Electronic Supplementary Material (ESI) for Journal of Materials Chemistry C.

Supporting Information

Great advance in high T_c for hybrid photoelectric-switch bulk/film coupled with dielectric and blue-white light

Ya-Fang Gao, Tie Zhang, Wan-Ying Zhang, Qiong Ye, and Da-Wei Fu**

(Ordered Matter Science Research Center, Jiangsu Key Laboratory for Science and Applications of Molecular Ferroelectrics, Southeast University, Nanjing, 211189, P.R. China)

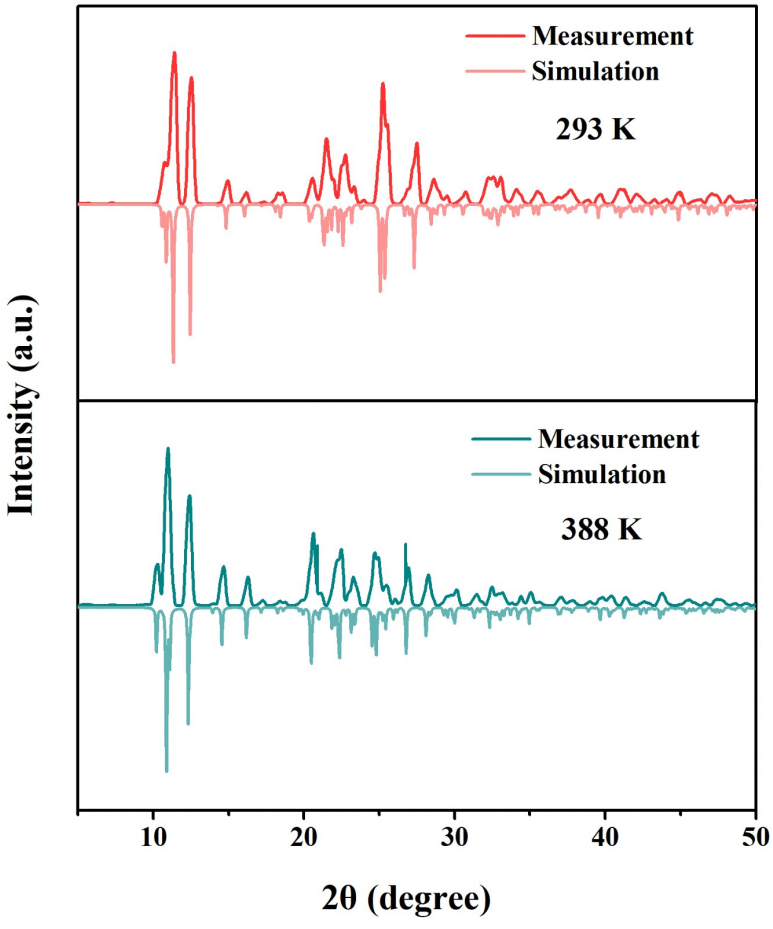

Fig. S1 The powder X-ray diffraction (PXRD) pattern for compound **1** at 293K and 388K.

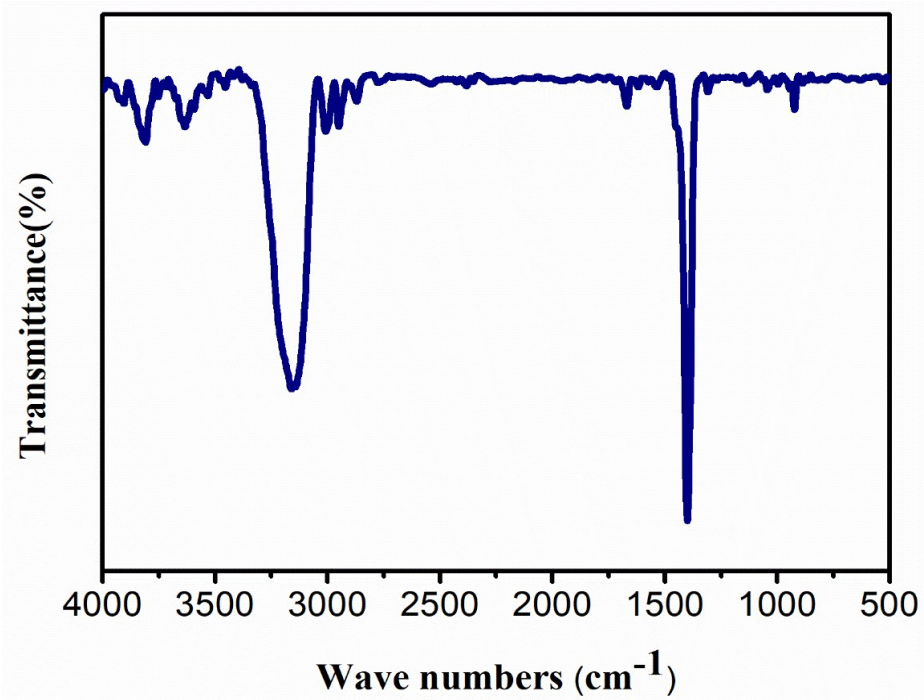

Fig. S2 The IR spectrum of compound **1**

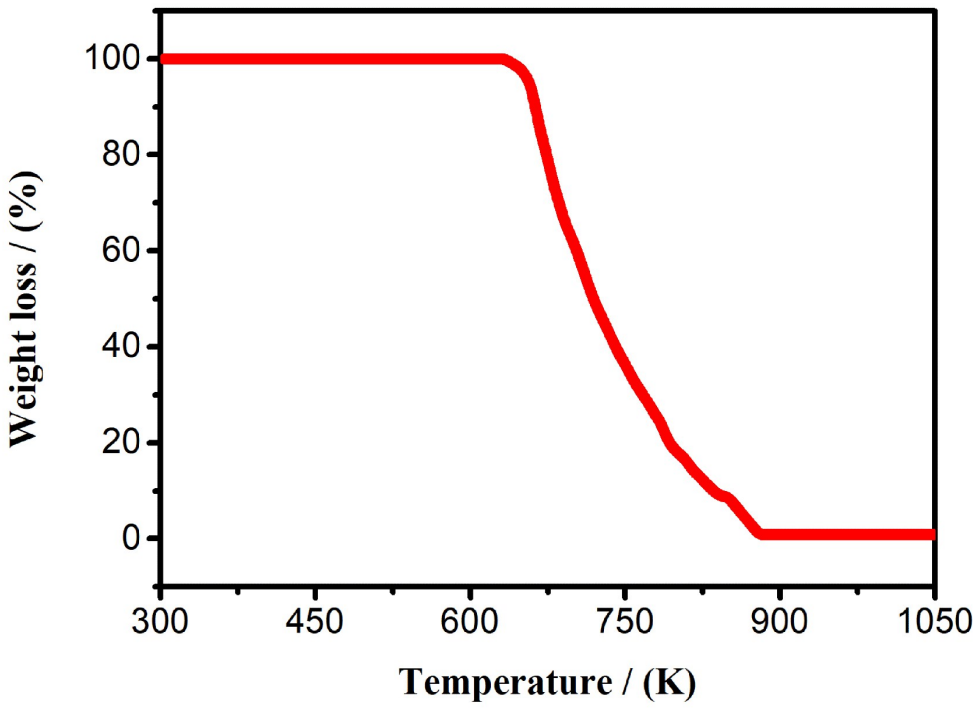

Fig. S3 TG curve of crystalline sample **1**

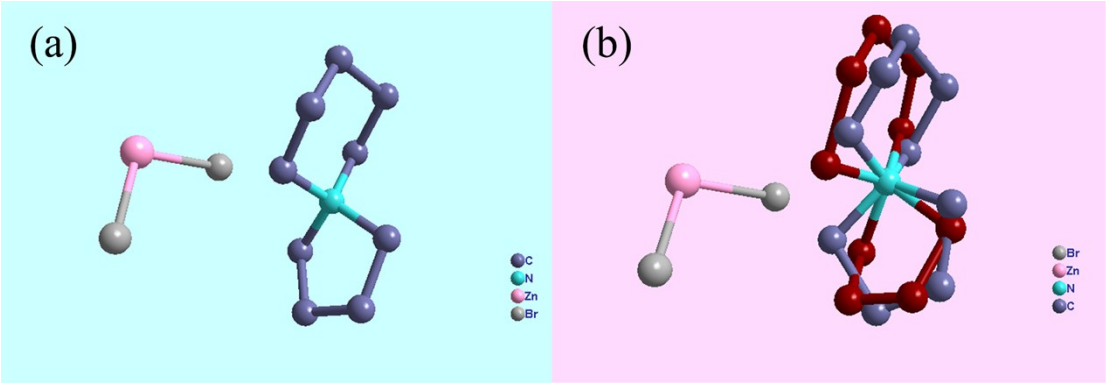

Fig. S4 The asymmetric unit of compound **1** at 293K (a) and 388K (b).

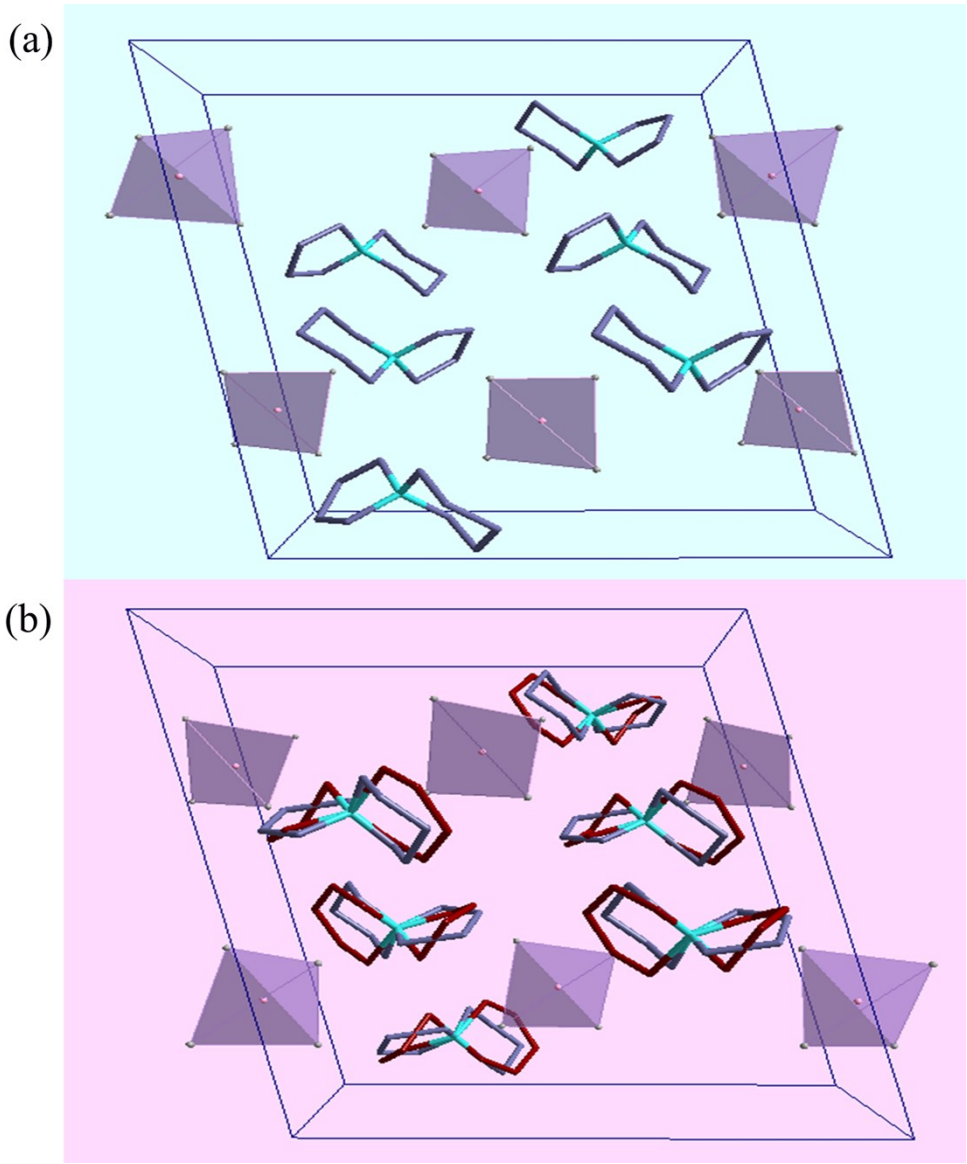

Fig. S5 Cell packing diagrams of **1** at RTP (a) and HTP (b).

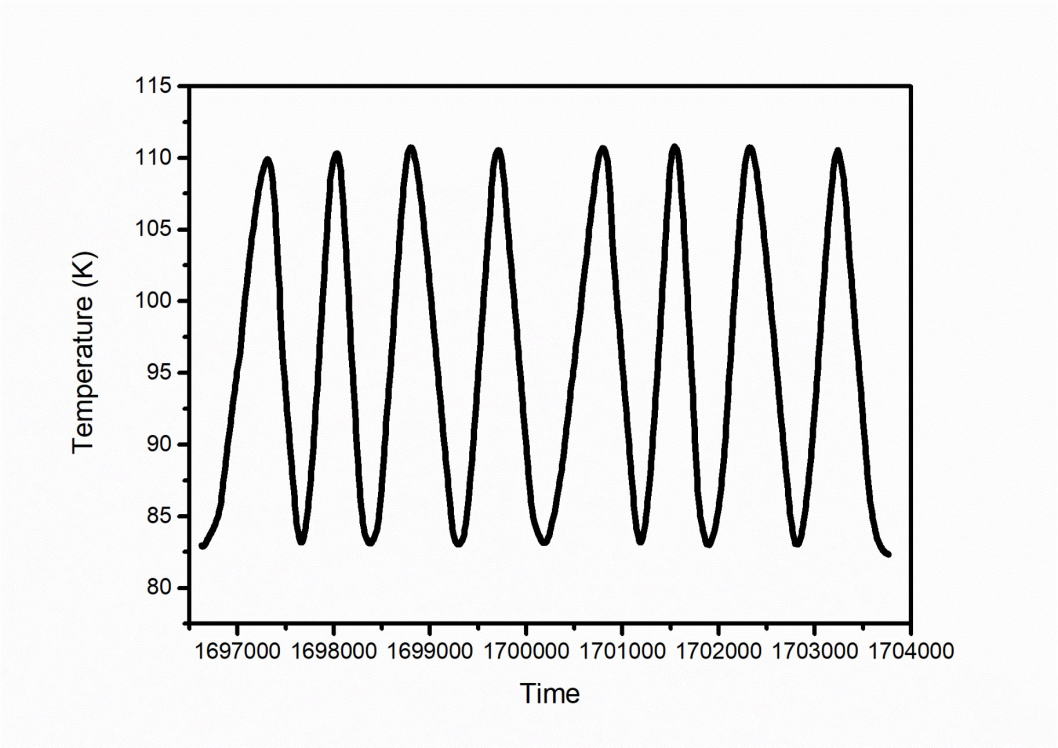

Fig. S6 The recoverable switching diagram of temperature curve over time.

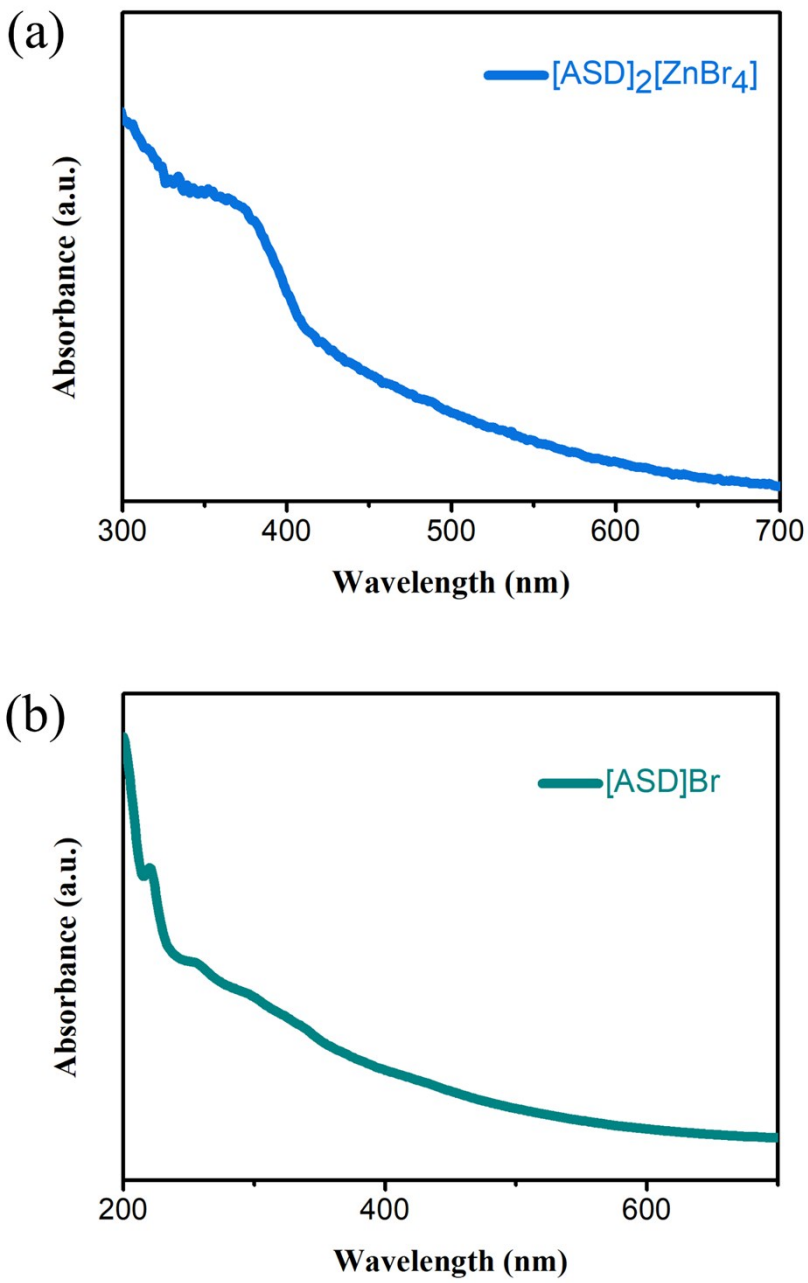

Fig. S7 The UV absorption spectra of $[ASD]_2[ZnBr_4]$ (**a**) and [ASD]Br (**b**).

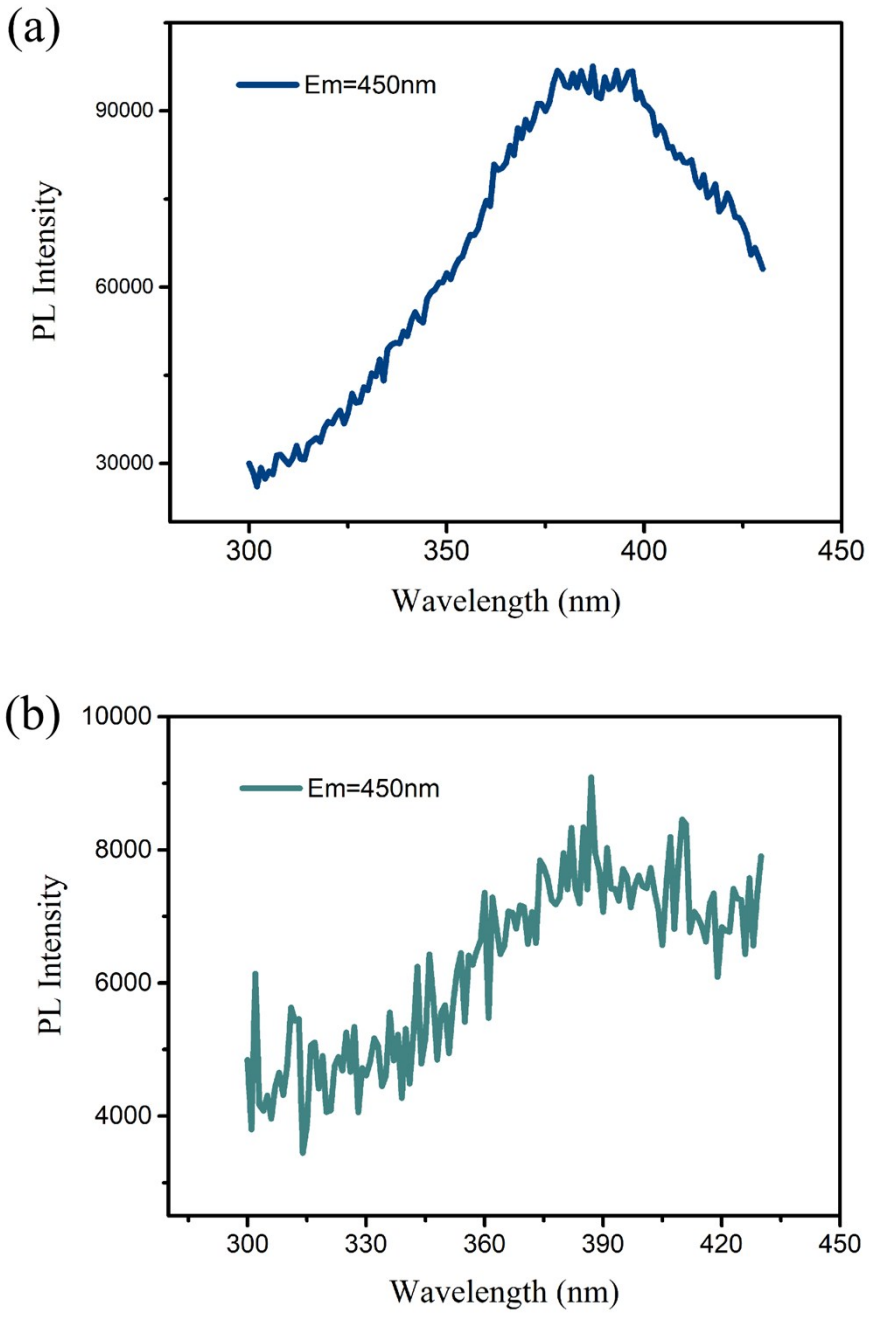

Fig. S8 The excitation spectra of the bulk crystal (**a**) and grinded powder (**b**) of the compound **1**.

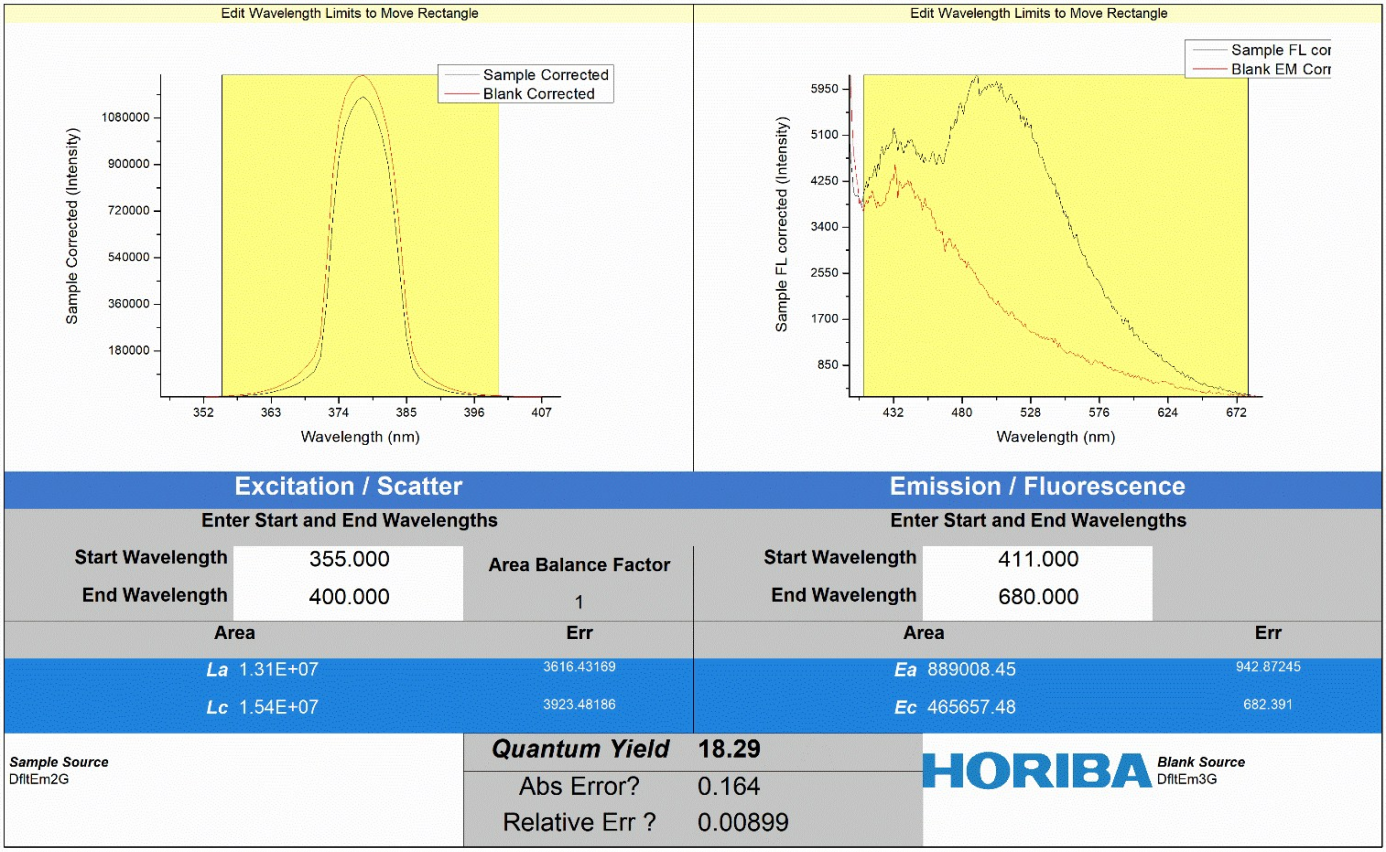

Fig. S9 The quantum yield plot of $[ASD]_2[ZnBr_4]$ (**1**)

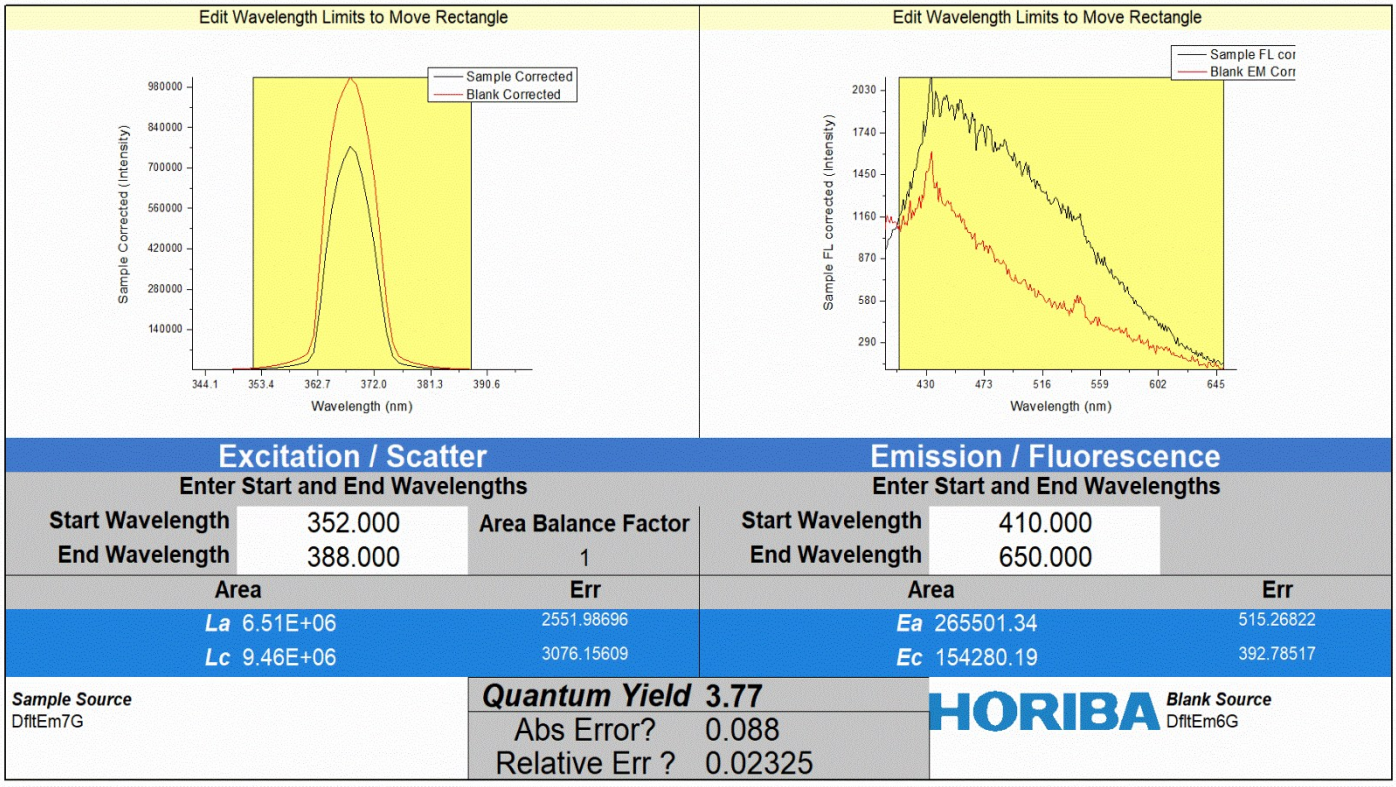

Fig. S10 The quantum yield plot of [ASD]Br

Table S1. Crystal data and structure refinements for **1** at 293K and 388K

	RTP(293K)	HTP(388K)
Empirical formula	$C_{18}H_{36}N_2ZnBr_4$	$C_{18}H_{36}N_2ZnBr_4$
Formula weight	665.50	665.50
Temperature(K)	293	388
Crystal system	Monoclinic	Monoclinic
Space group	C2/c	C2/c
a/Å	14.5026(5)	14.6305(11)
b/Å	10.3056(3)	10.9175(6)
c/Å	16.6021(6)	16.4244(10)
Volume/Å^3	2432.81(14)	2545.7(3)
Z	4	4
Radiation type	Mo-Kα	Mo-Kα
Absorption correction	Semi-empirical	Semi-empirical
D_{calc} / g cm−3	1.817	1.736
F(000)	1312.0	1312.0
GOF	1.031	1.069
R1[I > 2σ(I)]	0.0247	0.0438
wR2[I > 2σ(I)]	0.0557	0.1539

Table S2. Selected bond lengths [Å] and angles [°] for **1** at 293K and 388K

	293K		388K	
Bond length (Å)	Zn1—Br1	2.4172(4)	Zn1—Br1	2.4010(5)
	Zn1—Br2	2.4105(4)	Zn1—Br2	2.4142(4)
	Zn1—Br1^{i}	2.4172(4)	Zn1—Br1^{ii}	2.4010(5)
	Zn1—Br2^{i}	2.4105(4)	Zn1—Br2^{ii}	2.4142(4)
Bond angle (°)	Br1—Zn1—Br1^{i}	109.37(3)	Br1—Zn1—Br1^{ii}	109.92(3)
	Br1—Zn1—Br2	112.513(12)	Br1—Zn1—Br2	107.902(13)
	Br1—Zn1—Br2^{i}	106.806(12)	Br1—Zn1—Br2^{ii}	111.337(14)
	Br2—Zn1—Br1^{i}	106.806(12)	Br2—Zn1—Br1^{ii}	111.337(14)
	Br2^{i}—Zn1—Br1^{i}	112.513(12)	Br2^{ii}—Zn1—Br1^{ii}	107.902(13)
	Br2—Zn1—Br2^{i}	108.92(3)	Br2—Zn1—Br2^{ii}	108.46(2)

Symmetry codes: (i) –x, y, –z+1/2; (ii) –x+1, y, –z–1/2.