Supplementary Material

Synergistic Effect of Nitrogen Doping and MWCNT Intercalation for the Graphene Hybrid Support for Pt Nanoparticles with Exemplary Oxygen Reduction Reaction Performance

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Figure S1. SEM images (a,b) and TEM images (c,d) of GO-MWCNT.

Figure S2. The pore size distributions of G, G-M, and N-G-M supports.
Figure S3. TEM images for (a) JM20 and (c) Pt/M catalysts. The corresponding particle size distribution curves for (b) JM20 and (d) Pt/M catalysts.

Figure S4. Low magnification TEM images for (a) Pt/G, (b) Pt/G-M, and (c) Pt/N-G-M catalysts.
Figure S5. Nyquist plots of EIS for JM20, Pt/G, Pt/G-M and Pt/N-G-M recorded in 0.1 M HClO₄.

Figure S6. ORR polarization curves for JM20 and Pt/N-G-M catalysts in 0.1 M HClO₄ + 0.1 M CH₃OH with a potential scan rate of 5 mV·s⁻¹.
Table S1. Results of the fits of Pt 4f spectra, values given in percentage of total intensity.

<table>
<thead>
<tr>
<th>Catalyst</th>
<th>Pt Species</th>
<th>Pt⁰</th>
<th>Pt²⁺</th>
<th>Pt⁴⁺</th>
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<tbody>
<tr>
<td>Pt/G</td>
<td></td>
<td>51.1</td>
<td>32.6</td>
<td>16.3</td>
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<tr>
<td>Pt/G-M</td>
<td></td>
<td>57.2</td>
<td>32.1</td>
<td>10.7</td>
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<tr>
<td>Pt/N-G-M</td>
<td></td>
<td>59.6</td>
<td>30.2</td>
<td>10.2</td>
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