



### **Evaluation of Antibacterial and Cytotoxic activity of Green Synthesized Cobalt Nanoparticles using *Raphanus sativus* var. *longipinnatus* Leaf Extract**

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**Abstract:** In the present study cobalt nanoparticles were synthesized by an ecofriendly and cost effective method using *Raphanus sativus* var. *longipinnatus* leaf extract and characterized using various techniques such as UV-visible spectrophotometry, Fourier transform infrared spectrometry and Scanning electron microscopy coupled with Energy dispersive micro analysis. The spectroscopic methods confirmed the formation of cobalt nanoparticles and the microscopic technique confirmed the shape and size of the cobalt nanoparticles as spherical with an average particle size of 80nm. Antibacterial activity of the synthesized nanoparticles was measured by disc diffusion method. The cobalt nanoparticles showed effective antibacterial activity against Gram negative bacteria.

**Keywords:** Cobalt nanoparticles, antibacterial activity, Gram negative bacteria.

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