Magnetic properties of two polymeric 36-nuclear pure lanthanide clusters

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Supporting Information

Figure S1 In the Gd_{24} wheel, six tetrahedral Gd_4 clusters form a cyclohexane chair-like structure (The joints between the centroids are in orange solid lines). The triangle constructed by three centroids of the 'up' Gd_4 units is in blue dashed lines and the other one in red dashed lines.

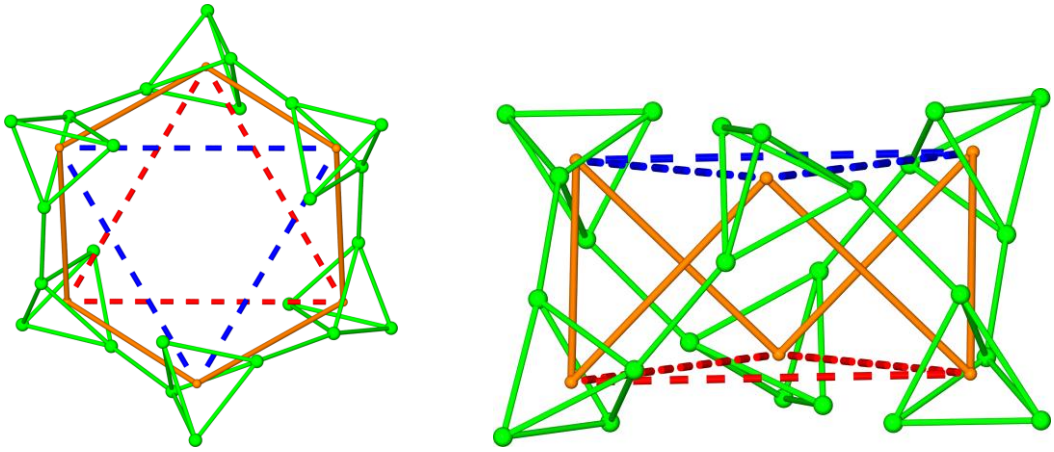
Figure S2 In the Gd_{36} cluster, there are six topologically non-equivalent Gd(III) vertexes, i.e. one three-connected one (in red), one four-connected one (in blue), one five-connected one (in cyan), and three six-connected ones (in green, orange and violet respectively).

Figure S3 Through the coordination of the carboxylic groups of the NA ligands to the Gd(III) cations, the Gd_{36} units form a square layer. For clarity, only the bridge NA ligands are shown in the figure.

Figure S4 For **2**, *M vs. H* data at various temperatures are shown on a single *M vs. H/T* plot.

Figure S5 For **1**, *M vs. H* data at various temperatures.

Figure S6 PXRD for complexes **1** and **2**. Above: The diffraction angle θ is from 3.8 to 50 °. Bottom: To identify the PXRD patterns in detail, we give the diffraction patterns in the range of 6 – 30 °.



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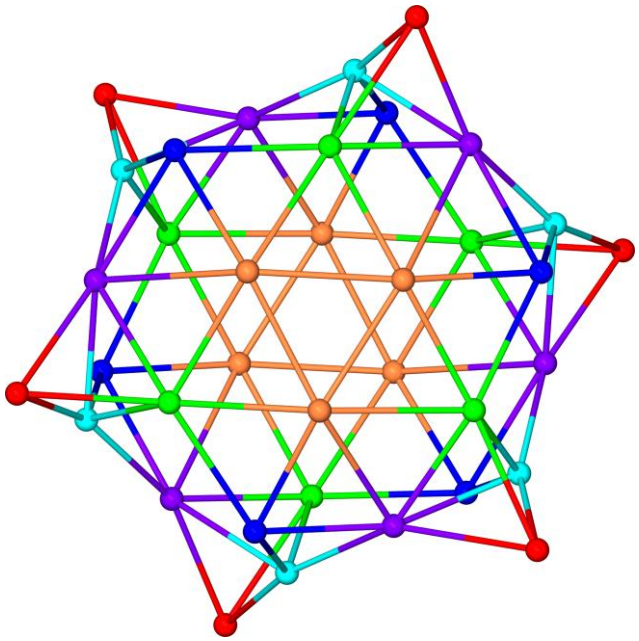

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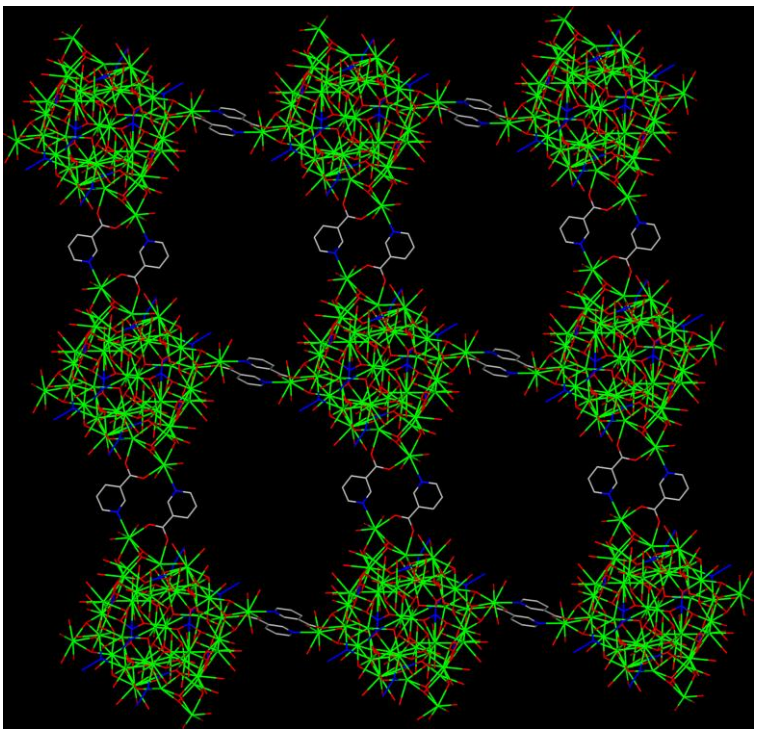

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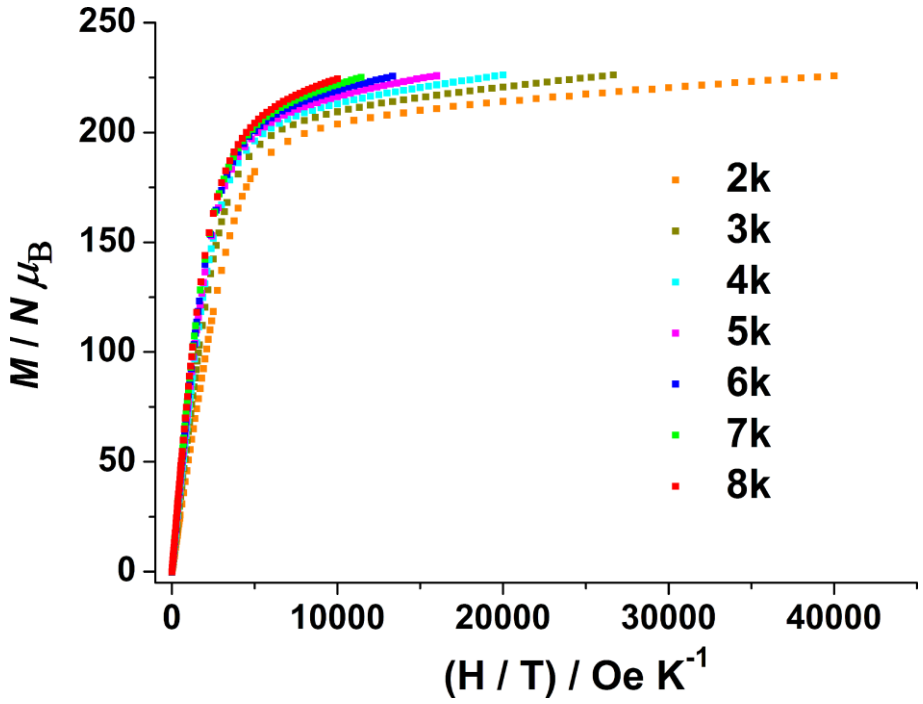

Figure S4 For **2**, *M vs*. *H* data at various temperatures are shown on a single *M vs*. *H/T* plot.

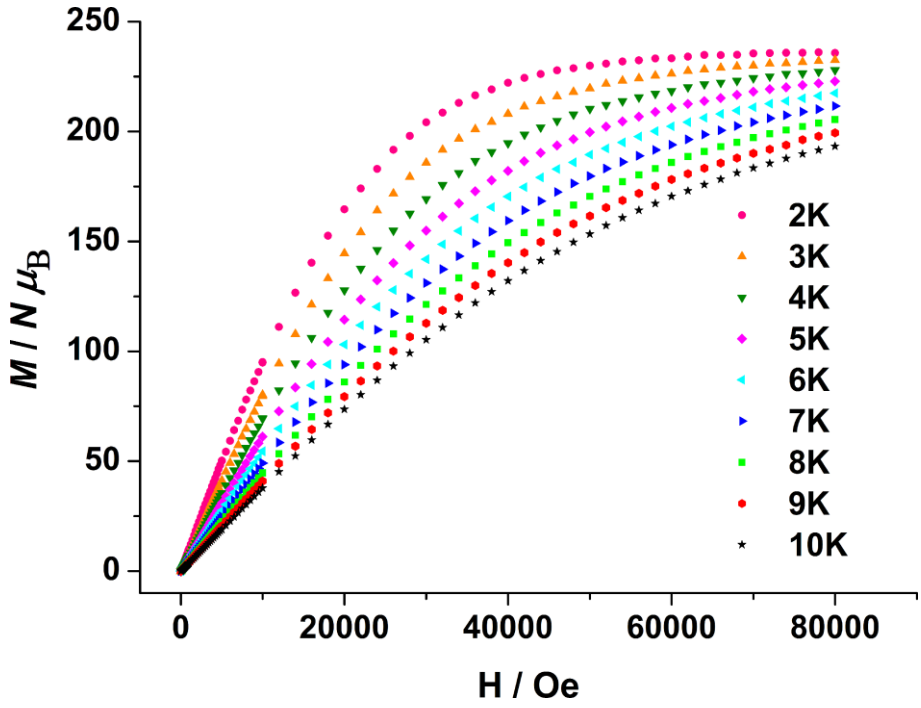

Figure S5 For **1**, *M vs*. *H* data at various temperatures.

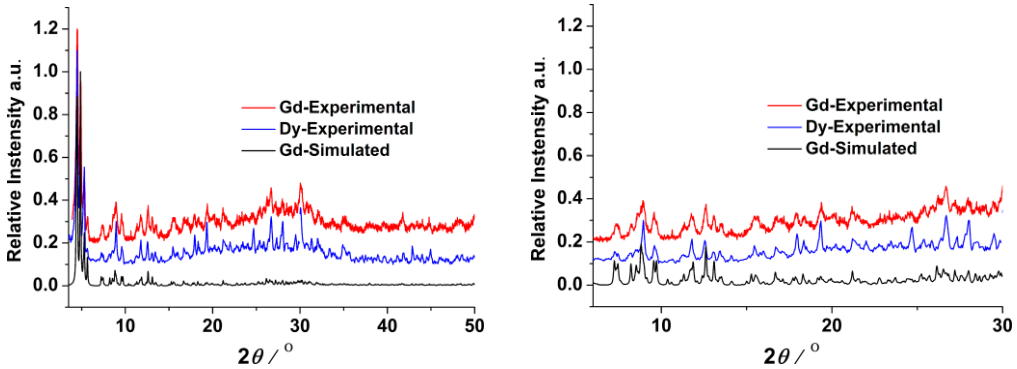

Figure S6 PXRD for complexes **1** and **2**. The diffraction angle θ is from 3.8 to 50 °(left). To identify the PXRD patterns in detail, we give the diffraction patterns in the range of 6 – 30 °(right).