Supplementary Material (ESI) for Dalton Transactions

Supporting Information for

Two octacyanometallate-based Ni(II)W(V) bimetallic assemblies with metamagnetism

Ai-Hua Yuan,[*a] Su-Yan Qian,[a] Wen-Yan Liu,[a] Hu Zhou[a] and You Song[*b]

[a]*School of Material Science and Engineering, Jiangsu University of Science and Technology, Zhenjiang 212003, China. E-mail: aihuayuan@163.com*

[b]*State Key Laboratory of Coordination Chemistry, Nanjing National Laboratory of Microstructures, School of Chemistry and Chemical Engineering, Nanjing University, Nanjing 210093, China. E-mail: yousong@nju.edu.cn*

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

W1-C1	2.170(5)	Ni2-N1	2.139(5)
W1-C2	2.171(5)	Ni2-N11	2.097(5)
W1-C3	2.172(5)	Ni2-N12	2.077(5)
W1-C4	2.199(6)	C1-N1	1.143(7)
W1-C5	2.160(5)	C2-N2	1.137(7)
W1-C6	2.127(6)	C3-N3	1.135(7)
W1-C7	2.186(5)	C4-N4	1.112(7)
W1-C8	2.170(5)	C5-N5	1.138(7)
Ni1-N6	2.113(5)	C6-N6	1.163(7)
Ni1-N9	2.105(5)	C7-N7	1.114(7)
Ni1-N10	2.078(5)	C8-N8	1.116(7)
W1-C1-N1	174.3(5)	W1-C6-N6	175.4(5)
W1-C2-N2	175.6(6)	W1-C7-N7	179.7(5)
W1-C3-N3	178.3(5)	W1-C8-N8	177.6(6)
W1-C4-N4	177.8(5)	Ni1-N6-C6	160.5(5)
W1-C5-N5	175.9(5)	Ni2-N1–C1	156.8(4)

Table S2 Selected bond distances (Å) and angles (°) for **2**.

W1-C1	2.167(6)	Ni1-N14	2.083(6)
W1-C2	2.163(6)	Ni2-N2	2.126(5)
W1-C3	2.162(6)	Ni2-N16	2.065(5)
W1-C4	2.117(7)	Ni2-N17	2.080(5)
W1-C5	2.176(5)	C1-N1	1.169(7)
W1-C6	2.165(6)	C2-N2	1.138(7)
W1-C7	2.123(6)	C3-N3	1.159(7)
W1-C8	2.159(6)	C4-N4	1.164(8)
Ni1-N1	2.109(4)	C5-N5	1.139(7)
Ni1-N5^{iii}	2.095(5)	C6-N6	1.163(8)
Ni1-N10	2.053(5)	C7-N7	1.165(7)
Ni1-N11	2.065(5)	C8-N8	1.136(8)
Ni1-N13	2.062(5)		
W1-C1-N1	173.8(5)	W1-C6-N6	178.7(5)
W1-C2-N2	177.0(5)	W1-C7-N7	177.0(5)
W1-C3-N3	176.7(5)	W1-C8-N8	179.0(6)
W1-C4-N4	177.6(6)	Ni1-N1–C1	161.2(5)
W1-C5-N5	178.7(5)	Ni2-N2-C2	160.7(5)

Symmetry code: (iii) $x - 1/2$; $1/2 - y$; $z - 1/2$.

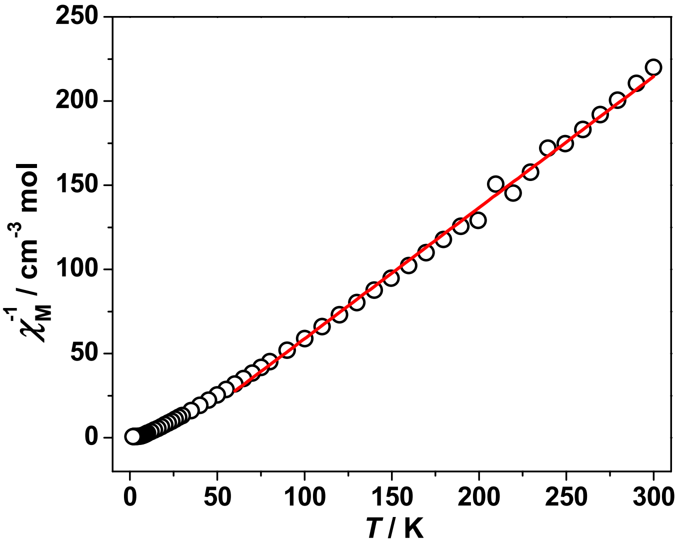

Fig. S1 Temperature dependence of $1/\chi_M$ for **1** measured at 2 kOe. The solid line represents the fit obtained by the Curie-Weiss law.

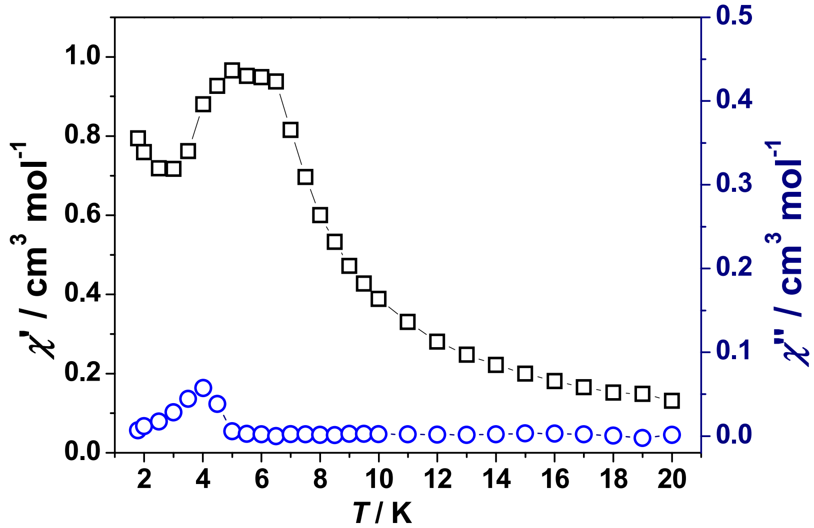

Fig. S2 Temperature dependence of in-phase χ' (□), and out-of-phase χ'' (○), components of the *ac* susceptibility at 10 Hz frequency for **1**.

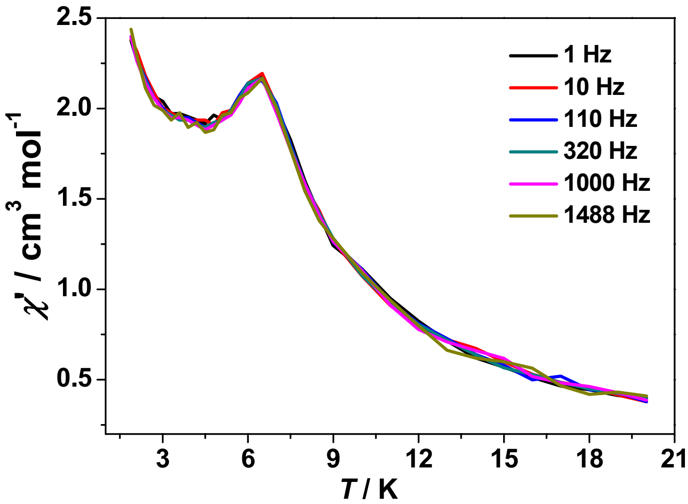

Fig. S3 Plots of χ' versus T of **1** at an ac field of 3 Oe, zero dc field.

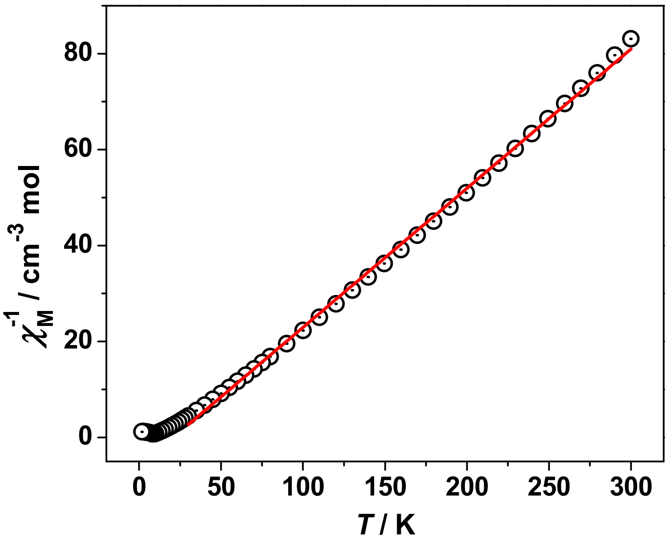

Fig. S4 Temperature dependence of $1/\chi_M$ for **2** measured at 2 kOe. The solid line represents the fit obtained by the Curie-Weiss law.

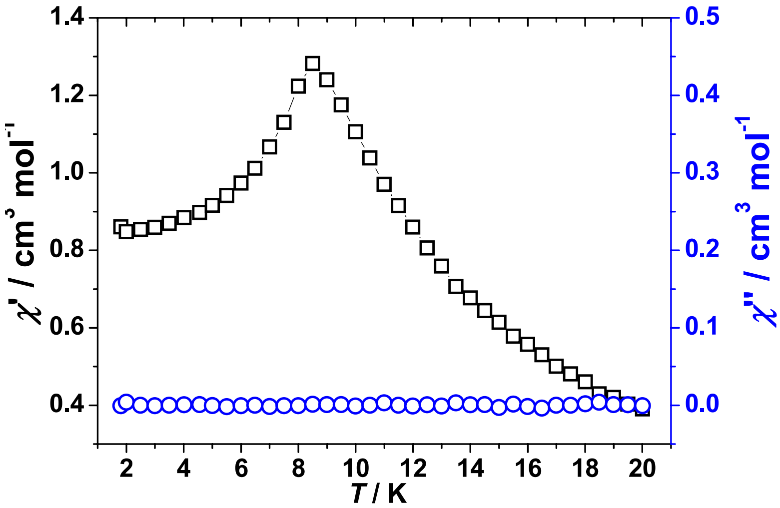

Fig. S5 Temperature dependence of in-phase χ' (□), and out-of-phase χ'' (○), components of the *ac* susceptibility at 10 Hz frequency for **2**.