

$$\{\sigma_i^{-1}(\mu), \sigma_i^{-1}(\sigma_{i+1}(v_a^\ell))\} \subset \sigma_i^{-1}(V(\mathcal{K}^\ell)) \setminus (V(\mathcal{P}_a^\ell) \cup V(\mathcal{P}_b^\ell)),$$