

APPENDIX

$$Z_{0,1,2,3}^{(1)} = \frac{2}{3} \left[U_{0,1,0-1}^{(1)} A_{2+3,2,3}^{(1)} + U_{0,2,0-2}^{(1)} A_{1+3,1,3}^{(1)} + U_{0,3,0-3}^{(1)} A_{1+2,1,2}^{(1)} \right. \\ \left. + U_{1,0,1-0}^{(1)} A_{2,3,-2-3}^{(3)} + U_{2,0,2-0}^{(1)} A_{1,3,-1-3}^{(3)} + U_{3,0,3-0}^{(1)} A_{1,2,-1-2}^{(3)} \right].$$

$$Z_{0,1,2,3}^{(2)} = -2 \left[U_{0,2,0-2}^{(1)} A_{3,1,3-1}^{(1)} + U_{2,0,2-0}^{(1)} A_{1,3,1-3}^{(1)} + U_{0,3,0-3}^{(1)} A_{2,1,2-1}^{(1)} \right. \\ \left. + U_{3,0,3-0}^{(1)} A_{1,2,1-2}^{(1)} - U_{0+1,0,1}^{(1)} A_{2+3,2,3}^{(1)} - U_{0,1,-0-1}^{(3)} A_{2,3,-2-3}^{(3)} \right].$$

$$Z_{0,1,2,3}^{(3)} = 2 \left[U_{3,0,3-0}^{(1)} A_{1+2,1,2}^{(1)} - U_{0+1,0,1}^{(1)} A_{3,2,3-2}^{(1)} - U_{0+2,0,2}^{(1)} A_{3,1,3-1}^{(1)} \right. \\ \left. - U_{0,1,-0-1}^{(3)} A_{2,3,2-3}^{(1)} - U_{0,2,-0-2}^{(3)} A_{1,3,1-3}^{(1)} + U_{0,3,0-3}^{(1)} A_{1,2,-1-2}^{(3)} \right].$$

$$Z_{0,1,2,3}^{(4)} = \frac{2}{3} \left[U_{0,1,-0-1}^{(3)} A_{2+3,2,3}^{(1)} + U_{0,2,-0-2}^{(3)} A_{1+3,1,3}^{(1)} + U_{0,3,-0-3}^{(3)} A_{1+2,1,2}^{(1)} \right. \\ \left. + U_{0+1,0,1}^{(1)} A_{2,3,-2-3}^{(3)} + U_{0+2,0,2}^{(1)} A_{1,3,-1-3}^{(3)} + U_{0+3,0,3}^{(1)} A_{1,2,-1-2}^{(3)} \right].$$

$$\begin{aligned}
& X_{0,1,2,3,4}^{(1)} = \\
& = \frac{1}{3} \left[U_{0,1+2,3+4}^{(1)} A_{1+2,1,2}^{(1)} A_{3+4,3,4}^{(1)} + U_{0,1+3,2+4}^{(1)} A_{1+3,1,3}^{(1)} A_{2+4,2,4}^{(1)} \right. \\
& + U_{0,1+4,2+3}^{(1)} A_{1+4,1,4}^{(1)} A_{2+3,2,3}^{(1)} + U_{1+2,-3-4,0}^{(1)} A_{1+2,1,2}^{(1)} A_{3,4,-3-4}^{(3)} \\
& + U_{1+3,-2-4,0}^{(1)} A_{1+3,1,3}^{(1)} A_{2,4,-2-4}^{(3)} + U_{1+4,-2-3,0}^{(1)} A_{1+4,1,4}^{(1)} A_{2,3,-2-3}^{(3)} \\
& + U_{2+3,-1-4,0}^{(1)} A_{2+3,2,3}^{(1)} A_{1,4,-1-4}^{(3)} + U_{2+4,-1-3,0}^{(1)} A_{2+4,2,4}^{(1)} A_{1,3,-1-3}^{(3)} \\
& + U_{3+4,-1-2,0}^{(1)} A_{3+4,3,4}^{(1)} A_{1,2,-1-2}^{(3)} + U_{0,-1-2,-3-4}^{(3)} A_{1,2,-1-2}^{(3)} A_{3,4,-3-4}^{(3)} \\
& + U_{0,-1-3,-2-4}^{(3)} A_{1,3,-1-3}^{(3)} A_{2,4,-2-4}^{(3)} + U_{0,-1-4,-2-3}^{(3)} A_{1,4,-1-4}^{(3)} A_{2,3,-2-3}^{(3)} \left. \right] \\
& + \frac{1}{2} \left[V_{0,1,2,3+4}^{(1)} A_{3+4,3,4}^{(1)} + V_{0,1,3,2+4}^{(1)} A_{2+4,2,4}^{(1)} + V_{0,1,4,2+3}^{(1)} A_{2+3,2,3}^{(1)} \right. \\
& + V_{0,2,3,1+4}^{(1)} A_{1+4,1,4}^{(1)} + V_{0,2,4,1+3}^{(1)} A_{1+3,1,3}^{(1)} + V_{0,3,4,1+2}^{(1)} A_{1+2,1,2}^{(1)} \left. \right] \\
& + \frac{1}{6} \left[V_{1,2,0,-3-4}^{(2)} A_{3,4,-3-4}^{(3)} + V_{1,3,0,-2-4}^{(2)} A_{2,4,-2-4}^{(3)} + V_{1,4,0,-2-3}^{(2)} A_{2,3,-2-3}^{(3)} \right. \\
& + V_{2,3,0,-1-4}^{(2)} A_{1,4,-1-4}^{(3)} + V_{2,4,0,-1-3}^{(2)} A_{1,3,-1-3}^{(3)} + V_{3,4,0,-1-2}^{(2)} A_{1,2,-1-2}^{(3)} \left. \right] \\
& + \frac{1}{2} \left[U_{0,1,0-1}^{(1)} B_{0-1,2,3,4}^{(1)} + U_{0,2,0-2}^{(1)} B_{0-2,1,3,4}^{(1)} + U_{0,3,0-3}^{(1)} B_{0-3,1,2,4}^{(1)} \right. \\
& + U_{0,4,0-4}^{(1)} B_{0-4,1,2,3}^{(1)} + U_{1,0,1-0}^{(1)} B_{1-0,2,3,4}^{(4)} + U_{2,0,2-0}^{(1)} B_{2-0,1,3,4}^{(4)} \\
& + U_{3,0,3-0}^{(1)} B_{3-0,1,2,4}^{(4)} + U_{4,0,4-0}^{(1)} B_{4-0,1,2,3}^{(4)} \left. \right] .
\end{aligned}$$

$$\begin{aligned}
& X_{0,1,2,3,4}^{(2)} = \\
& = -\frac{4}{3} \left[U_{0,2+3,4-1}^{(1)} A_{2+3,2,3}^{(1)} A_{4,1,4-1}^{(1)} + U_{0,2+4,3-1}^{(1)} A_{2+4,2,4}^{(1)} A_{3,1,3-1}^{(1)} \right. \\
& \quad + U_{0,3+4,2-1}^{(1)} A_{3+4,3,4}^{(1)} A_{2,1,2-1}^{(1)} + U_{2+3,1-4,0}^{(1)} A_{1,4,1-4}^{(1)} A_{2+3,2,3}^{(1)} \\
& \quad + U_{2+4,1-3,0}^{(1)} A_{1,3,1-3}^{(1)} A_{2+4,2,4}^{(1)} + U_{3+4,1-2,0}^{(1)} A_{1,2,1-2}^{(1)} A_{3+4,3,4}^{(1)} \\
& \quad + U_{2-1,-3-4,0}^{(1)} A_{2,1,2-1}^{(1)} A_{3,4,-3-4}^{(3)} + U_{3-1,-2-4,0}^{(1)} A_{3,1,3-1}^{(1)} A_{2,4,-2-4}^{(3)} \\
& \quad + U_{4-1,-2-3,0}^{(1)} A_{4,1,4-1}^{(1)} A_{2,3,-2-3}^{(3)} + U_{0,1-2,-3-4}^{(3)} A_{1,2,1-2}^{(1)} A_{3,4,-3-4}^{(3)} \\
& \quad \left. + U_{0,1-3,-2-4}^{(3)} A_{1,3,1-3}^{(1)} A_{2,4,-2-4}^{(3)} + U_{0,1-4,-2-3}^{(3)} A_{1,4,1-4}^{(1)} A_{2,3,-2-3}^{(3)} \right] \\
& - 2 \left[V_{0,2,3,4-1}^{(1)} A_{4,1,4-1}^{(1)} + V_{0,2,4,3-1}^{(1)} A_{3,1,3-1}^{(1)} + V_{0,3,4,2-1}^{(1)} A_{2,1,2-1}^{(1)} \right. \\
& \quad \left. - V_{2,1,0,-3-4}^{(1)} A_{3,4,-3-4}^{(3)} - V_{3,1,0,-2-4}^{(1)} A_{2,4,-2-4}^{(3)} - V_{4,1,0,-2-3}^{(1)} A_{2,3,-2-3}^{(3)} \right] \\
& + \frac{2}{3} \left[V_{0,1,2,3+4}^{(2)} A_{3+4,3,4}^{(1)} + V_{0,1,3,2+4}^{(2)} A_{2+4,2,4}^{(1)} + V_{0,1,4,2+3}^{(2)} A_{2+3,2,3}^{(1)} \right. \\
& \quad - V_{2,3,0,1-4}^{(2)} A_{1,4,1-4}^{(1)} - V_{2,4,0,1-3}^{(2)} A_{1,3,1-3}^{(1)} - V_{3,4,0,1-2}^{(2)} A_{1,2,1-2}^{(1)} \\
& \quad \left. - \tilde{V}_{3,4,1,0-2}^{(2)} A_{0,2,0-2}^{(1)} - \tilde{V}_{2,4,1,0-3}^{(2)} A_{0,3,0-3}^{(1)} - \tilde{V}_{2,3,1,0-4}^{(2)} A_{0,4,0-4}^{(1)} \right] \\
& + \frac{2}{3} \left[3U_{0+1,0,1}^{(1)} B_{0+1,2,3,4}^{(1)} + U_{0,2,0-2}^{(1)} B_{0-2,1,3,4}^{(2)} + U_{0,3,0-3}^{(1)} B_{0-3,1,2,4}^{(2)} \right. \\
& \quad + U_{0,4,0-4}^{(1)} B_{0-4,1,2,3}^{(2)} + U_{2,0,2-0}^{(1)} B_{2-0,3,4,1}^{(3)} + U_{3,0,3-0}^{(1)} B_{3-0,2,4,1}^{(3)} \\
& \quad \left. + U_{4,0,4-0}^{(1)} B_{4-0,2,3,1}^{(3)} + 3U_{0,1,-0-1}^{(3)} B_{-0-1,2,3,4}^{(4)} \right].
\end{aligned}$$

$$\begin{aligned}
& X_{0,1,2,3,4}^{(3)} = \\
& = 2 \left[U_{0,3-1,4-2}^{(1)} A_{3,1,3-1}^{(1)} A_{4,2,4-2}^{(1)} + U_{0,4-1,3-2}^{(1)} A_{4,1,4-1}^{(1)} A_{3,2,3-2}^{(1)} \right. \\
& + U_{3-1,2-4,0}^{(1)} A_{3,1,3-1}^{(1)} A_{2,4,2-4}^{(1)} + U_{4-1,2-3,0}^{(1)} A_{4,1,4-1}^{(1)} A_{2,3,2-3}^{(1)} \\
& + U_{3-2,1-4,0}^{(1)} A_{3,2,3-2}^{(1)} A_{1,4,1-4}^{(1)} + U_{4-2,1-3,0}^{(1)} A_{4,2,4-2}^{(1)} A_{1,3,1-3}^{(1)} \\
& + U_{3+4,1+2,0}^{(1)} A_{3+4,3,4}^{(1)} A_{1+2,1,2}^{(1)} + U_{0,3+4,-1-2}^{(1)} A_{3+4,3,4}^{(1)} A_{1,2,-1-2}^{(3)} \\
& + U_{-1-2,-3-4,0}^{(1)} A_{1,2,-1-2}^{(3)} A_{3,4,-3-4}^{(3)} + U_{0,1-3,2-4}^{(3)} A_{1,3,1-3}^{(1)} A_{2,4,2-4}^{(1)} \\
& \left. + U_{0,1-4,2-3}^{(3)} A_{1,4,1-4}^{(1)} A_{2,3,2-3}^{(1)} + U_{0,1+2,-3-4}^{(3)} A_{1+2,1,2}^{(1)} A_{3,4,-3-4}^{(3)} \right] \\
& - 3 \left[V_{3,1,0,2-4}^{(1)} A_{2,4,2-4}^{(1)} + V_{4,1,0,2-3}^{(1)} A_{2,3,2-3}^{(1)} + V_{3,2,0,1-4}^{(1)} A_{1,4,1-4}^{(1)} \right. \\
& + V_{4,2,0,1-3}^{(1)} A_{1,3,1-3}^{(1)} - V_{3+4,2,1,0}^{(1)} A_{3+4,3,4}^{(1)} - V_{0,3,4,-1-2}^{(1)} A_{1,2,-1-2}^{(3)} \\
& \left. - V_{0,1,2,-3-4}^{(4)} A_{3,4,-3-4}^{(3)} \right] \\
& + V_{1+2,0,3,4}^{(2)} A_{1+2,1,2}^{(1)} - V_{0,1,3,4-2}^{(2)} A_{4,2,4-2}^{(1)} - V_{0,1,4,3-2}^{(2)} A_{3,2,3-2}^{(1)} \\
& - V_{0,2,3,4-1}^{(2)} A_{4,1,4-1}^{(1)} - V_{0,2,4,3-1}^{(2)} A_{3,1,3-1}^{(1)} + \tilde{V}_{3,4,2,0+1}^{(2)} A_{0+1,0,1}^{(1)} \\
& + \tilde{V}_{3,4,1,0+2}^{(2)} A_{0+2,0,2}^{(1)} - \tilde{V}_{1,2,4,3-0}^{(2)} A_{3,0,3-0}^{(1)} - \tilde{V}_{1,2,3,4-0}^{(2)} A_{4,0,4-0}^{(1)} \\
& + U_{3,0,3-0}^{(1)} B_{3-0,4,1,2}^{(2)} + U_{4,0,4-0}^{(1)} B_{4-0,3,1,2}^{(2)} + U_{0+1,0,1}^{(1)} B_{0+1,2,3,4}^{(2)} \\
& + U_{0+2,0,2}^{(1)} B_{0+2,1,3,4}^{(2)} + U_{0,1,-0-1}^{(3)} B_{-0-1,3,4,2}^{(3)} + U_{0,2,-0-2}^{(3)} B_{-0-2,3,4,1}^{(3)} \\
& + U_{0,3,0-3}^{(1)} B_{0-3,1,2,4}^{(3)} + U_{0,4,0-4}^{(1)} B_{0-4,1,2,3}^{(3)} .
\end{aligned}$$

$$X_{0,1,2,3,4}^{(4)} =$$

$$\begin{aligned}
&= -\frac{4}{3} \left[U_{4-1,2+3,0}^{(1)} A_{4,1,4-1}^{(1)} A_{2+3,2,3}^{(1)} + U_{4-2,1+3,0}^{(1)} A_{4,2,4-2}^{(1)} A_{1+3,1,3}^{(1)} \right. \\
&\quad + U_{4-3,1+2,0}^{(1)} A_{4,3,4-3}^{(1)} A_{1+2,1,2}^{(1)} + U_{-1-2,3-4,0}^{(1)} A_{1,2,-1-2}^{(3)} A_{3,4,3-4}^{(1)} \\
&\quad + U_{-1-3,2-4,0}^{(1)} A_{1,3,-1-3}^{(3)} A_{2,4,2-4}^{(1)} + U_{-2-3,1-4,0}^{(1)} A_{2,3,-2-3}^{(3)} A_{1,4,1-4}^{(1)} \\
&\quad + U_{0,4-1,-2-3}^{(1)} A_{4,1,4-1}^{(1)} A_{2,3,-2-3}^{(3)} + U_{0,4-2,-1-3}^{(1)} A_{4,2,4-2}^{(1)} A_{1,3,-1-3}^{(3)} \\
&\quad + U_{0,4-3,-1-2}^{(1)} A_{4,3,4-3}^{(1)} A_{1,2,-1-2}^{(3)} + U_{0,1+2,3-4}^{(3)} A_{1+2,1,2}^{(1)} A_{3,4,3-4}^{(1)} \\
&\quad \left. + U_{0,1+3,2-4}^{(3)} A_{1+3,1,3}^{(1)} A_{2,4,2-4}^{(1)} + U_{0,2+3,1-4}^{(3)} A_{2+3,2,3}^{(1)} A_{1,4,1-4}^{(1)} \right] \\
&+ 2 \left[V_{4,1,0,2+3}^{(1)} A_{2+3,2,3}^{(1)} + V_{4,2,0,1+3}^{(1)} A_{1+3,1,3}^{(1)} + V_{4,3,0,1+2}^{(1)} A_{1+2,1,2}^{(1)} \right. \\
&\quad \left. - V_{4-1,3,2,0}^{(1)} A_{4,1,4-1}^{(1)} - V_{4-2,3,1,0}^{(1)} A_{4,2,4-2}^{(1)} - V_{4-3,2,1,0}^{(1)} A_{4,3,4-3}^{(1)} \right] \\
&- \frac{2}{3} \left[V_{0,1,4,-2-3}^{(2)} A_{2,3,-2-3}^{(3)} + V_{0,2,4,-1-3}^{(2)} A_{1,3,-1-3}^{(3)} + V_{0,3,4,-1-2}^{(2)} A_{1,2,-1-2}^{(3)} \right. \\
&\quad \left. - \tilde{V}_{2,3,4,-0-1}^{(2)} A_{0,1,-0-1}^{(3)} - \tilde{V}_{1,3,4,-0-2}^{(2)} A_{0,2,-0-2}^{(3)} - \tilde{V}_{1,2,4,-0-3}^{(2)} A_{0,3,-0-3}^{(3)} \right] \\
&- 2 \left[V_{0,1,2,3-4}^{(4)} A_{3,4,3-4}^{(1)} + V_{0,1,3,2-4}^{(4)} A_{2,4,2-4}^{(1)} + V_{0,2,3,1-4}^{(4)} A_{1,4,1-4}^{(1)} \right] \\
&+ \frac{2}{3} \left[3U_{4,0,4-0}^{(1)} B_{4-0,1,2,3}^{(1)} + U_{0,1,-0-1}^{(3)} B_{-0-1,4,2,3}^{(2)} + U_{0,2,-0-2}^{(3)} B_{-0-2,4,1,3}^{(2)} \right. \\
&\quad + U_{0,3,-0-3}^{(3)} B_{-0-3,4,1,2}^{(2)} + U_{0+1,0,1}^{(1)} B_{0+1,2,3,4}^{(3)} + U_{0+2,0,2}^{(1)} B_{0+2,1,3,4}^{(3)} \\
&\quad \left. + U_{0+3,0,3}^{(1)} B_{0+3,1,2,4}^{(3)} + 3U_{0,4,0-4}^{(1)} B_{0-4,1,2,3}^{(4)} \right].
\end{aligned}$$

$$\begin{aligned}
& X_{0,1,2,3,3}^{(5)} = \\
& = \frac{1}{3} \left[U_{-1-2,3+4,0}^{(1)} A_{1,2,-1-2}^{(3)} A_{3+4,3,4}^{(1)} + U_{-1-3,2+4,0}^{(1)} A_{1,3,-1-3}^{(3)} A_{2+4,2,4}^{(1)} \right. \\
& + U_{-1-4,2+3,0}^{(1)} A_{1,4,-1-4}^{(3)} A_{2+3,2,3}^{(1)} + U_{-2-3,1+4,0}^{(1)} A_{2,3,-2-3}^{(3)} A_{1+4,1,4}^{(1)} \\
& + U_{-2-4,1+3,0}^{(1)} A_{2,4,-2-4}^{(3)} A_{1+3,1,3}^{(1)} + U_{-3-4,1+2,0}^{(1)} A_{3,4,-3-4}^{(3)} A_{1+2,1,2}^{(1)} \\
& + U_{0,1+2,3+4}^{(3)} A_{1+2,1,2}^{(1)} A_{3+4,3,4}^{(1)} + U_{0,1+3,2+4}^{(3)} A_{1+3,1,3}^{(1)} A_{2+4,2,4}^{(1)} \\
& + U_{0,1+4,2+3}^{(3)} A_{1+4,1,4}^{(1)} A_{2+3,2,3}^{(1)} + U_{0,-1-2,-3-4}^{(1)} A_{1,2,-1-2}^{(3)} A_{3,4,-3-4}^{(3)} \\
& \left. + U_{0,-1-3,-2-4}^{(1)} A_{1,3,-1-3}^{(3)} A_{2,4,-2-4}^{(3)} + U_{0,-1-4,-2-3}^{(1)} A_{1,4,-1-4}^{(3)} A_{2,3,-2-3}^{(3)} \right] \\
& + \frac{1}{2} \left[V_{-1-2,4,3,0}^{(1)} A_{1,2,-1-2}^{(3)} + V_{-1-3,4,2,0}^{(1)} A_{1,3,-1-3}^{(3)} + V_{-1-4,3,2,0}^{(1)} A_{1,4,-1-4}^{(3)} \right. \\
& + V_{-2-3,4,1,0}^{(1)} A_{2,3,-2-3}^{(3)} + V_{-2-4,3,1,0}^{(1)} A_{2,4,-2-4}^{(3)} + V_{-3-4,2,1,0}^{(1)} A_{3,4,-3-4}^{(3)} \\
& + V_{0,1,2,3+4}^{(4)} A_{3+4,3,4}^{(1)} + V_{0,1,3,2+4}^{(4)} A_{2+4,2,4}^{(1)} + V_{0,1,4,2+3}^{(4)} A_{2+3,2,3}^{(1)} \\
& + V_{0,2,3,1+4}^{(4)} A_{1+4,1,4}^{(1)} + V_{0,2,4,1+3}^{(4)} A_{1+3,1,3}^{(1)} + V_{0,3,4,1+2}^{(4)} A_{1+2,1,2}^{(1)} \\
& + U_{0+1,0,1}^{(1)} B_{0+1,2,3,4}^{(4)} + U_{0+2,0,2}^{(1)} B_{0+2,1,3,4}^{(4)} + U_{0+3,0,3}^{(1)} B_{0+3,1,2,4}^{(4)} \\
& + U_{0+4,0,4}^{(1)} B_{0+4,1,2,3}^{(4)} + U_{0,1,-0-1}^{(3)} B_{-0-1,2,3,4}^{(1)} + U_{0,2,-0-2}^{(3)} B_{-0-2,1,3,4}^{(1)} \\
& \left. + U_{0,3,-0-3}^{(3)} B_{-0-3,1,2,4}^{(1)} + U_{0,4,-0-4}^{(3)} B_{-0-4,1,2,3}^{(1)} \right].
\end{aligned}$$

$$\begin{aligned}
P_{0,1,2,3,4} = & -\frac{1}{3} A_{0,2,0-2}^{(1)} \left[A_{3,1,3-1}^{(1)} A_{0-2,3-1,4}^{(1)} + A_{4,1,4-1}^{(1)} A_{0-2,4-1,3}^{(1)} \right. \\
& + A_{3+4,3,4}^{(1)} A_{3+4,0-2,1}^{(1)} - A_{3,4,-3-4}^{(3)} A_{0-2,-3-4,1}^{(3)} \left. \right] \\
& - \frac{2}{3} \frac{A_{2,0,2-0}^{(1)}}{\omega_{2-0} + \omega_3 + \omega_4 - \omega_1} \left[A_{1,3,1-3}^{(1)} U_{1-3,2-0,4}^{(1)} + A_{1,4,1-4}^{(1)} U_{1-4,2-0,3}^{(1)} \right. \\
& - A_{3+4,3,4}^{(1)} U_{1,2-0,3+4}^{(1)} - A_{3,4,-3-4}^{(3)} U_{2-0,-3-4,1}^{(1)} + A_{3,1,3-1}^{(1)} U_{4,2-0,3-1}^{(3)} \\
& \left. + A_{4,1,4-1}^{(1)} U_{3,2-0,4-1}^{(3)} - \frac{3}{2} V_{1,3,4,2-0}^{(1)} \right].
\end{aligned}$$

$$\begin{aligned}
Q_{0,1,2,3,4} = & A_{3,0,3-0}^{(1)} \left[A_{2,4,2-4}^{(1)} A_{3-0,2-4,1}^{(1)} + \frac{1}{2} A_{1+2,1,2}^{(1)} A_{1+2,3-0,4}^{(1)} \right. \\
& - \left. \frac{1}{2} A_{1,2,-1-2}^{(3)} A_{4,3-0,-1-2}^{(3)} \right] + A_{4,2,4-2}^{(1)} \left[A_{3,1,3-1}^{(1)} A_{0,4-2,3-1}^{(1)} \right. \\
& + A_{0,1,-0-1}^{(3)} A_{3,4-2,-0-1}^{(3)} - A_{1,3,1-3}^{(1)} A_{4-2,1-3,0}^{(1)} - A_{0,3,0-3}^{(1)} A_{4-2,0-3,1}^{(1)} \left. \right] \\
& + A_{0+2,0,2}^{(1)} \left[A_{3,1,3-1}^{(1)} A_{0+2,3-1,4}^{(1)} + A_{3+4,3,4}^{(1)} A_{3+4,0+2,1}^{(1)} \right. \\
& - A_{1,3,1-3}^{(1)} A_{4,0+2,1-3}^{(1)} - A_{1,4,1-4}^{(1)} A_{3,0+2,1-4}^{(1)} - A_{3,4,-3-4}^{(3)} A_{1,0+2,-3-4}^{(3)} \left. \right] \\
& - 2 \frac{A_{2,4,2-4}^{(1)}}{\omega_{2-4} + \omega_1 + \omega_0 - \omega_3} \left[A_{0,3,0-3}^{(1)} U_{1,0-3,2-4}^{(3)} + A_{1,3,1-3}^{(1)} U_{1-3,2-4,0}^{(3)} \right. \\
& + A_{3,0,3-0}^{(1)} U_{3-0,2-4,1}^{(1)} + A_{3,1,3-1}^{(1)} U_{3-1,2-4,0}^{(1)} - A_{0+1,0,1}^{(1)} U_{3,0+1,2-4}^{(1)} \\
& \left. - A_{0,1,-0-1}^{(3)} U_{2-4,-0-1,3}^{(1)} - \frac{3}{2} V_{3,0,1,2-4}^{(1)} \right] \\
& + 2 \frac{A_{0,3,0-3}^{(1)}}{\omega_{0-3} + \omega_1 + \omega_2 - \omega_4} \left[A_{4,2,4-2}^{(1)} U_{4-2,0-3,1}^{(1)} + A_{2,4,2-4}^{(1)} U_{1,0-3,2-4}^{(3)} \right.
\end{aligned}$$

$$\begin{aligned}
& - \frac{1}{2} A_{1+2,1,2}^{(1)} U_{4,1+2,0-3}^{(1)} - \frac{1}{2} A_{1,2,-1-2}^{(3)} U_{0-3,-1-2,4}^{(1)} - \frac{3}{4} V_{4,1,2,0-3}^{(1)} \Big] \\
& + 2 \frac{A_{0,2,-0-2}^{(3)}}{\omega_{0+2} + \omega_3 + \omega_4 - \omega_1} \left[A_{1,3,1-3}^{(1)} U_{1-3,-0-2,4}^{(1)} + A_{1,4,1-4}^{(1)} U_{1-4,-0-2,3}^{(1)} \right. \\
& + A_{3,1,3-1}^{(1)} U_{4,3-1,-0-2}^{(3)} + A_{4,1,4-1}^{(1)} U_{3,4-1,-0-2}^{(3)} - A_{3+4,3,4}^{(1)} U_{1,3+4,-0-2}^{(1)} \\
& \left. - A_{3,4,-3-4}^{(3)} U_{-0-2,-3-4,1}^{(1)} - \frac{3}{2} V_{1,3,4,-0-2}^{(1)} \right] \\
& + 2 \frac{A_{3+4,3,4}^{(1)}}{\omega_{3+4} - \omega_0 - \omega_1 - \omega_2} \left[A_{0+2,0,2}^{(1)} U_{3+4,0+2,1}^{(1)} + \frac{1}{2} A_{1+2,1,2}^{(1)} U_{3+4,1+2,0}^{(1)} \right. \\
& \left. + A_{0,2,-0-2}^{(3)} U_{1,3+4,-0-2}^{(1)} + \frac{1}{2} A_{1,2,-1-2}^{(3)} U_{0,3+4,-1-2}^{(1)} + \frac{3}{4} V_{3+4,2,1,0}^{(1)} \right] \\
& - 2 \frac{A_{3,4,-3-4}^{(3)}}{\omega_{3+4} + \omega_0 + \omega_1 + \omega_2} \left[A_{0+2,0,2}^{(1)} U_{-3-4,0+2,1}^{(3)} + \frac{1}{2} A_{1+2,1,2}^{(1)} U_{-3-4,1+2,0}^{(3)} \right. \\
& \left. + A_{0,2,-0-2}^{(3)} U_{-0-2,-3-4,1}^{(1)} + \frac{1}{2} A_{1,2,-1-2}^{(3)} U_{-1-2,-3-4,0}^{(1)} + \frac{3}{4} V_{0,1,2,-3-4}^{(4)} \right].
\end{aligned}$$