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A graphene oxide-Ag co-dispersing nanosystem: dual synergistic effects on antibacterial activities and mechanical properties of polymer scaffolds

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Abstract

It is highly desired to own antibacterial function and sufficient mechanical properties for bone scaffolds. Introducing graphene oxide (GO) could increase the mechanical properties while nano Ag could impart antibacterial function for polymer scaffolds, but either GO or nano Ag easily forms aggregates, hindering the full play of the efficiency. In this study, we proposed a co-dispersing GO-Ag nanosystem where GO nanosheets loaded Ag nanoparticles while Ag nanoparticles intercalated into the interlayers of GO nanosheets, in which GO nanosheets and Ag nanoparticles supported each other, hence achieving a co-dispersion. The co-dispersing GO-Ag

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