## Mesoporous Aluminium Manganese Cobalt Oxide with Pentahedron

## **Structures for Energy Storage Devices**

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Figure S1 XRD pattern of the as-obtained AMCO precursor



Figure S2 SEM images of the AMCO precursor materials



Figure S3 SEM images of the AMCO materials



Figure S4 SEM images of the AMCO electrode materials prepared under different reaction times: (a, b) 1h, (c, d) 2h and (e, f) 4h



Figure S5 CV and the charge/discharge curves of the AMCO-2 (a, b) and AMCO-4 (c, d) electrode materials



Figure S6 SEM images of the CO (a, b), MO (c, d), MCO (e, f) and ACO (g, h) electrode materials



Figure S7 CV and charge/discharge curves of the CO (a, b), MO (c, d), MCO (e, f) and ACO (g, h) electrode materials



Figure S8 The SEM image of the AMCO electrode after 8000 cycles



Figure S9 Electrochemical measurements of the AC electrode materials



Figure S10 CV curves of the AC and AMCO electrode materials at 10 mV s<sup>-1</sup>