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# Investigation of the antimicrobial applications of nanosized zinc ferrite synthesised by green route

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Green synthetic method for bimetallic oxide nanomaterials by biological reduction method using plant extract has become an attentive research approach due to its easy, efficient and eco-friendly system. An attempt has been made to synthesize nanosized zinc ferrite bi-metallic oxide ($ZnFe_2O_4$) nanomaterials using *Ficus benghalensis* plant leaf extract by bio-reduction method. The structural and morphological characterisation of prepared zinc ferrite sample is carried out by X-ray diffraction (XRD) and scanning electron microscope (SEM) tools, respectively. Bonding nature of the sample is studied by Fourier transfer infrared (FT-IR) tool. Presence of metal confirmation in the prepared sample is identified by EDX analysis. Antimicrobial activity of the sample is also carried out for its antibacterial and antifungal behaviour.

**Keywords**: $ZnFe_2O_4$, *Ficus benghalensis*, XRD, SEM, FT-IR, EDX