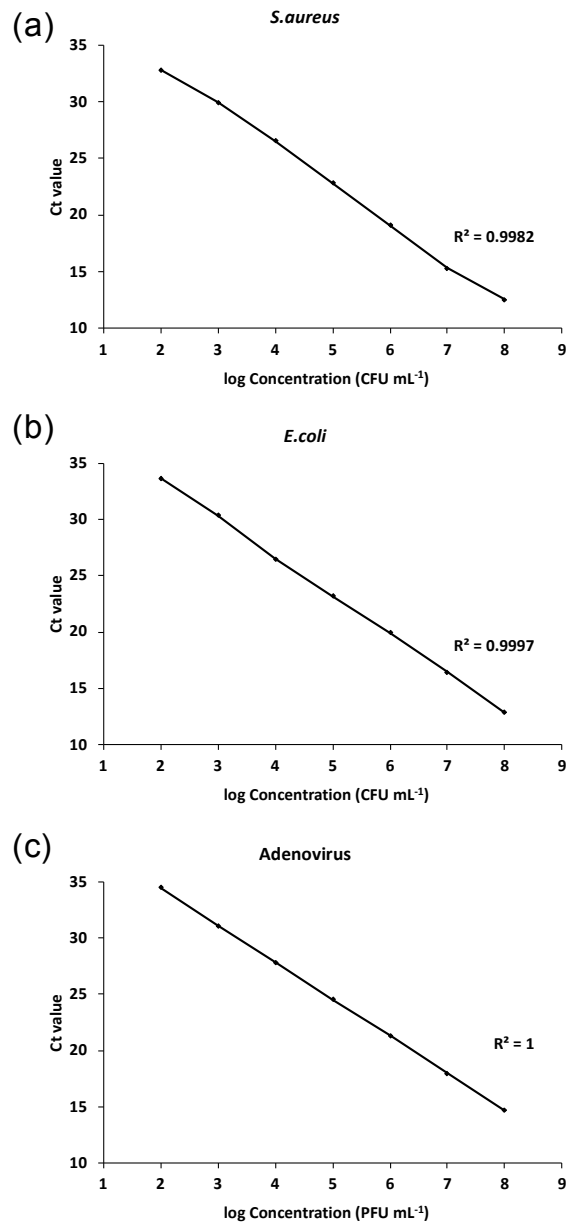


## **Electronic Supplementary Material**

### **Semi-automatic Instrumentation for the nucleic acid extraction and purification to quantify pathogen on the surface**

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**Fig. S1.** Typical calibration curve for Real-Time PCR of (a) *Staphylococcus aureus*, (b) *Escherichia coli*, (c) Adenovirus.

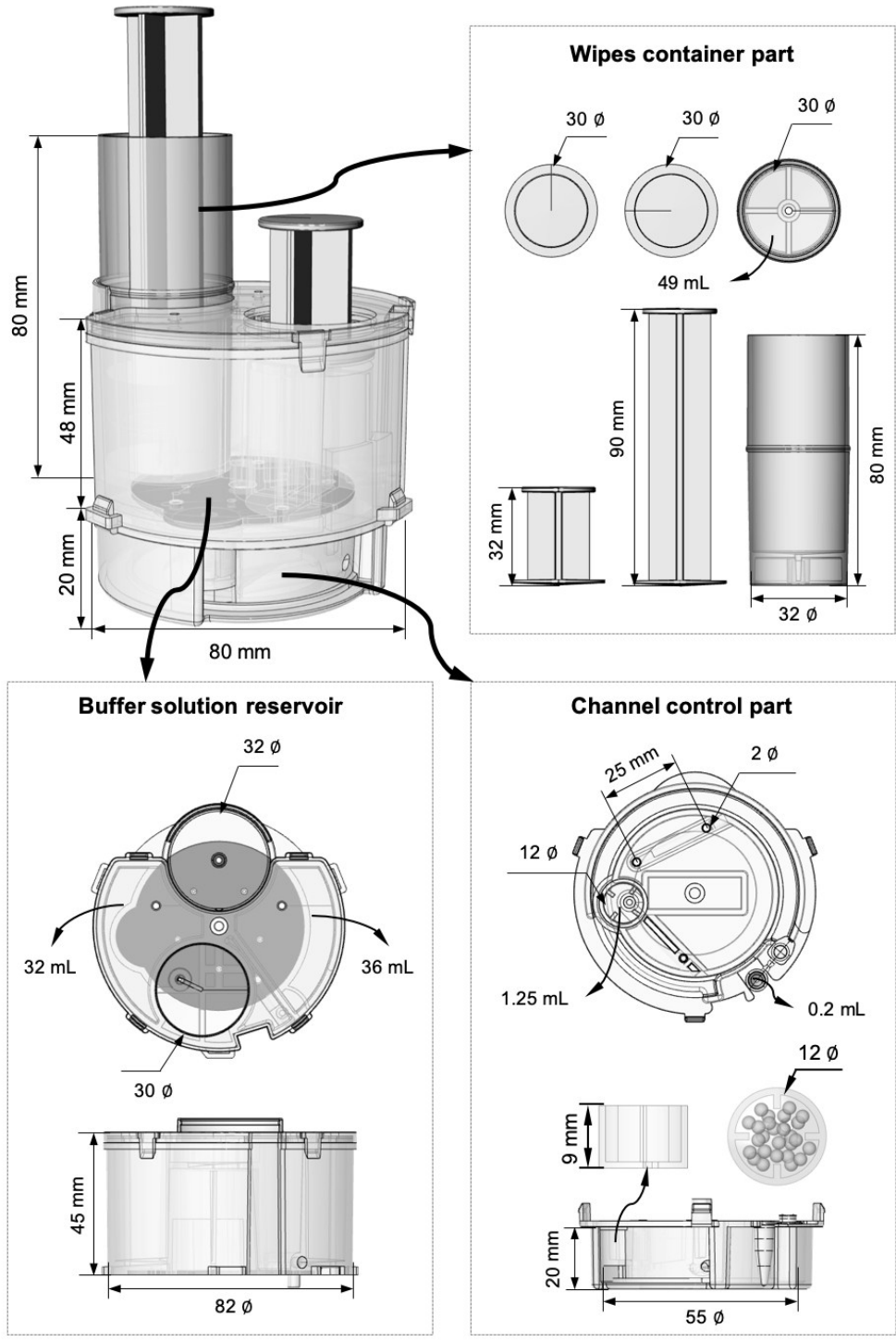
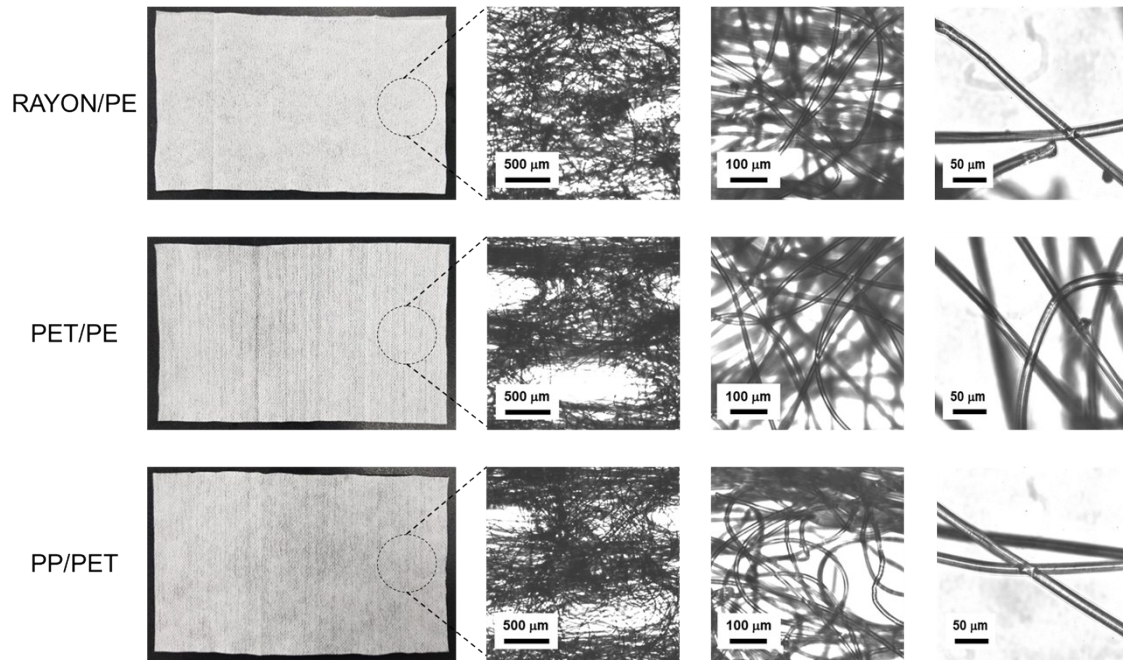


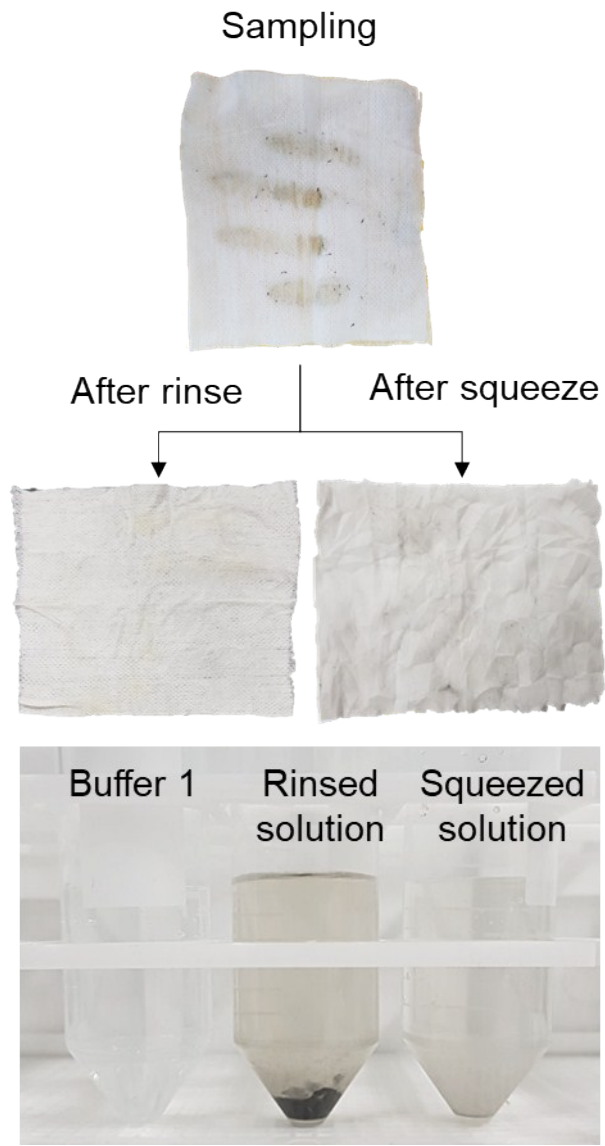
Fig.S2. Design of cartridge for PCR compatible surface sampling tool.



**Fig.S3.** Morphological structures of various wipers by bright-field microscope image.



**Fig.S4.** Various surface measurements of lavatory for performance testing.



**Fig.S5.** Images of solution turbidity according to dust removal methods; After rinse: soak wipes in buffer 1 and rinse, After squeeze: soak wipes in buffer 1 and squeeze.