Inhibition of Lithium Dendrite Growth with Highly Concentrated Ions: Cellular Automaton Simulation and Surrogate Model with Ensemble Neural Networks

Supplementary Information

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In this supplemental material, we illustrate our experimental observation of lithium dendrite growth in a combination of 1M $LiPF_6$ in EC/DMC electrolyte and 10% ionic liquid [BMIM][TFSI]. Fig. S1 shows that the addition of the ionic liquid significantly suppresses lithium dendrite and makes the growth trend remarkably uniform in the lateral direction.
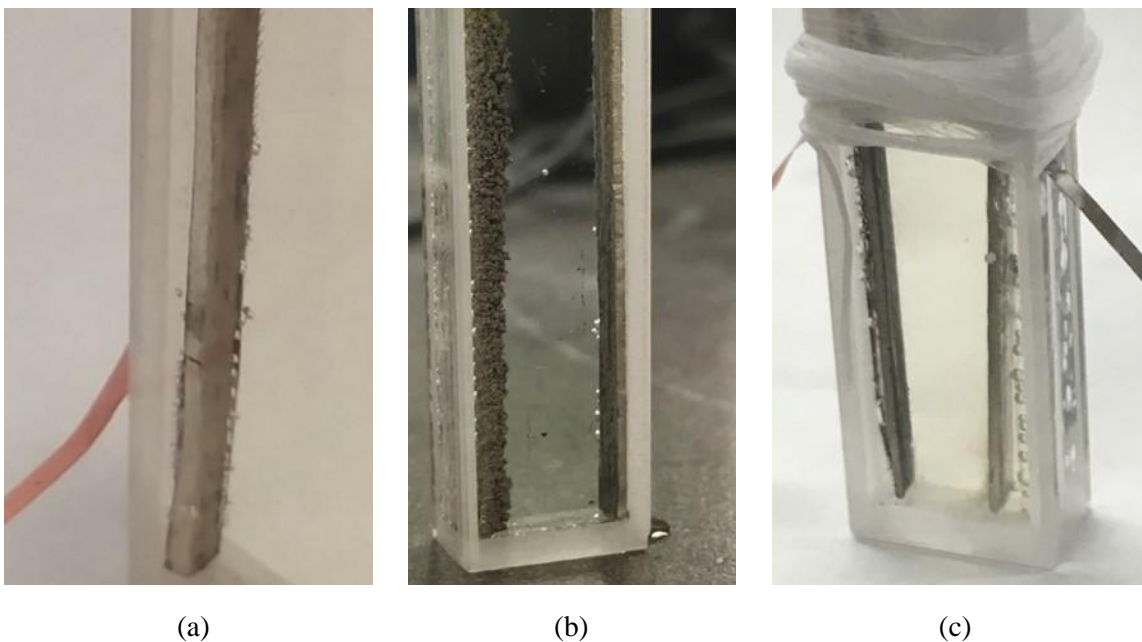

(a)   (b)   (c)

FIG. S1 Lithium dendrite growth. (a) Original Li foil, (b) lithium deposits under 1M $LiPF_6$ in EC/DMC, and (c) lithium deposits under 1M $LiPF_6$ in EC/DMC + 10% [BMIM][TFSI].

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