Electronic Supplementary information (ESI)

Nanostructured BN-TiO_2 composite with ultra-high photocatalytic activity

Bikramjeet Singh[a], Gurpreet kaur[a], Paviter Singh[a], Kulwinder Singh[a], Jeewan Sharma[a], Manjeet Kumar[b], Rajni Bala[c], Ramovatar Meena[d], Saurabh k Sharama[e] Akshay Kumar[a]*

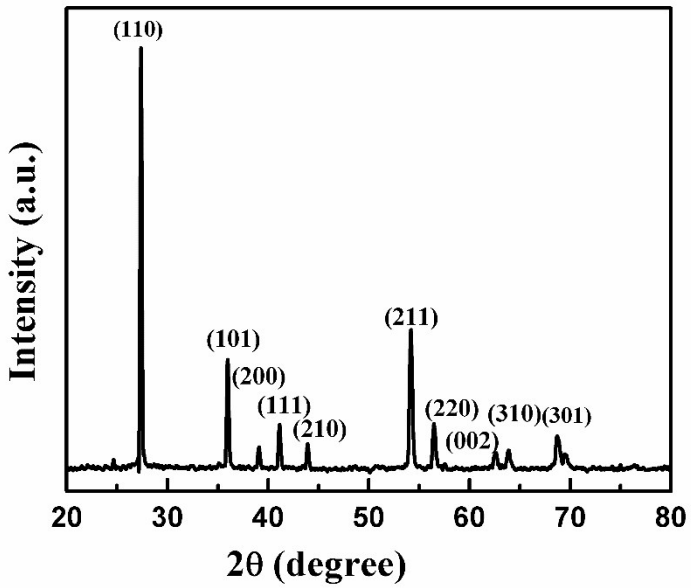
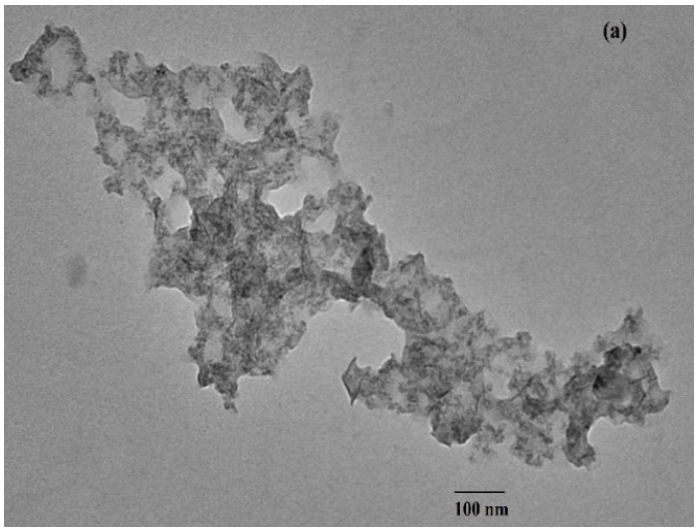
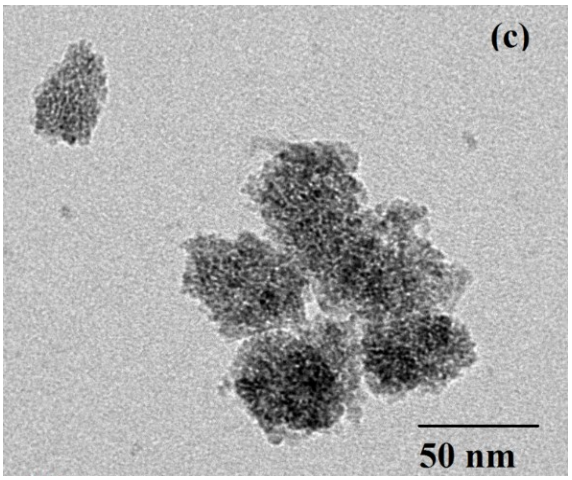


Fig. S1 XRD pattern of TiO_2





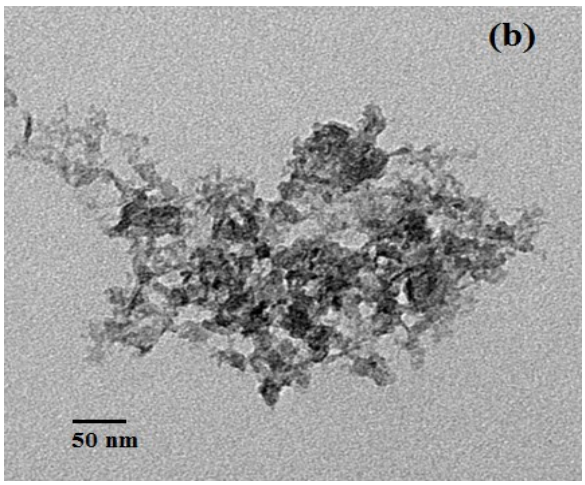


Fig. S2 TEM image of (a) boron nitride, (b) TiO_2, (c) BN-TiO_2.

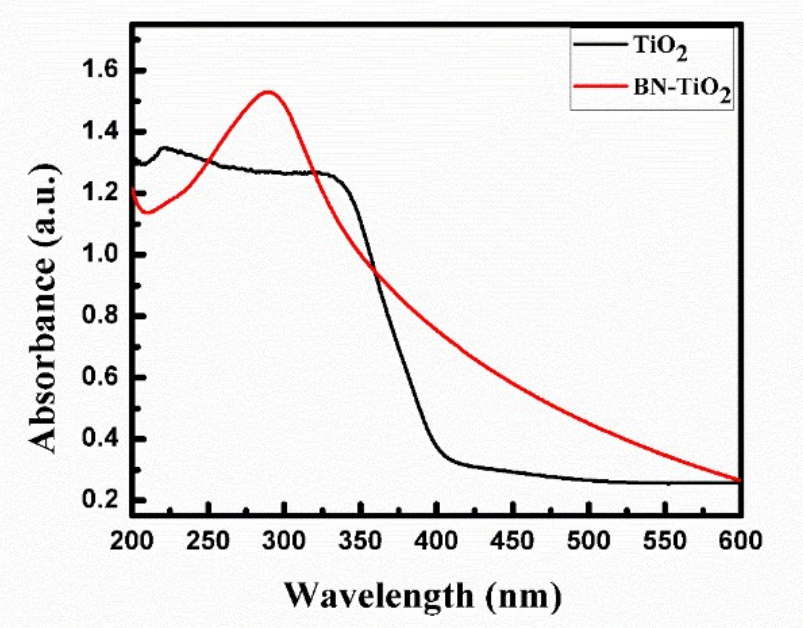


Fig. S3 UV-Vis absorption spectra of TiO_2 nanoparticles and BN/TiO_2 composite.

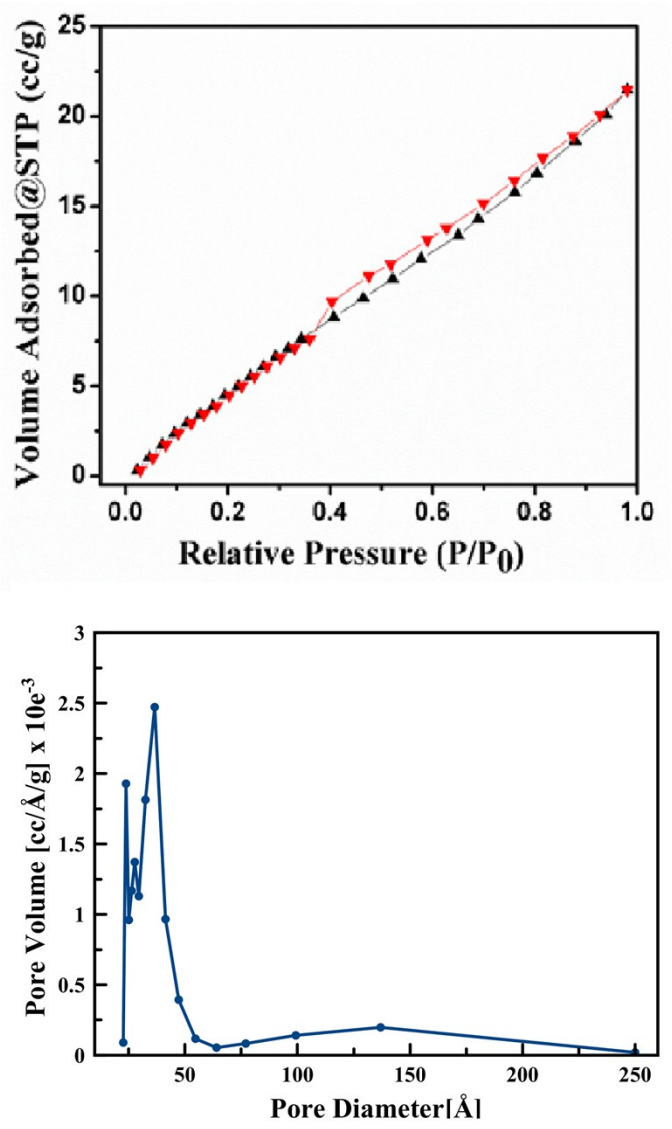


Fig. S4 N_2 adsorption/desorption isotherms and pore size distribution of BN.

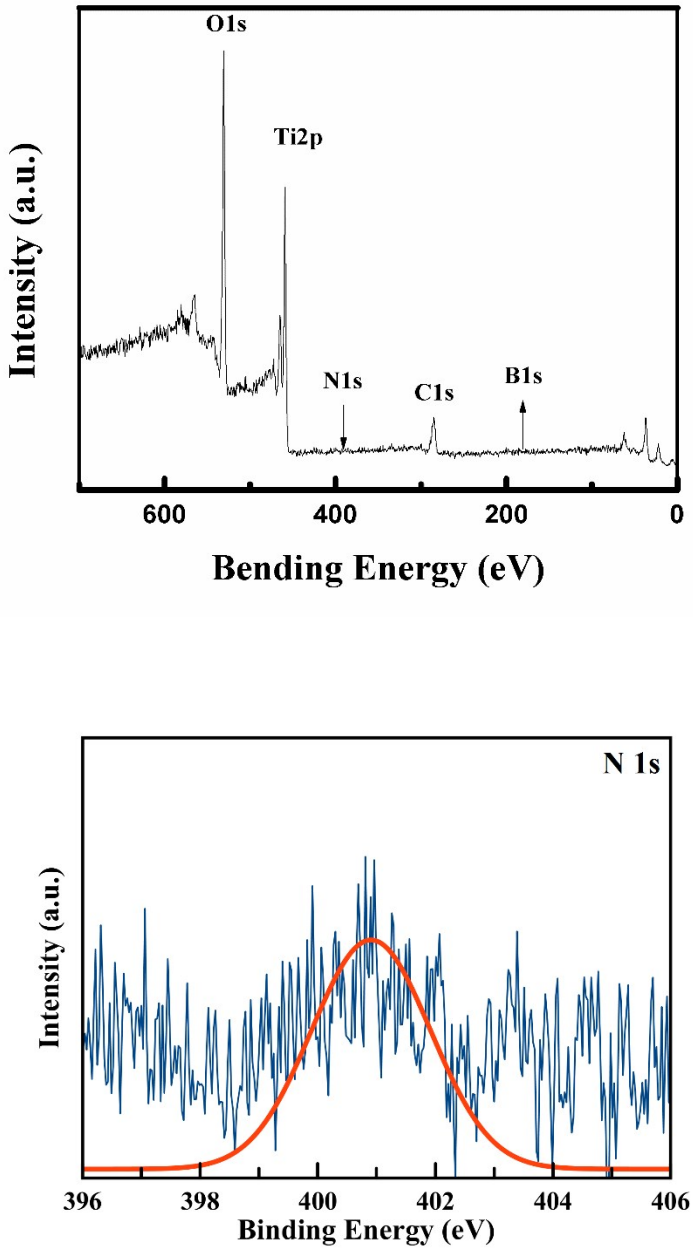


Fig. S5 XPS spectra of BN-TiO_2 composite and the high-resolution XPS spectra of N 1s

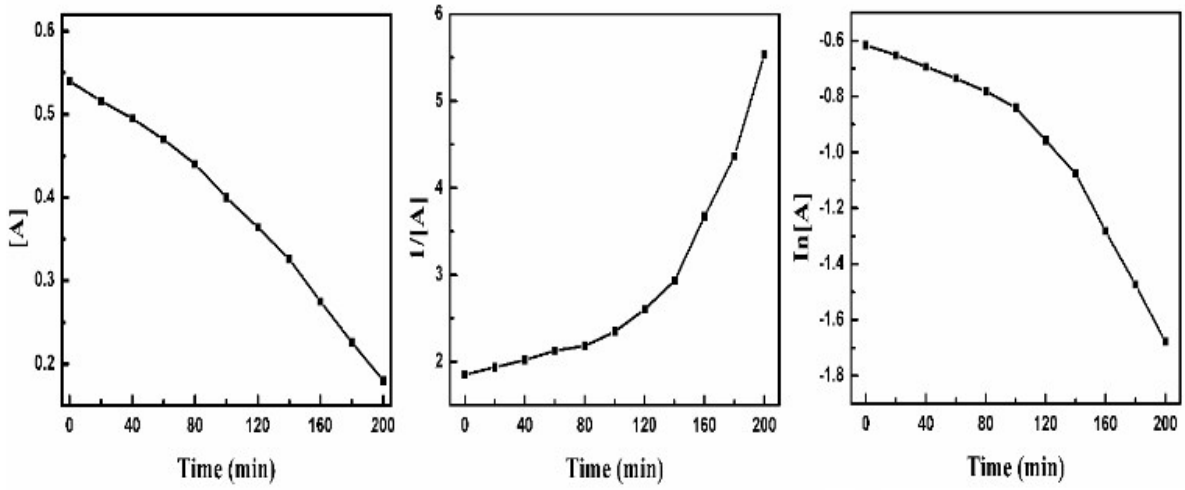


Fig. S6 Pseudo-Zero-order reaction kinetics for BN-TiO_2 composite

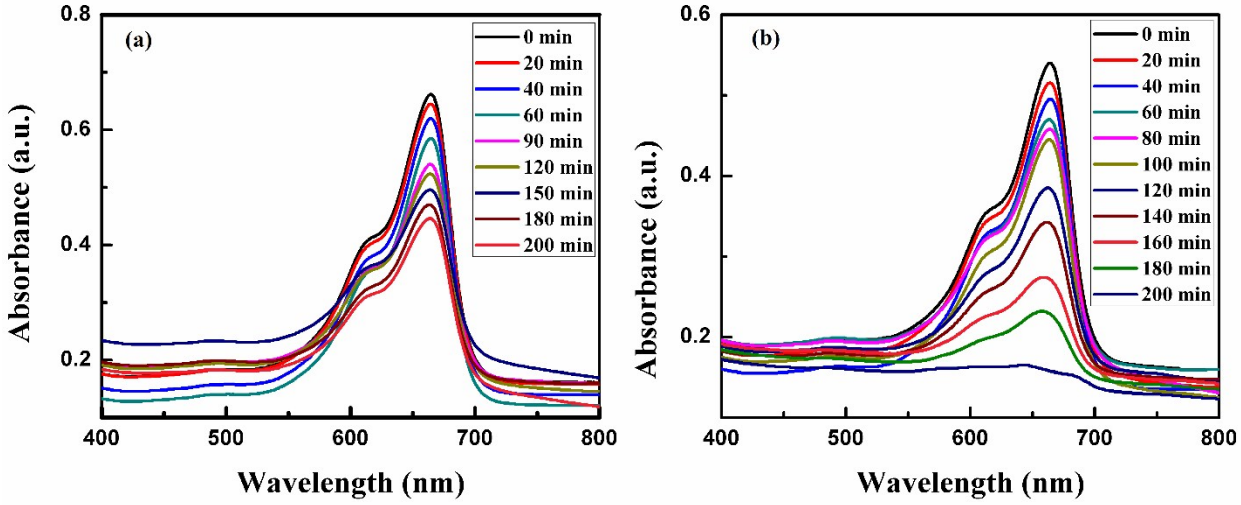


Fig. S7 UV-visible spectral changes of photodegradation of MB using (a) TiO_2 and (b) BN-TiO_2 as catalyst

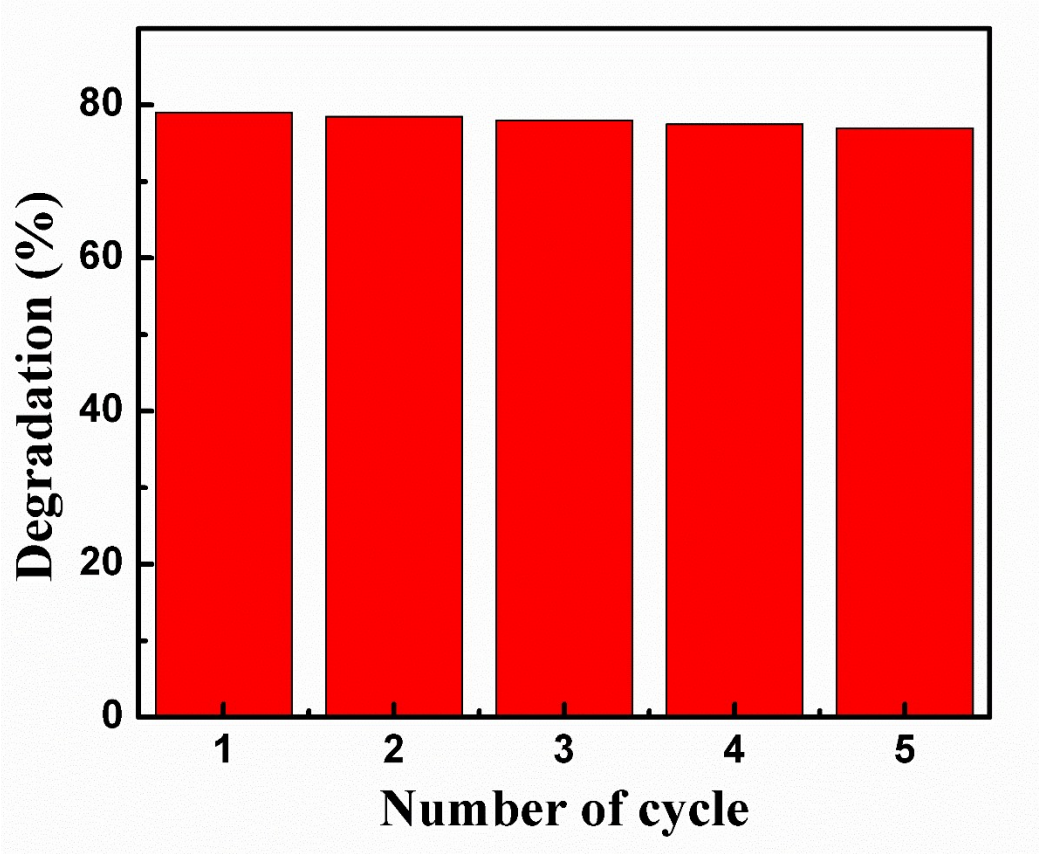


Fig. S8 Stability test of BN/TiO_2 for methylene blue (MB) up to 5 cycles.