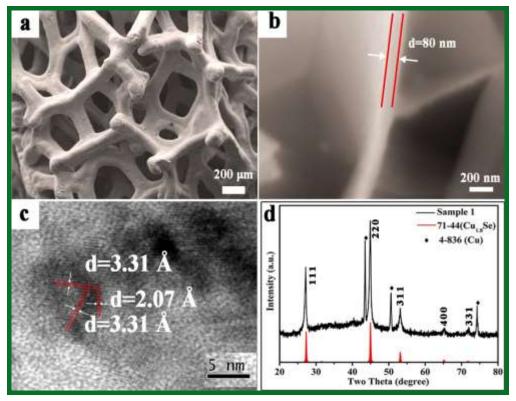
## **Supporting Information**

## Ag<sup>+</sup> Insertation into 3D Hierarchical Rose-like Cu<sub>1.8</sub>Se Nanocrystalline with Tunable Band Gap and Morphology Genetic

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**Figure S1** (a) the SEM image of foam copper, (b) the SEM image of a single nanosheet as the primary building block of Cu<sub>1.8</sub>Se microspheres, (c) the HRTEM image of Sample **1**, and (d) the XRD pattern of Sample **1** without any treatment.

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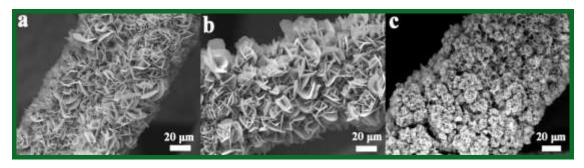
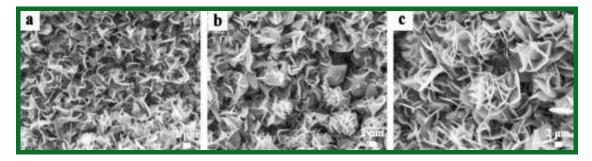
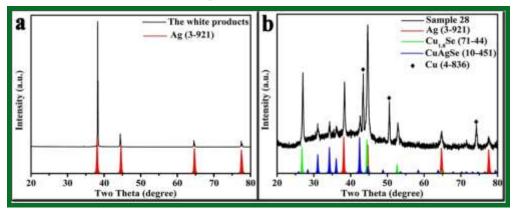


Figure S2 The SEM images of Sample 4 (a), 5 (b), and 8 (c).



**Figure S3** The SEM images of Sample **10** (a), **11** (b), and **13** (c).



**Figure S4** (a) the XRD pattern of the white product on the surface of Sample **28**. (b) the XRD pattern of Sample **28**.

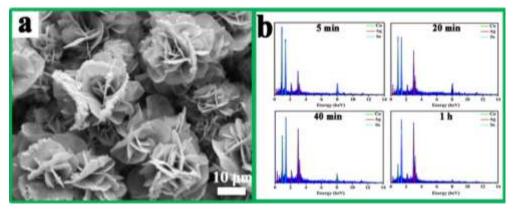


Figure S5 (a) the SEM image of Sample 27, (b) the EDS spectra of Sample 24, 26, 22 and 27.

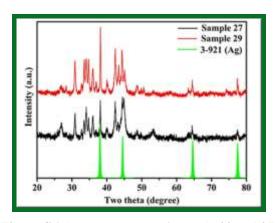


Figure S6 the XRD pattern of Sample 29 and 27.