# Nanoscale Advances

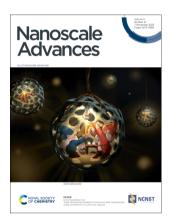
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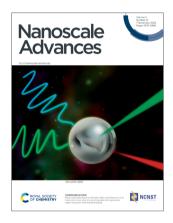
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ISSN 2516-0230 CODEN NAADAI 5(21) 5673-5986 (2023)



#### Cover

See Shota Kuwahara et al., pp. 5780-5785. Image reproduced by permission of Shota Kuwahara from Nanoscale Adv., 2023, 5, 5780.



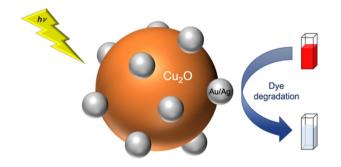
#### Inside cover

See Maria Antonieta Ramirez-Morales, Maria Ada Malvindi et al., pp. 5766-5773. Image reproduced by permission of Maria Ada Malvindi from Nanoscale Adv... 2023, 5, 5766.

# **REVIEWS**

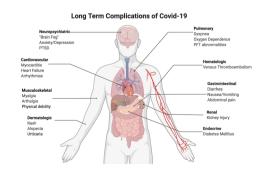
Nanocomposites of Cu<sub>2</sub>O with plasmonic metals (Au, Ag): design, synthesis, and photocatalytic applications

Enrico Daniel R. Legaspi and Michelle D. Regulacio\*



# Post COVID-19 complications and follow up biomarkers

Muhammad Abdullah, Amjed Ali, Muhammad Usman, Anam Naz, Javed Anver Qureshi, Majed A. Bajaber and Xiao Zhang\*



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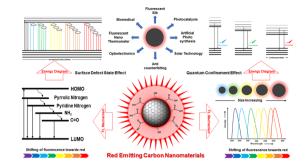


# **REVIEWS**

# 5717

Comprehensive advances in the synthesis, fluorescence mechanism and multifunctional applications of red-emitting carbon nanomaterials

Tuhin Mandal, Shiv Rag Mishra and Vikram Singh\*

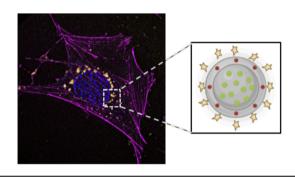


# COMMUNICATIONS

# 5766

Dual-color core-shell silica nanosystems for advanced super-resolution biomedical imaging

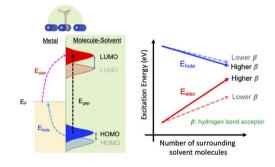
Maria Antonieta Ramirez-Morales,\* Elisa De Luca, Chiara Coricciati, Alberto Rainer, Giuseppe Gigli, Giuseppe Mele, Pier Paolo Pompa and Maria Ada Malvindi\*



### 5774

# Solvent-induced local environment effect in plasmonic catalysis

Tien Le and Bin Wang\*

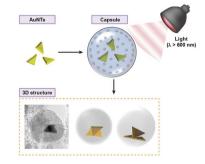


# **PAPERS**

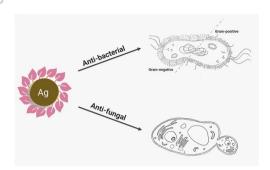
# 5780

Three-dimensional building of anisotropic gold nanoparticles under confinement in submicron capsules

Ryuichi Yamada, Makoto Kuwahara and Shota Kuwahara\*



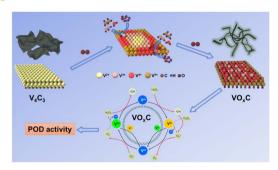
# 5786



# Enhancing the antimicrobial activity of silver nanoparticles against ESKAPE bacteria and emerging fungal pathogens by using tea extracts

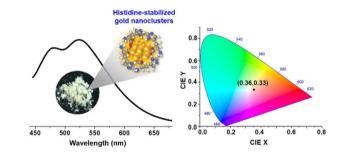
Sada Raza, Mateusz Wdowiak, Mateusz Grotek, Witold Adamkiewicz, Kostiantyn Nikiforow, Pumza Mente and Jan Paczesny\*

# 5799



# Oxidation engineering triggered peroxidase-like activity of VO<sub>x</sub>C for detection of dopamine and glutathione

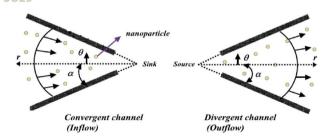
Huimin Jia, Quan Liu, Jingjing Si, Yuyang Chen, Guo Zhou, Haihui Lan and Weiwei He\*



# Dual-emissive solid-state histidine-stabilized gold nanoclusters for applications in white-light generation

Markus Zetes, Alexandru-Milentie Hada, Milica Todea, Luiza Ioana Gaina, Simion Astilean and Ana-Maria Craciun\*

# 5819



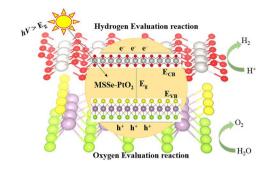
# Flow and heat transfer of $Al_2O_3$ and $\gamma$ - $Al_2O_3$ through a channel with non-parallel walls: a numerical study

Abdul Hamid Ganie, Basharat Ullah, J. EL Ghoul, Kiran Zahoor and Umar Khan\*

# 5829

Tunable electronic structures, Rashba splitting, and optical and photocatalytic responses of  $MSSe-PtO_2$  (M = Mo, W) van der Waals heterostructures

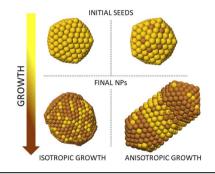
Sadia H. Gul. Tahani A. Alrebdi, M. Idrees and B. Amin\*



# 5838

Growth pathways of Cu shells on Au and AuCu seeds: interdiffusion, shape transformations, strained shells and patchy surfaces

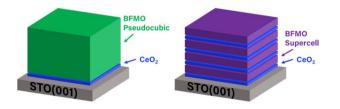
El yakout El koraychy and Riccardo Ferrando\*



# 5850

Improved epitaxial growth and multiferroic properties of Bi<sub>3</sub>Fe<sub>2</sub>Mn<sub>2</sub>O<sub>x</sub> using CeO<sub>2</sub> re-seeding layers

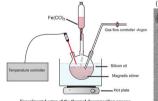
James P. Barnard, Jianan Shen, Yizhi Zhang, Juanjuan Lu, Jiawei Song, Aleem Siddiqui, Raktim Sarma and Haiyan Wang\*

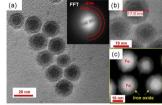


# 5859

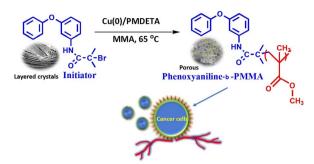
Surfactant-driven optimization of iron-based nanoparticle synthesis: a study on magnetic hyperthermia and endothelial cell uptake

K. Riahi,\* I. Dirba, Y. Ablets, A. Filatova, S. N. Sultana, E. Adabifiroozjaei, L. Molina-Luna, U. A. Nuber and O. Gutfleisch





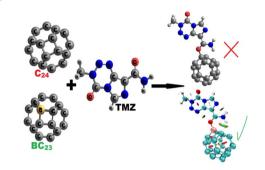
# 5870



In vitro anti-prostate adenocarcinoma and lung cancer studies of phenoxyaniline-block-poly(methyl methacrylate) based nanocomposites via controlled radical polymerization

Sahariya Priya, Adhigan Murali,\* Sakar Mohan, A. Lakshminarayanan, S. Sekar, R. Ramesh,\* M. Devendiran and Sung Soo Han\*

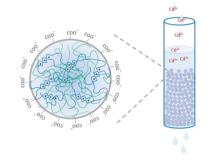
# 5880



# DFT investigation of temozolomide drug delivery by pure and boron doped C<sub>24</sub> fullerene-like nanocages

Aymard Didier Tamafo Fouegue,\* Vincent de Paul Zoua, Gervais Ndongo Kounou, Brice Laure Ndjopme Wandji, Julius Numbonui Ghogomu and Rahman Abdoul Ntieche\*

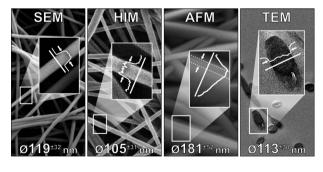
#### 5892



# In situ modified nanocellulose/alginate hydrogel composite beads for purifying mining effluents

Dimitrios Georgouvelas, Hani Nasser Abdelhamid, Ulrica Edlund and Aji P. Mathew\*

# 5900



# Nanofibers are a matter of perspective: effects of methodology and subjectivity on diameter measurements

Martin Wortmann,\* Michael Westphal, Bernhard Kaltschmidt, Michaela Klöcker, Ashley S. Layland, Bennet Brockhagen, Andreas Hütten, Natalie Frese and Andrea Ehrmann

# 5907

Impact of nitrogen doping on triazole-based graphitic carbon Nitride-TiO<sub>2</sub> (P25) S-scheme heterojunction for improved photocatalytic hydrogen production

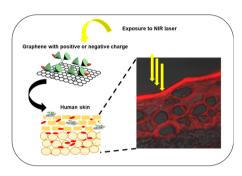
Saravanan Kamalakannan, Natarajan Balasubramaniyan,\* Neppolian Bernaurdshaw and Ganesh Vattikondala



# 5923

# Efficient skin interactions of graphene derivatives: challenge, opportunity or both?

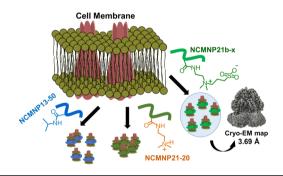
Fatemeh Zabihi,\* Zhaoxu Tu, Sabine Kaessmeyer, Fabian Schumacher, Fiorenza Rancan, Burkhard Kleuser, Christoph Boettcher, Kai Ludwig, Johanna Plendl, Sarah Hedtrich, Annika Vogt and Rainer Haag\*



# 5932

Fabrication of membrane proteins in the form of native cell membrane nanoparticles using novel membrane active polymers

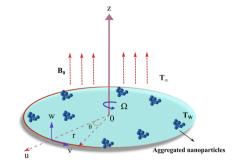
Thi Kim Hoang Trinh, Claudio Catalano and Youzhong Guo\*



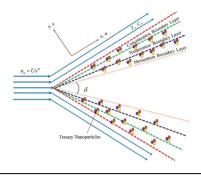
# 5941

Heat transfer analysis in magnetohydrodynamic nanofluid flow induced by a rotating rough disk with non-Fourier heat flux: aspects of modified Maxwell-Bruggeman and Krieger-Dougherty models

Pudhari Srilatha, Madhu J, Umair Khan,\* R. Naveen Kumar, R. J. Punith Gowda, Samia Ben Ahmed and Raman Kumar



# 5952



Thermal performance of Fe<sub>3</sub>O<sub>4</sub>, SWCNT, MWCNT and H<sub>2</sub>O based on magnetohydrodynamic nanofluid flow across a wedge with significant impacts of Soret and Dufour

K. Vinutha, K. V. Nagaraja, Kiran Sajjan, Umair Khan,\* J. K. Madhukesh, Uma C. Kolli and Taseer Muhammad

# 5965 siFOXO4-NT Size: 18.11 nm Zeta potential: -15.9 mV **Apoptosis** BCL2 ↓ BCLXL ↓

# DNA nanoparticles targeting FOXO4 selectively eliminate cigarette smoke-induced senescent lung fibroblasts

Yaopin Han, Yixing Wu, Binfeng He, Di Wu, Jianlan Hua, Hang Qian\* and Jing Zhang\*

5974



Senescent lung fibroblasts

Green synthesis of fluorescent carbon nanodots from sage leaves for selective anticancer activity on 2D liver cancer cells and 3D multicellular tumor spheroids

Shadi Sawalha,\* Samer Abdallah, Amal Barham, Hala Badawi, Zeina Barham, Ahmad Ghareeb, Giuseppe Misia, Silvia Collavini, Alessandro Silvestri, Maurizio Prato and Mohyeddin Assali\*

# CORRECTION

### 5983

Correction: Recent trends in carbon nanotube (CNT)-based biosensors for the fast and sensitive detection of human viruses: a critical review

Hicham Meskher,\* Hussain Chaudhery Mustansar, Amrit Kumar Thakur,\* Ravishankar Sathyamurthy, Iseult Lynch,\* Punit Singh, Tan Kim Han and Rahman Saidur\*

BAX T