

Interdigitated Cathode-Electrolyte Architectural Design for Fast-Charging Lithium Metal Battery with Lithium Oxyhalide Solid-State Electrolyte

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Supplementary Figures:

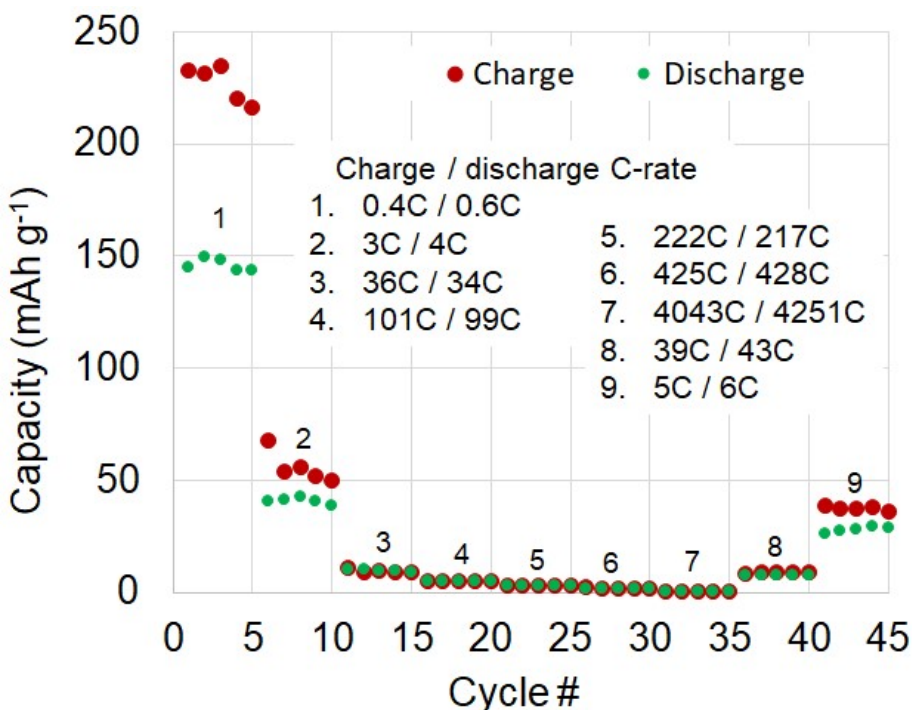


Fig. S1. (c) Capacity of a solid-state cell Al-C|LFP (90%), C(10%)+Li₃OCl|Li₃OCl|Li at different C-rates in charge/discharge cycles according to the schedule depicted in Fig. 6a. Initial higher specific capacity corresponds to the lower charge (0.4C) and discharge (0.6C) C-rates, respectively. Similarly, at a high C-rate (around 4000C), the specific capacity becomes extremely low (0.02 mAhg⁻¹), which is expected due to the incomplete electrochemical reactions within the cell. More importantly, the components for the reaction do not get enough time to switch their positions.

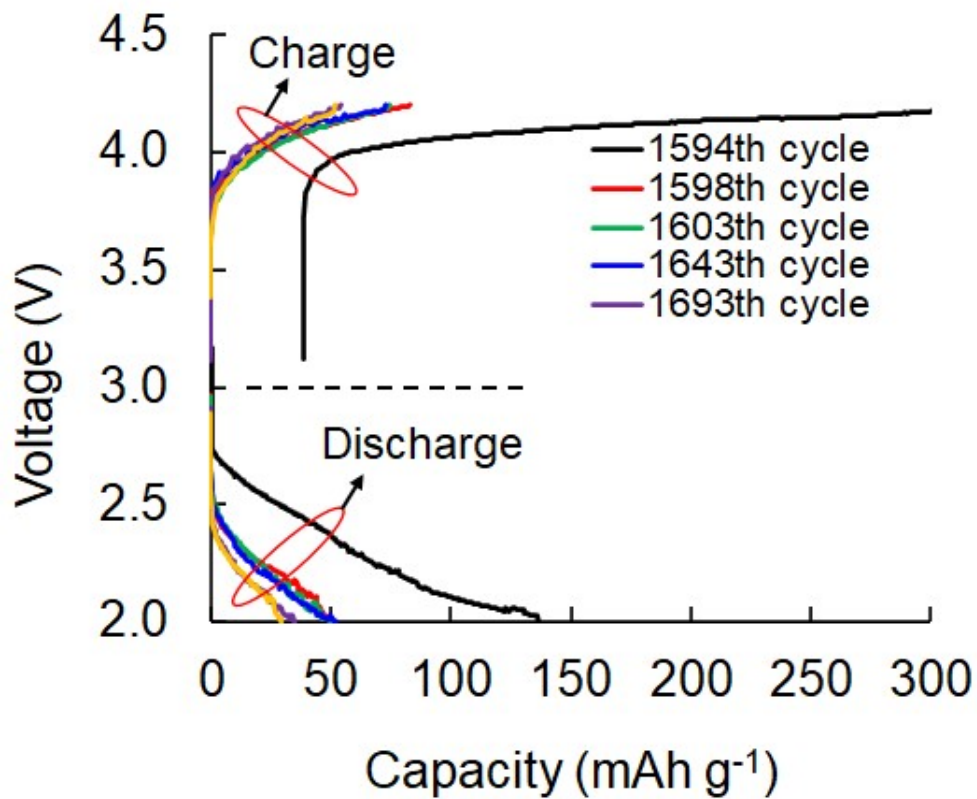


Fig. S2: Experimental voltage profiles of Al-C|LFP(90%),C(10%)+Li₃OCl|Li₃OCl|Li solid-state cell in different charge and discharge cycles.

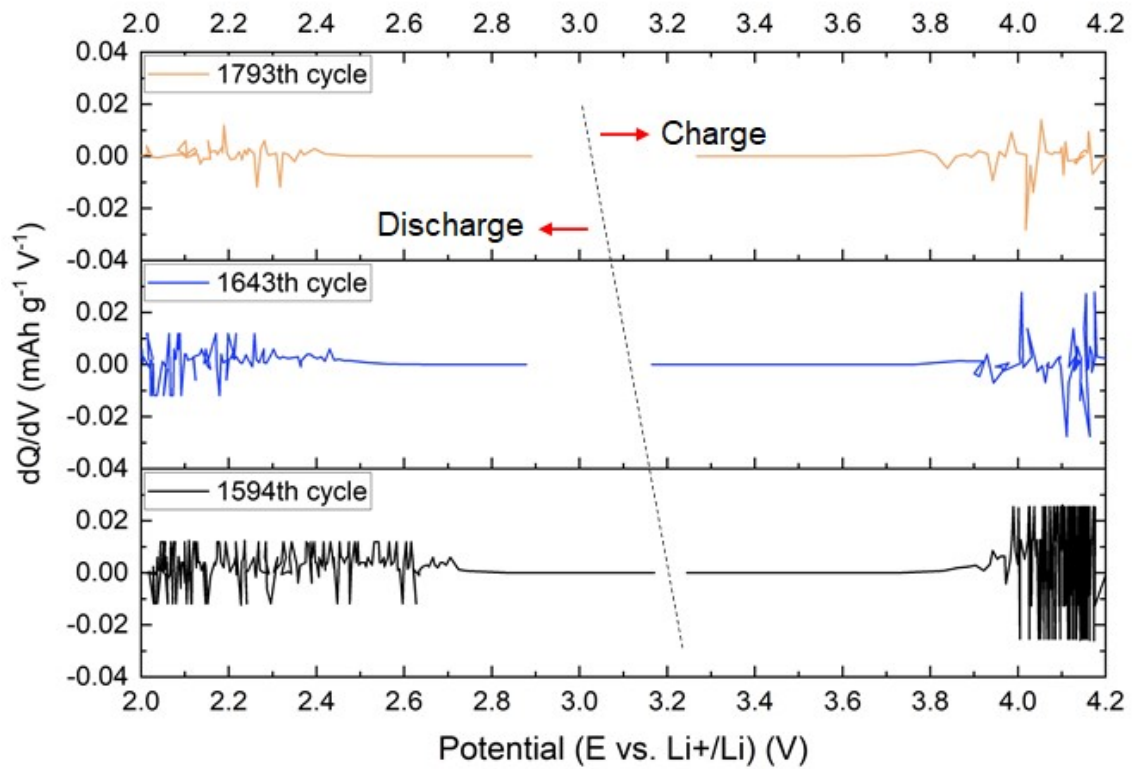


Fig. S3: Differential capacity for the Al-C|LFP(90%),C(10%)+Li₃OCl|Li₃OCl|Li solid-state cell in different cycles during the charge and discharge process.