



Figure S1. Physicochemical characterization of ZnO NPs and TiO₂ NPs and Zn ions released from the exposure concentration of ZnO NPs dispersed in M4 medium (A and B). Transmission electron microscope images of ZnO NPs and TiO₂ NPs (C and D). Absorption spectra of ZnO NPs under UVA and UVB (E and F). Absorption spectra of TiO₂ NPs under UVA and UVB, as a function of UV irradiation in M4 medium at 10 mg/L NPs (G and H). Zn ions released from the exposure concentrations of ZnO NPs at 0 and 48 hours. ZnO NPs, zinc oxide nanoparticles; TiO₂ NPs, titanium dioxide nanoparticles; Zn, zinc; UV, ultraviolet. * $p < 0.05$ significant differences from visible light at the same exposure concentrations.