

Fig. S1 TEM images of zinc acetate-tartaric acid (1:1) gels (a) & (b) [200 °C/3h].

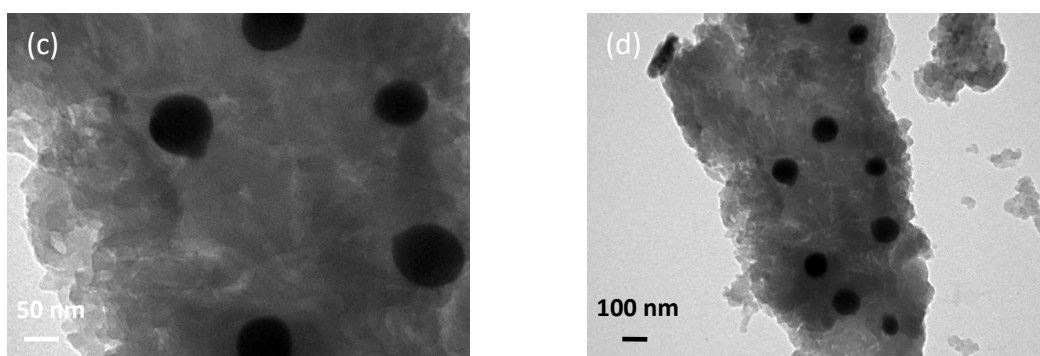


Fig. S2 TEM images of zinc acetate-tartaric acid (1:1) gels (c) & (d) [300 °C/3h].

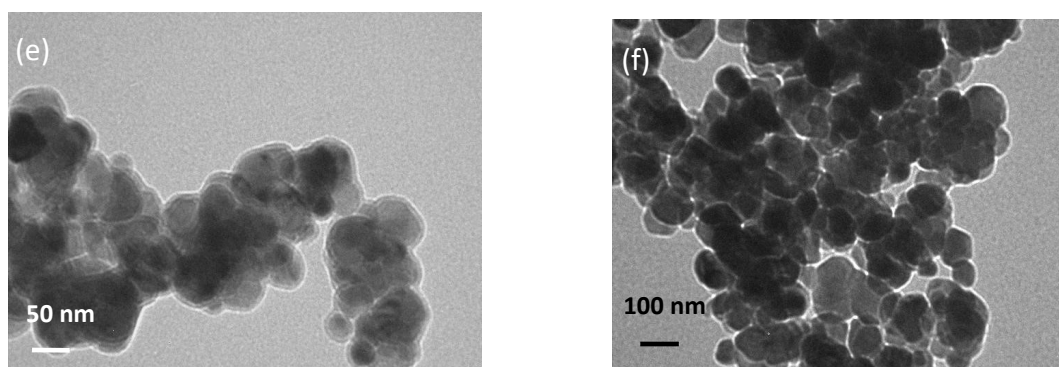


Fig. S3 TEM images of zinc acetate-tartaric acid (1:1) gels (e) & (f) [400 °C/3h].

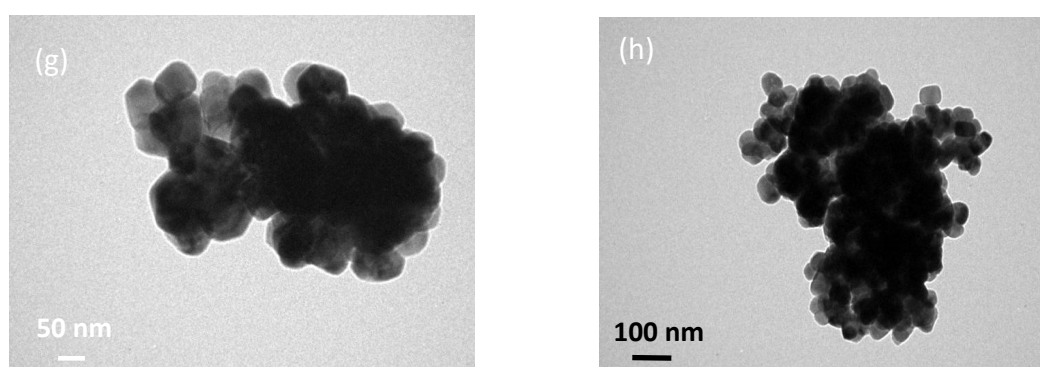


Fig. S4 TEM images of zinc acetate-tartaric acid (1:1) gels (g) & (h) [500 °C/3h].

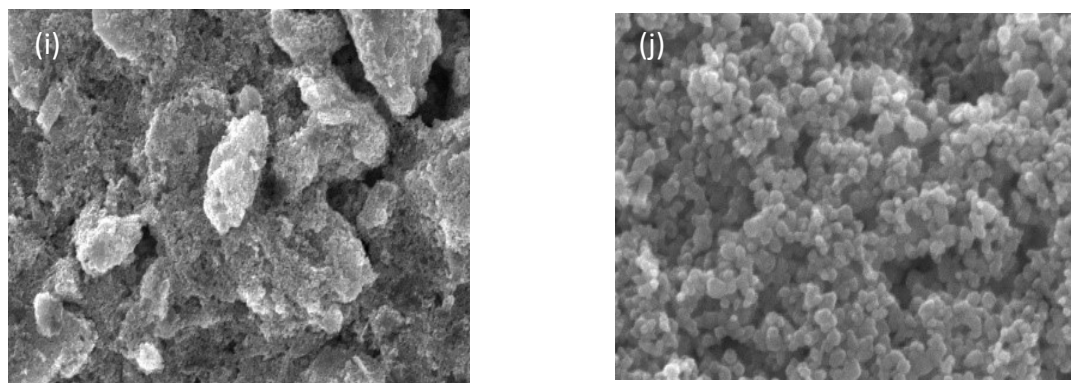
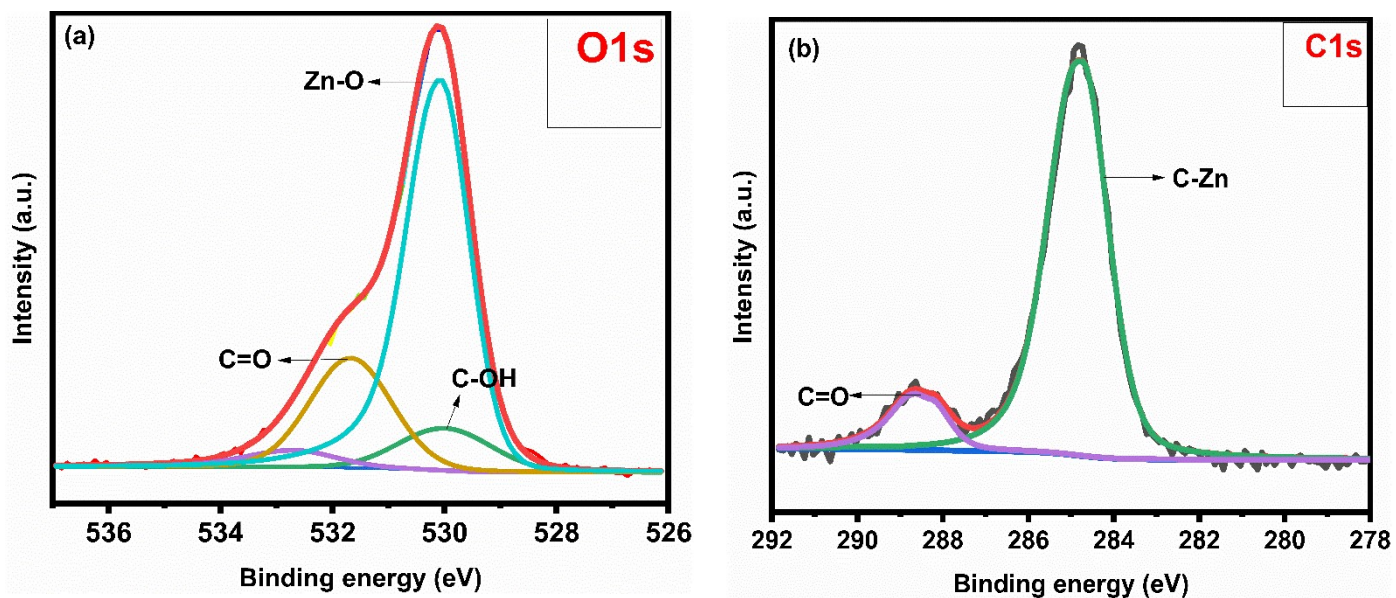


Fig. S5 SEM images of C-doped zinc oxide nanoparticles at low (a) and high (b) magnifications.



Fig. S6 Photographic images a) C-ZnO b) N-ZnO & c) S-ZnO gel sample.



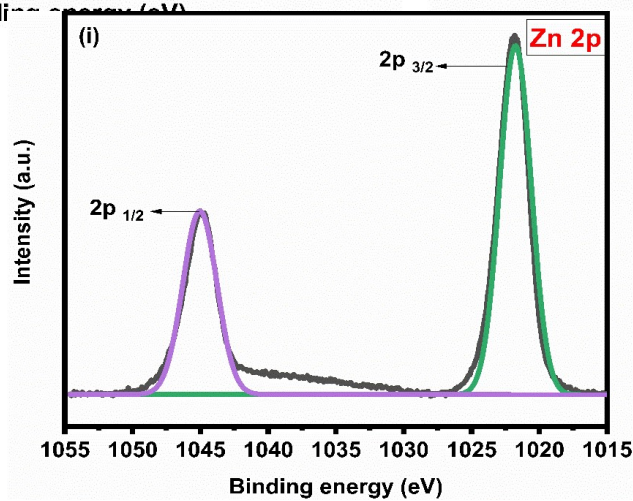
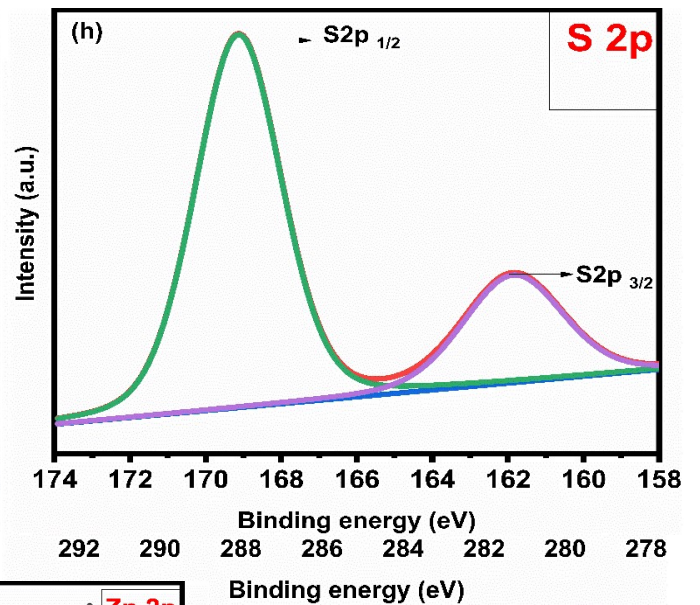
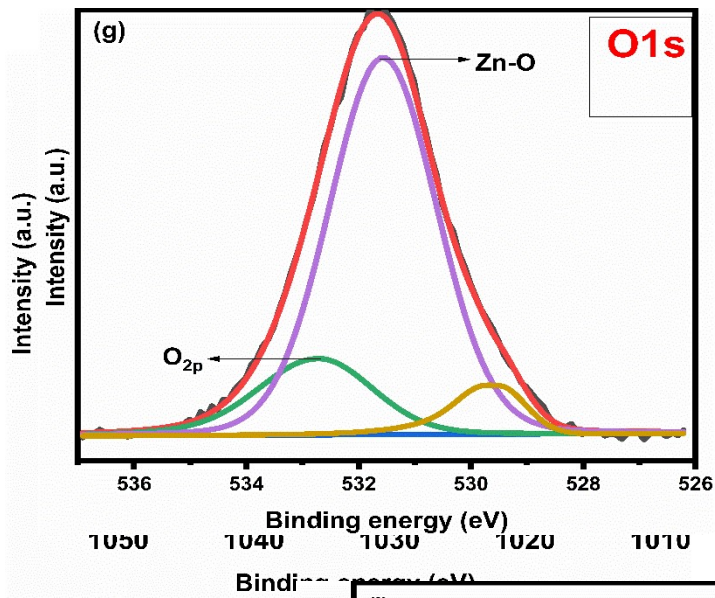
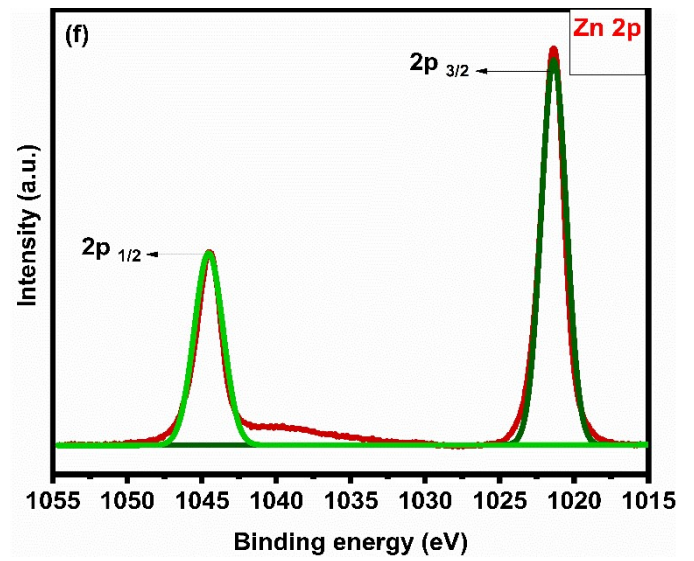
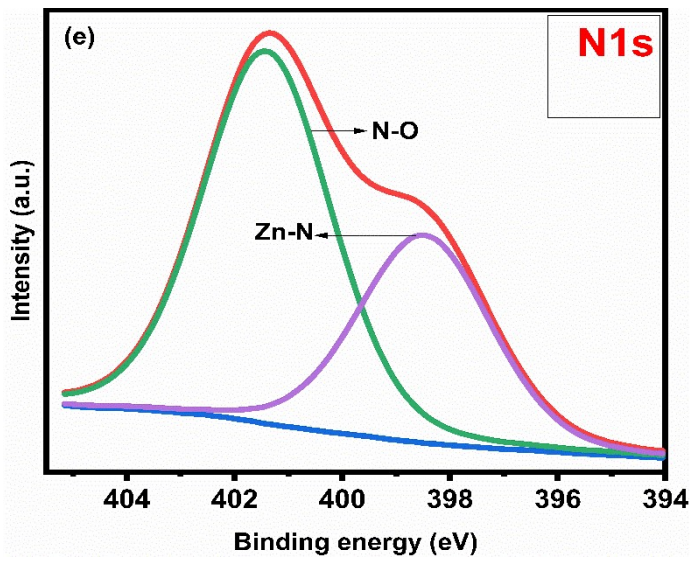


Fig. S7 High-resolution XPS spectra of (a) O1s, (b) C1s & (c) Zn 2p of C-ZnO. (d) C1s, (e) N1s and (f) Zn 2p of N-ZnO, (g) O1s, (h) C1s and (i) Zn 2p of S-ZnO.

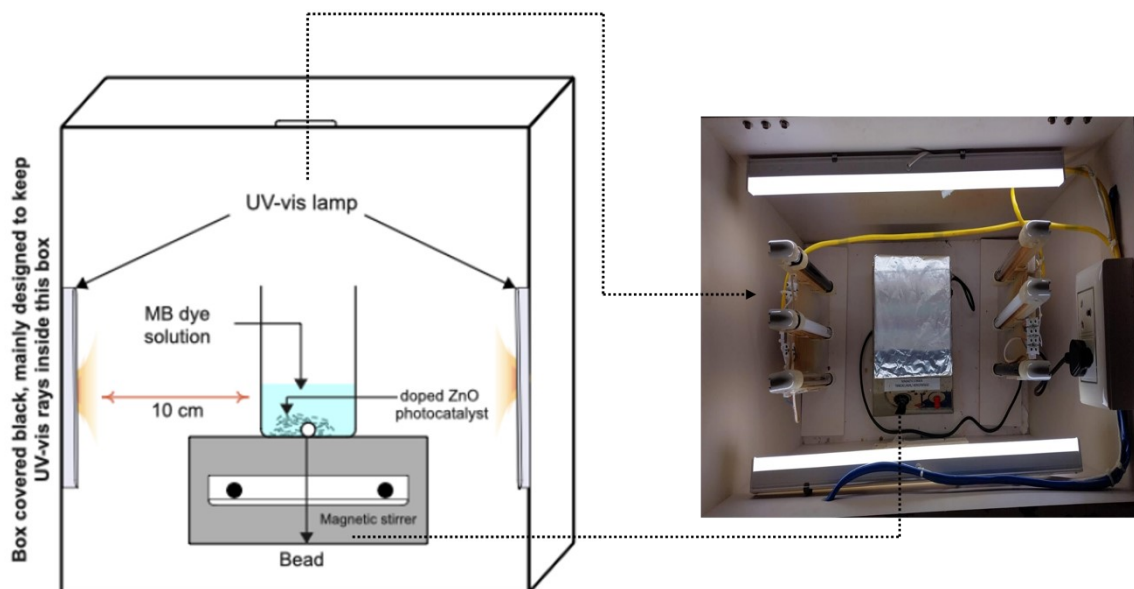


Fig. S8 Image of the photoreactor used for the photocatalytic degradation of MB.

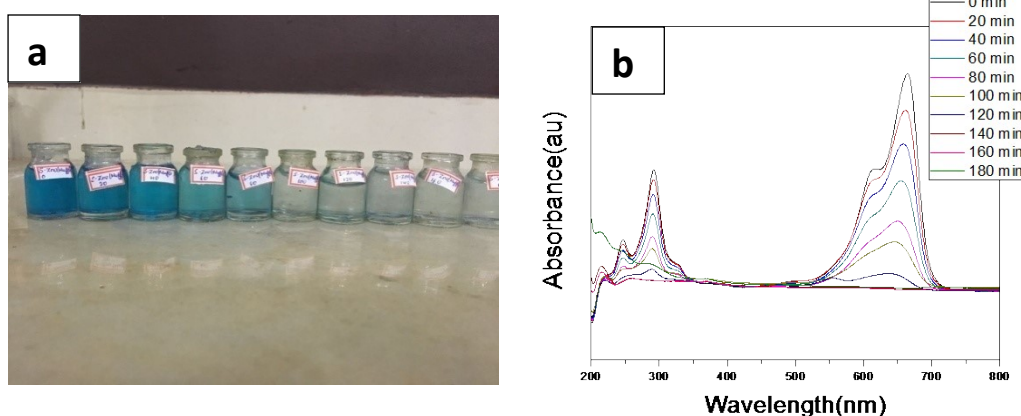


Fig. S9 Representative images of the photocatalytic degradation of methylene blue (a) and the degradation profile taken using UV-vis. spectrophotometer (b) for the S-doped ZnO samples.

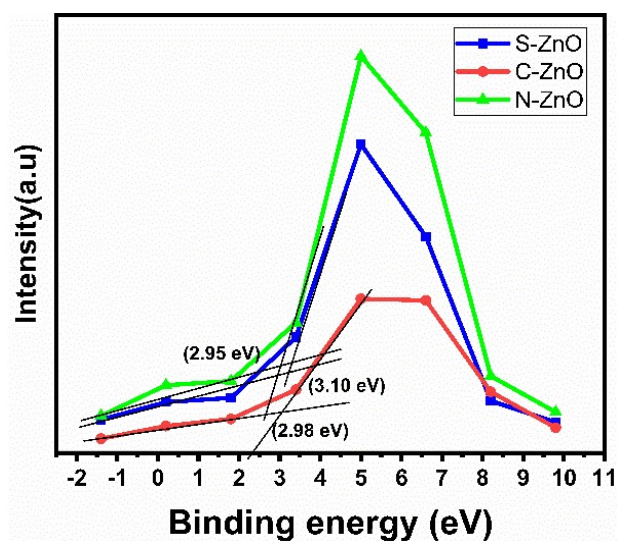


Fig. S10 Valence Band (VB) energy levels from XPS spectra.

Table S1 Apparent rate constant (k) and R^2 value for degradation of MB in the presence of doped (C, N and S) and undoped ZnO Nanoparticles.

Photocatalysts	$k \times 10^{-2} \text{ (min}^{-1}\text{)}$ (k_{apparent})	R^2 (correlation coefficients)
C-ZnO	1.392	0.99566
N-ZnO	1.951	0.99761
S-ZnO	2.271	0.99902
ZnO (Standard)	0.830	0.92060