

Journal of Materials Chemistry B

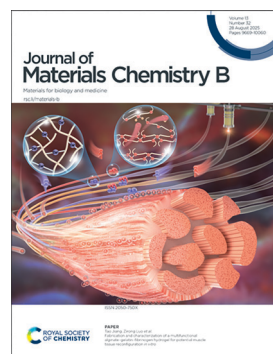
Materials for biology and medicine

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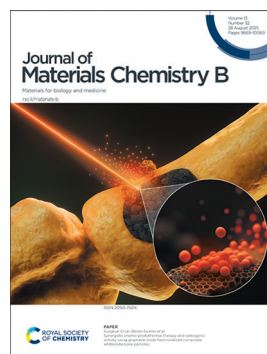
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See Tao Jiang, Zirong Luo *et al.*, pp. 9824–9837. Image reproduced by permission of Zening Lin, Tao Jiang, Zirong Luo from *J. Mater. Chem. B*, 2025, **13**, 9824.



Inside cover

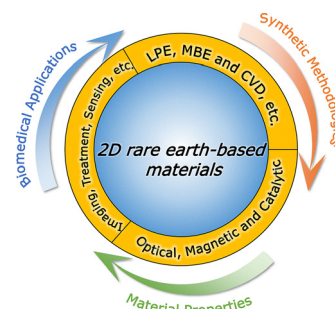
See Sungkun Chun, Beom-Su Kim *et al.*, pp. 9838–9849. Image reproduced by permission of Beom-Su Kim from *J. Mater. Chem. B*, 2025, **13**, 9838.

REVIEWS

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Rare earth-based two-dimensional materials for biomedical research

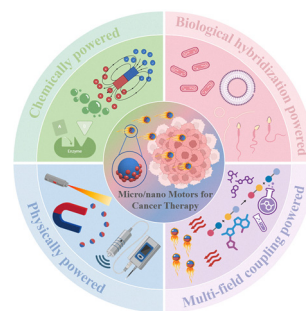
Zhijing Zhu, Guiping Ren, Shiyi Xiong, Yaqi Ma, Yiqian Yang, Aiguo Wu, Hao Peng* and Fang Yang*



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Micro/nanomotor development towards enhanced cancer therapy

Qi Guo, Hong Wang, Hongyuan Hao, Cuimiao Zhang, Xing-Jie Liang* and Dandan Liu*



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Fundamental questions
Elemental answers

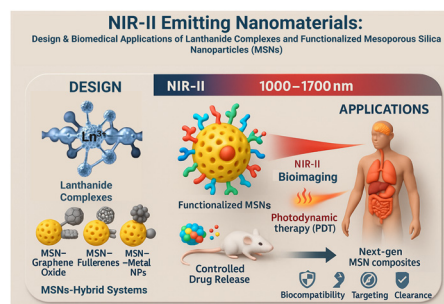


REVIEWS

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Recent advances in NIR-II emitting nanomaterials: design and biomedical applications of lanthanide complexes and functionalized mesoporous silica nanoparticles (MSNs)

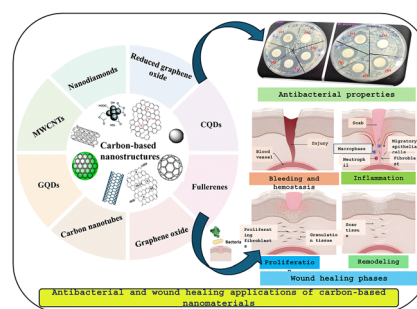
Krishanu Bandyopadhyay, Snigdha Singh, Vivek K. Chaturvadi, Anurag Kumar Singh* and Abhineet Verma*



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Carbon nanostructures with antibacterial and wound healing activities: recent progress and challenges

Mohamed Amine Zarouki, Lamia Hejji, Abdelmonaim Azzouz,* Youssef Aoulad El Hadj Ali, Antonio Jesús Muñoz and Suresh Kumar Kailasa*

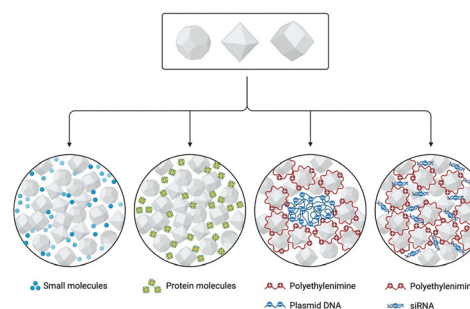


PERSPECTIVE

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Synthetic DNA–metal hybrid materials for information-preserving genetic storage

Navid Rabiee* and Mohammad Rabiee*

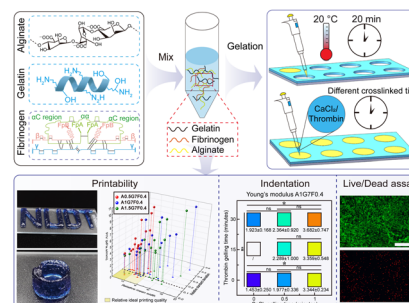


PAPERS

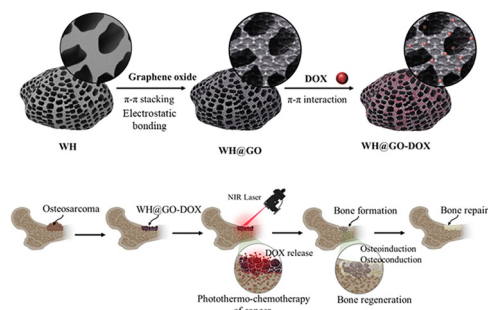
9824

Fabrication and characterization of a multifunctional alginate–gelatin–fibrinogen hydrogel for potential muscle tissue reconfiguration *in vitro*

Zening Lin, Yang Hong, Tao Jiang,* Yun Yang, Yuan Gao, Hang Xie and Zirong Luo*



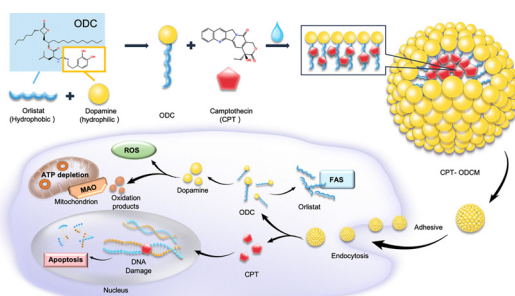
9838



Synergistic chemo-photothermal therapy and osteogenic activity using graphene oxide-functionalized composite whitlockite bone particles

Abdelrahman I. Rezk, Jung-Mi Oh, Abdalla Abdal-hay, Jun Lee, Sungkun Chun* and Beom-Su Kim*

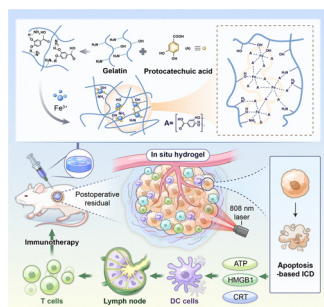
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Orlistat–dopamine conjugate micelles improve targeted delivery and therapeutic efficiency of camptothecin in combination chemotherapy

Shuang Chen, Tsengming Chou, Xiaqing Zhou* and Jun F. Liang*

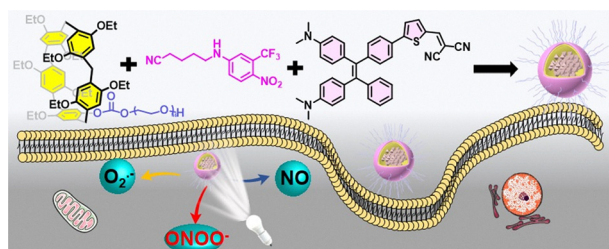
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Metal ion-driven assembly for constructing a metal–phenolic network nanoparticle-loaded hydrogel as a tumor photothermal-immunotherapy agent

Zhenhu Guo,* Jingsong Lu, Jianping Gao, Yang Zhang, Fangyu Xing, Ying Li, Sumei Chen, Wensheng Xie, Shihao Sun, Guihong Qi,* Lingyun Zhao* and Guifeng Zhang*

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ONOO⁻ generator constructed with a small molecule photosensitizer and photoinduced NO donor for tumor therapy

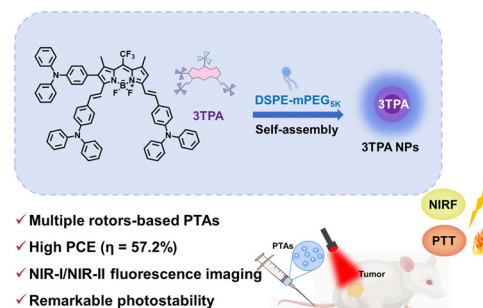
Mengqi Liu, Yuqing Liu, Shaoqi Xie, Jiachen Xia, Tong Sun and Bing Lu*



9883

Multiple rotor-based photothermal agents for NIR-I/NIR-II fluorescence imaging-guided tumor phototherapy

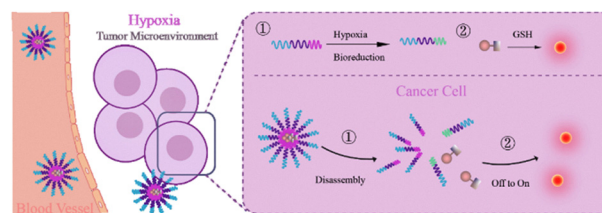
Naiwen Shi, Ruixin Zhang, Shankun Yao,* Qian Sun, Yanping Wu, Xiuzhi Yang, Ying Yang, Yehong Tan, Jingwen Zhang, Yuncong Chen* and Zijian Guo*



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A redox-responsive NIR fluorescent nanoprobe for tumor microenvironment-activated surgical navigation with submillimeter precision

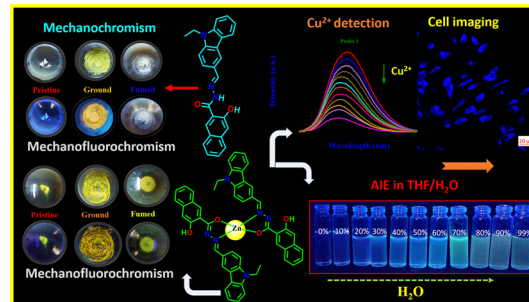
Jian Sun, Jintao Ye, Wenwei Tang, Bin Yu, Yong Gao, Shengli Wang and Haijuan Zhang*



9903

A carbazole–naphthoyl hydrazone conjugate and its Zn(II)-complex as stimuli-responsive smart materials: detection of VOCs and Cu²⁺, AIE insights and bioimaging applications

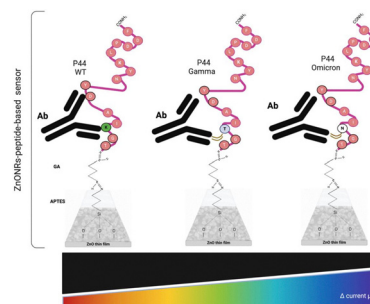
Himani Sharma, Akansha Yadav, Akhilendra K. Maurya and Rampal Pandey*



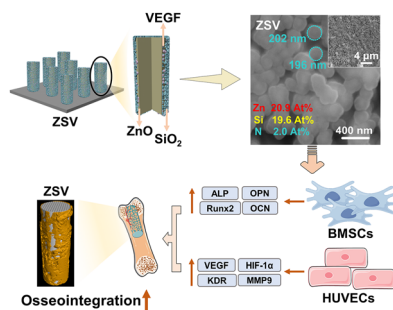
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Electrochemical immunosensor for antibody recognition against SARS-CoV-2 B-cell epitope: impact of RBD mutations on antigen–antibody binding

Freddy A. Nunez, Vivian L. de Oliveira, Cesar Remuzgo, Marcos R. de A. Silva, Isabela Daher, Jamille R. Oliveira, Tamires L. Silva, Edecio Cunha-Neto, Jorge Kalil, Keity S. Santos, Quinn A. Besford and Wendel A. Alves*



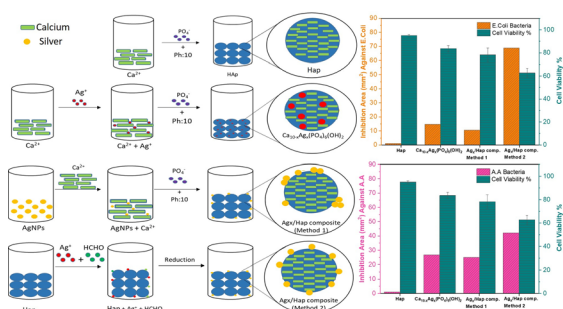
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A core–shell structured VEGF-SiO₂@ZnO nanorod array for enhancing osteogenesis performance of Zn-based implants

Mengting Mao, Lan Zhang,* Shengda Wu and Yong Han*

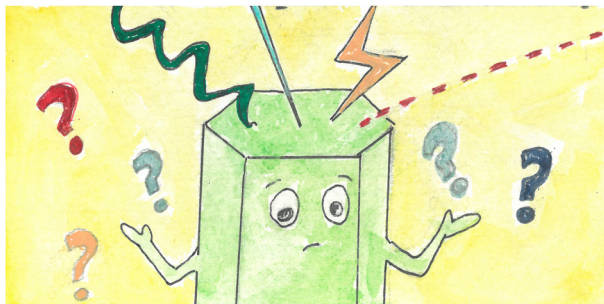
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Balancing antibacterial activity and toxicity in silver-loaded hydroxyapatite: the impact of the silver nanoparticle incorporation method

Oguz Kaan Kucukosman, Ayda Pourmostafa, Elvan Dogan and Azzedine Bensalem*

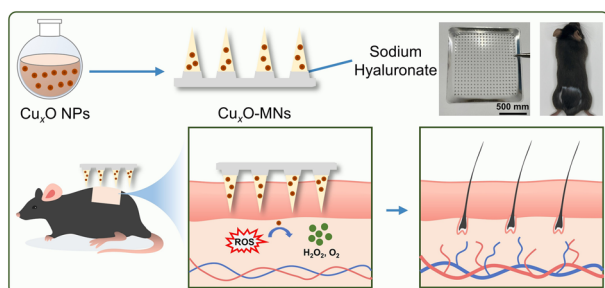
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Silica substituted carbonate apatite: synthesis and analytical challenges

Michael Anenburg,* Jeff Chen, Michael G. Gardiner, Jan C. M. de Hoog, Madeleine C. S. Humphreys,* Owen P. Missen, Stuart J. Mills and Božana Pašić

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A ROS-scavenging Cu_xO nanozyme-functionalized microneedle patch for androgenetic alopecia treatment

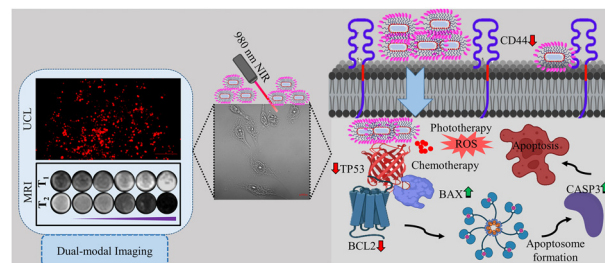
Yudie Lv, Yang Yang, Jiaxin Niu, Xu Sun, Han Zhang* and Xiangdong Kong*



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Opto-magnetic optimization enhances the multimodal therapeutic and diagnostic (UCL/ T_1 - T_2 W MRI) potential of GdOF against MDA-MB-231

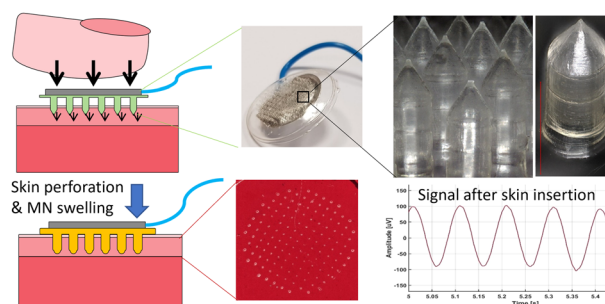
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Biodegradable microneedle-based electrodes for electrophysiological measurements

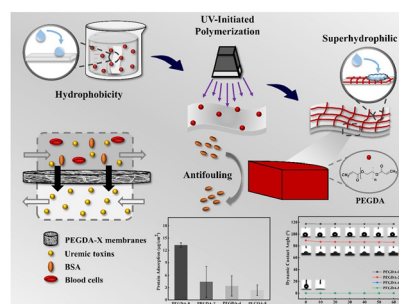
Sacha Juillard, Anne Planat-Chrétien and Isabelle Texier*



10020

A superhydrophilic PEGDA-coated PBT membrane prepared by photoinitiated polymerization for hemodialysis therapy

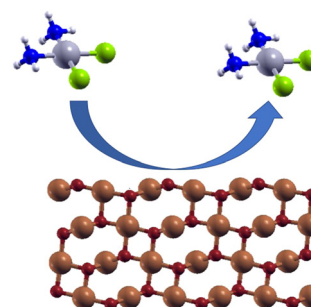
Wen Wen, Xiaoyu Bai, Xiaofei Wang,* Yong Zhang, Yuanzhang Jiang* and Lin Tan



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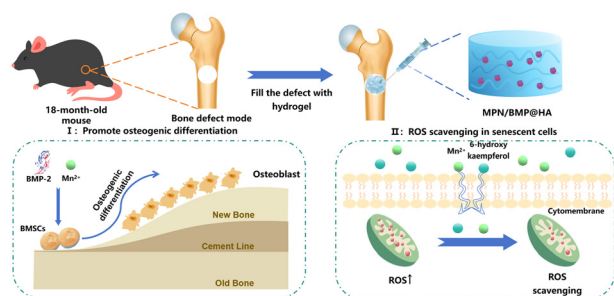
Copper oxide nanoparticles as delivery vehicles for different Pt(II)-drugs: experimental and theoretical evaluation

Shahdan Abdelkareem, Mayyada M.H. El-Sayed, Nahed Yacoub, Aly Reda, Valeria Butera, Matteo Farnesi Camellone, Ida Ritacco* and Tamer Shoeib*



PAPERS

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Promoting ROS scavenging and osteogenic differentiation by metal–phenolic network nanoparticle-embedded microenvironment-responsive hydrogel for the repair of senile osteoporotic bone defects

Sixu Zhang, Sixian Zhang, Wenwen Fan, Changsheng Liu and Xi Chen*

CORRECTION

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Correction: PEG–poly(amino acid)s-encapsulated tanshinone IIA as potential therapeutics for the treatment of hepatoma

Yan Wang, Frankie Costanza, Haifan Wu, Daqian Song, Jianfeng Cai* and Qi Li*

