Supplementary Information

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Suppression of the polysulfide-shuttle behavior in Li-S batteries through the development of a facile functional group on the polypropylene separator

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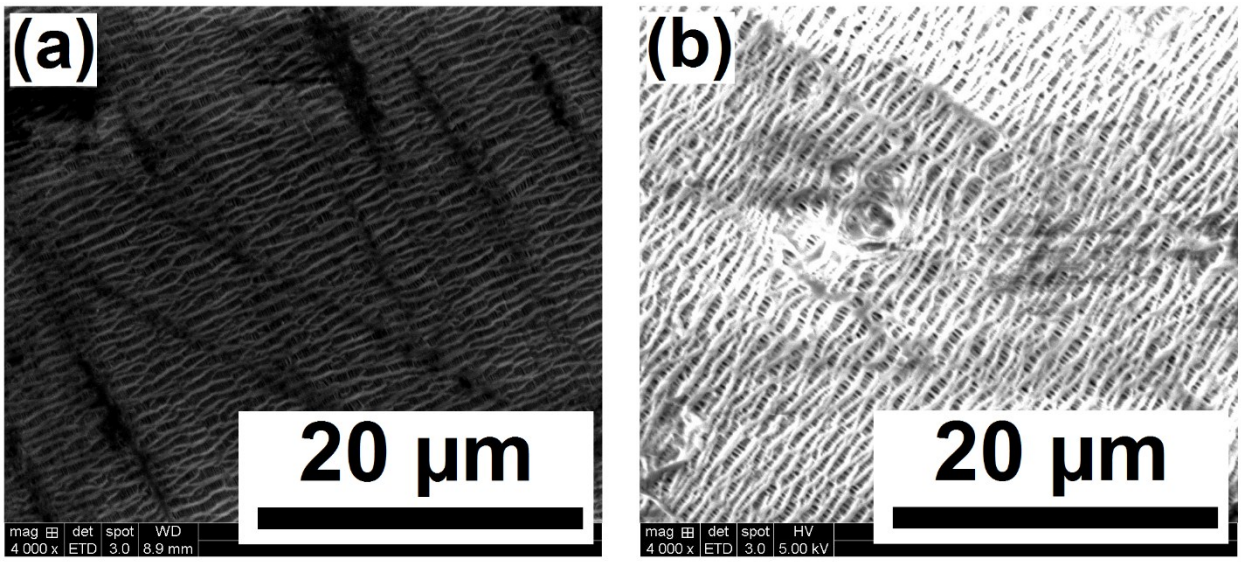

Fig. S1. Scanning electron microscope (SEM) images of a fresh polypropylene (PP) Celgard membrane (a) and a modified (b) PP membrane.

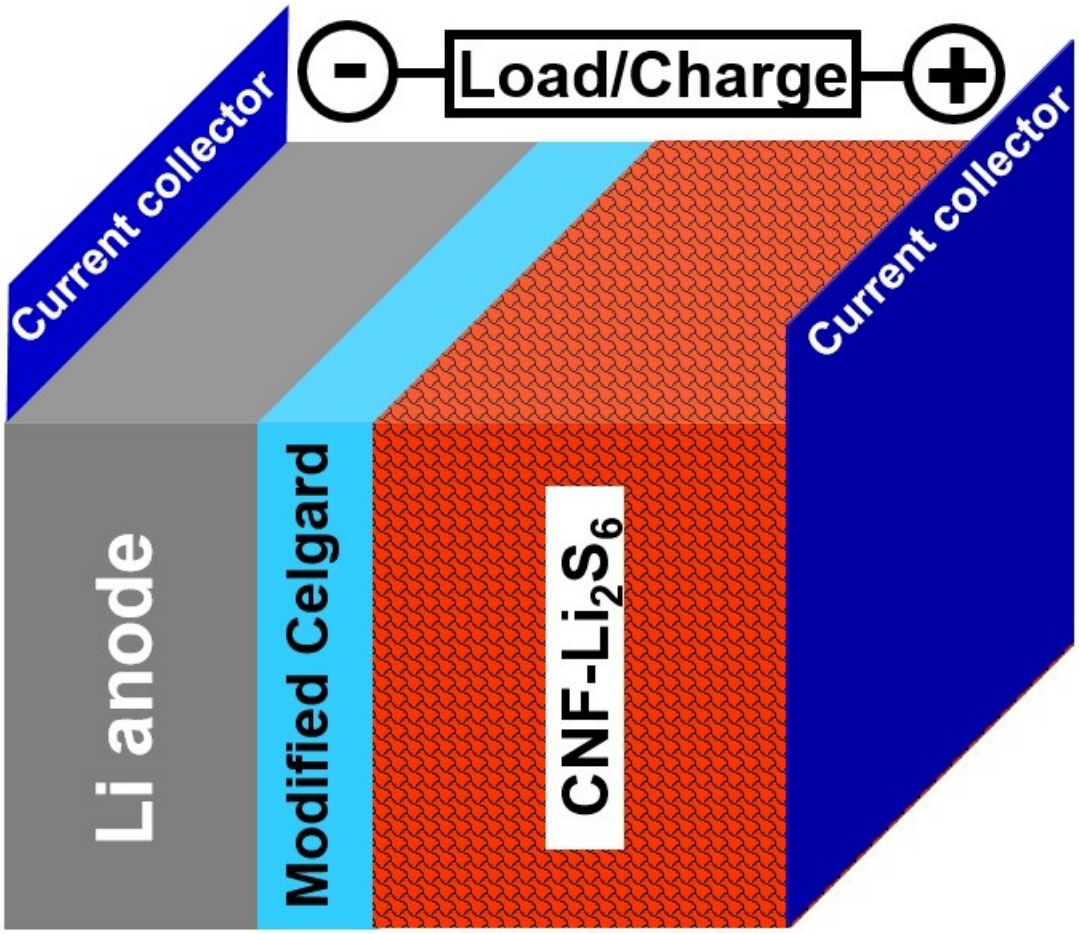

Fig. S2. Schematic of a Li ‖ Mod-Celgard ‖ Li-PS cell prepared with a Li-metal anode, a dissolved Li-polysulfide (Li-PS) cathode, a liquid electrolyte, and the modified Celgard separator. The Li-polysulfide cathode was prepared by dispersing the liquid Li-polysulfide catholyte into a carbon nanofiber (CNF) paper electrode.

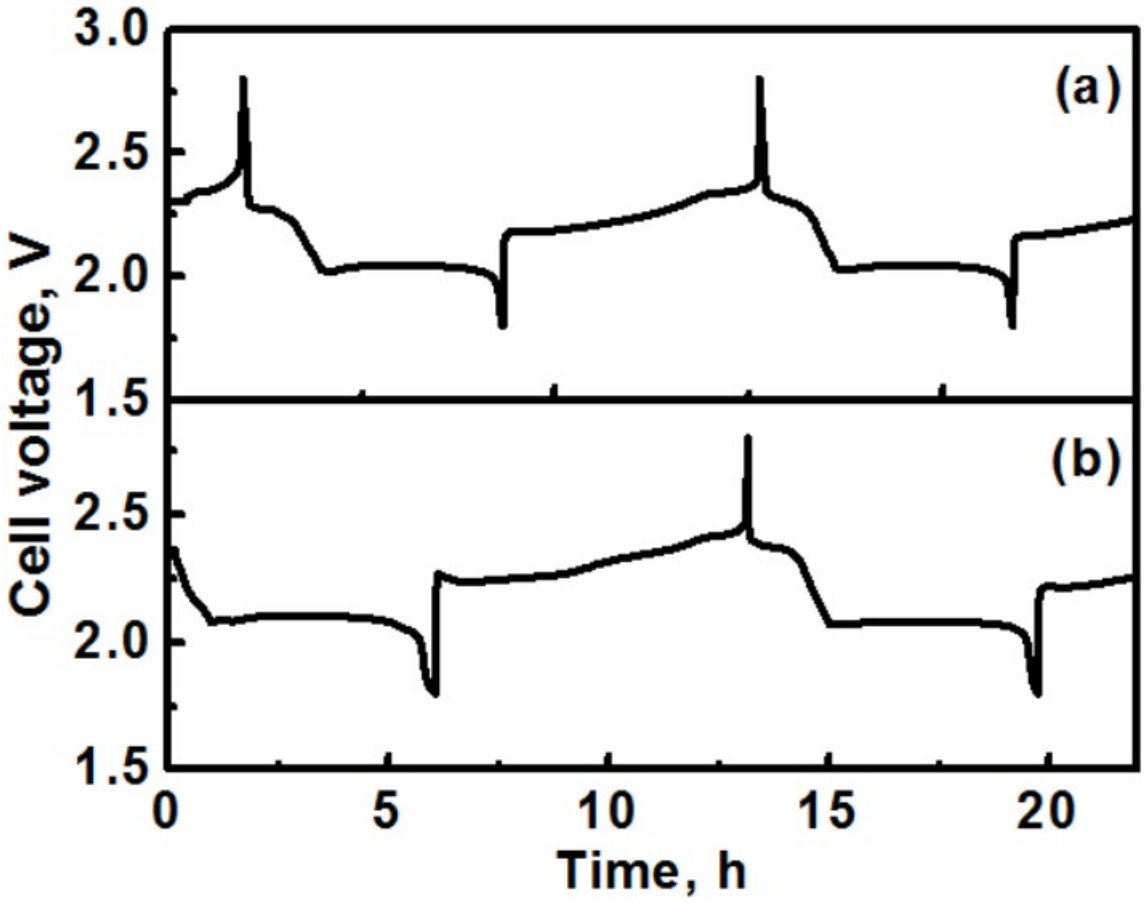

Fig. S3. Voltage profiles of the Li ‖ Mod-Celgard ‖ Li-PS cells during the first two representative cycles at C/10 rate. The cells were, respectively, first charged (a) or first discharged (b).