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

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

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

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

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