Electronic Supplementary Material (ESI) for Catalysis Science & Technology

Supporting Information

Carbon Nitride Nanosheets for Photocatalytic Hydrogen Evolution: Remarkably Enhanced Activity by Dye Sensitization

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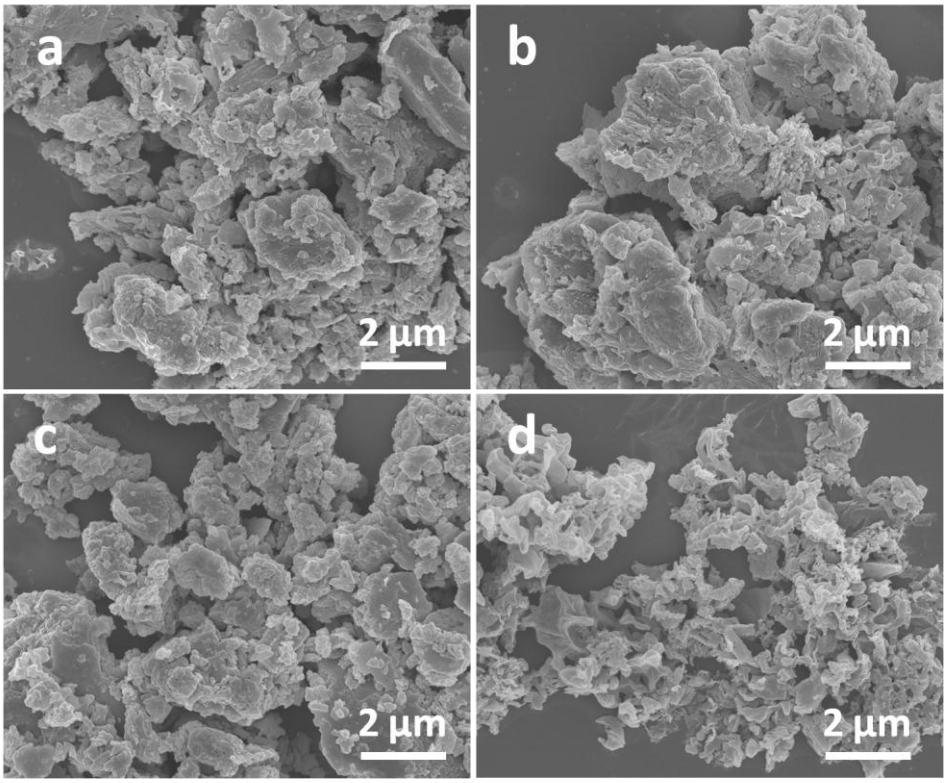


Figure S1. FESEM images of carbon nitride samples obtained from cyanamide (a), dicyandiamide (b), melamine (c) and urea (d).

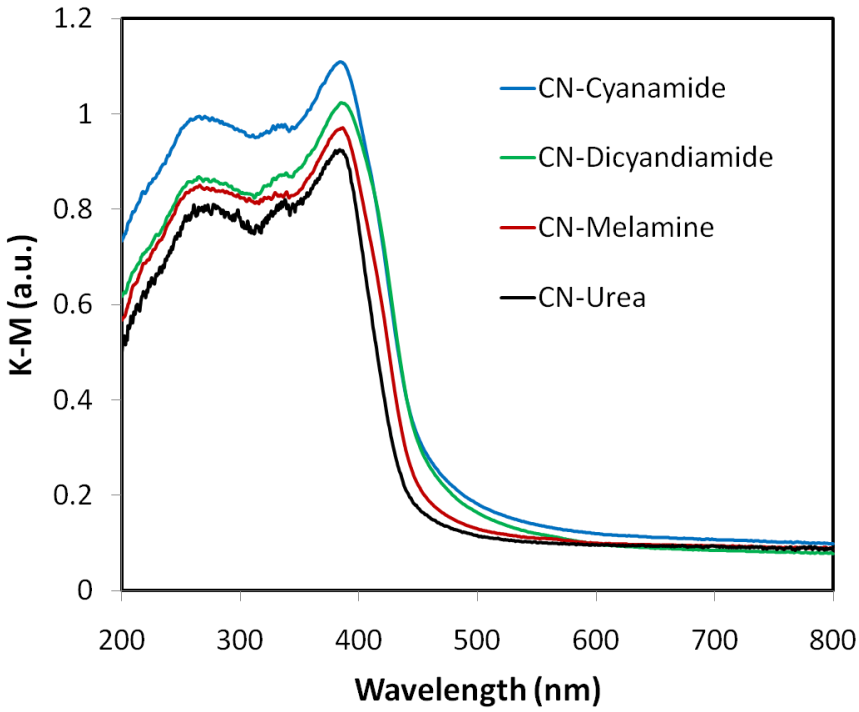


Figure S2. UV-visible diffuse reflectance spectra of carbon nitride samples obtained from different precursors.

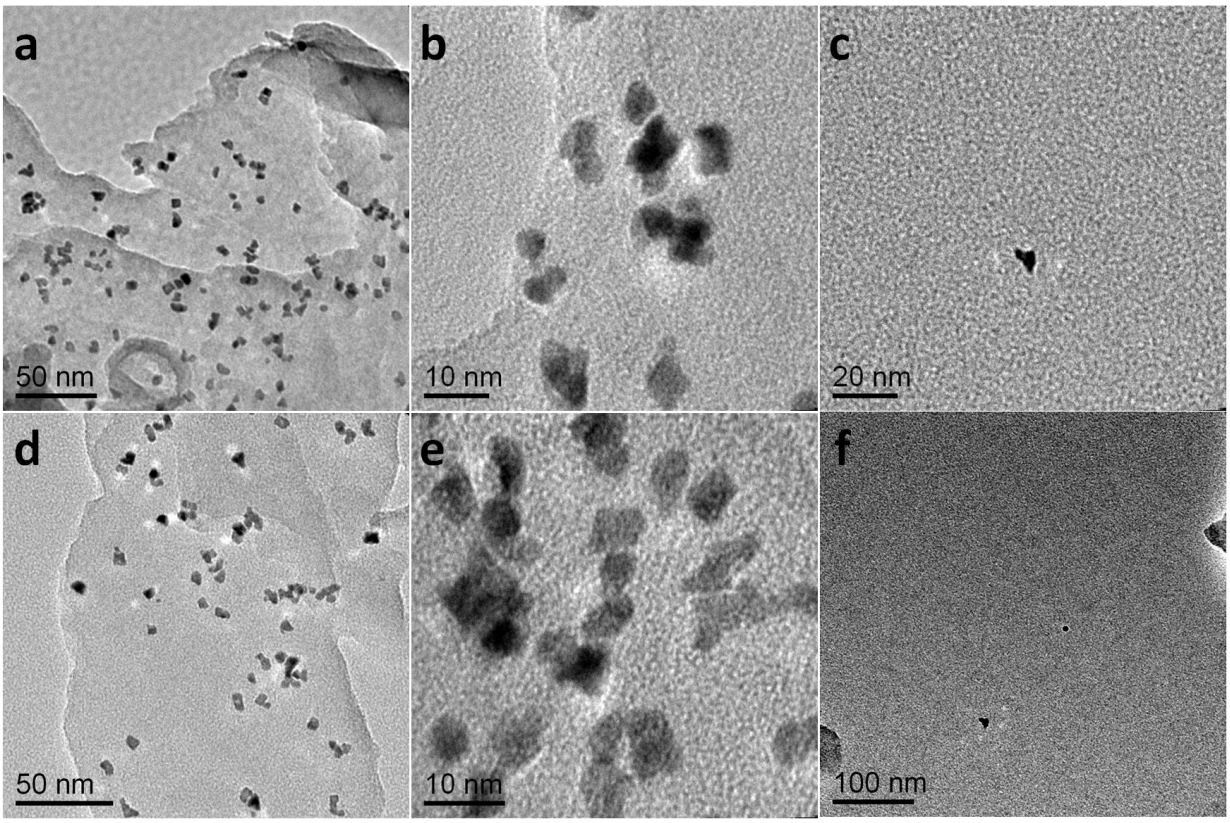


Figure S3. TEM image of in-situ photochemically reduced Pt nanoparticles after 2 h (a, b, c) and 6 h (d, e, f) photoreaction.

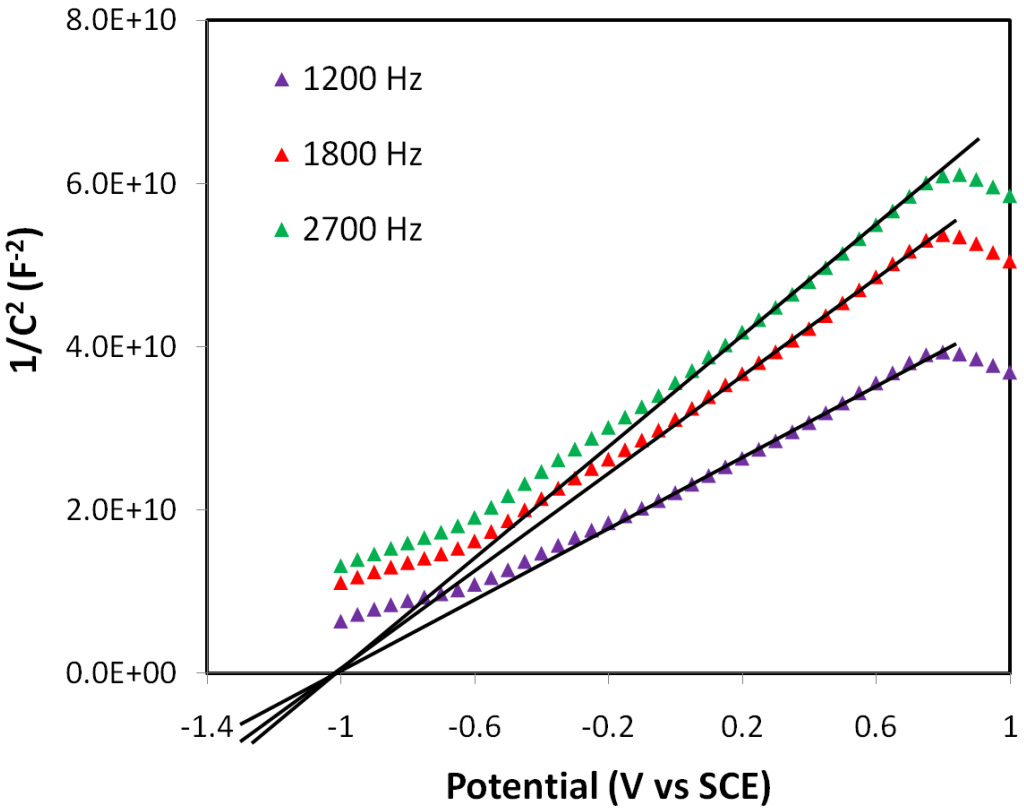
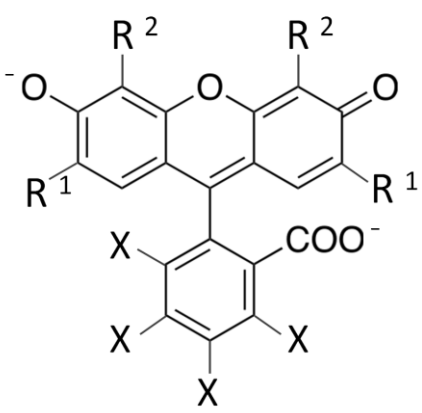


Figure S4. Mott-Schottky plots of CN nanosheet sample. The flatband potential of CN is estimated to be -1.03 V vs SCE.



Erythrosin B	X = H, $R^1 = R^2 = I$
Erythrosin Yellowish	X = H, $R^1 = I$, $R^2 = H$
Eosin Yellowish	X = H, $R^1 = R^2 = Br$
Rose Bengal	X = Cl, $R^1 = R^2 = I$
Fluorescein	X = H, $R^1 = R^2 = H$

Figure S5. Molecular structures of xanthene dyes investigated.

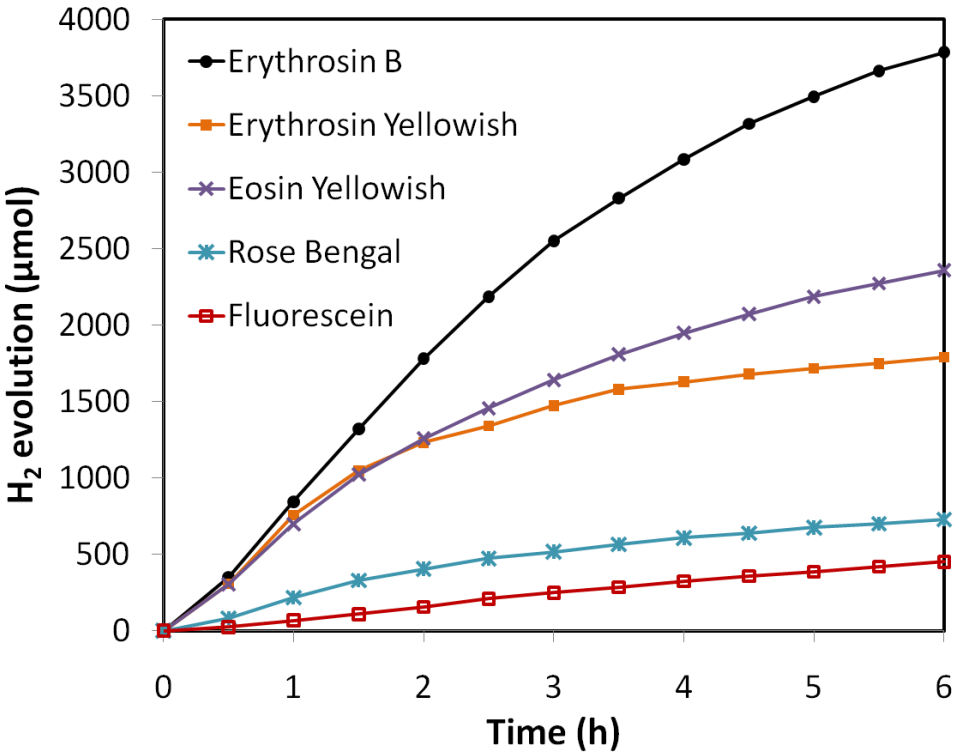


Figure S6. Time course of H_2 evolution using different dyes as photosensitizer and Pt(1%)/CN as catalyst. Reaction conditions: 300 W Xe lamp, $\lambda > 420$ nm, 0.1 g catalyst, 0.227 mmol dye, 100 mL 5% v/v TEOA aqueous solution, pH=9.