

Support information to the “Tetragonal-cubic phase transition and low field dielectric properties of $\text{CH}_3\text{NH}_3\text{PbI}_3$ crystals”

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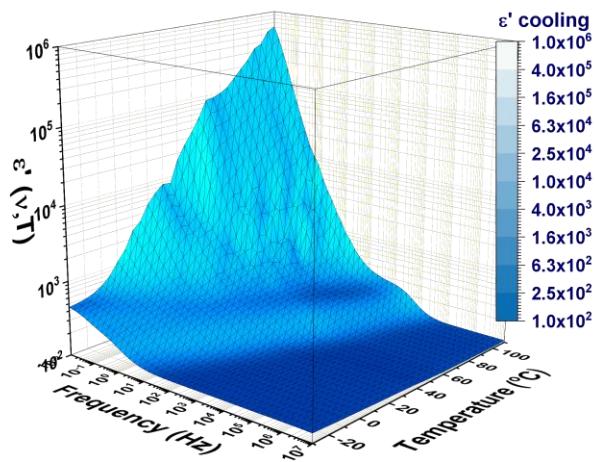
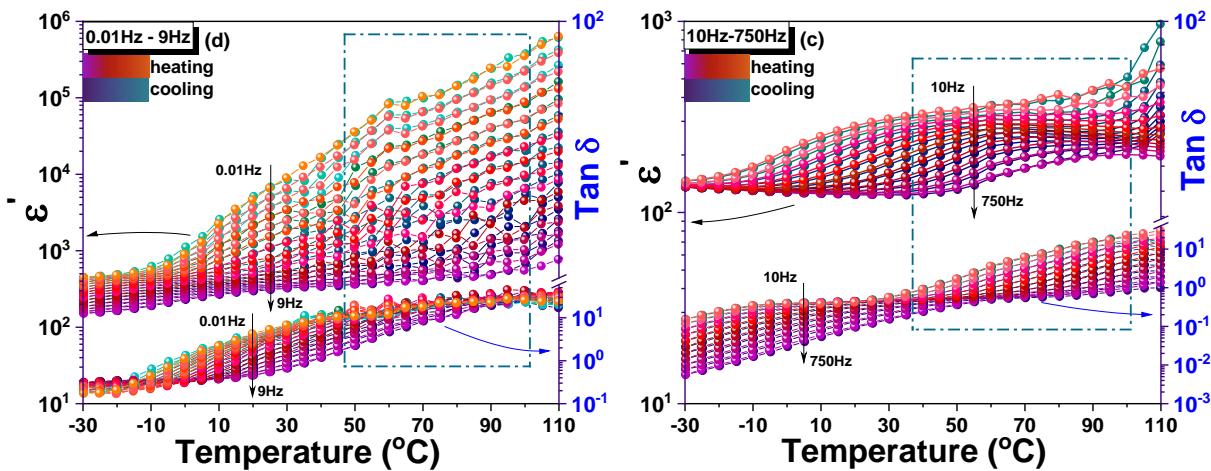


Figure S1 The real part of dielectric permittivity represented as a function of frequency and temperature, measured during cooling



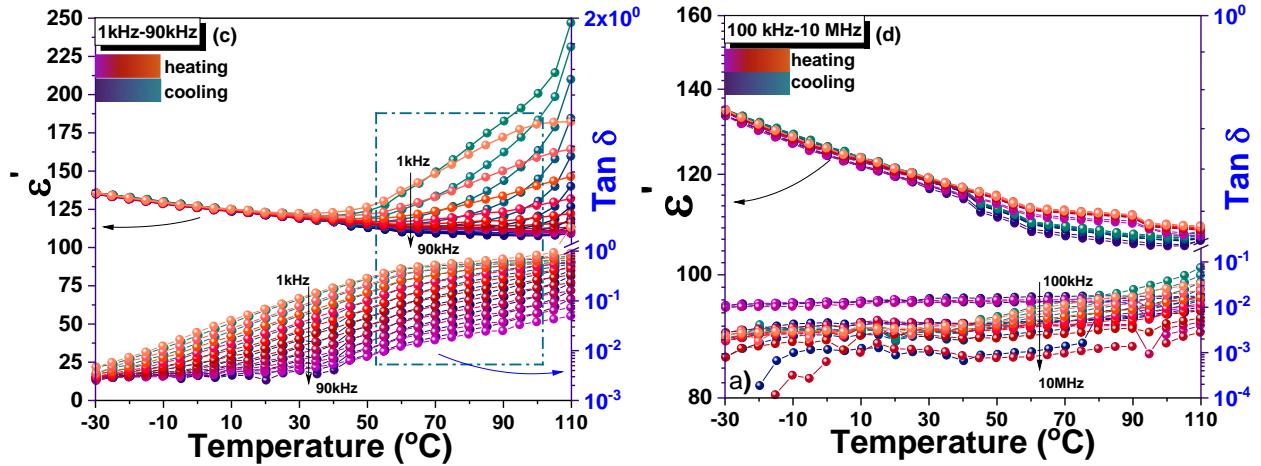


Figure S2 The temperature variation of ϵ' and dielectric tangent at different frequency intervals: (a) 0.01 Hz-9 Hz; (b) 10 Hz -750 Hz; (c) 1 kHz - 90 kHz; (d) 100 kHz -10 MHz

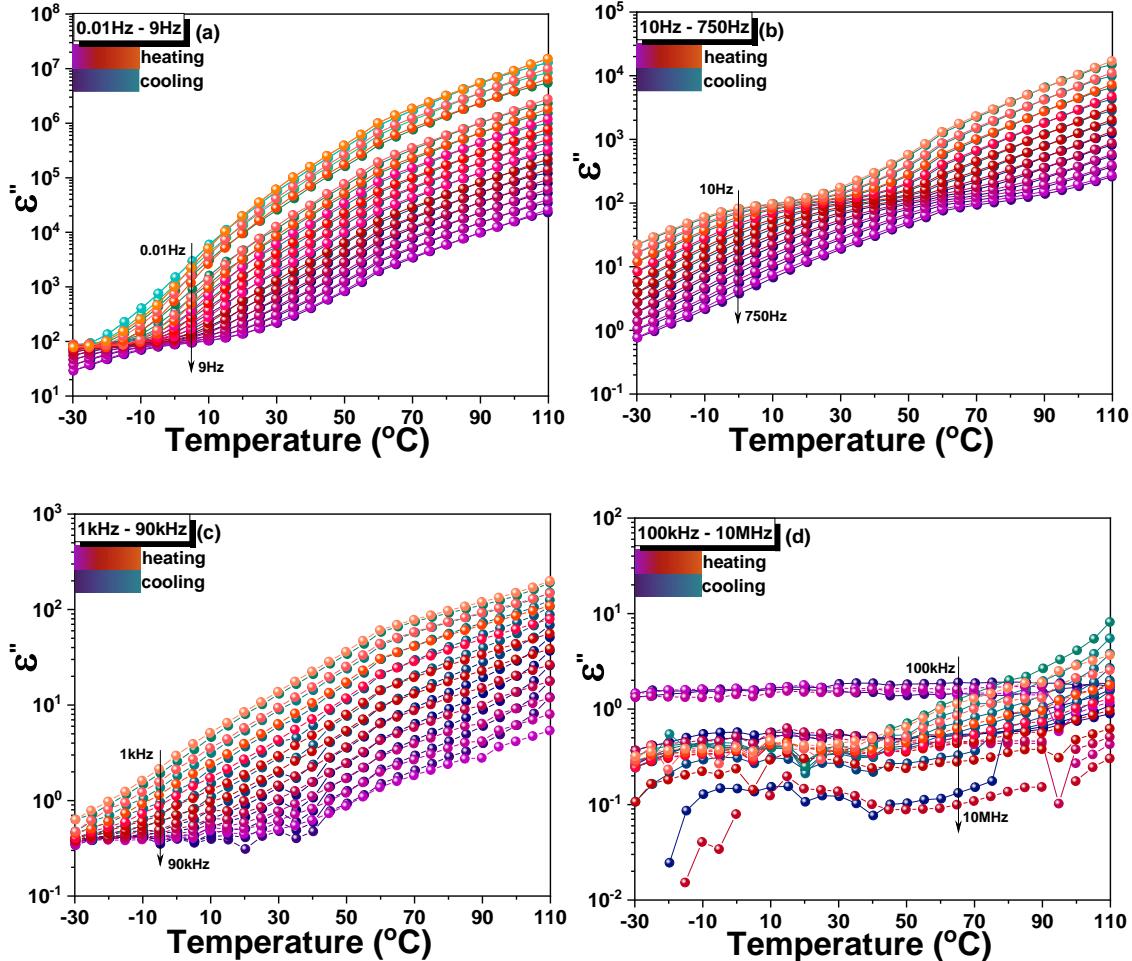


Figure S3 The temperature dependence of the loss factor ϵ'' measured during heating and cooling at different frequency intervals: (a) 0.01 Hz-9 Hz; (b) 10 Hz -750 Hz; (c) 1 kHz - 90 kHz; (d) 100 kHz -10 MHz

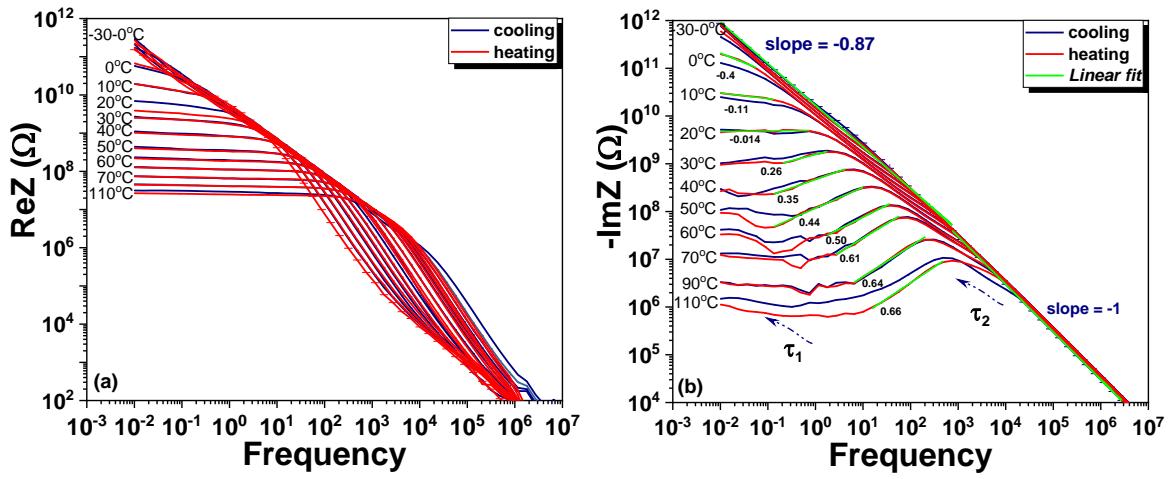


Figure S4 Frequency dependence of the complex impedance during heating and cooling down, in the temperature range of $-30\text{ }^\circ\text{C}\div110\text{ }^\circ\text{C}$: (a) the resistive real $\text{Re}Z$; (b) the reactive imaginary $-\text{Im}Z$ components, (solid green lines obtained by linear fitting)

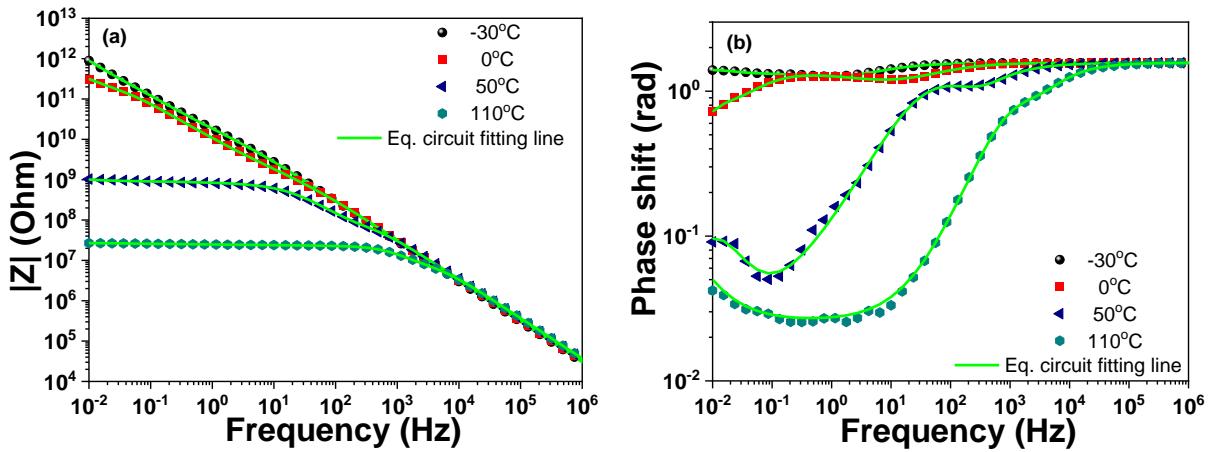


Figure S5 Impedance and phase shift fitting results obtained by using the proposed equivalent circuit: (a) Absolute impedance and (b) phase shift represented for a few specific temperatures, (solid green fitting lines obtained by using the equivalent circuit);

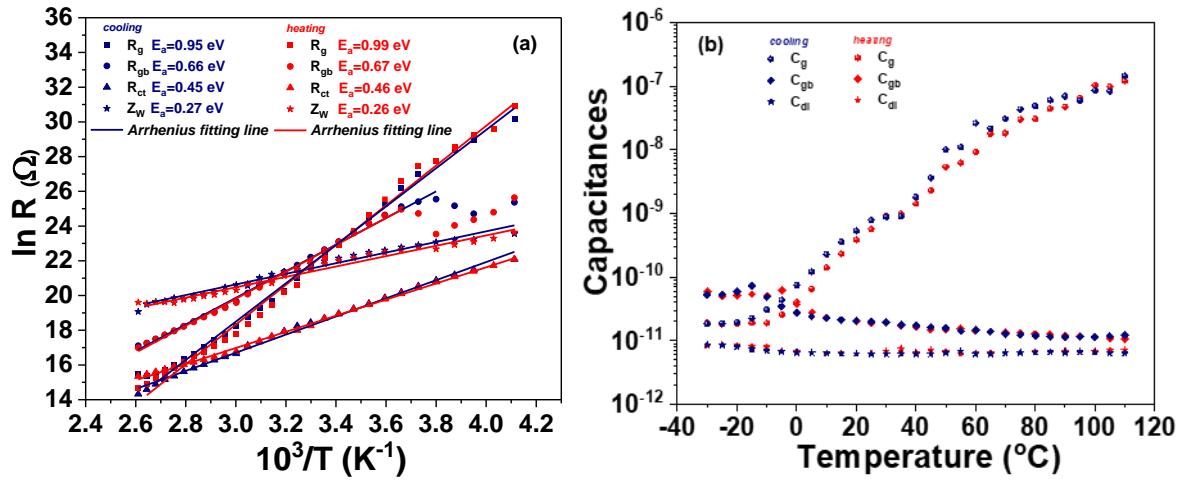


Figure S6 Temperature dependencies of the passive elements considered in the proposed equivalent circuit, during heating and cooling: (a) resistances and (b) capacitances.