Electronic Supplementary Information

Platelet-Like CuS Pregnated with Twin Crystal for High Performance Sodium-Ion Storage

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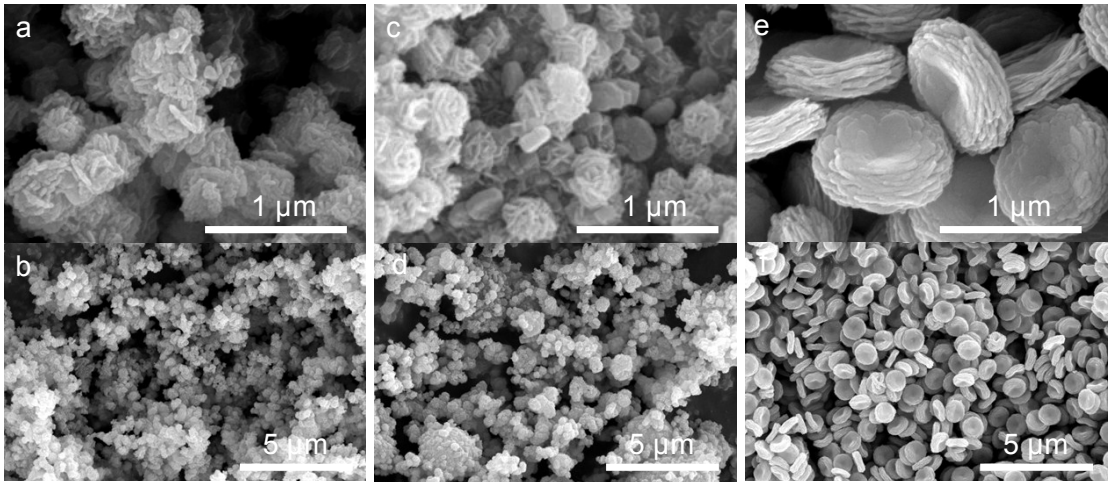

Fig. S1 The SEM images of materials prepared at 150 °C with different ratio of S/Cu: (a-b) S/Cu = 1, (c-d) S/Cu = 2, (e-f) S/Cu = 3.

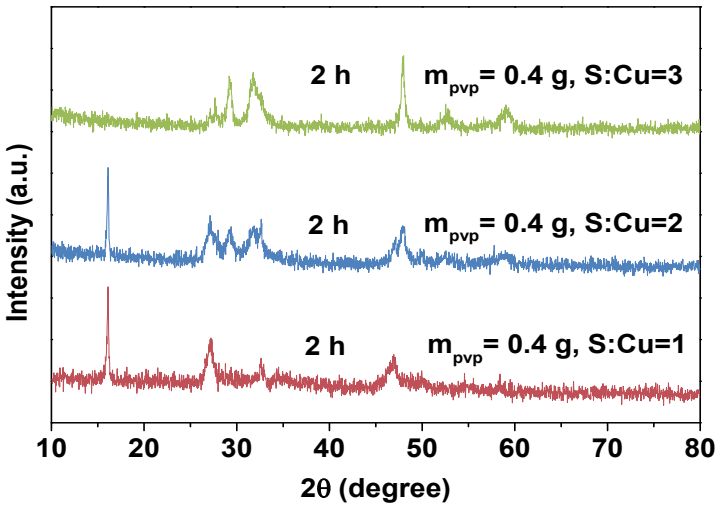

Fig. S2 The XRD of materials prepared at 150 °C with different ratio of S/Cu = 1, S/Cu = 2 and S/Cu = 3.

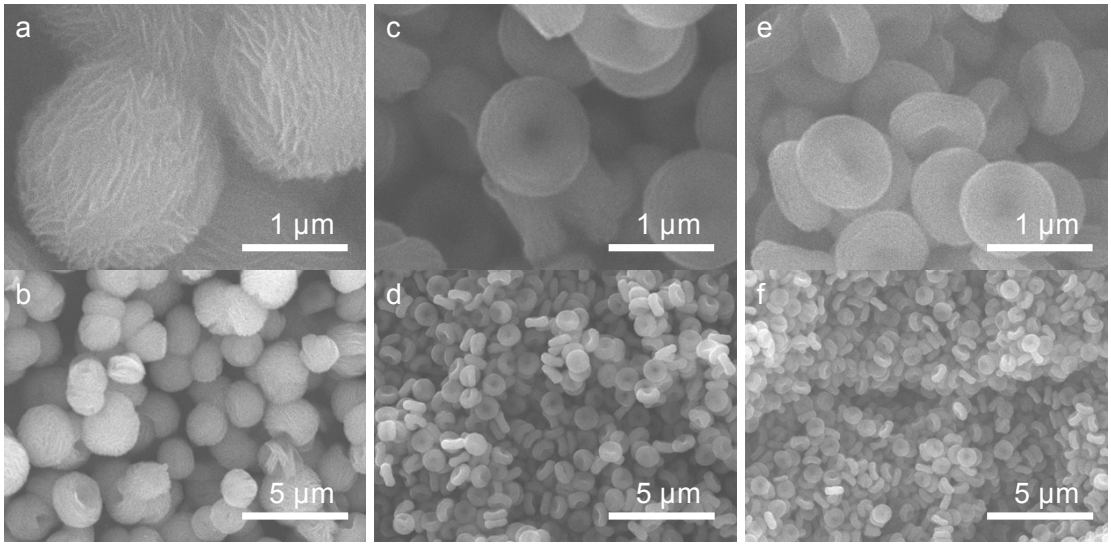

Fig. S3 The SEM images of materials prepared at 150 °C with different mass of PVP: (a-b) 0 g, (c-d) 0.4 g, (e-f) 0.8 g.

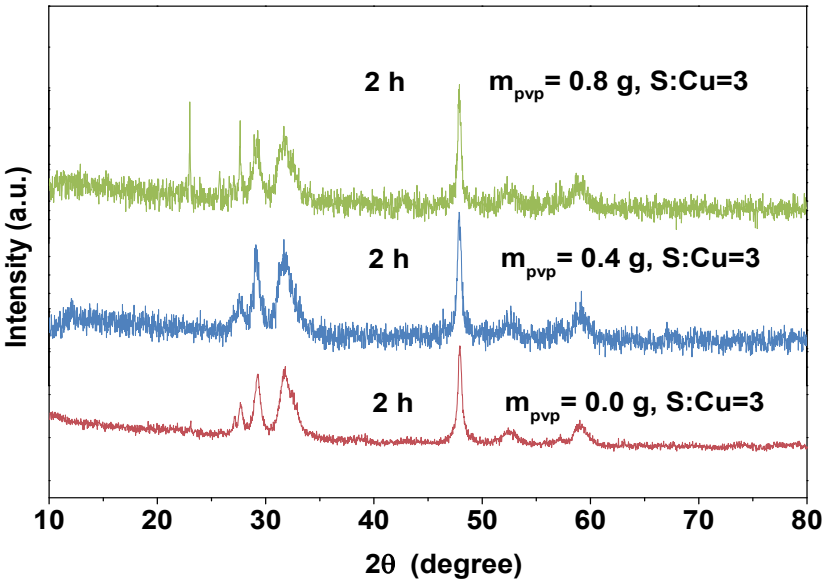

Fig. S4 The XRD materials prepared at 150 °C with different mass of PVP: 0 g, 0.4 g, 0.8 g.

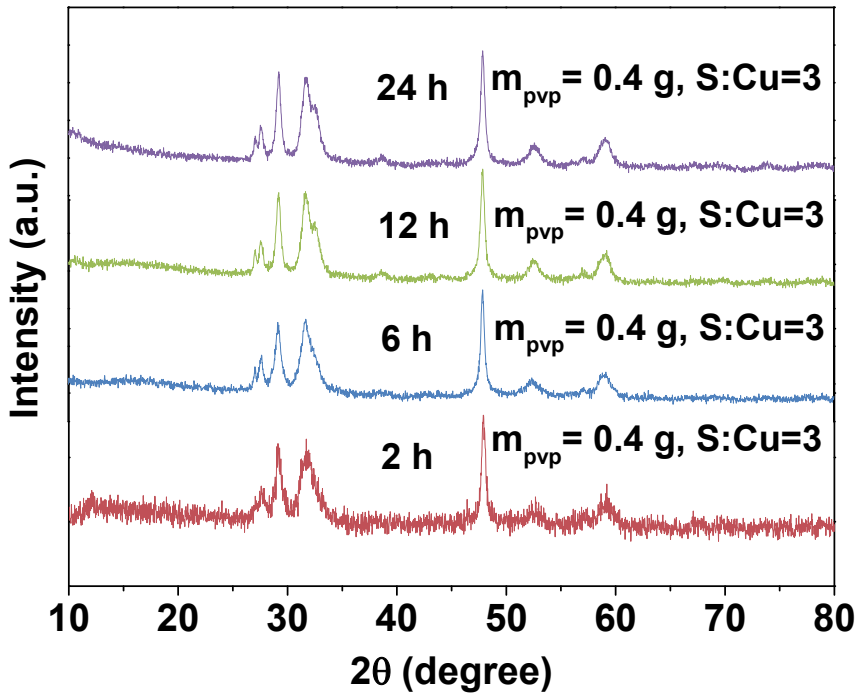

Fig. S5 The XRD materials prepared at 150 °C with different reaction times: 2 h, 6 h, 12 h, and 24 h.

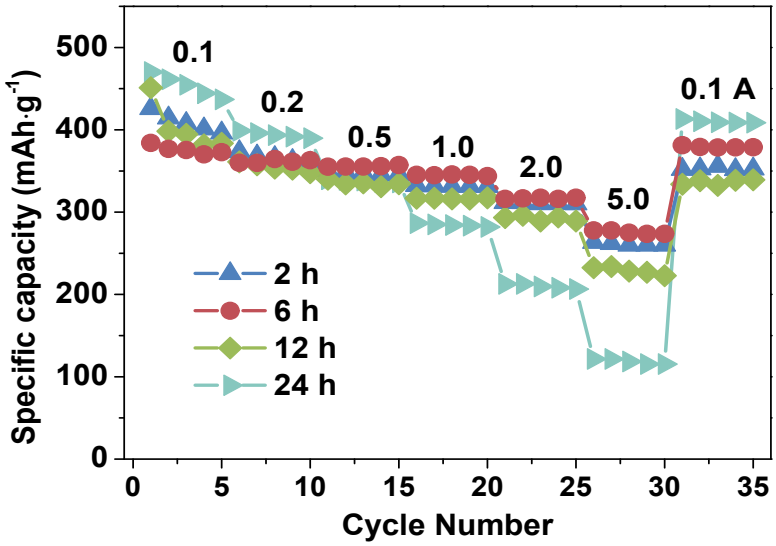

Fig. S6 The rate performance of all samples with different reaction time.

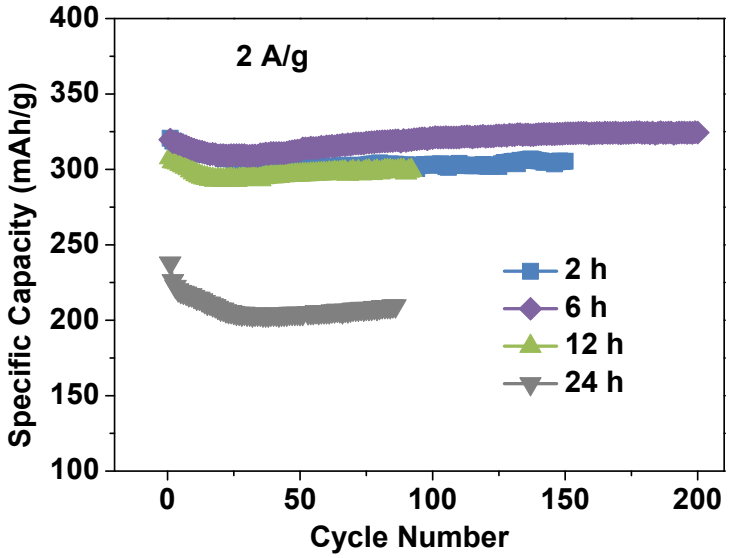

Fig. S7 The cycle performance of all samples with different reaction time.

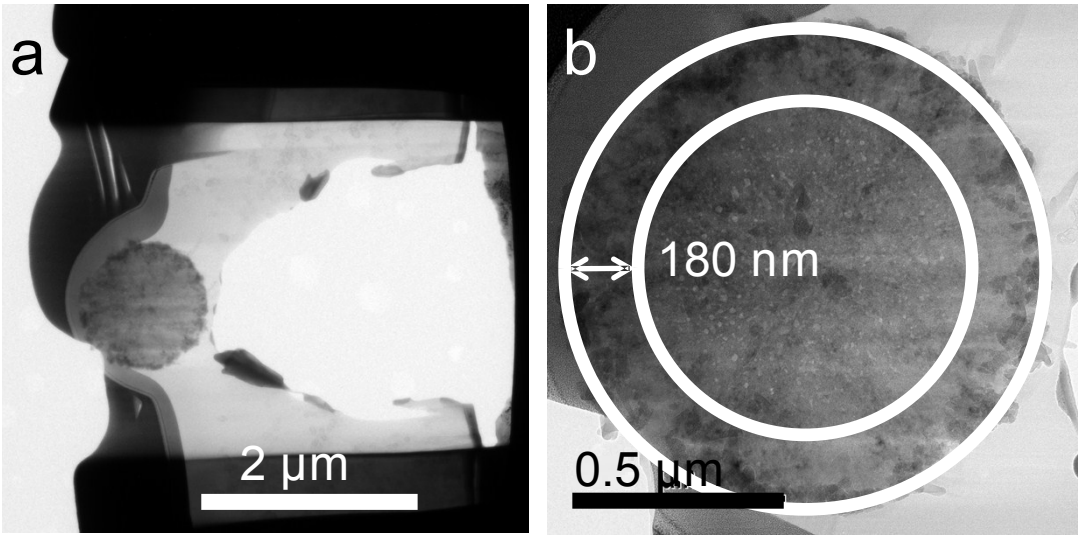

Fig. S8 (a-b) The TEM image of FIB section for the platelet-like CuS material.

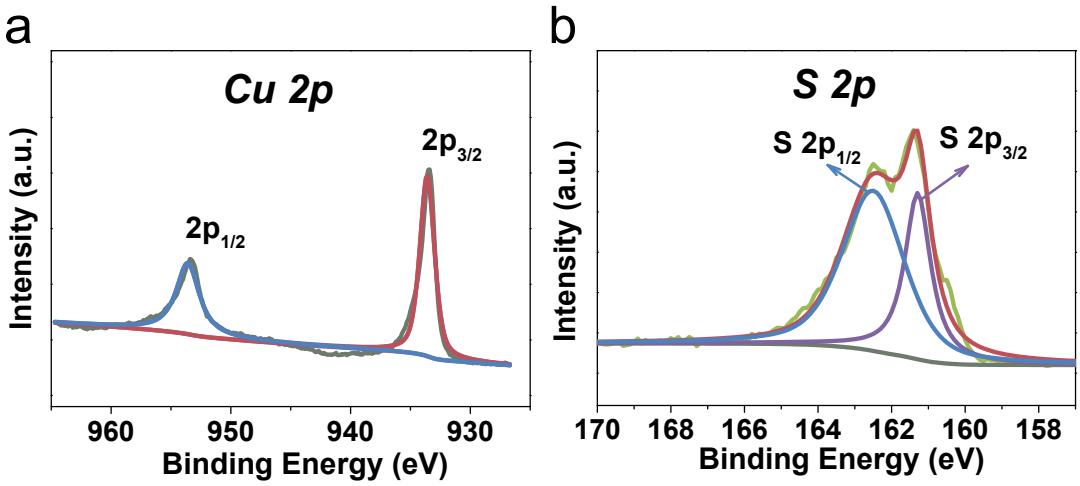

Fig. S9 High-resolution X-ray photoelectron spectra of the CuS: (a) Cu 2p, (b) S 2p

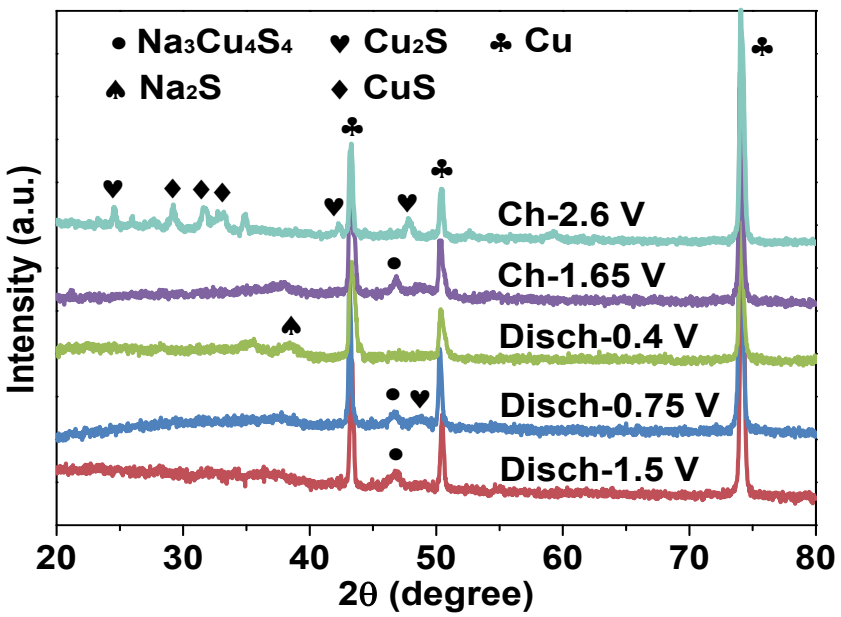

Fig. S10 The ex-situ XRD patterns obtained from the electrode during charge/discharge process in first cycle: discharged to 1.5 V, discharged to 0.75 V, discharge to 0.4 V, charged to 1.65 V, and charged to 2.6 V.