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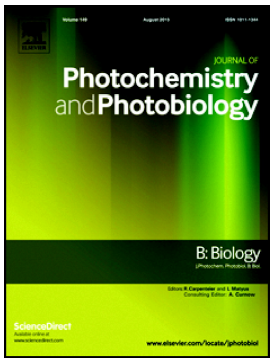

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Biosynthesis and characterization of Copper oxide nanoparticles and its anticancer activity on human colon cancer cell lines (HCT-116)

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A B S T R A C T

The eco-friendly synthesis of nanoparticles through green route from plant extracts have renowned a wide range of application in the field of modern science, due to increased drug efficacy and less toxicity in the nanosized mediated drug delivery model. In the present study, our research groups have biosynthesized the stable and cost effective copper oxide nanoparticles (CuO NPs) from the leaves of (*Ormocarpum cochinchinense) O. cochinchinense.* The synthesis of crystalline CuO NPs from the leaf extract of *O. cochinchinense* were confirmed by various analytical techniques like UV-Visible Spectroscopy (UV-Vis), Fourier-Transform Infrared Spectroscopy (FT-IR), X-Ray Diffractometer (XRD), Scanning Electron Microscopy (SEM), Transmission Electron Microscopy (TEM) and Selected Area Electron Diffraction (SAED) pattern. Further the synthesized CuO NPs were screened for anticancer activity on human colon cancer cell lines (HCT-116) by MTT (3-(4,5-dimethyl-2-tiazolyl)-2,5-diphenyl-2-tetrazolium bromide) assay. The obtained result inferred that the synthesized CuO NPs demonstrated high anticancer cytotoxicity on human colon cancer cell lines (HCT-116) with IC_{50} value of 40 µg mL^{-1} were discussed briefly in this manuscript.

Keywords: Ecofriendly, *Ormocarpum cochinchinense*, CuO NPs, Cytotoxicity