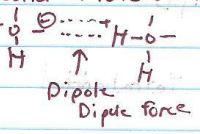
HW#11 p210 #37-42, 47, 50-52, 54

37. (a) IMF's hold molecules together, they attract one molecule to another.
(b) IMF are much weaker than ionic & metallic bonds
(c) generally these are strongest between polar molecules.

(38) The greater the difference in ~~polarity~~ electronegativity, the more polar the bond.

(39) (a) Dipole-Dipole → where one polar molecule is attracted to a second molecule.

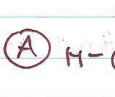


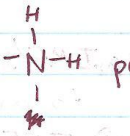
(b) If there are unbalanced charges on the molecule. (Asymmetric)

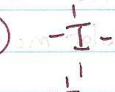
(40) (A) An induced dipole is a forced dipole on a molecule due to a shift in electrons.
(B) This helps polar compounds (like O_2) dissolve in polar compounds like H_2O.

(41) (A) H-Bonding is a type of IMF. The H in one molecule attracts a nonbonding pair of e^- in a second molecule. The H needs to be bonded to N, O, F.
(B) Because H is dominated by N, O, F its δ^+ (partial positive) is very large. This creates a strong interaction with the nonbonding (-) e^-.

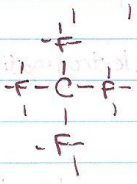
(42) The london dispersion forces are induced dipoles that are created when electrons shift from one atom to another.

47. (A)  polar

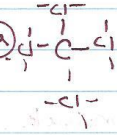
(D)  polar

(B)  (symmetrical) Non polar

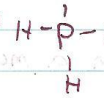
(E)  Nonpolar

(C)  Non polar

50. D, C, A, B

51. (a)  Tetrahedral

(B)  LINEAR

(C)  pyramidal

52. (A) metal / nonmetal
(B) Nonmetal / nometal
(C) metal / metal

54.