$$(F(X) \otimes_{\mathbf{D}} F(Y)) \otimes_{\mathbf{D}} F(Z) \xrightarrow{\operatorname{as}_{F(X),F(Y),F(Z)}^{\mathbf{D}}} F(X) \otimes_{\mathbf{D}} (F(Y) \otimes_{\mathbf{D}} F(Z))$$

$$\downarrow^{\operatorname{Id}(F(X))} \otimes_{\mathbf{D}} F(Z) \qquad \qquad \downarrow^{\operatorname{Id}(F(X))} \otimes_{\mathbf{D}} \mu_{Y,Z}$$

$$F(X \otimes_{\mathbf{C}} Y) \otimes_{\mathbf{D}} F(Z) \qquad \qquad F(X) \otimes_{\mathbf{D}} F(Y \otimes_{\mathbf{C}} Z)$$

$$\downarrow^{\mu_{X,Y} \otimes_{\mathbf{D}} Z}$$

$$F((X \otimes_{\mathbf{C}} Y) \otimes_{\mathbf{C}} Z) \xrightarrow{F(A \otimes_{\mathbf{C}} C)} F(X \otimes_{\mathbf{C}} (Y \otimes_{\mathbf{C}} Z))$$