Supporting information

Early SDS induced collapse of α-synuclein correlates with its amyloid formation

Sujit Basak[£], *G.V.R Krishna Prasad*[!], *Jobin Varkey*[$], *& Krishnananda. Chattopadhyay*[£,*]

[£]Protein Folding and Dynamics Laboratory

Structural Biology and Bioinformatics Division

CSIR-Indian Institute of Chemical Biology (IICB)

4, Raja S.C. Mullick Road, Kolkata-700032, INDIA

[!]Department of biological sciences

Indian institute of science education and research

Sec 81, SAS nagar, Mohali

Punjab- 140306

[$]Centre for Converging Technologies

University of Rajasthan, Jaipur-3002004

Corresponding Author

krish@iicb.res.in

Figure 1S:

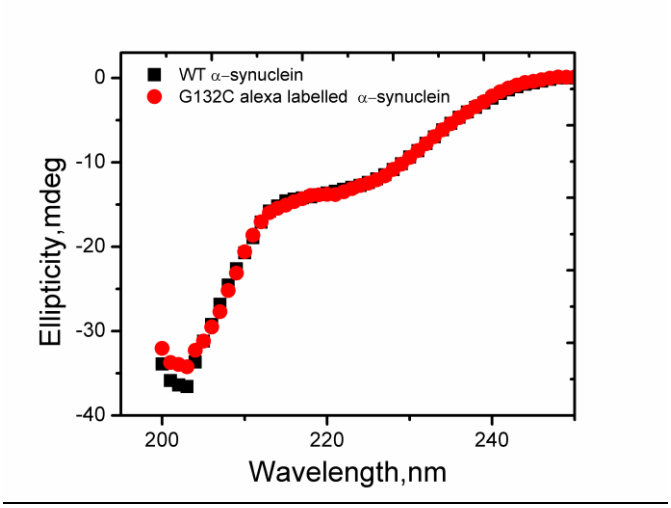

Figure 1S: Far UV CD spectra of WT- type (Black) and Alexa488 labeled A-syn (red) in 20 mM NaH_2PO_4 buffer, pH 7.4.

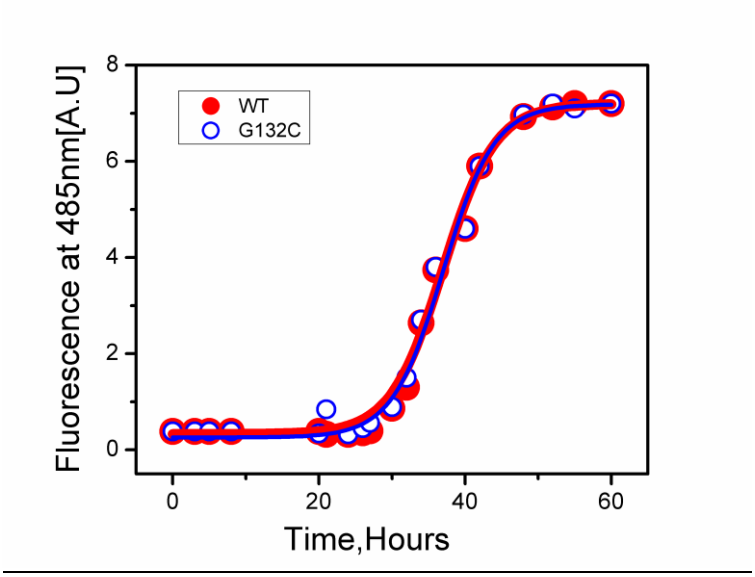

Figure 2S: Aggregation kinetics of WT and G132C mutant of A-syn using ThT binding fluorescence indicating the identical aggregation behavior of these two proteins.

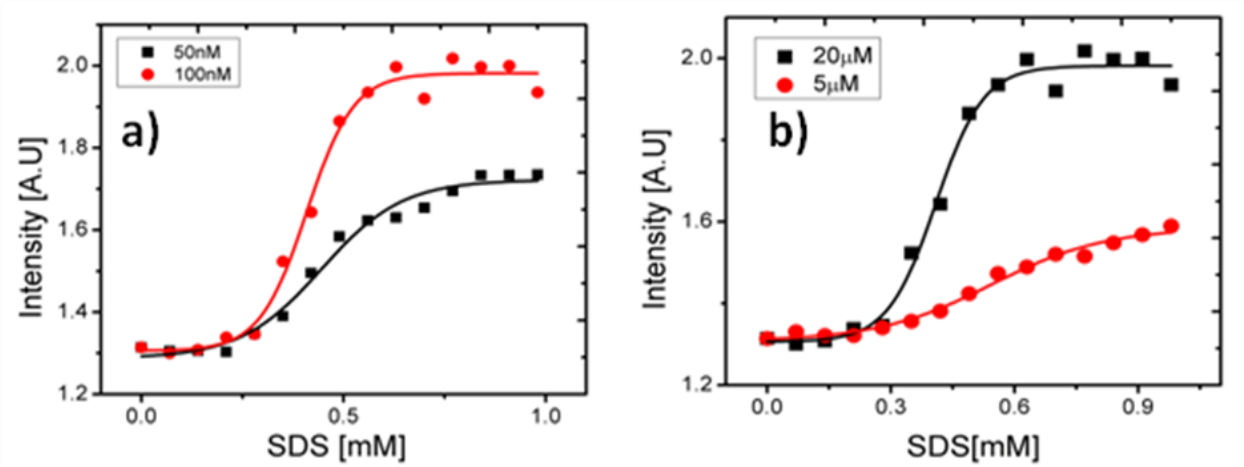

Figure 3S: Dependence of FRET data on the concentration of (a) labeled and (b) unlabeled A-syn. The concentration of the unlabeled protein in figure (a) is 20μM. The concentration of the labeled protein in figure (b) is 100nM.

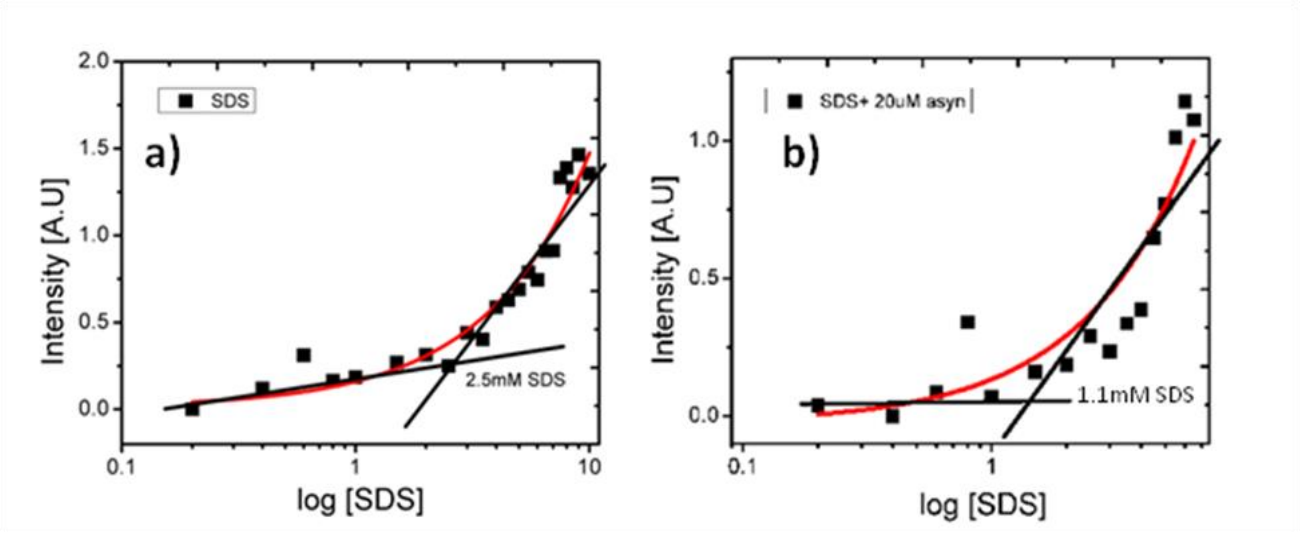

Figure 4S: Determination of CMC of SDS in the absence (a) and presence of A-syn (b) as determined by fluorescence light scattering measurements.

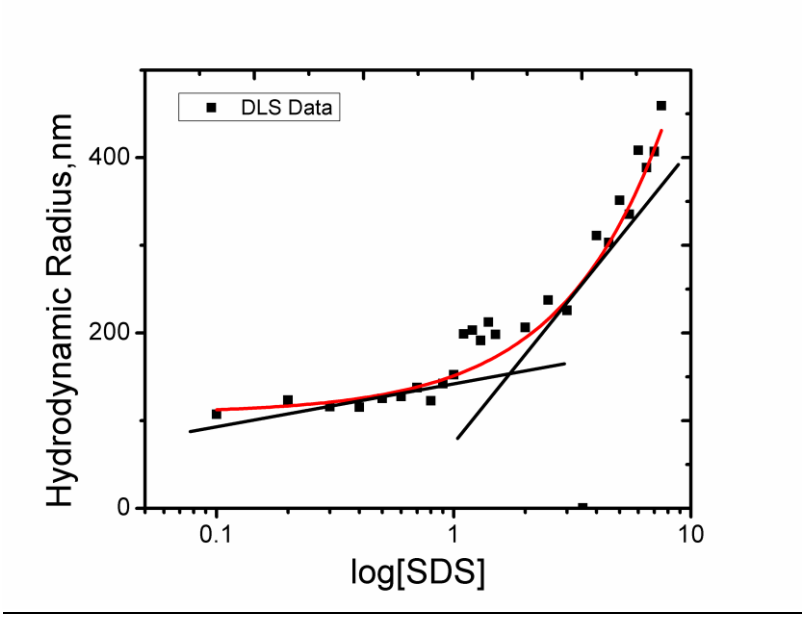

Figure 5S: Determination of the cmc of SDS in the presence of 20μM A-syn using the dynamic light scattering measurements.

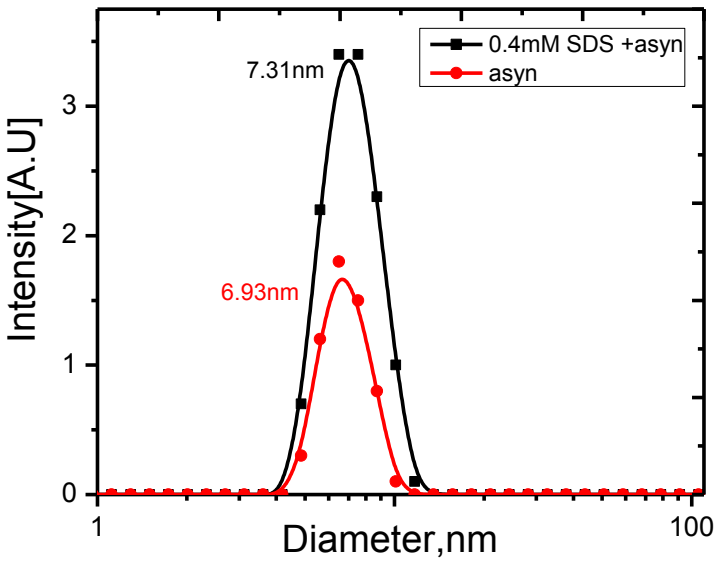

Figure 6S: Dynamic scattering data obtained with A-syn in the absence (red) and presence of 0.4mM SDS (black). The relatively modest change in hydrodynamic diameter rules out any multimer formation.

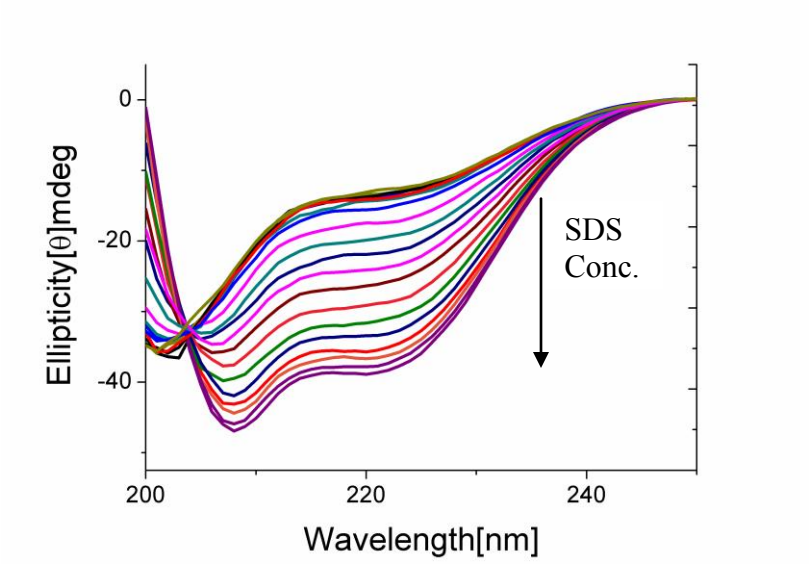

Figure 7S: Far UV CD spectra of A-syn in the absence and presence of different concentrations of SDS. The data show the transition from the natively unfolded to the alpha helical conformation.

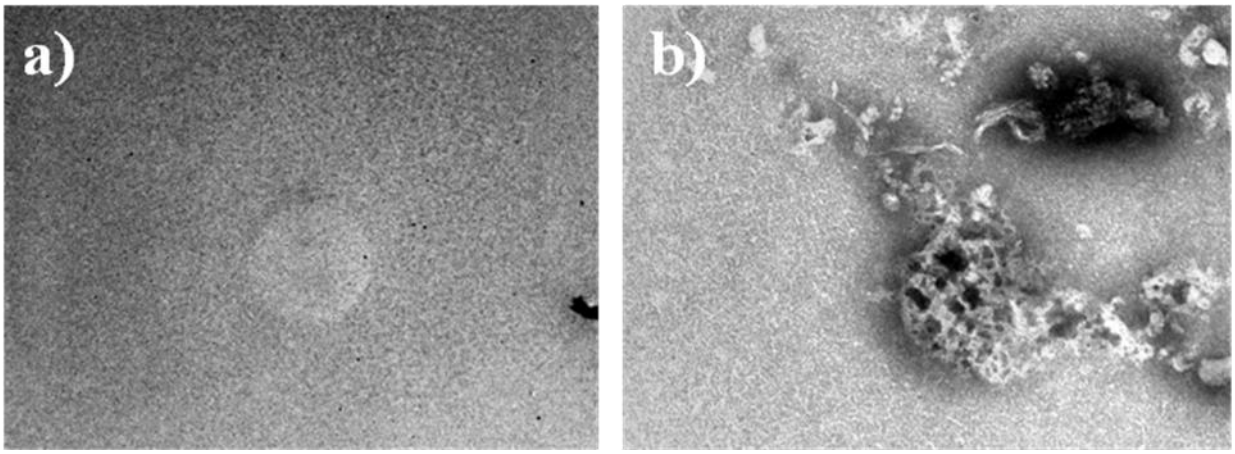

Figure 8S: TEM image of 20μM of alpha synuclein incubated in (a) 0.1mM and (b) 1mM SDS solution with constant shaking for 2 hours. No aggregation was observed in the presence of 0.1mM SDS. In contrast, the presence of protein aggregates was detected in the presence of 1mM SDS concentration.

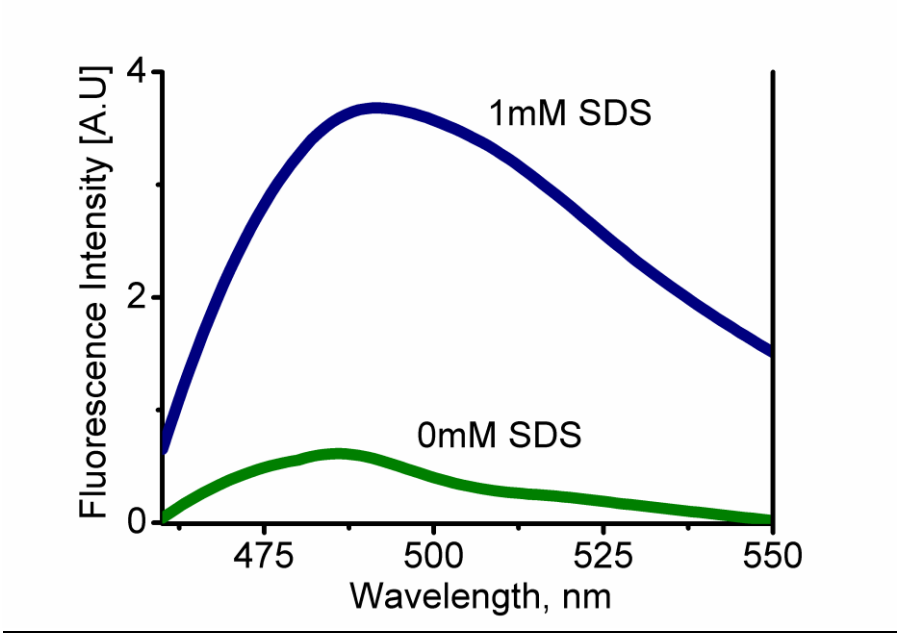

Figure 9S: Fluorescence enhancement due to ThT binding of A-syn in absence (green) and presence of 1mM SDS (blue).