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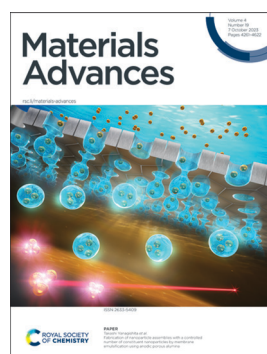
IN THIS ISSUE

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Cover

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Inside cover

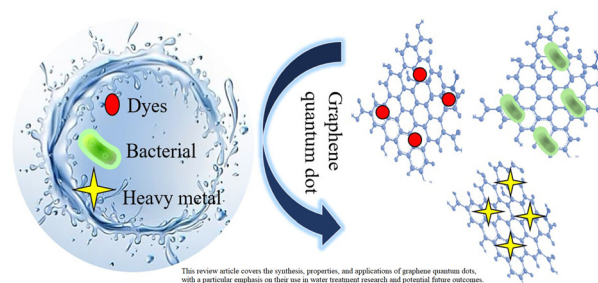
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REVIEWS

4272

Graphene quantum dots: synthesis, characterization, and application in wastewater treatment: a review

Peyman Gozali Balkanloo, Kolsum Mohammad Sharifi and Ahmad Poursattar Marjani*

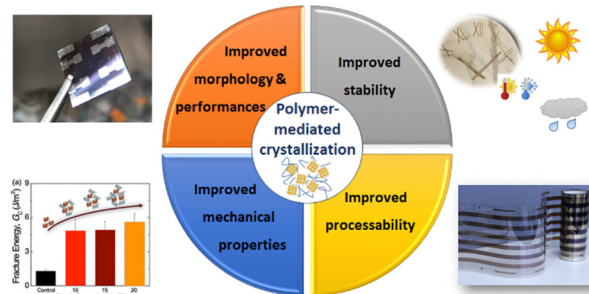


This review article covers the synthesis, properties, and applications of graphene quantum dots, with a particular emphasis on their use in water treatment research and potential future outcomes.

4294

Incorporation of functional polymers into metal halide perovskite thin-films: from interactions in solution to crystallization

Antonella Giuri,* Nadir Vanni, Muneeza Ahmad, Nicholas Rolston, Carola Esposito Corcione, Andrea Listorti, Silvia Colella and Aurora Rizzo*



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PERSPECTIVES

4317

MXene-based wearable supercapacitors and their transformative impact on healthcare

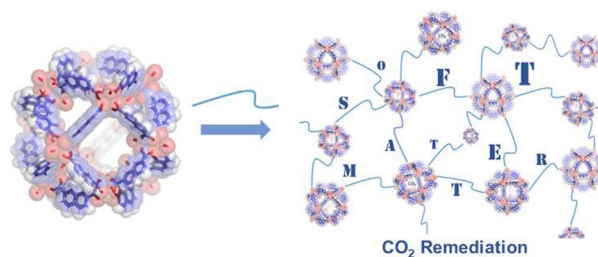
Siavash Iravani* and Rajender S. Varma



4333

Connecting metal–organic cages (MOCs) for CO₂ remediation

Javier Martí-Rujas

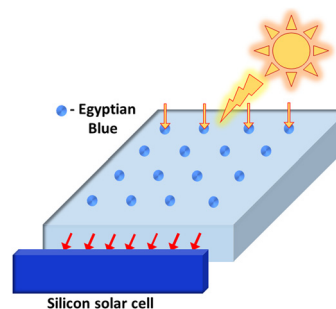


COMMUNICATION

4344

Eco-friendly Egyptian blue (CaCuSi₄O₁₀) dye for luminescent solar concentrator applications

Tharmakularasa Rajaramanan, Mansoureh Keykhaei, Fatemeh Heidari Gourji, Punniamoorthy Ravirajan, Meena Senthilnathanan, Øyvind Frette and Dhayalan Velauthapillai*

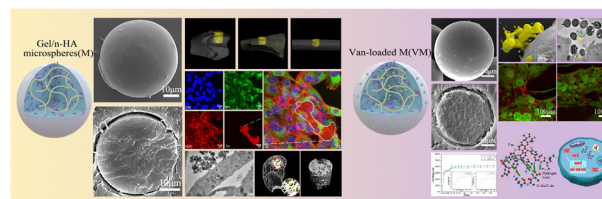


PAPERS

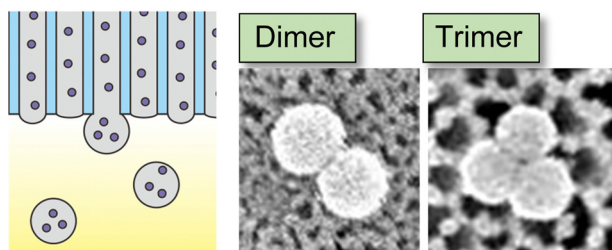
4349

Injectable gelatin microspheres for osteomyelitis treatment: osteogenic and anti-inflammatory effect

Rui Zhang, Li Chen, Yijing Stehle, Mingyue Lin, Chenxin Wang, Yufan Li, Min Huang, Yubao Li* and Qin Zou*



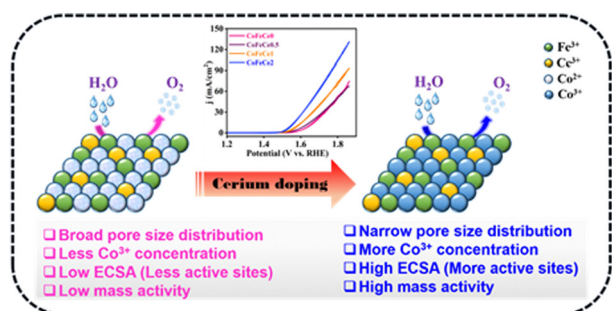
4369



Fabrication of nanoparticle assemblies with a controlled number of constituent nanoparticles by membrane emulsification using anodic porous alumina

Takashi Yanagishita,* Kantaro Yuda, Toshiaki Kondo and Hideki Masuda

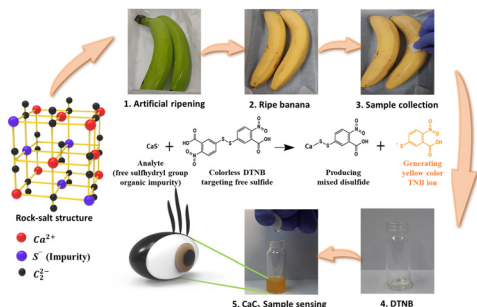
4377



Pore size and electronic tuning in cerium-doped CoFe-LDH for the oxygen evolution reaction

Parul Aggarwal, Bhupendra Singh and Amit Paul*

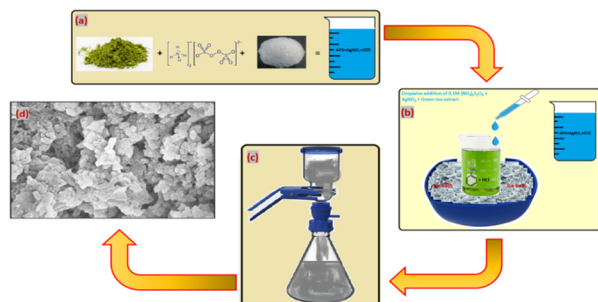
4390



Colorimetric sensing of calcium carbide over banana peels using 5,5'-dithiobis-(2-nitrobenzoic acid) (DTNB) as a rapid chemoreceptor: a point of care tool for food fraud analysis

Sonam Sonwal, Shruti Shukla,* Munirah Alhammadi, Reddicherla Umapathi, Hemanth P. K. Sudhani, Youngjin Cho* and Yun Suk Huh*

4400



Nanoclay-based conductive and electromagnetic interference shielding properties of silver-decorated polyaniline and its nanocomposites

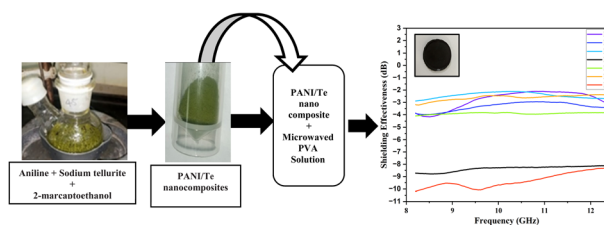
Revanasiddappa Moolemane,* Haridasa Nayak, Naveen Marudhachalam, Anantha Krishnan Coimbatore Venkatasubramanian, Anirudh Raj Arunachalam Chandra, Arun Murugappan Iyyappan and Suresh Babu Naidu Krishna*



4409

Novel synthesis of polyaniline/tellurium (PANI/Te) nanocomposite and its EMI shielding behavior

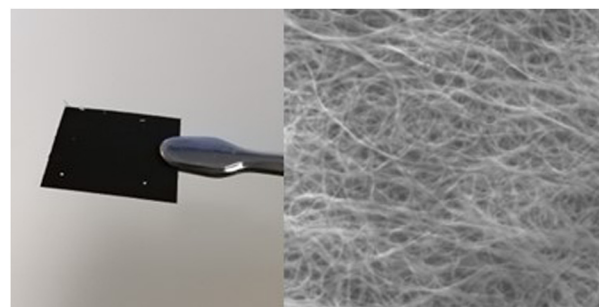
Alok Kumar Yadav, Naeem Mohammad and Pawan K. Khanna*



4417

Hierarchical porous-structured self-standing carbon nanotube electrode for high-power lithium–oxygen batteries

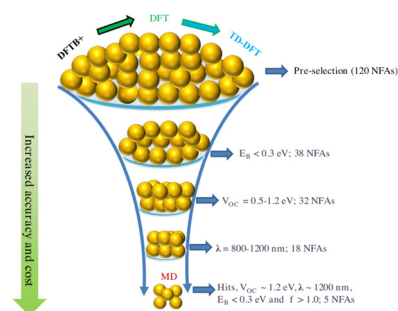
Jitraporn Saengkaew, Takashi Kameda and Shoichi Matsuda*



4425

Design and screening of B–N functionalized non-fullerene acceptors for organic solar cells via multiscale computation

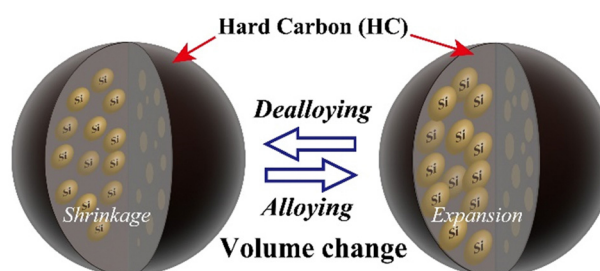
Rudranarayan Khatua and Anirban Mondal*



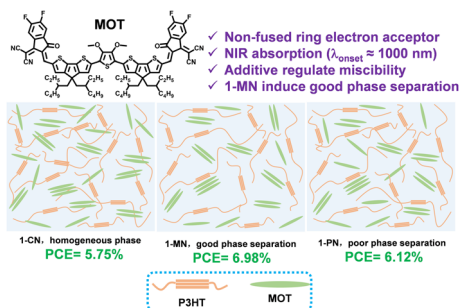
4436

Degradation suppression effect of amorphous-hard-carbon-bundled Si-based negative electrode

Uran Tsunoda, Koji Hiraoka, Yoshikazu Kobayashi, Takao Kunimi and Shiro Seki*



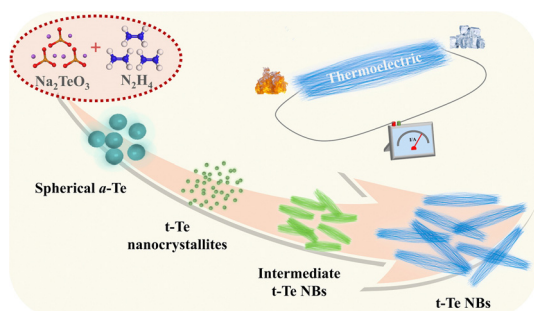
4444



Additive engineering for high-performance P3HT:non-fused ring electron acceptor organic solar cell

Dou Luo, Lanqing Li, Erjun Zhou, Wai-Yeung Wong and Aung Ko Ko Kyaw*

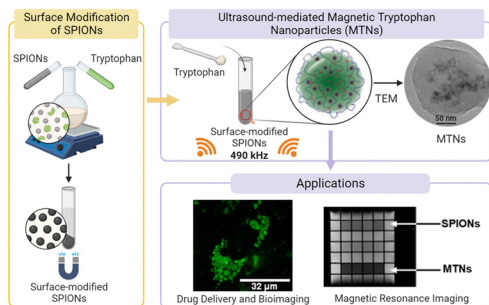
4455



A systematic study on synthesis parameters and thermoelectric properties of tellurium nanowire bundles

Yanmei Ren, Rongke Sun, Xue Yu, Ruoxi Wang, Wusheng Zhang, Xiaodong Zhu, Yanqing Ma* and Lei Ma*

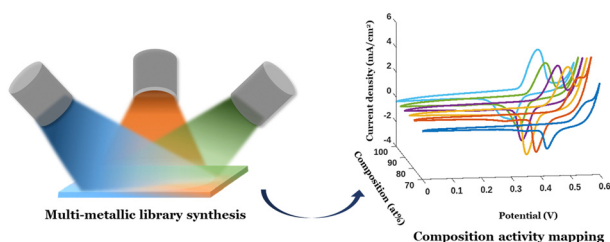
4463



Ultrasound-driven fabrication of hybrid magnetic tryptophan nanoparticles

Anshul Baral, Haiyan Zhu, Bradford A. Moffat, Santanu Chattopadhyay, Francesca Cavalieri* and Muthupandian Ashokkumar*

4472



Exploration of a NiFeV multi-metal compositional space for the oxygen evolution reaction

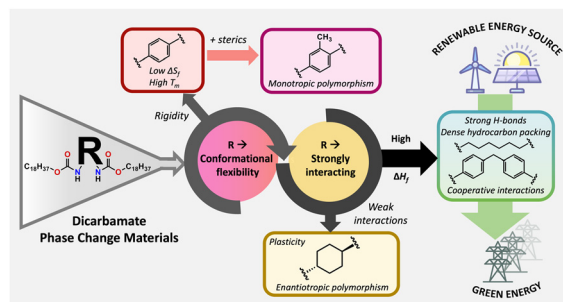
Anagha Usha Vijayakumar, Jael George Mathew, Anya Muzikansky, Hannah-Noa Barad* and David Zitoun*



4482

Probing crystal structures of dicarbamate phase change materials to inform structural design

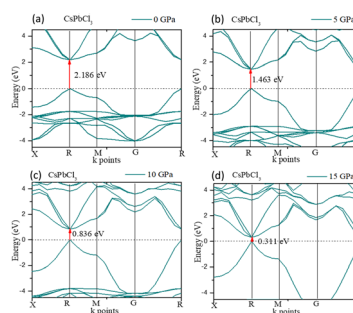
Samantha L. Piper, Craig M. Forsyth, Mega Kar, Luke A. O'Dell, Jisheng Ma, Jennifer M. Pringle, Douglas R. MacFarlane and Karolina Matuszek*



4494

Pressure-dependent comparative study of the mechanical, electronic, and optical properties of CsPbX₃ (X = Cl, Br, I): a DFT study for optoelectronic applications

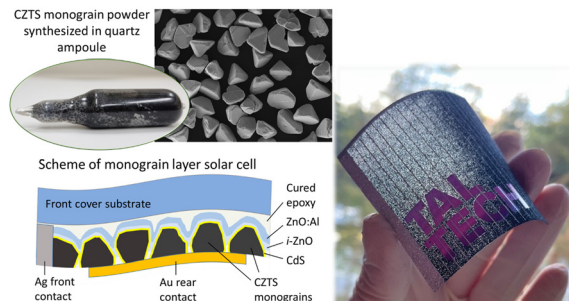
M. Aktary,* M. Kamruzzaman* and R. Afrose



4509

Influence of alkali iodide fluxes on Cu₂ZnSnS₄ monograin powder properties and performance of solar cells

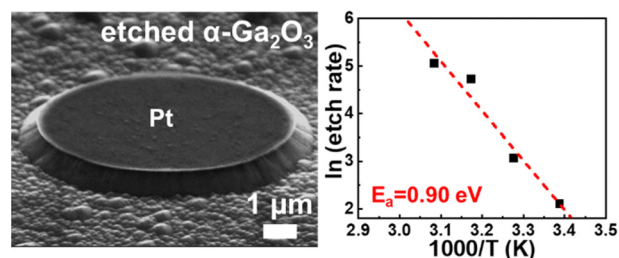
Kristi Timmo,* Maris Pilvet, Katri Muska, Mare Altosaar, Valdek Mikli, Reelika Kaupmees, Raavo Josepson, Jüri Krustok, Maarja Grossberg-Kuusik and Marit Kauk-Kuusik



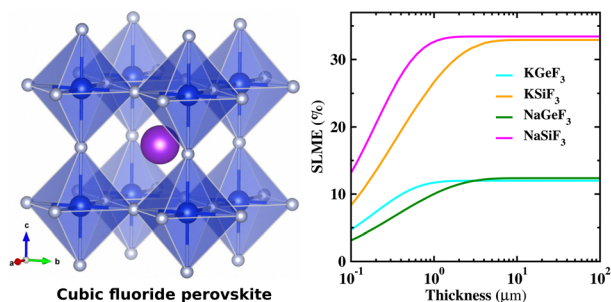
4520

Photo-enhanced metal-assisted chemical etching of α -gallium oxide grown by halide vapor-phase epitaxy on a sapphire substrate and its applications

Woong Choi, Dae-Woo Jeon, Ji-Hyeon Park, Dongryul Lee, Soobeen Lee, Kwang Hyeon Baik and Jihyun Kim*



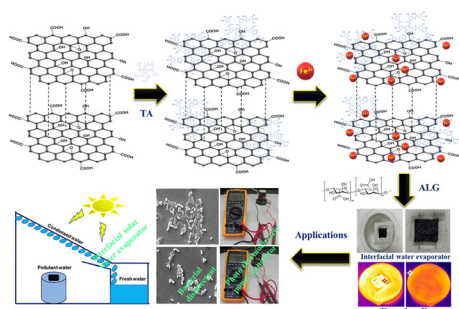
4528



First-principles study on the optoelectronic and mechanical properties of all-inorganic lead-free fluoride perovskites ABF₃ (A = Na, K and B = Si, Ge)

Chol-Jin Pak, Un-Gi Jong,* Chung-Jin Kang, Yun-Sim Kim, Yun-Hyok Kye and Chol-Jun Yu*

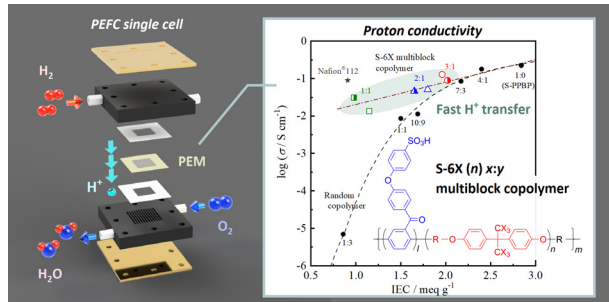
4537



A Multifunctional tannic acid-Fe³⁺-graphene oxide loaded alginate photothermal network: an interfacial water evaporator, a disinfectant and a power generator

M. Amarnath, Hirakendu Basu,* Ranita Basu, Pallavi Chandwadkar, Celin Acharya, Shweta Singh, Suresh Kumar Kailasa and Chandra Nath Patra

4555



Multiblock-copolymerisation-derived sulfonated-poly(*p*-phenylene)-based polymer electrolyte membranes with simultaneously enhanced proton conductivity and mechanical strength

Miru Yoshida-Hirahara, Masahiro Yoshizawa-Fujita, Yuko Takeoka and Masahiro Rikukawa*

4571



Synthesis and photophysical properties of (post-)functionalized BOAHY dyes with strong aggregation-induced emission

Jonathan B. F. Vandenwijngaerden, Jianjun Huang, Charlotte Cresens, Wim Dehaen, Luc Van Meervelt, Susana Rocha, Mark Van der Auweraer and Eduard Fron*

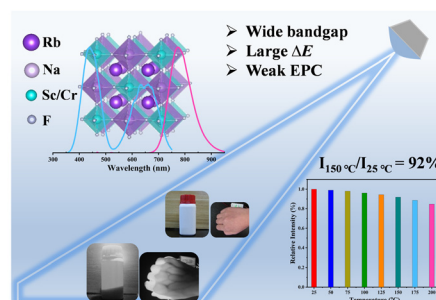


PAPERS

4583

Near-infrared luminescence and high thermal stability of $\text{Rb}_2\text{NaScF}_6:\text{Cr}^{3+}$ phosphor for spectroscopy applications

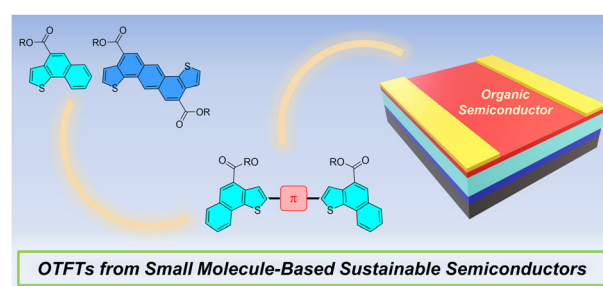
Lingxiang Chu, Yi Qin, Tao Yang, Jing Wan, Qiang Zhou,* Huaijun Tang, Yanqing Ye and Zhengliang Wang*



4590

Solution-processable thin-film transistors from anthradithiophene (ADT) and naphthothiophene (NT) small molecule-based p-type organic semiconductors

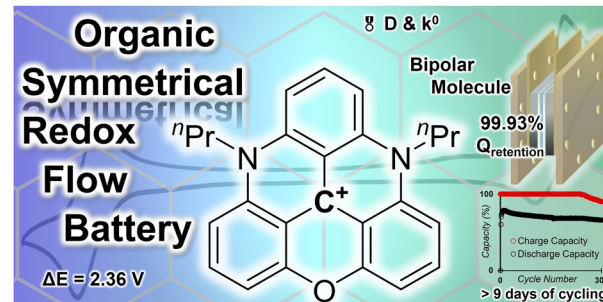
Andrea Nitti, Mattia Scagliotti, Luca Beverina, Luigi Mariucci, Matteo Rapisarda* and Dario Pasini*



4598

Planar carbenium ions for robust symmetrical all organic redox flow batteries

Jules Moutet, Marko H. Nowack, David D. Mills, Diego L. Lozier, Bo W. Laursen and Thomas L. Gianetti*



4607

Cavity structured S-NiO with improved energy density for aqueous asymmetric hybrid supercapacitors by CDA mechanism

Pratik Ashok Patil, Suraj Anandrao Khalate, Umakant Mahadev Patil, Rajendra Devidas Kale and Sachin Babasaheb Kulkarni*

