# A Taylor Dispersion Analysis method for the sizing of therapeutic proteins and their aggregates using nanolitre sample quantities

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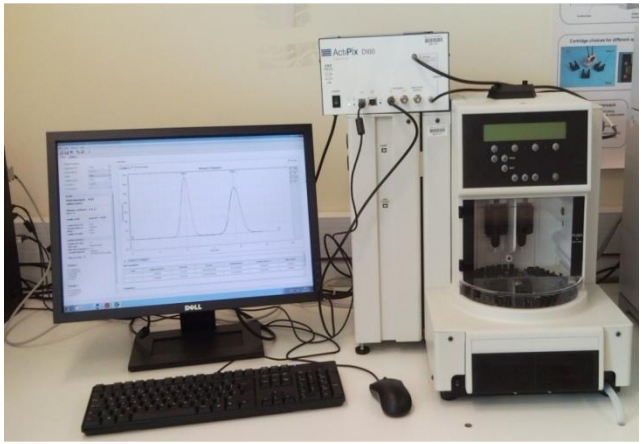
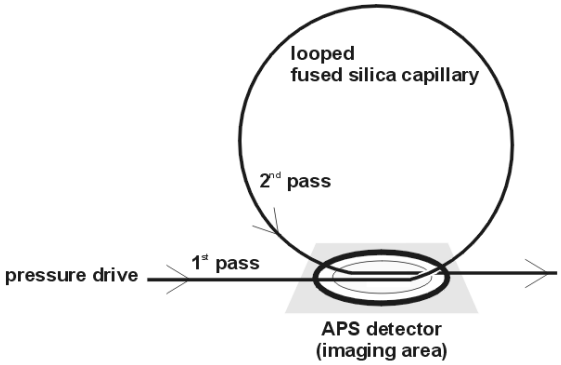
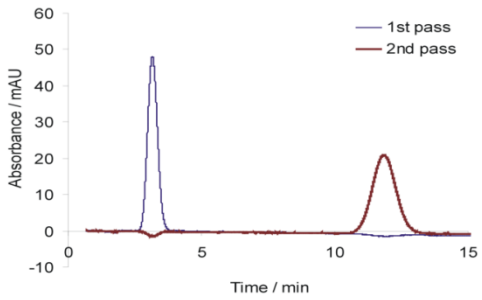
Taylor dispersion analysis was performed using a TDA200 UV imaging system to measure the hydrodynamic radius of a range of native and aggregated BSA species.



TDA200 instrumentation




The sample band is imaged at two points, the first on entry to and the second on exit from a loop in the capillary. The hydrodynamic radius is calculated from the measured differences between peak times (first moments) and variances (second moments) at the two windows. This is applicable to proteins, small molecules and aggregates.

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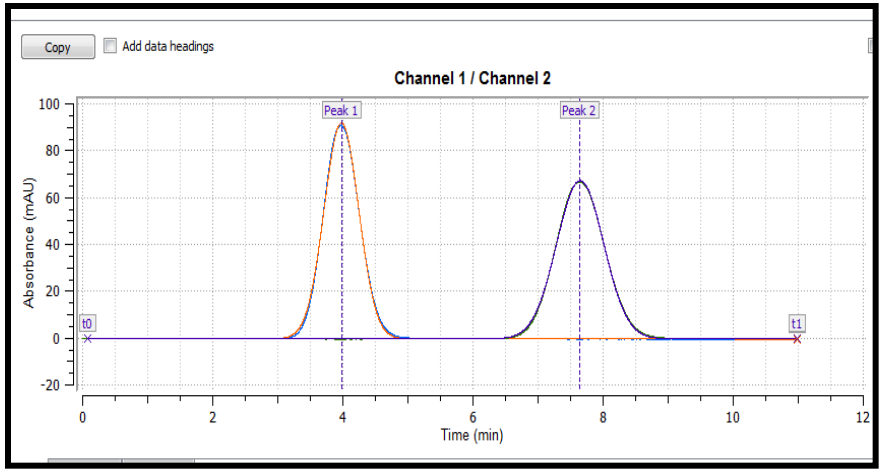
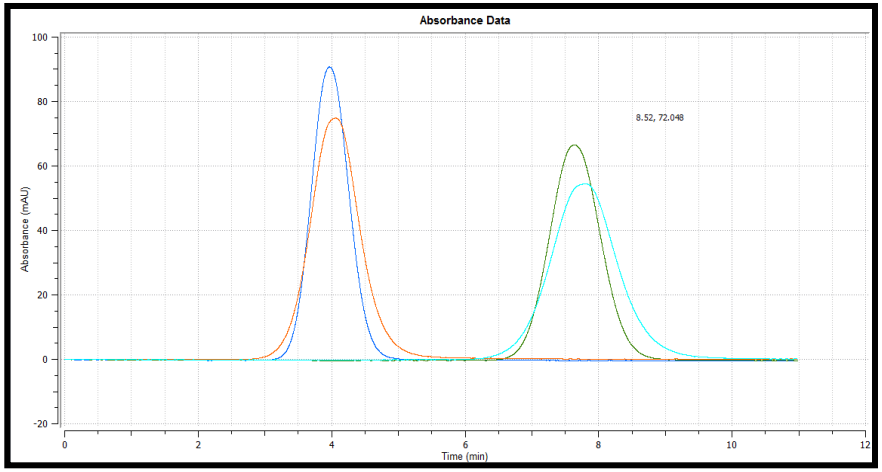
# An insight into the reversibility of protein aggregation over time was gained by Taylor Dispersion Analysis




**TDA analysis of BSA (10mg/ml) including peak fitting trace to show accuracy of fitting function in software.**




**TDA analysis overlay of BSA (10mg/ml) and heat shocked BSA. Aggregated material analysis trace is lower in intensity at both windows.**

A high level of reproducibility was obtained with TDA shown by low RSD values (less than 1% in all cases). TDA analysis indicated that the heat shocked BSA reverted to contain more of its monomeric form on storage for one week.