Figure Captions for supporting data

Fig. S1. XRD patterns of g-C_3N_4, CNTs, g-C_3N_4/Au, g-C_3N_4/CNTs and g-C_3N_4/CNTs/Au hybrids.

Fig. S2. Optical absorbance spectra of the colloidal dispersions of Au nanoparticles.

Fig. S3. BET surface areas calculated using nitrogen adsorption–desorption isotherms. (a) g-C_3N_4, (b) g-C_3N_4/Au formed using the 100-vol.% Au dispersion, (c) the g-C_3N_4/CNTs hybrid with a mass ratio of 60:40, and (d) ternary g-C_3N_4/CNTs/Au with a g-C_3N_4/CNTs mass ratio of 60:40 formed using the 100-vol.% Au dispersion. The insets show the corresponding pore-size distributions.

Fig. S4. XPS data for the ternary g-C_3N_4/CNTs/Au hybrid with a mass ratio of 60:40 and the 100-vol.% Au dispersion. (A) Survey scan and (B) high-resolution spectrum for C 1s, (C) high-resolution spectrum for N 1s, and (D) high-resolution spectrum of Au 4f.

Fig. S5. UV-vis absorption spectra for the photocatalytic degradation of RhB under irradiation with visible light using 50 mg L^{-1} of the photocatalyst for g-C_3N_4, g-C_3N_4/Au, g-C_3N_4/CNTs and g-C_3N_4/CNTs/Au samples with 100 vol.% Au dispersions.

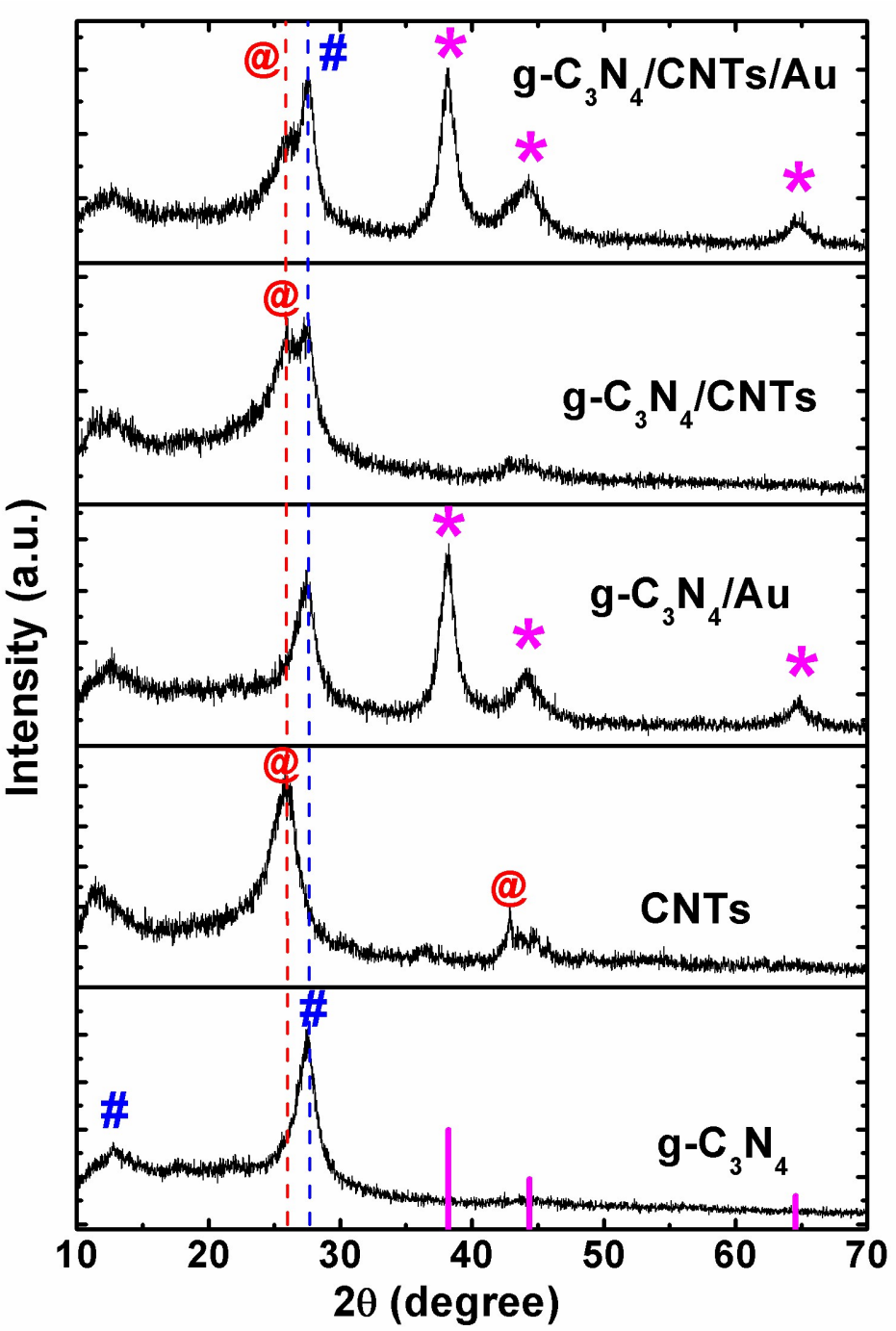

g-C3N4/CNTs/Au
g-C3N4/CNTs
g-C3N4/Au
CNTs
g-C3N4
Intensity (a.u.)
2θ (degree)
10
20
30
40
50
60
70
@
#
*

Figure S1

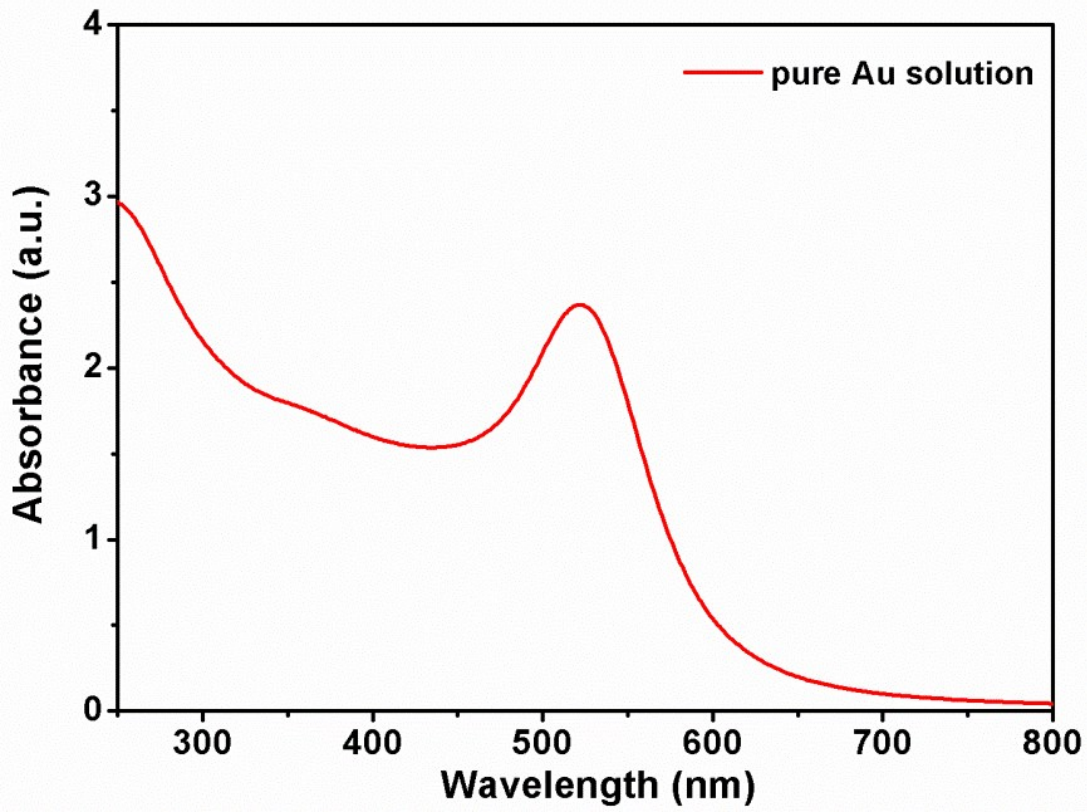
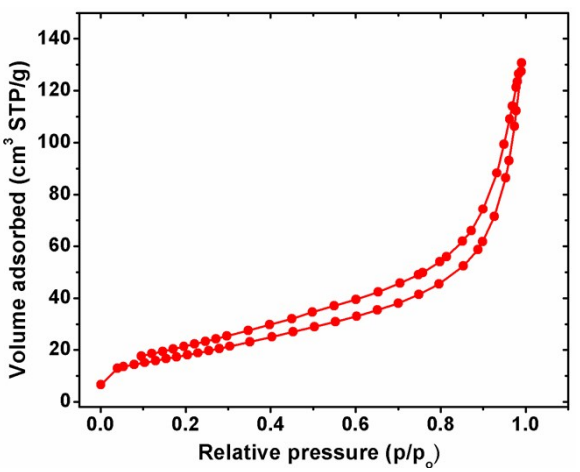
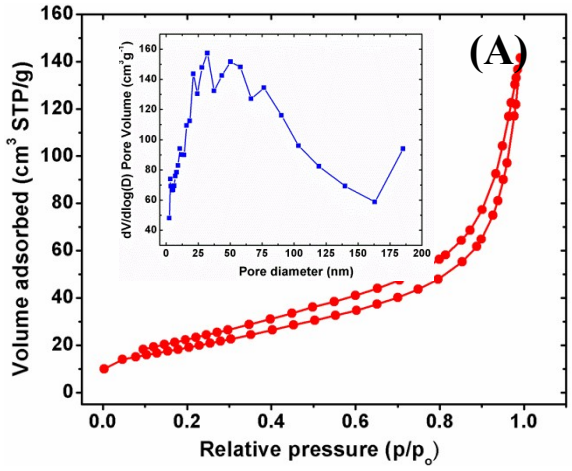
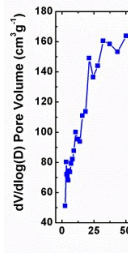

pure Au solution
Absorbance (a.u.)
Wavelength (nm)
0
1
2
3
4
300
400
500
600
700
800

Figure S2







= 71.02 m^{2}g^{-1}

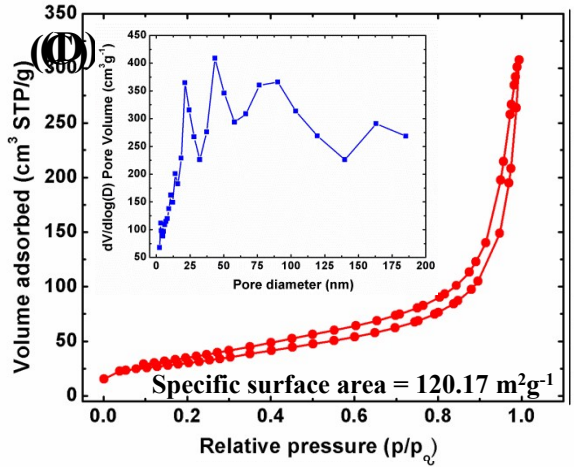


Figure S3(A to D)

N 1s **(C)** **Au 4f** **(D)**

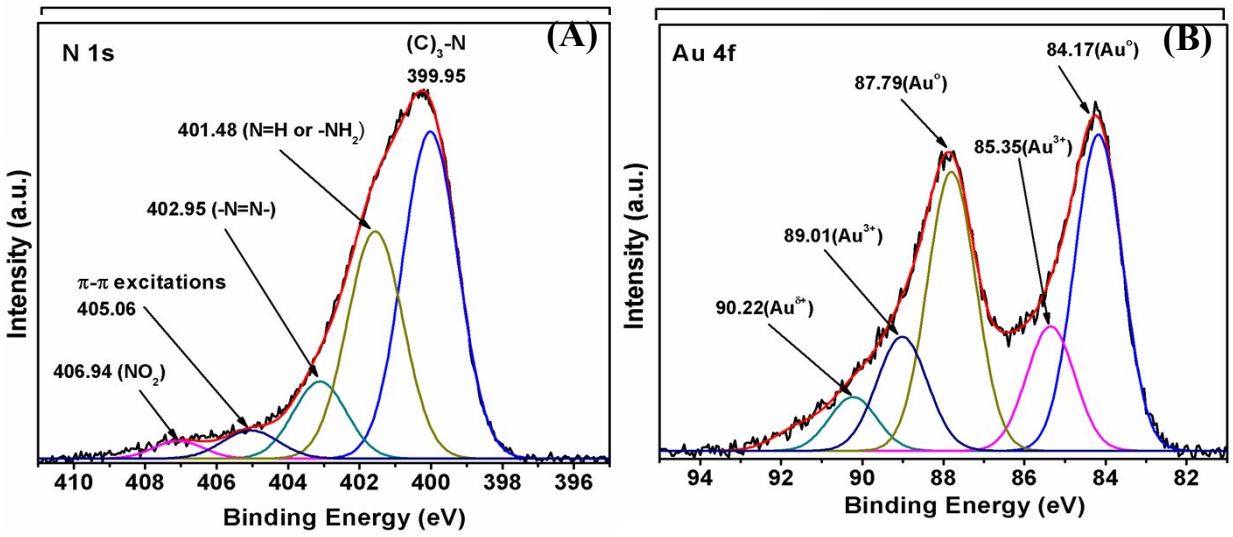


Figure S4(A-D)

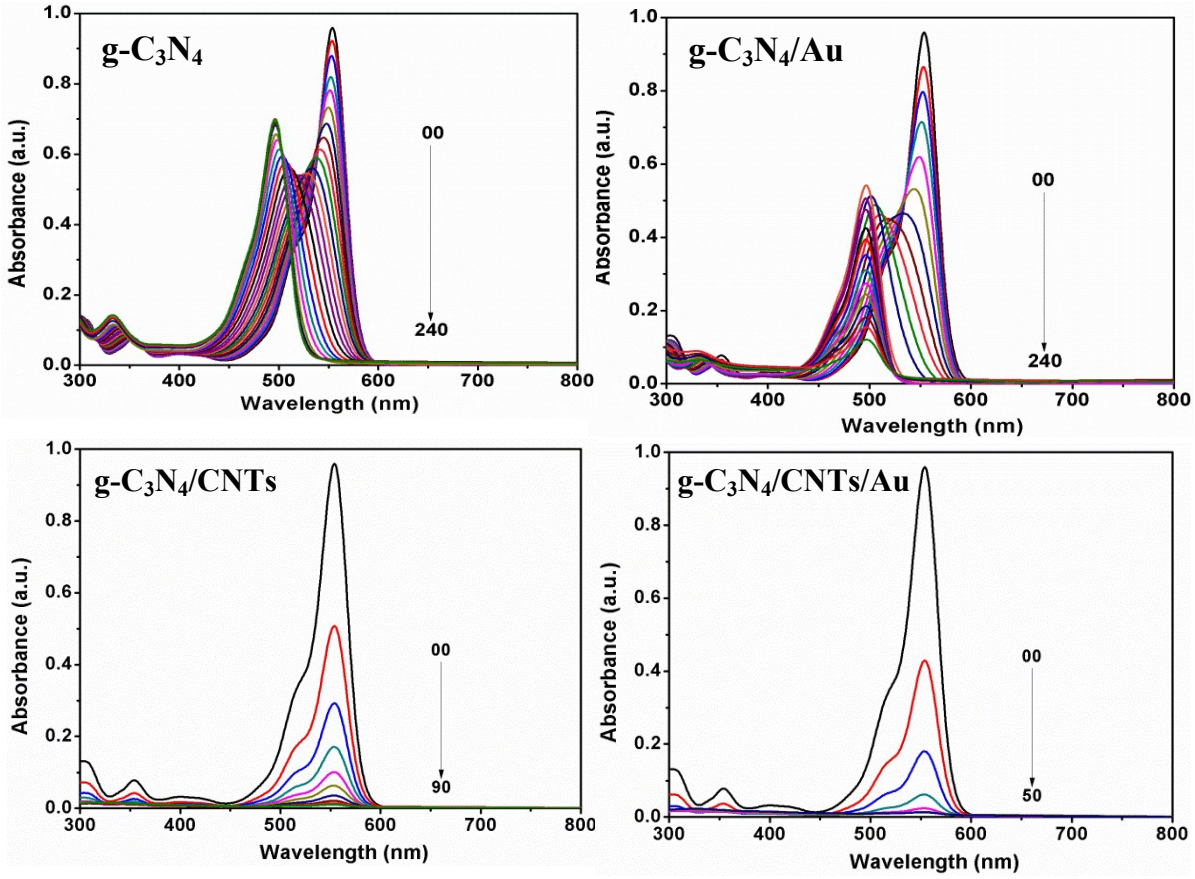

g-C3N4
00
240
Absorbance (a.u.)
Wavelength (nm)
g-C3N4/Au
00
240
Absorbance (a.u.)
Wavelength (nm)
g-C3N4/CNTs
00
90
Absorbance (a.u.)
Wavelength (nm)
g-C3N4/CNTs/Au
00
50
Absorbance (a.u.)
Wavelength (nm)

Figure S5