NPTEL Video Course - Chemistry and Biochemistry - NOC:Chemical and Biological Thermodynamics: Principles to A

Subject Co-ordinator - Prof. Nand Kishore

Co-ordinating Institute - IIT - Bombay

Sub-Titles - Available / Unavailable | MP3 Audio Lectures - Available / Unavailable

Lecture 30 - Biological standard states and pH
Lecture 31 - Tutorial 1 - Equilibrium constant
Lecture 32 - Tutorial 2 - Equilibrium constant
Lecture 33 - Acids and bases and Equilibrium concepts
Lecture 34 - pH Scale Strong and weak acids and bases
Lecture 35 - Strong and weak acids and bases
Lecture 36 - Acid-base titrations
Lecture 37 - pH curve for titration of weak acid with strong base Buffers and indicators
Lecture 38 - Thermodynamics in systems of biological interest
Lecture 39 - Calorimetry
Lecture 40 - Differential scanning calorimetry (DSC)
Lecture 41 - Further discussion on Differential Scanning Calorimetry (DSC)
Lecture 42 - Explaining Differential Scanning Calorimetric Profiles (DSC Profiles)
Lecture 43 - Applications of DSC in thermal unfolding of proteins and protein-solvent interactions
Lecture 44 - Further discussion on applications of DSC in thermal unfolding of proteins and protein-solvent i
Lecture 45 - Isothermal Titration calorimetry (ITC)
Lecture 46 - Further discussion on Isothermal Titration calorimetry (ITC)
Lecture 47 - ITC Experimental Design and Isothermal Titration Calorimetry (ITC) in Drug Design
Lecture 48 - Isothermal Titration Calorimetry (ITC) in Drug Design
Lecture 49 - Isothermal Titration Calorimetry (ITC) in Engineering Binding Affinity
Lecture 50 - Calorimetry in identifying partially folded states of proteins (Molten Globule State)
Lecture 51 - Thermodynamic Characterization of Partially Folded States of Proteins
Lecture 52 - Quantitative Thermodynamic Characterization of Partially Folded States of Proteins
Lecture 53 - ITC in Drug-Protein Interactions
Lecture 54 - Identifying sites for Drug-Protein Interactions by ITC
Lecture 55 - Identifying sites for Drug-Protein Interactions, DSC of Protein-Ligand Complexes. Enthalpy-Entro
Lecture 56 - Estimation of Binding Constants in Strong to Ultratight Protein-Ligand, Interactions Using Diffe
Lecture 57 - Continuation of discussion on... Estimation of Binding Constants in Strong to UltratightProtein-
Lecture 58 - Thermal unfolding of protein by non-calorimetric methods, Addressing thermodynamics of the proce
Lecture 59 - Titration Calorimetry as a tool to determine thermodynamic and Kinetic parameters of enzymes
Lecture 60 - Summary of the course on