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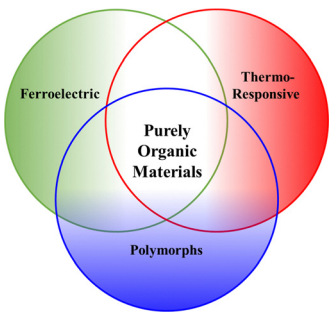
Inside cover
See Parthapratim Munshi *et al.*, pp. 7495–7515. Image reproduced by permission of Parthapratim Munshi from *Mater. Adv.*, 2024, **5**, 7495.

HIGHLIGHT

7495

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

Sanjay Dutta, Lalita Negi and Parthapratim Munshi*

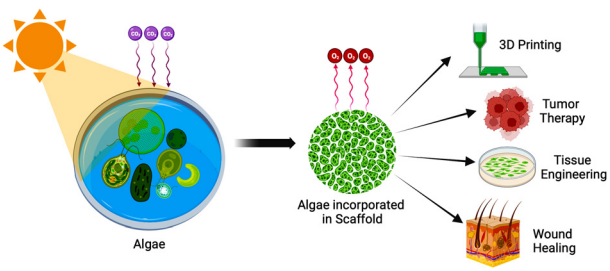


PERSPECTIVE

7516

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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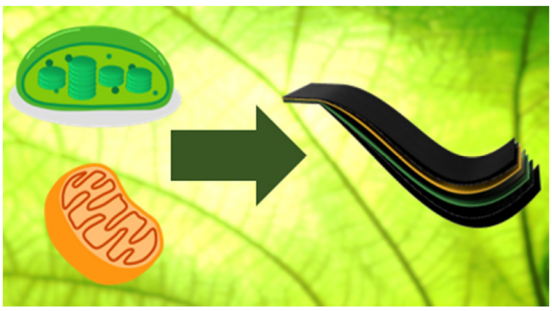
REVIEWS

7534

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

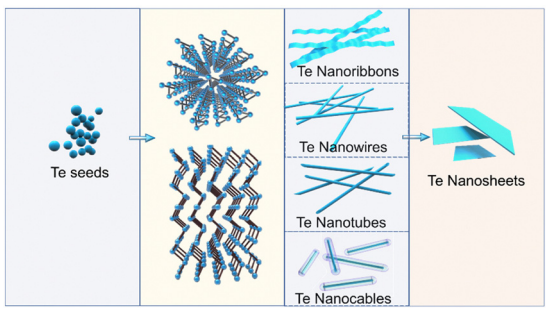
Thiago Bertaglia, Carlos M. Costa, Senentxu Lanceros-Méndez* and Frank N. Crespilho*



7548

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

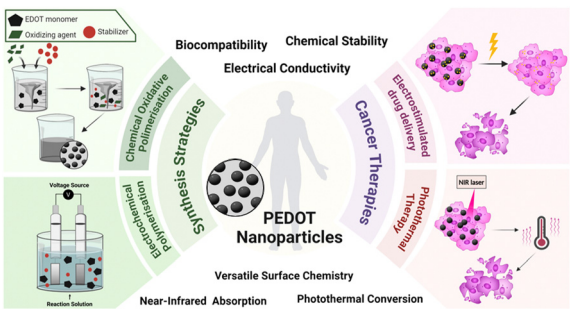
Jinshu Li, Qingshan Yang, Dawei He, Yongsheng Wang, Euyheon Hwang and Yajie Yang*



7561

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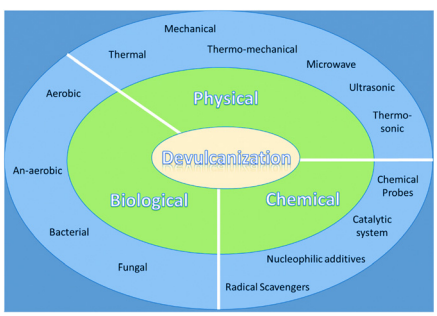
Advances in recycling of waste vulcanized rubber products *via* different sustainable approaches

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



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COMMUNICATIONS

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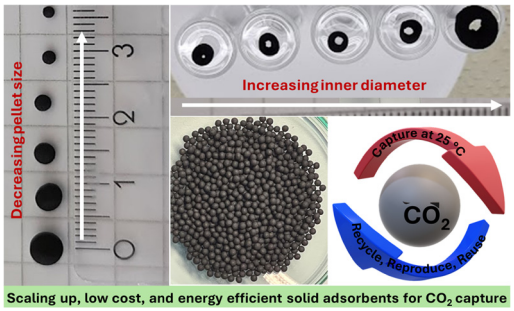

Porous carbon pellets for physical adsorption of CO_2: size and shape effect

Baljeet Singh,* Marianna Kemell and Timo Repo*

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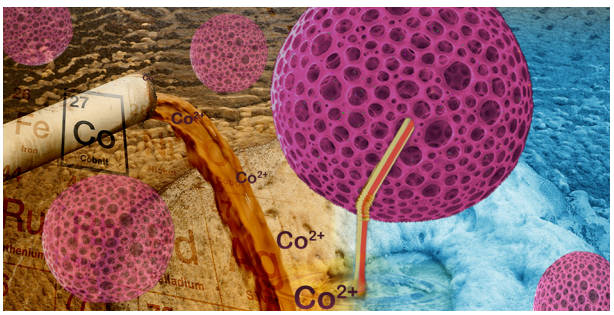

EDTA-functionalized hierarchical porous microspheres for effective cobalt ion recovery from water

Mao-Hsuan Peng and Chia-Chen Li*

PAPERS

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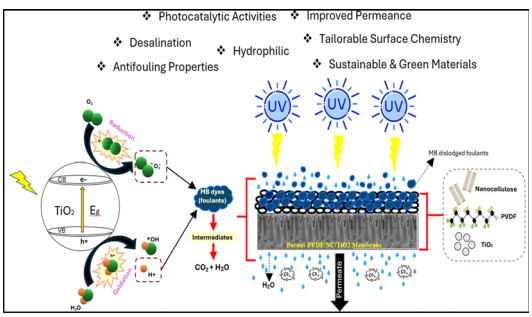

A TiO_2 grafted bamboo derivative nanocellulose polyvinylidene fluoride (PVDF) nanocomposite membrane for wastewater treatment by a photocatalytic process

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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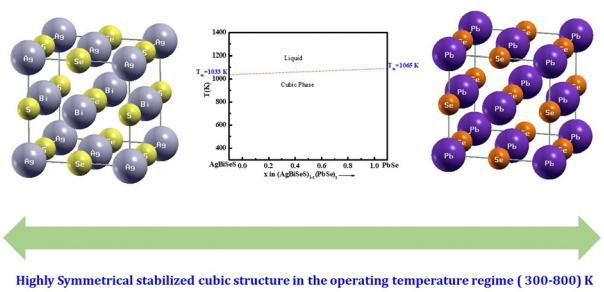

Entropy engineering in I–V–VI_2 family: a paradigm to bestow enhanced average *ZT* in the entire operating temperature regime

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

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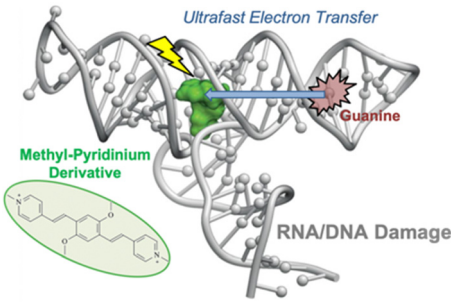
Direct observation of guanine photo-oxidation from new potential anticancer drugs *via* ultrafast electron transfer

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



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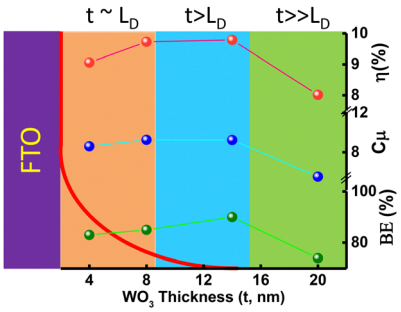
Enhanced efficiency of dye-sensitized solar cells *via* controlled thickness of the WO_3 Langmuir–Blodgett blocking layer in the Debye length regime

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



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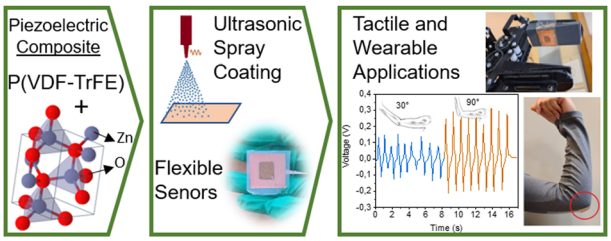
Toward high quality tactile sensors using ZnO/P(VDF-TrFE) flexible piezoelectric composite films

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



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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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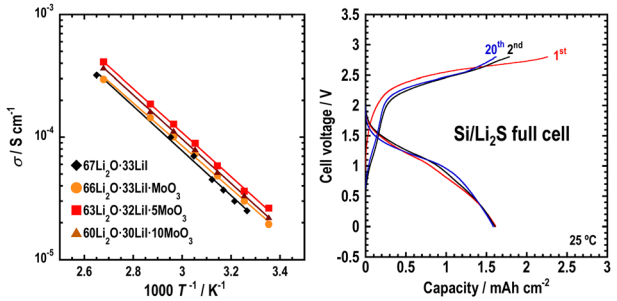

Amorphous Li_2O–LiI–MoO_3 solid electrolytes: mechanochemical synthesis and application to all-solid-state batteries

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

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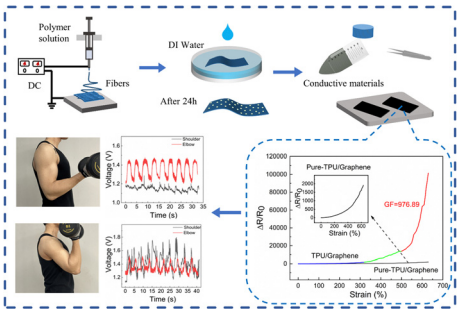

Highly tensile and sensitive strain sensors with micro–nano topology optimization

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

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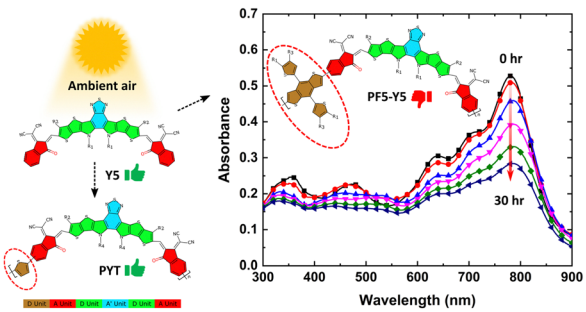

Effect of molecular structure on the photochemical stability of acceptor and donor polymers used in organic solar cells

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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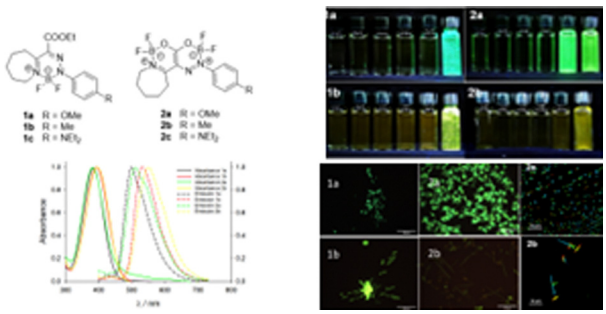

Solid-state and aggregation-induced emission of novel bicyclic and tricyclic difluoroboron heterocycles

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

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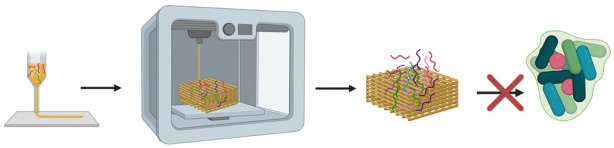
3D printable gelatin/nisin biomaterial inks for antimicrobial tissue engineering applications

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



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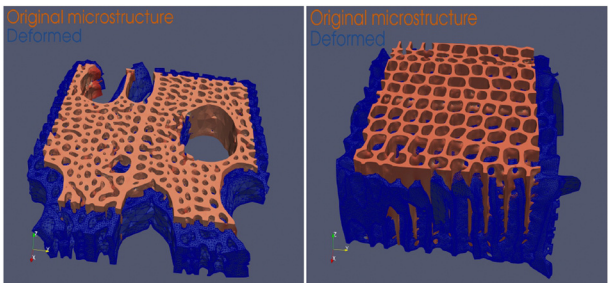
Developing the orthotropic linear-elastic model for wood applications using the FE method

Tarik Chakkour* and Patrick Perré



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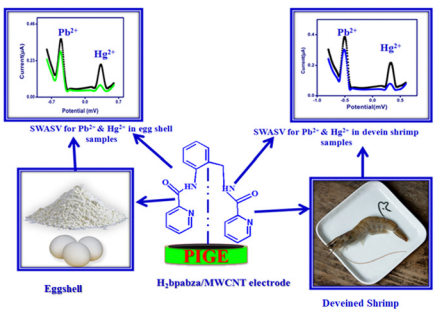
Stripping analysis of Pb^{2+} and Hg^{2+} in deveined shrimp and eggshells using a H_2bpabza/MWCNT–modified graphite electrode

Kumar Sangeetha Selvan,* Jayagopi Gayathri* and Sivakumar Sivalingam



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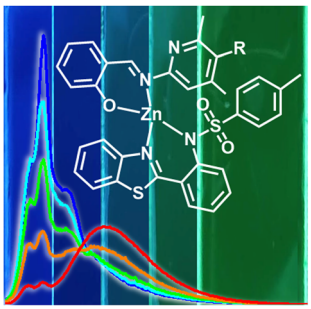
Zinc(II)-heteroligand compounds for wet processing OLEDs: a study on balancing charge carrier transport and energy transfer

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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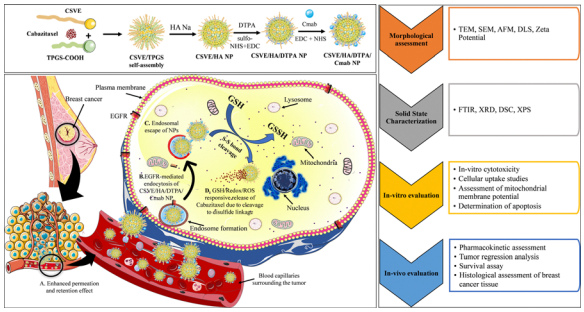

Cabazitaxel-loaded redox-responsive nanocarrier based on D-alpha-tocopheryl-chitosan and hyaluronic acid for improved anti-tumor efficacy in DMBA-induced breast cancer model

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

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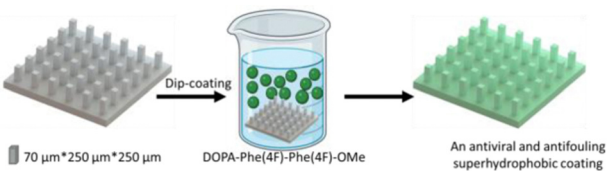

An antifouling and antiviral superhydrophobic elastomer formed by 3D printing and a peptide-based coating

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

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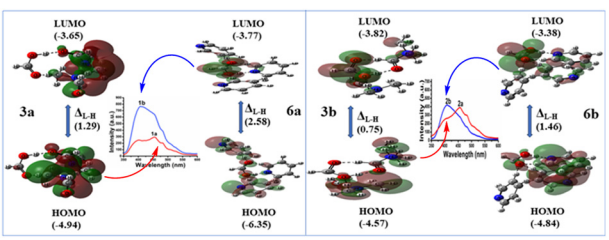

Development of photoluminescent hydrogen-bonded frameworks based on pyromellitic diimide-tethered carboxylic acid hosts and multi-bonding solvent guests

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

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