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Synthesis of Iron Nanoparticles from Banana Peel Extract and Its Genotoxic Effect on Human Blood Leukocyte Culture

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ABSTRACT In the present study, zero-valent iron particles are synthesised in nano-dimension from a banana peel extract under atmospheric conditions. Further characterisations of the nanoparticles are carried out to determine the particles' size, shape, and features using UV-visible spectrophotometry (UV-V) spectroscopy and atomic force microscopy (A.F.M.). The genotoxicity of these particles is checked for its future use in nano-biotechnology. Thus, the current work is a biological approach for synthesising iron nanoparticles, which is environmentally friendly and easy to carry out. The researchers also have used the biological approach to synthesise the same, as it is environment-friendly and easy to carry out. Iron nanoparticles are produced by their reduction from Fe (II) or Fe (III) in an aqueous medium with the help of ferric chloride. Later their aggregation in the medium is reduced by adding chitosan and polyvinyl chloride (P.V.A.) as stabilisers.