# Nanoscale Advances

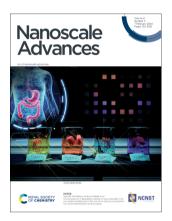
An open access journal publishing across the breadth of nanoscience and nanotechnology

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#### IN THIS ISSUE

ISSN 2516-0230 CODEN NAADAI 6(3) 735-1026 (2024)



#### Cover See Wendel Wohlleben. Stefania Sabella et al... pp. 798-815. Image reproduced by permission of Stefania Sabella from Nanoscale Adv., 2024, 6, 798.



#### Inside cover See Emanuele Locatelli et al.. pp. 816-825. Image reproduced by permission of Clemens Franz Vorsmann (University of Padova) from Nanoscale Adv., 2024, 6, 816.

#### **EDITORIAL**

745

#### Introduction to Bionanocomposites

Sabu Thomas, Maya Jacob John and Aji P. Mathew



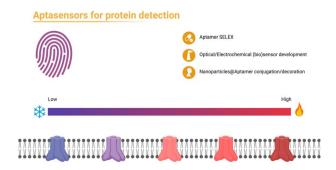


#### **REVIEW**

747

## Metallic nanostructure-based aptasensors for robust detection of proteins

Navid Rabiee, Sepideh Ahmadi, Kamal Rahimizadeh, Suxiang Chen and Rakesh N. Veedu\*





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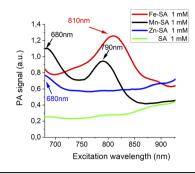
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#### COMMUNICATIONS

### Mn(III), Fe(III) and Zn(II)-serum albumin as innovative multicolour contrast agents for photoacoustic imaging

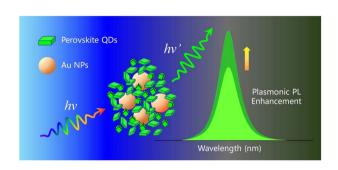
Enza Di Gregorio,\* Angelo Scarciglia, Alessandro Amaolo and Giuseppe Ferrauto



782

Enhancing photoluminescence performance of perovskite quantum dots with plasmonic nanoparticles: insights into mechanisms and lightemitting applications

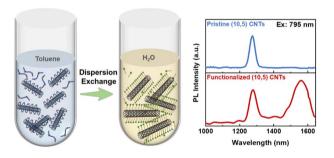
Gautham Kumar, Chien-Chung Lin, Hao-Chung Kuo and Fang-Chung Chen\*



792

Polymer removal and dispersion exchange of (10,5) chiral carbon nanotubes with enhanced 1.5 µm photoluminescence

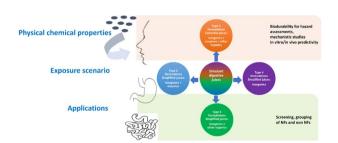
Yahui Li, Ye Liu, Feng Jin, Leitao Cao, Hehua Jin, Song Qiu\* and Qingwen Li\*



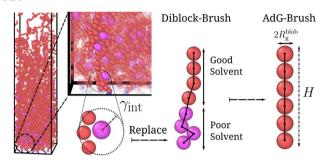
#### **PAPERS**

Critical aspects in dissolution testing of nanomaterials in the oro-gastrointestinal tract: the relevance of juice composition for hazard identification and grouping

Luisana Di Cristo, Johannes G. Keller, Luca Leoncino, Valentina Marassi, Frederic Loosli, Didem Ag Seleci, Georgia Tsiliki, Agnes G. Oomen, Vicki Stone, Wendel Wohlleben\* and Stefania Sabella\*



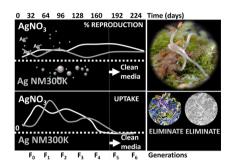
#### 816



#### Colloidal adsorption in planar polymeric brushes

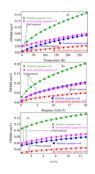
Clemens Franz Vorsmann, Sara Del Galdo, Barbara Capone and Emanuele Locatelli\*

826



## Multigenerational exposure of Ag materials (nano and salt) in soil - environmental hazards in Enchytraeus crypticus (Oligochaeta)

Fátima C. F. Santos, Rudo A. Verweij, Amadeu M. V. M. Soares, Janeck J. Scott-Fordsmand, Cornelis A. M. van Gestel and Mónica J. B. Amorim\*



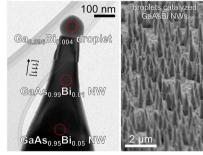
GaAsRi NWs PL @20K

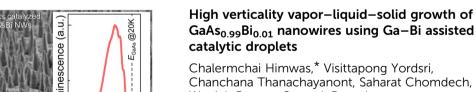
1.0 1.2 1.4 Energy (eV)

#### Comparison of electron scattering by acousticphonons in two types of quantum wells with GaAs and GaN materials

Tran Cong Phong, Le Ngoc Minh and Nguyen Dinh Hien\*

846



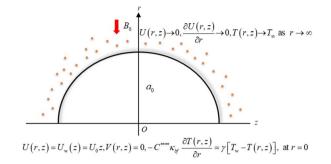


Chanchana Thanachayanont, Saharat Chomdech, Wenich Pumee, Somsak Panyakeow and Songphol Kanjanachuchai

#### 855

#### Multiscale tribology analysis of MHD hybrid nanofluid flow over a curved stretching surface

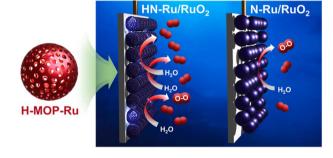
Khursheed Muhammad,\* Bilal Ahmed, Mohamed Sharaf, Mohammad Afikuzzaman and Emad A. Az-Zo'bi



#### 867

Hollow Ru/RuO<sub>2</sub> nanospheres with nanoparticulate shells for high performance electrocatalytic oxygen evolution reactions

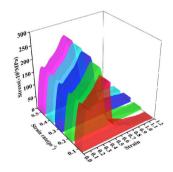
Kyoungil Cho, June Young Jang, Yoon-Joo Ko, Yoon Myung\* and Seung Uk Son\*



#### 876

The essence of the effect of strain rate on the mechanical behavior of the Fe14.6Ni (at%) elastocaloric refrigeration alloy: a molecular dynamics study

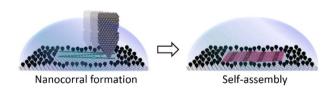
Xianfa Li,\* Junyu An, Shuisheng Chen, Guoqiang Chen, Yi Liu, Yongjun Shi and Long Zhou

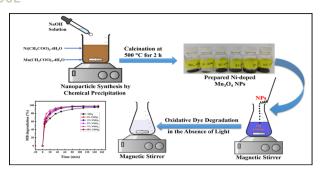


#### 892

Chiral induction in substrate-supported selfassembled molecular networks under nanoconfinement conditions

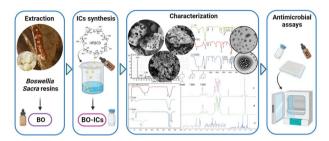
Zeno Tessari, Tamara Rinkovec and Steven De Feyter\*





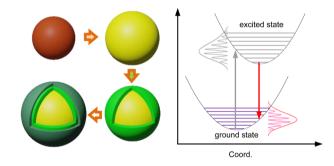
## Phase tunable nickel doped Mn<sub>3</sub>O<sub>4</sub> nanoparticle synthesis by chemical precipitation: kinetic study on dye degradation

Jasim Uddin, Rahim Abdur, Md. Rifat Hossain, Shahin Aziz, Mohammad Shah Jamal,\* Md. Aftab Ali Shaikh\* and Mosharof Hossain\*



## Improved antimicrobial activities of Boswellia sacra essential oils nanoencapsulated into hydroxypropylbeta-cyclodextrins

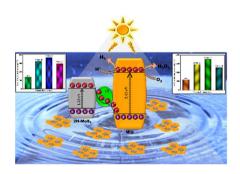
Obaydah Abd Alkader Alabrahim, Salim Alwahibi and Hassan Mohamed El-Said Azzazy\*



#### Enhancement mechanism of quantum yield in core/ shell/shell quantum dots of ZnS-AgIn<sub>5</sub>S<sub>8</sub>/ZnIn<sub>2</sub>S<sub>4</sub>/ ZnS

Seonghyun Jeong, Minji Ko, Sangwon Nam, Jun Hwan Oh, Seung Min Park, Young Rag Do\* and Jae Kyu Song\*

## 934



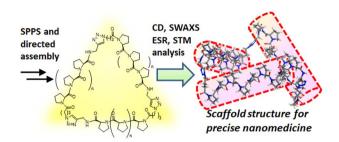
## Augmented photocatalysis induced by 1T-MoS<sub>2</sub> bridged 2D/2D MgIn<sub>2</sub>S<sub>4</sub>@1T/2H-MoS<sub>2</sub> Z-scheme heterojunction: mechanistic insights into H<sub>2</sub>O<sub>2</sub> and H<sub>2</sub> evolution

Sarmistha Das, Lopamudra Acharya, Lijarani Biswal and Kulamani Parida\*

#### 947

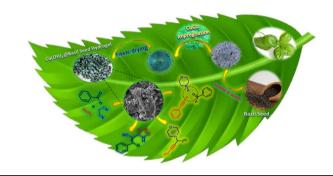
## Comprehensive characterization of polyproline trihelix macrocyclic nanoscaffolds for predictive ligand positioning

Chia-Lung Tsai, Je-Wei Chang, Kum-Yi Cheng, Yu-Jing Lan, Yi-Cheng Hsu, Qun-Da Lin, Tzu-Yuan Chen, Orion Shih, Chih-Hsun Lin, Po-Hsun Chiang, Mantas Simenas, Vidmantas Kalendra, Yun-Wei Chiang,\* Chun-hsien Chen,\* U-Ser Jeng\* and Sheng-Kai Wang\*



Eco-friendly and sustainable basil seed hydrogelloaded copper hydroxide-based catalyst for the synthesis of propargylamines and tetrazoles

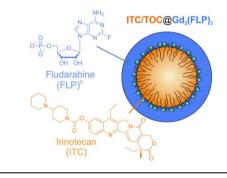
Effat Samiee Paghaleh, Eskandar Kolvari,\* Farzad Seidi and Kheibar Dashtian



#### 973

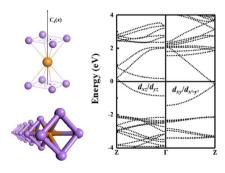
#### Cocktail of lipophilic and hydrophilic chemotherapeutics in high-load core@shell nanocarriers to treat pancreatic tumours

David Rudolph, Myrto Ischyropoulou, Juliana Pfeifer, Joanna Napp,\* Ute Schepers,\* Frauke Alves\* and Claus Feldmann\*

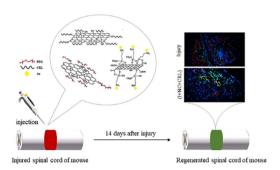


#### First-principles calculations of inorganic metallocene nanowires

Yangqi Ji, Haifeng Lv\* and Xiaojun Wu\*



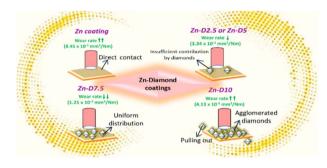
#### 990



Design and synthesis of nano-biomaterials based on graphene and local delivery of cerebrolysin into the injured spinal cord of mice, promising neural restoration

Ayda Yari-Ilkhchi, Mehrdad Mahkam,\* Abbas Ebrahimi-Kalan and Hamid Soltani Zangbar

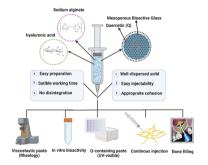
#### 1001



Nanodiamond-structured zinc composite coatings with strong bonding and high load-bearing capacity

Shikha Awasthi,\* Blanca Prior Palomero, Ankur Srivastava,\* S. Selvaraj and Sarvesh Kumar Pandey\*

#### 1011



#### Antioxidant flavonoid-loaded nano-bioactive glass bone paste: in vitro apatite formation and flow behavior

Mehri Sohrabi,\* Saeed Hesaraki, Mostafa Shahrezaee,\* Alireza Shams-Khorasani, Fahimeh Roshanfar, Brigit Glasmacher, Sascha Heinemann, Yi Xu\* and Pooyan Makvandi

#### CORRECTION

#### 1023

Correction: The emerging role of medical foods and therapeutic potential of medical food-derived exosomes Jin-Young Hur, SeonHyung Lee, Woo-Ri Shin, Yang-Hoon Kim\* and Ji-Young Ahn\*