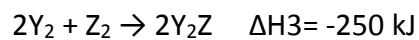
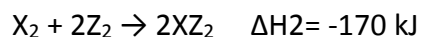
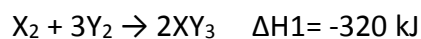
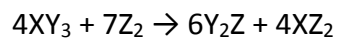


Answer on Question #41036 - Chemistry - Other

Question:

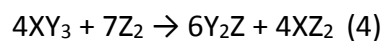
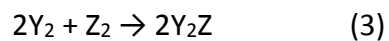
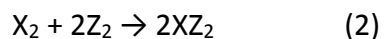
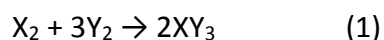


Calculate the change in enthalpy for the following reaction:



$$\Delta H = \text{_____} ? \text{_____ kJ}$$

Solution.



It can easily be seen, that the fourth equation can be expressed through the sum of first three in such way:

$$(4) = -2 \cdot (1) + 2 \cdot (2) + 3 \cdot (3)$$

According to Hess's law, the change in enthalpy for the reaction is:

$$\Delta H = 3 \cdot \Delta H_3 + 2 \cdot \Delta H_2 - 2 \cdot \Delta H_1 = -250 \cdot 3 - 170 \cdot 2 + 320 \cdot 2 = -450 \text{ kJ}$$

Answer: $\Delta H = -450 \text{ kJ}$