Electronic Supplementary Material (ESI) for RSC Advances.

Supporting Informatin

A luminescent europium MOF containing lewis basic pyridyl site for highly selective sensing of *o*-, *m*- and *p*-nitrophenol

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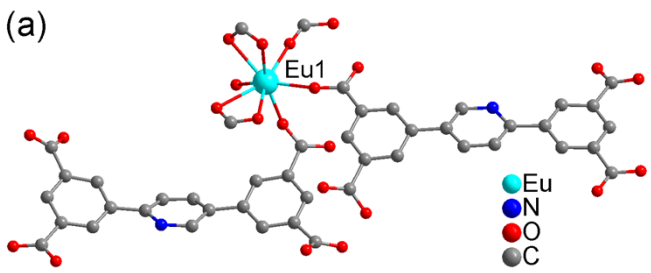
Table S1. The selected bond lengths and angles for compound **1**.

Eu(1)-O(12)	2.297(11)	Eu(1)-O(8)#1	2.324(10)
Eu(1)-O(1)	2.342(9)	Eu(1)-O(23)	2.448(11)
Eu(1)-O(20)#2	2.453(9)	Eu(1)-O(19)#2	2.453(11)
Eu(1)-O(6)#3	2.456(9)	Eu(1)-O(5)#3	2.516(10)
Eu(2)-O(13)#4	2.251(11)	Eu(2)-O(9)	2.338(9)
Eu(2)-O(3)	2.351(11)	Eu(2)-O(24)	2.385(10)
Eu(2)-O(16)#5	2.428(10)	Eu(2)-O(25)	2.435(11)
Eu(2)-O(27)	2.472(13)	Eu(2)-O(15)#5	2.533(8)
Eu(3)-O(10)	2.317(10)	Eu(3)-O(7)#3	2.325(9)
Eu(3)-O(2)#6	2.374(9)	Eu(3)-O(14)#4	2.403(9)
Eu(3)-O(26)	2.430(9)	Eu(3)-O(17)	2.450(10)
Eu(3)-O(4)	2.490(10)	Eu(3)-O(18)	2.571(11)
O(2)-Eu(3)#7	2.374(9)	O(5)-Eu(1)#5	2.516(10)
O(6)-Eu(1)#5	2.456(9)	O(7)-Eu(3)#5	2.325(9)
O(8)-Eu(1)#4	2.324(10)	O(13)-Eu(2)#1	2.251(10)
O(14)-Eu(3)#1	2.403(9)	O(12)-Eu(1)-O(8)#1	97.7(4)
O(12)-Eu(1)-O(1)	80.8(4)	O(8)#1-Eu(1)-O(1)	84.4(3)
O(12)-Eu(1)-O(23)	71.4(4)	O(8)#1-Eu(1)-O(23)	78.8(4)
O(1)-Eu(1)-O(23)	144.9(4)	O(12)-Eu(1)-O(20)#2	147.8(3)
O(8)#1-Eu(1)-O(20)#2	78.6(4)	O(1)-Eu(1)-O(20)#2	129.8(4)
O(23)-Eu(1)-O(20)#2	76.6(4)	O(12)-Eu(1)-O(19)#2	159.0(3)
O(8)#1-Eu(1)-O(19)#2	87.9(4)	O(1)-Eu(1)-O(19)#2	79.7(3)
O(23)-Eu(1)-O(19)#2	129.6(4)	O(20)#2-Eu(1)-O(19)#2	53.1(3)
O(12)-Eu(1)-O(6)#3	85.7(4)	O(8)#1-Eu(1)-O(6)#3	158.5(3)
O(1)-Eu(1)-O(6)#3	75.1(3)	O(23)-Eu(1)-O(6)#3	122.1(4)
O(20)#2-Eu(1)-O(6)#3	109.5(4)	O(19)#2-Eu(1)-O(6)#3	82.0(4)
O(12)-Eu(1)-O(5)#3	93.8(4)	O(8)#1-Eu(1)-O(5)#3	148.7(3)
O(1)-Eu(1)-O(5)#3	126.3(3)	O(23)-Eu(1)-O(5)#3	77.5(4)
O(20)#2-Eu(1)-O(5)#3	76.2(3)	O(19)#2-Eu(1)-O(5)#3	91.6(4)
O(6)#3-Eu(1)-O(5)#3	51.2(3)	O(13)#4-Eu(2)-O(9)	87.4(4)
O(13)#4-Eu(2)-O(3)	85.2(4)	O(9)-Eu(2)-O(3)	77.0(3)
O(13)#4-Eu(2)-O(24)	108.5(4)	O(9)-Eu(2)-O(24)	73.8(3)

O(3)-Eu(2)-O(24)	146.9(3)	O(13)#4-Eu(2)-O(16)#5	146.7(4)
O(9)-Eu(2)-O(16)#5	125.9(3)	O(3)-Eu(2)-O(16)#5	101.2(4)
O(24)-Eu(2)-O(16)#5	83.9(4)	O(13)#4-Eu(2)-O(25)	77.3(4)
O(9)-Eu(2)-O(25)	136.1(4)	O(3)-Eu(2)-O(25)	140.4(4)
O(24)-Eu(2)-O(25)	72.8(3)	O(16)#5-Eu(2)-O(25)	77.2(4)
O(13)#4-Eu(2)-O(27)	76.6(5)	O(9)-Eu(2)-O(27)	144.9(5)
O(3)-Eu(2)-O(27)	70.7(4)	O(24)-Eu(2)-O(27)	140.9(4)
O(16)#5-Eu(2)-O(27)	74.9(5)	O(25)-Eu(2)-O(27)	70.7(5)
O(13)#4-Eu(2)-O(15)#5	160.1(3)	O(9)-Eu(2)-O(15)#5	73.8(3)
O(3)-Eu(2)-O(15)#5	84.3(3)	O(24)-Eu(2)-O(15)#5	72.9(3)
O(16)#5-Eu(2)-O(15)#5	52.5(3)	O(25)-Eu(2)-O(15)#5	120.9(3)
O(27)-Eu(2)-O(15)#5	115.4(4)	O(10)-Eu(3)-O(7)#3	88.7(3)
O(10)-Eu(3)-O(2)#6	137.0(4)	O(7)#3-Eu(3)-O(2)#6	85.8(3)
O(10)-Eu(3)-O(14)#4	82.0(3)	O(7)#3-Eu(3)-O(14)#4	151.9(4)
O(2)#6-Eu(3)-O(14)#4	83.3(3)	O(10)-Eu(3)-O(26)	63.9(3)
O(7)#3-Eu(3)-O(26)	77.2(3)	O(2)#6-Eu(3)-O(26)	73.4(4)
O(14)#4-Eu(3)-O(26)	74.9(3)	O(10)-Eu(3)-O(17)	134.9(3)
O(7)#3-Eu(3)-O(17)	127.7(4)	O(2)#6-Eu(3)-O(17)	78.2(3)
O(14)#4-Eu(3)-O(17)	74.9(4)	O(26)-Eu(3)-O(17)	140.4(3)
O(10)-Eu(3)-O(4)	77.0(3)	O(7)#3-Eu(3)-O(4)	77.9(3)
O(2)#6-Eu(3)-O(4)	142.1(4)	O(14)#4-Eu(3)-O(4)	124.9(3)
O(26)-Eu(3)-O(4)	133.5(3)	O(17)-Eu(3)-O(4)	85.2(3)
O(10)-Eu(3)-O(18)	147.1(3)	O(7)#3-Eu(3)-O(18)	76.5(3)
O(2)#6-Eu(3)-O(18)	71.8(4)	O(14)#4-Eu(3)-O(18)	123.6(3)
O(26)-Eu(3)-O(18)	137.3(4)	O(17)-Eu(3)-O(18)	51.3(3)
O(4)-Eu(3)-O(18)	71.3(3)	O(10)-Eu(3)-O(3)	67.6(3)
O(7)#3-Eu(3)-O(3)	119.5(3)	O(2)#6-Eu(3)-O(3)	148.2(3)
O(14)#4-Eu(3)-O(3)	81.2(3)	O(26)-Eu(3)-O(3)	128.0(3)
O(17)-Eu(3)-O(3)	71.0(3)	O(4)-Eu(3)-O(3)	43.7(3)
O(18)-Eu(3)-O(3)	94.2(3)		

Symmetry transformations used to generate equivalent atoms: #1: x, y+1, z; #2: -x+1, -y+1, -z+1; #3: x+1, y+1, z; #4: x, y-1, z; #5: x-1, y-1, z; #6: x+1, y, z; #7: x-1, y, z; #8: -x+2, -y, -z+1.



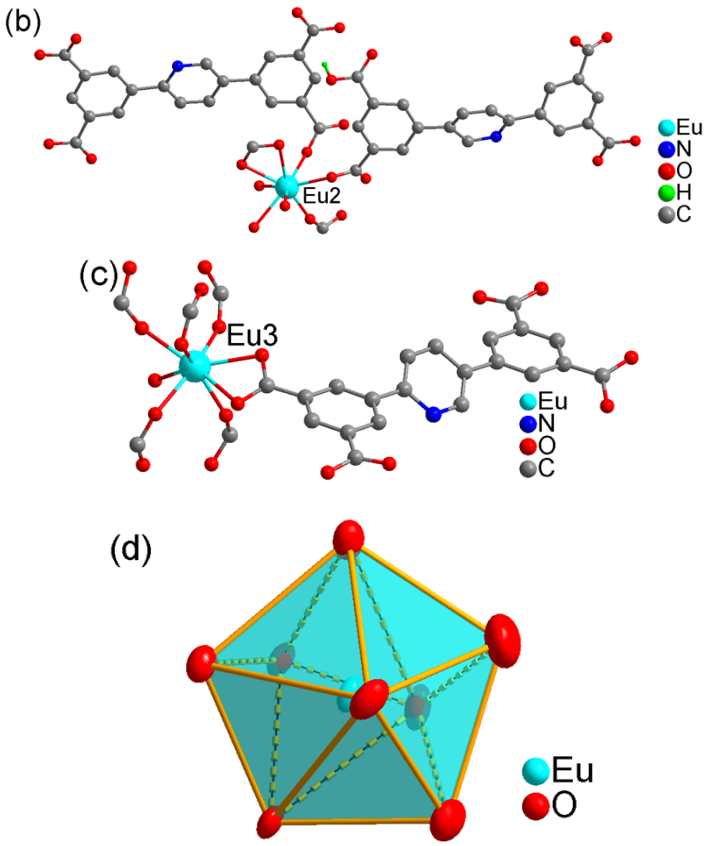
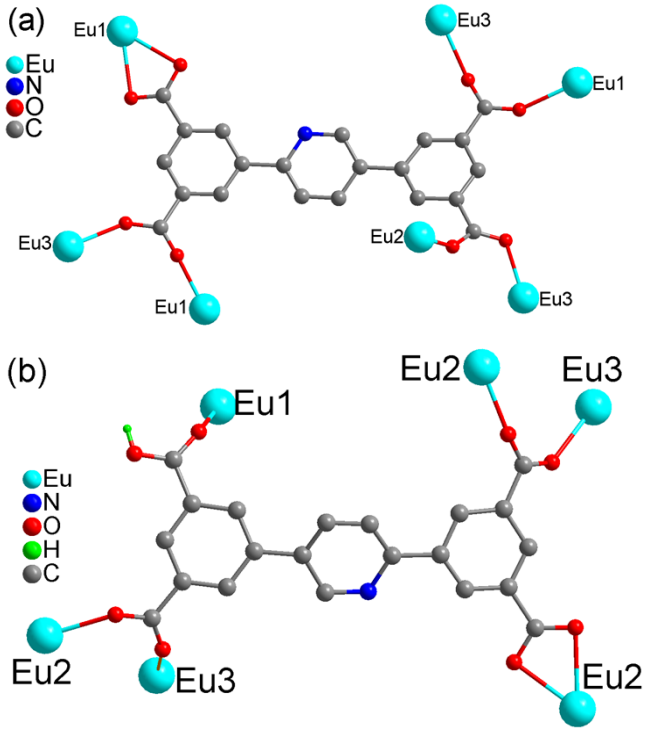


Fig. S1. The coordination environments of Eu^{3+} ions in **1**: (a) for Eu1, (b) for Eu2, (c) for Eu3 and (d) for the coordination geometries of Eu^{3+} ions in **1**.



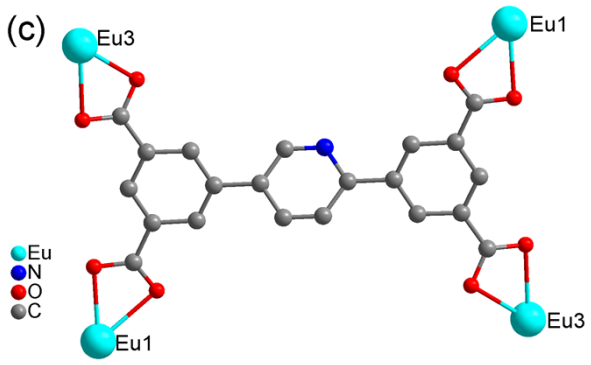


Fig. S2. The coordination modes of the crystallographically independent L^{4-} and HL^{3-} ligands. (Hydrogen atoms are omitted for clarity).

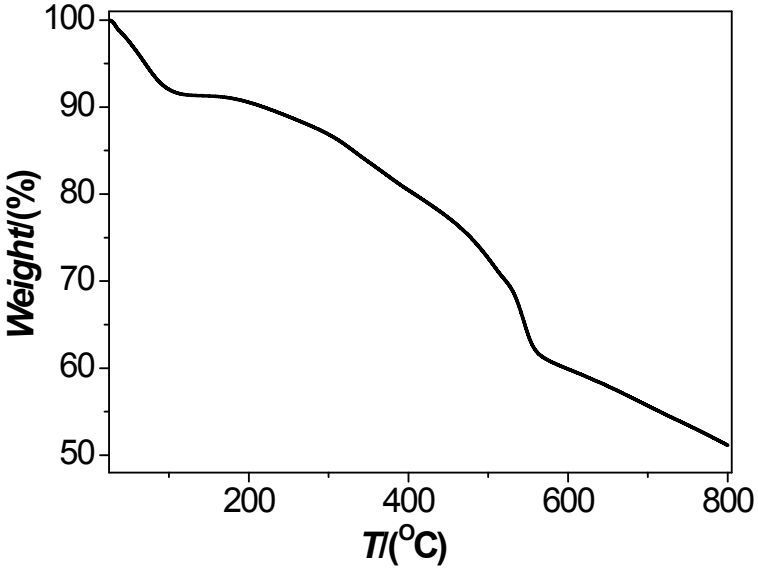
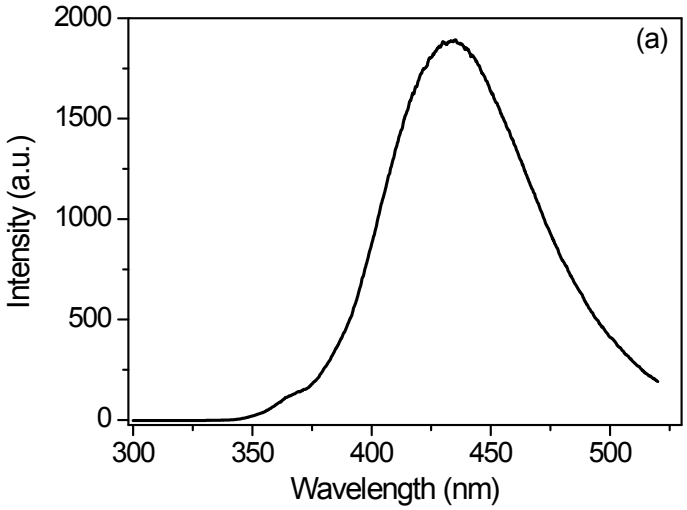


Fig. S3. Thermogravimetric analyses of compound **1**.



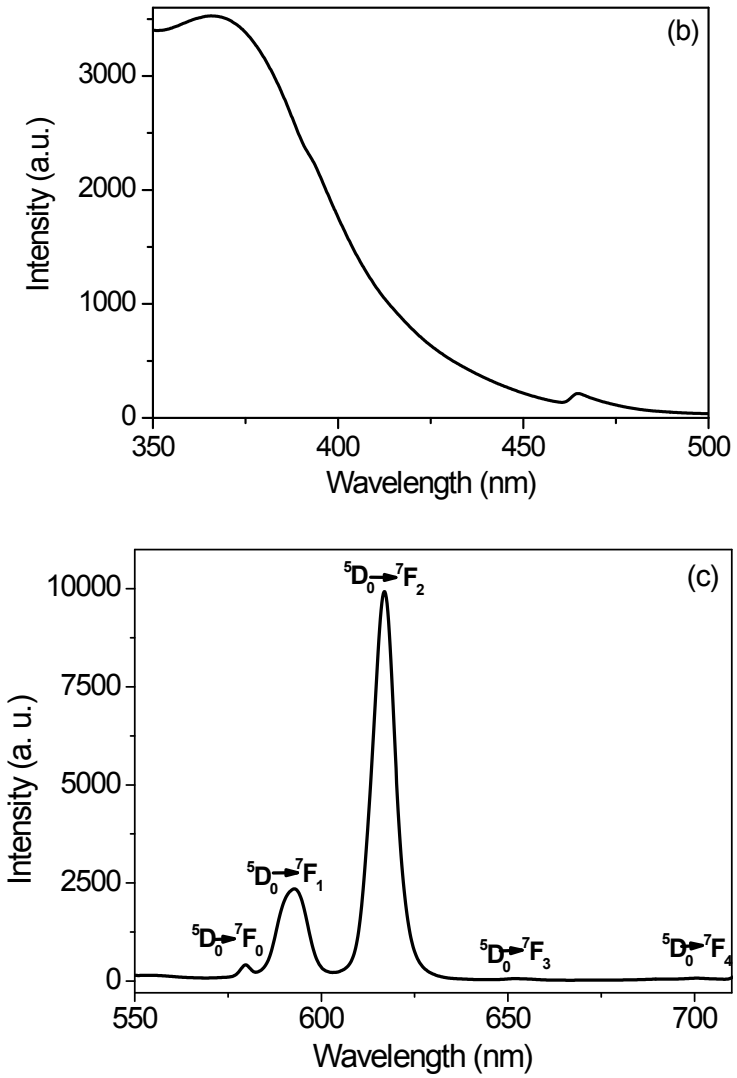


Fig. S4 (a) The solid-state emission spectra of free **L** ligands at room temperature (λ_{ex} = 275 nm); (b) The solid-state excitation spectra of **1** at room temperature (λ_{em} = 616 nm). (c) The solid-state emission spectra of **1** at room temperature (λ_{ex} = 358 nm).

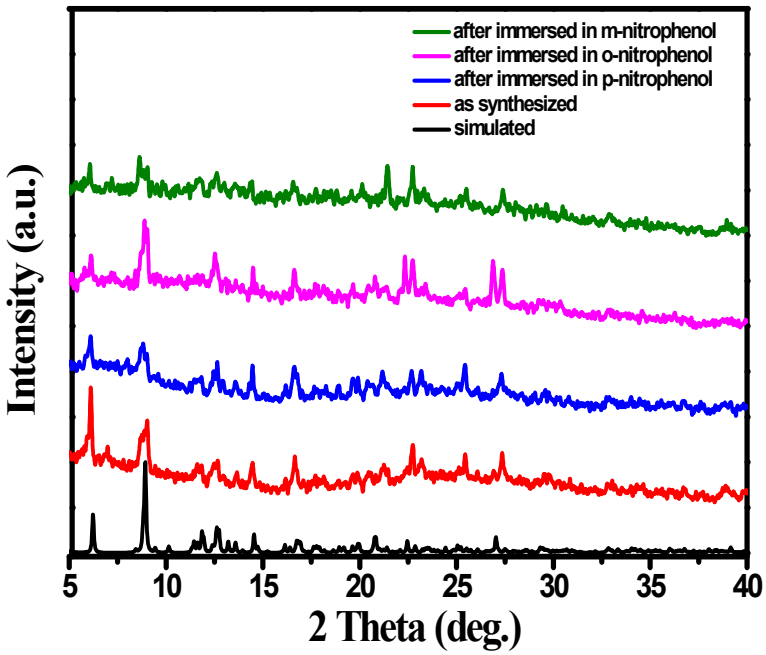


Fig. S5. The powder X-ray diffraction (PXRD) patterns of compound **1**.

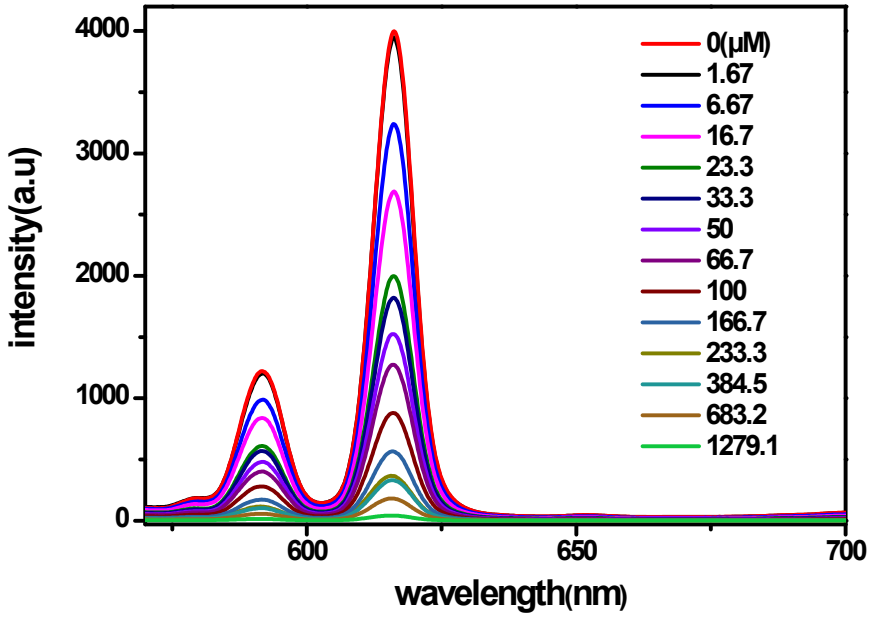


Fig. S6. Effect on the emission spectra of **1** dispersed in water upon incremental addition of an *o*-NP water solution (λ_{ex} = 358 nm, c = 0.01 M).

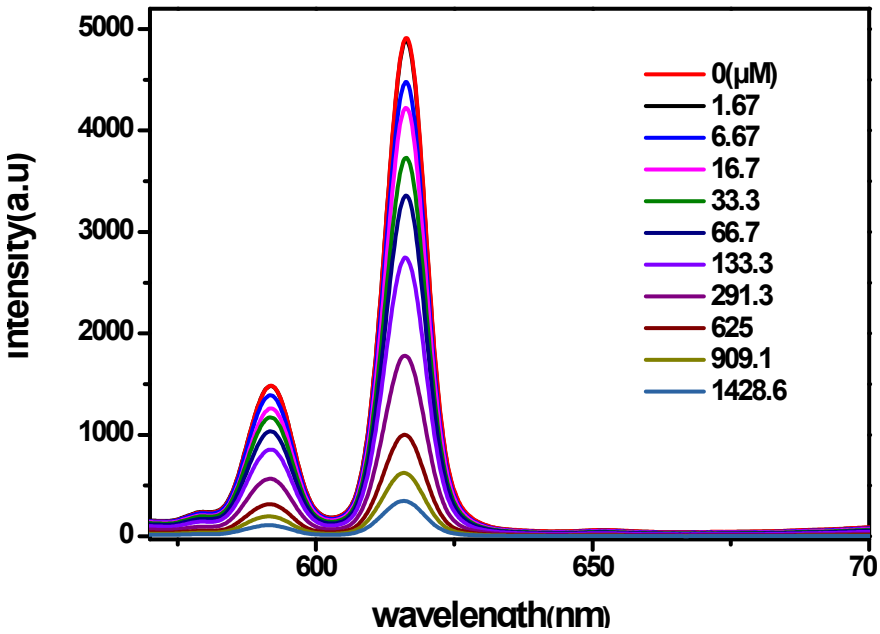


Fig. S7. Effect on the emission spectra of **1** dispersed in water upon incremental addition of a *m*-NP water solution (λ_{ex} = 358 nm, c = 0.01 M).

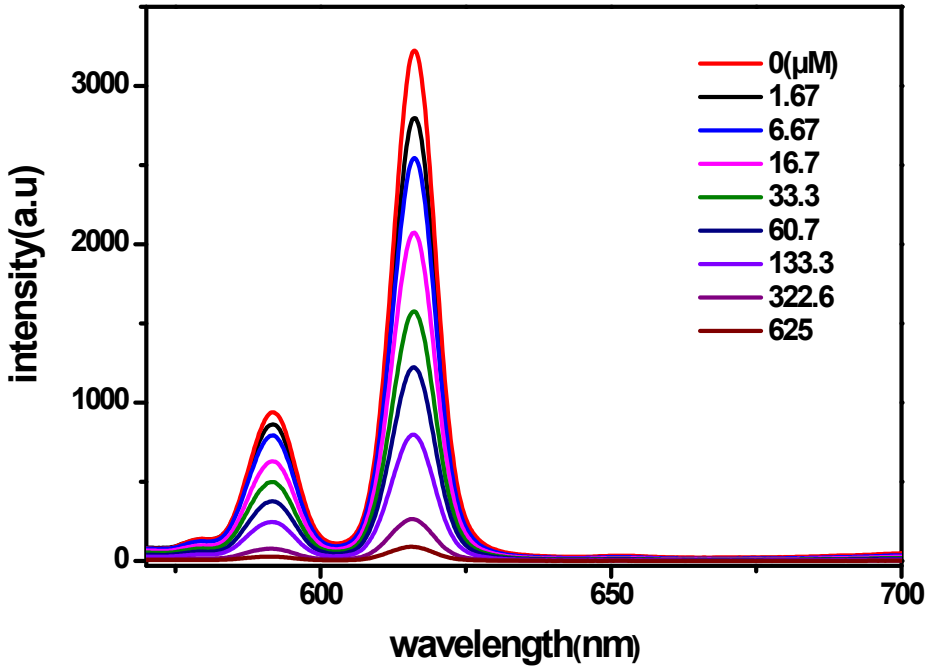


Fig. S8. Effect on the emission spectra of **1** dispersed in water upon incremental addition of a *p*-NP ethanol solution (λ_{ex} = 358 nm, c = 0.01 M).