Electronic Supplementary Information

PPy nanoneedles based nanoplatform capable of overcoming biological barriers for synergistic chemo-photothermal therapy

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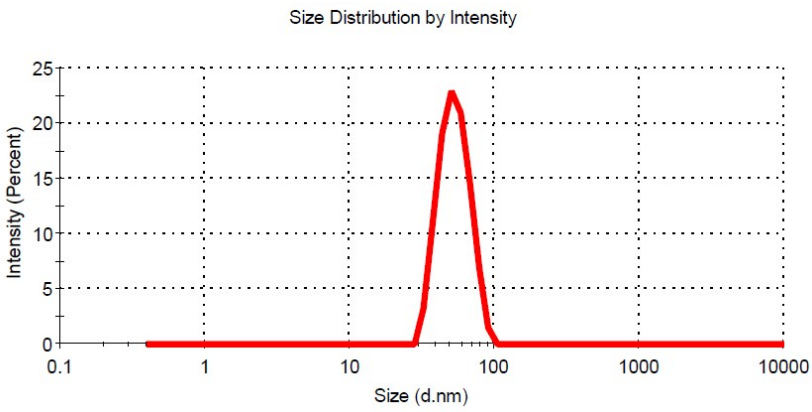

Fig. S1. Dynamic light scattering analysis of PPy showing an average size distribution around 57.2 nm.

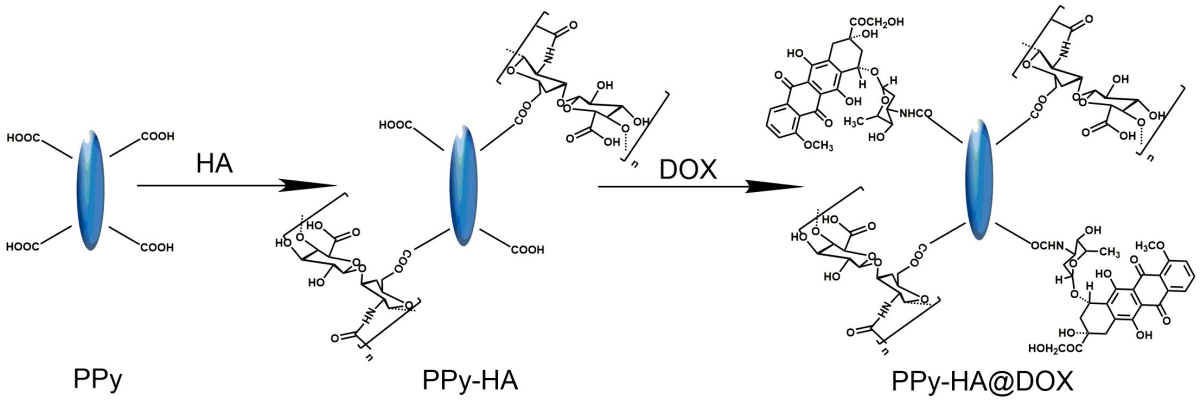

Fig. S2. synthesis of PPy-HA@DOX.

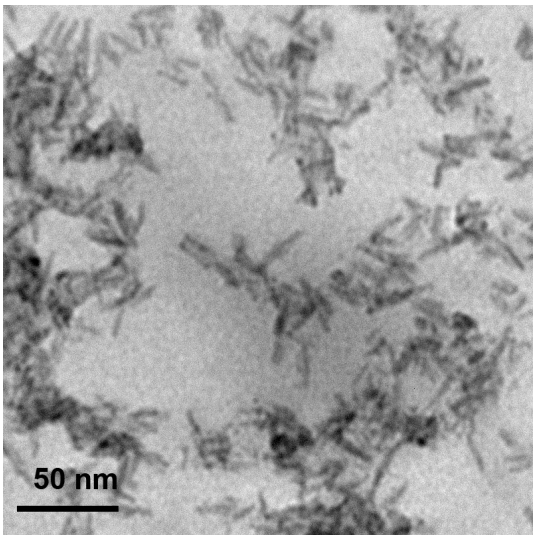

Fig. S3. TEM image of PPy-HA.

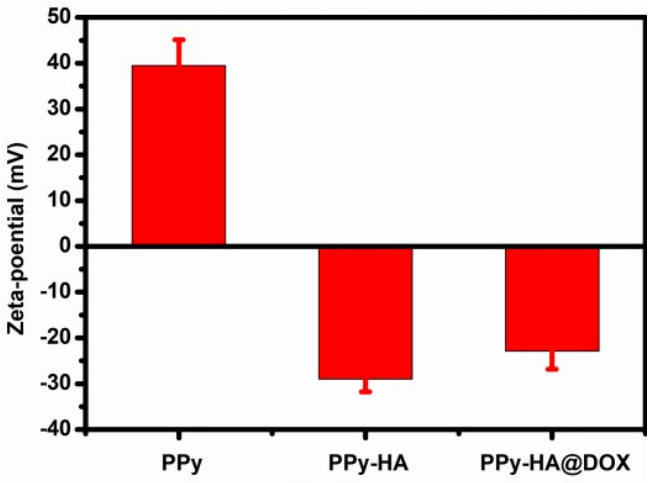

Fig. S4. Zeta potential of PPy, PPy-HA and PPy-HA@DOX.

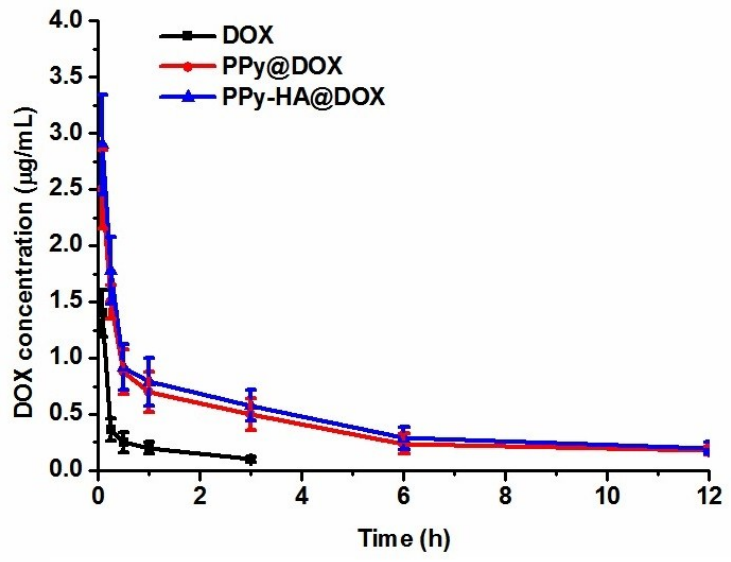

Fig. S5.Plasma concentration–time curves of DOX following the i.v. administration of DOX, PPy@DOX and PPy-HA@DOX nanoneedles in tumor-bearing mice. The data points represent mean ± S.D. (n=3).

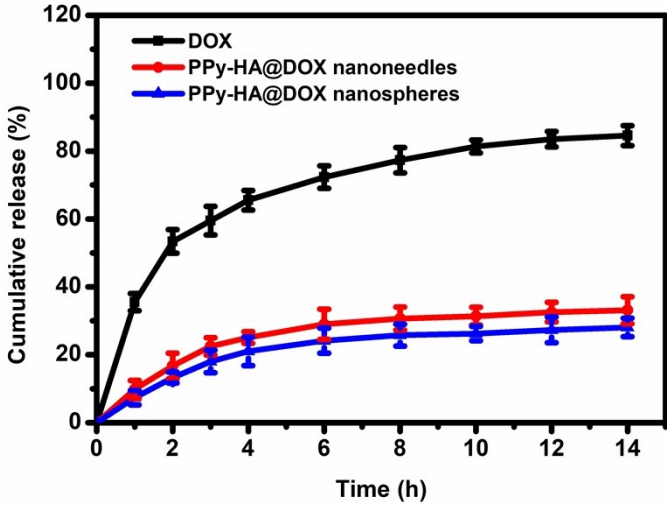

Fig. S6. The drug release of DOX, PPy-HA @ DOX nanospheres and nanoneedles.

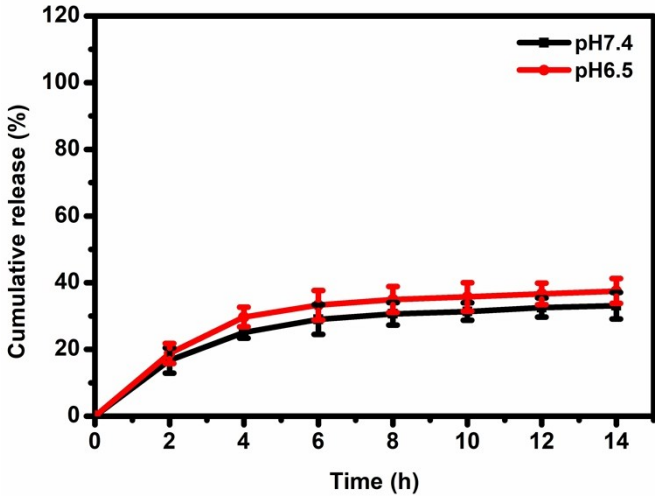

Fig. S7. Release curves of DOX from PPy-HA@DOX nanoneedles at different pH levels.

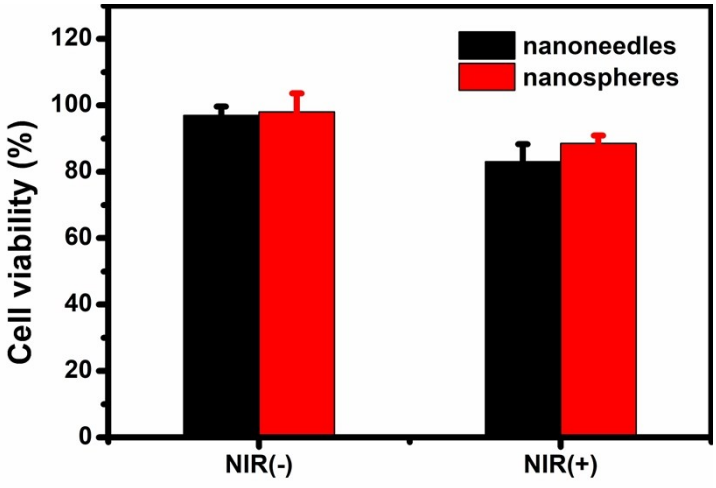

Fig. S8. Cytotoxicity of PPy nanospheres and nanoneedles with or without NIR irradiation. NIR is 808 nm laser at a power density of 2 W/cm^2.

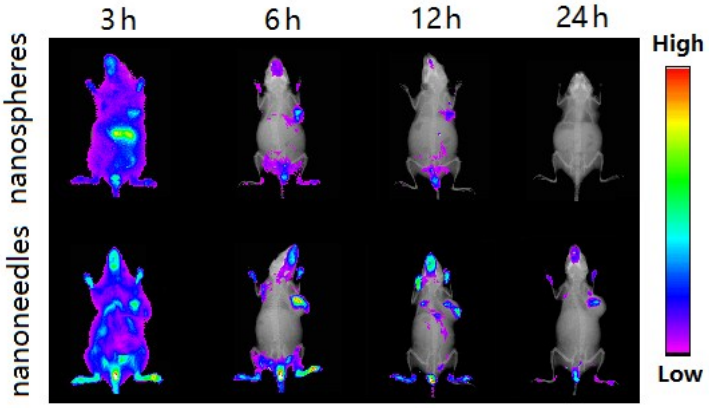

Fig. S9. In vivo optical imaging of the MCF-7 tumor bearing mice after intravenous injection of PPy-HA@DOX@IR783 nanoneedles and PPy-HA@DOX@IR783 nanospheres.

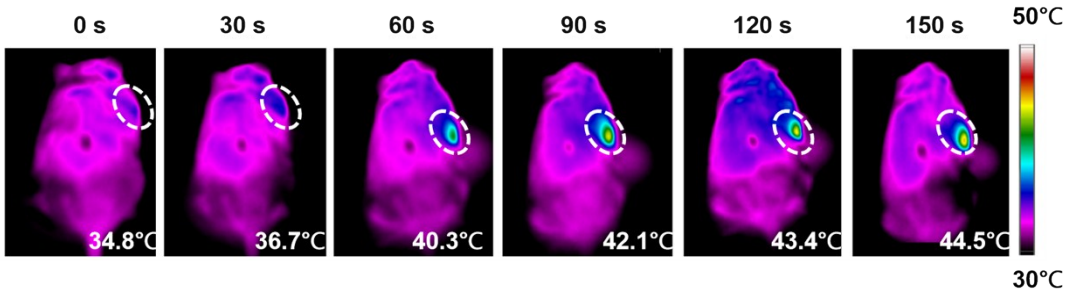

Fig. S10. Thermal images of tumor-bearing mice after injection of PPy-HA@DOX nanospheres under NIR irradiation (808 nm, 2 W/cm2).

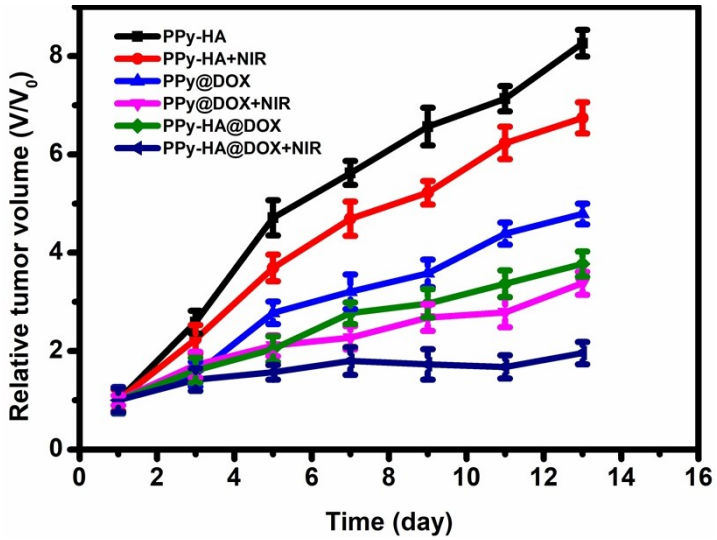

Fig. S11. Tumor growth curves after different nanospheres treatments as a function of time.

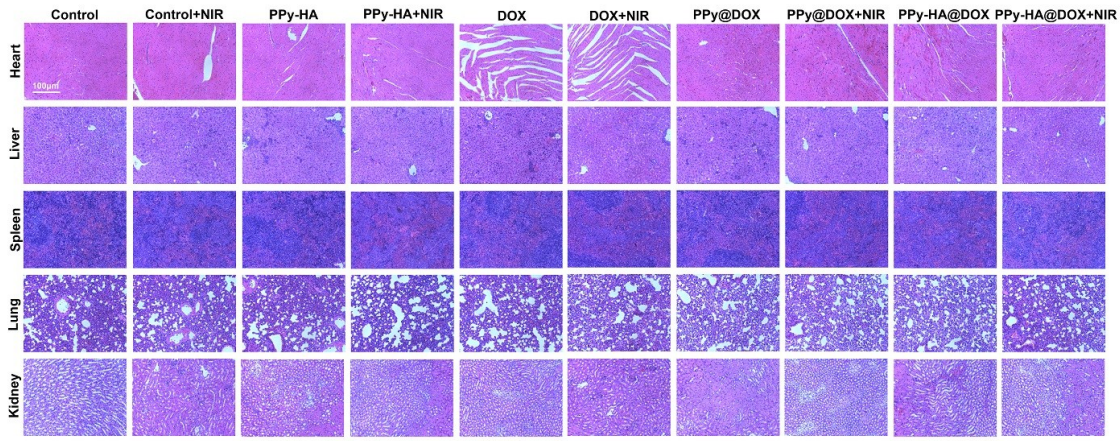

Fig. S12. Histologic assessments of major organs with H&E staining in mice treated with Control; Control+NIR; PPy-HA; PPy-HA+NIR; DOX; DOX+NIR; PPy@DOX; PPy@DOX+NIR; PPy-HA@DOX; PPy-HA@DOX+NIR.