

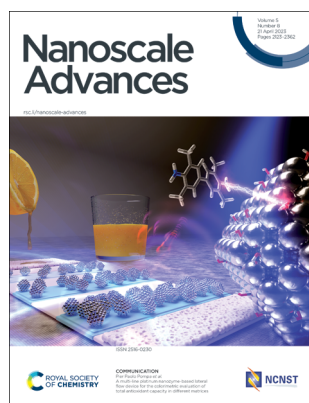
# Nanoscale Advances

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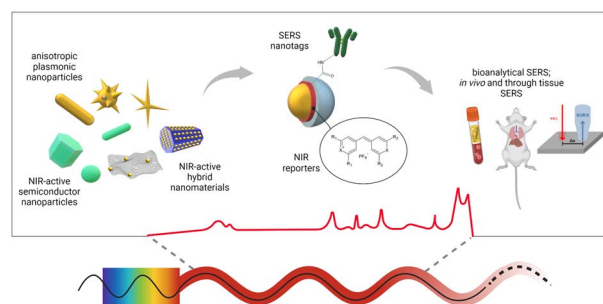
**Inside cover**  
See John X. J. Zhang *et al.*, pp. 2180–2189. Image reproduced by permission of John X. J. Zhang from *Nanoscale Adv.*, 2023, 5, 2180.

## REVIEW

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### Challenges and opportunities for SERS in the infrared: materials and methods

Chiara Deriu,\* Shaila Thakur, Olimpia Tamaro and Laura Fabris

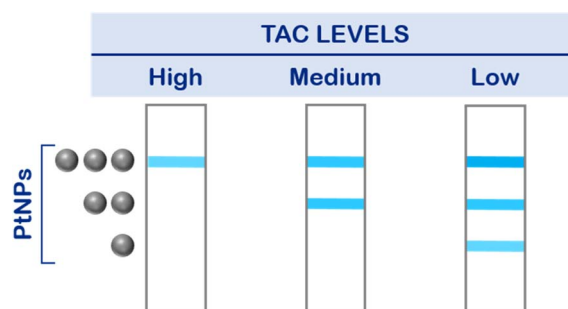


## COMMUNICATIONS

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### A multi-line platinum nanozyme-based lateral flow device for the colorimetric evaluation of total antioxidant capacity in different matrices

Anna Scarsi, Deborah Pedone and Pier Paolo Pompa\*



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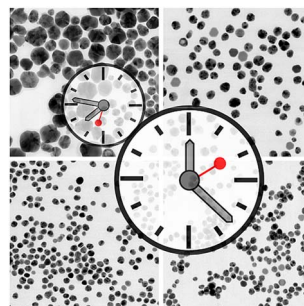


## COMMUNICATIONS

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**Time-domain Tollens reaction: synthesising silver nanoparticles with the formaldehyde clock**

Ronny Kürsteiner, Maximilian Ritter, Alla Sologubenko, Laura Stricker and Guido Panzarasa\*

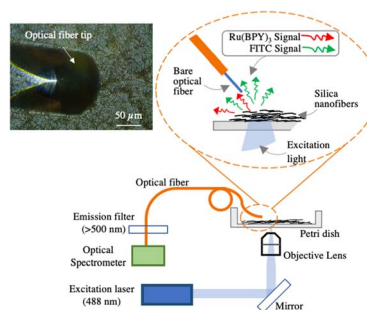


## PAPERS

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**Dual fluorescent hollow silica nanofibers for *in situ* pH monitoring using an optical fiber**

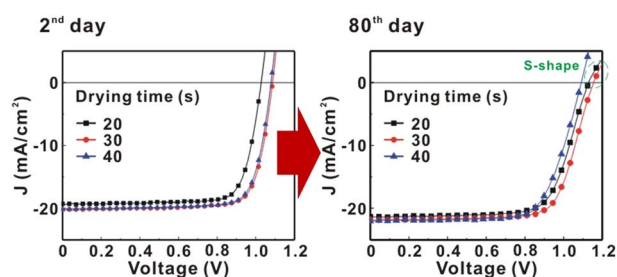
Junhu Zhou, Yundong Ren, Yuan Nie, Congran Jin, Jiyeon Park and John X. J. Zhang\*



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**Effects of drying time on the formation of merged and soft MAPbI<sub>3</sub> grains and their photovoltaic responses**

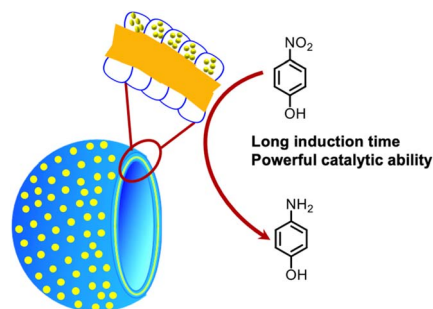
Anjali Chandel, Qi Bin Ke, Shou-En Chiang, Hsin-Ming Cheng\* and Sheng Hsiung Chang\*



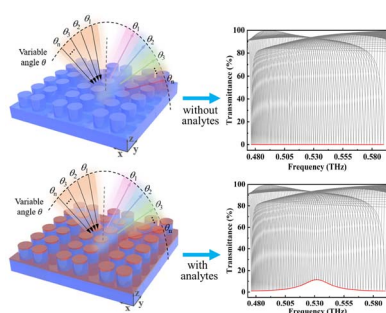
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**Generation of sub-5 nm AuNPs in the special space of the loop-cluster corona of a polymer vesicle: preparation and its unique catalytic performance in the reduction of 4-nitrophenol**

Wen-Li Wang, Ayaka Kanno, Amika Ishiguri and Ren-Hua Jin\*



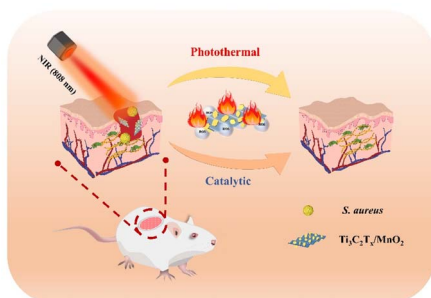
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### A terahertz metasurface sensor with fingerprint enhancement in a wide spectrum band for thin film detection

Xuan Zhang, Jianjun Liu and Jianyuan Qin\*

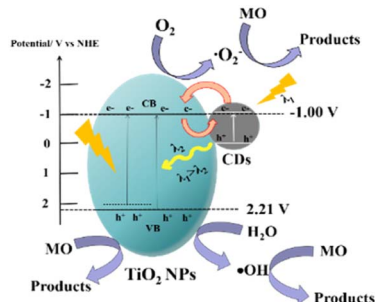
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### Synthesis of $\text{Ti}_3\text{C}_2\text{T}_x/\text{MnO}_2$ composites for synergistic catalytic/photothermal-based bacterial inhibition

Ting Hu, Zhilong Xu, Peiying Zhang, Lei Fan,\* Juqun Xi,\* Jie Han and Rong Guo

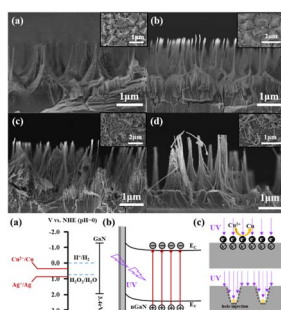
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### Kilogram-scale fabrication of $\text{TiO}_2$ nanoparticles modified with carbon dots with enhanced visible-light photocatalytic activity

Jingjing Xu, Jiayan Zhang, Feifei Tao,\* Pengfei Liang and Pingan Zhang

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### GaN nanowires prepared by Cu-assisted photoelectron-chemical etching

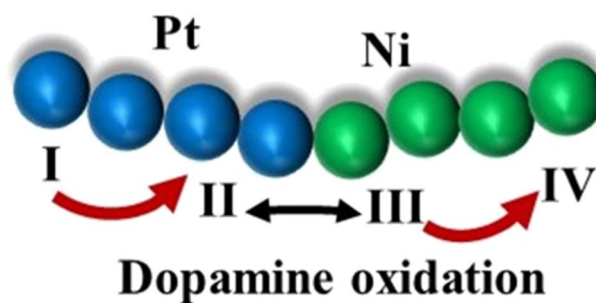
Qi Wang,\* Wen Yang, Sheng Gao, Weizhong Chen, Xiaosheng Tang, Hongsheng Zhang, Bin Liu, Genquan Han and Yi Huang\*



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### Au–Pt–Ni nanochains as dopamine catalysts: role of elements and their spatial distribution

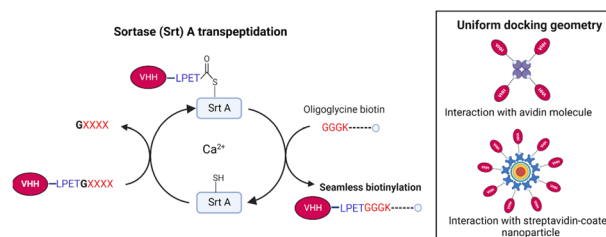
Hua Fan, William Le Boeuf and Vivek Maheshwari\*



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### Sortase A transpeptidation produces seamless, unbranched biotinylated nanobodies for multivalent and multifunctional applications

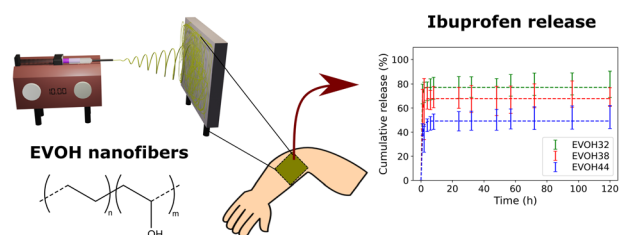
Eugene M. Obeng, David L. Steer, Alex J. Fulcher and Kylie M. Wagstaff\*



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### Ibuprofen-loaded electrospun poly(ethylene-co-vinyl alcohol) nanofibers for wound dressing applications

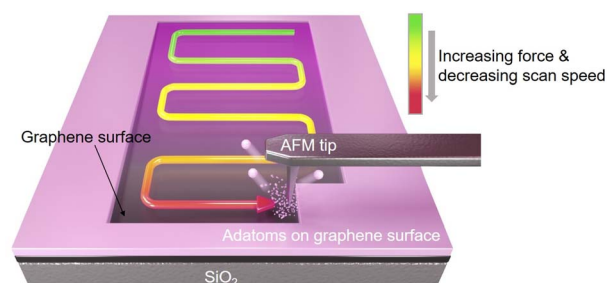
Jean Schoeller, Karin Wuertz-Kozak, Stephen J. Ferguson, Markus Rottmar, Jonathan Avaro, Yvonne Elbs-Glatz, Michael Chung and René M. Rossi\*



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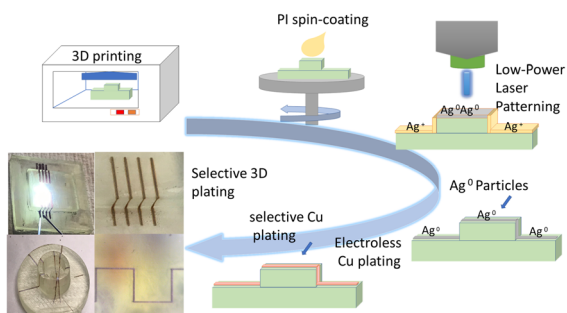
### Chemical gradients on graphene *via* direct mechanochemical cleavage of atoms from chemically functionalized graphene surfaces

Hyeonsu Kim, Dong-Hyun Kim, Yunjo Jeong, Dong-Su Lee, Jangyup Son\* and Sangmin An\*





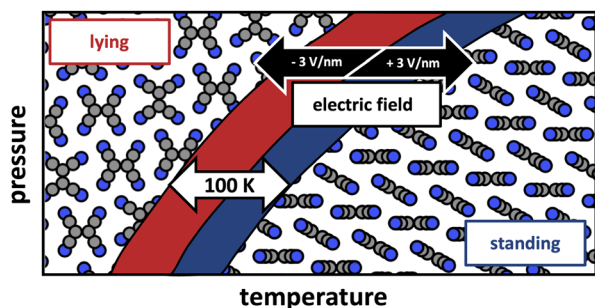
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### Low-power laser manufacturing of copper tracks on 3D printed geometry using liquid polyimide coating

Mansour Abdulrhman, Adarsh Kaniyoor, Carmen M. Fernández-Posada, Pablo Acosta-Mora, Ian McLean, Nick Weston, Marc P. Y. Desmulliez and Jose Marques-Hueso\*

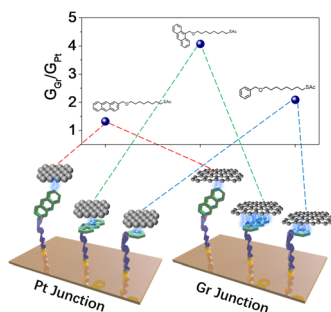
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### Polymorphism mediated by electric fields: a first principles study on organic/inorganic interfaces

Johannes J. Cartus, Andreas Jeindl, Anna Werkovits, Lukas Hörmann and Oliver T. Hofmann\*

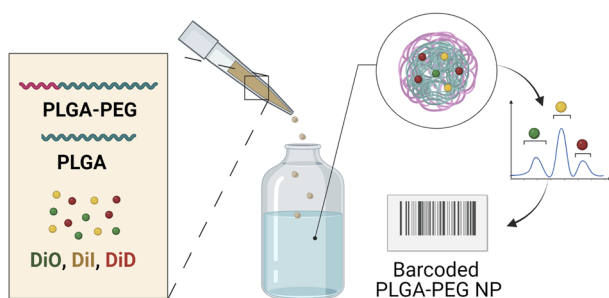
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### Planar aromatic anchors control the electrical conductance of gold|molecule|graphene junctions

Luke J. O'Driscoll, Michael Jay, Benjamin J. Robinson, Hatem Sadeghi, Xintai Wang, Becky Penhale-Jones, Martin R. Bryce\* and Colin J. Lambert\*

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### Identification of fluorescently-barcoded nanoparticles using machine learning

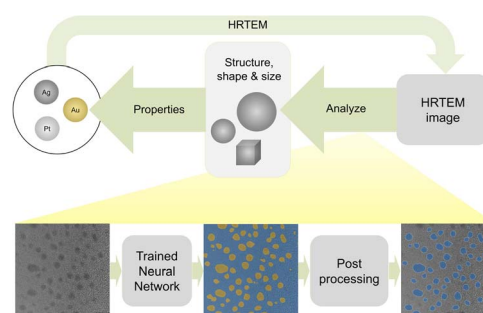
Ana Ortiz-Perez, Cristina Izquierdo-Lozano, Rens Meijers, Francesca Grisoni and Lorenzo Albertazzi\*



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## Automated analysis of transmission electron micrographs of metallic nanoparticles by machine learning

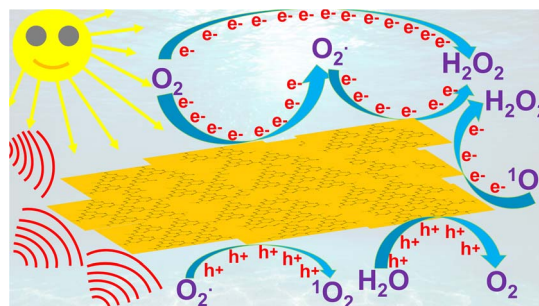
Nina Gumbiowski, Kateryna Loza, Marc Heggen and Matthias Eppe\*



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## Revisiting the roles of dopants in g-C<sub>3</sub>N<sub>4</sub> nanostructures for piezo-photocatalytic production of H<sub>2</sub>O<sub>2</sub>: a case study of selenium and sulfur

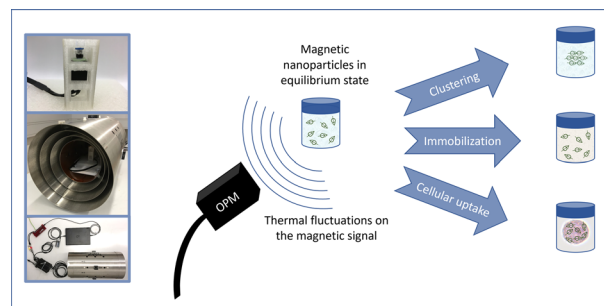
Dat Do Tran, Hoai-Thanh Vuong, Duc-Viet Nguyen, Pho Phuong Ly, Pham Duc Minh Phan, Vu Hoang Khoi, Phong Thanh Mai and Nguyen Huu Hieu\*



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## Monitoring magnetic nanoparticle clustering and immobilization with thermal noise magnetometry using optically pumped magnetometers

Katrijn Everaert,\* Tilmann Sander, Rainer Körber, Norbert Löwa, Bartel Van Waeyenberge, Jonathan Leliaert and Frank Wiekhorst



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## Exploring the untapped catalytic application of a ZnO/CuI/PPy nanocomposite for the green synthesis of biologically active 2,4,5-trisubstituted imidazole scaffolds

Sahil Kohli, Nisha, Garima Rathee, Sunita Hooda\* and Ramesh Chandra\*

