

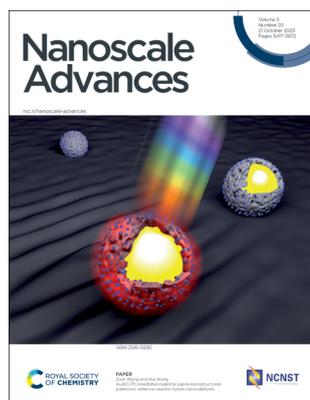
# Nanoscale Advances

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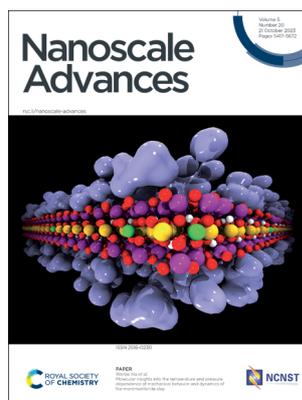
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## IN THIS ISSUE

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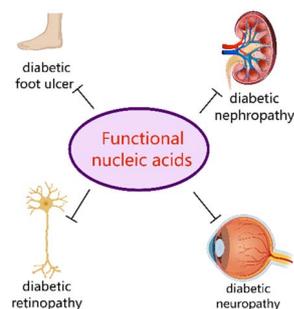
**Inside cover**  
See Wenjie Xia *et al.*, pp. 5449–5459. Image reproduced by permission of Wenjie Xia from *Nanoscale Adv.*, 2023, 5, 5449.

## REVIEW

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### Functional nucleic acids for the treatment of diabetic complications

Wen Wen, Yuzi Wei and Shaojingya Gao\*

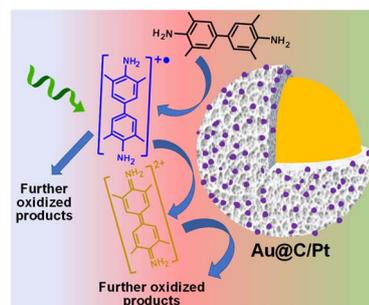


## PAPERS

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### Au@C/Pt core@shell/satellite supra-nanostructures: plasmonic antenna–reactor hybrid nanocatalysts

Zixin Wang and Hui Wang\*



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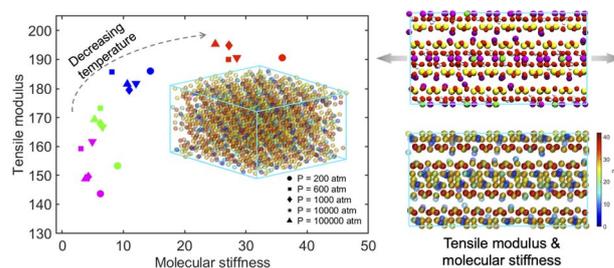
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## Molecular insights into the temperature and pressure dependence of mechanical behavior and dynamics of Na-montmorillonite clay

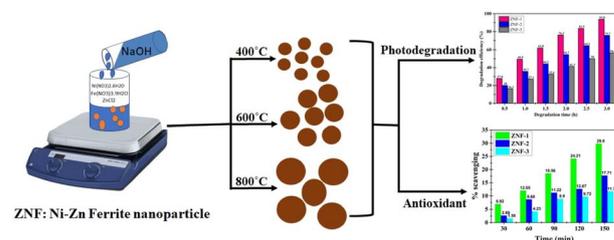
Sarah Ghazanfari, Amirhadi Alesadi, Yangchao Liao, Yida Zhang and Wenjie Xia\*



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## Nanocrystalline Ni–Zn spinel ferrites: size-dependent physical, photocatalytic and antioxidant properties

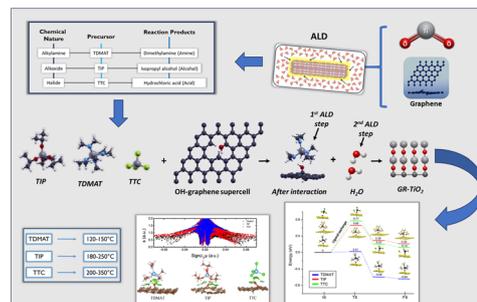
Nur Jalal Mondal, Rahul Sonkar, Bitopan Boro, Mritunjoy Prasad Ghosh\* and Devasish Chowdhury\*



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## Atomic-scale study of TiO<sub>2</sub>-GR nanohybrid formation by ALD: the effect of the gas phase precursor

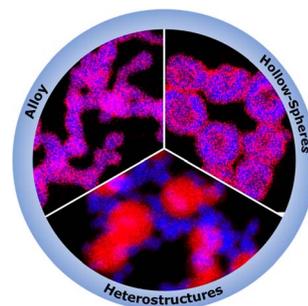
Jonathan E. Rodriguez-Hueso, H. A. Borbón-Nuñez,\* R. Ponce-Pérez, D. M. Hoat, N. Takeuchi, H. Tiznado and Jonathan Guerrero-Sánchez\*



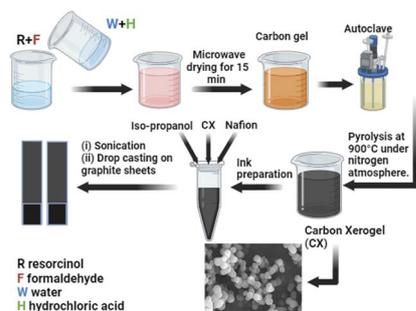
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## Structural investigations of Au–Ni aerogels: morphology and element distribution

Johannes Kresse, Maximilian Georgi, René Hübner and Alexander Eychmüller\*



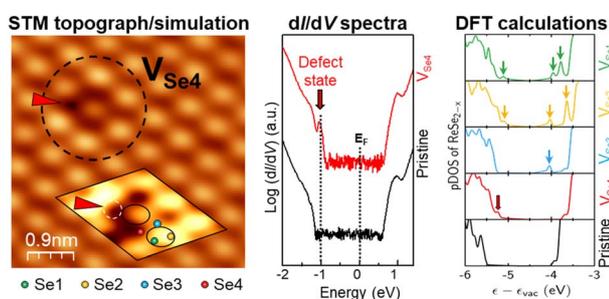
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### Novel preparation of metal-free carbon xerogels under acidic conditions and their performance as high-energy density supercapacitor electrodes

Karim Ahmed Abbas, Abdalla Abdelwahab,\*  
Hesham S. Abdel-Samad, Sayed Sabet Abd-El Rehim  
and Hamdy H. Hassan\*

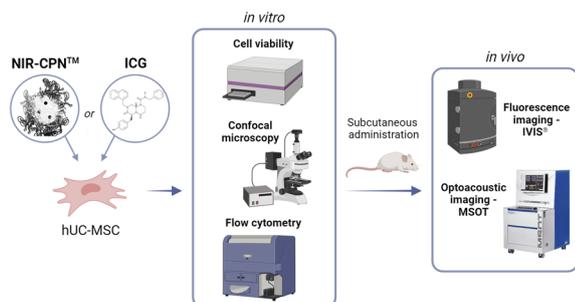
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### Direct characterization of intrinsic defects in monolayer ReSe<sub>2</sub> on graphene

Nguyen Huu Lam, Jae-Hyeok Ko, Byoung Ki Choi,  
Trinh Thi Ly, Giyeok Lee, Kyuha Jang, Young Jun Chang,\*  
Aloysius Soon\* and Jungdae Kim\*

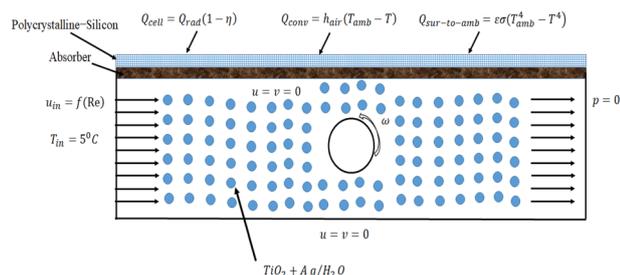
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### Near infrared conjugated polymer nanoparticles (CPN™) for tracking cells using fluorescence and optoacoustic imaging

Ana Muñoz-García, Alejandra Hernandez Pichardo,  
James Littlewood, Suzannah Tasker, Jack Sharkey,  
Bettina Wilm, Hannah Peace, Dermott O'Callaghan,  
Mark Green, Arthur Taylor\* and Patricia Murray\*

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### Investigation of a two-dimensional photovoltaic thermal system using hybrid nanofluids and a rotating cylinder

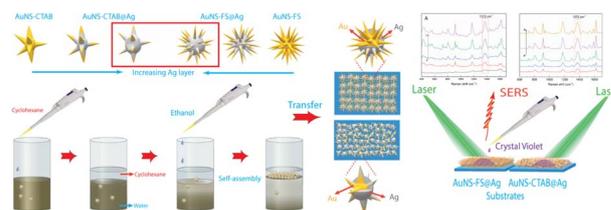
Mohammad Akram, Abid A. Memon, M. Asif Memon,  
A. M. Obalalu and Umair Khan\*



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## Differences between surfactant-free Au@Ag and CTAB-stabilized Au@Ag star-like nanoparticles in the preparation of nanoarrays to improve their surface-enhanced Raman scattering (SERS) performance

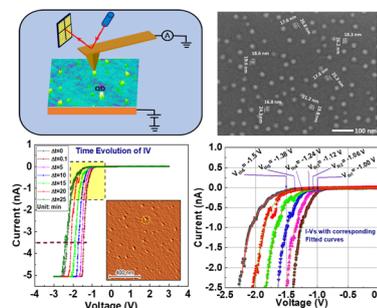
Sy Van Vu, Anh-Thu Nguyen, Anh-Thi Cao Tran, Viet-Ha Thi Le, Tien Nu Hoang Lo, Thi H. Ho, Nguyet. N. T. Pham, In Park\* and Khuong Quoc Vo\*



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## Physical probing of quantum energy levels in a single indium arsenide (InAs) quantum dot

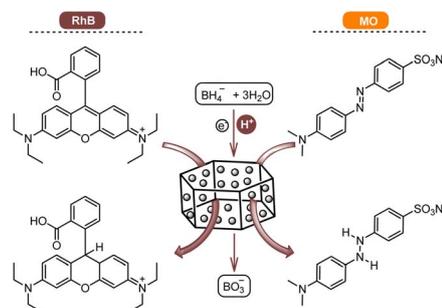
Moh'd Rezeq,\* Yawar Abbas, Boyu Wen, Zbig Wasilewski and Dayan Ban\*



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## Pd nanoparticles decorated on a porous Co(BDC-NH<sub>2</sub>) MOF as an effective heterogeneous catalyst for dye reduction

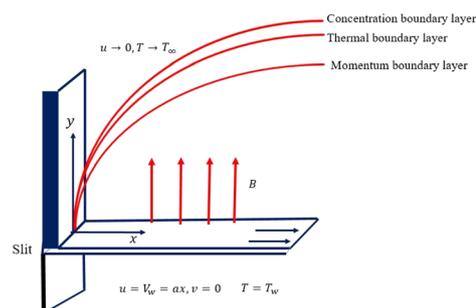
Hassan Keypour,\* Jamal Kouhdareh, Khadijeh Rabiei,\* İdris Karakaya, Rahman Karimi-Nami and Sedigheh Alavinia



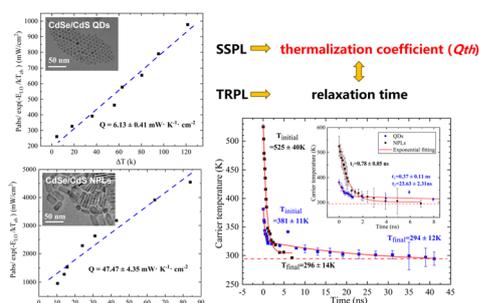
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## Entropy production with the flow of nanomaterials through the permeable stretched surface with heterogeneous–homogenous chemical reaction

Hashim, Sohail Rehman,\* Serhan Alshammari, Ahmed Osman Ibrahim and Naeem Ullah



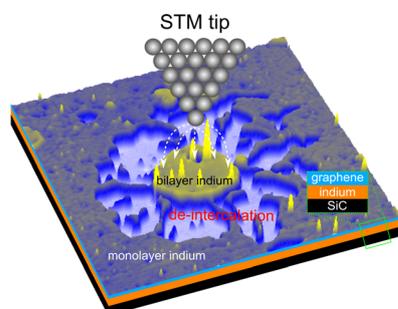
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**Study of the mechanisms of the phonon bottleneck effect in CdSe/CdS core/shell quantum dots and nanoplatelets and their application in hot carrier multi-junction solar cells**

Yi Zhang,\* Wenbin Xiang, Rui Wang, Jiayu Zhang\* and Gavin Conibeer\*

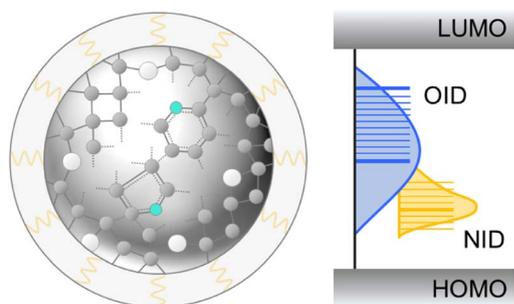
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**Atomic structures and interfacial engineering of ultrathin indium intercalated between graphene and a SiC substrate**

Van Dong Pham,\* Chengye Dong and Joshua A. Robinson

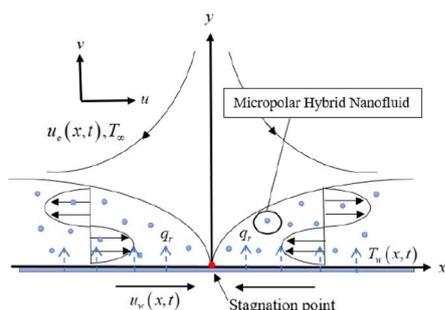
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**Predictable incorporation of nitrogen into carbon dots: insights from pinacol rearrangement and iminium ion cyclization**

Soohyun Cho, Chan-Woo Jung, Dajin Lee, Yerim Byun, Hyemin Kim, Hyunho Han, Ji-Hee Kim\* and Woosung Kwon\*

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**Stability analysis for heat transfer flow in micropolar hybrid nanofluids**

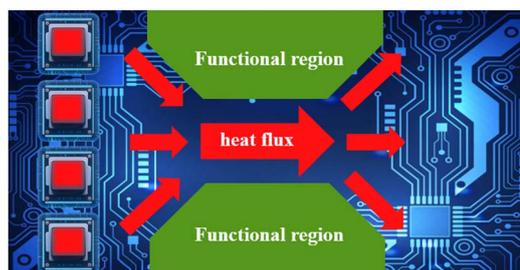
Nur Hazirah Adilla Norzawary, Siti Khuzaimah Soid, Anuar Ishak, Muhammad Khairul Anuar Mohamed, Umair Khan,\* El-Sayed M. Sherif and Ioan Pop



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### Heat flux concentrators based on nanoscale phononic metastructures

Jian Zhang, Haochun Zhang,\* Weifeng Li and Gang Zhang\*

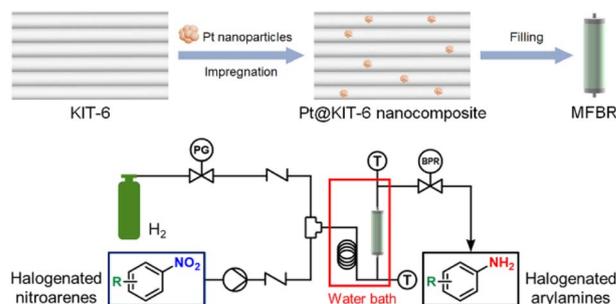


Functional regions are amorphous or perforated nanomesh

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### A high activity mesoporous Pt@KIT-6 nanocomposite for selective hydrogenation of halogenated nitroarenes in a continuous-flow microreactor

Kejie Chai, Xilin Yang, Runqiu Shen, Jianli Chen, Weike Su\* and An Su\*



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### A Prussian blue analog as a decorporation agent for the simultaneous removal of cesium and reactive oxygen species

Tingyu Xue, Fang Liu, Bin Lu, Qingrong Dong, Bin Zhao, Tianqing Chen, Kun Zhang, Jianguo Li\* and Jiangfeng Du\*

