

Name:

Date:

Period:

4.4 Tracked Assignment (Objectives 1:m-o; 3:a, h-i)

1. What is the difference between a polar and nonpolar bond?

polar has unequal sharing of e^- and nonpolar has equal sharing

2. How can electronegativity be used to determine if a bond is polar covalent, nonpolar covalent, or ionic?

0 - 0.4 non 0.5 - 1.9 polar 2.0 or up ionic

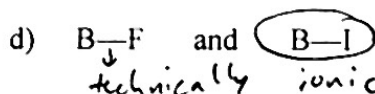
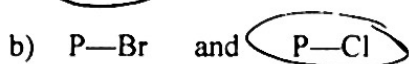
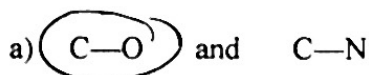
3. In the C—O bond are the electrons spending more time on one atom? If so state which one and explain why.

yes the bond is polar so e^- spend more time with oxygen because it has a higher electronegativity

4. Why do polar bonds have partial charges, but nonpolar bonds do not? Include electron distribution and electronegativity in the explanation.

polar bonds have charges because the e^- spend unequal amount of time with each atom because of the dif. in electroneg. values

5. In each pair of bonds, circle the more polar bond.

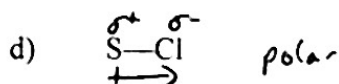
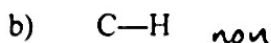
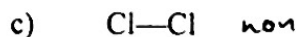
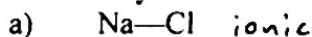


6. Put the following bonds in order of least polarity to greatest polarity

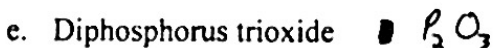
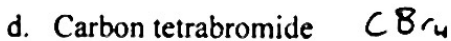
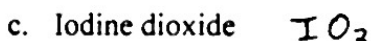
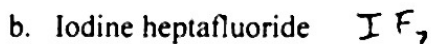
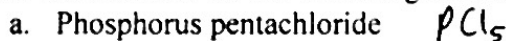


c, b, a, d

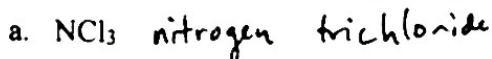
7. For each of the bonds listed below, classify each bond and add polarity symbols/arrows on polar bonds only



8. Write the formulas for the following molecular compounds



9. Write the names for the following compounds



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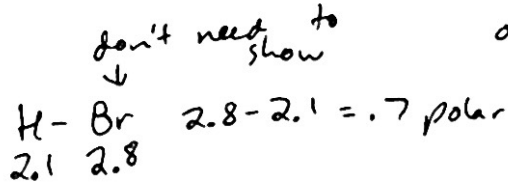
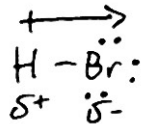
4.4 Tracked Assignment (Objectives 1:m-o; 3:a, h-i)

- d. N_2H_4 dinitrogen tetrahydride
- e. N_2O_3 dinitrogen trioxide
- f. Cl_2O_7 dichlorine heptoxide

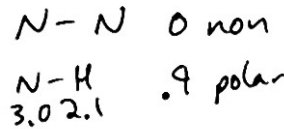
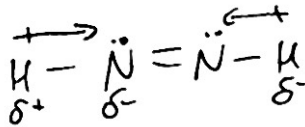
For the following questions draw Lewis structures and label any polar bonds with polarity arrows/partial charges. There will be one central atom unless otherwise indicated.

only need to do one or other

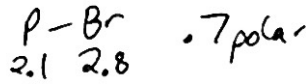
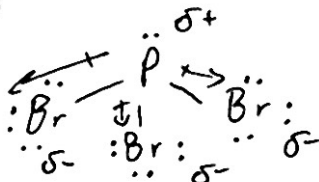
10. HBr



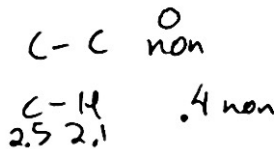
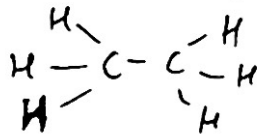
11. N_2H_2 (will contain a N-N bond)



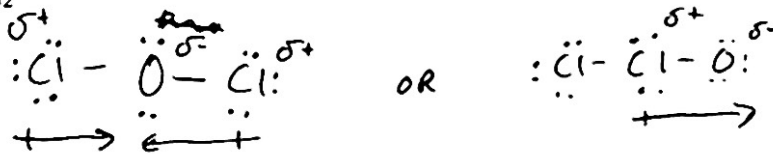
12. PBr_3



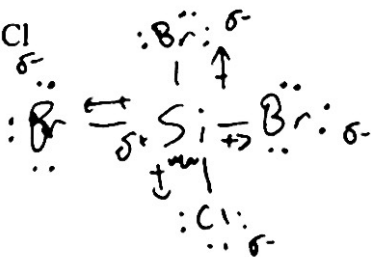
13. C_2H_6 (will contain a C-C bond)



14. OCl_2



15. $SiBr_3Cl$



16. PO_3^{3-}

$$\begin{array}{r} 1 \times 5 = 5 \\ 3 \times 6 = 18 \\ \hline 23 \\ + 3 \\ \hline 26 \end{array}$$

