Electronic Supplementary Information

Ion Dynamics in Halogen-Free Phosphonium Bis(salicylato)borate Ionic Liquid Electrolytes for Lithium-Ion Batteries

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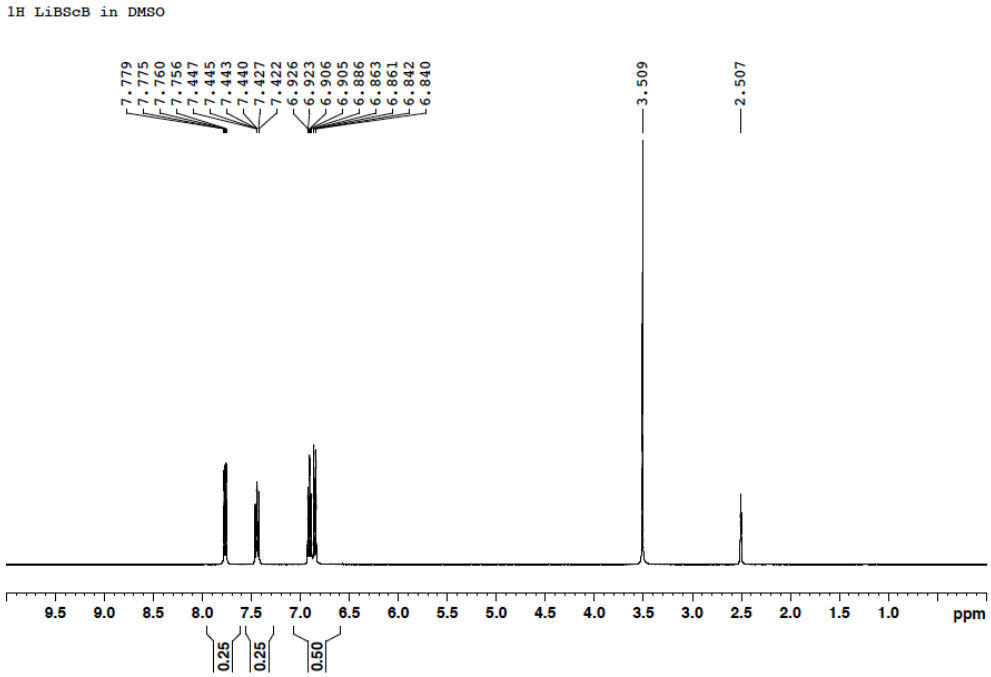

Figure S-1. ^{1}H NMR spectrum of Li[BScB] in DMSO

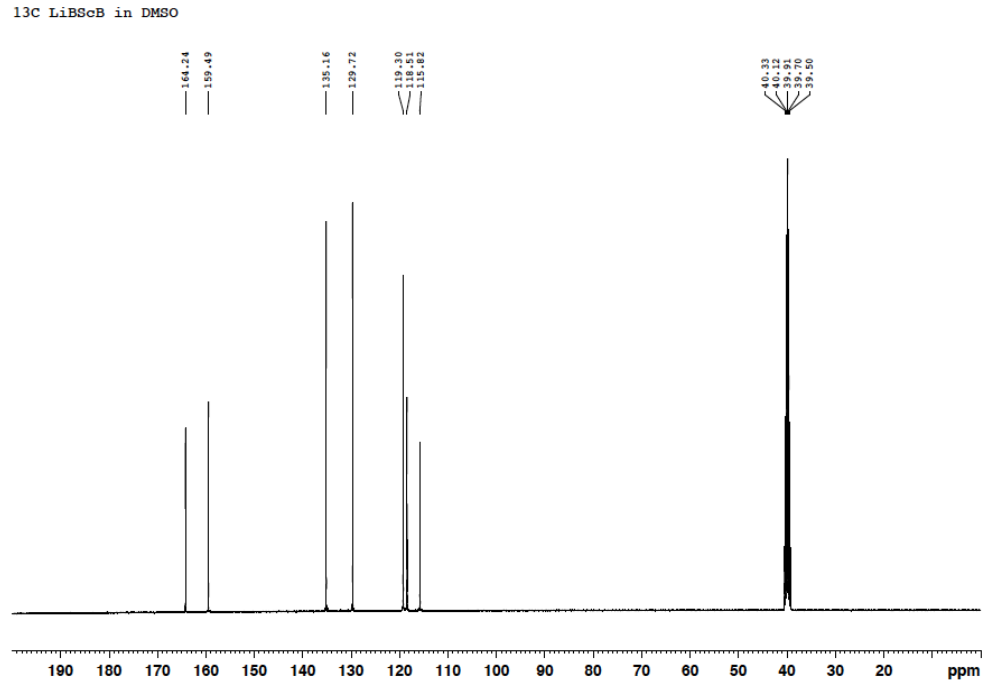

Figure S-2. ^{13}C NMR spectrum of Li[BScB] in DMSO

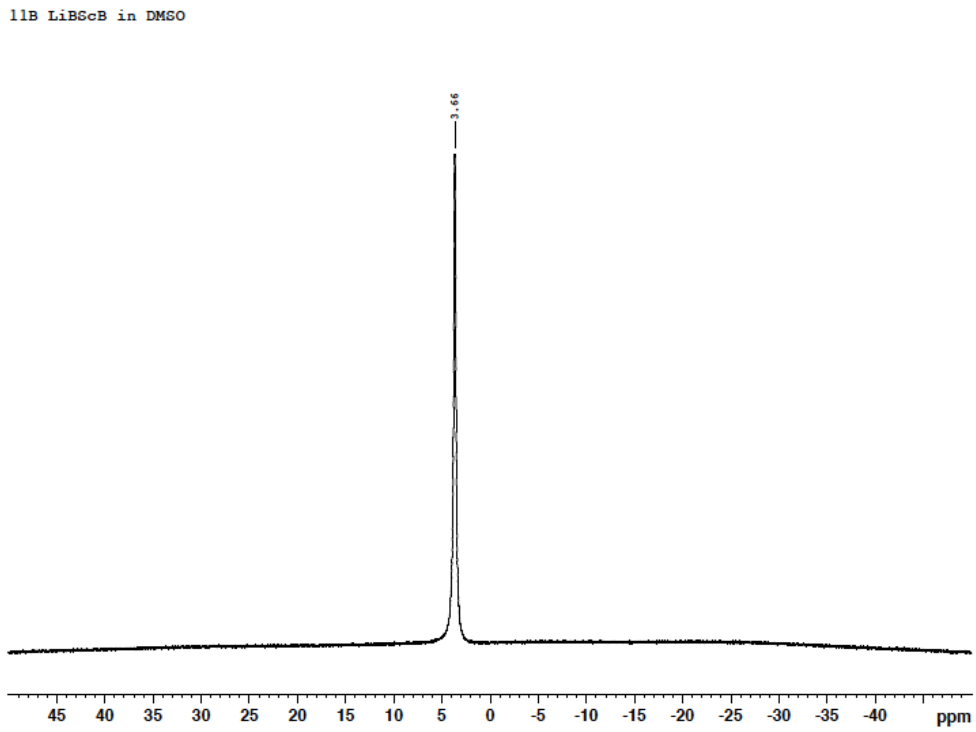

Figure S-3. ^{11}B NMR spectrum of Li[BScB] in DMSO

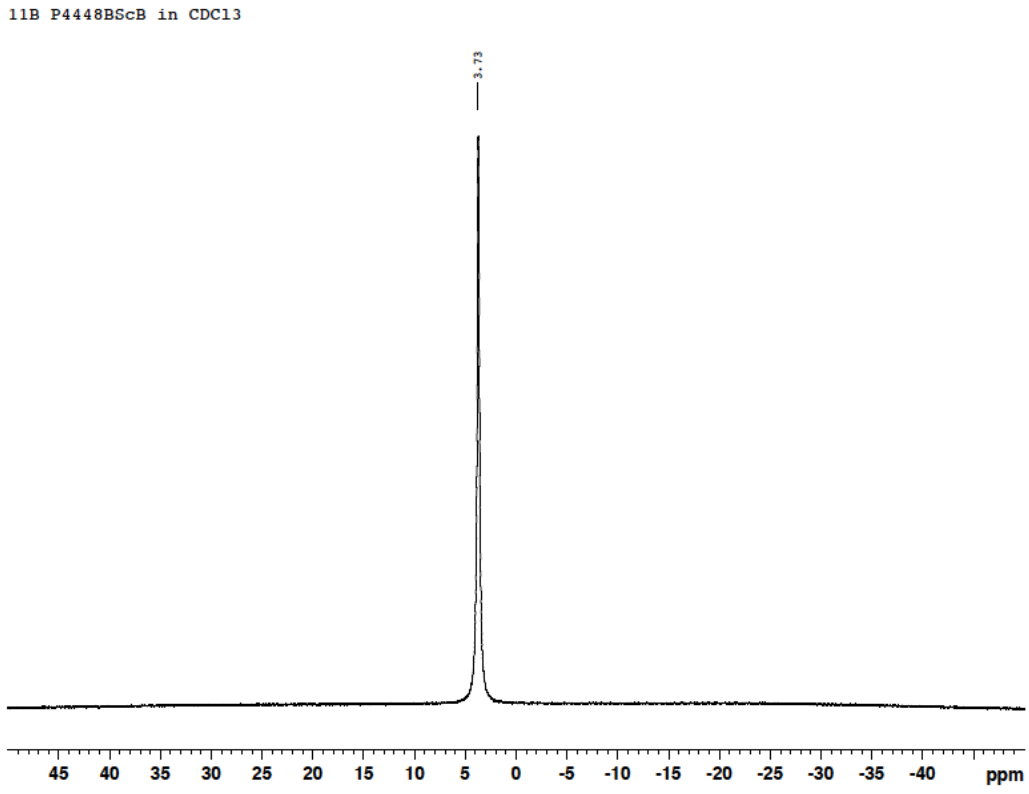

Figure S-4. ^{11}B NMR spectrum of $[P_{4,4,4,8}][BScB]$ in $CDCl_3$

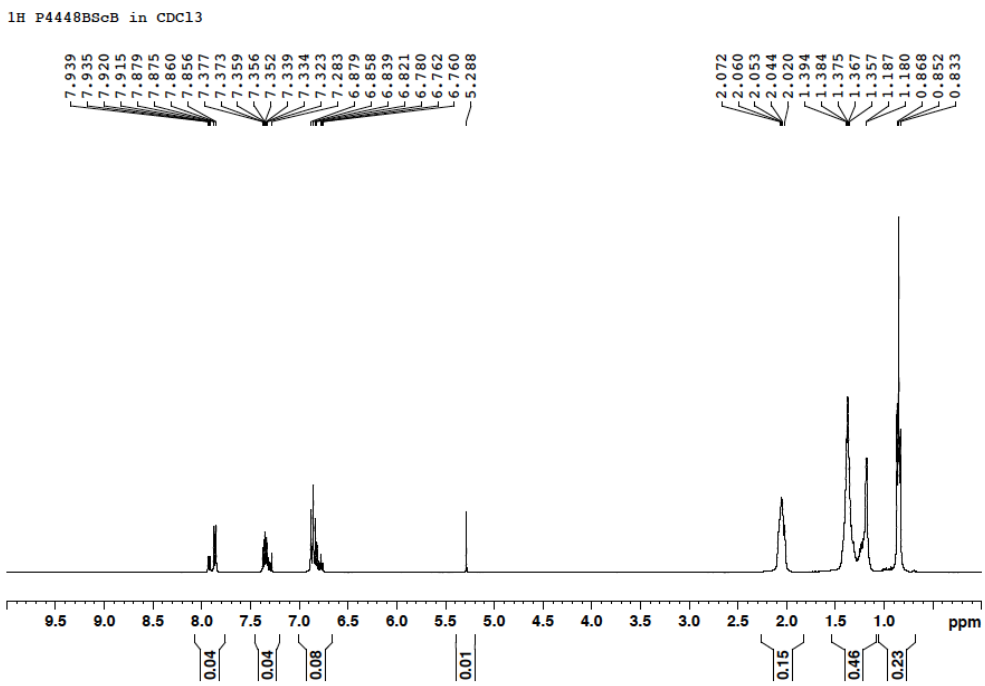

Figure S-5. ^{1}H NMR spectrum of $[P_{4,4,4,8}][BScB]$ in $CDCl_3$

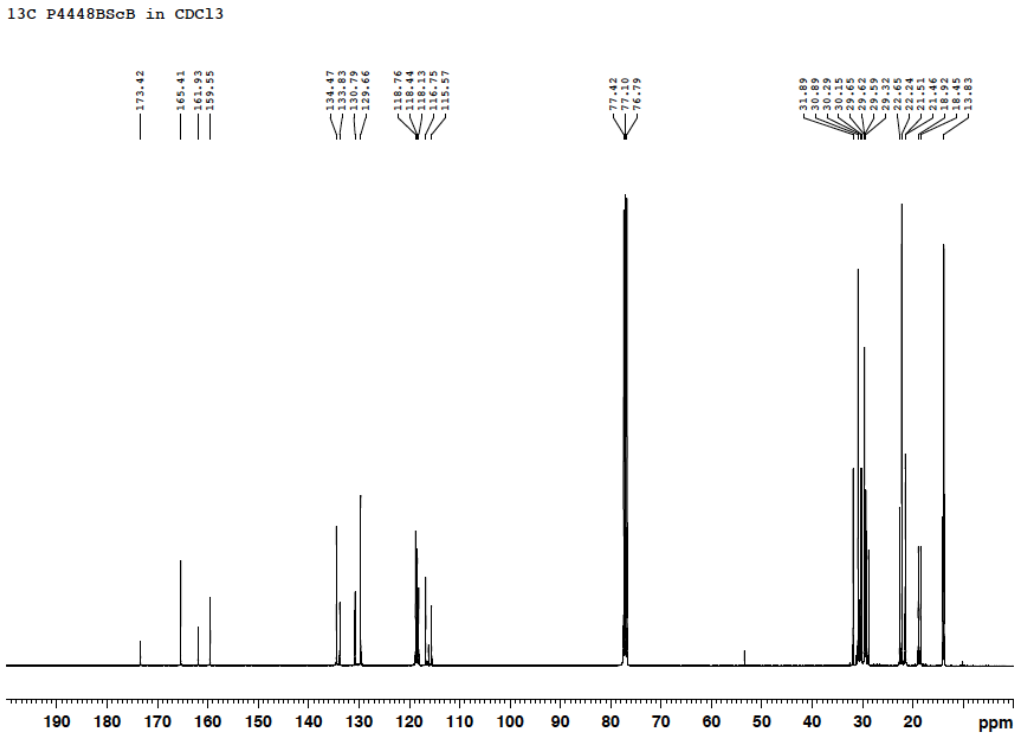

Figure S-6. ^{13}C NMR spectrum of $[P_{4,4,4,8}][BScB]$ in $CDCl_3$

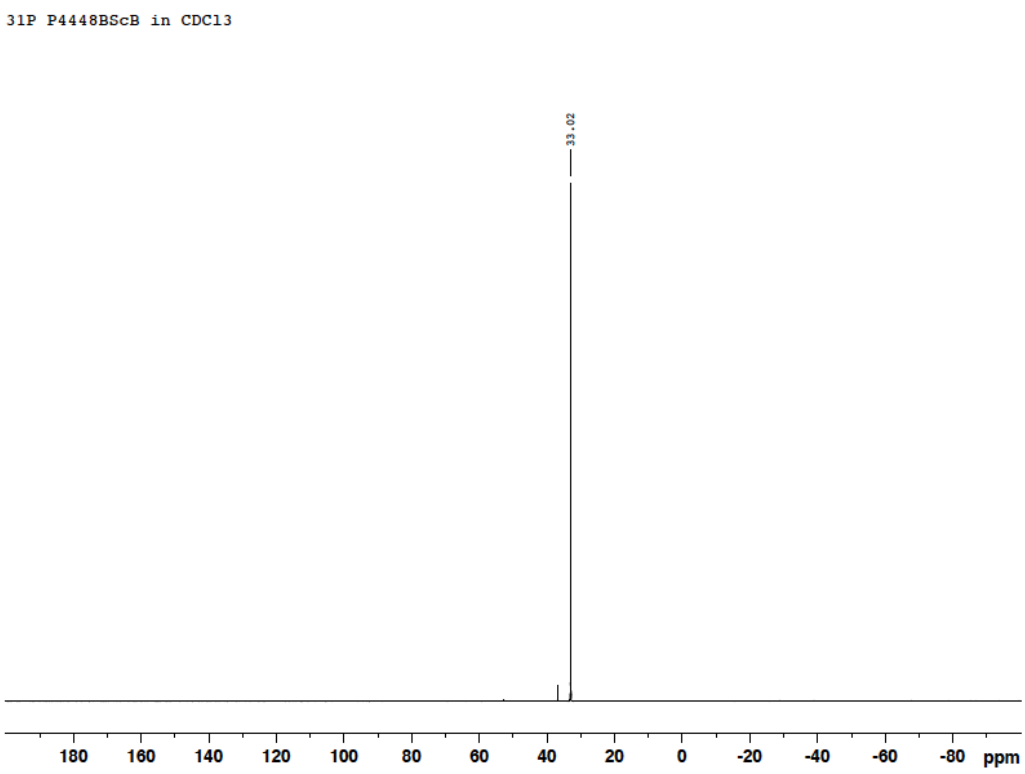

Figure S-7. ^{31}P NMR spectrum of $[P_{4,4,4,8}][BScB]$ in $CDCl_3$

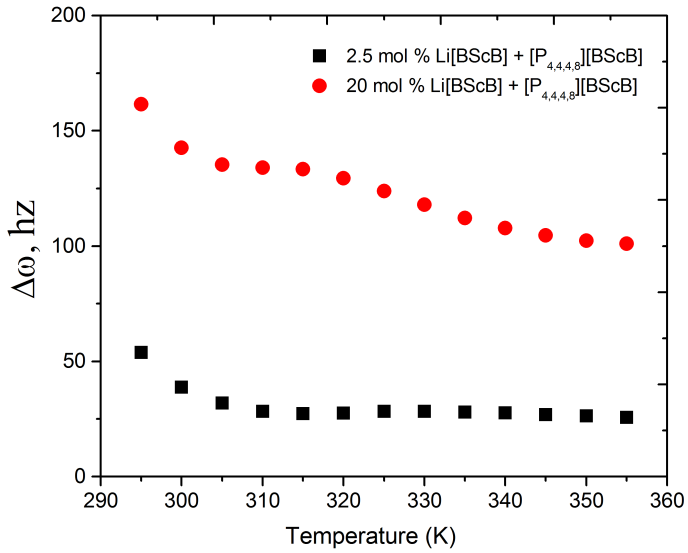

Figure S-8. Variation of ^{7}Li NMR spectral line broadening with temperature for for 2.5 mol % and 20 mol % concentrations of Li[BScB] in $[P_{4,4,4,8}][BScB]$.

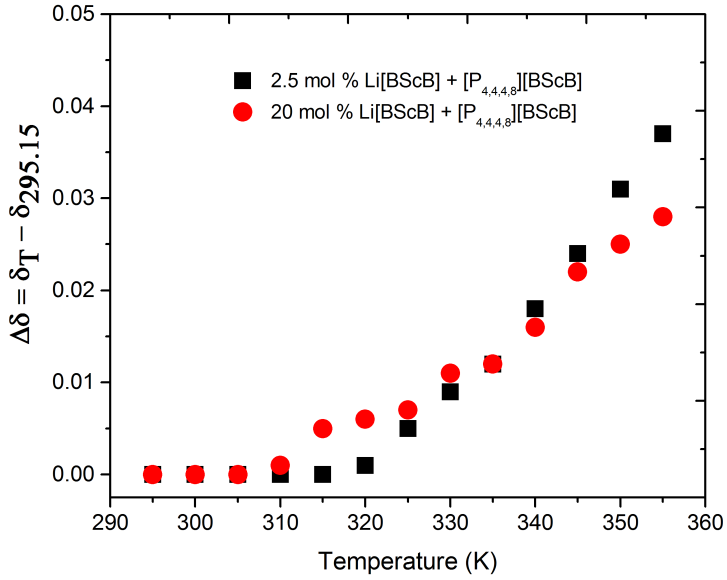

Figure S-9. Variation of ^{7}Li NMR chemical shift as a function of temperature relative to the chemical shift value at 295 K for Li[BScB] salt in $[P_{4,4,4,8}][BScB]$ IL.

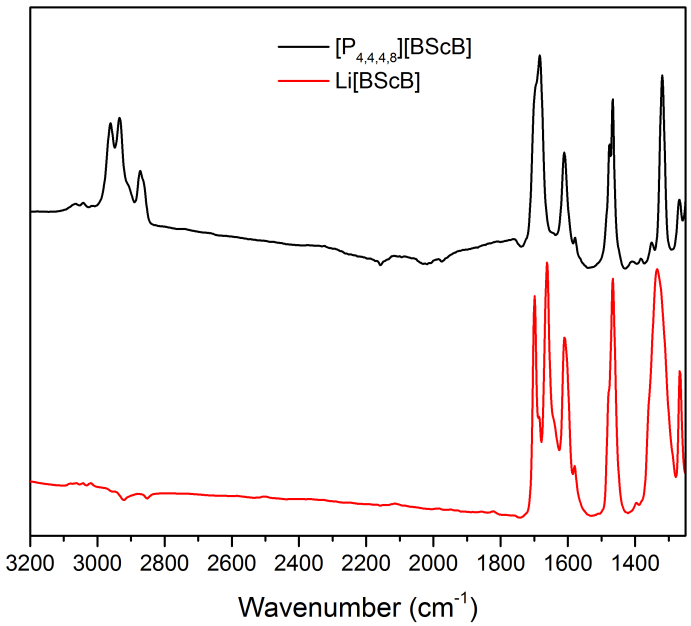

Figure S-10. FTIR spectra of neat $[P_{4,4,4,8}][BScB]$ and Li[BScB] salt