

Supporting Information

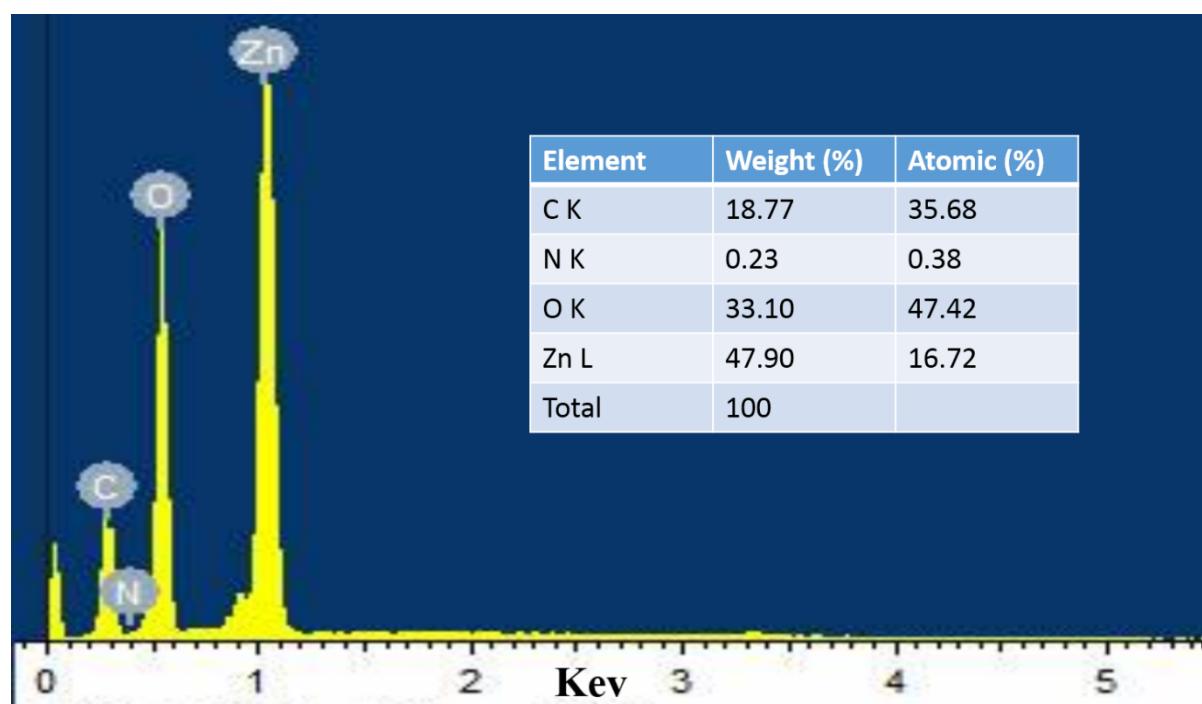
A ZnO Decorated Chitosan-Graphene Oxide Nanocomposite Shows Significantly Enhanced Antimicrobial Activity with ROS Generation

Angshuman Ray Chowdhuri¹, Satyajit Tripathy², Soumen Chandra¹, Somenath Roy², Sumanta kumar Sahu*¹

1 Department of Applied Chemistry, Indian School of Mines, Dhanbad 826004, Jharkhand, India

2 Immunology and Microbiology Laboratory, Department of Human Physiology with Community Health, Vidyasagar University, Midnapore-721102, India

* Corresponding author. E-mail: sahu.s.ac@ismdhanbad.ac.in, sumantchem@gmail.com; Fax: +91 326-2307772; Tel: +91 3262235936



. S1: EDS spectrum of GO@CS/ZnO nanocomposite

Fig

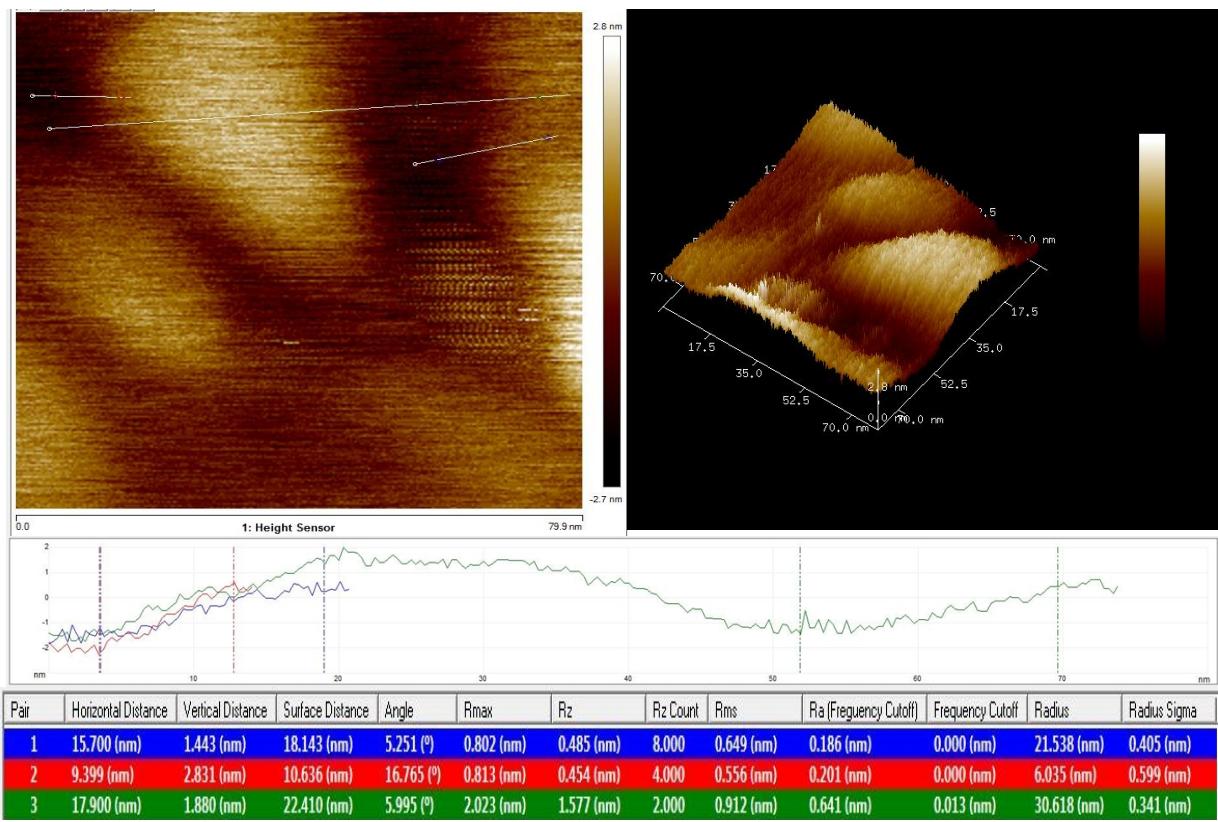


Fig. S2: AFM image height profile of GO prepared by Modified Hummer's Method.

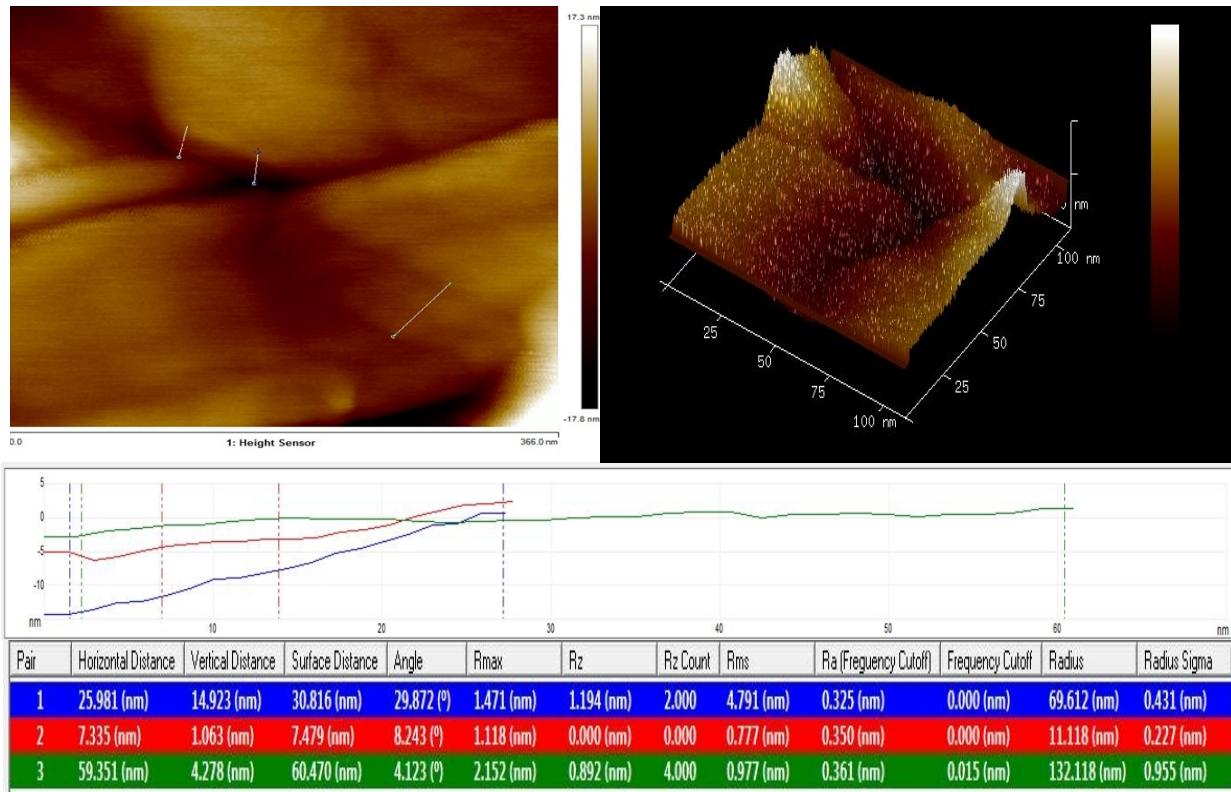


Fig. S3: AFM image and height profile of GO@CS nanocomposite.

The surface topography of bare GO and GO@CS was established using an AFM. An AFM image of single layer thick GO nanosheets is shown in Figure S2. The thickness of each layer is around 2.0 nm determined from several AFM images, presenting the exfoliation of single layer GO nanosheets. Again, from figure S3 it is conformed that CS is layered into the exfoliated GO sheet. Here thickness of each layer is enhanced.

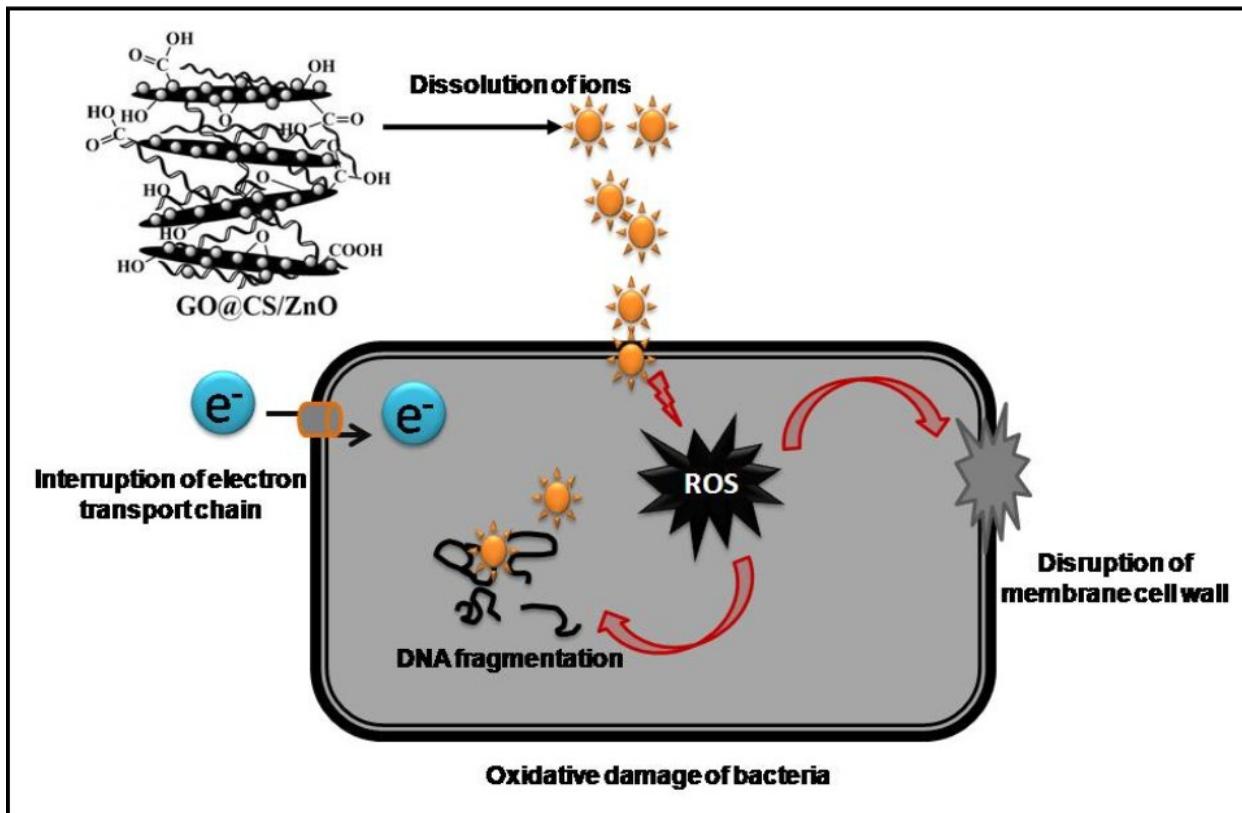


Fig. S4: Schematic presentation of possible mechanism of bactericidal activity of GO@CS@ZnO nanocomposites.