Supplementary Information

3,8-connected Cd(II)-based metal-organic framework as an apt luminescent sensor for antibiotic sulfasalazine

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Table S1. Crystal data and structure refinement parameters of **1**

Compound	**1**
Formula	$C_{44}H_{26}Cd_4O_{19}$
Formula weight	1308.5
Temperature (*K*)	293(2)
Crystal system	Monoclinic
Space group	*C*2/*c*
a (Å), *b* (Å), *c* (Å)	25.4577(11), 11.0140(7), 14.1461(12)
α (°), β (°), γ (°)	90, 92.376(5), 90
V (Å^3)	3963.0(5)
Z	4
*D*calc (Mg m^{-3})	2.193
μ (mm^{-1})	17.739
F (000)	2536.0
Crystal size (mm)	0.05× 0.02× 0.02
θ range (°)	3.475 to 67.06
Index ranges	-30 ≤h ≤23
	-11 ≤K ≤13
	-16 ≤L ≤16
Reflections collected	12248
Independent reflection	3507 [R_{int} = 0.2003]
Data/restraints/parameters	3507/229/342
Final R_1, wR_2 indices [I> 2σ (I)]	0.1633,0.3734
R_1, wR_2 indices (all data)	0.1784,0.3825
*GO*F	1.073
$\Delta r_{max,min}$ (e Å^{-3})	1.60/-2.1

Table S2. Bond length (Å) and bond angle (°) of **1**

1					
Cd1-O(10)	2.342(17)	Cd1#2-O(2)	2.36(2)	Cd1#4-O(1)	2.08(2)
Cd2-O(8)#1	2.360(17)	Cd2-O(3)#2	2.145(19)	Cd1#5-O11	2.425(17)
Cd2#6-O(3)	2.145(19)	Cd3-O(6)#1	2.333(18)	Cd3-O(5)	1.70(5)
O(10)-Cd(1)-O(4)#9		88.0(6)	O(10)-Cd(1)-O(11)#9		54.6(6)
O(10)-Cd(1)-O(2)#7		100.4(7)	O(2)#7Cd(1)-O(2)		78.2(6)
O(8)-Cd(2)-O8)#1		76.5(8)	O(10)-Cd(2)-O(8)#1		76.5(6)
O(3)#2Cd(2)-O(8)		164.6(7)	O(3)#3-Cd(2)-O(8)		88.1(7)
0O(3)#3-Cd(2)-O(10)		100.1(7)	O(3)#2-Cd(2)-O(10)#1		95.9(7)
O(6)#1-Cd(3)-O(8)#1		52.3(6)	O(6)#1-Cd(3)-O(5)#1		93.1(10)
O(7)-Cd(3)-O(6)		113.4(12)	O(7)-Cd(3)-O(8)		92.0(12)
O(9) -Cd(3)-O(6)		102.0(18)			

Symmetry codes for #1 1-x,+y,-1/2-z; #2 1/2+x,1/2+y,+z; #3 1/2-x,1/2+y,-1/2-z; #4 -1/2+x,1/2-y,-1/2+z; #5 -1/2+x,1/2+y,+z; #6-1/2+x,-1/2+y,+z; #7 1-x,1-y,-z;

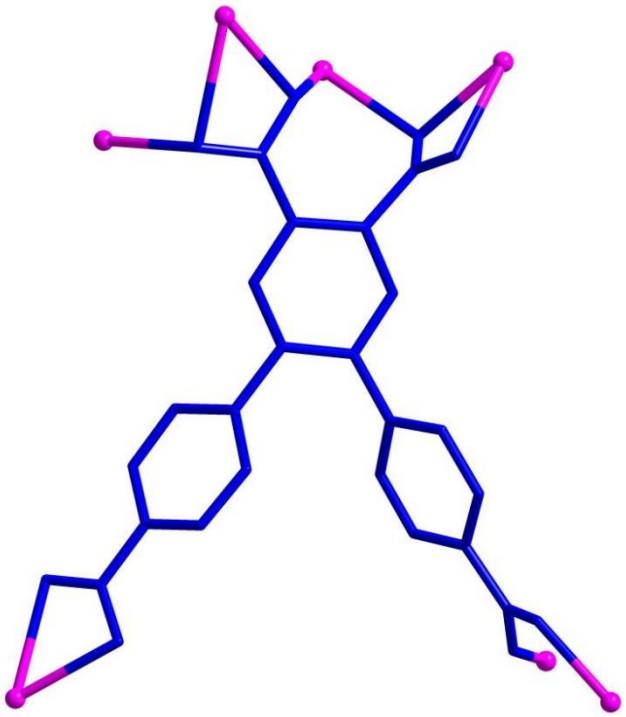

Figure S1. Coordination mode of L^{4-} ligand

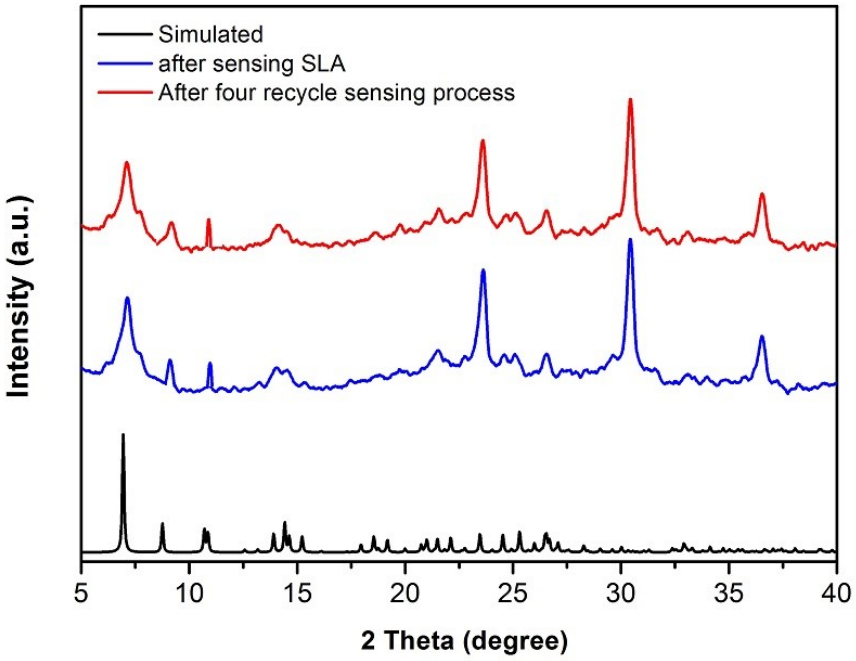

Figure S2. PXRD simulation pattern of **1**, PXRD pattern of **1** after sensing SLA and PXRD pattern of **1** after four sensing cycles.

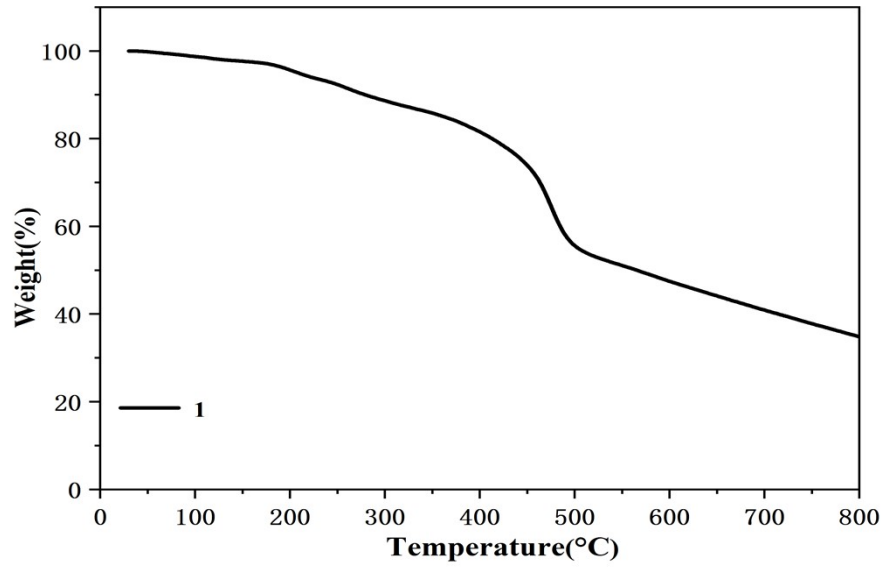

Figure S3. TGA analysis of **1**

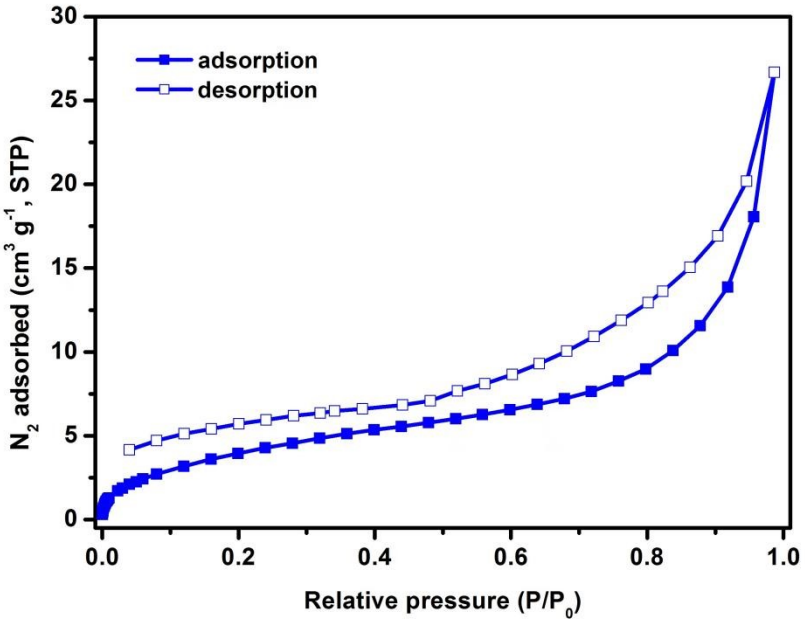

Figure S4. N_2 adsorption and desorption isotherms at 77 K.

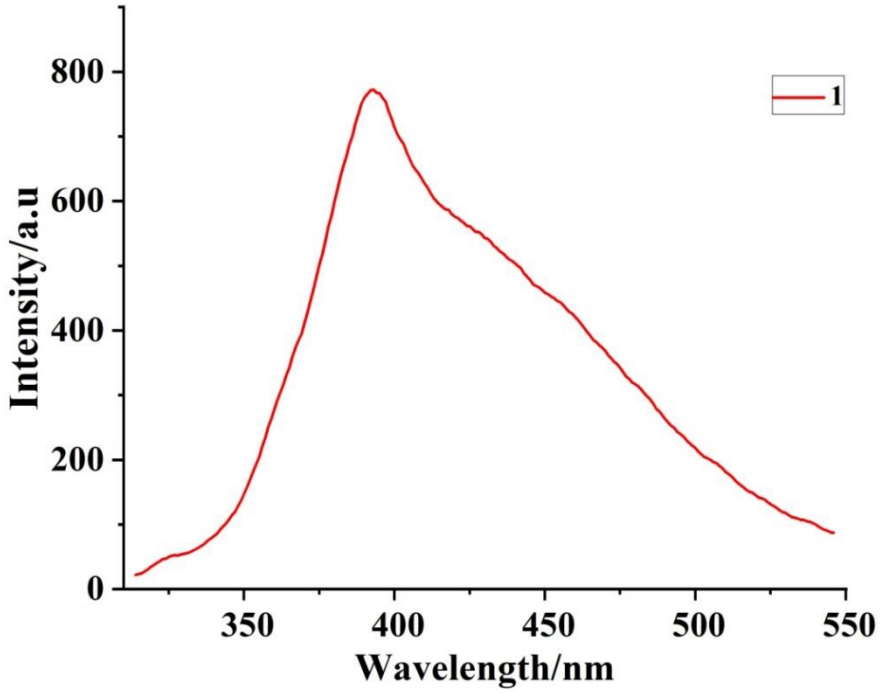

Figure S5. view of the PL intensity of sample **1**.

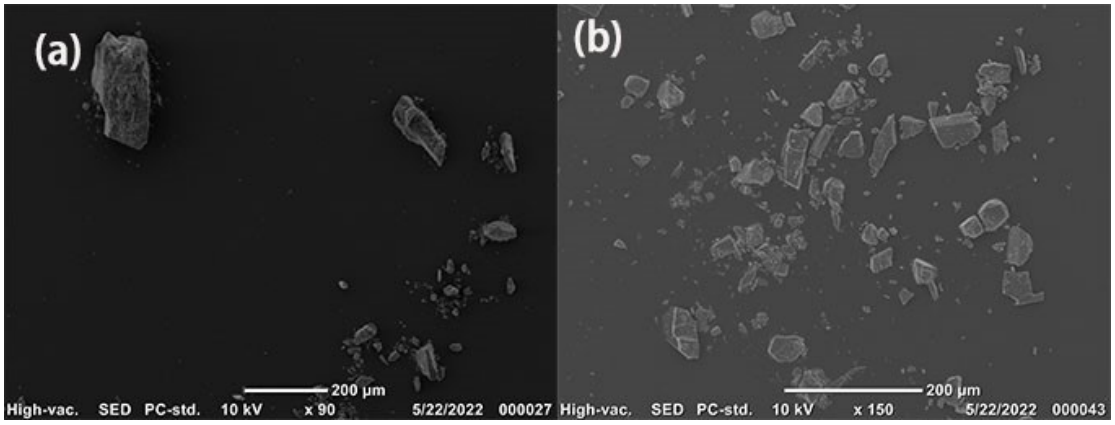

Figure S6. (a) The SEM pattern of morphology of **1** before the fluorescent probe test, (b) The SEM pattern of morphology of **1** after the fluorescent probe test.

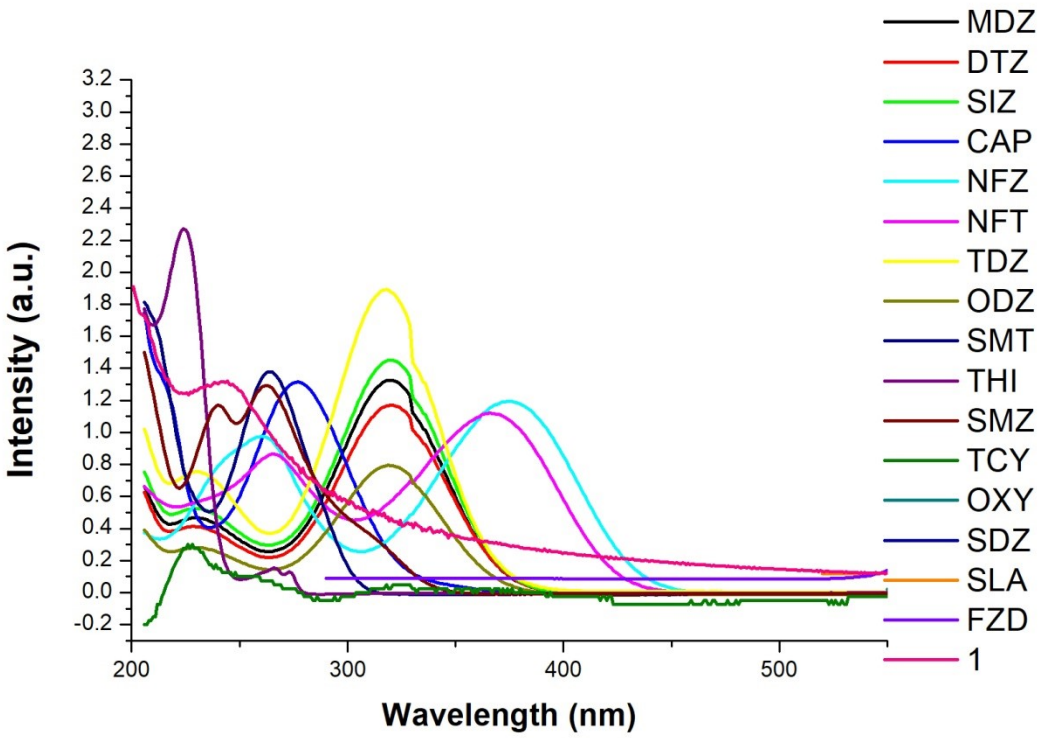

Figure S7. UV-spectra of antibiotics and **1**.

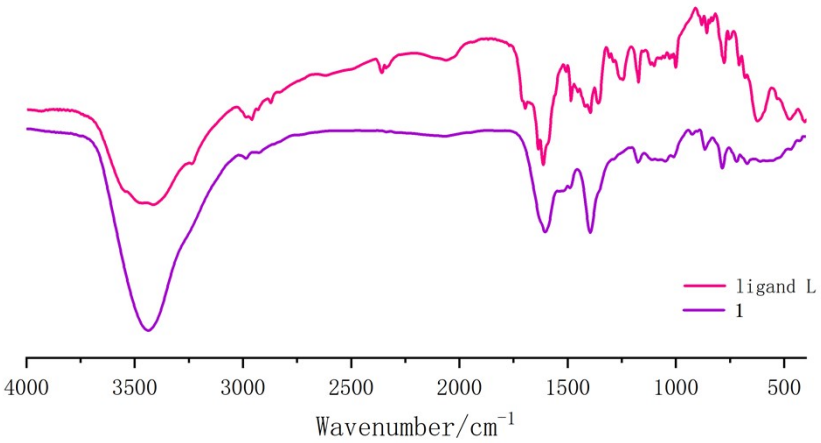

Figure S8. FT-IR of ligand L,and **1**.