

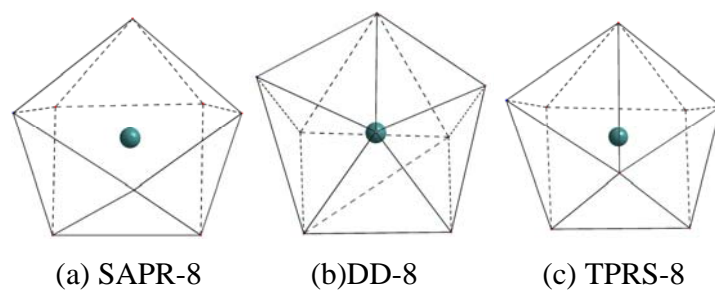
## Supporting Information

### **Ligand field-tuned single-molecule magnet behaviour of 2p-4f complexes**

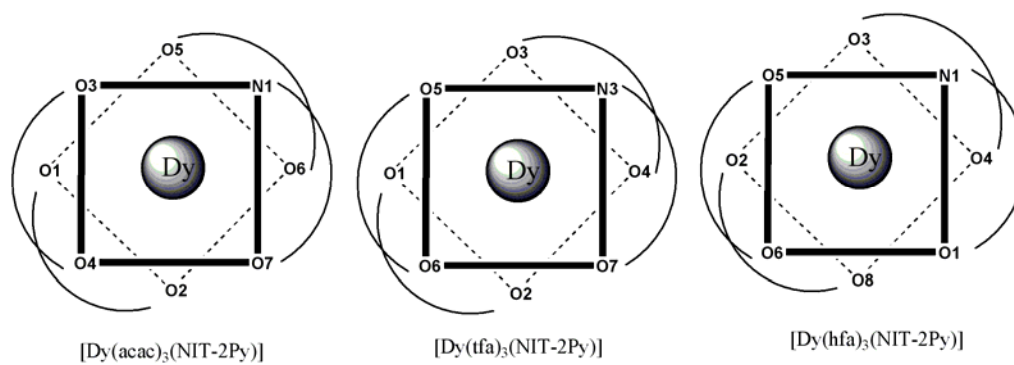
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**Scheme S1**



**Scheme S2**

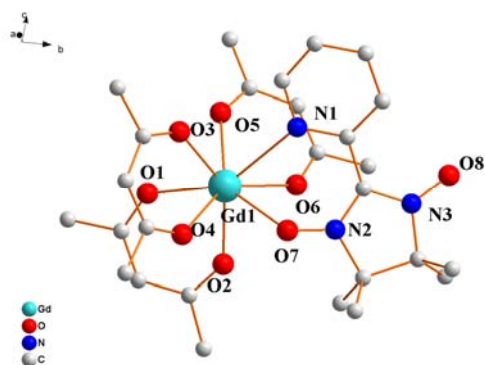


Fig. S1. The molecular structure of **1**. Uncoordinated NIT-2Py radical and hydrogen atoms are not shown for the sake of clarity.

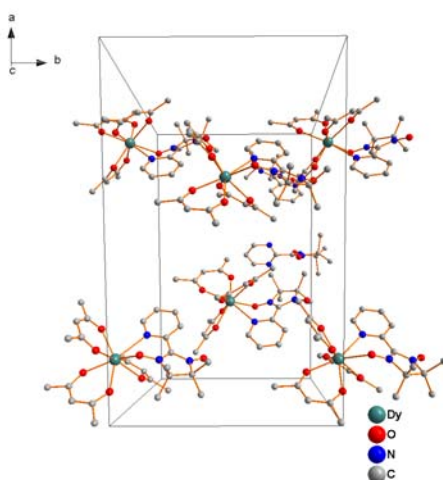
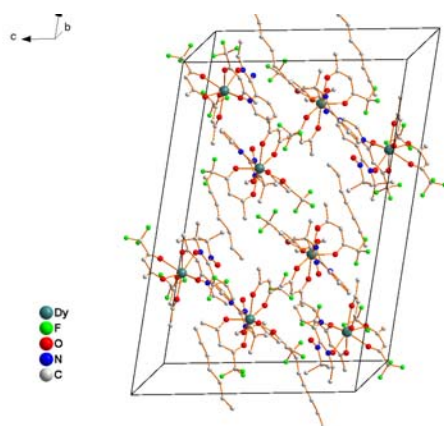
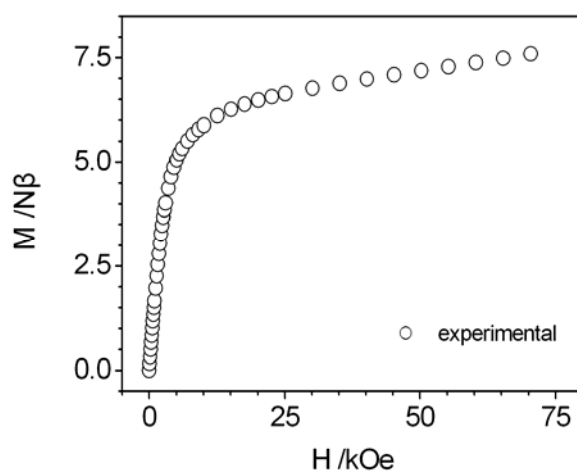


Fig. S2. Packing diagram of complex **2**. Hydrogen atoms are not shown for the sake of clarity.



**Fig. S3.** Packing diagram of complex **3**. Hydrogen atoms are not shown for the sake of clarity.



**Fig. S4.**  $M$  versus  $H$  plot at 2K for **2**.