Electronic Supplementary Material (ESI) for Physical Chemistry Chemical Physics.

Supplementary Information

Evidence for Surface Effects on the Intermolecular Interactions in Fe (II) Spin Crossover Coordination Polymers

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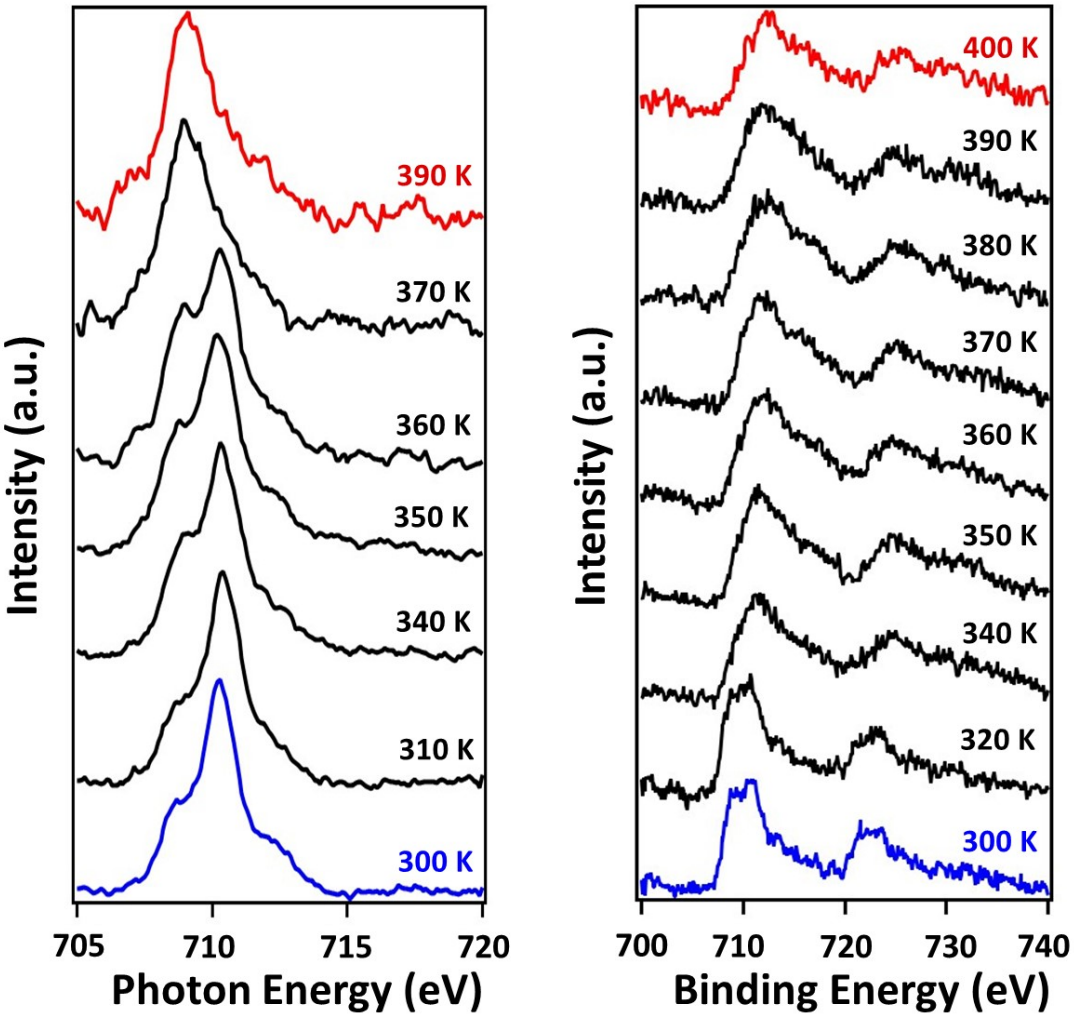

Figure S1: The temperature dependent X-ray absorption spectra and X-ray photo emission spectra of $[Fe(L1)(bipy)]_n$ (complex **1**) for temperature increasing, demonstrating reproducibility of these measurements, as these results closely resemble those in the main paper. Blue indicates the Fe $2p_{3/2}$ - L3 edge spectrum of the low spin (LS) state and red indicates the spectrum of the high spin (HS) state

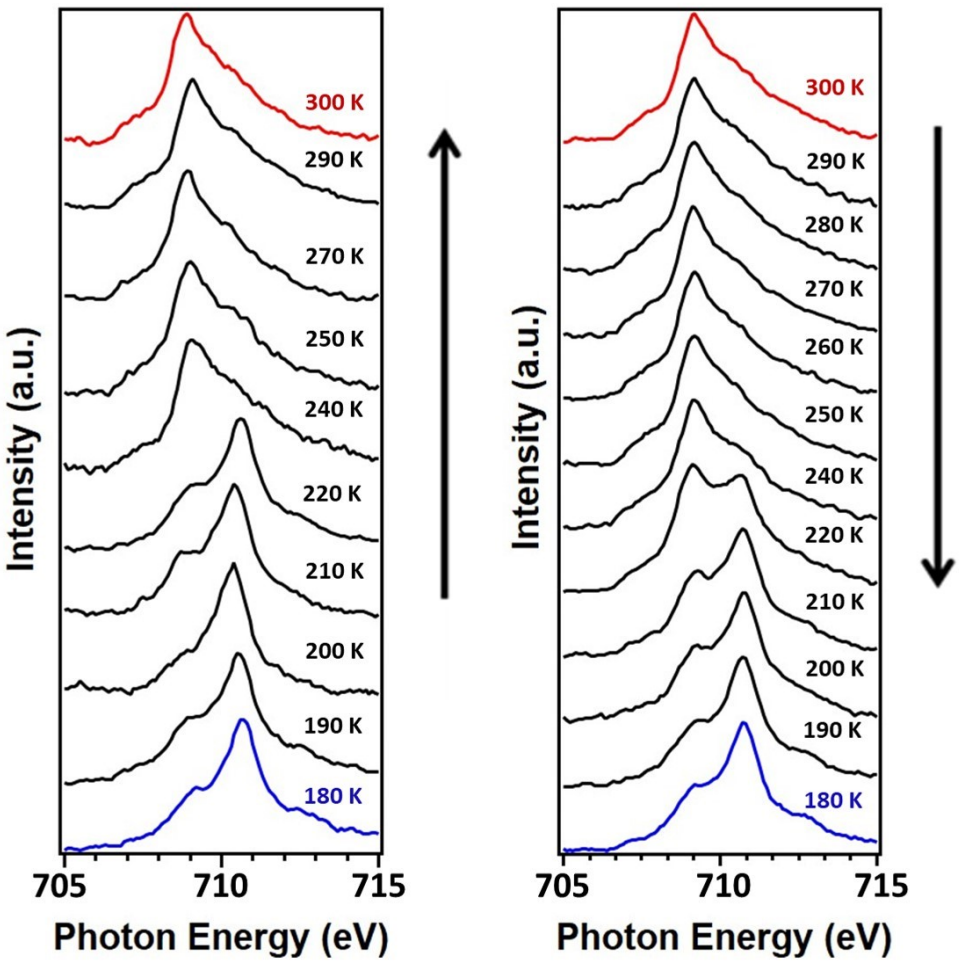

Figure S2: The temperature dependent X-ray absorption spectra of $[Fe(L2)(bipy)]_n$ (complex **2**) for both heating and cooling. Blue indicates the Fe $2p_{3/2}$ - L_3 edge spectrum of the low spin (LS) state and red indicates the spectrum of the high spin (HS) state.

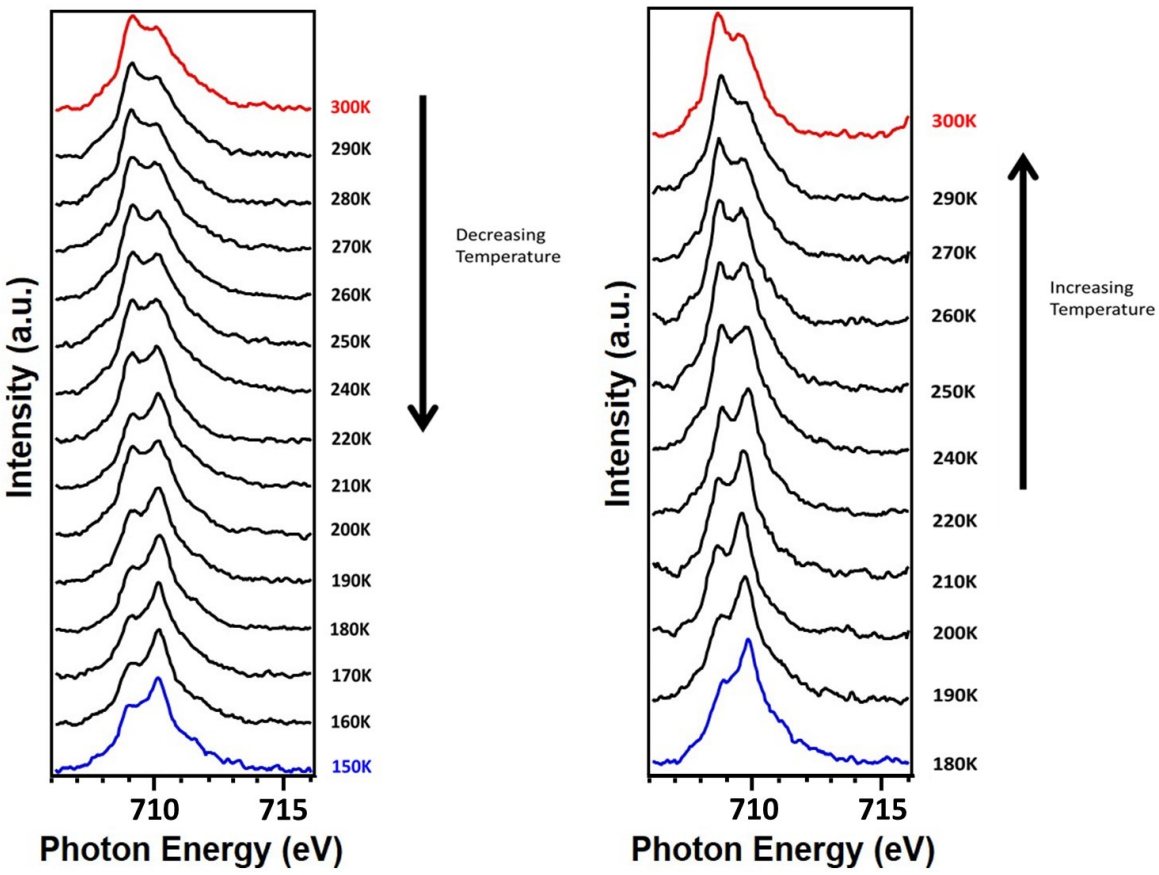

Figure S3: The temperature dependent X-ray absorption spectra of $[Fe(L3)(bpee)]_n$ (complex **3**) for both heating and cooling. Blue indicates the Fe $2p_{3/2}$ - L3 edge spectrum of the low spin (LS) state and red indicates the spectrum of the high spin (HS) state

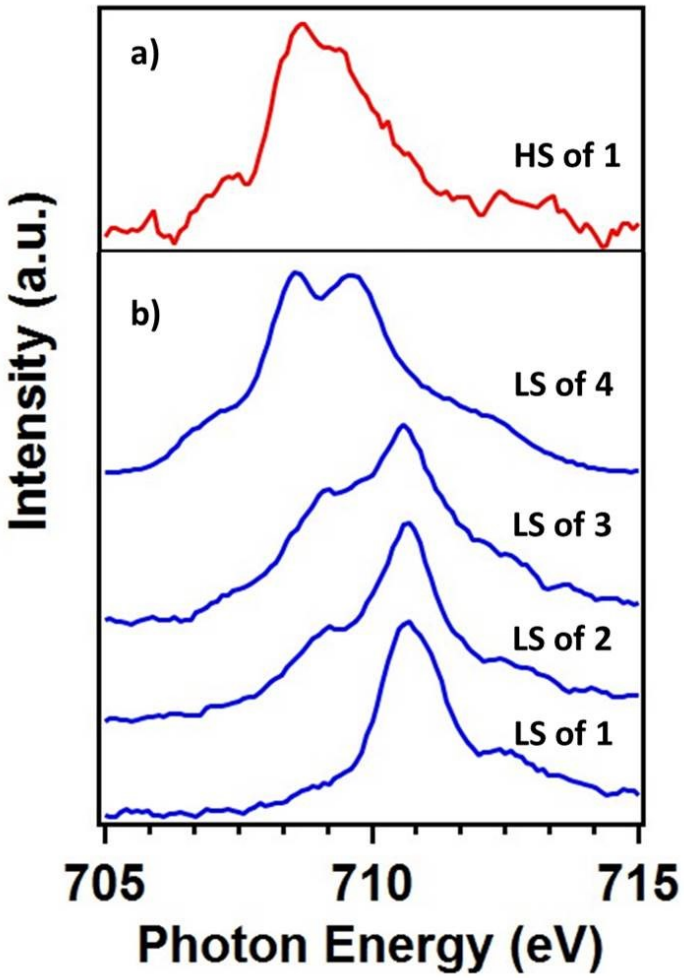

Figure S4: Representatiove X-ray absorption spectra of the high spin state (a) and the low spin state (b) of molecular complex **1**($[Fe(L1)(bipy)]_n$). The nominally low spin state of molecular complexes **2**, **3** and **4 (** $[Fe(L2)(bipy)]_n$, $[Fe(L3)(bpee)]_n$, and $[Fe(Htrz)_2(trz)](BF_4)]$) are in the mix spin state as is evident in this comparison.

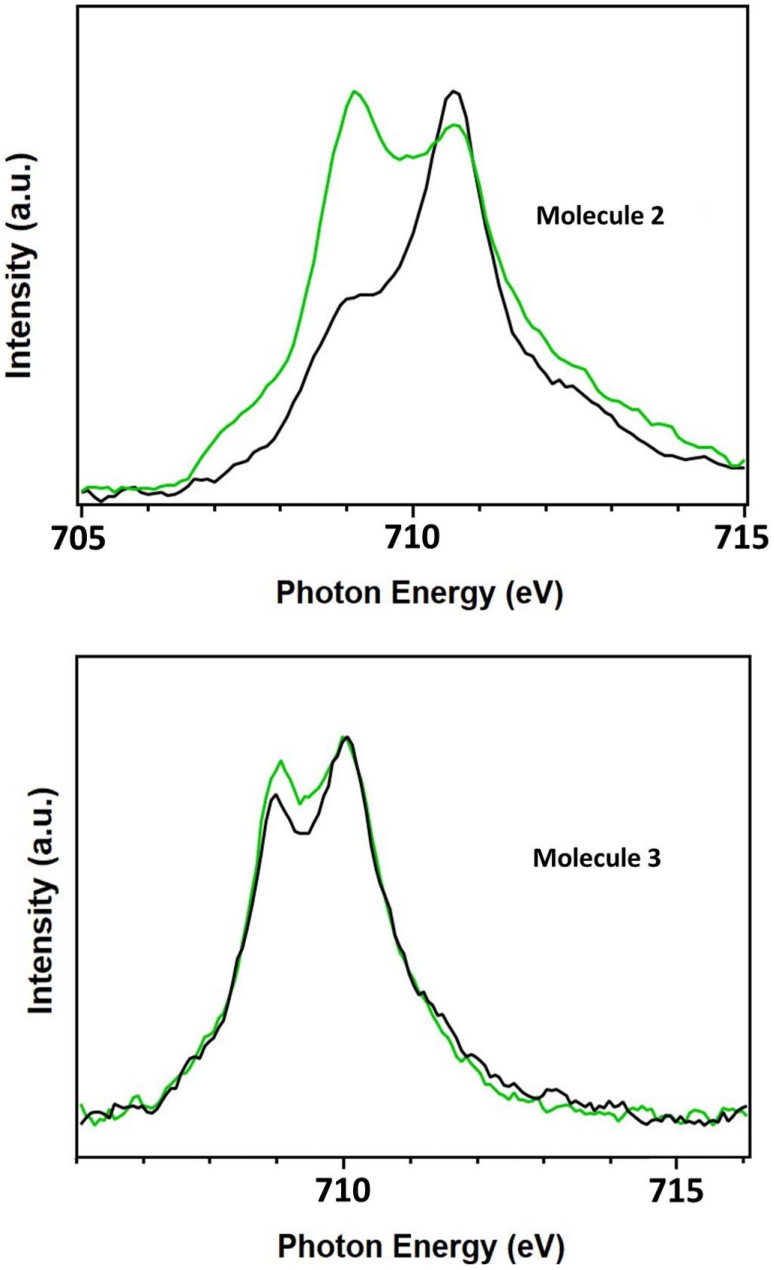

Figure S5: A comparison of X-ray absorption spectra of molecule **2** ($[Fe(L2)(bipy)]_n$) and molecule **3** ($[Fe(L3)(bpee)]_n$) at 220 K obtained from a sequence of spectra taken from an increasing temperature cycle (black curve) and a decreasing temperature cycle (green curve).