

$$\begin{array}{ccc}
 (F(X) \otimes_{\mathbf{D}} F(Y)) \otimes_{\mathbf{D}} F(Z) & \xrightarrow[\text{as}^{\mathbf{D}}_{F(X), F(Y), F(Z)}]{} & F(X) \otimes_{\mathbf{D}} (F(Y) \otimes_{\mathbf{D}} F(Z)) \\
 \downarrow & & \downarrow \\
 F(X \otimes_{\mathbf{C}} Y) \otimes_{\mathbf{D}} F(Z) & & F(X) \otimes_{\mathbf{D}} F(Y \otimes_{\mathbf{C}} Z) \\
 \downarrow & & \downarrow \\
 F((X \otimes_{\mathbf{C}} Y) \otimes_{\mathbf{C}} Z) & \xrightarrow[F(\text{as}^{\mathbf{C}}_{X, Y, Z})]{} & F(X \otimes_{\mathbf{C}} (Y \otimes_{\mathbf{C}} Z))
 \end{array}$$