

Supporting information

Enhancing visible-light photocatalytic activity of g-C₃N₄ by doping phosphorus and coupling with CeO₂ for the degradation of methyl orange under visible light irradiation

Jin Luo, Xiaosong Zhou, Lin Ma, Xuyao Xu*

School of Chemistry and Chemical Engineering, Institute of Physical Chemistry, and
Development Center for New Materials Engineering & Technology in Universities of
Guangdong, Lingnan Normal University, Zhanjiang 524048, China

E-mail: lj328520504@126.com

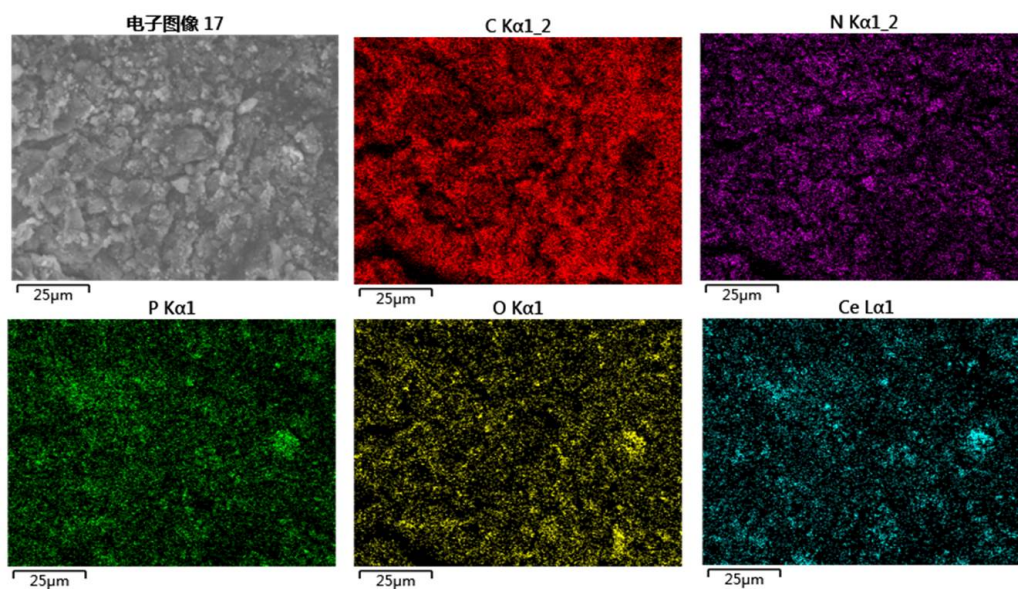


Fig. S1. The elemental mapping image of $\text{CeO}_2(13.8\%)/\text{P-C}_3\text{N}_4$.

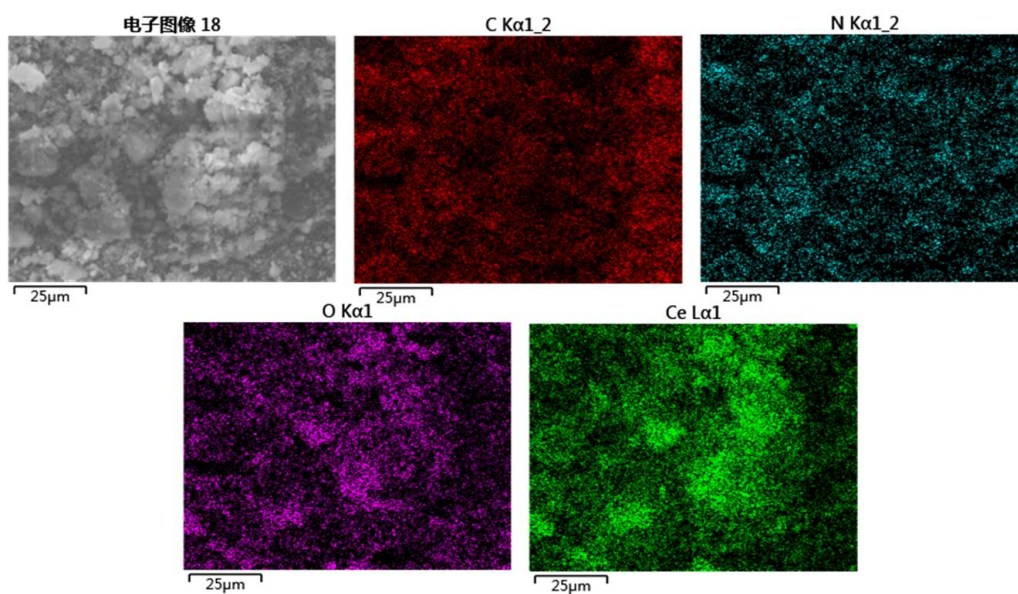


Fig. S2. The elemental mapping image of $\text{CeO}_2(13.8\%)/\text{g-C}_3\text{N}_4$.

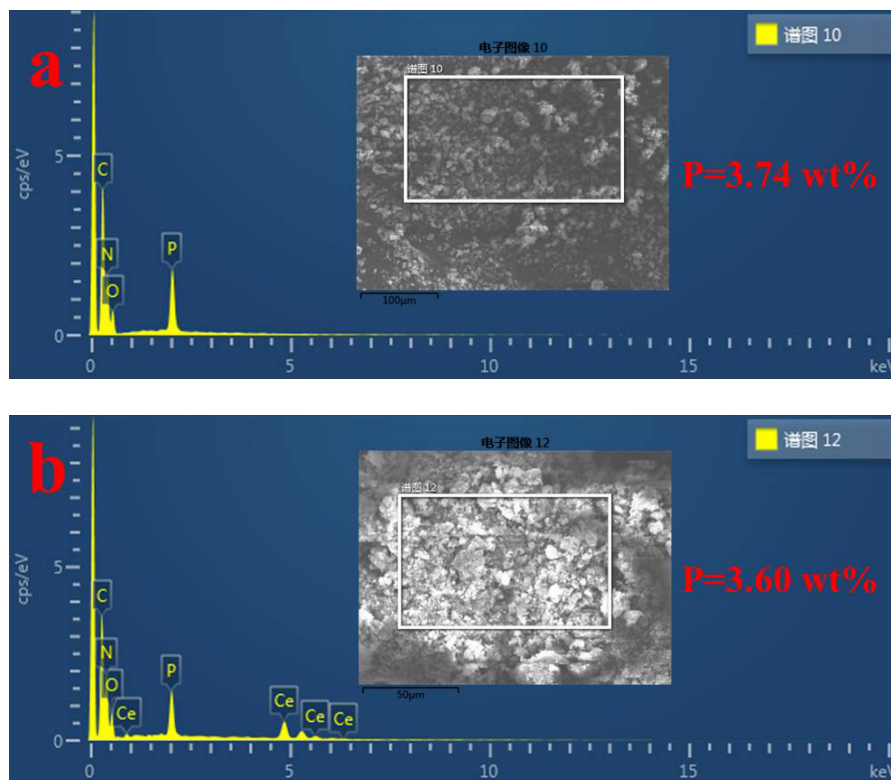
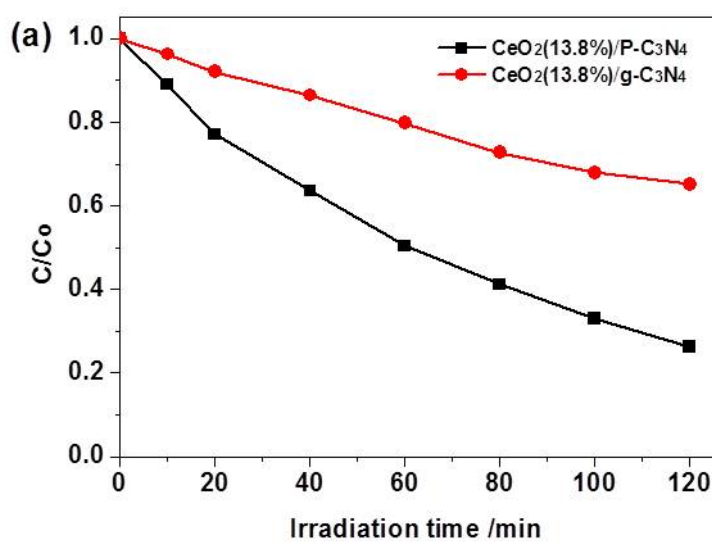


Fig. S3. The EDS of P-C₃N₄ (a) and CeO₂(13.8%)/P-C₃N₄ (b).



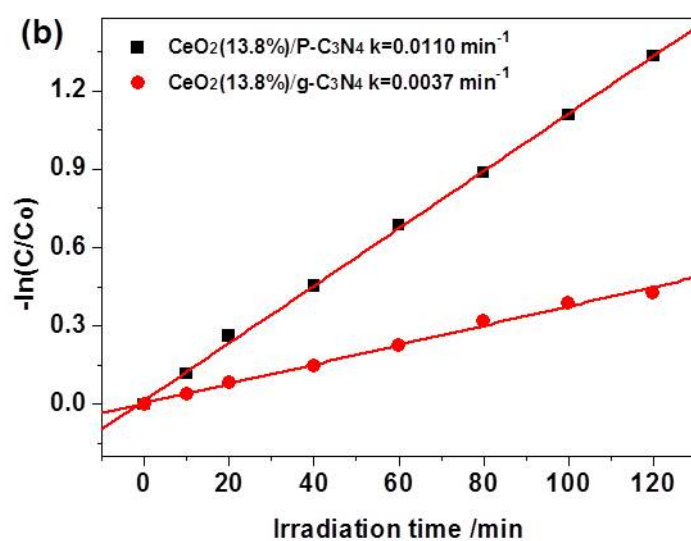
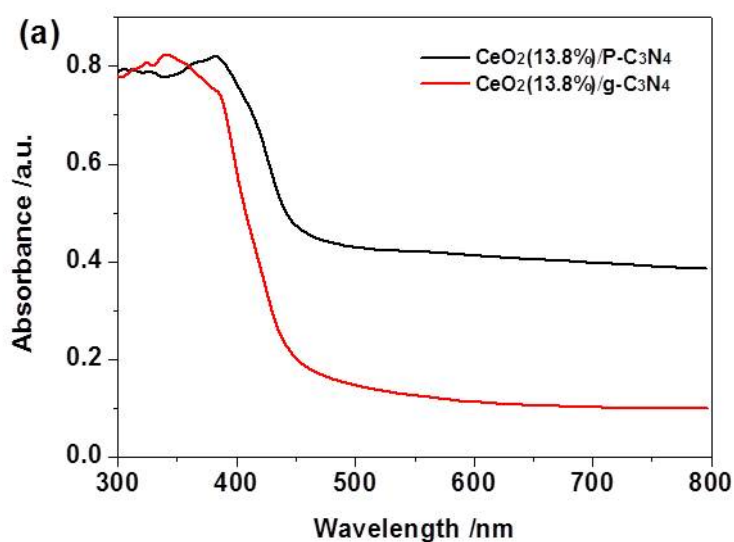


Fig. S4. Photocatalytic activities (a) and first-order kinetics plot (b) of $\text{CeO}_2(13.8\%)/\text{P-C}_3\text{N}_4$ and $\text{CeO}_2(13.8\%)/\text{g-C}_3\text{N}_4$ for the photodegradation of MO in aqueous solution under visible light irradiation.



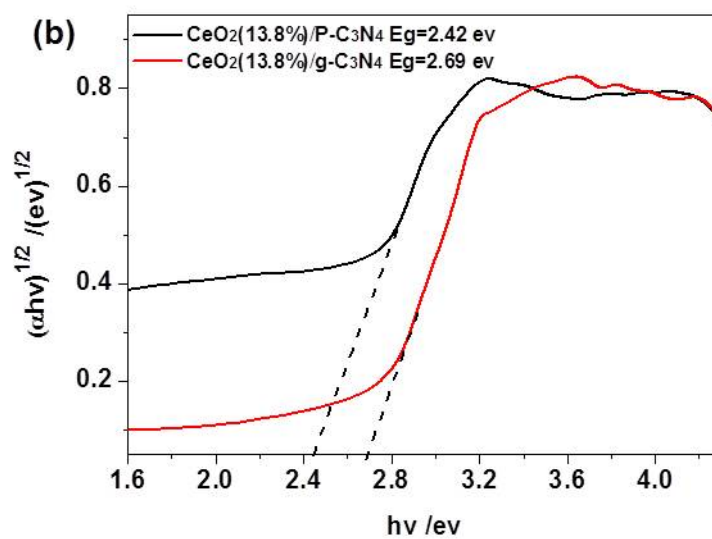


Fig. S5. UV-vis DRS (a) and plots of $(\alpha h\nu)^{1/2}$ vs. photon energy (b) of $\text{CeO}_2(13.8\%)/\text{P-C}_3\text{N}_4$ and $\text{CeO}_2(13.8\%)/\text{g-C}_3\text{N}_4$.

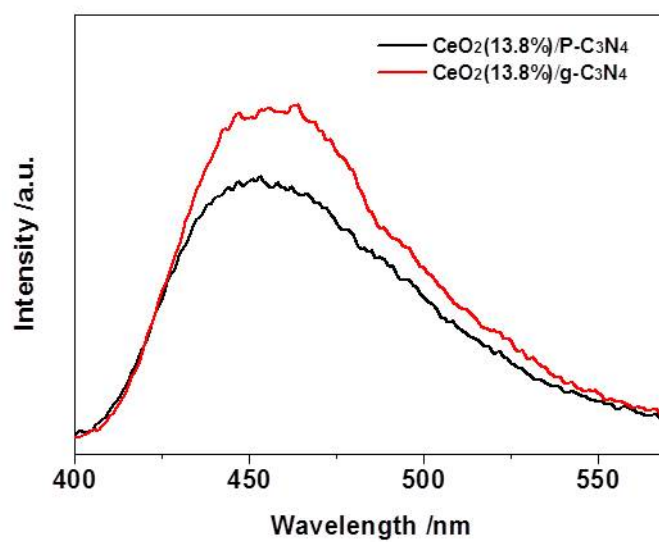


Fig. S6. PL spectra (a) of $\text{CeO}_2(13.8\%)/\text{P-C}_3\text{N}_4$ and $\text{CeO}_2(13.8\%)/\text{g-C}_3\text{N}_4$.