

Materials Advances

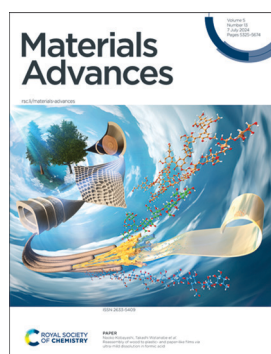
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See Naoko Kobayashi, Takashi Watanabe *et al.*, pp. 5398–5409. Image reproduced by permission of Naoko Kobayashi and Takashi Watanabe from *Mater. Adv.*, 2024, 5, 5398.



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See Chamindie Punyadeera, Ajay K. Pandey *et al.*, pp. 5339–5350. Image reproduced by permission of Ajay K. Pandey from *Mater. Adv.*, 2024, 5, 5339.

EDITORIAL

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Introduction to hybrid pores for CO₂ technologies

Petra Ágota Szilágyi, Jenny G. Vitillo and Gavin A. Craig

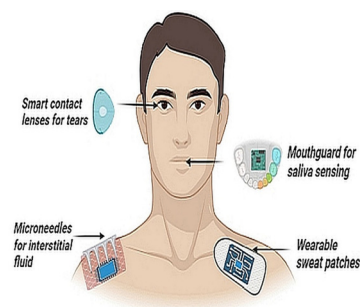


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Sensing methods for stress biomarker detection in human saliva: a new frontier for wearable electronics and biosensing

Parth Pandit, Blair Crewther, Christian Cook, Chamindie Punyadeera* and Ajay K. Pandey*



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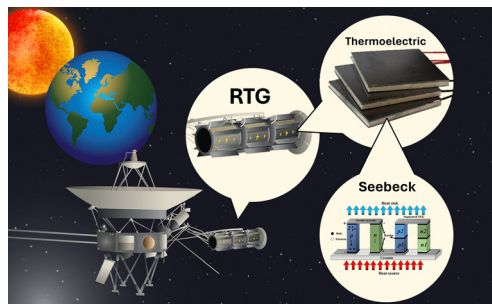
Fundamental questions
Elemental answers

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Thermoelectric materials for space explorations

Dulyawich Palaporn, Sora-at Tanusilp,* Yifan Sun, Supree Pinitsoontorn and Ken Kurosaki*



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Self-healing, injectable chitosan-based hydrogels: structure, properties and biological applications

Manasi Esther J., Raghu Solanki, Mukesh Dhanka, Prachi Thareja* and Dhiraj Bhatia*

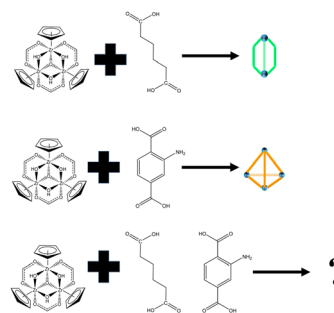


COMMUNICATION

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Study of self-assembly of mixed-ligand metal-organic cages by high-resolution mass spectrometry

Kang Tong, Jia Jia,* Rongfu Huang and Jin Luo

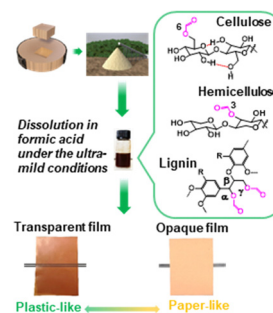


PAPERS

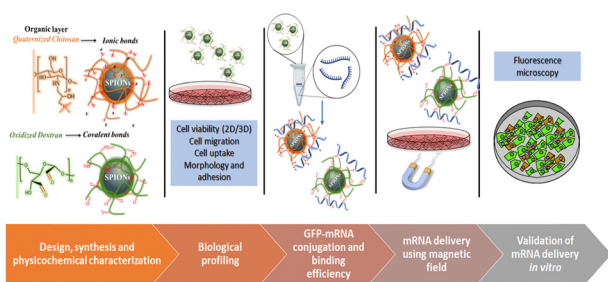
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Reassembly of wood to plastic- and paper-like films via ultra-mild dissolution in formic acid

Naoko Kobayashi,* Tomohiro Hashizume, Keiko Kondo, Kenji Kitayama, Masato Katahira and Takashi Watanabe*



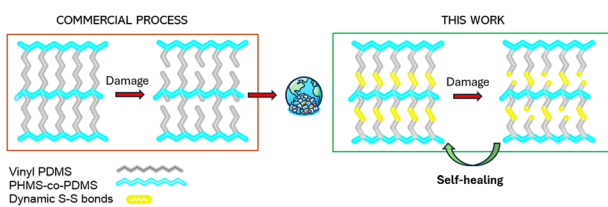
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Functional polysaccharide-coated SPIONs for *in vitro* mRNA delivery in breast cancer cells

Olga Tsave, Maria Psarrou, Georgia Kastrinaki, Eleni Papachristou, Rigini Papi, Vassilios Zaspalis, Lori Nalbandian, Charalampos Sarafidis, Theodora Choli-Papadopoulou, Maria Vamvakaki and Christos Chatzidoukas*

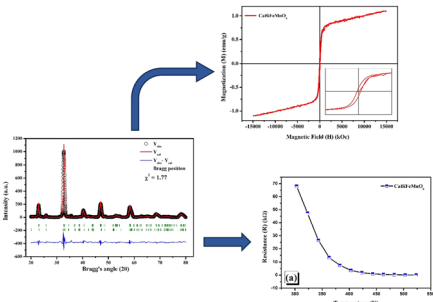
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Converting commercial-grade silicone into a vitrimer using elemental sulfur

Mahsaalsadat Rokni, Kun Woo Park, Wing Ho Leung, Zoran Zujovic and Erin M. Leitao*

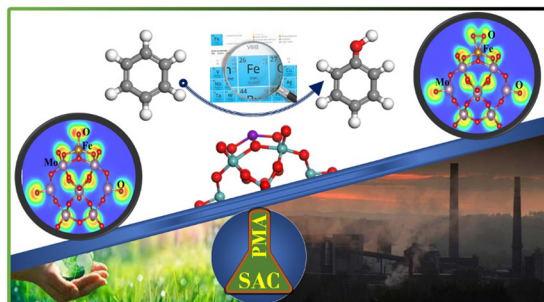
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Investigation of the structural, dielectric, magnetic properties and NTC-thermistor response of CaBiFeMnO_6 double perovskites

Shubhashree Sahoo, Lutu Sahoo, N. C. Nayak, B. N. Parida and R. K. Parida*

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Enhancing direct hydroxylation of benzene to phenol on Fe_1/PMA single-atom catalyst: a comparative study of H_2O_2 vs. O_2 -assisted reactions

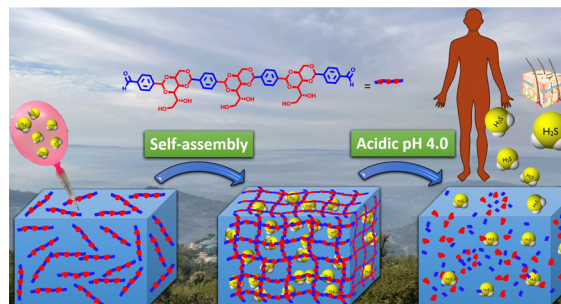
Beenish Bashir, Shamraiz Hussain Talib,* Muhammad Ajmal Khan, Sharmarke Mohamed, Ahsanulhaq Qurashi, Hai Xiao and Jun Li*



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Facile synthesis and self-assembly of pharmaceutically important oligobenzylidene-D-sorbitol dialdehydes: direct encapsulation and stimuli responsive delivery of H₂S

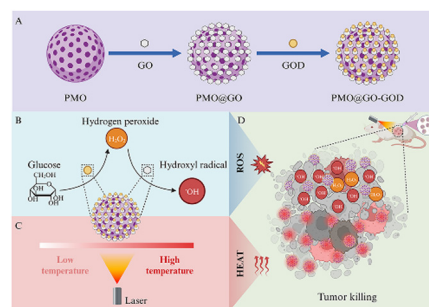
Vara Prasad Rebaka, Yogendra Kumar, Tohira Banoo, Arun Kumar Rachamalla and Subbiah Nagarajan*



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A graphene oxide-based sequential nanocatalyst for efficient tumor combination therapy

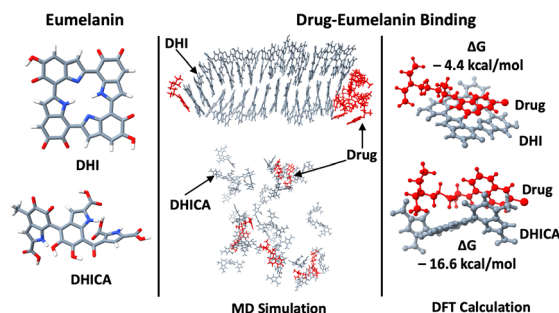
Zhenlu Yang, Ying Zhao, Zi Xu, Rongpin Wang* and Qing Wang*



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A computational investigation of eumelanin–drug binding in aqueous solutions

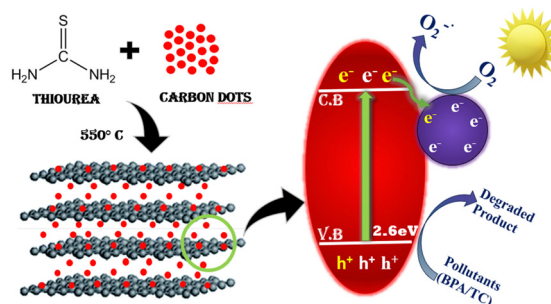
Sepideh Soltani, Anupom Roy, Arto Urtti and Mikko Karttunen*



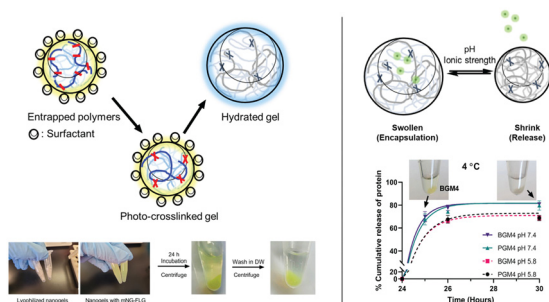
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Efficient photo-oxidation of bisphenol a and tetracycline through sulfur-doped g-C₃N₄/CD heterojunctions

Ankoo Sura, Amanvir Singh, Arjun Singh, Sudha Narwal, Priya Malik, Manjeet Singh Goyat, Yogendra K. Mishra, Sonia Nain* and Surender Duhan*



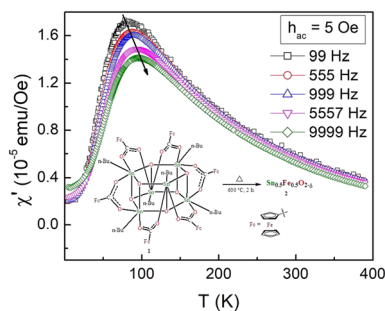
5527



Harnessing nanoreactors: gelatin nanogels for human therapeutic protein delivery

Jeehye Kim, Caroline E. Copeland and Yong-Chan Kwon*

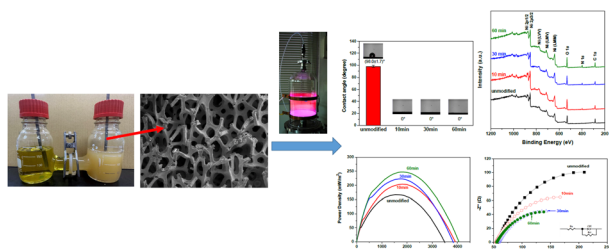
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Observation of cluster spin glass behavior in thermally decomposed nanocrystalline $\text{Sn}_{0.5}\text{Fe}_{0.5}\text{O}_{2-\delta}$

Aarti Saini, Kisturi Dhanwant, Mukesh Verma, Sher Singh Meena, Yugandhar Bitla* and Ramalingam Thirumoorthi*

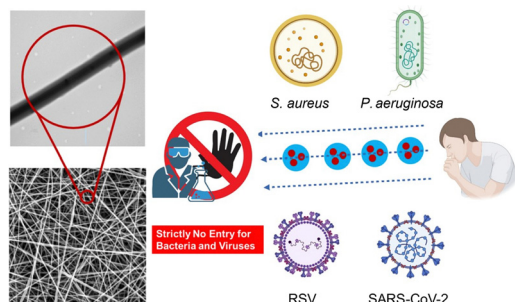
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Effects of N_2 plasma modification on the surface properties and electrochemical performance of Ni foam electrodes for double-chamber microbial fuel cells

Mozghan Gholami-Kermanshahi, Ming-Cheng Lee, Günther Lange and Shih-Hang Chang*

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A one-step method for generating antimicrobial nanofibre meshes via coaxial electrospinning

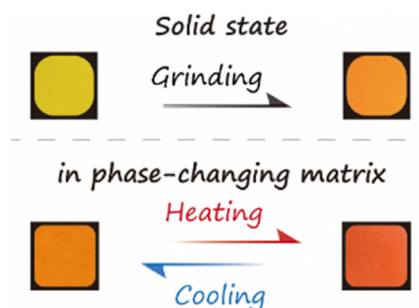
Fangyuan Zhang, Amy I. Jacobs, Maximillian Woodall, Helen C. Hailes, Ijeoma F. Uchegbu, Delmiro Fernandez-Reyes, Claire M. Smith, Karolina Dziemidowicz* and Gareth R. Williams*



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Visible light excited and temperature-responsive phosphorescent system in a phase-changing matrix

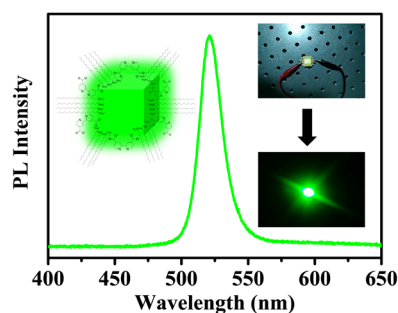
Yingying Hu, Glib V. Baryshnikov,* Xueru Shan, Weiyi Zhang, Sheng-yin Zhao,* Liangliang Zhu* and Hongwei Wu*



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2,2'-Bipyridine-4,4'-dicarboxylic acid ligand engineered CsPbBr₃ perovskite nanocrystals for enhanced photoluminescence quantum yield with stable display applications

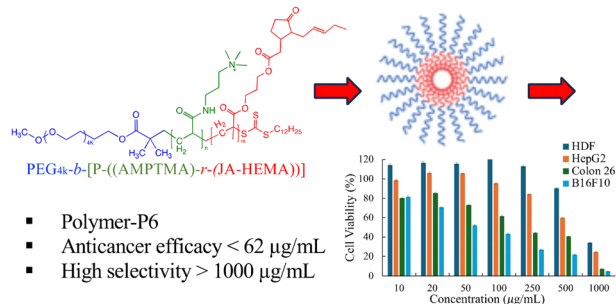
Ankit Kumar, Sukanya Ghosh, Ankush Saini, Sumit Kumar, Monojit Bag* and Prasenjit Kar*



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Novel approach to enhancing the anticancer efficacy of methyl jasmonate with PEG-incorporated cationic polymers

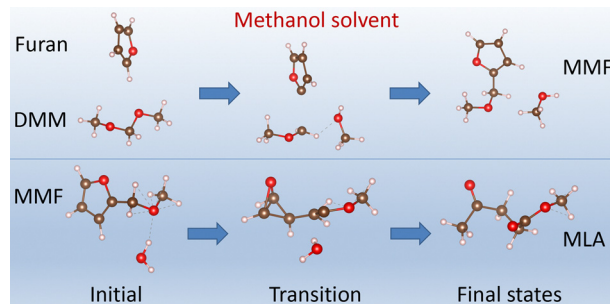
Nishant Kumar, Pratibha Singh, Dandan Zhao, Robin Rajan* and Kazuaki Matsumura*



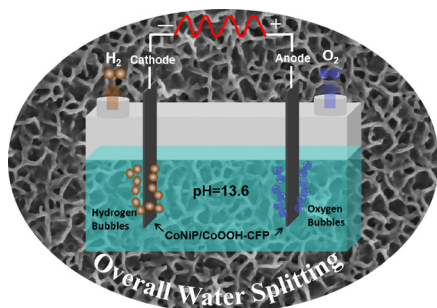
5595

Ab initio insight into furan conversion to levulinate ester in reaction with methylal and methanol

Yun-Sim Kim, Ryong-Wan Ham, Yong-Chol Pak, Man-Sok O and Chol-Jun Yu*



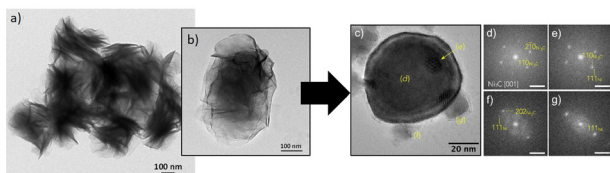
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Surface engineering assisted CoNiP nanosheet arrays for electrochemical overall water splitting

Linfei Zhang,* Ruilong Wei, Chenyi Liu, Ningfa He, Xinru He, Yuhuan Jiang, Changshuai Guo, Yong Hu and Shengliang Zhong*

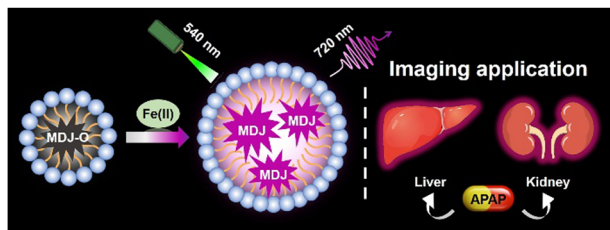
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Cold H₂-Ar plasma interaction with nickel α -hydroxide as a versatile nanofabrication tool for Ni@C_{gr} nanoparticles

Marie-Charlotte Dragassi, Sonia Haj-Khlifa, Nicolas Menguy, Michael Redolfi* and Souad Ammar*

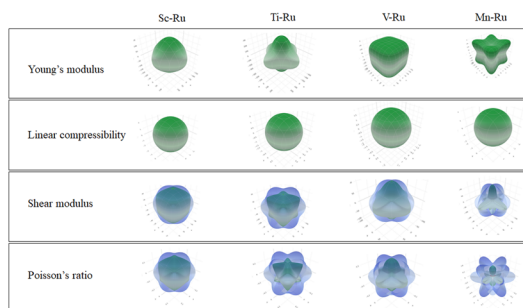
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A novel NIR fluorescent probe for *in situ* visualizing Fe(II) and its application in drug-induced liver/kidney injury

Hanyue Xiang, Yanjie Song, Yilin Wang, Wenzhuo Fu and Nao Xiao*

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First-principles study of stability and electronic properties of B2 X-Ru alloys for high-temperature structural applications

B. O. Mnisi,* E. M. Benecha and M. M. Tibane

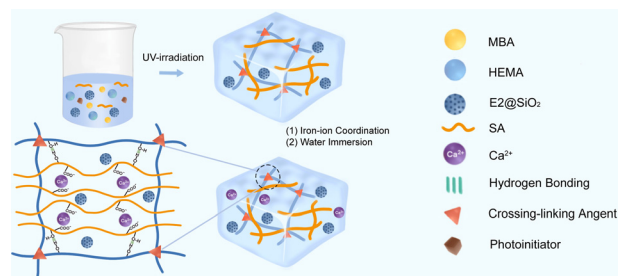


PAPERS

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Long-lasting anti-swelling sustained-release estradiol hydrogel for promoting vaginal wound healing

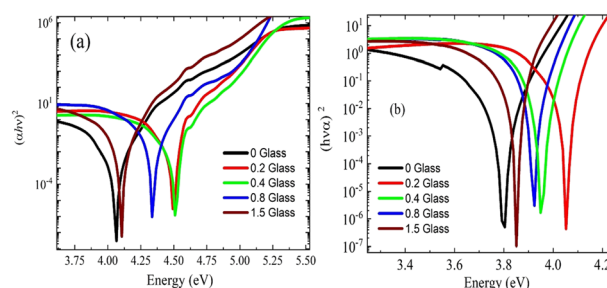
Tianyue Zhang, Hongyi Lv, Yijing Zhang, Lingyun Yu, Yonghong Li, Hechun Yan, Chenyan He, Dongmei Zhao, Lijuan Zhao, Yuedong He,* Yi Wang* and Zhongyi Zhu*



5658

Effect of gamma irradiation on the electrical and optical properties of PEVA composite membrane embedded with conductive copper fluoroborate glass powder

Elbadawy A. Kamoun,* O. I. Sallam, Ehab E. Khozemy, Mohamed Morsy, Yasair Al-Faiyz, Saleh M. Matar, Ahmed I. Ali,* Jong Yeog Son* and Galal H. Ramzy



CORRECTIONS

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Correction: Thermosensitive drug-loaded liposomes for photothermal and chemotherapeutic treatment of colon cancer

Haihua Zhou, Hongyan Pan, Faisal Raza, Hajra Zafar, Yu Ge, Nan Wang, Ronglei Zheng, Degeng Zhang and Minyan Yang*

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Correction: High-throughput prediction of oxygen vacancy defect migration near misfit dislocations in SrTiO₃/BaZrO₃ heterostructures

William Ebmeyer and Pratik P. Dholabhai*

