

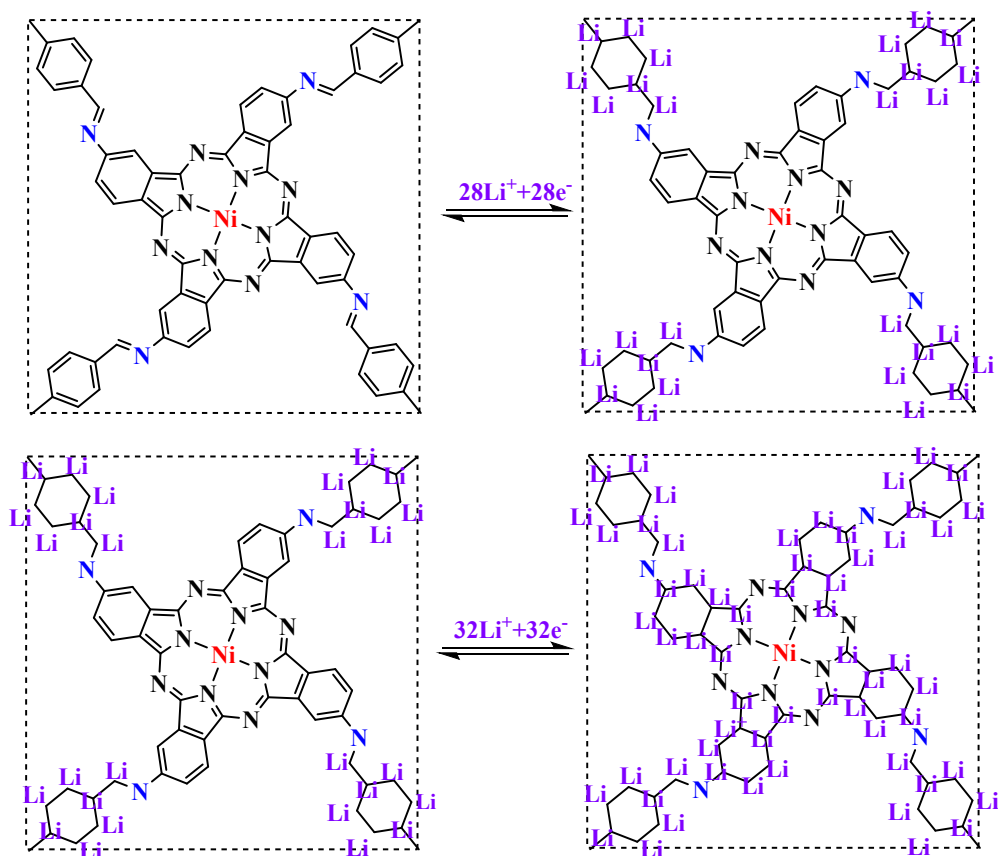
## Supporting Information

### **Graphene @ framework polymer derived from addition polymerization of phthalocyanine/dicarboxaldehyde as a negative material for lithium-ion batteries**

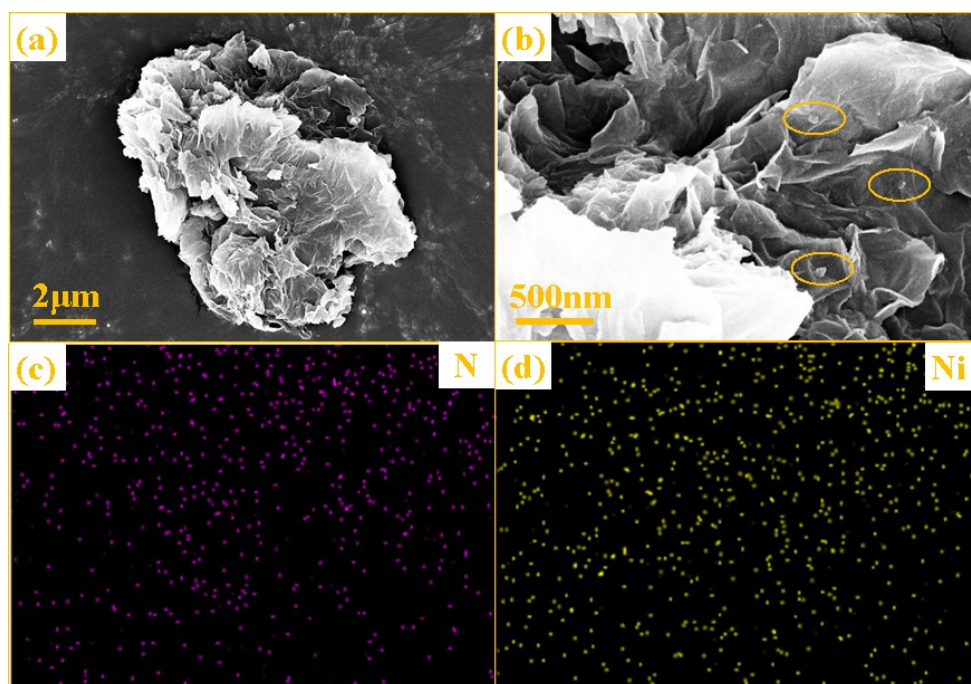
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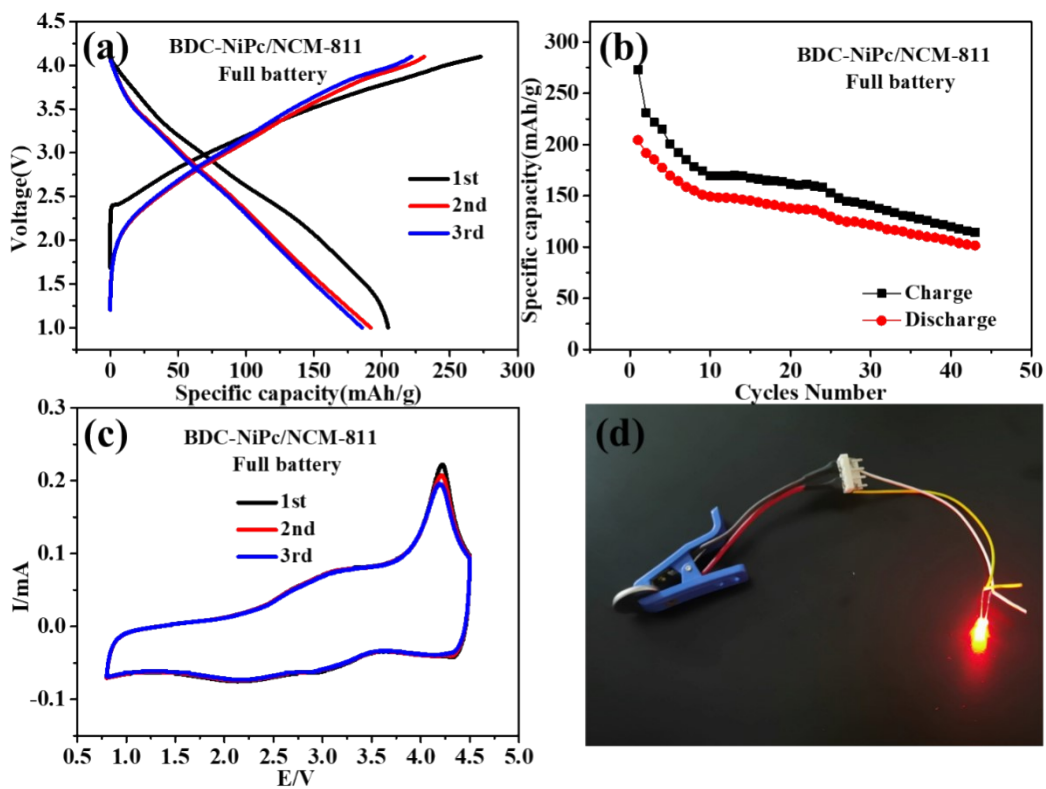
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**Fig. S1.** Mechanism for  $\text{Li}^+$  intercalation for a **BDC-NiPc** monomer.



**Fig. S2.** SEM images of (a,b) **BDC-NiPc@GN** with ethanol as the dispersant; EDS images (c,d) of N/Ni in **BDC-NiPc@GN**



**Fig. S3.** (a) The initial charge/discharge performance and cycle performance of a **BDC-NiPc/NCM-811** full battery; (c) CV curves for the **BDC-NiPc/NCM-811** full battery; (d) photograph of an LED light powered by a **BDC-NiPc/NCM-811** full battery