

## Supplementary materials

### **Novel 1D chain Fe(III)-salen-like complexes involving anionic heterocyclic *N*-donor ligands. Synthesis, X-ray structure, magnetic, <sup>57</sup>Fe Mössbauer, and biological activity studies**

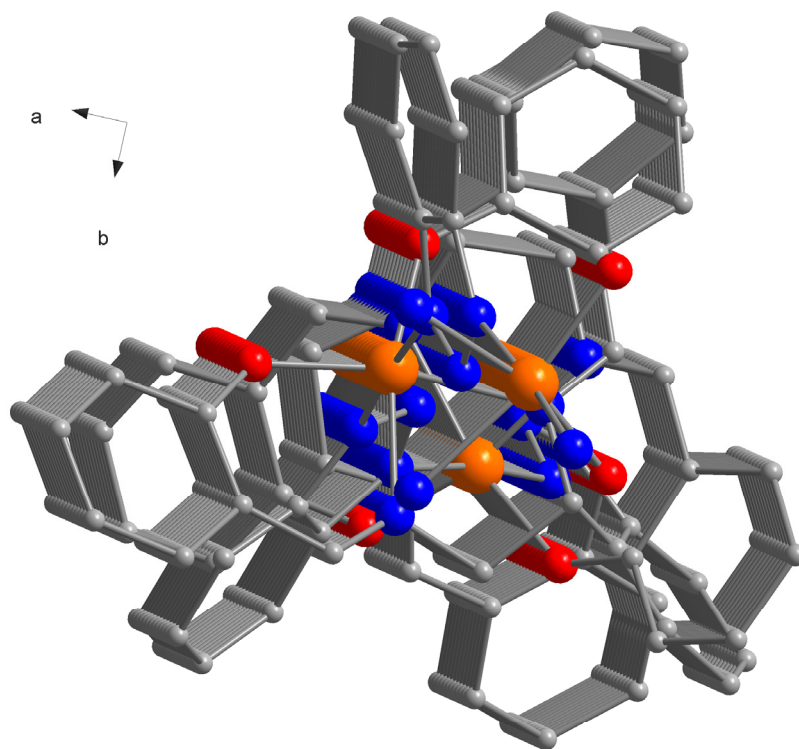
Radovan Herchel, Zdeněk Šindelář, Zdeněk Trávníček, Radek Zbořil and Ján Vančo

**Table S1** Classification of spin states according to the total spin for heptanuclear ring with  $S_i = 5/2$ .

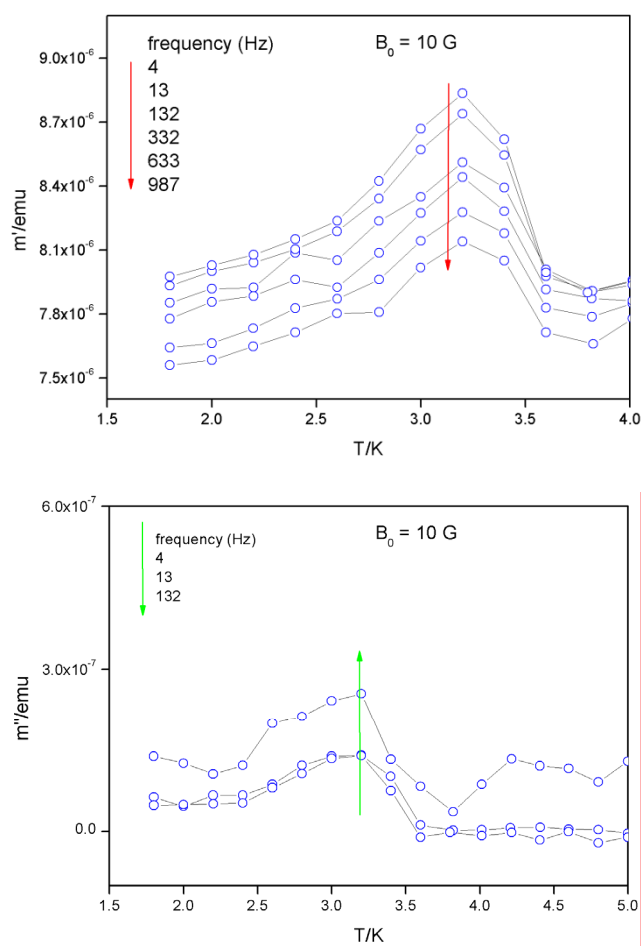
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Total spin $S$	No. of spin states with $M_S = 0$
1/2	1050
3/2	1974
5/2	2666
7/2	3060
9/2	3150
11/2	2975
13/2	2604
15/2	2121
17/2	1610
19/2	1140
21/2	750
23/2	455
25/2	252
27/2	126
29/2	56
31/2	21
33/2	6
35/2	1

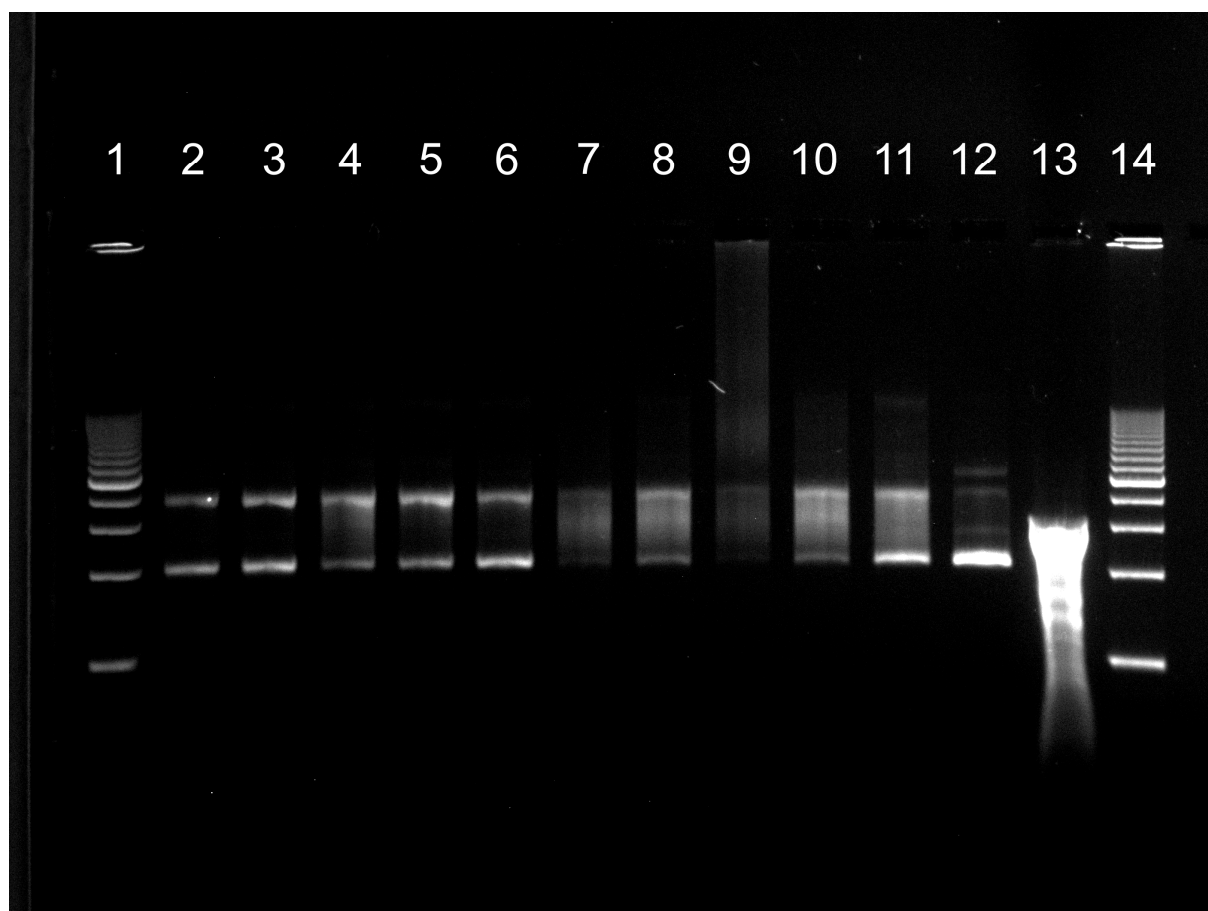
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**Figure S1.** The crystal packing of the one-dimensional chain of  $[\text{Fe}(\text{salen})(\text{btriz})]_n$  (**6**). The hydrogen atoms have been omitted for clarity.



**Figure S2.** The real (top) and imaginary (bottom) susceptibilities for **2**.



**Figure S3.** The effect of concentration on the oxidative cleavage of plasmid DNA in the presence of ascorbic acid. Lane (1) ladder 1 kbp, (2) complex **2** at the molar ratio 1:1 bp, (3) complex **3** at the molar ratio 1:1 bp, (4) starting complex  $[\text{Fe}(\text{salen})]_2\text{O}$  at the molar ratio 1:1 bp, (5) simple chloro-complex  $[\text{Fe}(\text{salen})\text{Cl}]$  at the molar ratio 1:1 bp, (6)  $[\text{Mn}(\text{salen})(\text{Cl})]\cdot\text{H}_2\text{O}$  (**EUK-8**) at the molar ratio 1:1 bp, (7) complex **2** at the molar ratio 5:1 bp, (8) complex **3** at the molar ratio 5:1 bp, (9) starting complex  $[\text{Fe}(\text{salen})]_2\text{O}$  at the molar ratio 5:1 bp, (10) simple chloro-complex  $[\text{Fe}(\text{salen})\text{Cl}]$  at the molar ratio 5:1 bp, (11)  $[\text{Mn}(\text{salen})(\text{Cl})]\cdot\text{H}_2\text{O}$  (**EUK-8**) at the molar ratio 5:1 bp, (12) control (DNA+ascorbate+ $\text{H}_2\text{O}_2$ ), (13) linearized plasmid (pure L-form, cleaved by *Hind* III endonuclease) (overloaded), (14) ladder 100 bp.