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Fabrication of Poly (d, l- Alanine)/Minerals substituted Hydroxyapatite Bio-composite for Bone Tissue Applications

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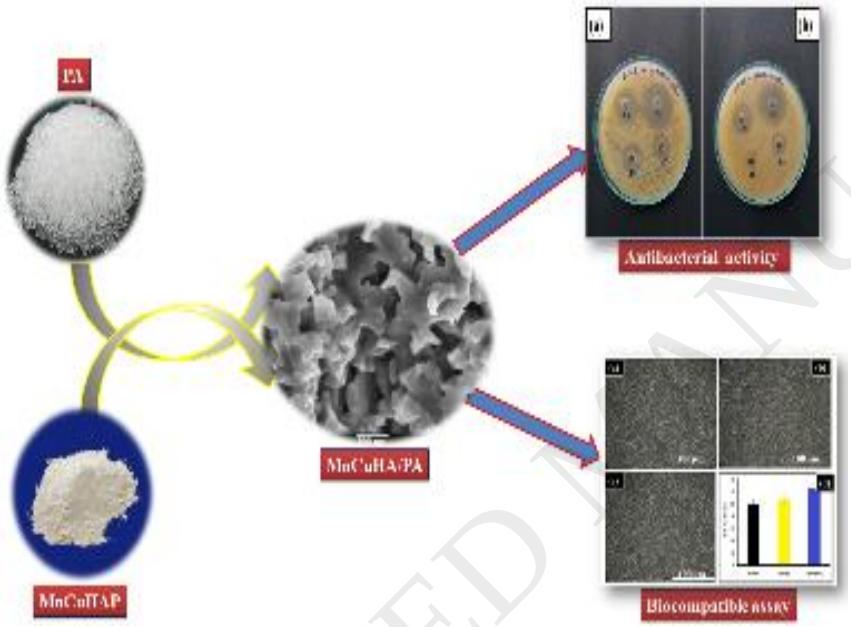
Graphical Abstract



Abstract

Eco-friendly ceramic/polymer bio-composite can address the constraints of traditional ceramic hard tissue replacements, such as, fragility and trouble in formability. However, the common processes for the preparation of ceramic/polymer bio-composite frequently utilize synthetic, natural polymers which might be destructive to tissues. In addition, the polymer materials may cover the bio-ceramics and obstruct their contact to the scaffold exterior, thus reducing the probability that the seeded bone cells will create exposure to the ceramics materials. In this investigation, a fresh ceramic/polymer bio-composite was created by high exposure of the bio-ceramics to the composite surface for effective bone tissue design. Poly (d,l- Alanine)/minerals