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

Supporting Information

A Layered Hybrid Rare-Earth Double Perovskite-Type Molecule-Based Compound with Electrical and Optical Response Properties

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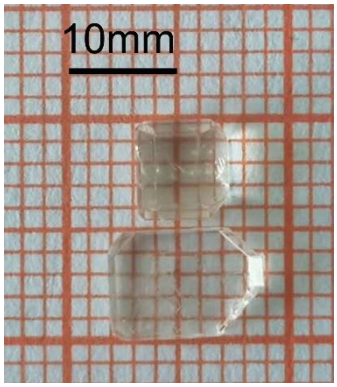

Figure S1. Crystal morphology of **1**.

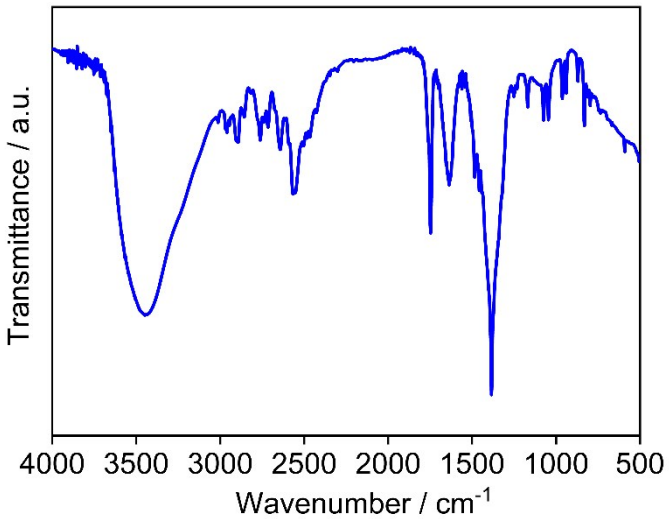

Figure S2. IR spectra of **1** in KBr pellets was measured on a Shimadzu IRPrestige-21 spectrometer at room temperature.

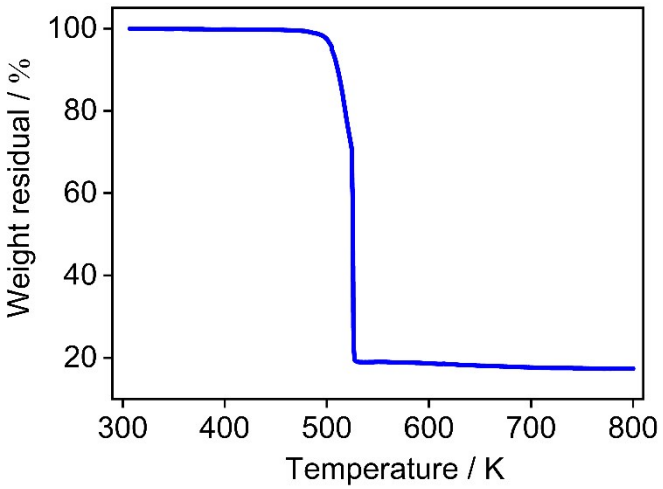

Figure S3. TGA curves of **1**.

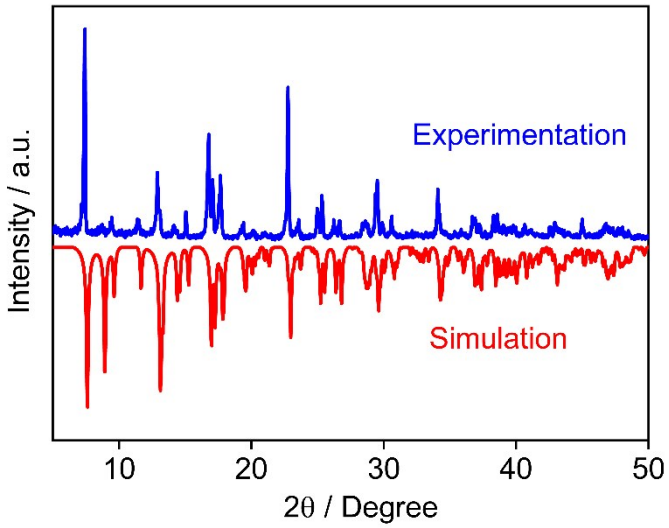

Figure S4. PXRD patterns of **1** recorded at room temperature.

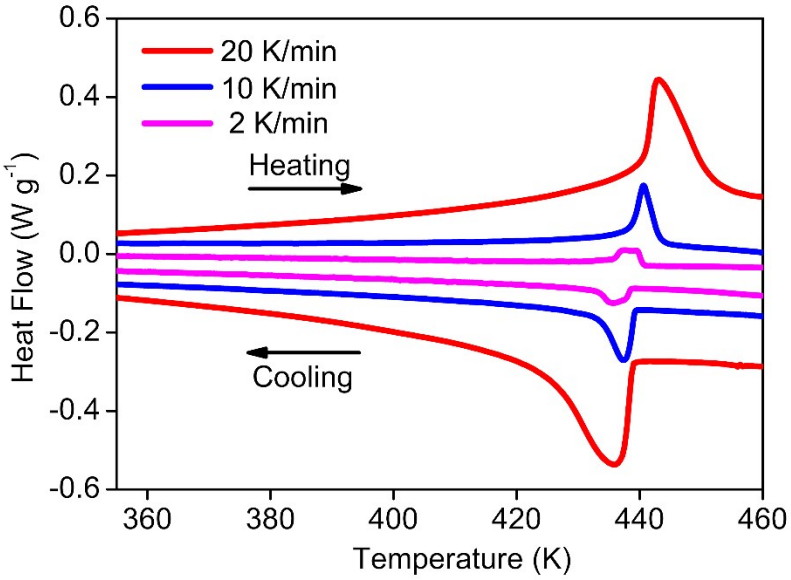

Figure S5. Characterizations of the phase transition behavior of **1**. DSC curves measured at different scanning rates.

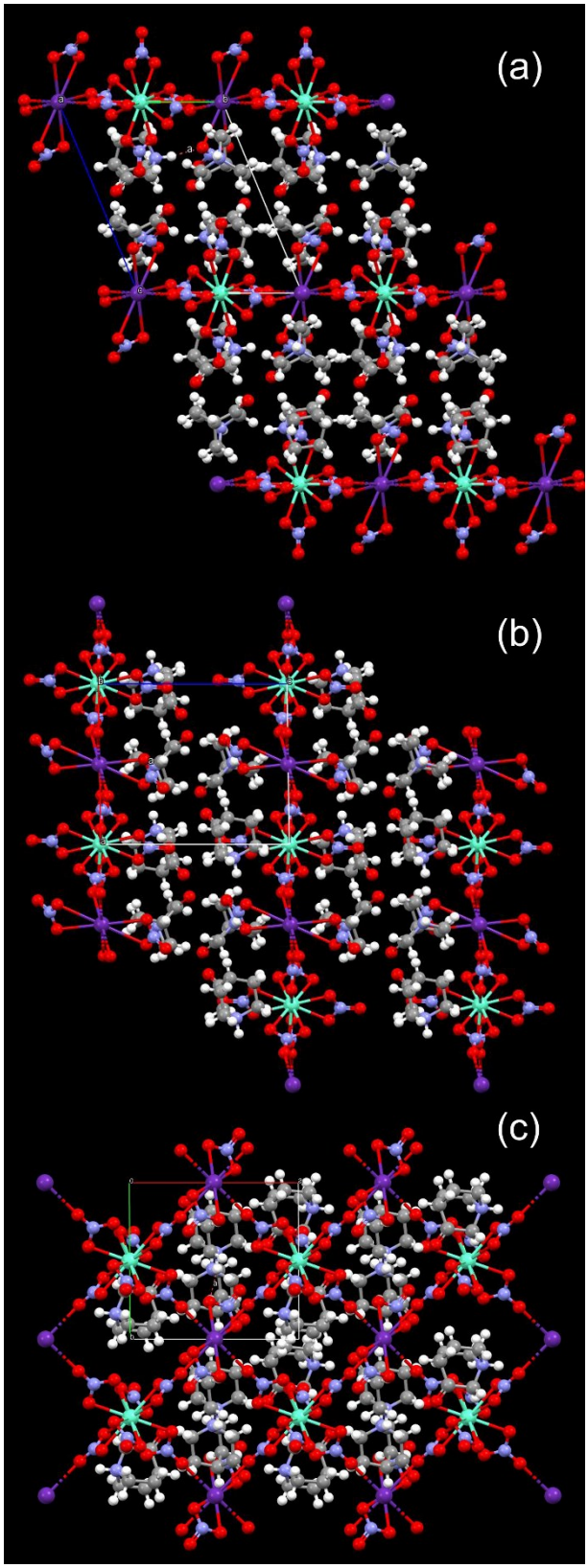

Figure S6. The crystal structures of **1** at 293 K viewed along the (a) *a*-, (b) *b*- and (c) *c*-axis, respectively. Purple: Rb; cyan: Eu; red: O; blue: N; gray: C; white: H.

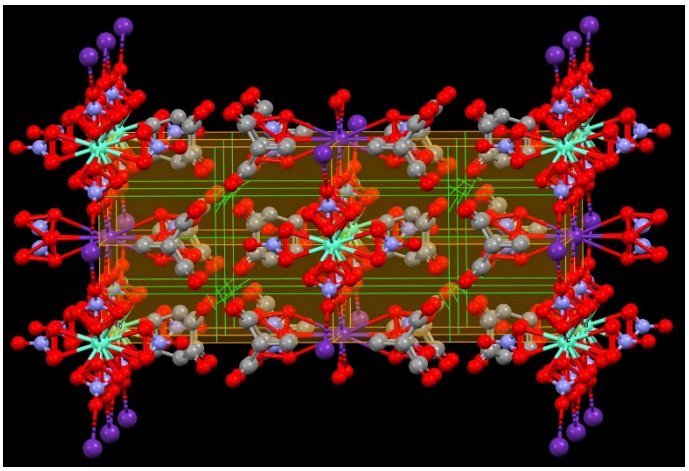

Figure S7. The crystal structure of **1** at 478 K, showing the disordered state of the NO_3^- ions and organic cations. Purple: Rb; cyan: Eu; red: O; blue: N; gray: C; white: H. Orange plane: mirror plane; green line: two-fold axis.

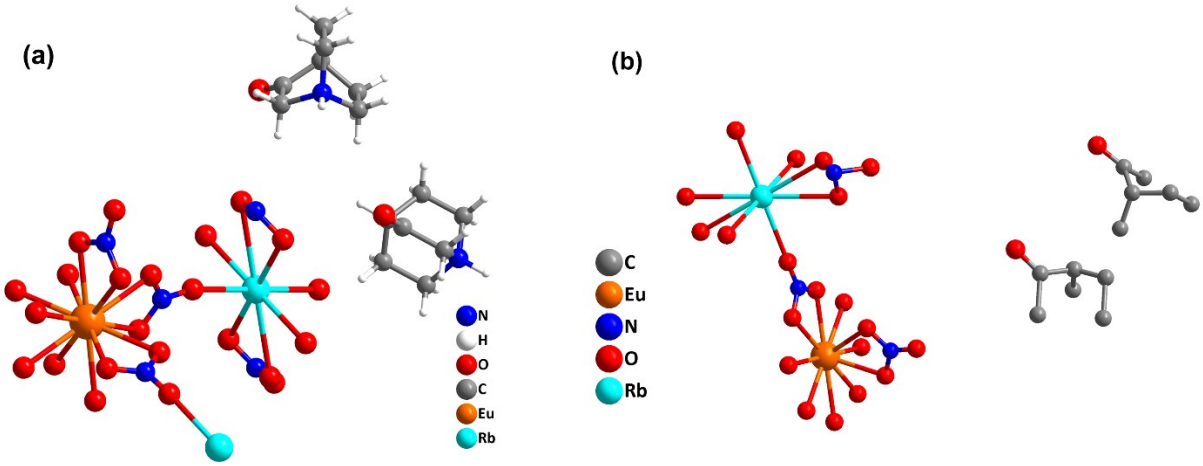

Figure S8. An asymmetric unit of **1** (a) at 293 K and (b) at 478 K.

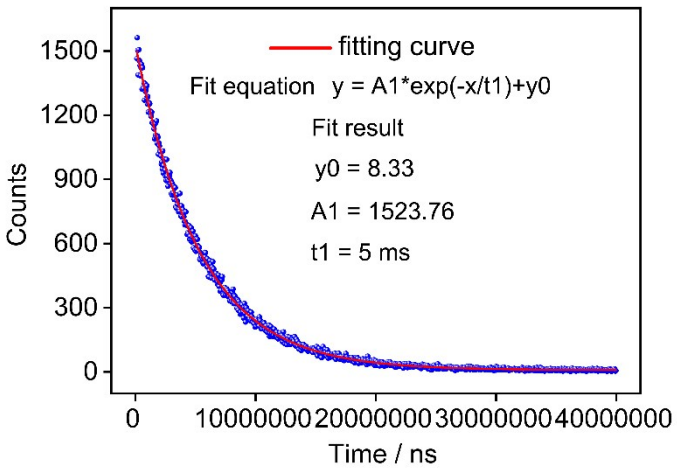

Figure S9. The lifetime measurement of **1**.

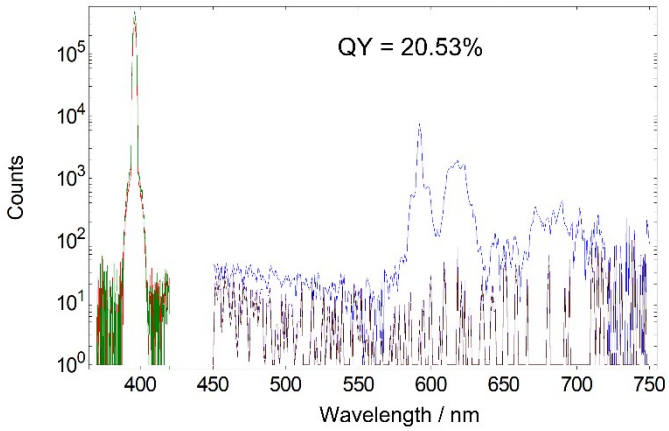

Figure S10. The quantum yield measurement of **1**.

Table S1. Selected hydrogen bonds (Å, °) for **1**.

D−H···A	H···A	D···A	D−H···A
1 (293 K)			
N5−H5C···N4^{i}	2.427	3.403	173.45
N5−H5C···O11^{i}	2.090	2.999	153.39
N5−H5C···O12^{i}	2.120	2.965	143.46
N6−H6C···N4^{ii}	2.421	3.389	169.24
N6−H6C···O10^{ii}	2.023	2.962	159.86
N6−H6C···O12^{ii}	2.203	3.011	138.97
Symmetry codes: (i) −x+2, −y, −z+2; (ii) x, y+1, z−1.			