$$\cdots Q_{a\sigma'(j)}\cdots Q_{a\sigma'(j+1)} \cdots P_{bj+1}\, P_{bj} \cdots$$

$(a\sigma'(j+1), b_{j+1})$

$(a\sigma'(j), b_j)$

$$\cdots \otimes \mathrm{HOM}_{\mathcal{V}}(a_{\sigma'(j)}, b_j) \otimes \mathrm{HOM}_{\mathcal{V}}(a_{\sigma'(j+1)}, b_{j+1}) \otimes \cdots$$