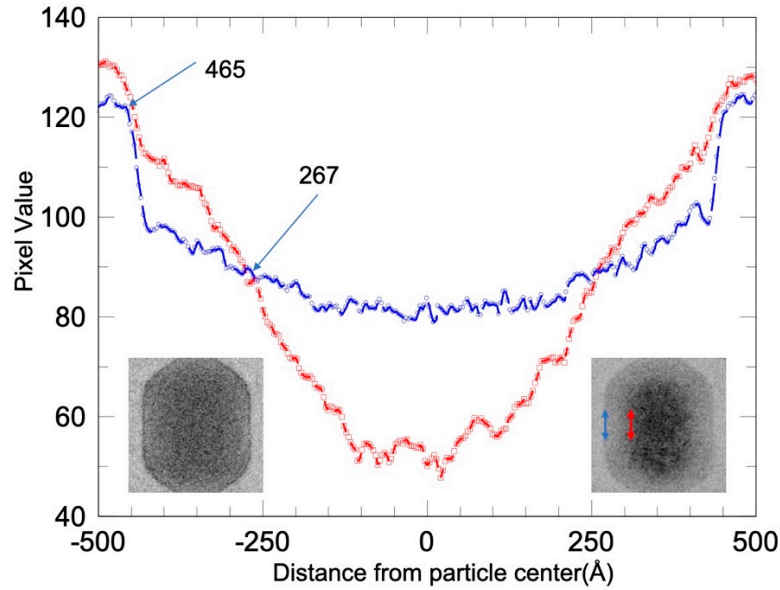


Supplementary Figure S1



“Variation images” and average transverse density profiles for 1st exposure (low dose) and 9th exposure (typical bubbling dose) of T4 heads calculated from a data set of 200 particles (1st exposure – particle on left-hand side and blue curve) and 9th exposure (particle on right hand side and red curve). (A variation image is defined as the standard deviations of the image densities on a pixel-by-pixel basis). The density profiles were obtained by averaging over the Y-axis range defined by the red and blue double-headed arrows and were plotted, using Easyplot. The gray-scale images, shown for illustrative purposes, are on a different length scale from the profiles. The crossing points of the red and blue curves on either side of the particle are related to the inner and outer edges of the exclusion zone. They cover the distance range from 267Å to 465Å. More than 465Å away from the particle center, the curves are flat because they both come from background noise external to the particles. The crossing of the two curves at distance 267Å (left side marked as negative, right side marked as positive, simply for distinguishing them), is taken to mark the onset of bubbling.