Supplementary Information

In Figure S1, the grain size distributions of the reference bulk sample and the top and bottom sides of the FSFs are shown. Additionally, the mean grain sizes are provided per distribution. It can be seen that the centers of the grain size distributions as well as the mean grain sizes increase with the increasing annealing temperature of the FSFs. The grain size distribution of the reference bulk sample is shifted towards higher grain sizes in comparison to all FSFs, and its mean grain size is also higher.

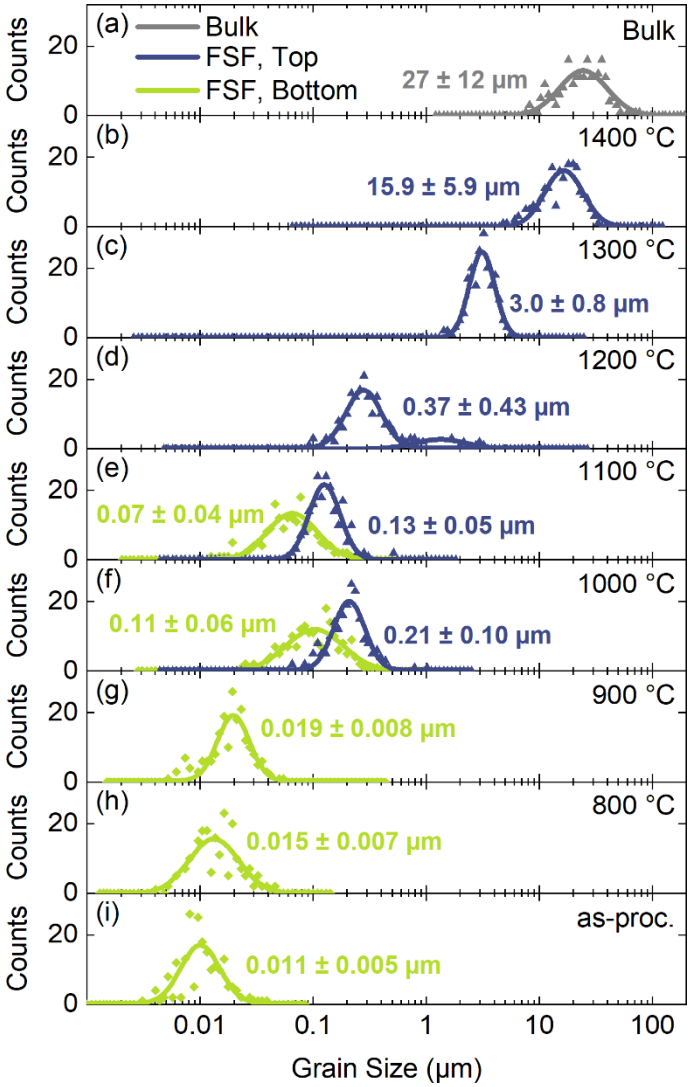

Figure S1. Grain size distributions of (**a**) the reference bulk sample and the top and bottom side of the FSFs annealed at (**b**) 1400 °C, (**c**) 1300 °C, (**d**) 1200 °C, (**e**) 1100 °C, (**f**) 1000 °C, (**g**) 900 °C, (**h**) 800 °C, and (**i**) in the as-processed state are presented over the grain size, as well as their respective mean grain sizes.

Figure S2 shows the frequency dispersion of the dielectric response of the FSFs and the reference bulk sample.

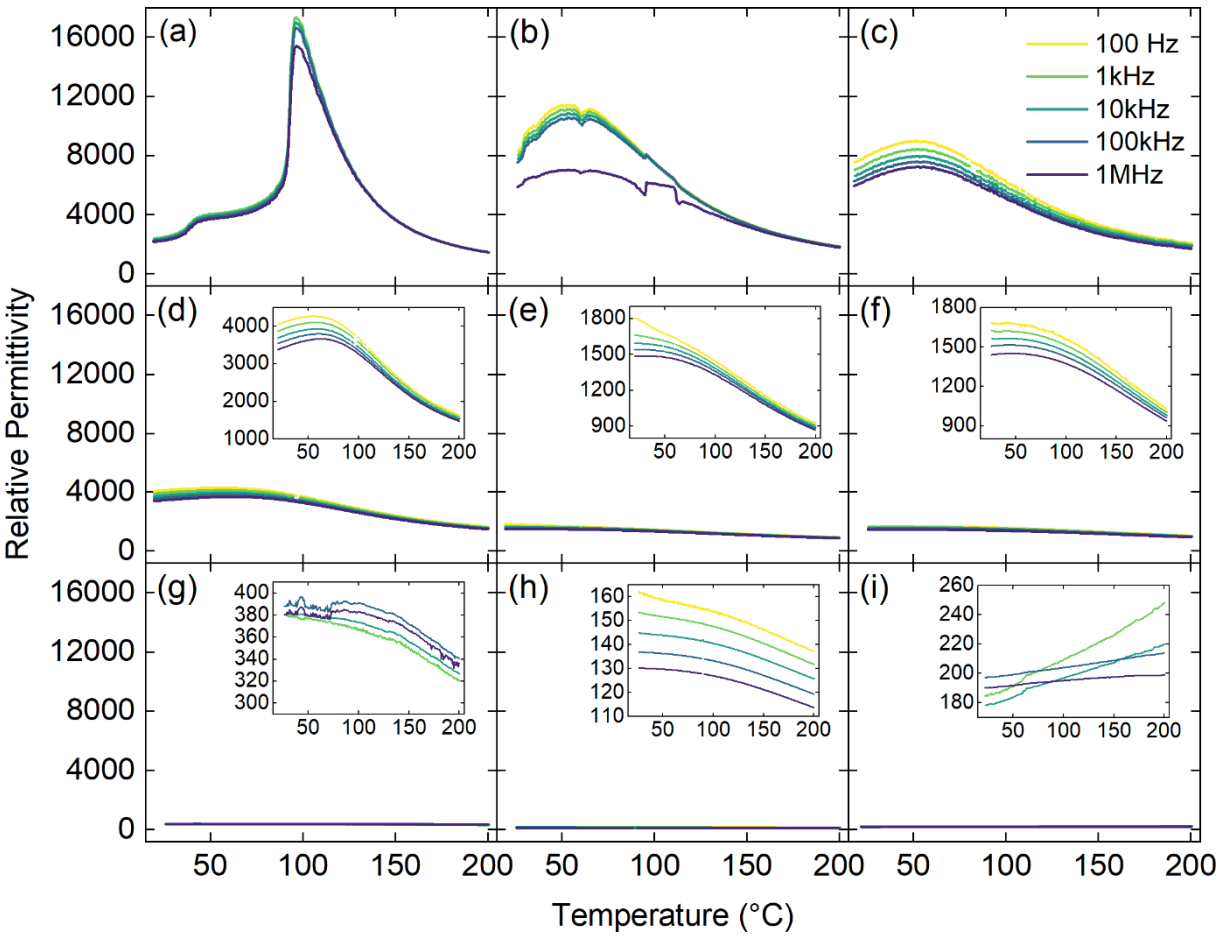

Figure S2. Temperature-dependent relative permittivity at different frequencies for the (**a**) reference bulk sample, the (**b**) FSF at 1400 °C, (**c**) FSF at 1300 °C, (**d**) FSF at 1200 °C, (**e**) FSF at 1100 °C, (**f**) FSF at 1000 °C, (**g**) FSF at 900 °C, (**h**) FSF at 800 °C, and (**i**) the as-processed FSF. The insets show their respective magnifications.