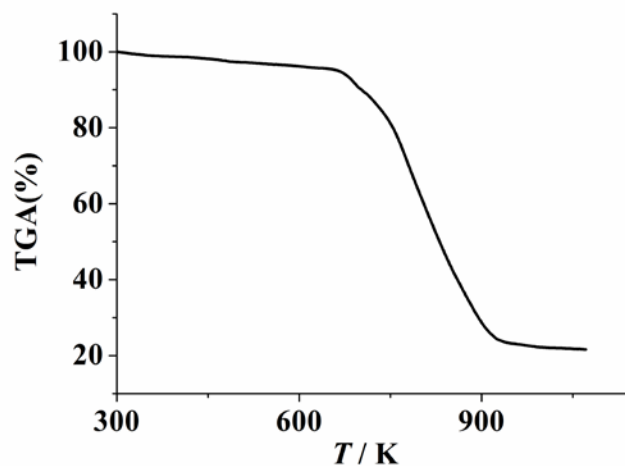


# Tuning the Spin States of Two Apical Iron(II) Ions in a Pentanuclear Iron(II) Cluster Helicate Through the Choice of Anions

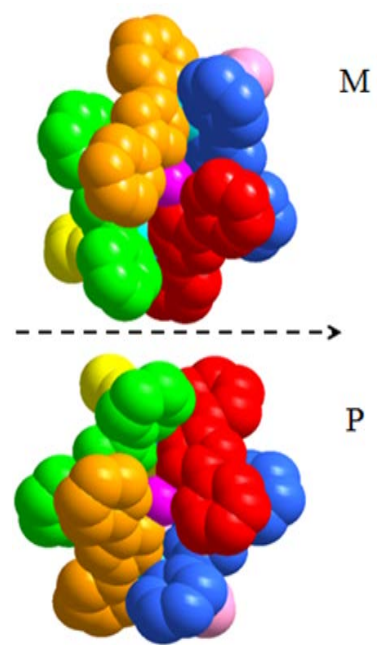
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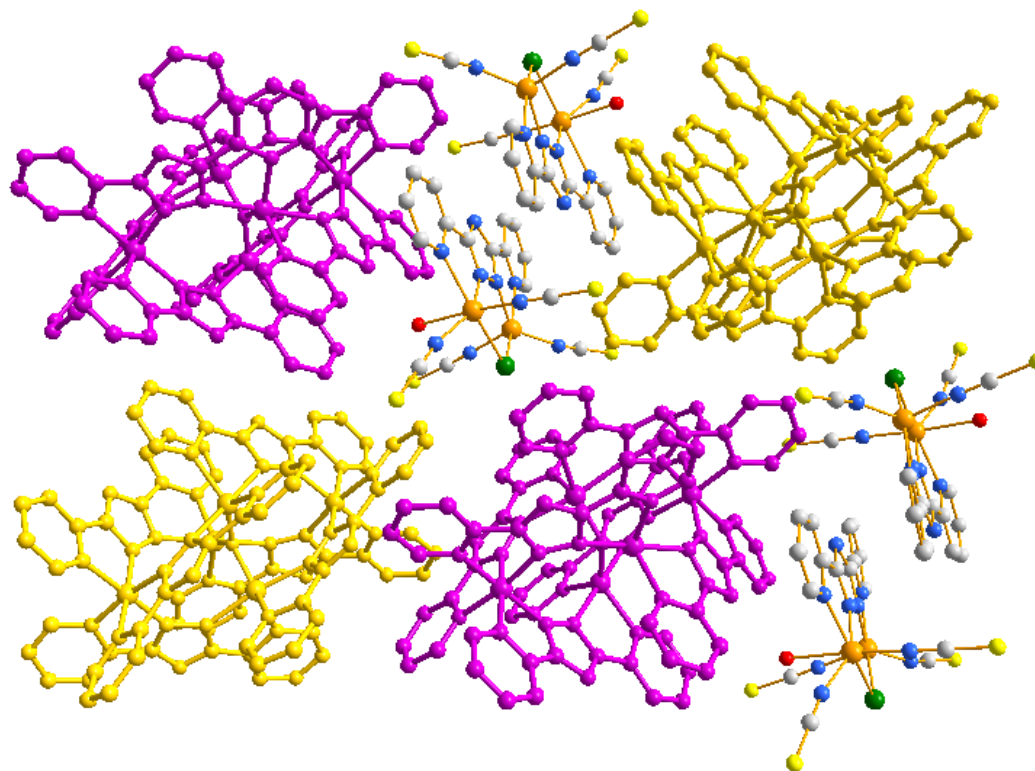
\* Corresponding author, E-mail addresses: [yzheng158@mail.zjxu.edu.cn](mailto:yzheng158@mail.zjxu.edu.cn)



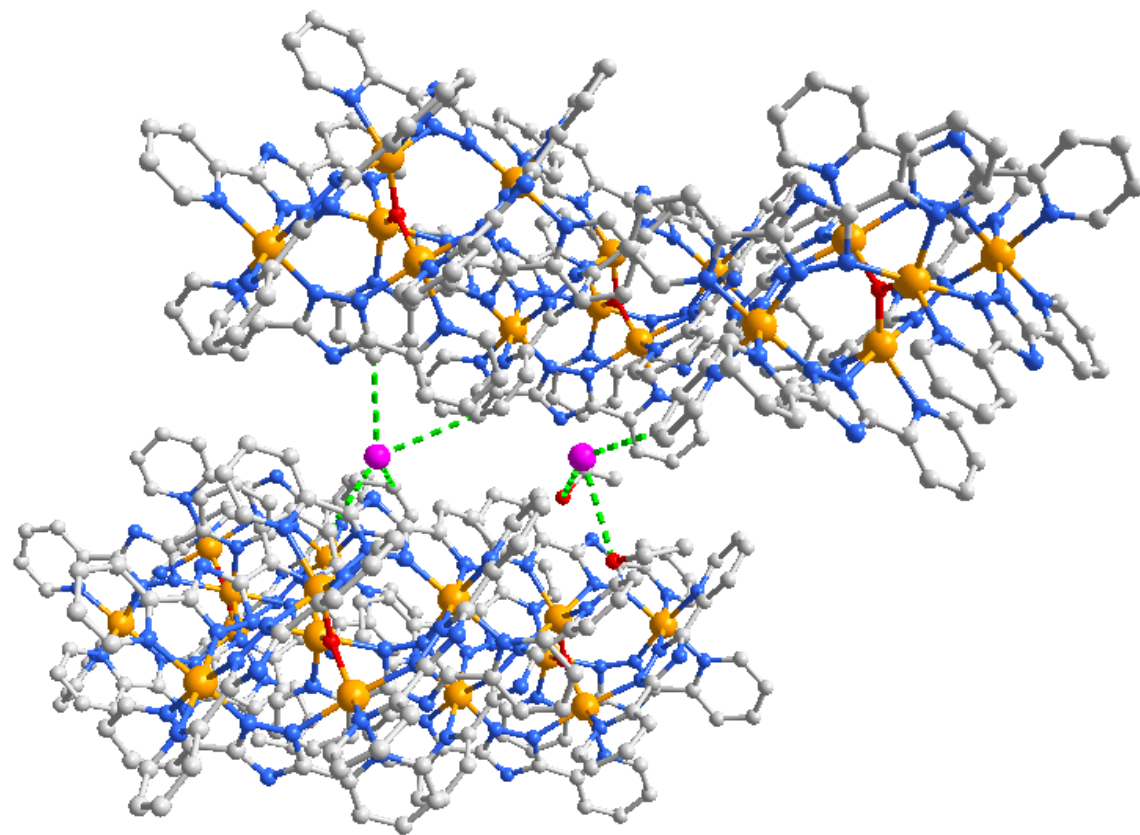
**Figure S1.** Thermogravimetric analysis of **1** under N<sub>2</sub> atmosphere (10 K min<sup>-1</sup>).



**Figure S2.** Space-filling representation of the two enantiomers present in **1**. H atoms are omitted for clarity.



**Figure S3.** Packing diagram of **1** showing heterochiral layers.  $\Delta$ ,  $\Delta$ -configuration (right-handed, P) is shown in purple strands,  $\Lambda$ ,  $\Lambda$ -configuration (left-handed, M) in yellow strands.



**Figure S4.** Structural illustrations of **3**:the hydrogen bond interactions.

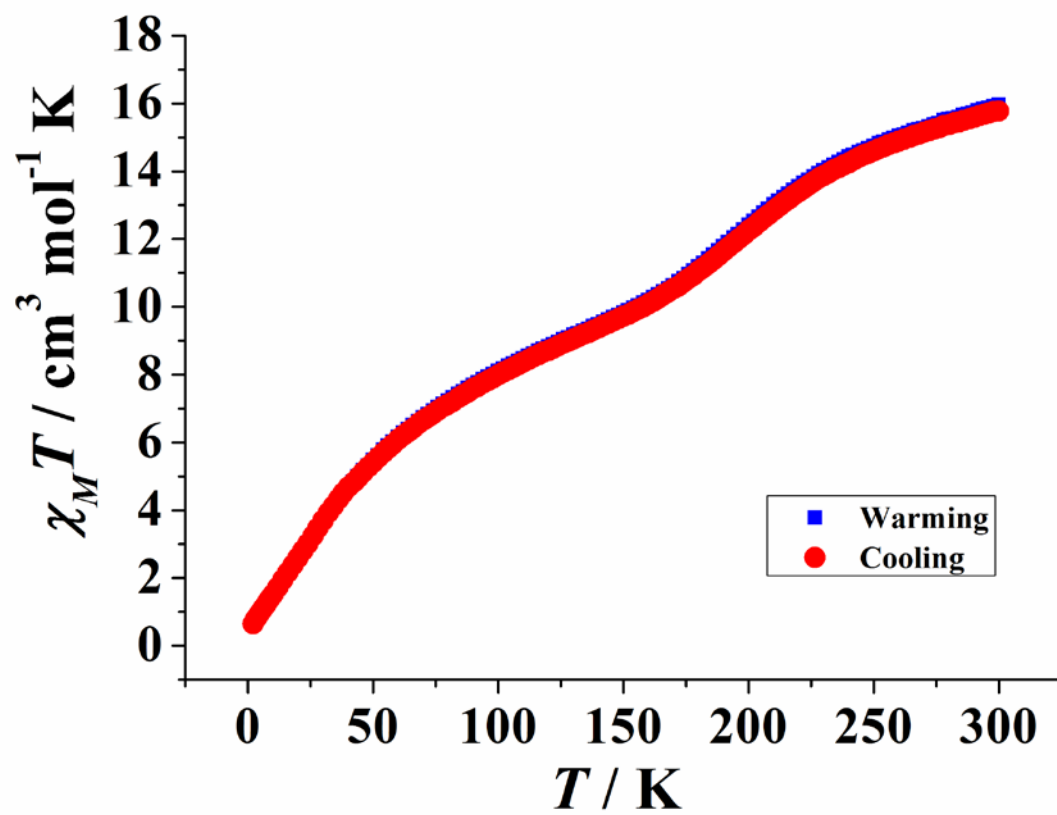
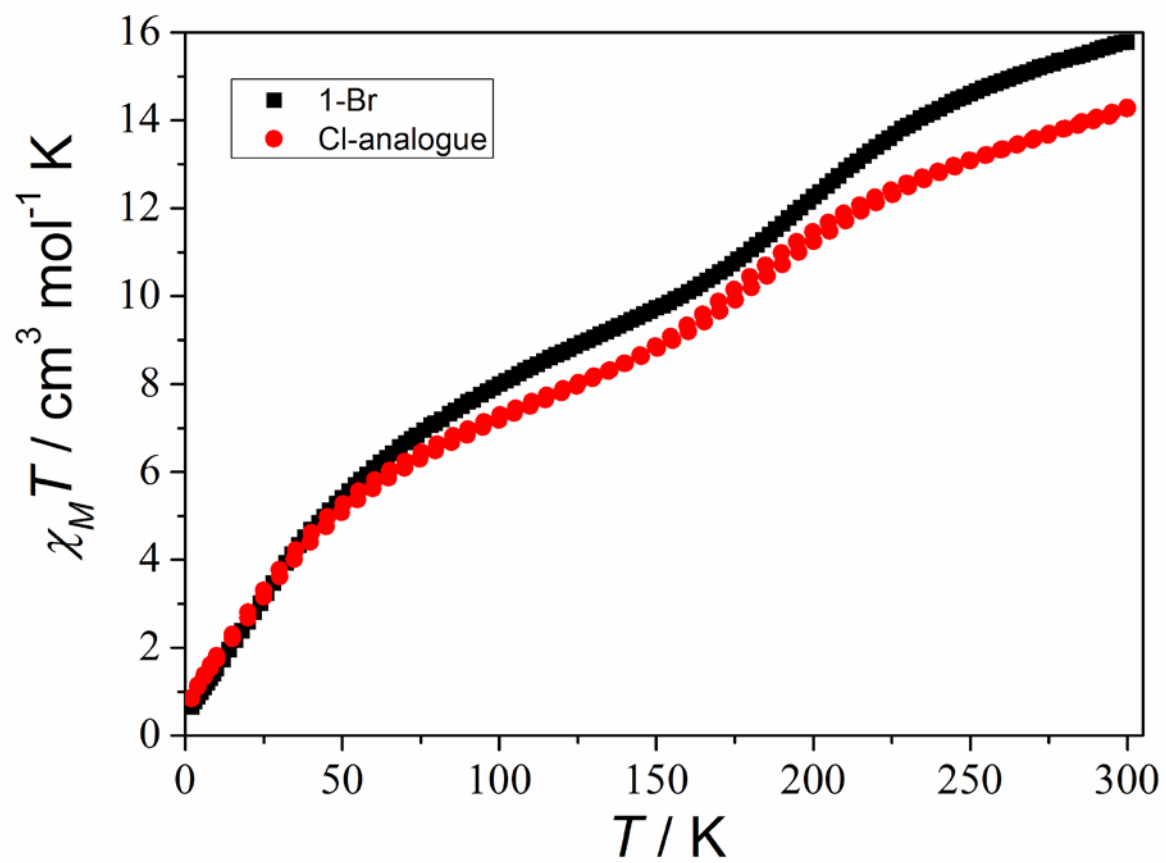


Figure S5. Plots of  $\chi_M T$  vs  $T$  for 1.



**Figure S6.** Plots of  $\chi_M T$  vs  $T$  for **1** and Cl-analogue.



|                              |      |      |        |     |
|------------------------------|------|------|--------|-----|
| C(23)-H(23)...I(4 <i>b</i> ) | 0.95 | 2.74 | 3.5319 | 141 |
| C(66)-H(66)...I(5)           | 0.95 | 2.77 | 3.5585 | 141 |
| C(71)-H(71)...I(1 <i>c</i> ) | 0.95 | 2.74 | 3.6072 | 152 |

Symmetry codes: a)  $x, y-1, z$ ; b)  $-x, -y+1, z$ ; c)  $1-x, y-1/2, -z+1/2$