

$$\begin{array}{ccc}
 \begin{array}{c}
 U_{\langle\alpha_{123}\rangle,\langle\beta_{123}\rangle} \\
 \uparrow \\
 \bullet \\
 \swarrow \quad \searrow \\
 \begin{array}{cc}
 \bullet & \bullet \\
 \swarrow \quad \searrow & \swarrow \quad \searrow \\
 U_{\alpha_1,\beta_1} & U_{\alpha_2,\beta_2} & U_{\alpha_3,\beta_3}
 \end{array}
 \end{array}
 &
 = e^{if(g_1,g_2,g_3)}
 &
 \begin{array}{c}
 U_{\langle\alpha_{123}\rangle,\langle\beta_{123}\rangle} \\
 \uparrow \\
 \bullet \\
 \swarrow \quad \searrow \\
 \begin{array}{cc}
 \bullet & \bullet \\
 \swarrow \quad \searrow & \swarrow \quad \searrow \\
 U_{\alpha_1,\beta_1} & U_{\alpha_2,\beta_2} & U_{\alpha_3,\beta_3}
 \end{array}
 \end{array}
 \end{array}$$

The diagram illustrates a relationship between two tree structures. The left tree has a root node labeled $U_{\langle\alpha_{123}\rangle,\langle\beta_{123}\rangle}$ connected to a middle node. This middle node is connected to two leaf nodes labeled U_{α_1,β_1} and U_{α_2,β_2} . The right tree has a root node labeled $U_{\langle\alpha_{123}\rangle,\langle\beta_{123}\rangle}$ connected to a middle node. This middle node is connected to two leaf nodes labeled U_{α_1,β_1} and U_{α_3,β_3} . The two trees are separated by an equals sign and a phase factor $e^{if(g_1,g_2,g_3)}$.