Supporting Information

Formation of CoNi$_2$S$_4$ nanofibers with 3D hierarchical pompom-like structure for high-rate electrochemical capacitors

Jingjing Yuan,$^{a,b}$ Dachuan Yao,$^a$ Xiaoke Zheng,$^a$ Jianxing Liang,$^a$ Ling Jiang,$^a$ Jianfei Che,$^{a,b}$ Guangyu He,$^a$ Haiqun Chen,*$^a$

$^a$ Advanced Catalysis and Green Manufacturing Collaborative Innovation Center, Key Laboratory of Advanced Catalytic Materials and Technology, Changzhou University, Changzhou, Jiangsu 213164, China.

$^b$ School of Chemical Engineering, Nanjing University of Science and Technology, Nanjing, Jiangsu 210094, China.

Electronic Supplementary Material (ESI) for New Journal of Chemistry. This journal is © The Royal Society of Chemistry and the Centre National de la Recherche Scientifique 2019

Fig. S1. XRD patterns of intermediate products obtained in the formation of pompom-like CoNi$_2$S$_4$ from Co$_3$Ni$_6$(OH)$_{18}$(CO$_3$)$_{1.3}$ precursor.
Fig. S2. XPS survey spectrum of pompom-like CoNi$_2$S$_4$.

Fig. S3. Core-level XPS spectra of S 2p of flower-like and urchin-like CoNi$_2$S$_4$.

Fig. S4. CV curves at various scan rates (a) and GCD profiles at different current densities (b) of flower-like CoNi$_2$S$_4$. 

flower-like CoNi$_2$S$_4$. 


Fig. S5. CV curves at various scan rates (a) and GCD profiles at different current densities (b) of urchin-like CoNi$_2$S$_4$.

Fig. S6. Value of b determined by using the relationship between peak current and scan rate (a), contribution of diffusion-controlled process and capacitive process at 5 mV s$^{-1}$ (b).