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Green Synthesis and Characterization of Zinc Nanoparticle using *Aegle marmelos* leaf Extract

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Abstract : *Aegle marmelos* is noted for its meritable medicinal as well as commercial usages. From the past until now, it has been used as a promising remedy for several ailments. Recently, the concept of nanotechnology has astonishingly changed its outlook for biomedical applications. Nanotechnology has revolutionized several fields with its admirable capabilities and ground-breaking innovations. In the field of medicine, nanostructured materials have introduced a great range of flexibility by refashioning traditional practices and also by exploring new effective approaches. Accordingly, the usage of *Aegle marmelos* in the form of nanoparticles, nanocomposites, nanofibers, hydrogels, and bio-inspired sponges has unlimited its well recognized application spectrum in the fields of wound healing, tissue engineering and drug delivery. In addition, the growing interest in consuming and synthesizing materials based on green or eco-friendly methods also highly encourages the use of numerous plant-based natural products including *Aegle marmelos*. Hence, an effort has been made to discuss the works related to recent advancements made in the use of *Aegle marmelos*, especially in the form of biomaterial-based nanostructures In this research paper, we discussed on the Synthesis and characterization of zinc Nanoparticles by green synthesis method. It attempt was made to zinc Nanoparticles is prepared by using a medicinally plant *Aegle marmelos*. Zinc acetate as used to synthesis the zinc Nanoparticles by using leaf extract of *Aegle marmelos*. The optical characterization was carried out using UV – Vis and FT – IR analysis.

Keywords : Green synthesis, nanoparticles, zinc oxide nanoparticles, FTIR,UV.

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