

## Supporting Information

### A novel hybrid fluorescence probe sensor based on metal-organic frameworks@carbon quantum dots for highly selective detection of 6-mercaptopurine

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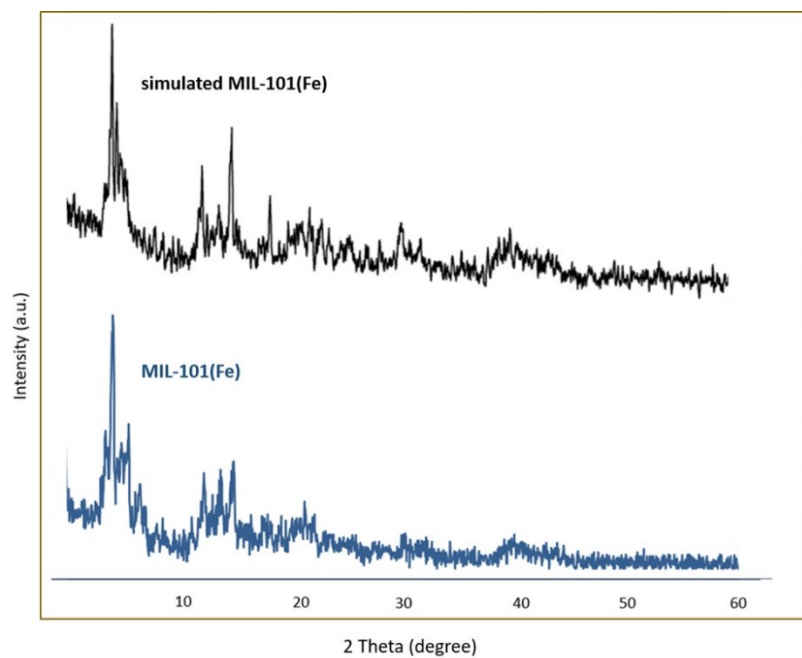
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#### Supplementary Tables

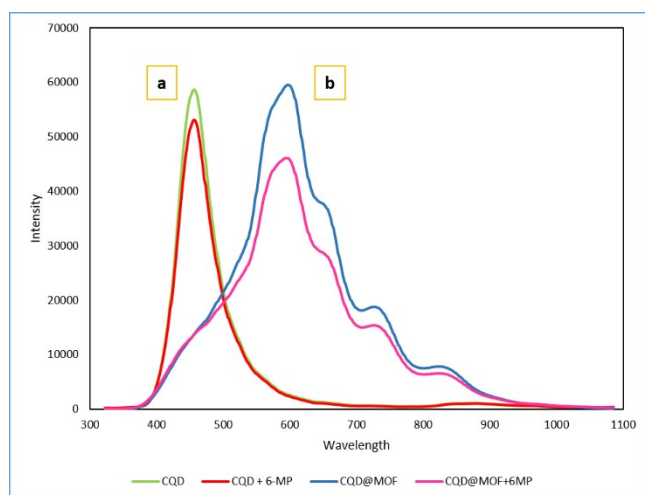
**Table S1.** BET analysis results of MIL-101(Fe) and MIL-101(Fe)@amine-CQDs

BET Analysis		MIL-101(Fe)	MIL-101(Fe)@amine-CQDs
Surface Area	BET Surface Area	267.4430 m <sup>2</sup> g <sup>-1</sup>	41.6725 m <sup>2</sup> g <sup>-1</sup>
	Langmuir Surface Area	356.9236 m <sup>2</sup> g <sup>-1</sup>	58.1147 m <sup>2</sup> g <sup>-1</sup>
	BJH Adsorption Cumulative surface area of pores	59.257 m <sup>2</sup> g <sup>-1</sup>	31.183 m <sup>2</sup> g <sup>-1</sup>
	BJH Desorption Cumulative surface area of pores	33.0478 m <sup>2</sup> g <sup>-1</sup>	29.1934 m <sup>2</sup> g <sup>-1</sup>
Pore Volume	BJH Adsorption Cumulative volume of pore	0.176010 cm <sup>3</sup> g <sup>-1</sup>	0.119917 cm <sup>3</sup> g <sup>-1</sup>
	BJH Desorption Cumulative volume of pore	0.146439 cm <sup>3</sup> g <sup>-1</sup>	0.117461 cm <sup>3</sup> g <sup>-1</sup>
Pore Size	BJH Adsorption average pore width	118.812 Å	153.825 Å
	BJH Desorption average pore width	177.245 Å	160.942 Å

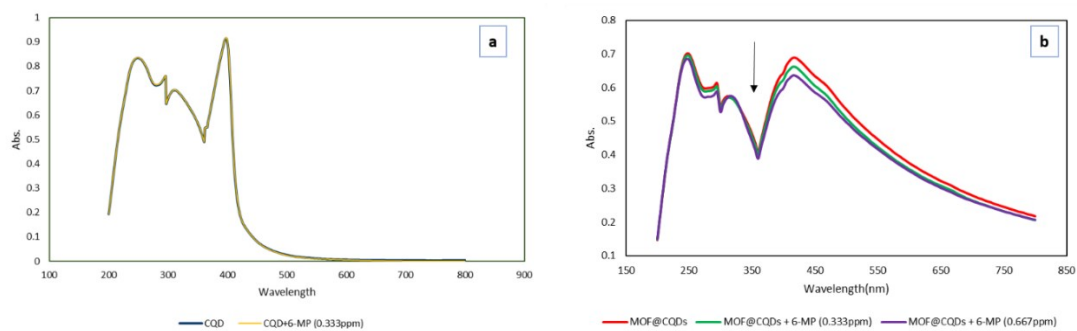
## Supplementary Figures



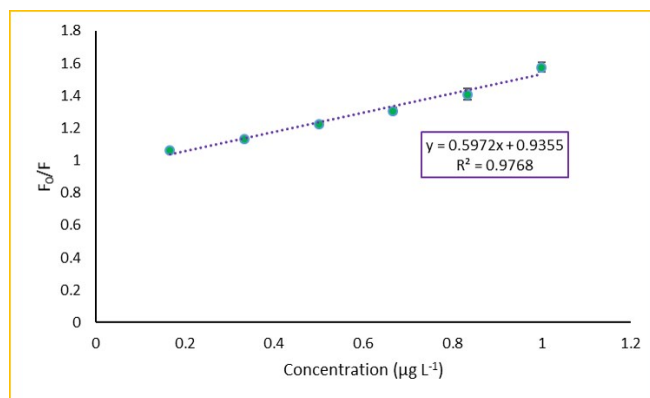
**Figure S1.** XRD patterns of as-synthesized MIL-101(Fe) and simulated MIL-101(Fe)



**Figure S2.** the fluorescence spectrum of (a) amine-CQDs (green line) and amine-CQDs with 6-MP (red line) (6-MP=0.167ppm), (b) MIL-101(Fe)@amine-CQDs (blue line) and MIL-101(Fe)@amine-CQDs with 6-MP (pink line) (6-MP=0.333ppb,  $C_{\text{MIL-101(Fe)@amine-CQDs}}=200\text{ppm}$ )



**Figure S3.** UV-vis absorption spectrum of (a) amine-CQDs and amine-CQDs with 6-MP, (b) MIL-101(Fe)@amine-CQDs and MIL-101(Fe)@amine-CQDs with 6-MP ( $C_{\text{MIL-101(Fe)@amine-CQDs}}=200\text{mg L}^{-1}$ ,  $C_{6\text{-MP}}=333\text{mg L}^{-1}$  and  $667\text{mg L}^{-1}$ )



**Figure S4.** Stern–Volmer plot in different concentrations of 6-MP (pH=4.6 and  $C_{\text{MIL-101(Fe)@amine-CQDs}}=200\text{mg L}^{-1}$ ).