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SUPPLEMENTAL

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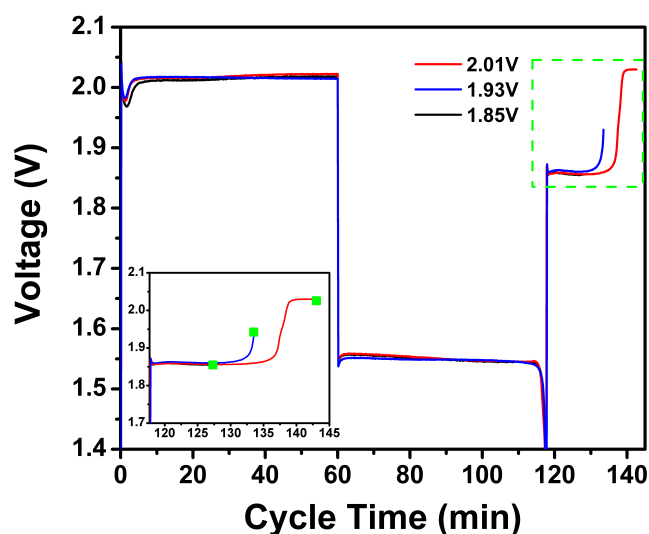
## Achieving High Cyclability in Inexpensive Soluble Lead Flow Batteries†

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### 5 Supplemental Figures

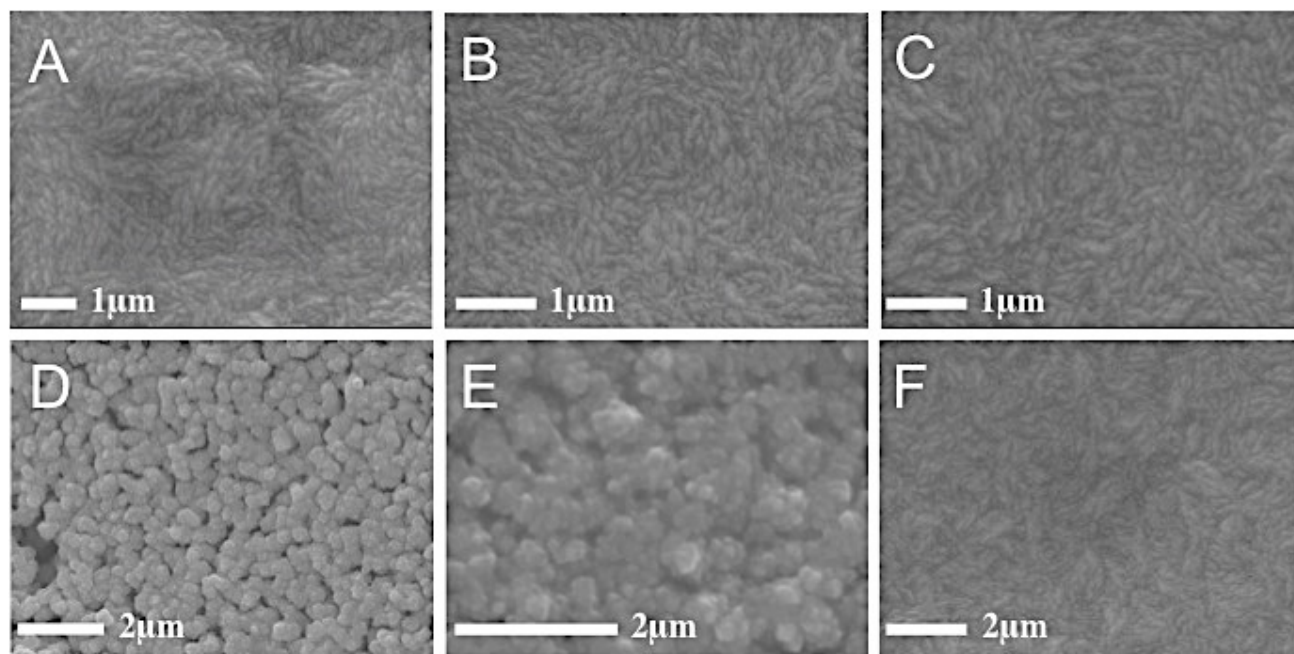


10 **Figure S1.** Voltage profile of three SLFBs galvanostatically charged at 20mA/cm<sup>2</sup> and discharged at the same current density to 1.1V, but stopped during their second charge cycle at three different points – 1.85V, 1.93V, and 2.01V, highlighted by inset.

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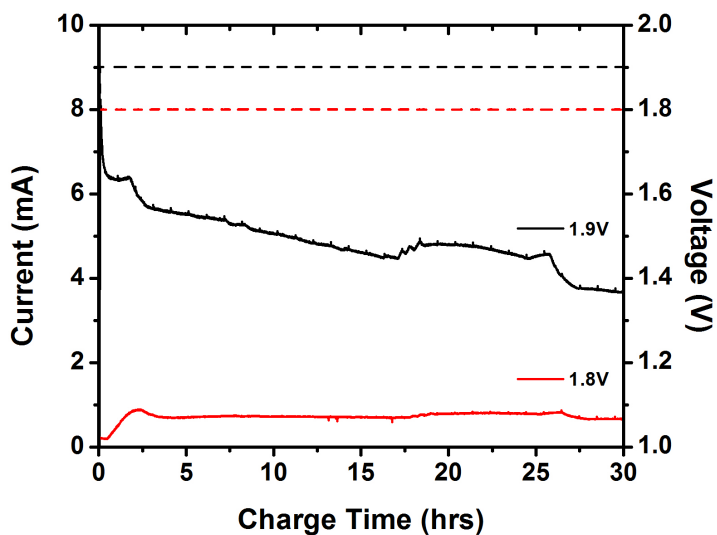
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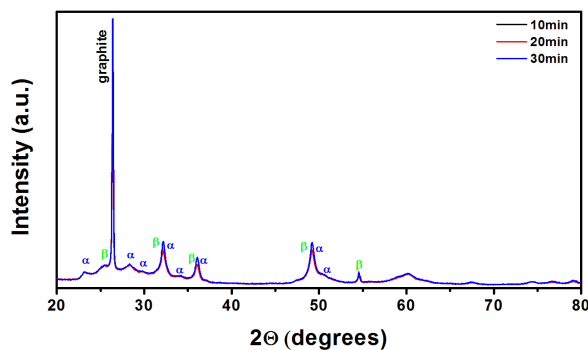


**Figure S2.** SEM images of deposits formed at the positive electrode during the 1<sup>st</sup> cycle at (A) 10 minutes, (B) 15 minutes, and (C) 20 minutes into charge, as well as deposits formed during the 2<sup>nd</sup> charge cycle at the (D) 1.85V plateau, (E) 1.93V inflection, and (F) 2.01 V plateau, from SLFBs, galvanostatically charged.

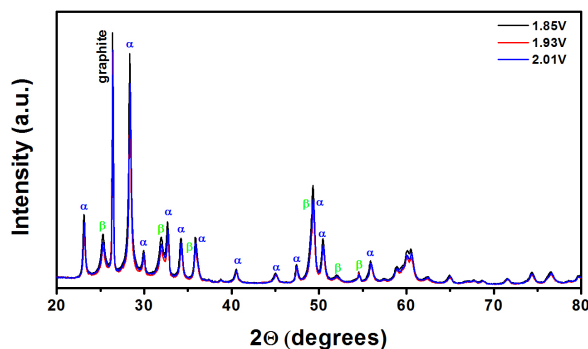
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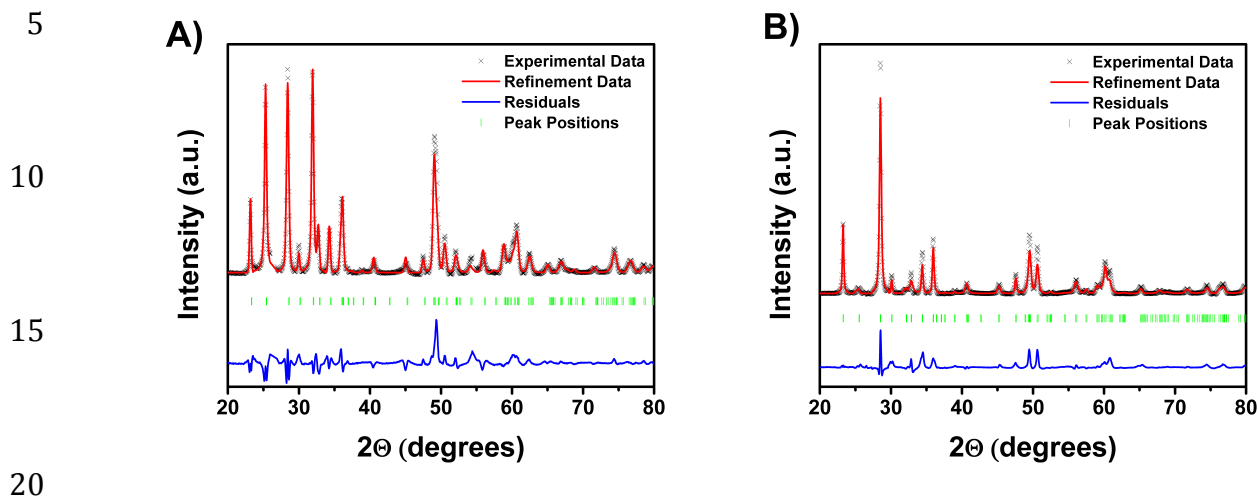
**Figure S3.** Voltage (dotted lines) and current-time transients (solid lines) of two SLFBs, potentiostatically charged at 1.8V (red) and 1.9V (black), for 30hrs.



**Figure S4a.** XRD spectra of positive electrode deposits from SLFBs 10 (black), 20 (red), and 30 (blue) minutes into the 1<sup>st</sup> cycle, charged at 20mA/cm<sup>2</sup>.



**Figure S4b.** XRD spectra of positive electrode deposits formed during the 2<sup>nd</sup> cycle at the 1.85V plateau (black), 1.93V inflection (red), and 2.01V plateau (blue), corresponding to batteries in Figure S1.



**Figure S5.** XRD spectra and Rietveld refinement of positive electrode deposits from SLFBs charged at (A) 1.8V and (B) 1.9V, corresponding to batteries in Figure S3.

**Notes and references**

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† Electronic Supplementary Information (ESI) available: See DOI: 10.1039/b000000x/