

Electronic Supplementary Information (ESI)

Degradation suppression effect of amorphous-hard-carbon-bundled Si-based negative electrode

Uran Tsunoda,^a Koji Hiraoka,^a Yoshikazu Kobayashi,^b Takao Kunimi^b and Shiro Seki^{*a}

^a Department of Environmental Chemistry and Chemical Engineering, School of Advanced Engineering, Kogakuin University, 2665-1 Nakano-machi, Hachioji, Tokyo 192-0015, Japan

^b Sumitomo Bakelite Co., Ltd., 5-8 Higashi-Shinagawa 2-chome, Shinagawa-ku, Tokyo 140-0002, Japan

* Corresponding author: shiro-seki@cc.kogakuin.ac.jp

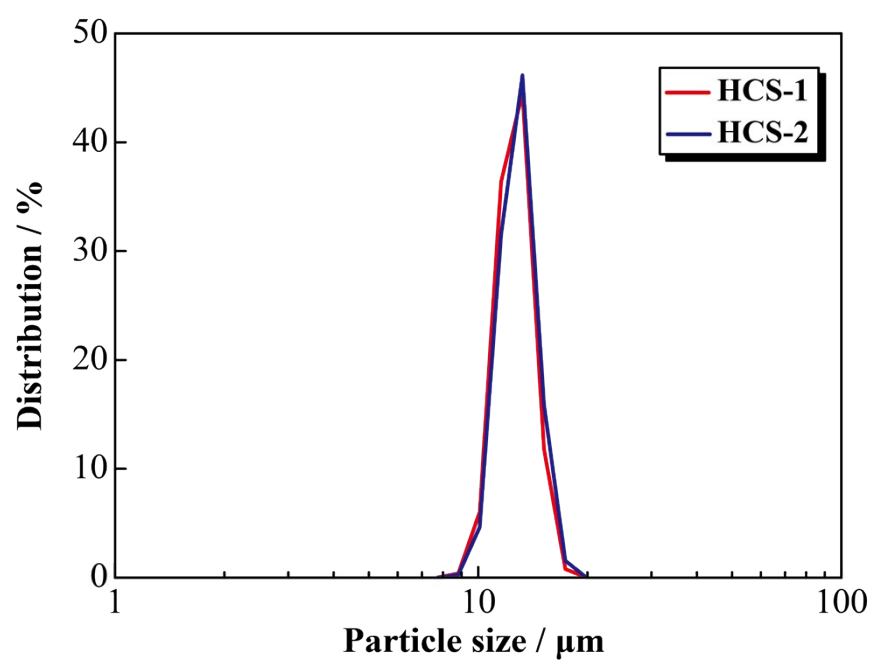


Figure S1. Particle size distribution of HCS.

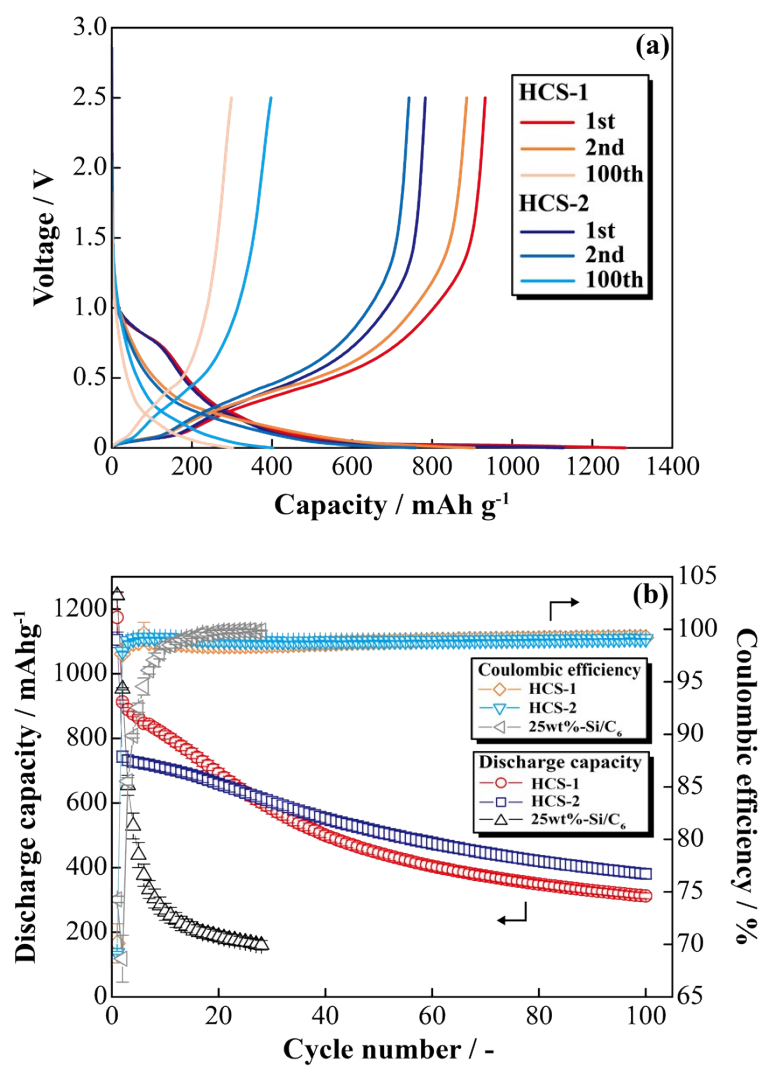


Figure S2. Charge–discharge profiles for [Li | 1.0 M-LiFSI EC/DEC | 100 wt%-HCS] cells (a) and relationships between cycle number and discharge capacity (b).

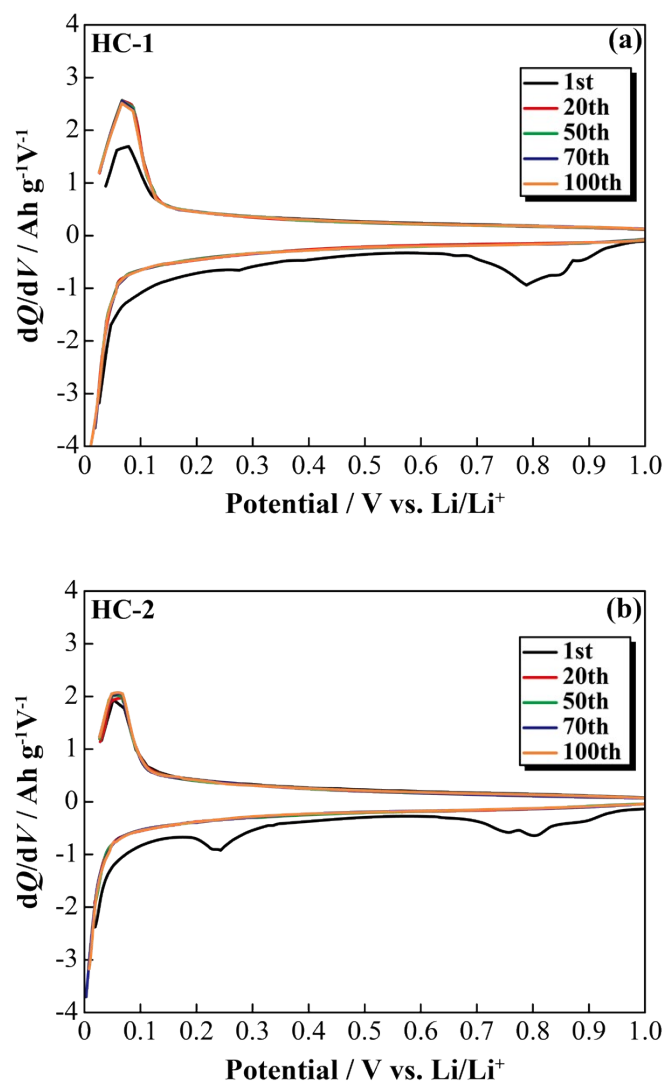


Figure S3. Differential capacity curves (dQ/dV) for various cycles between 0 and 1.0 V for [Li | 1M-LiFSI EC/DEC | HC-1] cell (a) and [Li | 1M-LiFSI EC/DEC | HC-2] cell (b).

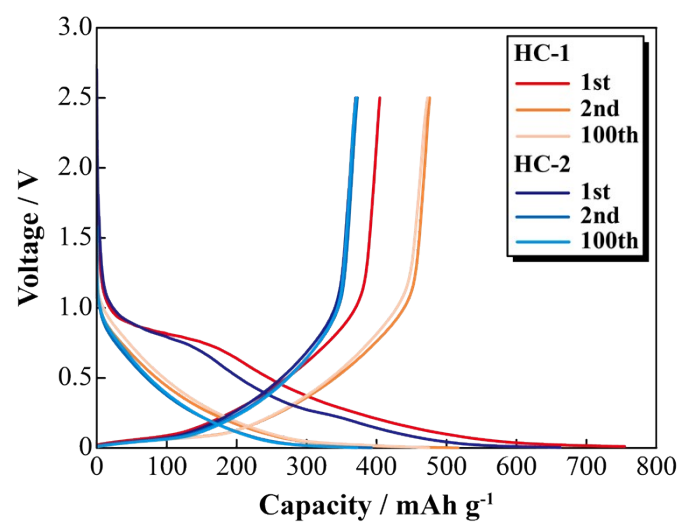


Figure S4. Charge–discharge profiles for [Li | 1.0 M-LiFSI EC/DEC | HC] cells.

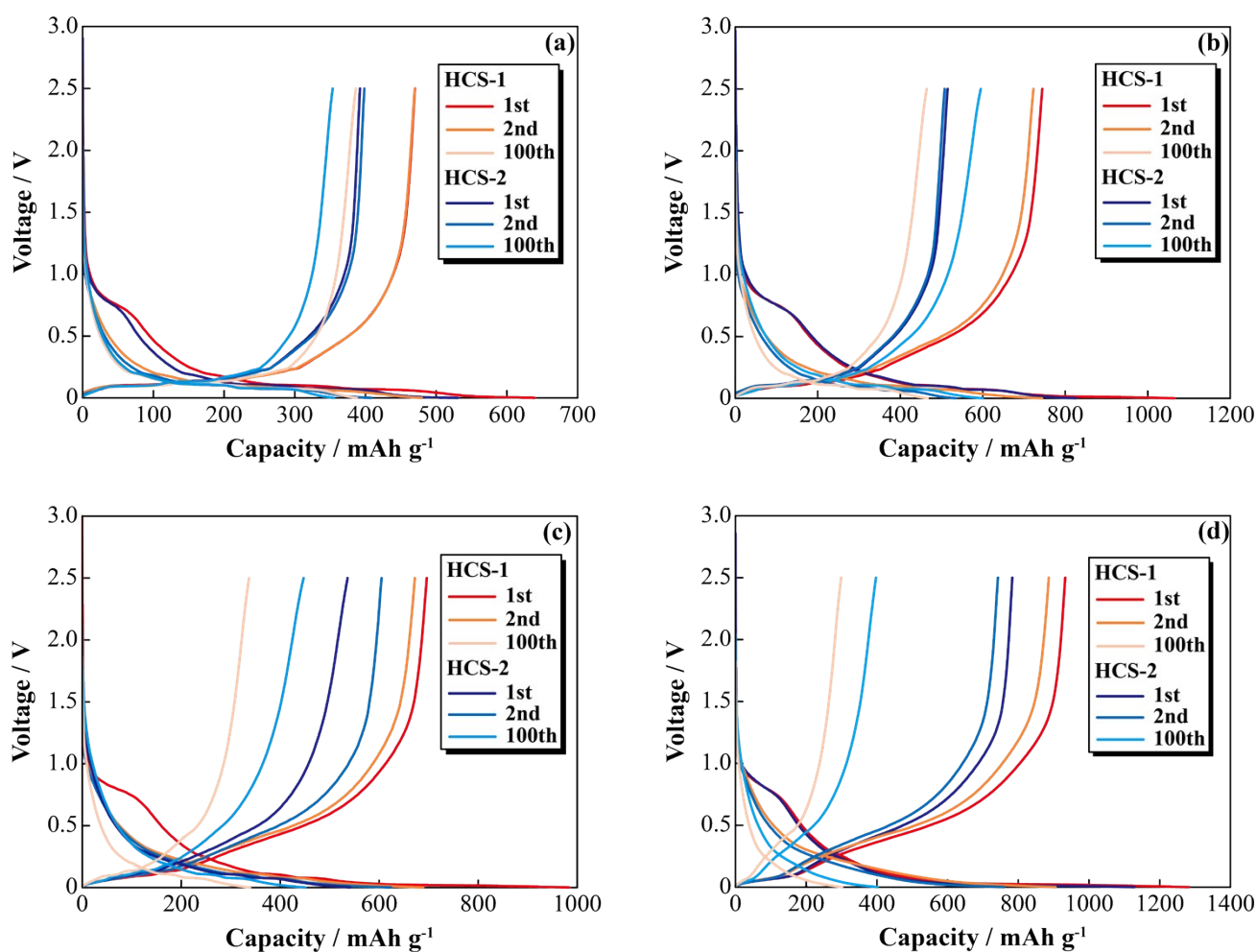


Figure S5. Charge–discharge profiles for [Li | 1.0 M-LiFSI EC/DEC | 30 wt%-HCS/C₆] cells (a), [Li | 1.0 M-LiFSI EC/DEC | 50 wt%-HCS/C₆] cells (b), [Li | 1.0 M-LiFSI EC/DEC | 70 wt%-HCS/C₆] cells (c) and [Li | 1.0 M-LiFSI EC/DEC | 100 wt%-HCS] cells (d).