Supplementary Materials:

Nanostructure Enhanced Ionic Transport in Fullerene Reinforced Solid Polymer Electrolytes

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Table S1. Arrhenius and VTF fitting parameters from Figure 1a.

	Arrhenius	VTF	
PCBM wt%	E_a (J)	B (K)	T_0 (K)
0	$4.01\times10^{-20}(\pm7.9\times10^{-22})$	895(±377)	249(±14)
10	$7.08\times10^{-20}(\pm1.29\times10^{-20})$	470(±791)	269(±35)
20	$5.13\times10^{-20}(\pm1.51\times10^{-21})$	375(±335)	272(±18)
40	$5.85\times10^{-20}(\pm5.3\times10^{-21})$	378(±658)	273(±33)

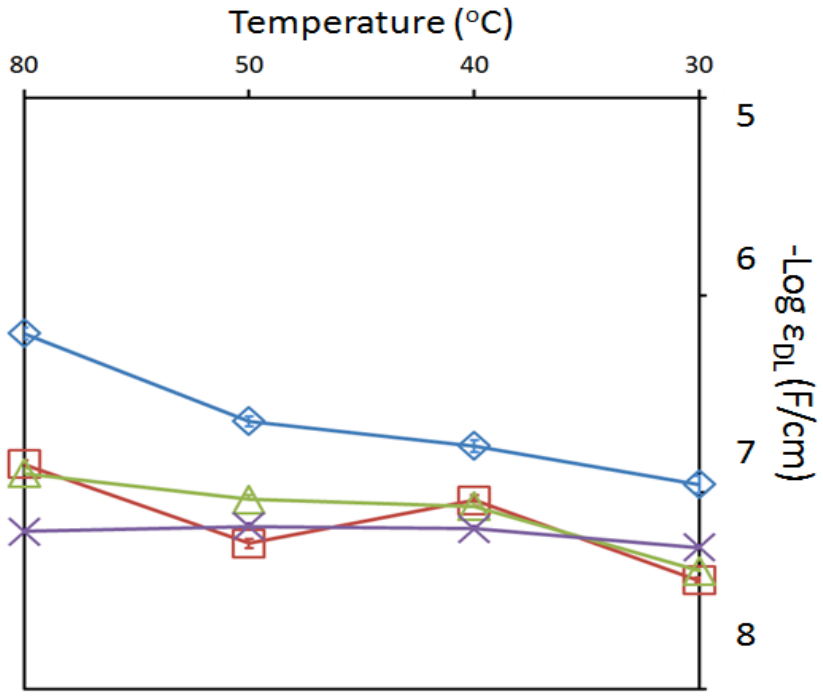

Figure S1. Fitting results on double layer permittivity (ε_{DL}) by equivalent circuit modeling as a function of PCBM loading and temperature. The circuit model and other fitting results are shown in Figure 2 and Figure S2.

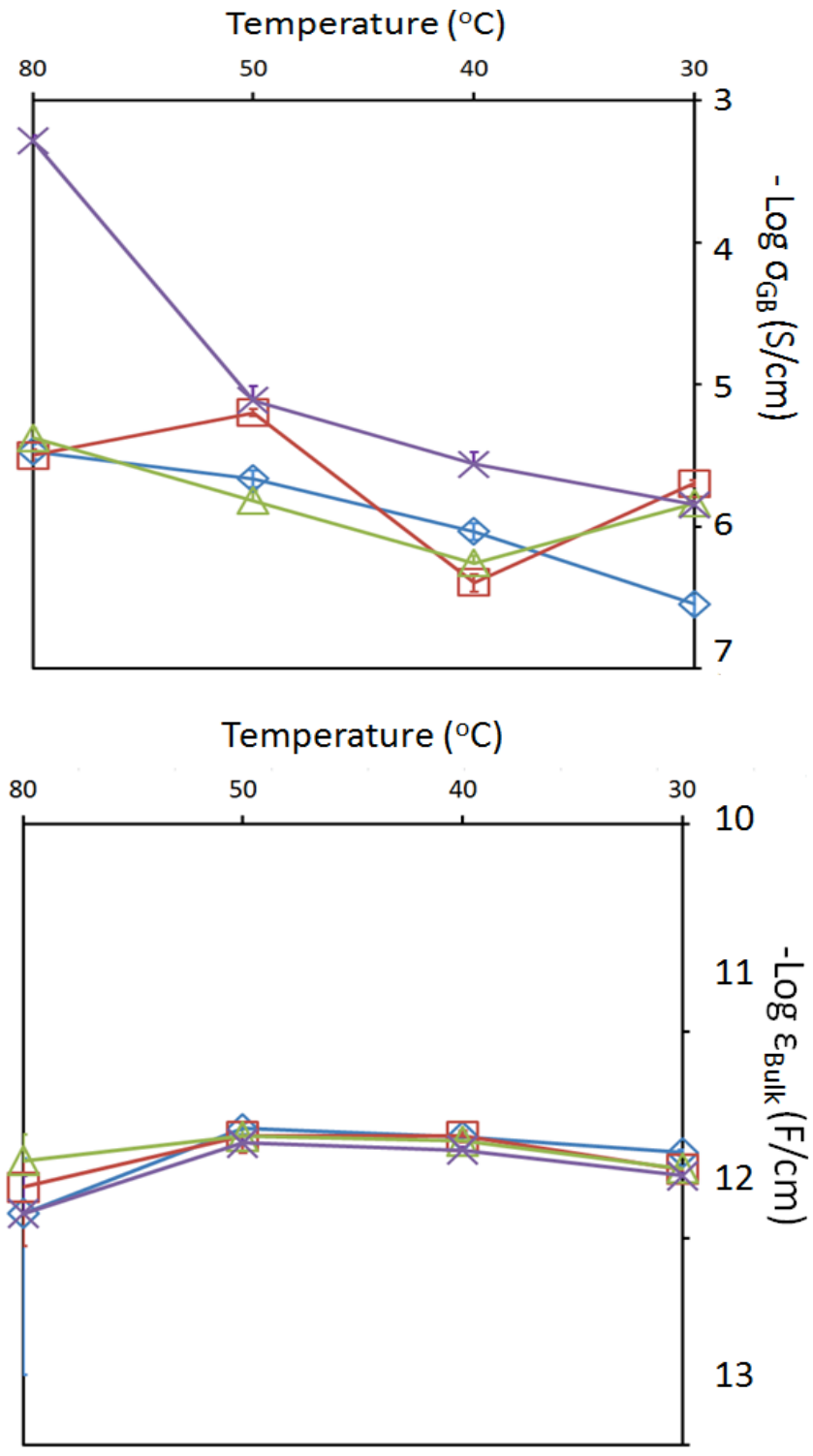

Figure S2. Fitting results in equivalent circuit modeling as a function of PCBM loading and temperature. The circuit model and other fitting results are shown in Figure 2 and Figure S1.

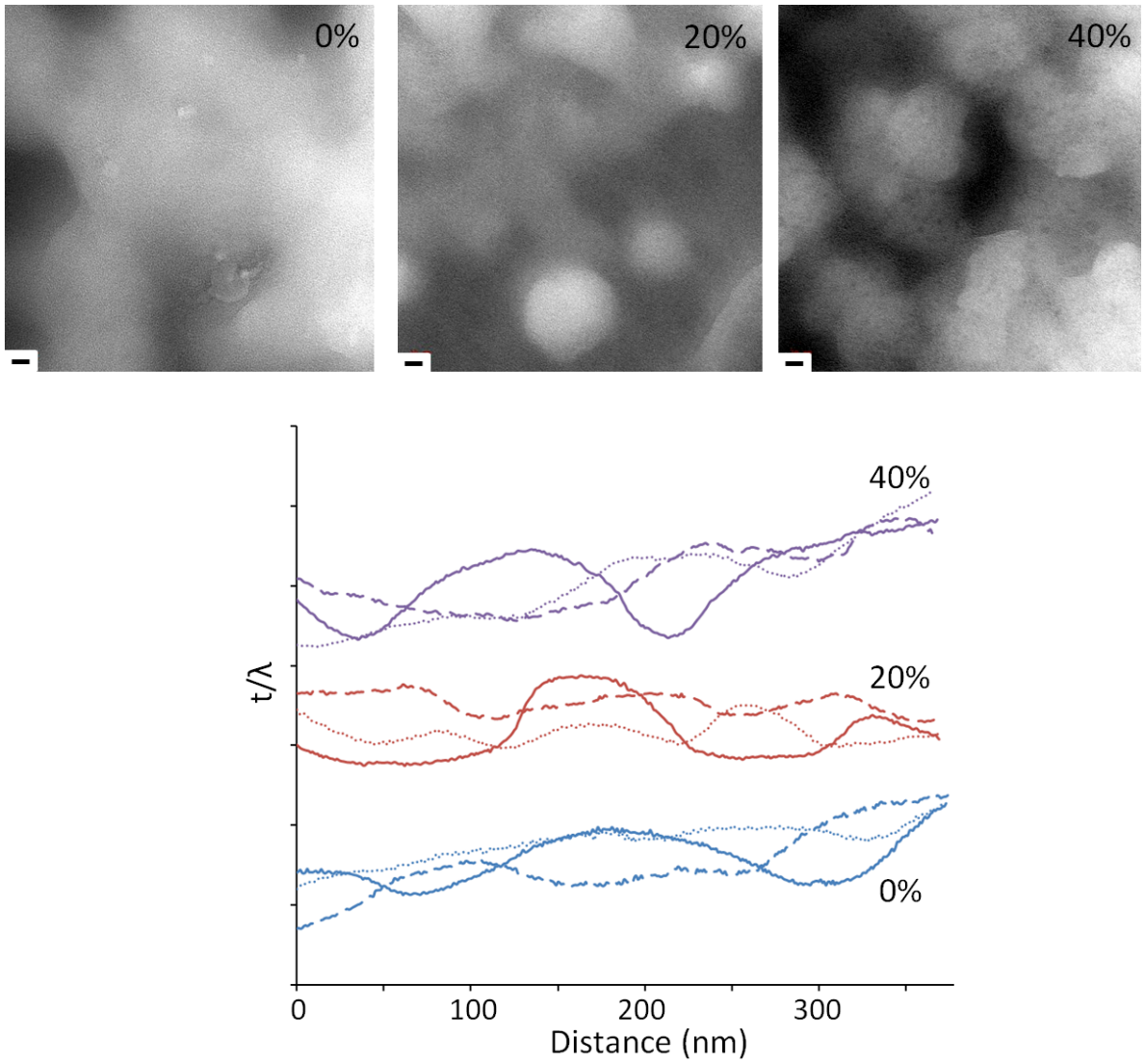

Figure S3. Thickness maps of PEO/LiTFSi films as a function of the PCBM percentage (wt%). The scale bars are 20 nm. Three typical line scans of thickness map are given for 0%, 20% and 40% PCBM blends, which do not show significant differences in thickness variation. The t/λ values are extracted from the thickness map, which are generated by intensity ratios of filtered and unfiltered TEM images from an identical area. Film thickness t is in nanometer, while λ (an unknown constant) stands for the mean free path of the incident electrons upon their interactions with sample film.