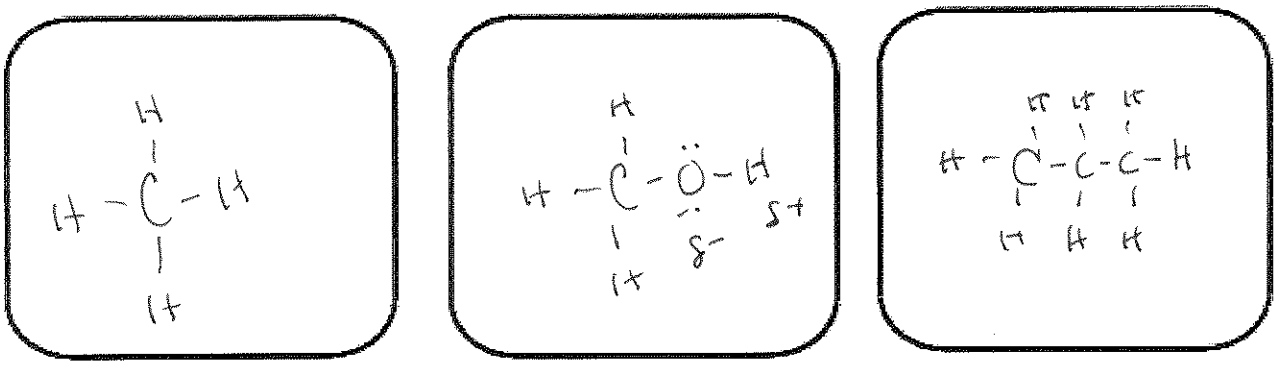
Preliminary Quiz 2
Inter and intramolecular bonding

Objectives: Intra and inter molecular bonding #3
#3-1 **#3-2_____/2 #3-3_____/2 #3-4_____/4 #3-5_____/**

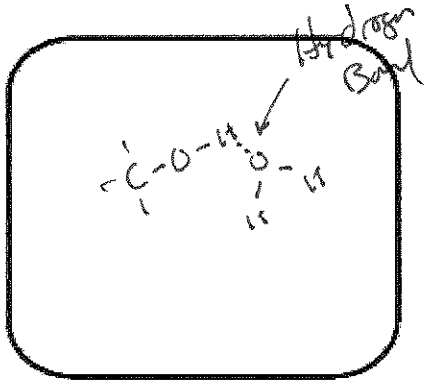
CH_4 CH_3OH C_3H_8 NaBr



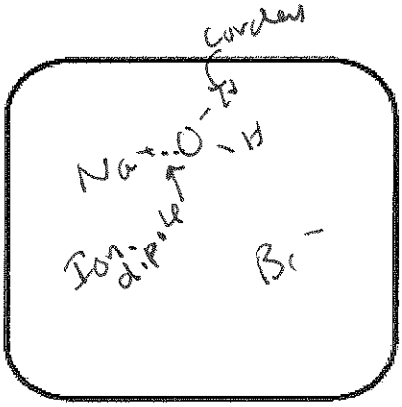
1. In the box provided, draw a Lewis structure of each ***molecule***.

2. If the molecule has a permanent dipole add the partial charge symbols.

3. For each carbon differentiate the shape and hybridization
   CH_4: sp^3 Tetrahedral
   CH_3OH: sp^3
   C_3H_8: sp^3



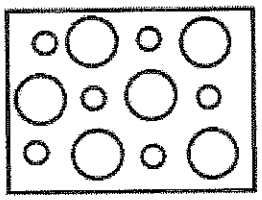
4. Properties of substances
   a. Which of these substances is liquid at room temperature? Justify.
      CH_3OH - Not Ionic → moderate IMF
   b. Two substances are gases, if pressure is applied to each of these gases, which would liquefy first? Justify?
      CH_4 / C_3H_8 more LDF
   c. This substance has the highest melting point. Justify.
      NaBr



5. Two of the substances dissolve in water. In the boxes below show the dissolution process. Label forces (inter and intra)

Multiple Choice
Identify the choice that best completes the statement or answers the question.

1.

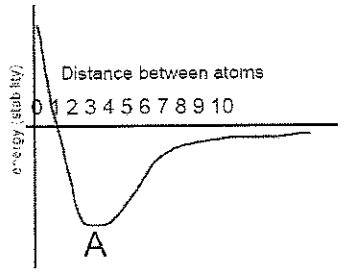


(#3-1 /#2-3)
The substance above is likely (ionic/molecular/network covalent) of the identity _____?

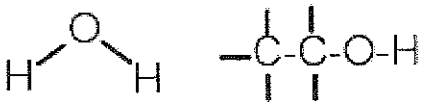
a. ionic, KCl
b. network covalent, C
c. ionic, NaCl
d. molecular, He

2. Which of the following soluble salts will be the highest conductor of electricity? (#3-2)
a. NaCl
b. $MgCl_2$
c. $AlCl_3$
d. $NaNO_3$

3. (#3-3)



If the substance examined here is H_2 having an inter-nuclear distance of 3, what would you expect for the inter-nuclear distance of I_2
a. Greater, 3-5
b. less, 1-3
c. fairly similar 3
d. not determinable from this model



4.
(#3-4) A chemicals ability to enter the brain is determined by the chemicals polarity. Which of the following is true
I. Both are considered polar.
II. The chemical to the right is non-polar due being linear.
III. Both are considered non-polar due to London dispersion forces.
a. I only
b. I and II only
c. II only
d. I, II, and III only

5. (#7-1) A common antifungal is the substance $AgNO_3$. With regards to percent by mass, Ag is _____ the percent mass of the entire atom
a. 10%
b. 25%
c. 50%
d. More than 50%