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Title of the thesis:- Interaction of Different Type of Non- Steroidal Anti-Inflammatory Drugs with Model Proteins in Aqueous Medium

ABSTRACT

Chapter I comprises the introduction of the proposed work and the detailed classification of the drugs with special emphasis on non-steroidal anti-inflammatory drugs.

Chapter II gives the detailed information of the materials used and the experiments performed to carry out the proposed work.

Chapter III this chapter investigates the interaction of diclofenac sodium (DIC) with bovine serum albumin (BSA) in the absence and presence of urea using different spectroscopic techniques.

Chapter IV in this chapter we report the interaction between a non-steroidal anti-inflammatory drug, aceclofenac (ACE) and bovine serum albumin (BSA). The interaction was studied by spectroscopic techniques viz. with fluorescence, synchronous fluorescence, UV-visible absorption, time-resolved fluorescence, circular dichroism (CD), isothermal titration calorimetry (ITC) along with molecular docking and molecular dynamics (MD) simulation methods.

Chapter V in this chapter we investigate the interaction of adiphenine hydrochloride (ADP) with bovine serum albumin (BSA) by fluorescence, time resolved fluorescence, UV-visible, FT-IR, circular dichroism (CD) spectroscopy and surface tension technique. Molecular docking has also been done to show the available binding on BSA for ADP. Critical micelle concentration (cmc), surface excess (Γ_{max}), the minimum area per molecule (A_{min}), and molar

free energy at the maximum adsorption attained at cmc (*G_{min}*) were evaluated to study the interfacial properties of ADP.

Chapter VI this chapter deals with the binding of diclofenac sodium (DIC) (i.e. non-steroidal anti-inflammatory drugs) with human hemoglobin (HHB). The binding has been studied by using the fluorescence, UV-visible, time-resolved fluorescence and circular dichroism spectroscopy (CD).