Electronic Supplementary Material (ESI) for Journal of Materials Chemistry B.

Supporting Information

A Novel TMTP1-Modified Theranostic Nanoplatform for Targeted *In Vivo* NIR-II Fluorescence Imaging-Guided Chemotherapy of Cervical Cancer

Nuernisha Alifu[*a†], Rong Ma[b†], Lijun Zhu[a], Zhong Du[b], Shuang Chen[b], Ting Yan[a], Gulinigaer Alimu[a], Linxue Zhang[a], Xueliang Zhang[*a]

[a.]State Key Laboratory of Pathogenesis, Prevention and Treatment of High Incidence Diseases in Central Asia School of Medical Engineering and Technology, Xinjiang Medical University, Urumqi, 830011, China.

[b.]State Key Laboratory of Pathogenesis, Prevention, and Treatment of High Incidence Diseases in Central Asia, Department of Gynecology, The First Affiliated Hospital of Xinjiang Medical University, Urumqi 830054, China

*E-mail: nens_xjmu@126.com; shuxue2456@126.com

†These authors contributed equally.

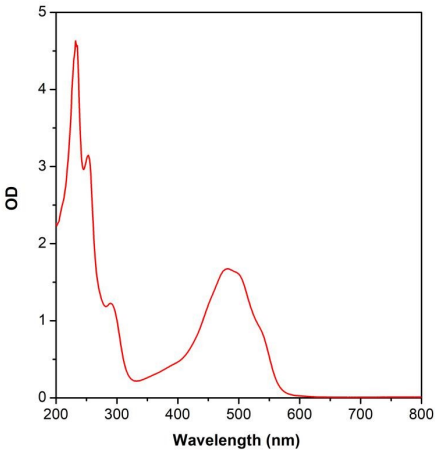

Fig. S1 Absorption spectrum of DOX in aqueous solution.

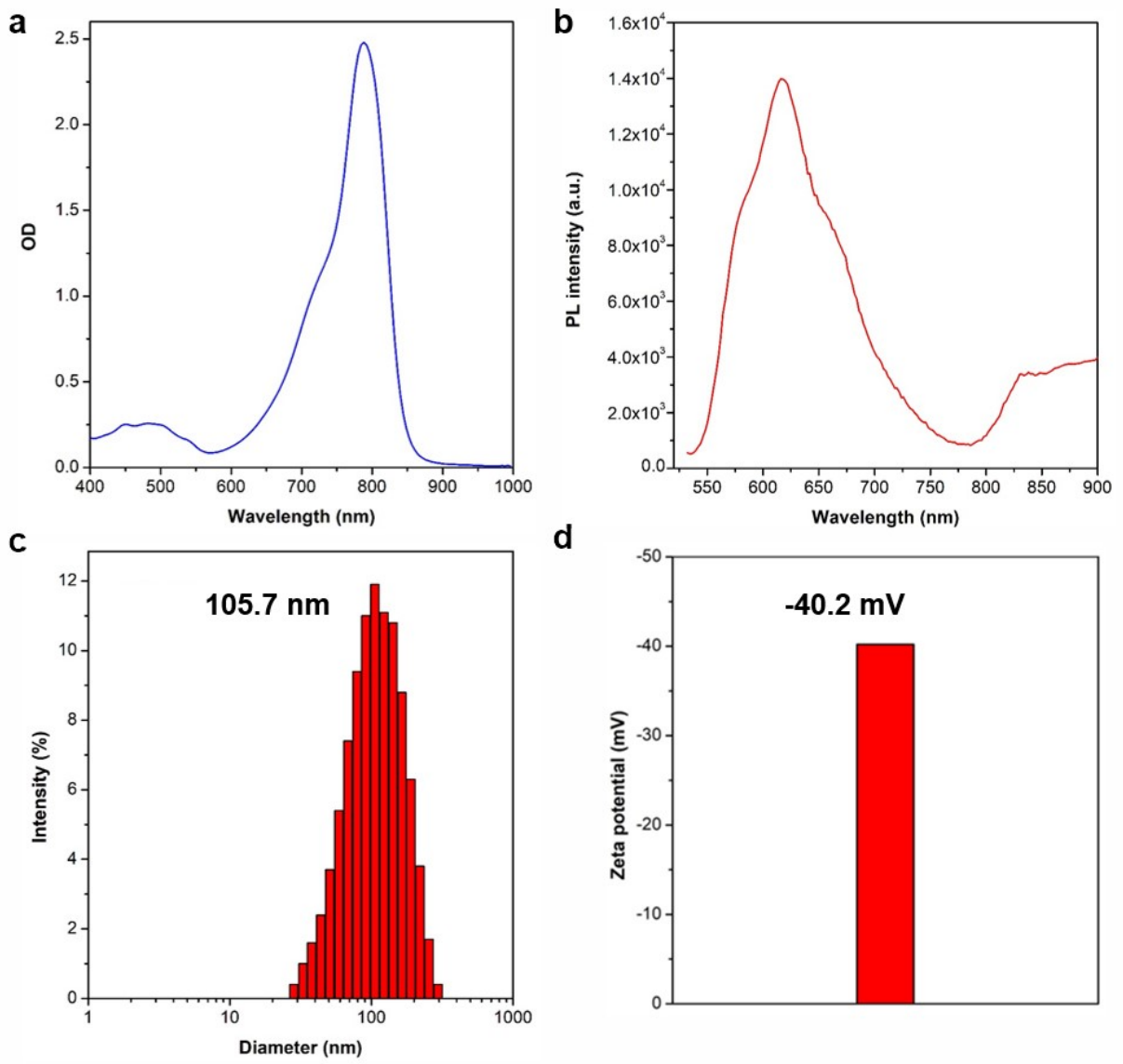

Fig. S2 a Absorption, **b** fluorescence spectra, **c** dynamic light scattering (DLS) and **d** Zeta potential of IR-783-DOX NPs in aqueous dispersion.

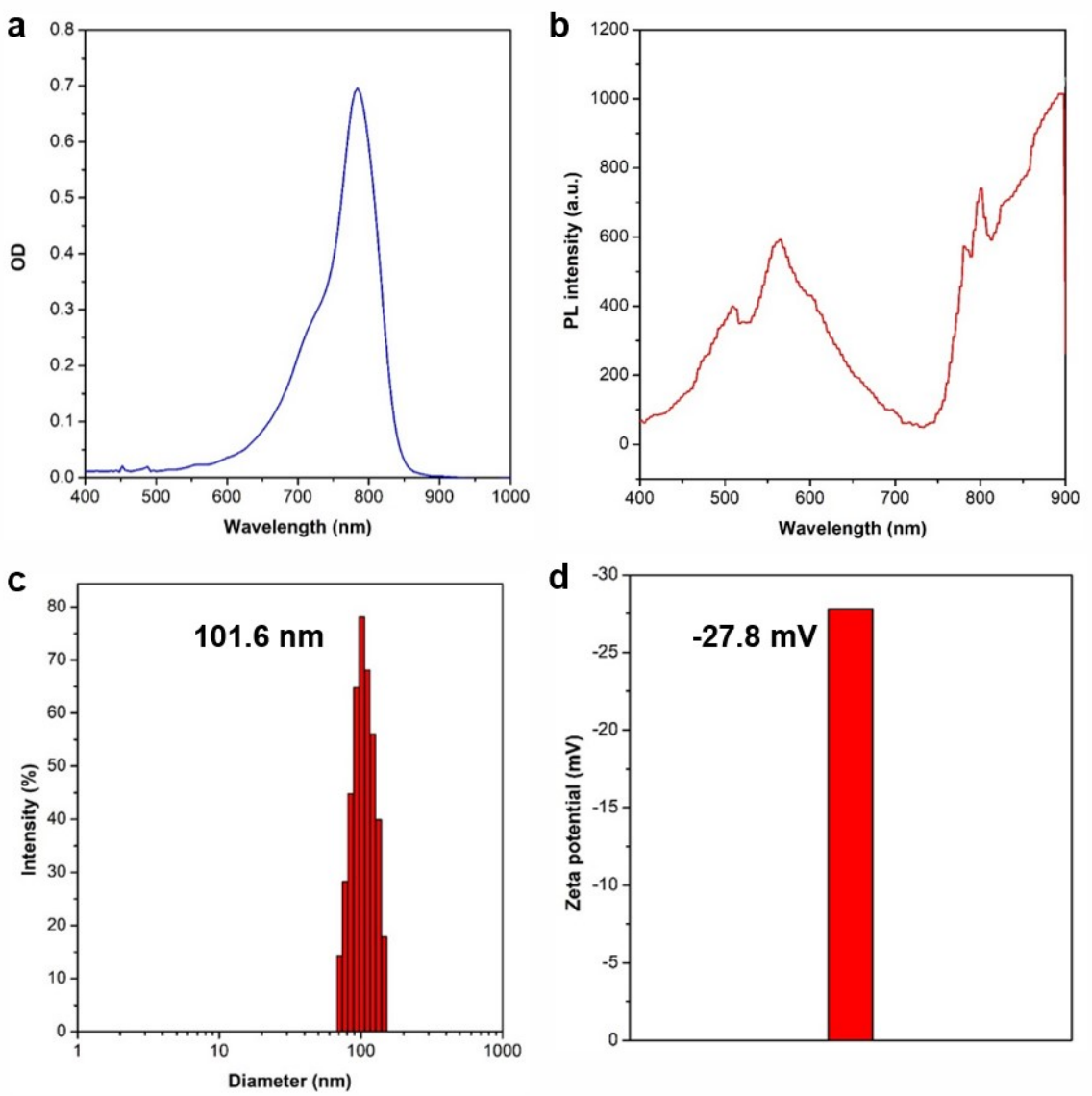

Fig. S3 a Absorption, **b** fluorescence spectra, **c** DLS and **d** Zeta potential of IR-783-TMTP1 NPs in aqueous dispersion.

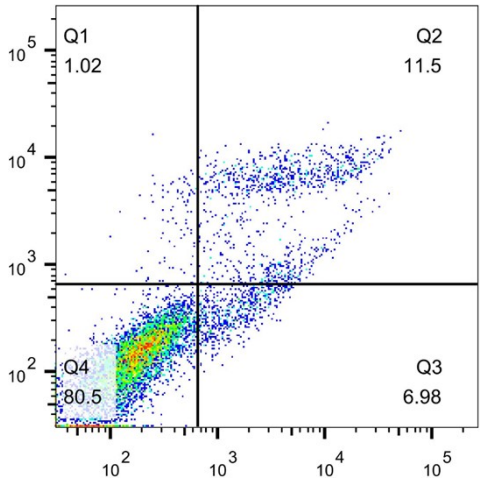

Fig. S4 Flow cytometric detection results of HeLa cells (control group).

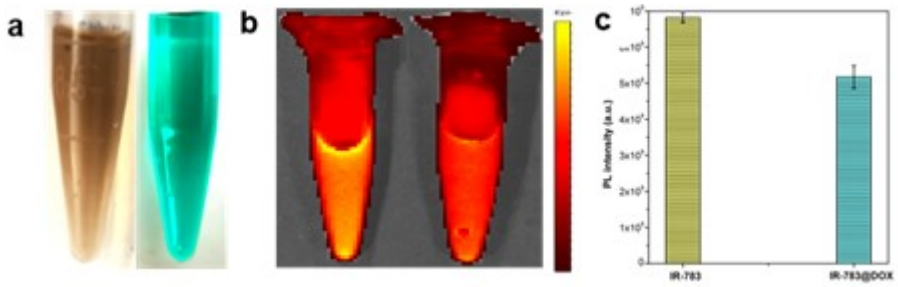

Fig. S5 a IR-783-DOX-TMTP1 NPs and IR-783 in aqueous dispersion; **b** Corresponding near-infrared-I (NIR-I) images; **c** NIR-I fluorescence intensity analysis.

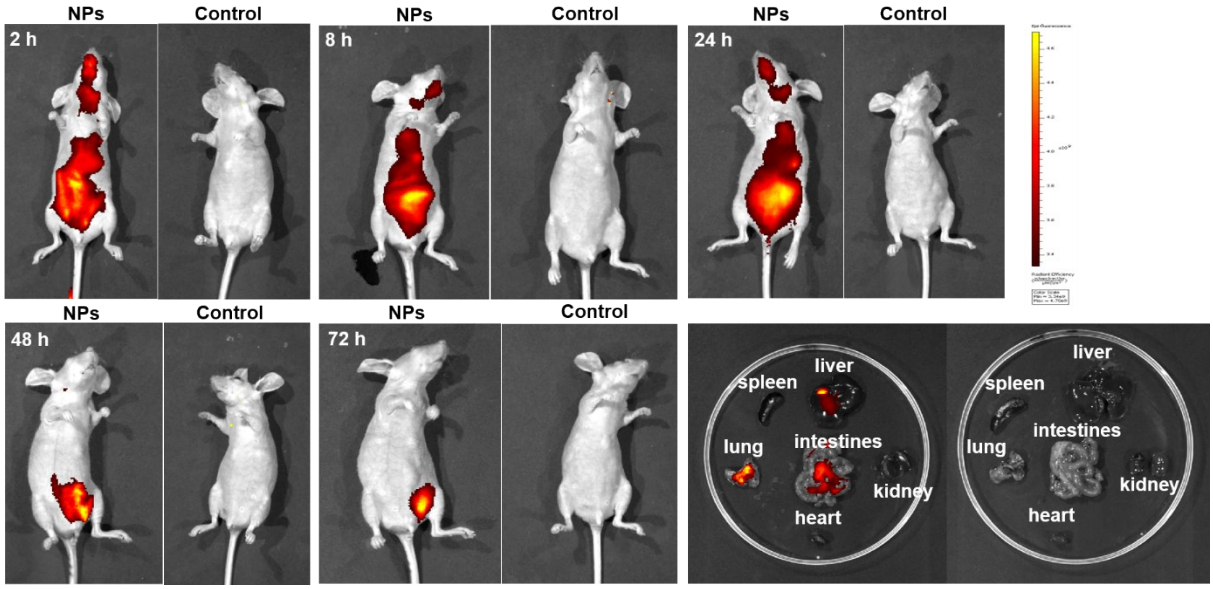

Fig. S6 *In vivo* NIR-I fluorescence images of nude mouse injected with 1×PBS and IR-783-TMTP1 NPs in aqueous dispersion at various time points, and corresponding ex vivo NIR-I fluorescence images of major organs (liver, lung, spleen, heart, intestines and kidney) at 48 h of post-injection. λ_{ex}=745 nm, λ_{em}=840 nm.

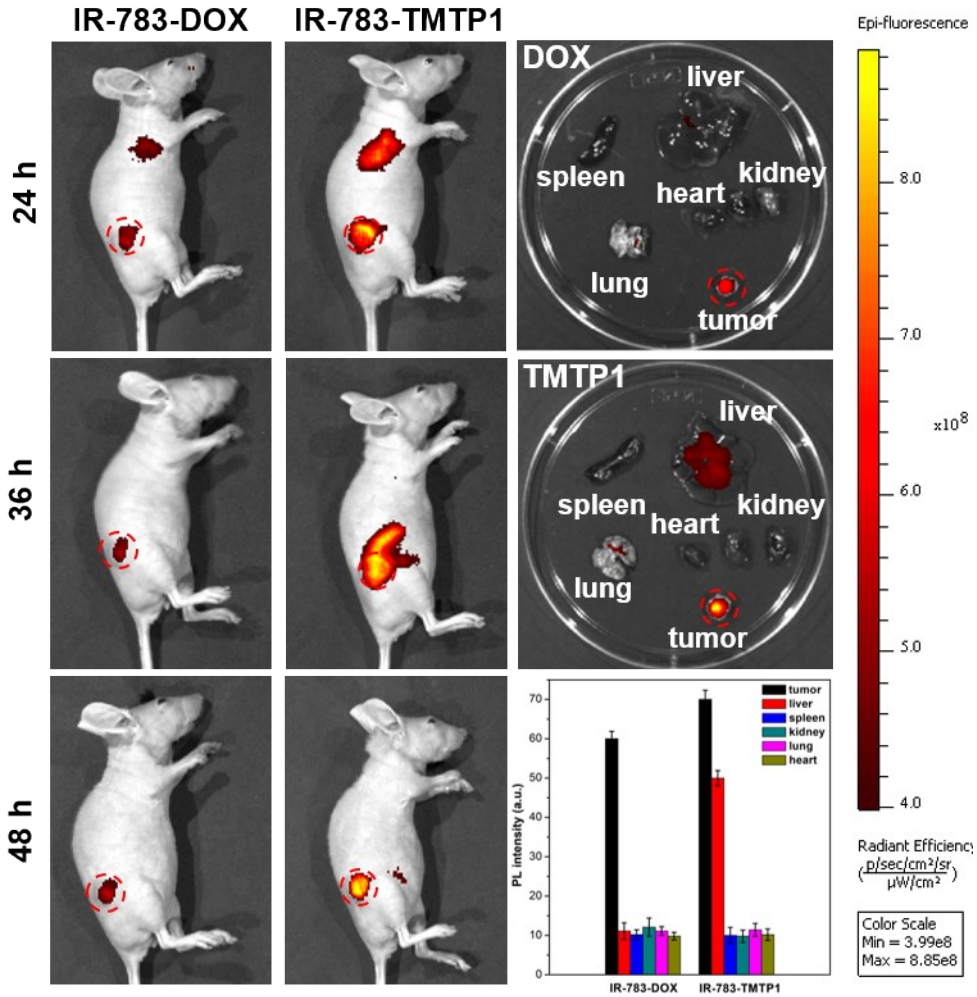

Fig. S7 *In vivo* NIR fluorescence images tumor-bearing mouse injected with IR-783-DOX NPs and IR-783-TMTP1 NPs in aqueous dispersion. λ_{ex}=745 nm, λ_{em}=840 nm.

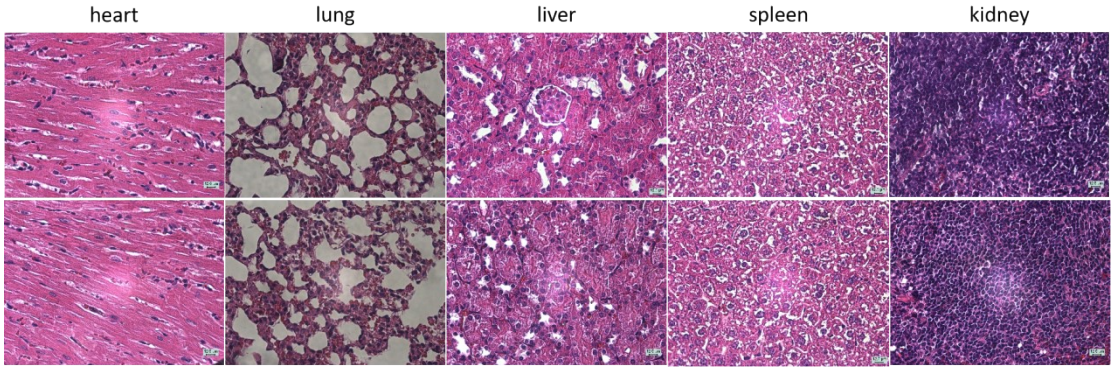

Fig. S8 Microscopic images of tissue sections from the mice intravenously injected with 1×PBS (down line, 200 μL) and IR-783-DOX-TMTP1 NPs (upper line, 1 mg/mL, 200 μL) for 24 hours.

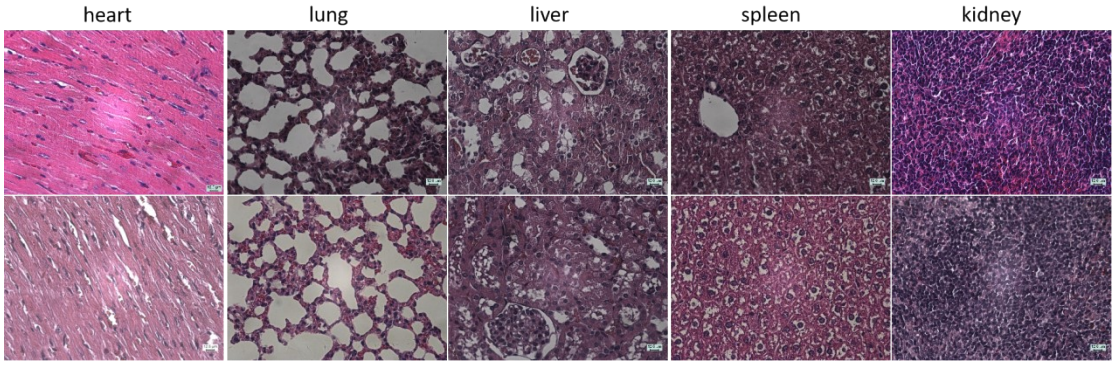

Fig. S9 Microscopic images of tissue sections from the mice intravenously injected with 1×PBS (down line, 200 μL) and IR-783-DOX-TMTP1 NPs (upper line, 1 mg/mL, 200 μL) for 7 days

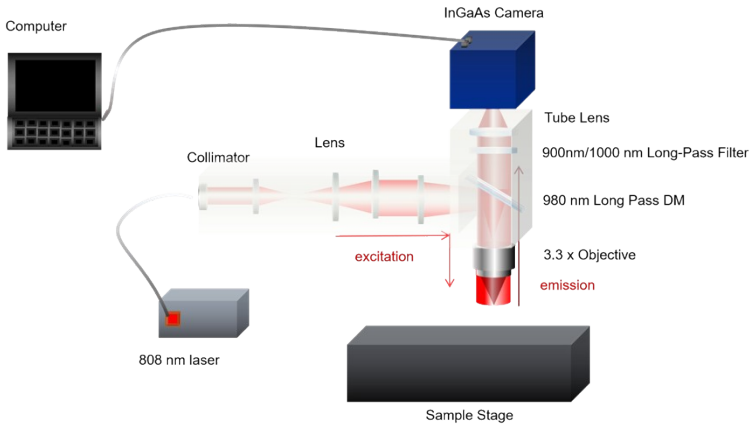

Fig. S10 Schemetic illustration of NIR-II fluorescence microscopic imaging system.

Fig. S11 NIR-II fluorescence miroscopic images of ear blood vessels treated with PBS.

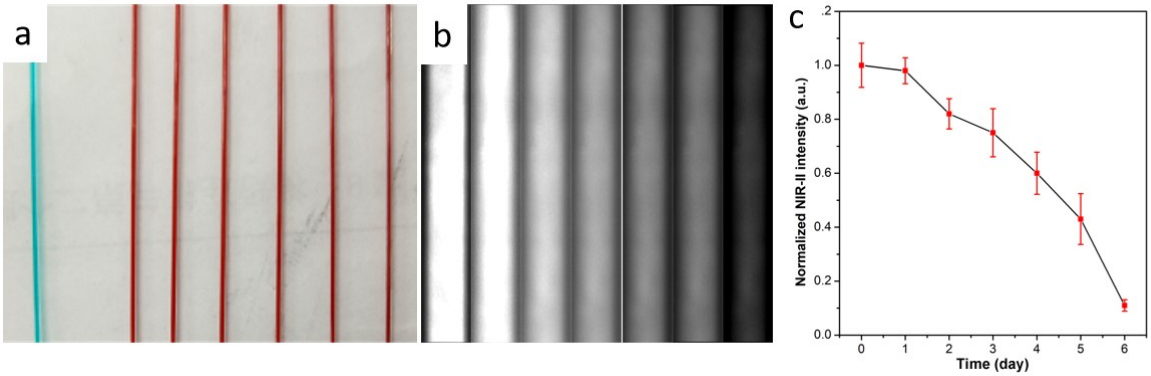

Fig. S12 *In vivo* blood circulation analysis of IR-783-DOX-TMTP1 NPs.

Fig. S13 NIR-II fluorescence miroscopic images of tumour blood vessels treated with PBS under 808 nm laser excitation.

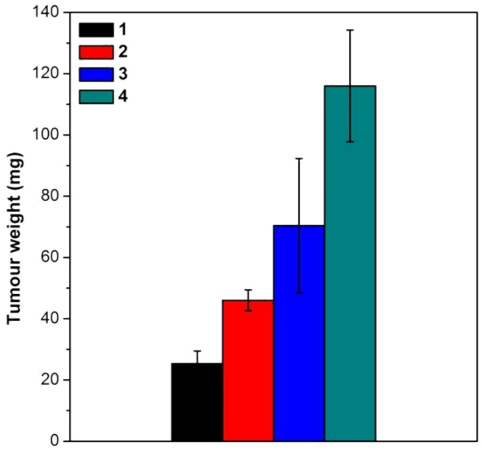

Fig. S14 Body weight of therapeutic agents did not cause any significant loss of mouse body weight during the entire treatment process. Data were displayed as the mean ± SD (n =4).