A Stable Layered Semiconductive Cu(I)–Organic Framework for Efficient Visible-Light-Driven Cr(VI) Reduction and H_2 Evolution

Di-Ming Chen, Chun-Xiao Sun, Chun-Sen Liu* and Miao Du*

College of Material and Chemical Engineering, Zhengzhou University of Light Industry, Zhengzhou 450002, P. R. China.

Authors for correspondence: chunsenliu@zzuli.edu.cn; dumiao@zzuli.edu.cn.

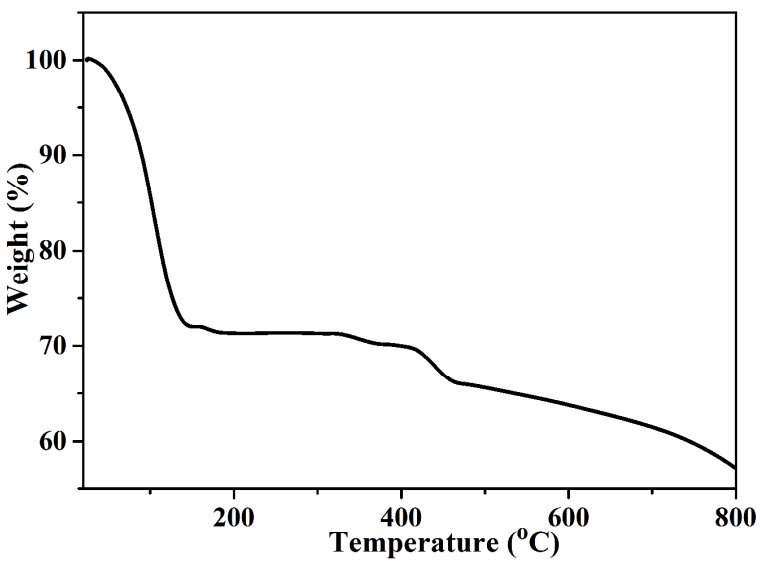

Figure S1. The TGA curve for **1**.

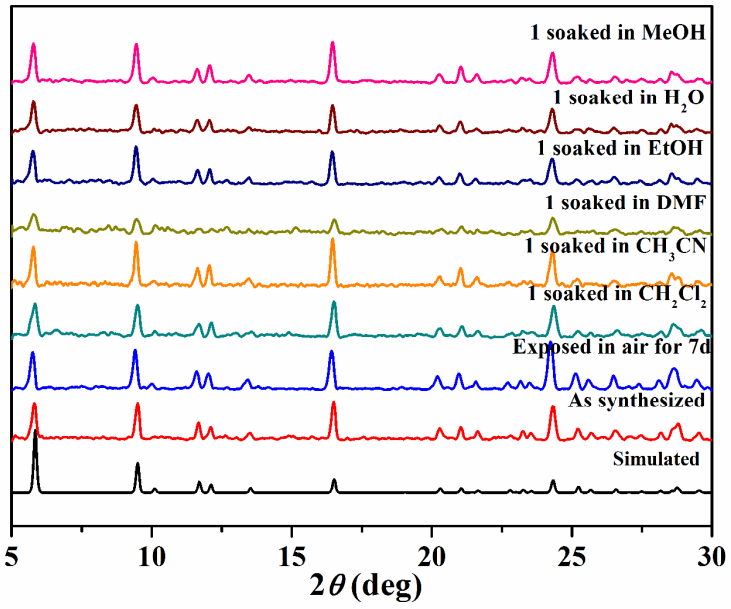

Figure S2. The PXRD patterns of **1** under different conditions.

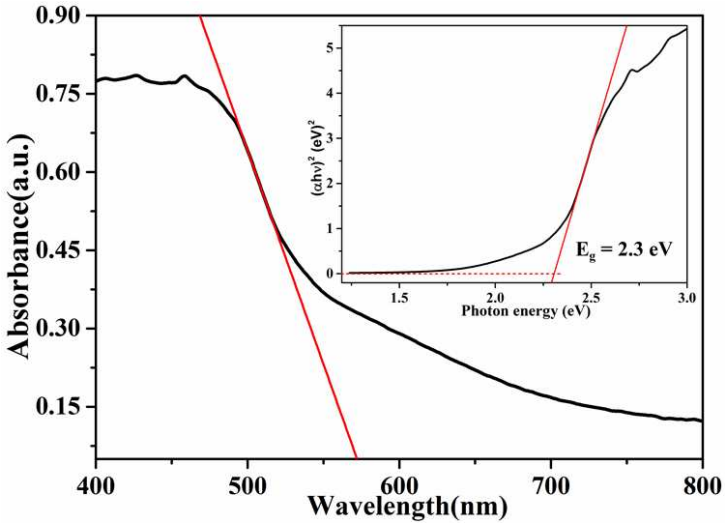

Figure S3. UV−Vis spectrum of the BPEA ligand (The inset show the plot of $(\alpha hv)^2$ versus photon energy (hv) of the BPEA ligand).

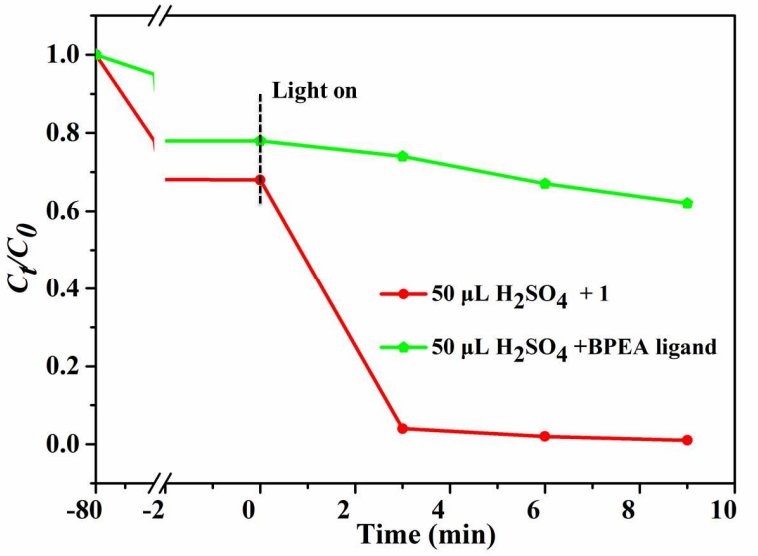

Figure S4. A comparison study of the phtocatalytic reduction of Cr(VI) over **1** and BPEA ligand under the same condition.

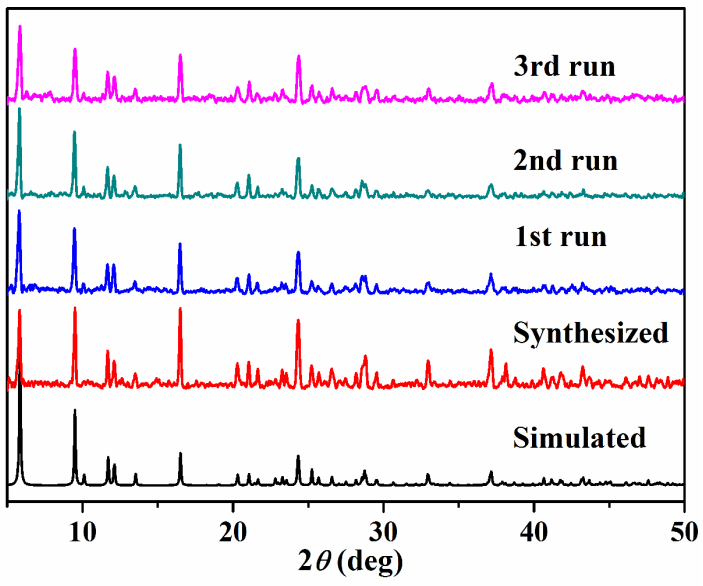

Figure S5. The PXRD patterns of **1** in the three cycles of phtocatalytic reduction of Cr(VI) processes.

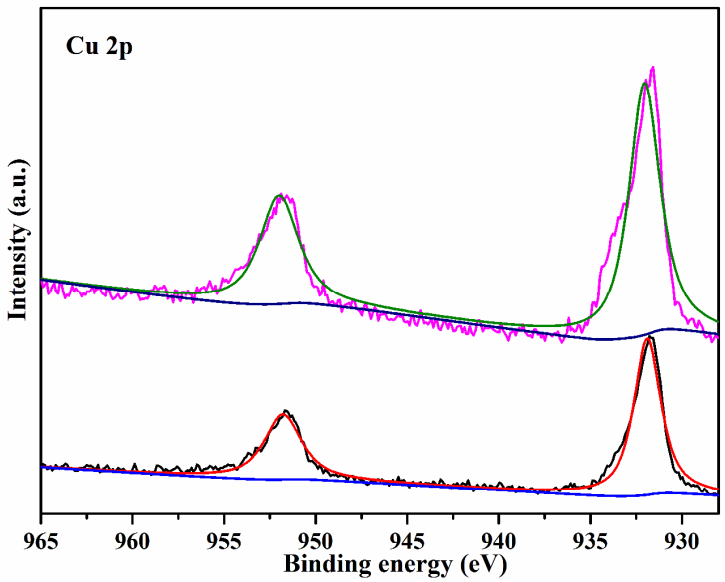

Figure S6. XPS of Cu in **1** before and after phtocatalytic reduction of Cr(VI) processes.

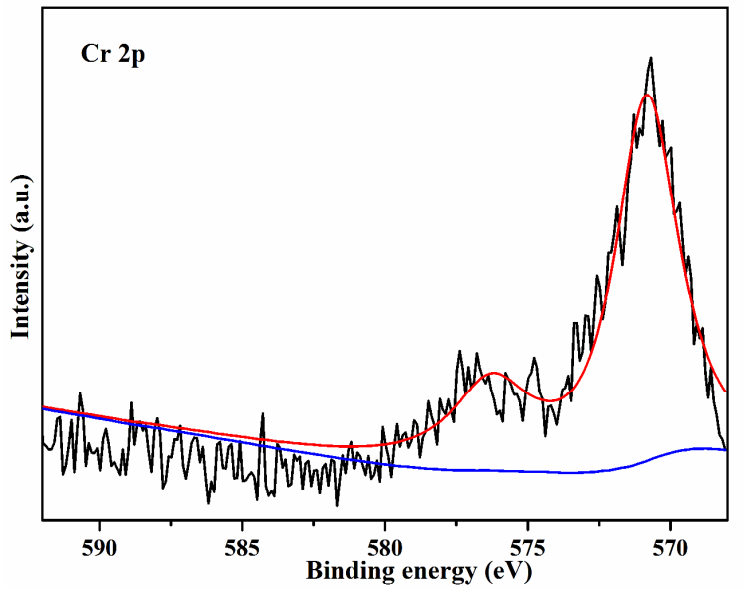

Figure S7. XPS of Cr in **1** after photocatalytic reduction of Cr(VI) processes.

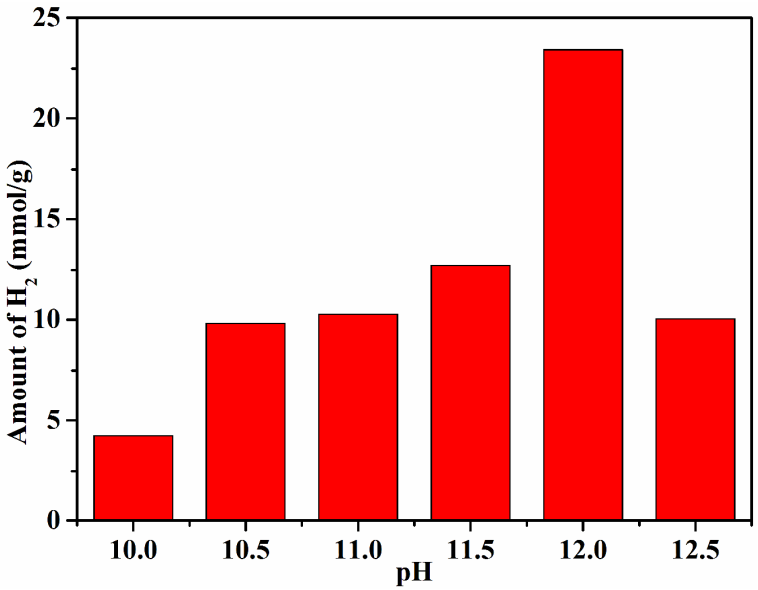

Figure S8. The photocatalytic H_2 evolution amount of **1** in five hours under different pH values.

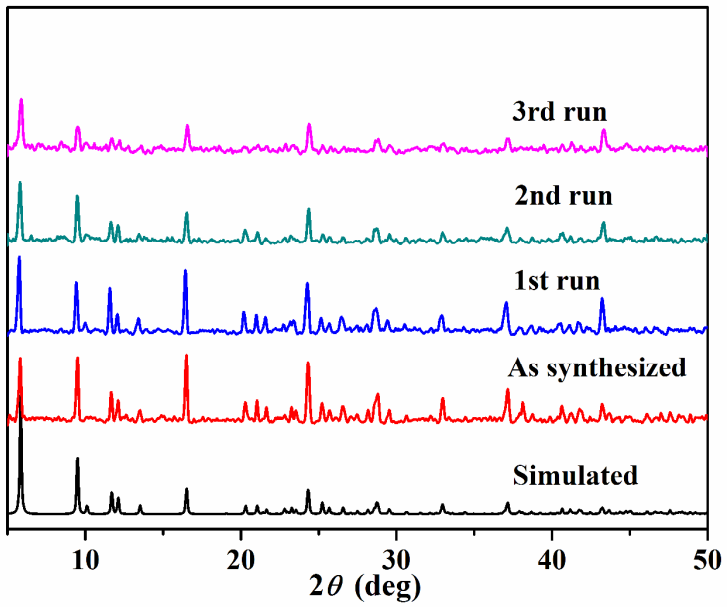

Figure S9. The PXRD patterns of **1** in the three cycles of phtocatalytic H_2 evolution processes.

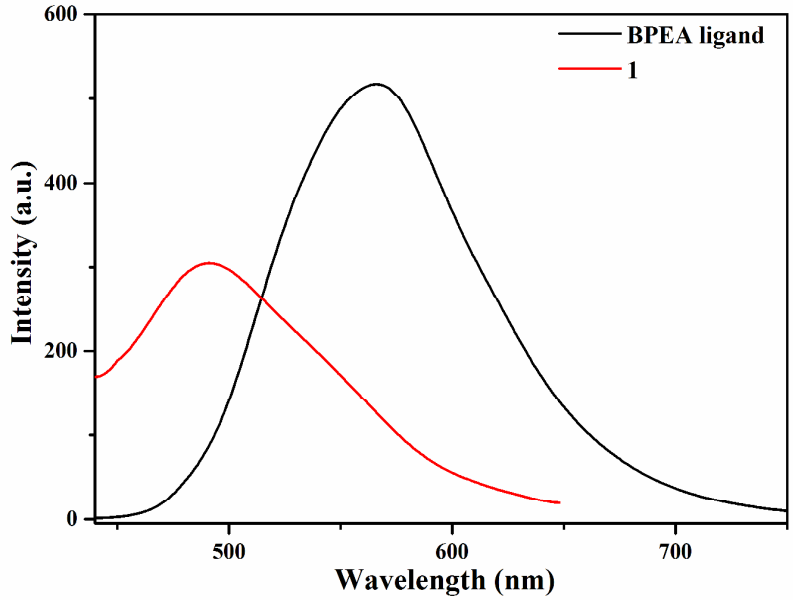

Figure S10. The solid-state PL spectra for BPEA ligand and **1**.