

Supporting Information for

**Ultrahigh Discharge Efficiency and Improved Energy Density in
Rationally Designed Bilayer Polyetherimide-BaTiO₃/P(VDF-HFP)
Composites**

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Key words: dielectric permittivity, polymer composite, discharged efficiency, bilayer structure, film capacitor.

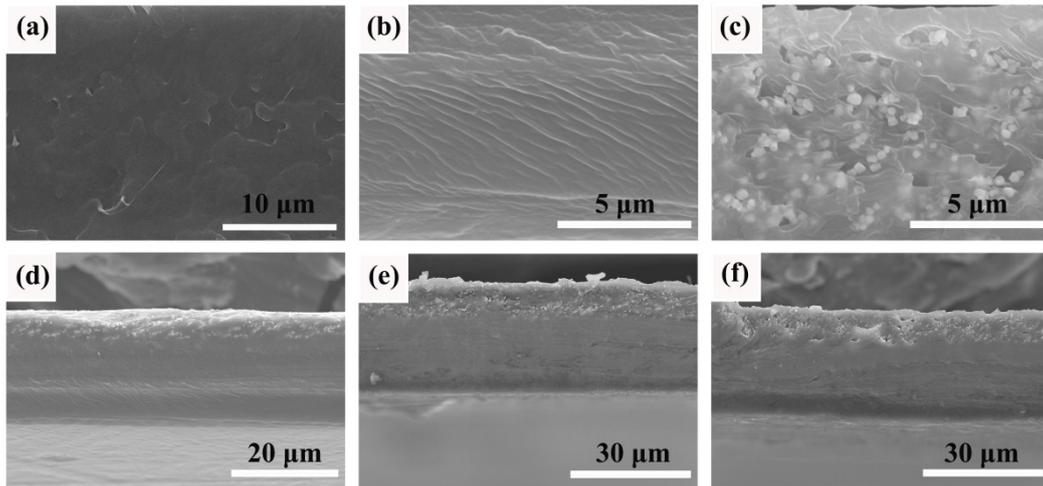


Fig. S1. (a-c) Cross-sectional SEM morphologies of pure PVDF, pure PEI and single-layer BaTiO₃/PVDF and (d-f) cross-sectional SEM morphologies of the PEI-5 vol% BT/PVDF, PEI-10 vol% BT/PVDF and PEI-20 vol% BT/PVDF bilayer composites.



Fig. S2. Photograph of the single-layer films with different volume fractions of BaTiO₃.

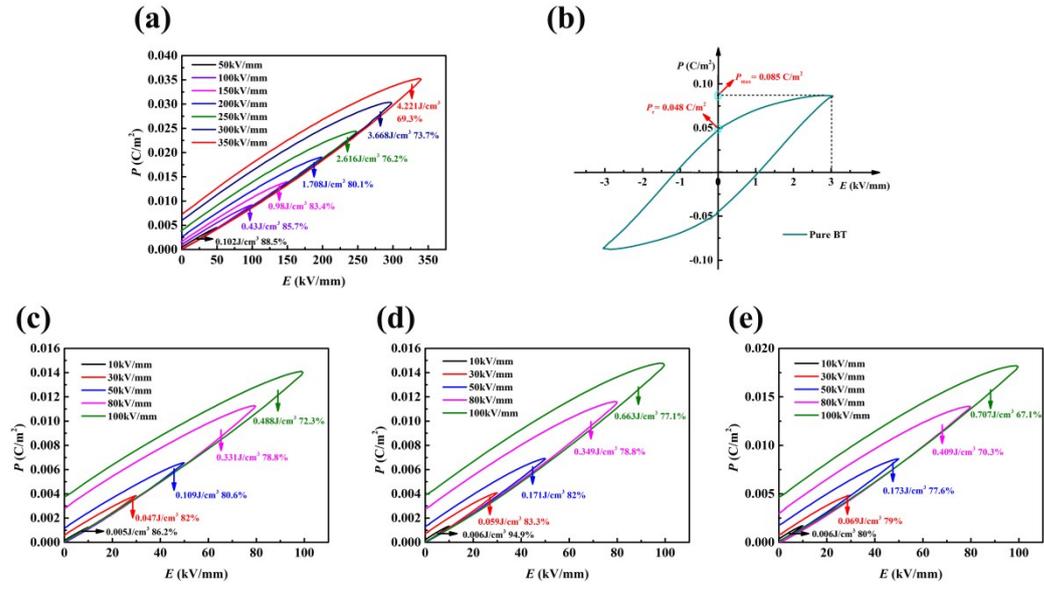


Fig. S3. (a) P - E loops of pure PVDF layer; (b) P - E loops of pure BT and (c-e) the single-layer BaTiO₃/P(VDF-HFP) composites with 5 vol%, 10 vol% and 20 vol% content of BaTiO₃ at different electric fields.

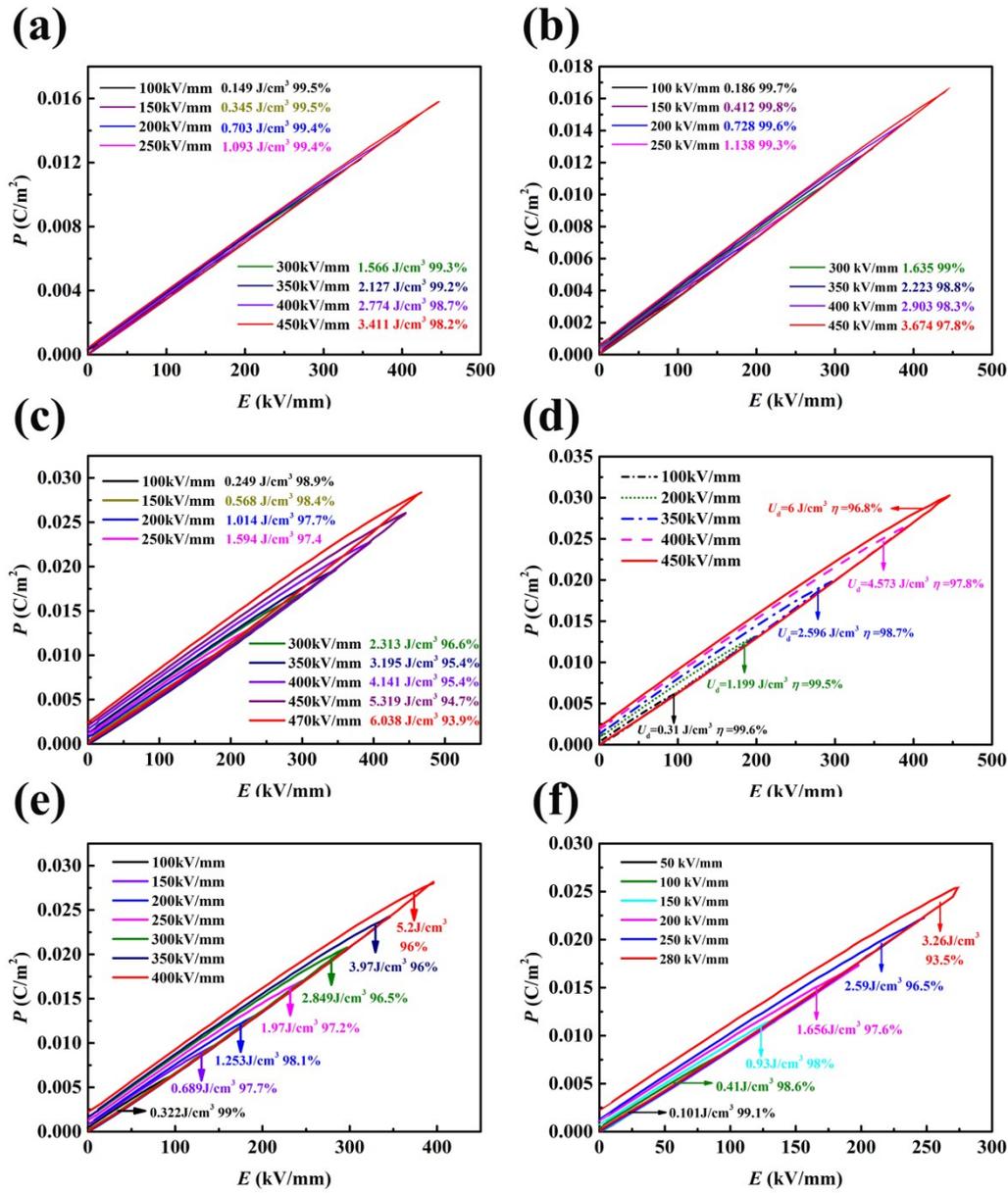


Fig. S4. P - E loops of pure PEI layer and (b-f) the bilayer 0 vol% (pure PVDF), 5 vol%, 10 vol%, 20 vol% and 40 vol% PEI-BaTiO₃/P(VDF-HFP) composites at varied electric fields.

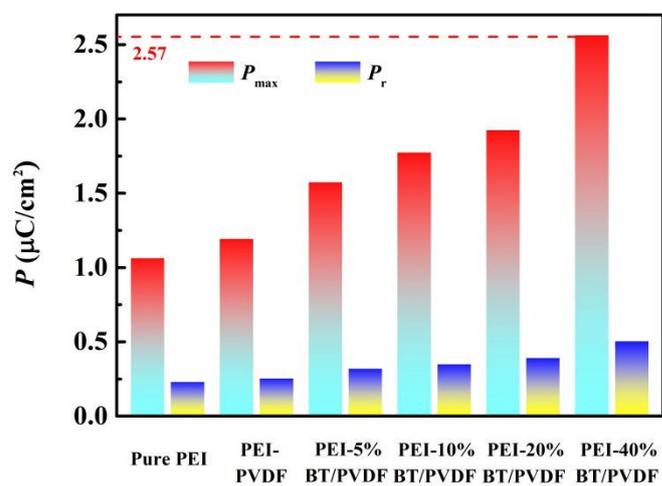


Fig. S5. The maximum displacement P_{\max} and remnant displacement P_r of the pure PEI and bilayer composites at 280 kV/mm.