



Synthesis and characterization of Copper Nanoparticles using Leaf Extract of *Andrographis Paniculata* and their Antimicrobial Activities.

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Abstract : Synthesis and characterization of copper nanoparticles is under exploration due to its wide medical applications and various research interests in nanotechnology. In the present investigation, an attempt was made to copper Nanoparticles is prepared by using a medicinally plant *Andrographispaniculata* (Family: Acanthaceae). Copper sulphate (CuSO_4) was used to synthesis the copper Nanoparticles by using leaf extract of *Andrographis paniculata*. The structural characterization of synthesized Nanoparticles was carried out using X-RD and SEM. The optical characterization was carried out using UV – Vis analysis. The SEM results show that the copper Nanoparticles are spherical shape. The results showed that the leaf extract is optimum for the synthesis of silver nanoparticles and it is also known to have the ability to inhibit the growth of various pathogenic microorganisms. The synthesized copper Nanoparticles can be used for various applications due to its eco-friendly, non-toxic and compatibility for pharmaceutical and other applications.

Keywords: Copper Nanoparticles, *Andrographis paniculata*, characterization, antimicrobial activity.

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