

*Supplementary data*

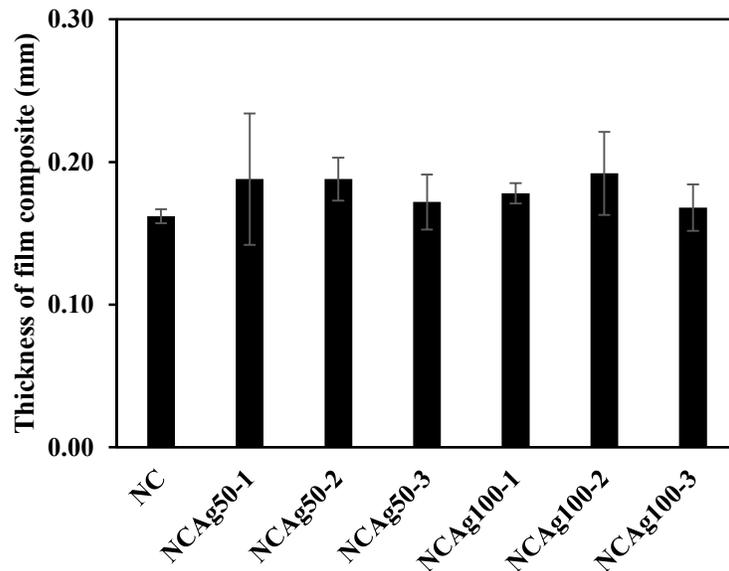
**Multifunctional cellulosic natural rubber and silver  
nanoparticle films with enhanced chemical resistance and  
antibacterial properties**

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**Fig. S1** Thickness values of NC, NCAg50, and NCAg100 films

**Table S1.** Releasing of silver species\* from NCAg composite film.

Sample	Silver species ( $\mu\text{g/l}$ )				
	30 min	6 h	12 h	24 h	48 h
NCAg100-1	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
NCAg100-2	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
NCAg100-3	5.0	6.2	5.8	5.8	6.2
NCAg50-1	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
NCAg50-2	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
NCAg50-3	5.6	7.4	13.6	18.4	16.4

\* The release characteristic of silver species from composite film into phosphate buffered saline (PBS) pH 7.4 was investigated using modified Franz diffusion cells. Rehydrated composite film specimen (32 mm in diameter) was placed on a receptor compartment of the diffusion cell covered with a glass lid. The opening of the donor cell was sealed with a plastic film. The receptor chamber was fully filled with 11.5 mL of PBS. The diffusion cells having water jacketed was maintained at 37 °C throughout the experiment. The receptor fluid was kept at 37 °C with constant stirring using a Teflon-coated magnetic stir bead. During the release testing (0-48 h), 5 mL sample was withdrawn from the receptor every 6 h through a sampling port and an equal amount of the fresh buffer was immediately refilled. The silver species were detected by using Inductively Couple Plasma Optical Emission Spectrometer (ICP-OES, PQ 9000 elite, Germany).