$$\mathbb{L}^\sharp \xleftarrow{\pi} \mathbb{L}^\sharp \boxtimes \overline{\mathbb{H}}_\infty \mathbb{K}$$

$$\overset{\sharp}{\pi}\, \overset{\sharp}{\mathbb{L}} = \overset{\sharp}{\mathbb{L}}_\alpha \boxtimes S\, \mathbb{Y}^\alpha$$

$$\begin{array}{ccc}
\bar{\mathbb{L}} \boxtimes \overline{\mathbb{H}}_\infty \mathbb{K} & \xleftarrow[\overset{\sharp}{\pi}]{} & \bar{\mathbb{L}} \\
\Big\downarrow{\scriptstyle \blacktriangle \boxtimes S} & & \Big\downarrow{\scriptstyle \blacktriangle} \\
\mathbb{L} \boxtimes \overline{\mathbb{H}}_\infty \mathbb{K} & \xleftarrow[\pi]{} & \mathbb{L}
\end{array}$$