

Name:
Period:
Date:

5.2 Tracked Assignment (Obj 2)

Part One:

1. What does it mean for a molecule to be polar?

has a positive end and a negative end
OR
has a dipole

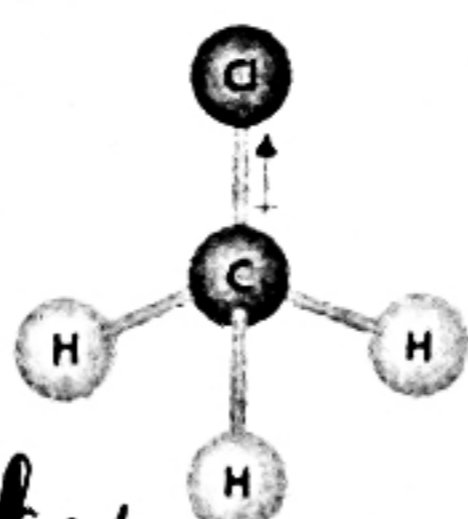
2. How are the charges and electrons distributed in a polar molecule?

has positive negative end
 e^- are unequally distributed

3. What two factors determine if a molecule will be polar or nonpolar?

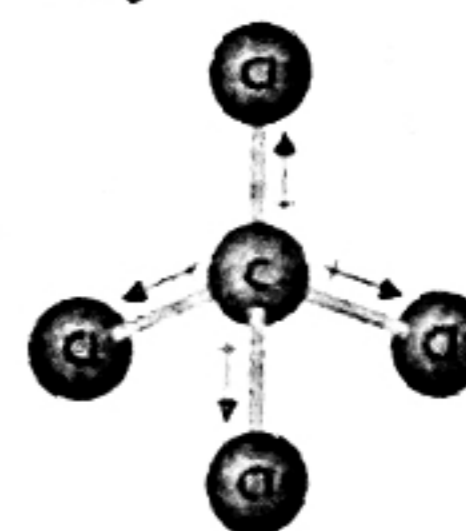
shape and bond polarity

4. Label the following structures as polar or nonpolar. What shape are they?



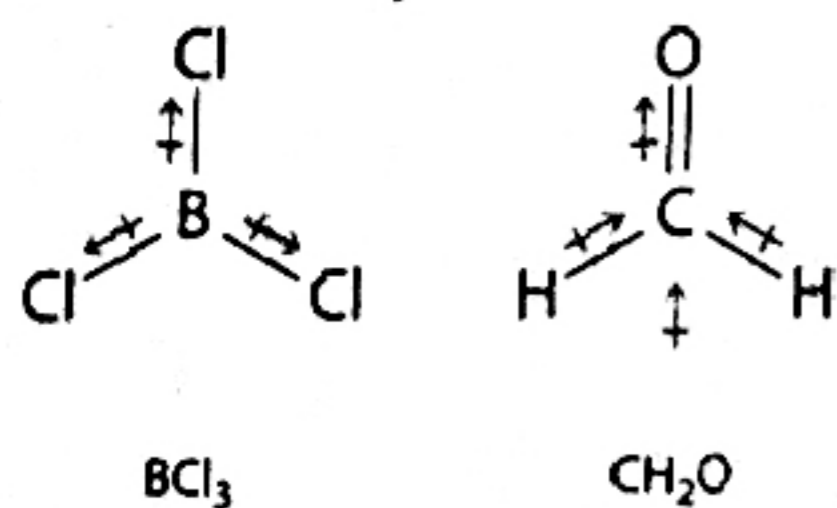
Shape for both: tetrahedral

Polarity: polar



Polarity: non

5. Why is BCl_3 be nonpolar when CH_2O is polar? Use the pictures below to help you.



BCl_3 doesn't have both a negative and positive end while CH_2O does

6. How can a molecule with polar bonds be nonpolar?

doesn't have both pos and neg. end ~~same~~

7. What does solubility and insolubility mean? What is the general rule for determining if two substances will be soluble or not?

solubility - can mix or dissolve
insolubility - cannot mix or dissolve
like dissolves like

8. Would a nonpolar solid dissolve in water? Why or why not?

no water is polar and only mixes with polar

9. If a solid dissolves in oil would you expect it to dissolve in water? Why or why not?

no it would be nonpolar like oil and unable to mix with polar water

10. Methane and ammonia are insoluble with each other. What would cause that to occur?

different polarities

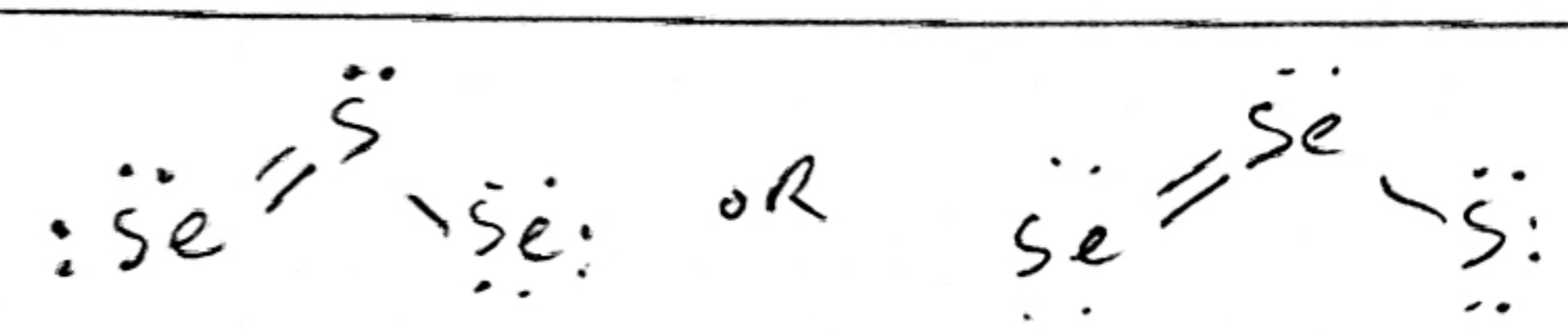
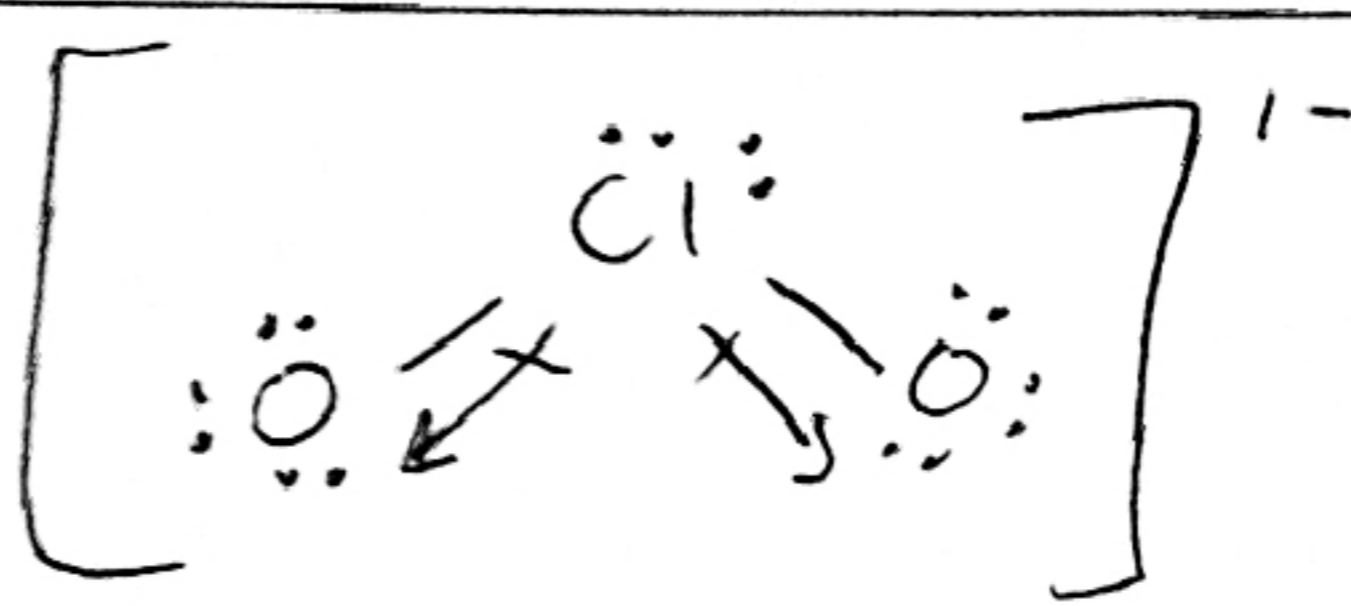
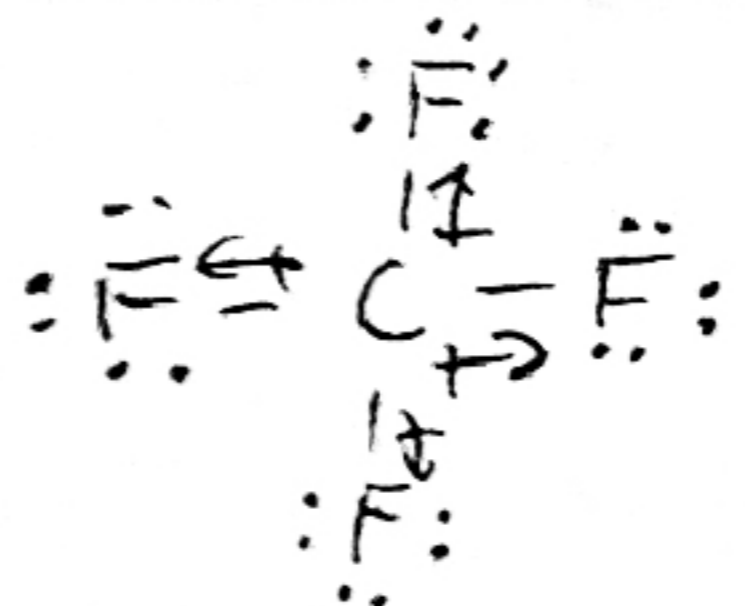
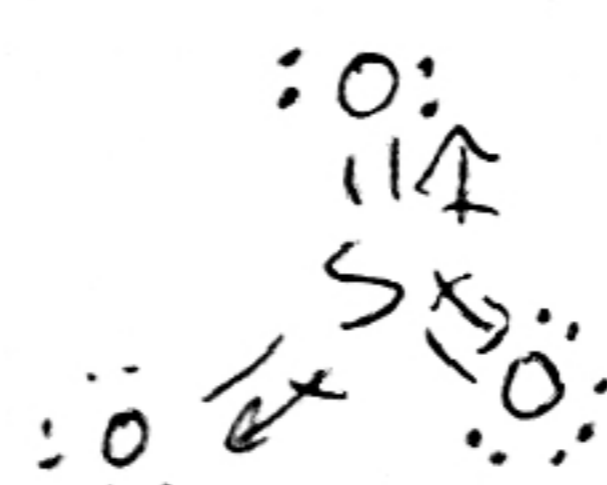
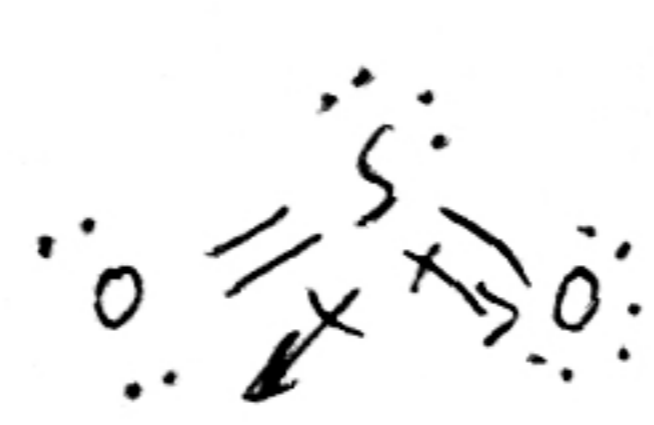
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Part Two: Determine the polarity of the following molecules

Formula	Lewis Structure	State if the molecule is polar or nonpolar
SSe ₂		non
ClO ₂ ⁻¹ 1Cl x 7 = 7 2O x 6 = 12 14 +1 = 20		polar
CF ₄		nonpolar
SO ₃		nonpolar
SO ₂		polar
C ₂ H ₂ (will have C-C bond and no central atom)	H-C≡C-H	nonpolar