Electronic Supplementary Information (ESI)

Synthesis, structures and magnetic properties of heterbimetallic Ru^{III}-3d (3d = Mn, Ni) compounds based on the chiral Ru^{III} building block

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1. Table S1 Selected bond lengths (Å) and angles (°) for complex **1**

C(21)-Ru(1)	2.052(11)	C(22)-Ru(1)	2.083(10)
N(1)-Ru(1)	1.982(7)	N(2)-Ru(1)	2.017(8)
O(1)-Ru(1)	2.029(6)	O(2)-Ru(1)	2.004(6)
Mn(1)-O(3)	1.872(6)	Mn(1)-O(4)	1.886(7)
Mn(1)-N(4)	2.001(8)	Mn(1)-N(5)	1.957(8)
Mn(1)-N(6)	2.325(8)	Mn(1)-N(3)	2.276(8)
N(12)-C(21)-Ru(1)	175.9(9)	N(3)-C(22)-Ru(1)	174.2(9)
N(15)-C(113)-Ru(3)	171.0(8)	N(24)-C(76)-Ru(3)	172.9(9)
C(22)-N(3)-Mn(1)	164.0(8)	C(39)-N(6)-Mn(1)	151.2(8)

Symmetry transformations used to generate equivalent atoms: #1 x, y-1, z+1

Table S2 Selected bond lengths (Å) and angles (°) for complex **2**

Ru1-N2	2.003(8)	Ru1-N1	2.015(7)
Ru1-O1	2.018(6)	Ru1-O2	2.019(6)
Ru1-C21	2.063(11)	Ru1-C22	2.066(10)
Mn1-O3	1.868(6)	Mn1-O4	1.894(7)
Mn1-N5	1.953(8)	Mn1-N4	1.997(8)
Mn1-N3	2.294(9)	Mn1-N6	2.346(8)
N12-C21-Ru1	176.0(9)	N3-C22-Ru1	175.6(9)
N24-C76-Ru3	171.3(9)	C29-N4-Mn1	125.2(7)
C22-N3-Mn1	163.1(8)	C39-N6-Mn1	151.2(7)

Table S3 Selected bond lengths (Å) and angles (°) for complex **3**

Ru1-N2	1.965(11)	Ru1-N1	2.006(11)
Ru1-O1	1.975(9)	Ru1-O2	2.003(8)
Ru1-C21	2.054(12)	Ru1-C22	2.089(11)
Ni1-N4	2.033(10)	Ni1-N6	2.060(10)

Ni1-N5	2.077(13)	Ni1-N7	2.076(10)
Ni1-N9	2.071(11)	Ni1-N8	2.126(11)
Ru2-N11	1.970(11)	Ru2-N10	1.983(12)
Ru2-O4	1.983(10)	Ru2-C50	2.000(12)
Ru2-C29	2.012(12)	Ru2-O3	2.018(10)
C22-N4-Ni1	162.9(11)	C29-N9-Ni1	177.5(11)
N3-C21-Ru1	175.9(13)	N4-C22-Ru1	171.3(11)
N9-C29-Ru2	173.6(11)	N12-C50-Ru2	176.9(13)

Table S4 Selected bond lengths (Å) and angles (°) for complex **4**

Ru1-N2	1.998(6)	Ru1-N1	2.011(6)
Ru1-O1	1.996(6)	Ru1-O2	2.011(5)
Ru1-C7	2.054(8)	Ru1-C22	2.087(8)
Ni1-N4	2.061(6)	Ni1-N7	2.099(7)
Ni1-N5	2.102(6)	Ni1-N11	2.104(6)
Ni1-N6	2.111(7)	Ni1-N8	2.111(7)
Ru2-N10	1.994(7)	Ru2-O4	1.997(6)
Ru2-N9	1.997(7)	Ru2-O3	2.006(6)
Ru2-C30	2.040(8)	Ru2-C29	2.086(8)
N3-C7-Ru1	175.1(8)	N4-C22-Ru1	175.8(7)
N11-C29-Ru2	179.8(9)	N12-C30-Ru2	177.7(8)
C22-N4-Ni1	158.8(6)	C29-N11-Ni1	177.8(7)

2. Fig. S1 2D supramolecular structure of complex **3** constructed by N–H···N (rose dashes) interactions. Hydrogen atoms are omitted for clarity.

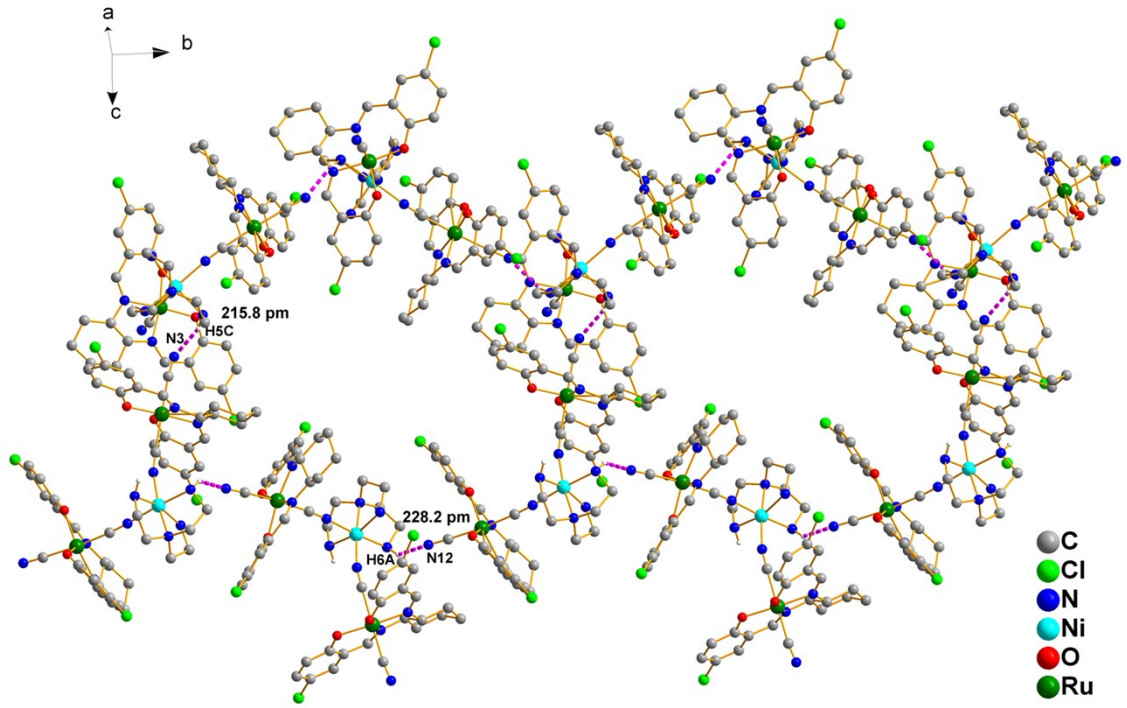

Fig. S2 Field dependence of magnetization at 1.9 K for **1**.

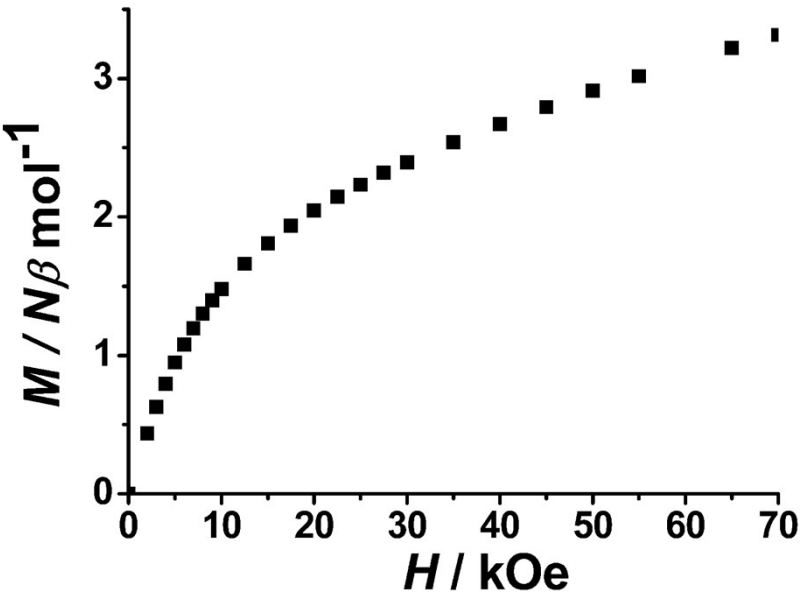

Fig. S3 Plots of ln(χ'' / χ') vs 1 / T for **1**.

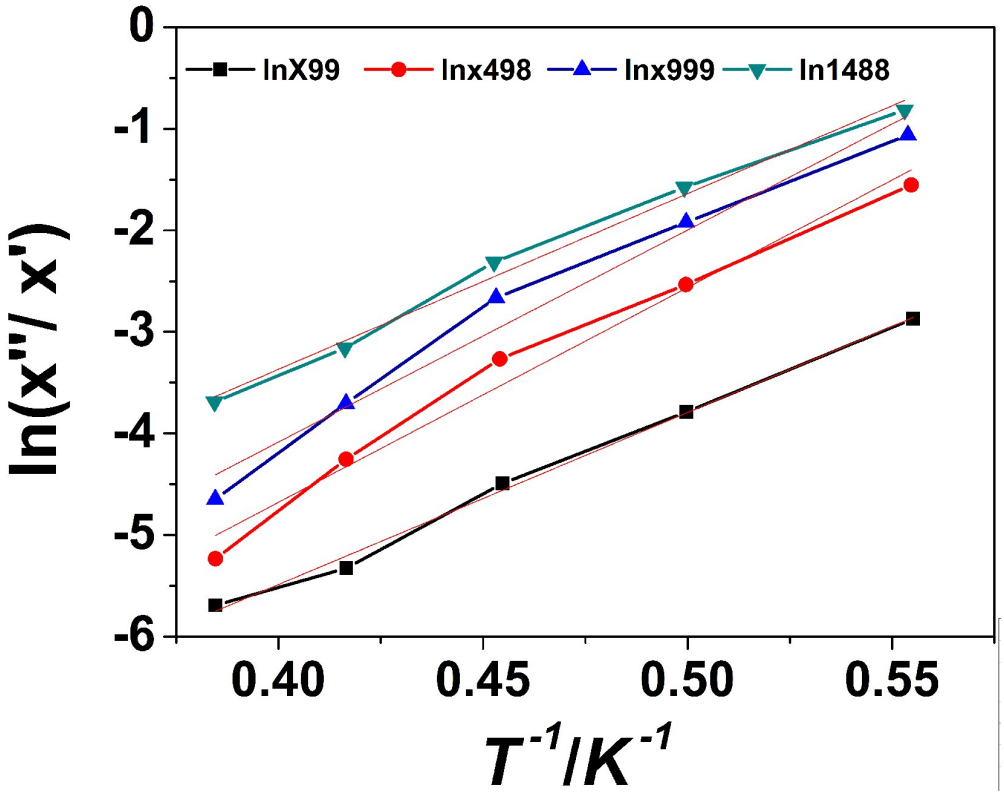

Fig. S4 Field dependence of the magnetization of **3** at 1.9 K.