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Full Length Article

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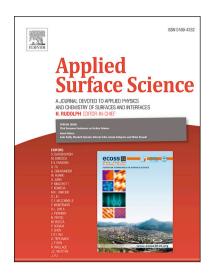
PII: S0169-4332(18)32285-2

DOI: https://doi.org/10.1016/j.apsusc.2018.08.147

Reference: APSUSC 40184

To appear in: Applied Surface Science

Received Date: 14 March 2018 Revised Date: 16 July 2018 Accepted Date: 18 August 2018



Please cite this article as: P. Xu, G. Wang, C. Miao, K. Cheng, K. Ye, K. Zhu, J. Yan, D. Cao, X. Zhang, Controllable one-pot synthesis of emerging β-Cu2Se nanowire freely standing on nickel foam for high electrochemical energy storage performance, *Applied Surface Science* (2018), doi: https://doi.org/10.1016/j.apsusc.2018.08.147

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## **ACCEPTED MANUSCRIPT**

Controllable one-pot synthesis of emerging  $\beta$ -Cu<sub>2</sub>Se nanowire freely standing on nickel foam for high electrochemical energy storage performance

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Graphical abstrsct

The super-ionic conductivity nanowire Cu<sub>2</sub>Se/Ni-foam electrode processes excellent cycling performance and the electrode is firstly assembled to asymmetric supercapacitor achieving high energy and power density.

#### Abstract

Transition metal selenide has stimulated much research interest in in energy storage and conversion, due to its excellent electrical conductivity.  $\beta$ -Cu<sub>2</sub>Se with special crystal structure is considered as super-ionic conductor, of which the diffusion coefficient is as large as a liquid. The fast ions and electrons conductor  $\beta$ -Cu<sub>2</sub>Se with uniformly dense nanowire crossing with each other directly on nickel foam is prepared via simple onestep solvothermal grow method for 4h, avoiding conductive agent and binder. The feature much benefitting for electrons and ions transfer enable the  $\beta$ -Cu<sub>2</sub>Se-4h electrode

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