

$$\begin{array}{ccc}
 \text{Hom}_{\mathbf{C}}(X; Y) \otimes \text{Hom}_{\mathbf{C}}(Y; Y) & \xrightarrow{m_{X, Y, Y}} & \text{Hom}_{\mathbf{C}}(X; Y) \\
 \text{id}_{\text{Hom}_{\mathbf{C}}(X; Y)} \otimes j_Y \uparrow & \nearrow \text{ru} & \xleftarrow{m_{X, X, Y}} \text{Hom}_{\mathbf{C}}(X; X) \otimes \text{Hom}_{\mathbf{C}}(X; Y) \\
 \text{Hom}_{\mathbf{C}}(X; Y) \otimes \mathbf{1} & & \mathbf{1} \otimes \text{Hom}_{\mathbf{C}}(X; Y) \\
 & \nwarrow \text{lu} & \uparrow j_X \otimes \text{id}_{\text{Hom}_{\mathbf{C}}(X; Y)}
 \end{array}$$