

## Exploring the Formation of 3D Ferromagnetic Cyano-Bridged $\text{Cu}^{\text{II}}_{2+x}\{\text{Cu}^{\text{II}}_4[\text{W}^{\text{V}}(\text{CN})_8]_{4-2x}[\text{W}^{\text{IV}}(\text{CN})_8]_{2x}\}\cdot y\text{H}_2\text{O}$ Networks

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### Supplementary Information

#### List of contents

**Table S1.** The selected distances within Cu-N-C-W linkages in **2** and **3** [Å].

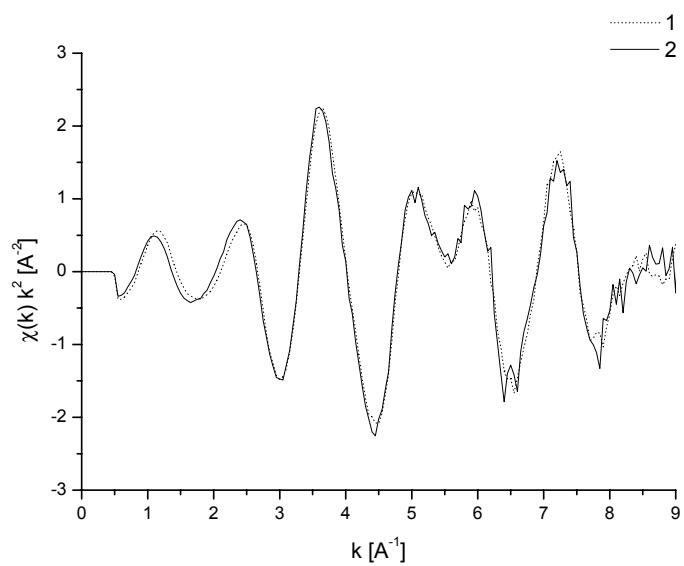
**Figure S1.** The  $k^2\chi(k)$  functions obtained from the W:L<sub>3</sub> edge spectra of **1** and **2**.

**Figure S2.**  $M(H)$  curves for **2** (filled circles) and **3** (triangles) at  $T = 4.3$  K.

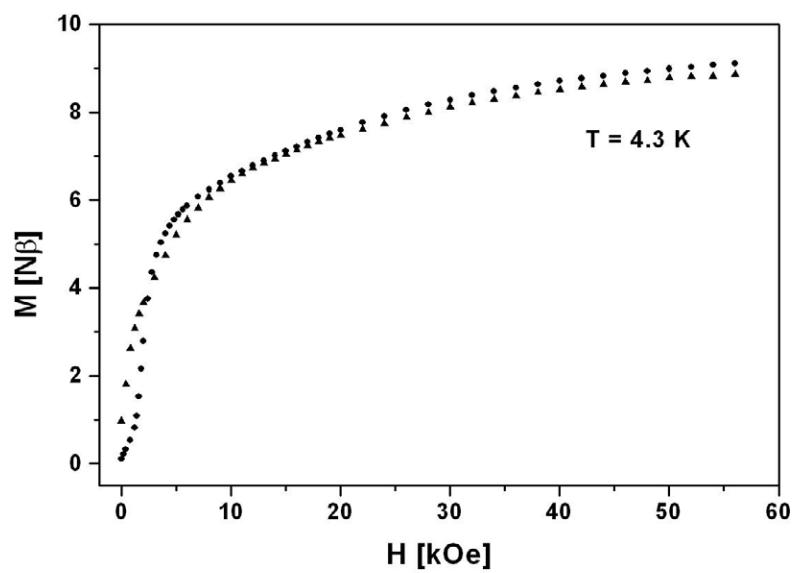
**Figure S3.**  $M(H)$  curves at  $T = 4.3$  K (filled circles) and at  $T = 18.6$  K (open circles) for **2**.

**Table S1** The selected distances within Cu-N-C-W linkages in **2** and **3** [Å].

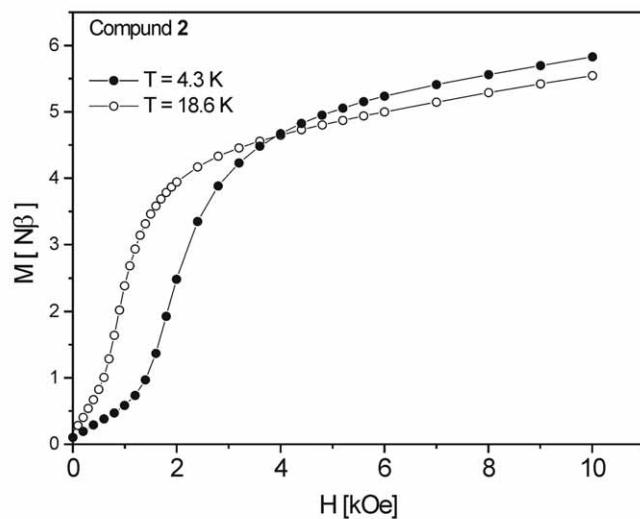
	<b>2</b>	<b>3</b>
Cu1 <sub>eq</sub> -N1-C1-W1		
Cu1 <sub>eq</sub> -N1	1.957(12)	1.955
N1-C1	1.170(19)	1.158(11)
Cu1 <sub>eq</sub> ···C1	3.126	3.115
Cu1 <sub>eq</sub> ···W1	5.264	5.278
Cu1 <sub>ax</sub> -N1-C1-W1		
Cu1 <sub>ax</sub> -N3	2.17(2)	2.18
N3-C3	1.150(19)	1.151
Cu1 <sub>ax</sub> ···C3	3.321	3.329
Cu1 <sub>ax</sub> ···W1	5.47	5.47
Cu2-N2-C2-W1		
Cu2-N2	1.936(9)	1.958
N2-C2	1.150(13)	1.15
Cu2···C2	3.086	3.104
Cu2···W1	5.23	5.266



**Fig. S1.** The  $k^2 \chi(k)$  functions obtained from the W:L<sub>3</sub> edge spectra of **1** and **2**.



**Fig. S2.**  $M(H)$  curves for **2** (filled circles) and **3** (triangles) at  $T = 4.3$  K.



**Fig. S3.**  $M(H)$  curves at  $T = 4.3 \text{ K}$  (filled circles) and at  $T = 18.6 \text{ K}$  (open circles) for **2**.