Electronic Supplementary Material (ESI) for RSC Advances.

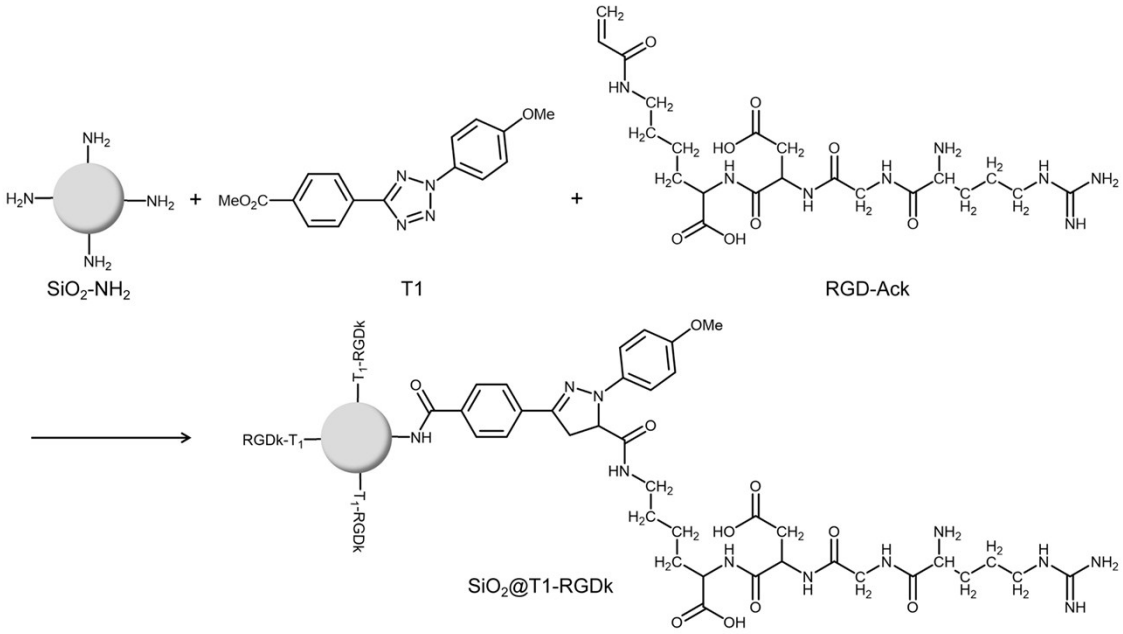
Novel vinyl-modified RGD conjugated silica nanoparticles based on photo click chemistry for *in vivo* prostate cancer targeted fluorescence imaging

Hanrui Li,[a] Ke Li,[b] Qi Zeng,[a] Yun Zeng,[a] Dan Chen,[a] Liaojun Pang,[a] Xueli Chen[a] and Yonghua Zhan*[a]

a. Engineering Research Center of Molecular and Neuro Imaging of the Ministry of Education, School of Life Science and Technology, Xidian University, Xi'an, Shaanxi,710071, China. E-mail: yhzhan@xidian.edu.cn

b. Shaanxi Key Laboratory of Ischemic Cardiovascular Disease, Shaanxi Key Laboratory of Brain Disorders, Institute of Basic and Translational Medicine, Xi'an Medical University, Xi'an, Shaanxi, 710021, China.

Supplementary Data



Scheme. S1. The reaction between amino-modified SiO_2, tetrazole compound and RGD-Ack.

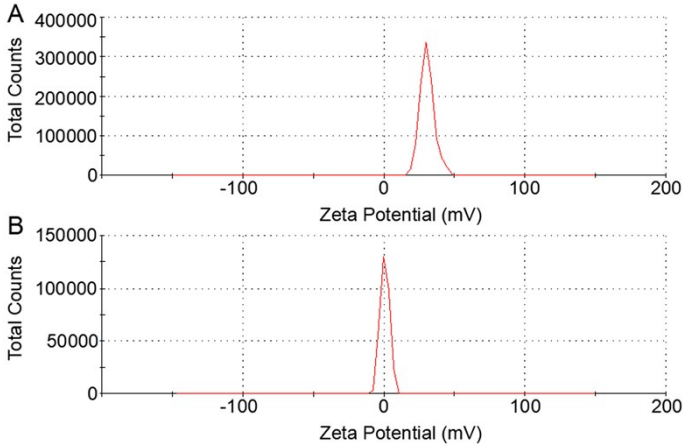


Fig. S1. The zeta potential of (A) SiO_2-NH_2 NPs, (B) SiO_2-T1.

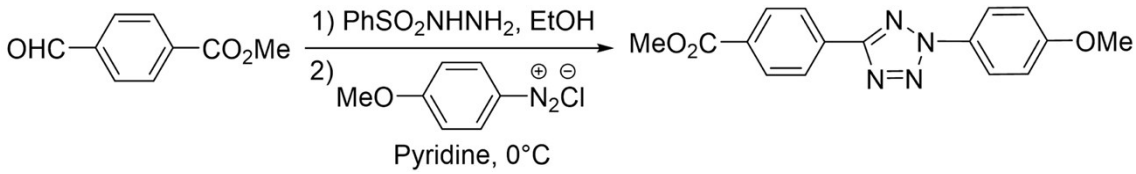


Fig. S2. The synthesis of tetrazole compound T1.

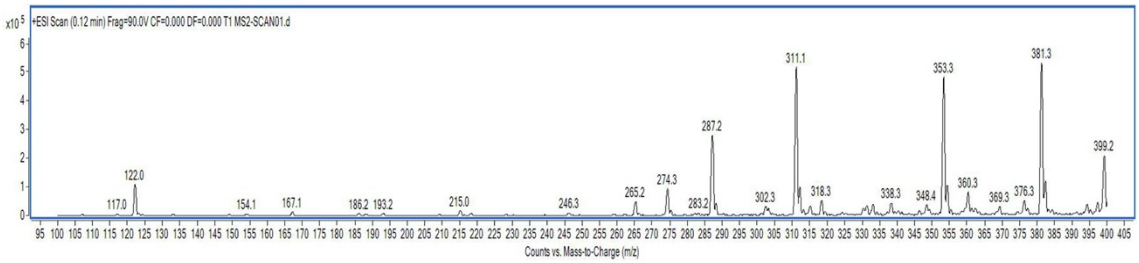


Fig. S3. The mass spectra (MS) of T1.

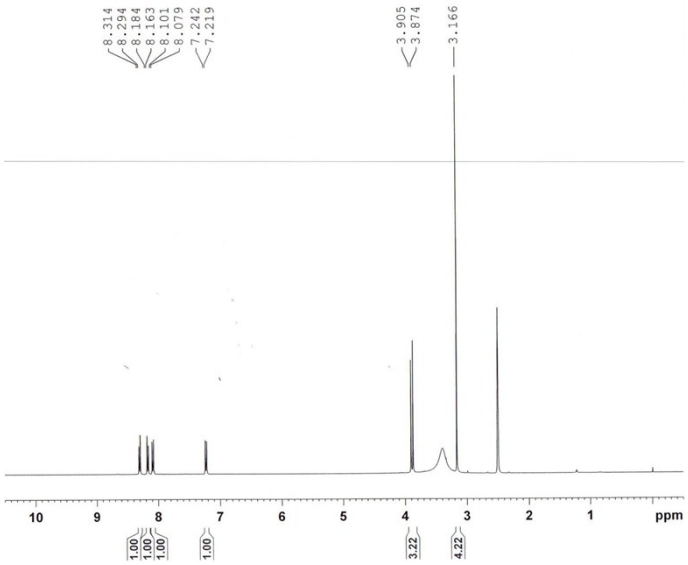


Fig. S4. The ^{1}H NMR of T1.

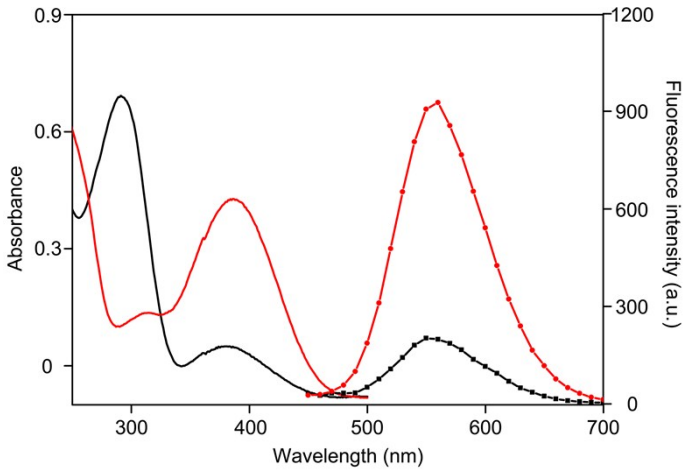


Fig. S5. The UV absorption and fluorescence spectra of T1-RGDk under ultraviolet light at different reaction time (the black and red curves indicate that the reaction time are 0.5 and 2 hours respectively).

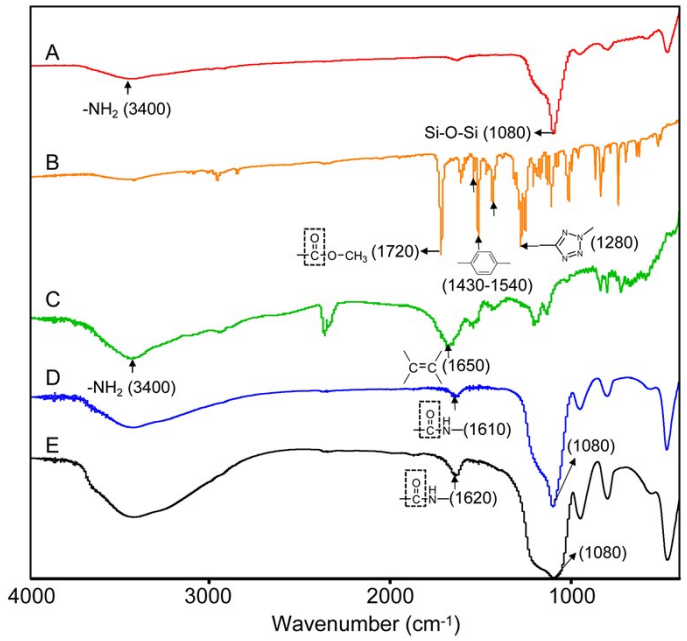


Fig. S6. FT-IR spectra of (A) SiO_2, (B) T1, (C) RGD-Ack, (D) SiO_2-T1, (E) SiO_2-T1-RGDk.

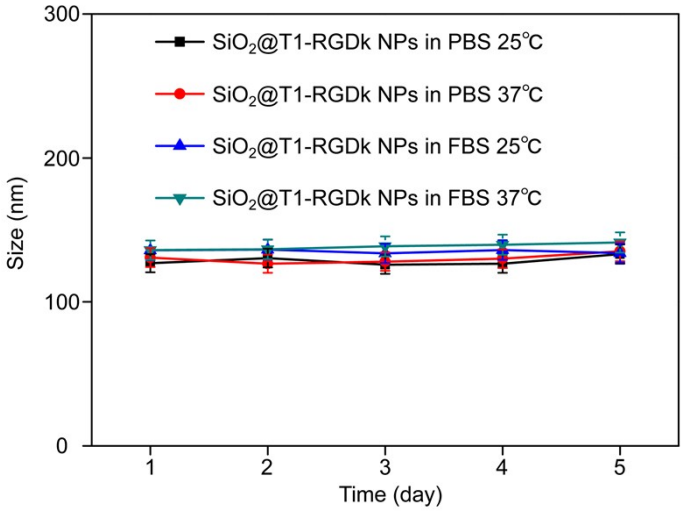


Fig. S7. Variation in size and stability of SiO_2@T1-RGDk NPs in PBS and 10% FBS at different temperatures over a period of 5 days.

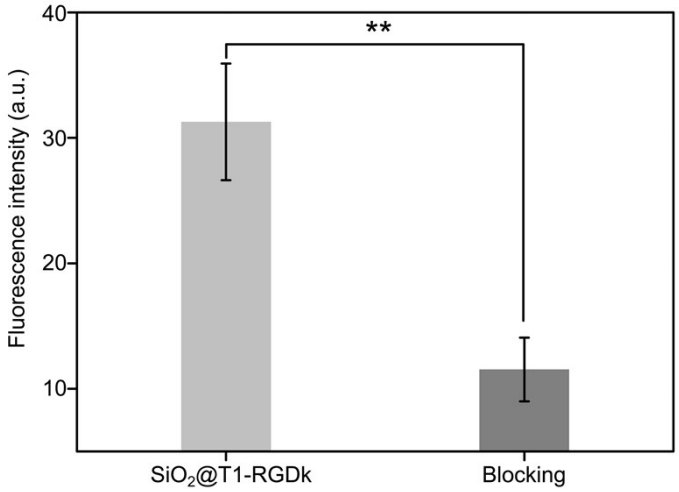


Fig. S8. The quantitative analysis of fluorescence intensity for SiO_2@T1-RGDk NPs in cells. $^{**}P < 0.05$; n = 3.

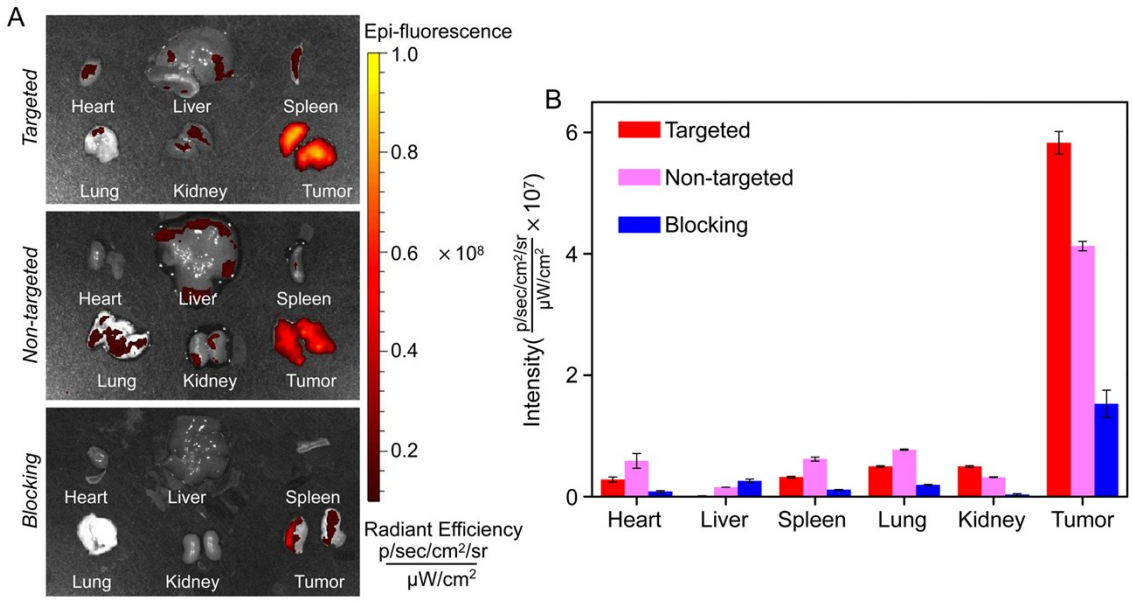


Fig. S9. Fluorescent images of organs and tumors in tumor-bearing mice 12 h after post-injection with SiO_2@T1-RGDk NPs.