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The effect of protein unfolding on fluorescence properties of Ly-AuNCs

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Misfolded protein can lead to Amyloids which related to many diseases such as Alzheimer's, Parkinson's, Huntington's. Therefore, studying protein structure is vital to develop a treatment. Here, the lysozyme gold nanocluster (Lyz - AuNCs) is used to study protein folding/unfold. The fluorescence intensity of gold nanocluster is study as function of increasing temperate, Urea and Sodium Dodecyl Sulphate (SDS). It is known that Urea and SDS can lead to fold/ unfold the native (Lyz). The effect of temperature on Bovine serum

albumin encapsulated gold nanocluster (BSA – AuNCs) has been studied. It found that the unfolding led to reduce the fluorescence intensity of (AuNCs). Here this method is used to compare the effect of chemical such as Urea and SDS on folding process. The fluorescence intensity of (AuNCs) decreases with increase the temperature, the concentration of urea and SDS. Possible explanation is as protein is folding the gold nanocluster is exposing to water and interact with oxygen.

Biography

Nora Awad Ali Alkudaisi is pursuing PhD in physics department at University of Strathclyde. Her doctoral research investigates the fluorescence properties of lysozyme gold nanocluster when protein structure is change. She holds a master's degree in nanoscience from the University of Strathclyde, UK. She obtained her BA and works as a lecturer in Physics department at Imam Abdulrahman Bin Faisal University, Dammam, Saudi Arabia.

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