ISSN 1001-8417
CN 11-2710/O6

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Chinese Chemical Letters

| Volume 28 | Number 9 | SEPTEMBER 2017 | Special Issue: Nanobiomaterials

ISSN 1001-8417

Chinese Chemical Society
Institute of Materia Medica, Chinese Academy of Medical Sciences

Contents lists available at ScienceDirect

Chinese Chemical Letters

journal homepage: www.elsevier.com/locate/cclet

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Highlight

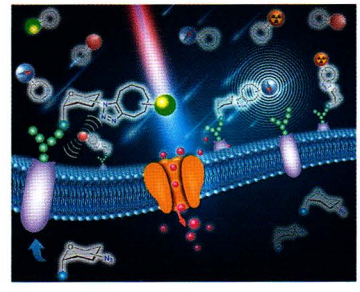
Cell-surface cascaded landing location for nanotheranostics

Chinese Chemical Letters 28 (2017) 1799

En Ren, Junqing Wang, Gang Liu*

State Key Laboratory of Molecular Vaccinology Molecular Diagnostics, Center for Molecular Imaging Translational Medicine, School of Public Health Xiamen University, Xiamen 361005, China

Cell-surface cascaded landing location is an effective strategy to develop functional drug-loading platforms to explore basic physiological processes at the cellular level and to facilitate the development of nanotheranostics for disease treatment.



Reviews

Artificial periosteum in bone defect repair—A review

Chinese Chemical Letters 28 (2017) 1801

Quan Wang[a,c,1], Jianxiang Xu[a,1], Haiming Jin[a], Wenhao Zheng[a], Xiaolei Zhang[a,c], Yixing Huang[a], Zhiyong Qian[a,b,*]

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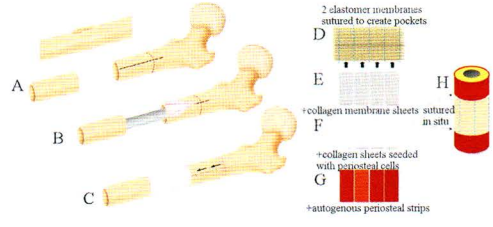
[c]*Zhejiang Provincial Key Laboratory of Orthopaedics, Wenzhou 325027, China*

We review the development of artificial periosteum and classify it into three approaches based on the material source, that is, native tissues, scaffoldfree cell sheets and scaffold-cell composites. Mechanisms, methods and efficacy of each approach are provided. Existing obstacles and enabling technologies for future directions are also discussed.



Recent advances of transformable nanoparticles for theranostics

Chinese Chemical Letters 28 (2017) 1808

Kuo Zhang[a,b], Pei-Pei Yang[b], Jing-Ping Zhang[a,*], Lei Wang[b,*], Hao Wang[b,*]

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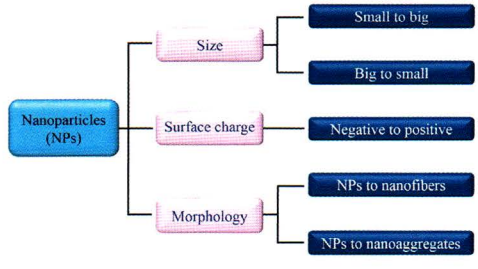
We summary recent advances of transformable NPs for nanomedicine. In this review, the transformation of NPs is divided into three groups including changes in size, surface charge and morphology, which is induced by internal stimuli, such as pH, enzyme, receptor or external stimuli, such as light, temperature.



doi:10.1016/S1001-8417(17)30291-7

Chinese Chemical Letters 28 (2017) 1878

pH Readout enhanced ELISA for point-of-care testing of cardiac troponin I

Luyang Miao[a,1], Lianhua Zhang[b,1], Lei Jiao[a], Xiaofeng Tan[a], Qin Wei[a], He Li[a,*]

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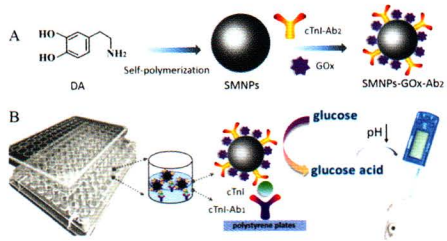
In this study, we described a pH ELISA using synthetic melanin nanoparticles (SMNPs) for the co-immobilization of glucose oxidase and second antibody as signal labels, portable pH meter as signal readout device for detecting biomarker of myocardial injury. This assay is easy-to-use, portable, sensitive and able to realize point-of-care testing (POCT), which was demonstrated the significant promising in the early diagnosis and screening of acute myocardial infarction.



Chinese Chemical Letters 28 (2017) 1881

Immune fluorescence test strips based on quantum dots for rapid and quantitative detection of carcino-embryonic antigen

Yudong Wu[a,1], Weipan Peng[a,1], Qian Zhao[a], Jiafang Piao[a], Bo Zhang[a], Xiaoli Wu[a], Hanjie Wang[a], Zhihong Shi[b], Xiaoqun Gong[a,*], Jin Chang[a,*]

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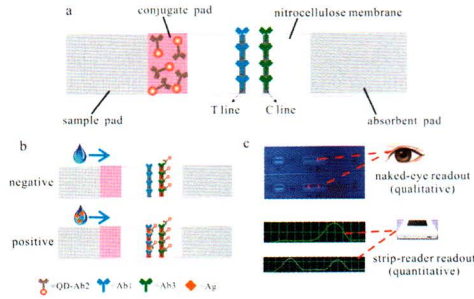
[b]Department of Neurology, and Tianjin Neurosurgery Institute, Tianjin Huanhu Hospital, Tianjin 300060, China

A QDs-based immune fluorescence test strips was built up for carcino-embryonic antigen detection to realize cancers POCT diagnostic, with a sensitivity of 0.72 ng/mL in 25 min.



Chinese Chemical Letters 28 (2017) 1885

Fabrication of a polypseudorotaxane nanoparticle with synergistic photodynamic and chemotherapy

Tao-Tao Xu[a], Jun-Hua Li[a], Fu-Rong Cheng[a], Yi-Xin Zhang[b], Jun Cao[a], Wen-Xia Gao[c], Bin He[a,*]

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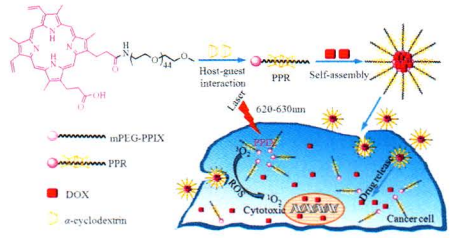
[c]College of Chemistry and Materials Engineering, Wenzhou University, Wenzhou 325027, China

Polypseudorotaxane (PPR) nanoparticles were fabricated by the self-assembly of mPEG-protoporphyrin IX (PpIX) conjugate and a-CDs *via* the hostguest interaction for achieving synergistic photodynamic and chemotherapy.



Chinese Chemical Letters 28 (2017) 1889

$C_{60}(OH)_n$-loaded nanofibrous membranes protect HaCaT cells from ROS - associated damage

Mengyu Guo[a,1], Shuying Bi[b,1], Jing Liu[a], Wenshi Xu[c], Guoqiang Zhou[c], Ying Liu[a,*], Chunying Chen[a,*]

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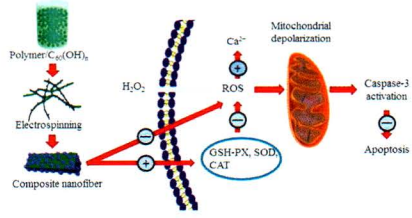
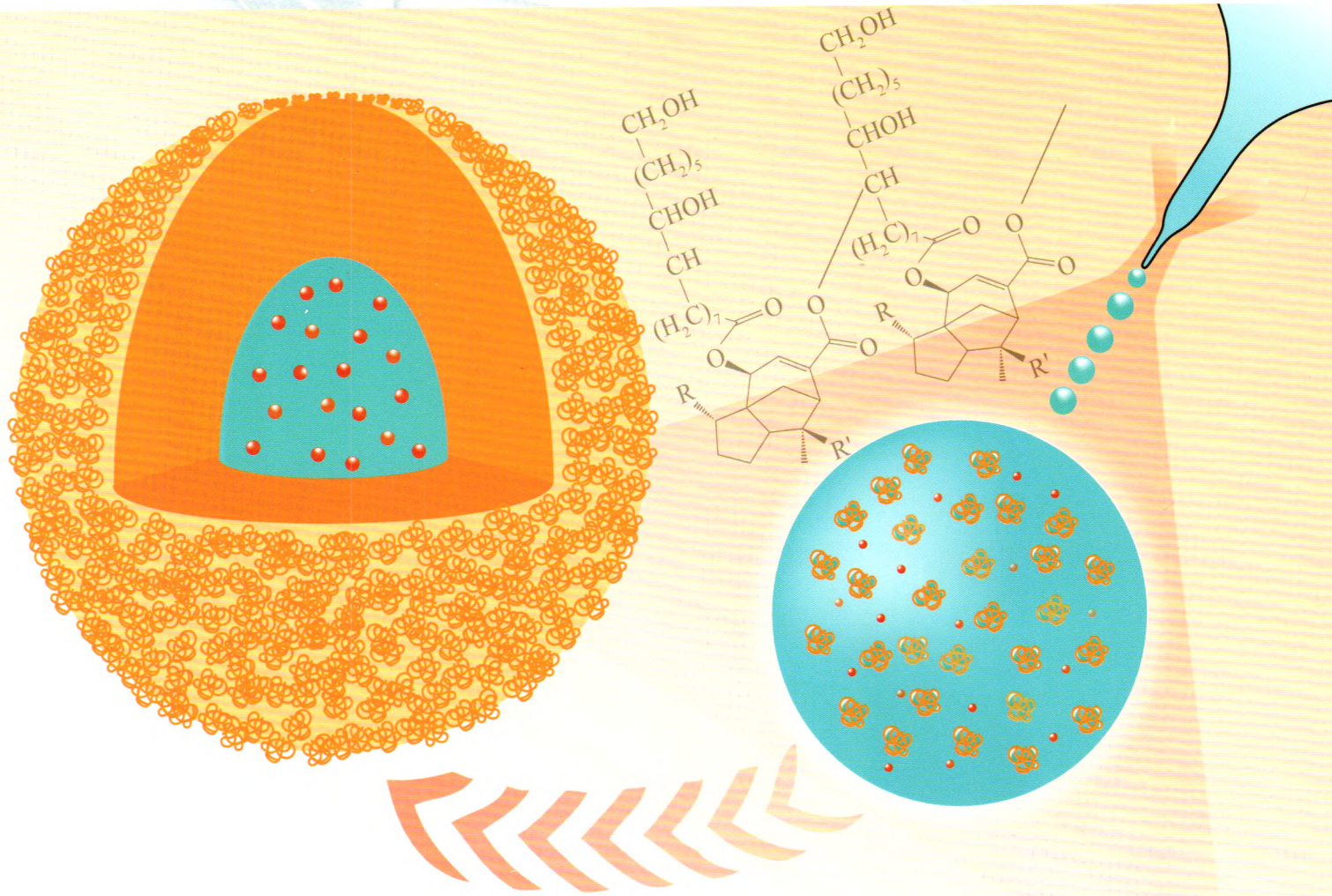
[c]Key Laboratory of Medicinal Chemistry and Molecular Diagnosis of Ministry of Education, College of Chemistry and Environmental Science, Hebei University, Baoding 071002, China

C_{60}(OH)n-loaded nanofibrous membranes were prepared by electrospinning to suppress the elevation of intracellular ROS and Ca^{2+}, and to protect human keratinocyte cells from ROS-associated damage and apoptosis.



Responsible Institution: China Association for Science and Technology
Sponsor: Chinese Chemical Society
Institute of Materia Medica, Chinese Academy of Medical Sciences
Editor-in-Chief: Xuhong Qian
Editor: Editorial Board of Chinese Chemical Letters
Address: Institute of Materia Medica, Chinese Academy of Medical Sciences
1 Xian Nong Tan Street, Beijing 100050, China
Tel: 86-10-63165638
E-mail: cclbj@imm.ac.cn
Website: www.chinchemlett.com.cn
Online Submission: www.ees.elsevier.com/cclet
Publisher: Editorial Office of Chinese Chemical Letters
ELSEVIER B.V.

国内发行：全国各地邮局　　邮发代号：2-915　　定价：50元/本；600元/年



Biocompatible Microcapsules with a Water Core Templated from Single Emulsions

Provided by Prof. Dong CHEN's Group, ZheJiang Univesity, China