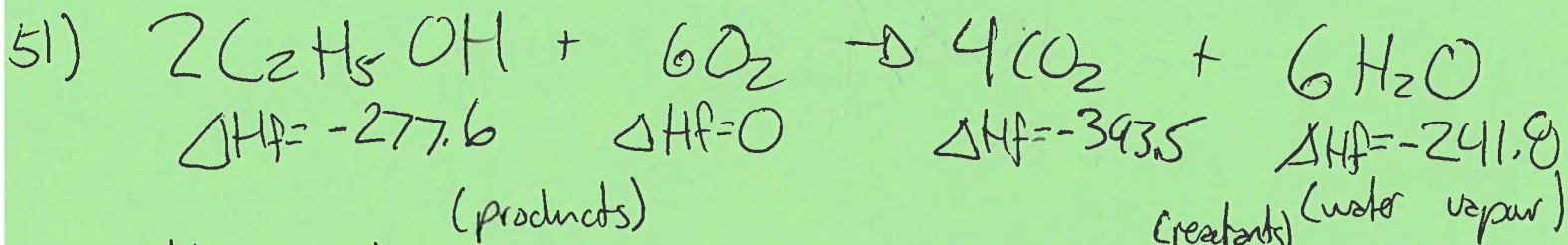


Enthalpy of Formation Homework

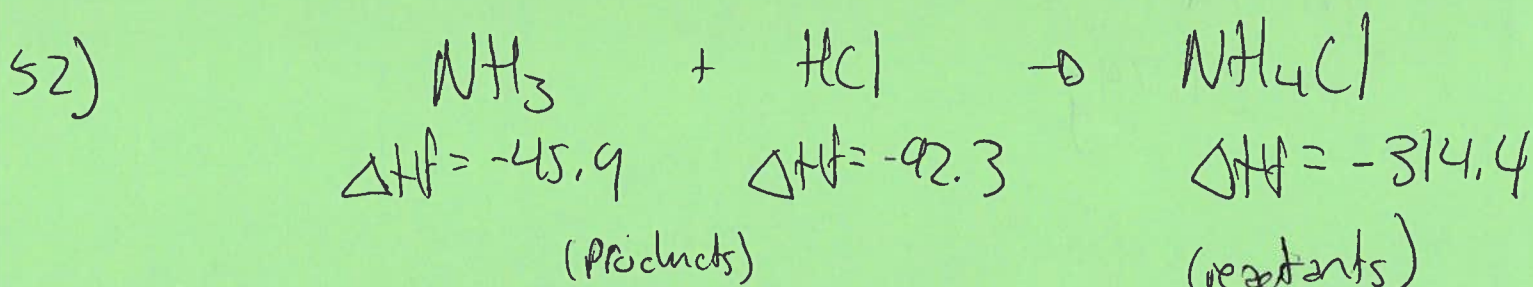
pg 323 #51-56

pg 324 #64, 65, 66, 67

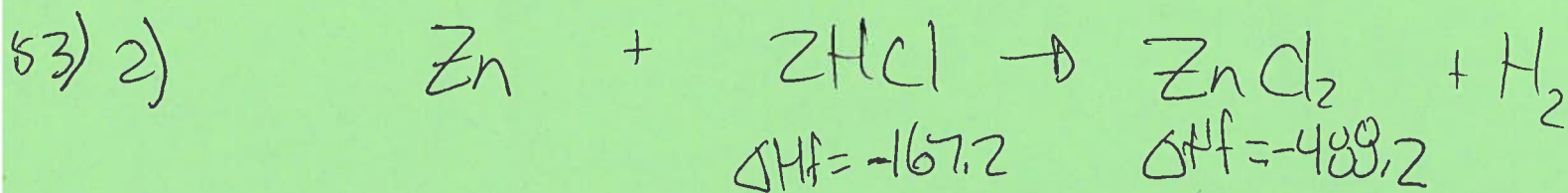
$$\Delta H_{rxn} = \sum (n \cdot \Delta H_f \text{ products}) - \sum (n \cdot \Delta H_f \text{ reactants})$$



$$\Delta H_{rxn} = [(4)(-393.5) + (6)(-241.8)] - [(2)(-277.6) + (6)(0)]$$
$$= 1234.8 \text{ kJ/mol}$$



$$\Delta H_{rxn} = [(1)(-314.4)] - [(1)(-45.9) + (1)(-92.3)]$$
$$= -176.2 \text{ kJ/mol}$$



$$\Delta H_{rxn} = [(1)(-489.2)] - [(2)(-167.2) + (1)(0)]$$
$$= -153.8 \text{ kJ/mol}$$

$$b) \Delta H_{rxn} = \Delta H_f / n$$

$$\Delta H_{rxn} = 123 \text{ kJ}$$

$$\Delta H_f = -153.8 \text{ kJ/mol}$$

$$n = \Delta H_f / \Delta H_{rxn}$$

$$n = -153.8 / 123$$

$$n = 1.25$$

$$m = n \times M_{zn}$$

$$m = n \times 65.41$$

$$m = 81.79 \text{ g}$$