

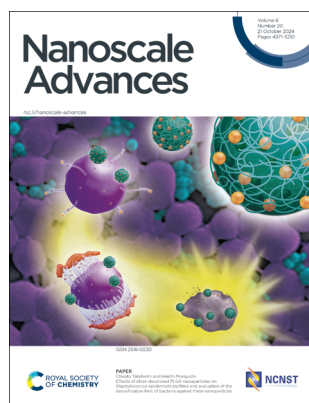
# Nanoscale Advances

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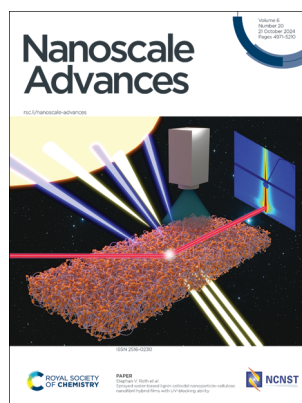
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## IN THIS ISSUE

ISSN 2516-0230 CODEN NAADAI 6(20) 4971–5210 (2024)



**Cover**  
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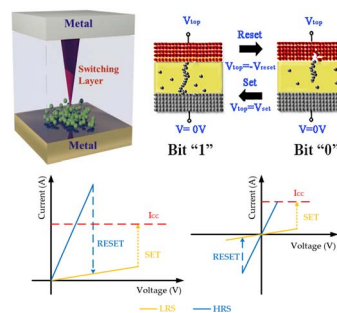
**Inside cover**  
See Stephan V. Roth *et al.*, pp. 5031–5041. Image reproduced by permission of Shouzheng Chen and Stephan V. Roth from *Nanoscale Adv.*, 2024, 6, 5031.

## REVIEWS

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### An overview of critical applications of resistive random access memory

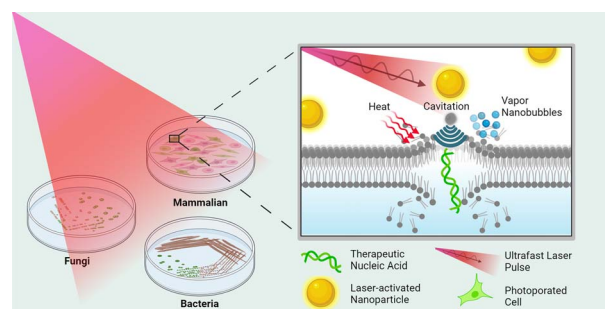
Furqan Zahoor, Arshid Nisar, Usman Isyaku Bature, Haider Abbas,\* Faisal Bashir,\* Anupam Chattopadhyay, Brajesh Kumar Kaushik, Ali Alzahrani and Fawnizu Azmadi Hussin



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### Nanoparticle-Mediated Photoporation: Expanding Horizons in Drug Delivery

Erin McGraw, Guillaume M. Laurent and L. Adriana Avila\*



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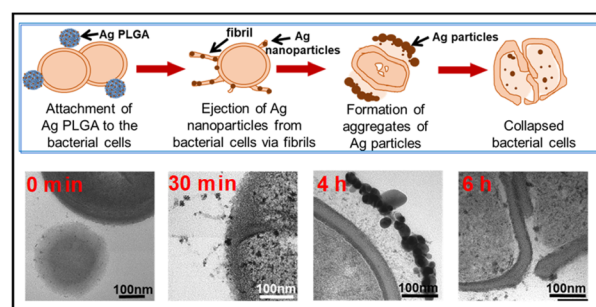
Fundamental questions  
Elemental answers



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### Effects of silver-decorated PLGA nanoparticles on *Staphylococcus epidermidis* biofilms and evaluation of the detoxification limit of bacteria against these nanoparticles

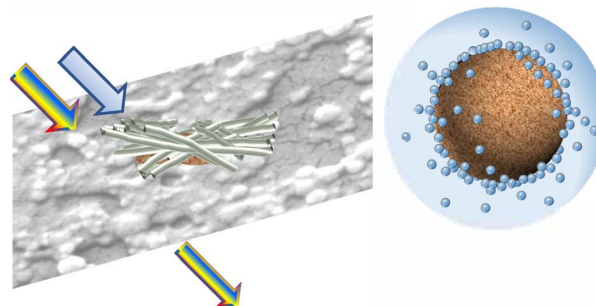
Chisato Takahashi\* and Keiichi Moriguchi



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### Sprayed water-based lignin colloidal nanoparticle-cellulose nanofibril hybrid films with UV-blocking ability

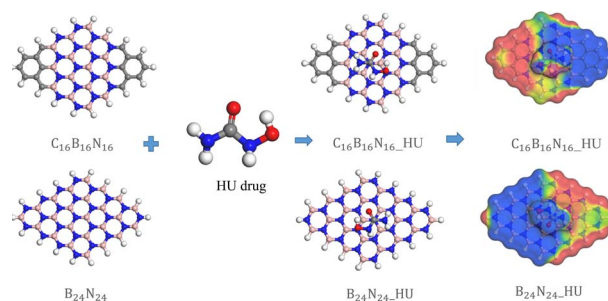
Shouzheng Chen, Constantin Harder, Iuliana Ribca, Benedikt Sochor, Elisabeth Erbes, Yusuf Bulut, Luciana Pluntke, Alexander Meinhardt, Bernhard Schummer, Markus Oberthür, Thomas F. Keller, L. Daniel Söderberg, Simone A. Techert, Andreas Stierle, Peter Müller-Buschbaum, Mats K. G. Johansson, Julien Navarro and Stephan V. Roth\*



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### Assessment of the drug delivery potential of graphene, boron nitride and their in-plane doped structures for hydroxyurea anti-cancer drug via DFT study

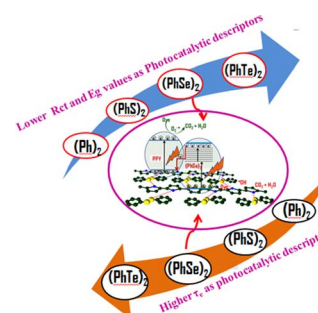
Mehedi Hasan Opi, Tanvir Ahmed, Mithila Roy Swarna, Afiya Akter Piya and Siraj Ud Daula Shamim\*



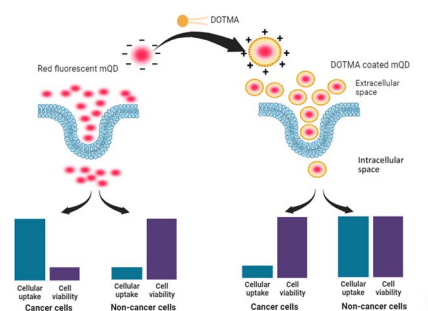
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### Design and development of symmetric aromatic bischalcogenide-based photocatalysts for water treatment application: a concise study of diphenyl diselenide polypyrrole nanocatalysis

Tabee Jan, Shabnam Raheem and Masood Ahmad Rizvi\*



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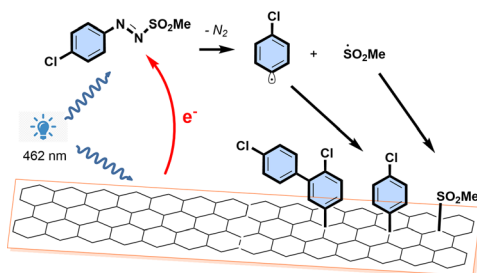


### Cellular uptake and viability switching in the properties of lipid coated carbon quantum dots for potential bioimaging and therapeutics

Sweny Jain, Nidhi Sahu, Dhiraj Bhatia\* and Pankaj Yadav\*

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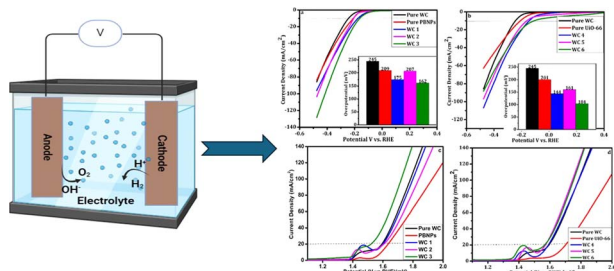
### Covalent Functionalization of graphene by blue light



### Covalent functionalization by using blue light activated radicals: on the reaction mechanisms of arylazo sulfone binding on graphene

Alessandro Mameli, Alessandro Kovtun,\* Derek Jones, Vasiliki Benekou, Vincenzo Palermo, Marco Bandini and Manuela Melucci

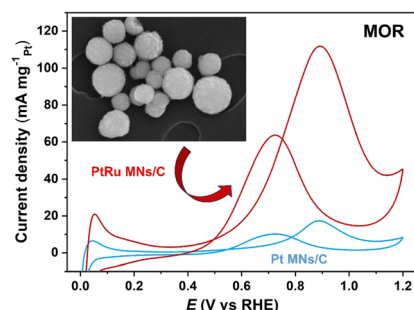
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Umair Sohail, Erum Pervaiz,\* Rafiq Khosa and Maryum Ali

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### PtRu mesoporous nanospheres as electrocatalysts with enhanced performance for oxidation of methanol

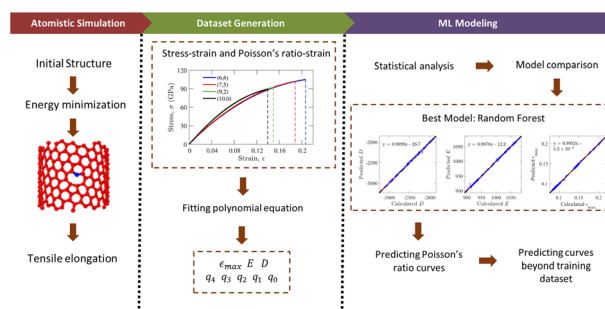
Jiangbin Guo, Qiyu Yan, Man Zhang, Jun Fang, Shuiyuan Luo and Jing Xu\*



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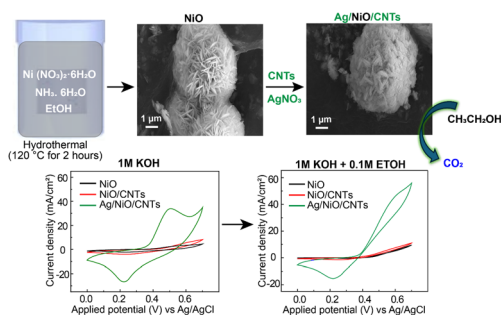
Ihtesham Ibn Malek, Koushik Sarkar and Ahmed Zubair\*



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## Silver decorated nickel oxide nanoflake/carbon nanotube nanocomposite as an efficient electrocatalyst for ethanol oxidation

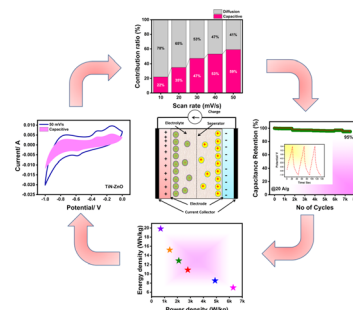
Nada Gamal ElSayed, Ahmed A. Farghali, Waleed M. A. El Rouby and Mai F. M. Hmamm\*



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## Facile synthesis and electrochemical analysis of TiN-based ZnO nanoparticles as promising cathode materials for asymmetric supercapacitors

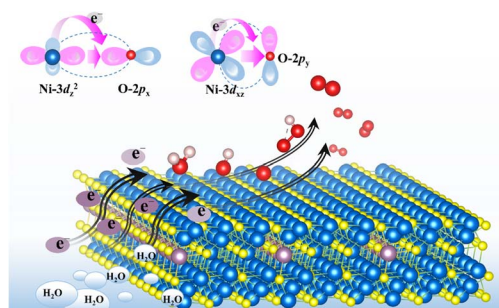
Junaid Riaz, Jianchun Cao,\* Yongguo Zhang, Amina Bibi\* and Xiaolong Zhou\*



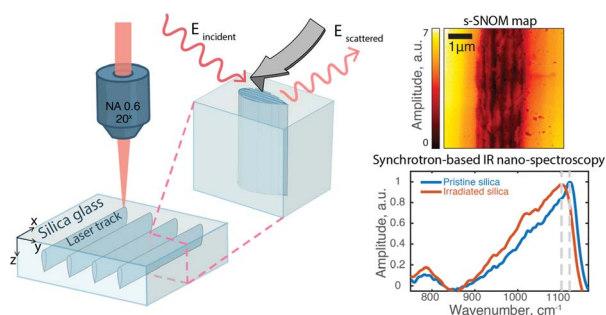
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## TM-doping modulated p-d orbital coupling to enhance the oxygen evolution performance of Ni<sub>3</sub>S<sub>2</sub>

Qiuhong Li, Minghao Zhang, Rui Wang, Jing Pan\* and Huailiang Fu\*



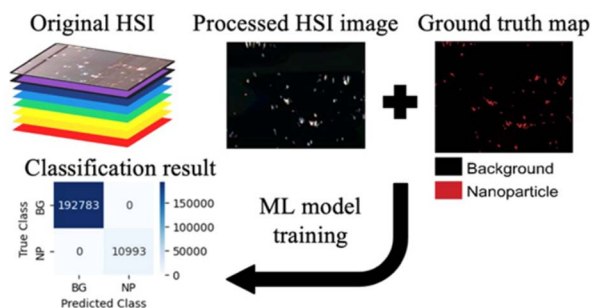
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Nadezhda Shchedrina,<sup>\*</sup> Gergely Nemeth,  
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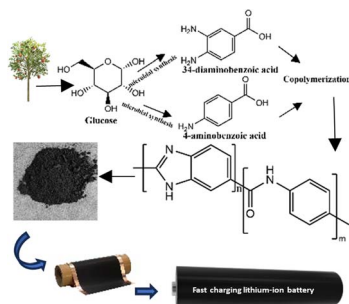
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### Hyperspectral enhanced imaging analysis of nanoparticles using machine learning methods

Kaeul Lim and Arezoo Ardekani<sup>\*</sup>

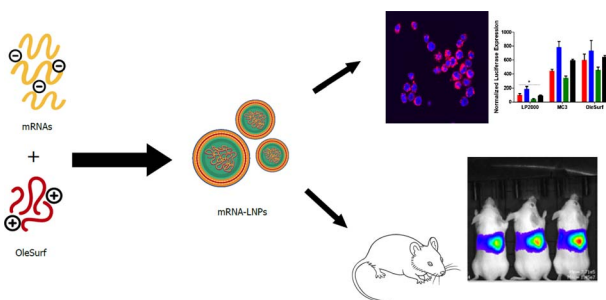
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Mohammed S. Alqahtani,<sup>\*</sup> Rabbani Syed, Ali S. Alqahtani,  
Omer M. Almarfadi, Monzurul A. Roni and Satya S. Sadhu



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**Expression of concern: Decoration of graphene oxide nanosheets with carboxymethylcellulose hydrogel, silk fibroin and magnetic nanoparticles for biomedical and hyperthermia applications**

Mostafa Ghafori Gorab, Hooman Aghamirza Moghim Aliabadi, Amir Kashtiaray, Mohammad Mahdavi, Milad Salimi Bani, Andisheh Etminan, Nabi Salehpour, Reza Eivazzadeh-Keihan\* and Ali Maleki\*

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