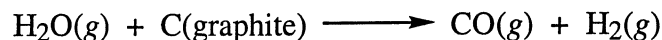


Handed out in class on September 27
Due in class on October 11

(10) 1. At one time the gas used for cooking, called "water gas," was prepared as follows:



From the thermodynamic quantities listed in Appendix B, predict the minimum temperature at which the products will be favored over the reactants.

The following problems are taken from Volume I, p. 197, p. 345, and p. 392

(5) 2. 6.26

(5) 3. 6.34

(15) 4. 6.37

(10) 5. 6.40

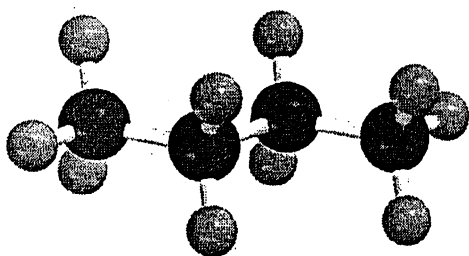
(15) 6. 9.5

(15) 7. 9.42

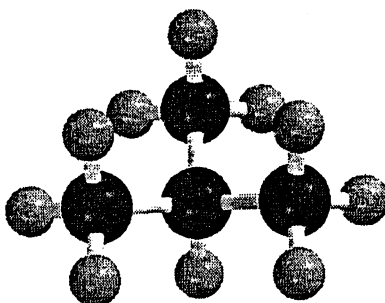
Table of water vapor pressure

Pressure of Water Vapor at Various Temperatures

Temperature (°C)	Water Vapor Pressure (mmHg)
0	4.58
5	6.54
10	9.21
15	12.79
20	17.54
25	23.76
30	31.82
35	42.18
40	55.32
45	71.88
50	92.51
55	118.04
60	149.38
65	187.54
70	233.7
75	289.1
80	355.1
85	433.6
90	525.76
95	633.90
100	760.00



Butane



Isobutane

(5) 8. 10.10

(10) 9. 10.11

(10) 10.10.44