Electronic Supplementary Material (ESI) for CrystEngComm

Supporting Information

For

Large scale production of novel g-C_3N_4 micro strings with high surface area and versatile photodegradation ability

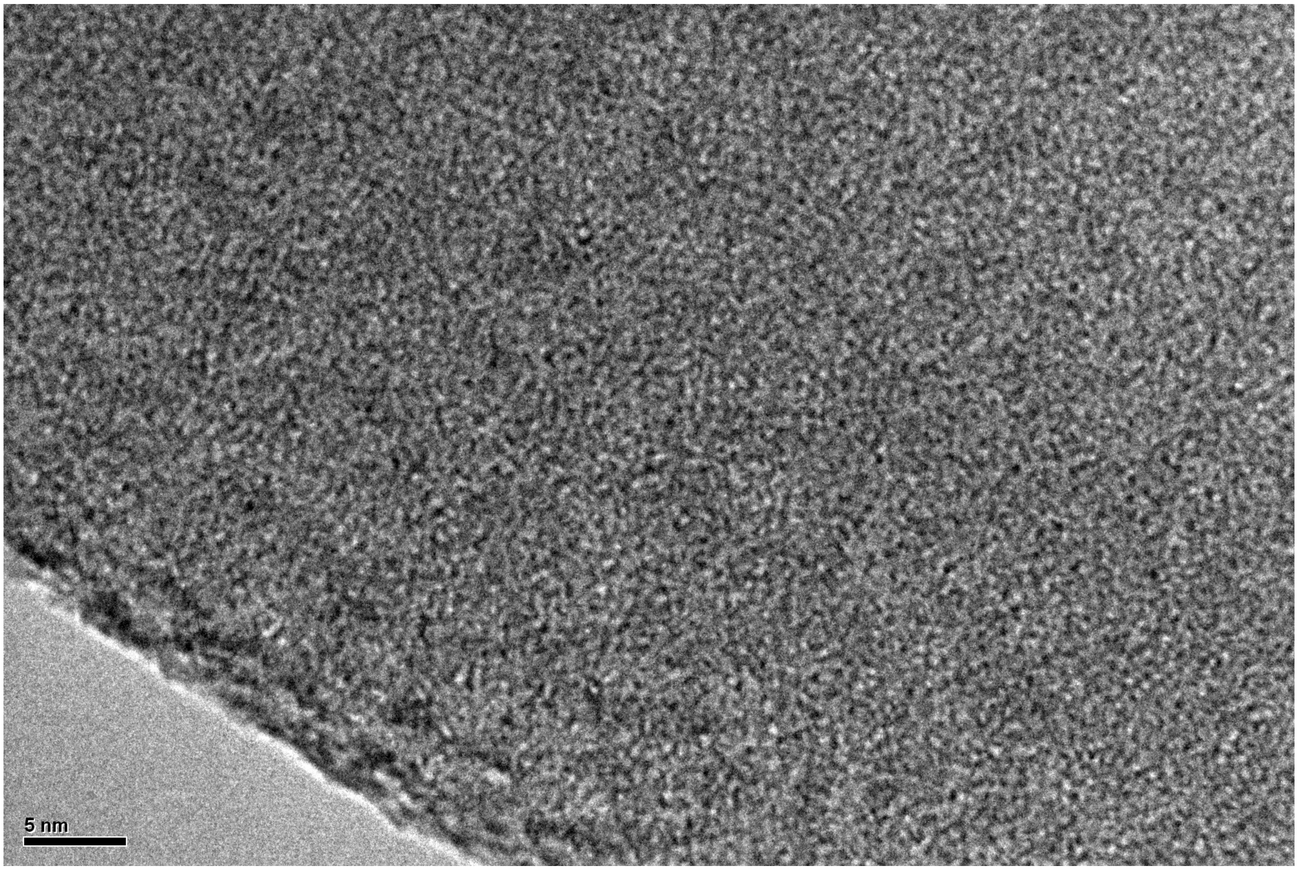

Figure S1. HRTEM image of msg-C_3N_4.

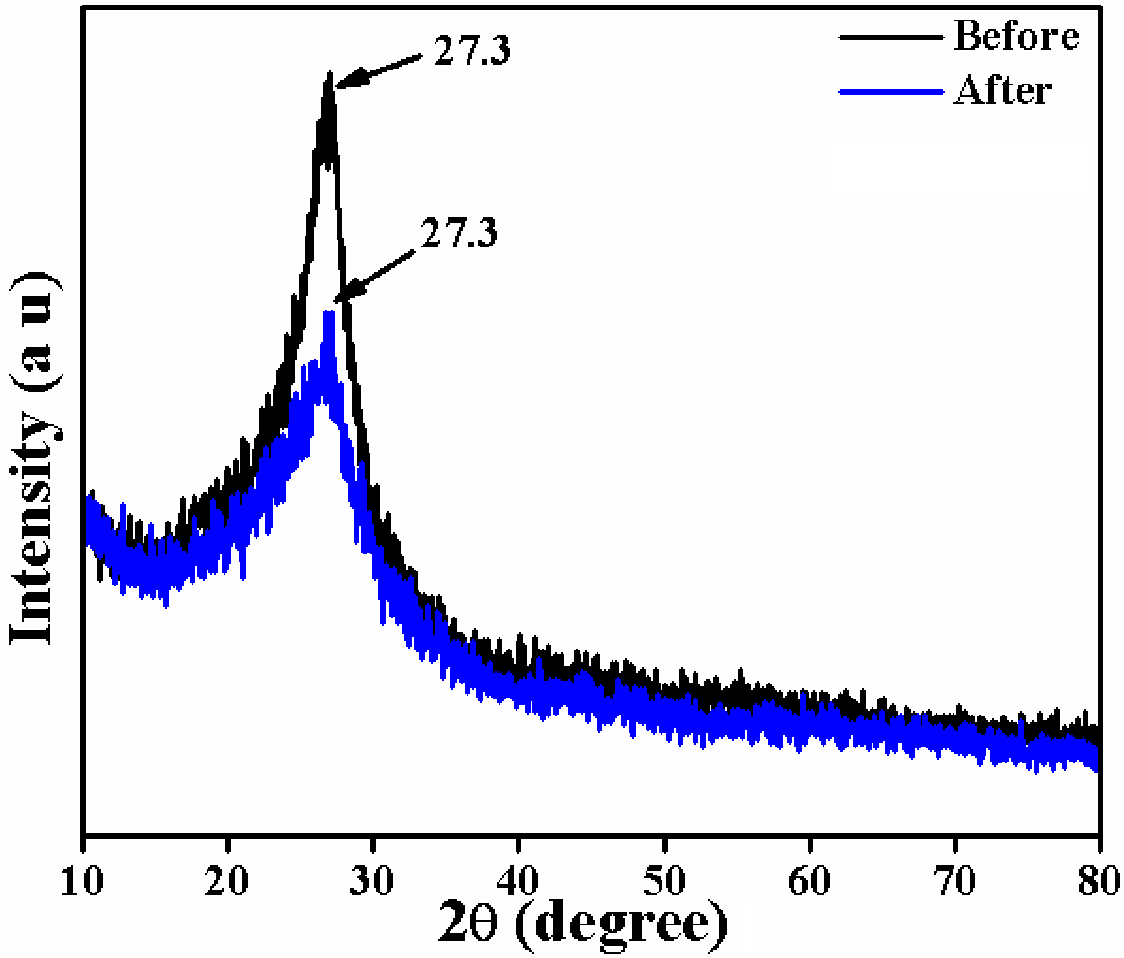

Figure.S2. XRD patterns of msg-C_3N_4 before and after photocatalytic experiment.

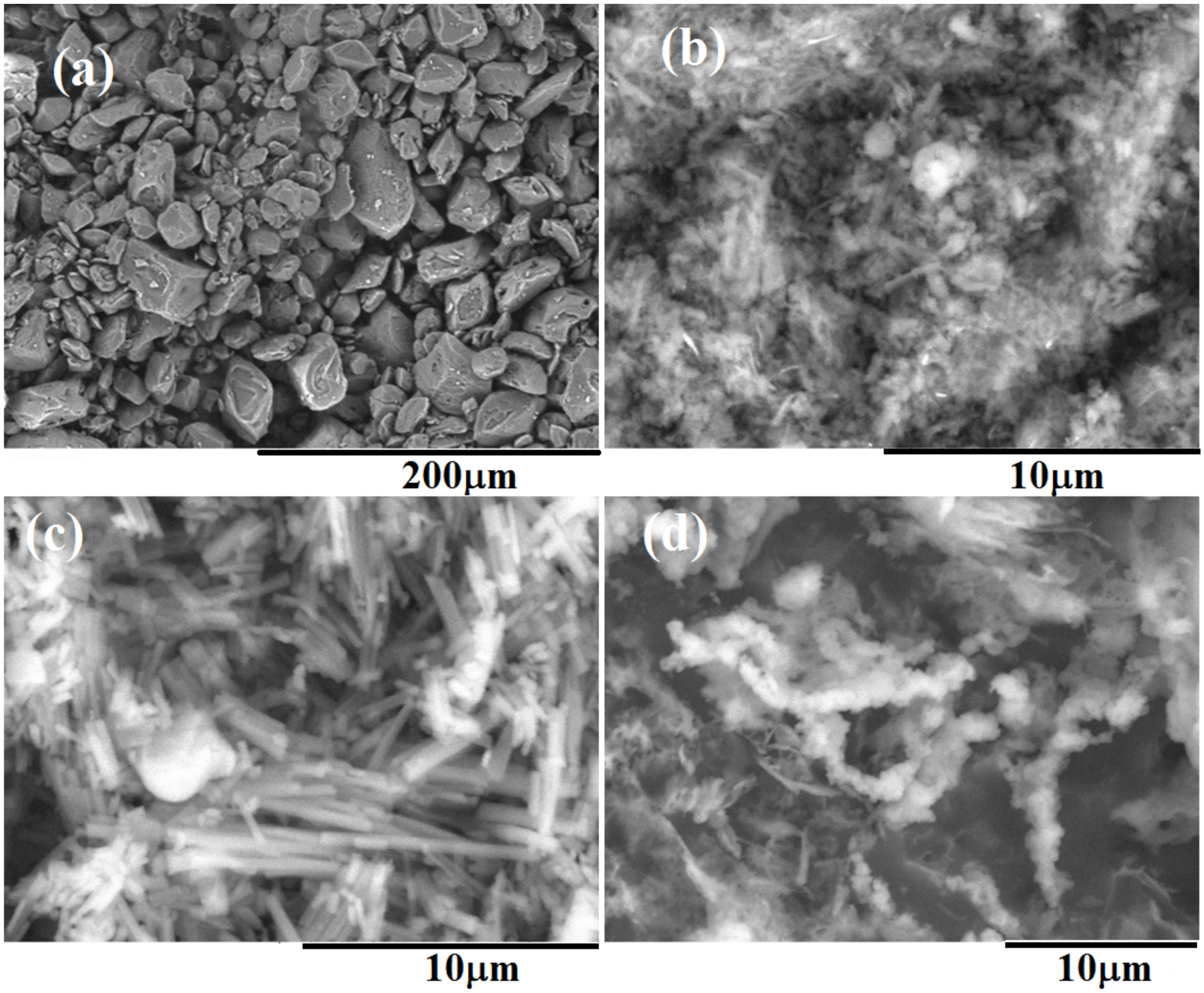

Figure.S3. SEM images of product without (a) HNO_3, intermediate (b) HNO_3, final (c) ethylene glycol, intermediate (d) ethylene glycol, final.

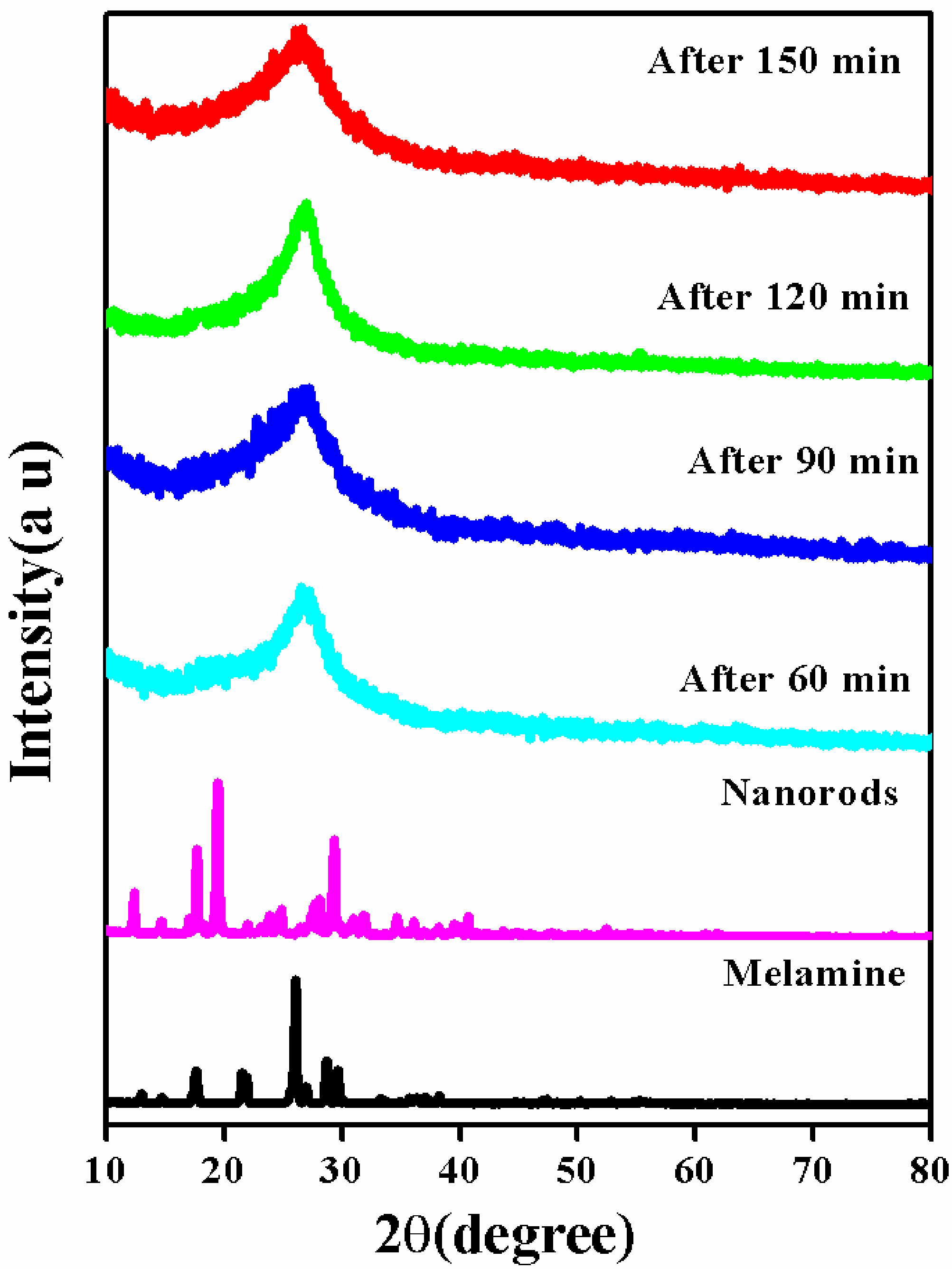

Figure.S4. XRD patterns of melamine, nanorods, msg-C_3N_4 after 60, 90,120 and 150 minutes.

Electronic Supplementary Material (ESI) for CrystEngComm

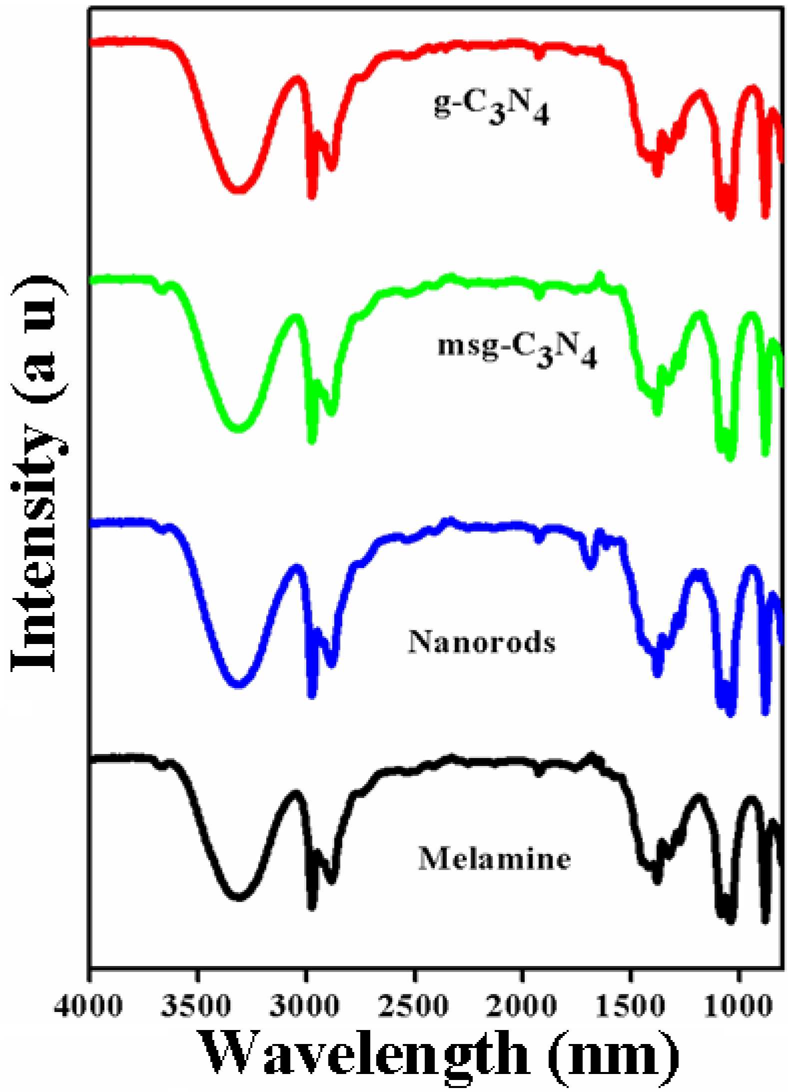

Figure.S5. FTIR spectrum of melamine, intermediate product, msg-C_3N_4 and g-C_3N_4.

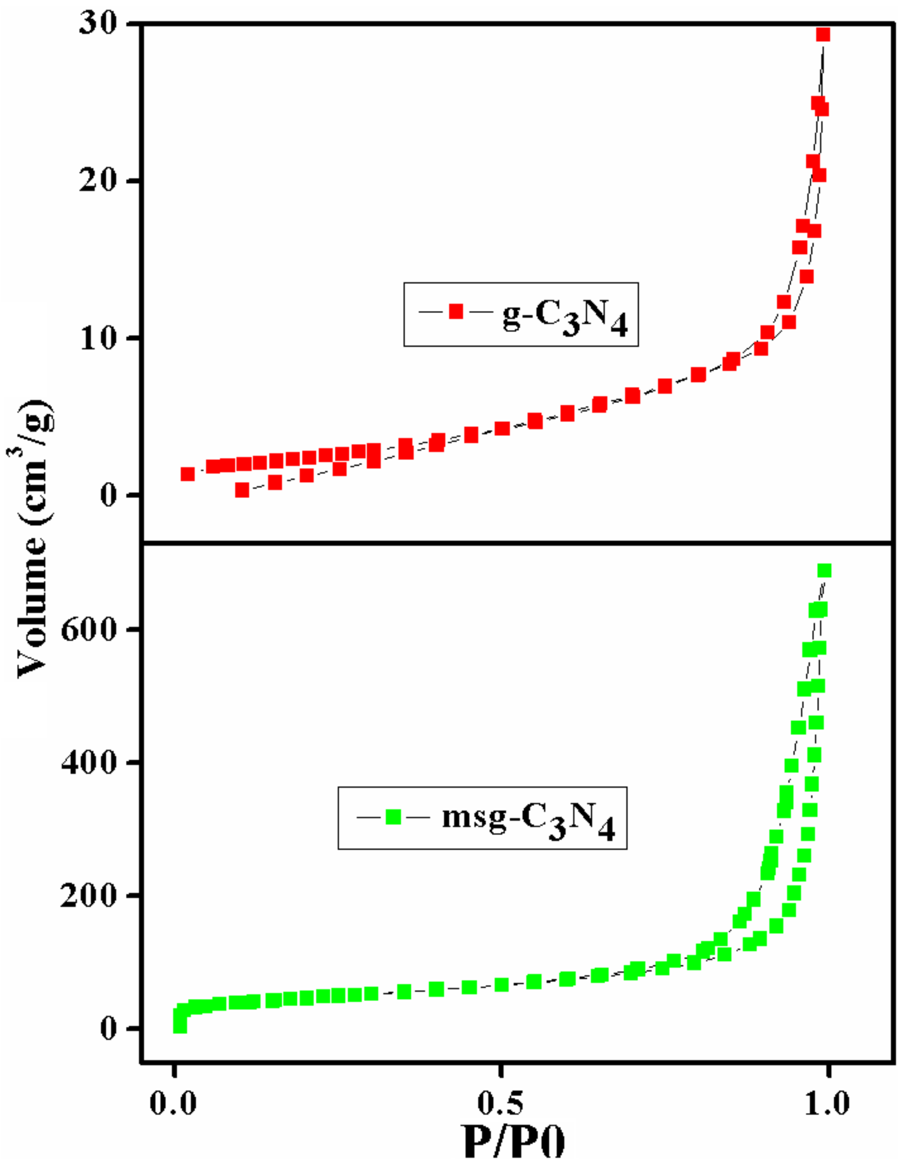

Figure S6. Nitrogen- adsorption-desorption curves of g-C_3N_4 and msg-C_3N_4 for BET surface area.

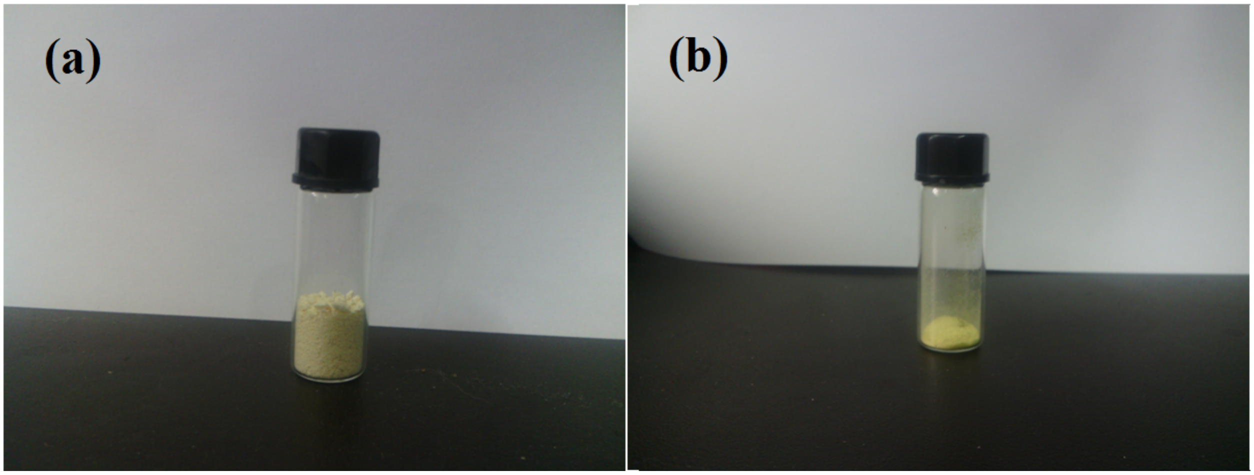

Figure.S7. Digital photograph of (a) msg-C_3N_4 (b) g-C_3N_4.

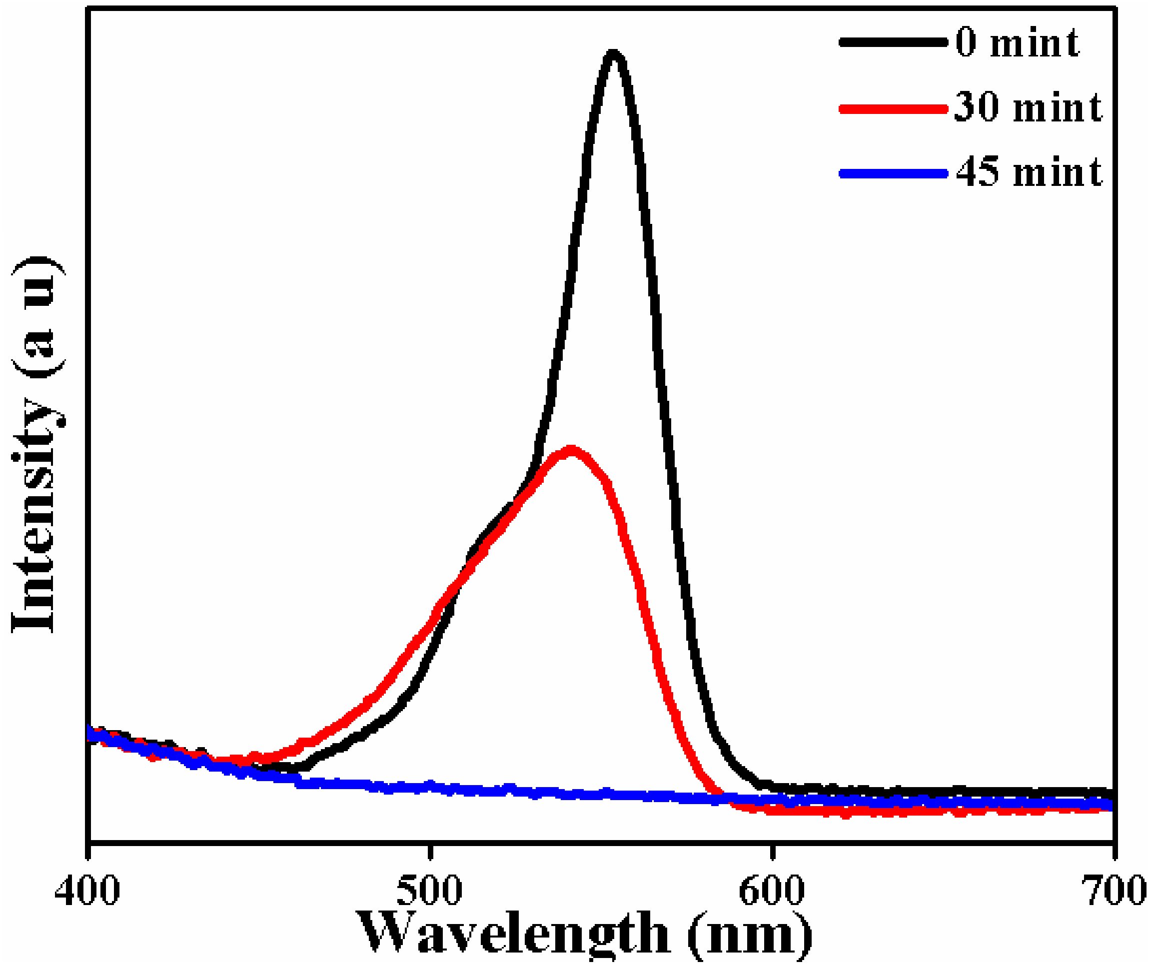

Figure.S8. Photodegradation of RhB by using 100mg msg-C_3N_4.

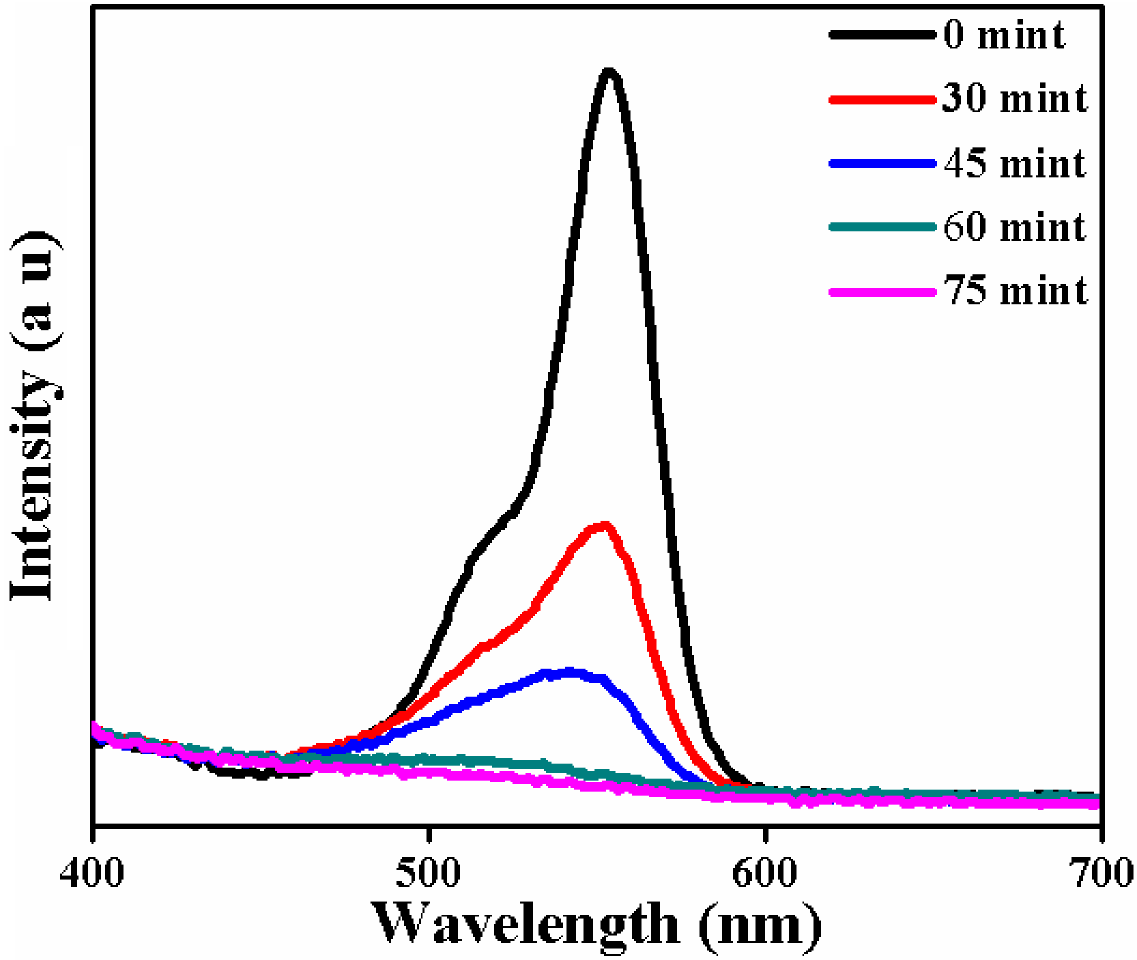

Figure.S9. Photodegradation of RhB by using 100mg g-C_3N_4.

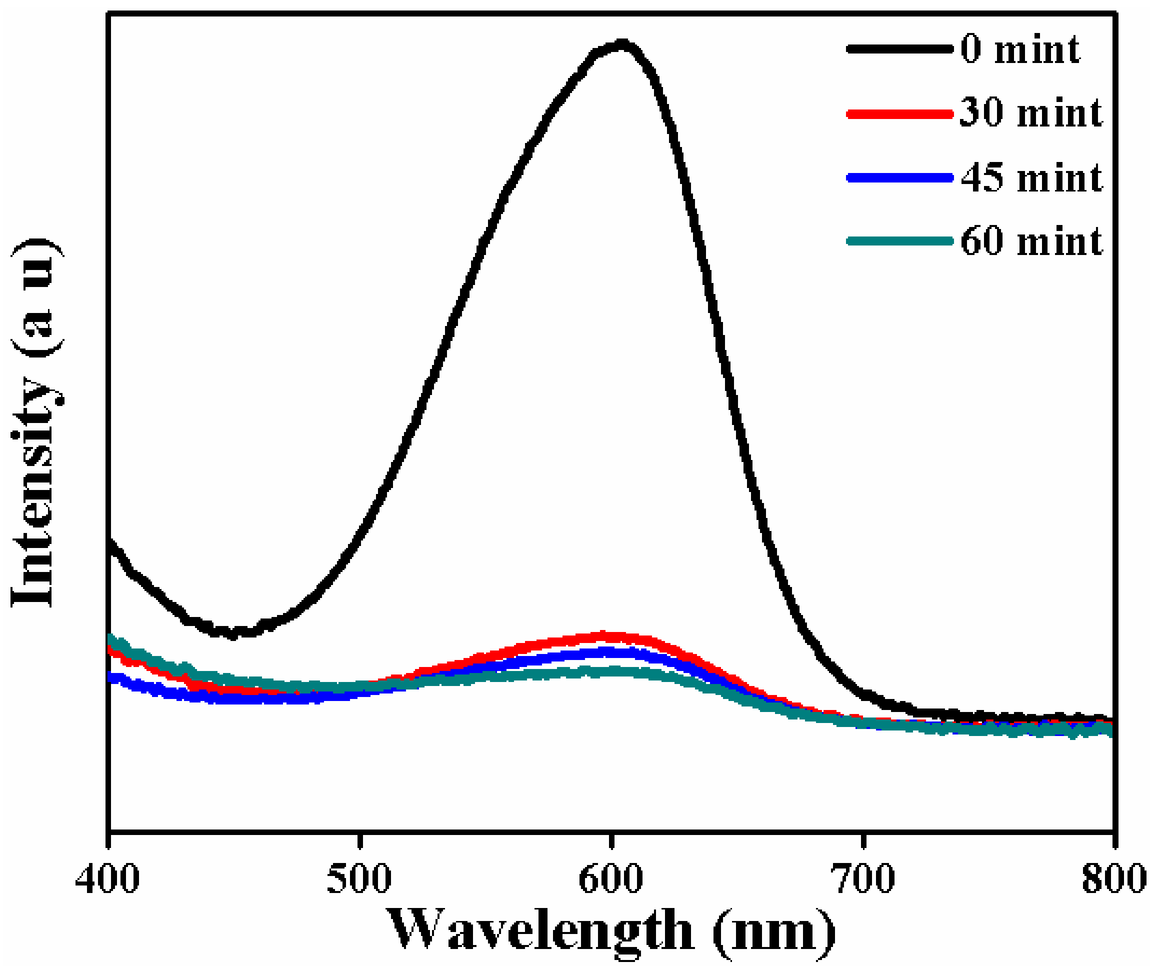

Figure.S10. Photodegradation of MB by using 100mg msg-C_3N_4.

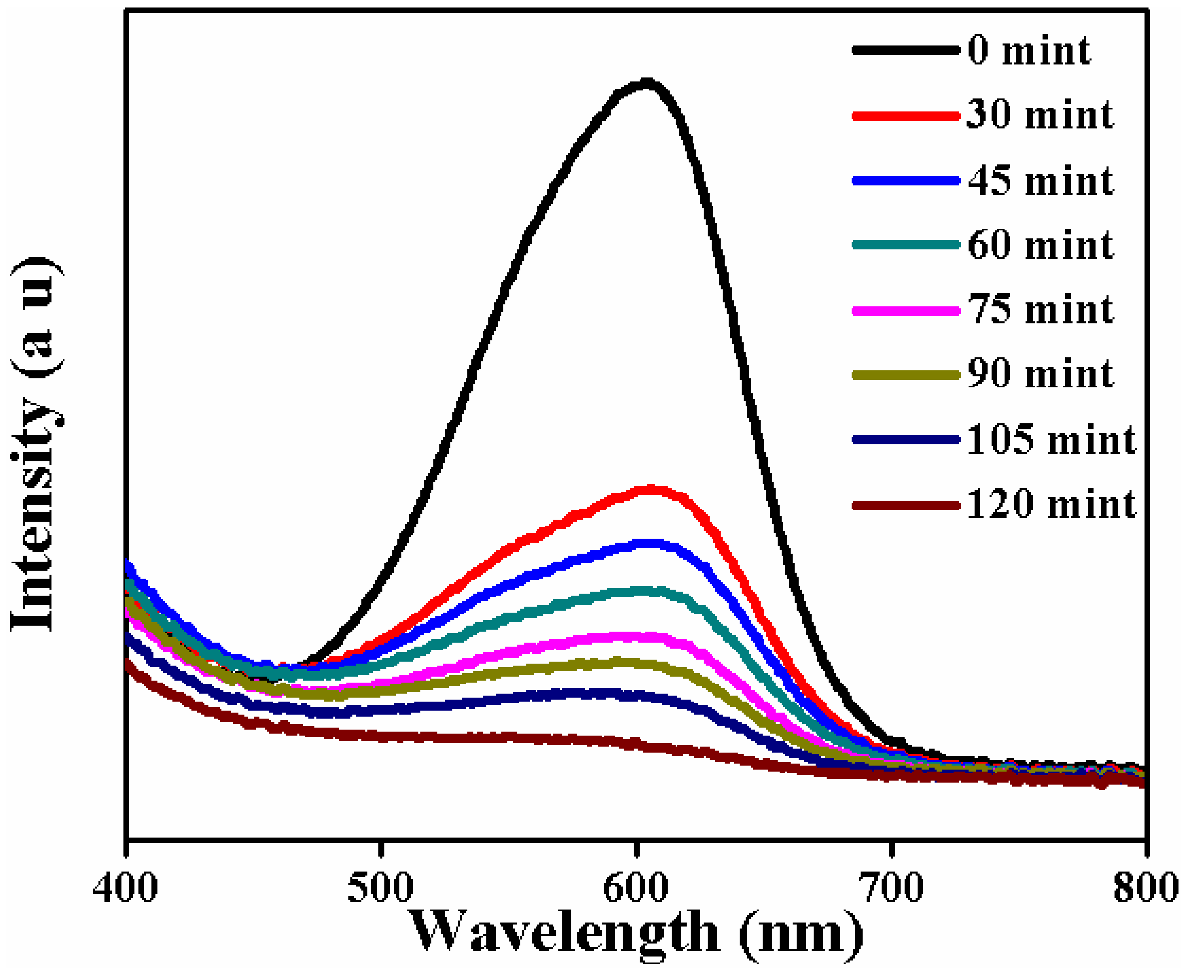

Figure.S11. Photodegradation of MB by using 100mg g-C_3N_4.

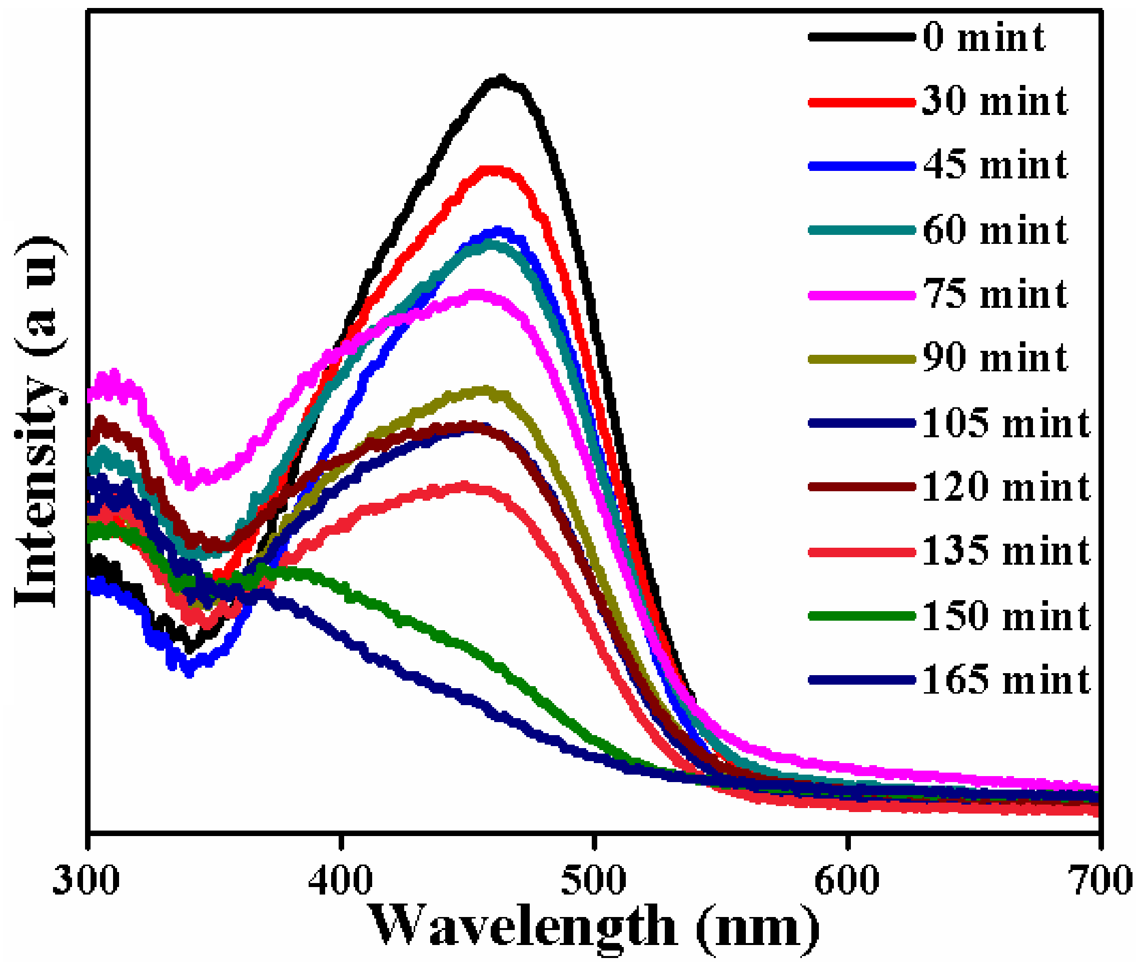

Figure.S12. Photodegradation of MO by using 100mg msg-C_3N_4

Electronic Supplementary Material (ESI) for CrystEngComm

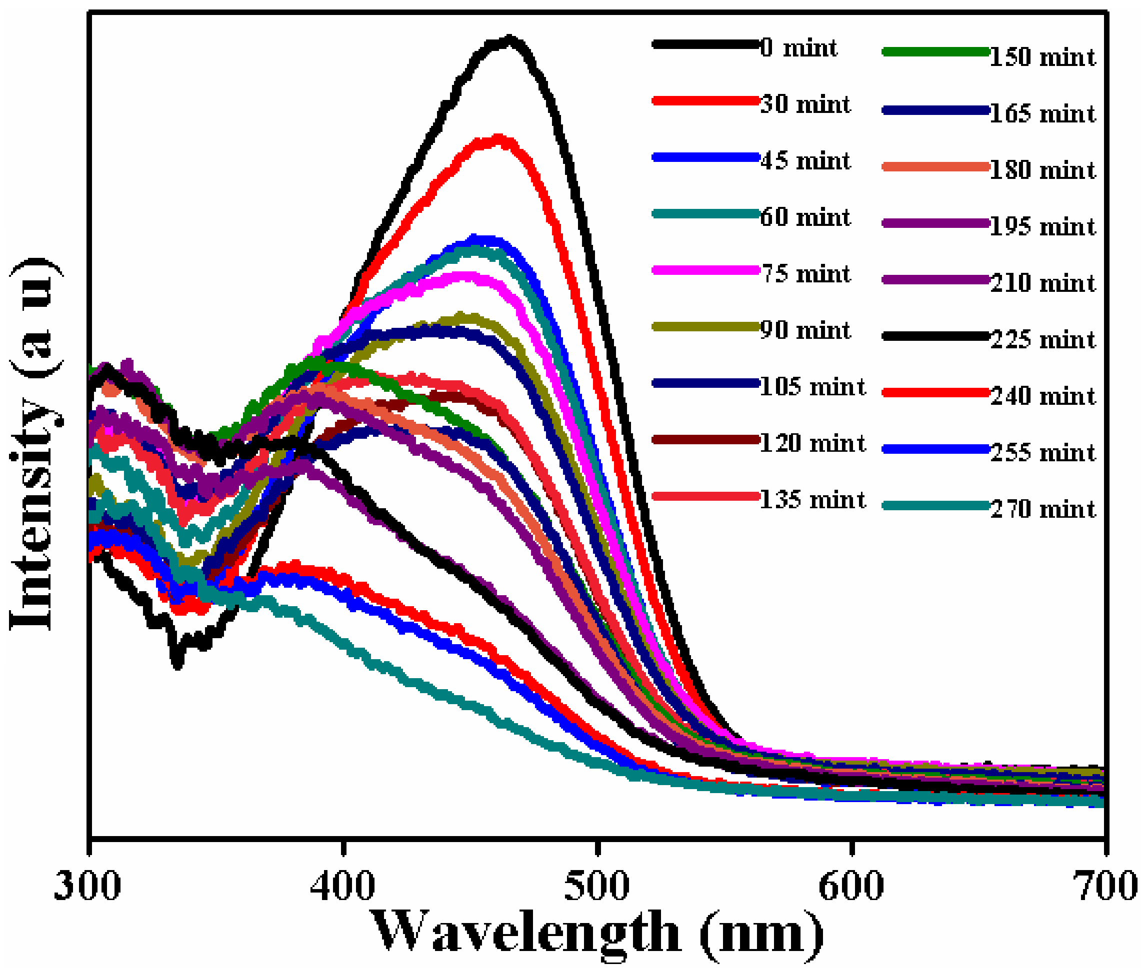

Figure.S13. Photodegradation of MO by using 100mg g-C_3N_4

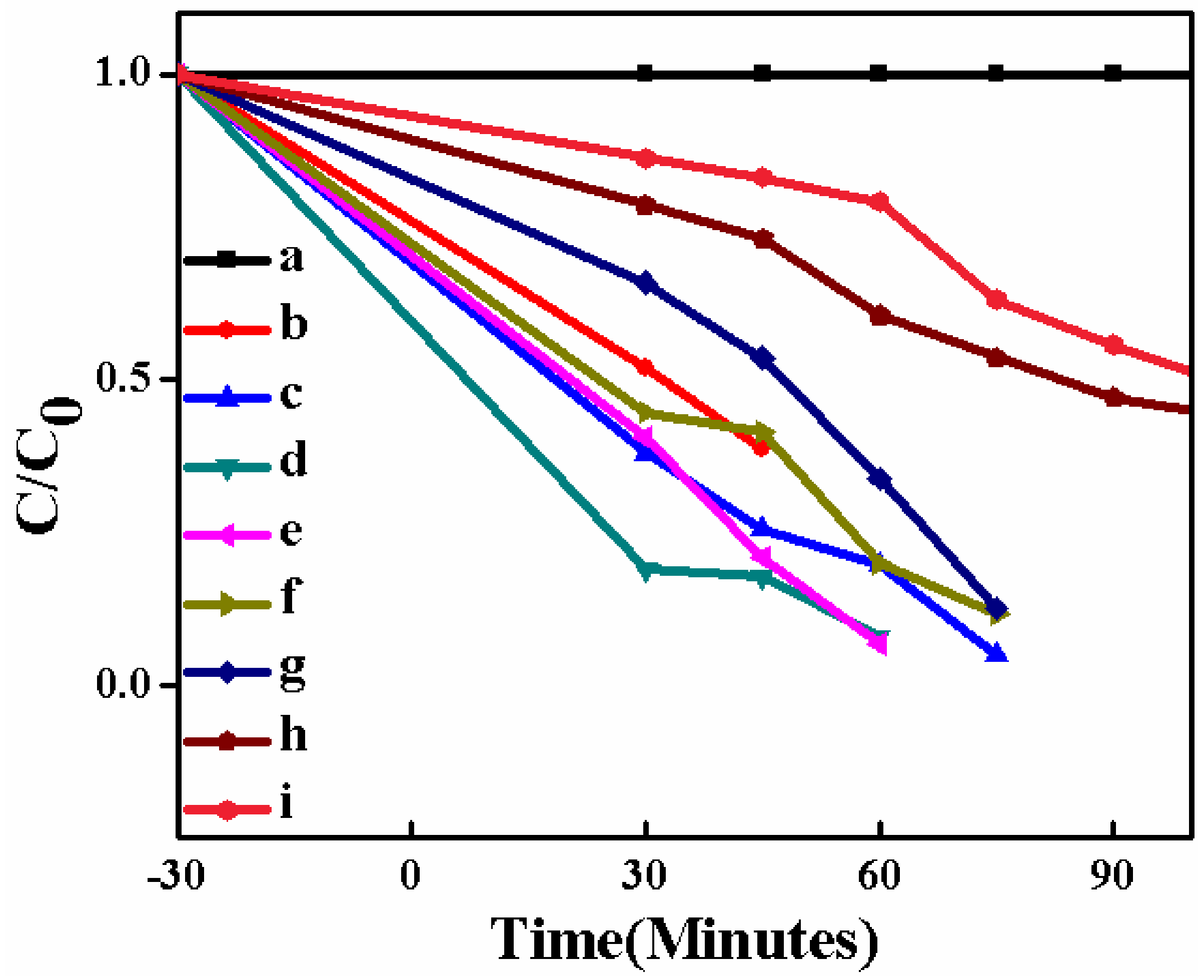

Figure.S14. C/C_0 of msg-C_3N_4 and g-C_3N_4 for RhB with different concentrations.(a) without any catalyst (b) 100 mg of msg-C_3N_4 (c) 100 mg of g-C_3N_4 (d) 50 mg of msg-C_3N_4 (e) 50 mg of g-C_3N_4 (f) 20 mg of msg-C_3N_4 (g) 20 mg of g-C_3N_4 (h) 10 mg of msg-C_3N_4 (i) 10 mg of g-C_3N_4.

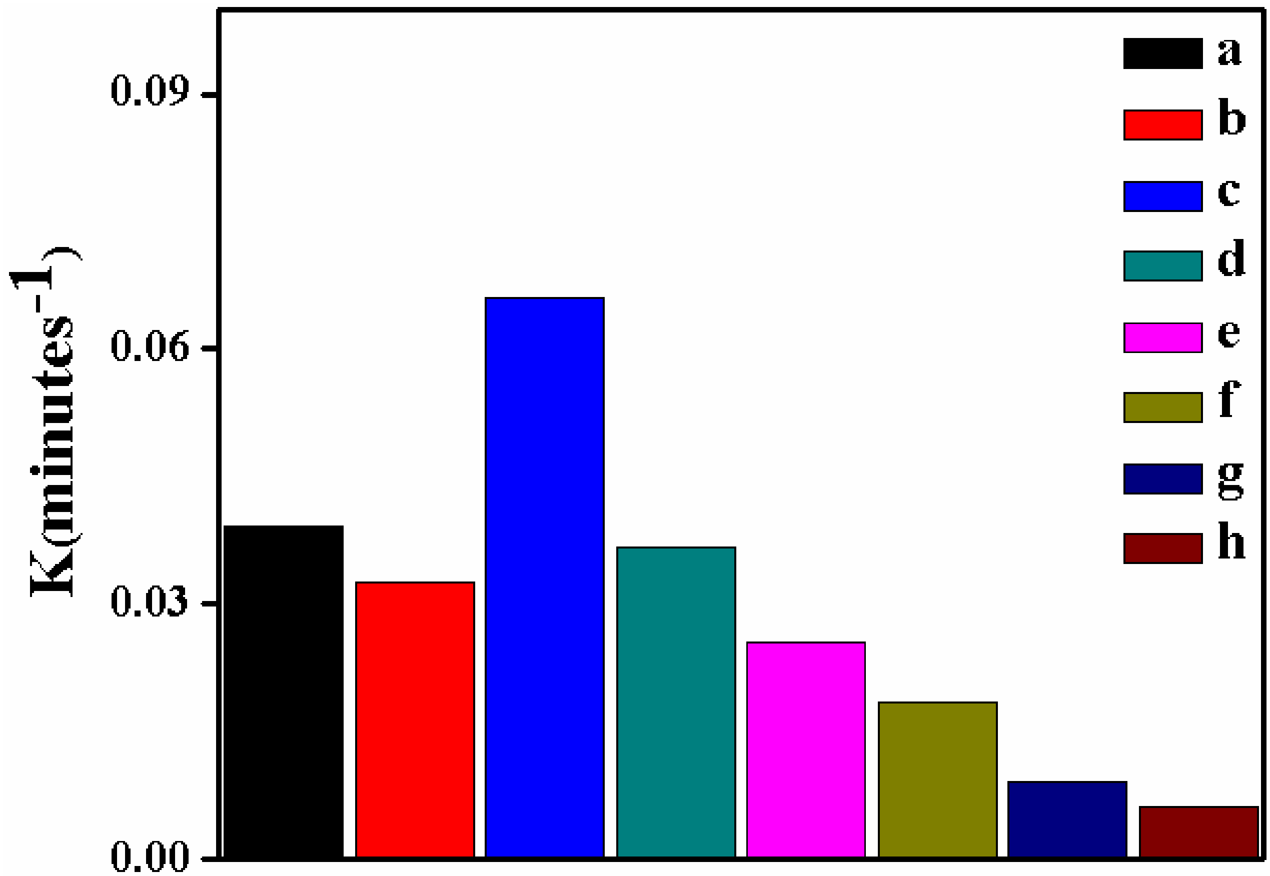

Figure.S15. First order rate constant k (minutes-1) of msg-C_3N_4 and g-C_3N_4 for RhB with different concentrations. (a) 100 mg of msg-C_3N_4 (b) 100 mg of g-C_3N_4 (c) 50 mg of msg-C_3N_4 (d) 50 mg of g-C_3N_4 (e) 20 mg of msg-C_3N_4 (f) 20 mg of g-C_3N_4 (g) 10 mg of msg-C_3N_4 (h) 10 mg of g-C_3N_4.

Table S1. First order rate constant comparison between different reported results.

Dye	Photocatalysts	k(min^{-1})	Reference	Our Work
RhB	g-C_3N_4	0.020	22	0.0372
	Fe_2O_3/ g-C_3N_4 composites	0.036	22	
	g-C_3N_4-240	0.017	27	
	g-C_3N_4 at 520^{0}C	0.014	44	
	TiO_2	0.037	45	
	Nb_3O_7F	0.06477	23	
MO	B-doped g-C_3N_4	0.004	7	0.00838
	g-C_3N_4 at 600^{0}C	0.003	7	
	g-C_3N_4 at 580^{0}C	0.004	7	
		0.0067	32	
MB	TiO_2 nanotube	0.024	46	0.03336
	TiO_2	0.0012	47	
	Tubular g-C_3N_4	0.02116	32	

Table S2. Apparent first order rate constant k of msg-C_3N_4 without and with H_2O_2 for RhB, MB and MO.

Sample	k(min^{-1})	k(min^{-1})-with H_2O_2
RhB	0.03927	0.04319
MB	0.03001	0.03527
MO	0.00627	0.02034