

$$\begin{array}{ccc}
 \mathrm{Hom}_{\mathbf{C}}(X;Y) \otimes \mathrm{Hom}_{\mathbf{C}}(Y;Z) & \xrightarrow{m_{X,Y,Z}} & \mathrm{Hom}_{\mathbf{C}}(X;Z) \\
 F_{X,Y} \otimes F_{Y,Z} \downarrow & & \downarrow F_{X,Z} \\
 \mathrm{Hom}_{\mathbf{D}}(F(Y);F(Z)) \otimes \mathrm{Hom}_{\mathbf{D}}(F(X);F(Y)) & \xrightarrow{m_{F(X),F(Y),F(Z)}} & \mathrm{Hom}_{\mathbf{D}}(F(X);F(Z))
 \end{array}$$