**Supplementary Information**

Facile In-Situ Synthesis of Nanocrystalline Celluloses-Silver Bio-nanocomposite for Chitosan Based Active Packaging

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**Online Resource 1**  XRD patterns of the three extracted NCs



 **Online Resource 2** Transparency of (a) uncovered background, (b) neat CS film, (c, d & e) CS bio-nanocomposite loaded with ONC-Ag, SNC-Ag and PNC-Ag, respectively