Exercice II

- 1) Which molecule is non-polar: NH₃, BH₃, H₂S or IH?
- 2) Which of the following processes is endothermic?

$$H(g) \rightarrow H^{+}(g) + e^{-}$$

$$H(g) + e^{-} \rightarrow H^{-}(g)$$

$$H_{2}O(g) + H^{+}(g) \rightarrow H_{3}O^{+}(g)$$

$$2 H(g) \rightarrow H_{2}$$

- 3) Which of the following compounds is a hydride, and which is a salt: HCl, SiH₄, NaH, or NH₃?
- 4) In which reaction do you liberate H₂?

$$NaH + H2O \rightarrow$$

$$NaCl + H2O \rightarrow$$

$$Na2O + H2O \rightarrow$$

$$NaOH + H2O \rightarrow$$

- 5) Which of the following hydrogen bonds is the weakest: C-H---O, N-H---O or O-H---N?
- 6) In which solvent pair do you observe intermolecular hydrogen bonding?

Acetonitrile and toluene THF and diethyl ether Ethanol and ethylamine Diethyl ether and dibutyl ether