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## ABSTRACT

Photo-catalysis serves as promising technique while exhibiting remarkable ability in removing contaminants especially organic pollutants from polluted waste water. Facile approach towards synthesis of both zinc ferrite nanoparticles ( $\text{ZnFe}_2\text{O}_4$ -NPs) as well as S-doped  $\text{g-C}_3\text{N}_2/\text{ZnFe}_2\text{O}_4$ - nanocomposites with variable S-doped  $\text{g-C}_3\text{N}_2$  amounts has been represented using Sol-gel methodology and tested for photo-catalytic activity. Both prepared NPs and nan-composites have been characterized using X-ray diffraction (XRD) and Fourier Transform Infrared spectroscopy (FTIR) characterization techniques. Photo-catalytic activity of prepared S-doped  $\text{g-C}_3\text{N}_2/\text{ZnFe}_2\text{O}_4$ -nanocomposites has been tested against model pollutant dye i.e. Methylene blue degradation and monitored spectrophotometrically. Solar light as light source has been used for irradiation purposes. Degradation of waste water pollutants especially dyes by mentioned nanocomposites as photo-catalysts highlights as attractive candidates.