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## Electronic Supplementary Information:

## A rational design of separator with substantially enhanced thermal features for lithium-ion batteries by polydopamine-ceramic composite modification of polyolefin membranes

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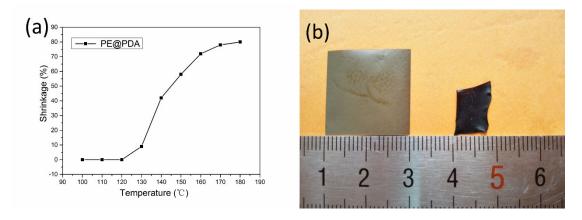


Fig. S1 (a) Thermal shrinkage of the PE@PDA separator as a function of temperature, (b) Dimension of the PE@PDA separator before and after subjected to heat treatment at 170 °C for 30 min



Fig. S2 Photograph of the pouch cell for OCV test

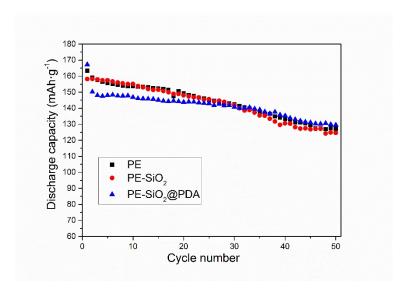


Fig. S3 Cycle performance of the cells at 60 °C