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Fig. S1 High magnification SEM image of RGO/Ni(OH)<sub>2</sub>/NF.



Fig. S2 Low magnification SEM image of Ni(OH)<sub>2</sub>/RGO/Ni(OH)<sub>2</sub>/NF.



Fig. S3 Cross-sectional SEM images of Ni(OH)<sub>2</sub>/RGO/Ni(OH)<sub>2</sub>/NF.



Fig. S4 XRD patterns of Ni(OH)<sub>2</sub>/RGO/Ni(OH)<sub>2</sub>/NF before and after charged and discharged for 3000 cycles.



Fig. S5 FESEM image of Ni(OH)<sub>2</sub>/RGO/Ni(OH)<sub>2</sub>/NF after charged and discharged for 3000 cycles.