Supplementary Information for

A curtain purification system based on rabbit fur-based rotating triboelectric nanogenerator for efficient photocatalytic degradation of volatile organic compounds

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The PDF file includes:

Fig. S1 to S13

Other Supplementary Material for this manuscript includes the following:

Videos S1 and S2

Fig. S1 Energy forms driving RR-TENG, which has wind, water flow and human motion.

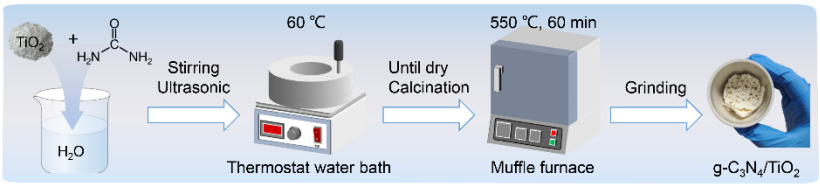

Fig. S2 Preparation illustration of g-C_3N_4/TiO_2 composite photocatalyst.

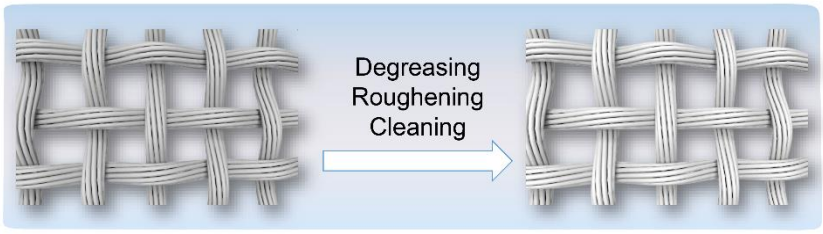

Fig. S3 Flowchart of commercial fabric pretreatment.

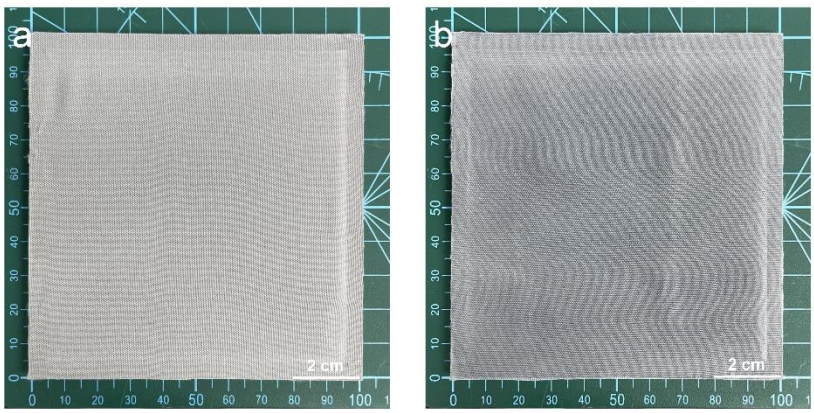

Fig. S4 Photographs of (a) pretreated commercial fabric, (b) conductive curtain with photocatalysis (finished product), scale bar, 2 cm.

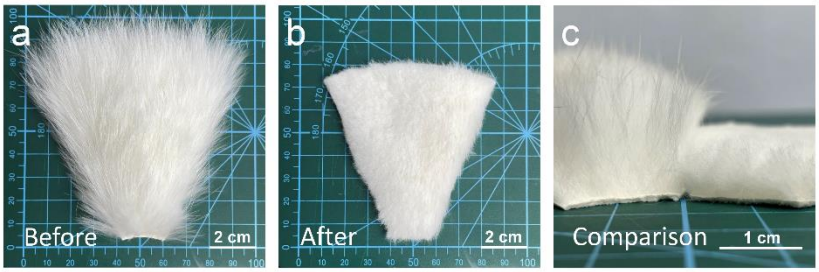

Fig. S5 Photographs of rabbit fur before and after trimming and its effect comparison. (a)

Untreated rabbit fur (before trimming), (b) treated rabbit fur (after trimming), scale bar, 2 cm. (c) Effect comparison of rabbit fur, scale bar, 1 cm.

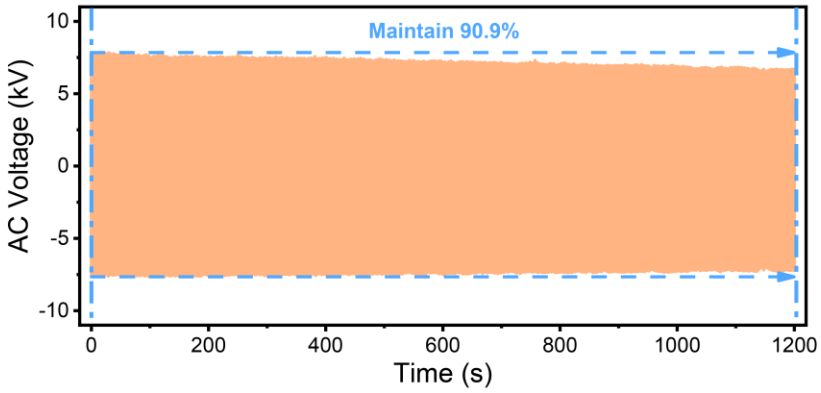

Fig. S6 Voltage stability test of RR-TENG running for 2000 times.

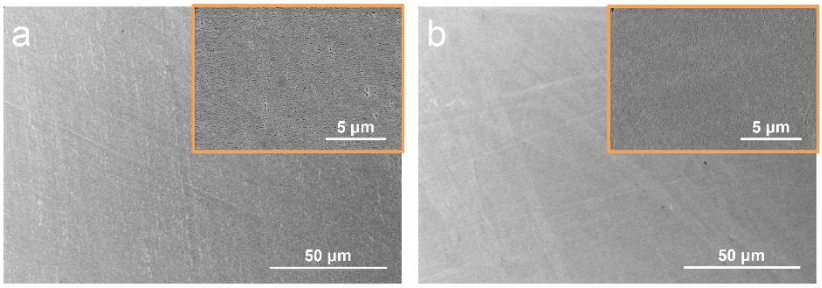

Fig. S7 Microscopic surface morphology of PTFE before (a) and after (b) friction, scale bar, 50 μm (inset, scale bar, 5 μm).

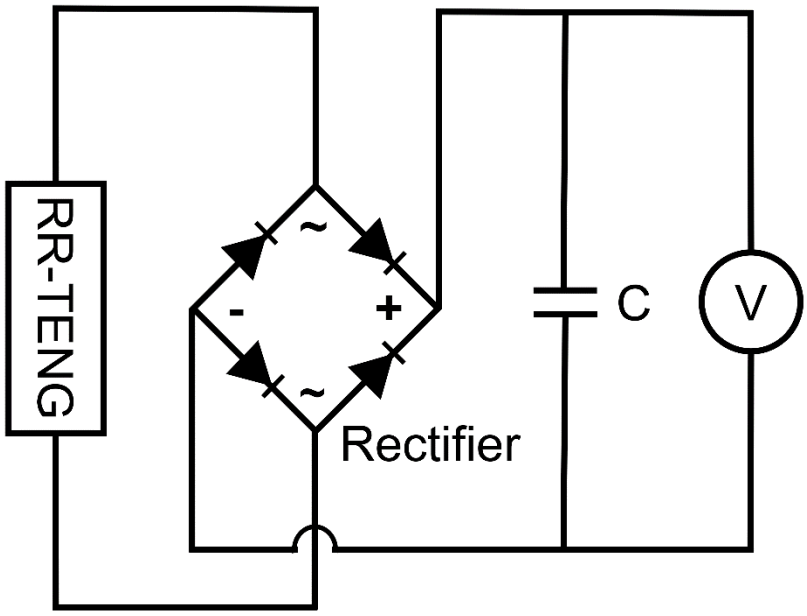

Fig. S8 Circuit diagram of charging commercial capacitor.

Fig. S9 Photograph of simulated reaction chamber for formaldehyde reaction (quartz glass on the right, 9 L), scale bar, 10 cm.

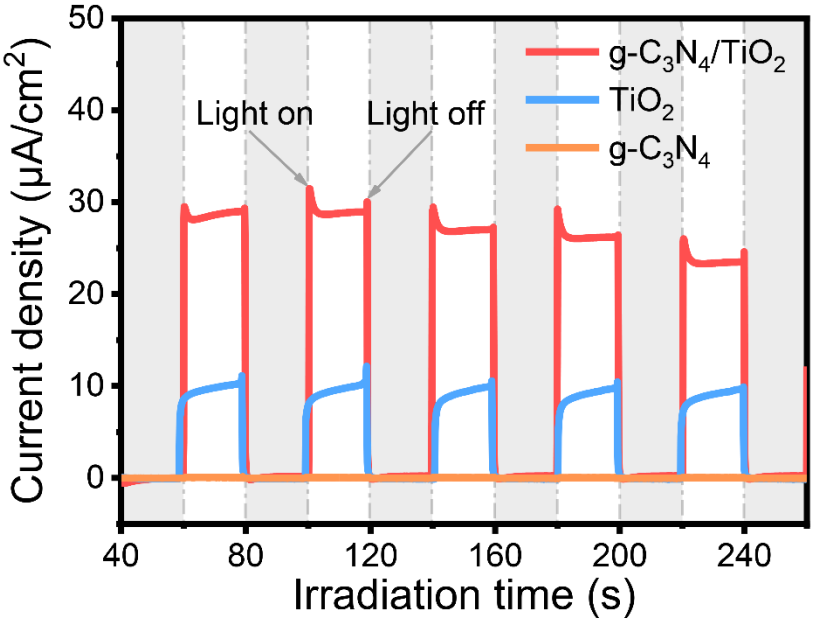

Fig. S10 Photocurrent response spectrum of photocatalysts (λ=365 nm).

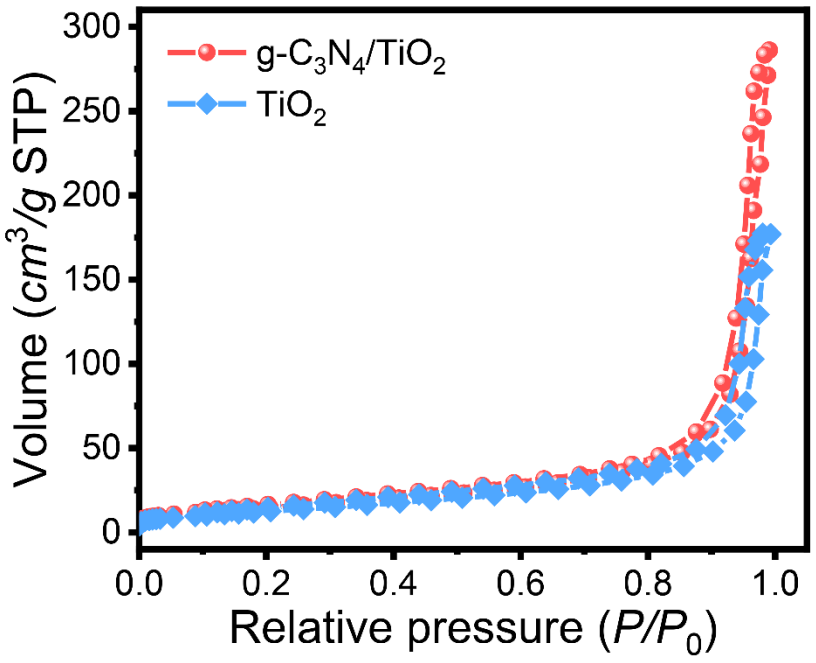

Fig. S11 BET surface area spectra of g-C_3N_4/TiO_2 and TiO_2 photocatalyst.

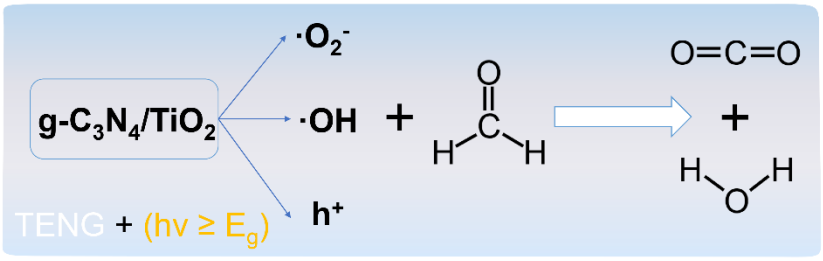

Fig. S12 Reaction path of formaldehyde degradation.

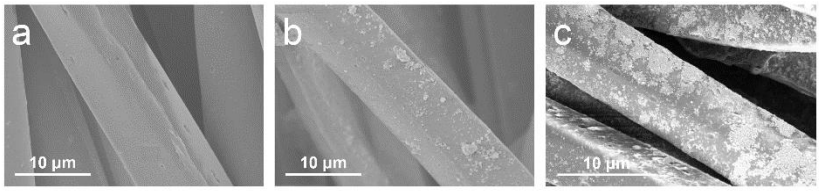

Fig. S13 SEM images before and after dust removal. SEM images of (a) conductive curtain, (b) conductive curtain with photocatalyst (before removing smoke), (c) conductive curtain containing photocatalyst and PM (after removing smoke), scale bar, 10 μm.