

Journal of Materials Chemistry B

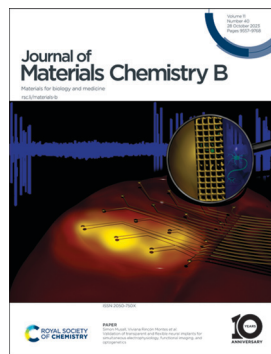
Materials for biology and medicine

rsc.li/materials-b

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 2050-750X CODEN JMCBDV 11(40) 9557-9768 (2023)



Cover

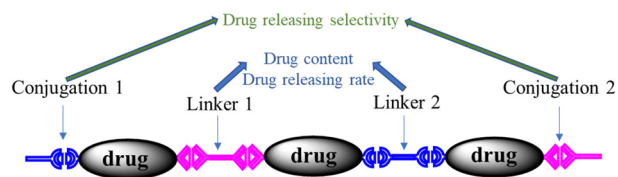
See Simon Musall, Viviana Rincón Montes *et al.*, pp. 9639–9657. Image reproduced by permission of Lina Koschinski, Simon Musall, and Viviana Rincón Montes from *J. Mater. Chem. B*, 2023, 11, 9639.

HIGHLIGHT

9565

Polyprodrugs for tumor chemotherapy: from molecular structure to drug release performance

Peng Liu

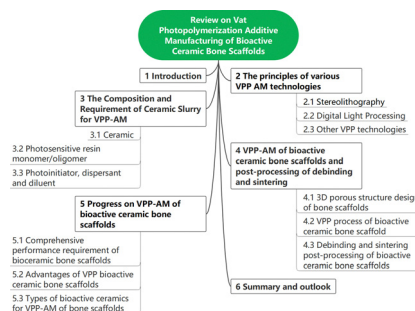


REVIEWS

9572

Review on vat photopolymerization additive manufacturing of bioactive ceramic bone scaffolds

Wang Guo,* Bowen Li, Ping Li, Lei Zhao, Hui You* and Yu Long*



Editorial Staff

Executive Editor

Michaela Mühlberg

Deputy Editor

Geraldine Hay

Editorial Production Manager

Jonathon Watson

Senior Publishing Editor

Fiona Iddon

Development Editor

Natalie Cotterell

Publishing Editors

Eleanor Griffiths, Francesca Jacklin, Brian Li

Editorial Assistant

Daniel Smith

Publishing Assistant

Jane Paterson

Publisher

Sam Keltie

For queries about submitted papers, please contact Jonathon Watson, Editorial Production Manager in the first instance. E-mail: materialsB@rsc.org

For pre-submission queries please contact Michaela Mühlberg, Executive Editor. E-mail: materialsB-rsc@rsc.org

Journal of Materials Chemistry B (electronic: ISSN 2050-7518) is published

48 times a year by the Royal Society of Chemistry, Thomas Graham House, Science Park, Milton Road, Cambridge, UK CB4 0WF.

All orders, with cheques made payable to the Royal Society of Chemistry, should be sent to the Royal Society of Chemistry Order Department, Royal Society of Chemistry, Thomas Graham House, Science Park, Milton Road, Cambridge, CB4 0WF, UK

Tel +44 (0)1223 432398; E-mail orders@rsc.org

2023 Annual (electronic) subscription price: £2192; \$3516.

Customers in Canada will be subject to a surcharge to cover GST. Customers in the EU subscribing to the electronic version only will be charged VAT.

If you take an institutional subscription to any Royal Society of Chemistry journal you are entitled to free, site-wide web access to that journal. You can arrange access via Internet Protocol (IP) address at www.rsc.org/ip

Customers should make payments by cheque in sterling payable on a UK clearing bank or in US dollars payable on a US clearing bank.

Whilst this material has been produced with all due care, the Royal Society of Chemistry cannot be held responsible or liable for its accuracy and completeness, nor for any consequences arising from any errors or the use of the information contained in this publication. The publication of advertisements does not constitute any endorsement by the Royal Society of Chemistry or Authors of any products advertised. The views and opinions advanced by contributors do not necessarily reflect those of the Royal Society of Chemistry which shall not be liable for any resulting loss or damage arising as a result of reliance upon this material. The Royal Society of Chemistry is a charity, registered in England and Wales, Number 207890, and a company incorporated in England by Royal Charter (Registered No. RC000524), registered office: Burlington House, Piccadilly, London W1J 0BA, UK, Telephone: +44 (0) 207 4378 6556.

Advertisement sales:

Tel +44 (0) 1223 432246; Fax +44 (0) 1223 426017;

E-mail advertising@rsc.org

For marketing opportunities relating to this journal, contact marketing@rsc.org

Journal of Materials Chemistry B

rsc.li/materials-b

Journal of Materials Chemistry A, B & C cover high quality studies across all fields of materials chemistry. The journals focus on those theoretical or experimental studies that report new understanding, applications, properties and synthesis of materials. *Journal of Materials Chemistry B* covers materials with applications in biology and medicine.

Editorial Board

Editor-in-Chief

Jeroen Cornelissen, University of Twente, The Netherlands

Associate Editors

Kaushik Chatterjee, Indian Institute of Science, India
Elizabeth Cosgriff-Hernandez, The

University of Texas at Austin, USA

Gemma-Louise Davies, University of Birmingham, UK

Håkan Engqvist, Uppsala University, Sweden

Jian Ji, Zhejiang University, China
Shaoqin Liu, Harbin Institute of Technology, China
Yoshiko Miura, Kyushu University, Japan

Jessica Winter, The Ohio State University, USA

Chengzhong Yu, University of Queensland, Australia

Member

Claus Feldmann, Karlsruhe Institute of Technology, Germany

Advisory Board

D. Benoit, University of Rochester, USA

C. Bettinger, Carnegie Mellon University, USA

W. Chan, University of Toronto, Canada

J. Chang, Shanghai Institute of Ceramics, China

H. Cölfen, University of Konstanz, Germany

T. Da Ros, Trieste University, Italy

T. Davis, Monash University, Australia

T. Desai, University of California, San Francisco, USA

X. Deng, Peking University, China

E. Duguet, University of Bordeaux, France

C. Fan, Shanghai Jiao Tong University, China

Y. Fang, CNST, China

R. Forgan, University of Glasgow, UK

J. Fu, Ningbo Institute of Industrial Technology, Chinese Academy of Sciences, China

A. Gedanken, Bar-Ilan University, Israel

M. Grunlan, Texas A&M University, USA

Y. Gun'ko, Trinity College Dublin, Ireland

J. van Hest, Radboud University Nijmegen, The Netherlands

K. Hamad-Schifferli, University of Massachusetts Boston, USA

B. Harley, University of Illinois, USA

A. Higuchi, National Central University, Chinese Taipei, and Wenzhou Medical

University, China

S. Inal, KAUST, Saudi Arabia

Y. Ito, RIKEN, Japan

B. Keselowsky, University of Florida, USA

J. Khandare, MIT WPU Campus, India

A. Kloxin, University of Delaware, USA

N. Kotov, University of Michigan, USA

Z.-C. Li, Peking University, China

E. Lipke, Auburn University, USA

L. Liz-Marzan, CIC biomaGUNE, Spain

D. Lynn, University of Wisconsin, USA

E. D.-L. Ma, Hong Kong Baptist University, Hong Kong

G. Malliaras, University of Cambridge, UK

H.-Q. Mao, Johns Hopkins University, USA

S. Marchesan, University of Trieste, Italy

D. Martin, University of Delaware, USA

K. Masters, University of Wisconsin-Madison, USA

A. Miserez, Nanyang Technological University, Singapore

R. O'Reilly, University of Birmingham, UK

M. in het Panhuis, University of Wollongong, Australia

A. Pannier, University of Nebraska, USA

J. Park, KAIST, Korea

S. Perrier, University of Warwick, UK

X. Qu, Changchun Institute of Applied

Chemistry, Chinese Academy of Sciences, China

M. Resmini, Queen Mary University of London, UK

K. Schenke-Layland, NMI Natural and Medical Sciences Institute, University of Tübingen, Reutlingen, Germany

C. Schmidt, University of Florida, USA

L. Segatori, Rice University, USA

T. Serizawa, Tokyo Institute of Technology, Japan

Y. Shen, Zhejiang University, China

S. Staniland, University of Sheffield, UK

N. Steinmetz, University of California, San Diego, USA

M. Stenzel, University of New South Wales, Australia

S. Stoll, Georgetown Washington, USA

L. Stugs, University of Texas at Austin, USA

M. Takai, University of Tokyo, Japan

J. Temenoff, Georgia Institute of Technology, USA

P. Théato, Karlsruhe Institute of Technology, Germany

R. Uljin, City University of New York, US

J. Zheng, University of Akron, USA

Information for Authors

Full details on how to submit material for publication in Journal of Materials Chemistry B are given in the Instructions for Authors (available from <http://www.rsc.org/authors>). Submissions should be made via the journal's homepage: rsc.li/materials-b. Submissions: The journal welcomes submissions of manuscripts for publication as Full Papers, Communications, Reviews, Highlights and Applications. Full Papers and Communications should describe original work of high quality and impact which must highlight the novel properties or applications (or potential properties/applications) of the materials studied.

Additional details are available from the Editorial Office or

<http://www.rsc.org/authors>

Authors may reproduce/republish portions of their published contribution without seeking permission from the Royal Society of

Chemistry, provided that any such republication is accompanied by an acknowledgement in the form: (Original Citation)-Reproduced by permission of the Royal Society of Chemistry.

This journal is © The Royal Society of Chemistry 2023.

Apart from fair dealing for the purposes of research or private study for non-commercial purposes, or criticism or review, as permitted under the Copyright, Designs and Patents Act 1988 and the Copyright and Related Rights Regulation 2003, this publication may only be reproduced, stored or transmitted, in any form or by any means, with the prior permission in writing of the Publishers or in the case of reprographic reproduction in accordance with the terms of licences issued by the Copyright Licensing Agency in the UK. US copyright law is applicable to users in the USA.

Registered charity number: 207890

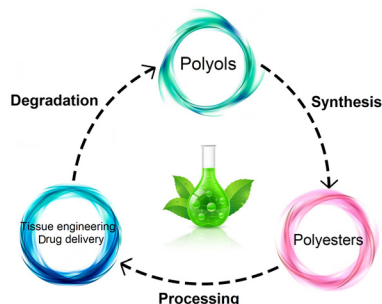


REVIEWS

9597

Harnessing the power of polyol-based polyesters for biomedical innovations: synthesis, properties, and biodegradation

Vafa Fakhri,* Chia-Hung Su, Masoud Tavakoli Dare, Maryam Bazmi, Aliakbar Jafari and Vahid Pirouzfard

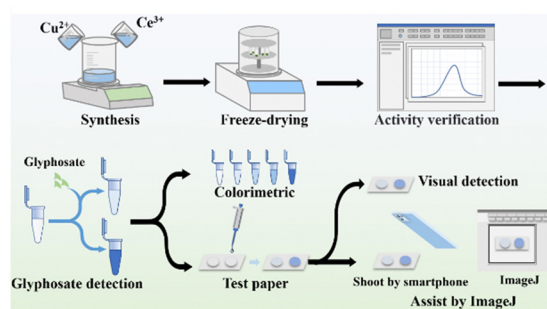


COMMUNICATION

9630

CuCeTA nanoflowers as an efficient peroxidase candidate for direct colorimetric detection of glyphosate

Cong Jiang, Huimin Zhong, Jiahui Zou, Guancheng Zhu and Yanyan Huang*

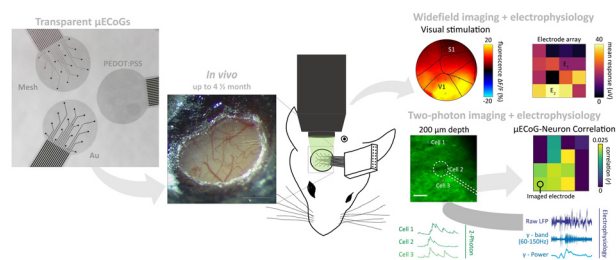


PAPERS

9639

Validation of transparent and flexible neural implants for simultaneous electrophysiology, functional imaging, and optogenetics

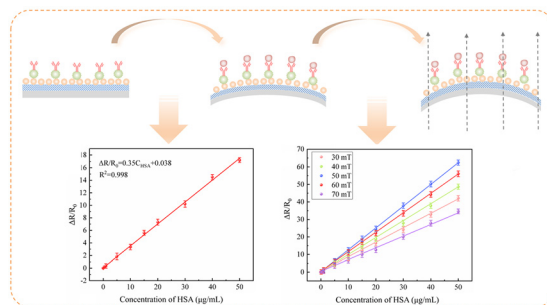
Lina Koschinski, Bohdan Lenyk, Marie Jung, Irene Lenzi, Björn Kampa, Dirk Mayer, Andreas Offenhäusser, Simon Musall* and Viviana Rincón Montes*



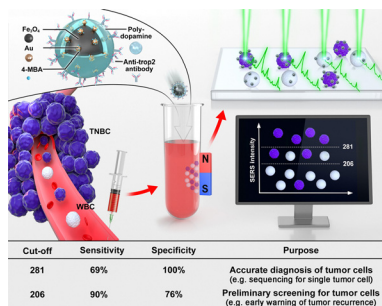
9658

A mechanical biosensor based on membrane-mediated magneto-stress-electric coupled sensitization for human serum albumin detection

Dong Zhao, Pengli Xiao, Xiushan Dong, Yang Ge, Xing Guo, Jianlong Ji, Yongqiang Cheng and Shengbo Sang*



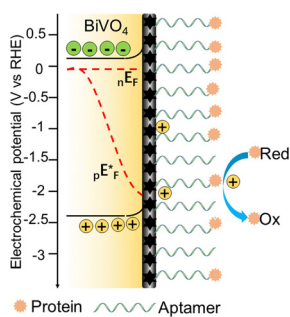
9666



A novel dual-function SERS-based identification strategy for preliminary screening and accurate diagnosis of circulating tumor cells

Dinghu Zhang, Jie Lin,* Yanping Xu, Xiaoxia Wu, Xiawei Xu, Yujiao Xie, Ting Pan, Yiwei He, Jun Luo, Zhewei Zhang, LinYin Fan, Shunxiang Li, Tianxiang Chen, Aiguo Wu* and Guoliang Shao*

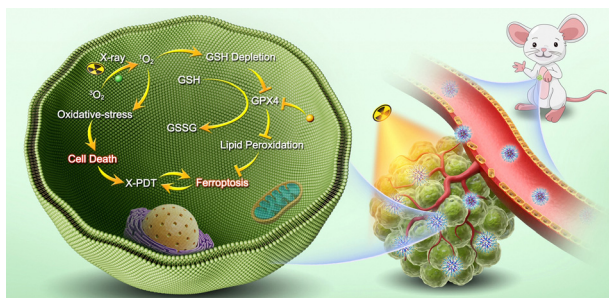
9676



A carbon quantum layer modified BiVO₄ photoelectrochemical aptamer biosensor for ultra-sensitive cTnI biomarker detection based on the interface nephelauxetic effect and heterojunction assistance

Lin Wang, Jie Liu, Xianying Dai, Linfu Zhou,* Yuyu Bu* and Gang Zhao

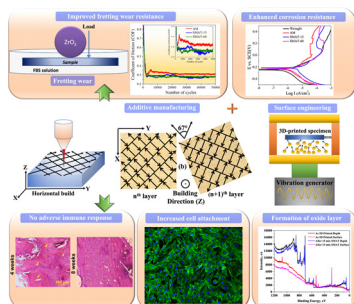
9685



Application of singlet oxygen-activatable nanocarriers to boost X-ray-induced photodynamic therapy and cascaded ferroptosis for breast cancer treatment

Beibei Zhang,* Hao Liu, Yifei Wang, Yong Zhang* and Jingliang Cheng*

9697



Surface nanocrystallization enhances the biomedical performance of additively manufactured stainless steel

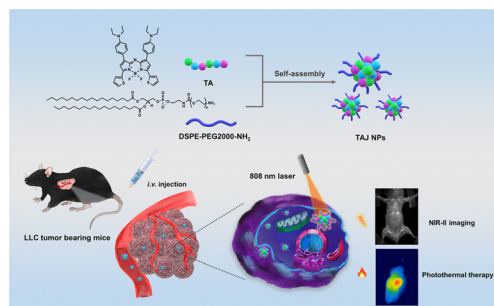
Sumit Ghosh, Sushma Indrakumar, Santanu Ghosh, Vasanth Gopal, Sagar Nilawar, Geetha Manivasagam, Jayanth S. Kesave, Satyam Suwas and Kaushik Chatterjee*



9712

J-Aggregation induced NIR-II fluorescence: an aza-BODIPY luminogen for efficient phototheranostics

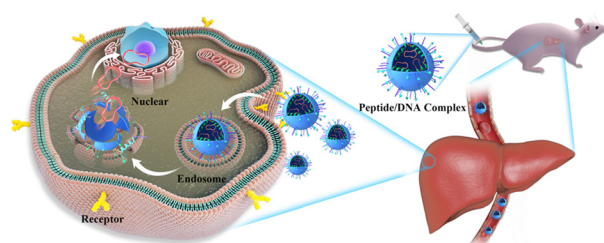
Na Yang, Shuang Song, Mahmood Hassan Akhtar, Chang Liu, Lang Yao, Jiayuan Yu, Ying Li, Qianxue Li, Di He* and Cong Yu*



9721

Multifunctional gene delivery vectors containing different liver-targeting fragments for specifically transfecting hepatocellular carcinoma (HCC) cells

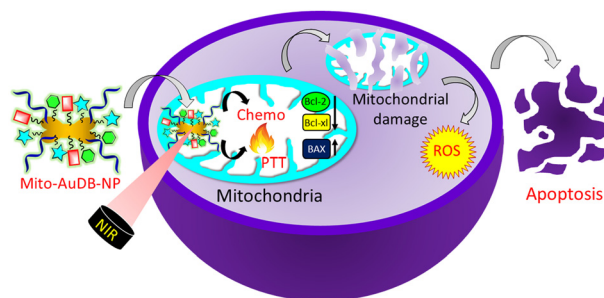
Qin Cheng, Taoran Wang, Jing Zhang, Long Tian, Chunlan Zeng, Zhao Meng,* Changhao Zhang* and Qingbin Meng*



9732

Dog-bone shaped gold nanoparticle-mediated chemo-photothermal therapy impairs the powerhouse to trigger apoptosis in cancer cells

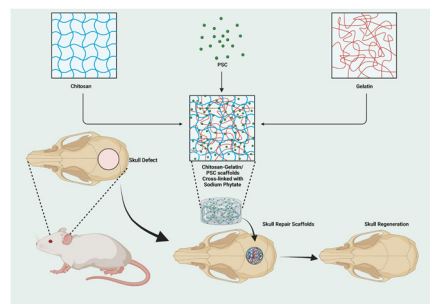
Jaypalsing Ingle, Bhawna Uttam, Reha Panigrahi, Saumyakanti Khatua* and Sudipta Basu*



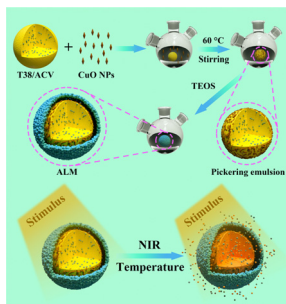
9742

A pH-neutral bioactive glass empowered gelatin–chitosan–sodium phytate composite scaffold for skull defect repair

Bin Zhu, Yu Liu, Yanlei Zhao, Xinyu Dou, Linbang Wang, Shuyuan Min, Xiaoguang Liu* and Dong Qiu*



9757



Preparation and performance of a stimuli-responsive drug delivery system: novel light-triggered temperature-sensitive drug-loaded microcapsules

Zhengguo Chen, Wangting Zhou, Yujing Wei, Lingling Shi, Zhaoxia Zhang, Mehran Dadgar, Guocheng Zhu and Guoqing Zhang*

CORRECTION

9765

Correction: Hybrid lanthanide nanoparticles as a new class of binary contrast agents for *in vivo* T_1/T_2 dual-weighted MRI and synergistic tumor diagnosis

Zhigao Yi, Xiaolong Li, Wei Lu, Hongrong Liu, Songjun Zeng* and Jianhua Hao*

