CH 223 – Worksheet 5

1. Write the formula for each of the following
    a) tetraaquadibromomanganese(III) perchlorate

    b) bis(bipyridylcadium(II) chloride

    c) cesium diamminetetracyanochromate(III)

2. Write the name for each of the following
    a) $[Cd(en)Cl_2]$

    b) $K_4[Mn(CN)_6]$

    c) $[Ir(NH_3)_4(H_2O)_2](NO_3)_3$

3. a) Draw the two linkage isomers of $[Co(NH_3)_5SCN]^{2+}$

    b) Draw the two geometrich isomers of $[Co(NH_3)_3Cl_3]^{2+}$

4. (a) How can we calculate ΔS for an isothermal process? (b) Does ΔS for a process depend on the path taken from the initial to the final state of the system? Explain.

5. Indicate whether each of the following processes produces an increase or decrease in the entropy of the system:
    (a) CO_2 (s) $\rightarrow$ CO_2 (g)

    (b) CaO (s) $+ CO_2$ (g) $\rightarrow$ $CaCO_3$ (s)

    (c) HCl (g) $+ NH_3$ (g) $\rightarrow$ NH_4Cl (s)

    (d) $2\ SO_2$ (g) $+ O_2$ (g) $\rightarrow$ $2\ SO_3$ (g)