Unadulterated BODIPY-dimer nanoparticles with high stability and good biocompatibility for cellular imaging

Zhensheng Li,[a] Min Zheng,[b] Xingang Guan,[ac] Zhigang Xie,*[a] Yubin Huang[a] and Xiabin Jing[a]

[a] State Key Laboratory of Polymer Physics and Chemistry, Changchun Institute of Applied Chemistry, Chinese Academy of Sciences, 5625 Renmin Street, Changchun 130022, P. R. China.

E-mail: xiez@ciac.ac.cn; Tel: +86-431-85262779

[b]State Key Laboratory of Luminescence and Applications, Changchun Institute of Optics, Fine Mechanics and Physics, CAS, 3888 East Nanhu Rd. Changchun, Jilin, 130033, P. R. China

[c] Life Science research center, Beihua University, Jilin, 132013, P. R. China.

Contents

1. Synthesis of BODIPY nanoparticles

BODIPY nanoparticles were prepared by using precipitation method. In a typical preparation, BODIPY was dissolved in THF to produce a solution with BODIPY concentration of 0.05 mg/mL. Then 5 mL of THF solution was sonicated and added to 10 mL deionized water. The THF was removed under hood for several hours. The BODIPY nanoparticles were obtained after evaporating THF.

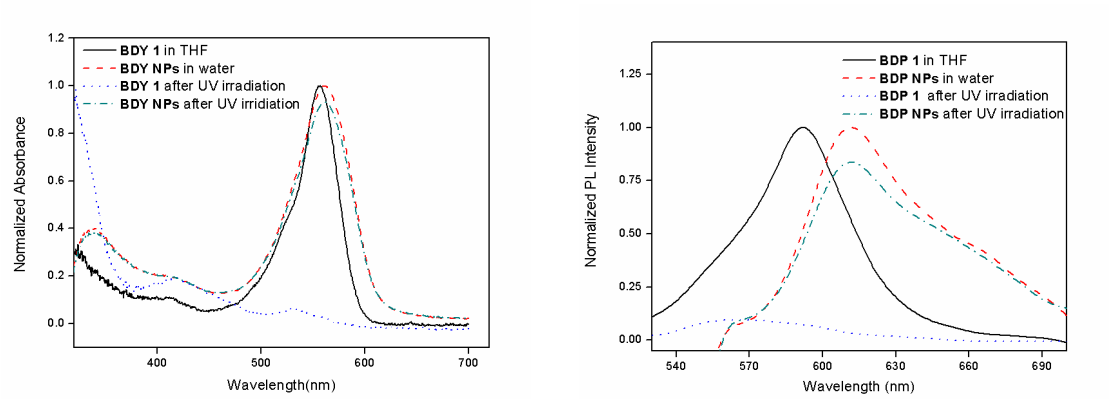


Figure S1. Photostability test of **BDY 1** and **BDY-NPs**. The changes of absorption (a) and emission (b) spectra of **BDY 1** in THF and **BDY-NPs** in water after UV irradiation in 10 min (λ_{irra} = 254 nm).

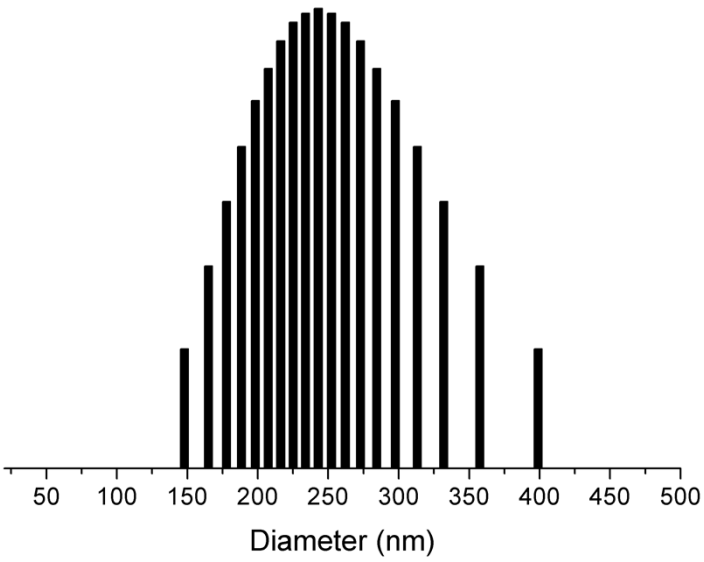


Figure S2. Size and size distribution of **BDY4 NPs.**

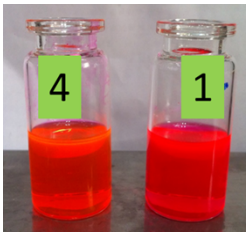
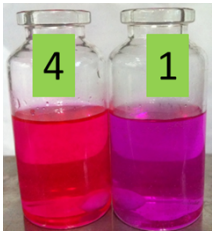
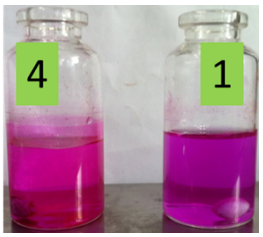
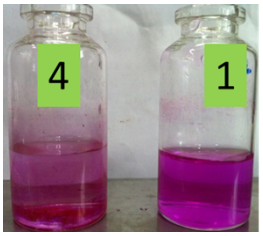
Description	Left: **BDY 4**; right: **BDY 1**
BDY 1 and **BDY 4** in THF	
Adding **BDY 1** or **BDY 4** THF solution to deionized water	
BDY 1 and **BDY 4** nanoparticles in water after removing THF	
BDY 1 and **BDY 4** nanoparticles in water after 24 h	

Figure S3. Images of BODIPY in THF and BODIPY nanoparticles in water for different time.

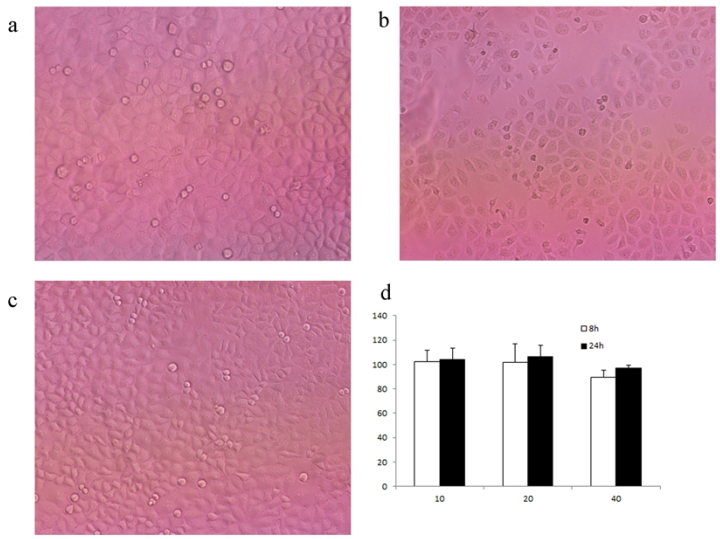


Figure S4. Biocompatibility of **BDY-NPs**. Optical microscopy of cells incubated with different concentrations of **BDY-NPs**, (a) control cells, (b) 20 μg mL^{-1}, (c) 40 μg mL^{-1}, (d) time- and concentration-dependent cytotoxicity of **BDY-NPs**.

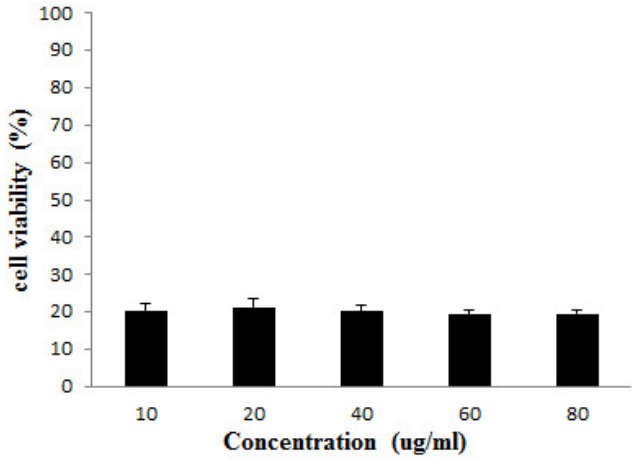


Figure S5. Time and concentration-dependent cytotoxicity of **BDY 1.**