Electronic Supplementary Information for

A new organic-inorganic hybrid electrolyte based on polyacrylonitrile, polyether diamine and alkoxysilanes for lithium ion batteries: synthesis, structural properties, and electrochemical characterizations

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Fig. S1. FTIR spectra of PAGE–x hybrid electrolytes, where x = 15 (a), 18 (b), 21 (c), and 24 (d).



Fig. S2. FTIR deconvolution results of PAGE–*x* hybrid electrolytes in the range of 600–650 cm⁻¹ with various amounts of Li salt, where x = 15 (a), 18 (b), 21 (c), and 24 (d).



Fig. S3. Typical depolarization curve of PAGE–24 hybrid electrolyte.