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## ABSTRACT

Plants have always been an important specie in synthesizing bio-chemical products, via different routes of methodology. In recent years, synthesis of nanoparticles via green method is the most famous topic of concern. The present work is a piece of puzzle in this field, and describes synthesis of metal oxide nanoparticles from *Coriandrum sativum*, structural and morphological characterization, and their use in forensic fingerprint enhancement. ZnO nanoparticles were synthesized by adopting green method and characterization was done using UV-VIS spectroscopy, FTIR spectroscopy and Scanning electron microscopic analysis. Product synthesis was confirmed by UV peak and FTIR bands revealed the presence of phytochemical's functional groups along with ZnO band. Particle size of 50-100nm with wurtzite structure was seen in the SEM analysis. Efficient florescence property of ZnO nanoparticles proved them to be a good option for forensic fingerprints enhancement. Besides all these outcomes, it was found to be an eco-friendly, low-cost, non-toxic and effective approach for the green synthesis of nano range particles.