

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

$m_{X, Y, Y}$ and $m_{X, X, Y}$ are multiplication maps. j_Y and j_X are the canonical injections. $\text{Id}_{\text{Hom}_{\mathbf{C}}(X; Y)}$ is the identity map. lu and ru are the left and right unit isomorphisms.