Supporting Information

Continuous Wet Chemical Synthesis of Mo(C,N,O)$_x$
as Anode Materials for Li-Ion Batteries

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Figure S1: Crystal structures of a) orthorhombic Mo$_2$C$^{1,2}$, b) cubic MoC$_{0.67,3}$, and c) hexagonal MoC$_{0.49}$, Mo atoms are depicted in blue, C atoms in black.

Figure S2: General reaction scheme, first step precursor precipitation followed by pyrolysis reaction.

Table S1: Elemental analysis of PPD/molybdate precursors after the pyrolysis.

<table>
<thead>
<tr>
<th></th>
<th>Carbon / mass%</th>
<th>Hydrogen / mass%</th>
<th>Nitrogen / mass%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ideal Mo$_2$C</td>
<td>5.89</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Ideal MoOC</td>
<td>9.69</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Ideal Mo$_2$N</td>
<td>0</td>
<td>0</td>
<td>6.80</td>
</tr>
<tr>
<td>PPD/molybdate (9:1) (600°C)</td>
<td>20.85</td>
<td>0.24</td>
<td>0.74</td>
</tr>
<tr>
<td>PPD/molybdate (10:1) (600°C)</td>
<td>21.45</td>
<td>0.22</td>
<td>0.59</td>
</tr>
<tr>
<td>PPD/molybdate (1:1) (750°C)</td>
<td>0.38</td>
<td>0</td>
<td>2.56</td>
</tr>
<tr>
<td>PPD/molybdate (2:1) (750°C)</td>
<td>2.01</td>
<td>0</td>
<td>0.22</td>
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<tr>
<td>PPD/molybdate (5:1) (750°C)</td>
<td>3.19</td>
<td>0</td>
<td>0.14</td>
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<tr>
<td>PPD/molybdate (9:1) (750°C)</td>
<td>22.75</td>
<td>0</td>
<td>0.24</td>
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<tr>
<td>PPD/molybdate (10:1) (750°C)</td>
<td>20.02</td>
<td>0</td>
<td>0.24</td>
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<td>PPD/molybdate (15:1) (750°C)</td>
<td>22.62</td>
<td>0</td>
<td>0.30</td>
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<td>PPD/molybdate (18:1) (750°C)</td>
<td>23.57</td>
<td>0</td>
<td>0.20</td>
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<tr>
<td>PPD/molybdate (20:1) (750°C)</td>
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<td>0</td>
<td>0.19</td>
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<td>PPD/molybdate (25:1) (750°C)</td>
<td>22.86</td>
<td>0</td>
<td>0.23</td>
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<tr>
<td>PPD/molybdate (30:1) (750°C)</td>
<td>22.59</td>
<td>0</td>
<td>0.23</td>
</tr>
</tbody>
</table>
Figure S3: Electrochemical performance of pyrolyzed PPD/molybdate hybrid materials. Cyclic voltammograms at different scan rates and potential range between 0.01 V and 3.00 V vs. Li⁺/Li for (a) 1:1 and (b) 10:1 pyrolyzed at 750 °C as well as (c) 9:1 and (d) 10:1 synthesized at 600 °C.
Figure S4: Cyclic voltammograms at different scan rates and kinetic fitting to calculate b-values for (a-b) PPD/molybdate (1:1) (750°C); (c-d) PPD/molybdate (10:1) (750°C); (e-f) PPD/molybdate (9:1) (600°C); (g-h) PPD/molybdate (10:1) (600°C).
Supporting References

