$$V_{X} \xrightarrow{(v_{X})} V_{X} \oplus V_{Y} \xrightarrow{u_{X} \oplus 1_{V_{Y}}} U_{X} \oplus V_{Y} \xrightarrow{\delta_{X} \oplus 0} V_{X} \oplus V_{Y} \xrightarrow{(U_{p}, u_{Y})} U_{X} \oplus V_{Y} \xrightarrow{\delta_{Y}} V_{Y} \xrightarrow{\delta_{Y}} V_{Y} \xrightarrow{u_{Y}} V_{Y} \xrightarrow{\delta_{Y}} V_{Y}$$