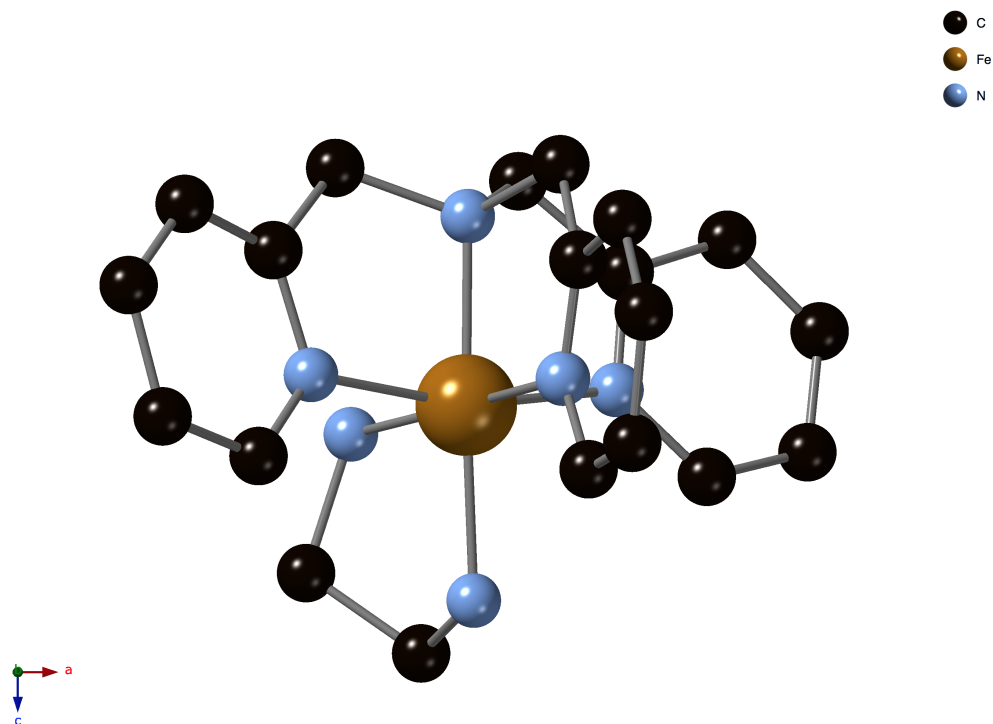
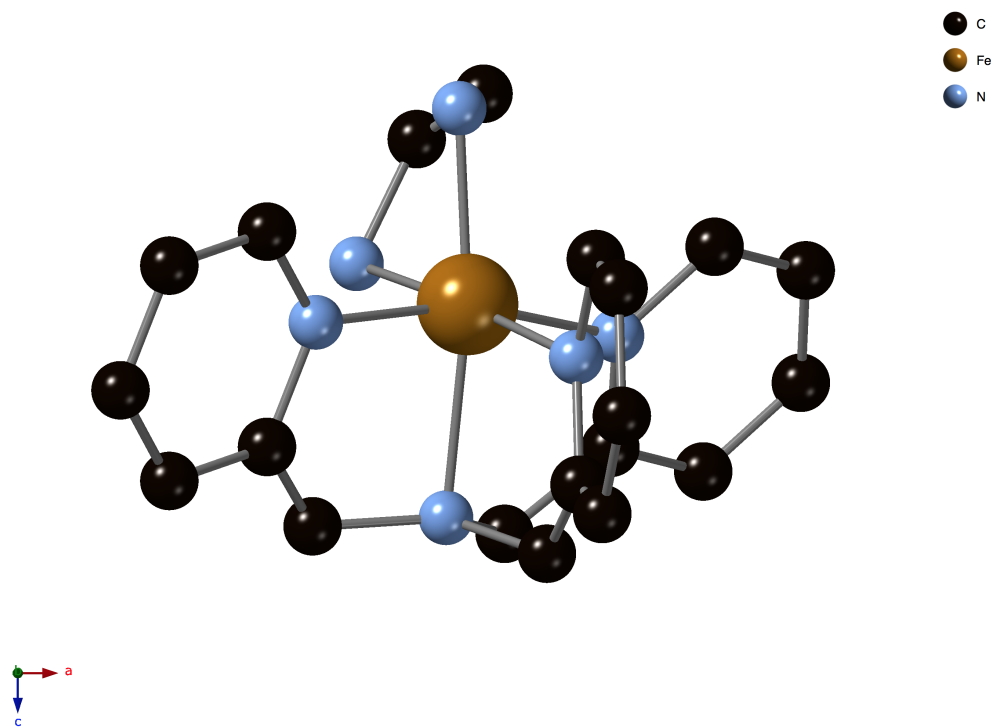


Fig. S1 Powder X ray diffraction pattern for crystals of **1** (blue) and **3** (green) and simulated one (red) from the structure of **1** at 120 K.



(a)



(b)

Fig. S2 Two possible configurations of $[\text{Fe}^{\text{II}}(\text{TPMA})(\text{en})]^{2+}$ complex in **1** at 120 K with 0.85 (a) and 0.15 (b) occupancies. (C (black), N(blue), and Fe(brown)). Hydrogen atoms have been omitted for clarity.

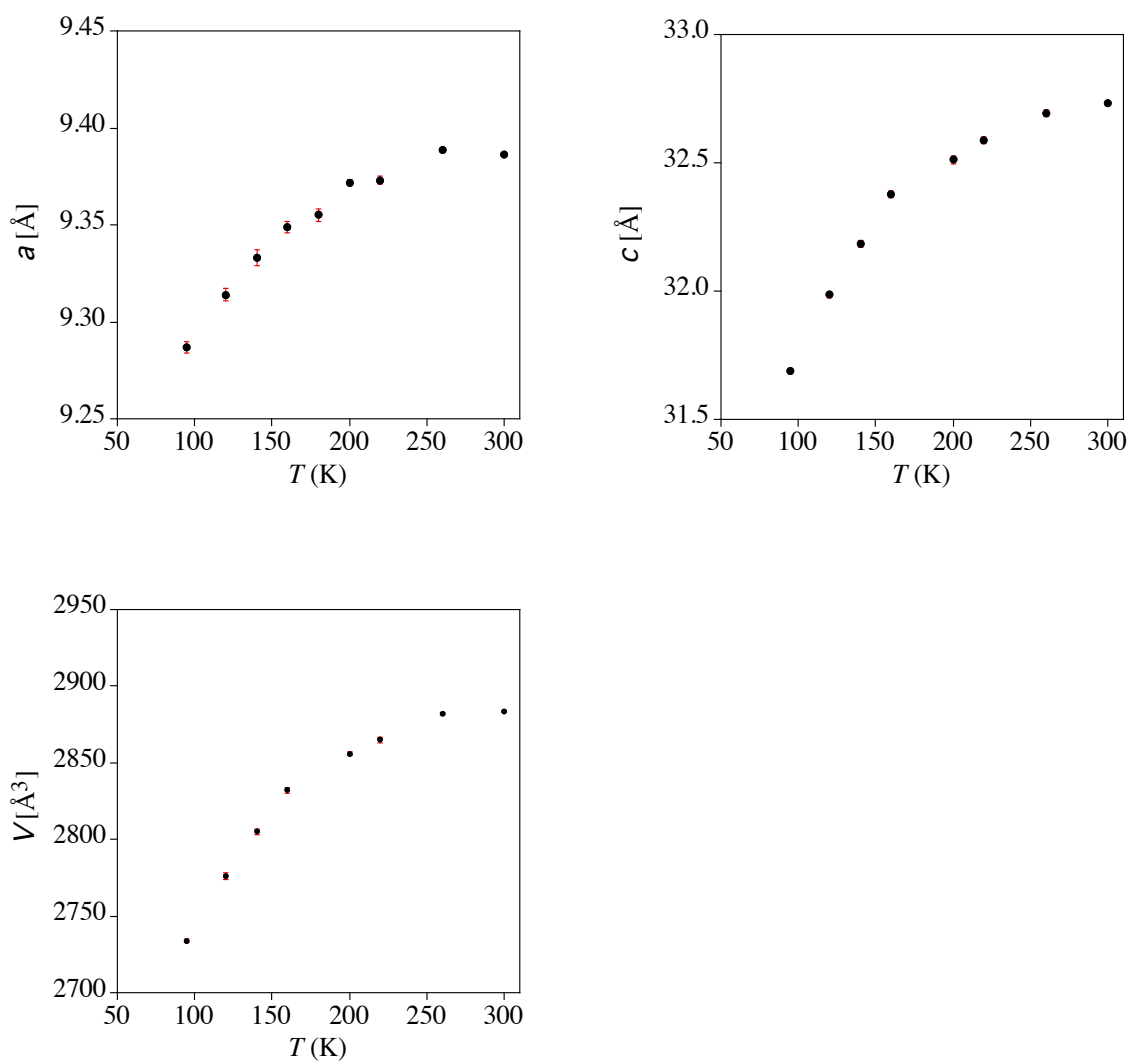
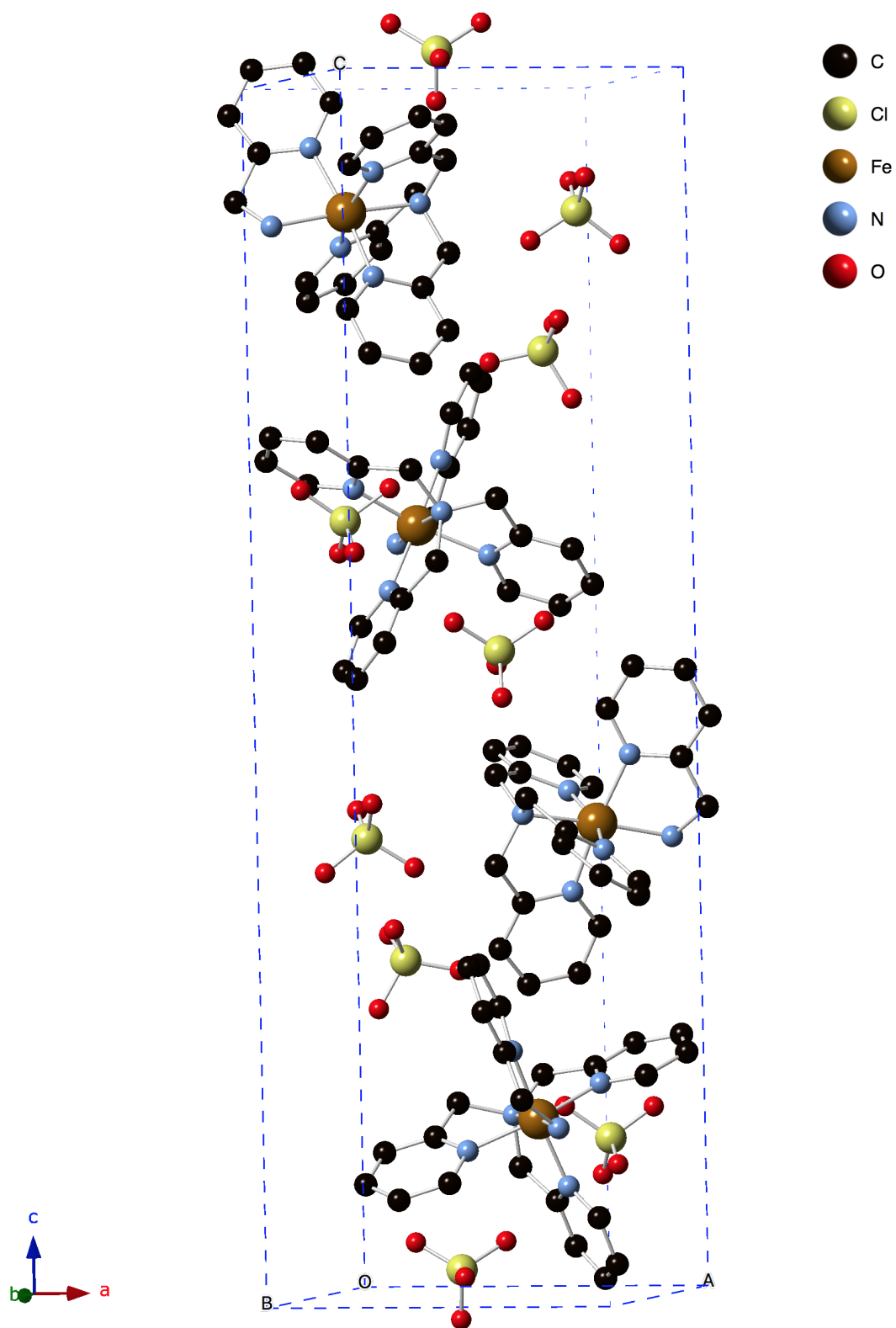


Fig. S3 Unit cell parameters of **2** at different temperatures calculated from single crystal X-ray diffraction data.



(a)

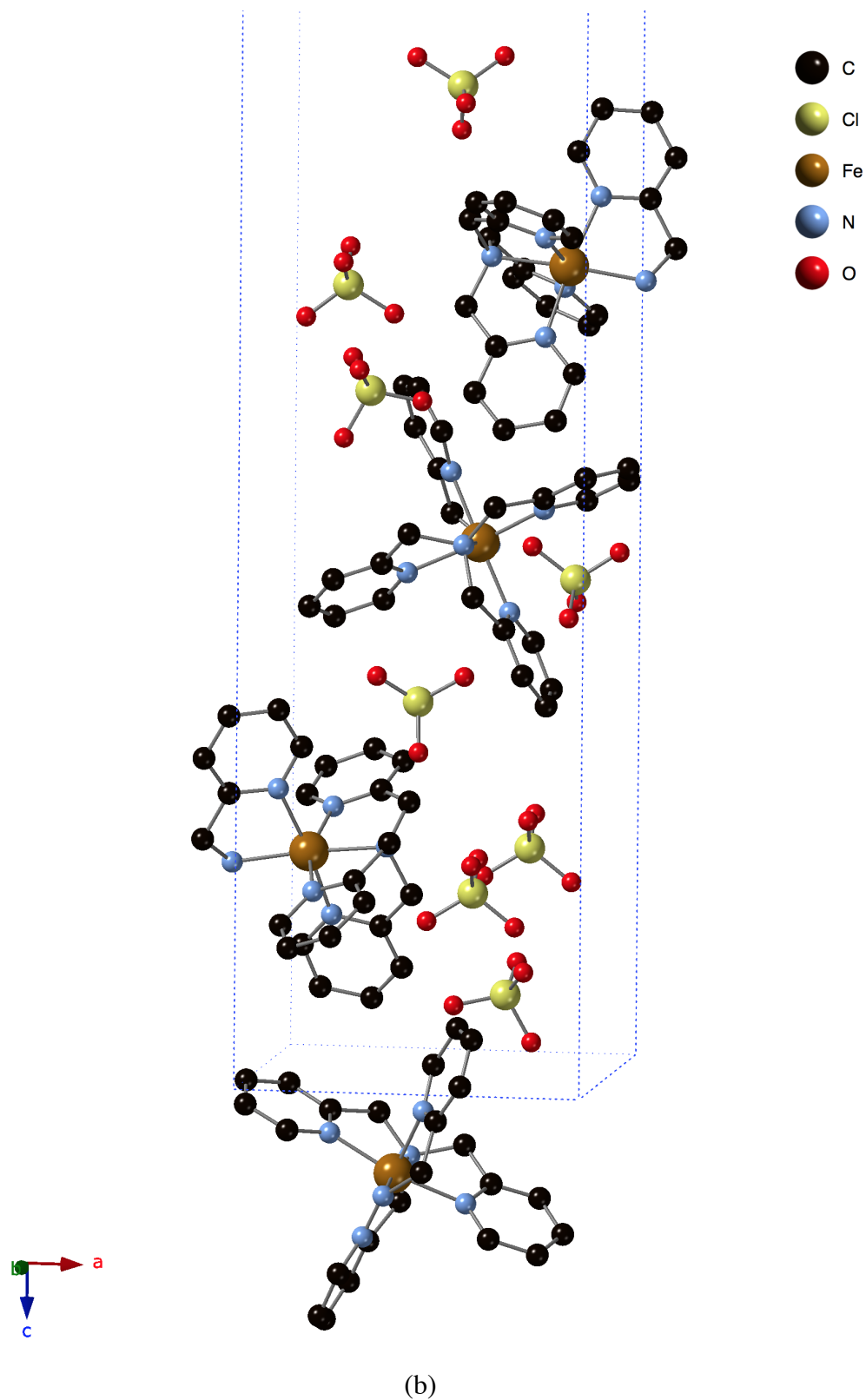


Fig. S4 Views of the helices of $[\text{Fe}^{\text{II}}(\text{TPMA})(2\text{-pic})]^{2+}$ complexes of opposite helicity in the structure of **2** in crystals solved as $P4_1$ at 90 K (a) and as $P4_3$ at 120 K (b).

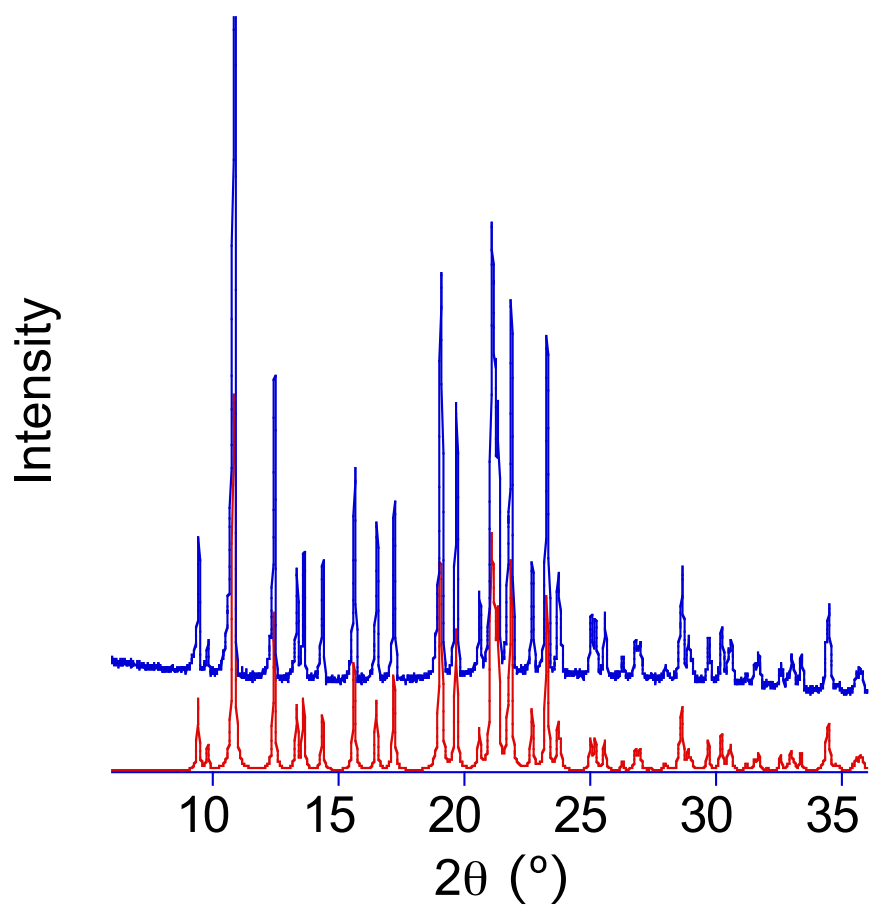


Fig. S5 Powder X ray diffraction pattern for crystals of **2** (blue) and simulated one (red) from the structure of **2** at 300 K.