

# Modeling the DSC profile of Irreversible thermal denaturation of proteins undergoing aggregation

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Some proteins are the cause of fatal diseases in human being and animals. These diseases arise when a misfolded form of a protein appears and forms aggregates. Aggregates of the misfolded form may convert the normally folded protein to its misfolded state and hence promote the aggregation. A model has been proposed in which a misfolded protein triggers misfolding of other proteins and aggregation. The equation describing the heat capacity on temperature has been formulated and the theoretical DSC profiles were plotted. The effects of different variables on theoretical profile and cases in which aggregated protein profile resembles reversible unfolding will be discussed.