Facile fabrication of direct solid-state Z-scheme g-C_3N_4/Fe_2O_3 heterojunction: A cost-effective photocatalyst with high efficiency for aqueous organic pollutant degradation

Junwei Wang[1], Xiaojun Zuo[1], Wei Cai[1], Jinwei Sun[1], Xinlei Ge[1,*], Hui Zhao[1,2,*]

1. Collaborative Innovation Center of Atmospheric Environment and Equipment Technology, Jiangsu Key Laboratory of Atmospheric Environment Monitoring and Pollution Control, School of Environmental Science and Engineering, Nanjing University of Information Science & Technology (NUIST), 219 Ningliu Road, Nanjing 210044, China

2. Jiangsu Key Laboratory of Anaerobic Biotechnology, School of Environment and Civil Engineering, Jiangnan University, 1800 Lihu Avenue, Wuxi 214122, China

[*] Corresponding authors: Dr. Xinlei Ge: caxinra@163.com; Dr. Hui Zhao: zhaohui0919@163.com.

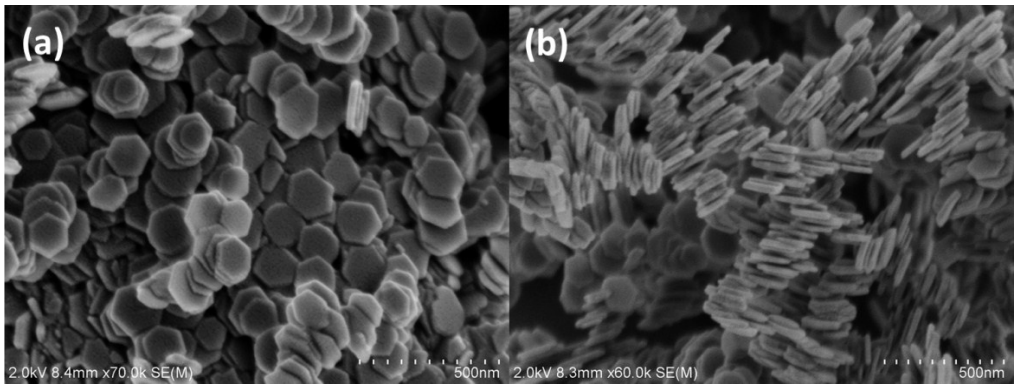

Fig. S1. SEM images of α-Fe_2O_3 surface (a) and side (b).

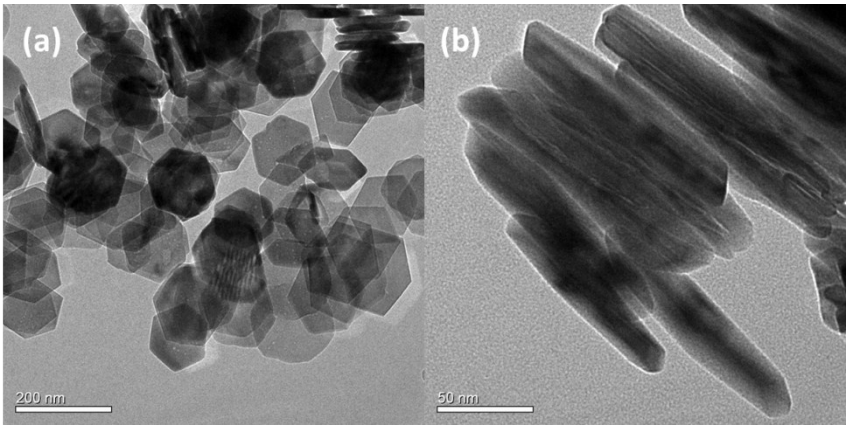

Fig. S2. TEM images of α-Fe_2O_3 surface (a) and side (b)

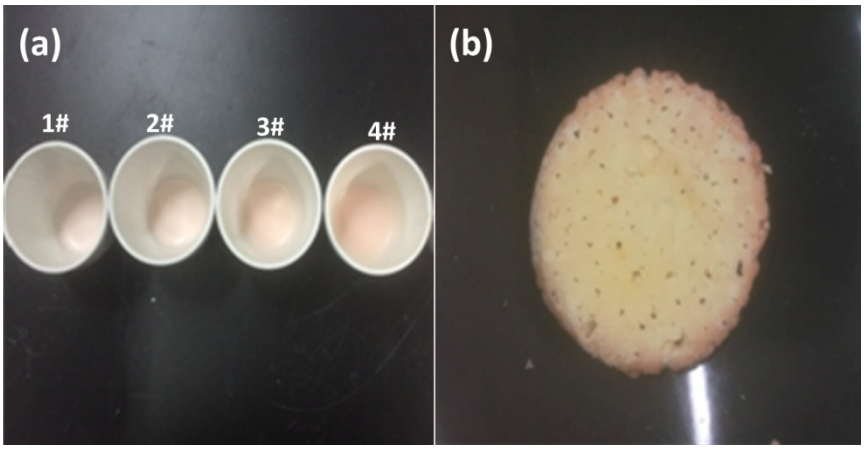

Fig. S3. Images of the generated g-C_3N_4/Fe_2O_3 composites in the crucibles (a) and typical g-C_3N_4/Fe_2O_3-2# agglomeration picked out from the crucible.

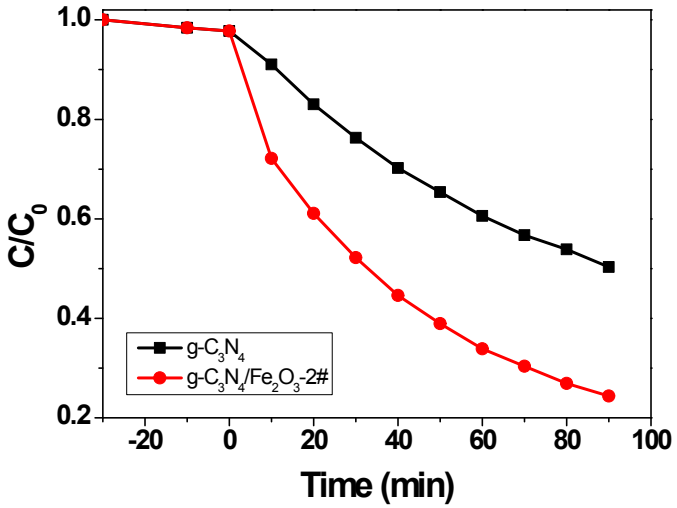

Fig. S4 Visible-light-driven TC degradation of TC in presence of g-C_3N_4 and g-C_3N_4/Fe_2O_3-2#. Experimental conditions: reaction volume: 100 mL, TC concentration: 10 mg/L, catalyst concentration: 0.3 mg/mL.