Supporting Information

Controlled Stepwise-Synthesis of Core-Shell Au@MIL-100 (Fe) Nanoparticles for Sensitive Surface-Enhanced Raman Scattering Detection

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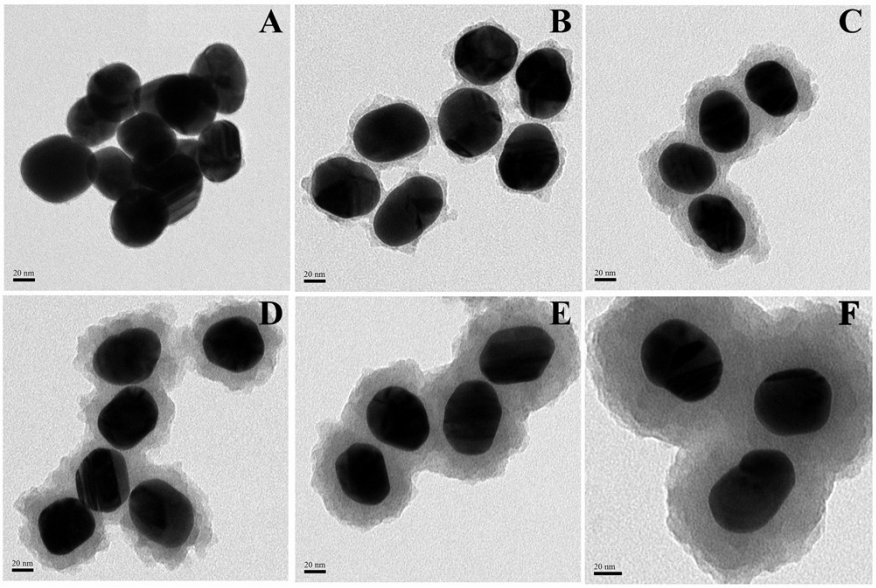

Figure S1 TEM images of Au@MIL-100 (Fe) core-shell nanoparticles (recycle number (A)-(F): 1, 2, 3, 4, 5, 7)

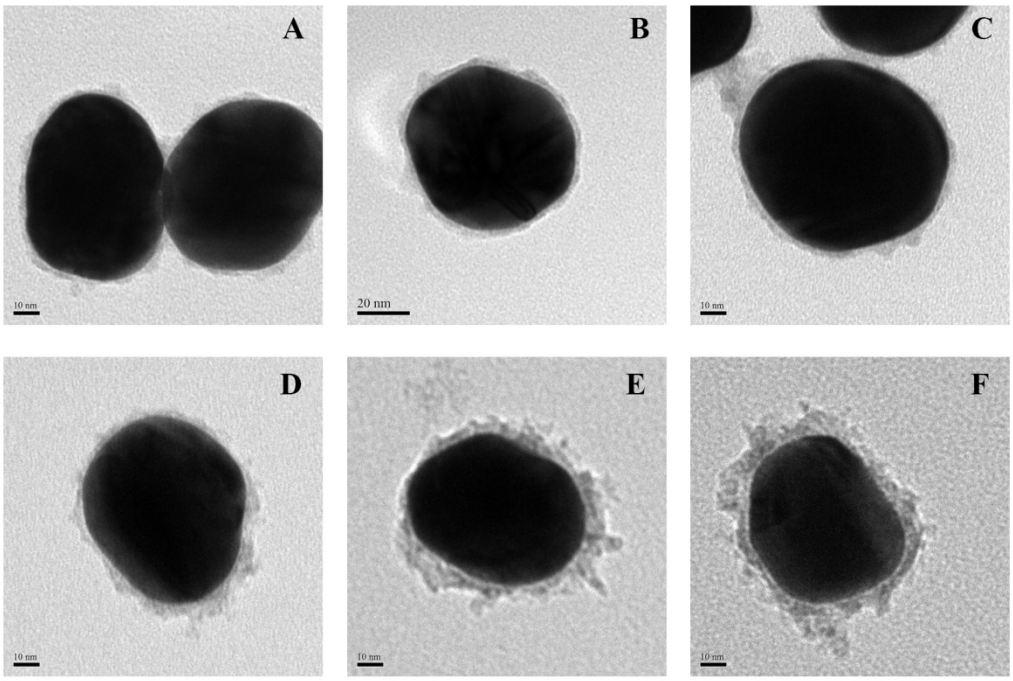

Figure S2 TEM images of Au@MIL-100 (Fe) synthesized at room temperature with the precusor concentration of 0.1 mmol/L (A), 1.0 mmol/L (B), 5.0 mmol/L (C) and at 75 ^{o}C with the concentration of 0.1 mmol/L (D), 1.0 mmol/L (E), 5.0 mmol/L (F).

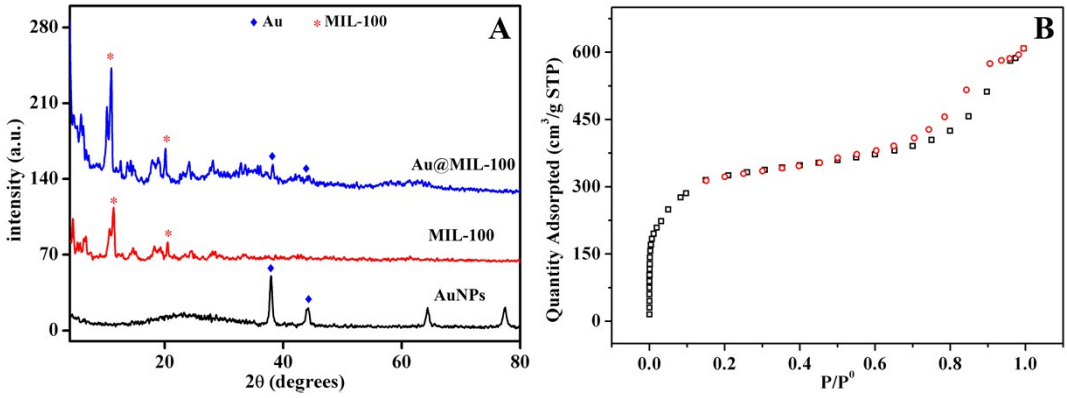

Figure S3 XRD pattern of the pure AuNPs, pure MIL-100 (Fe) and Au@MIL-100 (Fe) (A), and nitrogen sorption isotherm at 77 K for Au@MIL-100 (Fe) with 40 cycles growth (B)

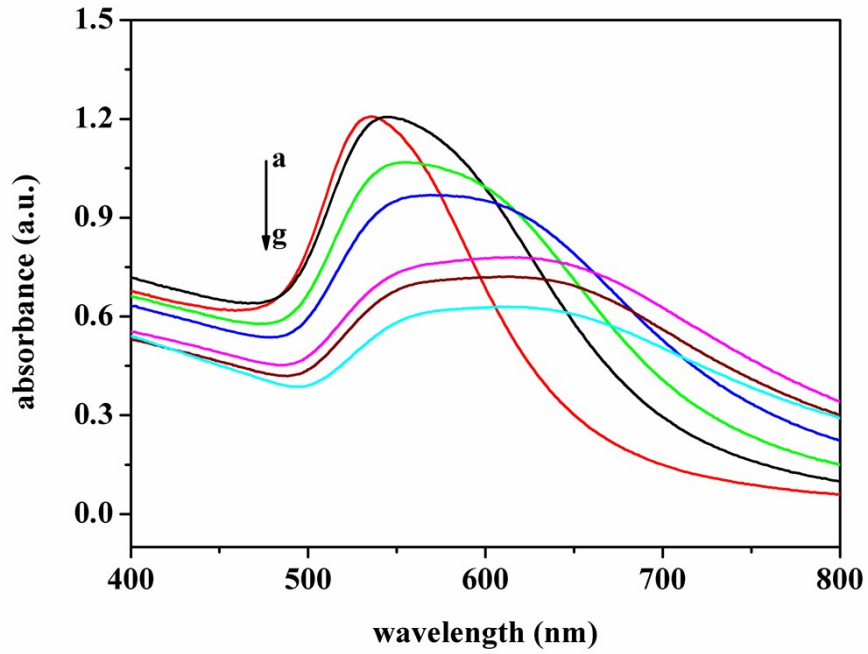

Figure S4 The UV-Vis spectra of Au@MIL-100 (Fe) (from a-g, recycle number is 0, 1, 2, 3, 4, 5, 7)

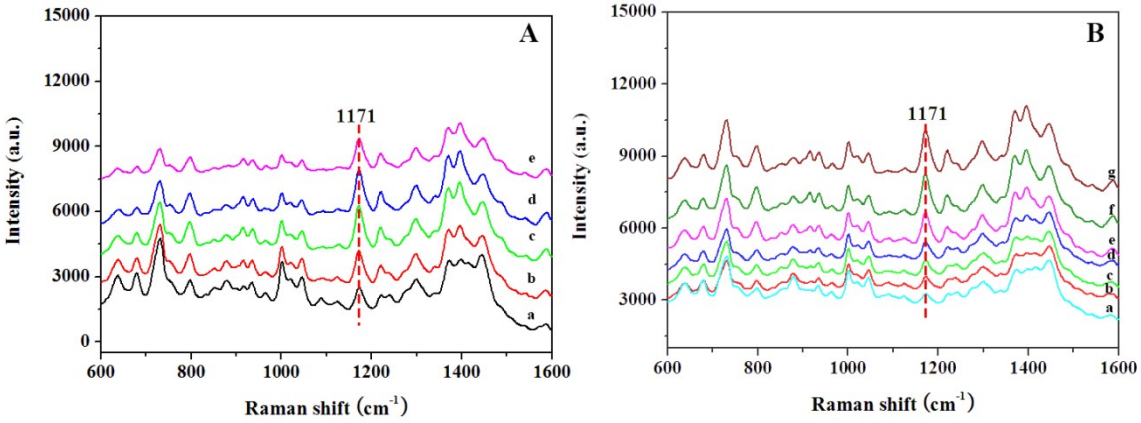

Figure S5 The investigate of the volume ratio (A) (from a to e, 1:1, 1:2, 1:3, 1:4, 1:5) and the mixing time (B) (from a to g, 0.25 min, 0.5 min, 1 min, 2 min, 3 min, 4 min, 5 min) of Au@MIL-100 (Fe) and MG solution.

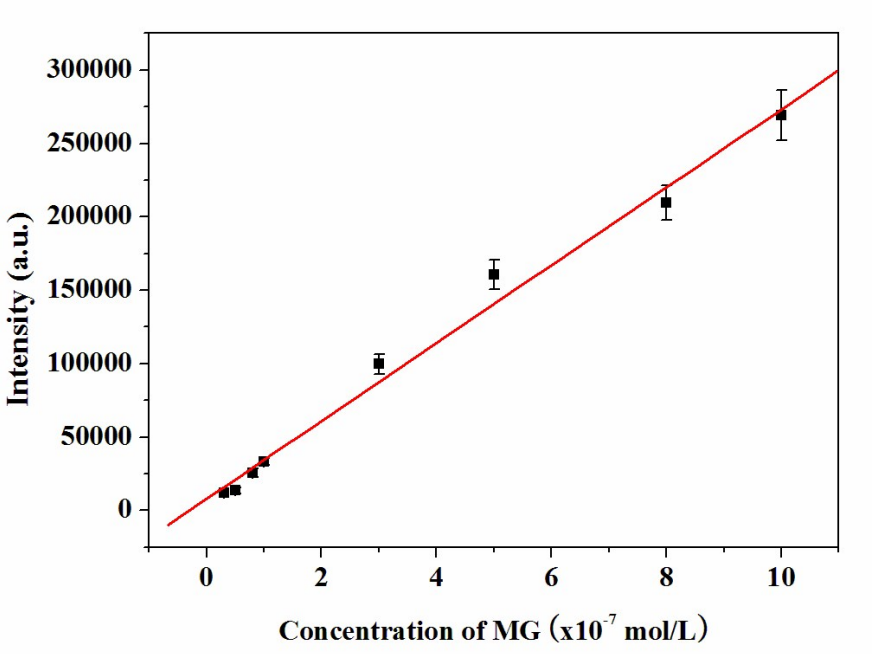

Figure S6 The Linear curve fitting of the SERS detection of MG