

# Journal of Materials Chemistry B

Materials for biology and medicine

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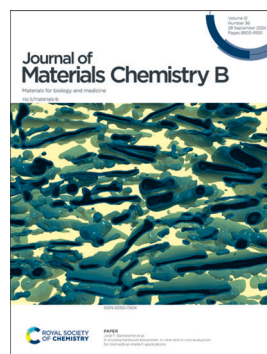
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ISSN 2050-750X CODEN JMCBDV 12(36) 8803-9100 (2024)



### Cover

See Yang Wang, Chenggang Duan, Zuoying Yuan *et al.*, pp. 8911–8918. Image reproduced by permission of Zuoying Yuan from *J. Mater. Chem. B*, 2024, 12, 8911.



### Inside cover

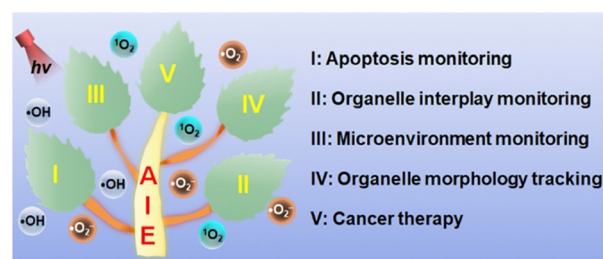
See José F. Bartolomé *et al.*, pp. 8919–8928. Image reproduced by permission of José F. Bartolomé from *J. Mater. Chem. B*, 2024, 12, 8919.

## REVIEWS

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### Dual-/multi-organelle-targeted AIE probes associated with oxidative stress for biomedical applications

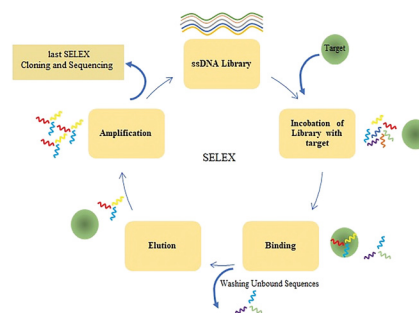
Yuanyuan You,\* Songling Lin, Chengwei Tang, Yuchao Li, Dingyuan Yan, Dong Wang and Xiaohui Chen\*



8825

### Prediction of aptamer affinity using an artificial intelligence approach

Arezoo Fallah, Seyed Asghar Havaei,\* Hamid Sedighian, Reza Kachuei and Abbas Ali Imani Fooladi\*



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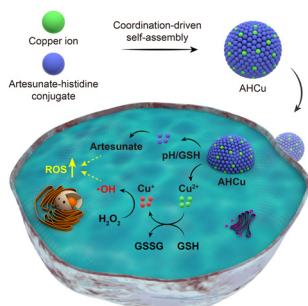
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Fundamental questions  
Elemental answers



## COMMUNICATIONS

8902

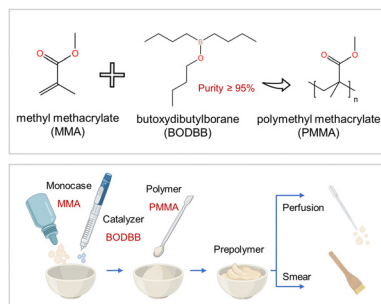


### A self-assembled copper-artemisinin nanoprodrug as an efficient reactive oxygen species amplified cascade system for cancer treatment

Xueyu Zhu, Chenyang Bi, Wei Cao, Shuangshuang Li, Chuting Yuan, Pengping Xu, Dongdong Wang,\* Qianwang Chen\* and Lei Zhang\*

## PAPERS

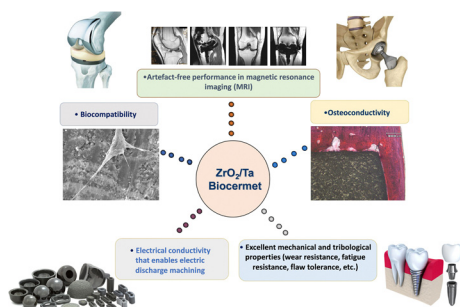
8911



### High-purity butoxydibutylborane catalysts enable the low-exothermic polymerization of PMMA bone cement with enhanced biocompatibility and osseointegration

Zhuo Wan, Yike Gao, Yingbo Wang, Xianghao Zhang, Xiyin Gao, Tuanfeng Zhou, Zhishan Zhang, Zijian Li, Yunfei Lin, Bing Wang, Kun Chen, Yang Wang,\* Chenggang Duan\* and Zuoying Yuan\*

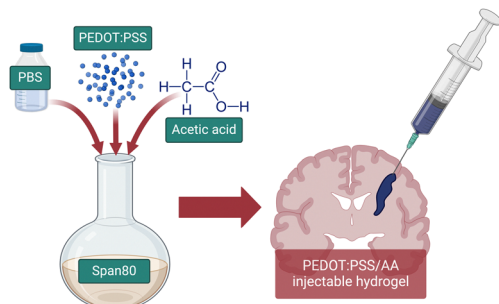
8919



### A zirconia/tantalum biocermet: *in vitro* and *in vivo* evaluation for biomedical implant applications

Anton Smirnov, Francisco Guitián, Joaquín Ramírez-Rico and José F. Bartolomé\*

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### Injectable conductive hydrogel electrodes for minimally invasive neural interfaces

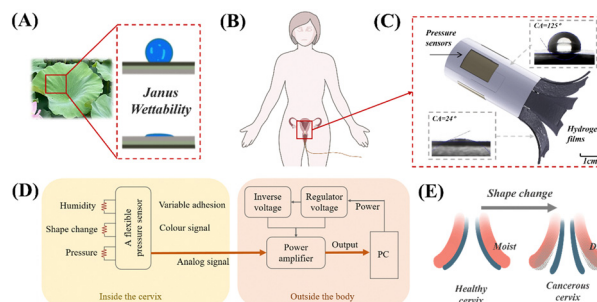
Ines Kusen, Aaron Lee, Estelle A. Cuttaz, Zachary K. Bailey, Joshua Killilea, Shirine Merlo-Nikpay Aslie, Josef A. Goding and Rylie A. Green\*



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### Bioinspired colloidal crystal hydrogel pressure sensors with Janus wettability for uterus cervical canal tension perception

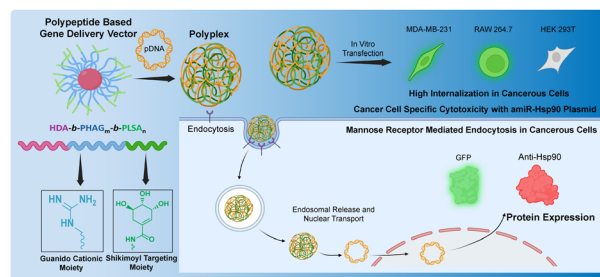
Yufei Chen, Yuan Zhou, Lihao Zhang, Yue Cao, Sunlong Li, Weipeng Lu, Zheng Mao, Zhiwei Jiang, Ying Wang, Cihui Liu\* and Qian Dong\*



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### Design and synthesis of a shikimoyl-functionalized cationic di-block copolypeptide for cancer cell specific gene transfection

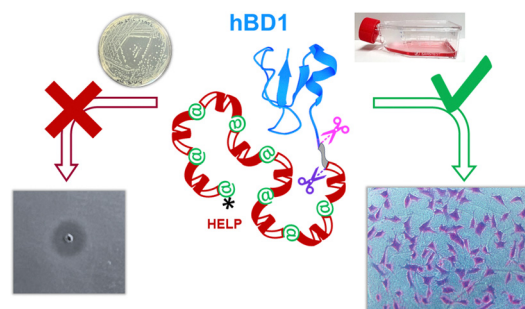
Abinash Padhy, Pritam Das, Namita S. Mahadik, Sidharth Panda, Mahammad Anas, Sabyasachi Das, Rajkumar Banerjee\* and Sayam Sen Gupta\*



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### Materials derived from the human elastin-like polypeptide fusion with an antimicrobial peptide strongly promote cell adhesion

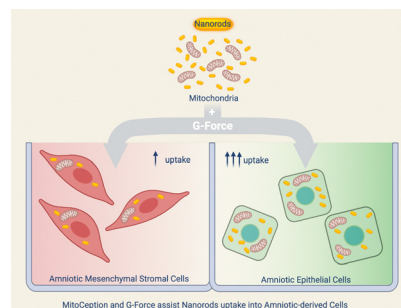
Laura Colomina-Alfaro, Paola Sist, Paola D'Andrea, Ranieri Urbani, Silvia Marchesan, Artemis Stamboulis and Antonella Bandiera\*



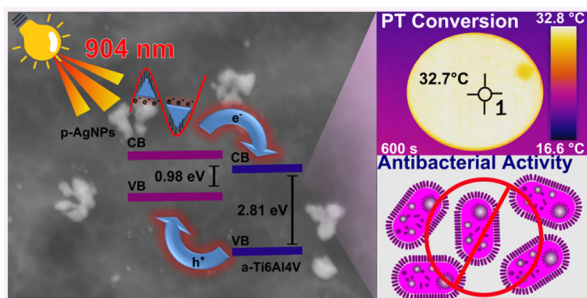
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### Optimization of a nanoparticle uptake protocol applied to amniotic-derived cells: unlocking the therapeutic potential

Alessia Peserico,\* Angelo Canciello, Giuseppe Prencipe, Roberto Gramignoli, Valeria Melai, Giampiero Scortichini, Mirella Bellocchi, Giulia Capacchietti, Maura Turriani, Chiara Di Pancrazio, Paolo Berardinelli, Valentina Russo, Mauro Mattioli and Barbara Barboni



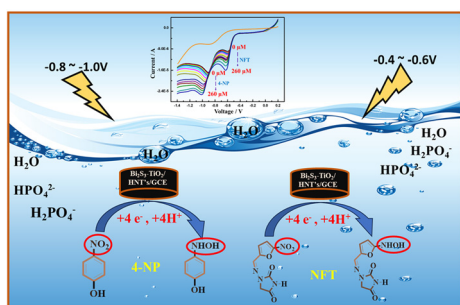
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### NIR-responsive nano-holed titanium alloy surfaces: a photothermally activated antimicrobial biointerface

Denise B. Pistonesi, Federico Belén, Juan M. Ruso, M. Eugenia Centurión, M. Gabriela Sica, Marcelo F. Pistonesi and Paula V. Messina\*

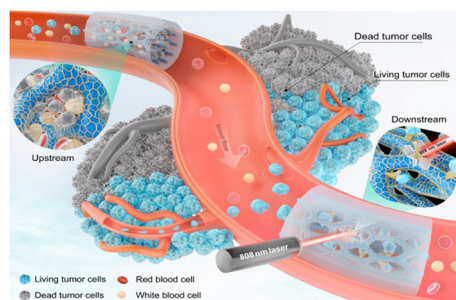
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### An enhanced non-enzymatic electrochemical sensor based on the $\text{Bi}_2\text{S}_3\text{-TiO}_2$ nanocomposite with HNTs for the individual and simultaneous detection of 4-nitrophenol and nitrofurantoin in environmental samples

Srujan Basavapura Ravikumar, Trishul Alanahalli Mallu, Sirisha Subbareddy, Santhosh Arehalli Shivamurthy,\* Varun Donnakatte Neelalochana, Karthik Chimatahalli Shantakumar, Jothi Ramalingam Rajabathar, Narges Ataollahi and Sandeep Shadakshari\*

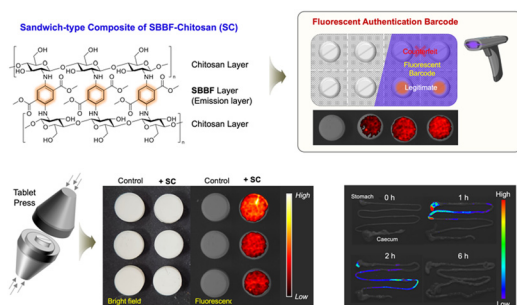
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### Intravascular elimination of circulating tumor cells and cascaded embolization with multifunctional 3D tubular scaffolds

Yijing Chen, Cuiwen Li, Jinghui Yang, Ming Wang, Yike Wang, Shibo Cheng, Weihua Huang, Guohua Yuan\* and Min Xie\*

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### A superstable sandwich-type composite of a single-benzene-based fluorophore and chitosan as a fluorescent authentication barcode

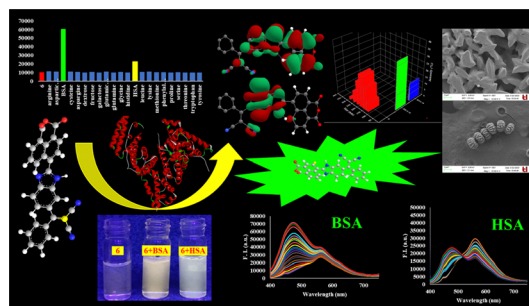
Jaehoon Kim, Ji Hye Jin, Ha Yeon Kim, Joo Hee Hyun, Sungnam Park and Dokyoung Kim\*



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## A fluorescent “Turn-ON” probe with rapid and differential response to HSA and BSA: quantitative detection of HSA in urine

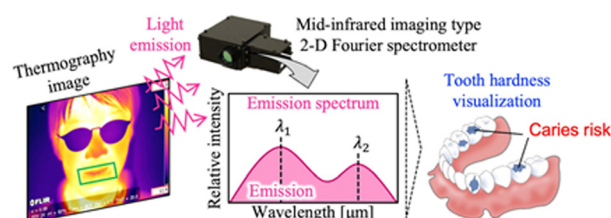
Rohini Gupta and Kamaldeep Paul\*



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## Mid-infrared passive spectroscopic imaging for visualizing tooth quality

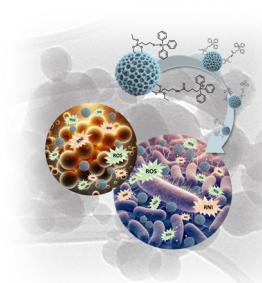
So Yamashita, Masahiro Okada,\* Takuya Matsumoto and Ichiro Ishimaru\*



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## Unleashing the antibacterial and antibiofilm potential of silica-based nanomaterials functionalized with an organotin(IV) compound

Victoria García-Almodóvar, Perla del Rosario Ardiles, Sanjiv Prashar, Paulina Laura Pérez\* and Santiago Gómez-Ruiz\*



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## Fabrication of fiber-particle structures by electrospinning/electrospray combination as an intrinsic antioxidant and oxygen-releasing wound dressing

Shima Soheili, Banafsheh Dolatyar, Mohammad Reza Adabi, Darya Lotfollahi, Mohsen Shahrousvand,\* Payam Zahedi,\* Ehsan Seyedjafari and Jamshid Mohammadi-Rovshandeh

