

Supporting information

Hybrid Thin Film Encapsulation for All-Solid-State Thin Film Batteries

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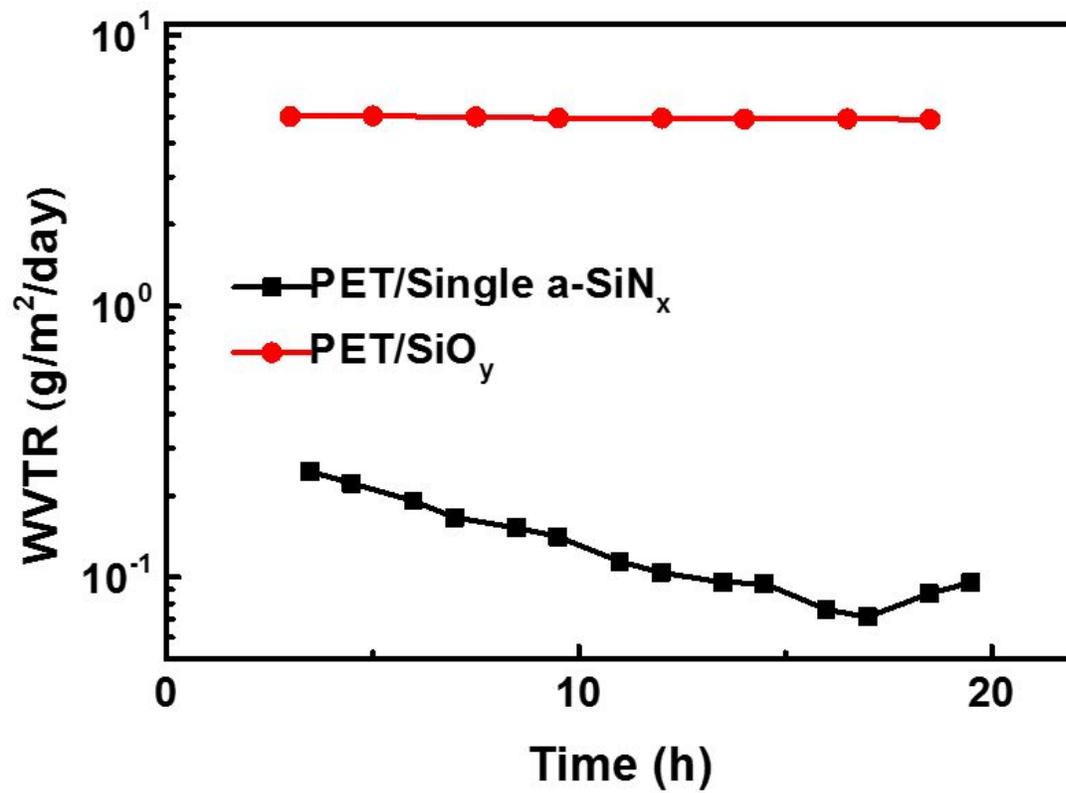


Figure S1. The WVTR of single $a\text{-SiN}_x/\text{PET}$ and SiO_y/PET layer.

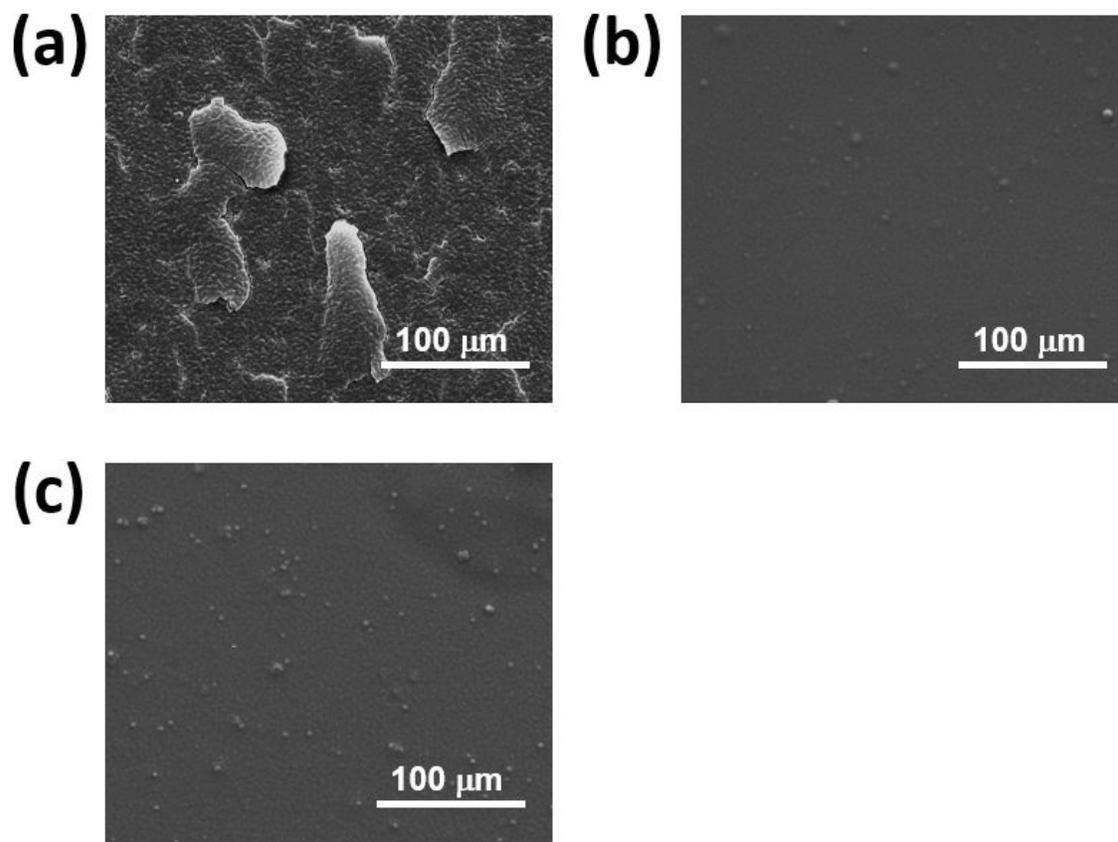


Figure S2. SEM image of the samples after oxidation (a) ASSTFBs without TFE, (b) ASH/Parylene/ASSTFBs and (c) before oxidation ASH/Parylene/ASSTFBs.

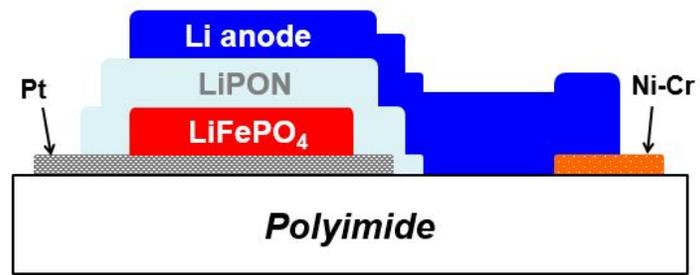


Figure S3. Schematic of thin film batteries structure.

Table S1. Charge transfer impedance of the solid electrolyte: (a) LiPON without TFE, (b) Parylene/LiPON, (c) ASH/LiPON, and (d) ASH/Parylene/LiPON by fitting the graph into a simulation.

	As-deposited [kΩ]	After TFE [kΩ]	After 7 d [kΩ]	After 30 d [kΩ]
(a) LiPON without TFE,	2.4	-	26.9	655.9
(b) Parylene/LiPON	2.5	2.5	3.8	278.2
(c) ASH/LiPON	2.7	4.8	4.8	4.8
(d) ASH/Parylene/LiPON	2.5	3.1	3.1	3.1