

Supporting Information

Nanozymatic Magnetic Nanomotors for Enhancing Photothermal
Therapy and Targeting Intracellular SERS Sensing

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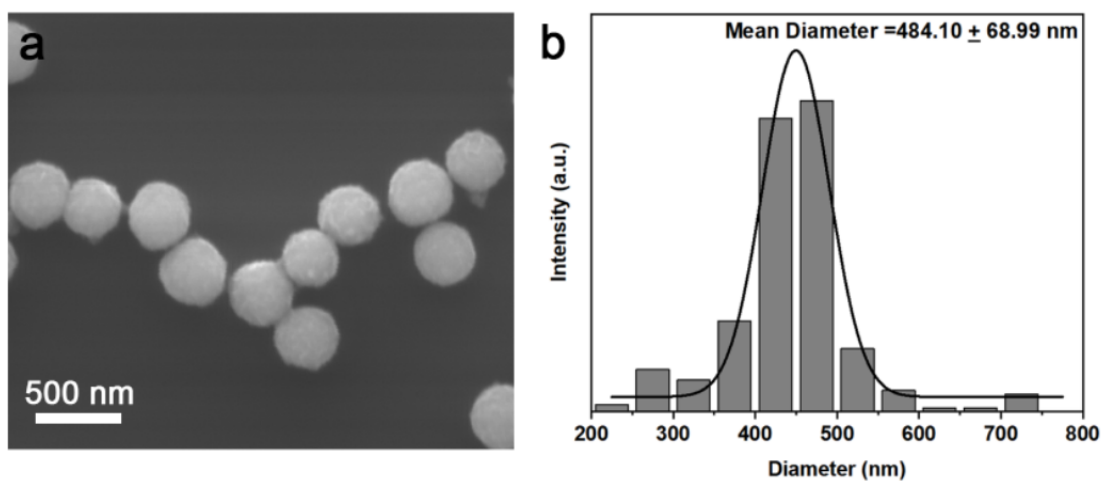


Figure S1. (a) SEM image and (b) size distribution of Fe_3O_4 .

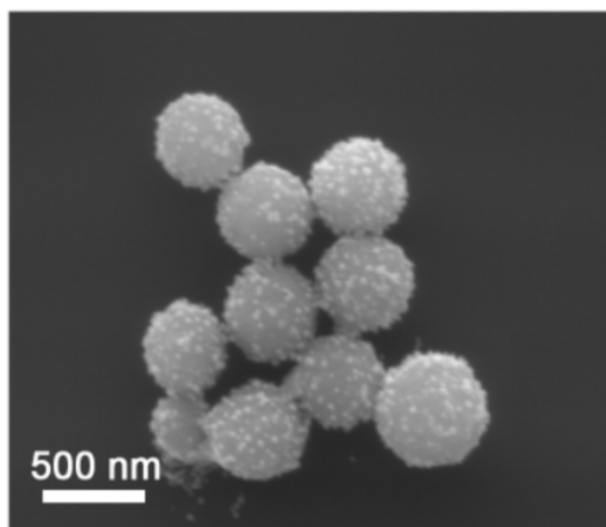


Figure S2. SEM image of MAuNP.

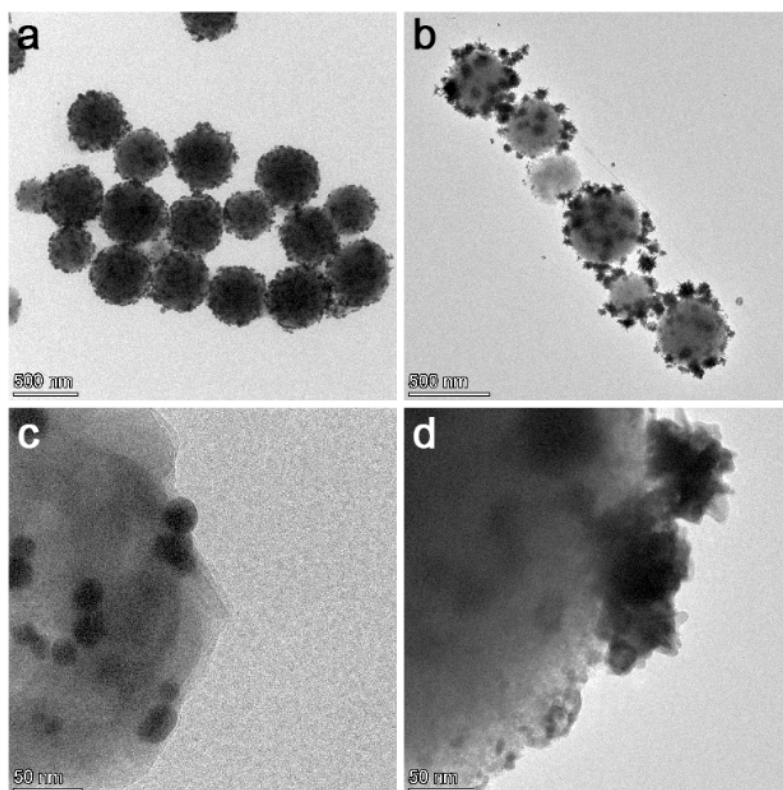


Figure S3. (a) and (c) TEM images of MAuNP with different magnifications. (b) TEM images of MAuNS with different magnifications.

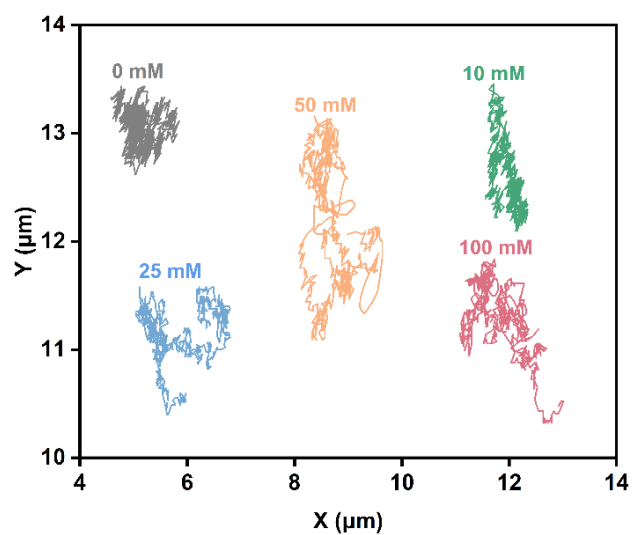


Figure S4. Representative tracking trajectories of MAuNS nanomotors swimming in glucose solution with different concentrations during 30 s

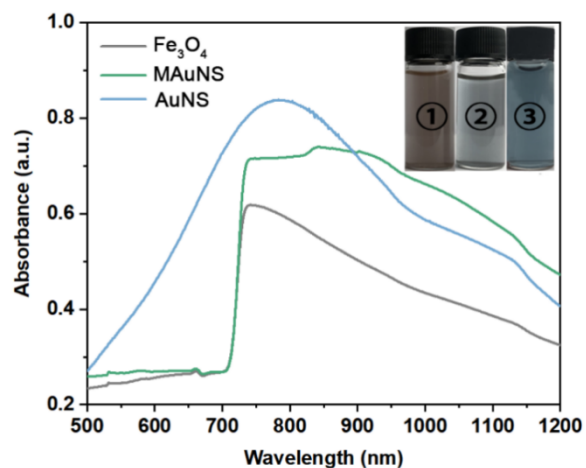


Figure S5. UV-vis absorption spectra of Fe_3O_4 , MAuNS, and AuNS. Inset: pictures of Fe_3O_4 (①), MAuNS (②), and AuNS (③) solutions.

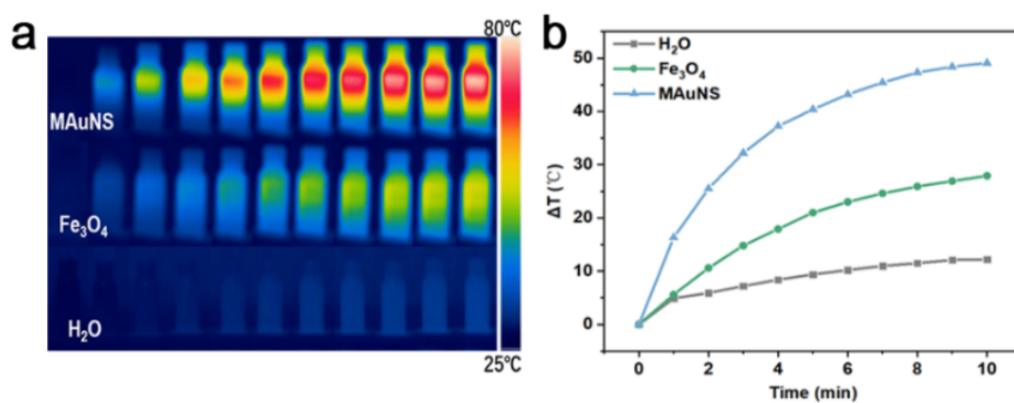


Figure S6. Photothermal responding (a) image and (b) curves of Fe_3O_4 , MAuNS and MAuNS with the concentration of 0.10 mg mL^{-1} (808 nm , 1.5 W cm^{-2} , 10 min).

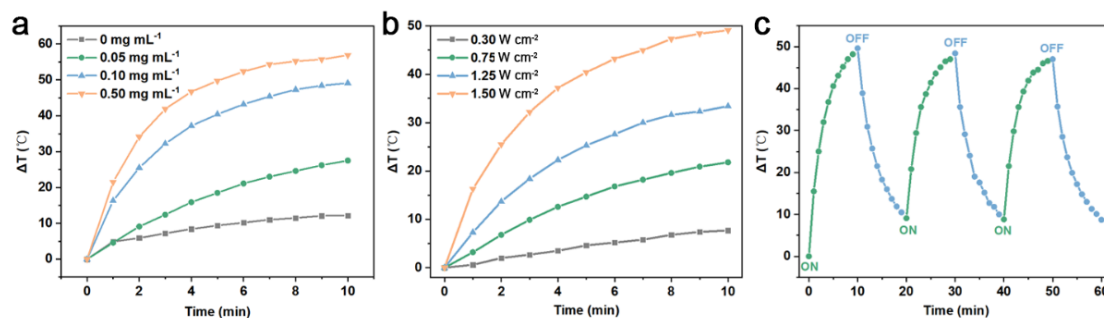


Figure S7. (a) Photothermal responds of MAuNS suspension with different concentrations upon NIR laser irradiation with the power density of 1.5 W cm^{-2} and (b) that of 0.1 mg mL^{-1} of MAuNS suspension upon NIR laser irradiation with different power densities. (c) Photothermal responses of MAuNS suspension for three cycles upon NIR laser irradiation (808 nm , 1.5 W cm^{-2} , 0.10 mg mL^{-1}).

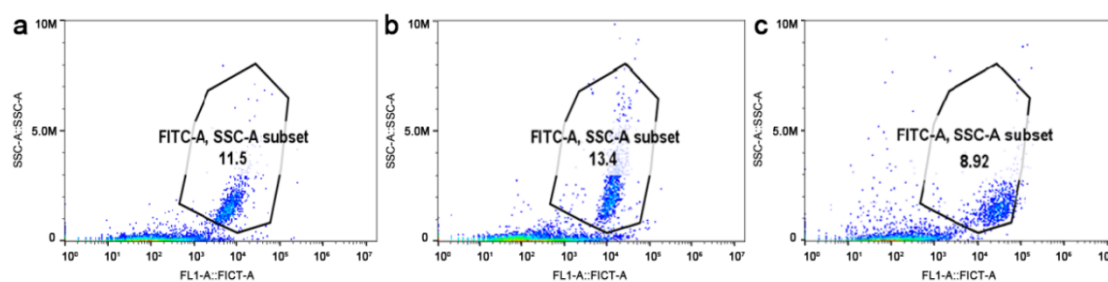


Figure S8. Scatter plots of blank HeLa cells (control) and cells after incubated with MAuNS+glucose (0 mM) and MAuNS+glucose (50 mM) determined by flow cytometry.

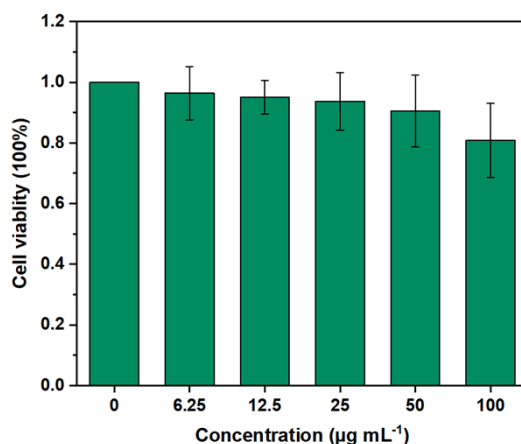


Figure S9. Cell viability of MCF 10A cells after incubated with the nanomotors for 24 h in dark.

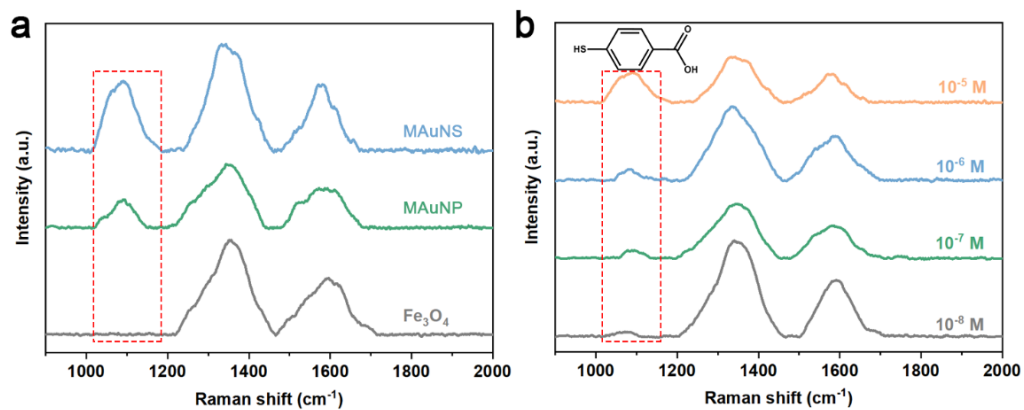


Figure S10. (a) SERS spectra of 4-MBA (10^{-5} M) using Fe_3O_4 , MAuNP and MAuNS as SERS probes, respectively. (b) Raman spectra of 4-MBA with different concentrations using MAuNS as SERS probe.

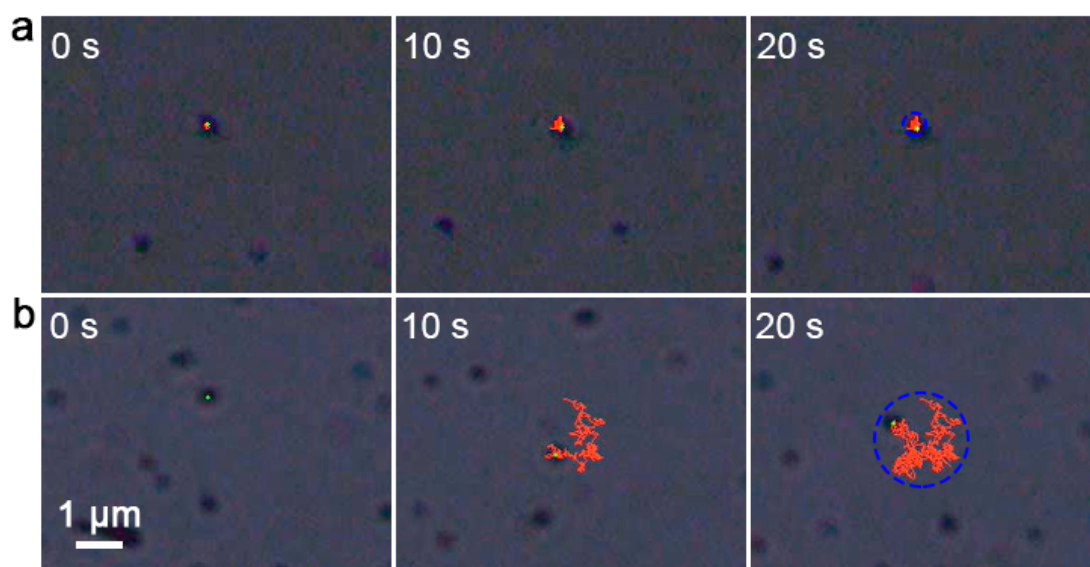


Figure S11. Video snapshots of a MAuNS nanomotor when the oscillating magnetic field is (a) on and (b) off.

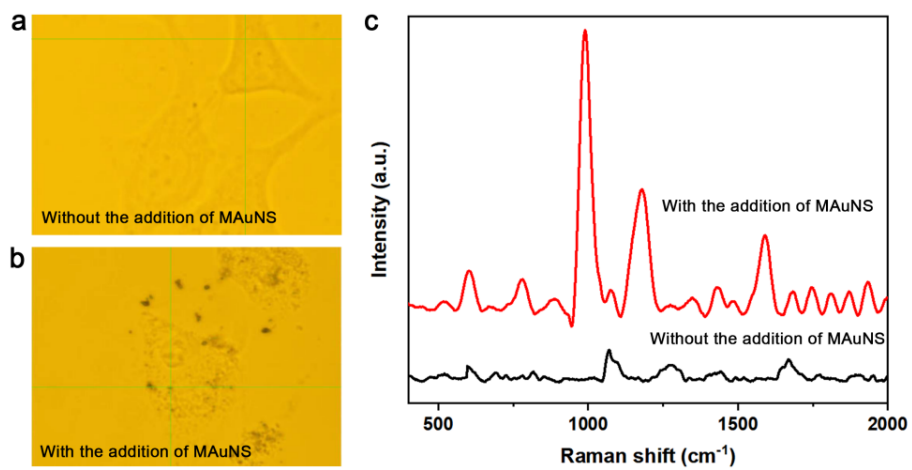


Figure S12. Micrographs and Raman spectra of HeLa cell without and with the addition of MAuNS.