Supporting Information

Self-supported ultrathin bismuth nanosheets acquired from in situ topotactic transformation of BiOCl for high performance aqueous anode material

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Figure S1. (a) TEM image of the side view of layered BiOCl nanosheet, (b-d) the corresponding SAED pattern, enlarged TEM image and HRTEM image of the circle area marked in (a).

Figure S2. SEM images of BiOCl and T-BiNS electrodes in large scale.
Figure S3. (a) and (b) XRD patterns and SEM image of Bi nanosheets. (c) and (d) XRD patterns and SEM image of Bi$_2$O$_3$ nanosheets.
Figure S4. (a) and (b) CV and galvanostatic discharge curves of Ti-BiNS at various scan rates and current densities respectively. (c) Nyquist plots of Bi, Bi$_2$O$_3$ and T-BiNS electrodes.
Figure S5. Raman spectra of Bi, Bi$_2$O$_3$ and BiOCl.

Table S1. Raman shifts of Bi, Bi$_2$O$_3$ and BiOCl.

<table>
<thead>
<tr>
<th>samples</th>
<th>Raman shifts (cm$^{-1}$)</th>
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<tbody>
<tr>
<td>Bi</td>
<td>70, 96</td>
</tr>
<tr>
<td>Bi$_2$O$_3$</td>
<td>84, 126, 312</td>
</tr>
<tr>
<td>BiOCl</td>
<td>148, 199</td>
</tr>
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</table>
Figure S6. High resolution XPS spectra of Bi 4f and Cl 2p for BiOCl, T-BiNS and T-BiNS after oxidation.

Figure S7. SEM image of T-BiNS after 5000 cycles.
Figure S8. N₂ adsorption-desorption isotherm curves of Bi, Bi₂O₃, BiOCl and T-BiNS (the inset is the BJH pore size distribution).
Figure S9. (a) and (b) XRD patterns and SEM image of NiCo$_2$O$_4$ nanorods. (c) and (d) CV and galvanostatic discharge curves of NiCo$_2$O$_4$ at various scan rates and current densities respectively.

Figure S10. Rate performance of NiCo$_2$O$_4$/T-BiNS full battery.