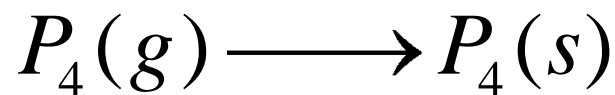
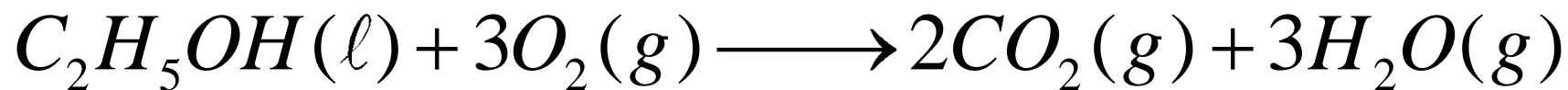
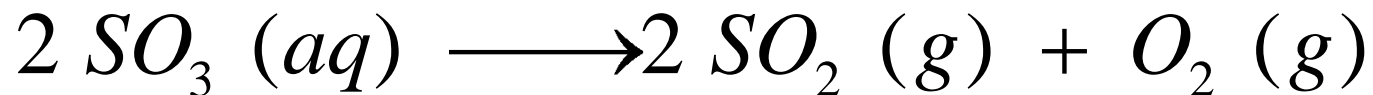


Pg. 740 #26



Predicting S_{reaction} for each of the reactions above:

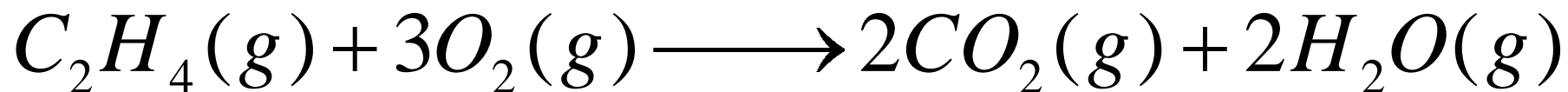
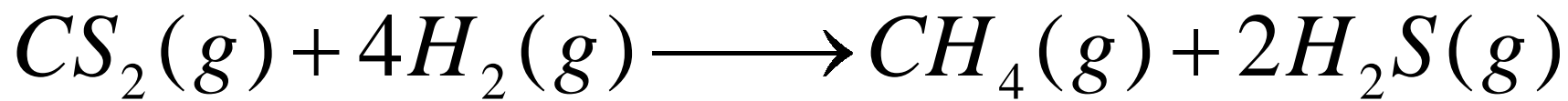
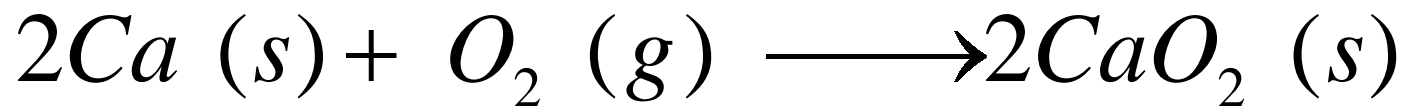
Positive – decomposition/gaseous products/3 total product molecules from 2 reactant particles

Positive – more gaseous products/5 product molecules from 4 reactant particles

Negative – solids have far less disorder than gases

Positive – decomposition/gaseous products/3 total products from 2 reactants

Pg. 740 #28acd



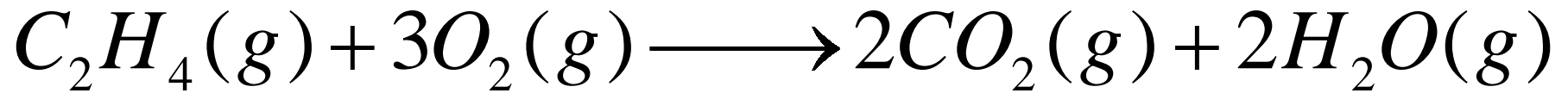
Calculate $S_{reaction}$ for each:

$$-208.2 \frac{J}{K}$$

$$-162.4 \frac{J}{K}$$

$$-29.7 \frac{J}{K}$$

Pg. 740 #36a

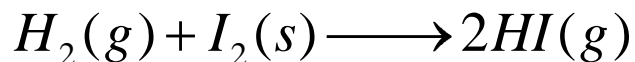
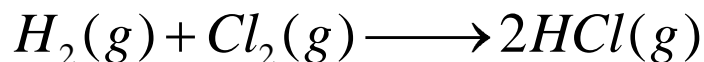
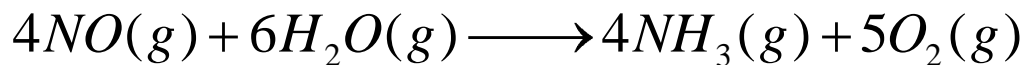
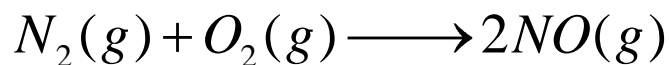
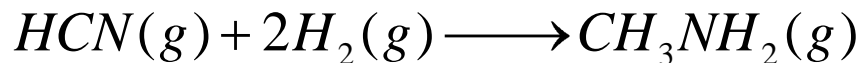


Calculate $G_{reaction}$ at 25°C:

-1314.4 kJ

Pg. 740 #38

Are the following reactions spontaneous?



G_{reaction} at 25°C:

-92 kJ *yes*

+173 kJ *no*

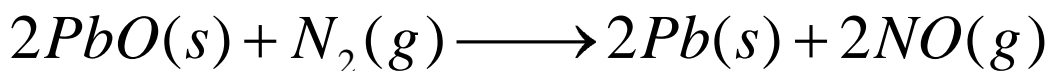
+479 kJ *no*

-191 kJ *yes*

2.6 kJ *equilibrium (approx. 0 kJ)*

Pg. 740 #40a

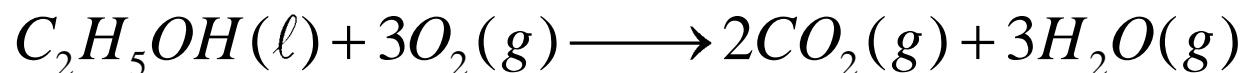
Calculate $H_{reaction}$ and $G_{reaction}$ and interpret their meaning:



$$H_{reaction} = +615.1 \text{ kJ} / \text{endothermic} \quad G_{reaction} = +548.9 \text{ kJ} / \text{nonspontaneous}$$

Pg. 743 #66

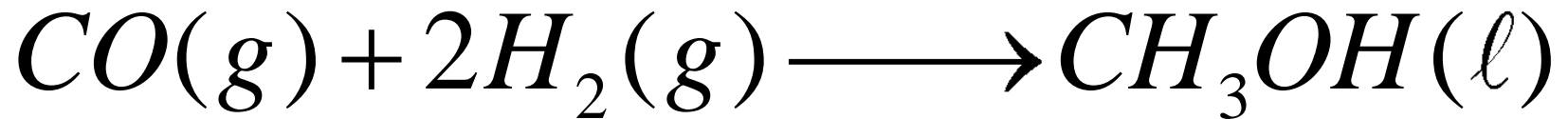
Predict $S_{reaction}$ for:



$S_{reaction}$ will be positive since there is an increase in the number of moles of particles produced (4 to 5) and more gas product molecules are present as products than reactants (5 to 3).

Pg. 743 #68

Calculate S_{reaction} for:



$$S_{\text{reaction}} = -332.0 \frac{J}{K} / \textit{less disorder}$$