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Supporting information

PB@Co_3O_4 nanoparticles as both oxidase and peroxidase mimics and their application for colorimetric detection of glutathione

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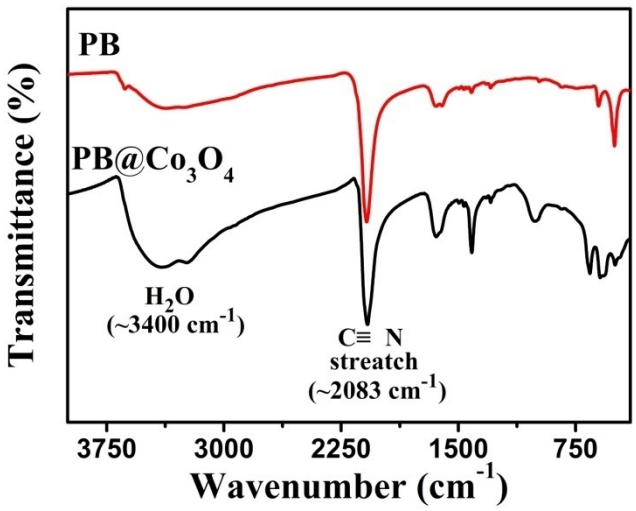

Fig. S1 The FTIR spectra of PB and PB@Co_3O_4 NPs.

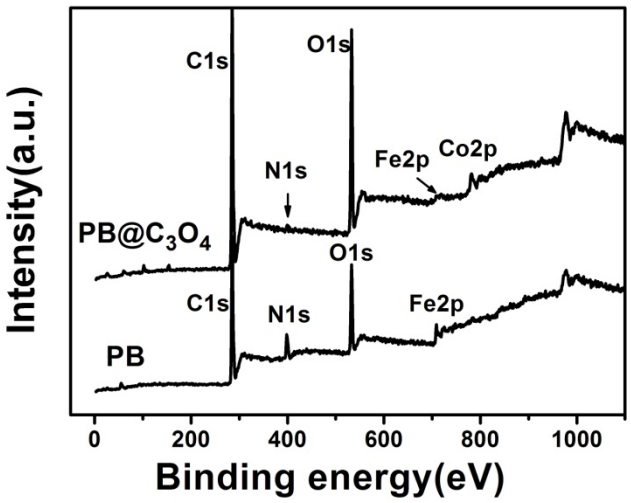

Fig. S2 XPS spectra of PB nanocubes and PB@Co_3O_4 NPs.

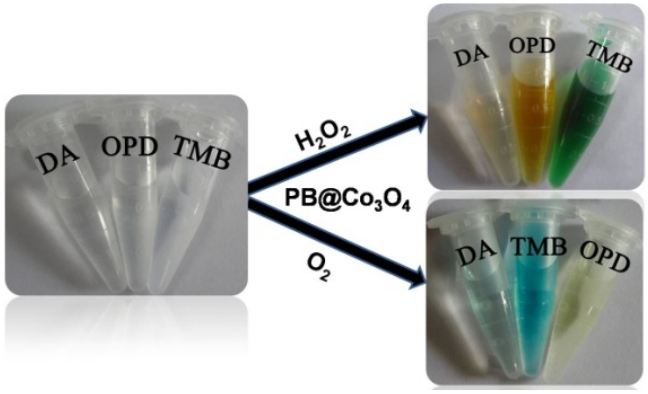

Fig. S3 Optical photographs of the oxidation reaction of TMB, DA (dopamine) and OPD (O-phenylenediamine) by PB@Co_3O_4 NPs with/without H_2O_2.

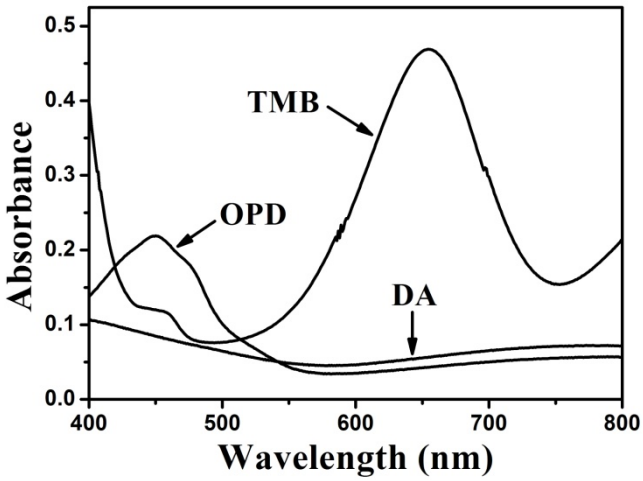

Fig. S4 UV/Vis spectra of TMB, DA and OPD solutions in 0.1 M NaAc-HAc buffer (pH 3.0) at 60 °C for 10 min.

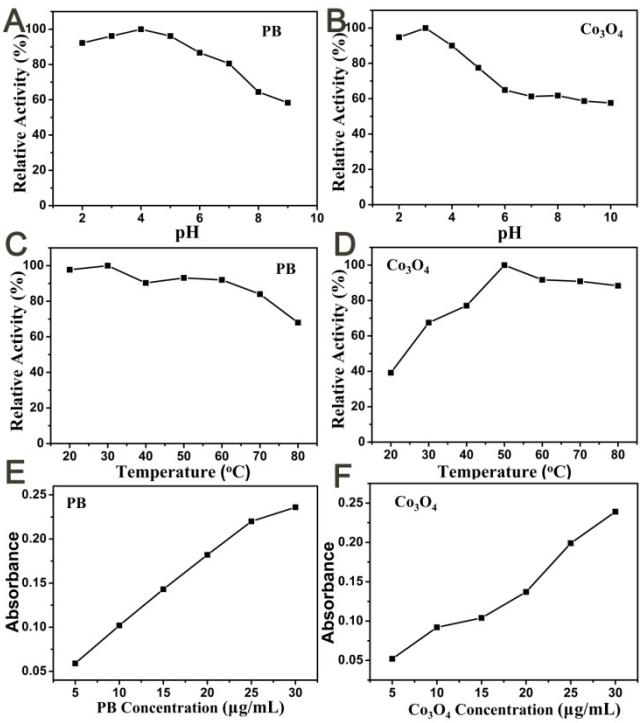

Fig. S5 Dependence of the catalytic activity toward TMB of PB (A, C, E) and Co_3O_4 NPS (B, D, F) on pH, temperature and catalyst concentration in the absence of H_2O_2.

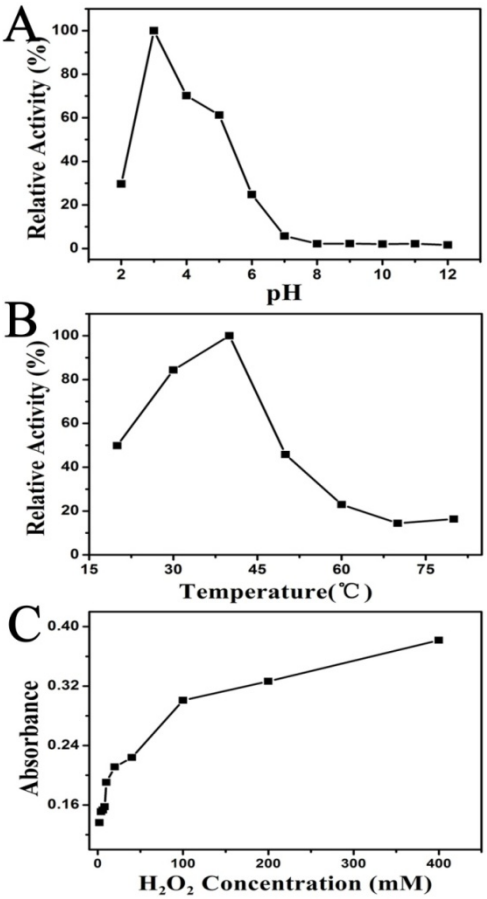

Fig. S6 Dependence of the peroxidase-like activity of PB@Co_3O_4 NPs on pH (A), temperature (B) and H_2O_2 concentration (C).

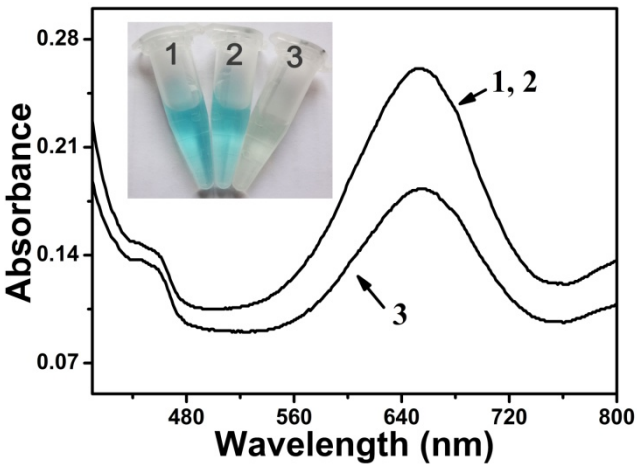

Fig. S7 Effect of radical inhibitors on the absorbance PB@Co_3O_4 NPs-TMB system in the absence (**1**) and presence of isopropyl alcohol (**2**) and benzoquinone (**3**). Experiment condition: 20 μg/mL of PB@Co_3O_4 NPs, 0.5 mM of TMB, 0.5 mM of isopropyl alcohol and benzoquinone, in buffer solution (pH 3.0) incubating 10 minutes at 60 ^oC.

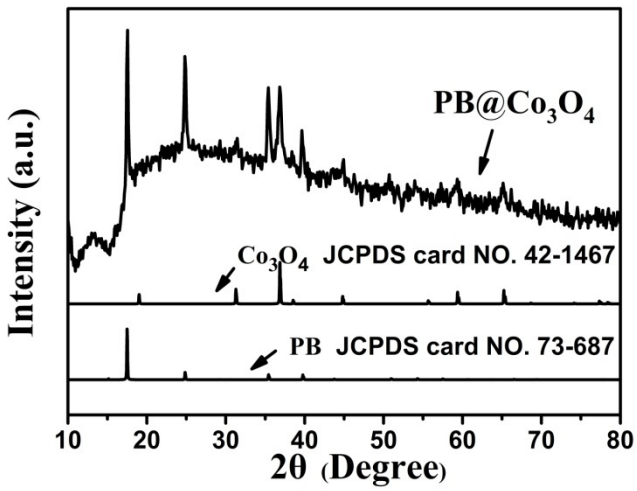

Fig. S8 XRD pattern of PB@Co_3O_4 NPs after the catalytic reaction toward TMB without H_2O_2.

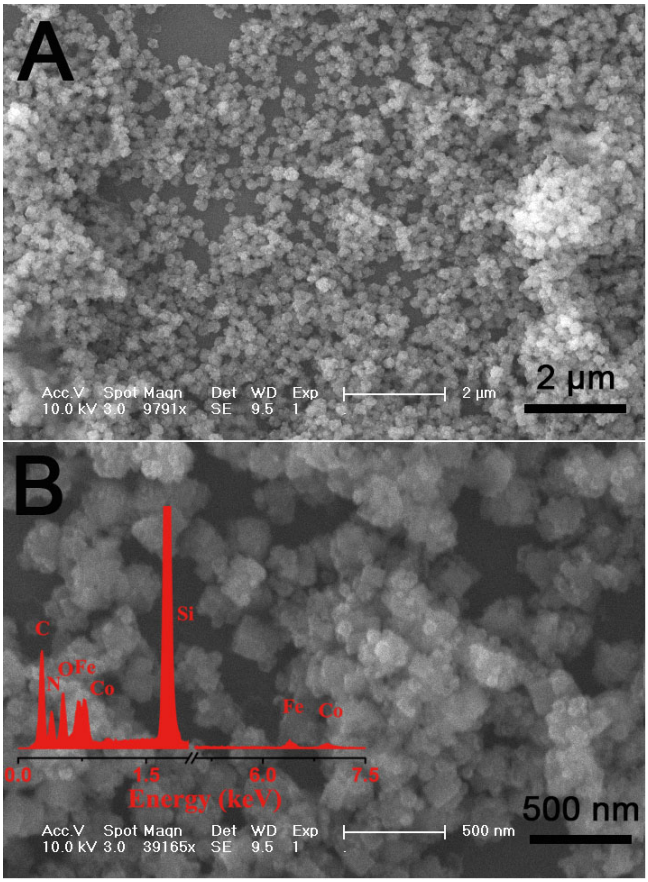

Fig. S9 SEM images and EDX spectrum of PB@Co_3O_4 NPs after the catalytic reaction toward TMB without H_2O_2.