

Electronic Supplementary Information

Polydopamine-functionalized polymer particles as templates for mineralization of hydroxyapatite: Biomimetic and *in vitro* bioactivity

Junli Cui, †^a Chao Ma, †^b Zhenni Li,^a Longyun Wu,^b Wei Wei,^c Min Chen,^{*b} Bo Peng,^{*d} and
Ziwei Deng^{*a}

^a School of Materials Science and Engineering, Shaanxi Normal University, Xi'an, 710062, China

^b The Affiliated Drum Tower Hospital of Nanjing University Medical School, Nanjing, 210008, China

^c Department of Gastrointestinal Surgery, The Second Affiliated Hospital of Nanjing Medical University, Nanjing, 210011, China

^d Department of Chemistry, Physical and Theoretical Chemistry Laboratory, University of Oxford, South Parks Road, Oxford OX1 3QZ, United Kingdom

† These two authors contributed equally to this work.

Corresponding authors:

* Dr. Min Chen, E-mail: croweminchan@aliyun.com

* Dr. Bo Peng, Tel: +44-1865285417. E-mail: pengbo006@gmail.com

* Dr. Ziwei Deng, Tel: +86-29-81530804. Fax: +86-29-81530702. E-mail: zwdeng@snnu.edu.cn

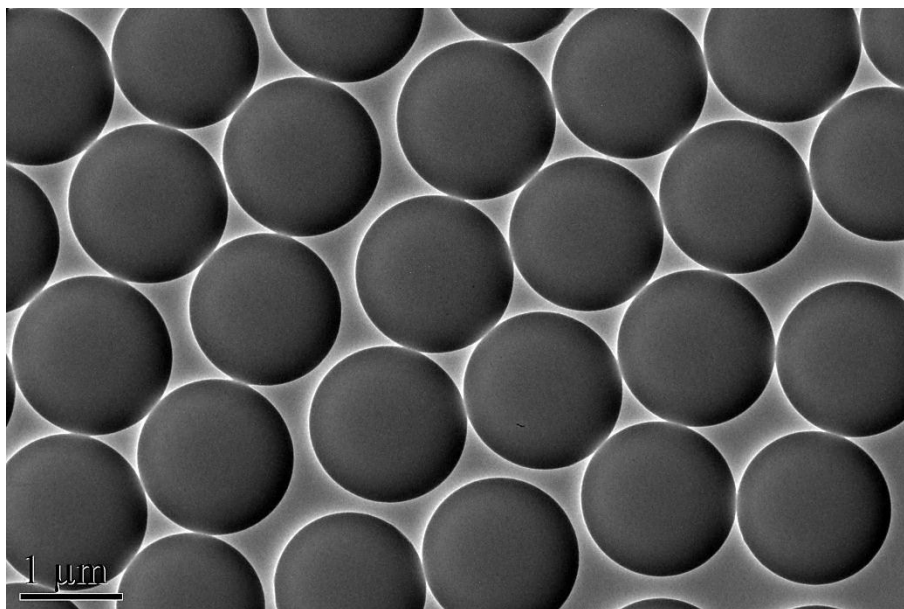


Fig. S1TEM image of PS particles after incubation in SBF solution for 3 days.

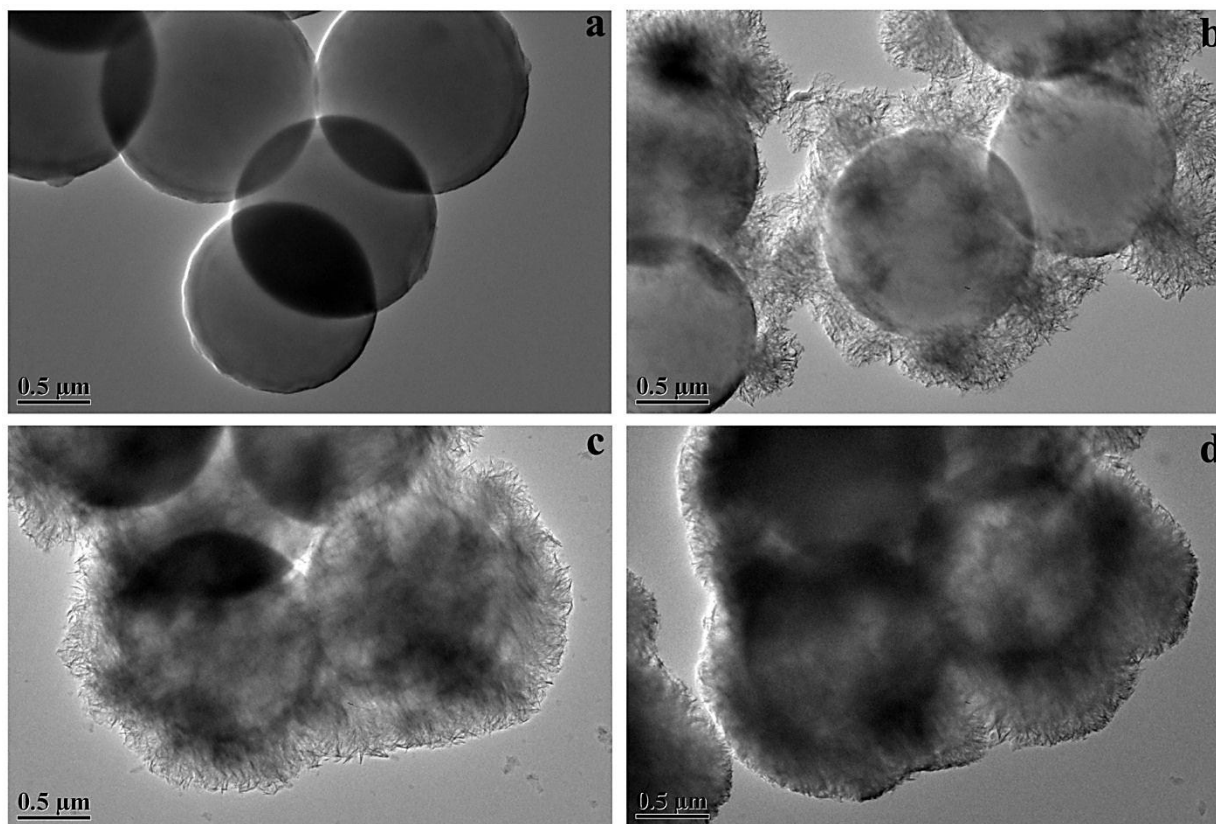


Fig.S2 TEM images of PS/PDA composite particles (a) and the produced PS/PDA/HAP hybrid materials after incubation of PS/PDA composite particles in SBF solution for (b) 3; (c) 7; and (d) 10 days at a high magnification, respectively.

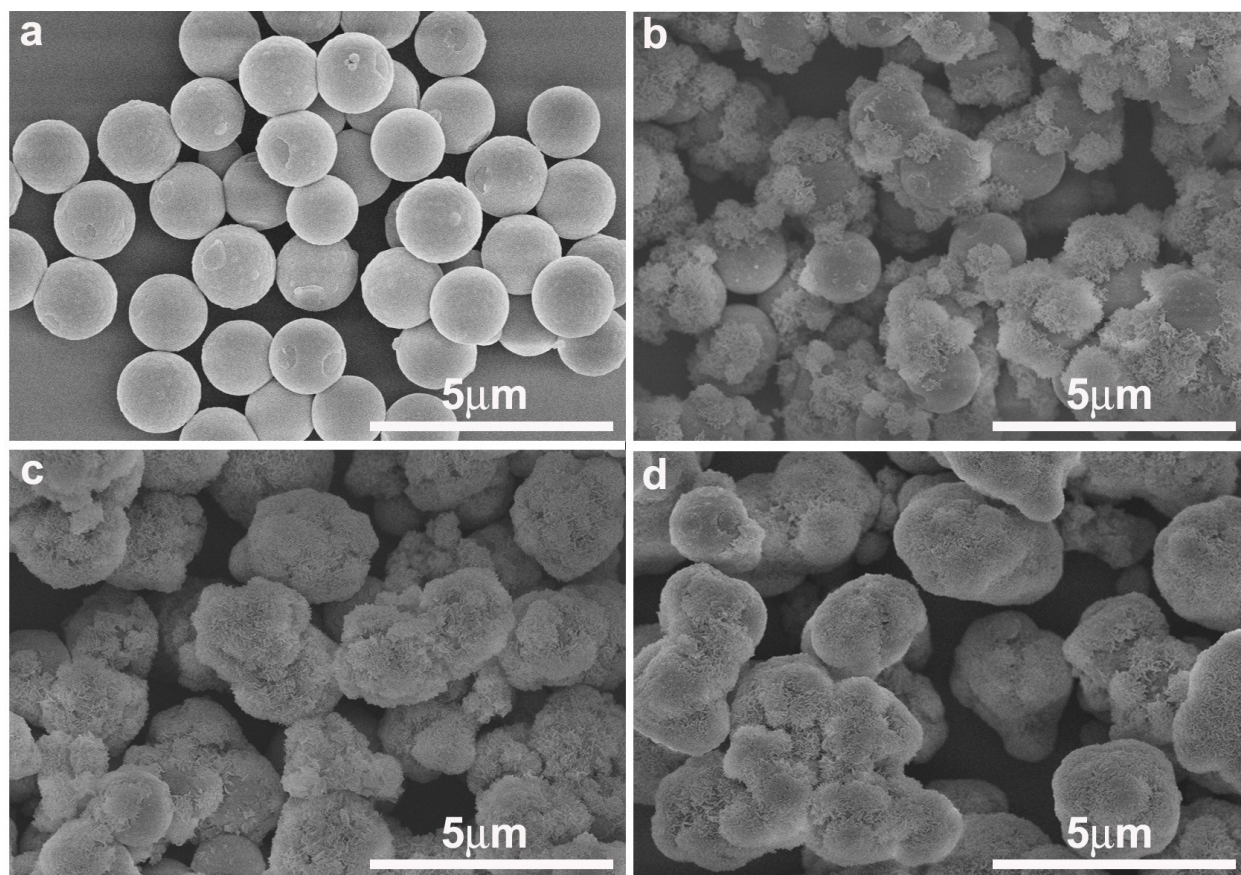


Fig.S3 Scanning electron microscopy (SEM) images of PS/PDA composite particles (a) and the resulting PS/PDA/HAP hybrid biocomposites after the incubation of PS/PDA composite particles in the SBF solutions for (b) 3; (c) 7; and (d) 10 days, respectively.

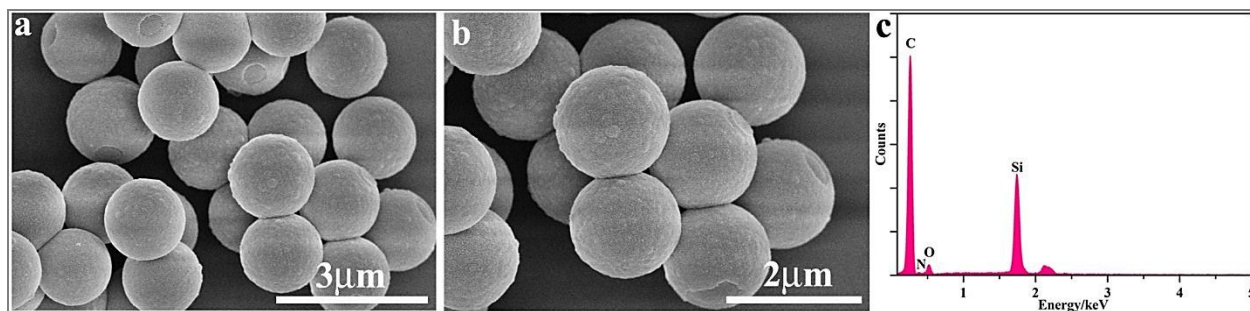


Fig.S4 Scanning electron microscopy (SEM) images (a, b) and their corresponding energy dispersive X-ray (EDX) spectra (c) of PS/PDA composite particles. SEM images in (b) show the typical PS/PDA composite particles from (a) at a high magnification.