

Supplementary Information

for

Metal-organic framework MIL-101 as a low background signal
platform for label-free DNA detection

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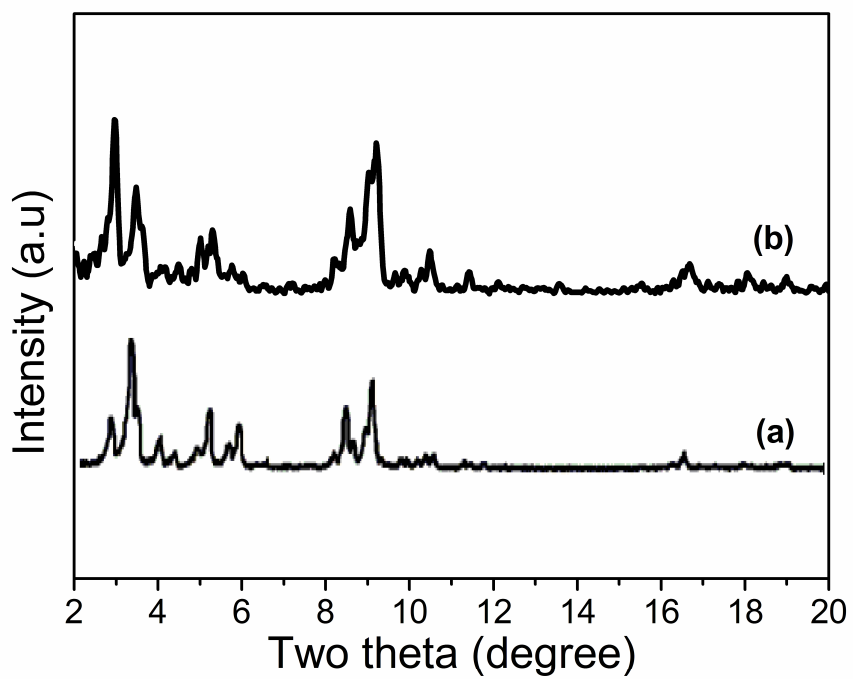


Fig. S1 The powder XRD spectra of MIL-101: (a) simulated; (b) the as-synthesized.

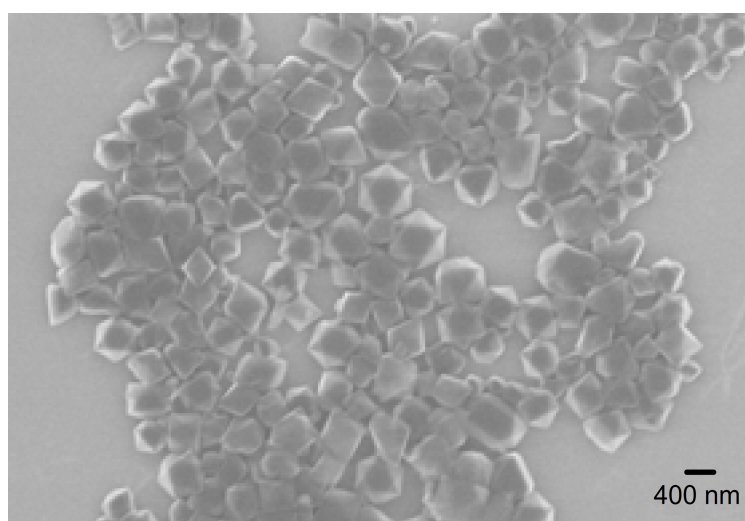


Fig. S2 The SEM image of as-synthesized MIL-101.

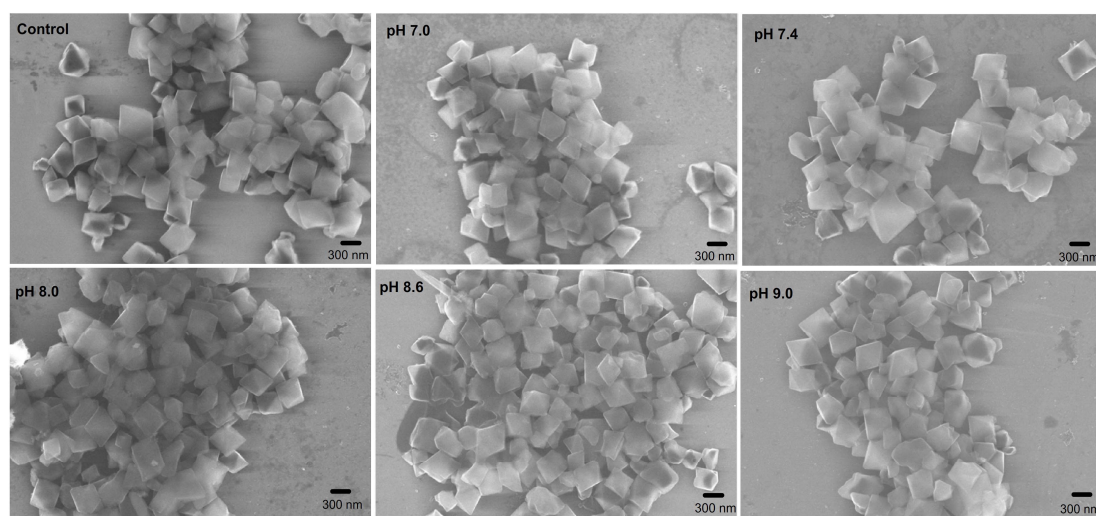


Fig. S3 The SEM images of MIL-101 after being soaked in different pH values of Tris-HCl buffer solution over 1 h.

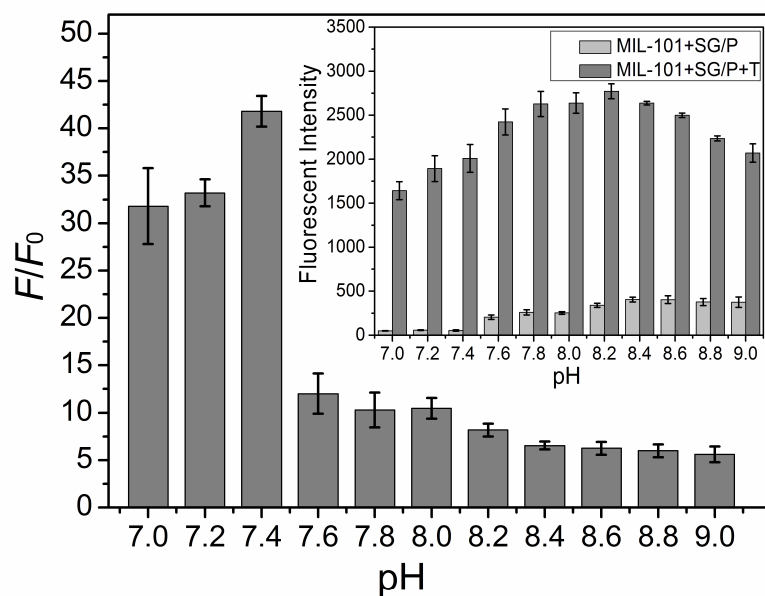


Fig. S4 The signal-to-background ratio (F/F_0) at different pH values of Tris-HCl buffer. Inset: Fluorescence intensity of SG at different pH values of Tris-HCl buffer. Key: light gray columns, without T; dark gray columns, 10 nM T. Concentrations: P, 20 nM; SG, 0.245 μM ; MIL-101, 48 $\mu\text{g mL}^{-1}$.

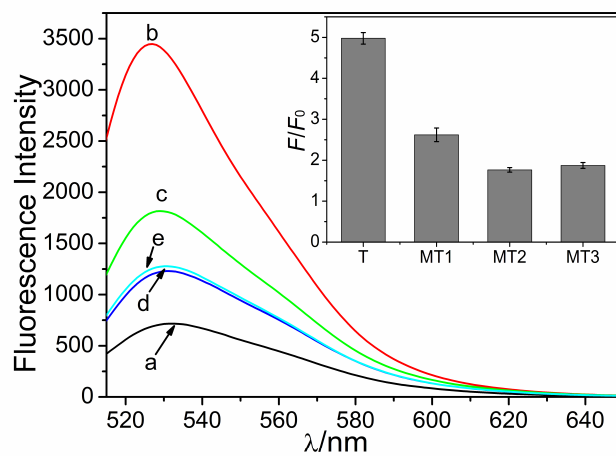


Fig. S5 Fluorescence emission spectra of SG/P under different conditions: (a) SG/P; (b) SG/P + 10 nM T; (c) SG/P + 10 nM MT1; (d) SG/P + 10 nM MT2; (e) SG/P + 10 nM MT3. Inset: the signal-to-background ratio (F/F_0) histogram. Concentrations: SG, 0.245 μ M; P, 20 nM. Tris-HCl buffer, pH 7.4.

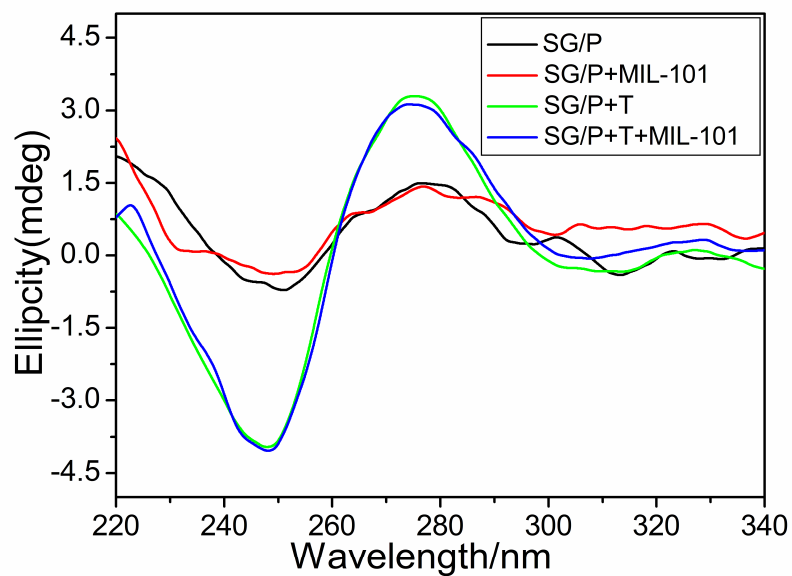


Fig. S6 Circular dichroism of P in the absence and presence of T, MIL-101, respectively.

Concentrations: P, 1.2 μM ; T, 1.2 μM ; SG, 0.245 μM ; MIL-101, 48 $\mu\text{g mL}^{-1}$. Tris-HCl, pH 7.4.