# Supplementary Information

## Exploration of polymer calorimetric glass transition phenomenology by two-dimensional correlation analysis

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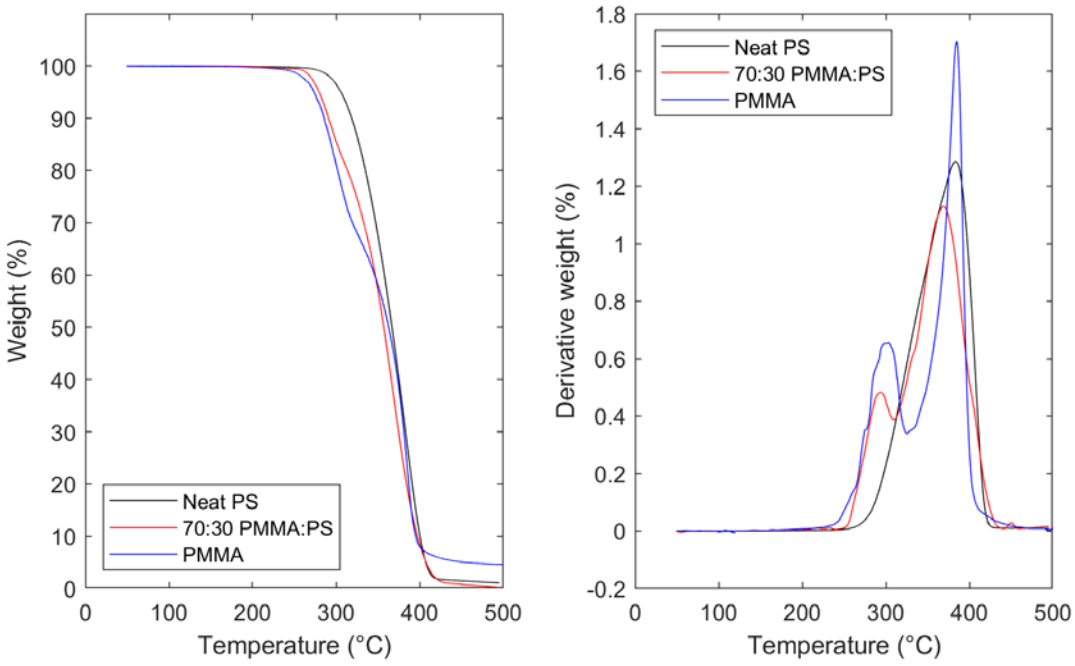


**Figure S1.** TGA thermograms for neat PS, PMMA and PMMA 70:PS 30 blend, showing weight percentage (left) and derivative weight percentage (right) as a function of temperature.

**Figure S2.** Example of sample shape preparation for the DSC experiments.

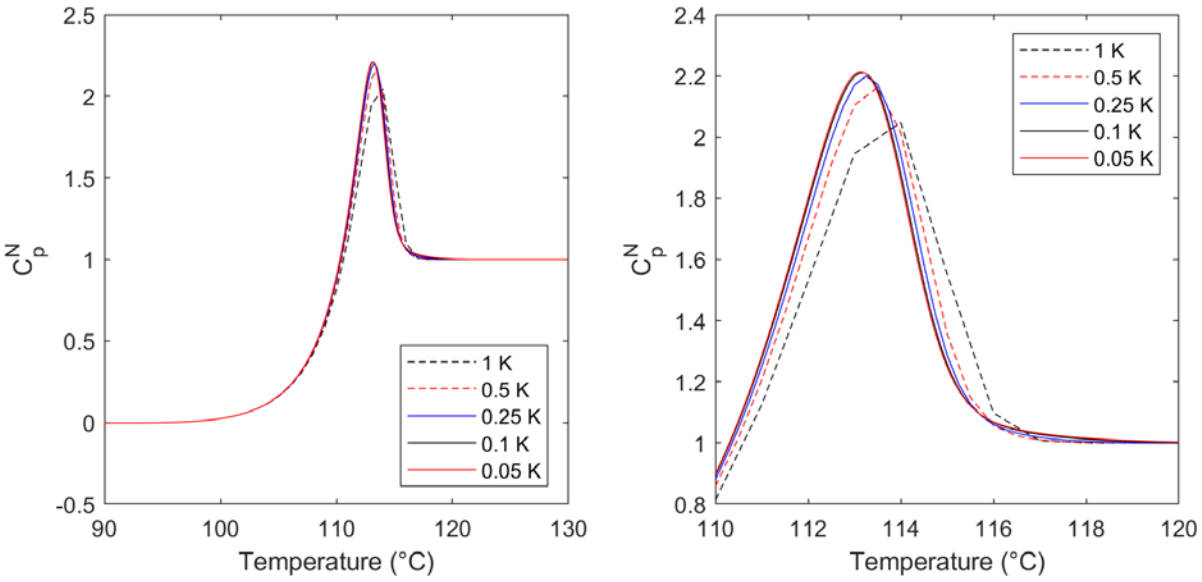


**Figure S3.** Simulated heating thermograms of PS using the TNM model with varied step sizes from 1K to 0.05K (left), as well as a zoomed view (right) to show enthalpic relaxation in greater detail. We can see clearly that a step size of 0.1K is sufficient to eliminate smearing.

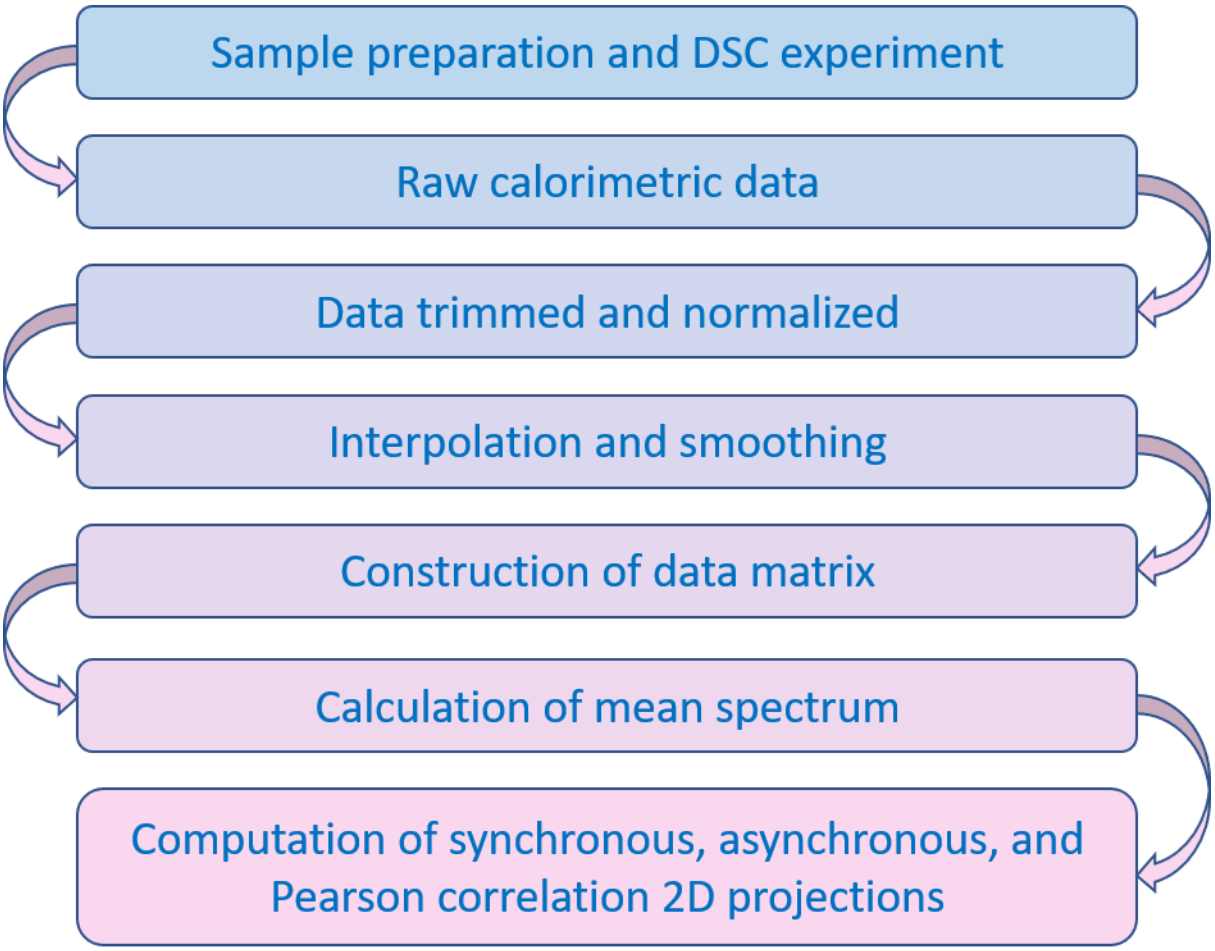


**Figure S4.** Schematic showing the steps taken (in order) for the data collection, pre-treatment, and computation.

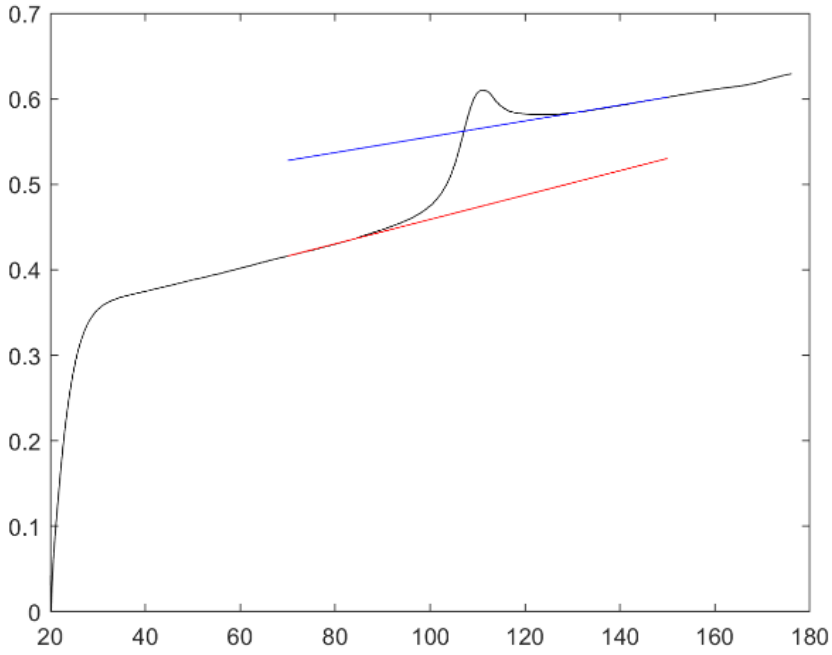


**Figure S5.** Thermogram highlighting the protocol used to trim and normalize heat capacity curves.

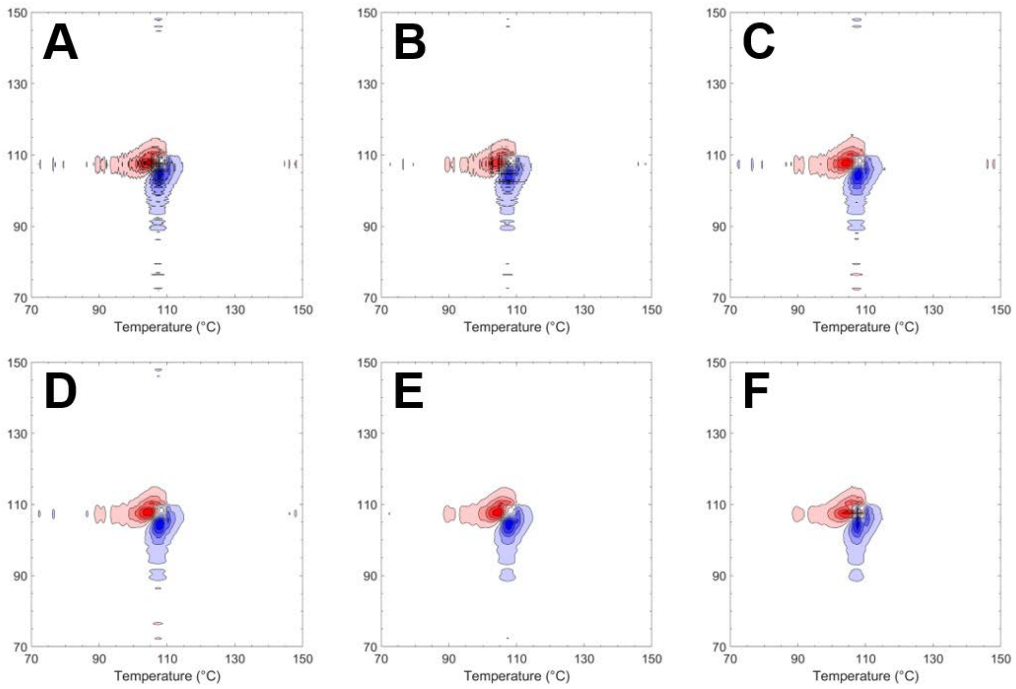


**Figure S6.** Asynchronous 2D correlation spectra of neat PS with varying LOESS filter windows of a) no filter (b) 25 (c) 50 (d) 100 (e) 150 and (f) 200.

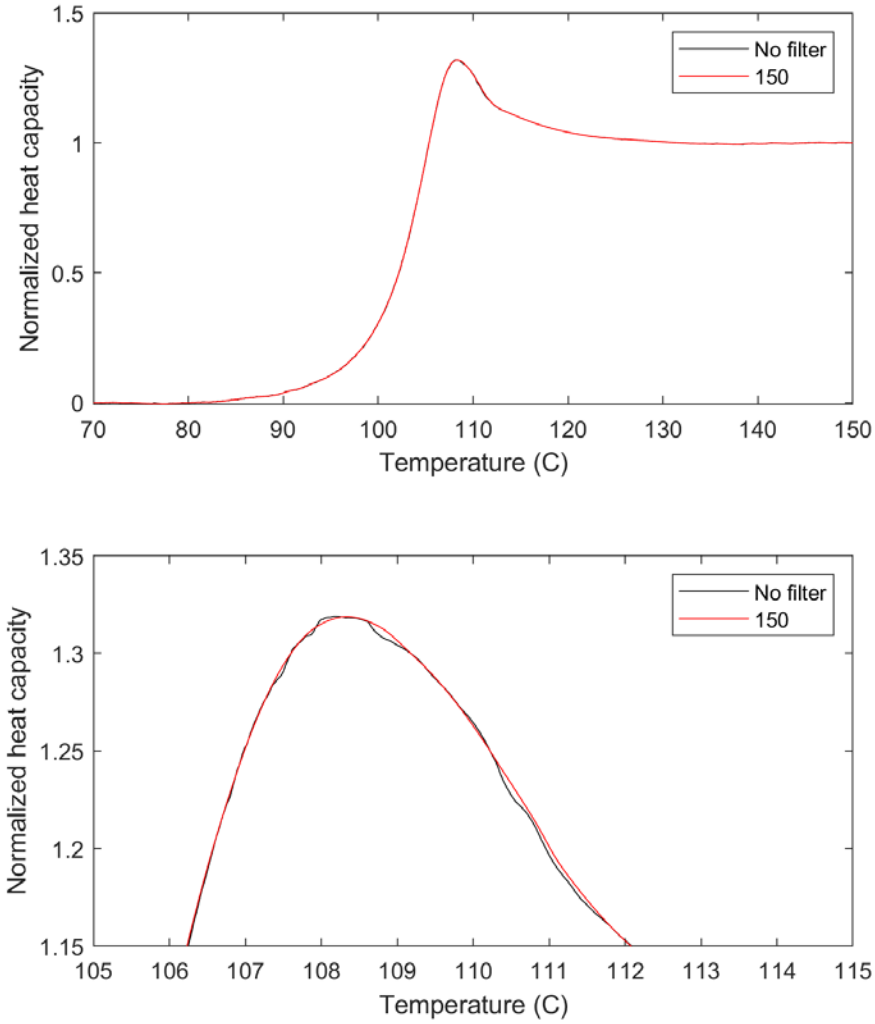


**Figure S7.** Heating curves of neat PS with q+=q- = 20K/min, highlighting the amount of noise before and after applying a LOESS filter with a window of 150 points. The top image shows the noise reduction across the entire data range, while the bottom zooms in on the enthalpy recovery peak to highlight the amount of noise reduction achieved with the filter.

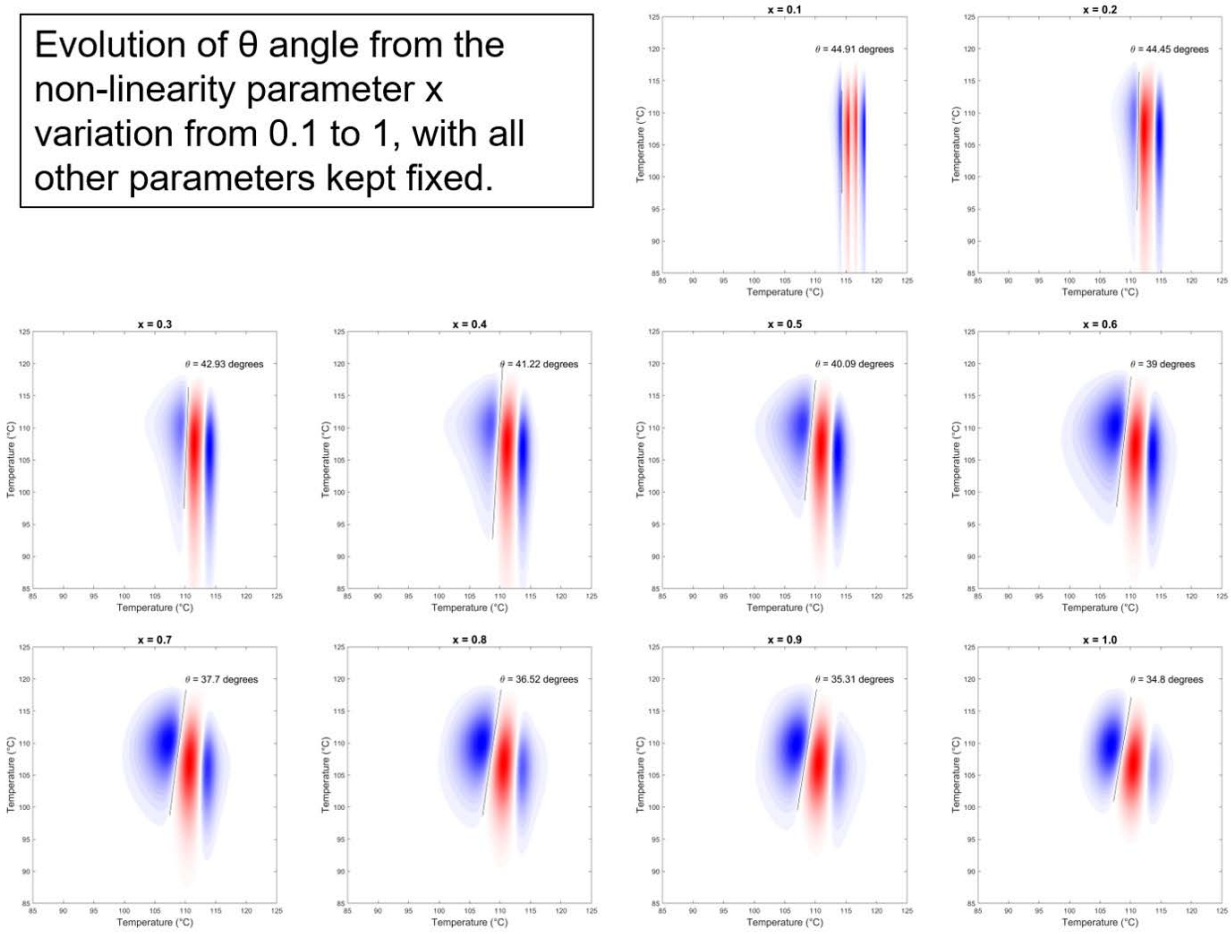


**Figure S8.** Details of the theta angle measure from the **Figure 3**.

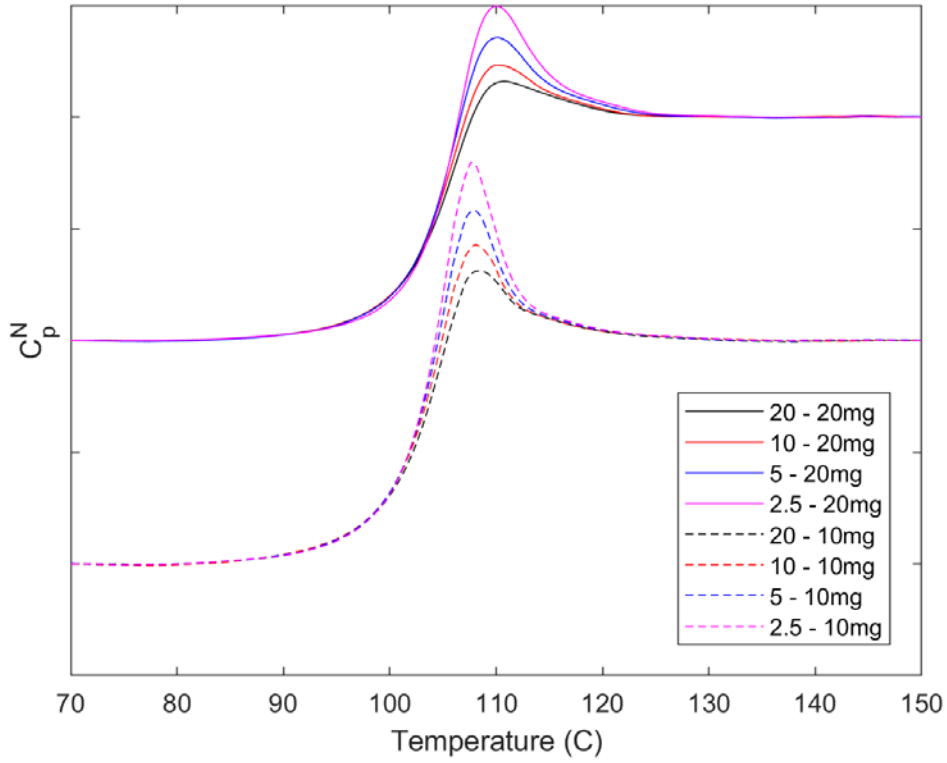


**Figure S9.** Comparison of thermograms of different sample weights for PS. 2.5; 5; 10 and 20 represents the cooling rates, while the heating rate is the same for all with 20 K/min. Solid lines show the response of the 20mg sample, while dotted lines show the 10mg sample.