Electronic Supplementary Material (ESI) for Inorganic Chemistry Frontiers.

Supporting information

Metal-Organic Ferroelectric Complexes: Enantiomer Directional Induction Achieved Above-Room-Temperature Homochiral Molecular Ferroelectrics

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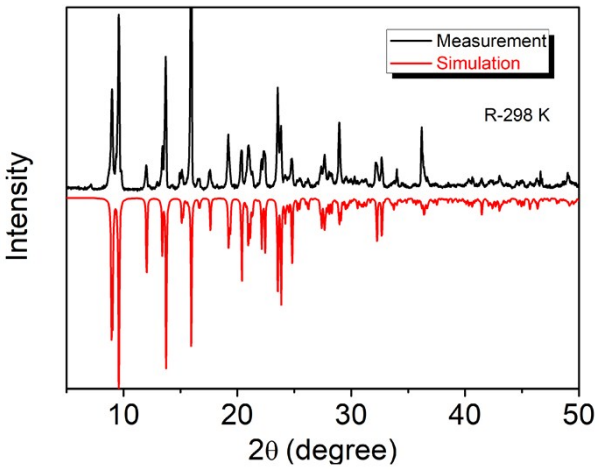

Fig. S1 Pattern of powder X-ray diffraction of *R*-configuration at 298 K, verifying the purity of the bulk phase.

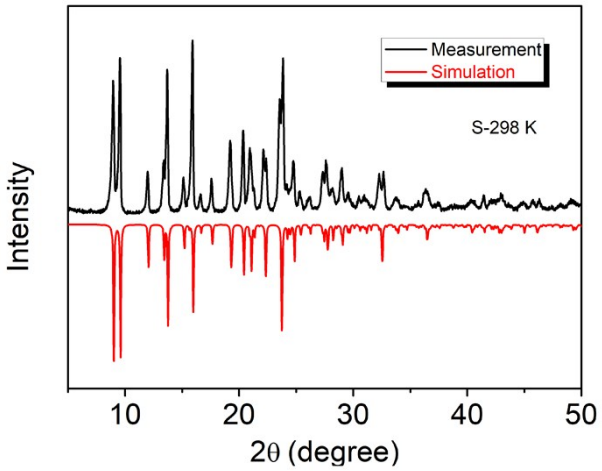

Fig. S2 Pattern of powder X-ray diffraction of *S*-configuration at 298 K, verifying the purity of the bulk phase.

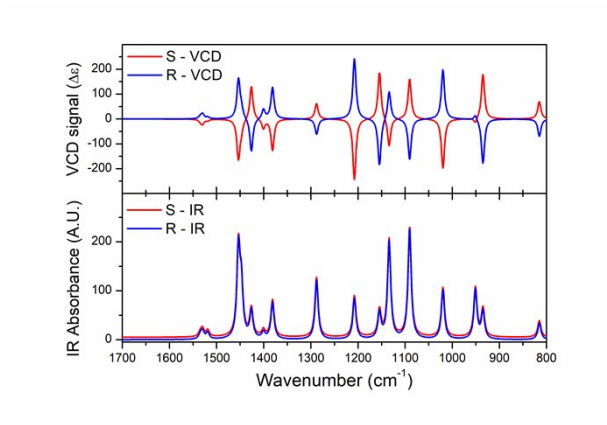

Fig. S3 DFT calculated VCD and IR spectra for *R*- and *S*-configuration.

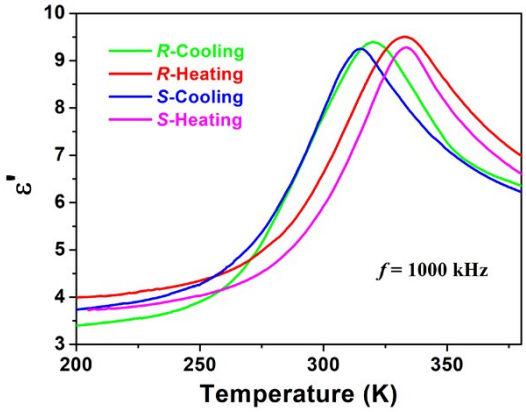

Fig. S4 Temperature-dependent dielectric real part ε' under 1000 kHz in a heating and cooling cycle with the same heating/cooling rate of 15 K min^{-1} in terms of polycrystalline samples for *R*- and *S*-configuration.

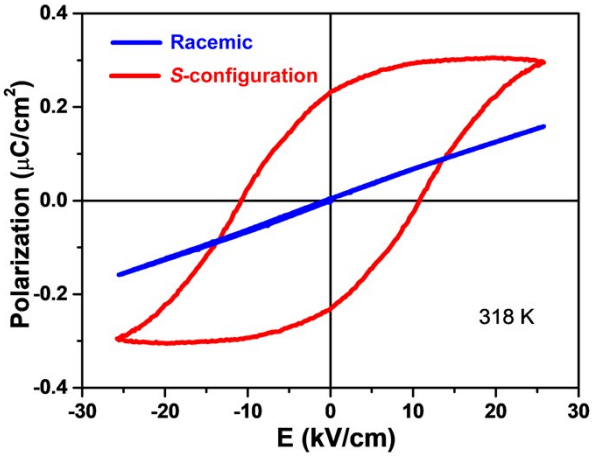

Fig. S5 Comparison of ferroelectric P−E loop of *S*-configuration and racemate at 318 K.

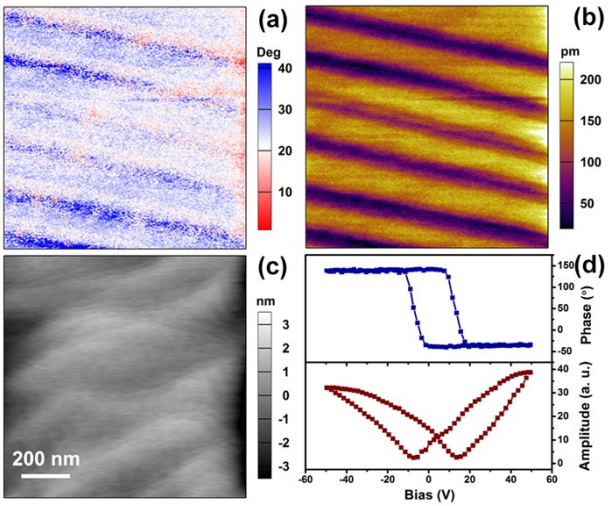

Fig. S6 Domain properties of the thin film of *R*-configuration. Vertical phase (a) and amplitude images (b) and topographic images (c) for the thin film. (d) Phase and amplitude signals as functions of the tip voltage for a selected point, showing local PFM hysteresis loops.

Table S1 Crystal data and structure refinements for *R*- and *S*-configuration.

Compound	*R*-configuration	*R*-configuration	*S*-configuration	*S*-configuration
Formula weight	643.01	643.01	643.01	643.01
Temperature	293 K	373 K	298 K	373 K
Crystal system	Triclinic	Monoclinic	Triclinic	Monoclinic
Space group	*P*1	*C*2	*P*1	*C*2
a/Å	10.960(7)	17.62(4)	10.9605(9)	17.5768(14)
b/Å	11.018(7)	13.23(3)	10.9825(9)	13.1751(7)
c/Å	12.933(9)	13.36(3)	12.9788(9)	13.3367(10)
α/deg	101.979(4)	90	102.213(5)	90
β/deg	113.103(7)	123.10(5)	113.419(5)	123.110(7)
γ/deg	106.145(5)	90	106.1900	90
Volume/Å^3	1288.2(15)	2609(10)	1281.33	2587.0(4)
Z	2	4	2	4
Density/g cm^{-3}	1.658	1.635	1.667	1.648
R_1 [$I>2\sigma(I)$]	0.0454	0.0614	0.0590	0.0421
wR_2 [$I>2\sigma(I)$]	0.0921	0.1469	0.1528	0.0932
GOF	0.975	1.001	1.018	1.000