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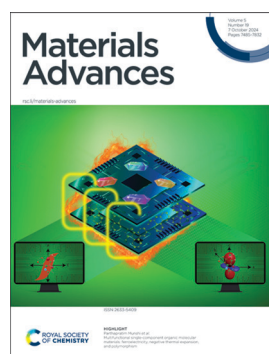
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ISSN 2633-5409 CODEN MAADC9 5(19) 7485-7832 (2024)



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See Senentxu Lanceros-Méndez, Frank N. Crespilho *et al.*, pp. 7534–7547. Image reproduced by permission of Frank Nelson Crespilho and Thiago Bertaglia from *Mater. Adv.*, 2024, 5, 7534. Image generated by Bria AI.



### Inside cover

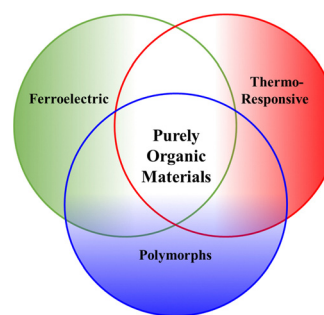
See Parthapratim Munshi *et al.*, pp. 7495–7515. Image reproduced by permission of Parthapratim Munshi from *Mater. Adv.*, 2024, 5, 7495.

## HIGHLIGHT

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

Sanjay Dutta, Lalita Negi and Parthapratim Munshi\*

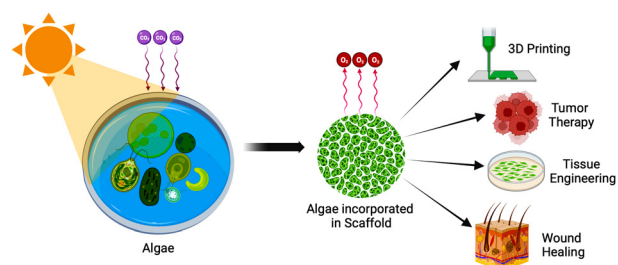


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### Roadmap of algal autotrophic tissue engineering in the avenue of regenerative wound therapy

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



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## REVIEWS

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

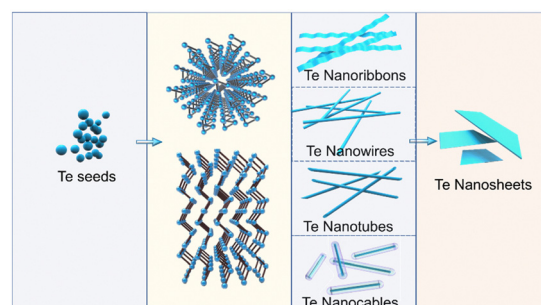
Thiago Bertaglia, Carlos M. Costa, Senentxu Lanceros-Méndez\* and Frank N. Crespilho\*



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

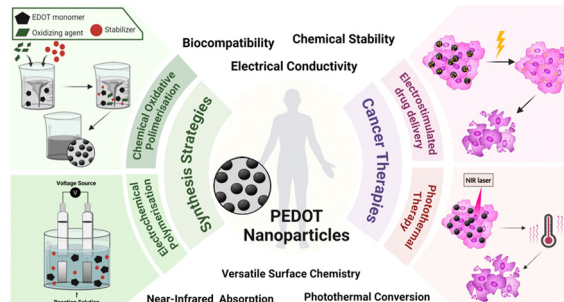
Jinshu Li, Qingshan Yang, Dawei He, Yongsheng Wang, Euyheon Hwang and Yajie Yang\*



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**Synthesis strategies and cancer therapy applications of PEDOT nanoparticles**

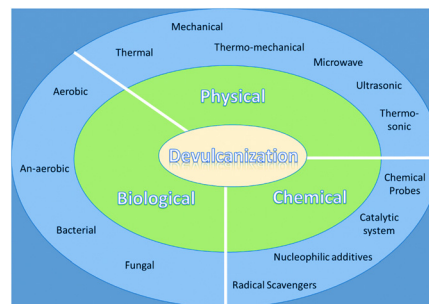
Diogo Dias, Leonor Resina, Frederico Castelo Ferreira, Paola Sanjuan-Alberte\* and Teresa Esteves\*



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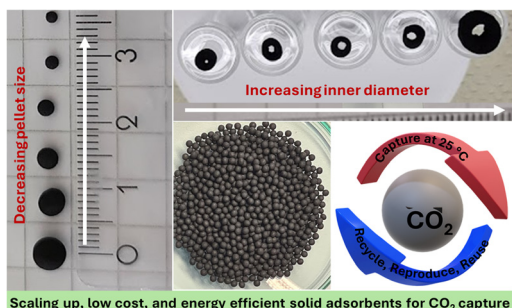
**Advances in recycling of waste vulcanized rubber products via different sustainable approaches**

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



## COMMUNICATIONS

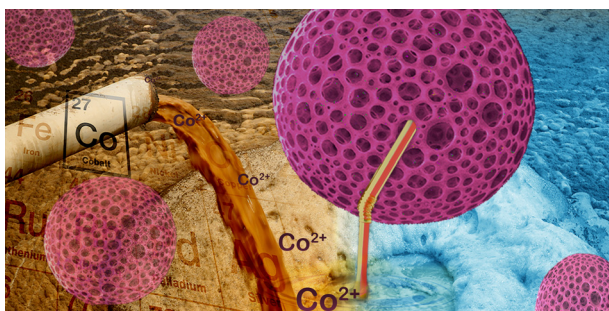
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### Porous carbon pellets for physical adsorption of CO<sub>2</sub>: size and shape effect

Baljeet Singh,\* Marianna Kemell and Timo Repo\*

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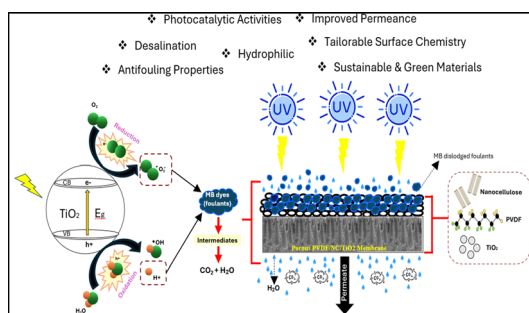


### EDTA-functionalized hierarchical porous microspheres for effective cobalt ion recovery from water

Mao-Hsuan Peng and Chia-Chen Li\*

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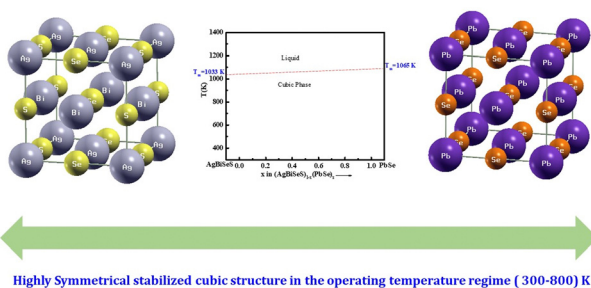
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### A TiO<sub>2</sub> grafted bamboo derivative nanocellulose polyvinylidene fluoride (PVDF) nanocomposite membrane for wastewater treatment by a photocatalytic process

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<sub>2</sub> family: a paradigm to bestow enhanced average ZT in the entire operating temperature regime

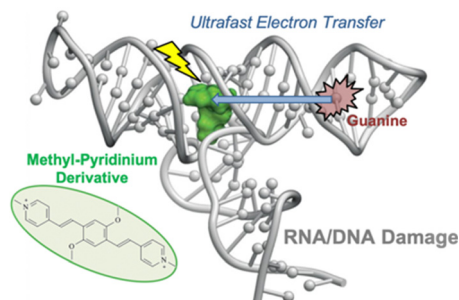
Ranita Basu,\* U. Sandhya Shenoy, Ankita Pathak, Shweta Singh, P. Jha, D. Krishna Bhat, Hirakendu Basu and Ajay Singh



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

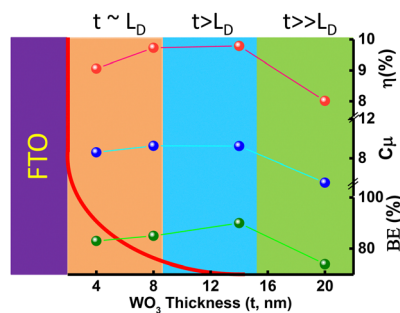
Alessio Cesaretti, Giulia Pantella, Gianmarco Reali, Giuseppe Consiglio, Cosimo G. Fortuna, Fausto Elisei, Anna Spalletti and Benedetta Carlotti\*



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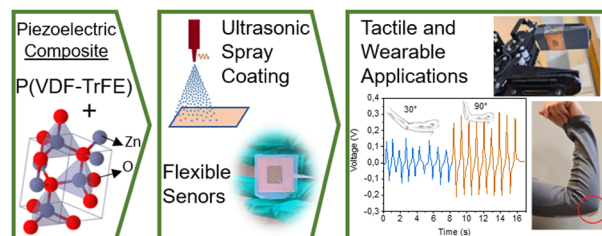
Neeraj Kumar, Sipra Choudhury, Aman Mahajan and Vibha Saxena\*



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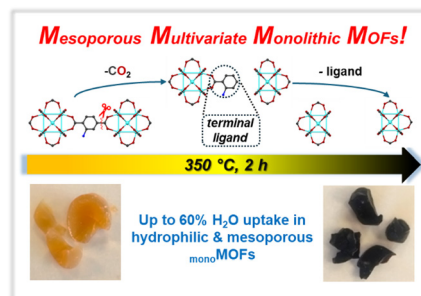
Sepide Taleb,\* Wiebren M. van Lingen and Mónica Acuautila



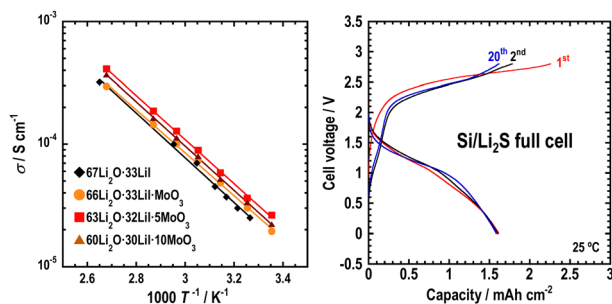
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### Water sorption studies with mesoporous multivariate monoliths based on UiO-66

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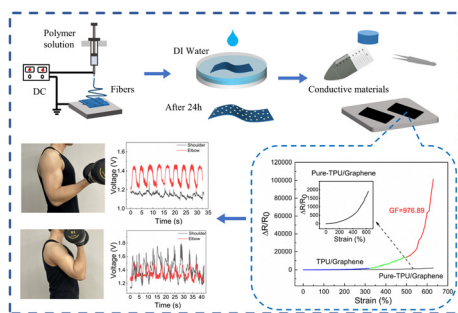
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### Amorphous $\text{Li}_2\text{O-LiI-MoO}_3$ solid electrolytes: mechanochemical synthesis and application to all-solid-state batteries

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

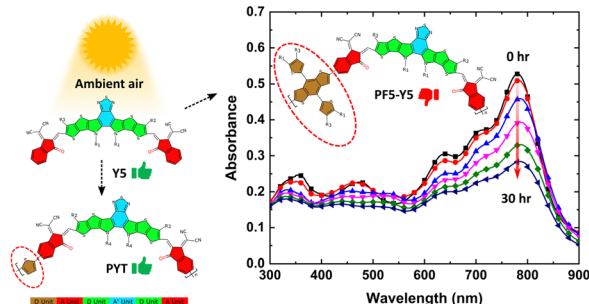
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### Highly tensile and sensitive strain sensors with micro-nano topology optimization

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

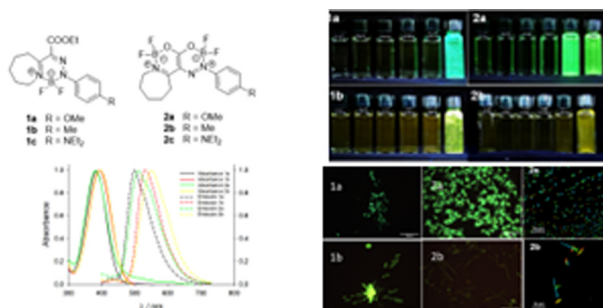
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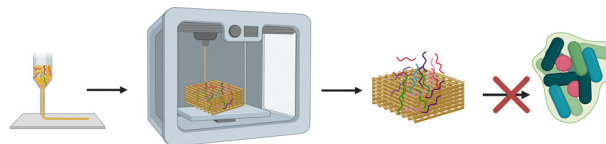
Martina Žabenská, Chiara Capolungo, Chiara Mariani, Damiano Genovese, Tomáš Mikysek, Jiří Vaňa, Aleš Růžička, František Josefík, Markéta Svobodová\* and Petr Šimůnek\*



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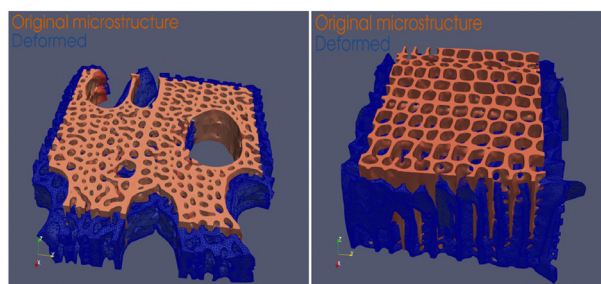
Mateo Dallos Ortega, Jenny Aveyard, Alexander Ciupa, Robert J. Poole, David Whetnall, Julia G. Behnsen and Raechelle A. D'Sa\*



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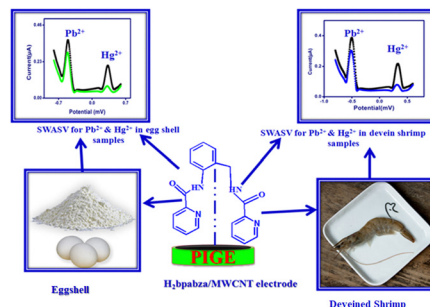
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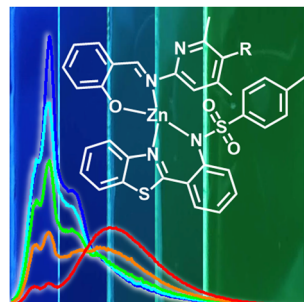
Kumar Sangeetha Selvan,\* Jayagopi Gayathri\* and Sivakumar Sivalingam



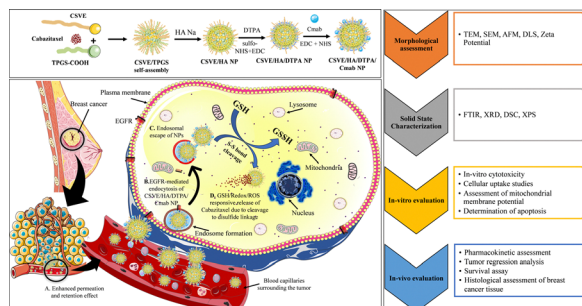
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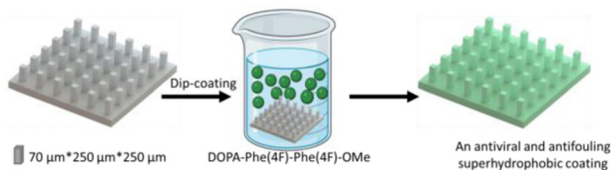
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### Cabazitaxel-loaded redox-responsive nanocarrier based on D-alpha-tocopheryl-chitosan and hyaluronic acid for improved anti-tumor efficacy in DMBA-induced breast cancer model

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

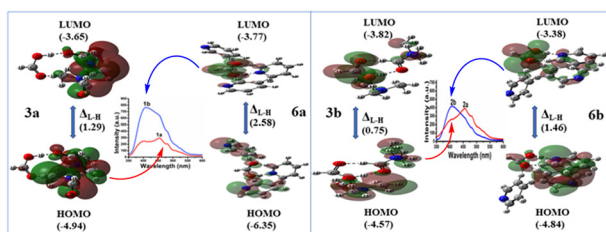
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Raju Ram Puniya, Priyanka Takhar, Monika Chhapoliya, Rinki Deka, Dhruva Jyoti Kalita and Devendra Singh\*

