The Superior Antibacterial Activity of Ag-Nanorod/Graphene Oxide Composite

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From National Conference on Natural Products as therapeutics, Medical Microbiology, Nanobiology and System biology: Current Scenario & Emerging Trends, 'NATCON-2014'.

Post Graduate & Research Departments of Biochemistry, Microbiology, Biotechnology and Bioinformatics, Mohamed Sathak College of Arts & Science, Sholinganallur, Chennai-600119, India. 18-19 September 2014.

American J of Bio-pharm Biochem and Life Sci 2014 September, Vol. 4 (Suppl 1): P 17

ABSTRACT

In the present study, a simple and effective method for the synthesis of silver nano-rod was developed. Graphene oxide (GO) was synthesised by the simple oxidation of graphite powder. The GO synthesised was characterised by UV-Visible spectroscopy, FT-IR, XRD and SEM. The Ag-nanorod and Ag-nanorod /graphene oxide composite were characterized by UV-Visible spectroscopy and SEM. The antibacterial activities of GO, Ag nanorod and Ag-nanorod /graphene oxide composite were tested using a gram negative and gram positive bacteria. The GO-Ag composite showed good antimicrobial activity against the gram - negative and gram – positive bacteria tested. The study suggested that the nano composites can be used as an effective antibacterial material.