Supplementary information for

Long-circulating nanoparticles as the passive targeting nanocarriers

for the treatment of thrombus

Junyao Li,^{a,b} Keqiang Lu,^a Shaokai Sun,^a Juanjuan Peng,^a and Lingzhi Zhao^a

^a State Key Laboratory of Natural Medicine, The School of Basic Medical Sciences

and Clinical Pharmacy, China Pharmaceutical University, Nanjing, Jiangsu, 211198,

China

^bSchool of Pharmaceutical Sciences, Tsinghua University, Beijing 100084, China.



Figure S1. The conjugation cRGD concentration in the SCLMs was measured by the BCA protein assay. The purified cRGD standard curve determined from the corresponding absorbance versus cRGD concentration.



Figure S2. Zeta-potential values of the SCLMs, Mal-SCLMs and cRGD-SCLMs. Error bars indicate SD (n = 3).



Figure S3. The in vitro stability of SCLMs and cRGD-SCLMs in the PBS solution with 10% fetal bovine serum (FBS) during 7 days determined by DLS method.



Figure S4. Cell viabilities of HUVEC after co-incubation with different concentrations of SCLMs or cRGD-SCLMs.



Figure S5. (a) Representative ex vivo imaging of Cy5.5-labeled cRGD-SCLMs/SCLMs in the lung of PE mice 6 h, 12 h and 24 h after injection with the formulation. (b) Quantification of the Cy5.5 fluorescence in the lung. The data presented are means \pm SEM (n = 4).



Figure S6. Characterizations of AuNPs and PEG-AuNPs, and the in vivo micro-CT images of Au-PEG. (a) TEM images of AuNPs and PEG-AuNPs. Scale bar, 50 nm. (b) Size distribution of AuNPs and PEG-AuNPs measured by DLS. (c) Representative axial sections micro-CT images of mice 2 h after the Au-PEG was injected into the mice.



Figure S7. (a) The morphology of the lung of the healthy mice and PE mice received different kinds of treatment. (b) H&E staining of the lung sections from the healthy mice and PE mice. Scale bar: $100 \mu m$.



Figure S8. Representative sagittal sections micro-CT images of mice 24 h after administered the indicated treatments.



Figure S9. The raw data for the western blots of Bcl-2, Bax and cleaved caspase-3.



Figure S10. Bleeding time assay. At 24 h post-injection of the indicated formulation, a small cut was made on the tail mice, and the time was recorded until the bleeding stopped. Data are shown as mean \pm s.d. (n = 3). P > 0.05 (no significance, n.s.), *** P < 0.001. Statistical significance was calculated via one-way ANOVA.



Figure S11. H&E staining of the major organs of healthy mice 24 h after the injection of T@ cRGD-SCLMs or T@SCLMs. Scale bar: $100 \ \mu m$.



Figure S12. H&E staining of lung sections from PE mice 24 h after the injection of Cy5.5-labeled cRGD-SCLMs or SCLMs. Scale bar: $100 \ \mu m$.