

Supplementary Material (ESI) for New Journal of Chemistry
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Two isopolytungstate compounds based on rare $[\text{W}_6\text{O}_{22}]^{8-}$ and $[\text{H}_2\text{W}_{12}\text{O}_{42}]^{10-}$ fragments captured by premade copper(II) complexes

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Table S1. Selected bond lengths (Å) and bond angles (°) for compounds **1** and **2**.

Compound 1			
Cu(1)-N(3)	1.983(7)	Cu(1)-N(4)	1.972(7)
Cu(1)-O(5)	1.905(5)	Cu(1)-O(11)	1.897(5)
Cu(2)-N(1)	2.010(7)	Cu(2)-N(2)	2.033(7)
Cu(2)-O(7)	1.969(5)	Cu(2)-O(9)	2.769(2)
Cu(2)-O(10)	1.955(5)	Cu(2)-O1W	2.260(6)
O(11)-Cu(1)-O(5)	97.2(2)	O(11)-Cu(1)-N(3)	155.1(3)
O(5)-Cu(1)-N(3)	92.9(3)	O(11)-Cu(1)-N(4)	93.8(3)
O(5)-Cu(1)-N(4)	164.8(3)	N(3)-Cu(1)-N(4)	81.2(3)
O(7)-Cu(2)-N(1)	92.6(3)	O(10)-Cu(2)-N(1)	172.7(3)
O(10)-Cu(2)-N(2)	93.8(2)	O(7)-Cu(2)-N(2)	155.4(3)
Symmetry codes for 1 : #1 -x+1,-y+1,-z			
Compound 2			
Cu(1)-N(1)	2.026(9)	Cu(1)-N(2)	2.009(9)
Cu(1)-O(6)	2.545(9)	O(15)-Na(1)	2.689(8)
O(7)-Na(1)	2.374(9)	O3W-Na(1)	2.340(11)
O7W-Na(1)	2.486(11)	O8W-Na(1)	2.389(10)
O10W-Na(1)	2.427(9)	O(16)-Na(2)	2.401(10)
O2W-Na(2)	2.490(11)	O4W-Na(2)	2.374(12)
O6W-Na(2)	2.400(10)	O5W-Na(2)	2.447(10)
O9W-Na(2)	2.472(9)	O(11)-Na(3)	2.438(9)

O6W-Na(3)	2.375(9)	O7W-Na(3)	2.444(9)
O9W-Na(3)	2.427(9)	O10W-Na(3)	2.480(9)
O14W-Na(3)	2.451(12)	O1W-Na(4)	2.390(11)
O4W-Na(4)	2.456(12)	O11W-Na(4)	2.383(10)
O12W-Na(4)	2.409(13)	O15W-Na(4)	2.419(11)
N(2)-Cu(1)-N(2)	180	N(2)-Cu(1)-N(1)	95.0(4)
N(2)-Cu(1)-N(1)	85.0(4)		
Symmetry codes for 2 : #1 -x+1,-y+2,-z+1 #2 -x+1,-y+2,-z #3 -x+1,-y+1,-z+1 #4 -x+2,-y+2,-z+1 #5 -x,-y+3,-z			

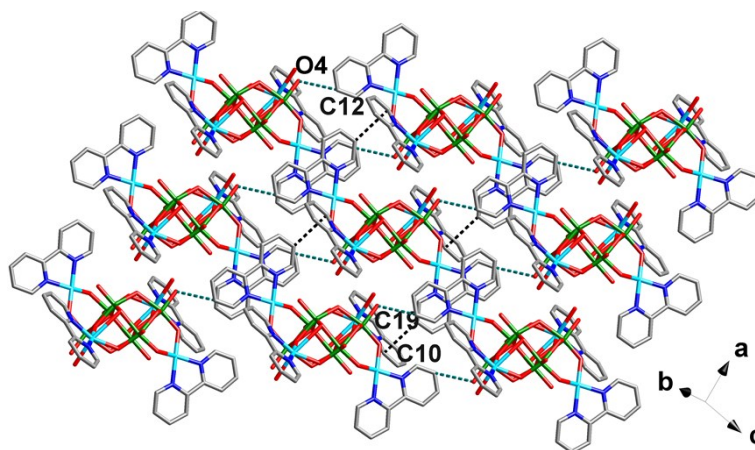


Fig. S1. The 2D supramolecular structure of compound **1**.

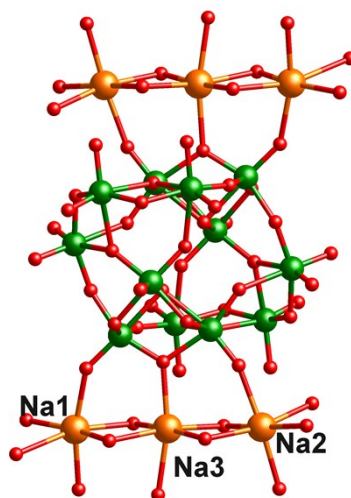


Fig. S2. The $[\text{H}_2\text{W}_{12}\text{O}_{42}]^{10-}$ anion buttoned by a pair of $[\text{Na}_3(\text{H}_2\text{O})_{10}]^{3+}$ clusters up and down.

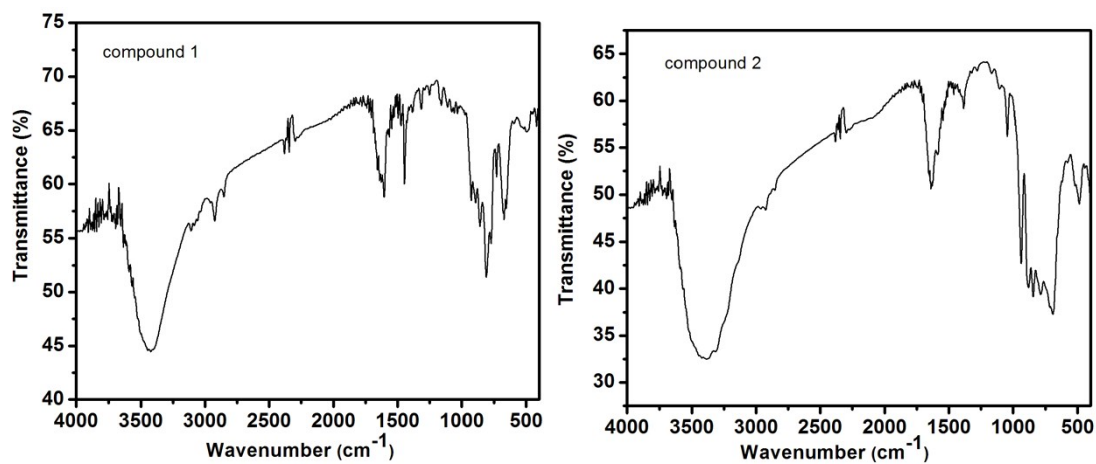


Fig. S3. The FT-IR spectra of compounds **1** and **2**.

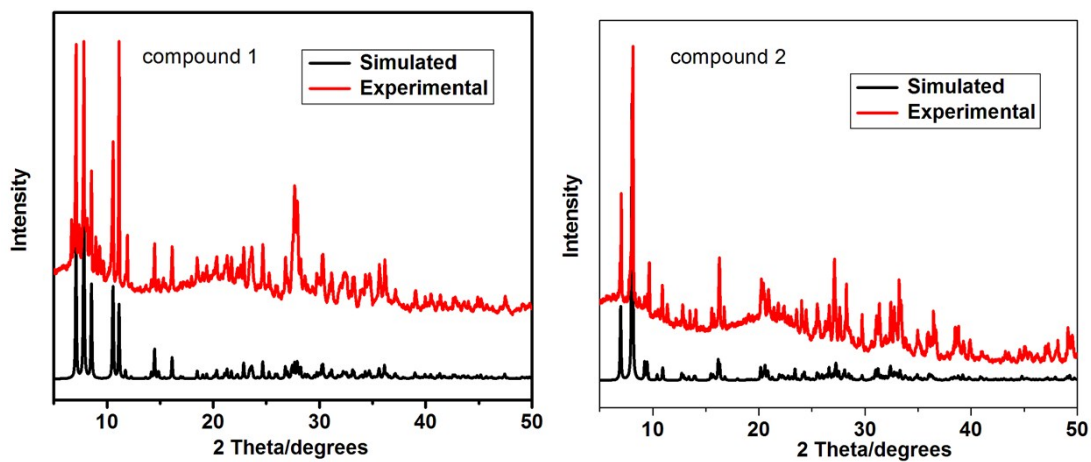


Fig. S4. The simulative (red line) and experimental (black line) powder X-ray diffraction patterns for compounds **1** and **2**.

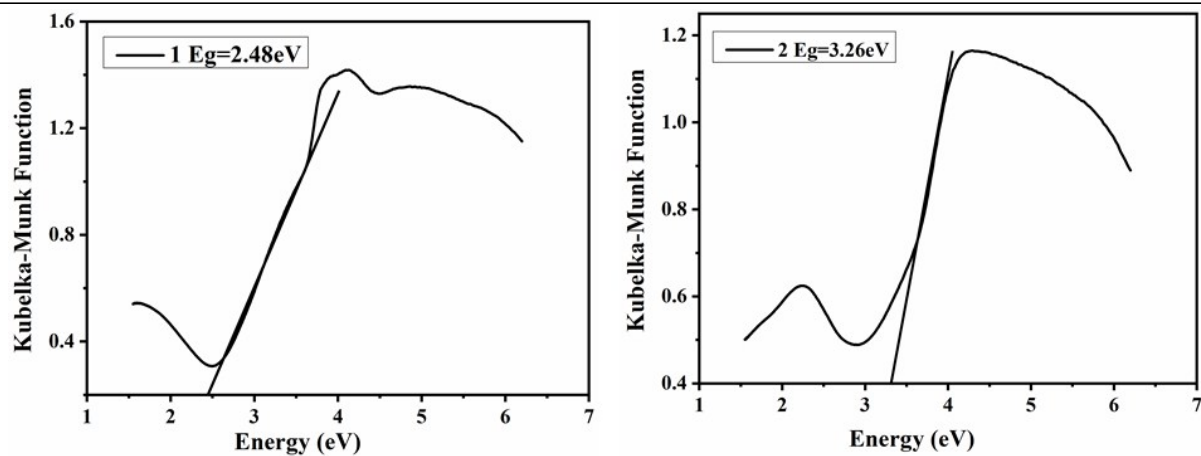


Fig. S5. Solid-state optical diffuse-reflection spectra of compounds **1** and **2** derived from diffuse reflectance data at room temperature.