Cheatography

A&P Chapter 2 NAHHH Cheat Sheet

by Xyloswagg96 via cheatography.com/30111/cs/16641/

Anatomy 2.1 abc (A&P Atomic Structure)

2.1a MATTER,ELEMENTS,PERIODIC TABLE

Body has=	matter	Matter is present in liquids, gas, and solid
Atom compos-ition=	neutron	proton electrons
Amu=	Neutron+Proton	
Atomic Number=	# of protons	
Atomic Mass=	(Atomic Weight)=	Proton & Neutron

2.1b ISOTOPES

Isotopes=	same Proton & Electrons	different Neutrons
Average Atomic Mass=	average isotopes	
Physical half-life=	50% of radioi-sotope	to become stable
Biological Half-Life=	Half of medicine to be destroyed	

2.1c STABILITY & OCTATE RULE

Valence Shell=	Exterior Electron Layer	
Octet Rule=	8 Valence ELectrons=	stability

Anatomy 2.2 ab (Ions)

2.2a IONS

Ions=	positive or negative charge		
Cations=	Loss of Electron	Anion=	gain of electron

2.2b IONIC BONDS

Ionic Bonds=	Positi-ve+-Neg-ative bond=	Salt structure
Ionic Compound Ex:=	NaCl	

Anatomy 2.3 abcd (Covalent Bonds)

2.3 a COVALENT MOLECULES

Covalent Bond=	charge equilibrium	
Molecular Formule=	# & type of element	Structural Formula =
Isomers=	Same Molecular formula	different structure

2.3 b COVALENT BONDS

Can have bonds up to:	single	double

Anatomy 2.3 abcd (Covalent Bonds) (cont)

Polarity depends on	Electronegativity	
Polar=	pull	nonpolar=

2.3 c POLARITY & AMPIPATHIC

non polar contains=	non polar bonds	polar contain
Ampipathic Molecule=	can have both poles	

2.3d ATTRACTION

Intermole-cular attraction=	weak attraction	Ex:=
van der Waals forces=	non polar attraction	Occurs moment-arily=

Anatomy 2.4 abc Water Property

2.4 a STRUCTURE

H2O	water molecule ability=	form 4 hydrogen bond with

2.4b PROPERTIES

Phases=	Lubricates	Cushions
Transports	Arrang-ement	Excretes Waste
Water has=	Cohesion	Surface Tension
High=	Specific Heat	Heat of Vaporization

2.4 c UNIVERSAL SOLVENT

Water= triple	Solvent	Stuff that gets dissolved =

Anatomy 2.4 abc Water Property (cont)

Hydrop-hyllic=	dissolves in water	
Dissolve in water=	but do not remain intact=	dissociate
Electr-olytes	Dissolve in water	Conduct Current
Non Polar=	does not dissolve =	hydrop-hobic
Partially Dissolve=	Hydrogen Bond	Ampipathic Molecules

2.6 ab Water Mixtures

2.6 a WATER MIXTURES

Suspen-sion=	Large Solutes	Scatter Light
Colloid=	hydrogen bonds	Small Solute	Scatter light
Solution=	Smallest Solute	Do not scatter light
Emulsion=	Polar+-Non-Polar=	form when mixed
Adhesion		

2.6 b SOLUTION CONCENTRATIO

Mass/V-olume =	mg Solute=dL Solutio
Mass/V-olume Percent=	grams/100 mL Solute

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2.6 ab Water Mixtures (cont)

Molarity=	Moles solute/L solution
Molality=	Moles solute/kg Solvent
Osmoles dependent=	dissolves in solution
Osmolarity=	# particles in 1 litre solution
Osmlality=	# of paritcles in 1 kilogram of water
mole=	6.022X10^23
Molecular Mass=	Add up AMU

Anatomy 2.5 abc Acid/Base & pH Buffer

2.5 a WATER=NEUTRAL SOLVENT

H2O+	H2O->	H3O^+ +	OH^-
H3O^+=	Hydronuim	OH^-=	Hydroxide Ion

2.5 b ACIDS & BASES

ACid=	Proton Donor	Base=	Proton ACceptor

2.5 c pH BUFFERS

Neutral=	7
Buffer =	Prevent pH Change

2.7 abcde (Macromolecules)

27a GENERAL CHARACTERISTICS

Organic Molecules=	contain carbon	Inorganic molecules=
Hydrocarbons=	C-H	
Polymers=	Monomers=	Identical chemical Structure
Dehydration=	forms	Hydration=

2.7 LIPIDS

Types: Triglycerides	Phospholipids	Steroids
Tryglcerides=	energy storage	14-20 carbon long
Fatty Acid:	Saturation= lacks double bond	Unsaturated=possesses double bond
Phospholipid membrane=	Hydrophyllic side	hydrophobic side
Steroid Ring	4 rings consisting of hydrocarbons	
Eicosanoids =	20 carbon fatty acids=	communicate with nervous system=

2.7 c CARBS!!!

2.7 abcde (Macromolecules) (cont)

Glucose-> every other molecule	Glycogenisis->	Glycogen
6-Carbon Sugars (Hexose)=	Galactose	Fructose
5-Carbon Sugars (Pentose)=	Ribose breakdown	Deoxyribose
Disaccharides=	Sucrose	Lactose Maltose
Eicosanoids		

2.7 NUCLEIC ACIDS

Single Ring=	Cytosine	Uracil Thymine
Pyrimidines=	polyunsaturated=	
Double Ring= Purines=	Adenine	Guanine
DNA & RNA	composed of Nucleotides	linked through Covalent Bonds
DNA possesses=	deoxyribose sugar	phosphate

2.7 abcde (Macromolecules) (cont)

Nitrogenous bases= THymine	(Reversed with Glycogenisis)	adenine guanin
RNA posses-sess=	ribose	phosph
RNA Nitrogenous Bases= Adenine	Guanine	Cytosir
DNA/RNA Differences=	2/1 Strands	Deoxyribose/-Ribose

2.7 e PROTEINS

Protein Functions= Catalysts	defense	Transp
Cause Movement	called phospodiester bonds	Perform Regulation
Amino Acids=	Monomers ->	Protein
Amino Acids=	1 of the nitrogenous bases	Covalents Bonded=
3-20 Amino Acids=	Oliopeptide	
21-199 Amino Acids=	Polypeptide	

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2.7 abcde (Macromolecules) (cont)

200+ Amino Acids=	Protein	Protein+ Carb=	Glyco protein

2.8 Protein Structure

2.8 a AMINO ACIDS			
Amino Acids groups= Nonpolar	Polar	Charged	special Function=
Nonpolar amino acids=	R group=	hydrogen or Hydroc-arbons	groups with nonpolar amino acids
polar amino acids	contain R groups	interacts with polar and	water molecules
charged amino acids=	Negative have: Glutamate & Aspartate	Positive Charge Have: Histidine, Lysine, arginine	
Special Functi-ons:=	Proline, Cysteine, and Methionine		
2.8 SEQUENCE & PROTEIN CONFORMATION			
4 Protein shapes= Primary	Secondary	Tertiary	Quaternary

2.8 Protein Structure (cont)

Primary=	Linear Amino ACids	
Secondary=	Alpha Helix	Beta Sheet
Tertiary Structure=	3-dime-nsional shape	repeating secondary structure
quaternary structure=	2+ proteins	
Denature=	PH change	Temper-ature Change

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