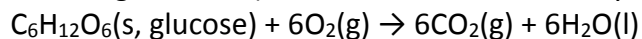


## Answer on Question #82204 – Chemistry – General Chemistry

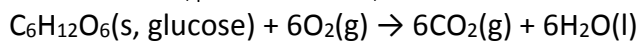
What is the  $\Delta H^0$  for the following reaction (in kJ/mol of reaction exactly as written)?



To solve, use Appendix II in your textbook (containing standard heats of formation).

### Solution:

$$\Delta H^0_{\text{rxn}} = \sum \Delta H^0_{\text{f, products}} - \sum \Delta H^0_{\text{f, reactants}}$$



$$\Delta H^0(\text{C}_6\text{H}_{12}\text{O}_6(\text{s})) = -1275.0 \text{ kJ/mol}$$

$$\Delta H^0(\text{O}_2(\text{g})) = 0 \text{ kJ/mol}$$

$$\Delta H^0(\text{CO}_2(\text{g})) = -393.5 \text{ kJ/mol}$$

$$\Delta H^0(\text{H}_2\text{O}(\text{l})) = -285.8 \text{ kJ/mol}$$

$$\Delta H^0_{\text{rxn}} = 6 \times (-393.5) + 6 \times (-285.8) - (-1275.0) = -2361 - 1714.8 + 1275.0 = -2800.8 \text{ kJ/mol}$$

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