Electronic Supplementary Material (ESI) for Dalton Transactions.

Supporting Information

Phthalocyanine-grafted MA-VA framework polymer as high performance anode material for lithium/sodium-ion batteries

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Fig. S1. The geometry optimization of MA-VA-PcNi with HyperChem.

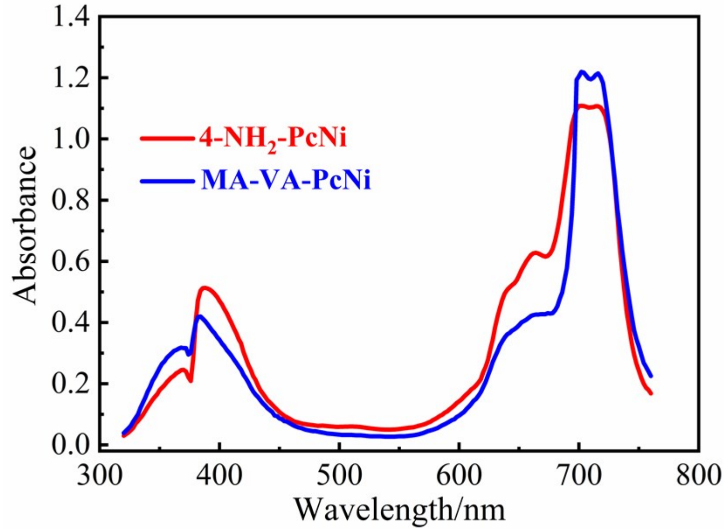

Fig. S2. UV-Vis spectra of 4-NH_2-PcNi and MA-VA-PcNi in DMF (5×10^{-5} M).

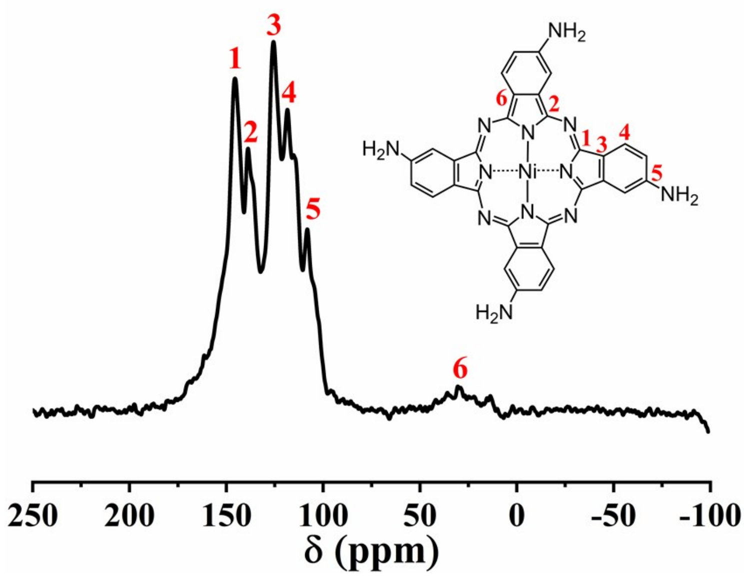

Fig. S3. ^{13}C solid-state CP-MAS NMR spectrum of 4-NH_2-PcNi.

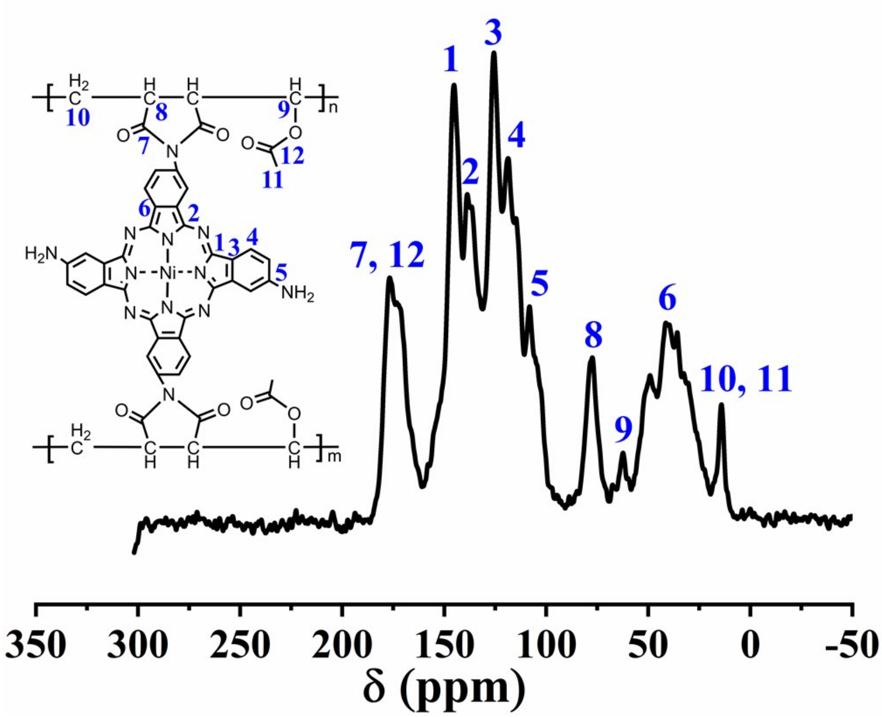

Fig. S4. ^{13}C solid-state CP-MAS NMR spectrum of MA-VA-PcNi.

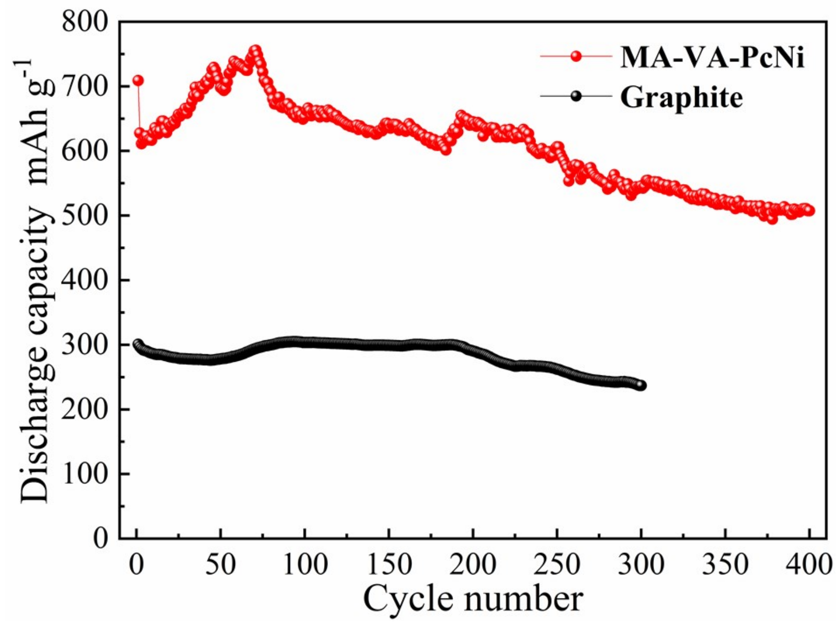

Fig. S5. Cycling performance of MA-VA-PcNi and graphite electrodes as an anode for lithium ion battery.

Table S1. Performance comparison of graphite and MA-VA-PcNi

Materials	Initial discharge capacity (mAh/g)	Reversible capacity (mAh/g)	ICE (Current density)	1 st discharge capacity (mAh/g)	Capacity retention
Graphite	330	271	82.3% (200 mA/g)	301	78.74% (after 300 cycles)
MA-VA-PcNi	1019	718	70.46% (200 mA/g)	610	83.1% (after 400 cycles)

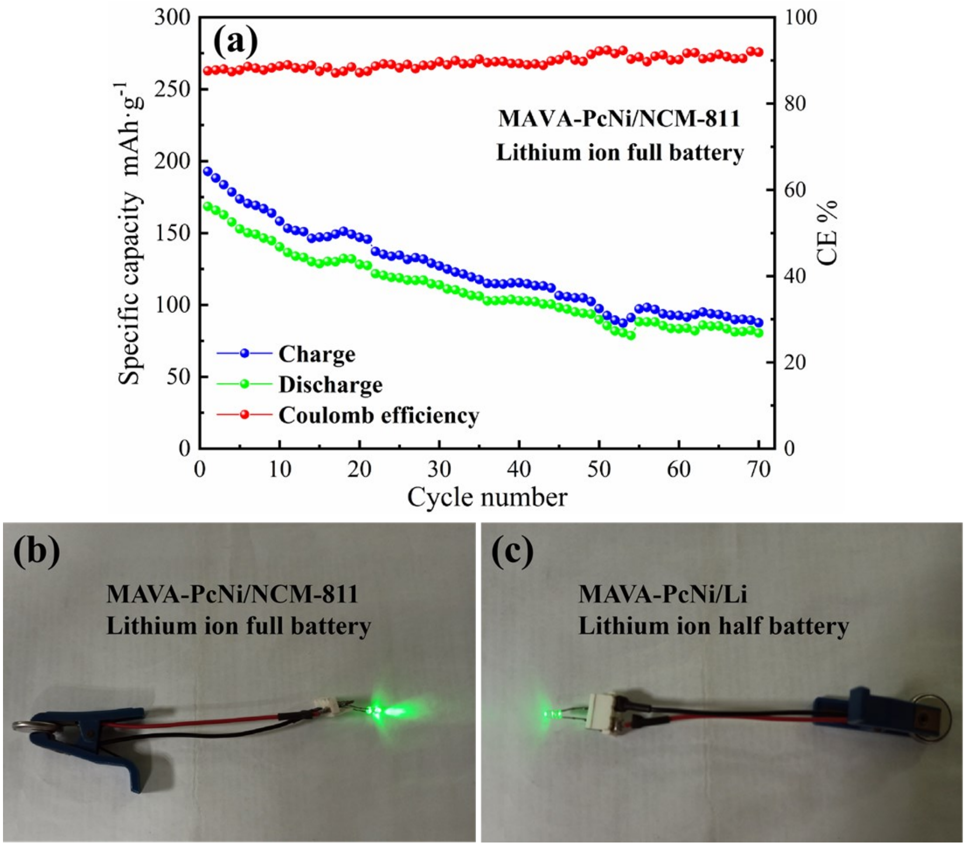

Fig. S6. (a) Cycle performance of MA-VA-PcNi/NCM-811 full battery (0.2 C);(b) and (c) photographs of LED lights powered by a MA-VA-PcNi/NCM-811 full battery and a MAVA-PcNi/Li half battery.

Table S2. Performance comparison of LIBs and SIBs

Batteries	Initial discharge capacity (mAh/g)	ICE (Current density)	1 st discharge capacity (mAh/g)	Capacity retention	Capacity (Current density)
LIBs	1019	70.46% (200 mA/g)	610	83.1% (after 400 cycles)	195 (2 A/g)
SIBs	694	47.75% (100 mA/g)	336	82.7% (after 400 cycles)	164 (1 A/g)

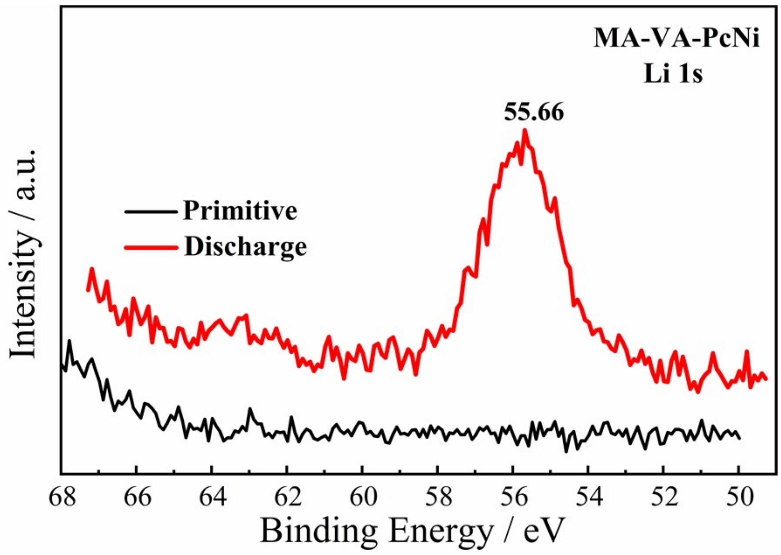

Fig. S7. Li 1s XPS spectra of MA-VA-PcNi electrodes with primitive and discharged states for lithium ion battery.

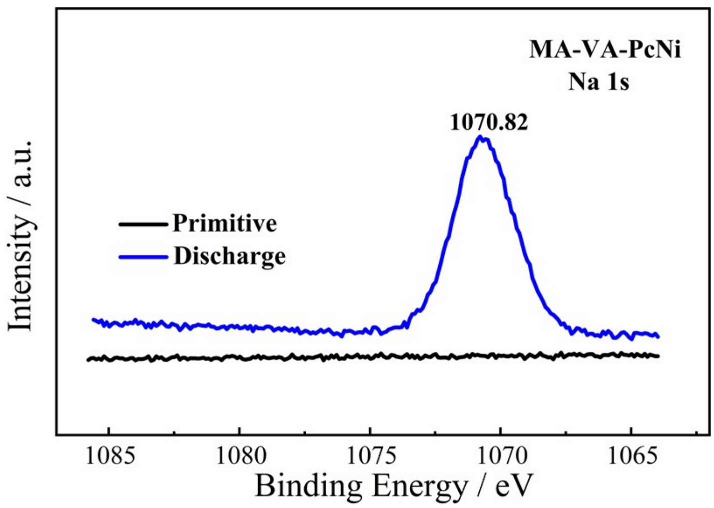

Fig. S8. Na 1s XPS spectra of MA-VA-PcNi electrodes with primitive and discharged states for sodium ion battery.