

Supporting Information

Thermal Pulse for Rapid Surface Processing of Ceramic Electrolytes

Chengwei Wang,^{1a} Hua Xie,^{1a} Weiwei Ping,¹ Jiaqi Dai,¹ Guolin Feng,¹ Yonggang Yao,¹
Shuaiming He,¹ Jamie Weaver,² Howard Wang,¹ Karen Gaskell,³ Liangbing Hu^{1,*}

¹Department of Materials Science and Engineering, University of Maryland College Park,
College Park, Maryland, 20742

²Materials Measurement Laboratory, National Institute of Standards and Technology,
Gaithersburg, Maryland, 20876

³Department of Chemistry and Biochemistry, University of Maryland, College Park, Maryland
20742

*Email: binghu@umd.edu

^aThese authors contributed equally to this work.

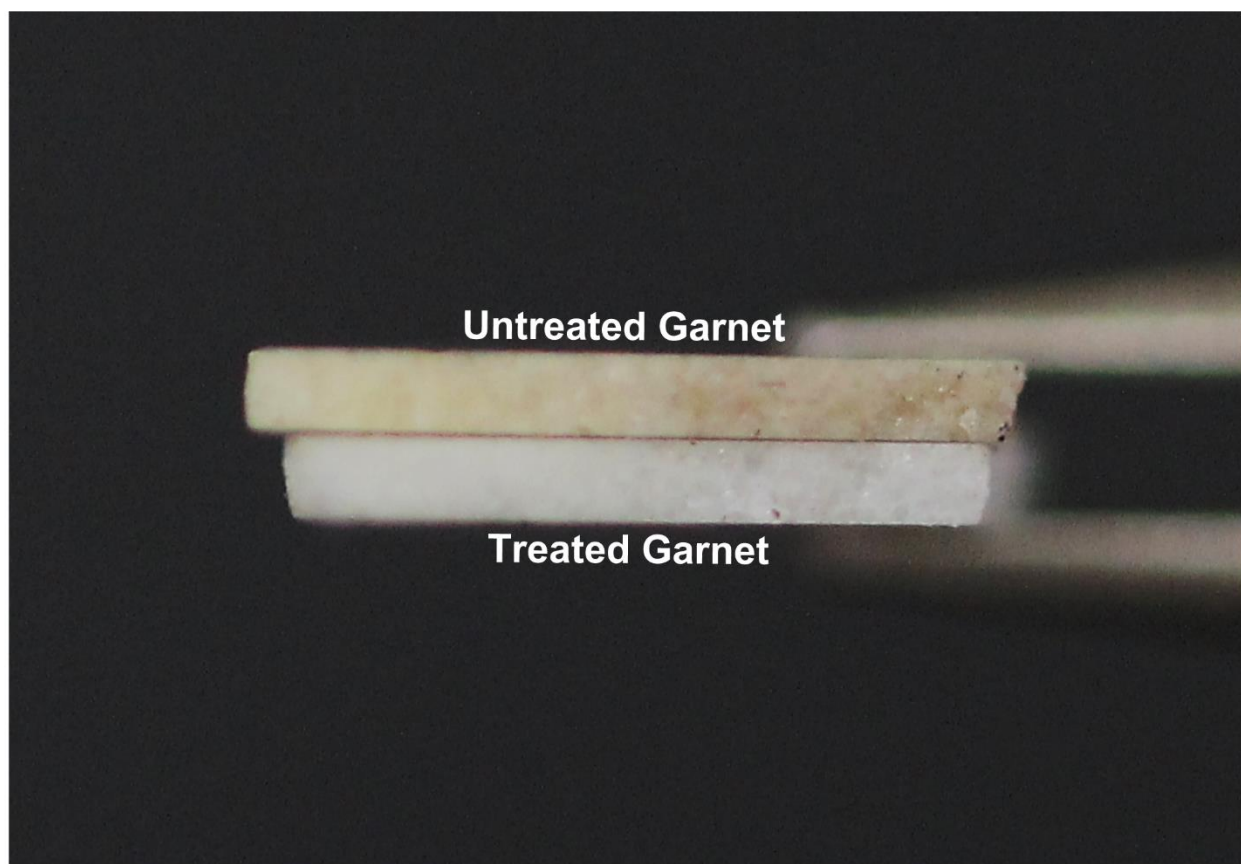


Figure S1. Cross-sectional photograph of the untreated and thermal pulse-treated garnet pellets, indicating the color change occurs throughout the whole pellet.

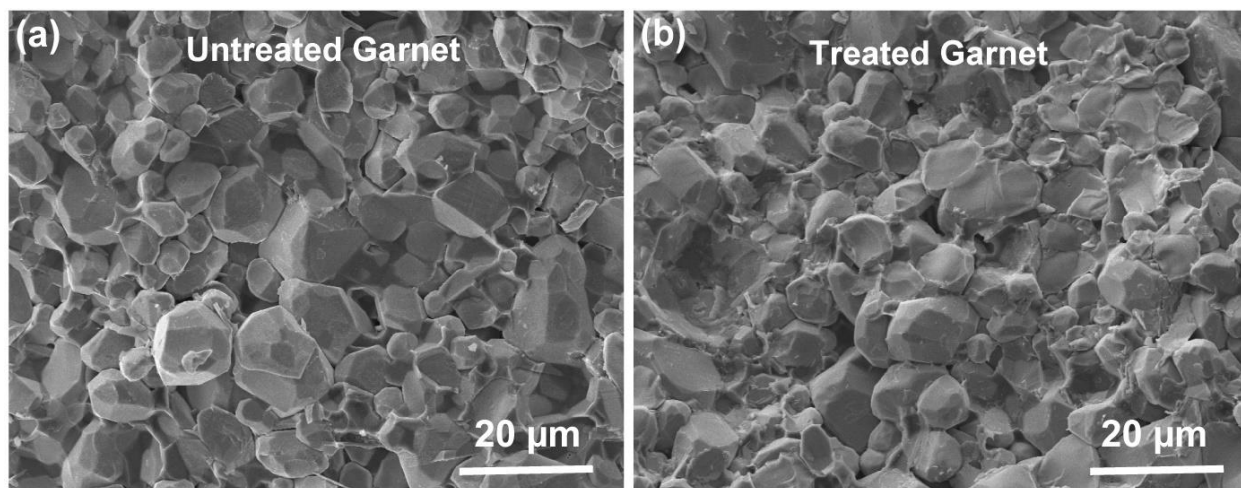


Figure S2. Cross-sectional SEM images of the (a) untreated and (b) high-temperature treated garnet, indicating no obvious grain size change.

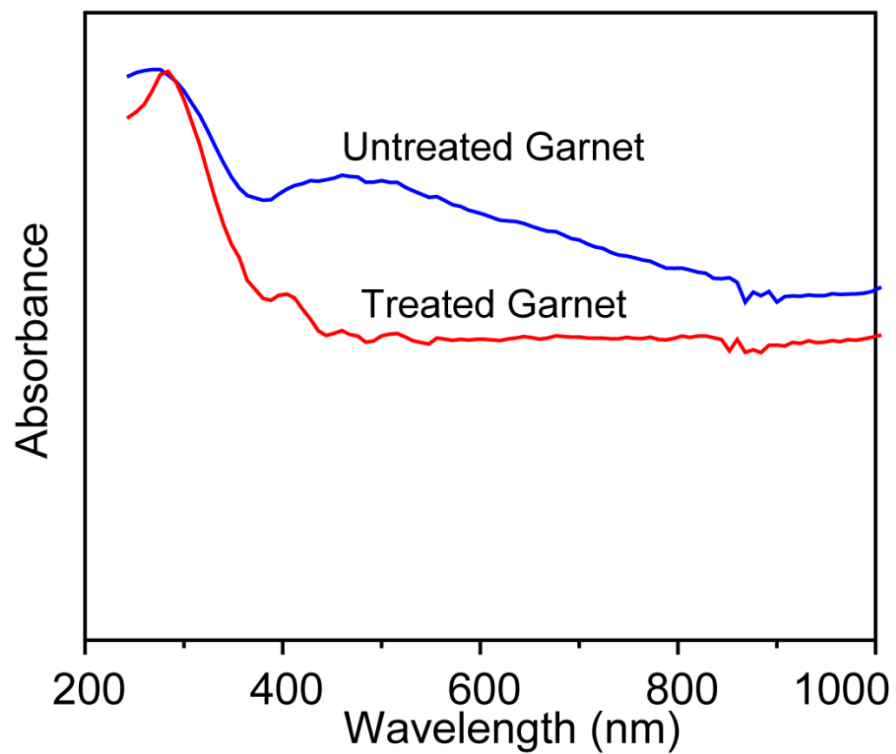


Figure S3. UV-Vis absorbance spectra of the garnet pellets before and after the thermal pulse treatment. The untreated garnet has higher absorbance than the thermal pulse-treated material.