Supporting Information

Alginate film-based degradable triboelectric nanogenerator

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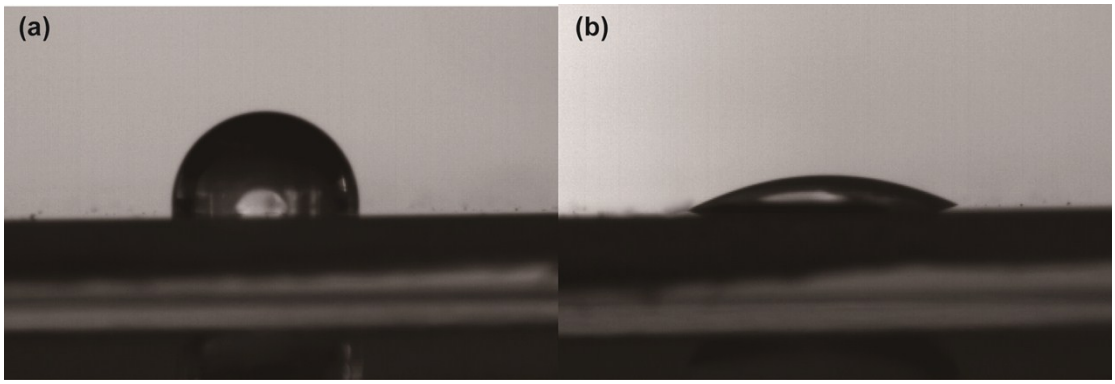

Figure S1. Photograph of a sodium alginate droplet on the culture dish. (a) Before the UV–ozone treatment, the culture dish surface is hydrophobic and it is difficult to form thinner sodium alginate film. (b) After the UV–ozone treatment, culture dish surface becomes hydrophilic and it is easy to form thinner sodium alginate film.

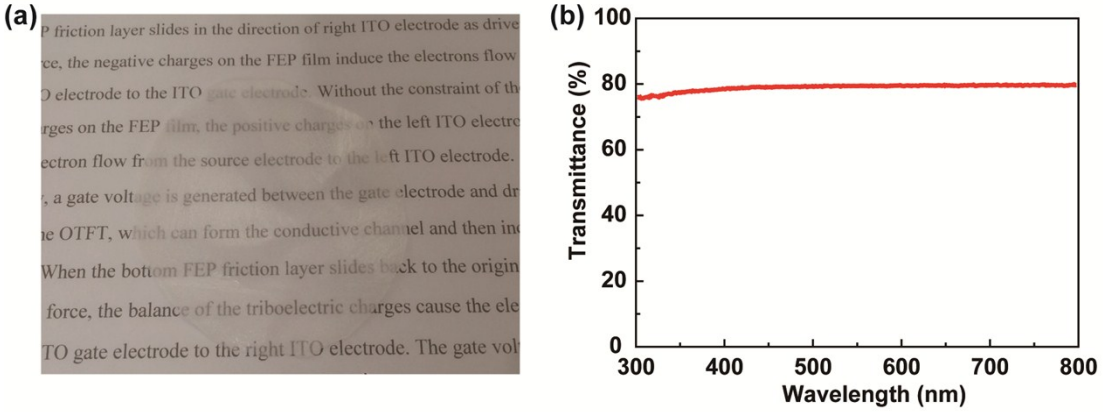

Figure S2. Transmittance performance of the calcium alginate film. (a) Photographic image of the thin calcium alginate film. (b) The UV-vis spectrum of the thin calcium alginate film.

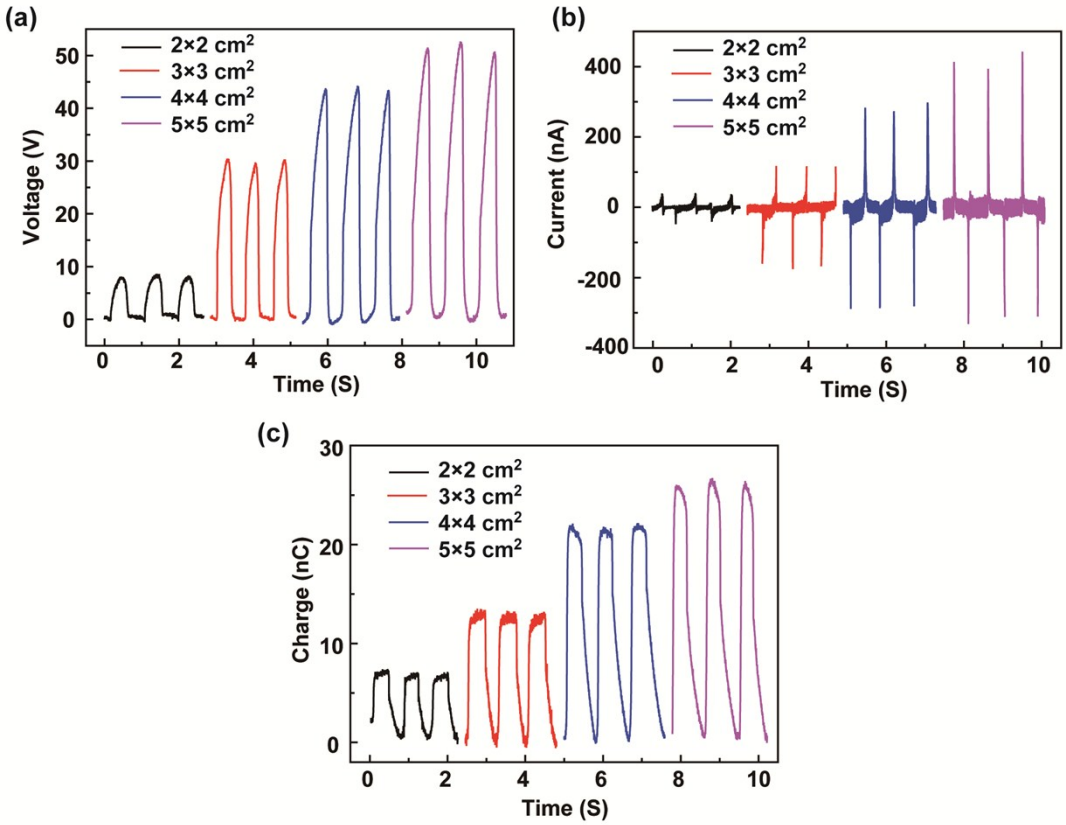

Figure S3. The effects of the film area on the electrical output characteristics. The measured open-circuit voltage (a), short-circuit current (b) and transferred charge (c) of the fabricated TENG at different film area.

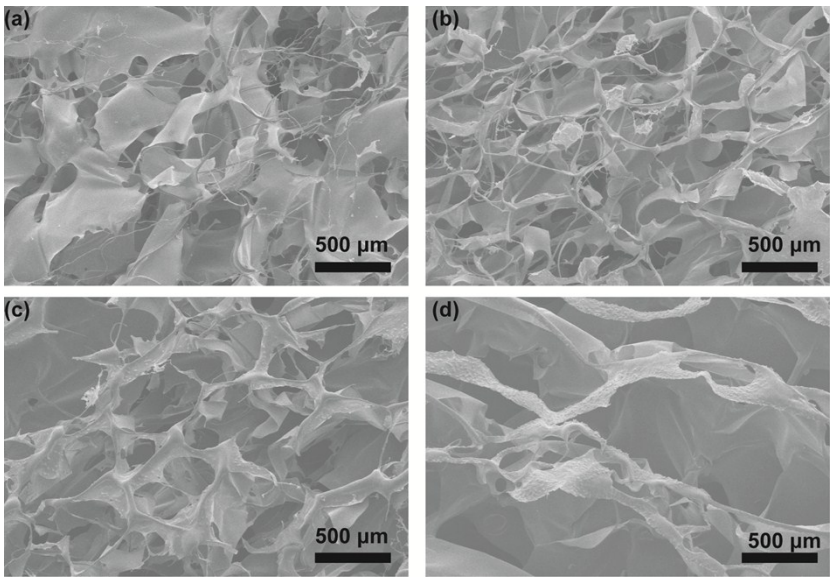

Figure S4. The SEM image of the calcium alginate films with the sodcium alginate solution concentration of (a) 0.5%, (b) 1%, (c) 1.5% and (d) 2%.

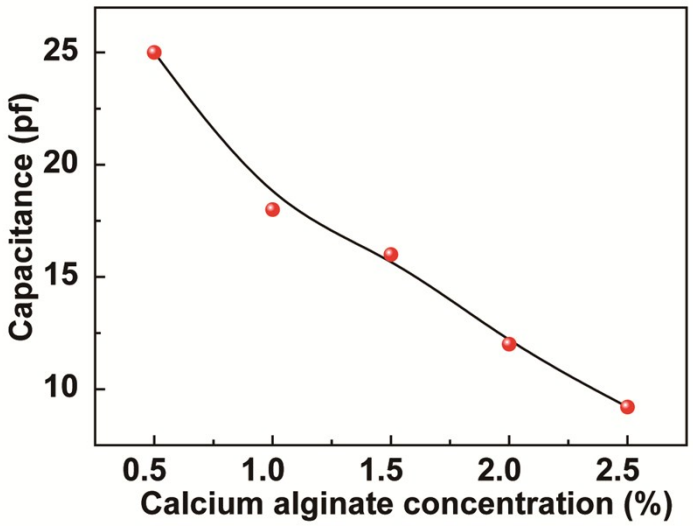

Figure S5. The film capacitance depended on the calcium alginate concentration.