# Nanoscale Advances

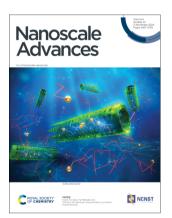
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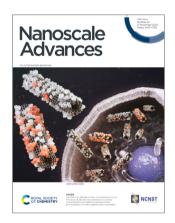
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#### Inside cover See Tae Geol Lee. Min Beom Heo, Jin Gyeong Son et al., pp. 5585-5597. Image reproduced by permission of Jin Gyeong Son from

Nanoscale Adv., 2024, 6, 5585.

#### **EDITORIAL**

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G. Giancane, S. Bettini and L. Valli

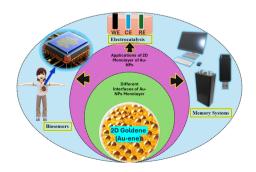


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# Gold on the horizon: unveiling the chemistry, applications and future prospects of 2D monolayers of gold nanoparticles (Au-NPs)

Tholkappiyan Ramachandran,\* Ashraf Ali, Haider Butt, Lianxi Zheng, Firdous Ahmad Deader and Moh'd Rezeg\*







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#### Beyond aromatherapy: can essential oil loaded nanocarriers revolutionize cancer treatment?

Obaydah Abd Alkader Alabrahim, Jude Majed Lababidi, Wolfgang Fritzsche and Hassan Mohamed El-Said Azzazy\*

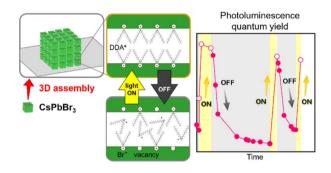


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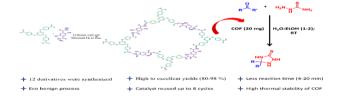
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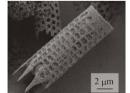


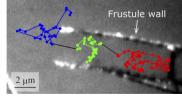
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### Diffusion of individual nanoparticles in cylindrical diatom frustule

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





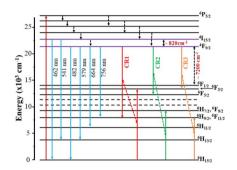
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# Influence of albumin concentration on surface characteristics and cellular responses in the preincubation of multi-walled carbon nanotubes

Sun Young Lee, Jae Won Choi, Tae Geol Lee,\* Min Beom Heo\* and Jin Gyeong Son\*

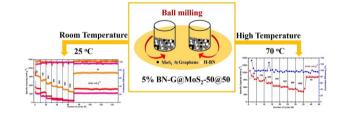
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# Optical properties and Judd-Ofelt analysis of Dy3+ doped CoAl<sub>2</sub>O<sub>4</sub> nanocrystals

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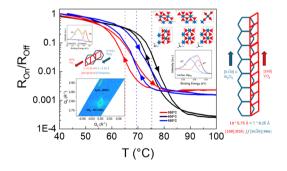
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# A 2D hybrid nanocomposite: a promising anode material for lithium-ion batteries at high temperature

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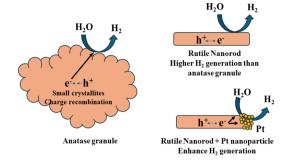
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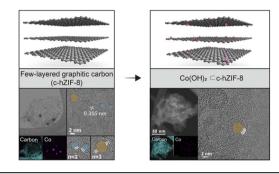
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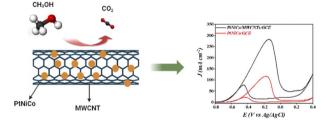
Eun Jin Cho, Bo-Min Kim, WooYeon Moon, Dong Gyu Park, Young-Wan Ju, Won Ho Choi\* and Jeeyoung Shin\*



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# Environmentally friendly PtNiCo nanocatalysts enhanced with multi-walled carbon nanotubes for sustainable methanol oxidation in an alkaline medium

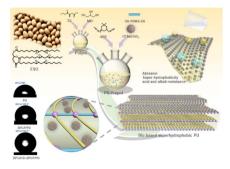
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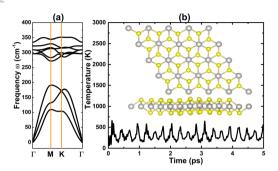
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# A highly reactive soybean oil-based superhydrophobic polyurethane film with long-lasting antifouling and abrasion resistance

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Nguyen Thanh Tien, J. Guerrero-Sanchez and D. M. Hoat\*

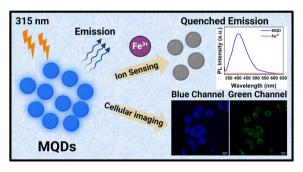
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3D nanoplasmonic structure for ultrahigh enhanced SERS with less variability, polarization independence, and multimodal sensing applied to picric acid detection

Anand M. Shrivastav, Mohammad Abutoama and Ibrahim Abdulhalim\*

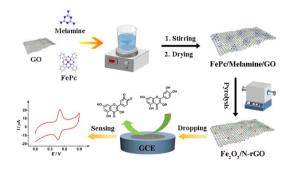
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L-cysteine capped MoS<sub>2</sub> QDs for dual-channel imaging and superior Fe<sup>3+</sup> ion sensing in biological systems

Vishakha Takhar, Simranjit Singh, Superb K. Misra and Rupak Banerjee\*

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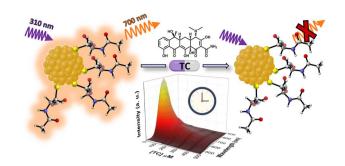
A catalytic amplification platform based on  $Fe_2O_3$  nanoparticles decorated graphene nanocomposites for highly sensitive detection of rutin

Zhuzhen Chen, Tingting Zhang, Xue Zhang, Wangxing Cheng,\* Linwei Chen\* and Nannan Lu\*

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Harnessing sustainable nanoclusters for sensitive optical detection of tetracyclines and the underlying mechanism

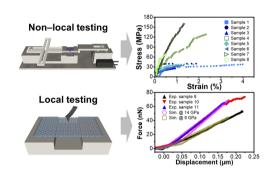
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