Electronic Supplementary Information

Cost-effective and eco-friendly synthesis of a novel and stable N-doped ZnO/g-C$_3$N$_4$ 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$^c$

$^a$Department of Chemistry, National Institute of Technology Warangal-506004, A.P., India
$^b$Department of Chemistry, Indian Institute of Technology Delhi, New Delhi-110016, India
$^c$Inorganic 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

![Electronic Supplementary Material (ESI) for Nanoscale. This journal is © The Royal Society of Chemistry 2014](image)

Fig. S1 TG-DTA curves of the prepared g-C$_3$N$_4$ (a) and CNZON5 (b) photocatalysts.
Fig. S2 EDAX spectra of the prepared pure g-C$_3$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 \((\alpha h\nu)^2\) vs. photon energy \((h\nu)\)). (Inset figure shows the plot of g-C_3N_4 photocatalysts).

Fig. S6 XRD pattern (a) and FTIR spectra (b) of the reused N-doped ZnO/g-C_3N_4 photocatalyst.