Response to Reviewer #1:

Thank you for your professional comments on our paper. We have revised our paper according to your comments:

1. *Wrong chemical formula in Fig. 2.*

   The chemical formula has been revised in the manuscript.

![Chemical formula](image)

2. *Polymerisation mechanism of dopamine cannot be found in Ref. 32.*

   Thanks for your question, the new reference has been cited in the manuscript.


3. *Method to determine weight gain (Fig. 5) is missing.*

   The method of the weight gain is listed in the manuscript.

   Please refer to Pag 11, “The weight gain was presented by an equation:

   \[
   M = \frac{M_i - M_{i0}}{S_i}
   \]

   Where \( M \) (g/m\(^2\)) denotes the weight gain of the fabric; \( M_i \) (g) is the weight of the sample after the treatment of dopamine; \( M_{i0} \) (g) is the weight of the sample before the treatment of dopamine; \( S_i \) (m\(^2\)) is the area of the sample; \( i \) (h) is the treatment time 0, 3, 6, 9, and 12 h respectively.
4. The identification of PDA using IR as reported is very vague (exact description of vibration bands, reference of PDA and PP/PDA samples).

The IR of PP/PDA(12) was the same as the untreated PP nonwoven fabric, that may be the content of PDA is too little to be detected.

5. How is the contacting in Fig. 7 with LED bulb (on the surface of through the substrat).

In Fig. 7 the LED bulb was linked with an incomplete circuit, the LED didn’t turn on. However, when the circuit was contacted with the surface of the substrat, the LED bulb turned on. We only sputtered Ag on the surface of the substrat, so only the surface of the sample can be conductive.

6. Metal coordination mechanism Ag / PDA cannot be found in Ref. 35, 36.

Thanks for your question, the new reference has been cited in the manuscript.


7. Covalent bond between PDA with PP fabric (and Ag film) cannot be found in Ref. 17

The Ref. 17 has been changed as Ref. 14.