

Answer on Question #66024 - Chemistry – Organic Chemistry

Task:

How many grams of H₂O are produced from 9.40 g of ethanol?

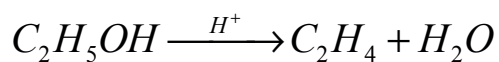
Solution:

Water = H₂O;

Ethanol = C₂H₅OH;

Ethylene = C₂H₄.

Reaction Scheme:



By the equation:

$$n(C_2H_5OH) = n(H_2O);$$

$$\frac{m(C_2H_5OH)}{M(C_2H_5OH)} = \frac{m(H_2O)}{M(H_2O)};$$

$$m(H_2O) = \frac{M(H_2O) \times m(C_2H_5OH)}{M(C_2H_5OH)};$$

$$m(H_2O) = \frac{18 \times 9.40}{46} \approx 3.68(g)$$

Answer: 3.68 g H₂O.