

SUPPORTING INFORMATION

Soft Lithographic Patterning of Spin Crossover Complexes. Part 1: Fluorescent Detection of the Spin Transition in Single Nano-Objects

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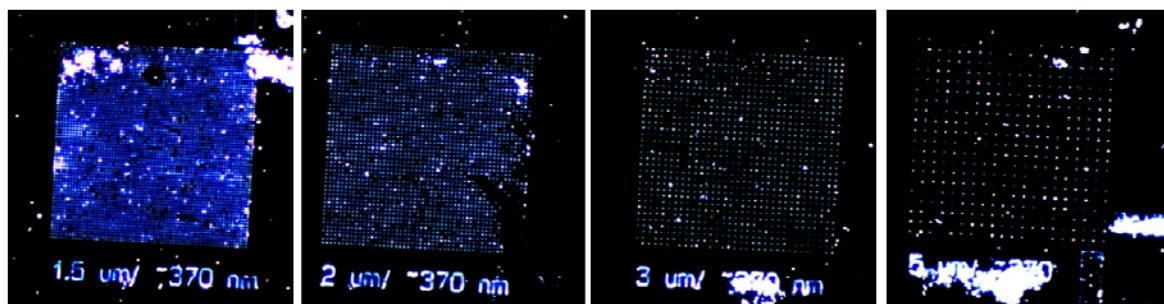


Fig. S1 Dark field optical microscopy images of nano-dot arrays (370 nm lateral size motifs) of $[\text{Fe}(\text{hptrz})_3](\text{OTs})_2$ with different pitches (1.5, 2, 3 and 5 μm).

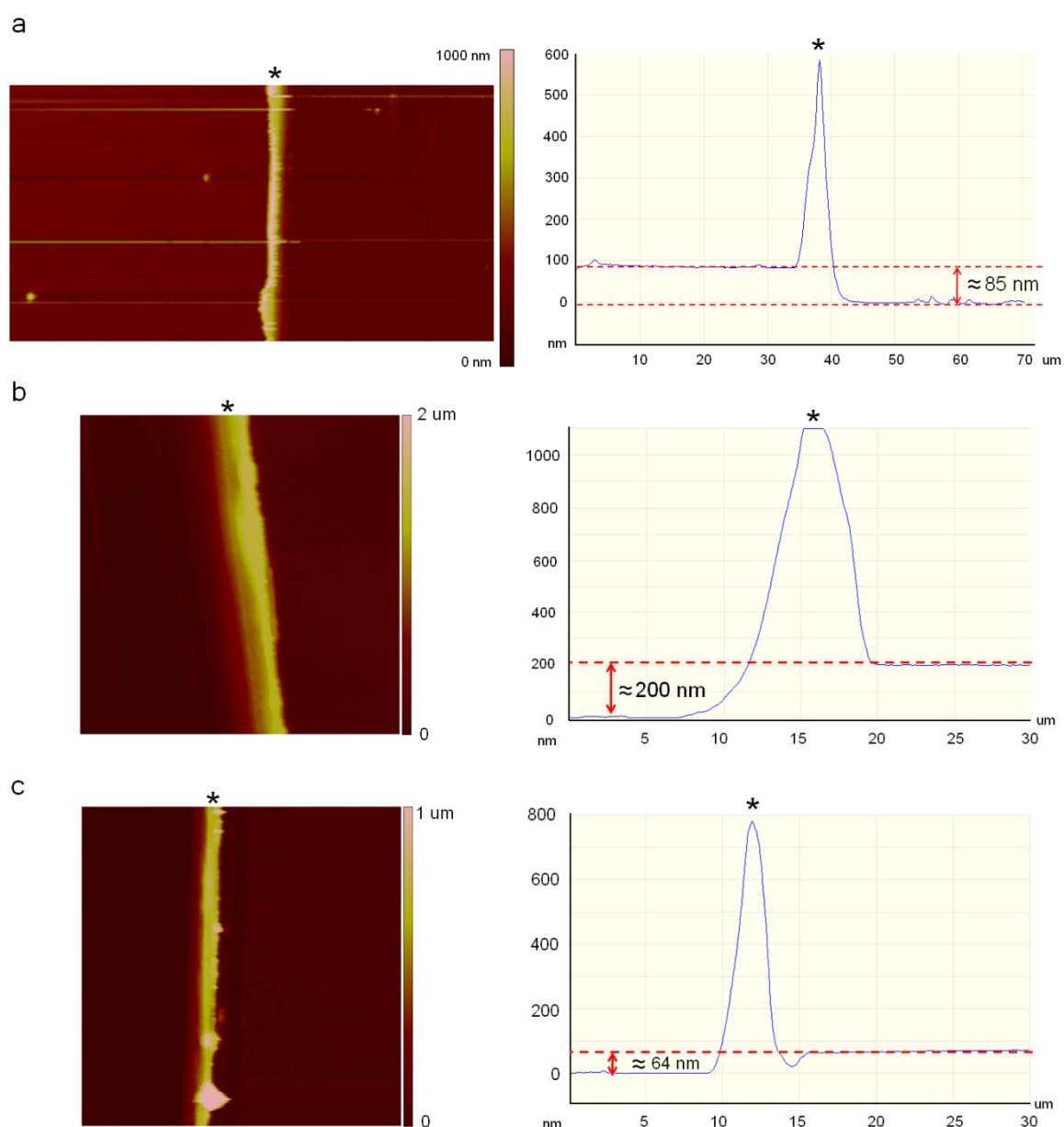


Fig. S2 AFM images and respective averaged cross sections of spin coated thin films of $[\text{Fe}(\text{hptrz})_3](\text{OTs})_2$: **(a)** $70 \times 37 \mu\text{m}^2$ section, spin coater parameters: speed = 5000 rpm, acceleration = 4000 rpm^2 , time 30s; **(b)** $30 \times 30 \mu\text{m}^2$ section, spin coater parameters: speed = 500 rpm, acceleration = 1000 rpm^2 , time 30s; **(c)** $30 \times 30 \mu\text{m}^2$ section, employing the initial

solution diluted one time, spin coater parameters: speed = 5000 rpm, acceleration = 4000 rpm², time 30s. *Defects created by the scratches made on the thin films before the AFM measurements.

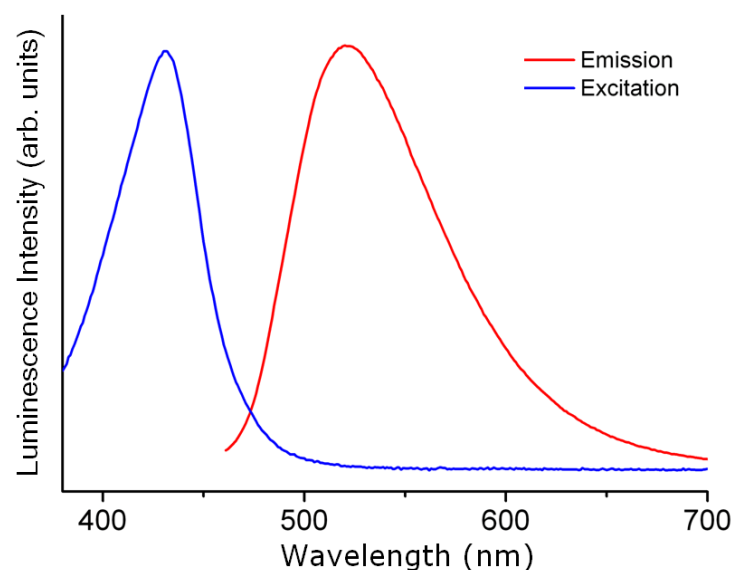


Fig. S3 Normalized excitation and emission spectra of an acridine orange ethanol solution at RT. Blue line: Excitation spectrum for 520 nm emission; red line: Emission spectrum for 430 nm excitation.

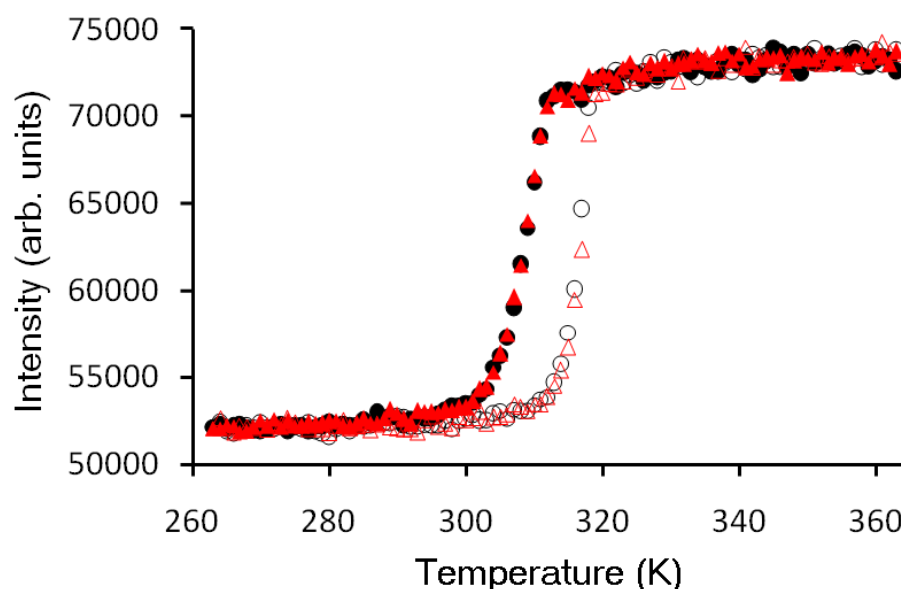


Fig. S4 Thermal variation in arbitrary units of the reflectance of undoped [Fe(hptrz)₃](OTs)₂ in bulk powder form at 543 nm for two consecutive cycles. (Open and closed symbols stand for heating and cooling, respectively.)

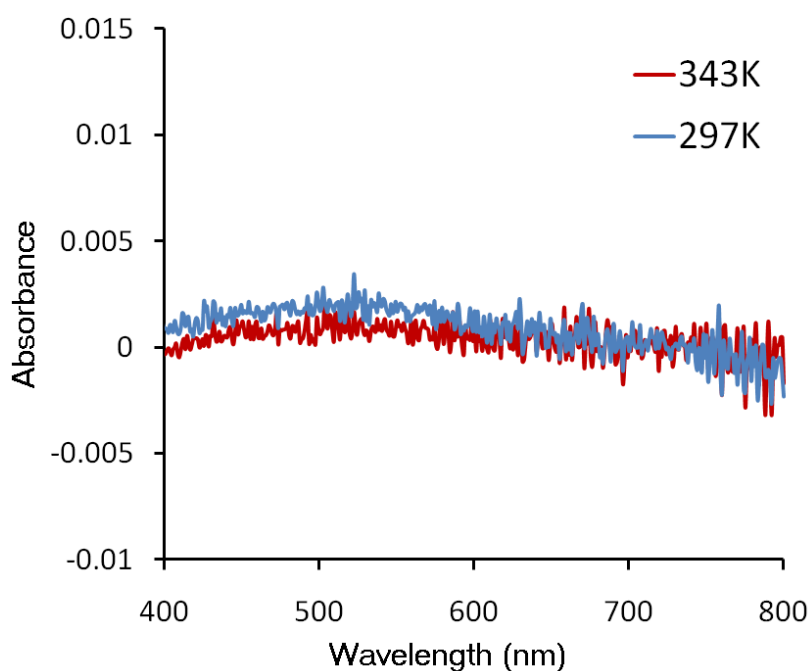


Fig. S5 Optical density in the visible range of a ≈ 85 nm spin coated thin film on a quartz substrate of undoped $[\text{Fe}(\text{hptrz})_3](\text{OTs})_2$ in the high spin (343 K) and low spin (297 K) states.

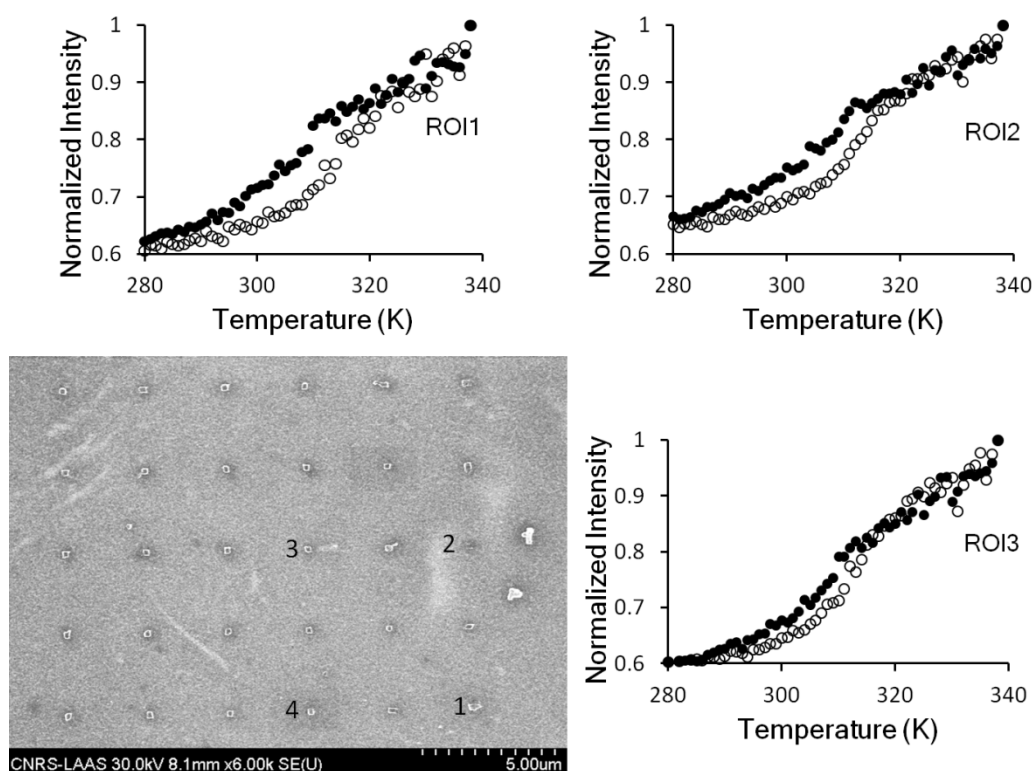


Fig. S6 Normalized thermal variation of the luminescence at 550 nm of different nano-dots (open and close symbols for heating and cooling modes, respectively) obtained with a motif of 370 nm lateral size, 3 μm pitch and a nominal depth of 150 nm. Inset: SEM image of the respective nano-dot array.

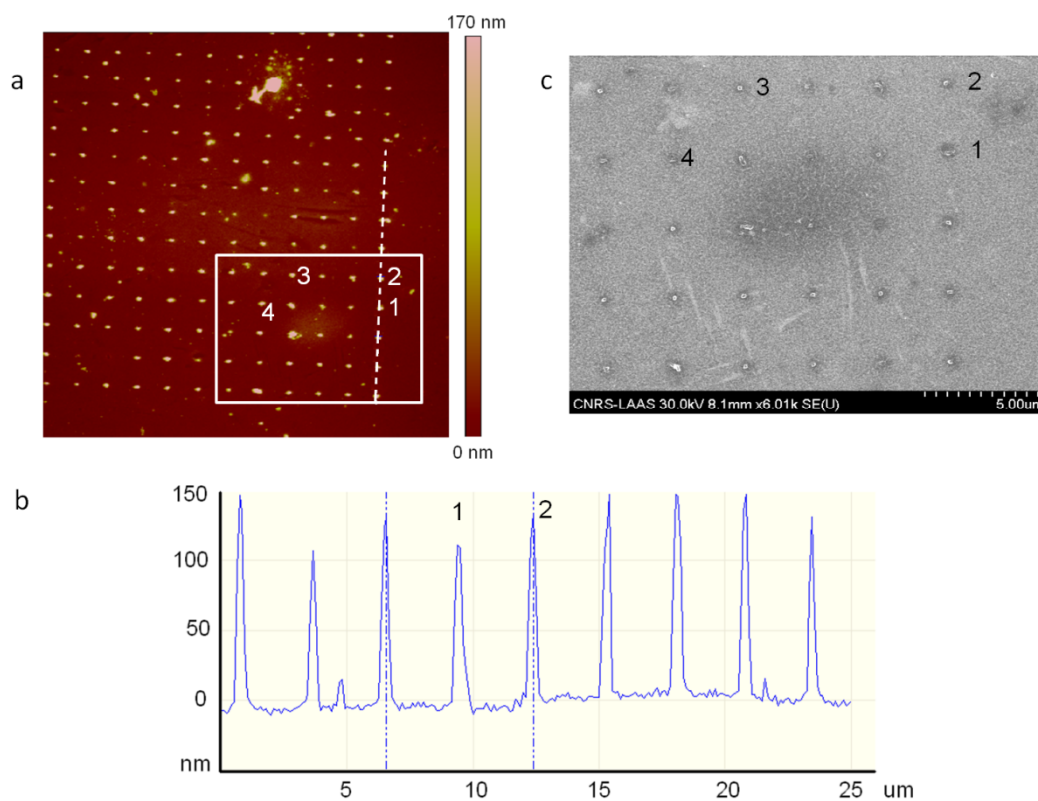


Fig. S7 (a) AFM image ($40 \times 40 \mu\text{m}^2$) of a luminescent array of nano-dots obtained with a motif of 250 nm lateral size, 3 μm pitch and a nominal depth of 150 nm. (b) Height profile along the dashed line in a. (c) SEM image of the array in the area highlighted in a.

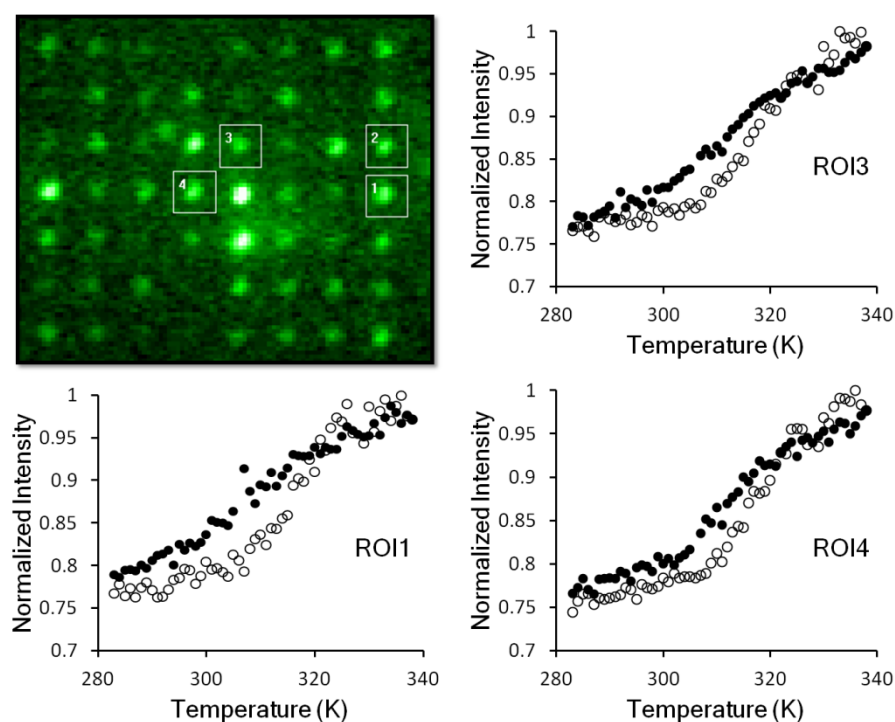


Fig. S8 Normalized thermal variation of the luminescence at 550 nm of different nano-dots (open and close symbols for heating and cooling modes, respectively) from the area highlighted in Fig. S7a. The inset shows the corresponding fluorescence microscopy image.