

## Supporting Information

### Construction of Novel Ag/HKUST-1/g-C<sub>3</sub>N<sub>4</sub> Towards to Enhanced Photocatalytic Activity in Degradation of Pollutants under Visible Light

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**Synthesis of 5.0% Ag/g-C<sub>3</sub>N<sub>4</sub>.** The as-prepared a certain amount of g-C<sub>3</sub>N<sub>4</sub> was mixed with 200 mL of deionized water by ultrasonication for 30 min. Then, 1.0 mL of 5% polyethylene glycol (PEG) 800 solution was added and the dispersion was stirred for another 10 min. For deposition of silver on the surface of g-C<sub>3</sub>N<sub>4</sub>, a photo-deposition technique was applied as follows: 5.0 mL of AgNO<sub>3</sub> solution (0.046 mol/L) was added to the dispersion. Then the suspension was transferred to a water-cooled reactor (250 mL) and irradiated under a PLS-SXE300 Xe lamp with 250 W illumination intensity for 60 min. The theoretical value of Ag loading amount was 5.0 wt %.

Table S1 Physical properties of pure g-C<sub>3</sub>N<sub>4</sub>, and 5% AHC.

Sample	S <sub>BET</sub> (m <sup>2</sup> ·g <sup>-1</sup> )	Total pore volume (cm <sup>3</sup> ·g <sup>-1</sup> )
pure g-C <sub>3</sub> N <sub>4</sub>	10.4	0.08
5% AHC	27.4	0.12

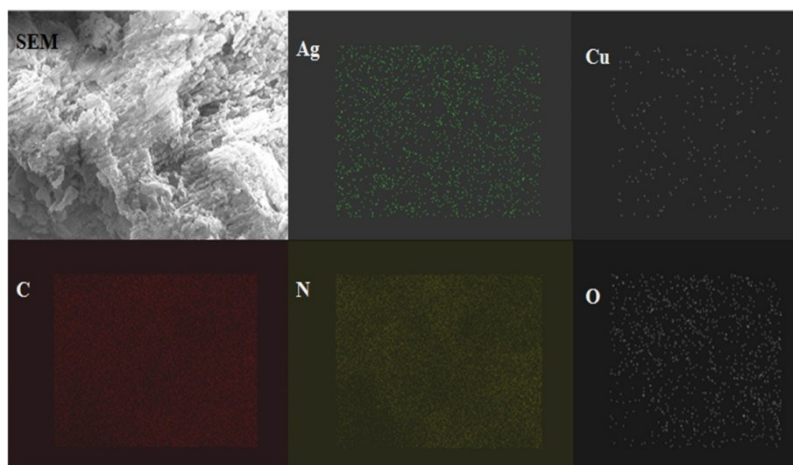
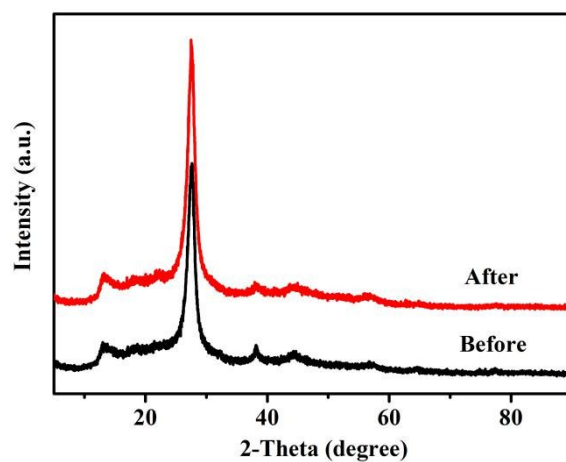
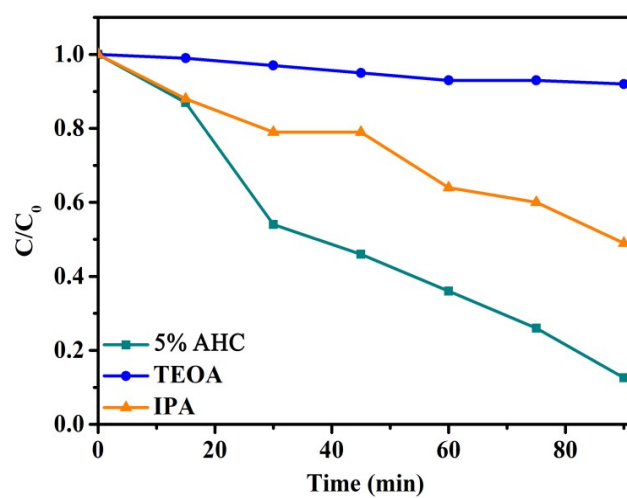


Fig. S1 SEM image of 5% AHC and corresponding EDS mapping images for rectangle area.



**Fig. S2** XRD patterns of 5% AHC before and after photocatalytic reaction.



**Fig. S3** Trapping experiments of different scavengers on degradation of Rh B over 5% AHC.