



Involving the Silver Particles into Microbial Membrane to Improve The Biological Activity and Characterization

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Abstract: Silver nanoparticles were impregnation on bacterial cellulose (BC) membranes produced by *Gluconacetobacter xylinus* NRRL B-43 using tri-ethanolamine (TEA) as reducing and complexing agent. The BC-Ag composite exhibited strong antimicrobial activity against tested strains. The BC-Ag composite was characterized by the UV-Vis spectrum and showed a different absorption spectrum located between 360-480 nm. Also, the formation of BC-Ag composite was evidenced by using scanning electron microscopy (SEM), the Fourier Transform Infrared Spectroscopy (FTIR) analysis and. The X-ray diffraction.

Keywords: bacterial cellulose (BC), antimicrobial potential, silver nanoparticles.

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