Supporting Information

Silver cyanamide nanoparticles decorated ultrathin graphitic carbon nitride nanosheets for enhanced visible-light-driven photocatalysis

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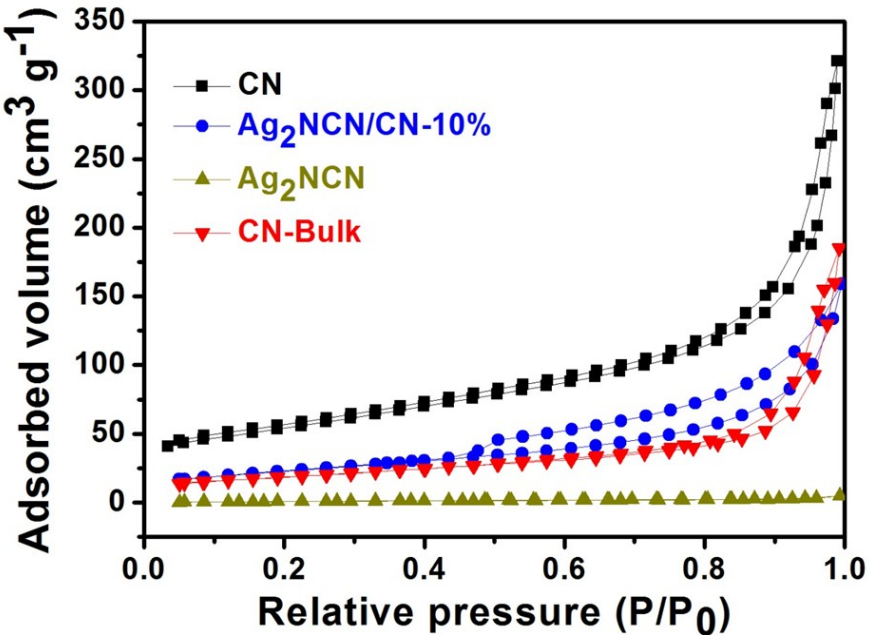

Figure. S1 N_2 adsorption-desorption isotherm of CN, Ag_2NCN/CN-10%, Ag_2NCN and CN-Bulk.

Sample	S_{BET} (m^2/g)	Pore volume (cm^3/g)	Average pore diameter (nm)
CN-Bulk	67.3107	0.287031	16.23
CN	190.2445	0.501079	10.48
Ag_2NCN/CN-10%	83.4611	0.245541	10.88
Ag_2NCN	4.2327	0.007	8.24

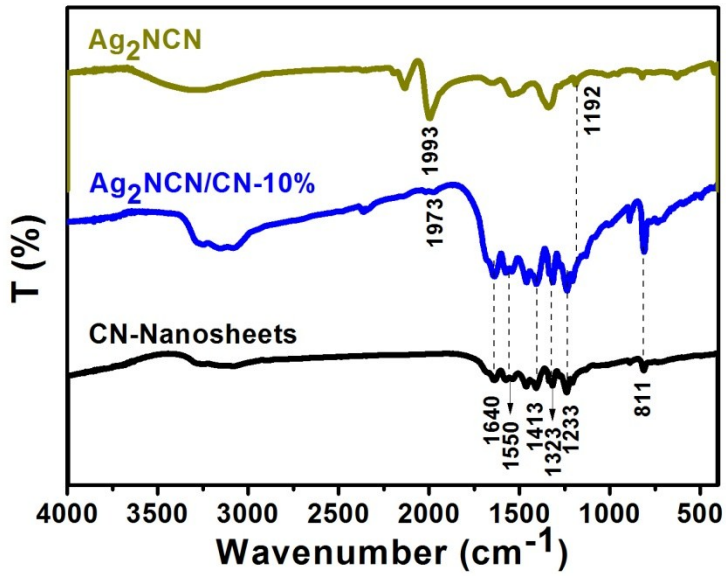

Figure. S2 FT-IR spectra of the Ag_2NCN, Ag_2NCN/CN-10% and CN.

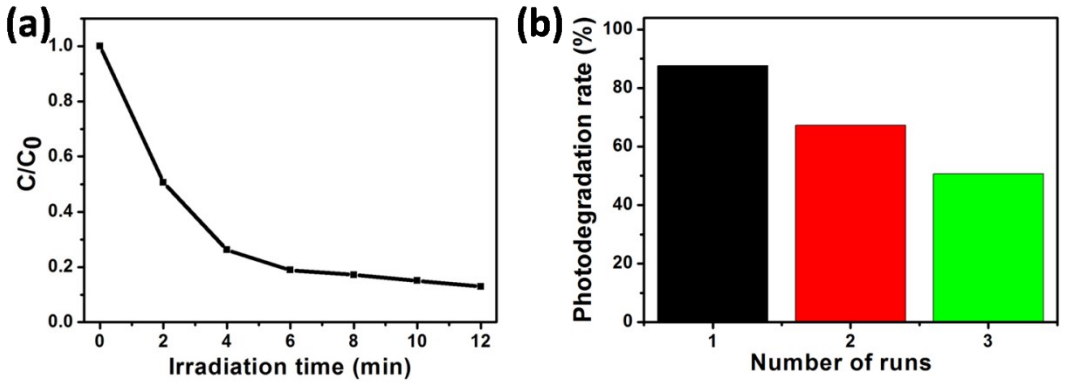

Figure. S3 (a) The photocatalytic degradation of MO by catalyst Ag_3PO_4/CN-10% and (b) its bar plot for 3 cycles under visible light.

The fabrication process of Ag_3PO_4/CN-10% was as follows: 200 mg g-C_3N_4 nanosheets was added into 80 ml deionized water. The ultrasonic dispersion is needed to get a uniform system before 5 ml $AgNO_3$ solution (0.318 M) was added into the g-C_3N_4 dispersion dropwise. Then the dispersion was sitrring for 30 min, and 0.016 M Na_3PO_4 (15 ml) was allowed to drop into it followed by another 2 hours' stirring. After washing and drying, Ag_3PO_4/CN-10% was obtained.

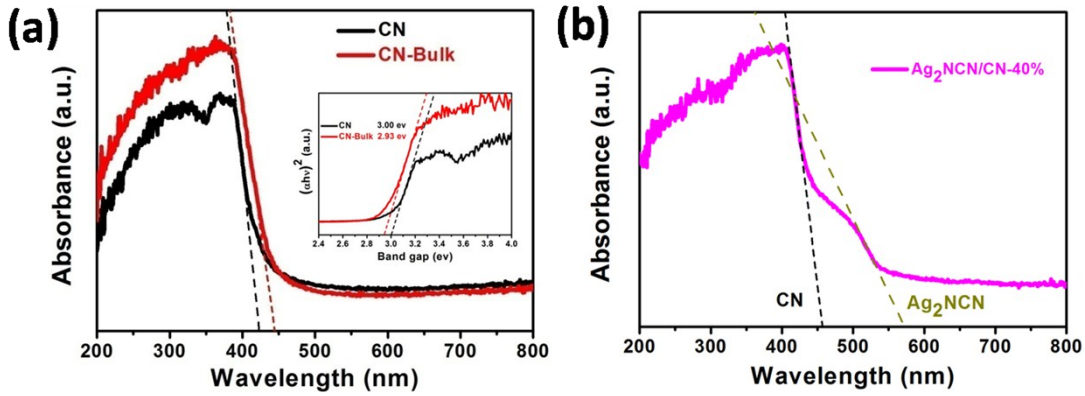

Figure. S4 UV– vis DRS of (a) g-C_3N_4 and (b) Ag_2NCN/CN-40%. The insert is estimated bandgap of CN, CN-Bulk.

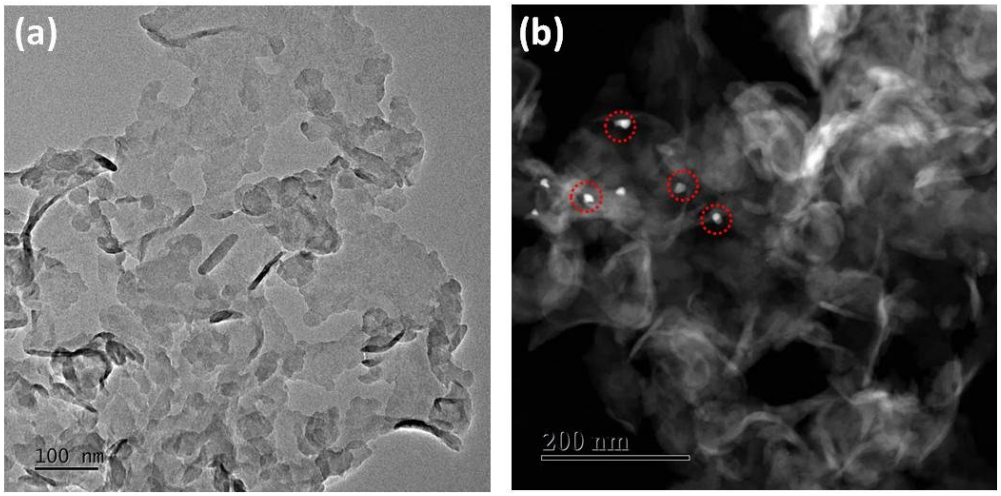

Figure. S5 (a) TEM bright field image and (b) dark field image of Ag_2NCN/CN-10% after 5 cycles.