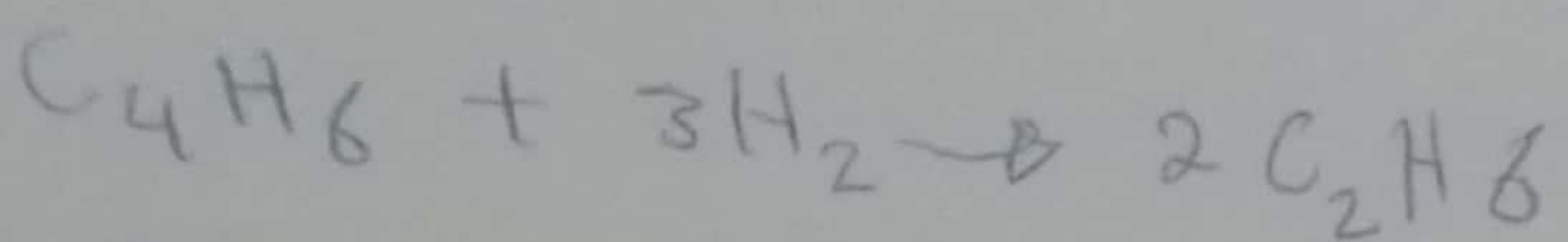


$$V = 11.2 \text{ L}$$



$$n_{C_4H_6} = 0.15$$

$$n_{C_2H_6} = ?$$

$$n_{C_2H_6} = ? \%$$

$$n_{C_2H_6}$$

STP : $n_0 = 11.2 \text{ L} \times \frac{1 \text{ mol}}{22.4 \text{ L}} = 0.5 \text{ mol}$

$$n_0 = n_{C_4H_6} + n_{C_2H_6}$$

$$n_{C_2H_2} = n_{C_2H_4}$$

$$n_{C_4H_6} = 0.15 \text{ mol } H_2 \times \frac{1 \text{ mol } C_4H_6}{3 \text{ mol } H_2} = 0.1 \text{ mol } C_4H_6$$

$$\left(n_{C_2H_2} = n_{C_2H_4} = \frac{1}{2} n_{C_4H_6} = 0.05 \text{ mol} \right)$$

$$0.5 = 0.1 \text{ mol} + n_{C_2H_6} \quad \& \quad 0.4 \text{ mol} = n_{C_2H_6}$$

$$\% C_2H_6 = \frac{0.4 \text{ mol}}{0.5 \text{ mol}} \times 100 = 80 \%$$

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