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| Fall 2014 Final Exam Practice Prob. CHUNK #3 – Topics 19-27 | | |
| Topic | Q # | Question |
| **19** | 1 | What class of elements make up ionic bonds? Covalent bonds? Metallic bonds? |
| 2 | What is happening during an ionic bond? A covalent bond? Why do things bond in the first place??? |
| 3 | Identify the following as ionic, covalent, or metallic bonds: NaF KOH CS2 Ni H2 F2 |
| **20** | 4 | Describe in a few sentences how you name ionic compounds versus covalent molecules. |
| 5 | Name the following compounds or molecules.   N4O10  P4S10 CuCl2 CCl4 K2S Al2O3 |
| 6 | Name the following: ZnSO4 NH4NO2 Ca(ClO2)2 |
| **21** | 7 | Write the formula for Calcium Chloride |
| 8 | Write the formula for Ammonium Phosphite |
| 9 | Write the formula for Calcium Perioxide |
| **22** | 11 | What is the definition of the octet rule? |
| 12 | What are the main exceptions to the octet rule? |
| 13 | Draw Lewis Structures for CO2, N2, O2, H2, H2O, NH3 |
| 14 | For the Lewis Structures you drew above identify which have single bonds, double bonds, triple bonds. Which have lone pairs? How many lone pairs does each one of those have? |
| 15 | Draw a Lewis structure to figure out if each compound is held together with a single bond, a double bond, or a triple bond: HCl and N2 and CO |
| **23** | 16 | What are the main types of IMFs? |
| 17 | Look through your notebook and give two examples of compounds that have only London forces, two that have dipole-dipole, and two that have hydrogen bonding. |
| 18 | What are the two main “real life biology” type examples of hydrogen bonding that you learned about? |
|  | 19 | Identify the main/dominant/strongest type of IMF present in each of the following: H2O, SiF4, CH3NH, CH3OH, H2S, O2, CH3COCH3 |
| **24** | 21 | What are three types of inter molecular forces and two types of intra molecular forces |
| **25** | 22 | What is polarity? What are three ways you can draw the polarity of a molecule (hint…it was in your notes!) |
| 23 | Label the following as either polar or non polar: H2O, H2S, CO2, SiO2, CH4, CH3OH, C2H6 |
| 24 | Why is it important to know that water is bent? Make sure your answer talks about polar vs non polar |
| **26** | 25 | Rank the following from highest to lowest surface tension: CH4, CH3OCH3 CH3OH |
| 26 | Which should have a higher boiling point? Why? CH3OCH3 or CH3CH2OH |
| 27 | In one paragraph explain the point of the lab you did on IMFs. Describe the results you found and how that relates to IMFs. Think of it like a conclusion for a miniature lab report. |
| **27** | 28 | What are three examples of bulk solids that have unique properties due to the combination and interaction of inter and intra molecular forces? |
| 29 | What could you predict about the boiling point or melting point of a network covalent molecule? |
| 30 | What are two examples of network covalent molecules? (We talked about two during lecture). Which do you expect to have a higher melting point? |