pressure of the blood. In addition, it possesses enzymatic properties and serves as a transport and depot protein for numerous compounds, such as fatty acids, drugs, metabolites and metal ions.In present study, the interaction and side effects of new desighned anti cancer compound (1,10-phenanthroline butyl dithiocarbamato palladium(II) nitrate) on HSA have been investigated by different spectroscopic (UV-visible, fluorescence and circular dichroism) techniques at different temperatures of 25 and 37°C.By the analysis of fluorescence spectra, it was observed that this complex has an ability to quench the intrinsic fluorescence of HSA through a dynamic quenching procedure. The number of binding sites and the association binding constants of Pd(II) complex were calculated at 25 and 37°C. Also, the positive values of ΔH° and ΔS° resulted interaction of Pd(II) complex with HSA using vant's Hoff equation showed that the hydrophobic interaction has major role in this binding. The quantitative analysis of CD spectra represented that Pd(II) complex induced significantly alterations in the secondary structure of protein via decreasing in the content of α helical structure of protein.Above results suggest that the new synthesized Pd(II) complex can bind to blood carrier protein of HSA and change the tertiary and secondary structure of protein which consider as side effects of this new synthesized drug.

Keywords: HAS, Pd(II) Complex, Side Effect, Quenching.

Abstract No.48

Investigation of the Side Effects of Bee Venom Via Interaction with Human Hemoglobin

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Interaction of biomolecules with exogenous agents attracts a lot of interest because of their inordinate biological importance. Hemoglobin (Hb) is a carrier protein in blood which carries oxygen and carbon dioxide, also it has a role in regulating of the blood pH. Since its concentration in blood is about 140 g/l, which is higher than serum albumin- so it can interact with a large number of exogenous agents. Bee venom (BV) is a complex mixture of peptides including, melitin, apamin, adolapin, the mast-cell-degranulating peptide, enzymes, biologically active amines and non-peptide components which have a variety of medicinal applications in traditional medicine. In present study, we have investigated the interaction between BV and blood carrier protein of at different temperatures of 25 and 37 °C using fluorescence spectroscopic technique.Intrinsic fluorescence spectra of human extracted Hb in the presence of different concentrations of BV significantly increased. Also, by adding of different concentrations of BV, we have observed a new maximum emission bond on 430 nm which indicative of complexation between Hb and BV at both of temperatures. Since BV included some protein and enzymes, then we have subtracted the fluorescence emission spectra of Hb+BV from free BV in same condition. Binding parameters and thermodynamic parameters of this binding calculated using fluorescence method at both of temperatures.Above results suggest that BV can bind to blood carrier protein of Hb which may be important to improved applications and understanding of the side effects of compounds which used in traditional medicine.

Keywords: Bee venom, Hemoglobin, Side Effect, Fluorescence.

Abstract No.49

Thermostability and Kinetic Studies of ProteinaseK in the Presence of CU^{2+} ions

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Proteinase K (E.C. 3.4.21.14) which is also known as endopeptidaseK, is an extracellular endopeptidase from fungus Tritirachium album Limbe. Proteinase K is a monomeric protein and belongs to the class of subtilisin-like serine proteases. It is a robust molecule and is more stable to chemical and thermal denaturants. In this Study stability of Proteinase K was studied in the presence of different concentrations of Copper ions at pH=7 in different teamperature. Enzyme kinetic was studied at pH=7 against of this ions in 40°C. Result show Copper ions decrease enzyme activity and enzyme stability.Tm of this enzyme in the presence of different concentration of Copper ions decrease that show stability of enzyme reduce.

Keywords: Thermostability, Proteinase K, Copper ions.
