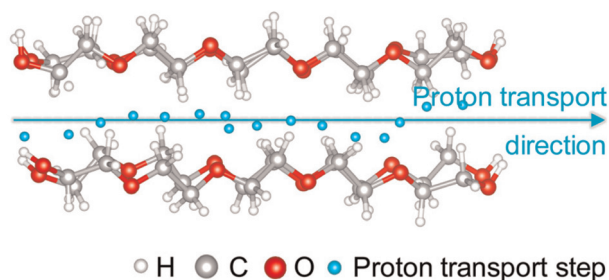


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### Fast proton transport enables the magnetic relaxation response of graphene quantum dots for monitoring the oxidative environment *in vivo*

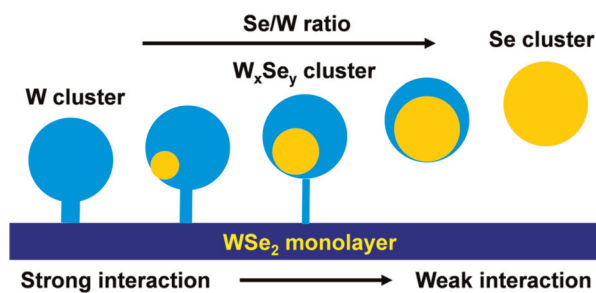
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### Atomic insight into the effects of precursor clusters on monolayer WSe<sub>2</sub>

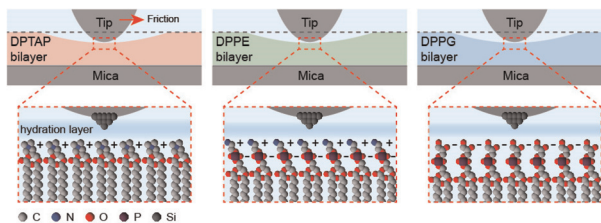
Yanxue Zhang, Yuan Chang, Luneng Zhao, Hongsheng Liu\* and Junfeng Gao



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### Insight into the hydration friction of lipid bilayers

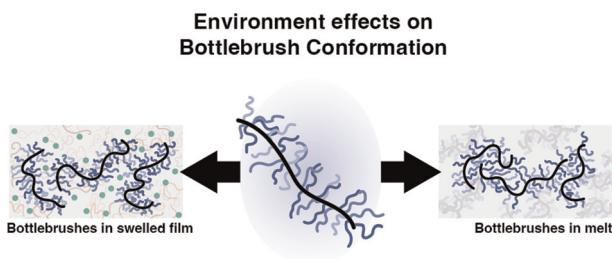
Xiaoxue Qin, Mingdong Dong\* and Qiang Li\*



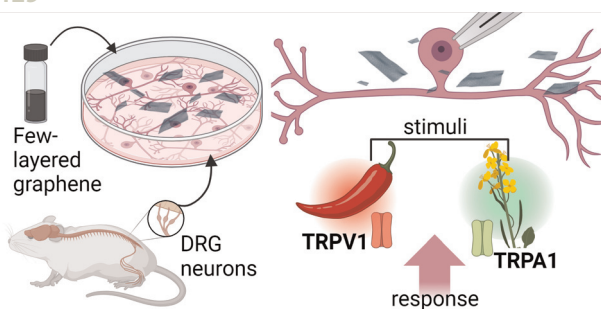
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### Investigating the effects of the local environment on bottlebrush conformations using super-resolution microscopy

Jonathan M. Chan, Avram C. Kordon and Muzhou Wang\*



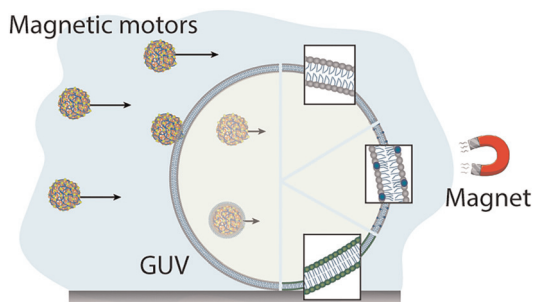
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### Few-layered graphene increases the response of nociceptive neurons to irritant stimuli

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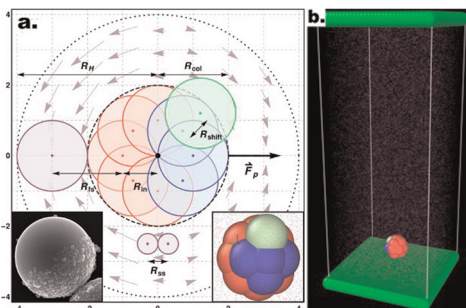
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### Magnetic micromotors crossing lipid membranes

Miguel A. Ramos Docampo, Ondrej Hovorka and Brigitte Städler\*

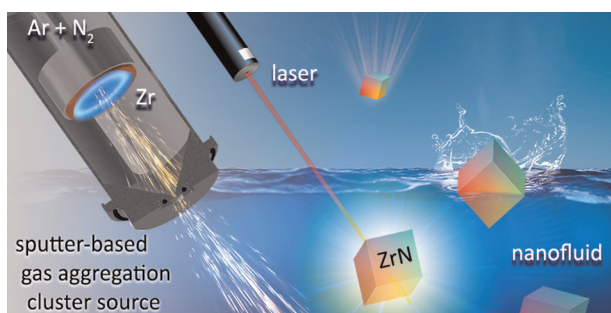
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### Minimal numerical ingredients describe chemical microswimmers' 3-D motion

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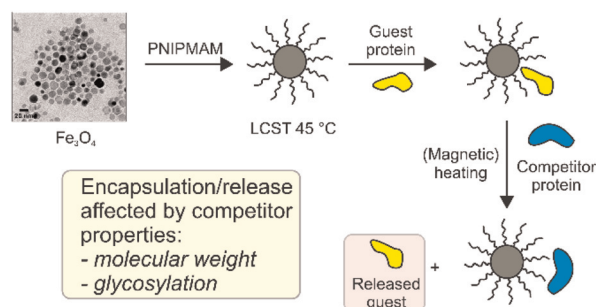


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### Functional magnetic nanoparticles for protein delivery applications: understanding protein–nanoparticle interactions

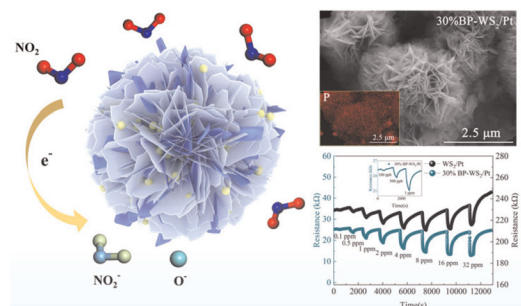
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### Pt and black phosphorus co-modified flower-like WS<sub>2</sub> composites for fast NO<sub>2</sub> gas detection at low temperature

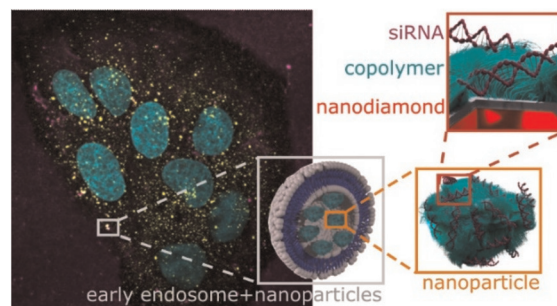
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### Cellular uptake and fate of cationic polymer-coated nanodiamonds delivering siRNA: a mechanistic study

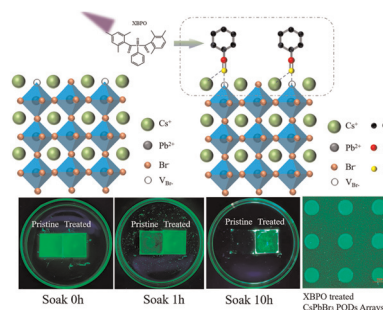
Jan Majer, Marek Kindermann, Dominik Pinkas, David Chvatil, Petr Cigler\* and Lenka Libusova\*



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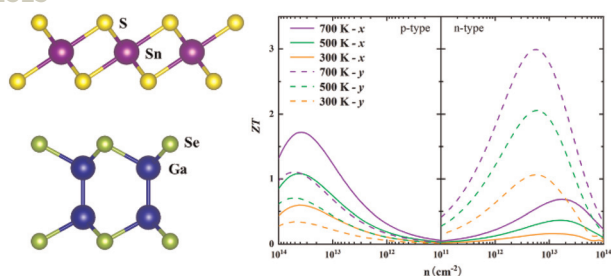
### Direct *in situ* photolithography of ultra-stable CsPbBr<sub>3</sub> quantum dot arrays based on crosslinking polymerization

Yanli Wan, Yixing Zhao, Yaling Li, Zhenwei Zhang, Sen Li, Tingfang Tian\* and Li Wang\*



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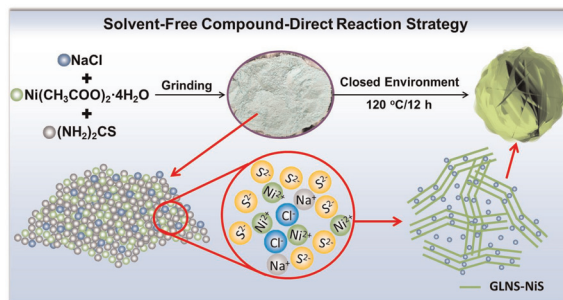
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### A van der Waals p–n heterostructure of GaSe/SnS<sub>2</sub>: a high thermoelectric figure of merit and strong anisotropy

Zhiyuan Xu, Qiong Xia, Long Zhang and Guoying Gao\*

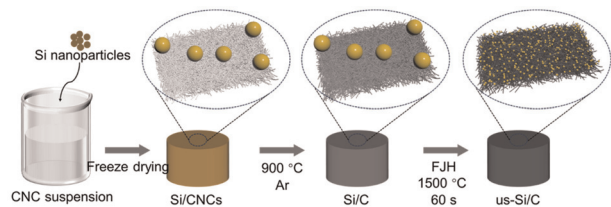
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### Innovative solvent-free compound-direct synthesis of defect-rich ultra-thin NiS nanosheets for high-performance supercapacitors

Wutao Wei, Zijie Guo, Xuyan Qin and Liwei Mi\*

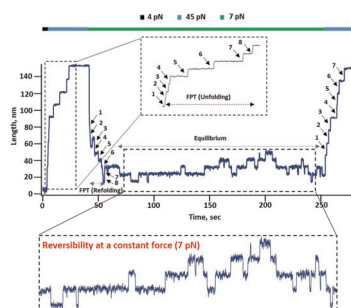
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### Rapid, *in situ* synthesis of ultra-small silicon particles for boosted lithium storage capability through ultrafast Joule heating

Shigang Liu, Bowen Liu, Ming Liu, Junjie Xiong, Yang Gao,\* Bin Wang\* and Yingcheng Hu\*

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### Structurally different chemical chaperones show similar mechanical roles with independent molecular mechanisms

Deep Chaudhuri, Debojyoti Chowdhury, Soham Chakraborty, Madhu Bhatt, Rudranil Chowdhury, Aakashdeep Dutta, Ayush Mistry and Shubhasis Halder\*

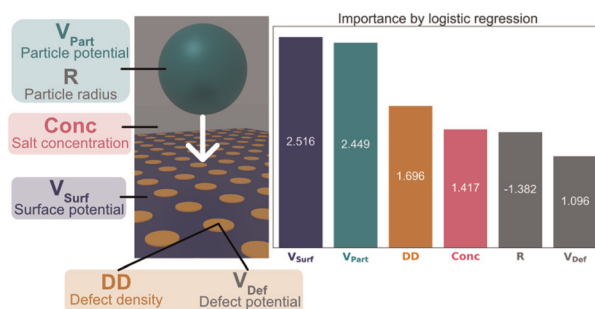


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### The multivariate interaction between Au and TiO<sub>2</sub> colloids: the role of surface potential, concentration, and defects

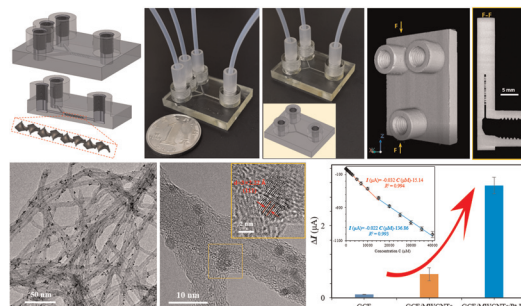
Kinran Lau, Brian Giera, Stephan Barcikowski\* and Sven Reichenberger\*



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### Continuous production of bimetallic nanoparticles on carbon nanotubes based on 3D-printed microfluidics

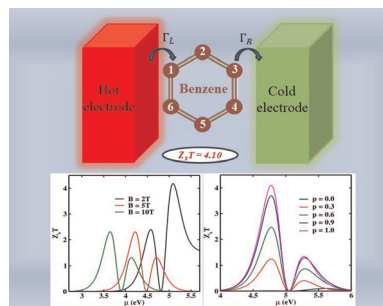
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### Charge and spin thermoelectric transport in benzene-based molecular nano-junctions: a quantum many-body study

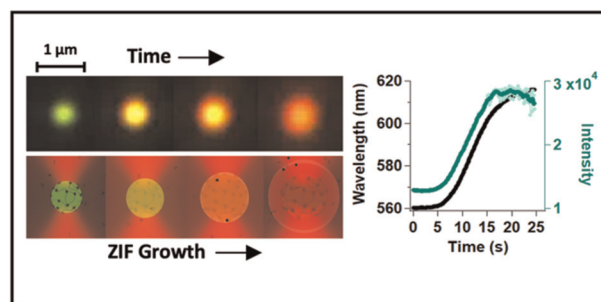
Parbati Senapati and Prakash Parida\*



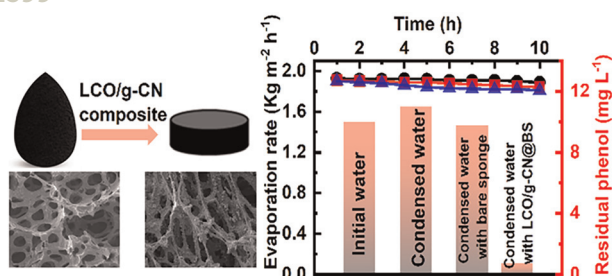
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### Tunable growth of a single high-density ZIF nanoshell on a gold nanoparticle isolated in an optical trap

Daniel Jackson, Maitreya Rose and Maria Kamenetska\*



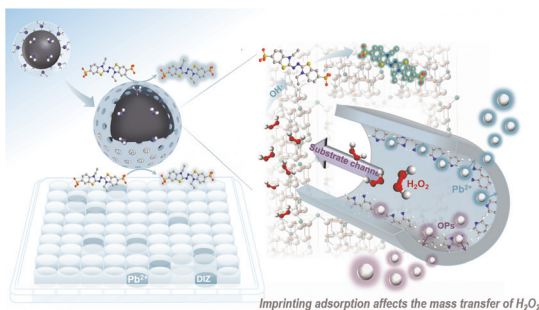
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### Super-hydrophilic LaCoO<sub>3</sub>/g-C<sub>3</sub>N<sub>4</sub> nanocomposite coated beauty sponge for solar-driven seawater desalination with simultaneous volatile organic compound removal

Lokesh Kumar Rathore, Parul Garg, Piyush Kumar and Ashok Bera\*

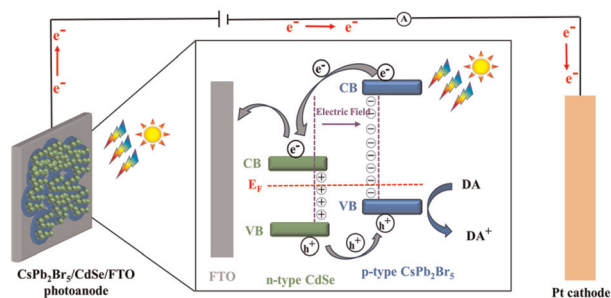
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### Multifunctional molecularly imprinted nanozymes with improved enrichment and specificity for organic and inorganic trace compounds

Zhanyi Ge, Yilin Zhao,\* Jiayi Li, Zhaobo Si, Wenbo Du and Haijia Su\*

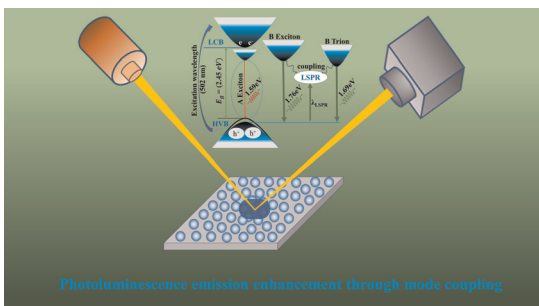
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### Water-stable perovskite CsPb<sub>2</sub>Br<sub>5</sub>/CdSe quantum dot-based photoelectrochemical sensors for the sensitive determination of dopamine

Gang Zhao, Xinhang Sun, Songyan Li, Jiale Zheng, Junhui Liu\* and Mingju Huang\*

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### On the unique temperature-dependent interplay of a B-exciton and its trion in monolayer MoSe<sub>2</sub>

Durgesh Banswar, Renu Raman Sahu, Rupali Srivatsava, Md. Samim Hassan, Sahil Singh, Sameer Sapra, Tapajyoti Das Gupta, Ankur Goswami and Krishna Balasubramanian\*

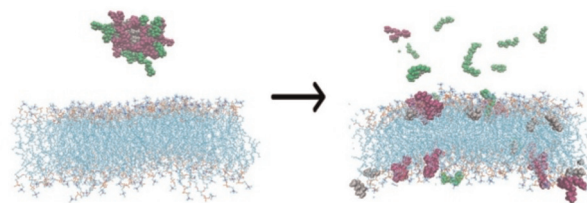


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**Digestion of lipid micelles leads to increased membrane permeability**

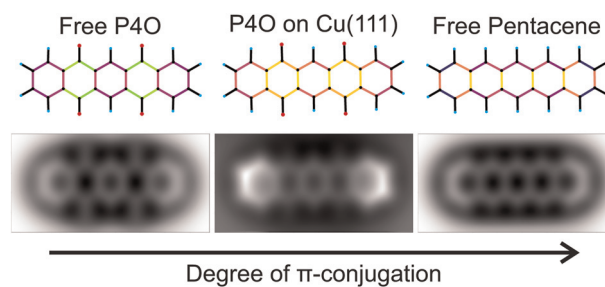
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**Partial restoration of aromaticity of pentacene-5,7,12,14-tetrone on Cu(111)**

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**X-ray-triggered through-space charge transfer and photochromism in silver nanoclusters**

Zhen Ren, Jun-Jun Sun, Long Xu, Peng Luo, Zi-Wei Ma, Si Li, Yu-Bing Si, Xi-Yan Dong\* and Fangfang Pan\*

