

Stimulus Responsive Cross-linked AIE-active polymeric Nanoprobes: Fabrication and Biological Imaging Application

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Experiment

1. The synthesis of excellent AIE dyes (DATPE)

The DATPE could be mildly synthesized using 2-Aminobenzophenone by typical McMurry reaction as described previously.¹⁵ Briefly, TiCl_4 (0.0549 mol, 6 mL) was added dropwise into stirring suspension of zinc powder (0.1098 mol, 7.137 g) in dry THF solution (60 mL) at 0 °C for 30 min. After refluxing 2 h at 80 °C under nitrogen atmosphere, 2-Aminobenzophenone (0.0274 mol, 5.4 g) dissolved in 30 mL THF solution was removed into gradually above reaction system, which was refluxed another 8 h. The resulting reactive solution was cooled down the room temperature and put into 5% ammonium chloride solution and stirring 30 min, the dispersed insoluble white residue was removed out of solution by vacuum filtration. The resulting primary products were obtained by extraction three times using ethyl acetate. After drying with anhydrous magnesium sulfate about 4 h, the solvents were removed by vacuum rotary evaporation. The pure product could be achieved by silica gel with ethyl acetate/n-hexane (1:10, v/v). Yield = 52.6%.

Results

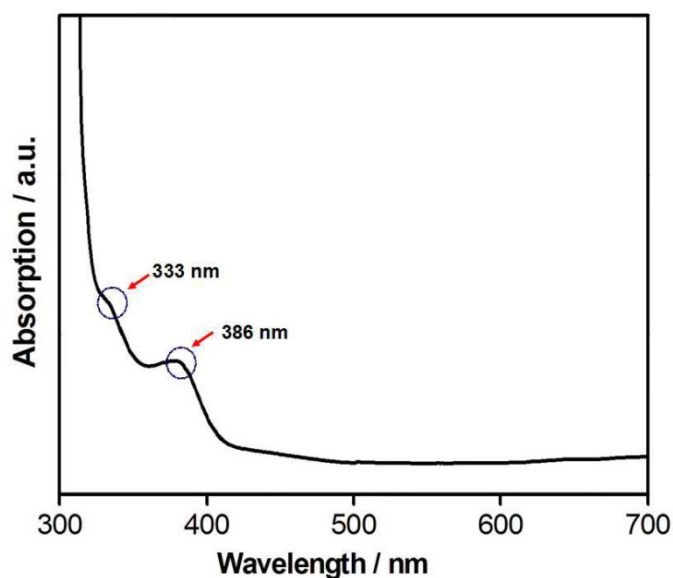


Fig. S1 UV-Vis Spectrum of DATPE-poly(PEGMA-co-HEA) LONs in aqueous solution.

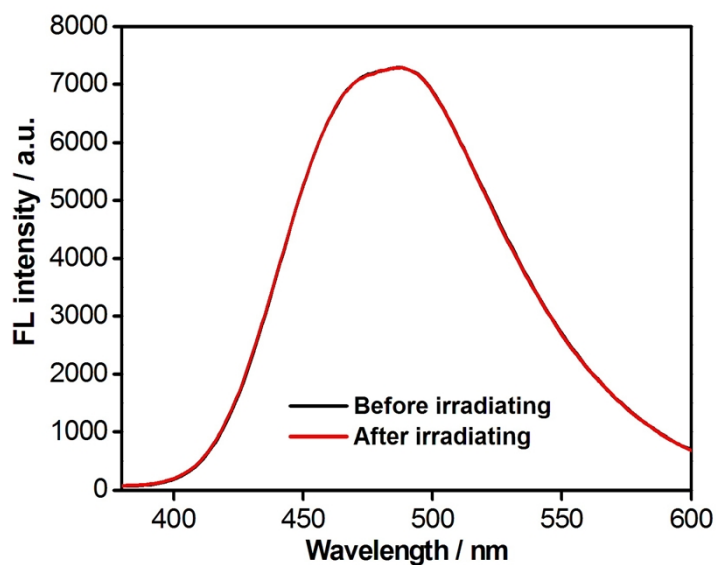


Fig. S2 Photostability of DATPE-poly(PEGMA-co-HEA). The luminescent spectra of DATPE-poly(PEGMA-co-HEA) water suspension before and after irradiated by UV lamp ($\lambda = 365$ nm) for 30 min.

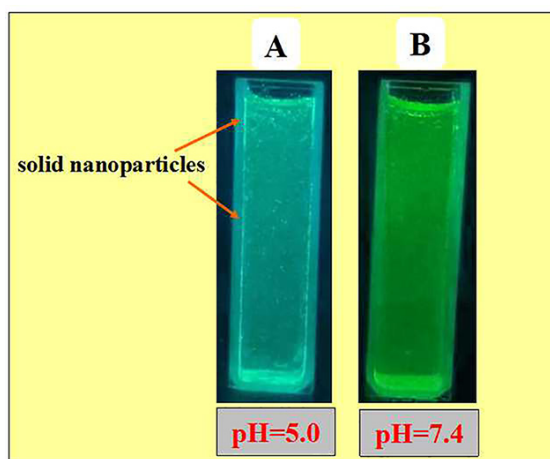


Fig. S3 The dispersed images of DATPE-poly(PEGMA-co-HEA) sample under the different solution pH condition. (A) pH = 5.0; (B) pH = 7.4

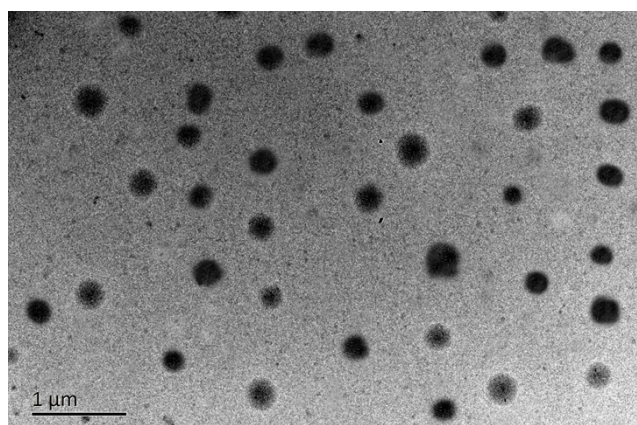


Fig. S4 The representative TEM image of DATPE-poly(PEGMA-co-HEA). Uniform nanoparticles with size about 100-300 nm can be observed.

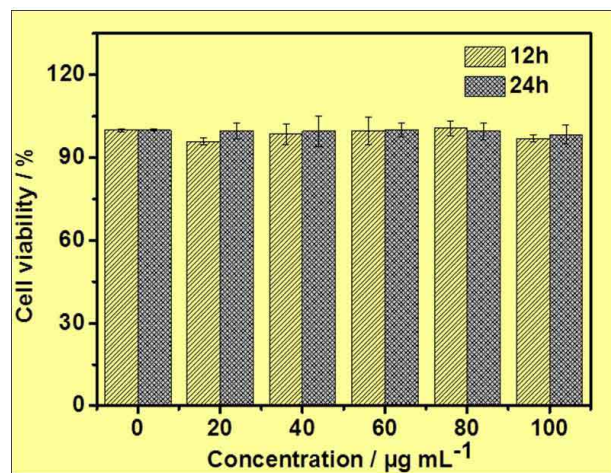


Fig. S5 Biocompatibility evaluation of DATPE-poly(PEGMA-co-HEA) LONs.