**Electronic Supplementary Information**

# Synthesis of $MoS_2$ nanosheets supported Z-scheme $TiO_2$/g-$C_3N_4$ photocatalysts for the enhanced photocatalytic degradation of organic water pollutants

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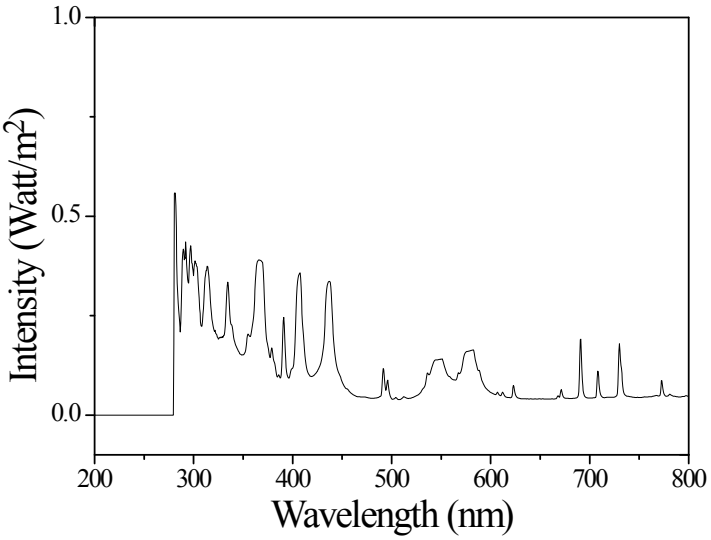


Fig.S1. Spectral distribution of the light source

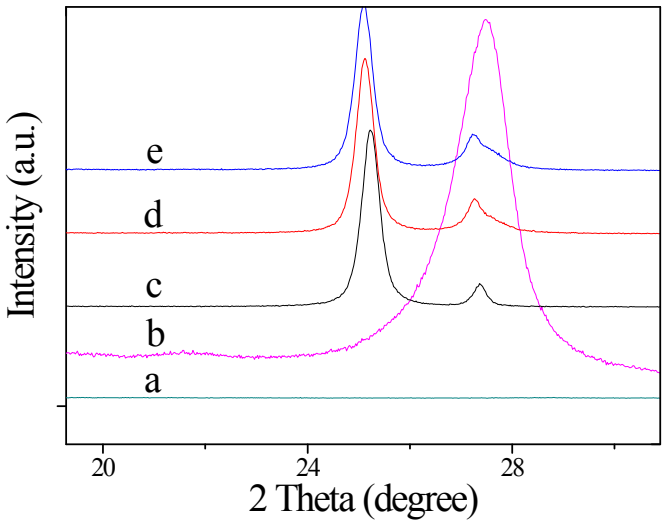


Fig. S2. XRD patterns for $MoS_2$ nanosheets (a), g-$C_3N_4$ nanosheets (b), P25-$TiO_2$ nanoparticles (c), binary nanocomposite (10%g-$C_3N_4$/$TiO_2$)(d), and ternary nanocomposite (10%g-$C_3N_4$/$TiO_2$/$MoS_2$(0.5%))(e)

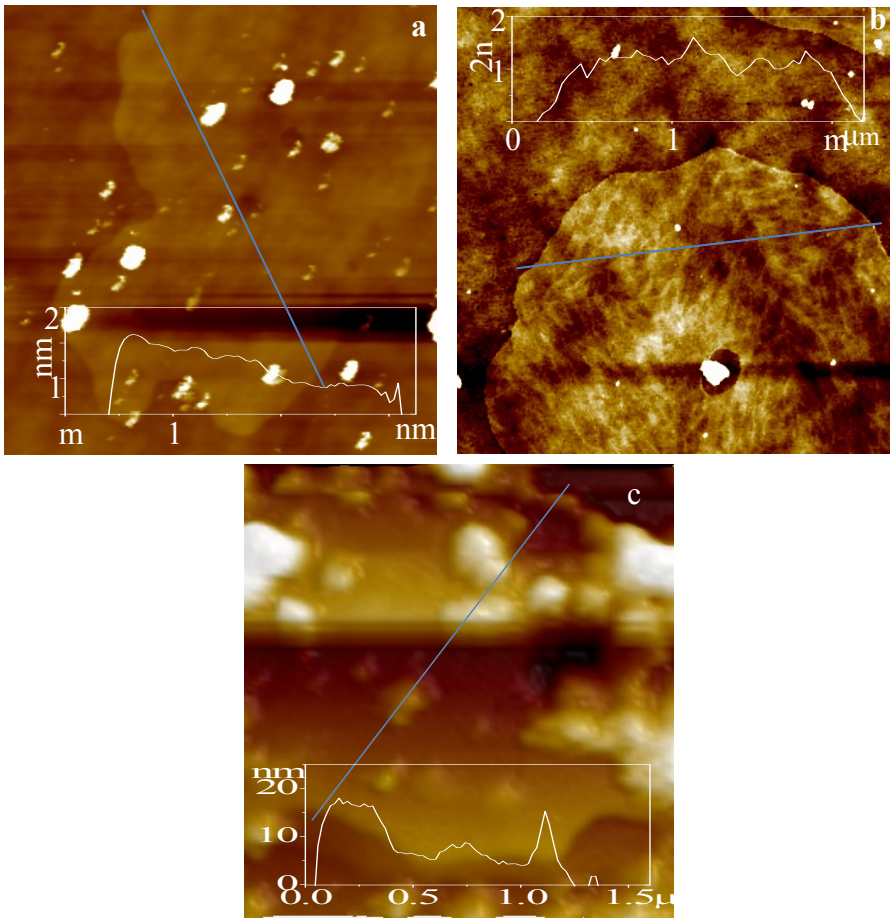


Fig. S3 AFM images of g-$C_3N_4$ nanosheets (a), $MoS_2$ nanosheets (b) and ternary nanocomposite(c)

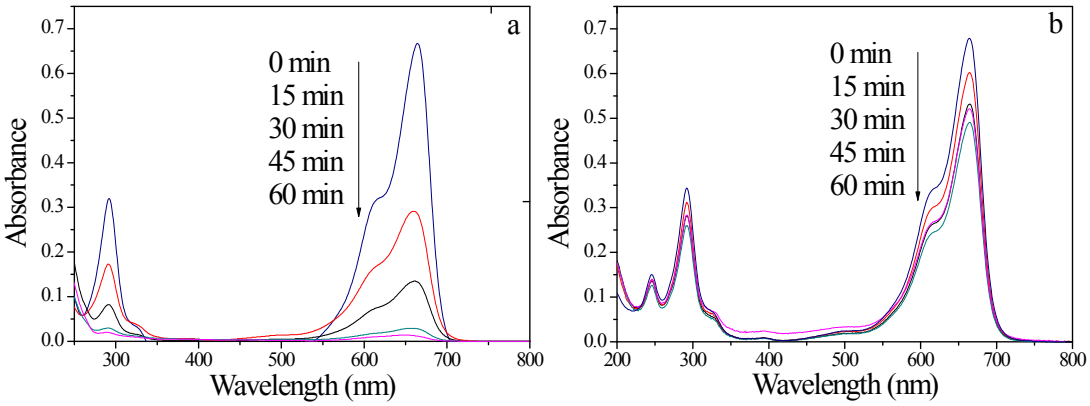


Fig. S4. UV-visible degradation spectra of MB using the ternary nanocomposite (a) and photolysis in the absence of photocatalyst (b).

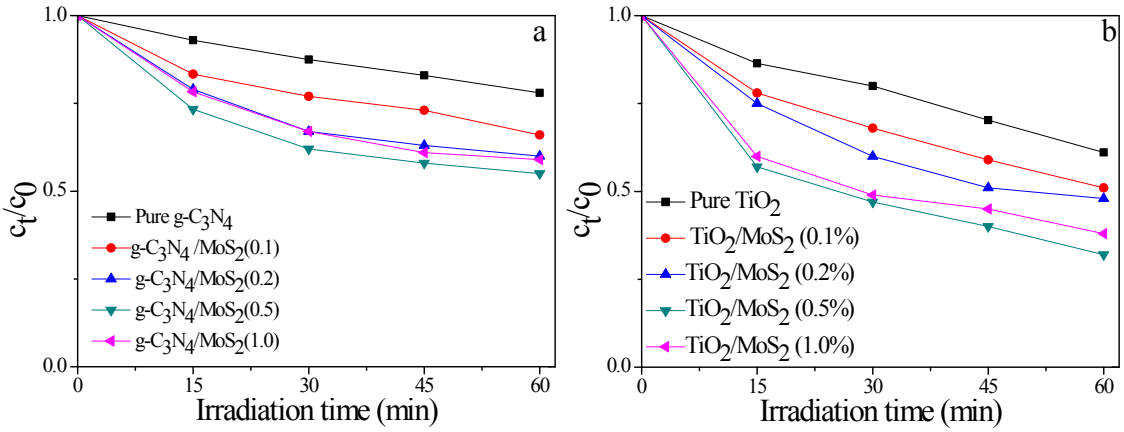


Fig. S5**.** Degradation of MB using g-$C_3N_4$/$MoS_2$ composites (a) and $TiO_2$/$MoS_2$ composites (b) after 60 min of light illumination.

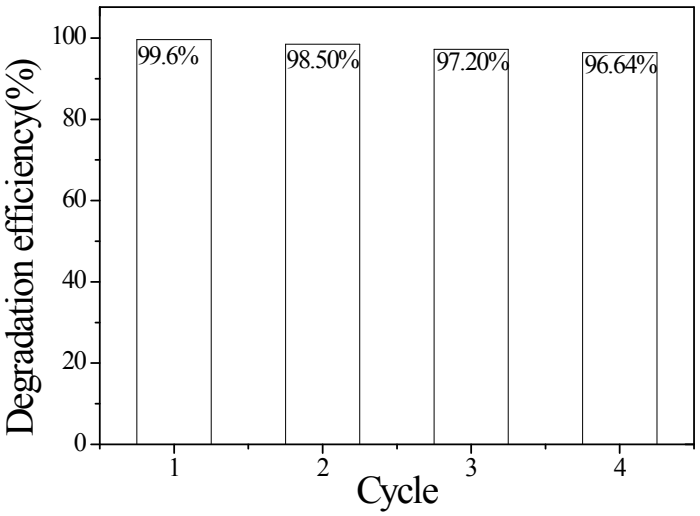


Fig. S6. Stability study for the degradation of MB using the optimized ternary nanocomposite (10%g-$C_3N_4$/$TiO_2$ /$MoS_2$(0.5%)) after 60 min light illumination.

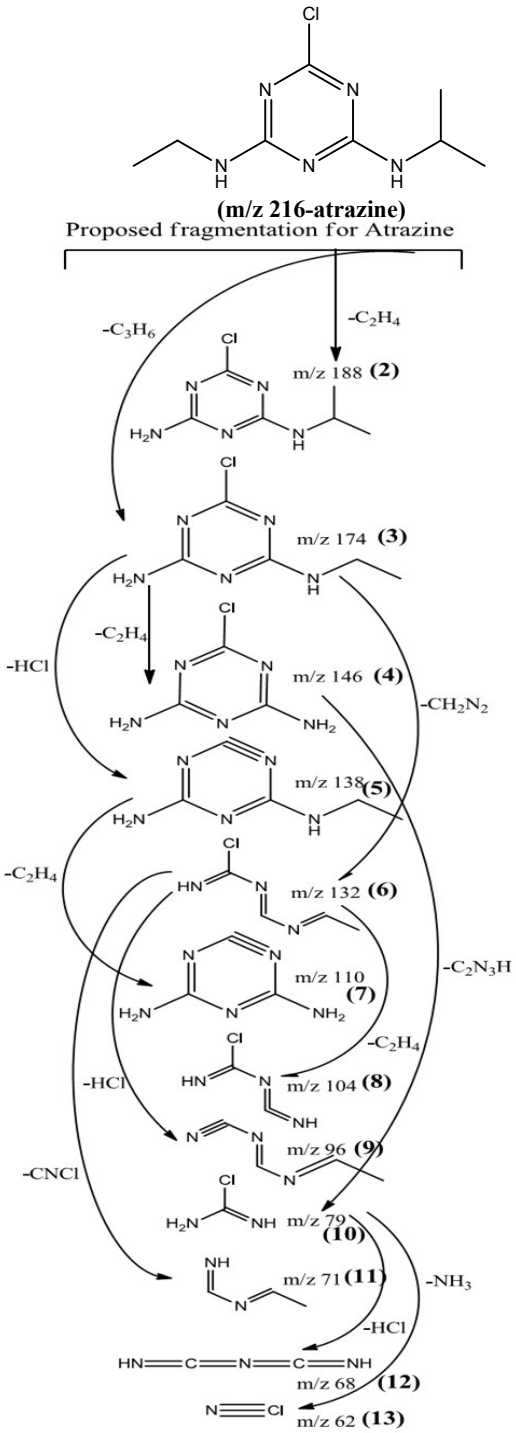


Fig.S7. Proposed fragmentation pattern of atrazine (derived from mass spectrum of pure solution)

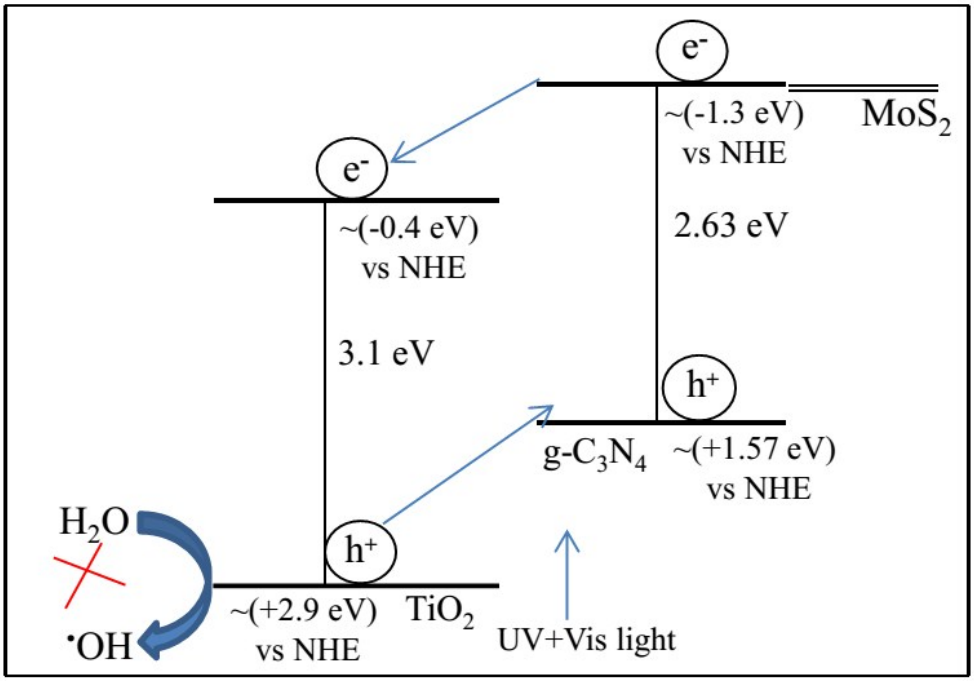


Fig.S8. Schematic representation of heterojunction (Ternary nanocomposite)