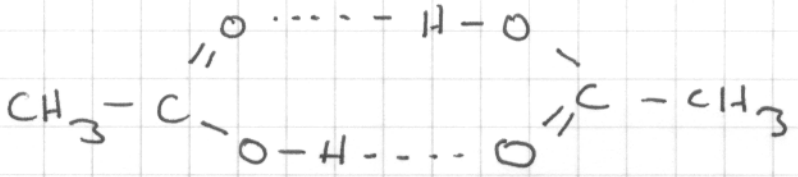
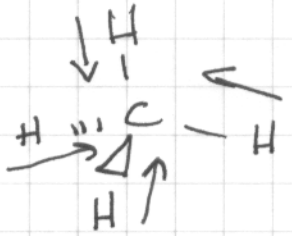
Chapter 10 - 30 ~~31~~, 32, 46, ~~52, 54, 57, 58~~
34, 35, 37, 38

30.



32. If a molecule has polar bonds, the shape of the molecule is the deciding factor which determines if the bond dipoles cancel.

Examples are: CO_2 $O=C=O$ ← → cancel out.

CH_4  all cancel out.

34. (a) $CHCl_3$ has a permanent dipole moment. Contains dipole-dipole + London forces.

(b) O_2 does not have a dipole moment, so only has London Forces.

(c) polyethylene - only has London forces.

(d) CH_3OH - Hydrogen Bonds, Dipole-Dipole forces + London Dispersion forces.

35.

(a) Xe has no dipole-dipole interactions

(b) HF has the largest hydrogen bond forces.

(c) Xe has the largest dispersion forces.

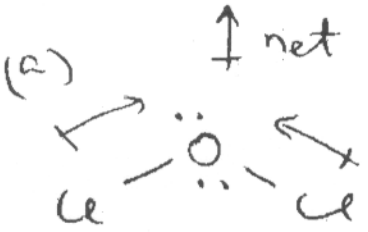
37.

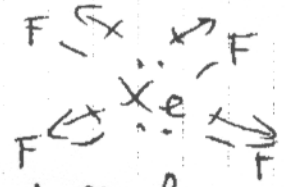
(a) C_8H_{18} has the larger dispersion forces because of its long hydrocarbon chain

(b) HI has the larger dispersion forces because of the larger, more polarizable iodine

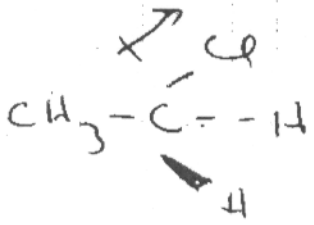
(c) H_2Se has the larger dispersion forces because of the more polarizable & less electronegative Se.

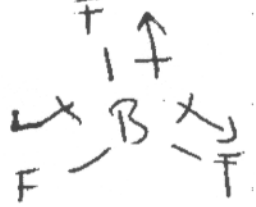
10.38-

(a) 

(b) 

net dipole moment = 0

(c) 

(d) 

net dipole = 0

10.46. Hydrogen Bond.