Electronic Supplementary Information

All-organic ArPTU/PEI composite dielectric films with high-temperature resistance and high energy storage density

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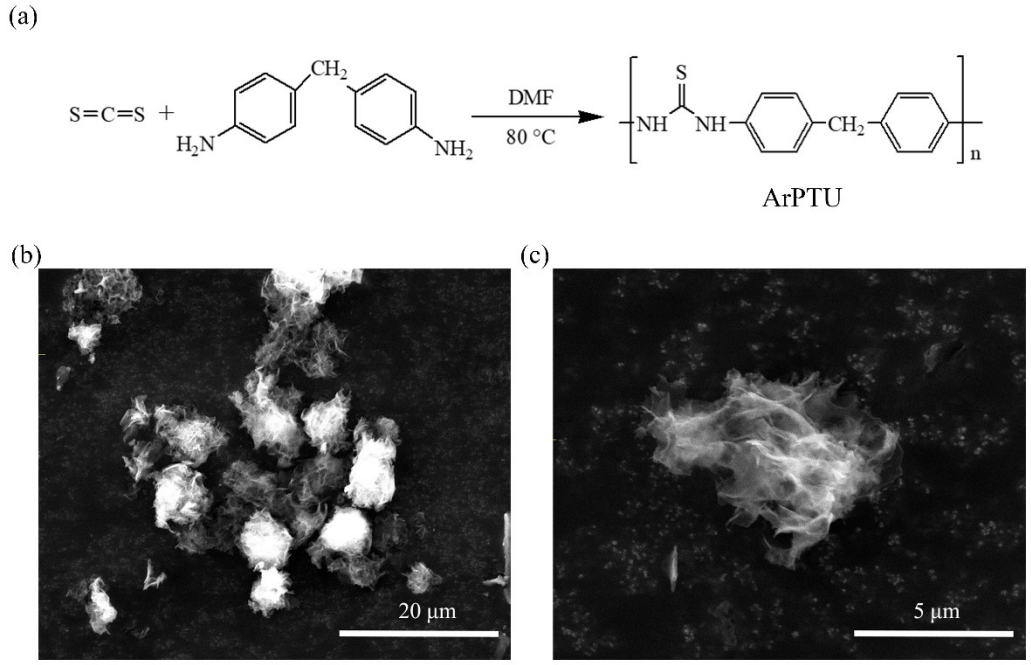

Figure S1. ArPTU synthesis equation and SEM images of ArPTU particles.

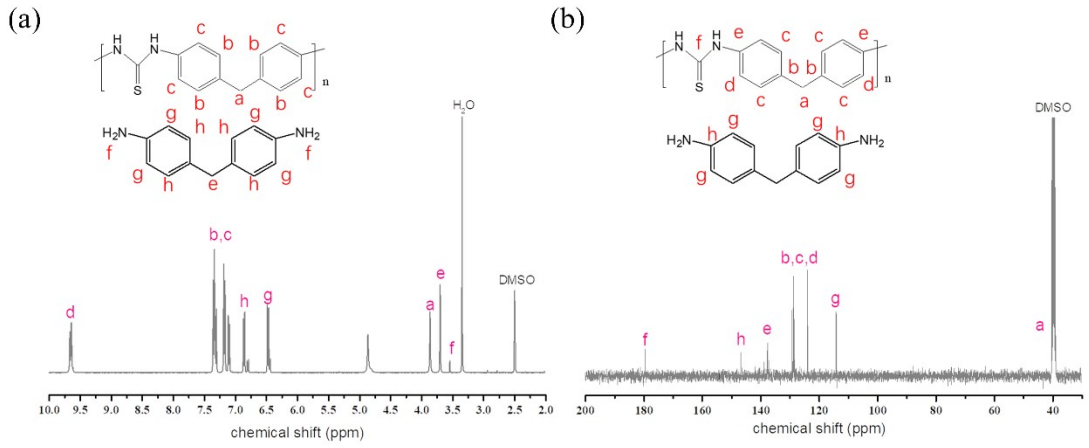

Figure S2. NMR spectra of ArPTU in DMSO-d_6.

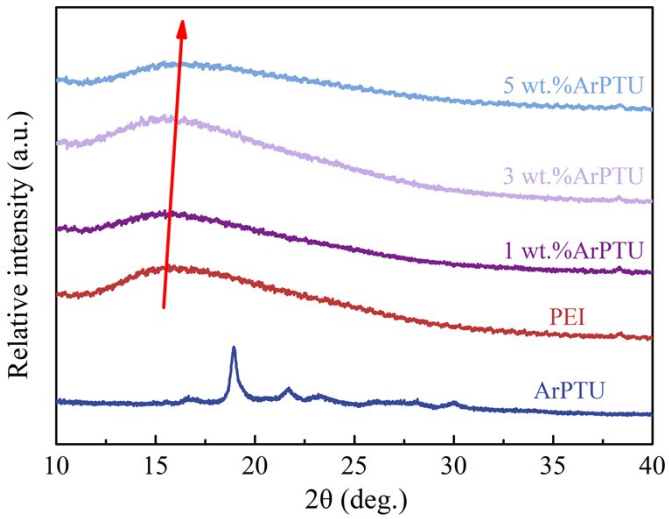

Figure S3. XRD patterns of composite films with different ArPTU contents.

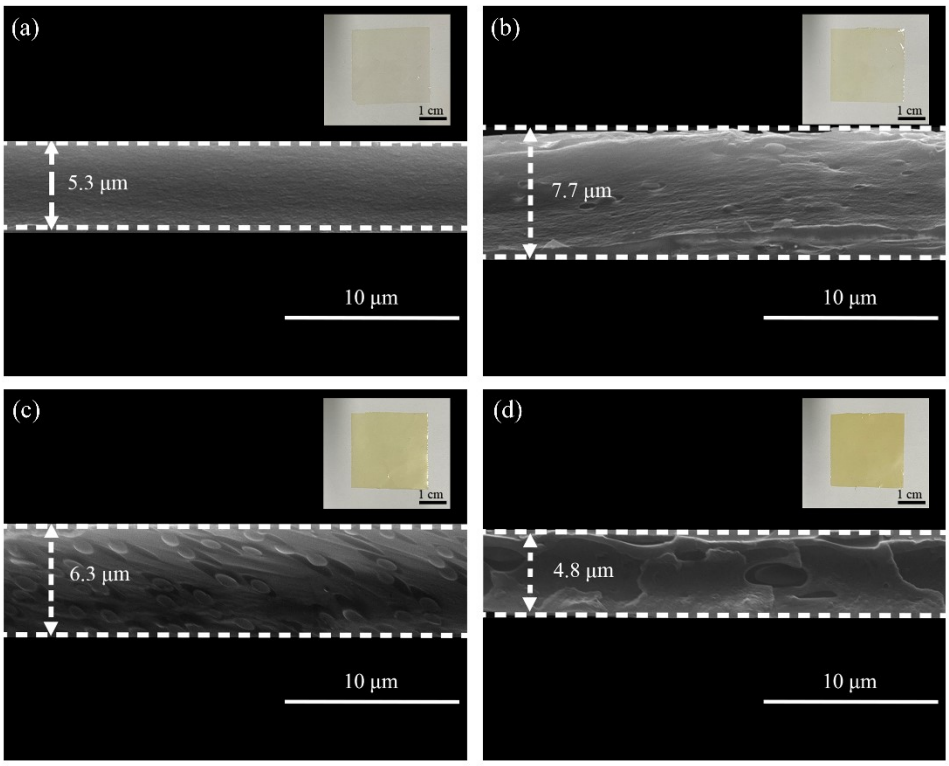

Figure S4. SEM images of PEI and 1 wt.%, 3 wt.%, 5 wt.% ArPTU composite films cross-section.

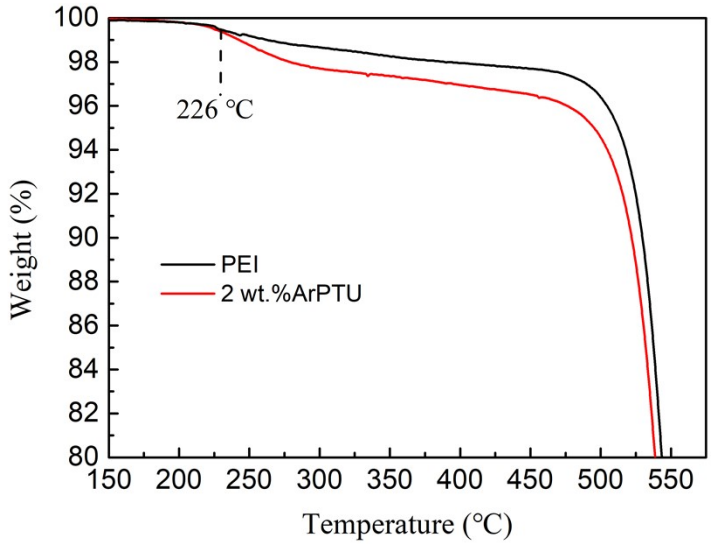

Figure S5. TGA curves of PEI and PEI/2 wt.% ArPTU films.

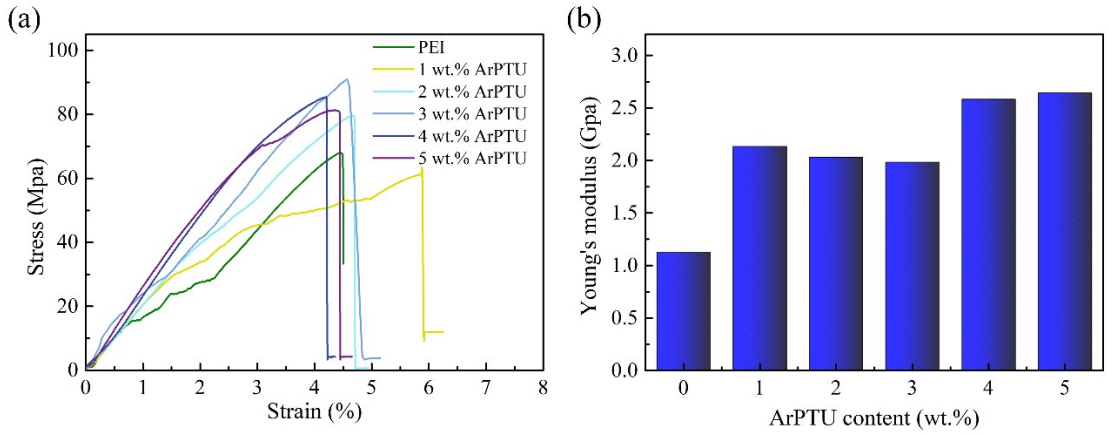

Figure S6. (a) Stress-strain curves and (b) Young's modulus of PEI/ArPTU composite films.

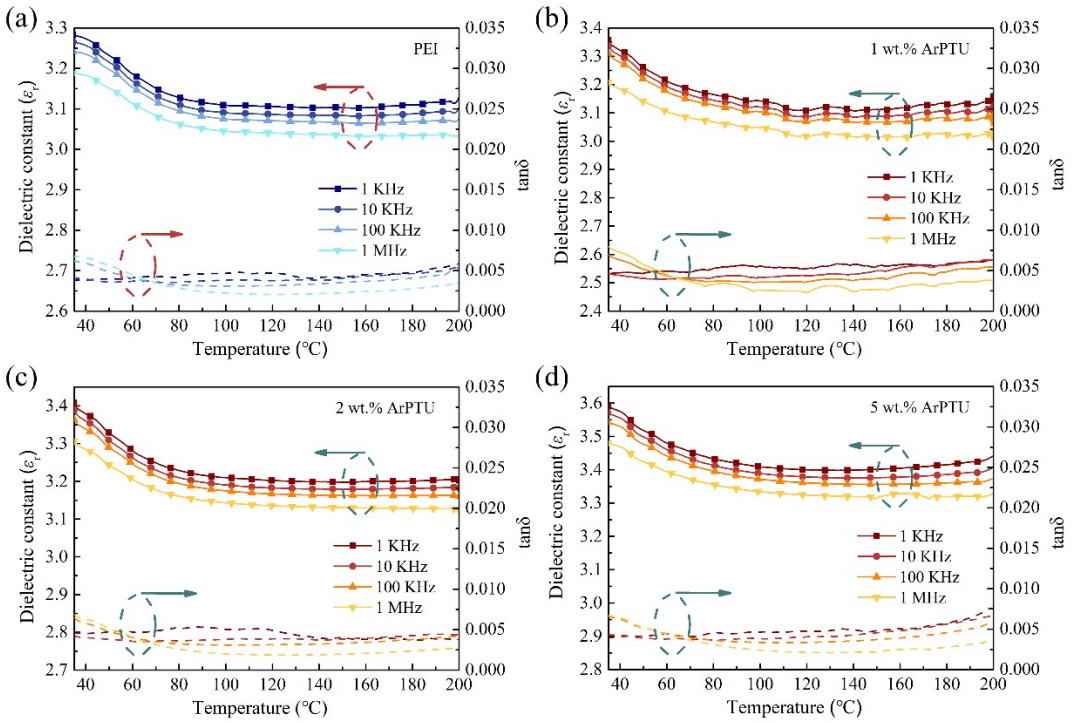

Figure S7. Temperature-dependent loss and dielectric constant of PEI and PEI/ArPTU composite films.

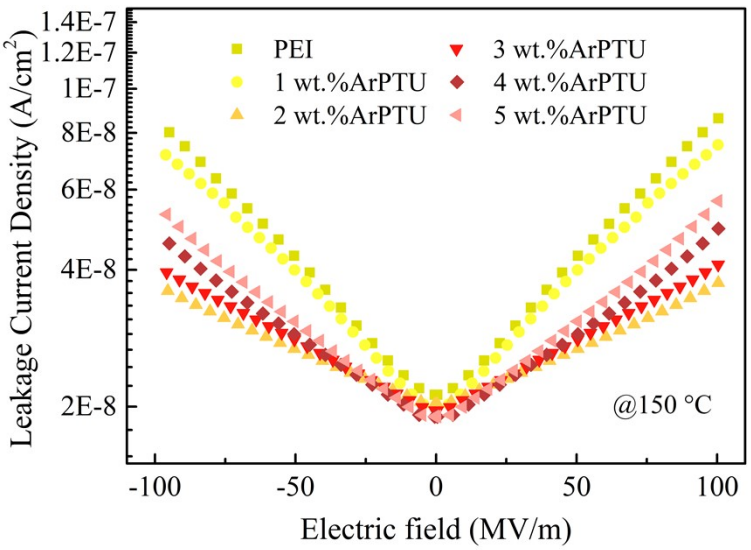

Figure S8. The leak current of ArPTU/PEI composite films at 150 ºC.

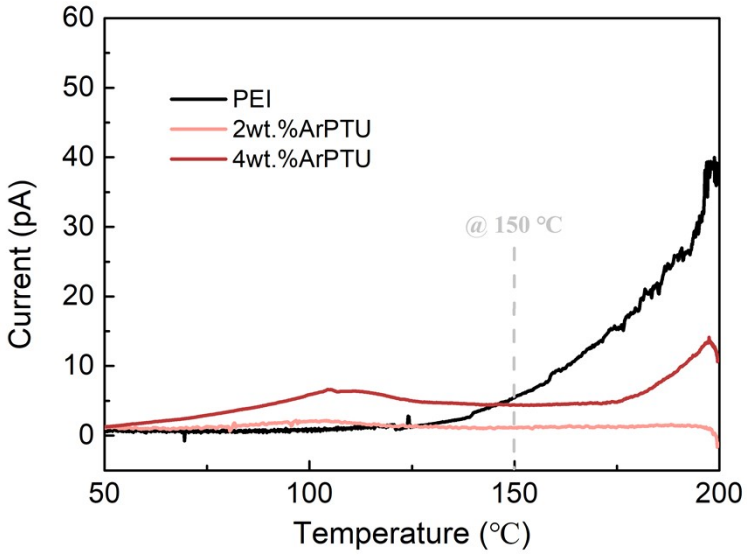

Figure S9. TSDC curves of PEI and PEI/ArPTU composite films.

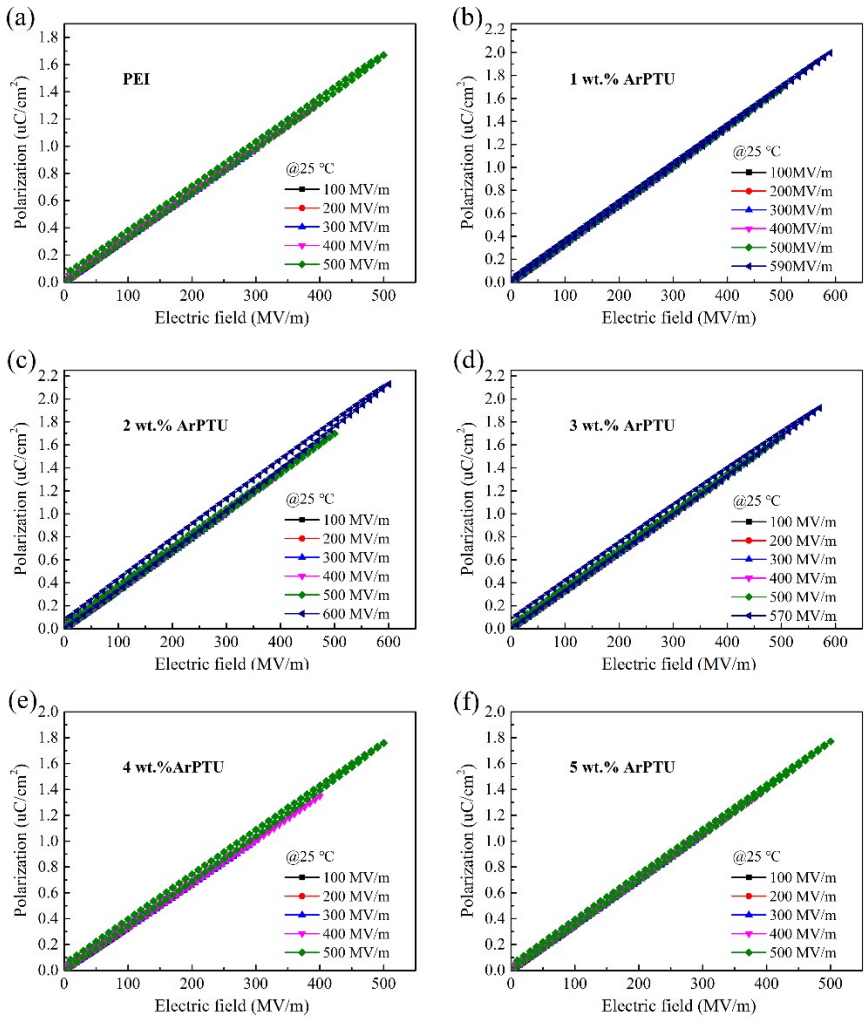

Figure S10. P-E loops of PEI/ArPTU composite films at 25 °C.

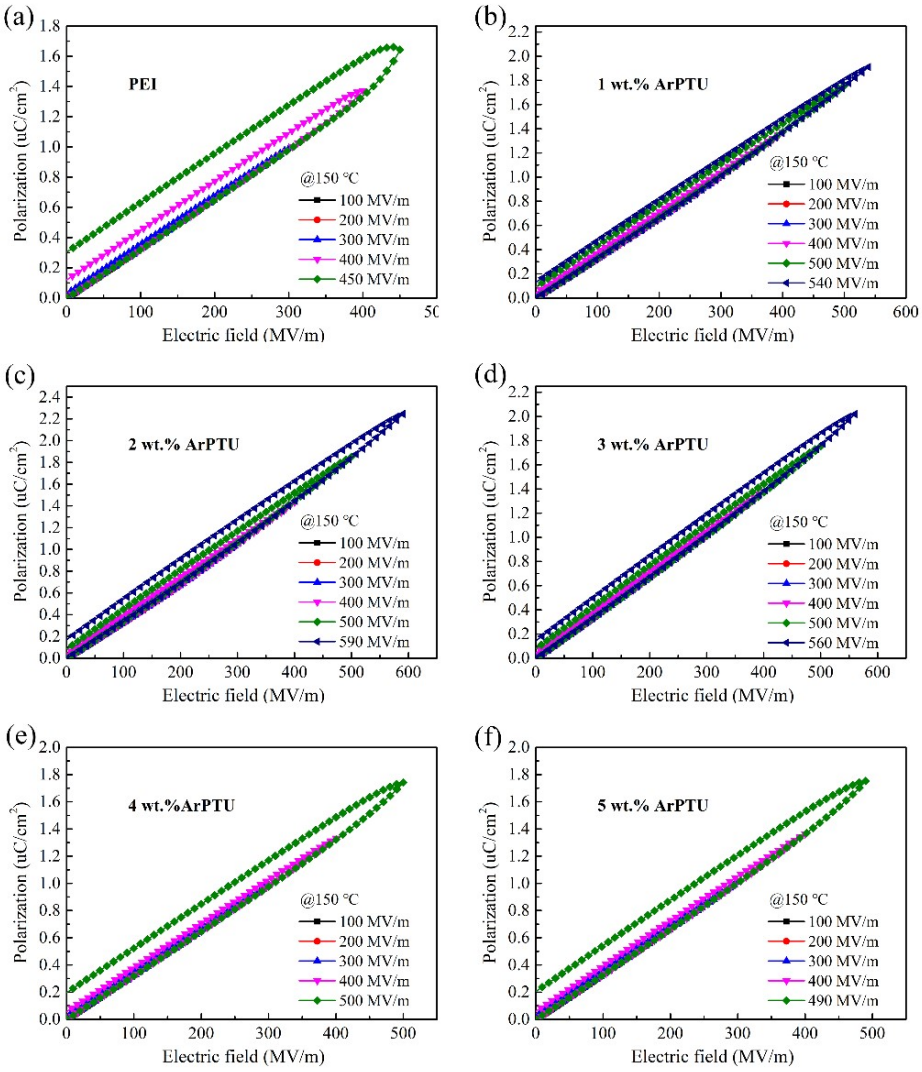

Figure S11. P-E loops of PEI/ArPTU composite films at 150 ºC.

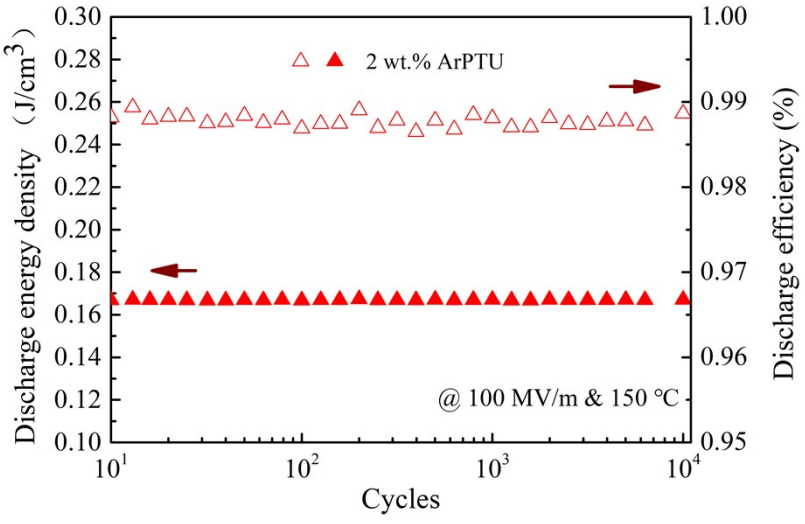

Figure S12. Cyclic performance of PEI/2 wt.% ArPTU films.