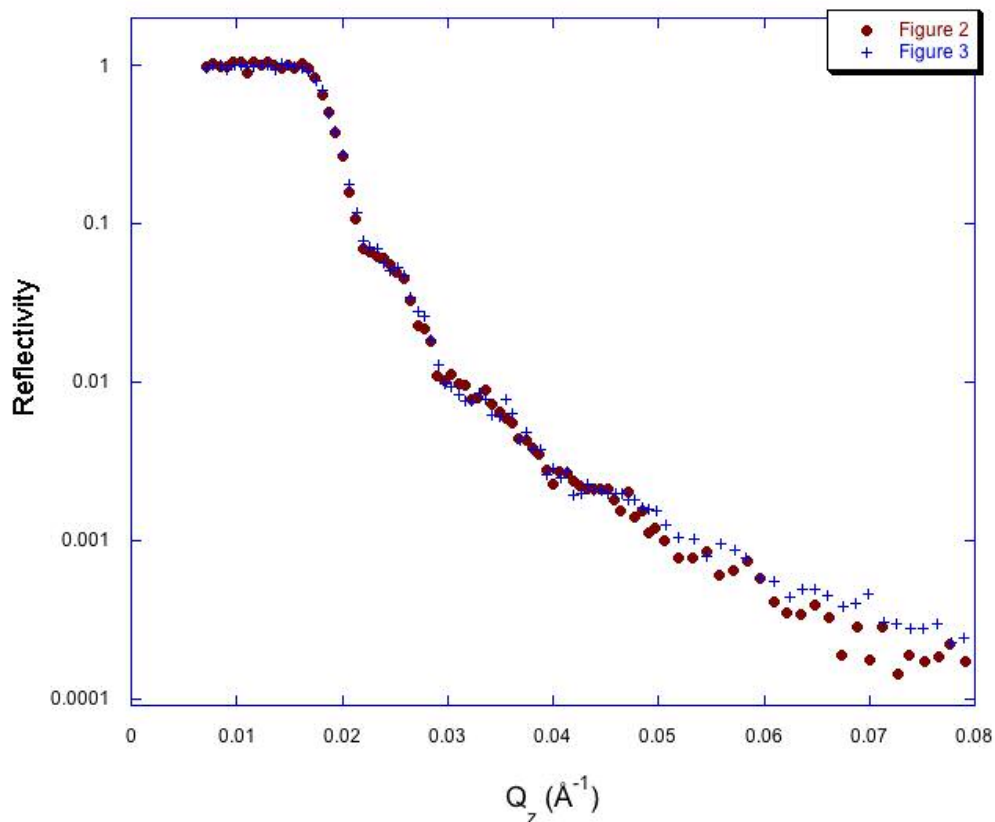


Supplemental information

On first glance, the difference between the experimental data points in Figures 2 and 3 of the manuscript may not be obvious, and thus we would like to re-present the data to exemplify this difference. In the figure below, the experimental data that is presented in Figures 2 and 3 are presented in a single plot to accentuate the difference between the two data sets. In particular, the difference in the reflectivity curves in the region between $0.02 \text{ \AA}^{-1} < Q_z < 0.05 \text{ \AA}^{-1}$ is readily observed, which documents the correlations in the scattering length density on length scales that range from $100 < d < 300 \text{ \AA}$. As this is the length scale of the interfacial width (as shown in Figure 4) that is modified by the copolymer, this variation is a direct result of the aggregation of the copolymer to the interface. Additionally, the increase in reflectivity at high Q_z in the longer annealed samples (Figure 3) is a signature of decreased interfacial sharpness in a sample, which is also a result of the increasing amount of copolymer at the interface. Thus it is clear that the segregation of the copolymer to the PS/PMMA interface measurably, and logically, alters the reflectivity profile, which can then be analyzed to extract information on the change in scattering length density profile of the thin bilayer as a function of annealing time.



As additional evidence of the difference in the data sets in Figures 2 and 3, the data from Figure 2 and the fit from Figure 3, as well as the data from Figure 3 with the fit from Figure 2 are shown in the figures below with the χ values of these “fits”. For comparison, the fits presented in Figures 2 and 3 have χ values of 1.95 and 1.90, respectively. Clearly, the fit at high q for both of these data sets is poor, where the 420 minute fit does not capture the oscillatory structure that is present in the 45 min data. Similarly, the 45 min fit consistently underestimates the reflectivity of the 450 min data, further demonstrating the difference in these two data sets.

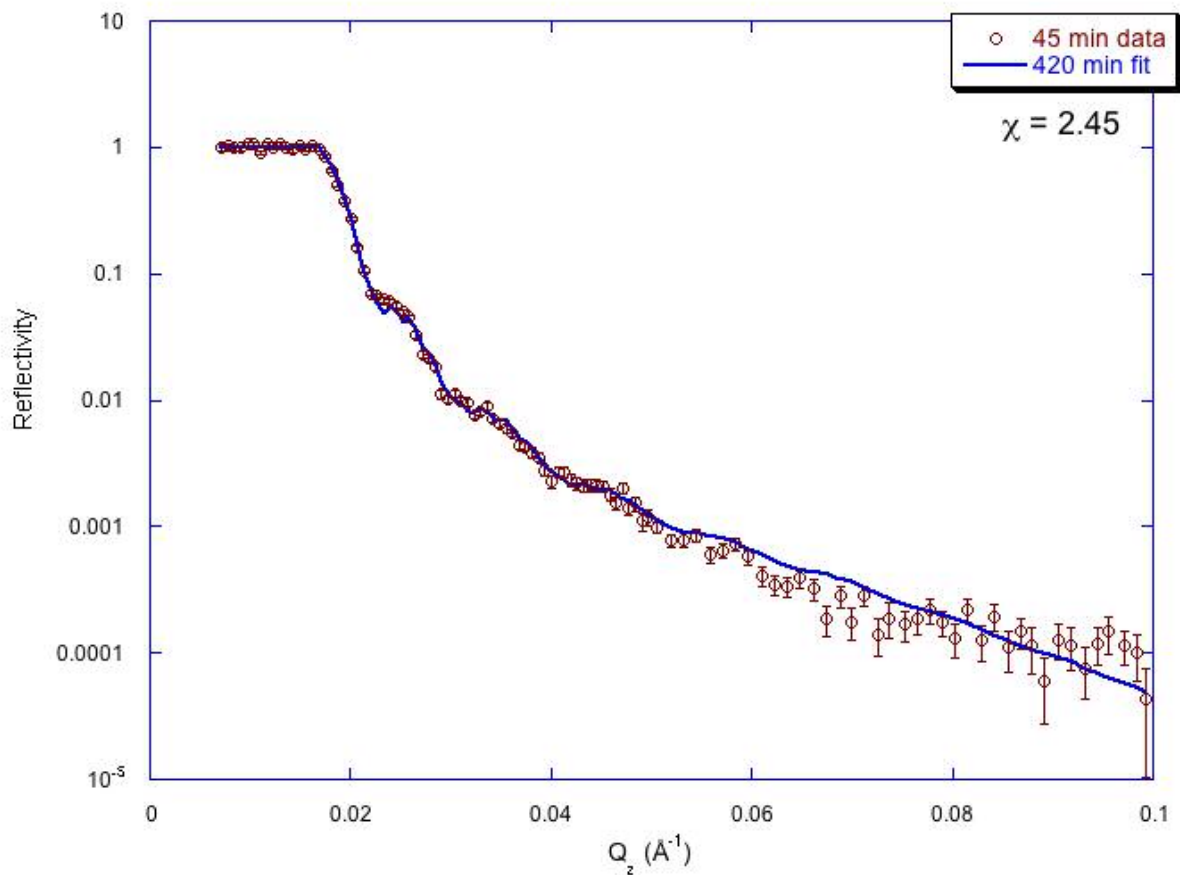


Figure 2 with fit to Figure 3

Figure 3 with fit to Figure 2

