Table S1: VFT fitting of ionic conductivities for SiO_2-IL-TFSI / LiTFSI.

Sample: wt% SiO_2-IL-TFSI/ (1-wt%) LiTFSI	VFT Fitting Parameters		
	A(S cm^{-1})	B(K)	T_0(K)
1	0.0047±0.001	540±75	188±8
3	0.0049±0.0007	429±35	192±4
7.5	0.007±0.0007	455±23	188±10
9.67	0.01±0.0006	514±16	183±19
13.4	1.53±5.8	2014±1755	82±10
15.6	0.021±0.03	701±398	170±38
20	0.0016±0.0006	238±62	219±11
30	0.0037±0.001	421±71	204±9
40	0.0021±0.0005	400±45	208±6
50	0.032±0.02	1009±181	177±12
64.5	0.0037±0.0046	851±335	175±27
84	0.42±0.33	2969±344	84±13

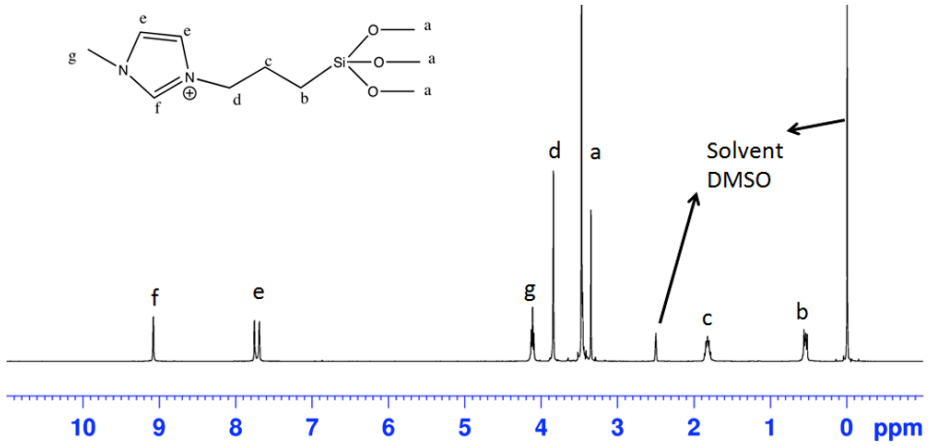

Figure S1. NMR spectrum for the ionic liquid 1-methyl-3-trimethoxysilane imidazolium chloride in DMSO.

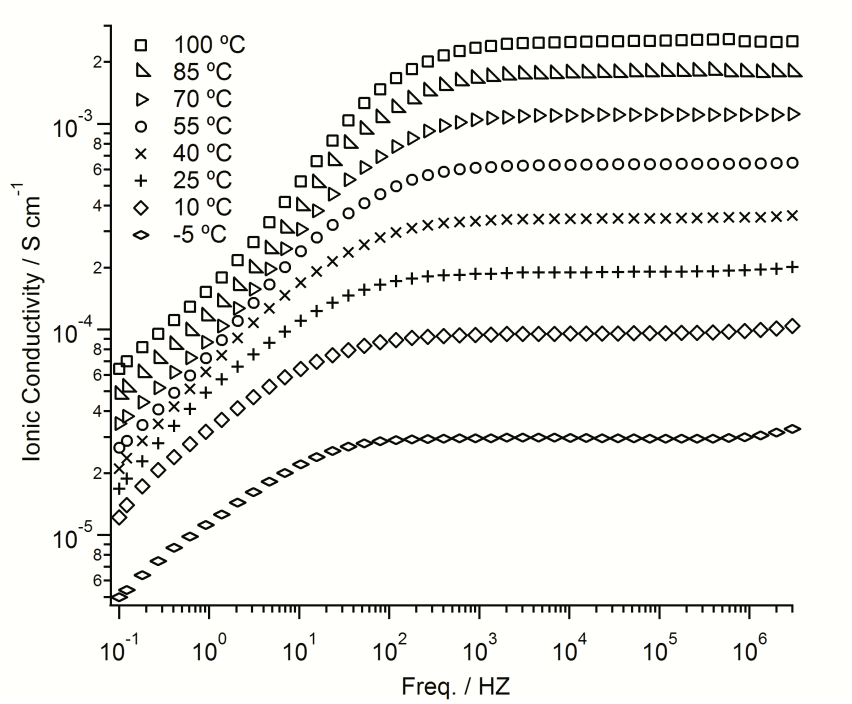

Figure S2: Temperature and frequency dependent ionic conductivities data from Dielectric Broadband Spectrometer; temperature was ranged from -5 ℃ to 100℃ at an integral of 15℃ between 1×10^{-1}-3×10^{6} HZ.

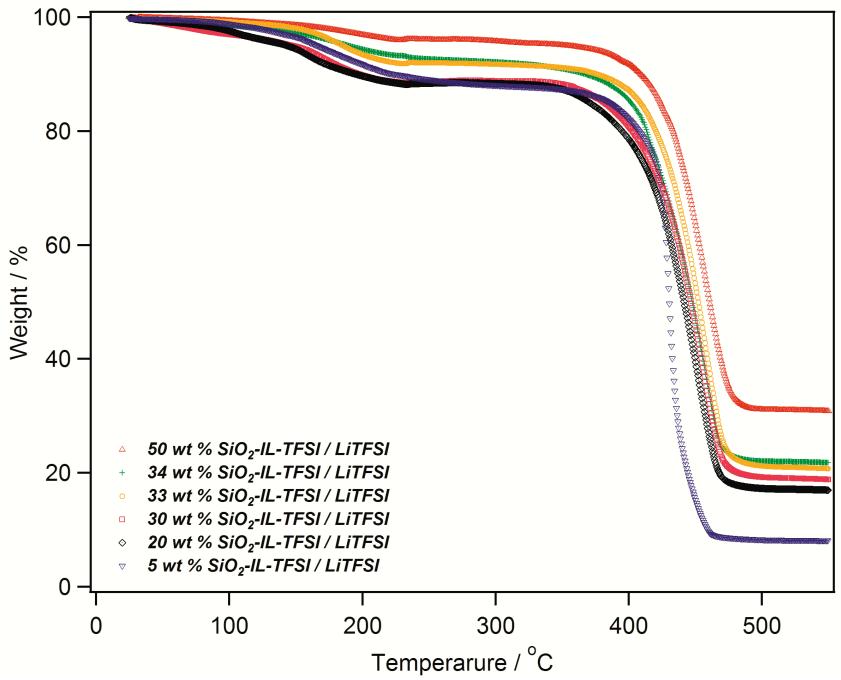

Figure S3: TGA curves for various SiO_2-IL-TFSI / LiTFSI systems.

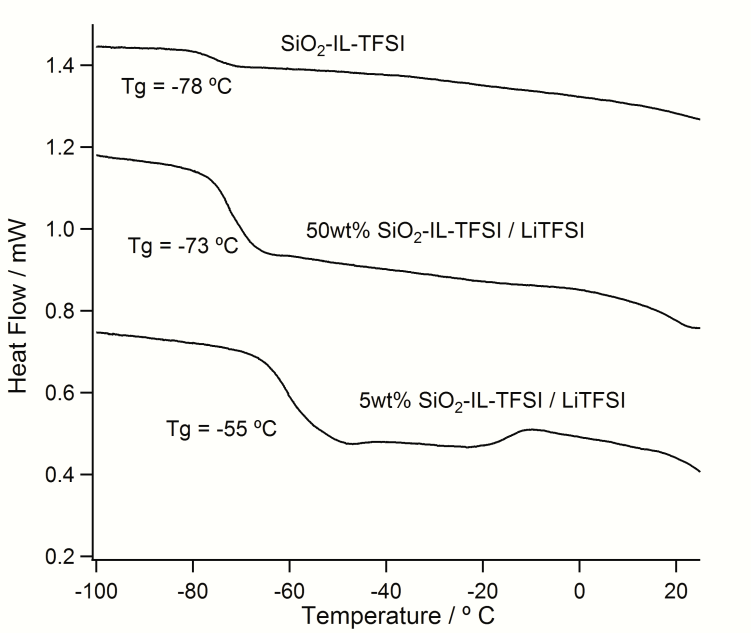

Figure S4: DSC curves for SiO_2-IL-TFSI / LiTFSI and neat SiO_2-IL-TFSI.

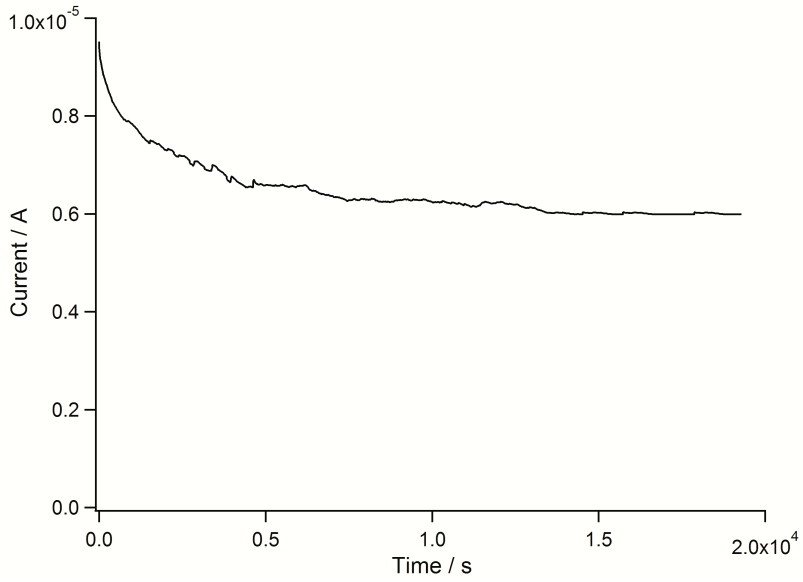

Figure S5: Lithium ion transference number test: current-time plot of Li / (13.4 wt% SiO_2-IL-TFSI / LiTFSI) / Li coin cell during a step voltage of 50 mV. A steady state of current comes after an exponential decay.

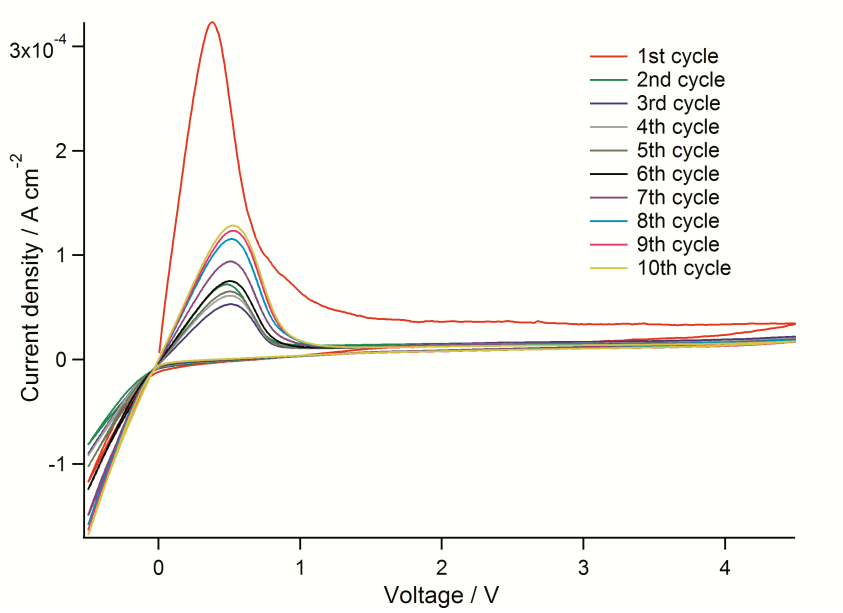

Figure S6: Cyclic voltammograms for Li/ SiO_2-IL-TFSI + LiTFSI /Li at 1mV/s scan rate.