

Supporting Information

Biomimetic Peptide Nanoparticles Participate in Natural Coagulation for Hemostasis and Wound Healing

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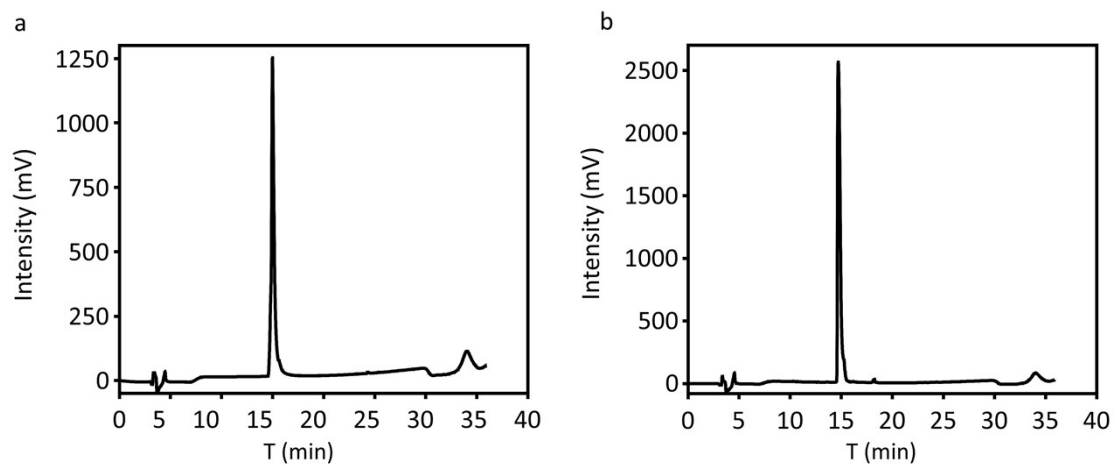


Figure S1. HPLC data of purified peptides, (a) C₆KL and (b) C₆KG.

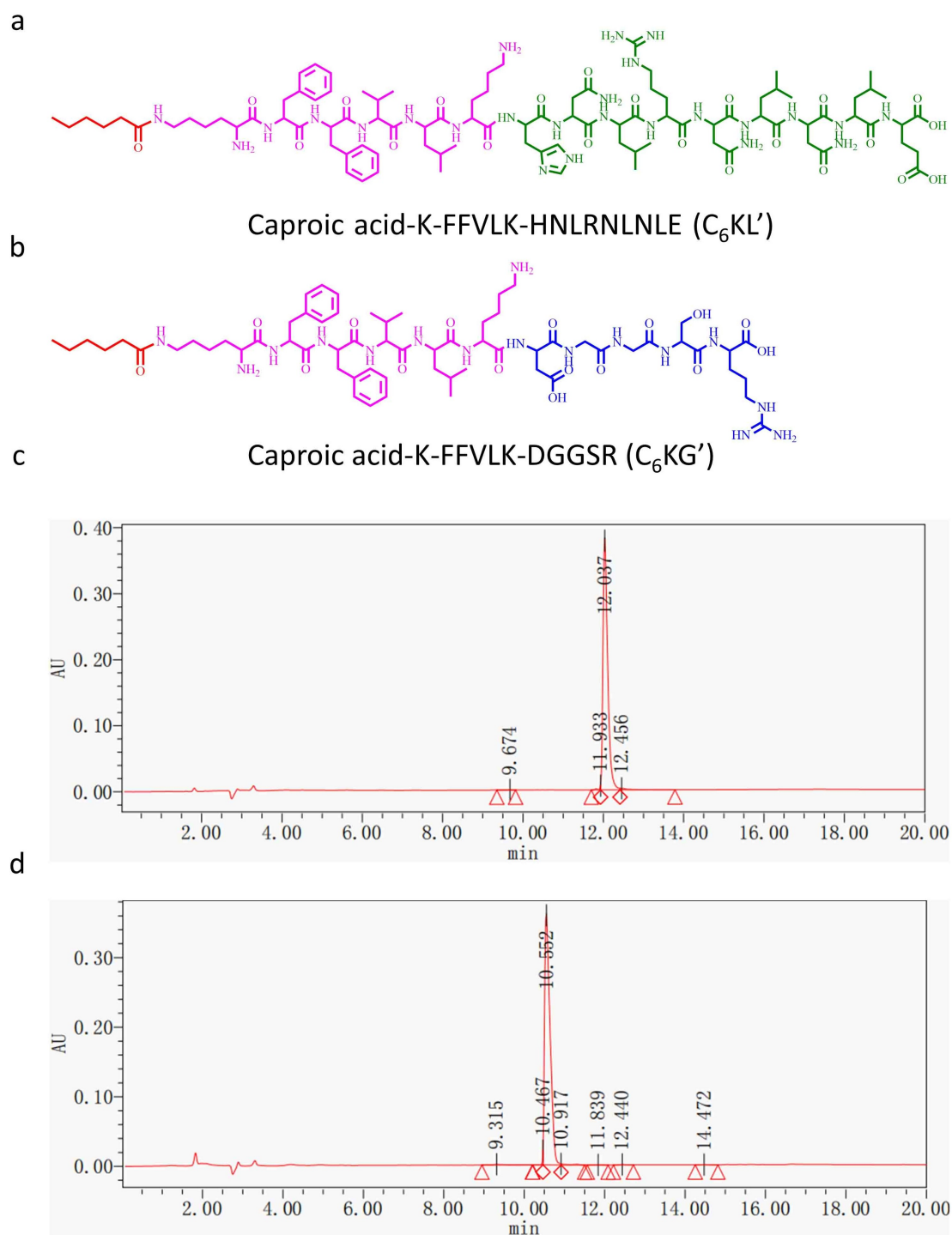


Figure S2 (a,b) Molecular structure of C_6KL' (a) and C_6KG' (b). (c,d) HPLC data of C_6KL' (c) and C_6KG' (d).

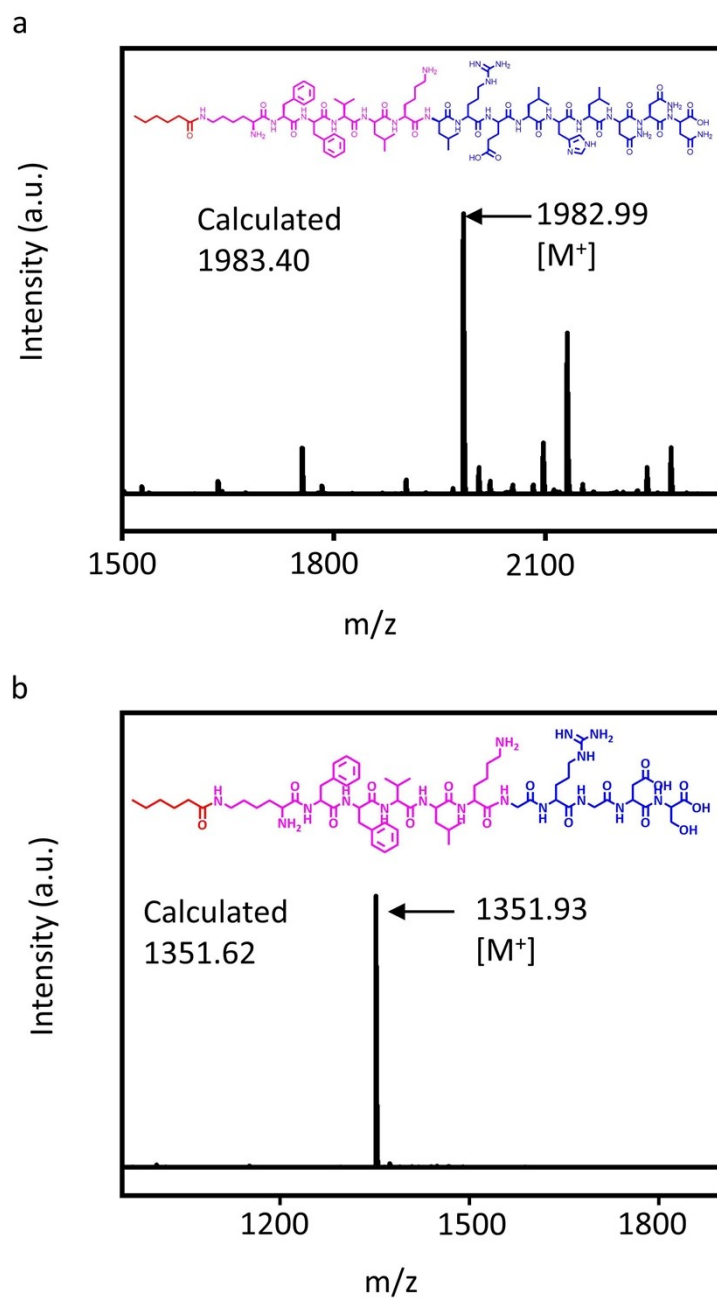


Figure S3. The MALDI-TOF-MS spectra of C₆KL (a) and C₆KG (b).

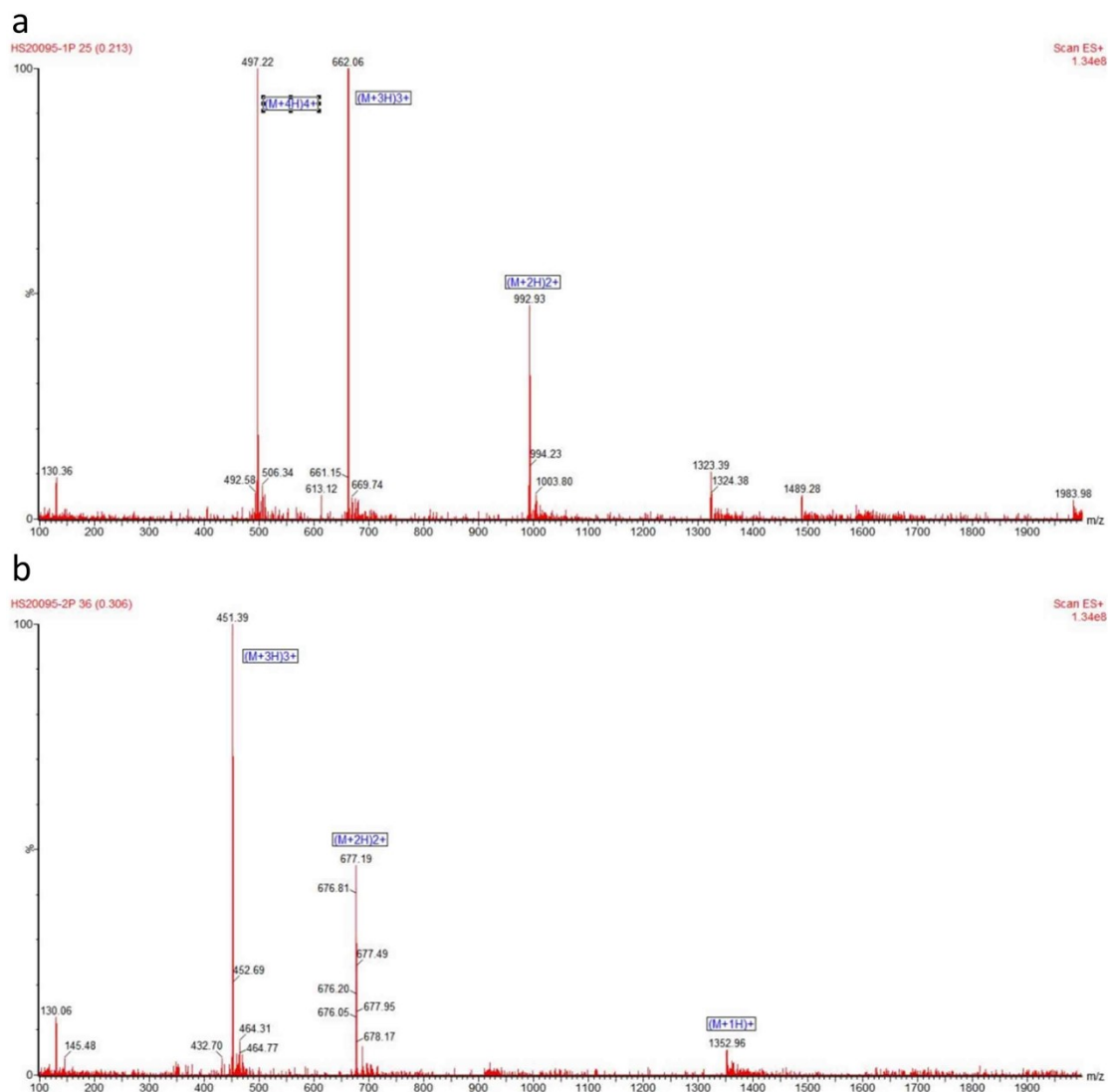


Figure S4. ESI-MS spectra of purified C₆KL' (a) and C₆KG' (b).

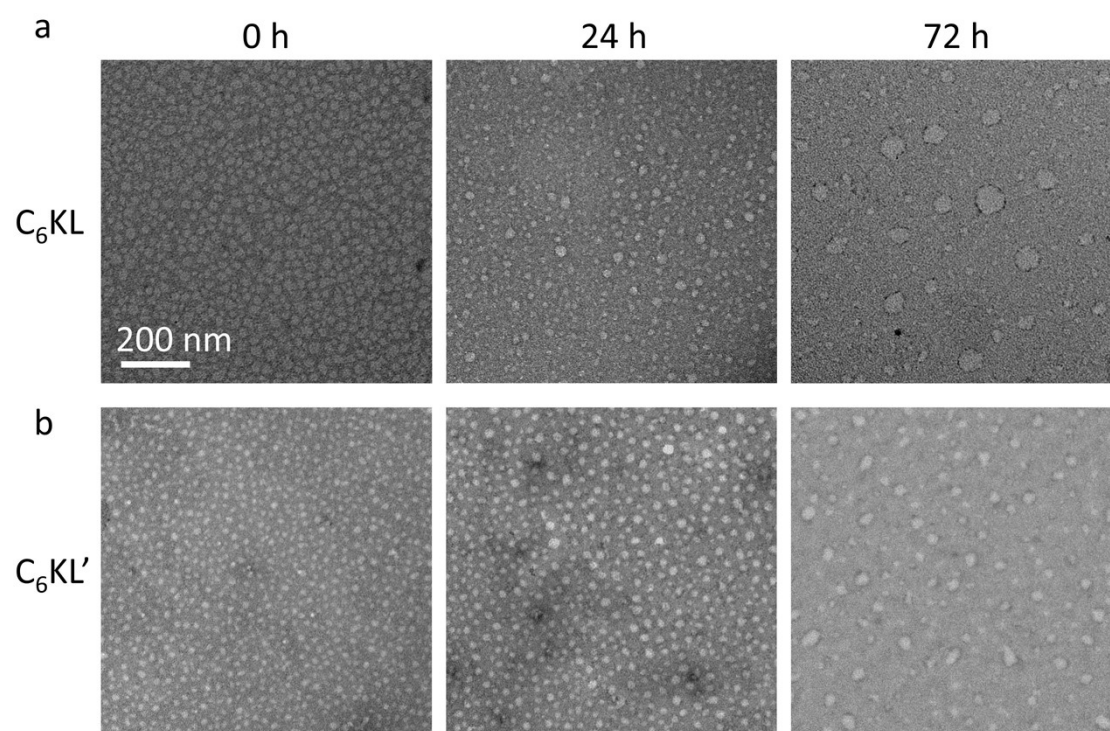


Figure S5. (a) TEM images of C_6KL (30 μM) NPs without collagen in $V_{\text{water}}/V_{\text{DMSO}} = 99/1$ solution in three days. (b) TEM images of C_6KL' (30 μM) NPs with collagen in $V_{\text{water}}/V_{\text{DMSO}} = 99/1$ solution in three days.

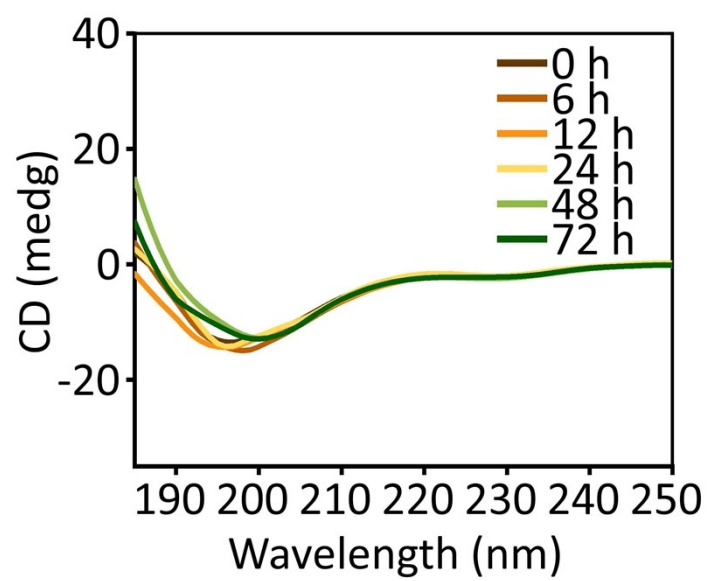


Figure S6. The CD spectra of C₆KL (20 μM) NPs without collagen in three days.

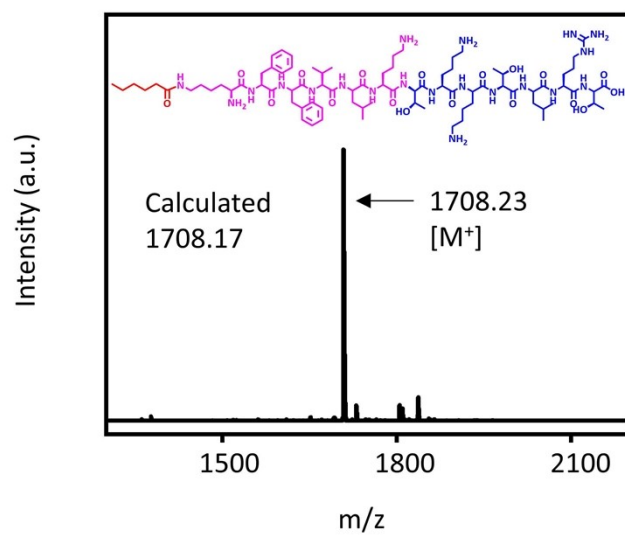


Figure S7. The MALDI-TOF-MS spectrum of C₆KT.

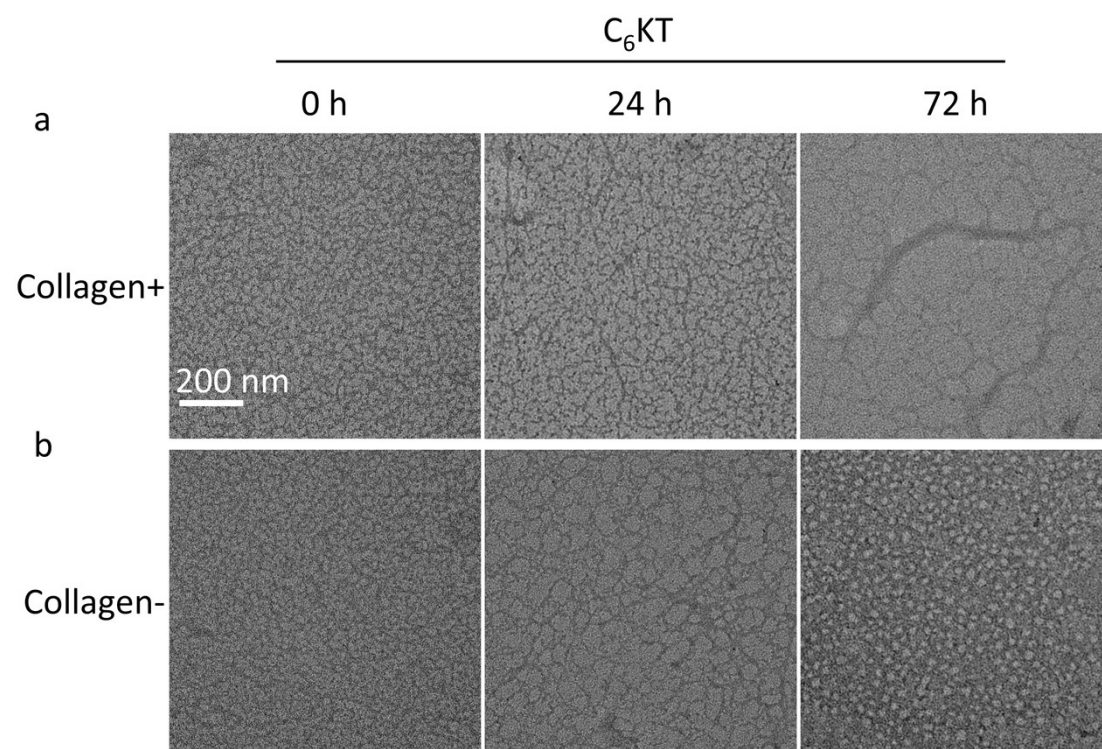


Figure S8. (a) TEM images of C₆KT (30 μ M) NPs (0 h), short NFs (24 h), and long NFs (72 h) incubated with collagen. (b) TEM images of C₆KT (30 μ M) NPs without collagen incubation in three days.

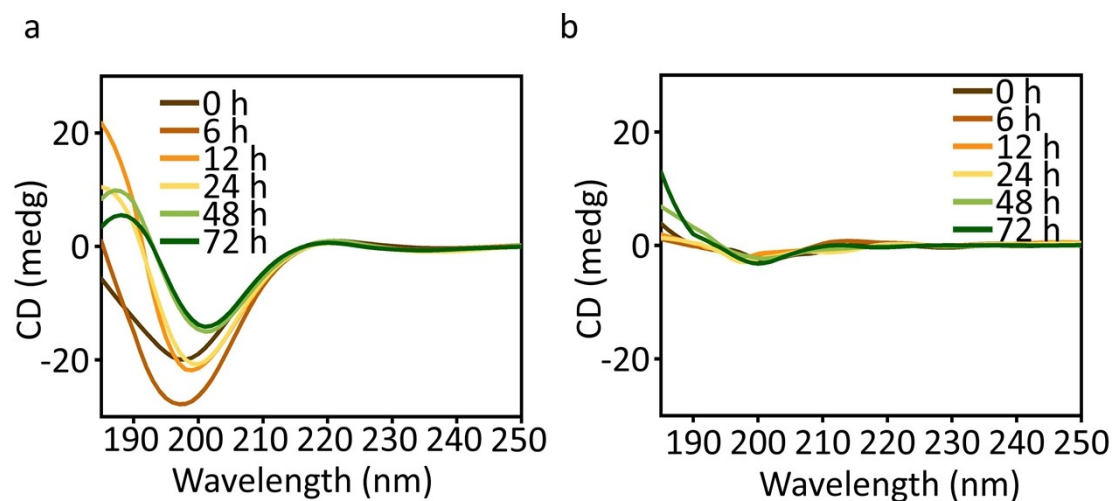


Figure S9. The CD spectra of C₆KT. (a) C₆KT (20 μM) NPs incubated with collagen in three days. (b) C₆KT (20 μM) NPs without collagen incubation in three days.

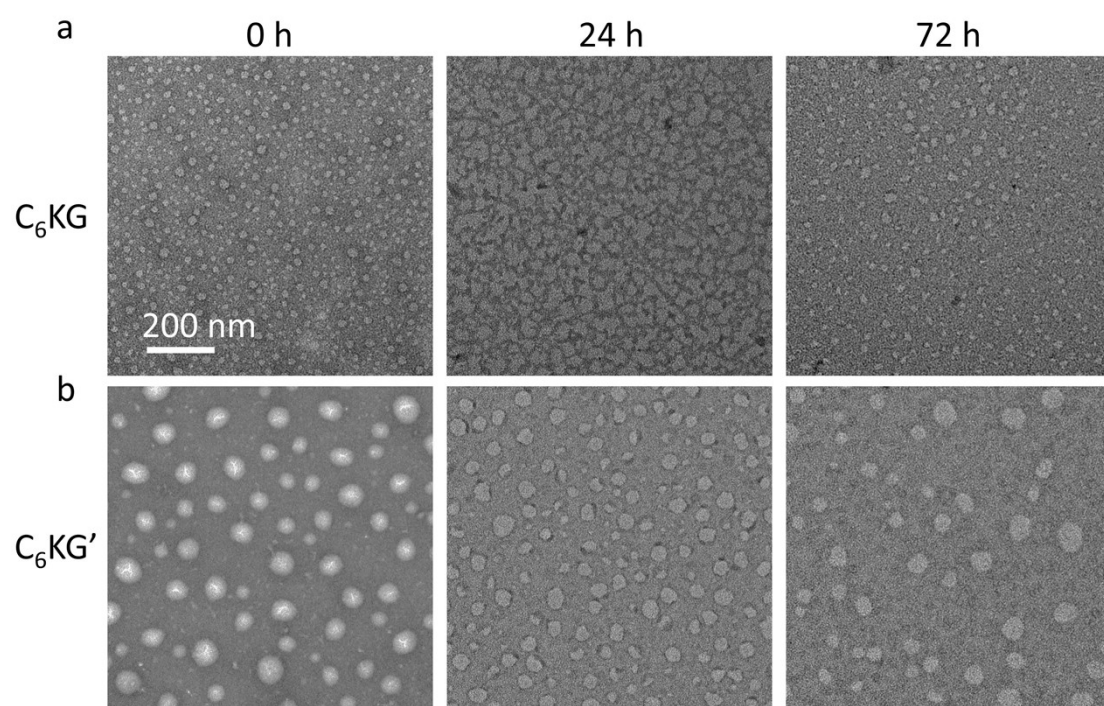


Figure S10. (a) TEM images of C_6KG (30 μM) NPs without Ca^{2+} in $V_{water}/V_{DMSO} = 99/1$ solution in three days. (b) TEM images of C_6KG' (30 μM) NPs with Ca^{2+} in $V_{water}/V_{DMSO} = 99/1$ solution in three days.

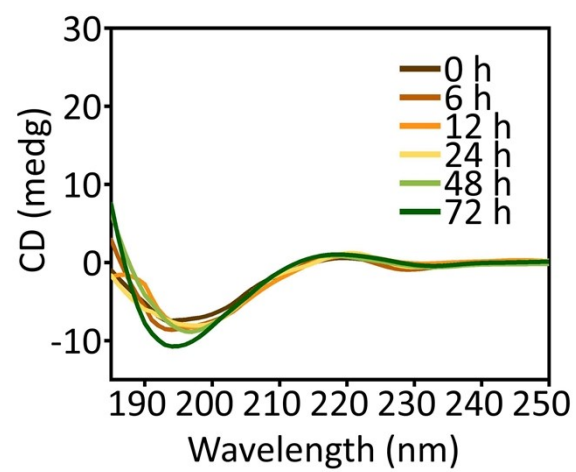


Figure S11. The CD spectra of C₆KG (20 μM) NPs without Ca²⁺ in three days.

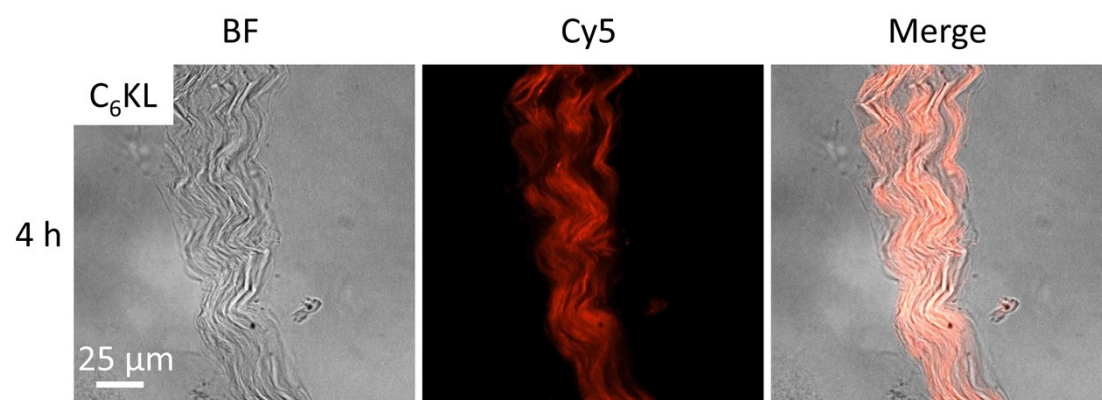


Figure S12. The CLSM images of C₆KL (30 μM) incubated with collagen for 4 h.

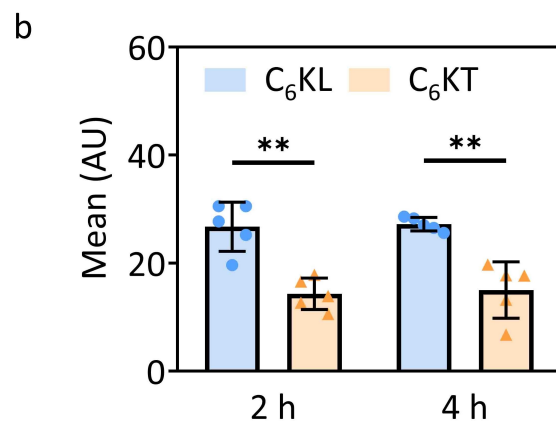
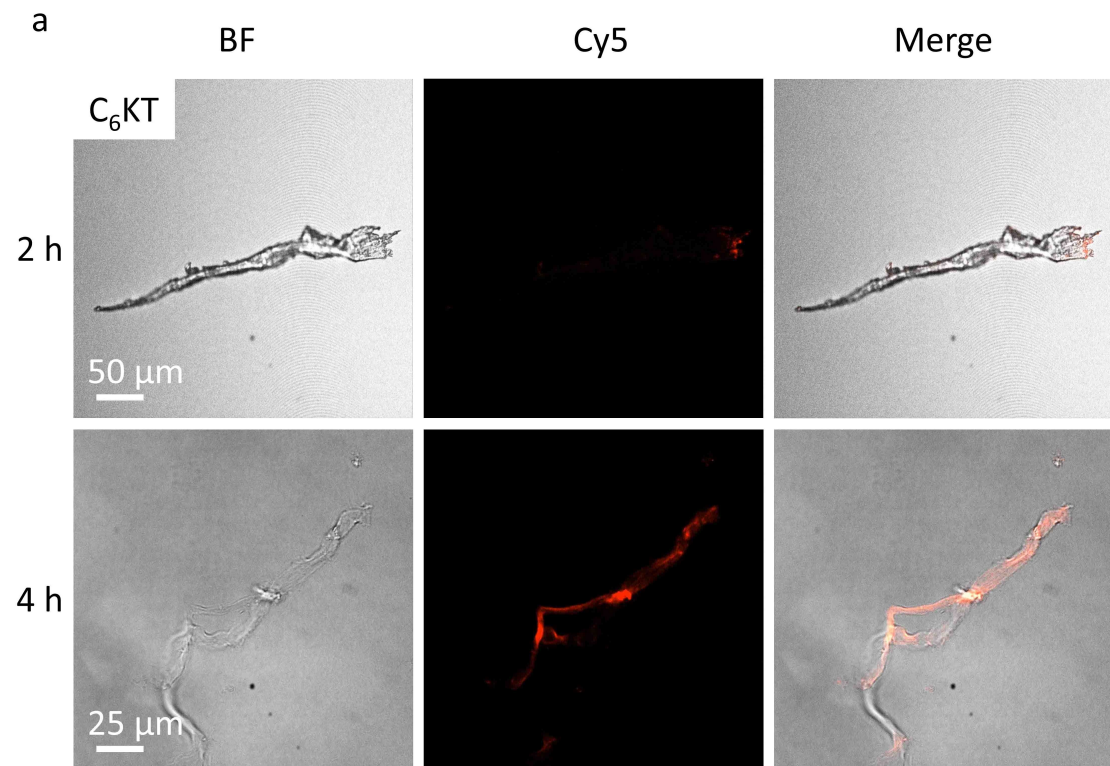


Figure S13. (a) The CLSM images of C₆KT (30 μ M) incubated with collagen for 2 and 4 h. (b) Quantification of the fluorescence intensity in C₆KL and C₆KT incubated with collagen, separately. The results showed weak interactions between C₆KT and collagen compared with those between C₆KL and collagen.

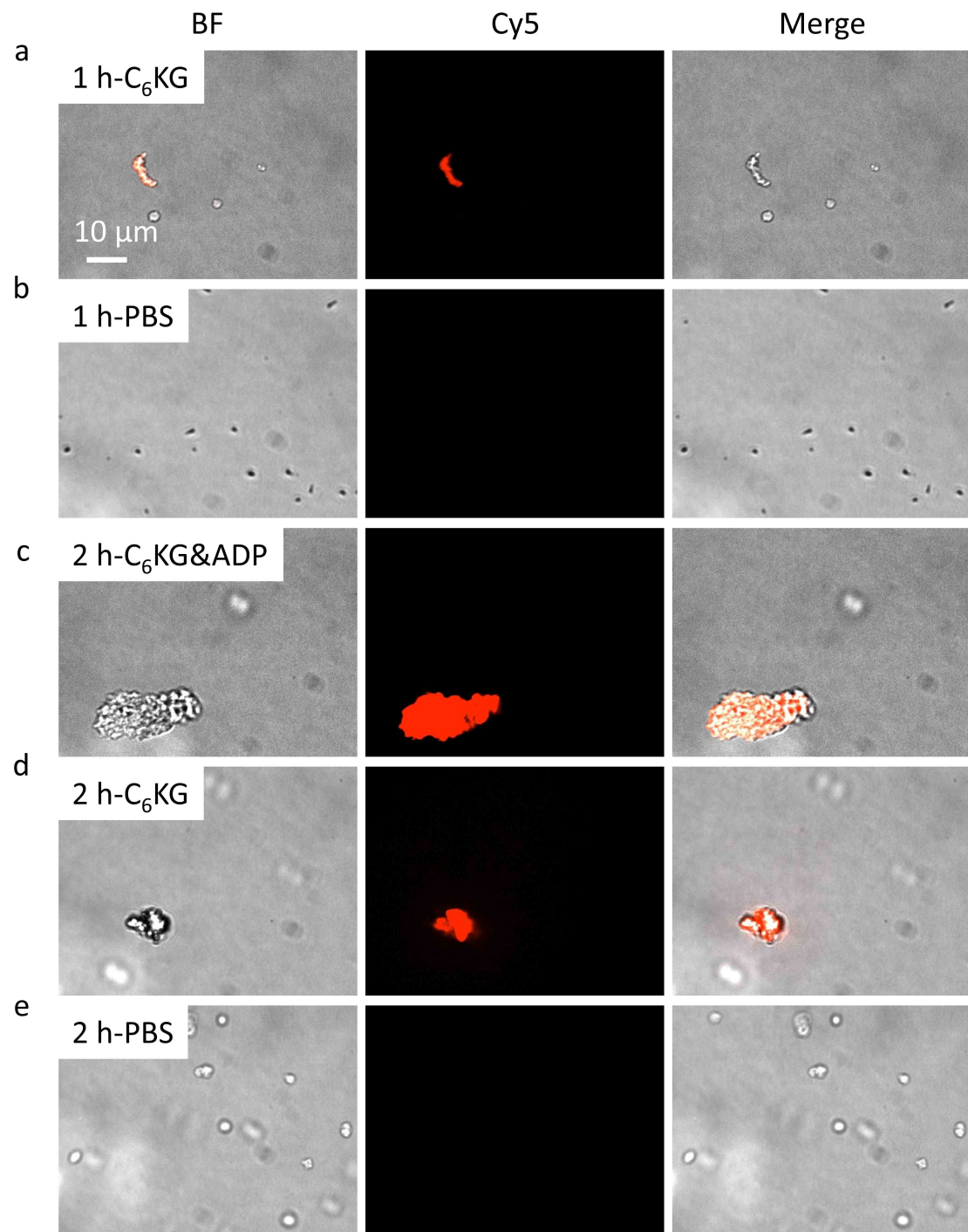


Figure S14. (a,b) CLSM images of non-activated platelets treated with C₆KG (30 μM) (a) and PBS (b) in 1 h. (c) CLSM images of C₆KG (30 μM) treated with ADP (0.1 M, 10 μL) activated platelets in 2 h. (d,e) CLSM images of non-activated platelets treated with C₆KG (30 μM) (d) and PBS (e) in 2 h. The results showed that C₆KG could induce aggregates of activated platelets.

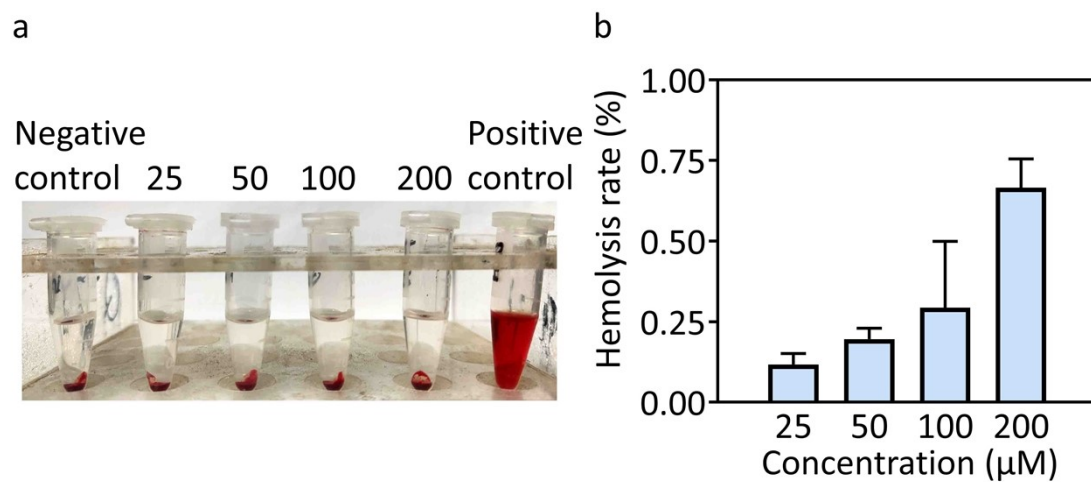


Figure S15. (a,b) Hemolysis images (a) and rate (b) of mixture of C_6KL and C_6KG (mole ratio = 1:1) at different concentrations.

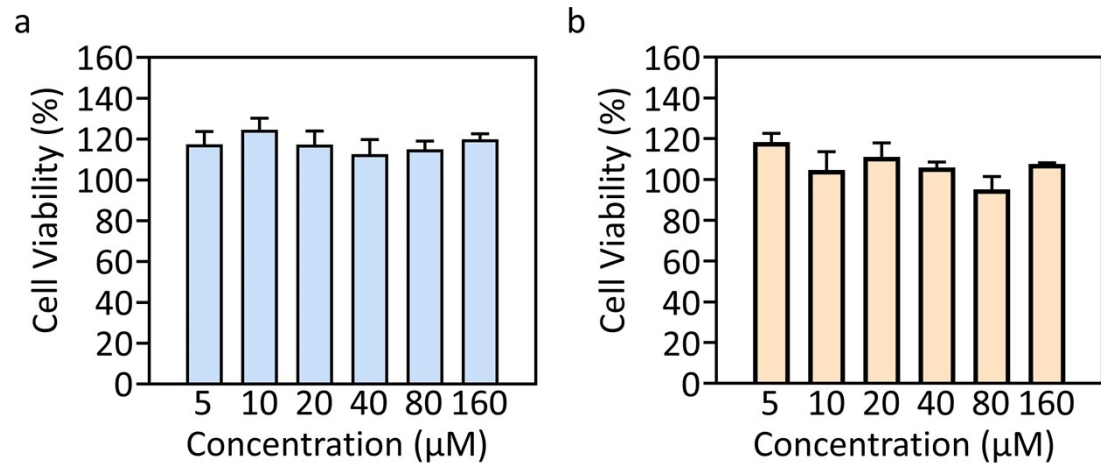


Figure S16. The cytotoxicity of HUVECs treated with C₆KG (a) and C₆KL (b). The results indicated the good biocompatibility of C₆KG and C₆KL.

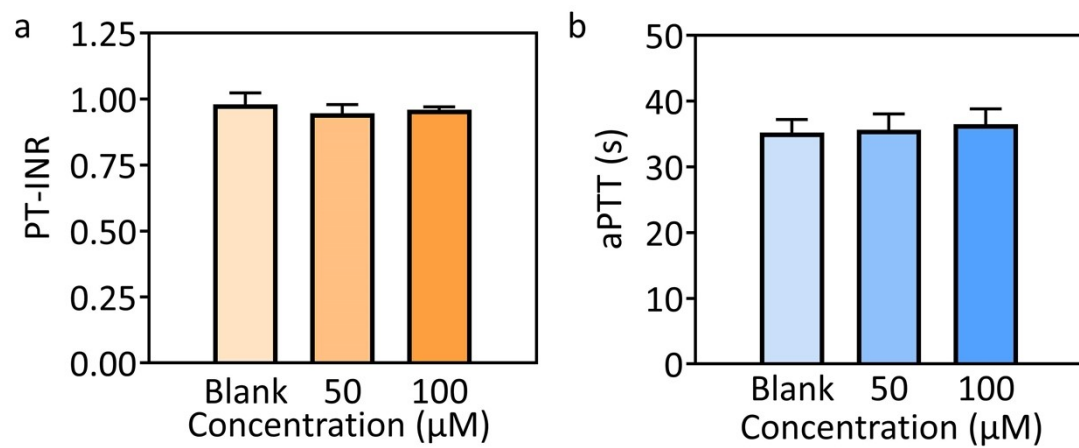


Figure S17. (a) International normalized ratio (INR) of prothrombin time (PT) and (b) Activated partial thromboplastin time (aPTT) of plasma treated with different concentration. The results indicated that there were no obviously change of PT and aPTT when treated with mixture of C₆KL and C₆KG.

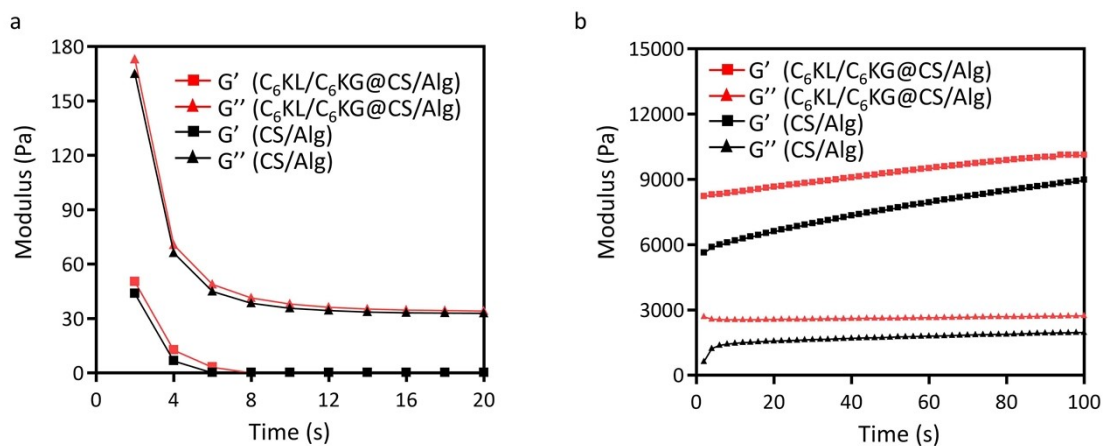


Figure S18. Variation of storage modulus (G') and loss modulus (G''). (a) $C_6KL/C_6KG@CS/Alg$ solution and CS/Alg solution. (b) $C_6KL/C_6KG@CS/Alg$ gel and CS/Alg gel.