Supporting Information

Title: Comparison of virus killing durability after bleachwashing of superhydrophobic, silver ink and silver nanoparticle coatings on PET for improvingreusable PPE

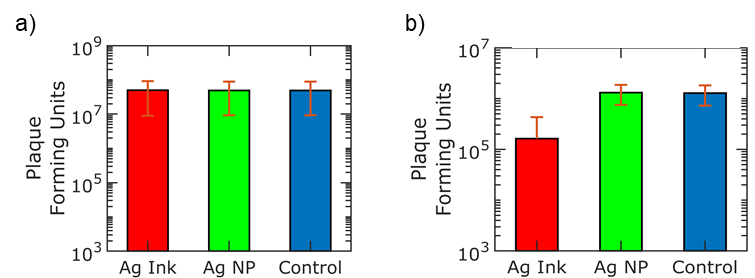
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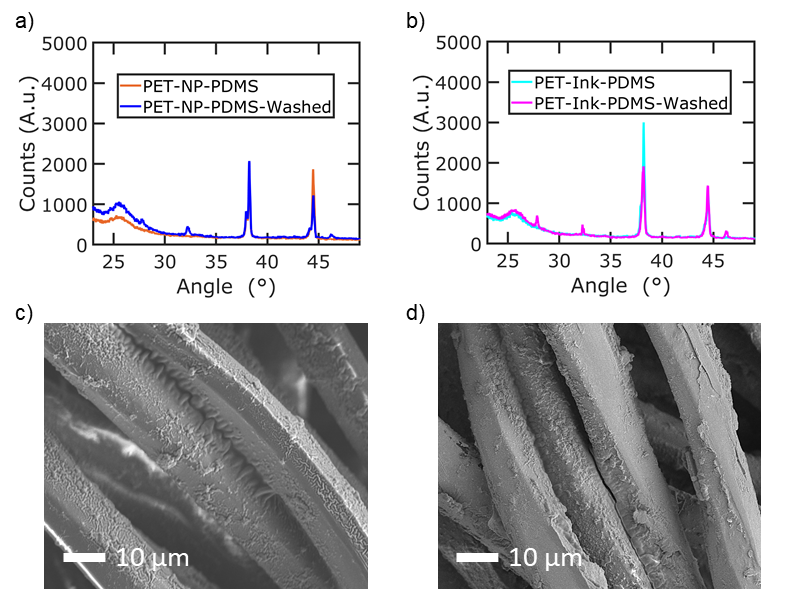
**Figure S1.** Results from virus inactivation experiments using 0.1% Ag ink and 20 nm Ag nanoparticles (NP) in PBS against virus stocks a) human adenovirus serotype 5 (HAdV5, non enveloped) and b) herpes simplex (HSV-1, enveloped). Mean log difference for Ag Ink is -0.05 ± 0.67 for HAdV5 and -1.57 ± 0.89 for HSV-1. Mean log difference for Ag NP is 0.00 ± 0.00 for HadV5 and -0.03 ± 0.08 for HSV-1.

Neither silver ink, nor silver 20 nm nanoparticles show virus deactivation for non enveloped virus at 0.1% concentration in PBS. Silver ink shows virus inactivation properties for enveloped virus, but silver nanoparticles do not at 0.1% concentration PBS.

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**Figure S2.** (a) Goniometer images of static water droplets on (i) PET-NP, (ii) PET-Ink, (iii) PET-NP/P, and (iv) PET-I/P fabric samples



**Figure S3.** (a-b) XRD spectra of (a) PET-NP/P and (b) PET-IP/P samples after 300 minutes of ultrasonic bleach washing. (c-d)Representative SEM images of fibers from (a) PET-NP/P and (b) PET-IP/P samples after 300 minutes of ultrasonic bleach washing.

The XRD spectra shows new peaks after bleach washing believed to be from oxidation damage. This is a result from the aggressive oxidative stress from washing with bleach. The SEM images show the presence of PDMS and silver for both samples after bleach washing. Less silver is present on PET-NP/P shown from the ICP-MS measurements.