Supporting Information

Synergistically optimized thermoelectric performance in Bi$_{0.48}$Sb$_{1.52}$Te$_3$ by hot deformation and Cu doping

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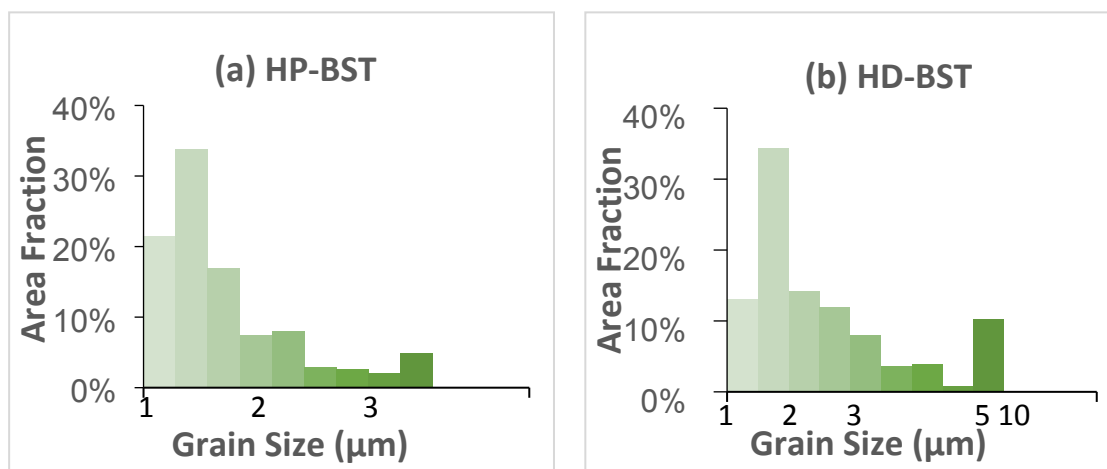*Corresponding author. Email address: liangbo@ysu.edu.cn, jjun@nimte.ac.cn.

Figure S1. The distributions of grain size for (a) HP-BST sample, (b) HD-BST sample, respectively.
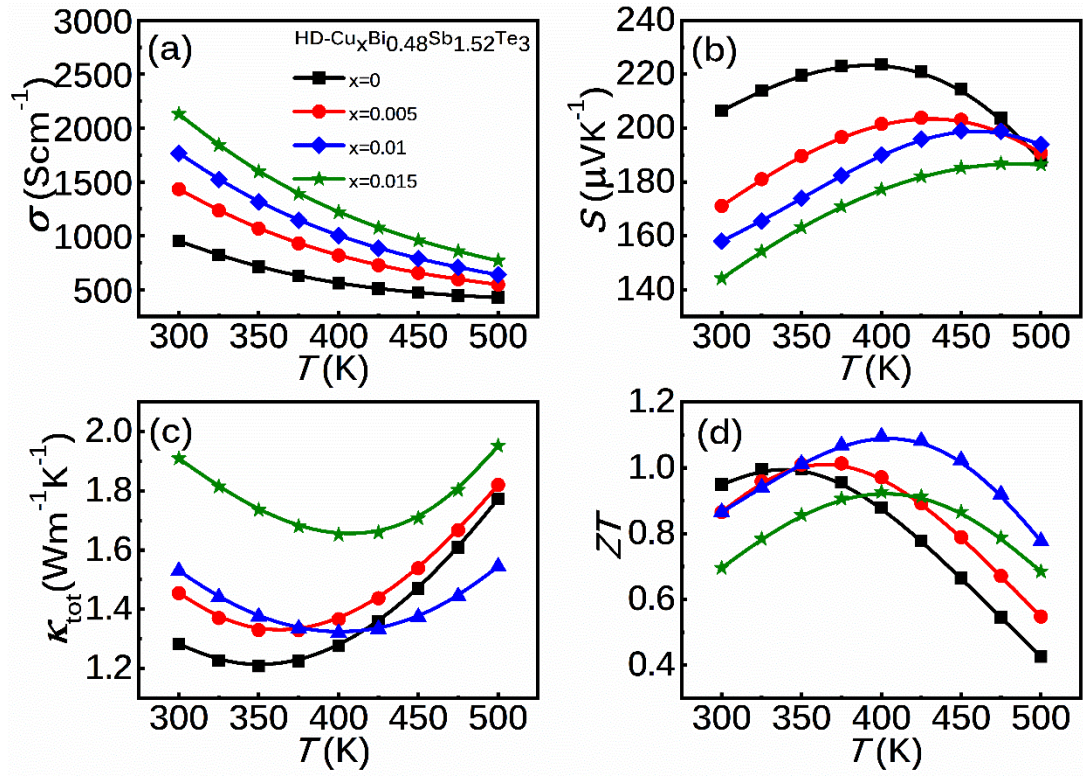
Figure S2. Temperature dependence of thermoelectric properties for hot deformed $Cu_xBi_{0.48}Sb_{1.52}Te_3$ (x=0, 0.005, 0.01, 0.015) samples. (a) electrical conductivity (b) Seebeck coefficient (c) the total thermal conductivity (d) ZT value.
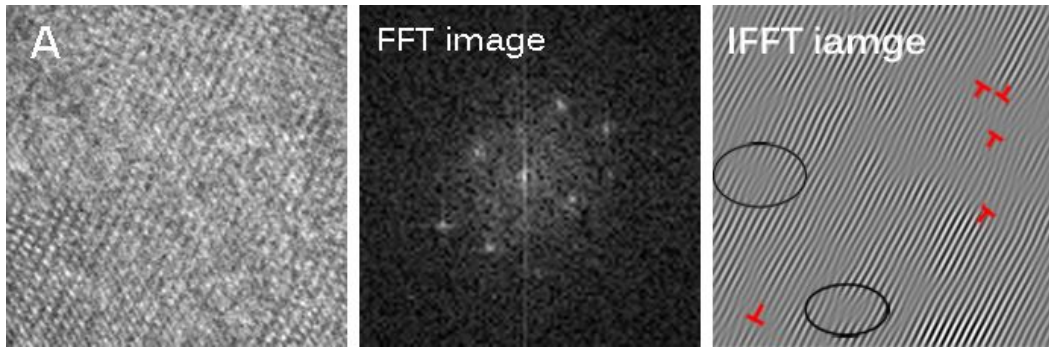

Figure S3. The raw image and the corresponding fast Fourier tansform (FFT) image as well as inverse FFT (IFFT) image for Figure 4d. The dislocation may be shown as clearly as possible by the IFFT method.