

Biosynthesis of silver nanoparticles using aqueous leaf extract of *Annona muricata*

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ABSTRACT

Nanotechnology has emerged as a new area of research for last few decades, having its use in almost all aspects of modern field of science and technology whether it is electronics, mechanical, biomedicines or so. The present study involves the green synthesis of silver nanoparticles from the leaf extract of *Annona muricata*. Leaves contain the greatest concentration of active ingredients. One of such ingredients is Annonaceaeacetogenins, which has been widely studied for its anti-cancerous activities. 5g of leaf powder dissolved in distilled water was boiled at 100°C for 5 min. after cooling it was filtered, the filtrate was used. Five ml of the filtrate was added to silver nitrate. After incubation, Color changes and then its property was characterized using UV-VISIBLE, FTIR and XRD analysis. Formation of silver nanoparticles was confirmed by change in color of solution from transparent to reddish brown. UV visible spectroscopy confirmed the stability of silver nanoparticles. the average crystalline size was found to be 20 nm by XRD analysis. The silver nanoparticles of 20nm size and spherical shape were synthesized using aqueous leaf extract of *Annona muricata*. It is also a better alternative to chemical synthesis, since this green synthesis is pollutant - free.