

*Supporting Information*

**Functionalized 2D Nb<sub>2</sub>C nanosheets for primary and recurrent cancer photothermal/immune-therapy in NIR-II biowindow**

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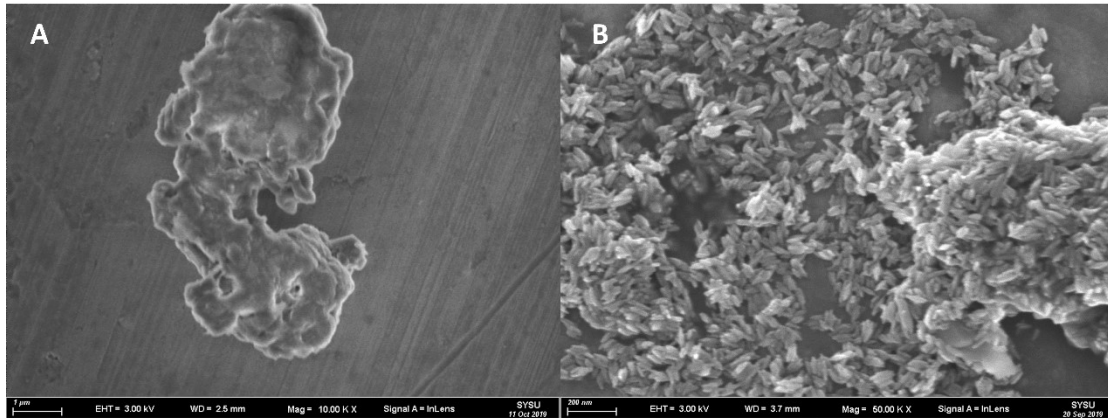


Fig. S1 SEM images of (A) Nb<sub>2</sub>AlC bulk and (B) after etching.

Sample ID	Element	Result(mg/L)
NbAlC	Al	0.126
Nb <sub>2</sub> C	Al	0.005

Table S1. ICP analysis of Nb<sub>2</sub>AlC and Nb<sub>2</sub>C.

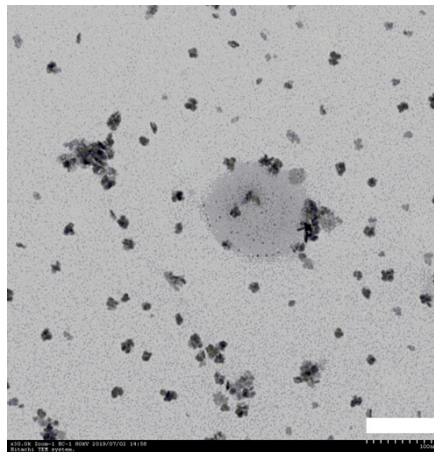


Fig. S2 TEM image of Nb<sub>2</sub>C@PDA-R837@RBC NPs after laser irradiation. (Scale bar = 100 nm)

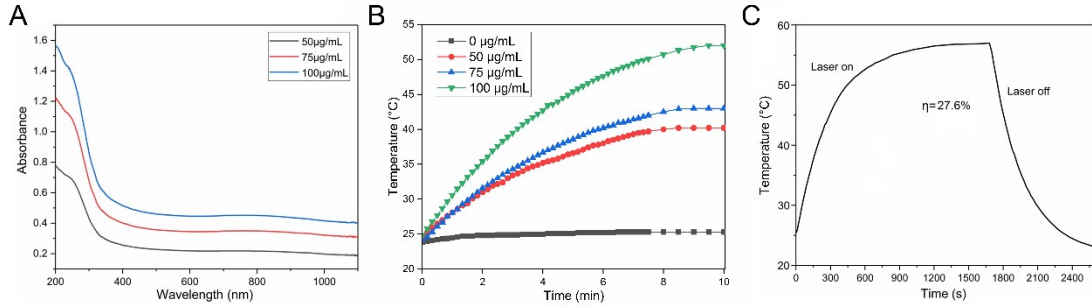


Fig. S3 (A) Vis-NIR absorbance spectra of aqueous suspensions of dispersed Nb<sub>2</sub>C NSs with different concentrations. (B) Heating curves of Nb<sub>2</sub>C NSs at different concentrations. (C) Photothermal conversion efficiency of Nb<sub>2</sub>C@PDA-R837@RBC NPs.

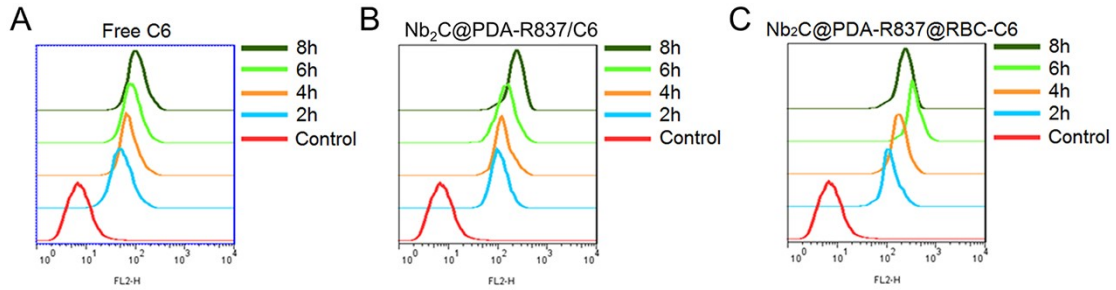


Fig. S4 Flow-cytometry assay of cellular uptake after 4T1 cells incubated with (A) free C6, (B) C6-labeled Nb<sub>2</sub>C@PDA-R837 and (C) Nb<sub>2</sub>C@PDA-R837@RBC for 2h, 4h, 6h and 8h.

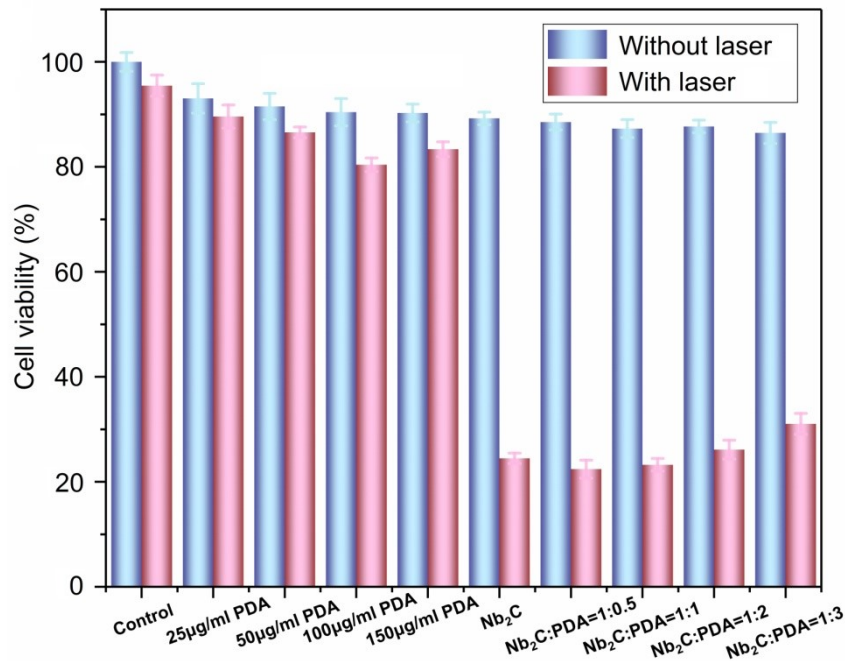


Fig. S5 Cell viability of 4T1 cells after treatments of PDA, Nb<sub>2</sub>C and Nb<sub>2</sub>C@PDA with different PDA contents with or without laser.