

Supplementary Material for:

Red Emissive Carbon Nanostructure-Anchored Molecularly Imprinted Er-BTC MOF: A Biosensor for Visual Anthrax Monitoring

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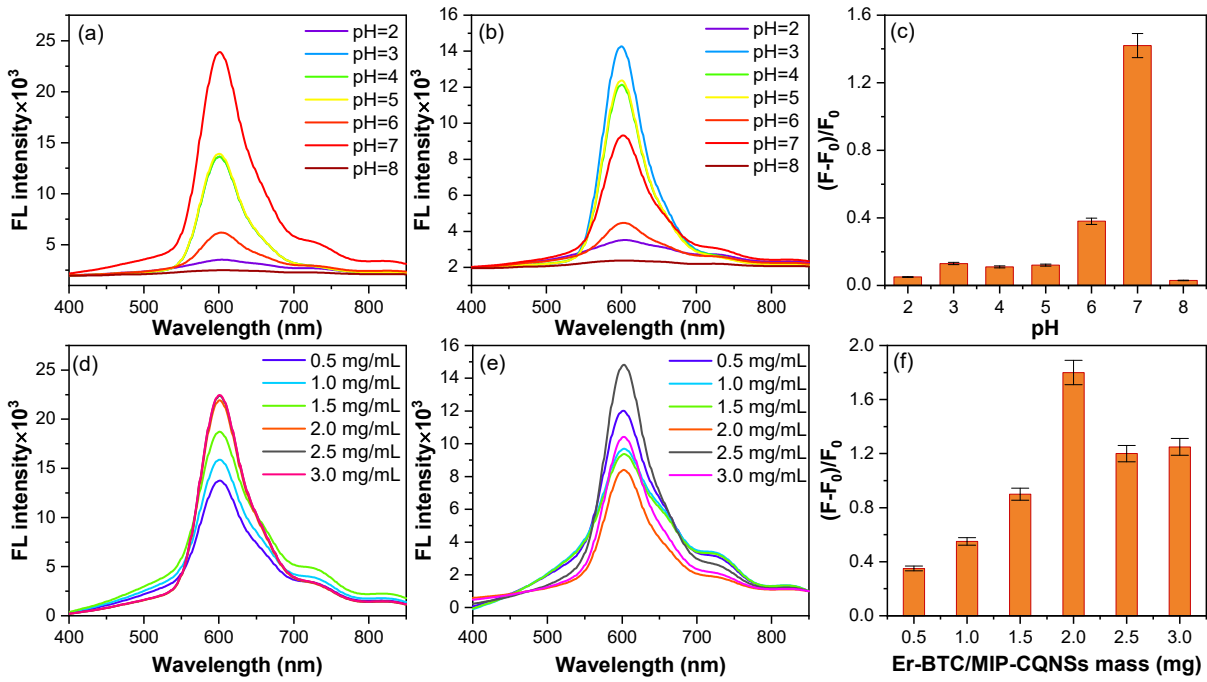


Fig. S1. Fluorescence spectra of the probe in the absence and presence of DPA (80 μ M) at different pH values (a and b), and fluorescence spectra of the probe at different dosages of Er-BTC-MOF/MIP-r-QCNSs in the absence and presence of DPA (d and e) and the corresponding fluorescence ratios to the blank signal (c and f).

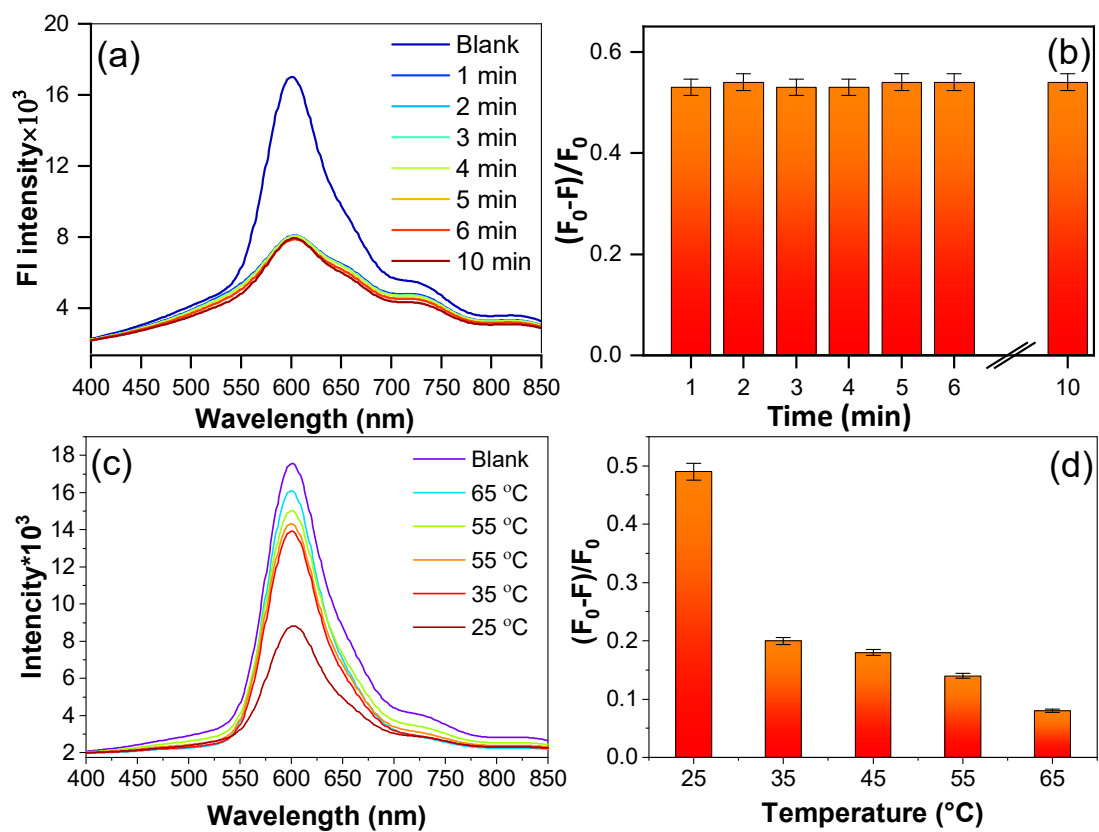


Fig. S2. Fluorescence spectra of Er-BTC-MOF/MIP-r-QCNSs in the presence of DPA (80 μ M) at different times (pH=7, PBS) (a) and temperatures (pH=7, PBS, assay time=1 min) (c), and the corresponding fluorescence ratios to the blank signal (b and d).

Table S1. The various concentration of dipicolinic acid in urine and well water samples and the calculated results

Real sample	Added Concentration (μM)	Detected Concentration (μM)	Recovery (%)	RSD (n=3)
Urine	0	2.45	-	3.49
	25	28.14	102.76	2.61
	60	62.62	101.16	2.64
	90	92.57	100.14	2.76
Well water	0	not found	-	3.29
	25	25.01	100.04	3.38
	60	59.65	99.41	2.94
	90	89.74	99.71	2.19

Table S2. Comparison of LOD and analytical methods for measuring dipicolinic acid

Active material	Method	Assay time	Linear range (μM)	Portability	LOD	Reference
RB-Eu-BTC	Fluorometric	16 s	0-120	No	3.20 μM	[1]
CDs-Eu	Colorimetric	15 s	0.5-5	Yes	0.8 nM	[2]
Eu-MOF	Ratiometric fluorescence	-	5-50	No	1.3 μM	[3]
CD-Cu(II)	Fluorescence	20 s	0.5-12.5	No	56 nM	[4]
Dpy-Bt-COF@Eu ³⁺	Fluorescence	10 s	0.1-10	No	125 nM	[5]
Eu ³⁺ /CDs	Ratiometric Fluorescent	10 min	0–20 μM	No	1.18 μM	[6]
Fe-MIL-88NH ₂	Fluorometric/ Colorimetric	50 min	5–25 μM	No	3.00 μM	[7]
Er-BTC/r-QCNSs/MIP	Visual fluorescence test strip (fluorimeter/colorimeter)	60 s	50-125	Yes	1.28 μM	This work

References

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