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GREEN PROCESSING AND SYNTHESIS

SPECIAL ISSUE

NEW INSIGHTS INTO NANOPHYTO-TECHNOLOGY: CURRENT TRENDS AND FUTURE PROSPECTS

SCOPE

The integration of nanotechnology and phytoremediation offers promising prospects for environmental contaminant removal. Nanophytotechnology, a contemporary green technique, leverages nanoscale materials to effectively eliminate and degrade pollutants. This innovative approach boasts several advantages, such as heightened bioavailability, prolonged absorption periods for heavy metals, and the capacity for simultaneous removal of multiple metals. These attributes collectively enhance the efficacy of the process while minimizing toxicity for both plants and the environment. Notably, the application of nanotechnology in phytoremediation brings forth various benefits, including enhanced water solubility, reduced toxicity, biocompatibility, and suitability for managing heavy metal pollutants.
To address the existing gap, research initiatives focusing on the development of absorption plant systems based on nanophytotechnology, capable of yielding substantial quantities of heavy metals, hold considerable promise for comprehensive pollutant management. This approach is also complemented by recent advancements in both experimental and theoretical explorations about diverse plant-derived nanoparticles.

The topics of this special issue include, but are not limited to:

- Plant synthesized nanoparticles for dye degradation
- Plant derived nanoparticles for heavy metal remediation
- Biogenic iron nanoparticles for heavy metal removal
- Removal of polycyclic aromatic hydrocarbons using phytonanoremediation
- Plant derived nanoparticles for pesticide remediation

Keywords

Nanoparticles, plants, green method, dye degradation, remediation

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