Supporting Information

H_2O_2 activated Ag_2S:In-Cu nanoprobe for in vitro synergistic tumor treatment

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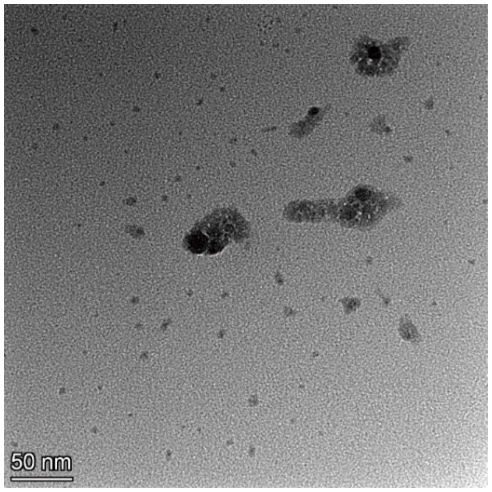

Fig. S1 TEM image of Ag_2S nanoparticles.

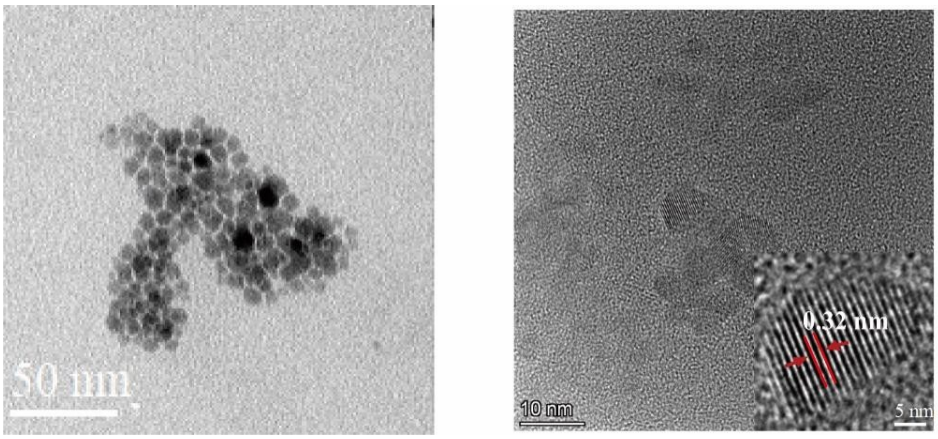

Fig. S2 TEM and high-resolution TEM images of AIS nanoparticles.

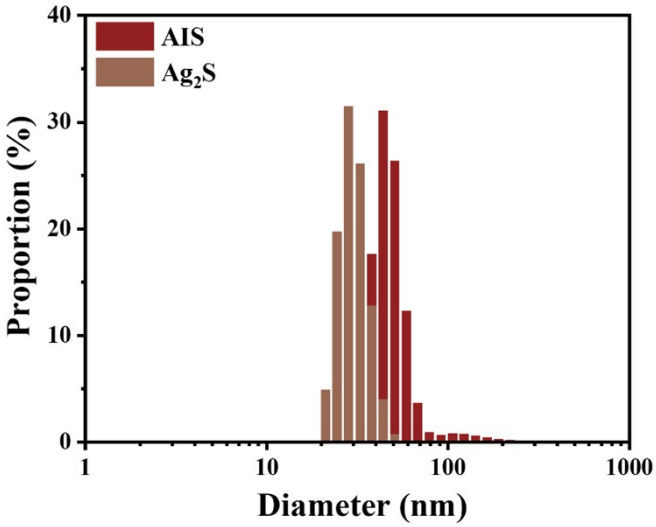

Fig. S3 Particle size of Ag_2S and AIS nanoparticles.

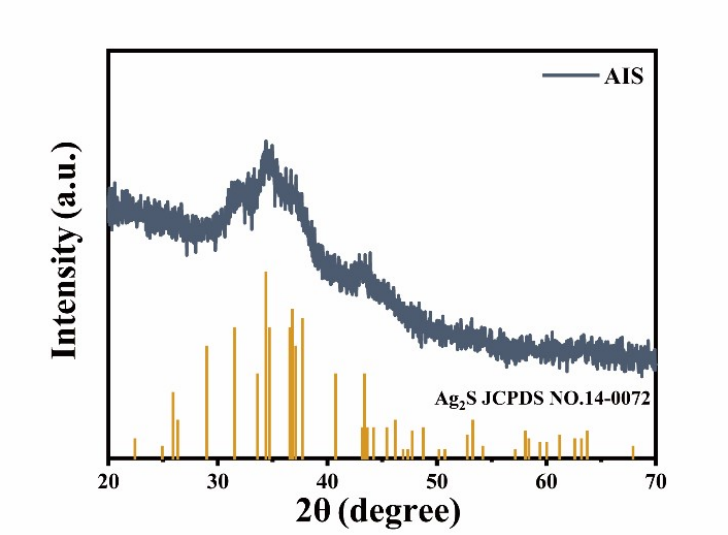

Fig. S4 X-ray diffraction pattern of AIS nanoparticles.

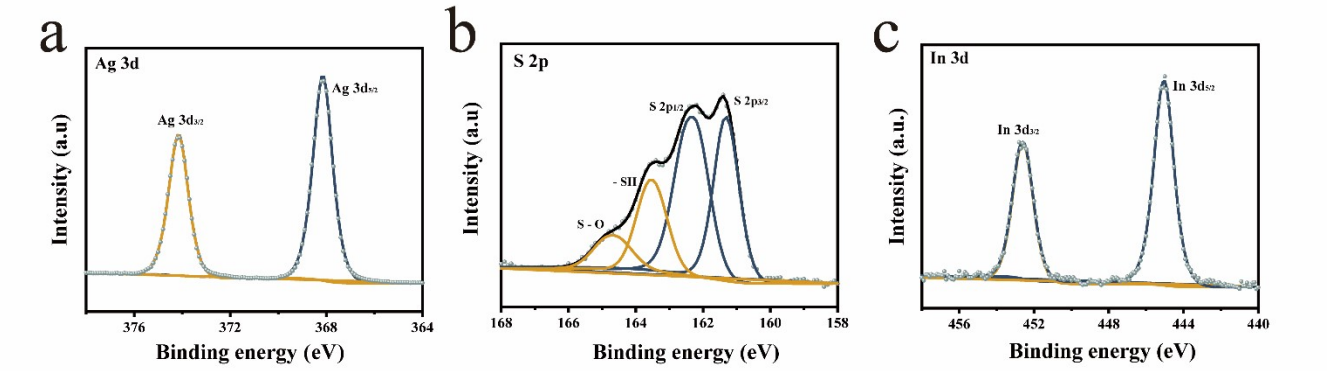

Fig. S5 Survey and fitted XPS analysis of AIS (Ag 3d, S 2p and In 3d) nanoparticles.

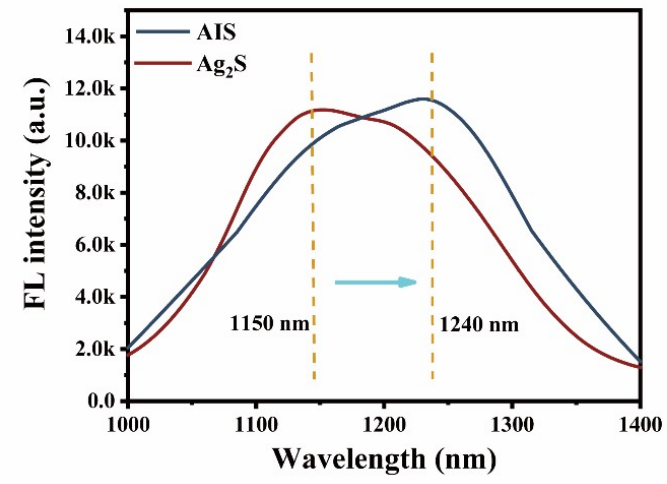

Fig. S6 NIR-II fluorescence spectra of AIS and Ag_2S nanoparticles.

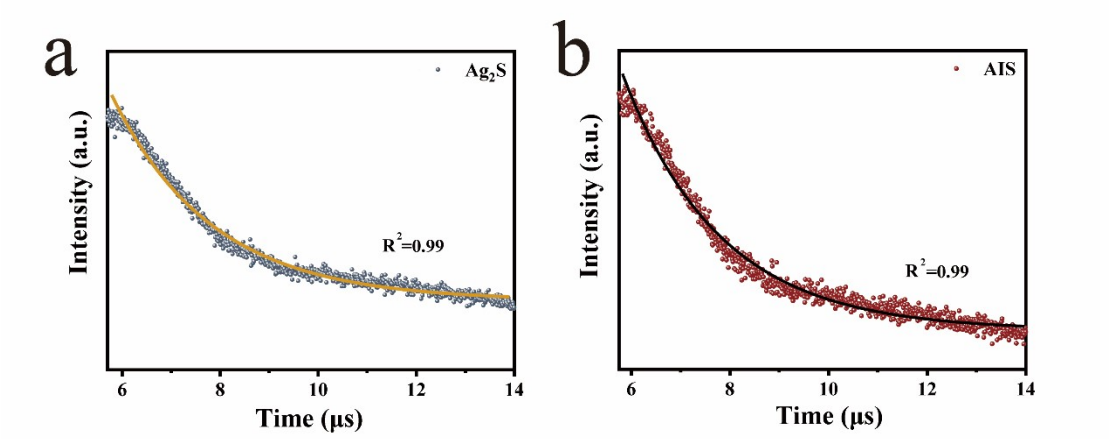

Fig. S7 Fluorescence lifetime of (**a**) Ag_2S and (**b**) AIS.

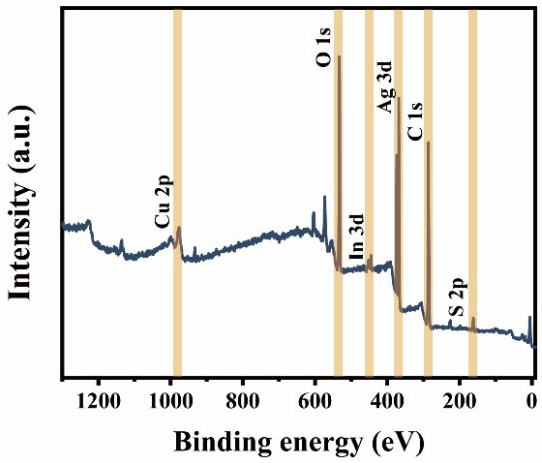

Fig. S8 XPS full spectrum of ACP nanoparticles.

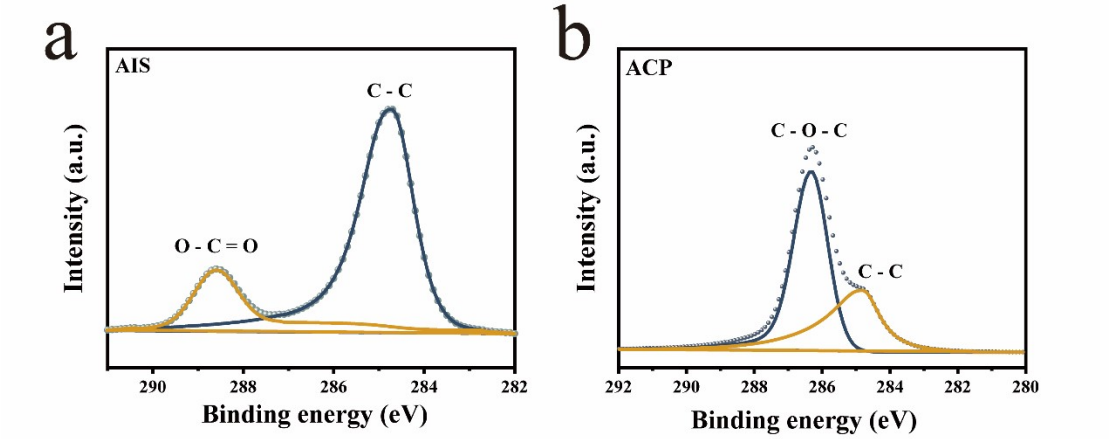

Fig. S9 High-resolution XPS spectra of C 1s. (**a**) AIS. (**b**) ACP.

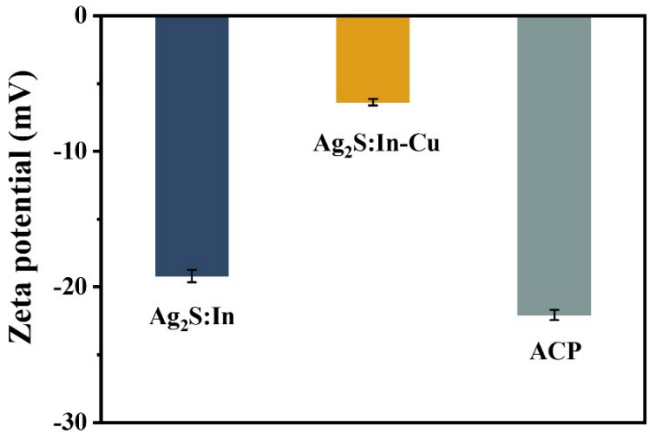

Fig. S10 Zeta potential measurement of Ag_2S:In, Ag_2S:In-Cu and ACP nanoparticles.

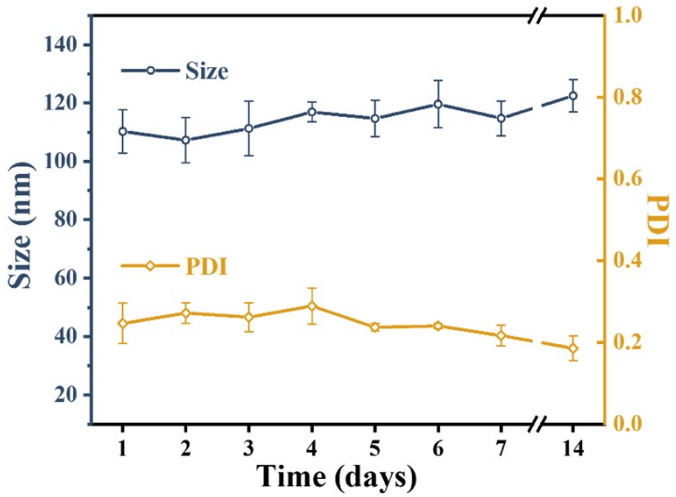

Fig. S11 Particle size and polymer dispersity index (PDI) during 14 days of ACP nanoparticles.

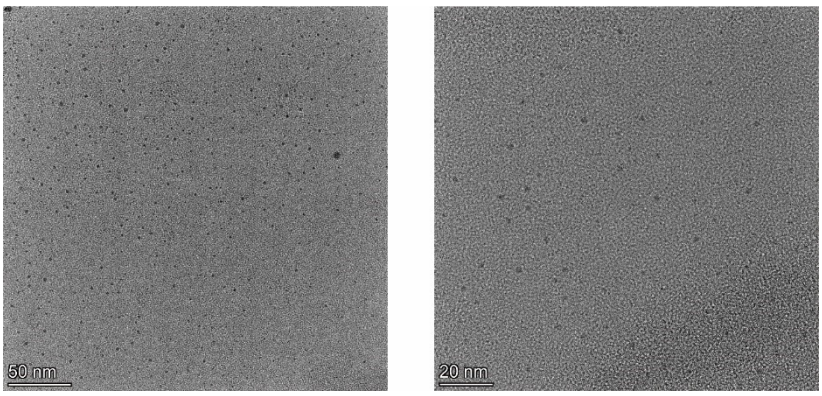

Fig. S12 TEM images of ACP nanoparticles treated with H_2O_2.

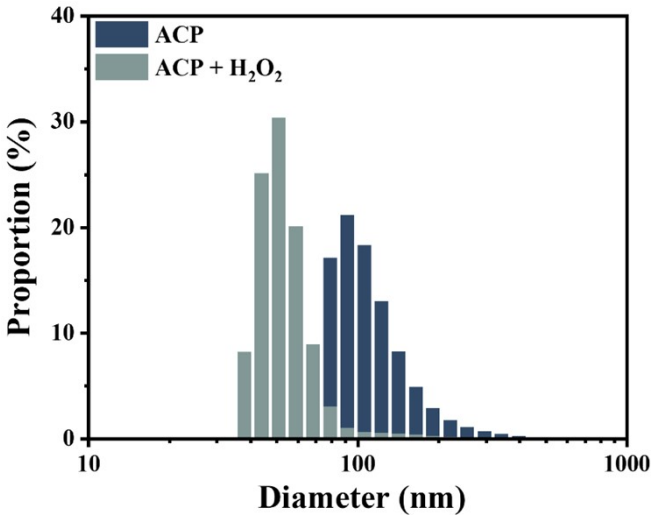

Fig. S13 Particle size of ACP and ACP treated with H_2O_2 nanoparticles.

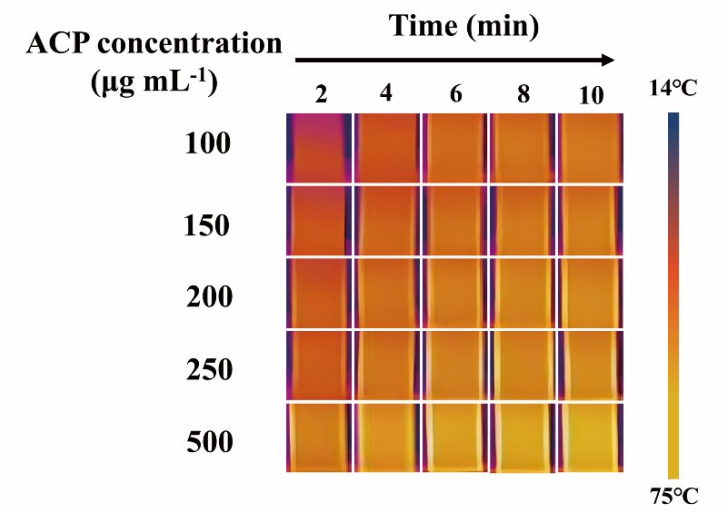

Fig. S14 Thermal images of ACP nanoparticles at different concentrations (0 - 500 μg mL^{-1}) under 808 nm laser irradiation for 10 min (2 W cm^{-2}).

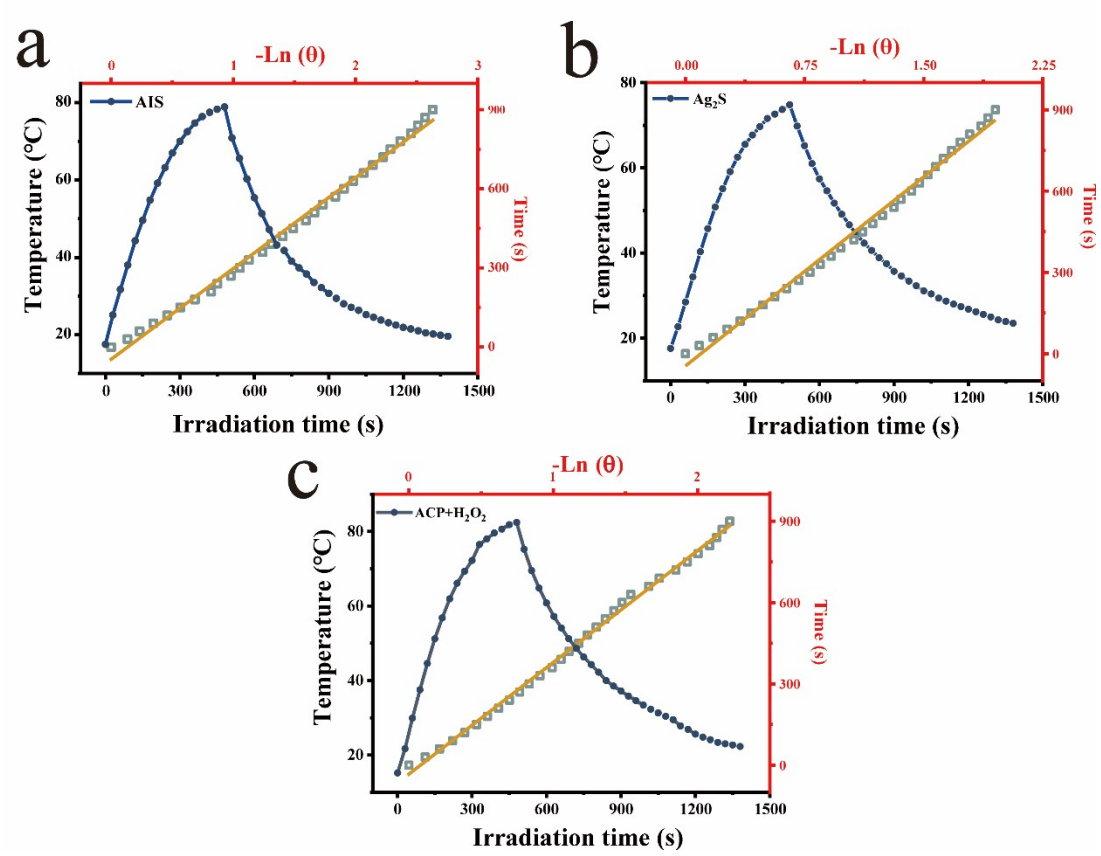

Fig. S15 (**a, b, c**) Temperature plots of the heating and cooling processes of AIS nanoparticles, Ag_2S nanoparticles and ACP nanoparticles treated with H_2O_2 irradiated with an 808 nm laser (2 W cm^{-2}), and the plot of cooling time versus negative natural logarithm of the temperature driving force obtained from cooling stage.

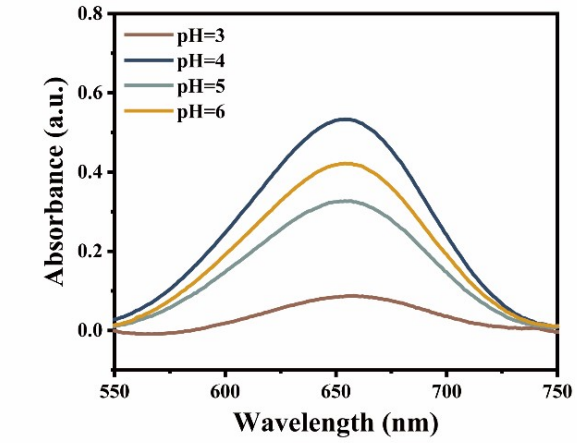

Fig. S16 The influence of different pH on ACP nanoparticles POD-like properties.

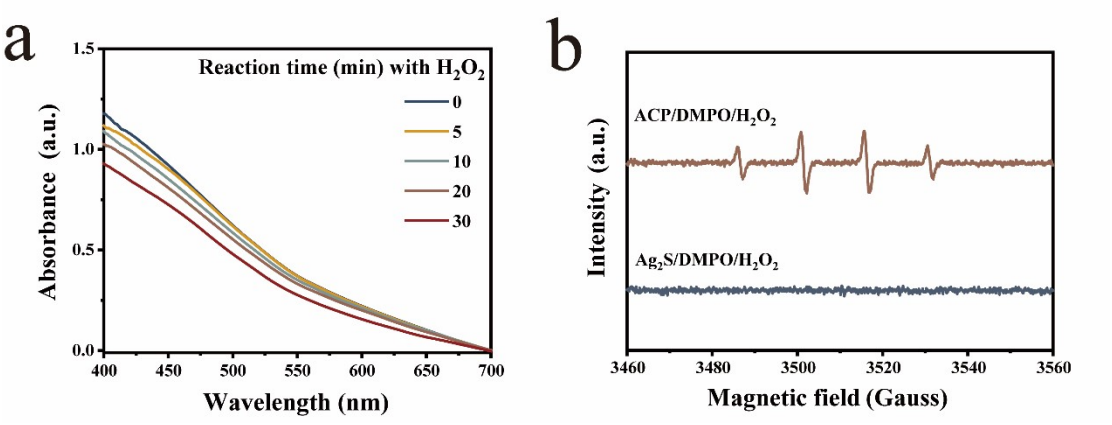

Fig. S17 (**a**) UV–vis spectra of Ag_2S nanoparticles and TMB/H_2O_2 at different reaction times. (**b**) DMPO/H_2O_2 treated with ACP nanoparticles and Ag_2S nanoparticles.

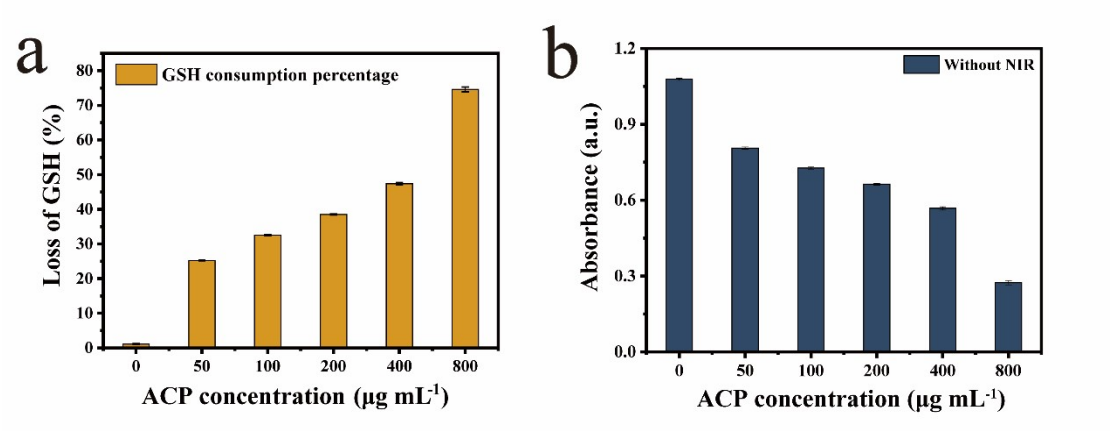

Fig. S18 (**a**) The percentage of GSH consumption and (**b**) absorbance change at 412 nm for different concentrations of ACP nanoparticles.

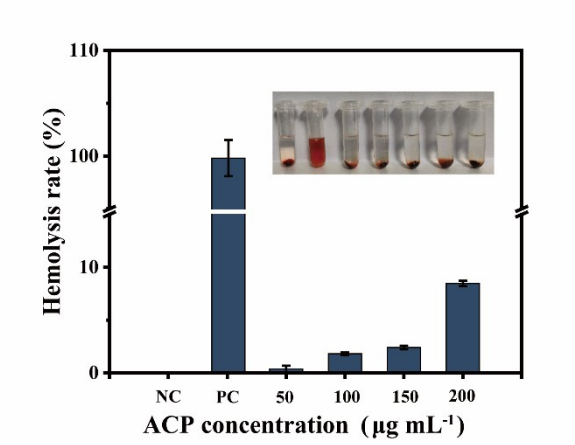

Fig. S19 Hemolysis rates of ACP nanoparticles with 3 h of incubation with blood cells (inset: hemolysis photo after centrifugation).

Table S1 PCE of some reported nanoparticles.

Nanoparticles	Power density ($W\ cm^{-2}$)	PEC (%)	Refs
PDA@Ag nanoparticles	1.0	36.1	[1]
SDBS-Ag_2Se nanoparticles	1.7	22.9	[2]
Ag_2S nanoparticles	1.0	38.5	[3]
Ag_2S/g-C_3N_4 nanoparticles	2.5	31.3	[4]
BSA-Ag_2S nanoparticles	3.4	18.9	[5]
Ag_2S nanoparticles	2.0	41.0	[6]
ACP nanoparticles	2.0	54.0	This work

References

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