Electronic Supplementary Information

Gel-type Polymer Separator with Higher Thermal Stability and Effective Overcharge Protection of 4.2V for Secondary Lithium-ion Batteries

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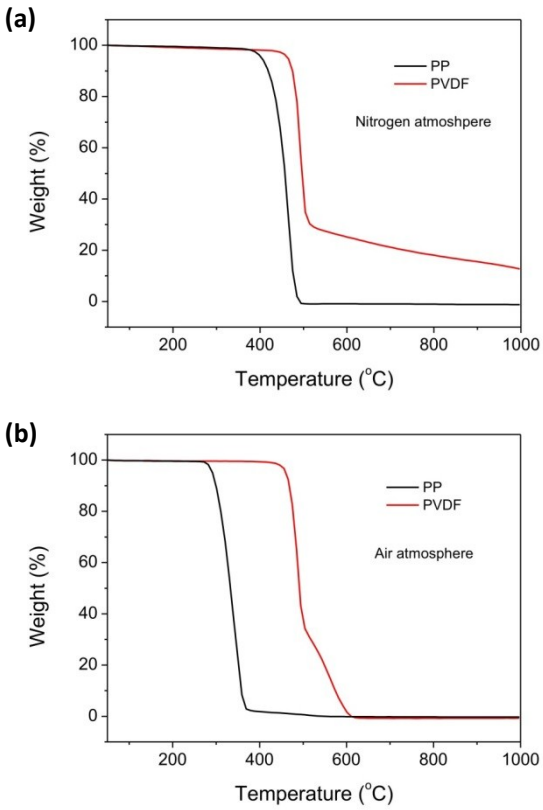

Fig. S1 Thermogravimetric analysis of the PVDF and PP membranes in (a) nitrogen atmosphere and (b) air atmosphere.

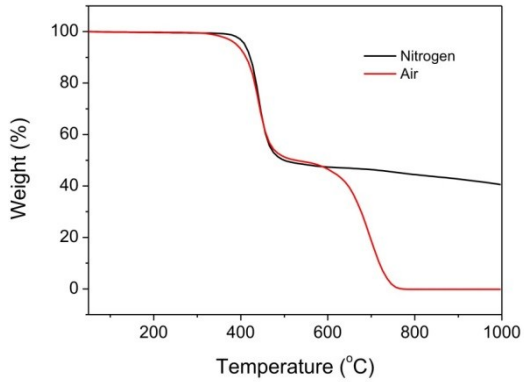

Fig. S2 Thermogravimetric analysis of the conductive polymer PFO-PSQ in nitrogen and air atmospheres.

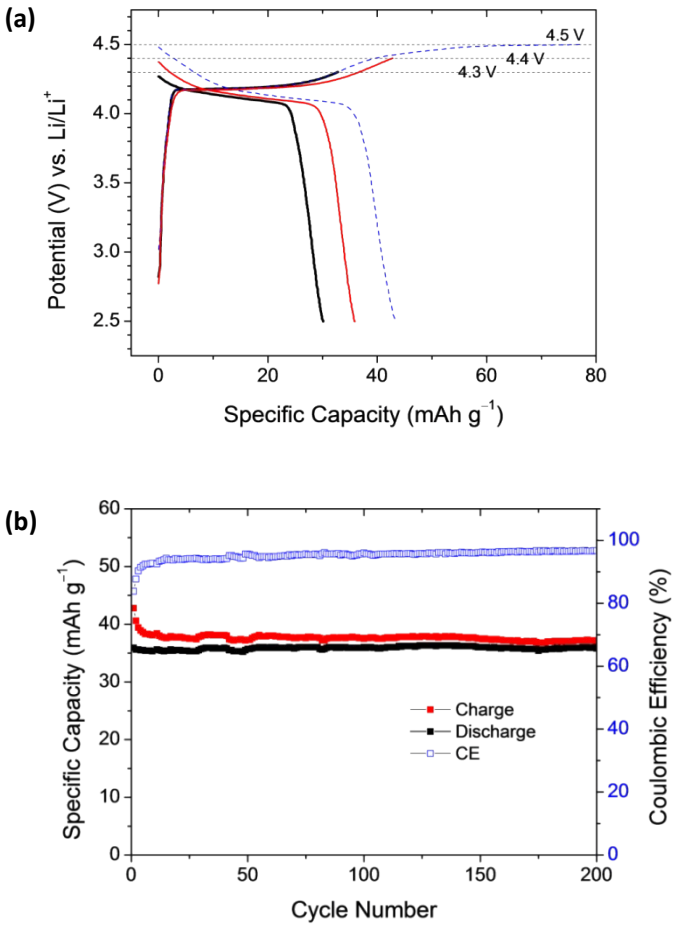

Fig. S3 (a) Charge and discharge capacities of PFO-POSS as cathode charged to different voltages. (b) Cycling performance of PFO-POSS as cathode charged to 4.4 V.

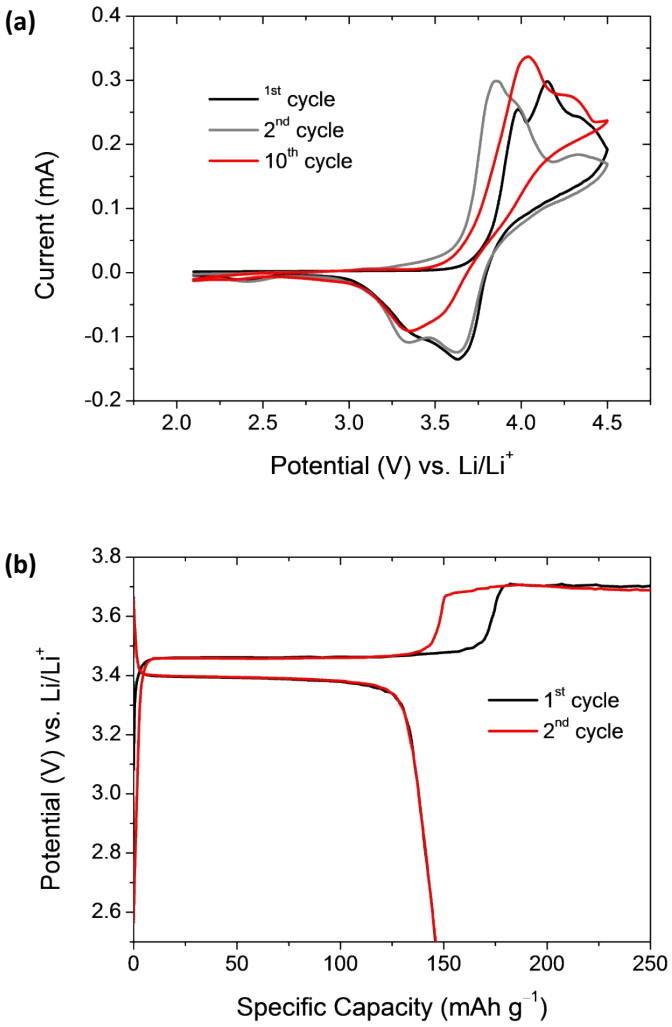

Fig. S4 (a) CV of poly-TPD and (b) charge/discharge profiles of poly-TPD as protective separator in PVDF-based gel-type composite separator. Poly-TPD is the abbreviation of Poly[N,N'-bis(4-butylphenyl)-N,N'-bis(phenyl)-benzidine].