



**Supplementary Figure 1. Stability of the structural parameters retrieved from the analysis of the SAXS data.** The changes in the protein radius of gyration ( $\Delta R_g$ ) and volume ( $\Delta V_p$ ) obtained with three different data reduction and analyses runs using the entire dataset (left panel, identical to Figure 3 of the main text), the first half dataset (middle panel) and the second half dataset (right panel) are compared. Despite minor discrepancies in the tail of the signal (at times longer than 6 ps) the above plots show that the main trend in the time evolution of both  $\Delta R_g$  and  $\Delta V_p$  is observed independently of the particular dataset chosen.

**Supplementary Table 1. Physical parameters used for the elastic sphere model calculations.**

<b>Parameter</b>	<b>Value</b>
R	22 Å
$v_l$	2000 m s <sup>-1</sup>
$v_t$	1000 m s <sup>-1</sup>
$d_p$	1370 kg m <sup>-3</sup>
$v_m$	1483 m s <sup>-1</sup>
$d_m$	1000 kg m <sup>-3</sup>