Supplementary Information

Color Tunable and Near White-light Emission of Two Solvent-induced 2D Lead(II) Coordination Networks Based on Rigid Ligand 1-Tetrazole-4-imidazole-benzene

Jun Chen,[a,b] Qing Zhang,[a,b] Zhi-Fa Liu,[a] Shuai-Hua Wang,[a] Yu Xiao,[a,b] Rong Li,[a,b] Jian-Gang Xu,[a,b] Ya-Ping Zhao,[a,b] Fa-Kun Zheng,*[a] and Guo-Cong Guo*[a]

[a] *State Key Laboratory of Structural Chemistry, Fujian Institute of Research on the Structure of Matter, Chinese Academy of Sciences, Fuzhou, Fujian 350002, P. R. China*

[b] *University of Chinese Academy of Sciences, Beijing 100039, P. R. China*

Table S1. Selected bond lengths (Å) and angles (º) for **1** and **2**.

1			
Pb(1)-N(6)#1	2.440(5)	Pb(1)-O(3)#2	2.661(6)
Pb(1)-N(2)	2.462(5)	Pb(1)-N(1)#2	2.667(6)
Pb(1)-O(3)	2.522(5)	O(3)-Pb(1)-O(3)#2	99.31(12)
N(6)#1-Pb(1)-N(2)	80.86(19)	N(6)#1-Pb(1)-N(1)#2	87.25(18)
N(6)#1-Pb(1)-O(3)	86.22(19)	N(2)-Pb(1)-N(1)#2	83.11(18)
N(2)-Pb(1)-O(3)	71.52(18)	O(3)-Pb(1)-N(1)#2	154.50(18)
N(6)#1-Pb(1)-O(3)#2	145.86(18)	O(3)#2-Pb(1)-N(1)#2	73.30(16)
N(2)-Pb(1)-O(3)#2	69.36(19)		
2			
Pb(1)-N(22)	2.439(6)	Pb(1)-N(26)#3	2.674(7)
Pb(1)-N(14)#1	2.575(6)	Pb(1)-N(11)	2.732(7)
Pb(1)-N(16)#2	2.586(6)	N(16)#2-Pb(1)-N(26)#3	167.7(2)
N(22)-Pb(1)-N(14)#1	88.29(19)	N(22)-Pb(1)-N(11)	85.2(2)
N(22)-Pb(1)-N(16)#2	88.1(2)	N(14)#1-Pb(1)-N(11)	171.5(2)
N(14)#1-Pb(1)-N(16)#2	79.55(19)	N(16)#2-Pb(1)-N(11)	94.8(2)
N(22)-Pb(1)-N(26)#3	86.0(2)	N(26)#3-Pb(1)-N(11)	95.4(2)
N(14)#1-Pb(1)-N(26)#3	89.53(19)		

Symmetry codes for **1**: #1 x – 1, y, z; #2 –x + 1/2, y + 1/2, z; **2**: #1 x, y – 1, z; #2 –x + 1, –y + 1, –z; #3 x – 1, y, z.

Table S2. The CIE chromaticity coordinates (x, y), CRI and CCT for **1**.

λ_{ex} / nm	x	y	CCT	CRI
300	0.48	0.45	2645	71
320	0.49	0.46	2649	70
330	0.43	0.43	3404	77
335	0.37	0.41	4428	81
338	0.35	0.40	4909	80
340	0.35	0.40	5075	78
345	0.35	0.40	5148	77
350	0.34	0.40	5220	77

Table S3. The CIE chromaticity coordinates (x, y), CRI and CCT for **2**.

λ_{ex} / nm	x	y	CCT	CRI
320	0.31	0.38	6386	78
325	0.30	0.37	6791	79
330	0.29	0.36	7256	79
335	0.29	0.35	7429	79
340	0.29	0.35	7777	80
350	0.28	0.33	8373	81
360	0.28	0.34	8009	79
365	0.29	0.34	7923	81
370	0.29	0.34	7956	82
375	0.29	0.33	8166	84
380	0.28	0.32	8341	86
385	0.28	0.32	8473	88

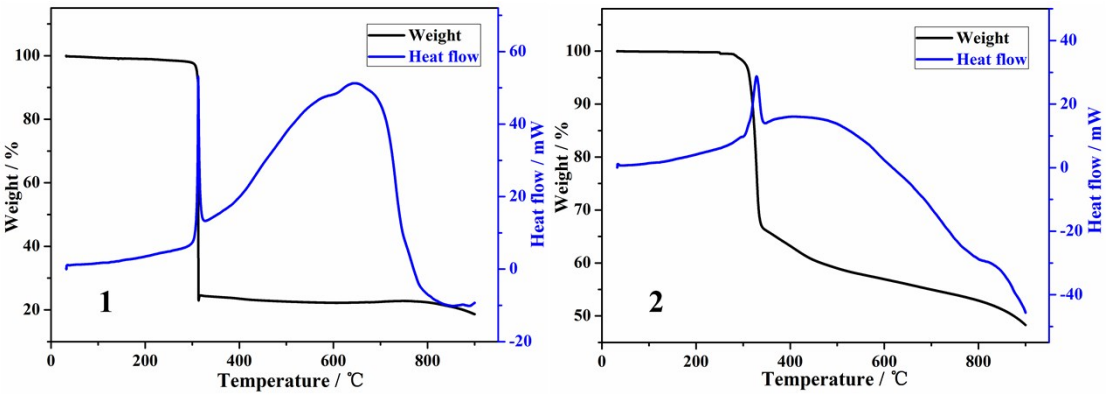

Fig. S1 TGA curves for **1** and **2**.

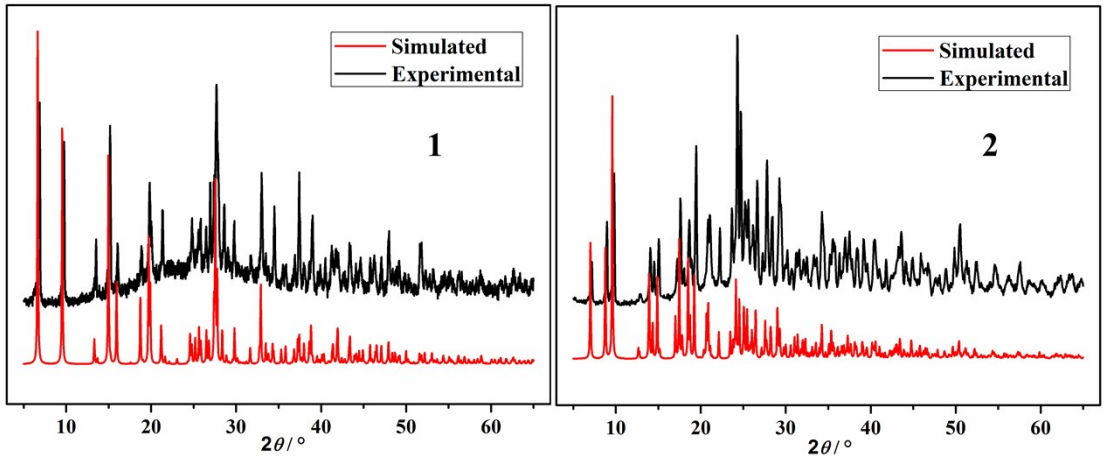

Fig. S2 Powdered X-ray diffraction (PXRD) patterns of **1** and **2**.

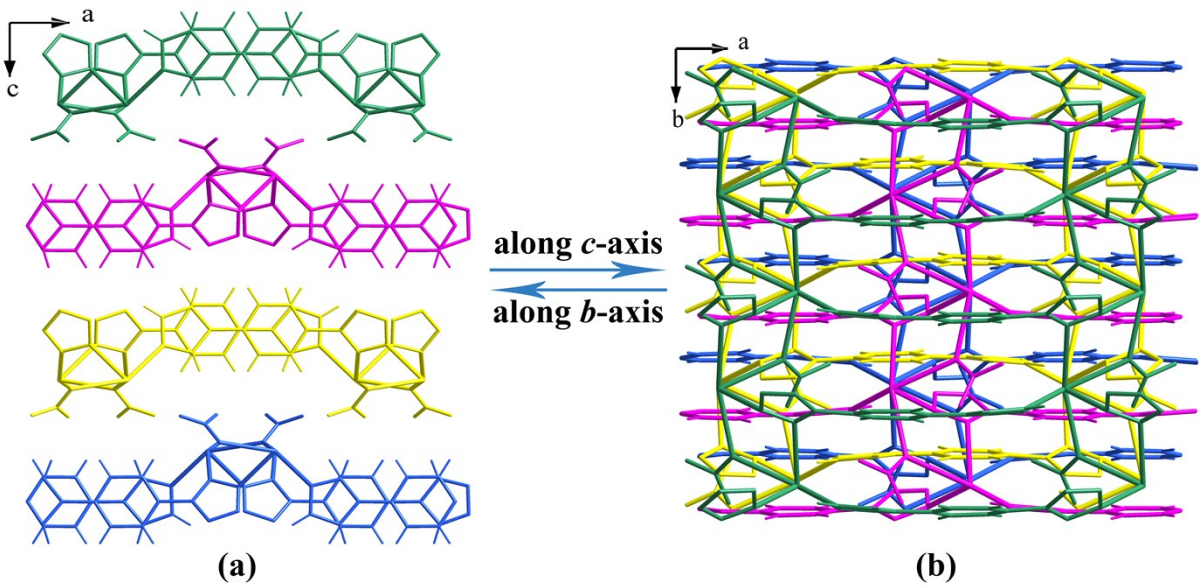

Fig. S3 (a) The 2D layers stack over each other in **1** in an−ABCD−ABCD− sequence viewed along the *b*-direction, (b) viewed along the *c*-direction.

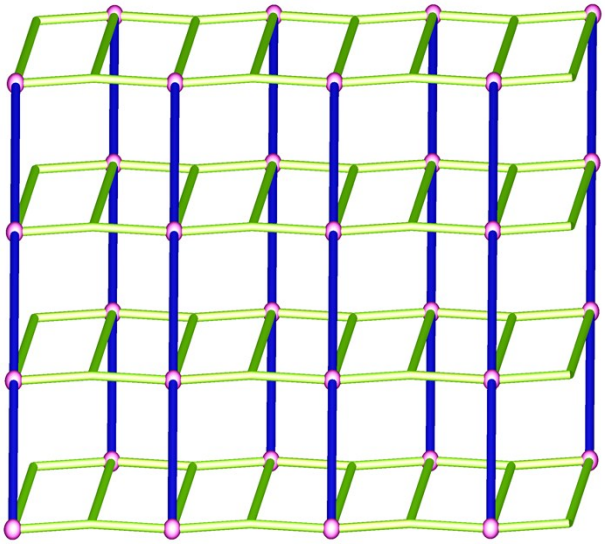

Fig. S4 The 2D topology network of **2**.

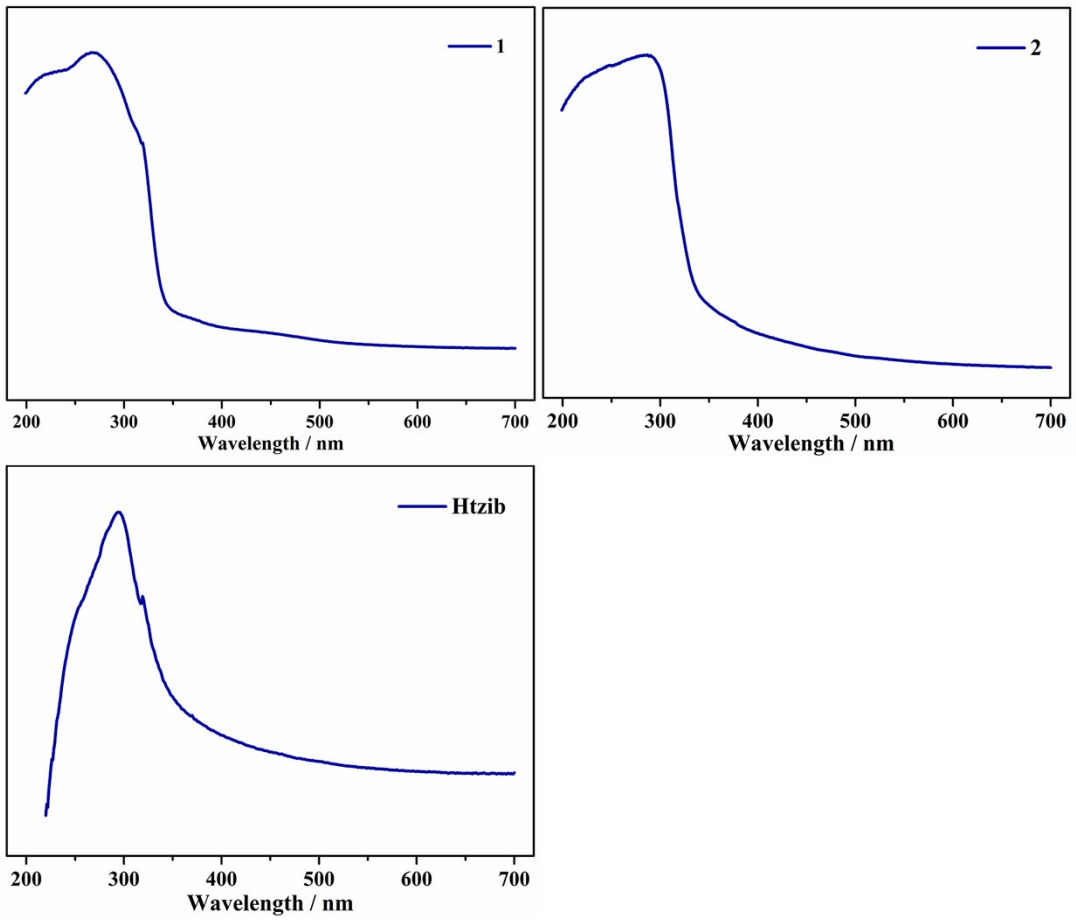

Fig. S5 Solid-state UV/Vis absorbance spectra of polymers **1**, **2** and ligand Htzib measured at 298 K.

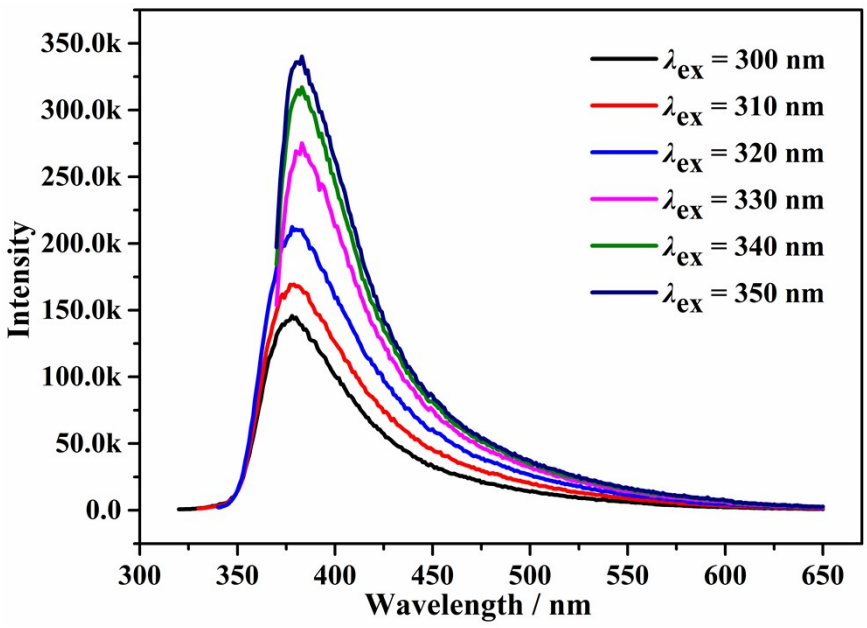

Fig. S6 Solid-state photoluminescent spectra of Htzib by varying excitation wavelengths.

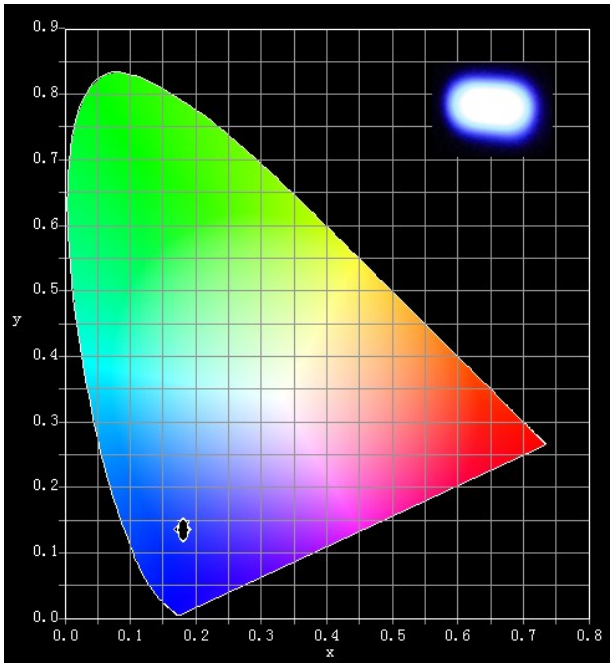

Fig. S7 The photograph of the CIE chromaticity diagrams for Htzib; the inset is the photoluminescent image of Htzib excited by 350 nm UV-light.

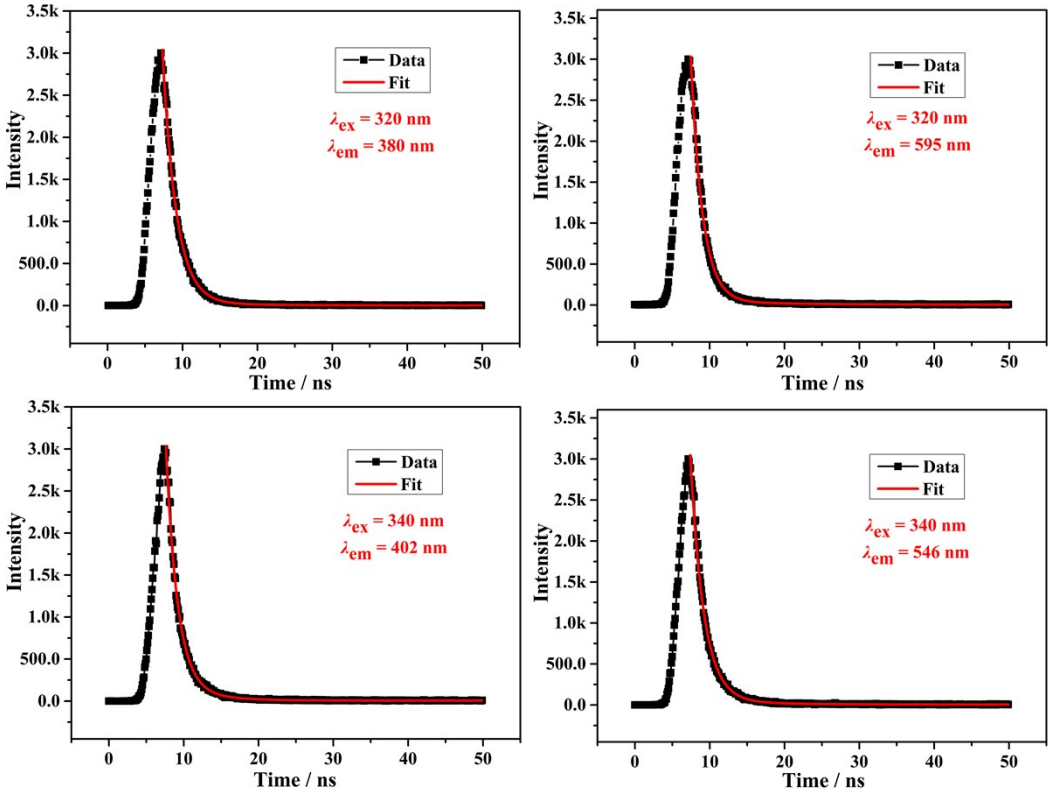

Fig. S8 Photoluminescence lifetimes of **1** in the solid state measured at 298 K.

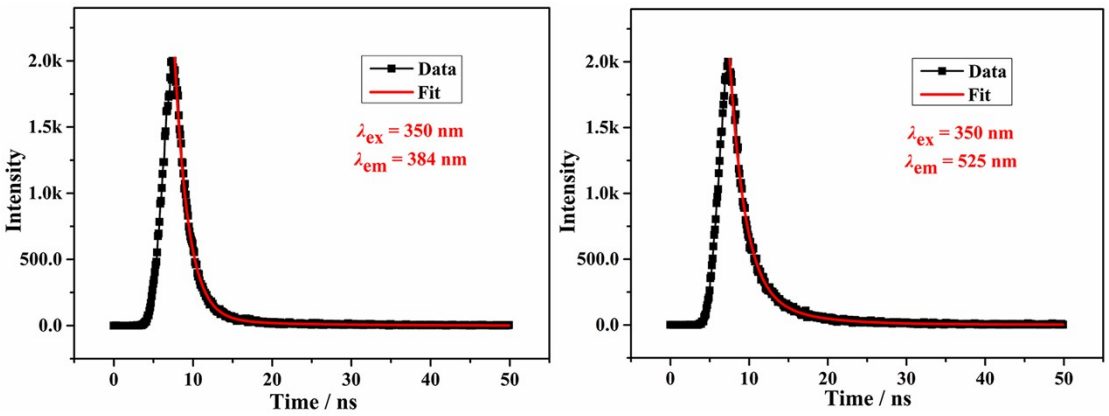

Fig. S9 Photoluminescence lifetimes of **2** in the solid state measured at 298 K.

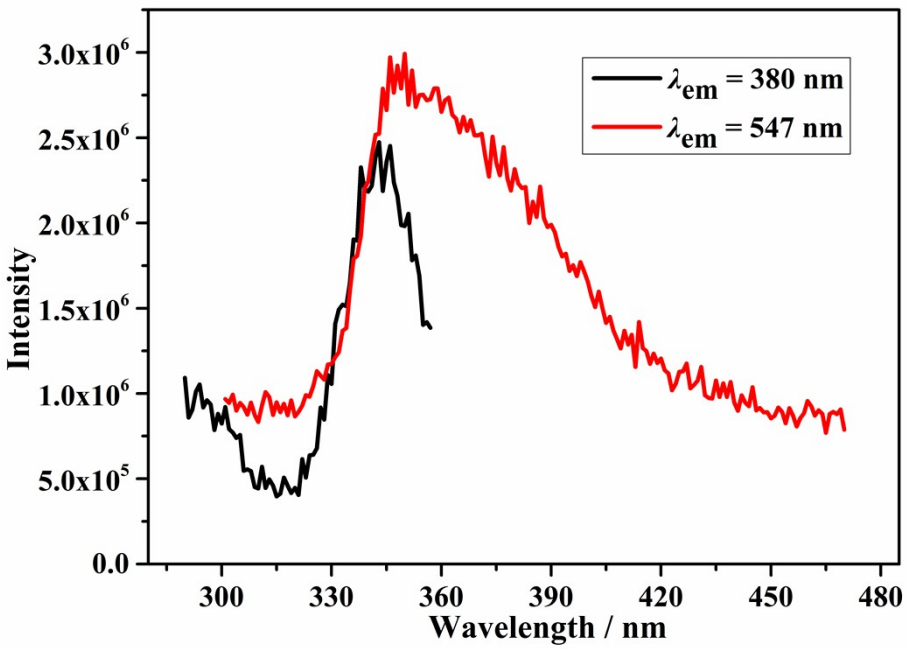

Fig. S10 The excitation spectra of **1** in the solid state.

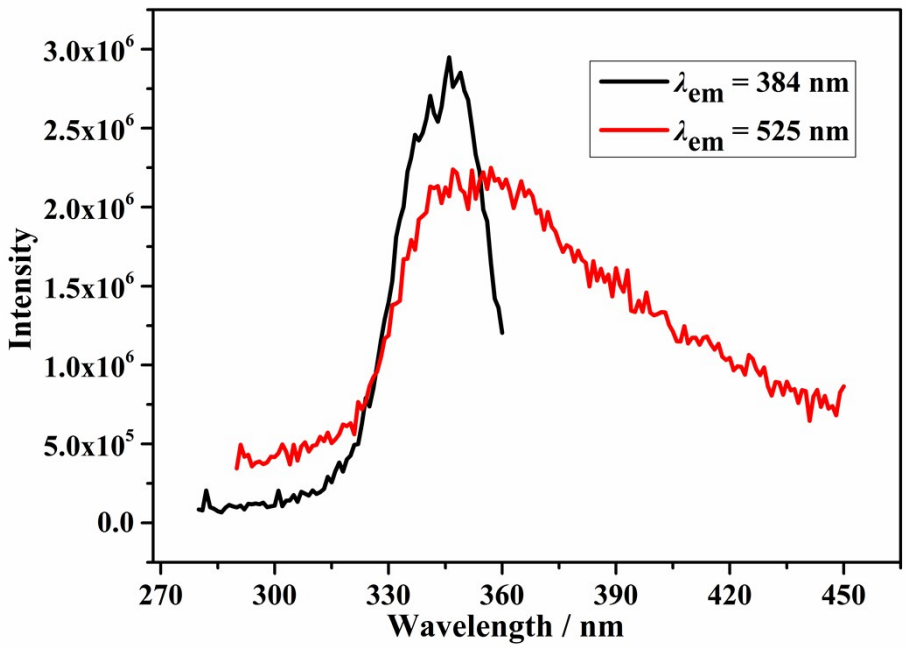

Fig. S11 The excitation spectra of **2** in the solid state.

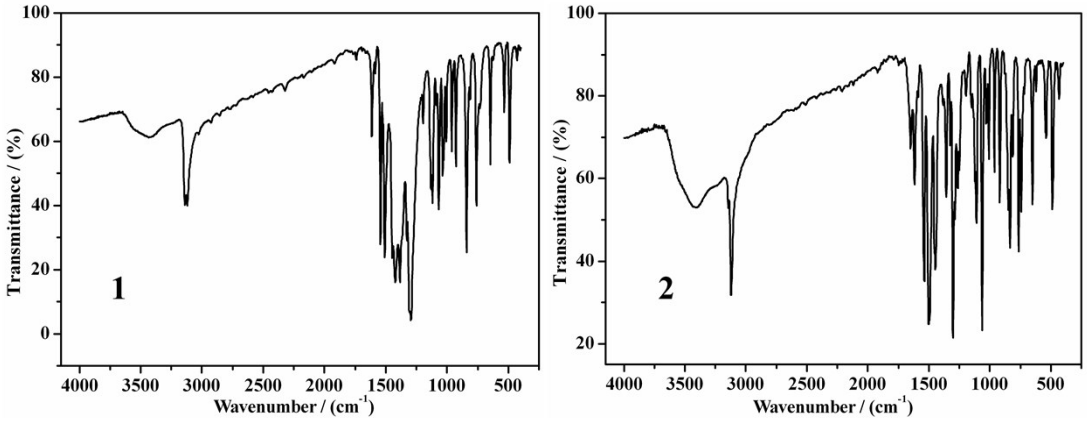

Fig. S12 The FT-IR spectra of **1** and **2**.