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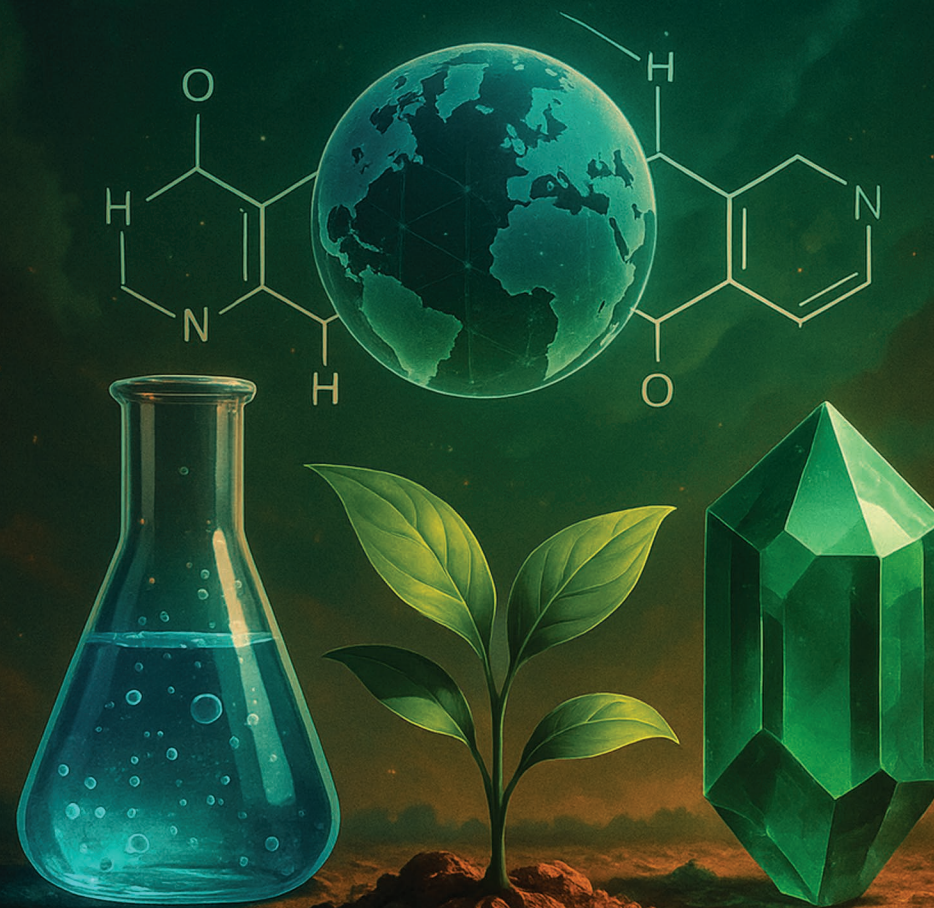
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Perspectives of Medicinal, Material and Environmental Chemistry

PERSPECTIVES OF MEDICINAL, MATERIAL AND ENVIRONMENTAL CHEMISTRY



Editors:
Dr. Saimah Khan
Dr. Naseem Ahmad
Dr. Firoz Hassan



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Perspectives of Medicinal, Material and Environmental Chemistry

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CHAPTER – 3

Green Synthesis of Iron Nanoparticles Supported on Biochar

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Abstract

This study aims to report the synthesis of nanoparticles (NPs) supported on biochar composites, using plant extract as a reducing and capping agent. It focuses on optimizing several key factors, including contact time, concentration, and dosage, to maximize degradation efficiency against toxic pollutants like polycyclic aromatic hydrocarbons (PAHs). This approach presents a feasible strategy for the bioremediation of pollutants. Remediation is an emerging and rapidly advancing technique in the field of nanotechnology, employing biosynthesised NPs for pollutant remediation. By combining the benefits of biochar and NPs, new biochar-blended NPs materials like nano-biochar and nanocomposites can help solve many of today's environmental problems in the long term. Active functional groups, a porous structure, a high surface area, catalytic degradation capabilities, and the ease of pollutant recovery or separation typically enhance these materials.

Keywords: Nanoparticle, Remediation, Greensynthesis, Biochar, Iron nanoparticles

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