

Reverse Engineering of Commercial Lithium Ion Cells

Supplementary Information—EDS Images

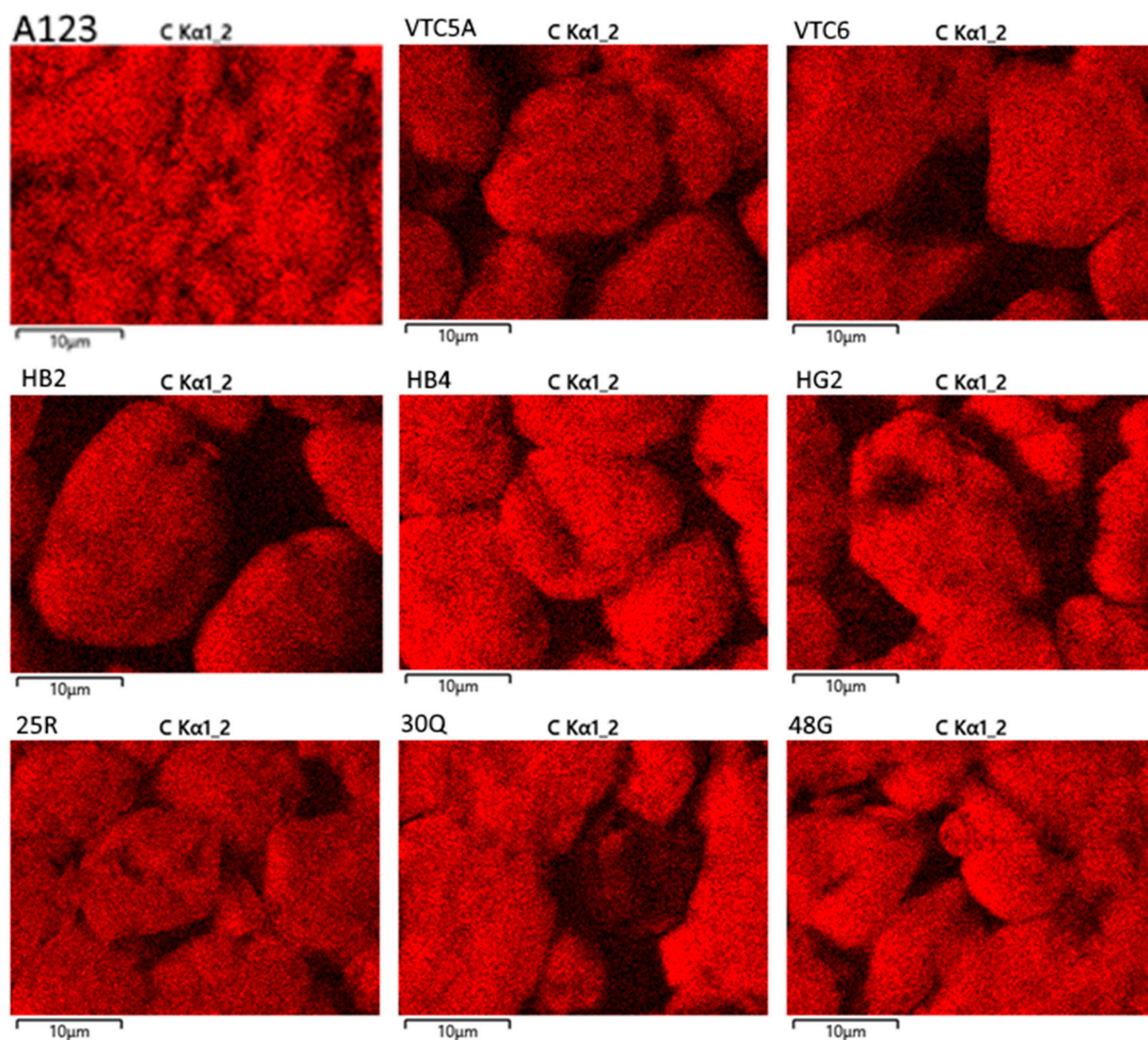


Figure S1. EDS Maps of Carbon in Anode Coatings.

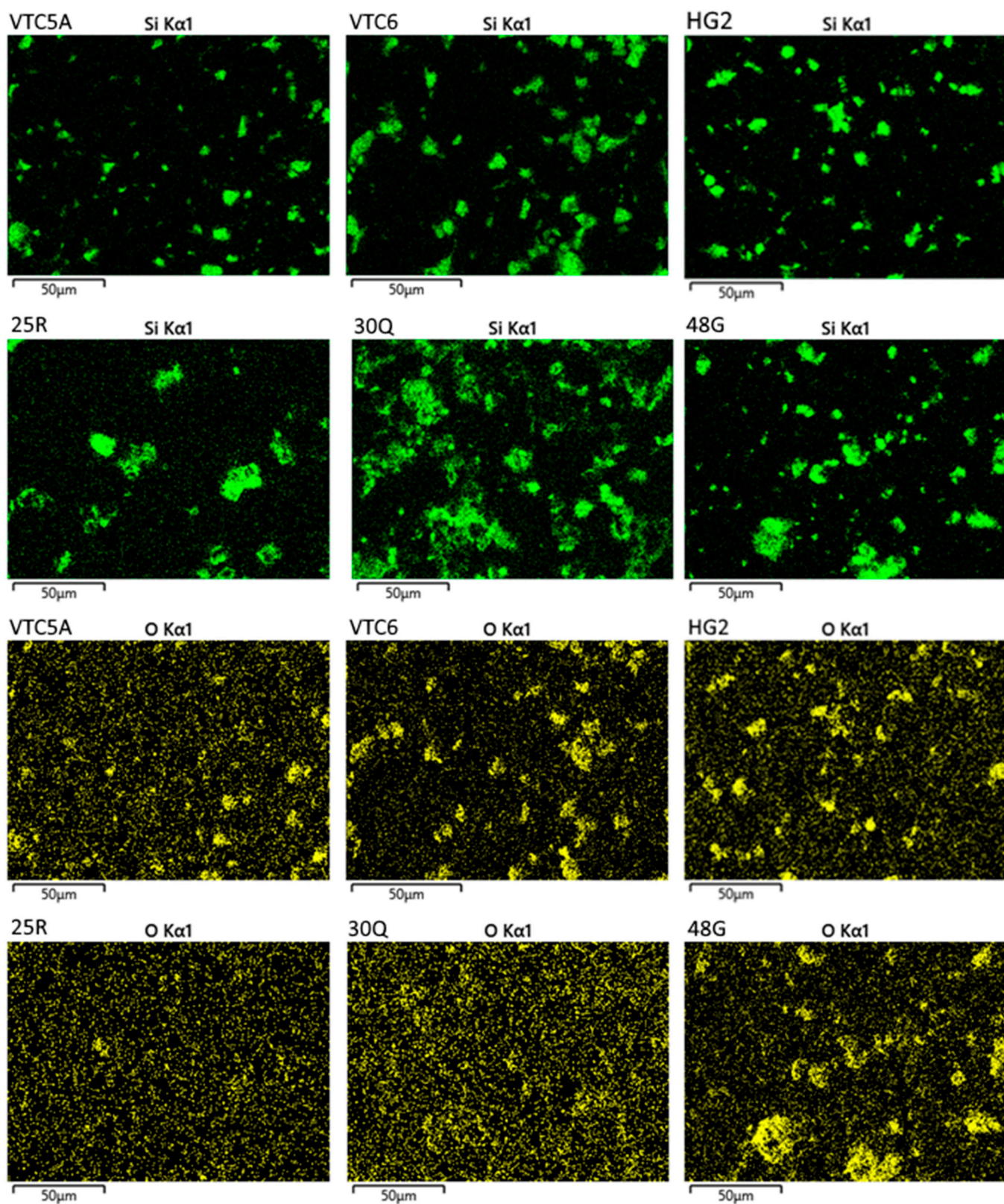


Figure S2. EDS Maps of Other Elements in Anode Coatings; Silicon and Oxygen.

Table S.1. EDS Measurements on Anode Samples.

Cell	Map	Element/at%						
	Scale	C	Si	O	F	P	S	Cu
A123	X5000	88.7	-	7.4	3.3	0.2	-	0.0
HB2	X5000	95.9	-	3.2	0.3	0.1	0.1	0.4
HB4	X5000	96.0	-	2.8	1.0	0.2	-	0.0
HG2	X1000	89.6	1.4	8.8	0.1	-	0.1	0.0
25R	X1000	95.5	0.7	3.0	0.6	0.2	-	0.0
30Q	X1000	94.1	1.6	3.3	0.7	0.2	-	0.0
48G	X1000	88.2	1.1	7.5	3.1	0.1	-	0.0
VTC5A	X1000	92.8	0.6	5.2	1.1	0.2	0.0	0.0
VTC6	X1000	91.9	1.6	4.7	1.6	0.2	-	0.0

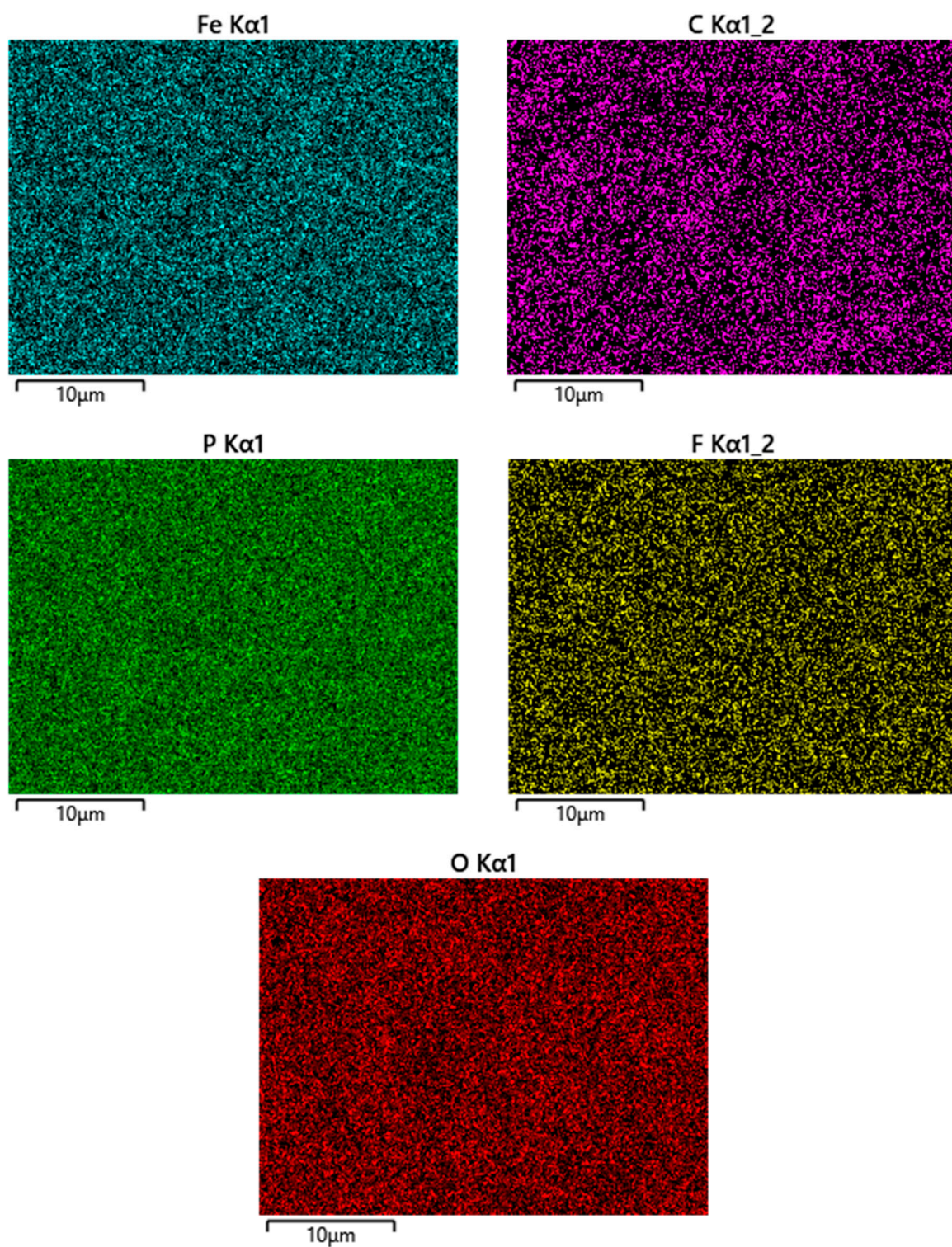


Figure S3. EDS Results on A123 M1A Cathode.

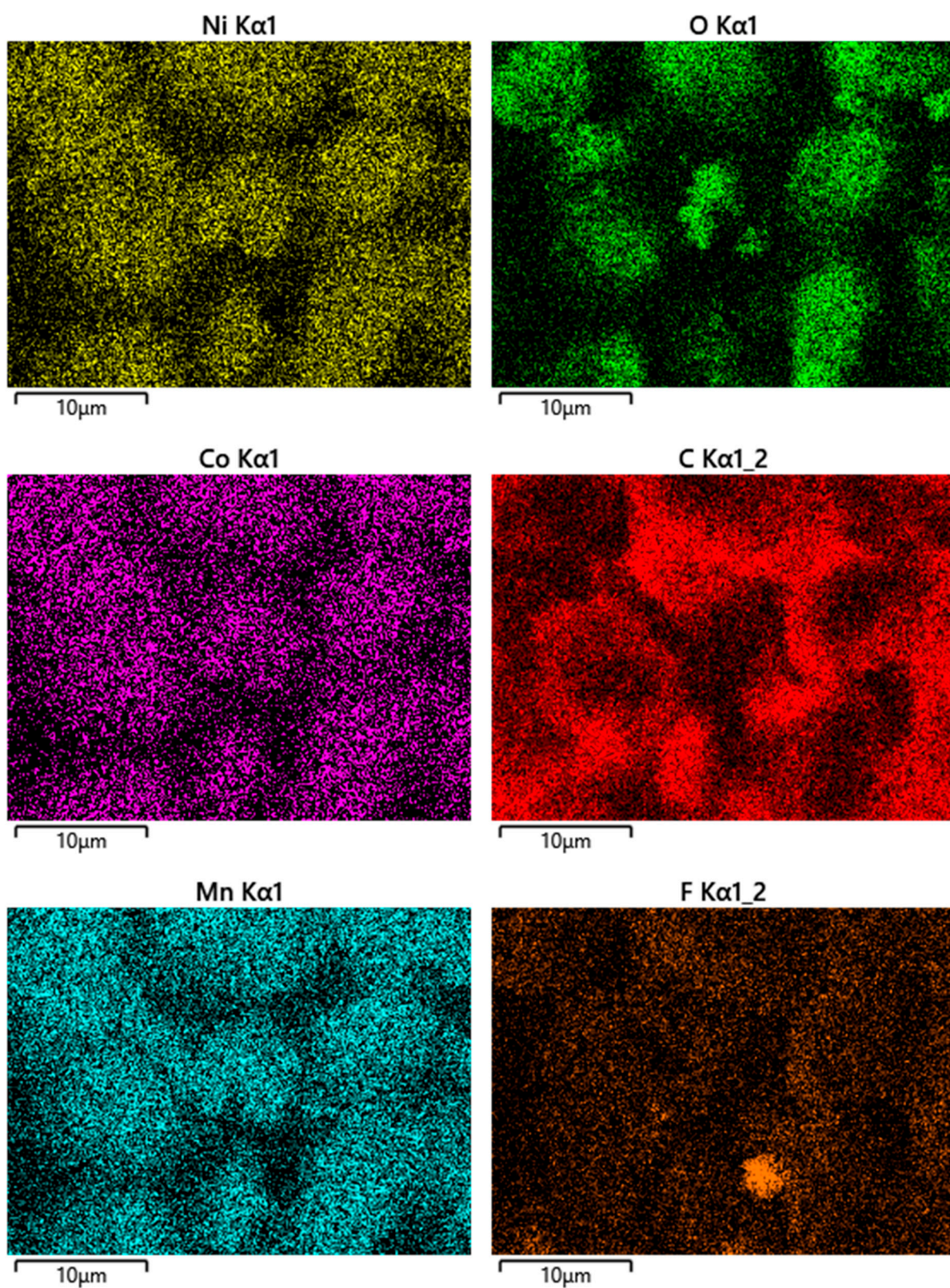


Figure S4. EDS Results on LG HB2 Cathode.

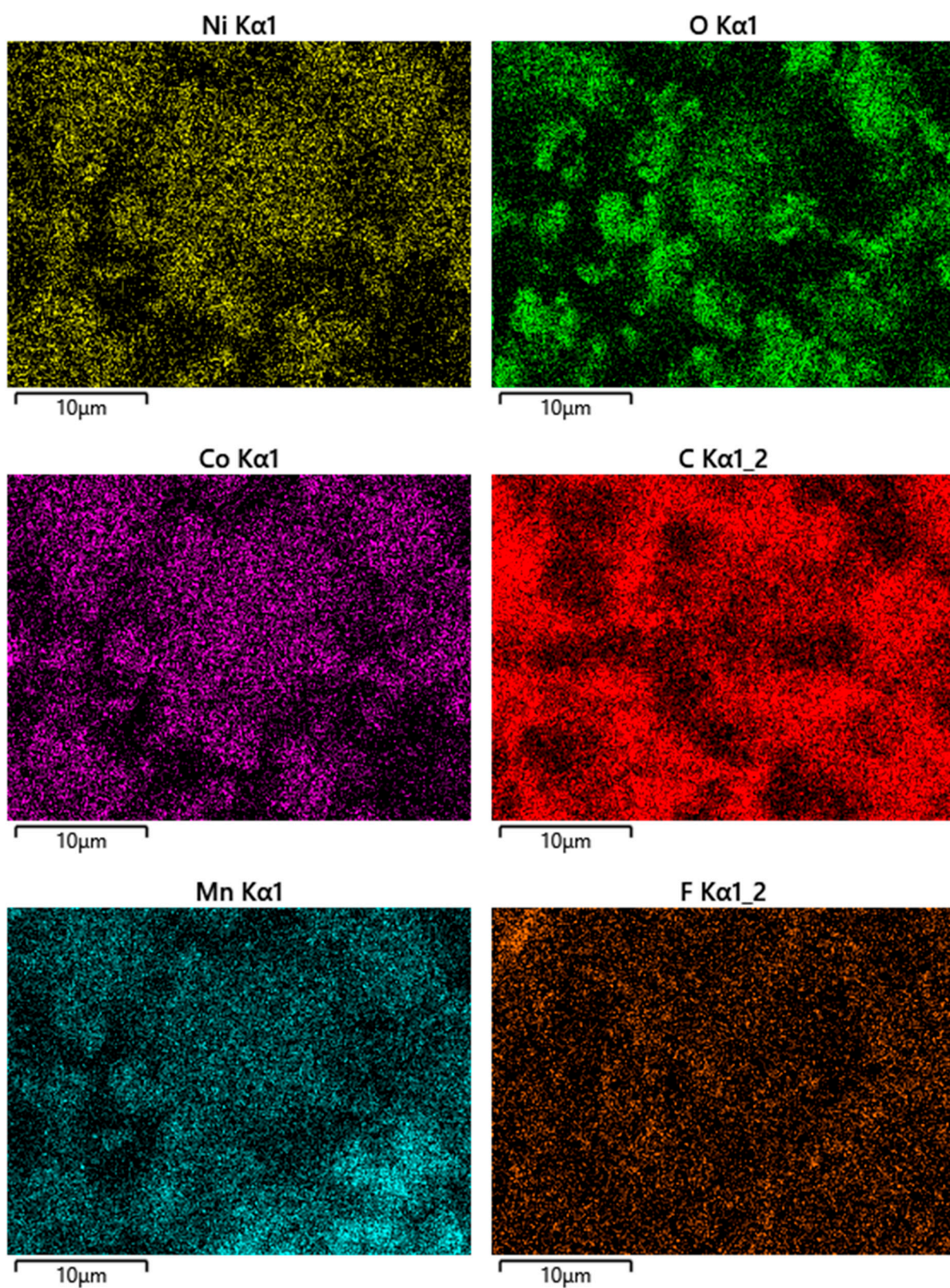


Figure S5. EDS Results on LG HB4 Cathode.

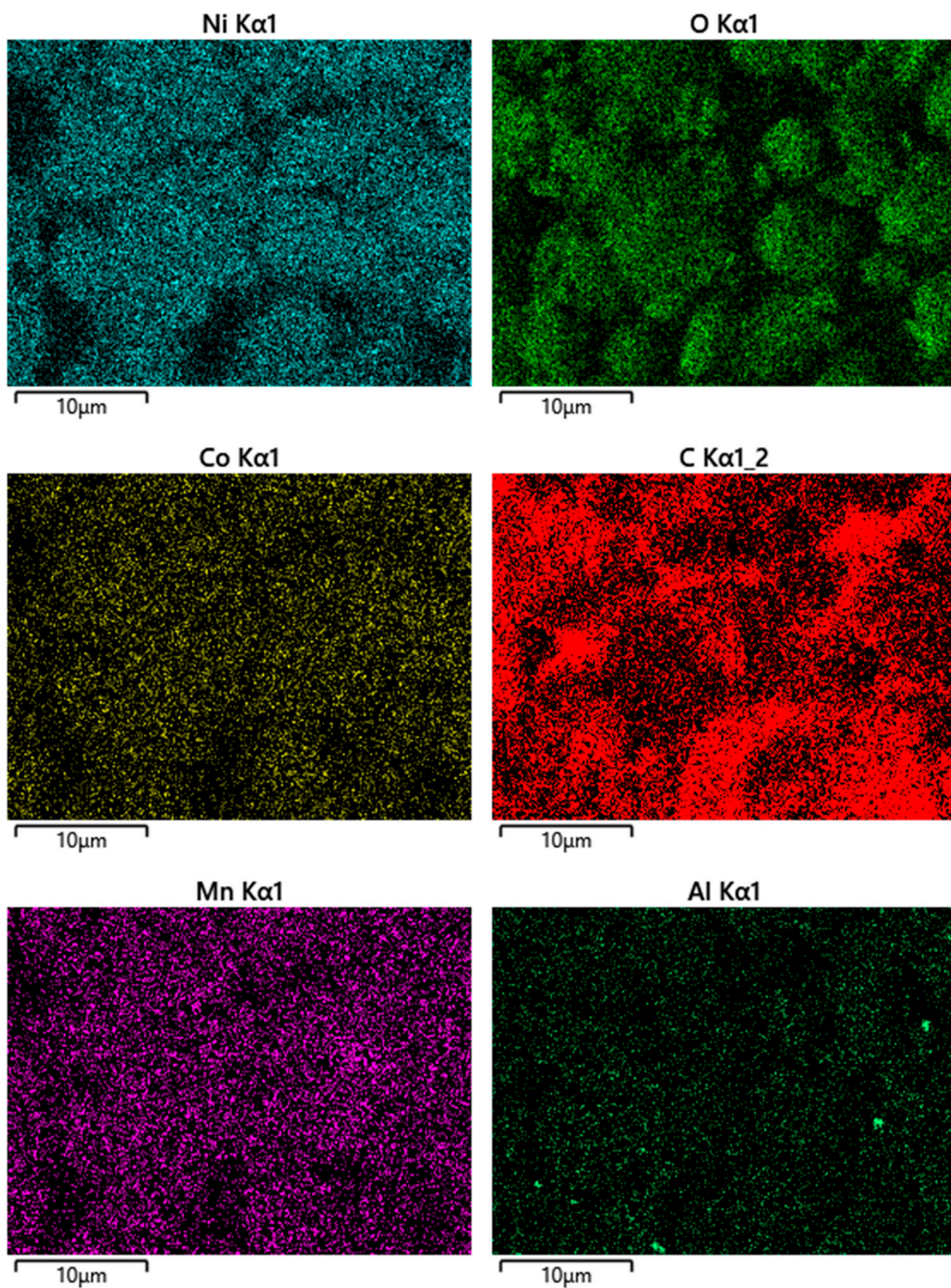


Figure S6. EDS Results on LG HG2 Cathode.

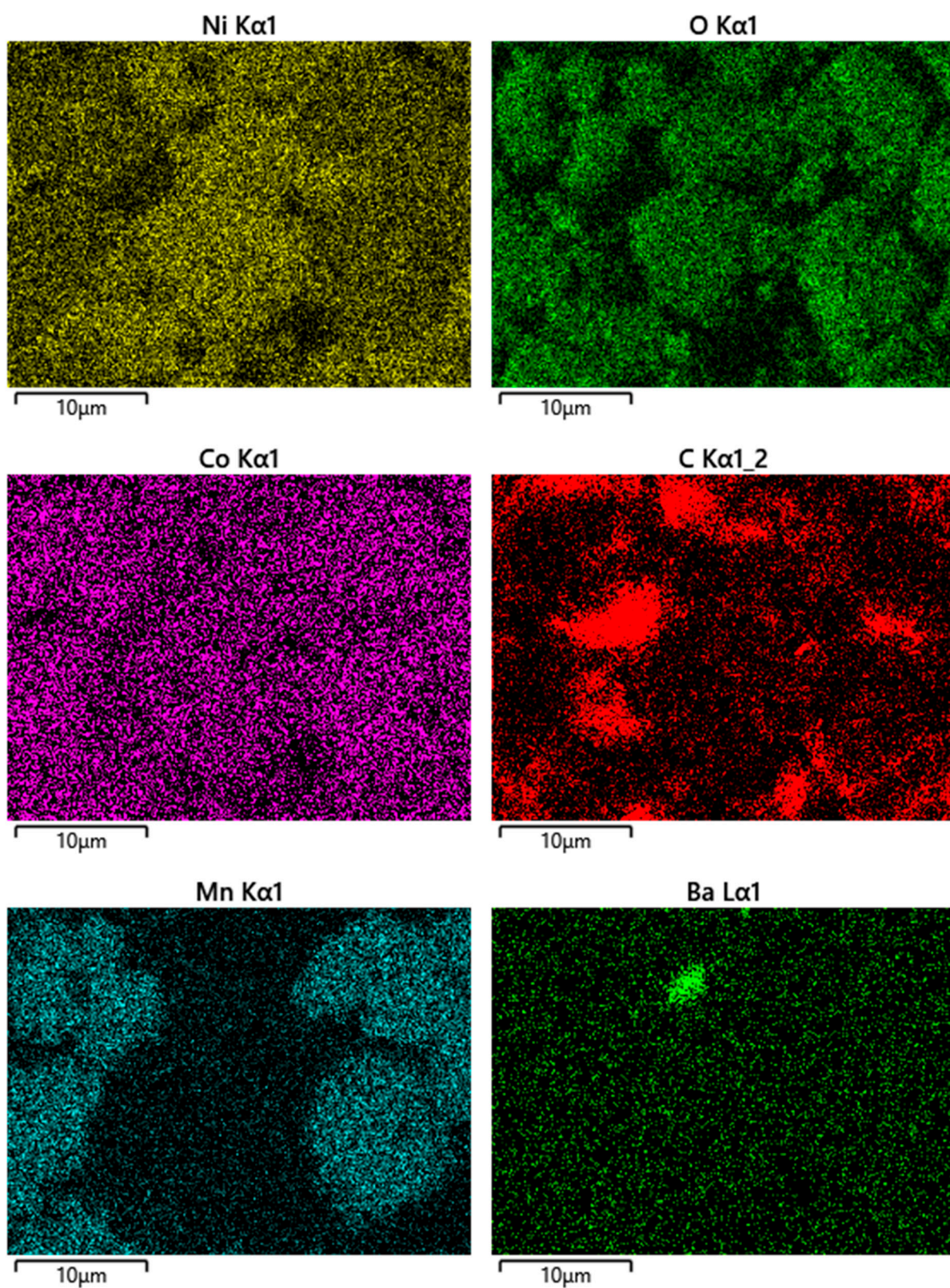


Figure S7. EDS Results on Samsung 25R Cathode.

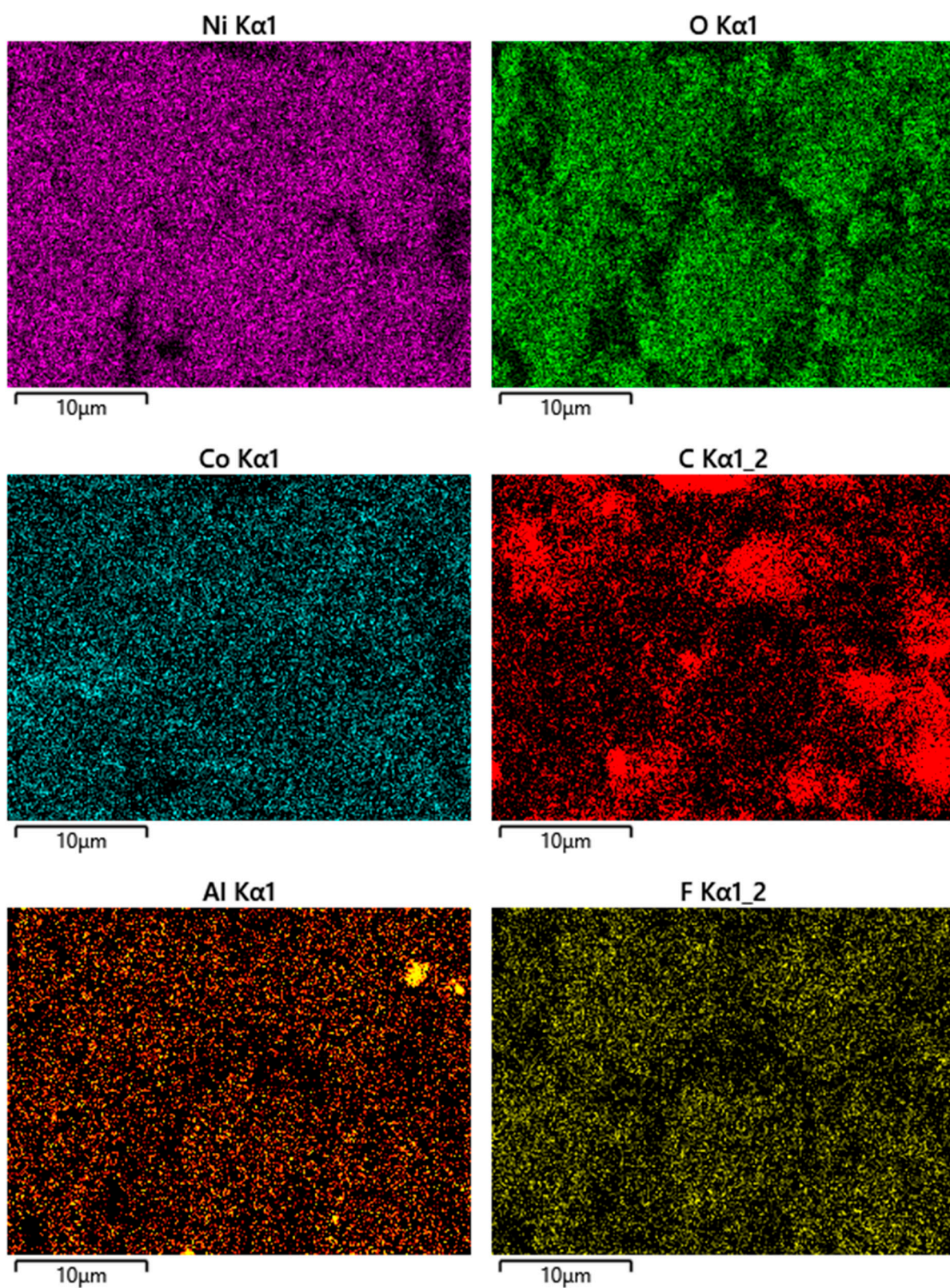


Figure S8. EDS Results on Samsung 30Q Cathode.

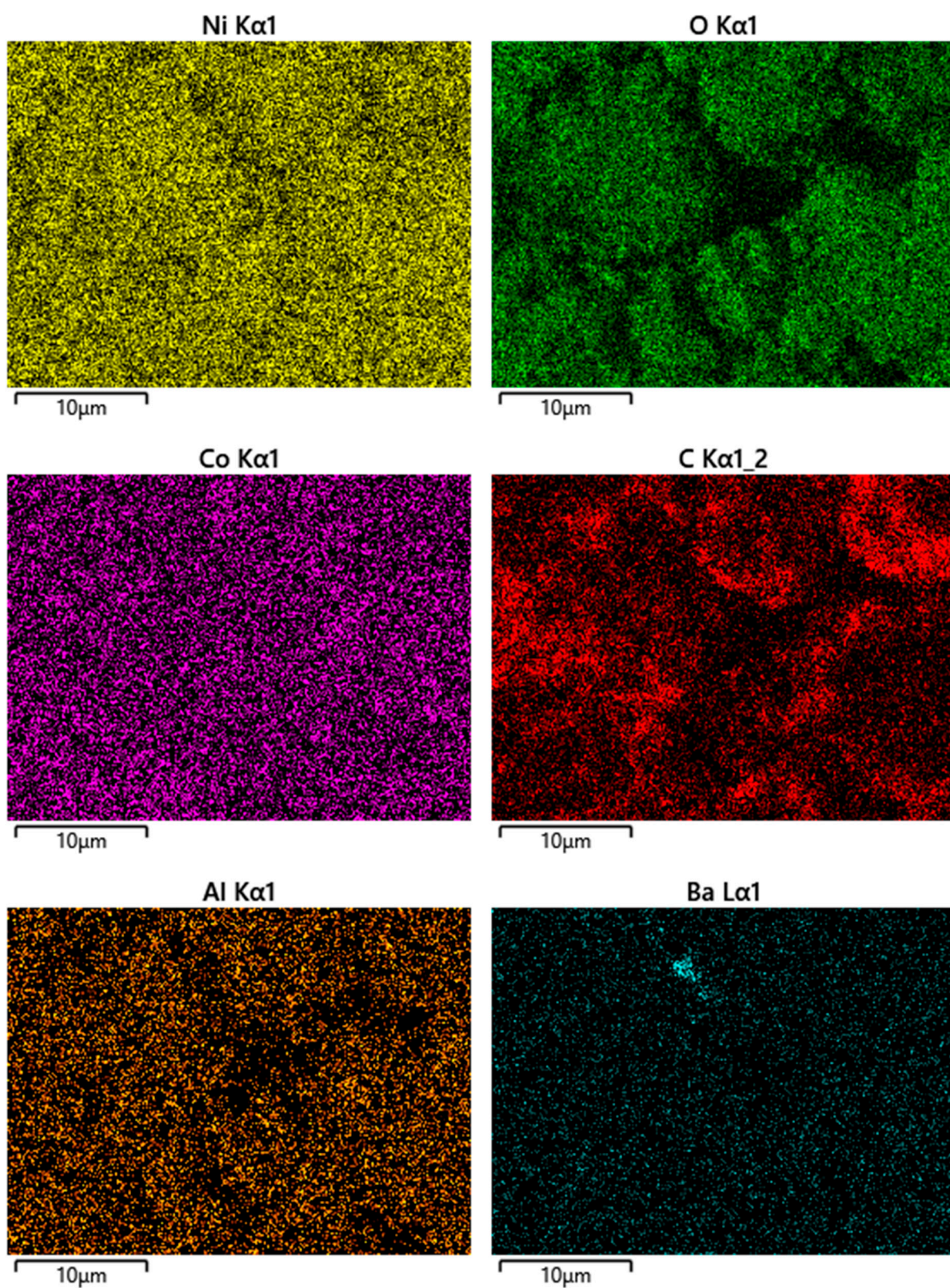


Figure S9. EDS Results on Samsung 48G Cathode.

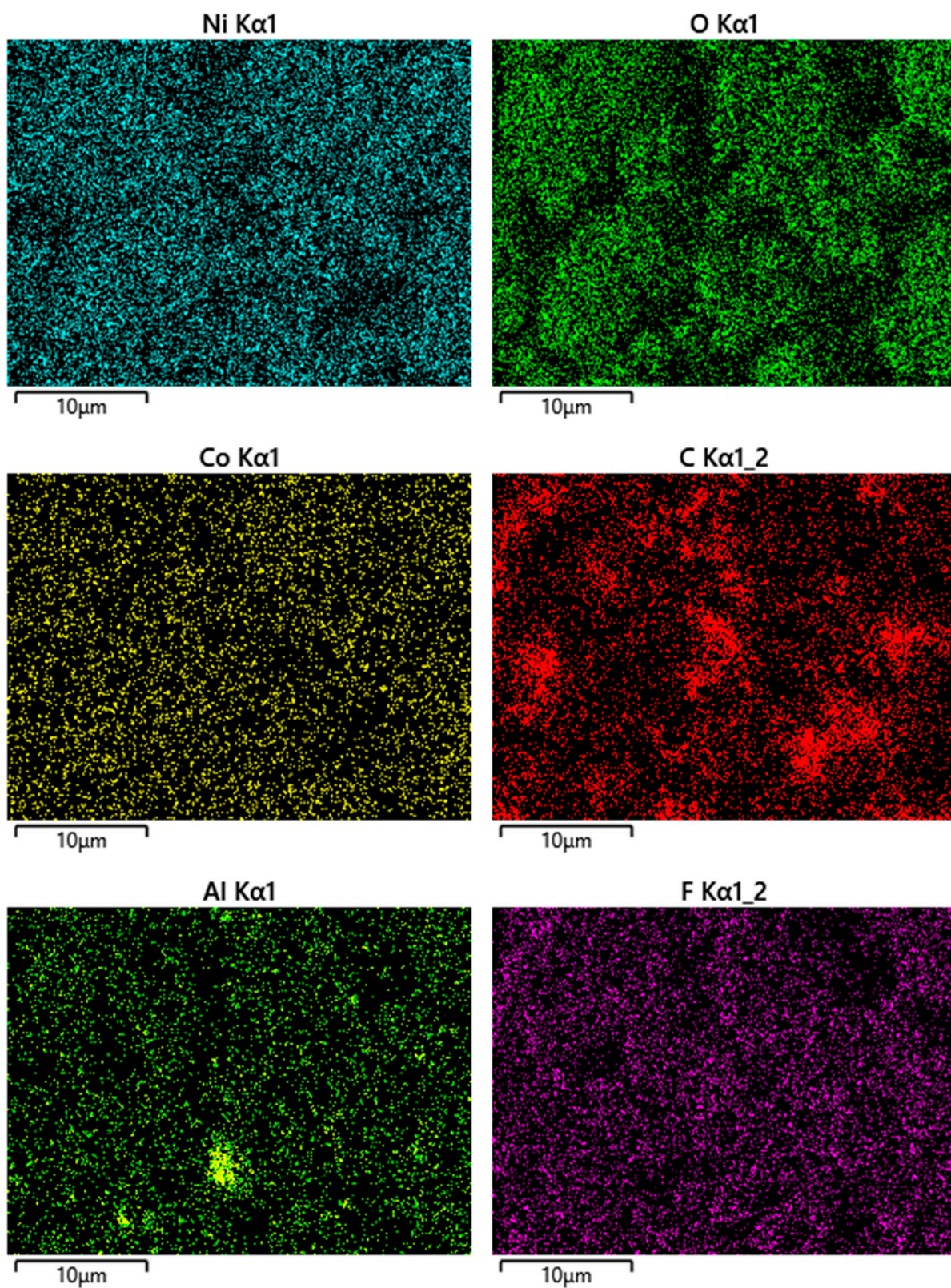


Figure S10. EDS Results on Sony VTC5A Cathode.

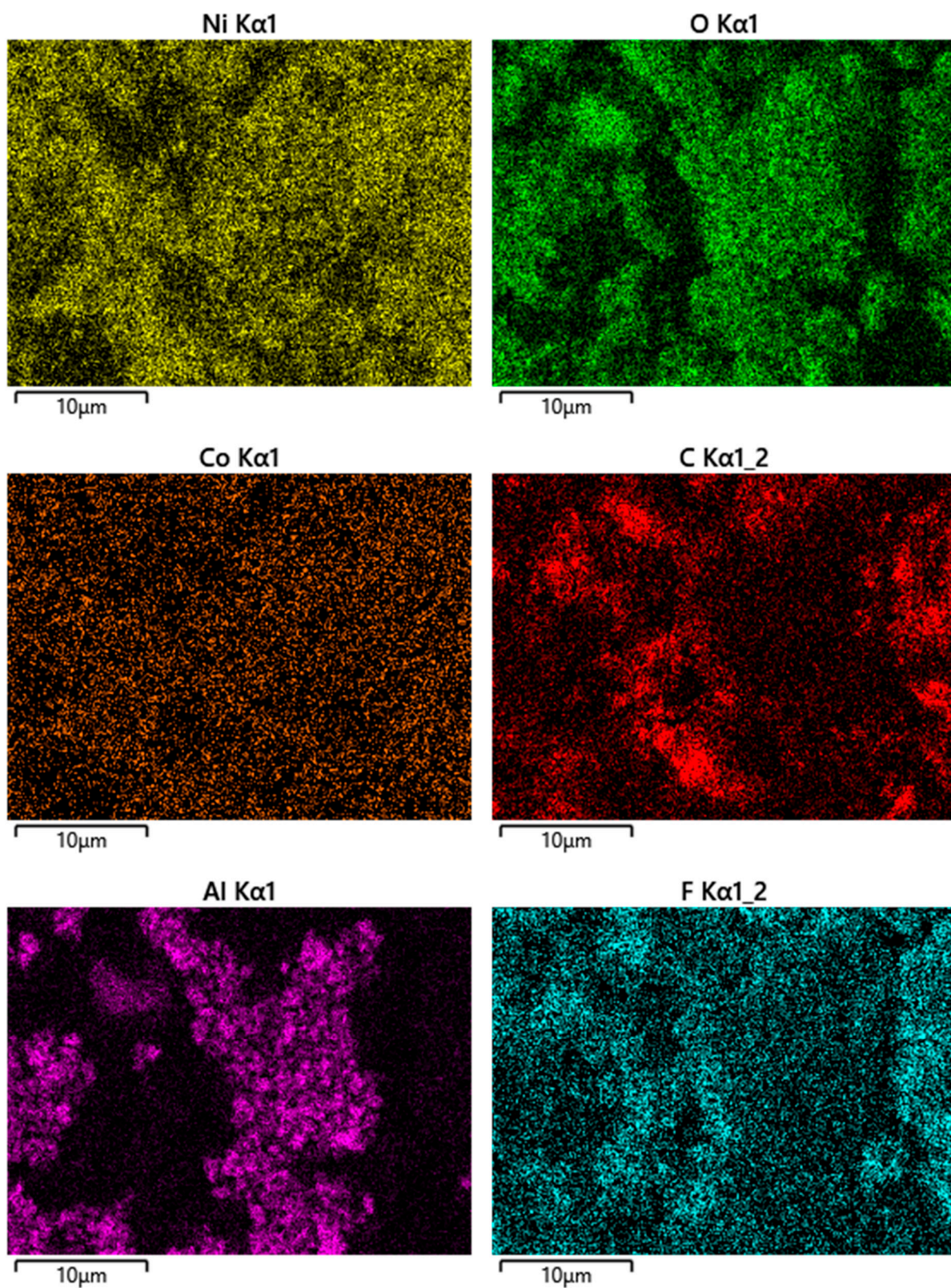


Figure S11. EDS Results on Sony VTC6 Cathode.

Table S.2. EDS Measurements on Cathode Samples.

Cell	Map	Element / at%						
	Scale	Ni	Mn	Co	Al	O	C	F
HB2	X5000	4.9	3.1	2.0	0.1	13.1	71.0	5.7
HB4	X5000	3.2	4.5	3.2	-	15.8	68.9	4.3
HG2	X5000	13.2	1.1	1.9	0.1	25.9	53.1	4.4
	X5000	15.6	3.3	4.0	-	30.9	46.0	-
25R	X10000	18.1	2.0	4.0	0.3	32.4	43.1	-
	X10000	15.1	4.3	4.3	-	33.5	42.6	-
30Q	X5000	17.7	-	3.4	0.4	29.1	45.6	3.7
	X10000	20.1	-	3.5	0.5	31.8	43.9	-
48G	X5000	19.9	-	3.7	0.4	32.7	42.9	-
VTC5A	X5000	15.5	-	2.7	1.2	25.4	45.4	9.5
	X10000	18.1	-	3.3	1.6	28.4	39.9	8.4
VTC6	X5000	13.6	-	1.3	6.8	28.8	41.7	7.4

Table S.3. EDS Measurements on Cathode Samples.

Cell	Map	Element / wt%			
	Scale	Fe	P	O	C
A123 M1A	X5000	10.0	10.5	25.7	29.6