$(V(\mathcal{P}_a^{\ell}) \cup V(\mathcal{P}_b^{\ell})) \setminus \sigma_i^{-1}(V(\mathcal{K}^{\ell})) = \{v_b^{\ell}\} \cup (\sigma_i^{-1}(\{\kappa_a^{\ell}, \kappa_b^{\ell}\}) \cap (V(\mathcal{P}_a^{\ell}) \setminus \{v_a^{\ell}\})).$