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Biosynthesis of iron oxide nanoparticles by *Bacillus sp.* GFCr-1

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Nanostructured materials, including iron oxide nanoparticles (IONPs), have important application in nanotechnology due to their unique properties (1). Various studies have been conducted to biosynthesize this nanoparticles using extremophile bacteria (2, 3). The aim of this study was to optimize iron oxide nanoparticle biosynthesis by *Bacillus sp.* GFCr-1 in the invitro condition. The biosynthesized IONP was characterized by UV-vis spectrophotometry at 370 nm, X-ray Diffraction (XRD), and scanning electron microscope (SEM). In the first, changing the medium reaction color to dark brown indicated the biosynthesis of iron oxide nanoparticles.

Keywords: biosynthesis, iron oxide nanoparticles, *Bacillus sp.*

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