

## Supporting Information For

### A pair of dinuclear Re(I) enantiomers: synthesis, crystal structures, chiroptical and ferroelectric properties

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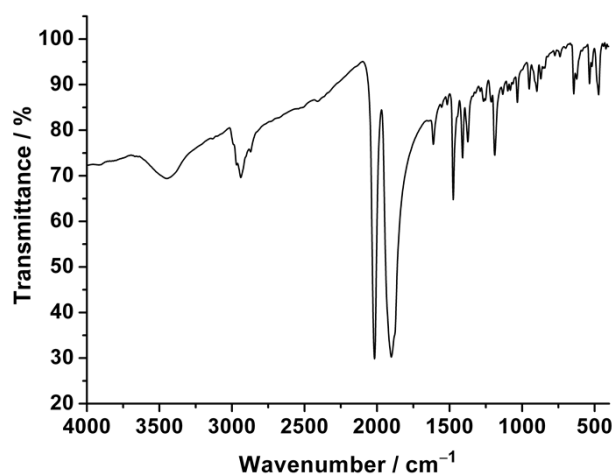


Fig. S1 FT-IR spectrum of S-1

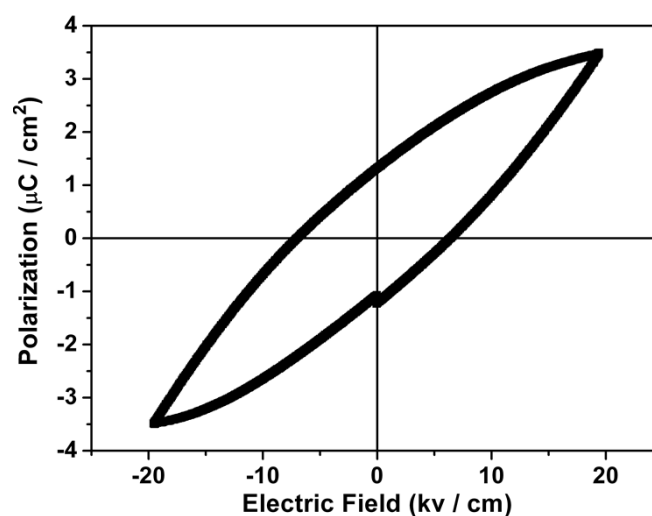


Fig. S2 *P-E* hysteresis loop of S-1 based on a single-crystal sample at room temperature.

**Table S1.** Selected bond lengths (Å) and angles (°) for **R-1** and **S-1**.

| <b>R-1</b> |           |           |           |           |           |
|------------|-----------|-----------|-----------|-----------|-----------|
| Re1-N1     | 2.168(19) | Re1-N2    | 2.145(18) | Re2-N3    | 2.150(15) |
| Re2-N4     | 2.147(17) | Re1-C1    | 2.236(17) | Re1-C2    | 1.93(2)   |
| Re1-C3     | 1.91(2)   | Re2-C4    | 1.87(3)   | Re2-C5    | 1.83(2)   |
| Re2-C6     | 1.93(3)   | Re1-Cl1   | 2.402(13) | Re2-Cl2   | 2.420(12) |
| N2-Re1-N1  | 74.9(7)   | N4-Re2-N3 | 74.5(6)   | C2-Re1-N1 | 99.7(8)   |
| C1-Re1-N2  | 83.8(6)   | N3-Re2-C4 | 99.9(9)   | N4-Re2-C6 | 93.2(9)   |
| <b>S-1</b> |           |           |           |           |           |
| Re1-N1     | 2.197(12) | Re1-N2    | 2.170(12) | Re2-N3    | 2.108(13) |
| Re2-N4     | 2.140(12) | Re1-C1    | 2.19(3)   | Re1-C2    | 1.901(16) |
| Re1-C3     | 1.893(17) | Re2-C4    | 1.882(19) | Re2-C5    | 1.895(16) |
| Re2-C6     | 2.101(16) | Re1-Cl1   | 2.410(9)  | Re2-Cl2   | 2.426(7)  |
| N2-Re1-N1  | 74.8(5)   | N4-Re2-N3 | 73.8(4)   | C2-Re1-N1 | 99.7(6)   |
| C1-Re1-N2  | 85.6(8)   | N3-Re2-C4 | 99.9(6)   | N4-Re2-C6 | 90.1(5)   |