A Homospin Iron(II) Single Chain Magnet

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Supplementary Material

Figure S1. The polymeric strands in **1**. Colours as Fig. 1

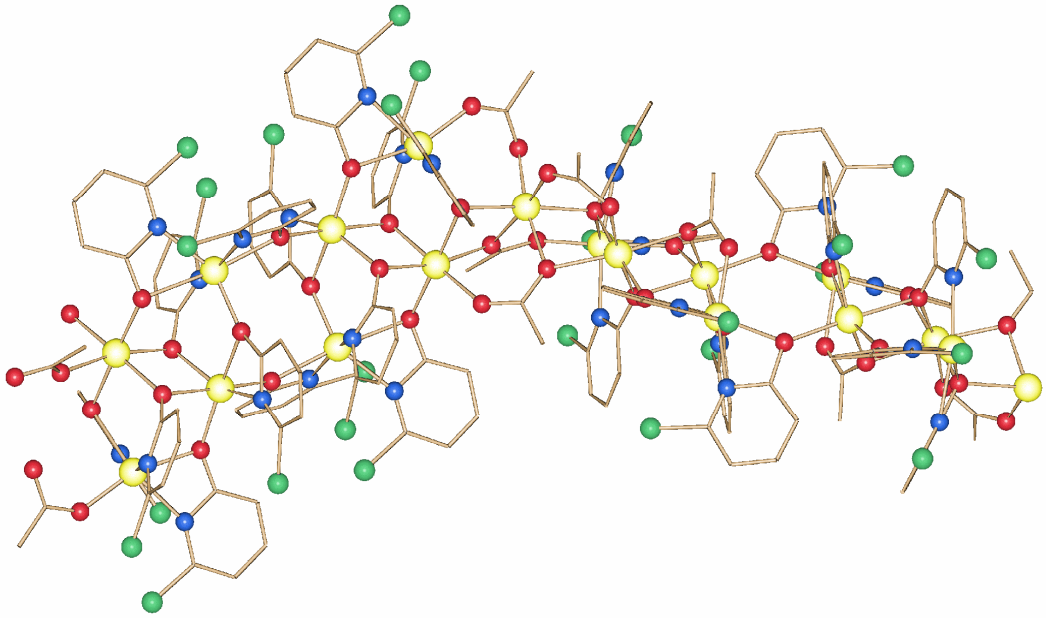


Figure S2. χ_M vs T measured at 1 kG. In the inset: $\chi_M T$ against T at five different fields from 1.8 – 25 K.

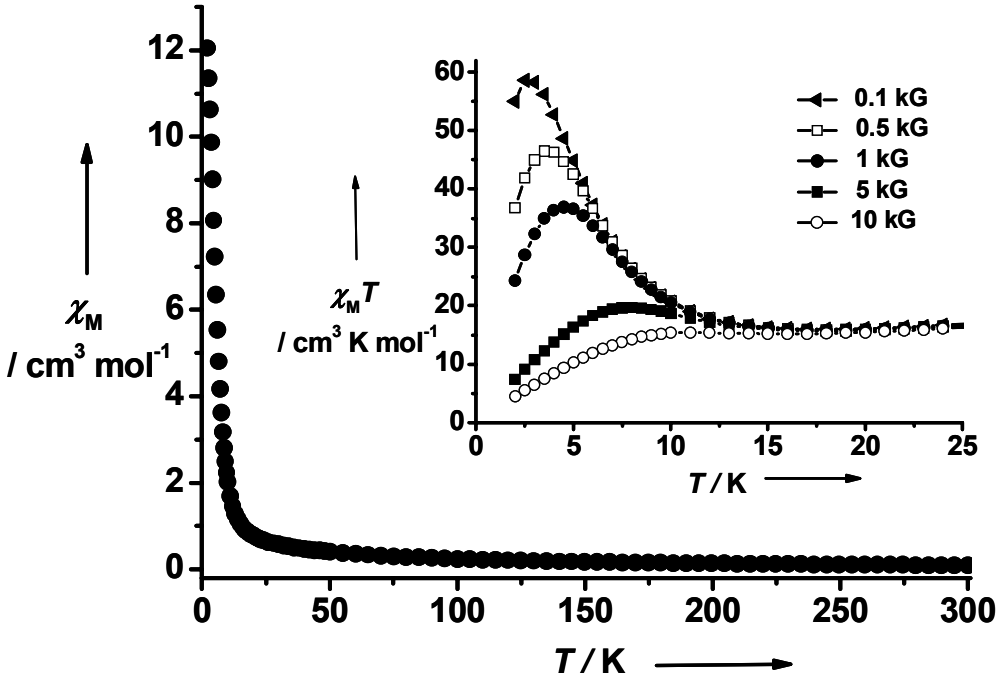


Figure S3. Plot of ln($\chi_M T$) vs (1/T) for **1** in the range temperature range 2.5 – 20 K(χ_M is given in cm^3/mol).

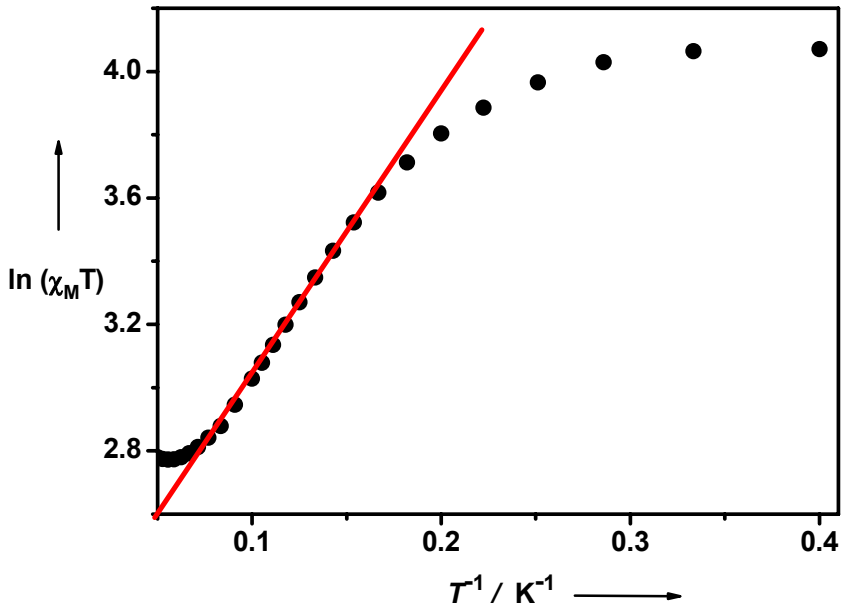


Figure S4. Field dependence of the magnetization of **1** measured at 2 and 4 K. In the inset: the discrepancy between the zero-field-cooled and 50 G field-cooled magnetization curves below 2.7 K.

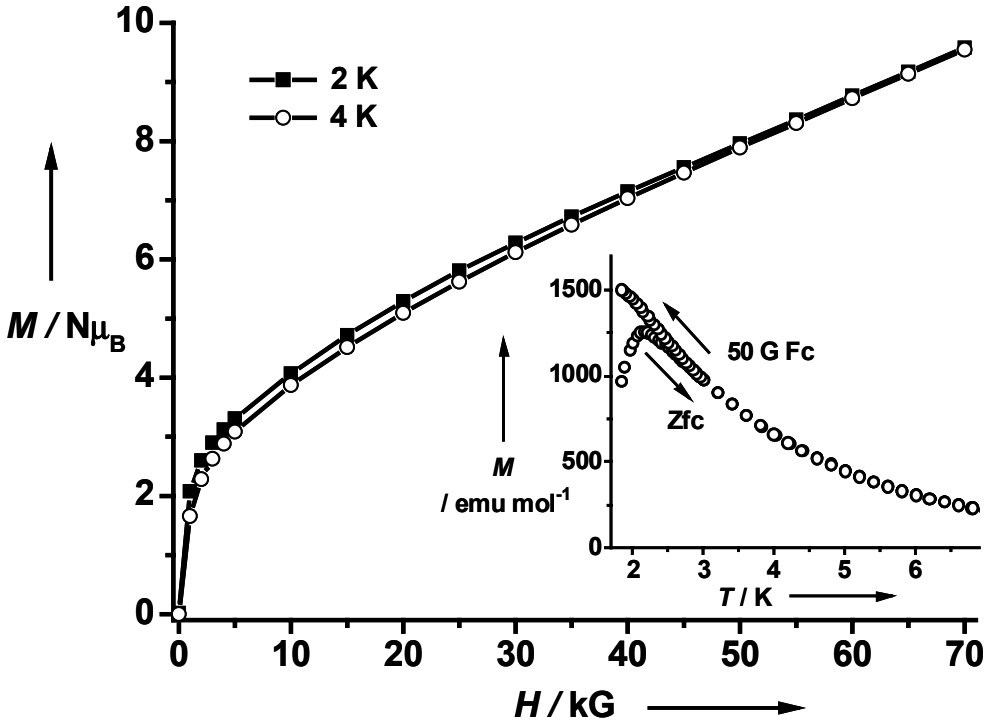
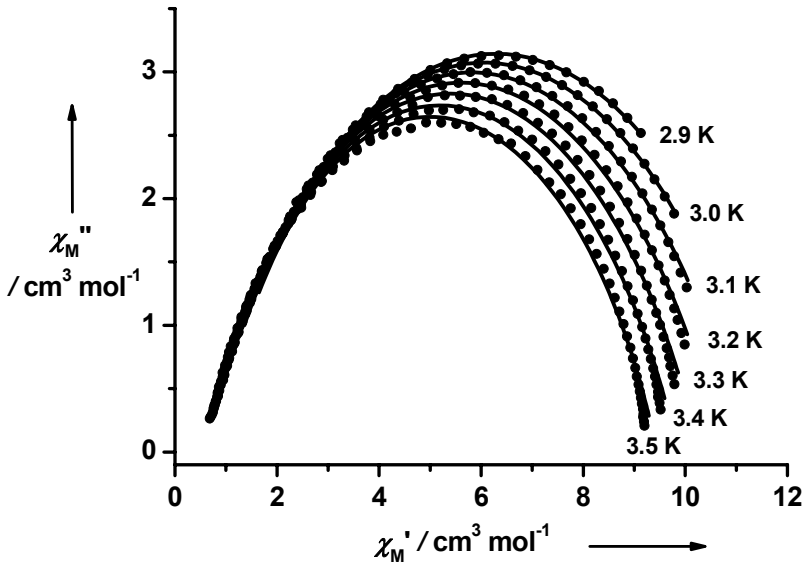
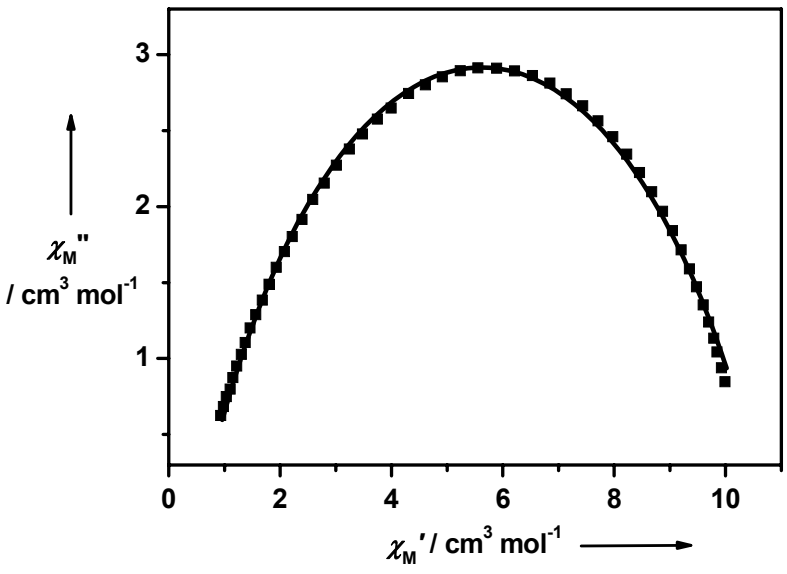


Figure S5.

a)



b)



Cole-Cole diagram at 3.2 K. The solid line represents the least-squares fit obtained with a Debye model

Table S1. **BVS calculations (M. O'Keeffe, Acta Cryst. 1991, B47, 192-197) and averaged bond lengths in compound 1**

Atom	Calc BVS	av Fe-O bonds (Å)	av Fe-N bonds (Å)
Fe1	1.947	2.210	2.161
Fe2	2.141	2.115	2.182
Fe3	2.127	2.123	
Fe4	1.947	2.170	2.193
Fe5	2.072	2.132	
Fe6	1.938	2.158	2.195
Fe7	2.092	2.133	
Fe8	2.068	2.130	2.186
Fe9	1.942	2.154	2.205