

Nanoscale Advances

An open access journal publishing across the breadth of nanoscience and nanotechnology
rsc.li/nanoscale-advances

The Royal Society of Chemistry is the world's leading chemistry community. Through our high impact journals and publications we connect the world with the chemical sciences and invest the profits back into the chemistry community.

IN THIS ISSUE

ISSN 2516-0230 CODEN NAADAI 6(6) 1575–1792 (2024)



Cover

See Nadia Licciardello, Massimo Sgarzi, Gianarelio Cuniberti *et al.*, pp. 1653–1660. Image reproduced by permission of Massimo Sgarzi and Gianarelio Cuniberti from *Nanoscale Adv.*, 2024, 6, 1653.



Inside cover

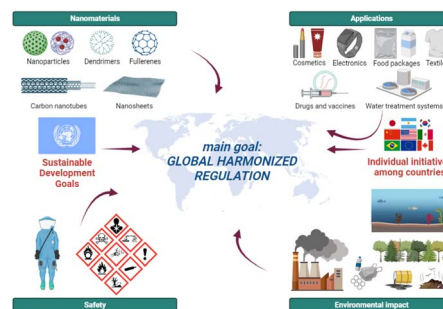
See Carmen Gonzalez *et al.*, pp. 1583–1610. Image reproduced by permission of Gabriela Navarro Tovar and Carmen Gonzalez from *Nanoscale Adv.*, 2024, 6, 1583.

REVIEWS

1583

Safe nanomaterials: from their use, application, and disposal to regulations

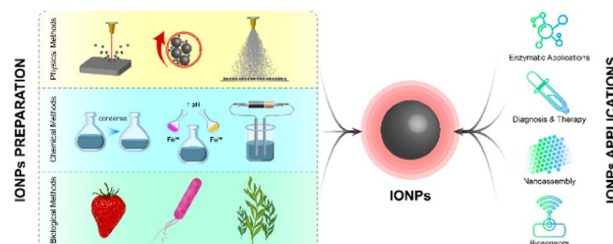
Jorge Antonio Chávez-Hernández, Aída Jimena Velarde-Salcedo, Gabriela Navarro-Tovar and Carmen Gonzalez*



1611

Magnetic iron oxide-based nanozymes: from synthesis to application

Asma Ghazzy,* Hamdi Nsairat, Rana Said, Obada A. Sibai, Aseel AbuRuman, Alaa S. Shraim and Afnan Al hunaiti



RSC Applied Interfaces

GOLD
OPEN
ACCESS

**Interfacial and surface research
with an applied focus**

Interdisciplinary and open access

rsc.li/RSCApplInter

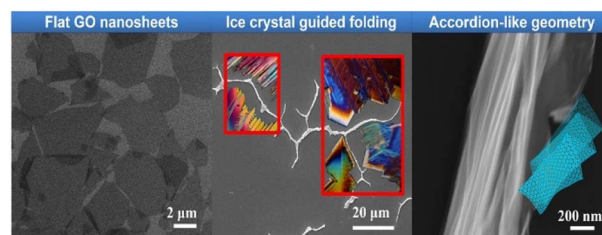
**Fundamental questions
Elemental answers**

COMMUNICATIONS

1643

Ice crystal guided folding of graphene oxides in a confined space: a facile approach to 1D functional graphene structures

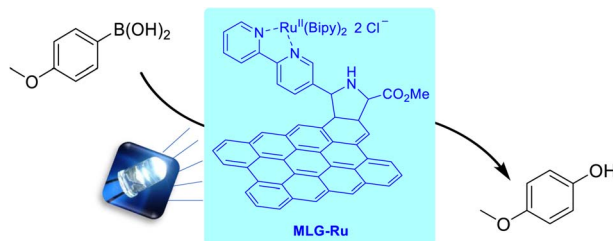
Wubo Wan, Zongbin Zhao, Shaohong Liu, Xiaojuan Hao,* Timothy C. Hughes* and Jieshan Qiu*



1648

Preparation of a ruthenium complex covalently bonded to multilayer graphene and its evaluation as a photocatalyst

Lesly V. Rodríguez-Flórez, María de Gracia Retamosa, Miriam Navlani-García, Diego Cazorla-Amorós,* Carmen Nájera, Miguel Yus and José M. Sansano*

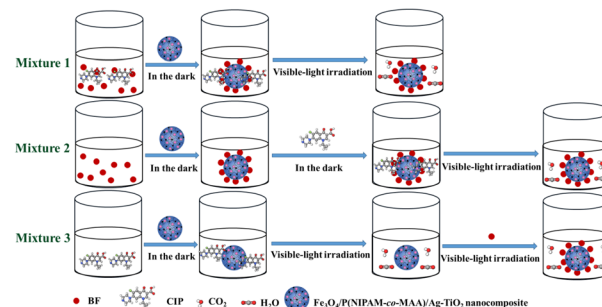


PAPERS

1653

Multifunctional polymer-based nanocomposites for synergistic adsorption and photocatalytic degradation of mixed pollutants in water

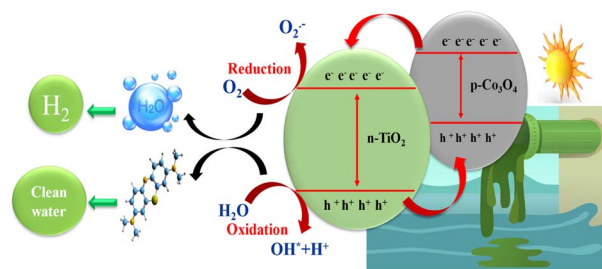
Jiao Wang, Nadia Licciardello,* Massimo Sgarzi* and Gianaurelio Cuniberti*



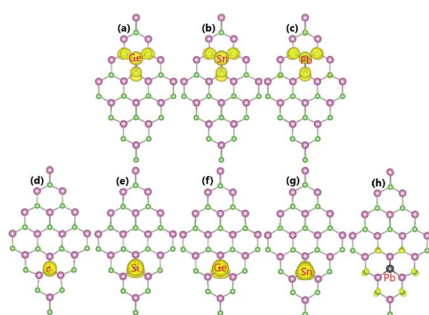
1661

Enhanced sunlight-driven catalysis for hydrogen generation and dye remediation using synergistic p-Co₃O₄/n-TiO₂ nanocomposites

Sandhya S. Gadge, Ratna Chauhan, Dattatray J. Late, Indra Jeet Chaudhary, Muthupandian Ashokkumar and Suresh Gosavi*



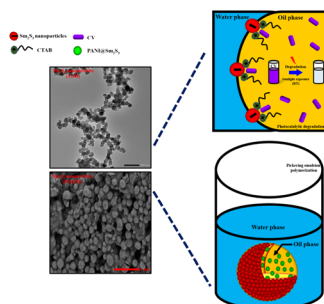
1678



n/p-Doping in a buckled honeycomb InAs monolayer using IVA-group impurities

D. M. Hoat* and J. Guerrero-Sanchez

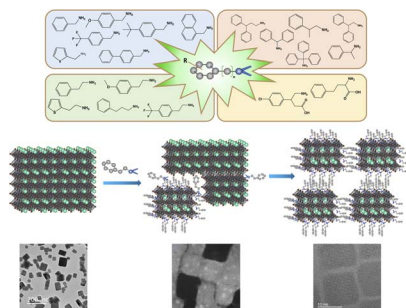
1688



A deeper insight into the evaluation of water-in-oil amicroemulsion templated samarium sulfide nanospheres: exploring its role in pickering emulsion formulation for photocatalytic dye degradation and synthesis of PANI@Sm₂S₃ nanocomposites

Sk Meheebub Rahaman, Nargis Khatun, Prashanta Pal, Trishna Mandal, Arnab Patra, Mahasweta Nandi and Bidyut Saha*

1704



Influence of arylalkyl amines on the formation of hybrid CsPbBr₃ nanocrystals *via* a modified LARP method

Ernest Ruby, Hugo Levy-Falk, Gaëlle Trippé-Allard, Frédéric Fossard, Maxime Vallet, Nicolas Guiblin, Jean-Sébastien Lauret, Emmanuelle Deleporte and Cédric R. Mayer*

1720



In situ growth of N-doped carbon nanotubes from the products of graphitic carbon nitride etching by nickel nanoparticles

Mariusz Pietrowski,* Emilia Alwin, Michał Zieliński, Sabine Szunerits, Agata Suchora and Robert Wojcieszak*

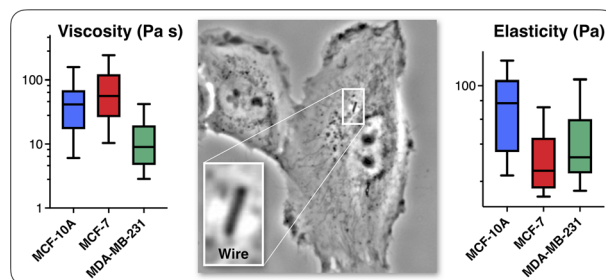


PAPERS

1727

Cytoplasmic viscosity is a potential biomarker for metastatic breast cancer cells

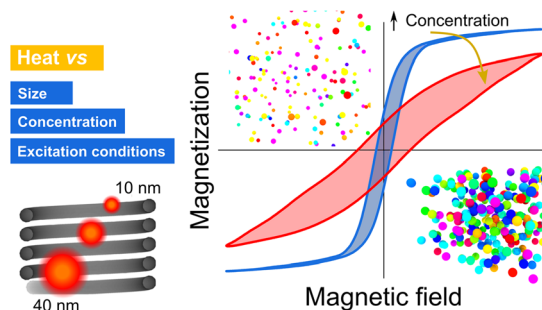
Marie Dessard, Jean-Baptiste Manneville and Jean-François Berret*



1739

Influence of size, volume concentration and aggregation state on magnetic nanoparticle hyperthermia properties versus excitation conditions

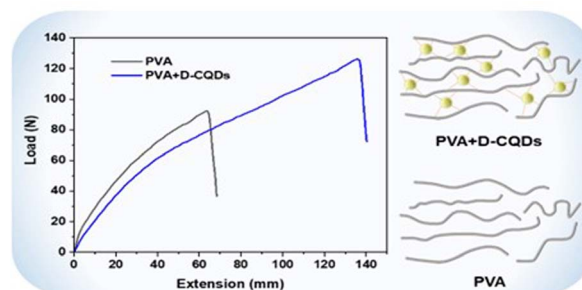
Riccardo Ferrero,* Marta Vicentini and Alessandra Manzin*



1750

Reinforcement using undoped carbon quantum dots (CQDs) with a partially carbonized structure doubles the toughness of PVA membranes

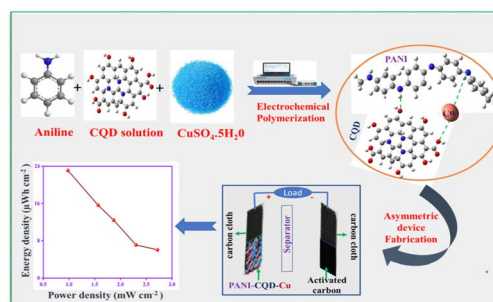
Zeeshan Latif, Hasan B. Albargi, Zubair Khaliq, Kinza Shahid, Usama Khalid, Muhammad Bilal Qadir,* Mumtaz Ali,* Salman Nosheer Arshad, Ali S. Alkorbi and Mohammed Jalalah



1765

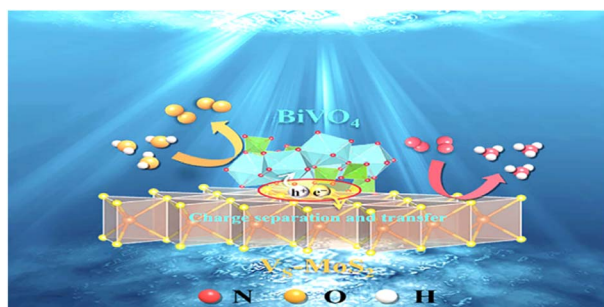
Construction of a binder-free PANI-CQD-Cu electrode via an electrochemical method for flexible supercapacitor applications

Esakkimuthu Shanmugasundaram, Vigneshkumar Ganesan, Vimalasruthi Narayanan, Kannan Vellaisamy, Na'il Saleh* and Stalin Thambusamy*



PAPERS

1781



Construction of a BiVO₄/V₅-MoS₂ S-scheme heterojunction for efficient photocatalytic nitrogen fixation

Han-Ying Luo, Zhao-Lei Liu, Meng-Ran Zhang, Yan-Fei Mu* and Min Zhang*

CORRECTION

1790

Correction: Mechanistic insights into Ag⁺ induced size-growth from [Au₆(DPPP)₄]²⁺ to [Au₇(DPPP)₄]²⁺ clusters

Ying Lv, Xiaohang Wu, Shuping He and Haizhu Yu*

