Electronic Supplementary Information

Two organic-inorganic hybrid 1-D and 3-D polyoxotungstates constructed from hexa-Cu^{II} substituted sandwich-type arsenotungstate units

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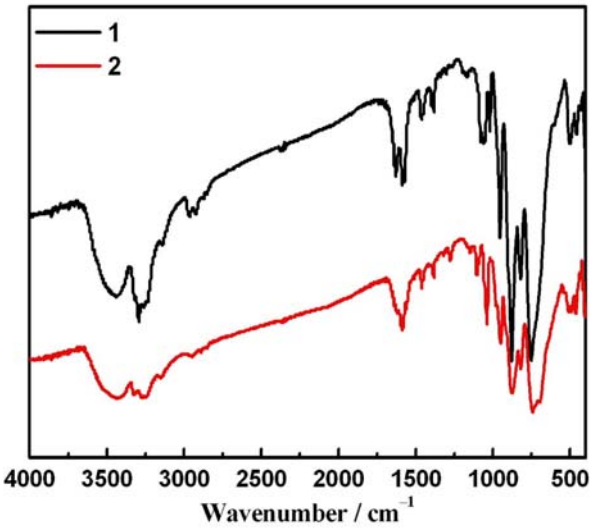

Fig. S1 IR spectra of **1** and **2.**

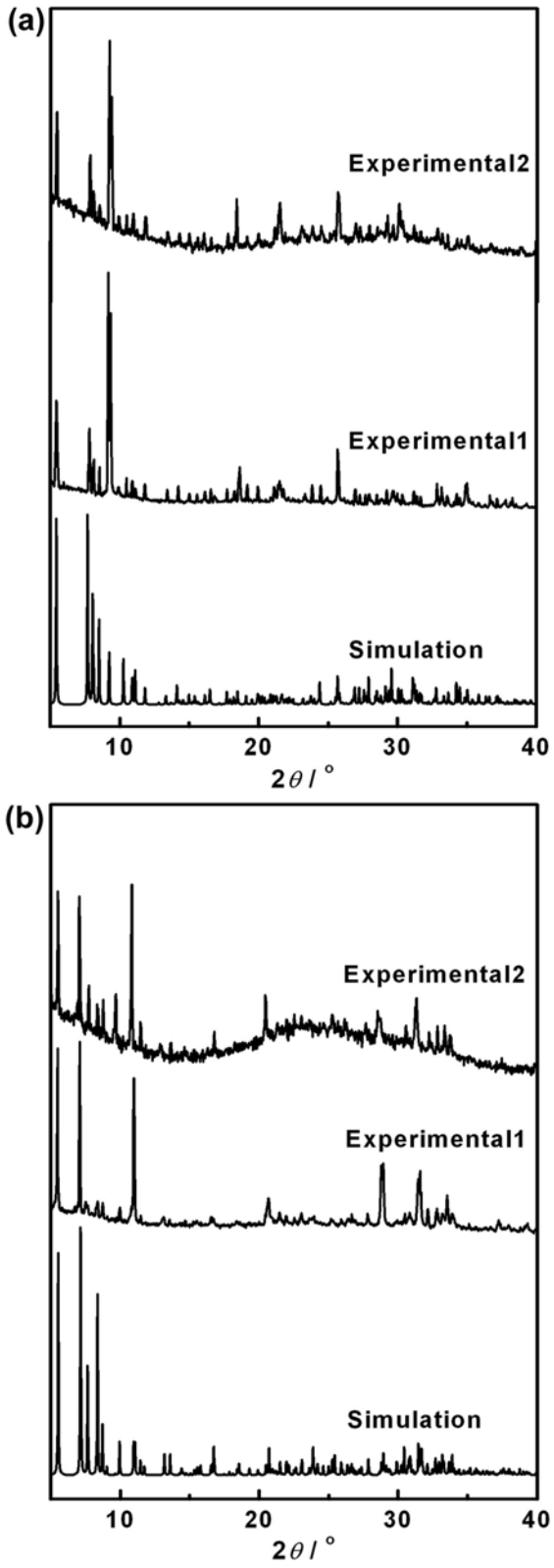

Fig. S2 (a) The PXRD pattern of **1** before (Experimental1) and after (Experimental2) after the photocatalytic degradations of RhB and its calculated pattern based on the single-crystal structural analysis. (b) The PXRD pattern of **2** before (Experimental1) and after (Experimental2) after the photocatalytic degradations of RhB and its calculated pattern based on the single-crystal structural analysis.

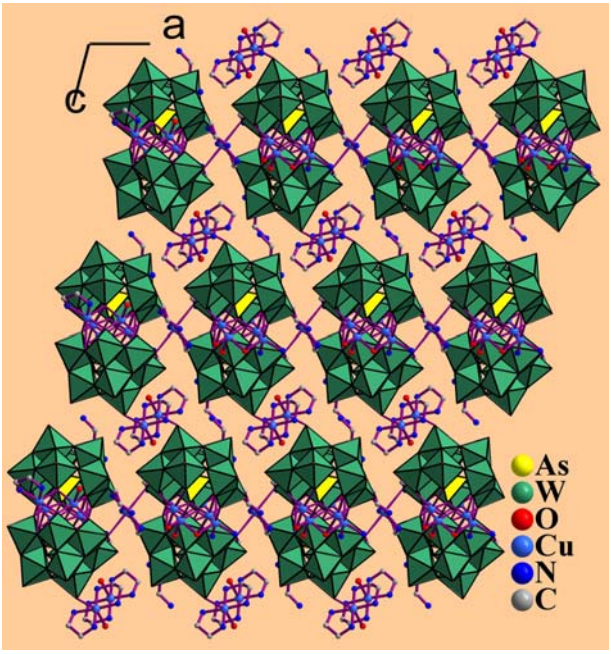

Fig. S3 The packing arrangement of 1D chains in **1**.

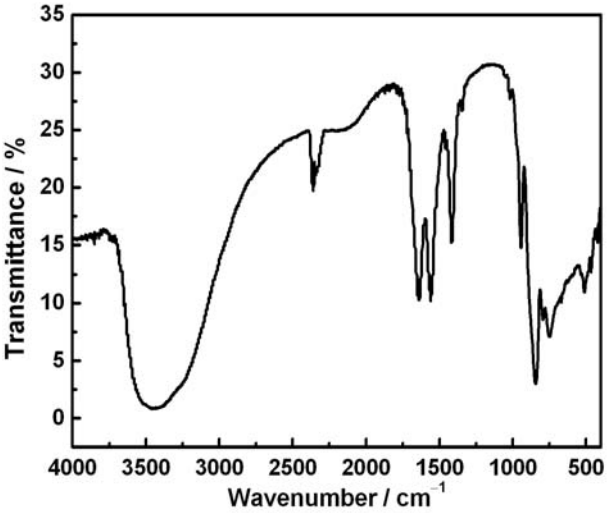

Fig. S4 IR spectrum of $Na_8[A\text{-}\alpha\text{-}HAsW_9O_{34}]\cdot 11H_2O$.

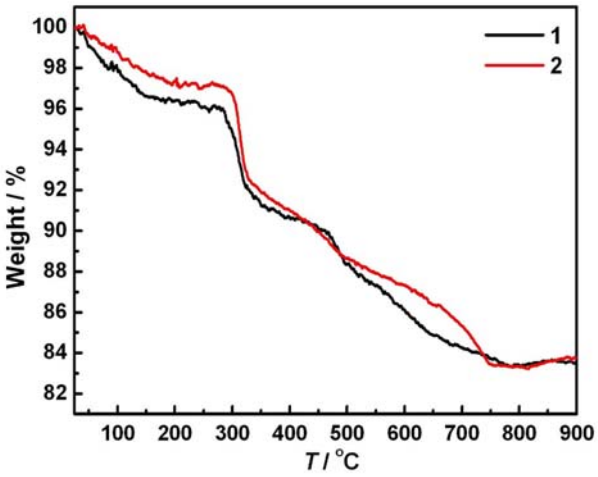

Fig. S5 TGA curves of **1** and **2**.

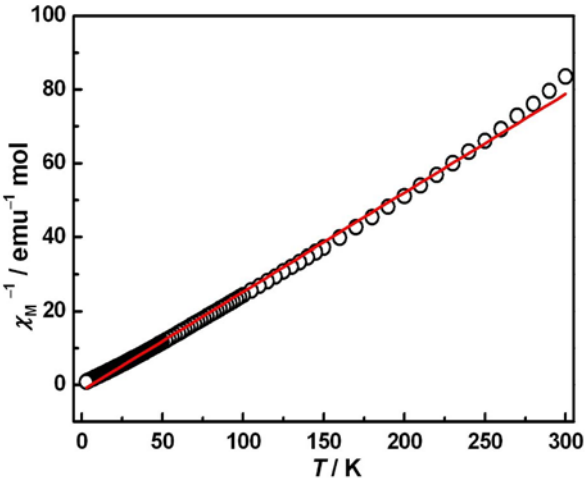

Fig. S6 Temperature evolution of the inverse magnetic susceptibility χ_M^{-1} for **1** between 2 and 300 K. The solid line was generated from the best fit by the Curie-Weiss expression.

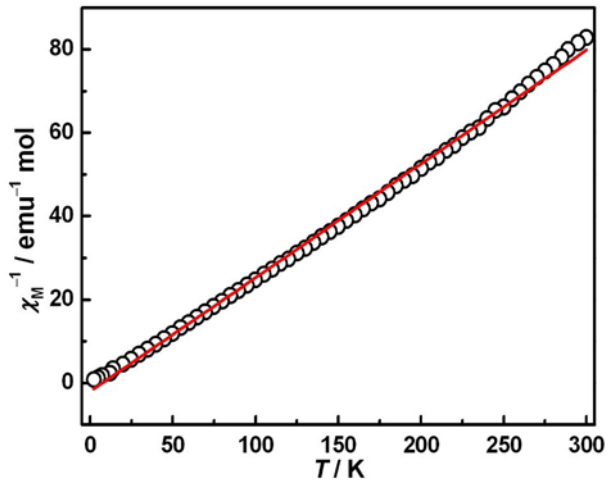

Fig. S7 Temperature evolution of the inverse magnetic susceptibility χ_M^{-1} for **2** between 2 and 300 K. The solid line was generated from the best fit by the Curie-Weiss expression.

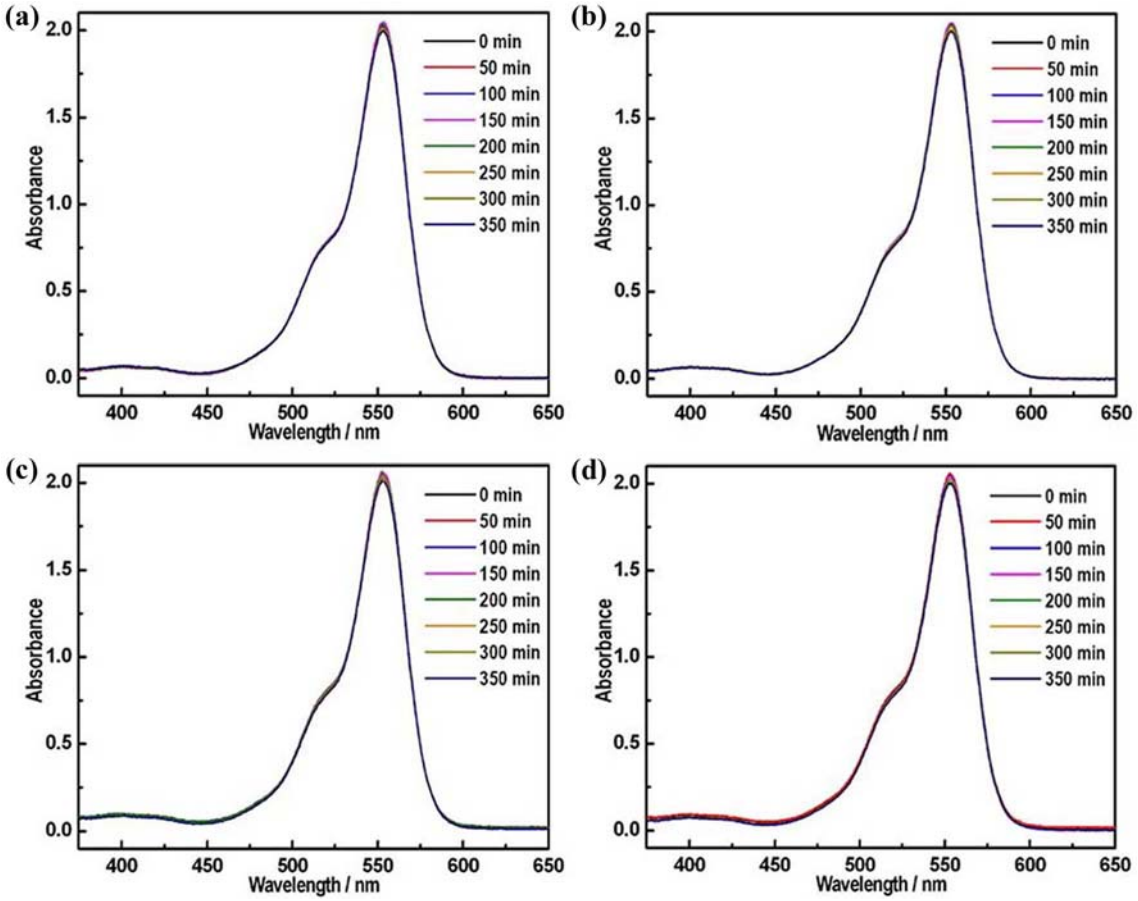

Fig. S8 UV-visible absorption spectral changes for the RhB solutions (a), in the presence of **1** (b), in the presence of **2** (c), in the presence of $Na_8[A\text{-}\alpha\text{-}HAsW_9O_{34}]\cdot 11H_2O$ (d) in darkness.

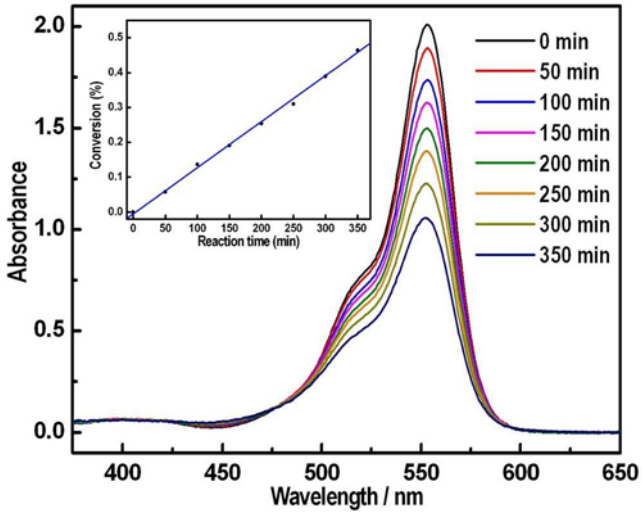

Fig. S9 UV-visible absorption spectral changes for the RhB solutions at various irradiation times in the presence of $Na_8[A\text{-}\alpha\text{-}HAsW_9O_{34}]\cdot 11H_2O$. Inset: the conversion of RhB (*K*) with reaction time (*t*).

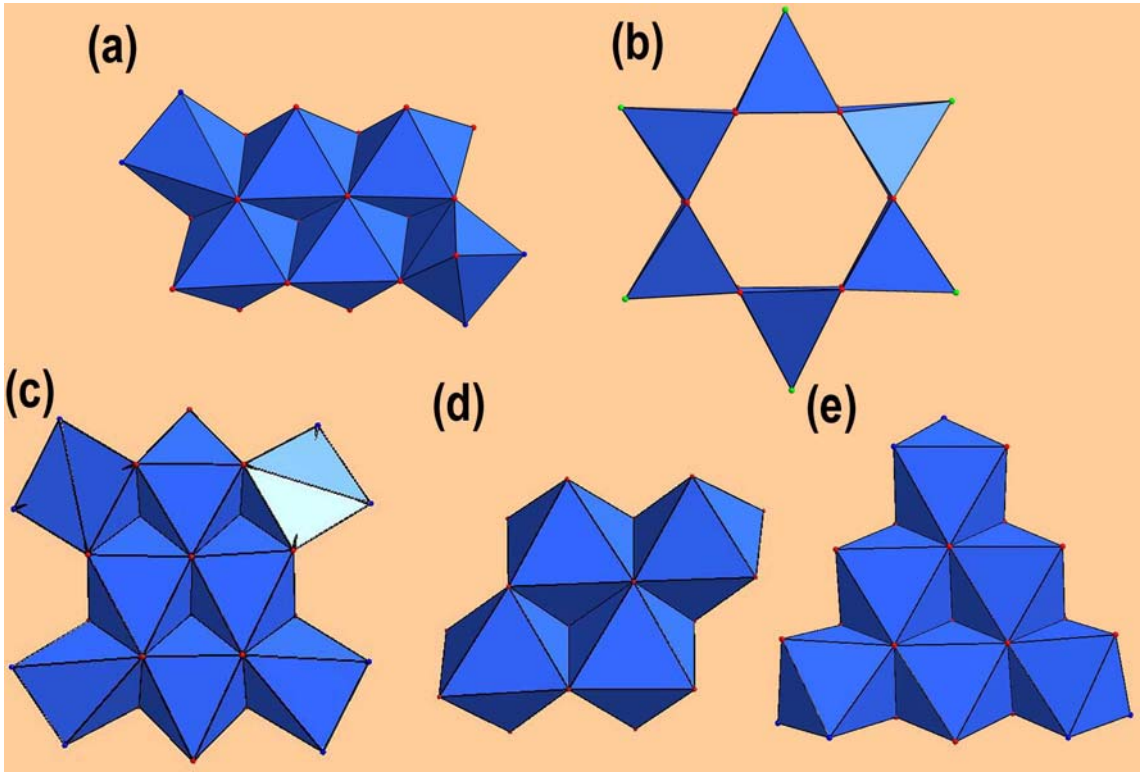

Fig. S10 The representations of (a) the coplanar belt-like Cu_6 clusters, (b) the hexagonal Cu_6 clusters, (c) the coplanar Cu_8 clusters; (d) the rhombus Cu_4 clusters and (e) the triangle Cu_6 clusters.