

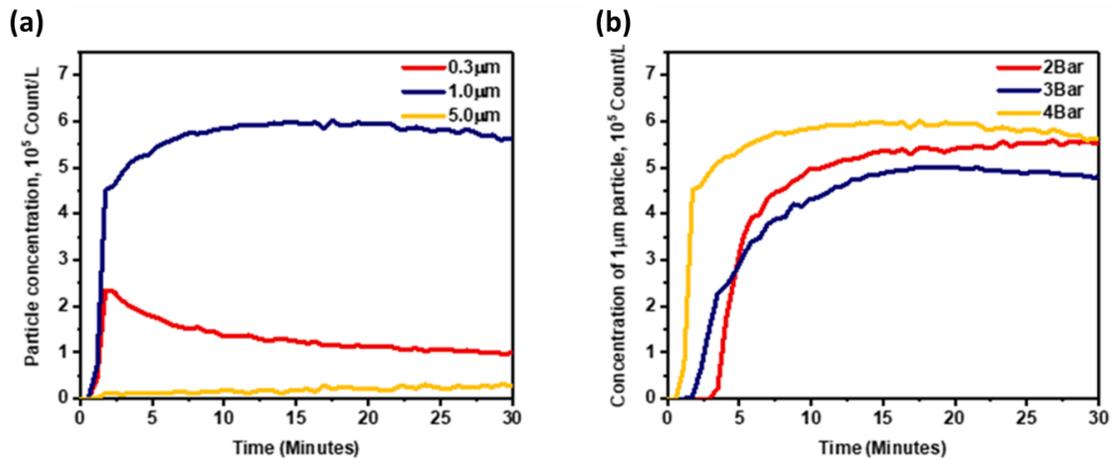
## Supporting Information

# Bioaerosol Disinfection by a Cold Plasma Ionizer Coupled with an Electrostatic Precipitator

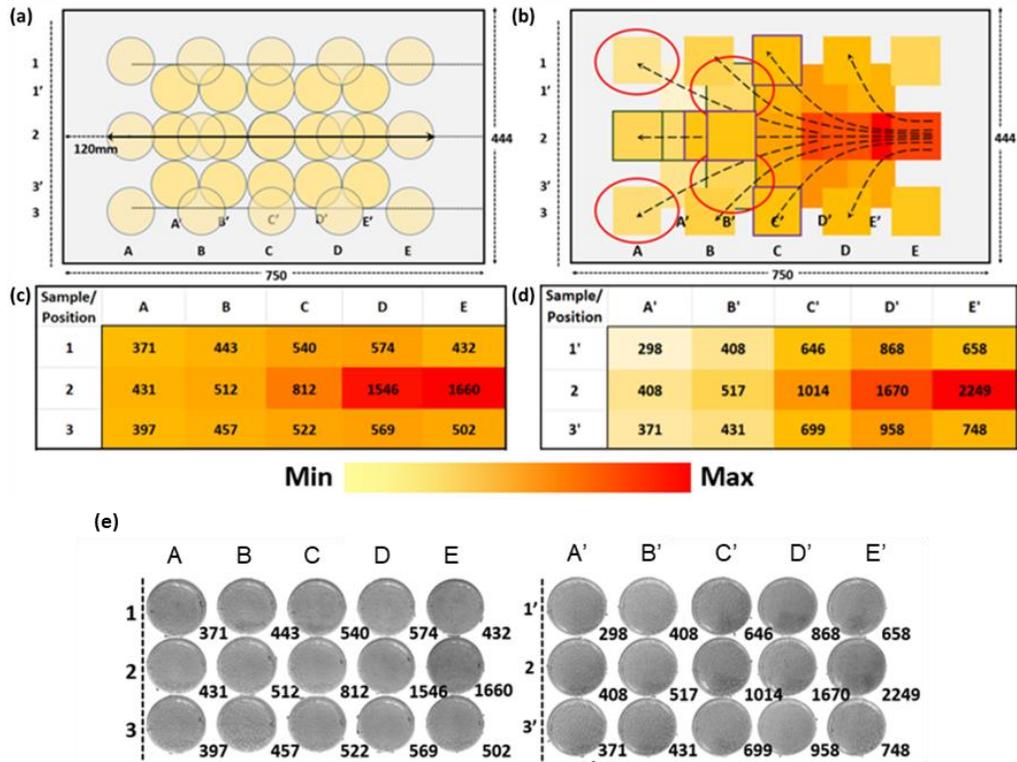
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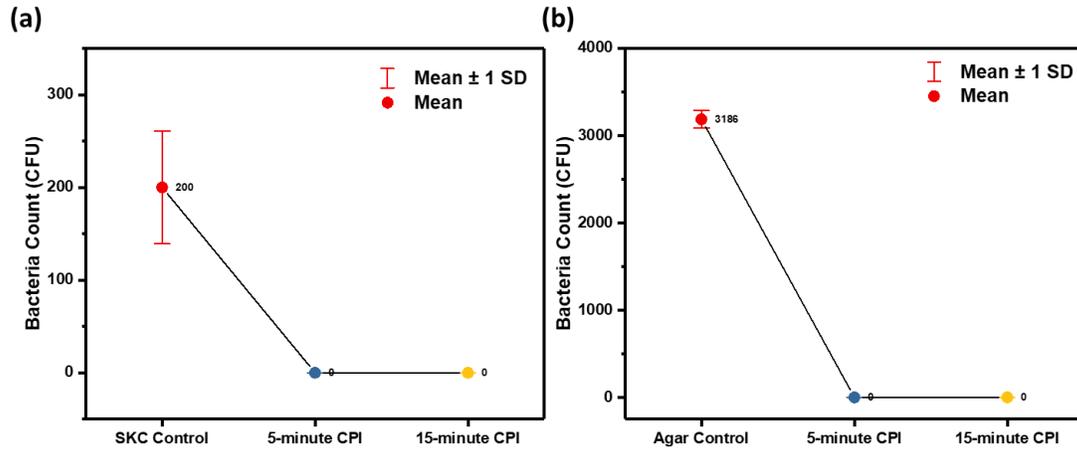
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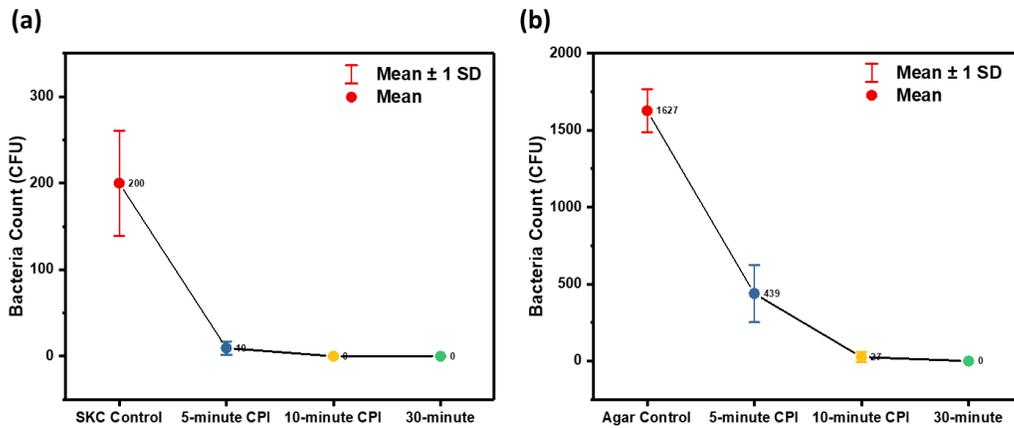
**Figure S1.** (a) Particle size profiles for aerosolized *E. coli* and (b) 1  $\mu\text{m}$  aerosol concentration generated by the nebulizer at different pressures.



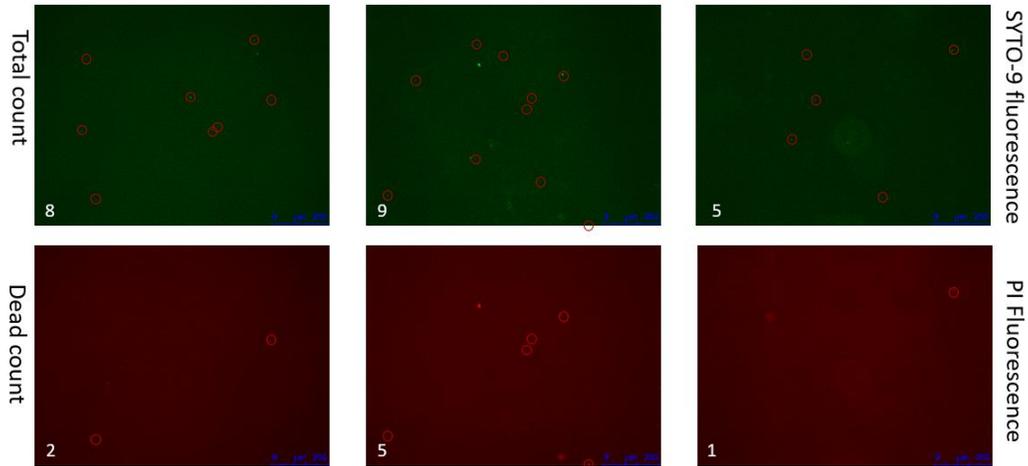
**Figure S2.** Mapping of aerosolized *E. coli* (from  $10^5$  CFU/mL solution in the nebulizer) in the aerosol test chamber using passive agar sampling. (a) Agar plates arrangement, (b) Heatmap derived from plate counts of the two sets agar plates ((c) and (d)). The numbers in (c) and (d) are the number of *E. coli* colonies obtained on the agar plates. (e) Plate count images of the aerosolized *E. coli* mapping in the testing chamber.



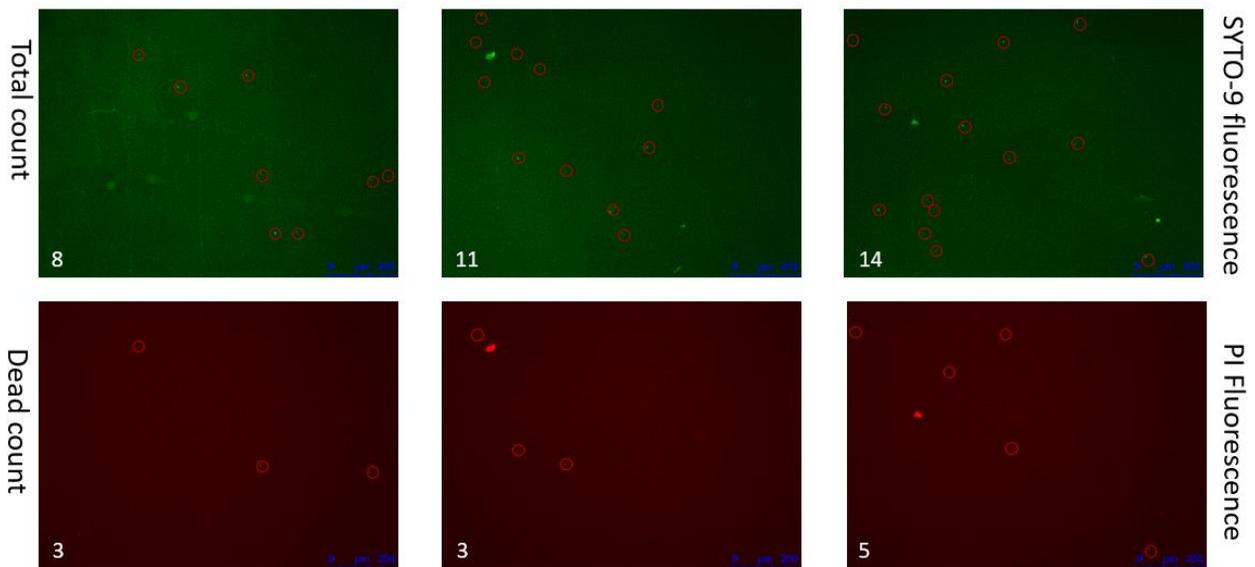
**Figure S3.** Bacteria count results from collected aerosolized *E. coli* (from  $10^5$  CFU/mL solution in the nebulizer) in the aerosol test chamber using SKC BioSampler and passive agar sampling after exposure duration to CPI based on operational timeline arrangement 1. **(a)** SKC BioSampler bacteria count results **(b)** Passive agar sampling bacteria count results.



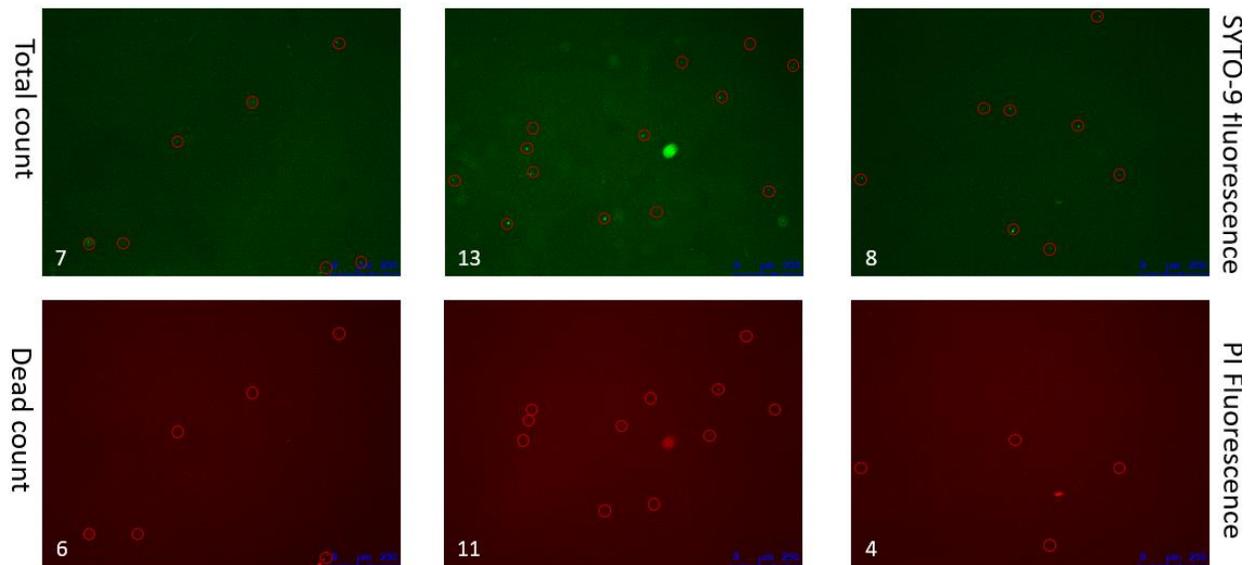
**Figure S4.** Bacteria count results from collected aerosolized *E. coli* (from  $10^5$  CFU/mL solution in the nebulizer) in the aerosol test chamber using SKC BioSampler and passive agar sampling after exposure duration to CPI based on operational timeline arrangement 2. **(a)** SKC BioSampler bacteria count results **(b)** Passive agar sampling bacteria count results.



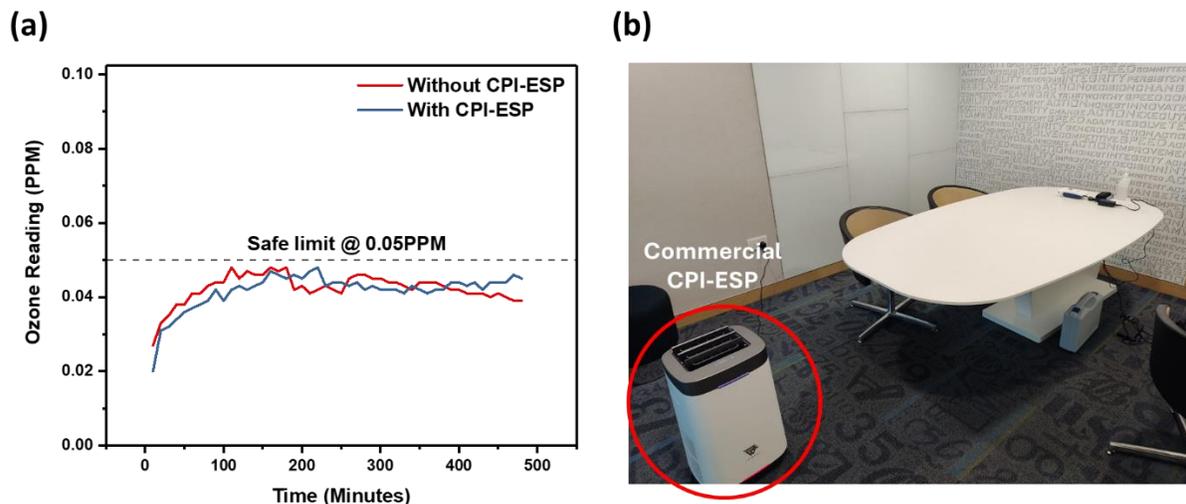
**Figure S5.** Fluorescence microscopy of collected SKC BioSampler samples without CPI treatment. Fluorescent bacteria in each image are circled and the count is indicated at the bottom left of each image. Few dead cells were observed stained with propidium iodide in the N21 filter setting as compared to cells stained with SYTO9 in the GFP filter setting.



**Figure S6.** Fluorescence microscopy of collected SKC BioSampler samples with 5 minutes of CPI treatment under timeline arrangement 1 (CPI saturation). Fluorescent bacteria in each image are circled and the count is indicated at the bottom left of each image.



**Figure S7.** Fluorescence microscopy of collected SKC BioSampler samples with 15 minutes of CPI treatment under timeline arrangement 1 (CPI saturation). Fluorescent bacteria in each image are circled and the count is indicated at the bottom left of each image.



**Figure S8.** (a) Ozone monitoring data over 8 hours without and with commercial CPI-ESP equipment (b) Meeting room with volume space of  $32.5m^3$  with the commercial CPI-ESP setup.