Supporting Information

Functionalization of NaGdF₄ Nanoparticles with Dibromomaleimide Terminated-Polymer for MR/Optical Imaging of Thrombosis

Yuhuan Li,^a Fangyun Xin,^{a,b} Jinming Hu,^{*c} Shweta Jagdale,^d Thomas P. Davis,^{a,e} Christoph E. Hagemeyer^d and Ruirui Qiao^{*a,e}

^aARC Centre of Excellence in Convergent Bio-Nano Science and Technology, Monash Institute of Pharmaceutical Sciences, Monash University, 381 Royal Parade, Parkville VIC 3052, Australia.

^bBeijing Key Laboratory of Photo-electronic/Electro-photonic Conversion Materials, Key Laboratory of Cluster Science of Ministry of Education, School of Chemistry and Chemical Engineering, Beijing Institute of Technology, Beijing 100081, P. R. China.

^cCAS Key Laboratory of Soft Matter Chemistry, Hefei National Laboratory for Physical Science at the Microscale, Department of Polymer Science and Engineering, University of Science and Technology of China, Hefei 230026, Anhui, China.

^dNanobiotechnology Laboratory, Australian Centre for Blood Diseases, Monash University, Melbourne, Victoria 3004, Australia. ^eARC Centre of Excellence in Convergent Bio-Nano Science and Technology and Australian Institute for Bioengineering and Nanotechnology, The University of Queensland, Brisbane, Old 4072, Australia.

*To whom correspondence should be addressed. E-mail: <u>ruirui.qiao@monash.edu</u>, jmhu@ustc.edu.cn



Fig. S1 Synthesis of BPE-terminated CTA.



Fig. S2 ¹H NMR spectrum (CDCl₃) of BPE-terminated CTA.



Fig. S3 ¹H NMR spectrum (CDCl₃) of 2-(2-bromoacetoxy)ethyl acrylate.

¹H NMR (400 MHz, CDCl₃)/ppm: 6.45 (1H, dd, a), 6.15 (1H, m, c), 5.88 (1H, dd, b), 4.42 (2H, m, d), 4.38 (2H, d, e), 4.08 (2H, dd, f).



Fig. S4 ¹H NMR spectrum (CDCl₃) of DBM-based monomer, (2-(2-(3,4-dibromo-2,5-dihydro-1H-pyrrol-1-yl)acetoxy)ethyl acrylate).

¹H NMR (400 MHz, CDCl₃)/ppm:6.45 (1H, dd, a), 6.16 (1H, m, c), 5.90 (1H, dd, b), 4.39 (2H, d, e), 4.38(2H, s, f), 4.38 (2H, m, d).



Fig. S5 ¹³C NMR spectrum (CDCl₃) of DBM-based monomer.

¹³C NMR (100 MHz, CDCl₃)/ppm: 166.4, 165.7, 163.1, 131.7, 129.8, 127.6, 63.8, 61.6,
40.0.



Fig. S6 ¹H NMR spectrum of BPE-P(OEGA-co-DBM) polymer in CDCl₃.



Fig. S7 GPC trace of BPE-P(OEGA-co-DBM) polymer.



Fig. S8 Switch ON fluorescence image for the BPA-P(OEGA-co-DBM-N₃) polymer

(a) compare to the OFF condition of BPA-P(OEGA-*co*-DBM) (b).



Fig. S9 Evaluation of GPIIb/IIIa receptor expression on the surface of A5 and Clone3 (C3) cells after incubation with PAC-1-FITC antibody (BD Biosciences) (green fluorescence) for 3 hours using confocal microscopy ($40 \times$ lense). The antibody only binds to Clone3 cells that express the activated form of the GPIIb/IIIa integrin. Scale bars = 10μ m.