Electronic Supplementary Material (ESI) for Physical Chemistry Chemical Physics. This journal is © the Owner Societies 2015

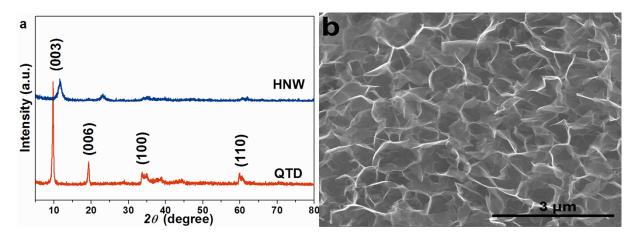
## **Supporting Information**

Binary Cooperative  $NiCo_2O_4$  on the Nickel Foams with Quasi-two-dimensional precursors: A Bridge between 'Supercapacitor' and 'Battery' in Electrochemical Energy Storage

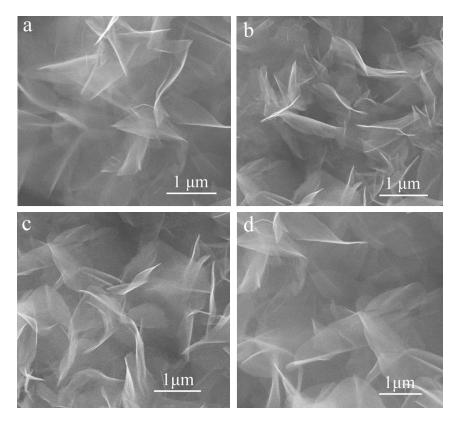
Tao Peng, <sup>a</sup> Zhongyu Qian, <sup>a</sup> Jun Wang, <sup>\*, a</sup> Liangti Qu <sup>b</sup> and Peng Wang <sup>c</sup>

<sup>a</sup> Key Laboratory of Superlight Material and Surface Technology, Ministry of Education, Harbin Engineering University, 150001, PR China.

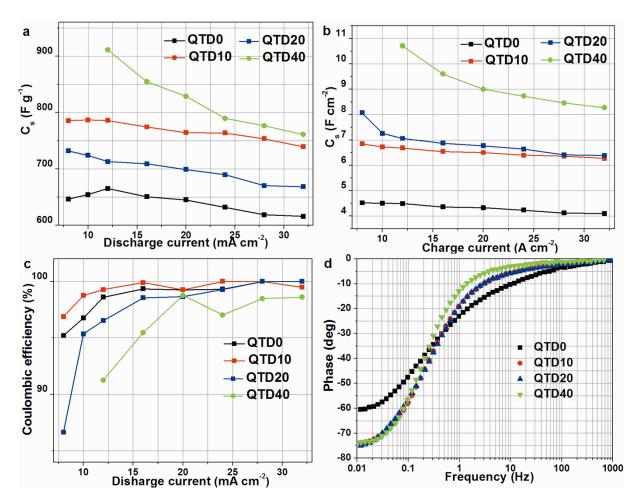
- <sup>b</sup> Key Laboratory of Cluster Science, Ministry of Education , School of chemistry, Beijing Institute of Technology, 100081, PR China.
- <sup>c</sup> State Key Laboratory of Polymer Physics and Chemistry, Changchun Institute of Applied Chemistry, Chinese Academy of Sciences, 130022, PR China.



**Fig. S1.** (a) XRD of the cobalt-nickel-hydroxide precursors. (b)SEM image of the nickel foams with the surface treatment.



**Fig. S2** SEM images with high magnification for QTD0(a), QTD10(b), QTD20(c), QTD40(d).



**Fig. S3.** (a) Specific capacitance (F  $g^{-1}$ ) versus current density. (b) Specific charge capacitance (F  $g^{-1}$ ) versus current density. (c) Columbic efficiency versus current density. (d) EIS from 10 mHz to 1000 Hz at 0 V.

**Table S1.** Result for the linear fitting of the variation of the catholic peak potential with the scan rate.

Slope		Intercept	
Value	Error	Value	Error
-0.19273	0.02186	0.39466	0.02692
-0.21426	0.01577	0.4202	0.01942
-0.18352	0.02117	0.37433	0.02607
-0.15138	0.00664	0.32783	0.00818