**Bond energies can be used to calculate enthalpy changes**

Draw and annotate potential energy diagrams for exothermic and endothermic reactions. Identify endothermic bond breaking, exothermic new bond formation, and the enthalpy change. Use the energies of the bonds to write an expression for the enthalpy change.

Check out the table of bond dissociation energies, p.307 table 1.

|  |  |  |  |
| --- | --- | --- | --- |
| C-H |  | C-C |  |
| C-O |  | C=C |  |
| C=O |  | C C |  |
| O-H |  |  |  |

How much energy is released when 2 moles of hydrogen gas are mixed with 1 mole of fluorine gas in a sealed container and allowed to react?

Methane can be reacted with chlorine and fluorine to form freon-12, CCl2F2, hydrogen fluoride, and hydrogen chloride. Calculate the enthalpy change for the reaction.

Review for test: p.313 #1,2,11,13