

Electronic Supplementary Information

Ultrahigh discharge efficiency and energy density at a low electric field of sandwich-structured polymer films containing dielectric elastomers

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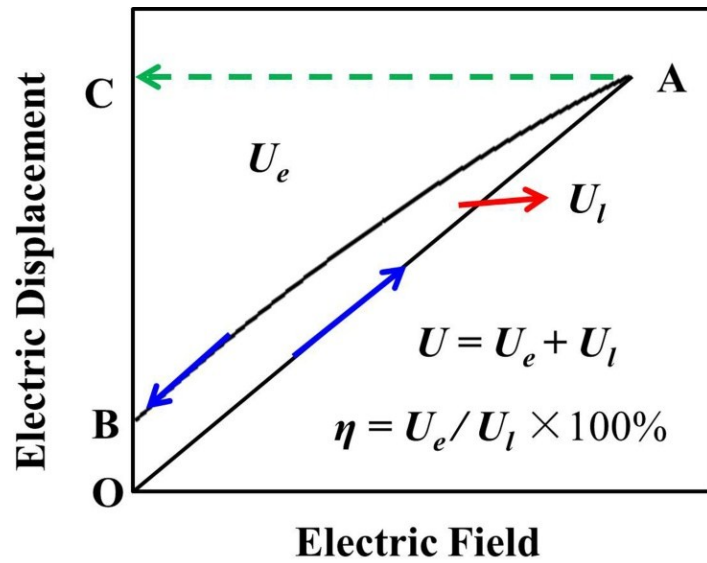


Fig. S1. Schematic D - E loop of a dielectric material, where the charged (total) energy density (U) is derived from the D - E loop by integration of the area between the charge curve and the ordinate, the discharged energy density (U_e) is determined by the area between the discharge curve and the ordinate, and efficiency (η) is the ratio of U_e and U .

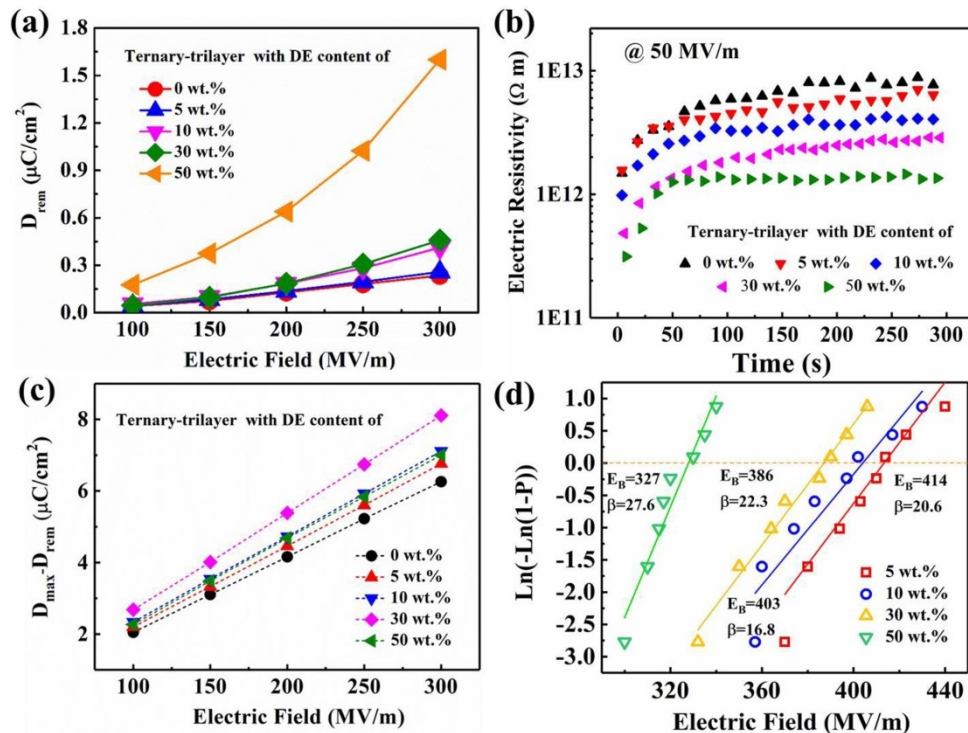


Fig. S2. (a) Remnant displacement. (b) Electrical resistivity. (c) Electrical displacement difference as a function of the applied field. (d) Weibull distribution and the characteristic breakdown strength of the ternary-trilayered films.

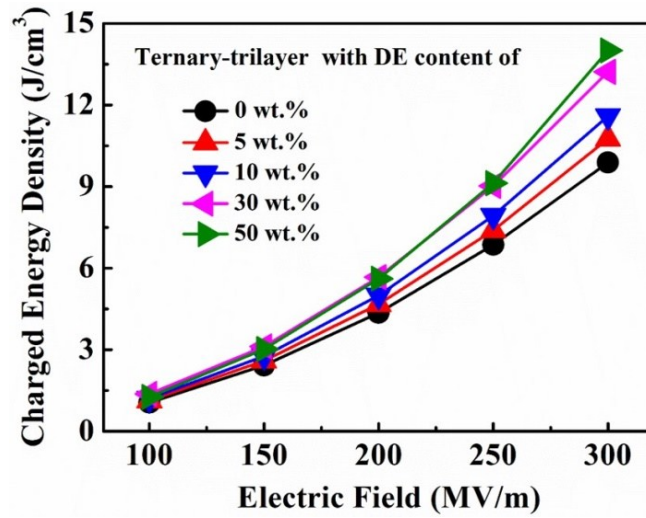


Fig. S3. Charged energy density of ternary-trilayer architecture films as a function of the applied field.

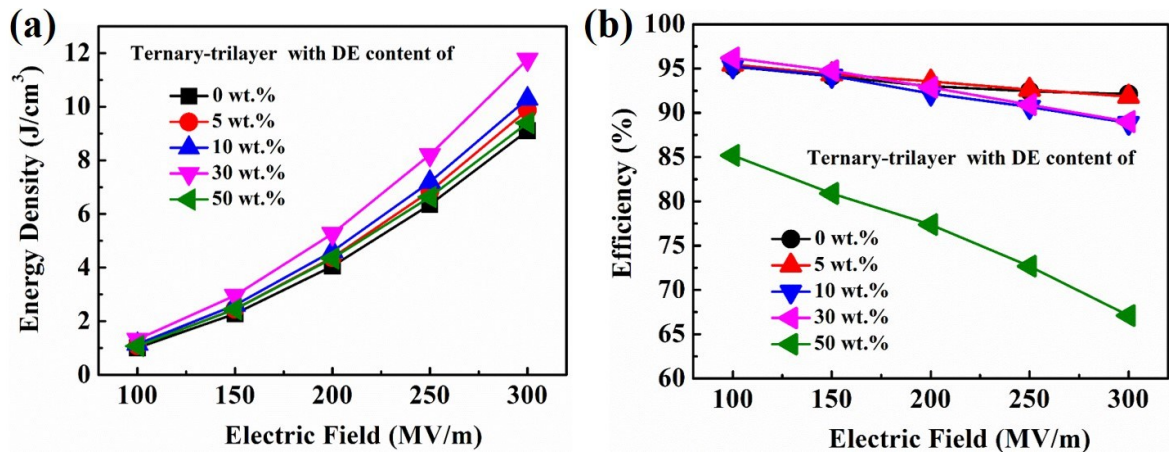


Fig. S4. (a) Discharged energy density and (b) efficiency of ternary-trilayer architecture films as a function of the applied field.

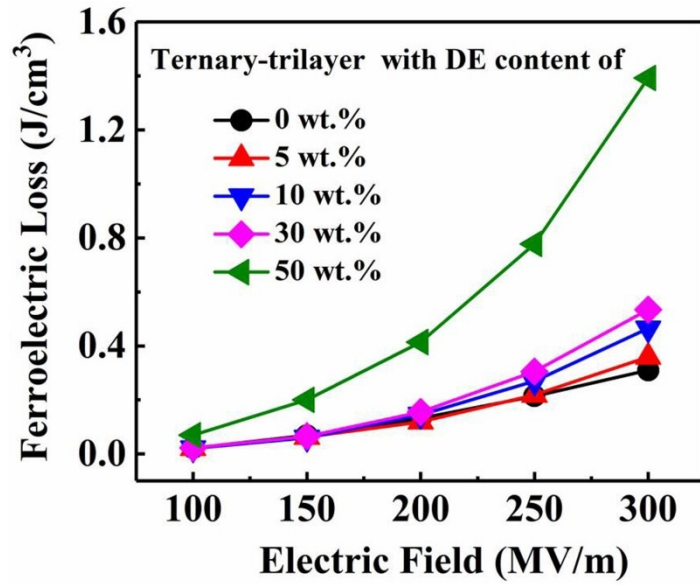


Fig. S5. Ferroelectric loss at varied electric fields of ternary tri-layered architecture films at different loadings.

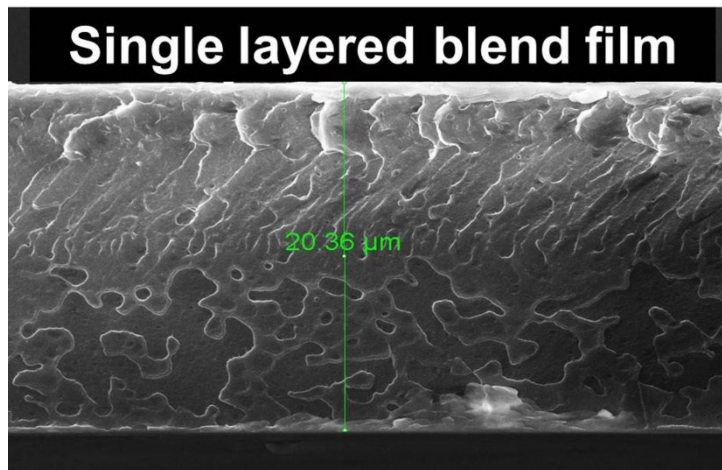


Fig. S6. Cross-section SEM morphology of single layered blend film.

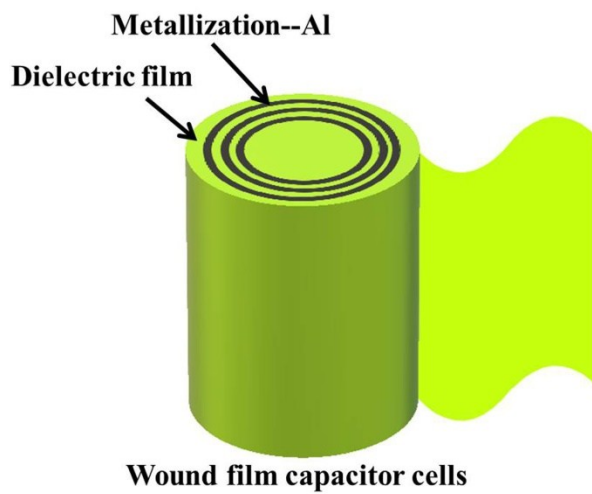


Fig. S7. Schematic illustration of a real wound film capacitor.

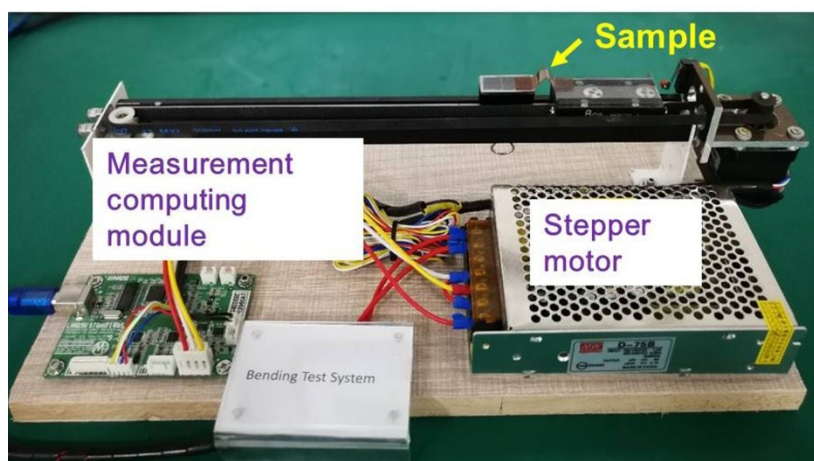


Fig. S8. Digital photographs of experimental setup of the bending test.

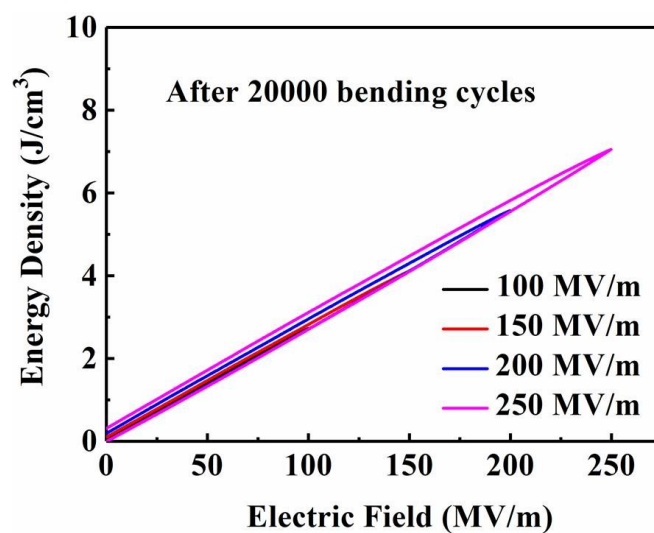


Fig. S9. D-E loops at varied electric fields of ternary-trilayer architecture film after bending tests.