Supplementary Materials: *In-situ* AFM Imaging of Microstructural Changes Associated with the Spin Transition in [Fe(Htrz)$_2$(Trz)](Bf$_4$) Nanoparticles

María D. Manrique-Juárez, Iurii Suleimanov, Edna M. Hernandez, Lionel Salmon, Gábor Molnár and Azzedine Bousseksou

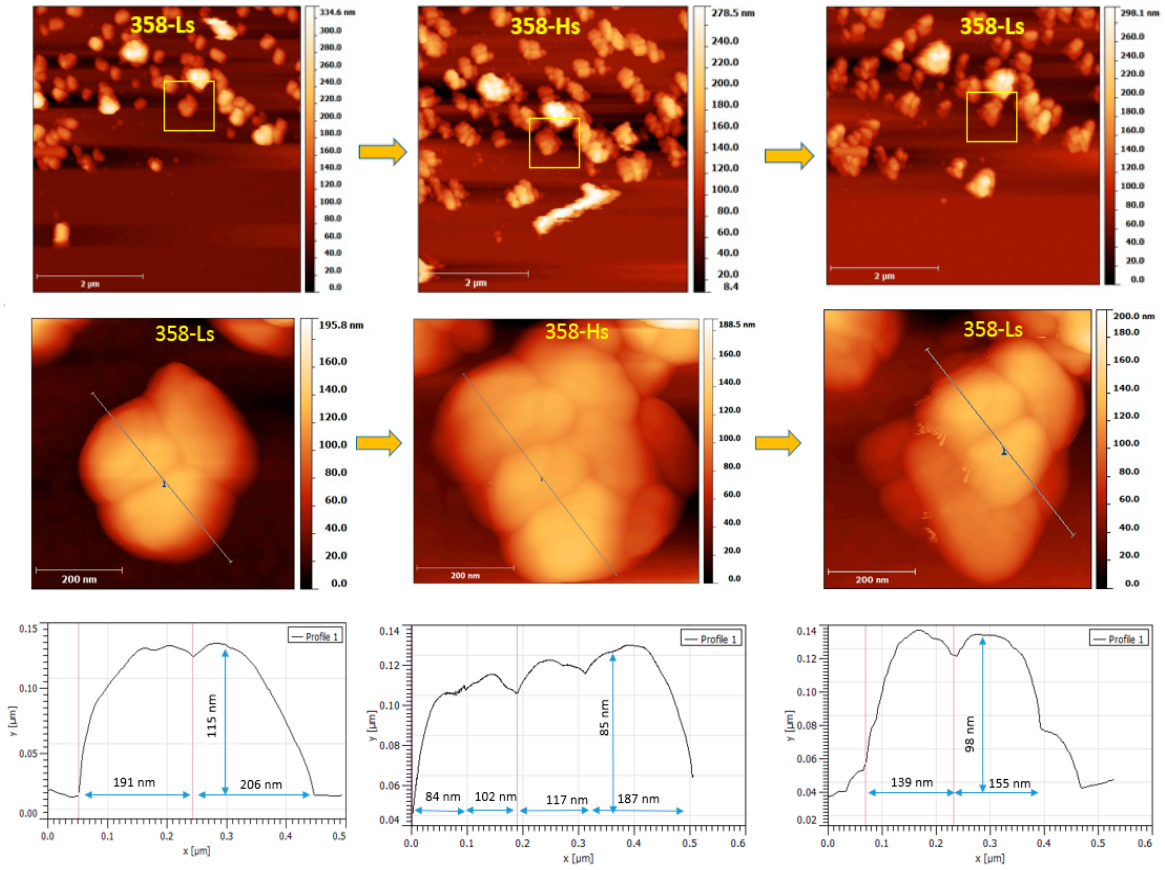
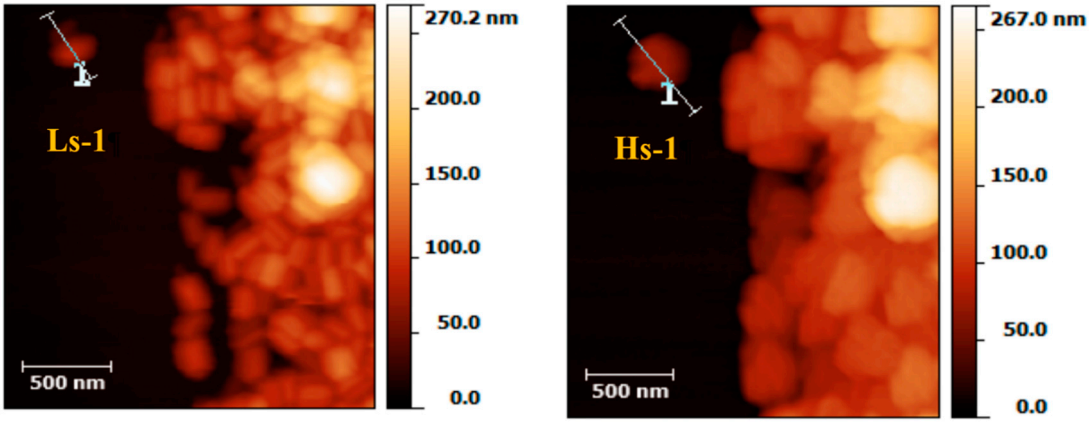


Figure S1. AFM height images and cross-sections of [Fe(trz)(Htrz)$_2$](BF$_4$) nanoparticles acquired in different spin states at 358 K over a complete thermal cycle. (These data were extracted from the same experiment as Fig. 1 in the main text.) Images were acquired using a Cypher ES (Oxford Instruments) AFM and OMCLAC160TS-R3 probes (Olympus, f = 300 kHz, k = 26 N/m, Al reflex coating).



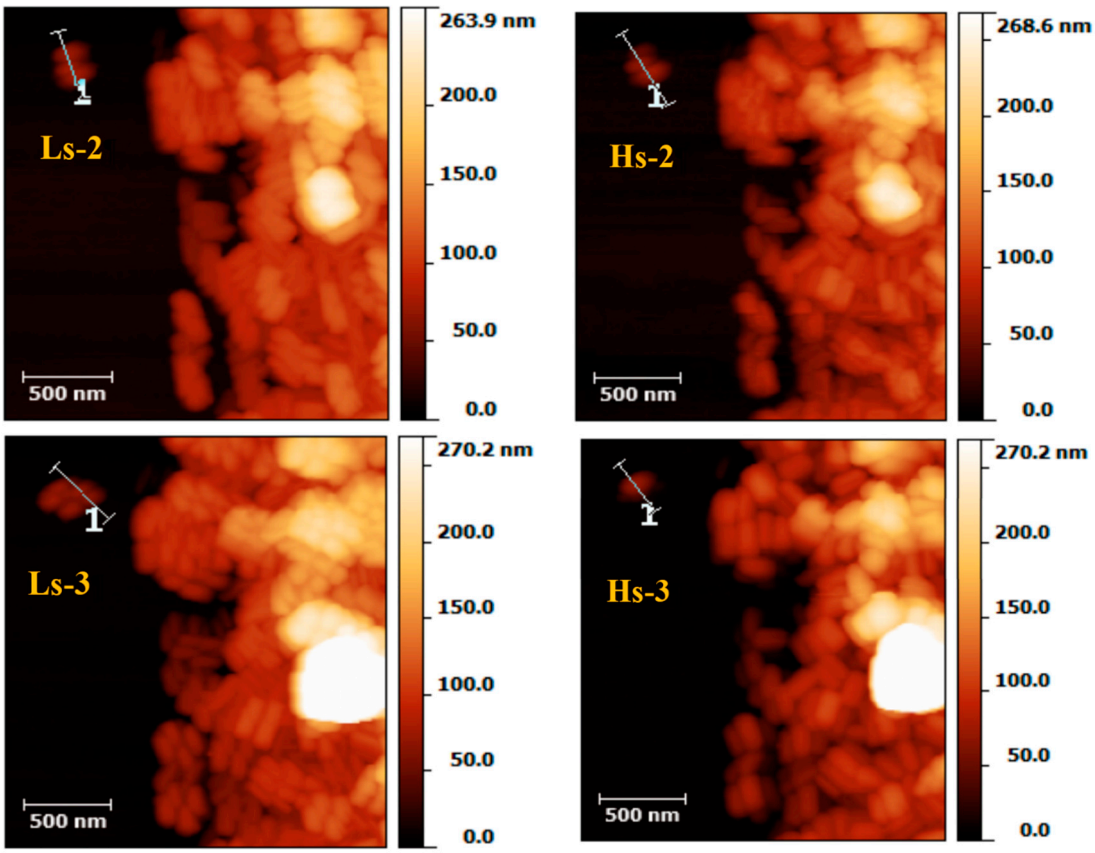
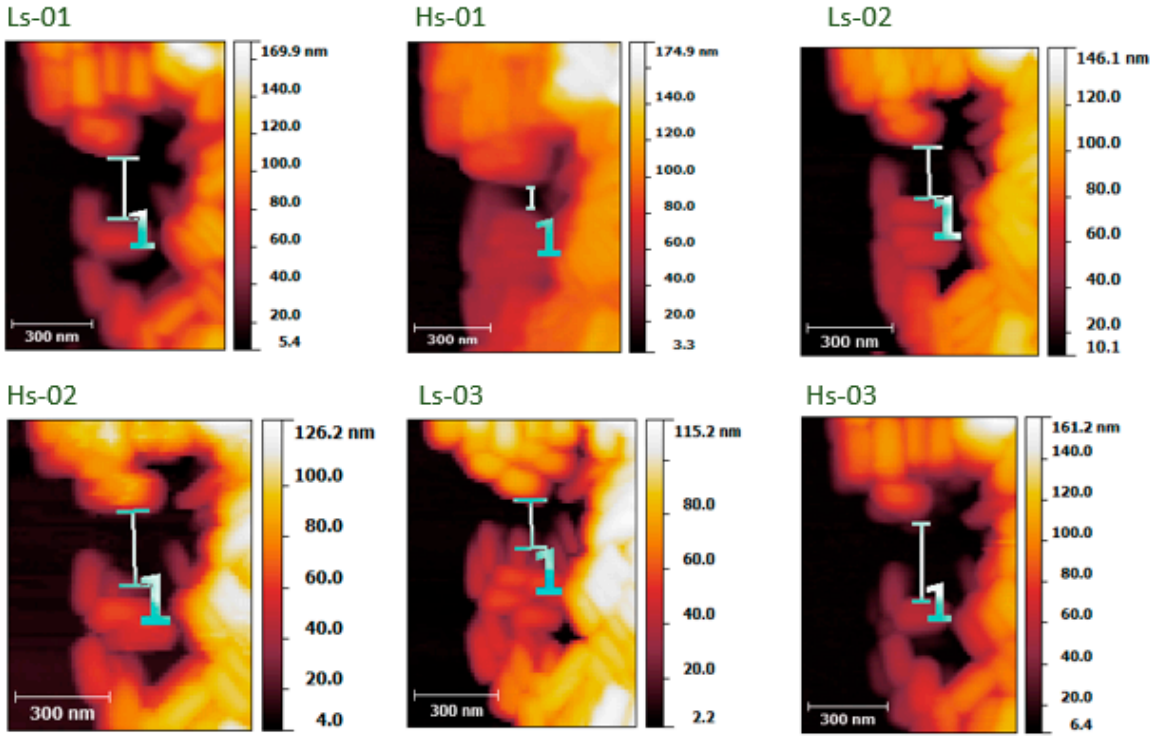


Figure S2. AFM height images of [Fe(trz)(Htrz)$_2$](BF$_4$) nanoparticles in the LS (left) and HS (right) states over three successive thermal cycles. Images were acquired using a Dimension Icon (Bruker) instrument and MPP-11120-10 probes (Bruker, f = 300 kHz, k = 40N/m, Al reflex coating).



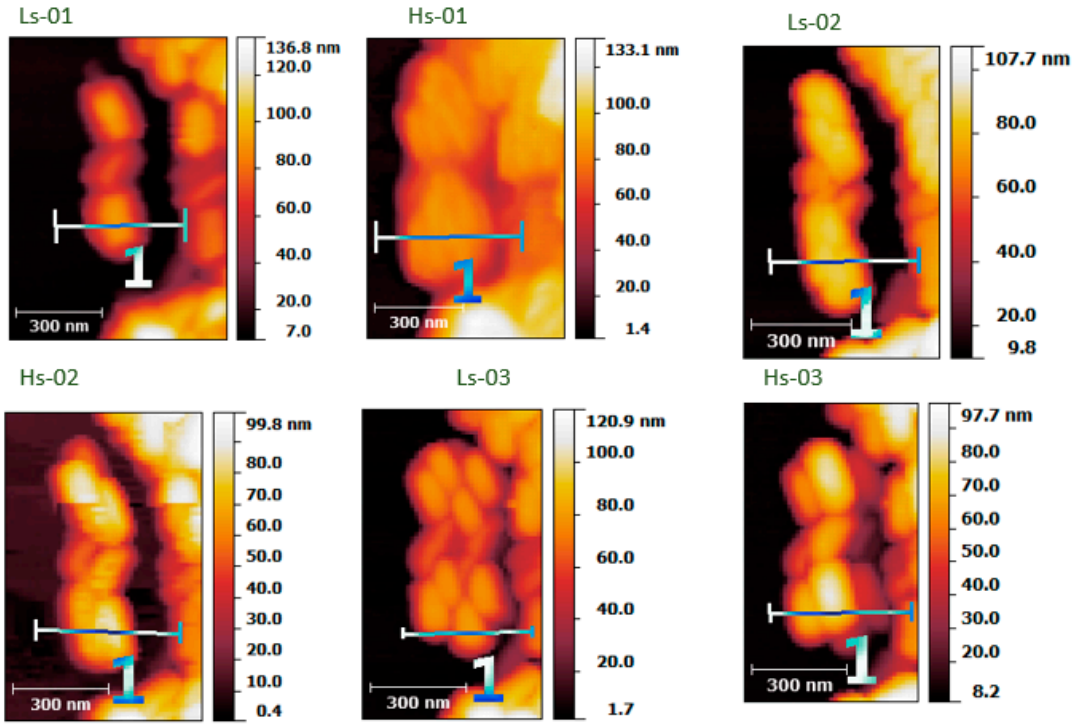
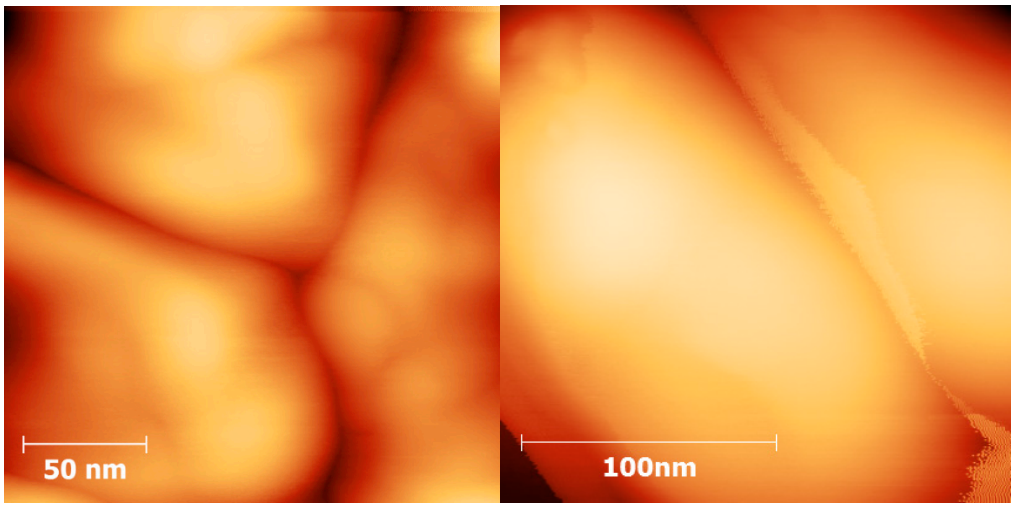


Figure S3. AFM height images of [Fe(trz)(Htrz)$_2$](BF$_4$) nanoparticles in the LS and HS states over three successive thermal cycles. (These data were extracted from the same experiment as Figure S2.)



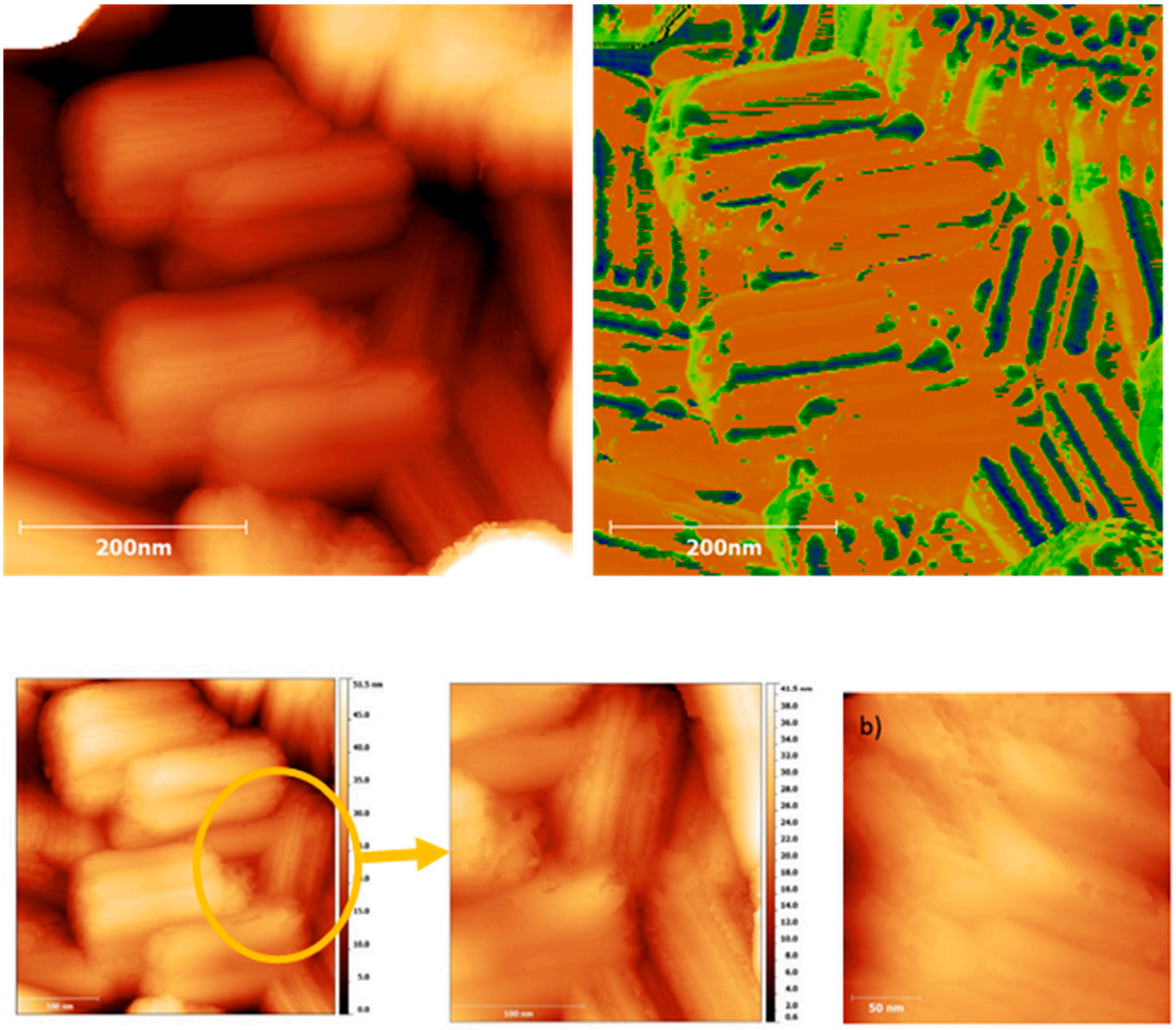


Figure S4. Surface degradation of [Fe(trz)(Htrz)$_2$](BF$_4$) particles following 8 thermal switching cycles: topography and phase images. The first two images were acquired on the fresh sample. Data were acquired using a Cypher ES (Oxford Instruments) AFM and ARROW-UHF-AuD (Nanoworld, f = 2 MHz, k = 6 N/m, Au reflex coating).