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IN THIS ISSUE

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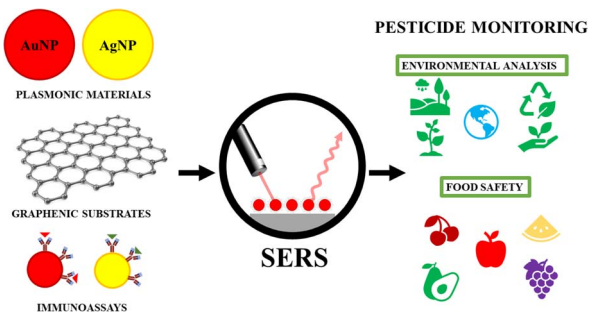
REVIEWS

7061

Surface-enhanced Raman spectroscopy as a tool for food and environmental monitoring of pesticides: recent trends and perspectives

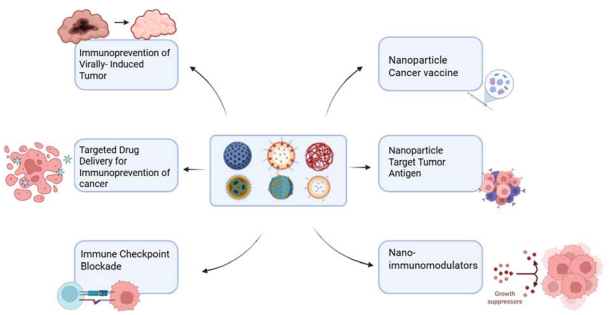
Gabriel Fernandes Souza dos Santos, Giordano Toscano Paganoto, Lucas Carreira Cosme, Adilson Ribeiro Prado, Sérvio Túlio Alves Cassini, Marco César Cunegundes Guimarães and Jairo Pinto de Oliveira*



7086

Nanomedicine revolutionizing cancer immunotherapy: recent advancements in nanotechnological strategies and applications

Jay Bhatt, Sweny Jain, Sharad Gupta* and Dhiraj Devidas Bhatia*



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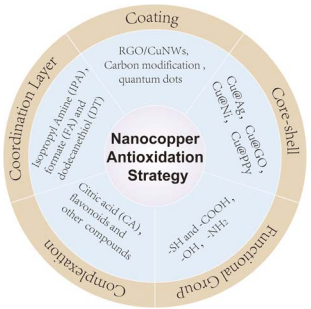
REVIEWS

7109

Interfacial engineering of nano-copper: mechanisms, strategies, and innovations for oxidation resistance

Bo Zhang, Ziyin Zhou,* Jing Huang, Jiani Zhan, Qiuyu Yao, Rui Lu, Ruixu Hu and Bohong Zhu

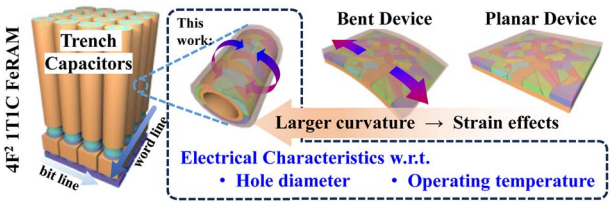


COMMUNICATIONS

7128

Investigating the impact of 3D trench structures on HfO_2-based ferroelectric capacitors

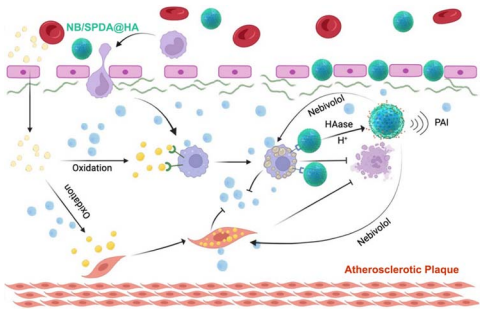
Zijie Zheng, Zuopu Zhou, Yue Chen, Xiaolin Wang, Leming Jiao, Dong Zhang, Yang Feng and Xiao Gong*



7134

Polydopamine and hyaluronic acid-coated dual-responsive silica nanoparticles for targeted atherosclerosis imaging and therapy

Yuanzhe Lin, Chenyuan Huang, Xiao Hou, James Chen Yong Kah* and Jiong-Wei Wang*

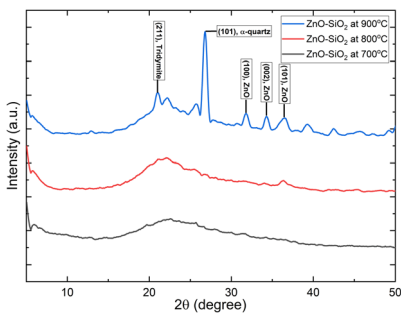


PAPERS

7145

Sol–gel synthesis and characterization of ZnO–SiO_2 nanocomposites: a comparative study with pure ZnO and SiO_2

A. Samuel, A. Abdullah, G. Xavier, S. Stephen, M. M. Zeidan, D. Choi and S. Abedrabbo*



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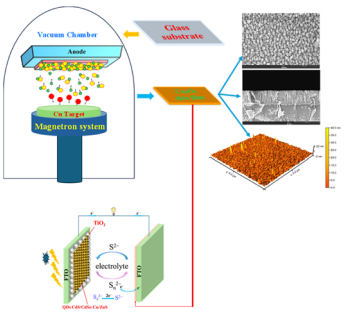
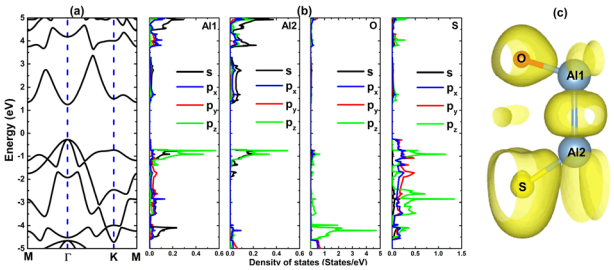


Nitrogen-doped Cu_4O_3 thin films as high-performance counter electrodes for quantum dot-sensitized solar cells

Pham Minh Khang, Le Thanh Duy, Huu Phuc Dang and Tran Le*

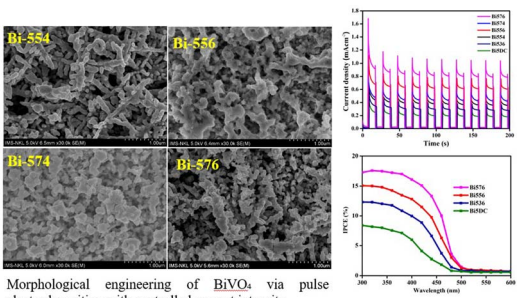
7171



Electronic and magnetic properties of Janus monolayer Al_2SO modified by defects and doping: a first-principles study

Nguyen Thanh Tien, R. Ponce-Pérez, Armando Reyes-Serrato, J. Guerrero-Sanchez and D. M. Hoat*

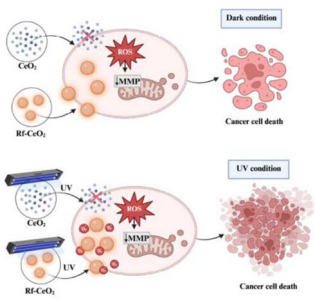
7182



Structure–property–performance correlation in $BiVO_4$ photoanodes synthesized by intensity-tuned pulse electrodeposition

Nguyen Thi Huyen, Thi Viet Ha Luu, Tran Le and Huu Phuc Dang*

7196



Engineered riboflavin–cerium oxide nanoparticles for enhanced phototoxicity toward triple-negative breast cancer cells

Anongnat Wongpan, Sopon Nuchpun, Napasorn Tana-atsawapon, Patraporn Luksirikul, Sarisa Suriyarak, Jintana Artsanthia and Kanlaya Prapainop Katewongsa*

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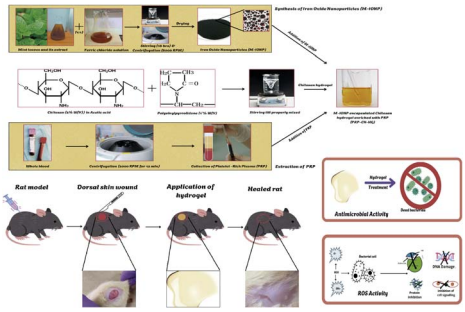
7209

Biosynthesized iron oxide-nanoparticle encapsulated hydrogel functionalized with platelet-rich plasma (PRP) accelerates wound healing in an animal model

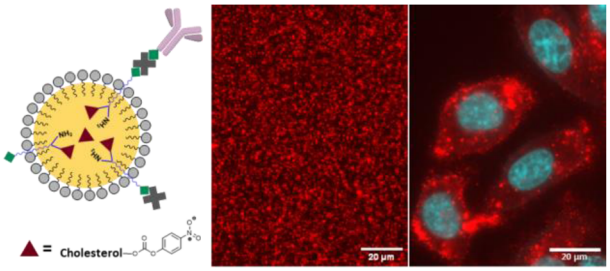
Lipsa Leena Panigrahi, Siddharth Satpathy, Pallavi Samal, Shashank Shekhar, Shakti Ketan Prusty and Manoranjan Arakha*



7226

Functionalization of lipid nanoemulsions with humanized antibodies using plug-and-play cholesterol anchor for targeting cancer cells

Valeria Jose Boide-Trujillo, Vincent Mittelheisser, Fei Liu, Olivier Lefebvre, Bohdan Andreiuk, Nicolas Anton, Jacky G. Goetz* and Andrey S. Klymchenko*



7239

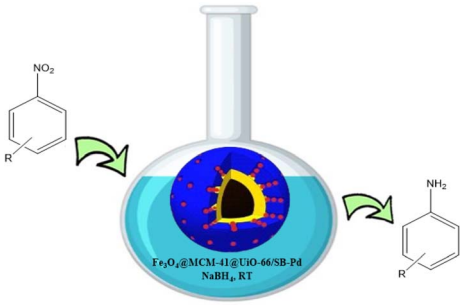
Utilization of waste leather for efficient removal of Ca^{2+} and Mg^{2+} in lithium carbonate production *via* nano-structural adsorption

Pengxiang Zhao,* Jianyu Wei, Fumei Wang, Yang Luo and Luming Yang*

7246

Palladium-containing magnetic UiO-66–NH_2 as a highly powerful and recoverable nanocatalyst for the reduction of nitrobenzenes

Shiva Kargar and Dawood Elhamifar*



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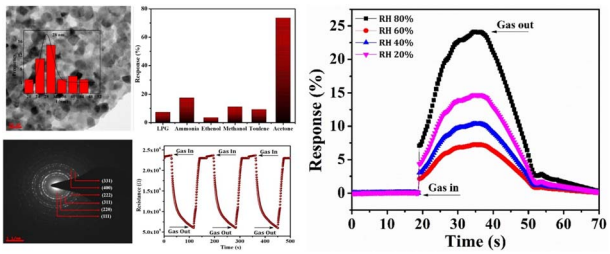
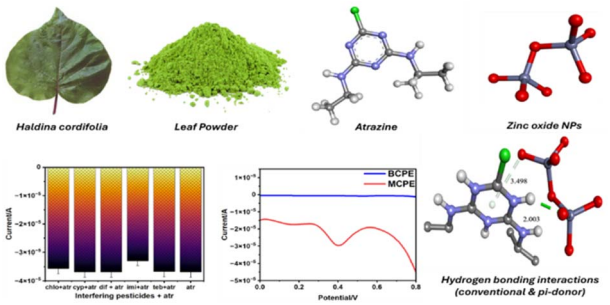


Room-temperature acetone gas sensing using Sm-doped Co–Zn ferrite nanoparticles: role of mesoporosity and oxygen vacancies in enhancing sensor response

Anil B. Mugutkar, Shyam K. Gore, Siddheshwar D. Raut, Sunil M. Patange, Rajaram S. Mane, Shoyebmohamad F. Shaikh,* Sagar E. Shirsath* and Santosh S. Jadhav*

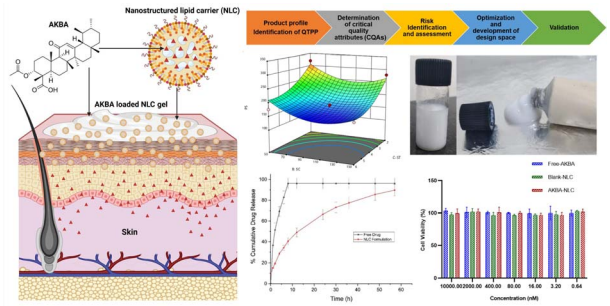
7273



Green-synthesized ZnO nanoparticles for efficient atrazine detection: electrochemical and computational investigations

Simranjeet Singh, Pavithra N., Radhika Varshney, Ashutosh Panchal, Nabila Shehata, Nadeem A. Khan, Joginder Singh and Praveen C. Ramamurthy*

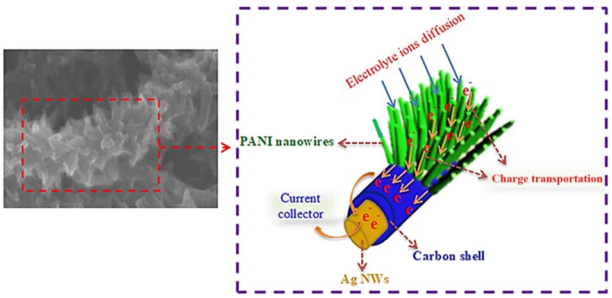
7285



Enhancing 3-acetyl-11-keto-β-boswellic acid skin permeation *via* nanostructured lipid carriers: integrating quality by design principles for risk estimation and optimization

Sakshi Priya, Vaibhavi Meghraj Desai, Hemraj Singh, Rajeev Taliyan and Gautam Singhvi*

7306



Carbon–polyaniline coaxial structures for enhanced charge transfer and capacitance in supercapacitors

Pham Thi Thuy Nga, Nguyen Van Quy, Dinh Khoi Dang, Nguyen Thanh Sang, Ho Phuong, Nguyen Tran Nhac Khoa, To Minh Dai., Huynh Le Thanh Nguyen* and Ly Tan Nhiem*

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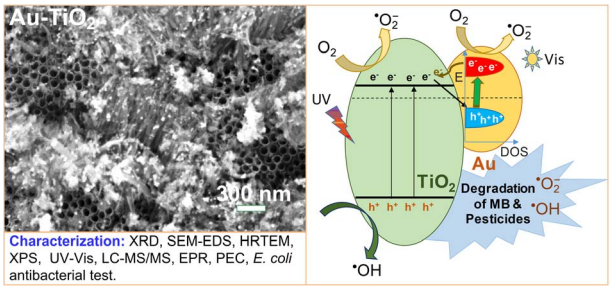
7317

Plasmonic Au–TiO_2 nanowire/nanotube heterostructures for multifunctional photocatalysis: dye and pesticide degradation, water splitting, and antibacterial activity

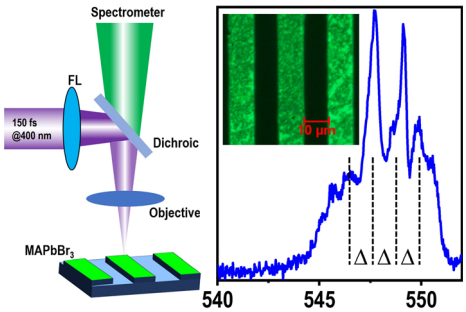
Ngo Ngoc Uyen, Nguyen Chi Toan, Nguyen Truong, Ly Anh Tu and Phuoc Huu Le*



7333

Phase-locked random lasing in patterned microstripes of $MAPbBr_3$ porously structured with nanoholes

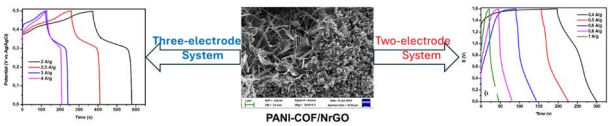
Yuxin Zhang, Qin Zhang and Xinping Zhang*



7341

Synergistic enhancement of supercapacitor performance using covalent organic frameworks integrated with nitrogenated-reduced graphene oxide and polyaniline

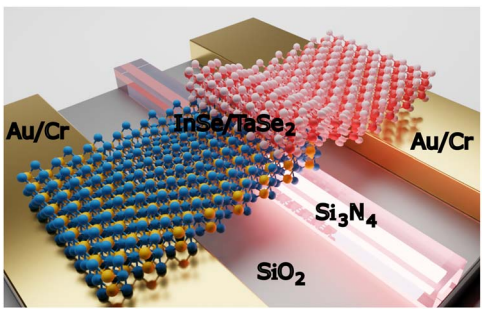
Daniel Malesela Teffu, Katlego Makgopa and Kwena Desmond Modibane*



7352

High-responsivity InSe/$TaSe_2$ photodetectors integrated on low-loss silicon nitride waveguides

Maaz Ahmed Qureshi,* Fooqia Khalid, Md Gius Uddin, Abde Mayeen Shafi, Isaac Doughan, Janvit Tippinit, Faisal Ahmed, Xiaoqi Cui, Matthieu Roussey, Harri Lipsanen, Zhipei Sun and Markku Kuittinen



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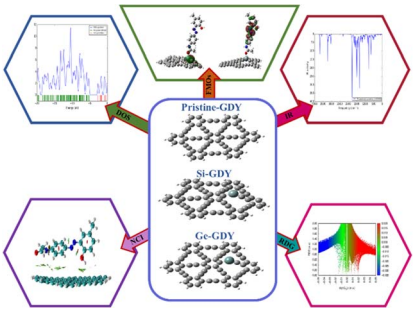
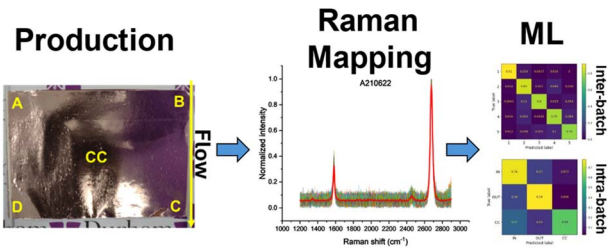


DFT investigation of dye adsorption on pristine and doped graphdiyne: toward efficient removal of disperse yellow 3 from wastewater

Mohamed M. Aboelnga,* Mariam M. Seliem, Elsayed El-Bayoumy and Mohsen El-Tahawy*

7382



Simple graphene film production by chemical vapour deposition and the use of AI for quality analysis

Selene Muñoz-Vargas, Marcos Fernando Perez-Pucheta and Karl S. Coleman*

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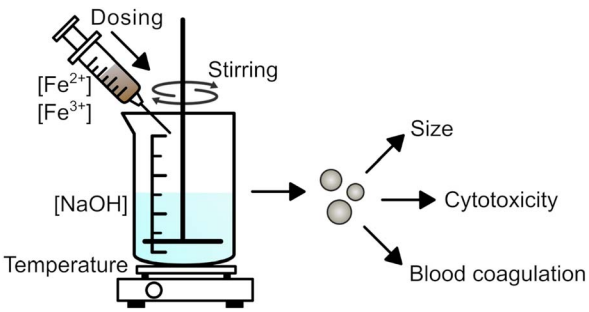

Influence of coprecipitation synthesis parameters on the physicochemical properties and biological effects of iron oxide nanoparticles

Marco Reindl, Verena Zach, Gerhard Cvirn and Sebastian P. Schwaminger*

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