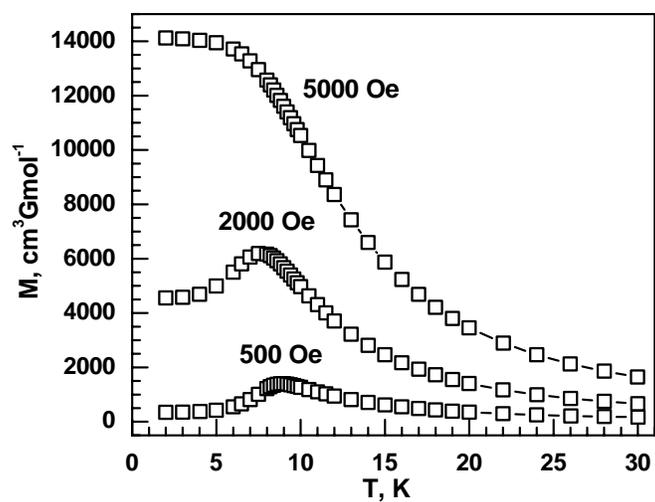


Supporting Information for “Two chain compounds of  $[M(N_3)_2(HCOO)][(CH_3)_2NH_2]$  ( $M=Fe, Co$ ) with mixed azido/formato bridge displaying metamagnetic behaviour” by T. Liu *et al.*.

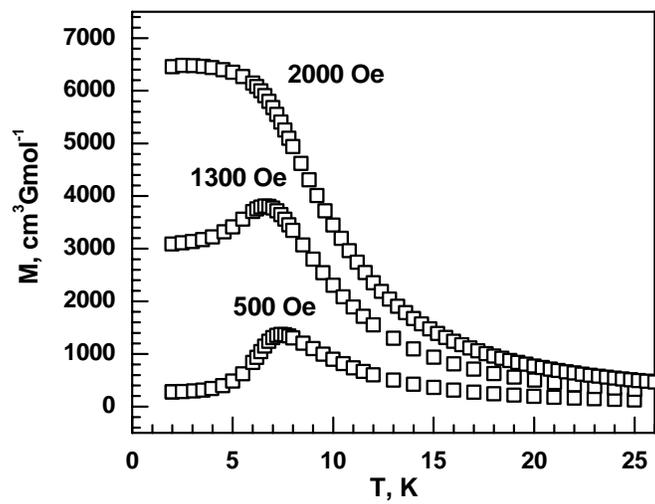
**Table S1.** H-bond geometries (N–H...O/N and C–H...N/O, Å and °) in **1Fe** and **2Co**

	<b>1Fe</b>				<b>2Co</b>			
	D–H	H...A	D...A	D–H...A	D–H	H...A	D...A	D–H...A
N(7)–H(7A)...O(1)	0.90	1.92	2.811(3)	171.0	0.90	1.90	2.794(3)	172.0
N(7)–H(7B)...O(2) <sup>#1</sup>	0.90	2.18	2.912(3)	137.4	0.90	2.16	2.892(3)	137.7
N(7)–H(7B)...N(6) <sup>#2</sup>	0.90	2.65	3.309(3)	130.7	0.90	2.68	3.329(4)	129.7
C(1)–H(1)...N(3) <sup>#3</sup>	0.93	2.63	3.463(4)	149.8	0.93	2.65	3.489(4)	149.7
C(1)–H(1)...N(6) <sup>#4</sup>	0.93	2.59	3.123(4)	116.7	0.93	2.62	3.154(4)	117.0
C(2)–H(2C)...N(6) <sup>#2</sup>	0.96	2.82	3.220(4)	105.8	0.96	2.81	3.214(5)	106.2
C(2)–H(2B)...N(4) <sup>#5</sup>	0.96	3.08	3.491(4)	107.4	0.96	3.03	3.449(4)	108.1
C(3)–H(3B)...O(2) <sup>#1</sup>	0.96	2.89	3.284(3)	105.6	0.96	2.91	3.275(4)	104.0
C(3)–H(3C)...N(3) <sup>#3</sup>	0.96	2.67	3.555(4)	153.5	0.96	2.64	3.531(5)	154.4

Symmetry codes: #1 x, y, z+1; #2 -x+2, -y+1, -z+1; #3 -x+1, -y+1, -z; #4 -x+2, -y+1, -z; #5 -x+2, y+1/2, -z+1/2.

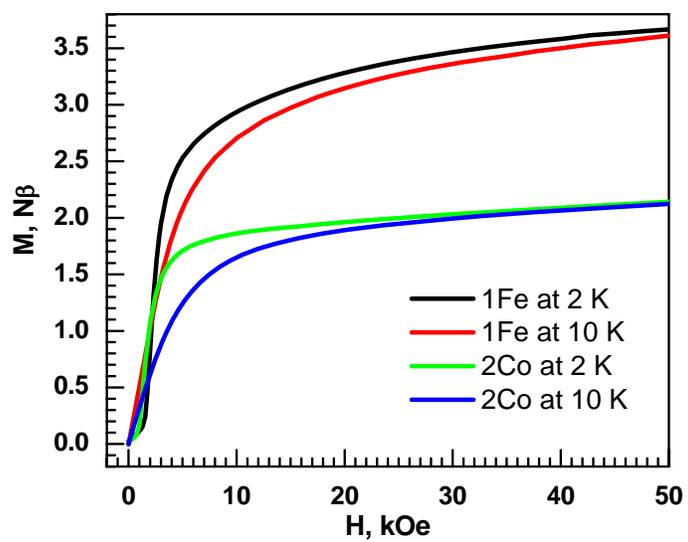


*a*

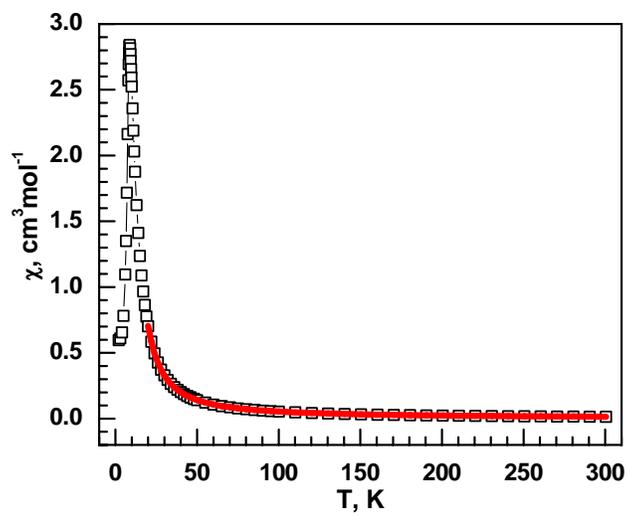


*b*

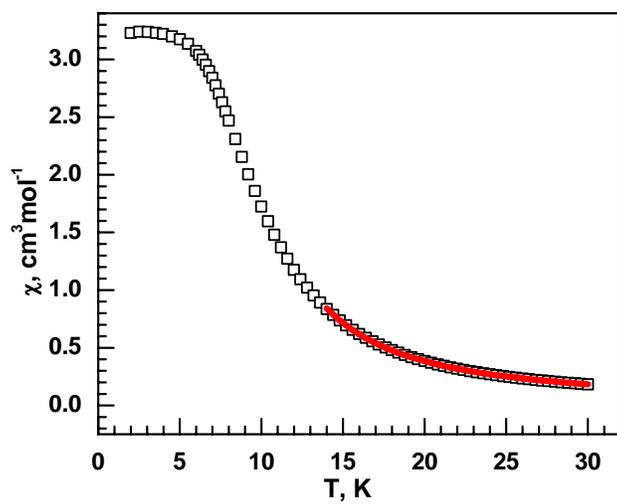
**Figure S1.** The FC plots of  $1\text{Fe}$  (*a*) and  $2\text{Co}$  (*b*) in low temperature region under different applied fields.



**Figure S2.** The M vs H plots up to 50 kOe of **1Fe** and **2Co** at 2 K and 10 K.



**Figure S3.**  $\chi$  vs T plot of **1Fe** under 1 kOe field with the best fitting data in red lines, see text.



**Figure S4.**  $\chi$  vs T plot of  $2\text{Co}$  under 2 kOe field with the best fitting data in red lines, see text.