Supporting Information

Electrochemistry and Morphology of Graphite Negative Electrodes Containing Silicon as Capacity-Enhancing Electrode Additive

Fabian Jeschull[†], Yuri Surace[†], Simone Zürcher[‡], Michael E. Spahr[‡], Petr Novák[†], Sigita Trabesinger[†,]*

[†]Electrochemistry Laboratory, Forschungsstrasse 111, 5232 Villigen PSI, Switzerland

[‡]Imerys Graphite & Carbon, Via Cantonale 65, 6804 Bironico, Switzerland

**corresponding author: e-mail: sigita.trabesinger@psi.ch. Phone: +41 56 310 5775*

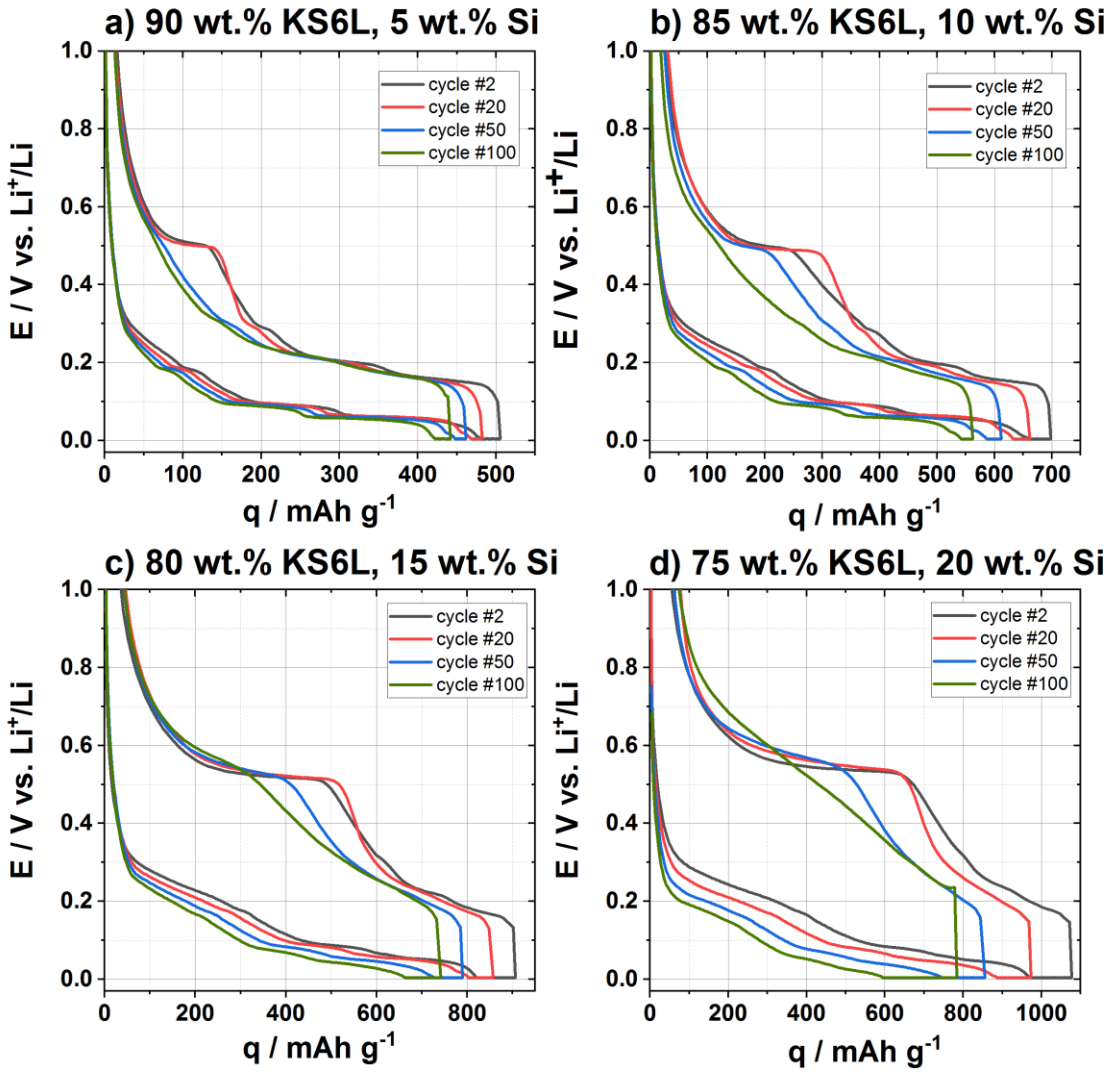

Figure S-1. Voltage profiles of KS6L–Si electrodes with different amounts of Si for selected cycles.

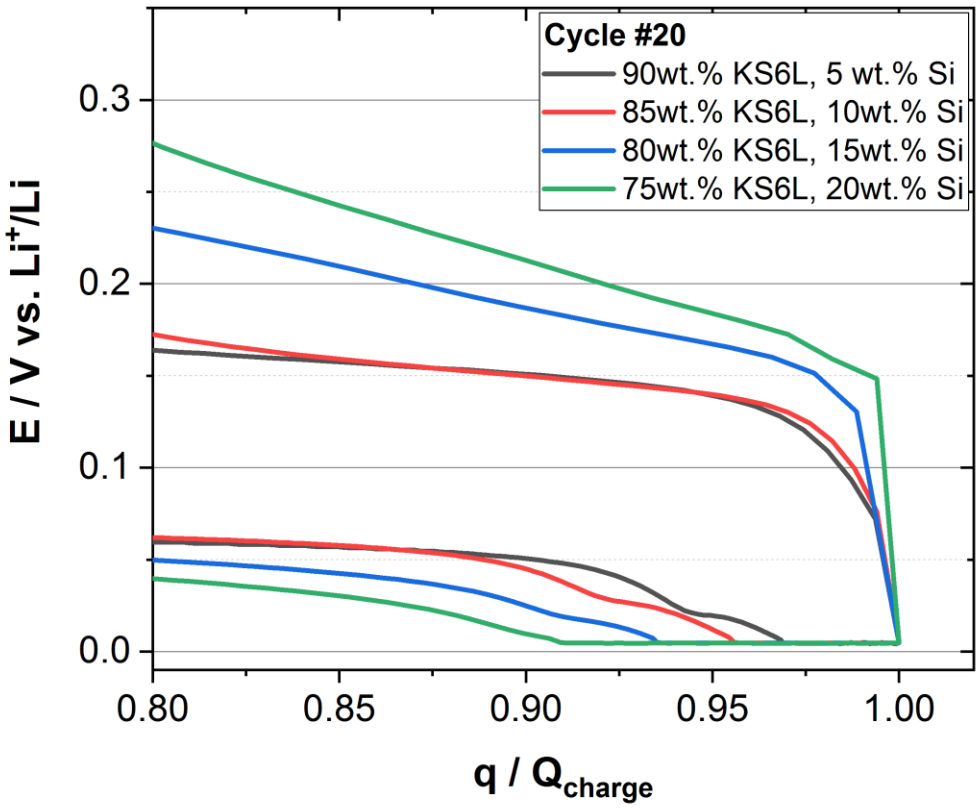

Figure S-2. Voltage profiles of KS6L–Si electrodes with different amounts of Si at the end of charge/beginning of discharge. Below 30 mV a short plateau is observed.

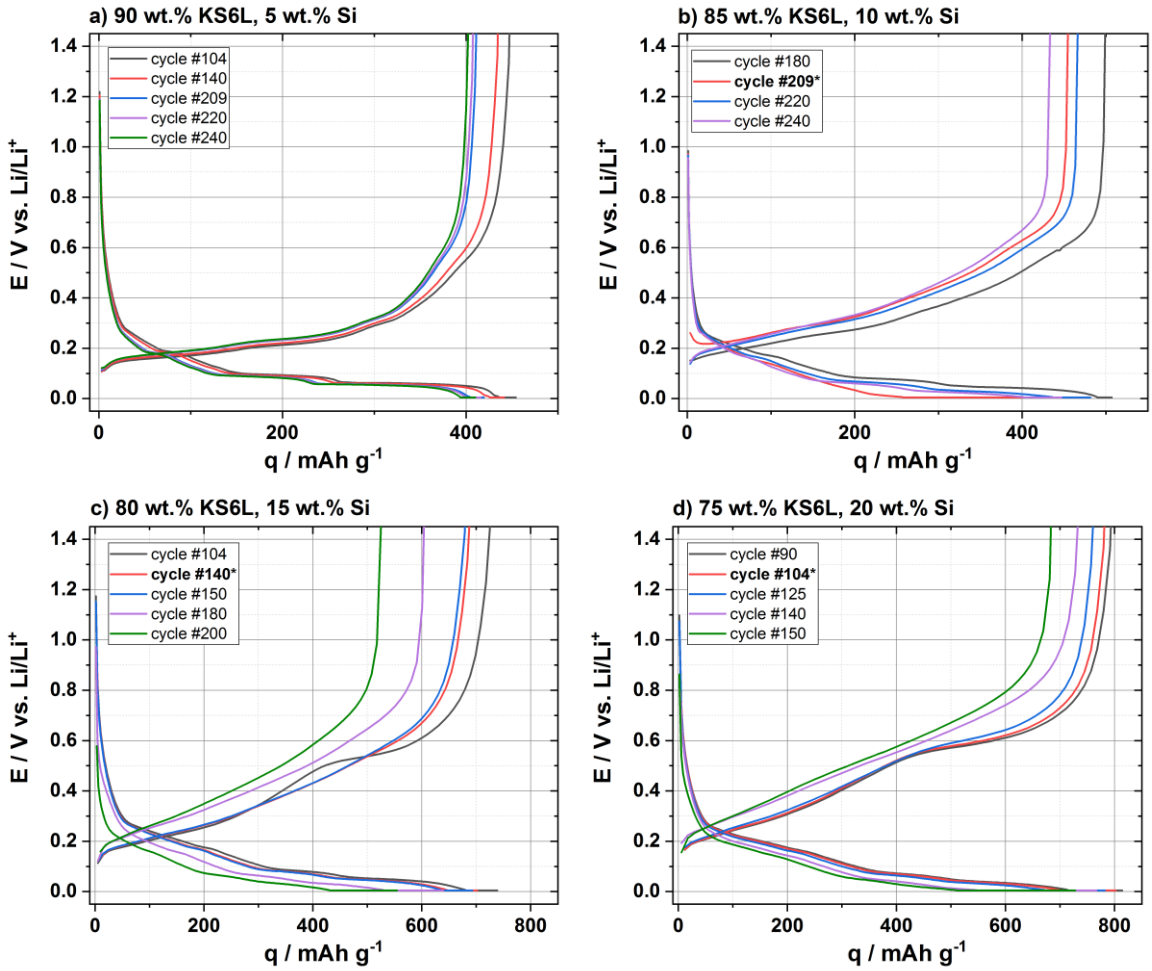

Figure S-3. Voltage profiles for selected cycles around the spike-like feature observed in Figure 4 in the main text. The voltage profile ascribed to the peak maximum of the spike is indicated with a "*" and bold labels in the corresponding legends.

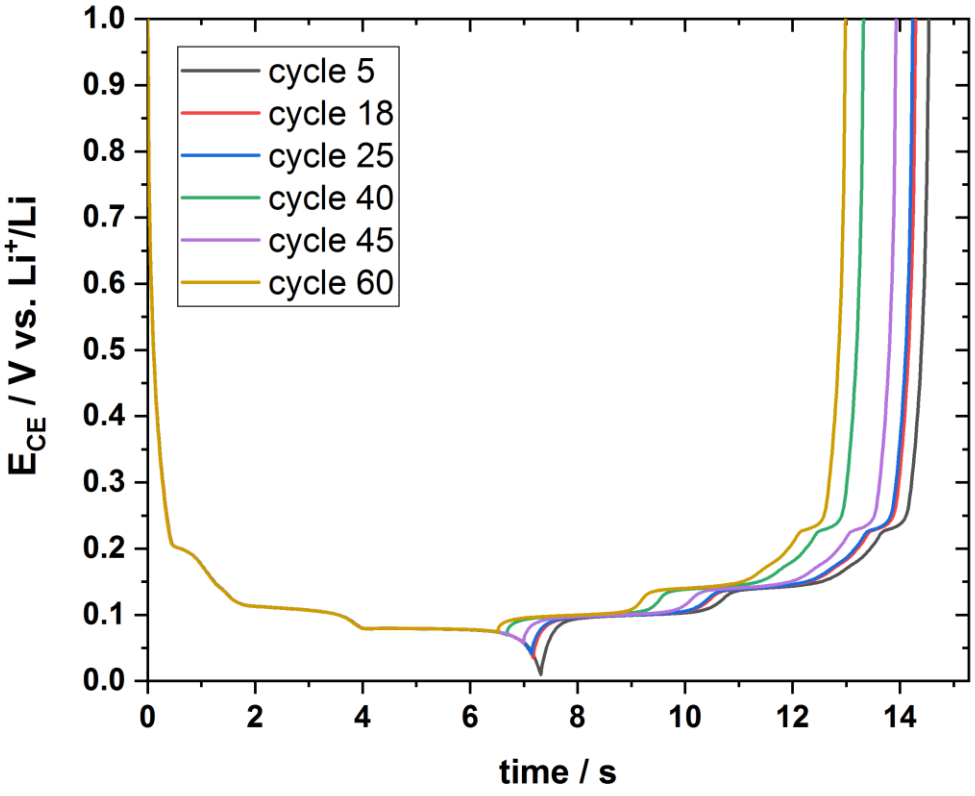

Figure S-4. Voltage profile of the charge-injection experiment of a KS6L||$LiFePO_4$ full cell. Charge injections were carried out on cycle #21 and #42.

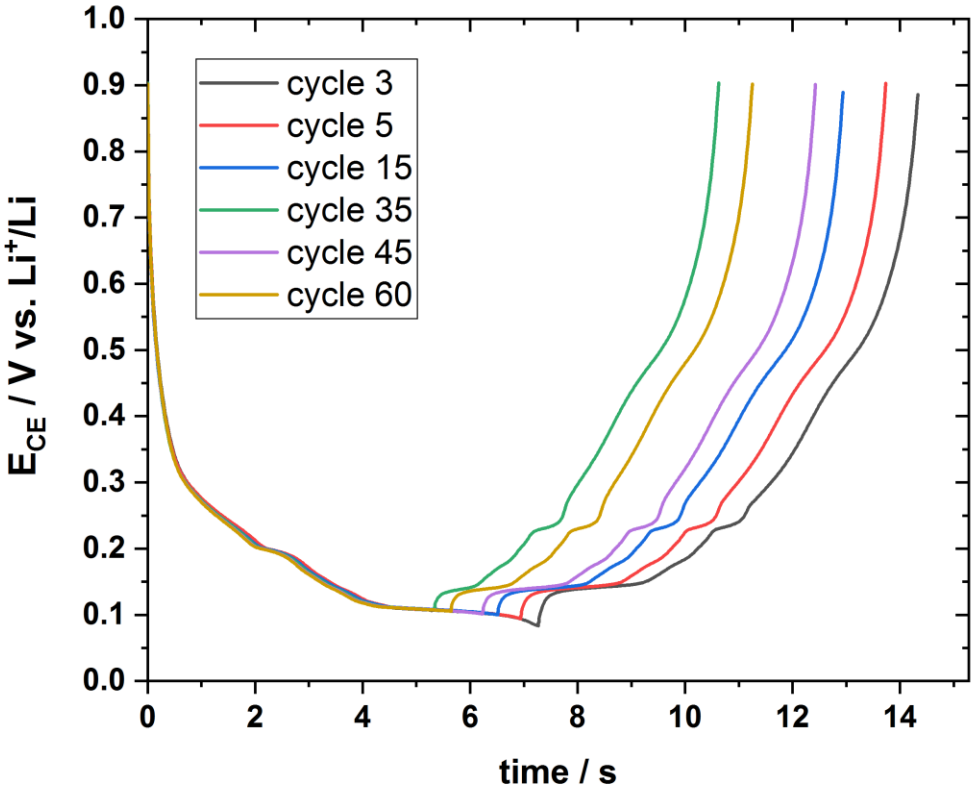

Figure S-5. Voltage profile of the charge-injection experiment of a KS6L–Si||$LiFePO_4$ full-cell. Charge injections were carried out on cycle #11 and #40.