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Supporting Information

Construction of a crossed-layer-structure MoS_2/g-C_3N_4 heterojunction with Enhanced photocatalytic performance

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Visible light activity experiments

The activity of the photocatalysts also was evaluated via the photocatalytic degradation of phenol under visible light irradiation. In a typical experiment, 0.05 g photocatalyst was suspended in 100 mL 10 mg/L phenol solution. The suspension was first dispersed by sonication for 30 min and stirred for 30 min in the dark to obtain adsorption−desorption equilibrium between the phenol and the photocatalyst. The suspension was then stirred and irradiated under a 300 W Xe lamp (λ>400 nm). During the irradiation process, about 3mL of suspension was taken from the reaction cell every 30 min and centrifuged to remove the photocatalyst. The absorbance of the phenol solution in degradation was detected on HPLC (waters 2695 with C-18 column).

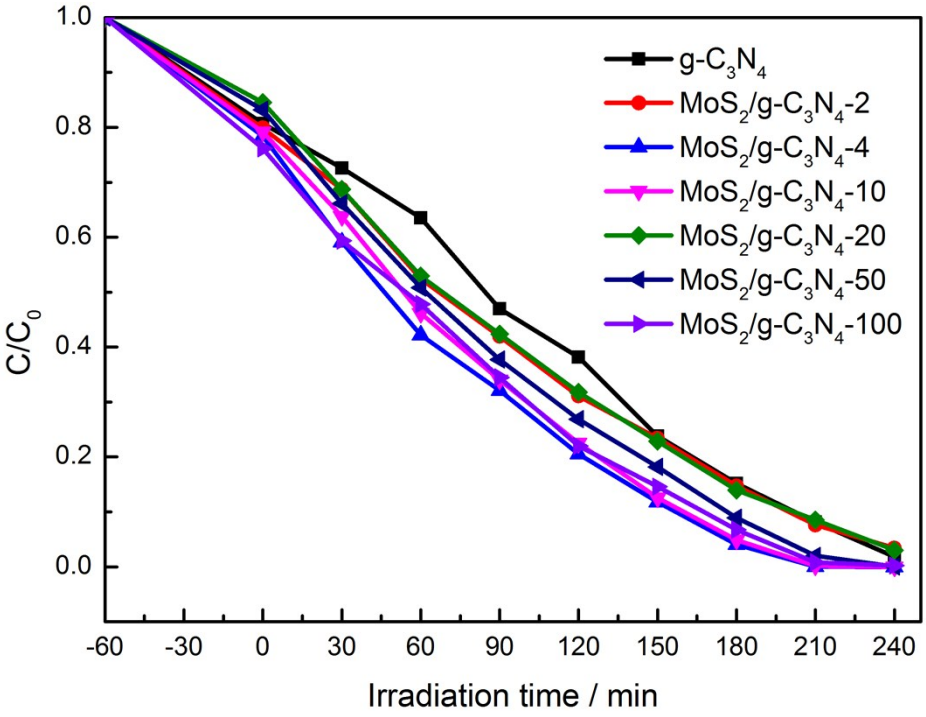

Fig. S1 Photocatalytic degradation of phenol by g-C_3N_4 and MoS_2/g-C_3N_4 samples under visible light (λ>400 nm, 300W Xe lamp).

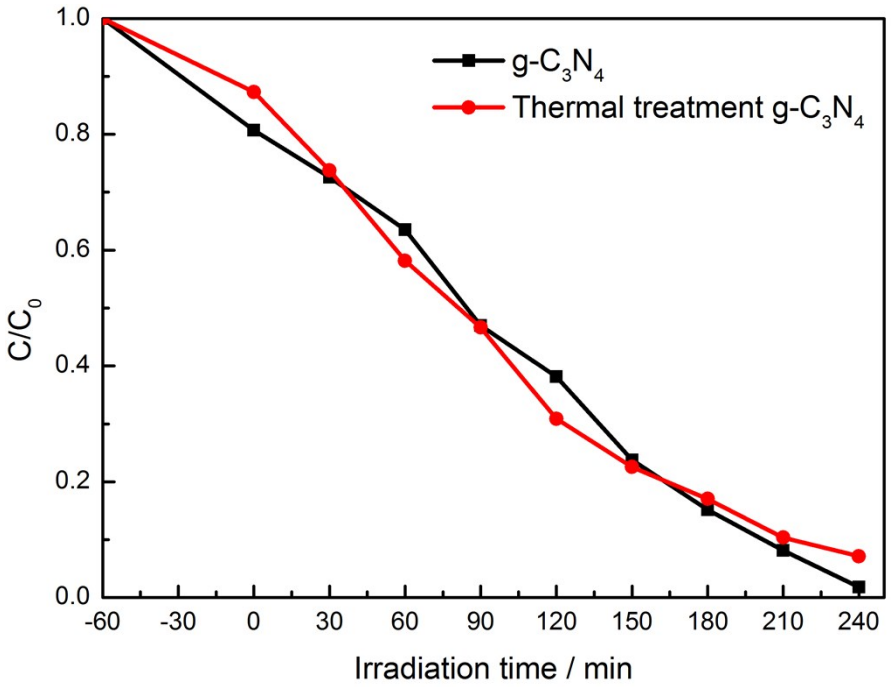

Fig. S2 Photocatalytic degradation of phenol by g-C_3N_4 and thermal treatment g-C_3N_4 under visible light (λ>400 nm, 300W Xe lamp).