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(57) Abstract :
The present invention relates to the field of nanotechnology and specifically addresses the synthesis of metal oxide nanoparticles using Cocos nucifera L extract as a reducing and stabilizing agent. The invention introduces a novel approach to nanoparticle synthesis by utilizing baby coconut extract and a simplified, chemical reagent-free method. The synthesized nanoparticles demonstrate enhanced functionality and potential applications. The invention aims to evaluate the anti-cancer activity of these nanoparticles against melanoma cells, optimize synthesis parameters for reproducible production, and assess their cytotoxicity and biocompatibility. Characterization techniques such as GC-MS analysis, UV-Vis spectroscopy, X-ray diffraction (XRD), and electron microscopy are employed to study the nanoparticles' properties. The invention presents a comprehensive and environmentally friendly approach to nanoparticle synthesis, providing valuable contributions to the field

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