

# First heterometallic Ga<sup>III</sup>-Dy<sup>III</sup> single-molecule magnets: Implication of Ga<sup>III</sup> in extracting Fe-Dy interaction

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## Supporting Information

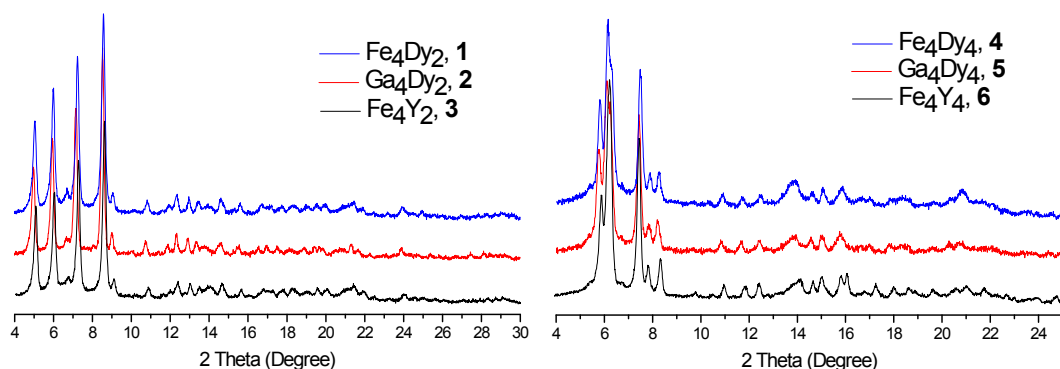


Fig. S1 X-ray powder diffraction patterns for compounds 1-3 (left) and 4-6 (right).

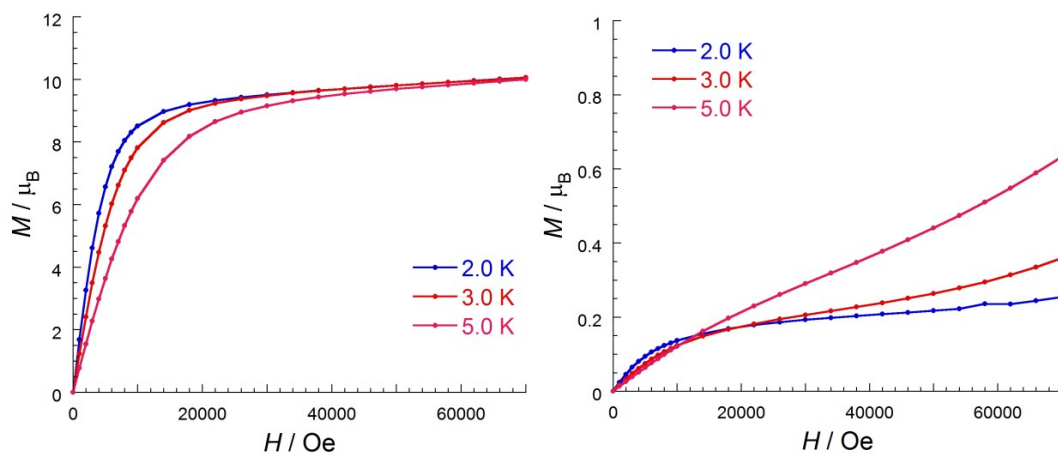
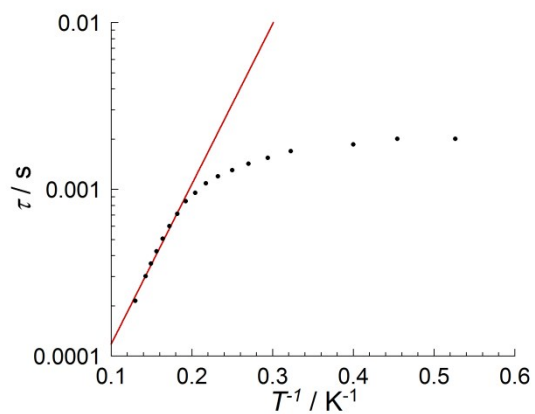
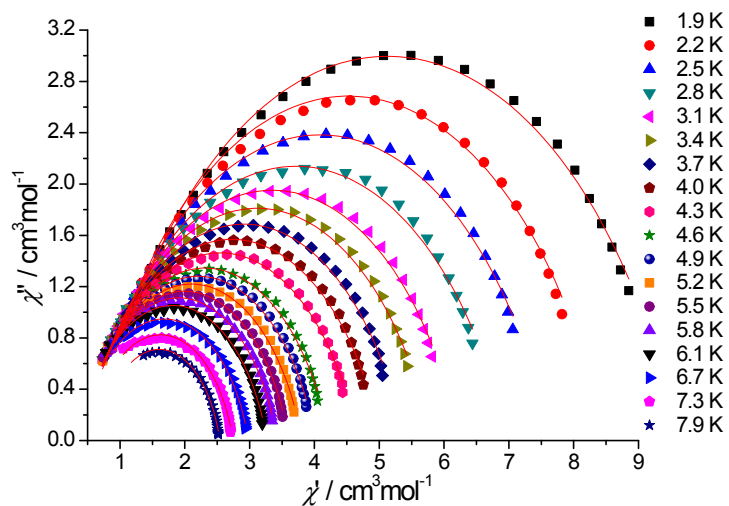


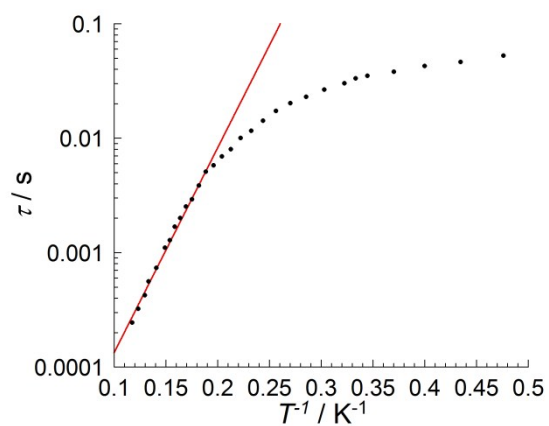
Fig. S2 Field dependence of the magnetization at different temperatures for compounds 2 (left) and 3 (right).



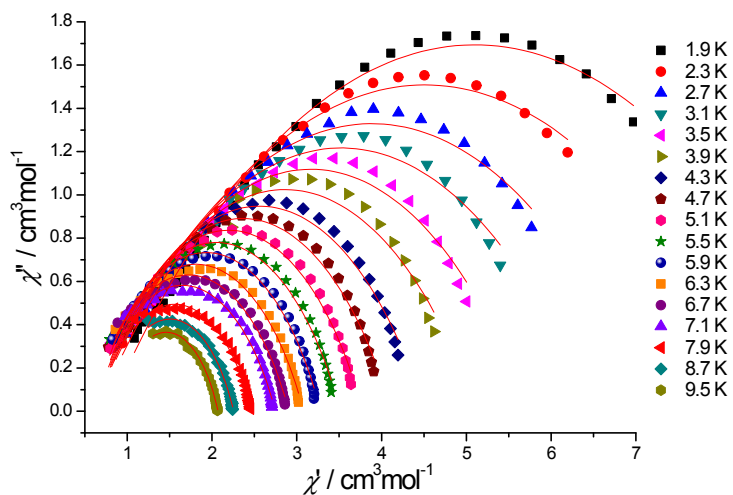
**Fig. S3** Arrhenius plot using ac data under zero dc field for compound **2**.



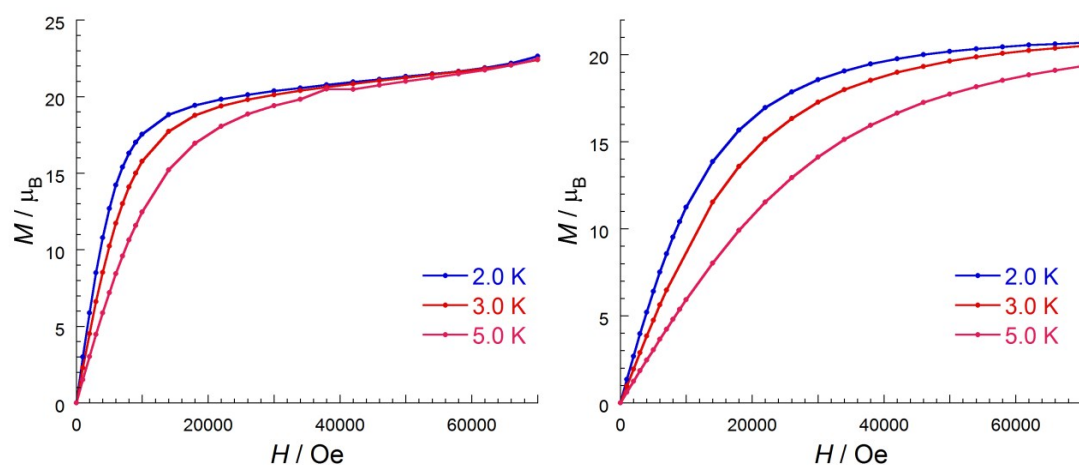
**Fig. S4** Cole-Cole plots under zero dc field for compound **2**.



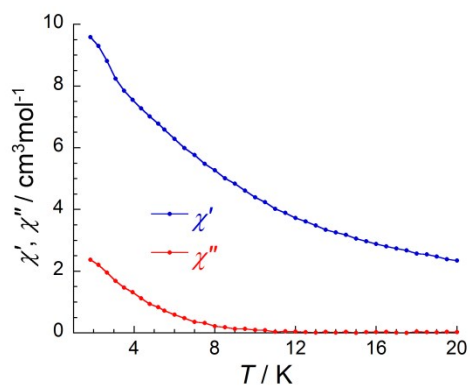
**Fig. S5** Arrhenius plot using ac data under 1500 Oe dc field for compound **2**.



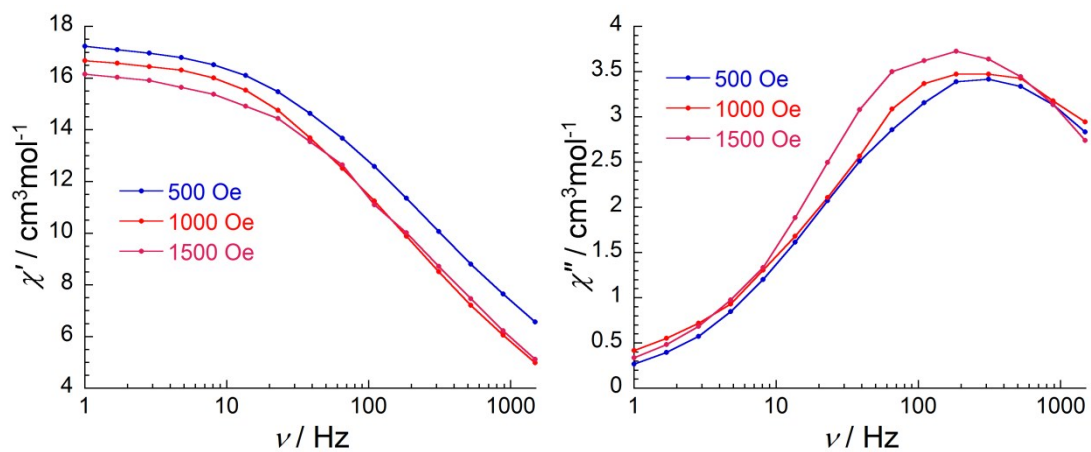
**Fig. S6** Cole-Cole plots under 1500 Oe dc field for compound 2.



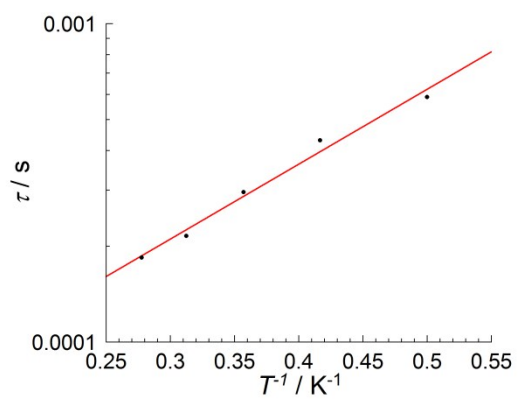
**Fig. S7** Field dependence of the magnetization at different temperatures for compounds 5 (left) and 6 (right).



**Fig. S8** Temperature dependence of the in-phase ( $\chi'$ ) (blue) and out-of-phase ( $\chi''$ ) (red) ac susceptibility components at 1000 Hz under zero dc field for 5.



**Fig. S9** Frequency dependence of the in-phase ( $\chi'$ ) (left) and out-of-phase ( $\chi''$ ) (right) ac susceptibility components under the indicated dc fields at 1.8 K for **5**.



**Fig. S10** Arrhenius plot using ac data under 1000 Oe dc field for compound **5**.