

Supplemental Information

cRGD functionalized 2,1,3-benzothiadiazole (BTD)-containing two-photon absorbing red-emitter-conjugated amphiphilic poly(ethylene glycol)-*block*-poly(ϵ -caprolactone) for targeted bioimaging

Shanshan Wu^{1,*}, Fengyu Su², Hansa Y. Magee³, Deirdre R. Meldrum⁴, Yanqing Tian^{5,*}

1. Guangdong Industry Polytechnic, Foshan Municipality Anti-counterfeiting Engineering Research Center, Guangzhou, Guangdong 510300, China; 2018090123@gdip.edu.cn

2. Academy for Advanced Interdisciplinary Studies, Southern University of Science and Technology, Shenzhen, Guangdong 518055, China

3. Knowledge Enterprise, Arizona State University, Tempe, AZ 85287-5001, USA

4. Center for Biosignatures Discovery Automation, Biodesign Institute, Arizona State University, Tempe, AZ 85287-5001, USA

5. Department of Materials Science and Engineering, Southern University of Science and Technology, Shenzhen, Guangdong 518055, China; tianyq@sustech.edu.cn; ORCID: <http://orcid.org/0000-0002-1441-2431>

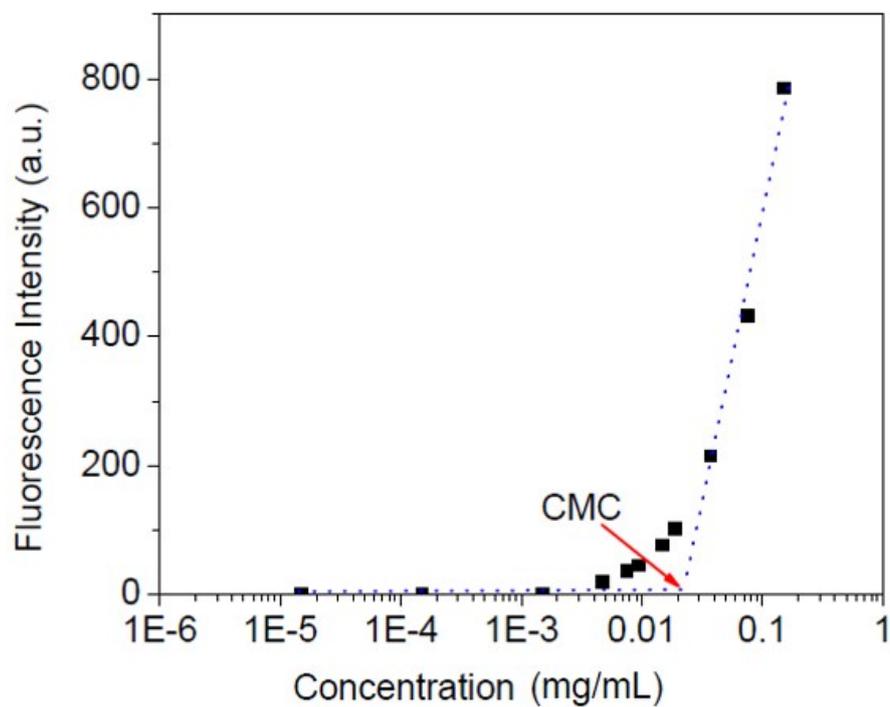


Fig. S1 The Critical micelle concentration (CMC) of P1 was measured to be 0.022 mg/mL.

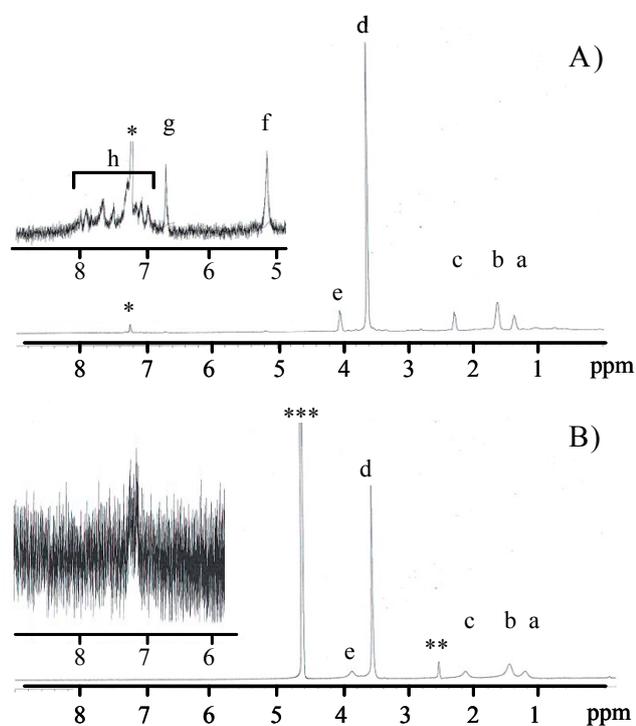


Fig. S2 ¹H NMR spectra of **P2** in CDCl₃ (A) and micelle 1 in D₂O with 10% DMSO-d₆ (B). Peaks labeled with a, b, c and e are from the PCL segments; peak labeled with d is from the PEG polymer chain; f is from the -CH₂O- of -**RED**-CH₂O-; h is from the aromatic protons of **RED** segments. * is attributed to CHCl₃; ** is attributed to (CH₃)₂SO; *** is attributed to H₂O.

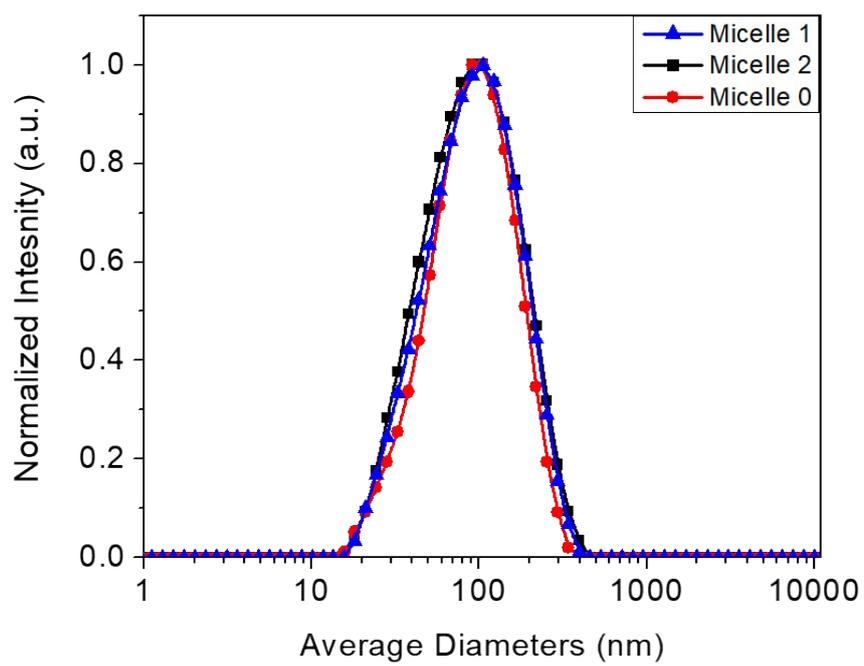


Fig. S3 Average diameters of the micelles measured by DLS.

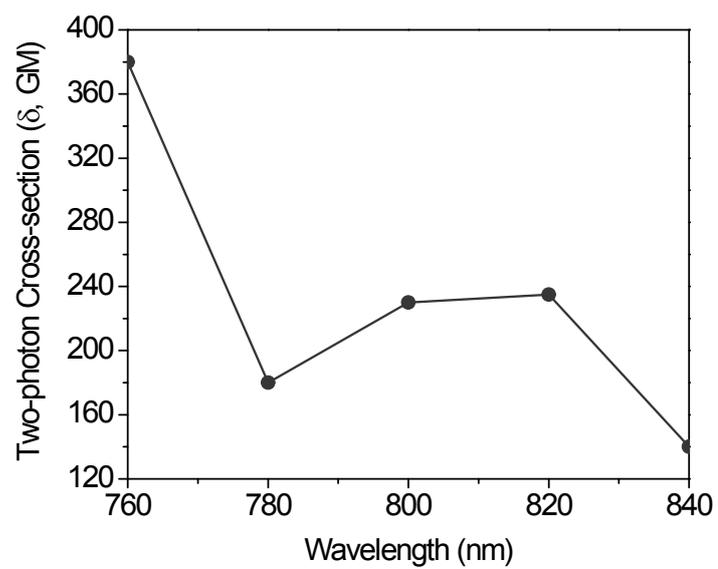


Fig. S4 2PA cross-sections of **RED** in micelle 1.

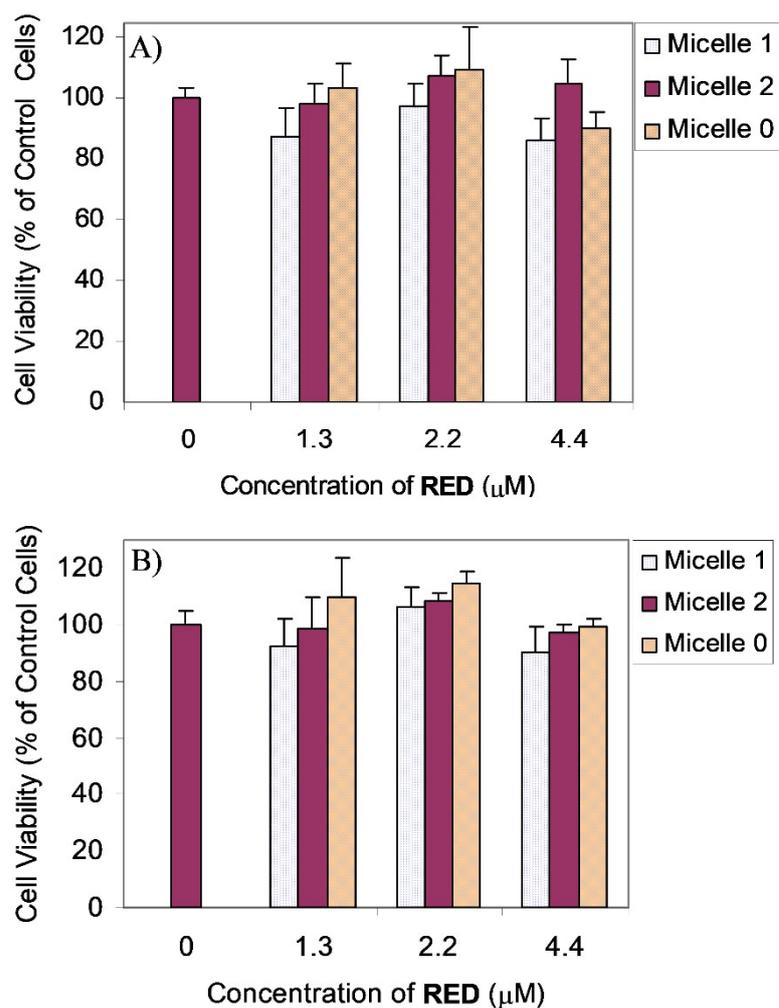


Fig. S5 Cytotoxicity of the micelles to U87MG (A) and HeLa (B) cells after incubation at 37 °C for 20 hours. The concentration of 0 in the x-axis means the control cells without adding any of the micelles.

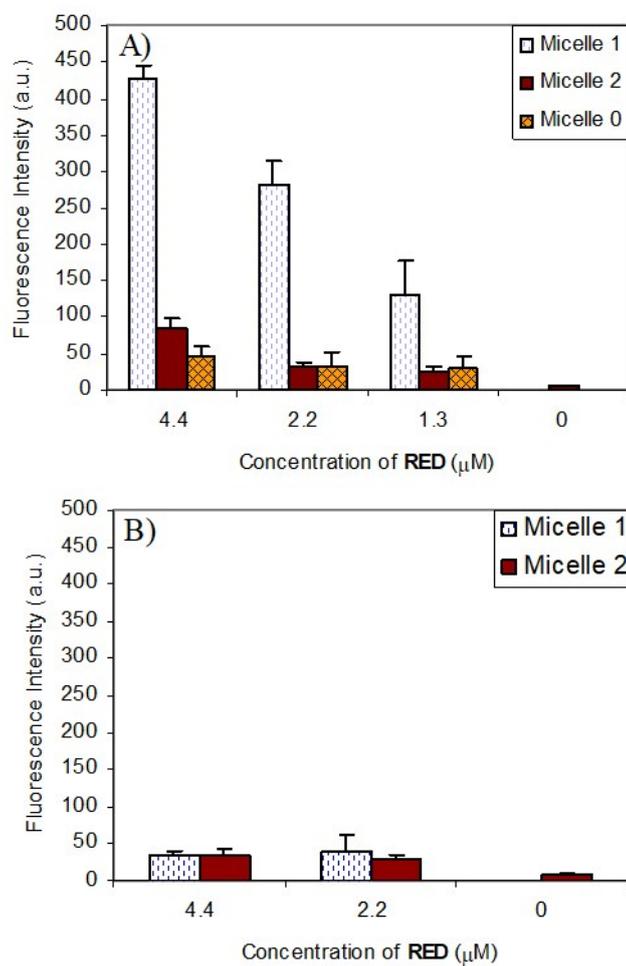


Fig. S6 Concentration and micelle dependent cellular internalization of the micelles by U87MG cells (A) and HeLa cells (B) at 37°C. Cellular uptake time is 20 hours. The concentration of 0 in the x-axis means the control cells without adding any of the micelles.