Supplemental figure

Hydroxyl Group and TEMPO Cellulose Promote Li^+ Mechanism in Solid Polymer Electrolytes for Li-ion Batteries

Qolby Sabrina[1,2], Nurhalis Majid[1], Titik Lestariningsih[1], Sun T. C. L. Ndruru[3], Aditya W. Sakti[4,5], Akihide Sugawara[2], Rike Yudianti[6*], and Hiroshi Uyama[2]*

[1]Research Center for Advanced Material, National Research and Innovation Agency, Tangerang Selatan, Banten 15314, Indonesia

[2]Department of Applied Chemistry, Graduate School of Engineering, Osaka University, 2-1 Yamadaoka, Suita, Osaka 565-0871, Japan

[3]Research Center for Chemistry, National Research and Innovation Agency of Indonesia, Tangerang Selatan, Banten 15314, Indonesia

[4]Department of Chemistry and Biochemistry, School of Advanced Science and Engineering, Waseda University, Tokyo, Japan

[5]Global Center for Science and Engineering, School of Advanced Science and Engineering, Waseda University, Tokyo, Japan

[6]Research Center for Nanotechnology Systems, National Research and Innovation Agency, Tangerang Selatan, Banten 15314, Indonesia

*Corresponding author : Qolby.sabrina@brin.go.id ; rike.yudianti@brin.go.id

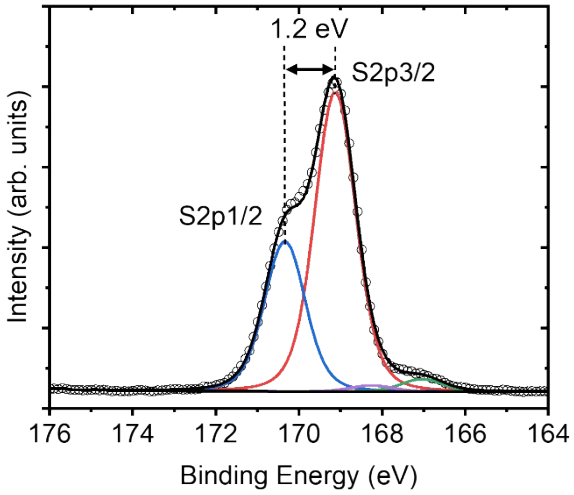

Figure S1. High resolution spectrum of S2p core-level of the pure LITFSI salt

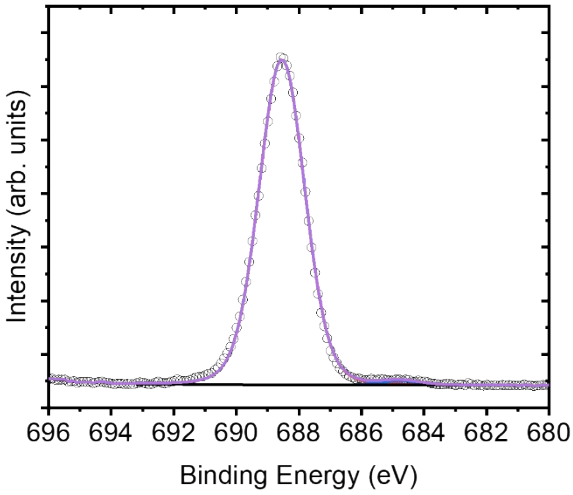

Figure S2. High resolution spectrum of F1s core-level of the pure LiTFSI salt

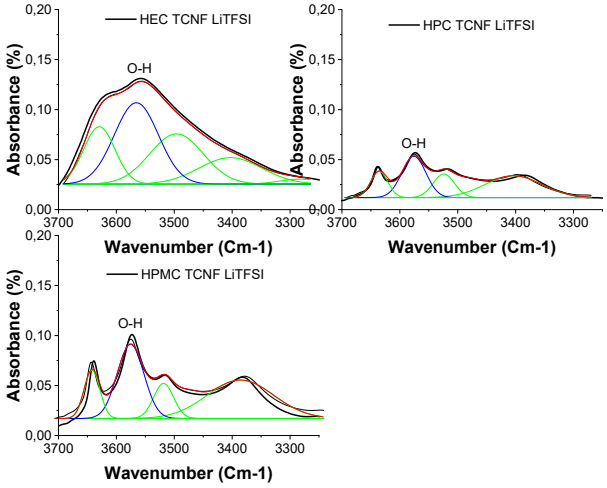

Figure S3. IR deconvolution spectra at 3000s (O-H)

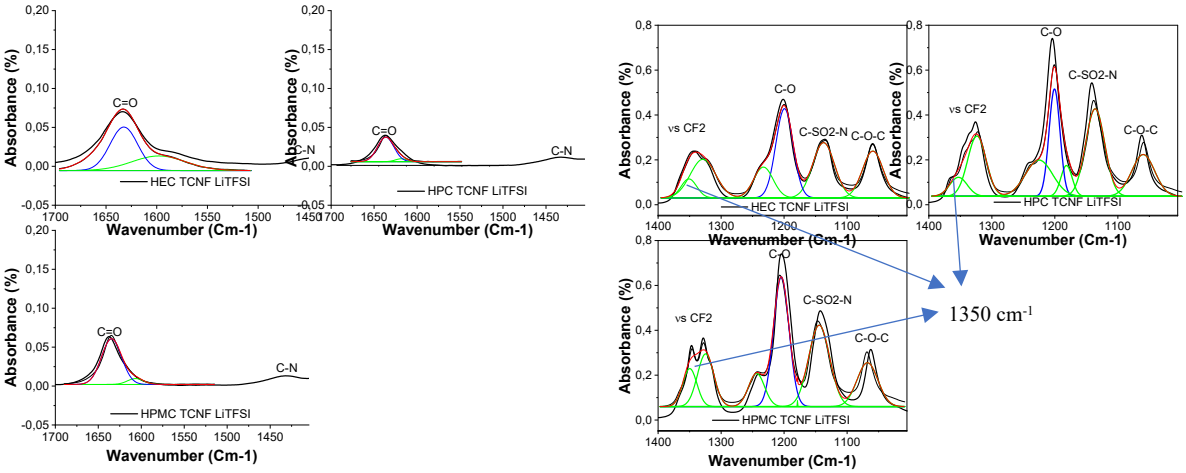

Figure S4. IR deconvolution spectra at 1700s - 1100s

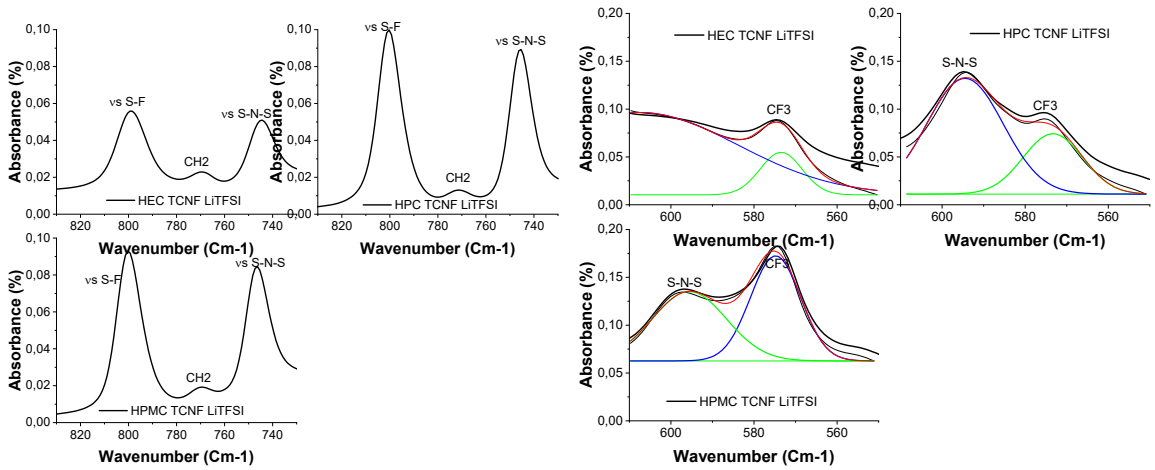

Figure S5. IR deconvolution spectra at 800-500s

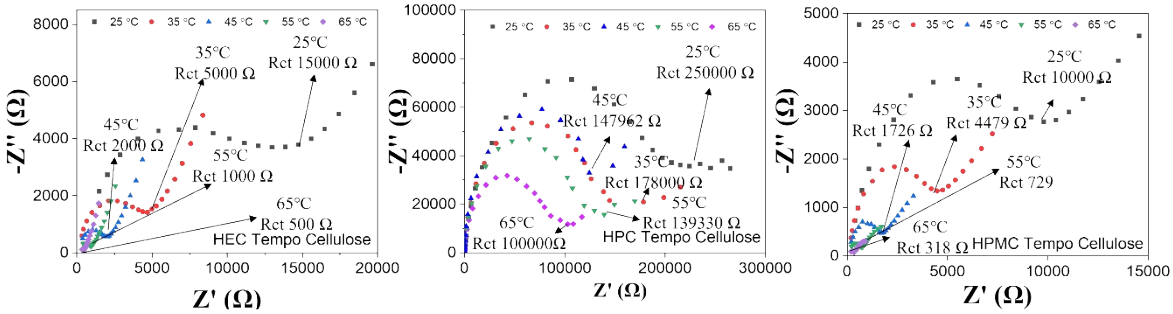

Figure S6. Nyquist plot of SPE composite at variations temperature (a) HEC TCNF LiTFSI, (b) HPC TCNF LiTFSI , and (c) HPMC TCNF LiTFSI.

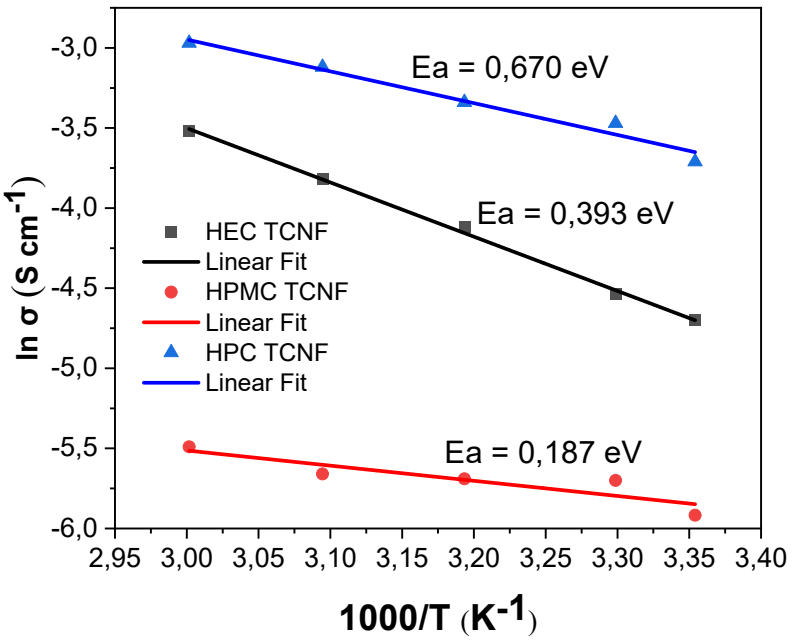

Figure S7. Arrhenius plot for the conduction process