Materials Advances

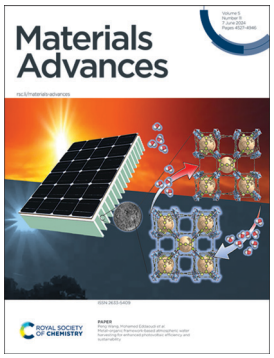
An open access journal publishing across the breadth of materials science

rsc.li/materials-advances

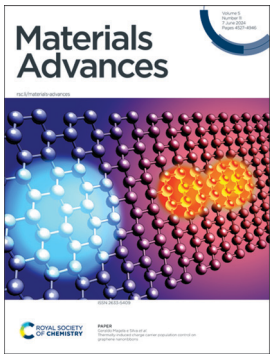
The Royal Society of Chemistry is the world's leading chemistry community. Through our high impact journals and publications we connect the world with the chemical sciences and invest the profits back into the chemistry community.

IN THIS ISSUE

ISSN 2633–5409 CODEN MAADC9 5(11) 4527–4946 (2024)



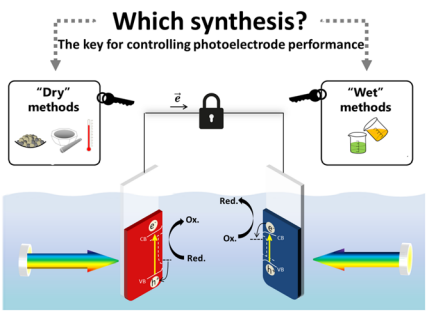
Cover
See Peng Wang, Mohamed Eddaoudi *et al.*, pp. 4660–4667. Image reproduced by permission of Osama Shekhah from *Mater. Adv.*, 2024, **5**, 4660.



Inside cover
See Geraldo Magela e Silva *et al.*, pp. 4668–4678. Image reproduced by permission of Geraldo Magela e Silva from *Mater. Adv.*, 2024, **5**, 4668. The authors would like to thank Gabriela Hirata e Silva for the cover image.

EDITORIAL

REVIEWS



ROYAL SOCIETY OF CHEMISTRY

10 YEARS ANNIVERSARY

Environmental Science journals

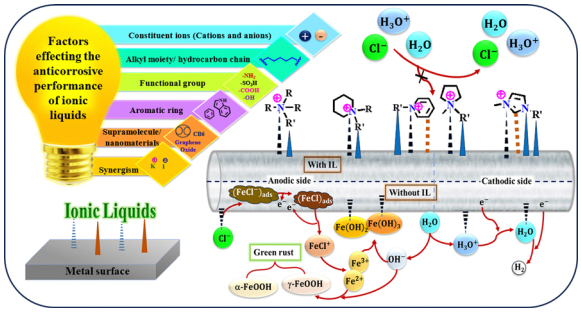
One impactful portfolio for every exceptional mind

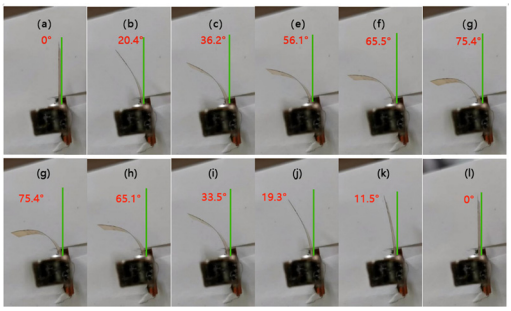
Harnessing the power of interdisciplinary science to preserve our environment

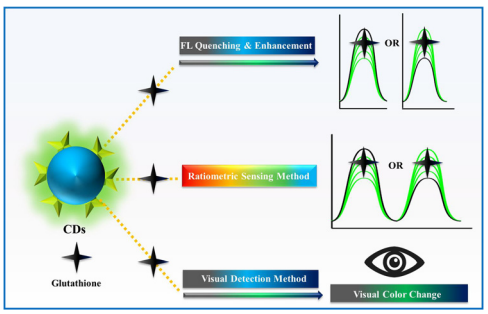
rsc.li/envsci

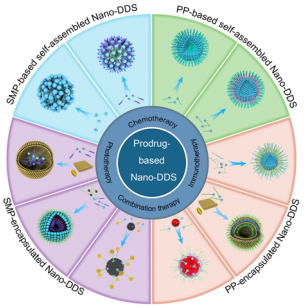
Fundamental questions
Elemental answers

REVIEWS



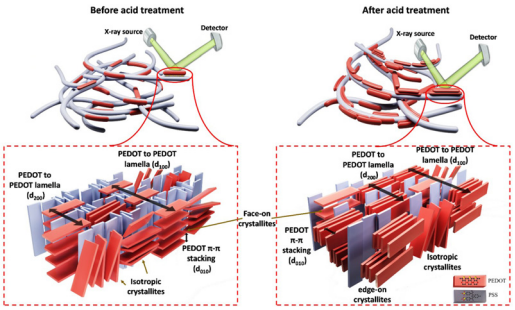


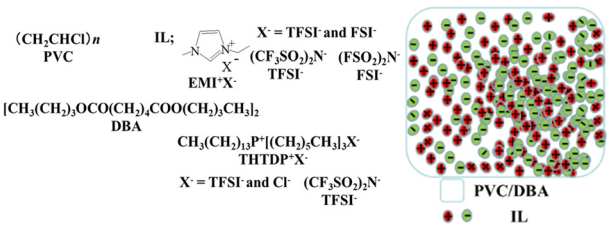


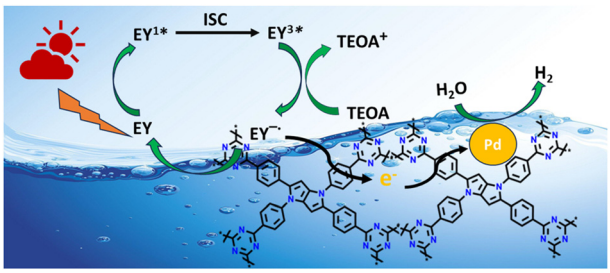


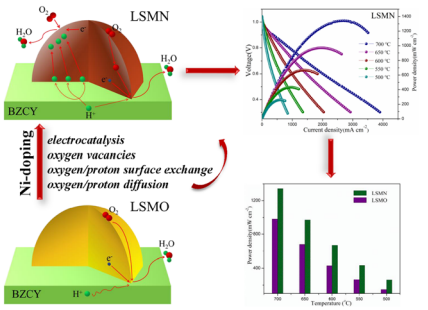
PAPERS

PAPERS



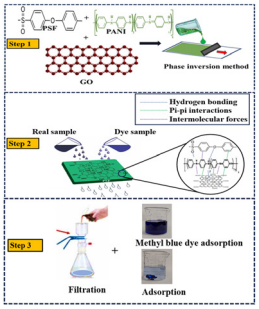






PAPERS

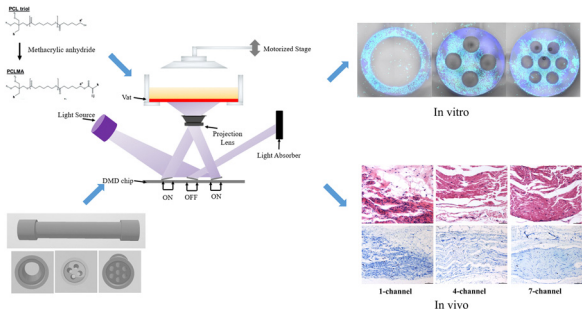
4736



Integrated synergy: PSF/PANI/GO membranes for dual-action textile dye detoxification

Anila Tabasum, Amna Siddique, Humaira Razzaq,* Hafiza Hifza Nawaz, Shumaila Razzaque, Saba Tahir, Shaista Taimur, Nusrat Jabeen and Samreen Shehzadi

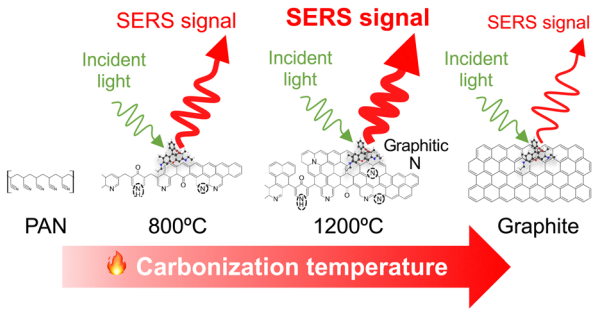
4753



Projection-based 3D printing of multichannel poly(caprolactone) methacrylate nerve guidance conduit for peripheral nerve regeneration

Haibing Li, Ke Yao, Yuewei Chen, Wensong Ye and Qiang Shu*

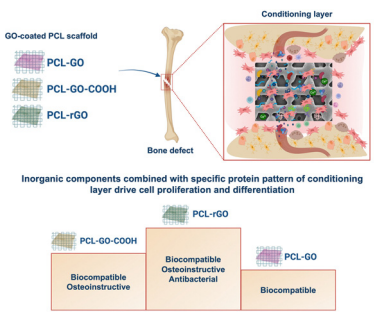
4764



A highly simple and controllable nitrogen-doping method for carbon-based surface-enhanced Raman spectroscopy substrates

Machiko Marumi, Xuke Tang, V. Kesava Rao, Abdullah N. Alodhayb, Manish M. Kulkarni, Prabhat K. Dwivedi, Fabio Lisi, Yasutaka Kitahama,* Ting-Hui Xiao and Keisuke Goda*

4772



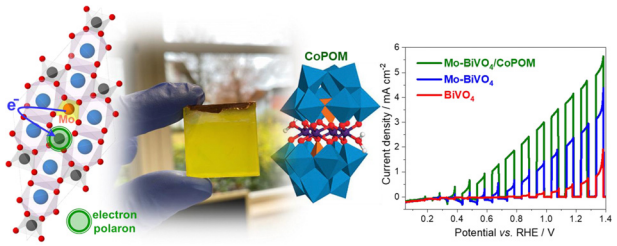
The osteoconductive properties of graphene-based material surfaces are finely tuned by the conditioning layer and surface chemistry

Federica Tiberio, Francesco Amato, Claudia Desiderio, Federica Vincenzoni, Giordano Perini, Irene Moretti, Alberto Augello, Ginevra Friggeri, Lishan Cui, Leonardo Giaccari, Martina Salvati, Luca Polito, Ornella Parolini, Marco De Spirito, Andrea Giacomo Marrani, Wanda Lattanzi,* Massimiliano Papi,* Lorena Di Pietro and Valentina Palmieri

PAPERS

PAPERS

PAPERS



High-performance $BiVO_4$ photoanodes: elucidating the combined effects of Mo-doping and modification with cobalt polyoxometalate

Fan Feng, Dariusz Mitoraj, Ruihao Gong, Dandan Gao, Mohamed M. Elnagar, Rongji Liu, Radim Beranek* and Carsten Streb*