

Supplementary Information to Insights into the Structural Dynamics of PLGA at Terahertz Frequencies

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MDSC Data

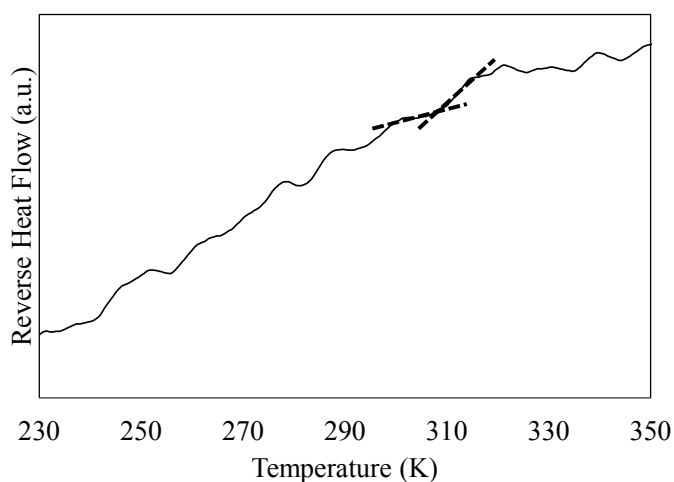


Figure S1: MDSC thermogram of PLGA 50:50 low MW.

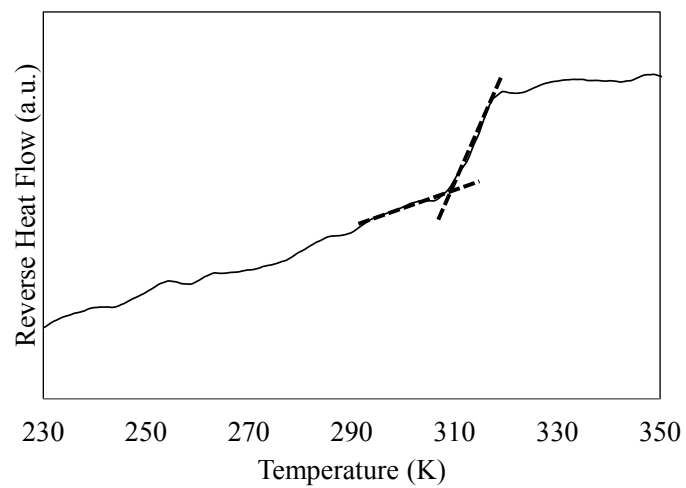


Figure S2: MDSC thermogram of PLGA 50:50 medium MW.

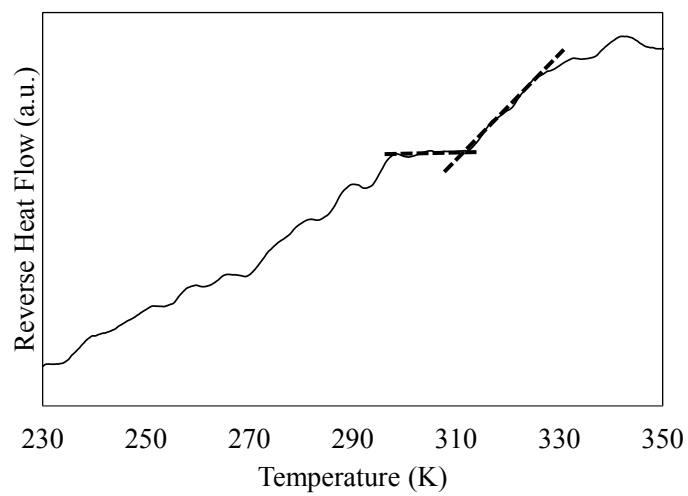


Figure S3: MDSC thermogram of PLGA 50:50 high MW.

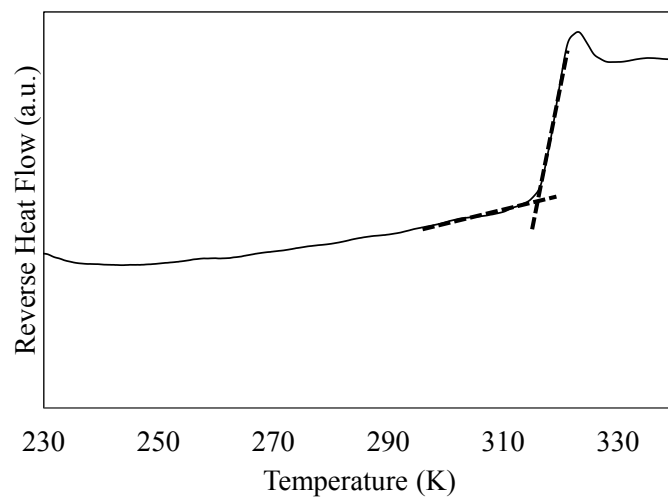


Figure S4: MDSC thermogram of PLGA 75:25 low MW.

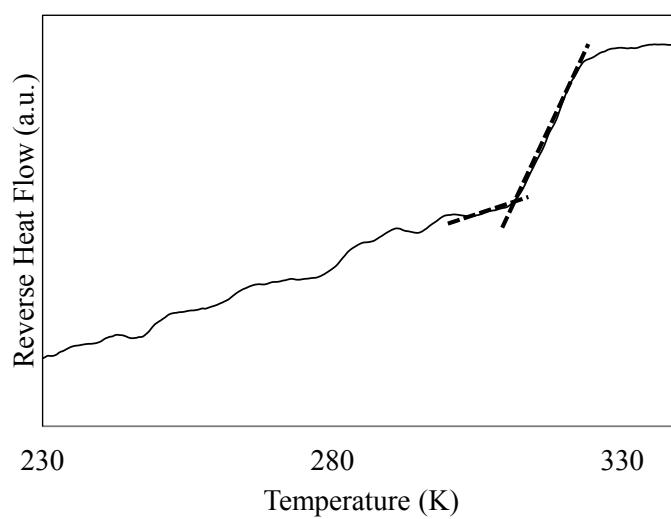


Figure S5: MDSC thermogram of PLGA 75:25 medium MW.

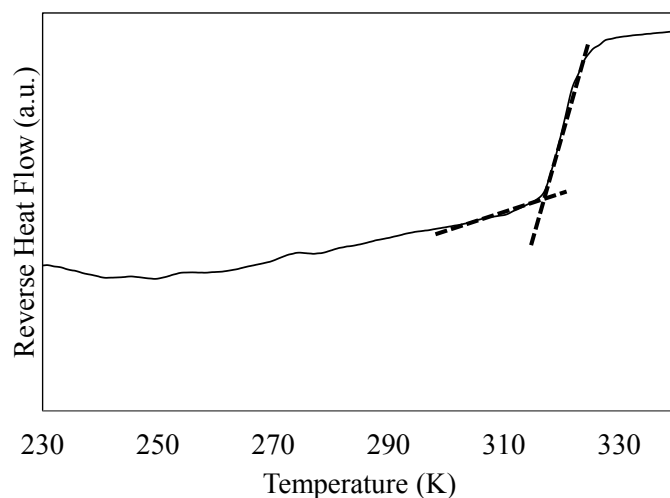


Figure S6: MDSC thermogram of PLGA 75:25 high MW.

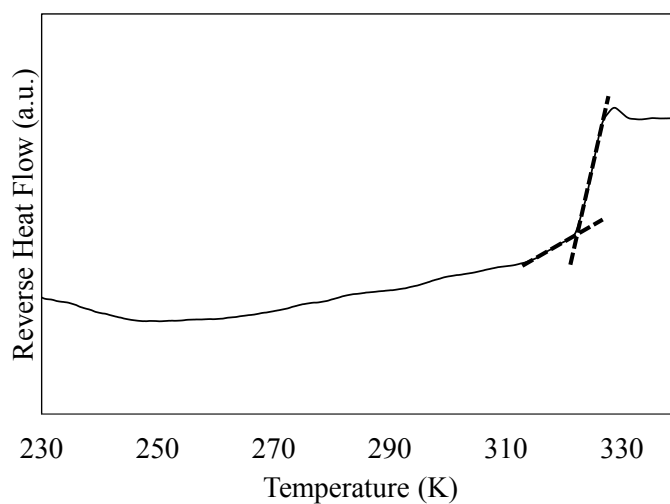


Figure S7: MDSC thermogram of PDLA medium MW.

Terahertz Spectroscopy Data

Absorption coefficient and refractive index spectra of all materials between 0.3 – 2.8 THz, in the temperature range of 90 – 360 K, with 10 K temperature increments between spectra. The absorption coefficient spectra include the upper limit of detectable absorption which is indicated by the black dashed line. Both the absorption spectra and the refractive index spectra are ordered from highest to lowest temperatures, with red lines indicating the high temperatures and blue lines indicating the low temperatures.

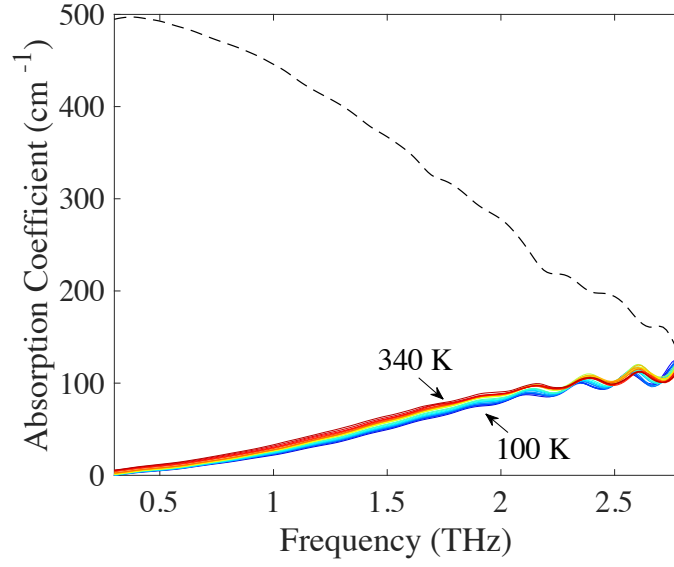


Figure S8: Terahertz absorption spectra of a low MW PLGA 50:50 sample ($326\ \mu\text{m}$) over $0.3 - 2.8\ \text{THz}$ in the temperature range of $100 - 340\ \text{K}$.

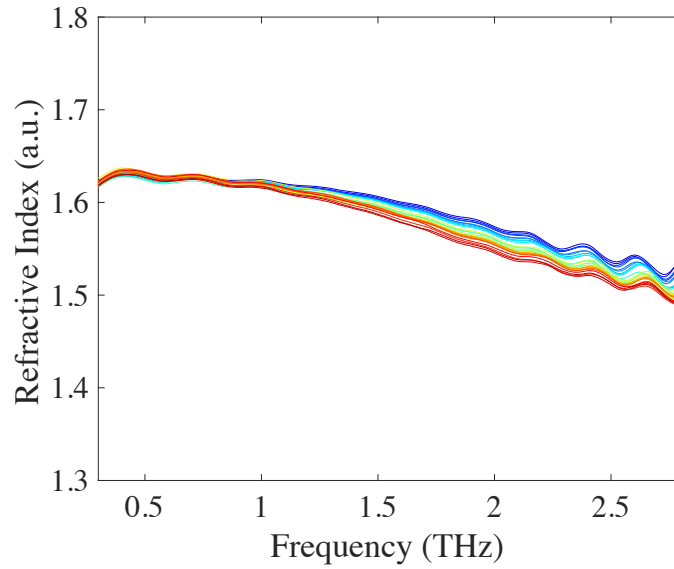


Figure S9: Refractive index spectra of a low MW PLGA 50:50 sample ($326\ \mu\text{m}$) over $0.3 - 2.8\ \text{THz}$ in the temperature range of $100 - 340\ \text{K}$.

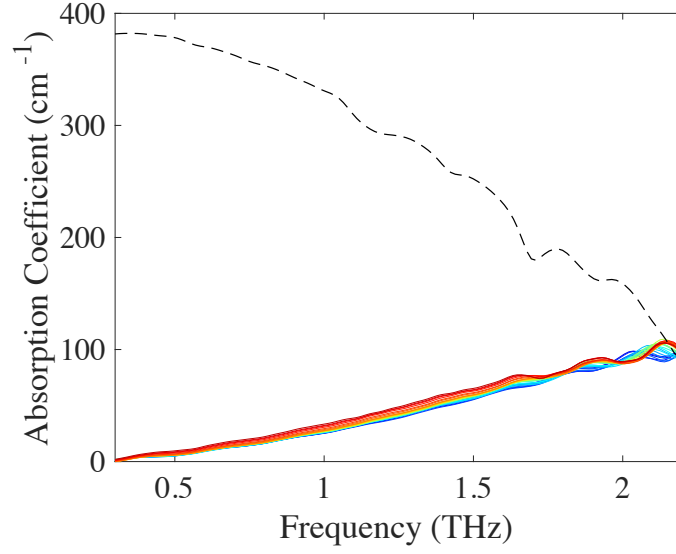


Figure S10: Terahertz absorption spectra of a medium MW PLGA 50:50 (sample 391 μm) over 0.3 – 2.2 THz in the temperature range of 90 – 360 K.

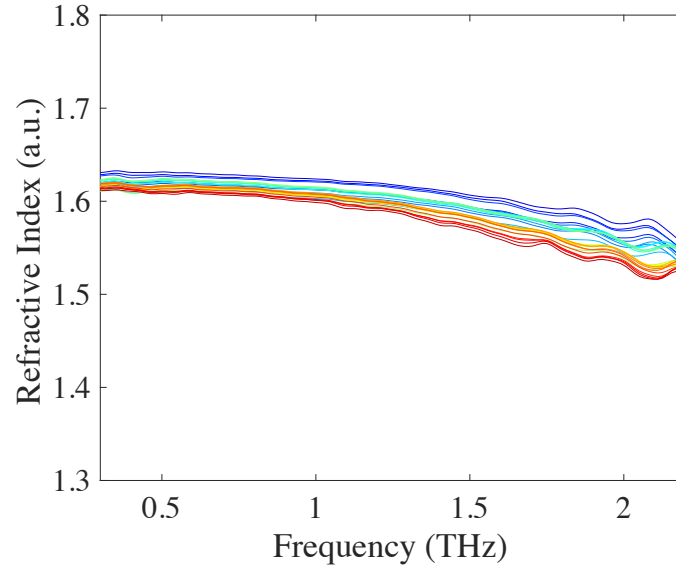


Figure S11: Refractive index spectra of a medium MW PLGA 50:50 (sample 391 μm) over 0.3 – 2.2 THz in the temperature range of 90 – 360 K.

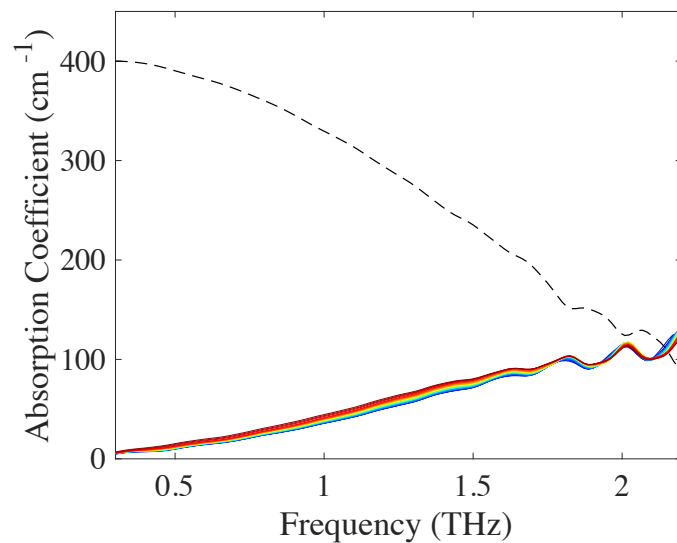


Figure S12: Terahertz absorption spectra of a high MW PLGA 50:50 sample ($399\ \mu\text{m}$) over $0.3 - 2.2\ \text{THz}$ in the temperature range of $90 - 350\ \text{K}$.

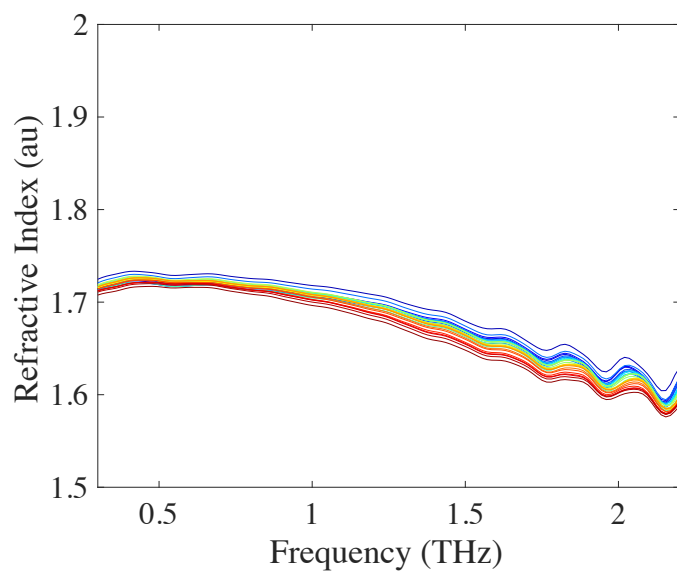


Figure S13: Refractive index spectra of a high MW PLGA 50:50 sample ($399\ \mu\text{m}$) over $0.3 - 2.2\ \text{THz}$ in the temperature range of $90 - 350\ \text{K}$.

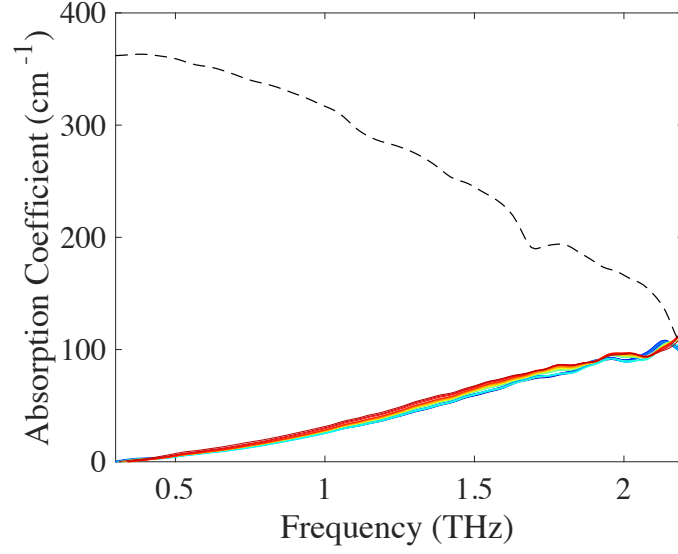


Figure S14: Terahertz absorption spectra of a low MW PLGA 75:25 sample ($445\ \mu\text{m}$) over $0.3 - 2.2\ \text{THz}$ in the temperature range of $100 - 350\ \text{K}$.

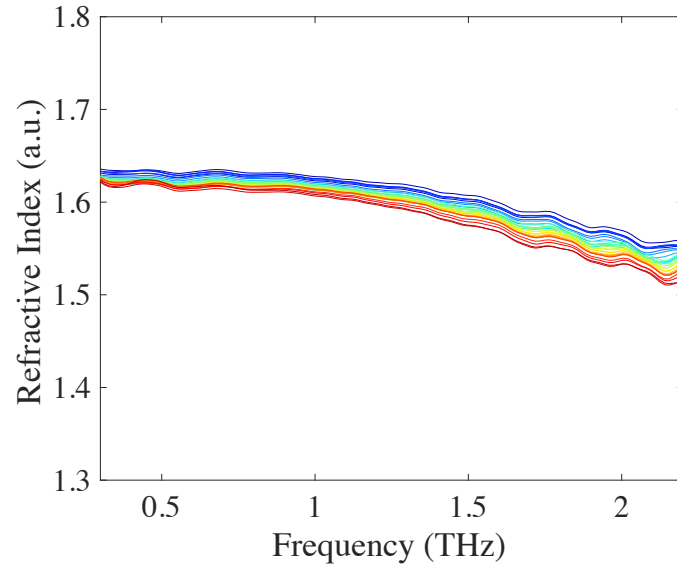


Figure S15: Refractive index spectra of a low MW PLGA 75:25 sample ($445\ \mu\text{m}$) over $0.3 - 2.2\ \text{THz}$ in the temperature range of $100 - 350\ \text{K}$.

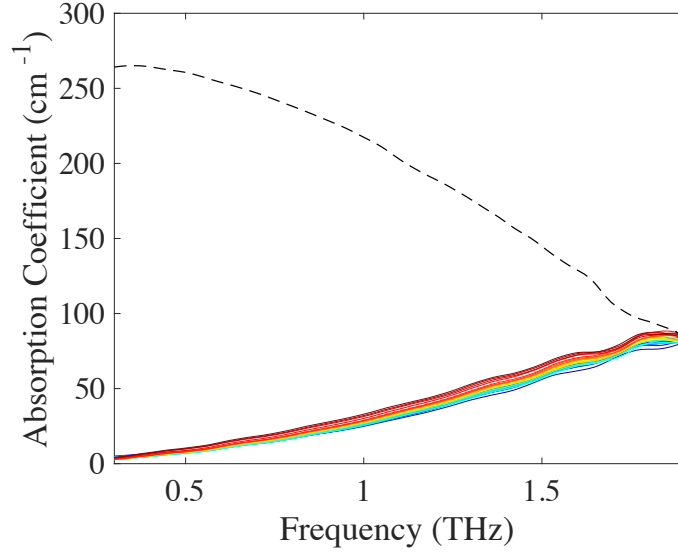


Figure S16: Terahertz absorption spectra of a medium MW PLGA 75:25 sample ($523 \mu\text{m}$) over $0.3 - 1.9$ THz in the temperature range of $90 - 350$ K.

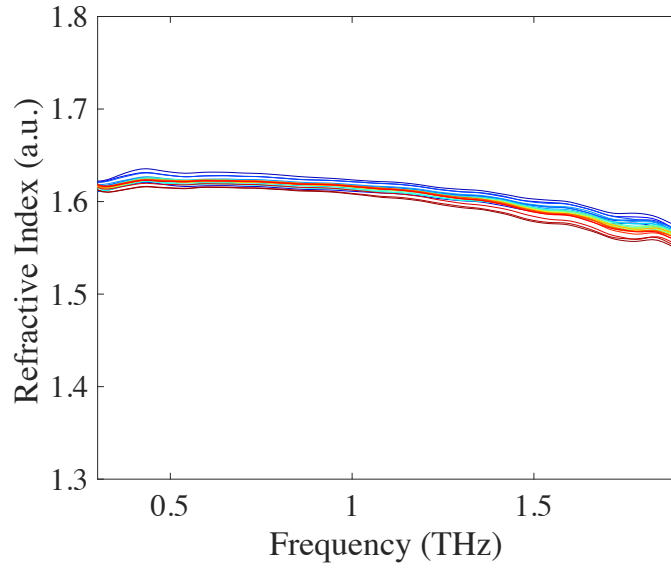


Figure S17: Refractive index spectra of a medium MW PLGA 75:25 sample ($523 \mu\text{m}$) over $0.3 - 1.9$ THz in the temperature range of $90 - 350$ K.

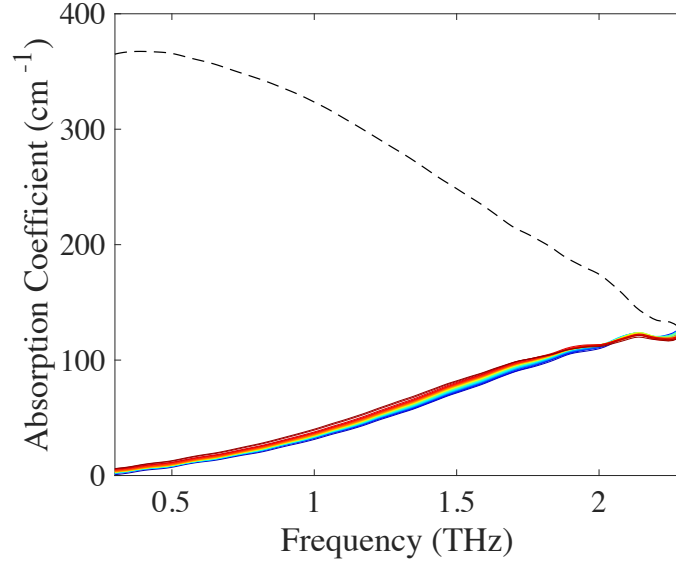


Figure S18: Terahertz absorption spectra of a high MW PLGA 75:25 sample ($464\ \mu\text{m}$) over $0.3 - 2.1\ \text{THz}$ in the temperature range of $90 - 350\ \text{K}$.

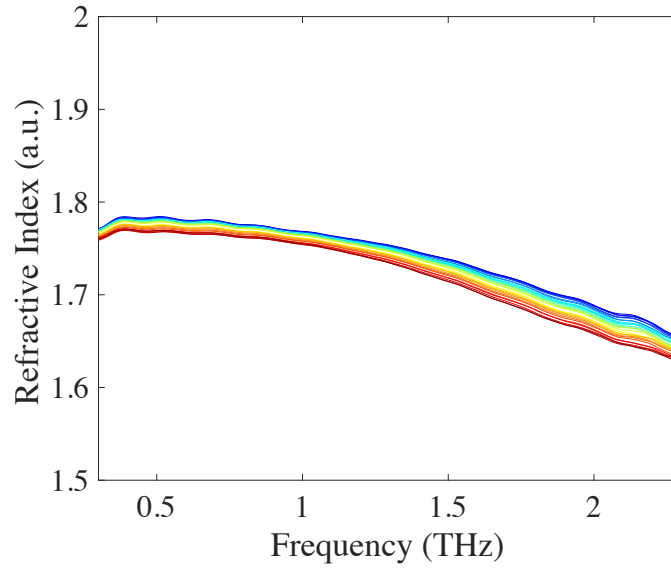


Figure S19: Refractive index spectra of a high MW PLGA 75:25 sample ($464\ \mu\text{m}$) over $0.3 - 2.1\ \text{THz}$ in the temperature range of $90 - 350\ \text{K}$.

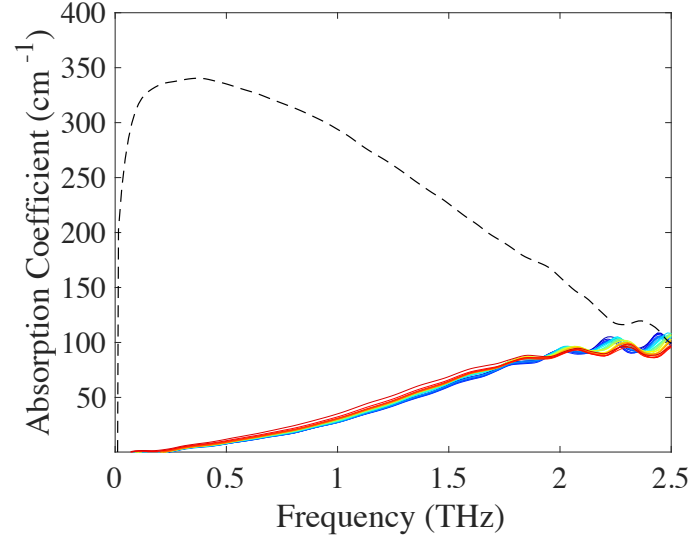


Figure S20: Terahertz absorption spectra of a medium MW PDLLA sample ($471\ \mu\text{m}$) over $0.3 - 2.5\ \text{THz}$ in the temperature range of $100 - 340\ \text{K}$.

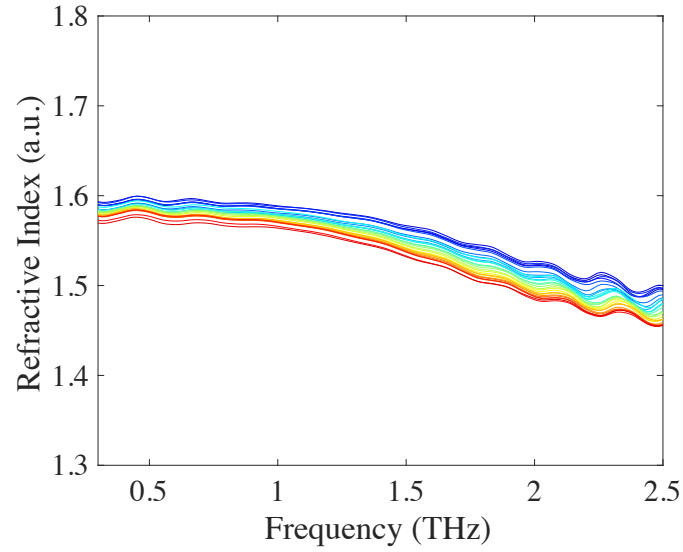


Figure S21: Refractive index spectra of a medium MW PDLLA sample ($471\ \mu\text{m}$) over $0.3 - 2.5\ \text{THz}$ in the temperature range of $100 - 340\ \text{K}$.

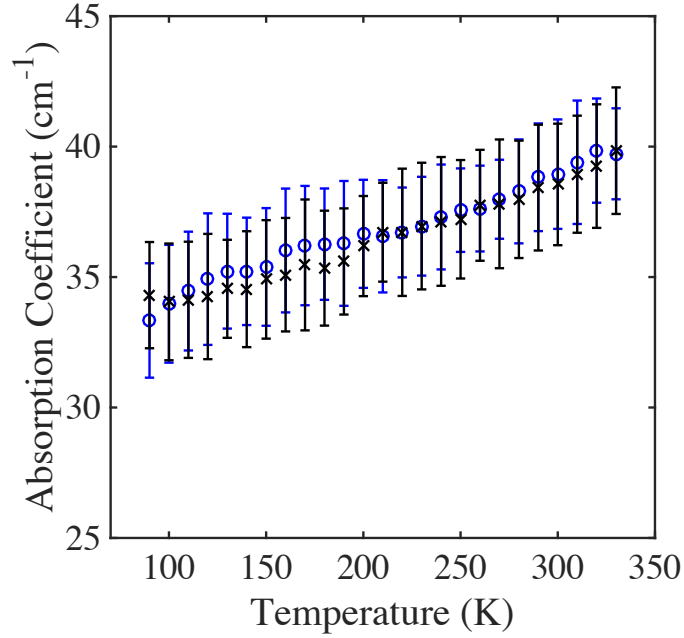


Figure S22: Data at 1 THz, of high MW PLGA 75:25, cooled down from 330 K to 90 K and subsequently heated up from 90 K to 330 K. Blue circle markers represent cooling curve, and black X markers represent heating curve. Error bars represent the standard deviation for $n = 2$ samples.

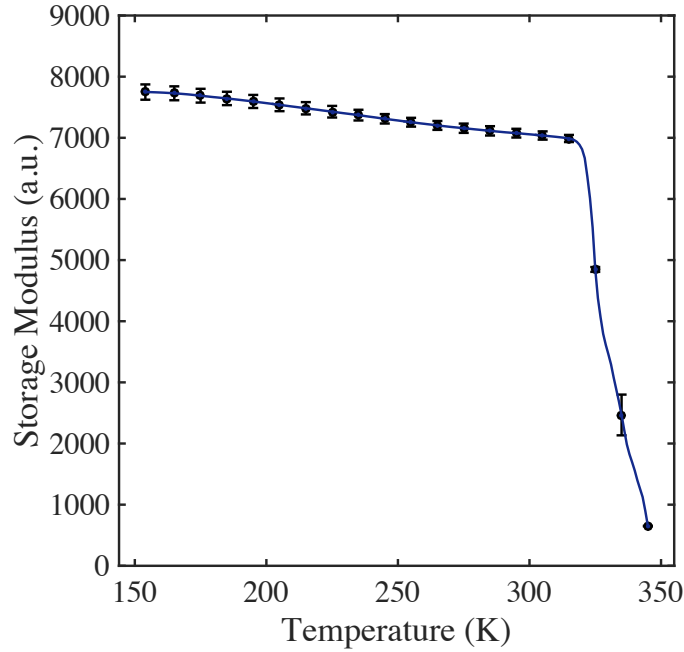


Figure S23: Storage Modulus of medium MW PLGA 50:50. Error bars represent the standard deviation for $n = 2$ samples.

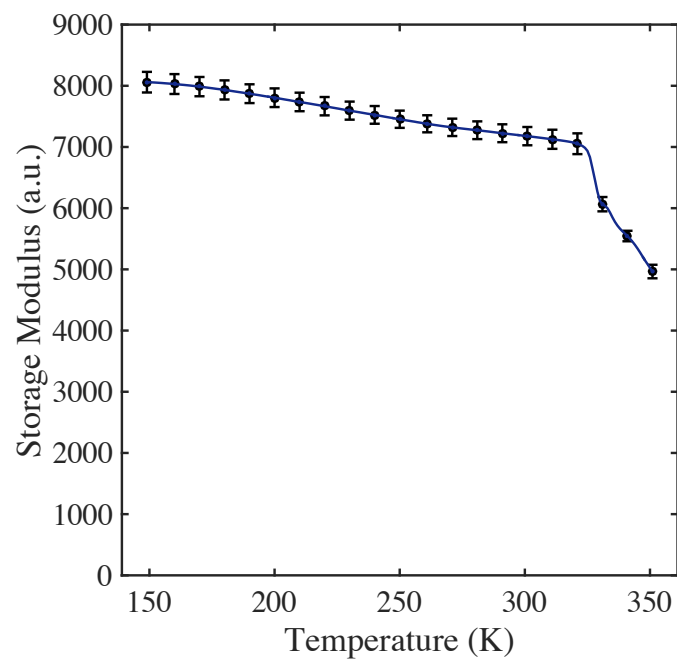


Figure S24: Storage Modulus of high MW PLGA 50:50. Error bars represent the standard deviation for $n = 2$ samples.

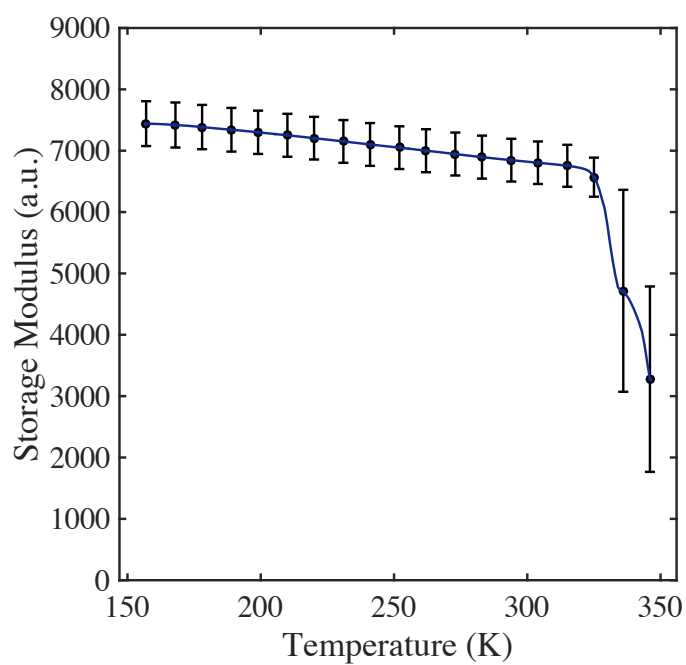


Figure S25: Storage Modulus of low MW PLGA 75:25. Error bars represent the standard deviation for $n = 2$ samples.

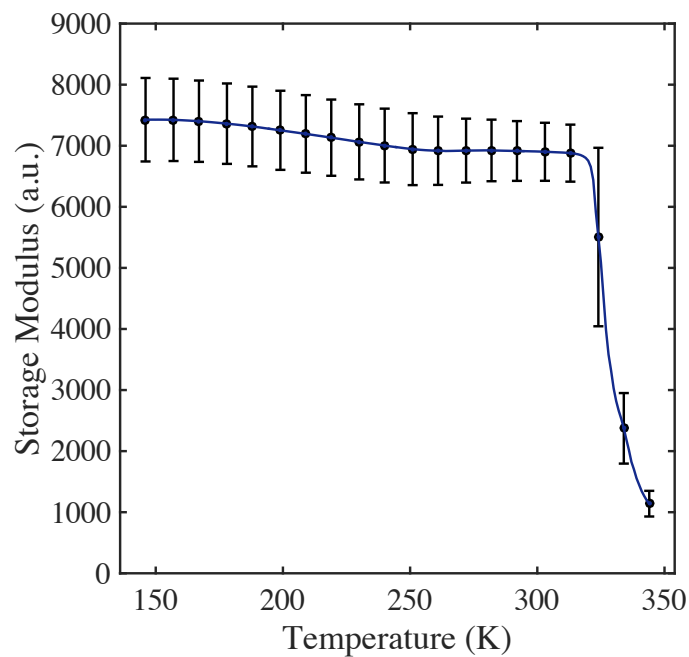


Figure S26: Storage Modulus of medium MW PLGA 75:25. Error bars represent the standard deviation for $n = 2$ samples.

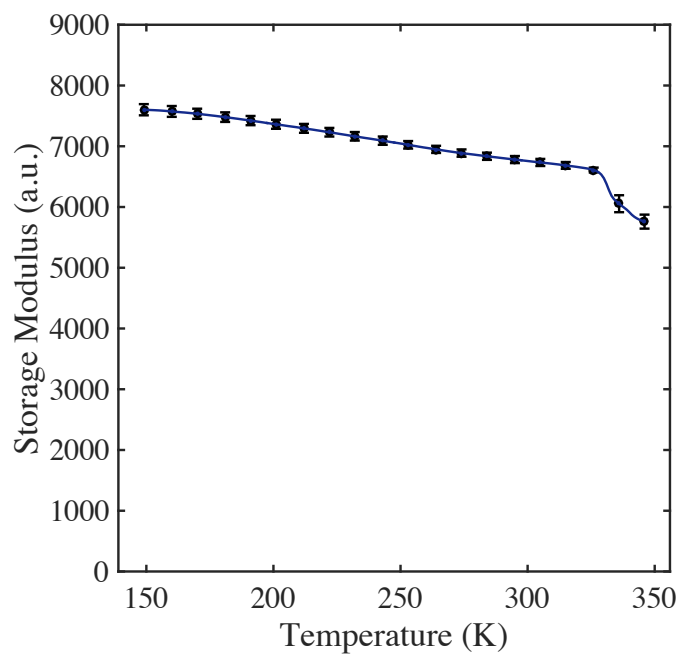


Figure S27: Storage Modulus of high MW PLGA 75:25. Error bars represent the standard deviation for $n = 2$ samples.