Graphitic C_3N_4 nanosheet-sensitized brookite TiO_2 to achieve photocatalytic hydrogen evolution under visible light

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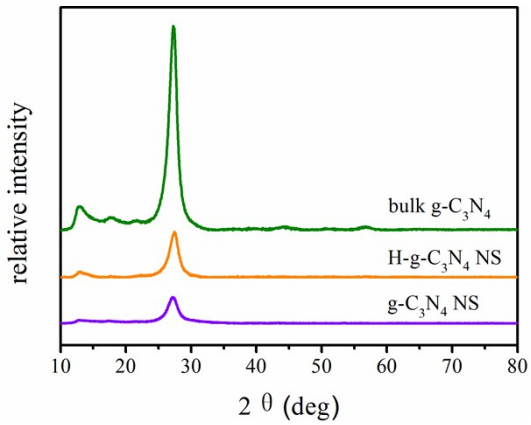

Fig. S1 XRD patterns of g-C_3N_4 NS, H-g-C_3N_4 NS and bulk g-C_3N_4

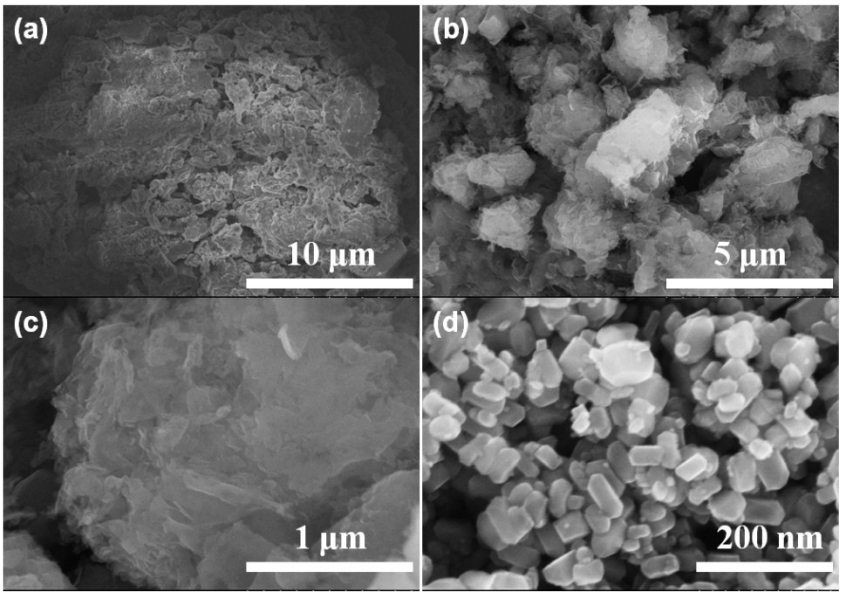

Fig. S2 SEM images of (a) bulk g-C_3N_4 (b, c) g-C_3N_4 nanosheet and (d) brookite TiO_2.

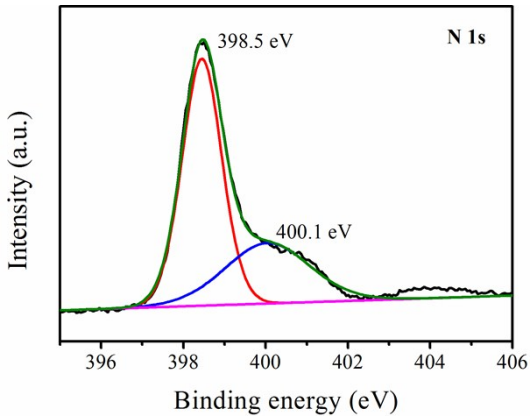

Fig. S3 N 1s XPS spectra of TCN70

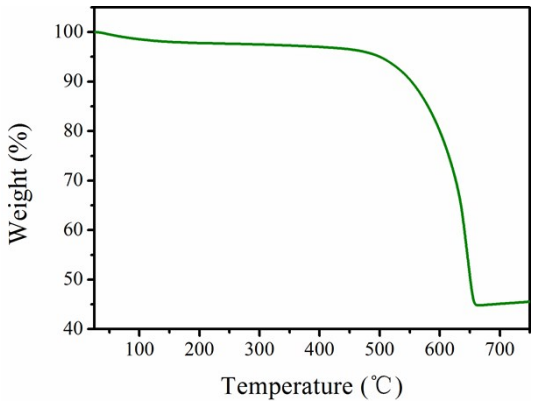

Fig. S4 TG curve of TCN50

Table S1 Contents of C, N elements in TCN50 sample from elemental analysis result

sample	N(%)	C(%)	C/N ratio
TCN50	31.27	17.61	0.563

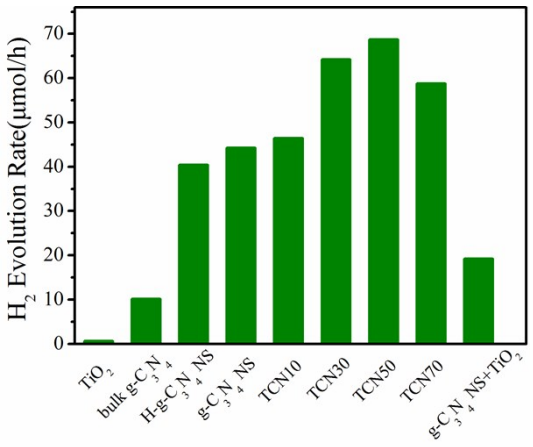

Fig. S5 Photocatalytic H_2 evolution rates of as-prepared samples.

Table S2 The crystal size, surface area, and H_2 evolution of samples

sample	Crystal size (nm)	Surface area (m^2/g)	H_2 evolution (μmol/h)
g-C_3N_4 NS		44.76	44.30
TiO_2	29.23	40.56	
TCN10	27.8	41.59	46.48
TCN30	25.08	41.86	64.25
TCN50	24.76	42.64	68.76
TCN70	23.62	44.04	58.77

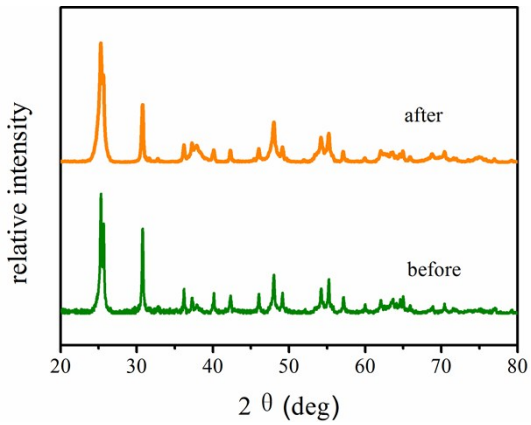

Fig. S6 XRD patterns of TCN50 before and after photoreaction