

Uses of Polymeric Nanoparticles Derived from Plant Gum[†]

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Abstract: Nanocarriers can be used to carry different types of materials, for instance, drugs, and play a major role in therapy. In this study, gum was collected and subjected to water extract, used for various bioactive studies. It was purified and characterized. The purified gum was used for nanocarrier synthesis, where sodium trimetaphosphate (STMP) was utilized to synthesize nanocarriers. The gum extract was observed to have antioxidant and antibacterial properties. UV-Vis, SEM, AFM, zeta potential, and FTIR analysis were performed. By these analyses, the nanocarriers were found to be stable for the delivery of the drug. The best antibacterial activity was observed in the loaded nanocarriers.

Keywords: Nanocarriers; gum extract; antibacterial; antioxidant; biopolymer.

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Conflicts of Interest

The authors declare no conflict of interest.