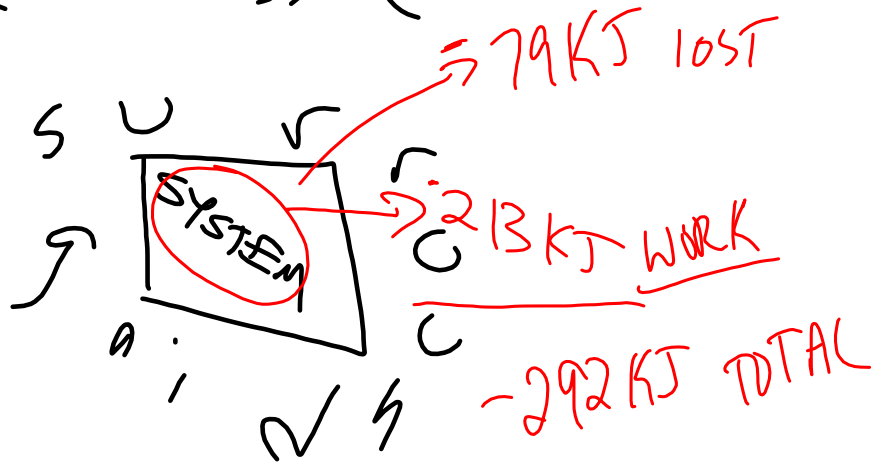


① KE $\frac{1}{2} m v^2$

KE $\frac{1}{2} (9.109 \times 10^{-31} \text{ kg}) (6 \times 10^6)^2 = 1.64 \times 10^{-17} \text{ J}$

②



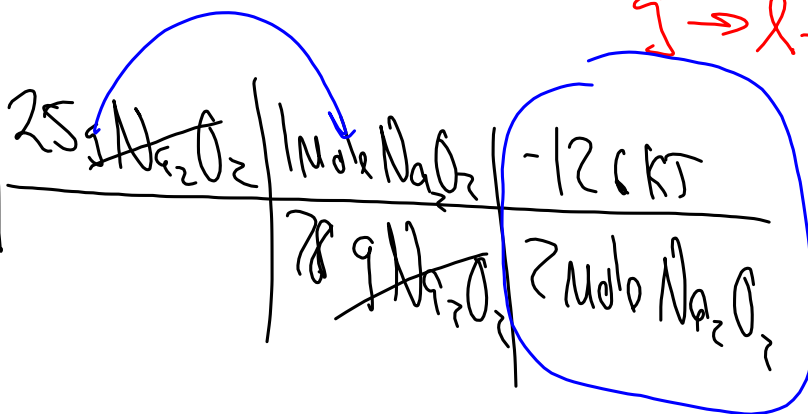
Oct 24-7:36 AM

lose energy. $-\Delta H$

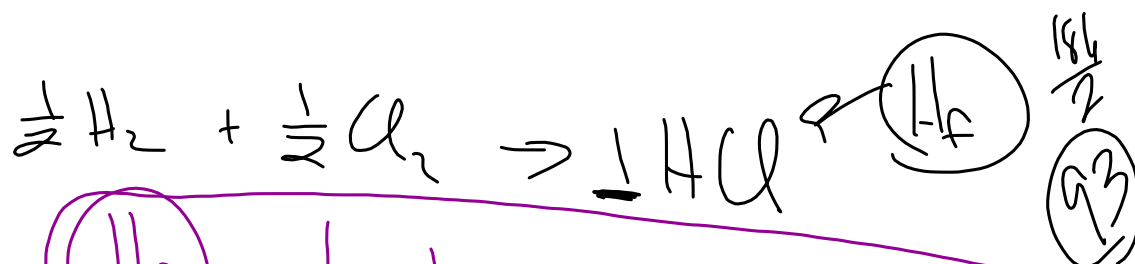
\hookrightarrow molecular motion slows

$I \rightarrow L \rightarrow S$

⑦

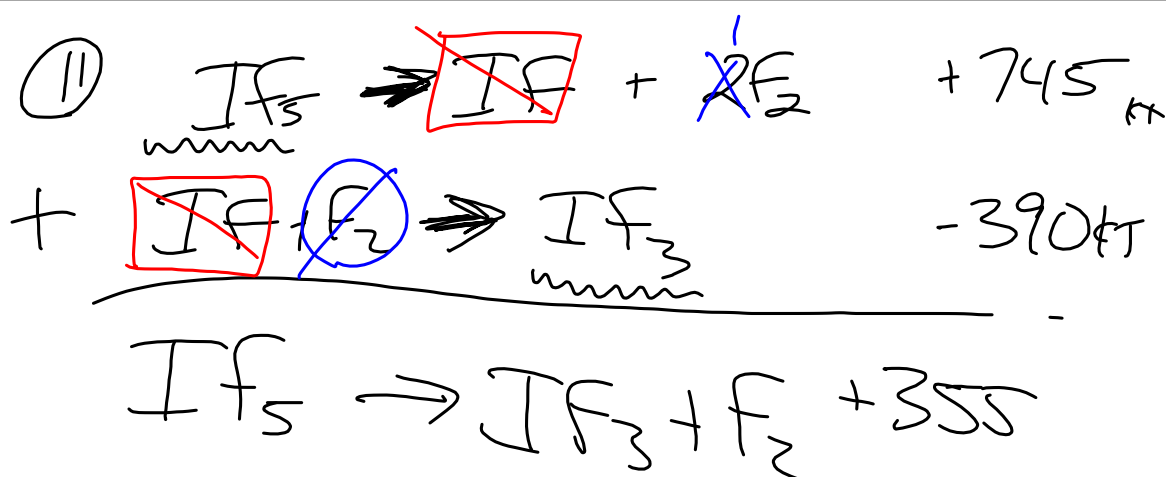


Oct 24-8:01 AM

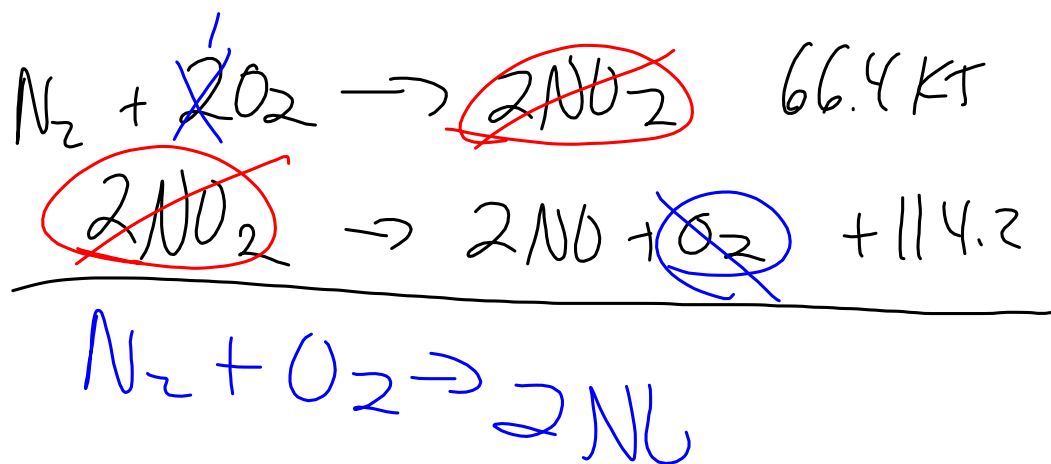


(Hf) 1 Mole product from elements

Oct 24-8:06 AM



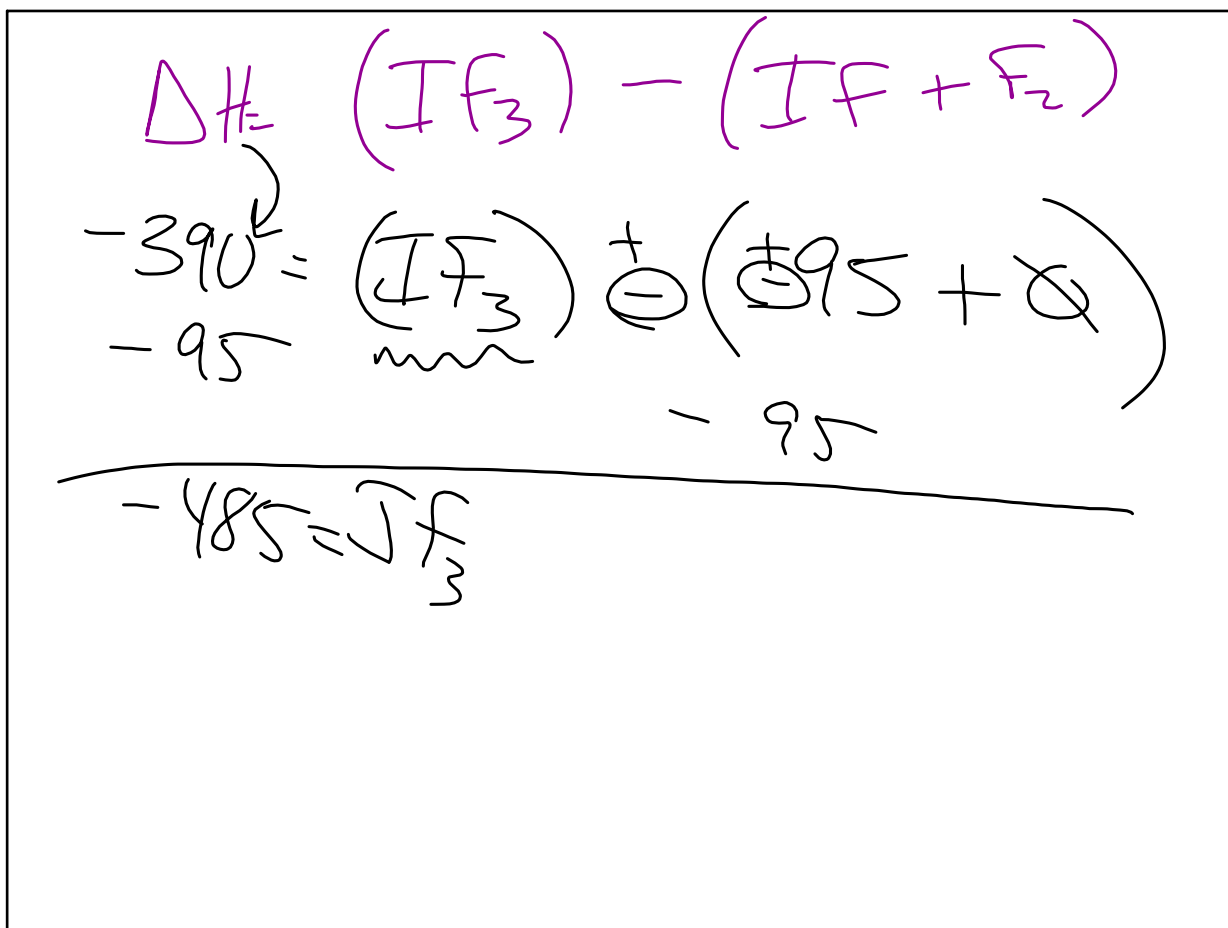
Oct 24-8:10 AM



Oct 24-8:15 AM

$$\begin{array}{c}
 (-941) \oplus (-840 + f_z) \\
 -101
 \end{array}$$

Oct 24-8:23 AM



Oct 24-8:27 AM