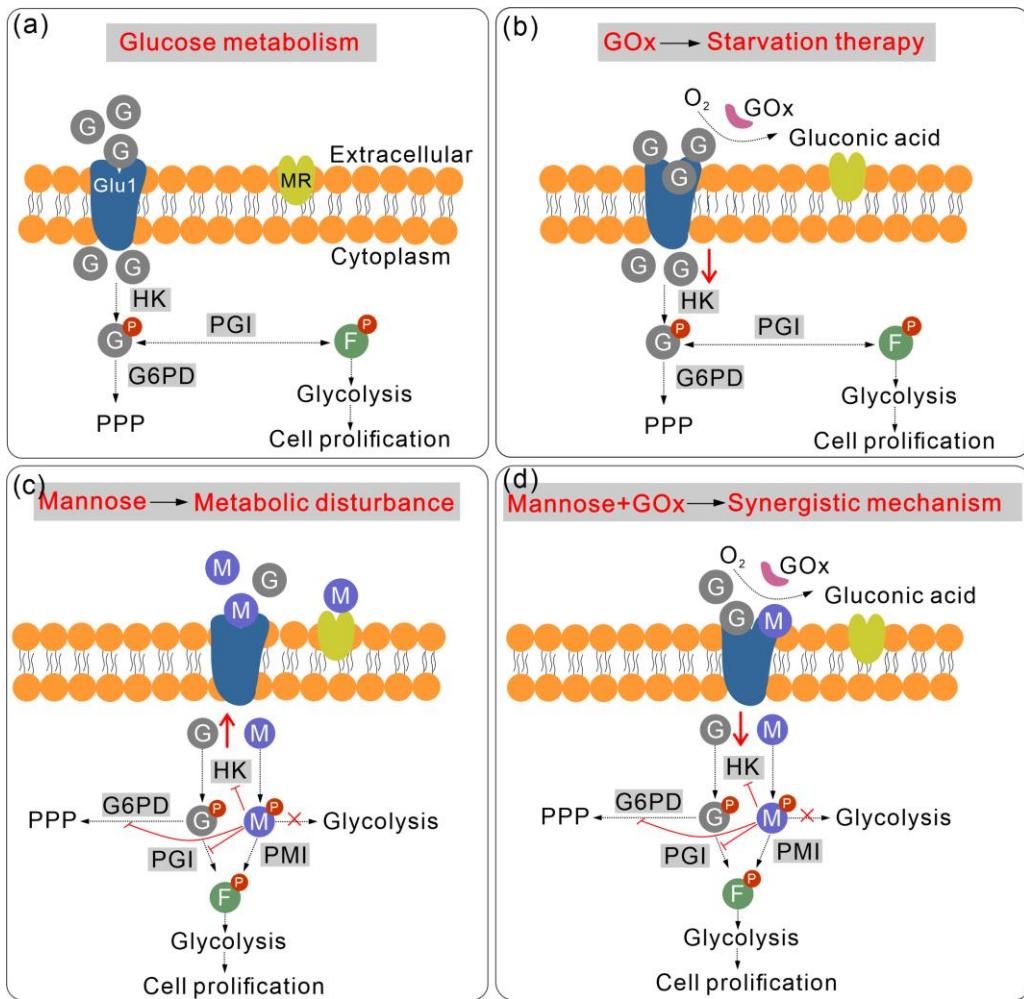
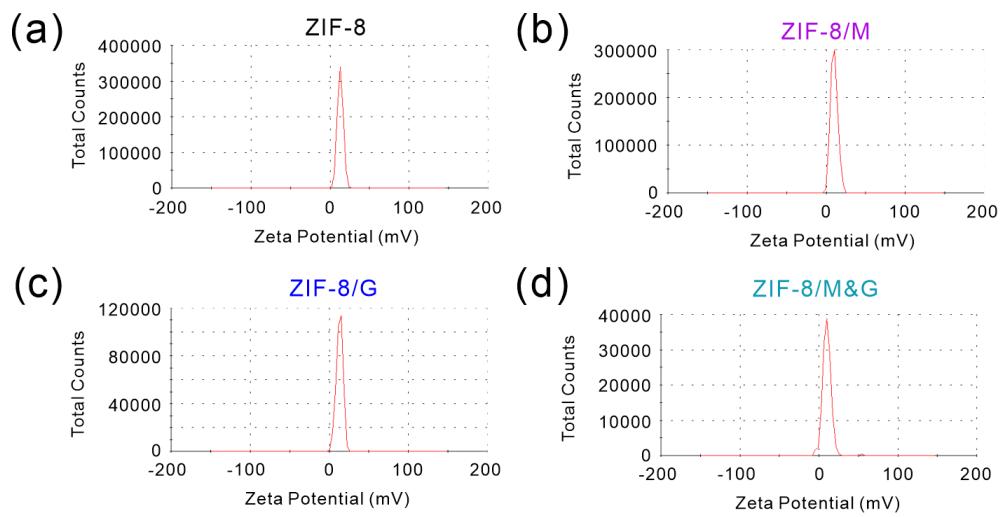


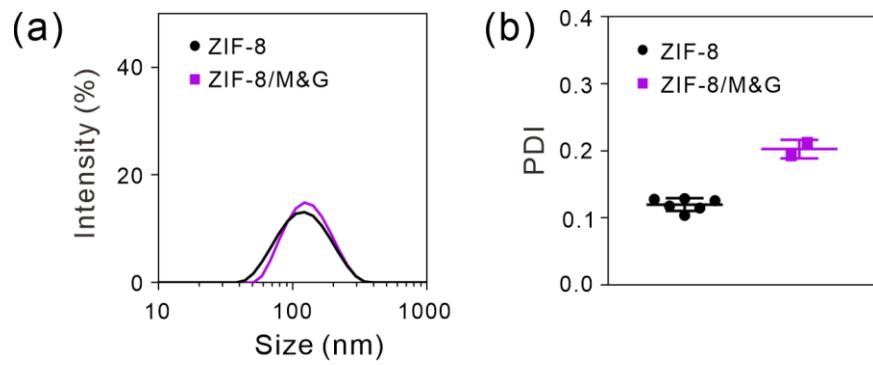
## Supplementary Figures



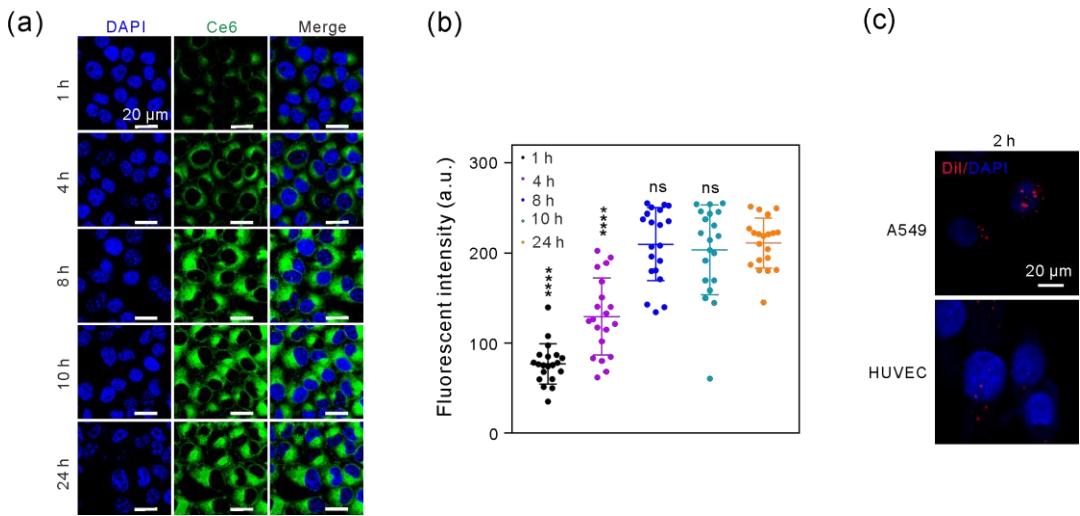
**Fig. S1** Schematic descriptions of glucose metabolism (a) and GOx for tumor starvation by glucose consumption (b). Schematic descriptions of mannose for metabolic disturbance (c) and synergistic glycolysis inhibition through mannose plus GOx (d)



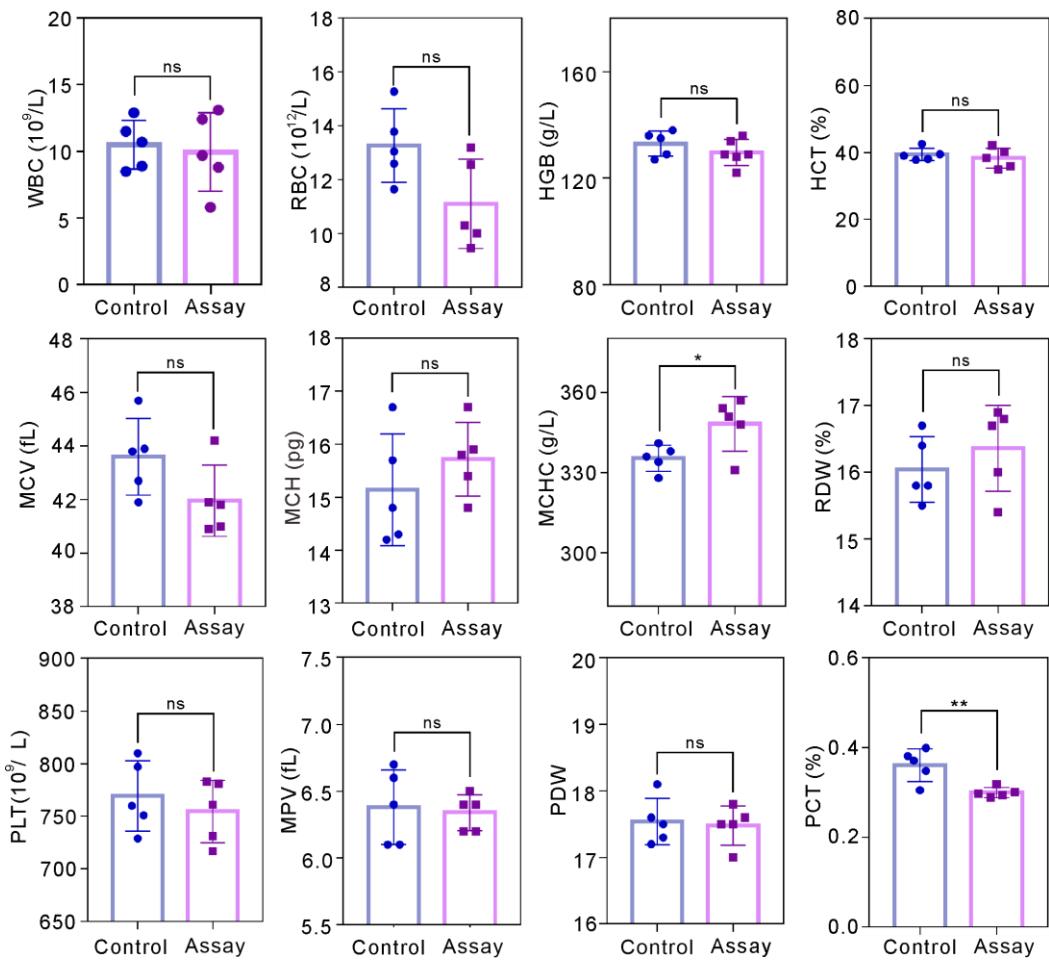
**Fig. S2** Zeta potential of ZIF-8 (**a**), ZIF-8/M (**b**), ZIF-8/G (**c**), and ZIF-8/M&G (**d**) nanoparticles



**Fig. S3** **(a)** Hydrodynamic size of ZIF-8 and ZIF-8/M&G. **(b)** PDI of ZIF-8 and ZIF-8/M&G



**Fig. S4** **(a)** Fluorescent images of A549 cells incubated with ZIF-8/Ce6 for different time points. **(b)** Fluorescent intensity of A549 cells incubated with ZIF-8/Ce6 for different time points.  $N = 20$ ,  $*P < 0.05$ ,  $**P < 0.01$ ,  $****P < 0.0001$  and ns: not significant ( $P > 0.05$ ). Data represent mean  $\pm$  SD. **(c)** Fluorescent images of A549 and HUVEC cells incubated with ZIF-8/Dil for 2 h



**Fig. S5** Comparison of hematology data of healthy Balb/c mice at two months after intravenous injection of ZIF-8/M&G nanoparticles at a dosage of 16 mg/kg. An equal volume of PBS was used as a control. WBCs: white blood cells; RBCs: red blood cells; HGB: hemoglobin; HCT: hematocrit; MCV: mean corpuscular volume; MCH: mean corpuscular hemoglobin; MCHC: mean corpuscular hemoglobin concentration; RDW: red blood cell distribution width coefficient of variation; PLT: platelet; MPV: mean platelet volume; PDW: platelet distribution width; and PCT: procalcitonin.  $N = 5$ , \* $P < 0.05$ , \*\* $P < 0.01$ , \*\*\*\* $P < 0.0001$  and ns: not significant ( $P > 0.05$ ). Data represent mean  $\pm$  SD