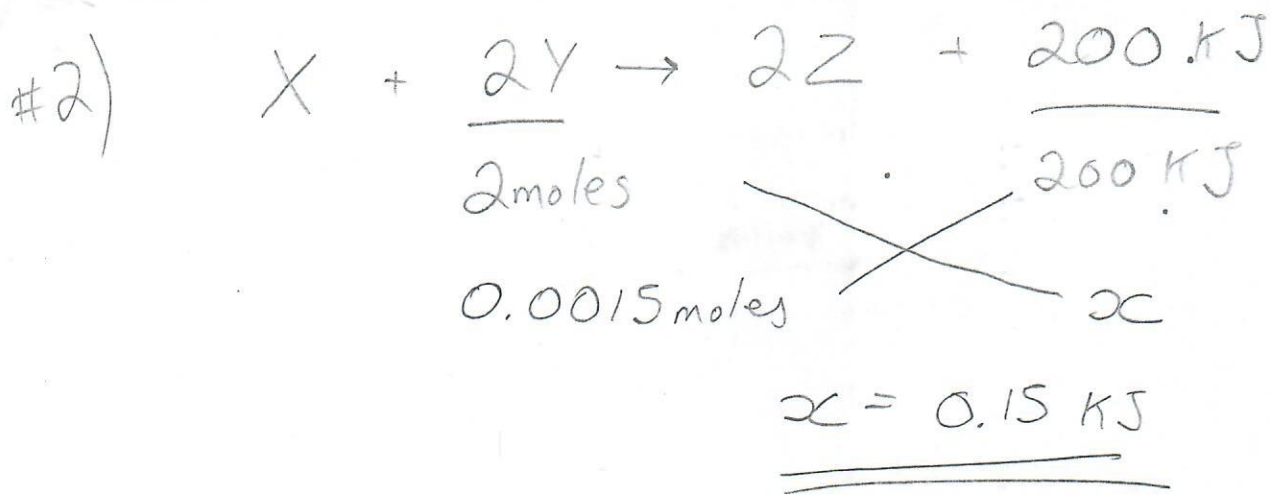
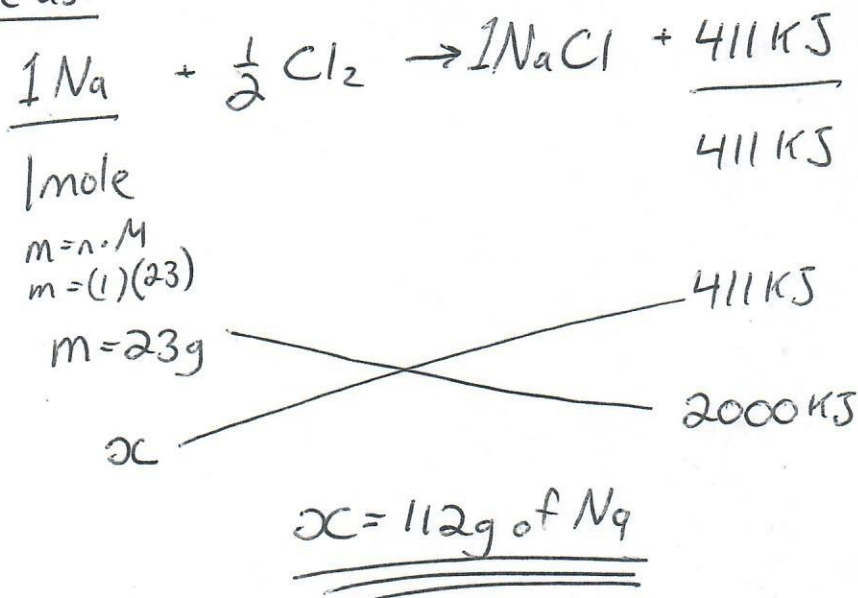


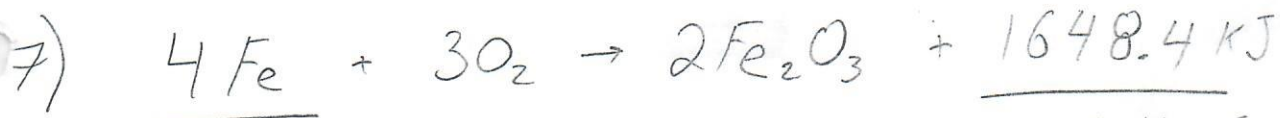
P.162, P.170



6) Molar Enthalpy for Synthesis of NaCl $\Delta H: -411 \text{ kJ/mol}$
(synthesis)

can write as:





4 moles

$$m = n \cdot M$$

$$m = 4(55.8)$$

$$m = \underline{223.2 \text{ g}}$$

100g

$$\underline{1648.4 \text{ kJ}}$$

$$\underline{1648.4 \text{ kJ}}$$

x

$$\underline{\underline{x = 738.5 \text{ kJ}}}$$



1 mole

$$m = n \cdot M$$

$$m = 1(58.5)$$

$$m = 58.5$$

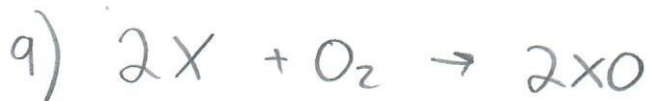
(Must work backwards!)

3.21g

3.19 kJ

$$\underline{x = 58.1 \text{ kJ}}$$

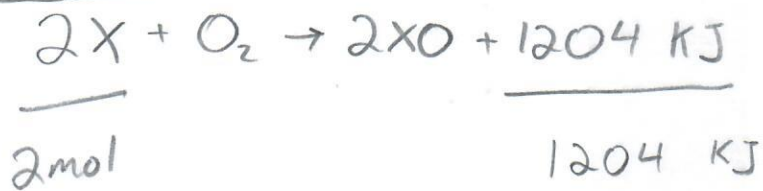
$$\underline{\underline{\Delta H = -58.1 \text{ kJ/mol}}}$$



$$\Delta H = -602 \text{ kJ/mol}$$

(XO)
(synthesis)

Method A:



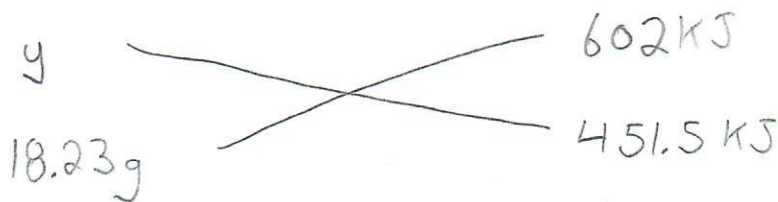
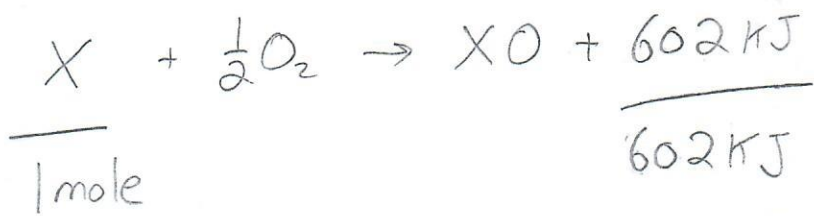
$$y = 48.6 \text{ g}$$

$$n = \frac{m}{M}$$

$$2 = \frac{48.6}{M}$$

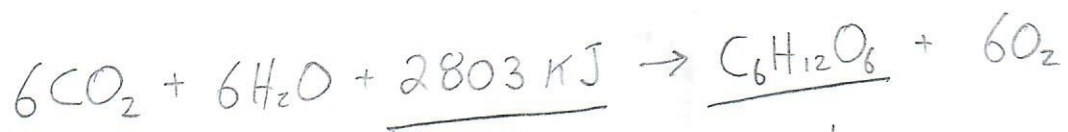
$$M = 24.3 \text{ g/mol}$$

Method B:



$$y = 24.3 \text{ g of X}$$

1 mole of X = 24.3 g, therefore molar mass of X is 24.3 g/mol



10)

2803 kJ

1 mole

$$m = n \cdot M$$

$$m = 1(180)$$

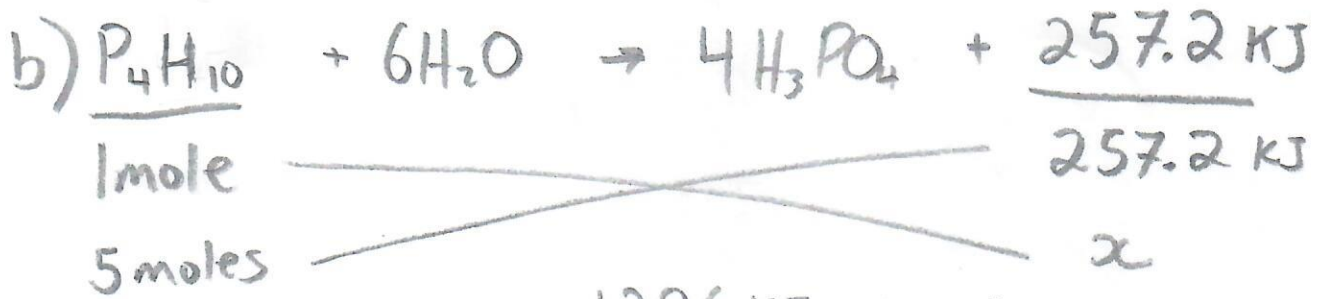
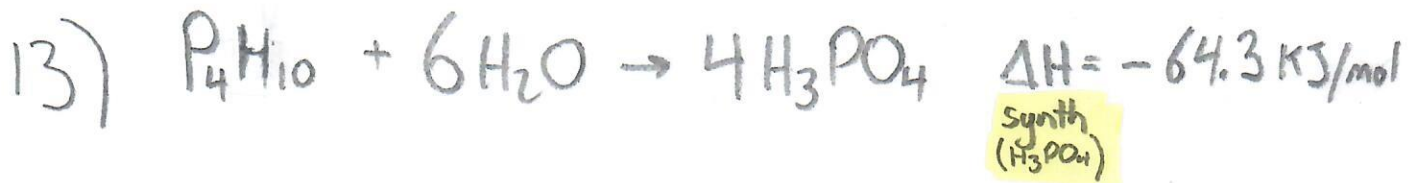
$$m = 180 \text{ g}$$

2803 kJ

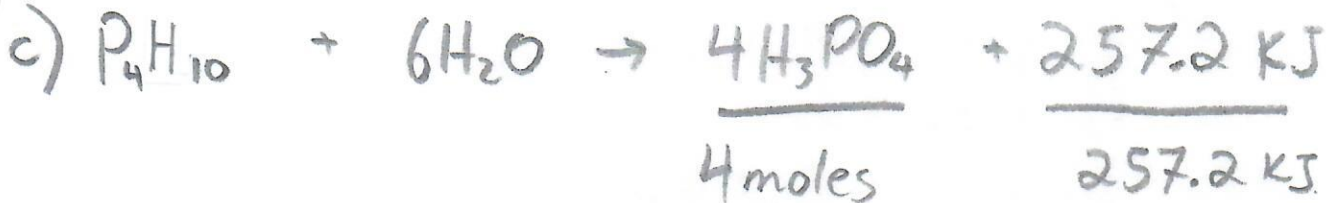
2000 kJ

x

$$\underline{\underline{x = 128.4 \text{ g}}}$$



$x = 1286 \text{ KJ released.}$



$m = n \cdot M$
 $m = 4(98)$

$m = 392 \text{ g}$

235 g

257.2 KJ

x

$x = 154.2 \text{ KJ}$



$$\Delta H = -1328.7 \text{ kJ/mol}$$

combustion

for butane

therefore:



2mole

2657.4 kJ

$$m = n \cdot M$$

$$m = 2(58)$$

$$m = 116g$$

2657.4 kJ

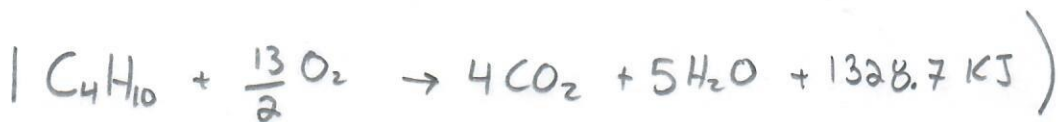
10g

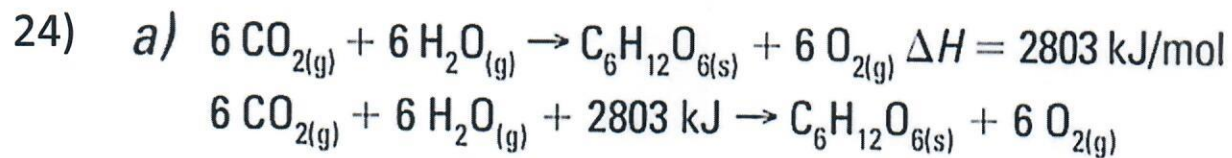
x

$$x = 229 \text{ kJ}$$

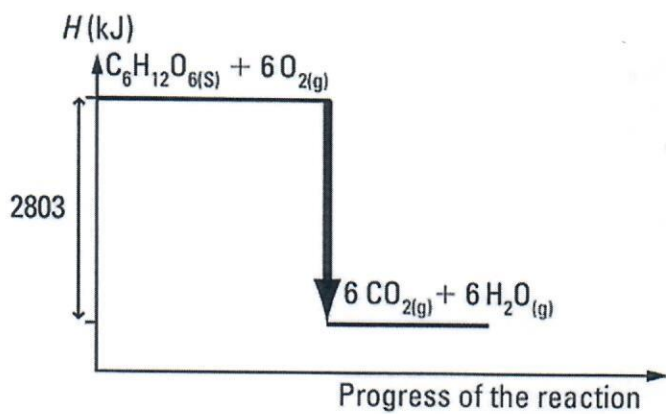
enthalpy change $\Delta H = \underline{\underline{-229 \text{ kJ}}}$

(could have also used the following to solve:





b) Respiration:



Photosynthesis:

