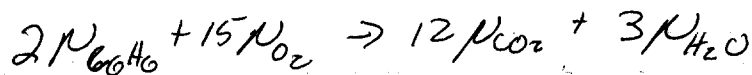
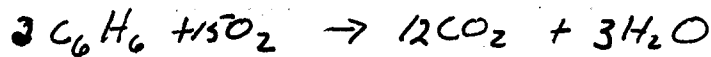
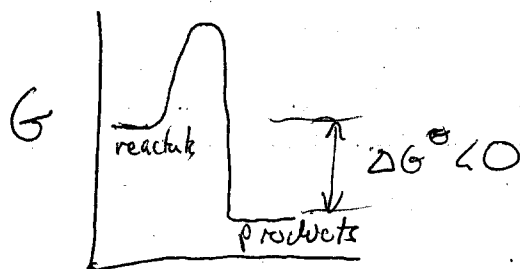


- ① Write down the relation between the chemical potentials of the species in the following reaction at equilibrium



- ② Sketch a free energy diagram for a reaction that is product favored



- ③ ~~AG~~ How did ΔG change for the formation of your amino acid in going from the 180 sec water to the 100° hydrothermal vent region? Some ΔG 's were negative at the hydrothermal vent conditions. What is the "big picture" significance of that?

ΔG got less positive and may even have become negative

Spontaneous formation of 11 amino acids. This energy can be used to build proteins and form the other amino acids

- ④ What equations are on your refrigerator?

See your refrigerator