

Supporting Information

1T-Phase Dirac Semimetal PdTe₂ Nanoparticles for Efficient Photothermal Therapy in the NIR-II Biowindow

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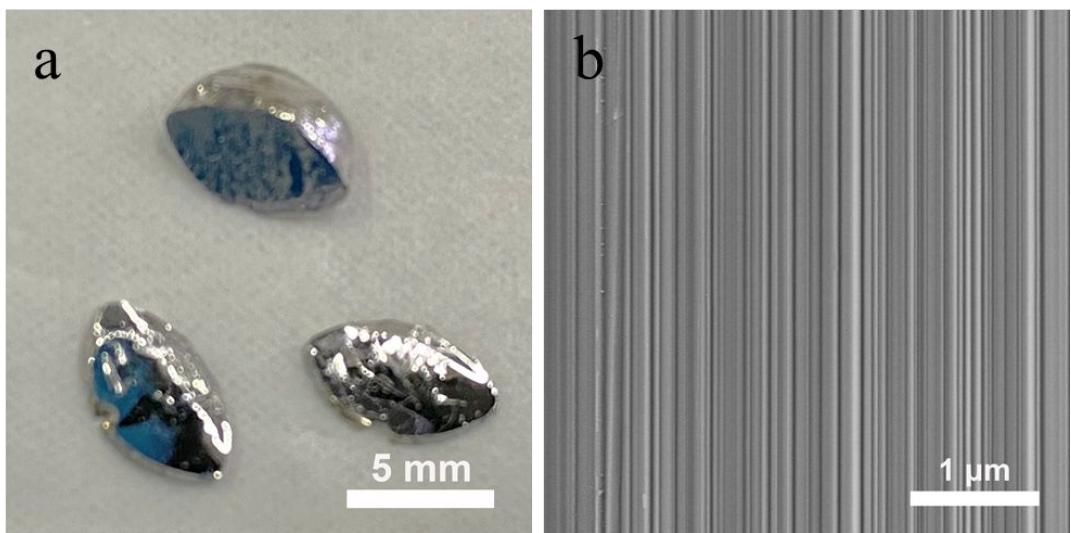


Figure S1. (a) Digital image and (b) SEM image of bulk PdTe₂.

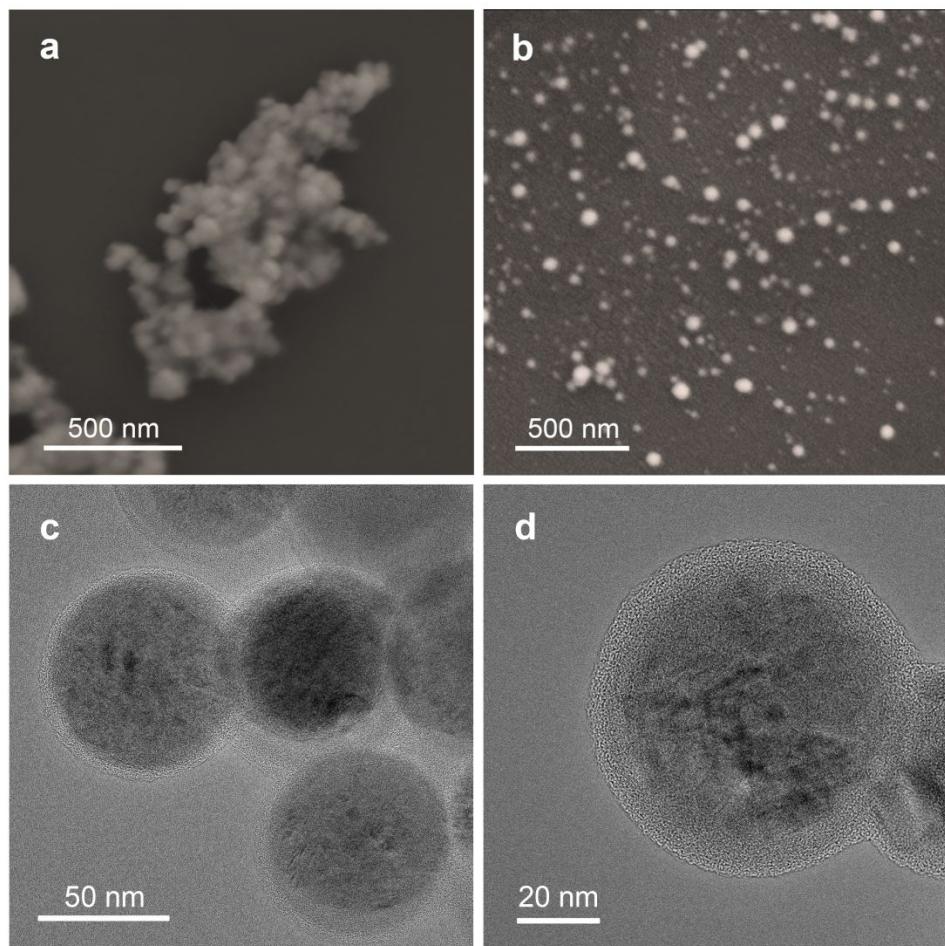


Figure S2. SEM image of (a) PdTe₂ nanoparticles (PTN) and (b) DSPE-PEG modified PdTe₂ nanoparticles (PTN/DSPE-PEG), and TEM image of (c) PTN and (d) PTN/DSPE-PEG.

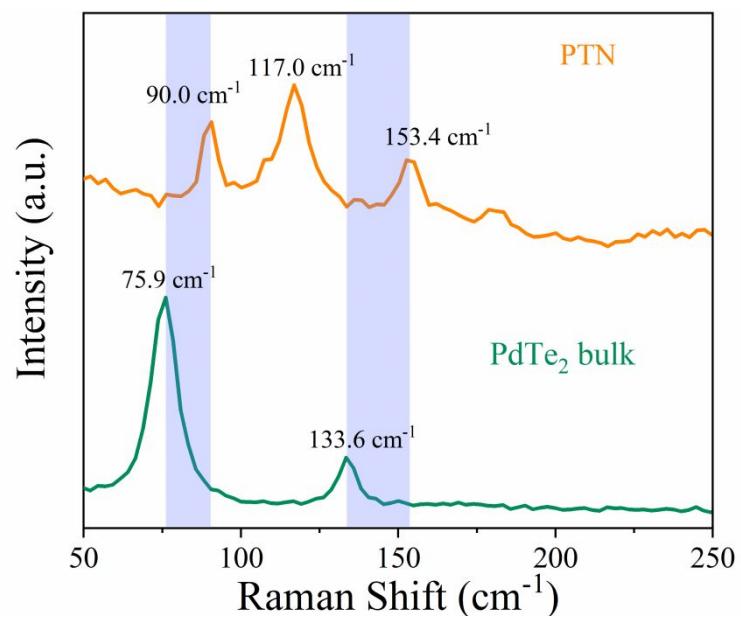


Figure S3. Raman spectra of PdTe₂ bulk and PTN.

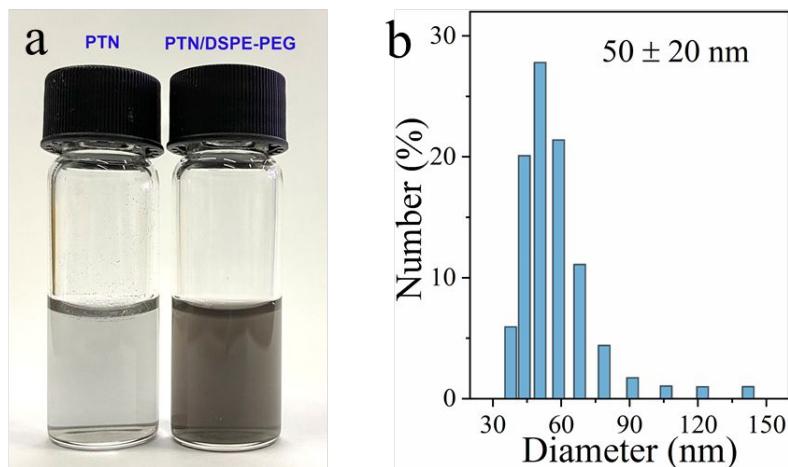


Figure S4. (a) Aqueous solution image of PTN and PTN/DSPE-PEG. (b) Dynamic light scattering (DLS) data of PTN/DSPE-PEG.

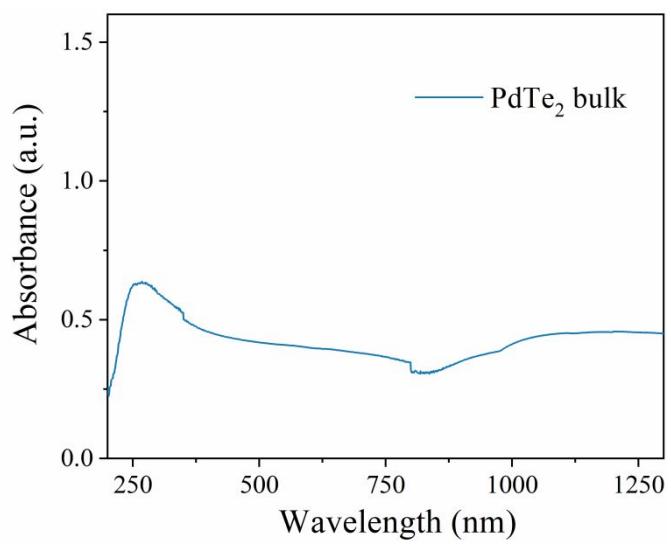


Figure S5. UV-vis-NIR spectra of bulk PdTe₂.

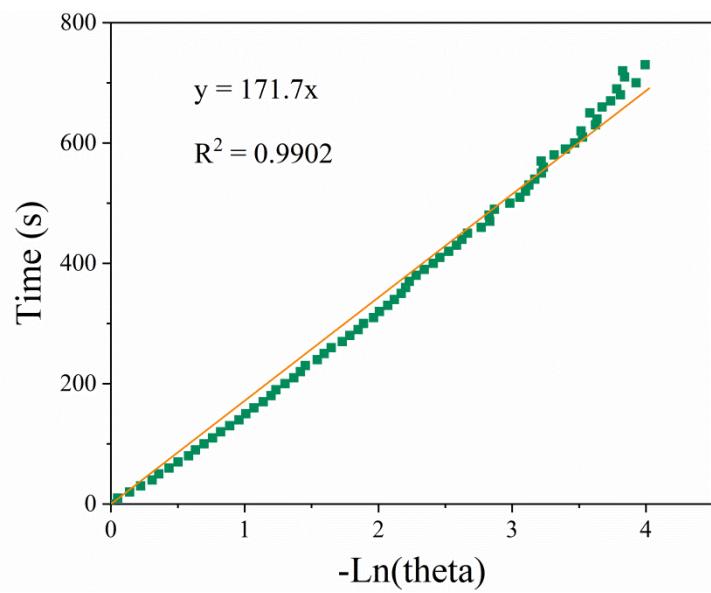


Figure S6. Linear time data versus $-\ln\theta$ obtained from the cooling period of PTN/DSPE-PEG ($200 \mu\text{g mL}^{-1}$) after irradiated at 1060 nm laser.

Tabel S1. Comparison between PTN and other types of NIR-II photothermal therapy agents (PTAs).

PTAs	Surface property	Laser irradiation (nm/W cm ⁻²)	PCE (%)	Ref.
Graphene quantum dots	N.A.	1064/1.0	33.45	1
Bi nanoparticles	DSPE-PEG ₅₀₀₀	1064/1.0	32.2	2
Au@MOF	N.A.	1060/1.8	48.5	3
FePS ₃ nanosheets	PVP	1064/2.0	43.3	4
MoO ₂ nanoaggregates	PEG-NH ₂ and HA	1064/1.0	55.6	5
TeSe _x nanoalloy	N.A.	1060/1.0	77.2	6
Cu ₂ MnS ₂ nanoplates	mPEG-COOH	1064/0.6	49.38	7
1T-MoS ₂ nanodots	PVP	1060/1.0	43.3	8
Ti ₂ N quantum dots	soybean phospholipid	1064/1.0	45.51	9
C nanoparticles	N.A.	1064/1.0	50.6	10
Te-Gd nanorods	N.A.	1064/1.4	41	11
PTN	DSPE-PEG ₂₀₀₀	1060/1.0	68	This work

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