$$\left\langle \begin{array}{c} U_g[W] \\ O_2 \\ \times \end{array} \right\rangle \ = \ \left\langle \begin{array}{c} U_g[W'] \\ O_2 \\ \times \end{array} \right\rangle \ = \ \left\langle \begin{array}{c} O_1 \\ O_2 \\ \times \end{array} \right\rangle \ = \ \left\langle \begin{array}{c} O_1 \\ O_2 \\ \times \end{array} \right\rangle$$