Electronic Supporting Information

One-step dissolution-precipitation route synthesis of the multidimensional hierarchical Ni$_3$S$_2$ for aqueous asymmetric supercapacitors

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Fig. S1: charge-discharge curves of nanorods Ni$_3$S$_2$ arrays at different current densities.
Fig. S2: SEM image of the mushroom-like Ni₃S₂ electrode after 5000 cycles.
Fig. S3: the photography of the asymmetric supercapacitor.
Fig. S4: (a) CV curves of AC electrode at different scan rate, (b) charge-discharge curves of AC electrode at different current densities.
Table S1. Calculated Values of $R_S$, $C_{DL}$, $R_{ct}$, $Z_W$ and $C_L$ through CNLS Fitting of the Experimental Impedance Spectra based on the Proposed Equivalent Circuit in Figure 6.

<table>
<thead>
<tr>
<th></th>
<th>$R_S$ (Ω)</th>
<th>$C_{DL}$ (F)</th>
<th>$R_{ct}$ (Ω)</th>
<th>$Z_W$ (Ω)</th>
<th>$C_L$ (F)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nanorods Ni$_3$S$_2$</td>
<td>1.299</td>
<td>0.01273</td>
<td>3.803</td>
<td>4.122</td>
<td>0.4402</td>
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<tr>
<td>Mushroom-like Ni$_3$S$_2$</td>
<td>0.9745</td>
<td>0.01698</td>
<td>3.121</td>
<td>2.763</td>
<td>0.449</td>
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</tbody>
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