Electronic Supporting Information

High performance of MoS_2 microflowers with water-based binder as an anode for Na-ion batteries

P. Ramesh Kumar, Young Hwa Jung and Do Kyung Kim*

Department of Materials Science and Engineering, Korea Advanced Institute of Science and Technology (KAIST), Daejeon 305-701, Republic of Korea

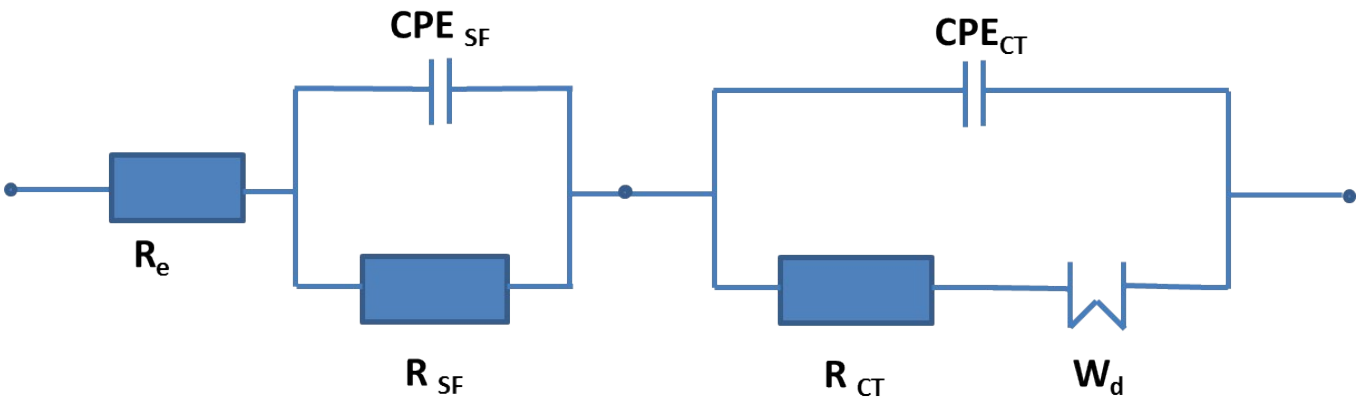

Fig. S1 An equivalent circuit for analysis of the EIS results.

Table S1 The electrolyte (R_e), the inseparable surface film (R_{SF}) and charge transfer (R_{CT}) resistances and the finite Warburg impedance (W_d) values are listed.

Voltage	R_e (Ohm)	R_{SF} (Ohm)	R_{CT} (Ohm)	W_d
Discharging OCV	5.59	193	23	0.85
2V	5.6	181	43	0.85
1.6V	5.6	167		0.85
0.8	5.77	164	114	0.87
0.4	5.9	99	198	0.87
0.002	5.5	99	126	0.74
Charging 0.6	5.8	110	85	0.84
1.2	5.8	93	36	0.89
2	4.2	79	29	0.83
3	5.4	37	19	0.81

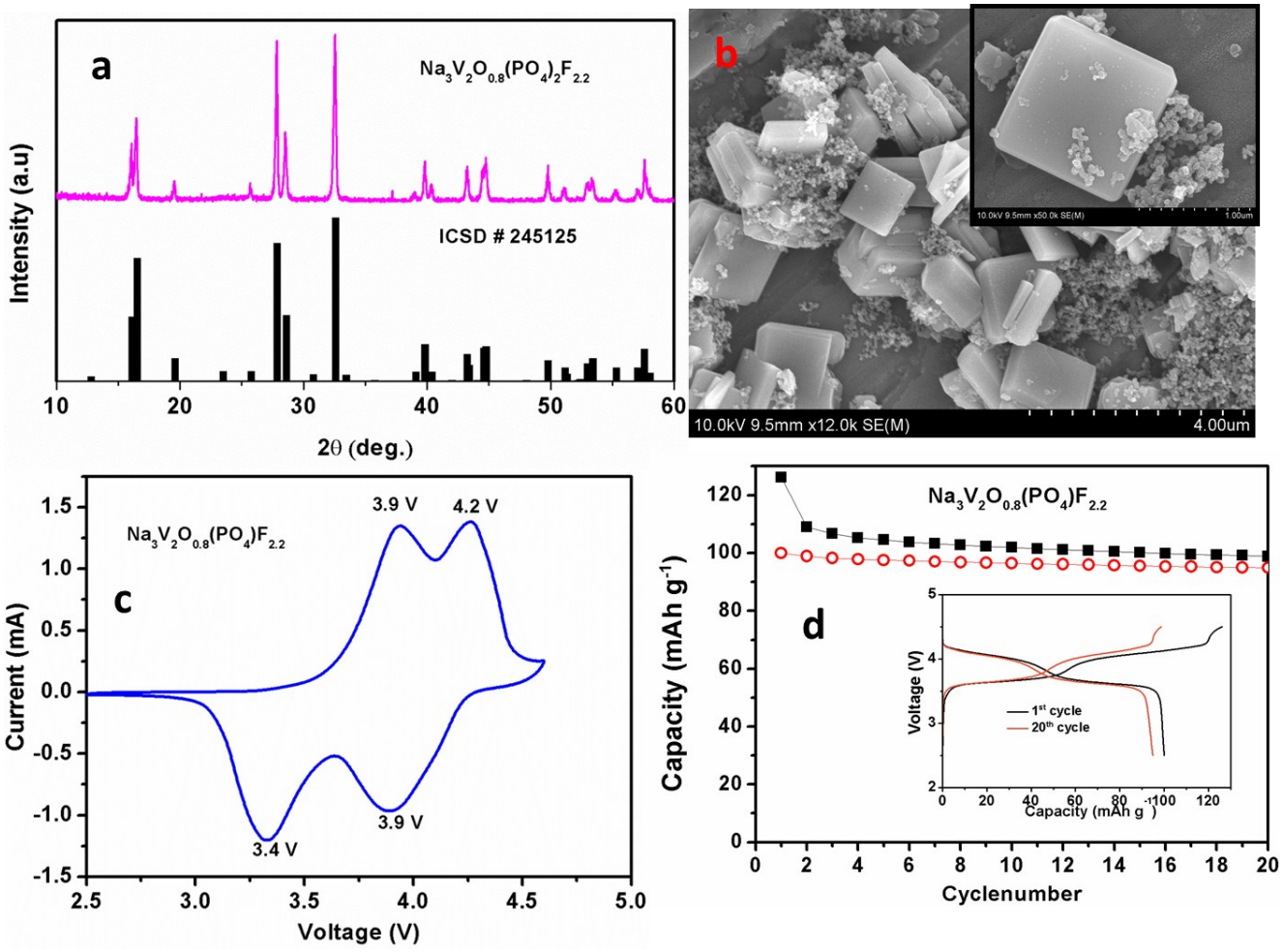

Fig. S2 (a) XRD patterns, (b) SEM images and (c) Cyclic voltammetry for the prepared $Na_3V_2O_{2x}$ $(PO_4)_2F_{3-2x}$ sample. (d) Half-cell galvanostatic cycling performance at 0.1C rate up to 20 cycles.