

Biomaterials Science

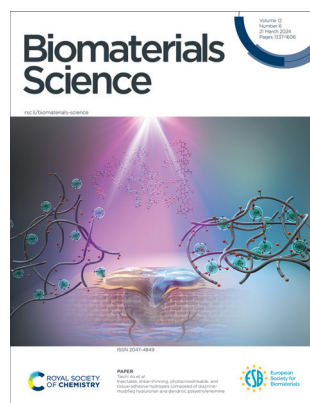
An international high impact journal exploring the underlying science behind the function, interactions and design of biomaterials

rsc.li/biomaterials-science

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 2047-4849 CODEN BSICCH 12(6) 1337–1606 (2024)



Cover
See Taichi Ito *et al.*,
pp. 1454–1464.

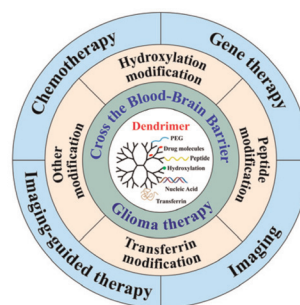
Image reproduced by
permission of Taichi Ito from
Biomater. Sci., 2024, **12**,
1454.

REVIEWS

1346

Blood–brain barrier-crossing dendrimers for glioma theranostics

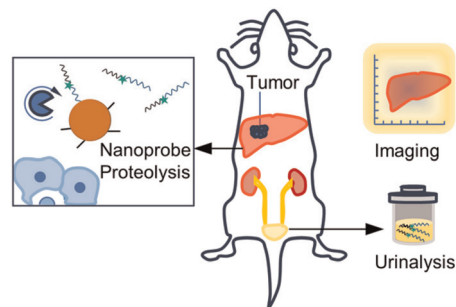
Jinxia Wang, Zhiqiang Wang, Guixiang Zhang,*
João Rodrigues, Helena Tomás, Xiangyang Shi* and
Mingwu Shen*



1357

Renal-clearable nanoprobe for optical imaging and early diagnosis of diseases

Wei An, Weiping Xu, Ya Zhou, Changwen Huang,
Weiguo Huang* and Jianguo Huang*



EES Catalysis

GOLD
OPEN
ACCESS

Exceptional research on energy
and environmental catalysis

Open to everyone. Impactful for all

rsc.li/EESCatalysis

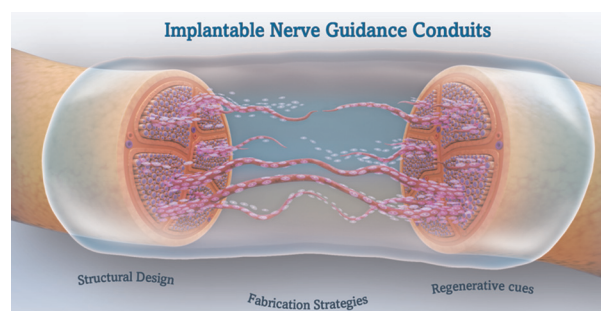
Fundamental questions
Elemental answers

REVIEWS

1371

Beyond the limiting gap length: peripheral nerve regeneration through implantable nerve guidance conduits

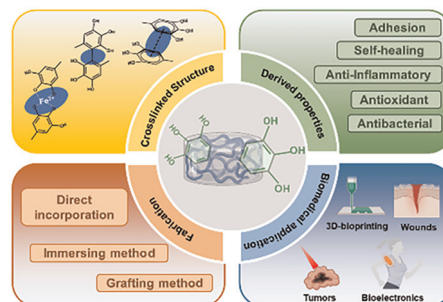
Eugenio Redolfi Riva,* Melis Özkan, Estefania Contreras, Sujeet Pawar, Ciro Zinno, Enrique Escarda-Castro, Jaehyeon Kim, Paul Wieringa, Francesco Stellacci, Silvestro Micera* and Xavier Navarro*



1405

Gallic acid: design of a pyrogallol-containing hydrogel and its biomedical applications

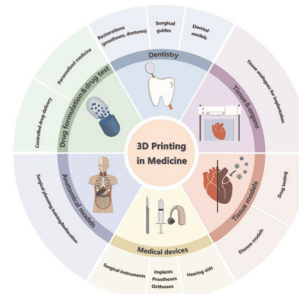
Wu Weian, Ye Yunxin, Wang Ziyang, Jiang Qianzhou* and Guo Lvhua*



1425

Applications, advancements, and challenges of 3D bioprinting in organ transplantation

Guobin Huang, Yuanyuan Zhao, Dong Chen, Lai Wei, Zhiping Hu, Junbo Li, Xi Zhou, Bo Yang* and Zhishui Chen*

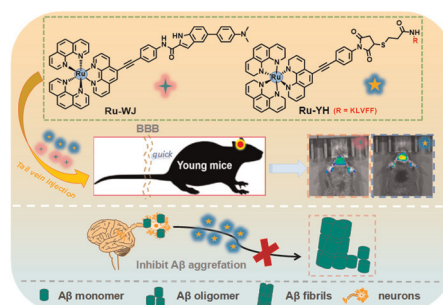


COMMUNICATION

1449

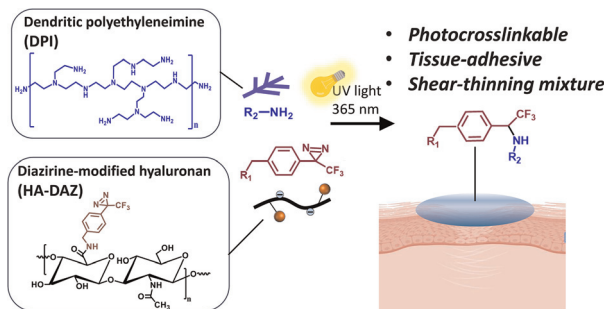
Development of Ru-polypyridyl complexes for real-time monitoring of A β oligomers and inhibition of A β fibril formation

Xian Chen, Jiaoyang Wang, Zhenhuo Mo, Lu Han, Kaiqing Cheng, Cheng Xie, Genyan Liu,* Lijun Jiang,* Kai Wang* and Jie Pan*



PAPERS

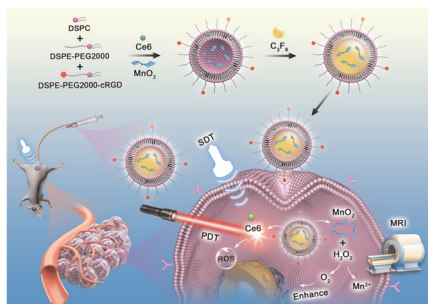
1454



Injectable, shear-thinning, photocrosslinkable, and tissue-adhesive hydrogels composed of diazirine-modified hyaluronan and dendritic polyethyleneimine

Arvind K. Singh Chandel, Athira Sreedevi Madhavikutty, Saki Okada, Zhang Qiming, Natsuko F. Inagaki, Seiichi Ohta and Taichi Ito*

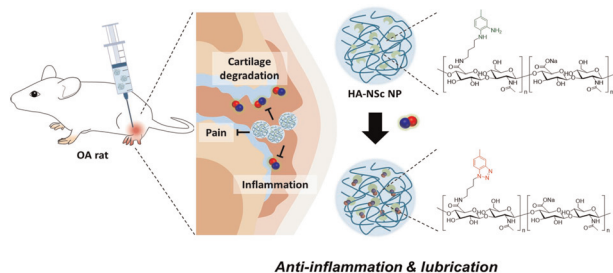
1465



MnO₂/Ce6 microbubble-mediated hypoxia modulation for enhancing sono-photodynamic therapy against triple negative breast cancer

Ping Li, Xiao Tan, Qing Dan, Azhen Hu, Zhengming Hu, Xiaoting Yang, Jianhua Bai, Xiaoyu Chen, Bowei Li, Guanxun Cheng, Li Liu,* Yun Chen,* Desheng Sun,* Xintao Shuai* and Tingting Zheng*

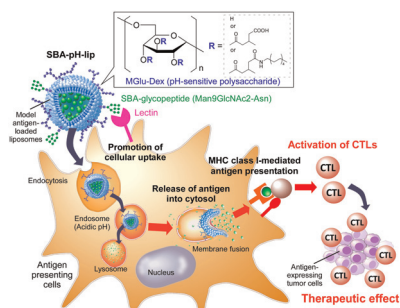
1477



Nitric oxide-scavenging hyaluronic acid nanoparticles for osteoarthritis treatment

Yunyoung Nah, Sivasangu Sobha, Gurusamy Saravanakumar, Byung-Yoon Kang, Joo-Byoung Yoon and Won Jong Kim*

1490



Preparation of glycopeptide-modified pH-sensitive liposomes for promoting antigen cross-presentation and induction of antigen-specific cellular immunity

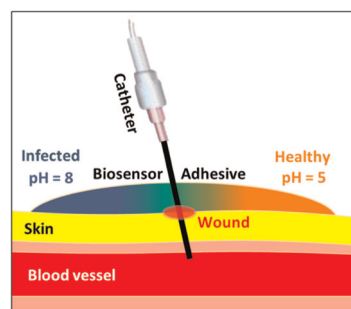
Eiji Yuba* and Rajesh Kumar Gupta*



1502

Color changing bioadhesive barrier for peripherally inserted central catheters

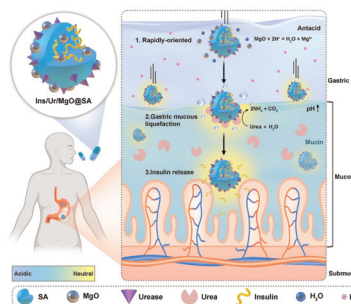
Ivan Djordjevic, Elizabeth Ellis, Juhi Singh, Naziruddin Ali, Edgar M. Pena, Ravisankar Rajarethinam, Lakshmanan Manikandan, Jason Goh, Sierin Lim and Terry Steele*



1515

Urease catalyzed high-density sodium alginate microspheres enable high oral bioavailability of macromolecular drugs

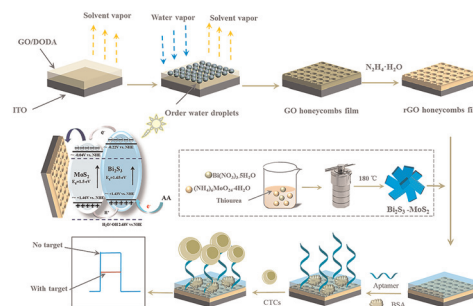
Yicheng Jiang, Li Mi, Xiang Xu, Adric Ru Khiing Hii, Zhenghong Wu* and Xiaole Qi*



1529

A photoelectrochemical cytosensor based on a Bi₂S₃-MoS₂ heterojunction-modified reduced oxide graphene honeycomb film for sensitive detection of circulating tumor cells

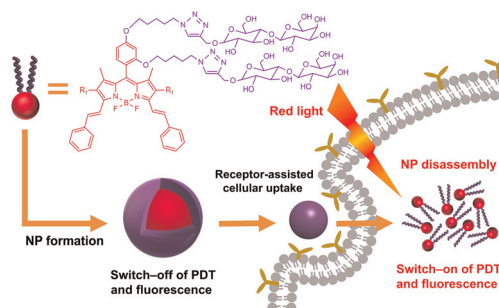
Yuhong Guo, Binbin Guo, Zhaopeng Liu, Jian Li, Liming Gao,* Hong Jiang* and Jidong Wang*



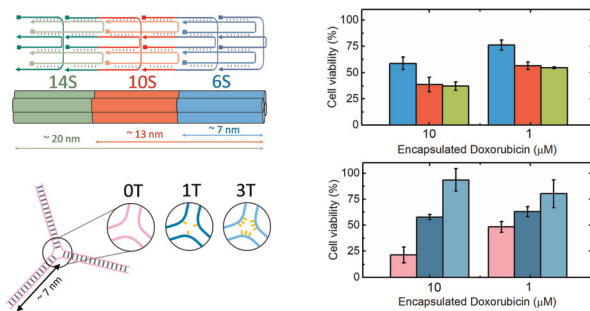
1536

Red fluorescent BODIPY-based nanoparticles for targeted cancer imaging-guided photodynamic therapy

Chanwoo Kim, Duy Khuong Mai, Won-Jin Kim, Isabel Wen Badon, Jinwoong Jo, Dongho Kang, Seok-Jun Kim,* Ho-Joong Kim* and Jaesung Yang*



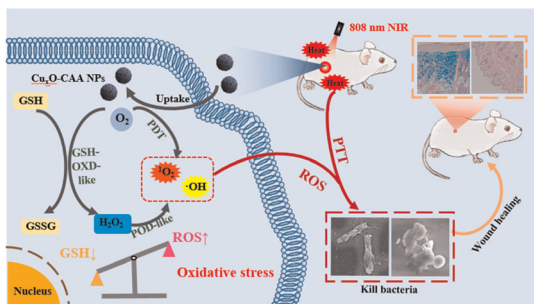
1549



Assessing the influence of small structural modifications in simple DNA-based nanostructures on their role as drug nanocarriers

Alejandro Postigo, Pablo Martínez-Vicente, Kevin N. Baumann, Jesús del Barrio and Silvia Hernández-Ainsa*

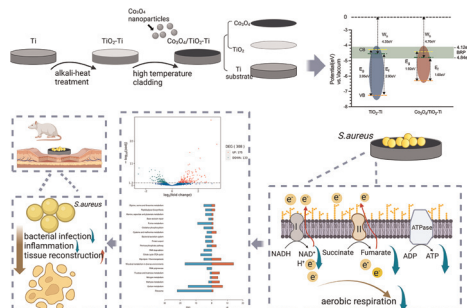
1558



Biocompatible *N*-carbazoleacetic acid decorated Cu_xO nanoparticles as self-cascading platforms for synergistic single near-infrared triggered phototherapy treating microbial infections

Xiao-Chan Yang, Yong Ding, Sheng-Nan Song, Wen-Hui Wang, Shan Huang, Xue-Yao Pang, Bo Li, Ya-Ya Yu, Ya-Mu Xia* and Wei-Wei Gao*

1573

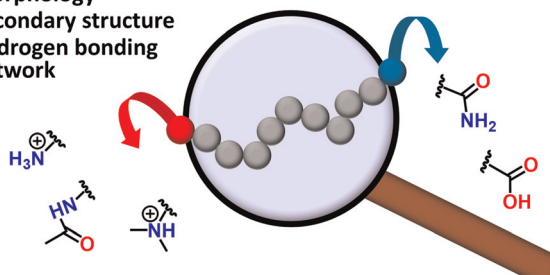


A self-activating electron transfer antibacterial strategy: Co₃O₄/TiO₂ P-N heterojunctions combined with photothermal therapy

Siyuan Chen, Zhe Xie, Yuchen Yang, Nuo Sun, Zhongnong Guo, Miaomiao Li and Chen Wang*

1590

- Morphology
- Secondary structure
- Hydrogen bonding network



Amyloid engineering – how terminal capping modifies morphology and secondary structure of supramolecular peptide aggregates

Manuela Grelich-Mucha, Thomas Bachelart, Vladimir Torbeev, Katarzyna Ożga, Łukasz Berlicki and Joanna Olesiak-Bańska*



CORRECTION

1603

Correction: MnO₂/Ce6 microbubble-mediated hypoxia modulation for enhancing sono-photodynamic therapy against triple negative breast cancer

Ping Li, Xiao Tan, Qing Dan, Azhen Hu, Zhengming Hu, Xiaoting Yang, Jianhua Bai, Xiaoyu Chen, Bowei Li, Guanxun Cheng, Li Liu,* Yun Chen,* Desheng Sun,* Xintao Shuai* and Tingting Zheng*

