Supplementary Information

Enhancing Conversion Efficiency of 3D-Printed Copper(I) Sulfide Thermoelectrics via Sulfur Infusion Process

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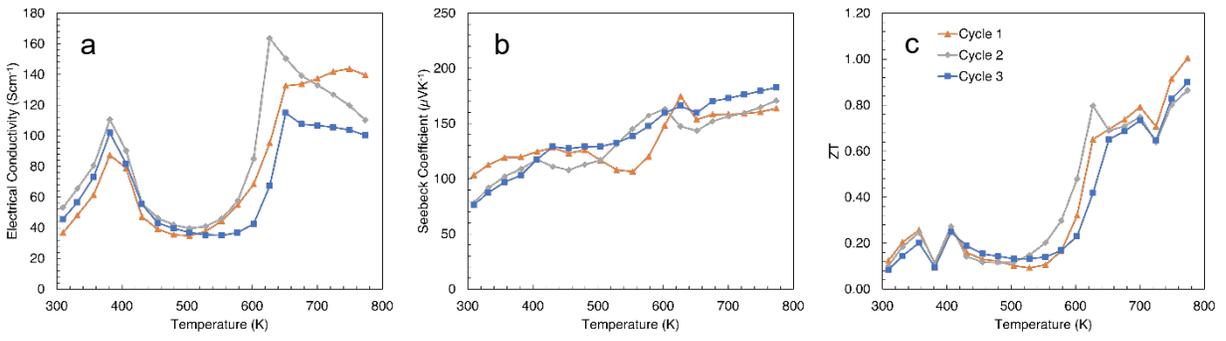## 1. Stability of DIW Cu$_{2-x}$ samples

Figure S1. Thermoelectric properties of sulfur infused 3D printed Cu$_{2-x}$S samples: a) electrical conductivity, b) Seebeck coefficient, and c) figure of merit.

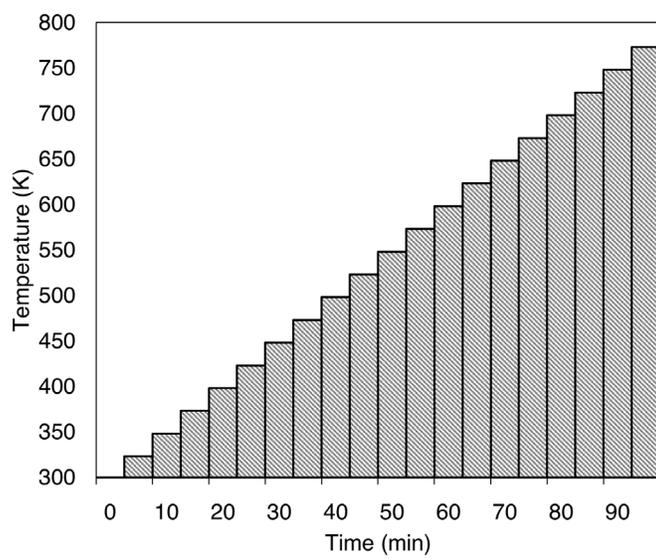## 2. Temperature profile for thermoelectric characterization

Figure S2. Heating profile used for thermoelectric characterization with the Linseis LSR-3 system.
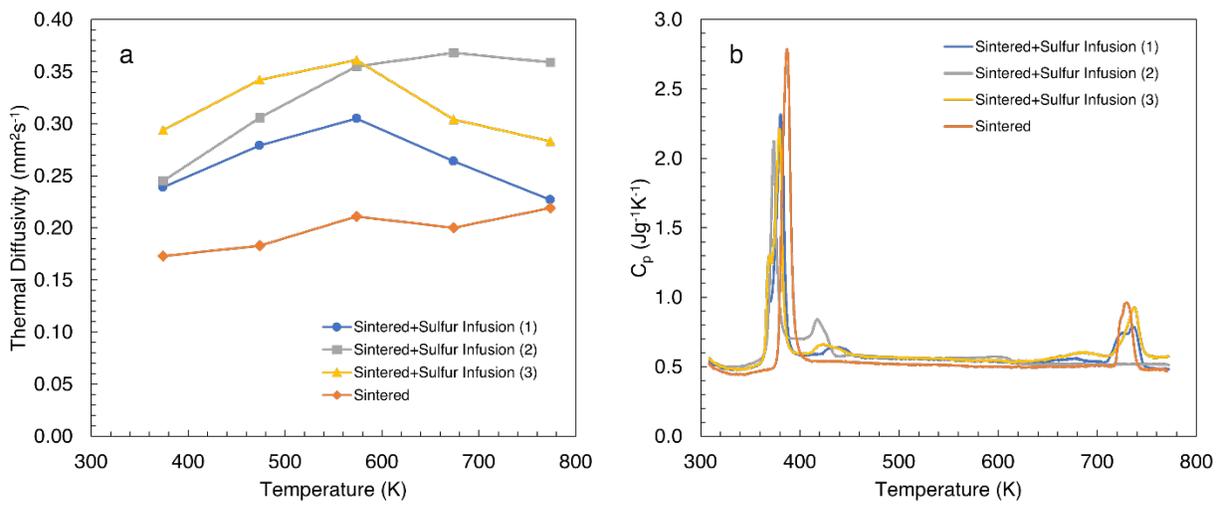
3. Thermal data

Figure S3. Thermal diffusivity a) and specific heat b) of DIW $Cu_{2-x}S$ samples.
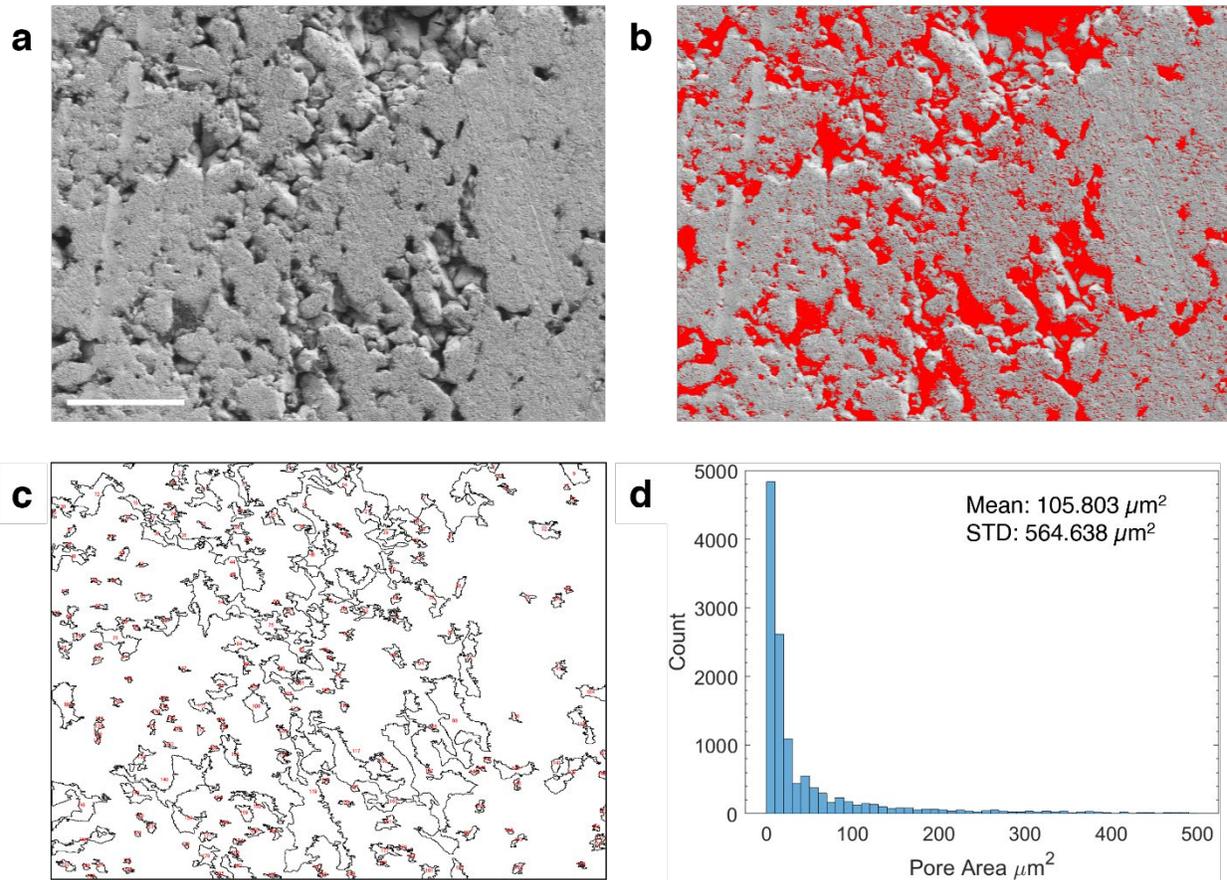
4. Pore Analysis

Figure S4. Pore analysis was conducted using ImageJ analysis software. a) Raw SEM image of cross-sectional area, b) areas of interest (i.e., pores/voids) are shown highlighted in red according to a user defined threshold to segment the image, c) AOIs are then outlined and numbered, and d) graphical display of the distribution of area pore size in μm^2 calculated from the set of ten (10) images. Scale bars, 100μm.