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Solar and visible light photocatalytic enhancement of halloysite nanotubes / g-C_3N_4 heteroarchitectures

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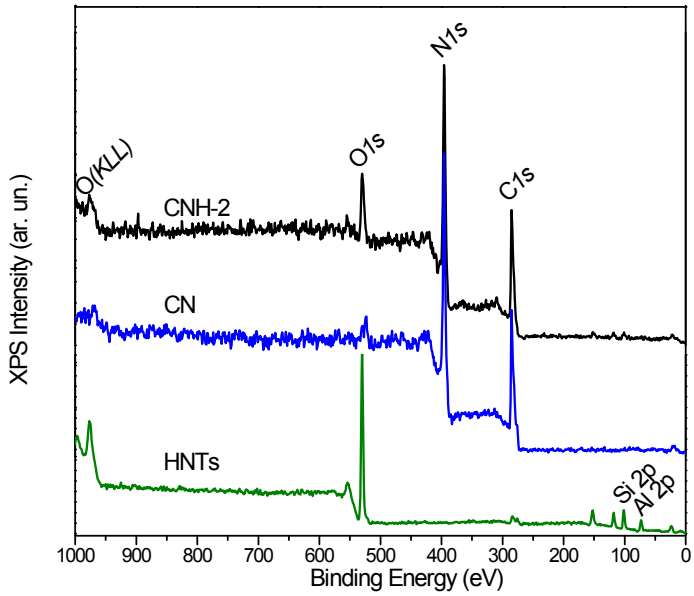

Figure S1. Survey spectra of the HNTs, CN and CNH-2 samples.

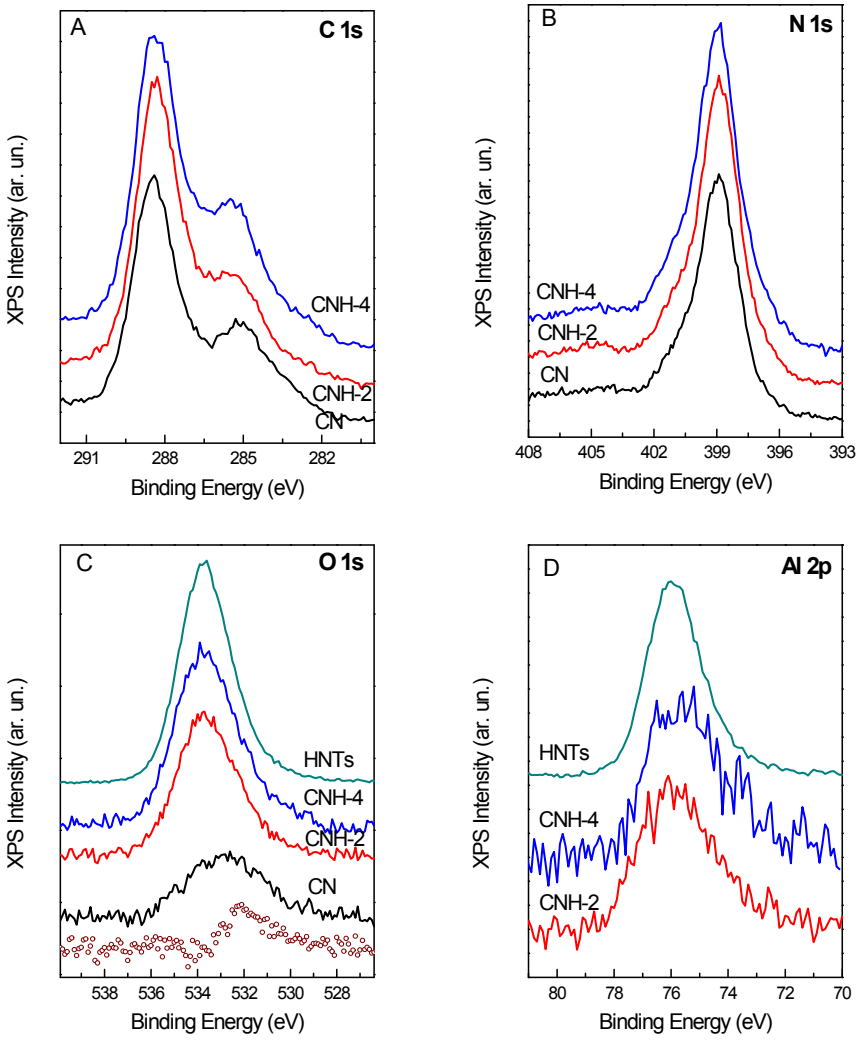

Figure S2. High resolution XPS spectra of the pure HNTs and CN and the CNH-*x* nanocomposites in (A) the C 1s, (B) N 1s, (C) O 1s (symbols, subtracted spectrum, CNH-2 – HNTs) and (D) Al 2p.

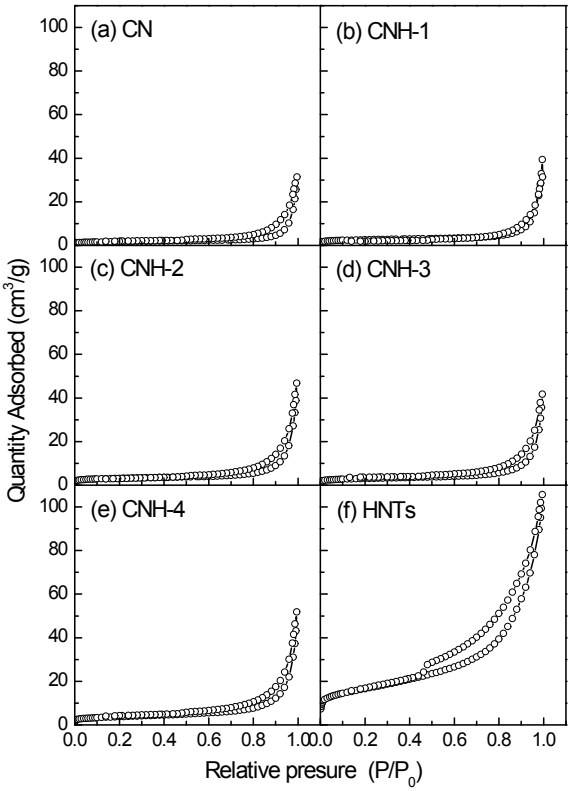

Figure S3. Nitrogen adsorption-desorption isotherms of g-C_3N_4 (a), HNTs (f) and the HNTs/g-C_3N_4 ((b)-(e)) nanocomposites.

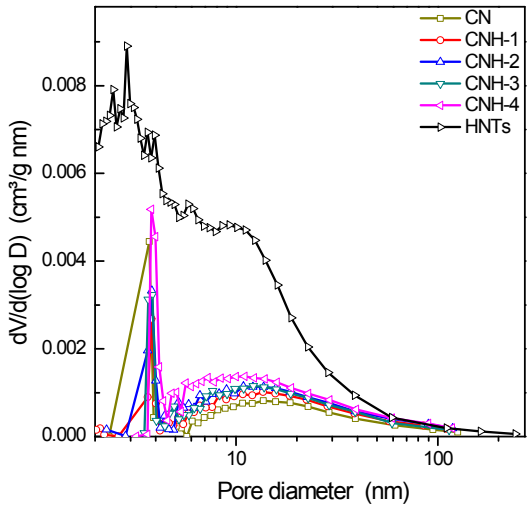

Figure S4. Pore size distribution of the samples calculated from the desorption branch of the N_2 isotherm using the BJH method.

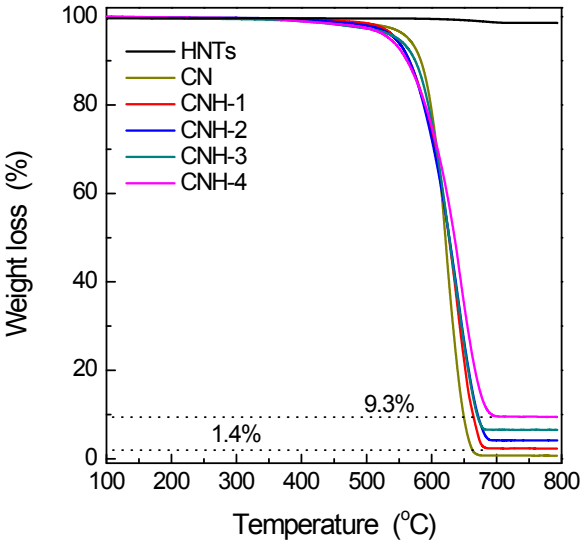

Fig. S5. TGA profiles of the g-C3N4, HNTs and of the as-prepared HNTs/g-C3N4 nanocomposites.

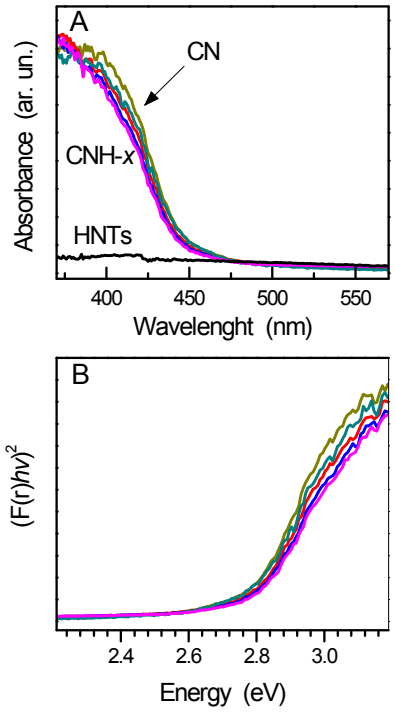

Figure S6. UV-Vis absorption spectra of the pure g-C_3N_4 and HNTs and the CNH-*x* nanocomposite (A) and the corresponding plots used to estimate band gap energies (B) considering the materials indirect semiconductors.

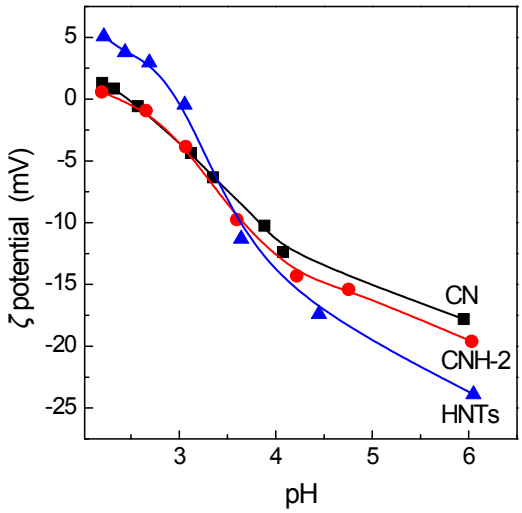

Figure S7. Zeta potentials of the CN, CNH-2 and HNTs as a function of pH.

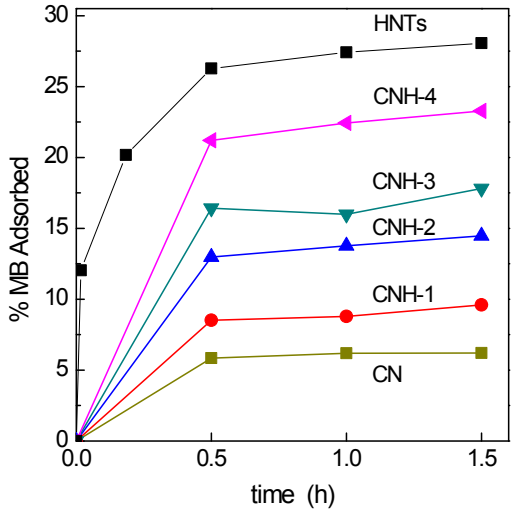

Figure S8. MB adsorption on the pure g-C_3N_4, HNTs and CNH-*x* photocatalysts in the dark. For the g-C_3N_4 and CNH-*x* nanocomposites, 1.25 g L^{-1} of the material was used. For the HNTs, 0.125 g L^{-1} were used, e.g. equal amount of HNTs in the CNH-4 sample.

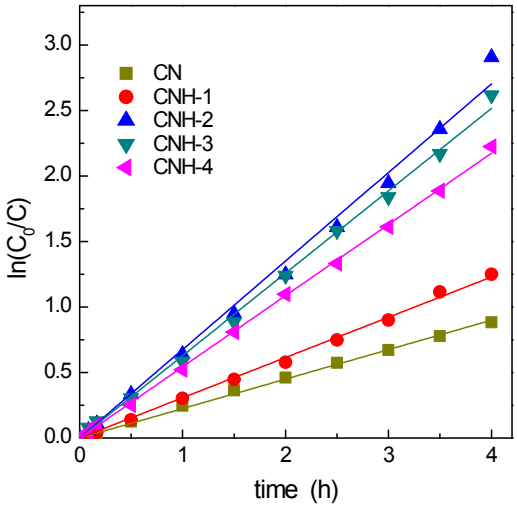

Figure S9. First-order-kinetic plots for the catalytic data under simulated solar light irradiation.

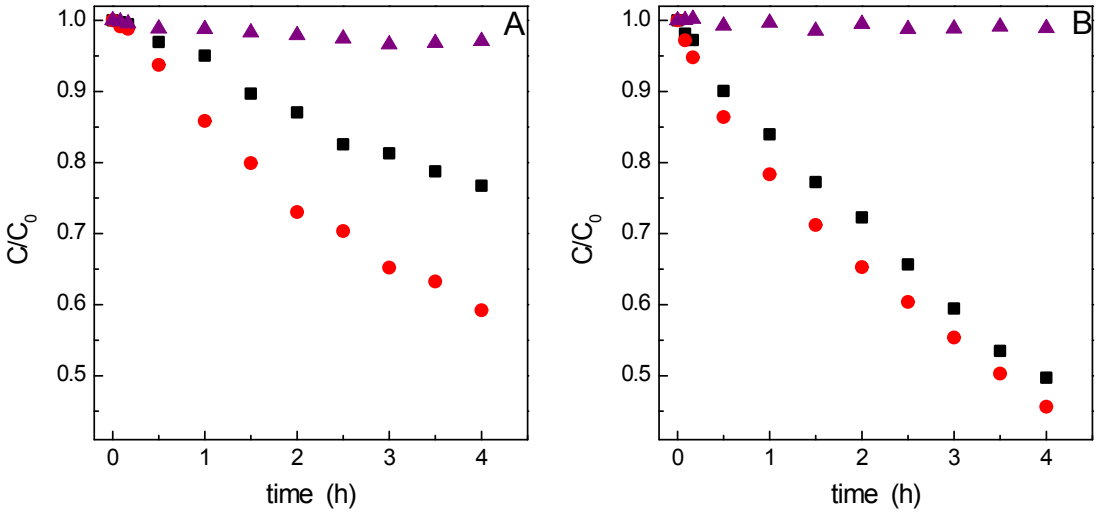

Figure S10. Photocatalytic degradation of phenol (A) and MO (B) over the pure g-C_3N_4 (black), HNTs (purple) and CNH-2 (red) photocatalysts under simulated solar light irradiation.