

Supplementary information

A Bifunctional 3D Tb-based Metal–Organic Framework for Sensing and Removal of Antibiotics in Aqueous Medium

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Table. S1 Selected bond lengths/Å and bond angles/° for complex (1).

Complex 1					
Tb1-O1	2.408(2)	Tb1-O2 ¹	2.380(2)	Tb1-O6 ³	2.364(2)
Tb1-O1 ¹	2.668(2)	Tb1-O5 ²	2.327(2)	Tb1-O8 ⁴	2.252(2)
Tb1-O9 ⁵	2.303(2)	Tb1-O10	2.434(2)		
O1-Tb1-Tb1 ¹	40.84(5)	O5 ² -Tb1-O2 ¹	83.69(8)	O6 ³ -Tb1-O2 ¹	96.17(9)
O1-Tb1-O1 ¹	77.02(7)	O5 ² -Tb1-O6 ³	136.35(8)	O6 ³ -Tb1-O10	151.09(8)
O1-Tb1-O10	133.03(8)	O5 ² -Tb1-O10	71.51(8)	O6 ³ -Tb1-C1 ¹	85.49(9)
O2 ¹ -Tb1-O1	127.69(7)	O6 ³ -Tb1-O1 ¹	75.53(8)	O8 ⁴ -Tb1-Tb1 ¹	122.87(5)
O2 ¹ -Tb1-O1 ¹	51.01(7)	O6 ³ -Tb1-O1	73.27(7)	O8 ⁴ -Tb1-O1	82.15(7)
O2 ¹ -Tb1-O10	76.92(9)	O8 ⁴ -Tb1-O10	74.65(9)	O8 ⁴ -Tb1-O1 ¹	158.77(7)
O5 ² -Tb1-O1	72.76(8)	O9 ⁵ -Tb1-O1 ¹	116.02(7)	O8 ⁴ -Tb1-O2 ¹	148.72(8)
O5 ² -Tb1-O1 ¹	70.78(7)	O9 ⁵ -Tb1-O1	141.21(8)	O9 ⁵ -Tb1-O5 ²	145.25(8)
O8 ⁴ -Tb1-O5 ²	99.27(8)	O9 ⁵ -Tb1-O2 ¹	77.58(8)	O9 ⁵ -Tb1-O6 ³	75.25(8)
O8 ⁴ -Tb1-O6 ³	102.40(8)	O10-Tb1-Tb1 ¹	136.25(6)	O9 ⁵ -Tb1-O10	75.85(9)
O8 ⁴ -Tb1-O9 ⁵	83.06(7)	O10-Tb1-O1 ¹	117.41(8)		

Symmetry codes: ^A-X,-Y,-Z;^B1-X,-1+Y,1/2-Z;^C-1+X,1-Y,-1/2+Z;^D+X,-1+Y,+Z;^E-X,-1+Y,1/2-Z.

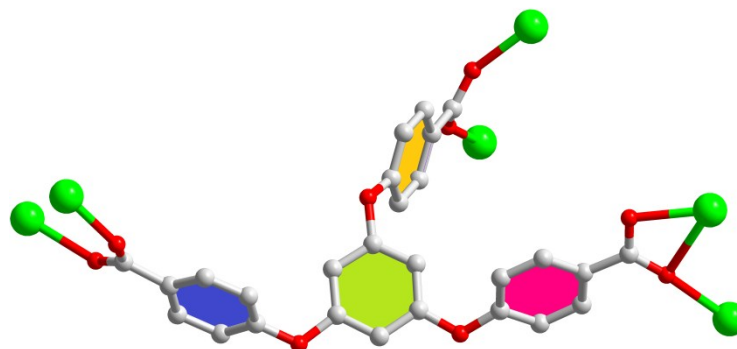


Fig.S1 The coordinated mode of Tb-MOF.

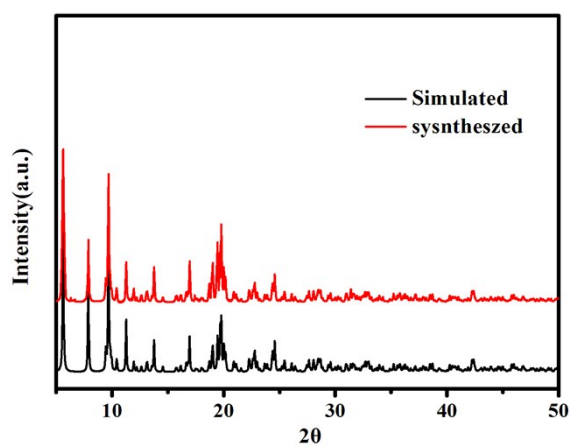


Fig. S2. PXRD patterns of Tb-MOF.

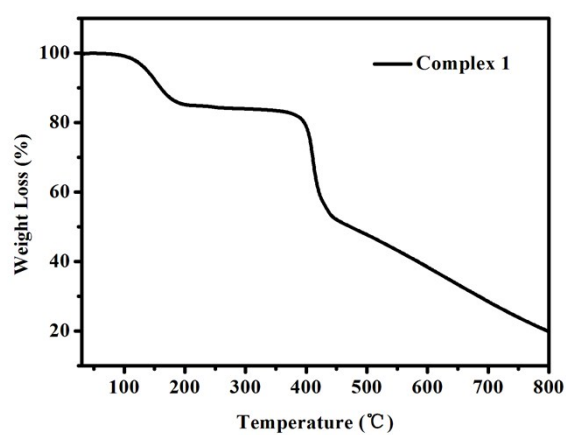


Fig. S3. TG curve of Tb-MOF.

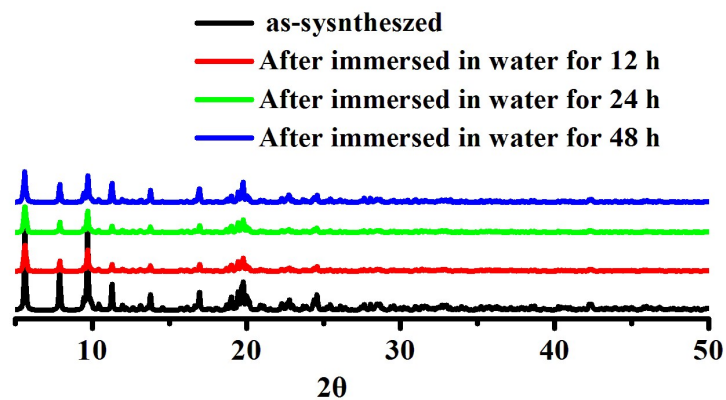


Fig. S4. The chemical stability of Tb-MOF after immersing in water for different time.

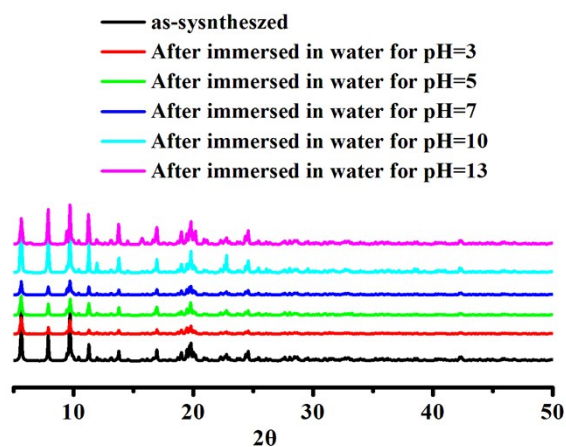


Fig. S5. The chemical stability of Tb-MOF after immersing in water for different pH.

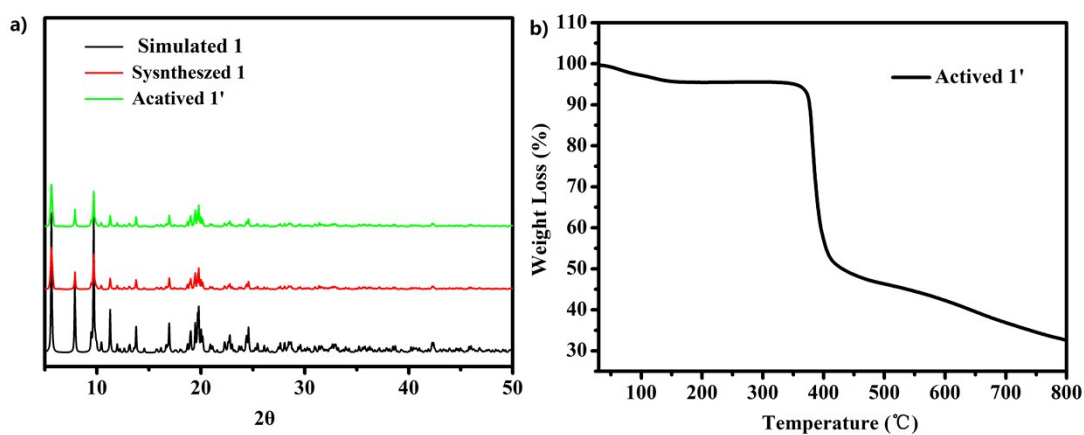


Fig. S6. The curve of PXRD and TG of Tb-MOF'.

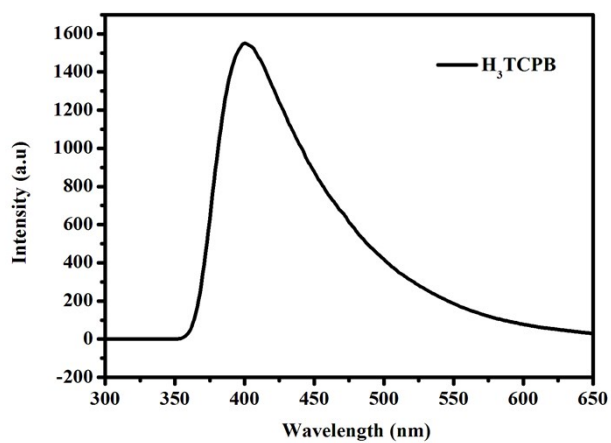


Fig. S7. The solid-state fluorescence spectrum of H_3TCPB ligand.

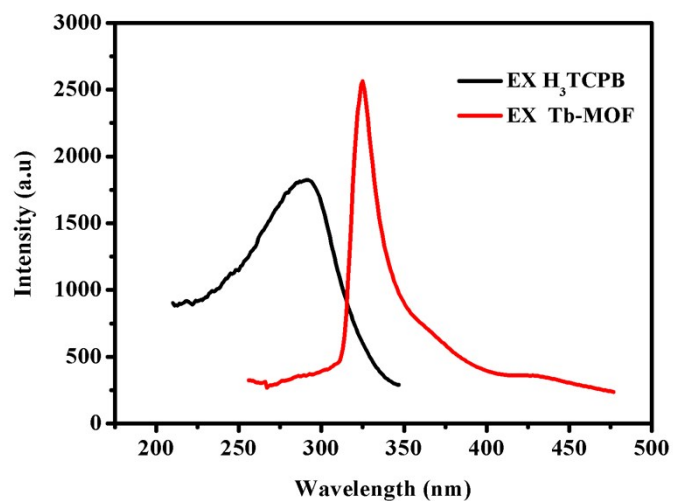


Fig. S8. The exaction spectra of H_3TCPB ligand and Tb-MOF.



Fig. S9. The optical image of fingerprint under the UV-vis (245nm)

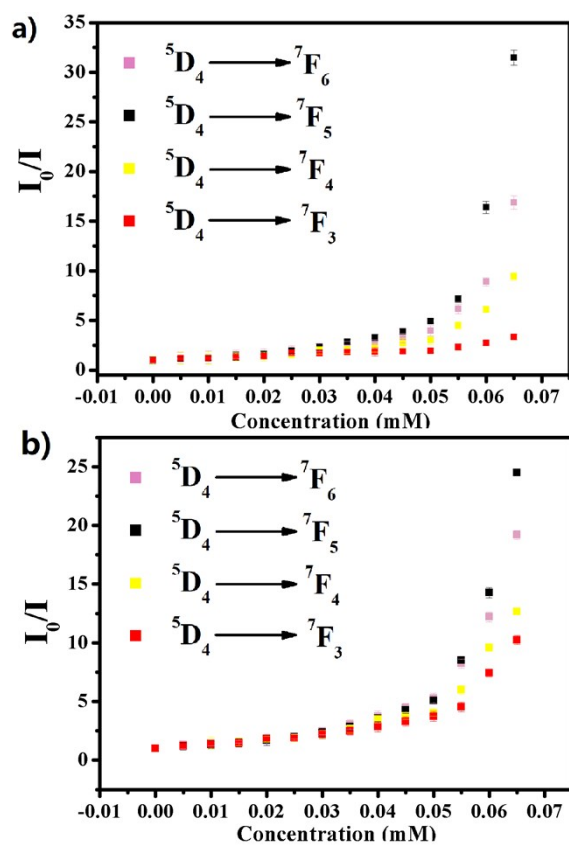


Fig. S10. The relative luminescent intensity (I_0/I) versus the NFT (a) and NZF (b) concentration,

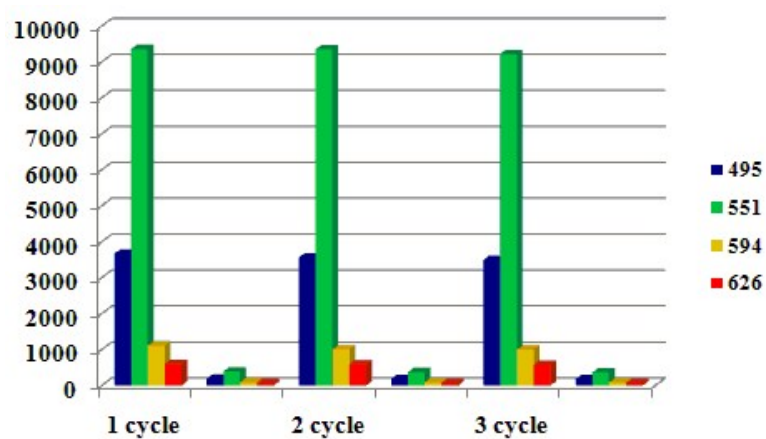


Fig. S11. The results of Tb-MOF for sensing NZF after three continuous cycles.

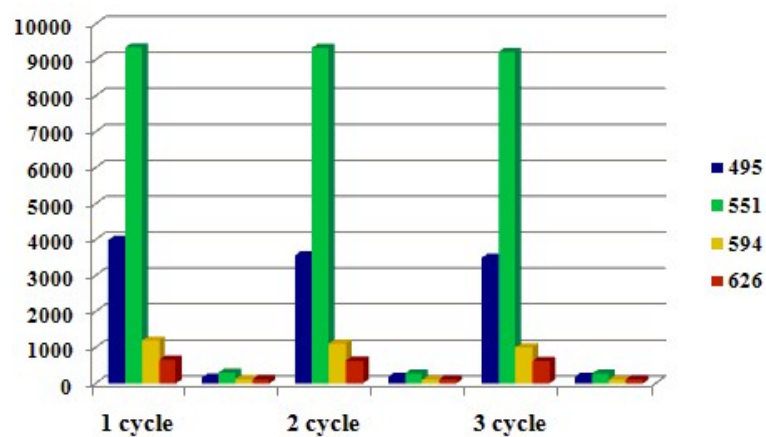


Fig. S12. The results of Tb-MOF for sensing NFT after three continuous cycles.

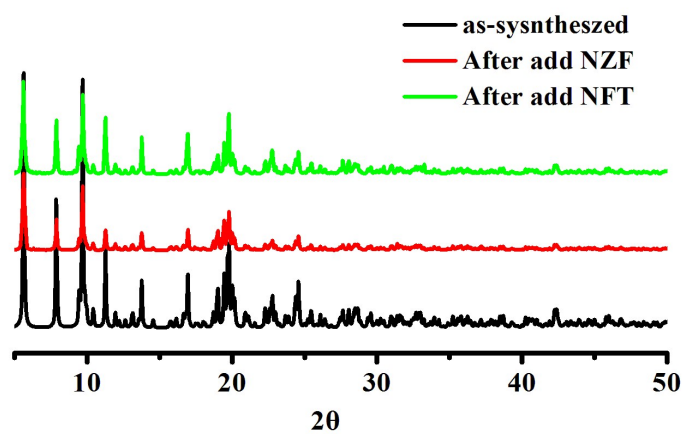


Fig. S13. The PXRD of Tb-MOF after immersing NFs.

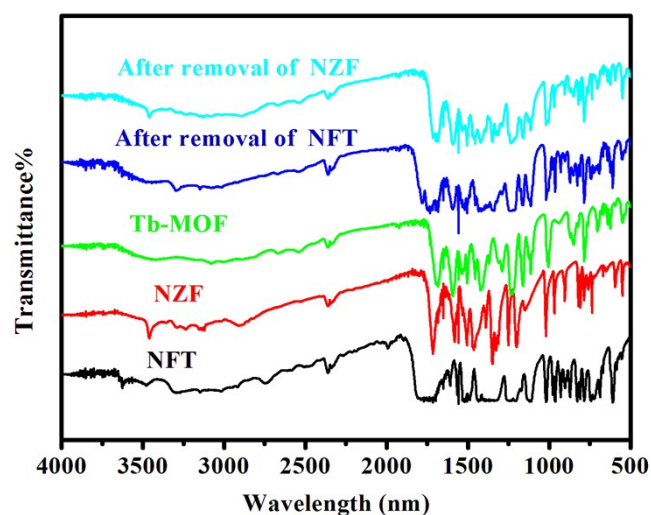


Fig. S14. The IR patterns of pure NZF, NFT, as-synthesized Tb-MOF and the Tb-MOF after immersing in NFT/NZF .

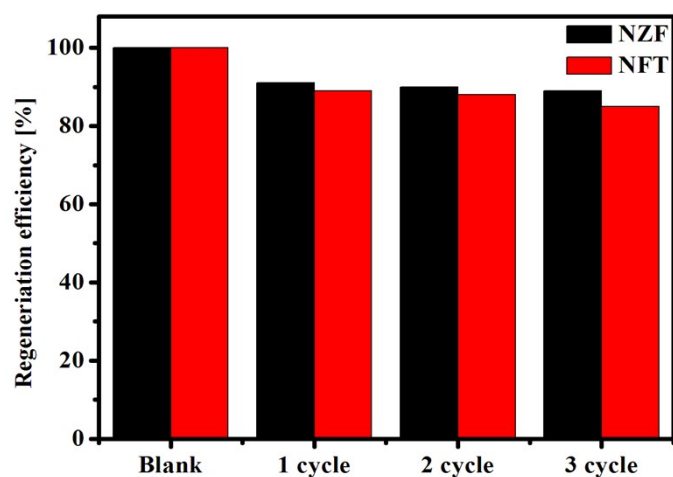


Fig. S15. Regeneration of Tb-MOF for NFT and NZF adsorption.

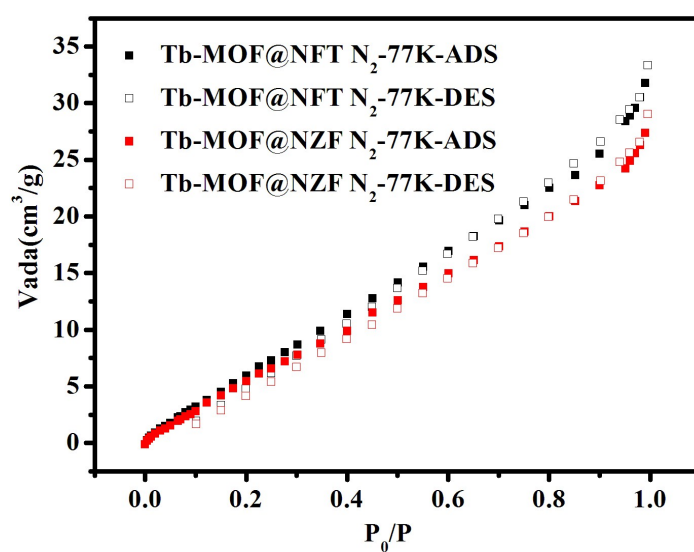


Fig. S16. N₂ adsorption/desorption isotherms of Tb-MOF at 77 K after the removal experiment.