Electronic Supplementary Material (ESI) for RSC Advances.

Selective fluorescent sensing of LMOFs constructed from tri(4-pyridylphenyl)amine ligand

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Supporting Information

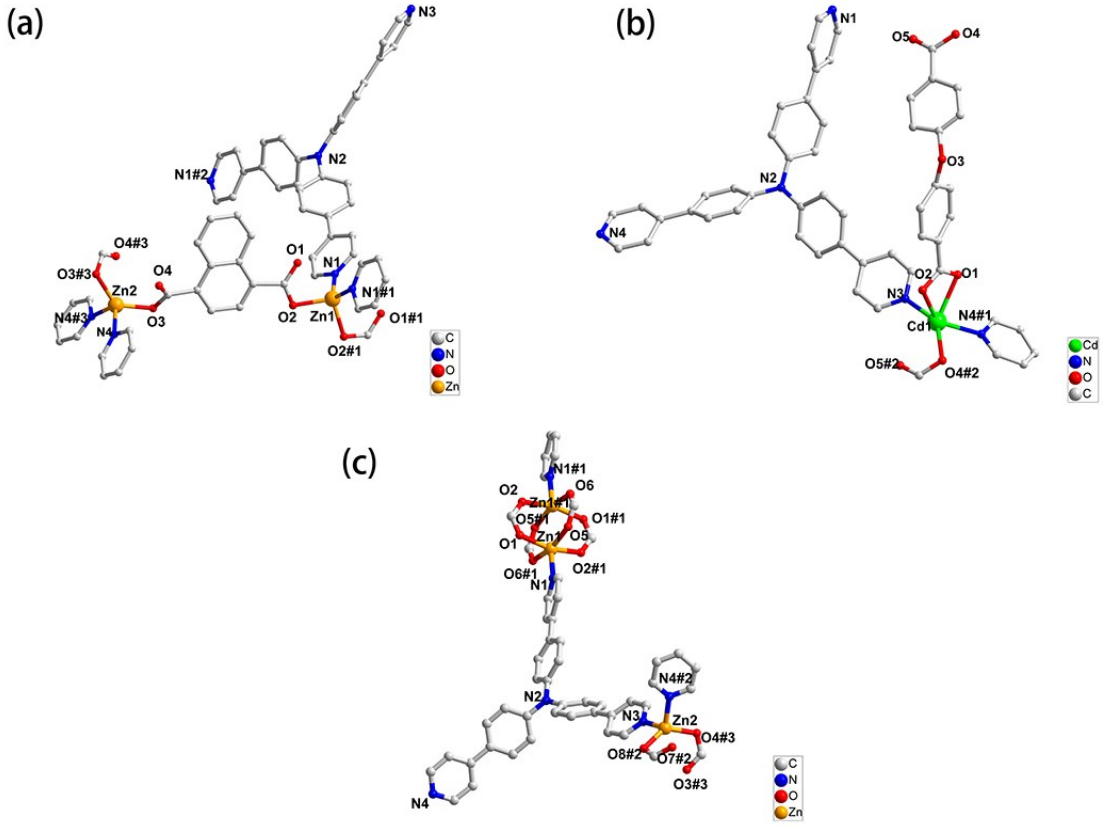

Fig. S1. (a) Coordination environment of the Zn^{2+} atoms in **1**. Symmetry codes: #1 = 1 - x, y, -0.5 - z; #2 = - x, y, -1.5 - z; #3 = -x, y, 0.5 - z. (b) Coordination environment of the Cd^{2+} atoms in **2**. Symmetry codes: #1 = 1 - x, 0.5 + y, 1.5 - z; #2 = - 1 + x, y, - 1 + z. (c) Coordination environment of the Zn^{2+} atoms in **3**： #1 = 3 - x, 1 - y, - z; #2 = - x, 0.5 + y, 0.5 – z; #3 = -1 + x, y, 1 + z. The hydrogen atoms are omitted for clarity.

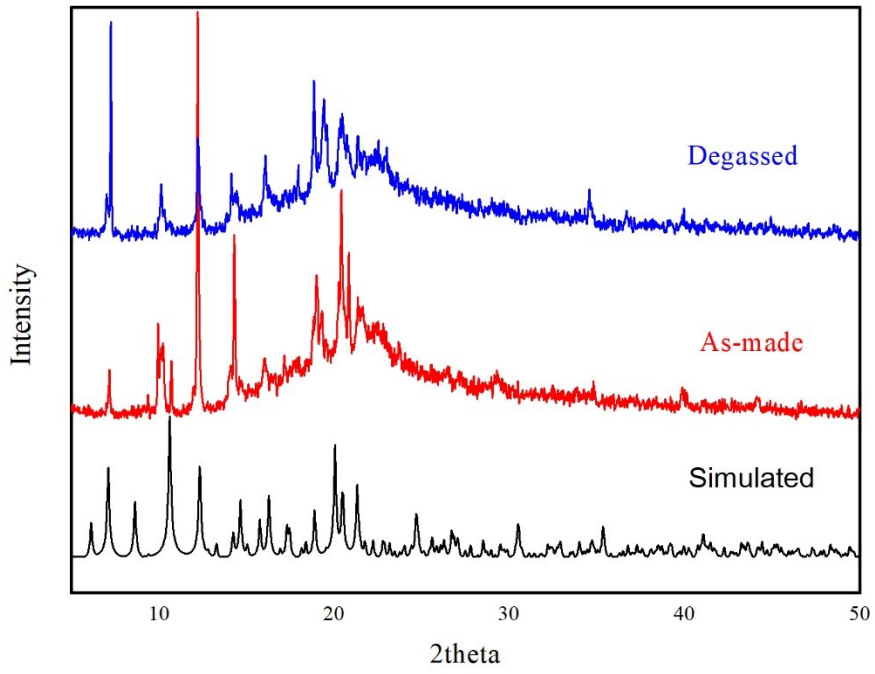

Fig. S2. PXRD patters. From bottom to top: simulated **1**, as made **1**, degassed **1'**.

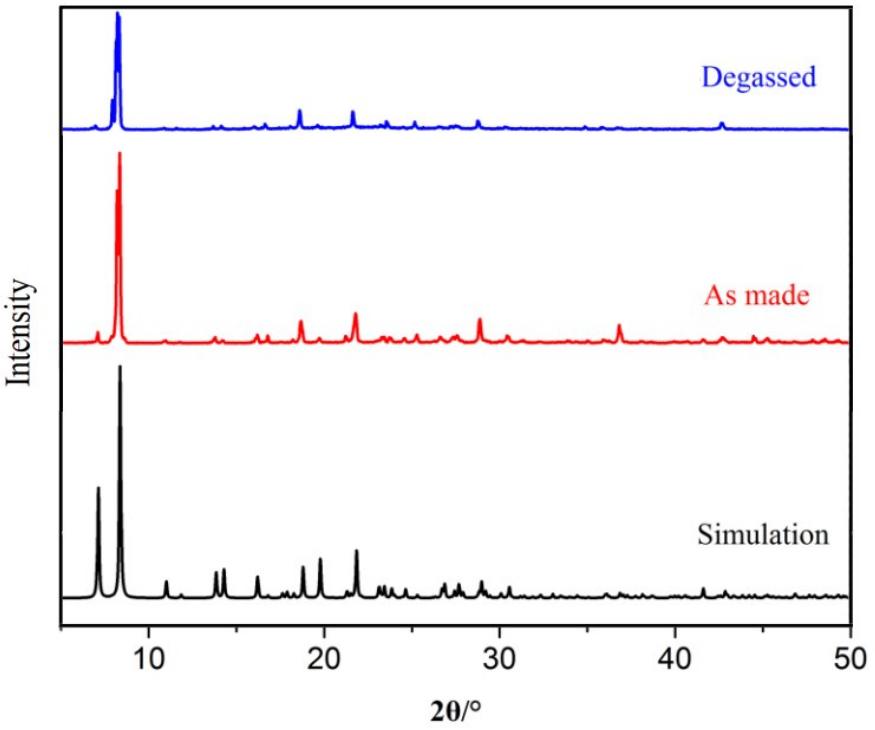

Fig. S3. PXRD patters. From bottom to top: simulated **2**, as made **2**, degassed **2'**.

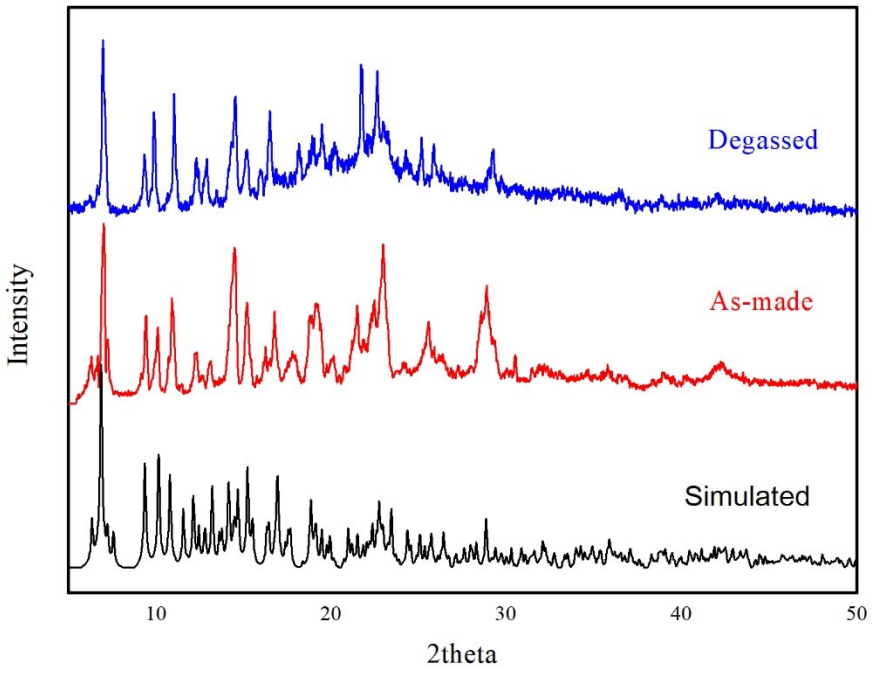

Fig. S4. PXRD patters. From bottom to top: simulated **3**, as made **3**, degassed **3'**.

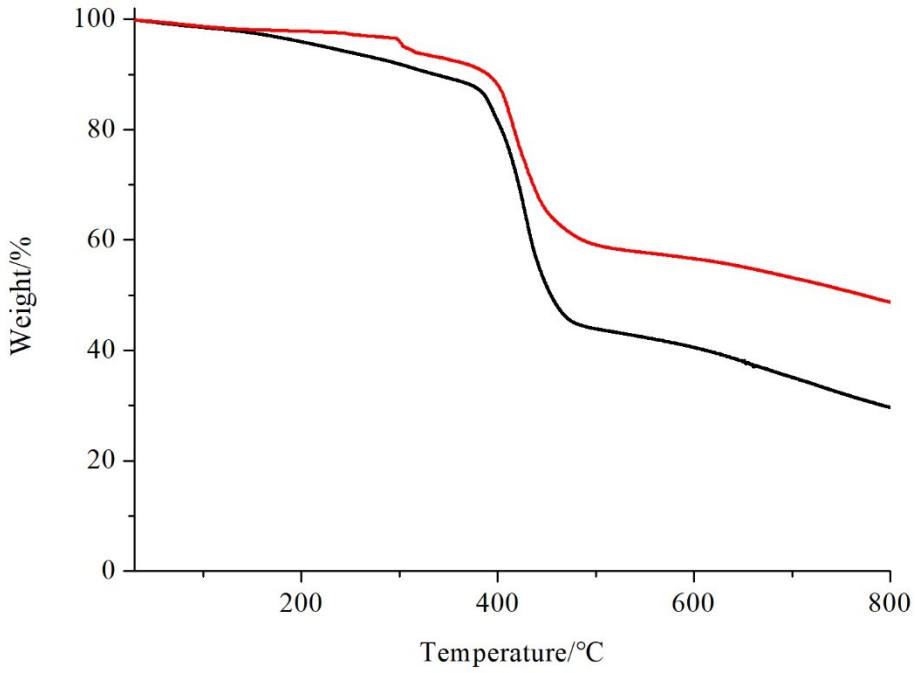

Fig. S5. TG profiles. From bottom to top: as made **1**, degassed **1'.**

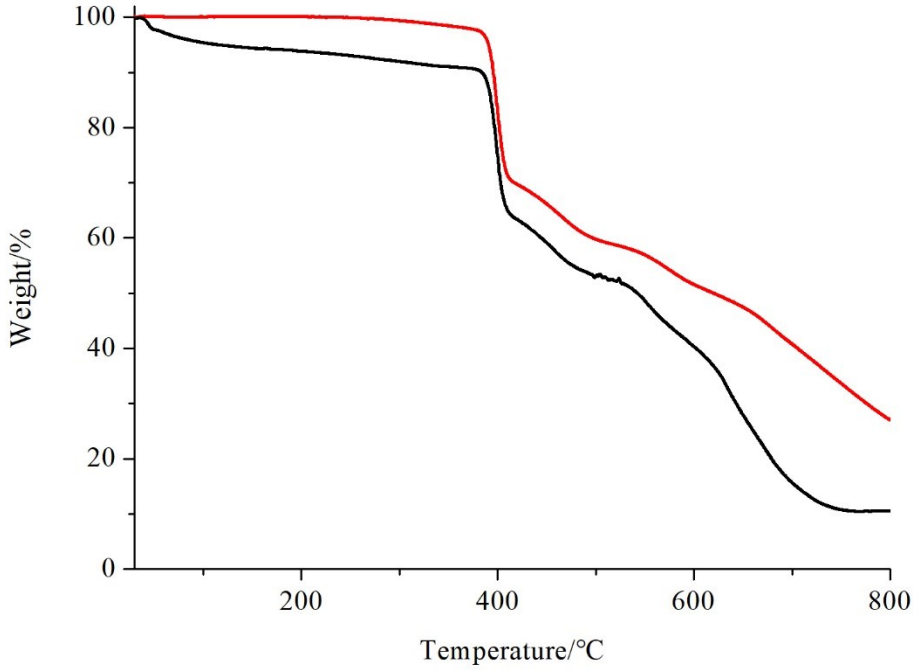

Fig. S6. TG profiles. From bottom to top: as made **2**, degassed **2'.**

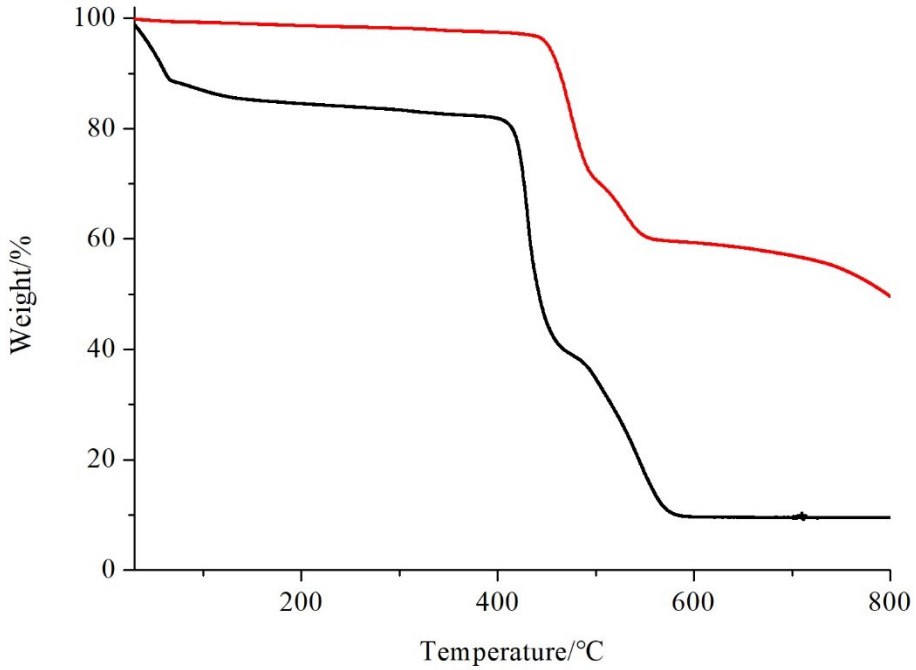

Fig. S7. TG profiles. From bottom to top: as made **3**, degassed **3'.**

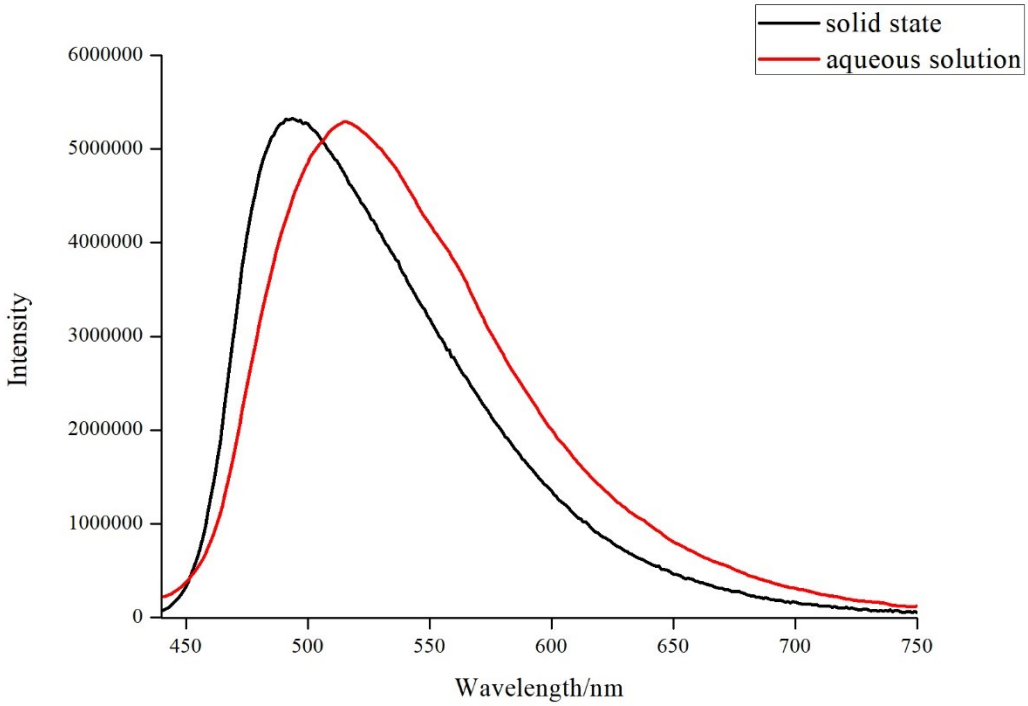

Fig S8. Emission spectra of compound **1** in solid state and aqueous solution.

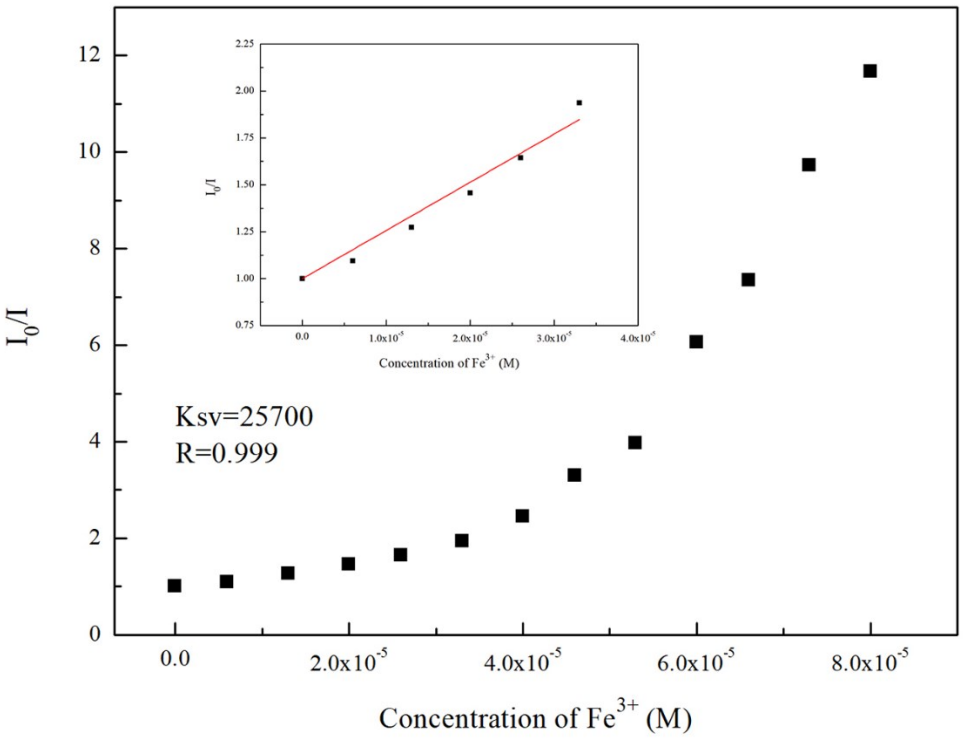

Fig S9. Stern-Volmer plot of compound **1** quenched by Fe^{3+} aqueous solution.

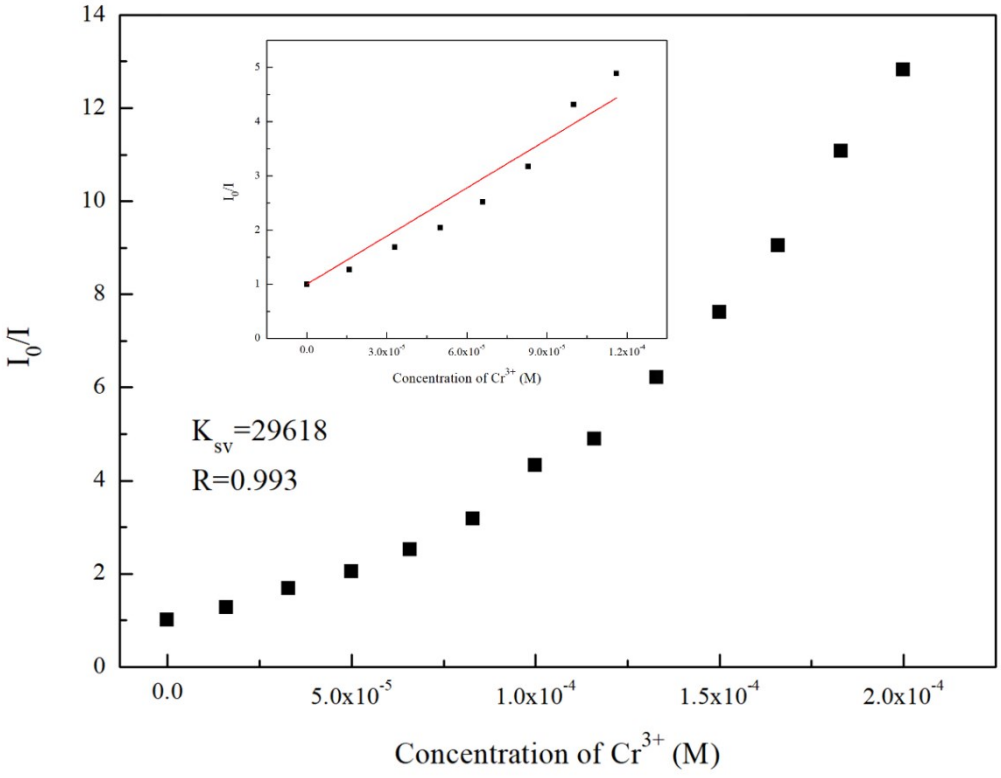

Fig S10. Stern-Volmer plot of compound **1** quenched by Cr^{3+} aqueous solution.

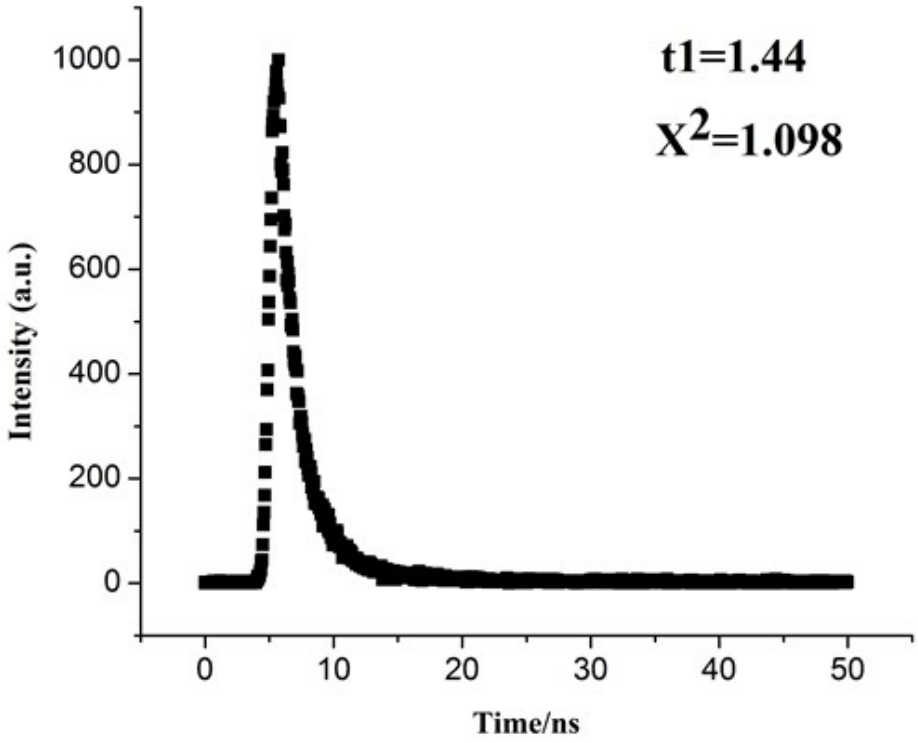

Fig S11. Fluorescence life time of compound **1.**

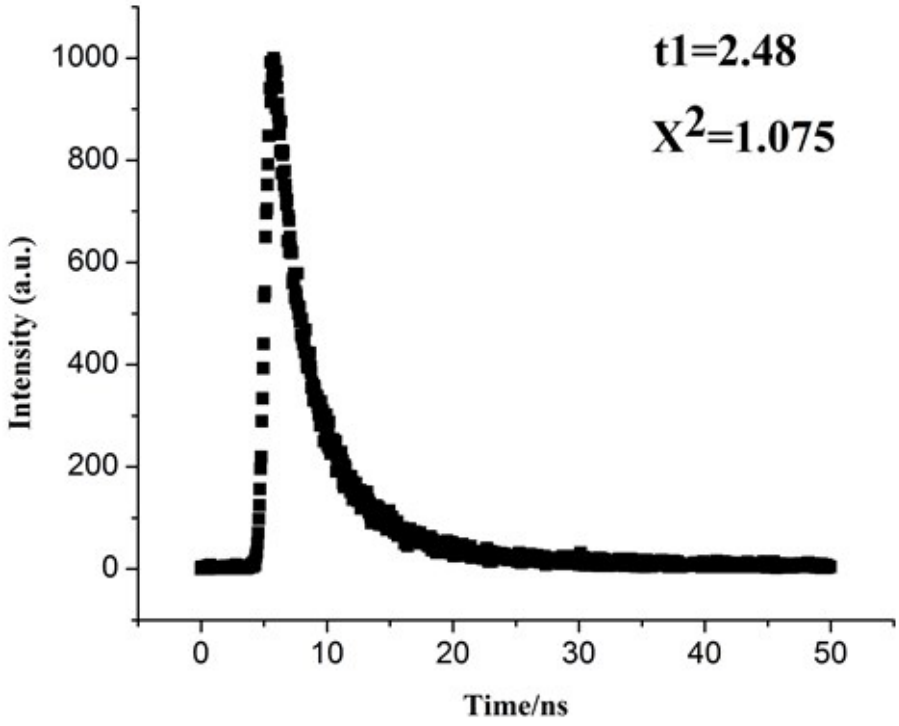

Fig S12. Fluorescence life time of compound **2.**

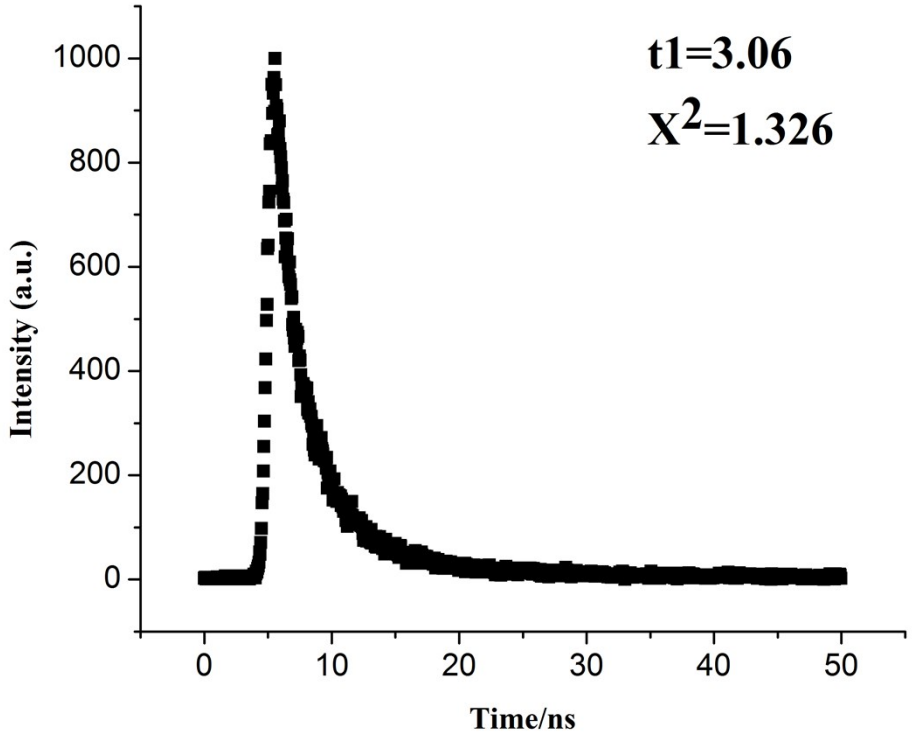

Fig S13. Fluorescence life time of compound **3.**

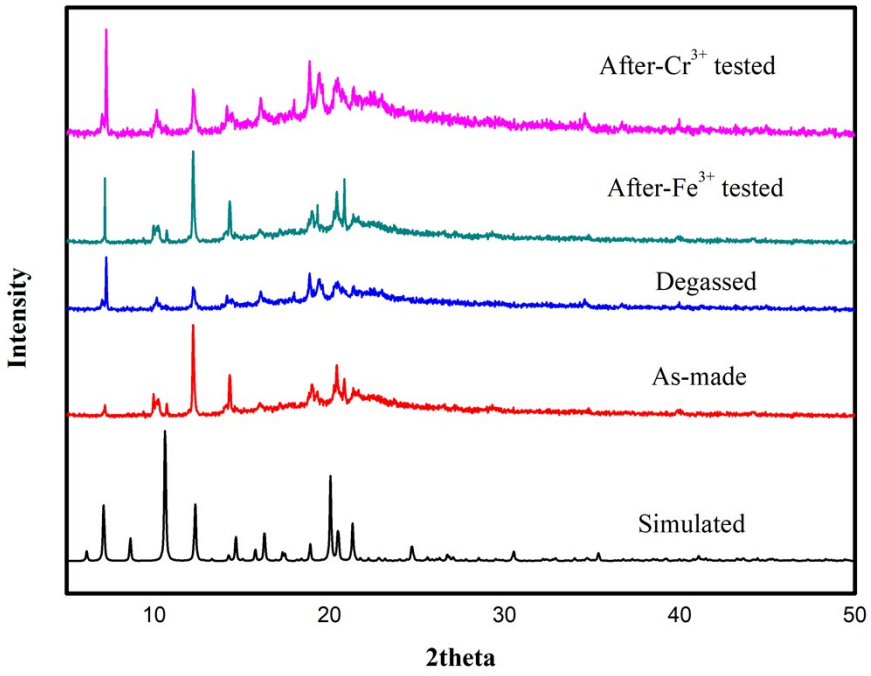

Fig S14. Powder X-ray diffraction patterns of compound **1** (as-made, simulated, Degassed and after five cycles for Fe^{3+}/Cr^{3+}test).

Table S1. Emission energies and CIE Coordinates with solvent exchange of **1-3** (λ_{ex}=365nm)

Compounds	**1**		**2**		**3**	
	λ_{em}/nm	CIE	λ_{em}/nm	CIE	λ_{em}/nm	CIE
as made	492	(0.25,0.47)	471,516	(0.25,0.39)	506	(0.31,0.50)
aniline	507	(0.28,0.53)	474	(0.19,0.33)	513	(0.27,0.42)
nitrobenzene	509	(0.28,0.52)	524	(0.29,0.42)	532	(0.32,0.42)
benzene	513	(0.29,0.53)	483	(0.22,0.37)	521	(0.28,0.47)
isopropylbenzene	513	(0.29,0.53)	471	(0.21,0.35)	527	(0.31,0.50)
1,3,5-T-benzene	515	(0.30,0.54)	491	(0.22,0.43)	528	(0.32,0.52)
m-xylene	515	(0.30,0.54)	475	(0.22,0.36)	518	(0.28,0.49)
t-Bu-benzene	515	(0.29,0.54)	473	(0.22,0.35)	525	(0.30,0.47)
toluene	515	(0.29,0.53)	474	(0.21,0.34)	521	(0.29,0.49)
o-xylene	517	(0.30,0.53)	475	(0.22,0.36)	522	(0.30,0.50)
bromobenzene	518	(0.30,0.54)	478	(0.23,0.38)	512	(0.27,0.46)
p-xylene	519	(0.31,0.54)	473	(0.22,0.35)	523	(0.30,0.51)
chlorobenzene	520	(0.30,0.53)	474	(0.22,0.36)	525	(0.30,0.50)