## **Electronic Supplementary Information**

Novel chemical cross-linked ionogel based on acrylate terminated hyperbranched polymer with superior ionic conductivity for high performance lithium-ion batteries

Kang Zhao, Hongzan Song, Xiaoli Duan, Zihao Wang, Jiahang Liu, Xinwu Ba.

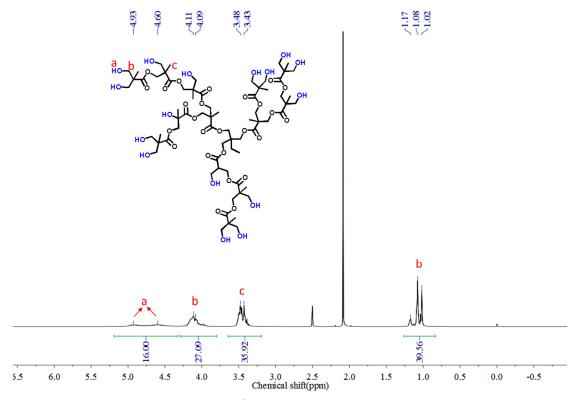


Figure S1 <sup>1</sup>H NMR spectra of HP-OH.

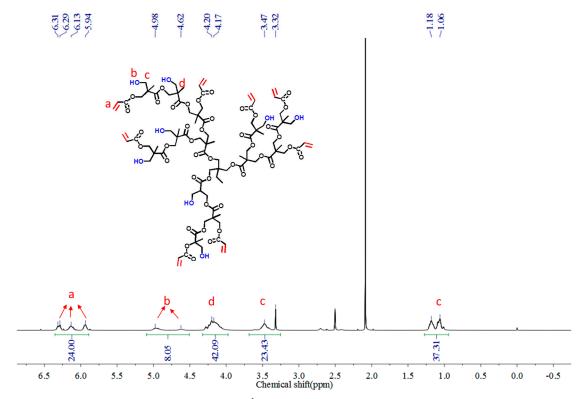
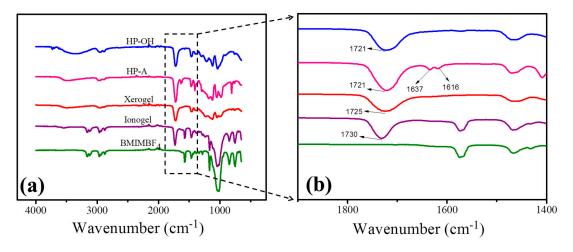


Figure S2 <sup>1</sup>H NMR spectra of HP-A.



**Figure S3** (a) FTIR patterns of neat HP-OH, HP-A, BMIMBF<sub>4</sub>, Xerogel, and ionogels. (b) The right pattern is the magnified FTIR patterns from 1400 to 1900 cm<sup>-1</sup>.

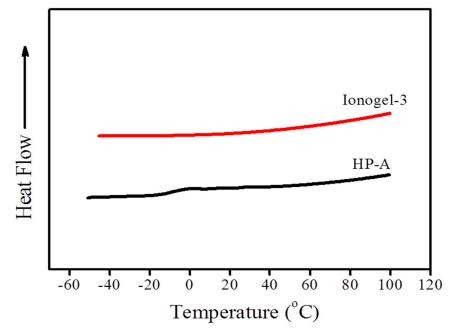


Figure S4 The melting DSC curves of HP-A and Ionogel-3 at a heating rate of 20 °C/min.

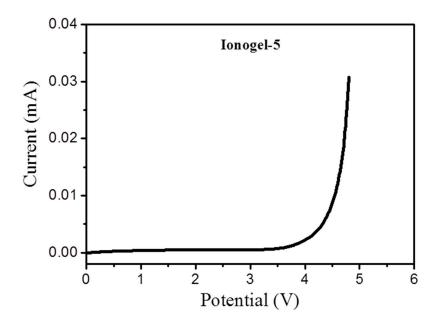


Figure S5 Linear sweep voltammograms of ionogel-5 at room temperature.