

Hamiltonian matrix in GVB-BCCC formula derivation

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$$\begin{aligned}
& \langle(A_9,B_{11})|\hat H|()\rangle = \\
& +\frac{-1}{2}\langle0^A|\hat h|1^B\rangle\langle A_0|\hat 0_\alpha^+|A_9\rangle\langle B_0|\hat 1_\alpha^-|B_{11}\rangle \\
& +\frac{-1}{2}\langle0^A0^A|\hat g|1^B0^A\rangle\langle A_0|\hat 0_\beta^+\hat 0_\beta^-\hat 0_\beta^-|A_9\rangle\langle B_0|\hat 1_\alpha^-|B_{11}\rangle \\
& +\frac{-1}{2}\langle1^A1^A|\hat g|1^B0^A\rangle\langle A_0|\hat 1_\beta^+\hat 1_\beta^-\hat 0_\beta^-|A_9\rangle\langle B_0|\hat 1_\alpha^-|B_{11}\rangle \\
& +\frac{-1}{4}\langle0^A0^B|\hat g|0^B1^B\rangle\langle A_0|\hat 0_\alpha^+|A_9\rangle\langle B_0|\hat 0_\alpha^+\hat 1_\alpha^-\hat 0_\alpha^-|B_{11}\rangle \\
& +\frac{-1}{4}\langle0^A0^B|\hat g|1^B0^B\rangle\langle A_0|\hat 0_\alpha^+|A_9\rangle\langle B_0|\hat 0_\alpha^+\hat 0_\alpha^-\hat 1_\alpha^-|B_{11}\rangle \\
& +\frac{-1}{2}\langle0^A0^B|\hat g|1^B0^B\rangle\langle A_0|\hat 0_\alpha^+|A_9\rangle\langle B_0|\hat 0_\beta^+\hat 0_\beta^-\hat 1_\alpha^-|B_{11}\rangle \\
& +\frac{-1}{2}\langle0^A1^B|\hat g|0^B0^B\rangle\langle A_0|\hat 0_\alpha^+|A_9\rangle\langle B_0|\hat 1_\beta^+\hat 0_\beta^-\hat 0_\alpha^-|B_{11}\rangle \\
& +\frac{1}{4}\langle0^B0^A|\hat g|0^B1^B\rangle\langle A_0|\hat 0_\alpha^+|A_9\rangle\langle B_0|\hat 0_\alpha^+\hat 1_\alpha^-\hat 0_\alpha^-|B_{11}\rangle \\
& +\frac{1}{4}\langle0^B0^A|\hat g|1^B0^B\rangle\langle A_0|\hat 0_\alpha^+|A_9\rangle\langle B_0|\hat 0_\alpha^+\hat 0_\alpha^-\hat 1_\alpha^-|B_{11}\rangle \\
& +\frac{-1}{4}\sum_I\langle0^A0^I|\hat g|1^B0^I\rangle\langle A_0|\hat 0_\alpha^+|A_9\rangle\langle B_0|\hat 1_\alpha^-|B_{11}\rangle\langle I_0|\hat 0_\alpha^+\hat 0_\alpha^-|I_0\rangle \\
& +\frac{-1}{2}\sum_I\langle0^A0^I|\hat g|1^B0^I\rangle\langle A_0|\hat 0_\alpha^+|A_9\rangle\langle B_0|\hat 1_\alpha^-|B_{11}\rangle\langle I_0|\hat 0_\beta^+\hat 0_\beta^-|I_0\rangle \\
& +\frac{-1}{4}\sum_I\langle0^A1^I|\hat g|1^B1^I\rangle\langle A_0|\hat 0_\alpha^+|A_9\rangle\langle B_0|\hat 1_\alpha^-|B_{11}\rangle\langle I_0|\hat 1_\alpha^+\hat 1_\alpha^-|I_0\rangle \\
& +\frac{-1}{2}\sum_I\langle0^A1^I|\hat g|1^B1^I\rangle\langle A_0|\hat 0_\alpha^+|A_9\rangle\langle B_0|\hat 1_\alpha^-|B_{11}\rangle\langle I_0|\hat 1_\beta^+\hat 1_\beta^-|I_0\rangle \\
& +\frac{1}{4}\sum_I\langle0^A0^I|\hat g|0^I1^B\rangle\langle A_0|\hat 0_\alpha^+|A_9\rangle\langle B_0|\hat 1_\alpha^-|B_{11}\rangle\langle I_0|\hat 0_\alpha^+\hat 0_\alpha^-|I_0\rangle \\
& +\frac{1}{4}\sum_I\langle0^A1^I|\hat g|1^I1^B\rangle\langle A_0|\hat 0_\alpha^+|A_9\rangle\langle B_0|\hat 1_\alpha^-|B_{11}\rangle\langle I_0|\hat 1_\alpha^+\hat 1_\alpha^-|I_0\rangle \\
& +\frac{1}{4}\sum_I\langle0^I0^A|\hat g|1^B0^I\rangle\langle A_0|\hat 0_\alpha^+|A_9\rangle\langle B_0|\hat 1_\alpha^-|B_{11}\rangle\langle I_0|\hat 0_\alpha^+\hat 0_\alpha^-|I_0\rangle \\
& +\frac{1}{4}\sum_I\langle1^I0^A|\hat g|1^B1^I\rangle\langle A_0|\hat 0_\alpha^+|A_9\rangle\langle B_0|\hat 1_\alpha^-|B_{11}\rangle\langle I_0|\hat 1_\alpha^+\hat 1_\alpha^-|I_0\rangle \\
& +\frac{-1}{4}\sum_I\langle0^I0^A|\hat g|0^I1^B\rangle\langle A_0|\hat 0_\alpha^+|A_9\rangle\langle B_0|\hat 1_\alpha^-|B_{11}\rangle\langle I_0|\hat 0_\alpha^+\hat 0_\alpha^-|I_0\rangle \\
& +\frac{-1}{4}\sum_I\langle1^I0^A|\hat g|1^I1^B\rangle\langle A_0|\hat 0_\alpha^+|A_9\rangle\langle B_0|\hat 1_\alpha^-|B_{11}\rangle\langle I_0|\hat 1_\alpha^+\hat 1_\alpha^-|I_0\rangle
\end{aligned}$$

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$$\begin{aligned}
& +\frac{1}{4}\sum_I\langle 0^I 1^B|\hat{g}|0^I 1^B\rangle\langle B_{11}|\hat{1}_\alpha^+\hat{1}_\alpha^-|B_{11}\rangle\langle I_0|\hat{0}_\alpha^+\hat{0}_\alpha^-|I_0\rangle \\
& +\frac{1}{4}\sum_I\langle 1^I 0^B|\hat{g}|1^I 0^B\rangle\langle B_{11}|\hat{0}_\alpha^+\hat{0}_\alpha^-|B_{11}\rangle\langle I_0|\hat{1}_\alpha^+\hat{1}_\alpha^-|I_0\rangle \\
& +\frac{1}{4}\sum_I\langle 1^I 0^B|\hat{g}|1^I 0^B\rangle\langle B_{11}|\hat{0}_\beta^+\hat{0}_\beta^-|B_{11}\rangle\langle I_0|\hat{1}_\beta^+\hat{1}_\beta^-|I_0\rangle \\
& +\frac{1}{2}\sum_I\langle 1^I 0^B|\hat{g}|1^I 0^B\rangle\langle B_{11}|\hat{0}_\beta^+\hat{0}_\beta^-|B_{11}\rangle\langle I_0|\hat{1}_\alpha^+\hat{1}_\alpha^-|I_0\rangle \\
& +\frac{1}{4}\sum_I\langle 1^I 1^B|\hat{g}|1^I 1^B\rangle\langle B_{11}|\hat{1}_\alpha^+\hat{1}_\alpha^-|B_{11}\rangle\langle I_0|\hat{1}_\alpha^+\hat{1}_\alpha^-|I_0\rangle \\
& +\frac{1}{4}\langle 0^A 0^B|\hat{g}|0^A 0^B\rangle\langle A_9|\hat{0}_\beta^+\hat{0}_\beta^-|A_9\rangle\langle B_{11}|\hat{0}_\beta^+\hat{0}_\beta^-|B_{11}\rangle \\
& +\frac{1}{4}\langle 0^A 0^B|\hat{g}|0^B 0^A\rangle\langle A_9|\hat{0}_\beta^+\hat{0}_\beta^-|A_9\rangle\langle B_{11}|\hat{0}_\beta^+\hat{0}_\beta^-|B_{11}\rangle \\
& +\frac{1}{4}\langle 0^B 0^A|\hat{g}|0^A 0^B\rangle\langle A_9|\hat{0}_\beta^+\hat{0}_\beta^-|A_9\rangle\langle B_{11}|\hat{0}_\beta^+\hat{0}_\beta^-|B_{11}\rangle \\
& +\frac{1}{2}\langle 0^B 0^A|\hat{g}|0^B 0^A\rangle\langle A_9|\hat{0}_\beta^+\hat{0}_\beta^-|A_9\rangle\langle B_{11}|\hat{0}_\alpha^+\hat{0}_\alpha^-|B_{11}\rangle \\
& +\frac{1}{2}\langle 1^B 0^A|\hat{g}|1^B 0^A\rangle\langle A_9|\hat{0}_\beta^+\hat{0}_\beta^-|A_9\rangle\langle B_{11}|\hat{1}_\alpha^+\hat{1}_\alpha^-|B_{11}\rangle
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11})|\hat{H}|(A_9, B_{11}, I_1)\rangle = \\
& +\frac{1}{2}\sum_I\langle 0^I|\hat{h}|0^I\rangle\langle I_1|\hat{0}_\alpha^+\hat{0}_\alpha^-|I_0\rangle t_{A_9, B_{11}} t_{I_1} \\
& +\frac{1}{2}\sum_I\langle 0^I|\hat{h}|0^I\rangle\langle I_1|\hat{0}_\beta^+\hat{0}_\beta^-|I_0\rangle t_{A_9, B_{11}} t_{I_1} \\
& +\frac{1}{2}\sum_I\langle 1^I|\hat{h}|1^I\rangle\langle I_1|\hat{1}_\alpha^+\hat{1}_\alpha^-|I_0\rangle t_{A_9, B_{11}} t_{I_1} \\
& +\frac{1}{2}\sum_I\langle 1^I|\hat{h}|1^I\rangle\langle I_1|\hat{1}_\beta^+\hat{1}_\beta^-|I_0\rangle t_{A_9, B_{11}} t_{I_1} \\
& +\frac{1}{2}\sum_I\langle 0^I 0^I|\hat{g}|0^I 0^I\rangle\langle I_1|\hat{0}_\alpha^+\hat{0}_\beta^+\hat{0}_\beta^-\hat{0}_\alpha^-|I_0\rangle t_{A_9, B_{11}} t_{I_1} \\
& +\frac{1}{2}\sum_I\langle 0^I 0^I|\hat{g}|1^I 1^I\rangle\langle I_1|\hat{0}_\alpha^+\hat{0}_\beta^+\hat{1}_\beta^-\hat{1}_\alpha^-|I_0\rangle t_{A_9, B_{11}} t_{I_1} \\
& +\frac{1}{2}\sum_I\langle 0^I 0^I|\hat{g}|1^I 1^I\rangle\langle I_1|\hat{1}_\alpha^+\hat{1}_\beta^+\hat{0}_\beta^-\hat{0}_\alpha^-|I_0\rangle t_{A_9, B_{11}} t_{I_1} \\
& +\frac{1}{2}\sum_I\langle 1^I 1^I|\hat{g}|1^I 1^I\rangle\langle I_1|\hat{1}_\alpha^+\hat{1}_\beta^+\hat{1}_\beta^-\hat{1}_\alpha^-|I_0\rangle t_{A_9, B_{11}} t_{I_1} \\
& +\frac{1}{2}\sum_I\sum_J\langle 0^I 0^J|\hat{g}|0^I 0^J\rangle\langle I_1|\hat{0}_\alpha^+\hat{0}_\alpha^-|I_0\rangle\langle J_0|\hat{0}_\alpha^+\hat{0}_\alpha^-|J_0\rangle t_{A_9, B_{11}} t_{I_1} \\
& +\frac{1}{2}\sum_I\sum_J\langle 0^I 0^J|\hat{g}|0^I 0^J\rangle\langle I_1|\hat{0}_\beta^+\hat{0}_\beta^-|I_0\rangle\langle J_0|\hat{0}_\beta^+\hat{0}_\beta^-|J_0\rangle t_{A_9, B_{11}} t_{I_1} \\
& +\frac{1}{2}\sum_I\sum_J\langle 0^I 0^J|\hat{g}|0^I 0^J\rangle\langle I_1|\hat{0}_\beta^+\hat{0}_\beta^-|I_0\rangle\langle J_0|\hat{0}_\alpha^+\hat{0}_\alpha^-|J_0\rangle t_{A_9, B_{11}} t_{I_1} \\
& +\frac{1}{2}\sum_I\sum_J\langle 1^I 0^J|\hat{g}|1^I 0^J\rangle\langle I_1|\hat{1}_\alpha^+\hat{1}_\alpha^-|I_0\rangle\langle J_0|\hat{0}_\alpha^+\hat{0}_\alpha^-|J_0\rangle t_{A_9, B_{11}} t_{I_1} \\
& +\frac{1}{2}\sum_I\sum_J\langle 1^I 0^J|\hat{g}|1^I 0^J\rangle\langle I_1|\hat{1}_\beta^+\hat{1}_\beta^-|I_0\rangle\langle J_0|\hat{0}_\beta^+\hat{0}_\beta^-|J_0\rangle t_{A_9, B_{11}} t_{I_1} \\
& +\frac{1}{2}\sum_I\sum_J\langle 1^I 0^J|\hat{g}|1^I 0^J\rangle\langle I_1|\hat{1}_\beta^+\hat{1}_\beta^-|I_0\rangle\langle J_0|\hat{0}_\alpha^+\hat{0}_\alpha^-|J_0\rangle t_{A_9, B_{11}} t_{I_1} \\
& +\frac{1}{2}\sum_I\sum_J\langle 0^I 1^J|\hat{g}|0^I 1^J\rangle\langle I_1|\hat{0}_\alpha^+\hat{0}_\alpha^-|I_0\rangle\langle J_0|\hat{1}_\alpha^+\hat{1}_\alpha^-|J_0\rangle t_{A_9, B_{11}} t_{I_1}
\end{aligned}$$

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$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_{10}, B_{11}) \rangle = \\
& + \frac{1}{2} \langle 0^A | \hat{h} | 1^A \rangle \langle A_{10} | \hat{1}_\beta^+ \hat{0}_\beta^- | A_9 \rangle t_{A_{10}, B_{11}} \\
& + \frac{1}{2} \sum_I \langle 0^A 0^I | \hat{g} | 1^A 0^I \rangle \langle A_{10} | \hat{1}_\beta^+ \hat{0}_\beta^- | A_9 \rangle \langle I_0 | \hat{0}_\beta^+ \hat{0}_\beta^- | I_0 \rangle t_{A_{10}, B_{11}} \\
& + \frac{1}{2} \sum_I \langle 0^A 1^I | \hat{g} | 1^A 1^I \rangle \langle A_{10} | \hat{1}_\beta^+ \hat{0}_\beta^- | A_9 \rangle \langle I_0 | \hat{1}_\beta^+ \hat{1}_\beta^- | I_0 \rangle t_{A_{10}, B_{11}} \\
& + \frac{-1}{2} \sum_I \langle 0^A 1^A | \hat{g} | 0^I 0^I \rangle \langle A_{10} | \hat{1}_\beta^+ \hat{0}_\beta^- | A_9 \rangle \langle I_0 | \hat{0}_\beta^+ \hat{0}_\beta^- | I_0 \rangle t_{A_{10}, B_{11}} \\
& + \frac{-1}{2} \sum_I \langle 0^A 1^A | \hat{g} | 1^I 1^I \rangle \langle A_{10} | \hat{1}_\beta^+ \hat{0}_\beta^- | A_9 \rangle \langle I_0 | \hat{1}_\beta^+ \hat{1}_\beta^- | I_0 \rangle t_{A_{10}, B_{11}} \\
& + \frac{1}{2} \sum_I \langle 0^A 0^I | \hat{g} | 1^A 0^I \rangle \langle A_{10} | \hat{1}_\beta^+ \hat{0}_\beta^- | A_9 \rangle \langle I_0 | \hat{0}_\alpha^+ \hat{0}_\alpha^- | I_0 \rangle t_{A_{10}, B_{11}} \\
& + \frac{1}{2} \sum_I \langle 0^A 1^I | \hat{g} | 1^A 1^I \rangle \langle A_{10} | \hat{1}_\beta^+ \hat{0}_\beta^- | A_9 \rangle \langle I_0 | \hat{1}_\alpha^+ \hat{1}_\alpha^- | I_0 \rangle t_{A_{10}, B_{11}} \\
& + \frac{1}{2} \langle 0^A 0^B | \hat{g} | 1^A 0^B \rangle \langle A_{10} | \hat{1}_\beta^+ \hat{0}_\beta^- | A_9 \rangle \langle B_{11} | \hat{0}_\beta^+ \hat{0}_\beta^- | B_{11} \rangle t_{A_{10}, B_{11}} \\
& + \frac{-1}{2} \langle 0^A 1^A | \hat{g} | 0^B 0^B \rangle \langle A_{10} | \hat{1}_\beta^+ \hat{0}_\beta^- | A_9 \rangle \langle B_{11} | \hat{0}_\beta^+ \hat{0}_\beta^- | B_{11} \rangle t_{A_{10}, B_{11}} \\
& + \frac{1}{2} \langle 0^A 0^B | \hat{g} | 1^A 0^B \rangle \langle A_{10} | \hat{1}_\beta^+ \hat{0}_\beta^- | A_9 \rangle \langle B_{11} | \hat{0}_\alpha^+ \hat{0}_\alpha^- | B_{11} \rangle t_{A_{10}, B_{11}} \\
& + \frac{1}{2} \langle 0^A 1^B | \hat{g} | 1^A 1^B \rangle \langle A_{10} | \hat{1}_\beta^+ \hat{0}_\beta^- | A_9 \rangle \langle B_{11} | \hat{1}_\alpha^+ \hat{1}_\alpha^- | B_{11} \rangle t_{A_{10}, B_{11}}
\end{aligned}$$

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$$\begin{aligned}
& +\frac{1}{4} \sum_I \sum_J \langle 0^A 0^I | \hat{g} | 0^A 1^J \rangle \langle A_9 | \hat{0}_\beta^+ \hat{0}_\beta^- | A_9 \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle t_{A_9, B_{11}} t_{I_{14}, J_8} \\
& +\frac{-1}{4} \sum_I \sum_J \langle 0^A 0^A | \hat{g} | 0^I 1^J \rangle \langle A_9 | \hat{0}_\beta^+ \hat{0}_\beta^- | A_9 \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle t_{A_9, B_{11}} t_{I_{14}, J_8} \\
& +\frac{1}{4} \sum_I \sum_J \langle 0^B 0^I | \hat{g} | 0^B 1^J \rangle \langle B_{11} | \hat{0}_\beta^+ \hat{0}_\beta^- | B_{11} \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle t_{A_9, B_{11}} t_{I_{14}, J_8} \\
& +\frac{1}{4} \sum_I \sum_J \langle 0^B 0^I | \hat{g} | 0^B 1^J \rangle \langle B_{11} | \hat{0}_\alpha^+ \hat{0}_\alpha^- | B_{11} \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle t_{A_9, B_{11}} t_{I_{14}, J_8} \\
& +\frac{1}{4} \sum_I \sum_J \langle 1^B 0^I | \hat{g} | 1^B 1^J \rangle \langle B_{11} | \hat{1}_\alpha^+ \hat{1}_\alpha^- | B_{11} \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle t_{A_9, B_{11}} t_{I_{14}, J_8} \\
& +\frac{-1}{4} \sum_I \sum_J \langle 0^B 0^B | \hat{g} | 0^I 1^J \rangle \langle B_{11} | \hat{0}_\beta^+ \hat{0}_\beta^- | B_{11} \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle t_{A_9, B_{11}} t_{I_{14}, J_8}
\end{aligned}$$

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$$\begin{aligned}
& + \frac{1}{4} \sum_I \sum_J \langle 1^B 1^I | \hat{g} | 1^B 1^J \rangle \langle B_{11} | \hat{1}_\alpha^+ \hat{1}_\alpha^- | B_{11} \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle t_{A_9, I_{11}} t_{B_{11}, J_{10}} \\
& + \frac{1}{4} \sum_I \sum_J \langle 0^B 0^B | \hat{g} | 1^I 1^J \rangle \langle B_{11} | \hat{0}_\alpha^+ \hat{0}_\alpha^- | B_{11} \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle t_{A_9, I_{11}} t_{B_{11}, J_{10}} \\
& + \frac{1}{4} \sum_I \sum_J \langle 1^B 1^B | \hat{g} | 1^I 1^J \rangle \langle B_{11} | \hat{1}_\alpha^+ \hat{1}_\alpha^- | B_{11} \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle t_{A_9, I_{11}} t_{B_{11}, J_{10}} \\
& + \frac{1}{4} \sum_I \sum_J \langle 0^B 1^I | \hat{g} | 0^B 1^J \rangle \langle B_{11} | \hat{0}_\beta^+ \hat{0}_\beta^- | B_{11} \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle t_{A_9, I_{11}} t_{B_{11}, J_{10}}
\end{aligned}$$

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$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_7, J_{14}) \rangle = \\
& + \frac{-1}{4} \sum_I \sum_J \langle 0^I | \hat{h} | 0^J \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle t_{A_9, B_{11}} t_{I_7, J_{14}} \\
& + \frac{1}{4} \sum_I \sum_J \langle 0^I 0^I | \hat{g} | 0^I 0^J \rangle \langle I_7 | \hat{0}_\alpha^+ \hat{0}_\beta^- \hat{0}_\alpha^- | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle t_{A_9, B_{11}} t_{I_7, J_{14}} \\
& + \frac{1}{4} \sum_I \sum_J \langle 0^I 1^I | \hat{g} | 1^I 0^J \rangle \langle I_7 | \hat{0}_\alpha^+ \hat{1}_\beta^- \hat{1}_\alpha^- | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle t_{A_9, B_{11}} t_{I_7, J_{14}} \\
& + \frac{-1}{8} \sum_I \sum_J \langle 0^I 1^J | \hat{g} | 0^J 1^J \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ \hat{1}_\beta^+ \hat{1}_\beta^- | J_0 \rangle t_{A_9, B_{11}} t_{I_7, J_{14}} \\
& + \frac{-1}{8} \sum_I \sum_J \langle 0^I 0^J | \hat{g} | 1^J 1^J \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_{14} | \hat{1}_\beta^+ \hat{0}_\beta^+ \hat{1}_\beta^- | J_0 \rangle t_{A_9, B_{11}} t_{I_7, J_{14}} \\
& + \frac{1}{8} \sum_I \sum_J \langle 0^I 0^J | \hat{g} | 1^J 1^J \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ \hat{1}_\beta^+ \hat{1}_\beta^- | J_0 \rangle t_{A_9, B_{11}} t_{I_7, J_{14}} \\
& + \frac{1}{8} \sum_I \sum_J \langle 0^I 1^J | \hat{g} | 0^J 1^J \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_{14} | \hat{1}_\beta^+ \hat{0}_\beta^+ \hat{1}_\beta^- | J_0 \rangle t_{A_9, B_{11}} t_{I_7, J_{14}} \\
& + \frac{1}{4} \sum_I \sum_J \langle 0^I 1^J | \hat{g} | 0^J 1^J \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_{14} | \hat{1}_\alpha^+ \hat{0}_\beta^+ \hat{1}_\alpha^- | J_0 \rangle t_{A_9, B_{11}} t_{I_7, J_{14}} \\
& + \frac{1}{4} \sum_I \sum_J \langle 0^I 0^J | \hat{g} | 1^J 1^J \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_{14} | \hat{1}_\alpha^+ \hat{1}_\beta^+ \hat{0}_\alpha^- | J_0 \rangle t_{A_9, B_{11}} t_{I_7, J_{14}} \\
& + \frac{-1}{4} \sum_I \sum_J \sum_K \langle 0^I 0^K | \hat{g} | 0^J 0^K \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle \langle K_0 | \hat{0}_\beta^+ \hat{0}_\beta^- | K_0 \rangle t_{A_9, B_{11}} t_{I_7, J_{14}} \\
& + \frac{-1}{4} \sum_I \sum_J \sum_K \langle 0^I 0^K | \hat{g} | 0^J 0^K \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle \langle K_0 | \hat{0}_\alpha^+ \hat{0}_\alpha^- | K_0 \rangle t_{A_9, B_{11}} t_{I_7, J_{14}}
\end{aligned}$$

$$\begin{aligned}
& + \frac{-1}{4} \sum_I \sum_J \sum_K \langle 0^I 1^K | \hat{g} | 0^J 1^K \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle \langle K_0 | \hat{1}_\beta^+ \hat{1}_\beta^- | K_0 \rangle t_{A_9, B_{11}} t_{I_7, J_{14}} \\
& + \frac{-1}{4} \sum_I \sum_J \sum_K \langle 0^I 1^K | \hat{g} | 0^J 1^K \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle \langle K_0 | \hat{1}_\alpha^+ \hat{1}_\alpha^- | K_0 \rangle t_{A_9, B_{11}} t_{I_7, J_{14}} \\
& + \frac{1}{4} \sum_I \sum_J \sum_K \langle 0^I 0^J | \hat{g} | 0^K 0^K \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle \langle K_0 | \hat{0}_\beta^+ \hat{0}_\beta^- | K_0 \rangle t_{A_9, B_{11}} t_{I_7, J_{14}} \\
& + \frac{1}{4} \sum_I \sum_J \sum_K \langle 0^I 0^J | \hat{g} | 1^K 1^K \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle \langle K_0 | \hat{1}_\beta^+ \hat{1}_\beta^- | K_0 \rangle t_{A_9, B_{11}} t_{I_7, J_{14}} \\
& + \frac{-1}{4} \sum_I \sum_J \langle 0^A 0^I | \hat{g} | 0^A 0^J \rangle \langle A_9 | \hat{0}_\beta^+ \hat{0}_\beta^- | A_9 \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle t_{A_9, B_{11}} t_{I_7, J_{14}} \\
& + \frac{1}{4} \sum_I \sum_J \langle 0^A 0^A | \hat{g} | 0^I 0^J \rangle \langle A_9 | \hat{0}_\beta^+ \hat{0}_\beta^- | A_9 \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle t_{A_9, B_{11}} t_{I_7, J_{14}} \\
& + \frac{-1}{4} \sum_I \sum_J \langle 0^B 0^I | \hat{g} | 0^B 0^J \rangle \langle B_{11} | \hat{0}_\beta^+ \hat{0}_\beta^- | B_{11} \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle t_{A_9, B_{11}} t_{I_7, J_{14}} \\
& + \frac{-1}{4} \sum_I \sum_J \langle 0^B 0^I | \hat{g} | 0^B 0^J \rangle \langle B_{11} | \hat{0}_\alpha^+ \hat{0}_\alpha^- | B_{11} \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle t_{A_9, B_{11}} t_{I_7, J_{14}} \\
& + \frac{-1}{4} \sum_I \sum_J \langle 1^B 0^I | \hat{g} | 1^B 0^J \rangle \langle B_{11} | \hat{1}_\alpha^+ \hat{1}_\alpha^- | B_{11} \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle t_{A_9, B_{11}} t_{I_7, J_{14}} \\
& + \frac{1}{4} \sum_I \sum_J \langle 0^B 0^B | \hat{g} | 0^I 0^J \rangle \langle B_{11} | \hat{0}_\beta^+ \hat{0}_\beta^- | B_{11} \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle t_{A_9, B_{11}} t_{I_7, J_{14}}
\end{aligned}$$

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$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_9, J_{11}) \rangle = \\
& + \frac{-1}{4} \sum_I \sum_J \langle 0^I | \hat{h} | 1^J \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle t_{A_9, B_{11}} t_{I_9, J_{11}} \\
& + \frac{-1}{4} \sum_I \sum_J \langle 0^I 0^I | \hat{g} | 0^I 1^J \rangle \langle I_9 | \hat{0}_\beta^+ \hat{0}_\beta^- \hat{0}_\alpha^- | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle t_{A_9, B_{11}} t_{I_9, J_{11}} \\
& + \frac{-1}{4} \sum_I \sum_J \langle 0^I 1^I | \hat{g} | 1^I 1^J \rangle \langle I_9 | \hat{0}_\beta^+ \hat{1}_\beta^- \hat{1}_\alpha^- | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle t_{A_9, B_{11}} t_{I_9, J_{11}} \\
& + \frac{-1}{4} \sum_I \sum_J \langle 0^I 0^J | \hat{g} | 0^J 1^J \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_{11} | \hat{0}_\alpha^+ \hat{0}_\beta^+ \hat{1}_\beta^- | J_0 \rangle t_{A_9, B_{11}} t_{I_9, J_{11}} \\
& + \frac{-1}{8} \sum_I \sum_J \langle 0^I 0^J | \hat{g} | 0^J 1^J \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_{11} | \hat{0}_\alpha^+ \hat{1}_\alpha^+ \hat{0}_\alpha^- | J_0 \rangle t_{A_9, B_{11}} t_{I_9, J_{11}}
\end{aligned}$$

$$\begin{aligned}
& + \frac{-1}{4} \sum_I \sum_J \langle 0^B 0^I | \hat{g} | 0^B 1^J \rangle \langle B_{11} | \hat{0}_\alpha^+ \hat{0}_\alpha^- | B_{11} \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_{13} | \hat{1}_\beta^+ | J_0 \rangle t_{A_9, B_{11}} t_{I_7, J_{13}} \\
& + \frac{-1}{4} \sum_I \sum_J \langle 1^B 0^I | \hat{g} | 1^B 1^J \rangle \langle B_{11} | \hat{1}_\alpha^+ \hat{1}_\alpha^- | B_{11} \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_{13} | \hat{1}_\beta^+ | J_0 \rangle t_{A_9, B_{11}} t_{I_7, J_{13}} \\
& + \frac{1}{4} \sum_I \sum_J \langle 0^B 0^B | \hat{g} | 0^I 1^J \rangle \langle B_{11} | \hat{0}_\beta^+ \hat{0}_\beta^- | B_{11} \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_{13} | \hat{1}_\beta^+ | J_0 \rangle t_{A_9, B_{11}} t_{I_7, J_{13}}
\end{aligned}$$

[illegible]

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$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_8, J_{13}) \rangle = \\
& + \frac{1}{4} \sum_I \sum_J \langle 1^I | \hat{h} | 1^J \rangle \langle I_8 | \hat{1}_{\beta}^- | I_0 \rangle \langle J_{13} | \hat{1}_{\beta}^+ | J_0 \rangle t_{A_9, B_{11}} t_{I_8, J_{13}} \\
& + \frac{1}{4} \sum_I \sum_J \langle 0^I 0^I | \hat{g} | 1^I 1^J \rangle \langle I_8 | \hat{1}_{\alpha}^+ \hat{0}_{\beta}^- \hat{0}_{\alpha}^- | I_0 \rangle \langle J_{13} | \hat{1}_{\beta}^+ | J_0 \rangle t_{A_9, B_{11}} t_{I_8, J_{13}} \\
& + \frac{1}{4} \sum_I \sum_J \langle 1^I 1^I | \hat{g} | 1^I 1^J \rangle \langle I_8 | \hat{1}_{\alpha}^+ \hat{1}_{\beta}^- \hat{1}_{\alpha}^- | I_0 \rangle \langle J_{13} | \hat{1}_{\beta}^+ | J_0 \rangle t_{A_9, B_{11}} t_{I_8, J_{13}} \\
& + \frac{1}{8} \sum_I \sum_J \langle 1^I 0^J | \hat{g} | 0^J 1^J \rangle \langle I_8 | \hat{1}_{\beta}^- | I_0 \rangle \langle J_{13} | \hat{0}_{\beta}^+ \hat{1}_{\beta}^+ \hat{0}_{\beta}^- | J_0 \rangle t_{A_9, B_{11}} t_{I_8, J_{13}} \\
& + \frac{1}{8} \sum_I \sum_J \langle 1^I 0^J | \hat{g} | 1^J 0^J \rangle \langle I_8 | \hat{1}_{\beta}^- | I_0 \rangle \langle J_{13} | \hat{1}_{\beta}^+ \hat{0}_{\beta}^+ \hat{0}_{\beta}^- | J_0 \rangle t_{A_9, B_{11}} t_{I_8, J_{13}} \\
& + \frac{1}{4} \sum_I \sum_J \langle 1^I 0^J | \hat{g} | 0^J 1^J \rangle \langle I_8 | \hat{1}_{\beta}^- | I_0 \rangle \langle J_{13} | \hat{0}_{\alpha}^+ \hat{0}_{\beta}^+ \hat{1}_{\alpha}^- | J_0 \rangle t_{A_9, B_{11}} t_{I_8, J_{13}} \\
& + \frac{1}{8} \sum_I \sum_J \langle 1^I 0^J | \hat{g} | 1^J 0^J \rangle \langle I_8 | \hat{1}_{\beta}^- | I_0 \rangle \langle J_{13} | \hat{0}_{\beta}^+ \hat{1}_{\beta}^+ \hat{0}_{\beta}^- | J_0 \rangle t_{A_9, B_{11}} t_{I_8, J_{13}}
\end{aligned}$$

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$$\begin{aligned}
& +\frac{1}{4}\sum_I\sum_J\langle 1^I1^I|\hat{g}|0^J1^J\rangle\langle I_1|\hat{1}_\beta^+\hat{1}_\beta^-|I_0\rangle\langle J_2|\hat{0}_\beta^+\hat{1}_\beta^-|J_0\rangle t_{A_9,B_{11}}t_{I_1}t_{J_2} \\
& +\frac{1}{4}\sum_I\sum_J\langle 1^I1^I|\hat{g}|0^J1^J\rangle\langle I_1|\hat{1}_\alpha^+\hat{1}_\alpha^-|I_0\rangle\langle J_2|\hat{1}_\alpha^+\hat{0}_\alpha^-|J_0\rangle t_{A_9,B_{11}}t_{I_1}t_{J_2} \\
& +\frac{1}{4}\sum_I\sum_J\langle 1^I1^I|\hat{g}|0^J1^J\rangle\langle I_1|\hat{1}_\beta^+\hat{1}_\beta^-|I_0\rangle\langle J_2|\hat{1}_\beta^+\hat{0}_\beta^-|J_0\rangle t_{A_9,B_{11}}t_{I_1}t_{J_2} \\
& +\frac{1}{4}\sum_I\sum_J\langle 0^I0^J|\hat{g}|0^I1^J\rangle\langle I_1|\hat{0}_\beta^+\hat{0}_\beta^-|I_0\rangle\langle J_2|\hat{0}_\alpha^+\hat{1}_\alpha^-|J_0\rangle t_{A_9,B_{11}}t_{I_1}t_{J_2} \\
& +\frac{1}{4}\sum_I\sum_J\langle 1^I0^J|\hat{g}|1^I1^J\rangle\langle I_1|\hat{1}_\beta^+\hat{1}_\beta^-|I_0\rangle\langle J_2|\hat{0}_\alpha^+\hat{1}_\alpha^-|J_0\rangle t_{A_9,B_{11}}t_{I_1}t_{J_2} \\
& +\frac{1}{4}\sum_I\sum_J\langle 0^I0^J|\hat{g}|0^I1^J\rangle\langle I_1|\hat{0}_\beta^+\hat{0}_\beta^-|I_0\rangle\langle J_2|\hat{1}_\alpha^+\hat{0}_\alpha^-|J_0\rangle t_{A_9,B_{11}}t_{I_1}t_{J_2} \\
& +\frac{1}{4}\sum_I\sum_J\langle 1^I0^J|\hat{g}|1^I1^J\rangle\langle I_1|\hat{1}_\beta^+\hat{1}_\beta^-|I_0\rangle\langle J_2|\hat{1}_\alpha^+\hat{0}_\alpha^-|J_0\rangle t_{A_9,B_{11}}t_{I_1}t_{J_2}
\end{aligned}$$

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$$\langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_3, J_1) \rangle =$$

$$\begin{aligned}
& +\frac{1}{4}\sum_I\sum_J\langle 0^I0^J|\hat{g}|1^I0^J\rangle\langle I_3|\hat{0}_\alpha^+\hat{1}_\alpha^-|I_0\rangle\langle J_1|\hat{0}_\alpha^+\hat{0}_\alpha^-|J_0\rangle t_{A_9,B_{11}}t_{I_3,J_1} \\
& +\frac{1}{4}\sum_I\sum_J\langle 0^I0^J|\hat{g}|1^I0^J\rangle\langle I_3|\hat{0}_\beta^+\hat{1}_\beta^-|I_0\rangle\langle J_1|\hat{0}_\beta^+\hat{0}_\beta^-|J_0\rangle t_{A_9,B_{11}}t_{I_3,J_1} \\
& +\frac{1}{4}\sum_I\sum_J\langle 0^I0^J|\hat{g}|1^I0^J\rangle\langle I_3|\hat{0}_\alpha^+\hat{1}_\alpha^-|I_0\rangle\langle J_1|\hat{0}_\beta^+\hat{0}_\beta^-|J_0\rangle t_{A_9,B_{11}}t_{I_3,J_1} \\
& +\frac{1}{4}\sum_I\sum_J\langle 0^I1^J|\hat{g}|1^I1^J\rangle\langle I_3|\hat{0}_\alpha^+\hat{1}_\alpha^-|I_0\rangle\langle J_1|\hat{1}_\alpha^+\hat{1}_\alpha^-|J_0\rangle t_{A_9,B_{11}}t_{I_3,J_1}
\end{aligned}$$

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$$\begin{aligned}
& +\frac{1}{4}\sum_I\sum_J\langle 0^I0^J|\hat{g}|1^I1^J\rangle\langle I_2|\hat{0}_\alpha^+\hat{1}_\alpha^-|I_0\rangle\langle J_2|\hat{0}_\alpha^+\hat{1}_\alpha^-|J_0\rangle t_{A_9,B_{11}}t_{I_2,J_2} \\
& +\frac{1}{4}\sum_I\sum_J\langle 0^I0^J|\hat{g}|1^I1^J\rangle\langle I_2|\hat{0}_\beta^+\hat{1}_\beta^-|I_0\rangle\langle J_2|\hat{0}_\beta^+\hat{1}_\beta^-|J_0\rangle t_{A_9,B_{11}}t_{I_2,J_2} \\
& +\frac{1}{4}\sum_I\sum_J\langle 0^I0^J|\hat{g}|1^I1^J\rangle\langle I_2|\hat{0}_\alpha^+\hat{1}_\alpha^-|I_0\rangle\langle J_2|\hat{0}_\beta^+\hat{1}_\beta^-|J_0\rangle t_{A_9,B_{11}}t_{I_2,J_2} \\
& +\frac{1}{4}\sum_I\sum_J\langle 0^I0^J|\hat{g}|1^I1^J\rangle\langle I_2|\hat{0}_\alpha^+\hat{1}_\alpha^-|I_0\rangle\langle J_2|\hat{1}_\alpha^+\hat{0}_\alpha^-|J_0\rangle t_{A_9,B_{11}}t_{I_2,J_2} \\
& +\frac{1}{4}\sum_I\sum_J\langle 0^I0^J|\hat{g}|1^I1^J\rangle\langle I_2|\hat{0}_\beta^+\hat{1}_\beta^-|I_0\rangle\langle J_2|\hat{1}_\beta^+\hat{0}_\beta^-|J_0\rangle t_{A_9,B_{11}}t_{I_2,J_2} \\
& +\frac{1}{4}\sum_I\sum_J\langle 0^I0^J|\hat{g}|1^I1^J\rangle\langle I_2|\hat{0}_\alpha^+\hat{1}_\alpha^-|I_0\rangle\langle J_2|\hat{1}_\beta^+\hat{0}_\beta^-|J_0\rangle t_{A_9,B_{11}}t_{I_2,J_2} \\
& +\frac{1}{4}\sum_I\sum_J\langle 0^I0^J|\hat{g}|1^I1^J\rangle\langle I_2|\hat{1}_\alpha^+\hat{0}_\alpha^-|I_0\rangle\langle J_2|\hat{0}_\alpha^+\hat{1}_\alpha^-|J_0\rangle t_{A_9,B_{11}}t_{I_2,J_2} \\
& +\frac{1}{4}\sum_I\sum_J\langle 0^I0^J|\hat{g}|1^I1^J\rangle\langle I_2|\hat{1}_\beta^+\hat{0}_\beta^-|I_0\rangle\langle J_2|\hat{0}_\beta^+\hat{1}_\beta^-|J_0\rangle t_{A_9,B_{11}}t_{I_2,J_2} \\
& +\frac{1}{4}\sum_I\sum_J\langle 0^I0^J|\hat{g}|1^I1^J\rangle\langle I_2|\hat{1}_\alpha^+\hat{0}_\alpha^-|I_0\rangle\langle J_2|\hat{0}_\beta^+\hat{1}_\beta^-|J_0\rangle t_{A_9,B_{11}}t_{I_2,J_2} \\
& +\frac{1}{4}\sum_I\sum_J\langle 0^I0^J|\hat{g}|1^I1^J\rangle\langle I_2|\hat{1}_\alpha^+\hat{0}_\alpha^-|I_0\rangle\langle J_2|\hat{1}_\alpha^+\hat{0}_\alpha^-|J_0\rangle t_{A_9,B_{11}}t_{I_2,J_2} \\
& +\frac{1}{4}\sum_I\sum_J\langle 0^I0^J|\hat{g}|1^I1^J\rangle\langle I_2|\hat{1}_\beta^+\hat{0}_\beta^-|I_0\rangle\langle J_2|\hat{1}_\beta^+\hat{0}_\beta^-|J_0\rangle t_{A_9,B_{11}}t_{I_2,J_2}
\end{aligned}$$

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$$\begin{aligned}
& + \frac{1}{4} \sum_I \sum_J \langle 0^I 1^I | \hat{g} | 0^J 1^J \rangle \langle I_2 | \hat{1}_\alpha^+ \hat{0}_\alpha^- | I_0 \rangle \langle J_2 | \hat{0}_\alpha^+ \hat{1}_\alpha^- | J_0 \rangle t_{A_9, B_{11}} t_{I_2} t_{J_2} \\
& + \frac{1}{4} \sum_I \sum_J \langle 0^I 1^I | \hat{g} | 0^J 1^J \rangle \langle I_2 | \hat{1}_\beta^+ \hat{0}_\beta^- | I_0 \rangle \langle J_2 | \hat{0}_\beta^+ \hat{1}_\beta^- | J_0 \rangle t_{A_9, B_{11}} t_{I_2} t_{J_2} \\
& + \frac{1}{4} \sum_I \sum_J \langle 0^I 1^I | \hat{g} | 1^J 0^J \rangle \langle I_2 | \hat{1}_\alpha^+ \hat{0}_\alpha^- | I_0 \rangle \langle J_2 | \hat{1}_\alpha^+ \hat{0}_\alpha^- | J_0 \rangle t_{A_9, B_{11}} t_{I_2} t_{J_2} \\
& + \frac{1}{4} \sum_I \sum_J \langle 0^I 1^I | \hat{g} | 1^J 0^J \rangle \langle I_2 | \hat{1}_\beta^+ \hat{0}_\beta^- | I_0 \rangle \langle J_2 | \hat{1}_\beta^+ \hat{0}_\beta^- | J_0 \rangle t_{A_9, B_{11}} t_{I_2} t_{J_2} \\
& + \frac{1}{4} \sum_I \sum_J \langle 0^I 0^J | \hat{g} | 1^I 1^J \rangle \langle I_2 | \hat{0}_\beta^+ \hat{1}_\beta^- | I_0 \rangle \langle J_2 | \hat{0}_\alpha^+ \hat{1}_\alpha^- | J_0 \rangle t_{A_9, B_{11}} t_{I_2} t_{J_2} \\
& + \frac{1}{4} \sum_I \sum_J \langle 0^I 0^J | \hat{g} | 1^I 1^J \rangle \langle I_2 | \hat{1}_\beta^+ \hat{0}_\beta^- | I_0 \rangle \langle J_2 | \hat{0}_\alpha^+ \hat{1}_\alpha^- | J_0 \rangle t_{A_9, B_{11}} t_{I_2} t_{J_2} \\
& + \frac{1}{4} \sum_I \sum_J \langle 0^I 0^J | \hat{g} | 1^I 1^J \rangle \langle I_2 | \hat{0}_\beta^+ \hat{1}_\beta^- | I_0 \rangle \langle J_2 | \hat{1}_\alpha^+ \hat{0}_\alpha^- | J_0 \rangle t_{A_9, B_{11}} t_{I_2} t_{J_2} \\
& + \frac{1}{4} \sum_I \sum_J \langle 0^I 0^J | \hat{g} | 1^I 1^J \rangle \langle I_2 | \hat{1}_\beta^+ \hat{0}_\beta^- | I_0 \rangle \langle J_2 | \hat{1}_\alpha^+ \hat{0}_\alpha^- | J_0 \rangle t_{A_9, B_{11}} t_{I_2} t_{J_2}
\end{aligned}$$

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$$+\frac{-1}{4}\sum_I\sum_J\langle 0^I 1^I|\hat{g}|1^J 0^J\rangle\langle I_5|\hat{1}_\beta^+\hat{0}_\alpha^-|I_0\rangle\langle J_4|\hat{1}_\alpha^+\hat{0}_\beta^-|J_0\rangle t_{A_9,B_{11}}t_{I_5,J_4}$$

$$\langle (A_9, B_{11})|\hat{H}|(A_9, B_{11}, I_6, J_{15})\rangle =$$

$$\begin{aligned} & +\frac{1}{4}\sum_I\sum_J\langle 0^I 0^I|\hat{g}|0^J 0^J\rangle\langle I_6|\hat{0}_\beta^-\hat{0}_\alpha^-|I_0\rangle\langle J_{15}|\hat{0}_\alpha^+\hat{0}_\beta^+|J_0\rangle t_{A_9,B_{11}}t_{I_6,J_{15}} \\ & +\frac{1}{4}\sum_I\sum_J\langle 1^I 1^I|\hat{g}|0^J 0^J\rangle\langle I_6|\hat{1}_\beta^-\hat{1}_\alpha^-|I_0\rangle\langle J_{15}|\hat{0}_\alpha^+\hat{0}_\beta^+|J_0\rangle t_{A_9,B_{11}}t_{I_6,J_{15}} \\ & +\frac{1}{4}\sum_I\sum_J\langle 0^I 0^I|\hat{g}|1^J 1^J\rangle\langle I_6|\hat{0}_\beta^-\hat{0}_\alpha^-|I_0\rangle\langle J_{15}|\hat{1}_\alpha^+\hat{1}_\beta^+|J_0\rangle t_{A_9,B_{11}}t_{I_6,J_{15}} \\ & +\frac{1}{4}\sum_I\sum_J\langle 1^I 1^I|\hat{g}|1^J 1^J\rangle\langle I_6|\hat{1}_\beta^-\hat{1}_\alpha^-|I_0\rangle\langle J_{15}|\hat{1}_\alpha^+\hat{1}_\beta^+|J_0\rangle t_{A_9,B_{11}}t_{I_6,J_{15}} \end{aligned}$$

$$\langle (A_9, B_{11})|\hat{H}|(B_{11}, I_9)\rangle =$$

$$\begin{aligned} & +\frac{1}{2}\sum_I\langle 0^A|\hat{h}|0^I\rangle\langle A_0|\hat{0}_\alpha^+|A_9\rangle\langle I_9|\hat{0}_\alpha^-|I_0\rangle t_{B_{11},I_9} \\ & +\frac{1}{2}\sum_I\langle 0^A 0^A|\hat{g}|0^A 0^I\rangle\langle A_0|\hat{0}_\alpha^+\hat{0}_\beta^+\hat{0}_\beta^-|A_9\rangle\langle I_9|\hat{0}_\alpha^-|I_0\rangle t_{B_{11},I_9} \\ & +\frac{1}{2}\sum_I\langle 0^A 1^A|\hat{g}|1^A 0^I\rangle\langle A_0|\hat{1}_\alpha^+\hat{1}_\beta^+\hat{0}_\beta^-|A_9\rangle\langle I_9|\hat{0}_\alpha^-|I_0\rangle t_{B_{11},I_9} \\ & +\frac{1}{2}\sum_I\langle 0^A 0^I|\hat{g}|0^I 0^I\rangle\langle A_0|\hat{0}_\alpha^+|A_9\rangle\langle I_9|\hat{0}_\beta^+\hat{0}_\beta^-\hat{0}_\alpha^-|I_0\rangle t_{B_{11},I_9} \\ & +\frac{1}{2}\sum_I\langle 0^A 0^I|\hat{g}|1^I 1^I\rangle\langle A_0|\hat{0}_\alpha^+|A_9\rangle\langle I_9|\hat{0}_\beta^+\hat{1}_\beta^-\hat{1}_\alpha^-|I_0\rangle t_{B_{11},I_9} \\ & +\frac{-1}{2}\sum_I\sum_J\langle 0^A 0^I|\hat{g}|0^J 0^J\rangle\langle A_0|\hat{0}_\alpha^+|A_9\rangle\langle I_9|\hat{0}_\alpha^-|I_0\rangle\langle J_0|\hat{0}_\alpha^+\hat{0}_\alpha^-|J_0\rangle t_{B_{11},I_9} \\ & +\frac{-1}{2}\sum_I\sum_J\langle 0^A 0^I|\hat{g}|1^J 1^J\rangle\langle A_0|\hat{0}_\alpha^+|A_9\rangle\langle I_9|\hat{0}_\alpha^-|I_0\rangle\langle J_0|\hat{1}_\alpha^+\hat{1}_\alpha^-|J_0\rangle t_{B_{11},I_9} \\ & +\frac{1}{2}\sum_I\sum_J\langle 0^A 0^J|\hat{g}|0^I 0^J\rangle\langle A_0|\hat{0}_\alpha^+|A_9\rangle\langle I_9|\hat{0}_\alpha^-|I_0\rangle\langle J_0|\hat{0}_\alpha^+\hat{0}_\alpha^-|J_0\rangle t_{B_{11},I_9} \\ & +\frac{1}{2}\sum_I\sum_J\langle 0^A 0^J|\hat{g}|0^I 0^J\rangle\langle A_0|\hat{0}_\alpha^+|A_9\rangle\langle I_9|\hat{0}_\alpha^-|I_0\rangle\langle J_0|\hat{0}_\beta^+\hat{0}_\beta^-|J_0\rangle t_{B_{11},I_9} \\ & +\frac{1}{2}\sum_I\sum_J\langle 0^A 1^J|\hat{g}|0^I 1^J\rangle\langle A_0|\hat{0}_\alpha^+|A_9\rangle\langle I_9|\hat{0}_\alpha^-|I_0\rangle\langle J_0|\hat{1}_\alpha^+\hat{1}_\alpha^-|J_0\rangle t_{B_{11},I_9} \\ & +\frac{1}{2}\sum_I\sum_J\langle 0^A 1^J|\hat{g}|0^I 1^J\rangle\langle A_0|\hat{0}_\alpha^+|A_9\rangle\langle I_9|\hat{0}_\alpha^-|I_0\rangle\langle J_0|\hat{1}_\beta^+\hat{1}_\beta^-|J_0\rangle t_{B_{11},I_9} \\ & +\frac{-1}{2}\sum_I\langle 0^A 0^B|\hat{g}|0^B 0^I\rangle\langle A_0|\hat{0}_\alpha^+|A_9\rangle\langle B_{11}|\hat{0}_\alpha^+\hat{0}_\alpha^-|B_{11}\rangle\langle I_9|\hat{0}_\alpha^-|I_0\rangle t_{B_{11},I_9} \\ & +\frac{-1}{2}\sum_I\langle 0^A 1^B|\hat{g}|1^B 0^I\rangle\langle A_0|\hat{0}_\alpha^+|A_9\rangle\langle B_{11}|\hat{1}_\alpha^+\hat{1}_\alpha^-|B_{11}\rangle\langle I_9|\hat{0}_\alpha^-|I_0\rangle t_{B_{11},I_9} \\ & +\frac{1}{2}\sum_I\langle 0^A 0^B|\hat{g}|0^I 0^B\rangle\langle A_0|\hat{0}_\alpha^+|A_9\rangle\langle B_{11}|\hat{0}_\alpha^+\hat{0}_\alpha^-|B_{11}\rangle\langle I_9|\hat{0}_\alpha^-|I_0\rangle t_{B_{11},I_9} \\ & +\frac{1}{2}\sum_I\langle 0^A 0^B|\hat{g}|0^I 0^B\rangle\langle A_0|\hat{0}_\alpha^+|A_9\rangle\langle B_{11}|\hat{0}_\beta^+\hat{0}_\beta^-|B_{11}\rangle\langle I_9|\hat{0}_\alpha^-|I_0\rangle t_{B_{11},I_9} \\ & +\frac{1}{2}\sum_I\langle 0^A 1^B|\hat{g}|0^I 1^B\rangle\langle A_0|\hat{0}_\alpha^+|A_9\rangle\langle B_{11}|\hat{1}_\alpha^+\hat{1}_\alpha^-|B_{11}\rangle\langle I_9|\hat{0}_\alpha^-|I_0\rangle t_{B_{11},I_9} \end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_1, B_{11}, I_9) \rangle = \\
& + \frac{1}{2} \sum_I \langle 0^A | \hat{h} | 0^I \rangle \langle A_1 | \hat{0}_\alpha^+ | A_9 \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle t_{A_1} t_{B_{11}, I_9} \\
& + \frac{1}{2} \sum_I \langle 0^A 0^A | \hat{g} | 0^A 0^I \rangle \langle A_1 | \hat{0}_\alpha^+ \hat{0}_\beta^+ \hat{0}_\beta^- | A_9 \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle t_{A_1} t_{B_{11}, I_9} \\
& + \frac{1}{2} \sum_I \langle 0^A 1^A | \hat{g} | 1^A 0^I \rangle \langle A_1 | \hat{1}_\alpha^+ \hat{1}_\beta^+ \hat{0}_\beta^- | A_9 \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle t_{A_1} t_{B_{11}, I_9} \\
& + \frac{1}{2} \sum_I \langle 0^A 0^I | \hat{g} | 0^I 0^I \rangle \langle A_1 | \hat{0}_\alpha^+ | A_9 \rangle \langle I_9 | \hat{0}_\beta^+ \hat{0}_\beta^- \hat{0}_\alpha^- | I_0 \rangle t_{A_1} t_{B_{11}, I_9} \\
& + \frac{1}{2} \sum_I \langle 0^A 0^I | \hat{g} | 1^I 1^I \rangle \langle A_1 | \hat{0}_\alpha^+ | A_9 \rangle \langle I_9 | \hat{0}_\beta^+ \hat{1}_\beta^- \hat{1}_\alpha^- | I_0 \rangle t_{A_1} t_{B_{11}, I_9} \\
& + \frac{-1}{2} \sum_I \sum_J \langle 0^A 0^I | \hat{g} | 0^J 0^J \rangle \langle A_1 | \hat{0}_\alpha^+ | A_9 \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_0 | \hat{0}_\alpha^+ \hat{0}_\alpha^- | J_0 \rangle t_{A_1} t_{B_{11}, I_9} \\
& + \frac{-1}{2} \sum_I \sum_J \langle 0^A 0^I | \hat{g} | 1^J 1^J \rangle \langle A_1 | \hat{0}_\alpha^+ | A_9 \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_0 | \hat{1}_\alpha^+ \hat{1}_\alpha^- | J_0 \rangle t_{A_1} t_{B_{11}, I_9} \\
& + \frac{1}{2} \sum_I \sum_J \langle 0^A 0^J | \hat{g} | 0^I 0^J \rangle \langle A_1 | \hat{0}_\alpha^+ | A_9 \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_0 | \hat{0}_\alpha^+ \hat{0}_\alpha^- | J_0 \rangle t_{A_1} t_{B_{11}, I_9} \\
& + \frac{1}{2} \sum_I \sum_J \langle 0^A 0^J | \hat{g} | 0^I 0^J \rangle \langle A_1 | \hat{0}_\alpha^+ | A_9 \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_0 | \hat{0}_\beta^+ \hat{0}_\beta^- | J_0 \rangle t_{A_1} t_{B_{11}, I_9} \\
& + \frac{1}{2} \sum_I \sum_J \langle 0^A 1^J | \hat{g} | 0^I 1^J \rangle \langle A_1 | \hat{0}_\alpha^+ | A_9 \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_0 | \hat{1}_\alpha^+ \hat{1}_\alpha^- | J_0 \rangle t_{A_1} t_{B_{11}, I_9} \\
& + \frac{1}{2} \sum_I \sum_J \langle 0^A 1^J | \hat{g} | 0^I 1^J \rangle \langle A_1 | \hat{0}_\alpha^+ | A_9 \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_0 | \hat{1}_\beta^+ \hat{1}_\beta^- | J_0 \rangle t_{A_1} t_{B_{11}, I_9} \\
& + \frac{-1}{2} \sum_I \langle 0^A 0^B | \hat{g} | 0^B 0^I \rangle \langle A_1 | \hat{0}_\alpha^+ | A_9 \rangle \langle B_{11} | \hat{0}_\alpha^+ \hat{0}_\alpha^- | B_{11} \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle t_{A_1} t_{B_{11}, I_9} \\
& + \frac{-1}{2} \sum_I \langle 0^A 1^B | \hat{g} | 1^B 0^I \rangle \langle A_1 | \hat{0}_\alpha^+ | A_9 \rangle \langle B_{11} | \hat{1}_\alpha^+ \hat{1}_\alpha^- | B_{11} \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle t_{A_1} t_{B_{11}, I_9} \\
& + \frac{1}{2} \sum_I \langle 0^A 0^B | \hat{g} | 0^I 0^B \rangle \langle A_1 | \hat{0}_\alpha^+ | A_9 \rangle \langle B_{11} | \hat{0}_\alpha^+ \hat{0}_\alpha^- | B_{11} \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle t_{A_1} t_{B_{11}, I_9} \\
& + \frac{1}{2} \sum_I \langle 0^A 0^B | \hat{g} | 0^I 0^B \rangle \langle A_1 | \hat{0}_\alpha^+ | A_9 \rangle \langle B_{11} | \hat{0}_\beta^+ \hat{0}_\beta^- | B_{11} \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle t_{A_1} t_{B_{11}, I_9} \\
& + \frac{1}{2} \sum_I \langle 0^A 1^B | \hat{g} | 0^I 1^B \rangle \langle A_1 | \hat{0}_\alpha^+ | A_9 \rangle \langle B_{11} | \hat{1}_\alpha^+ \hat{1}_\alpha^- | B_{11} \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle t_{A_1} t_{B_{11}, I_9}
\end{aligned}$$

$$\begin{aligned}
& + \frac{-1}{2} \sum_I \sum_J \langle 0^B 0^I | \hat{g} | 0^J 0^J \rangle \langle B_2 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_{12} | \hat{0}_\alpha^+ | I_0 \rangle \langle J_0 | \hat{0}_\alpha^+ \hat{0}_\alpha^- | J_0 \rangle t_{B_2} t_{A_9, I_{12}} \\
& + \frac{-1}{2} \sum_I \sum_J \langle 0^B 0^I | \hat{g} | 1^J 1^J \rangle \langle B_2 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_{12} | \hat{0}_\alpha^+ | I_0 \rangle \langle J_0 | \hat{1}_\alpha^+ \hat{1}_\alpha^- | J_0 \rangle t_{B_2} t_{A_9, I_{12}} \\
& + \frac{1}{2} \sum_I \sum_J \langle 0^B 0^J | \hat{g} | 0^I 0^J \rangle \langle B_2 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_{12} | \hat{0}_\alpha^+ | I_0 \rangle \langle J_0 | \hat{0}_\alpha^+ \hat{0}_\alpha^- | J_0 \rangle t_{B_2} t_{A_9, I_{12}} \\
& + \frac{1}{2} \sum_I \sum_J \langle 0^B 1^J | \hat{g} | 0^I 1^J \rangle \langle B_2 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_{12} | \hat{0}_\alpha^+ | I_0 \rangle \langle J_0 | \hat{1}_\alpha^+ \hat{1}_\alpha^- | J_0 \rangle t_{B_2} t_{A_9, I_{12}} \\
& + \frac{1}{2} \sum_I \sum_J \langle 0^B 0^J | \hat{g} | 0^I 0^J \rangle \langle B_2 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_{12} | \hat{0}_\alpha^+ | I_0 \rangle \langle J_0 | \hat{0}_\beta^+ \hat{0}_\beta^- | J_0 \rangle t_{B_2} t_{A_9, I_{12}} \\
& + \frac{1}{2} \sum_I \sum_J \langle 0^B 1^J | \hat{g} | 0^I 1^J \rangle \langle B_2 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_{12} | \hat{0}_\alpha^+ | I_0 \rangle \langle J_0 | \hat{1}_\beta^+ \hat{1}_\beta^- | J_0 \rangle t_{B_2} t_{A_9, I_{12}} \\
& + \frac{1}{2} \sum_I \langle 0^A 0^B | \hat{g} | 0^A 0^I \rangle \langle A_9 | \hat{0}_\beta^+ \hat{0}_\beta^- | A_9 \rangle \langle B_2 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_{12} | \hat{0}_\alpha^+ | I_0 \rangle t_{B_2} t_{A_9, I_{12}}
\end{aligned}$$

[illegible]

$$\begin{aligned}
& + \frac{+}{2} \sum_I \sum_J \langle 0^B 1^J | \hat{g} | 1^J 1^J \rangle \langle B_3 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_0 | \hat{1}_\alpha^+ \hat{1}_\alpha^- | J_0 \rangle t_{B_3} t_{A_9, I_{11}} \\
& + \frac{+}{2} \sum_I \sum_J \langle 0^B 0^J | \hat{g} | 1^I 0^J \rangle \langle B_3 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_0 | \hat{0}_\alpha^+ \hat{0}_\alpha^- | J_0 \rangle t_{B_3} t_{A_9, I_{11}} \\
& + \frac{+}{2} \sum_I \sum_J \langle 0^B 1^J | \hat{g} | 1^I 1^J \rangle \langle B_3 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_0 | \hat{1}_\alpha^+ \hat{1}_\alpha^- | J_0 \rangle t_{B_3} t_{A_9, I_{11}} \\
& + \frac{+}{2} \sum_I \sum_J \langle 0^B 0^J | \hat{g} | 1^I 0^J \rangle \langle B_3 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_0 | \hat{0}_\beta^+ \hat{0}_\beta^- | J_0 \rangle t_{B_3} t_{A_9, I_{11}} \\
& + \frac{+}{2} \sum_I \sum_J \langle 0^B 1^J | \hat{g} | 1^I 1^J \rangle \langle B_3 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_0 | \hat{1}_\beta^+ \hat{1}_\beta^- | J_0 \rangle t_{B_3} t_{A_9, I_{11}} \\
& + \frac{+}{2} \sum_I \langle 0^A 0^B | \hat{g} | 0^A 1^I \rangle \langle A_9 | \hat{0}_\beta^+ \hat{0}_\beta^- | A_9 \rangle \langle B_3 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle t_{B_3} t_{A_9, I_{11}}
\end{aligned}$$

[illegible]

[illegible]

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{12}, I_2) \rangle = \\
& + \frac{1}{2} \sum_I \langle 0^B 0^I | \hat{g} | 1^B 1^I \rangle \langle B_{12} | \hat{1}_\beta^+ \hat{0}_\beta^- | B_{11} \rangle \langle I_2 | \hat{0}_\beta^+ \hat{1}_\beta^- | I_0 \rangle t_{A_9, B_{12}} t_{I_2} \\
& + \frac{1}{2} \sum_I \langle 0^B 0^I | \hat{g} | 1^B 1^I \rangle \langle B_{12} | \hat{1}_\beta^+ \hat{0}_\beta^- | B_{11} \rangle \langle I_2 | \hat{1}_\beta^+ \hat{0}_\beta^- | I_0 \rangle t_{A_9, B_{12}} t_{I_2} \\
& + \frac{-1}{2} \sum_I \langle 0^B 1^B | \hat{g} | 0^I 1^I \rangle \langle B_{12} | \hat{1}_\beta^+ \hat{0}_\beta^- | B_{11} \rangle \langle I_2 | \hat{0}_\beta^+ \hat{1}_\beta^- | I_0 \rangle t_{A_9, B_{12}} t_{I_2} \\
& + \frac{-1}{2} \sum_I \langle 0^B 1^B | \hat{g} | 1^I 0^I \rangle \langle B_{12} | \hat{1}_\beta^+ \hat{0}_\beta^- | B_{11} \rangle \langle I_2 | \hat{1}_\beta^+ \hat{0}_\beta^- | I_0 \rangle t_{A_9, B_{12}} t_{I_2} \\
& + \frac{1}{2} \sum_I \langle 0^B 0^I | \hat{g} | 1^B 1^I \rangle \langle B_{12} | \hat{1}_\beta^+ \hat{0}_\beta^- | B_{11} \rangle \langle I_2 | \hat{0}_\alpha^+ \hat{1}_\alpha^- | I_0 \rangle t_{A_9, B_{12}} t_{I_2} \\
& + \frac{1}{2} \sum_I \langle 0^B 0^I | \hat{g} | 1^B 1^I \rangle \langle B_{12} | \hat{1}_\beta^+ \hat{0}_\beta^- | B_{11} \rangle \langle I_2 | \hat{1}_\alpha^+ \hat{0}_\alpha^- | I_0 \rangle t_{A_9, B_{12}} t_{I_2}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{12}, I_3) \rangle = \\
& + \frac{1}{2} \sum_I \langle 0^B 0^I | \hat{g} | 1^B 1^I \rangle \langle B_{12} | \hat{1}_\beta^+ \hat{0}_\beta^- | B_{11} \rangle \langle I_3 | \hat{0}_\beta^+ \hat{1}_\beta^- | I_0 \rangle t_{A_9, B_{12}} t_{I_3} \\
& + \frac{1}{2} \sum_I \langle 0^B 0^I | \hat{g} | 1^B 1^I \rangle \langle B_{12} | \hat{1}_\beta^+ \hat{0}_\beta^- | B_{11} \rangle \langle I_3 | \hat{1}_\beta^+ \hat{0}_\beta^- | I_0 \rangle t_{A_9, B_{12}} t_{I_3} \\
& + \frac{-1}{2} \sum_I \langle 0^B 1^B | \hat{g} | 0^I 1^I \rangle \langle B_{12} | \hat{1}_\beta^+ \hat{0}_\beta^- | B_{11} \rangle \langle I_3 | \hat{0}_\beta^+ \hat{1}_\beta^- | I_0 \rangle t_{A_9, B_{12}} t_{I_3} \\
& + \frac{-1}{2} \sum_I \langle 0^B 1^B | \hat{g} | 1^I 0^I \rangle \langle B_{12} | \hat{1}_\beta^+ \hat{0}_\beta^- | B_{11} \rangle \langle I_3 | \hat{1}_\beta^+ \hat{0}_\beta^- | I_0 \rangle t_{A_9, B_{12}} t_{I_3} \\
& + \frac{1}{2} \sum_I \langle 0^B 0^I | \hat{g} | 1^B 1^I \rangle \langle B_{12} | \hat{1}_\beta^+ \hat{0}_\beta^- | B_{11} \rangle \langle I_3 | \hat{0}_\alpha^+ \hat{1}_\alpha^- | I_0 \rangle t_{A_9, B_{12}} t_{I_3} \\
& + \frac{1}{2} \sum_I \langle 0^B 0^I | \hat{g} | 1^B 1^I \rangle \langle B_{12} | \hat{1}_\beta^+ \hat{0}_\beta^- | B_{11} \rangle \langle I_3 | \hat{1}_\alpha^+ \hat{0}_\alpha^- | I_0 \rangle t_{A_9, B_{12}} t_{I_3}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (B_2,) \rangle = \\
& + \frac{-1}{2} \langle 0^A | \hat{h} | 0^B \rangle \langle A_0 | \hat{0}_\alpha^+ | A_9 \rangle \langle B_2 | \hat{0}_\alpha^- | B_{11} \rangle t_{B_2} \\
& + \frac{-1}{2} \langle 0^A 0^A | \hat{g} | 0^A 0^B \rangle \langle A_0 | \hat{0}_\alpha^+ \hat{0}_\beta^+ \hat{0}_\beta^- | A_9 \rangle \langle B_2 | \hat{0}_\alpha^- | B_{11} \rangle t_{B_2} \\
& + \frac{-1}{2} \langle 0^A 1^A | \hat{g} | 1^A 0^B \rangle \langle A_0 | \hat{1}_\alpha^+ \hat{1}_\beta^+ \hat{0}_\beta^- | A_9 \rangle \langle B_2 | \hat{0}_\alpha^- | B_{11} \rangle t_{B_2} \\
& + \frac{-1}{2} \langle 0^A 0^B | \hat{g} | 0^B 0^B \rangle \langle A_0 | \hat{0}_\alpha^+ | A_9 \rangle \langle B_2 | \hat{0}_\beta^+ \hat{0}_\beta^- \hat{0}_\alpha^- | B_{11} \rangle t_{B_2} \\
& + \frac{-1}{4} \langle 0^A 1^B | \hat{g} | 0^B 1^B \rangle \langle A_0 | \hat{0}_\alpha^+ | A_9 \rangle \langle B_2 | \hat{1}_\alpha^+ \hat{1}_\alpha^- \hat{0}_\alpha^- | B_{11} \rangle t_{B_2}
\end{aligned}$$

[illegible]

$$\begin{aligned}
& + \frac{-1}{2} \sum_I \langle 0^A 1^I | g | 0^B 1^I \rangle \langle A_1 | \hat{0}_\alpha^+ | A_9 \rangle \langle B_2 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_0 | \hat{1}_\beta^+ \hat{1}_\beta^- | I_0 \rangle t_{A_1} t_{B_2} \\
& + \frac{1}{2} \sum_I \langle 0^A 0^B | \hat{g} | 0^I 0^I \rangle \langle A_1 | \hat{0}_\alpha^+ | A_9 \rangle \langle B_2 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_0 | \hat{0}_\alpha^+ \hat{0}_\alpha^- | I_0 \rangle t_{A_1} t_{B_2} \\
& + \frac{1}{2} \sum_I \langle 0^A 0^B | \hat{g} | 1^I 1^I \rangle \langle A_1 | \hat{0}_\alpha^+ | A_9 \rangle \langle B_2 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_0 | \hat{1}_\alpha^+ \hat{1}_\alpha^- | I_0 \rangle t_{A_1} t_{B_2}
\end{aligned}$$

[illegible]

[illegible]

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_2, B_2) \rangle = \\
& + \frac{-1}{2} \langle 1^A | \hat{h} | 0^B \rangle \langle A_2 | \hat{1}_\alpha^+ | A_9 \rangle \langle B_2 | \hat{0}_\alpha^- | B_{11} \rangle t_{A_2, B_2} \\
& + \frac{-1}{2} \langle 0^A 0^A | \hat{g} | 1^A 0^B \rangle \langle A_2 | \hat{0}_\alpha^+ \hat{1}_\beta^+ \hat{0}_\beta^- | A_9 \rangle \langle B_2 | \hat{0}_\alpha^- | B_{11} \rangle t_{A_2, B_2} \\
& + \frac{-1}{2} \langle 0^A 1^A | \hat{g} | 0^A 0^B \rangle \langle A_2 | \hat{1}_\alpha^+ \hat{0}_\beta^+ \hat{0}_\beta^- | A_9 \rangle \langle B_2 | \hat{0}_\alpha^- | B_{11} \rangle t_{A_2, B_2} \\
& + \frac{-1}{2} \langle 1^A 0^B | \hat{g} | 0^B 0^B \rangle \langle A_2 | \hat{1}_\alpha^+ | A_9 \rangle \langle B_2 | \hat{0}_\beta^+ \hat{0}_\beta^- \hat{0}_\alpha^- | B_{11} \rangle t_{A_2, B_2} \\
& + \frac{-1}{4} \langle 1^A 1^B | \hat{g} | 0^B 1^B \rangle \langle A_2 | \hat{1}_\alpha^+ | A_9 \rangle \langle B_2 | \hat{1}_\alpha^+ \hat{1}_\alpha^- \hat{0}_\alpha^- | B_{11} \rangle t_{A_2, B_2} \\
& + \frac{-1}{4} \langle 1^A 0^B | \hat{g} | 1^B 1^B \rangle \langle A_2 | \hat{1}_\alpha^+ | A_9 \rangle \langle B_2 | \hat{1}_\alpha^+ \hat{0}_\alpha^- \hat{1}_\alpha^- | B_{11} \rangle t_{A_2, B_2} \\
& + \frac{-1}{2} \langle 1^A 0^B | \hat{g} | 1^B 1^B \rangle \langle A_2 | \hat{1}_\alpha^+ | A_9 \rangle \langle B_2 | \hat{1}_\beta^+ \hat{0}_\beta^- \hat{1}_\alpha^- | B_{11} \rangle t_{A_2, B_2} \\
& + \frac{1}{4} \langle 1^A 0^B | \hat{g} | 1^B 1^B \rangle \langle A_2 | \hat{1}_\alpha^+ | A_9 \rangle \langle B_2 | \hat{1}_\alpha^+ \hat{1}_\alpha^- \hat{0}_\alpha^- | B_{11} \rangle t_{A_2, B_2}
\end{aligned}$$

[illegible]

[illegible]

[illegible]

$$\begin{aligned}
& + \frac{-1}{2} \sum_I \langle 1^A 1^I | \hat{g} | 1^B 1^I \rangle \langle A_3 | \hat{1}_\alpha^+ | A_9 \rangle \langle B_0 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_0 | \hat{1}_\beta^+ \hat{1}_\beta^- | I_0 \rangle t_{A_3} \\
& + \frac{1}{2} \sum_I \langle 1^A 1^B | \hat{g} | 0^I 0^I \rangle \langle A_3 | \hat{1}_\alpha^+ | A_9 \rangle \langle B_0 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_0 | \hat{0}_\alpha^+ \hat{0}_\alpha^- | I_0 \rangle t_{A_3} \\
& + \frac{1}{2} \sum_I \langle 1^A 1^B | \hat{g} | 1^I 1^I \rangle \langle A_3 | \hat{1}_\alpha^+ | A_9 \rangle \langle B_0 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_0 | \hat{1}_\alpha^+ \hat{1}_\alpha^- | I_0 \rangle t_{A_3}
\end{aligned}$$

[illegible]

$$\begin{aligned}
& +\frac{1}{4}\langle 1^A 0^B | \hat{g} | 0^B 1^B \rangle \langle A_3 | \hat{1}_\alpha^+ | A_9 \rangle \langle B_1 | \hat{0}_\alpha^+ \hat{0}_\alpha^- \hat{1}_\alpha^- | B_{11} \rangle t_{A_3} t_{B_1} \\
& +\frac{-1}{2} \sum_I \langle 1^A 0^I | \hat{g} | 1^B 0^I \rangle \langle A_3 | \hat{1}_\alpha^+ | A_9 \rangle \langle B_1 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_0 | \hat{0}_\alpha^+ \hat{0}_\alpha^- | I_0 \rangle t_{A_3} t_{B_1} \\
& +\frac{-1}{2} \sum_I \langle 1^A 0^I | \hat{g} | 1^B 0^I \rangle \langle A_3 | \hat{1}_\alpha^+ | A_9 \rangle \langle B_1 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_0 | \hat{0}_\beta^+ \hat{0}_\beta^- | I_0 \rangle t_{A_3} t_{B_1} \\
& +\frac{-1}{2} \sum_I \langle 1^A 1^I | \hat{g} | 1^B 1^I \rangle \langle A_3 | \hat{1}_\alpha^+ | A_9 \rangle \langle B_1 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_0 | \hat{1}_\alpha^+ \hat{1}_\alpha^- | I_0 \rangle t_{A_3} t_{B_1} \\
& +\frac{-1}{2} \sum_I \langle 1^A 1^I | \hat{g} | 1^B 1^I \rangle \langle A_3 | \hat{1}_\alpha^+ | A_9 \rangle \langle B_1 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_0 | \hat{1}_\beta^+ \hat{1}_\beta^- | I_0 \rangle t_{A_3} t_{B_1} \\
& +\frac{1}{2} \sum_I \langle 1^A 1^B | \hat{g} | 0^I 0^I \rangle \langle A_3 | \hat{1}_\alpha^+ | A_9 \rangle \langle B_1 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_0 | \hat{0}_\alpha^+ \hat{0}_\alpha^- | I_0 \rangle t_{A_3} t_{B_1} \\
& +\frac{1}{2} \sum_I \langle 1^A 1^B | \hat{g} | 1^I 1^I \rangle \langle A_3 | \hat{1}_\alpha^+ | A_9 \rangle \langle B_1 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_0 | \hat{1}_\alpha^+ \hat{1}_\alpha^- | I_0 \rangle t_{A_3} t_{B_1}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_6, B_{15}) \rangle = \\
& +\frac{1}{2} \langle 0^A | \hat{h} | 1^B \rangle \langle A_6 | \hat{0}_\beta^- | A_9 \rangle \langle B_{15} | \hat{1}_\beta^+ | B_{11} \rangle t_{A_6, B_{15}} \\
& +\frac{1}{4} \langle 0^A 0^B | \hat{g} | 0^B 1^B \rangle \langle A_6 | \hat{0}_\beta^- | A_9 \rangle \langle B_{15} | \hat{0}_\beta^+ \hat{1}_\beta^+ \hat{0}_\beta^- | B_{11} \rangle t_{A_6, B_{15}} \\
& +\frac{1}{4} \langle 0^A 0^B | \hat{g} | 1^B 0^B \rangle \langle A_6 | \hat{0}_\beta^- | A_9 \rangle \langle B_{15} | \hat{1}_\beta^+ \hat{0}_\beta^+ \hat{0}_\beta^- | B_{11} \rangle t_{A_6, B_{15}} \\
& +\frac{-1}{4} \langle 0^A 0^B | \hat{g} | 1^B 0^B \rangle \langle A_6 | \hat{0}_\beta^- | A_9 \rangle \langle B_{15} | \hat{0}_\beta^+ \hat{1}_\beta^+ \hat{0}_\beta^- | B_{11} \rangle t_{A_6, B_{15}} \\
& +\frac{-1}{2} \langle 0^A 0^B | \hat{g} | 1^B 0^B \rangle \langle A_6 | \hat{0}_\beta^- | A_9 \rangle \langle B_{15} | \hat{0}_\alpha^+ \hat{1}_\beta^+ \hat{0}_\alpha^- | B_{11} \rangle t_{A_6, B_{15}} \\
& +\frac{-1}{4} \langle 0^A 0^B | \hat{g} | 0^B 1^B \rangle \langle A_6 | \hat{0}_\beta^- | A_9 \rangle \langle B_{15} | \hat{1}_\beta^+ \hat{0}_\beta^+ \hat{0}_\beta^- | B_{11} \rangle t_{A_6, B_{15}} \\
& +\frac{-1}{2} \langle 0^A 1^B | \hat{g} | 1^B 1^B \rangle \langle A_6 | \hat{0}_\beta^- | A_9 \rangle \langle B_{15} | \hat{1}_\alpha^+ \hat{1}_\beta^+ \hat{1}_\alpha^- | B_{11} \rangle t_{A_6, B_{15}} \\
& +\frac{1}{2} \sum_I \langle 0^A 0^I | \hat{g} | 1^B 0^I \rangle \langle A_6 | \hat{0}_\beta^- | A_9 \rangle \langle B_{15} | \hat{1}_\beta^+ | B_{11} \rangle \langle I_0 | \hat{0}_\beta^+ \hat{0}_\beta^- | I_0 \rangle t_{A_6, B_{15}} \\
& +\frac{1}{2} \sum_I \langle 0^A 1^I | \hat{g} | 1^B 1^I \rangle \langle A_6 | \hat{0}_\beta^- | A_9 \rangle \langle B_{15} | \hat{1}_\beta^+ | B_{11} \rangle \langle I_0 | \hat{1}_\beta^+ \hat{1}_\beta^- | I_0 \rangle t_{A_6, B_{15}} \\
& +\frac{-1}{2} \sum_I \langle 0^A 1^B | \hat{g} | 0^I 0^I \rangle \langle A_6 | \hat{0}_\beta^- | A_9 \rangle \langle B_{15} | \hat{1}_\beta^+ | B_{11} \rangle \langle I_0 | \hat{0}_\beta^+ \hat{0}_\beta^- | I_0 \rangle t_{A_6, B_{15}} \\
& +\frac{-1}{2} \sum_I \langle 0^A 1^B | \hat{g} | 1^I 1^I \rangle \langle A_6 | \hat{0}_\beta^- | A_9 \rangle \langle B_{15} | \hat{1}_\beta^+ | B_{11} \rangle \langle I_0 | \hat{1}_\beta^+ \hat{1}_\beta^- | I_0 \rangle t_{A_6, B_{15}} \\
& +\frac{1}{2} \sum_I \langle 0^A 0^I | \hat{g} | 1^B 0^I \rangle \langle A_6 | \hat{0}_\beta^- | A_9 \rangle \langle B_{15} | \hat{1}_\beta^+ | B_{11} \rangle \langle I_0 | \hat{0}_\alpha^+ \hat{0}_\alpha^- | I_0 \rangle t_{A_6, B_{15}} \\
& +\frac{1}{2} \sum_I \langle 0^A 1^I | \hat{g} | 1^B 1^I \rangle \langle A_6 | \hat{0}_\beta^- | A_9 \rangle \langle B_{15} | \hat{1}_\beta^+ | B_{11} \rangle \langle I_0 | \hat{1}_\alpha^+ \hat{1}_\alpha^- | I_0 \rangle t_{A_6, B_{15}}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_{13}, B_8) \rangle = \\
& +\frac{1}{2} \langle 0^A 1^A | \hat{g} | 0^B 0^B \rangle \langle A_{13} | \hat{0}_\alpha^+ \hat{1}_\beta^+ | A_9 \rangle \langle B_8 | \hat{0}_\beta^- \hat{0}_\alpha^- | B_{11} \rangle t_{A_{13}, B_8}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_{11}, B_9) \rangle = \\
& + \frac{1}{4} \langle 0^A 1^A | \hat{g} | 0^B 1^B \rangle \langle A_{11} | \hat{0}_\alpha^+ \hat{1}_\alpha^+ | A_9 \rangle \langle B_9 | \hat{1}_\alpha^- \hat{0}_\alpha^- | B_{11} \rangle t_{A_{11}, B_9} \\
& + \frac{1}{4} \langle 0^A 1^A | \hat{g} | 1^B 0^B \rangle \langle A_{11} | \hat{0}_\alpha^+ \hat{1}_\alpha^+ | A_9 \rangle \langle B_9 | \hat{0}_\alpha^- \hat{1}_\alpha^- | B_{11} \rangle t_{A_{11}, B_9} \\
& + \frac{1}{4} \langle 0^A 1^A | \hat{g} | 1^B 0^B \rangle \langle A_{11} | \hat{1}_\alpha^+ \hat{0}_\alpha^+ | A_9 \rangle \langle B_9 | \hat{1}_\alpha^- \hat{0}_\alpha^- | B_{11} \rangle t_{A_{11}, B_9} \\
& + \frac{1}{4} \langle 0^A 1^A | \hat{g} | 0^B 1^B \rangle \langle A_{11} | \hat{1}_\alpha^+ \hat{0}_\alpha^+ | A_9 \rangle \langle B_9 | \hat{0}_\alpha^- \hat{1}_\alpha^- | B_{11} \rangle t_{A_{11}, B_9}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_{13}, B_7) \rangle = \\
& + \frac{1}{2} \langle 0^A 1^A | \hat{g} | 1^B 0^B \rangle \langle A_{13} | \hat{0}_\alpha^+ \hat{1}_\beta^+ | A_9 \rangle \langle B_7 | \hat{0}_\beta^- \hat{1}_\alpha^- | B_{11} \rangle t_{A_{13}, B_7}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_{14}, B_8) \rangle = \\
& + \frac{1}{2} \langle 1^A 1^A | \hat{g} | 0^B 0^B \rangle \langle A_{14} | \hat{1}_\alpha^+ \hat{1}_\beta^+ | A_9 \rangle \langle B_8 | \hat{0}_\beta^- \hat{0}_\alpha^- | B_{11} \rangle t_{A_{14}, B_8}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_{14}, B_7) \rangle = \\
& + \frac{1}{2} \langle 1^A 1^A | \hat{g} | 0^B 1^B \rangle \langle A_{14} | \hat{1}_\alpha^+ \hat{1}_\beta^+ | A_9 \rangle \langle B_7 | \hat{0}_\beta^- \hat{1}_\alpha^- | B_{11} \rangle t_{A_{14}, B_7}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_{10}, B_{12}) \rangle = \\
& + \frac{1}{2} \langle 0^A 0^B | \hat{g} | 1^A 1^B \rangle \langle A_{10} | \hat{1}_\beta^+ \hat{0}_\beta^- | A_9 \rangle \langle B_{12} | \hat{1}_\beta^+ \hat{0}_\beta^- | B_{11} \rangle t_{A_{10}, B_{12}} \\
& + \frac{1}{2} \langle 0^A 1^A | \hat{g} | 1^B 0^B \rangle \langle A_{10} | \hat{1}_\beta^+ \hat{0}_\beta^- | A_9 \rangle \langle B_{12} | \hat{1}_\beta^+ \hat{0}_\beta^- | B_{11} \rangle t_{A_{10}, B_{12}}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_7, B_{14}) \rangle = \\
& + \frac{1}{2} \langle 0^A 0^A | \hat{g} | 0^B 1^B \rangle \langle A_7 | \hat{0}_\alpha^+ \hat{0}_\beta^- | A_9 \rangle \langle B_{14} | \hat{1}_\beta^+ \hat{0}_\alpha^- | B_{11} \rangle t_{A_7, B_{14}}
\end{aligned}$$

$$\langle (A_9, B_{11}) | \hat{H} | (A_7, B_{13}) \rangle =$$

$$+\frac{-1}{2}\langle 0^A 0^A|\hat{g}|1^B 1^B\rangle\langle A_7|\hat{0}_\alpha^+\hat{0}_\beta^-|A_9\rangle\langle B_{13}|\hat{1}_\beta^+\hat{1}_\alpha^-|B_{11}\rangle t_{A_7,B_{13}}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | H | (A_8, B_{14}) \rangle = \\ & + \frac{-1}{2} \langle 0^A 1^A | \hat{g} | 1^B 0^B \rangle \langle A_8 | \hat{1}_\alpha^+ \hat{0}_\beta^- | A_9 \rangle \langle B_{14} | \hat{1}_\beta^+ \hat{0}_\alpha^- | B_{11} \rangle t_{A_8, B_{14}} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_8, B_{13}) \rangle = \\ & + \frac{-1}{2} \langle 0^A 1^A | \hat{g} | 1^B 1^B \rangle \langle A_8 | \hat{1}_\alpha^+ \hat{0}_\beta^- | A_9 \rangle \langle B_{13} | \hat{1}_\beta^+ \hat{1}_\alpha^- | B_{11} \rangle t_{A_8, B_{13}} \end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_1, J_{12}, K_9) \rangle = \\
& + \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^I 0^J | \hat{g} | 0^I 0^K \rangle \langle I_1 | \hat{\alpha}_+^\dagger \hat{\alpha}_-^- | I_0 \rangle \langle J_{12} | \hat{\alpha}_+^\dagger | J_0 \rangle \langle K_9 | \hat{\alpha}_-^- | K_0 \rangle t_{A_9, B_{11}} t_{I_1} t_{J_{12}, K_9} \\
& + \frac{1}{12} \sum_I \sum_J \sum_K \langle 1^I 0^J | \hat{g} | 1^I 0^K \rangle \langle I_1 | \hat{1}_+^\dagger \hat{1}_-^- | I_0 \rangle \langle J_{12} | \hat{\alpha}_+^\dagger | J_0 \rangle \langle K_9 | \hat{\alpha}_-^- | K_0 \rangle t_{A_9, B_{11}} t_{I_1} t_{J_{12}, K_9} \\
& + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 0^I 0^I | \hat{g} | 0^J 0^K \rangle \langle I_1 | \hat{\alpha}_+^\dagger \hat{\alpha}_-^- | I_0 \rangle \langle J_{12} | \hat{\alpha}_+^\dagger | J_0 \rangle \langle K_9 | \hat{\alpha}_-^- | K_0 \rangle t_{A_9, B_{11}} t_{I_1} t_{J_{12}, K_9} \\
& + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 1^I 1^I | \hat{g} | 0^J 0^K \rangle \langle I_1 | \hat{1}_+^\dagger \hat{1}_-^- | I_0 \rangle \langle J_{12} | \hat{\alpha}_+^\dagger | J_0 \rangle \langle K_9 | \hat{\alpha}_-^- | K_0 \rangle t_{A_9, B_{11}} t_{I_1} t_{J_{12}, K_9} \\
& + \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^I 0^J | \hat{g} | 0^I 0^K \rangle \langle I_1 | \hat{\alpha}_\beta^\dagger \hat{\alpha}_{-\beta}^- | I_0 \rangle \langle J_{12} | \hat{\alpha}_+^\dagger | J_0 \rangle \langle K_9 | \hat{\alpha}_-^- | K_0 \rangle t_{A_9, B_{11}} t_{I_1} t_{J_{12}, K_9} \\
& + \frac{1}{12} \sum_I \sum_J \sum_K \langle 1^I 0^J | \hat{g} | 1^I 0^K \rangle \langle I_1 | \hat{1}_\beta^\dagger \hat{1}_{-\beta}^- | I_0 \rangle \langle J_{12} | \hat{\alpha}_+^\dagger | J_0 \rangle \langle K_9 | \hat{\alpha}_-^- | K_0 \rangle t_{A_9, B_{11}} t_{I_1} t_{J_{12}, K_9} \\
& + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 0^I 0^J | \hat{g} | 0^I 0^K \rangle \langle I_1 | \hat{\alpha}_+^\dagger \hat{\alpha}_-^- | I_0 \rangle \langle J_{12} | \hat{\alpha}_\alpha^\dagger | J_0 \rangle \langle K_9 | \hat{\alpha}_-^- | K_0 \rangle t_{A_9, J_{12}} t_{B_{11}, K_9} t_{I_1} \\
& + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 1^I 0^J | \hat{g} | 1^I 0^K \rangle \langle I_1 | \hat{1}_\alpha^\dagger \hat{1}_-^- | I_0 \rangle \langle J_{12} | \hat{\alpha}_\alpha^\dagger | J_0 \rangle \langle K_9 | \hat{\alpha}_-^- | K_0 \rangle t_{A_9, J_{12}} t_{B_{11}, K_9} t_{I_1} \\
& + \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^I 0^I | \hat{g} | 0^J 0^K \rangle \langle I_1 | \hat{\alpha}_+^\dagger \hat{\alpha}_-^- | I_0 \rangle \langle J_{12} | \hat{\alpha}_+^\dagger | J_0 \rangle \langle K_9 | \hat{\alpha}_-^- | K_0 \rangle t_{A_9, J_{12}} t_{B_{11}, K_9} t_{I_1} \\
& + \frac{1}{12} \sum_I \sum_J \sum_K \langle 1^I 1^I | \hat{g} | 0^J 0^K \rangle \langle I_1 | \hat{1}_\alpha^\dagger \hat{1}_-^- | I_0 \rangle \langle J_{12} | \hat{\alpha}_+^\dagger | J_0 \rangle \langle K_9 | \hat{\alpha}_-^- | K_0 \rangle t_{A_9, J_{12}} t_{B_{11}, K_9} t_{I_1} \\
& + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 0^I 0^J | \hat{g} | 0^I 0^K \rangle \langle I_1 | \hat{\alpha}_\beta^\dagger \hat{\alpha}_{-\beta}^- | I_0 \rangle \langle J_{12} | \hat{\alpha}_\alpha^\dagger | J_0 \rangle \langle K_9 | \hat{\alpha}_-^- | K_0 \rangle t_{A_9, J_{12}} t_{B_{11}, K_9} t_{I_1} \\
& + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 1^I 0^J | \hat{g} | 1^I 0^K \rangle \langle I_1 | \hat{1}_\beta^\dagger \hat{1}_{-\beta}^- | I_0 \rangle \langle J_{12} | \hat{\alpha}_\alpha^\dagger | J_0 \rangle \langle K_9 | \hat{\alpha}_-^- | K_0 \rangle t_{A_9, J_{12}} t_{B_{11}, K_9} t_{I_1}
\end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_1, J_{14}, K_7) \rangle = \\ & + \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^I 0^J | \hat{g} | 0^I 0^K \rangle \langle I_1 | \hat{0}_\beta^+ \hat{0}_\beta^- | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle \langle K_7 | \hat{0}_\beta^- | K_0 \rangle t_{A_9, B_{11}} t_{I_1} t_{J_{14}, K_7} \\ & + \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^I 0^J | \hat{g} | 0^I 0^K \rangle \langle I_1 | \hat{0}_\alpha^+ \hat{0}_\alpha^- | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle \langle K_7 | \hat{0}_\beta^- | K_0 \rangle t_{A_9, B_{11}} t_{I_1} t_{J_{14}, K_7} \end{aligned}$$

$$\begin{aligned}
& + \frac{1}{12} \sum_I \sum_J \sum_K \langle 1^I 0^J | \hat{g} | 1^I 0^K \rangle \langle I_1 | \hat{1}_\beta^+ \hat{1}_\beta^- | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle \langle K_7 | \hat{0}_\beta^- | K_0 \rangle t_{A_9, B_{11}} t_{I_1} t_{J_{14}, K_7} \\
& + \frac{1}{12} \sum_I \sum_J \sum_K \langle 1^I 0^J | \hat{g} | 1^I 0^K \rangle \langle I_1 | \hat{1}_\alpha^+ \hat{1}_\alpha^- | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle \langle K_7 | \hat{0}_\beta^- | K_0 \rangle t_{A_9, B_{11}} t_{I_1} t_{J_{14}, K_7} \\
& + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 0^I 0^I | \hat{g} | 0^J 0^K \rangle \langle I_1 | \hat{0}_\beta^+ \hat{0}_\beta^- | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle \langle K_7 | \hat{0}_\beta^- | K_0 \rangle t_{A_9, B_{11}} t_{I_1} t_{J_{14}, K_7} \\
& + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 1^I 1^I | \hat{g} | 0^J 0^K \rangle \langle I_1 | \hat{1}_\beta^+ \hat{1}_\beta^- | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle \langle K_7 | \hat{0}_\beta^- | K_0 \rangle t_{A_9, B_{11}} t_{I_1} t_{J_{14}, K_7}
\end{aligned}$$

[illegible]

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_1, J_{14}, K_8) \rangle = \\
& + \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^I 0^J | \hat{g} | 0^I 1^K \rangle \langle I_1 | \hat{0}_\beta^+ \hat{0}_\beta^- | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle \langle K_8 | \hat{1}_\beta^- | K_0 \rangle t_{A_9, B_{11}} t_{I_1} t_{J_{14}, K_8} \\
& + \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^I 0^J | \hat{g} | 0^I 1^K \rangle \langle I_1 | \hat{0}_\alpha^+ \hat{0}_\alpha^- | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle \langle K_8 | \hat{1}_\beta^- | K_0 \rangle t_{A_9, B_{11}} t_{I_1} t_{J_{14}, K_8} \\
& + \frac{1}{12} \sum_I \sum_J \sum_K \langle 1^I 0^J | \hat{g} | 1^I 1^K \rangle \langle I_1 | \hat{1}_\beta^+ \hat{1}_\beta^- | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle \langle K_8 | \hat{1}_\beta^- | K_0 \rangle t_{A_9, B_{11}} t_{I_1} t_{J_{14}, K_8} \\
& + \frac{1}{12} \sum_I \sum_J \sum_K \langle 1^I 0^J | \hat{g} | 1^I 1^K \rangle \langle I_1 | \hat{1}_\alpha^+ \hat{1}_\alpha^- | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle \langle K_8 | \hat{1}_\beta^- | K_0 \rangle t_{A_9, B_{11}} t_{I_1} t_{J_{14}, K_8} \\
& + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 0^I 0^I | \hat{g} | 0^J 1^K \rangle \langle I_1 | \hat{0}_\beta^+ \hat{0}_\beta^- | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle \langle K_8 | \hat{1}_\beta^- | K_0 \rangle t_{A_9, B_{11}} t_{I_1} t_{J_{14}, K_8} \\
& + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 1^I 1^I | \hat{g} | 0^J 1^K \rangle \langle I_1 | \hat{1}_\beta^+ \hat{1}_\beta^- | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle \langle K_8 | \hat{1}_\beta^- | K_0 \rangle t_{A_9, B_{11}} t_{I_1} t_{J_{14}, K_8}
\end{aligned}$$

$$\begin{aligned}
& + \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^I 1^I | \hat{g} | 1^K 0^J \rangle \langle I_2 | \hat{0}_\alpha^+ \hat{1}_\alpha^- | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle \langle K_{10} | \hat{1}_\alpha^- | K_0 \rangle t_{A_9, J_{12}} t_{B_{11}, K_{10}} t_{I_2} \\
& + \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^I 1^I | \hat{g} | 0^J 1^K \rangle \langle I_2 | \hat{1}_\alpha^+ \hat{0}_\alpha^- | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle \langle K_{10} | \hat{1}_\alpha^- | K_0 \rangle t_{A_9, J_{12}} t_{B_{11}, K_{10}} t_{I_2} \\
& + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 0^I 0^J | \hat{g} | 1^I 1^K \rangle \langle I_2 | \hat{0}_\beta^+ \hat{1}_\beta^- | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle \langle K_{10} | \hat{1}_\alpha^- | K_0 \rangle t_{A_9, J_{12}} t_{B_{11}, K_{10}} t_{I_2} \\
& + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 0^I 0^J | \hat{g} | 1^I 1^K \rangle \langle I_2 | \hat{1}_\beta^+ \hat{0}_\beta^- | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle \langle K_{10} | \hat{1}_\alpha^- | K_0 \rangle t_{A_9, J_{12}} t_{B_{11}, K_{10}} t_{I_2}
\end{aligned}$$

[illegible]

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_2, J_{14}, K_8) \rangle = \\
& + \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^I 0^J | \hat{g} | 1^I 1^K \rangle \langle I_2 | \hat{0}_\beta^+ \hat{1}_\beta^- | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle \langle K_8 | \hat{1}_\beta^- | K_0 \rangle t_{A_9, B_{11}} t_{I_2} t_{J_{14}, K_8} \\
& + \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^I 0^J | \hat{g} | 1^I 1^K \rangle \langle I_2 | \hat{0}_\alpha^+ \hat{1}_\alpha^- | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle \langle K_8 | \hat{1}_\beta^- | K_0 \rangle t_{A_9, B_{11}} t_{I_2} t_{J_{14}, K_8} \\
& + \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^I 0^J | \hat{g} | 1^I 1^K \rangle \langle I_2 | \hat{1}_\beta^+ \hat{0}_\beta^- | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle \langle K_8 | \hat{1}_\beta^- | K_0 \rangle t_{A_9, B_{11}} t_{I_2} t_{J_{14}, K_8} \\
& + \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^I 0^J | \hat{g} | 1^I 1^K \rangle \langle I_2 | \hat{1}_\alpha^+ \hat{0}_\alpha^- | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle \langle K_8 | \hat{1}_\beta^- | K_0 \rangle t_{A_9, B_{11}} t_{I_2} t_{J_{14}, K_8} \\
& + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 0^I 1^I | \hat{g} | 1^K 0^J \rangle \langle I_2 | \hat{0}_\beta^+ \hat{1}_\beta^- | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle \langle K_8 | \hat{1}_\beta^- | K_0 \rangle t_{A_9, B_{11}} t_{I_2} t_{J_{14}, K_8} \\
& + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 0^I 1^I | \hat{g} | 0^J 1^K \rangle \langle I_2 | \hat{1}_\beta^+ \hat{0}_\beta^- | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle \langle K_8 | \hat{1}_\beta^- | K_0 \rangle t_{A_9, B_{11}} t_{I_2} t_{J_{14}, K_8}
\end{aligned}$$

$$\begin{aligned}
& + \frac{1}{12} \sum_I \sum_J \sum_K \langle 1^I 1^J | \hat{g} | 1^I 0^K \rangle \langle I_1 | \hat{1}_\alpha^+ \hat{1}_\alpha^- | I_0 \rangle \langle J_{13} | \hat{1}_\beta^+ | J_0 \rangle \langle K_7 | \hat{0}_\beta^- | K_0 \rangle t_{A_9, B_{11}} t_{I_1} t_{J_{13}, K_7} \\
& + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 0^I 0^J | \hat{g} | 1^J 0^K \rangle \langle I_1 | \hat{0}_\beta^+ \hat{0}_\beta^- | I_0 \rangle \langle J_{13} | \hat{1}_\beta^+ | J_0 \rangle \langle K_7 | \hat{0}_\beta^- | K_0 \rangle t_{A_9, B_{11}} t_{I_1} t_{J_{13}, K_7} \\
& + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 1^I 1^I | \hat{g} | 1^J 0^K \rangle \langle I_1 | \hat{1}_\beta^+ \hat{1}_\beta^- | I_0 \rangle \langle J_{13} | \hat{1}_\beta^+ | J_0 \rangle \langle K_7 | \hat{0}_\beta^- | K_0 \rangle t_{A_9, B_{11}} t_{I_1} t_{J_{13}, K_7}
\end{aligned}$$

[illegible]

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_1, J_{13}, K_8) \rangle = \\
& + \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^I 1^J | \hat{g} | 0^I 1^K \rangle \langle I_1 | \hat{0}_\beta^+ \hat{0}_\beta^- | I_0 \rangle \langle J_{13} | \hat{1}_\beta^+ | J_0 \rangle \langle K_8 | \hat{1}_\beta^- | K_0 \rangle t_{A_9, B_{11}} t_{I_1} t_{J_{13}, K_8} \\
& + \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^I 1^J | \hat{g} | 0^I 1^K \rangle \langle I_1 | \hat{0}_\alpha^+ \hat{0}_\alpha^- | I_0 \rangle \langle J_{13} | \hat{1}_\beta^+ | J_0 \rangle \langle K_8 | \hat{1}_\beta^- | K_0 \rangle t_{A_9, B_{11}} t_{I_1} t_{J_{13}, K_8} \\
& + \frac{1}{12} \sum_I \sum_J \sum_K \langle 1^I 1^J | \hat{g} | 1^I 1^K \rangle \langle I_1 | \hat{1}_\beta^+ \hat{1}_\beta^- | I_0 \rangle \langle J_{13} | \hat{1}_\beta^+ | J_0 \rangle \langle K_8 | \hat{1}_\beta^- | K_0 \rangle t_{A_9, B_{11}} t_{I_1} t_{J_{13}, K_8} \\
& + \frac{1}{12} \sum_I \sum_J \sum_K \langle 1^I 1^J | \hat{g} | 1^I 1^K \rangle \langle I_1 | \hat{1}_\alpha^+ \hat{1}_\alpha^- | I_0 \rangle \langle J_{13} | \hat{1}_\beta^+ | J_0 \rangle \langle K_8 | \hat{1}_\beta^- | K_0 \rangle t_{A_9, B_{11}} t_{I_1} t_{J_{13}, K_8} \\
& + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 0^I 0^I | \hat{g} | 1^J 1^K \rangle \langle I_1 | \hat{0}_\beta^+ \hat{0}_\beta^- | I_0 \rangle \langle J_{13} | \hat{1}_\beta^+ | J_0 \rangle \langle K_8 | \hat{1}_\beta^- | K_0 \rangle t_{A_9, B_{11}} t_{I_1} t_{J_{13}, K_8} \\
& + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 1^I 1^I | \hat{g} | 1^J 1^K \rangle \langle I_1 | \hat{1}_\beta^+ \hat{1}_\beta^- | I_0 \rangle \langle J_{13} | \hat{1}_\beta^+ | J_0 \rangle \langle K_8 | \hat{1}_\beta^- | K_0 \rangle t_{A_9, B_{11}} t_{I_1} t_{J_{13}, K_8}
\end{aligned}$$

[illegible]

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_3, J_{11}, K_9) \rangle = \\
& + \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^I 1^J | \hat{g} | 1^I 0^K \rangle \langle I_3 | \hat{0}_\alpha^+ \hat{1}_\alpha^- | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle \langle K_9 | \hat{0}_\alpha^- | K_0 \rangle t_{A_9, B_{11}} t_{I_3} t_{J_{11}, K_9} \\
& + \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^I 1^J | \hat{g} | 1^I 0^K \rangle \langle I_3 | \hat{1}_\alpha^+ \hat{0}_\alpha^- | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle \langle K_9 | \hat{0}_\alpha^- | K_0 \rangle t_{A_9, B_{11}} t_{I_3} t_{J_{11}, K_9} \\
& + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 0^I 1^I | \hat{g} | 0^K 1^J \rangle \langle I_3 | \hat{0}_\alpha^+ \hat{1}_\alpha^- | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle \langle K_9 | \hat{0}_\alpha^- | K_0 \rangle t_{A_9, B_{11}} t_{I_3} t_{J_{11}, K_9} \\
& + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 0^I 1^I | \hat{g} | 1^J 0^K \rangle \langle I_3 | \hat{1}_\alpha^+ \hat{0}_\alpha^- | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle \langle K_9 | \hat{0}_\alpha^- | K_0 \rangle t_{A_9, B_{11}} t_{I_3} t_{J_{11}, K_9} \\
& + \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^I 1^J | \hat{g} | 1^I 0^K \rangle \langle I_3 | \hat{0}_\beta^+ \hat{1}_\beta^- | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle \langle K_9 | \hat{0}_\alpha^- | K_0 \rangle t_{A_9, B_{11}} t_{I_3} t_{J_{11}, K_9} \\
& + \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^I 1^J | \hat{g} | 1^I 0^K \rangle \langle I_3 | \hat{1}_\beta^+ \hat{0}_\beta^- | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle \langle K_9 | \hat{0}_\alpha^- | K_0 \rangle t_{A_9, B_{11}} t_{I_3} t_{J_{11}, K_9} \\
& + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 0^I 1^J | \hat{g} | 1^I 0^K \rangle \langle I_3 | \hat{0}_\alpha^+ \hat{1}_\alpha^- | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle \langle K_9 | \hat{0}_\alpha^- | K_0 \rangle t_{A_9, J_{11}} t_{B_{11}, K_9} t_{I_3} \\
& + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 0^I 1^J | \hat{g} | 1^I 0^K \rangle \langle I_3 | \hat{1}_\alpha^+ \hat{0}_\alpha^- | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle \langle K_9 | \hat{0}_\alpha^- | K_0 \rangle t_{A_9, J_{11}} t_{B_{11}, K_9} t_{I_3} \\
& + \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^I 1^I | \hat{g} | 0^K 1^J \rangle \langle I_3 | \hat{0}_\alpha^+ \hat{1}_\alpha^- | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle \langle K_9 | \hat{0}_\alpha^- | K_0 \rangle t_{A_9, J_{11}} t_{B_{11}, K_9} t_{I_3} \\
& + \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^I 1^I | \hat{g} | 1^J 0^K \rangle \langle I_3 | \hat{1}_\alpha^+ \hat{0}_\alpha^- | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle \langle K_9 | \hat{0}_\alpha^- | K_0 \rangle t_{A_9, J_{11}} t_{B_{11}, K_9} t_{I_3} \\
& + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 0^I 1^J | \hat{g} | 1^I 0^K \rangle \langle I_3 | \hat{0}_\beta^+ \hat{1}_\beta^- | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle \langle K_9 | \hat{0}_\alpha^- | K_0 \rangle t_{A_9, J_{11}} t_{B_{11}, K_9} t_{I_3} \\
& + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 0^I 1^J | \hat{g} | 1^I 0^K \rangle \langle I_3 | \hat{1}_\beta^+ \hat{0}_\beta^- | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle \langle K_9 | \hat{0}_\alpha^- | K_0 \rangle t_{A_9, J_{11}} t_{B_{11}, K_9} t_{I_3}
\end{aligned}$$

$$\begin{aligned}
& + \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^I 1^I | \hat{g} | 1^J 1^K \rangle \langle I_2 | \hat{1}_\alpha^+ \hat{0}_\alpha^- | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle \langle K_{10} | \hat{1}_\alpha^- | K_0 \rangle t_{A_9, J_{11}} t_{B_{11}, K_{10}} t_{I_2} \\
& + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 0^I 1^J | \hat{g} | 1^I 1^K \rangle \langle I_2 | \hat{0}_\beta^+ \hat{1}_\beta^- | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle \langle K_{10} | \hat{1}_\alpha^- | K_0 \rangle t_{A_9, J_{11}} t_{B_{11}, K_{10}} t_{I_2} \\
& + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 0^I 1^J | \hat{g} | 1^I 1^K \rangle \langle I_2 | \hat{1}_\beta^+ \hat{0}_\beta^- | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle \langle K_{10} | \hat{1}_\alpha^- | K_0 \rangle t_{A_9, J_{11}} t_{B_{11}, K_{10}} t_{I_2}
\end{aligned}$$

[illegible]

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_2, J_{13}, K_8) \rangle = \\
& + \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^I 1^J | \hat{g} | 1^I 1^K \rangle \langle I_2 | \hat{0}_\beta^+ \hat{1}_\beta^- | I_0 \rangle \langle J_{13} | \hat{1}_\beta^+ | J_0 \rangle \langle K_8 | \hat{1}_\beta^- | K_0 \rangle t_{A_9, B_{11}} t_{I_2} t_{J_{13}, K_8} \\
& + \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^I 1^J | \hat{g} | 1^I 1^K \rangle \langle I_2 | \hat{0}_\alpha^+ \hat{1}_\alpha^- | I_0 \rangle \langle J_{13} | \hat{1}_\beta^+ | J_0 \rangle \langle K_8 | \hat{1}_\beta^- | K_0 \rangle t_{A_9, B_{11}} t_{I_2} t_{J_{13}, K_8} \\
& + \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^I 1^J | \hat{g} | 1^I 1^K \rangle \langle I_2 | \hat{1}_\beta^+ \hat{0}_\beta^- | I_0 \rangle \langle J_{13} | \hat{1}_\beta^+ | J_0 \rangle \langle K_8 | \hat{1}_\beta^- | K_0 \rangle t_{A_9, B_{11}} t_{I_2} t_{J_{13}, K_8} \\
& + \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^I 1^J | \hat{g} | 1^I 1^K \rangle \langle I_2 | \hat{1}_\alpha^+ \hat{0}_\alpha^- | I_0 \rangle \langle J_{13} | \hat{1}_\beta^+ | J_0 \rangle \langle K_8 | \hat{1}_\beta^- | K_0 \rangle t_{A_9, B_{11}} t_{I_2} t_{J_{13}, K_8} \\
& + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 0^I 1^I | \hat{g} | 1^K 1^J \rangle \langle I_2 | \hat{0}_\beta^+ \hat{1}_\beta^- | I_0 \rangle \langle J_{13} | \hat{1}_\beta^+ | J_0 \rangle \langle K_8 | \hat{1}_\beta^- | K_0 \rangle t_{A_9, B_{11}} t_{I_2} t_{J_{13}, K_8} \\
& + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 0^I 1^I | \hat{g} | 1^J 1^K \rangle \langle I_2 | \hat{1}_\beta^+ \hat{0}_\beta^- | I_0 \rangle \langle J_{13} | \hat{1}_\beta^+ | J_0 \rangle \langle K_8 | \hat{1}_\beta^- | K_0 \rangle t_{A_9, B_{11}} t_{I_2} t_{J_{13}, K_8}
\end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_3, J_{13}, K_8) \rangle = \\ & + \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^I 1^J | \hat{g} | 1^I 1^K \rangle \langle I_3 | \hat{0}_\beta^+ \hat{1}_\beta^- | I_0 \rangle \langle J_{13} | \hat{1}_\beta^+ | J_0 \rangle \langle K_8 | \hat{1}_\beta^- | K_0 \rangle t_{A_9, B_{11}} t_{I_3} t_{J_{13}, K_8} \\ & + \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^I 1^J | \hat{g} | 1^I 1^K \rangle \langle I_3 | \hat{0}_\alpha^+ \hat{1}_\alpha^- | I_0 \rangle \langle J_{13} | \hat{1}_\beta^+ | J_0 \rangle \langle K_8 | \hat{1}_\beta^- | K_0 \rangle t_{A_9, B_{11}} t_{I_3} t_{J_{13}, K_8} \\ & + \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^I 1^J | \hat{g} | 1^I 1^K \rangle \langle I_3 | \hat{1}_\beta^+ \hat{0}_\beta^- | I_0 \rangle \langle J_{13} | \hat{1}_\beta^+ | J_0 \rangle \langle K_8 | \hat{1}_\beta^- | K_0 \rangle t_{A_9, B_{11}} t_{I_3} t_{J_{13}, K_8} \\ & + \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^I 1^J | \hat{g} | 1^I 1^K \rangle \langle I_3 | \hat{1}_\alpha^+ \hat{0}_\alpha^- | I_0 \rangle \langle J_{13} | \hat{1}_\beta^+ | J_0 \rangle \langle K_8 | \hat{1}_\beta^- | K_0 \rangle t_{A_9, B_{11}} t_{I_3} t_{J_{13}, K_8} \\ & + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 0^I 1^I | \hat{g} | 1^K 1^J \rangle \langle I_3 | \hat{0}_\beta^+ \hat{1}_\beta^- | I_0 \rangle \langle J_{13} | \hat{1}_\beta^+ | J_0 \rangle \langle K_8 | \hat{1}_\beta^- | K_0 \rangle t_{A_9, B_{11}} t_{I_3} t_{J_{13}, K_8} \\ & + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 0^I 1^I | \hat{g} | 1^J 1^K \rangle \langle I_3 | \hat{1}_\beta^+ \hat{0}_\beta^- | I_0 \rangle \langle J_{13} | \hat{1}_\beta^+ | J_0 \rangle \langle K_8 | \hat{1}_\beta^- | K_0 \rangle t_{A_9, B_{11}} t_{I_3} t_{J_{13}, K_8} \end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_{14}, J_1, K_7) \rangle = \\
& + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 0^I 0^J | \hat{g} | 0^J 0^K \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_1 | \hat{0}_\beta^+ \hat{0}_\beta^- | J_0 \rangle \langle K_7 | \hat{0}_\beta^- | K_0 \rangle t_{A_9, B_{11}} t_{J_1} t_{I_{14}, K_7} \\
& + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 0^I 1^J | \hat{g} | 1^J 0^K \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_1 | \hat{1}_\beta^+ \hat{1}_\beta^- | J_0 \rangle \langle K_7 | \hat{0}_\beta^- | K_0 \rangle t_{A_9, B_{11}} t_{J_1} t_{I_{14}, K_7} \\
& + \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^I 0^J | \hat{g} | 0^K 0^J \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_1 | \hat{0}_\beta^+ \hat{0}_\beta^- | J_0 \rangle \langle K_7 | \hat{0}_\beta^- | K_0 \rangle t_{A_9, B_{11}} t_{J_1} t_{I_{14}, K_7} \\
& + \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^I 1^J | \hat{g} | 0^K 1^J \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_1 | \hat{1}_\beta^+ \hat{1}_\beta^- | J_0 \rangle \langle K_7 | \hat{0}_\beta^- | K_0 \rangle t_{A_9, B_{11}} t_{J_1} t_{I_{14}, K_7}
\end{aligned}$$

$$\begin{aligned}
& + \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^I 0^J | \hat{g} | 1^J 1^K \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_3 | \hat{0}_\beta^+ \hat{1}_\beta^- | J_0 \rangle \langle K_8 | \hat{1}_\beta^- | K_0 \rangle t_{A_9, B_{11}} t_{J_3} t_{I_{14}, K_8} \\
& + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 0^I 1^J | \hat{g} | 0^J 1^K \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_3 | \hat{1}_\beta^+ \hat{0}_\beta^- | J_0 \rangle \langle K_8 | \hat{1}_\beta^- | K_0 \rangle t_{A_9, B_{11}} t_{J_3} t_{I_{14}, K_8} \\
& + \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^I 0^J | \hat{g} | 1^K 1^J \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_3 | \hat{0}_\beta^+ \hat{1}_\beta^- | J_0 \rangle \langle K_8 | \hat{1}_\beta^- | K_0 \rangle t_{A_9, B_{11}} t_{J_3} t_{I_{14}, K_8} \\
& + \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^I 0^J | \hat{g} | 1^K 1^J \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_3 | \hat{1}_\beta^+ \hat{0}_\beta^- | J_0 \rangle \langle K_8 | \hat{1}_\beta^- | K_0 \rangle t_{A_9, B_{11}} t_{J_3} t_{I_{14}, K_8} \\
& + \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^I 0^J | \hat{g} | 1^K 1^J \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_3 | \hat{0}_\alpha^+ \hat{1}_\alpha^- | J_0 \rangle \langle K_8 | \hat{1}_\beta^- | K_0 \rangle t_{A_9, B_{11}} t_{J_3} t_{I_{14}, K_8} \\
& + \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^I 0^J | \hat{g} | 1^K 1^J \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_3 | \hat{1}_\alpha^+ \hat{0}_\alpha^- | J_0 \rangle \langle K_8 | \hat{1}_\beta^- | K_0 \rangle t_{A_9, B_{11}} t_{J_3} t_{I_{14}, K_8}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_{13}, J_1, K_7) \rangle = \\
& + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 1^I 0^J | \hat{g} | 0^J 0^K \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_1 | \hat{0}_\beta^+ \hat{0}_\beta^- | J_0 \rangle \langle K_7 | \hat{0}_\beta^- | K_0 \rangle t_{A_9, B_{11}} t_{J_1} t_{I_{13}, K_7} \\
& + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 1^I 1^J | \hat{g} | 1^J 0^K \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_1 | \hat{1}_\beta^+ \hat{1}_\beta^- | J_0 \rangle \langle K_7 | \hat{0}_\beta^- | K_0 \rangle t_{A_9, B_{11}} t_{J_1} t_{I_{13}, K_7} \\
& + \frac{1}{12} \sum_I \sum_J \sum_K \langle 1^I 0^J | \hat{g} | 0^K 0^J \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_1 | \hat{0}_\beta^+ \hat{0}_\beta^- | J_0 \rangle \langle K_7 | \hat{0}_\beta^- | K_0 \rangle t_{A_9, B_{11}} t_{J_1} t_{I_{13}, K_7} \\
& + \frac{1}{12} \sum_I \sum_J \sum_K \langle 1^I 1^J | \hat{g} | 0^K 1^J \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_1 | \hat{1}_\beta^+ \hat{1}_\beta^- | J_0 \rangle \langle K_7 | \hat{0}_\beta^- | K_0 \rangle t_{A_9, B_{11}} t_{J_1} t_{I_{13}, K_7} \\
& + \frac{1}{12} \sum_I \sum_J \sum_K \langle 1^I 0^J | \hat{g} | 0^K 0^J \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_1 | \hat{0}_\alpha^+ \hat{0}_\alpha^- | J_0 \rangle \langle K_7 | \hat{0}_\beta^- | K_0 \rangle t_{A_9, B_{11}} t_{J_1} t_{I_{13}, K_7}
\end{aligned}$$

$$+ \frac{+1}{12} \sum_I \sum_J \sum_K \langle 1^I 0^- | \hat{g} | 1^K 1^J \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_2 | \hat{1}_\beta^+ \hat{0}_\beta^- | J_0 \rangle \langle K_{10} | \hat{1}_\alpha^- | K_0 \rangle t_{A_9, I_{11}} t_{B_{11}, K_{10}} t_{J_2}$$

[illegible]

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_{13}, J_2, K_8) \rangle = \\
& + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 1^I 0^J | \hat{g} | 1^J 1^K \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_2 | \hat{0}_\beta^+ \hat{1}_\beta^- | J_0 \rangle \langle K_8 | \hat{1}_\beta^- | K_0 \rangle t_{A_9, B_{11}} t_{J_2} t_{I_{13}, K_8} \\
& + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 1^I 1^J | \hat{g} | 0^J 1^K \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_2 | \hat{1}_\beta^+ \hat{0}_\beta^- | J_0 \rangle \langle K_8 | \hat{1}_\beta^- | K_0 \rangle t_{A_9, B_{11}} t_{J_2} t_{I_{13}, K_8} \\
& + \frac{1}{12} \sum_I \sum_J \sum_K \langle 1^I 0^J | \hat{g} | 1^K 1^J \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_2 | \hat{0}_\beta^+ \hat{1}_\beta^- | J_0 \rangle \langle K_8 | \hat{1}_\beta^- | K_0 \rangle t_{A_9, B_{11}} t_{J_2} t_{I_{13}, K_8} \\
& + \frac{1}{12} \sum_I \sum_J \sum_K \langle 1^I 0^J | \hat{g} | 1^K 1^J \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_2 | \hat{1}_\beta^+ \hat{0}_\beta^- | J_0 \rangle \langle K_8 | \hat{1}_\beta^- | K_0 \rangle t_{A_9, B_{11}} t_{J_2} t_{I_{13}, K_8} \\
& + \frac{1}{12} \sum_I \sum_J \sum_K \langle 1^I 0^J | \hat{g} | 1^K 1^J \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_2 | \hat{0}_\alpha^+ \hat{1}_\alpha^- | J_0 \rangle \langle K_8 | \hat{1}_\beta^- | K_0 \rangle t_{A_9, B_{11}} t_{J_2} t_{I_{13}, K_8} \\
& + \frac{1}{12} \sum_I \sum_J \sum_K \langle 1^I 0^J | \hat{g} | 1^K 1^J \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_2 | \hat{1}_\alpha^+ \hat{0}_\alpha^- | J_0 \rangle \langle K_8 | \hat{1}_\beta^- | K_0 \rangle t_{A_9, B_{11}} t_{J_2} t_{I_{13}, K_8}
\end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_{13}, J_3, K_8) \rangle = \\ & + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 1^I 0^J | \hat{g} | 1^J 1^K \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_3 | \hat{0}_\beta^+ \hat{1}_\beta^- | J_0 \rangle \langle K_8 | \hat{1}_\beta^- | K_0 \rangle t_{A_9, B_{11}} t_{J_3} t_{I_{13}, K_8} \end{aligned}$$

$$\begin{aligned}
& + \frac{1}{12} \sum_I \sum_J \sum_K \langle 1^I 1^J | \hat{g} | 0^J 1^K \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_3 | \hat{1}_\beta^+ \hat{0}_\beta^- | J_0 \rangle \langle K_8 | \hat{1}_\beta^- | K_0 \rangle t_{A_9, B_{11}} t_{J_3} t_{I_{13}, K_8} \\
& + \frac{1}{12} \sum_I \sum_J \sum_K \langle 1^I 0^J | \hat{g} | 1^K 1^J \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_3 | \hat{0}_\beta^+ \hat{1}_\beta^- | J_0 \rangle \langle K_8 | \hat{1}_\beta^- | K_0 \rangle t_{A_9, B_{11}} t_{J_3} t_{I_{13}, K_8} \\
& + \frac{1}{12} \sum_I \sum_J \sum_K \langle 1^I 0^J | \hat{g} | 1^K 1^J \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_3 | \hat{1}_\beta^+ \hat{0}_\beta^- | J_0 \rangle \langle K_8 | \hat{1}_\beta^- | K_0 \rangle t_{A_9, B_{11}} t_{J_3} t_{I_{13}, K_8} \\
& + \frac{1}{12} \sum_I \sum_J \sum_K \langle 1^I 0^J | \hat{g} | 1^K 1^J \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_3 | \hat{0}_\alpha^+ \hat{1}_\alpha^- | J_0 \rangle \langle K_8 | \hat{1}_\beta^- | K_0 \rangle t_{A_9, B_{11}} t_{J_3} t_{I_{13}, K_8} \\
& + \frac{1}{12} \sum_I \sum_J \sum_K \langle 1^I 0^J | \hat{g} | 1^K 1^J \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_3 | \hat{1}_\alpha^+ \hat{0}_\alpha^- | J_0 \rangle \langle K_8 | \hat{1}_\beta^- | K_0 \rangle t_{A_9, B_{11}} t_{J_3} t_{I_{13}, K_8}
\end{aligned}$$

[illegible]

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_1, J_7, K_{14}) \rangle = \\
& + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 0^I 0^J | \hat{g} | 0^I 0^K \rangle \langle I_1 | \hat{0}_\beta^+ \hat{0}_\beta^- | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle \langle K_{14} | \hat{0}_\beta^+ | K_0 \rangle t_{A_9, B_{11}} t_{I_1} t_{J_7, K_{14}} \\
& + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 0^I 0^J | \hat{g} | 0^I 0^K \rangle \langle I_1 | \hat{0}_\alpha^+ \hat{0}_\alpha^- | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle \langle K_{14} | \hat{0}_\beta^+ | K_0 \rangle t_{A_9, B_{11}} t_{I_1} t_{J_7, K_{14}} \\
& + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 1^I 0^J | \hat{g} | 1^I 0^K \rangle \langle I_1 | \hat{1}_\beta^+ \hat{1}_\beta^- | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle \langle K_{14} | \hat{0}_\beta^+ | K_0 \rangle t_{A_9, B_{11}} t_{I_1} t_{J_7, K_{14}} \\
& + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 1^I 0^J | \hat{g} | 1^I 0^K \rangle \langle I_1 | \hat{1}_\alpha^+ \hat{1}_\alpha^- | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle \langle K_{14} | \hat{0}_\beta^+ | K_0 \rangle t_{A_9, B_{11}} t_{I_1} t_{J_7, K_{14}} \\
& + \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^I 0^I | \hat{g} | 0^J 0^K \rangle \langle I_1 | \hat{0}_\beta^+ \hat{0}_\beta^- | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle \langle K_{14} | \hat{0}_\beta^+ | K_0 \rangle t_{A_9, B_{11}} t_{I_1} t_{J_7, K_{14}} \\
& + \frac{1}{12} \sum_I \sum_J \sum_K \langle 1^I 1^I | \hat{g} | 0^J 0^K \rangle \langle I_1 | \hat{1}_\beta^+ \hat{1}_\beta^- | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle \langle K_{14} | \hat{0}_\beta^+ | K_0 \rangle t_{A_9, B_{11}} t_{I_1} t_{J_7, K_{14}}
\end{aligned}$$

[illegible]

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_1, J_8, K_{14}) \rangle = \\
& + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 0^I 1^J | \hat{g} | 0^I 0^K \rangle \langle I_1 | \hat{0}_\beta^+ \hat{0}_\beta^- | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_{14} | \hat{0}_\beta^+ | K_0 \rangle t_{A_9, B_{11}} t_{I_1} t_{J_8, K_{14}} \\
& + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 0^I 1^J | \hat{g} | 0^I 0^K \rangle \langle I_1 | \hat{0}_\alpha^+ \hat{0}_\alpha^- | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_{14} | \hat{0}_\beta^+ | K_0 \rangle t_{A_9, B_{11}} t_{I_1} t_{J_8, K_{14}} \\
& + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 1^I 1^J | \hat{g} | 1^I 0^K \rangle \langle I_1 | \hat{1}_\beta^+ \hat{1}_\beta^- | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_{14} | \hat{0}_\beta^+ | K_0 \rangle t_{A_9, B_{11}} t_{I_1} t_{J_8, K_{14}} \\
& + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 1^I 1^J | \hat{g} | 1^I 0^K \rangle \langle I_1 | \hat{1}_\alpha^+ \hat{1}_\alpha^- | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_{14} | \hat{0}_\beta^+ | K_0 \rangle t_{A_9, B_{11}} t_{I_1} t_{J_8, K_{14}} \\
& + \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^I 0^I | \hat{g} | 1^J 0^K \rangle \langle I_1 | \hat{0}_\beta^+ \hat{0}_\beta^- | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_{14} | \hat{0}_\beta^+ | K_0 \rangle t_{A_9, B_{11}} t_{I_1} t_{J_8, K_{14}} \\
& + \frac{1}{12} \sum_I \sum_J \sum_K \langle 1^I 1^I | \hat{g} | 1^J 0^K \rangle \langle I_1 | \hat{1}_\beta^+ \hat{1}_\beta^- | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_{14} | \hat{0}_\beta^+ | K_0 \rangle t_{A_9, B_{11}} t_{I_1} t_{J_8, K_{14}}
\end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_2, J_9, K_{12}) \rangle = \\ & + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 0^I 0^J | \hat{g} | 1^I 0^K \rangle \langle I_2 | \hat{0}_\alpha^+ \hat{1}_\alpha^- | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle \langle K_{12} | \hat{0}_\alpha^+ | K_0 \rangle t_{A_9, B_{11}} t_{I_2} t_{J_9, K_{12}} \\ & + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 0^I 0^J | \hat{g} | 1^I 0^K \rangle \langle I_2 | \hat{1}_\alpha^+ \hat{0}_\alpha^- | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle \langle K_{12} | \hat{0}_\alpha^+ | K_0 \rangle t_{A_9, B_{11}} t_{I_2} t_{J_9, K_{12}} \end{aligned}$$

$$\begin{aligned}
& + \frac{1}{12} \sum_I \sum_J \sum_K \sum_{\alpha} \langle 0^I 1^I | \hat{g} | 0^J 0^K \rangle \langle I_2 | \hat{0}_{\alpha}^+ \hat{1}_{\alpha}^- | I_0 \rangle \langle J_9 | \hat{0}_{\alpha}^- | J_0 \rangle \langle K_{12} | \hat{0}_{\alpha}^+ | K_0 \rangle t_{A_9, B_{11}} t_{I_2} t_{J_9, K_{12}} \\
& + \frac{1}{12} \sum_I \sum_J \sum_K \sum_{\alpha} \langle 0^I 1^I | \hat{g} | 0^K 0^J \rangle \langle I_2 | \hat{1}_{\alpha}^+ \hat{0}_{\alpha}^- | I_0 \rangle \langle J_9 | \hat{0}_{\alpha}^- | J_0 \rangle \langle K_{12} | \hat{0}_{\alpha}^+ | K_0 \rangle t_{A_9, B_{11}} t_{I_2} t_{J_9, K_{12}} \\
& + \frac{1}{12} \sum_I \sum_J \sum_K \sum_{\beta} \langle 0^I 0^J | \hat{g} | 1^I 0^K \rangle \langle I_2 | \hat{0}_{\beta}^+ \hat{1}_{\beta}^- | I_0 \rangle \langle J_9 | \hat{0}_{\alpha}^- | J_0 \rangle \langle K_{12} | \hat{0}_{\alpha}^+ | K_0 \rangle t_{A_9, B_{11}} t_{I_2} t_{J_9, K_{12}} \\
& + \frac{1}{12} \sum_I \sum_J \sum_K \sum_{\beta} \langle 0^I 0^J | \hat{g} | 1^I 0^K \rangle \langle I_2 | \hat{1}_{\beta}^+ \hat{0}_{\beta}^- | I_0 \rangle \langle J_9 | \hat{0}_{\alpha}^- | J_0 \rangle \langle K_{12} | \hat{0}_{\alpha}^+ | K_0 \rangle t_{A_9, B_{11}} t_{I_2} t_{J_9, K_{12}} \\
& + \frac{1}{12} \sum_I \sum_J \sum_K \sum_{\alpha} \langle 0^I 0^J | \hat{g} | 1^I 0^K \rangle \langle I_2 | \hat{0}_{\alpha}^+ \hat{1}_{\alpha}^- | I_0 \rangle \langle J_9 | \hat{0}_{\alpha}^- | J_0 \rangle \langle K_{12} | \hat{0}_{\alpha}^+ | K_0 \rangle t_{A_9, K_{12}} t_{B_{11}, J_9} t_{I_2} \\
& + \frac{1}{12} \sum_I \sum_J \sum_K \sum_{\alpha} \langle 0^I 0^J | \hat{g} | 1^I 0^K \rangle \langle I_2 | \hat{1}_{\alpha}^+ \hat{0}_{\alpha}^- | I_0 \rangle \langle J_9 | \hat{0}_{\alpha}^- | J_0 \rangle \langle K_{12} | \hat{0}_{\alpha}^+ | K_0 \rangle t_{A_9, K_{12}} t_{B_{11}, J_9} t_{I_2} \\
& + \frac{1}{12} \sum_I \sum_J \sum_K \sum_{\alpha} \langle 0^I 1^I | \hat{g} | 0^J 0^K \rangle \langle I_2 | \hat{0}_{\alpha}^+ \hat{1}_{\alpha}^- | I_0 \rangle \langle J_9 | \hat{0}_{\alpha}^- | J_0 \rangle \langle K_{12} | \hat{0}_{\alpha}^+ | K_0 \rangle t_{A_9, K_{12}} t_{B_{11}, J_9} t_{I_2} \\
& + \frac{1}{12} \sum_I \sum_J \sum_K \sum_{\alpha} \langle 0^I 1^I | \hat{g} | 0^K 0^J \rangle \langle I_2 | \hat{1}_{\alpha}^+ \hat{0}_{\alpha}^- | I_0 \rangle \langle J_9 | \hat{0}_{\alpha}^- | J_0 \rangle \langle K_{12} | \hat{0}_{\alpha}^+ | K_0 \rangle t_{A_9, K_{12}} t_{B_{11}, J_9} t_{I_2} \\
& + \frac{1}{12} \sum_I \sum_J \sum_K \sum_{\beta} \langle 0^I 0^J | \hat{g} | 1^I 0^K \rangle \langle I_2 | \hat{0}_{\beta}^+ \hat{1}_{\beta}^- | I_0 \rangle \langle J_9 | \hat{0}_{\alpha}^- | J_0 \rangle \langle K_{12} | \hat{0}_{\alpha}^+ | K_0 \rangle t_{A_9, K_{12}} t_{B_{11}, J_9} t_{I_2} \\
& + \frac{1}{12} \sum_I \sum_J \sum_K \sum_{\beta} \langle 0^I 0^J | \hat{g} | 1^I 0^K \rangle \langle I_2 | \hat{1}_{\beta}^+ \hat{0}_{\beta}^- | I_0 \rangle \langle J_9 | \hat{0}_{\alpha}^- | J_0 \rangle \langle K_{12} | \hat{0}_{\alpha}^+ | K_0 \rangle t_{A_9, K_{12}} t_{B_{11}, J_9} t_{I_2}
\end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_2, J_7, K_{14}) \rangle = \\ & + \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^I 0^J | \hat{g} | 1^I 0^K \rangle \langle I_2 | \hat{0}_\beta^+ \hat{1}_\beta^- | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle \langle K_{14} | \hat{0}_\beta^+ | K_0 \rangle t_{A_9, B_{11}} t_{I_2} t_{J_7, K_{14}} \end{aligned}$$

$$\begin{aligned}
& + \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^I 0^J | \hat{g} | 1^I 0^K \rangle \langle I_2 | \hat{0}_\alpha^+ \hat{1}_\alpha^- | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle \langle K_{14} | \hat{0}_\beta^+ | K_0 \rangle t_{A_9, B_{11}} t_{I_2} t_{J_7, K_{14}} \\
& + \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^I 0^J | \hat{g} | 1^I 0^K \rangle \langle I_2 | \hat{1}_\beta^+ \hat{0}_\beta^- | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle \langle K_{14} | \hat{0}_\beta^+ | K_0 \rangle t_{A_9, B_{11}} t_{I_2} t_{J_7, K_{14}} \\
& + \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^I 0^J | \hat{g} | 1^I 0^K \rangle \langle I_2 | \hat{1}_\alpha^+ \hat{0}_\alpha^- | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle \langle K_{14} | \hat{0}_\beta^+ | K_0 \rangle t_{A_9, B_{11}} t_{I_2} t_{J_7, K_{14}} \\
& + \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^I 1^I | \hat{g} | 0^J 0^K \rangle \langle I_2 | \hat{0}_\beta^+ \hat{1}_\beta^- | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle \langle K_{14} | \hat{0}_\beta^+ | K_0 \rangle t_{A_9, B_{11}} t_{I_2} t_{J_7, K_{14}} \\
& + \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^I 1^I | \hat{g} | 0^K 0^J \rangle \langle I_2 | \hat{1}_\beta^+ \hat{0}_\beta^- | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle \langle K_{14} | \hat{0}_\beta^+ | K_0 \rangle t_{A_9, B_{11}} t_{I_2} t_{J_7, K_{14}}
\end{aligned}$$

[illegible]

[illegible]

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_2, J_8, K_{14}) \rangle = \\
& + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 0^I 1^J | \hat{g} | 1^I 0^K \rangle \langle I_2 | \hat{0}_\beta^+ \hat{1}_\beta^- | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_{14} | \hat{0}_\beta^+ | K_0 \rangle t_{A_9, B_{11}} t_{I_2} t_{J_8, K_{14}} \\
& + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 0^I 1^J | \hat{g} | 1^I 0^K \rangle \langle I_2 | \hat{0}_\alpha^+ \hat{1}_\alpha^- | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_{14} | \hat{0}_\beta^+ | K_0 \rangle t_{A_9, B_{11}} t_{I_2} t_{J_8, K_{14}} \\
& + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 0^I 1^J | \hat{g} | 1^I 0^K \rangle \langle I_2 | \hat{1}_\beta^+ \hat{0}_\beta^- | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_{14} | \hat{0}_\beta^+ | K_0 \rangle t_{A_9, B_{11}} t_{I_2} t_{J_8, K_{14}} \\
& + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 0^I 1^J | \hat{g} | 1^I 0^K \rangle \langle I_2 | \hat{1}_\alpha^+ \hat{0}_\alpha^- | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_{14} | \hat{0}_\beta^+ | K_0 \rangle t_{A_9, B_{11}} t_{I_2} t_{J_8, K_{14}} \\
& + \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^I 1^I | \hat{g} | 1^J 0^K \rangle \langle I_2 | \hat{0}_\beta^+ \hat{1}_\beta^- | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_{14} | \hat{0}_\beta^+ | K_0 \rangle t_{A_9, B_{11}} t_{I_2} t_{J_8, K_{14}} \\
& + \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^I 1^I | \hat{g} | 0^K 1^J \rangle \langle I_2 | \hat{1}_\beta^+ \hat{0}_\beta^- | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_{14} | \hat{0}_\beta^+ | K_0 \rangle t_{A_9, B_{11}} t_{I_2} t_{J_8, K_{14}}
\end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_3, J_8, K_{14}) \rangle = \\ & + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 0^I 1^J | \hat{g} | 1^I 0^K \rangle \langle I_3 | \hat{0}_\beta^+ \hat{1}_\beta^- | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_{14} | \hat{0}_\beta^+ | K_0 \rangle t_{A_9, B_{11}} t_{I_3} t_{J_8, K_{14}} \\ & + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 0^I 1^J | \hat{g} | 1^I 0^K \rangle \langle I_3 | \hat{0}_\alpha^+ \hat{1}_\alpha^- | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_{14} | \hat{0}_\beta^+ | K_0 \rangle t_{A_9, B_{11}} t_{I_3} t_{J_8, K_{14}} \end{aligned}$$

[illegible]

$$\begin{aligned} \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_1, J_8, K_{13}) \rangle = & \\ & + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 0^I 1^J | \hat{g} | 0^I 1^K \rangle \langle I_1 | \hat{0}_\beta^+ \hat{0}_\beta^- | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_{13} | \hat{1}_\beta^+ | K_0 \rangle t_{A_9, B_{11}} t_{I_1} t_{J_8, K_{13}} \\ & + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 0^I 1^J | \hat{g} | 0^I 1^K \rangle \langle I_1 | \hat{0}_\alpha^+ \hat{0}_\alpha^- | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_{13} | \hat{1}_\beta^+ | K_0 \rangle t_{A_9, B_{11}} t_{I_1} t_{J_8, K_{13}} \\ & + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 1^I 1^J | \hat{g} | 1^I 1^K \rangle \langle I_1 | \hat{1}_\beta^+ \hat{1}_\beta^- | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_{13} | \hat{1}_\beta^+ | K_0 \rangle t_{A_9, B_{11}} t_{I_1} t_{J_8, K_{13}} \\ & + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 1^I 1^J | \hat{g} | 1^I 1^K \rangle \langle I_1 | \hat{1}_\alpha^+ \hat{1}_\alpha^- | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_{13} | \hat{1}_\beta^+ | K_0 \rangle t_{A_9, B_{11}} t_{I_1} t_{J_8, K_{13}} \\ & + \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^I 0^I | \hat{g} | 1^J 1^K \rangle \langle I_1 | \hat{0}_\beta^+ \hat{0}_\beta^- | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_{13} | \hat{1}_\beta^+ | K_0 \rangle t_{A_9, B_{11}} t_{I_1} t_{J_8, K_{13}} \\ & + \frac{1}{12} \sum_I \sum_J \sum_K \langle 1^I 1^I | \hat{g} | 1^J 1^K \rangle \langle I_1 | \hat{1}_\beta^+ \hat{1}_\beta^- | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_{13} | \hat{1}_\beta^+ | K_0 \rangle t_{A_9, B_{11}} t_{I_1} t_{J_8, K_{13}} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_2, J_9, K_{11}) \rangle = \\ & + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 0^I 0^J | \hat{g} | 1^I 1^K \rangle \langle I_2 | \hat{0}_\alpha^+ \hat{1}_\alpha^- | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle \langle K_{11} | \hat{1}_\alpha^+ | K_0 \rangle t_{A_9, B_{11}} t_{I_2} t_{J_9, K_{11}} \\ & + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 0^I 0^J | \hat{g} | 1^I 1^K \rangle \langle I_2 | \hat{1}_\alpha^+ \hat{0}_\alpha^- | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle \langle K_{11} | \hat{1}_\alpha^+ | K_0 \rangle t_{A_9, B_{11}} t_{I_2} t_{J_9, K_{11}} \\ & + \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^I 1^I | \hat{g} | 0^J 1^K \rangle \langle I_2 | \hat{0}_\alpha^+ \hat{1}_\alpha^- | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle \langle K_{11} | \hat{1}_\alpha^+ | K_0 \rangle t_{A_9, B_{11}} t_{I_2} t_{J_9, K_{11}} \end{aligned}$$

$$\begin{aligned}
& +\frac{1}{12} \sum_I \sum_J \sum_K \sum \langle 0^I 1^I | \hat{g} | 1^K 0^J \rangle \langle I_2 | \hat{1}_\alpha^+ \hat{0}_\alpha^- | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle \langle K_{11} | \hat{1}_\alpha^+ | K_0 \rangle t_{A_9, B_{11}} t_{I_2} t_{J_9, K_{11}} \\
& +\frac{-1}{12} \sum_I \sum_J \sum_K \sum \langle 0^I 0^J | \hat{g} | 1^I 1^K \rangle \langle I_2 | \hat{0}_\beta^+ \hat{1}_\beta^- | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle \langle K_{11} | \hat{1}_\alpha^+ | K_0 \rangle t_{A_9, B_{11}} t_{I_2} t_{J_9, K_{11}} \\
& +\frac{-1}{12} \sum_I \sum_J \sum_K \sum \langle 0^I 0^J | \hat{g} | 1^I 1^K \rangle \langle I_2 | \hat{1}_\beta^+ \hat{0}_\beta^- | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle \langle K_{11} | \hat{1}_\alpha^+ | K_0 \rangle t_{A_9, B_{11}} t_{I_2} t_{J_9, K_{11}} \\
& +\frac{-1}{12} \sum_I \sum_J \sum_K \sum \langle 0^I 0^J | \hat{g} | 1^I 1^K \rangle \langle I_2 | \hat{0}_\alpha^+ \hat{1}_\alpha^- | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle \langle K_{11} | \hat{1}_\alpha^+ | K_0 \rangle t_{A_9, K_{11}} t_{B_{11}, J_9} t_{I_2} \\
& +\frac{-1}{12} \sum_I \sum_J \sum_K \sum \langle 0^I 0^J | \hat{g} | 1^I 1^K \rangle \langle I_2 | \hat{1}_\alpha^+ \hat{0}_\alpha^- | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle \langle K_{11} | \hat{1}_\alpha^+ | K_0 \rangle t_{A_9, K_{11}} t_{B_{11}, J_9} t_{I_2} \\
& +\frac{1}{12} \sum_I \sum_J \sum_K \sum \langle 0^I 1^I | \hat{g} | 0^J 1^K \rangle \langle I_2 | \hat{0}_\alpha^+ \hat{1}_\alpha^- | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle \langle K_{11} | \hat{1}_\alpha^+ | K_0 \rangle t_{A_9, K_{11}} t_{B_{11}, J_9} t_{I_2} \\
& +\frac{1}{12} \sum_I \sum_J \sum_K \sum \langle 0^I 1^I | \hat{g} | 1^K 0^J \rangle \langle I_2 | \hat{1}_\alpha^+ \hat{0}_\alpha^- | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle \langle K_{11} | \hat{1}_\alpha^+ | K_0 \rangle t_{A_9, K_{11}} t_{B_{11}, J_9} t_{I_2} \\
& +\frac{-1}{12} \sum_I \sum_J \sum_K \sum \langle 0^I 0^J | \hat{g} | 1^I 1^K \rangle \langle I_2 | \hat{0}_\beta^+ \hat{1}_\beta^- | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle \langle K_{11} | \hat{1}_\alpha^+ | K_0 \rangle t_{A_9, K_{11}} t_{B_{11}, J_9} t_{I_2} \\
& +\frac{-1}{12} \sum_I \sum_J \sum_K \sum \langle 0^I 0^J | \hat{g} | 1^I 1^K \rangle \langle I_2 | \hat{1}_\beta^+ \hat{0}_\beta^- | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle \langle K_{11} | \hat{1}_\alpha^+ | K_0 \rangle t_{A_9, K_{11}} t_{B_{11}, J_9} t_{I_2}
\end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_2, J_7, K_{13}) \rangle = \\ & + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 0^I 0^J | \hat{g} | 1^I 1^K \rangle \langle I_2 | \hat{0}_\beta^+ \hat{1}_\beta^- | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle \langle K_{13} | \hat{1}_\beta^+ | K_0 \rangle t_{A_9, B_{11}} t_{I_2} t_{J_7, K_{13}} \\ & + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 0^I 0^J | \hat{g} | 1^I 1^K \rangle \langle I_2 | \hat{0}_\alpha^+ \hat{1}_\alpha^- | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle \langle K_{13} | \hat{1}_\beta^+ | K_0 \rangle t_{A_9, B_{11}} t_{I_2} t_{J_7, K_{13}} \end{aligned}$$

$$\begin{aligned}
& + \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^I 0^J | \hat{g} | 1^I 1^K \rangle \langle I_2 | \hat{1}_\beta^+ \hat{0}_\beta^- | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle \langle K_{13} | \hat{1}_\beta^+ | K_0 \rangle t_{A_9, B_{11}} t_{I_2} t_{J_7, K_{13}} \\
& + \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^I 0^J | \hat{g} | 1^I 1^K \rangle \langle I_2 | \hat{1}_\alpha^+ \hat{0}_\alpha^- | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle \langle K_{13} | \hat{1}_\beta^+ | K_0 \rangle t_{A_9, B_{11}} t_{I_2} t_{J_7, K_{13}} \\
& + \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^I 1^I | \hat{g} | 0^J 1^K \rangle \langle I_2 | \hat{0}_\beta^+ \hat{1}_\beta^- | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle \langle K_{13} | \hat{1}_\beta^+ | K_0 \rangle t_{A_9, B_{11}} t_{I_2} t_{J_7, K_{13}} \\
& + \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^I 1^I | \hat{g} | 1^K 0^J \rangle \langle I_2 | \hat{1}_\beta^+ \hat{0}_\beta^- | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle \langle K_{13} | \hat{1}_\beta^+ | K_0 \rangle t_{A_9, B_{11}} t_{I_2} t_{J_7, K_{13}}
\end{aligned}$$

[illegible]

$$\begin{aligned}
& + \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^I 1^J | \hat{g} | 1^I 1^K \rangle \langle I_3 | \hat{1}_\alpha^+ \hat{0}_\alpha^- | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_{13} | \hat{1}_\beta^+ | K_0 \rangle t_{A_9, B_{11}} t_{I_3} t_{J_8, K_{13}} \\
& + \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^I 1^I | \hat{g} | 1^J 1^K \rangle \langle I_3 | \hat{0}_\beta^+ \hat{1}_\beta^- | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_{13} | \hat{1}_\beta^+ | K_0 \rangle t_{A_9, B_{11}} t_{I_3} t_{J_8, K_{13}} \\
& + \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^I 1^I | \hat{g} | 1^K 1^J \rangle \langle I_3 | \hat{1}_\beta^+ \hat{0}_\beta^- | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_{13} | \hat{1}_\beta^+ | K_0 \rangle t_{A_9, B_{11}} t_{I_3} t_{J_8, K_{13}}
\end{aligned}$$

$$\begin{aligned}
& \langle(A_9,B_{11})|\hat H|(A_9,B_{11},I_{12},J_9,K_1)\rangle = \\
& +\frac{1}{12}\sum_I\sum_J\sum_K\langle0^IO^K|\hat g|0^JO^K\rangle\langle I_{12}|\hat{\theta}_\alpha^+|I_0\rangle\langle J_9|\hat{\theta}_\alpha^-|J_0\rangle\langle K_1|\hat{\theta}_\alpha^+\hat{\theta}_\alpha^-|K_0\rangle t_{A_9,B_{11}}t_{K_1}t_{I_{12},J_9}\\
& +\frac{1}{12}\sum_I\sum_J\sum_K\langle0^IO^K|\hat g|0^JO^K\rangle\langle I_{12}|\hat{\theta}_\alpha^+|I_0\rangle\langle J_9|\hat{\theta}_\alpha^-|J_0\rangle\langle K_1|\hat{\theta}_\beta^+\hat{\theta}_\beta^-|K_0\rangle t_{A_9,B_{11}}t_{K_1}t_{I_{12},J_9}\\
& +\frac{1}{12}\sum_I\sum_J\sum_K\langle0^I1^K|\hat g|0^J1^K\rangle\langle I_{12}|\hat{\theta}_\alpha^+|I_0\rangle\langle J_9|\hat{\theta}_\alpha^-|J_0\rangle\langle K_1|\hat{1}_\alpha^+\hat{1}_\alpha^-|K_0\rangle t_{A_9,B_{11}}t_{K_1}t_{I_{12},J_9}\\
& +\frac{1}{12}\sum_I\sum_J\sum_K\langle0^I1^K|\hat g|0^J1^K\rangle\langle I_{12}|\hat{\theta}_\alpha^+|I_0\rangle\langle J_9|\hat{\theta}_\alpha^-|J_0\rangle\langle K_1|\hat{1}_\beta^+\hat{1}_\beta^-|K_0\rangle t_{A_9,B_{11}}t_{K_1}t_{I_{12},J_9}\\
& +\frac{-1}{12}\sum_I\sum_J\sum_K\langle0^I0^J|\hat g|0^K0^K\rangle\langle I_{12}|\hat{\theta}_\alpha^+|I_0\rangle\langle J_9|\hat{\theta}_\alpha^-|J_0\rangle\langle K_1|\hat{\theta}_\alpha^+\hat{\theta}_\alpha^-|K_0\rangle t_{A_9,B_{11}}t_{K_1}t_{I_{12},J_9}\\
& +\frac{-1}{12}\sum_I\sum_J\sum_K\langle0^I0^J|\hat g|1^K1^K\rangle\langle I_{12}|\hat{\theta}_\alpha^+|I_0\rangle\langle J_9|\hat{\theta}_\alpha^-|J_0\rangle\langle K_1|\hat{1}_\alpha^+\hat{1}_\alpha^-|K_0\rangle t_{A_9,B_{11}}t_{K_1}t_{I_{12},J_9}\\
& +\frac{-1}{12}\sum_I\sum_J\sum_K\langle0^I0^K|\hat g|0^J0^K\rangle\langle I_{12}|\hat{\theta}_\alpha^+|I_0\rangle\langle J_9|\hat{\theta}_\alpha^-|J_0\rangle\langle K_1|\hat{\theta}_\alpha^+\hat{\theta}_\alpha^-|K_0\rangle t_{A_9,I_{12}}t_{B_{11},J_9}t_{K_1}\\
& +\frac{-1}{12}\sum_I\sum_J\sum_K\langle0^I0^K|\hat g|0^J0^K\rangle\langle I_{12}|\hat{\theta}_\alpha^+|I_0\rangle\langle J_9|\hat{\theta}_\alpha^-|J_0\rangle\langle K_1|\hat{\theta}_\beta^+\hat{\theta}_\beta^-|K_0\rangle t_{A_9,I_{12}}t_{B_{11},J_9}t_{K_1}\\
& +\frac{-1}{12}\sum_I\sum_J\sum_K\langle0^I1^K|\hat g|0^J1^K\rangle\langle I_{12}|\hat{\theta}_\alpha^+|I_0\rangle\langle J_9|\hat{\theta}_\alpha^-|J_0\rangle\langle K_1|\hat{1}_\alpha^+\hat{1}_\alpha^-|K_0\rangle t_{A_9,I_{12}}t_{B_{11},J_9}t_{K_1}\\
& +\frac{-1}{12}\sum_I\sum_J\sum_K\langle0^I1^K|\hat g|0^J1^K\rangle\langle I_{12}|\hat{\theta}_\alpha^+|I_0\rangle\langle J_9|\hat{\theta}_\alpha^-|J_0\rangle\langle K_1|\hat{1}_\beta^+\hat{1}_\beta^-|K_0\rangle t_{A_9,I_{12}}t_{B_{11},J_9}t_{K_1}\\
& +\frac{1}{12}\sum_I\sum_J\sum_K\langle0^I0^J|\hat g|0^K0^K\rangle\langle I_{12}|\hat{\theta}_\alpha^+|I_0\rangle\langle J_9|\hat{\theta}_\alpha^-|J_0\rangle\langle K_1|\hat{\theta}_\alpha^+\hat{\theta}_\alpha^-|K_0\rangle t_{A_9,I_{12}}t_{B_{11},J_9}t_{K_1}\\
& +\frac{1}{12}\sum_I\sum_J\sum_K\langle0^I0^J|\hat g|1^K1^K\rangle\langle I_{12}|\hat{\theta}_\alpha^+|I_0\rangle\langle J_9|\hat{\theta}_\alpha^-|J_0\rangle\langle K_1|\hat{1}_\alpha^+\hat{1}_\alpha^-|K_0\rangle t_{A_9,I_{12}}t_{B_{11},J_9}t_{K_1}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_{14}, J_7, K_1) \rangle = \\
& + \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^I 0^K | \hat{g} | 0^J 0^K \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle \langle K_1 | \hat{0}_\beta^+ \hat{0}_\beta^- | K_0 \rangle t_{A_9, B_{11}} t_{K_1} t_{I_{14}, J_7} \\
& + \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^I 1^K | \hat{g} | 0^J 1^K \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle \langle K_1 | \hat{1}_\beta^+ \hat{1}_\beta^- | K_0 \rangle t_{A_9, B_{11}} t_{K_1} t_{I_{14}, J_7} \\
& + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 0^I 0^J | \hat{g} | 0^K 0^K \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle \langle K_1 | \hat{0}_\beta^+ \hat{0}_\beta^- | K_0 \rangle t_{A_9, B_{11}} t_{K_1} t_{I_{14}, J_7} \\
& + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 0^I 0^J | \hat{g} | 1^K 1^K \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle \langle K_1 | \hat{1}_\beta^+ \hat{1}_\beta^- | K_0 \rangle t_{A_9, B_{11}} t_{K_1} t_{I_{14}, J_7} \\
& + \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^I 0^K | \hat{g} | 0^J 0^K \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle \langle K_1 | \hat{0}_\alpha^+ \hat{0}_\alpha^- | K_0 \rangle t_{A_9, B_{11}} t_{K_1} t_{I_{14}, J_7} \\
& + \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^I 1^K | \hat{g} | 0^J 1^K \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle \langle K_1 | \hat{1}_\alpha^+ \hat{1}_\alpha^- | K_0 \rangle t_{A_9, B_{11}} t_{K_1} t_{I_{14}, J_7}
\end{aligned}$$

$$\begin{aligned}
& + \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^I 1^K | \hat{g} | 1^J 1^K \rangle \langle I_{12} | \hat{0}_\alpha^+ | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle \langle K_1 | \hat{1}_\beta^+ \hat{1}_\beta^- | K_0 \rangle t_{A_9, I_{12}} t_{B_{11}, J_{10}} t_{K_1} \\
& + \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^I 1^J | \hat{g} | 0^K 0^K \rangle \langle I_{12} | \hat{0}_\alpha^+ | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle \langle K_1 | \hat{0}_\alpha^+ \hat{0}_\alpha^- | K_0 \rangle t_{A_9, I_{12}} t_{B_{11}, J_{10}} t_{K_1} \\
& + \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^I 1^J | \hat{g} | 1^K 1^K \rangle \langle I_{12} | \hat{0}_\alpha^+ | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle \langle K_1 | \hat{1}_\alpha^+ \hat{1}_\alpha^- | K_0 \rangle t_{A_9, I_{12}} t_{B_{11}, J_{10}} t_{K_1}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_{14}, J_8, K_1) \rangle = \\
& + \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^I 0^K | \hat{g} | 1^J 0^K \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_1 | \hat{0}_\beta^+ \hat{0}_\beta^- | K_0 \rangle t_{A_9, B_{11}} t_{K_1} t_{I_{14}, J_8} \\
& + \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^I 1^K | \hat{g} | 1^J 1^K \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_1 | \hat{1}_\beta^+ \hat{1}_\beta^- | K_0 \rangle t_{A_9, B_{11}} t_{K_1} t_{I_{14}, J_8} \\
& + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 0^I 1^J | \hat{g} | 0^K 0^K \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_1 | \hat{0}_\beta^+ \hat{0}_\beta^- | K_0 \rangle t_{A_9, B_{11}} t_{K_1} t_{I_{14}, J_8} \\
& + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 0^I 1^J | \hat{g} | 1^K 1^K \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_1 | \hat{1}_\beta^+ \hat{1}_\beta^- | K_0 \rangle t_{A_9, B_{11}} t_{K_1} t_{I_{14}, J_8} \\
& + \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^I 0^K | \hat{g} | 1^J 0^K \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_1 | \hat{0}_\alpha^+ \hat{0}_\alpha^- | K_0 \rangle t_{A_9, B_{11}} t_{K_1} t_{I_{14}, J_8} \\
& + \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^I 1^K | \hat{g} | 1^J 1^K \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_1 | \hat{1}_\alpha^+ \hat{1}_\alpha^- | K_0 \rangle t_{A_9, B_{11}} t_{K_1} t_{I_{14}, J_8}
\end{aligned}$$

[illegible]

[illegible]

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_{14}, J_8, K_2) \rangle = \\ & + \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^I 0^K | \hat{g} | 1^J 1^K \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_2 | \hat{0}_\beta^+ \hat{1}_\beta^- | K_0 \rangle t_{A_9, B_{11}} t_{K_2} t_{I_{14}, J_8} \\ & + \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^I 0^K | \hat{g} | 1^J 1^K \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_2 | \hat{1}_\beta^+ \hat{0}_\beta^- | K_0 \rangle t_{A_9, B_{11}} t_{K_2} t_{I_{14}, J_8} \\ & + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 0^I 1^J | \hat{g} | 1^K 0^K \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_2 | \hat{0}_\beta^+ \hat{1}_\beta^- | K_0 \rangle t_{A_9, B_{11}} t_{K_2} t_{I_{14}, J_8} \\ & + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 0^I 1^J | \hat{g} | 0^K 1^K \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_2 | \hat{1}_\beta^+ \hat{0}_\beta^- | K_0 \rangle t_{A_9, B_{11}} t_{K_2} t_{I_{14}, J_8} \\ & + \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^I 0^K | \hat{g} | 1^J 1^K \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_2 | \hat{0}_\alpha^+ \hat{1}_\alpha^- | K_0 \rangle t_{A_9, B_{11}} t_{K_2} t_{I_{14}, J_8} \\ & + \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^I 0^K | \hat{g} | 1^J 1^K \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_2 | \hat{1}_\alpha^+ \hat{0}_\alpha^- | K_0 \rangle t_{A_9, B_{11}} t_{K_2} t_{I_{14}, J_8} \end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_{14}, J_8, K_3) \rangle = \\
& + \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^I 0^K | \hat{g} | 1^J 1^K \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_3 | \hat{0}_\beta^+ \hat{1}_\beta^- | K_0 \rangle t_{A_9, B_{11}} t_{K_3} t_{I_{14}, J_8} \\
& + \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^I 0^K | \hat{g} | 1^J 1^K \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_3 | \hat{1}_\beta^+ \hat{0}_\beta^- | K_0 \rangle t_{A_9, B_{11}} t_{K_3} t_{I_{14}, J_8} \\
& + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 0^I 1^J | \hat{g} | 1^K 0^K \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_3 | \hat{0}_\beta^+ \hat{1}_\beta^- | K_0 \rangle t_{A_9, B_{11}} t_{K_3} t_{I_{14}, J_8} \\
& + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 0^I 1^J | \hat{g} | 0^K 1^K \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_3 | \hat{1}_\beta^+ \hat{0}_\beta^- | K_0 \rangle t_{A_9, B_{11}} t_{K_3} t_{I_{14}, J_8}
\end{aligned}$$

$$\begin{aligned}
& + \frac{1}{12} \sum_I \sum_J \sum_K \langle 1^I 1^J | \hat{g} | 0^K 0^K \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle \langle K_1 | \hat{0}_\alpha^+ \hat{0}_\alpha^- | K_0 \rangle t_{A_9, I_{11}} t_{B_{11}, J_{10}} t_{K_1} \\
& + \frac{1}{12} \sum_I \sum_J \sum_K \langle 1^I 1^J | \hat{g} | 1^K 1^K \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle \langle K_1 | \hat{1}_\alpha^+ \hat{1}_\alpha^- | K_0 \rangle t_{A_9, I_{11}} t_{B_{11}, J_{10}} t_{K_1}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_{13}, J_8, K_1) \rangle = \\
& + \frac{1}{12} \sum_I \sum_J \sum_K \langle 1^I 0^K | \hat{g} | 1^J 0^K \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_1 | \hat{0}_\beta^+ \hat{0}_\beta^- | K_0 \rangle t_{A_9, B_{11}} t_{K_1} t_{I_{13}, J_8} \\
& + \frac{1}{12} \sum_I \sum_J \sum_K \langle 1^I 1^K | \hat{g} | 1^J 1^K \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_1 | \hat{1}_\beta^+ \hat{1}_\beta^- | K_0 \rangle t_{A_9, B_{11}} t_{K_1} t_{I_{13}, J_8} \\
& + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 1^I 1^J | \hat{g} | 0^K 0^K \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_1 | \hat{0}_\beta^+ \hat{0}_\beta^- | K_0 \rangle t_{A_9, B_{11}} t_{K_1} t_{I_{13}, J_8} \\
& + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 1^I 1^J | \hat{g} | 1^K 1^K \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_1 | \hat{1}_\beta^+ \hat{1}_\beta^- | K_0 \rangle t_{A_9, B_{11}} t_{K_1} t_{I_{13}, J_8} \\
& + \frac{1}{12} \sum_I \sum_J \sum_K \langle 1^I 0^K | \hat{g} | 1^J 0^K \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_1 | \hat{0}_\alpha^+ \hat{0}_\alpha^- | K_0 \rangle t_{A_9, B_{11}} t_{K_1} t_{I_{13}, J_8} \\
& + \frac{1}{12} \sum_I \sum_J \sum_K \langle 1^I 1^K | \hat{g} | 1^J 1^K \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_1 | \hat{1}_\alpha^+ \hat{1}_\alpha^- | K_0 \rangle t_{A_9, B_{11}} t_{K_1} t_{I_{13}, J_8}
\end{aligned}$$

[illegible]

$$\langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_{11}, J_{10}, K_3) \rangle =$$

$$+ \frac{1}{12} \sum_I \sum_J \sum_K \langle 1^I 0^K | \hat{g} | 1^J 1^K \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_3 | \hat{1}_\alpha^+ \hat{0}_\alpha^- | K_0 \rangle t_{A_9, B_{11}} t_{K_3} t_{I_{13}, J_8}$$

$$\begin{aligned} & \langle(A_9, B_{11})|H|(A_9, B_{11}, I_9, J_1, K_{12})\rangle = \\ & +\frac{1}{12}\sum_I\sum_J\sum_K\langle0^I0^J|\hat{g}|0^J0^K\rangle\langle I_9|\hat{0}_\alpha^-|I_0\rangle\langle J_1|\hat{0}_\alpha^+\hat{0}_\alpha^-|J_0\rangle\langle K_{12}|\hat{0}_\alpha^+|K_0\rangle t_{A_9,B_{11}}t_{J_1}t_{I_9,K_{12}} \\ & +\frac{1}{12}\sum_I\sum_J\sum_K\langle0^I1^J|\hat{g}|1^J0^K\rangle\langle I_9|\hat{0}_\alpha^-|I_0\rangle\langle J_1|\hat{1}_\alpha^+\hat{1}_\alpha^-|J_0\rangle\langle K_{12}|\hat{0}_\alpha^+|K_0\rangle t_{A_9,B_{11}}t_{J_1}t_{I_9,K_{12}} \\ & +\frac{-1}{12}\sum_I\sum_J\sum_K\langle0^I0^J|\hat{g}|0^K0^J\rangle\langle I_9|\hat{0}_\alpha^-|I_0\rangle\langle J_1|\hat{0}_\alpha^+\hat{0}_\alpha^-|J_0\rangle\langle K_{12}|\hat{0}_\alpha^+|K_0\rangle t_{A_9,B_{11}}t_{J_1}t_{I_9,K_{12}} \\ & +\frac{-1}{12}\sum_I\sum_J\sum_K\langle0^I1^J|\hat{g}|0^K1^J\rangle\langle I_9|\hat{0}_\alpha^-|I_0\rangle\langle J_1|\hat{1}_\alpha^+\hat{1}_\alpha^-|J_0\rangle\langle K_{12}|\hat{0}_\alpha^+|K_0\rangle t_{A_9,B_{11}}t_{J_1}t_{I_9,K_{12}} \\ & +\frac{-1}{12}\sum_I\sum_J\sum_K\langle0^I0^J|\hat{g}|0^K0^J\rangle\langle I_9|\hat{0}_\alpha^-|I_0\rangle\langle J_1|\hat{0}_\beta^+\hat{0}_\beta^-|J_0\rangle\langle K_{12}|\hat{0}_\alpha^+|K_0\rangle t_{A_9,B_{11}}t_{J_1}t_{I_9,K_{12}} \\ & +\frac{-1}{12}\sum_I\sum_J\sum_K\langle0^I1^J|\hat{g}|0^K1^J\rangle\langle I_9|\hat{0}_\alpha^-|I_0\rangle\langle J_1|\hat{1}_\beta^+\hat{1}_\beta^-|J_0\rangle\langle K_{12}|\hat{0}_\alpha^+|K_0\rangle t_{A_9,B_{11}}t_{J_1}t_{I_9,K_{12}} \\ & +\frac{1}{12}\sum_I\sum_J\sum_K\langle0^I0^J|\hat{g}|0^J0^K\rangle\langle I_9|\hat{0}_\alpha^-|I_0\rangle\langle J_1|\hat{0}_\alpha^+\hat{0}_\alpha^-|J_0\rangle\langle K_{12}|\hat{0}_\alpha^+|K_0\rangle t_{A_9,K_{12}}t_{B_{11},I_9}t_{J_1} \\ & +\frac{1}{12}\sum_I\sum_J\sum_K\langle0^I1^J|\hat{g}|1^J0^K\rangle\langle I_9|\hat{0}_\alpha^-|I_0\rangle\langle J_1|\hat{1}_\alpha^+\hat{1}_\alpha^-|J_0\rangle\langle K_{12}|\hat{0}_\alpha^+|K_0\rangle t_{A_9,K_{12}}t_{B_{11},I_9}t_{J_1} \\ & +\frac{-1}{12}\sum_I\sum_J\sum_K\langle0^I0^J|\hat{g}|0^K0^J\rangle\langle I_9|\hat{0}_\alpha^-|I_0\rangle\langle J_1|\hat{0}_\alpha^+\hat{0}_\alpha^-|J_0\rangle\langle K_{12}|\hat{0}_\alpha^+|K_0\rangle t_{A_9,K_{12}}t_{B_{11},I_9}t_{J_1} \\ & +\frac{-1}{12}\sum_I\sum_J\sum_K\langle0^I1^J|\hat{g}|0^K1^J\rangle\langle I_9|\hat{0}_\alpha^-|I_0\rangle\langle J_1|\hat{1}_\alpha^+\hat{1}_\alpha^-|J_0\rangle\langle K_{12}|\hat{0}_\alpha^+|K_0\rangle t_{A_9,K_{12}}t_{B_{11},I_9}t_{J_1} \\ & +\frac{-1}{12}\sum_I\sum_J\sum_K\langle0^I0^J|\hat{g}|0^K0^J\rangle\langle I_9|\hat{0}_\alpha^-|I_0\rangle\langle J_1|\hat{0}_\beta^+\hat{0}_\beta^-|J_0\rangle\langle K_{12}|\hat{0}_\alpha^+|K_0\rangle t_{A_9,K_{12}}t_{B_{11},I_9}t_{J_1} \\ & +\frac{-1}{12}\sum_I\sum_J\sum_K\langle0^I1^J|\hat{g}|0^K1^J\rangle\langle I_9|\hat{0}_\alpha^-|I_0\rangle\langle J_1|\hat{1}_\beta^+\hat{1}_\beta^-|J_0\rangle\langle K_{12}|\hat{0}_\alpha^+|K_0\rangle t_{A_9,K_{12}}t_{B_{11},I_9}t_{J_1} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_7, J_1, K_{14}) \rangle = \\ & + \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^I 0^J | \hat{g} | 0^J 0^K \rangle \langle I_7 | \hat{0}_{\beta}^- | I_0 \rangle \langle J_1 | \hat{0}_{\beta}^+ \hat{0}_{\beta}^- | J_0 \rangle \langle K_{14} | \hat{0}_{\beta}^+ | K_0 \rangle t_{A_9, B_{11}} t_{J_1} t_{I_7, K_{14}} \\ & + \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^I 1^J | \hat{g} | 1^J 0^K \rangle \langle I_7 | \hat{0}_{\beta}^- | I_0 \rangle \langle J_1 | \hat{1}_{\beta}^+ \hat{1}_{\beta}^- | J_0 \rangle \langle K_{14} | \hat{0}_{\beta}^+ | K_0 \rangle t_{A_9, B_{11}} t_{J_1} t_{I_7, K_{14}} \\ & + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 0^I 0^J | \hat{g} | 0^K 0^J \rangle \langle I_7 | \hat{0}_{\beta}^- | I_0 \rangle \langle J_1 | \hat{0}_{\beta}^+ \hat{0}_{\beta}^- | J_0 \rangle \langle K_{14} | \hat{0}_{\beta}^+ | K_0 \rangle t_{A_9, B_{11}} t_{J_1} t_{I_7, K_{14}} \\ & + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 0^I 0^J | \hat{g} | 0^K 0^J \rangle \langle I_7 | \hat{0}_{\beta}^- | I_0 \rangle \langle J_1 | \hat{0}_{\alpha}^+ \hat{0}_{\alpha}^- | J_0 \rangle \langle K_{14} | \hat{0}_{\beta}^+ | K_0 \rangle t_{A_9, B_{11}} t_{J_1} t_{I_7, K_{14}} \\ & + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 0^I 1^J | \hat{g} | 0^K 1^J \rangle \langle I_7 | \hat{0}_{\beta}^- | I_0 \rangle \langle J_1 | \hat{1}_{\beta}^+ \hat{1}_{\beta}^- | J_0 \rangle \langle K_{14} | \hat{0}_{\beta}^+ | K_0 \rangle t_{A_9, B_{11}} t_{J_1} t_{I_7, K_{14}} \\ & + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 0^I 1^J | \hat{g} | 0^K 1^J \rangle \langle I_7 | \hat{0}_{\beta}^- | I_0 \rangle \langle J_1 | \hat{1}_{\alpha}^+ \hat{1}_{\alpha}^- | J_0 \rangle \langle K_{14} | \hat{0}_{\beta}^+ | K_0 \rangle t_{A_9, B_{11}} t_{J_1} t_{I_7, K_{14}} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_9, J_2, K_{12}) \rangle = \\ & + \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^I 1^J | \hat{g} | 0^J 0^K \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_2 | \hat{0}_\alpha^+ \hat{1}_\alpha^- | J_0 \rangle \langle K_{12} | \hat{0}_\alpha^+ | K_0 \rangle t_{A_9, B_{11}} t_{J_2} t_{I_9, K_{12}} \end{aligned}$$

[illegible]

$$\langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_7, J_2, K_{14}) \rangle =$$

$$+ \frac{+1}{12} \sum_I \sum_J \sum_K \langle 1^I 1^- | \hat{g} | 0^K 1^J \rangle \langle I_{10} | \hat{1}_\alpha^- | I_0 \rangle \langle J_1 | \hat{1}_\beta^+ \hat{1}_\beta^- | J_0 \rangle \langle K_{12} | \hat{0}_\alpha^+ | K_0 \rangle t_{A_9, K_{12}} t_{B_{11}, I_{10}} t_{J_1}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | H | (A_9, B_{11}, I_8, J_1, K_{14}) \rangle = \\ & + \frac{1}{12} \sum_I \sum_J \sum_K \langle 1^I 0^J | \hat{g} | 0^J 0^K \rangle \langle I_8 | \hat{1}_{\beta}^{-} | I_0 \rangle \langle J_1 | \hat{0}_{\beta}^{+} \hat{0}_{\beta}^{-} | J_0 \rangle \langle K_{14} | \hat{0}_{\beta}^{+} | K_0 \rangle t_{A_9, B_{11}} t_{J_1} t_{I_8, K_{14}} \\ & + \frac{1}{12} \sum_I \sum_J \sum_K \langle 1^I 1^J | \hat{g} | 1^J 0^K \rangle \langle I_8 | \hat{1}_{\beta}^{-} | I_0 \rangle \langle J_1 | \hat{1}_{\beta}^{+} \hat{1}_{\beta}^{-} | J_0 \rangle \langle K_{14} | \hat{0}_{\beta}^{+} | K_0 \rangle t_{A_9, B_{11}} t_{J_1} t_{I_8, K_{14}} \\ & + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 1^I 0^J | \hat{g} | 0^K 0^J \rangle \langle I_8 | \hat{1}_{\beta}^{-} | I_0 \rangle \langle J_1 | \hat{0}_{\beta}^{+} \hat{0}_{\beta}^{-} | J_0 \rangle \langle K_{14} | \hat{0}_{\beta}^{+} | K_0 \rangle t_{A_9, B_{11}} t_{J_1} t_{I_8, K_{14}} \\ & + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 1^I 0^J | \hat{g} | 0^K 0^J \rangle \langle I_8 | \hat{1}_{\beta}^{-} | I_0 \rangle \langle J_1 | \hat{0}_{\alpha}^{+} \hat{0}_{\alpha}^{-} | J_0 \rangle \langle K_{14} | \hat{0}_{\beta}^{+} | K_0 \rangle t_{A_9, B_{11}} t_{J_1} t_{I_8, K_{14}} \\ & + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 1^I 1^J | \hat{g} | 0^K 1^J \rangle \langle I_8 | \hat{1}_{\beta}^{-} | I_0 \rangle \langle J_1 | \hat{1}_{\beta}^{+} \hat{1}_{\beta}^{-} | J_0 \rangle \langle K_{14} | \hat{0}_{\beta}^{+} | K_0 \rangle t_{A_9, B_{11}} t_{J_1} t_{I_8, K_{14}} \\ & + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 1^I 1^J | \hat{g} | 0^K 1^J \rangle \langle I_8 | \hat{1}_{\beta}^{-} | I_0 \rangle \langle J_1 | \hat{1}_{\alpha}^{+} \hat{1}_{\alpha}^{-} | J_0 \rangle \langle K_{14} | \hat{0}_{\beta}^{+} | K_0 \rangle t_{A_9, B_{11}} t_{J_1} t_{I_8, K_{14}} \end{aligned}$$

[illegible]

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_{10}, J_3, K_{12}) \rangle = \\ & + \frac{1}{12} \sum_I \sum_J \sum_K \langle 1^I 1^J | \hat{g} | 0^J 0^K \rangle \langle I_{10} | \hat{1}_\alpha^- | I_0 \rangle \langle J_3 | \hat{0}_\alpha^+ \hat{1}_\alpha^- | J_0 \rangle \langle K_{12} | \hat{0}_\alpha^+ | K_0 \rangle t_{A_9, B_{11}} t_{J_3} t_{I_{10}, K_{12}} \end{aligned}$$

[illegible]

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_8, J_2, K_{14}) \rangle = \\
& + \frac{1}{12} \sum_I \sum_J \sum_K \langle 1^I 1^J | \hat{g} | 0^J 0^K \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_2 | \hat{0}_\beta^+ \hat{1}_\beta^- | J_0 \rangle \langle K_{14} | \hat{0}_\beta^+ | K_0 \rangle t_{A_9, B_{11}} t_{J_2} t_{I_8, K_{14}} \\
& + \frac{1}{12} \sum_I \sum_J \sum_K \langle 1^I 0^J | \hat{g} | 1^J 0^K \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_2 | \hat{1}_\beta^+ \hat{0}_\beta^- | J_0 \rangle \langle K_{14} | \hat{0}_\beta^+ | K_0 \rangle t_{A_9, B_{11}} t_{J_2} t_{I_8, K_{14}} \\
& + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 1^I 0^J | \hat{g} | 0^K 1^J \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_2 | \hat{0}_\beta^+ \hat{1}_\beta^- | J_0 \rangle \langle K_{14} | \hat{0}_\beta^+ | K_0 \rangle t_{A_9, B_{11}} t_{J_2} t_{I_8, K_{14}} \\
& + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 1^I 0^J | \hat{g} | 0^K 1^J \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_2 | \hat{0}_\alpha^+ \hat{1}_\alpha^- | J_0 \rangle \langle K_{14} | \hat{0}_\beta^+ | K_0 \rangle t_{A_9, B_{11}} t_{J_2} t_{I_8, K_{14}} \\
& + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 1^I 0^J | \hat{g} | 0^K 1^J \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_2 | \hat{1}_\beta^+ \hat{0}_\beta^- | J_0 \rangle \langle K_{14} | \hat{0}_\beta^+ | K_0 \rangle t_{A_9, B_{11}} t_{J_2} t_{I_8, K_{14}} \\
& + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 1^I 0^J | \hat{g} | 0^K 1^J \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_2 | \hat{1}_\alpha^+ \hat{0}_\alpha^- | J_0 \rangle \langle K_{14} | \hat{0}_\beta^+ | K_0 \rangle t_{A_9, B_{11}} t_{J_2} t_{I_8, K_{14}}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_8, J_3, K_{14}) \rangle = \\
& + \frac{1}{12} \sum_I \sum_J \sum_K \langle 1^I 1^J | \hat{g} | 0^J 0^K \rangle \langle I_8 | \hat{1}_{\beta}^- | I_0 \rangle \langle J_3 | \hat{0}_{\beta}^+ \hat{1}_{\beta}^- | J_0 \rangle \langle K_{14} | \hat{0}_{\beta}^+ | K_0 \rangle t_{A_9, B_{11}} t_{J_3} t_{I_8, K_{14}} \\
& + \frac{1}{12} \sum_I \sum_J \sum_K \langle 1^I 0^J | \hat{g} | 1^J 0^K \rangle \langle I_8 | \hat{1}_{\beta}^- | I_0 \rangle \langle J_3 | \hat{1}_{\beta}^+ \hat{0}_{\beta}^- | J_0 \rangle \langle K_{14} | \hat{0}_{\beta}^+ | K_0 \rangle t_{A_9, B_{11}} t_{J_3} t_{I_8, K_{14}} \\
& + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 1^I 0^J | \hat{g} | 0^K 1^J \rangle \langle I_8 | \hat{1}_{\beta}^- | I_0 \rangle \langle J_3 | \hat{0}_{\beta}^+ \hat{1}_{\beta}^- | J_0 \rangle \langle K_{14} | \hat{0}_{\beta}^+ | K_0 \rangle t_{A_9, B_{11}} t_{J_3} t_{I_8, K_{14}} \\
& + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 1^I 0^J | \hat{g} | 0^K 1^J \rangle \langle I_8 | \hat{1}_{\beta}^- | I_0 \rangle \langle J_3 | \hat{0}_{\alpha}^+ \hat{1}_{\alpha}^- | J_0 \rangle \langle K_{14} | \hat{0}_{\beta}^+ | K_0 \rangle t_{A_9, B_{11}} t_{J_3} t_{I_8, K_{14}} \\
& + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 1^I 0^J | \hat{g} | 0^K 1^J \rangle \langle I_8 | \hat{1}_{\beta}^- | I_0 \rangle \langle J_3 | \hat{1}_{\beta}^+ \hat{0}_{\beta}^- | J_0 \rangle \langle K_{14} | \hat{0}_{\beta}^+ | K_0 \rangle t_{A_9, B_{11}} t_{J_3} t_{I_8, K_{14}} \\
& + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 1^I 0^J | \hat{g} | 0^K 1^J \rangle \langle I_8 | \hat{1}_{\beta}^- | I_0 \rangle \langle J_3 | \hat{1}_{\alpha}^+ \hat{0}_{\alpha}^- | J_0 \rangle \langle K_{14} | \hat{0}_{\beta}^+ | K_0 \rangle t_{A_9, B_{11}} t_{J_3} t_{I_8, K_{14}}
\end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_8, J_1, K_{13}) \rangle = \\ & + \frac{1}{12} \sum_I \sum_J \sum_K \langle 1^I 0^J | \hat{g} | 0^J 1^K \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_1 | \hat{0}_\beta^+ \hat{0}_\beta^- | J_0 \rangle \langle K_{13} | \hat{1}_\beta^+ | K_0 \rangle t_{A_9, B_{11}} t_{J_1} t_{I_8, K_{13}} \\ & + \frac{1}{12} \sum_I \sum_J \sum_K \langle 1^I 1^J | \hat{g} | 1^J 1^K \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_1 | \hat{1}_\beta^+ \hat{1}_\beta^- | J_0 \rangle \langle K_{13} | \hat{1}_\beta^+ | K_0 \rangle t_{A_9, B_{11}} t_{J_1} t_{I_8, K_{13}} \\ & + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 1^I 0^J | \hat{g} | 1^K 0^J \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_1 | \hat{0}_\beta^+ \hat{0}_\beta^- | J_0 \rangle \langle K_{13} | \hat{1}_\beta^+ | K_0 \rangle t_{A_9, B_{11}} t_{J_1} t_{I_8, K_{13}} \\ & + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 1^I 0^J | \hat{g} | 1^K 0^J \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_1 | \hat{0}_\alpha^+ \hat{0}_\alpha^- | J_0 \rangle \langle K_{13} | \hat{1}_\beta^+ | K_0 \rangle t_{A_9, B_{11}} t_{J_1} t_{I_8, K_{13}} \\ & + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 1^I 1^J | \hat{g} | 1^K 1^J \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_1 | \hat{1}_\beta^+ \hat{1}_\beta^- | J_0 \rangle \langle K_{13} | \hat{1}_\beta^+ | K_0 \rangle t_{A_9, B_{11}} t_{J_1} t_{I_8, K_{13}} \\ & + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 1^I 1^J | \hat{g} | 1^K 1^J \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_1 | \hat{1}_\alpha^+ \hat{1}_\alpha^- | J_0 \rangle \langle K_{13} | \hat{1}_\beta^+ | K_0 \rangle t_{A_9, B_{11}} t_{J_1} t_{I_8, K_{13}} \end{aligned}$$

[illegible]

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_{10}, J_3, K_{11}) \rangle = \\ & + \frac{1}{12} \sum_I \sum_J \sum_K \langle 1^I 1^J | \hat{g} | 0^J 1^K \rangle \langle I_{10} | \hat{1}_\alpha^- | I_0 \rangle \langle J_3 | \hat{0}_\alpha^+ \hat{1}_\alpha^- | J_0 \rangle \langle K_{11} | \hat{1}_\alpha^+ | K_0 \rangle t_{A_9, B_{11}} t_{J_3} t_{I_{10}, K_{11}} \\ & + \frac{1}{12} \sum_I \sum_J \sum_K \langle 1^I 0^J | \hat{g} | 1^J 1^K \rangle \langle I_{10} | \hat{1}_\alpha^- | I_0 \rangle \langle J_3 | \hat{1}_\alpha^+ \hat{0}_\alpha^- | J_0 \rangle \langle K_{11} | \hat{1}_\alpha^+ | K_0 \rangle t_{A_9, B_{11}} t_{J_3} t_{I_{10}, K_{11}} \end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_8, J_{14}, K_1) \rangle = \\
& + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 1^I 0^K | \hat{g} | 0^J 0^K \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle \langle K_1 | \hat{0}_\beta^+ \hat{0}_\beta^- | K_0 \rangle t_{A_9, B_{11}} t_{K_1} t_{I_8, J_{14}} \\
& + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 1^I 1^K | \hat{g} | 0^J 1^K \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle \langle K_1 | \hat{1}_\beta^+ \hat{1}_\beta^- | K_0 \rangle t_{A_9, B_{11}} t_{K_1} t_{I_8, J_{14}} \\
& + \frac{1}{12} \sum_I \sum_J \sum_K \langle 1^I 0^J | \hat{g} | 0^K 0^K \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle \langle K_1 | \hat{0}_\beta^+ \hat{0}_\beta^- | K_0 \rangle t_{A_9, B_{11}} t_{K_1} t_{I_8, J_{14}} \\
& + \frac{1}{12} \sum_I \sum_J \sum_K \langle 1^I 0^J | \hat{g} | 1^K 1^K \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle \langle K_1 | \hat{1}_\beta^+ \hat{1}_\beta^- | K_0 \rangle t_{A_9, B_{11}} t_{K_1} t_{I_8, J_{14}} \\
& + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 1^I 0^K | \hat{g} | 0^J 0^K \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle \langle K_1 | \hat{0}_\alpha^+ \hat{0}_\alpha^- | K_0 \rangle t_{A_9, B_{11}} t_{K_1} t_{I_8, J_{14}} \\
& + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 1^I 1^K | \hat{g} | 0^J 1^K \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle \langle K_1 | \hat{1}_\alpha^+ \hat{1}_\alpha^- | K_0 \rangle t_{A_9, B_{11}} t_{K_1} t_{I_8, J_{14}}
\end{aligned}$$

[illegible]

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_{10}, J_{12}, K_3) \rangle = \\ & + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 1^I 0^K | \hat{g} | 0^J 1^K \rangle \langle I_{10} | \hat{1}_\alpha^- | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle \langle K_3 | \hat{0}_\alpha^+ \hat{1}_\alpha^- | K_0 \rangle t_{A_9, B_{11}} t_{K_3} t_{I_{10}, J_{12}} \\ & + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 1^I 0^K | \hat{g} | 0^J 1^K \rangle \langle I_{10} | \hat{1}_\alpha^- | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle \langle K_3 | \hat{0}_\beta^+ \hat{1}_\beta^- | K_0 \rangle t_{A_9, B_{11}} t_{K_3} t_{I_{10}, J_{12}} \\ & + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 1^I 0^K | \hat{g} | 0^J 1^K \rangle \langle I_{10} | \hat{1}_\alpha^- | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle \langle K_3 | \hat{1}_\alpha^+ \hat{0}_\alpha^- | K_0 \rangle t_{A_9, B_{11}} t_{K_3} t_{I_{10}, J_{12}} \end{aligned}$$

$$\begin{aligned}
& + \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^I 1^J | \hat{g} | 0^K 1^K \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle \langle K_2 | \hat{0}_\alpha^+ \hat{1}_\alpha^- | K_0 \rangle t_{A_9, B_{11}} t_{K_2} t_{I_9, J_{11}} \\
& + \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^I 1^J | \hat{g} | 1^K 0^K \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle \langle K_2 | \hat{1}_\alpha^+ \hat{0}_\alpha^- | K_0 \rangle t_{A_9, B_{11}} t_{K_2} t_{I_9, J_{11}} \\
& + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 0^I 0^K | \hat{g} | 1^J 1^K \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle \langle K_2 | \hat{0}_\alpha^+ \hat{1}_\alpha^- | K_0 \rangle t_{A_9, J_{11}} t_{B_{11}, I_9} t_{K_2} \\
& + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 0^I 0^K | \hat{g} | 1^J 1^K \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle \langle K_2 | \hat{0}_\beta^+ \hat{1}_\beta^- | K_0 \rangle t_{A_9, J_{11}} t_{B_{11}, I_9} t_{K_2} \\
& + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 0^I 0^K | \hat{g} | 1^J 1^K \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle \langle K_2 | \hat{1}_\alpha^+ \hat{0}_\alpha^- | K_0 \rangle t_{A_9, J_{11}} t_{B_{11}, I_9} t_{K_2} \\
& + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 0^I 0^K | \hat{g} | 1^J 1^K \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle \langle K_2 | \hat{1}_\beta^+ \hat{0}_\beta^- | K_0 \rangle t_{A_9, J_{11}} t_{B_{11}, I_9} t_{K_2} \\
& + \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^I 1^J | \hat{g} | 0^K 1^K \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle \langle K_2 | \hat{0}_\alpha^+ \hat{1}_\alpha^- | K_0 \rangle t_{A_9, J_{11}} t_{B_{11}, I_9} t_{K_2} \\
& + \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^I 1^J | \hat{g} | 1^K 0^K \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle \langle K_2 | \hat{1}_\alpha^+ \hat{0}_\alpha^- | K_0 \rangle t_{A_9, J_{11}} t_{B_{11}, I_9} t_{K_2}
\end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_7, J_{13}, K_2) \rangle = \\ & + \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^I 0^K | \hat{g} | 1^J 1^K \rangle \langle I_7 | \hat{0}_{\bar{\beta}}^- | I_0 \rangle \langle J_{13} | \hat{1}_{\bar{\beta}}^+ | J_0 \rangle \langle K_2 | \hat{0}_{\bar{\beta}}^+ \hat{1}_{\bar{\beta}}^- | K_0 \rangle t_{A_9, B_{11}} t_{K_2} t_{I_7, J_{13}} \\ & + \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^I 0^K | \hat{g} | 1^J 1^K \rangle \langle I_7 | \hat{0}_{\bar{\beta}}^- | I_0 \rangle \langle J_{13} | \hat{1}_{\bar{\beta}}^+ | J_0 \rangle \langle K_2 | \hat{1}_{\bar{\beta}}^+ \hat{0}_{\bar{\beta}}^- | K_0 \rangle t_{A_9, B_{11}} t_{K_2} t_{I_7, J_{13}} \\ & + \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^I 1^J | \hat{g} | 0^K 1^K \rangle \langle I_7 | \hat{0}_{\bar{\beta}}^- | I_0 \rangle \langle J_{13} | \hat{1}_{\bar{\beta}}^+ | J_0 \rangle \langle K_2 | \hat{0}_{\bar{\beta}}^+ \hat{1}_{\bar{\beta}}^- | K_0 \rangle t_{A_9, B_{11}} t_{K_2} t_{I_7, J_{13}} \end{aligned}$$

$$\begin{aligned}
& + \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^I 1^J | g | 1^K 0^K \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_{13} | \hat{1}_\beta^+ | J_0 \rangle \langle K_2 | \hat{1}_\beta^+ \hat{0}_\beta^- | K_0 \rangle t_{A_9, B_{11}} t_{K_2} t_{I_7, J_{13}} \\
& + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 0^I 0^K | g | 1^J 1^K \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_{13} | \hat{1}_\beta^+ | J_0 \rangle \langle K_2 | \hat{0}_\alpha^+ \hat{1}_\alpha^- | K_0 \rangle t_{A_9, B_{11}} t_{K_2} t_{I_7, J_{13}} \\
& + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 0^I 0^K | g | 1^J 1^K \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_{13} | \hat{1}_\beta^+ | J_0 \rangle \langle K_2 | \hat{1}_\alpha^+ \hat{0}_\alpha^- | K_0 \rangle t_{A_9, B_{11}} t_{K_2} t_{I_7, J_{13}}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_7, J_{13}, K_3) \rangle = \\
& + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 0^I 0^K | \hat{g} | 1^J 1^K \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_{13} | \hat{1}_\beta^+ | J_0 \rangle \langle K_3 | \hat{0}_\beta^+ \hat{1}_\beta^- | K_0 \rangle t_{A_9, B_{11}} t_{K_3} t_{I_7, J_{13}} \\
& + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 0^I 0^K | \hat{g} | 1^J 1^K \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_{13} | \hat{1}_\beta^+ | J_0 \rangle \langle K_3 | \hat{1}_\beta^+ \hat{0}_\beta^- | K_0 \rangle t_{A_9, B_{11}} t_{K_3} t_{I_7, J_{13}} \\
& + \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^I 1^J | \hat{g} | 0^K 1^K \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_{13} | \hat{1}_\beta^+ | J_0 \rangle \langle K_3 | \hat{0}_\beta^+ \hat{1}_\beta^- | K_0 \rangle t_{A_9, B_{11}} t_{K_3} t_{I_7, J_{13}} \\
& + \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^I 1^J | \hat{g} | 1^K 0^K \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_{13} | \hat{1}_\beta^+ | J_0 \rangle \langle K_3 | \hat{1}_\beta^+ \hat{0}_\beta^- | K_0 \rangle t_{A_9, B_{11}} t_{K_3} t_{I_7, J_{13}} \\
& + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 0^I 0^K | \hat{g} | 1^J 1^K \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_{13} | \hat{1}_\beta^+ | J_0 \rangle \langle K_3 | \hat{0}_\alpha^+ \hat{1}_\alpha^- | K_0 \rangle t_{A_9, B_{11}} t_{K_3} t_{I_7, J_{13}} \\
& + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 0^I 0^K | \hat{g} | 1^J 1^K \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_{13} | \hat{1}_\beta^+ | J_0 \rangle \langle K_3 | \hat{1}_\alpha^+ \hat{0}_\alpha^- | K_0 \rangle t_{A_9, B_{11}} t_{K_3} t_{I_7, J_{13}}
\end{aligned}$$

[illegible]

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_8, J_{13}, K_1) \rangle = \\
& + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 1^I 0^K | \hat{g} | 1^J 0^K \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_{13} | \hat{1}_\beta^+ | J_0 \rangle \langle K_1 | \hat{0}_\beta^+ \hat{0}_\beta^- | K_0 \rangle t_{A_9, B_{11}} t_{K_1} t_{I_8, J_{13}} \\
& + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 1^I 1^K | \hat{g} | 1^J 1^K \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_{13} | \hat{1}_\beta^+ | J_0 \rangle \langle K_1 | \hat{1}_\beta^+ \hat{1}_\beta^- | K_0 \rangle t_{A_9, B_{11}} t_{K_1} t_{I_8, J_{13}} \\
& + \frac{1}{12} \sum_I \sum_J \sum_K \langle 1^I 1^J | \hat{g} | 0^K 0^K \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_{13} | \hat{1}_\beta^+ | J_0 \rangle \langle K_1 | \hat{0}_\beta^+ \hat{0}_\beta^- | K_0 \rangle t_{A_9, B_{11}} t_{K_1} t_{I_8, J_{13}} \\
& + \frac{1}{12} \sum_I \sum_J \sum_K \langle 1^I 1^J | \hat{g} | 1^K 1^K \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_{13} | \hat{1}_\beta^+ | J_0 \rangle \langle K_1 | \hat{1}_\beta^+ \hat{1}_\beta^- | K_0 \rangle t_{A_9, B_{11}} t_{K_1} t_{I_8, J_{13}} \\
& + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 1^I 0^K | \hat{g} | 1^J 0^K \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_{13} | \hat{1}_\beta^+ | J_0 \rangle \langle K_1 | \hat{0}_\alpha^+ \hat{0}_\alpha^- | K_0 \rangle t_{A_9, B_{11}} t_{K_1} t_{I_8, J_{13}} \\
& + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 1^I 1^K | \hat{g} | 1^J 1^K \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_{13} | \hat{1}_\beta^+ | J_0 \rangle \langle K_1 | \hat{1}_\alpha^+ \hat{1}_\alpha^- | K_0 \rangle t_{A_9, B_{11}} t_{K_1} t_{I_8, J_{13}}
\end{aligned}$$

[illegible]

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_{10}, J_{11}, K_3) \rangle = \\
& + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 1^I 0^K | \hat{g} | 1^J 1^K \rangle \langle I_{10} | \hat{1}_\alpha^- | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle \langle K_3 | \hat{0}_\alpha^+ \hat{1}_\alpha^- | K_0 \rangle t_{A_9, B_{11}} t_{K_3} t_{I_{10}, J_{11}} \\
& + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 1^I 0^K | \hat{g} | 1^J 1^K \rangle \langle I_{10} | \hat{1}_\alpha^- | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle \langle K_3 | \hat{0}_\beta^+ \hat{1}_\beta^- | K_0 \rangle t_{A_9, B_{11}} t_{K_3} t_{I_{10}, J_{11}} \\
& + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 1^I 0^K | \hat{g} | 1^J 1^K \rangle \langle I_{10} | \hat{1}_\alpha^- | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle \langle K_3 | \hat{1}_\alpha^+ \hat{0}_\alpha^- | K_0 \rangle t_{A_9, B_{11}} t_{K_3} t_{I_{10}, J_{11}} \\
& + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 1^I 0^K | \hat{g} | 1^J 1^K \rangle \langle I_{10} | \hat{1}_\alpha^- | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle \langle K_3 | \hat{1}_\beta^+ \hat{0}_\beta^- | K_0 \rangle t_{A_9, B_{11}} t_{K_3} t_{I_{10}, J_{11}}
\end{aligned}$$

$$\begin{aligned}
& +\frac{1}{12} \sum_I \sum_J \sum_K \langle 1^I 1^J | \hat{g} | 0^K 1^K \rangle \langle I_{10} | \hat{1}_\alpha^- | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle \langle K_3 | \hat{0}_\alpha^+ \hat{1}_\alpha^- | K_0 \rangle t_{A_9, B_{11}} t_{K_3} t_{I_{10}, J_{11}} \\
& +\frac{1}{12} \sum_I \sum_J \sum_K \langle 1^I 1^J | \hat{g} | 1^K 0^K \rangle \langle I_{10} | \hat{1}_\alpha^- | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle \langle K_3 | \hat{1}_\alpha^+ \hat{0}_\alpha^- | K_0 \rangle t_{A_9, B_{11}} t_{K_3} t_{I_{10}, J_{11}} \\
& +\frac{-1}{12} \sum_I \sum_J \sum_K \langle 1^I 0^K | \hat{g} | 1^J 1^K \rangle \langle I_{10} | \hat{1}_\alpha^- | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle \langle K_3 | \hat{0}_\alpha^+ \hat{1}_\alpha^- | K_0 \rangle t_{A_9, J_{11}} t_{B_{11}, I_{10}} t_{K_3} \\
& +\frac{-1}{12} \sum_I \sum_J \sum_K \langle 1^I 0^K | \hat{g} | 1^J 1^K \rangle \langle I_{10} | \hat{1}_\alpha^- | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle \langle K_3 | \hat{0}_\beta^+ \hat{1}_\beta^- | K_0 \rangle t_{A_9, J_{11}} t_{B_{11}, I_{10}} t_{K_3} \\
& +\frac{-1}{12} \sum_I \sum_J \sum_K \langle 1^I 0^K | \hat{g} | 1^J 1^K \rangle \langle I_{10} | \hat{1}_\alpha^- | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle \langle K_3 | \hat{1}_\alpha^+ \hat{0}_\alpha^- | K_0 \rangle t_{A_9, J_{11}} t_{B_{11}, I_{10}} t_{K_3} \\
& +\frac{-1}{12} \sum_I \sum_J \sum_K \langle 1^I 0^K | \hat{g} | 1^J 1^K \rangle \langle I_{10} | \hat{1}_\alpha^- | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle \langle K_3 | \hat{1}_\beta^+ \hat{0}_\beta^- | K_0 \rangle t_{A_9, J_{11}} t_{B_{11}, I_{10}} t_{K_3} \\
& +\frac{1}{12} \sum_I \sum_J \sum_K \langle 1^I 1^J | \hat{g} | 0^K 1^K \rangle \langle I_{10} | \hat{1}_\alpha^- | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle \langle K_3 | \hat{0}_\alpha^+ \hat{1}_\alpha^- | K_0 \rangle t_{A_9, J_{11}} t_{B_{11}, I_{10}} t_{K_3} \\
& +\frac{1}{12} \sum_I \sum_J \sum_K \langle 1^I 1^J | \hat{g} | 1^K 0^K \rangle \langle I_{10} | \hat{1}_\alpha^- | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle \langle K_3 | \hat{1}_\alpha^+ \hat{0}_\alpha^- | K_0 \rangle t_{A_9, J_{11}} t_{B_{11}, I_{10}} t_{K_3}
\end{aligned}$$

$$\langle (A_9, B_{11}) | \hat{H} | (A_{11}, B_{11}, I_9, J_9) \rangle =$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_{14}, B_{11}, I_9, J_7) \rangle = \\ & + \frac{-1}{4} \sum_I \sum_J \langle 1^A 1^A | \hat{g} | 0^I 0^J \rangle \langle A_{14} | \hat{1}_\alpha^+ \hat{1}_\beta^+ | A_9 \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle t_{A_{14}, J_7} t_{B_{11}, I_9} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_{14}, B_{11}, I_9, J_8) \rangle = \\ & + \frac{-1}{4} \sum_I \sum_J \langle 1^A 1^A | \hat{g} | 0^I 1^J \rangle \langle A_{14} | \hat{1}_\alpha^+ \hat{1}_\beta^+ | A_9 \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle t_{A_{14}, J_8} t_{B_{11}, I_9} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_{14}, B_{11}, I_{10}, J_7) \rangle = \\ & + \frac{-1}{4} \sum_I \sum_J \langle 1^A 1^A | \hat{g} | 1^I 0^J \rangle \langle A_{14} | \hat{1}_\alpha^+ \hat{1}_\beta^+ | A_9 \rangle \langle I_{10} | \hat{1}_\alpha^- | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle t_{A_{14}, J_7} t_{B_{11}, I_{10}} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_{14}, B_{11}, I_{10}, J_8) \rangle = \\ & + \frac{-1}{4} \sum_I \sum_J \langle 1^A 1^A | \hat{g} | 1^I 1^J \rangle \langle A_{14} | \hat{1}_\alpha^+ \hat{1}_\beta^+ | A_9 \rangle \langle I_{10} | \hat{1}_\alpha^- | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle t_{A_{14}, J_8} t_{B_{11}, I_{10}} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_{13}, B_{11}, I_7, J_9) \rangle = \\ & + \frac{-1}{4} \sum_I \sum_J \langle 0^A 1^A | \hat{g} | 0^J 0^I \rangle \langle A_{13} | \hat{0}_\alpha^+ \hat{1}_\beta^+ | A_9 \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle t_{A_{13}, I_7} t_{B_{11}, J_9} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_{13}, B_{11}, I_8, J_9) \rangle = \\ & + \frac{-1}{4} \sum_I \sum_J \langle 0^A 1^A | \hat{g} | 0^J 1^I \rangle \langle A_{13} | \hat{0}_\alpha^+ \hat{1}_\beta^+ | A_9 \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle t_{A_{13}, I_8} t_{B_{11}, J_9} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_{13}, B_{11}, I_7, J_{10}) \rangle = \\ & + \frac{-1}{4} \sum_I \sum_J \langle 0^A 1^A | \hat{g} | 1^J 0^I \rangle \langle A_{13} | \hat{0}_\alpha^+ \hat{1}_\beta^+ | A_9 \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle t_{A_{13}, I_7} t_{B_{11}, J_{10}} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_{13}, B_{11}, I_8, J_{10}) \rangle = \\ & + \frac{-1}{4} \sum_I \sum_J \langle 0^A 1^A | \hat{g} | 1^J 1^I \rangle \langle A_{13} | \hat{0}_\alpha^+ \hat{1}_\beta^+ | A_9 \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle t_{A_{13}, I_8} t_{B_{11}, J_{10}} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_{14}, B_{11}, I_7, J_9) \rangle = \\ & + \frac{-1}{4} \sum_I \sum_J \langle 1^A 1^A | \hat{g} | 0^I 0^J \rangle \langle A_{14} | \hat{1}_\alpha^+ \hat{1}_\beta^+ | A_9 \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle t_{A_{14}, I_7} t_{B_{11}, J_9} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_{14}, B_{11}, I_8, J_9) \rangle = \\ & + \frac{-1}{4} \sum_I \sum_J \langle 1^A 1^A | \hat{g} | 1^I 0^J \rangle \langle A_{14} | \hat{1}_\alpha^+ \hat{1}_\beta^+ | A_9 \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle t_{A_{14}, I_8} t_{B_{11}, J_9} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_{14}, B_{11}, I_7, J_{10}) \rangle = \\ & + \frac{-1}{4} \sum_I \sum_J \langle 1^A 1^A | \hat{g} | 0^I 1^J \rangle \langle A_{14} | \hat{1}_\alpha^+ \hat{1}_\beta^+ | A_9 \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle t_{A_{14}, I_7} t_{B_{11}, J_{10}} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_{14}, B_{11}, I_8, J_{10}) \rangle = \\ & + \frac{-1}{4} \sum_I \sum_J \langle 1^A 1^A | \hat{g} | 1^I 1^J \rangle \langle A_{14} | \hat{1}_\alpha^+ \hat{1}_\beta^+ | A_9 \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle t_{A_{14}, I_8} t_{B_{11}, J_{10}} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_{10}, B_{11}, I_{14}, J_7) \rangle = \\ & + \frac{1}{4} \sum_I \sum_J \langle 0^A 0^I | \hat{g} | 1^A 0^J \rangle \langle A_{10} | \hat{1}_\beta^+ \hat{0}_\beta^- | A_9 \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle t_{A_{10}, B_{11}} t_{I_{14}, J_7} \\ & + \frac{-1}{4} \sum_I \sum_J \langle 0^A 1^A | \hat{g} | 0^I 0^J \rangle \langle A_{10} | \hat{1}_\beta^+ \hat{0}_\beta^- | A_9 \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle t_{A_{10}, B_{11}} t_{I_{14}, J_7} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_{10}, B_{11}, I_{14}, J_8) \rangle = \\ & + \frac{1}{4} \sum_I \sum_J \langle 0^A 0^I | \hat{g} | 1^A 1^J \rangle \langle A_{10} | \hat{1}_\beta^+ \hat{0}_\beta^- | A_9 \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle t_{A_{10}, B_{11}} t_{I_{14}, J_8} \\ & + \frac{-1}{4} \sum_I \sum_J \langle 0^A 1^A | \hat{g} | 0^I 1^J \rangle \langle A_{10} | \hat{1}_\beta^+ \hat{0}_\beta^- | A_9 \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle t_{A_{10}, B_{11}} t_{I_{14}, J_8} \end{aligned}$$

[illegible]

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_2, B_{11}, I_2, J_{10}) \rangle = \\
& + \frac{-1}{4} \sum_I \sum_J \langle 1^A 0^I | \hat{g} | 1^I 1^J \rangle \langle A_2 | \hat{1}_\alpha^+ | A_9 \rangle \langle I_2 | \hat{0}_\alpha^+ \hat{1}_\alpha^- | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle t_{A_2, I_2} t_{B_{11}, J_{10}} \\
& + \frac{-1}{4} \sum_I \sum_J \langle 1^A 1^I | \hat{g} | 0^I 1^J \rangle \langle A_2 | \hat{1}_\alpha^+ | A_9 \rangle \langle I_2 | \hat{1}_\alpha^+ \hat{0}_\alpha^- | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle t_{A_2, I_2} t_{B_{11}, J_{10}} \\
& + \frac{1}{4} \sum_I \sum_J \langle 1^A 0^I | \hat{g} | 1^J 1^I \rangle \langle A_2 | \hat{1}_\alpha^+ | A_9 \rangle \langle I_2 | \hat{0}_\alpha^+ \hat{1}_\alpha^- | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle t_{A_2, I_2} t_{B_{11}, J_{10}} \\
& + \frac{1}{4} \sum_I \sum_J \langle 1^A 0^I | \hat{g} | 1^J 1^I \rangle \langle A_2 | \hat{1}_\alpha^+ | A_9 \rangle \langle I_2 | \hat{0}_\beta^+ \hat{1}_\beta^- | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle t_{A_2, I_2} t_{B_{11}, J_{10}} \\
& + \frac{1}{4} \sum_I \sum_J \langle 1^A 0^I | \hat{g} | 1^J 1^I \rangle \langle A_2 | \hat{1}_\alpha^+ | A_9 \rangle \langle I_2 | \hat{1}_\alpha^+ \hat{0}_\alpha^- | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle t_{A_2, I_2} t_{B_{11}, J_{10}} \\
& + \frac{1}{4} \sum_I \sum_J \langle 1^A 0^I | \hat{g} | 1^J 1^I \rangle \langle A_2 | \hat{1}_\alpha^+ | A_9 \rangle \langle I_2 | \hat{1}_\beta^+ \hat{0}_\beta^- | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle t_{A_2, I_2} t_{B_{11}, J_{10}} \\
& + \frac{-1}{4} \sum_I \sum_J \langle 1^A 0^I | \hat{g} | 1^I 1^J \rangle \langle A_2 | \hat{1}_\alpha^+ | A_9 \rangle \langle I_2 | \hat{0}_\alpha^+ \hat{1}_\alpha^- | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle t_{A_2} t_{B_{11}, J_{10}} t_{I_2} \\
& + \frac{-1}{4} \sum_I \sum_J \langle 1^A 1^I | \hat{g} | 0^I 1^J \rangle \langle A_2 | \hat{1}_\alpha^+ | A_9 \rangle \langle I_2 | \hat{1}_\alpha^+ \hat{0}_\alpha^- | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle t_{A_2} t_{B_{11}, J_{10}} t_{I_2} \\
& + \frac{1}{4} \sum_I \sum_J \langle 1^A 0^I | \hat{g} | 1^J 1^I \rangle \langle A_2 | \hat{1}_\alpha^+ | A_9 \rangle \langle I_2 | \hat{0}_\alpha^+ \hat{1}_\alpha^- | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle t_{A_2} t_{B_{11}, J_{10}} t_{I_2} \\
& + \frac{1}{4} \sum_I \sum_J \langle 1^A 0^I | \hat{g} | 1^J 1^I \rangle \langle A_2 | \hat{1}_\alpha^+ | A_9 \rangle \langle I_2 | \hat{0}_\beta^+ \hat{1}_\beta^- | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle t_{A_2} t_{B_{11}, J_{10}} t_{I_2} \\
& + \frac{1}{4} \sum_I \sum_J \langle 1^A 0^I | \hat{g} | 1^J 1^I \rangle \langle A_2 | \hat{1}_\alpha^+ | A_9 \rangle \langle I_2 | \hat{1}_\alpha^+ \hat{0}_\alpha^- | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle t_{A_2} t_{B_{11}, J_{10}} t_{I_2} \\
& + \frac{1}{4} \sum_I \sum_J \langle 1^A 0^I | \hat{g} | 1^J 1^I \rangle \langle A_2 | \hat{1}_\alpha^+ | A_9 \rangle \langle I_2 | \hat{1}_\beta^+ \hat{0}_\beta^- | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle t_{A_2} t_{B_{11}, J_{10}} t_{I_2}
\end{aligned}$$

$$+\frac{1}{4}\sum_I\sum_J\langle 0^A 0^A|\hat{g}|1^I 1^J\rangle\langle A_7|\hat{0}_\alpha^+\hat{0}_\beta^-|A_9\rangle\langle I_{13}|\hat{1}_\beta^+|I_0\rangle\langle J_{10}|\hat{1}_\alpha^-|J_0\rangle t_{A_7,I_{13}}t_{B_{11},J_{10}}$$

$$\begin{aligned} &\langle(A_9, B_{11})|\hat{H}|(A_8, B_{11}, I_{14}, J_9)\rangle = \\ &+\frac{1}{4}\sum_I\sum_J\langle 0^A 1^A|\hat{g}|0^I 0^J\rangle\langle A_8|\hat{1}_\alpha^+\hat{0}_\beta^-|A_9\rangle\langle I_{14}|\hat{0}_\beta^+|I_0\rangle\langle J_9|\hat{0}_\alpha^-|J_0\rangle t_{A_8,I_{14}}t_{B_{11},J_9} \end{aligned}$$

$$\begin{aligned} &\langle(A_9, B_{11})|\hat{H}|(A_8, B_{11}, I_{14}, J_{10})\rangle = \\ &+\frac{1}{4}\sum_I\sum_J\langle 0^A 1^A|\hat{g}|0^I 1^J\rangle\langle A_8|\hat{1}_\alpha^+\hat{0}_\beta^-|A_9\rangle\langle I_{14}|\hat{0}_\beta^+|I_0\rangle\langle J_{10}|\hat{1}_\alpha^-|J_0\rangle t_{A_8,I_{14}}t_{B_{11},J_{10}} \end{aligned}$$

$$\begin{aligned} &\langle(A_9, B_{11})|\hat{H}|(A_8, B_{11}, I_{13}, J_9)\rangle = \\ &+\frac{1}{4}\sum_I\sum_J\langle 0^A 1^A|\hat{g}|1^I 0^J\rangle\langle A_8|\hat{1}_\alpha^+\hat{0}_\beta^-|A_9\rangle\langle I_{13}|\hat{1}_\beta^+|I_0\rangle\langle J_9|\hat{0}_\alpha^-|J_0\rangle t_{A_8,I_{13}}t_{B_{11},J_9} \end{aligned}$$

$$\begin{aligned} &\langle(A_9, B_{11})|\hat{H}|(A_8, B_{11}, I_{13}, J_{10})\rangle = \\ &+\frac{1}{4}\sum_I\sum_J\langle 0^A 1^A|\hat{g}|1^I 1^J\rangle\langle A_8|\hat{1}_\alpha^+\hat{0}_\beta^-|A_9\rangle\langle I_{13}|\hat{1}_\beta^+|I_0\rangle\langle J_{10}|\hat{1}_\alpha^-|J_0\rangle t_{A_8,I_{13}}t_{B_{11},J_{10}} \end{aligned}$$

$$\begin{aligned} &\langle(A_9, B_{11})|\hat{H}|(A_{10}, B_{11}, I_7, J_{14})\rangle = \\ &+\frac{-1}{4}\sum_I\sum_J\langle 0^A 0^I|\hat{g}|1^A 0^J\rangle\langle A_{10}|\hat{1}_\beta^+\hat{0}_\beta^-|A_9\rangle\langle I_7|\hat{0}_\beta^-|I_0\rangle\langle J_{14}|\hat{0}_\beta^+|J_0\rangle t_{A_{10},B_{11}}t_{I_7,J_{14}} \\ &+\frac{1}{4}\sum_I\sum_J\langle 0^A 1^A|\hat{g}|0^J 0^I\rangle\langle A_{10}|\hat{1}_\beta^+\hat{0}_\beta^-|A_9\rangle\langle I_7|\hat{0}_\beta^-|I_0\rangle\langle J_{14}|\hat{0}_\beta^+|J_0\rangle t_{A_{10},B_{11}}t_{I_7,J_{14}} \end{aligned}$$

$$\begin{aligned} &\langle(A_9, B_{11})|\hat{H}|(A_{10}, B_{11}, I_8, J_{14})\rangle = \\ &+\frac{-1}{4}\sum_I\sum_J\langle 0^A 1^I|\hat{g}|1^A 0^J\rangle\langle A_{10}|\hat{1}_\beta^+\hat{0}_\beta^-|A_9\rangle\langle I_8|\hat{1}_\beta^-|I_0\rangle\langle J_{14}|\hat{0}_\beta^+|J_0\rangle t_{A_{10},B_{11}}t_{I_8,J_{14}} \\ &+\frac{1}{4}\sum_I\sum_J\langle 0^A 1^A|\hat{g}|0^J 1^I\rangle\langle A_{10}|\hat{1}_\beta^+\hat{0}_\beta^-|A_9\rangle\langle I_8|\hat{1}_\beta^-|I_0\rangle\langle J_{14}|\hat{0}_\beta^+|J_0\rangle t_{A_{10},B_{11}}t_{I_8,J_{14}} \end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_{10}, B_{11}, I_7, J_{13}) \rangle = \\
& + \frac{-1}{4} \sum_I \sum_J \langle 0^A 0^I | \hat{g} | 1^A 1^J \rangle \langle A_{10} | \hat{1}_\beta^+ \hat{0}_\beta^- | A_9 \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_{13} | \hat{1}_\beta^+ | J_0 \rangle t_{A_{10}, B_{11}} t_{I_7, J_{13}} \\
& + \frac{1}{4} \sum_I \sum_J \langle 0^A 1^A | \hat{g} | 1^J 0^I \rangle \langle A_{10} | \hat{1}_\beta^+ \hat{0}_\beta^- | A_9 \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_{13} | \hat{1}_\beta^+ | J_0 \rangle t_{A_{10}, B_{11}} t_{I_7, J_{13}}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_{10}, B_{11}, I_8, J_{13}) \rangle = \\
& + \frac{-1}{4} \sum_I \sum_J \langle 0^A 1^I | \hat{g} | 1^A 1^J \rangle \langle A_{10} | \hat{1}_\beta^+ \hat{0}_\beta^- | A_9 \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_{13} | \hat{1}_\beta^+ | J_0 \rangle t_{A_{10}, B_{11}} t_{I_8, J_{13}} \\
& + \frac{1}{4} \sum_I \sum_J \langle 0^A 1^A | \hat{g} | 1^J 1^I \rangle \langle A_{10} | \hat{1}_\beta^+ \hat{0}_\beta^- | A_9 \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_{13} | \hat{1}_\beta^+ | J_0 \rangle t_{A_{10}, B_{11}} t_{I_8, J_{13}}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_7, B_{11}, I_9, J_{14}) \rangle = \\
& + \frac{1}{4} \sum_I \sum_J \langle 0^A 0^A | \hat{g} | 0^I 0^J \rangle \langle A_7 | \hat{0}_\alpha^+ \hat{0}_\beta^- | A_9 \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle t_{A_7, J_{14}} t_{B_{11}, I_9}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_7, B_{11}, I_{10}, J_{14}) \rangle = \\
& + \frac{1}{4} \sum_I \sum_J \langle 0^A 0^A | \hat{g} | 1^I 0^J \rangle \langle A_7 | \hat{0}_\alpha^+ \hat{0}_\beta^- | A_9 \rangle \langle I_{10} | \hat{1}_\alpha^- | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle t_{A_7, J_{14}} t_{B_{11}, I_{10}}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_7, B_{11}, I_9, J_{13}) \rangle = \\
& + \frac{1}{4} \sum_I \sum_J \langle 0^A 0^A | \hat{g} | 0^I 1^J \rangle \langle A_7 | \hat{0}_\alpha^+ \hat{0}_\beta^- | A_9 \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_{13} | \hat{1}_\beta^+ | J_0 \rangle t_{A_7, J_{13}} t_{B_{11}, I_9}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_7, B_{11}, I_{10}, J_{13}) \rangle = \\
& + \frac{1}{4} \sum_I \sum_J \langle 0^A 0^A | \hat{g} | 1^I 1^J \rangle \langle A_7 | \hat{0}_\alpha^+ \hat{0}_\beta^- | A_9 \rangle \langle I_{10} | \hat{1}_\alpha^- | I_0 \rangle \langle J_{13} | \hat{1}_\beta^+ | J_0 \rangle t_{A_7, J_{13}} t_{B_{11}, I_{10}}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_8, B_{11}, I_9, J_{14}) \rangle = \\
& + \frac{1}{4} \sum_I \sum_J \langle 0^A 1^A | \hat{g} | 0^J 0^I \rangle \langle A_8 | \hat{1}_\alpha^+ \hat{0}_\beta^- | A_9 \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle t_{A_8, J_{14}} t_{B_{11}, I_9}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_8, B_{11}, I_{10}, J_{14}) \rangle = \\
& + \frac{1}{4} \sum_I \sum_J \langle 0^A 1^A | \hat{g} | 0^J 1^I \rangle \langle A_8 | \hat{1}_\alpha^+ \hat{0}_\beta^- | A_9 \rangle \langle I_{10} | \hat{1}_\alpha^- | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle t_{A_8, J_{14}} t_{B_{11}, I_{10}}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_8, B_{11}, I_9, J_{13}) \rangle = \\
& + \frac{1}{4} \sum_I \sum_J \langle 0^A 1^A | \hat{g} | 1^J 0^I \rangle \langle A_8 | \hat{1}_\alpha^+ \hat{0}_\beta^- | A_9 \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_{13} | \hat{1}_\beta^+ | J_0 \rangle t_{A_8, J_{13}} t_{B_{11}, I_9}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_8, B_{11}, I_{10}, J_{13}) \rangle = \\
& + \frac{1}{4} \sum_I \sum_J \langle 0^A 1^A | \hat{g} | 1^J 1^I \rangle \langle A_8 | \hat{1}_\alpha^+ \hat{0}_\beta^- | A_9 \rangle \langle I_{10} | \hat{1}_\alpha^- | I_0 \rangle \langle J_{13} | \hat{1}_\beta^+ | J_0 \rangle t_{A_8, J_{13}} t_{B_{11}, I_{10}}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (B_{11}, I_9, J_1) \rangle = \\
& + \frac{1}{4} \sum_I \sum_J \langle 0^A 0^J | \hat{g} | 0^I 0^J \rangle \langle A_0 | \hat{0}_\alpha^+ | A_9 \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_1 | \hat{0}_\alpha^+ \hat{0}_\alpha^- | J_0 \rangle t_{B_{11}, I_9} t_{J_1} \\
& + \frac{1}{4} \sum_I \sum_J \langle 0^A 0^J | \hat{g} | 0^I 0^J \rangle \langle A_0 | \hat{0}_\alpha^+ | A_9 \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_1 | \hat{0}_\beta^+ \hat{0}_\beta^- | J_0 \rangle t_{B_{11}, I_9} t_{J_1} \\
& + \frac{1}{4} \sum_I \sum_J \langle 0^A 1^J | \hat{g} | 0^I 1^J \rangle \langle A_0 | \hat{0}_\alpha^+ | A_9 \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_1 | \hat{1}_\alpha^+ \hat{1}_\alpha^- | J_0 \rangle t_{B_{11}, I_9} t_{J_1} \\
& + \frac{1}{4} \sum_I \sum_J \langle 0^A 1^J | \hat{g} | 0^I 1^J \rangle \langle A_0 | \hat{0}_\alpha^+ | A_9 \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_1 | \hat{1}_\beta^+ \hat{1}_\beta^- | J_0 \rangle t_{B_{11}, I_9} t_{J_1} \\
& + \frac{-1}{4} \sum_I \sum_J \langle 0^A 0^I | \hat{g} | 0^J 0^J \rangle \langle A_0 | \hat{0}_\alpha^+ | A_9 \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_1 | \hat{0}_\alpha^+ \hat{0}_\alpha^- | J_0 \rangle t_{B_{11}, I_9} t_{J_1} \\
& + \frac{-1}{4} \sum_I \sum_J \langle 0^A 0^I | \hat{g} | 1^J 1^J \rangle \langle A_0 | \hat{0}_\alpha^+ | A_9 \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_1 | \hat{1}_\alpha^+ \hat{1}_\alpha^- | J_0 \rangle t_{B_{11}, I_9} t_{J_1}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_1, B_{11}, I_9, J_1) \rangle = \\
& + \frac{1}{4} \sum_I \sum_J \langle 0^A 0^J | \hat{g} | 0^I 0^J \rangle \langle A_1 | \hat{0}_\alpha^+ | A_9 \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_1 | \hat{0}_\alpha^+ \hat{0}_\alpha^- | J_0 \rangle t_{A_1, J_1} t_{B_{11}, I_9} \\
& + \frac{1}{4} \sum_I \sum_J \langle 0^A 0^J | \hat{g} | 0^I 0^J \rangle \langle A_1 | \hat{0}_\alpha^+ | A_9 \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_1 | \hat{0}_\beta^+ \hat{0}_\beta^- | J_0 \rangle t_{A_1, J_1} t_{B_{11}, I_9} \\
& + \frac{1}{4} \sum_I \sum_J \langle 0^A 1^J | \hat{g} | 0^I 1^J \rangle \langle A_1 | \hat{0}_\alpha^+ | A_9 \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_1 | \hat{1}_\alpha^+ \hat{1}_\alpha^- | J_0 \rangle t_{A_1, J_1} t_{B_{11}, I_9} \\
& + \frac{1}{4} \sum_I \sum_J \langle 0^A 1^J | \hat{g} | 0^I 1^J \rangle \langle A_1 | \hat{0}_\alpha^+ | A_9 \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_1 | \hat{1}_\beta^+ \hat{1}_\beta^- | J_0 \rangle t_{A_1, J_1} t_{B_{11}, I_9} \\
& + \frac{-1}{4} \sum_I \sum_J \langle 0^A 0^I | \hat{g} | 0^J 0^J \rangle \langle A_1 | \hat{0}_\alpha^+ | A_9 \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_1 | \hat{0}_\alpha^+ \hat{0}_\alpha^- | J_0 \rangle t_{A_1, J_1} t_{B_{11}, I_9} \\
& + \frac{-1}{4} \sum_I \sum_J \langle 0^A 0^I | \hat{g} | 1^J 1^J \rangle \langle A_1 | \hat{0}_\alpha^+ | A_9 \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_1 | \hat{1}_\alpha^+ \hat{1}_\alpha^- | J_0 \rangle t_{A_1, J_1} t_{B_{11}, I_9}
\end{aligned}$$

$$\begin{aligned}
& +\frac{1}{4}\sum_I\sum_J\langle 0^A0^J|\hat{g}|1^I0^J\rangle\langle A_0|\hat{0}_\alpha^+|A_9\rangle\langle I_{10}|\hat{1}_\alpha^-|I_0\rangle\langle J_1|\hat{0}_\beta^+\hat{0}_\beta^-|J_0\rangle t_{B_{11},I_{10}}t_{J_1} \\
& +\frac{1}{4}\sum_I\sum_J\langle 0^A1^J|\hat{g}|1^I1^J\rangle\langle A_0|\hat{0}_\alpha^+|A_9\rangle\langle I_{10}|\hat{1}_\alpha^-|I_0\rangle\langle J_1|\hat{1}_\alpha^+\hat{1}_\alpha^-|J_0\rangle t_{B_{11},I_{10}}t_{J_1} \\
& +\frac{1}{4}\sum_I\sum_J\langle 0^A1^J|\hat{g}|1^I1^J\rangle\langle A_0|\hat{0}_\alpha^+|A_9\rangle\langle I_{10}|\hat{1}_\alpha^-|I_0\rangle\langle J_1|\hat{1}_\beta^+\hat{1}_\beta^-|J_0\rangle t_{B_{11},I_{10}}t_{J_1} \\
& +\frac{-1}{4}\sum_I\sum_J\langle 0^A1^I|\hat{g}|0^J0^J\rangle\langle A_0|\hat{0}_\alpha^+|A_9\rangle\langle I_{10}|\hat{1}_\alpha^-|I_0\rangle\langle J_1|\hat{0}_\alpha^+\hat{0}_\alpha^-|J_0\rangle t_{B_{11},I_{10}}t_{J_1} \\
& +\frac{-1}{4}\sum_I\sum_J\langle 0^A1^I|\hat{g}|1^J1^J\rangle\langle A_0|\hat{0}_\alpha^+|A_9\rangle\langle I_{10}|\hat{1}_\alpha^-|I_0\rangle\langle J_1|\hat{1}_\alpha^+\hat{1}_\alpha^-|J_0\rangle t_{B_{11},I_{10}}t_{J_1}
\end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (B_{11}, I_{10}, J_2) \rangle = \\ & + \frac{1}{4} \sum_I \sum_J \langle 0^A 0^J | \hat{g} | 1^I 1^J \rangle \langle A_0 | \hat{0}_\alpha^+ | A_9 \rangle \langle I_{10} | \hat{1}_\alpha^- | I_0 \rangle \langle J_2 | \hat{0}_\alpha^+ \hat{1}_\alpha^- | J_0 \rangle t_{B_{11}, I_{10}} t_{J_2} \\ & + \frac{1}{4} \sum_I \sum_J \langle 0^A 0^J | \hat{g} | 1^I 1^J \rangle \langle A_0 | \hat{0}_\alpha^+ | A_9 \rangle \langle I_{10} | \hat{1}_\alpha^- | I_0 \rangle \langle J_2 | \hat{0}_\beta^+ \hat{1}_\beta^- | J_0 \rangle t_{B_{11}, I_{10}} t_{J_2} \\ & + \frac{1}{4} \sum_I \sum_J \langle 0^A 0^J | \hat{g} | 1^I 1^J \rangle \langle A_0 | \hat{0}_\alpha^+ | A_9 \rangle \langle I_{10} | \hat{1}_\alpha^- | I_0 \rangle \langle J_2 | \hat{1}_\alpha^+ \hat{0}_\alpha^- | J_0 \rangle t_{B_{11}, I_{10}} t_{J_2} \\ & + \frac{1}{4} \sum_I \sum_J \langle 0^A 0^J | \hat{g} | 1^I 1^J \rangle \langle A_0 | \hat{0}_\alpha^+ | A_9 \rangle \langle I_{10} | \hat{1}_\alpha^- | I_0 \rangle \langle J_2 | \hat{1}_\beta^+ \hat{0}_\beta^- | J_0 \rangle t_{B_{11}, I_{10}} t_{J_2} \\ & + \frac{-1}{4} \sum_I \sum_J \langle 0^A 1^I | \hat{g} | 1^J 0^J \rangle \langle A_0 | \hat{0}_\alpha^+ | A_9 \rangle \langle I_{10} | \hat{1}_\alpha^- | I_0 \rangle \langle J_2 | \hat{0}_\alpha^+ \hat{1}_\alpha^- | J_0 \rangle t_{B_{11}, I_{10}} t_{J_2} \\ & + \frac{-1}{4} \sum_I \sum_J \langle 0^A 1^I | \hat{g} | 0^J 1^J \rangle \langle A_0 | \hat{0}_\alpha^+ | A_9 \rangle \langle I_{10} | \hat{1}_\alpha^- | I_0 \rangle \langle J_2 | \hat{1}_\alpha^+ \hat{0}_\alpha^- | J_0 \rangle t_{B_{11}, I_{10}} t_{J_2} \end{aligned}$$

$$\begin{aligned}
& +\frac{1}{4} \sum_I \sum_J \langle 1^A 0^J | \hat{g} | 0^I 0^J \rangle \langle A_3 | \hat{1}_\alpha^+ | A_9 \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_1 | \hat{0}_\beta^+ \hat{0}_\beta^- | J_0 \rangle t_{A_3, J_1} t_{B_{11}, I_9} \\
& +\frac{1}{4} \sum_I \sum_J \langle 1^A 1^J | \hat{g} | 0^I 1^J \rangle \langle A_3 | \hat{1}_\alpha^+ | A_9 \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_1 | \hat{1}_\alpha^+ \hat{1}_\alpha^- | J_0 \rangle t_{A_3, J_1} t_{B_{11}, I_9} \\
& +\frac{1}{4} \sum_I \sum_J \langle 1^A 1^J | \hat{g} | 0^I 1^J \rangle \langle A_3 | \hat{1}_\alpha^+ | A_9 \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_1 | \hat{1}_\beta^+ \hat{1}_\beta^- | J_0 \rangle t_{A_3, J_1} t_{B_{11}, I_9} \\
& +\frac{-1}{4} \sum_I \sum_J \langle 1^A 0^I | \hat{g} | 0^J 0^J \rangle \langle A_3 | \hat{1}_\alpha^+ | A_9 \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_1 | \hat{0}_\alpha^+ \hat{0}_\alpha^- | J_0 \rangle t_{A_3, J_1} t_{B_{11}, I_9} \\
& +\frac{-1}{4} \sum_I \sum_J \langle 1^A 0^I | \hat{g} | 1^J 1^J \rangle \langle A_3 | \hat{1}_\alpha^+ | A_9 \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_1 | \hat{1}_\alpha^+ \hat{1}_\alpha^- | J_0 \rangle t_{A_3, J_1} t_{B_{11}, I_9} \\
& +\frac{1}{4} \sum_I \sum_J \langle 1^A 0^J | \hat{g} | 0^I 0^J \rangle \langle A_3 | \hat{1}_\alpha^+ | A_9 \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_1 | \hat{0}_\alpha^+ \hat{0}_\alpha^- | J_0 \rangle t_{A_3} t_{B_{11}, I_9} t_{J_1} \\
& +\frac{1}{4} \sum_I \sum_J \langle 1^A 0^J | \hat{g} | 0^I 0^J \rangle \langle A_3 | \hat{1}_\alpha^+ | A_9 \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_1 | \hat{0}_\beta^+ \hat{0}_\beta^- | J_0 \rangle t_{A_3} t_{B_{11}, I_9} t_{J_1} \\
& +\frac{1}{4} \sum_I \sum_J \langle 1^A 1^J | \hat{g} | 0^I 1^J \rangle \langle A_3 | \hat{1}_\alpha^+ | A_9 \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_1 | \hat{1}_\alpha^+ \hat{1}_\alpha^- | J_0 \rangle t_{A_3} t_{B_{11}, I_9} t_{J_1} \\
& +\frac{1}{4} \sum_I \sum_J \langle 1^A 1^J | \hat{g} | 0^I 1^J \rangle \langle A_3 | \hat{1}_\alpha^+ | A_9 \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_1 | \hat{1}_\beta^+ \hat{1}_\beta^- | J_0 \rangle t_{A_3} t_{B_{11}, I_9} t_{J_1} \\
& +\frac{-1}{4} \sum_I \sum_J \langle 1^A 0^I | \hat{g} | 0^J 0^J \rangle \langle A_3 | \hat{1}_\alpha^+ | A_9 \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_1 | \hat{0}_\alpha^+ \hat{0}_\alpha^- | J_0 \rangle t_{A_3} t_{B_{11}, I_9} t_{J_1} \\
& +\frac{-1}{4} \sum_I \sum_J \langle 1^A 0^I | \hat{g} | 1^J 1^J \rangle \langle A_3 | \hat{1}_\alpha^+ | A_9 \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_1 | \hat{1}_\alpha^+ \hat{1}_\alpha^- | J_0 \rangle t_{A_3} t_{B_{11}, I_9} t_{J_1}
\end{aligned}$$

$$\langle (A_9, B_{11}) | \hat{H} | (A_2, B_{11}, I_9, J_3) \rangle =$$

$$+\frac{-1}{4}\sum_I\sum_J\langle 1^A 1^I|\hat{g}|0^J 1^J\rangle\langle A_3|\hat{1}_\alpha^+|A_9\rangle\langle I_{10}|\hat{1}_\alpha^-|I_0\rangle\langle J_2|\hat{1}_\alpha^+\hat{0}_\alpha^-|J_0\rangle t_{A_3}t_{B_{11},I_{10}}t_{J_2}$$

$$\langle(A_9, B_{11})|\hat{H}|(A_3, B_{11}, I_{10}, J_3)\rangle =$$

$$\begin{aligned} & +\frac{1}{4}\sum_I\sum_J\langle 1^A 0^J|\hat{g}|1^I 1^J\rangle\langle A_3|\hat{1}_\alpha^+|A_9\rangle\langle I_{10}|\hat{1}_\alpha^-|I_0\rangle\langle J_3|\hat{0}_\alpha^+\hat{1}_\alpha^-|J_0\rangle t_{A_3,J_3}t_{B_{11},I_{10}} \\ & +\frac{1}{4}\sum_I\sum_J\langle 1^A 0^J|\hat{g}|1^I 1^J\rangle\langle A_3|\hat{1}_\alpha^+|A_9\rangle\langle I_{10}|\hat{1}_\alpha^-|I_0\rangle\langle J_3|\hat{0}_\beta^+\hat{1}_\beta^-|J_0\rangle t_{A_3,J_3}t_{B_{11},I_{10}} \\ & +\frac{1}{4}\sum_I\sum_J\langle 1^A 0^J|\hat{g}|1^I 1^J\rangle\langle A_3|\hat{1}_\alpha^+|A_9\rangle\langle I_{10}|\hat{1}_\alpha^-|I_0\rangle\langle J_3|\hat{1}_\alpha^+\hat{0}_\alpha^-|J_0\rangle t_{A_3,J_3}t_{B_{11},I_{10}} \\ & +\frac{1}{4}\sum_I\sum_J\langle 1^A 0^J|\hat{g}|1^I 1^J\rangle\langle A_3|\hat{1}_\alpha^+|A_9\rangle\langle I_{10}|\hat{1}_\alpha^-|I_0\rangle\langle J_3|\hat{1}_\beta^+\hat{0}_\beta^-|J_0\rangle t_{A_3,J_3}t_{B_{11},I_{10}} \\ & +\frac{-1}{4}\sum_I\sum_J\langle 1^A 1^I|\hat{g}|1^J 0^J\rangle\langle A_3|\hat{1}_\alpha^+|A_9\rangle\langle I_{10}|\hat{1}_\alpha^-|I_0\rangle\langle J_3|\hat{0}_\alpha^+\hat{1}_\alpha^-|J_0\rangle t_{A_3,J_3}t_{B_{11},I_{10}} \\ & +\frac{-1}{4}\sum_I\sum_J\langle 1^A 1^I|\hat{g}|1^J 0^J\rangle\langle A_3|\hat{1}_\alpha^+|A_9\rangle\langle I_{10}|\hat{1}_\alpha^-|I_0\rangle\langle J_3|\hat{1}_\alpha^+\hat{0}_\alpha^-|J_0\rangle t_{A_3,J_3}t_{B_{11},I_{10}} \\ & +\frac{1}{4}\sum_I\sum_J\langle 1^A 0^J|\hat{g}|1^I 1^J\rangle\langle A_3|\hat{1}_\alpha^+|A_9\rangle\langle I_{10}|\hat{1}_\alpha^-|I_0\rangle\langle J_3|\hat{0}_\alpha^+\hat{1}_\alpha^-|J_0\rangle t_{A_3}t_{B_{11},I_{10}}t_{J_3} \\ & +\frac{1}{4}\sum_I\sum_J\langle 1^A 0^J|\hat{g}|1^I 1^J\rangle\langle A_3|\hat{1}_\alpha^+|A_9\rangle\langle I_{10}|\hat{1}_\alpha^-|I_0\rangle\langle J_3|\hat{0}_\beta^+\hat{1}_\beta^-|J_0\rangle t_{A_3}t_{B_{11},I_{10}}t_{J_3} \\ & +\frac{1}{4}\sum_I\sum_J\langle 1^A 0^J|\hat{g}|1^I 1^J\rangle\langle A_3|\hat{1}_\alpha^+|A_9\rangle\langle I_{10}|\hat{1}_\alpha^-|I_0\rangle\langle J_3|\hat{1}_\alpha^+\hat{0}_\alpha^-|J_0\rangle t_{A_3}t_{B_{11},I_{10}}t_{J_3} \\ & +\frac{1}{4}\sum_I\sum_J\langle 1^A 0^J|\hat{g}|1^I 1^J\rangle\langle A_3|\hat{1}_\alpha^+|A_9\rangle\langle I_{10}|\hat{1}_\alpha^-|I_0\rangle\langle J_3|\hat{1}_\beta^+\hat{0}_\beta^-|J_0\rangle t_{A_3}t_{B_{11},I_{10}}t_{J_3} \\ & +\frac{-1}{4}\sum_I\sum_J\langle 1^A 1^I|\hat{g}|1^J 0^J\rangle\langle A_3|\hat{1}_\alpha^+|A_9\rangle\langle I_{10}|\hat{1}_\alpha^-|I_0\rangle\langle J_3|\hat{0}_\alpha^+\hat{1}_\alpha^-|J_0\rangle t_{A_3}t_{B_{11},I_{10}}t_{J_3} \\ & +\frac{-1}{4}\sum_I\sum_J\langle 1^A 1^I|\hat{g}|1^J 0^J\rangle\langle A_3|\hat{1}_\alpha^+|A_9\rangle\langle I_{10}|\hat{1}_\alpha^-|I_0\rangle\langle J_3|\hat{1}_\alpha^+\hat{0}_\alpha^-|J_0\rangle t_{A_3}t_{B_{11},I_{10}}t_{J_3} \end{aligned}$$

$$\langle(A_9, B_{11})|\hat{H}|(A_{10}, B_{11}, I_{12}, J_9)\rangle =$$

$$\begin{aligned} & +\frac{1}{4}\sum_I\sum_J\langle 0^A 0^I|\hat{g}|1^A 0^J\rangle\langle A_{10}|\hat{1}_\beta^+\hat{0}_\beta^-|A_9\rangle\langle I_{12}|\hat{0}_\alpha^+|I_0\rangle\langle J_9|\hat{0}_\alpha^-|J_0\rangle t_{A_{10},B_{11}}t_{I_{12},J_9} \\ & +\frac{-1}{4}\sum_I\sum_J\langle 0^A 0^I|\hat{g}|1^A 0^J\rangle\langle A_{10}|\hat{1}_\beta^+\hat{0}_\beta^-|A_9\rangle\langle I_{12}|\hat{0}_\alpha^+|I_0\rangle\langle J_9|\hat{0}_\alpha^-|J_0\rangle t_{A_{10},I_{12}}t_{B_{11},J_9} \end{aligned}$$

$$\langle(A_9, B_{11})|\hat{H}|(A_{10}, B_{11}, I_{12}, J_{10})\rangle =$$

$$\begin{aligned} & +\frac{1}{4}\sum_I\sum_J\langle 0^A 0^I|\hat{g}|1^A 1^J\rangle\langle A_{10}|\hat{1}_\beta^+\hat{0}_\beta^-|A_9\rangle\langle I_{12}|\hat{0}_\alpha^+|I_0\rangle\langle J_{10}|\hat{1}_\alpha^-|J_0\rangle t_{A_{10},B_{11}}t_{I_{12},J_{10}} \\ & +\frac{-1}{4}\sum_I\sum_J\langle 0^A 0^I|\hat{g}|1^A 1^J\rangle\langle A_{10}|\hat{1}_\beta^+\hat{0}_\beta^-|A_9\rangle\langle I_{12}|\hat{0}_\alpha^+|I_0\rangle\langle J_{10}|\hat{1}_\alpha^-|J_0\rangle t_{A_{10},I_{12}}t_{B_{11},J_{10}} \end{aligned}$$

$$\langle(A_9, B_{11})|\hat{H}|(A_{10}, B_{11}, I_{11}, J_9)\rangle =$$

$$\begin{aligned}
& + \frac{1}{4} \sum_I \sum_J \langle 0^A 1^I | \hat{g} | 1^A 0^J \rangle \langle A_{10} | \hat{1}_\beta^+ \hat{0}_\beta^- | A_9 \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle t_{A_{10}, B_{11}} t_{I_{11}, J_9} \\
& + \frac{-1}{4} \sum_I \sum_J \langle 0^A 1^I | \hat{g} | 1^A 0^J \rangle \langle A_{10} | \hat{1}_\beta^+ \hat{0}_\beta^- | A_9 \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle t_{A_{10}, I_{11}} t_{B_{11}, J_9}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_{10}, B_{11}, I_{11}, J_{10}) \rangle = \\
& + \frac{1}{4} \sum_I \sum_J \langle 0^A 1^I | \hat{g} | 1^A 1^J \rangle \langle A_{10} | \hat{1}_\beta^+ \hat{0}_\beta^- | A_9 \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle t_{A_{10}, B_{11}} t_{I_{11}, J_{10}} \\
& + \frac{-1}{4} \sum_I \sum_J \langle 0^A 1^I | \hat{g} | 1^A 1^J \rangle \langle A_{10} | \hat{1}_\beta^+ \hat{0}_\beta^- | A_9 \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle t_{A_{10}, I_{11}} t_{B_{11}, J_{10}}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_5, B_{11}, I_4, J_9) \rangle = \\
& + \frac{-1}{4} \sum_I \sum_J \langle 1^A 0^I | \hat{g} | 1^I 0^J \rangle \langle A_5 | \hat{1}_\beta^+ | A_9 \rangle \langle I_4 | \hat{0}_\alpha^+ \hat{1}_\beta^- | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle t_{A_5, I_4} t_{B_{11}, J_9} \\
& + \frac{-1}{4} \sum_I \sum_J \langle 1^A 1^I | \hat{g} | 0^I 0^J \rangle \langle A_5 | \hat{1}_\beta^+ | A_9 \rangle \langle I_4 | \hat{1}_\alpha^+ \hat{0}_\beta^- | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle t_{A_5, I_4} t_{B_{11}, J_9}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_5, B_{11}, I_4, J_{10}) \rangle = \\
& + \frac{-1}{4} \sum_I \sum_J \langle 1^A 0^I | \hat{g} | 1^I 1^J \rangle \langle A_5 | \hat{1}_\beta^+ | A_9 \rangle \langle I_4 | \hat{0}_\alpha^+ \hat{1}_\beta^- | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle t_{A_5, I_4} t_{B_{11}, J_{10}} \\
& + \frac{-1}{4} \sum_I \sum_J \langle 1^A 1^I | \hat{g} | 0^I 1^J \rangle \langle A_5 | \hat{1}_\beta^+ | A_9 \rangle \langle I_4 | \hat{1}_\alpha^+ \hat{0}_\beta^- | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle t_{A_5, I_4} t_{B_{11}, J_{10}}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_6, B_{11}, I_{15}, J_9) \rangle = \\
& + \frac{1}{4} \sum_I \sum_J \langle 0^A 0^I | \hat{g} | 0^I 0^J \rangle \langle A_6 | \hat{0}_\beta^- | A_9 \rangle \langle I_{15} | \hat{0}_\alpha^+ \hat{0}_\beta^+ | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle t_{A_6, I_{15}} t_{B_{11}, J_9} \\
& + \frac{1}{4} \sum_I \sum_J \langle 0^A 1^I | \hat{g} | 1^I 0^J \rangle \langle A_6 | \hat{0}_\beta^- | A_9 \rangle \langle I_{15} | \hat{1}_\alpha^+ \hat{1}_\beta^+ | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle t_{A_6, I_{15}} t_{B_{11}, J_9}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_6, B_{11}, I_{15}, J_{10}) \rangle = \\
& + \frac{1}{4} \sum_I \sum_J \langle 0^A 0^I | \hat{g} | 0^I 1^J \rangle \langle A_6 | \hat{0}_\beta^- | A_9 \rangle \langle I_{15} | \hat{0}_\alpha^+ \hat{0}_\beta^+ | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle t_{A_6, I_{15}} t_{B_{11}, J_{10}} \\
& + \frac{1}{4} \sum_I \sum_J \langle 0^A 1^I | \hat{g} | 1^I 1^J \rangle \langle A_6 | \hat{0}_\beta^- | A_9 \rangle \langle I_{15} | \hat{1}_\alpha^+ \hat{1}_\beta^+ | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle t_{A_6, I_{15}} t_{B_{11}, J_{10}}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_{10}, B_{11}, I_9, J_{12}) \rangle = \\
& + \frac{-1}{4} \sum_I \sum_J \langle 0^A 0^I | \hat{g} | 1^A 0^J \rangle \langle A_{10} | \hat{1}_\beta^+ \hat{0}_\beta^- | A_9 \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle t_{A_{10}, B_{11}} t_{I_9, J_{12}} \\
& + \frac{-1}{4} \sum_I \sum_J \langle 0^A 0^I | \hat{g} | 1^A 0^J \rangle \langle A_{10} | \hat{1}_\beta^+ \hat{0}_\beta^- | A_9 \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle t_{A_{10}, J_{12}} t_{B_{11}, I_9}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_{10}, B_{11}, I_{10}, J_{12}) \rangle = \\
& + \frac{-1}{4} \sum_I \sum_J \langle 0^A 1^I | \hat{g} | 1^A 0^J \rangle \langle A_{10} | \hat{1}_\beta^+ \hat{0}_\beta^- | A_9 \rangle \langle I_{10} | \hat{1}_\alpha^- | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle t_{A_{10}, B_{11}} t_{I_{10}, J_{12}} \\
& + \frac{-1}{4} \sum_I \sum_J \langle 0^A 1^I | \hat{g} | 1^A 0^J \rangle \langle A_{10} | \hat{1}_\beta^+ \hat{0}_\beta^- | A_9 \rangle \langle I_{10} | \hat{1}_\alpha^- | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle t_{A_{10}, J_{12}} t_{B_{11}, I_{10}}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_{10}, B_{11}, I_9, J_{11}) \rangle = \\
& + \frac{-1}{4} \sum_I \sum_J \langle 0^A 0^I | \hat{g} | 1^A 1^J \rangle \langle A_{10} | \hat{1}_\beta^+ \hat{0}_\beta^- | A_9 \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle t_{A_{10}, B_{11}} t_{I_9, J_{11}} \\
& + \frac{-1}{4} \sum_I \sum_J \langle 0^A 0^I | \hat{g} | 1^A 1^J \rangle \langle A_{10} | \hat{1}_\beta^+ \hat{0}_\beta^- | A_9 \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle t_{A_{10}, J_{11}} t_{B_{11}, I_9}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_{10}, B_{11}, I_{10}, J_{11}) \rangle = \\
& + \frac{-1}{4} \sum_I \sum_J \langle 0^A 1^I | \hat{g} | 1^A 1^J \rangle \langle A_{10} | \hat{1}_\beta^+ \hat{0}_\beta^- | A_9 \rangle \langle I_{10} | \hat{1}_\alpha^- | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle t_{A_{10}, B_{11}} t_{I_{10}, J_{11}} \\
& + \frac{-1}{4} \sum_I \sum_J \langle 0^A 1^I | \hat{g} | 1^A 1^J \rangle \langle A_{10} | \hat{1}_\beta^+ \hat{0}_\beta^- | A_9 \rangle \langle I_{10} | \hat{1}_\alpha^- | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle t_{A_{10}, J_{11}} t_{B_{11}, I_{10}}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_5, B_{11}, I_9, J_4) \rangle = \\
& + \frac{-1}{4} \sum_I \sum_J \langle 1^A 0^I | \hat{g} | 1^J 0^J \rangle \langle A_5 | \hat{1}_\beta^+ | A_9 \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_4 | \hat{0}_\alpha^+ \hat{1}_\beta^- | J_0 \rangle t_{A_5, J_4} t_{B_{11}, I_9} \\
& + \frac{-1}{4} \sum_I \sum_J \langle 1^A 0^I | \hat{g} | 0^J 1^J \rangle \langle A_5 | \hat{1}_\beta^+ | A_9 \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_4 | \hat{1}_\alpha^+ \hat{0}_\beta^- | J_0 \rangle t_{A_5, J_4} t_{B_{11}, I_9}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_5, B_{11}, I_{10}, J_4) \rangle = \\
& + \frac{-1}{4} \sum_I \sum_J \langle 1^A 1^I | \hat{g} | 1^J 0^J \rangle \langle A_5 | \hat{1}_\beta^+ | A_9 \rangle \langle I_{10} | \hat{1}_\alpha^- | I_0 \rangle \langle J_4 | \hat{0}_\alpha^+ \hat{1}_\beta^- | J_0 \rangle t_{A_5, J_4} t_{B_{11}, I_{10}} \\
& + \frac{-1}{4} \sum_I \sum_J \langle 1^A 1^I | \hat{g} | 0^J 1^J \rangle \langle A_5 | \hat{1}_\beta^+ | A_9 \rangle \langle I_{10} | \hat{1}_\alpha^- | I_0 \rangle \langle J_4 | \hat{1}_\alpha^+ \hat{0}_\beta^- | J_0 \rangle t_{A_5, J_4} t_{B_{11}, I_{10}}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_6, B_{11}, I_9, J_{15}) \rangle = \\
& + \frac{1}{4} \sum_I \sum_J \langle 0^A 0^I | \hat{g} | 0^J 0^J \rangle \langle A_6 | \hat{0}_\beta^- | A_9 \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_{15} | \hat{0}_\alpha^+ \hat{0}_\beta^+ | J_0 \rangle t_{A_6, J_{15}} t_{B_{11}, I_9} \\
& + \frac{1}{4} \sum_I \sum_J \langle 0^A 0^I | \hat{g} | 1^J 1^J \rangle \langle A_6 | \hat{0}_\beta^- | A_9 \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_{15} | \hat{1}_\alpha^+ \hat{1}_\beta^+ | J_0 \rangle t_{A_6, J_{15}} t_{B_{11}, I_9}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_6, B_{11}, I_{10}, J_{15}) \rangle = \\
& + \frac{1}{4} \sum_I \sum_J \langle 0^A 1^I | \hat{g} | 0^J 0^J \rangle \langle A_6 | \hat{0}_\beta^- | A_9 \rangle \langle I_{10} | \hat{1}_\alpha^- | I_0 \rangle \langle J_{15} | \hat{0}_\alpha^+ \hat{0}_\beta^+ | J_0 \rangle t_{A_6, J_{15}} t_{B_{11}, I_{10}} \\
& + \frac{1}{4} \sum_I \sum_J \langle 0^A 1^I | \hat{g} | 1^J 1^J \rangle \langle A_6 | \hat{0}_\beta^- | A_9 \rangle \langle I_{10} | \hat{1}_\alpha^- | I_0 \rangle \langle J_{15} | \hat{1}_\alpha^+ \hat{1}_\beta^+ | J_0 \rangle t_{A_6, J_{15}} t_{B_{11}, I_{10}}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{12}, I_{14}, J_7) \rangle = \\
& + \frac{1}{4} \sum_I \sum_J \langle 0^B 0^I | \hat{g} | 1^B 0^J \rangle \langle B_{12} | \hat{1}_\beta^+ \hat{0}_\beta^- | B_{11} \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle t_{A_9, B_{12}} t_{I_{14}, J_7} \\
& + \frac{-1}{4} \sum_I \sum_J \langle 0^B 1^B | \hat{g} | 0^I 0^J \rangle \langle B_{12} | \hat{1}_\beta^+ \hat{0}_\beta^- | B_{11} \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle t_{A_9, B_{12}} t_{I_{14}, J_7}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{12}, I_{14}, J_8) \rangle = \\
& + \frac{1}{4} \sum_I \sum_J \langle 0^B 0^I | \hat{g} | 1^B 1^J \rangle \langle B_{12} | \hat{1}_\beta^+ \hat{0}_\beta^- | B_{11} \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle t_{A_9, B_{12}} t_{I_{14}, J_8} \\
& + \frac{-1}{4} \sum_I \sum_J \langle 0^B 1^B | \hat{g} | 0^I 1^J \rangle \langle B_{12} | \hat{1}_\beta^+ \hat{0}_\beta^- | B_{11} \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle t_{A_9, B_{12}} t_{I_{14}, J_8}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{12}, I_{13}, J_7) \rangle = \\
& + \frac{1}{4} \sum_I \sum_J \langle 0^B 1^I | \hat{g} | 1^B 0^J \rangle \langle B_{12} | \hat{1}_\beta^+ \hat{0}_\beta^- | B_{11} \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle t_{A_9, B_{12}} t_{I_{13}, J_7} \\
& + \frac{-1}{4} \sum_I \sum_J \langle 0^B 1^B | \hat{g} | 1^I 0^J \rangle \langle B_{12} | \hat{1}_\beta^+ \hat{0}_\beta^- | B_{11} \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle t_{A_9, B_{12}} t_{I_{13}, J_7}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{12}, I_{13}, J_8) \rangle = \\
& + \frac{1}{4} \sum_I \sum_J \langle 0^B 1^I | \hat{g} | 1^B 1^J \rangle \langle B_{12} | \hat{1}_\beta^+ \hat{0}_\beta^- | B_{11} \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle t_{A_9, B_{12}} t_{I_{13}, J_8} \\
& + \frac{-1}{4} \sum_I \sum_J \langle 0^B 1^B | \hat{g} | 1^I 1^J \rangle \langle B_{12} | \hat{1}_\beta^+ \hat{0}_\beta^- | B_{11} \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle t_{A_9, B_{12}} t_{I_{13}, J_8}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{12}, I_7, J_{14}) \rangle = \\
& + \frac{-1}{4} \sum_I \sum_J \langle 0^B 0^I | \hat{g} | 1^B 0^J \rangle \langle B_{12} | \hat{1}_\beta^+ \hat{0}_\beta^- | B_{11} \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle t_{A_9, B_{12}} t_{I_7, J_{14}} \\
& + \frac{1}{4} \sum_I \sum_J \langle 0^B 1^B | \hat{g} | 0^J 0^I \rangle \langle B_{12} | \hat{1}_\beta^+ \hat{0}_\beta^- | B_{11} \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle t_{A_9, B_{12}} t_{I_7, J_{14}}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{12}, I_8, J_{14}) \rangle = \\
& + \frac{-1}{4} \sum_I \sum_J \langle 0^B 1^I | \hat{g} | 1^B 0^J \rangle \langle B_{12} | \hat{1}_\beta^+ \hat{0}_\beta^- | B_{11} \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle t_{A_9, B_{12}} t_{I_8, J_{14}} \\
& + \frac{1}{4} \sum_I \sum_J \langle 0^B 1^B | \hat{g} | 0^J 1^I \rangle \langle B_{12} | \hat{1}_\beta^+ \hat{0}_\beta^- | B_{11} \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle t_{A_9, B_{12}} t_{I_8, J_{14}}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{12}, I_7, J_{13}) \rangle = \\
& + \frac{-1}{4} \sum_I \sum_J \langle 0^B 0^I | \hat{g} | 1^B 1^J \rangle \langle B_{12} | \hat{1}_\beta^+ \hat{0}_\beta^- | B_{11} \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_{13} | \hat{1}_\beta^+ | J_0 \rangle t_{A_9, B_{12}} t_{I_7, J_{13}} \\
& + \frac{1}{4} \sum_I \sum_J \langle 0^B 1^B | \hat{g} | 1^J 0^I \rangle \langle B_{12} | \hat{1}_\beta^+ \hat{0}_\beta^- | B_{11} \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_{13} | \hat{1}_\beta^+ | J_0 \rangle t_{A_9, B_{12}} t_{I_7, J_{13}}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{12}, I_8, J_{13}) \rangle = \\
& + \frac{-1}{4} \sum_I \sum_J \langle 0^B 1^I | \hat{g} | 1^B 1^J \rangle \langle B_{12} | \hat{1}_\beta^+ \hat{0}_\beta^- | B_{11} \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_{13} | \hat{1}_\beta^+ | J_0 \rangle t_{A_9, B_{12}} t_{I_8, J_{13}} \\
& + \frac{1}{4} \sum_I \sum_J \langle 0^B 1^B | \hat{g} | 1^J 1^I \rangle \langle B_{12} | \hat{1}_\beta^+ \hat{0}_\beta^- | B_{11} \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_{13} | \hat{1}_\beta^+ | J_0 \rangle t_{A_9, B_{12}} t_{I_8, J_{13}}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{14}, I_{12}, J_7) \rangle = \\
& + \frac{1}{4} \sum_I \sum_J \langle 0^B 1^B | \hat{g} | 0^I 0^J \rangle \langle B_{14} | \hat{1}_\beta^+ \hat{0}_\alpha^- | B_{11} \rangle \langle I_{12} | \hat{0}_\alpha^+ | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle t_{A_9, I_{12}} t_{B_{14}, J_7}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{14}, I_{12}, J_8) \rangle = \\
& + \frac{1}{4} \sum_I \sum_J \langle 0^B 1^B | \hat{g} | 0^I 1^J \rangle \langle B_{14} | \hat{1}_\beta^+ \hat{0}_\alpha^- | B_{11} \rangle \langle I_{12} | \hat{0}_\alpha^+ | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle t_{A_9, I_{12}} t_{B_{14}, J_8}
\end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{13}, I_{12}, J_7) \rangle = \\ & + \frac{1}{4} \sum_I \sum_J \langle 1^B 1^B | \hat{g} | 0^I 0^J \rangle \langle B_{13} | \hat{1}_\beta^+ \hat{1}_\alpha^- | B_{11} \rangle \langle I_{12} | \hat{0}_\alpha^+ | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle t_{A_9, I_{12}} t_{B_{13}, J_7} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{13}, I_{12}, J_8) \rangle = \\ & + \frac{1}{4} \sum_I \sum_J \langle 1^B 1^B | \hat{g} | 0^I 1^J \rangle \langle B_{13} | \hat{1}_\beta^+ \hat{1}_\alpha^- | B_{11} \rangle \langle I_{12} | \hat{0}_\alpha^+ | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle t_{A_9, I_{12}} t_{B_{13}, J_8} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{14}, I_{11}, J_7) \rangle = \\ & + \frac{1}{4} \sum_I \sum_J \langle 0^B 1^B | \hat{g} | 1^I 0^J \rangle \langle B_{14} | \hat{1}_\beta^+ \hat{0}_\alpha^- | B_{11} \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle t_{A_9, I_{11}} t_{B_{14}, J_7} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{14}, I_{11}, J_8) \rangle = \\ & + \frac{1}{4} \sum_I \sum_J \langle 0^B 1^B | \hat{g} | 1^I 1^J \rangle \langle B_{14} | \hat{1}_\beta^+ \hat{0}_\alpha^- | B_{11} \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle t_{A_9, I_{11}} t_{B_{14}, J_8} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{13}, I_{11}, J_7) \rangle = \\ & + \frac{1}{4} \sum_I \sum_J \langle 1^B 1^B | \hat{g} | 1^I 0^J \rangle \langle B_{13} | \hat{1}_\beta^+ \hat{1}_\alpha^- | B_{11} \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle t_{A_9, I_{11}} t_{B_{13}, J_7} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{13}, I_{11}, J_8) \rangle = \\ & + \frac{1}{4} \sum_I \sum_J \langle 1^B 1^B | \hat{g} | 1^I 1^J \rangle \langle B_{13} | \hat{1}_\beta^+ \hat{1}_\alpha^- | B_{11} \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle t_{A_9, I_{11}} t_{B_{13}, J_8} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{12}, I_{12}, J_9) \rangle = \\ & + \frac{1}{4} \sum_I \sum_J \langle 0^B 0^I | \hat{g} | 1^B 0^J \rangle \langle B_{12} | \hat{1}_\beta^+ \hat{0}_\beta^- | B_{11} \rangle \langle I_{12} | \hat{0}_\alpha^+ | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle t_{A_9, B_{12}} t_{I_{12}, J_9} \\ & + \frac{-1}{4} \sum_I \sum_J \langle 0^B 0^I | \hat{g} | 1^B 0^J \rangle \langle B_{12} | \hat{1}_\beta^+ \hat{0}_\beta^- | B_{11} \rangle \langle I_{12} | \hat{0}_\alpha^+ | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle t_{A_9, I_{12}} t_{B_{12}, J_9} \end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{12}, I_{12}, J_{10}) \rangle = \\
& + \frac{1}{4} \sum_I \sum_J \langle 0^B 0^I | \hat{g} | 1^B 1^J \rangle \langle B_{12} | \hat{1}_\beta^+ \hat{0}_\beta^- | B_{11} \rangle \langle I_{12} | \hat{0}_\alpha^+ | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle t_{A_9, B_{12}} t_{I_{12}, J_{10}} \\
& + \frac{-1}{4} \sum_I \sum_J \langle 0^B 0^I | \hat{g} | 1^B 1^J \rangle \langle B_{12} | \hat{1}_\beta^+ \hat{0}_\beta^- | B_{11} \rangle \langle I_{12} | \hat{0}_\alpha^+ | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle t_{A_9, I_{12}} t_{B_{12}, J_{10}}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{12}, I_{11}, J_9) \rangle = \\
& + \frac{1}{4} \sum_I \sum_J \langle 0^B 1^I | \hat{g} | 1^B 0^J \rangle \langle B_{12} | \hat{1}_\beta^+ \hat{0}_\beta^- | B_{11} \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle t_{A_9, B_{12}} t_{I_{11}, J_9} \\
& + \frac{-1}{4} \sum_I \sum_J \langle 0^B 1^I | \hat{g} | 1^B 0^J \rangle \langle B_{12} | \hat{1}_\beta^+ \hat{0}_\beta^- | B_{11} \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle t_{A_9, I_{11}} t_{B_{12}, J_9}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{12}, I_{11}, J_{10}) \rangle = \\
& + \frac{1}{4} \sum_I \sum_J \langle 0^B 1^I | \hat{g} | 1^B 1^J \rangle \langle B_{12} | \hat{1}_\beta^+ \hat{0}_\beta^- | B_{11} \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle t_{A_9, B_{12}} t_{I_{11}, J_{10}} \\
& + \frac{-1}{4} \sum_I \sum_J \langle 0^B 1^I | \hat{g} | 1^B 1^J \rangle \langle B_{12} | \hat{1}_\beta^+ \hat{0}_\beta^- | B_{11} \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle t_{A_9, I_{11}} t_{B_{12}, J_{10}}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{15}, I_{12}, J_6) \rangle = \\
& + \frac{1}{4} \sum_I \sum_J \langle 1^B 0^I | \hat{g} | 0^J 0^J \rangle \langle B_{15} | \hat{1}_\beta^+ | B_{11} \rangle \langle I_{12} | \hat{0}_\alpha^+ | I_0 \rangle \langle J_6 | \hat{0}_\beta^- \hat{0}_\alpha^- | J_0 \rangle t_{A_9, I_{12}} t_{B_{15}, J_6} \\
& + \frac{1}{4} \sum_I \sum_J \langle 1^B 0^I | \hat{g} | 1^J 1^J \rangle \langle B_{15} | \hat{1}_\beta^+ | B_{11} \rangle \langle I_{12} | \hat{0}_\alpha^+ | I_0 \rangle \langle J_6 | \hat{1}_\beta^- \hat{1}_\alpha^- | J_0 \rangle t_{A_9, I_{12}} t_{B_{15}, J_6}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{15}, I_{11}, J_6) \rangle = \\
& + \frac{1}{4} \sum_I \sum_J \langle 1^B 1^I | \hat{g} | 0^J 0^J \rangle \langle B_{15} | \hat{1}_\beta^+ | B_{11} \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_6 | \hat{0}_\beta^- \hat{0}_\alpha^- | J_0 \rangle t_{A_9, I_{11}} t_{B_{15}, J_6} \\
& + \frac{1}{4} \sum_I \sum_J \langle 1^B 1^I | \hat{g} | 1^J 1^J \rangle \langle B_{15} | \hat{1}_\beta^+ | B_{11} \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_6 | \hat{1}_\beta^- \hat{1}_\alpha^- | J_0 \rangle t_{A_9, I_{11}} t_{B_{15}, J_6}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_9, B_8, I_{12}, J_{14}) \rangle = \\
& + \frac{-1}{4} \sum_I \sum_J \langle 0^B 0^B | \hat{g} | 0^I 0^J \rangle \langle B_8 | \hat{0}_\beta^- \hat{0}_\alpha^- | B_{11} \rangle \langle I_{12} | \hat{0}_\alpha^+ | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle t_{A_9, I_{12}} t_{B_8, J_{14}}
\end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_7, I_{12}, J_{13}) \rangle = \\ & + \frac{-1}{4} \sum_I \sum_J \langle 0^B 1^B | \hat{g} | 1^J 0^I \rangle \langle B_7 | \hat{0}_\beta^- \hat{1}_\alpha^- | B_{11} \rangle \langle I_{12} | \hat{0}_\alpha^+ | I_0 \rangle \langle J_{13} | \hat{1}_\beta^+ | J_0 \rangle t_{A_9, I_{12}} t_{B_7, J_{13}} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_8, I_{11}, J_{14}) \rangle = \\ & + \frac{-1}{4} \sum_I \sum_J \langle 0^B 0^B | \hat{g} | 1^I 0^J \rangle \langle B_8 | \hat{0}_\beta^- \hat{0}_\alpha^- | B_{11} \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle t_{A_9, I_{11}} t_{B_8, J_{14}} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_9, I_{11}, J_{12}) \rangle = \\ & + \frac{-1}{8} \sum_I \sum_J \langle 0^B 1^B | \hat{g} | 1^I 0^J \rangle \langle B_9 | \hat{1}_\alpha^- \hat{0}_\alpha^- | B_{11} \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle t_{A_9, I_{11}} t_{B_9, J_{12}} \\ & + \frac{-1}{8} \sum_I \sum_J \langle 0^B 1^B | \hat{g} | 0^J 1^I \rangle \langle B_9 | \hat{0}_\alpha^- \hat{1}_\alpha^- | B_{11} \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle t_{A_9, I_{11}} t_{B_9, J_{12}} \\ & + \frac{1}{8} \sum_I \sum_J \langle 0^B 1^B | \hat{g} | 0^J 1^I \rangle \langle B_9 | \hat{1}_\alpha^- \hat{0}_\alpha^- | B_{11} \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle t_{A_9, I_{11}} t_{B_9, J_{12}} \\ & + \frac{1}{8} \sum_I \sum_J \langle 0^B 1^B | \hat{g} | 1^I 0^J \rangle \langle B_9 | \hat{0}_\alpha^- \hat{1}_\alpha^- | B_{11} \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle t_{A_9, I_{11}} t_{B_9, J_{12}} \\ & + \frac{1}{8} \sum_I \sum_J \langle 0^B 1^B | \hat{g} | 1^I 0^J \rangle \langle B_9 | \hat{1}_\alpha^- \hat{0}_\alpha^- | B_{11} \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle t_{A_9, J_{12}} t_{B_9, I_{11}} \\ & + \frac{1}{8} \sum_I \sum_J \langle 0^B 1^B | \hat{g} | 0^J 1^I \rangle \langle B_9 | \hat{0}_\alpha^- \hat{1}_\alpha^- | B_{11} \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle t_{A_9, J_{12}} t_{B_9, I_{11}} \\ & + \frac{-1}{8} \sum_I \sum_J \langle 0^B 1^B | \hat{g} | 0^J 1^I \rangle \langle B_9 | \hat{1}_\alpha^- \hat{0}_\alpha^- | B_{11} \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle t_{A_9, J_{12}} t_{B_9, I_{11}} \\ & + \frac{-1}{8} \sum_I \sum_J \langle 0^B 1^B | \hat{g} | 1^I 0^J \rangle \langle B_9 | \hat{0}_\alpha^- \hat{1}_\alpha^- | B_{11} \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle t_{A_9, J_{12}} t_{B_9, I_{11}} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_7, I_{11}, J_{14}) \rangle = \\ & + \frac{-1}{4} \sum_I \sum_J \langle 0^B 1^B | \hat{g} | 0^J 1^I \rangle \langle B_7 | \hat{0}_\beta^- \hat{1}_\alpha^- | B_{11} \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle t_{A_9, I_{11}} t_{B_7, J_{14}} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_8, I_{11}, J_{13}) \rangle = \\ & + \frac{-1}{4} \sum_I \sum_J \langle 0^B 0^B | \hat{g} | 1^I 1^J \rangle \langle B_8 | \hat{0}_\beta^- \hat{0}_\alpha^- | B_{11} \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_{13} | \hat{1}_\beta^+ | J_0 \rangle t_{A_9, I_{11}} t_{B_8, J_{13}} \end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_9, B_2, I_3, J_{12}) \rangle = \\
& + \frac{-1}{4} \sum_I \sum_J \langle 0^B 1^I | \hat{g} | 0^I 0^J \rangle \langle B_2 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_3 | \hat{0}_\alpha^+ \hat{1}_\alpha^- | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle t_{A_9, J_{12}} t_{B_2, I_3} \\
& + \frac{-1}{4} \sum_I \sum_J \langle 0^B 0^I | \hat{g} | 1^I 0^J \rangle \langle B_2 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_3 | \hat{1}_\alpha^+ \hat{0}_\alpha^- | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle t_{A_9, J_{12}} t_{B_2, I_3} \\
& + \frac{1}{4} \sum_I \sum_J \langle 0^B 0^I | \hat{g} | 0^J 1^I \rangle \langle B_2 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_3 | \hat{0}_\alpha^+ \hat{1}_\alpha^- | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle t_{A_9, J_{12}} t_{B_2, I_3} \\
& + \frac{1}{4} \sum_I \sum_J \langle 0^B 0^I | \hat{g} | 0^J 1^I \rangle \langle B_2 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_3 | \hat{1}_\alpha^+ \hat{0}_\alpha^- | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle t_{A_9, J_{12}} t_{B_2, I_3} \\
& + \frac{1}{4} \sum_I \sum_J \langle 0^B 0^I | \hat{g} | 0^J 1^I \rangle \langle B_2 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_3 | \hat{0}_\beta^+ \hat{1}_\beta^- | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle t_{A_9, J_{12}} t_{B_2, I_3} \\
& + \frac{1}{4} \sum_I \sum_J \langle 0^B 0^I | \hat{g} | 0^J 1^I \rangle \langle B_2 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_3 | \hat{1}_\beta^+ \hat{0}_\beta^- | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle t_{A_9, J_{12}} t_{B_2, I_3} \\
& + \frac{-1}{4} \sum_I \sum_J \langle 0^B 1^I | \hat{g} | 0^I 0^J \rangle \langle B_2 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_3 | \hat{0}_\alpha^+ \hat{1}_\alpha^- | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle t_{B_2} t_{A_9, J_{12}} t_{I_3} \\
& + \frac{-1}{4} \sum_I \sum_J \langle 0^B 0^I | \hat{g} | 1^I 0^J \rangle \langle B_2 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_3 | \hat{1}_\alpha^+ \hat{0}_\alpha^- | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle t_{B_2} t_{A_9, J_{12}} t_{I_3} \\
& + \frac{1}{4} \sum_I \sum_J \langle 0^B 0^I | \hat{g} | 0^J 1^I \rangle \langle B_2 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_3 | \hat{0}_\alpha^+ \hat{1}_\alpha^- | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle t_{B_2} t_{A_9, J_{12}} t_{I_3} \\
& + \frac{1}{4} \sum_I \sum_J \langle 0^B 0^I | \hat{g} | 0^J 1^I \rangle \langle B_2 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_3 | \hat{1}_\alpha^+ \hat{0}_\alpha^- | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle t_{B_2} t_{A_9, J_{12}} t_{I_3} \\
& + \frac{1}{4} \sum_I \sum_J \langle 0^B 0^I | \hat{g} | 0^J 1^I \rangle \langle B_2 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_3 | \hat{0}_\beta^+ \hat{1}_\beta^- | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle t_{B_2} t_{A_9, J_{12}} t_{I_3} \\
& + \frac{1}{4} \sum_I \sum_J \langle 0^B 0^I | \hat{g} | 0^J 1^I \rangle \langle B_2 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_3 | \hat{1}_\beta^+ \hat{0}_\beta^- | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle t_{B_2} t_{A_9, J_{12}} t_{I_3}
\end{aligned}$$

$$\begin{aligned}
& + \frac{1}{4} \sum_I \sum_J \langle 0^B 0^I | \hat{g} | 1^J 0^I \rangle \langle B_3 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_1 | \hat{0}_\beta^+ \hat{0}_\beta^- | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle t_{B_3} t_{A_9, J_{11}} t_{I_1} \\
& + \frac{1}{4} \sum_I \sum_J \langle 0^B 1^I | \hat{g} | 1^J 1^I \rangle \langle B_3 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_1 | \hat{1}_\beta^+ \hat{1}_\beta^- | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle t_{B_3} t_{A_9, J_{11}} t_{I_1}
\end{aligned}$$

[illegible]

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_9, B_2, I_3, J_{11}) \rangle = \\
& + \frac{-1}{4} \sum_I \sum_J \langle 0^B 1^I | \hat{g} | 0^I 1^J \rangle \langle B_2 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_3 | \hat{0}_\alpha^+ \hat{1}_\alpha^- | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle t_{A_9, J_{11}} t_{B_2, I_3} \\
& + \frac{-1}{4} \sum_I \sum_J \langle 0^B 0^I | \hat{g} | 1^I 1^J \rangle \langle B_2 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_3 | \hat{1}_\alpha^+ \hat{0}_\alpha^- | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle t_{A_9, J_{11}} t_{B_2, I_3} \\
& + \frac{1}{4} \sum_I \sum_J \langle 0^B 0^I | \hat{g} | 1^J 1^I \rangle \langle B_2 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_3 | \hat{0}_\alpha^+ \hat{1}_\alpha^- | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle t_{A_9, J_{11}} t_{B_2, I_3} \\
& + \frac{1}{4} \sum_I \sum_J \langle 0^B 0^I | \hat{g} | 1^J 1^I \rangle \langle B_2 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_3 | \hat{1}_\alpha^+ \hat{0}_\alpha^- | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle t_{A_9, J_{11}} t_{B_2, I_3} \\
& + \frac{1}{4} \sum_I \sum_J \langle 0^B 0^I | \hat{g} | 1^J 1^I \rangle \langle B_2 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_3 | \hat{0}_\beta^+ \hat{1}_\beta^- | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle t_{A_9, J_{11}} t_{B_2, I_3} \\
& + \frac{1}{4} \sum_I \sum_J \langle 0^B 0^I | \hat{g} | 1^J 1^I \rangle \langle B_2 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_3 | \hat{1}_\beta^+ \hat{0}_\beta^- | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle t_{A_9, J_{11}} t_{B_2, I_3} \\
& + \frac{-1}{4} \sum_I \sum_J \langle 0^B 1^I | \hat{g} | 0^I 1^J \rangle \langle B_2 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_3 | \hat{0}_\alpha^+ \hat{1}_\alpha^- | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle t_{B_2} t_{A_9, J_{11}} t_{I_3} \\
& + \frac{-1}{4} \sum_I \sum_J \langle 0^B 0^I | \hat{g} | 1^I 1^J \rangle \langle B_2 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_3 | \hat{1}_\alpha^+ \hat{0}_\alpha^- | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle t_{B_2} t_{A_9, J_{11}} t_{I_3} \\
& + \frac{1}{4} \sum_I \sum_J \langle 0^B 0^I | \hat{g} | 1^J 1^I \rangle \langle B_2 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_3 | \hat{0}_\alpha^+ \hat{1}_\alpha^- | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle t_{B_2} t_{A_9, J_{11}} t_{I_3}
\end{aligned}$$

$$\begin{aligned}
& +\frac{1}{4}\sum_I\sum_J\langle 0^B0^I|\hat{g}|1^J1^I\rangle\langle B_3|\hat{0}_\alpha^-|B_{11}\rangle\langle I_3|\hat{0}_\alpha^+\hat{1}_\alpha^-|I_0\rangle\langle J_{11}|\hat{1}_\alpha^+|J_0\rangle t_{B_3}t_{A_9,J_{11}}t_{I_3} \\
& +\frac{1}{4}\sum_I\sum_J\langle 0^B0^I|\hat{g}|1^J1^I\rangle\langle B_3|\hat{0}_\alpha^-|B_{11}\rangle\langle I_3|\hat{1}_\alpha^+\hat{0}_\alpha^-|I_0\rangle\langle J_{11}|\hat{1}_\alpha^+|J_0\rangle t_{B_3}t_{A_9,J_{11}}t_{I_3} \\
& +\frac{1}{4}\sum_I\sum_J\langle 0^B0^I|\hat{g}|1^J1^I\rangle\langle B_3|\hat{0}_\alpha^-|B_{11}\rangle\langle I_3|\hat{0}_\beta^+\hat{1}_\beta^-|I_0\rangle\langle J_{11}|\hat{1}_\alpha^+|J_0\rangle t_{B_3}t_{A_9,J_{11}}t_{I_3} \\
& +\frac{1}{4}\sum_I\sum_J\langle 0^B0^I|\hat{g}|1^J1^I\rangle\langle B_3|\hat{0}_\alpha^-|B_{11}\rangle\langle I_3|\hat{1}_\beta^+\hat{0}_\beta^-|I_0\rangle\langle J_{11}|\hat{1}_\alpha^+|J_0\rangle t_{B_3}t_{A_9,J_{11}}t_{I_3}
\end{aligned}$$

[illegible]

$$\begin{aligned}
& + \frac{1}{4} \sum_I \sum_J \langle 0^B 0^J | \hat{g} | 0^I 1^J \rangle \langle B_2 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_{12} | \hat{0}_\alpha^+ | I_0 \rangle \langle J_2 | \hat{0}_\beta^+ \hat{1}_\beta^- | J_0 \rangle t_{B_2} t_{A_9, I_{12}} t_{J_2} \\
& + \frac{1}{4} \sum_I \sum_J \langle 0^B 0^J | \hat{g} | 0^I 1^J \rangle \langle B_2 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_{12} | \hat{0}_\alpha^+ | I_0 \rangle \langle J_2 | \hat{1}_\alpha^+ \hat{0}_\alpha^- | J_0 \rangle t_{B_2} t_{A_9, I_{12}} t_{J_2} \\
& + \frac{1}{4} \sum_I \sum_J \langle 0^B 0^J | \hat{g} | 0^I 1^J \rangle \langle B_2 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_{12} | \hat{0}_\alpha^+ | I_0 \rangle \langle J_2 | \hat{1}_\beta^+ \hat{0}_\beta^- | J_0 \rangle t_{B_2} t_{A_9, I_{12}} t_{J_2} \\
& + \frac{-1}{4} \sum_I \sum_J \langle 0^B 0^I | \hat{g} | 0^J 1^J \rangle \langle B_2 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_{12} | \hat{0}_\alpha^+ | I_0 \rangle \langle J_2 | \hat{0}_\alpha^+ \hat{1}_\alpha^- | J_0 \rangle t_{B_2} t_{A_9, I_{12}} t_{J_2} \\
& + \frac{-1}{4} \sum_I \sum_J \langle 0^B 0^I | \hat{g} | 1^J 0^J \rangle \langle B_2 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_{12} | \hat{0}_\alpha^+ | I_0 \rangle \langle J_2 | \hat{1}_\alpha^+ \hat{0}_\alpha^- | J_0 \rangle t_{B_2} t_{A_9, I_{12}} t_{J_2}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_9, B_3, I_{12}, J_2) \rangle = \\
& + \frac{1}{4} \sum_I \sum_J \langle 0^B 0^J | \hat{g} | 0^I 1^J \rangle \langle B_3 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_{12} | \hat{0}_\alpha^+ | I_0 \rangle \langle J_2 | \hat{0}_\alpha^+ \hat{1}_\alpha^- | J_0 \rangle t_{A_9, I_{12}} t_{B_3, J_2} \\
& + \frac{1}{4} \sum_I \sum_J \langle 0^B 0^J | \hat{g} | 0^I 1^J \rangle \langle B_3 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_{12} | \hat{0}_\alpha^+ | I_0 \rangle \langle J_2 | \hat{0}_\beta^+ \hat{1}_\beta^- | J_0 \rangle t_{A_9, I_{12}} t_{B_3, J_2} \\
& + \frac{1}{4} \sum_I \sum_J \langle 0^B 0^J | \hat{g} | 0^I 1^J \rangle \langle B_3 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_{12} | \hat{0}_\alpha^+ | I_0 \rangle \langle J_2 | \hat{1}_\alpha^+ \hat{0}_\alpha^- | J_0 \rangle t_{A_9, I_{12}} t_{B_3, J_2} \\
& + \frac{1}{4} \sum_I \sum_J \langle 0^B 0^J | \hat{g} | 0^I 1^J \rangle \langle B_3 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_{12} | \hat{0}_\alpha^+ | I_0 \rangle \langle J_2 | \hat{1}_\beta^+ \hat{0}_\beta^- | J_0 \rangle t_{A_9, I_{12}} t_{B_3, J_2} \\
& + \frac{-1}{4} \sum_I \sum_J \langle 0^B 0^I | \hat{g} | 0^J 1^J \rangle \langle B_3 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_{12} | \hat{0}_\alpha^+ | I_0 \rangle \langle J_2 | \hat{0}_\alpha^+ \hat{1}_\alpha^- | J_0 \rangle t_{A_9, I_{12}} t_{B_3, J_2} \\
& + \frac{-1}{4} \sum_I \sum_J \langle 0^B 0^I | \hat{g} | 1^J 0^J \rangle \langle B_3 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_{12} | \hat{0}_\alpha^+ | I_0 \rangle \langle J_2 | \hat{1}_\alpha^+ \hat{0}_\alpha^- | J_0 \rangle t_{A_9, I_{12}} t_{B_3, J_2}
\end{aligned}$$

$$\begin{aligned}
& +\frac{1}{4}\sum_I\sum_J\langle 0^B0^J|\hat{g}|0^I1^J\rangle\langle B_3|\hat{0}_\alpha^-|B_{11}\rangle\langle I_{12}|\hat{0}_\alpha^+|I_0\rangle\langle J_2|\hat{0}_\alpha^+\hat{1}_\alpha^-|J_0\rangle t_{B_3}t_{A_9,I_{12}}t_{J_2} \\
& +\frac{1}{4}\sum_I\sum_J\langle 0^B0^J|\hat{g}|0^I1^J\rangle\langle B_3|\hat{0}_\alpha^-|B_{11}\rangle\langle I_{12}|\hat{0}_\alpha^+|I_0\rangle\langle J_2|\hat{0}_\beta^+\hat{1}_\beta^-|J_0\rangle t_{B_3}t_{A_9,I_{12}}t_{J_2} \\
& +\frac{1}{4}\sum_I\sum_J\langle 0^B0^J|\hat{g}|0^I1^J\rangle\langle B_3|\hat{0}_\alpha^-|B_{11}\rangle\langle I_{12}|\hat{0}_\alpha^+|I_0\rangle\langle J_2|\hat{1}_\alpha^+\hat{0}_\alpha^-|J_0\rangle t_{B_3}t_{A_9,I_{12}}t_{J_2} \\
& +\frac{1}{4}\sum_I\sum_J\langle 0^B0^J|\hat{g}|0^I1^J\rangle\langle B_3|\hat{0}_\alpha^-|B_{11}\rangle\langle I_{12}|\hat{0}_\alpha^+|I_0\rangle\langle J_2|\hat{1}_\beta^+\hat{0}_\beta^-|J_0\rangle t_{B_3}t_{A_9,I_{12}}t_{J_2} \\
& +\frac{-1}{4}\sum_I\sum_J\langle 0^B0^I|\hat{g}|0^J1^J\rangle\langle B_3|\hat{0}_\alpha^-|B_{11}\rangle\langle I_{12}|\hat{0}_\alpha^+|I_0\rangle\langle J_2|\hat{0}_\alpha^+\hat{1}_\alpha^-|J_0\rangle t_{B_3}t_{A_9,I_{12}}t_{J_2} \\
& +\frac{-1}{4}\sum_I\sum_J\langle 0^B0^I|\hat{g}|1^J0^J\rangle\langle B_3|\hat{0}_\alpha^-|B_{11}\rangle\langle I_{12}|\hat{0}_\alpha^+|I_0\rangle\langle J_2|\hat{1}_\alpha^+\hat{0}_\alpha^-|J_0\rangle t_{B_3}t_{A_9,I_{12}}t_{J_2}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_9, I_{12}, J_1) \rangle = \\
& + \frac{1}{4} \sum_I \sum_J \langle 1^B 0^J | \hat{g} | 0^I 0^J \rangle \langle B_0 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_{12} | \hat{0}_\alpha^+ | I_0 \rangle \langle J_1 | \hat{0}_\alpha^+ \hat{0}_\alpha^- | J_0 \rangle t_{A_9, I_{12}} t_{J_1} \\
& + \frac{1}{4} \sum_I \sum_J \langle 1^B 0^J | \hat{g} | 0^I 0^J \rangle \langle B_0 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_{12} | \hat{0}_\alpha^+ | I_0 \rangle \langle J_1 | \hat{0}_\beta^+ \hat{0}_\beta^- | J_0 \rangle t_{A_9, I_{12}} t_{J_1} \\
& + \frac{1}{4} \sum_I \sum_J \langle 1^B 1^J | \hat{g} | 0^I 1^J \rangle \langle B_0 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_{12} | \hat{0}_\alpha^+ | I_0 \rangle \langle J_1 | \hat{1}_\alpha^+ \hat{1}_\alpha^- | J_0 \rangle t_{A_9, I_{12}} t_{J_1} \\
& + \frac{1}{4} \sum_I \sum_J \langle 1^B 1^J | \hat{g} | 0^I 1^J \rangle \langle B_0 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_{12} | \hat{0}_\alpha^+ | I_0 \rangle \langle J_1 | \hat{1}_\beta^+ \hat{1}_\beta^- | J_0 \rangle t_{A_9, I_{12}} t_{J_1} \\
& + \frac{-1}{4} \sum_I \sum_J \langle 1^B 0^I | \hat{g} | 0^J 0^J \rangle \langle B_0 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_{12} | \hat{0}_\alpha^+ | I_0 \rangle \langle J_1 | \hat{0}_\alpha^+ \hat{0}_\alpha^- | J_0 \rangle t_{A_9, I_{12}} t_{J_1}
\end{aligned}$$

$$\begin{aligned}
& + \frac{1}{4} \sum_I \sum_J \langle 0^B 1^I | \hat{g} | 1^J 1^J \rangle \langle B_3 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_1 | \hat{1}_\alpha^+ \hat{1}_\alpha^- | J_0 \rangle t_{A_9, I_{11}} t_{B_3, J_1} \\
& + \frac{1}{4} \sum_I \sum_J \langle 0^B 0^J | \hat{g} | 1^I 0^J \rangle \langle B_3 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_1 | \hat{0}_\alpha^+ \hat{0}_\alpha^- | J_0 \rangle t_{B_3} t_{A_9, I_{11}} t_{J_1} \\
& + \frac{1}{4} \sum_I \sum_J \langle 0^B 0^J | \hat{g} | 1^I 0^J \rangle \langle B_3 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_1 | \hat{0}_\beta^+ \hat{0}_\beta^- | J_0 \rangle t_{B_3} t_{A_9, I_{11}} t_{J_1} \\
& + \frac{1}{4} \sum_I \sum_J \langle 0^B 1^J | \hat{g} | 1^I 1^J \rangle \langle B_3 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_1 | \hat{1}_\alpha^+ \hat{1}_\alpha^- | J_0 \rangle t_{B_3} t_{A_9, I_{11}} t_{J_1} \\
& + \frac{1}{4} \sum_I \sum_J \langle 0^B 1^J | \hat{g} | 1^I 1^J \rangle \langle B_3 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_1 | \hat{1}_\beta^+ \hat{1}_\beta^- | J_0 \rangle t_{B_3} t_{A_9, I_{11}} t_{J_1} \\
& + \frac{-1}{4} \sum_I \sum_J \langle 0^B 1^I | \hat{g} | 0^J 0^J \rangle \langle B_3 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_1 | \hat{0}_\alpha^+ \hat{0}_\alpha^- | J_0 \rangle t_{B_3} t_{A_9, I_{11}} t_{J_1} \\
& + \frac{-1}{4} \sum_I \sum_J \langle 0^B 1^I | \hat{g} | 1^J 1^J \rangle \langle B_3 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_1 | \hat{1}_\alpha^+ \hat{1}_\alpha^- | J_0 \rangle t_{B_3} t_{A_9, I_{11}} t_{J_1}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_9, B_2, I_{11}, J_3) \rangle = \\
& + \frac{1}{4} \sum_I \sum_J \langle 0^B 0^J | \hat{g} | 1^I 1^J \rangle \langle B_2 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_3 | \hat{0}_\alpha^+ \hat{1}_\alpha^- | J_0 \rangle t_{A_9, I_{11}} t_{B_2, J_3} \\
& + \frac{1}{4} \sum_I \sum_J \langle 0^B 0^J | \hat{g} | 1^I 1^J \rangle \langle B_2 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_3 | \hat{0}_\beta^+ \hat{1}_\beta^- | J_0 \rangle t_{A_9, I_{11}} t_{B_2, J_3} \\
& + \frac{1}{4} \sum_I \sum_J \langle 0^B 0^J | \hat{g} | 1^I 1^J \rangle \langle B_2 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_3 | \hat{1}_\alpha^+ \hat{0}_\alpha^- | J_0 \rangle t_{A_9, I_{11}} t_{B_2, J_3} \\
& + \frac{1}{4} \sum_I \sum_J \langle 0^B 0^J | \hat{g} | 1^I 1^J \rangle \langle B_2 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_3 | \hat{1}_\beta^+ \hat{0}_\beta^- | J_0 \rangle t_{A_9, I_{11}} t_{B_2, J_3}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_9, B_4, I_{11}, J_5) \rangle = \\
& + \frac{-1}{4} \sum_I \sum_J \langle 0^B 1^I | \hat{g} | 0^J 1^J \rangle \langle B_4 | \hat{0}_\beta^- | B_{11} \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_5 | \hat{0}_\beta^+ \hat{1}_\alpha^- | J_0 \rangle t_{A_9, I_{11}} t_{B_4, J_5} \\
& + \frac{-1}{4} \sum_I \sum_J \langle 0^B 1^I | \hat{g} | 1^J 0^J \rangle \langle B_4 | \hat{0}_\beta^- | B_{11} \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_5 | \hat{1}_\beta^+ \hat{0}_\alpha^- | J_0 \rangle t_{A_9, I_{11}} t_{B_4, J_5}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{14}, I_7, J_{12}) \rangle = \\
& + \frac{1}{4} \sum_I \sum_J \langle 0^B 1^B | \hat{g} | 0^J 0^I \rangle \langle B_{14} | \hat{1}_\beta^+ \hat{0}_\alpha^- | B_{11} \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle t_{A_9, J_{12}} t_{B_{14}, I_7}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{14}, I_8, J_{12}) \rangle = \\
& + \frac{1}{4} \sum_I \sum_J \langle 0^B 1^B | \hat{g} | 0^J 1^I \rangle \langle B_{14} | \hat{1}_\beta^+ \hat{0}_\alpha^- | B_{11} \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle t_{A_9, J_{12}} t_{B_{14}, I_8}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{13}, I_7, J_{12}) \rangle = \\
& + \frac{1}{4} \sum_I \sum_J \langle 1^B 1^B | \hat{g} | 0^I 0^J \rangle \langle B_{13} | \hat{1}_\beta^+ \hat{1}_\alpha^- | B_{11} \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle t_{A_9, J_{12}} t_{B_{13}, I_7}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{13}, I_8, J_{12}) \rangle = \\
& + \frac{1}{4} \sum_I \sum_J \langle 1^B 1^B | \hat{g} | 1^I 0^J \rangle \langle B_{13} | \hat{1}_\beta^+ \hat{1}_\alpha^- | B_{11} \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle t_{A_9, J_{12}} t_{B_{13}, I_8}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{14}, I_7, J_{11}) \rangle = \\
& + \frac{1}{4} \sum_I \sum_J \langle 0^B 1^B | \hat{g} | 1^J 0^I \rangle \langle B_{14} | \hat{1}_\beta^+ \hat{0}_\alpha^- | B_{11} \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle t_{A_9, J_{11}} t_{B_{14}, I_7}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{14}, I_8, J_{11}) \rangle = \\
& + \frac{1}{4} \sum_I \sum_J \langle 0^B 1^B | \hat{g} | 1^J 1^I \rangle \langle B_{14} | \hat{1}_\beta^+ \hat{0}_\alpha^- | B_{11} \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle t_{A_9, J_{11}} t_{B_{14}, I_8}
\end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{13}, I_7, J_{11}) \rangle = \\ & + \frac{1}{4} \sum_I \sum_J \langle 1^B 1^B | \hat{g} | 0^I 1^J \rangle \langle B_{13} | \hat{1}_\beta^+ \hat{1}_\alpha^- | B_{11} \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle t_{A_9, J_{11}} t_{B_{13}, I_7} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{13}, I_8, J_{11}) \rangle = \\ & + \frac{1}{4} \sum_I \sum_J \langle 1^B 1^B | \hat{g} | 1^I 1^J \rangle \langle B_{13} | \hat{1}_\beta^+ \hat{1}_\alpha^- | B_{11} \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle t_{A_9, J_{11}} t_{B_{13}, I_8} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{12}, I_9, J_{12}) \rangle = \\ & + \frac{-1}{4} \sum_I \sum_J \langle 0^B 0^I | \hat{g} | 1^B 0^J \rangle \langle B_{12} | \hat{1}_\beta^+ \hat{0}_\beta^- | B_{11} \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle t_{A_9, B_{12}} t_{I_9, J_{12}} \\ & + \frac{-1}{4} \sum_I \sum_J \langle 0^B 0^I | \hat{g} | 1^B 0^J \rangle \langle B_{12} | \hat{1}_\beta^+ \hat{0}_\beta^- | B_{11} \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle t_{A_9, J_{12}} t_{B_{12}, I_9} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{12}, I_{10}, J_{12}) \rangle = \\ & + \frac{-1}{4} \sum_I \sum_J \langle 0^B 1^I | \hat{g} | 1^B 0^J \rangle \langle B_{12} | \hat{1}_\beta^+ \hat{0}_\beta^- | B_{11} \rangle \langle I_{10} | \hat{1}_\alpha^- | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle t_{A_9, B_{12}} t_{I_{10}, J_{12}} \\ & + \frac{-1}{4} \sum_I \sum_J \langle 0^B 1^I | \hat{g} | 1^B 0^J \rangle \langle B_{12} | \hat{1}_\beta^+ \hat{0}_\beta^- | B_{11} \rangle \langle I_{10} | \hat{1}_\alpha^- | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle t_{A_9, J_{12}} t_{B_{12}, I_{10}} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{12}, I_9, J_{11}) \rangle = \\ & + \frac{-1}{4} \sum_I \sum_J \langle 0^B 0^I | \hat{g} | 1^B 1^J \rangle \langle B_{12} | \hat{1}_\beta^+ \hat{0}_\beta^- | B_{11} \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle t_{A_9, B_{12}} t_{I_9, J_{11}} \\ & + \frac{-1}{4} \sum_I \sum_J \langle 0^B 0^I | \hat{g} | 1^B 1^J \rangle \langle B_{12} | \hat{1}_\beta^+ \hat{0}_\beta^- | B_{11} \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle t_{A_9, J_{11}} t_{B_{12}, I_9} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{12}, I_{10}, J_{11}) \rangle = \\ & + \frac{-1}{4} \sum_I \sum_J \langle 0^B 1^I | \hat{g} | 1^B 1^J \rangle \langle B_{12} | \hat{1}_\beta^+ \hat{0}_\beta^- | B_{11} \rangle \langle I_{10} | \hat{1}_\alpha^- | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle t_{A_9, B_{12}} t_{I_{10}, J_{11}} \\ & + \frac{-1}{4} \sum_I \sum_J \langle 0^B 1^I | \hat{g} | 1^B 1^J \rangle \langle B_{12} | \hat{1}_\beta^+ \hat{0}_\beta^- | B_{11} \rangle \langle I_{10} | \hat{1}_\alpha^- | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle t_{A_9, J_{11}} t_{B_{12}, I_{10}} \end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{15}, I_6, J_{12}) \rangle = \\
& + \frac{1}{4} \sum_I \sum_J \langle 1^B 0^I | \hat{g} | 0^I 0^J \rangle \langle B_{15} | \hat{1}_\beta^+ | B_{11} \rangle \langle I_6 | \hat{0}_\beta^- \hat{0}_\alpha^- | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle t_{A_9, J_{12}} t_{B_{15}, I_6} \\
& + \frac{1}{4} \sum_I \sum_J \langle 1^B 1^I | \hat{g} | 1^I 0^J \rangle \langle B_{15} | \hat{1}_\beta^+ | B_{11} \rangle \langle I_6 | \hat{1}_\beta^- \hat{1}_\alpha^- | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle t_{A_9, J_{12}} t_{B_{15}, I_6}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{15}, I_6, J_{11}) \rangle = \\
& + \frac{1}{4} \sum_I \sum_J \langle 1^B 0^I | \hat{g} | 0^I 1^J \rangle \langle B_{15} | \hat{1}_\beta^+ | B_{11} \rangle \langle I_6 | \hat{0}_\beta^- \hat{0}_\alpha^- | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle t_{A_9, J_{11}} t_{B_{15}, I_6} \\
& + \frac{1}{4} \sum_I \sum_J \langle 1^B 1^I | \hat{g} | 1^I 1^J \rangle \langle B_{15} | \hat{1}_\beta^+ | B_{11} \rangle \langle I_6 | \hat{1}_\beta^- \hat{1}_\alpha^- | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle t_{A_9, J_{11}} t_{B_{15}, I_6}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_9, B_8, I_{14}, J_{12}) \rangle = \\
& + \frac{-1}{4} \sum_I \sum_J \langle 0^B 0^B | \hat{g} | 0^I 0^J \rangle \langle B_8 | \hat{0}_\beta^- \hat{0}_\alpha^- | B_{11} \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle t_{A_9, J_{12}} t_{B_8, I_{14}}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_9, B_7, I_{14}, J_{12}) \rangle = \\
& + \frac{-1}{4} \sum_I \sum_J \langle 0^B 1^B | \hat{g} | 0^I 0^J \rangle \langle B_7 | \hat{0}_\beta^- \hat{1}_\alpha^- | B_{11} \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle t_{A_9, J_{12}} t_{B_7, I_{14}}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_9, B_8, I_{13}, J_{12}) \rangle = \\
& + \frac{-1}{4} \sum_I \sum_J \langle 0^B 0^B | \hat{g} | 1^I 0^J \rangle \langle B_8 | \hat{0}_\beta^- \hat{0}_\alpha^- | B_{11} \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle t_{A_9, J_{12}} t_{B_8, I_{13}}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_9, B_7, I_{13}, J_{12}) \rangle = \\
& + \frac{-1}{4} \sum_I \sum_J \langle 0^B 1^B | \hat{g} | 1^I 0^J \rangle \langle B_7 | \hat{0}_\beta^- \hat{1}_\alpha^- | B_{11} \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle t_{A_9, J_{12}} t_{B_7, I_{13}}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_9, B_8, I_{14}, J_{11}) \rangle = \\
& + \frac{-1}{4} \sum_I \sum_J \langle 0^B 0^B | \hat{g} | 0^I 1^J \rangle \langle B_8 | \hat{0}_\beta^- \hat{0}_\alpha^- | B_{11} \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle t_{A_9, J_{11}} t_{B_8, I_{14}}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_9, B_7, I_{14}, J_{11}) \rangle = \\
& + \frac{-1}{4} \sum_I \sum_J \langle 0^B 1^B | \hat{g} | 0^I 1^J \rangle \langle B_7 | \hat{0}_\beta^- \hat{1}_\alpha^- | B_{11} \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle t_{A_9, J_{11}} t_{B_7, I_{14}}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_9, B_8, I_{13}, J_{11}) \rangle = \\
& + \frac{-1}{4} \sum_I \sum_J \langle 0^B 0^B | \hat{g} | 1^I 1^J \rangle \langle B_8 | \hat{0}_\beta^- \hat{0}_\alpha^- | B_{11} \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle t_{A_9, J_{11}} t_{B_8, I_{13}}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_9, B_7, I_{13}, J_{11}) \rangle = \\
& + \frac{-1}{4} \sum_I \sum_J \langle 0^B 1^B | \hat{g} | 1^I 1^J \rangle \langle B_7 | \hat{0}_\beta^- \hat{1}_\alpha^- | B_{11} \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle t_{A_9, J_{11}} t_{B_7, I_{13}}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_9, B_4, I_5, J_{12}) \rangle = \\
& + \frac{-1}{4} \sum_I \sum_J \langle 0^B 1^I | \hat{g} | 0^I 0^J \rangle \langle B_4 | \hat{0}_\beta^- | B_{11} \rangle \langle I_5 | \hat{0}_\beta^+ \hat{1}_\alpha^- | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle t_{A_9, J_{12}} t_{B_4, I_5} \\
& + \frac{-1}{4} \sum_I \sum_J \langle 0^B 0^I | \hat{g} | 1^I 0^J \rangle \langle B_4 | \hat{0}_\beta^- | B_{11} \rangle \langle I_5 | \hat{1}_\beta^+ \hat{0}_\alpha^- | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle t_{A_9, J_{12}} t_{B_4, I_5}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_9, B_4, I_5, J_{11}) \rangle = \\
& + \frac{-1}{4} \sum_I \sum_J \langle 0^B 1^I | \hat{g} | 0^I 1^J \rangle \langle B_4 | \hat{0}_\beta^- | B_{11} \rangle \langle I_5 | \hat{0}_\beta^+ \hat{1}_\alpha^- | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle t_{A_9, J_{11}} t_{B_4, I_5} \\
& + \frac{-1}{4} \sum_I \sum_J \langle 0^B 0^I | \hat{g} | 1^I 1^J \rangle \langle B_4 | \hat{0}_\beta^- | B_{11} \rangle \langle I_5 | \hat{1}_\beta^+ \hat{0}_\alpha^- | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle t_{A_9, J_{11}} t_{B_4, I_5}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_{11}, B_2, I_9) \rangle = \\
& + \frac{1}{4} \sum_I \langle 0^A 1^A | \hat{g} | 0^B 0^I \rangle \langle A_{11} | \hat{0}_\alpha^+ \hat{1}_\alpha^+ | A_9 \rangle \langle B_2 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle t_{B_2} t_{A_{11}, I_9} \\
& + \frac{1}{4} \sum_I \langle 0^A 1^A | \hat{g} | 0^I 0^B \rangle \langle A_{11} | \hat{1}_\alpha^+ \hat{0}_\alpha^+ | A_9 \rangle \langle B_2 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle t_{B_2} t_{A_{11}, I_9} \\
& + \frac{-1}{4} \sum_I \langle 0^A 1^A | \hat{g} | 0^I 0^B \rangle \langle A_{11} | \hat{0}_\alpha^+ \hat{1}_\alpha^+ | A_9 \rangle \langle B_2 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle t_{B_2} t_{A_{11}, I_9} \\
& + \frac{-1}{4} \sum_I \langle 0^A 1^A | \hat{g} | 0^B 0^I \rangle \langle A_{11} | \hat{1}_\alpha^+ \hat{0}_\alpha^+ | A_9 \rangle \langle B_2 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle t_{B_2} t_{A_{11}, I_9}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_{13}, B_2, I_8) \rangle = \\
& + \frac{1}{2} \sum_I \langle 0^A 1^A | \hat{g} | 0^B 1^I \rangle \langle A_{13} | \hat{0}_\alpha^+ \hat{1}_\beta^+ | A_9 \rangle \langle B_2 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle t_{B_2} t_{A_{13}, I_8}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_{13}, B_3, I_8) \rangle = \\
& + \frac{1}{2} \sum_I \langle 0^A 1^A | \hat{g} | 0^B 1^I \rangle \langle A_{13} | \hat{0}_\alpha^+ \hat{1}_\beta^+ | A_9 \rangle \langle B_3 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle t_{B_3} t_{A_{13}, I_8}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_{11}, I_9) \rangle = \\
& + \frac{1}{4} \sum_I \langle 0^A 1^A | \hat{g} | 1^B 0^I \rangle \langle A_{11} | \hat{0}_\alpha^+ \hat{1}_\alpha^+ | A_9 \rangle \langle B_0 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle t_{A_{11}, I_9} \\
& + \frac{1}{4} \sum_I \langle 0^A 1^A | \hat{g} | 0^I 1^B \rangle \langle A_{11} | \hat{1}_\alpha^+ \hat{0}_\alpha^+ | A_9 \rangle \langle B_0 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle t_{A_{11}, I_9} \\
& + \frac{-1}{4} \sum_I \langle 0^A 1^A | \hat{g} | 0^I 1^B \rangle \langle A_{11} | \hat{0}_\alpha^+ \hat{1}_\alpha^+ | A_9 \rangle \langle B_0 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle t_{A_{11}, I_9} \\
& + \frac{-1}{4} \sum_I \langle 0^A 1^A | \hat{g} | 1^B 0^I \rangle \langle A_{11} | \hat{1}_\alpha^+ \hat{0}_\alpha^+ | A_9 \rangle \langle B_0 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle t_{A_{11}, I_9}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_{11}, B_1, I_9) \rangle = \\
& + \frac{1}{4} \sum_I \langle 0^A 1^A | \hat{g} | 1^B 0^I \rangle \langle A_{11} | \hat{0}_\alpha^+ \hat{1}_\alpha^+ | A_9 \rangle \langle B_1 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle t_{B_1} t_{A_{11}, I_9} \\
& + \frac{1}{4} \sum_I \langle 0^A 1^A | \hat{g} | 0^I 1^B \rangle \langle A_{11} | \hat{1}_\alpha^+ \hat{0}_\alpha^+ | A_9 \rangle \langle B_1 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle t_{B_1} t_{A_{11}, I_9} \\
& + \frac{-1}{4} \sum_I \langle 0^A 1^A | \hat{g} | 0^I 1^B \rangle \langle A_{11} | \hat{0}_\alpha^+ \hat{1}_\alpha^+ | A_9 \rangle \langle B_1 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle t_{B_1} t_{A_{11}, I_9} \\
& + \frac{-1}{4} \sum_I \langle 0^A 1^A | \hat{g} | 1^B 0^I \rangle \langle A_{11} | \hat{1}_\alpha^+ \hat{0}_\alpha^+ | A_9 \rangle \langle B_1 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle t_{B_1} t_{A_{11}, I_9}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_{13}, I_7) \rangle = \\
& + \frac{1}{2} \sum_I \langle 0^A 1^A | \hat{g} | 1^B 0^I \rangle \langle A_{13} | \hat{0}_\alpha^+ \hat{1}_\beta^+ | A_9 \rangle \langle B_0 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle t_{A_{13}, I_7}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_{13}, B_1, I_7) \rangle = \\
& + \frac{1}{2} \sum_I \langle 0^A 1^A | \hat{g} | 1^B 0^I \rangle \langle A_{13} | \hat{0}_\alpha^+ \hat{1}_\beta^+ | A_9 \rangle \langle B_1 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle t_{B_1} t_{A_{13}, I_7}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_{11}, I_{10}) \rangle = \\
& + \frac{1}{4} \sum_I \langle 0^A 1^A | \hat{g} | 1^B 1^I \rangle \langle A_{11} | \hat{0}_\alpha^+ \hat{1}_\alpha^+ | A_9 \rangle \langle B_0 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_{10} | \hat{1}_\alpha^- | I_0 \rangle t_{A_{11}, I_{10}} \\
& + \frac{1}{4} \sum_I \langle 0^A 1^A | \hat{g} | 1^I 1^B \rangle \langle A_{11} | \hat{1}_\alpha^+ \hat{0}_\alpha^+ | A_9 \rangle \langle B_0 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_{10} | \hat{1}_\alpha^- | I_0 \rangle t_{A_{11}, I_{10}} \\
& + \frac{-1}{4} \sum_I \langle 0^A 1^A | \hat{g} | 1^I 1^B \rangle \langle A_{11} | \hat{0}_\alpha^+ \hat{1}_\alpha^+ | A_9 \rangle \langle B_0 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_{10} | \hat{1}_\alpha^- | I_0 \rangle t_{A_{11}, I_{10}} \\
& + \frac{-1}{4} \sum_I \langle 0^A 1^A | \hat{g} | 1^B 1^I \rangle \langle A_{11} | \hat{1}_\alpha^+ \hat{0}_\alpha^+ | A_9 \rangle \langle B_0 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_{10} | \hat{1}_\alpha^- | I_0 \rangle t_{A_{11}, I_{10}}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_{11}, B_1, I_{10}) \rangle = \\
& + \frac{1}{4} \sum_I \langle 0^A 1^A | \hat{g} | 1^B 1^I \rangle \langle A_{11} | \hat{0}_\alpha^+ \hat{1}_\alpha^+ | A_9 \rangle \langle B_1 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_{10} | \hat{1}_\alpha^- | I_0 \rangle t_{B_1} t_{A_{11}, I_{10}} \\
& + \frac{1}{4} \sum_I \langle 0^A 1^A | \hat{g} | 1^I 1^B \rangle \langle A_{11} | \hat{1}_\alpha^+ \hat{0}_\alpha^+ | A_9 \rangle \langle B_1 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_{10} | \hat{1}_\alpha^- | I_0 \rangle t_{B_1} t_{A_{11}, I_{10}} \\
& + \frac{-1}{4} \sum_I \langle 0^A 1^A | \hat{g} | 1^I 1^B \rangle \langle A_{11} | \hat{0}_\alpha^+ \hat{1}_\alpha^+ | A_9 \rangle \langle B_1 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_{10} | \hat{1}_\alpha^- | I_0 \rangle t_{B_1} t_{A_{11}, I_{10}} \\
& + \frac{-1}{4} \sum_I \langle 0^A 1^A | \hat{g} | 1^B 1^I \rangle \langle A_{11} | \hat{1}_\alpha^+ \hat{0}_\alpha^+ | A_9 \rangle \langle B_1 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_{10} | \hat{1}_\alpha^- | I_0 \rangle t_{B_1} t_{A_{11}, I_{10}}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_{13}, I_8) \rangle = \\
& + \frac{1}{2} \sum_I \langle 0^A 1^A | \hat{g} | 1^B 1^I \rangle \langle A_{13} | \hat{0}_\alpha^+ \hat{1}_\beta^+ | A_9 \rangle \langle B_0 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle t_{A_{13}, I_8}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_{13}, B_1, I_8) \rangle = \\
& + \frac{1}{2} \sum_I \langle 0^A 1^A | \hat{g} | 1^B 1^I \rangle \langle A_{13} | \hat{0}_\alpha^+ \hat{1}_\beta^+ | A_9 \rangle \langle B_1 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle t_{B_1} t_{A_{13}, I_8}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_{14}, B_2, I_7) \rangle = \\
& + \frac{1}{2} \sum_I \langle 1^A 1^A | \hat{g} | 0^B 0^I \rangle \langle A_{14} | \hat{1}_\alpha^+ \hat{1}_\beta^+ | A_9 \rangle \langle B_2 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle t_{B_2} t_{A_{14}, I_7}
\end{aligned}$$

$$\langle (A_9, B_{11}) | \hat{H} | (A_{14}, B_3, I_7) \rangle =$$

$$+\frac{1}{2}\sum_I\langle 1^A 1^A|\hat{g}|0^B 0^I\rangle\langle A_{14}|\hat{1}_\alpha^+\hat{1}_\beta^+|A_9\rangle\langle B_3|\hat{0}_\alpha^-|B_{11}\rangle\langle I_7|\hat{0}_\beta^-|I_0\rangle t_{B_3}t_{A_{14},I_7}$$

$$\begin{aligned} &\langle(A_9, B_{11})|\hat{H}|(A_{14}, B_2, I_8)\rangle = \\ &+\frac{1}{2}\sum_I\langle 1^A 1^A|\hat{g}|0^B 1^I\rangle\langle A_{14}|\hat{1}_\alpha^+\hat{1}_\beta^+|A_9\rangle\langle B_2|\hat{0}_\alpha^-|B_{11}\rangle\langle I_8|\hat{1}_\beta^-|I_0\rangle t_{B_2}t_{A_{14},I_8} \end{aligned}$$

$$\begin{aligned} &\langle(A_9, B_{11})|\hat{H}|(A_{14}, B_3, I_8)\rangle = \\ &+\frac{1}{2}\sum_I\langle 1^A 1^A|\hat{g}|0^B 1^I\rangle\langle A_{14}|\hat{1}_\alpha^+\hat{1}_\beta^+|A_9\rangle\langle B_3|\hat{0}_\alpha^-|B_{11}\rangle\langle I_8|\hat{1}_\beta^-|I_0\rangle t_{B_3}t_{A_{14},I_8} \end{aligned}$$

$$\begin{aligned} &\langle(A_9, B_{11})|\hat{H}|(A_{14}, I_7)\rangle = \\ &+\frac{1}{2}\sum_I\langle 1^A 1^A|\hat{g}|1^B 0^I\rangle\langle A_{14}|\hat{1}_\alpha^+\hat{1}_\beta^+|A_9\rangle\langle B_0|\hat{1}_\alpha^-|B_{11}\rangle\langle I_7|\hat{0}_\beta^-|I_0\rangle t_{A_{14},I_7} \end{aligned}$$

$$\begin{aligned} &\langle(A_9, B_{11})|\hat{H}|(A_{14}, B_1, I_7)\rangle = \\ &+\frac{1}{2}\sum_I\langle 1^A 1^A|\hat{g}|1^B 0^I\rangle\langle A_{14}|\hat{1}_\alpha^+\hat{1}_\beta^+|A_9\rangle\langle B_1|\hat{1}_\alpha^-|B_{11}\rangle\langle I_7|\hat{0}_\beta^-|I_0\rangle t_{B_1}t_{A_{14},I_7} \end{aligned}$$

$$\begin{aligned} &\langle(A_9, B_{11})|\hat{H}|(A_{14}, I_8)\rangle = \\ &+\frac{1}{2}\sum_I\langle 1^A 1^A|\hat{g}|1^B 1^I\rangle\langle A_{14}|\hat{1}_\alpha^+\hat{1}_\beta^+|A_9\rangle\langle B_0|\hat{1}_\alpha^-|B_{11}\rangle\langle I_8|\hat{1}_\beta^-|I_0\rangle t_{A_{14},I_8} \end{aligned}$$

$$\begin{aligned} &\langle(A_9, B_{11})|\hat{H}|(A_{14}, B_1, I_8)\rangle = \\ &+\frac{1}{2}\sum_I\langle 1^A 1^A|\hat{g}|1^B 1^I\rangle\langle A_{14}|\hat{1}_\alpha^+\hat{1}_\beta^+|A_9\rangle\langle B_1|\hat{1}_\alpha^-|B_{11}\rangle\langle I_8|\hat{1}_\beta^-|I_0\rangle t_{B_1}t_{A_{14},I_8} \end{aligned}$$

$$\begin{aligned} &\langle(A_9, B_{11})|\hat{H}|(B_{14}, I_7)\rangle = \\ &+\frac{1}{2}\sum_I\langle 0^A 1^B|\hat{g}|0^B 0^I\rangle\langle A_0|\hat{0}_\alpha^+|A_9\rangle\langle B_{14}|\hat{1}_\beta^+\hat{0}_\alpha^-|B_{11}\rangle\langle I_7|\hat{0}_\beta^-|I_0\rangle t_{B_{14},I_7} \end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_1, B_{14}, I_7) \rangle = \\
& + \frac{-1}{2} \sum_I \langle 0^A 1^B | \hat{g} | 0^B 0^I \rangle \langle A_1 | \hat{0}_\alpha^+ | A_9 \rangle \langle B_{14} | \hat{1}_\beta^+ \hat{0}_\alpha^- | B_{11} \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle t_{A_1} t_{B_{14}, I_7}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (B_{14}, I_8) \rangle = \\
& + \frac{-1}{2} \sum_I \langle 0^A 1^B | \hat{g} | 0^B 1^I \rangle \langle A_0 | \hat{0}_\alpha^+ | A_9 \rangle \langle B_{14} | \hat{1}_\beta^+ \hat{0}_\alpha^- | B_{11} \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle t_{B_{14}, I_8}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_1, B_{14}, I_8) \rangle = \\
& + \frac{-1}{2} \sum_I \langle 0^A 1^B | \hat{g} | 0^B 1^I \rangle \langle A_1 | \hat{0}_\alpha^+ | A_9 \rangle \langle B_{14} | \hat{1}_\beta^+ \hat{0}_\alpha^- | B_{11} \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle t_{A_1} t_{B_{14}, I_8}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (B_{13}, I_7) \rangle = \\
& + \frac{-1}{2} \sum_I \langle 0^A 1^B | \hat{g} | 1^B 0^I \rangle \langle A_0 | \hat{0}_\alpha^+ | A_9 \rangle \langle B_{13} | \hat{1}_\beta^+ \hat{1}_\alpha^- | B_{11} \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle t_{B_{13}, I_7}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_1, B_{13}, I_7) \rangle = \\
& + \frac{-1}{2} \sum_I \langle 0^A 1^B | \hat{g} | 1^B 0^I \rangle \langle A_1 | \hat{0}_\alpha^+ | A_9 \rangle \langle B_{13} | \hat{1}_\beta^+ \hat{1}_\alpha^- | B_{11} \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle t_{A_1} t_{B_{13}, I_7}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (B_{13}, I_8) \rangle = \\
& + \frac{-1}{2} \sum_I \langle 0^A 1^B | \hat{g} | 1^B 1^I \rangle \langle A_0 | \hat{0}_\alpha^+ | A_9 \rangle \langle B_{13} | \hat{1}_\beta^+ \hat{1}_\alpha^- | B_{11} \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle t_{B_{13}, I_8}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_1, B_{13}, I_8) \rangle = \\
& + \frac{-1}{2} \sum_I \langle 0^A 1^B | \hat{g} | 1^B 1^I \rangle \langle A_1 | \hat{0}_\alpha^+ | A_9 \rangle \langle B_{13} | \hat{1}_\beta^+ \hat{1}_\alpha^- | B_{11} \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle t_{A_1} t_{B_{13}, I_8}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_2, B_{14}, I_7) \rangle = \\
& + \frac{-1}{2} \sum_I \langle 1^A 1^B | \hat{g} | 0^B 0^I \rangle \langle A_2 | \hat{1}_\alpha^+ | A_9 \rangle \langle B_{14} | \hat{1}_\beta^+ \hat{0}_\alpha^- | B_{11} \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle t_{A_2} t_{B_{14}, I_7}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_3, B_{14}, I_7) \rangle = \\
& + \frac{-1}{2} \sum_I \langle 1^A 1^B | \hat{g} | 0^B 0^I \rangle \langle A_3 | \hat{1}_\alpha^+ | A_9 \rangle \langle B_{14} | \hat{1}_\beta^+ \hat{0}_\alpha^- | B_{11} \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle t_{A_3} t_{B_{14}, I_7}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_2, B_{14}, I_8) \rangle = \\
& + \frac{-1}{2} \sum_I \langle 1^A 1^B | \hat{g} | 0^B 1^I \rangle \langle A_2 | \hat{1}_\alpha^+ | A_9 \rangle \langle B_{14} | \hat{1}_\beta^+ \hat{0}_\alpha^- | B_{11} \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle t_{A_2} t_{B_{14}, I_8}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_3, B_{14}, I_8) \rangle = \\
& + \frac{-1}{2} \sum_I \langle 1^A 1^B | \hat{g} | 0^B 1^I \rangle \langle A_3 | \hat{1}_\alpha^+ | A_9 \rangle \langle B_{14} | \hat{1}_\beta^+ \hat{0}_\alpha^- | B_{11} \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle t_{A_3} t_{B_{14}, I_8}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_2, B_{13}, I_7) \rangle = \\
& + \frac{-1}{2} \sum_I \langle 1^A 1^B | \hat{g} | 1^B 0^I \rangle \langle A_2 | \hat{1}_\alpha^+ | A_9 \rangle \langle B_{13} | \hat{1}_\beta^+ \hat{1}_\alpha^- | B_{11} \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle t_{A_2} t_{B_{13}, I_7}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_3, B_{13}, I_7) \rangle = \\
& + \frac{-1}{2} \sum_I \langle 1^A 1^B | \hat{g} | 1^B 0^I \rangle \langle A_3 | \hat{1}_\alpha^+ | A_9 \rangle \langle B_{13} | \hat{1}_\beta^+ \hat{1}_\alpha^- | B_{11} \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle t_{A_3} t_{B_{13}, I_7}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_2, B_{13}, I_8) \rangle = \\
& + \frac{-1}{2} \sum_I \langle 1^A 1^B | \hat{g} | 1^B 1^I \rangle \langle A_2 | \hat{1}_\alpha^+ | A_9 \rangle \langle B_{13} | \hat{1}_\beta^+ \hat{1}_\alpha^- | B_{11} \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle t_{A_2} t_{B_{13}, I_8}
\end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_3, B_{13}, I_8) \rangle = \\ & + \frac{1}{2} \sum_I \langle 1^A 1^B | \hat{g} | 1^B 1^I \rangle \langle A_3 | \hat{1}_\alpha^+ | A_9 \rangle \langle B_{13} | \hat{1}_\beta^+ \hat{1}_\alpha^- | B_{11} \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle t_{A_3} t_{B_{13}, I_8} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (B_{12}, I_9) \rangle = \\ & + \frac{1}{2} \sum_I \langle 0^A 0^B | \hat{g} | 0^I 1^B \rangle \langle A_0 | \hat{0}_\alpha^+ | A_9 \rangle \langle B_{12} | \hat{1}_\beta^+ \hat{0}_\beta^- | B_{11} \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle t_{B_{12}, I_9} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_1, B_{12}, I_9) \rangle = \\ & + \frac{1}{2} \sum_I \langle 0^A 0^B | \hat{g} | 0^I 1^B \rangle \langle A_1 | \hat{0}_\alpha^+ | A_9 \rangle \langle B_{12} | \hat{1}_\beta^+ \hat{0}_\beta^- | B_{11} \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle t_{A_1} t_{B_{12}, I_9} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (B_{12}, I_{10}) \rangle = \\ & + \frac{1}{2} \sum_I \langle 0^A 0^B | \hat{g} | 1^I 1^B \rangle \langle A_0 | \hat{0}_\alpha^+ | A_9 \rangle \langle B_{12} | \hat{1}_\beta^+ \hat{0}_\beta^- | B_{11} \rangle \langle I_{10} | \hat{1}_\alpha^- | I_0 \rangle t_{B_{12}, I_{10}} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_1, B_{12}, I_{10}) \rangle = \\ & + \frac{1}{2} \sum_I \langle 0^A 0^B | \hat{g} | 1^I 1^B \rangle \langle A_1 | \hat{0}_\alpha^+ | A_9 \rangle \langle B_{12} | \hat{1}_\beta^+ \hat{0}_\beta^- | B_{11} \rangle \langle I_{10} | \hat{1}_\alpha^- | I_0 \rangle t_{A_1} t_{B_{12}, I_{10}} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_2, B_{12}, I_9) \rangle = \\ & + \frac{1}{2} \sum_I \langle 1^A 0^B | \hat{g} | 0^I 1^B \rangle \langle A_2 | \hat{1}_\alpha^+ | A_9 \rangle \langle B_{12} | \hat{1}_\beta^+ \hat{0}_\beta^- | B_{11} \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle t_{A_2} t_{B_{12}, I_9} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_3, B_{12}, I_9) \rangle = \\ & + \frac{1}{2} \sum_I \langle 1^A 0^B | \hat{g} | 0^I 1^B \rangle \langle A_3 | \hat{1}_\alpha^+ | A_9 \rangle \langle B_{12} | \hat{1}_\beta^+ \hat{0}_\beta^- | B_{11} \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle t_{A_3} t_{B_{12}, I_9} \end{aligned}$$

$$\langle (A_9, B_{11}) | \hat{H} | (A_2, B_{12}, I_{10}) \rangle =$$

$$+\frac{1}{2} \sum_I \langle 1^A 0^B | \hat{g} | 1^I 1^B \rangle \langle A_2 | \hat{1}_\alpha^+ | A_9 \rangle \langle B_{12} | \hat{1}_\beta^+ \hat{0}_\beta^- | B_{11} \rangle \langle I_{10} | \hat{1}_\alpha^- | I_0 \rangle t_{A_2} t_{B_{12}, I_{10}}$$

$$\langle (A_9, B_{11}) | \hat{H} | (A_3, B_{12}, I_{10}) \rangle =$$

$$+\frac{1}{2} \sum_I \langle 1^A 0^B | \hat{g} | 1^I 1^B \rangle \langle A_3 | \hat{1}_\alpha^+ | A_9 \rangle \langle B_{12} | \hat{1}_\beta^+ \hat{0}_\beta^- | B_{11} \rangle \langle I_{10} | \hat{1}_\alpha^- | I_0 \rangle t_{A_3} t_{B_{12}, I_{10}}$$

$$\langle (A_9, B_{11}) | \hat{H} | (B_{15}, I_6) \rangle =$$

$$+\frac{-1}{2} \sum_I \langle 0^A 1^B | \hat{g} | 0^I 0^I \rangle \langle A_0 | \hat{0}_\alpha^+ | A_9 \rangle \langle B_{15} | \hat{1}_\beta^+ | B_{11} \rangle \langle I_6 | \hat{0}_\beta^- \hat{0}_\alpha^- | I_0 \rangle t_{B_{15}, I_6}$$

$$+\frac{-1}{2} \sum_I \langle 0^A 1^B | \hat{g} | 1^I 1^I \rangle \langle A_0 | \hat{0}_\alpha^+ | A_9 \rangle \langle B_{15} | \hat{1}_\beta^+ | B_{11} \rangle \langle I_6 | \hat{1}_\beta^- \hat{1}_\alpha^- | I_0 \rangle t_{B_{15}, I_6}$$

$$\langle (A_9, B_{11}) | \hat{H} | (A_1, B_{15}, I_6) \rangle =$$

$$+\frac{-1}{2} \sum_I \langle 0^A 1^B | \hat{g} | 0^I 0^I \rangle \langle A_1 | \hat{0}_\alpha^+ | A_9 \rangle \langle B_{15} | \hat{1}_\beta^+ | B_{11} \rangle \langle I_6 | \hat{0}_\beta^- \hat{0}_\alpha^- | I_0 \rangle t_{A_1} t_{B_{15}, I_6}$$

$$+\frac{-1}{2} \sum_I \langle 0^A 1^B | \hat{g} | 1^I 1^I \rangle \langle A_1 | \hat{0}_\alpha^+ | A_9 \rangle \langle B_{15} | \hat{1}_\beta^+ | B_{11} \rangle \langle I_6 | \hat{1}_\beta^- \hat{1}_\alpha^- | I_0 \rangle t_{A_1} t_{B_{15}, I_6}$$

$$\langle (A_9, B_{11}) | \hat{H} | (A_2, B_{15}, I_6) \rangle =$$

$$+\frac{-1}{2} \sum_I \langle 1^A 1^B | \hat{g} | 0^I 0^I \rangle \langle A_2 | \hat{1}_\alpha^+ | A_9 \rangle \langle B_{15} | \hat{1}_\beta^+ | B_{11} \rangle \langle I_6 | \hat{0}_\beta^- \hat{0}_\alpha^- | I_0 \rangle t_{A_2} t_{B_{15}, I_6}$$

$$+\frac{-1}{2} \sum_I \langle 1^A 1^B | \hat{g} | 1^I 1^I \rangle \langle A_2 | \hat{1}_\alpha^+ | A_9 \rangle \langle B_{15} | \hat{1}_\beta^+ | B_{11} \rangle \langle I_6 | \hat{1}_\beta^- \hat{1}_\alpha^- | I_0 \rangle t_{A_2} t_{B_{15}, I_6}$$

$$\langle (A_9, B_{11}) | \hat{H} | (A_3, B_{15}, I_6) \rangle =$$

$$+\frac{-1}{2} \sum_I \langle 1^A 1^B | \hat{g} | 0^I 0^I \rangle \langle A_3 | \hat{1}_\alpha^+ | A_9 \rangle \langle B_{15} | \hat{1}_\beta^+ | B_{11} \rangle \langle I_6 | \hat{0}_\beta^- \hat{0}_\alpha^- | I_0 \rangle t_{A_3} t_{B_{15}, I_6}$$

$$+\frac{-1}{2} \sum_I \langle 1^A 1^B | \hat{g} | 1^I 1^I \rangle \langle A_3 | \hat{1}_\alpha^+ | A_9 \rangle \langle B_{15} | \hat{1}_\beta^+ | B_{11} \rangle \langle I_6 | \hat{1}_\beta^- \hat{1}_\alpha^- | I_0 \rangle t_{A_3} t_{B_{15}, I_6}$$

$$\langle (A_9, B_{11}) | \hat{H} | (A_7, B_2, I_{14}) \rangle =$$

$$+\frac{-1}{2} \sum_I \langle 0^A 0^A | \hat{g} | 0^B 0^I \rangle \langle A_7 | \hat{0}_\alpha^+ \hat{0}_\beta^- | A_9 \rangle \langle B_2 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle t_{B_2} t_{A_7, I_{14}}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_7, B_3, I_{14}) \rangle = \\ & + \frac{-1}{2} \sum_I \langle 0^A 0^A | \hat{g} | 0^B 0^I \rangle \langle A_7 | \hat{0}_\alpha^+ \hat{0}_\beta^- | A_9 \rangle \langle B_3 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle t_{B_3} t_{A_7, I_{14}} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_7, I_{14}) \rangle = \\ & + \frac{-1}{2} \sum_I \langle 0^A 0^A | \hat{g} | 1^B 0^I \rangle \langle A_7 | \hat{0}_\alpha^+ \hat{0}_\beta^- | A_9 \rangle \langle B_0 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle t_{A_7, I_{14}} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_7, B_1, I_{14}) \rangle = \\ & + \frac{-1}{2} \sum_I \langle 0^A 0^A | \hat{g} | 1^B 0^I \rangle \langle A_7 | \hat{0}_\alpha^+ \hat{0}_\beta^- | A_9 \rangle \langle B_1 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle t_{B_1} t_{A_7, I_{14}} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_7, B_2, I_{13}) \rangle = \\ & + \frac{-1}{2} \sum_I \langle 0^A 0^A | \hat{g} | 0^B 1^I \rangle \langle A_7 | \hat{0}_\alpha^+ \hat{0}_\beta^- | A_9 \rangle \langle B_2 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle t_{B_2} t_{A_7, I_{13}} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_7, B_3, I_{13}) \rangle = \\ & + \frac{-1}{2} \sum_I \langle 0^A 0^A | \hat{g} | 0^B 1^I \rangle \langle A_7 | \hat{0}_\alpha^+ \hat{0}_\beta^- | A_9 \rangle \langle B_3 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle t_{B_3} t_{A_7, I_{13}} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_7, I_{13}) \rangle = \\ & + \frac{-1}{2} \sum_I \langle 0^A 0^A | \hat{g} | 1^B 1^I \rangle \langle A_7 | \hat{0}_\alpha^+ \hat{0}_\beta^- | A_9 \rangle \langle B_0 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle t_{A_7, I_{13}} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_7, B_1, I_{13}) \rangle = \\ & + \frac{-1}{2} \sum_I \langle 0^A 0^A | \hat{g} | 1^B 1^I \rangle \langle A_7 | \hat{0}_\alpha^+ \hat{0}_\beta^- | A_9 \rangle \langle B_1 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle t_{B_1} t_{A_7, I_{13}} \end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_8, B_2, I_{14}) \rangle = \\
& + \frac{-1}{2} \sum_I \langle 0^A 1^A | \hat{g} | 0^I 0^B \rangle \langle A_8 | \hat{1}_\alpha^+ \hat{0}_\beta^- | A_9 \rangle \langle B_2 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle t_{B_2} t_{A_8, I_{14}}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_8, B_3, I_{14}) \rangle = \\
& + \frac{-1}{2} \sum_I \langle 0^A 1^A | \hat{g} | 0^I 0^B \rangle \langle A_8 | \hat{1}_\alpha^+ \hat{0}_\beta^- | A_9 \rangle \langle B_3 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle t_{B_3} t_{A_8, I_{14}}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_8, I_{14}) \rangle = \\
& + \frac{-1}{2} \sum_I \langle 0^A 1^A | \hat{g} | 0^I 1^B \rangle \langle A_8 | \hat{1}_\alpha^+ \hat{0}_\beta^- | A_9 \rangle \langle B_0 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle t_{A_8, I_{14}}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_8, B_1, I_{14}) \rangle = \\
& + \frac{-1}{2} \sum_I \langle 0^A 1^A | \hat{g} | 0^I 1^B \rangle \langle A_8 | \hat{1}_\alpha^+ \hat{0}_\beta^- | A_9 \rangle \langle B_1 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle t_{B_1} t_{A_8, I_{14}}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_8, B_2, I_{13}) \rangle = \\
& + \frac{-1}{2} \sum_I \langle 0^A 1^A | \hat{g} | 1^I 0^B \rangle \langle A_8 | \hat{1}_\alpha^+ \hat{0}_\beta^- | A_9 \rangle \langle B_2 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle t_{B_2} t_{A_8, I_{13}}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_8, B_3, I_{13}) \rangle = \\
& + \frac{-1}{2} \sum_I \langle 0^A 1^A | \hat{g} | 1^I 0^B \rangle \langle A_8 | \hat{1}_\alpha^+ \hat{0}_\beta^- | A_9 \rangle \langle B_3 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle t_{B_3} t_{A_8, I_{13}}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_8, I_{13}) \rangle = \\
& + \frac{-1}{2} \sum_I \langle 0^A 1^A | \hat{g} | 1^I 1^B \rangle \langle A_8 | \hat{1}_\alpha^+ \hat{0}_\beta^- | A_9 \rangle \langle B_0 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle t_{A_8, I_{13}}
\end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_8, B_1, I_{13}) \rangle = \\ & + \frac{-1}{2} \sum_I \langle 0^A 1^A | \hat{g} | 1^I 1^B \rangle \langle A_8 | \hat{1}_\alpha^+ \hat{0}_\beta^- | A_9 \rangle \langle B_1 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle t_{B_1} t_{A_8, I_{13}} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (B_8, I_{14}) \rangle = \\ & + \frac{1}{2} \sum_I \langle 0^A 0^B | \hat{g} | 0^B 0^I \rangle \langle A_0 | \hat{0}_\alpha^+ | A_9 \rangle \langle B_8 | \hat{0}_\beta^- \hat{0}_\alpha^- | B_{11} \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle t_{B_8, I_{14}} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_1, B_8, I_{14}) \rangle = \\ & + \frac{1}{2} \sum_I \langle 0^A 0^B | \hat{g} | 0^B 0^I \rangle \langle A_1 | \hat{0}_\alpha^+ | A_9 \rangle \langle B_8 | \hat{0}_\beta^- \hat{0}_\alpha^- | B_{11} \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle t_{A_1} t_{B_8, I_{14}} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (B_9, I_{12}) \rangle = \\ & + \frac{1}{4} \sum_I \langle 0^A 1^B | \hat{g} | 0^B 0^I \rangle \langle A_0 | \hat{0}_\alpha^+ | A_9 \rangle \langle B_9 | \hat{1}_\alpha^- \hat{0}_\alpha^- | B_{11} \rangle \langle I_{12} | \hat{0}_\alpha^+ | I_0 \rangle t_{B_9, I_{12}} \\ & + \frac{1}{4} \sum_I \langle 0^A 0^B | \hat{g} | 1^B 0^I \rangle \langle A_0 | \hat{0}_\alpha^+ | A_9 \rangle \langle B_9 | \hat{0}_\alpha^- \hat{1}_\alpha^- | B_{11} \rangle \langle I_{12} | \hat{0}_\alpha^+ | I_0 \rangle t_{B_9, I_{12}} \\ & + \frac{-1}{4} \sum_I \langle 0^A 0^B | \hat{g} | 1^B 0^I \rangle \langle A_0 | \hat{0}_\alpha^+ | A_9 \rangle \langle B_9 | \hat{1}_\alpha^- \hat{0}_\alpha^- | B_{11} \rangle \langle I_{12} | \hat{0}_\alpha^+ | I_0 \rangle t_{B_9, I_{12}} \\ & + \frac{-1}{4} \sum_I \langle 0^A 1^B | \hat{g} | 0^B 0^I \rangle \langle A_0 | \hat{0}_\alpha^+ | A_9 \rangle \langle B_9 | \hat{0}_\alpha^- \hat{1}_\alpha^- | B_{11} \rangle \langle I_{12} | \hat{0}_\alpha^+ | I_0 \rangle t_{B_9, I_{12}} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_1, B_9, I_{12}) \rangle = \\ & + \frac{1}{4} \sum_I \langle 0^A 1^B | \hat{g} | 0^B 0^I \rangle \langle A_1 | \hat{0}_\alpha^+ | A_9 \rangle \langle B_9 | \hat{1}_\alpha^- \hat{0}_\alpha^- | B_{11} \rangle \langle I_{12} | \hat{0}_\alpha^+ | I_0 \rangle t_{A_1} t_{B_9, I_{12}} \\ & + \frac{1}{4} \sum_I \langle 0^A 0^B | \hat{g} | 1^B 0^I \rangle \langle A_1 | \hat{0}_\alpha^+ | A_9 \rangle \langle B_9 | \hat{0}_\alpha^- \hat{1}_\alpha^- | B_{11} \rangle \langle I_{12} | \hat{0}_\alpha^+ | I_0 \rangle t_{A_1} t_{B_9, I_{12}} \\ & + \frac{-1}{4} \sum_I \langle 0^A 0^B | \hat{g} | 1^B 0^I \rangle \langle A_1 | \hat{0}_\alpha^+ | A_9 \rangle \langle B_9 | \hat{1}_\alpha^- \hat{0}_\alpha^- | B_{11} \rangle \langle I_{12} | \hat{0}_\alpha^+ | I_0 \rangle t_{A_1} t_{B_9, I_{12}} \\ & + \frac{-1}{4} \sum_I \langle 0^A 1^B | \hat{g} | 0^B 0^I \rangle \langle A_1 | \hat{0}_\alpha^+ | A_9 \rangle \langle B_9 | \hat{0}_\alpha^- \hat{1}_\alpha^- | B_{11} \rangle \langle I_{12} | \hat{0}_\alpha^+ | I_0 \rangle t_{A_1} t_{B_9, I_{12}} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (B_7, I_{14}) \rangle = \\ & + \frac{1}{2} \sum_I \langle 0^A 0^B | \hat{g} | 1^B 0^I \rangle \langle A_0 | \hat{0}_\alpha^+ | A_9 \rangle \langle B_7 | \hat{0}_\beta^- \hat{1}_\alpha^- | B_{11} \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle t_{B_7, I_{14}} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_1, B_7, I_{14}) \rangle = \\ & + \frac{1}{2} \sum_I \langle 0^A 0^B | \hat{g} | 1^B 0^I \rangle \langle A_1 | \hat{0}_\alpha^+ | A_9 \rangle \langle B_7 | \hat{0}_\beta^- \hat{1}_\alpha^- | B_{11} \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle t_{A_1} t_{B_7, I_{14}} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (B_8, I_{13}) \rangle = \\ & + \frac{1}{2} \sum_I \langle 0^A 0^B | \hat{g} | 0^B 1^I \rangle \langle A_0 | \hat{0}_\alpha^+ | A_9 \rangle \langle B_8 | \hat{0}_\beta^- \hat{0}_\alpha^- | B_{11} \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle t_{B_8, I_{13}} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_1, B_8, I_{13}) \rangle = \\ & + \frac{1}{2} \sum_I \langle 0^A 0^B | \hat{g} | 0^B 1^I \rangle \langle A_1 | \hat{0}_\alpha^+ | A_9 \rangle \langle B_8 | \hat{0}_\beta^- \hat{0}_\alpha^- | B_{11} \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle t_{A_1} t_{B_8, I_{13}} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (B_9, I_{11}) \rangle = \\ & + \frac{1}{4} \sum_I \langle 0^A 1^B | \hat{g} | 0^B 1^I \rangle \langle A_0 | \hat{0}_\alpha^+ | A_9 \rangle \langle B_9 | \hat{1}_\alpha^- \hat{0}_\alpha^- | B_{11} \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle t_{B_9, I_{11}} \\ & + \frac{1}{4} \sum_I \langle 0^A 0^B | \hat{g} | 1^B 1^I \rangle \langle A_0 | \hat{0}_\alpha^+ | A_9 \rangle \langle B_9 | \hat{0}_\alpha^- \hat{1}_\alpha^- | B_{11} \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle t_{B_9, I_{11}} \\ & + \frac{-1}{4} \sum_I \langle 0^A 0^B | \hat{g} | 1^B 1^I \rangle \langle A_0 | \hat{0}_\alpha^+ | A_9 \rangle \langle B_9 | \hat{1}_\alpha^- \hat{0}_\alpha^- | B_{11} \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle t_{B_9, I_{11}} \\ & + \frac{-1}{4} \sum_I \langle 0^A 1^B | \hat{g} | 0^B 1^I \rangle \langle A_0 | \hat{0}_\alpha^+ | A_9 \rangle \langle B_9 | \hat{0}_\alpha^- \hat{1}_\alpha^- | B_{11} \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle t_{B_9, I_{11}} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_1, B_9, I_{11}) \rangle = \\ & + \frac{1}{4} \sum_I \langle 0^A 1^B | \hat{g} | 0^B 1^I \rangle \langle A_1 | \hat{0}_\alpha^+ | A_9 \rangle \langle B_9 | \hat{1}_\alpha^- \hat{0}_\alpha^- | B_{11} \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle t_{A_1} t_{B_9, I_{11}} \\ & + \frac{1}{4} \sum_I \langle 0^A 0^B | \hat{g} | 1^B 1^I \rangle \langle A_1 | \hat{0}_\alpha^+ | A_9 \rangle \langle B_9 | \hat{0}_\alpha^- \hat{1}_\alpha^- | B_{11} \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle t_{A_1} t_{B_9, I_{11}} \\ & + \frac{-1}{4} \sum_I \langle 0^A 0^B | \hat{g} | 1^B 1^I \rangle \langle A_1 | \hat{0}_\alpha^+ | A_9 \rangle \langle B_9 | \hat{1}_\alpha^- \hat{0}_\alpha^- | B_{11} \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle t_{A_1} t_{B_9, I_{11}} \\ & + \frac{-1}{4} \sum_I \langle 0^A 1^B | \hat{g} | 0^B 1^I \rangle \langle A_1 | \hat{0}_\alpha^+ | A_9 \rangle \langle B_9 | \hat{0}_\alpha^- \hat{1}_\alpha^- | B_{11} \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle t_{A_1} t_{B_9, I_{11}} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (B_7, I_{13}) \rangle = \\ & + \frac{1}{2} \sum_I \langle 0^A 0^B | \hat{g} | 1^B 1^I \rangle \langle A_0 | \hat{0}_\alpha^+ | A_9 \rangle \langle B_7 | \hat{0}_\beta^- \hat{1}_\alpha^- | B_{11} \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle t_{B_7, I_{13}} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_1, B_7, I_{13}) \rangle = \\ & + \frac{1}{2} \sum_I \langle 0^A 0^B | \hat{g} | 1^B 1^I \rangle \langle A_1 | \hat{0}_\alpha^+ | A_9 \rangle \langle B_7 | \hat{0}_\beta^- \hat{1}_\alpha^- | B_{11} \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle t_{A_1} t_{B_7, I_{13}} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_2, B_8, I_{14}) \rangle = \\ & + \frac{1}{2} \sum_I \langle 1^A 0^B | \hat{g} | 0^B 0^I \rangle \langle A_2 | \hat{1}_\alpha^+ | A_9 \rangle \langle B_8 | \hat{0}_\beta^- \hat{0}_\alpha^- | B_{11} \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle t_{A_2} t_{B_8, I_{14}} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_3, B_8, I_{14}) \rangle = \\ & + \frac{1}{2} \sum_I \langle 1^A 0^B | \hat{g} | 0^B 0^I \rangle \langle A_3 | \hat{1}_\alpha^+ | A_9 \rangle \langle B_8 | \hat{0}_\beta^- \hat{0}_\alpha^- | B_{11} \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle t_{A_3} t_{B_8, I_{14}} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_2, B_9, I_{12}) \rangle = \\ & + \frac{1}{4} \sum_I \langle 1^A 1^B | \hat{g} | 0^B 0^I \rangle \langle A_2 | \hat{1}_\alpha^+ | A_9 \rangle \langle B_9 | \hat{1}_\alpha^- \hat{0}_\alpha^- | B_{11} \rangle \langle I_{12} | \hat{0}_\alpha^+ | I_0 \rangle t_{A_2} t_{B_9, I_{12}} \\ & + \frac{1}{4} \sum_I \langle 1^A 0^B | \hat{g} | 1^B 0^I \rangle \langle A_2 | \hat{1}_\alpha^+ | A_9 \rangle \langle B_9 | \hat{0}_\alpha^- \hat{1}_\alpha^- | B_{11} \rangle \langle I_{12} | \hat{0}_\alpha^+ | I_0 \rangle t_{A_2} t_{B_9, I_{12}} \\ & + \frac{-1}{4} \sum_I \langle 1^A 0^B | \hat{g} | 1^B 0^I \rangle \langle A_2 | \hat{1}_\alpha^+ | A_9 \rangle \langle B_9 | \hat{1}_\alpha^- \hat{0}_\alpha^- | B_{11} \rangle \langle I_{12} | \hat{0}_\alpha^+ | I_0 \rangle t_{A_2} t_{B_9, I_{12}} \\ & + \frac{-1}{4} \sum_I \langle 1^A 1^B | \hat{g} | 0^B 0^I \rangle \langle A_2 | \hat{1}_\alpha^+ | A_9 \rangle \langle B_9 | \hat{0}_\alpha^- \hat{1}_\alpha^- | B_{11} \rangle \langle I_{12} | \hat{0}_\alpha^+ | I_0 \rangle t_{A_2} t_{B_9, I_{12}} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_3, B_9, I_{12}) \rangle = \\ & + \frac{1}{4} \sum_I \langle 1^A 1^B | \hat{g} | 0^B 0^I \rangle \langle A_3 | \hat{1}_\alpha^+ | A_9 \rangle \langle B_9 | \hat{1}_\alpha^- \hat{0}_\alpha^- | B_{11} \rangle \langle I_{12} | \hat{0}_\alpha^+ | I_0 \rangle t_{A_3} t_{B_9, I_{12}} \\ & + \frac{1}{4} \sum_I \langle 1^A 0^B | \hat{g} | 1^B 0^I \rangle \langle A_3 | \hat{1}_\alpha^+ | A_9 \rangle \langle B_9 | \hat{0}_\alpha^- \hat{1}_\alpha^- | B_{11} \rangle \langle I_{12} | \hat{0}_\alpha^+ | I_0 \rangle t_{A_3} t_{B_9, I_{12}} \\ & + \frac{-1}{4} \sum_I \langle 1^A 0^B | \hat{g} | 1^B 0^I \rangle \langle A_3 | \hat{1}_\alpha^+ | A_9 \rangle \langle B_9 | \hat{1}_\alpha^- \hat{0}_\alpha^- | B_{11} \rangle \langle I_{12} | \hat{0}_\alpha^+ | I_0 \rangle t_{A_3} t_{B_9, I_{12}} \\ & + \frac{-1}{4} \sum_I \langle 1^A 1^B | \hat{g} | 0^B 0^I \rangle \langle A_3 | \hat{1}_\alpha^+ | A_9 \rangle \langle B_9 | \hat{0}_\alpha^- \hat{1}_\alpha^- | B_{11} \rangle \langle I_{12} | \hat{0}_\alpha^+ | I_0 \rangle t_{A_3} t_{B_9, I_{12}} \end{aligned}$$

$$\langle (A_9, B_{11}) | \hat{H} | (A_2, B_7, I_{14}) \rangle =$$

$$+\frac{1}{2}\sum_I\langle 1^A 0^B|\hat{g}|1^B 0^I\rangle\langle A_2|\hat{1}_\alpha^+|A_9\rangle\langle B_7|\hat{0}_\beta^-\hat{1}_\alpha^-|B_{11}\rangle\langle I_{14}|\hat{0}_\beta^+|I_0\rangle t_{A_2}t_{B_7,I_{14}}$$

$$\langle(A_9, B_{11})|\hat{H}|(A_3, B_7, I_{14})\rangle =$$

$$+\frac{1}{2}\sum_I\langle 1^A 0^B|\hat{g}|1^B 0^I\rangle\langle A_3|\hat{1}_\alpha^+|A_9\rangle\langle B_7|\hat{0}_\beta^-\hat{1}_\alpha^-|B_{11}\rangle\langle I_{14}|\hat{0}_\beta^+|I_0\rangle t_{A_3}t_{B_7,I_{14}}$$

$$\langle(A_9, B_{11})|\hat{H}|(A_2, B_8, I_{13})\rangle =$$

$$+\frac{1}{2}\sum_I\langle 1^A 0^B|\hat{g}|0^B 1^I\rangle\langle A_2|\hat{1}_\alpha^+|A_9\rangle\langle B_8|\hat{0}_\beta^-\hat{0}_\alpha^-|B_{11}\rangle\langle I_{13}|\hat{1}_\beta^+|I_0\rangle t_{A_2}t_{B_8,I_{13}}$$

$$\langle(A_9, B_{11})|\hat{H}|(A_3, B_8, I_{13})\rangle =$$

$$+\frac{1}{2}\sum_I\langle 1^A 0^B|\hat{g}|0^B 1^I\rangle\langle A_3|\hat{1}_\alpha^+|A_9\rangle\langle B_8|\hat{0}_\beta^-\hat{0}_\alpha^-|B_{11}\rangle\langle I_{13}|\hat{1}_\beta^+|I_0\rangle t_{A_3}t_{B_8,I_{13}}$$

$$\langle(A_9, B_{11})|\hat{H}|(A_2, B_9, I_{11})\rangle =$$

$$\begin{aligned} &+\frac{1}{4}\sum_I\langle 1^A 1^B|\hat{g}|0^B 1^I\rangle\langle A_2|\hat{1}_\alpha^+|A_9\rangle\langle B_9|\hat{1}_\alpha^-\hat{0}_\alpha^-|B_{11}\rangle\langle I_{11}|\hat{1}_\alpha^+|I_0\rangle t_{A_2}t_{B_9,I_{11}} \\ &+\frac{1}{4}\sum_I\langle 1^A 0^B|\hat{g}|1^B 1^I\rangle\langle A_2|\hat{1}_\alpha^+|A_9\rangle\langle B_9|\hat{0}_\alpha^-\hat{1}_\alpha^-|B_{11}\rangle\langle I_{11}|\hat{1}_\alpha^+|I_0\rangle t_{A_2}t_{B_9,I_{11}} \\ &+\frac{-1}{4}\sum_I\langle 1^A 0^B|\hat{g}|1^B 1^I\rangle\langle A_2|\hat{1}_\alpha^+|A_9\rangle\langle B_9|\hat{1}_\alpha^-\hat{0}_\alpha^-|B_{11}\rangle\langle I_{11}|\hat{1}_\alpha^+|I_0\rangle t_{A_2}t_{B_9,I_{11}} \\ &+\frac{-1}{4}\sum_I\langle 1^A 1^B|\hat{g}|0^B 1^I\rangle\langle A_2|\hat{1}_\alpha^+|A_9\rangle\langle B_9|\hat{0}_\alpha^-\hat{1}_\alpha^-|B_{11}\rangle\langle I_{11}|\hat{1}_\alpha^+|I_0\rangle t_{A_2}t_{B_9,I_{11}} \end{aligned}$$

$$\langle(A_9, B_{11})|\hat{H}|(A_3, B_9, I_{11})\rangle =$$

$$\begin{aligned} &+\frac{1}{4}\sum_I\langle 1^A 1^B|\hat{g}|0^B 1^I\rangle\langle A_3|\hat{1}_\alpha^+|A_9\rangle\langle B_9|\hat{1}_\alpha^-\hat{0}_\alpha^-|B_{11}\rangle\langle I_{11}|\hat{1}_\alpha^+|I_0\rangle t_{A_3}t_{B_9,I_{11}} \\ &+\frac{1}{4}\sum_I\langle 1^A 0^B|\hat{g}|1^B 1^I\rangle\langle A_3|\hat{1}_\alpha^+|A_9\rangle\langle B_9|\hat{0}_\alpha^-\hat{1}_\alpha^-|B_{11}\rangle\langle I_{11}|\hat{1}_\alpha^+|I_0\rangle t_{A_3}t_{B_9,I_{11}} \\ &+\frac{-1}{4}\sum_I\langle 1^A 0^B|\hat{g}|1^B 1^I\rangle\langle A_3|\hat{1}_\alpha^+|A_9\rangle\langle B_9|\hat{1}_\alpha^-\hat{0}_\alpha^-|B_{11}\rangle\langle I_{11}|\hat{1}_\alpha^+|I_0\rangle t_{A_3}t_{B_9,I_{11}} \\ &+\frac{-1}{4}\sum_I\langle 1^A 1^B|\hat{g}|0^B 1^I\rangle\langle A_3|\hat{1}_\alpha^+|A_9\rangle\langle B_9|\hat{0}_\alpha^-\hat{1}_\alpha^-|B_{11}\rangle\langle I_{11}|\hat{1}_\alpha^+|I_0\rangle t_{A_3}t_{B_9,I_{11}} \end{aligned}$$

$$\begin{aligned}
& + \frac{1}{2} \sum_I \langle 0^A 0^B | \hat{g} | 1^I 1^I \rangle \langle A_0 | \hat{0}_\alpha^+ | A_9 \rangle \langle B_3 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_1 | \hat{1}_\alpha^+ \hat{1}_\alpha^- | I_0 \rangle t_{B_3, I_1} \\
& + \frac{-1}{2} \sum_I \langle 0^A 0^I | \hat{g} | 0^B 0^I \rangle \langle A_0 | \hat{0}_\alpha^+ | A_9 \rangle \langle B_3 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_1 | \hat{0}_\alpha^+ \hat{0}_\alpha^- | I_0 \rangle t_{B_3} t_{I_1} \\
& + \frac{-1}{2} \sum_I \langle 0^A 0^I | \hat{g} | 0^B 0^I \rangle \langle A_0 | \hat{0}_\alpha^+ | A_9 \rangle \langle B_3 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_1 | \hat{0}_\beta^+ \hat{0}_\beta^- | I_0 \rangle t_{B_3} t_{I_1} \\
& + \frac{-1}{2} \sum_I \langle 0^A 1^I | \hat{g} | 0^B 1^I \rangle \langle A_0 | \hat{0}_\alpha^+ | A_9 \rangle \langle B_3 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_1 | \hat{1}_\alpha^+ \hat{1}_\alpha^- | I_0 \rangle t_{B_3} t_{I_1} \\
& + \frac{-1}{2} \sum_I \langle 0^A 1^I | \hat{g} | 0^B 1^I \rangle \langle A_0 | \hat{0}_\alpha^+ | A_9 \rangle \langle B_3 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_1 | \hat{1}_\beta^+ \hat{1}_\beta^- | I_0 \rangle t_{B_3} t_{I_1} \\
& + \frac{1}{2} \sum_I \langle 0^A 0^B | \hat{g} | 0^I 0^I \rangle \langle A_0 | \hat{0}_\alpha^+ | A_9 \rangle \langle B_3 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_1 | \hat{0}_\alpha^+ \hat{0}_\alpha^- | I_0 \rangle t_{B_3} t_{I_1} \\
& + \frac{1}{2} \sum_I \langle 0^A 0^B | \hat{g} | 1^I 1^I \rangle \langle A_0 | \hat{0}_\alpha^+ | A_9 \rangle \langle B_3 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_1 | \hat{1}_\alpha^+ \hat{1}_\alpha^- | I_0 \rangle t_{B_3} t_{I_1}
\end{aligned}$$

[illegible]

$$\begin{aligned}
& + \frac{-1}{2} \sum_I \langle 0^A 0^I | \hat{g} | 0^B 0^I \rangle \langle A_1 | \hat{0}_\alpha^+ | A_9 \rangle \langle B_2 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_1 | \hat{0}_\beta^+ \hat{0}_\beta^- | I_0 \rangle t_{A_1} t_{B_2} t_{I_1} \\
& + \frac{-1}{2} \sum_I \langle 0^A 1^I | \hat{g} | 0^B 1^I \rangle \langle A_1 | \hat{0}_\alpha^+ | A_9 \rangle \langle B_2 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_1 | \hat{1}_\alpha^+ \hat{1}_\alpha^- | I_0 \rangle t_{A_1} t_{B_2} t_{I_1} \\
& + \frac{-1}{2} \sum_I \langle 0^A 1^I | \hat{g} | 0^B 1^I \rangle \langle A_1 | \hat{0}_\alpha^+ | A_9 \rangle \langle B_2 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_1 | \hat{1}_\beta^+ \hat{1}_\beta^- | I_0 \rangle t_{A_1} t_{B_2} t_{I_1} \\
& + \frac{1}{2} \sum_I \langle 0^A 0^B | \hat{g} | 0^I 0^I \rangle \langle A_1 | \hat{0}_\alpha^+ | A_9 \rangle \langle B_2 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_1 | \hat{0}_\alpha^+ \hat{0}_\alpha^- | I_0 \rangle t_{A_1} t_{B_2} t_{I_1} \\
& + \frac{1}{2} \sum_I \langle 0^A 0^B | \hat{g} | 1^I 1^I \rangle \langle A_1 | \hat{0}_\alpha^+ | A_9 \rangle \langle B_2 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_1 | \hat{1}_\alpha^+ \hat{1}_\alpha^- | I_0 \rangle t_{A_1} t_{B_2} t_{I_1}
\end{aligned}$$

$$\begin{aligned}
& + \frac{-1}{2} \sum_I \langle 0^A 0^I | \hat{g} | 0^B 1^I \rangle \langle A_0 | \hat{\rho}_\alpha^+ | A_9 \rangle \langle B_3 | \hat{\rho}_\alpha^- | B_{11} \rangle \langle I_3 | \hat{\rho}_\beta^+ \hat{1}_\beta^- | I_0 \rangle t_{B_3} t_{I_3} \\
& + \frac{-1}{2} \sum_I \langle 0^A 0^I | \hat{g} | 0^B 1^I \rangle \langle A_0 | \hat{\rho}_\alpha^+ | A_9 \rangle \langle B_3 | \hat{\rho}_\alpha^- | B_{11} \rangle \langle I_3 | \hat{1}_\alpha^+ \hat{\rho}_\alpha^- | I_0 \rangle t_{B_3} t_{I_3} \\
& + \frac{-1}{2} \sum_I \langle 0^A 0^I | \hat{g} | 0^B 1^I \rangle \langle A_0 | \hat{\rho}_\alpha^+ | A_9 \rangle \langle B_3 | \hat{\rho}_\alpha^- | B_{11} \rangle \langle I_3 | \hat{1}_\beta^+ \hat{\rho}_\beta^- | I_0 \rangle t_{B_3} t_{I_3} \\
& + \frac{1}{2} \sum_I \langle 0^A 0^B | \hat{g} | 1^I 0^I \rangle \langle A_0 | \hat{\rho}_\alpha^+ | A_9 \rangle \langle B_3 | \hat{\rho}_\alpha^- | B_{11} \rangle \langle I_3 | \hat{\rho}_\alpha^+ \hat{1}_\alpha^- | I_0 \rangle t_{B_3} t_{I_3} \\
& + \frac{1}{2} \sum_I \langle 0^A 0^B | \hat{g} | 0^I 1^I \rangle \langle A_0 | \hat{\rho}_\alpha^+ | A_9 \rangle \langle B_3 | \hat{\rho}_\alpha^- | B_{11} \rangle \langle I_3 | \hat{1}_\alpha^+ \hat{\rho}_\alpha^- | I_0 \rangle t_{B_3} t_{I_3}
\end{aligned}$$

[illegible]

$$\begin{aligned}
& + \frac{-1}{2} \sum_I \langle 0^A 0^I | \hat{g} | 0^B 1^I \rangle \langle A_1 | \hat{0}_\alpha^+ | A_9 \rangle \langle B_2 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_2 | \hat{1}_\beta^+ \hat{0}_\beta^- | I_0 \rangle t_{A_1} t_{B_2} t_{I_2} \\
& + \frac{1}{2} \sum_I \langle 0^A 0^B | \hat{g} | 1^I 0^I \rangle \langle A_1 | \hat{0}_\alpha^+ | A_9 \rangle \langle B_2 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_2 | \hat{0}_\alpha^+ \hat{1}_\alpha^- | I_0 \rangle t_{A_1} t_{B_2} t_{I_2} \\
& + \frac{1}{2} \sum_I \langle 0^A 0^B | \hat{g} | 0^I 1^I \rangle \langle A_1 | \hat{0}_\alpha^+ | A_9 \rangle \langle B_2 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_2 | \hat{1}_\alpha^+ \hat{0}_\alpha^- | I_0 \rangle t_{A_1} t_{B_2} t_{I_2}
\end{aligned}$$

[illegible]

$$+\frac{1}{2}\sum_I\langle 0^A0^B|\hat{g}|0^I1^I\rangle\langle A_1|\hat{0}_\alpha^+|A_9\rangle\langle B_2|\hat{0}_\alpha^-|B_{11}\rangle\langle I_3|\hat{1}_\alpha^+\hat{0}_\alpha^-|I_0\rangle t_{A_1}t_{B_2}t_{I_3}$$

[illegible]

$$\begin{aligned}
& +\frac{1}{2}\sum_I\langle 0^A 1^B|\hat{g}|1^I 1^I\rangle\langle A_1|\hat{0}_\alpha^+|A_9\rangle\langle B_0|\hat{1}_\alpha^-|B_{11}\rangle\langle I_1|\hat{1}_\alpha^+\hat{1}_\alpha^-|I_0\rangle t_{A_1}t_{I_1} \\
& +\frac{-1}{2}\sum_I\langle 0^A 0^I|\hat{g}|1^B 0^I\rangle\langle A_1|\hat{0}_\alpha^+|A_9\rangle\langle B_0|\hat{1}_\alpha^-|B_{11}\rangle\langle I_1|\hat{0}_\alpha^+\hat{0}_\alpha^-|I_0\rangle t_{A_1}t_{I_1} \\
& +\frac{-1}{2}\sum_I\langle 0^A 0^I|\hat{g}|1^B 0^I\rangle\langle A_1|\hat{0}_\alpha^+|A_9\rangle\langle B_0|\hat{1}_\alpha^-|B_{11}\rangle\langle I_1|\hat{0}_\beta^+\hat{0}_\beta^-|I_0\rangle t_{A_1}t_{I_1} \\
& +\frac{-1}{2}\sum_I\langle 0^A 1^I|\hat{g}|1^B 1^I\rangle\langle A_1|\hat{0}_\alpha^+|A_9\rangle\langle B_0|\hat{1}_\alpha^-|B_{11}\rangle\langle I_1|\hat{1}_\alpha^+\hat{1}_\alpha^-|I_0\rangle t_{A_1}t_{I_1} \\
& +\frac{-1}{2}\sum_I\langle 0^A 1^I|\hat{g}|1^B 1^I\rangle\langle A_1|\hat{0}_\alpha^+|A_9\rangle\langle B_0|\hat{1}_\alpha^-|B_{11}\rangle\langle I_1|\hat{1}_\beta^+\hat{1}_\beta^-|I_0\rangle t_{A_1}t_{I_1} \\
& +\frac{1}{2}\sum_I\langle 0^A 1^B|\hat{g}|0^I 0^I\rangle\langle A_1|\hat{0}_\alpha^+|A_9\rangle\langle B_0|\hat{1}_\alpha^-|B_{11}\rangle\langle I_1|\hat{0}_\alpha^+\hat{0}_\alpha^-|I_0\rangle t_{A_1}t_{I_1} \\
& +\frac{1}{2}\sum_I\langle 0^A 1^B|\hat{g}|1^I 1^I\rangle\langle A_1|\hat{0}_\alpha^+|A_9\rangle\langle B_0|\hat{1}_\alpha^-|B_{11}\rangle\langle I_1|\hat{1}_\alpha^+\hat{1}_\alpha^-|I_0\rangle t_{A_1}t_{I_1}
\end{aligned}$$

[illegible]

[illegible]

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_3, B_3, I_1) \rangle = \\
& + \frac{-1}{2} \sum_I \langle 1^A 0^I | \hat{g} | 0^B 0^I \rangle \langle A_3 | \hat{1}_\alpha^+ | A_9 \rangle \langle B_3 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_1 | \hat{0}_\alpha^+ \hat{0}_\alpha^- | I_0 \rangle t_{A_3} t_{B_3, I_1} \\
& + \frac{-1}{2} \sum_I \langle 1^A 0^I | \hat{g} | 0^B 0^I \rangle \langle A_3 | \hat{1}_\alpha^+ | A_9 \rangle \langle B_3 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_1 | \hat{0}_\beta^+ \hat{0}_\beta^- | I_0 \rangle t_{A_3} t_{B_3, I_1} \\
& + \frac{-1}{2} \sum_I \langle 1^A 1^I | \hat{g} | 0^B 1^I \rangle \langle A_3 | \hat{1}_\alpha^+ | A_9 \rangle \langle B_3 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_1 | \hat{1}_\alpha^+ \hat{1}_\alpha^- | I_0 \rangle t_{A_3} t_{B_3, I_1} \\
& + \frac{-1}{2} \sum_I \langle 1^A 1^I | \hat{g} | 0^B 1^I \rangle \langle A_3 | \hat{1}_\alpha^+ | A_9 \rangle \langle B_3 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_1 | \hat{1}_\beta^+ \hat{1}_\beta^- | I_0 \rangle t_{A_3} t_{B_3, I_1} \\
& + \frac{1}{2} \sum_I \langle 1^A 0^B | \hat{g} | 0^I 0^I \rangle \langle A_3 | \hat{1}_\alpha^+ | A_9 \rangle \langle B_3 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_1 | \hat{0}_\alpha^+ \hat{0}_\alpha^- | I_0 \rangle t_{A_3} t_{B_3, I_1} \\
& + \frac{1}{2} \sum_I \langle 1^A 0^B | \hat{g} | 1^I 1^I \rangle \langle A_3 | \hat{1}_\alpha^+ | A_9 \rangle \langle B_3 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_1 | \hat{1}_\alpha^+ \hat{1}_\alpha^- | I_0 \rangle t_{A_3} t_{B_3, I_1} \\
& + \frac{-1}{2} \sum_I \langle 1^A 0^I | \hat{g} | 0^B 0^I \rangle \langle A_3 | \hat{1}_\alpha^+ | A_9 \rangle \langle B_3 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_1 | \hat{0}_\alpha^+ \hat{0}_\alpha^- | I_0 \rangle t_{A_3, B_3} t_{I_1} \\
& + \frac{-1}{2} \sum_I \langle 1^A 0^I | \hat{g} | 0^B 0^I \rangle \langle A_3 | \hat{1}_\alpha^+ | A_9 \rangle \langle B_3 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_1 | \hat{0}_\beta^+ \hat{0}_\beta^- | I_0 \rangle t_{A_3, B_3} t_{I_1} \\
& + \frac{-1}{2} \sum_I \langle 1^A 1^I | \hat{g} | 0^B 1^I \rangle \langle A_3 | \hat{1}_\alpha^+ | A_9 \rangle \langle B_3 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_1 | \hat{1}_\alpha^+ \hat{1}_\alpha^- | I_0 \rangle t_{A_3, B_3} t_{I_1} \\
& + \frac{-1}{2} \sum_I \langle 1^A 1^I | \hat{g} | 0^B 1^I \rangle \langle A_3 | \hat{1}_\alpha^+ | A_9 \rangle \langle B_3 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_1 | \hat{1}_\beta^+ \hat{1}_\beta^- | I_0 \rangle t_{A_3, B_3} t_{I_1} \\
& + \frac{1}{2} \sum_I \langle 1^A 0^B | \hat{g} | 0^I 0^I \rangle \langle A_3 | \hat{1}_\alpha^+ | A_9 \rangle \langle B_3 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_1 | \hat{0}_\alpha^+ \hat{0}_\alpha^- | I_0 \rangle t_{A_3, B_3} t_{I_1}
\end{aligned}$$

[illegible]

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_5, B_4, I_1) \rangle = \\
& + \frac{-1}{2} \sum_I \langle 1^A 0^I | \hat{g} | 0^B 0^I \rangle \langle A_5 | \hat{1}_\beta^+ | A_9 \rangle \langle B_4 | \hat{0}_\beta^- | B_{11} \rangle \langle I_1 | \hat{0}_\beta^+ \hat{0}_\beta^- | I_0 \rangle t_{A_5, B_4} t_{I_1} \\
& + \frac{-1}{2} \sum_I \langle 1^A 1^I | \hat{g} | 0^B 1^I \rangle \langle A_5 | \hat{1}_\beta^+ | A_9 \rangle \langle B_4 | \hat{0}_\beta^- | B_{11} \rangle \langle I_1 | \hat{1}_\beta^+ \hat{1}_\beta^- | I_0 \rangle t_{A_5, B_4} t_{I_1} \\
& + \frac{1}{2} \sum_I \langle 1^A 0^B | \hat{g} | 0^I 0^I \rangle \langle A_5 | \hat{1}_\beta^+ | A_9 \rangle \langle B_4 | \hat{0}_\beta^- | B_{11} \rangle \langle I_1 | \hat{0}_\beta^+ \hat{0}_\beta^- | I_0 \rangle t_{A_5, B_4} t_{I_1} \\
& + \frac{1}{2} \sum_I \langle 1^A 0^B | \hat{g} | 1^I 1^I \rangle \langle A_5 | \hat{1}_\beta^+ | A_9 \rangle \langle B_4 | \hat{0}_\beta^- | B_{11} \rangle \langle I_1 | \hat{1}_\beta^+ \hat{1}_\beta^- | I_0 \rangle t_{A_5, B_4} t_{I_1} \\
& + \frac{-1}{2} \sum_I \langle 1^A 0^I | \hat{g} | 0^B 0^I \rangle \langle A_5 | \hat{1}_\beta^+ | A_9 \rangle \langle B_4 | \hat{0}_\beta^- | B_{11} \rangle \langle I_1 | \hat{0}_\alpha^+ \hat{0}_\alpha^- | I_0 \rangle t_{A_5, B_4} t_{I_1} \\
& + \frac{-1}{2} \sum_I \langle 1^A 1^I | \hat{g} | 0^B 1^I \rangle \langle A_5 | \hat{1}_\beta^+ | A_9 \rangle \langle B_4 | \hat{0}_\beta^- | B_{11} \rangle \langle I_1 | \hat{1}_\alpha^+ \hat{1}_\alpha^- | I_0 \rangle t_{A_5, B_4} t_{I_1}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_2, B_2, I_2) \rangle = \\
& + \frac{1}{2} \sum_I \langle 1^A 0^I | \hat{g} | 0^B 1^I \rangle \langle A_2 | \hat{1}_\alpha^+ | A_9 \rangle \langle B_2 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_2 | \hat{0}_\alpha^+ \hat{1}_\alpha^- | I_0 \rangle t_{A_2} t_{B_2, I_2} \\
& + \frac{1}{2} \sum_I \langle 1^A 0^I | \hat{g} | 0^B 1^I \rangle \langle A_2 | \hat{1}_\alpha^+ | A_9 \rangle \langle B_2 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_2 | \hat{0}_\beta^+ \hat{1}_\beta^- | I_0 \rangle t_{A_2} t_{B_2, I_2} \\
& + \frac{1}{2} \sum_I \langle 1^A 0^I | \hat{g} | 0^B 1^I \rangle \langle A_2 | \hat{1}_\alpha^+ | A_9 \rangle \langle B_2 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_2 | \hat{1}_\alpha^+ \hat{0}_\alpha^- | I_0 \rangle t_{A_2} t_{B_2, I_2} \\
& + \frac{1}{2} \sum_I \langle 1^A 0^I | \hat{g} | 0^B 1^I \rangle \langle A_2 | \hat{1}_\alpha^+ | A_9 \rangle \langle B_2 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_2 | \hat{1}_\beta^+ \hat{0}_\beta^- | I_0 \rangle t_{A_2} t_{B_2, I_2}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_2, B_2, I_3) \rangle = \\
& + \frac{-1}{2} \sum_I \langle 1^A 0^I | \hat{g} | 0^B 1^I \rangle \langle A_2 | \hat{1}_\alpha^+ | A_9 \rangle \langle B_2 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_3 | \hat{0}_\alpha^+ \hat{1}_\alpha^- | I_0 \rangle t_{A_2} t_{B_2, I_3} \\
& + \frac{-1}{2} \sum_I \langle 1^A 0^I | \hat{g} | 0^B 1^I \rangle \langle A_2 | \hat{1}_\alpha^+ | A_9 \rangle \langle B_2 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_3 | \hat{0}_\beta^+ \hat{1}_\beta^- | I_0 \rangle t_{A_2} t_{B_2, I_3} \\
& + \frac{-1}{2} \sum_I \langle 1^A 0^I | \hat{g} | 0^B 1^I \rangle \langle A_2 | \hat{1}_\alpha^+ | A_9 \rangle \langle B_2 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_3 | \hat{1}_\alpha^+ \hat{0}_\alpha^- | I_0 \rangle t_{A_2} t_{B_2, I_3} \\
& + \frac{-1}{2} \sum_I \langle 1^A 0^I | \hat{g} | 0^B 1^I \rangle \langle A_2 | \hat{1}_\alpha^+ | A_9 \rangle \langle B_2 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_3 | \hat{1}_\beta^+ \hat{0}_\beta^- | I_0 \rangle t_{A_2} t_{B_2, I_3} \\
& + \frac{1}{2} \sum_I \langle 1^A 0^B | \hat{g} | 1^I 0^I \rangle \langle A_2 | \hat{1}_\alpha^+ | A_9 \rangle \langle B_2 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_3 | \hat{0}_\alpha^+ \hat{1}_\alpha^- | I_0 \rangle t_{A_2} t_{B_2, I_3} \\
& + \frac{1}{2} \sum_I \langle 1^A 0^B | \hat{g} | 0^I 1^I \rangle \langle A_2 | \hat{1}_\alpha^+ | A_9 \rangle \langle B_2 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_3 | \hat{1}_\alpha^+ \hat{0}_\alpha^- | I_0 \rangle t_{A_2} t_{B_2, I_3}
\end{aligned}$$

[illegible]

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_2, B_3, I_2) \rangle = \\
& + \frac{-1}{2} \sum_I \langle 1^A 0^I | \hat{g} | 0^B 1^I \rangle \langle A_2 | \hat{1}_\alpha^+ | A_9 \rangle \langle B_3 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_2 | \hat{0}_\alpha^+ \hat{1}_\alpha^- | I_0 \rangle t_{A_2} t_{B_3, I_2} \\
& + \frac{-1}{2} \sum_I \langle 1^A 0^I | \hat{g} | 0^B 1^I \rangle \langle A_2 | \hat{1}_\alpha^+ | A_9 \rangle \langle B_3 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_2 | \hat{0}_\beta^+ \hat{1}_\beta^- | I_0 \rangle t_{A_2} t_{B_3, I_2} \\
& + \frac{-1}{2} \sum_I \langle 1^A 0^I | \hat{g} | 0^B 1^I \rangle \langle A_2 | \hat{1}_\alpha^+ | A_9 \rangle \langle B_3 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_2 | \hat{1}_\alpha^+ \hat{0}_\alpha^- | I_0 \rangle t_{A_2} t_{B_3, I_2} \\
& + \frac{-1}{2} \sum_I \langle 1^A 0^I | \hat{g} | 0^B 1^I \rangle \langle A_2 | \hat{1}_\alpha^+ | A_9 \rangle \langle B_3 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_2 | \hat{1}_\beta^+ \hat{0}_\beta^- | I_0 \rangle t_{A_2} t_{B_3, I_2} \\
& + \frac{1}{2} \sum_I \langle 1^A 0^B | \hat{g} | 1^I 0^I \rangle \langle A_2 | \hat{1}_\alpha^+ | A_9 \rangle \langle B_3 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_2 | \hat{0}_\alpha^+ \hat{1}_\alpha^- | I_0 \rangle t_{A_2} t_{B_3, I_2} \\
& + \frac{1}{2} \sum_I \langle 1^A 0^B | \hat{g} | 0^I 1^I \rangle \langle A_2 | \hat{1}_\alpha^+ | A_9 \rangle \langle B_3 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_2 | \hat{1}_\alpha^+ \hat{0}_\alpha^- | I_0 \rangle t_{A_2} t_{B_3, I_2} \\
& + \frac{-1}{2} \sum_I \langle 1^A 0^I | \hat{g} | 0^B 1^I \rangle \langle A_2 | \hat{1}_\alpha^+ | A_9 \rangle \langle B_3 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_2 | \hat{0}_\alpha^+ \hat{1}_\alpha^- | I_0 \rangle t_{A_2, B_3} t_{I_2} \\
& + \frac{-1}{2} \sum_I \langle 1^A 0^I | \hat{g} | 0^B 1^I \rangle \langle A_2 | \hat{1}_\alpha^+ | A_9 \rangle \langle B_3 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_2 | \hat{0}_\beta^+ \hat{1}_\beta^- | I_0 \rangle t_{A_2, B_3} t_{I_2}
\end{aligned}$$

[illegible]

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_2, B_3, I_3) \rangle = \\
& + \frac{-1}{2} \sum_I \langle 1^A 0^I | \hat{g} | 0^B 1^I \rangle \langle A_2 | \hat{1}_\alpha^+ | A_9 \rangle \langle B_3 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_3 | \hat{0}_\alpha^+ \hat{1}_\alpha^- | I_0 \rangle t_{A_2} t_{B_3, I_3} \\
& + \frac{-1}{2} \sum_I \langle 1^A 0^I | \hat{g} | 0^B 1^I \rangle \langle A_2 | \hat{1}_\alpha^+ | A_9 \rangle \langle B_3 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_3 | \hat{0}_\beta^+ \hat{1}_\beta^- | I_0 \rangle t_{A_2} t_{B_3, I_3} \\
& + \frac{-1}{2} \sum_I \langle 1^A 0^I | \hat{g} | 0^B 1^I \rangle \langle A_2 | \hat{1}_\alpha^+ | A_9 \rangle \langle B_3 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_3 | \hat{1}_\alpha^+ \hat{0}_\alpha^- | I_0 \rangle t_{A_2} t_{B_3, I_3} \\
& + \frac{-1}{2} \sum_I \langle 1^A 0^I | \hat{g} | 0^B 1^I \rangle \langle A_2 | \hat{1}_\alpha^+ | A_9 \rangle \langle B_3 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_3 | \hat{1}_\beta^+ \hat{0}_\beta^- | I_0 \rangle t_{A_2} t_{B_3, I_3} \\
& + \frac{1}{2} \sum_I \langle 1^A 0^B | \hat{g} | 1^I 0^I \rangle \langle A_2 | \hat{1}_\alpha^+ | A_9 \rangle \langle B_3 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_3 | \hat{0}_\alpha^+ \hat{1}_\alpha^- | I_0 \rangle t_{A_2} t_{B_3, I_3} \\
& + \frac{1}{2} \sum_I \langle 1^A 0^B | \hat{g} | 0^I 1^I \rangle \langle A_2 | \hat{1}_\alpha^+ | A_9 \rangle \langle B_3 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_3 | \hat{1}_\alpha^+ \hat{0}_\alpha^- | I_0 \rangle t_{A_2} t_{B_3, I_3} \\
& + \frac{-1}{2} \sum_I \langle 1^A 0^I | \hat{g} | 0^B 1^I \rangle \langle A_2 | \hat{1}_\alpha^+ | A_9 \rangle \langle B_3 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_3 | \hat{0}_\alpha^+ \hat{1}_\alpha^- | I_0 \rangle t_{A_2, B_3} t_{I_3} \\
& + \frac{-1}{2} \sum_I \langle 1^A 0^I | \hat{g} | 0^B 1^I \rangle \langle A_2 | \hat{1}_\alpha^+ | A_9 \rangle \langle B_3 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_3 | \hat{0}_\beta^+ \hat{1}_\beta^- | I_0 \rangle t_{A_2, B_3} t_{I_3} \\
& + \frac{-1}{2} \sum_I \langle 1^A 0^I | \hat{g} | 0^B 1^I \rangle \langle A_2 | \hat{1}_\alpha^+ | A_9 \rangle \langle B_3 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_3 | \hat{1}_\alpha^+ \hat{0}_\alpha^- | I_0 \rangle t_{A_2, B_3} t_{I_3} \\
& + \frac{-1}{2} \sum_I \langle 1^A 0^I | \hat{g} | 0^B 1^I \rangle \langle A_2 | \hat{1}_\alpha^+ | A_9 \rangle \langle B_3 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_3 | \hat{1}_\beta^+ \hat{0}_\beta^- | I_0 \rangle t_{A_2, B_3} t_{I_3}
\end{aligned}$$

[illegible]

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{G} | (A_3, B_2, I_2) \rangle = \\
& + \frac{-1}{2} \sum_I \langle 1^{A_0 I} | \hat{g} | 0^B 1^I \rangle \langle A_3 | \hat{1}_\alpha^+ | A_9 \rangle \langle B_2 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_2 | \hat{0}_\alpha^+ \hat{1}_\alpha^- | I_0 \rangle t_{A_3} t_{B_2, I_2} \\
& + \frac{-1}{2} \sum_I \langle 1^{A_0 I} | \hat{g} | 0^B 1^I \rangle \langle A_3 | \hat{1}_\alpha^+ | A_9 \rangle \langle B_2 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_2 | \hat{0}_\beta^+ \hat{1}_\beta^- | I_0 \rangle t_{A_3} t_{B_2, I_2} \\
& + \frac{-1}{2} \sum_I \langle 1^{A_0 I} | \hat{g} | 0^B 1^I \rangle \langle A_3 | \hat{1}_\alpha^+ | A_9 \rangle \langle B_2 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_2 | \hat{1}_\alpha^+ \hat{0}_\alpha^- | I_0 \rangle t_{A_3} t_{B_2, I_2} \\
& + \frac{-1}{2} \sum_I \langle 1^{A_0 I} | \hat{g} | 0^B 1^I \rangle \langle A_3 | \hat{1}_\alpha^+ | A_9 \rangle \langle B_2 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_2 | \hat{1}_\beta^+ \hat{0}_\beta^- | I_0 \rangle t_{A_3} t_{B_2, I_2} \\
& + \frac{1}{2} \sum_I \langle 1^{A_0 B} | \hat{g} | 1^I 0^I \rangle \langle A_3 | \hat{1}_\alpha^+ | A_9 \rangle \langle B_2 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_2 | \hat{0}_\alpha^+ \hat{1}_\alpha^- | I_0 \rangle t_{A_3} t_{B_2, I_2} \\
& + \frac{1}{2} \sum_I \langle 1^{A_0 B} | \hat{g} | 0^I 1^I \rangle \langle A_3 | \hat{1}_\alpha^+ | A_9 \rangle \langle B_2 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_2 | \hat{1}_\alpha^+ \hat{0}_\alpha^- | I_0 \rangle t_{A_3} t_{B_2, I_2} \\
& + \frac{-1}{2} \sum_I \langle 1^{A_0 I} | \hat{g} | 0^B 1^I \rangle \langle A_3 | \hat{1}_\alpha^+ | A_9 \rangle \langle B_2 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_2 | \hat{0}_\alpha^+ \hat{1}_\alpha^- | I_0 \rangle t_{A_3, B_2} t_{I_2} \\
& + \frac{-1}{2} \sum_I \langle 1^{A_0 I} | \hat{g} | 0^B 1^I \rangle \langle A_3 | \hat{1}_\alpha^+ | A_9 \rangle \langle B_2 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_2 | \hat{0}_\beta^+ \hat{1}_\beta^- | I_0 \rangle t_{A_3, B_2} t_{I_2} \\
& + \frac{-1}{2} \sum_I \langle 1^{A_0 I} | \hat{g} | 0^B 1^I \rangle \langle A_3 | \hat{1}_\alpha^+ | A_9 \rangle \langle B_2 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_2 | \hat{1}_\alpha^+ \hat{0}_\alpha^- | I_0 \rangle t_{A_3, B_2} t_{I_2} \\
& + \frac{-1}{2} \sum_I \langle 1^{A_0 I} | \hat{g} | 0^B 1^I \rangle \langle A_3 | \hat{1}_\alpha^+ | A_9 \rangle \langle B_2 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_2 | \hat{1}_\beta^+ \hat{0}_\beta^- | I_0 \rangle t_{A_3, B_2} t_{I_2} \\
& + \frac{1}{2} \sum_I \langle 1^{A_0 B} | \hat{g} | 1^I 0^I \rangle \langle A_3 | \hat{1}_\alpha^+ | A_9 \rangle \langle B_2 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_2 | \hat{0}_\alpha^+ \hat{1}_\alpha^- | I_0 \rangle t_{A_3, B_2} t_{I_2} \\
& + \frac{1}{2} \sum_I \langle 1^{A_0 B} | \hat{g} | 0^I 1^I \rangle \langle A_3 | \hat{1}_\alpha^+ | A_9 \rangle \langle B_2 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_2 | \hat{1}_\alpha^+ \hat{0}_\alpha^- | I_0 \rangle t_{A_3, B_2} t_{I_2}
\end{aligned}$$

$$\begin{aligned}
& +\frac{-1}{2}\sum_I\langle 1^{A0I}|\hat{g}|0^B1^I\rangle\langle A_3|\hat{1}^+_{\alpha}|A_9\rangle\langle B_2|\hat{0}^-_{\alpha}|B_{11}\rangle\langle I_3|\hat{1}^+_{\alpha}\hat{0}^-_{\alpha}|I_0\rangle t_{B_2}t_{A_3,I_3} \\
& +\frac{-1}{2}\sum_I\langle 1^{A0I}|\hat{g}|0^B1^I\rangle\langle A_3|\hat{1}^+_{\alpha}|A_9\rangle\langle B_2|\hat{0}^-_{\alpha}|B_{11}\rangle\langle I_3|\hat{1}^+_{\beta}\hat{0}^-_{\beta}|I_0\rangle t_{B_2}t_{A_3,I_3} \\
& +\frac{1}{2}\sum_I\langle 1^{A0B}|\hat{g}|1^I0^I\rangle\langle A_3|\hat{1}^+_{\alpha}|A_9\rangle\langle B_2|\hat{0}^-_{\alpha}|B_{11}\rangle\langle I_3|\hat{0}^+_{\alpha}\hat{1}^-_{\alpha}|I_0\rangle t_{B_2}t_{A_3,I_3} \\
& +\frac{1}{2}\sum_I\langle 1^{A0B}|\hat{g}|0^I1^I\rangle\langle A_3|\hat{1}^+_{\alpha}|A_9\rangle\langle B_2|\hat{0}^-_{\alpha}|B_{11}\rangle\langle I_3|\hat{1}^+_{\alpha}\hat{0}^-_{\alpha}|I_0\rangle t_{B_2}t_{A_3,I_3} \\
& +\frac{-1}{2}\sum_I\langle 1^{A0I}|\hat{g}|0^B1^I\rangle\langle A_3|\hat{1}^+_{\alpha}|A_9\rangle\langle B_2|\hat{0}^-_{\alpha}|B_{11}\rangle\langle I_3|\hat{0}^+_{\alpha}\hat{1}^-_{\alpha}|I_0\rangle t_{A_3}t_{B_2}t_{I_3} \\
& +\frac{-1}{2}\sum_I\langle 1^{A0I}|\hat{g}|0^B1^I\rangle\langle A_3|\hat{1}^+_{\alpha}|A_9\rangle\langle B_2|\hat{0}^-_{\alpha}|B_{11}\rangle\langle I_3|\hat{0}^+_{\beta}\hat{1}^-_{\beta}|I_0\rangle t_{A_3}t_{B_2}t_{I_3} \\
& +\frac{-1}{2}\sum_I\langle 1^{A0I}|\hat{g}|0^B1^I\rangle\langle A_3|\hat{1}^+_{\alpha}|A_9\rangle\langle B_2|\hat{0}^-_{\alpha}|B_{11}\rangle\langle I_3|\hat{1}^+_{\alpha}\hat{0}^-_{\alpha}|I_0\rangle t_{A_3}t_{B_2}t_{I_3} \\
& +\frac{-1}{2}\sum_I\langle 1^{A0I}|\hat{g}|0^B1^I\rangle\langle A_3|\hat{1}^+_{\alpha}|A_9\rangle\langle B_2|\hat{0}^-_{\alpha}|B_{11}\rangle\langle I_3|\hat{1}^+_{\beta}\hat{0}^-_{\beta}|I_0\rangle t_{A_3}t_{B_2}t_{I_3} \\
& +\frac{1}{2}\sum_I\langle 1^{A0B}|\hat{g}|1^I0^I\rangle\langle A_3|\hat{1}^+_{\alpha}|A_9\rangle\langle B_2|\hat{0}^-_{\alpha}|B_{11}\rangle\langle I_3|\hat{0}^+_{\alpha}\hat{1}^-_{\alpha}|I_0\rangle t_{A_3}t_{B_2}t_{I_3} \\
& +\frac{1}{2}\sum_I\langle 1^{A0B}|\hat{g}|0^I1^I\rangle\langle A_3|\hat{1}^+_{\alpha}|A_9\rangle\langle B_2|\hat{0}^-_{\alpha}|B_{11}\rangle\langle I_3|\hat{1}^+_{\alpha}\hat{0}^-_{\alpha}|I_0\rangle t_{A_3}t_{B_2}t_{I_3}
\end{aligned}$$

[illegible]

$$\begin{aligned}
& +\frac{1}{2}\sum_I\langle 1^A0^B|\hat{g}|1^I0^I\rangle\langle A_3|\hat{1}_\alpha^+|A_9\rangle\langle B_3|\hat{0}_\alpha^-|B_{11}\rangle\langle I_2|\hat{0}_\alpha^+\hat{1}_\alpha^-|I_0\rangle t_{B_3}t_{A_3},I_2 \\
& +\frac{1}{2}\sum_I\langle 1^A0^B|\hat{g}|0^I1^I\rangle\langle A_3|\hat{1}_\alpha^+|A_9\rangle\langle B_3|\hat{0}_\alpha^-|B_{11}\rangle\langle I_2|\hat{1}_\alpha^+\hat{0}_\alpha^-|I_0\rangle t_{B_3}t_{A_3},I_2 \\
& +\frac{-1}{2}\sum_I\langle 1^A0^I|\hat{g}|0^B1^I\rangle\langle A_3|\hat{1}_\alpha^+|A_9\rangle\langle B_3|\hat{0}_\alpha^-|B_{11}\rangle\langle I_2|\hat{0}_\alpha^+\hat{1}_\alpha^-|I_0\rangle t_{A_3}t_{B_3}t_{I_2} \\
& +\frac{-1}{2}\sum_I\langle 1^A0^I|\hat{g}|0^B1^I\rangle\langle A_3|\hat{1}_\alpha^+|A_9\rangle\langle B_3|\hat{0}_\alpha^-|B_{11}\rangle\langle I_2|\hat{0}_\beta^+\hat{1}_\beta^-|I_0\rangle t_{A_3}t_{B_3}t_{I_2} \\
& +\frac{-1}{2}\sum_I\langle 1^A0^I|\hat{g}|0^B1^I\rangle\langle A_3|\hat{1}_\alpha^+|A_9\rangle\langle B_3|\hat{0}_\alpha^-|B_{11}\rangle\langle I_2|\hat{1}_\alpha^+\hat{0}_\alpha^-|I_0\rangle t_{A_3}t_{B_3}t_{I_2} \\
& +\frac{-1}{2}\sum_I\langle 1^A0^I|\hat{g}|0^B1^I\rangle\langle A_3|\hat{1}_\alpha^+|A_9\rangle\langle B_3|\hat{0}_\alpha^-|B_{11}\rangle\langle I_2|\hat{1}_\beta^+\hat{0}_\beta^-|I_0\rangle t_{A_3}t_{B_3}t_{I_2} \\
& +\frac{1}{2}\sum_I\langle 1^A0^B|\hat{g}|1^I0^I\rangle\langle A_3|\hat{1}_\alpha^+|A_9\rangle\langle B_3|\hat{0}_\alpha^-|B_{11}\rangle\langle I_2|\hat{0}_\alpha^+\hat{1}_\alpha^-|I_0\rangle t_{A_3}t_{B_3}t_{I_2} \\
& +\frac{1}{2}\sum_I\langle 1^A0^B|\hat{g}|0^I1^I\rangle\langle A_3|\hat{1}_\alpha^+|A_9\rangle\langle B_3|\hat{0}_\alpha^-|B_{11}\rangle\langle I_2|\hat{1}_\alpha^+\hat{0}_\alpha^-|I_0\rangle t_{A_3}t_{B_3}t_{I_2}
\end{aligned}$$

$$\begin{aligned}
& + \frac{1}{2} \sum_I \langle 1^A 1^I | \hat{g} | 1^B 1^I \rangle \langle A_2 | \hat{1}_\alpha^+ | A_9 \rangle \langle B_0 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_1 | \hat{1}_\alpha^+ \hat{1}_\alpha^- | I_0 \rangle t_{A_2, I_1} \\
& + \frac{1}{2} \sum_I \langle 1^A 1^I | \hat{g} | 1^B 1^I \rangle \langle A_2 | \hat{1}_\alpha^+ | A_9 \rangle \langle B_0 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_1 | \hat{1}_\beta^+ \hat{1}_\beta^- | I_0 \rangle t_{A_2, I_1} \\
& + \frac{1}{2} \sum_I \langle 1^A 1^B | \hat{g} | 0^I 0^I \rangle \langle A_2 | \hat{1}_\alpha^+ | A_9 \rangle \langle B_0 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_1 | \hat{0}_\alpha^+ \hat{0}_\alpha^- | I_0 \rangle t_{A_2, I_1} \\
& + \frac{1}{2} \sum_I \langle 1^A 1^B | \hat{g} | 1^I 1^I \rangle \langle A_2 | \hat{1}_\alpha^+ | A_9 \rangle \langle B_0 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_1 | \hat{1}_\alpha^+ \hat{1}_\alpha^- | I_0 \rangle t_{A_2, I_1} \\
& + \frac{1}{2} \sum_I \langle 1^A 0^I | \hat{g} | 1^B 0^I \rangle \langle A_2 | \hat{1}_\alpha^+ | A_9 \rangle \langle B_0 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_1 | \hat{0}_\alpha^+ \hat{0}_\alpha^- | I_0 \rangle t_{A_2} t_{I_1} \\
& + \frac{1}{2} \sum_I \langle 1^A 0^I | \hat{g} | 1^B 0^I \rangle \langle A_2 | \hat{1}_\alpha^+ | A_9 \rangle \langle B_0 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_1 | \hat{0}_\beta^+ \hat{0}_\beta^- | I_0 \rangle t_{A_2} t_{I_1} \\
& + \frac{1}{2} \sum_I \langle 1^A 1^I | \hat{g} | 1^B 1^I \rangle \langle A_2 | \hat{1}_\alpha^+ | A_9 \rangle \langle B_0 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_1 | \hat{1}_\alpha^+ \hat{1}_\alpha^- | I_0 \rangle t_{A_2} t_{I_1} \\
& + \frac{1}{2} \sum_I \langle 1^A 1^I | \hat{g} | 1^B 1^I \rangle \langle A_2 | \hat{1}_\alpha^+ | A_9 \rangle \langle B_0 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_1 | \hat{1}_\beta^+ \hat{1}_\beta^- | I_0 \rangle t_{A_2} t_{I_1} \\
& + \frac{1}{2} \sum_I \langle 1^A 1^B | \hat{g} | 0^I 0^I \rangle \langle A_2 | \hat{1}_\alpha^+ | A_9 \rangle \langle B_0 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_1 | \hat{0}_\alpha^+ \hat{0}_\alpha^- | I_0 \rangle t_{A_2} t_{I_1} \\
& + \frac{1}{2} \sum_I \langle 1^A 1^B | \hat{g} | 1^I 1^I \rangle \langle A_2 | \hat{1}_\alpha^+ | A_9 \rangle \langle B_0 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_1 | \hat{1}_\alpha^+ \hat{1}_\alpha^- | I_0 \rangle t_{A_2} t_{I_1}
\end{aligned}$$

[illegible]

[illegible]

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_2, B_1, I_3) \rangle = \\
& + \frac{-1}{2} \sum_I \langle 1^A 0^I | \hat{g} | 1^B 1^I \rangle \langle A_2 | \hat{1}_\alpha^+ | A_9 \rangle \langle B_1 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_3 | \hat{0}_\alpha^+ \hat{1}_\alpha^- | I_0 \rangle t_{A_2} t_{B_1, I_3} \\
& + \frac{-1}{2} \sum_I \langle 1^A 0^I | \hat{g} | 1^B 1^I \rangle \langle A_2 | \hat{1}_\alpha^+ | A_9 \rangle \langle B_1 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_3 | \hat{0}_\beta^+ \hat{1}_\beta^- | I_0 \rangle t_{A_2} t_{B_1, I_3} \\
& + \frac{-1}{2} \sum_I \langle 1^A 0^I | \hat{g} | 1^B 1^I \rangle \langle A_2 | \hat{1}_\alpha^+ | A_9 \rangle \langle B_1 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_3 | \hat{1}_\alpha^+ \hat{0}_\alpha^- | I_0 \rangle t_{A_2} t_{B_1, I_3} \\
& + \frac{-1}{2} \sum_I \langle 1^A 0^I | \hat{g} | 1^B 1^I \rangle \langle A_2 | \hat{1}_\alpha^+ | A_9 \rangle \langle B_1 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_3 | \hat{1}_\beta^+ \hat{0}_\beta^- | I_0 \rangle t_{A_2} t_{B_1, I_3} \\
& + \frac{1}{2} \sum_I \langle 1^A 1^B | \hat{g} | 1^I 0^I \rangle \langle A_2 | \hat{1}_\alpha^+ | A_9 \rangle \langle B_1 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_3 | \hat{0}_\alpha^+ \hat{1}_\alpha^- | I_0 \rangle t_{A_2} t_{B_1, I_3} \\
& + \frac{1}{2} \sum_I \langle 1^A 1^B | \hat{g} | 0^I 1^I \rangle \langle A_2 | \hat{1}_\alpha^+ | A_9 \rangle \langle B_1 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_3 | \hat{1}_\alpha^+ \hat{0}_\alpha^- | I_0 \rangle t_{A_2} t_{B_1, I_3}
\end{aligned}$$

$$+\frac{1}{2}\sum_I\langle 1^A 0^B|\hat{g}|0^I 1^I\rangle\langle A_2|\hat{1}_\alpha^+|A_9\rangle\langle B_4|\hat{0}_\beta^-|B_{11}\rangle\langle I_5|\hat{1}_\beta^+\hat{0}_\alpha^-|I_0\rangle t_{A_2}t_{B_4,I_5}$$

$$\langle(A_9, B_{11})|\hat{H}|(A_3, B_4, I_5)\rangle =$$

$$+\frac{1}{2}\sum_I\langle 1^A 0^B|\hat{g}|1^I 0^I\rangle\langle A_3|\hat{1}_\alpha^+|A_9\rangle\langle B_4|\hat{0}_\beta^-|B_{11}\rangle\langle I_5|\hat{0}_\beta^+\hat{1}_\alpha^-|I_0\rangle t_{A_3}t_{B_4,I_5}$$

$$+\frac{1}{2}\sum_I\langle 1^A 0^B|\hat{g}|0^I 1^I\rangle\langle A_3|\hat{1}_\alpha^+|A_9\rangle\langle B_4|\hat{0}_\beta^-|B_{11}\rangle\langle I_5|\hat{1}_\beta^+\hat{0}_\alpha^-|I_0\rangle t_{A_3}t_{B_4,I_5}$$

$$\langle(A_9, B_{11})|\hat{H}|(A_6, B_{15}, I_1)\rangle =$$

$$+\frac{1}{2}\sum_I\langle 0^A 0^I|\hat{g}|1^B 0^I\rangle\langle A_6|\hat{0}_\beta^-|A_9\rangle\langle B_{15}|\hat{1}_\beta^+|B_{11}\rangle\langle I_1|\hat{0}_\beta^+\hat{0}_\beta^-|I_0\rangle t_{A_6,B_{15}}t_{I_1}$$

$$+\frac{1}{2}\sum_I\langle 0^A 1^I|\hat{g}|1^B 1^I\rangle\langle A_6|\hat{0}_\beta^-|A_9\rangle\langle B_{15}|\hat{1}_\beta^+|B_{11}\rangle\langle I_1|\hat{1}_\beta^+\hat{1}_\beta^-|I_0\rangle t_{A_6,B_{15}}t_{I_1}$$

$$+\frac{1}{2}\sum_I\langle 0^A 1^B|\hat{g}|0^I 0^I\rangle\langle A_6|\hat{0}_\beta^-|A_9\rangle\langle B_{15}|\hat{1}_\beta^+|B_{11}\rangle\langle I_1|\hat{0}_\beta^+\hat{0}_\beta^-|I_0\rangle t_{A_6,B_{15}}t_{I_1}$$

$$+\frac{1}{2}\sum_I\langle 0^A 1^B|\hat{g}|1^I 1^I\rangle\langle A_6|\hat{0}_\beta^-|A_9\rangle\langle B_{15}|\hat{1}_\beta^+|B_{11}\rangle\langle I_1|\hat{1}_\beta^+\hat{1}_\beta^-|I_0\rangle t_{A_6,B_{15}}t_{I_1}$$

$$+\frac{1}{2}\sum_I\langle 0^A 0^I|\hat{g}|1^B 0^I\rangle\langle A_6|\hat{0}_\beta^-|A_9\rangle\langle B_{15}|\hat{1}_\beta^+|B_{11}\rangle\langle I_1|\hat{0}_\alpha^+\hat{0}_\alpha^-|I_0\rangle t_{A_6,B_{15}}t_{I_1}$$

$$+\frac{1}{2}\sum_I\langle 0^A 1^I|\hat{g}|1^B 1^I\rangle\langle A_6|\hat{0}_\beta^-|A_9\rangle\langle B_{15}|\hat{1}_\beta^+|B_{11}\rangle\langle I_1|\hat{1}_\alpha^+\hat{1}_\alpha^-|I_0\rangle t_{A_6,B_{15}}t_{I_1}$$

$$\langle(A_9, B_{11})|\hat{H}|(A_6, B_{15}, I_2)\rangle =$$

$$+\frac{1}{2}\sum_I\langle 0^A 0^I|\hat{g}|1^B 1^I\rangle\langle A_6|\hat{0}_\beta^-|A_9\rangle\langle B_{15}|\hat{1}_\beta^+|B_{11}\rangle\langle I_2|\hat{0}_\beta^+\hat{1}_\beta^-|I_0\rangle t_{A_6,B_{15}}t_{I_2}$$

$$+\frac{1}{2}\sum_I\langle 0^A 0^I|\hat{g}|1^B 1^I\rangle\langle A_6|\hat{0}_\beta^-|A_9\rangle\langle B_{15}|\hat{1}_\beta^+|B_{11}\rangle\langle I_2|\hat{1}_\beta^+\hat{0}_\beta^-|I_0\rangle t_{A_6,B_{15}}t_{I_2}$$

$$+\frac{1}{2}\sum_I\langle 0^A 1^B|\hat{g}|0^I 1^I\rangle\langle A_6|\hat{0}_\beta^-|A_9\rangle\langle B_{15}|\hat{1}_\beta^+|B_{11}\rangle\langle I_2|\hat{0}_\beta^+\hat{1}_\beta^-|I_0\rangle t_{A_6,B_{15}}t_{I_2}$$

$$+\frac{1}{2}\sum_I\langle 0^A 1^B|\hat{g}|1^I 0^I\rangle\langle A_6|\hat{0}_\beta^-|A_9\rangle\langle B_{15}|\hat{1}_\beta^+|B_{11}\rangle\langle I_2|\hat{1}_\beta^+\hat{0}_\beta^-|I_0\rangle t_{A_6,B_{15}}t_{I_2}$$

$$+\frac{1}{2}\sum_I\langle 0^A 0^I|\hat{g}|1^B 1^I\rangle\langle A_6|\hat{0}_\beta^-|A_9\rangle\langle B_{15}|\hat{1}_\beta^+|B_{11}\rangle\langle I_2|\hat{0}_\alpha^+\hat{1}_\alpha^-|I_0\rangle t_{A_6,B_{15}}t_{I_2}$$

$$+\frac{1}{2}\sum_I\langle 0^A 0^I|\hat{g}|1^B 1^I\rangle\langle A_6|\hat{0}_\beta^-|A_9\rangle\langle B_{15}|\hat{1}_\beta^+|B_{11}\rangle\langle I_2|\hat{1}_\alpha^+\hat{0}_\alpha^-|I_0\rangle t_{A_6,B_{15}}t_{I_2}$$

$$\langle(A_9, B_{11})|\hat{H}|(A_6, B_{15}, I_3)\rangle =$$

$$+\frac{1}{2}\sum_I\langle 0^A 0^I|\hat{g}|1^B 1^I\rangle\langle A_6|\hat{0}_\beta^-|A_9\rangle\langle B_{15}|\hat{1}_\beta^+|B_{11}\rangle\langle I_3|\hat{0}_\beta^+\hat{1}_\beta^-|I_0\rangle t_{A_6,B_{15}}t_{I_3}$$

$$+\frac{1}{2}\sum_I\langle 0^A 0^I|\hat{g}|1^B 1^I\rangle\langle A_6|\hat{0}_\beta^-|A_9\rangle\langle B_{15}|\hat{1}_\beta^+|B_{11}\rangle\langle I_3|\hat{1}_\beta^+\hat{0}_\beta^-|I_0\rangle t_{A_6,B_{15}}t_{I_3}$$

$$\begin{aligned}
& + \frac{-1}{2} \sum_I \langle 0^A 1^B | \hat{g} | 0^I 1^I \rangle \langle A_6 | \hat{0}_\beta^- | A_9 \rangle \langle B_{15} | \hat{1}_\beta^+ | B_{11} \rangle \langle I_3 | \hat{0}_\beta^+ \hat{1}_\beta^- | I_0 \rangle t_{A_6, B_{15}} t_{I_3} \\
& + \frac{-1}{2} \sum_I \langle 0^A 1^B | \hat{g} | 1^I 0^I \rangle \langle A_6 | \hat{0}_\beta^- | A_9 \rangle \langle B_{15} | \hat{1}_\beta^+ | B_{11} \rangle \langle I_3 | \hat{1}_\beta^+ \hat{0}_\beta^- | I_0 \rangle t_{A_6, B_{15}} t_{I_3} \\
& + \frac{1}{2} \sum_I \langle 0^A 0^I | \hat{g} | 1^B 1^I \rangle \langle A_6 | \hat{0}_\beta^- | A_9 \rangle \langle B_{15} | \hat{1}_\beta^+ | B_{11} \rangle \langle I_3 | \hat{0}_\alpha^+ \hat{1}_\alpha^- | I_0 \rangle t_{A_6, B_{15}} t_{I_3} \\
& + \frac{1}{2} \sum_I \langle 0^A 0^I | \hat{g} | 1^B 1^I \rangle \langle A_6 | \hat{0}_\beta^- | A_9 \rangle \langle B_{15} | \hat{1}_\beta^+ | B_{11} \rangle \langle I_3 | \hat{1}_\alpha^+ \hat{0}_\alpha^- | I_0 \rangle t_{A_6, B_{15}} t_{I_3}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_{10}, B_2, I_{12}) \rangle = \\
& + \frac{1}{2} \sum_I \langle 0^A 0^B | \hat{g} | 1^A 0^I \rangle \langle A_{10} | \hat{1}_\beta^+ \hat{0}_\beta^- | A_9 \rangle \langle B_2 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_{12} | \hat{0}_\alpha^+ | I_0 \rangle t_{B_2} t_{A_{10}, I_{12}}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_{10}, B_3, I_{12}) \rangle = \\
& + \frac{1}{2} \sum_I \langle 0^A 0^B | \hat{g} | 1^A 0^I \rangle \langle A_{10} | \hat{1}_\beta^+ \hat{0}_\beta^- | A_9 \rangle \langle B_3 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_{12} | \hat{0}_\alpha^+ | I_0 \rangle t_{B_3} t_{A_{10}, I_{12}}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_{10}, I_{12}) \rangle = \\
& + \frac{1}{2} \sum_I \langle 0^A 1^B | \hat{g} | 1^A 0^I \rangle \langle A_{10} | \hat{1}_\beta^+ \hat{0}_\beta^- | A_9 \rangle \langle B_0 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_{12} | \hat{0}_\alpha^+ | I_0 \rangle t_{A_{10}, I_{12}}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_{10}, B_1, I_{12}) \rangle = \\
& + \frac{1}{2} \sum_I \langle 0^A 1^B | \hat{g} | 1^A 0^I \rangle \langle A_{10} | \hat{1}_\beta^+ \hat{0}_\beta^- | A_9 \rangle \langle B_1 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_{12} | \hat{0}_\alpha^+ | I_0 \rangle t_{B_1} t_{A_{10}, I_{12}}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_{10}, B_2, I_{11}) \rangle = \\
& + \frac{1}{2} \sum_I \langle 0^A 0^B | \hat{g} | 1^A 1^I \rangle \langle A_{10} | \hat{1}_\beta^+ \hat{0}_\beta^- | A_9 \rangle \langle B_2 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle t_{B_2} t_{A_{10}, I_{11}}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_{10}, B_3, I_{11}) \rangle = \\
& + \frac{1}{2} \sum_I \langle 0^A 0^B | \hat{g} | 1^A 1^I \rangle \langle A_{10} | \hat{1}_\beta^+ \hat{0}_\beta^- | A_9 \rangle \langle B_3 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle t_{B_3} t_{A_{10}, I_{11}}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_{10}, I_{11}) \rangle = \\
& + \frac{1}{2} \sum_I \langle 0^A 1^B | \hat{g} | 1^A 1^I \rangle \langle A_{10} | \hat{1}_\beta^+ \hat{0}_\beta^- | A_9 \rangle \langle B_0 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle t_{A_{10}, I_{11}}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_{10}, B_1, I_{11}) \rangle = \\
& + \frac{1}{2} \sum_I \langle 0^A 1^B | \hat{g} | 1^A 1^I \rangle \langle A_{10} | \hat{1}_\beta^+ \hat{0}_\beta^- | A_9 \rangle \langle B_1 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle t_{B_1} t_{A_{10}, I_{11}}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_5, B_2, I_4) \rangle = \\
& + \frac{1}{2} \sum_I \langle 1^A 0^B | \hat{g} | 1^I 0^I \rangle \langle A_5 | \hat{1}_\beta^+ | A_9 \rangle \langle B_2 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_4 | \hat{0}_\alpha^+ \hat{1}_\beta^- | I_0 \rangle t_{B_2} t_{A_5, I_4} \\
& + \frac{1}{2} \sum_I \langle 1^A 0^B | \hat{g} | 0^I 1^I \rangle \langle A_5 | \hat{1}_\beta^+ | A_9 \rangle \langle B_2 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_4 | \hat{1}_\alpha^+ \hat{0}_\beta^- | I_0 \rangle t_{B_2} t_{A_5, I_4}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_5, B_3, I_4) \rangle = \\
& + \frac{1}{2} \sum_I \langle 1^A 0^B | \hat{g} | 1^I 0^I \rangle \langle A_5 | \hat{1}_\beta^+ | A_9 \rangle \langle B_3 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_4 | \hat{0}_\alpha^+ \hat{1}_\beta^- | I_0 \rangle t_{B_3} t_{A_5, I_4} \\
& + \frac{1}{2} \sum_I \langle 1^A 0^B | \hat{g} | 0^I 1^I \rangle \langle A_5 | \hat{1}_\beta^+ | A_9 \rangle \langle B_3 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_4 | \hat{1}_\alpha^+ \hat{0}_\beta^- | I_0 \rangle t_{B_3} t_{A_5, I_4}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_5, I_4) \rangle = \\
& + \frac{1}{2} \sum_I \langle 1^A 1^B | \hat{g} | 1^I 0^I \rangle \langle A_5 | \hat{1}_\beta^+ | A_9 \rangle \langle B_0 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_4 | \hat{0}_\alpha^+ \hat{1}_\beta^- | I_0 \rangle t_{A_5, I_4} \\
& + \frac{1}{2} \sum_I \langle 1^A 1^B | \hat{g} | 0^I 1^I \rangle \langle A_5 | \hat{1}_\beta^+ | A_9 \rangle \langle B_0 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_4 | \hat{1}_\alpha^+ \hat{0}_\beta^- | I_0 \rangle t_{A_5, I_4}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_5, B_1, I_4) \rangle = \\
& + \frac{1}{2} \sum_I \langle 1^A 1^B | \hat{g} | 1^I 0^I \rangle \langle A_5 | \hat{1}_\beta^+ | A_9 \rangle \langle B_1 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_4 | \hat{0}_\alpha^+ \hat{1}_\beta^- | I_0 \rangle t_{B_1} t_{A_5, I_4} \\
& + \frac{1}{2} \sum_I \langle 1^A 1^B | \hat{g} | 0^I 1^I \rangle \langle A_5 | \hat{1}_\beta^+ | A_9 \rangle \langle B_1 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_4 | \hat{1}_\alpha^+ \hat{0}_\beta^- | I_0 \rangle t_{B_1} t_{A_5, I_4}
\end{aligned}$$

$$\begin{aligned}
& + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^J | \hat{g} | 0^K 0^L \rangle \langle I_{12} | \hat{\rho}_\alpha^+ | I_0 \rangle \langle J_{12} | \hat{\rho}_\alpha^+ | J_0 \rangle \langle K_9 | \hat{\rho}_\alpha^- | K_0 \rangle \langle L_9 | \hat{\rho}_\alpha^- | L_0 \rangle t_{A_9, J_{12}} t_{B_{11}, K_9} t_{I_{12}, L_9} \\
& + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^J | \hat{g} | 0^L 0^K \rangle \langle I_{12} | \hat{\rho}_\alpha^+ | I_0 \rangle \langle J_{12} | \hat{\rho}_\alpha^+ | J_0 \rangle \langle K_9 | \hat{\rho}_\alpha^- | K_0 \rangle \langle L_9 | \hat{\rho}_\alpha^- | L_0 \rangle t_{A_9, J_{12}} t_{B_{11}, K_9} t_{I_{12}, L_9} \\
& + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^J | \hat{g} | 0^K 0^L \rangle \langle I_{12} | \hat{\rho}_\alpha^+ | I_0 \rangle \langle J_{12} | \hat{\rho}_\alpha^+ | J_0 \rangle \langle K_9 | \hat{\rho}_\alpha^- | K_0 \rangle \langle L_9 | \hat{\rho}_\alpha^- | L_0 \rangle t_{A_9, J_{12}} t_{B_{11}, L_9} t_{I_{12}, K_9} \\
& + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^J | \hat{g} | 0^L 0^K \rangle \langle I_{12} | \hat{\rho}_\alpha^+ | I_0 \rangle \langle J_{12} | \hat{\rho}_\alpha^+ | J_0 \rangle \langle K_9 | \hat{\rho}_\alpha^- | K_0 \rangle \langle L_9 | \hat{\rho}_\alpha^- | L_0 \rangle t_{A_9, J_{12}} t_{B_{11}, L_9} t_{I_{12}, K_9}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_{14}, J_{14}, K_7, L_7) \rangle = \\
& + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^J | \hat{g} | 0^K 0^L \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle \langle K_7 | \hat{0}_\beta^- | K_0 \rangle \langle L_7 | \hat{0}_\beta^- | L_0 \rangle t_{A_9, B_{11}} t_{I_{14}, K_7} t_{J_{14}, L_7} \\
& + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^J | \hat{g} | 0^L 0^K \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle \langle K_7 | \hat{0}_\beta^- | K_0 \rangle \langle L_7 | \hat{0}_\beta^- | L_0 \rangle t_{A_9, B_{11}} t_{I_{14}, K_7} t_{J_{14}, L_7} \\
& + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^J | \hat{g} | 0^K 0^L \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle \langle K_7 | \hat{0}_\beta^- | K_0 \rangle \langle L_7 | \hat{0}_\beta^- | L_0 \rangle t_{A_9, B_{11}} t_{I_{14}, L_7} t_{J_{14}, K_7} \\
& + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^J | \hat{g} | 0^L 0^K \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle \langle K_7 | \hat{0}_\beta^- | K_0 \rangle \langle L_7 | \hat{0}_\beta^- | L_0 \rangle t_{A_9, B_{11}} t_{I_{14}, L_7} t_{J_{14}, K_7}
\end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_{12}, J_{14}, K_9, L_7) \rangle = \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^J | \hat{g} | 0^K 0^L \rangle \langle I_{12} | \hat{0}_\alpha^+ | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle \langle K_9 | \hat{0}_\alpha^- | K_0 \rangle \langle L_7 | \hat{0}_\beta^- | L_0 \rangle t_{A_9, B_{11}} t_{I_{12}, K_9} t_{J_{14}, L_7} \\ & + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^J | \hat{g} | 0^K 0^L \rangle \langle I_{12} | \hat{0}_\alpha^+ | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle \langle K_9 | \hat{0}_\alpha^- | K_0 \rangle \langle L_7 | \hat{0}_\beta^- | L_0 \rangle t_{A_9, I_{12}} t_{B_{11}, K_9} t_{J_{14}, L_7} \end{aligned}$$

[illegible]

$$\begin{aligned}
& + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^J | \hat{g} | 0^K 1^L \rangle \langle I_{12} | \hat{0}_\alpha^+ | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle \langle K_9 | \hat{0}_\alpha^- | K_0 \rangle \langle L_{10} | \hat{1}_\alpha^- | L_0 \rangle t_{A_9, J_{12}} t_{B_{11}, L_{10}} t_{I_{12}, K_9} \\
& + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^J | \hat{g} | 1^L 0^K \rangle \langle I_{12} | \hat{0}_\alpha^+ | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle \langle K_9 | \hat{0}_\alpha^- | K_0 \rangle \langle L_{10} | \hat{1}_\alpha^- | L_0 \rangle t_{A_9, J_{12}} t_{B_{11}, L_{10}} t_{I_{12}, K_9}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_{14}, J_{14}, K_7, L_8) \rangle = \\
& + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^J | \hat{g} | 0^K 1^L \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle \langle K_7 | \hat{0}_\beta^- | K_0 \rangle \langle L_8 | \hat{1}_\beta^- | L_0 \rangle t_{A_9, B_{11}} t_{I_{14}, K_7} t_{J_{14}, L_8} \\
& + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^J | \hat{g} | 1^L 0^K \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle \langle K_7 | \hat{0}_\beta^- | K_0 \rangle \langle L_8 | \hat{1}_\beta^- | L_0 \rangle t_{A_9, B_{11}} t_{I_{14}, K_7} t_{J_{14}, L_8} \\
& + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^J | \hat{g} | 0^K 1^L \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle \langle K_7 | \hat{0}_\beta^- | K_0 \rangle \langle L_8 | \hat{1}_\beta^- | L_0 \rangle t_{A_9, B_{11}} t_{I_{14}, L_8} t_{J_{14}, K_7} \\
& + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^J | \hat{g} | 1^L 0^K \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle \langle K_7 | \hat{0}_\beta^- | K_0 \rangle \langle L_8 | \hat{1}_\beta^- | L_0 \rangle t_{A_9, B_{11}} t_{I_{14}, L_8} t_{J_{14}, K_7}
\end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_{12}, J_{14}, K_9, L_8) \rangle = \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^J | \hat{g} | 0^K 1^L \rangle \langle I_{12} | \hat{0}_\alpha^+ | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle \langle K_9 | \hat{0}_\alpha^- | K_0 \rangle \langle L_8 | \hat{1}_\beta^- | L_0 \rangle t_{A_9, B_{11}} t_{I_{12}, K_9} t_{J_{14}, L_8} \\ & + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^J | \hat{g} | 0^K 1^L \rangle \langle I_{12} | \hat{0}_\alpha^+ | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle \langle K_9 | \hat{0}_\alpha^- | K_0 \rangle \langle L_8 | \hat{1}_\beta^- | L_0 \rangle t_{A_9, I_{12}} t_{B_{11}, K_9} t_{J_{14}, L_8} \end{aligned}$$

[illegible]

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_{14}, J_{14}, K_8, L_7) \rangle = \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^J | \hat{g} | 1^K 0^L \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle \langle K_8 | \hat{1}_\beta^- | K_0 \rangle \langle L_7 | \hat{0}_\beta^- | L_0 \rangle t_{A_9, B_{11}} t_{I_{14}, K_8} t_{J_{14}, L_7} \\ & + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^J | \hat{g} | 0^L 1^K \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle \langle K_8 | \hat{1}_\beta^- | K_0 \rangle \langle L_7 | \hat{0}_\beta^- | L_0 \rangle t_{A_9, B_{11}} t_{I_{14}, K_8} t_{J_{14}, L_7} \\ & + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^J | \hat{g} | 1^K 0^L \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle \langle K_8 | \hat{1}_\beta^- | K_0 \rangle \langle L_7 | \hat{0}_\beta^- | L_0 \rangle t_{A_9, B_{11}} t_{I_{14}, L_7} t_{J_{14}, K_8} \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^J | \hat{g} | 0^L 1^K \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle \langle K_8 | \hat{1}_\beta^- | K_0 \rangle \langle L_7 | \hat{0}_\beta^- | L_0 \rangle t_{A_9, B_{11}} t_{I_{14}, L_7} t_{J_{14}, K_8} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_{12}, J_{14}, K_{10}, L_7) \rangle = \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^J | \hat{g} | 1^K 0^L \rangle \langle I_{12} | \hat{0}_\alpha^+ | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle \langle K_{10} | \hat{1}_\alpha^- | K_0 \rangle \langle L_7 | \hat{0}_\beta^- | L_0 \rangle t_{A_9, B_{11}} t_{I_{12}, K_{10}} t_{J_{14}, L_7} \\ & + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^J | \hat{g} | 1^K 0^L \rangle \langle I_{12} | \hat{0}_\alpha^+ | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle \langle K_{10} | \hat{1}_\alpha^- | K_0 \rangle \langle L_7 | \hat{0}_\beta^- | L_0 \rangle t_{A_9, I_{12}} t_{B_{11}, K_{10}} t_{J_{14}, L_7} \end{aligned}$$

[illegible]

$$\begin{aligned}
& + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^J | \hat{g} | 0^L 0^K \rangle \langle I_{14} | \hat{0}_{\beta}^+ | I_0 \rangle \langle J_{13} | \hat{1}_{\beta}^+ | J_0 \rangle \langle K_7 | \hat{0}_{\beta}^- | K_0 \rangle \langle L_7 | \hat{0}_{\beta}^- | L_0 \rangle t_{A_9, B_{11}} t_{I_{14}, K_7} t_{J_{13}, L_7} \\
& + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^J | \hat{g} | 0^K 0^L \rangle \langle I_{14} | \hat{0}_{\beta}^+ | I_0 \rangle \langle J_{13} | \hat{1}_{\beta}^+ | J_0 \rangle \langle K_7 | \hat{0}_{\beta}^- | K_0 \rangle \langle L_7 | \hat{0}_{\beta}^- | L_0 \rangle t_{A_9, B_{11}} t_{I_{14}, L_7} t_{J_{13}, K_7} \\
& + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^J | \hat{g} | 0^L 0^K \rangle \langle I_{14} | \hat{0}_{\beta}^+ | I_0 \rangle \langle J_{13} | \hat{1}_{\beta}^+ | J_0 \rangle \langle K_7 | \hat{0}_{\beta}^- | K_0 \rangle \langle L_7 | \hat{0}_{\beta}^- | L_0 \rangle t_{A_9, B_{11}} t_{I_{14}, L_7} t_{J_{13}, K_7}
\end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_{12}, J_{13}, K_9, L_7) \rangle = \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^J | \hat{g} | 0^K 0^L \rangle \langle I_{12} | \hat{0}_\alpha^+ | I_0 \rangle \langle J_{13} | \hat{1}_\beta^+ | J_0 \rangle \langle K_9 | \hat{0}_\alpha^- | K_0 \rangle \langle L_7 | \hat{0}_\beta^- | L_0 \rangle t_{A_9, B_{11}} t_{I_{12}, K_9} t_{J_{13}, L_7} \\ & + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^J | \hat{g} | 0^K 0^L \rangle \langle I_{12} | \hat{0}_\alpha^+ | I_0 \rangle \langle J_{13} | \hat{1}_\beta^+ | J_0 \rangle \langle K_9 | \hat{0}_\alpha^- | K_0 \rangle \langle L_7 | \hat{0}_\beta^- | L_0 \rangle t_{A_9, I_{12}} t_{B_{11}, K_9} t_{J_{13}, L_7} \end{aligned}$$

[illegible]

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_{14}, J_{13}, K_7, L_8) \rangle = \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^J | \hat{g} | 0^K 1^L \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_{13} | \hat{1}_\beta^+ | J_0 \rangle \langle K_7 | \hat{0}_\beta^- | K_0 \rangle \langle L_8 | \hat{1}_\beta^- | L_0 \rangle t_{A_9, B_{11}} t_{I_{14}, K_7} t_{J_{13}, L_8} \\ & + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^J | \hat{g} | 1^L 0^K \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_{13} | \hat{1}_\beta^+ | J_0 \rangle \langle K_7 | \hat{0}_\beta^- | K_0 \rangle \langle L_8 | \hat{1}_\beta^- | L_0 \rangle t_{A_9, B_{11}} t_{I_{14}, K_7} t_{J_{13}, L_8} \\ & + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^J | \hat{g} | 0^K 1^L \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_{13} | \hat{1}_\beta^+ | J_0 \rangle \langle K_7 | \hat{0}_\beta^- | K_0 \rangle \langle L_8 | \hat{1}_\beta^- | L_0 \rangle t_{A_9, B_{11}} t_{I_{14}, L_8} t_{J_{13}, K_7} \end{aligned}$$

$$+ \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^J | \hat{g} | 1^L 0^K \rangle \langle I_{14} | \hat{0}_{\beta}^+ | I_0 \rangle \langle J_{13} | \hat{1}_{\beta}^+ | J_0 \rangle \langle K_7 | \hat{0}_{\beta}^- | K_0 \rangle \langle L_8 | \hat{1}_{\beta}^- | L_0 \rangle t_{A_9, B_{11}} t_{I_{14}, L_8} t_{J_{13}, K_7}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_{12}, J_{13}, K_9, L_8) \rangle = \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^J | \hat{g} | 0^K 1^L \rangle \langle I_{12} | \hat{0}_\alpha^+ | I_0 \rangle \langle J_{13} | \hat{1}_\beta^+ | J_0 \rangle \langle K_9 | \hat{0}_\alpha^- | K_0 \rangle \langle L_8 | \hat{1}_\beta^- | L_0 \rangle t_{A_9, B_{11}} t_{I_{12}, K_9} t_{J_{13}, L_8} \\ & + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^J | \hat{g} | 0^K 1^L \rangle \langle I_{12} | \hat{0}_\alpha^+ | I_0 \rangle \langle J_{13} | \hat{1}_\beta^+ | J_0 \rangle \langle K_9 | \hat{0}_\alpha^- | K_0 \rangle \langle L_8 | \hat{1}_\beta^- | L_0 \rangle t_{A_9, I_{12}} t_{B_{11}, K_9} t_{J_{13}, L_8} \end{aligned}$$

[illegible]

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_{14}, J_{13}, K_8, L_7) \rangle = \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^J | \hat{g} | 1^K 0^L \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_{13} | \hat{1}_\beta^+ | J_0 \rangle \langle K_8 | \hat{1}_\beta^- | K_0 \rangle \langle L_7 | \hat{0}_\beta^- | L_0 \rangle t_{A_9, B_{11}} t_{I_{14}, K_8} t_{J_{13}, L_7} \\ & + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^J | \hat{g} | 0^L 1^K \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_{13} | \hat{1}_\beta^+ | J_0 \rangle \langle K_8 | \hat{1}_\beta^- | K_0 \rangle \langle L_7 | \hat{0}_\beta^- | L_0 \rangle t_{A_9, B_{11}} t_{I_{14}, K_8} t_{J_{13}, L_7} \\ & + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^J | \hat{g} | 1^K 0^L \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_{13} | \hat{1}_\beta^+ | J_0 \rangle \langle K_8 | \hat{1}_\beta^- | K_0 \rangle \langle L_7 | \hat{0}_\beta^- | L_0 \rangle t_{A_9, B_{11}} t_{I_{14}, L_7} t_{J_{13}, K_8} \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^J | \hat{g} | 0^L 1^K \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_{13} | \hat{1}_\beta^+ | J_0 \rangle \langle K_8 | \hat{1}_\beta^- | K_0 \rangle \langle L_7 | \hat{0}_\beta^- | L_0 \rangle t_{A_9, B_{11}} t_{I_{14}, L_7} t_{J_{13}, K_8} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_{12}, J_{13}, K_{10}, L_7) \rangle = \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^J | \hat{g} | 1^K 0^L \rangle \langle I_{12} | \hat{0}_\alpha^+ | I_0 \rangle \langle J_{13} | \hat{1}_\beta^+ | J_0 \rangle \langle K_{10} | \hat{1}_\alpha^- | K_0 \rangle \langle L_7 | \hat{0}_\beta^- | L_0 \rangle t_{A_9, B_{11}} t_{I_{12}, K_{10}} t_{J_{13}, L_7} \\ & + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^J | \hat{g} | 1^K 0^L \rangle \langle I_{12} | \hat{0}_\alpha^+ | I_0 \rangle \langle J_{13} | \hat{1}_\beta^+ | J_0 \rangle \langle K_{10} | \hat{1}_\alpha^- | K_0 \rangle \langle L_7 | \hat{0}_\beta^- | L_0 \rangle t_{A_9, I_{12}} t_{B_{11}, K_{10}} t_{J_{13}, L_7} \end{aligned}$$

[illegible]

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_{14}, J_{13}, K_8, L_8) \rangle = \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^J | \hat{g} | 1^K 1^L \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_{13} | \hat{1}_\beta^+ | J_0 \rangle \langle K_8 | \hat{1}_\beta^- | K_0 \rangle \langle L_8 | \hat{1}_\beta^- | L_0 \rangle t_{A_9, B_{11}} t_{I_{14}, K_8} t_{J_{13}, L_8} \\ & + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^J | \hat{g} | 1^L 1^K \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_{13} | \hat{1}_\beta^+ | J_0 \rangle \langle K_8 | \hat{1}_\beta^- | K_0 \rangle \langle L_8 | \hat{1}_\beta^- | L_0 \rangle t_{A_9, B_{11}} t_{I_{14}, K_8} t_{J_{13}, L_8} \\ & + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^J | \hat{g} | 1^K 1^L \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_{13} | \hat{1}_\beta^+ | J_0 \rangle \langle K_8 | \hat{1}_\beta^- | K_0 \rangle \langle L_8 | \hat{1}_\beta^- | L_0 \rangle t_{A_9, B_{11}} t_{I_{14}, L_8} t_{J_{13}, K_8} \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^J | \hat{g} | 1^L 1^K \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_{13} | \hat{1}_\beta^+ | J_0 \rangle \langle K_8 | \hat{1}_\beta^- | K_0 \rangle \langle L_8 | \hat{1}_\beta^- | L_0 \rangle t_{A_9, B_{11}} t_{I_{14}, L_8} t_{J_{13}, K_8} \end{aligned}$$

$$\langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_{12}, J_{13}, K_{10}, L_8) \rangle =$$

$$\begin{aligned}
& + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^J | g | 1^K 1^L \rangle \langle I_{12} | \hat{0}_\alpha^+ | I_0 \rangle \langle J_{13} | \hat{1}_\beta^+ | J_0 \rangle \langle K_{10} | \hat{1}_\alpha^- | K_0 \rangle \langle L_8 | \hat{1}_\beta^- | L_0 \rangle t_{A_9, B_{11}} t_{I_{12}, K_{10}} t_{J_{13}, L_8} \\
& + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^J | \hat{g} | 1^K 1^L \rangle \langle I_{12} | \hat{0}_\alpha^+ | I_0 \rangle \langle J_{13} | \hat{1}_\beta^+ | J_0 \rangle \langle K_{10} | \hat{1}_\alpha^- | K_0 \rangle \langle L_8 | \hat{1}_\beta^- | L_0 \rangle t_{A_9, I_{12}} t_{B_{11}, K_{10}} t_{J_{13}, L_8}
\end{aligned}$$

[illegible]

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_{13}, J_{14}, K_7, L_7) \rangle = \\
& + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^J | \hat{g} | 0^K 0^L \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle \langle K_7 | \hat{0}_\beta^- | K_0 \rangle \langle L_7 | \hat{0}_\beta^- | L_0 \rangle t_{A_9, B_{11}} t_{I_{13}, K_7} t_{J_{14}, L_7} \\
& + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^J | \hat{g} | 0^L 0^K \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle \langle K_7 | \hat{0}_\beta^- | K_0 \rangle \langle L_7 | \hat{0}_\beta^- | L_0 \rangle t_{A_9, B_{11}} t_{I_{13}, K_7} t_{J_{14}, L_7} \\
& + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^J | \hat{g} | 0^K 0^L \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle \langle K_7 | \hat{0}_\beta^- | K_0 \rangle \langle L_7 | \hat{0}_\beta^- | L_0 \rangle t_{A_9, B_{11}} t_{I_{13}, L_7} t_{J_{14}, K_7} \\
& + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^J | \hat{g} | 0^L 0^K \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle \langle K_7 | \hat{0}_\beta^- | K_0 \rangle \langle L_7 | \hat{0}_\beta^- | L_0 \rangle t_{A_9, B_{11}} t_{I_{13}, L_7} t_{J_{14}, K_7}
\end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_{11}, J_{14}, K_9, L_7) \rangle = \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^J | \hat{g} | 0^K 0^L \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle \langle K_9 | \hat{0}_\alpha^- | K_0 \rangle \langle L_7 | \hat{0}_\beta^- | L_0 \rangle t_{A_9, B_{11}} t_{I_{11}, K_9} t_{J_{14}, L_7} \\ & + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^J | \hat{g} | 0^K 0^L \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle \langle K_9 | \hat{0}_\alpha^- | K_0 \rangle \langle L_7 | \hat{0}_\beta^- | L_0 \rangle t_{A_9, I_{11}} t_{B_{11}, K_9} t_{J_{14}, L_7} \end{aligned}$$

[illegible]

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_{13}, J_{14}, K_8, L_7) \rangle = \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^J | \hat{g} | 1^K 0^L \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle \langle K_8 | \hat{1}_\beta^- | K_0 \rangle \langle L_7 | \hat{0}_\beta^- | L_0 \rangle t_{A_9, B_{11}} t_{I_{13}, K_8} t_{J_{14}, L_7} \\ & + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^J | \hat{g} | 0^L 1^K \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle \langle K_8 | \hat{1}_\beta^- | K_0 \rangle \langle L_7 | \hat{0}_\beta^- | L_0 \rangle t_{A_9, B_{11}} t_{I_{13}, K_8} t_{J_{14}, L_7} \\ & + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^J | \hat{g} | 1^K 0^L \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle \langle K_8 | \hat{1}_\beta^- | K_0 \rangle \langle L_7 | \hat{0}_\beta^- | L_0 \rangle t_{A_9, B_{11}} t_{I_{13}, L_7} t_{J_{14}, K_8} \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^J | \hat{g} | 0^L 1^K \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle \langle K_8 | \hat{1}_\beta^- | K_0 \rangle \langle L_7 | \hat{0}_\beta^- | L_0 \rangle t_{A_9, B_{11}} t_{I_{13}, L_7} t_{J_{14}, K_8} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_{11}, J_{14}, K_{10}, L_7) \rangle = \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^J | \hat{g} | 1^K 0^L \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle \langle K_{10} | \hat{1}_\alpha^- | K_0 \rangle \langle L_7 | \hat{0}_\beta^- | L_0 \rangle t_{A_9, B_{11}} t_{I_{11}, K_{10}} t_{J_{14}, L_7} \\ & + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^J | \hat{g} | 1^K 0^L \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle \langle K_{10} | \hat{1}_\alpha^- | K_0 \rangle \langle L_7 | \hat{0}_\beta^- | L_0 \rangle t_{A_9, I_{11}} t_{B_{11}, K_{10}} t_{J_{14}, L_7} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_{11}, J_{12}, K_{10}, L_{10}) \rangle = \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^J | \hat{g} | 1^K 1^L \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle \langle K_{10} | \hat{1}_\alpha^- | K_0 \rangle \langle L_{10} | \hat{1}_\alpha^- | L_0 \rangle t_{A_9, B_{11}} t_{I_{11}, K_{10}} t_{J_{12}, L_{10}} \end{aligned}$$

[illegible]

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_{13}, J_{14}, K_8, L_8) \rangle = \\
& + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^J | \hat{g} | 1^K 1^L \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle \langle K_8 | \hat{1}_\beta^- | K_0 \rangle \langle L_8 | \hat{1}_\beta^- | L_0 \rangle t_{A_9, B_{11}} t_{I_{13}, K_8} t_{J_{14}, L_8} \\
& + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^J | \hat{g} | 1^L 1^K \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle \langle K_8 | \hat{1}_\beta^- | K_0 \rangle \langle L_8 | \hat{1}_\beta^- | L_0 \rangle t_{A_9, B_{11}} t_{I_{13}, K_8} t_{J_{14}, L_8} \\
& + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^J | \hat{g} | 1^K 1^L \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle \langle K_8 | \hat{1}_\beta^- | K_0 \rangle \langle L_8 | \hat{1}_\beta^- | L_0 \rangle t_{A_9, B_{11}} t_{I_{13}, L_8} t_{J_{14}, K_8} \\
& + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^J | \hat{g} | 1^L 1^K \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle \langle K_8 | \hat{1}_\beta^- | K_0 \rangle \langle L_8 | \hat{1}_\beta^- | L_0 \rangle t_{A_9, B_{11}} t_{I_{13}, L_8} t_{J_{14}, K_8}
\end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_{11}, J_{14}, K_{10}, L_8) \rangle = \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^J | \hat{g} | 1^K 1^L \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle \langle K_{10} | \hat{1}_\alpha^- | K_0 \rangle \langle L_8 | \hat{1}_\beta^- | L_0 \rangle t_{A_9, B_{11}} t_{I_{11}, K_{10}} t_{J_{14}, L_8} \\ & + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^J | \hat{g} | 1^K 1^L \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle \langle K_{10} | \hat{1}_\alpha^- | K_0 \rangle \langle L_8 | \hat{1}_\beta^- | L_0 \rangle t_{A_9, I_{11}} t_{B_{11}, K_{10}} t_{J_{14}, L_8} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_{11}, J_{11}, K_9, L_9) \rangle = \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 1^J | \hat{g} | 0^K 0^L \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle \langle K_9 | \hat{0}_\alpha^- | K_0 \rangle \langle L_9 | \hat{0}_\alpha^- | L_0 \rangle t_{A_9, B_{11}} t_{I_{11}, K_9} t_{J_{11}, L_9} \\ & + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 1^J | \hat{g} | 0^L 0^K \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle \langle K_9 | \hat{0}_\alpha^- | K_0 \rangle \langle L_9 | \hat{0}_\alpha^- | L_0 \rangle t_{A_9, B_{11}} t_{I_{11}, K_9} t_{J_{11}, L_9} \\ & + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 1^J | \hat{g} | 0^K 0^L \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle \langle K_9 | \hat{0}_\alpha^- | K_0 \rangle \langle L_9 | \hat{0}_\alpha^- | L_0 \rangle t_{A_9, B_{11}} t_{I_{11}, L_9} t_{J_{11}, K_9} \end{aligned}$$

$$+ \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^J | g | 1^L 0^K \rangle \langle I_{12} | \hat{0}_\alpha^+ | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle \langle K_7 | \hat{0}_\beta^- | K_0 \rangle \langle L_{10} | \hat{1}_\alpha^- | L_0 \rangle t_{A_9, I_{12}} t_{B_{11}, L_{10}} t_{J_{14}, K_7}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_{12}, J_{14}, K_8, L_{10}) \rangle = \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^J | \hat{g} | 1^L 1^K \rangle \langle I_{12} | \hat{0}_\alpha^+ | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle \langle K_8 | \hat{1}_\beta^- | K_0 \rangle \langle L_{10} | \hat{1}_\alpha^- | L_0 \rangle t_{A_9, B_{11}} t_{I_{12}, L_{10}} t_{J_{14}, K_8} \\ & + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^J | \hat{g} | 1^L 1^K \rangle \langle I_{12} | \hat{0}_\alpha^+ | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle \langle K_8 | \hat{1}_\beta^- | K_0 \rangle \langle L_{10} | \hat{1}_\alpha^- | L_0 \rangle t_{A_9, I_{12}} t_{B_{11}, L_{10}} t_{J_{14}, K_8} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_{12}, J_{13}, K_7, L_9) \rangle = \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^J | \hat{g} | 0^L 0^K \rangle \langle I_{12} | \hat{0}_\alpha^+ | I_0 \rangle \langle J_{13} | \hat{1}_\beta^+ | J_0 \rangle \langle K_7 | \hat{0}_\beta^- | K_0 \rangle \langle L_9 | \hat{0}_\alpha^- | L_0 \rangle t_{A_9, B_{11}} t_{I_{12}, L_9} t_{J_{13}, K_7} \\ & + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^J | \hat{g} | 0^L 0^K \rangle \langle I_{12} | \hat{0}_\alpha^+ | I_0 \rangle \langle J_{13} | \hat{1}_\beta^+ | J_0 \rangle \langle K_7 | \hat{0}_\beta^- | K_0 \rangle \langle L_9 | \hat{0}_\alpha^- | L_0 \rangle t_{A_9, I_{12}} t_{B_{11}, L_9} t_{J_{13}, K_7} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_{12}, J_{13}, K_8, L_9) \rangle = \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^J | \hat{g} | 0^L 1^K \rangle \langle I_{12} | \hat{0}_\alpha^+ | I_0 \rangle \langle J_{13} | \hat{1}_\beta^+ | J_0 \rangle \langle K_8 | \hat{1}_\beta^- | K_0 \rangle \langle L_9 | \hat{0}_\alpha^- | L_0 \rangle t_{A_9, B_{11}} t_{I_{12}, L_9} t_{J_{13}, K_8} \\ & + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^J | \hat{g} | 0^L 1^K \rangle \langle I_{12} | \hat{0}_\alpha^+ | I_0 \rangle \langle J_{13} | \hat{1}_\beta^+ | J_0 \rangle \langle K_8 | \hat{1}_\beta^- | K_0 \rangle \langle L_9 | \hat{0}_\alpha^- | L_0 \rangle t_{A_9, I_{12}} t_{B_{11}, L_9} t_{J_{13}, K_8} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_{12}, J_{13}, K_7, L_{10}) \rangle = \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^J | \hat{g} | 1^L 0^K \rangle \langle I_{12} | \hat{0}_\alpha^+ | I_0 \rangle \langle J_{13} | \hat{1}_\beta^+ | J_0 \rangle \langle K_7 | \hat{0}_\beta^- | K_0 \rangle \langle L_{10} | \hat{1}_\alpha^- | L_0 \rangle t_{A_9, B_{11}} t_{I_{12}, L_{10}} t_{J_{13}, K_7} \\ & + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^J | \hat{g} | 1^L 0^K \rangle \langle I_{12} | \hat{0}_\alpha^+ | I_0 \rangle \langle J_{13} | \hat{1}_\beta^+ | J_0 \rangle \langle K_7 | \hat{0}_\beta^- | K_0 \rangle \langle L_{10} | \hat{1}_\alpha^- | L_0 \rangle t_{A_9, I_{12}} t_{B_{11}, L_{10}} t_{J_{13}, K_7} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_{12}, J_{13}, K_8, L_{10}) \rangle = \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^J | \hat{g} | 1^L 1^K \rangle \langle I_{12} | \hat{0}_\alpha^+ | I_0 \rangle \langle J_{13} | \hat{1}_\beta^+ | J_0 \rangle \langle K_8 | \hat{1}_\beta^- | K_0 \rangle \langle L_{10} | \hat{1}_\alpha^- | L_0 \rangle t_{A_9, B_{11}} t_{I_{12}, L_{10}} t_{J_{13}, K_8} \\ & + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^J | \hat{g} | 1^L 1^K \rangle \langle I_{12} | \hat{0}_\alpha^+ | I_0 \rangle \langle J_{13} | \hat{1}_\beta^+ | J_0 \rangle \langle K_8 | \hat{1}_\beta^- | K_0 \rangle \langle L_{10} | \hat{1}_\alpha^- | L_0 \rangle t_{A_9, I_{12}} t_{B_{11}, L_{10}} t_{J_{13}, K_8} \end{aligned}$$

$$\langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_{11}, J_{14}, K_7, L_9) \rangle =$$

$$+ \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^J | \hat{g} | 0^L 0^K \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle \langle K_{14} | \hat{0}_\beta^+ | K_0 \rangle \langle L_7 | \hat{0}_\beta^- | L_0 \rangle t_{A_9, B_{11}} t_{I_{14}, L_7} t_{J_7, K_{14}}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_{12}, J_9, K_{14}, L_7) \rangle = \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^K | \hat{g} | 0^J 0^L \rangle \langle I_{12} | \hat{0}_\alpha^+ | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle \langle K_{14} | \hat{0}_\beta^+ | K_0 \rangle \langle L_7 | \hat{0}_\beta^- | L_0 \rangle t_{A_9, B_{11}} t_{I_{12}, J_9} t_{K_{14}, L_7} \\ & + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^K | \hat{g} | 0^J 0^L \rangle \langle I_{12} | \hat{0}_\alpha^+ | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle \langle K_{14} | \hat{0}_\beta^+ | K_0 \rangle \langle L_7 | \hat{0}_\beta^- | L_0 \rangle t_{A_9, I_{12}} t_{B_{11}, J_9} t_{K_{14}, L_7} \end{aligned}$$

[illegible]

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_{14}, J_7, K_{14}, L_8) \rangle = \\
& + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^K | \hat{g} | 0^J 1^L \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle \langle K_{14} | \hat{0}_\beta^+ | K_0 \rangle \langle L_8 | \hat{1}_\beta^- | L_0 \rangle t_{A_9, B_{11}} t_{I_{14}, J_7} t_{K_{14}, L_8} \\
& + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^J | \hat{g} | 1^L 0^K \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle \langle K_{14} | \hat{0}_\beta^+ | K_0 \rangle \langle L_8 | \hat{1}_\beta^- | L_0 \rangle t_{A_9, B_{11}} t_{I_{14}, J_7} t_{K_{14}, L_8} \\
& + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^K | \hat{g} | 0^J 1^L \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle \langle K_{14} | \hat{0}_\beta^+ | K_0 \rangle \langle L_8 | \hat{1}_\beta^- | L_0 \rangle t_{A_9, B_{11}} t_{I_{14}, L_8} t_{J_7, K_{14}} \\
& + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^J | \hat{g} | 1^L 0^K \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle \langle K_{14} | \hat{0}_\beta^+ | K_0 \rangle \langle L_8 | \hat{1}_\beta^- | L_0 \rangle t_{A_9, B_{11}} t_{I_{14}, L_8} t_{J_7, K_{14}}
\end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_{12}, J_9, K_{14}, L_8) \rangle = \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^K | \hat{g} | 0^J 1^L \rangle \langle I_{12} | \hat{0}_\alpha^+ | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle \langle K_{14} | \hat{0}_\beta^+ | K_0 \rangle \langle L_8 | \hat{1}_\beta^- | L_0 \rangle t_{A_9, B_{11}} t_{I_{12}, J_9} t_{K_{14}, L_8} \\ & + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^K | \hat{g} | 0^J 1^L \rangle \langle I_{12} | \hat{0}_\alpha^+ | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle \langle K_{14} | \hat{0}_\beta^+ | K_0 \rangle \langle L_8 | \hat{1}_\beta^- | L_0 \rangle t_{A_9, I_{12}} t_{B_{11}, J_9} t_{K_{14}, L_8} \end{aligned}$$

[illegible]

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_{14}, J_8, K_{14}, L_7) \rangle = \\
& + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^K | \hat{g} | 1^J 0^L \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_{14} | \hat{0}_\beta^+ | K_0 \rangle \langle L_7 | \hat{0}_\beta^- | L_0 \rangle t_{A_9, B_{11}} t_{I_{14}, J_8} t_{K_{14}, L_7} \\
& + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^J | \hat{g} | 0^L 0^K \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_{14} | \hat{0}_\beta^+ | K_0 \rangle \langle L_7 | \hat{0}_\beta^- | L_0 \rangle t_{A_9, B_{11}} t_{I_{14}, J_8} t_{K_{14}, L_7} \\
& + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^K | \hat{g} | 1^J 0^L \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_{14} | \hat{0}_\beta^+ | K_0 \rangle \langle L_7 | \hat{0}_\beta^- | L_0 \rangle t_{A_9, B_{11}} t_{I_{14}, L_7} t_{J_8, K_{14}} \\
& + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^J | \hat{g} | 0^L 0^K \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_{14} | \hat{0}_\beta^+ | K_0 \rangle \langle L_7 | \hat{0}_\beta^- | L_0 \rangle t_{A_9, B_{11}} t_{I_{14}, L_7} t_{J_8, K_{14}}
\end{aligned}$$

$$\langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_{12}, J_{10}, K_{14}, L_7) \rangle =$$

$$\begin{aligned}
& + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^K | \hat{g} | 1^J 0^L \rangle \langle I_{12} | \hat{\theta}_\alpha^+ | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle \langle K_{14} | \hat{\theta}_\beta^+ | K_0 \rangle \langle L_7 | \hat{\theta}_\beta^- | L_0 \rangle t_{A_9, B_{11}} t_{I_{12}, J_{10}} t_{K_{14}, L_7} \\
& + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^K | \hat{g} | 1^J 0^L \rangle \langle I_{12} | \hat{\theta}_\alpha^+ | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle \langle K_{14} | \hat{\theta}_\beta^+ | K_0 \rangle \langle L_7 | \hat{\theta}_\beta^- | L_0 \rangle t_{A_9, I_{12}} t_{B_{11}, J_{10}} t_{K_{14}, L_7}
\end{aligned}$$

[illegible]

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_{14}, J_8, K_{14}, L_8) \rangle = \\
& + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^K | \hat{g} | 1^J 1^L \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_{14} | \hat{0}_\beta^+ | K_0 \rangle \langle L_8 | \hat{1}_\beta^- | L_0 \rangle t_{A_9, B_{11}} t_{I_{14}, J_8} t_{K_{14}, L_8} \\
& + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^J | \hat{g} | 1^L 0^K \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_{14} | \hat{0}_\beta^+ | K_0 \rangle \langle L_8 | \hat{1}_\beta^- | L_0 \rangle t_{A_9, B_{11}} t_{I_{14}, J_8} t_{K_{14}, L_8} \\
& + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^K | \hat{g} | 1^J 1^L \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_{14} | \hat{0}_\beta^+ | K_0 \rangle \langle L_8 | \hat{1}_\beta^- | L_0 \rangle t_{A_9, B_{11}} t_{I_{14}, L_8} t_{J_8, K_{14}} \\
& + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^J | \hat{g} | 1^L 0^K \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_{14} | \hat{0}_\beta^+ | K_0 \rangle \langle L_8 | \hat{1}_\beta^- | L_0 \rangle t_{A_9, B_{11}} t_{I_{14}, L_8} t_{J_8, K_{14}}
\end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_{12}, J_{10}, K_{14}, L_8) \rangle = \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^K | \hat{g} | 1^J 1^L \rangle \langle I_{12} | \hat{0}_\alpha^+ | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle \langle K_{14} | \hat{0}_\beta^+ | K_0 \rangle \langle L_8 | \hat{1}_\beta^- | L_0 \rangle t_{A_9, B_{11}} t_{I_{12}, J_{10}} t_{K_{14}, L_8} \\ & + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^K | \hat{g} | 1^J 1^L \rangle \langle I_{12} | \hat{0}_\alpha^+ | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle \langle K_{14} | \hat{0}_\beta^+ | K_0 \rangle \langle L_8 | \hat{1}_\beta^- | L_0 \rangle t_{A_9, I_{12}} t_{B_{11}, J_{10}} t_{K_{14}, L_8} \end{aligned}$$

[illegible]

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_{12}, J_9, K_{13}, L_8) \rangle = \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^K | \hat{g} | 0^J 1^L \rangle \langle I_{12} | \hat{0}_\alpha^+ | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle \langle K_{13} | \hat{1}_\beta^+ | K_0 \rangle \langle L_8 | \hat{1}_\beta^- | L_0 \rangle t_{A_9, B_{11}} t_{I_{12}, J_9} t_{K_{13}, L_8} \\ & + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^K | \hat{g} | 0^J 1^L \rangle \langle I_{12} | \hat{0}_\alpha^+ | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle \langle K_{13} | \hat{1}_\beta^+ | K_0 \rangle \langle L_8 | \hat{1}_\beta^- | L_0 \rangle t_{A_9, I_{12}} t_{B_{11}, J_9} t_{K_{13}, L_8} \end{aligned}$$

[illegible]

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_{14}, J_8, K_{13}, L_7) \rangle = \\
& + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^K | \hat{g} | 1^J 0^L \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_{13} | \hat{1}_\beta^+ | K_0 \rangle \langle L_7 | \hat{0}_\beta^- | L_0 \rangle t_{A_9, B_{11}} t_{I_{14}, J_8} t_{K_{13}, L_7} \\
& + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^J | \hat{g} | 0^L 1^K \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_{13} | \hat{1}_\beta^+ | K_0 \rangle \langle L_7 | \hat{0}_\beta^- | L_0 \rangle t_{A_9, B_{11}} t_{I_{14}, J_8} t_{K_{13}, L_7} \\
& + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^K | \hat{g} | 1^J 0^L \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_{13} | \hat{1}_\beta^+ | K_0 \rangle \langle L_7 | \hat{0}_\beta^- | L_0 \rangle t_{A_9, B_{11}} t_{I_{14}, L_7} t_{J_8, K_{13}} \\
& + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^J | \hat{g} | 0^L 1^K \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_{13} | \hat{1}_\beta^+ | K_0 \rangle \langle L_7 | \hat{0}_\beta^- | L_0 \rangle t_{A_9, B_{11}} t_{I_{14}, L_7} t_{J_8, K_{13}}
\end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_{12}, J_{10}, K_{13}, L_7) \rangle = \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^K | \hat{g} | 1^J 0^L \rangle \langle I_{12} | \hat{0}_\alpha^+ | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle \langle K_{13} | \hat{1}_\beta^+ | K_0 \rangle \langle L_7 | \hat{0}_\beta^- | L_0 \rangle t_{A_9, B_{11}} t_{I_{12}, J_{10}} t_{K_{13}, L_7} \\ & + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^K | \hat{g} | 1^J 0^L \rangle \langle I_{12} | \hat{0}_\alpha^+ | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle \langle K_{13} | \hat{1}_\beta^+ | K_0 \rangle \langle L_7 | \hat{0}_\beta^- | L_0 \rangle t_{A_9, I_{12}} t_{B_{11}, J_{10}} t_{K_{13}, L_7} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_{12}, J_{10}, K_{11}, L_{10}) \rangle = \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^K | \hat{g} | 1^J 1^L \rangle \langle I_{12} | \hat{0}_\alpha^+ | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle \langle K_{11} | \hat{1}_\alpha^+ | K_0 \rangle \langle L_{10} | \hat{1}_\alpha^- | L_0 \rangle t_{A_9, B_{11}} t_{I_{12}, J_{10}} t_{K_{11}, L_{10}} \\ & + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^J | \hat{g} | 1^L 1^K \rangle \langle I_{12} | \hat{0}_\alpha^+ | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle \langle K_{11} | \hat{1}_\alpha^+ | K_0 \rangle \langle L_{10} | \hat{1}_\alpha^- | L_0 \rangle t_{A_9, B_{11}} t_{I_{12}, J_{10}} t_{K_{11}, L_{10}} \\ & + \frac{1}{48} \sum_I \sum_I \sum_K \sum_L \langle 0^I 1^K | \hat{g} | 1^J 1^L \rangle \langle I_{12} | \hat{0}_\alpha^+ | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle \langle K_{11} | \hat{1}_\alpha^+ | K_0 \rangle \langle L_{10} | \hat{1}_\alpha^- | L_0 \rangle t_{A_9, B_{11}} t_{I_{12}, L_{10}} t_{J_{10}, K_{11}} \end{aligned}$$

$$\begin{aligned}
& + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^J | \hat{g} | 1^L 1^K \rangle \langle I_{12} | \hat{0}_\alpha^+ | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle \langle K_{11} | \hat{1}_\alpha^+ | K_0 \rangle \langle L_{10} | \hat{1}_\alpha^- | L_0 \rangle t_{A_9, B_{11}} t_{I_{12}, L_{10}} t_{J_{10}, K_{11}} \\
& + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^K | \hat{g} | 1^J 1^L \rangle \langle I_{12} | \hat{0}_\alpha^+ | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle \langle K_{11} | \hat{1}_\alpha^+ | K_0 \rangle \langle L_{10} | \hat{1}_\alpha^- | L_0 \rangle t_{A_9, I_{12}} t_{B_{11}, J_{10}} t_{K_{11}, L_{10}} \\
& + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^J | \hat{g} | 1^L 1^K \rangle \langle I_{12} | \hat{0}_\alpha^+ | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle \langle K_{11} | \hat{1}_\alpha^+ | K_0 \rangle \langle L_{10} | \hat{1}_\alpha^- | L_0 \rangle t_{A_9, I_{12}} t_{B_{11}, J_{10}} t_{K_{11}, L_{10}} \\
& + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^K | \hat{g} | 1^J 1^L \rangle \langle I_{12} | \hat{0}_\alpha^+ | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle \langle K_{11} | \hat{1}_\alpha^+ | K_0 \rangle \langle L_{10} | \hat{1}_\alpha^- | L_0 \rangle t_{A_9, I_{12}} t_{B_{11}, L_{10}} t_{J_{10}, K_{11}} \\
& + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^J | \hat{g} | 1^L 1^K \rangle \langle I_{12} | \hat{0}_\alpha^+ | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle \langle K_{11} | \hat{1}_\alpha^+ | K_0 \rangle \langle L_{10} | \hat{1}_\alpha^- | L_0 \rangle t_{A_9, I_{12}} t_{B_{11}, L_{10}} t_{J_{10}, K_{11}} \\
& + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^K | \hat{g} | 1^J 1^L \rangle \langle I_{12} | \hat{0}_\alpha^+ | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle \langle K_{11} | \hat{1}_\alpha^+ | K_0 \rangle \langle L_{10} | \hat{1}_\alpha^- | L_0 \rangle t_{A_9, K_{11}} t_{B_{11}, J_{10}} t_{I_{12}, L_{10}} \\
& + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^J | \hat{g} | 1^L 1^K \rangle \langle I_{12} | \hat{0}_\alpha^+ | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle \langle K_{11} | \hat{1}_\alpha^+ | K_0 \rangle \langle L_{10} | \hat{1}_\alpha^- | L_0 \rangle t_{A_9, K_{11}} t_{B_{11}, J_{10}} t_{I_{12}, L_{10}} \\
& + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^K | \hat{g} | 1^J 1^L \rangle \langle I_{12} | \hat{0}_\alpha^+ | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle \langle K_{11} | \hat{1}_\alpha^+ | K_0 \rangle \langle L_{10} | \hat{1}_\alpha^- | L_0 \rangle t_{A_9, K_{11}} t_{B_{11}, L_{10}} t_{I_{12}, J_{10}} \\
& + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^J | \hat{g} | 1^L 1^K \rangle \langle I_{12} | \hat{0}_\alpha^+ | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle \langle K_{11} | \hat{1}_\alpha^+ | K_0 \rangle \langle L_{10} | \hat{1}_\alpha^- | L_0 \rangle t_{A_9, K_{11}} t_{B_{11}, L_{10}} t_{I_{12}, J_{10}}
\end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_{12}, J_{10}, K_{13}, L_8) \rangle = \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^K | \hat{g} | 1^J 1^L \rangle \langle I_{12} | \hat{0}_\alpha^+ | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle \langle K_{13} | \hat{1}_\beta^+ | K_0 \rangle \langle L_8 | \hat{1}_\beta^- | L_0 \rangle t_{A_9, B_{11}} t_{I_{12}, J_{10}} t_{K_{13}, L_8} \\ & + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^K | \hat{g} | 1^J 1^L \rangle \langle I_{12} | \hat{0}_\alpha^+ | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle \langle K_{13} | \hat{1}_\beta^+ | K_0 \rangle \langle L_8 | \hat{1}_\beta^- | L_0 \rangle t_{A_9, I_{12}} t_{B_{11}, J_{10}} t_{K_{13}, L_8} \end{aligned}$$

$$\begin{aligned}
& + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^J | \hat{g} | 0^L 0^K \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle \langle K_{12} | \hat{0}_\alpha^+ | K_0 \rangle \langle L_9 | \hat{0}_\alpha^- | L_0 \rangle t_{A_9, I_{11}} t_{B_{11}, J_9} t_{K_{12}, L_9} \\
& + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^K | \hat{g} | 0^J 0^L \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle \langle K_{12} | \hat{0}_\alpha^+ | K_0 \rangle \langle L_9 | \hat{0}_\alpha^- | L_0 \rangle t_{A_9, I_{11}} t_{B_{11}, L_9} t_{J_9, K_{12}} \\
& + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^J | \hat{g} | 0^L 0^K \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle \langle K_{12} | \hat{0}_\alpha^+ | K_0 \rangle \langle L_9 | \hat{0}_\alpha^- | L_0 \rangle t_{A_9, I_{11}} t_{B_{11}, L_9} t_{J_9, K_{12}} \\
& + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^K | \hat{g} | 0^J 0^L \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle \langle K_{12} | \hat{0}_\alpha^+ | K_0 \rangle \langle L_9 | \hat{0}_\alpha^- | L_0 \rangle t_{A_9, K_{12}} t_{B_{11}, J_9} t_{I_{11}, L_9} \\
& + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^J | \hat{g} | 0^L 0^K \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle \langle K_{12} | \hat{0}_\alpha^+ | K_0 \rangle \langle L_9 | \hat{0}_\alpha^- | L_0 \rangle t_{A_9, K_{12}} t_{B_{11}, J_9} t_{I_{11}, L_9} \\
& + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^K | \hat{g} | 0^J 0^L \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle \langle K_{12} | \hat{0}_\alpha^+ | K_0 \rangle \langle L_9 | \hat{0}_\alpha^- | L_0 \rangle t_{A_9, K_{12}} t_{B_{11}, L_9} t_{I_{11}, J_9} \\
& + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^J | \hat{g} | 0^L 0^K \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle \langle K_{12} | \hat{0}_\alpha^+ | K_0 \rangle \langle L_9 | \hat{0}_\alpha^- | L_0 \rangle t_{A_9, K_{12}} t_{B_{11}, L_9} t_{I_{11}, J_9}
\end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_{11}, J_9, K_{14}, L_7) \rangle = \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^K | \hat{g} | 0^J 0^L \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle \langle K_{14} | \hat{0}_\beta^+ | K_0 \rangle \langle L_7 | \hat{0}_\beta^- | L_0 \rangle t_{A_9, B_{11}} t_{I_{11}, J_9} t_{K_{14}, L_7} \\ & + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^K | \hat{g} | 0^J 0^L \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle \langle K_{14} | \hat{0}_\beta^+ | K_0 \rangle \langle L_7 | \hat{0}_\beta^- | L_0 \rangle t_{A_9, I_{11}} t_{B_{11}, J_9} t_{K_{14}, L_7} \end{aligned}$$

$$\begin{aligned}
& + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 1^J | \hat{g} | 0^L 0^K \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle \langle K_{12} | \hat{0}_\alpha^+ | K_0 \rangle \langle L_9 | \hat{0}_\alpha^- | L_0 \rangle t_{A_9, K_{12}} t_{B_{11}, J_{10}} t_{I_{11}, L_9} \\
& + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^K | \hat{g} | 1^J 0^L \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle \langle K_{12} | \hat{0}_\alpha^+ | K_0 \rangle \langle L_9 | \hat{0}_\alpha^- | L_0 \rangle t_{A_9, K_{12}} t_{B_{11}, L_9} t_{I_{11}, J_{10}} \\
& + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 1^J | \hat{g} | 0^L 0^K \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle \langle K_{12} | \hat{0}_\alpha^+ | K_0 \rangle \langle L_9 | \hat{0}_\alpha^- | L_0 \rangle t_{A_9, K_{12}} t_{B_{11}, L_9} t_{I_{11}, J_{10}}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_{13}, J_8, K_{14}, L_7) \rangle = \\
& + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^K | \hat{g} | 1^J 0^L \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_{14} | \hat{0}_\beta^+ | K_0 \rangle \langle L_7 | \hat{0}_\beta^- | L_0 \rangle t_{A_9, B_{11}} t_{I_{13}, J_8} t_{K_{14}, L_7} \\
& + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 1^J | \hat{g} | 0^L 0^K \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_{14} | \hat{0}_\beta^+ | K_0 \rangle \langle L_7 | \hat{0}_\beta^- | L_0 \rangle t_{A_9, B_{11}} t_{I_{13}, J_8} t_{K_{14}, L_7} \\
& + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^K | \hat{g} | 1^J 0^L \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_{14} | \hat{0}_\beta^+ | K_0 \rangle \langle L_7 | \hat{0}_\beta^- | L_0 \rangle t_{A_9, B_{11}} t_{I_{13}, L_7} t_{J_8, K_{14}} \\
& + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 1^J | \hat{g} | 0^L 0^K \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_{14} | \hat{0}_\beta^+ | K_0 \rangle \langle L_7 | \hat{0}_\beta^- | L_0 \rangle t_{A_9, B_{11}} t_{I_{13}, L_7} t_{J_8, K_{14}}
\end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_{11}, J_{10}, K_{14}, L_7) \rangle = \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^K | \hat{g} | 1^J 0^L \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle \langle K_{14} | \hat{0}_\beta^+ | K_0 \rangle \langle L_7 | \hat{0}_\beta^- | L_0 \rangle t_{A_9, B_{11}} t_{I_{11}, J_{10}} t_{K_{14}, L_7} \\ & + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^K | \hat{g} | 1^J 0^L \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle \langle K_{14} | \hat{0}_\beta^+ | K_0 \rangle \langle L_7 | \hat{0}_\beta^- | L_0 \rangle t_{A_9, I_{11}} t_{B_{11}, J_{10}} t_{K_{14}, L_7} \end{aligned}$$

[illegible]

$$+ \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 1^J | g | 1^L 0^K \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle \langle K_{12} | \hat{0}_\alpha^+ | K_0 \rangle \langle L_{10} | \hat{1}_\alpha^- | L_0 \rangle t_{A_9, K_{12}} t_{B_{11}, L_{10}} t_{I_{11}, J_{10}}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_{13}, J_8, K_{14}, L_8) \rangle = \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^K | \hat{g} | 1^J 1^L \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_{14} | \hat{0}_\beta^+ | K_0 \rangle \langle L_8 | \hat{1}_\beta^- | L_0 \rangle t_{A_9, B_{11}} t_{I_{13}, J_8} t_{K_{14}, L_8} \\ & + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 1^J | \hat{g} | 1^L 0^K \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_{14} | \hat{0}_\beta^+ | K_0 \rangle \langle L_8 | \hat{1}_\beta^- | L_0 \rangle t_{A_9, B_{11}} t_{I_{13}, J_8} t_{K_{14}, L_8} \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^K | \hat{g} | 1^J 1^L \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_{14} | \hat{0}_\beta^+ | K_0 \rangle \langle L_8 | \hat{1}_\beta^- | L_0 \rangle t_{A_9, B_{11}} t_{I_{13}, L_8} t_{J_8, K_{14}} \\ & + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 1^J | \hat{g} | 1^L 0^K \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_{14} | \hat{0}_\beta^+ | K_0 \rangle \langle L_8 | \hat{1}_\beta^- | L_0 \rangle t_{A_9, B_{11}} t_{I_{13}, L_8} t_{J_8, K_{14}} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_{11}, J_{10}, K_{14}, L_8) \rangle = \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^K | \hat{g} | 1^J 1^L \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle \langle K_{14} | \hat{0}_\beta^+ | K_0 \rangle \langle L_8 | \hat{1}_\beta^- | L_0 \rangle t_{A_9, B_{11}} t_{I_{11}, J_{10}} t_{K_{14}, L_8} \\ & + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^K | \hat{g} | 1^J 1^L \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle \langle K_{14} | \hat{0}_\beta^+ | K_0 \rangle \langle L_8 | \hat{1}_\beta^- | L_0 \rangle t_{A_9, I_{11}} t_{B_{11}, J_{10}} t_{K_{14}, L_8} \end{aligned}$$

[illegible]

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_{13}, J_7, K_{13}, L_7) \rangle = \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 1^K | \hat{g} | 0^J 0^L \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle \langle K_{13} | \hat{1}_\beta^+ | K_0 \rangle \langle L_7 | \hat{0}_\beta^- | L_0 \rangle t_{A_9, B_{11}} t_{I_{13}, J_7} t_{K_{13}, L_7} \\ & + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^J | \hat{g} | 0^L 1^K \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle \langle K_{13} | \hat{1}_\beta^+ | K_0 \rangle \langle L_7 | \hat{0}_\beta^- | L_0 \rangle t_{A_9, B_{11}} t_{I_{13}, J_7} t_{K_{13}, L_7} \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 1^K | \hat{g} | 0^J 0^L \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle \langle K_{13} | \hat{1}_\beta^+ | K_0 \rangle \langle L_7 | \hat{0}_\beta^- | L_0 \rangle t_{A_9, B_{11}} t_{I_{13}, L_7} t_{J_7, K_{13}} \\ & + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^J | \hat{g} | 0^L 1^K \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle \langle K_{13} | \hat{1}_\beta^+ | K_0 \rangle \langle L_7 | \hat{0}_\beta^- | L_0 \rangle t_{A_9, B_{11}} t_{I_{13}, L_7} t_{J_7, K_{13}} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_{11}, J_9, K_{13}, L_7) \rangle = \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 1^K | \hat{g} | 0^J 0^L \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle \langle K_{13} | \hat{1}_\beta^+ | K_0 \rangle \langle L_7 | \hat{0}_\beta^- | L_0 \rangle t_{A_9, B_{11}} t_{I_{11}, J_9} t_{K_{13}, L_7} \\ & + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 1^K | \hat{g} | 0^J 0^L \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle \langle K_{13} | \hat{1}_\beta^+ | K_0 \rangle \langle L_7 | \hat{0}_\beta^- | L_0 \rangle t_{A_9, I_{11}} t_{B_{11}, J_9} t_{K_{13}, L_7} \end{aligned}$$

[illegible]

$$\langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_{13}, J_7, K_{13}, L_8) \rangle =$$

$$\begin{aligned}
& + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 1^K | \hat{g} | 0^J 1^L \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle \langle K_{13} | \hat{1}_\beta^+ | K_0 \rangle \langle L_8 | \hat{1}_\beta^- | L_0 \rangle t_{A_9, B_{11}} t_{I_{13}, J_7} t_{K_{13}, L_8} \\
& + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^J | \hat{g} | 1^L 1^K \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle \langle K_{13} | \hat{1}_\beta^+ | K_0 \rangle \langle L_8 | \hat{1}_\beta^- | L_0 \rangle t_{A_9, B_{11}} t_{I_{13}, J_7} t_{K_{13}, L_8} \\
& + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 1^K | \hat{g} | 0^J 1^L \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle \langle K_{13} | \hat{1}_\beta^+ | K_0 \rangle \langle L_8 | \hat{1}_\beta^- | L_0 \rangle t_{A_9, B_{11}} t_{I_{13}, L_8} t_{J_7, K_{13}} \\
& + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^J | \hat{g} | 1^L 1^K \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle \langle K_{13} | \hat{1}_\beta^+ | K_0 \rangle \langle L_8 | \hat{1}_\beta^- | L_0 \rangle t_{A_9, B_{11}} t_{I_{13}, L_8} t_{J_7, K_{13}}
\end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_{11}, J_9, K_{13}, L_8) \rangle = \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 1^K | \hat{g} | 0^J 1^L \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle \langle K_{13} | \hat{1}_\beta^+ | K_0 \rangle \langle L_8 | \hat{1}_\beta^- | L_0 \rangle t_{A_9, B_{11}} t_{I_{11}, J_9} t_{K_{13}, L_8} \\ & + \frac{-1}{48} \sum_I \sum_L \sum_K \sum_J \langle 1^I 1^K | \hat{g} | 0^J 1^L \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle \langle K_{13} | \hat{1}_\beta^+ | K_0 \rangle \langle L_8 | \hat{1}_\beta^- | L_0 \rangle t_{A_9, I_{11}} t_{B_{11}, J_9} t_{K_{13}, L_8} \end{aligned}$$

[illegible]

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_{13}, J_8, K_{13}, L_7) \rangle = \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 1^K | \hat{g} | 1^J 0^L \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_{13} | \hat{1}_\beta^+ | K_0 \rangle \langle L_7 | \hat{0}_\beta^- | L_0 \rangle t_{A_9, B_{11}} t_{I_{13}, J_8} t_{K_{13}, L_7} \\ & + \frac{-1}{48} \sum_I \sum_L \sum_K \sum_J \langle 1^I 1^J | \hat{g} | 0^L 1^K \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_{13} | \hat{1}_\beta^+ | K_0 \rangle \langle L_7 | \hat{0}_\beta^- | L_0 \rangle t_{A_9, B_{11}} t_{I_{13}, J_8} t_{K_{13}, L_7} \end{aligned}$$

$$\begin{aligned}
& + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 1^K | \hat{g} | 1^J 0^L \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_{13} | \hat{1}_\beta^+ | K_0 \rangle \langle L_7 | \hat{0}_\beta^- | L_0 \rangle t_{A_9, B_{11}} t_{I_{13}, L_7} t_{J_8, K_{13}} \\
& + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 1^J | \hat{g} | 0^0 1^K \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_{13} | \hat{1}_\beta^+ | K_0 \rangle \langle L_7 | \hat{0}_\beta^- | L_0 \rangle t_{A_9, B_{11}} t_{I_{13}, L_7} t_{J_8, K_{13}}
\end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_{11}, J_{10}, K_{13}, L_7) \rangle = \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 1^K | \hat{g} | 1^J 0^L \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle \langle K_{13} | \hat{1}_\beta^+ | K_0 \rangle \langle L_7 | \hat{0}_\beta^- | L_0 \rangle t_{A_9, B_{11}} t_{I_{11}, J_{10}} t_{K_{13}, L_7} \\ & + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 1^K | \hat{g} | 1^J 0^L \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle \langle K_{13} | \hat{1}_\beta^+ | K_0 \rangle \langle L_7 | \hat{0}_\beta^- | L_0 \rangle t_{A_9, I_{11}} t_{B_{11}, J_{10}} t_{K_{13}, L_7} \end{aligned}$$

[illegible]

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_{13}, J_8, K_{13}, L_8) \rangle = \\
& + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 1^K | \hat{g} | 1^J 1^L \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_{13} | \hat{1}_\beta^+ | K_0 \rangle \langle L_8 | \hat{1}_\beta^- | L_0 \rangle t_{A_9, B_{11}} t_{I_{13}, J_8} t_{K_{13}, L_8} \\
& + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 1^J | \hat{g} | 1^L 1^K \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_{13} | \hat{1}_\beta^+ | K_0 \rangle \langle L_8 | \hat{1}_\beta^- | L_0 \rangle t_{A_9, B_{11}} t_{I_{13}, J_8} t_{K_{13}, L_8} \\
& + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 1^K | \hat{g} | 1^J 1^L \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_{13} | \hat{1}_\beta^+ | K_0 \rangle \langle L_8 | \hat{1}_\beta^- | L_0 \rangle t_{A_9, B_{11}} t_{I_{13}, L_8} t_{J_8, K_{13}} \\
& + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 1^J | \hat{g} | 1^L 1^K \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_{13} | \hat{1}_\beta^+ | K_0 \rangle \langle L_8 | \hat{1}_\beta^- | L_0 \rangle t_{A_9, B_{11}} t_{I_{13}, L_8} t_{J_8, K_{13}}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_{11}, J_{10}, K_{13}, L_8) \rangle = \\
& + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 1^K | \hat{g} | 1^J 1^L \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle \langle K_{13} | \hat{1}_\beta^+ | K_0 \rangle \langle L_8 | \hat{1}_\beta^- | L_0 \rangle t_{A_9, B_{11}} t_{I_{11}, J_{10}} t_{K_{13}, L_8} \\
& + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 1^K | \hat{g} | 1^J 1^L \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle \langle K_{13} | \hat{1}_\beta^+ | K_0 \rangle \langle L_8 | \hat{1}_\beta^- | L_0 \rangle t_{A_9, I_{11}} t_{B_{11}, J_{10}} t_{K_{13}, L_8}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_{12}, J_7, K_{14}, L_9) \rangle = \\
& + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^J | \hat{g} | 0^L 0^K \rangle \langle I_{12} | \hat{0}_\alpha^+ | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle \langle K_{14} | \hat{0}_\beta^+ | K_0 \rangle \langle L_9 | \hat{0}_\alpha^- | L_0 \rangle t_{A_9, B_{11}} t_{I_{12}, L_9} t_{J_7, K_{14}} \\
& + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^J | \hat{g} | 0^L 0^K \rangle \langle I_{12} | \hat{0}_\alpha^+ | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle \langle K_{14} | \hat{0}_\beta^+ | K_0 \rangle \langle L_9 | \hat{0}_\alpha^- | L_0 \rangle t_{A_9, I_{12}} t_{B_{11}, L_9} t_{J_7, K_{14}}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_{12}, J_8, K_{14}, L_9) \rangle = \\
& + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^J | \hat{g} | 0^L 0^K \rangle \langle I_{12} | \hat{0}_\alpha^+ | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_{14} | \hat{0}_\beta^+ | K_0 \rangle \langle L_9 | \hat{0}_\alpha^- | L_0 \rangle t_{A_9, B_{11}} t_{I_{12}, L_9} t_{J_8, K_{14}} \\
& + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^J | \hat{g} | 0^L 0^K \rangle \langle I_{12} | \hat{0}_\alpha^+ | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_{14} | \hat{0}_\beta^+ | K_0 \rangle \langle L_9 | \hat{0}_\alpha^- | L_0 \rangle t_{A_9, I_{12}} t_{B_{11}, L_9} t_{J_8, K_{14}}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_{12}, J_7, K_{14}, L_{10}) \rangle = \\
& + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^J | \hat{g} | 1^L 0^K \rangle \langle I_{12} | \hat{0}_\alpha^+ | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle \langle K_{14} | \hat{0}_\beta^+ | K_0 \rangle \langle L_{10} | \hat{1}_\alpha^- | L_0 \rangle t_{A_9, B_{11}} t_{I_{12}, L_{10}} t_{J_7, K_{14}} \\
& + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^J | \hat{g} | 1^L 0^K \rangle \langle I_{12} | \hat{0}_\alpha^+ | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle \langle K_{14} | \hat{0}_\beta^+ | K_0 \rangle \langle L_{10} | \hat{1}_\alpha^- | L_0 \rangle t_{A_9, I_{12}} t_{B_{11}, L_{10}} t_{J_7, K_{14}}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_{12}, J_8, K_{14}, L_{10}) \rangle = \\
& + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^J | \hat{g} | 1^L 0^K \rangle \langle I_{12} | \hat{0}_\alpha^+ | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_{14} | \hat{0}_\beta^+ | K_0 \rangle \langle L_{10} | \hat{1}_\alpha^- | L_0 \rangle t_{A_9, B_{11}} t_{I_{12}, L_{10}} t_{J_8, K_{14}} \\
& + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^J | \hat{g} | 1^L 0^K \rangle \langle I_{12} | \hat{0}_\alpha^+ | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_{14} | \hat{0}_\beta^+ | K_0 \rangle \langle L_{10} | \hat{1}_\alpha^- | L_0 \rangle t_{A_9, I_{12}} t_{B_{11}, L_{10}} t_{J_8, K_{14}}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_{12}, J_7, K_{13}, L_9) \rangle = \\
& + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^J | \hat{g} | 0^L 1^K \rangle \langle I_{12} | \hat{0}_\alpha^+ | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle \langle K_{13} | \hat{1}_\beta^+ | K_0 \rangle \langle L_9 | \hat{0}_\alpha^- | L_0 \rangle t_{A_9, B_{11}} t_{I_{12}, L_9} t_{J_7, K_{13}}
\end{aligned}$$

$$+ \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^J | \hat{g} | 0^L 1^K \rangle \langle I_{12} | \hat{0}_\alpha^+ | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle \langle K_{13} | \hat{1}_\beta^+ | K_0 \rangle \langle L_9 | \hat{0}_\alpha^- | L_0 \rangle t_{A_9, I_{12}} t_{B_{11}, L_9} t_{J_7, K_{13}}$$

$$\langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_{12}, J_8, K_{13}, L_9) \rangle =$$

$$+ \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^J | \hat{g} | 0^L 1^K \rangle \langle I_{12} | \hat{0}_\alpha^+ | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_{13} | \hat{1}_\beta^+ | K_0 \rangle \langle L_9 | \hat{0}_\alpha^- | L_0 \rangle t_{A_9, B_{11}} t_{I_{12}, L_9} t_{J_8, K_{13}} \\ + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^J | \hat{g} | 0^L 1^K \rangle \langle I_{12} | \hat{0}_\alpha^+ | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_{13} | \hat{1}_\beta^+ | K_0 \rangle \langle L_9 | \hat{0}_\alpha^- | L_0 \rangle t_{A_9, I_{12}} t_{B_{11}, L_9} t_{J_8, K_{13}}$$

$$\langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_{12}, J_7, K_{13}, L_{10}) \rangle =$$

$$+ \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^J | \hat{g} | 1^L 1^K \rangle \langle I_{12} | \hat{0}_\alpha^+ | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle \langle K_{13} | \hat{1}_\beta^+ | K_0 \rangle \langle L_{10} | \hat{1}_\alpha^- | L_0 \rangle t_{A_9, B_{11}} t_{I_{12}, L_{10}} t_{J_7, K_{13}} \\ + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^J | \hat{g} | 1^L 1^K \rangle \langle I_{12} | \hat{0}_\alpha^+ | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle \langle K_{13} | \hat{1}_\beta^+ | K_0 \rangle \langle L_{10} | \hat{1}_\alpha^- | L_0 \rangle t_{A_9, I_{12}} t_{B_{11}, L_{10}} t_{J_7, K_{13}}$$

$$\langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_{12}, J_8, K_{13}, L_{10}) \rangle =$$

$$+ \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^J | \hat{g} | 1^L 1^K \rangle \langle I_{12} | \hat{0}_\alpha^+ | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_{13} | \hat{1}_\beta^+ | K_0 \rangle \langle L_{10} | \hat{1}_\alpha^- | L_0 \rangle t_{A_9, B_{11}} t_{I_{12}, L_{10}} t_{J_8, K_{13}} \\ + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^J | \hat{g} | 1^L 1^K \rangle \langle I_{12} | \hat{0}_\alpha^+ | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_{13} | \hat{1}_\beta^+ | K_0 \rangle \langle L_{10} | \hat{1}_\alpha^- | L_0 \rangle t_{A_9, I_{12}} t_{B_{11}, L_{10}} t_{J_8, K_{13}}$$

$$\langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_{11}, J_7, K_{14}, L_9) \rangle =$$

$$+ \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^J | \hat{g} | 0^L 0^K \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle \langle K_{14} | \hat{0}_\beta^+ | K_0 \rangle \langle L_9 | \hat{0}_\alpha^- | L_0 \rangle t_{A_9, B_{11}} t_{I_{11}, L_9} t_{J_7, K_{14}} \\ + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^J | \hat{g} | 0^L 0^K \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle \langle K_{14} | \hat{0}_\beta^+ | K_0 \rangle \langle L_9 | \hat{0}_\alpha^- | L_0 \rangle t_{A_9, I_{11}} t_{B_{11}, L_9} t_{J_7, K_{14}}$$

$$\langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_{11}, J_8, K_{14}, L_9) \rangle =$$

$$+ \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 1^J | \hat{g} | 0^L 0^K \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_{14} | \hat{0}_\beta^+ | K_0 \rangle \langle L_9 | \hat{0}_\alpha^- | L_0 \rangle t_{A_9, B_{11}} t_{I_{11}, L_9} t_{J_8, K_{14}} \\ + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 1^J | \hat{g} | 0^L 0^K \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_{14} | \hat{0}_\beta^+ | K_0 \rangle \langle L_9 | \hat{0}_\alpha^- | L_0 \rangle t_{A_9, I_{11}} t_{B_{11}, L_9} t_{J_8, K_{14}}$$

$$\langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_{11}, J_7, K_{14}, L_{10}) \rangle =$$

[illegible]

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_{14}, J_7, K_7, L_{14}) \rangle = \\
& + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^K | \hat{g} | 0^J 0^L \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle \langle K_7 | \hat{0}_\beta^- | K_0 \rangle \langle L_{14} | \hat{0}_\beta^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_{14}, J_7} t_{K_7, L_{14}} \\
& + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^J | \hat{g} | 0^K 0^L \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle \langle K_7 | \hat{0}_\beta^- | K_0 \rangle \langle L_{14} | \hat{0}_\beta^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_{14}, J_7} t_{K_7, L_{14}} \\
& + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^K | \hat{g} | 0^J 0^L \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle \langle K_7 | \hat{0}_\beta^- | K_0 \rangle \langle L_{14} | \hat{0}_\beta^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_{14}, K_7} t_{J_7, L_{14}} \\
& + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^J | \hat{g} | 0^K 0^L \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle \langle K_7 | \hat{0}_\beta^- | K_0 \rangle \langle L_{14} | \hat{0}_\beta^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_{14}, K_7} t_{J_7, L_{14}}
\end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_{12}, J_9, K_7, L_{14}) \rangle = \\ & + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^K | \hat{g} | 0^J 0^L \rangle \langle I_{12} | \hat{\theta}_\alpha^+ | I_0 \rangle \langle J_9 | \hat{\theta}_\alpha^- | J_0 \rangle \langle K_7 | \hat{\theta}_\beta^- | K_0 \rangle \langle L_{14} | \hat{\theta}_\beta^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_{12}, J_9} t_{K_7, L_{14}} \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^K | \hat{g} | 0^J 0^L \rangle \langle I_{12} | \hat{\theta}_\alpha^+ | I_0 \rangle \langle J_9 | \hat{\theta}_\alpha^- | J_0 \rangle \langle K_7 | \hat{\theta}_\beta^- | K_0 \rangle \langle L_{14} | \hat{\theta}_\beta^+ | L_0 \rangle t_{A_9, I_{12}} t_{B_{11}, J_9} t_{K_7, L_{14}} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_{12}, J_9, K_{10}, L_{12}) \rangle = \\ & + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^K | \hat{g} | 0^J 0^L \rangle \langle I_{12} | \hat{0}_\alpha^+ | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle \langle K_{10} | \hat{1}_\alpha^- | K_0 \rangle \langle L_{12} | \hat{0}_\alpha^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_{12}, J_9} t_{K_{10}, L_{12}} \end{aligned}$$

[illegible]

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_{14}, J_7, K_8, L_{14}) \rangle = \\
& + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^K | \hat{g} | 0^J 0^L \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle \langle K_8 | \hat{1}_\beta^- | K_0 \rangle \langle L_{14} | \hat{0}_\beta^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_{14}, J_7} t_{K_8, L_{14}} \\
& + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^J | \hat{g} | 1^K 0^L \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle \langle K_8 | \hat{1}_\beta^- | K_0 \rangle \langle L_{14} | \hat{0}_\beta^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_{14}, J_7} t_{K_8, L_{14}} \\
& + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^K | \hat{g} | 0^J 0^L \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle \langle K_8 | \hat{1}_\beta^- | K_0 \rangle \langle L_{14} | \hat{0}_\beta^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_{14}, K_8} t_{J_7, L_{14}} \\
& + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^J | \hat{g} | 1^K 0^L \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle \langle K_8 | \hat{1}_\beta^- | K_0 \rangle \langle L_{14} | \hat{0}_\beta^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_{14}, K_8} t_{J_7, L_{14}}
\end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_{12}, J_9, K_8, L_{14}) \rangle = \\ & + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^K | \hat{g} | 0^J 0^L \rangle \langle I_{12} | \hat{0}_\alpha^+ | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle \langle K_8 | \hat{1}_\beta^- | K_0 \rangle \langle L_{14} | \hat{0}_\beta^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_{12}, J_9} t_{K_8, L_{14}} \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^K | \hat{g} | 0^J 0^L \rangle \langle I_{12} | \hat{0}_\alpha^+ | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle \langle K_8 | \hat{1}_\beta^- | K_0 \rangle \langle L_{14} | \hat{0}_\beta^+ | L_0 \rangle t_{A_9, I_{12}} t_{B_{11}, J_9} t_{K_8, L_{14}} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_{12}, J_{10}, K_9, L_{12}) \rangle = \\ & + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^K | \hat{g} | 1^J 0^L \rangle \langle I_{12} | \hat{0}_\alpha^+ | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle \langle K_9 | \hat{0}_\alpha^- | K_0 \rangle \langle L_{12} | \hat{0}_\alpha^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_{12}, J_{10}} t_{K_9, L_{12}} \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^J | \hat{g} | 0^K 0^L \rangle \langle I_{12} | \hat{0}_\alpha^+ | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle \langle K_9 | \hat{0}_\alpha^- | K_0 \rangle \langle L_{12} | \hat{0}_\alpha^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_{12}, J_{10}} t_{K_9, L_{12}} \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^K | \hat{g} | 1^J 0^L \rangle \langle I_{12} | \hat{0}_\alpha^+ | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle \langle K_9 | \hat{0}_\alpha^- | K_0 \rangle \langle L_{12} | \hat{0}_\alpha^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_{12}, K_9} t_{J_{10}, L_{12}} \end{aligned}$$

$$\begin{aligned}
& + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^J | \hat{g} | 1^K 1^L \rangle \langle I_{12} | \hat{0}_\alpha^+ | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle \langle K_{10} | \hat{1}_\alpha^- | K_0 \rangle \langle L_{11} | \hat{1}_\alpha^+ | L_0 \rangle t_{A_9, L_{11}} t_{B_{11}, J_9} t_{I_{12}, K_{10}} \\
& + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^K | \hat{g} | 0^J 1^L \rangle \langle I_{12} | \hat{0}_\alpha^+ | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle \langle K_{10} | \hat{1}_\alpha^- | K_0 \rangle \langle L_{11} | \hat{1}_\alpha^+ | L_0 \rangle t_{A_9, L_{11}} t_{B_{11}, K_{10}} t_{I_{12}, J_9} \\
& + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^J | \hat{g} | 1^K 1^L \rangle \langle I_{12} | \hat{0}_\alpha^+ | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle \langle K_{10} | \hat{1}_\alpha^- | K_0 \rangle \langle L_{11} | \hat{1}_\alpha^+ | L_0 \rangle t_{A_9, L_{11}} t_{B_{11}, K_{10}} t_{I_{12}, J_9}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_{14}, J_7, K_8, L_{13}) \rangle = \\
& + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^K | \hat{g} | 0^J 1^L \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle \langle K_8 | \hat{1}_\beta^- | K_0 \rangle \langle L_{13} | \hat{1}_\beta^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_{14}, J_7} t_{K_8, L_{13}} \\
& + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^J | \hat{g} | 1^K 1^L \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle \langle K_8 | \hat{1}_\beta^- | K_0 \rangle \langle L_{13} | \hat{1}_\beta^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_{14}, J_7} t_{K_8, L_{13}} \\
& + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^K | \hat{g} | 0^J 1^L \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle \langle K_8 | \hat{1}_\beta^- | K_0 \rangle \langle L_{13} | \hat{1}_\beta^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_{14}, K_8} t_{J_7, L_{13}} \\
& + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^J | \hat{g} | 1^K 1^L \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle \langle K_8 | \hat{1}_\beta^- | K_0 \rangle \langle L_{13} | \hat{1}_\beta^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_{14}, K_8} t_{J_7, L_{13}}
\end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_{12}, J_9, K_8, L_{13}) \rangle = \\ & + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^K | \hat{g} | 0^J 1^L \rangle \langle I_{12} | \hat{0}_\alpha^+ | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle \langle K_8 | \hat{1}_\beta^- | K_0 \rangle \langle L_{13} | \hat{1}_\beta^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_{12}, J_9} t_{K_8, L_{13}} \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^K | \hat{g} | 0^J 1^L \rangle \langle I_{12} | \hat{0}_\alpha^+ | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle \langle K_8 | \hat{1}_\beta^- | K_0 \rangle \langle L_{13} | \hat{1}_\beta^+ | L_0 \rangle t_{A_9, I_{12}} t_{B_{11}, J_9} t_{K_8, L_{13}} \end{aligned}$$

[illegible]

$$+ \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^J | g | 0^K 1^L \rangle \langle I_{12} | \hat{0}_\alpha^+ | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle \langle K_9 | \hat{0}_\alpha^- | K_0 \rangle \langle L_{11} | \hat{1}_\alpha^+ | L_0 \rangle t_{A_9, L_{11}} t_{B_{11}, K_9} t_{I_{12}, J_{10}}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_{14}, J_8, K_7, L_{13}) \rangle = \\ & + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^K | \hat{g} | 1^J 1^L \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_7 | \hat{0}_\beta^- | K_0 \rangle \langle L_{13} | \hat{1}_\beta^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_{14}, J_8} t_{K_7, L_{13}} \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^J | \hat{g} | 0^K 1^L \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_7 | \hat{0}_\beta^- | K_0 \rangle \langle L_{13} | \hat{1}_\beta^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_{14}, J_8} t_{K_7, L_{13}} \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^K | \hat{g} | 1^J 1^L \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_7 | \hat{0}_\beta^- | K_0 \rangle \langle L_{13} | \hat{1}_\beta^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_{14}, K_7} t_{J_8, L_{13}} \\ & + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^J | \hat{g} | 0^K 1^L \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_7 | \hat{0}_\beta^- | K_0 \rangle \langle L_{13} | \hat{1}_\beta^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_{14}, K_7} t_{J_8, L_{13}} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_{12}, J_{10}, K_7, L_{13}) \rangle = \\ & + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^K | \hat{g} | 1^J 1^L \rangle \langle I_{12} | \hat{0}_\alpha^+ | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle \langle K_7 | \hat{0}_\beta^- | K_0 \rangle \langle L_{13} | \hat{1}_\beta^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_{12}, J_{10}} t_{K_7, L_{13}} \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^K | \hat{g} | 1^J 1^L \rangle \langle I_{12} | \hat{0}_\alpha^+ | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle \langle K_7 | \hat{0}_\beta^- | K_0 \rangle \langle L_{13} | \hat{1}_\beta^+ | L_0 \rangle t_{A_9, I_{12}} t_{B_{11}, J_{10}} t_{K_7, L_{13}} \end{aligned}$$

[illegible]

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_{14}, J_8, K_8, L_{13}) \rangle = \\ & + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^K | \hat{g} | 1^J 1^L \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_8 | \hat{1}_\beta^- | K_0 \rangle \langle L_{13} | \hat{1}_\beta^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_{14}, J_8} t_{K_8, L_{13}} \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^J | \hat{g} | 1^K 1^L \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_8 | \hat{1}_\beta^- | K_0 \rangle \langle L_{13} | \hat{1}_\beta^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_{14}, J_8} t_{K_8, L_{13}} \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^K | \hat{g} | 1^J 1^L \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_8 | \hat{1}_\beta^- | K_0 \rangle \langle L_{13} | \hat{1}_\beta^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_{14}, K_8} t_{J_8, L_{13}} \\ & + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^J | \hat{g} | 1^K 1^L \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_8 | \hat{1}_\beta^- | K_0 \rangle \langle L_{13} | \hat{1}_\beta^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_{14}, K_8} t_{J_8, L_{13}} \end{aligned}$$

[illegible]

$$\begin{aligned}
& + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^K | \hat{g} | 0^J 0^L \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle \langle K_7 | \hat{0}_\beta^- | K_0 \rangle \langle L_{14} | \hat{0}_\beta^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_{13}, J_7} t_{K_7, L_{14}} \\
& + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^J | \hat{g} | 0^K 0^L \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle \langle K_7 | \hat{0}_\beta^- | K_0 \rangle \langle L_{14} | \hat{0}_\beta^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_{13}, J_7} t_{K_7, L_{14}} \\
& + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^K | \hat{g} | 0^J 0^L \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle \langle K_7 | \hat{0}_\beta^- | K_0 \rangle \langle L_{14} | \hat{0}_\beta^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_{13}, K_7} t_{J_7, L_{14}} \\
& + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^J | \hat{g} | 0^K 0^L \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle \langle K_7 | \hat{0}_\beta^- | K_0 \rangle \langle L_{14} | \hat{0}_\beta^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_{13}, K_7} t_{J_7, L_{14}}
\end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_{11}, J_9, K_7, L_{14}) \rangle = \\ & + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^K | \hat{g} | 0^J 0^L \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle \langle K_7 | \hat{0}_\beta^- | K_0 \rangle \langle L_{14} | \hat{0}_\beta^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_{11}, J_9} t_{K_7, L_{14}} \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^K | \hat{g} | 0^J 0^L \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle \langle K_7 | \hat{0}_\beta^- | K_0 \rangle \langle L_{14} | \hat{0}_\beta^+ | L_0 \rangle t_{A_9, I_{11}} t_{B_{11}, J_9} t_{K_7, L_{14}} \end{aligned}$$

[illegible]

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_{13}, J_7, K_8, L_{14}) \rangle = \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 1^K | \hat{g} | 0^J 0^L \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle \langle K_8 | \hat{1}_\beta^- | K_0 \rangle \langle L_{14} | \hat{0}_\beta^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_{13}, J_7} t_{K_8, L_{14}} \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^J | \hat{g} | 1^K 0^L \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle \langle K_8 | \hat{1}_\beta^- | K_0 \rangle \langle L_{14} | \hat{0}_\beta^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_{13}, J_7} t_{K_8, L_{14}} \end{aligned}$$

$$\begin{aligned}
& + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 1^K | \hat{g} | 0^J 0^L \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle \langle K_8 | \hat{1}_\beta^- | K_0 \rangle \langle L_{14} | \hat{0}_\beta^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_{13}, K_8} t_{J_7, L_{14}} \\
& + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^J | \hat{g} | 1^K 0^L \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle \langle K_8 | \hat{1}_\beta^- | K_0 \rangle \langle L_{14} | \hat{0}_\beta^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_{13}, K_8} t_{J_7, L_{14}}
\end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_{11}, J_9, K_8, L_{14}) \rangle = \\ & + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 1^K | \hat{g} | 0^J 0^L \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle \langle K_8 | \hat{1}_\beta^- | K_0 \rangle \langle L_{14} | \hat{0}_\beta^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_{11}, J_9} t_{K_8, L_{14}} \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 1^K | \hat{g} | 0^J 0^L \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle \langle K_8 | \hat{1}_\beta^- | K_0 \rangle \langle L_{14} | \hat{0}_\beta^+ | L_0 \rangle t_{A_9, I_{11}} t_{B_{11}, J_9} t_{K_8, L_{14}} \end{aligned}$$

[illegible]

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_{13}, J_8, K_7, L_{14}) \rangle = \\
& + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^K | \hat{g} | 1^J 0^L \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_7 | \hat{0}_\beta^- | K_0 \rangle \langle L_{14} | \hat{0}_\beta^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_{13}, J_8} t_{K_7, L_{14}} \\
& + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 1^J | \hat{g} | 0^K 0^L \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_7 | \hat{0}_\beta^- | K_0 \rangle \langle L_{14} | \hat{0}_\beta^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_{13}, J_8} t_{K_7, L_{14}} \\
& + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^K | \hat{g} | 1^J 0^L \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_7 | \hat{0}_\beta^- | K_0 \rangle \langle L_{14} | \hat{0}_\beta^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_{13}, K_7} t_{J_8, L_{14}} \\
& + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 1^J | \hat{g} | 0^K 0^L \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_7 | \hat{0}_\beta^- | K_0 \rangle \langle L_{14} | \hat{0}_\beta^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_{13}, K_7} t_{J_8, L_{14}}
\end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_{11}, J_{10}, K_7, L_{14}) \rangle = \\ & + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^K | \hat{g} | 1^J 0^L \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle \langle K_7 | \hat{0}_\beta^- | K_0 \rangle \langle L_{14} | \hat{0}_\beta^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_{11}, J_{10}} t_{K_7, L_{14}} \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^K | \hat{g} | 1^J 0^L \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle \langle K_7 | \hat{0}_\beta^- | K_0 \rangle \langle L_{14} | \hat{0}_\beta^+ | L_0 \rangle t_{A_9, I_{11}} t_{B_{11}, J_{10}} t_{K_7, L_{14}} \end{aligned}$$

[illegible]

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_{13}, J_8, K_8, L_{14}) \rangle = \\
& + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 1^K | \hat{g} | 1^J 0^L \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_8 | \hat{1}_\beta^- | K_0 \rangle \langle L_{14} | \hat{0}_\beta^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_{13}, J_8} t_{K_8, L_{14}} \\
& + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 1^J | \hat{g} | 1^K 0^L \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_8 | \hat{1}_\beta^- | K_0 \rangle \langle L_{14} | \hat{0}_\beta^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_{13}, J_8} t_{K_8, L_{14}} \\
& + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 1^K | \hat{g} | 1^J 0^L \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_8 | \hat{1}_\beta^- | K_0 \rangle \langle L_{14} | \hat{0}_\beta^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_{13}, K_8} t_{J_8, L_{14}} \\
& + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 1^J | \hat{g} | 1^K 0^L \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_8 | \hat{1}_\beta^- | K_0 \rangle \langle L_{14} | \hat{0}_\beta^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_{13}, K_8} t_{J_8, L_{14}}
\end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_{11}, J_{10}, K_8, L_{14}) \rangle = \\ & + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 1^K | \hat{g} | 1^J 0^L \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle \langle K_8 | \hat{1}_\beta^- | K_0 \rangle \langle L_{14} | \hat{0}_\beta^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_{11}, J_{10}} t_{K_8, L_{14}} \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 1^K | \hat{g} | 1^J 0^L \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle \langle K_8 | \hat{1}_\beta^- | K_0 \rangle \langle L_{14} | \hat{0}_\beta^+ | L_0 \rangle t_{A_9, I_{11}} t_{B_{11}, J_{10}} t_{K_8, L_{14}} \end{aligned}$$

[illegible]

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_{13}, J_7, K_7, L_{13}) \rangle = \\
& + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^K | \hat{g} | 0^J 1^L \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle \langle K_7 | \hat{0}_\beta^- | K_0 \rangle \langle L_{13} | \hat{1}_\beta^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_{13}, J_7} t_{K_7, L_{13}} \\
& + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^J | \hat{g} | 0^K 1^L \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle \langle K_7 | \hat{0}_\beta^- | K_0 \rangle \langle L_{13} | \hat{1}_\beta^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_{13}, J_7} t_{K_7, L_{13}} \\
& + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^K | \hat{g} | 0^J 1^L \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle \langle K_7 | \hat{0}_\beta^- | K_0 \rangle \langle L_{13} | \hat{1}_\beta^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_{13}, K_7} t_{J_7, L_{13}} \\
& + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^J | \hat{g} | 0^K 1^L \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle \langle K_7 | \hat{0}_\beta^- | K_0 \rangle \langle L_{13} | \hat{1}_\beta^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_{13}, K_7} t_{J_7, L_{13}}
\end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_{11}, J_9, K_7, L_{13}) \rangle = \\ & + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^K | \hat{g} | 0^J 1^L \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle \langle K_7 | \hat{0}_\beta^- | K_0 \rangle \langle L_{13} | \hat{1}_\beta^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_{11}, J_9} t_{K_7, L_{13}} \end{aligned}$$

$$+ \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^K | g | 0^J 1^L \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle \langle K_7 | \hat{0}_\beta^- | K_0 \rangle \langle L_{13} | \hat{1}_\beta^+ | L_0 \rangle t_{A_9, I_{11}} t_{B_{11}, J_9} t_{K_7, L_{13}}$$

[illegible]

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_{13}, J_7, K_8, L_{13}) \rangle = \\
& + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 1^K | \hat{g} | 0^J 1^L \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle \langle K_8 | \hat{1}_\beta^- | K_0 \rangle \langle L_{13} | \hat{1}_\beta^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_{13}, J_7} t_{K_8, L_{13}} \\
& + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^J | \hat{g} | 1^K 1^L \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle \langle K_8 | \hat{1}_\beta^- | K_0 \rangle \langle L_{13} | \hat{1}_\beta^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_{13}, J_7} t_{K_8, L_{13}} \\
& + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 1^K | \hat{g} | 0^J 1^L \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle \langle K_8 | \hat{1}_\beta^- | K_0 \rangle \langle L_{13} | \hat{1}_\beta^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_{13}, K_8} t_{J_7, L_{13}} \\
& + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^J | \hat{g} | 1^K 1^L \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle \langle K_8 | \hat{1}_\beta^- | K_0 \rangle \langle L_{13} | \hat{1}_\beta^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_{13}, K_8} t_{J_7, L_{13}}
\end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_{11}, J_9, K_8, L_{13}) \rangle = \\ & + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 1^K | \hat{g} | 0^J 1^L \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle \langle K_8 | \hat{1}_\beta^- | K_0 \rangle \langle L_{13} | \hat{1}_\beta^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_{11}, J_9} t_{K_8, L_{13}} \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 1^K | \hat{g} | 0^J 1^L \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle \langle K_8 | \hat{1}_\beta^- | K_0 \rangle \langle L_{13} | \hat{1}_\beta^+ | L_0 \rangle t_{A_9, I_{11}} t_{B_{11}, J_9} t_{K_8, L_{13}} \end{aligned}$$

[illegible]

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_{11}, J_{10}, K_7, L_{13}) \rangle = \\ & + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^K | \hat{g} | 1^J 1^L \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle \langle K_7 | \hat{0}_\beta^- | K_0 \rangle \langle L_{13} | \hat{1}_\beta^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_{11}, J_{10}} t_{K_7, L_{13}} \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^K | \hat{g} | 1^J 1^L \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle \langle K_7 | \hat{0}_\beta^- | K_0 \rangle \langle L_{13} | \hat{1}_\beta^+ | L_0 \rangle t_{A_9, I_{11}} t_{B_{11}, J_{10}} t_{K_7, L_{13}} \end{aligned}$$

$$+ \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^J | \hat{g} | 1^K 1^L \rangle \langle I_{12} | \hat{0}_\alpha^+ | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle \langle K_{10} | \hat{1}_\alpha^- | K_0 \rangle \langle L_{13} | \hat{1}_\beta^+ | L_0 \rangle t_{A_9, I_{12}} t_{B_{11}, K_{10}} t_{J_7, L_{13}}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_{12}, J_8, K_{10}, L_{13}) \rangle = \\ & + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^J | \hat{g} | 1^K 1^L \rangle \langle I_{12} | \hat{0}_\alpha^+ | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_{10} | \hat{1}_\alpha^- | K_0 \rangle \langle L_{13} | \hat{1}_\beta^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_{12}, K_{10}} t_{J_8, L_{13}} \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^J | \hat{g} | 1^K 1^L \rangle \langle I_{12} | \hat{0}_\alpha^+ | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_{10} | \hat{1}_\alpha^- | K_0 \rangle \langle L_{13} | \hat{1}_\beta^+ | L_0 \rangle t_{A_9, I_{12}} t_{B_{11}, K_{10}} t_{J_8, L_{13}} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_{11}, J_7, K_9, L_{14}) \rangle = \\ & + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^J | \hat{g} | 0^K 0^L \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle \langle K_9 | \hat{0}_\alpha^- | K_0 \rangle \langle L_{14} | \hat{0}_\beta^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_{11}, K_9} t_{J_7, L_{14}} \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^J | \hat{g} | 0^K 0^L \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle \langle K_9 | \hat{0}_\alpha^- | K_0 \rangle \langle L_{14} | \hat{0}_\beta^+ | L_0 \rangle t_{A_9, I_{11}} t_{B_{11}, K_9} t_{J_7, L_{14}} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_{11}, J_8, K_9, L_{14}) \rangle = \\ & + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 1^J | \hat{g} | 0^K 0^L \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_9 | \hat{0}_\alpha^- | K_0 \rangle \langle L_{14} | \hat{0}_\beta^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_{11}, K_9} t_{J_8, L_{14}} \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 1^J | \hat{g} | 0^K 0^L \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_9 | \hat{0}_\alpha^- | K_0 \rangle \langle L_{14} | \hat{0}_\beta^+ | L_0 \rangle t_{A_9, I_{11}} t_{B_{11}, K_9} t_{J_8, L_{14}} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_{11}, J_7, K_{10}, L_{14}) \rangle = \\ & + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^J | \hat{g} | 1^K 0^L \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle \langle K_{10} | \hat{1}_\alpha^- | K_0 \rangle \langle L_{14} | \hat{0}_\beta^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_{11}, K_{10}} t_{J_7, L_{14}} \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^J | \hat{g} | 1^K 0^L \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle \langle K_{10} | \hat{1}_\alpha^- | K_0 \rangle \langle L_{14} | \hat{0}_\beta^+ | L_0 \rangle t_{A_9, I_{11}} t_{B_{11}, K_{10}} t_{J_7, L_{14}} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_{11}, J_8, K_{10}, L_{14}) \rangle = \\ & + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 1^J | \hat{g} | 1^K 0^L \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_{10} | \hat{1}_\alpha^- | K_0 \rangle \langle L_{14} | \hat{0}_\beta^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_{11}, K_{10}} t_{J_8, L_{14}} \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 1^J | \hat{g} | 1^K 0^L \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_{10} | \hat{1}_\alpha^- | K_0 \rangle \langle L_{14} | \hat{0}_\beta^+ | L_0 \rangle t_{A_9, I_{11}} t_{B_{11}, K_{10}} t_{J_8, L_{14}} \end{aligned}$$

$$\langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_{11}, J_7, K_9, L_{13}) \rangle =$$

$$\begin{aligned}
& + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^J | \hat{g} | 0^K 1^L \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle \langle K_9 | \hat{0}_\alpha^- | K_0 \rangle \langle L_{13} | \hat{1}_\beta^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_{11}, K_9} t_{J_7, L_{13}} \\
& + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^J | \hat{g} | 0^K 1^L \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle \langle K_9 | \hat{0}_\alpha^- | K_0 \rangle \langle L_{13} | \hat{1}_\beta^+ | L_0 \rangle t_{A_9, I_{11}} t_{B_{11}, K_9} t_{J_7, L_{13}}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_{11}, J_8, K_9, L_{13}) \rangle = \\
& + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 1^J | \hat{g} | 0^K 1^L \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_9 | \hat{0}_\alpha^- | K_0 \rangle \langle L_{13} | \hat{1}_\beta^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_{11}, K_9} t_{J_8, L_{13}} \\
& + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 1^J | \hat{g} | 0^K 1^L \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_9 | \hat{0}_\alpha^- | K_0 \rangle \langle L_{13} | \hat{1}_\beta^+ | L_0 \rangle t_{A_9, I_{11}} t_{B_{11}, K_9} t_{J_8, L_{13}}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_{11}, J_7, K_{10}, L_{13}) \rangle = \\
& + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^J | \hat{g} | 1^K 1^L \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle \langle K_{10} | \hat{1}_\alpha^- | K_0 \rangle \langle L_{13} | \hat{1}_\beta^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_{11}, K_{10}} t_{J_7, L_{13}} \\
& + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^J | \hat{g} | 1^K 1^L \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle \langle K_{10} | \hat{1}_\alpha^- | K_0 \rangle \langle L_{13} | \hat{1}_\beta^+ | L_0 \rangle t_{A_9, I_{11}} t_{B_{11}, K_{10}} t_{J_7, L_{13}}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_{11}, J_8, K_{10}, L_{13}) \rangle = \\
& + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 1^J | \hat{g} | 1^K 1^L \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_{10} | \hat{1}_\alpha^- | K_0 \rangle \langle L_{13} | \hat{1}_\beta^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_{11}, K_{10}} t_{J_8, L_{13}} \\
& + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 1^J | \hat{g} | 1^K 1^L \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_{10} | \hat{1}_\alpha^- | K_0 \rangle \langle L_{13} | \hat{1}_\beta^+ | L_0 \rangle t_{A_9, I_{11}} t_{B_{11}, K_{10}} t_{J_8, L_{13}}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_{14}, J_{12}, K_9, L_7) \rangle = \\
& + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^J | \hat{g} | 0^L 0^K \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle \langle K_9 | \hat{0}_\alpha^- | K_0 \rangle \langle L_7 | \hat{0}_\beta^- | L_0 \rangle t_{A_9, B_{11}} t_{I_{14}, L_7} t_{J_{12}, K_9} \\
& + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^J | \hat{g} | 0^L 0^K \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle \langle K_9 | \hat{0}_\alpha^- | K_0 \rangle \langle L_7 | \hat{0}_\beta^- | L_0 \rangle t_{A_9, J_{12}} t_{B_{11}, K_9} t_{I_{14}, L_7}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_{14}, J_{12}, K_9, L_8) \rangle = \\
& + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^J | \hat{g} | 1^L 0^K \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle \langle K_9 | \hat{0}_\alpha^- | K_0 \rangle \langle L_8 | \hat{1}_\beta^- | L_0 \rangle t_{A_9, B_{11}} t_{I_{14}, L_8} t_{J_{12}, K_9} \\
& + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^J | \hat{g} | 1^L 0^K \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle \langle K_9 | \hat{0}_\alpha^- | K_0 \rangle \langle L_8 | \hat{1}_\beta^- | L_0 \rangle t_{A_9, J_{12}} t_{B_{11}, K_9} t_{I_{14}, L_8}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_{13}, J_{11}, K_{10}, L_7) \rangle = \\
& + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 1^J | \hat{g} | 0^L 1^K \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle \langle K_{10} | \hat{1}_\alpha^- | K_0 \rangle \langle L_7 | \hat{0}_\beta^- | L_0 \rangle t_{A_9, B_{11}} t_{I_{13}, L_7} t_{J_{11}, K_{10}} \\
& + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 1^J | \hat{g} | 0^L 1^K \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle \langle K_{10} | \hat{1}_\alpha^- | K_0 \rangle \langle L_7 | \hat{0}_\beta^- | L_0 \rangle t_{A_9, J_{11}} t_{B_{11}, K_{10}} t_{I_{13}, L_7}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_{13}, J_{11}, K_{10}, L_8) \rangle = \\
& + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 1^J | \hat{g} | 1^L 1^K \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle \langle K_{10} | \hat{1}_\alpha^- | K_0 \rangle \langle L_8 | \hat{1}_\beta^- | L_0 \rangle t_{A_9, B_{11}} t_{I_{13}, L_8} t_{J_{11}, K_{10}} \\
& + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 1^J | \hat{g} | 1^L 1^K \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle \langle K_{10} | \hat{1}_\alpha^- | K_0 \rangle \langle L_8 | \hat{1}_\beta^- | L_0 \rangle t_{A_9, J_{11}} t_{B_{11}, K_{10}} t_{I_{13}, L_8}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_{14}, J_{12}, K_7, L_9) \rangle = \\
& + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^J | \hat{g} | 0^K 0^L \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle \langle K_7 | \hat{0}_\beta^- | K_0 \rangle \langle L_9 | \hat{0}_\alpha^- | L_0 \rangle t_{A_9, B_{11}} t_{I_{14}, K_7} t_{J_{12}, L_9} \\
& + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^J | \hat{g} | 0^K 0^L \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle \langle K_7 | \hat{0}_\beta^- | K_0 \rangle \langle L_9 | \hat{0}_\alpha^- | L_0 \rangle t_{A_9, J_{12}} t_{B_{11}, L_9} t_{I_{14}, K_7}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_{14}, J_{12}, K_8, L_9) \rangle = \\
& + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^J | \hat{g} | 1^K 0^L \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle \langle K_8 | \hat{1}_\beta^- | K_0 \rangle \langle L_9 | \hat{0}_\alpha^- | L_0 \rangle t_{A_9, B_{11}} t_{I_{14}, K_8} t_{J_{12}, L_9} \\
& + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^J | \hat{g} | 1^K 0^L \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle \langle K_8 | \hat{1}_\beta^- | K_0 \rangle \langle L_9 | \hat{0}_\alpha^- | L_0 \rangle t_{A_9, J_{12}} t_{B_{11}, L_9} t_{I_{14}, K_8}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_{14}, J_{12}, K_7, L_{10}) \rangle = \\
& + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^J | \hat{g} | 0^K 1^L \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle \langle K_7 | \hat{0}_\beta^- | K_0 \rangle \langle L_{10} | \hat{1}_\alpha^- | L_0 \rangle t_{A_9, B_{11}} t_{I_{14}, K_7} t_{J_{12}, L_{10}} \\
& + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^J | \hat{g} | 0^K 1^L \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle \langle K_7 | \hat{0}_\beta^- | K_0 \rangle \langle L_{10} | \hat{1}_\alpha^- | L_0 \rangle t_{A_9, J_{12}} t_{B_{11}, L_{10}} t_{I_{14}, K_7}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_{14}, J_{12}, K_8, L_{10}) \rangle = \\
& + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^J | \hat{g} | 1^K 1^L \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle \langle K_8 | \hat{1}_\beta^- | K_0 \rangle \langle L_{10} | \hat{1}_\alpha^- | L_0 \rangle t_{A_9, B_{11}} t_{I_{14}, K_8} t_{J_{12}, L_{10}}
\end{aligned}$$

$$+ \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^J | \hat{g} | 1^K 1^L \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle \langle K_8 | \hat{1}_\beta^- | K_0 \rangle \langle L_{10} | \hat{1}_\alpha^- | L_0 \rangle t_{A_9, J_{12}} t_{B_{11}, L_{10}} t_{I_{14}, K_8}$$

$$\langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_{13}, J_{12}, K_7, L_9) \rangle =$$

$$+ \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^J | \hat{g} | 0^K 0^L \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle \langle K_7 | \hat{0}_\beta^- | K_0 \rangle \langle L_9 | \hat{0}_\alpha^- | L_0 \rangle t_{A_9, B_{11}} t_{I_{13}, K_7} t_{J_{12}, L_9}$$

$$+ \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^J | \hat{g} | 0^K 0^L \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle \langle K_7 | \hat{0}_\beta^- | K_0 \rangle \langle L_9 | \hat{0}_\alpha^- | L_0 \rangle t_{A_9, J_{12}} t_{B_{11}, L_9} t_{I_{13}, K_7}$$

$$\langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_{13}, J_{12}, K_8, L_9) \rangle =$$

$$+ \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^J | \hat{g} | 1^K 0^L \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle \langle K_8 | \hat{1}_\beta^- | K_0 \rangle \langle L_9 | \hat{0}_\alpha^- | L_0 \rangle t_{A_9, B_{11}} t_{I_{13}, K_8} t_{J_{12}, L_9}$$

$$+ \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^J | \hat{g} | 1^K 0^L \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle \langle K_8 | \hat{1}_\beta^- | K_0 \rangle \langle L_9 | \hat{0}_\alpha^- | L_0 \rangle t_{A_9, J_{12}} t_{B_{11}, L_9} t_{I_{13}, K_8}$$

$$\langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_{13}, J_{12}, K_7, L_{10}) \rangle =$$

$$+ \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^J | \hat{g} | 0^K 1^L \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle \langle K_7 | \hat{0}_\beta^- | K_0 \rangle \langle L_{10} | \hat{1}_\alpha^- | L_0 \rangle t_{A_9, B_{11}} t_{I_{13}, K_7} t_{J_{12}, L_{10}}$$

$$+ \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^J | \hat{g} | 0^K 1^L \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle \langle K_7 | \hat{0}_\beta^- | K_0 \rangle \langle L_{10} | \hat{1}_\alpha^- | L_0 \rangle t_{A_9, J_{12}} t_{B_{11}, L_{10}} t_{I_{13}, K_7}$$

$$\langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_{13}, J_{12}, K_8, L_{10}) \rangle =$$

$$+ \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^J | \hat{g} | 1^K 1^L \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle \langle K_8 | \hat{1}_\beta^- | K_0 \rangle \langle L_{10} | \hat{1}_\alpha^- | L_0 \rangle t_{A_9, B_{11}} t_{I_{13}, K_8} t_{J_{12}, L_{10}}$$

$$+ \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^J | \hat{g} | 1^K 1^L \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle \langle K_8 | \hat{1}_\beta^- | K_0 \rangle \langle L_{10} | \hat{1}_\alpha^- | L_0 \rangle t_{A_9, J_{12}} t_{B_{11}, L_{10}} t_{I_{13}, K_8}$$

$$\langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_{14}, J_{11}, K_7, L_9) \rangle =$$

$$+ \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^J | \hat{g} | 0^K 0^L \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle \langle K_7 | \hat{0}_\beta^- | K_0 \rangle \langle L_9 | \hat{0}_\alpha^- | L_0 \rangle t_{A_9, B_{11}} t_{I_{14}, K_7} t_{J_{11}, L_9}$$

$$+ \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^J | \hat{g} | 0^K 0^L \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle \langle K_7 | \hat{0}_\beta^- | K_0 \rangle \langle L_9 | \hat{0}_\alpha^- | L_0 \rangle t_{A_9, J_{11}} t_{B_{11}, L_9} t_{I_{14}, K_7}$$

$$\langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_{14}, J_{11}, K_8, L_9) \rangle =$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_{13}, J_{11}, K_8, L_{10}) \rangle = \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 1^J | \hat{g} | 1^K 1^L \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle \langle K_8 | \hat{1}_\beta^- | K_0 \rangle \langle L_{10} | \hat{1}_\alpha^- | L_0 \rangle t_{A_9, B_{11}} t_{I_{13}, K_8} t_{J_{11}, L_{10}} \\ & + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 1^J | \hat{g} | 1^K 1^L \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle \langle K_8 | \hat{1}_\beta^- | K_0 \rangle \langle L_{10} | \hat{1}_\alpha^- | L_0 \rangle t_{A_9, J_{11}} t_{B_{11}, L_{10}} t_{I_{13}, K_8} \end{aligned}$$

[illegible]

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_7, J_{14}, K_{14}, L_7) \rangle = \\
& + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^K | \hat{g} | 0^J 0^L \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle \langle K_{14} | \hat{0}_\beta^+ | K_0 \rangle \langle L_7 | \hat{0}_\beta^- | L_0 \rangle t_{A_9, B_{11}} t_{I_7, J_{14}} t_{K_{14}, L_7} \\
& + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^J | \hat{g} | 0^K 0^L \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle \langle K_{14} | \hat{0}_\beta^+ | K_0 \rangle \langle L_7 | \hat{0}_\beta^- | L_0 \rangle t_{A_9, B_{11}} t_{I_7, J_{14}} t_{K_{14}, L_7} \\
& + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^K | \hat{g} | 0^J 0^L \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle \langle K_{14} | \hat{0}_\beta^+ | K_0 \rangle \langle L_7 | \hat{0}_\beta^- | L_0 \rangle t_{A_9, B_{11}} t_{I_7, K_{14}} t_{J_{14}, L_7} \\
& + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^J | \hat{g} | 0^K 0^L \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle \langle K_{14} | \hat{0}_\beta^+ | K_0 \rangle \langle L_7 | \hat{0}_\beta^- | L_0 \rangle t_{A_9, B_{11}} t_{I_7, K_{14}} t_{J_{14}, L_7}
\end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_9, J_{12}, K_{14}, L_7) \rangle = \\ & + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^K | \hat{g} | 0^J 0^L \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle \langle K_{14} | \hat{0}_\beta^+ | K_0 \rangle \langle L_7 | \hat{0}_\beta^- | L_0 \rangle t_{A_9, B_{11}} t_{I_9, J_{12}} t_{K_{14}, L_7} \end{aligned}$$

$$+ \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^K | \hat{g} | 0^J 0^L \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle \langle K_{14} | \hat{0}_\beta^+ | K_0 \rangle \langle L_7 | \hat{0}_\beta^- | L_0 \rangle t_{A_9, J_{12}} t_{B_{11}, I_9} t_{K_{14}, L_7}$$

[illegible]

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_8, J_{14}, K_{14}, L_8) \rangle = \\
& + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^K | \hat{g} | 0^J 1^L \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle \langle K_{14} | \hat{0}_\beta^+ | K_0 \rangle \langle L_8 | \hat{1}_\beta^- | L_0 \rangle t_{A_9, B_{11}} t_{I_8, J_{14}} t_{K_{14}, L_8} \\
& + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^J | \hat{g} | 0^K 1^L \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle \langle K_{14} | \hat{0}_\beta^+ | K_0 \rangle \langle L_8 | \hat{1}_\beta^- | L_0 \rangle t_{A_9, B_{11}} t_{I_8, J_{14}} t_{K_{14}, L_8} \\
& + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^K | \hat{g} | 0^J 1^L \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle \langle K_{14} | \hat{0}_\beta^+ | K_0 \rangle \langle L_8 | \hat{1}_\beta^- | L_0 \rangle t_{A_9, B_{11}} t_{I_8, K_{14}} t_{J_{14}, L_8} \\
& + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^J | \hat{g} | 0^K 1^L \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle \langle K_{14} | \hat{0}_\beta^+ | K_0 \rangle \langle L_8 | \hat{1}_\beta^- | L_0 \rangle t_{A_9, B_{11}} t_{I_8, K_{14}} t_{J_{14}, L_8}
\end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_{10}, J_{12}, K_{14}, L_8) \rangle = \\ & + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^K | \hat{g} | 0^J 1^L \rangle \langle I_{10} | \hat{1}_\alpha^- | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle \langle K_{14} | \hat{0}_\beta^+ | K_0 \rangle \langle L_8 | \hat{1}_\beta^- | L_0 \rangle t_{A_9, B_{11}} t_{I_{10}, J_{12}} t_{K_{14}, L_8} \\ & + \frac{-1}{48} \sum_I \sum_L \sum_K \sum_J \langle 1^I 0^K | \hat{g} | 0^J 1^L \rangle \langle I_{10} | \hat{1}_\alpha^- | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle \langle K_{14} | \hat{0}_\beta^+ | K_0 \rangle \langle L_8 | \hat{1}_\beta^- | L_0 \rangle t_{A_9, J_{12}} t_{B_{11}, I_{10}} t_{K_{14}, L_8} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_9, J_{12}, K_{11}, L_9) \rangle = \\ & + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^K | \hat{g} | 0^J 0^L \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle \langle K_{11} | \hat{1}_\alpha^+ | K_0 \rangle \langle L_9 | \hat{0}_\alpha^- | L_0 \rangle t_{A_9, B_{11}} t_{I_9, J_{12}} t_{K_{11}, L_9} \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^J | \hat{g} | 1^K 0^L \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle \langle K_{11} | \hat{1}_\alpha^+ | K_0 \rangle \langle L_9 | \hat{0}_\alpha^- | L_0 \rangle t_{A_9, B_{11}} t_{I_9, J_{12}} t_{K_{11}, L_9} \end{aligned}$$

[illegible]

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_7, J_{14}, K_{13}, L_7) \rangle = \\
& + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^K | \hat{g} | 0^J 0^L \rangle \langle I_7 | \hat{0}_{\beta}^- | I_0 \rangle \langle J_{14} | \hat{0}_{\beta}^+ | J_0 \rangle \langle K_{13} | \hat{1}_{\beta}^+ | K_0 \rangle \langle L_7 | \hat{0}_{\beta}^- | L_0 \rangle t_{A_9, B_{11}} t_{I_7, J_{14}} t_{K_{13}, L_7} \\
& + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^J | \hat{g} | 1^K 0^L \rangle \langle I_7 | \hat{0}_{\beta}^- | I_0 \rangle \langle J_{14} | \hat{0}_{\beta}^+ | J_0 \rangle \langle K_{13} | \hat{1}_{\beta}^+ | K_0 \rangle \langle L_7 | \hat{0}_{\beta}^- | L_0 \rangle t_{A_9, B_{11}} t_{I_7, J_{14}} t_{K_{13}, L_7} \\
& + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^K | \hat{g} | 0^J 0^L \rangle \langle I_7 | \hat{0}_{\beta}^- | I_0 \rangle \langle J_{14} | \hat{0}_{\beta}^+ | J_0 \rangle \langle K_{13} | \hat{1}_{\beta}^+ | K_0 \rangle \langle L_7 | \hat{0}_{\beta}^- | L_0 \rangle t_{A_9, B_{11}} t_{I_7, K_{13}} t_{J_{14}, L_7} \\
& + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^J | \hat{g} | 1^K 0^L \rangle \langle I_7 | \hat{0}_{\beta}^- | I_0 \rangle \langle J_{14} | \hat{0}_{\beta}^+ | J_0 \rangle \langle K_{13} | \hat{1}_{\beta}^+ | K_0 \rangle \langle L_7 | \hat{0}_{\beta}^- | L_0 \rangle t_{A_9, B_{11}} t_{I_7, K_{13}} t_{J_{14}, L_7}
\end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_9, J_{12}, K_{13}, L_7) \rangle = \\ & + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^K | \hat{g} | 0^J 0^L \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle \langle K_{13} | \hat{1}_\beta^+ | K_0 \rangle \langle L_7 | \hat{0}_\beta^- | L_0 \rangle t_{A_9, B_{11}} t_{I_9, J_{12}} t_{K_{13}, L_7} \\ & + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^K | \hat{g} | 0^J 0^L \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle \langle K_{13} | \hat{1}_\beta^+ | K_0 \rangle \langle L_7 | \hat{0}_\beta^- | L_0 \rangle t_{A_9, J_{12}} t_{B_{11}, I_9} t_{K_{13}, L_7} \end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_9, J_{12}, K_{11}, L_{10}) \rangle = \\
& + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^K | \hat{g} | 0^J 1^L \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle \langle K_{11} | \hat{1}_\alpha^+ | K_0 \rangle \langle L_{10} | \hat{1}_\alpha^- | L_0 \rangle t_{A_9, B_{11}} t_{I_9, J_{12}} t_{K_{11}, L_{10}} \\
& + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^J | \hat{g} | 1^K 1^L \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle \langle K_{11} | \hat{1}_\alpha^+ | K_0 \rangle \langle L_{10} | \hat{1}_\alpha^- | L_0 \rangle t_{A_9, B_{11}} t_{I_9, J_{12}} t_{K_{11}, L_{10}} \\
& + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^K | \hat{g} | 0^J 1^L \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle \langle K_{11} | \hat{1}_\alpha^+ | K_0 \rangle \langle L_{10} | \hat{1}_\alpha^- | L_0 \rangle t_{A_9, B_{11}} t_{I_9, K_{11}} t_{J_{12}, L_{10}} \\
& + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^J | \hat{g} | 1^K 1^L \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle \langle K_{11} | \hat{1}_\alpha^+ | K_0 \rangle \langle L_{10} | \hat{1}_\alpha^- | L_0 \rangle t_{A_9, B_{11}} t_{I_9, K_{11}} t_{J_{12}, L_{10}}
\end{aligned}$$

$$\begin{aligned}
& + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^K | g | 1^J 0^L \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle \langle K_{12} | \hat{0}_\alpha^+ | K_0 \rangle \langle L_9 | \hat{0}_\alpha^- | L_0 \rangle t_{A_9, K_{12}} t_{B_{11}, L_9} t_{I_9, J_{11}} \\
& + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^J | g | 0^K 0^L \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle \langle K_{12} | \hat{0}_\alpha^+ | K_0 \rangle \langle L_9 | \hat{0}_\alpha^- | L_0 \rangle t_{A_9, K_{12}} t_{B_{11}, L_9} t_{I_9, J_{11}}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_7, J_{13}, K_{14}, L_7) \rangle = \\
& + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^K | \hat{g} | 1^J 0^L \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_{13} | \hat{1}_\beta^+ | J_0 \rangle \langle K_{14} | \hat{0}_\beta^+ | K_0 \rangle \langle L_7 | \hat{0}_\beta^- | L_0 \rangle t_{A_9, B_{11}} t_{I_7, J_{13}} t_{K_{14}, L_7} \\
& + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^J | \hat{g} | 0^K 0^L \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_{13} | \hat{1}_\beta^+ | J_0 \rangle \langle K_{14} | \hat{0}_\beta^+ | K_0 \rangle \langle L_7 | \hat{0}_\beta^- | L_0 \rangle t_{A_9, B_{11}} t_{I_7, J_{13}} t_{K_{14}, L_7} \\
& + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^K | \hat{g} | 1^J 0^L \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_{13} | \hat{1}_\beta^+ | J_0 \rangle \langle K_{14} | \hat{0}_\beta^+ | K_0 \rangle \langle L_7 | \hat{0}_\beta^- | L_0 \rangle t_{A_9, B_{11}} t_{I_7, K_{14}} t_{J_{13}, L_7} \\
& + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^J | \hat{g} | 0^K 0^L \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_{13} | \hat{1}_\beta^+ | J_0 \rangle \langle K_{14} | \hat{0}_\beta^+ | K_0 \rangle \langle L_7 | \hat{0}_\beta^- | L_0 \rangle t_{A_9, B_{11}} t_{I_7, K_{14}} t_{J_{13}, L_7}
\end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_9, J_{11}, K_{14}, L_7) \rangle = \\ & + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^K | \hat{g} | 1^J 0^L \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle \langle K_{14} | \hat{0}_\beta^+ | K_0 \rangle \langle L_7 | \hat{0}_\beta^- | L_0 \rangle t_{A_9, B_{11}} t_{I_9, J_{11}} t_{K_{14}, L_7} \\ & + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^K | \hat{g} | 1^J 0^L \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle \langle K_{14} | \hat{0}_\beta^+ | K_0 \rangle \langle L_7 | \hat{0}_\beta^- | L_0 \rangle t_{A_9, J_{11}} t_{B_{11}, I_9} t_{K_{14}, L_7} \end{aligned}$$

[illegible]

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_7, J_{13}, K_{14}, L_8) \rangle = \\ & + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^K | \hat{g} | 1^J 1^L \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_{13} | \hat{1}_\beta^+ | J_0 \rangle \langle K_{14} | \hat{0}_\beta^+ | K_0 \rangle \langle L_8 | \hat{1}_\beta^- | L_0 \rangle t_{A_9, B_{11}} t_{I_7, J_{13}} t_{K_{14}, L_8} \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^J | \hat{g} | 0^K 1^L \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_{13} | \hat{1}_\beta^+ | J_0 \rangle \langle K_{14} | \hat{0}_\beta^+ | K_0 \rangle \langle L_8 | \hat{1}_\beta^- | L_0 \rangle t_{A_9, B_{11}} t_{I_7, J_{13}} t_{K_{14}, L_8} \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^K | \hat{g} | 1^J 1^L \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_{13} | \hat{1}_\beta^+ | J_0 \rangle \langle K_{14} | \hat{0}_\beta^+ | K_0 \rangle \langle L_8 | \hat{1}_\beta^- | L_0 \rangle t_{A_9, B_{11}} t_{I_7, K_{14}} t_{J_{13}, L_8} \\ & + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^J | \hat{g} | 0^K 1^L \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_{13} | \hat{1}_\beta^+ | J_0 \rangle \langle K_{14} | \hat{0}_\beta^+ | K_0 \rangle \langle L_8 | \hat{1}_\beta^- | L_0 \rangle t_{A_9, B_{11}} t_{I_7, K_{14}} t_{J_{13}, L_8} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_9, J_{11}, K_{14}, L_8) \rangle = \\ & + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^K | \hat{g} | 1^J 1^L \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle \langle K_{14} | \hat{0}_\beta^+ | K_0 \rangle \langle L_8 | \hat{1}_\beta^- | L_0 \rangle t_{A_9, B_{11}} t_{I_9, J_{11}} t_{K_{14}, L_8} \\ & + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^K | \hat{g} | 1^J 1^L \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle \langle K_{14} | \hat{0}_\beta^+ | K_0 \rangle \langle L_8 | \hat{1}_\beta^- | L_0 \rangle t_{A_9, J_{11}} t_{B_{11}, I_9} t_{K_{14}, L_8} \end{aligned}$$

[illegible]

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_8, J_{13}, K_{14}, L_7) \rangle = \\ & + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^K | \hat{g} | 1^J 0^L \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_{13} | \hat{1}_\beta^+ | J_0 \rangle \langle K_{14} | \hat{0}_\beta^+ | K_0 \rangle \langle L_7 | \hat{0}_\beta^- | L_0 \rangle t_{A_9, B_{11}} t_{I_8, J_{13}} t_{K_{14}, L_7} \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 1^J | \hat{g} | 0^K 0^L \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_{13} | \hat{1}_\beta^+ | J_0 \rangle \langle K_{14} | \hat{0}_\beta^+ | K_0 \rangle \langle L_7 | \hat{0}_\beta^- | L_0 \rangle t_{A_9, B_{11}} t_{I_8, J_{13}} t_{K_{14}, L_7} \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^K | \hat{g} | 1^J 0^L \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_{13} | \hat{1}_\beta^+ | J_0 \rangle \langle K_{14} | \hat{0}_\beta^+ | K_0 \rangle \langle L_7 | \hat{0}_\beta^- | L_0 \rangle t_{A_9, B_{11}} t_{I_8, K_{14}} t_{J_{13}, L_7} \\ & + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 1^J | \hat{g} | 0^K 0^L \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_{13} | \hat{1}_\beta^+ | J_0 \rangle \langle K_{14} | \hat{0}_\beta^+ | K_0 \rangle \langle L_7 | \hat{0}_\beta^- | L_0 \rangle t_{A_9, B_{11}} t_{I_8, K_{14}} t_{J_{13}, L_7} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_{10}, J_{11}, K_{14}, L_7) \rangle = \\ & + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^K | \hat{g} | 1^J 0^L \rangle \langle I_{10} | \hat{1}_\alpha^- | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle \langle K_{14} | \hat{0}_\beta^+ | K_0 \rangle \langle L_7 | \hat{0}_\beta^- | L_0 \rangle t_{A_9, B_{11}} t_{I_{10}, J_{11}} t_{K_{14}, L_7} \\ & + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^K | \hat{g} | 1^J 0^L \rangle \langle I_{10} | \hat{1}_\alpha^- | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle \langle K_{14} | \hat{0}_\beta^+ | K_0 \rangle \langle L_7 | \hat{0}_\beta^- | L_0 \rangle t_{A_9, J_{11}} t_{B_{11}, I_{10}} t_{K_{14}, L_7} \end{aligned}$$

[illegible]

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_8, J_{13}, K_{14}, L_8) \rangle = \\ & + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^K | \hat{g} | 1^J 1^L \rangle \langle I_8 | \hat{1}_{\beta}^- | I_0 \rangle \langle J_{13} | \hat{1}_{\beta}^+ | J_0 \rangle \langle K_{14} | \hat{0}_{\beta}^+ | K_0 \rangle \langle L_8 | \hat{1}_{\beta}^- | L_0 \rangle t_{A_9, B_{11}} t_{I_8, J_{13}} t_{K_{14}, L_8} \end{aligned}$$

$$\begin{aligned}
& + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 1^J | \hat{g} | 0^K 1^L \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_{13} | \hat{1}_\beta^+ | J_0 \rangle \langle K_{14} | \hat{0}_\beta^+ | K_0 \rangle \langle L_8 | \hat{1}_\beta^- | L_0 \rangle t_{A_9, B_{11}} t_{I_8, J_{13}} t_{K_{14}, L_8} \\
& + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^K | \hat{g} | 1^J 1^L \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_{13} | \hat{1}_\beta^+ | J_0 \rangle \langle K_{14} | \hat{0}_\beta^+ | K_0 \rangle \langle L_8 | \hat{1}_\beta^- | L_0 \rangle t_{A_9, B_{11}} t_{I_8, K_{14}} t_{J_{13}, L_8} \\
& + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 1^J | \hat{g} | 0^K 1^L \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_{13} | \hat{1}_\beta^+ | J_0 \rangle \langle K_{14} | \hat{0}_\beta^+ | K_0 \rangle \langle L_8 | \hat{1}_\beta^- | L_0 \rangle t_{A_9, B_{11}} t_{I_8, K_{14}} t_{J_{13}, L_8}
\end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_{10}, J_{11}, K_{14}, L_8) \rangle = \\ & + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^K | \hat{g} | 1^J 1^L \rangle \langle I_{10} | \hat{1}_{\alpha}^- | I_0 \rangle \langle J_{11} | \hat{1}_{\alpha}^+ | J_0 \rangle \langle K_{14} | \hat{0}_{\beta}^+ | K_0 \rangle \langle L_8 | \hat{1}_{\beta}^- | L_0 \rangle t_{A_9, B_{11}} t_{I_{10}, J_{11}} t_{K_{14}, L_8} \\ & + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^K | \hat{g} | 1^J 1^L \rangle \langle I_{10} | \hat{1}_{\alpha}^- | I_0 \rangle \langle J_{11} | \hat{1}_{\alpha}^+ | J_0 \rangle \langle K_{14} | \hat{0}_{\beta}^+ | K_0 \rangle \langle L_8 | \hat{1}_{\beta}^- | L_0 \rangle t_{A_9, J_{11}} t_{B_{11}, I_{10}} t_{K_{14}, L_8} \end{aligned}$$

[illegible]

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_7, J_{13}, K_{13}, L_7) \rangle = \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^K | \hat{g} | 1^J 0^L \rangle \langle I_7 | \hat{0}_{\bar{\beta}}^- | I_0 \rangle \langle J_{13} | \hat{1}_{\bar{\beta}}^+ | J_0 \rangle \langle K_{13} | \hat{1}_{\bar{\beta}}^+ | K_0 \rangle \langle L_7 | \hat{0}_{\bar{\beta}}^- | L_0 \rangle t_{A_9, B_{11}} t_{I_7, J_{13}} t_{K_{13}, L_7} \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^J | \hat{g} | 1^K 0^L \rangle \langle I_7 | \hat{0}_{\bar{\beta}}^- | I_0 \rangle \langle J_{13} | \hat{1}_{\bar{\beta}}^+ | J_0 \rangle \langle K_{13} | \hat{1}_{\bar{\beta}}^+ | K_0 \rangle \langle L_7 | \hat{0}_{\bar{\beta}}^- | L_0 \rangle t_{A_9, B_{11}} t_{I_7, J_{13}} t_{K_{13}, L_7} \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^K | \hat{g} | 1^J 0^L \rangle \langle I_7 | \hat{0}_{\bar{\beta}}^- | I_0 \rangle \langle J_{13} | \hat{1}_{\bar{\beta}}^+ | J_0 \rangle \langle K_{13} | \hat{1}_{\bar{\beta}}^+ | K_0 \rangle \langle L_7 | \hat{0}_{\bar{\beta}}^- | L_0 \rangle t_{A_9, B_{11}} t_{I_7, K_{13}} t_{J_{13}, L_7} \end{aligned}$$

$$+\frac{-1}{48}\sum_I\sum_J\sum_K\sum_L\langle 0^I1^J|g|1^K0^L\rangle\langle I_7|\hat{0}^-_{\beta}|I_0\rangle\langle J_{13}|\hat{1}^+_{\beta}|J_0\rangle\langle K_{13}|\hat{1}^+_{\beta}|K_0\rangle\langle L_7|\hat{0}^-_{\beta}|L_0\rangle t_{A_9,B_{11}}t_{I_7,K_{13}}t_{J_{13},L_7}$$

$$\langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_9, J_{11}, K_{13}, L_7) \rangle =$$

$$\begin{aligned}
& + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^K | \hat{g} | 1^J 0^L \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle \langle K_{13} | \hat{1}_\beta^+ | K_0 \rangle \langle L_7 | \hat{0}_\beta^- | L_0 \rangle t_{A_9, B_{11}} t_{I_9, J_{11}} t_{K_{13}, L_7} \\
& + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^K | \hat{g} | 1^J 0^L \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle \langle K_{13} | \hat{1}_\beta^+ | K_0 \rangle \langle L_7 | \hat{0}_\beta^- | L_0 \rangle t_{A_9, J_{11}} t_{B_{11}, I_9} t_{K_{13}, L_7}
\end{aligned}$$

$$\langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_9, J_{11}, K_{11}, L_{10}) \rangle =$$

[illegible]

$$\langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_7, J_{13}, K_{13}, L_8) \rangle =$$

$$\begin{aligned}
& + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^K | \hat{g} | 1^J 1^L \rangle \langle I_7 | \hat{0}_{\bar{\beta}}^- | I_0 \rangle \langle J_{13} | \hat{1}_{\beta}^+ | J_0 \rangle \langle K_{13} | \hat{1}_{\beta}^+ | K_0 \rangle \langle L_8 | \hat{1}_{\bar{\beta}}^- | L_0 \rangle t_{A_9, B_{11}} t_{I_7, J_{13}} t_{K_{13}, L_8} \\
& + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^J | \hat{g} | 1^K 1^L \rangle \langle I_7 | \hat{0}_{\bar{\beta}}^- | I_0 \rangle \langle J_{13} | \hat{1}_{\beta}^+ | J_0 \rangle \langle K_{13} | \hat{1}_{\beta}^+ | K_0 \rangle \langle L_8 | \hat{1}_{\bar{\beta}}^- | L_0 \rangle t_{A_9, B_{11}} t_{I_7, J_{13}} t_{K_{13}, L_8} \\
& + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^K | \hat{g} | 1^J 1^L \rangle \langle I_7 | \hat{0}_{\bar{\beta}}^- | I_0 \rangle \langle J_{13} | \hat{1}_{\beta}^+ | J_0 \rangle \langle K_{13} | \hat{1}_{\beta}^+ | K_0 \rangle \langle L_8 | \hat{1}_{\bar{\beta}}^- | L_0 \rangle t_{A_9, B_{11}} t_{I_7, K_{13}} t_{J_{13}, L_8} \\
& + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^J | \hat{g} | 1^K 1^L \rangle \langle I_7 | \hat{0}_{\bar{\beta}}^- | I_0 \rangle \langle J_{13} | \hat{1}_{\beta}^+ | J_0 \rangle \langle K_{13} | \hat{1}_{\beta}^+ | K_0 \rangle \langle L_8 | \hat{1}_{\bar{\beta}}^- | L_0 \rangle t_{A_9, B_{11}} t_{I_7, K_{13}} t_{J_{13}, L_8}
\end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_9, J_{11}, K_{13}, L_8) \rangle = \\ & + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^K | \hat{g} | 1^J 1^L \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle \langle K_{13} | \hat{1}_\beta^+ | K_0 \rangle \langle L_8 | \hat{1}_\beta^- | L_0 \rangle t_{A_9, B_{11}} t_{I_9, J_{11}} t_{K_{13}, L_8} \\ & + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^K | \hat{g} | 1^J 1^L \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle \langle K_{13} | \hat{1}_\beta^+ | K_0 \rangle \langle L_8 | \hat{1}_\beta^- | L_0 \rangle t_{A_9, J_{11}} t_{B_{11}, I_9} t_{K_{13}, L_8} \end{aligned}$$

[illegible]

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_8, J_{13}, K_{13}, L_7) \rangle = \\
& + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 1^K | \hat{g} | 1^J 0^L \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_{13} | \hat{1}_\beta^+ | J_0 \rangle \langle K_{13} | \hat{1}_\beta^+ | K_0 \rangle \langle L_7 | \hat{0}_\beta^- | L_0 \rangle t_{A_9, B_{11}} t_{I_8, J_{13}} t_{K_{13}, L_7} \\
& + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 1^J | \hat{g} | 1^K 0^L \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_{13} | \hat{1}_\beta^+ | J_0 \rangle \langle K_{13} | \hat{1}_\beta^+ | K_0 \rangle \langle L_7 | \hat{0}_\beta^- | L_0 \rangle t_{A_9, B_{11}} t_{I_8, J_{13}} t_{K_{13}, L_7} \\
& + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 1^K | \hat{g} | 1^J 0^L \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_{13} | \hat{1}_\beta^+ | J_0 \rangle \langle K_{13} | \hat{1}_\beta^+ | K_0 \rangle \langle L_7 | \hat{0}_\beta^- | L_0 \rangle t_{A_9, B_{11}} t_{I_8, K_{13}} t_{J_{13}, L_7} \\
& + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 1^J | \hat{g} | 1^K 0^L \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_{13} | \hat{1}_\beta^+ | J_0 \rangle \langle K_{13} | \hat{1}_\beta^+ | K_0 \rangle \langle L_7 | \hat{0}_\beta^- | L_0 \rangle t_{A_9, B_{11}} t_{I_8, K_{13}} t_{J_{13}, L_7}
\end{aligned}$$

$$\langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_{10}, J_{11}, K_{13}, L_7) \rangle =$$

$$\begin{aligned}
& + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 1^K | \hat{g} | 1^J 0^L \rangle \langle I_{10} | \hat{1}_\alpha^- | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle \langle K_{13} | \hat{1}_\beta^+ | K_0 \rangle \langle L_7 | \hat{0}_\beta^- | L_0 \rangle t_{A_9, B_{11}} t_{I_{10}, J_{11}} t_{K_{13}, L_7} \\
& + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 1^K | \hat{g} | 1^J 0^L \rangle \langle I_{10} | \hat{1}_\alpha^- | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle \langle K_{13} | \hat{1}_\beta^+ | K_0 \rangle \langle L_7 | \hat{0}_\beta^- | L_0 \rangle t_{A_9, J_{11}} t_{B_{11}, I_{10}} t_{K_{13}, L_7}
\end{aligned}$$

[illegible]

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_8, J_{13}, K_{13}, L_8) \rangle = \\
& + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 1^K | \hat{g} | 1^J 1^L \rangle \langle I_8 | \hat{1}_{\bar{\beta}}^- | I_0 \rangle \langle J_{13} | \hat{1}_{\bar{\beta}}^+ | J_0 \rangle \langle K_{13} | \hat{1}_{\bar{\beta}}^+ | K_0 \rangle \langle L_8 | \hat{1}_{\bar{\beta}}^- | L_0 \rangle t_{A_9, B_{11}} t_{I_8, J_{13}} t_{K_{13}, L_8} \\
& + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 1^J | \hat{g} | 1^K 1^L \rangle \langle I_8 | \hat{1}_{\bar{\beta}}^- | I_0 \rangle \langle J_{13} | \hat{1}_{\bar{\beta}}^+ | J_0 \rangle \langle K_{13} | \hat{1}_{\bar{\beta}}^+ | K_0 \rangle \langle L_8 | \hat{1}_{\bar{\beta}}^- | L_0 \rangle t_{A_9, B_{11}} t_{I_8, J_{13}} t_{K_{13}, L_8} \\
& + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 1^K | \hat{g} | 1^J 1^L \rangle \langle I_8 | \hat{1}_{\bar{\beta}}^- | I_0 \rangle \langle J_{13} | \hat{1}_{\bar{\beta}}^+ | J_0 \rangle \langle K_{13} | \hat{1}_{\bar{\beta}}^+ | K_0 \rangle \langle L_8 | \hat{1}_{\bar{\beta}}^- | L_0 \rangle t_{A_9, B_{11}} t_{I_8, K_{13}} t_{J_{13}, L_8} \\
& + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 1^J | \hat{g} | 1^K 1^L \rangle \langle I_8 | \hat{1}_{\bar{\beta}}^- | I_0 \rangle \langle J_{13} | \hat{1}_{\bar{\beta}}^+ | J_0 \rangle \langle K_{13} | \hat{1}_{\bar{\beta}}^+ | K_0 \rangle \langle L_8 | \hat{1}_{\bar{\beta}}^- | L_0 \rangle t_{A_9, B_{11}} t_{I_8, K_{13}} t_{J_{13}, L_8}
\end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_{10}, J_{11}, K_{13}, L_8) \rangle = \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 1^K | \hat{g} | 1^J 1^L \rangle \langle I_{10} | \hat{1}_\alpha^- | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle \langle K_{13} | \hat{1}_\beta^+ | K_0 \rangle \langle L_8 | \hat{1}_\beta^- | L_0 \rangle t_{A_9, B_{11}} t_{I_{10}, J_{11}} t_{K_{13}, L_8} \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 1^K | \hat{g} | 1^J 1^L \rangle \langle I_{10} | \hat{1}_\alpha^- | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle \langle K_{13} | \hat{1}_\beta^+ | K_0 \rangle \langle L_8 | \hat{1}_\beta^- | L_0 \rangle t_{A_9, J_{11}} t_{B_{11}, I_{10}} t_{K_{13}, L_8} \end{aligned}$$

$$+ \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^J | \hat{g} | 1^K 0^L \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle \langle K_{13} | \hat{1}_\beta^+ | K_0 \rangle \langle L_9 | \hat{0}_\alpha^- | L_0 \rangle t_{A_9, J_{12}} t_{B_{11}, L_9} t_{I_8, K_{13}}$$

$$\langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_7, J_{12}, K_{13}, L_{10}) \rangle =$$

$$+ \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^J | \hat{g} | 1^K 1^L \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle \langle K_{13} | \hat{1}_\beta^+ | K_0 \rangle \langle L_{10} | \hat{1}_\alpha^- | L_0 \rangle t_{A_9, B_{11}} t_{I_7, K_{13}} t_{J_{12}, L_{10}} \\ + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^J | \hat{g} | 1^K 1^L \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle \langle K_{13} | \hat{1}_\beta^+ | K_0 \rangle \langle L_{10} | \hat{1}_\alpha^- | L_0 \rangle t_{A_9, J_{12}} t_{B_{11}, L_{10}} t_{I_7, K_{13}}$$

$$\langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_8, J_{12}, K_{13}, L_{10}) \rangle =$$

$$+ \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^J | \hat{g} | 1^K 1^L \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle \langle K_{13} | \hat{1}_\beta^+ | K_0 \rangle \langle L_{10} | \hat{1}_\alpha^- | L_0 \rangle t_{A_9, B_{11}} t_{I_8, K_{13}} t_{J_{12}, L_{10}} \\ + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^J | \hat{g} | 1^K 1^L \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle \langle K_{13} | \hat{1}_\beta^+ | K_0 \rangle \langle L_{10} | \hat{1}_\alpha^- | L_0 \rangle t_{A_9, J_{12}} t_{B_{11}, L_{10}} t_{I_8, K_{13}}$$

$$\langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_7, J_{11}, K_{14}, L_9) \rangle =$$

$$+ \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^J | \hat{g} | 0^K 0^L \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle \langle K_{14} | \hat{0}_\beta^+ | K_0 \rangle \langle L_9 | \hat{0}_\alpha^- | L_0 \rangle t_{A_9, B_{11}} t_{I_7, K_{14}} t_{J_{11}, L_9} \\ + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^J | \hat{g} | 0^K 0^L \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle \langle K_{14} | \hat{0}_\beta^+ | K_0 \rangle \langle L_9 | \hat{0}_\alpha^- | L_0 \rangle t_{A_9, J_{11}} t_{B_{11}, L_9} t_{I_7, K_{14}}$$

$$\langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_8, J_{11}, K_{14}, L_9) \rangle =$$

$$+ \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 1^J | \hat{g} | 0^K 0^L \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle \langle K_{14} | \hat{0}_\beta^+ | K_0 \rangle \langle L_9 | \hat{0}_\alpha^- | L_0 \rangle t_{A_9, B_{11}} t_{I_8, K_{14}} t_{J_{11}, L_9} \\ + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 1^J | \hat{g} | 0^K 0^L \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle \langle K_{14} | \hat{0}_\beta^+ | K_0 \rangle \langle L_9 | \hat{0}_\alpha^- | L_0 \rangle t_{A_9, J_{11}} t_{B_{11}, L_9} t_{I_8, K_{14}}$$

$$\langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_7, J_{11}, K_{14}, L_{10}) \rangle =$$

$$+ \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^J | \hat{g} | 0^K 1^L \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle \langle K_{14} | \hat{0}_\beta^+ | K_0 \rangle \langle L_{10} | \hat{1}_\alpha^- | L_0 \rangle t_{A_9, B_{11}} t_{I_7, K_{14}} t_{J_{11}, L_{10}} \\ + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^J | \hat{g} | 0^K 1^L \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle \langle K_{14} | \hat{0}_\beta^+ | K_0 \rangle \langle L_{10} | \hat{1}_\alpha^- | L_0 \rangle t_{A_9, J_{11}} t_{B_{11}, L_{10}} t_{I_7, K_{14}}$$

$$\langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_8, J_{11}, K_{14}, L_{10}) \rangle =$$

$$\begin{aligned}
& + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^K | \hat{g} | 0^J 0^L \rangle \langle I_{10} | \hat{1}_\alpha^- | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle \langle K_9 | \hat{0}_\alpha^- | K_0 \rangle \langle L_{12} | \hat{0}_\alpha^+ | L_0 \rangle t_{A_9, L_{12}} t_{B_{11}, I_{10}} t_{J_{12}, K_9} \\
& + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^J | \hat{g} | 0^L 0^K \rangle \langle I_{10} | \hat{1}_\alpha^- | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle \langle K_9 | \hat{0}_\alpha^- | K_0 \rangle \langle L_{12} | \hat{0}_\alpha^+ | L_0 \rangle t_{A_9, L_{12}} t_{B_{11}, I_{10}} t_{J_{12}, K_9} \\
& + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^K | \hat{g} | 0^J 0^L \rangle \langle I_{10} | \hat{1}_\alpha^- | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle \langle K_9 | \hat{0}_\alpha^- | K_0 \rangle \langle L_{12} | \hat{0}_\alpha^+ | L_0 \rangle t_{A_9, L_{12}} t_{B_{11}, K_9} t_{I_{10}, J_{12}} \\
& + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^J | \hat{g} | 0^L 0^K \rangle \langle I_{10} | \hat{1}_\alpha^- | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle \langle K_9 | \hat{0}_\alpha^- | K_0 \rangle \langle L_{12} | \hat{0}_\alpha^+ | L_0 \rangle t_{A_9, L_{12}} t_{B_{11}, K_9} t_{I_{10}, J_{12}}
\end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_8, J_{14}, K_7, L_{14}) \rangle = \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^K | \hat{g} | 0^J 0^L \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle \langle K_7 | \hat{0}_\beta^- | K_0 \rangle \langle L_{14} | \hat{0}_\beta^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_8, J_{14}} t_{K_7, L_{14}} \\ & + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^J | \hat{g} | 0^L 0^K \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle \langle K_7 | \hat{0}_\beta^- | K_0 \rangle \langle L_{14} | \hat{0}_\beta^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_8, J_{14}} t_{K_7, L_{14}} \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^K | \hat{g} | 0^J 0^L \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle \langle K_7 | \hat{0}_\beta^- | K_0 \rangle \langle L_{14} | \hat{0}_\beta^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_8, L_{14}} t_{J_{14}, K_7} \\ & + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^J | \hat{g} | 0^L 0^K \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle \langle K_7 | \hat{0}_\beta^- | K_0 \rangle \langle L_{14} | \hat{0}_\beta^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_8, L_{14}} t_{J_{14}, K_7} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_{10}, J_{12}, K_7, L_{14}) \rangle = \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^K | \hat{g} | 0^J 0^L \rangle \langle I_{10} | \hat{1}_\alpha^- | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle \langle K_7 | \hat{0}_\beta^- | K_0 \rangle \langle L_{14} | \hat{0}_\beta^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_{10}, J_{12}} t_{K_7, L_{14}} \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^K | \hat{g} | 0^J 0^L \rangle \langle I_{10} | \hat{1}_\alpha^- | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle \langle K_7 | \hat{0}_\beta^- | K_0 \rangle \langle L_{14} | \hat{0}_\beta^+ | L_0 \rangle t_{A_9, J_{12}} t_{B_{11}, I_{10}} t_{K_7, L_{14}} \end{aligned}$$

[illegible]

$$\begin{aligned}
& + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 1^K | \hat{g} | 0^J 0^L \rangle \langle I_{10} | \hat{1}_\alpha^- | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle \langle K_{10} | \hat{1}_\alpha^- | K_0 \rangle \langle L_{12} | \hat{0}_\alpha^+ | L_0 \rangle t_{A_9, L_{12}} t_{B_{11}, K_{10}} t_{I_{10}, J_{12}} \\
& + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^J | \hat{g} | 0^L 1^K \rangle \langle I_{10} | \hat{1}_\alpha^- | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle \langle K_{10} | \hat{1}_\alpha^- | K_0 \rangle \langle L_{12} | \hat{0}_\alpha^+ | L_0 \rangle t_{A_9, L_{12}} t_{B_{11}, K_{10}} t_{I_{10}, J_{12}}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_8, J_{14}, K_8, L_{14}) \rangle = \\
& + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 1^K | \hat{g} | 0^J 0^L \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle \langle K_8 | \hat{1}_\beta^- | K_0 \rangle \langle L_{14} | \hat{0}_\beta^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_8, J_{14}} t_{K_8, L_{14}} \\
& + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^J | \hat{g} | 0^L 1^K \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle \langle K_8 | \hat{1}_\beta^- | K_0 \rangle \langle L_{14} | \hat{0}_\beta^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_8, J_{14}} t_{K_8, L_{14}} \\
& + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 1^K | \hat{g} | 0^J 0^L \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle \langle K_8 | \hat{1}_\beta^- | K_0 \rangle \langle L_{14} | \hat{0}_\beta^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_8, L_{14}} t_{J_{14}, K_8} \\
& + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^J | \hat{g} | 0^L 1^K \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle \langle K_8 | \hat{1}_\beta^- | K_0 \rangle \langle L_{14} | \hat{0}_\beta^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_8, L_{14}} t_{J_{14}, K_8}
\end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_{10}, J_{12}, K_8, L_{14}) \rangle = \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 1^K | \hat{g} | 0^J 0^L \rangle \langle I_{10} | \hat{1}_\alpha^- | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle \langle K_8 | \hat{1}_\beta^- | K_0 \rangle \langle L_{14} | \hat{0}_\beta^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_{10}, J_{12}} t_{K_8, L_{14}} \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 1^K | \hat{g} | 0^J 0^L \rangle \langle I_{10} | \hat{1}_\alpha^- | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle \langle K_8 | \hat{1}_\beta^- | K_0 \rangle \langle L_{14} | \hat{0}_\beta^+ | L_0 \rangle t_{A_9, J_{12}} t_{B_{11}, I_{10}} t_{K_8, L_{14}} \end{aligned}$$

[illegible]

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_7, J_{14}, K_7, L_{13}) \rangle = \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^K | \hat{g} | 0^J 1^L \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle \langle K_7 | \hat{0}_\beta^- | K_0 \rangle \langle L_{13} | \hat{1}_\beta^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_7, J_{14}} t_{K_7, L_{13}} \\ & + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^J | \hat{g} | 1^L 0^K \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle \langle K_7 | \hat{0}_\beta^- | K_0 \rangle \langle L_{13} | \hat{1}_\beta^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_7, J_{14}} t_{K_7, L_{13}} \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^K | \hat{g} | 0^J 1^L \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle \langle K_7 | \hat{0}_\beta^- | K_0 \rangle \langle L_{13} | \hat{1}_\beta^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_7, L_{13}} t_{J_{14}, K_7} \\ & + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^J | \hat{g} | 1^L 0^K \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle \langle K_7 | \hat{0}_\beta^- | K_0 \rangle \langle L_{13} | \hat{1}_\beta^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_7, L_{13}} t_{J_{14}, K_7} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_9, J_{12}, K_7, L_{13}) \rangle = \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^K | \hat{g} | 0^J 1^L \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle \langle K_7 | \hat{0}_\beta^- | K_0 \rangle \langle L_{13} | \hat{1}_\beta^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_9, J_{12}} t_{K_7, L_{13}} \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^K | \hat{g} | 0^J 1^L \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle \langle K_7 | \hat{0}_\beta^- | K_0 \rangle \langle L_{13} | \hat{1}_\beta^+ | L_0 \rangle t_{A_9, J_{12}} t_{B_{11}, I_9} t_{K_7, L_{13}} \end{aligned}$$

[illegible]

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_7, J_{14}, K_8, L_{13}) \rangle = \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^K | \hat{g} | 0^J 1^L \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle \langle K_8 | \hat{1}_\beta^- | K_0 \rangle \langle L_{13} | \hat{1}_\beta^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_7, J_{14}} t_{K_8, L_{13}} \\ & + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^J | \hat{g} | 1^L 1^K \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle \langle K_8 | \hat{1}_\beta^- | K_0 \rangle \langle L_{13} | \hat{1}_\beta^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_7, J_{14}} t_{K_8, L_{13}} \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^K | \hat{g} | 0^J 1^L \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle \langle K_8 | \hat{1}_\beta^- | K_0 \rangle \langle L_{13} | \hat{1}_\beta^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_7, L_{13}} t_{J_{14}, K_8} \\ & + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^J | \hat{g} | 1^L 1^K \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle \langle K_8 | \hat{1}_\beta^- | K_0 \rangle \langle L_{13} | \hat{1}_\beta^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_7, L_{13}} t_{J_{14}, K_8} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_9, J_{12}, K_8, L_{13}) \rangle = \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^K | \hat{g} | 0^J 1^L \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle \langle K_8 | \hat{1}_\beta^- | K_0 \rangle \langle L_{13} | \hat{1}_\beta^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_9, J_{12}} t_{K_8, L_{13}} \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^K | \hat{g} | 0^J 1^L \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle \langle K_8 | \hat{1}_\beta^- | K_0 \rangle \langle L_{13} | \hat{1}_\beta^+ | L_0 \rangle t_{A_9, J_{12}} t_{B_{11}, I_9} t_{K_8, L_{13}} \end{aligned}$$

[illegible]

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_8, J_{14}, K_7, L_{13}) \rangle = \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^K | \hat{g} | 0^J 1^L \rangle \langle I_8 | \hat{1}_{\beta}^- | I_0 \rangle \langle J_{14} | \hat{0}_{\beta}^+ | J_0 \rangle \langle K_7 | \hat{0}_{\beta}^- | K_0 \rangle \langle L_{13} | \hat{1}_{\beta}^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_8, J_{14}} t_{K_7, L_{13}} \end{aligned}$$

$$\begin{aligned}
& + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^J | \hat{g} | 1^L 0^K \rangle \langle I_8 | \hat{1}_{\beta}^{-} | I_0 \rangle \langle J_{14} | \hat{0}_{\beta}^{+} | J_0 \rangle \langle K_7 | \hat{0}_{\beta}^{-} | K_0 \rangle \langle L_{13} | \hat{1}_{\beta}^{+} | L_0 \rangle t_{A_9, B_{11}} t_{I_8, J_{14}} t_{K_7, L_{13}} \\
& + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^K | \hat{g} | 0^J 1^L \rangle \langle I_8 | \hat{1}_{\beta}^{-} | I_0 \rangle \langle J_{14} | \hat{0}_{\beta}^{+} | J_0 \rangle \langle K_7 | \hat{0}_{\beta}^{-} | K_0 \rangle \langle L_{13} | \hat{1}_{\beta}^{+} | L_0 \rangle t_{A_9, B_{11}} t_{I_8, L_{13}} t_{J_{14}, K_7} \\
& + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^J | \hat{g} | 1^L 0^K \rangle \langle I_8 | \hat{1}_{\beta}^{-} | I_0 \rangle \langle J_{14} | \hat{0}_{\beta}^{+} | J_0 \rangle \langle K_7 | \hat{0}_{\beta}^{-} | K_0 \rangle \langle L_{13} | \hat{1}_{\beta}^{+} | L_0 \rangle t_{A_9, B_{11}} t_{I_8, L_{13}} t_{J_{14}, K_7}
\end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_{10}, J_{12}, K_7, L_{13}) \rangle = \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^K | \hat{g} | 0^J 1^L \rangle \langle I_{10} | \hat{1}_\alpha^- | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle \langle K_7 | \hat{0}_\beta^- | K_0 \rangle \langle L_{13} | \hat{1}_\beta^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_{10}, J_{12}} t_{K_7, L_{13}} \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^K | \hat{g} | 0^J 1^L \rangle \langle I_{10} | \hat{1}_\alpha^- | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle \langle K_7 | \hat{0}_\beta^- | K_0 \rangle \langle L_{13} | \hat{1}_\beta^+ | L_0 \rangle t_{A_9, J_{12}} t_{B_{11}, I_{10}} t_{K_7, L_{13}} \end{aligned}$$

[illegible]

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_8, J_{14}, K_8, L_{13}) \rangle = \\
& + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 1^K | \hat{g} | 0^J 1^L \rangle \langle I_8 | \hat{1}_{\beta}^- | I_0 \rangle \langle J_{14} | \hat{0}_{\beta}^+ | J_0 \rangle \langle K_8 | \hat{1}_{\beta}^- | K_0 \rangle \langle L_{13} | \hat{1}_{\beta}^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_8, J_{14}} t_{K_8, L_{13}} \\
& + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^J | \hat{g} | 1^L 1^K \rangle \langle I_8 | \hat{1}_{\beta}^- | I_0 \rangle \langle J_{14} | \hat{0}_{\beta}^+ | J_0 \rangle \langle K_8 | \hat{1}_{\beta}^- | K_0 \rangle \langle L_{13} | \hat{1}_{\beta}^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_8, J_{14}} t_{K_8, L_{13}} \\
& + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 1^K | \hat{g} | 0^J 1^L \rangle \langle I_8 | \hat{1}_{\beta}^- | I_0 \rangle \langle J_{14} | \hat{0}_{\beta}^+ | J_0 \rangle \langle K_8 | \hat{1}_{\beta}^- | K_0 \rangle \langle L_{13} | \hat{1}_{\beta}^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_8, L_{13}} t_{J_{14}, K_8}
\end{aligned}$$

$$+ \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^J | g | 1^{L1K} \rangle \langle I_8 | \hat{1}_{\beta}^{-} | I_0 \rangle \langle J_{14} | \hat{0}_{\beta}^{+} | J_0 \rangle \langle K_8 | \hat{1}_{\beta}^{-} | K_0 \rangle \langle L_{13} | \hat{1}_{\beta}^{+} | L_0 \rangle t_{A_9, B_{11}} t_{I_8, L_{13}} t_{J_{14}, K_8}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_{10}, J_{12}, K_8, L_{13}) \rangle = \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 1^K | \hat{g} | 0^J 1^L \rangle \langle I_{10} | \hat{1}_\alpha^- | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle \langle K_8 | \hat{1}_\beta^- | K_0 \rangle \langle L_{13} | \hat{1}_\beta^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_{10}, J_{12}} t_{K_8, L_{13}} \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 1^K | \hat{g} | 0^J 1^L \rangle \langle I_{10} | \hat{1}_\alpha^- | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle \langle K_8 | \hat{1}_\beta^- | K_0 \rangle \langle L_{13} | \hat{1}_\beta^+ | L_0 \rangle t_{A_9, J_{12}} t_{B_{11}, I_{10}} t_{K_8, L_{13}} \end{aligned}$$

[illegible]

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_7, J_{13}, K_7, L_{14}) \rangle = \\
& + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^K | \hat{g} | 1^J 0^L \rangle \langle I_7 | \hat{0}_{\bar{\beta}}^- | I_0 \rangle \langle J_{13} | \hat{1}_{\bar{\beta}}^+ | J_0 \rangle \langle K_7 | \hat{0}_{\bar{\beta}}^- | K_0 \rangle \langle L_{14} | \hat{0}_{\bar{\beta}}^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_7, J_{13}} t_{K_7, L_{14}} \\
& + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^J | \hat{g} | 0^L 0^K \rangle \langle I_7 | \hat{0}_{\bar{\beta}}^- | I_0 \rangle \langle J_{13} | \hat{1}_{\bar{\beta}}^+ | J_0 \rangle \langle K_7 | \hat{0}_{\bar{\beta}}^- | K_0 \rangle \langle L_{14} | \hat{0}_{\bar{\beta}}^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_7, J_{13}} t_{K_7, L_{14}} \\
& + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^K | \hat{g} | 1^J 0^L \rangle \langle I_7 | \hat{0}_{\bar{\beta}}^- | I_0 \rangle \langle J_{13} | \hat{1}_{\bar{\beta}}^+ | J_0 \rangle \langle K_7 | \hat{0}_{\bar{\beta}}^- | K_0 \rangle \langle L_{14} | \hat{0}_{\bar{\beta}}^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_7, L_{14}} t_{J_{13}, K_7} \\
& + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^J | \hat{g} | 0^L 0^K \rangle \langle I_7 | \hat{0}_{\bar{\beta}}^- | I_0 \rangle \langle J_{13} | \hat{1}_{\bar{\beta}}^+ | J_0 \rangle \langle K_7 | \hat{0}_{\bar{\beta}}^- | K_0 \rangle \langle L_{14} | \hat{0}_{\bar{\beta}}^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_7, L_{14}} t_{J_{13}, K_7}
\end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_9, J_{11}, K_7, L_{14}) \rangle = \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^K | \hat{g} | 1^J 0^L \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle \langle K_7 | \hat{0}_\beta^- | K_0 \rangle \langle L_{14} | \hat{0}_\beta^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_9, J_{11}} t_{K_7, L_{14}} \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^K | \hat{g} | 1^J 0^L \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle \langle K_7 | \hat{0}_\beta^- | K_0 \rangle \langle L_{14} | \hat{0}_\beta^+ | L_0 \rangle t_{A_9, J_{11}} t_{B_{11}, I_9} t_{K_7, L_{14}} \end{aligned}$$

[illegible]

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_7, J_{13}, K_8, L_{14}) \rangle = \\
& + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^K | \hat{g} | 1^J 0^L \rangle \langle I_7 | \hat{0}_{\beta}^- | I_0 \rangle \langle J_{13} | \hat{1}_{\beta}^+ | J_0 \rangle \langle K_8 | \hat{1}_{\beta}^- | K_0 \rangle \langle L_{14} | \hat{0}_{\beta}^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_7, J_{13}} t_{K_8, L_{14}} \\
& + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^J | \hat{g} | 0^L 1^K \rangle \langle I_7 | \hat{0}_{\beta}^- | I_0 \rangle \langle J_{13} | \hat{1}_{\beta}^+ | J_0 \rangle \langle K_8 | \hat{1}_{\beta}^- | K_0 \rangle \langle L_{14} | \hat{0}_{\beta}^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_7, J_{13}} t_{K_8, L_{14}} \\
& + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^K | \hat{g} | 1^J 0^L \rangle \langle I_7 | \hat{0}_{\beta}^- | I_0 \rangle \langle J_{13} | \hat{1}_{\beta}^+ | J_0 \rangle \langle K_8 | \hat{1}_{\beta}^- | K_0 \rangle \langle L_{14} | \hat{0}_{\beta}^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_7, L_{14}} t_{J_{13}, K_8} \\
& + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^J | \hat{g} | 0^L 1^K \rangle \langle I_7 | \hat{0}_{\beta}^- | I_0 \rangle \langle J_{13} | \hat{1}_{\beta}^+ | J_0 \rangle \langle K_8 | \hat{1}_{\beta}^- | K_0 \rangle \langle L_{14} | \hat{0}_{\beta}^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_7, L_{14}} t_{J_{13}, K_8}
\end{aligned}$$

$$\langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_9, J_{11}, K_8, L_{14}) \rangle =$$

$$\begin{aligned}
& + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^K | \hat{g} | 1^J 0^L \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle \langle K_8 | \hat{1}_\beta^- | K_0 \rangle \langle L_{14} | \hat{0}_\beta^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_9, J_{11}} t_{K_8, L_{14}} \\
& + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^K | \hat{g} | 1^J 0^L \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle \langle K_8 | \hat{1}_\beta^- | K_0 \rangle \langle L_{14} | \hat{0}_\beta^+ | L_0 \rangle t_{A_9, J_{11}} t_{B_{11}, I_9} t_{K_8, L_{14}}
\end{aligned}$$

[illegible]

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_8, J_{13}, K_7, L_{14}) \rangle = \\
& + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^K | \hat{g} | 1^J 0^L \rangle \langle I_8 | \hat{1}_{\beta}^- | I_0 \rangle \langle J_{13} | \hat{1}_{\beta}^+ | J_0 \rangle \langle K_7 | \hat{0}_{\beta}^- | K_0 \rangle \langle L_{14} | \hat{0}_{\beta}^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_8, J_{13}} t_{K_7, L_{14}} \\
& + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 1^J | \hat{g} | 0^L 0^K \rangle \langle I_8 | \hat{1}_{\beta}^- | I_0 \rangle \langle J_{13} | \hat{1}_{\beta}^+ | J_0 \rangle \langle K_7 | \hat{0}_{\beta}^- | K_0 \rangle \langle L_{14} | \hat{0}_{\beta}^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_8, J_{13}} t_{K_7, L_{14}} \\
& + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^K | \hat{g} | 1^J 0^L \rangle \langle I_8 | \hat{1}_{\beta}^- | I_0 \rangle \langle J_{13} | \hat{1}_{\beta}^+ | J_0 \rangle \langle K_7 | \hat{0}_{\beta}^- | K_0 \rangle \langle L_{14} | \hat{0}_{\beta}^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_8, L_{14}} t_{J_{13}, K_7} \\
& + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 1^J | \hat{g} | 0^L 0^K \rangle \langle I_8 | \hat{1}_{\beta}^- | I_0 \rangle \langle J_{13} | \hat{1}_{\beta}^+ | J_0 \rangle \langle K_7 | \hat{0}_{\beta}^- | K_0 \rangle \langle L_{14} | \hat{0}_{\beta}^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_8, L_{14}} t_{J_{13}, K_7}
\end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_{10}, J_{11}, K_7, L_{14}) \rangle = \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^K | \hat{g} | 1^J 0^L \rangle \langle I_{10} | \hat{1}_\alpha^- | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle \langle K_7 | \hat{0}_\beta^- | K_0 \rangle \langle L_{14} | \hat{0}_\beta^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_{10}, J_{11}} t_{K_7, L_{14}} \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^K | \hat{g} | 1^J 0^L \rangle \langle I_{10} | \hat{1}_\alpha^- | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle \langle K_7 | \hat{0}_\beta^- | K_0 \rangle \langle L_{14} | \hat{0}_\beta^+ | L_0 \rangle t_{A_9, J_{11}} t_{B_{11}, I_{10}} t_{K_7, L_{14}} \end{aligned}$$

[illegible]

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_7, J_{13}, K_7, L_{13}) \rangle = \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^K | \hat{g} | 1^J 1^L \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_{13} | \hat{1}_\beta^+ | J_0 \rangle \langle K_7 | \hat{0}_\beta^- | K_0 \rangle \langle L_{13} | \hat{1}_\beta^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_7, J_{13}} t_{K_7, L_{13}} \\ & + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^J | \hat{g} | 1^L 0^K \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_{13} | \hat{1}_\beta^+ | J_0 \rangle \langle K_7 | \hat{0}_\beta^- | K_0 \rangle \langle L_{13} | \hat{1}_\beta^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_7, J_{13}} t_{K_7, L_{13}} \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^K | \hat{g} | 1^J 1^L \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_{13} | \hat{1}_\beta^+ | J_0 \rangle \langle K_7 | \hat{0}_\beta^- | K_0 \rangle \langle L_{13} | \hat{1}_\beta^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_7, L_{13}} t_{J_{13}, K_7} \\ & + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^J | \hat{g} | 1^L 0^K \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_{13} | \hat{1}_\beta^+ | J_0 \rangle \langle K_7 | \hat{0}_\beta^- | K_0 \rangle \langle L_{13} | \hat{1}_\beta^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_7, L_{13}} t_{J_{13}, K_7} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_9, J_{11}, K_7, L_{13}) \rangle = \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^K | \hat{g} | 1^J 1^L \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle \langle K_7 | \hat{0}_\beta^- | K_0 \rangle \langle L_{13} | \hat{1}_\beta^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_9, J_{11}} t_{K_7, L_{13}} \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^K | \hat{g} | 1^J 1^L \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle \langle K_7 | \hat{0}_\beta^- | K_0 \rangle \langle L_{13} | \hat{1}_\beta^+ | L_0 \rangle t_{A_9, J_{11}} t_{B_{11}, I_9} t_{K_7, L_{13}} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_9, J_{11}, K_{10}, L_{11}) \rangle = \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^K | \hat{g} | 1^J 1^L \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle \langle K_{10} | \hat{1}_\alpha^- | K_0 \rangle \langle L_{11} | \hat{1}_\alpha^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_9, J_{11}} t_{K_{10}, L_{11}} \end{aligned}$$

[illegible]

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_7, J_{13}, K_8, L_{13}) \rangle = \\
& + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^K | \hat{g} | 1^J 1^L \rangle \langle I_7 | \hat{0}_{\bar{\beta}} | I_0 \rangle \langle J_{13} | \hat{1}_{\bar{\beta}}^+ | J_0 \rangle \langle K_8 | \hat{1}_{\bar{\beta}} | K_0 \rangle \langle L_{13} | \hat{1}_{\bar{\beta}}^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_7, J_{13}} t_{K_8, L_{13}} \\
& + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^J | \hat{g} | 1^L 1^K \rangle \langle I_7 | \hat{0}_{\bar{\beta}} | I_0 \rangle \langle J_{13} | \hat{1}_{\bar{\beta}}^+ | J_0 \rangle \langle K_8 | \hat{1}_{\bar{\beta}} | K_0 \rangle \langle L_{13} | \hat{1}_{\bar{\beta}}^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_7, J_{13}} t_{K_8, L_{13}} \\
& + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^K | \hat{g} | 1^J 1^L \rangle \langle I_7 | \hat{0}_{\bar{\beta}} | I_0 \rangle \langle J_{13} | \hat{1}_{\bar{\beta}}^+ | J_0 \rangle \langle K_8 | \hat{1}_{\bar{\beta}} | K_0 \rangle \langle L_{13} | \hat{1}_{\bar{\beta}}^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_7, L_{13}} t_{J_{13}, K_8} \\
& + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^J | \hat{g} | 1^L 1^K \rangle \langle I_7 | \hat{0}_{\bar{\beta}} | I_0 \rangle \langle J_{13} | \hat{1}_{\bar{\beta}}^+ | J_0 \rangle \langle K_8 | \hat{1}_{\bar{\beta}} | K_0 \rangle \langle L_{13} | \hat{1}_{\bar{\beta}}^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_7, L_{13}} t_{J_{13}, K_8}
\end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_9, J_{11}, K_8, L_{13}) \rangle = \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^K | \hat{g} | 1^J 1^L \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle \langle K_8 | \hat{1}_\beta^- | K_0 \rangle \langle L_{13} | \hat{1}_\beta^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_9, J_{11}} t_{K_8, L_{13}} \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^K | \hat{g} | 1^J 1^L \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle \langle K_8 | \hat{1}_\beta^- | K_0 \rangle \langle L_{13} | \hat{1}_\beta^+ | L_0 \rangle t_{A_9, J_{11}} t_{B_{11}, I_9} t_{K_8, L_{13}} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_{10}, J_{11}, K_9, L_{11}) \rangle = \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^K | \hat{g} | 1^J 1^L \rangle \langle I_{10} | \hat{1}_\alpha^- | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle \langle K_9 | \hat{0}_\alpha^- | K_0 \rangle \langle L_{11} | \hat{1}_\alpha^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_{10}, J_{11}} t_{K_9, L_{11}} \\ & + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 1^J | \hat{g} | 1^L 0^K \rangle \langle I_{10} | \hat{1}_\alpha^- | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle \langle K_9 | \hat{0}_\alpha^- | K_0 \rangle \langle L_{11} | \hat{1}_\alpha^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_{10}, J_{11}} t_{K_9, L_{11}} \\ & + \frac{1}{48} \sum_I \sum_L \sum_K \sum_L \langle 1^I 0^K | \hat{g} | 1^J 1^L \rangle \langle I_{10} | \hat{1}_\alpha^- | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle \langle K_9 | \hat{0}_\alpha^- | K_0 \rangle \langle L_{11} | \hat{1}_\alpha^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_{10}, L_{11}} t_{J_{11}, K_9} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_7, J_{12}, K_{10}, L_{14}) \rangle = \\ & + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^J | \hat{g} | 0^L 1^K \rangle \langle I_7 | \hat{0}_{\beta}^{-} | I_0 \rangle \langle J_{12} | \hat{0}_{\alpha}^{+} | J_0 \rangle \langle K_{10} | \hat{1}_{\alpha}^{-} | K_0 \rangle \langle L_{14} | \hat{0}_{\beta}^{+} | L_0 \rangle t_{A_9, B_{11}} t_{I_7, L_{14}} t_{J_{12}, K_{10}} \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^J | \hat{g} | 0^L 1^K \rangle \langle I_7 | \hat{0}_{\beta}^{-} | I_0 \rangle \langle J_{12} | \hat{0}_{\alpha}^{+} | J_0 \rangle \langle K_{10} | \hat{1}_{\alpha}^{-} | K_0 \rangle \langle L_{14} | \hat{0}_{\beta}^{+} | L_0 \rangle t_{A_9, J_{12}} t_{B_{11}, K_{10}} t_{I_7, L_{14}} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_8, J_{12}, K_{10}, L_{14}) \rangle = \\ & + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^J | \hat{g} | 0^L 1^K \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle \langle K_{10} | \hat{1}_\alpha^- | K_0 \rangle \langle L_{14} | \hat{0}_\beta^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_8, L_{14}} t_{J_{12}, K_{10}} \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^J | \hat{g} | 0^L 1^K \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle \langle K_{10} | \hat{1}_\alpha^- | K_0 \rangle \langle L_{14} | \hat{0}_\beta^+ | L_0 \rangle t_{A_9, J_{12}} t_{B_{11}, K_{10}} t_{I_8, L_{14}} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_7, J_{12}, K_9, L_{13}) \rangle = \\ & + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^J | \hat{g} | 1^L 0^K \rangle \langle I_7 | \hat{0}_{\beta}^- | I_0 \rangle \langle J_{12} | \hat{0}_{\alpha}^+ | J_0 \rangle \langle K_9 | \hat{0}_{\alpha}^- | K_0 \rangle \langle L_{13} | \hat{1}_{\beta}^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_7, L_{13}} t_{J_{12}, K_9} \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^J | \hat{g} | 1^L 0^K \rangle \langle I_7 | \hat{0}_{\beta}^- | I_0 \rangle \langle J_{12} | \hat{0}_{\alpha}^+ | J_0 \rangle \langle K_9 | \hat{0}_{\alpha}^- | K_0 \rangle \langle L_{13} | \hat{1}_{\beta}^+ | L_0 \rangle t_{A_9, J_{12}} t_{B_{11}, K_9} t_{I_7, L_{13}} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_8, J_{12}, K_9, L_{13}) \rangle = \\ & + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^J | \hat{g} | 1^L 0^K \rangle \langle I_8 | \hat{1}_{\beta}^{-} | I_0 \rangle \langle J_{12} | \hat{0}_{\alpha}^{+} | J_0 \rangle \langle K_9 | \hat{0}_{\alpha}^{-} | K_0 \rangle \langle L_{13} | \hat{1}_{\beta}^{+} | L_0 \rangle t_{A_9, B_{11}} t_{I_8, L_{13}} t_{J_{12}, K_9} \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^J | \hat{g} | 1^L 0^K \rangle \langle I_8 | \hat{1}_{\beta}^{-} | I_0 \rangle \langle J_{12} | \hat{0}_{\alpha}^{+} | J_0 \rangle \langle K_9 | \hat{0}_{\alpha}^{-} | K_0 \rangle \langle L_{13} | \hat{1}_{\beta}^{+} | L_0 \rangle t_{A_9, J_{12}} t_{B_{11}, K_9} t_{I_8, L_{13}} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_7, J_{12}, K_{10}, L_{13}) \rangle = \\ & + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^J | \hat{g} | 1^L 1^K \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle \langle K_{10} | \hat{1}_\alpha^- | K_0 \rangle \langle L_{13} | \hat{1}_\beta^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_7, L_{13}} t_{J_{12}, K_{10}} \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^J | \hat{g} | 1^L 1^K \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle \langle K_{10} | \hat{1}_\alpha^- | K_0 \rangle \langle L_{13} | \hat{1}_\beta^+ | L_0 \rangle t_{A_9, J_{12}} t_{B_{11}, K_{10}} t_{I_7, L_{13}} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_8, J_{12}, K_{10}, L_{13}) \rangle = \\ & + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^{I0J} | \hat{g} | 1^{L1K} \rangle \langle I_8 | \hat{1}_{\beta}^{-} | I_0 \rangle \langle J_{12} | \hat{0}_{\alpha}^{+} | J_0 \rangle \langle K_{10} | \hat{1}_{\alpha}^{-} | K_0 \rangle \langle L_{13} | \hat{1}_{\beta}^{+} | L_0 \rangle t_{A_9, B_{11}} t_{I_8, L_{13}} t_{J_{12}, K_{10}} \end{aligned}$$

$$+ \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^J | \hat{g} | 1^L 1^K \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle \langle K_{10} | \hat{1}_\alpha^- | K_0 \rangle \langle L_{13} | \hat{1}_\beta^+ | L_0 \rangle t_{A_9, J_{12}} t_{B_{11}, K_{10}} t_{I_8, L_{13}}$$

$$\langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_7, J_{11}, K_9, L_{14}) \rangle =$$

$$+ \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^J | \hat{g} | 0^L 0^K \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle \langle K_9 | \hat{0}_\alpha^- | K_0 \rangle \langle L_{14} | \hat{0}_\beta^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_7, L_{14}} t_{J_{11}, K_9} \\ + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^J | \hat{g} | 0^L 0^K \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle \langle K_9 | \hat{0}_\alpha^- | K_0 \rangle \langle L_{14} | \hat{0}_\beta^+ | L_0 \rangle t_{A_9, J_{11}} t_{B_{11}, K_9} t_{I_7, L_{14}}$$

$$\langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_8, J_{11}, K_9, L_{14}) \rangle =$$

$$+ \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 1^J | \hat{g} | 0^L 0^K \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle \langle K_9 | \hat{0}_\alpha^- | K_0 \rangle \langle L_{14} | \hat{0}_\beta^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_8, L_{14}} t_{J_{11}, K_9} \\ + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 1^J | \hat{g} | 0^L 0^K \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle \langle K_9 | \hat{0}_\alpha^- | K_0 \rangle \langle L_{14} | \hat{0}_\beta^+ | L_0 \rangle t_{A_9, J_{11}} t_{B_{11}, K_9} t_{I_8, L_{14}}$$

$$\langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_7, J_{11}, K_{10}, L_{14}) \rangle =$$

$$+ \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^J | \hat{g} | 0^L 1^K \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle \langle K_{10} | \hat{1}_\alpha^- | K_0 \rangle \langle L_{14} | \hat{0}_\beta^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_7, L_{14}} t_{J_{11}, K_{10}} \\ + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^J | \hat{g} | 0^L 1^K \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle \langle K_{10} | \hat{1}_\alpha^- | K_0 \rangle \langle L_{14} | \hat{0}_\beta^+ | L_0 \rangle t_{A_9, J_{11}} t_{B_{11}, K_{10}} t_{I_7, L_{14}}$$

$$\langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_8, J_{11}, K_{10}, L_{14}) \rangle =$$

$$+ \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 1^J | \hat{g} | 0^L 1^K \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle \langle K_{10} | \hat{1}_\alpha^- | K_0 \rangle \langle L_{14} | \hat{0}_\beta^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_8, L_{14}} t_{J_{11}, K_{10}} \\ + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 1^J | \hat{g} | 0^L 1^K \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle \langle K_{10} | \hat{1}_\alpha^- | K_0 \rangle \langle L_{14} | \hat{0}_\beta^+ | L_0 \rangle t_{A_9, J_{11}} t_{B_{11}, K_{10}} t_{I_8, L_{14}}$$

$$\langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_7, J_{11}, K_9, L_{13}) \rangle =$$

$$+ \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^J | \hat{g} | 1^L 0^K \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle \langle K_9 | \hat{0}_\alpha^- | K_0 \rangle \langle L_{13} | \hat{1}_\beta^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_7, L_{13}} t_{J_{11}, K_9} \\ + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^J | \hat{g} | 1^L 0^K \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle \langle K_9 | \hat{0}_\alpha^- | K_0 \rangle \langle L_{13} | \hat{1}_\beta^+ | L_0 \rangle t_{A_9, J_{11}} t_{B_{11}, K_9} t_{I_7, L_{13}}$$

$$\langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_8, J_{11}, K_9, L_{13}) \rangle =$$

$$\begin{aligned}
& + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 1^J | \hat{g} | 1^L 0^K \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle \langle K_9 | \hat{0}_\alpha^- | K_0 \rangle \langle L_{13} | \hat{1}_\beta^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_8, L_{13}} t_{J_{11}, K_9} \\
& + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 1^J | \hat{g} | 1^L 0^K \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle \langle K_9 | \hat{0}_\alpha^- | K_0 \rangle \langle L_{13} | \hat{1}_\beta^+ | L_0 \rangle t_{A_9, J_{11}} t_{B_{11}, K_9} t_{I_8, L_{13}}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_7, J_{11}, K_{10}, L_{13}) \rangle = \\
& + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^J | \hat{g} | 1^L 1^K \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle \langle K_{10} | \hat{1}_\alpha^- | K_0 \rangle \langle L_{13} | \hat{1}_\beta^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_7, L_{13}} t_{J_{11}, K_{10}} \\
& + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^J | \hat{g} | 1^L 1^K \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle \langle K_{10} | \hat{1}_\alpha^- | K_0 \rangle \langle L_{13} | \hat{1}_\beta^+ | L_0 \rangle t_{A_9, J_{11}} t_{B_{11}, K_{10}} t_{I_7, L_{13}}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_8, J_{11}, K_{10}, L_{13}) \rangle = \\
& + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 1^J | \hat{g} | 1^L 1^K \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle \langle K_{10} | \hat{1}_\alpha^- | K_0 \rangle \langle L_{13} | \hat{1}_\beta^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_8, L_{13}} t_{J_{11}, K_{10}} \\
& + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 1^J | \hat{g} | 1^L 1^K \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle \langle K_{10} | \hat{1}_\alpha^- | K_0 \rangle \langle L_{13} | \hat{1}_\beta^+ | L_0 \rangle t_{A_9, J_{11}} t_{B_{11}, K_{10}} t_{I_8, L_{13}}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_{14}, J_9, K_{12}, L_7) \rangle = \\
& + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^J | \hat{g} | 0^L 0^K \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle \langle K_{12} | \hat{0}_\alpha^+ | K_0 \rangle \langle L_7 | \hat{0}_\beta^- | L_0 \rangle t_{A_9, B_{11}} t_{I_{14}, L_7} t_{J_9, K_{12}} \\
& + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^J | \hat{g} | 0^L 0^K \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle \langle K_{12} | \hat{0}_\alpha^+ | K_0 \rangle \langle L_7 | \hat{0}_\beta^- | L_0 \rangle t_{A_9, K_{12}} t_{B_{11}, J_9} t_{I_{14}, L_7}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_{14}, J_9, K_{12}, L_8) \rangle = \\
& + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^J | \hat{g} | 1^L 0^K \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle \langle K_{12} | \hat{0}_\alpha^+ | K_0 \rangle \langle L_8 | \hat{1}_\beta^- | L_0 \rangle t_{A_9, B_{11}} t_{I_{14}, L_8} t_{J_9, K_{12}} \\
& + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^J | \hat{g} | 1^L 0^K \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle \langle K_{12} | \hat{0}_\alpha^+ | K_0 \rangle \langle L_8 | \hat{1}_\beta^- | L_0 \rangle t_{A_9, K_{12}} t_{B_{11}, J_9} t_{I_{14}, L_8}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_{14}, J_{10}, K_{12}, L_7) \rangle = \\
& + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^J | \hat{g} | 0^L 0^K \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle \langle K_{12} | \hat{0}_\alpha^+ | K_0 \rangle \langle L_7 | \hat{0}_\beta^- | L_0 \rangle t_{A_9, B_{11}} t_{I_{14}, L_7} t_{J_{10}, K_{12}} \\
& + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^J | \hat{g} | 0^L 0^K \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle \langle K_{12} | \hat{0}_\alpha^+ | K_0 \rangle \langle L_7 | \hat{0}_\beta^- | L_0 \rangle t_{A_9, K_{12}} t_{B_{11}, J_{10}} t_{I_{14}, L_7}
\end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_{14}, J_{10}, K_{12}, L_8) \rangle = \\ & + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^J | \hat{g} | 1^L 0^K \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle \langle K_{12} | \hat{0}_\alpha^+ | K_0 \rangle \langle L_8 | \hat{1}_\beta^- | L_0 \rangle t_{A_9, B_{11}} t_{I_{14}, L_8} t_{J_{10}, K_{12}} \\ & + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^J | \hat{g} | 1^L 0^K \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle \langle K_{12} | \hat{0}_\alpha^+ | K_0 \rangle \langle L_8 | \hat{1}_\beta^- | L_0 \rangle t_{A_9, K_{12}} t_{B_{11}, J_{10}} t_{I_{14}, L_8} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_{13}, J_9, K_{12}, L_7) \rangle = \\ & + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^J | \hat{g} | 0^L 0^K \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle \langle K_{12} | \hat{0}_\alpha^+ | K_0 \rangle \langle L_7 | \hat{0}_\beta^- | L_0 \rangle t_{A_9, B_{11}} t_{I_{13}, L_7} t_{J_9, K_{12}} \\ & + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^J | \hat{g} | 0^L 0^K \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle \langle K_{12} | \hat{0}_\alpha^+ | K_0 \rangle \langle L_7 | \hat{0}_\beta^- | L_0 \rangle t_{A_9, K_{12}} t_{B_{11}, J_9} t_{I_{13}, L_7} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_{13}, J_9, K_{12}, L_8) \rangle = \\ & + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^J | \hat{g} | 1^L 0^K \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle \langle K_{12} | \hat{0}_\alpha^+ | K_0 \rangle \langle L_8 | \hat{1}_\beta^- | L_0 \rangle t_{A_9, B_{11}} t_{I_{13}, L_8} t_{J_9, K_{12}} \\ & + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^J | \hat{g} | 1^L 0^K \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle \langle K_{12} | \hat{0}_\alpha^+ | K_0 \rangle \langle L_8 | \hat{1}_\beta^- | L_0 \rangle t_{A_9, K_{12}} t_{B_{11}, J_9} t_{I_{13}, L_8} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_{13}, J_{10}, K_{12}, L_7) \rangle = \\ & + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^1 1^J | \hat{g} | 0^L 0^K \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle \langle K_{12} | \hat{0}_\alpha^+ | K_0 \rangle \langle L_7 | \hat{0}_\beta^- | L_0 \rangle t_{A_9, B_{11}} t_{I_{13}, L_7} t_{J_{10}, K_{12}} \\ & + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^1 1^J | \hat{g} | 0^L 0^K \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle \langle K_{12} | \hat{0}_\alpha^+ | K_0 \rangle \langle L_7 | \hat{0}_\beta^- | L_0 \rangle t_{A_9, K_{12}} t_{B_{11}, J_{10}} t_{I_{13}, L_7} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_{13}, J_{10}, K_{12}, L_8) \rangle = \\ & + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^1 1^J | \hat{g} | 1^L 0^K \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle \langle K_{12} | \hat{0}_\alpha^+ | K_0 \rangle \langle L_8 | \hat{1}_\beta^- | L_0 \rangle t_{A_9, B_{11}} t_{I_{13}, L_8} t_{J_{10}, K_{12}} \\ & + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^1 1^J | \hat{g} | 1^L 0^K \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle \langle K_{12} | \hat{0}_\alpha^+ | K_0 \rangle \langle L_8 | \hat{1}_\beta^- | L_0 \rangle t_{A_9, K_{12}} t_{B_{11}, J_{10}} t_{I_{13}, L_8} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_{14}, J_9, K_{11}, L_7) \rangle = \\ & + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^J | \hat{g} | 0^L 1^K \rangle \langle I_{14} | \hat{\theta}_\beta^+ | I_0 \rangle \langle J_9 | \hat{\theta}_\alpha^- | J_0 \rangle \langle K_{11} | \hat{1}_\alpha^+ | K_0 \rangle \langle L_7 | \hat{\theta}_\beta^- | L_0 \rangle t_{A_9, B_{11}} t_{I_{14}, L_7} t_{J_9, K_{11}} \\ & + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^J | \hat{g} | 0^L 1^K \rangle \langle I_{14} | \hat{\theta}_\beta^+ | I_0 \rangle \langle J_9 | \hat{\theta}_\alpha^- | J_0 \rangle \langle K_{11} | \hat{1}_\alpha^+ | K_0 \rangle \langle L_7 | \hat{\theta}_\beta^- | L_0 \rangle t_{A_9, K_{11}} t_{B_{11}, J_9} t_{I_{14}, L_7} \end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_{13}, J_{10}, K_{11}, L_8) \rangle = \\
& + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 1^J | \hat{g} | 1^L 1^K \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle \langle K_{11} | \hat{1}_\alpha^+ | K_0 \rangle \langle L_8 | \hat{1}_\beta^- | L_0 \rangle t_{A_9, B_{11}} t_{I_{13}, L_8} t_{J_{10}, K_{11}} \\
& + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 1^J | \hat{g} | 1^L 1^K \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle \langle K_{11} | \hat{1}_\alpha^+ | K_0 \rangle \langle L_8 | \hat{1}_\beta^- | L_0 \rangle t_{A_9, K_{11}} t_{B_{11}, J_{10}} t_{I_{13}, L_8}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_{14}, J_7, K_{12}, L_9) \rangle = \\
& + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^K | \hat{g} | 0^J 0^L \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle \langle K_{12} | \hat{0}_\alpha^+ | K_0 \rangle \langle L_9 | \hat{0}_\alpha^- | L_0 \rangle t_{A_9, B_{11}} t_{I_{14}, J_7} t_{K_{12}, L_9} \\
& + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^K | \hat{g} | 0^J 0^L \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle \langle K_{12} | \hat{0}_\alpha^+ | K_0 \rangle \langle L_9 | \hat{0}_\alpha^- | L_0 \rangle t_{A_9, K_{12}} t_{B_{11}, L_9} t_{I_{14}, J_7}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_{14}, J_8, K_{12}, L_9) \rangle = \\
& + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^K | \hat{g} | 1^J 0^L \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_{12} | \hat{0}_\alpha^+ | K_0 \rangle \langle L_9 | \hat{0}_\alpha^- | L_0 \rangle t_{A_9, B_{11}} t_{I_{14}, J_8} t_{K_{12}, L_9} \\
& + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^K | \hat{g} | 1^J 0^L \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_{12} | \hat{0}_\alpha^+ | K_0 \rangle \langle L_9 | \hat{0}_\alpha^- | L_0 \rangle t_{A_9, K_{12}} t_{B_{11}, L_9} t_{I_{14}, J_8}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_{14}, J_7, K_{12}, L_{10}) \rangle = \\
& + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^K | \hat{g} | 0^J 1^L \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle \langle K_{12} | \hat{0}_\alpha^+ | K_0 \rangle \langle L_{10} | \hat{1}_\alpha^- | L_0 \rangle t_{A_9, B_{11}} t_{I_{14}, J_7} t_{K_{12}, L_{10}} \\
& + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^K | \hat{g} | 0^J 1^L \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle \langle K_{12} | \hat{0}_\alpha^+ | K_0 \rangle \langle L_{10} | \hat{1}_\alpha^- | L_0 \rangle t_{A_9, K_{12}} t_{B_{11}, L_{10}} t_{I_{14}, J_7}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_{14}, J_8, K_{12}, L_{10}) \rangle = \\
& + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^K | \hat{g} | 1^J 1^L \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_{12} | \hat{0}_\alpha^+ | K_0 \rangle \langle L_{10} | \hat{1}_\alpha^- | L_0 \rangle t_{A_9, B_{11}} t_{I_{14}, J_8} t_{K_{12}, L_{10}} \\
& + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^K | \hat{g} | 1^J 1^L \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_{12} | \hat{0}_\alpha^+ | K_0 \rangle \langle L_{10} | \hat{1}_\alpha^- | L_0 \rangle t_{A_9, K_{12}} t_{B_{11}, L_{10}} t_{I_{14}, J_8}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_{13}, J_7, K_{12}, L_9) \rangle = \\
& + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^K | \hat{g} | 0^J 0^L \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle \langle K_{12} | \hat{0}_\alpha^+ | K_0 \rangle \langle L_9 | \hat{0}_\alpha^- | L_0 \rangle t_{A_9, B_{11}} t_{I_{13}, J_7} t_{K_{12}, L_9}
\end{aligned}$$

$$+ \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^K | \hat{g} | 0^I 0^L \rangle \langle I_{13} | \hat{1}_{\beta}^{+} | I_0 \rangle \langle J_7 | \hat{0}_{\beta}^{-} | J_0 \rangle \langle K_{12} | \hat{0}_{\alpha}^{+} | K_0 \rangle \langle L_9 | \hat{0}_{\alpha}^{-} | L_0 \rangle t_{A_9, K_{12}} t_{B_{11}, L_9} t_{I_{13}, J_7}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_{13}, J_8, K_{12}, L_9) \rangle = \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^K | \hat{g} | 1^J 0^L \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_{12} | \hat{0}_\alpha^+ | K_0 \rangle \langle L_9 | \hat{0}_\alpha^- | L_0 \rangle t_{A_9, B_{11}} t_{I_{13}, J_8} t_{K_{12}, L_9} \\ & + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^K | \hat{g} | 1^J 0^L \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_{12} | \hat{0}_\alpha^+ | K_0 \rangle \langle L_9 | \hat{0}_\alpha^- | L_0 \rangle t_{A_9, K_{12}} t_{B_{11}, L_9} t_{I_{13}, J_8} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_{13}, J_7, K_{12}, L_{10}) \rangle = \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^K | \hat{g} | 0^J 1^L \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle \langle K_{12} | \hat{0}_\alpha^+ | K_0 \rangle \langle L_{10} | \hat{1}_\alpha^- | L_0 \rangle t_{A_9, B_{11}} t_{I_{13}, J_7} t_{K_{12}, L_{10}} \\ & + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^K | \hat{g} | 0^J 1^L \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle \langle K_{12} | \hat{0}_\alpha^+ | K_0 \rangle \langle L_{10} | \hat{1}_\alpha^- | L_0 \rangle t_{A_9, K_{12}} t_{B_{11}, L_{10}} t_{I_{13}, J_7} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_{13}, J_8, K_{12}, L_{10}) \rangle = \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^K | \hat{g} | 1^J 1^L \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_{12} | \hat{0}_\alpha^+ | K_0 \rangle \langle L_{10} | \hat{1}_\alpha^- | L_0 \rangle t_{A_9, B_{11}} t_{I_{13}, J_8} t_{K_{12}, L_{10}} \\ & + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^K | \hat{g} | 1^J 1^L \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_{12} | \hat{0}_\alpha^+ | K_0 \rangle \langle L_{10} | \hat{1}_\alpha^- | L_0 \rangle t_{A_9, K_{12}} t_{B_{11}, L_{10}} t_{I_{13}, J_8} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_{14}, J_7, K_{11}, L_9) \rangle = \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^K | \hat{g} | 0^J 0^L \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle \langle K_{11} | \hat{1}_\alpha^+ | K_0 \rangle \langle L_9 | \hat{0}_\alpha^- | L_0 \rangle t_{A_9, B_{11}} t_{I_{14}, J_7} t_{K_{11}, L_9} \\ & + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^K | \hat{g} | 0^J 0^L \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle \langle K_{11} | \hat{1}_\alpha^+ | K_0 \rangle \langle L_9 | \hat{0}_\alpha^- | L_0 \rangle t_{A_9, K_{11}} t_{B_{11}, L_9} t_{I_{14}, J_7} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_{14}, J_8, K_{11}, L_9) \rangle = \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^K | \hat{g} | 1^J 0^L \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_{11} | \hat{1}_\alpha^+ | K_0 \rangle \langle L_9 | \hat{0}_\alpha^- | L_0 \rangle t_{A_9, B_{11}} t_{I_{14}, J_8} t_{K_{11}, L_9} \\ & + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^K | \hat{g} | 1^J 0^L \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_{11} | \hat{1}_\alpha^+ | K_0 \rangle \langle L_9 | \hat{0}_\alpha^- | L_0 \rangle t_{A_9, K_{11}} t_{B_{11}, L_9} t_{I_{14}, J_8} \end{aligned}$$

$$\langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_{14}, J_7, K_{11}, L_{10}) \rangle =$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_9, J_{13}, K_{11}, L_7) \rangle = \\
& + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^J | \hat{g} | 1^K 0^L \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_{13} | \hat{1}_\beta^+ | J_0 \rangle \langle K_{11} | \hat{1}_\alpha^+ | K_0 \rangle \langle L_7 | \hat{0}_\beta^- | L_0 \rangle t_{A_9, B_{11}} t_{I_9, K_{11}} t_{J_{13}, L_7} \\
& + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^J | \hat{g} | 1^K 0^L \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_{13} | \hat{1}_\beta^+ | J_0 \rangle \langle K_{11} | \hat{1}_\alpha^+ | K_0 \rangle \langle L_7 | \hat{0}_\beta^- | L_0 \rangle t_{A_9, K_{11}} t_{B_{11}, I_9} t_{J_{13}, L_7}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_9, J_{13}, K_{11}, L_8) \rangle = \\
& + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^J | \hat{g} | 1^K 1^L \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_{13} | \hat{1}_\beta^+ | J_0 \rangle \langle K_{11} | \hat{1}_\alpha^+ | K_0 \rangle \langle L_8 | \hat{1}_\beta^- | L_0 \rangle t_{A_9, B_{11}} t_{I_9, K_{11}} t_{J_{13}, L_8} \\
& + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^J | \hat{g} | 1^K 1^L \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_{13} | \hat{1}_\beta^+ | J_0 \rangle \langle K_{11} | \hat{1}_\alpha^+ | K_0 \rangle \langle L_8 | \hat{1}_\beta^- | L_0 \rangle t_{A_9, K_{11}} t_{B_{11}, I_9} t_{J_{13}, L_8}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_{10}, J_{13}, K_{11}, L_7) \rangle = \\
& + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 1^J | \hat{g} | 1^K 0^L \rangle \langle I_{10} | \hat{1}_\alpha^- | I_0 \rangle \langle J_{13} | \hat{1}_\beta^+ | J_0 \rangle \langle K_{11} | \hat{1}_\alpha^+ | K_0 \rangle \langle L_7 | \hat{0}_\beta^- | L_0 \rangle t_{A_9, B_{11}} t_{I_{10}, K_{11}} t_{J_{13}, L_7} \\
& + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 1^J | \hat{g} | 1^K 0^L \rangle \langle I_{10} | \hat{1}_\alpha^- | I_0 \rangle \langle J_{13} | \hat{1}_\beta^+ | J_0 \rangle \langle K_{11} | \hat{1}_\alpha^+ | K_0 \rangle \langle L_7 | \hat{0}_\beta^- | L_0 \rangle t_{A_9, K_{11}} t_{B_{11}, I_{10}} t_{J_{13}, L_7}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_{10}, J_{13}, K_{11}, L_8) \rangle = \\
& + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 1^J | \hat{g} | 1^K 1^L \rangle \langle I_{10} | \hat{1}_\alpha^- | I_0 \rangle \langle J_{13} | \hat{1}_\beta^+ | J_0 \rangle \langle K_{11} | \hat{1}_\alpha^+ | K_0 \rangle \langle L_8 | \hat{1}_\beta^- | L_0 \rangle t_{A_9, B_{11}} t_{I_{10}, K_{11}} t_{J_{13}, L_8} \\
& + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 1^J | \hat{g} | 1^K 1^L \rangle \langle I_{10} | \hat{1}_\alpha^- | I_0 \rangle \langle J_{13} | \hat{1}_\beta^+ | J_0 \rangle \langle K_{11} | \hat{1}_\alpha^+ | K_0 \rangle \langle L_8 | \hat{1}_\beta^- | L_0 \rangle t_{A_9, K_{11}} t_{B_{11}, I_{10}} t_{J_{13}, L_8}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_7, J_{14}, K_{12}, L_9) \rangle = \\
& + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^K | \hat{g} | 0^J 0^L \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle \langle K_{12} | \hat{0}_\alpha^+ | K_0 \rangle \langle L_9 | \hat{0}_\alpha^- | L_0 \rangle t_{A_9, B_{11}} t_{I_7, J_{14}} t_{K_{12}, L_9} \\
& + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^K | \hat{g} | 0^J 0^L \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle \langle K_{12} | \hat{0}_\alpha^+ | K_0 \rangle \langle L_9 | \hat{0}_\alpha^- | L_0 \rangle t_{A_9, K_{12}} t_{B_{11}, L_9} t_{I_7, J_{14}}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_8, J_{14}, K_{12}, L_9) \rangle = \\
& + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^K | \hat{g} | 0^J 0^L \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle \langle K_{12} | \hat{0}_\alpha^+ | K_0 \rangle \langle L_9 | \hat{0}_\alpha^- | L_0 \rangle t_{A_9, B_{11}} t_{I_8, J_{14}} t_{K_{12}, L_9}
\end{aligned}$$

$$+ \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^K | \hat{g} | 0^J 0^L \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle \langle K_{12} | \hat{0}_\alpha^+ | K_0 \rangle \langle L_9 | \hat{0}_\alpha^- | L_0 \rangle t_{A_9, K_{12}} t_{B_{11}, L_9} t_{I_8, J_{14}}$$

$$\langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_7, J_{14}, K_{12}, L_{10}) \rangle =$$

$$+ \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^K | \hat{g} | 0^J 1^L \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle \langle K_{12} | \hat{0}_\alpha^+ | K_0 \rangle \langle L_{10} | \hat{1}_\alpha^- | L_0 \rangle t_{A_9, B_{11}} t_{I_7, J_{14}} t_{K_{12}, L_{10}} \\ + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^K | \hat{g} | 0^J 1^L \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle \langle K_{12} | \hat{0}_\alpha^+ | K_0 \rangle \langle L_{10} | \hat{1}_\alpha^- | L_0 \rangle t_{A_9, K_{12}} t_{B_{11}, L_{10}} t_{I_7, J_{14}}$$

$$\langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_8, J_{14}, K_{12}, L_{10}) \rangle =$$

$$+ \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^K | \hat{g} | 0^J 1^L \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle \langle K_{12} | \hat{0}_\alpha^+ | K_0 \rangle \langle L_{10} | \hat{1}_\alpha^- | L_0 \rangle t_{A_9, B_{11}} t_{I_8, J_{14}} t_{K_{12}, L_{10}} \\ + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^K | \hat{g} | 0^J 1^L \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle \langle K_{12} | \hat{0}_\alpha^+ | K_0 \rangle \langle L_{10} | \hat{1}_\alpha^- | L_0 \rangle t_{A_9, K_{12}} t_{B_{11}, L_{10}} t_{I_8, J_{14}}$$

$$\langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_7, J_{13}, K_{12}, L_9) \rangle =$$

$$+ \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^K | \hat{g} | 1^J 0^L \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_{13} | \hat{1}_\beta^+ | J_0 \rangle \langle K_{12} | \hat{0}_\alpha^+ | K_0 \rangle \langle L_9 | \hat{0}_\alpha^- | L_0 \rangle t_{A_9, B_{11}} t_{I_7, J_{13}} t_{K_{12}, L_9} \\ + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^K | \hat{g} | 1^J 0^L \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_{13} | \hat{1}_\beta^+ | J_0 \rangle \langle K_{12} | \hat{0}_\alpha^+ | K_0 \rangle \langle L_9 | \hat{0}_\alpha^- | L_0 \rangle t_{A_9, K_{12}} t_{B_{11}, L_9} t_{I_7, J_{13}}$$

$$\langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_8, J_{13}, K_{12}, L_9) \rangle =$$

$$+ \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^K | \hat{g} | 1^J 0^L \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_{13} | \hat{1}_\beta^+ | J_0 \rangle \langle K_{12} | \hat{0}_\alpha^+ | K_0 \rangle \langle L_9 | \hat{0}_\alpha^- | L_0 \rangle t_{A_9, B_{11}} t_{I_8, J_{13}} t_{K_{12}, L_9} \\ + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^K | \hat{g} | 1^J 0^L \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_{13} | \hat{1}_\beta^+ | J_0 \rangle \langle K_{12} | \hat{0}_\alpha^+ | K_0 \rangle \langle L_9 | \hat{0}_\alpha^- | L_0 \rangle t_{A_9, K_{12}} t_{B_{11}, L_9} t_{I_8, J_{13}}$$

$$\langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_7, J_{13}, K_{12}, L_{10}) \rangle =$$

$$+ \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^K | \hat{g} | 1^J 1^L \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_{13} | \hat{1}_\beta^+ | J_0 \rangle \langle K_{12} | \hat{0}_\alpha^+ | K_0 \rangle \langle L_{10} | \hat{1}_\alpha^- | L_0 \rangle t_{A_9, B_{11}} t_{I_7, J_{13}} t_{K_{12}, L_{10}} \\ + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^K | \hat{g} | 1^J 1^L \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_{13} | \hat{1}_\beta^+ | J_0 \rangle \langle K_{12} | \hat{0}_\alpha^+ | K_0 \rangle \langle L_{10} | \hat{1}_\alpha^- | L_0 \rangle t_{A_9, K_{12}} t_{B_{11}, L_{10}} t_{I_7, J_{13}}$$

$$\langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_8, J_{13}, K_{12}, L_{10}) \rangle =$$

$$\begin{aligned}
& + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^K | \hat{g} | 1^J 1^L \rangle \langle I_8 | \hat{1}_{\beta}^- | I_0 \rangle \langle J_{13} | \hat{1}_{\beta}^+ | J_0 \rangle \langle K_{12} | \hat{0}_{\alpha}^+ | K_0 \rangle \langle L_{10} | \hat{1}_{\alpha}^- | L_0 \rangle t_{A_9, B_{11}} t_{I_8, J_{13}} t_{K_{12}, L_{10}} \\
& + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^K | \hat{g} | 1^J 1^L \rangle \langle I_8 | \hat{1}_{\beta}^- | I_0 \rangle \langle J_{13} | \hat{1}_{\beta}^+ | J_0 \rangle \langle K_{12} | \hat{0}_{\alpha}^+ | K_0 \rangle \langle L_{10} | \hat{1}_{\alpha}^- | L_0 \rangle t_{A_9, K_{12}} t_{B_{11}, L_{10}} t_{I_8, J_{13}}
\end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_7, J_{14}, K_{11}, L_9) \rangle = \\ & + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^K | \hat{g} | 0^J 0^L \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle \langle K_{11} | \hat{1}_\alpha^+ | K_0 \rangle \langle L_9 | \hat{0}_\alpha^- | L_0 \rangle t_{A_9, B_{11}} t_{I_7, J_{14}} t_{K_{11}, L_9} \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^K | \hat{g} | 0^J 0^L \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle \langle K_{11} | \hat{1}_\alpha^+ | K_0 \rangle \langle L_9 | \hat{0}_\alpha^- | L_0 \rangle t_{A_9, K_{11}} t_{B_{11}, L_9} t_{I_7, J_{14}} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_8, J_{14}, K_{11}, L_9) \rangle = \\ & + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 1^K | \hat{g} | 0^J 0^L \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle \langle K_{11} | \hat{1}_\alpha^+ | K_0 \rangle \langle L_9 | \hat{0}_\alpha^- | L_0 \rangle t_{A_9, B_{11}} t_{I_8, J_{14}} t_{K_{11}, L_9} \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 1^K | \hat{g} | 0^J 0^L \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle \langle K_{11} | \hat{1}_\alpha^+ | K_0 \rangle \langle L_9 | \hat{0}_\alpha^- | L_0 \rangle t_{A_9, K_{11}} t_{B_{11}, L_9} t_{I_8, J_{14}} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_7, J_{14}, K_{11}, L_{10}) \rangle = \\ & + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^K | \hat{g} | 0^J 1^L \rangle \langle I_7 | \hat{0}_{\beta}^- | I_0 \rangle \langle J_{14} | \hat{0}_{\beta}^+ | J_0 \rangle \langle K_{11} | \hat{1}_{\alpha}^+ | K_0 \rangle \langle L_{10} | \hat{1}_{\alpha}^- | L_0 \rangle t_{A_9, B_{11}} t_{I_7, J_{14}} t_{K_{11}, L_{10}} \\ & + \frac{1}{48} \sum_I \sum_L \sum_K \sum_L \langle 0^I 1^K | \hat{g} | 0^J 1^L \rangle \langle I_7 | \hat{0}_{\beta}^- | I_0 \rangle \langle J_{14} | \hat{0}_{\beta}^+ | J_0 \rangle \langle K_{11} | \hat{1}_{\alpha}^+ | K_0 \rangle \langle L_{10} | \hat{1}_{\alpha}^- | L_0 \rangle t_{A_9, K_{11}} t_{B_{11}, L_{10}} t_{I_7, J_{14}} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_8, J_{14}, K_{11}, L_{10}) \rangle = \\ & + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 1^K | \hat{g} | 0^J 1^L \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle \langle K_{11} | \hat{1}_\alpha^+ | K_0 \rangle \langle L_{10} | \hat{1}_\alpha^- | L_0 \rangle t_{A_9, B_{11}} t_{I_8, J_{14}} t_{K_{11}, L_{10}} \\ & + \frac{1}{48} \sum_I \sum_L \sum_K \sum_L \langle 1^I 1^K | \hat{g} | 0^J 1^L \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle \langle K_{11} | \hat{1}_\alpha^+ | K_0 \rangle \langle L_{10} | \hat{1}_\alpha^- | L_0 \rangle t_{A_9, K_{11}} t_{B_{11}, L_{10}} t_{I_8, J_{14}} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_7, J_{13}, K_{11}, L_9) \rangle = \\ & + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^K | \hat{g} | 1^J 0^L \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_{13} | \hat{1}_\beta^+ | J_0 \rangle \langle K_{11} | \hat{1}_\alpha^+ | K_0 \rangle \langle L_9 | \hat{0}_\alpha^- | L_0 \rangle t_{A_9, B_{11}} t_{I_7, J_{13}} t_{K_{11}, L_9} \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^K | \hat{g} | 1^J 0^L \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_{13} | \hat{1}_\beta^+ | J_0 \rangle \langle K_{11} | \hat{1}_\alpha^+ | K_0 \rangle \langle L_9 | \hat{0}_\alpha^- | L_0 \rangle t_{A_9, K_{11}} t_{B_{11}, L_9} t_{I_7, J_{13}} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_8, J_{13}, K_{11}, L_9) \rangle = \\ & + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 1^K | \hat{g} | 1^J 0^L \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_{13} | \hat{1}_\beta^+ | J_0 \rangle \langle K_{11} | \hat{1}_\alpha^+ | K_0 \rangle \langle L_9 | \hat{0}_\alpha^- | L_0 \rangle t_{A_9, B_{11}} t_{I_8, J_{13}} t_{K_{11}, L_9} \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 1^K | \hat{g} | 1^J 0^L \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_{13} | \hat{1}_\beta^+ | J_0 \rangle \langle K_{11} | \hat{1}_\alpha^+ | K_0 \rangle \langle L_9 | \hat{0}_\alpha^- | L_0 \rangle t_{A_9, K_{11}} t_{B_{11}, L_9} t_{I_8, J_{13}} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_7, J_{13}, K_{11}, L_{10}) \rangle = \\ & + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^K | \hat{g} | 1^J 1^L \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_{13} | \hat{1}_\beta^+ | J_0 \rangle \langle K_{11} | \hat{1}_\alpha^+ | K_0 \rangle \langle L_{10} | \hat{1}_\alpha^- | L_0 \rangle t_{A_9, B_{11}} t_{I_7, J_{13}} t_{K_{11}, L_{10}} \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^K | \hat{g} | 1^J 1^L \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_{13} | \hat{1}_\beta^+ | J_0 \rangle \langle K_{11} | \hat{1}_\alpha^+ | K_0 \rangle \langle L_{10} | \hat{1}_\alpha^- | L_0 \rangle t_{A_9, K_{11}} t_{B_{11}, L_{10}} t_{I_7, J_{13}} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_8, J_{13}, K_{11}, L_{10}) \rangle = \\ & + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 1^K | \hat{g} | 1^J 1^L \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_{13} | \hat{1}_\beta^+ | J_0 \rangle \langle K_{11} | \hat{1}_\alpha^+ | K_0 \rangle \langle L_{10} | \hat{1}_\alpha^- | L_0 \rangle t_{A_9, B_{11}} t_{I_8, J_{13}} t_{K_{11}, L_{10}} \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 1^K | \hat{g} | 1^J 1^L \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_{13} | \hat{1}_\beta^+ | J_0 \rangle \langle K_{11} | \hat{1}_\alpha^+ | K_0 \rangle \langle L_{10} | \hat{1}_\alpha^- | L_0 \rangle t_{A_9, K_{11}} t_{B_{11}, L_{10}} t_{I_8, J_{13}} \end{aligned}$$

[illegible]

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_7, J_7, K_{14}, L_{14}) \rangle = \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^J | \hat{g} | 0^K 0^L \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle \langle K_{14} | \hat{0}_\beta^+ | K_0 \rangle \langle L_{14} | \hat{0}_\beta^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_7, K_{14}} t_{J_7, L_{14}} \\ & + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^J | \hat{g} | 0^L 0^K \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle \langle K_{14} | \hat{0}_\beta^+ | K_0 \rangle \langle L_{14} | \hat{0}_\beta^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_7, K_{14}} t_{J_7, L_{14}} \\ & + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^J | \hat{g} | 0^K 0^L \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle \langle K_{14} | \hat{0}_\beta^+ | K_0 \rangle \langle L_{14} | \hat{0}_\beta^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_7, L_{14}} t_{J_7, K_{14}} \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^J | \hat{g} | 0^L 0^K \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle \langle K_{14} | \hat{0}_\beta^+ | K_0 \rangle \langle L_{14} | \hat{0}_\beta^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_7, L_{14}} t_{J_7, K_{14}} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_9, J_7, K_{12}, L_{14}) \rangle = \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^J | \hat{g} | 0^K 0^L \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle \langle K_{12} | \hat{0}_\alpha^+ | K_0 \rangle \langle L_{14} | \hat{0}_\beta^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_9, K_{12}} t_{J_7, L_{14}} \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^J | \hat{g} | 0^K 0^L \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle \langle K_{12} | \hat{0}_\alpha^+ | K_0 \rangle \langle L_{14} | \hat{0}_\beta^+ | L_0 \rangle t_{A_9, K_{12}} t_{B_{11}, I_9} t_{J_7, L_{14}} \end{aligned}$$

[illegible]

$$\langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_7, J_8, K_{14}, L_{14}) \rangle =$$

$$\begin{aligned}
& + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^J | \hat{g} | 0^K 0^L \rangle \langle I_7 | \hat{0}_{\bar{\beta}} | I_0 \rangle \langle J_8 | \hat{1}_{\bar{\beta}} | J_0 \rangle \langle K_{14} | \hat{0}_{\bar{\beta}}^+ | K_0 \rangle \langle L_{14} | \hat{0}_{\bar{\beta}}^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_7, K_{14}} t_{J_8, L_{14}} \\
& + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^J | \hat{g} | 0^L 0^K \rangle \langle I_7 | \hat{0}_{\bar{\beta}} | I_0 \rangle \langle J_8 | \hat{1}_{\bar{\beta}} | J_0 \rangle \langle K_{14} | \hat{0}_{\bar{\beta}}^+ | K_0 \rangle \langle L_{14} | \hat{0}_{\bar{\beta}}^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_7, K_{14}} t_{J_8, L_{14}} \\
& + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^J | \hat{g} | 0^K 0^L \rangle \langle I_7 | \hat{0}_{\bar{\beta}} | I_0 \rangle \langle J_8 | \hat{1}_{\bar{\beta}} | J_0 \rangle \langle K_{14} | \hat{0}_{\bar{\beta}}^+ | K_0 \rangle \langle L_{14} | \hat{0}_{\bar{\beta}}^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_7, L_{14}} t_{J_8, K_{14}} \\
& + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^J | \hat{g} | 0^L 0^K \rangle \langle I_7 | \hat{0}_{\bar{\beta}} | I_0 \rangle \langle J_8 | \hat{1}_{\bar{\beta}} | J_0 \rangle \langle K_{14} | \hat{0}_{\bar{\beta}}^+ | K_0 \rangle \langle L_{14} | \hat{0}_{\bar{\beta}}^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_7, L_{14}} t_{J_8, K_{14}}
\end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_9, J_8, K_{12}, L_{14}) \rangle = \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^J | \hat{g} | 0^K 0^L \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_{12} | \hat{0}_\alpha^+ | K_0 \rangle \langle L_{14} | \hat{0}_\beta^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_9, K_{12}} t_{J_8, L_{14}} \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^J | \hat{g} | 0^K 0^L \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_{12} | \hat{0}_\alpha^+ | K_0 \rangle \langle L_{14} | \hat{0}_\beta^+ | L_0 \rangle t_{A_9, K_{12}} t_{B_{11}, I_9} t_{J_8, L_{14}} \end{aligned}$$

[illegible]

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_8, J_7, K_{14}, L_{14}) \rangle = \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^J | \hat{g} | 0^K 0^L \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle \langle K_{14} | \hat{0}_\beta^+ | K_0 \rangle \langle L_{14} | \hat{0}_\beta^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_8, K_{14}} t_{J_7, L_{14}} \\ & + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^J | \hat{g} | 0^L 0^K \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle \langle K_{14} | \hat{0}_\beta^+ | K_0 \rangle \langle L_{14} | \hat{0}_\beta^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_8, K_{14}} t_{J_7, L_{14}} \end{aligned}$$

$$\begin{aligned}
& + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^J | g | 0^K 0^L \rangle \langle I_8 | \hat{1}_{\beta}^{-} | I_0 \rangle \langle J_7 | \hat{0}_{\beta}^{-} | J_0 \rangle \langle K_{14} | \hat{0}_{\beta}^{+} | K_0 \rangle \langle L_{14} | \hat{0}_{\beta}^{+} | L_0 \rangle t_{A_9, B_{11}} t_{I_8, L_{14}} t_{J_7, K_{14}} \\
& + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^J | \hat{g} | 0^L 0^K \rangle \langle I_8 | \hat{1}_{\beta}^{-} | I_0 \rangle \langle J_7 | \hat{0}_{\beta}^{-} | J_0 \rangle \langle K_{14} | \hat{0}_{\beta}^{+} | K_0 \rangle \langle L_{14} | \hat{0}_{\beta}^{+} | L_0 \rangle t_{A_9, B_{11}} t_{I_8, L_{14}} t_{J_7, K_{14}}
\end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_{10}, J_7, K_{12}, L_{14}) \rangle = \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^J | \hat{g} | 0^K 0^L \rangle \langle I_{10} | \hat{1}_\alpha^- | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle \langle K_{12} | \hat{0}_\alpha^+ | K_0 \rangle \langle L_{14} | \hat{0}_\beta^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_{10}, K_{12}} t_{J_7, L_{14}} \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^J | \hat{g} | 0^K 0^L \rangle \langle I_{10} | \hat{1}_\alpha^- | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle \langle K_{12} | \hat{0}_\alpha^+ | K_0 \rangle \langle L_{14} | \hat{0}_\beta^+ | L_0 \rangle t_{A_9, K_{12}} t_{B_{11}, I_{10}} t_{J_7, L_{14}} \end{aligned}$$

[illegible]

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_8, J_8, K_{14}, L_{14}) \rangle = \\
& + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 1^J | \hat{g} | 0^K 0^L \rangle \langle I_8 | \hat{1}_{\beta}^- | I_0 \rangle \langle J_8 | \hat{1}_{\beta}^- | J_0 \rangle \langle K_{14} | \hat{0}_{\beta}^+ | K_0 \rangle \langle L_{14} | \hat{0}_{\beta}^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_8, K_{14}} t_{J_8, L_{14}} \\
& + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 1^J | \hat{g} | 0^L 0^K \rangle \langle I_8 | \hat{1}_{\beta}^- | I_0 \rangle \langle J_8 | \hat{1}_{\beta}^- | J_0 \rangle \langle K_{14} | \hat{0}_{\beta}^+ | K_0 \rangle \langle L_{14} | \hat{0}_{\beta}^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_8, K_{14}} t_{J_8, L_{14}} \\
& + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 1^J | \hat{g} | 0^K 0^L \rangle \langle I_8 | \hat{1}_{\beta}^- | I_0 \rangle \langle J_8 | \hat{1}_{\beta}^- | J_0 \rangle \langle K_{14} | \hat{0}_{\beta}^+ | K_0 \rangle \langle L_{14} | \hat{0}_{\beta}^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_8, L_{14}} t_{J_8, K_{14}} \\
& + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 1^J | \hat{g} | 0^L 0^K \rangle \langle I_8 | \hat{1}_{\beta}^- | I_0 \rangle \langle J_8 | \hat{1}_{\beta}^- | J_0 \rangle \langle K_{14} | \hat{0}_{\beta}^+ | K_0 \rangle \langle L_{14} | \hat{0}_{\beta}^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_8, L_{14}} t_{J_8, K_{14}}
\end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_{10}, J_8, K_{12}, L_{14}) \rangle = \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 1^J | \hat{g} | 0^K 0^L \rangle \langle I_{10} | \hat{1}_\alpha^- | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_{12} | \hat{0}_\alpha^+ | K_0 \rangle \langle L_{14} | \hat{0}_\beta^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_{10}, K_{12}} t_{J_8, L_{14}} \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 1^J | \hat{g} | 0^K 0^L \rangle \langle I_{10} | \hat{1}_\alpha^- | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_{12} | \hat{0}_\alpha^+ | K_0 \rangle \langle L_{14} | \hat{0}_\beta^+ | L_0 \rangle t_{A_9, K_{12}} t_{B_{11}, I_{10}} t_{J_8, L_{14}} \end{aligned}$$

[illegible]

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_7, J_7, K_{14}, L_{13}) \rangle = \\
& + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^J | \hat{g} | 0^K 1^L \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle \langle K_{14} | \hat{0}_\beta^+ | K_0 \rangle \langle L_{13} | \hat{1}_\beta^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_7, K_{14}} t_{J_7, L_{13}} \\
& + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^J | \hat{g} | 1^L 0^K \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle \langle K_{14} | \hat{0}_\beta^+ | K_0 \rangle \langle L_{13} | \hat{1}_\beta^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_7, K_{14}} t_{J_7, L_{13}} \\
& + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^J | \hat{g} | 0^K 1^L \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle \langle K_{14} | \hat{0}_\beta^+ | K_0 \rangle \langle L_{13} | \hat{1}_\beta^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_7, L_{13}} t_{J_7, K_{14}} \\
& + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^J | \hat{g} | 1^L 0^K \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle \langle K_{14} | \hat{0}_\beta^+ | K_0 \rangle \langle L_{13} | \hat{1}_\beta^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_7, L_{13}} t_{J_7, K_{14}}
\end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_9, J_7, K_{12}, L_{13}) \rangle = \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^J | \hat{g} | 0^K 1^L \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle \langle K_{12} | \hat{0}_\alpha^+ | K_0 \rangle \langle L_{13} | \hat{1}_\beta^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_9, K_{12}} t_{J_7, L_{13}} \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^J | \hat{g} | 0^K 1^L \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle \langle K_{12} | \hat{0}_\alpha^+ | K_0 \rangle \langle L_{13} | \hat{1}_\beta^+ | L_0 \rangle t_{A_9, K_{12}} t_{B_{11}, I_9} t_{J_7, L_{13}} \end{aligned}$$

[illegible]

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_7, J_8, K_{14}, L_{13}) \rangle = \\
& + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^J | \hat{g} | 0^K 1^L \rangle \langle I_7 | \hat{0}_{\beta}^- | I_0 \rangle \langle J_8 | \hat{1}_{\beta}^- | J_0 \rangle \langle K_{14} | \hat{0}_{\beta}^+ | K_0 \rangle \langle L_{13} | \hat{1}_{\beta}^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_7, K_{14}} t_{J_8, L_{13}} \\
& + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^J | \hat{g} | 1^L 0^K \rangle \langle I_7 | \hat{0}_{\beta}^- | I_0 \rangle \langle J_8 | \hat{1}_{\beta}^- | J_0 \rangle \langle K_{14} | \hat{0}_{\beta}^+ | K_0 \rangle \langle L_{13} | \hat{1}_{\beta}^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_7, K_{14}} t_{J_8, L_{13}} \\
& + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^J | \hat{g} | 0^K 1^L \rangle \langle I_7 | \hat{0}_{\beta}^- | I_0 \rangle \langle J_8 | \hat{1}_{\beta}^- | J_0 \rangle \langle K_{14} | \hat{0}_{\beta}^+ | K_0 \rangle \langle L_{13} | \hat{1}_{\beta}^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_7, L_{13}} t_{J_8, K_{14}} \\
& + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^J | \hat{g} | 1^L 0^K \rangle \langle I_7 | \hat{0}_{\beta}^- | I_0 \rangle \langle J_8 | \hat{1}_{\beta}^- | J_0 \rangle \langle K_{14} | \hat{0}_{\beta}^+ | K_0 \rangle \langle L_{13} | \hat{1}_{\beta}^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_7, L_{13}} t_{J_8, K_{14}}
\end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_9, J_8, K_{12}, L_{13}) \rangle = \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^J | \hat{g} | 0^K 1^L \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_{12} | \hat{0}_\alpha^+ | K_0 \rangle \langle L_{13} | \hat{1}_\beta^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_9, K_{12}} t_{J_8, L_{13}} \end{aligned}$$

$$+ \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^J | \hat{g} | 0^K 1^L \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_{12} | \hat{0}_\alpha^+ | K_0 \rangle \langle L_{13} | \hat{1}_\beta^+ | L_0 \rangle t_{A_9, K_{12}} t_{B_{11}, I_9} t_{J_8, L_{13}}$$

[illegible]

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_8, J_7, K_{14}, L_{13}) \rangle = \\
& + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^J | \hat{g} | 0^K 1^L \rangle \langle I_8 | \hat{1}_{\beta}^- | I_0 \rangle \langle J_7 | \hat{0}_{\beta}^- | J_0 \rangle \langle K_{14} | \hat{0}_{\beta}^+ | K_0 \rangle \langle L_{13} | \hat{1}_{\beta}^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_8, K_{14}} t_{J_7, L_{13}} \\
& + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^J | \hat{g} | 1^L 0^K \rangle \langle I_8 | \hat{1}_{\beta}^- | I_0 \rangle \langle J_7 | \hat{0}_{\beta}^- | J_0 \rangle \langle K_{14} | \hat{0}_{\beta}^+ | K_0 \rangle \langle L_{13} | \hat{1}_{\beta}^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_8, K_{14}} t_{J_7, L_{13}} \\
& + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^J | \hat{g} | 0^K 1^L \rangle \langle I_8 | \hat{1}_{\beta}^- | I_0 \rangle \langle J_7 | \hat{0}_{\beta}^- | J_0 \rangle \langle K_{14} | \hat{0}_{\beta}^+ | K_0 \rangle \langle L_{13} | \hat{1}_{\beta}^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_8, L_{13}} t_{J_7, K_{14}} \\
& + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^J | \hat{g} | 1^L 0^K \rangle \langle I_8 | \hat{1}_{\beta}^- | I_0 \rangle \langle J_7 | \hat{0}_{\beta}^- | J_0 \rangle \langle K_{14} | \hat{0}_{\beta}^+ | K_0 \rangle \langle L_{13} | \hat{1}_{\beta}^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_8, L_{13}} t_{J_7, K_{14}}
\end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_{10}, J_7, K_{12}, L_{13}) \rangle = \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^J | \hat{g} | 0^K 1^L \rangle \langle I_{10} | \hat{1}_{\alpha}^{-} | I_0 \rangle \langle J_7 | \hat{0}_{\beta}^{-} | J_0 \rangle \langle K_{12} | \hat{0}_{\alpha}^{+} | K_0 \rangle \langle L_{13} | \hat{1}_{\beta}^{+} | L_0 \rangle t_{A_9, B_{11}} t_{I_{10}, K_{12}} t_{J_7, L_{13}} \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^J | \hat{g} | 0^K 1^L \rangle \langle I_{10} | \hat{1}_{\alpha}^{-} | I_0 \rangle \langle J_7 | \hat{0}_{\beta}^{-} | J_0 \rangle \langle K_{12} | \hat{0}_{\alpha}^{+} | K_0 \rangle \langle L_{13} | \hat{1}_{\beta}^{+} | L_0 \rangle t_{A_9, K_{12}} t_{B_{11}, I_{10}} t_{J_7, L_{13}} \end{aligned}$$

[illegible]

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_8, J_8, K_{14}, L_{13}) \rangle = \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 1^J | \hat{g} | 0^K 1^L \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_{14} | \hat{0}_\beta^+ | K_0 \rangle \langle L_{13} | \hat{1}_\beta^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_8, K_{14}} t_{J_8, L_{13}} \\ & + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 1^J | \hat{g} | 1^L 0^K \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_{14} | \hat{0}_\beta^+ | K_0 \rangle \langle L_{13} | \hat{1}_\beta^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_8, K_{14}} t_{J_8, L_{13}} \\ & + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 1^J | \hat{g} | 0^K 1^L \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_{14} | \hat{0}_\beta^+ | K_0 \rangle \langle L_{13} | \hat{1}_\beta^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_8, L_{13}} t_{J_8, K_{14}} \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 1^J | \hat{g} | 1^L 0^K \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_{14} | \hat{0}_\beta^+ | K_0 \rangle \langle L_{13} | \hat{1}_\beta^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_8, L_{13}} t_{J_8, K_{14}} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_{10}, J_8, K_{12}, L_{13}) \rangle = \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 1^J | \hat{g} | 0^K 1^L \rangle \langle I_{10} | \hat{1}_\alpha^- | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_{12} | \hat{0}_\alpha^+ | K_0 \rangle \langle L_{13} | \hat{1}_\beta^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_{10}, K_{12}} t_{J_8, L_{13}} \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 1^J | \hat{g} | 0^K 1^L \rangle \langle I_{10} | \hat{1}_\alpha^- | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_{12} | \hat{0}_\alpha^+ | K_0 \rangle \langle L_{13} | \hat{1}_\beta^+ | L_0 \rangle t_{A_9, K_{12}} t_{B_{11}, I_{10}} t_{J_8, L_{13}} \end{aligned}$$

$$\langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_9, J_9, K_{11}, L_{12}) \rangle =$$

[illegible]

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_7, J_7, K_{13}, L_{14}) \rangle = \\
& + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^J | \hat{g} | 1^K 0^L \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle \langle K_{13} | \hat{1}_\beta^+ | K_0 \rangle \langle L_{14} | \hat{0}_\beta^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_7, K_{13}} t_{J_7, L_{14}} \\
& + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^J | \hat{g} | 0^L 1^K \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle \langle K_{13} | \hat{1}_\beta^+ | K_0 \rangle \langle L_{14} | \hat{0}_\beta^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_7, K_{13}} t_{J_7, L_{14}} \\
& + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^J | \hat{g} | 1^K 0^L \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle \langle K_{13} | \hat{1}_\beta^+ | K_0 \rangle \langle L_{14} | \hat{0}_\beta^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_7, L_{14}} t_{J_7, K_{13}} \\
& + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^J | \hat{g} | 0^L 1^K \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle \langle K_{13} | \hat{1}_\beta^+ | K_0 \rangle \langle L_{14} | \hat{0}_\beta^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_7, L_{14}} t_{J_7, K_{13}}
\end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_9, J_7, K_{11}, L_{14}) \rangle = \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^J | \hat{g} | 1^K 0^L \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle \langle K_{11} | \hat{1}_\alpha^+ | K_0 \rangle \langle L_{14} | \hat{0}_\beta^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_9, K_{11}} t_{J_7, L_{14}} \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^J | \hat{g} | 1^K 0^L \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle \langle K_{11} | \hat{1}_\alpha^+ | K_0 \rangle \langle L_{14} | \hat{0}_\beta^+ | L_0 \rangle t_{A_9, K_{11}} t_{B_{11}, I_9} t_{J_7, L_{14}} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_9, J_{10}, K_{11}, L_{12}) \rangle = \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^J | \hat{g} | 1^K 0^L \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle \langle K_{11} | \hat{1}_\alpha^+ | K_0 \rangle \langle L_{12} | \hat{0}_\alpha^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_9, K_{11}} t_{J_{10}, L_{12}} \\ & + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^J | \hat{g} | 0^L 1^K \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle \langle K_{11} | \hat{1}_\alpha^+ | K_0 \rangle \langle L_{12} | \hat{0}_\alpha^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_9, K_{11}} t_{J_{10}, L_{12}} \end{aligned}$$

[illegible]

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_7, J_8, K_{13}, L_{14}) \rangle = \\
& + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^J | \hat{g} | 1^K 0^L \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_{13} | \hat{1}_\beta^+ | K_0 \rangle \langle L_{14} | \hat{0}_\beta^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_7, K_{13}} t_{J_8, L_{14}} \\
& + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^J | \hat{g} | 0^L 1^K \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_{13} | \hat{1}_\beta^+ | K_0 \rangle \langle L_{14} | \hat{0}_\beta^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_7, K_{13}} t_{J_8, L_{14}} \\
& + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^J | \hat{g} | 1^K 0^L \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_{13} | \hat{1}_\beta^+ | K_0 \rangle \langle L_{14} | \hat{0}_\beta^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_7, L_{14}} t_{J_8, K_{13}} \\
& + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^J | \hat{g} | 0^L 1^K \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_{13} | \hat{1}_\beta^+ | K_0 \rangle \langle L_{14} | \hat{0}_\beta^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_7, L_{14}} t_{J_8, K_{13}}
\end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_9, J_8, K_{11}, L_{14}) \rangle = \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^J | \hat{g} | 1^K 0^L \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_{11} | \hat{1}_\alpha^+ | K_0 \rangle \langle L_{14} | \hat{0}_\beta^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_9, K_{11}} t_{J_8, L_{14}} \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^J | \hat{g} | 1^K 0^L \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_{11} | \hat{1}_\alpha^+ | K_0 \rangle \langle L_{14} | \hat{0}_\beta^+ | L_0 \rangle t_{A_9, K_{11}} t_{B_{11}, I_9} t_{J_8, L_{14}} \end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_{10}, J_9, K_{11}, L_{12}) \rangle = \\
& + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^J | \hat{g} | 1^K 0^L \rangle \langle I_{10} | \hat{1}_\alpha^- | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle \langle K_{11} | \hat{1}_\alpha^+ | K_0 \rangle \langle L_{12} | \hat{0}_\alpha^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_{10}, K_{11}} t_{J_9, L_{12}} \\
& + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^J | \hat{g} | 0^L 1^K \rangle \langle I_{10} | \hat{1}_\alpha^- | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle \langle K_{11} | \hat{1}_\alpha^+ | K_0 \rangle \langle L_{12} | \hat{0}_\alpha^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_{10}, K_{11}} t_{J_9, L_{12}} \\
& + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^J | \hat{g} | 1^K 0^L \rangle \langle I_{10} | \hat{1}_\alpha^- | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle \langle K_{11} | \hat{1}_\alpha^+ | K_0 \rangle \langle L_{12} | \hat{0}_\alpha^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_{10}, L_{12}} t_{J_9, K_{11}} \\
& + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^J | \hat{g} | 0^L 1^K \rangle \langle I_{10} | \hat{1}_\alpha^- | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle \langle K_{11} | \hat{1}_\alpha^+ | K_0 \rangle \langle L_{12} | \hat{0}_\alpha^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_{10}, L_{12}} t_{J_9, K_{11}}
\end{aligned}$$

$$\begin{aligned}
& + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^J | \hat{g} | 1^K 1^L \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle \langle K_{11} | \hat{1}_\alpha^+ | K_0 \rangle \langle L_{11} | \hat{1}_\alpha^+ | L_0 \rangle t_{A_9, L_{11}} t_{B_{11}, I_9} t_{J_9, K_{11}} \\
& + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^J | \hat{g} | 1^L 1^K \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle \langle K_{11} | \hat{1}_\alpha^+ | K_0 \rangle \langle L_{11} | \hat{1}_\alpha^+ | L_0 \rangle t_{A_9, L_{11}} t_{B_{11}, I_9} t_{J_9, K_{11}} \\
& + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^J | \hat{g} | 1^K 1^L \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle \langle K_{11} | \hat{1}_\alpha^+ | K_0 \rangle \langle L_{11} | \hat{1}_\alpha^+ | L_0 \rangle t_{A_9, L_{11}} t_{B_{11}, J_9} t_{I_9, K_{11}} \\
& + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^J | \hat{g} | 1^L 1^K \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle \langle K_{11} | \hat{1}_\alpha^+ | K_0 \rangle \langle L_{11} | \hat{1}_\alpha^+ | L_0 \rangle t_{A_9, L_{11}} t_{B_{11}, J_9} t_{I_9, K_{11}}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_7, J_7, K_{13}, L_{13}) \rangle = \\
& + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^J | \hat{g} | 1^K 1^L \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle \langle K_{13} | \hat{1}_\beta^+ | K_0 \rangle \langle L_{13} | \hat{1}_\beta^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_7, K_{13}} t_{J_7, L_{13}} \\
& + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^J | \hat{g} | 1^L 1^K \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle \langle K_{13} | \hat{1}_\beta^+ | K_0 \rangle \langle L_{13} | \hat{1}_\beta^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_7, K_{13}} t_{J_7, L_{13}} \\
& + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^J | \hat{g} | 1^K 1^L \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle \langle K_{13} | \hat{1}_\beta^+ | K_0 \rangle \langle L_{13} | \hat{1}_\beta^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_7, L_{13}} t_{J_7, K_{13}} \\
& + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^J | \hat{g} | 1^L 1^K \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle \langle K_{13} | \hat{1}_\beta^+ | K_0 \rangle \langle L_{13} | \hat{1}_\beta^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_7, L_{13}} t_{J_7, K_{13}}
\end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_9, J_7, K_{11}, L_{13}) \rangle = \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^J | \hat{g} | 1^K 1^L \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle \langle K_{11} | \hat{1}_\alpha^+ | K_0 \rangle \langle L_{13} | \hat{1}_\beta^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_9, K_{11}} t_{J_7, L_{13}} \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^J | \hat{g} | 1^K 1^L \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle \langle K_{11} | \hat{1}_\alpha^+ | K_0 \rangle \langle L_{13} | \hat{1}_\beta^+ | L_0 \rangle t_{A_9, K_{11}} t_{B_{11}, I_9} t_{J_7, L_{13}} \end{aligned}$$

[illegible]

$$\begin{aligned}
& + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^J | \hat{g} | 1^K 1^L \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle \langle K_{11} | \hat{1}_\alpha^+ | K_0 \rangle \langle L_{11} | \hat{1}_\alpha^+ | L_0 \rangle t_{A_9, L_{11}} t_{B_{11}, J_{10}} t_{I_9, K_{11}} \\
& + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^J | \hat{g} | 1^L 1^K \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle \langle K_{11} | \hat{1}_\alpha^+ | K_0 \rangle \langle L_{11} | \hat{1}_\alpha^+ | L_0 \rangle t_{A_9, L_{11}} t_{B_{11}, J_{10}} t_{I_9, K_{11}}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_7, J_8, K_{13}, L_{13}) \rangle = \\
& + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^J | \hat{g} | 1^K 1^L \rangle \langle I_7 | \hat{0}_{\bar{\beta}} | I_0 \rangle \langle J_8 | \hat{1}_{\bar{\beta}}^- | J_0 \rangle \langle K_{13} | \hat{1}_{\bar{\beta}}^+ | K_0 \rangle \langle L_{13} | \hat{1}_{\bar{\beta}}^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_7, K_{13}} t_{J_8, L_{13}} \\
& + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^J | \hat{g} | 1^L 1^K \rangle \langle I_7 | \hat{0}_{\bar{\beta}} | I_0 \rangle \langle J_8 | \hat{1}_{\bar{\beta}}^- | J_0 \rangle \langle K_{13} | \hat{1}_{\bar{\beta}}^+ | K_0 \rangle \langle L_{13} | \hat{1}_{\bar{\beta}}^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_7, K_{13}} t_{J_8, L_{13}} \\
& + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^J | \hat{g} | 1^K 1^L \rangle \langle I_7 | \hat{0}_{\bar{\beta}} | I_0 \rangle \langle J_8 | \hat{1}_{\bar{\beta}}^- | J_0 \rangle \langle K_{13} | \hat{1}_{\bar{\beta}}^+ | K_0 \rangle \langle L_{13} | \hat{1}_{\bar{\beta}}^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_7, L_{13}} t_{J_8, K_{13}} \\
& + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^J | \hat{g} | 1^L 1^K \rangle \langle I_7 | \hat{0}_{\bar{\beta}} | I_0 \rangle \langle J_8 | \hat{1}_{\bar{\beta}}^- | J_0 \rangle \langle K_{13} | \hat{1}_{\bar{\beta}}^+ | K_0 \rangle \langle L_{13} | \hat{1}_{\bar{\beta}}^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_7, L_{13}} t_{J_8, K_{13}}
\end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_9, J_8, K_{11}, L_{13}) \rangle = \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^J | \hat{g} | 1^K 1^L \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_{11} | \hat{1}_\alpha^+ | K_0 \rangle \langle L_{13} | \hat{1}_\beta^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_9, K_{11}} t_{J_8, L_{13}} \\ & + \frac{1}{48} \sum_I \sum_L \sum_K \sum_J \langle 0^I 1^J | \hat{g} | 1^K 1^L \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_{11} | \hat{1}_\alpha^+ | K_0 \rangle \langle L_{13} | \hat{1}_\beta^+ | L_0 \rangle t_{A_9, K_{11}} t_{B_{11}, I_9} t_{J_8, L_{13}} \end{aligned}$$

[illegible]

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_8, J_7, K_{13}, L_{13}) \rangle = \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^J | \hat{g} | 1^K 1^L \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle \langle K_{13} | \hat{1}_\beta^+ | K_0 \rangle \langle L_{13} | \hat{1}_\beta^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_8, K_{13}} t_{J_7, L_{13}} \\ & + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^J | \hat{g} | 1^L 1^K \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle \langle K_{13} | \hat{1}_\beta^+ | K_0 \rangle \langle L_{13} | \hat{1}_\beta^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_8, K_{13}} t_{J_7, L_{13}} \\ & + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^J | \hat{g} | 1^K 1^L \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle \langle K_{13} | \hat{1}_\beta^+ | K_0 \rangle \langle L_{13} | \hat{1}_\beta^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_8, L_{13}} t_{J_7, K_{13}} \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^J | \hat{g} | 1^L 1^K \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle \langle K_{13} | \hat{1}_\beta^+ | K_0 \rangle \langle L_{13} | \hat{1}_\beta^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_8, L_{13}} t_{J_7, K_{13}} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_{10}, J_7, K_{11}, L_{13}) \rangle = \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^J | \hat{g} | 1^K 1^L \rangle \langle I_{10} | \hat{1}_\alpha^- | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle \langle K_{11} | \hat{1}_\alpha^+ | K_0 \rangle \langle L_{13} | \hat{1}_\beta^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_{10}, K_{11}} t_{J_7, L_{13}} \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^J | \hat{g} | 1^K 1^L \rangle \langle I_{10} | \hat{1}_\alpha^- | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle \langle K_{11} | \hat{1}_\alpha^+ | K_0 \rangle \langle L_{13} | \hat{1}_\beta^+ | L_0 \rangle t_{A_9, K_{11}} t_{B_{11}, I_{10}} t_{J_7, L_{13}} \end{aligned}$$

[illegible]

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_8, J_8, K_{13}, L_{13}) \rangle = \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 1^J | \hat{g} | 1^K 1^L \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_{13} | \hat{1}_\beta^+ | K_0 \rangle \langle L_{13} | \hat{1}_\beta^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_8, K_{13}} t_{J_8, L_{13}} \\ & + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 1^J | \hat{g} | 1^L 1^K \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_{13} | \hat{1}_\beta^+ | K_0 \rangle \langle L_{13} | \hat{1}_\beta^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_8, K_{13}} t_{J_8, L_{13}} \\ & + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 1^J | \hat{g} | 1^K 1^L \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_{13} | \hat{1}_\beta^+ | K_0 \rangle \langle L_{13} | \hat{1}_\beta^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_8, L_{13}} t_{J_8, K_{13}} \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 1^J | \hat{g} | 1^L 1^K \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_{13} | \hat{1}_\beta^+ | K_0 \rangle \langle L_{13} | \hat{1}_\beta^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_8, L_{13}} t_{J_8, K_{13}} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_{10}, J_8, K_{11}, L_{13}) \rangle = \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 1^J | \hat{g} | 1^K 1^L \rangle \langle I_{10} | \hat{1}_\alpha^- | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_{11} | \hat{1}_\alpha^+ | K_0 \rangle \langle L_{13} | \hat{1}_\beta^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_{10}, K_{11}} t_{J_8, L_{13}} \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 1^J | \hat{g} | 1^K 1^L \rangle \langle I_{10} | \hat{1}_\alpha^- | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_{11} | \hat{1}_\alpha^+ | K_0 \rangle \langle L_{13} | \hat{1}_\beta^+ | L_0 \rangle t_{A_9, K_{11}} t_{B_{11}, I_{10}} t_{J_8, L_{13}} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_7, J_9, K_{12}, L_{14}) \rangle = \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^J | \hat{g} | 0^L 0^K \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle \langle K_{12} | \hat{0}_\alpha^+ | K_0 \rangle \langle L_{14} | \hat{0}_\beta^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_7, L_{14}} t_{J_9, K_{12}} \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^J | \hat{g} | 0^L 0^K \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle \langle K_{12} | \hat{0}_\alpha^+ | K_0 \rangle \langle L_{14} | \hat{0}_\beta^+ | L_0 \rangle t_{A_9, K_{12}} t_{B_{11}, J_9} t_{I_7, L_{14}} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_8, J_9, K_{12}, L_{14}) \rangle = \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^J | \hat{g} | 0^L 0^K \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle \langle K_{12} | \hat{0}_\alpha^+ | K_0 \rangle \langle L_{14} | \hat{0}_\beta^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_8, L_{14}} t_{J_9, K_{12}} \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^J | \hat{g} | 0^L 0^K \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle \langle K_{12} | \hat{0}_\alpha^+ | K_0 \rangle \langle L_{14} | \hat{0}_\beta^+ | L_0 \rangle t_{A_9, K_{12}} t_{B_{11}, J_9} t_{I_8, L_{14}} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_7, J_{10}, K_{12}, L_{14}) \rangle = \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^J | \hat{g} | 0^L 0^K \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle \langle K_{12} | \hat{0}_\alpha^+ | K_0 \rangle \langle L_{14} | \hat{0}_\beta^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_7, L_{14}} t_{J_{10}, K_{12}} \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^J | \hat{g} | 0^L 0^K \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle \langle K_{12} | \hat{0}_\alpha^+ | K_0 \rangle \langle L_{14} | \hat{0}_\beta^+ | L_0 \rangle t_{A_9, K_{12}} t_{B_{11}, J_{10}} t_{I_7, L_{14}} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_8, J_{10}, K_{12}, L_{14}) \rangle = \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 1^J | \hat{g} | 0^L 0^K \rangle \langle I_8 | \hat{1}_{\beta}^{-} | I_0 \rangle \langle J_{10} | \hat{1}_{\alpha}^{-} | J_0 \rangle \langle K_{12} | \hat{0}_{\alpha}^{+} | K_0 \rangle \langle L_{14} | \hat{0}_{\beta}^{+} | L_0 \rangle t_{A_9, B_{11}} t_{I_8, L_{14}} t_{J_{10}, K_{12}} \end{aligned}$$

$$+ \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 1^J | \hat{g} | 0^L 0^K \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle \langle K_{12} | \hat{0}_\alpha^+ | K_0 \rangle \langle L_{14} | \hat{0}_\beta^+ | L_0 \rangle t_{A_9, K_{12}} t_{B_{11}, J_{10}} t_{I_8, L_{14}}$$

$$\langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_7, J_9, K_{12}, L_{13}) \rangle =$$

$$+ \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^J | \hat{g} | 1^L 0^K \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle \langle K_{12} | \hat{0}_\alpha^+ | K_0 \rangle \langle L_{13} | \hat{1}_\beta^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_7, L_{13}} t_{J_9, K_{12}} \\ + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^J | \hat{g} | 1^L 0^K \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle \langle K_{12} | \hat{0}_\alpha^+ | K_0 \rangle \langle L_{13} | \hat{1}_\beta^+ | L_0 \rangle t_{A_9, K_{12}} t_{B_{11}, J_9} t_{I_7, L_{13}}$$

$$\langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_8, J_9, K_{12}, L_{13}) \rangle =$$

$$+ \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^J | \hat{g} | 1^L 0^K \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle \langle K_{12} | \hat{0}_\alpha^+ | K_0 \rangle \langle L_{13} | \hat{1}_\beta^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_8, L_{13}} t_{J_9, K_{12}} \\ + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^J | \hat{g} | 1^L 0^K \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle \langle K_{12} | \hat{0}_\alpha^+ | K_0 \rangle \langle L_{13} | \hat{1}_\beta^+ | L_0 \rangle t_{A_9, K_{12}} t_{B_{11}, J_9} t_{I_8, L_{13}}$$

$$\langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_7, J_{10}, K_{12}, L_{13}) \rangle =$$

$$+ \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^J | \hat{g} | 1^L 0^K \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle \langle K_{12} | \hat{0}_\alpha^+ | K_0 \rangle \langle L_{13} | \hat{1}_\beta^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_7, L_{13}} t_{J_{10}, K_{12}} \\ + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^J | \hat{g} | 1^L 0^K \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle \langle K_{12} | \hat{0}_\alpha^+ | K_0 \rangle \langle L_{13} | \hat{1}_\beta^+ | L_0 \rangle t_{A_9, K_{12}} t_{B_{11}, J_{10}} t_{I_7, L_{13}}$$

$$\langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_8, J_{10}, K_{12}, L_{13}) \rangle =$$

$$+ \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 1^J | \hat{g} | 1^L 0^K \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle \langle K_{12} | \hat{0}_\alpha^+ | K_0 \rangle \langle L_{13} | \hat{1}_\beta^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_8, L_{13}} t_{J_{10}, K_{12}} \\ + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 1^J | \hat{g} | 1^L 0^K \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle \langle K_{12} | \hat{0}_\alpha^+ | K_0 \rangle \langle L_{13} | \hat{1}_\beta^+ | L_0 \rangle t_{A_9, K_{12}} t_{B_{11}, J_{10}} t_{I_8, L_{13}}$$

$$\langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_7, J_9, K_{11}, L_{14}) \rangle =$$

$$+ \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^J | \hat{g} | 0^L 1^K \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle \langle K_{11} | \hat{1}_\alpha^+ | K_0 \rangle \langle L_{14} | \hat{0}_\beta^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_7, L_{14}} t_{J_9, K_{11}} \\ + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^J | \hat{g} | 0^L 1^K \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle \langle K_{11} | \hat{1}_\alpha^+ | K_0 \rangle \langle L_{14} | \hat{0}_\beta^+ | L_0 \rangle t_{A_9, K_{11}} t_{B_{11}, J_9} t_{I_7, L_{14}}$$

$$\langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_8, J_9, K_{11}, L_{14}) \rangle =$$

$$\begin{aligned}
& + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^J | \hat{g} | 0^L 1^K \rangle \langle I_8 | \hat{1}_{\beta}^{-} | I_0 \rangle \langle J_9 | \hat{0}_{\alpha}^{-} | J_0 \rangle \langle K_{11} | \hat{1}_{\alpha}^{+} | K_0 \rangle \langle L_{14} | \hat{0}_{\beta}^{+} | L_0 \rangle t_{A_9, B_{11}} t_{I_8, L_{14}} t_{J_9, K_{11}} \\
& + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^J | \hat{g} | 0^L 1^K \rangle \langle I_8 | \hat{1}_{\beta}^{-} | I_0 \rangle \langle J_9 | \hat{0}_{\alpha}^{-} | J_0 \rangle \langle K_{11} | \hat{1}_{\alpha}^{+} | K_0 \rangle \langle L_{14} | \hat{0}_{\beta}^{+} | L_0 \rangle t_{A_9, K_{11}} t_{B_{11}, J_9} t_{I_8, L_{14}}
\end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_7, J_{10}, K_{11}, L_{14}) \rangle = \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^J | \hat{g} | 0^L 1^K \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle \langle K_{11} | \hat{1}_\alpha^+ | K_0 \rangle \langle L_{14} | \hat{0}_\beta^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_7, L_{14}} t_{J_{10}, K_{11}} \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^J | \hat{g} | 0^L 1^K \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle \langle K_{11} | \hat{1}_\alpha^+ | K_0 \rangle \langle L_{14} | \hat{0}_\beta^+ | L_0 \rangle t_{A_9, K_{11}} t_{B_{11}, J_{10}} t_{I_7, L_{14}} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_8, J_{10}, K_{11}, L_{14}) \rangle = \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 1^J | \hat{g} | 0^L 1^K \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle \langle K_{11} | \hat{1}_\alpha^+ | K_0 \rangle \langle L_{14} | \hat{0}_\beta^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_8, L_{14}} t_{J_{10}, K_{11}} \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 1^J | \hat{g} | 0^L 1^K \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle \langle K_{11} | \hat{1}_\alpha^+ | K_0 \rangle \langle L_{14} | \hat{0}_\beta^+ | L_0 \rangle t_{A_9, K_{11}} t_{B_{11}, J_{10}} t_{I_8, L_{14}} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_7, J_9, K_{11}, L_{13}) \rangle = \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^J | \hat{g} | 1^L 1^K \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle \langle K_{11} | \hat{1}_\alpha^+ | K_0 \rangle \langle L_{13} | \hat{1}_\beta^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_7, L_{13}} t_{J_9, K_{11}} \\ & + \frac{1}{48} \sum_I \sum_L \sum_K \sum_L \langle 0^I 0^J | \hat{g} | 1^L 1^K \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle \langle K_{11} | \hat{1}_\alpha^+ | K_0 \rangle \langle L_{13} | \hat{1}_\beta^+ | L_0 \rangle t_{A_9, K_{11}} t_{B_{11}, J_9} t_{I_7, L_{13}} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_8, J_9, K_{11}, L_{13}) \rangle = \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^J | \hat{g} | 1^L 1^K \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle \langle K_{11} | \hat{1}_\alpha^+ | K_0 \rangle \langle L_{13} | \hat{1}_\beta^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_8, L_{13}} t_{J_9, K_{11}} \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^J | \hat{g} | 1^L 1^K \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle \langle K_{11} | \hat{1}_\alpha^+ | K_0 \rangle \langle L_{13} | \hat{1}_\beta^+ | L_0 \rangle t_{A_9, K_{11}} t_{B_{11}, J_9} t_{I_8, L_{13}} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_7, J_{10}, K_{11}, L_{13}) \rangle = \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^J | \hat{g} | 1^L 1^K \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle \langle K_{11} | \hat{1}_\alpha^+ | K_0 \rangle \langle L_{13} | \hat{1}_\beta^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_7, L_{13}} t_{J_{10}, K_{11}} \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^J | \hat{g} | 1^L 1^K \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle \langle K_{11} | \hat{1}_\alpha^+ | K_0 \rangle \langle L_{13} | \hat{1}_\beta^+ | L_0 \rangle t_{A_9, K_{11}} t_{B_{11}, J_{10}} t_{I_7, L_{13}} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_8, J_{10}, K_{11}, L_{13}) \rangle = \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 1^J | \hat{g} | 1^L 1^K \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle \langle K_{11} | \hat{1}_\alpha^+ | K_0 \rangle \langle L_{13} | \hat{1}_\beta^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_8, L_{13}} t_{J_{10}, K_{11}} \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 1^J | \hat{g} | 1^L 1^K \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle \langle K_{11} | \hat{1}_\alpha^+ | K_0 \rangle \langle L_{13} | \hat{1}_\beta^+ | L_0 \rangle t_{A_9, K_{11}} t_{B_{11}, J_{10}} t_{I_8, L_{13}} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_{14}, J_9, K_7, L_{12}) \rangle = \\ & + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^J | \hat{g} | 0^K 0^L \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle \langle K_7 | \hat{0}_\beta^- | K_0 \rangle \langle L_{12} | \hat{0}_\alpha^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_{14}, K_7} t_{J_9, L_{12}} \\ & + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^J | \hat{g} | 0^K 0^L \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle \langle K_7 | \hat{0}_\beta^- | K_0 \rangle \langle L_{12} | \hat{0}_\alpha^+ | L_0 \rangle t_{A_9, L_{12}} t_{B_{11}, J_9} t_{I_{14}, K_7} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_{14}, J_9, K_8, L_{12}) \rangle = \\ & + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^J | \hat{g} | 1^K 0^L \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle \langle K_8 | \hat{1}_\beta^- | K_0 \rangle \langle L_{12} | \hat{0}_\alpha^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_{14}, K_8} t_{J_9, L_{12}} \\ & + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^J | \hat{g} | 1^K 0^L \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle \langle K_8 | \hat{1}_\beta^- | K_0 \rangle \langle L_{12} | \hat{0}_\alpha^+ | L_0 \rangle t_{A_9, L_{12}} t_{B_{11}, J_9} t_{I_{14}, K_8} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_{14}, J_{10}, K_7, L_{12}) \rangle = \\ & + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^J | \hat{g} | 0^K 0^L \rangle \langle I_{14} | \hat{\theta}_\beta^+ | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle \langle K_7 | \hat{\theta}_\beta^- | K_0 \rangle \langle L_{12} | \hat{\theta}_\alpha^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_{14}, K_7} t_{J_{10}, L_{12}} \\ & + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^J | \hat{g} | 0^K 0^L \rangle \langle I_{14} | \hat{\theta}_\beta^+ | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle \langle K_7 | \hat{\theta}_\beta^- | K_0 \rangle \langle L_{12} | \hat{\theta}_\alpha^+ | L_0 \rangle t_{A_9, L_{12}} t_{B_{11}, J_{10}} t_{I_{14}, K_7} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_{14}, J_{10}, K_8, L_{12}) \rangle = \\ & + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^1 I^1 J | \hat{g} | 1^K 0^L \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle \langle K_8 | \hat{1}_\beta^- | K_0 \rangle \langle L_{12} | \hat{0}_\alpha^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_{14}, K_8} t_{J_{10}, L_{12}} \\ & + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^1 I^1 J | \hat{g} | 1^K 0^L \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle \langle K_8 | \hat{1}_\beta^- | K_0 \rangle \langle L_{12} | \hat{0}_\alpha^+ | L_0 \rangle t_{A_9, L_{12}} t_{B_{11}, J_{10}} t_{I_{14}, K_8} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_{13}, J_9, K_7, L_{12}) \rangle = \\ & + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^J | \hat{g} | 0^K 0^L \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle \langle K_7 | \hat{0}_\beta^- | K_0 \rangle \langle L_{12} | \hat{0}_\alpha^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_{13}, K_7} t_{J_9, L_{12}} \\ & + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^J | \hat{g} | 0^K 0^L \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle \langle K_7 | \hat{0}_\beta^- | K_0 \rangle \langle L_{12} | \hat{0}_\alpha^+ | L_0 \rangle t_{A_9, L_{12}} t_{B_{11}, J_9} t_{I_{13}, K_7} \end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_{14}, J_{10}, K_8, L_{11}) \rangle = \\
& + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^J | \hat{g} | 1^K 1^L \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle \langle K_8 | \hat{1}_\beta^- | K_0 \rangle \langle L_{11} | \hat{1}_\alpha^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_{14}, K_8} t_{J_{10}, L_{11}} \\
& + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^J | \hat{g} | 1^K 1^L \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle \langle K_8 | \hat{1}_\beta^- | K_0 \rangle \langle L_{11} | \hat{1}_\alpha^+ | L_0 \rangle t_{A_9, L_{11}} t_{B_{11}, J_{10}} t_{I_{14}, K_8}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_{13}, J_9, K_7, L_{11}) \rangle = \\
& + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^J | \hat{g} | 0^K 1^L \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle \langle K_7 | \hat{0}_\beta^- | K_0 \rangle \langle L_{11} | \hat{1}_\alpha^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_{13}, K_7} t_{J_9, L_{11}} \\
& + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^J | \hat{g} | 0^K 1^L \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle \langle K_7 | \hat{0}_\beta^- | K_0 \rangle \langle L_{11} | \hat{1}_\alpha^+ | L_0 \rangle t_{A_9, L_{11}} t_{B_{11}, J_9} t_{I_{13}, K_7}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_{13}, J_9, K_8, L_{11}) \rangle = \\
& + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^J | \hat{g} | 1^K 1^L \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle \langle K_8 | \hat{1}_\beta^- | K_0 \rangle \langle L_{11} | \hat{1}_\alpha^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_{13}, K_8} t_{J_9, L_{11}} \\
& + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^J | \hat{g} | 1^K 1^L \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle \langle K_8 | \hat{1}_\beta^- | K_0 \rangle \langle L_{11} | \hat{1}_\alpha^+ | L_0 \rangle t_{A_9, L_{11}} t_{B_{11}, J_9} t_{I_{13}, K_8}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_{13}, J_{10}, K_7, L_{11}) \rangle = \\
& + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 1^J | \hat{g} | 0^K 1^L \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle \langle K_7 | \hat{0}_\beta^- | K_0 \rangle \langle L_{11} | \hat{1}_\alpha^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_{13}, K_7} t_{J_{10}, L_{11}} \\
& + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 1^J | \hat{g} | 0^K 1^L \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle \langle K_7 | \hat{0}_\beta^- | K_0 \rangle \langle L_{11} | \hat{1}_\alpha^+ | L_0 \rangle t_{A_9, L_{11}} t_{B_{11}, J_{10}} t_{I_{13}, K_7}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_{13}, J_{10}, K_8, L_{11}) \rangle = \\
& + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 1^J | \hat{g} | 1^K 1^L \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle \langle K_8 | \hat{1}_\beta^- | K_0 \rangle \langle L_{11} | \hat{1}_\alpha^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_{13}, K_8} t_{J_{10}, L_{11}} \\
& + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 1^J | \hat{g} | 1^K 1^L \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle \langle K_8 | \hat{1}_\beta^- | K_0 \rangle \langle L_{11} | \hat{1}_\alpha^+ | L_0 \rangle t_{A_9, L_{11}} t_{B_{11}, J_{10}} t_{I_{13}, K_8}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_{14}, J_7, K_9, L_{12}) \rangle = \\
& + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^K | \hat{g} | 0^J 0^L \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle \langle K_9 | \hat{0}_\alpha^- | K_0 \rangle \langle L_{12} | \hat{0}_\alpha^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_{14}, J_7} t_{K_9, L_{12}}
\end{aligned}$$

$$+ \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^K | \hat{g} | 0^J 0^L \rangle \langle I_{14} | \hat{\theta}_{\beta}^{+} | I_0 \rangle \langle J_7 | \hat{\theta}_{\beta}^{-} | J_0 \rangle \langle K_9 | \hat{\theta}_{\alpha}^{-} | K_0 \rangle \langle L_{12} | \hat{\theta}_{\alpha}^{+} | L_0 \rangle t_{A_9, L_{12}} t_{B_{11}, K_9} t_{I_{14}, J_7}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_{14}, J_8, K_9, L_{12}) \rangle = \\ & + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^K | \hat{g} | 1^J 0^L \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_9 | \hat{0}_\alpha^- | K_0 \rangle \langle L_{12} | \hat{0}_\alpha^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_{14}, J_8} t_{K_9, L_{12}} \\ & + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^K | \hat{g} | 1^J 0^L \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_9 | \hat{0}_\alpha^- | K_0 \rangle \langle L_{12} | \hat{0}_\alpha^+ | L_0 \rangle t_{A_9, L_{12}} t_{B_{11}, K_9} t_{I_{14}, J_8} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_{14}, J_7, K_{10}, L_{12}) \rangle = \\ & + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^K | \hat{g} | 0^J 0^L \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle \langle K_{10} | \hat{1}_\alpha^- | K_0 \rangle \langle L_{12} | \hat{0}_\alpha^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_{14}, J_7} t_{K_{10}, L_{12}} \\ & + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^K | \hat{g} | 0^J 0^L \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle \langle K_{10} | \hat{1}_\alpha^- | K_0 \rangle \langle L_{12} | \hat{0}_\alpha^+ | L_0 \rangle t_{A_9, L_{12}} t_{B_{11}, K_{10}} t_{I_{14}, J_7} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_{14}, J_8, K_{10}, L_{12}) \rangle = \\ & + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^K | \hat{g} | 1^J 0^L \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_{10} | \hat{1}_\alpha^- | K_0 \rangle \langle L_{12} | \hat{0}_\alpha^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_{14}, J_8} t_{K_{10}, L_{12}} \\ & + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^K | \hat{g} | 1^J 0^L \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_{10} | \hat{1}_\alpha^- | K_0 \rangle \langle L_{12} | \hat{0}_\alpha^+ | L_0 \rangle t_{A_9, L_{12}} t_{B_{11}, K_{10}} t_{I_{14}, J_8} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_{13}, J_7, K_9, L_{12}) \rangle = \\ & + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^K | \hat{g} | 0^J 0^L \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle \langle K_9 | \hat{0}_\alpha^- | K_0 \rangle \langle L_{12} | \hat{0}_\alpha^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_{13}, J_7} t_{K_9, L_{12}} \\ & + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^K | \hat{g} | 0^J 0^L \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle \langle K_9 | \hat{0}_\alpha^- | K_0 \rangle \langle L_{12} | \hat{0}_\alpha^+ | L_0 \rangle t_{A_9, L_{12}} t_{B_{11}, K_9} t_{I_{13}, J_7} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_{13}, J_8, K_9, L_{12}) \rangle = \\ & + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^K | \hat{g} | 1^J 0^L \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_9 | \hat{0}_\alpha^- | K_0 \rangle \langle L_{12} | \hat{0}_\alpha^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_{13}, J_8} t_{K_9, L_{12}} \\ & + \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^K | \hat{g} | 1^J 0^L \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_9 | \hat{0}_\alpha^- | K_0 \rangle \langle L_{12} | \hat{0}_\alpha^+ | L_0 \rangle t_{A_9, L_{12}} t_{B_{11}, K_9} t_{I_{13}, J_8} \end{aligned}$$

$$\langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_{13}, J_7, K_{10}, L_{12}) \rangle =$$

$$+ \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^J | \hat{g} | 1^L 1^K \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_{13} | \hat{1}_\beta^+ | J_0 \rangle \langle K_8 | \hat{1}_\beta^- | K_0 \rangle \langle L_{11} | \hat{1}_\alpha^+ | L_0 \rangle t_{A_9, L_{11}} t_{B_{11}, I_9} t_{J_{13}, K_8}$$

$$\langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_{10}, J_{13}, K_7, L_{11}) \rangle =$$

$$+ \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 1^J | \hat{g} | 1^L 0^K \rangle \langle I_{10} | \hat{1}_\alpha^- | I_0 \rangle \langle J_{13} | \hat{1}_\beta^+ | J_0 \rangle \langle K_7 | \hat{0}_\beta^- | K_0 \rangle \langle L_{11} | \hat{1}_\alpha^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_{10}, L_{11}} t_{J_{13}, K_7}$$

$$+ \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 1^J | \hat{g} | 1^L 0^K \rangle \langle I_{10} | \hat{1}_\alpha^- | I_0 \rangle \langle J_{13} | \hat{1}_\beta^+ | J_0 \rangle \langle K_7 | \hat{0}_\beta^- | K_0 \rangle \langle L_{11} | \hat{1}_\alpha^+ | L_0 \rangle t_{A_9, L_{11}} t_{B_{11}, I_{10}} t_{J_{13}, K_7}$$

$$\langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_{10}, J_{13}, K_8, L_{11}) \rangle =$$

$$+ \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 1^J | \hat{g} | 1^L 1^K \rangle \langle I_{10} | \hat{1}_\alpha^- | I_0 \rangle \langle J_{13} | \hat{1}_\beta^+ | J_0 \rangle \langle K_8 | \hat{1}_\beta^- | K_0 \rangle \langle L_{11} | \hat{1}_\alpha^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_{10}, L_{11}} t_{J_{13}, K_8}$$

$$+ \frac{-1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 1^J | \hat{g} | 1^L 1^K \rangle \langle I_{10} | \hat{1}_\alpha^- | I_0 \rangle \langle J_{13} | \hat{1}_\beta^+ | J_0 \rangle \langle K_8 | \hat{1}_\beta^- | K_0 \rangle \langle L_{11} | \hat{1}_\alpha^+ | L_0 \rangle t_{A_9, L_{11}} t_{B_{11}, I_{10}} t_{J_{13}, K_8}$$

$$\langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_7, J_{14}, K_9, L_{12}) \rangle =$$

$$+ \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^K | \hat{g} | 0^J 0^L \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle \langle K_9 | \hat{0}_\alpha^- | K_0 \rangle \langle L_{12} | \hat{0}_\alpha^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_7, J_{14}} t_{K_9, L_{12}}$$

$$+ \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^K | \hat{g} | 0^J 0^L \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle \langle K_9 | \hat{0}_\alpha^- | K_0 \rangle \langle L_{12} | \hat{0}_\alpha^+ | L_0 \rangle t_{A_9, L_{12}} t_{B_{11}, K_9} t_{I_7, J_{14}}$$

$$\langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_8, J_{14}, K_9, L_{12}) \rangle =$$

$$+ \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^K | \hat{g} | 0^J 0^L \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle \langle K_9 | \hat{0}_\alpha^- | K_0 \rangle \langle L_{12} | \hat{0}_\alpha^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_8, J_{14}} t_{K_9, L_{12}}$$

$$+ \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^K | \hat{g} | 0^J 0^L \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle \langle K_9 | \hat{0}_\alpha^- | K_0 \rangle \langle L_{12} | \hat{0}_\alpha^+ | L_0 \rangle t_{A_9, L_{12}} t_{B_{11}, K_9} t_{I_8, J_{14}}$$

$$\langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_7, J_{14}, K_{10}, L_{12}) \rangle =$$

$$+ \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^K | \hat{g} | 0^J 0^L \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle \langle K_{10} | \hat{1}_\alpha^- | K_0 \rangle \langle L_{12} | \hat{0}_\alpha^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_7, J_{14}} t_{K_{10}, L_{12}}$$

$$+ \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^K | \hat{g} | 0^J 0^L \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle \langle K_{10} | \hat{1}_\alpha^- | K_0 \rangle \langle L_{12} | \hat{0}_\alpha^+ | L_0 \rangle t_{A_9, L_{12}} t_{B_{11}, K_{10}} t_{I_7, J_{14}}$$

$$\langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_8, J_{14}, K_{10}, L_{12}) \rangle =$$

$$\begin{aligned}
& + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 1^K | \hat{g} | 0^J 0^L \rangle \langle I_8 | \hat{1}_{\beta}^- | I_0 \rangle \langle J_{14} | \hat{0}_{\beta}^+ | J_0 \rangle \langle K_{10} | \hat{1}_{\alpha}^- | K_0 \rangle \langle L_{12} | \hat{0}_{\alpha}^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_8, J_{14}} t_{K_{10}, L_{12}} \\
& + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 1^K | \hat{g} | 0^J 0^L \rangle \langle I_8 | \hat{1}_{\beta}^- | I_0 \rangle \langle J_{14} | \hat{0}_{\beta}^+ | J_0 \rangle \langle K_{10} | \hat{1}_{\alpha}^- | K_0 \rangle \langle L_{12} | \hat{0}_{\alpha}^+ | L_0 \rangle t_{A_9, L_{12}} t_{B_{11}, K_{10}} t_{I_8, J_{14}}
\end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_7, J_{13}, K_9, L_{12}) \rangle = \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^K | \hat{g} | 1^J 0^L \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_{13} | \hat{1}_\beta^+ | J_0 \rangle \langle K_9 | \hat{0}_\alpha^- | K_0 \rangle \langle L_{12} | \hat{0}_\alpha^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_7, J_{13}} t_{K_9, L_{12}} \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^K | \hat{g} | 1^J 0^L \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_{13} | \hat{1}_\beta^+ | J_0 \rangle \langle K_9 | \hat{0}_\alpha^- | K_0 \rangle \langle L_{12} | \hat{0}_\alpha^+ | L_0 \rangle t_{A_9, L_{12}} t_{B_{11}, K_9} t_{I_7, J_{13}} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_8, J_{13}, K_9, L_{12}) \rangle = \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^K | \hat{g} | 1^J 0^L \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_{13} | \hat{1}_\beta^+ | J_0 \rangle \langle K_9 | \hat{0}_\alpha^- | K_0 \rangle \langle L_{12} | \hat{0}_\alpha^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_8, J_{13}} t_{K_9, L_{12}} \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^K | \hat{g} | 1^J 0^L \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_{13} | \hat{1}_\beta^+ | J_0 \rangle \langle K_9 | \hat{0}_\alpha^- | K_0 \rangle \langle L_{12} | \hat{0}_\alpha^+ | L_0 \rangle t_{A_9, L_{12}} t_{B_{11}, K_9} t_{I_8, J_{13}} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_7, J_{13}, K_{10}, L_{12}) \rangle = \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^K | \hat{g} | 1^J 0^L \rangle \langle I_7 | \hat{0}_{\bar{\beta}}^- | I_0 \rangle \langle J_{13} | \hat{1}_{\bar{\beta}}^+ | J_0 \rangle \langle K_{10} | \hat{1}_{\alpha}^- | K_0 \rangle \langle L_{12} | \hat{0}_{\alpha}^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_7, J_{13}} t_{K_{10}, L_{12}} \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^K | \hat{g} | 1^J 0^L \rangle \langle I_7 | \hat{0}_{\bar{\beta}}^- | I_0 \rangle \langle J_{13} | \hat{1}_{\bar{\beta}}^+ | J_0 \rangle \langle K_{10} | \hat{1}_{\alpha}^- | K_0 \rangle \langle L_{12} | \hat{0}_{\alpha}^+ | L_0 \rangle t_{A_9, L_{12}} t_{B_{11}, K_{10}} t_{I_7, J_{13}} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_8, J_{13}, K_{10}, L_{12}) \rangle = \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 1^K | \hat{g} | 1^J 0^L \rangle \langle I_8 | \hat{1}_{\beta}^- | I_0 \rangle \langle J_{13} | \hat{1}_{\beta}^+ | J_0 \rangle \langle K_{10} | \hat{1}_{\alpha}^- | K_0 \rangle \langle L_{12} | \hat{0}_{\alpha}^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_8, J_{13}} t_{K_{10}, L_{12}} \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 1^K | \hat{g} | 1^J 0^L \rangle \langle I_8 | \hat{1}_{\beta}^- | I_0 \rangle \langle J_{13} | \hat{1}_{\beta}^+ | J_0 \rangle \langle K_{10} | \hat{1}_{\alpha}^- | K_0 \rangle \langle L_{12} | \hat{0}_{\alpha}^+ | L_0 \rangle t_{A_9, L_{12}} t_{B_{11}, K_{10}} t_{I_8, J_{13}} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_7, J_{14}, K_9, L_{11}) \rangle = \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^K | \hat{g} | 0^J 1^L \rangle \langle I_7 | \hat{0}_{\bar{\beta}}^- | I_0 \rangle \langle J_{14} | \hat{0}_{\bar{\beta}}^+ | J_0 \rangle \langle K_9 | \hat{0}_{\alpha}^- | K_0 \rangle \langle L_{11} | \hat{1}_{\alpha}^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_7, J_{14}} t_{K_9, L_{11}} \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^K | \hat{g} | 0^J 1^L \rangle \langle I_7 | \hat{0}_{\bar{\beta}}^- | I_0 \rangle \langle J_{14} | \hat{0}_{\bar{\beta}}^+ | J_0 \rangle \langle K_9 | \hat{0}_{\alpha}^- | K_0 \rangle \langle L_{11} | \hat{1}_{\alpha}^+ | L_0 \rangle t_{A_9, L_{11}} t_{B_{11}, K_9} t_{I_7, J_{14}} \end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_9, J_8, K_{13}, L_{12}) \rangle = \\
& + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^J | \hat{g} | 0^L 1^K \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_{13} | \hat{1}_\beta^+ | K_0 \rangle \langle L_{12} | \hat{0}_\alpha^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_9, L_{12}} t_{J_8, K_{13}} \\
& + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^J | \hat{g} | 0^L 1^K \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_{13} | \hat{1}_\beta^+ | K_0 \rangle \langle L_{12} | \hat{0}_\alpha^+ | L_0 \rangle t_{A_9, L_{12}} t_{B_{11}, I_9} t_{J_8, K_{13}}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_{10}, J_7, K_{13}, L_{12}) \rangle = \\
& + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^J | \hat{g} | 0^L 1^K \rangle \langle I_{10} | \hat{1}_\alpha^- | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle \langle K_{13} | \hat{1}_\beta^+ | K_0 \rangle \langle L_{12} | \hat{0}_\alpha^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_{10}, L_{12}} t_{J_7, K_{13}} \\
& + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^J | \hat{g} | 0^L 1^K \rangle \langle I_{10} | \hat{1}_\alpha^- | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle \langle K_{13} | \hat{1}_\beta^+ | K_0 \rangle \langle L_{12} | \hat{0}_\alpha^+ | L_0 \rangle t_{A_9, L_{12}} t_{B_{11}, I_{10}} t_{J_7, K_{13}}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_{10}, J_8, K_{13}, L_{12}) \rangle = \\
& + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 1^J | \hat{g} | 0^L 1^K \rangle \langle I_{10} | \hat{1}_\alpha^- | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_{13} | \hat{1}_\beta^+ | K_0 \rangle \langle L_{12} | \hat{0}_\alpha^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_{10}, L_{12}} t_{J_8, K_{13}} \\
& + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 1^J | \hat{g} | 0^L 1^K \rangle \langle I_{10} | \hat{1}_\alpha^- | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_{13} | \hat{1}_\beta^+ | K_0 \rangle \langle L_{12} | \hat{0}_\alpha^+ | L_0 \rangle t_{A_9, L_{12}} t_{B_{11}, I_{10}} t_{J_8, K_{13}}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_9, J_7, K_{14}, L_{11}) \rangle = \\
& + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^J | \hat{g} | 1^L 0^K \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle \langle K_{14} | \hat{0}_\beta^+ | K_0 \rangle \langle L_{11} | \hat{1}_\alpha^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_9, L_{11}} t_{J_7, K_{14}} \\
& + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^J | \hat{g} | 1^L 0^K \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle \langle K_{14} | \hat{0}_\beta^+ | K_0 \rangle \langle L_{11} | \hat{1}_\alpha^+ | L_0 \rangle t_{A_9, L_{11}} t_{B_{11}, I_9} t_{J_7, K_{14}}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_9, J_8, K_{14}, L_{11}) \rangle = \\
& + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^J | \hat{g} | 1^L 0^K \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_{14} | \hat{0}_\beta^+ | K_0 \rangle \langle L_{11} | \hat{1}_\alpha^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_9, L_{11}} t_{J_8, K_{14}} \\
& + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^J | \hat{g} | 1^L 0^K \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_{14} | \hat{0}_\beta^+ | K_0 \rangle \langle L_{11} | \hat{1}_\alpha^+ | L_0 \rangle t_{A_9, L_{11}} t_{B_{11}, I_9} t_{J_8, K_{14}}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_{10}, J_7, K_{14}, L_{11}) \rangle = \\
& + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^J | \hat{g} | 1^L 0^K \rangle \langle I_{10} | \hat{1}_\alpha^- | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle \langle K_{14} | \hat{0}_\beta^+ | K_0 \rangle \langle L_{11} | \hat{1}_\alpha^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_{10}, L_{11}} t_{J_7, K_{14}}
\end{aligned}$$

$$+ \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^J | \hat{g} | 1^L 0^K \rangle \langle I_{10} | \hat{1}_\alpha^- | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle \langle K_{14} | \hat{0}_\beta^+ | K_0 \rangle \langle L_{11} | \hat{1}_\alpha^+ | L_0 \rangle t_{A_9, L_{11}} t_{B_{11}, I_{10}} t_{J_7, K_{14}}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_{10}, J_8, K_{14}, L_{11}) \rangle = \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 1^J | \hat{g} | 1^L 0^K \rangle \langle I_{10} | \hat{1}_\alpha^- | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_{14} | \hat{0}_\beta^+ | K_0 \rangle \langle L_{11} | \hat{1}_\alpha^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_{10}, L_{11}} t_{J_8, K_{14}} \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 1^J | \hat{g} | 1^L 0^K \rangle \langle I_{10} | \hat{1}_\alpha^- | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_{14} | \hat{0}_\beta^+ | K_0 \rangle \langle L_{11} | \hat{1}_\alpha^+ | L_0 \rangle t_{A_9, L_{11}} t_{B_{11}, I_{10}} t_{J_8, K_{14}} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_9, J_7, K_{13}, L_{11}) \rangle = \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^J | \hat{g} | 1^L 1^K \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle \langle K_{13} | \hat{1}_\beta^+ | K_0 \rangle \langle L_{11} | \hat{1}_\alpha^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_9, L_{11}} t_{J_7, K_{13}} \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^J | \hat{g} | 1^L 1^K \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle \langle K_{13} | \hat{1}_\beta^+ | K_0 \rangle \langle L_{11} | \hat{1}_\alpha^+ | L_0 \rangle t_{A_9, L_{11}} t_{B_{11}, I_9} t_{J_7, K_{13}} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_9, J_8, K_{13}, L_{11}) \rangle = \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^J | \hat{g} | 1^L 1^K \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_{13} | \hat{1}_\beta^+ | K_0 \rangle \langle L_{11} | \hat{1}_\alpha^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_9, L_{11}} t_{J_8, K_{13}} \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^J | \hat{g} | 1^L 1^K \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_{13} | \hat{1}_\beta^+ | K_0 \rangle \langle L_{11} | \hat{1}_\alpha^+ | L_0 \rangle t_{A_9, L_{11}} t_{B_{11}, I_9} t_{J_8, K_{13}} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_{10}, J_7, K_{13}, L_{11}) \rangle = \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^J | \hat{g} | 1^L 1^K \rangle \langle I_{10} | \hat{1}_\alpha^- | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle \langle K_{13} | \hat{1}_\beta^+ | K_0 \rangle \langle L_{11} | \hat{1}_\alpha^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_{10}, L_{11}} t_{J_7, K_{13}} \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^J | \hat{g} | 1^L 1^K \rangle \langle I_{10} | \hat{1}_\alpha^- | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle \langle K_{13} | \hat{1}_\beta^+ | K_0 \rangle \langle L_{11} | \hat{1}_\alpha^+ | L_0 \rangle t_{A_9, L_{11}} t_{B_{11}, I_{10}} t_{J_7, K_{13}} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_{10}, J_8, K_{13}, L_{11}) \rangle = \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 1^J | \hat{g} | 1^L 1^K \rangle \langle I_{10} | \hat{1}_\alpha^- | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_{13} | \hat{1}_\beta^+ | K_0 \rangle \langle L_{11} | \hat{1}_\alpha^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_{10}, L_{11}} t_{J_8, K_{13}} \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 1^J | \hat{g} | 1^L 1^K \rangle \langle I_{10} | \hat{1}_\alpha^- | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_{13} | \hat{1}_\beta^+ | K_0 \rangle \langle L_{11} | \hat{1}_\alpha^+ | L_0 \rangle t_{A_9, L_{11}} t_{B_{11}, I_{10}} t_{J_8, K_{13}} \end{aligned}$$

$$\langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_7, J_9, K_{14}, L_{12}) \rangle =$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_7, J_{10}, K_{13}, L_{12}) \rangle = \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^J | \hat{g} | 1^K 0^L \rangle \langle I_7 | \hat{0}_{\beta}^- | I_0 \rangle \langle J_{10} | \hat{1}_{\alpha}^- | J_0 \rangle \langle K_{13} | \hat{1}_{\beta}^+ | K_0 \rangle \langle L_{12} | \hat{0}_{\alpha}^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_7, K_{13}} t_{J_{10}, L_{12}} \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^J | \hat{g} | 1^K 0^L \rangle \langle I_7 | \hat{0}_{\beta}^- | I_0 \rangle \langle J_{10} | \hat{1}_{\alpha}^- | J_0 \rangle \langle K_{13} | \hat{1}_{\beta}^+ | K_0 \rangle \langle L_{12} | \hat{0}_{\alpha}^+ | L_0 \rangle t_{A_9, L_{12}} t_{B_{11}, J_{10}} t_{I_7, K_{13}} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_8, J_{10}, K_{13}, L_{12}) \rangle = \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 1^J | \hat{g} | 1^K 0^L \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle \langle K_{13} | \hat{1}_\beta^+ | K_0 \rangle \langle L_{12} | \hat{0}_\alpha^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_8, K_{13}} t_{J_{10}, L_{12}} \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 1^J | \hat{g} | 1^K 0^L \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle \langle K_{13} | \hat{1}_\beta^+ | K_0 \rangle \langle L_{12} | \hat{0}_\alpha^+ | L_0 \rangle t_{A_9, L_{12}} t_{B_{11}, J_{10}} t_{I_8, K_{13}} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_7, J_9, K_{14}, L_{11}) \rangle = \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^J | \hat{g} | 0^K 1^L \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle \langle K_{14} | \hat{0}_\beta^+ | K_0 \rangle \langle L_{11} | \hat{1}_\alpha^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_7, K_{14}} t_{J_9, L_{11}} \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^J | \hat{g} | 0^K 1^L \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle \langle K_{14} | \hat{0}_\beta^+ | K_0 \rangle \langle L_{11} | \hat{1}_\alpha^+ | L_0 \rangle t_{A_9, L_{11}} t_{B_{11}, J_9} t_{I_7, K_{14}} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_8, J_9, K_{14}, L_{11}) \rangle = \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^J | \hat{g} | 0^K 1^L \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle \langle K_{14} | \hat{0}_\beta^+ | K_0 \rangle \langle L_{11} | \hat{1}_\alpha^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_8, K_{14}} t_{J_9, L_{11}} \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^J | \hat{g} | 0^K 1^L \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle \langle K_{14} | \hat{0}_\beta^+ | K_0 \rangle \langle L_{11} | \hat{1}_\alpha^+ | L_0 \rangle t_{A_9, L_{11}} t_{B_{11}, J_9} t_{I_8, K_{14}} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_7, J_{10}, K_{14}, L_{11}) \rangle = \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^J | \hat{g} | 0^K 1^L \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle \langle K_{14} | \hat{0}_\beta^+ | K_0 \rangle \langle L_{11} | \hat{1}_\alpha^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_7, K_{14}} t_{J_{10}, L_{11}} \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^J | \hat{g} | 0^K 1^L \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle \langle K_{14} | \hat{0}_\beta^+ | K_0 \rangle \langle L_{11} | \hat{1}_\alpha^+ | L_0 \rangle t_{A_9, L_{11}} t_{B_{11}, J_{10}} t_{I_7, K_{14}} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_8, J_{10}, K_{14}, L_{11}) \rangle = \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 1^J | \hat{g} | 0^K 1^L \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle \langle K_{14} | \hat{0}_\beta^+ | K_0 \rangle \langle L_{11} | \hat{1}_\alpha^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_8, K_{14}} t_{J_{10}, L_{11}} \\ & + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 1^J | \hat{g} | 0^K 1^L \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle \langle K_{14} | \hat{0}_\beta^+ | K_0 \rangle \langle L_{11} | \hat{1}_\alpha^+ | L_0 \rangle t_{A_9, L_{11}} t_{B_{11}, J_{10}} t_{I_8, K_{14}} \end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_7, J_9, K_{13}, L_{11}) \rangle = \\
& + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^J | \hat{g} | 1^K 1^L \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle \langle K_{13} | \hat{1}_\beta^+ | K_0 \rangle \langle L_{11} | \hat{1}_\alpha^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_7, K_{13}} t_{J_9, L_{11}} \\
& + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 0^J | \hat{g} | 1^K 1^L \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle \langle K_{13} | \hat{1}_\beta^+ | K_0 \rangle \langle L_{11} | \hat{1}_\alpha^+ | L_0 \rangle t_{A_9, L_{11}} t_{B_{11}, J_9} t_{I_7, K_{13}}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_8, J_9, K_{13}, L_{11}) \rangle = \\
& + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^J | \hat{g} | 1^K 1^L \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle \langle K_{13} | \hat{1}_\beta^+ | K_0 \rangle \langle L_{11} | \hat{1}_\alpha^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_8, K_{13}} t_{J_9, L_{11}} \\
& + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 0^J | \hat{g} | 1^K 1^L \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle \langle K_{13} | \hat{1}_\beta^+ | K_0 \rangle \langle L_{11} | \hat{1}_\alpha^+ | L_0 \rangle t_{A_9, L_{11}} t_{B_{11}, J_9} t_{I_8, K_{13}}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_7, J_{10}, K_{13}, L_{11}) \rangle = \\
& + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^J | \hat{g} | 1^K 1^L \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle \langle K_{13} | \hat{1}_\beta^+ | K_0 \rangle \langle L_{11} | \hat{1}_\alpha^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_7, K_{13}} t_{J_{10}, L_{11}} \\
& + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 0^I 1^J | \hat{g} | 1^K 1^L \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle \langle K_{13} | \hat{1}_\beta^+ | K_0 \rangle \langle L_{11} | \hat{1}_\alpha^+ | L_0 \rangle t_{A_9, L_{11}} t_{B_{11}, J_{10}} t_{I_7, K_{13}}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_9, B_{11}, I_8, J_{10}, K_{13}, L_{11}) \rangle = \\
& + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 1^J | \hat{g} | 1^K 1^L \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle \langle K_{13} | \hat{1}_\beta^+ | K_0 \rangle \langle L_{11} | \hat{1}_\alpha^+ | L_0 \rangle t_{A_9, B_{11}} t_{I_8, K_{13}} t_{J_{10}, L_{11}} \\
& + \frac{1}{48} \sum_I \sum_J \sum_K \sum_L \langle 1^I 1^J | \hat{g} | 1^K 1^L \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle \langle K_{13} | \hat{1}_\beta^+ | K_0 \rangle \langle L_{11} | \hat{1}_\alpha^+ | L_0 \rangle t_{A_9, L_{11}} t_{B_{11}, J_{10}} t_{I_8, K_{13}}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (B_{11}, I_{12}, J_9, K_9) \rangle = \\
& + \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^A 0^I | \hat{g} | 0^J 0^K \rangle \langle A_0 | \hat{0}_\alpha^+ | A_9 \rangle \langle I_{12} | \hat{0}_\alpha^+ | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle \langle K_9 | \hat{0}_\alpha^- | K_0 \rangle t_{B_{11}, J_9} t_{I_{12}, K_9} \\
& + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 0^A 0^I | \hat{g} | 0^K 0^J \rangle \langle A_0 | \hat{0}_\alpha^+ | A_9 \rangle \langle I_{12} | \hat{0}_\alpha^+ | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle \langle K_9 | \hat{0}_\alpha^- | K_0 \rangle t_{B_{11}, J_9} t_{I_{12}, K_9} \\
& + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 0^A 0^I | \hat{g} | 0^J 0^K \rangle \langle A_0 | \hat{0}_\alpha^+ | A_9 \rangle \langle I_{12} | \hat{0}_\alpha^+ | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle \langle K_9 | \hat{0}_\alpha^- | K_0 \rangle t_{B_{11}, K_9} t_{I_{12}, J_9} \\
& + \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^A 0^I | \hat{g} | 0^K 0^J \rangle \langle A_0 | \hat{0}_\alpha^+ | A_9 \rangle \langle I_{12} | \hat{0}_\alpha^+ | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle \langle K_9 | \hat{0}_\alpha^- | K_0 \rangle t_{B_{11}, K_9} t_{I_{12}, J_9}
\end{aligned}$$

$$\langle (A_9, B_{11}) | \hat{H} | (A_1, B_{11}, I_{12}, J_9, K_9) \rangle =$$

$$\begin{aligned}
& + \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^A 0^I | \hat{g} | 0^J 0^K \rangle \langle A_1 | \hat{0}_\alpha^+ | A_9 \rangle \langle I_{12} | \hat{0}_\alpha^+ | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle \langle K_9 | \hat{0}_\alpha^- | K_0 \rangle t_{A_1} t_{B_{11}, J_9} t_{I_{12}, K_9} \\
& + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 0^A 0^I | \hat{g} | 0^K 0^J \rangle \langle A_1 | \hat{0}_\alpha^+ | A_9 \rangle \langle I_{12} | \hat{0}_\alpha^+ | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle \langle K_9 | \hat{0}_\alpha^- | K_0 \rangle t_{A_1} t_{B_{11}, J_9} t_{I_{12}, K_9} \\
& + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 0^A 0^I | \hat{g} | 0^J 0^K \rangle \langle A_1 | \hat{0}_\alpha^+ | A_9 \rangle \langle I_{12} | \hat{0}_\alpha^+ | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle \langle K_9 | \hat{0}_\alpha^- | K_0 \rangle t_{A_1} t_{B_{11}, K_9} t_{I_{12}, J_9} \\
& + \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^A 0^I | \hat{g} | 0^K 0^J \rangle \langle A_1 | \hat{0}_\alpha^+ | A_9 \rangle \langle I_{12} | \hat{0}_\alpha^+ | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle \langle K_9 | \hat{0}_\alpha^- | K_0 \rangle t_{A_1} t_{B_{11}, K_9} t_{I_{12}, J_9}
\end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_1, B_{11}, I_{14}, J_9, K_7) \rangle = \\ & + \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^A 0^I | \hat{g} | 0^J 0^K \rangle \langle A_1 | \hat{0}_\alpha^+ | A_9 \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle \langle K_7 | \hat{0}_\beta^- | K_0 \rangle t_{A_1} t_{B_{11}, J_9} t_{I_{14}, K_7} \end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_1, B_{11}, I_{12}, J_9, K_{10}) \rangle = \\
& + \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^A 0^I | \hat{g} | 0^J 1^K \rangle \langle A_1 | \hat{0}_\alpha^+ | A_9 \rangle \langle I_{12} | \hat{0}_\alpha^+ | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle \langle K_{10} | \hat{1}_\alpha^- | K_0 \rangle t_{A_1} t_{B_{11}, J_9} t_{I_{12}, K_{10}} \\
& + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 0^A 0^I | \hat{g} | 1^K 0^J \rangle \langle A_1 | \hat{0}_\alpha^+ | A_9 \rangle \langle I_{12} | \hat{0}_\alpha^+ | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle \langle K_{10} | \hat{1}_\alpha^- | K_0 \rangle t_{A_1} t_{B_{11}, J_9} t_{I_{12}, K_{10}} \\
& + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 0^A 0^I | \hat{g} | 0^J 1^K \rangle \langle A_1 | \hat{0}_\alpha^+ | A_9 \rangle \langle I_{12} | \hat{0}_\alpha^+ | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle \langle K_{10} | \hat{1}_\alpha^- | K_0 \rangle t_{A_1} t_{B_{11}, K_{10}} t_{I_{12}, J_9} \\
& + \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^A 0^I | \hat{g} | 1^K 0^J \rangle \langle A_1 | \hat{0}_\alpha^+ | A_9 \rangle \langle I_{12} | \hat{0}_\alpha^+ | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle \langle K_{10} | \hat{1}_\alpha^- | K_0 \rangle t_{A_1} t_{B_{11}, K_{10}} t_{I_{12}, J_9}
\end{aligned}$$

$$+ \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^A 0^I | \hat{g} | 0^J 1^K \rangle \langle A_0 | \hat{0}_\alpha^+ | A_9 \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle \langle K_8 | \hat{1}_\beta^- | K_0 \rangle t_{B_{11}, J_9} t_{I_{14}, K_8}$$

$$\langle (A_9, B_{11}) | \hat{H} | (A_1, B_{11}, I_{14}, J_9, K_8) \rangle =$$

$$+ \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^A 0^I | \hat{g} | 0^J 1^K \rangle \langle A_1 | \hat{0}_\alpha^+ | A_9 \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle \langle K_8 | \hat{1}_\beta^- | K_0 \rangle t_{A_1} t_{B_{11}, J_9} t_{I_{14}, K_8}$$

$$\langle (A_9, B_{11}) | \hat{H} | (B_{11}, I_{12}, J_{10}, K_9) \rangle =$$

$$\begin{aligned} & + \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^A 0^I | \hat{g} | 1^J 0^K \rangle \langle A_0 | \hat{0}_\alpha^+ | A_9 \rangle \langle I_{12} | \hat{0}_\alpha^+ | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle \langle K_9 | \hat{0}_\alpha^- | K_0 \rangle t_{B_{11}, J_{10}} t_{I_{12}, K_9} \\ & + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 0^A 0^I | \hat{g} | 0^K 1^J \rangle \langle A_0 | \hat{0}_\alpha^+ | A_9 \rangle \langle I_{12} | \hat{0}_\alpha^+ | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle \langle K_9 | \hat{0}_\alpha^- | K_0 \rangle t_{B_{11}, J_{10}} t_{I_{12}, K_9} \\ & + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 0^A 0^I | \hat{g} | 1^J 0^K \rangle \langle A_0 | \hat{0}_\alpha^+ | A_9 \rangle \langle I_{12} | \hat{0}_\alpha^+ | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle \langle K_9 | \hat{0}_\alpha^- | K_0 \rangle t_{B_{11}, K_9} t_{I_{12}, J_{10}} \\ & + \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^A 0^I | \hat{g} | 0^K 1^J \rangle \langle A_0 | \hat{0}_\alpha^+ | A_9 \rangle \langle I_{12} | \hat{0}_\alpha^+ | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle \langle K_9 | \hat{0}_\alpha^- | K_0 \rangle t_{B_{11}, K_9} t_{I_{12}, J_{10}} \end{aligned}$$

$$\langle (A_9, B_{11}) | \hat{H} | (A_1, B_{11}, I_{12}, J_{10}, K_9) \rangle =$$

$$\begin{aligned} & + \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^A 0^I | \hat{g} | 1^J 0^K \rangle \langle A_1 | \hat{0}_\alpha^+ | A_9 \rangle \langle I_{12} | \hat{0}_\alpha^+ | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle \langle K_9 | \hat{0}_\alpha^- | K_0 \rangle t_{A_1} t_{B_{11}, J_{10}} t_{I_{12}, K_9} \\ & + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 0^A 0^I | \hat{g} | 0^K 1^J \rangle \langle A_1 | \hat{0}_\alpha^+ | A_9 \rangle \langle I_{12} | \hat{0}_\alpha^+ | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle \langle K_9 | \hat{0}_\alpha^- | K_0 \rangle t_{A_1} t_{B_{11}, J_{10}} t_{I_{12}, K_9} \\ & + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 0^A 0^I | \hat{g} | 1^J 0^K \rangle \langle A_1 | \hat{0}_\alpha^+ | A_9 \rangle \langle I_{12} | \hat{0}_\alpha^+ | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle \langle K_9 | \hat{0}_\alpha^- | K_0 \rangle t_{A_1} t_{B_{11}, K_9} t_{I_{12}, J_{10}} \\ & + \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^A 0^I | \hat{g} | 0^K 1^J \rangle \langle A_1 | \hat{0}_\alpha^+ | A_9 \rangle \langle I_{12} | \hat{0}_\alpha^+ | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle \langle K_9 | \hat{0}_\alpha^- | K_0 \rangle t_{A_1} t_{B_{11}, K_9} t_{I_{12}, J_{10}} \end{aligned}$$

$$\langle (A_9, B_{11}) | \hat{H} | (B_{11}, I_{14}, J_{10}, K_7) \rangle =$$

$$+ \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^A 0^I | \hat{g} | 1^J 0^K \rangle \langle A_0 | \hat{0}_\alpha^+ | A_9 \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle \langle K_7 | \hat{0}_\beta^- | K_0 \rangle t_{B_{11}, J_{10}} t_{I_{14}, K_7}$$

$$\langle (A_9, B_{11}) | \hat{H} | (A_1, B_{11}, I_{14}, J_{10}, K_7) \rangle =$$

$$+ \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^A 0^I | \hat{g} | 1^J 0^K \rangle \langle A_1 | \hat{0}_\alpha^+ | A_9 \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle \langle K_7 | \hat{0}_\beta^- | K_0 \rangle t_{A_1} t_{B_{11}, J_{10}} t_{I_{14}, K_7}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (B_{11}, I_{13}, J_9, K_8) \rangle = \\ & + \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^A 1^I | \hat{g} | 0^J 1^K \rangle \langle A_0 | \hat{0}_\alpha^+ | A_9 \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle \langle K_8 | \hat{1}_\beta^- | K_0 \rangle t_{B_{11}, J_9} t_{I_{13}, K_8} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_1, B_{11}, I_{13}, J_9, K_8) \rangle = \\ & + \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^A 1^I | \hat{g} | 0^J 1^K \rangle \langle A_1 | \hat{0}_\alpha^+ | A_9 \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle \langle K_8 | \hat{1}_\beta^- | K_0 \rangle t_{A_1} t_{B_{11}, J_9} t_{I_{13}, K_8} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (B_{11}, I_{11}, J_{10}, K_9) \rangle = \\ & + \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^A 1^I | \hat{g} | 1^J 0^K \rangle \langle A_0 | \hat{0}_\alpha^+ | A_9 \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle \langle K_9 | \hat{0}_\alpha^- | K_0 \rangle t_{B_{11}, J_{10}} t_{I_{11}, K_9} \\ & + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 0^A 1^I | \hat{g} | 0^K 1^J \rangle \langle A_0 | \hat{0}_\alpha^+ | A_9 \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle \langle K_9 | \hat{0}_\alpha^- | K_0 \rangle t_{B_{11}, J_{10}} t_{I_{11}, K_9} \\ & + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 0^A 1^I | \hat{g} | 1^J 0^K \rangle \langle A_0 | \hat{0}_\alpha^+ | A_9 \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle \langle K_9 | \hat{0}_\alpha^- | K_0 \rangle t_{B_{11}, K_9} t_{I_{11}, J_{10}} \\ & + \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^A 1^I | \hat{g} | 0^K 1^J \rangle \langle A_0 | \hat{0}_\alpha^+ | A_9 \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle \langle K_9 | \hat{0}_\alpha^- | K_0 \rangle t_{B_{11}, K_9} t_{I_{11}, J_{10}} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_1, B_{11}, I_{11}, J_{10}, K_9) \rangle = \\ & + \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^A 1^I | \hat{g} | 1^J 0^K \rangle \langle A_1 | \hat{0}_\alpha^+ | A_9 \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle \langle K_9 | \hat{0}_\alpha^- | K_0 \rangle t_{A_1} t_{B_{11}, J_{10}} t_{I_{11}, K_9} \\ & + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 0^A 1^I | \hat{g} | 0^K 1^J \rangle \langle A_1 | \hat{0}_\alpha^+ | A_9 \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle \langle K_9 | \hat{0}_\alpha^- | K_0 \rangle t_{A_1} t_{B_{11}, J_{10}} t_{I_{11}, K_9} \\ & + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 0^A 1^I | \hat{g} | 1^J 0^K \rangle \langle A_1 | \hat{0}_\alpha^+ | A_9 \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle \langle K_9 | \hat{0}_\alpha^- | K_0 \rangle t_{A_1} t_{B_{11}, K_9} t_{I_{11}, J_{10}} \\ & + \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^A 1^I | \hat{g} | 0^K 1^J \rangle \langle A_1 | \hat{0}_\alpha^+ | A_9 \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle \langle K_9 | \hat{0}_\alpha^- | K_0 \rangle t_{A_1} t_{B_{11}, K_9} t_{I_{11}, J_{10}} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (B_{11}, I_{13}, J_{10}, K_7) \rangle = \\ & + \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^A 1^I | \hat{g} | 1^J 0^K \rangle \langle A_0 | \hat{0}_\alpha^+ | A_9 \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle \langle K_7 | \hat{0}_\beta^- | K_0 \rangle t_{B_{11}, J_{10}} t_{I_{13}, K_7} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_1, B_{11}, I_{13}, J_{10}, K_7) \rangle = \\ & + \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^A 1^I | \hat{g} | 1^J 0^K \rangle \langle A_1 | \hat{0}_\alpha^+ | A_9 \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle \langle K_7 | \hat{0}_\beta^- | K_0 \rangle t_{A_1} t_{B_{11}, J_{10}} t_{I_{13}, K_7} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_2, B_{11}, I_{13}, J_9, K_8) \rangle = \\ & + \frac{1}{12} \sum_I \sum_J \sum_K \langle 1^A 1^I | \hat{g} | 0^J 1^K \rangle \langle A_2 | \hat{1}_\alpha^+ | A_9 \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle \langle K_8 | \hat{1}_\beta^- | K_0 \rangle t_{A_2} t_{B_{11}, J_9} t_{I_{13}, K_8} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_3, B_{11}, I_{13}, J_9, K_8) \rangle = \\ & + \frac{1}{12} \sum_I \sum_J \sum_K \langle 1^A 1^I | \hat{g} | 0^J 1^K \rangle \langle A_3 | \hat{1}_\alpha^+ | A_9 \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle \langle K_8 | \hat{1}_\beta^- | K_0 \rangle t_{A_3} t_{B_{11}, J_9} t_{I_{13}, K_8} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_2, B_{11}, I_{11}, J_{10}, K_9) \rangle = \\ & + \frac{1}{12} \sum_I \sum_J \sum_K \langle 1^A 1^I | \hat{g} | 1^J 0^K \rangle \langle A_2 | \hat{1}_\alpha^+ | A_9 \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle \langle K_9 | \hat{0}_\alpha^- | K_0 \rangle t_{A_2} t_{B_{11}, J_{10}} t_{I_{11}, K_9} \\ & + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 1^A 1^I | \hat{g} | 0^K 1^J \rangle \langle A_2 | \hat{1}_\alpha^+ | A_9 \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle \langle K_9 | \hat{0}_\alpha^- | K_0 \rangle t_{A_2} t_{B_{11}, J_{10}} t_{I_{11}, K_9} \\ & + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 1^A 1^I | \hat{g} | 1^J 0^K \rangle \langle A_2 | \hat{1}_\alpha^+ | A_9 \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle \langle K_9 | \hat{0}_\alpha^- | K_0 \rangle t_{A_2} t_{B_{11}, K_9} t_{I_{11}, J_{10}} \\ & + \frac{1}{12} \sum_I \sum_J \sum_K \langle 1^A 1^I | \hat{g} | 0^K 1^J \rangle \langle A_2 | \hat{1}_\alpha^+ | A_9 \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle \langle K_9 | \hat{0}_\alpha^- | K_0 \rangle t_{A_2} t_{B_{11}, K_9} t_{I_{11}, J_{10}} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_3, B_{11}, I_{11}, J_{10}, K_9) \rangle = \\ & + \frac{1}{12} \sum_I \sum_J \sum_K \langle 1^A 1^I | \hat{g} | 1^J 0^K \rangle \langle A_3 | \hat{1}_\alpha^+ | A_9 \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle \langle K_9 | \hat{0}_\alpha^- | K_0 \rangle t_{A_3} t_{B_{11}, J_{10}} t_{I_{11}, K_9} \\ & + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 1^A 1^I | \hat{g} | 0^K 1^J \rangle \langle A_3 | \hat{1}_\alpha^+ | A_9 \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle \langle K_9 | \hat{0}_\alpha^- | K_0 \rangle t_{A_3} t_{B_{11}, J_{10}} t_{I_{11}, K_9} \\ & + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 1^A 1^I | \hat{g} | 1^J 0^K \rangle \langle A_3 | \hat{1}_\alpha^+ | A_9 \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle \langle K_9 | \hat{0}_\alpha^- | K_0 \rangle t_{A_3} t_{B_{11}, K_9} t_{I_{11}, J_{10}} \\ & + \frac{1}{12} \sum_I \sum_J \sum_K \langle 1^A 1^I | \hat{g} | 0^K 1^J \rangle \langle A_3 | \hat{1}_\alpha^+ | A_9 \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle \langle K_9 | \hat{0}_\alpha^- | K_0 \rangle t_{A_3} t_{B_{11}, K_9} t_{I_{11}, J_{10}} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_2, B_{11}, I_{13}, J_{10}, K_7) \rangle = \\ & + \frac{1}{12} \sum_I \sum_J \sum_K \langle 1^A 1^I | \hat{g} | 1^J 0^K \rangle \langle A_2 | \hat{1}_\alpha^+ | A_9 \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle \langle K_7 | \hat{0}_\beta^- | K_0 \rangle t_{A_2} t_{B_{11}, J_{10}} t_{I_{13}, K_7} \end{aligned}$$

$$\langle (A_9, B_{11}) | \hat{H} | (A_3, B_{11}, I_{13}, J_{10}, K_7) \rangle =$$

$$+ \frac{1}{12} \sum_I \sum_J \sum_K \langle 1^{A1I} | \hat{g} | 1^{J0K} \rangle \langle A_3 | \hat{1}_\alpha^+ | A_9 \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle \langle K_7 | \hat{0}_\beta^- | K_0 \rangle t_{A_3} t_{B_{11}, J_{10}} t_{I_{13}, K_7}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_2, B_{11}, I_{11}, J_{10}, K_{10}) \rangle = \\
& + \frac{1}{12} \sum_I \sum_J \sum_K \langle 1^A 1^I | \hat{g} | 1^J 1^K \rangle \langle A_2 | \hat{1}_\alpha^+ | A_9 \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle \langle K_{10} | \hat{1}_\alpha^- | K_0 \rangle t_{A_2} t_{B_{11}, J_{10}} t_{I_{11}, K_{10}} \\
& + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 1^A 1^I | \hat{g} | 1^K 1^J \rangle \langle A_2 | \hat{1}_\alpha^+ | A_9 \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle \langle K_{10} | \hat{1}_\alpha^- | K_0 \rangle t_{A_2} t_{B_{11}, J_{10}} t_{I_{11}, K_{10}} \\
& + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 1^A 1^I | \hat{g} | 1^J 1^K \rangle \langle A_2 | \hat{1}_\alpha^+ | A_9 \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle \langle K_{10} | \hat{1}_\alpha^- | K_0 \rangle t_{A_2} t_{B_{11}, K_{10}} t_{I_{11}, J_{10}} \\
& + \frac{1}{12} \sum_I \sum_J \sum_K \langle 1^A 1^I | \hat{g} | 1^K 1^J \rangle \langle A_2 | \hat{1}_\alpha^+ | A_9 \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle \langle K_{10} | \hat{1}_\alpha^- | K_0 \rangle t_{A_2} t_{B_{11}, K_{10}} t_{I_{11}, J_{10}}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_3, B_{11}, I_{11}, J_{10}, K_{10}) \rangle = \\
& + \frac{1}{12} \sum_I \sum_J \sum_K \langle 1^A 1^I | \hat{g} | 1^J 1^K \rangle \langle A_3 | \hat{1}_\alpha^+ | A_9 \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle \langle K_{10} | \hat{1}_\alpha^- | K_0 \rangle t_{A_3} t_{B_{11}, J_{10}} t_{I_{11}, K_{10}} \\
& + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 1^A 1^I | \hat{g} | 1^K 1^J \rangle \langle A_3 | \hat{1}_\alpha^+ | A_9 \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle \langle K_{10} | \hat{1}_\alpha^- | K_0 \rangle t_{A_3} t_{B_{11}, J_{10}} t_{I_{11}, K_{10}} \\
& + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 1^A 1^I | \hat{g} | 1^J 1^K \rangle \langle A_3 | \hat{1}_\alpha^+ | A_9 \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle \langle K_{10} | \hat{1}_\alpha^- | K_0 \rangle t_{A_3} t_{B_{11}, K_{10}} t_{I_{11}, J_{10}} \\
& + \frac{1}{12} \sum_I \sum_J \sum_K \langle 1^A 1^I | \hat{g} | 1^K 1^J \rangle \langle A_3 | \hat{1}_\alpha^+ | A_9 \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle \langle K_{10} | \hat{1}_\alpha^- | K_0 \rangle t_{A_3} t_{B_{11}, K_{10}} t_{I_{11}, J_{10}}
\end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_2, B_{11}, I_{13}, J_{10}, K_8) \rangle = \\ & + \frac{1}{12} \sum_I \sum_J \sum_K \langle I^A 1^I | \hat{g} | I^J 1^K \rangle \langle A_2 | \hat{1}_\alpha^+ | A_9 \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle \langle K_8 | \hat{1}_\beta^- | K_0 \rangle t_{A_2} t_{B_{11}, J_{10}} t_{I_{13}, K_8} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_3, B_{11}, I_{13}, J_{10}, K_8) \rangle = \\ & + \frac{1}{12} \sum_I \sum_J \sum_K \langle 1^A 1^I | \hat{g} | 1^J 1^K \rangle \langle A_3 | \hat{1}_\alpha^+ | A_9 \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle \langle K_8 | \hat{1}_\beta^- | K_0 \rangle t_{A_3} t_{B_{11}, J_{10}} t_{I_{13}, K_8} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (B_{11}, I_{14}, J_7, K_9) \rangle = \\ & + \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^A 0^I | \hat{g} | 0^K 0^J \rangle \langle A_0 | \hat{0}_\alpha^+ | A_9 \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle \langle K_9 | \hat{0}_\alpha^- | K_0 \rangle t_{B_{11}, K_9} t_{I_{14}, J_7} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_1, B_{11}, I_{14}, J_7, K_9) \rangle = \\ & + \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^A 0^I | \hat{g} | 0^K 0^J \rangle \langle A_1 | \hat{0}_\alpha^+ | A_9 \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle \langle K_9 | \hat{0}_\alpha^- | K_0 \rangle t_{A_1} t_{B_{11}, K_9} t_{I_{14}, J_7} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (B_{11}, I_{14}, J_8, K_9) \rangle = \\ & + \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^A 0^I | \hat{g} | 0^K 1^J \rangle \langle A_0 | \hat{0}_\alpha^+ | A_9 \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_9 | \hat{0}_\alpha^- | K_0 \rangle t_{B_{11}, K_9} t_{I_{14}, J_8} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_1, B_{11}, I_{14}, J_8, K_9) \rangle = \\ & + \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^A 0^I | \hat{g} | 0^K 1^J \rangle \langle A_1 | \hat{0}_\alpha^+ | A_9 \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_9 | \hat{0}_\alpha^- | K_0 \rangle t_{A_1} t_{B_{11}, K_9} t_{I_{14}, J_8} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (B_{11}, I_{14}, J_7, K_{10}) \rangle = \\ & + \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^A 0^I | \hat{g} | 1^K 0^J \rangle \langle A_0 | \hat{0}_\alpha^+ | A_9 \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle \langle K_{10} | \hat{1}_\alpha^- | K_0 \rangle t_{B_{11}, K_{10}} t_{I_{14}, J_7} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_1, B_{11}, I_{14}, J_7, K_{10}) \rangle = \\ & + \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^A 0^I | \hat{g} | 1^K 0^J \rangle \langle A_1 | \hat{0}_\alpha^+ | A_9 \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle \langle K_{10} | \hat{1}_\alpha^- | K_0 \rangle t_{A_1} t_{B_{11}, K_{10}} t_{I_{14}, J_7} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (B_{11}, I_{14}, J_8, K_{10}) \rangle = \\ & + \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^A 0^I | \hat{g} | 1^K 1^J \rangle \langle A_0 | \hat{0}_\alpha^+ | A_9 \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_{10} | \hat{1}_\alpha^- | K_0 \rangle t_{B_{11}, K_{10}} t_{I_{14}, J_8} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_1, B_{11}, I_{14}, J_8, K_{10}) \rangle = \\ & + \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^A 0^I | \hat{g} | 1^K 1^J \rangle \langle A_1 | \hat{0}_\alpha^+ | A_9 \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_{10} | \hat{1}_\alpha^- | K_0 \rangle t_{A_1} t_{B_{11}, K_{10}} t_{I_{14}, J_8} \end{aligned}$$

$$\langle (A_9, B_{11}) | \hat{H} | (B_{11}, I_{13}, J_7, K_9) \rangle =$$

$$+ \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^A 1^I | \hat{g} | 0^K 0^J \rangle \langle A_0 | \hat{0}_\alpha^+ | A_9 \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle \langle K_9 | \hat{0}_\alpha^- | K_0 \rangle t_{B_{11}, K_9} t_{I_{13}, J_7}$$

$$\langle (A_9, B_{11}) | \hat{H} | (A_1, B_{11}, I_{13}, J_7, K_9) \rangle =$$

$$+ \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^A 1^I | \hat{g} | 0^K 0^J \rangle \langle A_1 | \hat{0}_\alpha^+ | A_9 \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle \langle K_9 | \hat{0}_\alpha^- | K_0 \rangle t_{A_1} t_{B_{11}, K_9} t_{I_{13}, J_7}$$

$$\langle (A_9, B_{11}) | \hat{H} | (B_{11}, I_{13}, J_8, K_9) \rangle =$$

$$+ \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^A 1^I | \hat{g} | 0^K 1^J \rangle \langle A_0 | \hat{0}_\alpha^+ | A_9 \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_9 | \hat{0}_\alpha^- | K_0 \rangle t_{B_{11}, K_9} t_{I_{13}, J_8}$$

$$\langle (A_9, B_{11}) | \hat{H} | (A_1, B_{11}, I_{13}, J_8, K_9) \rangle =$$

$$+ \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^A 1^I | \hat{g} | 0^K 1^J \rangle \langle A_1 | \hat{0}_\alpha^+ | A_9 \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_9 | \hat{0}_\alpha^- | K_0 \rangle t_{A_1} t_{B_{11}, K_9} t_{I_{13}, J_8}$$

$$\langle (A_9, B_{11}) | \hat{H} | (B_{11}, I_{13}, J_7, K_{10}) \rangle =$$

$$+ \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^A 1^I | \hat{g} | 1^K 0^J \rangle \langle A_0 | \hat{0}_\alpha^+ | A_9 \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle \langle K_{10} | \hat{1}_\alpha^- | K_0 \rangle t_{B_{11}, K_{10}} t_{I_{13}, J_7}$$

$$\langle (A_9, B_{11}) | \hat{H} | (A_1, B_{11}, I_{13}, J_7, K_{10}) \rangle =$$

$$+ \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^A 1^I | \hat{g} | 1^K 0^J \rangle \langle A_1 | \hat{0}_\alpha^+ | A_9 \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle \langle K_{10} | \hat{1}_\alpha^- | K_0 \rangle t_{A_1} t_{B_{11}, K_{10}} t_{I_{13}, J_7}$$

$$\langle (A_9, B_{11}) | \hat{H} | (B_{11}, I_{13}, J_8, K_{10}) \rangle =$$

$$+ \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^A 1^I | \hat{g} | 1^K 1^J \rangle \langle A_0 | \hat{0}_\alpha^+ | A_9 \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_{10} | \hat{1}_\alpha^- | K_0 \rangle t_{B_{11}, K_{10}} t_{I_{13}, J_8}$$

$$\langle (A_9, B_{11}) | \hat{H} | (A_1, B_{11}, I_{13}, J_8, K_{10}) \rangle =$$

$$+ \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^A 1^I | \hat{g} | 1^K 1^J \rangle \langle A_1 | \hat{0}_\alpha^+ | A_9 \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_{10} | \hat{1}_\alpha^- | K_0 \rangle t_{A_1} t_{B_{11}, K_{10}} t_{I_{13}, J_8}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_2, B_{11}, I_{14}, J_7, K_9) \rangle = \\ & + \frac{1}{12} \sum_I \sum_J \sum_K \langle 1^A 0^I | \hat{g} | 0^K 0^J \rangle \langle A_2 | \hat{1}_\alpha^+ | A_9 \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle \langle K_9 | \hat{0}_\alpha^- | K_0 \rangle t_{A_2} t_{B_{11}, K_9} t_{I_{14}, J_7} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_3, B_{11}, I_{14}, J_7, K_9) \rangle = \\ & + \frac{1}{12} \sum_I \sum_J \sum_K \langle 1^A 0^I | \hat{g} | 0^K 0^J \rangle \langle A_3 | \hat{1}_\alpha^+ | A_9 \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle \langle K_9 | \hat{0}_\alpha^- | K_0 \rangle t_{A_3} t_{B_{11}, K_9} t_{I_{14}, J_7} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_2, B_{11}, I_{14}, J_8, K_9) \rangle = \\ & + \frac{1}{12} \sum_I \sum_J \sum_K \langle 1^A 0^I | \hat{g} | 0^K 1^J \rangle \langle A_2 | \hat{1}_\alpha^+ | A_9 \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_9 | \hat{0}_\alpha^- | K_0 \rangle t_{A_2} t_{B_{11}, K_9} t_{I_{14}, J_8} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_3, B_{11}, I_{14}, J_8, K_9) \rangle = \\ & + \frac{1}{12} \sum_I \sum_J \sum_K \langle 1^A 0^I | \hat{g} | 0^K 1^J \rangle \langle A_3 | \hat{1}_\alpha^+ | A_9 \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_9 | \hat{0}_\alpha^- | K_0 \rangle t_{A_3} t_{B_{11}, K_9} t_{I_{14}, J_8} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_2, B_{11}, I_{14}, J_7, K_{10}) \rangle = \\ & + \frac{1}{12} \sum_I \sum_J \sum_K \langle 1^A 0^I | \hat{g} | 1^K 0^J \rangle \langle A_2 | \hat{1}_\alpha^+ | A_9 \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle \langle K_{10} | \hat{1}_\alpha^- | K_0 \rangle t_{A_2} t_{B_{11}, K_{10}} t_{I_{14}, J_7} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_3, B_{11}, I_{14}, J_7, K_{10}) \rangle = \\ & + \frac{1}{12} \sum_I \sum_J \sum_K \langle 1^A 0^I | \hat{g} | 1^K 0^J \rangle \langle A_3 | \hat{1}_\alpha^+ | A_9 \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle \langle K_{10} | \hat{1}_\alpha^- | K_0 \rangle t_{A_3} t_{B_{11}, K_{10}} t_{I_{14}, J_7} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_2, B_{11}, I_{14}, J_8, K_{10}) \rangle = \\ & + \frac{1}{12} \sum_I \sum_J \sum_K \langle 1^A 0^I | \hat{g} | 1^K 1^J \rangle \langle A_2 | \hat{1}_\alpha^+ | A_9 \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_{10} | \hat{1}_\alpha^- | K_0 \rangle t_{A_2} t_{B_{11}, K_{10}} t_{I_{14}, J_8} \end{aligned}$$

$$\begin{aligned} &\langle (A_9, B_{11}) | \hat{H} | (A_3, B_{11}, I_{14}, J_8, K_{10}) \rangle = \\ &+ \frac{1}{12} \sum_I \sum_J \sum_K \langle 1^A 0^I | \hat{g} | 1^K 1^J \rangle \langle A_3 | \hat{1}_\alpha^+ | A_9 \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_{10} | \hat{1}_\alpha^- | K_0 \rangle t_{A_3} t_{B_{11}, K_{10}} t_{I_{14}, J_8} \end{aligned}$$

$$\begin{aligned} &\langle (A_9, B_{11}) | \hat{H} | (A_2, B_{11}, I_{13}, J_7, K_9) \rangle = \\ &+ \frac{1}{12} \sum_I \sum_J \sum_K \langle 1^A 1^I | \hat{g} | 0^K 0^J \rangle \langle A_2 | \hat{1}_\alpha^+ | A_9 \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle \langle K_9 | \hat{0}_\alpha^- | K_0 \rangle t_{A_2} t_{B_{11}, K_9} t_{I_{13}, J_7} \end{aligned}$$

$$\begin{aligned} &\langle (A_9, B_{11}) | \hat{H} | (A_3, B_{11}, I_{13}, J_7, K_9) \rangle = \\ &+ \frac{1}{12} \sum_I \sum_J \sum_K \langle 1^A 1^I | \hat{g} | 0^K 0^J \rangle \langle A_3 | \hat{1}_\alpha^+ | A_9 \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle \langle K_9 | \hat{0}_\alpha^- | K_0 \rangle t_{A_3} t_{B_{11}, K_9} t_{I_{13}, J_7} \end{aligned}$$

$$\begin{aligned} &\langle (A_9, B_{11}) | \hat{H} | (A_2, B_{11}, I_{13}, J_8, K_9) \rangle = \\ &+ \frac{1}{12} \sum_I \sum_J \sum_K \langle 1^A 1^I | \hat{g} | 0^K 1^J \rangle \langle A_2 | \hat{1}_\alpha^+ | A_9 \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_9 | \hat{0}_\alpha^- | K_0 \rangle t_{A_2} t_{B_{11}, K_9} t_{I_{13}, J_8} \end{aligned}$$

$$\begin{aligned} &\langle (A_9, B_{11}) | \hat{H} | (A_3, B_{11}, I_{13}, J_8, K_9) \rangle = \\ &+ \frac{1}{12} \sum_I \sum_J \sum_K \langle 1^A 1^I | \hat{g} | 0^K 1^J \rangle \langle A_3 | \hat{1}_\alpha^+ | A_9 \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_9 | \hat{0}_\alpha^- | K_0 \rangle t_{A_3} t_{B_{11}, K_9} t_{I_{13}, J_8} \end{aligned}$$

$$\begin{aligned} &\langle (A_9, B_{11}) | \hat{H} | (A_2, B_{11}, I_{13}, J_7, K_{10}) \rangle = \\ &+ \frac{1}{12} \sum_I \sum_J \sum_K \langle 1^A 1^I | \hat{g} | 1^K 0^J \rangle \langle A_2 | \hat{1}_\alpha^+ | A_9 \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle \langle K_{10} | \hat{1}_\alpha^- | K_0 \rangle t_{A_2} t_{B_{11}, K_{10}} t_{I_{13}, J_7} \end{aligned}$$

$$\begin{aligned} &\langle (A_9, B_{11}) | \hat{H} | (A_3, B_{11}, I_{13}, J_7, K_{10}) \rangle = \\ &+ \frac{1}{12} \sum_I \sum_J \sum_K \langle 1^A 1^I | \hat{g} | 1^K 0^J \rangle \langle A_3 | \hat{1}_\alpha^+ | A_9 \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle \langle K_{10} | \hat{1}_\alpha^- | K_0 \rangle t_{A_3} t_{B_{11}, K_{10}} t_{I_{13}, J_7} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_2, B_{11}, I_{13}, J_8, K_{10}) \rangle = \\ & + \frac{1}{12} \sum_I \sum_J \sum_K \langle 1^A 1^I | \hat{g} | 1^K 1^J \rangle \langle A_2 | \hat{1}_\alpha^+ | A_9 \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_{10} | \hat{1}_\alpha^- | K_0 \rangle t_{A_2} t_{B_{11}, K_{10}} t_{I_{13}, J_8} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_3, B_{11}, I_{13}, J_8, K_{10}) \rangle = \\ & + \frac{1}{12} \sum_I \sum_J \sum_K \langle 1^A 1^I | \hat{g} | 1^K 1^J \rangle \langle A_3 | \hat{1}_\alpha^+ | A_9 \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_{10} | \hat{1}_\alpha^- | K_0 \rangle t_{A_3} t_{B_{11}, K_{10}} t_{I_{13}, J_8} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (B_{11}, I_9, J_{12}, K_9) \rangle = \\ & + \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^A 0^J | \hat{g} | 0^I 0^K \rangle \langle A_0 | \hat{0}_\alpha^+ | A_9 \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle \langle K_9 | \hat{0}_\alpha^- | K_0 \rangle t_{B_{11}, I_9} t_{J_{12}, K_9} \\ & + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 0^A 0^I | \hat{g} | 0^K 0^J \rangle \langle A_0 | \hat{0}_\alpha^+ | A_9 \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle \langle K_9 | \hat{0}_\alpha^- | K_0 \rangle t_{B_{11}, I_9} t_{J_{12}, K_9} \\ & + \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^A 0^J | \hat{g} | 0^I 0^K \rangle \langle A_0 | \hat{0}_\alpha^+ | A_9 \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle \langle K_9 | \hat{0}_\alpha^- | K_0 \rangle t_{B_{11}, K_9} t_{I_9, J_{12}} \\ & + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 0^A 0^I | \hat{g} | 0^K 0^J \rangle \langle A_0 | \hat{0}_\alpha^+ | A_9 \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle \langle K_9 | \hat{0}_\alpha^- | K_0 \rangle t_{B_{11}, K_9} t_{I_9, J_{12}} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_1, B_{11}, I_9, J_{12}, K_9) \rangle = \\ & + \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^A 0^J | \hat{g} | 0^I 0^K \rangle \langle A_1 | \hat{0}_\alpha^+ | A_9 \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle \langle K_9 | \hat{0}_\alpha^- | K_0 \rangle t_{A_1} t_{B_{11}, I_9} t_{J_{12}, K_9} \\ & + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 0^A 0^I | \hat{g} | 0^K 0^J \rangle \langle A_1 | \hat{0}_\alpha^+ | A_9 \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle \langle K_9 | \hat{0}_\alpha^- | K_0 \rangle t_{A_1} t_{B_{11}, I_9} t_{J_{12}, K_9} \\ & + \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^A 0^J | \hat{g} | 0^I 0^K \rangle \langle A_1 | \hat{0}_\alpha^+ | A_9 \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle \langle K_9 | \hat{0}_\alpha^- | K_0 \rangle t_{A_1} t_{B_{11}, K_9} t_{I_9, J_{12}} \\ & + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 0^A 0^I | \hat{g} | 0^K 0^J \rangle \langle A_1 | \hat{0}_\alpha^+ | A_9 \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle \langle K_9 | \hat{0}_\alpha^- | K_0 \rangle t_{A_1} t_{B_{11}, K_9} t_{I_9, J_{12}} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (B_{11}, I_9, J_{14}, K_7) \rangle = \\ & + \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^A 0^J | \hat{g} | 0^I 0^K \rangle \langle A_0 | \hat{0}_\alpha^+ | A_9 \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle \langle K_7 | \hat{0}_\beta^- | K_0 \rangle t_{B_{11}, I_9} t_{J_{14}, K_7} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_1, B_{11}, I_9, J_{14}, K_7) \rangle = \\ & + \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^A 0^J | \hat{g} | 0^I 0^K \rangle \langle A_1 | \hat{0}_\alpha^+ | A_9 \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle \langle K_7 | \hat{0}_\beta^- | K_0 \rangle t_{A_1} t_{B_{11}, I_9} t_{J_{14}, K_7} \end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (B_{11}, I_{10}, J_{14}, K_8) \rangle = \\
& + \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^A 0^J | \hat{g} | 1^I 1^K \rangle \langle A_0 | \hat{0}_\alpha^+ | A_9 \rangle \langle I_{10} | \hat{1}_\alpha^- | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle \langle K_8 | \hat{1}_\beta^- | K_0 \rangle t_{B_{11}, I_{10}} t_{J_{14}, K_8} \\
& \langle (A_9, B_{11}) | \hat{H} | (A_1, B_{11}, I_{10}, J_{14}, K_8) \rangle = \\
& + \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^A 0^J | \hat{g} | 1^I 1^K \rangle \langle A_1 | \hat{0}_\alpha^+ | A_9 \rangle \langle I_{10} | \hat{1}_\alpha^- | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle \langle K_8 | \hat{1}_\beta^- | K_0 \rangle t_{A_1} t_{B_{11}, I_{10}} t_{J_{14}, K_8}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (B_{11}, I_9, J_{11}, K_9) \rangle = \\
& + \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^A 1^J | \hat{g} | 0^I 0^K \rangle \langle A_0 | \hat{0}_\alpha^+ | A_9 \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle \langle K_9 | \hat{0}_\alpha^- | K_0 \rangle t_{B_{11}, I_9} t_{J_{11}, K_9} \\
& + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 0^A 0^I | \hat{g} | 0^K 1^J \rangle \langle A_0 | \hat{0}_\alpha^+ | A_9 \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle \langle K_9 | \hat{0}_\alpha^- | K_0 \rangle t_{B_{11}, I_9} t_{J_{11}, K_9} \\
& + \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^A 1^J | \hat{g} | 0^I 0^K \rangle \langle A_0 | \hat{0}_\alpha^+ | A_9 \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle \langle K_9 | \hat{0}_\alpha^- | K_0 \rangle t_{B_{11}, K_9} t_{I_9, J_{11}} \\
& + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 0^A 0^I | \hat{g} | 0^K 1^J \rangle \langle A_0 | \hat{0}_\alpha^+ | A_9 \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle \langle K_9 | \hat{0}_\alpha^- | K_0 \rangle t_{B_{11}, K_9} t_{I_9, J_{11}}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_1, B_{11}, I_9, J_{11}, K_9) \rangle = \\
& + \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^A 1^J | \hat{g} | 0^I 0^K \rangle \langle A_1 | \hat{0}_\alpha^+ | A_9 \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle \langle K_9 | \hat{0}_\alpha^- | K_0 \rangle t_{A_1} t_{B_{11}, I_9} t_{J_{11}, K_9} \\
& + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 0^A 0^I | \hat{g} | 0^K 1^J \rangle \langle A_1 | \hat{0}_\alpha^+ | A_9 \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle \langle K_9 | \hat{0}_\alpha^- | K_0 \rangle t_{A_1} t_{B_{11}, I_9} t_{J_{11}, K_9} \\
& + \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^A 1^J | \hat{g} | 0^I 0^K \rangle \langle A_1 | \hat{0}_\alpha^+ | A_9 \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle \langle K_9 | \hat{0}_\alpha^- | K_0 \rangle t_{A_1} t_{B_{11}, K_9} t_{I_9, J_{11}} \\
& + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 0^A 0^I | \hat{g} | 0^K 1^J \rangle \langle A_1 | \hat{0}_\alpha^+ | A_9 \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle \langle K_9 | \hat{0}_\alpha^- | K_0 \rangle t_{A_1} t_{B_{11}, K_9} t_{I_9, J_{11}}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (B_{11}, I_9, J_{13}, K_7) \rangle = \\
& + \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^A 1^J | \hat{g} | 0^I 0^K \rangle \langle A_0 | \hat{0}_\alpha^+ | A_9 \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_{13} | \hat{1}_\beta^+ | J_0 \rangle \langle K_7 | \hat{0}_\beta^- | K_0 \rangle t_{B_{11}, I_9} t_{J_{13}, K_7}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_1, B_{11}, I_9, J_{13}, K_7) \rangle = \\
& + \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^A 1^J | \hat{g} | 0^I 0^K \rangle \langle A_1 | \hat{0}_\alpha^+ | A_9 \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_{13} | \hat{1}_\beta^+ | J_0 \rangle \langle K_7 | \hat{0}_\beta^- | K_0 \rangle t_{A_1} t_{B_{11}, I_9} t_{J_{13}, K_7}
\end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (B_{11}, I_{10}, J_{13}, K_8) \rangle = \\ & + \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^A 1^J | \hat{g} | 1^I 1^K \rangle \langle A_0 | \hat{0}_\alpha^+ | A_9 \rangle \langle I_{10} | \hat{1}_\alpha^- | I_0 \rangle \langle J_{13} | \hat{1}_\beta^+ | J_0 \rangle \langle K_8 | \hat{1}_\beta^- | K_0 \rangle t_{B_{11}, I_{10}} t_{J_{13}, K_8} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_1, B_{11}, I_{10}, J_{13}, K_8) \rangle = \\ & + \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^A 1^J | \hat{g} | 1^I 1^K \rangle \langle A_1 | \hat{0}_\alpha^+ | A_9 \rangle \langle I_{10} | \hat{1}_\alpha^- | I_0 \rangle \langle J_{13} | \hat{1}_\beta^+ | J_0 \rangle \langle K_8 | \hat{1}_\beta^- | K_0 \rangle t_{A_1} t_{B_{11}, I_{10}} t_{J_{13}, K_8} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_2, B_{11}, I_9, J_{12}, K_9) \rangle = \\ & + \frac{1}{12} \sum_I \sum_J \sum_K \langle 1^A 0^J | \hat{g} | 0^I 0^K \rangle \langle A_2 | \hat{1}_\alpha^+ | A_9 \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle \langle K_9 | \hat{0}_\alpha^- | K_0 \rangle t_{A_2} t_{B_{11}, I_9} t_{J_{12}, K_9} \\ & + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 1^A 0^I | \hat{g} | 0^K 0^J \rangle \langle A_2 | \hat{1}_\alpha^+ | A_9 \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle \langle K_9 | \hat{0}_\alpha^- | K_0 \rangle t_{A_2} t_{B_{11}, I_9} t_{J_{12}, K_9} \\ & + \frac{1}{12} \sum_I \sum_J \sum_K \langle 1^A 0^J | \hat{g} | 0^I 0^K \rangle \langle A_2 | \hat{1}_\alpha^+ | A_9 \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle \langle K_9 | \hat{0}_\alpha^- | K_0 \rangle t_{A_2} t_{B_{11}, K_9} t_{I_9, J_{12}} \\ & + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 1^A 0^I | \hat{g} | 0^K 0^J \rangle \langle A_2 | \hat{1}_\alpha^+ | A_9 \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle \langle K_9 | \hat{0}_\alpha^- | K_0 \rangle t_{A_2} t_{B_{11}, K_9} t_{I_9, J_{12}} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_3, B_{11}, I_9, J_{12}, K_9) \rangle = \\ & + \frac{1}{12} \sum_I \sum_J \sum_K \langle 1^A 0^J | \hat{g} | 0^I 0^K \rangle \langle A_3 | \hat{1}_\alpha^+ | A_9 \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle \langle K_9 | \hat{0}_\alpha^- | K_0 \rangle t_{A_3} t_{B_{11}, I_9} t_{J_{12}, K_9} \\ & + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 1^A 0^I | \hat{g} | 0^K 0^J \rangle \langle A_3 | \hat{1}_\alpha^+ | A_9 \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle \langle K_9 | \hat{0}_\alpha^- | K_0 \rangle t_{A_3} t_{B_{11}, I_9} t_{J_{12}, K_9} \\ & + \frac{1}{12} \sum_I \sum_J \sum_K \langle 1^A 0^J | \hat{g} | 0^I 0^K \rangle \langle A_3 | \hat{1}_\alpha^+ | A_9 \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle \langle K_9 | \hat{0}_\alpha^- | K_0 \rangle t_{A_3} t_{B_{11}, K_9} t_{I_9, J_{12}} \\ & + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 1^A 0^I | \hat{g} | 0^K 0^J \rangle \langle A_3 | \hat{1}_\alpha^+ | A_9 \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle \langle K_9 | \hat{0}_\alpha^- | K_0 \rangle t_{A_3} t_{B_{11}, K_9} t_{I_9, J_{12}} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_2, B_{11}, I_9, J_{14}, K_7) \rangle = \\ & + \frac{1}{12} \sum_I \sum_J \sum_K \langle 1^A 0^J | \hat{g} | 0^I 0^K \rangle \langle A_2 | \hat{1}_\alpha^+ | A_9 \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle \langle K_7 | \hat{0}_\beta^- | K_0 \rangle t_{A_2} t_{B_{11}, I_9} t_{J_{14}, K_7} \end{aligned}$$

$$\langle (A_9, B_{11}) | \hat{H} | (A_3, B_{11}, I_9, J_{14}, K_7) \rangle =$$

$$+ \frac{-1}{12} \sum_I \sum_J \sum_K \langle 1^A 1^I | g | 1^K 0^J \rangle \langle A_3 | \hat{1}_\alpha^+ | A_9 \rangle \langle I_{10} | \hat{1}_\alpha^- | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle \langle K_{10} | \hat{1}_\alpha^- | K_0 \rangle t_{A_3} t_{B_{11}, K_{10}} t_{I_{10}, J_{12}}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_2, B_{11}, I_{10}, J_{14}, K_8) \rangle = \\ & + \frac{1}{12} \sum_I \sum_J \sum_K \langle 1^A 0^J | \hat{g} | 1^I 1^K \rangle \langle A_2 | \hat{1}_\alpha^+ | A_9 \rangle \langle I_{10} | \hat{1}_\alpha^- | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle \langle K_8 | \hat{1}_\beta^- | K_0 \rangle t_{A_2} t_{B_{11}, I_{10}} t_{J_{14}, K_8} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_3, B_{11}, I_{10}, J_{14}, K_8) \rangle = \\ & + \frac{1}{12} \sum_I \sum_J \sum_K \langle 1^A 0^J | \hat{g} | 1^I 1^K \rangle \langle A_3 | \hat{1}_\alpha^+ | A_9 \rangle \langle I_{10} | \hat{1}_\alpha^- | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle \langle K_8 | \hat{1}_\beta^- | K_0 \rangle t_{A_3} t_{B_{11}, I_{10}} t_{J_{14}, K_8} \end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_2, B_{11}, I_9, J_{11}, K_9) \rangle = \\
& + \frac{1}{12} \sum_I \sum_J \sum_K \langle 1^A 1^J | \hat{g} | 0^I 0^K \rangle \langle A_2 | \hat{1}_\alpha^+ | A_9 \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle \langle K_9 | \hat{0}_\alpha^- | K_0 \rangle t_{A_2} t_{B_{11}, I_9} t_{J_{11}, K_9} \\
& + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 1^A 0^I | \hat{g} | 0^K 1^J \rangle \langle A_2 | \hat{1}_\alpha^+ | A_9 \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle \langle K_9 | \hat{0}_\alpha^- | K_0 \rangle t_{A_2} t_{B_{11}, I_9} t_{J_{11}, K_9} \\
& + \frac{1}{12} \sum_I \sum_J \sum_K \langle 1^A 1^J | \hat{g} | 0^I 0^K \rangle \langle A_2 | \hat{1}_\alpha^+ | A_9 \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle \langle K_9 | \hat{0}_\alpha^- | K_0 \rangle t_{A_2} t_{B_{11}, K_9} t_{I_9, J_{11}} \\
& + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 1^A 0^I | \hat{g} | 0^K 1^J \rangle \langle A_2 | \hat{1}_\alpha^+ | A_9 \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle \langle K_9 | \hat{0}_\alpha^- | K_0 \rangle t_{A_2} t_{B_{11}, K_9} t_{I_9, J_{11}}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_3, B_{11}, I_9, J_{11}, K_9) \rangle = \\
& + \frac{1}{12} \sum_I \sum_J \sum_K \langle 1^A 1^J | \hat{g} | 0^I 0^K \rangle \langle A_3 | \hat{1}_\alpha^+ | A_9 \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle \langle K_9 | \hat{0}_\alpha^- | K_0 \rangle t_{A_3} t_{B_{11}, I_9} t_{J_{11}, K_9} \\
& + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 1^A 0^I | \hat{g} | 0^K 1^J \rangle \langle A_3 | \hat{1}_\alpha^+ | A_9 \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle \langle K_9 | \hat{0}_\alpha^- | K_0 \rangle t_{A_3} t_{B_{11}, I_9} t_{J_{11}, K_9} \\
& + \frac{1}{12} \sum_I \sum_J \sum_K \langle 1^A 1^J | \hat{g} | 0^I 0^K \rangle \langle A_3 | \hat{1}_\alpha^+ | A_9 \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle \langle K_9 | \hat{0}_\alpha^- | K_0 \rangle t_{A_3} t_{B_{11}, K_9} t_{I_9, J_{11}} \\
& + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 1^A 0^I | \hat{g} | 0^K 1^J \rangle \langle A_3 | \hat{1}_\alpha^+ | A_9 \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle \langle K_9 | \hat{0}_\alpha^- | K_0 \rangle t_{A_3} t_{B_{11}, K_9} t_{I_9, J_{11}}
\end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_2, B_{11}, I_9, J_{13}, K_7) \rangle = \\ & + \frac{1}{12} \sum_I \sum_J \sum_K \langle 1^A 1^J | \hat{g} | 0^I 0^K \rangle \langle A_2 | \hat{1}_\alpha^+ | A_9 \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_{13} | \hat{1}_\beta^+ | J_0 \rangle \langle K_7 | \hat{0}_\beta^- | K_0 \rangle t_{A_2} t_{B_{11}, I_9} t_{J_{13}, K_7} \end{aligned}$$

$$\begin{aligned}
& + \frac{1}{12} \sum_I \sum_J \sum_K \langle 1^A 1^J | \hat{g} | 1^I 1^K \rangle \langle A_3 | \hat{1}_\alpha^+ | A_9 \rangle \langle I_{10} | \hat{1}_\alpha^- | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle \langle K_{10} | \hat{1}_\alpha^- | K_0 \rangle t_{A_3} t_{B_{11}, K_{10}} t_{I_{10}, J_{11}} \\
& + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 1^A 1^I | \hat{g} | 1^K 1^J \rangle \langle A_3 | \hat{1}_\alpha^+ | A_9 \rangle \langle I_{10} | \hat{1}_\alpha^- | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle \langle K_{10} | \hat{1}_\alpha^- | K_0 \rangle t_{A_3} t_{B_{11}, K_{10}} t_{I_{10}, J_{11}}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_2, B_{11}, I_{10}, J_{13}, K_8) \rangle = \\
& + \frac{1}{12} \sum_I \sum_J \sum_K \langle 1^A 1^J | \hat{g} | 1^I 1^K \rangle \langle A_2 | \hat{1}_\alpha^+ | A_9 \rangle \langle I_{10} | \hat{1}_\alpha^- | I_0 \rangle \langle J_{13} | \hat{1}_\beta^+ | J_0 \rangle \langle K_8 | \hat{1}_\beta^- | K_0 \rangle t_{A_2} t_{B_{11}, I_{10}} t_{J_{13}, K_8}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_3, B_{11}, I_{10}, J_{13}, K_8) \rangle = \\
& + \frac{1}{12} \sum_I \sum_J \sum_K \langle 1^A 1^J | \hat{g} | 1^I 1^K \rangle \langle A_3 | \hat{1}_\alpha^+ | A_9 \rangle \langle I_{10} | \hat{1}_\alpha^- | I_0 \rangle \langle J_{13} | \hat{1}_\beta^+ | J_0 \rangle \langle K_8 | \hat{1}_\beta^- | K_0 \rangle t_{A_3} t_{B_{11}, I_{10}} t_{J_{13}, K_8}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (B_{11}, I_7, J_{14}, K_9) \rangle = \\
& + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 0^A 0^I | \hat{g} | 0^K 0^J \rangle \langle A_0 | \hat{0}_\alpha^+ | A_9 \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle \langle K_9 | \hat{0}_\alpha^- | K_0 \rangle t_{B_{11}, K_9} t_{I_7, J_{14}}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_1, B_{11}, I_7, J_{14}, K_9) \rangle = \\
& + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 0^A 0^I | \hat{g} | 0^K 0^J \rangle \langle A_1 | \hat{0}_\alpha^+ | A_9 \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle \langle K_9 | \hat{0}_\alpha^- | K_0 \rangle t_{A_1} t_{B_{11}, K_9} t_{I_7, J_{14}}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (B_{11}, I_8, J_{14}, K_9) \rangle = \\
& + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 0^A 1^I | \hat{g} | 0^K 0^J \rangle \langle A_0 | \hat{0}_\alpha^+ | A_9 \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle \langle K_9 | \hat{0}_\alpha^- | K_0 \rangle t_{B_{11}, K_9} t_{I_8, J_{14}}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_1, B_{11}, I_8, J_{14}, K_9) \rangle = \\
& + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 0^A 1^I | \hat{g} | 0^K 0^J \rangle \langle A_1 | \hat{0}_\alpha^+ | A_9 \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle \langle K_9 | \hat{0}_\alpha^- | K_0 \rangle t_{A_1} t_{B_{11}, K_9} t_{I_8, J_{14}}
\end{aligned}$$

$$\langle (A_9, B_{11}) | \hat{H} | (B_{11}, I_7, J_{14}, K_{10}) \rangle =$$

$$+ \frac{-1}{12} \sum_I \sum_J \sum_K \langle 0^A 0^I | \hat{g} | 1^K 0^J \rangle \langle A_0 | \hat{0}_\alpha^+ | A_9 \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle \langle K_{10} | \hat{1}_\alpha^- | K_0 \rangle t_{B_{11}, K_{10}} t_{I_7, J_{14}}$$

$$\langle (A_9, B_{11}) | \hat{H} | (A_1, B_{11}, I_7, J_{14}, K_{10}) \rangle =$$

$$+ \frac{-1}{12} \sum_I \sum_J \sum_K \langle 0^A 0^I | \hat{g} | 1^K 0^J \rangle \langle A_1 | \hat{0}_\alpha^+ | A_9 \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle \langle K_{10} | \hat{1}_\alpha^- | K_0 \rangle t_{A_1} t_{B_{11}, K_{10}} t_{I_7, J_{14}}$$

$$\langle (A_9, B_{11}) | \hat{H} | (B_{11}, I_8, J_{14}, K_{10}) \rangle =$$

$$+ \frac{-1}{12} \sum_I \sum_J \sum_K \langle 0^A 1^I | \hat{g} | 1^K 0^J \rangle \langle A_0 | \hat{0}_\alpha^+ | A_9 \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle \langle K_{10} | \hat{1}_\alpha^- | K_0 \rangle t_{B_{11}, K_{10}} t_{I_8, J_{14}}$$

$$\langle (A_9, B_{11}) | \hat{H} | (A_1, B_{11}, I_8, J_{14}, K_{10}) \rangle =$$

$$+ \frac{-1}{12} \sum_I \sum_J \sum_K \langle 0^A 1^I | \hat{g} | 1^K 0^J \rangle \langle A_1 | \hat{0}_\alpha^+ | A_9 \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle \langle K_{10} | \hat{1}_\alpha^- | K_0 \rangle t_{A_1} t_{B_{11}, K_{10}} t_{I_8, J_{14}}$$

$$\langle (A_9, B_{11}) | \hat{H} | (B_{11}, I_7, J_{13}, K_9) \rangle =$$

$$+ \frac{-1}{12} \sum_I \sum_J \sum_K \langle 0^A 0^I | \hat{g} | 0^K 1^J \rangle \langle A_0 | \hat{0}_\alpha^+ | A_9 \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_{13} | \hat{1}_\beta^+ | J_0 \rangle \langle K_9 | \hat{0}_\alpha^- | K_0 \rangle t_{B_{11}, K_9} t_{I_7, J_{13}}$$

$$\langle (A_9, B_{11}) | \hat{H} | (A_1, B_{11}, I_7, J_{13}, K_9) \rangle =$$

$$+ \frac{-1}{12} \sum_I \sum_J \sum_K \langle 0^A 0^I | \hat{g} | 0^K 1^J \rangle \langle A_1 | \hat{0}_\alpha^+ | A_9 \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_{13} | \hat{1}_\beta^+ | J_0 \rangle \langle K_9 | \hat{0}_\alpha^- | K_0 \rangle t_{A_1} t_{B_{11}, K_9} t_{I_7, J_{13}}$$

$$\langle (A_9, B_{11}) | \hat{H} | (B_{11}, I_8, J_{13}, K_9) \rangle =$$

$$+ \frac{-1}{12} \sum_I \sum_J \sum_K \langle 0^A 1^I | \hat{g} | 0^K 1^J \rangle \langle A_0 | \hat{0}_\alpha^+ | A_9 \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_{13} | \hat{1}_\beta^+ | J_0 \rangle \langle K_9 | \hat{0}_\alpha^- | K_0 \rangle t_{B_{11}, K_9} t_{I_8, J_{13}}$$

$$\langle (A_9, B_{11}) | \hat{H} | (A_1, B_{11}, I_8, J_{13}, K_9) \rangle =$$

$$+ \frac{-1}{12} \sum_I \sum_J \sum_K \langle 0^A 1^I | \hat{g} | 0^K 1^J \rangle \langle A_1 | \hat{0}_\alpha^+ | A_9 \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_{13} | \hat{1}_\beta^+ | J_0 \rangle \langle K_9 | \hat{0}_\alpha^- | K_0 \rangle t_{A_1} t_{B_{11}, K_9} t_{I_8, J_{13}}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (B_{11}, I_7, J_{13}, K_{10}) \rangle = \\ & + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 0^A 0^I | \hat{g} | 1^K 1^J \rangle \langle A_0 | \hat{0}_\alpha^+ | A_9 \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_{13} | \hat{1}_\beta^+ | J_0 \rangle \langle K_{10} | \hat{1}_\alpha^- | K_0 \rangle t_{B_{11}, K_{10}} t_{I_7, J_{13}} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_1, B_{11}, I_7, J_{13}, K_{10}) \rangle = \\ & + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 0^A 0^I | \hat{g} | 1^K 1^J \rangle \langle A_1 | \hat{0}_\alpha^+ | A_9 \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_{13} | \hat{1}_\beta^+ | J_0 \rangle \langle K_{10} | \hat{1}_\alpha^- | K_0 \rangle t_{A_1} t_{B_{11}, K_{10}} t_{I_7, J_{13}} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (B_{11}, I_8, J_{13}, K_{10}) \rangle = \\ & + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 0^A 1^I | \hat{g} | 1^K 1^J \rangle \langle A_0 | \hat{0}_\alpha^+ | A_9 \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_{13} | \hat{1}_\beta^+ | J_0 \rangle \langle K_{10} | \hat{1}_\alpha^- | K_0 \rangle t_{B_{11}, K_{10}} t_{I_8, J_{13}} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_1, B_{11}, I_8, J_{13}, K_{10}) \rangle = \\ & + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 0^A 1^I | \hat{g} | 1^K 1^J \rangle \langle A_1 | \hat{0}_\alpha^+ | A_9 \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_{13} | \hat{1}_\beta^+ | J_0 \rangle \langle K_{10} | \hat{1}_\alpha^- | K_0 \rangle t_{A_1} t_{B_{11}, K_{10}} t_{I_8, J_{13}} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_2, B_{11}, I_7, J_{14}, K_9) \rangle = \\ & + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 1^A 0^I | \hat{g} | 0^K 0^J \rangle \langle A_2 | \hat{1}_\alpha^+ | A_9 \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle \langle K_9 | \hat{0}_\alpha^- | K_0 \rangle t_{A_2} t_{B_{11}, K_9} t_{I_7, J_{14}} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_3, B_{11}, I_7, J_{14}, K_9) \rangle = \\ & + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 1^A 0^I | \hat{g} | 0^K 0^J \rangle \langle A_3 | \hat{1}_\alpha^+ | A_9 \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle \langle K_9 | \hat{0}_\alpha^- | K_0 \rangle t_{A_3} t_{B_{11}, K_9} t_{I_7, J_{14}} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_2, B_{11}, I_8, J_{14}, K_9) \rangle = \\ & + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 1^A 1^I | \hat{g} | 0^K 0^J \rangle \langle A_2 | \hat{1}_\alpha^+ | A_9 \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle \langle K_9 | \hat{0}_\alpha^- | K_0 \rangle t_{A_2} t_{B_{11}, K_9} t_{I_8, J_{14}} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_3, B_{11}, I_8, J_{14}, K_9) \rangle = \\ & + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 1^A 1^I | \hat{g} | 0^K 0^J \rangle \langle A_3 | \hat{1}_\alpha^+ | A_9 \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle \langle K_9 | \hat{0}_\alpha^- | K_0 \rangle t_{A_3} t_{B_{11}, K_9} t_{I_8, J_{14}} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_2, B_{11}, I_7, J_{14}, K_{10}) \rangle = \\ & + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 1^A 0^I | \hat{g} | 1^K 0^J \rangle \langle A_2 | \hat{1}_\alpha^+ | A_9 \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle \langle K_{10} | \hat{1}_\alpha^- | K_0 \rangle t_{A_2} t_{B_{11}, K_{10}} t_{I_7, J_{14}} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_3, B_{11}, I_7, J_{14}, K_{10}) \rangle = \\ & + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 1^A 0^I | \hat{g} | 1^K 0^J \rangle \langle A_3 | \hat{1}_\alpha^+ | A_9 \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle \langle K_{10} | \hat{1}_\alpha^- | K_0 \rangle t_{A_3} t_{B_{11}, K_{10}} t_{I_7, J_{14}} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_2, B_{11}, I_8, J_{14}, K_{10}) \rangle = \\ & + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 1^A 1^I | \hat{g} | 1^K 0^J \rangle \langle A_2 | \hat{1}_\alpha^+ | A_9 \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle \langle K_{10} | \hat{1}_\alpha^- | K_0 \rangle t_{A_2} t_{B_{11}, K_{10}} t_{I_8, J_{14}} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_3, B_{11}, I_8, J_{14}, K_{10}) \rangle = \\ & + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 1^A 1^I | \hat{g} | 1^K 0^J \rangle \langle A_3 | \hat{1}_\alpha^+ | A_9 \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle \langle K_{10} | \hat{1}_\alpha^- | K_0 \rangle t_{A_3} t_{B_{11}, K_{10}} t_{I_8, J_{14}} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_2, B_{11}, I_7, J_{13}, K_9) \rangle = \\ & + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 1^A 0^I | \hat{g} | 0^K 1^J \rangle \langle A_2 | \hat{1}_\alpha^+ | A_9 \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_{13} | \hat{1}_\beta^+ | J_0 \rangle \langle K_9 | \hat{0}_\alpha^- | K_0 \rangle t_{A_2} t_{B_{11}, K_9} t_{I_7, J_{13}} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_3, B_{11}, I_7, J_{13}, K_9) \rangle = \\ & + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 1^A 0^I | \hat{g} | 0^K 1^J \rangle \langle A_3 | \hat{1}_\alpha^+ | A_9 \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_{13} | \hat{1}_\beta^+ | J_0 \rangle \langle K_9 | \hat{0}_\alpha^- | K_0 \rangle t_{A_3} t_{B_{11}, K_9} t_{I_7, J_{13}} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_2, B_{11}, I_8, J_{13}, K_9) \rangle = \\ & + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 1^A 1^I | \hat{g} | 0^K 1^J \rangle \langle A_2 | \hat{1}_\alpha^+ | A_9 \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_{13} | \hat{1}_\beta^+ | J_0 \rangle \langle K_9 | \hat{0}_\alpha^- | K_0 \rangle t_{A_2} t_{B_{11}, K_9} t_{I_8, J_{13}} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_3, B_{11}, I_8, J_{13}, K_9) \rangle = \\ & + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 1^A 1^I | \hat{g} | 0^K 1^J \rangle \langle A_3 | \hat{1}_\alpha^+ | A_9 \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_{13} | \hat{1}_\beta^+ | J_0 \rangle \langle K_9 | \hat{0}_\alpha^- | K_0 \rangle t_{A_3} t_{B_{11}, K_9} t_{I_8, J_{13}} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_2, B_{11}, I_7, J_{13}, K_{10}) \rangle = \\ & + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 1^A 0^I | \hat{g} | 1^K 1^J \rangle \langle A_2 | \hat{1}_\alpha^+ | A_9 \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_{13} | \hat{1}_\beta^+ | J_0 \rangle \langle K_{10} | \hat{1}_\alpha^- | K_0 \rangle t_{A_2} t_{B_{11}, K_{10}} t_{I_7, J_{13}} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_3, B_{11}, I_7, J_{13}, K_{10}) \rangle = \\ & + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 1^A 0^I | \hat{g} | 1^K 1^J \rangle \langle A_3 | \hat{1}_\alpha^+ | A_9 \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_{13} | \hat{1}_\beta^+ | J_0 \rangle \langle K_{10} | \hat{1}_\alpha^- | K_0 \rangle t_{A_3} t_{B_{11}, K_{10}} t_{I_7, J_{13}} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_2, B_{11}, I_8, J_{13}, K_{10}) \rangle = \\ & + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 1^A 1^I | \hat{g} | 1^K 1^J \rangle \langle A_2 | \hat{1}_\alpha^+ | A_9 \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_{13} | \hat{1}_\beta^+ | J_0 \rangle \langle K_{10} | \hat{1}_\alpha^- | K_0 \rangle t_{A_2} t_{B_{11}, K_{10}} t_{I_8, J_{13}} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_3, B_{11}, I_8, J_{13}, K_{10}) \rangle = \\ & + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 1^A 1^I | \hat{g} | 1^K 1^J \rangle \langle A_3 | \hat{1}_\alpha^+ | A_9 \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_{13} | \hat{1}_\beta^+ | J_0 \rangle \langle K_{10} | \hat{1}_\alpha^- | K_0 \rangle t_{A_3} t_{B_{11}, K_{10}} t_{I_8, J_{13}} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (B_{11}, I_9, J_9, K_{12}) \rangle = \\ & + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 0^A 0^J | \hat{g} | 0^I 0^K \rangle \langle A_0 | \hat{0}_\alpha^+ | A_9 \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle \langle K_{12} | \hat{0}_\alpha^+ | K_0 \rangle t_{B_{11}, I_9} t_{J_9, K_{12}} \\ & + \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^A 0^I | \hat{g} | 0^J 0^K \rangle \langle A_0 | \hat{0}_\alpha^+ | A_9 \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle \langle K_{12} | \hat{0}_\alpha^+ | K_0 \rangle t_{B_{11}, I_9} t_{J_9, K_{12}} \\ & + \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^A 0^J | \hat{g} | 0^I 0^K \rangle \langle A_0 | \hat{0}_\alpha^+ | A_9 \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle \langle K_{12} | \hat{0}_\alpha^+ | K_0 \rangle t_{B_{11}, J_9} t_{I_9, K_{12}} \\ & + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 0^A 0^I | \hat{g} | 0^J 0^K \rangle \langle A_0 | \hat{0}_\alpha^+ | A_9 \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle \langle K_{12} | \hat{0}_\alpha^+ | K_0 \rangle t_{B_{11}, J_9} t_{I_9, K_{12}} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (B_{11}, I_9, J_8, K_{14}) \rangle = \\ & + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 0^A 1^J | \hat{g} | 0^I 0^K \rangle \langle A_0 | \hat{0}_\alpha^+ | A_9 \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_{14} | \hat{0}_\beta^+ | K_0 \rangle t_{B_{11}, I_9} t_{J_8, K_{14}} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_1, B_{11}, I_9, J_8, K_{14}) \rangle = \\ & + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 0^A 1^J | \hat{g} | 0^I 0^K \rangle \langle A_1 | \hat{0}_\alpha^+ | A_9 \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_{14} | \hat{0}_\beta^+ | K_0 \rangle t_{A_1} t_{B_{11}, I_9} t_{J_8, K_{14}} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (B_{11}, I_{10}, J_9, K_{12}) \rangle = \\ & + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 0^A 0^J | \hat{g} | 1^I 0^K \rangle \langle A_0 | \hat{0}_\alpha^+ | A_9 \rangle \langle I_{10} | \hat{1}_\alpha^- | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle \langle K_{12} | \hat{0}_\alpha^+ | K_0 \rangle t_{B_{11}, I_{10}} t_{J_9, K_{12}} \\ & + \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^A 1^I | \hat{g} | 0^J 0^K \rangle \langle A_0 | \hat{0}_\alpha^+ | A_9 \rangle \langle I_{10} | \hat{1}_\alpha^- | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle \langle K_{12} | \hat{0}_\alpha^+ | K_0 \rangle t_{B_{11}, I_{10}} t_{J_9, K_{12}} \\ & + \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^A 0^J | \hat{g} | 1^I 0^K \rangle \langle A_0 | \hat{0}_\alpha^+ | A_9 \rangle \langle I_{10} | \hat{1}_\alpha^- | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle \langle K_{12} | \hat{0}_\alpha^+ | K_0 \rangle t_{B_{11}, J_9} t_{I_{10}, K_{12}} \\ & + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 0^A 1^I | \hat{g} | 0^J 0^K \rangle \langle A_0 | \hat{0}_\alpha^+ | A_9 \rangle \langle I_{10} | \hat{1}_\alpha^- | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle \langle K_{12} | \hat{0}_\alpha^+ | K_0 \rangle t_{B_{11}, J_9} t_{I_{10}, K_{12}} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_1, B_{11}, I_{10}, J_9, K_{12}) \rangle = \\ & + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 0^A 0^J | \hat{g} | 1^I 0^K \rangle \langle A_1 | \hat{0}_\alpha^+ | A_9 \rangle \langle I_{10} | \hat{1}_\alpha^- | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle \langle K_{12} | \hat{0}_\alpha^+ | K_0 \rangle t_{A_1} t_{B_{11}, I_{10}} t_{J_9, K_{12}} \\ & + \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^A 1^I | \hat{g} | 0^J 0^K \rangle \langle A_1 | \hat{0}_\alpha^+ | A_9 \rangle \langle I_{10} | \hat{1}_\alpha^- | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle \langle K_{12} | \hat{0}_\alpha^+ | K_0 \rangle t_{A_1} t_{B_{11}, I_{10}} t_{J_9, K_{12}} \\ & + \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^A 0^J | \hat{g} | 1^I 0^K \rangle \langle A_1 | \hat{0}_\alpha^+ | A_9 \rangle \langle I_{10} | \hat{1}_\alpha^- | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle \langle K_{12} | \hat{0}_\alpha^+ | K_0 \rangle t_{A_1} t_{B_{11}, J_9} t_{I_{10}, K_{12}} \\ & + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 0^A 1^I | \hat{g} | 0^J 0^K \rangle \langle A_1 | \hat{0}_\alpha^+ | A_9 \rangle \langle I_{10} | \hat{1}_\alpha^- | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle \langle K_{12} | \hat{0}_\alpha^+ | K_0 \rangle t_{A_1} t_{B_{11}, J_9} t_{I_{10}, K_{12}} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (B_{11}, I_{10}, J_7, K_{14}) \rangle = \\ & + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 0^A 0^J | \hat{g} | 1^I 0^K \rangle \langle A_0 | \hat{0}_\alpha^+ | A_9 \rangle \langle I_{10} | \hat{1}_\alpha^- | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle \langle K_{14} | \hat{0}_\beta^+ | K_0 \rangle t_{B_{11}, I_{10}} t_{J_7, K_{14}} \end{aligned}$$

$$\langle (A_9, B_{11}) | \hat{H} | (A_1, B_{11}, I_{10}, J_7, K_{14}) \rangle =$$

$$+\frac{-1}{12}\sum_I\sum_J\sum_K\langle 0^A0^I|\hat{g}|0^J1^K\rangle\langle A_0|\hat{0}_\alpha^+|A_9\rangle\langle I_9|\hat{0}_\alpha^-|I_0\rangle\langle J_9|\hat{0}_\alpha^-|J_0\rangle\langle K_{11}|\hat{1}_\alpha^+|K_0\rangle t_{B_{11},J_9}t_{I_9,K_{11}}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_1, B_{11}, I_9, J_9, K_{11}) \rangle = \\ & + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 0^A 0^J | \hat{g} | 0^I 1^K \rangle \langle A_1 | \hat{0}_\alpha^+ | A_9 \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle \langle K_{11} | \hat{1}_\alpha^+ | K_0 \rangle t_{A_1} t_{B_{11}, I_9} t_{J_9, K_{11}} \\ & + \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^A 0^I | \hat{g} | 0^J 1^K \rangle \langle A_1 | \hat{0}_\alpha^+ | A_9 \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle \langle K_{11} | \hat{1}_\alpha^+ | K_0 \rangle t_{A_1} t_{B_{11}, I_9} t_{J_9, K_{11}} \\ & + \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^A 0^J | \hat{g} | 0^I 1^K \rangle \langle A_1 | \hat{0}_\alpha^+ | A_9 \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle \langle K_{11} | \hat{1}_\alpha^+ | K_0 \rangle t_{A_1} t_{B_{11}, J_9} t_{I_9, K_{11}} \\ & + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 0^A 0^I | \hat{g} | 0^J 1^K \rangle \langle A_1 | \hat{0}_\alpha^+ | A_9 \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle \langle K_{11} | \hat{1}_\alpha^+ | K_0 \rangle t_{A_1} t_{B_{11}, J_9} t_{I_9, K_{11}} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (B_{11}, I_9, J_7, K_{13}) \rangle = \\ & + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 0^A 0^J | \hat{g} | 0^I 1^K \rangle \langle A_0 | \hat{0}_\alpha^+ | A_9 \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle \langle K_{13} | \hat{1}_\beta^+ | K_0 \rangle t_{B_{11}, I_9} t_{J_7, K_{13}} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_1, B_{11}, I_9, J_7, K_{13}) \rangle = \\ & + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 0^A 0^J | \hat{g} | 0^I 1^K \rangle \langle A_1 | \hat{0}_\alpha^+ | A_9 \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle \langle K_{13} | \hat{1}_\beta^+ | K_0 \rangle t_{A_1} t_{B_{11}, I_9} t_{J_7, K_{13}} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (B_{11}, I_9, J_{10}, K_{11}) \rangle = \\ & + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 0^A 1^J | \hat{g} | 0^I 1^K \rangle \langle A_0 | \hat{0}_\alpha^+ | A_9 \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle \langle K_{11} | \hat{1}_\alpha^+ | K_0 \rangle t_{B_{11}, I_9} t_{J_{10}, K_{11}} \\ & + \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^A 0^I | \hat{g} | 1^J 1^K \rangle \langle A_0 | \hat{0}_\alpha^+ | A_9 \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle \langle K_{11} | \hat{1}_\alpha^+ | K_0 \rangle t_{B_{11}, I_9} t_{J_{10}, K_{11}} \\ & + \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^A 1^J | \hat{g} | 0^I 1^K \rangle \langle A_0 | \hat{0}_\alpha^+ | A_9 \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle \langle K_{11} | \hat{1}_\alpha^+ | K_0 \rangle t_{B_{11}, J_{10}} t_{I_9, K_{11}} \\ & + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 0^A 0^I | \hat{g} | 1^J 1^K \rangle \langle A_0 | \hat{0}_\alpha^+ | A_9 \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle \langle K_{11} | \hat{1}_\alpha^+ | K_0 \rangle t_{B_{11}, J_{10}} t_{I_9, K_{11}} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_1, B_{11}, I_9, J_{10}, K_{11}) \rangle = \\ & + \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^A 1^J | \hat{g} | 0^I 1^K \rangle \langle A_1 | \hat{0}_\alpha^+ | A_9 \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle \langle K_{11} | \hat{1}_\alpha^+ | K_0 \rangle t_{A_1} t_{B_{11}, I_9} t_{J_{10}, K_{11}} \\ & + \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^A 0^I | \hat{g} | 1^J 1^K \rangle \langle A_1 | \hat{0}_\alpha^+ | A_9 \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle \langle K_{11} | \hat{1}_\alpha^+ | K_0 \rangle t_{A_1} t_{B_{11}, I_9} t_{J_{10}, K_{11}} \\ & + \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^A 1^J | \hat{g} | 0^I 1^K \rangle \langle A_1 | \hat{0}_\alpha^+ | A_9 \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle \langle K_{11} | \hat{1}_\alpha^+ | K_0 \rangle t_{A_1} t_{B_{11}, J_{10}} t_{I_9, K_{11}} \end{aligned}$$

$$+ \frac{-1}{12} \sum_I \sum_J \sum_K \langle 0^A 0^I | \hat{g} | 1^J 1^K \rangle \langle A_1 | \hat{0}_\alpha^+ | A_9 \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle \langle K_{11} | \hat{1}_\alpha^+ | K_0 \rangle t_{A_1} t_{B_{11}, J_{10}} t_{I_9, K_{11}}$$

$$\langle (A_9, B_{11}) | \hat{H} | (B_{11}, I_9, J_8, K_{13}) \rangle =$$

$$+ \frac{-1}{12} \sum_I \sum_J \sum_K \langle 0^A 1^J | \hat{g} | 0^I 1^K \rangle \langle A_0 | \hat{0}_\alpha^+ | A_9 \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_{13} | \hat{1}_\beta^+ | K_0 \rangle t_{B_{11}, I_9} t_{J_8, K_{13}}$$

$$\langle (A_9, B_{11}) | \hat{H} | (A_1, B_{11}, I_9, J_8, K_{13}) \rangle =$$

$$+ \frac{-1}{12} \sum_I \sum_J \sum_K \langle 0^A 1^J | \hat{g} | 0^I 1^K \rangle \langle A_1 | \hat{0}_\alpha^+ | A_9 \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_{13} | \hat{1}_\beta^+ | K_0 \rangle t_{A_1} t_{B_{11}, I_9} t_{J_8, K_{13}}$$

$$\langle (A_9, B_{11}) | \hat{H} | (B_{11}, I_{10}, J_9, K_{11}) \rangle =$$

$$\begin{aligned} & + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 0^A 0^J | \hat{g} | 1^I 1^K \rangle \langle A_0 | \hat{0}_\alpha^+ | A_9 \rangle \langle I_{10} | \hat{1}_\alpha^- | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle \langle K_{11} | \hat{1}_\alpha^+ | K_0 \rangle t_{B_{11}, I_{10}} t_{J_9, K_{11}} \\ & + \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^A 1^I | \hat{g} | 0^J 1^K \rangle \langle A_0 | \hat{0}_\alpha^+ | A_9 \rangle \langle I_{10} | \hat{1}_\alpha^- | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle \langle K_{11} | \hat{1}_\alpha^+ | K_0 \rangle t_{B_{11}, I_{10}} t_{J_9, K_{11}} \\ & + \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^A 0^J | \hat{g} | 1^I 1^K \rangle \langle A_0 | \hat{0}_\alpha^+ | A_9 \rangle \langle I_{10} | \hat{1}_\alpha^- | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle \langle K_{11} | \hat{1}_\alpha^+ | K_0 \rangle t_{B_{11}, J_9} t_{I_{10}, K_{11}} \\ & + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 0^A 1^I | \hat{g} | 0^J 1^K \rangle \langle A_0 | \hat{0}_\alpha^+ | A_9 \rangle \langle I_{10} | \hat{1}_\alpha^- | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle \langle K_{11} | \hat{1}_\alpha^+ | K_0 \rangle t_{B_{11}, J_9} t_{I_{10}, K_{11}} \end{aligned}$$

$$\langle (A_9, B_{11}) | \hat{H} | (A_1, B_{11}, I_{10}, J_9, K_{11}) \rangle =$$

$$\begin{aligned} & + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 0^A 0^J | \hat{g} | 1^I 1^K \rangle \langle A_1 | \hat{0}_\alpha^+ | A_9 \rangle \langle I_{10} | \hat{1}_\alpha^- | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle \langle K_{11} | \hat{1}_\alpha^+ | K_0 \rangle t_{A_1} t_{B_{11}, I_{10}} t_{J_9, K_{11}} \\ & + \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^A 1^I | \hat{g} | 0^J 1^K \rangle \langle A_1 | \hat{0}_\alpha^+ | A_9 \rangle \langle I_{10} | \hat{1}_\alpha^- | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle \langle K_{11} | \hat{1}_\alpha^+ | K_0 \rangle t_{A_1} t_{B_{11}, I_{10}} t_{J_9, K_{11}} \\ & + \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^A 0^J | \hat{g} | 1^I 1^K \rangle \langle A_1 | \hat{0}_\alpha^+ | A_9 \rangle \langle I_{10} | \hat{1}_\alpha^- | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle \langle K_{11} | \hat{1}_\alpha^+ | K_0 \rangle t_{A_1} t_{B_{11}, J_9} t_{I_{10}, K_{11}} \\ & + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 0^A 1^I | \hat{g} | 0^J 1^K \rangle \langle A_1 | \hat{0}_\alpha^+ | A_9 \rangle \langle I_{10} | \hat{1}_\alpha^- | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle \langle K_{11} | \hat{1}_\alpha^+ | K_0 \rangle t_{A_1} t_{B_{11}, J_9} t_{I_{10}, K_{11}} \end{aligned}$$

$$\langle (A_9, B_{11}) | \hat{H} | (B_{11}, I_{10}, J_7, K_{13}) \rangle =$$

$$+ \frac{-1}{12} \sum_I \sum_J \sum_K \langle 0^A 0^J | \hat{g} | 1^I 1^K \rangle \langle A_0 | \hat{0}_\alpha^+ | A_9 \rangle \langle I_{10} | \hat{1}_\alpha^- | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle \langle K_{13} | \hat{1}_\beta^+ | K_0 \rangle t_{B_{11}, I_{10}} t_{J_7, K_{13}}$$

$$+ \frac{-1}{12} \sum_I \sum_J \sum_K \langle 0^A 0^I | \hat{g} | 0^J 0^K \rangle \langle A_0 | \hat{0}_\alpha^+ | A_9 \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle \langle K_{14} | \hat{0}_\beta^+ | K_0 \rangle t_{B_{11}, J_9} t_{I_7, K_{14}}$$

$$\langle (A_9, B_{11}) | \hat{H} | (A_1, B_{11}, I_7, J_9, K_{14}) \rangle =$$

$$+ \frac{-1}{12} \sum_I \sum_J \sum_K \langle 0^A 0^I | \hat{g} | 0^J 0^K \rangle \langle A_1 | \hat{0}_\alpha^+ | A_9 \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle \langle K_{14} | \hat{0}_\beta^+ | K_0 \rangle t_{A_1} t_{B_{11}, J_9} t_{I_7, K_{14}}$$

$$\langle (A_9, B_{11}) | \hat{H} | (B_{11}, I_8, J_9, K_{14}) \rangle =$$

$$+ \frac{-1}{12} \sum_I \sum_J \sum_K \langle 0^A 1^I | \hat{g} | 0^J 0^K \rangle \langle A_0 | \hat{0}_\alpha^+ | A_9 \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle \langle K_{14} | \hat{0}_\beta^+ | K_0 \rangle t_{B_{11}, J_9} t_{I_8, K_{14}}$$

$$\langle (A_9, B_{11}) | \hat{H} | (A_1, B_{11}, I_8, J_9, K_{14}) \rangle =$$

$$+ \frac{-1}{12} \sum_I \sum_J \sum_K \langle 0^A 1^I | \hat{g} | 0^J 0^K \rangle \langle A_1 | \hat{0}_\alpha^+ | A_9 \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle \langle K_{14} | \hat{0}_\beta^+ | K_0 \rangle t_{A_1} t_{B_{11}, J_9} t_{I_8, K_{14}}$$

$$\langle (A_9, B_{11}) | \hat{H} | (B_{11}, I_7, J_{10}, K_{14}) \rangle =$$

$$+ \frac{-1}{12} \sum_I \sum_J \sum_K \langle 0^A 0^I | \hat{g} | 1^J 0^K \rangle \langle A_0 | \hat{0}_\alpha^+ | A_9 \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle \langle K_{14} | \hat{0}_\beta^+ | K_0 \rangle t_{B_{11}, J_{10}} t_{I_7, K_{14}}$$

$$\langle (A_9, B_{11}) | \hat{H} | (A_1, B_{11}, I_7, J_{10}, K_{14}) \rangle =$$

$$+ \frac{-1}{12} \sum_I \sum_J \sum_K \langle 0^A 0^I | \hat{g} | 1^J 0^K \rangle \langle A_1 | \hat{0}_\alpha^+ | A_9 \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle \langle K_{14} | \hat{0}_\beta^+ | K_0 \rangle t_{A_1} t_{B_{11}, J_{10}} t_{I_7, K_{14}}$$

$$\langle (A_9, B_{11}) | \hat{H} | (B_{11}, I_8, J_{10}, K_{14}) \rangle =$$

$$+ \frac{-1}{12} \sum_I \sum_J \sum_K \langle 0^A 1^I | \hat{g} | 1^J 0^K \rangle \langle A_0 | \hat{0}_\alpha^+ | A_9 \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle \langle K_{14} | \hat{0}_\beta^+ | K_0 \rangle t_{B_{11}, J_{10}} t_{I_8, K_{14}}$$

$$\langle (A_9, B_{11}) | \hat{H} | (A_1, B_{11}, I_8, J_{10}, K_{14}) \rangle =$$

$$+ \frac{-1}{12} \sum_I \sum_J \sum_K \langle 0^A 1^I | \hat{g} | 1^J 0^K \rangle \langle A_1 | \hat{0}_\alpha^+ | A_9 \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle \langle K_{14} | \hat{0}_\beta^+ | K_0 \rangle t_{A_1} t_{B_{11}, J_{10}} t_{I_8, K_{14}}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (B_{11}, I_7, J_9, K_{13}) \rangle = \\
& + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 0^A 0^I | \hat{g} | 0^J 1^K \rangle \langle A_0 | \hat{0}_\alpha^+ | A_9 \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle \langle K_{13} | \hat{1}_\beta^+ | K_0 \rangle t_{B_{11}, J_9} t_{I_7, K_{13}}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_1, B_{11}, I_7, J_9, K_{13}) \rangle = \\
& + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 0^A 0^I | \hat{g} | 0^J 1^K \rangle \langle A_1 | \hat{0}_\alpha^+ | A_9 \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle \langle K_{13} | \hat{1}_\beta^+ | K_0 \rangle t_{A_1} t_{B_{11}, J_9} t_{I_7, K_{13}}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (B_{11}, I_8, J_9, K_{13}) \rangle = \\
& + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 0^A 1^I | \hat{g} | 0^J 1^K \rangle \langle A_0 | \hat{0}_\alpha^+ | A_9 \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle \langle K_{13} | \hat{1}_\beta^+ | K_0 \rangle t_{B_{11}, J_9} t_{I_8, K_{13}}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_1, B_{11}, I_8, J_9, K_{13}) \rangle = \\
& + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 0^A 1^I | \hat{g} | 0^J 1^K \rangle \langle A_1 | \hat{0}_\alpha^+ | A_9 \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle \langle K_{13} | \hat{1}_\beta^+ | K_0 \rangle t_{A_1} t_{B_{11}, J_9} t_{I_8, K_{13}}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (B_{11}, I_7, J_{10}, K_{13}) \rangle = \\
& + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 0^A 0^I | \hat{g} | 1^J 1^K \rangle \langle A_0 | \hat{0}_\alpha^+ | A_9 \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle \langle K_{13} | \hat{1}_\beta^+ | K_0 \rangle t_{B_{11}, J_{10}} t_{I_7, K_{13}}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_1, B_{11}, I_7, J_{10}, K_{13}) \rangle = \\
& + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 0^A 0^I | \hat{g} | 1^J 1^K \rangle \langle A_1 | \hat{0}_\alpha^+ | A_9 \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle \langle K_{13} | \hat{1}_\beta^+ | K_0 \rangle t_{A_1} t_{B_{11}, J_{10}} t_{I_7, K_{13}}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (B_{11}, I_8, J_{10}, K_{13}) \rangle = \\
& + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 0^A 1^I | \hat{g} | 1^J 1^K \rangle \langle A_0 | \hat{0}_\alpha^+ | A_9 \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle \langle K_{13} | \hat{1}_\beta^+ | K_0 \rangle t_{B_{11}, J_{10}} t_{I_8, K_{13}}
\end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_1, B_{11}, I_8, J_{10}, K_{13}) \rangle = \\ & + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 0^A 1^I | \hat{g} | 1^J 1^K \rangle \langle A_1 | \hat{0}_\alpha^+ | A_9 \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle \langle K_{13} | \hat{1}_\beta^+ | K_0 \rangle t_{A_1} t_{B_{11}, J_{10}} t_{I_8, K_{13}} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_2, B_{11}, I_7, J_9, K_{14}) \rangle = \\ & + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 1^A 0^I | \hat{g} | 0^J 0^K \rangle \langle A_2 | \hat{1}_\alpha^+ | A_9 \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle \langle K_{14} | \hat{0}_\beta^+ | K_0 \rangle t_{A_2} t_{B_{11}, J_9} t_{I_7, K_{14}} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_3, B_{11}, I_7, J_9, K_{14}) \rangle = \\ & + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 1^A 0^I | \hat{g} | 0^J 0^K \rangle \langle A_3 | \hat{1}_\alpha^+ | A_9 \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle \langle K_{14} | \hat{0}_\beta^+ | K_0 \rangle t_{A_3} t_{B_{11}, J_9} t_{I_7, K_{14}} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_2, B_{11}, I_8, J_9, K_{14}) \rangle = \\ & + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 1^A 1^I | \hat{g} | 0^J 0^K \rangle \langle A_2 | \hat{1}_\alpha^+ | A_9 \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle \langle K_{14} | \hat{0}_\beta^+ | K_0 \rangle t_{A_2} t_{B_{11}, J_9} t_{I_8, K_{14}} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_3, B_{11}, I_8, J_9, K_{14}) \rangle = \\ & + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 1^A 1^I | \hat{g} | 0^J 0^K \rangle \langle A_3 | \hat{1}_\alpha^+ | A_9 \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle \langle K_{14} | \hat{0}_\beta^+ | K_0 \rangle t_{A_3} t_{B_{11}, J_9} t_{I_8, K_{14}} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_2, B_{11}, I_7, J_{10}, K_{14}) \rangle = \\ & + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 1^A 0^I | \hat{g} | 1^J 0^K \rangle \langle A_2 | \hat{1}_\alpha^+ | A_9 \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle \langle K_{14} | \hat{0}_\beta^+ | K_0 \rangle t_{A_2} t_{B_{11}, J_{10}} t_{I_7, K_{14}} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_3, B_{11}, I_7, J_{10}, K_{14}) \rangle = \\ & + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 1^A 0^I | \hat{g} | 1^J 0^K \rangle \langle A_3 | \hat{1}_\alpha^+ | A_9 \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle \langle K_{14} | \hat{0}_\beta^+ | K_0 \rangle t_{A_3} t_{B_{11}, J_{10}} t_{I_7, K_{14}} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_2, B_{11}, I_8, J_{10}, K_{14}) \rangle = \\ & + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 1^A 1^I | \hat{g} | 1^J 0^K \rangle \langle A_2 | \hat{1}_\alpha^+ | A_9 \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle \langle K_{14} | \hat{0}_\beta^+ | K_0 \rangle t_{A_2} t_{B_{11}, J_{10}} t_{I_8, K_{14}} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_3, B_{11}, I_8, J_{10}, K_{14}) \rangle = \\ & + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 1^A 1^I | \hat{g} | 1^J 0^K \rangle \langle A_3 | \hat{1}_\alpha^+ | A_9 \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle \langle K_{14} | \hat{0}_\beta^+ | K_0 \rangle t_{A_3} t_{B_{11}, J_{10}} t_{I_8, K_{14}} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_2, B_{11}, I_7, J_9, K_{13}) \rangle = \\ & + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 1^A 0^I | \hat{g} | 0^J 1^K \rangle \langle A_2 | \hat{1}_\alpha^+ | A_9 \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle \langle K_{13} | \hat{1}_\beta^+ | K_0 \rangle t_{A_2} t_{B_{11}, J_9} t_{I_7, K_{13}} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_3, B_{11}, I_7, J_9, K_{13}) \rangle = \\ & + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 1^A 0^I | \hat{g} | 0^J 1^K \rangle \langle A_3 | \hat{1}_\alpha^+ | A_9 \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle \langle K_{13} | \hat{1}_\beta^+ | K_0 \rangle t_{A_3} t_{B_{11}, J_9} t_{I_7, K_{13}} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_2, B_{11}, I_8, J_9, K_{13}) \rangle = \\ & + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 1^A 1^I | \hat{g} | 0^J 1^K \rangle \langle A_2 | \hat{1}_\alpha^+ | A_9 \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle \langle K_{13} | \hat{1}_\beta^+ | K_0 \rangle t_{A_2} t_{B_{11}, J_9} t_{I_8, K_{13}} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_3, B_{11}, I_8, J_9, K_{13}) \rangle = \\ & + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 1^A 1^I | \hat{g} | 0^J 1^K \rangle \langle A_3 | \hat{1}_\alpha^+ | A_9 \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle \langle K_{13} | \hat{1}_\beta^+ | K_0 \rangle t_{A_3} t_{B_{11}, J_9} t_{I_8, K_{13}} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_2, B_{11}, I_7, J_{10}, K_{13}) \rangle = \\ & + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 1^A 0^I | \hat{g} | 1^J 1^K \rangle \langle A_2 | \hat{1}_\alpha^+ | A_9 \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle \langle K_{13} | \hat{1}_\beta^+ | K_0 \rangle t_{A_2} t_{B_{11}, J_{10}} t_{I_7, K_{13}} \end{aligned}$$

$$\langle (A_9, B_{11}) | \hat{H} | (A_3, B_{11}, I_7, J_{10}, K_{13}) \rangle =$$

$$+ \frac{-1}{12} \sum_I \sum_J \sum_K \langle 1^A 0^I | \hat{g} | 1^J 1^K \rangle \langle A_3 | \hat{1}_\alpha^+ | A_9 \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle \langle K_{13} | \hat{1}_\beta^+ | K_0 \rangle t_{A_3} t_{B_{11}, J_{10}} t_{I_7, K_{13}}$$

$$\langle (A_9, B_{11}) | \hat{H} | (A_2, B_{11}, I_8, J_{10}, K_{13}) \rangle =$$

$$+ \frac{-1}{12} \sum_I \sum_J \sum_K \langle 1^A 1^I | \hat{g} | 1^J 1^K \rangle \langle A_2 | \hat{1}_\alpha^+ | A_9 \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle \langle K_{13} | \hat{1}_\beta^+ | K_0 \rangle t_{A_2} t_{B_{11}, J_{10}} t_{I_8, K_{13}}$$

$$\langle (A_9, B_{11}) | \hat{H} | (A_3, B_{11}, I_8, J_{10}, K_{13}) \rangle =$$

$$+ \frac{-1}{12} \sum_I \sum_J \sum_K \langle 1^A 1^I | \hat{g} | 1^J 1^K \rangle \langle A_3 | \hat{1}_\alpha^+ | A_9 \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle \langle K_{13} | \hat{1}_\beta^+ | K_0 \rangle t_{A_3} t_{B_{11}, J_{10}} t_{I_8, K_{13}}$$

$$\langle (A_9, B_{11}) | \hat{H} | (A_9, B_2, I_{12}, J_{12}, K_9) \rangle =$$

$$\begin{aligned} & + \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^B 0^J | \hat{g} | 0^I 0^K \rangle \langle B_2 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_{12} | \hat{0}_\alpha^+ | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle \langle K_9 | \hat{0}_\alpha^- | K_0 \rangle t_{B_2} t_{A_9, I_{12}} t_{J_{12}, K_9} \\ & + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 0^B 0^I | \hat{g} | 0^J 0^K \rangle \langle B_2 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_{12} | \hat{0}_\alpha^+ | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle \langle K_9 | \hat{0}_\alpha^- | K_0 \rangle t_{B_2} t_{A_9, I_{12}} t_{J_{12}, K_9} \\ & + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 0^B 0^J | \hat{g} | 0^I 0^K \rangle \langle B_2 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_{12} | \hat{0}_\alpha^+ | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle \langle K_9 | \hat{0}_\alpha^- | K_0 \rangle t_{B_2} t_{A_9, J_{12}} t_{I_{12}, K_9} \\ & + \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^B 0^I | \hat{g} | 0^J 0^K \rangle \langle B_2 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_{12} | \hat{0}_\alpha^+ | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle \langle K_9 | \hat{0}_\alpha^- | K_0 \rangle t_{B_2} t_{A_9, J_{12}} t_{I_{12}, K_9} \end{aligned}$$

$$\langle (A_9, B_{11}) | \hat{H} | (A_9, B_3, I_{12}, J_{12}, K_9) \rangle =$$

$$\begin{aligned} & + \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^B 0^J | \hat{g} | 0^I 0^K \rangle \langle B_3 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_{12} | \hat{0}_\alpha^+ | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle \langle K_9 | \hat{0}_\alpha^- | K_0 \rangle t_{B_3} t_{A_9, I_{12}} t_{J_{12}, K_9} \\ & + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 0^B 0^I | \hat{g} | 0^J 0^K \rangle \langle B_3 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_{12} | \hat{0}_\alpha^+ | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle \langle K_9 | \hat{0}_\alpha^- | K_0 \rangle t_{B_3} t_{A_9, I_{12}} t_{J_{12}, K_9} \\ & + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 0^B 0^J | \hat{g} | 0^I 0^K \rangle \langle B_3 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_{12} | \hat{0}_\alpha^+ | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle \langle K_9 | \hat{0}_\alpha^- | K_0 \rangle t_{B_3} t_{A_9, J_{12}} t_{I_{12}, K_9} \\ & + \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^B 0^I | \hat{g} | 0^J 0^K \rangle \langle B_3 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_{12} | \hat{0}_\alpha^+ | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle \langle K_9 | \hat{0}_\alpha^- | K_0 \rangle t_{B_3} t_{A_9, J_{12}} t_{I_{12}, K_9} \end{aligned}$$

$$\langle (A_9, B_{11}) | \hat{H} | (A_9, B_2, I_{12}, J_{14}, K_7) \rangle =$$

$$+ \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^B 0^J | \hat{g} | 0^I 0^K \rangle \langle B_2 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_{12} | \hat{0}_\alpha^+ | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle \langle K_7 | \hat{0}_\beta^- | K_0 \rangle t_{B_2} t_{A_9, I_{12}} t_{J_{14}, K_7}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_3, I_{11}, J_{14}, K_7) \rangle = \\ & + \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^B 0^J | \hat{g} | 1^I 0^K \rangle \langle B_3 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle \langle K_7 | \hat{0}_\beta^- | K_0 \rangle t_{B_3} t_{A_9, I_{11}} t_{J_{14}, K_7} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_2, I_{11}, J_{12}, K_{10}) \rangle = \\ & + \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^B 0^J | \hat{g} | 1^I 1^K \rangle \langle B_2 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle \langle K_{10} | \hat{1}_\alpha^- | K_0 \rangle t_{B_2} t_{A_9, I_{11}} t_{J_{12}, K_{10}} \\ & + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 0^B 1^I | \hat{g} | 0^J 1^K \rangle \langle B_2 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle \langle K_{10} | \hat{1}_\alpha^- | K_0 \rangle t_{B_2} t_{A_9, I_{11}} t_{J_{12}, K_{10}} \\ & + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 0^B 0^J | \hat{g} | 1^I 1^K \rangle \langle B_2 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle \langle K_{10} | \hat{1}_\alpha^- | K_0 \rangle t_{B_2} t_{A_9, J_{12}} t_{I_{11}, K_{10}} \\ & + \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^B 1^I | \hat{g} | 0^J 1^K \rangle \langle B_2 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle \langle K_{10} | \hat{1}_\alpha^- | K_0 \rangle t_{B_2} t_{A_9, J_{12}} t_{I_{11}, K_{10}} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_3, I_{11}, J_{12}, K_{10}) \rangle = \\ & + \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^B 0^J | \hat{g} | 1^I 1^K \rangle \langle B_3 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle \langle K_{10} | \hat{1}_\alpha^- | K_0 \rangle t_{B_3} t_{A_9, I_{11}} t_{J_{12}, K_{10}} \\ & + \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^B 1^I | \hat{g} | 0^J 1^K \rangle \langle B_3 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle \langle K_{10} | \hat{1}_\alpha^- | K_0 \rangle t_{B_3} t_{A_9, I_{11}} t_{J_{12}, K_{10}} \\ & + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 0^B 0^J | \hat{g} | 1^I 1^K \rangle \langle B_3 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle \langle K_{10} | \hat{1}_\alpha^- | K_0 \rangle t_{B_3} t_{A_9, J_{12}} t_{I_{11}, K_{10}} \\ & + \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^B 1^I | \hat{g} | 0^J 1^K \rangle \langle B_3 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle \langle K_{10} | \hat{1}_\alpha^- | K_0 \rangle t_{B_3} t_{A_9, J_{12}} t_{I_{11}, K_{10}} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_2, I_{11}, J_{14}, K_8) \rangle = \\ & + \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^B 0^J | \hat{g} | 1^I 1^K \rangle \langle B_2 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle \langle K_8 | \hat{1}_\beta^- | K_0 \rangle t_{B_2} t_{A_9, I_{11}} t_{J_{14}, K_8} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_3, I_{11}, J_{14}, K_8) \rangle = \\ & + \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^B 0^J | \hat{g} | 1^I 1^K \rangle \langle B_3 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle \langle K_8 | \hat{1}_\beta^- | K_0 \rangle t_{B_3} t_{A_9, I_{11}} t_{J_{14}, K_8} \end{aligned}$$

$$\langle (A_9, B_{11}) | \hat{H} | (A_9, I_{11}, J_{12}, K_9) \rangle =$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, I_{11}, J_9, K_{12}) \rangle = \\ & + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 1^B 0^J | \hat{g} | 1^I 0^K \rangle \langle B_0 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle \langle K_{12} | \hat{0}_\alpha^+ | K_0 \rangle t_{A_9, I_{11}} t_{J_9, K_{12}} \\ & + \frac{1}{12} \sum_I \sum_J \sum_K \langle 1^B 1^I | \hat{g} | 0^K 0^J \rangle \langle B_0 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle \langle K_{12} | \hat{0}_\alpha^+ | K_0 \rangle t_{A_9, I_{11}} t_{J_9, K_{12}} \\ & + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 1^B 0^J | \hat{g} | 1^I 0^K \rangle \langle B_0 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle \langle K_{12} | \hat{0}_\alpha^+ | K_0 \rangle t_{A_9, K_{12}} t_{I_{11}, J_9} \\ & + \frac{1}{12} \sum_I \sum_J \sum_K \langle 1^B 1^I | \hat{g} | 0^K 0^J \rangle \langle B_0 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle \langle K_{12} | \hat{0}_\alpha^+ | K_0 \rangle t_{A_9, K_{12}} t_{I_{11}, J_9} \end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_9, B_1, I_{11}, J_9, K_{12}) \rangle = \\
& + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 1^B 0^J | \hat{g} | 1^I 0^K \rangle \langle B_1 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle \langle K_{12} | \hat{0}_\alpha^+ | K_0 \rangle t_{B_1} t_{A_9, I_{11}} t_{J_9, K_{12}} \\
& + \frac{1}{12} \sum_I \sum_J \sum_K \langle 1^B 1^I | \hat{g} | 0^K 0^J \rangle \langle B_1 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle \langle K_{12} | \hat{0}_\alpha^+ | K_0 \rangle t_{B_1} t_{A_9, I_{11}} t_{J_9, K_{12}} \\
& + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 1^B 0^J | \hat{g} | 1^I 0^K \rangle \langle B_1 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle \langle K_{12} | \hat{0}_\alpha^+ | K_0 \rangle t_{B_1} t_{A_9, K_{12}} t_{I_{11}, J_9} \\
& + \frac{1}{12} \sum_I \sum_J \sum_K \langle 1^B 1^I | \hat{g} | 0^K 0^J \rangle \langle B_1 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle \langle K_{12} | \hat{0}_\alpha^+ | K_0 \rangle t_{B_1} t_{A_9, K_{12}} t_{I_{11}, J_9}
\end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_1, I_{11}, J_7, K_{14}) \rangle = \\ & + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 1^B 0^J | \hat{g} | 1^I 0^K \rangle \langle B_1 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle \langle K_{14} | \hat{0}_\beta^+ | K_0 \rangle t_{B_1} t_{A_9, I_{11}} t_{J_7, K_{14}} \end{aligned}$$

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$$\begin{aligned}
& + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 1^B 1^J | \hat{g} | 1^I 1^K \rangle \langle B_0 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle \langle K_{11} | \hat{1}_\alpha^+ | K_0 \rangle t_{A_9, K_{11}} t_{I_{11}, J_{10}} \\
& + \frac{1}{12} \sum_I \sum_J \sum_K \langle 1^B 1^I | \hat{g} | 1^K 1^J \rangle \langle B_0 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle \langle K_{11} | \hat{1}_\alpha^+ | K_0 \rangle t_{A_9, K_{11}} t_{I_{11}, J_{10}}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_9, B_1, I_{11}, J_{10}, K_{11}) \rangle = \\
& + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 1^B 1^J | \hat{g} | 1^I 1^K \rangle \langle B_1 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle \langle K_{11} | \hat{1}_\alpha^+ | K_0 \rangle t_{B_1} t_{A_9, I_{11}} t_{J_{10}, K_{11}} \\
& + \frac{1}{12} \sum_I \sum_J \sum_K \langle 1^B 1^I | \hat{g} | 1^K 1^J \rangle \langle B_1 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle \langle K_{11} | \hat{1}_\alpha^+ | K_0 \rangle t_{B_1} t_{A_9, I_{11}} t_{J_{10}, K_{11}} \\
& + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 1^B 1^J | \hat{g} | 1^I 1^K \rangle \langle B_1 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle \langle K_{11} | \hat{1}_\alpha^+ | K_0 \rangle t_{B_1} t_{A_9, K_{11}} t_{I_{11}, J_{10}} \\
& + \frac{1}{12} \sum_I \sum_J \sum_K \langle 1^B 1^I | \hat{g} | 1^K 1^J \rangle \langle B_1 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle \langle K_{11} | \hat{1}_\alpha^+ | K_0 \rangle t_{B_1} t_{A_9, K_{11}} t_{I_{11}, J_{10}}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_9, I_{11}, J_8, K_{13}) \rangle = \\
& + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 1^B 1^J | \hat{g} | 1^I 1^K \rangle \langle B_0 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_{13} | \hat{1}_\beta^+ | K_0 \rangle t_{A_9, I_{11}} t_{J_8, K_{13}}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_9, B_1, I_{11}, J_8, K_{13}) \rangle = \\
& + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 1^B 1^J | \hat{g} | 1^I 1^K \rangle \langle B_1 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_{13} | \hat{1}_\beta^+ | K_0 \rangle t_{B_1} t_{A_9, I_{11}} t_{J_8, K_{13}}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_9, B_2, I_{14}, J_{12}, K_7) \rangle = \\
& + \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^B 0^I | \hat{g} | 0^J 0^K \rangle \langle B_2 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle \langle K_7 | \hat{0}_\beta^- | K_0 \rangle t_{B_2} t_{A_9, J_{12}} t_{I_{14}, K_7}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_9, B_3, I_{14}, J_{12}, K_7) \rangle = \\
& + \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^B 0^I | \hat{g} | 0^J 0^K \rangle \langle B_3 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle \langle K_7 | \hat{0}_\beta^- | K_0 \rangle t_{B_3} t_{A_9, J_{12}} t_{I_{14}, K_7}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_9, B_2, I_{14}, J_{12}, K_8) \rangle = \\
& + \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^B 0^I | \hat{g} | 0^J 1^K \rangle \langle B_2 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle \langle K_8 | \hat{1}_\beta^- | K_0 \rangle t_{B_2} t_{A_9, J_{12}} t_{I_{14}, K_8}
\end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_3, I_{14}, J_{12}, K_8) \rangle = \\ & + \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^B 0^I | \hat{g} | 0^J 1^K \rangle \langle B_3 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle \langle K_8 | \hat{1}_\beta^- | K_0 \rangle t_{B_3} t_{A_9, J_{12}} t_{I_{14}, K_8} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, I_{14}, J_{12}, K_7) \rangle = \\ & + \frac{1}{12} \sum_I \sum_J \sum_K \langle 1^B 0^I | \hat{g} | 0^J 0^K \rangle \langle B_0 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle \langle K_7 | \hat{0}_\beta^- | K_0 \rangle t_{A_9, J_{12}} t_{I_{14}, K_7} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_1, I_{14}, J_{12}, K_7) \rangle = \\ & + \frac{1}{12} \sum_I \sum_J \sum_K \langle 1^B 0^I | \hat{g} | 0^J 0^K \rangle \langle B_1 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle \langle K_7 | \hat{0}_\beta^- | K_0 \rangle t_{B_1} t_{A_9, J_{12}} t_{I_{14}, K_7} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, I_{14}, J_{12}, K_8) \rangle = \\ & + \frac{1}{12} \sum_I \sum_J \sum_K \langle 1^B 0^I | \hat{g} | 0^J 1^K \rangle \langle B_0 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle \langle K_8 | \hat{1}_\beta^- | K_0 \rangle t_{A_9, J_{12}} t_{I_{14}, K_8} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_1, I_{14}, J_{12}, K_8) \rangle = \\ & + \frac{1}{12} \sum_I \sum_J \sum_K \langle 1^B 0^I | \hat{g} | 0^J 1^K \rangle \langle B_1 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle \langle K_8 | \hat{1}_\beta^- | K_0 \rangle t_{B_1} t_{A_9, J_{12}} t_{I_{14}, K_8} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_2, I_{13}, J_{12}, K_7) \rangle = \\ & + \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^B 1^I | \hat{g} | 0^J 0^K \rangle \langle B_2 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle \langle K_7 | \hat{0}_\beta^- | K_0 \rangle t_{B_2} t_{A_9, J_{12}} t_{I_{13}, K_7} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_3, I_{13}, J_{12}, K_7) \rangle = \\ & + \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^B 1^I | \hat{g} | 0^J 0^K \rangle \langle B_3 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle \langle K_7 | \hat{0}_\beta^- | K_0 \rangle t_{B_3} t_{A_9, J_{12}} t_{I_{13}, K_7} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_2, I_{13}, J_{12}, K_8) \rangle = \\ & + \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^B 1^I | \hat{g} | 0^J 1^K \rangle \langle B_2 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle \langle K_8 | \hat{1}_\beta^- | K_0 \rangle t_{B_2} t_{A_9, J_{12}} t_{I_{13}, K_8} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_3, I_{13}, J_{12}, K_8) \rangle = \\ & + \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^B 1^I | \hat{g} | 0^J 1^K \rangle \langle B_3 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle \langle K_8 | \hat{1}_\beta^- | K_0 \rangle t_{B_3} t_{A_9, J_{12}} t_{I_{13}, K_8} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, I_{13}, J_{12}, K_7) \rangle = \\ & + \frac{1}{12} \sum_I \sum_J \sum_K \langle 1^B 1^I | \hat{g} | 0^J 0^K \rangle \langle B_0 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle \langle K_7 | \hat{0}_\beta^- | K_0 \rangle t_{A_9, J_{12}} t_{I_{13}, K_7} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_1, I_{13}, J_{12}, K_7) \rangle = \\ & + \frac{1}{12} \sum_I \sum_J \sum_K \langle 1^B 1^I | \hat{g} | 0^J 0^K \rangle \langle B_1 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle \langle K_7 | \hat{0}_\beta^- | K_0 \rangle t_{B_1} t_{A_9, J_{12}} t_{I_{13}, K_7} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, I_{13}, J_{12}, K_8) \rangle = \\ & + \frac{1}{12} \sum_I \sum_J \sum_K \langle 1^B 1^I | \hat{g} | 0^J 1^K \rangle \langle B_0 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle \langle K_8 | \hat{1}_\beta^- | K_0 \rangle t_{A_9, J_{12}} t_{I_{13}, K_8} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_1, I_{13}, J_{12}, K_8) \rangle = \\ & + \frac{1}{12} \sum_I \sum_J \sum_K \langle 1^B 1^I | \hat{g} | 0^J 1^K \rangle \langle B_1 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle \langle K_8 | \hat{1}_\beta^- | K_0 \rangle t_{B_1} t_{A_9, J_{12}} t_{I_{13}, K_8} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_2, I_{14}, J_{11}, K_7) \rangle = \\ & + \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^B 0^I | \hat{g} | 1^J 0^K \rangle \langle B_2 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle \langle K_7 | \hat{0}_\beta^- | K_0 \rangle t_{B_2} t_{A_9, J_{11}} t_{I_{14}, K_7} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_3, I_{14}, J_{11}, K_7) \rangle = \\ & + \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^B 0^I | \hat{g} | 1^J 0^K \rangle \langle B_3 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle \langle K_7 | \hat{0}_\beta^- | K_0 \rangle t_{B_3} t_{A_9, J_{11}} t_{I_{14}, K_7} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_2, I_{14}, J_{11}, K_8) \rangle = \\ & + \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^B 0^I | \hat{g} | 1^J 1^K \rangle \langle B_2 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle \langle K_8 | \hat{1}_\beta^- | K_0 \rangle t_{B_2} t_{A_9, J_{11}} t_{I_{14}, K_8} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_3, I_{14}, J_{11}, K_8) \rangle = \\ & + \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^B 0^I | \hat{g} | 1^J 1^K \rangle \langle B_3 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle \langle K_8 | \hat{1}_\beta^- | K_0 \rangle t_{B_3} t_{A_9, J_{11}} t_{I_{14}, K_8} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, I_{14}, J_{11}, K_7) \rangle = \\ & + \frac{1}{12} \sum_I \sum_J \sum_K \langle 1^B 0^I | \hat{g} | 1^J 0^K \rangle \langle B_0 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle \langle K_7 | \hat{0}_\beta^- | K_0 \rangle t_{A_9, J_{11}} t_{I_{14}, K_7} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_1, I_{14}, J_{11}, K_7) \rangle = \\ & + \frac{1}{12} \sum_I \sum_J \sum_K \langle 1^B 0^I | \hat{g} | 1^J 0^K \rangle \langle B_1 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle \langle K_7 | \hat{0}_\beta^- | K_0 \rangle t_{B_1} t_{A_9, J_{11}} t_{I_{14}, K_7} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, I_{14}, J_{11}, K_8) \rangle = \\ & + \frac{1}{12} \sum_I \sum_J \sum_K \langle 1^B 0^I | \hat{g} | 1^J 1^K \rangle \langle B_0 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle \langle K_8 | \hat{1}_\beta^- | K_0 \rangle t_{A_9, J_{11}} t_{I_{14}, K_8} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_1, I_{14}, J_{11}, K_8) \rangle = \\ & + \frac{1}{12} \sum_I \sum_J \sum_K \langle 1^B 0^I | \hat{g} | 1^J 1^K \rangle \langle B_1 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle \langle K_8 | \hat{1}_\beta^- | K_0 \rangle t_{B_1} t_{A_9, J_{11}} t_{I_{14}, K_8} \end{aligned}$$

$$\langle (A_9, B_{11}) | \hat{H} | (A_9, B_2, I_{13}, J_{11}, K_7) \rangle =$$

$$+ \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^B 1^I | \hat{g} | 1^J 0^K \rangle \langle B_2 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle \langle K_7 | \hat{0}_\beta^- | K_0 \rangle t_{B_2} t_{A_9, J_{11}} t_{I_{13}, K_7}$$

$$\langle (A_9, B_{11}) | \hat{H} | (A_9, B_3, I_{13}, J_{11}, K_7) \rangle =$$

$$+ \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^B 1^I | \hat{g} | 1^J 0^K \rangle \langle B_3 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle \langle K_7 | \hat{0}_\beta^- | K_0 \rangle t_{B_3} t_{A_9, J_{11}} t_{I_{13}, K_7}$$

$$\langle (A_9, B_{11}) | \hat{H} | (A_9, B_2, I_{13}, J_{11}, K_8) \rangle =$$

$$+ \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^B 1^I | \hat{g} | 1^J 1^K \rangle \langle B_2 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle \langle K_8 | \hat{1}_\beta^- | K_0 \rangle t_{B_2} t_{A_9, J_{11}} t_{I_{13}, K_8}$$

$$\langle (A_9, B_{11}) | \hat{H} | (A_9, B_3, I_{13}, J_{11}, K_8) \rangle =$$

$$+ \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^B 1^I | \hat{g} | 1^J 1^K \rangle \langle B_3 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle \langle K_8 | \hat{1}_\beta^- | K_0 \rangle t_{B_3} t_{A_9, J_{11}} t_{I_{13}, K_8}$$

$$\langle (A_9, B_{11}) | \hat{H} | (A_9, I_{13}, J_{11}, K_7) \rangle =$$

$$+ \frac{1}{12} \sum_I \sum_J \sum_K \langle 1^B 1^I | \hat{g} | 1^J 0^K \rangle \langle B_0 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle \langle K_7 | \hat{0}_\beta^- | K_0 \rangle t_{A_9, J_{11}} t_{I_{13}, K_7}$$

$$\langle (A_9, B_{11}) | \hat{H} | (A_9, B_1, I_{13}, J_{11}, K_7) \rangle =$$

$$+ \frac{1}{12} \sum_I \sum_J \sum_K \langle 1^B 1^I | \hat{g} | 1^J 0^K \rangle \langle B_1 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle \langle K_7 | \hat{0}_\beta^- | K_0 \rangle t_{B_1} t_{A_9, J_{11}} t_{I_{13}, K_7}$$

$$\langle (A_9, B_{11}) | \hat{H} | (A_9, I_{13}, J_{11}, K_8) \rangle =$$

$$+ \frac{1}{12} \sum_I \sum_J \sum_K \langle 1^B 1^I | \hat{g} | 1^J 1^K \rangle \langle B_0 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle \langle K_8 | \hat{1}_\beta^- | K_0 \rangle t_{A_9, J_{11}} t_{I_{13}, K_8}$$

$$\langle (A_9, B_{11}) | \hat{H} | (A_9, B_1, I_{13}, J_{11}, K_8) \rangle =$$

$$+ \frac{1}{12} \sum_I \sum_J \sum_K \langle 1^B 1^I | \hat{g} | 1^J 1^K \rangle \langle B_1 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle \langle K_8 | \hat{1}_\beta^- | K_0 \rangle t_{B_1} t_{A_9, J_{11}} t_{I_{13}, K_8}$$

$$+ \frac{-1}{12} \sum_I \sum_J \sum_K \langle 1^B 0^I | \hat{g} | 1^K 0^J \rangle \langle B_1 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle \langle K_{11} | \hat{1}_\alpha^+ | K_0 \rangle t_{B_1} t_{A_9, K_{11}} t_{I_9, J_{12}}$$

$$\langle (A_9, B_{11}) | \hat{H} | (A_9, I_7, J_{12}, K_{13}) \rangle =$$

$$+ \frac{-1}{12} \sum_I \sum_J \sum_K \langle 1^B 0^I | \hat{g} | 0^J 1^K \rangle \langle B_0 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle \langle K_{13} | \hat{1}_\beta^+ | K_0 \rangle t_{A_9, J_{12}} t_{I_7, K_{13}}$$

$$\langle (A_9, B_{11}) | \hat{H} | (A_9, B_1, I_7, J_{12}, K_{13}) \rangle =$$

$$+ \frac{-1}{12} \sum_I \sum_J \sum_K \langle 1^B 0^I | \hat{g} | 0^J 1^K \rangle \langle B_1 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle \langle K_{13} | \hat{1}_\beta^+ | K_0 \rangle t_{B_1} t_{A_9, J_{12}} t_{I_7, K_{13}}$$

$$\langle (A_9, B_{11}) | \hat{H} | (A_9, I_{10}, J_{12}, K_{11}) \rangle =$$

$$\begin{aligned} & + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 1^B 1^I | \hat{g} | 0^J 1^K \rangle \langle B_0 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_{10} | \hat{1}_\alpha^- | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle \langle K_{11} | \hat{1}_\alpha^+ | K_0 \rangle t_{A_9, J_{12}} t_{I_{10}, K_{11}} \\ & + \frac{1}{12} \sum_I \sum_J \sum_K \langle 1^B 1^I | \hat{g} | 1^K 0^J \rangle \langle B_0 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_{10} | \hat{1}_\alpha^- | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle \langle K_{11} | \hat{1}_\alpha^+ | K_0 \rangle t_{A_9, J_{12}} t_{I_{10}, K_{11}} \\ & + \frac{1}{12} \sum_I \sum_J \sum_K \langle 1^B 1^I | \hat{g} | 0^J 1^K \rangle \langle B_0 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_{10} | \hat{1}_\alpha^- | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle \langle K_{11} | \hat{1}_\alpha^+ | K_0 \rangle t_{A_9, K_{11}} t_{I_{10}, J_{12}} \\ & + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 1^B 1^I | \hat{g} | 1^K 0^J \rangle \langle B_0 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_{10} | \hat{1}_\alpha^- | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle \langle K_{11} | \hat{1}_\alpha^+ | K_0 \rangle t_{A_9, K_{11}} t_{I_{10}, J_{12}} \end{aligned}$$

$$\langle (A_9, B_{11}) | \hat{H} | (A_9, B_1, I_{10}, J_{12}, K_{11}) \rangle =$$

$$\begin{aligned} & + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 1^B 1^I | \hat{g} | 0^J 1^K \rangle \langle B_1 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_{10} | \hat{1}_\alpha^- | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle \langle K_{11} | \hat{1}_\alpha^+ | K_0 \rangle t_{B_1} t_{A_9, J_{12}} t_{I_{10}, K_{11}} \\ & + \frac{1}{12} \sum_I \sum_J \sum_K \langle 1^B 1^I | \hat{g} | 1^K 0^J \rangle \langle B_1 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_{10} | \hat{1}_\alpha^- | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle \langle K_{11} | \hat{1}_\alpha^+ | K_0 \rangle t_{B_1} t_{A_9, J_{12}} t_{I_{10}, K_{11}} \\ & + \frac{1}{12} \sum_I \sum_J \sum_K \langle 1^B 1^I | \hat{g} | 0^J 1^K \rangle \langle B_1 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_{10} | \hat{1}_\alpha^- | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle \langle K_{11} | \hat{1}_\alpha^+ | K_0 \rangle t_{B_1} t_{A_9, K_{11}} t_{I_{10}, J_{12}} \\ & + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 1^B 1^I | \hat{g} | 1^K 0^J \rangle \langle B_1 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_{10} | \hat{1}_\alpha^- | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle \langle K_{11} | \hat{1}_\alpha^+ | K_0 \rangle t_{B_1} t_{A_9, K_{11}} t_{I_{10}, J_{12}} \end{aligned}$$

$$\langle (A_9, B_{11}) | \hat{H} | (A_9, I_8, J_{12}, K_{13}) \rangle =$$

$$+ \frac{-1}{12} \sum_I \sum_J \sum_K \langle 1^B 1^I | \hat{g} | 0^J 1^K \rangle \langle B_0 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle \langle K_{13} | \hat{1}_\beta^+ | K_0 \rangle t_{A_9, J_{12}} t_{I_8, K_{13}}$$

$$\begin{aligned}
& + \frac{1}{12} \sum_I \sum_J \sum_K \langle 1^B 0^I | \hat{g} | 1^J 0^K \rangle \langle B_1 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle \langle K_{12} | \hat{0}_\alpha^+ | K_0 \rangle t_{B_1} t_{A_9, K_{12}} t_{I_9, J_{11}} \\
& + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 1^B 0^I | \hat{g} | 0^K 1^J \rangle \langle B_1 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle \langle K_{12} | \hat{0}_\alpha^+ | K_0 \rangle t_{B_1} t_{A_9, K_{12}} t_{I_9, J_{11}}
\end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, I_7, J_{11}, K_{14}) \rangle = \\ & + \frac{1}{12} \sum_I \sum_L \sum_K \langle 1^B 0^I | \hat{g} | 1^J 0^K \rangle \langle B_0 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle \langle K_{14} | \hat{0}_\beta^+ | K_0 \rangle t_{A_9, J_{11}} t_{I_7, K_{14}} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_1, I_7, J_{11}, K_{14}) \rangle = \\ & + \frac{-1}{12} \sum_{\underline{I}} \sum_{\underline{J}} \sum_{\underline{K}} \langle 1^B 0^I | \hat{g} | 1^J 0^K \rangle \langle B_1 | \hat{1}_{\alpha}^{-} | B_{11} \rangle \langle I_7 | \hat{0}_{\beta}^{-} | I_0 \rangle \langle J_{11} | \hat{1}_{\alpha}^{+} | J_0 \rangle \langle K_{14} | \hat{0}_{\beta}^{+} | K_0 \rangle t_{B_1} t_{A_9, J_{11}} t_{I_7, K_{14}} \end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_9, I_{10}, J_{11}, K_{12}) \rangle = \\
& + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 1^B 1^I | \hat{g} | 1^J 0^K \rangle \langle B_0 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_{10} | \hat{1}_\alpha^- | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle \langle K_{12} | \hat{0}_\alpha^+ | K_0 \rangle t_{A_9, J_{11}} t_{I_{10}, K_{12}} \\
& + \frac{1}{12} \sum_I \sum_J \sum_K \langle 1^B 1^I | \hat{g} | 0^K 1^J \rangle \langle B_0 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_{10} | \hat{1}_\alpha^- | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle \langle K_{12} | \hat{0}_\alpha^+ | K_0 \rangle t_{A_9, J_{11}} t_{I_{10}, K_{12}} \\
& + \frac{1}{12} \sum_I \sum_J \sum_K \langle 1^B 1^I | \hat{g} | 1^J 0^K \rangle \langle B_0 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_{10} | \hat{1}_\alpha^- | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle \langle K_{12} | \hat{0}_\alpha^+ | K_0 \rangle t_{A_9, K_{12}} t_{I_{10}, J_{11}} \\
& + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 1^B 1^I | \hat{g} | 0^K 1^J \rangle \langle B_0 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_{10} | \hat{1}_\alpha^- | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle \langle K_{12} | \hat{0}_\alpha^+ | K_0 \rangle t_{A_9, K_{12}} t_{I_{10}, J_{11}}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_9, B_1, I_{10}, J_{11}, K_{12}) \rangle = \\
& + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 1^B 1^I | \hat{g} | 1^J 0^K \rangle \langle B_1 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_{10} | \hat{1}_\alpha^- | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle \langle K_{12} | \hat{0}_\alpha^+ | K_0 \rangle t_{B_1} t_{A_9, J_{11}} t_{I_{10}, K_{12}} \\
& + \frac{1}{12} \sum_I \sum_J \sum_K \langle 1^B 1^I | \hat{g} | 0^K 1^J \rangle \langle B_1 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_{10} | \hat{1}_\alpha^- | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle \langle K_{12} | \hat{0}_\alpha^+ | K_0 \rangle t_{B_1} t_{A_9, J_{11}} t_{I_{10}, K_{12}} \\
& + \frac{1}{12} \sum_I \sum_J \sum_K \langle 1^B 1^I | \hat{g} | 1^J 0^K \rangle \langle B_1 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_{10} | \hat{1}_\alpha^- | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle \langle K_{12} | \hat{0}_\alpha^+ | K_0 \rangle t_{B_1} t_{A_9, K_{12}} t_{I_{10}, J_{11}} \\
& + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 1^B 1^I | \hat{g} | 0^K 1^J \rangle \langle B_1 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_{10} | \hat{1}_\alpha^- | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle \langle K_{12} | \hat{0}_\alpha^+ | K_0 \rangle t_{B_1} t_{A_9, K_{12}} t_{I_{10}, J_{11}}
\end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, I_8, J_{11}, K_{14}) \rangle = \\ & + \frac{1}{12} \sum_I \sum_L \sum_K \langle 1^B 1^I | \hat{g} | 1^J 0^K \rangle \langle B_0 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle \langle K_{14} | \hat{0}_\beta^+ | K_0 \rangle t_{A_9, J_{11}} t_{I_8, K_{14}} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_1, I_8, J_{11}, K_{13}) \rangle = \\ & + \frac{1}{12} \sum_I \sum_J \sum_K \langle 1^B 1^I | \hat{g} | 1^J 1^K \rangle \langle B_1 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle \langle K_{13} | \hat{1}_\beta^+ | K_0 \rangle t_{B_1} t_{A_9, J_{11}} t_{I_8, K_{13}} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_2, I_{14}, J_7, K_{12}) \rangle = \\ & + \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^B 0^I | \hat{g} | 0^K 0^J \rangle \langle B_2 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle \langle K_{12} | \hat{0}_\alpha^+ | K_0 \rangle t_{B_2} t_{A_9, K_{12}} t_{I_{14}, J_7} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_3, I_{14}, J_7, K_{12}) \rangle = \\ & + \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^B 0^I | \hat{g} | 0^K 0^J \rangle \langle B_3 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle \langle K_{12} | \hat{0}_\alpha^+ | K_0 \rangle t_{B_3} t_{A_9, K_{12}} t_{I_{14}, J_7} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_2, I_{14}, J_8, K_{12}) \rangle = \\ & + \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^B 0^I | \hat{g} | 0^K 1^J \rangle \langle B_2 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_{12} | \hat{0}_\alpha^+ | K_0 \rangle t_{B_2} t_{A_9, K_{12}} t_{I_{14}, J_8} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_3, I_{14}, J_8, K_{12}) \rangle = \\ & + \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^B 0^I | \hat{g} | 0^K 1^J \rangle \langle B_3 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_{12} | \hat{0}_\alpha^+ | K_0 \rangle t_{B_3} t_{A_9, K_{12}} t_{I_{14}, J_8} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, I_{14}, J_7, K_{12}) \rangle = \\ & + \frac{1}{12} \sum_I \sum_J \sum_K \langle 1^B 0^I | \hat{g} | 0^K 0^J \rangle \langle B_0 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle \langle K_{12} | \hat{0}_\alpha^+ | K_0 \rangle t_{A_9, K_{12}} t_{I_{14}, J_7} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_1, I_{14}, J_7, K_{12}) \rangle = \\ & + \frac{1}{12} \sum_I \sum_J \sum_K \langle 1^B 0^I | \hat{g} | 0^K 0^J \rangle \langle B_1 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle \langle K_{12} | \hat{0}_\alpha^+ | K_0 \rangle t_{B_1} t_{A_9, K_{12}} t_{I_{14}, J_7} \end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_9, I_{14}, J_8, K_{12}) \rangle = \\
& + \frac{1}{12} \sum_I \sum_J \sum_K \langle 1^B 0^I | \hat{g} | 0^K 1^J \rangle \langle B_0 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_{12} | \hat{0}_\alpha^+ | K_0 \rangle t_{A_9, K_{12}} t_{I_{14}, J_8}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_9, B_1, I_{14}, J_8, K_{12}) \rangle = \\
& + \frac{1}{12} \sum_I \sum_J \sum_K \langle 1^B 0^I | \hat{g} | 0^K 1^J \rangle \langle B_1 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_{12} | \hat{0}_\alpha^+ | K_0 \rangle t_{B_1} t_{A_9, K_{12}} t_{I_{14}, J_8}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_9, B_2, I_{13}, J_7, K_{12}) \rangle = \\
& + \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^B 1^I | \hat{g} | 0^K 0^J \rangle \langle B_2 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle \langle K_{12} | \hat{0}_\alpha^+ | K_0 \rangle t_{B_2} t_{A_9, K_{12}} t_{I_{13}, J_7}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_9, B_3, I_{13}, J_7, K_{12}) \rangle = \\
& + \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^B 1^I | \hat{g} | 0^K 0^J \rangle \langle B_3 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle \langle K_{12} | \hat{0}_\alpha^+ | K_0 \rangle t_{B_3} t_{A_9, K_{12}} t_{I_{13}, J_7}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_9, B_2, I_{13}, J_8, K_{12}) \rangle = \\
& + \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^B 1^I | \hat{g} | 0^K 1^J \rangle \langle B_2 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_{12} | \hat{0}_\alpha^+ | K_0 \rangle t_{B_2} t_{A_9, K_{12}} t_{I_{13}, J_8}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_9, B_3, I_{13}, J_8, K_{12}) \rangle = \\
& + \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^B 1^I | \hat{g} | 0^K 1^J \rangle \langle B_3 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_{12} | \hat{0}_\alpha^+ | K_0 \rangle t_{B_3} t_{A_9, K_{12}} t_{I_{13}, J_8}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_9, I_{13}, J_7, K_{12}) \rangle = \\
& + \frac{1}{12} \sum_I \sum_J \sum_K \langle 1^B 1^I | \hat{g} | 0^K 0^J \rangle \langle B_0 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle \langle K_{12} | \hat{0}_\alpha^+ | K_0 \rangle t_{A_9, K_{12}} t_{I_{13}, J_7}
\end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_1, I_{13}, J_7, K_{12}) \rangle = \\ & + \frac{1}{12} \sum_I \sum_J \sum_K \langle 1^B 1^I | \hat{g} | 0^K 0^J \rangle \langle B_1 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle \langle K_{12} | \hat{0}_\alpha^+ | K_0 \rangle t_{B_1} t_{A_9, K_{12}} t_{I_{13}, J_7} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, I_{13}, J_8, K_{12}) \rangle = \\ & + \frac{1}{12} \sum_I \sum_J \sum_K \langle 1^B 1^I | \hat{g} | 0^K 1^J \rangle \langle B_0 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_{12} | \hat{0}_\alpha^+ | K_0 \rangle t_{A_9, K_{12}} t_{I_{13}, J_8} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_1, I_{13}, J_8, K_{12}) \rangle = \\ & + \frac{1}{12} \sum_I \sum_J \sum_K \langle 1^B 1^I | \hat{g} | 0^K 1^J \rangle \langle B_1 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_{12} | \hat{0}_\alpha^+ | K_0 \rangle t_{B_1} t_{A_9, K_{12}} t_{I_{13}, J_8} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_2, I_{14}, J_7, K_{11}) \rangle = \\ & + \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^B 0^I | \hat{g} | 1^K 0^J \rangle \langle B_2 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle \langle K_{11} | \hat{1}_\alpha^+ | K_0 \rangle t_{B_2} t_{A_9, K_{11}} t_{I_{14}, J_7} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_3, I_{14}, J_7, K_{11}) \rangle = \\ & + \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^B 0^I | \hat{g} | 1^K 0^J \rangle \langle B_3 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle \langle K_{11} | \hat{1}_\alpha^+ | K_0 \rangle t_{B_3} t_{A_9, K_{11}} t_{I_{14}, J_7} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_2, I_{14}, J_8, K_{11}) \rangle = \\ & + \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^B 0^I | \hat{g} | 1^K 1^J \rangle \langle B_2 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_{11} | \hat{1}_\alpha^+ | K_0 \rangle t_{B_2} t_{A_9, K_{11}} t_{I_{14}, J_8} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_3, I_{14}, J_8, K_{11}) \rangle = \\ & + \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^B 0^I | \hat{g} | 1^K 1^J \rangle \langle B_3 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_{11} | \hat{1}_\alpha^+ | K_0 \rangle t_{B_3} t_{A_9, K_{11}} t_{I_{14}, J_8} \end{aligned}$$

$$\langle (A_9, B_{11}) | \hat{H} | (A_9, I_{14}, J_7, K_{11}) \rangle =$$

$$+ \frac{1}{12} \sum_I \sum_J \sum_K \langle 1^B 0^I | \hat{g} | 1^K 0^J \rangle \langle B_0 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle \langle K_{11} | \hat{1}_\alpha^+ | K_0 \rangle t_{A_9, K_{11}} t_{I_{14}, J_7}$$

$$\langle (A_9, B_{11}) | \hat{H} | (A_9, B_1, I_{14}, J_7, K_{11}) \rangle =$$

$$+ \frac{1}{12} \sum_I \sum_J \sum_K \langle 1^B 0^I | \hat{g} | 1^K 0^J \rangle \langle B_1 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle \langle K_{11} | \hat{1}_\alpha^+ | K_0 \rangle t_{B_1} t_{A_9, K_{11}} t_{I_{14}, J_7}$$

$$\langle (A_9, B_{11}) | \hat{H} | (A_9, I_{14}, J_8, K_{11}) \rangle =$$

$$+ \frac{1}{12} \sum_I \sum_J \sum_K \langle 1^B 0^I | \hat{g} | 1^K 1^J \rangle \langle B_0 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_{11} | \hat{1}_\alpha^+ | K_0 \rangle t_{A_9, K_{11}} t_{I_{14}, J_8}$$

$$\langle (A_9, B_{11}) | \hat{H} | (A_9, B_1, I_{14}, J_8, K_{11}) \rangle =$$

$$+ \frac{1}{12} \sum_I \sum_J \sum_K \langle 1^B 0^I | \hat{g} | 1^K 1^J \rangle \langle B_1 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_{11} | \hat{1}_\alpha^+ | K_0 \rangle t_{B_1} t_{A_9, K_{11}} t_{I_{14}, J_8}$$

$$\langle (A_9, B_{11}) | \hat{H} | (A_9, B_2, I_{13}, J_7, K_{11}) \rangle =$$

$$+ \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^B 1^I | \hat{g} | 1^K 0^J \rangle \langle B_2 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle \langle K_{11} | \hat{1}_\alpha^+ | K_0 \rangle t_{B_2} t_{A_9, K_{11}} t_{I_{13}, J_7}$$

$$\langle (A_9, B_{11}) | \hat{H} | (A_9, B_3, I_{13}, J_7, K_{11}) \rangle =$$

$$+ \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^B 1^I | \hat{g} | 1^K 0^J \rangle \langle B_3 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle \langle K_{11} | \hat{1}_\alpha^+ | K_0 \rangle t_{B_3} t_{A_9, K_{11}} t_{I_{13}, J_7}$$

$$\langle (A_9, B_{11}) | \hat{H} | (A_9, B_2, I_{13}, J_8, K_{11}) \rangle =$$

$$+ \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^B 1^I | \hat{g} | 1^K 1^J \rangle \langle B_2 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_{11} | \hat{1}_\alpha^+ | K_0 \rangle t_{B_2} t_{A_9, K_{11}} t_{I_{13}, J_8}$$

$$\langle (A_9, B_{11}) | \hat{H} | (A_9, B_3, I_{13}, J_8, K_{11}) \rangle =$$

$$+ \frac{1}{12} \sum_I \sum_J \sum_K \langle 0^B 1^I | \hat{g} | 1^K 1^J \rangle \langle B_3 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_{11} | \hat{1}_\alpha^+ | K_0 \rangle t_{B_3} t_{A_9, K_{11}} t_{I_{13}, J_8}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, I_{13}, J_7, K_{11}) \rangle = \\ & + \frac{1}{12} \sum_I \sum_J \sum_K \langle 1^B 1^I | \hat{g} | 1^K 0^J \rangle \langle B_0 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle \langle K_{11} | \hat{1}_\alpha^+ | K_0 \rangle t_{A_9, K_{11}} t_{I_{13}, J_7} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_1, I_{13}, J_7, K_{11}) \rangle = \\ & + \frac{1}{12} \sum_I \sum_J \sum_K \langle 1^B 1^I | \hat{g} | 1^K 0^J \rangle \langle B_1 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle \langle K_{11} | \hat{1}_\alpha^+ | K_0 \rangle t_{B_1} t_{A_9, K_{11}} t_{I_{13}, J_7} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, I_{13}, J_8, K_{11}) \rangle = \\ & + \frac{1}{12} \sum_I \sum_J \sum_K \langle 1^B 1^I | \hat{g} | 1^K 1^J \rangle \langle B_0 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_{11} | \hat{1}_\alpha^+ | K_0 \rangle t_{A_9, K_{11}} t_{I_{13}, J_8} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_1, I_{13}, J_8, K_{11}) \rangle = \\ & + \frac{1}{12} \sum_I \sum_J \sum_K \langle 1^B 1^I | \hat{g} | 1^K 1^J \rangle \langle B_1 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle \langle K_{11} | \hat{1}_\alpha^+ | K_0 \rangle t_{B_1} t_{A_9, K_{11}} t_{I_{13}, J_8} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_2, I_7, J_{14}, K_{12}) \rangle = \\ & + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 0^B 0^I | \hat{g} | 0^K 0^J \rangle \langle B_2 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle \langle K_{12} | \hat{0}_\alpha^+ | K_0 \rangle t_{B_2} t_{A_9, K_{12}} t_{I_7, J_{14}} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_3, I_7, J_{14}, K_{12}) \rangle = \\ & + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 0^B 0^I | \hat{g} | 0^K 0^J \rangle \langle B_3 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle \langle K_{12} | \hat{0}_\alpha^+ | K_0 \rangle t_{B_3} t_{A_9, K_{12}} t_{I_7, J_{14}} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_2, I_8, J_{14}, K_{12}) \rangle = \\ & + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 0^B 1^I | \hat{g} | 0^K 0^J \rangle \langle B_2 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle \langle K_{12} | \hat{0}_\alpha^+ | K_0 \rangle t_{B_2} t_{A_9, K_{12}} t_{I_8, J_{14}} \end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_9, B_3, I_8, J_{14}, K_{12}) \rangle = \\
& + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 0^B 1^I | \hat{g} | 0^K 0^J \rangle \langle B_3 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle \langle K_{12} | \hat{0}_\alpha^+ | K_0 \rangle t_{B_3} t_{A_9, K_{12}} t_{I_8, J_{14}}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_9, I_7, J_{14}, K_{12}) \rangle = \\
& + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 1^B 0^I | \hat{g} | 0^K 0^J \rangle \langle B_0 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle \langle K_{12} | \hat{0}_\alpha^+ | K_0 \rangle t_{A_9, K_{12}} t_{I_7, J_{14}}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_9, B_1, I_7, J_{14}, K_{12}) \rangle = \\
& + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 1^B 0^I | \hat{g} | 0^K 0^J \rangle \langle B_1 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle \langle K_{12} | \hat{0}_\alpha^+ | K_0 \rangle t_{B_1} t_{A_9, K_{12}} t_{I_7, J_{14}}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_9, I_8, J_{14}, K_{12}) \rangle = \\
& + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 1^B 1^I | \hat{g} | 0^K 0^J \rangle \langle B_0 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle \langle K_{12} | \hat{0}_\alpha^+ | K_0 \rangle t_{A_9, K_{12}} t_{I_8, J_{14}}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_9, B_1, I_8, J_{14}, K_{12}) \rangle = \\
& + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 1^B 1^I | \hat{g} | 0^K 0^J \rangle \langle B_1 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle \langle K_{12} | \hat{0}_\alpha^+ | K_0 \rangle t_{B_1} t_{A_9, K_{12}} t_{I_8, J_{14}}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_9, B_2, I_7, J_{13}, K_{12}) \rangle = \\
& + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 0^B 0^I | \hat{g} | 0^K 1^J \rangle \langle B_2 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_{13} | \hat{1}_\beta^+ | J_0 \rangle \langle K_{12} | \hat{0}_\alpha^+ | K_0 \rangle t_{B_2} t_{A_9, K_{12}} t_{I_7, J_{13}}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_9, B_3, I_7, J_{13}, K_{12}) \rangle = \\
& + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 0^B 0^I | \hat{g} | 0^K 1^J \rangle \langle B_3 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_{13} | \hat{1}_\beta^+ | J_0 \rangle \langle K_{12} | \hat{0}_\alpha^+ | K_0 \rangle t_{B_3} t_{A_9, K_{12}} t_{I_7, J_{13}}
\end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_2, I_8, J_{13}, K_{12}) \rangle = \\ & + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 0^B 1^I | \hat{g} | 0^K 1^J \rangle \langle B_2 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_{13} | \hat{1}_\beta^+ | J_0 \rangle \langle K_{12} | \hat{0}_\alpha^+ | K_0 \rangle t_{B_2} t_{A_9, K_{12}} t_{I_8, J_{13}} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_3, I_8, J_{13}, K_{12}) \rangle = \\ & + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 0^B 1^I | \hat{g} | 0^K 1^J \rangle \langle B_3 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_{13} | \hat{1}_\beta^+ | J_0 \rangle \langle K_{12} | \hat{0}_\alpha^+ | K_0 \rangle t_{B_3} t_{A_9, K_{12}} t_{I_8, J_{13}} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, I_7, J_{13}, K_{12}) \rangle = \\ & + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 1^B 0^I | \hat{g} | 0^K 1^J \rangle \langle B_0 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_{13} | \hat{1}_\beta^+ | J_0 \rangle \langle K_{12} | \hat{0}_\alpha^+ | K_0 \rangle t_{A_9, K_{12}} t_{I_7, J_{13}} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_1, I_7, J_{13}, K_{12}) \rangle = \\ & + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 1^B 0^I | \hat{g} | 0^K 1^J \rangle \langle B_1 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_{13} | \hat{1}_\beta^+ | J_0 \rangle \langle K_{12} | \hat{0}_\alpha^+ | K_0 \rangle t_{B_1} t_{A_9, K_{12}} t_{I_7, J_{13}} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, I_8, J_{13}, K_{12}) \rangle = \\ & + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 1^B 1^I | \hat{g} | 0^K 1^J \rangle \langle B_0 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_{13} | \hat{1}_\beta^+ | J_0 \rangle \langle K_{12} | \hat{0}_\alpha^+ | K_0 \rangle t_{A_9, K_{12}} t_{I_8, J_{13}} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_1, I_8, J_{13}, K_{12}) \rangle = \\ & + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 1^B 1^I | \hat{g} | 0^K 1^J \rangle \langle B_1 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_{13} | \hat{1}_\beta^+ | J_0 \rangle \langle K_{12} | \hat{0}_\alpha^+ | K_0 \rangle t_{B_1} t_{A_9, K_{12}} t_{I_8, J_{13}} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_2, I_7, J_{14}, K_{11}) \rangle = \\ & + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 0^B 0^I | \hat{g} | 1^K 0^J \rangle \langle B_2 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle \langle K_{11} | \hat{1}_\alpha^+ | K_0 \rangle t_{B_2} t_{A_9, K_{11}} t_{I_7, J_{14}} \end{aligned}$$

$$\langle (A_9, B_{11}) | \hat{H} | (A_9, B_3, I_7, J_{14}, K_{11}) \rangle =$$

$$+ \frac{-1}{12} \sum_I \sum_J \sum_K \langle 0^B 0^I | \hat{g} | 1^K 0^J \rangle \langle B_3 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle \langle K_{11} | \hat{1}_\alpha^+ | K_0 \rangle t_{B_3} t_{A_9, K_{11}} t_{I_7, J_{14}}$$

$$\langle (A_9, B_{11}) | \hat{H} | (A_9, B_2, I_8, J_{14}, K_{11}) \rangle =$$

$$+ \frac{-1}{12} \sum_I \sum_J \sum_K \langle 0^B 1^I | \hat{g} | 1^K 0^J \rangle \langle B_2 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle \langle K_{11} | \hat{1}_\alpha^+ | K_0 \rangle t_{B_2} t_{A_9, K_{11}} t_{I_8, J_{14}}$$

$$\langle (A_9, B_{11}) | \hat{H} | (A_9, B_3, I_8, J_{14}, K_{11}) \rangle =$$

$$+ \frac{-1}{12} \sum_I \sum_J \sum_K \langle 0^B 1^I | \hat{g} | 1^K 0^J \rangle \langle B_3 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle \langle K_{11} | \hat{1}_\alpha^+ | K_0 \rangle t_{B_3} t_{A_9, K_{11}} t_{I_8, J_{14}}$$

$$\langle (A_9, B_{11}) | \hat{H} | (A_9, I_7, J_{14}, K_{11}) \rangle =$$

$$+ \frac{-1}{12} \sum_I \sum_J \sum_K \langle 1^B 0^I | \hat{g} | 1^K 0^J \rangle \langle B_0 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle \langle K_{11} | \hat{1}_\alpha^+ | K_0 \rangle t_{A_9, K_{11}} t_{I_7, J_{14}}$$

$$\langle (A_9, B_{11}) | \hat{H} | (A_9, B_1, I_7, J_{14}, K_{11}) \rangle =$$

$$+ \frac{-1}{12} \sum_I \sum_J \sum_K \langle 1^B 0^I | \hat{g} | 1^K 0^J \rangle \langle B_1 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle \langle K_{11} | \hat{1}_\alpha^+ | K_0 \rangle t_{B_1} t_{A_9, K_{11}} t_{I_7, J_{14}}$$

$$\langle (A_9, B_{11}) | \hat{H} | (A_9, I_8, J_{14}, K_{11}) \rangle =$$

$$+ \frac{-1}{12} \sum_I \sum_J \sum_K \langle 1^B 1^I | \hat{g} | 1^K 0^J \rangle \langle B_0 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle \langle K_{11} | \hat{1}_\alpha^+ | K_0 \rangle t_{A_9, K_{11}} t_{I_8, J_{14}}$$

$$\langle (A_9, B_{11}) | \hat{H} | (A_9, B_1, I_8, J_{14}, K_{11}) \rangle =$$

$$+ \frac{-1}{12} \sum_I \sum_J \sum_K \langle 1^B 1^I | \hat{g} | 1^K 0^J \rangle \langle B_1 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle \langle K_{11} | \hat{1}_\alpha^+ | K_0 \rangle t_{B_1} t_{A_9, K_{11}} t_{I_8, J_{14}}$$

$$\langle (A_9, B_{11}) | \hat{H} | (A_9, B_2, I_7, J_{13}, K_{11}) \rangle =$$

$$+ \frac{-1}{12} \sum_I \sum_J \sum_K \langle 0^B 0^I | \hat{g} | 1^K 1^J \rangle \langle B_2 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_{13} | \hat{1}_\beta^+ | J_0 \rangle \langle K_{11} | \hat{1}_\alpha^+ | K_0 \rangle t_{B_2} t_{A_9, K_{11}} t_{I_7, J_{13}}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_3, I_7, J_{13}, K_{11}) \rangle = \\ & + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 0^B 0^I | \hat{g} | 1^K 1^J \rangle \langle B_3 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_{13} | \hat{1}_\beta^+ | J_0 \rangle \langle K_{11} | \hat{1}_\alpha^+ | K_0 \rangle t_{B_3} t_{A_9, K_{11}} t_{I_7, J_{13}} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_2, I_8, J_{13}, K_{11}) \rangle = \\ & + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 0^B 1^I | \hat{g} | 1^K 1^J \rangle \langle B_2 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_{13} | \hat{1}_\beta^+ | J_0 \rangle \langle K_{11} | \hat{1}_\alpha^+ | K_0 \rangle t_{B_2} t_{A_9, K_{11}} t_{I_8, J_{13}} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_3, I_8, J_{13}, K_{11}) \rangle = \\ & + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 0^B 1^I | \hat{g} | 1^K 1^J \rangle \langle B_3 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_{13} | \hat{1}_\beta^+ | J_0 \rangle \langle K_{11} | \hat{1}_\alpha^+ | K_0 \rangle t_{B_3} t_{A_9, K_{11}} t_{I_8, J_{13}} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, I_7, J_{13}, K_{11}) \rangle = \\ & + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 1^B 0^I | \hat{g} | 1^K 1^J \rangle \langle B_0 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_{13} | \hat{1}_\beta^+ | J_0 \rangle \langle K_{11} | \hat{1}_\alpha^+ | K_0 \rangle t_{A_9, K_{11}} t_{I_7, J_{13}} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_1, I_7, J_{13}, K_{11}) \rangle = \\ & + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 1^B 0^I | \hat{g} | 1^K 1^J \rangle \langle B_1 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_{13} | \hat{1}_\beta^+ | J_0 \rangle \langle K_{11} | \hat{1}_\alpha^+ | K_0 \rangle t_{B_1} t_{A_9, K_{11}} t_{I_7, J_{13}} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, I_8, J_{13}, K_{11}) \rangle = \\ & + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 1^B 1^I | \hat{g} | 1^K 1^J \rangle \langle B_0 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_{13} | \hat{1}_\beta^+ | J_0 \rangle \langle K_{11} | \hat{1}_\alpha^+ | K_0 \rangle t_{A_9, K_{11}} t_{I_8, J_{13}} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_9, B_1, I_8, J_{13}, K_{11}) \rangle = \\ & + \frac{-1}{12} \sum_I \sum_J \sum_K \langle 1^B 1^I | \hat{g} | 1^K 1^J \rangle \langle B_1 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_{13} | \hat{1}_\beta^+ | J_0 \rangle \langle K_{11} | \hat{1}_\alpha^+ | K_0 \rangle t_{B_1} t_{A_9, K_{11}} t_{I_8, J_{13}} \end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_1, B_3, I_{12}, J_{10}) \rangle = \\
& + \frac{-1}{4} \sum_I \sum_J \langle 0^A 0^I | \hat{g} | 0^B 1^J \rangle \langle A_1 | \hat{0}_\alpha^+ | A_9 \rangle \langle B_3 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_{12} | \hat{0}_\alpha^+ | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle t_{A_1, B_3} t_{I_{12}, J_{10}} \\
& + \frac{1}{4} \sum_I \sum_J \langle 0^A 0^B | \hat{g} | 1^J 0^I \rangle \langle A_1 | \hat{0}_\alpha^+ | A_9 \rangle \langle B_3 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_{12} | \hat{0}_\alpha^+ | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle t_{A_1, B_3} t_{I_{12}, J_{10}} \\
& + \frac{-1}{4} \sum_I \sum_J \langle 0^A 0^I | \hat{g} | 0^B 1^J \rangle \langle A_1 | \hat{0}_\alpha^+ | A_9 \rangle \langle B_3 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_{12} | \hat{0}_\alpha^+ | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle t_{A_1} t_{B_3} t_{I_{12}, J_{10}} \\
& + \frac{1}{4} \sum_I \sum_J \langle 0^A 0^B | \hat{g} | 1^J 0^I \rangle \langle A_1 | \hat{0}_\alpha^+ | A_9 \rangle \langle B_3 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_{12} | \hat{0}_\alpha^+ | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle t_{A_1} t_{B_3} t_{I_{12}, J_{10}}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (B_2, I_{14}, J_8) \rangle = \\
& + \frac{-1}{4} \sum_I \sum_J \langle 0^A 0^I | \hat{g} | 0^B 1^J \rangle \langle A_0 | \hat{0}_\alpha^+ | A_9 \rangle \langle B_2 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle t_{B_2} t_{I_{14}, J_8}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (B_3, I_{14}, J_8) \rangle = \\
& + \frac{-1}{4} \sum_I \sum_J \langle 0^A 0^I | \hat{g} | 0^B 1^J \rangle \langle A_0 | \hat{0}_\alpha^+ | A_9 \rangle \langle B_3 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle t_{B_3} t_{I_{14}, J_8}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_1, B_2, I_{14}, J_8) \rangle = \\
& + \frac{-1}{4} \sum_I \sum_J \langle 0^A 0^I | \hat{g} | 0^B 1^J \rangle \langle A_1 | \hat{0}_\alpha^+ | A_9 \rangle \langle B_2 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle t_{A_1, B_2} t_{I_{14}, J_8} \\
& + \frac{-1}{4} \sum_I \sum_J \langle 0^A 0^I | \hat{g} | 0^B 1^J \rangle \langle A_1 | \hat{0}_\alpha^+ | A_9 \rangle \langle B_2 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle t_{A_1} t_{B_2} t_{I_{14}, J_8}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_1, B_3, I_{14}, J_8) \rangle = \\
& + \frac{-1}{4} \sum_I \sum_J \langle 0^A 0^I | \hat{g} | 0^B 1^J \rangle \langle A_1 | \hat{0}_\alpha^+ | A_9 \rangle \langle B_3 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle t_{A_1, B_3} t_{I_{14}, J_8} \\
& + \frac{-1}{4} \sum_I \sum_J \langle 0^A 0^I | \hat{g} | 0^B 1^J \rangle \langle A_1 | \hat{0}_\alpha^+ | A_9 \rangle \langle B_3 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle t_{A_1} t_{B_3} t_{I_{14}, J_8}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (I_{12}, J_9) \rangle = \\
& + \frac{-1}{4} \sum_I \sum_J \langle 0^A 0^I | \hat{g} | 1^B 0^J \rangle \langle A_0 | \hat{0}_\alpha^+ | A_9 \rangle \langle B_0 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_{12} | \hat{0}_\alpha^+ | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle t_{I_{12}, J_9}
\end{aligned}$$

$$+\frac{1}{4}\sum_I\sum_J\langle 0^A 1^B|\hat{g}|0^J 0^I\rangle\langle A_0|\hat{0}_\alpha^+|A_9\rangle\langle B_0|\hat{1}_\alpha^-|B_{11}\rangle\langle I_{12}|\hat{0}_\alpha^+|I_0\rangle\langle J_9|\hat{0}_\alpha^-|J_0\rangle t_{I_{12},J_9}$$

$$\begin{aligned} \langle(A_9, B_{11})|\hat{H}|(B_1, I_{12}, J_9)\rangle = \\ +\frac{-1}{4}\sum_I\sum_J\langle 0^A 0^I|\hat{g}|1^B 0^J\rangle\langle A_0|\hat{0}_\alpha^+|A_9\rangle\langle B_1|\hat{1}_\alpha^-|B_{11}\rangle\langle I_{12}|\hat{0}_\alpha^+|I_0\rangle\langle J_9|\hat{0}_\alpha^-|J_0\rangle t_{B_1} t_{I_{12},J_9} \\ +\frac{1}{4}\sum_I\sum_J\langle 0^A 1^B|\hat{g}|0^J 0^I\rangle\langle A_0|\hat{0}_\alpha^+|A_9\rangle\langle B_1|\hat{1}_\alpha^-|B_{11}\rangle\langle I_{12}|\hat{0}_\alpha^+|I_0\rangle\langle J_9|\hat{0}_\alpha^-|J_0\rangle t_{B_1} t_{I_{12},J_9} \end{aligned}$$

$$\begin{aligned} \langle(A_9, B_{11})|\hat{H}|(A_1, I_{12}, J_9)\rangle = \\ +\frac{-1}{4}\sum_I\sum_J\langle 0^A 0^I|\hat{g}|1^B 0^J\rangle\langle A_1|\hat{0}_\alpha^+|A_9\rangle\langle B_0|\hat{1}_\alpha^-|B_{11}\rangle\langle I_{12}|\hat{0}_\alpha^+|I_0\rangle\langle J_9|\hat{0}_\alpha^-|J_0\rangle t_{A_1} t_{I_{12},J_9} \\ +\frac{1}{4}\sum_I\sum_J\langle 0^A 1^B|\hat{g}|0^J 0^I\rangle\langle A_1|\hat{0}_\alpha^+|A_9\rangle\langle B_0|\hat{1}_\alpha^-|B_{11}\rangle\langle I_{12}|\hat{0}_\alpha^+|I_0\rangle\langle J_9|\hat{0}_\alpha^-|J_0\rangle t_{A_1} t_{I_{12},J_9} \end{aligned}$$

$$\begin{aligned} \langle(A_9, B_{11})|\hat{H}|(A_1, B_1, I_{12}, J_9)\rangle = \\ +\frac{-1}{4}\sum_I\sum_J\langle 0^A 0^I|\hat{g}|1^B 0^J\rangle\langle A_1|\hat{0}_\alpha^+|A_9\rangle\langle B_1|\hat{1}_\alpha^-|B_{11}\rangle\langle I_{12}|\hat{0}_\alpha^+|I_0\rangle\langle J_9|\hat{0}_\alpha^-|J_0\rangle t_{A_1, B_1} t_{I_{12},J_9} \\ +\frac{1}{4}\sum_I\sum_J\langle 0^A 1^B|\hat{g}|0^J 0^I\rangle\langle A_1|\hat{0}_\alpha^+|A_9\rangle\langle B_1|\hat{1}_\alpha^-|B_{11}\rangle\langle I_{12}|\hat{0}_\alpha^+|I_0\rangle\langle J_9|\hat{0}_\alpha^-|J_0\rangle t_{A_1, B_1} t_{I_{12},J_9} \\ +\frac{-1}{4}\sum_I\sum_J\langle 0^A 0^I|\hat{g}|1^B 0^J\rangle\langle A_1|\hat{0}_\alpha^+|A_9\rangle\langle B_1|\hat{1}_\alpha^-|B_{11}\rangle\langle I_{12}|\hat{0}_\alpha^+|I_0\rangle\langle J_9|\hat{0}_\alpha^-|J_0\rangle t_{A_1} t_{B_1} t_{I_{12},J_9} \\ +\frac{1}{4}\sum_I\sum_J\langle 0^A 1^B|\hat{g}|0^J 0^I\rangle\langle A_1|\hat{0}_\alpha^+|A_9\rangle\langle B_1|\hat{1}_\alpha^-|B_{11}\rangle\langle I_{12}|\hat{0}_\alpha^+|I_0\rangle\langle J_9|\hat{0}_\alpha^-|J_0\rangle t_{A_1} t_{B_1} t_{I_{12},J_9} \end{aligned}$$

$$\begin{aligned} \langle(A_9, B_{11})|\hat{H}|(I_{14}, J_7)\rangle = \\ +\frac{-1}{4}\sum_I\sum_J\langle 0^A 0^I|\hat{g}|1^B 0^J\rangle\langle A_0|\hat{0}_\alpha^+|A_9\rangle\langle B_0|\hat{1}_\alpha^-|B_{11}\rangle\langle I_{14}|\hat{0}_\beta^+|I_0\rangle\langle J_7|\hat{0}_\beta^-|J_0\rangle t_{I_{14},J_7} \end{aligned}$$

$$\begin{aligned} \langle(A_9, B_{11})|\hat{H}|(B_1, I_{14}, J_7)\rangle = \\ +\frac{-1}{4}\sum_I\sum_J\langle 0^A 0^I|\hat{g}|1^B 0^J\rangle\langle A_0|\hat{0}_\alpha^+|A_9\rangle\langle B_1|\hat{1}_\alpha^-|B_{11}\rangle\langle I_{14}|\hat{0}_\beta^+|I_0\rangle\langle J_7|\hat{0}_\beta^-|J_0\rangle t_{B_1} t_{I_{14},J_7} \end{aligned}$$

$$\langle(A_9, B_{11})|\hat{H}|(A_1, I_{14}, J_7)\rangle =$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (I_{14}, J_8) \rangle = \\ & + \frac{-1}{4} \sum_I \sum_J \langle 0^A 0^I | \hat{g} | 1^B 1^J \rangle \langle A_0 | \hat{0}_\alpha^+ | A_9 \rangle \langle B_0 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle t_{I_{14}, J_8} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (B_1, I_{14}, J_8) \rangle = \\ & + \frac{-1}{4} \sum_I \sum_J \langle 0^A 0^I | \hat{g} | 1^B 1^J \rangle \langle A_0 | \hat{0}_\alpha^+ | A_9 \rangle \langle B_1 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle t_{B_1} t_{I_{14}, J_8} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_1, I_{14}, J_8) \rangle = \\ & + \frac{-1}{4} \sum_I \sum_J \langle 0^A 0^I | \hat{g} | 1^B 1^J \rangle \langle A_1 | \hat{0}_\alpha^+ | A_9 \rangle \langle B_0 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle t_{A_1} t_{I_{14}, J_8} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_1, B_1, I_{14}, J_8) \rangle = \\ & + \frac{-1}{4} \sum_I \sum_J \langle 0^A 0^I | \hat{g} | 1^B 1^J \rangle \langle A_1 | \hat{0}_\alpha^+ | A_9 \rangle \langle B_1 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle t_{A_1, B_1} t_{I_{14}, J_8} \\ & + \frac{-1}{4} \sum_I \sum_J \langle 0^A 0^I | \hat{g} | 1^B 1^J \rangle \langle A_1 | \hat{0}_\alpha^+ | A_9 \rangle \langle B_1 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle t_{A_1} t_{B_1} t_{I_{14}, J_8} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (B_2, I_{11}, J_9) \rangle = \\ & + \frac{-1}{4} \sum_I \sum_J \langle 0^A 1^I | \hat{g} | 0^B 0^J \rangle \langle A_0 | \hat{0}_\alpha^+ | A_9 \rangle \langle B_2 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle t_{B_2} t_{I_{11}, J_9} \\ & + \frac{1}{4} \sum_I \sum_J \langle 0^A 0^B | \hat{g} | 0^J 1^I \rangle \langle A_0 | \hat{0}_\alpha^+ | A_9 \rangle \langle B_2 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle t_{B_2} t_{I_{11}, J_9} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (B_3, I_{11}, J_9) \rangle = \\ & + \frac{-1}{4} \sum_I \sum_J \langle 0^A 1^I | \hat{g} | 0^B 0^J \rangle \langle A_0 | \hat{0}_\alpha^+ | A_9 \rangle \langle B_3 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle t_{B_3} t_{I_{11}, J_9} \\ & + \frac{1}{4} \sum_I \sum_J \langle 0^A 0^B | \hat{g} | 0^J 1^I \rangle \langle A_0 | \hat{0}_\alpha^+ | A_9 \rangle \langle B_3 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle t_{B_3} t_{I_{11}, J_9} \end{aligned}$$

$$\langle (A_9, B_{11}) | \hat{H} | (A_1, B_2, I_{11}, J_9) \rangle =$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (B_3, I_{13}, J_8) \rangle = \\ & + \frac{-1}{4} \sum_I \sum_J \langle 0^A 1^I | \hat{g} | 0^B 1^J \rangle \langle A_0 | \hat{0}_\alpha^+ | A_9 \rangle \langle B_3 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle t_{B_3} t_{I_{13}, J_8} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_1, B_2, I_{13}, J_8) \rangle = \\ & + \frac{-1}{4} \sum_I \sum_J \langle 0^A 1^I | \hat{g} | 0^B 1^J \rangle \langle A_1 | \hat{0}_\alpha^+ | A_9 \rangle \langle B_2 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle t_{A_1, B_2} t_{I_{13}, J_8} \\ & + \frac{-1}{4} \sum_I \sum_J \langle 0^A 1^I | \hat{g} | 0^B 1^J \rangle \langle A_1 | \hat{0}_\alpha^+ | A_9 \rangle \langle B_2 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle t_{A_1} t_{B_2} t_{I_{13}, J_8} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_1, B_3, I_{13}, J_8) \rangle = \\ & + \frac{-1}{4} \sum_I \sum_J \langle 0^A 1^I | \hat{g} | 0^B 1^J \rangle \langle A_1 | \hat{0}_\alpha^+ | A_9 \rangle \langle B_3 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle t_{A_1, B_3} t_{I_{13}, J_8} \\ & + \frac{-1}{4} \sum_I \sum_J \langle 0^A 1^I | \hat{g} | 0^B 1^J \rangle \langle A_1 | \hat{0}_\alpha^+ | A_9 \rangle \langle B_3 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle t_{A_1} t_{B_3} t_{I_{13}, J_8} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (I_{11}, J_9) \rangle = \\ & + \frac{-1}{4} \sum_I \sum_J \langle 0^A 1^I | \hat{g} | 1^B 0^J \rangle \langle A_0 | \hat{0}_\alpha^+ | A_9 \rangle \langle B_0 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle t_{I_{11}, J_9} \\ & + \frac{1}{4} \sum_I \sum_J \langle 0^A 1^B | \hat{g} | 0^J 1^I \rangle \langle A_0 | \hat{0}_\alpha^+ | A_9 \rangle \langle B_0 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle t_{I_{11}, J_9} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (B_1, I_{11}, J_9) \rangle = \\ & + \frac{-1}{4} \sum_I \sum_J \langle 0^A 1^I | \hat{g} | 1^B 0^J \rangle \langle A_0 | \hat{0}_\alpha^+ | A_9 \rangle \langle B_1 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle t_{B_1} t_{I_{11}, J_9} \\ & + \frac{1}{4} \sum_I \sum_J \langle 0^A 1^B | \hat{g} | 0^J 1^I \rangle \langle A_0 | \hat{0}_\alpha^+ | A_9 \rangle \langle B_1 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle t_{B_1} t_{I_{11}, J_9} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_1, I_{11}, J_9) \rangle = \\ & + \frac{-1}{4} \sum_I \sum_J \langle 0^A 1^I | \hat{g} | 1^B 0^J \rangle \langle A_1 | \hat{0}_\alpha^+ | A_9 \rangle \langle B_0 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle t_{A_1} t_{I_{11}, J_9} \\ & + \frac{1}{4} \sum_I \sum_J \langle 0^A 1^B | \hat{g} | 0^J 1^I \rangle \langle A_1 | \hat{0}_\alpha^+ | A_9 \rangle \langle B_0 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle t_{A_1} t_{I_{11}, J_9} \end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_1, B_1, I_{11}, J_9) \rangle = \\
& + \frac{-1}{4} \sum_I \sum_J \langle 0^A 1^I | \hat{g} | 1^B 0^J \rangle \langle A_1 | \hat{0}_\alpha^+ | A_9 \rangle \langle B_1 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle t_{A_1, B_1} t_{I_{11}, J_9} \\
& + \frac{1}{4} \sum_I \sum_J \langle 0^A 1^B | \hat{g} | 0^J 1^I \rangle \langle A_1 | \hat{0}_\alpha^+ | A_9 \rangle \langle B_1 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle t_{A_1, B_1} t_{I_{11}, J_9} \\
& + \frac{-1}{4} \sum_I \sum_J \langle 0^A 1^I | \hat{g} | 1^B 0^J \rangle \langle A_1 | \hat{0}_\alpha^+ | A_9 \rangle \langle B_1 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle t_{A_1} t_{B_1} t_{I_{11}, J_9} \\
& + \frac{1}{4} \sum_I \sum_J \langle 0^A 1^B | \hat{g} | 0^J 1^I \rangle \langle A_1 | \hat{0}_\alpha^+ | A_9 \rangle \langle B_1 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle t_{A_1} t_{B_1} t_{I_{11}, J_9}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (I_{13}, J_7) \rangle = \\
& + \frac{-1}{4} \sum_I \sum_J \langle 0^A 1^I | \hat{g} | 1^B 0^J \rangle \langle A_0 | \hat{0}_\alpha^+ | A_9 \rangle \langle B_0 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle t_{I_{13}, J_7}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (B_1, I_{13}, J_7) \rangle = \\
& + \frac{-1}{4} \sum_I \sum_J \langle 0^A 1^I | \hat{g} | 1^B 0^J \rangle \langle A_0 | \hat{0}_\alpha^+ | A_9 \rangle \langle B_1 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle t_{B_1} t_{I_{13}, J_7}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_1, I_{13}, J_7) \rangle = \\
& + \frac{-1}{4} \sum_I \sum_J \langle 0^A 1^I | \hat{g} | 1^B 0^J \rangle \langle A_1 | \hat{0}_\alpha^+ | A_9 \rangle \langle B_0 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle t_{A_1} t_{I_{13}, J_7}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_1, B_1, I_{13}, J_7) \rangle = \\
& + \frac{-1}{4} \sum_I \sum_J \langle 0^A 1^I | \hat{g} | 1^B 0^J \rangle \langle A_1 | \hat{0}_\alpha^+ | A_9 \rangle \langle B_1 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle t_{A_1, B_1} t_{I_{13}, J_7} \\
& + \frac{-1}{4} \sum_I \sum_J \langle 0^A 1^I | \hat{g} | 1^B 0^J \rangle \langle A_1 | \hat{0}_\alpha^+ | A_9 \rangle \langle B_1 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle t_{A_1} t_{B_1} t_{I_{13}, J_7}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (I_{11}, J_{10}) \rangle = \\
& + \frac{-1}{4} \sum_I \sum_J \langle 0^A 1^I | \hat{g} | 1^B 1^J \rangle \langle A_0 | \hat{0}_\alpha^+ | A_9 \rangle \langle B_0 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle t_{I_{11}, J_{10}} \\
& + \frac{1}{4} \sum_I \sum_J \langle 0^A 1^B | \hat{g} | 1^J 1^I \rangle \langle A_0 | \hat{0}_\alpha^+ | A_9 \rangle \langle B_0 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle t_{I_{11}, J_{10}}
\end{aligned}$$

$$\begin{aligned}
& + \frac{-1}{4} \sum_I \sum_J \langle 1^A 0^I | \hat{g} | 1^B 1^J \rangle \langle A_3 | \hat{1}_\alpha^+ | A_9 \rangle \langle B_1 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_{12} | \hat{0}_\alpha^+ | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle t_{A_3} t_{B_1} t_{I_{12}, J_{10}} \\
& + \frac{1}{4} \sum_I \sum_J \langle 1^A 1^B | \hat{g} | 1^J 0^I \rangle \langle A_3 | \hat{1}_\alpha^+ | A_9 \rangle \langle B_1 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_{12} | \hat{0}_\alpha^+ | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle t_{A_3} t_{B_1} t_{I_{12}, J_{10}}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_2, I_{14}, J_8) \rangle = \\
& + \frac{-1}{4} \sum_I \sum_J \langle 1^A 0^I | \hat{g} | 1^B 1^J \rangle \langle A_2 | \hat{1}_\alpha^+ | A_9 \rangle \langle B_0 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle t_{A_2} t_{I_{14}, J_8}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_2, B_1, I_{14}, J_8) \rangle = \\
& + \frac{-1}{4} \sum_I \sum_J \langle 1^A 0^I | \hat{g} | 1^B 1^J \rangle \langle A_2 | \hat{1}_\alpha^+ | A_9 \rangle \langle B_1 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle t_{A_2, B_1} t_{I_{14}, J_8} \\
& + \frac{-1}{4} \sum_I \sum_J \langle 1^A 0^I | \hat{g} | 1^B 1^J \rangle \langle A_2 | \hat{1}_\alpha^+ | A_9 \rangle \langle B_1 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle t_{A_2} t_{B_1} t_{I_{14}, J_8}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_3, I_{14}, J_8) \rangle = \\
& + \frac{-1}{4} \sum_I \sum_J \langle 1^A 0^I | \hat{g} | 1^B 1^J \rangle \langle A_3 | \hat{1}_\alpha^+ | A_9 \rangle \langle B_0 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle t_{A_3} t_{I_{14}, J_8}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_3, B_1, I_{14}, J_8) \rangle = \\
& + \frac{-1}{4} \sum_I \sum_J \langle 1^A 0^I | \hat{g} | 1^B 1^J \rangle \langle A_3 | \hat{1}_\alpha^+ | A_9 \rangle \langle B_1 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle t_{A_3, B_1} t_{I_{14}, J_8} \\
& + \frac{-1}{4} \sum_I \sum_J \langle 1^A 0^I | \hat{g} | 1^B 1^J \rangle \langle A_3 | \hat{1}_\alpha^+ | A_9 \rangle \langle B_1 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_{14} | \hat{0}_\beta^+ | I_0 \rangle \langle J_8 | \hat{1}_\beta^- | J_0 \rangle t_{A_3} t_{B_1} t_{I_{14}, J_8}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_2, B_2, I_{11}, J_9) \rangle = \\
& + \frac{-1}{4} \sum_I \sum_J \langle 1^A 1^I | \hat{g} | 0^B 0^J \rangle \langle A_2 | \hat{1}_\alpha^+ | A_9 \rangle \langle B_2 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle t_{A_2, B_2} t_{I_{11}, J_9} \\
& + \frac{1}{4} \sum_I \sum_J \langle 1^A 0^B | \hat{g} | 0^J 1^I \rangle \langle A_2 | \hat{1}_\alpha^+ | A_9 \rangle \langle B_2 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle t_{A_2, B_2} t_{I_{11}, J_9} \\
& + \frac{-1}{4} \sum_I \sum_J \langle 1^A 1^I | \hat{g} | 0^B 0^J \rangle \langle A_2 | \hat{1}_\alpha^+ | A_9 \rangle \langle B_2 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle t_{A_2} t_{B_2} t_{I_{11}, J_9} \\
& + \frac{1}{4} \sum_I \sum_J \langle 1^A 0^B | \hat{g} | 0^J 1^I \rangle \langle A_2 | \hat{1}_\alpha^+ | A_9 \rangle \langle B_2 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle t_{A_2} t_{B_2} t_{I_{11}, J_9}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_3, B_1, I_{11}, J_9) \rangle = \\
& + \frac{-1}{4} \sum_I \sum_J \langle 1^A 1^I | \hat{g} | 1^B 0^J \rangle \langle A_3 | \hat{1}_\alpha^+ | A_9 \rangle \langle B_1 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle t_{A_3, B_1} t_{I_{11}, J_9} \\
& + \frac{1}{4} \sum_I \sum_J \langle 1^A 1^B | \hat{g} | 0^J 1^I \rangle \langle A_3 | \hat{1}_\alpha^+ | A_9 \rangle \langle B_1 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle t_{A_3, B_1} t_{I_{11}, J_9} \\
& + \frac{-1}{4} \sum_I \sum_J \langle 1^A 1^I | \hat{g} | 1^B 0^J \rangle \langle A_3 | \hat{1}_\alpha^+ | A_9 \rangle \langle B_1 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle t_{A_3} t_{B_1} t_{I_{11}, J_9} \\
& + \frac{1}{4} \sum_I \sum_J \langle 1^A 1^B | \hat{g} | 0^J 1^I \rangle \langle A_3 | \hat{1}_\alpha^+ | A_9 \rangle \langle B_1 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_9 | \hat{0}_\alpha^- | J_0 \rangle t_{A_3} t_{B_1} t_{I_{11}, J_9}
\end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_2, I_{13}, J_7) \rangle = \\ & + \frac{-1}{4} \sum_I \sum_J \langle 1^A 1^I | \hat{g} | 1^B 0^J \rangle \langle A_2 | \hat{1}_\alpha^+ | A_9 \rangle \langle B_0 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle t_{A_2} t_{I_{13}, J_7} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_2, B_1, I_{13}, J_7) \rangle = \\ & + \frac{-1}{4} \sum_I \sum_J \langle 1^A 1^I | \hat{g} | 1^B 0^J \rangle \langle A_2 | \hat{1}_\alpha^+ | A_9 \rangle \langle B_1 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle t_{A_2, B_1} t_{I_{13}, J_7} \\ & + \frac{-1}{4} \sum_I \sum_J \langle 1^A 1^I | \hat{g} | 1^B 0^J \rangle \langle A_2 | \hat{1}_\alpha^+ | A_9 \rangle \langle B_1 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle t_{A_2} t_{B_1} t_{I_{13}, J_7} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_3, I_{13}, J_7) \rangle = \\ & + \frac{-1}{4} \sum_I \sum_J \langle 1^A 1^I | \hat{g} | 1^B 0^J \rangle \langle A_3 | \hat{1}_\alpha^+ | A_9 \rangle \langle B_0 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle t_{A_3} t_{I_{13}, J_7} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_3, B_1, I_{13}, J_7) \rangle = \\ & + \frac{-1}{4} \sum_I \sum_J \langle 1^{A_1 I} | \hat{g} | 1^{B_0 J} \rangle \langle A_3 | \hat{1}_\alpha^+ | A_9 \rangle \langle B_1 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle t_{A_3, B_1} t_{I_{13}, J_7} \\ & + \frac{-1}{4} \sum_I \sum_J \langle 1^{A_1 I} | \hat{g} | 1^{B_0 J} \rangle \langle A_3 | \hat{1}_\alpha^+ | A_9 \rangle \langle B_1 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_{13} | \hat{1}_\beta^+ | I_0 \rangle \langle J_7 | \hat{0}_\beta^- | J_0 \rangle t_{A_3} t_{B_1} t_{I_{13}, J_7} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_2, I_{11}, J_{10}) \rangle = \\ & + \frac{-1}{4} \sum_I \sum_J \langle 1^A 1^I | \hat{g} | 1^B 1^J \rangle \langle A_2 | \hat{1}_\alpha^+ | A_9 \rangle \langle B_0 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle t_{A_2} t_{I_{11}, J_{10}} \\ & + \frac{1}{4} \sum_I \sum_J \langle 1^A 1^B | \hat{g} | 1^J 1^I \rangle \langle A_2 | \hat{1}_\alpha^+ | A_9 \rangle \langle B_0 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_{11} | \hat{1}_\alpha^+ | I_0 \rangle \langle J_{10} | \hat{1}_\alpha^- | J_0 \rangle t_{A_2} t_{I_{11}, J_{10}} \end{aligned}$$

$$\begin{aligned}
& + \frac{1}{4} \sum_I \sum_J \langle 0^A 0^I | \hat{g} | 0^B 0^J \rangle \langle A_1 | \hat{0}_\alpha^+ | A_9 \rangle \langle B_3 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle t_{A_1} t_{B_3} t_{I_9, J_{12}} \\
& + \frac{-1}{4} \sum_I \sum_J \langle 0^A 0^B | \hat{g} | 0^I 0^J \rangle \langle A_1 | \hat{0}_\alpha^+ | A_9 \rangle \langle B_3 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle t_{A_1} t_{B_3} t_{I_9, J_{12}}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (B_2, I_7, J_{14}) \rangle = \\
& + \frac{1}{4} \sum_I \sum_J \langle 0^A 0^I | \hat{g} | 0^B 0^J \rangle \langle A_0 | \hat{0}_\alpha^+ | A_9 \rangle \langle B_2 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle t_{B_2} t_{I_7, J_{14}}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (B_3, I_7, J_{14}) \rangle = \\
& + \frac{1}{4} \sum_I \sum_J \langle 0^A 0^I | \hat{g} | 0^B 0^J \rangle \langle A_0 | \hat{0}_\alpha^+ | A_9 \rangle \langle B_3 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle t_{B_3} t_{I_7, J_{14}}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_1, B_2, I_7, J_{14}) \rangle = \\
& + \frac{1}{4} \sum_I \sum_J \langle 0^A 0^I | \hat{g} | 0^B 0^J \rangle \langle A_1 | \hat{0}_\alpha^+ | A_9 \rangle \langle B_2 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle t_{A_1, B_2} t_{I_7, J_{14}} \\
& + \frac{1}{4} \sum_I \sum_J \langle 0^A 0^I | \hat{g} | 0^B 0^J \rangle \langle A_1 | \hat{0}_\alpha^+ | A_9 \rangle \langle B_2 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle t_{A_1} t_{B_2} t_{I_7, J_{14}}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_1, B_3, I_7, J_{14}) \rangle = \\
& + \frac{1}{4} \sum_I \sum_J \langle 0^A 0^I | \hat{g} | 0^B 0^J \rangle \langle A_1 | \hat{0}_\alpha^+ | A_9 \rangle \langle B_3 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle t_{A_1, B_3} t_{I_7, J_{14}} \\
& + \frac{1}{4} \sum_I \sum_J \langle 0^A 0^I | \hat{g} | 0^B 0^J \rangle \langle A_1 | \hat{0}_\alpha^+ | A_9 \rangle \langle B_3 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle t_{A_1} t_{B_3} t_{I_7, J_{14}}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (B_2, I_{10}, J_{12}) \rangle = \\
& + \frac{1}{4} \sum_I \sum_J \langle 0^A 1^I | \hat{g} | 0^B 0^J \rangle \langle A_0 | \hat{0}_\alpha^+ | A_9 \rangle \langle B_2 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_{10} | \hat{1}_\alpha^- | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle t_{B_2} t_{I_{10}, J_{12}} \\
& + \frac{-1}{4} \sum_I \sum_J \langle 0^A 0^B | \hat{g} | 1^I 0^J \rangle \langle A_0 | \hat{0}_\alpha^+ | A_9 \rangle \langle B_2 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_{10} | \hat{1}_\alpha^- | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle t_{B_2} t_{I_{10}, J_{12}}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (B_3, I_{10}, J_{12}) \rangle = \\
& + \frac{1}{4} \sum_I \sum_J \langle 0^A 1^I | \hat{g} | 0^B 0^J \rangle \langle A_0 | \hat{0}_\alpha^+ | A_9 \rangle \langle B_3 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_{10} | \hat{1}_\alpha^- | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle t_{B_3} t_{I_{10}, J_{12}}
\end{aligned}$$

$$+\frac{-1}{4}\sum_I\sum_J\langle 0^A 0^B|\hat{g}|1^I 0^J\rangle\langle A_0|\hat{0}_\alpha^+|A_9\rangle\langle B_3|\hat{0}_\alpha^-|B_{11}\rangle\langle I_{10}|\hat{1}_\alpha^-|I_0\rangle\langle J_{12}|\hat{0}_\alpha^+|J_0\rangle t_{B_3} t_{I_{10}, J_{12}}$$

$$\begin{aligned} \langle (A_9, B_{11})|\hat{H}|(A_1, B_2, I_{10}, J_{12})\rangle = \\ +\frac{1}{4}\sum_I\sum_J\langle 0^A 1^I|\hat{g}|0^B 0^J\rangle\langle A_1|\hat{0}_\alpha^+|A_9\rangle\langle B_2|\hat{0}_\alpha^-|B_{11}\rangle\langle I_{10}|\hat{1}_\alpha^-|I_0\rangle\langle J_{12}|\hat{0}_\alpha^+|J_0\rangle t_{A_1, B_2} t_{I_{10}, J_{12}} \\ +\frac{-1}{4}\sum_I\sum_J\langle 0^A 0^B|\hat{g}|1^I 0^J\rangle\langle A_1|\hat{0}_\alpha^+|A_9\rangle\langle B_2|\hat{0}_\alpha^-|B_{11}\rangle\langle I_{10}|\hat{1}_\alpha^-|I_0\rangle\langle J_{12}|\hat{0}_\alpha^+|J_0\rangle t_{A_1, B_2} t_{I_{10}, J_{12}} \\ +\frac{1}{4}\sum_I\sum_J\langle 0^A 1^I|\hat{g}|0^B 0^J\rangle\langle A_1|\hat{0}_\alpha^+|A_9\rangle\langle B_2|\hat{0}_\alpha^-|B_{11}\rangle\langle I_{10}|\hat{1}_\alpha^-|I_0\rangle\langle J_{12}|\hat{0}_\alpha^+|J_0\rangle t_{A_1} t_{B_2} t_{I_{10}, J_{12}} \\ +\frac{-1}{4}\sum_I\sum_J\langle 0^A 0^B|\hat{g}|1^I 0^J\rangle\langle A_1|\hat{0}_\alpha^+|A_9\rangle\langle B_2|\hat{0}_\alpha^-|B_{11}\rangle\langle I_{10}|\hat{1}_\alpha^-|I_0\rangle\langle J_{12}|\hat{0}_\alpha^+|J_0\rangle t_{A_1} t_{B_2} t_{I_{10}, J_{12}} \end{aligned}$$

$$\begin{aligned} \langle (A_9, B_{11})|\hat{H}|(A_1, B_3, I_{10}, J_{12})\rangle = \\ +\frac{1}{4}\sum_I\sum_J\langle 0^A 1^I|\hat{g}|0^B 0^J\rangle\langle A_1|\hat{0}_\alpha^+|A_9\rangle\langle B_3|\hat{0}_\alpha^-|B_{11}\rangle\langle I_{10}|\hat{1}_\alpha^-|I_0\rangle\langle J_{12}|\hat{0}_\alpha^+|J_0\rangle t_{A_1, B_3} t_{I_{10}, J_{12}} \\ +\frac{-1}{4}\sum_I\sum_J\langle 0^A 0^B|\hat{g}|1^I 0^J\rangle\langle A_1|\hat{0}_\alpha^+|A_9\rangle\langle B_3|\hat{0}_\alpha^-|B_{11}\rangle\langle I_{10}|\hat{1}_\alpha^-|I_0\rangle\langle J_{12}|\hat{0}_\alpha^+|J_0\rangle t_{A_1, B_3} t_{I_{10}, J_{12}} \\ +\frac{1}{4}\sum_I\sum_J\langle 0^A 1^I|\hat{g}|0^B 0^J\rangle\langle A_1|\hat{0}_\alpha^+|A_9\rangle\langle B_3|\hat{0}_\alpha^-|B_{11}\rangle\langle I_{10}|\hat{1}_\alpha^-|I_0\rangle\langle J_{12}|\hat{0}_\alpha^+|J_0\rangle t_{A_1} t_{B_3} t_{I_{10}, J_{12}} \\ +\frac{-1}{4}\sum_I\sum_J\langle 0^A 0^B|\hat{g}|1^I 0^J\rangle\langle A_1|\hat{0}_\alpha^+|A_9\rangle\langle B_3|\hat{0}_\alpha^-|B_{11}\rangle\langle I_{10}|\hat{1}_\alpha^-|I_0\rangle\langle J_{12}|\hat{0}_\alpha^+|J_0\rangle t_{A_1} t_{B_3} t_{I_{10}, J_{12}} \end{aligned}$$

$$\begin{aligned} \langle (A_9, B_{11})|\hat{H}|(B_2, I_8, J_{14})\rangle = \\ +\frac{1}{4}\sum_I\sum_J\langle 0^A 1^I|\hat{g}|0^B 0^J\rangle\langle A_0|\hat{0}_\alpha^+|A_9\rangle\langle B_2|\hat{0}_\alpha^-|B_{11}\rangle\langle I_8|\hat{1}_\beta^-|I_0\rangle\langle J_{14}|\hat{0}_\beta^+|J_0\rangle t_{B_2} t_{I_8, J_{14}} \end{aligned}$$

$$\begin{aligned} \langle (A_9, B_{11})|\hat{H}|(B_3, I_8, J_{14})\rangle = \\ +\frac{1}{4}\sum_I\sum_J\langle 0^A 1^I|\hat{g}|0^B 0^J\rangle\langle A_0|\hat{0}_\alpha^+|A_9\rangle\langle B_3|\hat{0}_\alpha^-|B_{11}\rangle\langle I_8|\hat{1}_\beta^-|I_0\rangle\langle J_{14}|\hat{0}_\beta^+|J_0\rangle t_{B_3} t_{I_8, J_{14}} \end{aligned}$$

$$\begin{aligned} \langle (A_9, B_{11})|\hat{H}|(A_1, B_2, I_8, J_{14})\rangle = \\ +\frac{1}{4}\sum_I\sum_J\langle 0^A 1^I|\hat{g}|0^B 0^J\rangle\langle A_1|\hat{0}_\alpha^+|A_9\rangle\langle B_2|\hat{0}_\alpha^-|B_{11}\rangle\langle I_8|\hat{1}_\beta^-|I_0\rangle\langle J_{14}|\hat{0}_\beta^+|J_0\rangle t_{A_1, B_2} t_{I_8, J_{14}} \\ +\frac{1}{4}\sum_I\sum_J\langle 0^A 1^I|\hat{g}|0^B 0^J\rangle\langle A_1|\hat{0}_\alpha^+|A_9\rangle\langle B_2|\hat{0}_\alpha^-|B_{11}\rangle\langle I_8|\hat{1}_\beta^-|I_0\rangle\langle J_{14}|\hat{0}_\beta^+|J_0\rangle t_{A_1} t_{B_2} t_{I_8, J_{14}} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_1, B_3, I_8, J_{14}) \rangle = \\ & + \frac{1}{4} \sum_I \sum_J \langle 0^A 1^I | \hat{g} | 0^B 0^J \rangle \langle A_1 | \hat{0}_\alpha^+ | A_9 \rangle \langle B_3 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle t_{A_1, B_3} t_{I_8, J_{14}} \\ & + \frac{1}{4} \sum_I \sum_J \langle 0^A 1^I | \hat{g} | 0^B 0^J \rangle \langle A_1 | \hat{0}_\alpha^+ | A_9 \rangle \langle B_3 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle t_{A_1} t_{B_3} t_{I_8, J_{14}} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (I_9, J_{12}) \rangle = \\ & + \frac{1}{4} \sum_I \sum_J \langle 0^A 0^I | \hat{g} | 1^B 0^J \rangle \langle A_0 | \hat{0}_\alpha^+ | A_9 \rangle \langle B_0 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle t_{I_9, J_{12}} \\ & + \frac{-1}{4} \sum_I \sum_J \langle 0^A 1^B | \hat{g} | 0^I 0^J \rangle \langle A_0 | \hat{0}_\alpha^+ | A_9 \rangle \langle B_0 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle t_{I_9, J_{12}} \end{aligned}$$

$$\begin{aligned} \langle (A_9, B_{11}) | \hat{H} | (B_1, I_9, J_{12}) \rangle = \\ + \frac{1}{4} \sum_I \sum_J \langle 0^A 0^I | \hat{g} | 1^B 0^J \rangle \langle A_0 | \hat{0}_\alpha^+ | A_9 \rangle \langle B_1 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle t_{B_1} t_{I_9, J_{12}} \\ + \frac{-1}{4} \sum_I \sum_J \langle 0^A 1^B | \hat{g} | 0^I 0^J \rangle \langle A_0 | \hat{0}_\alpha^+ | A_9 \rangle \langle B_1 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle t_{B_1} t_{I_9, J_{12}} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_1, I_9, J_{12}) \rangle = \\ & + \frac{1}{4} \sum_I \sum_J \langle 0^A 0^I | \hat{g} | 1^B 0^J \rangle \langle A_1 | \hat{0}_\alpha^+ | A_9 \rangle \langle B_0 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle t_{A_1} t_{I_9, J_{12}} \\ & + \frac{-1}{4} \sum_I \sum_J \langle 0^A 1^B | \hat{g} | 0^I 0^J \rangle \langle A_1 | \hat{0}_\alpha^+ | A_9 \rangle \langle B_0 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle t_{A_1} t_{I_9, J_{12}} \end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_1, B_1, I_9, J_{12}) \rangle = \\
& + \frac{1}{4} \sum_I \sum_J \langle 0^A 0^I | \hat{g} | 1^B 0^J \rangle \langle A_1 | \hat{0}_\alpha^+ | A_9 \rangle \langle B_1 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle t_{A_1, B_1} t_{I_9, J_{12}} \\
& + \frac{-1}{4} \sum_I \sum_J \langle 0^A 1^B | \hat{g} | 0^I 0^J \rangle \langle A_1 | \hat{0}_\alpha^+ | A_9 \rangle \langle B_1 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle t_{A_1, B_1} t_{I_9, J_{12}} \\
& + \frac{1}{4} \sum_I \sum_J \langle 0^A 0^I | \hat{g} | 1^B 0^J \rangle \langle A_1 | \hat{0}_\alpha^+ | A_9 \rangle \langle B_1 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle t_{A_1} t_{B_1} t_{I_9, J_{12}} \\
& + \frac{-1}{4} \sum_I \sum_J \langle 0^A 1^B | \hat{g} | 0^I 0^J \rangle \langle A_1 | \hat{0}_\alpha^+ | A_9 \rangle \langle B_1 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle t_{A_1} t_{B_1} t_{I_9, J_{12}}
\end{aligned}$$

$$\langle (A_9, B_{11}) | \hat{H} | (I_7, J_{14}) \rangle =$$

$$+\frac{1}{4}\sum_I\sum_J\langle 0^A 0^I|\hat{g}|1^B 0^J\rangle\langle A_0|\hat{0}_\alpha^+|A_9\rangle\langle B_0|\hat{1}_\alpha^-|B_{11}\rangle\langle I_7|\hat{0}_\beta^-|I_0\rangle\langle J_{14}|\hat{0}_\beta^+|J_0\rangle t_{I_7,J_{14}}$$

$$\langle(A_9, B_{11})|\hat{H}|(B_1, I_7, J_{14})\rangle =$$

$$+\frac{1}{4}\sum_I\sum_J\langle 0^A 0^I|\hat{g}|1^B 0^J\rangle\langle A_0|\hat{0}_\alpha^+|A_9\rangle\langle B_1|\hat{1}_\alpha^-|B_{11}\rangle\langle I_7|\hat{0}_\beta^-|I_0\rangle\langle J_{14}|\hat{0}_\beta^+|J_0\rangle t_{B_1} t_{I_7,J_{14}}$$

$$\langle(A_9, B_{11})|\hat{H}|(A_1, I_7, J_{14})\rangle =$$

$$+\frac{1}{4}\sum_I\sum_J\langle 0^A 0^I|\hat{g}|1^B 0^J\rangle\langle A_1|\hat{0}_\alpha^+|A_9\rangle\langle B_0|\hat{1}_\alpha^-|B_{11}\rangle\langle I_7|\hat{0}_\beta^-|I_0\rangle\langle J_{14}|\hat{0}_\beta^+|J_0\rangle t_{A_1} t_{I_7,J_{14}}$$

$$\langle(A_9, B_{11})|\hat{H}|(A_1, B_1, I_7, J_{14})\rangle =$$

$$+\frac{1}{4}\sum_I\sum_J\langle 0^A 0^I|\hat{g}|1^B 0^J\rangle\langle A_1|\hat{0}_\alpha^+|A_9\rangle\langle B_1|\hat{1}_\alpha^-|B_{11}\rangle\langle I_7|\hat{0}_\beta^-|I_0\rangle\langle J_{14}|\hat{0}_\beta^+|J_0\rangle t_{A_1,B_1} t_{I_7,J_{14}} \\ +\frac{1}{4}\sum_I\sum_J\langle 0^A 0^I|\hat{g}|1^B 0^J\rangle\langle A_1|\hat{0}_\alpha^+|A_9\rangle\langle B_1|\hat{1}_\alpha^-|B_{11}\rangle\langle I_7|\hat{0}_\beta^-|I_0\rangle\langle J_{14}|\hat{0}_\beta^+|J_0\rangle t_{A_1} t_{B_1} t_{I_7,J_{14}}$$

$$\langle(A_9, B_{11})|\hat{H}|(I_{10}, J_{12})\rangle =$$

$$+\frac{1}{4}\sum_I\sum_J\langle 0^A 1^I|\hat{g}|1^B 0^J\rangle\langle A_0|\hat{0}_\alpha^+|A_9\rangle\langle B_0|\hat{1}_\alpha^-|B_{11}\rangle\langle I_{10}|\hat{1}_\alpha^-|I_0\rangle\langle J_{12}|\hat{0}_\alpha^+|J_0\rangle t_{I_{10},J_{12}} \\ +\frac{-1}{4}\sum_I\sum_J\langle 0^A 1^B|\hat{g}|1^I 0^J\rangle\langle A_0|\hat{0}_\alpha^+|A_9\rangle\langle B_0|\hat{1}_\alpha^-|B_{11}\rangle\langle I_{10}|\hat{1}_\alpha^-|I_0\rangle\langle J_{12}|\hat{0}_\alpha^+|J_0\rangle t_{I_{10},J_{12}}$$

$$\langle(A_9, B_{11})|\hat{H}|(B_1, I_{10}, J_{12})\rangle =$$

$$+\frac{1}{4}\sum_I\sum_J\langle 0^A 1^I|\hat{g}|1^B 0^J\rangle\langle A_0|\hat{0}_\alpha^+|A_9\rangle\langle B_1|\hat{1}_\alpha^-|B_{11}\rangle\langle I_{10}|\hat{1}_\alpha^-|I_0\rangle\langle J_{12}|\hat{0}_\alpha^+|J_0\rangle t_{B_1} t_{I_{10},J_{12}} \\ +\frac{-1}{4}\sum_I\sum_J\langle 0^A 1^B|\hat{g}|1^I 0^J\rangle\langle A_0|\hat{0}_\alpha^+|A_9\rangle\langle B_1|\hat{1}_\alpha^-|B_{11}\rangle\langle I_{10}|\hat{1}_\alpha^-|I_0\rangle\langle J_{12}|\hat{0}_\alpha^+|J_0\rangle t_{B_1} t_{I_{10},J_{12}}$$

$$\langle(A_9, B_{11})|\hat{H}|(A_1, I_{10}, J_{12})\rangle =$$

$$+\frac{1}{4}\sum_I\sum_J\langle 0^A 1^I|\hat{g}|1^B 0^J\rangle\langle A_1|\hat{0}_\alpha^+|A_9\rangle\langle B_0|\hat{1}_\alpha^-|B_{11}\rangle\langle I_{10}|\hat{1}_\alpha^-|I_0\rangle\langle J_{12}|\hat{0}_\alpha^+|J_0\rangle t_{A_1} t_{I_{10},J_{12}} \\ +\frac{-1}{4}\sum_I\sum_J\langle 0^A 1^B|\hat{g}|1^I 0^J\rangle\langle A_1|\hat{0}_\alpha^+|A_9\rangle\langle B_0|\hat{1}_\alpha^-|B_{11}\rangle\langle I_{10}|\hat{1}_\alpha^-|I_0\rangle\langle J_{12}|\hat{0}_\alpha^+|J_0\rangle t_{A_1} t_{I_{10},J_{12}}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_1, B_1, I_{10}, J_{12}) \rangle = \\
& + \frac{1}{4} \sum_I \sum_J \langle 0^A 1^I | \hat{g} | 1^B 0^J \rangle \langle A_1 | \hat{0}_\alpha^+ | A_9 \rangle \langle B_1 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_{10} | \hat{1}_\alpha^- | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle t_{A_1, B_1} t_{I_{10}, J_{12}} \\
& + \frac{-1}{4} \sum_I \sum_J \langle 0^A 1^B | \hat{g} | 1^I 0^J \rangle \langle A_1 | \hat{0}_\alpha^+ | A_9 \rangle \langle B_1 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_{10} | \hat{1}_\alpha^- | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle t_{A_1, B_1} t_{I_{10}, J_{12}} \\
& + \frac{1}{4} \sum_I \sum_J \langle 0^A 1^I | \hat{g} | 1^B 0^J \rangle \langle A_1 | \hat{0}_\alpha^+ | A_9 \rangle \langle B_1 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_{10} | \hat{1}_\alpha^- | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle t_{A_1} t_{B_1} t_{I_{10}, J_{12}} \\
& + \frac{-1}{4} \sum_I \sum_J \langle 0^A 1^B | \hat{g} | 1^I 0^J \rangle \langle A_1 | \hat{0}_\alpha^+ | A_9 \rangle \langle B_1 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_{10} | \hat{1}_\alpha^- | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle t_{A_1} t_{B_1} t_{I_{10}, J_{12}}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (I_8, J_{14}) \rangle = \\
& + \frac{1}{4} \sum_I \sum_J \langle 0^A 1^I | \hat{g} | 1^B 0^J \rangle \langle A_0 | \hat{0}_\alpha^+ | A_9 \rangle \langle B_0 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle t_{I_8, J_{14}}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (B_1, I_8, J_{14}) \rangle = \\
& + \frac{1}{4} \sum_I \sum_J \langle 0^A 1^I | \hat{g} | 1^B 0^J \rangle \langle A_0 | \hat{0}_\alpha^+ | A_9 \rangle \langle B_1 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle t_{B_1} t_{I_8, J_{14}}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_1, I_8, J_{14}) \rangle = \\
& + \frac{1}{4} \sum_I \sum_J \langle 0^A 1^I | \hat{g} | 1^B 0^J \rangle \langle A_1 | \hat{0}_\alpha^+ | A_9 \rangle \langle B_0 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle t_{A_1} t_{I_8, J_{14}}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_1, B_1, I_8, J_{14}) \rangle = \\
& + \frac{1}{4} \sum_I \sum_J \langle 0^A 1^I | \hat{g} | 1^B 0^J \rangle \langle A_1 | \hat{0}_\alpha^+ | A_9 \rangle \langle B_1 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle t_{A_1, B_1} t_{I_8, J_{14}} \\
& + \frac{1}{4} \sum_I \sum_J \langle 0^A 1^I | \hat{g} | 1^B 0^J \rangle \langle A_1 | \hat{0}_\alpha^+ | A_9 \rangle \langle B_1 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle t_{A_1} t_{B_1} t_{I_8, J_{14}}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (B_2, I_9, J_{11}) \rangle = \\
& + \frac{1}{4} \sum_I \sum_J \langle 0^A 0^I | \hat{g} | 0^B 1^J \rangle \langle A_0 | \hat{0}_\alpha^+ | A_9 \rangle \langle B_2 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle t_{B_2} t_{I_9, J_{11}} \\
& + \frac{-1}{4} \sum_I \sum_J \langle 0^A 0^B | \hat{g} | 0^I 1^J \rangle \langle A_0 | \hat{0}_\alpha^+ | A_9 \rangle \langle B_2 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle t_{B_2} t_{I_9, J_{11}}
\end{aligned}$$

$$\begin{aligned}
& + \frac{-1}{4} \sum_I \sum_J \langle 0^A 0^B | \hat{g} | 1^I 1^J \rangle \langle A_1 | \hat{0}_\alpha^+ | A_9 \rangle \langle B_3 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_{10} | \hat{1}_\alpha^- | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle t_{A_1, B_3} t_{I_{10}, J_{11}} \\
& + \frac{1}{4} \sum_I \sum_J \langle 0^A 1^I | \hat{g} | 0^B 1^J \rangle \langle A_1 | \hat{0}_\alpha^+ | A_9 \rangle \langle B_3 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_{10} | \hat{1}_\alpha^- | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle t_{A_1} t_{B_3} t_{I_{10}, J_{11}} \\
& + \frac{-1}{4} \sum_I \sum_J \langle 0^A 0^B | \hat{g} | 1^I 1^J \rangle \langle A_1 | \hat{0}_\alpha^+ | A_9 \rangle \langle B_3 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_{10} | \hat{1}_\alpha^- | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle t_{A_1} t_{B_3} t_{I_{10}, J_{11}}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (B_2, I_8, J_{13}) \rangle = \\
& + \frac{1}{4} \sum_I \sum_J \langle 0^A 1^I | \hat{g} | 0^B 1^J \rangle \langle A_0 | \hat{0}_\alpha^+ | A_9 \rangle \langle B_2 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_{13} | \hat{1}_\beta^+ | J_0 \rangle t_{B_2} t_{I_8, J_{13}}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (B_3, I_8, J_{13}) \rangle = \\
& + \frac{1}{4} \sum_I \sum_J \langle 0^A 1^I | \hat{g} | 0^B 1^J \rangle \langle A_0 | \hat{0}_\alpha^+ | A_9 \rangle \langle B_3 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_{13} | \hat{1}_\beta^+ | J_0 \rangle t_{B_3} t_{I_8, J_{13}}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_1, B_2, I_8, J_{13}) \rangle = \\
& + \frac{1}{4} \sum_I \sum_J \langle 0^A 1^I | \hat{g} | 0^B 1^J \rangle \langle A_1 | \hat{0}_\alpha^+ | A_9 \rangle \langle B_2 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_{13} | \hat{1}_\beta^+ | J_0 \rangle t_{A_1, B_2} t_{I_8, J_{13}} \\
& + \frac{1}{4} \sum_I \sum_J \langle 0^A 1^I | \hat{g} | 0^B 1^J \rangle \langle A_1 | \hat{0}_\alpha^+ | A_9 \rangle \langle B_2 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_{13} | \hat{1}_\beta^+ | J_0 \rangle t_{A_1} t_{B_2} t_{I_8, J_{13}}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_1, B_3, I_8, J_{13}) \rangle = \\
& + \frac{1}{4} \sum_I \sum_J \langle 0^A 1^I | \hat{g} | 0^B 1^J \rangle \langle A_1 | \hat{0}_\alpha^+ | A_9 \rangle \langle B_3 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_{13} | \hat{1}_\beta^+ | J_0 \rangle t_{A_1, B_3} t_{I_8, J_{13}} \\
& + \frac{1}{4} \sum_I \sum_J \langle 0^A 1^I | \hat{g} | 0^B 1^J \rangle \langle A_1 | \hat{0}_\alpha^+ | A_9 \rangle \langle B_3 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_{13} | \hat{1}_\beta^+ | J_0 \rangle t_{A_1} t_{B_3} t_{I_8, J_{13}}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (I_9, J_{11}) \rangle = \\
& + \frac{1}{4} \sum_I \sum_J \langle 0^A 0^I | \hat{g} | 1^B 1^J \rangle \langle A_0 | \hat{0}_\alpha^+ | A_9 \rangle \langle B_0 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle t_{I_9, J_{11}} \\
& + \frac{-1}{4} \sum_I \sum_J \langle 0^A 1^B | \hat{g} | 0^I 1^J \rangle \langle A_0 | \hat{0}_\alpha^+ | A_9 \rangle \langle B_0 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle t_{I_9, J_{11}}
\end{aligned}$$

$$\langle (A_9, B_{11}) | \hat{H} | (B_1, I_9, J_{11}) \rangle =$$

$$\begin{aligned}
& +\frac{1}{4} \sum_I \sum_J \langle 0^A 0^I | \hat{g} | 1^B 1^J \rangle \langle A_0 | \hat{0}_\alpha^+ | A_9 \rangle \langle B_1 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle t_{B_1} t_{I_9, J_{11}} \\
& +\frac{-1}{4} \sum_I \sum_J \langle 0^A 1^B | \hat{g} | 0^I 1^J \rangle \langle A_0 | \hat{0}_\alpha^+ | A_9 \rangle \langle B_1 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle t_{B_1} t_{I_9, J_{11}}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_1, I_9, J_{11}) \rangle = \\
& +\frac{1}{4} \sum_I \sum_J \langle 0^A 0^I | \hat{g} | 1^B 1^J \rangle \langle A_1 | \hat{0}_\alpha^+ | A_9 \rangle \langle B_0 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle t_{A_1} t_{I_9, J_{11}} \\
& +\frac{-1}{4} \sum_I \sum_J \langle 0^A 1^B | \hat{g} | 0^I 1^J \rangle \langle A_1 | \hat{0}_\alpha^+ | A_9 \rangle \langle B_0 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle t_{A_1} t_{I_9, J_{11}}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_1, B_1, I_9, J_{11}) \rangle = \\
& +\frac{1}{4} \sum_I \sum_J \langle 0^A 0^I | \hat{g} | 1^B 1^J \rangle \langle A_1 | \hat{0}_\alpha^+ | A_9 \rangle \langle B_1 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle t_{A_1, B_1} t_{I_9, J_{11}} \\
& +\frac{-1}{4} \sum_I \sum_J \langle 0^A 1^B | \hat{g} | 0^I 1^J \rangle \langle A_1 | \hat{0}_\alpha^+ | A_9 \rangle \langle B_1 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle t_{A_1, B_1} t_{I_9, J_{11}} \\
& +\frac{1}{4} \sum_I \sum_J \langle 0^A 0^I | \hat{g} | 1^B 1^J \rangle \langle A_1 | \hat{0}_\alpha^+ | A_9 \rangle \langle B_1 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle t_{A_1} t_{B_1} t_{I_9, J_{11}} \\
& +\frac{-1}{4} \sum_I \sum_J \langle 0^A 1^B | \hat{g} | 0^I 1^J \rangle \langle A_1 | \hat{0}_\alpha^+ | A_9 \rangle \langle B_1 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle t_{A_1} t_{B_1} t_{I_9, J_{11}}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (I_7, J_{13}) \rangle = \\
& +\frac{1}{4} \sum_I \sum_J \langle 0^A 0^I | \hat{g} | 1^B 1^J \rangle \langle A_0 | \hat{0}_\alpha^+ | A_9 \rangle \langle B_0 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_{13} | \hat{1}_\beta^+ | J_0 \rangle t_{I_7, J_{13}}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (B_1, I_7, J_{13}) \rangle = \\
& +\frac{1}{4} \sum_I \sum_J \langle 0^A 0^I | \hat{g} | 1^B 1^J \rangle \langle A_0 | \hat{0}_\alpha^+ | A_9 \rangle \langle B_1 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_{13} | \hat{1}_\beta^+ | J_0 \rangle t_{B_1} t_{I_7, J_{13}}
\end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_1, I_7, J_{13}) \rangle = \\
& +\frac{1}{4} \sum_I \sum_J \langle 0^A 0^I | \hat{g} | 1^B 1^J \rangle \langle A_1 | \hat{0}_\alpha^+ | A_9 \rangle \langle B_0 | \hat{1}_\alpha^- | B_{11} \rangle \langle I_7 | \hat{0}_\beta^- | I_0 \rangle \langle J_{13} | \hat{1}_\beta^+ | J_0 \rangle t_{A_1} t_{I_7, J_{13}}
\end{aligned}$$

$$\langle (A_9, B_{11}) | \hat{H} | (A_1, B_1, I_7, J_{13}) \rangle =$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_3, B_3, I_{10}, J_{12}) \rangle = \\ & + \frac{1}{4} \sum_I \sum_J \langle 1^A 1^I | \hat{g} | 0^B 0^J \rangle \langle A_3 | \hat{1}_\alpha^+ | A_9 \rangle \langle B_3 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_{10} | \hat{1}_\alpha^- | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle t_{A_3, B_3} t_{I_{10}, J_{12}} \\ & + \frac{-1}{4} \sum_I \sum_J \langle 1^A 0^B | \hat{g} | 1^I 0^J \rangle \langle A_3 | \hat{1}_\alpha^+ | A_9 \rangle \langle B_3 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_{10} | \hat{1}_\alpha^- | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle t_{A_3, B_3} t_{I_{10}, J_{12}} \\ & + \frac{1}{4} \sum_I \sum_J \langle 1^A 1^I | \hat{g} | 0^B 0^J \rangle \langle A_3 | \hat{1}_\alpha^+ | A_9 \rangle \langle B_3 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_{10} | \hat{1}_\alpha^- | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle t_{A_3} t_{B_3} t_{I_{10}, J_{12}} \\ & + \frac{-1}{4} \sum_I \sum_J \langle 1^A 0^B | \hat{g} | 1^I 0^J \rangle \langle A_3 | \hat{1}_\alpha^+ | A_9 \rangle \langle B_3 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_{10} | \hat{1}_\alpha^- | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle t_{A_3} t_{B_3} t_{I_{10}, J_{12}} \end{aligned}$$

$$\begin{aligned} \langle (A_9, B_{11}) | \hat{H} | (A_5, B_4, I_8, J_{14}) \rangle = \\ + \frac{1}{4} \sum_I \sum_J \langle 1^A 1^I | \hat{g} | 0^B 0^J \rangle \langle A_5 | \hat{1}_\beta^+ | A_9 \rangle \langle B_4 | \hat{0}_\beta^- | B_{11} \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle t_{A_5, B_4} t_{I_8, J_{14}} \\ + \frac{-1}{4} \sum_I \sum_J \langle 1^A 0^B | \hat{g} | 1^I 0^J \rangle \langle A_5 | \hat{1}_\beta^+ | A_9 \rangle \langle B_4 | \hat{0}_\beta^- | B_{11} \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle t_{A_5, B_4} t_{I_8, J_{14}} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_2, B_2, I_8, J_{14}) \rangle = \\ & + \frac{1}{4} \sum_I \sum_J \langle 1^A 1^I | \hat{g} | 0^B 0^J \rangle \langle A_2 | \hat{1}_\alpha^+ | A_9 \rangle \langle B_2 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle t_{A_2, B_2} t_{I_8, J_{14}} \\ & + \frac{1}{4} \sum_I \sum_J \langle 1^A 1^I | \hat{g} | 0^B 0^J \rangle \langle A_2 | \hat{1}_\alpha^+ | A_9 \rangle \langle B_2 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle t_{A_2} t_{B_2} t_{I_8, J_{14}} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_2, B_3, I_8, J_{14}) \rangle = \\ & + \frac{1}{4} \sum_I \sum_J \langle 1^A 1^I | \hat{g} | 0^B 0^J \rangle \langle A_2 | \hat{1}_\alpha^+ | A_9 \rangle \langle B_3 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle t_{A_2, B_3} t_{I_8, J_{14}} \\ & + \frac{1}{4} \sum_I \sum_J \langle 1^A 1^I | \hat{g} | 0^B 0^J \rangle \langle A_2 | \hat{1}_\alpha^+ | A_9 \rangle \langle B_3 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle t_{A_2} t_{B_3} t_{I_8, J_{14}} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_3, B_2, I_8, J_{14}) \rangle = \\ & + \frac{1}{4} \sum_I \sum_J \langle 1^A 1^I | \hat{g} | 0^B 0^J \rangle \langle A_3 | \hat{1}_\alpha^+ | A_9 \rangle \langle B_2 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle t_{A_3, B_2} t_{I_8, J_{14}} \\ & + \frac{1}{4} \sum_I \sum_J \langle 1^A 1^I | \hat{g} | 0^B 0^J \rangle \langle A_3 | \hat{1}_\alpha^+ | A_9 \rangle \langle B_2 | \hat{0}_\alpha^- | B_{11} \rangle \langle I_8 | \hat{1}_\beta^- | I_0 \rangle \langle J_{14} | \hat{0}_\beta^+ | J_0 \rangle t_{A_3} t_{B_2} t_{I_8, J_{14}} \end{aligned}$$

$$\langle (A_9, B_{11}) | \hat{H} | (A_3, B_3, I_8, J_{14}) \rangle =$$

$$+\frac{1}{4}\sum_I\sum_J\langle 1^A 0^I|\hat{g}|1^B 0^J\rangle\langle A_2|\hat{1}_\alpha^+|A_9\rangle\langle B_0|\hat{1}_\alpha^-|B_{11}\rangle\langle I_7|\hat{0}_\beta^-|I_0\rangle\langle J_{14}|\hat{0}_\beta^+|J_0\rangle t_{A_2}t_{I_7,J_{14}}$$

$$\langle(A_9, B_{11})|\hat{H}|(A_2, B_1, I_7, J_{14})\rangle =$$

$$+\frac{1}{4}\sum_I\sum_J\langle 1^A 0^I|\hat{g}|1^B 0^J\rangle\langle A_2|\hat{1}_\alpha^+|A_9\rangle\langle B_1|\hat{1}_\alpha^-|B_{11}\rangle\langle I_7|\hat{0}_\beta^-|I_0\rangle\langle J_{14}|\hat{0}_\beta^+|J_0\rangle t_{A_2,B_1}t_{I_7,J_{14}}\\ +\frac{1}{4}\sum_I\sum_J\langle 1^A 0^I|\hat{g}|1^B 0^J\rangle\langle A_2|\hat{1}_\alpha^+|A_9\rangle\langle B_1|\hat{1}_\alpha^-|B_{11}\rangle\langle I_7|\hat{0}_\beta^-|I_0\rangle\langle J_{14}|\hat{0}_\beta^+|J_0\rangle t_{A_2}t_{B_1}t_{I_7,J_{14}}$$

$$\langle(A_9, B_{11})|\hat{H}|(A_3, I_7, J_{14})\rangle =$$

$$+\frac{1}{4}\sum_I\sum_J\langle 1^A 0^I|\hat{g}|1^B 0^J\rangle\langle A_3|\hat{1}_\alpha^+|A_9\rangle\langle B_0|\hat{1}_\alpha^-|B_{11}\rangle\langle I_7|\hat{0}_\beta^-|I_0\rangle\langle J_{14}|\hat{0}_\beta^+|J_0\rangle t_{A_3}t_{I_7,J_{14}}$$

$$\langle(A_9, B_{11})|\hat{H}|(A_3, B_1, I_7, J_{14})\rangle =$$

$$+\frac{1}{4}\sum_I\sum_J\langle 1^A 0^I|\hat{g}|1^B 0^J\rangle\langle A_3|\hat{1}_\alpha^+|A_9\rangle\langle B_1|\hat{1}_\alpha^-|B_{11}\rangle\langle I_7|\hat{0}_\beta^-|I_0\rangle\langle J_{14}|\hat{0}_\beta^+|J_0\rangle t_{A_3,B_1}t_{I_7,J_{14}}\\ +\frac{1}{4}\sum_I\sum_J\langle 1^A 0^I|\hat{g}|1^B 0^J\rangle\langle A_3|\hat{1}_\alpha^+|A_9\rangle\langle B_1|\hat{1}_\alpha^-|B_{11}\rangle\langle I_7|\hat{0}_\beta^-|I_0\rangle\langle J_{14}|\hat{0}_\beta^+|J_0\rangle t_{A_3}t_{B_1}t_{I_7,J_{14}}$$

$$\langle(A_9, B_{11})|\hat{H}|(A_2, I_{10}, J_{12})\rangle =$$

$$+\frac{1}{4}\sum_I\sum_J\langle 1^A 1^I|\hat{g}|1^B 0^J\rangle\langle A_2|\hat{1}_\alpha^+|A_9\rangle\langle B_0|\hat{1}_\alpha^-|B_{11}\rangle\langle I_{10}|\hat{1}_\alpha^-|I_0\rangle\langle J_{12}|\hat{0}_\alpha^+|J_0\rangle t_{A_2}t_{I_{10},J_{12}}\\ +\frac{-1}{4}\sum_I\sum_J\langle 1^A 1^B|\hat{g}|1^I 0^J\rangle\langle A_2|\hat{1}_\alpha^+|A_9\rangle\langle B_0|\hat{1}_\alpha^-|B_{11}\rangle\langle I_{10}|\hat{1}_\alpha^-|I_0\rangle\langle J_{12}|\hat{0}_\alpha^+|J_0\rangle t_{A_2}t_{I_{10},J_{12}}$$

$$\langle(A_9, B_{11})|\hat{H}|(A_2, B_1, I_{10}, J_{12})\rangle =$$

$$+\frac{1}{4}\sum_I\sum_J\langle 1^A 1^I|\hat{g}|1^B 0^J\rangle\langle A_2|\hat{1}_\alpha^+|A_9\rangle\langle B_1|\hat{1}_\alpha^-|B_{11}\rangle\langle I_{10}|\hat{1}_\alpha^-|I_0\rangle\langle J_{12}|\hat{0}_\alpha^+|J_0\rangle t_{A_2,B_1}t_{I_{10},J_{12}}\\ +\frac{-1}{4}\sum_I\sum_J\langle 1^A 1^B|\hat{g}|1^I 0^J\rangle\langle A_2|\hat{1}_\alpha^+|A_9\rangle\langle B_1|\hat{1}_\alpha^-|B_{11}\rangle\langle I_{10}|\hat{1}_\alpha^-|I_0\rangle\langle J_{12}|\hat{0}_\alpha^+|J_0\rangle t_{A_2,B_1}t_{I_{10},J_{12}}\\ +\frac{1}{4}\sum_I\sum_J\langle 1^A 1^I|\hat{g}|1^B 0^J\rangle\langle A_2|\hat{1}_\alpha^+|A_9\rangle\langle B_1|\hat{1}_\alpha^-|B_{11}\rangle\langle I_{10}|\hat{1}_\alpha^-|I_0\rangle\langle J_{12}|\hat{0}_\alpha^+|J_0\rangle t_{A_2}t_{B_1}t_{I_{10},J_{12}}\\ +\frac{-1}{4}\sum_I\sum_J\langle 1^A 1^B|\hat{g}|1^I 0^J\rangle\langle A_2|\hat{1}_\alpha^+|A_9\rangle\langle B_1|\hat{1}_\alpha^-|B_{11}\rangle\langle I_{10}|\hat{1}_\alpha^-|I_0\rangle\langle J_{12}|\hat{0}_\alpha^+|J_0\rangle t_{A_2}t_{B_1}t_{I_{10},J_{12}}$$

$$+\frac{-1}{4}\sum_I\sum_J\langle 1^A 1^B|\hat{g}|0^I 1^J\rangle\langle A_2|\hat{1}_\alpha^+|A_9\rangle\langle B_1|\hat{1}_\alpha^-|B_{11}\rangle\langle I_9|\hat{0}_\alpha^-|I_0\rangle\langle J_{11}|\hat{1}_\alpha^+|J_0\rangle t_{A_2}t_{B_1}t_{I_9,J_{11}}$$

$$\langle(A_9, B_{11})|\hat{H}|(A_3, I_9, J_{11})\rangle =$$

$$+\frac{1}{4}\sum_I\sum_J\langle 1^A 0^I|\hat{g}|1^B 1^J\rangle\langle A_3|\hat{1}_\alpha^+|A_9\rangle\langle B_0|\hat{1}_\alpha^-|B_{11}\rangle\langle I_9|\hat{0}_\alpha^-|I_0\rangle\langle J_{11}|\hat{1}_\alpha^+|J_0\rangle t_{A_3}t_{I_9,J_{11}} \\ +\frac{-1}{4}\sum_I\sum_J\langle 1^A 1^B|\hat{g}|0^I 1^J\rangle\langle A_3|\hat{1}_\alpha^+|A_9\rangle\langle B_0|\hat{1}_\alpha^-|B_{11}\rangle\langle I_9|\hat{0}_\alpha^-|I_0\rangle\langle J_{11}|\hat{1}_\alpha^+|J_0\rangle t_{A_3}t_{I_9,J_{11}}$$

$$\langle(A_9, B_{11})|\hat{H}|(A_3, B_1, I_9, J_{11})\rangle =$$

$$+\frac{1}{4}\sum_I\sum_J\langle 1^A 0^I|\hat{g}|1^B 1^J\rangle\langle A_3|\hat{1}_\alpha^+|A_9\rangle\langle B_1|\hat{1}_\alpha^-|B_{11}\rangle\langle I_9|\hat{0}_\alpha^-|I_0\rangle\langle J_{11}|\hat{1}_\alpha^+|J_0\rangle t_{A_3,B_1}t_{I_9,J_{11}} \\ +\frac{-1}{4}\sum_I\sum_J\langle 1^A 1^B|\hat{g}|0^I 1^J\rangle\langle A_3|\hat{1}_\alpha^+|A_9\rangle\langle B_1|\hat{1}_\alpha^-|B_{11}\rangle\langle I_9|\hat{0}_\alpha^-|I_0\rangle\langle J_{11}|\hat{1}_\alpha^+|J_0\rangle t_{A_3,B_1}t_{I_9,J_{11}} \\ +\frac{1}{4}\sum_I\sum_J\langle 1^A 0^I|\hat{g}|1^B 1^J\rangle\langle A_3|\hat{1}_\alpha^+|A_9\rangle\langle B_1|\hat{1}_\alpha^-|B_{11}\rangle\langle I_9|\hat{0}_\alpha^-|I_0\rangle\langle J_{11}|\hat{1}_\alpha^+|J_0\rangle t_{A_3}t_{B_1}t_{I_9,J_{11}} \\ +\frac{-1}{4}\sum_I\sum_J\langle 1^A 1^B|\hat{g}|0^I 1^J\rangle\langle A_3|\hat{1}_\alpha^+|A_9\rangle\langle B_1|\hat{1}_\alpha^-|B_{11}\rangle\langle I_9|\hat{0}_\alpha^-|I_0\rangle\langle J_{11}|\hat{1}_\alpha^+|J_0\rangle t_{A_3}t_{B_1}t_{I_9,J_{11}}$$

$$\langle(A_9, B_{11})|\hat{H}|(A_2, I_7, J_{13})\rangle =$$

$$+\frac{1}{4}\sum_I\sum_J\langle 1^A 0^I|\hat{g}|1^B 1^J\rangle\langle A_2|\hat{1}_\alpha^+|A_9\rangle\langle B_0|\hat{1}_\alpha^-|B_{11}\rangle\langle I_7|\hat{0}_\beta^-|I_0\rangle\langle J_{13}|\hat{1}_\beta^+|J_0\rangle t_{A_2}t_{I_7,J_{13}}$$

$$\langle(A_9, B_{11})|\hat{H}|(A_2, B_1, I_7, J_{13})\rangle =$$

$$+\frac{1}{4}\sum_I\sum_J\langle 1^A 0^I|\hat{g}|1^B 1^J\rangle\langle A_2|\hat{1}_\alpha^+|A_9\rangle\langle B_1|\hat{1}_\alpha^-|B_{11}\rangle\langle I_7|\hat{0}_\beta^-|I_0\rangle\langle J_{13}|\hat{1}_\beta^+|J_0\rangle t_{A_2,B_1}t_{I_7,J_{13}} \\ +\frac{1}{4}\sum_I\sum_J\langle 1^A 0^I|\hat{g}|1^B 1^J\rangle\langle A_2|\hat{1}_\alpha^+|A_9\rangle\langle B_1|\hat{1}_\alpha^-|B_{11}\rangle\langle I_7|\hat{0}_\beta^-|I_0\rangle\langle J_{13}|\hat{1}_\beta^+|J_0\rangle t_{A_2}t_{B_1}t_{I_7,J_{13}}$$

$$\langle(A_9, B_{11})|\hat{H}|(A_3, I_7, J_{13})\rangle =$$

$$+\frac{1}{4}\sum_I\sum_J\langle 1^A 0^I|\hat{g}|1^B 1^J\rangle\langle A_3|\hat{1}_\alpha^+|A_9\rangle\langle B_0|\hat{1}_\alpha^-|B_{11}\rangle\langle I_7|\hat{0}_\beta^-|I_0\rangle\langle J_{13}|\hat{1}_\beta^+|J_0\rangle t_{A_3}t_{I_7,J_{13}}$$

$$\langle(A_9, B_{11})|\hat{H}|(A_3, B_1, I_7, J_{13})\rangle =$$

$$+\frac{1}{4}\sum_I\sum_J\langle 1^A 1^I|\hat{g}|1^B 1^J\rangle\langle A_2|\hat{1}_\alpha^+|A_9\rangle\langle B_0|\hat{1}_\alpha^-|B_{11}\rangle\langle I_8|\hat{1}_\beta^-|I_0\rangle\langle J_{13}|\hat{1}_\beta^+|J_0\rangle t_{A_2}t_{I_8,J_{13}}$$

$$\begin{aligned} \langle(A_9, B_{11})|\hat{H}|(A_2, B_1, I_8, J_{13})\rangle = \\ +\frac{1}{4}\sum_I\sum_J\langle 1^A 1^I|\hat{g}|1^B 1^J\rangle\langle A_2|\hat{1}_\alpha^+|A_9\rangle\langle B_1|\hat{1}_\alpha^-|B_{11}\rangle\langle I_8|\hat{1}_\beta^-|I_0\rangle\langle J_{13}|\hat{1}_\beta^+|J_0\rangle t_{A_2,B_1}t_{I_8,J_{13}} \\ +\frac{1}{4}\sum_I\sum_J\langle 1^A 1^I|\hat{g}|1^B 1^J\rangle\langle A_2|\hat{1}_\alpha^+|A_9\rangle\langle B_1|\hat{1}_\alpha^-|B_{11}\rangle\langle I_8|\hat{1}_\beta^-|I_0\rangle\langle J_{13}|\hat{1}_\beta^+|J_0\rangle t_{A_2}t_{B_1}t_{I_8,J_{13}} \end{aligned}$$

$$\begin{aligned} \langle(A_9, B_{11})|\hat{H}|(A_3, I_8, J_{13})\rangle = \\ +\frac{1}{4}\sum_I\sum_J\langle 1^A 1^I|\hat{g}|1^B 1^J\rangle\langle A_3|\hat{1}_\alpha^+|A_9\rangle\langle B_0|\hat{1}_\alpha^-|B_{11}\rangle\langle I_8|\hat{1}_\beta^-|I_0\rangle\langle J_{13}|\hat{1}_\beta^+|J_0\rangle t_{A_3}t_{I_8,J_{13}} \end{aligned}$$

$$\begin{aligned} \langle(A_9, B_{11})|\hat{H}|(A_3, B_1, I_8, J_{13})\rangle = \\ +\frac{1}{4}\sum_I\sum_J\langle 1^A 1^I|\hat{g}|1^B 1^J\rangle\langle A_3|\hat{1}_\alpha^+|A_9\rangle\langle B_1|\hat{1}_\alpha^-|B_{11}\rangle\langle I_8|\hat{1}_\beta^-|I_0\rangle\langle J_{13}|\hat{1}_\beta^+|J_0\rangle t_{A_3,B_1}t_{I_8,J_{13}} \\ +\frac{1}{4}\sum_I\sum_J\langle 1^A 1^I|\hat{g}|1^B 1^J\rangle\langle A_3|\hat{1}_\alpha^+|A_9\rangle\langle B_1|\hat{1}_\alpha^-|B_{11}\rangle\langle I_8|\hat{1}_\beta^-|I_0\rangle\langle J_{13}|\hat{1}_\beta^+|J_0\rangle t_{A_3}t_{B_1}t_{I_8,J_{13}} \end{aligned}$$

$$\begin{aligned} \langle(A_9, B_{11})|\hat{H}|(A_6, B_{15}, I_{14}, J_7)\rangle = \\ +\frac{1}{4}\sum_I\sum_J\langle 0^A 0^I|\hat{g}|1^B 0^J\rangle\langle A_6|\hat{0}_\beta^-|A_9\rangle\langle B_{15}|\hat{1}_\beta^+|B_{11}\rangle\langle I_{14}|\hat{0}_\beta^+|I_0\rangle\langle J_7|\hat{0}_\beta^-|J_0\rangle t_{A_6,B_{15}}t_{I_{14},J_7} \\ +\frac{-1}{4}\sum_I\sum_J\langle 0^A 1^B|\hat{g}|0^I 0^J\rangle\langle A_6|\hat{0}_\beta^-|A_9\rangle\langle B_{15}|\hat{1}_\beta^+|B_{11}\rangle\langle I_{14}|\hat{0}_\beta^+|I_0\rangle\langle J_7|\hat{0}_\beta^-|J_0\rangle t_{A_6,B_{15}}t_{I_{14},J_7} \end{aligned}$$

$$\begin{aligned} \langle(A_9, B_{11})|\hat{H}|(A_6, B_{15}, I_{14}, J_8)\rangle = \\ +\frac{1}{4}\sum_I\sum_J\langle 0^A 0^I|\hat{g}|1^B 1^J\rangle\langle A_6|\hat{0}_\beta^-|A_9\rangle\langle B_{15}|\hat{1}_\beta^+|B_{11}\rangle\langle I_{14}|\hat{0}_\beta^+|I_0\rangle\langle J_8|\hat{1}_\beta^-|J_0\rangle t_{A_6,B_{15}}t_{I_{14},J_8} \\ +\frac{-1}{4}\sum_I\sum_J\langle 0^A 1^B|\hat{g}|0^I 1^J\rangle\langle A_6|\hat{0}_\beta^-|A_9\rangle\langle B_{15}|\hat{1}_\beta^+|B_{11}\rangle\langle I_{14}|\hat{0}_\beta^+|I_0\rangle\langle J_8|\hat{1}_\beta^-|J_0\rangle t_{A_6,B_{15}}t_{I_{14},J_8} \end{aligned}$$

$$\begin{aligned} \langle(A_9, B_{11})|\hat{H}|(A_6, B_{15}, I_{13}, J_7)\rangle = \\ +\frac{1}{4}\sum_I\sum_J\langle 0^A 1^I|\hat{g}|1^B 0^J\rangle\langle A_6|\hat{0}_\beta^-|A_9\rangle\langle B_{15}|\hat{1}_\beta^+|B_{11}\rangle\langle I_{13}|\hat{1}_\beta^+|I_0\rangle\langle J_7|\hat{0}_\beta^-|J_0\rangle t_{A_6,B_{15}}t_{I_{13},J_7} \end{aligned}$$

$$+\frac{-1}{4}\sum_I\sum_J\langle 0^A 1^B|\hat{g}|1^I 0^J\rangle\langle A_6|\hat{0}_\beta^-|A_9\rangle\langle B_{15}|\hat{1}_\beta^+|B_{11}\rangle\langle I_{13}|\hat{1}_\beta^+|I_0\rangle\langle J_7|\hat{0}_\beta^-|J_0\rangle t_{A_6,B_{15}}t_{I_{13},J_7}$$

$$\begin{aligned} &\langle(A_9, B_{11})|\hat{H}|(A_6, B_{15}, I_{13}, J_8)\rangle = \\ &+\frac{1}{4}\sum_I\sum_J\langle 0^A 1^I|\hat{g}|1^B 1^J\rangle\langle A_6|\hat{0}_\beta^-|A_9\rangle\langle B_{15}|\hat{1}_\beta^+|B_{11}\rangle\langle I_{13}|\hat{1}_\beta^+|I_0\rangle\langle J_8|\hat{1}_\beta^-|J_0\rangle t_{A_6,B_{15}}t_{I_{13},J_8} \\ &+\frac{-1}{4}\sum_I\sum_J\langle 0^A 1^B|\hat{g}|1^I 1^J\rangle\langle A_6|\hat{0}_\beta^-|A_9\rangle\langle B_{15}|\hat{1}_\beta^+|B_{11}\rangle\langle I_{13}|\hat{1}_\beta^+|I_0\rangle\langle J_8|\hat{1}_\beta^-|J_0\rangle t_{A_6,B_{15}}t_{I_{13},J_8} \end{aligned}$$

$$\begin{aligned} &\langle(A_9, B_{11})|\hat{H}|(A_6, B_{15}, I_7, J_{14})\rangle = \\ &+\frac{-1}{4}\sum_I\sum_J\langle 0^A 0^I|\hat{g}|1^B 0^J\rangle\langle A_6|\hat{0}_\beta^-|A_9\rangle\langle B_{15}|\hat{1}_\beta^+|B_{11}\rangle\langle I_7|\hat{0}_\beta^-|I_0\rangle\langle J_{14}|\hat{0}_\beta^+|J_0\rangle t_{A_6,B_{15}}t_{I_7,J_{14}} \\ &+\frac{1}{4}\sum_I\sum_J\langle 0^A 1^B|\hat{g}|0^J 0^I\rangle\langle A_6|\hat{0}_\beta^-|A_9\rangle\langle B_{15}|\hat{1}_\beta^+|B_{11}\rangle\langle I_7|\hat{0}_\beta^-|I_0\rangle\langle J_{14}|\hat{0}_\beta^+|J_0\rangle t_{A_6,B_{15}}t_{I_7,J_{14}} \end{aligned}$$

$$\begin{aligned} &\langle(A_9, B_{11})|\hat{H}|(A_6, B_{15}, I_8, J_{14})\rangle = \\ &+\frac{-1}{4}\sum_I\sum_J\langle 0^A 1^I|\hat{g}|1^B 0^J\rangle\langle A_6|\hat{0}_\beta^-|A_9\rangle\langle B_{15}|\hat{1}_\beta^+|B_{11}\rangle\langle I_8|\hat{1}_\beta^-|I_0\rangle\langle J_{14}|\hat{0}_\beta^+|J_0\rangle t_{A_6,B_{15}}t_{I_8,J_{14}} \\ &+\frac{1}{4}\sum_I\sum_J\langle 0^A 1^B|\hat{g}|0^J 1^I\rangle\langle A_6|\hat{0}_\beta^-|A_9\rangle\langle B_{15}|\hat{1}_\beta^+|B_{11}\rangle\langle I_8|\hat{1}_\beta^-|I_0\rangle\langle J_{14}|\hat{0}_\beta^+|J_0\rangle t_{A_6,B_{15}}t_{I_8,J_{14}} \end{aligned}$$

$$\begin{aligned} &\langle(A_9, B_{11})|\hat{H}|(A_6, B_{15}, I_7, J_{13})\rangle = \\ &+\frac{-1}{4}\sum_I\sum_J\langle 0^A 0^I|\hat{g}|1^B 1^J\rangle\langle A_6|\hat{0}_\beta^-|A_9\rangle\langle B_{15}|\hat{1}_\beta^+|B_{11}\rangle\langle I_7|\hat{0}_\beta^-|I_0\rangle\langle J_{13}|\hat{1}_\beta^+|J_0\rangle t_{A_6,B_{15}}t_{I_7,J_{13}} \\ &+\frac{1}{4}\sum_I\sum_J\langle 0^A 1^B|\hat{g}|1^J 0^I\rangle\langle A_6|\hat{0}_\beta^-|A_9\rangle\langle B_{15}|\hat{1}_\beta^+|B_{11}\rangle\langle I_7|\hat{0}_\beta^-|I_0\rangle\langle J_{13}|\hat{1}_\beta^+|J_0\rangle t_{A_6,B_{15}}t_{I_7,J_{13}} \end{aligned}$$

$$\begin{aligned} &\langle(A_9, B_{11})|\hat{H}|(A_6, B_{15}, I_8, J_{13})\rangle = \\ &+\frac{-1}{4}\sum_I\sum_J\langle 0^A 1^I|\hat{g}|1^B 1^J\rangle\langle A_6|\hat{0}_\beta^-|A_9\rangle\langle B_{15}|\hat{1}_\beta^+|B_{11}\rangle\langle I_8|\hat{1}_\beta^-|I_0\rangle\langle J_{13}|\hat{1}_\beta^+|J_0\rangle t_{A_6,B_{15}}t_{I_8,J_{13}} \\ &+\frac{1}{4}\sum_I\sum_J\langle 0^A 1^B|\hat{g}|1^J 1^I\rangle\langle A_6|\hat{0}_\beta^-|A_9\rangle\langle B_{15}|\hat{1}_\beta^+|B_{11}\rangle\langle I_8|\hat{1}_\beta^-|I_0\rangle\langle J_{13}|\hat{1}_\beta^+|J_0\rangle t_{A_6,B_{15}}t_{I_8,J_{13}} \end{aligned}$$

$$\langle(A_9, B_{11})|\hat{H}|(A_5, B_4, I_{12}, J_9)\rangle =$$

$$+\frac{-1}{4}\sum_I\sum_J\langle 1^A 0^I|\hat{g}|0^B 0^J\rangle\langle A_5|\hat{1}_\beta^+|A_9\rangle\langle B_4|\hat{0}_\beta^-|B_{11}\rangle\langle I_{12}|\hat{0}_\alpha^+|I_0\rangle\langle J_9|\hat{0}_\alpha^-|J_0\rangle t_{A_5,B_4}t_{I_{12},J_9}$$

$$\begin{aligned} &\langle(A_9, B_{11})|\hat{H}|(A_5, B_4, I_{12}, J_{10})\rangle = \\ &+\frac{-1}{4}\sum_I\sum_J\langle 1^A 0^I|\hat{g}|0^B 1^J\rangle\langle A_5|\hat{1}_\beta^+|A_9\rangle\langle B_4|\hat{0}_\beta^-|B_{11}\rangle\langle I_{12}|\hat{0}_\alpha^+|I_0\rangle\langle J_{10}|\hat{1}_\alpha^-|J_0\rangle t_{A_5,B_4}t_{I_{12},J_{10}} \end{aligned}$$

$$\begin{aligned} &\langle(A_9, B_{11})|\hat{H}|(A_5, B_4, I_{11}, J_9)\rangle = \\ &+\frac{-1}{4}\sum_I\sum_J\langle 1^A 1^I|\hat{g}|0^B 0^J\rangle\langle A_5|\hat{1}_\beta^+|A_9\rangle\langle B_4|\hat{0}_\beta^-|B_{11}\rangle\langle I_{11}|\hat{1}_\alpha^+|I_0\rangle\langle J_9|\hat{0}_\alpha^-|J_0\rangle t_{A_5,B_4}t_{I_{11},J_9} \end{aligned}$$

$$\begin{aligned} &\langle(A_9, B_{11})|\hat{H}|(A_5, B_4, I_{11}, J_{10})\rangle = \\ &+\frac{-1}{4}\sum_I\sum_J\langle 1^A 1^I|\hat{g}|0^B 1^J\rangle\langle A_5|\hat{1}_\beta^+|A_9\rangle\langle B_4|\hat{0}_\beta^-|B_{11}\rangle\langle I_{11}|\hat{1}_\alpha^+|I_0\rangle\langle J_{10}|\hat{1}_\alpha^-|J_0\rangle t_{A_5,B_4}t_{I_{11},J_{10}} \end{aligned}$$

$$\begin{aligned} &\langle(A_9, B_{11})|\hat{H}|(A_6, B_{15}, I_{12}, J_9)\rangle = \\ &+\frac{1}{4}\sum_I\sum_J\langle 0^A 0^I|\hat{g}|1^B 0^J\rangle\langle A_6|\hat{0}_\beta^-|A_9\rangle\langle B_{15}|\hat{1}_\beta^+|B_{11}\rangle\langle I_{12}|\hat{0}_\alpha^+|I_0\rangle\langle J_9|\hat{0}_\alpha^-|J_0\rangle t_{A_6,B_{15}}t_{I_{12},J_9} \end{aligned}$$

$$\begin{aligned} &\langle(A_9, B_{11})|\hat{H}|(A_6, B_{15}, I_{12}, J_{10})\rangle = \\ &+\frac{1}{4}\sum_I\sum_J\langle 0^A 0^I|\hat{g}|1^B 1^J\rangle\langle A_6|\hat{0}_\beta^-|A_9\rangle\langle B_{15}|\hat{1}_\beta^+|B_{11}\rangle\langle I_{12}|\hat{0}_\alpha^+|I_0\rangle\langle J_{10}|\hat{1}_\alpha^-|J_0\rangle t_{A_6,B_{15}}t_{I_{12},J_{10}} \end{aligned}$$

$$\begin{aligned} &\langle(A_9, B_{11})|\hat{H}|(A_6, B_{15}, I_{11}, J_9)\rangle = \\ &+\frac{1}{4}\sum_I\sum_J\langle 0^A 1^I|\hat{g}|1^B 0^J\rangle\langle A_6|\hat{0}_\beta^-|A_9\rangle\langle B_{15}|\hat{1}_\beta^+|B_{11}\rangle\langle I_{11}|\hat{1}_\alpha^+|I_0\rangle\langle J_9|\hat{0}_\alpha^-|J_0\rangle t_{A_6,B_{15}}t_{I_{11},J_9} \end{aligned}$$

$$\begin{aligned} &\langle(A_9, B_{11})|\hat{H}|(A_6, B_{15}, I_{11}, J_{10})\rangle = \\ &+\frac{1}{4}\sum_I\sum_J\langle 0^A 1^I|\hat{g}|1^B 1^J\rangle\langle A_6|\hat{0}_\beta^-|A_9\rangle\langle B_{15}|\hat{1}_\beta^+|B_{11}\rangle\langle I_{11}|\hat{1}_\alpha^+|I_0\rangle\langle J_{10}|\hat{1}_\alpha^-|J_0\rangle t_{A_6,B_{15}}t_{I_{11},J_{10}} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_5, B_4, I_9, J_{12}) \rangle = \\ & + \frac{1}{4} \sum_I \sum_J \langle 1^A 0^I | \hat{g} | 0^B 0^J \rangle \langle A_5 | \hat{1}_\beta^+ | A_9 \rangle \langle B_4 | \hat{0}_\beta^- | B_{11} \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle t_{A_5, B_4} t_{I_9, J_{12}} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_5, B_4, I_{10}, J_{12}) \rangle = \\ & + \frac{1}{4} \sum_I \sum_J \langle 1^A 1^I | \hat{g} | 0^B 0^J \rangle \langle A_5 | \hat{1}_\beta^+ | A_9 \rangle \langle B_4 | \hat{0}_\beta^- | B_{11} \rangle \langle I_{10} | \hat{1}_\alpha^- | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle t_{A_5, B_4} t_{I_{10}, J_{12}} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_5, B_4, I_9, J_{11}) \rangle = \\ & + \frac{1}{4} \sum_I \sum_J \langle 1^A 0^I | \hat{g} | 0^B 1^J \rangle \langle A_5 | \hat{1}_\beta^+ | A_9 \rangle \langle B_4 | \hat{0}_\beta^- | B_{11} \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle t_{A_5, B_4} t_{I_9, J_{11}} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_5, B_4, I_{10}, J_{11}) \rangle = \\ & + \frac{1}{4} \sum_I \sum_J \langle 1^A 1^I | \hat{g} | 0^B 1^J \rangle \langle A_5 | \hat{1}_\beta^+ | A_9 \rangle \langle B_4 | \hat{0}_\beta^- | B_{11} \rangle \langle I_{10} | \hat{1}_\alpha^- | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle t_{A_5, B_4} t_{I_{10}, J_{11}} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_6, B_{15}, I_9, J_{12}) \rangle = \\ & + \frac{-1}{4} \sum_I \sum_J \langle 0^A 0^I | \hat{g} | 1^B 0^J \rangle \langle A_6 | \hat{0}_\beta^- | A_9 \rangle \langle B_{15} | \hat{1}_\beta^+ | B_{11} \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle t_{A_6, B_{15}} t_{I_9, J_{12}} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_6, B_{15}, I_{10}, J_{12}) \rangle = \\ & + \frac{-1}{4} \sum_I \sum_J \langle 0^A 1^I | \hat{g} | 1^B 0^J \rangle \langle A_6 | \hat{0}_\beta^- | A_9 \rangle \langle B_{15} | \hat{1}_\beta^+ | B_{11} \rangle \langle I_{10} | \hat{1}_\alpha^- | I_0 \rangle \langle J_{12} | \hat{0}_\alpha^+ | J_0 \rangle t_{A_6, B_{15}} t_{I_{10}, J_{12}} \end{aligned}$$

$$\begin{aligned} & \langle (A_9, B_{11}) | \hat{H} | (A_6, B_{15}, I_9, J_{11}) \rangle = \\ & + \frac{-1}{4} \sum_I \sum_J \langle 0^A 0^I | \hat{g} | 1^B 1^J \rangle \langle A_6 | \hat{0}_\beta^- | A_9 \rangle \langle B_{15} | \hat{1}_\beta^+ | B_{11} \rangle \langle I_9 | \hat{0}_\alpha^- | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle t_{A_6, B_{15}} t_{I_9, J_{11}} \end{aligned}$$

$$\begin{aligned}
& \langle (A_9, B_{11}) | \hat{H} | (A_6, B_{15}, I_{10}, J_{11}) \rangle = \\
& + \frac{-1}{4} \sum_I \sum_J \langle 0^A 1^I | \hat{g} | 1^B 1^J \rangle \langle A_6 | \hat{0}_\beta^- | A_9 \rangle \langle B_{15} | \hat{1}_\beta^+ | B_{11} \rangle \langle I_{10} | \hat{1}_\alpha^- | I_0 \rangle \langle J_{11} | \hat{1}_\alpha^+ | J_0 \rangle t_{A_6, B_{15}} t_{I_{10}, J_{11}}
\end{aligned}$$