

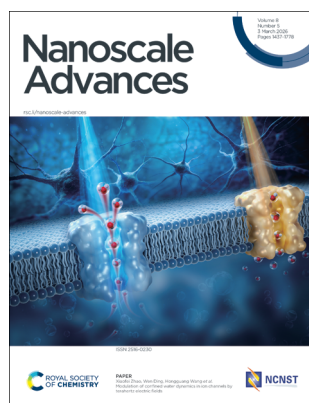
Nanoscale Advances

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 8(5) 1437–1778 (2026)



Cover

See Xiaofei Zhao, Wen Ding, Hongguang Wang *et al.*, pp. 1512–1521. Image reproduced by permission of Hongguang Wang from *Nanoscale Adv.*, 2026, 8, 1512.

EDITORIAL

1447

Introduction to carbon nanoarchitectonics for advanced applications in energy, environment and bio

Katsuhiko Ariga,* Lok Kumar Shrestha and Qingmin Ji

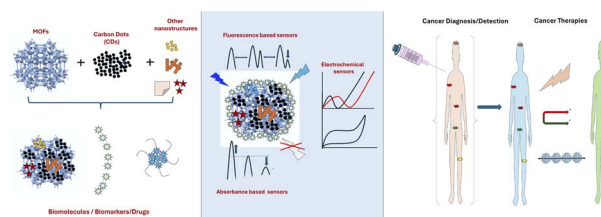


REVIEWS

1450

Carbon dots and metal–organic frameworks based nanohybrids for improved biosensing and biomedical applications

Tania P. Brito,* Leonel Llanos and Dinesh P. Singh*



RSC Applied Interfaces

GOLD
OPEN
ACCESS

Interfacial and surface research
with an applied focus

Interdisciplinary and open access

rsc.li/RSCApplInter

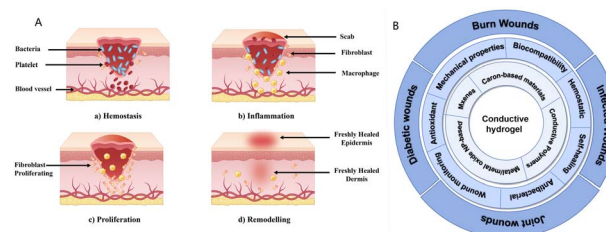
Fundamental questions
Elemental answers

REVIEWS

1490

Progress in the application of conductive hydrogels in wound healing: a review

Yun Lv, Yuting Li, Yueshuai Pan, Qianqian Li, Changfang Shi, Ruting Gu* and Lili Wei*

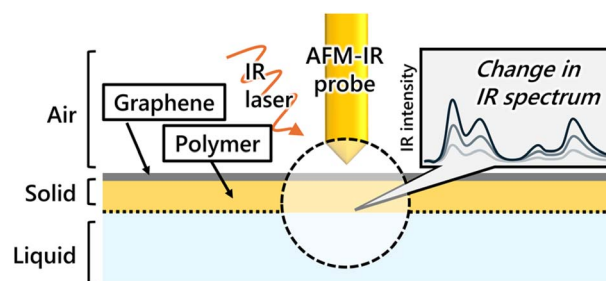


COMMUNICATION

1508

Atomic force microscopy-based photothermal infrared microscopy for aqueous environments using graphene-based microfluidic cells

Yasuhiko Fujita,* Mariko Takahashi and Hirohmi Watanabe

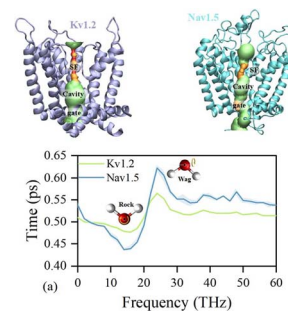


PAPERS

1512

Modulation of confined water dynamics in ion channels by terahertz electric fields

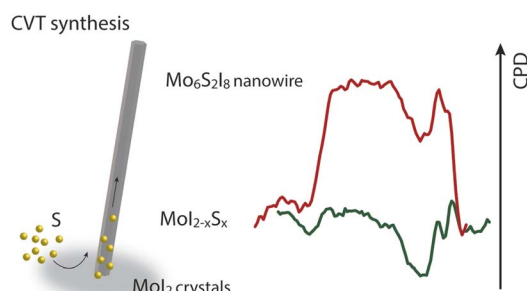
Xiaofei Zhao, Wen Ding, Hongguang Wang,* Yongdong Li and Chunliang Liu



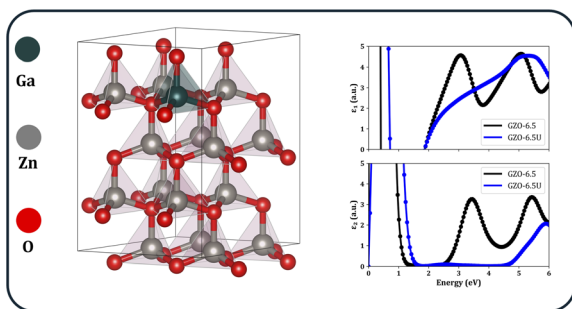
1522

Sulphur-promoted growth of Mo₆S₂I₈ nanowires via a metastable Mol_{2-x}S_x intermediate

Anja Pogačnik Krajnc,* Janez Jelenc, Luka Pirker, Srečo D. Škapin and Maja Remškar



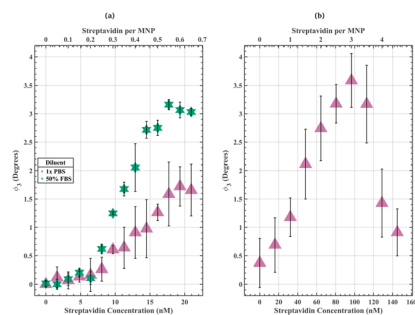
1530



Gallium-doped zinc oxide semiconductor nanoparticles for plasmonic applications: a combined experimental and computational study

Naga Venkateswara Rao Nulakani, Yiqiang Chen, Alessandro Genovese, Rachid Sougrat and Dalaver Hussain Anjum*

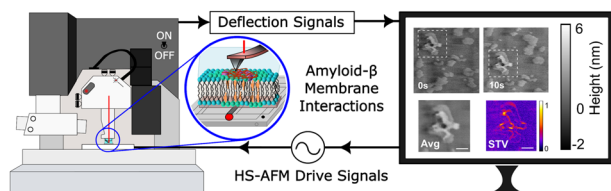
1543



Impact of protein corona on magnetic particle spectroscopy-based bioassays

Gabrielle Moss,* Christian Knopke and Solomon G. Diamond

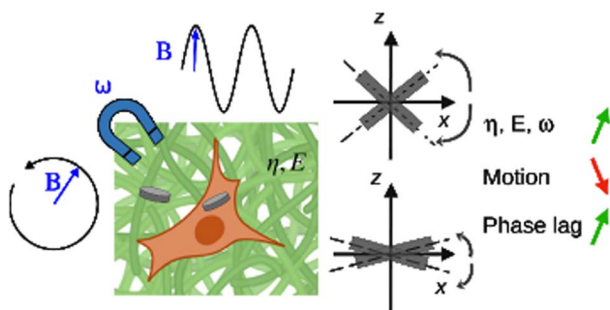
1556



Dynamic instability in nanoscale lipid domains revealed by contact mode high speed AFM: effect of amyloid- β and cholesterol content

Morgan Robinson, Loren Picco, Oliver D. Payton, Nikolas Zelem, Charlotte Baur, Michael A. Beazely, Mervyn J. Miles and Zoya Leonenko*

1570



Modelling of magnetic vortex microdisc dynamics under varying magnetic field in biological viscoelastic environments

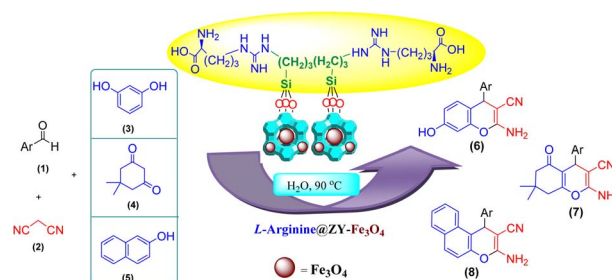
Andrea Visonà,* Robert Morel, H  l  ne Joisten, Bernard Dieny and Alice Nicolas



1585

L-Arg@ZY-Fe₃O₄ mesoporous nanomaterial: a novel magnetically recoverable bio-organocatalyst for three-component synthesis of 4*H*-pyran and -chromene derivatives

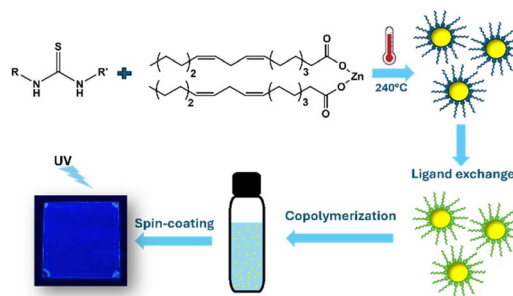
Mehdi Kalhor* and Samira Zebardast



1598

Ligand-engineered ZnS quantum dots synthesized from substituted thioureas: scalable production, polymer grafting, and emissive film fabrication

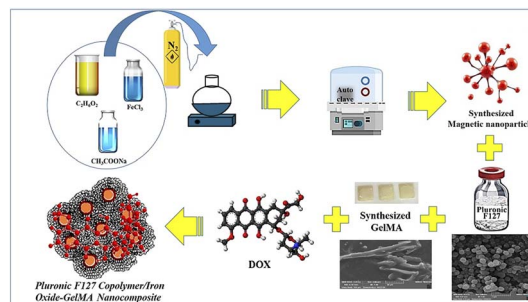
Jiri Jemelka, Liudmila Loghina,* Bozena Frumarova, Jhonatan Rodriguez-Pereira, Stanislav Slang, Jakub Houdek, Michal Kurka, Roman Jambor and Miroslav Vlcek



1611

Synthesis of Pluronic F127 copolymer/iron oxide–GelMA nanocomposite for doxorubicin drug delivery

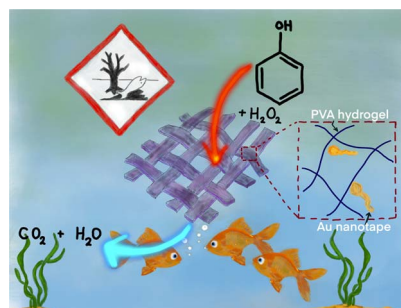
Reza Davarnejad,* Kimia Haghighatnejad, Omid Sartipzadeh Hematabad, Zahra Mohammadpour,* Majid Komijani and John F. Kennedy



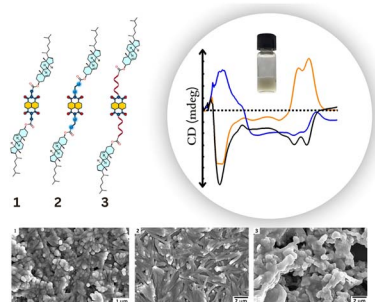
1626

Atomically thin gold embedded in inkjet-printed PVA hydrogels: flexible catalysts for ambient phenol degradation

Nizzy James, Sean Collins, Quentin Ramasse, Kevin Critchley and Stephen D. Evans*



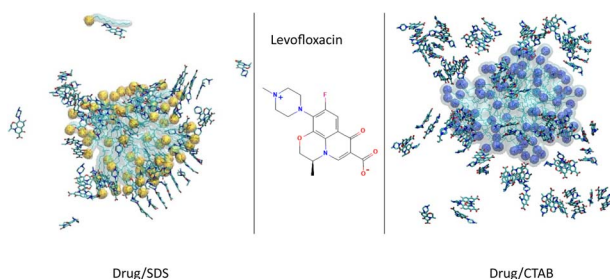
1641



Unravelling the interplay between structures, self-assembly patterns, AIEE and chiroptical properties of NDI-bis-cholesteryl systems

Gargee Roy, Aakash Ravikant Likhar and Deepak Asthana*

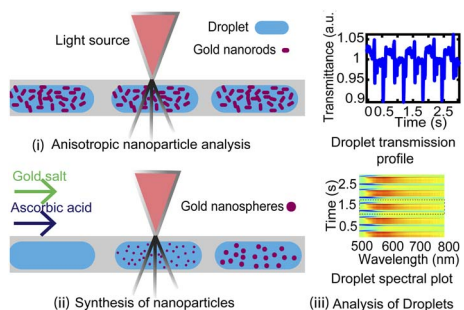
1648



Levofloxacin-loaded surfactant nanocarriers: a computational study

Arin Sharoyan, Vahram Hakobyan, Hayk Melkonyan, Hrachya Ishkhanyan, Armen H. Poghosyan,* Marine A. Parsadanyan, Ara P. Antonyan and Poghos O. Vardevanyan

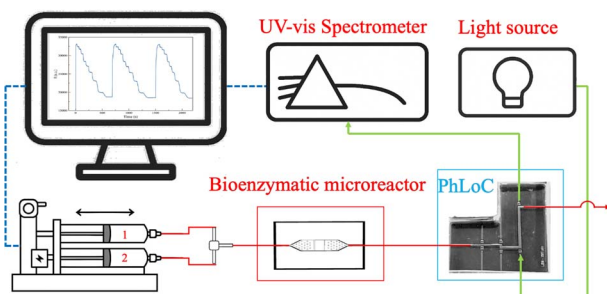
1661



Real-time optical spectroscopy for *in situ* single-droplet analysis

Rama Pandillapally, Pillanagrovi Jayakumar, Shourya Dutta-Gupta* and Suhanya Duraiswamy*

1672



An enzymatic microfluidic sensor for β -lactam antibiotics based on cross-linked ancestral β -lactamase crystals

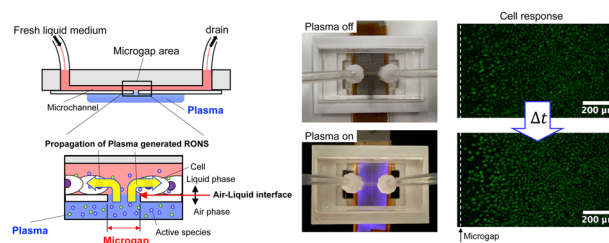
Isaac Rodríguez-Ruiz, Pablo Moya-Garrido, Valeria A. Rizzo, Sergio Martínez-Rodríguez, Sébastien Teychené, José Manuel Sanchez-Ruiz and José A. Gavira*



1679

Analysis of the effects of plasma-generated active species on cells cultured in a microperfusion system

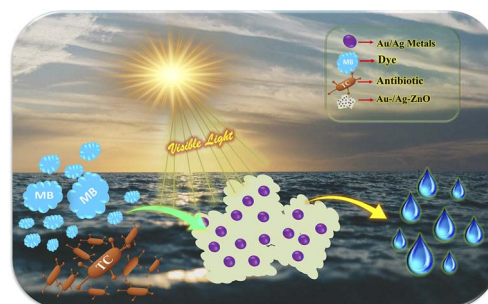
Hayata Okino and Shinya Kumagai*



1686

Enhanced visible-light photocatalysis by Au and Ag decorated ZnO for the simultaneous degradation of tetracycline and methylene blue

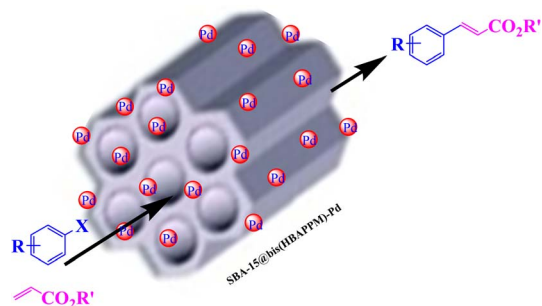
Asha Kumawat, Sunil Chichholiya, Mamta Devi Sharma, Poonam Kumari, Rajesh Kumar Meena and Pragati Fageria*



1712

A supported palladium Schiff-base complex on SBA-15 as a reusable supported catalyst in the Heck coupling reaction

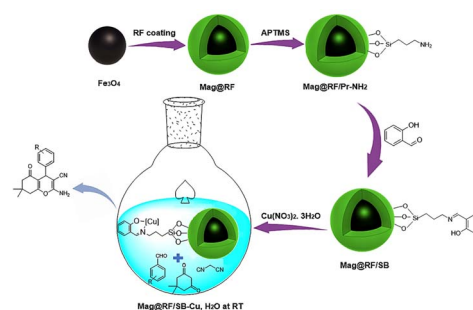
Amin Darabi, Mohsen Nikoorazm* and Bahman Tahmasbi*



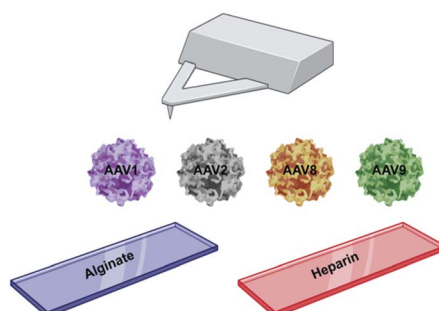
1725

Magnetic resorcinol-formaldehyde supported Schiff-base/Cu as a robust and recoverable nanocatalyst for the synthesis of tetrahydrobenzo[b]pyrans

Parivash Bazmayon, Dawood Elhamifar* and Shiva Kargar



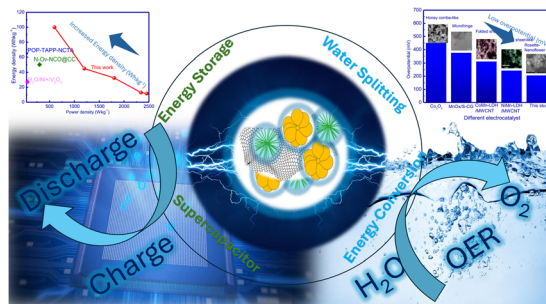
1739



Characterization of adeno-associated virus binding to alginate and its controlled release

John J. Amante, James R. Mandeville, Hannah Hargrove, Xiaohui Frank Zhang and Cathal J. Kearney

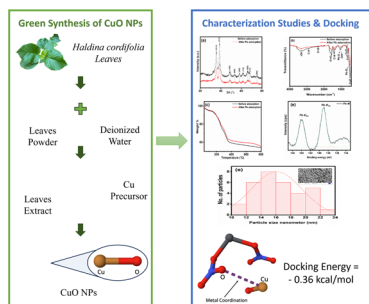
1748



Rosette-shaped $\text{Co}_2\text{Mn}_3\text{O}_8$ integrated with nanoflower-like Mn–Co LDH anchored on rGO sheets: a bifunctional electrode for advanced supercapacitors and oxygen evolution reaction (OER)

Sammar Min Allah, Muhammad Kashif Aslam,^{*} Iftikhar Hussain, Muhammad Ehtasham ul-Haq, Ali H. Al-Marzouqi^{*} and Maowen Xu^{*}

1762



Plant-extract-mediated synthesis of copper oxide nanoparticles for sustainable lead detoxification: experimental evaluation and docking studies

Nabila Shehata, Simranjeet Singh, Radhika Varshney, Pavithra N, Daljeet Singh Dhanjal and Praveen C. Ramamurthy^{*}

1776

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

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

