

**Supporting Information**

**Monodisperse Photoluminescent and Highly Biocompatible Bioactive Glass Nanoparticles for  
Controlled Drugs Delivery and Cell Imaging**

Yumeng Xue<sup>a</sup>, Yuzhang Du<sup>a</sup>, Jin Yan<sup>a</sup>, Zhengqing Liu<sup>a</sup>, Peter X Ma<sup>a,c,e,f</sup>, Xiaofeng Chen<sup>d</sup>, Bo Lei<sup>a, b, d\*</sup>

<sup>a</sup> *Center for Biomedical Engineering and Applied Chemistry, Frontier Institute of Science and Technology,  
Xi'an Jiaotong University, Xi'an, China*

<sup>b</sup> *State Key Laboratory for Manufacturing Systems Engineering, Xi'an Jiaotong University, Xi'an, China*

<sup>c</sup> *Department of Biologic and Materials Sciences, The University of Michigan, Ann Arbor, USA*

<sup>d</sup> *National Engineering Research Center for Tissue Restoration and Reconstruction, Guangzhou, China*

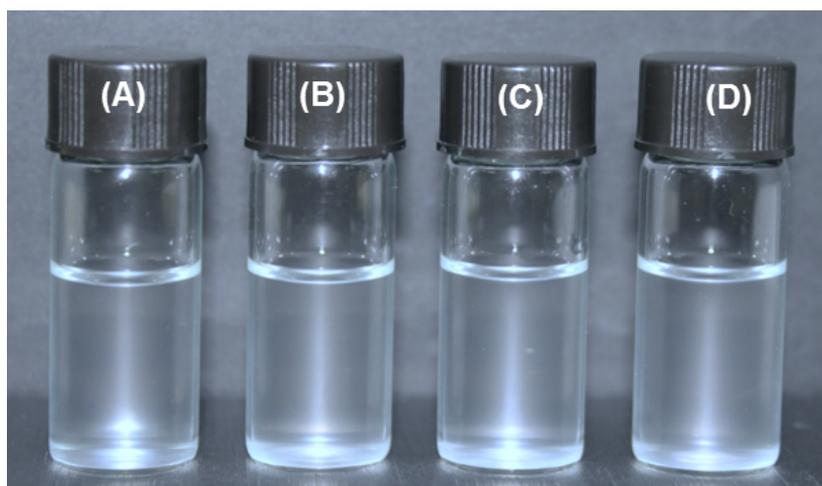
<sup>e</sup> *Macromolecular Science and Engineering Center, University of Michigan, Ann Arbor, USA*

<sup>f</sup> *Department of Materials Science and Engineering, University of Michigan, Ann Arbor, USA*

\*Corresponding author:

*B Lei*, rayboo@xjtu.edu.cn or leiboaray@gmail.com,

<http://gr.xjtu.edu.cn/web/rayboo>, Tel. +86-29-83395361



BGN-Eu nanoparticles dispersed in water



BGN-Eu nanoparticles dispersed in ethanol

**Figure S1. Good dispersability in water and ethanol of as-prepared BGN-Eu nanoparticles. (A) BGN-Eu0, (B) BGN-Eu1, (C) BGN-Eu2, (D) BGN-Eu3.**

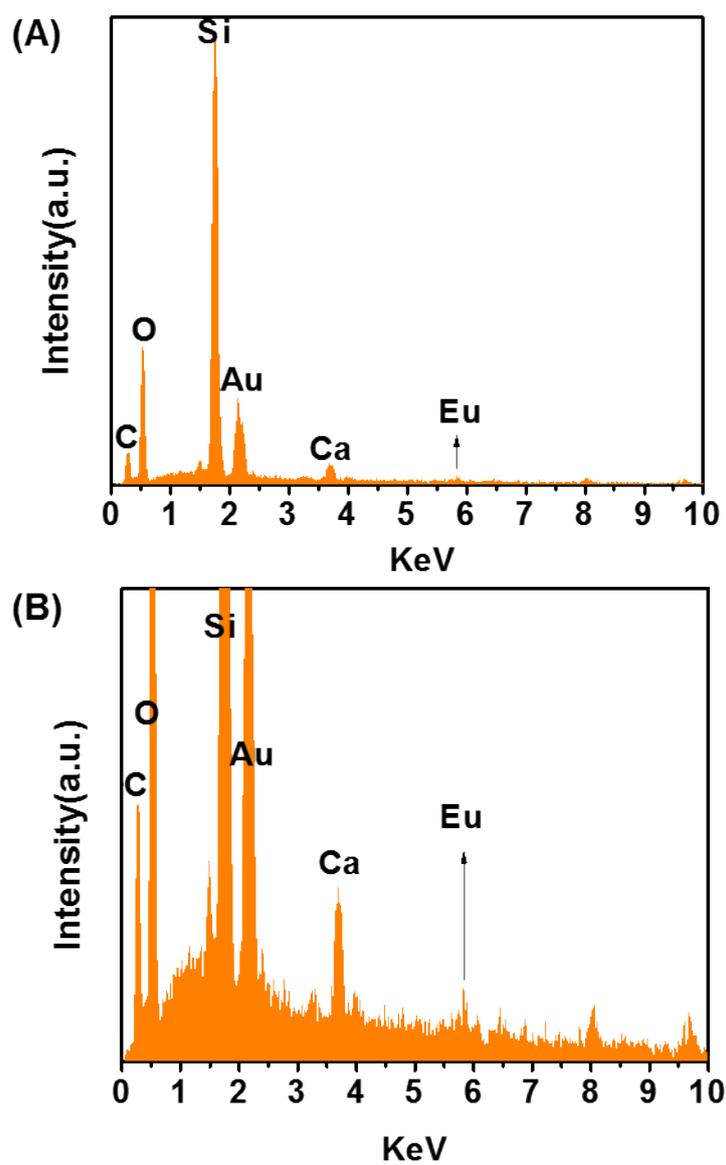


Figure S2. EDS analysis of as-prepared BGN-Eu<sub>3</sub> nanoparticles. (A) Original EDS spectrum and magnified EDS spectrum (B).

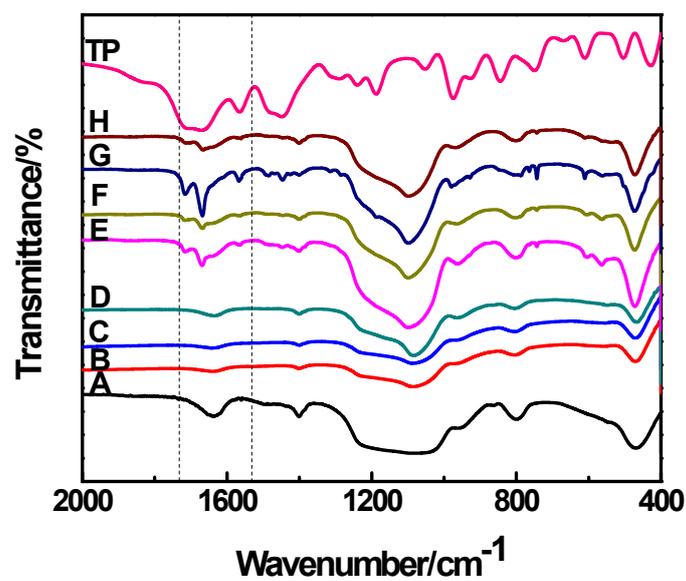


Figure S3. FTIR analysis of BGN-Eu before (A-D) and after (E-H) loading drug. (A, E) BGN-Eu0 (B,F)BGN-Eu1 (C,G)BGN-Eu2 (D,H)BGN-Eu3.

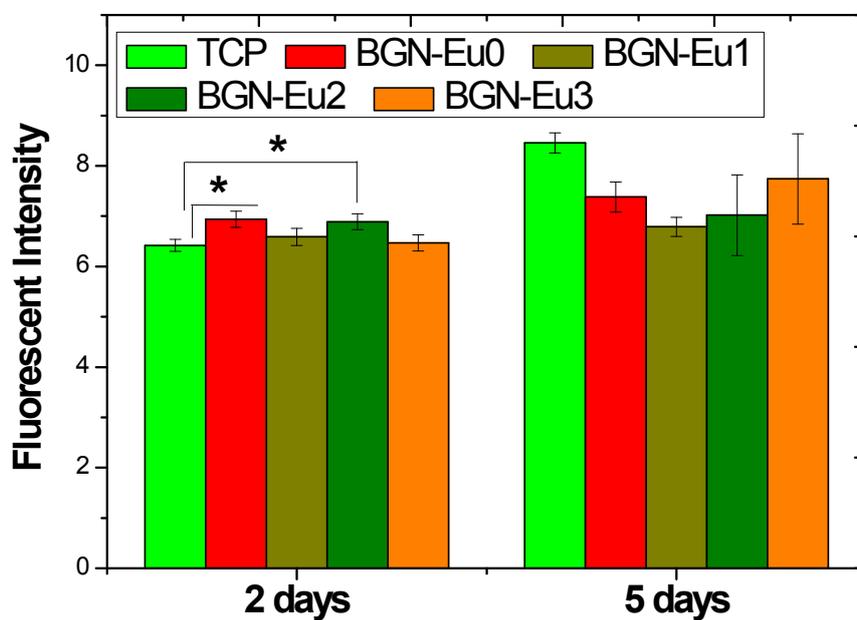
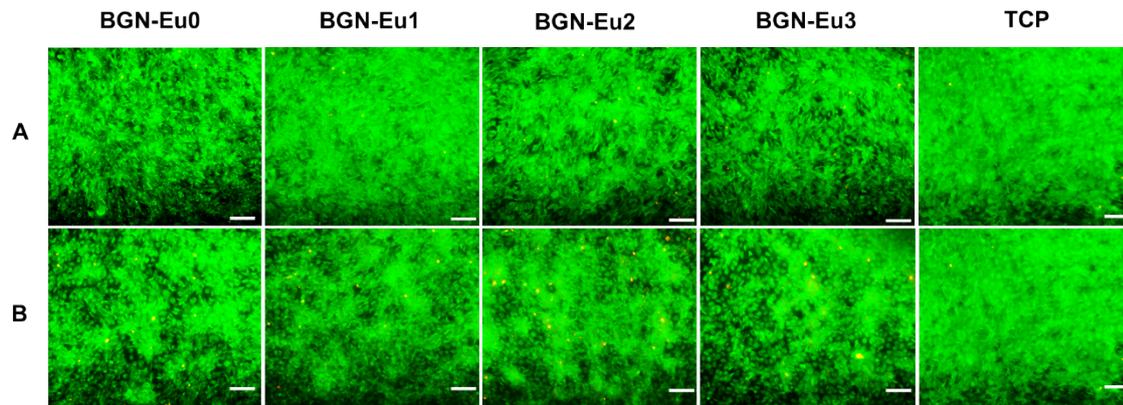


Figure S4. MC3T3 cells proliferation and metabolic activity after incubation with various BGN-Eu at 250  $\mu\text{g mL}^{-1}$ .



**Figure S5.** Fluorescent images of cells after culture for 5 days at 40 µg mL<sup>-1</sup> (A) 250 µg mL<sup>-1</sup> (B) (Scale bar: 300 µm).