2H2(g)+O2(g)=2H2O(g)   Delta H=-483.6kj

3O2(g)=2O3(g)   Delta H=+284.6 kj

Calculate the heat of the reaction :

3H2(g)+O3(g)=3h2O(g)

Solution:

$$2H_2 + O_2 = 2H_2O \qquad \text{(a)}$$
$$3O_2 = 2O_3 \qquad \text{(b)}$$
$$3H_2 + O_3 = 3H_2O \qquad \text{(c)}$$
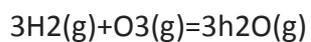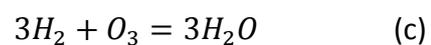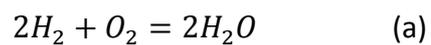
$$c = \frac{3a - b}{2}$$

Delta H (c) (kJ) = (3*(-483.6) - 284.6)/2 = - 867.7

Answer: - 867.7 kJ