

Electronic Supplementary Information

Cost-effective and eco-friendly synthesis of a novel and stable N-doped ZnO/g-C₃N₄ core-shell nanoplates with excellent visible-light responsive photocatalysis

Santosh Kumar^a, Arabinda Baruah^b Surendar T^a, Bharat Kumar^b, Vishnu Shanker^{a*} and B. Sreedhar^c

^aDepartment of Chemistry, National Institute of Technology Warangal-506004, A.P., India

^bDepartment of Chemistry, Indian Institute of Technology Delhi, New Delhi-110016, India

^cInorganic and Physical Chemistry Division, Indian Institute of Chemical Technology Hyderabad-506004 A.P., India

*Corresponding Author. Tel.: +91-870-2462675; Fax: +91-870-2459547; *E-mail address*: vishnu@nitw.ac.in

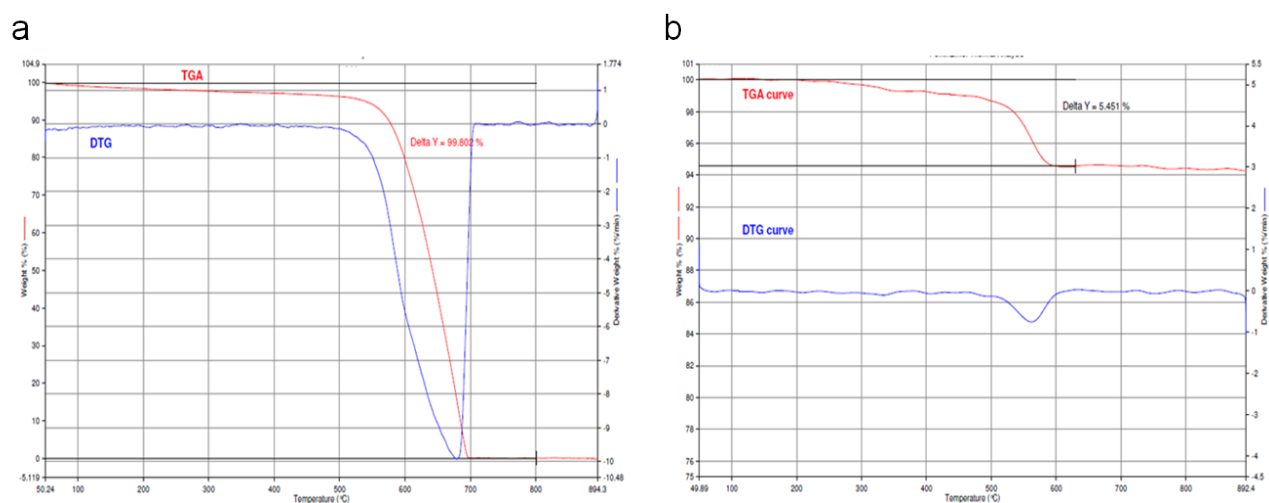


Fig. S1 TG-DTA curves of the prepared g-C₃N₄ (a) and CNZON5 (b) photocatalysts.

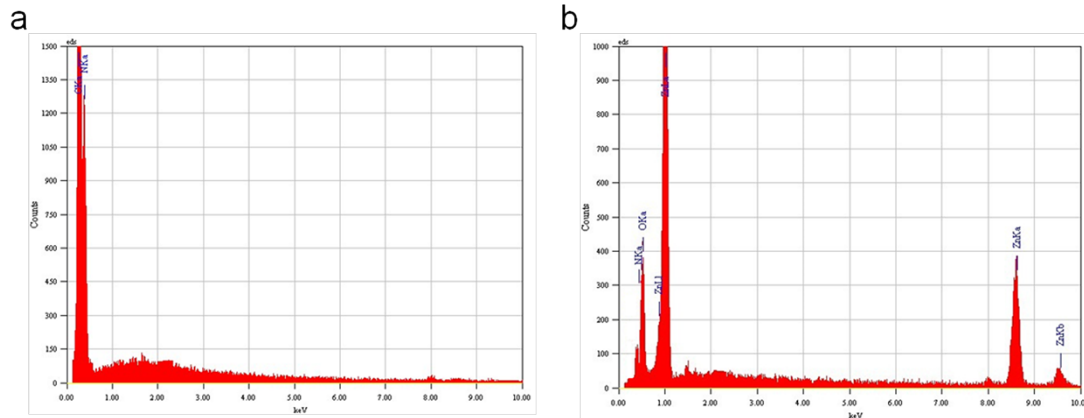


Fig. S2 EDAX spectra of the prepared pure $g\text{-C}_3\text{N}_4$ (a) and N-doped ZnO photocatalysts (b).

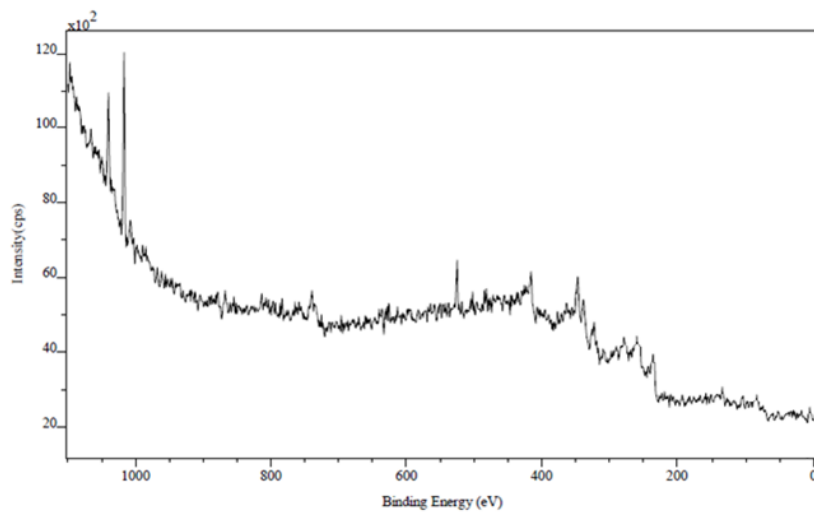


Fig. S3 Survey XPS spectra of N-doped ZnO photocatalyst.

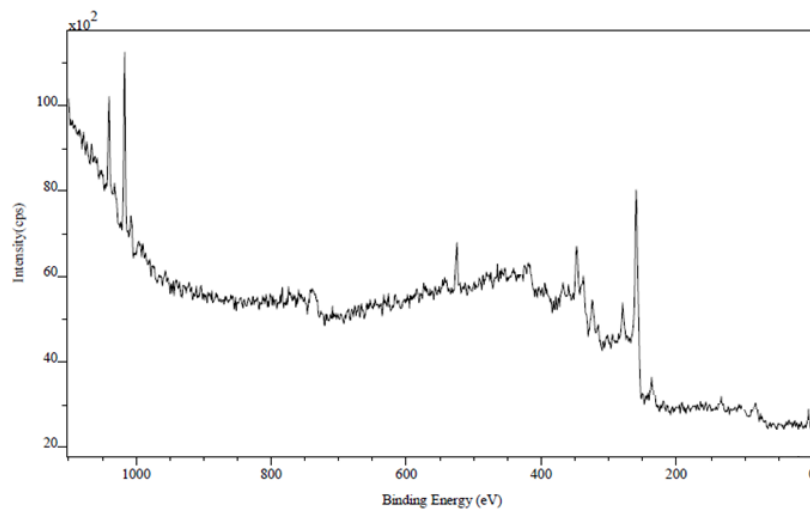


Fig. S4 Survey XPS spectra of CNZON5 photocatalyst.

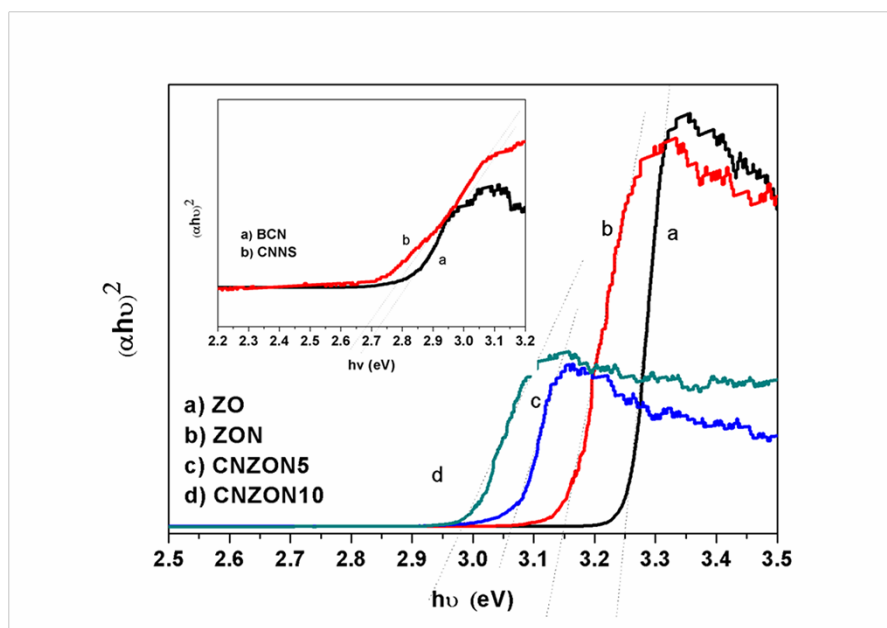


Fig. S5 Determination of the band-gap energy of different photocatalysts from diffuse reflectance measurements (the plotting of square of absorption coefficient multiplied by photon energy $(\alpha hv)^2$ vs. photon energy (hv)). (Inset figure shows the plot of g-C₃N₄ photocatalysts).

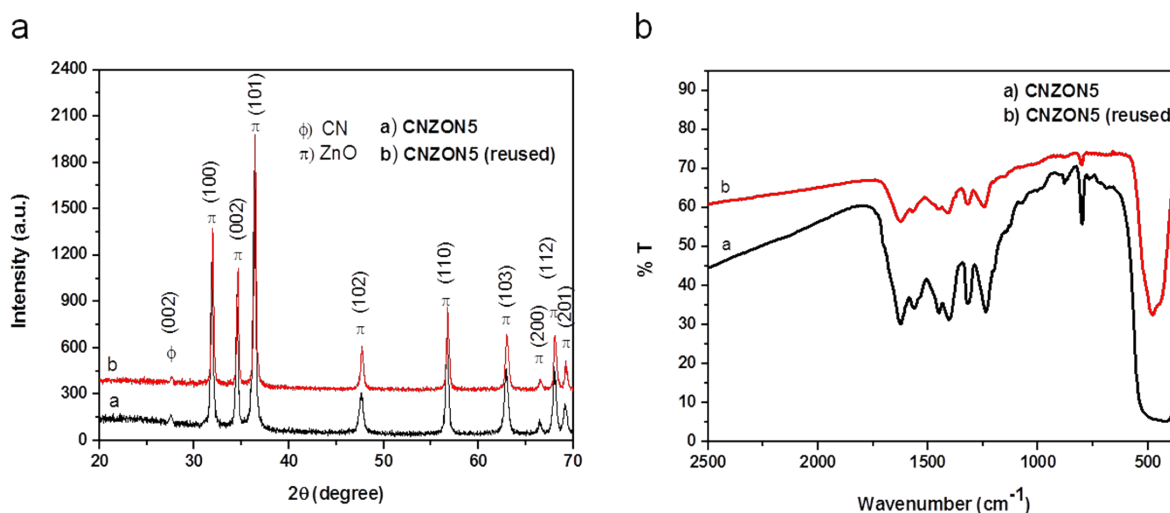


Fig. S6 XRD pattern (a) and FTIR spectra (b) of the reused N-doped ZnO/g-C₃N₄ photocatalyst.