Electronic Supplementary Material (ESI) for RSC Advances.

Supporting Information

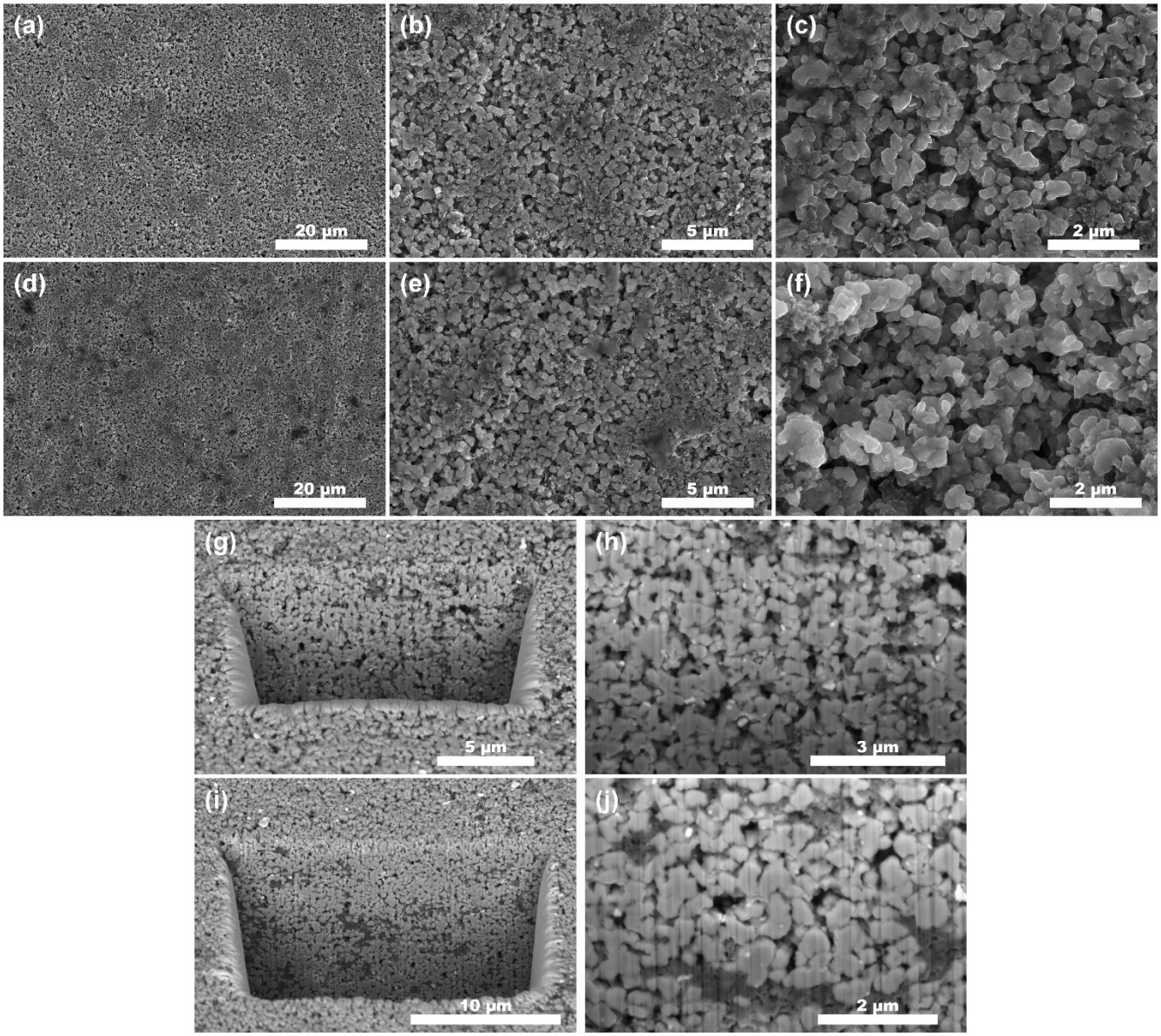

Figure S1. FESEM images of LTO electrodes of (a)-(c) fresh batteries (d)-(f) cycled batteries; internal SEM images by FIB cutting of LTO electrodes of (g,h) fresh batteries and (i,j) cycled batteries.

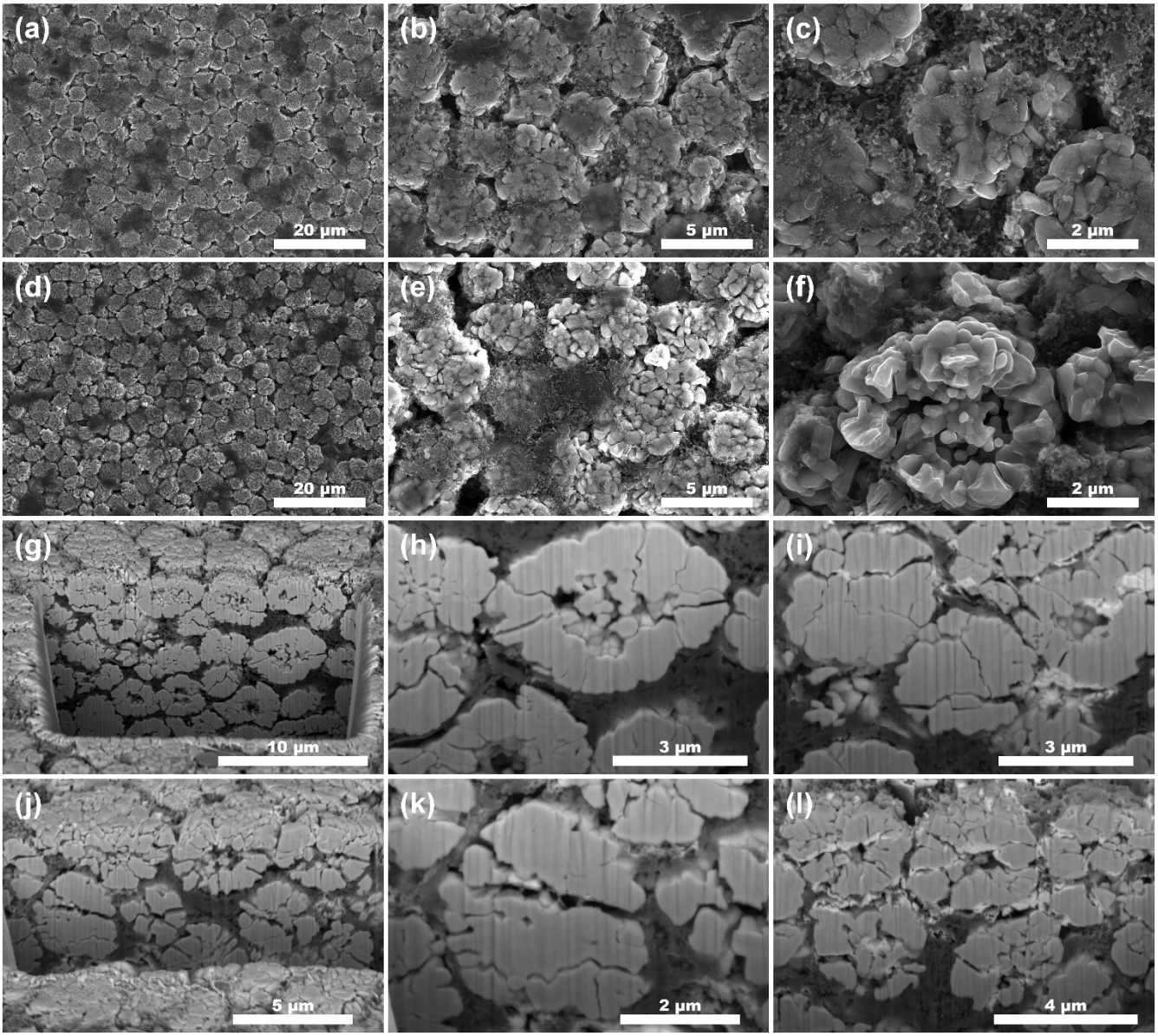

Figure S2. FESEM images of NCM electrodes of batteries cycled at (a)-(c) 25 °C (d)-(f) 35 °C; internal SEM images by FIB cutting of NCM electrodes of batteries cycled at (g)-(i) 25 °C (j)-(l) 35 °C.

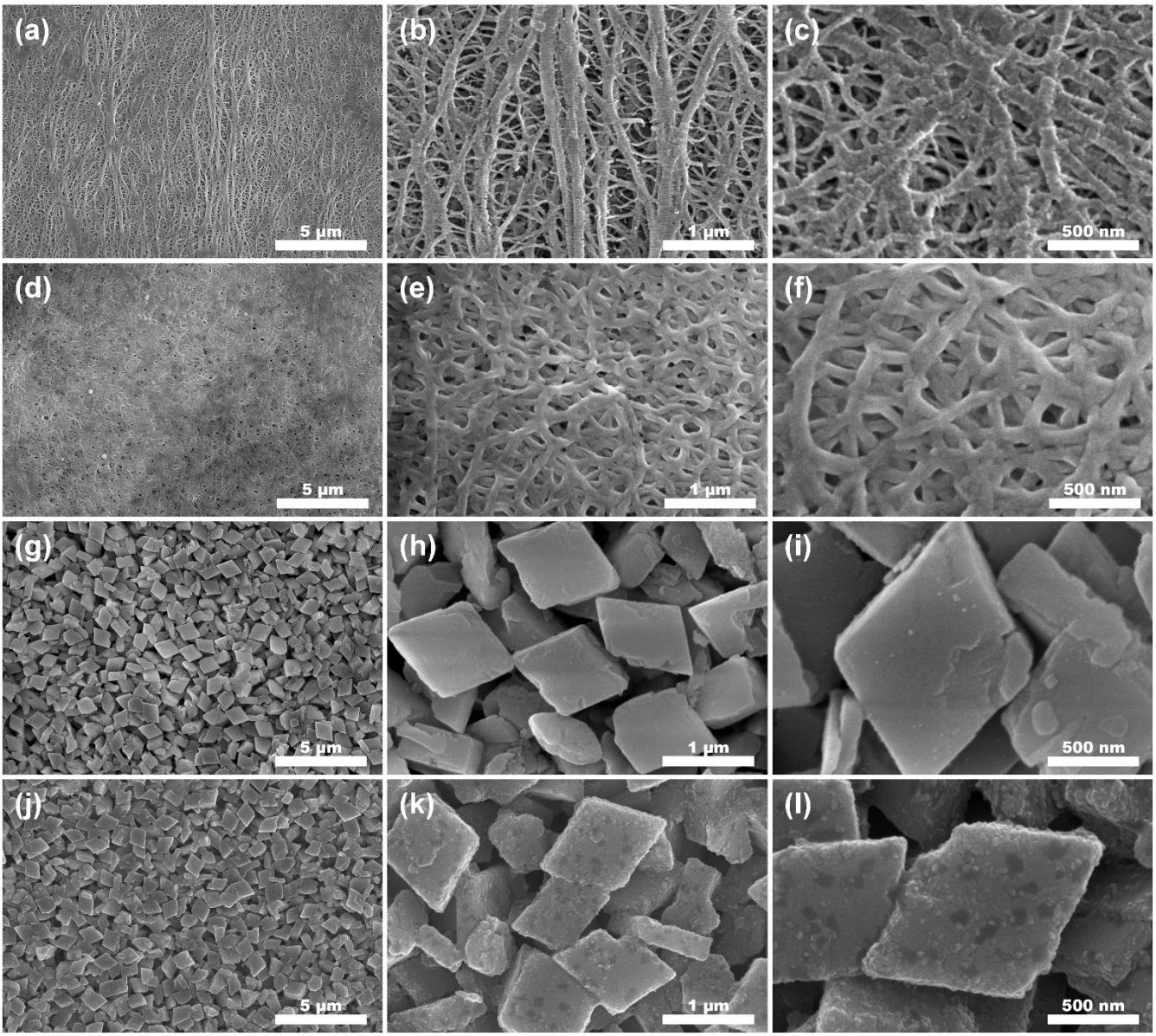

Figure S3. FESEM images of the two sides of separators of fresh batteries (a-c, g-i) and cycled batteries (d-f, j-l).

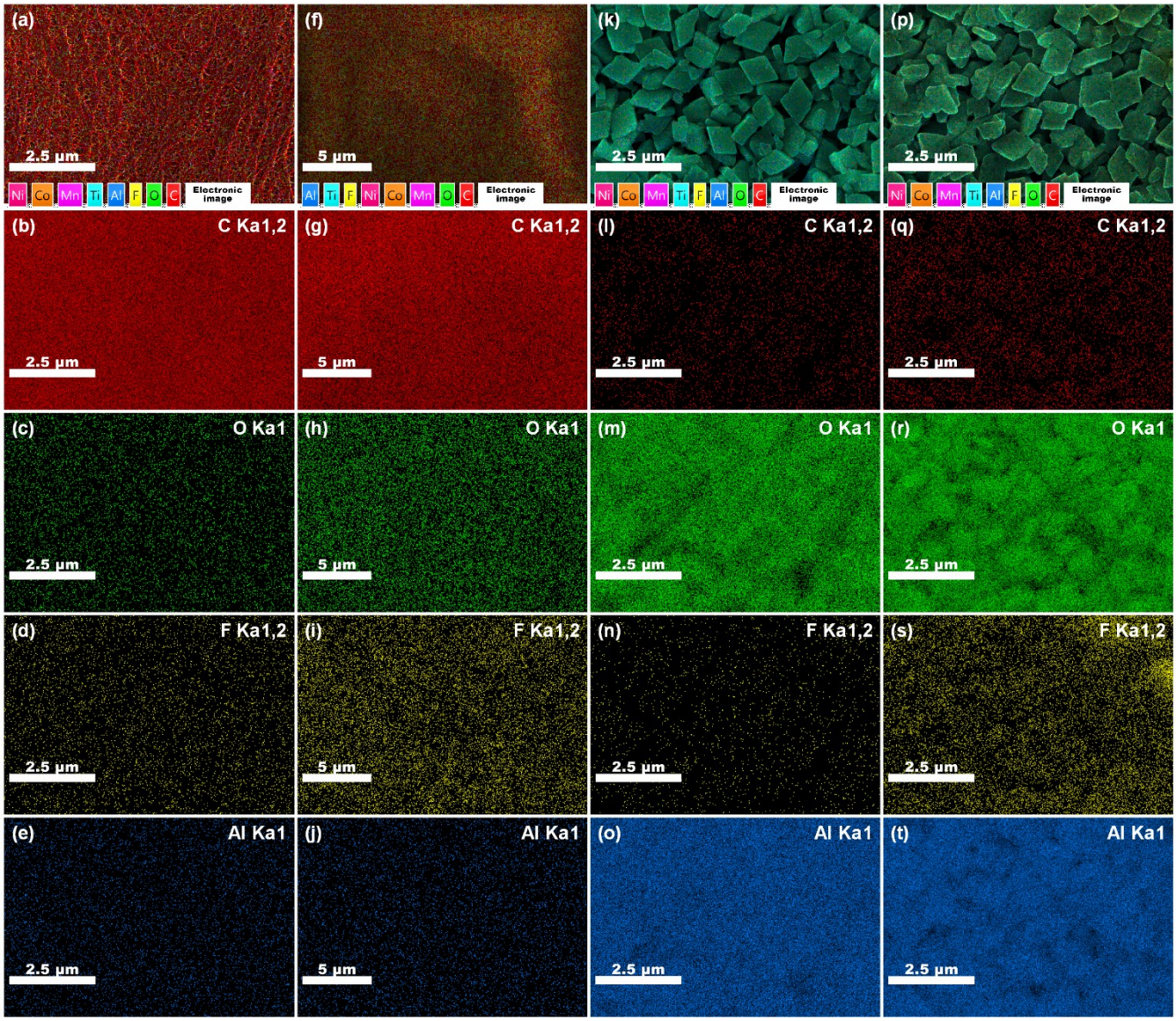

Figure S4. Images by EDS of the distribution of elements on two sides (PP: a-j, Al_2O_3: k-t) of separators of fresh batteries (a-e, k-o) and cycled batteries (f-j, p-t).

Table S1. Ratios of elements (from XPS) on PP and Al_2O_3 surfaces of different sample separators.

Elements		C	O	F	Al	Li
PP (At%)	Fresh	92.04	4.12	0.87	0.40	2.57
	Cycled	75.09	16.05	4.37	0.52	3.97
Al_2O_3 (At%)	Fresh	26.94	40.60	7.63	19.30	5.53
	Cycled	18.82	29.39	22.54	11.29	17.96