

S1

Figure S1. Top, Mössbauer spectrum of the pure $[\text{Fe}(4.4'\text{-bipy})(\text{H}_2\text{O})_2(\text{NCSe})_2] \cdot (4.4'\text{-bipy})$ compound (a) at 80 K. Bottom, Mössbauer spectrum of $[\text{Fe}(4.4'\text{-bipy})(\text{bt})(\text{NCSe})_2]$ contaminated with $\approx 12\%$ $[\text{Fe}(4.4'\text{-bipy})(\text{H}_2\text{O})_2(\text{NCSe})_2] \cdot (4.4'\text{-bipy})$ at 80 K.

