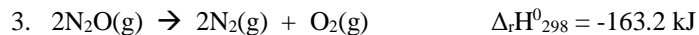
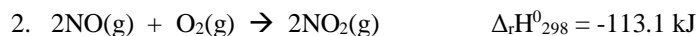
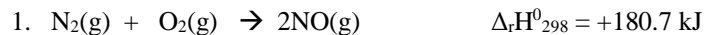


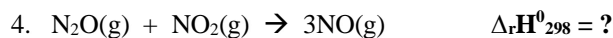
## ANSWER TO "TRY YOURSELF" PROBLEM FROM STUDY SECTION 5.7

### Try Yourself 5.7 a

Given the following data:

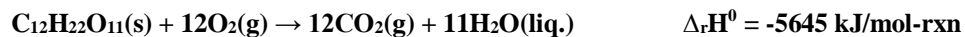


Calculate  $\Delta_r\text{H}^0_{298}$  for the following reaction by using Hess's law and manipulating the given reactions above:



### Try Yourself 5.7 b

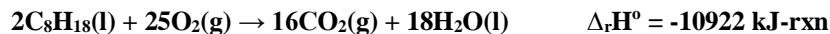
Sucrose (sugar,  $\text{C}_{12}\text{H}_{22}\text{O}_{11}$  = 342.3 g.mol<sup>-1</sup>) can be oxidized to  $\text{CO}_2$  and  $\text{H}_2\text{O}$  and the enthalpy change for the reaction can be measured under conditions of constant pressure.



Calculate the energy that is transferred as heat by burning 5.00 g of sugar.

### Try Yourself 5.7 c

Iso-octane (2,2,4-trimethylpentane = 114.18 g.mol<sup>-1</sup>), one of the many hydrocarbons that make up gasoline, burns in air to give water and carbon dioxide.



Calculate the enthalpy change if you burn 1.00 L of iso-octane (density = 0.69 g/mL).