Electronic Supplementary Information

One-step chemically controlled wet synthesis of graphene nanoribbons from graphene oxide for high performance supercapacitor applications

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Fig. S1: Zeta-potentio of reduced graphene oxide (rGO).

Fig. S2: FESEM image of GO and elemental mapping of the marked region in this image.
**Fig. S3:** FESEM image of GNRs at low resolutions showing ~ 0.15 to 1 mm long curled and entangled GNRs at pH 6.0 (a) Scale bar 200 µm; (b) Scale bar 400 µm.

**Fig. S4:** FESEM image of GNRs and elemental mapping.
Fig. S5: N$_2$ adsorption – desorption isotherm for GNRs (after smoothing) (a) and GNRs-300 (b); Pore size distribution analyzed from density functional theory (DFT) method – Inset.

Fig. S6: FESEM image of GNRs at pH 7.5 showing the stacked agglomerated GNRs. Scale bar: 100 µm
**Fig. S7:** Optical absorption spectrum of GRL-OH$^-$ after 10 h of reaction.

**Fig. S8:** Optical absorption spectrum of GRL-Ox after 10 h of reaction.
Fig. S9: Optical absorption spectrum of GRL-Ox after 15 h of reaction.

Fig. S10: Resonating structures of malonic acid.
**Table S1:** Raman spectral data of graphite, GO, GNRs and GNRs-300.

<table>
<thead>
<tr>
<th>Sample</th>
<th>D band (cm(^{-1}))</th>
<th>G band (cm(^{-1}))</th>
<th>(I_D/I_G)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Graphite</td>
<td>1359</td>
<td>1582</td>
<td>-</td>
</tr>
<tr>
<td>GO</td>
<td>1355</td>
<td>1604</td>
<td>0.88</td>
</tr>
<tr>
<td>GNRs</td>
<td>1351</td>
<td>1605 (D’ 1623)</td>
<td>0.97</td>
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<tr>
<td>GNRs-300</td>
<td>1359</td>
<td>1599</td>
<td>0.94</td>
</tr>
</tbody>
</table>