



Comparative analysis of synthesis of silver nanoparticles using different flower extracts (*Hibiscus rosa sinensis*, *Tabernaemontana sp.*, *Datura metel*) through green synthesis method and determination of their antifungal activity

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Abstract : This investigation deals with a cost effective and environment friendly technique for green synthesis of silver nanoparticles silver nitrate solution through extracts of *Hibiscus rosa sinensis*, *Tabernaemontana sp.*, *Datura metel* flower as reducing agent and capping agent. UV-Vis spectrophotometer shows the synthesis of silver nanoparticles maximum in *Hibiscus rosa sinensis*, comparatively less in *Tabernaemontana sp.* and least in *Datura metel*. Synthesized silver nanoparticles were characterized using UV-Vis spectrophotometer. Further ,

these biologically synthesized nanoparticles exhibited a tremendous antifungal activity. *Tabernaemontana sp* showed maximum antifungal activity in comparison to *Hibiscus* and *Datura metel*.

Keywords: *Hibiscus*; *Tabernaemontana*; *Datura*; Silver nanoparticles; Antifungal activity.

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Introduction :

Nanotechnology has induced a great scientific advancement in the field of research and technology. Nanoparticle is a core particle which performs as a whole unit in terms of transport and property (Nour *et al.*, 2010). Nanosized particles are quite unique in nature because nanosize increases surface to volume ratio and its physical chemical and biological properties are also different from bulk material.

So, the main aim to study its minute size is to trigger chemical activity with distinct crystallography that increases the surface area (Sinha *et al.*, 2009). In the present work biological method is adopted for the synthesis of AgNps.