



Figure S1 Visual images and absorption spectra of solutions including different compounds. Sample 1: Octahedral Ag₂O NPs + *E. coli* + TMB; Sample 2: Octahedral Ag₂O NPs + P12-55 aptamer; Sample 3: Octahedral Ag₂O NPs + *E. coli*; Sample 4: P12-55 aptamer + *E. coli*; Sample 5: P12-55 aptamer + TMB; Sample 6: *E. coli* + TMB; Sample 7: P12-55 aptamer + TMB. (The constant concentrations of octahedral Ag₂O NPs, P12-55 aptamer, TMB and *E. coli* were 20 $\mu\text{g}\cdot\text{mL}^{-1}$, 10 nM, 0.4 $\text{mg}\cdot\text{mL}^{-1}$ and 3×10^8 CFU $\cdot\text{mL}^{-1}$, respectively.)