## **PEGylated WS<sub>2</sub> nanodrug system with erythrocyte membrane** coating for chemo/photothermal therapy of cervical cancer

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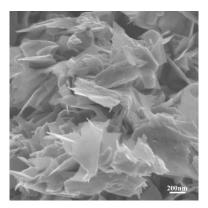


Figure S1. SEM image of WS<sub>2</sub> powder.

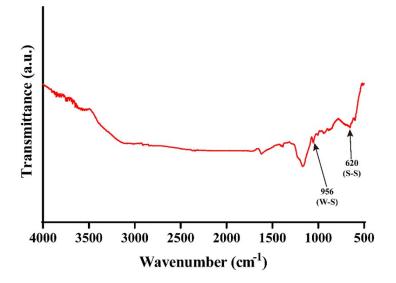
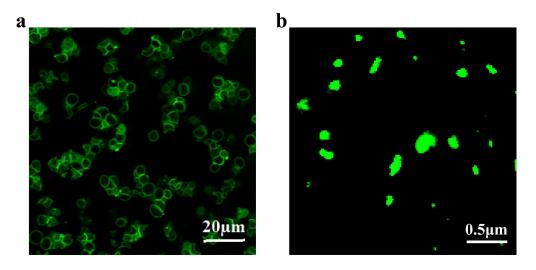


Figure S2. FT-IR spectra of WS<sub>2</sub> nanosheets.



**Figure S3**. a) CLSM images of erythrocyte membrane. b) CLSM Images of erythrocyte membrane after treatment with sonication and physical extrusion.

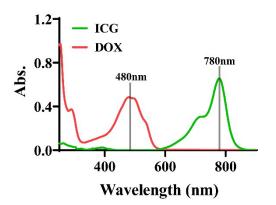
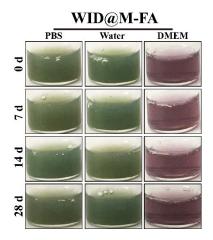
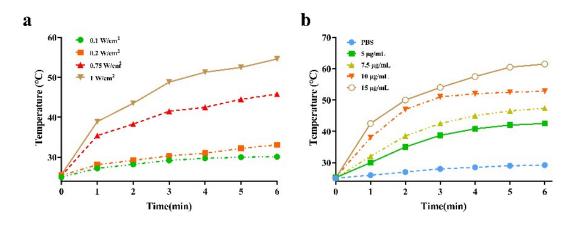


Figure S4. UV-vis absorbance spectrum of free DOX and ICG.



**Figure S5.** Stability photograph of WID@M-FA NPs with different solution (PBS, water, and DMEM (10 % FBS), 200 µg/mL) at different points time.



**Figure S6.** a) The photothermal heating curves of WID@M-FA NPs solutions with same concentration of ICG (10  $\mu$ g/mL) under different 808 nm NIR laser intensity (0.1, 0.2, 0.75, and 1 W/cm<sup>2</sup>) for 6 min. b) The photothermal heating curves of PBS and WID@M-FA NPs solutions with different concentrations (5, 7.5, 10, and 15  $\mu$ g/mL, ICG) under 808 nm NIR laser irradiation at the power density of 1 W/cm<sup>2</sup> for 6 min.

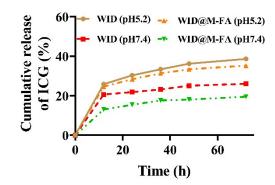
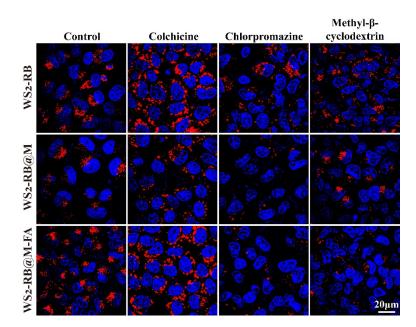


Figure S7. ICG release behavior from WID and WID@M-FA NPs at pH 7.4 and 5.2.



**Figure S8.** The effect of inhibitors on the cell uptake. CLSM image of the cell uptake mechanism for WS<sub>2</sub>-RB, WS<sub>2</sub>-RB@M, and WS<sub>2</sub>-RB@M-FA NPs in the presence of different inhibitors.