

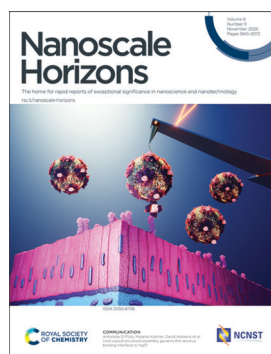
# Nanoscale Horizons

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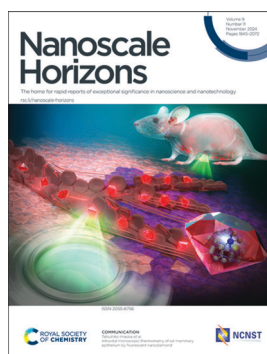
## IN THIS ISSUE

ISSN 2055-6756 CODEN NHAOAW 9(11) 1845-2072 (2024)



### Cover

See Antonella Di Pizio, Melanie Koehler, David Alsteens *et al.*, pp. 1925–1937. Image reproduced by permission of David Alsteens from *Nanoscale Horiz.*, 2024, 9, 1925.



### Inside cover

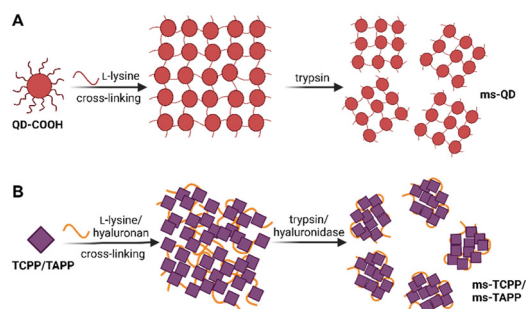
See Tatsuhiko Imaoka *et al.*, pp. 1938–1947. Image reproduced by permission of Tatsuhiko Imaoka from *Nanoscale Horiz.*, 2024, 9, 1938.

## EDITORIAL

1853

### A universal synthetic method for preparing nanoassemblies of quantum dots and organic molecules

Chao Wang

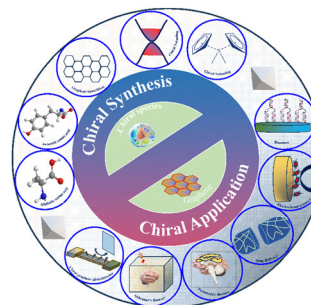


## REVIEWS

1855

### Synthesis of chiral graphene structures and their comprehensive applications: a critical review

Animesh Sinha and Hongyun So\*



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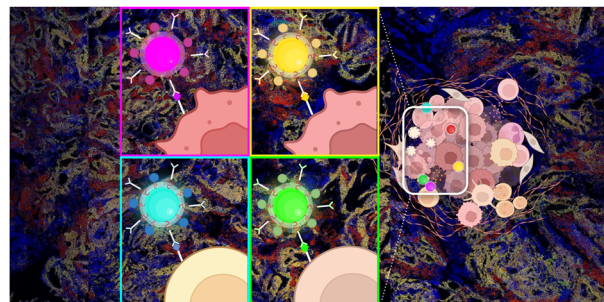


## REVIEWS

1896

**The evolution of immune profiling: will there be a role for nanoparticles?**

Olga E. Eremina, Celine Vazquez, Kimberly N. Larson, Anthony Mouchawar, Augusta Fernando\* and Cristina Zavaleta\*

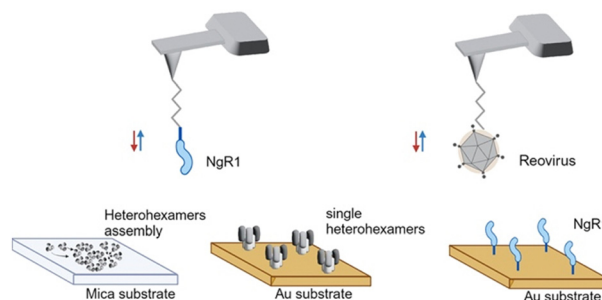


## COMMUNICATIONS

1925

**Viral capsid structural assembly governs the reovirus binding interface to NgR1**

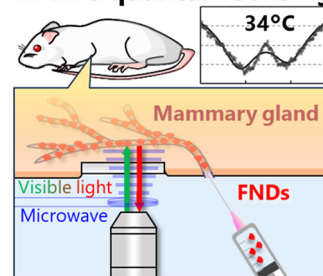
Rita dos Santos Natividade, Andra C. Dumitru, Alessandro Nicoli, Michael Strebl, Danica M. Sutherland, Olivia L. Welsh, Mustafa Ghulam, Thilo Stehle, Terence S. Dermody, Antonella Di Pizio\*, Melanie Koehler\* and David Alsteens\*



1938

**Intravital microscopic thermometry of rat mammary epithelium by fluorescent nanodiamond**

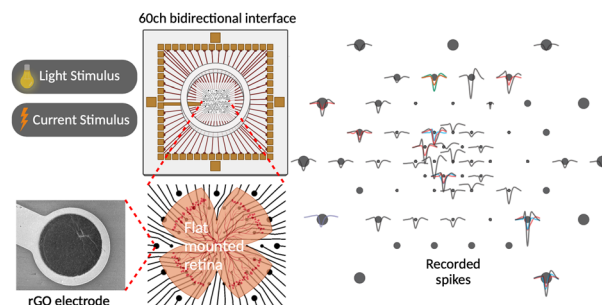
Takahiro Hamoya, Kiichi Kaminaga, Ryuji Igarashi, Yukiko Nishimura, Hiromi Yanagihara, Takamitsu Morioka, Chihiro Suzuki, Hiroshi Abe, Takeshi Ohshima and Tatsuhiko Imaoka\*

**In vivo quantum sensing**

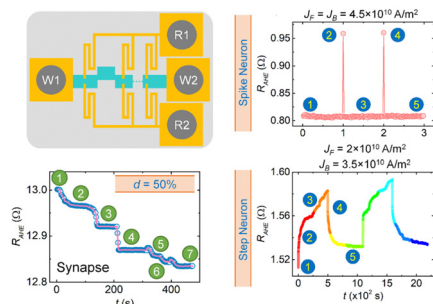
1948

**Graphene-based microelectrodes with bidirectional functionality for next-generation retinal electronic interfaces**

Fikret Taygun Duvan, Marina Cunquero, Eduard Masvidal-Codina, Steven T. Walston, Maria Marsal, Jose Manuel de la Cruz, Damia Viana, Diep Nguyen, Julie Degardin, Xavi Illa, Julie M. Zhang, Maria del Pilar Bernicola, José Gabriel Macias-Montero, Carles Puigdengoles, Gustavo Castro-Olvera, Elena del Corro, Socrates Dokos, Mokhtar Chmeissani, Pablo Loza-Alvarez, Serge Picaud and Jose A. Garrido\*



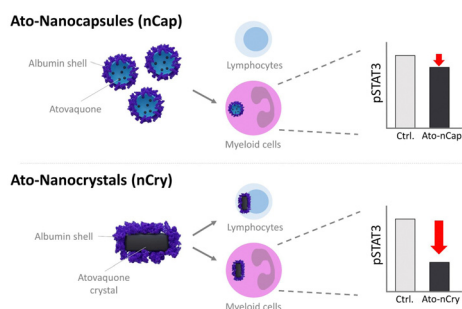
1962



### Emulation of neuron and synaptic functions in spin-orbit torque domain wall devices

Durgesh Kumar, Ramu Maddu, Hong Jing Chung, Hasibur Rahaman, Tianli Jin, Sabpreet Bhatti, Sze Ter Lim, Rachid Sbiaa and S. N. Piramanayagam\*

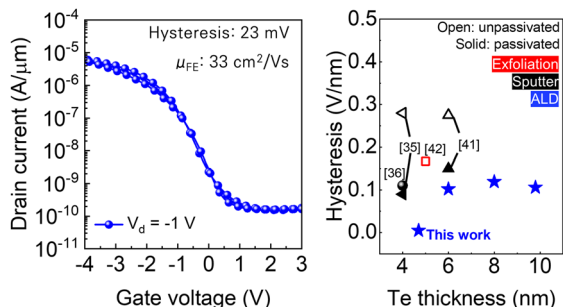
1978



### Albumin nanocapsules and nanocrystals for efficient intracellular drug release

Sharafudheen Pottanam Chali, Jaana Westmeier, Franziska Krebs, Shuai Jiang, Friederike Pauline Neesen, Doğa Uncuer, Mario Schelhaas, Stephan Grabbe, Christian Becker, Katharina Landfester\* and Kerstin Steinbrink\*

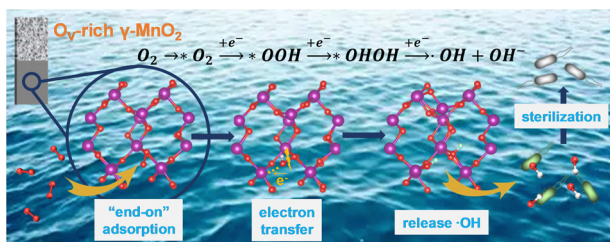
1990



### Processes to enable hysteresis-free operation of ultrathin ALD Te p-channel field-effect transistors

Minjae Kim, Yongsu Lee, Kyuheon Kim, Giang-Hoang Pham, Kiyung Kim, Jae Hyeon Jun, Hae-won Lee, Seongbeen Yoon, Hyeon Jun Hwang, Myung Mo Sung and Byoung Hun Lee\*

1999



### $O_v$ -rich $\gamma$ - $MnO_2$ enhanced electrocatalytic three-electron oxygen reduction to hydroxyl radicals for sterilization in neutral media

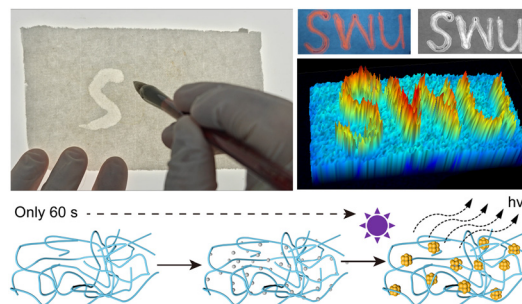
Yingnan Qin, Tongzhu Han, Ligang Chen,\* Kexin Yan, Jing Wang, Ning Wang\* and Baorong Hou



2007

### Engineering *in situ* growth of Au nanoclusters on hydrophilic paper fibres for fluorescence calligraphy-based chemical logic gates and information encryption

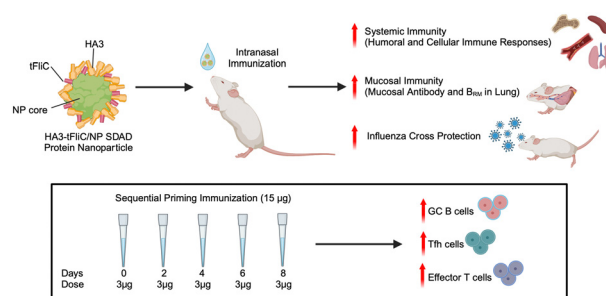
Jun Jiang Luo, Dun Ying Guo, Zi Bo Qu, Hong Qun Luo, Nian Bing Li, Hao Lin Zou\* and Bang Lin Li\*



2016

### Double-layered protein nanoparticles conjugated with truncated flagellin induce improved mucosal and systemic immune responses in mice

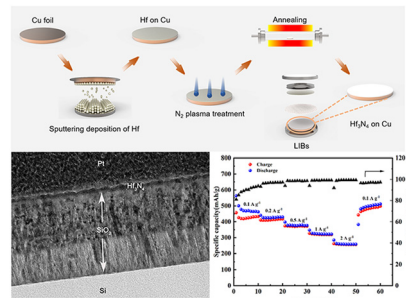
Joo Kyung Kim, Wandi Zhu, Chunhong Dong, Lai Wei, Yao Ma, Timothy Denning, Sang-Moo Kang and Bao-Zhong Wang\*



2031

### Facile preparation of Hf<sub>3</sub>N<sub>4</sub> thin films directly used as electrodes for lithium-ion storage

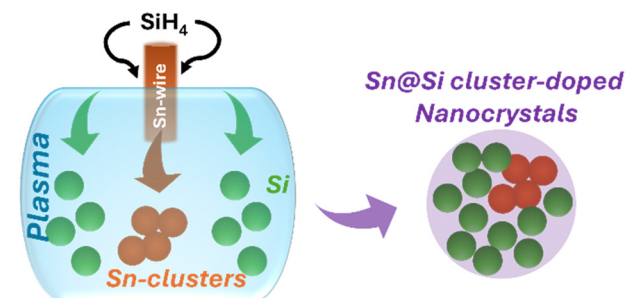
Zhengguang Shi, Geng Yu, Jing Li, Zhenggang Jia, Xuexi Zhang, Cheng-Te Lin, Qianru Lin, Zhaoyu Chen and Hsu-Sheng Tsai\*



2042

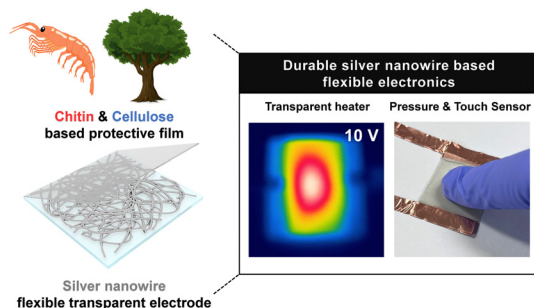
### Cluster-doping in silicon nanocrystals

Atta ul Haq, Marius Buerkle, Bruno Alessi, Vladimir Svrcek, Paul Maguire and Davide Mariotti\*



## COMMUNICATIONS

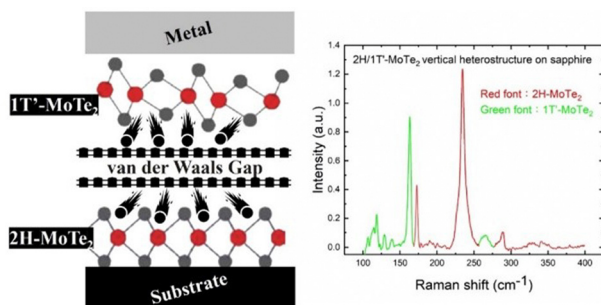
2051



### Durable silver nanowire transparent electrodes enabled by biorenewable nanocoating using chitin and cellulose nanofibers for flexible electronics

Yoo-Bin Kwon, Seongwon Cho, Dal-Hee Min\* and Young-Kwan Kim\*

2060



### Low-resistivity Ohmic contacts of Ti/Al on few-layered 1T'-MoTe<sub>2</sub>/2H-MoTe<sub>2</sub> heterojunctions grown by chemical vapor deposition

Ping-Feng Chi, Jing-Jie Wang, Jing-Wen Zhang, Yung-Lan Chuang, Ming-Lun Lee\* and Jinn-Kong Sheu\*

## CORRECTIONS

2067

### Correction: Enhancing the chemotherapeutic efficacy of platinum prodrug nanoparticles and inhibiting cancer metastasis by targeting iron homeostasis

Fang Ding, Lingpu Zhang, Hao Chen, Haiqin Song,\* Shiguo Chen\* and Haihua Xiao\*

2069

### Correction: New horizons on advanced nanoscale materials for Cultural Heritage conservation

Rosangela Mastrangelo, David Chelazzi and Piero Baglioni\*

