

Supporting Information

Fabrication of high-performance dual carbon Li-ion hybrid capacitor: mass balancing approach to improve the energy-power density and cycle life

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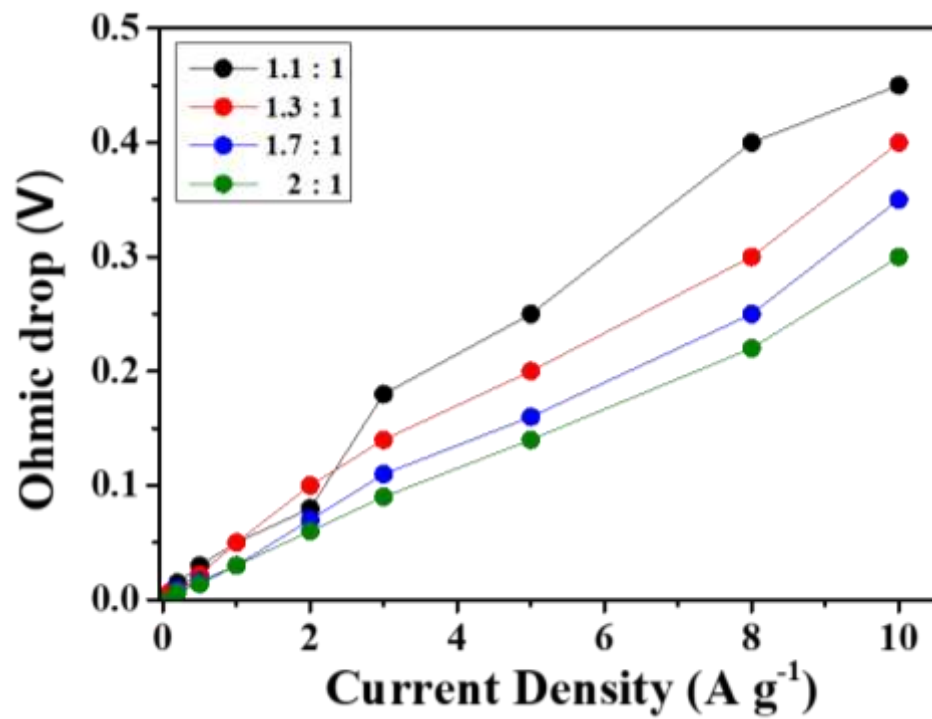


Figure S1. Comparative ohmic drop values with respect to different current densities for the different LIC devices assembled using the indicated positive to negative mass balances.

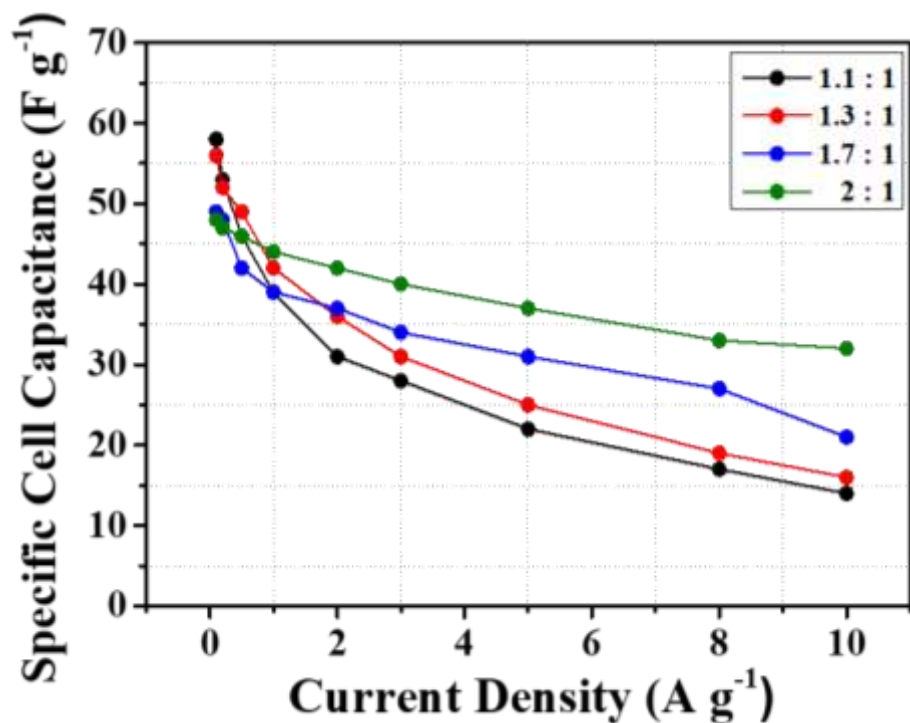


Figure S2. The specific cell capacitance evolution of the different LIC devices assembled using the labeled negative to positive mass ratios.

The specific cell capacitance ($C_{D,cell}$) of the full cell was calculated according by the following equation:

$$C_{D,cell} = \frac{2}{U_{cell}^2} ED$$

where, the discharge specific energy density ED (Wh kg⁻¹) and U_{cell} the voltage in the discharge curve of a galvanostatic cycle (V).

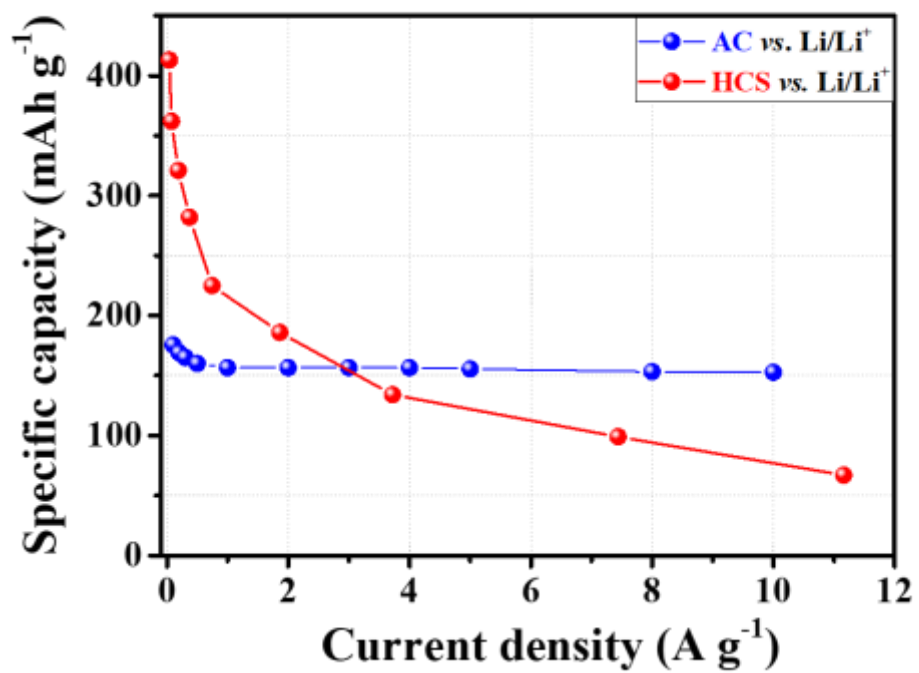


Figure S3. Specific capacity of HCS vs. AC at different applied current densities.

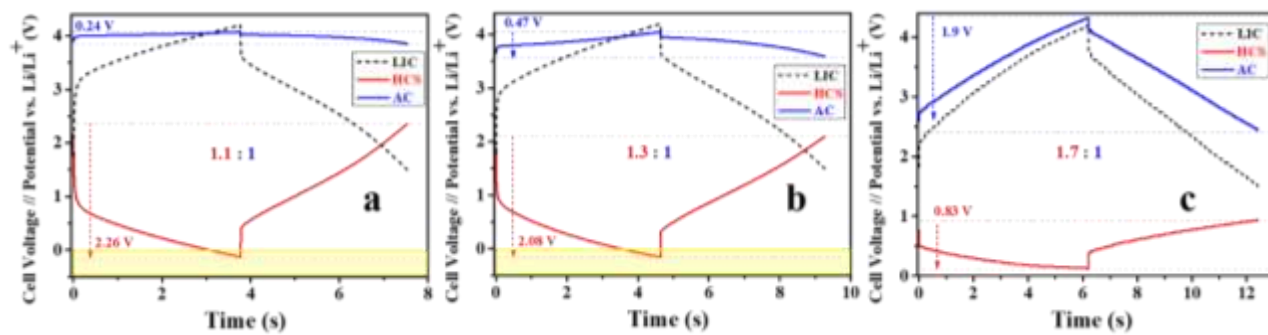


Figure S4. Galvanostatic charge-discharge curves at an applied current density of 10 A g⁻¹ (the yellow colored zone in the Y axis (V) is indicating the lithium plating).