

# Nanoscale Advances

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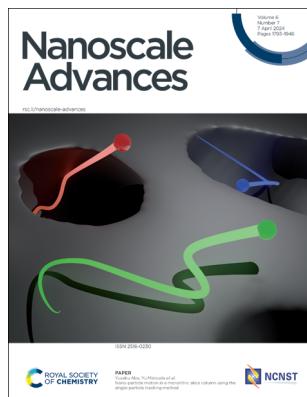
## IN THIS ISSUE

ISSN 2516-0230 CODEN NAADAI 6(7) 1793–1946 (2024)



### Cover

See Devika S Manickam *et al.*, pp. 1853–1873. Image reproduced by permission of Devika S Manickam from *Nanoscale Adv.*, 2024, 6, 1853.



### Inside cover

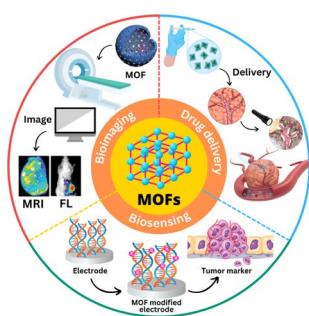
See Yusaku Abe, Yu Matsuda *et al.*, pp. 1874–1879. Image reproduced by permission of Yusaku Abe from *Nanoscale Adv.*, 2024, 6, 1874.

## REVIEW

1800

### Recent progress and challenges of MOF-based nanocomposites in bioimaging, biosensing and biocarriers for drug delivery

Ngoan Thi Thao Nguyen, Thuy Thi Thanh Nguyen, Shengbo Ge, Rock Keey Liew, Duyen Thi Cam Nguyen\* and Thuan Van Tran\*



## MINIREVIEW

1822

### Detailed discussion on the structure of alloy nanoparticles synthesized via magnetron sputter deposition onto liquid poly(ethylene glycol)

Mai Thanh Nguyen\*, Pichaya Pattanasattayavong and Tetsu Yonezawa\*



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Elemental answers

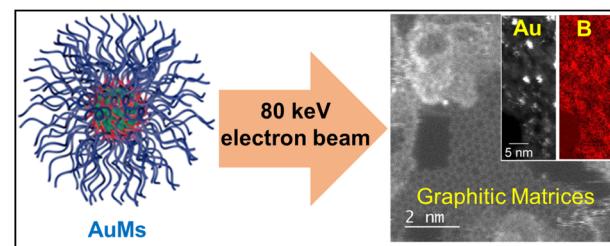
Registered charity number: 207890

## COMMUNICATIONS

1837

**Experimental and theoretical evidence for unprecedented strong interactions of gold atoms with boron on boron/sulfur-doped carbon surfaces**

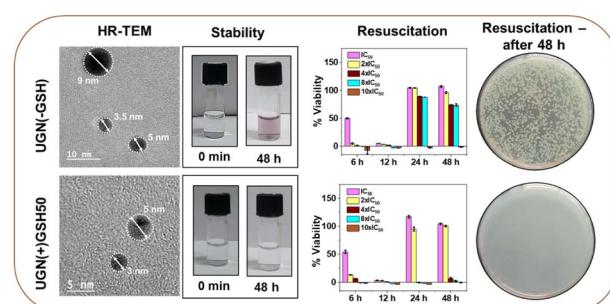
Samya Banerjee,\* Juliusz A. Wolny,\* Mohsen Danaie,\* Nicolas P. E. Barry, Yisong Han, Houari Amari, Richard Beanland, Volker Schünemann and Peter J. Sadler\*



1847

**Overcoming microbial resuscitation using stable ultrafine gold nanosystems**

Anindita Thakur, Pranay Amruth Maroju, Ramakrishnan Ganesan\* and Jayati Ray Dutta\*

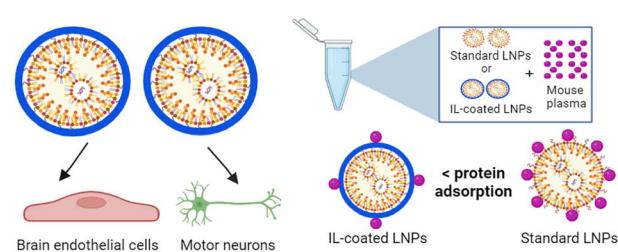


## PAPERS

1853

**Ionic liquid-coated lipid nanoparticles increase siRNA uptake into CNS targets**

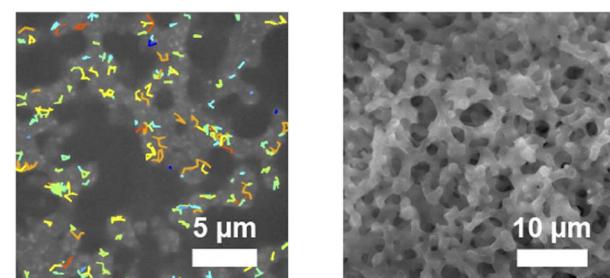
Purva Khare, Sara X. Edgecomb, Christine M. Hamadani, James F. Conway, Eden E. L. Tanner and Devika S Manickam\*



1874

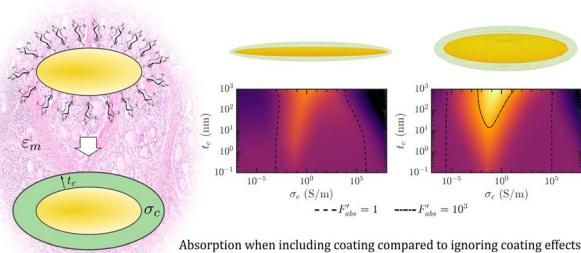
**Nano-particle motion in a monolithic silica column using the single-particle tracking method**

Yusaku Abe,\* Naoki Tomioka and Yu Matsuda\*



## PAPERS

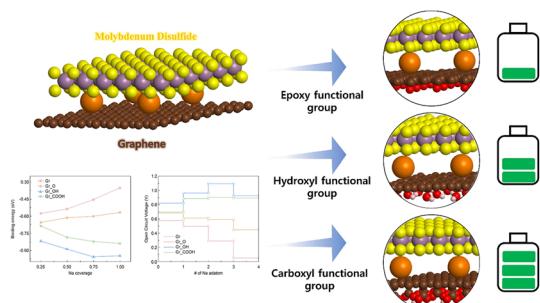
1880



## Radiofrequency absorption of coated ellipsoidal gold nanoparticles in human tissue

Brage Bøe Svendsen,\* Olle Hennert, Robert Themptander and Mariana Dalarsson

1892

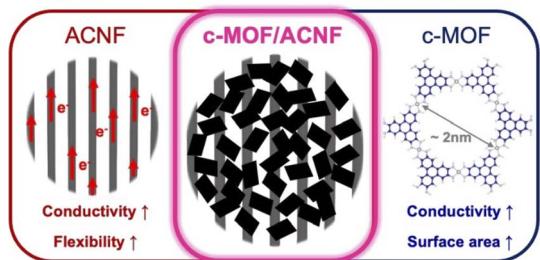


## First-principles evaluation of transition metal dichalcogenide-graphene pairs functionalized with oxygen-containing groups for sodium-ion battery anodes

Wonmyung Choi, Sung Jun Hong, Hoejeong Jeong and Byungchan Han\*

1900

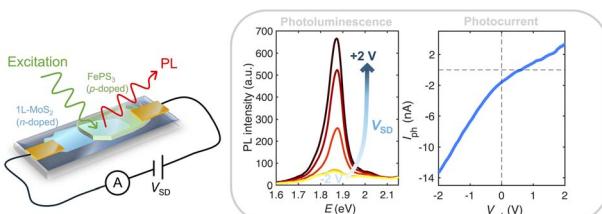
## High performance flexible supercapacitor



## Rational design of conductive metal-organic frameworks and aligned carbon nanofibers for enhancing the performance of flexible supercapacitors

Dongyeon Kim, Tae Gwang Yun, Ji Hyun Lee, Ki Ro Yoon\* and Kyunghoon Kim\*

1909

Tunable, multifunctional opto-electrical response in multilayer FePS<sub>3</sub>/single-layer MoS<sub>2</sub> van der Waals p-n heterojunctions

Maria Ramos, Marcos Gadea, Samuel Mañas-Valero, Carla Boix-Constant, Eudomar Henríquez-Guerra, María A. Díaz-García, Eugenio Coronado and M. Reyes Calvo\*

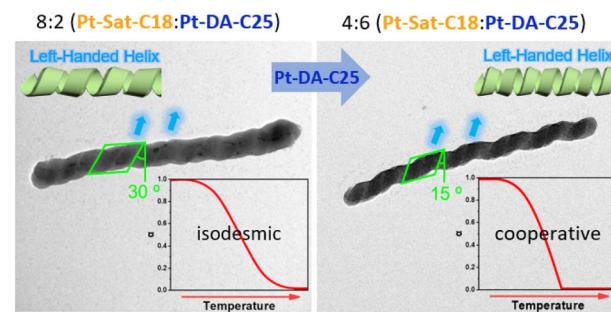


## PAPERS

1917

**Controlling supramolecular copolymerization of alkynylplatinum(II) terpyridine complexes: from isodesmic to cooperative mechanisms**

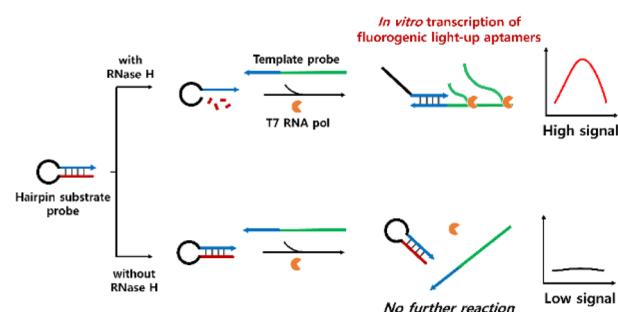
Sehee Kim, Minhye Kim, Seojeong Woo, Juyeong Kim, Sung Ho Jung\* and Jong Hwa Jung\*



1926

**An ultrasensitive label-free RNase H assay based on *in vitro* transcription of fluorogenic light-up aptamer**

Jinhyun Lee, Hansol Kim, Yan Li, Seoyoung Lee and Hyun Gyu Park\*



1932

**A new neodymium complex on renewable magnetic biochar nanoparticles as an environmentally friendly, recyclable and efficient nanocatalyst in the homoselective synthesis of tetrazoles**

Bahman Tahmasbi,\* Parisa Moradi and Mitra Darabi

