## **Electronic Supplementary Information**

## Cobalt phosphide embedded in graphene nanosheet network as a high-

## performance anode for Li-ion batteries

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Figure S1. SEM image of CoP microplates.



Figure S2. EDS spectrum of CoP/rGO nanocomposite.



Figure S3. EDS maps of C, P and Co elements for the CoP/rGO nanocomposite.



Figure S4. XRD patterns for (a) FeP/rGO and (b) Ni<sub>2</sub>P/rGO nanocomposites.



Figure S5. SEM images of (a) FeP/rGO and (d) Ni<sub>2</sub>P/rGO nanocomposites. TEM images of (b, c) FeP/rGO and (e, f) Ni<sub>2</sub>P/rGO



Figure S6. (a) XPS survey spectrum of the CoP/rGO nanocomposite.



Figure S7. TGA plots for the CoP/rGO and pure CoP measured in air.



Figure S8. (a) N<sub>2</sub> absorption/desorption curve and (b) pore size distribution for the CoP/rGO nanocomposite.



Figure S9. (a) CV curves at 0.1 mV s<sup>-1</sup> and (b) voltage profiles of pristine CoP.



Figure S10. SEM images of the CoP/rGO electrode (a) before and (b) after 500 cycles.