

$$\sigma_{\lambda-1}(\sigma_{\lambda}^{-1}(\kappa_a^{\ell})) \in V(\mathcal{S}_a^{\ell}) \setminus \{\kappa_a^{\ell}\} \text{ and } \sigma_{\lambda-1}(\sigma_{\lambda}^{-1}(\kappa_a^{\ell})) \in V(\mathcal{K}^{\ell})$$