

## Supplementary Information

### Experimental and Theoretical Investigation of Lithium-Ion Mobility in $\text{Li}_2\text{LaNbTiO}_7$

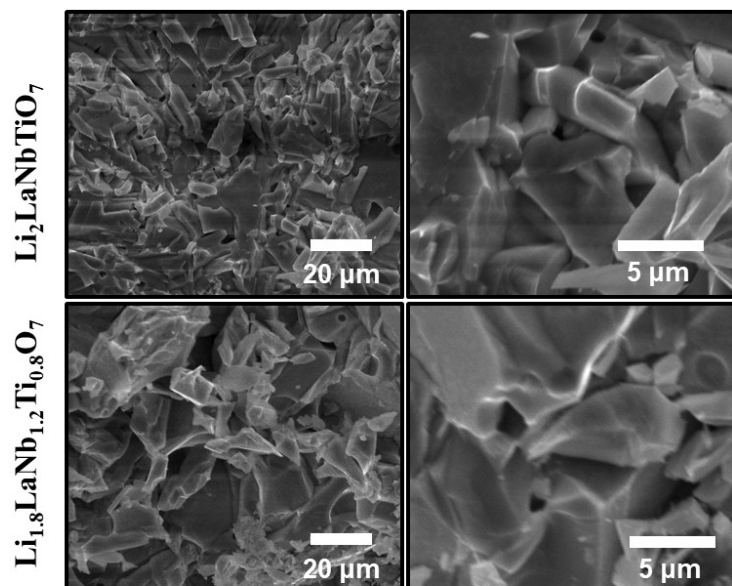
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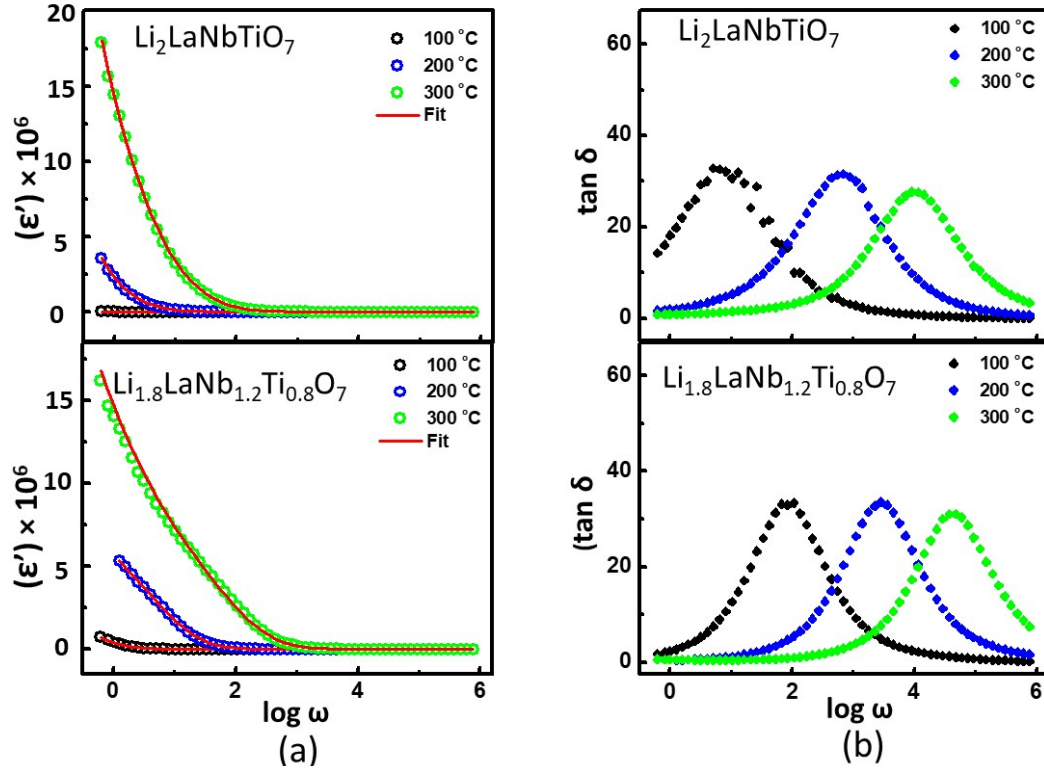
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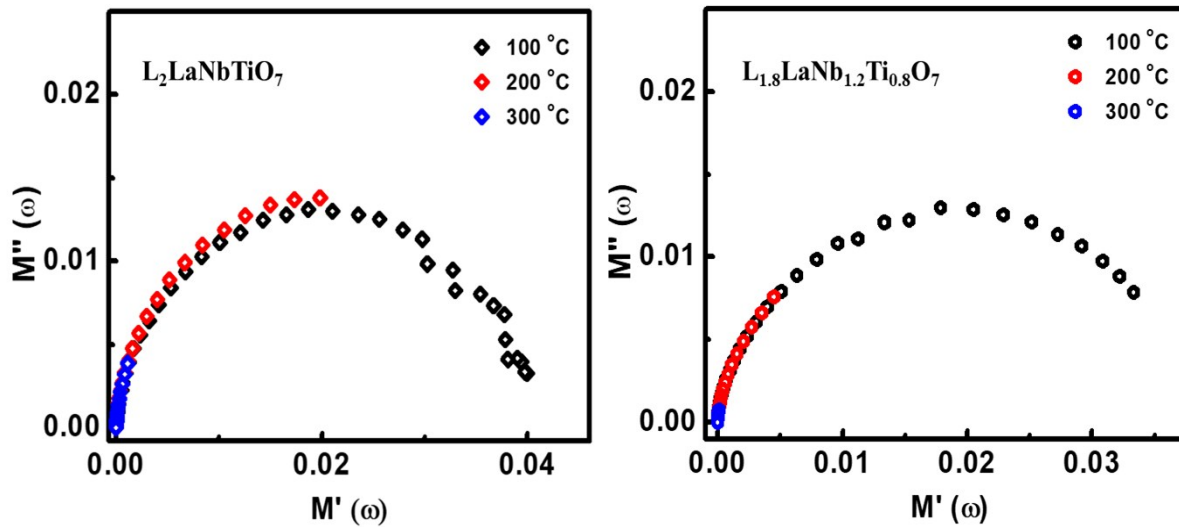
ORCID iD: 0000-0003-4176-1386



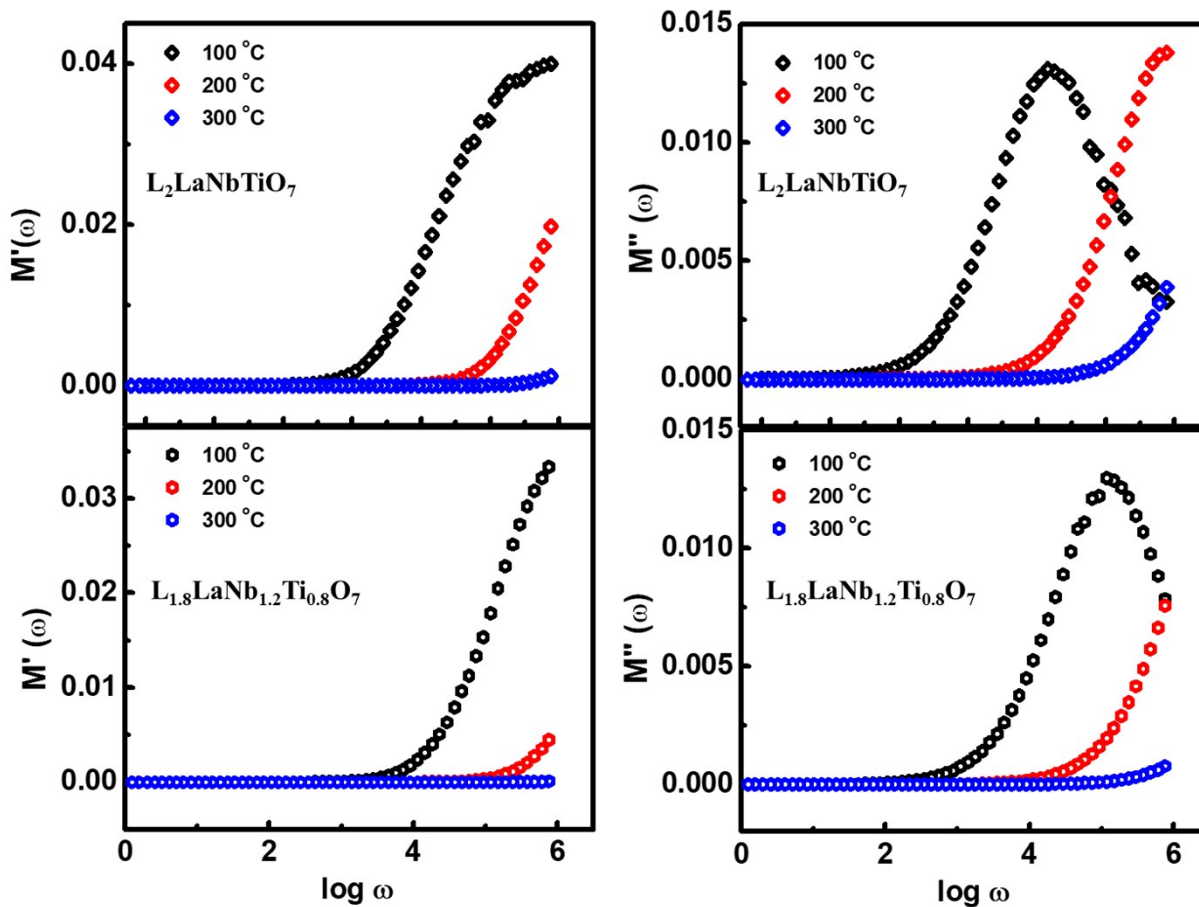
**Figure S1.** Scanning electron microscopy images of  $\text{Li}_2\text{LaNbTiO}_7$  and  $\text{Li}_{1.8}\text{LaNb}_{1.2}\text{Ti}_{0.8}\text{O}_7$ .



**Figure S2.** Temperature and frequency dependence of (a) dielectric constant ( $\epsilon'$ ) and (b) dielectric loss ( $\tan \delta$ ) for  $\text{Li}_2\text{LaNbTiO}_7$  and  $\text{Li}_{1.8}\text{LaNb}_{1.2}\text{Ti}_{0.8}\text{O}_7$ .



**Figure S3.** Complex Modulus Plots for  $\text{Li}_2\text{LaNbTiO}_7$  and  $\text{Li}_{1.8}\text{LaNb}_{1.2}\text{Ti}_{0.8}\text{O}_7$ .



**Figure S4.** Variations of real ( $M'$ ) and imaginary ( $M''$ ) parts of Modulus with temperature over different frequency ranges for  $\text{Li}_2\text{LaNbTiO}_7$  and  $\text{Li}_{1.8}\text{LaNb}_{1.2}\text{Ti}_{0.8}\text{O}_7$ .