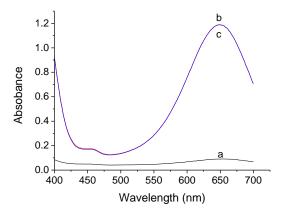
$$H_2N$$
  $NH_3 + H_2O_2 + 2H^+$   $AuNPs-Hg$   $H_2N^{\dagger}$   $H_2N^{\dagger}$   $NH_2 + 2H_2O_3$ 

Figure S1. Chromogenic reaction of TMB



**Figure S2.** UV-vis spectra of citrate-stabilized AuNPs + TMB- $H_2O_2$  reaction solution (a) before and after incubated with (b)  $CH_3Hg^+$  or (c)  $Hg^{2+}$  deposition.