

CHM 333 Review Sheet – Exam 2

Protein Functions

Globular vs. fibrous proteins

Monomer vs. Oligomer

~ amino acid MW and ~ protein MW

Primary structure

sequencing

proteases

trypsin

chymotrypsin

Edman degradation (know what it's for)

Cystic fibrosis

Sickle cell anemia

Secondary structure

α -helix

β -sheet

loops or turns

motifs

role of hydrogen bonding

Tertiary structure

Types of Non-covalent interactions:

- Hydrogen bonds
- Electrostatic/ionic interactions
- Hydrophobic interactions
- van der Waals forces

Quaternary structure

Anfinsen RNase Experiment

Protein Folding

Enzymes

As Catalysts

Activation Energy/Diagrams

Active Site

Transition State

Binding Models

1. Lock and Key
2. Induced Fit
3. Transition State Analog Theory

Enzyme Kinetics

Rate Vs. Velocity

Michaelis-Menten Plot/Equation

K_m

V_{max}

k_{cat}

k_{cat}/K_m

Lineweaver-Burk Plot/Equation

Enzyme Inhibition

Reversible vs. Irreversible

Competitive Inhibition

Non-Competitive Inhibition

Un-Competitive Inhibition

Nerve Gas Case Study (VX Gas)

Coenzymes

Regulation Of Enzyme Activity

Induction/Repression

Reversible Covalent Modifications

Irreversible Covalent Modifications

Zymogens