Intermolecular Forces

For questions 1-5, identify the main type of intermolecular force in each compound:

1) carbon disulfide

2) ammonia

3) oxygen

4) CH_2F_2

5) C_2H_6

Rank the following compounds by increasing melting point:

6) C_2H_6, C_2H_5OH, C_2H_5F

7) H_2S, H_2O, H_2

8) BBr_3, BI_3, BCl_3

Intermolecular Forces - Key

For questions 1-5, identify the main type of intermolecular force in each compound:

1) carbon disulfide
Van der Waal forces

2) ammonia
Hydrogen bonding

3) oxygen
Van der Waal forces

4) CH_2F_2
Dipole-dipole forces

5) C_2H_6
Van der Waal forces

Rank the following compounds by increasing melting point:

6) C_2H_6, C_2H_5OH, C_2H_5F
C_2H_6 (-183.3^0 C), C_2H_5F (-143.2^0 C), C_2H_5OH (-117.3^0 C)

7) H_2S, H_2O, H_2
H_2 (-259.3^0 C), H_2S (-85.5^0 C), H_2O (0^0 C)

8) BBr_3, BI_3, BCl_3
BCl_3 (-107.3^0 C), BBr_3 (-46^0 C), BI_3 (49.9^0 C)

All melting points were taken from The Handbook of Chemistry and Physics, 72nd Edition, by the Chemical Rubber Company. If you don't have a CRC, you need one because it contains all the reference material you'll ever need!

