$$A_{in} \longrightarrow \boxed{\begin{array}{c} A \longrightarrow P \\ A \longrightarrow \text{by-products} \end{array}} \longrightarrow \begin{array}{c} A_{out} \\ P_{out} + \text{byproducts} \end{array}$$

Yield
$$Y = \frac{P_{out}}{A_{in}} = SC$$

Selectivity
$$S = \frac{P_{out}}{A_{in} - A_{out}} = \frac{Y}{C}$$

Conversion
$$C = \frac{A_{in} - A_{out}}{A_{in}} = \frac{Y}{S}$$

Conversion: The fraction of feed A that is converted.

Yield: The fraction of feed A converted to product.

Selectivity: The fraction of converted A that is product.