

Supporting Information

Green synthesis, characterization, and optimization of colorimetric sensing of hydrogen peroxide of algae (*Noctiluca scintillans*) extract capped silver nanoparticles.

Abdelaziz Elgamouz*¹, Hamid Idriss¹, Chahlaa Nassab¹, Alaa Bihi¹, Khalid Bajou², Kamrul Hasan¹, Mohammad Abu Haija³, Shashikant P. Patole⁴.

¹Department of Chemistry, College of Sciences, PO. Box 27272, Sharjah, University of Sharjah, United Arab Emirates.

²Department of Biology, College of Sciences, PO. Box 27272, Sharjah, University of Sharjah, United Arab Emirates.

³Department of Chemistry, Khalifa University of Science and Technology, Abu Dhabi, PO. Box 127788, Abu Dhabi, United Arab Emirates.

⁴Department of Physics, Khalifa University of Science and Technology, Abu Dhabi, PO. Box 127788, Abu Dhabi, United Arab Emirates

* Correspondence: aelgamouz@sharjah.ac.ae; Tel.: +971 65166 769, E-mail: aelgamouz@sharjah.ac.ae.

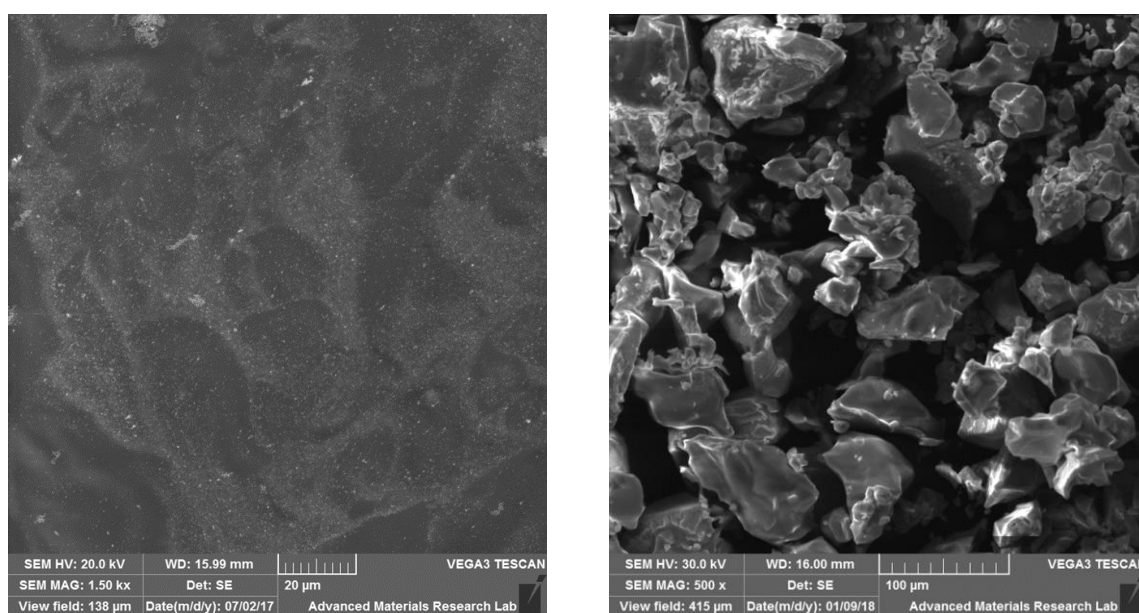


Figure. S1 Micrograph of Algae-AgNPs (a) SEM MAG = 1.50 Kx (b) SEM MAG = 500 Kx prepared by nanoprecipitation of 7:3 v/v of algae extract/0.1 M AgNO₃.

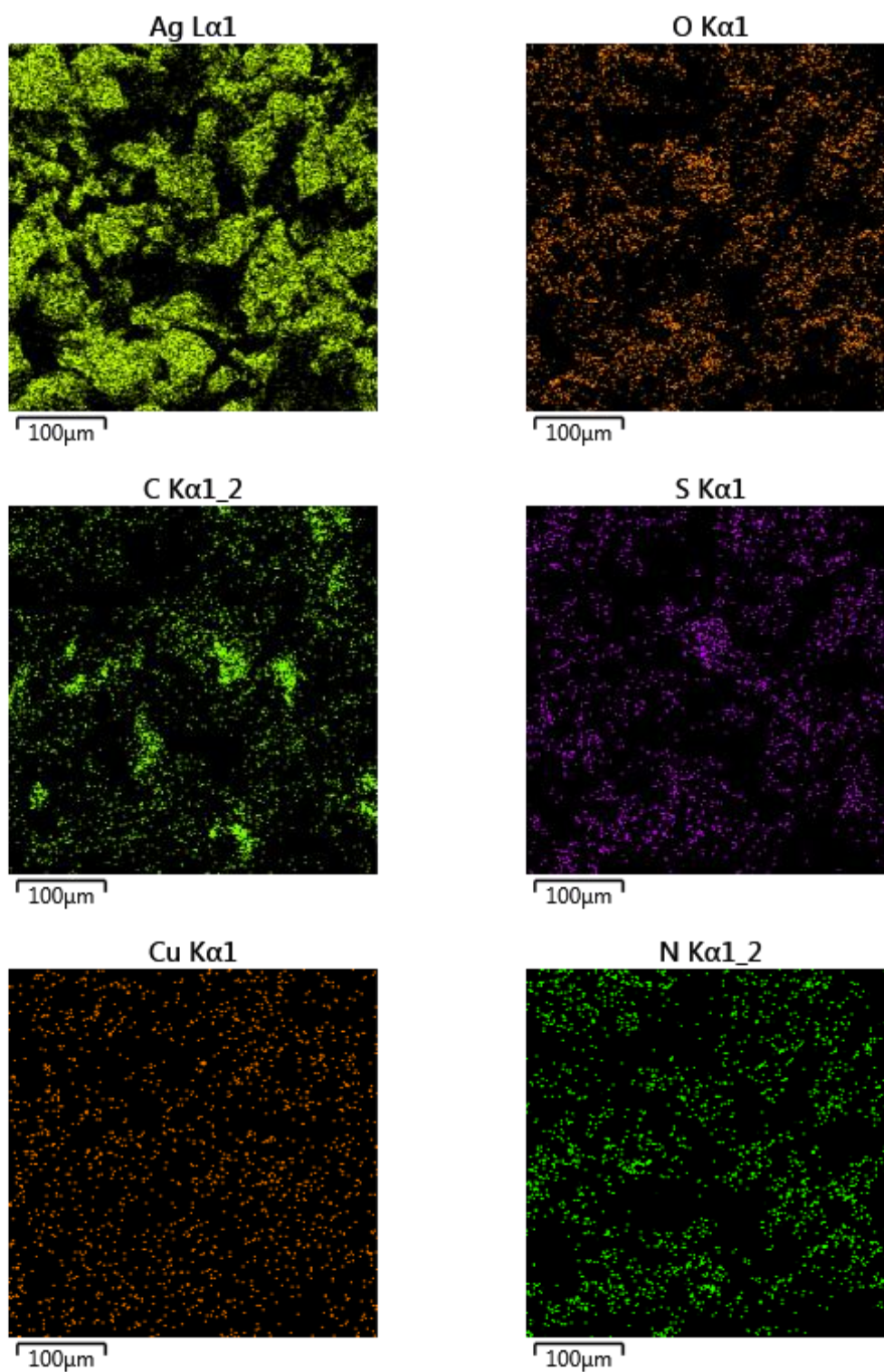


Figure. S2 Scanning electron microscopy elemental mapping (single layer) of Ag, O, C, S and N of Algae-AgNPs prepared by nanoprecipitation of 7:3 v/v of algae extract/0.1 M AgNO₃.

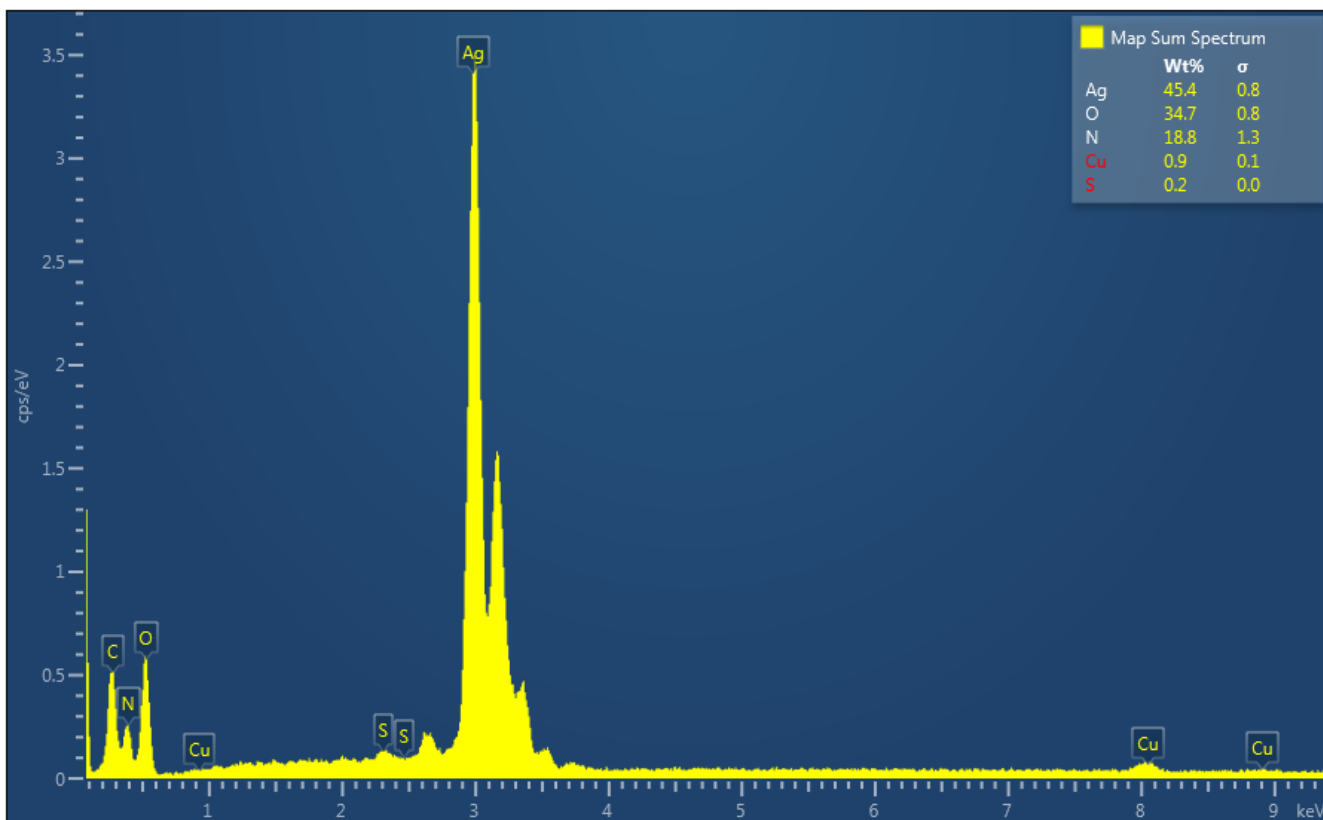


Figure. S3 Energy disperse spectroscopy (EDS) spectra and atomic ratio of corresponding elements in the Algae-AgNPs.

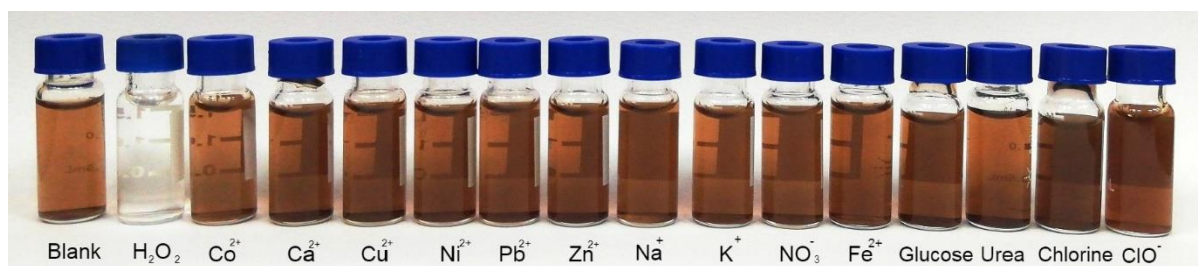


Figure. S4 Photographs of Algae-AgNPs exposed to different interfering species with H_2O_2 , showing H_2O_2 with the only noticeable change in colour. Initial concentration of 10.0 nM, time of equilibrium 40 min.