Chemistry G11-Q2W3- H.W.- Chemical Bonding

Matching

Match each item with the correct statement below.

a. metallic bond
b. covalent bond
c. ionic bond

____ 1. A material used to make cans
____ 2. A material used to make high-temperature furnaces
____ 3. A material used to make the insulation wrapped around transmission lines that lie on the ocean floor
____ 4. A material that is a good conductor when melted but a poor conductor when solid
____ 5. A material used in the manufacture of wires in suspension bridges
____ 6. A material used as a gaseous propellant in spray cans, such as deodorant or shaving cream dispensers
____ 7. A material that evaporates readily at room temperature
____ 8. A material that is dissolved in large quantities in sea water
____ 9. A material used as a lubricating oil
____ 10. A material used in making electrical transmission wires

The line in Figure 9-1 represents the range of differences in electronegativity that are possible between any two elements in the periodic table. The smallest difference is represented by the left end of the line, and the greatest difference by the right end of the line. In the space provided, write the letter of the labeled parts from this line that corresponds to the descriptions. Some of the letters may be used more than once.

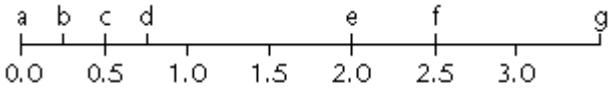

Figure 9-1

____ 11. A polar covalent bond D
____ 12. The bond in a diatomic molecule of an element
____ 13. A bond that would form between cesium and fluorine
____ 14. A bond that is classified as nonpolar but that has a slight polarity
____ 15. The division between ionic and polar covalent bonds
____ 16. The bond of greatest possible ionic character
____ 17. The lowest possible value of $\triangle$ *EN*
____ 18. The division between nonpolar covalent and polar covalent bonds
____ 19. An ionic bond that would form between calcium and oxygen
____ 20. A pure nonpolar covalent bond

Modified True/False
Indicate whether the statement is true or false. If false, change the identified word or phrase to make the statement true.

____ 21. Atoms form bonds in such a way as to produce the electron configuration of a noble gas. _____

____ 22. Electronegativity differences that result in a polar covalent bond range between 0.5 and 4.0. _____

____ 23. In general, the vast majority of ionic compounds are liquids at room temperature. _____

____ 24. The geometry of alkene molecules is rigid because of the presence of a double bond. _____

____ 25. A nonpolar molecule may contain polar covalent bonds. _____

____ 26. All diatomic molecules are linear. _____

____ 27. In general, the boiling point of a polar liquid is likely to be higher than the boiling point of a nonpolar liquid of about the same mass. _____

____ 28. Conductivity in metals can be explained by what is called a sea of electrons. _____

____ 29. In general, the water solutions of ionic compounds are able to conduct an electrical current. _____

____ 30. A dipole interaction takes place when the positive end of one polar molecule attracts the positive end of a second polar molecule. _____

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