Solution processable silica thin film coating on microporous substrate with high tortuosity: Application to battery separator

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**Fig. S1.** Cross section SEM images of the surface of the modified separators with the SiO$_2$ thin film as a function of the number of cycles of solution-process: a bare PE separator, b. 1 cycle, c. 2 cycles. (SEM operating at 5 kV accelerating voltage at x 3000 magnifications)