

$$\begin{aligned}
 F_2 [\{1, i0_, j0_ \}, \{-1, i1_, j1_ \}] &= - \frac{(\tau_1 - 1) \tau_2 (\tau_3 - 1) g_{1,j1,i0} g_{2,i1,i0} g_{3,j0,i1}}{\tau_1 (\tau_2 - 1)} + \frac{(\tau_1 - 1) (\tau_3 - 1) g_{1,j1,i0} g_{2,i1,j0} g_{3,j0,i1}}{\tau_1 (\tau_2 - 1)} + \\
 &\frac{(\tau_1 - 1) \tau_2 (\tau_3 - 1) g_{1,j1,i0} g_{2,j1,i0} g_{3,j0,i1}}{\tau_1 (\tau_2 - 1)} - \frac{(\tau_1 - 1) (\tau_3 - 1) g_{1,j1,i0} g_{2,j1,j0} g_{3,j0,i1}}{\tau_1 (\tau_2 - 1)};
 \end{aligned}$$