$$
\begin{array}{ccccc}
\mathcal{A}W & \xrightarrow{\mathrm{Id}_{\mathcal{A}W}} & \mathcal{A}W & \xrightarrow{\alpha_W} & \mathcal{B}W \\
& & \downarrow{\scriptstyle\mathcal{A}(f)} \quad \overset{a_f}{\Leftarrow} & & \downarrow{\scriptstyle\mathcal{B}(f)} \\
\mathcal{A}(gf)\Big\downarrow \quad \overset{a_{gf}}{\Leftarrow} & & \mathcal{A}X & \xrightarrow{\alpha_X} & \mathcal{B}X \\
& & \downarrow{\scriptstyle\mathcal{A}(g)} \quad \overset{a_g}{\Leftarrow} & & \downarrow{\scriptstyle\mathcal{B}(g)} \\
\mathcal{A}Y & \xrightarrow{\mathrm{Id}_{\mathcal{A}Y}} & \mathcal{A}Y & \xrightarrow{\alpha_Y} & \mathcal{B}Y
\end{array}
\qquad = \qquad
\begin{array}{ccccc}
\mathcal{A}W & \xrightarrow{\alpha_W} & \mathcal{B}W & \xrightarrow{\mathrm{Id}_{\mathcal{B}W}} & \mathcal{B}W \\
\mathcal{A}(gf)\Big\downarrow \overset{\alpha_{gf}}{\Leftarrow} & & \mathcal{B}(gf)\Big\downarrow \overset{b_{gf}}{\Leftarrow} & & \Big\downarrow{\scriptstyle\mathcal{B}(g)\mathcal{B}(f)} \\
\mathcal{A}Y & \xrightarrow{\alpha_Y} & \mathcal{B}Y & \xrightarrow{\mathrm{Id}_{\mathcal{B}Y}} & \mathcal{B}Y
\end{array}
$$

$$
\begin{array}{ccc}
d & \Longrightarrow & c,d \\
\downarrow \quad \mapsto & & \natural\Big\updownarrow \;\mathrm{BCC} \\
c,d \Longleftarrow & & c,d \\
& d \Longrightarrow & \dashrightarrow c,d \\
\dashv & \downarrow \quad \leftarrowtail & \Big\downarrow \mathrm{id} \\
& c,d \Longleftarrow & c,d
\end{array}
$$

$$
\begin{array}{ccc}
a,b,c \vdash & \longrightarrow & a,b \\
\;\lrcorner & & \\
\nwarrow & & \searrow \\
a,c \vdash & \longrightarrow & a
\end{array}
$$