Supporting Information

Hierarchical CoO/MnCo$_2$O$_{4.5}$ Nanorod Arrays on Flexible Carbon Cloth as High-Performance Anode Materials for Lithium-ion Batteries

Lianshan Ni, Wei Tang, Xiaohe Liu, Ning Zhang, Jun Wang, Shuquan Liang, Renzhi Ma, Guanzhou Qiu

$^a$ State Key Laboratory of Powder Metallurgy and School of Materials Science and Engineering, Central South University, Changsha, Hunan 410083, P. R. China

$^b$ School of Resources Processing and Bioengineering, Central South University, Changsha, Hunan 410083, P. R. China

$^c$ International Center for Materials Nanoarchitectonics (MANA), National Institute for Materials Science (NIMS), Namiki 1-1, Tsukuba, Ibaraki 305-0044, Japan.

Figure S1. (a) XRD pattern, (b, c) SEM and TEM images of as-prepared Co(CO$_3$)$_{0.5}$(OH)$_{0.11}$H$_2$O nanorods grown on the CC.
**Figure S2.** (a, b, c) SEM and (d) TEM images of the precursor grown on the CC.

**Figure S3.** EDX spectroscopy of the hierarchical CoO/MnCo$_2$O$_{4.5}$ nanorods grown on CC. Inset depicts the molar ratios of metal ions determined by ICP.
Figure S4. (a) XRD pattern and (b) EDX spectroscopy of the hierarchical Co$_3$O$_4$/MnCo$_2$O$_{4.5}$ nanorods grown on CC.

Figure S5. XPS spectra of as-prepared Co$_3$O$_4$/MnCo$_2$O$_{4.5}$ product: (a) survey spectrum, (b) Co 2p, (c) Mn 2p and (d) O1s.
**Figure S6.** Cyclic voltammetry curves of the Co$_3$O$_4$/MnCo$_2$O$_{4.5}$ electrode in a voltage range of 0.01-3.0 V at a scanning rate of 0.1 mV s$^{-1}$.

**Figure S7.** EIS plots of as-prepared CoO/MnCo$_2$O$_{4.5}$ and Co$_3$O$_4$/MnCo$_2$O$_{4.5}$ electrodes before test in the frequency range between 0.01 Hz and 100 kHz (inset shows the equivalent circuit diagram).
<table>
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<th>electrode</th>
<th>Rs(Ω)</th>
<th>CPE1-T</th>
<th>CPE1-P</th>
<th>Rct(Ω)</th>
<th>W1-R</th>
<th>W1-T</th>
<th>W1-P</th>
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<tbody>
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<td>CoO/MnCo$<em>2$O$</em>{4.5}$</td>
<td>3.623</td>
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<td>Co$_3$O$_4$/MnCo$<em>2$O$</em>{4.5}$</td>
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