Supporting Information

Highly Stable Hybrid Capacitive Deionization with a MnO_2 Anode and a Positively Charged Cathode

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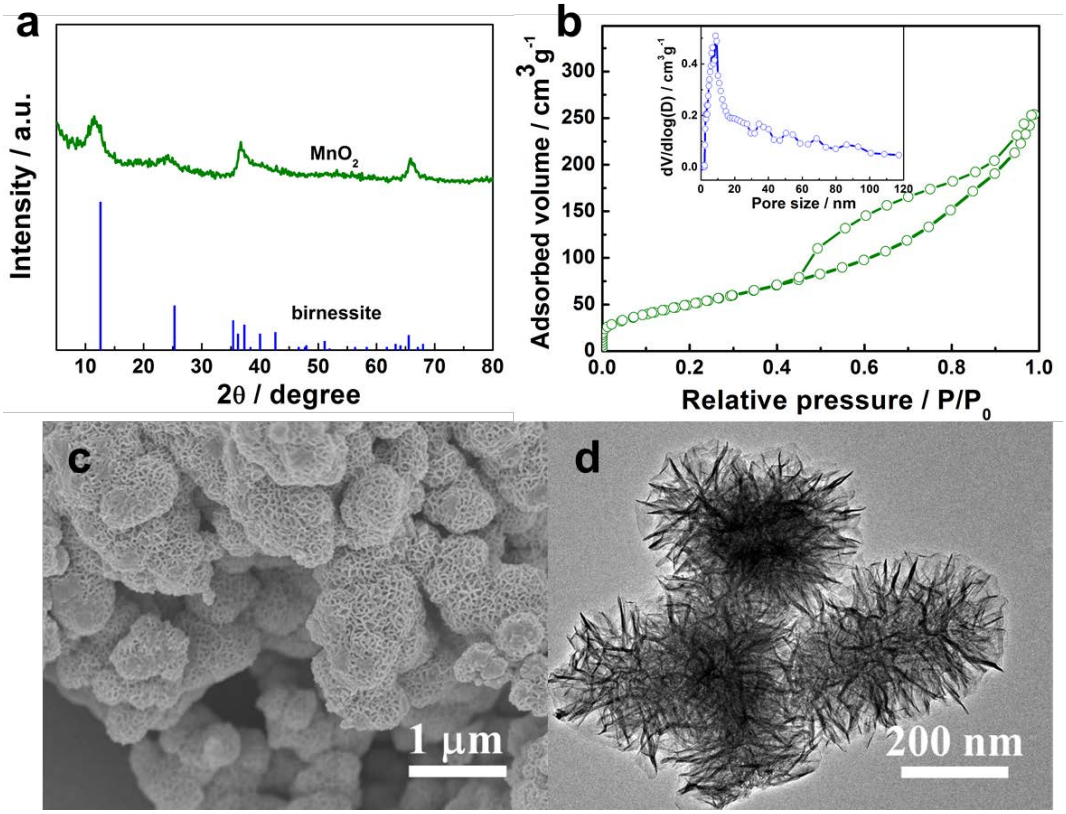

Figure S1. (a) The XRD pattern, (b) nitrogen adsorption-desorption curve, (c) FESEM image and (d) TEM image of the synthesized MnO_2.

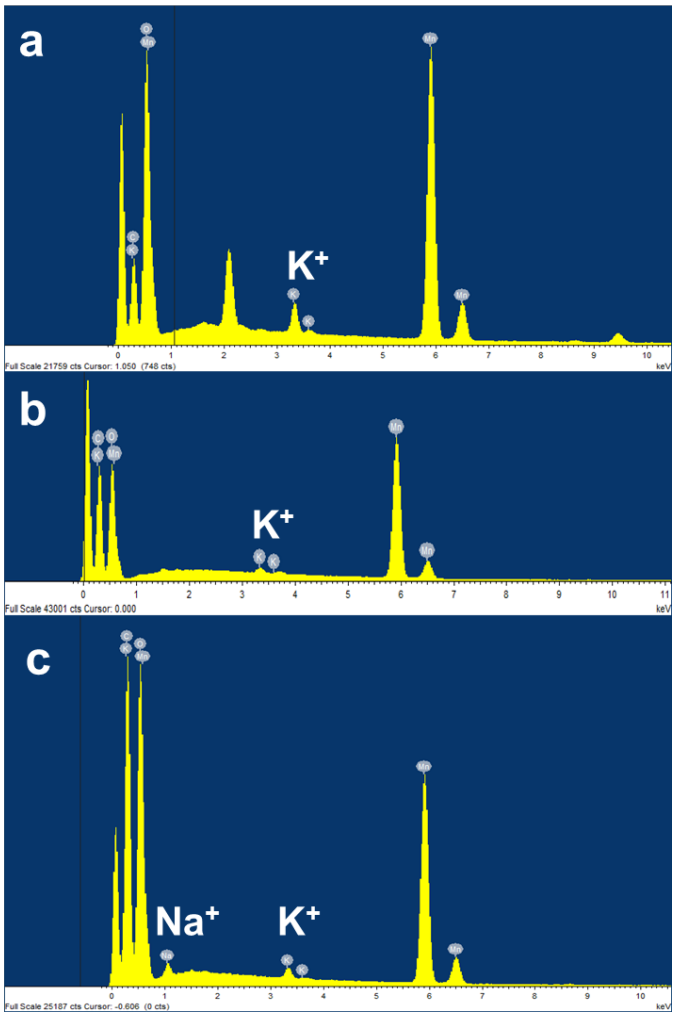

Figure S2. EDS spectra of the MnO_2 electrode: (a) before the CDI test, (b) after the charging process and (c) after the discharging process.

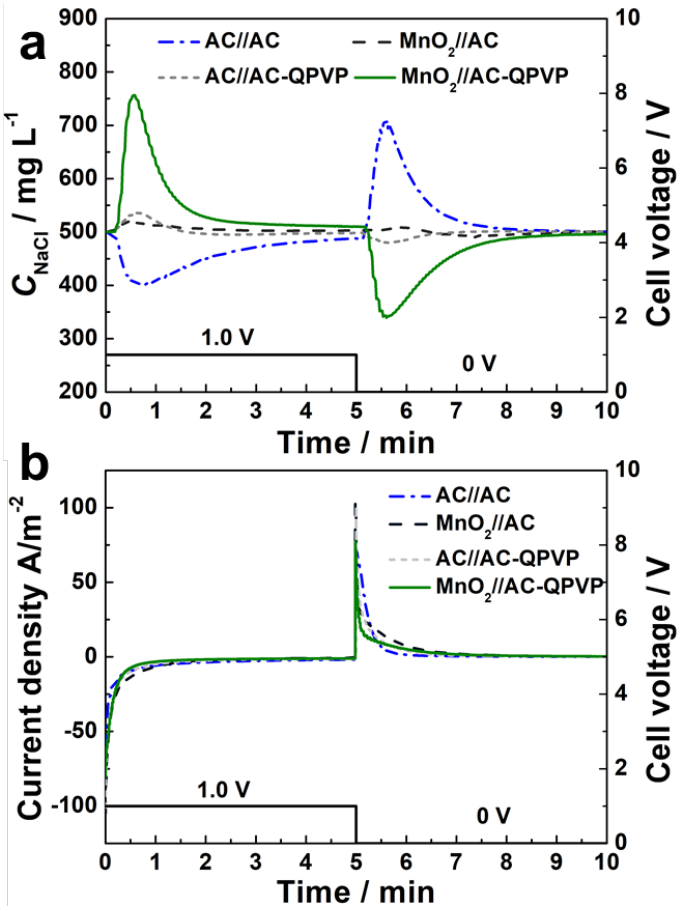

Figure S3. (a) Effluent NaCl concentration profiles and (b) current density of AC//AC, MnO_2//AC, AC//AC-QPVP and MnO_2//AC-QPVP at the cell voltage of 1.0/0 V in 500 mg/L NaCl.

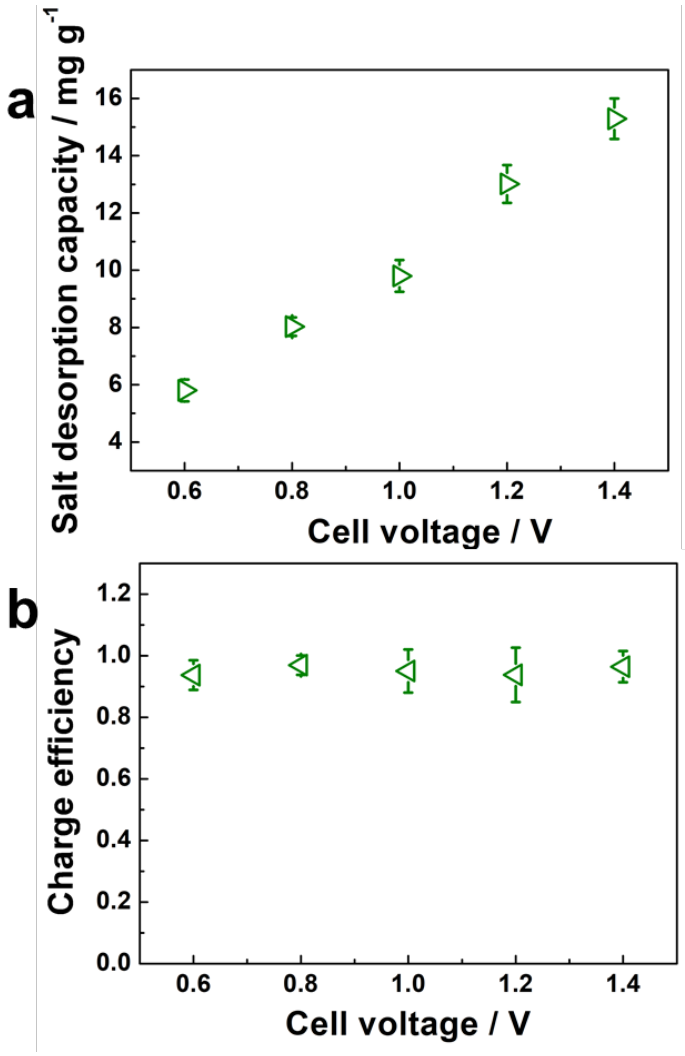

Figure S4. (a) Salt desorption capacity and (b) charge efficiency during the discharging process of MnO_2//AC-QPVP at different cell voltages in 500 mg/L NaCl.

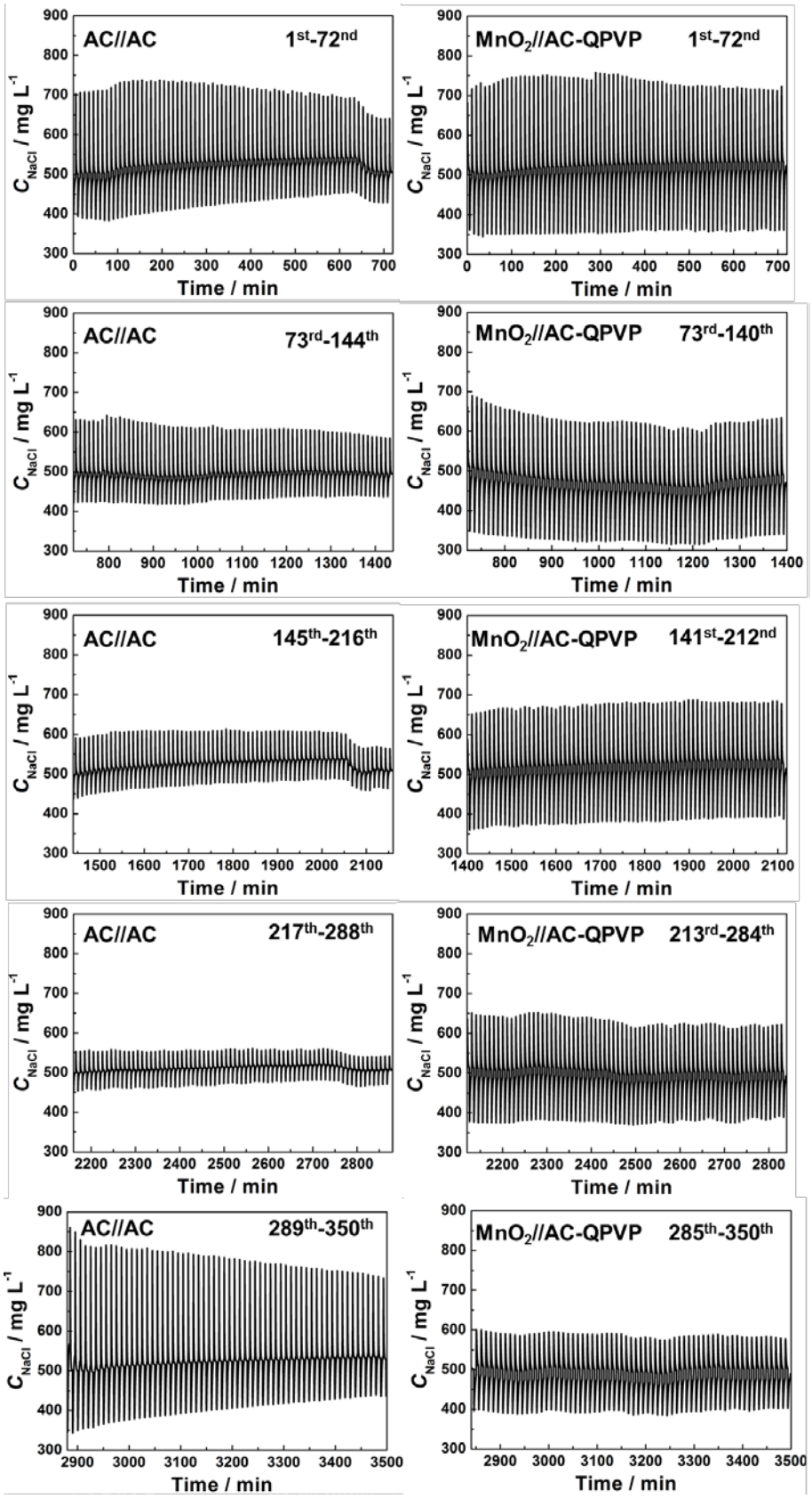

Figure S5. Effluent NaCl concentration profiles of AC//AC and MnO_2//AC-QPVP during the cyclic tests.

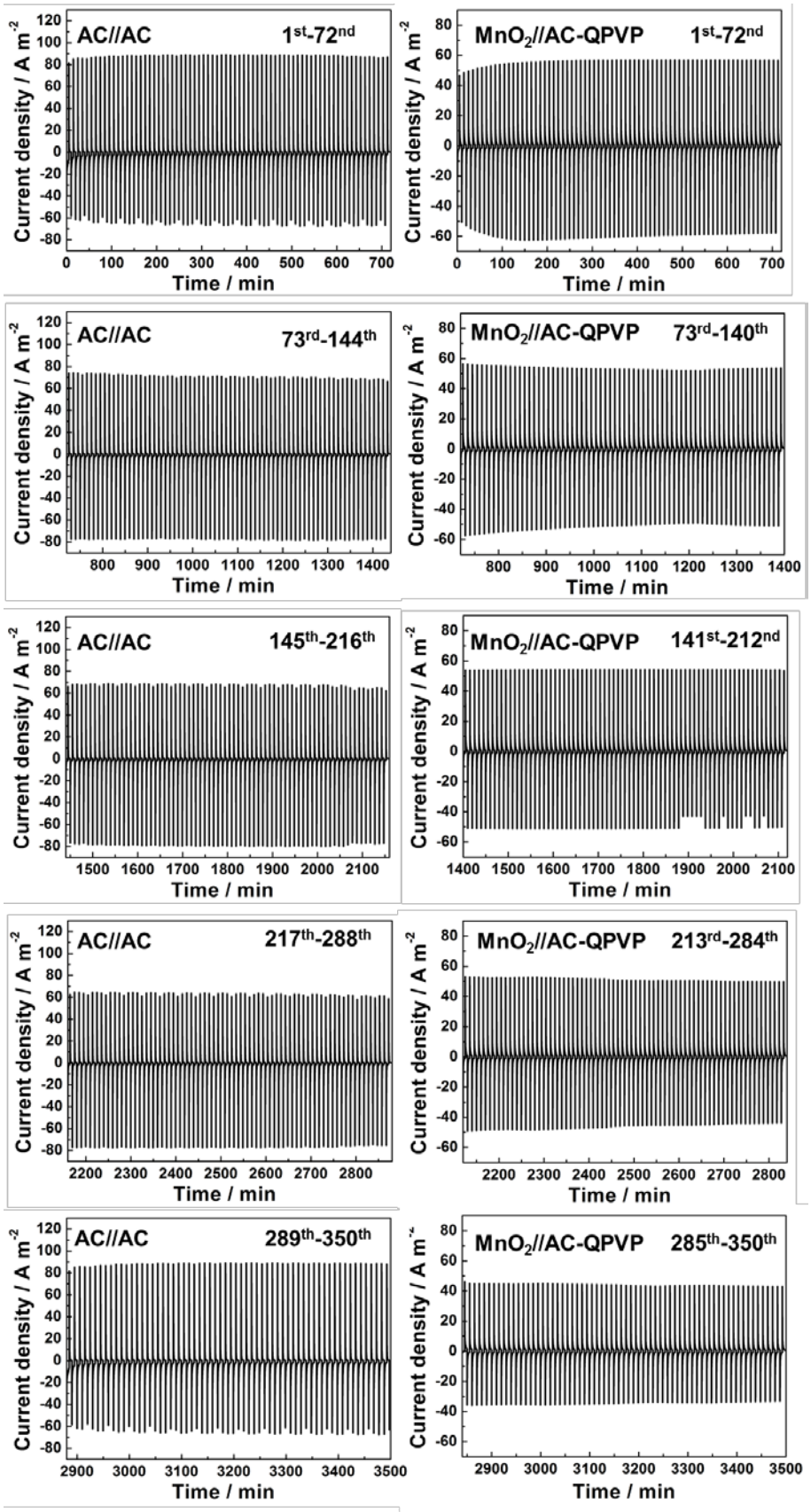

Figure S6. Current density of AC//AC and MnO_2//AC-QPVP during the cyclic tests.

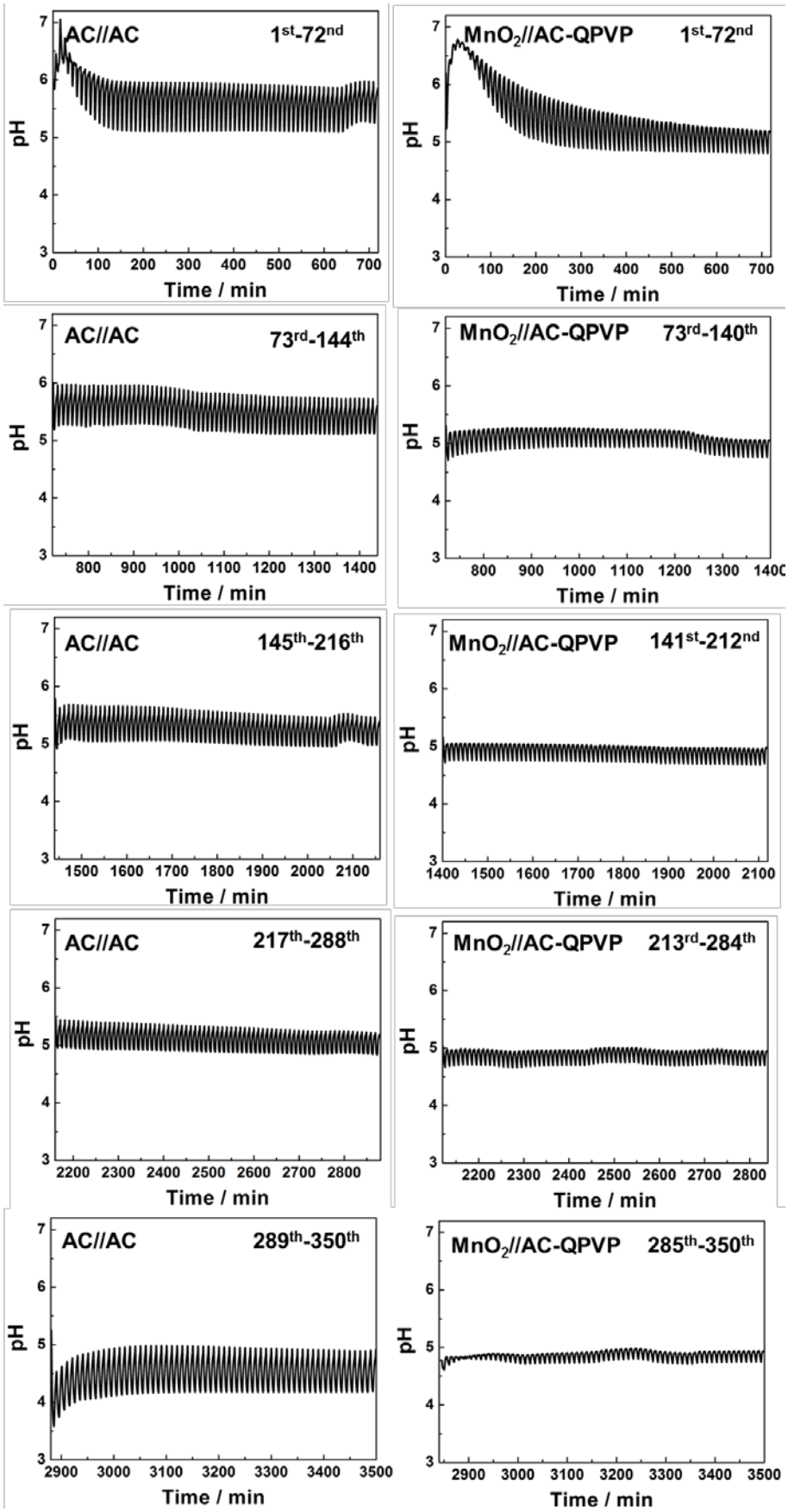

Figure S7. Effluent pH changes of AC//AC and MnO_2//AC-QPVP during the cyclic tests.

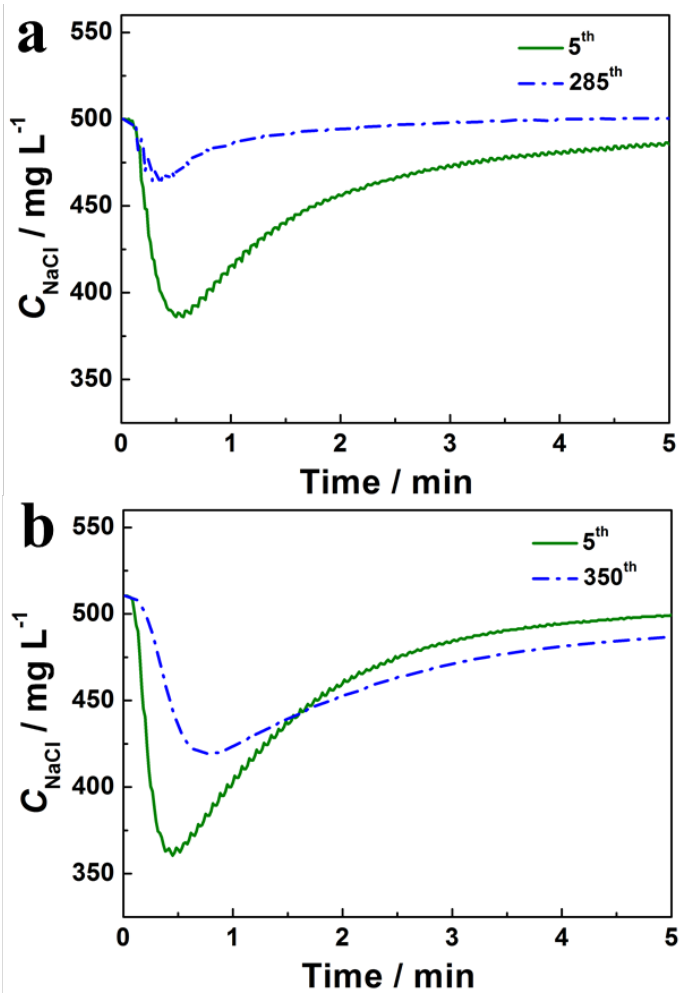

Figure S8. Effluent NaCl concentration profiles of (a) AC//AC and (b) MnO_2//AC-QPVP during the adsorption processes at the initial stage and the end of the cyclic test.

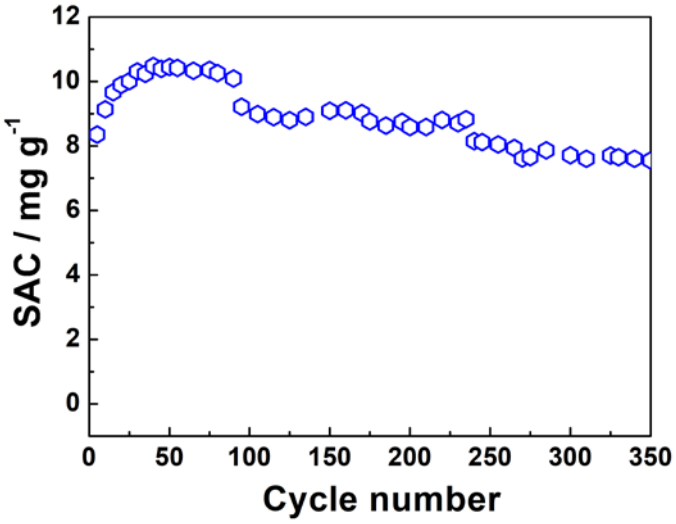

Figure S9. Changes in the SAC of another MnO2//AC-QPVP cell during the cyclic test.