

# Nanoscale Horizons

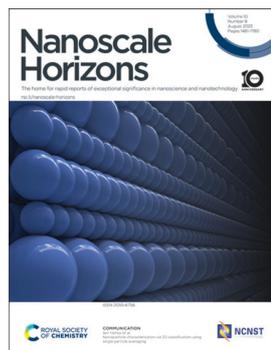
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### Cover

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2025, 10, 1642.

## EDITORIALS

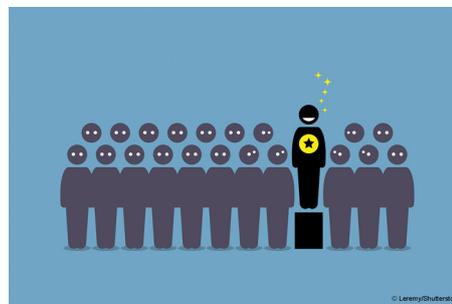
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**Nanoscale Horizons Emerging Investigator Series:  
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Technology, Lithuania**



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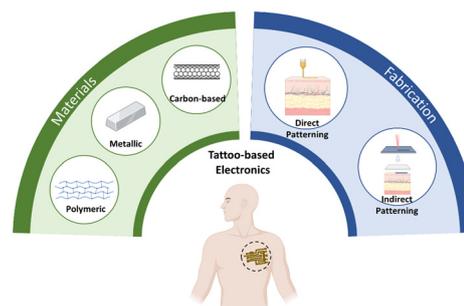
**Nanoscale Horizons 2024 Outstanding Paper Award**

## REVIEWS

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**Tattoo electrodes in bioelectronics: a pathway to next-generation wearable systems**

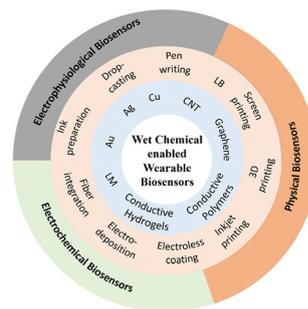
Jinwoo Lee and Seung Hwan Ko\*



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**Wet chemically produced nanomaterials for soft wearable biosensors**

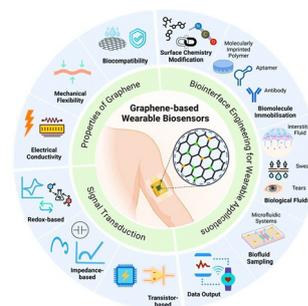
Ren Wang, Guangzhao Mao, Dewei Chu, Noushin Nasiri, Yuling Wang, Marcela Bilek, Ken-Tye Yong, Wallace Wong, Stan Skafidas, Jefferson Zhe Liu, Yuri Kivshar, Madhu Bhaskaran, Yuerui Lu, Benjamin Eggleton, Arnold Ju, Qianqian Shi, Nam-Trung Nguyen, Chwee Teck Lim and Wenlong Cheng\*



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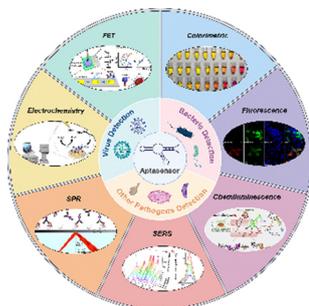
**Wearable biosensors for health monitoring: advances in graphene-based technologies**

Mohamed A. Abdelfattah, Sina S. Jamali, Navid Kashaninejad and Nam-Trung Nguyen\*



## REVIEWS

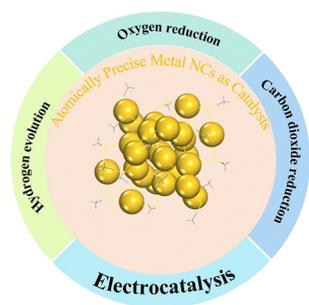
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### Research advances in the diagnosis of infectious disease by aptasensor technology

Hengxuan Li, Qiuxia Yang, Xiaodong Li, Xiaoyi Fu, Jianhua Li, Yanjun Zhang,\* Weihong Tan\* and Peng Wang\*

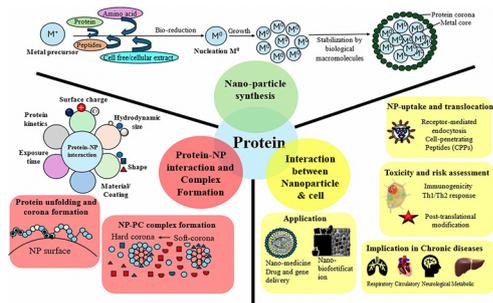
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### Recent progress in the electrocatalytic applications of thiolate-protected metal nanoclusters

Yuting Ye and Qing Tang\*

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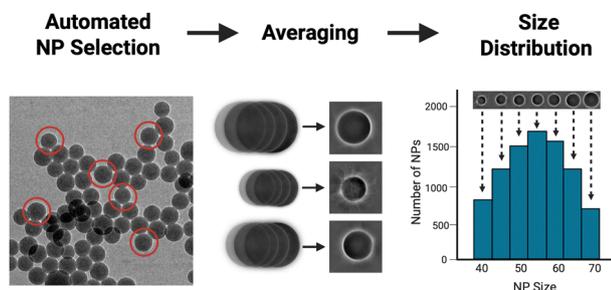


### Exploring the intricacies of protein–nanoparticle interaction and its implications in chronic diseases: a comprehensive review

Pallavi Samal, Siddharth Satpathy, Lipsa Leena Panigrahi, Suman Jha and Manoranjan Arakha\*

## COMMUNICATIONS

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### Nanoparticle characterisation via 2D classification using single particle averaging

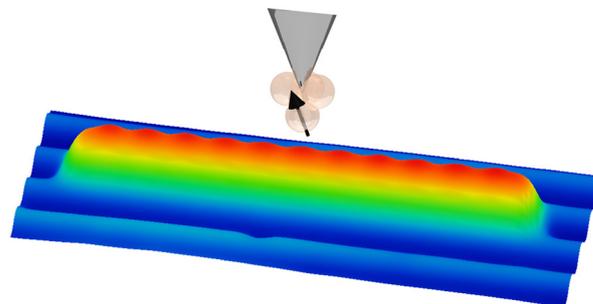
Iain Harley, Anke Kaltbeitzel, Francesca Mazzotta, Kaloian Koynov, Sarah S. Lembke, Thao P. Doan-Nguyen, Katharina Landfester and Ingo Lieberwirth\*



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### Probing the spin spiral in Fe chains on Ir(001) using magnetic exchange force microscopy

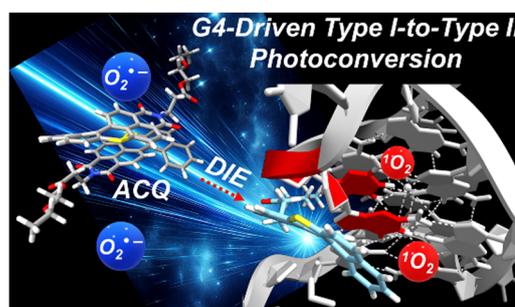
Yuuki Adachi, Yuuki Yasui, Atsushi Iiyama, Wataru Kurahashi, Rihito Nagase and Yoshiaki Sugimoto\*



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### G-quadruplex-driven molecular disassembly and type I-to-type II photophysical conversion of a heavy-atom-free photosensitizer for site-specific oxidative damage

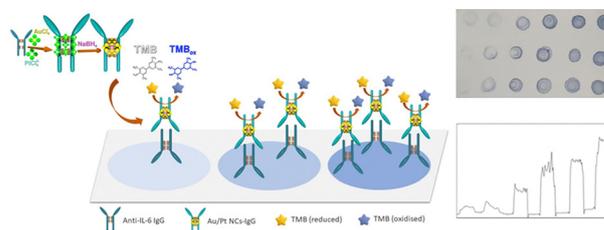
Karolina Saczuk, Maria V. Cottini, Marta Dudek, Leszek M. Mazur, Dario Puchán Sánchez, Lucía López-Pacios, Ahmad Kassem, Katarzyna Matczyszyn, Juan J. Nogueira, Cyrille Monnereau, Lara Martínez-Fernández,\* Jan Jamroskovic, Clément Cabanetos\* and Marco Deiana\*



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### Dot-blot immunoassay based on antibody-nanocluster biohybrids as tags for naked-eye detection

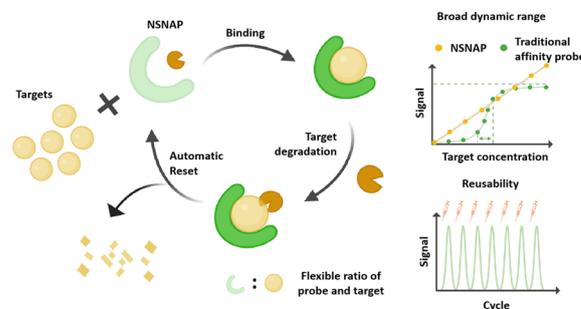
Verónica Mora-Sanz,\* Laura Saa, Valeri Pavlov, Aitziber L. Cortajarena, Bergoi Ibarlucea\* and Nerea Briz\*



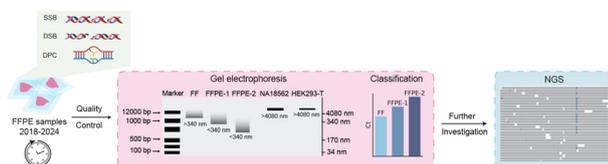
1684

### Non-saturated nucleic acid probes with a broad dynamic range

Xinmiao Kang, Yu Liu, Dandan Tian, Zuhao Shen, Shihui Wang\* and Xin Su\*



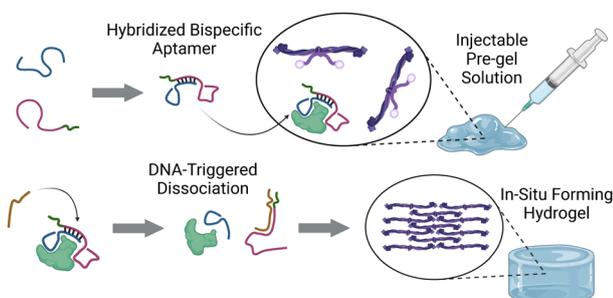
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### A nanoscale quality control framework for assessing FFPE DNA integrity in cancer research

Zixuan Huang, Yunpei Si, Yi Zhang, Zicheng Huang, Xuehao Xiu, Yunshan Wang, YuDong Wang,\* Chunhai Fan and Ping Song\*

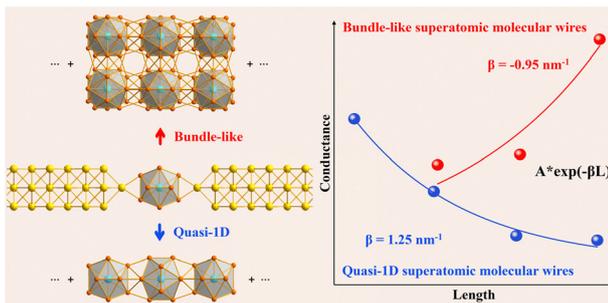
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### DNA-triggered activation of aptamer-neutralized enzyme for *in situ* formation of injectable hydrogel

Connie Wen, Yixun Wang, Kyungsene Lee, Xuelin Wang and Yong Wang\*

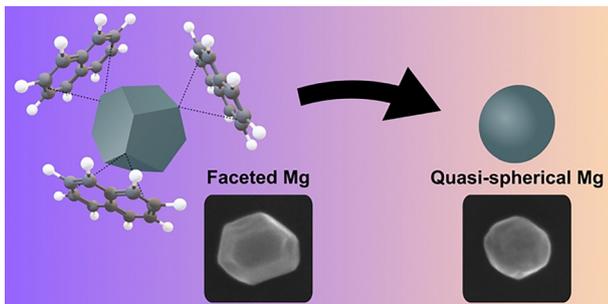
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### Conductance of metal superatom-based molecular wires influenced by nanoscale effects

Famin Yu, Wei Feng, Baiqiang Liu, Rui-Qin Zhang\* and Zhigang Wang\*

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### Colloidal synthesis and etching yield monodisperse plasmonic quasi-spherical Mg nanoparticles

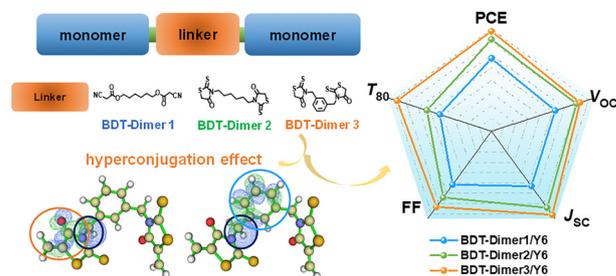
Andrey Ten, Christina Boukouvala, Vladimir Lomonosov\* and Emilie Ringe\*



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### Hyperconjugated linker design in giant dimeric donors enabled superior short-circuit current in organic solar cells

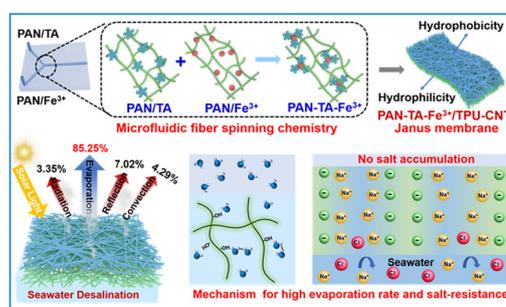
Caixuan Wang, Mengying Wu, Dan Deng,\*  
Ruixiang Fang, Jianqi Zhang, Ruimin Zhou\* and  
Zhixiang Wei\*



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### Microfluidic fiber-spinning chemistry for hydrophilic–hydrophobic Janus membranes towards efficient interfacial solar evaporation

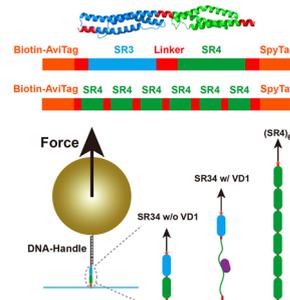
Yin Li, Keping Chen, Liangliang Zhu, Qing Li\* and  
Su Chen



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### Salt-bridge mediated cooperativity and mechanical stabilization of tandem spectrin repeats

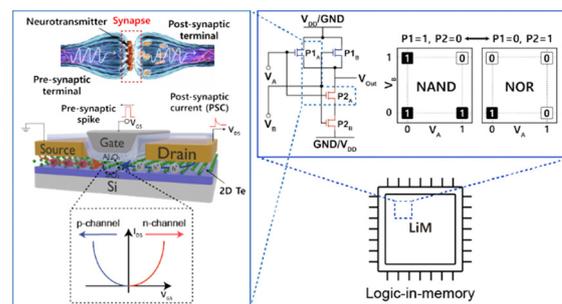
Yanzhong Wang, Yuhang Zhang, Miao Yu, Peng Xiu,  
Yanwei Jia, Hu Chen, Shimin Le,\* Jin Qian\* and Jie Yan\*



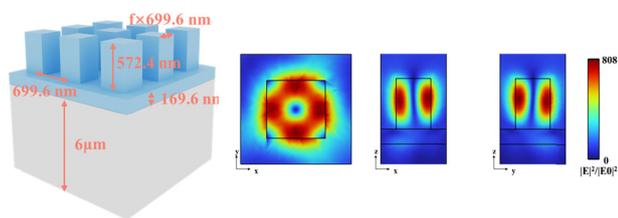
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### Multifunctional CMOS-integrable and reconfigurable 2D ambipolar tellurene transistors for neuromorphic and in-memory computing

Bolim You, Jihoon Huh, Yuna Kim,  
Mino Yang, Unjeong Kim,\* Min-Kyu Joo,\*  
Myung Gwan Hahm\* and Moonsang Lee\*



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### Strong electric field enhancement near an amorphous silicon metasurface with non-vertical symmetry

Zi-Jian Qu, Wen-Juan Shi, Zhao-Lu Wang, Cong-Fu Zhang and Hong-Jun Liu\*

