

$$\overbrace{(\textcolor{red}{1}, \textcolor{red}{2}, \dots, \textcolor{red}{k}_{i,1})}^{\text{1st block}}, \overbrace{(\textcolor{brown}{1}', \textcolor{brown}{2}', \textcolor{brown}{k}_{i,2}, \dots)}^{\text{2nd block}}, \dots, \overbrace{(\textcolor{blue}{1}', \textcolor{blue}{2}', \dots, \textcolor{blue}{k}_{i,a_i})}^{a_i\text{-th block)}$$

$$(\dots, \overbrace{(\rho_{i,1}(\textcolor{red}{1}), \rho_{i,1}(\textcolor{red}{2}), \dots, \rho_{i,1}(\textcolor{red}{k}_{i,1}))}^{\sigma_i(1)\text{-th block}}, \dots, \overbrace{(\rho'_{i,a_i}(\textcolor{blue}{1}), \rho'_{i,a_i}(\textcolor{blue}{2}), \dots, \rho'_{i,a_i}(\textcolor{blue}{k}_{i,a_i}))}^{\sigma_i(a_i)\text{-th block}}, \dots)$$