Supporting Information:

*In situ* synthesis of g-C$_3$N$_4$/TiO$_2$ heterostructures with enhanced photocatalytic hydrogen evolution under visible light

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**Fig. S1** (a) SEM and (b) TEM images of CNTO-0.

**Fig. S2** Nitrogen sorption isotherms of CNTO-x and TiO$_2$.

**Fig. S3** Full scan XPS spectra of CNTO-0 and CNTO-2.
**Fig. S4** The XRD patterns of CNTO-2 before and after 12 h of photocatalytic H₂ evolution. (b) is the magnified view of the selected region in (a).
Fig. S5 (a) TEM and (b, c, d) HRTEM images of CNTO-2 after 12 h photocatalytic H₂ evolution. (d) is the selected area in (c).