Potential of Honeycomb Networks for PEG based Rechargeable Lithium Ion Batteries Electrolyte Applications

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The development of high-performance and safer polymer materials for next-generation energy storage and conversion devices is indispensable for the establishment of a sustainable low-carbon society (1-3). Conventional polymer electrolytes have poor ionic conductivity and mechanical integrity, therefore, lack potential for large scale applications. Here in the present work, we challenged rational design of innovative polymer electrolytes which are based on design and control of geometrical framework (optimized structure) of polymer template for high performance. Specifically, the presentation shows the potential of composite network composed of honeycomb scaffolds filled with polyethylene glycol and [Li(glyme)][TFSI] for the best electrochemical performance for Lithium ion battery electrolytes.

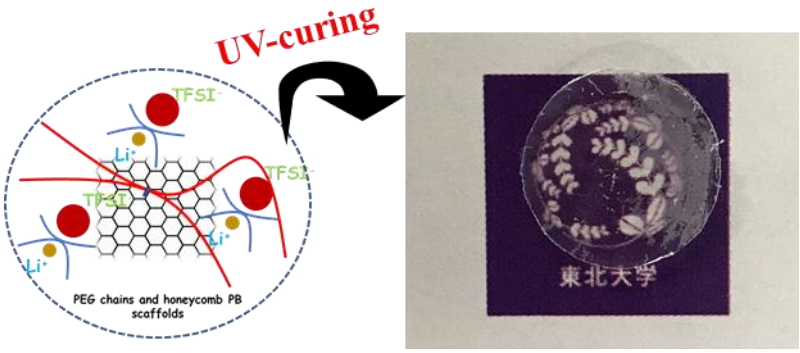

Figure 1: Sketched representation of honeycomb scaffolds filled with polyethylene glycol and [Li(glyme)][TFSI] for Lithium ion battery electrolytes.

References:

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