

$$\begin{array}{ccc}
 \mathbf{E}(X, Y) \otimes \mathbf{E}(Y, Y) & \xrightarrow{\text{co}_{X, Y, Y}} & \mathbf{E}(X, Y) \\
 \uparrow \text{id}_{\mathbf{E}(X, Y)} \otimes \text{ic}_Y & \nearrow \text{ru} & \nwarrow \text{lu} \\
 \mathbf{E}(X, Y) \otimes 1 & & 1 \otimes \mathbf{E}(X, Y) \\
 & & \uparrow \text{ic}_X \otimes \text{id}_{\mathbf{E}(X, Y)} \\
 & & \mathbf{E}(X, X) \otimes \mathbf{E}(X, Y) \\
 & & \xleftarrow{\text{co}_{X, X, Y}} \mathbf{E}(X, Y)
 \end{array}$$