Supporting information

## Inhibition of SARS-CoV-2 spike protein entry using biologically modified polyacrylonitrile nanofibers: *in-vitro* study towards specific antiviral masks

Merna H. Emam<sup>a</sup>, Hassan Nageh<sup>a</sup>, Fedaa Ali<sup>a</sup>, Mohamed Taha<sup>c</sup>, Hasnaa A. ElShehaby <sup>b</sup>, Rehab Amen<sup>c, d</sup>, Elbadawy A. Kamoun<sup>a, e</sup>, Samah A Loutfy<sup>a, b</sup>, Amal Kasry<sup>a</sup>\*

<sup>a</sup>Nanotechnology Research Center (NTRC), the British University in Egypt, El-Shorouk City, Suez Desert Road, Cairo 11837 - P.O. Box 43, Egypt.

<sup>b</sup>Virology and Immunology Unit, Cancer Biology Department, National Cancer Institute, Cairo University, Egypt

<sup>c</sup>Nano Gate, 9254 Hodashaarawy, Al Abageyah, El Mukkatam, Cairo43511, Egypt.

<sup>d</sup>National Institute of laser Enhanced Science (NILES), Cairo University, Giza 12613, Egypt

<sup>e</sup>Polymeric Materials Research Dep., Advanced Technology and New Materials Research Institute (ATNMRI), City of Scientific Research and Technological Applications (SRTA-City), New Borg Al-Arab City 21934, Alexandria, Egypt



**Fig. S1** Morphological examination of Vero normal cells, (a) Control cells, (b) Cells treated with PAN NFs, and (c) Cells treated with modified PAN NFs with magnification 400 x.



**Fig. S2** SEM micrographs of PAN NFs /APTES/EDC-NHS/ACE-2/S protein (a) at zero time, and (b) after 8 months (with original magnification 4,000 x at 7 KV).

