

Direct Reuse of Aluminium and Copper Current Collectors from Spent Lithium-ion Batteries

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Table 1: ICP-OES test for Al current collector in oxalic acid

Element	Al	Co	Cu	Li	Mn	Ni
Concentration (ppm)	109.27	27.01	0	26.23	347.93	109.44

Table 2: ICP-OES test for Cu in water

Element	Al	Co	Cu	Li	Mn	Ni	P
Concentration (ppm)	0.04	0.03	0.04	6.23	0.07	0.04	3.28

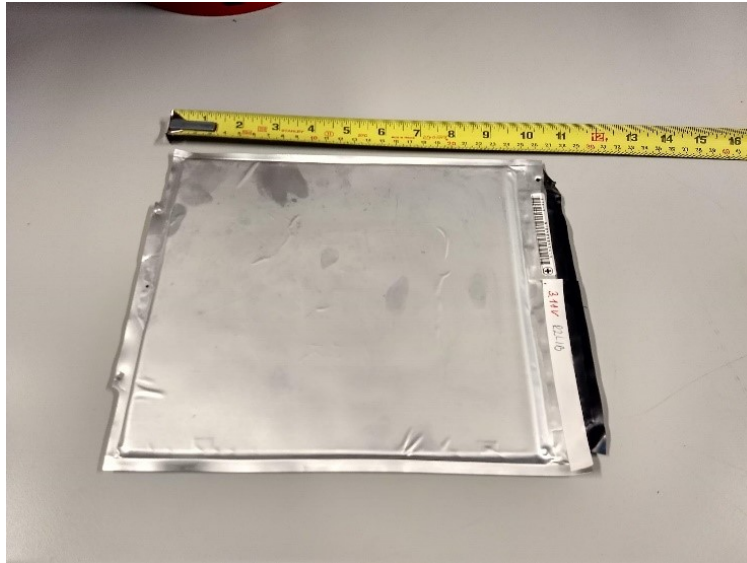


Figure S1. Spent Li-ion battery pouch cell from 1st generation Nissan Leaf.

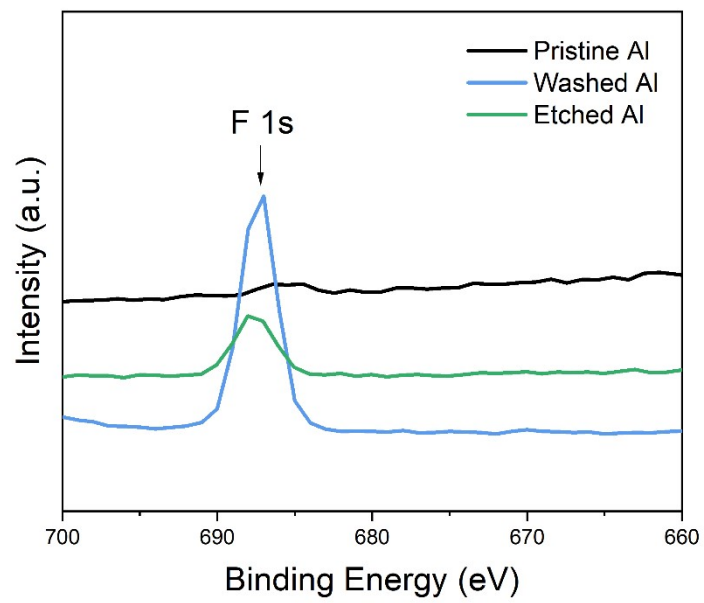


Figure S2. Zoom in XPS spectra for F 1s.

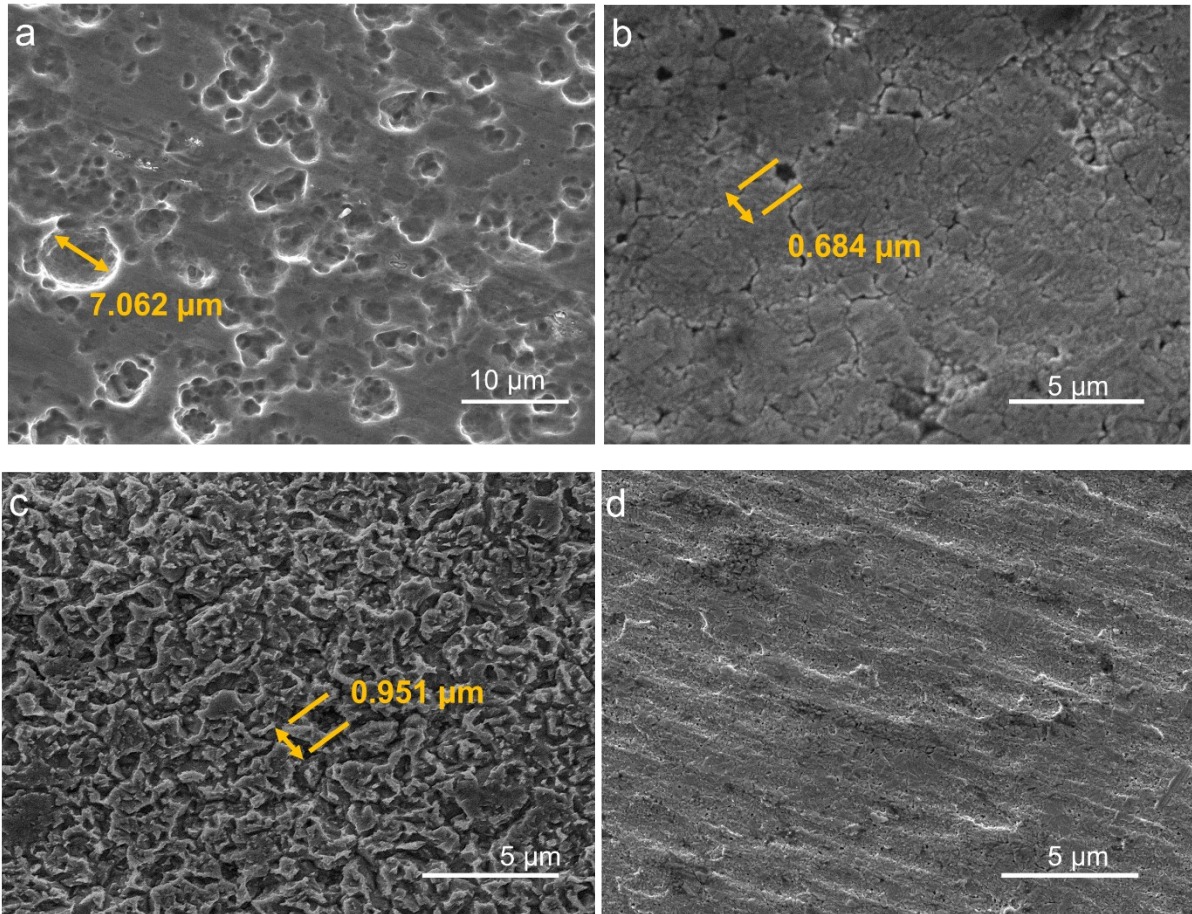


Figure S3. Surface feature size measured by images J on a) etched Al, b) washed Cu, c) etched Cu and d) pristine Cu after HNO₃ etching.

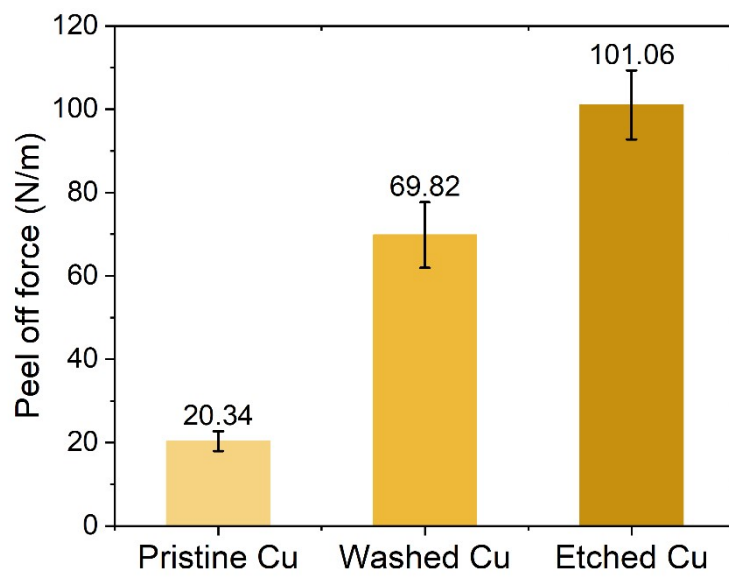


Figure S4. Adhesion force of graphite electrodes made with PVDF binder on Cu current collectors.

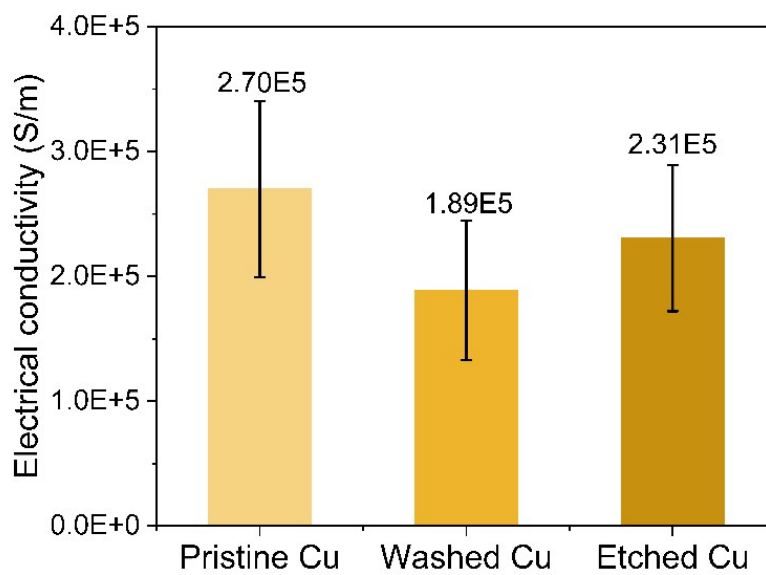


Figure S5. Electrical conductivity of graphite electrodes made with PVDF binder on Cu current collectors.

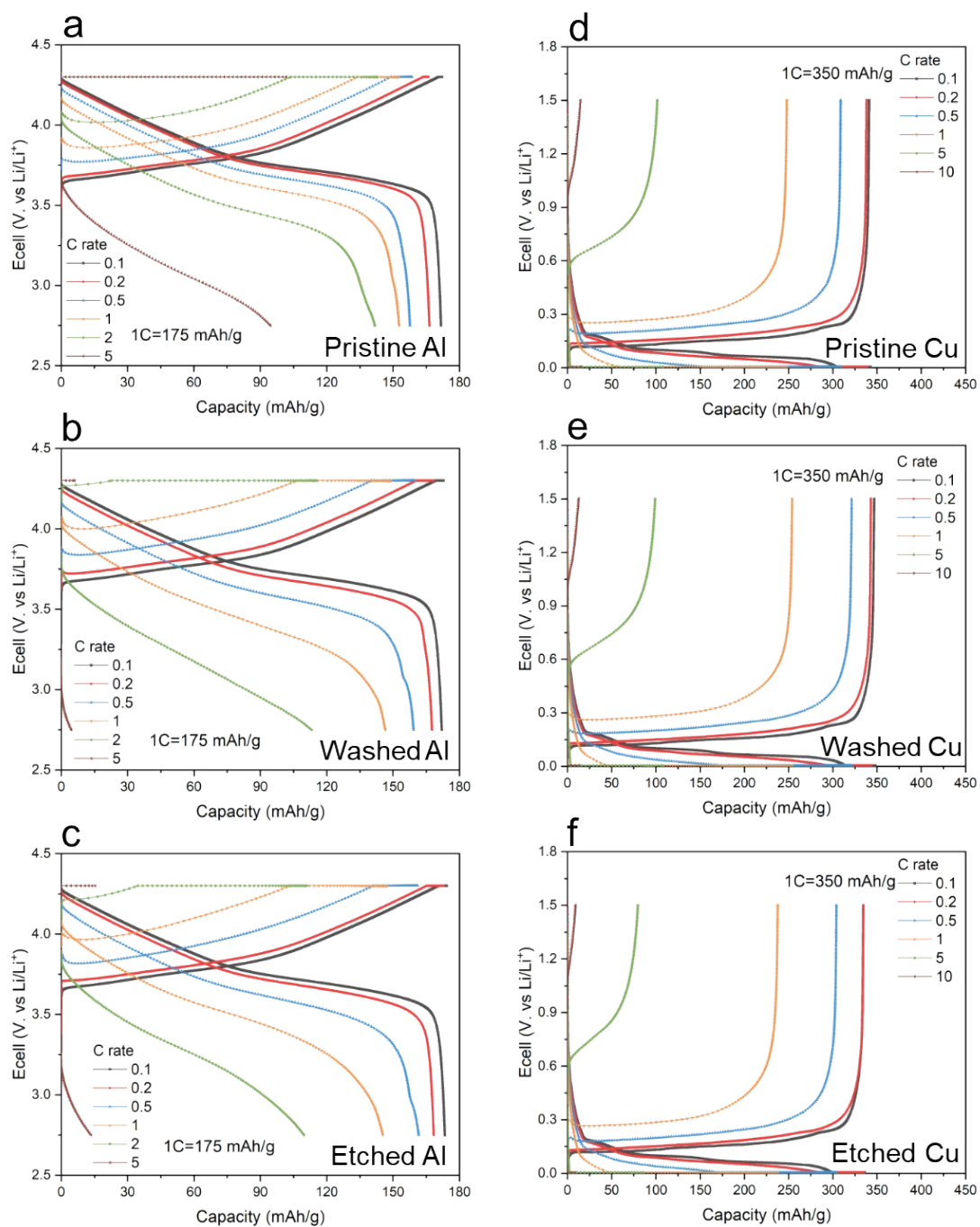


Figure S6. Charging and discharging profiles of NMC622 on Al current collectors (a-c) and graphite on Cu current collectors (d-f).

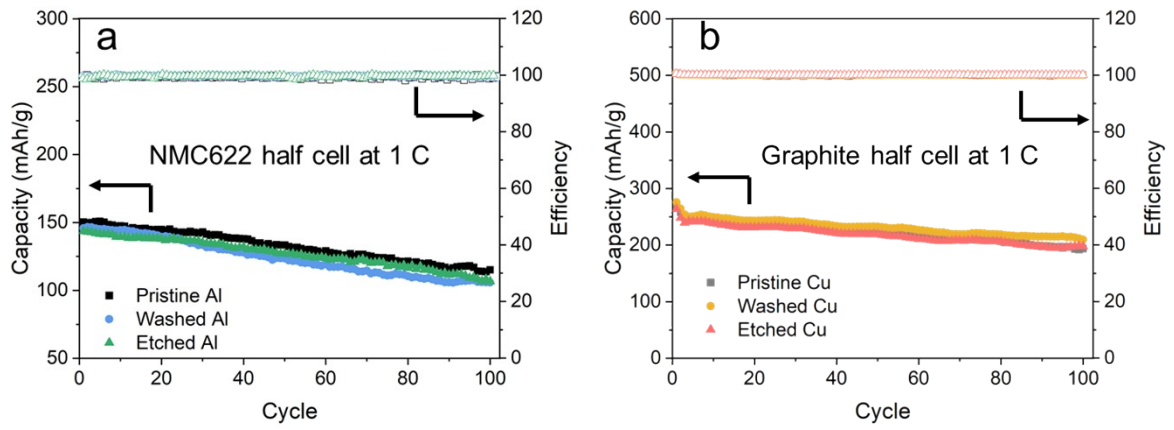


Figure S7. Cycling performance of a) NMC622 on Al current collectors and b) graphite on Cu current collectors at 1C for 100 cycles.