



We deal with the fourth composite along the bottom by replacing $f_1 Y$ with $QRf_1 Y$ as follows:

$$\begin{array}{ccc}
 \Delta_B^*(X \bar{\wedge} f_1 Y) & \xrightarrow{?} & \Delta_B^* R(X \bar{\wedge} f_1 Y) \\
 \sim \uparrow & & \sim \uparrow \\
 \Delta_B^*(X \bar{\wedge} QRf_1 Y) & \longrightarrow & \Delta_B^* R(X \bar{\wedge} QRf_1 Y) \\
 \sim \downarrow & & \sim \downarrow \\
 \Delta_B^*(X \bar{\wedge} QRQRf_1 Y) & \xrightarrow{\sim} & \Delta_B^* R(X \bar{\wedge} QRQRf_1 Y)
 \end{array}$$