

Materials Advances

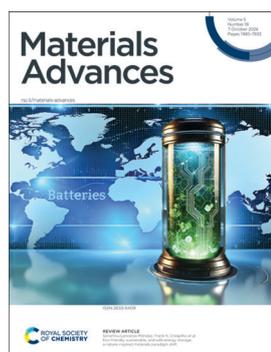
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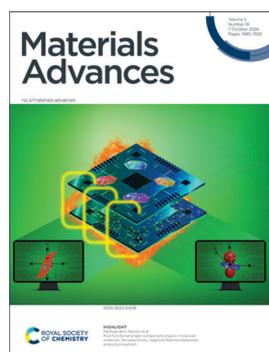
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Inside cover

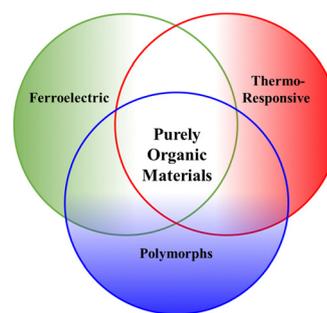
See Parthapratim Munshi *et al.*, pp. 7495–7515. Image reproduced by permission of Parthapratim Munshi from *Mater. Adv.*, 2024, 5, 7495.

HIGHLIGHT

7495

Multifunctional single-component organic molecular materials: ferroelectricity, negative thermal expansion, and polymorphism

Sanjay Dutta, Lalita Negi and Parthapratim Munshi*

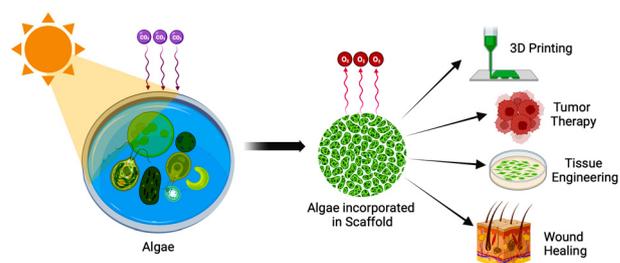


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Roadmap of algal autotrophic tissue engineering in the avenue of regenerative wound therapy

Nikhita Pandian, Radhika Chaurasia, Satyaki Chatterjee, Bhaskar Biswas, Prabir Patra, Archana Tiwari* and Monalisa Mukherjee*



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REVIEWS

7534

Eco-friendly, sustainable, and safe energy storage: a nature-inspired materials paradigm shift

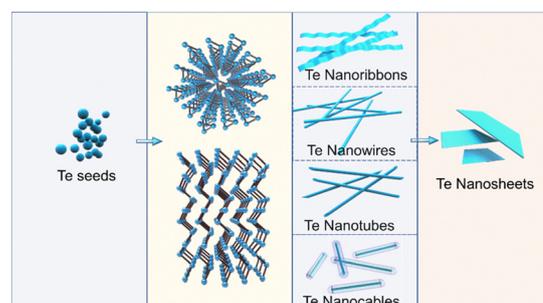
Thiago Bertaglia, Carlos M. Costa, Senentxu Lanceros-Méndez* and Frank N. Crespilho*



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Morphology-controlled synthesis, growth mechanism, and applications of tellurium nanostructures

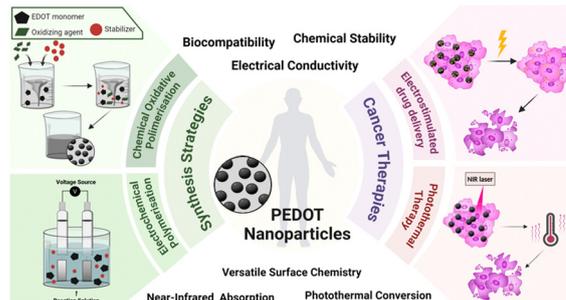
Jinshu Li, Qingshan Yang, Dawei He, Yongsheng Wang, Euyheon Hwang and Yajie Yang*



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Synthesis strategies and cancer therapy applications of PEDOT nanoparticles

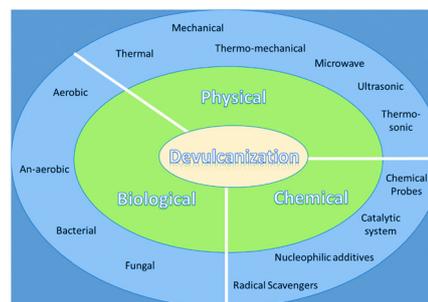
Diogo Dias, Leonor Resina, Frederico Castelo Ferreira, Paola Sanjuan-Alberte* and Teresa Esteves*



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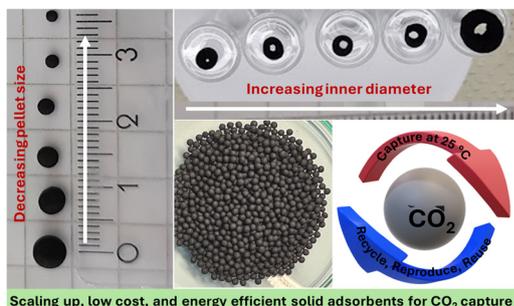
Advances in recycling of waste vulcanized rubber products via different sustainable approaches

Amit Kumar, Ritesh J. Dhanorkar, Subhra Mohanty and Virendra Kumar Gupta*



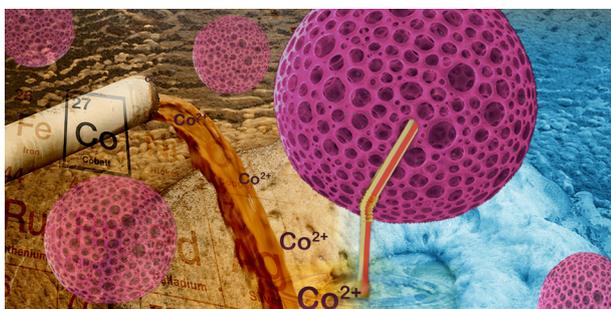
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Scaling up, low cost, and energy efficient solid adsorbents for CO₂ capture**Porous carbon pellets for physical adsorption of CO₂: size and shape effect**

Baljeet Singh,* Marianna Kemell and Timo Repo*

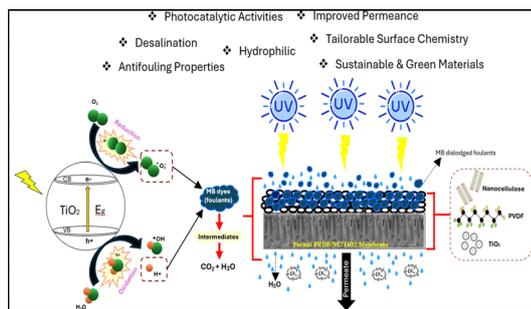
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**EDTA-functionalized hierarchical porous microspheres for effective cobalt ion recovery from water**

Mao-Hsuan Peng and Chia-Chen Li*

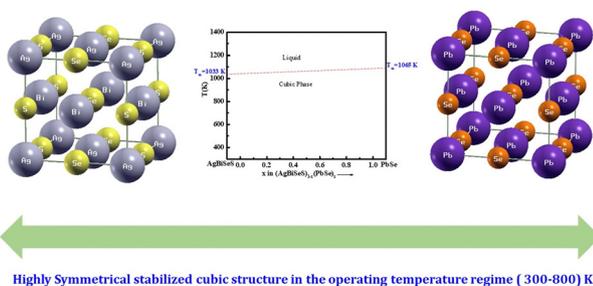
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**A TiO₂ grafted bamboo derivative nanocellulose polyvinylidene fluoride (PVDF) nanocomposite membrane for wastewater treatment by a photocatalytic process**

Md Rezaur Rahman,* Anthonette James, Khairul Anwar Mohamed Said, Murtala Namakka, Mayeen Uddin Khandaker, Woo Haw Jiunn, Jehan Y. Al-Humaidi, Raed H. Althomali and Mohammed Muzibur Rahman

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**Entropy engineering in I–V–VI₂ family: a paradigm to bestow enhanced average ZT in the entire operating temperature regime**

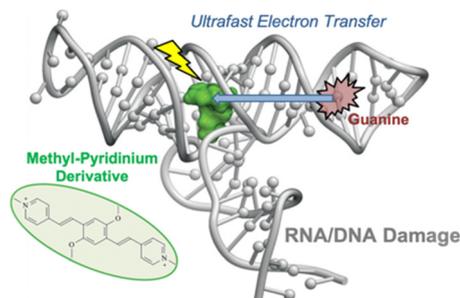
Ranita Basu,* U. Sandhya Shenoy, Ankita Pathak, Shweta Singh, P. Jha, D. Krishna Bhat, Hirakendu Basu and Ajay Singh



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Direct observation of guanine photo-oxidation from new potential anticancer drugs *via* ultrafast electron transfer

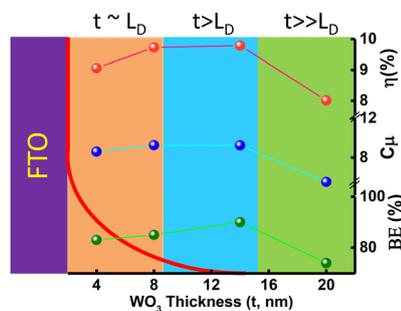
Alessio Cesaretti, Giulia Pantella, Gianmarco Reali, Giuseppe Consiglio, Cosimo G. Fortuna, Fausto Elisei, Anna Spalletti and Benedetta Carlotti*



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Enhanced efficiency of dye-sensitized solar cells *via* controlled thickness of the WO₃ Langmuir–Blodgett blocking layer in the Debye length regime

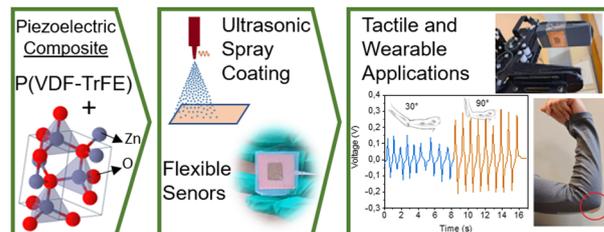
Neeraj Kumar, Sipra Choudhury, Aman Mahajan and Vibha Saxena*



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Toward high quality tactile sensors using ZnO/P(VDF-TrFE) flexible piezoelectric composite films

Sepide Taleb,* Wiebren M. van Lingen and Mónica Acuautila



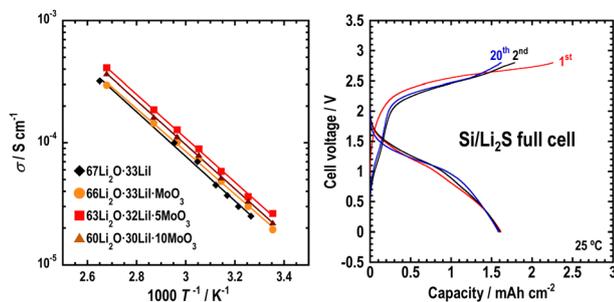
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Water sorption studies with mesoporous multivariate monoliths based on UiO-66

Linia Gedi Marazani, Victoria Gascon-Perez, Ayush Pathak, Michele Tricarico, Jin-Chong Tan, Michael J. Zaworotko, Andrew E. H. Wheatley, Banothile C. E. Makhubela and Gift Mehlana*



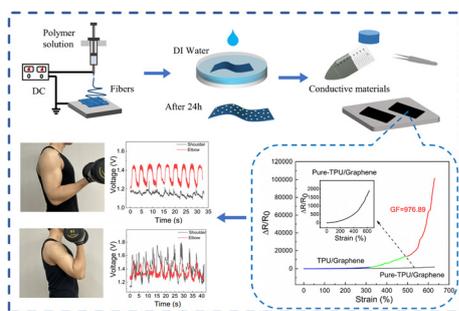
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Amorphous $\text{Li}_2\text{O-LiI-MoO}_3$ solid electrolytes: mechanochemical synthesis and application to all-solid-state batteries

Yushi Fujita, Tomoya Otono, Taichi Asakura, Jiong Ding, Hirofumi Tsukasaki, Shigeo Mori, Kota Motohashi, Atsushi Sakuda* and Akitoshi Hayashi

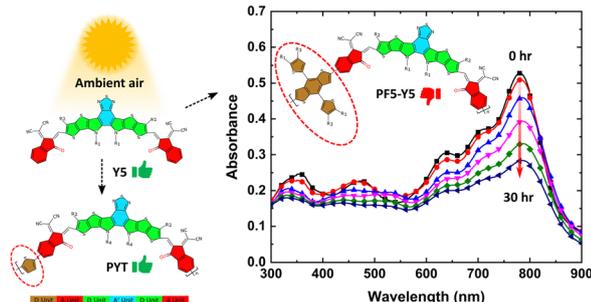
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Highly tensile and sensitive strain sensors with micro-nano topology optimization

Weixia Lan, Qiqi Ding, Tao Zhou, Zilong Guo, Wenbin Sun, Zhenghui Wu,* Yingjie Liao,* Bin Wei and Yuanyuan Liu*

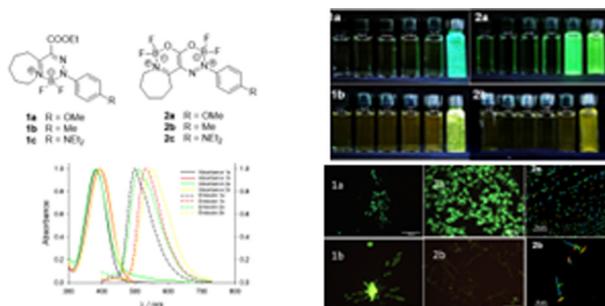
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Effect of molecular structure on the photochemical stability of acceptor and donor polymers used in organic solar cells

Suraj Prasad, Zewdneh Genene, Cleber F. N. Marchiori, Shivam Singh, Leif K. E. Ericsson, Ergang Wang, C. Moyses Araujo and Ellen Moons*

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Solid-state and aggregation-induced emission of novel bicyclic and tricyclic difluoroboron heterocycles

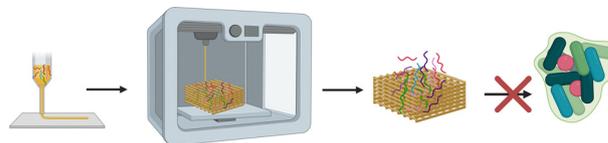
Martina Žabenská, Chiara Capolungo, Chiara Mariani, Damiano Genovese, Tomáš Mikysek, Jiří Vaňa, Aleš Růžička, František Josefík, Markéta Svobodová* and Petr Šimůnek*



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3D printable gelatin/nisin biomaterial inks for antimicrobial tissue engineering applications

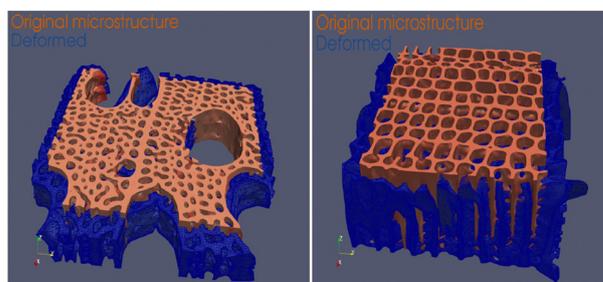
Mateo Dallos Ortega, Jenny Aveyard, Alexander Ciupa, Robert J. Poole, David Whetnall, Julia G. Behnsen and Raechelle A. D'Sa*



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Developing the orthotropic linear-elastic model for wood applications using the FE method

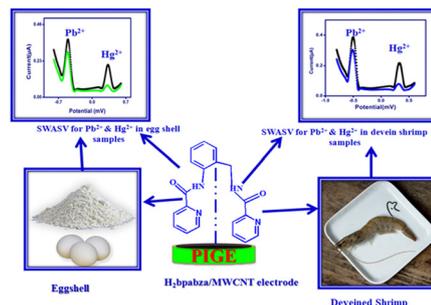
Tarik Chakkour* and Patrick Perré



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Stripping analysis of Pb²⁺ and Hg²⁺ in deveined shrimp and eggshells using a H₂bpbzta/MWCNT-modified graphite electrode

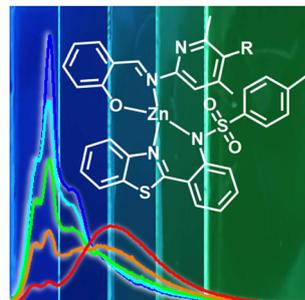
Kumar Sangeetha Selvan,* Jayagopi Gayathri* and Sivakumar Sivalingam



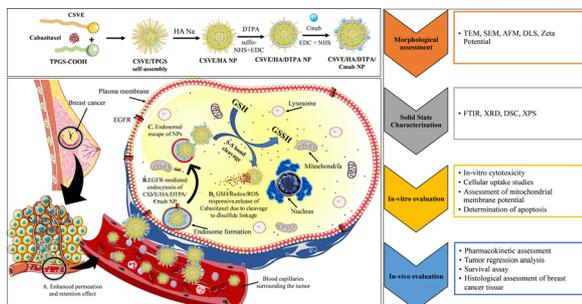
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Zinc(II)-heteroligand compounds for wet processing OLEDs: a study on balancing charge carrier transport and energy transfer

Emmanuel Santos Moraes, Luís Gustavo Teixeira Alves Duarte, Fabiano Severo Rodembusch, José Carlos Germino,* Luiz Fernando Ribeiro Pereira* and Teresa Dib Zambon Atvars*



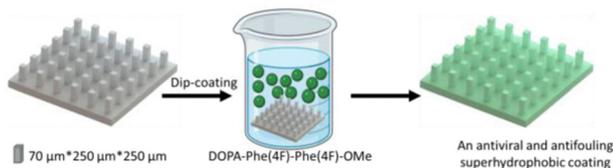
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Cabazitaxel-loaded redox-responsive nanocarrier based on D-alpha-tocopheryl-chitosan and hyaluronic acid for improved anti-tumor efficacy in DMBA-induced breast cancer model

Abhishek Jha, Manish Kumar, Pooja Goswami, Kanchan Bharti, Manjit Manjit, Ashutosh Gupta, Sudheer Moorkoth, Biplob Koch* and Brahmeshwar Mishra*

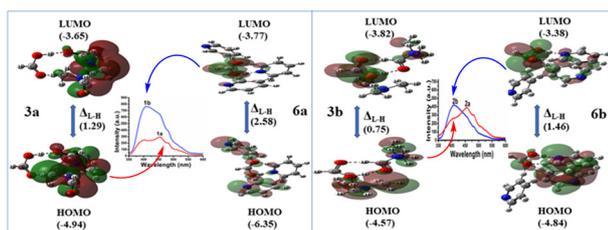
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An antifouling and antiviral superhydrophobic elastomer formed by 3D printing and a peptide-based coating

Tan Hu, Noa Trink, Shlomo Magdassi* and Meital Rechtes*

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Development of photoluminescent hydrogen-bonded frameworks based on pyromellitic diimide-tethered carboxylic acid hosts and multi-bonding solvent guests

Raju Ram Puniya, Priyanka Takhar, Monika Chhapoliya, Rinki Deka, Dhruva Jyoti Kalita and Devendra Singh*

