Supplementary material

Eco-friendly ZnO/Chitosan bionanocomposites films for packaging of Fresh Poultry Meat

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2. Materials and Methods

2.1. Physicochemical characterization

The size and shape of NPs were characterized by scanning electron microscopy (SEM) using a JEOL-JSM7001F apparatus. To increase the conductivity of the samples they were coated with a thin layer of conductive gold/palladium (Polaron E-5100). The crystalline was identified by X-ray diffraction (XRD) technique using a D8 Advance Bruker AXS θ-2θ diffractometer, with a copper radiation source (Cu Kα, λ = 1.5406 Å) and a secondary monochromator, operated at 40 kV and 40 mA.

3. Results and Discussion

The use of apple extract yielded spherical structures with nanometric sizes (Fig. S1 a), like the previously described structures produced using apple var. *Starking* [1]. The crystallinity of the ZnO NPs was confirmed by X-ray diffraction technique. As shown in Fig. S1 b) the XRD diffraction pattern obtained revealed that the lattice planes for hexagonal phase of ZnO NPs (1 0 0), (0 0 2), (1 0 1), (1 0 2), (1 1 0), (1 0 3), (1 1 2) and (2 0 1) are consistent with the JCPDS data card 036-1451 for crystalline ZnO.

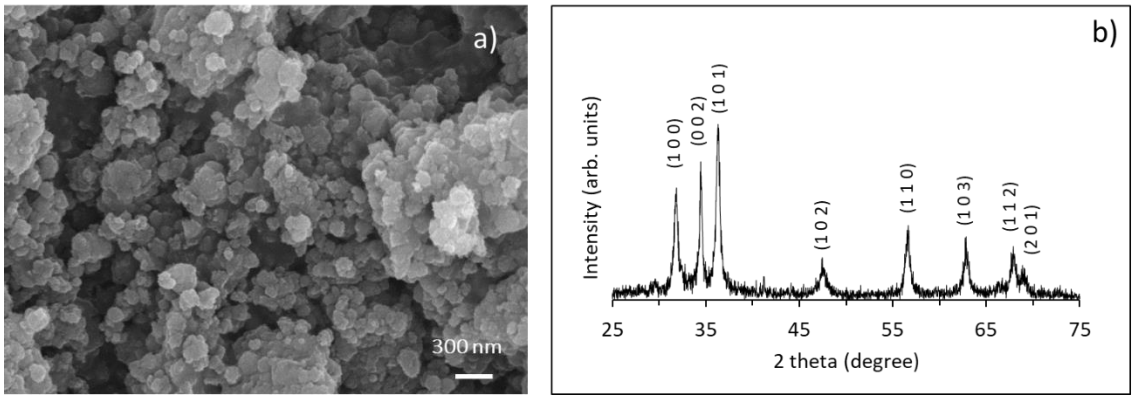

Figure. S1. Physicochemical characterization of the ZnO NPs; a) Scanning electron microscopy (SEM) image, and b) X-ray diffractogram.

References

1. Alves, M.M., et al., Influence of apple phytochemicals in ZnO nanoparticles formation, photoluminescence and biocompatibility for biomedical applications. Materials Science and Engineering: C, 2019. 101: p. 76-87.