$$\sigma_\xi(v_b^{1,2}) \in (V(\mathcal{S}_a^3) \setminus \{\kappa_a^3\}) \cup (V(\mathcal{S}_b^3) \setminus \{\kappa_b^3\}) \text{ and } \sigma_\xi(v_b^{1,2}) \in V(\mathcal{K}^3)$$