$$\begin{array}{c}
2_B \\
3_A \\
4_C \\
3_a
\end{array}$$

$$\alpha = \begin{pmatrix} \bar{f}_1 & \bar{f}_2 & \bar{f}_3 \\ k_1 & 0 & 0 & 1 \\ k_2 & 1 & 0 & 0 \\ k_3 & 0 & 0 & 1 \\ k_4 & 0 & 1 & 0 \end{pmatrix}$$