Supporting information for contribution:

A new family of spin crossover complexes based on $Fe^{II}(tetrazolyl)_4(MeCN)_2$-type core

by

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Analytical characterization of compound **2:**

Anal calcd for $C_5H_8N_8O$: C, 30.6; H, 4.1; N, 57.1. Found: C, 30.5; H, 4.1.; N, 57.4%. ^{1}H NMR (300 MHz, DMSO-d_6) δ: 9.31 (s, 2H, C*H* of tetrazol-1-yl), 5.77 (br d, 1H, -CH(O*H*)-, ^3J=5.6Hz), 4.69 (dd, 2H, -CH*H*-tetrazol-1-yl, ^2J=13.9Hz, ^3J=3.2Hz), 4.42 (dd, 2H, -CH*H*-tetrazol-1-yl, ^2J=13.9Hz, ^3J=7.9Hz), 4.21-4.34 (m, 1H, -C*H*(OH)-) ppm. ^{13}C NMR (300 MHz, DMSO-d_6) δ: 144.7 (tetrazol-1-yl), 67.1 (-*C*H(OH)-), 50.9 (-*C*H_2-) ppm. ESI-MS: m/z 197.1 (LH^+).

Analytical characterization of compound **3:**

Anal calcd for $C_5H_8N_8O$: C, 30.6; H, 4.1; N, 57.1. Found: C, 30.7; H, 4.0; N, 57.1.%. ^{1}H NMR (300 MHz, DMSO-d_6) δ: 8.96 (s, 2H, C*H* of tetrazol-2-yl), 5.66 (d, 1H, -CH(O*H*)-, ^3J=6.2Hz), 4.92 (dd, 2H, -CH*H*-tetrazol-2-yl, ^2J=13.7Hz, ^3J=3.9Hz), 4.81 (dd, 2H, -C*H*H-tetrazol-2-yl, ^2J=13.6Hz, ^3J=7.6Hz), 4.54-4.66 (m, 1H, -C*H*(OH)-) ppm. ^{13}C NMR (300 MHz, DMSO-d_6) δ: 153.3 (tetrazol-2-yl), 67.5 (-*C*H(OH)-), 55.7 (-*C*H_2-) ppm. ESI-MS: m/z 197.1 (LH^+).

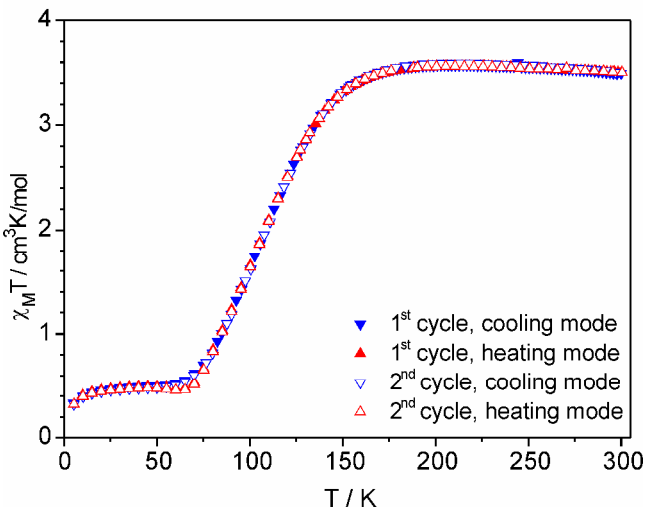

Figure s1. The $\chi_M T(T)$ plot for **4** in cooling and heating modes.