Electronic Supplementary Material (ESI) for RSC Advances.

Supplementary Information

Headway in rhodanide anion based ternary gel polymer electrolytes (TILGPEs) for applications in rechargeable lithium ion batteries: An efficient route to achieve high electrochemical and cycling performances

Photographic image of prepared gel polymer electrolyte (TILGPE3)

Figure S1: Photographic image of prepared gel polymer electrolyte (TILGPE3)

DSC analysis

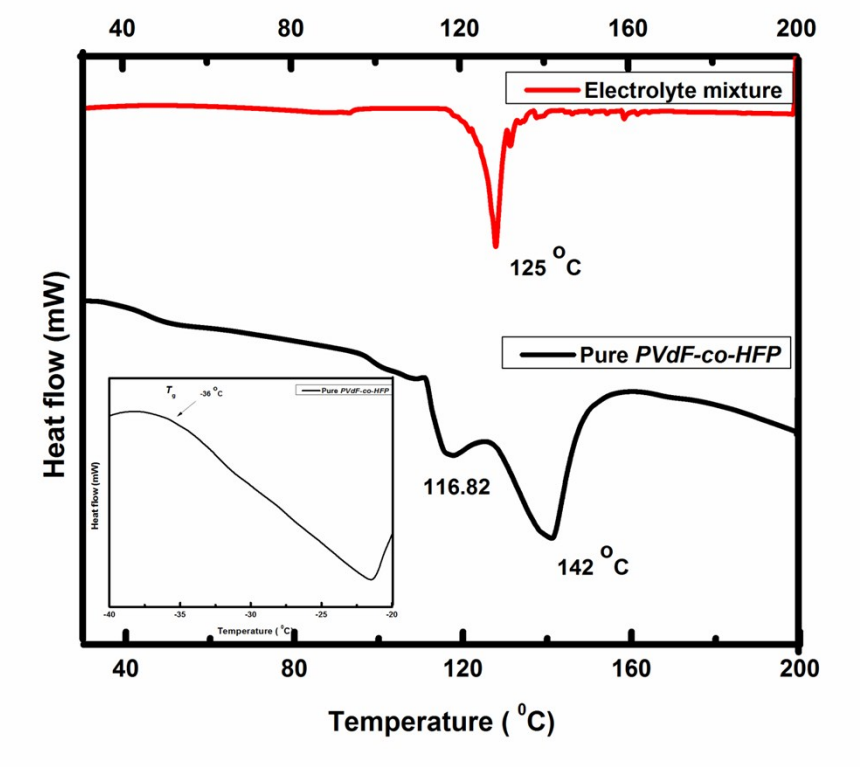

Figure S2: DSC thermogram of pristine *PVdF-co-HFP* and electrolyte mixture

TGA analysis

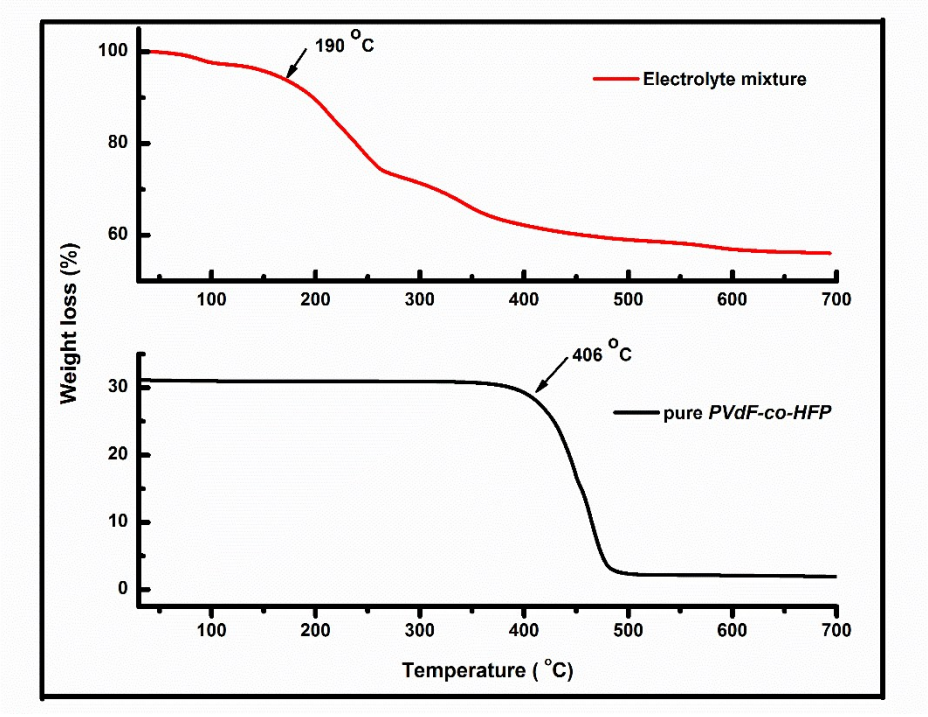

Figure S3: TGA thermogram of pristine *PVdF-co-HFP* and electrolyte mixture

FT-IR analysis

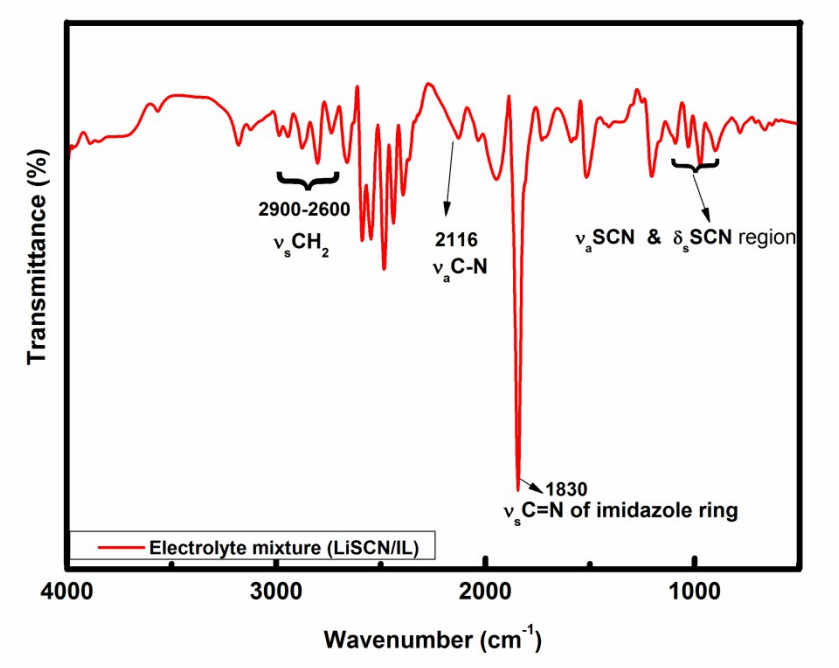

Figure S4: FT-IR spectrum of electrolyte mixture

Charge-discharge analysis of Li/ (1M $LiPF_6$ in 50%:50% EC/PC)/$LiFePO_4$ (using Celgard 2300 as separator)

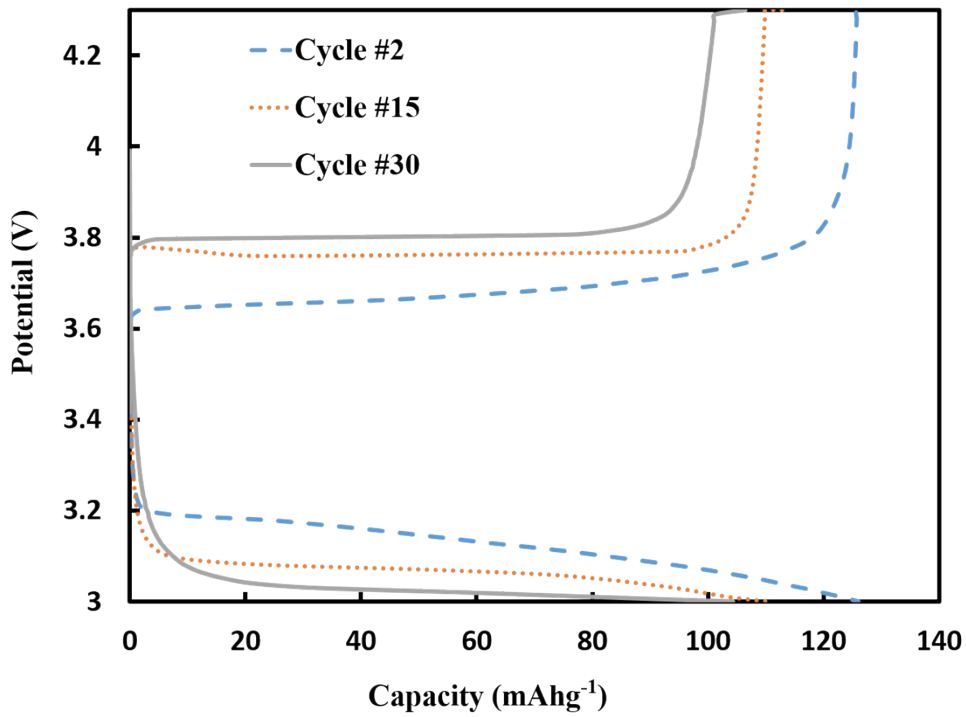

Figure S5: Charge discharge profile of conventional liquid electrolyte 1M $LiPF_6$ in EC/PC

(50%:50%)

Capacity retention curve

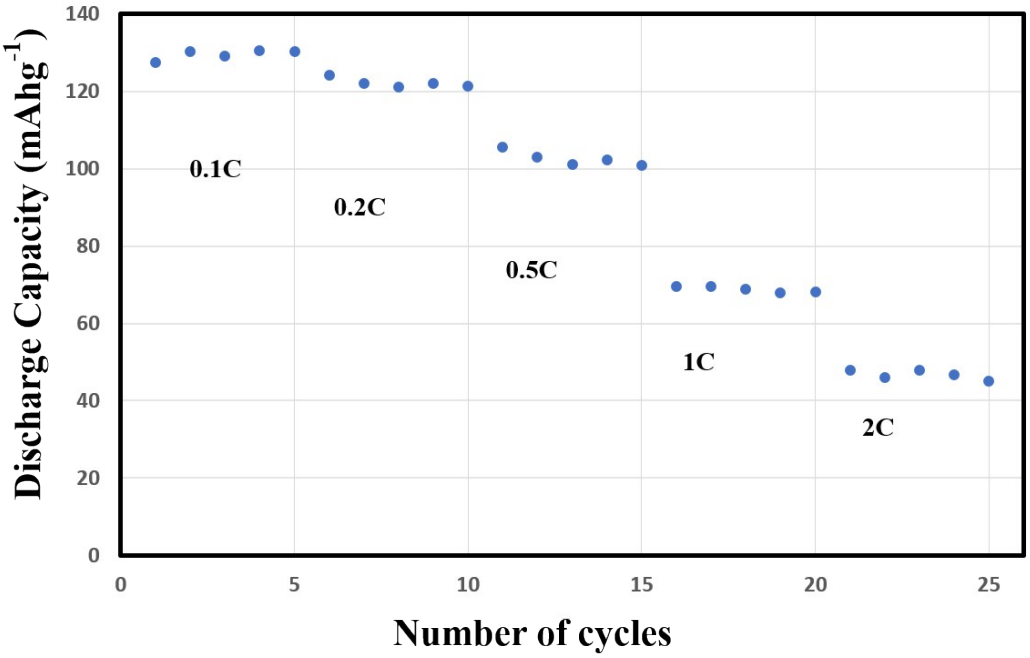

Figure S6: Capacity retention curve of 1M $LiPF_6$ in EC/PC (50%:50%)