$$(1,2,\ldots,a_{1},\ldots,1',2',\ldots,a_{n})\\ \downarrow^{(\rho_{1},\ldots,\rho_{n})}\\ (\rho_{1}^{-1}(1),\rho_{1}^{-1}(2),\ldots,\rho_{1}^{-1}(a_{1}),\ldots,\rho_{n}^{-1}(1),\rho_{n}^{-1}(2),\ldots,\rho_{n}^{-1}(a_{n}))\\ \downarrow^{\tau\circ_{a_{1},\ldots,a_{n}}(\sigma_{1},\ldots,\sigma_{n})}\\ \text{1st block}\\ (\sigma_{\tau^{-1}(1)}(\rho_{\tau^{-1}(1)}(1)),\sigma_{\tau^{-1}(1)}(\rho_{\tau^{-1}(1)}(2)),\ldots,\sigma_{\tau^{-1}(1)}(\rho_{\tau^{-1}(1)}(a_{\tau^{-1}(1)}))\\ \dots,\sigma_{\tau^{-1}(n)}(\rho_{\tau^{-1}(n)}(1)),\sigma_{\tau^{-1}(n)}(\rho_{\tau^{-1}(n)}(2)),\ldots,\sigma_{\tau^{-1}(n)}(\rho_{\tau^{-1}(n)}(a_{\tau^{-1}(n)}))$$