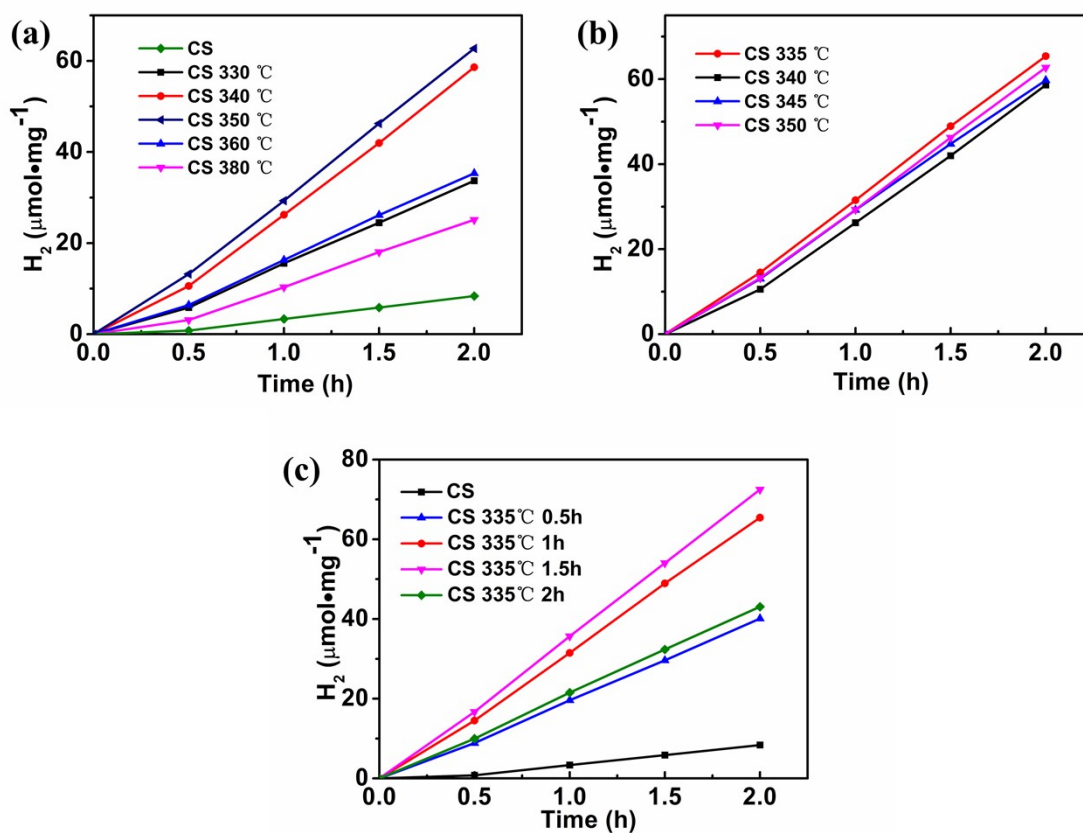
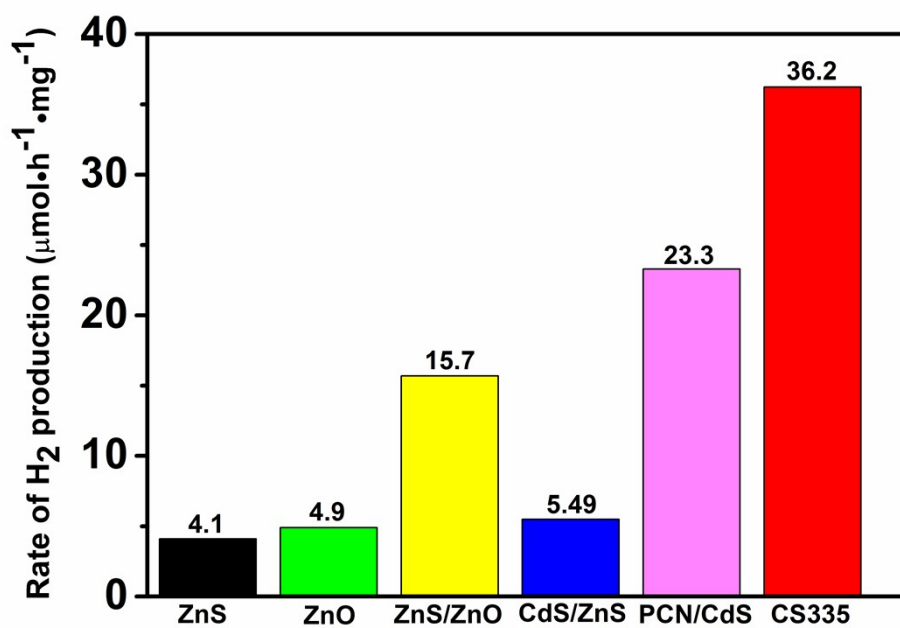


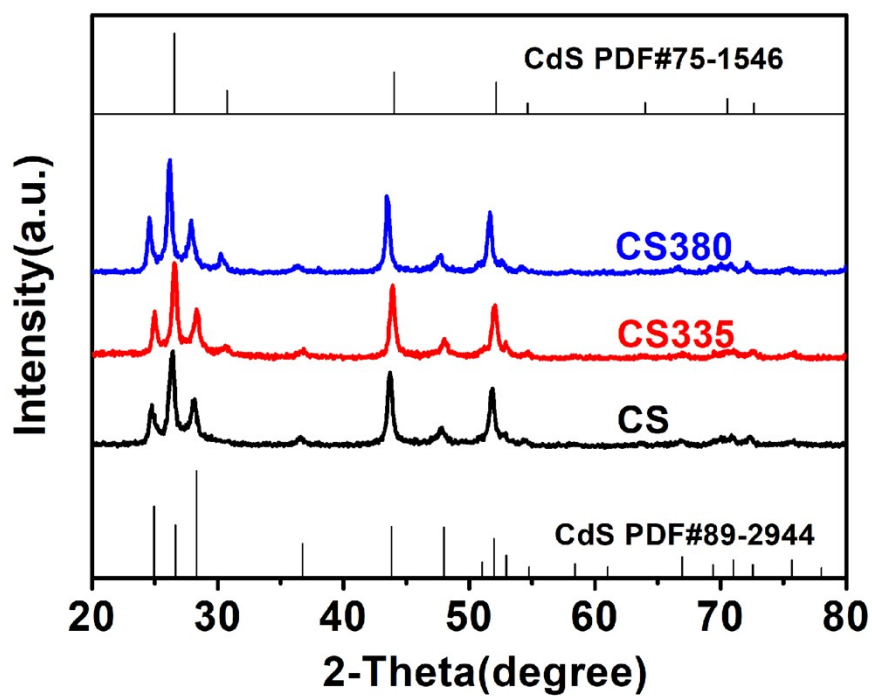
## Supporting Information



**Figure S1.** Comparison of H<sub>2</sub> evolution for the samples synthesized (a) at temperatures from 330 to 380 °C for 1 h; (b) at temperatures around 340 °C for 1 h; (c) at 335 °C under different reaction time.



**Figure S2.** Comparison of photocatalytic H<sub>2</sub> production properties with CS335 and other materials.



**Figure S3.** XRD patterns of CS, CS335 and CS380.

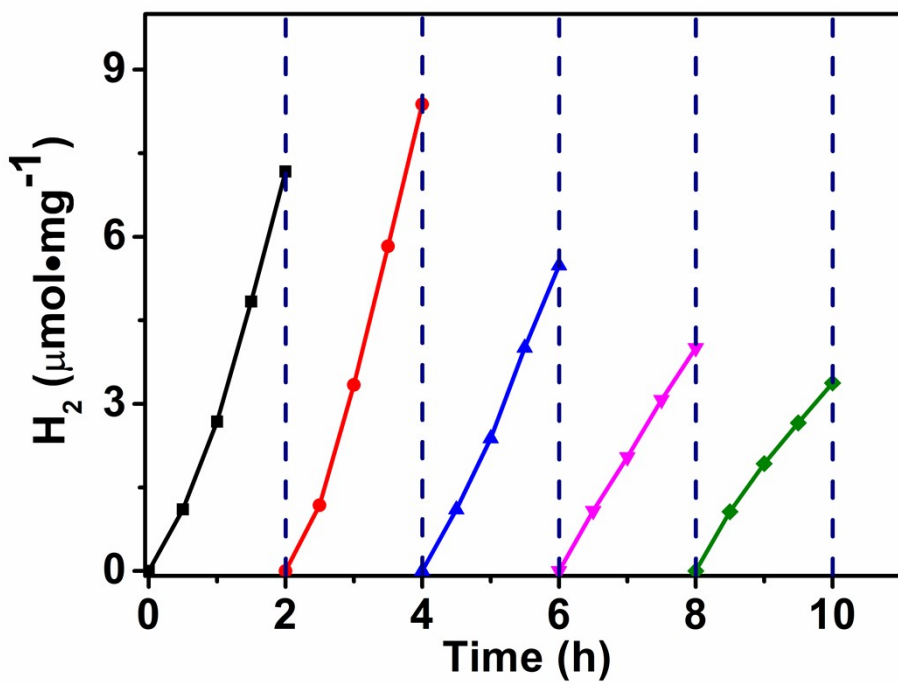


Figure S4. The photocatalytic stability of CS at constant temperature of 20 °C.

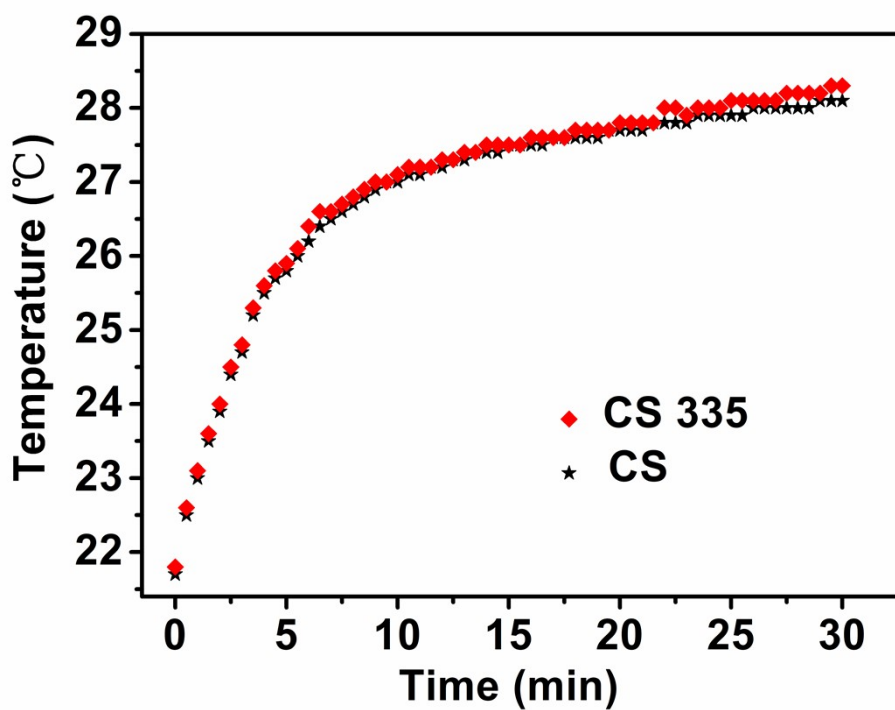


Figure S5. Temperature curves of CS and CS335 during photocatalytic reaction.

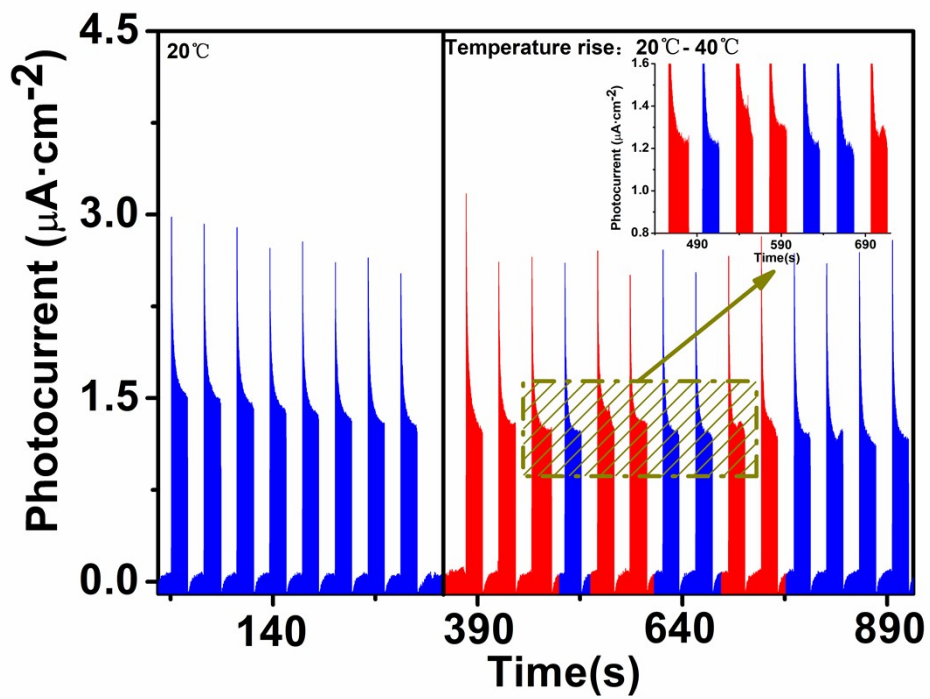
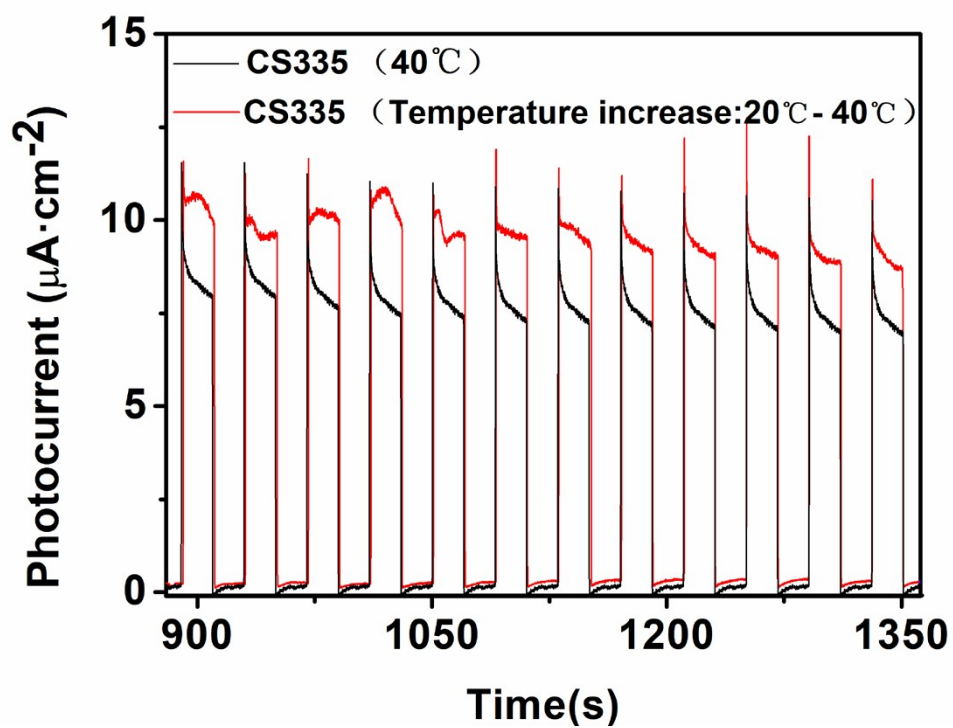


Figure S6. The transient photocurrent of CS measured when the electrolyte temperature increased from 20 °C to 40 °C.



**Figure S7.** Comparison of transient photocurrent between samples at constant temperature of 40 °C and variable temperature.