



## **Standardisation, synthesis and characterisation of nanodrug from *Tabebuia rosea* leaves for breast cancer**

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**Abstract :** In this paper silver nanoparticles (AgNP) were developed using *Tabebuia rosea* (TR) leaves as reducing agent and its anticancer potential against cancer cells was studied. The standardisation for synthesis of nanoparticle formation was carried out at different pH, temperature and reaction time. The AgNPs was studied using UV-Vis spectrum showed the high absorption band at 420 nm, size range of 49 to 98 nm, with an average size of 70 nm as determined by SEM, AFM. The energy dispersive x-ray spectroscopy (EDX ) profile for AgNPs showed typical optical absorption peak approximately at 3 keV and it was found that O-H stretching of phenolic compounds and O-H, C=O stretchings in carboxylic acids are involved in formation of AgNPs studied by FTIR. NP showed specific toxicity on breast carcinoma T47D cells at 20 µg/mL concentration, showing almost 95 % cancer cell growth inhibition at 48hrs. Thus silver nanoparticles using *Tabebuia rosea* (TR) leaves have future application as nanodrug.

**Keywords:** Cytotoxicity, *Tabebuia rosea*, green synthesis, silver nanoparticles, Nanodrug.