

## Supporting Information

### Enhancement of antiviral effect of plastic film against SARS-CoV-2: Combining nanomaterials and nanopatterns with scalability for mass manufacturing

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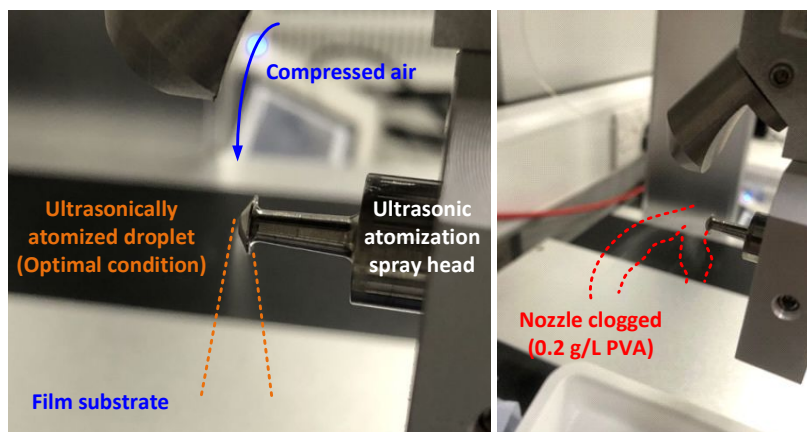
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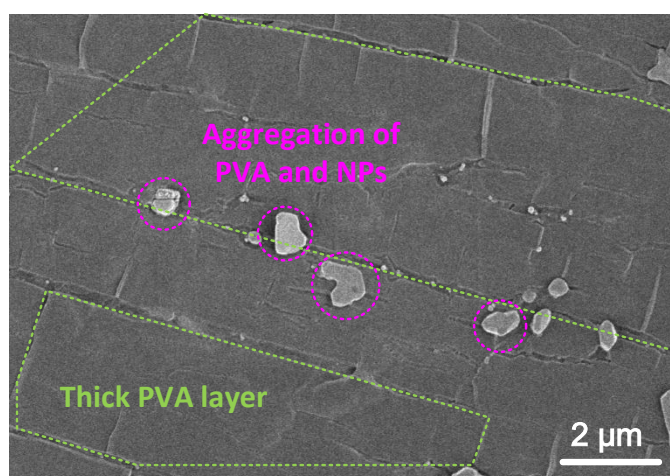
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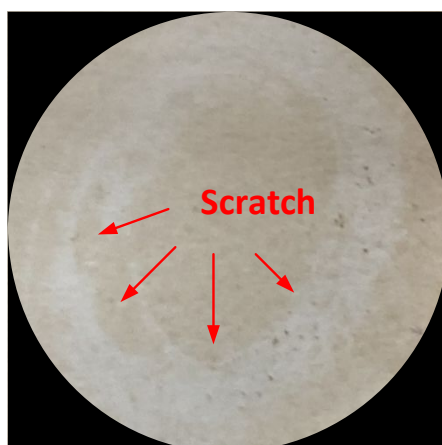
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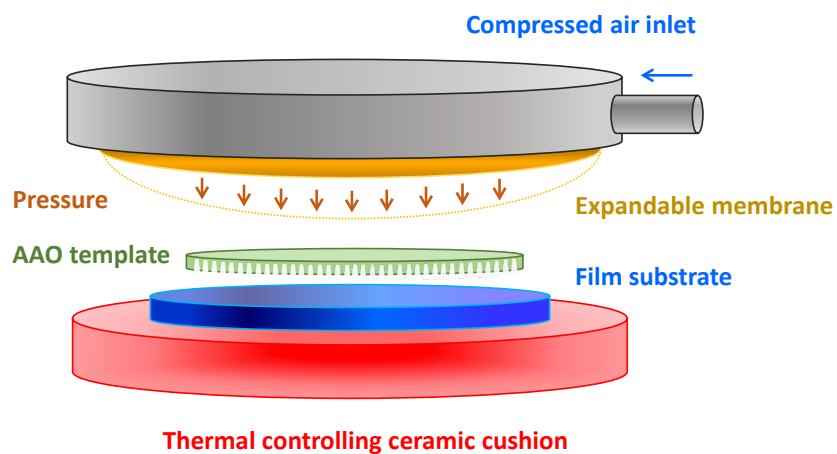
**Fig. S1** Photos for tiny droplets generated during UASC.



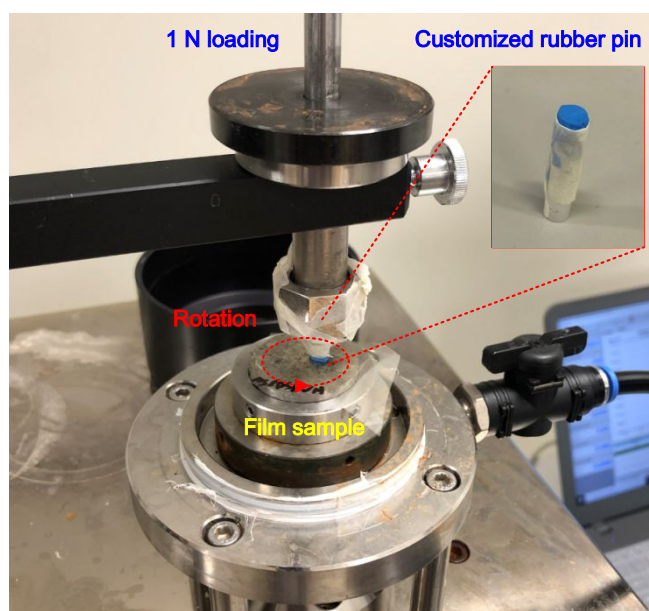
**Fig. S2** SEM image of PE film after UASC (300 ppm AgNPs, 0.2 g/L PVA, 2 g/L SDS, 10 passes).



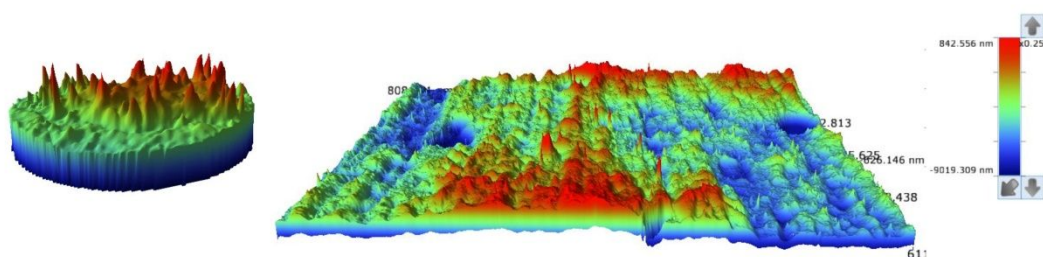
**Fig. S3** Photo of PE film after UASC (300 ppm AgNPs, 0.1 mg/L PVA, 2 g/L SDS, 20 passes) after wear test.



**Fig. S4** A scheme for TNIL equipment.



**Fig. S5** Wear test setup with a customized rubber pin.



**Fig. S6** 3D morphology of nanopatterned film after wear test.