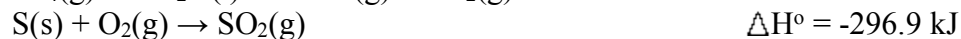
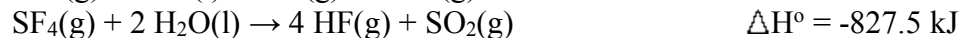
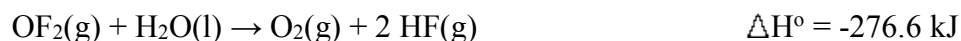
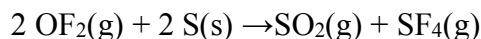


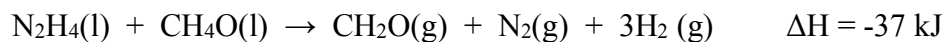
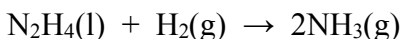
## EXTRA PRACTICE PROBLEMS for HESS' LAW OF HEAT SUMMATION:

1. Given the following equations and  $\Delta H^\circ$  values, determine the heat of reaction (kJ) at 298 K for the reaction:



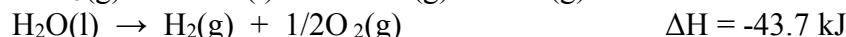
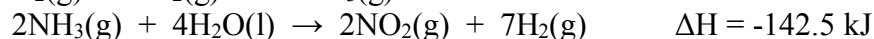
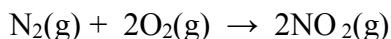
Answer: -319.5 kJ

2. Find the  $\Delta H$  for the reaction below, given the following reactions and subsequent  $\Delta H$  values:



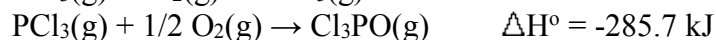
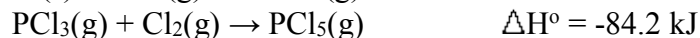
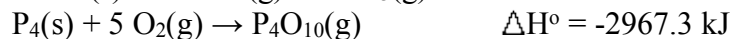
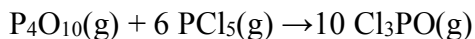
Answer: -18 kJ

3. Find the  $\Delta H$  for the reaction below, given the following reactions and subsequent  $\Delta H$  values:



Answer: -83 kJ

4. Calculate the value of  $\Delta H^\circ/\text{kJ}$  for the following reaction using the listed thermochemical equations:



Answer: -610.1 kJ

