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A REVIEW ON THE ANTIMICROBIAL PROPERTIES OF CoFe_2O_4 NANOPARTICLES

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Abstract

Researchers have been very interested in cobalt ferrite nanoparticles and nanocomposites because of their unique features, which include high pollutant adsorption capacities, good photocatalytic, and antibacterial activities. An evaluation of the most recent developments in the use of CoFe_2O_4 nanoparticles as an antibacterial agent is given in this review study. These NPs have unique characteristics that make them attractive as a possible treatment for a variety of microbial diseases, especially those that are resistant to antibiotics. This work includes an extensive analysis of the many uses, characterisation methodologies, and synthesis processes of CoFe_2O_4 NPs in antibacterial contexts. In addition, the paper discusses the difficulties and potential opportunities in this field as it explores the fundamental mechanisms by which CoFe_2O_4 NPs exert their antibacterial effects on various microbial strains. The review's main conclusions highlight CoFe_2O_4 NPs' significant potential as an effective and promising antibacterial and antifungal agent.