

Final Exam

The ending for a carbon-carbon double bond is:

- A) -ene B) -ane C) -yne D) -eth

If a molecule is not co-planer, and not cis, it is _____:

- A) In B) Out C) Trans D) Stretching

A polymer is made up of smaller groups called:

- A) -ane groups B) Monomers C) Carbon D) Smut

A homopolymer contains monomers with _____ functional groups

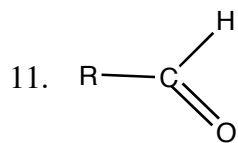
- A) Different B) Oscillating C) Random D) The same

Match the correct prefix with the related number of carbon

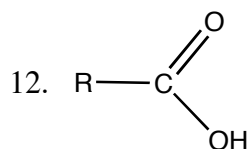
- | | |
|----|----------|
| 1 | A) Pent |
| 2 | B) Hex |
| 3 | C) Non |
| 4 | D) Eth |
| 5 | AB) But |
| 6 | AC) Meth |
| 7 | AD) Hept |
| 8 | BC) Dec |
| 9 | BD) Prop |
| 10 | CD) Oct |

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Match the functional groups

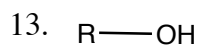


a) Aldehyde

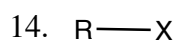


b) Alcohol

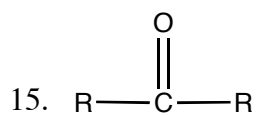
c) Ketone



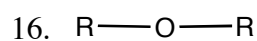
d) Ether



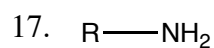
AB) Amine



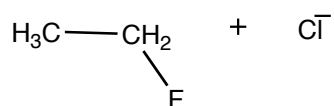
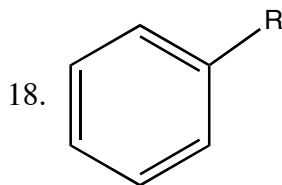
AC) Halide



AD) Carboxylic Acid



BC) Phenyl



is a(n)

a) E1 reaction

b) E2 reaction

c) SN2 reaction

d) SN1 reaction

An organic magnesium halide is a(n)

a) MXC reagent

b) Strong reagent

c) Lewis Acid

d) Grignard reagent

Polymerization is

a) linking together of chains of molecules

b) addition of aryl halides

c) substitution of ethers

d) hydrogen bonding

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Cracking is most associated with which industry?

- a) smelting
- b) petroleum
- c) education
- d) mining

Which chemical gives rotten butter its odor?

- a) Butanoic Acid
- b) Hexanoic Acid
- c) 2,2-dimethyl pentane
- d) 3,4,5-triethyl pentylamine

Aromatic compounds contain

- a) carbon
- b) hydrogen
- c) benzene
- d) all of the above

Benzene is unique because

- a) it is shiny
- b) of its delocalised electron structure
- c) it always contains an amine
- d) it is a halogenated alkyne ring

Alkenes are characterized by:

- a) the presence of halogens
- b) the presence of one or more -COOH groups
- c) the presence of one or more double bonds
- d) the presence of one or more ketone groups

The method by which molecular formula is determined using the Combined Gas Law and an empirical formula is known as the:

- a) Fourrier Method
- b) Dumas Method
- c) Boyle Method
- d) Sin-Tzu Method

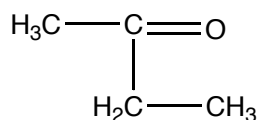
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A nucleophile has a _____ charge

- A) Neutral B) Positive C) Negative D) Opposite

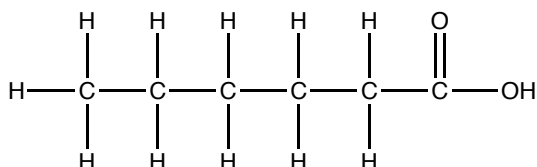
Grignard reactions involve a Mg ion bonded to a(n) _____

- A) Halogen B) Halohydrocarbon C) Acid D) Iron

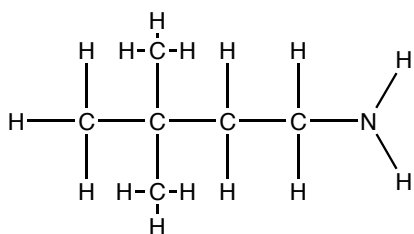


The picture above is an example of a:

- A) Ketone B) Carboxylic acid C) Ester D) Hydrogen bonding



The name of this compound is? A) Hexanoic Acid B) Dimethyl Propanone C) Ethanoic Acid D) Pentanol

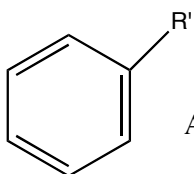


The name of this compound is? A) Fluroethane B) Dimethy Butane
C) Carboxylic Acid D) 3-Dimethyl Butylamine

The name of a hydrocarbon that contains a double biund is? A) Alkane B) Alkyne C) Alkene D) Benzene

The process by which a large molecule is broken down into smaller molecules by breaking carbon-carbon is?

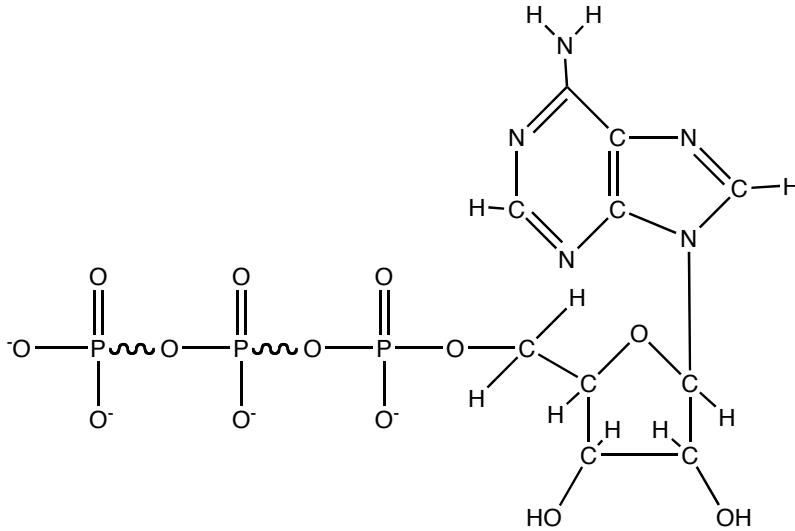
- A) Condensation B) Hydrogenation C) Cracking D) Polymerization



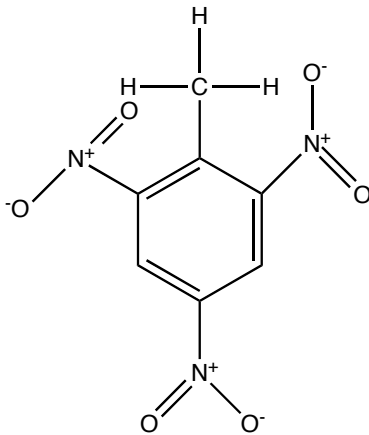
The name of this group is?

- A) Phenyl B) Alcohol C) Ethyl D) Ether

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The name of this biological compound is? A) Adenosine- Diphosphate B) Adenosine- Triphosphate
C) Dimethyl Butanoic Acid D) Isopropyl Alcohol



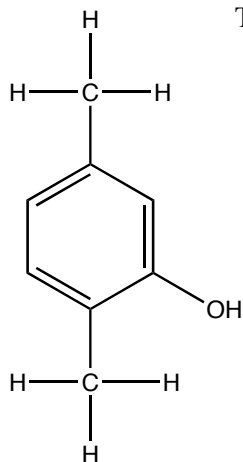
The name of this compound is? A) Benzyl Peroxide
B) 2,4,6 Trinitrotoluene C) Carboxylic Acid D) Ethanol

When a proton and a leaving group are simultaneously lost in a reaction, this type of reaction occurs?
A) Substitution B) Combustion C) Bimolecular or E2 D) Ionic

The major frequencies that are typical of functional groups usually appear between?
A) $600-10\text{cm}^{-1}$ B) $4000-1400\text{cm}^{-1}$ C) $8000-4500\text{cm}^{-1}$ D) $10-55\text{m}$

_____ are materials that recover their shape after a deforming force?
A) Polymer B) Elastomer C) Poly Vinyl Chloride D) Polyethylene

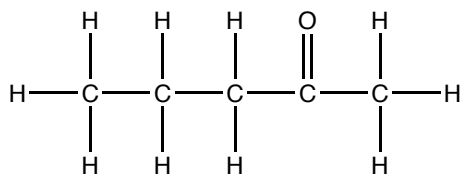
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The name of this compound is? A) Dimethyl Ether B) Ethanoic Acid
C) Heptanoic Acid D) 2,5 Dimethyl Phenol

A Lewis Acid is defined as a compound that? A) donates electrons B) accepts electrons
C) forms esters in water D) produces water

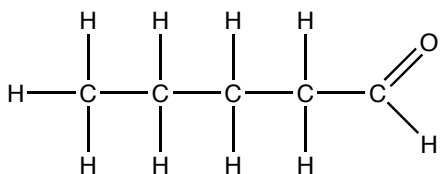
A Bronsted-Lowry Acid is a? A) proton acceptor B) proton donor C) removes water D) has an ion



The name of this compound is? A) Phenol B) 2- methyl butane
C) 2-Pentanone D) Dimethyl benzene

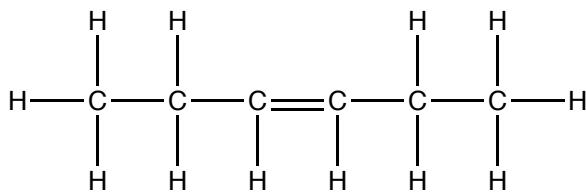
Polyethylene, PVC, Antifreeze, and Acetic Acid are all formed from? A) Benzene B) Propane
C) Ethylene, D) Ethanoic Acid

The formation of covalent bonds between adjacent chains in a polymer is called?
A) Spindling B) Crosslinking C) Harding D) Vulcanization

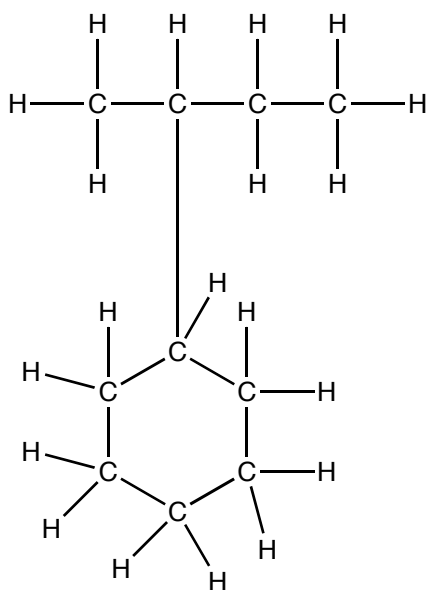


The name of this structure is? A) n-Pentanol B) Diethyl Butane
C) Ethanoic Acid D) Diether propane

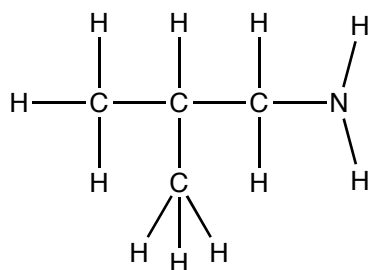
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- A) 3-hexene B) 3-hexyne C) 3-heptene D) methylisopropylamine

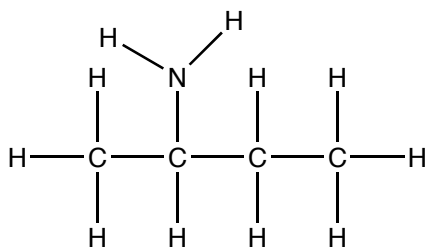


- A) benzene B) sec-butylcyclohexane C) 1-butylcyclohexane D) isopropanone



- A) butanoic acid B) methylbutylamine C) 2-methyl isopropylamine D) sec-butanoic acid

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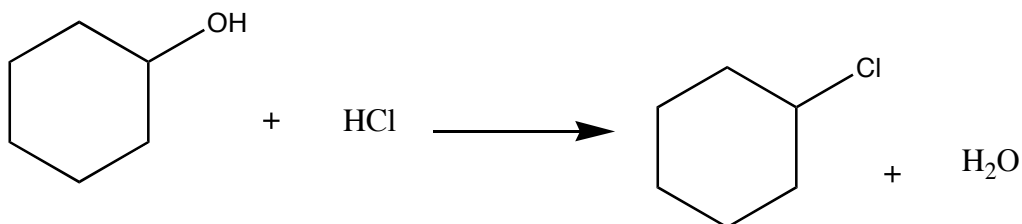
- A) 3-aminobutane B) 2-aminopentane C) 3-aminopentane D) 2-aminobutane

What is the suffix used when referring to a compound with a triple bond?

- A) -yn B) -en C) -an D) none of the above

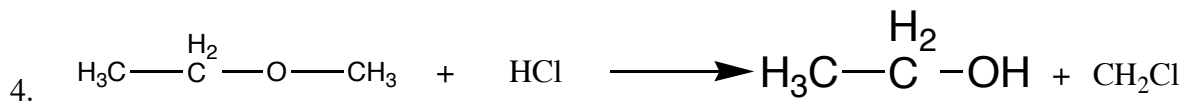
"A large, usually chain like molecule built from many small molecules" describes what?

- A) polymer B) monomer C) chain-step polymerization D) none of the above



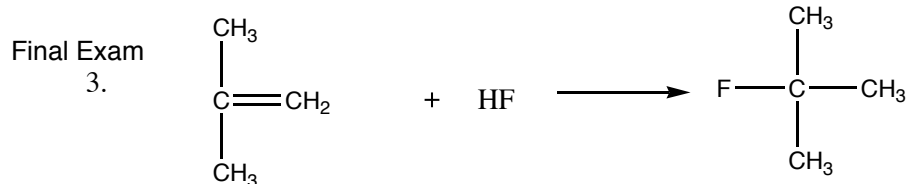
The above is an example of which type of reaction?

- A) addition B) substitution C) elimination D) grignard reagent



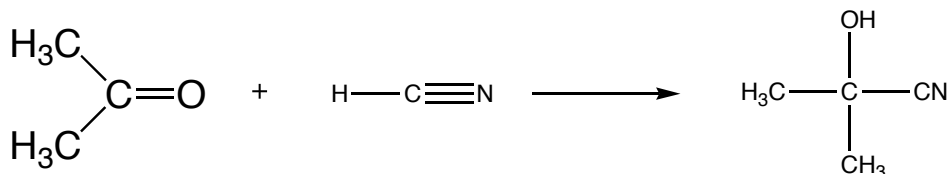
The enlarged portion of this reaction contains which type of functional group?

- A) amine B) carboxylic acid C) alcohol D) ether



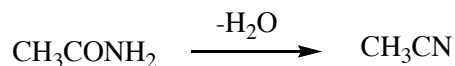
The above is an example of which type of reaction?

- A) addition B) substitution C) elimination D) grignard reagent



The enlarged portion of the above reaction contains what type of functional group?

- A) ether B) ester C) amine D) ketone



Dehydration reactions, like the one above, involve the removal of what?

- A) a nitrogen B) a water molecule C) nothing is removed D) a methyl group

Condensation polymerization occurs when two monomers bond together by creating and then releasing _____?

- A) diatomic hydrogen B) a smaller compound that contains a functional group C) water molecule D) answer not present.

A Grignard reagent is an organic magnesium halide which is highly reactive when placed with any electrophilic group.

- A) True B) False

Infrared spectroscopy works because each chemical bond emits a unique frequency that depends on the mass of the atoms on either end of the bond and the length of the bond itself.

- A) True B) False

What is the correct chemical formula for benzene?

- A) C₆H₆ B) C₈H₈ C) C₆H₈ D) none of the above

benzene is extremely stable because:

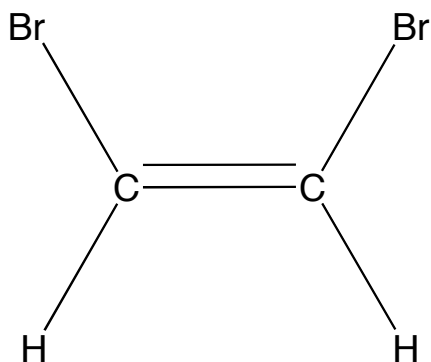
- A) it contains double bonds B) it contains carbon atoms C) it has delocalized electrons D) none of the above

Geometric isomerism is a type of stereoisomerism that involves a molecule with no possible rotation about the Carbon to Carbon bond (i.e. double or triple bonds, or alkene groups)

- A) True B) False

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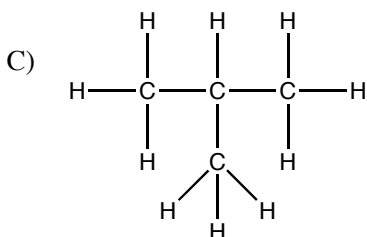
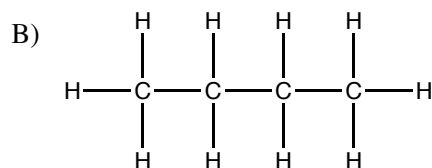
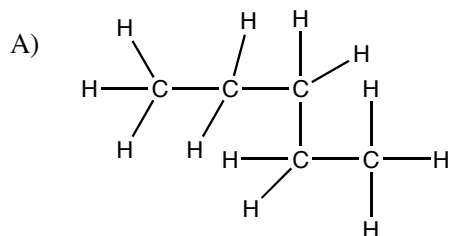
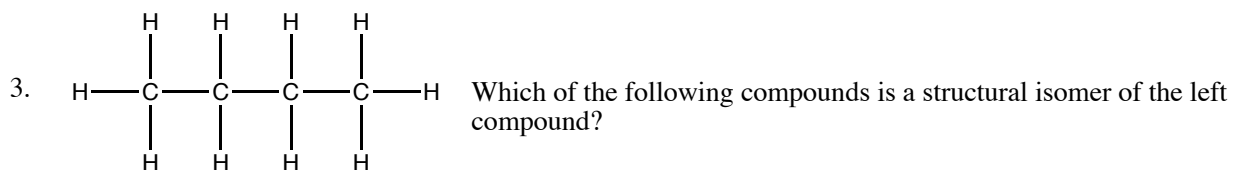
1. Name this compound:



- a) cis- 1,2-dibromoethene b)trans- 1,2-dibromoethene c) cis-1,2- dibromoethane
d) none of the above

2. A Bronstead-Lowery is:

- A) A German pastry B) An electron pair donor C) A source of H^+ ions
D) A H^+ ion acceptor



D) None of the above

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4. A dimer is:

- A) a repeating molecule composed of all the same compounds B) a repeating molecule composed of different compounds
C) A compound composed of two monomers D) The common name for a Grignard reagent

5. The reactant in an electrophilic addition MUST contain:

- A) a double or triple bond B) A water molecule C) A benzene ring D) A hydroxyl group

6. A tertiary halogenoalkane:

- A) Favors substitution B) Favors neither substitution nor elimination C) Favors elimination
D) is always toxic

7. Compounds that are optical isomers:

- A) Cannot react together B) Can be superimposed C) Can not be superimposed D) Are made up of monomers

8. To name cyclic alkanes:

- A) The prefix bi- is added B) The prefix cyclo- is added C) The naming remains the same D) -ene is added to the root

9. The primary use of Grignard reagents in science is:

- A) Formation of nuclear compounds B) Cleanse water pollution C) Vulcanizing rubber compounds
D) The formation of alcohols

10. The ability to create hydrogen bonds between hydroxyl groups make alcohols able to:

- A) break down substances B) burn through metal C) Form isomers D) Attach to aromatic compounds

11. Benzene rings are resistant to:

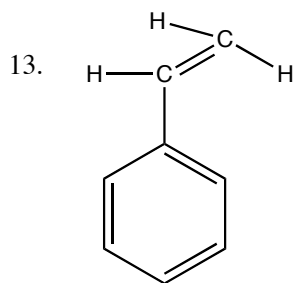
- A) Any reaction B) Any reaction which would break its delocalized orbit structure C) Addition Reactions
D) Addition- Elimination Reactions

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11. Polymers created from identical monomers are called:
A) Homopolymers B) Copolymers C) homonyms D) dimers

12. An acid's strength is determined by:

- A) how much it works out a week B) whether the acid eats its vegetables or not
C) how much it autoionizes in water D) the number of hydrogens bonded to it



This compound is:

- A) phenylethene B) benzylethene
C) 1-ethenecyclohexane D) phenoethane

14. A Carbocation is an ion with a negatively charged carbon atom
A) True B) False

15. Which reaction mechanism involves the breaking of a double or triple bond and the addition of an outside atom or group of atoms
A) addition B) substitution C) elimination D) addition-elimination

16. An electrophile is a chemical compound or group that is attracted to electrons and tends to accept electrons
A) True B) False

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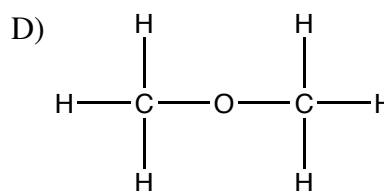
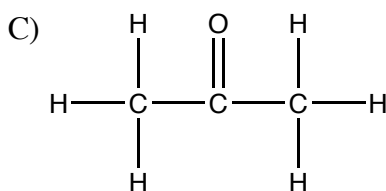
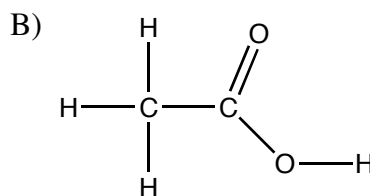
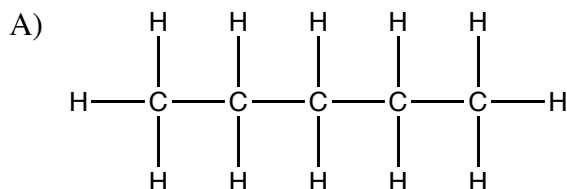
The most important factor in determining the probability of producing substitution or elimination products is:

- A) type of halogenoalkane
- B) Hydration
- C) Concentration Gradient
- D) geometric shape of reactants

Esters, of having _____, are usually used in foods, perfumes, and others products.

- A) A fine gourmet texture
- B) pleasant smells
- C) Abundantly natural occurring supply
- D) Highy Electrophilic centers

Which of the fallowing would be most soluable in wa-wa?

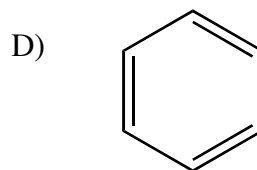
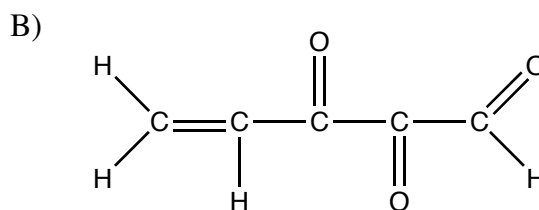
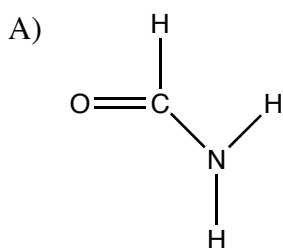


Sn1 Reactions are charactorized by?

- A) their fish-like smell
- B) 2 step mechanism
- C) 1 step mechanism
- D) absence of hydrogen

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Pi Bonds are more abundant in which molecule?



Grignard Reagents are usually generalized by the formula:

- A) RW_qToX
- B) LiOPDis
- C) RMgX
- D) GoBoX

Primary amines attached to an aromatic ring use the ending:

- A) -amide
- B) -aniline
- C) -amine
- D) -animine

On an infrared spectroscopy chart, a substance with a ketone may end up...

- A) at the lower end of the spectrum
- B) at the higher end of the spectrum
- C) right in the middle of the spectrum
- D) with your mom

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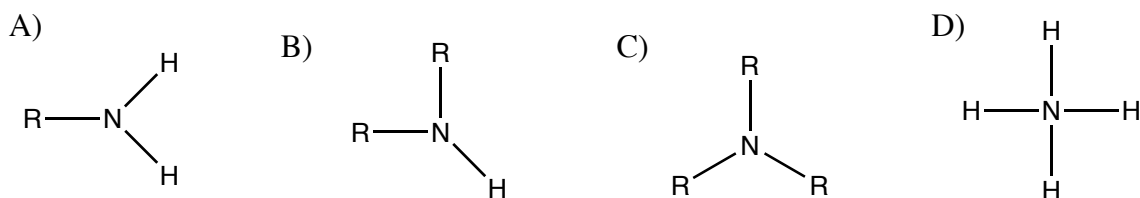
Vulcanization is where one...

- A) adds heat and lithium
- B) adds heat and sulfure
- C) removes heat and oxygen
- D) Uses the supernatural forces of a volcanoe

A Macromolecule may include...

- A) amino acids
- B) lipids
- C) glucose
- D) banana

A tertiary molecule looks like...



The kinetics for an acid-base reaction can be determined by which formula?

- A) $K_e = \frac{[H_3O^+][A^-]}{[HA]}$
- B) $K_e = \frac{[H_2O^+][A^-]}{[HA]}$
- C) $K_e = \frac{[H_3O^-][A^+]}{[HA]}$
- D) $K_e = \frac{[OH^-][A^-]}{[BA]}$

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A primary halogenoalkane will produce a majority of

- A) Elimination product
- B) Substitution Product
- C) Elimination and Substitution Product
- D) a crazed clown high off of what ever product, cuz he dont care

What is considered the rate determining step for an Sn1 reaction?

- A) the step at which the leaving group is removed
- B) the second step
- C) the step at which the leaving group is reattached
- D) the step that comes before the step after the initial step

Equilibrium is defined by which principle?

- A) Le Chatelier's Principle
- B) Homer's Principle
- C) School's Principle
- D) Nonconvectiver Principle

Which would be an aromatic ring?

- A) C_3H_8
- B) C_5H_{10}
- C) C_8H_{18}
- D) C_2H_2

Which word is correctly spelled?

- A) Discombobulationarily
- B) Convilution
- C) Twelve
- D) Electrion

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