

# Synthesis and characterization of antibacterial nanocomposite CuO/Ag

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Nowadays many research groups focus on novel antibacterial agents due to the emergence of drugs resistance on many pathogens. Antibiotics are used as an effective treatment for bacterial infections, which are the foremost origin of chronic infections. But, their excessive utilization over the years has resulted in the development of bacterial strains which has become resilient to many antibiotics. The developments of resistance of pathogens towards antibiotics constitute a serious danger to human health in recent times. Therefore, new strategies for dealing with pathogenic microorganisms are required. Attention has been devoted to nanomaterials in many forms of metals and metal oxides. Such materials can be implemented as preventives, diagnostics, drug carriers in the antibacterial therapies. In this work we prepare nanocomposite CuO/Ag (Fig.1) as a promising material for an antibacterial agents. The obtaining method base on thermal oxidation and PVD processes is an effective approach for synthesis such nanomaterials. Samples were studied by scanning electron microscopy (SEM) with X-ray microanalysis (EDX), transmission electron microscopy (TEM), X-ray Diffraction analysis (XRD) and UV-Vis spectroscopy. The main purpose of this work is to investigate the antibacterial properties of such nanocomposite.

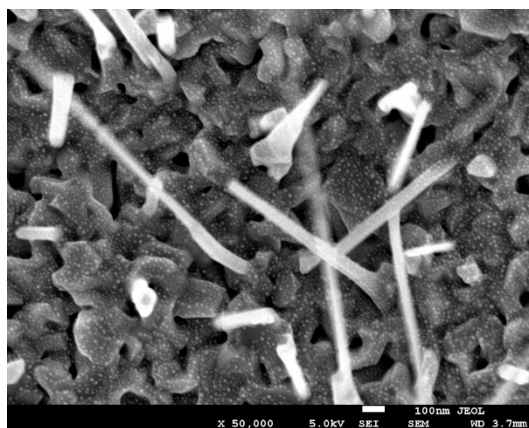


Fig. 1. SEM images of CuO/Ag nanocomposite