SUPPLEMENTARY INFORMATION

Gold-Platinum Nanoparticles with Core-Shell Configuration as Efficient Oxidase-like Nanosensors for Glutathione Detection

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SUPPLEMENTARY FIGURES

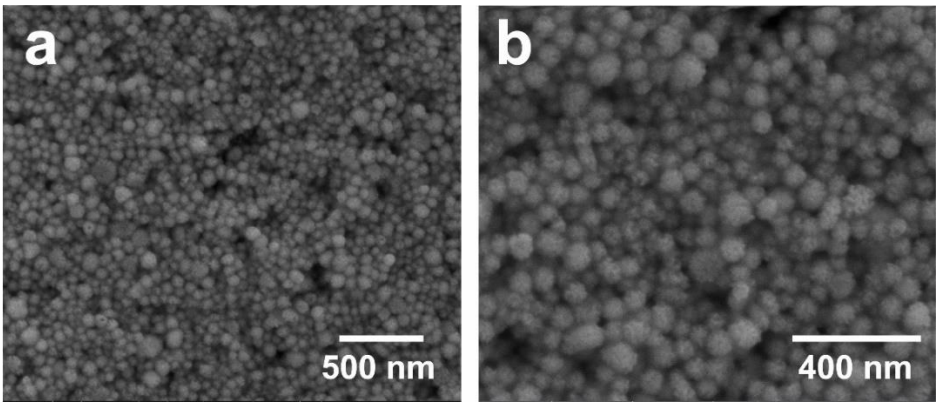

Figure S1. Scanning Electron Microscopy (SEM) images of the Au@Pt nanozyme at different magnifications.

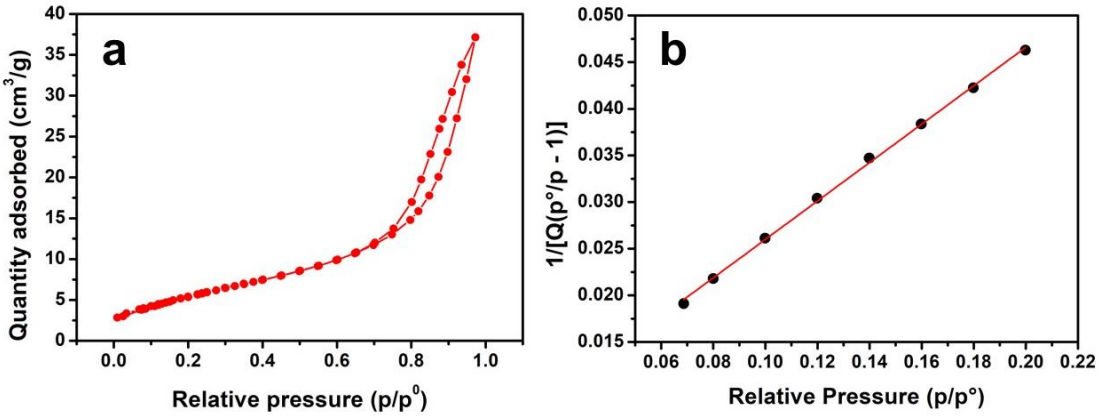

Figure S2. (**a**) N_2 adsorption isotherm at 77 K and (**b**) Brunauer–Emmett-Teller (BET) analysis of the Au@Pt nanozyme.

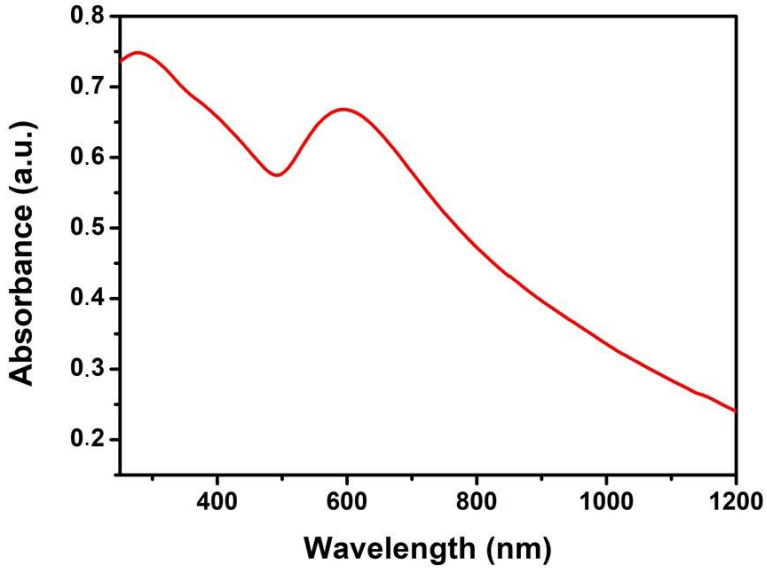

Figure S3. UV-vis spectrum of the Au@Pt nanozyme.

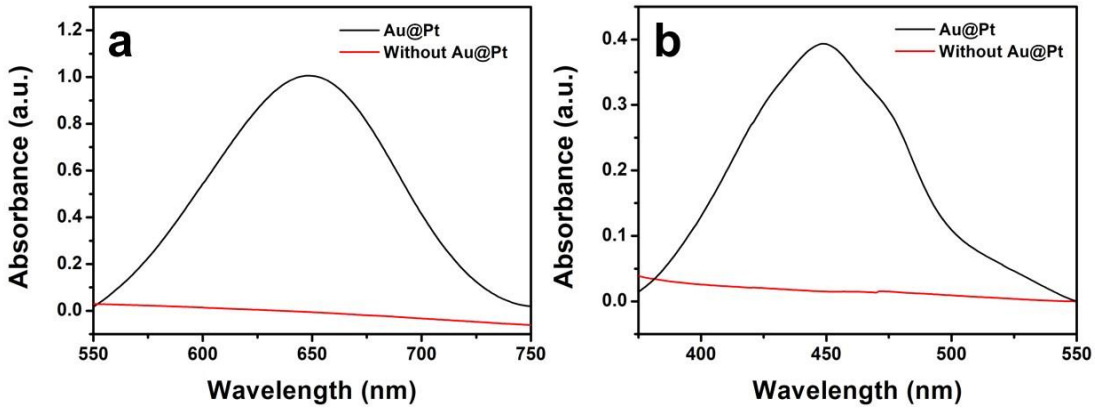

Figure S4. UV-vis spectra to evaluate the oxidation of (**a**) TMB and (**b**) OPD substrates in the absence (control experiment) and in the presence of the Au@Pt nanozymes; Reaction time in the control experiment was fixed at 1 hour.

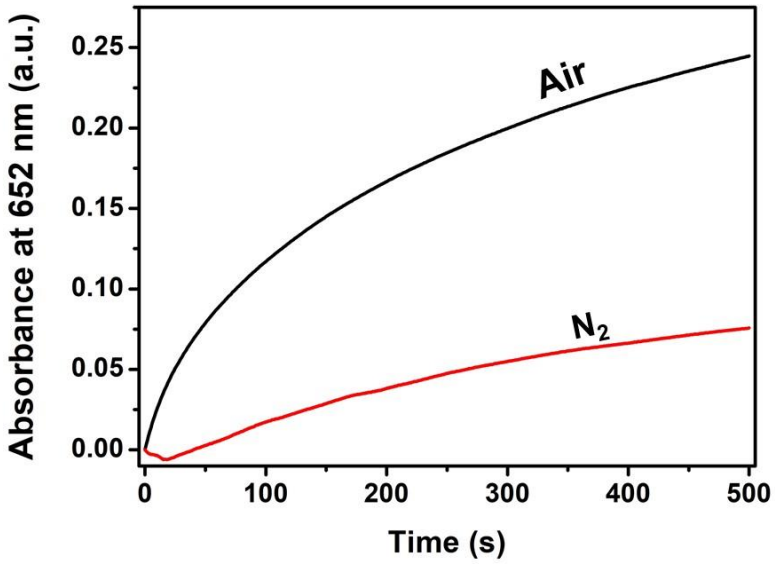

Figure S5. Influence of O_2 on the oxidase-like response of the Au@Pt nanozyme versus TMB: Evolution of the maximum absorbance peak at 652 nm at different reaction times in the presence (black line) or absence (red line) of O_2.

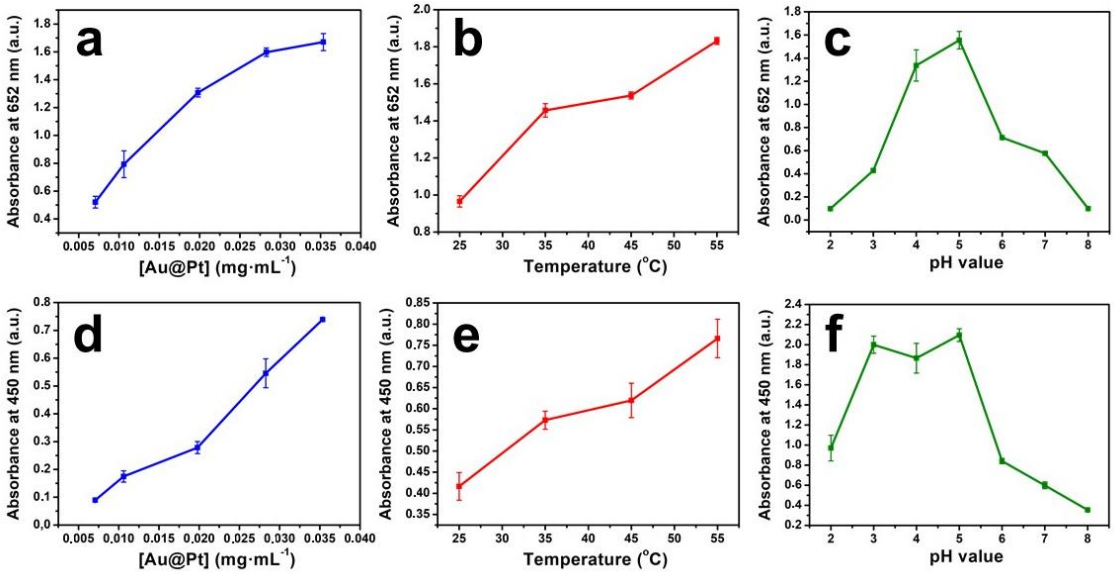

Figure S6. Influence of different parameters in the oxidase-like response of the Au@Pt nanozyme: (**a**,**d**) Nanozyme concentration; (**b**,**e**) temperature; (**c**,**f**) and pH for TMB (row from a to c) and OPD (row from d to f); Experimental conditions: Reaction time = 10 minutes. Temperature value for Figure $S6_{a,c,d,f}$ = 25 °C; pH for Figure $S6_{a,b,d,e}$ = 4.0 (adjusted with CH_3COOH/CH_3COONa buffer) and Au@Pt concentration for Figure $S6_{b,c,e,f}$ = 0.02 mg×mL^{-1}.

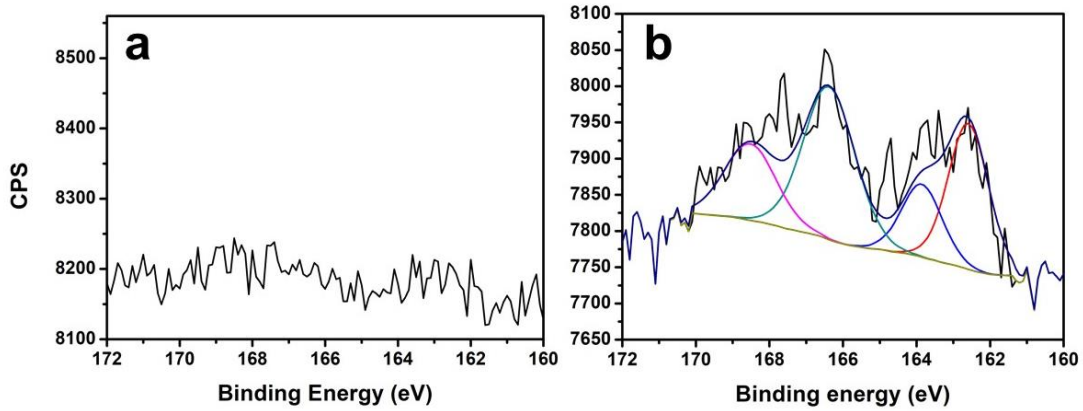

Figure S7. X-ray photoemission spectra of the S2p region (**a**) before and (**b**) after incubation of Au@Pt with GSH. The atomic percentage of S on the surface increased up to 2.5%.

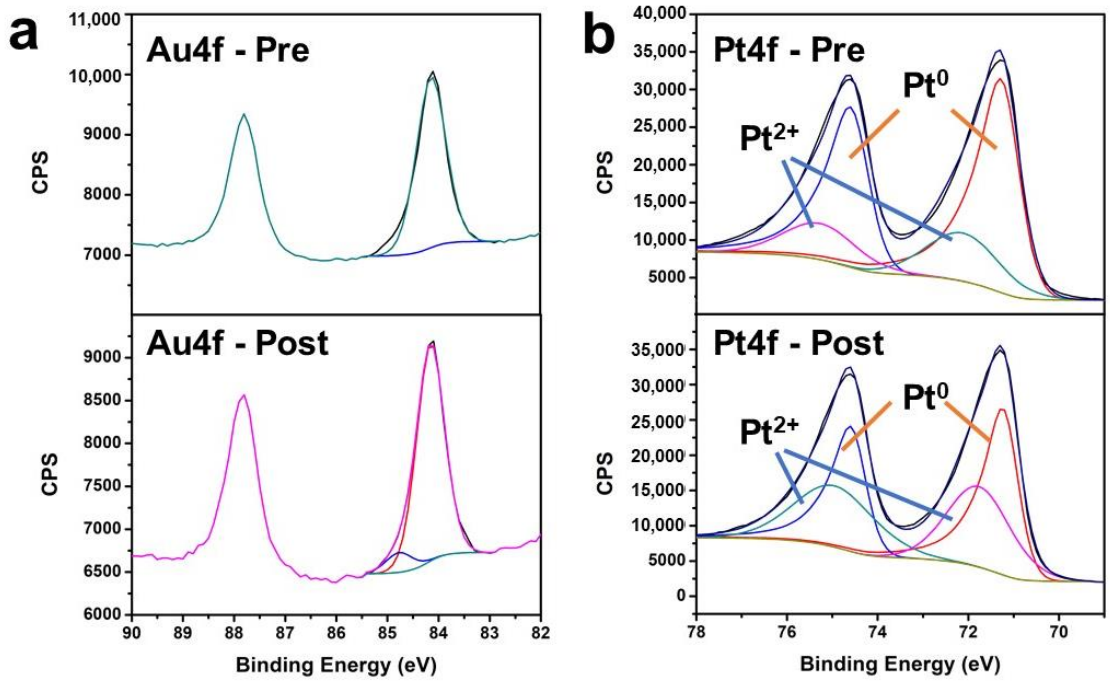

Figure S8. X-ray photoemission spectra of the (**a**) Au4f and (**b**) Pt4f regions before and after the incubation of Au@Pt nanozyme with GSH.