

Materials Advances

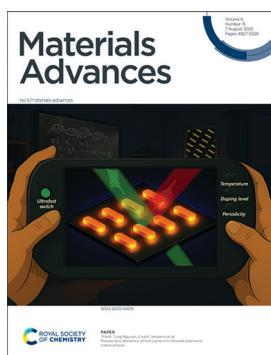
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ISSN 2633-5409 CODEN MAADC9 6(15) 4927–5326 (2025)



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See Thanh Tung Nguyen, Ewald Janssens et al., pp. 5035–5044.
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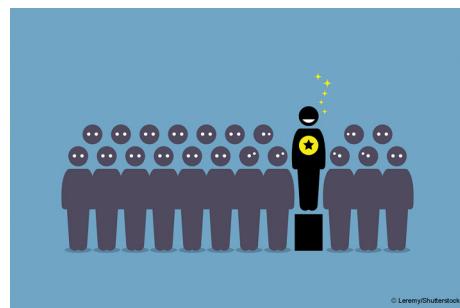
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See Zao Cheng and Patrizio Raffa, pp. 4939–4968.
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EDITORIAL

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Outstanding Reviewers for *Materials Advances* in 2024

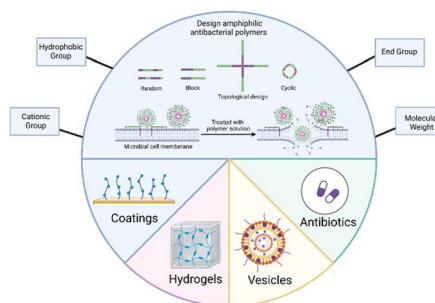


REVIEWS

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From design to application: amphiphilic copolymers as antimicrobial materials

Zao Cheng and Patrizio Raffa*



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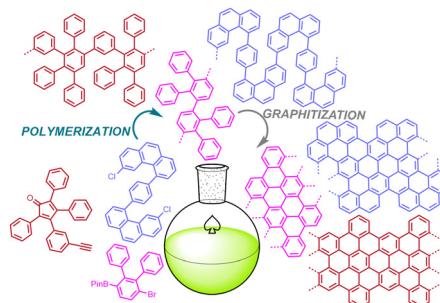


REVIEWS

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Solution-phase synthesis of graphene nanoribbons: a review on polymerization strategies

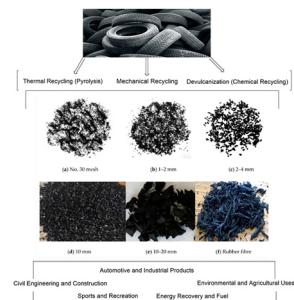
Kaysa Sekhavati, Vikas Sharma and Ashok Keerthi*



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A comprehensive review of tire recycling technologies and applications

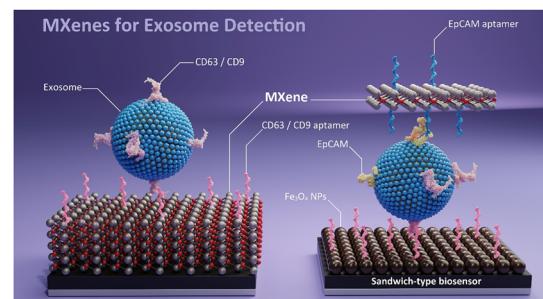
Waham Ashaier Laftah* and Wan Aizan Wan Abdul Rahman



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MXenes for exosome detection: a new frontier in biomolecular analysis

Siavash Iravani,* Atefeh Zarepour, Arezoo Khosravi, Ali Zarabi,* Ehsan Nazarzadeh Zare, Rajender S. Varma and Pooyan Makvandi*

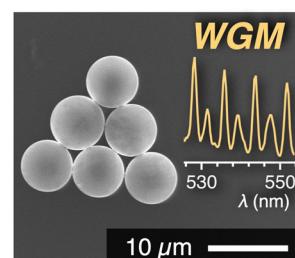


COMMUNICATION

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Monodisperse and size-modulable spherical optical resonators produced from synthetic polymers by inkjet printing toward applications under water

Kariana Kusuma Dewi, Hiroshi Yamagishi,* Wey Yih Heah, Sooyeon Kim, Asuma Kubono, Yuichi Taniguchi and Yohei Yamamoto*

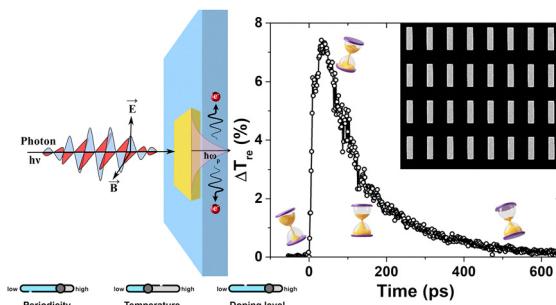


- **Monodisperse**
- **Spherical**
- **WGM resonance**
- **Versatile**



PAPERS

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**Picosecond dynamics of hot carriers in infrared plasmonic metasurfaces**

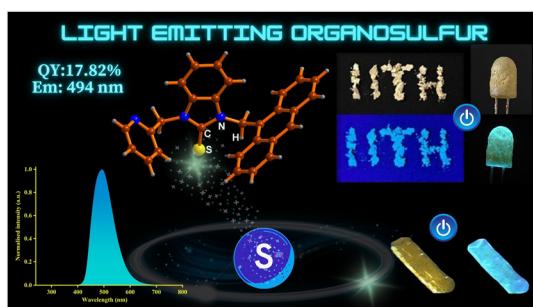
Matias Bejide, The Linh Pham, Amirmostafa Amirjani, Guillaume Libeert, Nils Deßmann, Thanh Tung Nguyen* and Ewald Janssens*

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**Development of a colorimetric sensor utilizing itaconic acid-mediated Griess reaction for sensitive detection of nitrite and nitrate in agricultural products**

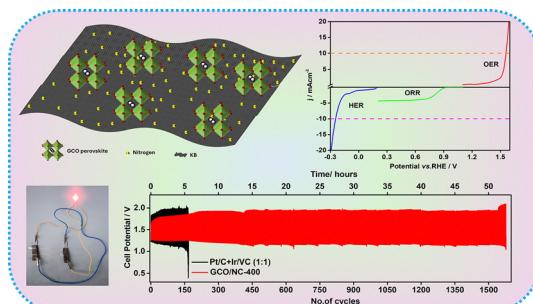
Anubhab Das, Sindhu I Sanakal, Gomathi Sivakumar, Anashwara Babu and Samarendra Maji*

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**Near blue light emitting benzimidazol-2-thione**

Bikash Lahkar, Gopendra Muduli, Suman Mandal, Arushi Rawat, Abhilash Sahu, Kohsuke Matsumoto, Osamu Tsutsumi and Ganesan Prabusankar*

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**Trifunctional GdCoO₃ perovskite electrocatalysts for zinc–air battery and water electrolysis applications**

Annet Anna Thomas, Anook Nazer Elelath, M. Junaid Bushiri and Azhagumuthu Muthukrishnan*



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Synthesis and characterization of lignin-modified geopolymers composites for aqueous phase sequestration of methyl orange dye in a fixed-bed column

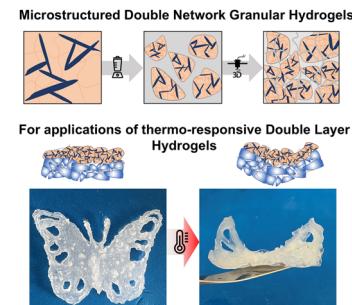
Idriss Kamdem Taquieuteu, Hermann Dzoujo Tamaguelon,* Victor Shikuku, Sylvain Tome, Donald Kamdem Njouond, Manelle Fouetack Dongmo, Hanibal Othman, Annette Vollrath, Abdulrahman Mohabbat, Christoph Janiak, Charles Banenzoué and David Joh Daniel Dina*



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Microstructured thermo-responsive double network granular hydrogels

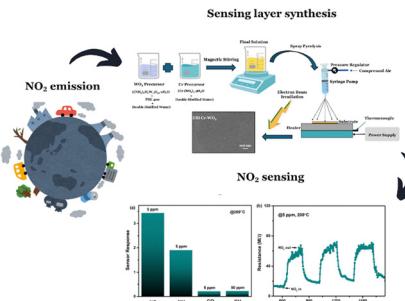
Alexandra Thoma, Reece Whatmore and Esther Amstad*



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Sensing of ultra-ppm level NO_2 gas via synergistic effects of Cr doping and e-beam irradiation in WO_3 nanostructures

Anusha, P. Poornesh,* Vikash Chandra Petwal, Vijay Pal Verma and Jishnu Dwivedi



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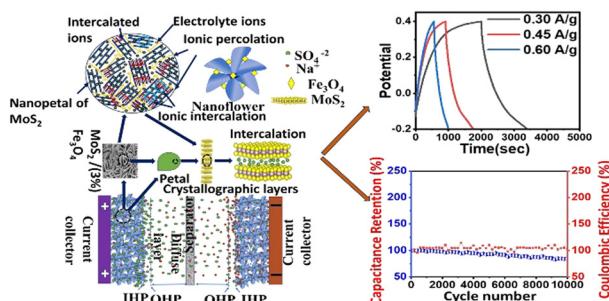
Exploring metal nanocomposites for asphaltene removal: the role of Cu-BTC, CoMn_2O_4 and K-OMS-2 in the adsorption and oxidation of asphaltenes

Abhishek Nayak, Shanon Viegas, Nithya Rajagopal, Adrian Marcel Rodrigues, Harshini Dasari and Nethaji Sundarabal*



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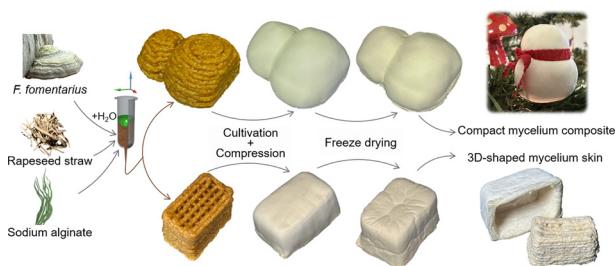
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Defect mediated modulation of electrochemical efficacy and stability of Fe₃O₄ nanodiamond incorporated MoS₂ based hierarchical 2D nanostructures for high performance supercapacitor electrodes

Md. Raihan Siddiki, Shahid Abubakar Abtahee, Mehedi Hasan, Mizanur Rahaman, Muhammad Rakibul Islam and Md. Abdullah Zubair*

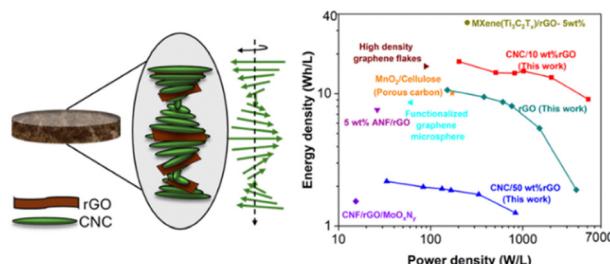
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Extrusion-based additive manufacturing of complex three-dimensional ultra-lightweight materials using the basidiomycete *Fomes fomentarius*

Huaiyou Chen,* Bertram Schmidt, Andrew Gennett, Paul H. Kamm, Aleksander Gurlo, Vera Meyer and Ulla Simon*

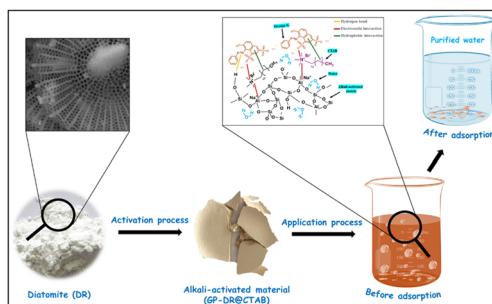
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Chiral biodeived supercapacitor electrodes based on cellulose nanocrystals

Sai Gowtham Allu, Mirina E. Enderlin and Paraskevi Flouda*

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Enhanced adsorption of Orange G dye using activated diatomite: a novel functionalization approach

Youssef Ettahiri,* Ayoub Aziz, Khadija Felaous, Abdessalam Bouddouch, Brahim Akhsassi, Lahcen Bouna, Abdeljalil Benlhachemi and Luis Pérez-Villarejo*

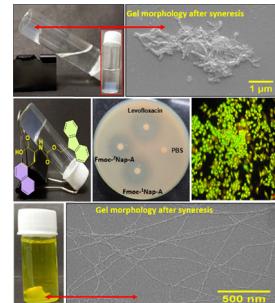


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External stimuli responsive syneresis of amino acid-based bioactive hydrogels: a sustainable platform for environmental remediation

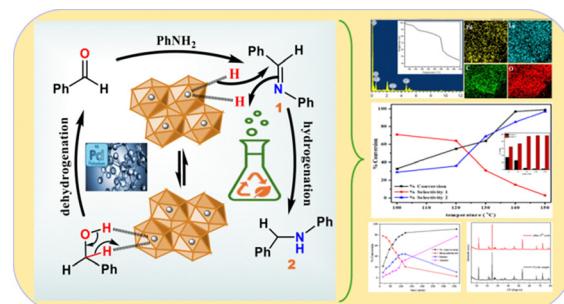
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Efficient and selective *N*-benzylation of amines using Pd-doped La-BDC MOF

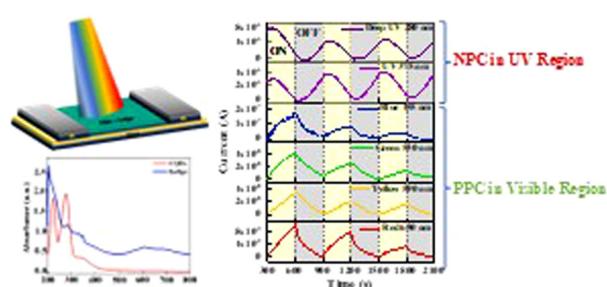
Amreet Kaur, Yadavinder Singh, Avtar Singh, Sandeep Kaushal* and Rahul Badru*



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Wavelength dependent bidirectional photoconductivity in carbon quantum dot embedded in indigo molecular layer with enhanced detectivity

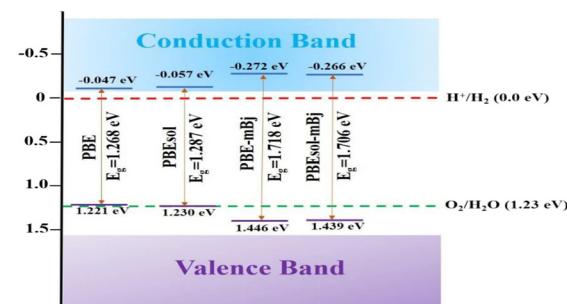
Amrita Bharati Mishra and R. Thamankar*



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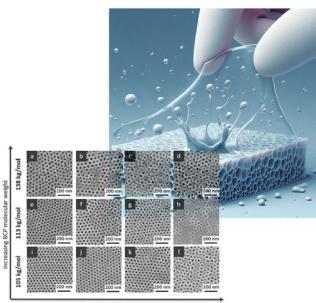
A DFT insight into lead free double halide perovskite Cs_2TeI_6 for clean and renewable energy sources

Md. Sajib Hossian, Md. Majibul Haque Babu, Alamgir Kabir,* Ahmed Azzouz Rached and Md. Ibrahim Kholil



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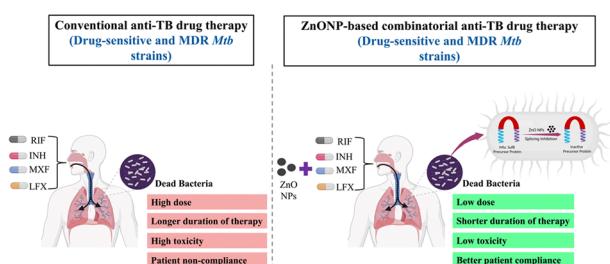
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Tailoring poly(vinylbenzocyclobutene)-*b*-poly(4-vinylpyridine) isoporous block copolymer membranes: functionalization and performance optimization

Michael Appold, Sofia Rangou,* Brigitte Lademann and Volkan Filiz*

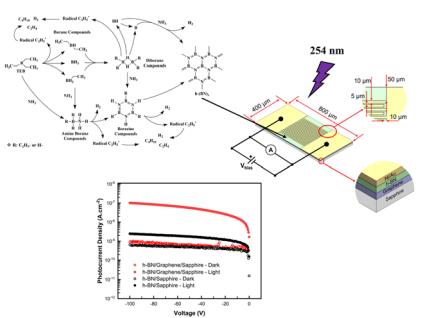
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Bactericidal activity of ZnO nanoparticles–anti-TB drug combination towards the H37Rv strain and multidrug-resistant isolates of *Mycobacterium tuberculosis* via SufB splicing inhibition

Deepak Kumar Ojha, Ashwaria Mehra, Sunil Swick Rout, Sidhartha Giri and Sasmita Nayak*

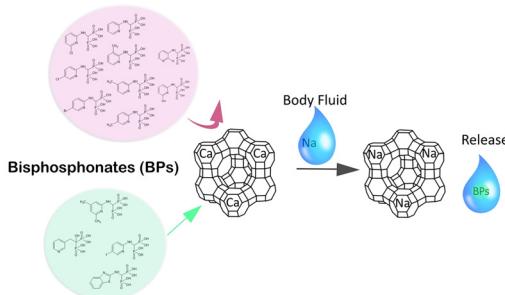
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van der Waals epitaxial growth of hexagonal boron nitride on graphene for enhanced deep ultraviolet sensing performance

Hoang Hung Nguyen, Seongjun Kim, Tran Viet Cuong, Huynh Tran My Hoa, Anh Hao Huynh Vo, Thien Trang Nguyen, Kang Bok Ko and Young Jae Park*

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Controlled release of aminomethylenebisphosphonates from a calcium zeolite carrier: investigating the impact of compound structure on sorption and release profiles

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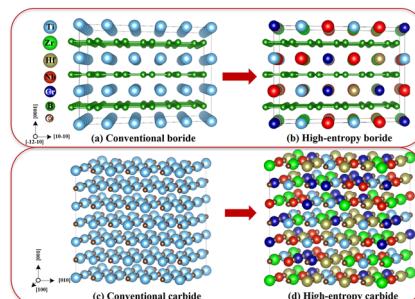


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Predictive screening of phase stability in high-entropy ceramics

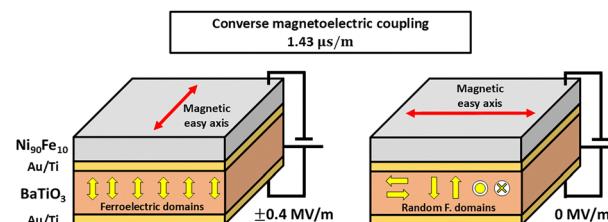
Muhammad Waqas Qureshi,* Shuguang Wei, Longfei Liu, Sudipta Paul, Jun Young Kim, Chuan Zhang, Xudong Wang, John H. Perepezko, Dane Morgan and Izabela Szlufarska*



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Voltage-controlled rotation of magnetic anisotropy in the Ni₉₀Fe₁₀/BaTiO₃(001) heterostructure

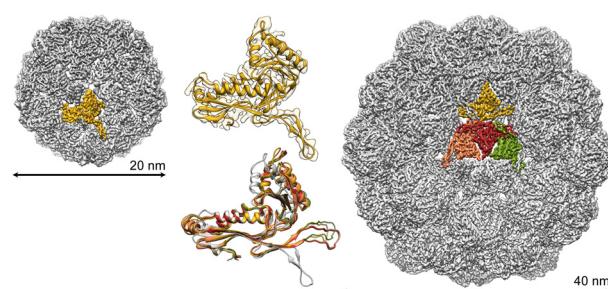
A. Begué, M. W. Khaliq, N. Cotón, I. Lorenzo-Feijoo, M. A. Niño, M. Foerster and R. Ranchal*



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Biocatalytic application and structural elucidation of robust bacterial protein nanocages

Ognjen Pećanac, Alexander Belyy,* Caterina Martin, Rosalie Kleissen, Marco W. Fraaije* and Nikola Lončar*



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Microwave-synthesized Bi₂MoO₆ nanoplates for high performance symmetric and asymmetric supercapattery devices

Anu, Pawanpreet Kour, Khadim Hussain, Prakash Chand, J. Nagendra Babu, C. S. Yadav, Joel Garcia,* Surender Kumar Sharma* and Kamlesh Yadav*

