

Supporting Information

Colorimetric detection of L-Dopa via anti-etching of Aunanorods catalyzed by MIL-88A(Fe)- TMB system

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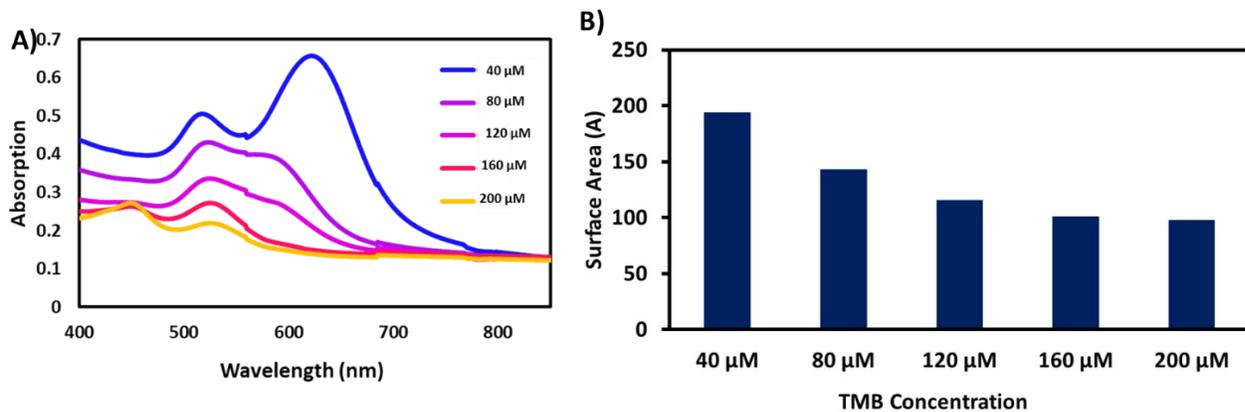


Figure S1. UV-Vis absorption spectra (A) and corresponding bar plot responses (B) of etched-AuNRs in the presence of varying concentrations of TMB (40-200 μM). Experimental conditions: H_2O_2 6.0 mM, MIL88A (Fe) MOF 8.0 mg/L, HCl 120 mM, CTAB 150 mM.

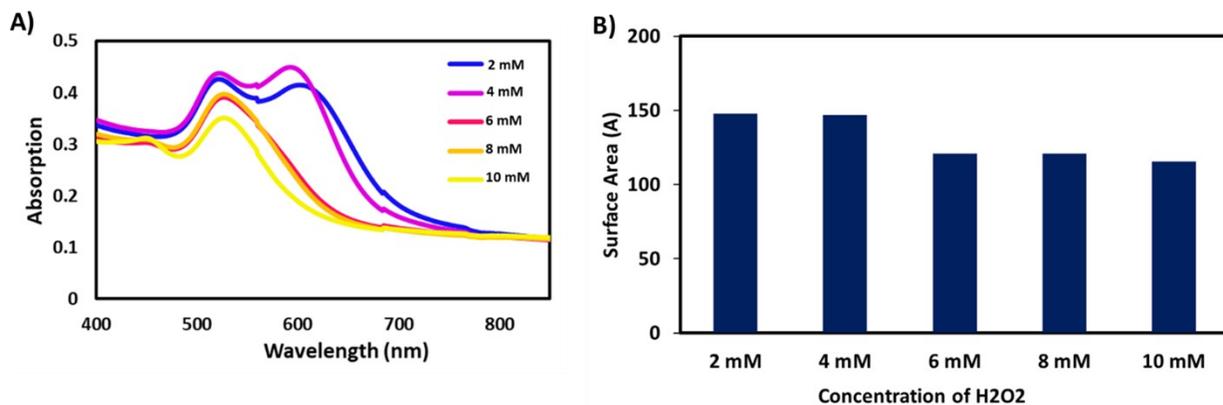


Figure S2. UV-Vis absorption spectra (A) and corresponding bar plot responses (B) of etched-AuNRs in the presence of varying concentrations of H₂O₂ (2-10 mM). Experimental conditions: TMB: 160 μ M, MIL88A (Fe) MOF 8.0 mg/L, HCl 120 mM, CTAB 150 mM.

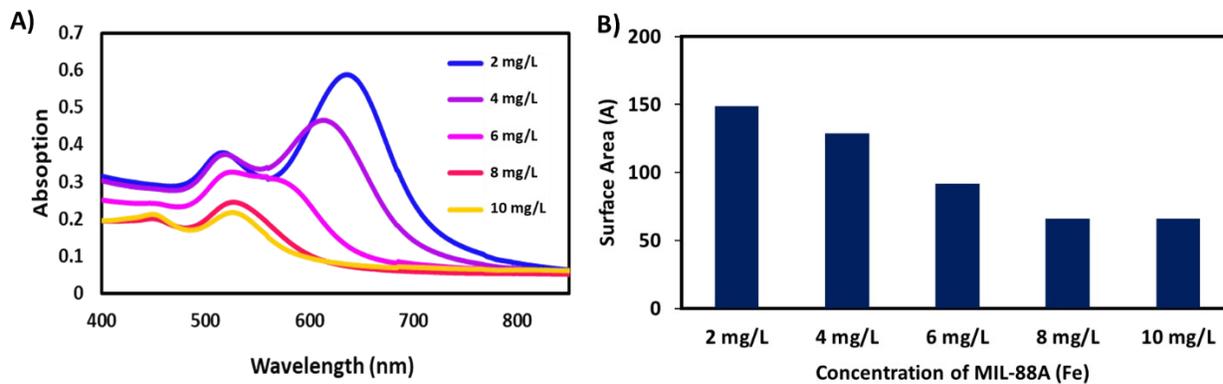


Figure S3. UV-Vis absorption spectra (A) and corresponding bar plot responses (B) of etched-AuNRs in the presence of varying concentrations of MIL88A (Fe) MOF (2-10 mg/L). Experimental conditions: TMB: 160 μ M, H₂O₂: 6.0 mM, HCl 120 mM, CTAB 150 mM.

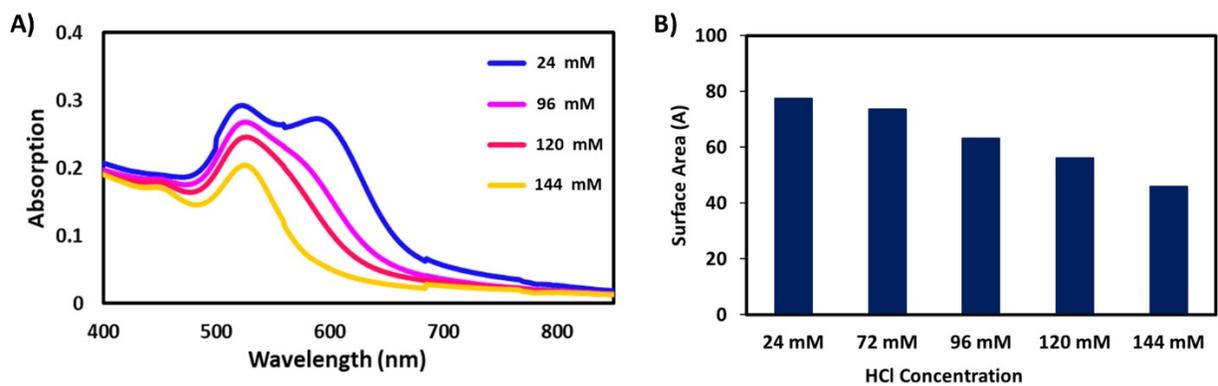


Figure S4: UV-Vis absorption spectra (A) and corresponding bar plot responses (B) of etched-AuNRs in the presence of varying concentrations of HCl (24-144 mM). Experimental conditions: TMB: 160 μ M, H₂O₂: 6.0 mM, MIL88A (Fe) MOF 8.0 mg/L, CTAB 150 mM.

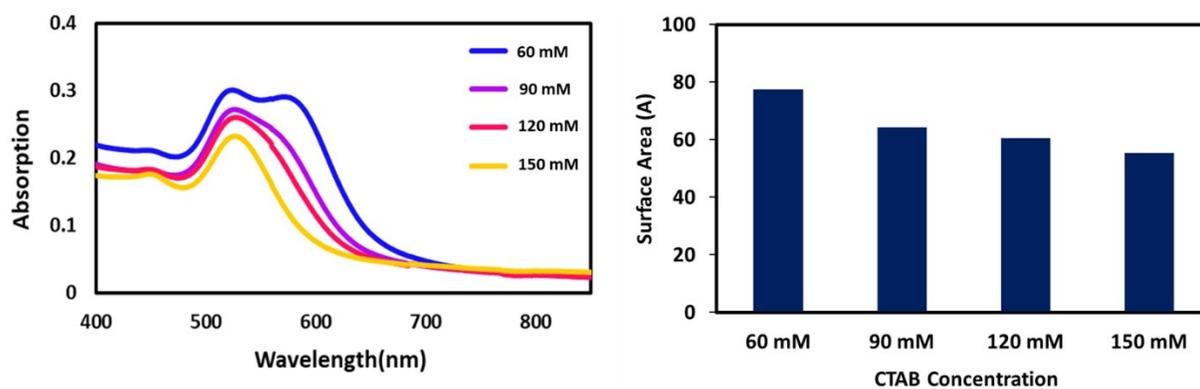


Figure S5. UV–Vis absorption spectra (A) and corresponding bar plot responses (B) of etched-AuNRs in the presence of varying concentrations of CTAB (60-150 mM). Experimental conditions: TMB: 160 μ M, H₂O₂: 6.0 mM, MIL88A (Fe) MOF 8.0 mg/L, HCL 120 mM, CTAB 150 mM.

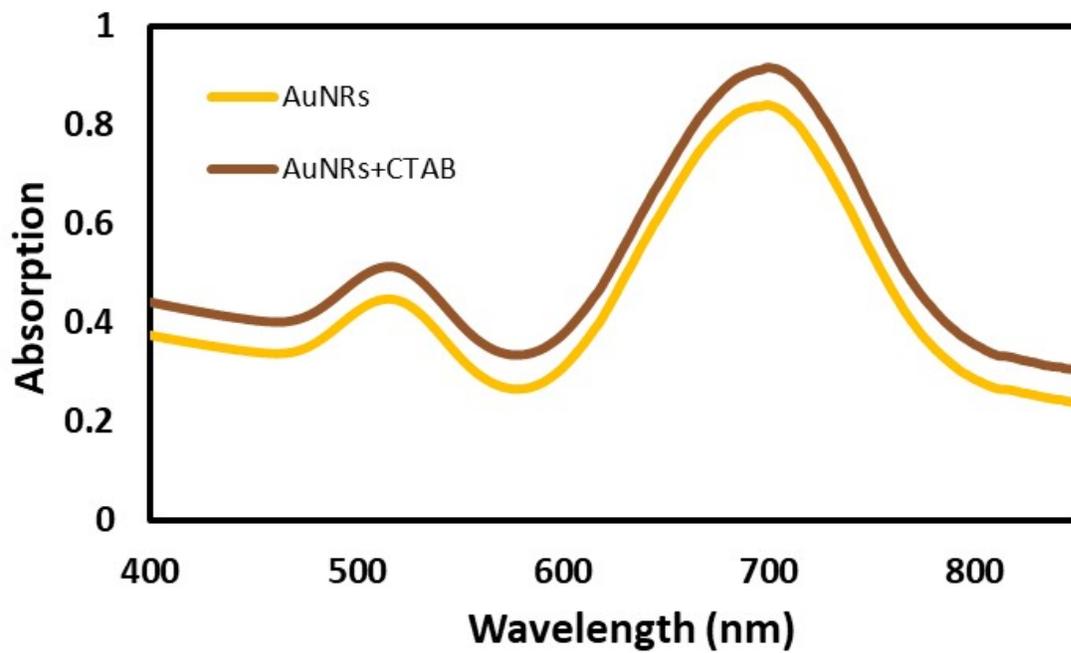


Figure S6. V-Vis absorption spectra of the synthesized Au nanorods (AuNRs) before and 30 minutes after the addition of 150 mM CTAB.

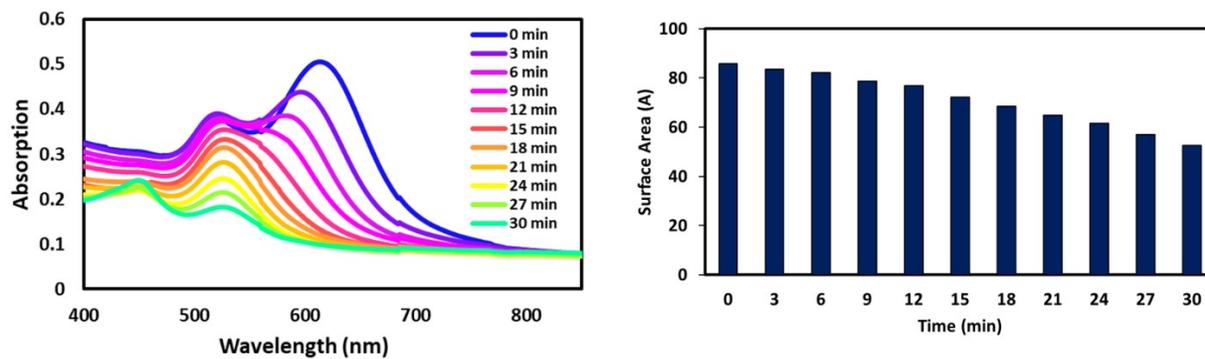


Figure S7. UV-Vis absorption spectra (A) and corresponding bar plot responses (B) of etched-AuNRs recorded at 3-minute intervals over a total period of 30 minutes. Experimental conditions: TMB: 160 μ M, H_2O_2 : 6.0 mM, MIL88A (Fe) MOF 8.HCl 120 mM, CTAB 150 mM.

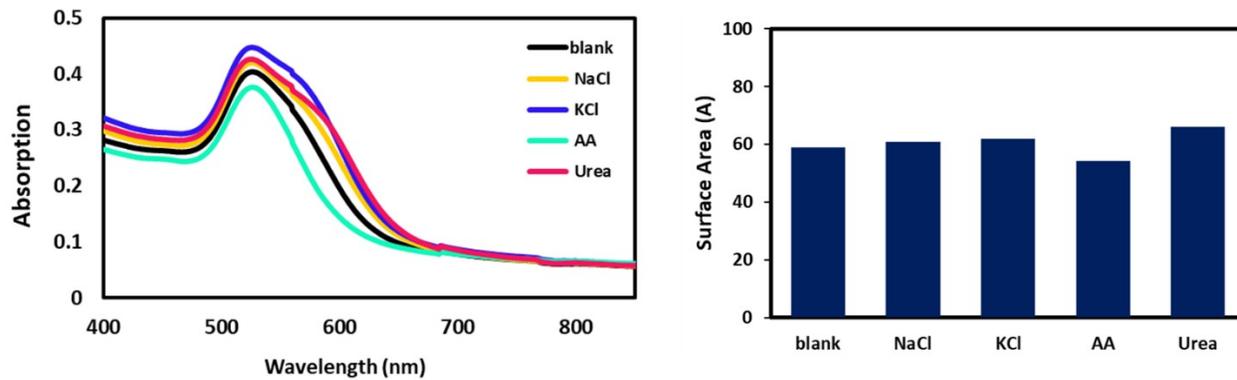


Figure S8. UV-Vis absorption spectra (A) and corresponding bar plot responses (B) of etched-AuNRs in the presence of potential interfering substances, including NaCl (0.2 mM), KCl (0.2 mM), AA (0.05 mM) and Urea (0.2 mM). Experimental conditions: TMB: 160 μ M, H₂O₂: 6.0 mM, MIL88A (Fe) MOF 8.HCl 120 mM, CTAB 150 mM.