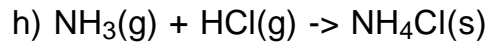
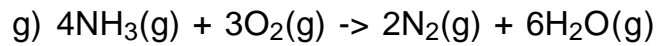
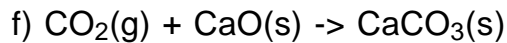
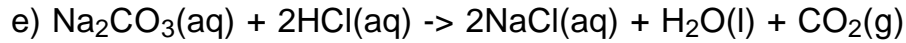
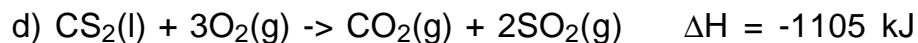
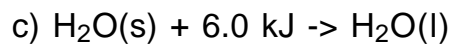
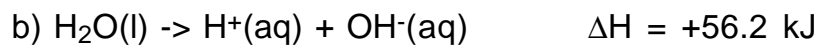
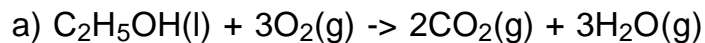


Chem12 Enthalpy/Entropy : Quiz 2-40

- 1) Define :
- a) Entropy -
 - b) Spontaneous reaction -
 - c) Endothermic reaction -
- 2) Which of the following will produce an increase in the entropy of a system ?
- a) increase T
 - b) formation of gaseous products from solid reactants.
 - c) formation of a precipitate in a liquid solution.
 - d) an increase in the volume of the system.
 - e) the formation of a solid from a gas.
- 3) What is the sign of the entropy change for each of the following processes ?
- a) A solute crystallizes from a solution.
 - b) Water evaporates.
 - c) A new deck of playing cards is shuffled.
 - d) Solid AgCl precipitates from a solution of AgNO₃ and NaCl.
- 4) Predict the sign of the entropy change for the following reactions.
- a) $2\text{H}_2(\text{g}) + \text{O}_2(\text{g}) \rightarrow 2\text{H}_2\text{O}(\text{g})$
 - b) $\text{H}_2(\text{g}) + \text{I}_2(\text{s}) \rightarrow 2\text{HI}(\text{g})$
 - c) $\text{CaO}(\text{s}) + 2\text{NH}_4\text{Cl}(\text{s}) \rightarrow 2\text{NH}_3(\text{g}) + \text{CaCl}_2(\text{s}) + \text{H}_2\text{O}(\text{l})$
 - d) $\text{AgNO}_3(\text{aq}) + \text{NaCl}(\text{aq}) \rightarrow \text{AgCl}(\text{s}) + \text{NaNO}_3(\text{aq})$



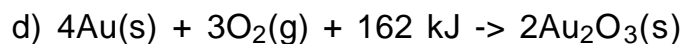
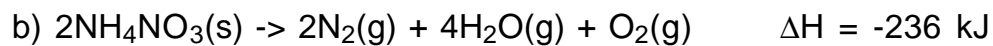
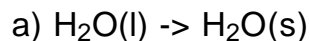
5) Exothermic or endothermic ?



e) digestion

f) formation of a molecular bond

6) Spontaneous or non-spontaneous or at equilibrium ?



e) Photosynthesis

Answers : 1)a) It is the degree of disorder in a system., b) It is a reaction that will go to completion without the addition of energy., c) It is a reaction that absorbs energy., 2) a, b, d, 3) -, +, +, -, 4) -, +, +, -, +, -, +, -, 5) Ex (burning), En, En, Ex, En, Ex, 6) eq, sp, ns, ns, ns.