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Overview on synthesis, Applications of Cobalt Oxide Nanoparticles

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Cobalt oxide nanoparticles are semiconducting metal oxide type that can display unusual chemical features in nanotechnology due to their tiny mass and high limit density, especially in biomedical systems, optics, and electronics. [1] Cobalt oxide NP is non-hygroscopic, non-toxic, and commonly found in organic, polar, crystalline material that has aroused interest in organic transformation, sensors, visible conductors, and surface acoustic wave devices. Transparent electronics, UV light emitters, chemical sensors, spin electronics, personal care products, catalysts, adhesives, and paint are cobalt oxide NP. Due to its unique properties, cobalt oxide NP is used in lightemitting coatings, transparent electrodes in solar cells, UV light emitters, diode lasers, varistors, piezoelectric devices, spin electronics, electronics [2], and acoustic wave propagators as an antibacterial agent as a photonic material and as a chevalier gas sensor Chevalier Biomolecules in the extract plant act as active capping agents, which assist in the production of nanoparticles. The findings revealed that the produced cobalt oxide nanoparticles had antibacterial properties against urinary tract infections, and investigated the cheap, non-toxic raw production of cobalt oxide nanoparticles by using Camellia sinensis extract to examine the efficacy of cobalt oxide nanoparticles as a photocatalyst to destroy various natural dyes such as methylene blue and methyl orange and their antioxidant activities by using Eucalyptus globulus. Cobalt oxide nanoparticles NPs are mechanically synthesized by using Azadirachta indica leaves from the Meliaceae own family [3]. According to the findings, including cobalt oxide nanoparticles in medicine has a significant impact on the membrane of biology. Cobalt oxide nanoparticles nanostructures, which resemble a 3- dimensional tetrapod, had been used to transport pEGFPN1 DNA (which carries the inexperienced fluorescent protein gene) to A375 human cancer cells [4]. Electrostatic interactions connected the plasmid DNA(plasmid DNA) to cobalt oxide nanoparticles nanostructures, and three needle-shaped legs favoured internalization of the hints for gene shipping into cells.

Keywords: Cobalt oxide, Applications, synthesis

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