

$$\begin{array}{ccccc}
 \Delta_{\{i+1,k\}}^g & \xrightarrow{\quad} & \Delta_{\{i,k\}}^g & \xrightarrow{\quad} & \Delta_{\{k\}}^g \\
 \downarrow & & \downarrow & & \\
 \Delta_{\{i+1\}}^g & \xrightarrow{\quad} & \Delta_{\{i\}}^g & & \\
 \downarrow & & \downarrow & & \\
 A_{i+1}^g & \xrightarrow{\quad} & A_i^g & &
 \end{array}$$