

A basis for the new $C_{\text{GF}}^7(\mathfrak{ham}_2, \mathfrak{sp}(2, \mathbb{R}))_8$:

$$\begin{aligned}
\widehat{\mathbf{w}}_1 &= z_1^0 z_1^1 z_3^0 z_3^2 z_3^3 z_4^2 z_7^3 + z_1^0 z_1^1 z_3^0 z_3^1 z_3^2 z_4^2 z_7^5 + \frac{1}{6} z_1^0 z_1^1 z_3^0 z_3^1 z_3^2 z_4^0 z_7^7 - \frac{2}{3} z_1^0 z_1^1 z_3^0 z_3^1 z_3^2 z_4^1 z_7^6 \\
&\quad - \frac{2}{3} z_1^0 z_1^1 z_3^0 z_3^1 z_3^2 z_4^3 z_7^4 + \frac{1}{6} z_1^0 z_1^1 z_3^0 z_3^1 z_3^2 z_4^4 z_7^3 - \frac{1}{6} z_1^0 z_1^1 z_3^0 z_3^1 z_3^3 z_4^0 z_7^6 + \frac{2}{3} z_1^0 z_1^1 z_3^0 z_3^1 z_3^3 z_4^1 z_7^5 \\
&\quad - z_1^0 z_1^1 z_3^0 z_3^1 z_3^3 z_4^2 z_7^4 + \frac{2}{3} z_1^0 z_1^1 z_3^0 z_3^1 z_3^3 z_4^3 z_7^3 - \frac{1}{6} z_1^0 z_1^1 z_3^0 z_3^1 z_3^3 z_4^4 z_7^2 + \frac{1}{6} z_1^0 z_1^1 z_3^0 z_3^2 z_3^3 z_4^0 z_7^5 \\
&\quad - \frac{2}{3} z_1^0 z_1^1 z_3^0 z_3^2 z_3^3 z_4^1 z_7^4 - \frac{2}{3} z_1^0 z_1^1 z_3^0 z_3^2 z_3^3 z_4^2 z_7^3 + \frac{1}{6} z_1^0 z_1^1 z_3^0 z_3^2 z_3^3 z_4^3 z_7^2 - \frac{1}{6} z_1^0 z_1^1 z_3^0 z_3^2 z_3^3 z_4^4 z_7^1 \\
&\quad + \frac{2}{3} z_1^0 z_1^1 z_3^1 z_3^2 z_3^3 z_4^1 z_7^3 - z_1^0 z_1^1 z_3^1 z_3^2 z_3^3 z_4^2 z_7^2 + \frac{2}{3} z_1^0 z_1^1 z_3^1 z_3^2 z_3^3 z_4^3 z_7^1 - \frac{1}{6} z_1^0 z_1^1 z_3^1 z_3^2 z_3^3 z_4^4 z_7^0 \\
\widehat{\mathbf{w}}_2 &= z_1^0 z_1^1 z_3^0 z_3^1 z_3^3 z_5^3 z_6^3 - \frac{3}{8} z_1^0 z_1^1 z_3^0 z_3^1 z_3^2 z_5^1 z_6^6 + \frac{3}{2} z_1^0 z_1^1 z_3^0 z_3^1 z_3^2 z_5^2 z_6^5 - \frac{9}{4} z_1^0 z_1^1 z_3^0 z_3^1 z_3^2 z_5^3 z_6^4 \\
&\quad + \frac{3}{2} z_1^0 z_1^1 z_3^0 z_3^1 z_3^2 z_5^4 z_6^3 - \frac{3}{8} z_1^0 z_1^1 z_3^0 z_3^1 z_3^2 z_5^5 z_6^2 + \frac{1}{8} z_1^0 z_1^1 z_3^0 z_3^1 z_3^3 z_5^0 z_6^6 - \frac{1}{4} z_1^0 z_1^1 z_3^0 z_3^1 z_3^3 z_5^1 z_6^5 \\
&\quad - \frac{1}{4} z_1^0 z_1^1 z_3^0 z_3^1 z_3^3 z_5^2 z_6^4 - \frac{7}{8} z_1^0 z_1^1 z_3^0 z_3^1 z_3^3 z_5^3 z_6^3 + \frac{1}{4} z_1^0 z_1^1 z_3^0 z_3^1 z_3^3 z_5^4 z_6^2 - \frac{1}{4} z_1^0 z_1^1 z_3^0 z_3^1 z_3^3 z_5^5 z_6^1 \\
&\quad + \frac{7}{8} z_1^0 z_1^1 z_3^0 z_3^2 z_3^3 z_5^1 z_6^4 - z_1^0 z_1^1 z_3^0 z_3^2 z_3^3 z_5^2 z_6^3 + \frac{1}{4} z_1^0 z_1^1 z_3^0 z_3^2 z_3^3 z_5^3 z_6^2 + \frac{1}{4} z_1^0 z_1^1 z_3^0 z_3^2 z_3^3 z_5^4 z_6^1 \\
&\quad - \frac{1}{8} z_1^0 z_1^1 z_3^0 z_3^2 z_3^3 z_5^5 z_6^0 + \frac{3}{8} z_1^0 z_1^1 z_3^1 z_3^2 z_3^3 z_5^0 z_6^4 - \frac{3}{2} z_1^0 z_1^1 z_3^1 z_3^2 z_3^3 z_5^1 z_6^3 + \frac{9}{4} z_1^0 z_1^1 z_3^1 z_3^2 z_3^3 z_5^2 z_6^2 \\
&\quad - \frac{3}{2} z_1^0 z_1^1 z_3^1 z_3^2 z_3^3 z_5^3 z_6^1 + \frac{3}{8} z_1^0 z_1^1 z_3^1 z_3^2 z_3^3 z_5^4 z_6^0 \\
\widehat{\mathbf{w}}_3 &= \frac{3}{4} z_1^0 z_1^1 z_3^0 z_3^1 z_4^1 z_4^2 z_6^6 - \frac{3}{2} z_1^0 z_1^1 z_3^0 z_3^1 z_4^1 z_4^3 z_6^5 + \frac{3}{4} z_1^0 z_1^1 z_3^0 z_3^1 z_4^1 z_4^4 z_6^4 - \frac{3}{2} z_1^0 z_1^1 z_3^0 z_3^1 z_4^2 z_4^4 z_6^3 \\
&\quad + \frac{3}{4} z_1^0 z_1^1 z_3^0 z_3^1 z_4^3 z_4^4 z_6^2 + \frac{9}{4} z_1^0 z_1^1 z_3^0 z_3^1 z_4^2 z_4^3 z_6^4 + \frac{3}{4} z_1^0 z_1^1 z_3^0 z_3^2 z_4^0 z_4^3 z_6^5 - \frac{3}{8} z_1^0 z_1^1 z_3^0 z_3^2 z_4^1 z_4^2 z_6^6 \\
&\quad - \frac{3}{8} z_1^0 z_1^1 z_3^0 z_3^2 z_4^2 z_4^4 z_6^4 - \frac{3}{2} z_1^0 z_1^1 z_3^0 z_3^2 z_4^3 z_4^3 z_6^3 + \frac{9}{8} z_1^0 z_1^1 z_3^0 z_3^2 z_4^4 z_4^2 z_6^2 - \frac{3}{4} z_1^0 z_1^1 z_3^0 z_3^2 z_4^4 z_4^1 z_6^1 \\
&\quad + \frac{1}{16} z_1^0 z_1^1 z_3^0 z_3^3 z_4^1 z_4^6 z_6^6 + \frac{3}{16} z_1^0 z_1^1 z_3^0 z_3^3 z_4^2 z_4^5 z_6^5 + \frac{5}{16} z_1^0 z_1^1 z_3^0 z_3^3 z_4^3 z_4^4 z_6^4 - \frac{9}{16} z_1^0 z_1^1 z_3^0 z_3^3 z_4^4 z_4^3 z_6^4 \\
&\quad - \frac{3}{8} z_1^0 z_1^1 z_3^0 z_3^3 z_4^4 z_4^2 z_6^4 + z_1^0 z_1^1 z_3^0 z_3^3 z_4^4 z_4^3 z_6^3 - \frac{9}{16} z_1^0 z_1^1 z_3^0 z_3^3 z_4^4 z_4^2 z_6^2 - \frac{3}{8} z_1^0 z_1^1 z_3^0 z_3^3 z_4^4 z_4^1 z_6^1 \\
&\quad + \frac{3}{16} z_1^0 z_1^1 z_3^0 z_3^3 z_4^4 z_4^1 z_6^1 + \frac{1}{16} z_1^0 z_1^1 z_3^0 z_3^3 z_4^4 z_4^0 z_6^0 + \frac{9}{16} z_1^0 z_1^1 z_3^1 z_3^2 z_4^0 z_4^1 z_6^6 - \frac{9}{16} z_1^0 z_1^1 z_3^1 z_3^2 z_4^1 z_4^2 z_6^5 \\
&\quad - \frac{9}{16} z_1^0 z_1^1 z_3^1 z_3^2 z_4^2 z_4^3 z_6^4 + \frac{9}{16} z_1^0 z_1^1 z_3^1 z_3^2 z_4^3 z_4^4 z_6^3 + \frac{9}{8} z_1^0 z_1^1 z_3^1 z_3^2 z_4^4 z_4^4 z_6^2 - \frac{9}{16} z_1^0 z_1^1 z_3^1 z_3^2 z_4^4 z_4^3 z_6^1 \\
&\quad + \frac{9}{8} z_1^0 z_1^1 z_3^1 z_3^2 z_4^4 z_4^2 z_6^1 - \frac{9}{16} z_1^0 z_1^1 z_3^1 z_3^2 z_4^4 z_4^1 z_6^0 + \frac{9}{16} z_1^0 z_1^1 z_3^1 z_3^2 z_4^4 z_4^0 z_6^0 - \frac{3}{4} z_1^0 z_1^1 z_3^1 z_3^3 z_4^0 z_4^1 z_6^5 \\
&\quad + \frac{9}{8} z_1^0 z_1^1 z_3^1 z_3^3 z_4^0 z_4^2 z_6^4 - \frac{3}{8} z_1^0 z_1^1 z_3^1 z_3^3 z_4^0 z_4^3 z_6^3 + \frac{3}{2} z_1^0 z_1^1 z_3^1 z_3^3 z_4^1 z_4^2 z_6^2 + \frac{3}{4} z_1^0 z_1^1 z_3^1 z_3^3 z_4^1 z_4^1 z_6^1 \\
&\quad - \frac{3}{8} z_1^0 z_1^1 z_3^1 z_3^3 z_4^2 z_4^4 z_6^0 + \frac{3}{4} z_1^0 z_1^1 z_3^1 z_3^3 z_4^3 z_4^4 z_6^3 - \frac{3}{2} z_1^0 z_1^1 z_3^1 z_3^3 z_4^4 z_4^4 z_6^2 + \frac{3}{4} z_1^0 z_1^1 z_3^1 z_3^3 z_4^4 z_4^3 z_6^1 \\
&\quad + \frac{9}{4} z_1^0 z_1^1 z_3^2 z_3^3 z_4^1 z_4^2 z_6^2 - \frac{3}{2} z_1^0 z_1^1 z_3^2 z_3^3 z_4^1 z_4^3 z_6^1 + \frac{3}{4} z_1^0 z_1^1 z_3^2 z_3^3 z_4^2 z_4^3 z_6^0
\end{aligned}$$

$$\begin{aligned}
\widehat{w}_4 = & \frac{1}{4}z_1^0z_1^1z_3^0z_3^1z_4^2z_4^6 - \frac{1}{2}z_1^0z_1^1z_3^0z_3^1z_4^3z_4^5 + \frac{1}{4}z_1^0z_1^1z_3^0z_3^1z_4^4z_4^4 - \frac{1}{2}z_1^0z_1^1z_3^0z_3^1z_4^4z_4^3 \\
& + \frac{1}{4}z_1^0z_1^1z_3^0z_3^1z_4^4z_4^2 + \frac{3}{4}z_1^0z_1^1z_3^0z_3^1z_4^2z_4^3z_4^4 + \frac{1}{4}z_1^0z_1^1z_3^0z_3^1z_4^2z_4^3z_4^5 - \frac{1}{8}z_1^0z_1^1z_3^0z_3^1z_4^2z_4^2z_4^6 \\
& - \frac{1}{8}z_1^0z_1^1z_3^0z_3^1z_4^2z_4^4z_4^4 - \frac{1}{2}z_1^0z_1^1z_3^0z_3^1z_4^2z_4^3z_4^3 + \frac{3}{8}z_1^0z_1^1z_3^0z_3^1z_4^2z_4^4z_4^2 - \frac{1}{4}z_1^0z_1^1z_3^0z_3^1z_4^2z_4^4z_4^1 \\
& + \frac{1}{16}z_1^0z_1^1z_3^0z_3^1z_4^2z_4^6 - \frac{1}{16}z_1^0z_1^1z_3^0z_3^1z_4^2z_4^5 + \frac{1}{16}z_1^0z_1^1z_3^0z_3^1z_4^2z_4^3z_4^3 - \frac{1}{16}z_1^0z_1^1z_3^0z_3^1z_4^2z_4^3z_4^4 \\
& + \frac{1}{8}z_1^0z_1^1z_3^0z_3^1z_4^2z_4^4 - \frac{1}{16}z_1^0z_1^1z_3^0z_3^1z_4^2z_4^4z_4^2 + \frac{1}{8}z_1^0z_1^1z_3^0z_3^1z_4^2z_4^3z_4^2 - \frac{1}{16}z_1^0z_1^1z_3^0z_3^1z_4^2z_4^4z_4^1 \\
& + \frac{1}{16}z_1^0z_1^1z_3^0z_3^1z_4^2z_4^4z_4^0 + \frac{1}{16}z_1^0z_1^1z_3^0z_3^1z_4^2z_4^4z_4^6 + \frac{3}{16}z_1^0z_1^1z_3^0z_3^1z_4^2z_4^4z_4^5 - \frac{9}{16}z_1^0z_1^1z_3^0z_3^1z_4^2z_4^4z_4^3 \\
& + \frac{5}{16}z_1^0z_1^1z_3^0z_3^1z_4^2z_4^4z_4^3 - \frac{3}{8}z_1^0z_1^1z_3^0z_3^1z_4^2z_4^4z_4^4 + z_1^0z_1^1z_3^0z_3^1z_4^2z_4^4z_4^3 - \frac{9}{16}z_1^0z_1^1z_3^0z_3^1z_4^2z_4^4z_4^2 \\
& - \frac{3}{8}z_1^0z_1^1z_3^0z_3^1z_4^2z_4^4z_4^2 + \frac{3}{16}z_1^0z_1^1z_3^0z_3^1z_4^2z_4^4z_4^1 + \frac{1}{16}z_1^0z_1^1z_3^0z_3^1z_4^2z_4^4z_4^0 - \frac{1}{4}z_1^0z_1^1z_3^0z_3^1z_4^2z_4^4z_4^5 \\
& + \frac{3}{8}z_1^0z_1^1z_3^0z_3^1z_4^2z_4^4z_4^6 - \frac{1}{8}z_1^0z_1^1z_3^0z_3^1z_4^2z_4^4z_4^2 - \frac{1}{2}z_1^0z_1^1z_3^0z_3^1z_4^2z_4^4z_4^3 + \frac{1}{4}z_1^0z_1^1z_3^0z_3^1z_4^2z_4^4z_4^1 \\
& - \frac{1}{8}z_1^0z_1^1z_3^0z_3^1z_4^2z_4^4z_4^0 + \frac{1}{4}z_1^0z_1^1z_3^0z_3^1z_4^2z_4^4z_4^6 - \frac{1}{2}z_1^0z_1^1z_3^0z_3^1z_4^2z_4^4z_4^3 + \frac{1}{4}z_1^0z_1^1z_3^0z_3^1z_4^2z_4^4z_4^2 \\
& + \frac{3}{4}z_1^0z_1^1z_3^0z_3^1z_4^2z_4^4z_4^2 - \frac{1}{2}z_1^0z_1^1z_3^0z_3^1z_4^2z_4^4z_4^1 + \frac{1}{4}z_1^0z_1^1z_3^0z_3^1z_4^2z_4^4z_4^0
\end{aligned}$$

$$\begin{aligned}
\widehat{w}_5 = & \frac{1}{2}z_1^0z_1^1z_3^0z_3^1z_4^4z_4^5 - \frac{1}{2}z_1^0z_1^1z_3^0z_3^1z_4^4z_4^3z_4^6 + 3z_1^0z_1^1z_3^0z_3^1z_4^4z_4^2z_4^6 - 4z_1^0z_1^1z_3^0z_3^1z_4^4z_4^3z_4^5 \\
& + z_1^0z_1^1z_3^0z_3^1z_4^4z_4^4 - 3z_1^0z_1^1z_3^0z_3^1z_4^4z_4^3z_4^6 + \frac{3}{2}z_1^0z_1^1z_3^0z_3^1z_4^4z_4^2z_4^6 + 6z_1^0z_1^1z_3^0z_3^1z_4^4z_4^3z_4^4 \\
& + \frac{5}{2}z_1^0z_1^1z_3^0z_3^1z_4^4z_4^3z_4^5 - \frac{3}{4}z_1^0z_1^1z_3^0z_3^1z_4^4z_4^2z_4^6 - \frac{7}{4}z_1^0z_1^1z_3^0z_3^1z_4^4z_4^4 - 3z_1^0z_1^1z_3^0z_3^1z_4^4z_4^2z_4^5 \\
& + 2z_1^0z_1^1z_3^0z_3^1z_4^4z_4^3z_4^4 + z_1^0z_1^1z_3^0z_3^1z_4^4z_4^3z_4^6 - 6z_1^0z_1^1z_3^0z_3^1z_4^4z_4^2z_4^3z_4^3 + \frac{9}{4}z_1^0z_1^1z_3^0z_3^1z_4^4z_4^2z_4^6 \\
& - \frac{3}{2}z_1^0z_1^1z_3^0z_3^1z_4^4z_4^1z_4^6 + \frac{1}{4}z_1^0z_1^1z_3^0z_3^1z_4^4z_4^1z_4^6 + z_1^0z_1^1z_3^0z_3^1z_4^4z_4^3z_4^3 - \frac{5}{4}z_1^0z_1^1z_3^0z_3^1z_4^4z_4^3z_4^4 \\
& + \frac{3}{2}z_1^0z_1^1z_3^0z_3^1z_4^4z_4^2z_4^4 - \frac{5}{4}z_1^0z_1^1z_3^0z_3^1z_4^4z_4^2z_4^6 + \frac{3}{2}z_1^0z_1^1z_3^0z_3^1z_4^4z_4^3z_4^2 + \frac{1}{4}z_1^0z_1^1z_3^0z_3^1z_4^4z_4^3z_4^0 \\
& + \frac{3}{4}z_1^0z_1^1z_3^0z_3^1z_4^4z_4^1z_4^6 - \frac{15}{4}z_1^0z_1^1z_3^0z_3^1z_4^4z_4^3z_4^4 + 3z_1^0z_1^1z_3^0z_3^1z_4^4z_4^2z_4^3z_4^3 + \frac{9}{2}z_1^0z_1^1z_3^0z_3^1z_4^4z_4^2z_4^4 \\
& - \frac{15}{4}z_1^0z_1^1z_3^0z_3^1z_4^4z_4^1z_4^2z_4^6 + \frac{9}{2}z_1^0z_1^1z_3^0z_3^1z_4^4z_4^1z_4^2z_4^6 + \frac{3}{4}z_1^0z_1^1z_3^0z_3^1z_4^4z_4^1z_4^2z_4^0 - \frac{3}{2}z_1^0z_1^1z_3^0z_3^1z_4^4z_4^1z_4^5 \\
& + \frac{9}{4}z_1^0z_1^1z_3^0z_3^1z_4^4z_4^1z_4^2z_4^4 + z_1^0z_1^1z_3^0z_3^1z_4^4z_4^1z_4^3z_4^3 - \frac{7}{4}z_1^0z_1^1z_3^0z_3^1z_4^4z_4^1z_4^2z_4^6 - 6z_1^0z_1^1z_3^0z_3^1z_4^4z_4^1z_4^2z_4^3 \\
& + 2z_1^0z_1^1z_3^0z_3^1z_4^4z_4^1z_4^3z_4^2 + \frac{5}{2}z_1^0z_1^1z_3^0z_3^1z_4^4z_4^1z_4^1z_4^6 - 3z_1^0z_1^1z_3^0z_3^1z_4^4z_4^1z_4^3z_4^1 - \frac{3}{4}z_1^0z_1^1z_3^0z_3^1z_4^4z_4^1z_4^4z_4^0 \\
& + \frac{3}{2}z_1^0z_1^1z_3^0z_3^1z_4^4z_4^1z_4^4z_4^4 - 3z_1^0z_1^1z_3^0z_3^1z_4^4z_4^1z_4^2z_4^3 + z_1^0z_1^1z_3^0z_3^1z_4^4z_4^1z_4^3z_4^2 + \frac{1}{2}z_1^0z_1^1z_3^0z_3^1z_4^4z_4^1z_4^1z_4^6 \\
& + 6z_1^0z_1^1z_3^0z_3^1z_4^4z_4^1z_4^2z_4^2 - 4z_1^0z_1^1z_3^0z_3^1z_4^4z_4^1z_4^3z_4^1 - \frac{1}{2}z_1^0z_1^1z_3^0z_3^1z_4^4z_4^1z_4^4z_4^0 + 3z_1^0z_1^1z_3^0z_3^1z_4^4z_4^1z_4^3z_4^0
\end{aligned}$$

$$\begin{aligned}
\widehat{\mathbf{w}}_6 = & -z_1^0 z_1^1 z_3^0 z_3^1 z_4^0 z_5^4 z_5^5 + 2z_1^0 z_1^1 z_3^0 z_3^1 z_4^1 z_5^3 z_5^5 - 3z_1^0 z_1^1 z_3^0 z_3^1 z_4^2 z_5^2 z_5^5 + 3z_1^0 z_1^1 z_3^0 z_3^1 z_4^2 z_5^3 z_5^4 \\
& - 2z_1^0 z_1^1 z_3^0 z_3^1 z_4^3 z_5^2 z_5^4 - \frac{1}{10} z_1^0 z_1^1 z_3^0 z_3^1 z_4^4 z_5^0 z_5^5 + 2z_1^0 z_1^1 z_3^0 z_3^1 z_4^4 z_5^1 z_5^5 - \frac{3}{2} z_1^0 z_1^1 z_3^0 z_3^1 z_4^4 z_5^1 z_5^4 \\
& + 4z_1^0 z_1^1 z_3^0 z_3^1 z_4^4 z_5^2 z_5^3 + z_1^0 z_1^1 z_3^0 z_3^1 z_4^4 z_5^3 z_5^5 - 8z_1^0 z_1^1 z_3^0 z_3^1 z_4^4 z_5^3 z_5^4 + 6z_1^0 z_1^1 z_3^0 z_3^1 z_4^4 z_5^2 z_5^4 \\
& - \frac{4}{5} z_1^0 z_1^1 z_3^0 z_3^1 z_4^4 z_5^0 z_5^5 - 4z_1^0 z_1^1 z_3^0 z_3^1 z_4^4 z_5^1 z_5^3 + z_1^0 z_1^1 z_3^0 z_3^1 z_4^4 z_5^1 z_5^4 - z_1^0 z_1^1 z_3^0 z_3^1 z_4^4 z_5^1 z_5^3 \\
& + \frac{13}{2} z_1^0 z_1^1 z_3^0 z_3^1 z_4^4 z_5^3 z_5^4 - \frac{5}{2} z_1^0 z_1^1 z_3^0 z_3^1 z_4^4 z_5^2 z_5^5 + 4z_1^0 z_1^1 z_3^0 z_3^1 z_4^4 z_5^1 z_5^5 - 6z_1^0 z_1^1 z_3^0 z_3^1 z_4^4 z_5^2 z_5^4 \\
& - \frac{8}{5} z_1^0 z_1^1 z_3^0 z_3^1 z_4^4 z_5^0 z_5^5 - 4z_1^0 z_1^1 z_3^0 z_3^1 z_4^4 z_5^1 z_5^4 + 14z_1^0 z_1^1 z_3^0 z_3^1 z_4^4 z_5^2 z_5^3 + 4z_1^0 z_1^1 z_3^0 z_3^1 z_4^4 z_5^2 z_5^4 \\
& - 6z_1^0 z_1^1 z_3^0 z_3^1 z_4^4 z_5^3 z_5^5 - \frac{5}{2} z_1^0 z_1^1 z_3^0 z_3^1 z_4^4 z_5^0 z_5^3 + \frac{13}{2} z_1^0 z_1^1 z_3^0 z_3^1 z_4^4 z_5^1 z_5^2 + \frac{9}{2} z_1^0 z_1^1 z_3^0 z_3^1 z_4^4 z_5^2 z_5^5 \\
& - \frac{33}{2} z_1^0 z_1^1 z_3^0 z_3^1 z_4^4 z_5^3 z_5^4 - 12z_1^0 z_1^1 z_3^0 z_3^1 z_4^4 z_5^1 z_5^5 + 30z_1^0 z_1^1 z_3^0 z_3^1 z_4^4 z_5^2 z_5^4 + \frac{36}{5} z_1^0 z_1^1 z_3^0 z_3^1 z_4^4 z_5^0 z_5^5 \\
& - 54z_1^0 z_1^1 z_3^0 z_3^1 z_4^4 z_5^2 z_5^3 - 12z_1^0 z_1^1 z_3^0 z_3^1 z_4^4 z_5^3 z_5^4 + 30z_1^0 z_1^1 z_3^0 z_3^1 z_4^4 z_5^1 z_5^5 + \frac{9}{2} z_1^0 z_1^1 z_3^0 z_3^1 z_4^4 z_5^2 z_5^3 \\
& - \frac{33}{2} z_1^0 z_1^1 z_3^0 z_3^1 z_4^4 z_5^1 z_5^2 + z_1^0 z_1^1 z_3^0 z_3^1 z_4^4 z_5^1 z_5^5 - z_1^0 z_1^1 z_3^0 z_3^1 z_4^4 z_5^2 z_5^4 - \frac{4}{5} z_1^0 z_1^1 z_3^0 z_3^1 z_4^4 z_5^1 z_5^5 \\
& - 4z_1^0 z_1^1 z_3^0 z_3^1 z_4^4 z_5^2 z_5^3 + 6z_1^0 z_1^1 z_3^0 z_3^1 z_4^4 z_5^1 z_5^3 - 8z_1^0 z_1^1 z_3^0 z_3^1 z_4^4 z_5^1 z_5^2 + z_1^0 z_1^1 z_3^0 z_3^1 z_4^4 z_5^0 z_5^2 \\
& - \frac{1}{10} z_1^0 z_1^1 z_3^0 z_3^1 z_4^4 z_5^0 z_5^5 + 4z_1^0 z_1^1 z_3^0 z_3^1 z_4^4 z_5^1 z_5^3 + 2z_1^0 z_1^1 z_3^0 z_3^1 z_4^4 z_5^1 z_5^4 - \frac{3}{2} z_1^0 z_1^1 z_3^0 z_3^1 z_4^4 z_5^1 z_5^4 \\
& - 2z_1^0 z_1^1 z_3^0 z_3^1 z_4^4 z_5^1 z_5^3 - 3z_1^0 z_1^1 z_3^0 z_3^1 z_4^4 z_5^0 z_5^3 + 3z_1^0 z_1^1 z_3^0 z_3^1 z_4^4 z_5^1 z_5^2 + 2z_1^0 z_1^1 z_3^0 z_3^1 z_4^4 z_5^2 z_5^2 \\
& - z_1^0 z_1^1 z_3^0 z_3^1 z_4^4 z_5^0 z_5^1
\end{aligned}$$

$$\begin{aligned}
\widehat{\mathbf{w}}_7 = & 4z_1^0 z_1^1 z_3^0 z_3^1 z_4^2 z_5^1 z_5^3 + z_1^0 z_1^1 z_3^0 z_3^1 z_4^2 z_5^0 z_5^3 - 3z_1^0 z_1^1 z_3^0 z_3^1 z_4^2 z_5^1 z_5^2 + \frac{2}{3} z_1^0 z_1^1 z_3^0 z_3^1 z_4^2 z_5^0 z_5^4 \\
& - \frac{4}{3} z_1^0 z_1^1 z_3^0 z_3^1 z_4^2 z_5^1 z_5^3 + z_1^0 z_1^1 z_3^0 z_3^1 z_4^2 z_5^1 z_5^4 - \frac{1}{3} z_1^0 z_1^1 z_3^0 z_3^1 z_4^2 z_5^2 z_5^5 + z_1^0 z_1^1 z_3^0 z_3^1 z_4^2 z_5^3 z_5^4 \\
& + \frac{2}{3} z_1^0 z_1^1 z_3^0 z_3^1 z_4^2 z_5^1 z_5^5 - \frac{4}{3} z_1^0 z_1^1 z_3^0 z_3^1 z_4^2 z_5^2 z_5^4 - \frac{1}{3} z_1^0 z_1^1 z_3^0 z_3^1 z_4^2 z_5^2 z_5^5 - \frac{1}{3} z_1^0 z_1^1 z_3^0 z_3^1 z_4^2 z_5^1 z_5^4 \\
& + \frac{8}{3} z_1^0 z_1^1 z_3^0 z_3^1 z_4^2 z_5^2 z_5^3 - 2z_1^0 z_1^1 z_3^0 z_3^1 z_4^2 z_5^0 z_5^4 + z_1^0 z_1^1 z_3^0 z_3^1 z_4^2 z_5^2 z_5^5 - 3z_1^0 z_1^1 z_3^0 z_3^1 z_4^2 z_5^3 z_5^4 \\
& - 2z_1^0 z_1^1 z_3^0 z_3^1 z_4^2 z_5^1 z_5^5 + 4z_1^0 z_1^1 z_3^0 z_3^1 z_4^2 z_5^1 z_5^4 + z_1^0 z_1^1 z_3^0 z_3^1 z_4^2 z_5^0 z_5^5 - 8z_1^0 z_1^1 z_3^0 z_3^1 z_4^2 z_5^2 z_5^3 \\
& - \frac{1}{3} z_1^0 z_1^1 z_3^0 z_3^1 z_4^2 z_5^3 z_5^4 + z_1^0 z_1^1 z_3^0 z_3^1 z_4^2 z_5^1 z_5^2
\end{aligned}$$

$$\begin{aligned}
\widehat{w}_8 = & \frac{1}{10} z_1^0 z_1^1 z_3^0 z_3^1 z_4^1 z_5^0 z_5^5 - \frac{1}{2} z_1^0 z_1^1 z_3^0 z_3^1 z_4^1 z_5^1 z_5^4 + z_1^0 z_1^1 z_3^0 z_3^1 z_4^2 z_5^2 z_5^3 - \frac{1}{5} z_1^0 z_1^1 z_3^0 z_3^1 z_4^2 z_5^3 z_5^5 \\
& + z_1^0 z_1^1 z_3^0 z_3^2 z_4^1 z_5^1 z_5^4 - 2z_1^0 z_1^1 z_3^0 z_3^2 z_4^2 z_5^2 z_5^3 + \frac{3}{2} z_1^0 z_1^1 z_3^0 z_3^3 z_4^0 z_5^3 z_5^4 - \frac{1}{2} z_1^0 z_1^1 z_3^0 z_3^3 z_4^0 z_5^2 z_5^5 \\
& + z_1^0 z_1^1 z_3^0 z_3^3 z_4^1 z_5^1 z_5^5 - 2z_1^0 z_1^1 z_3^0 z_3^3 z_4^2 z_5^2 z_5^4 - \frac{2}{5} z_1^0 z_1^1 z_3^0 z_3^3 z_4^2 z_5^0 z_5^5 - z_1^0 z_1^1 z_3^0 z_3^3 z_4^2 z_5^1 z_5^4 \\
& + 5z_1^0 z_1^1 z_3^0 z_3^3 z_4^2 z_5^2 z_5^3 + z_1^0 z_1^1 z_3^0 z_3^3 z_4^2 z_5^0 z_5^4 - 2z_1^0 z_1^1 z_3^0 z_3^3 z_4^2 z_5^1 z_5^3 - \frac{1}{2} z_1^0 z_1^1 z_3^0 z_3^3 z_4^2 z_5^2 z_5^5 \\
& + \frac{3}{2} z_1^0 z_1^1 z_3^0 z_3^3 z_4^1 z_5^1 z_5^2 + \frac{3}{2} z_1^0 z_1^1 z_3^1 z_3^2 z_4^0 z_5^2 z_5^5 - \frac{9}{2} z_1^0 z_1^1 z_3^1 z_3^2 z_4^0 z_5^3 z_5^4 - 3z_1^0 z_1^1 z_3^1 z_3^2 z_4^1 z_5^1 z_5^5 \\
& + 6z_1^0 z_1^1 z_3^1 z_3^2 z_4^1 z_5^2 z_5^4 + \frac{9}{5} z_1^0 z_1^1 z_3^1 z_3^2 z_4^2 z_5^0 z_5^5 - 9z_1^0 z_1^1 z_3^1 z_3^2 z_4^2 z_5^2 z_5^3 - 3z_1^0 z_1^1 z_3^1 z_3^2 z_4^2 z_5^3 z_5^4 \\
& + 6z_1^0 z_1^1 z_3^1 z_3^2 z_4^3 z_5^1 z_5^3 + \frac{3}{2} z_1^0 z_1^1 z_3^1 z_3^2 z_4^4 z_5^0 z_5^3 - \frac{9}{2} z_1^0 z_1^1 z_3^1 z_3^2 z_4^4 z_5^1 z_5^2 - \frac{1}{5} z_1^0 z_1^1 z_3^1 z_3^2 z_4^4 z_5^2 z_5^5 \\
& + z_1^0 z_1^1 z_3^1 z_3^3 z_4^1 z_5^1 z_5^4 - 2z_1^0 z_1^1 z_3^1 z_3^3 z_4^2 z_5^2 z_5^3 + \frac{1}{10} z_1^0 z_1^1 z_3^2 z_3^3 z_4^0 z_5^0 z_5^5 + z_1^0 z_1^1 z_3^2 z_3^3 z_4^0 z_5^2 z_5^3 \\
& - \frac{1}{2} z_1^0 z_1^1 z_3^2 z_3^3 z_4^1 z_5^1 z_5^4
\end{aligned}$$

$$\begin{aligned}
\widehat{w}_9 = & \frac{1}{2} z_1^0 z_1^1 z_3^0 z_3^1 z_4^0 z_5^4 z_5^5 - z_1^0 z_1^1 z_3^0 z_3^1 z_4^1 z_5^3 z_5^5 + \frac{1}{2} z_1^0 z_1^1 z_3^0 z_3^1 z_4^2 z_5^2 z_5^5 + \frac{3}{2} z_1^0 z_1^1 z_3^0 z_3^1 z_4^2 z_5^3 z_5^4 \\
& - z_1^0 z_1^1 z_3^0 z_3^1 z_4^3 z_5^2 z_5^4 - \frac{1}{10} z_1^0 z_1^1 z_3^0 z_3^1 z_4^4 z_5^0 z_5^5 + \frac{1}{2} z_1^0 z_1^1 z_3^0 z_3^1 z_4^4 z_5^1 z_5^4 - \frac{1}{2} z_1^0 z_1^1 z_3^0 z_3^1 z_4^4 z_5^2 z_5^3 \\
& - \frac{1}{2} z_1^0 z_1^1 z_3^0 z_3^2 z_4^0 z_5^3 z_5^5 + z_1^0 z_1^1 z_3^0 z_3^2 z_4^1 z_5^2 z_5^5 + z_1^0 z_1^1 z_3^0 z_3^2 z_4^1 z_5^3 z_5^4 - \frac{1}{2} z_1^0 z_1^1 z_3^0 z_3^2 z_4^1 z_5^4 z_5^5 \\
& - 2z_1^0 z_1^1 z_3^0 z_3^2 z_4^2 z_5^2 z_5^4 + \frac{1}{5} z_1^0 z_1^1 z_3^0 z_3^2 z_4^2 z_5^0 z_5^5 + 3z_1^0 z_1^1 z_3^0 z_3^2 z_4^2 z_5^1 z_5^3 - \frac{1}{2} z_1^0 z_1^1 z_3^0 z_3^2 z_4^2 z_5^1 z_5^5 \\
& - 3z_1^0 z_1^1 z_3^0 z_3^2 z_4^3 z_5^0 z_5^4 + \frac{7}{6} z_1^0 z_1^1 z_3^0 z_3^2 z_4^3 z_5^1 z_5^5 - \frac{7}{3} z_1^0 z_1^1 z_3^0 z_3^2 z_4^3 z_5^1 z_5^5 + \frac{11}{3} z_1^0 z_1^1 z_3^0 z_3^2 z_4^3 z_5^2 z_5^4 \\
& + \frac{16}{15} z_1^0 z_1^1 z_3^0 z_3^2 z_4^4 z_5^0 z_5^5 + \frac{13}{6} z_1^0 z_1^1 z_3^0 z_3^2 z_4^4 z_5^1 z_5^4 - \frac{53}{6} z_1^0 z_1^1 z_3^0 z_3^2 z_4^4 z_5^2 z_5^3 - \frac{7}{3} z_1^0 z_1^1 z_3^0 z_3^2 z_4^4 z_5^2 z_5^5 \\
& + \frac{11}{3} z_1^0 z_1^1 z_3^0 z_3^2 z_4^4 z_5^3 z_5^4 + \frac{7}{6} z_1^0 z_1^1 z_3^0 z_3^2 z_4^4 z_5^0 z_5^5 - 3z_1^0 z_1^1 z_3^0 z_3^2 z_4^4 z_5^1 z_5^2 - 3z_1^0 z_1^1 z_3^0 z_3^2 z_4^4 z_5^2 z_5^5 \\
& + \frac{21}{2} z_1^0 z_1^1 z_3^1 z_3^2 z_4^0 z_5^3 z_5^4 + 6z_1^0 z_1^1 z_3^1 z_3^2 z_4^1 z_5^1 z_5^5 - 15z_1^0 z_1^1 z_3^1 z_3^2 z_4^1 z_5^2 z_5^4 - \frac{33}{10} z_1^0 z_1^1 z_3^1 z_3^2 z_4^1 z_5^2 z_5^5 \\
& + \frac{51}{2} z_1^0 z_1^1 z_3^1 z_3^2 z_4^2 z_5^2 z_5^3 + 6z_1^0 z_1^1 z_3^1 z_3^2 z_4^2 z_5^0 z_5^4 - 15z_1^0 z_1^1 z_3^1 z_3^2 z_4^2 z_5^1 z_5^3 - 3z_1^0 z_1^1 z_3^1 z_3^2 z_4^2 z_5^1 z_5^5 \\
& + \frac{21}{2} z_1^0 z_1^1 z_3^1 z_3^2 z_4^3 z_5^1 z_5^2 - \frac{1}{2} z_1^0 z_1^1 z_3^1 z_3^2 z_4^3 z_5^0 z_5^4 + \frac{1}{5} z_1^0 z_1^1 z_3^1 z_3^2 z_4^3 z_5^0 z_5^5 + 3z_1^0 z_1^1 z_3^1 z_3^2 z_4^3 z_5^1 z_5^3 \\
& - 2z_1^0 z_1^1 z_3^1 z_3^2 z_4^3 z_5^1 z_5^5 - \frac{1}{2} z_1^0 z_1^1 z_3^1 z_3^2 z_4^4 z_5^0 z_5^4 + z_1^0 z_1^1 z_3^1 z_3^2 z_4^4 z_5^0 z_5^5 + z_1^0 z_1^1 z_3^1 z_3^2 z_4^4 z_5^1 z_5^2 \\
& - \frac{1}{2} z_1^0 z_1^1 z_3^1 z_3^2 z_4^4 z_5^1 z_5^5 - \frac{1}{10} z_1^0 z_1^1 z_3^1 z_3^2 z_4^4 z_5^2 z_5^5 - \frac{1}{2} z_1^0 z_1^1 z_3^1 z_3^2 z_4^4 z_5^2 z_5^3 + \frac{1}{2} z_1^0 z_1^1 z_3^1 z_3^2 z_4^4 z_5^2 z_5^5 \\
& - z_1^0 z_1^1 z_3^1 z_3^2 z_4^4 z_5^3 z_5^4 + \frac{1}{2} z_1^0 z_1^1 z_3^1 z_3^2 z_4^4 z_5^0 z_5^5 + \frac{3}{2} z_1^0 z_1^1 z_3^1 z_3^2 z_4^4 z_5^1 z_5^2 - z_1^0 z_1^1 z_3^1 z_3^2 z_4^4 z_5^2 z_5^5 \\
& + \frac{1}{2} z_1^0 z_1^1 z_3^1 z_3^2 z_4^4 z_5^3 z_5^4
\end{aligned}$$

$$\begin{aligned}
\widehat{\mathbf{w}}_{10} = & \frac{1}{9}z_1^0z_1^1z_3^0z_4^0z_4^1z_4^2z_5^5 - \frac{1}{9}z_1^0z_1^1z_3^0z_4^0z_4^2z_4^3z_5^5 - \frac{2}{9}z_1^0z_1^1z_3^0z_4^0z_4^2z_4^4z_5^4 + \frac{2}{9}z_1^0z_1^1z_3^0z_4^0z_4^3z_4^4z_5^3 \\
& + \frac{4}{9}z_1^0z_1^1z_3^0z_4^1z_4^2z_4^3z_5^4 + \frac{2}{9}z_1^0z_1^1z_3^0z_4^1z_4^2z_4^4z_5^3 - \frac{4}{9}z_1^0z_1^1z_3^0z_4^1z_4^3z_4^4z_5^2 + \frac{1}{3}z_1^0z_1^1z_3^0z_4^2z_4^3z_4^4z_5^1 \\
& - \frac{2}{9}z_1^0z_1^1z_3^1z_4^0z_4^1z_4^3z_5^5 - \frac{1}{9}z_1^0z_1^1z_3^1z_4^0z_4^1z_4^4z_5^4 + \&W01z_1^1z_3^1z_4^0z_4^2z_4^3z_5^4 - \frac{2}{9}z_1^0z_1^1z_3^1z_4^0z_4^3z_4^4z_5^2z_5^2 \\
& - \frac{8}{3}z_1^0z_1^1z_3^1z_4^1z_4^2z_4^3z_5^3 + \frac{2}{3}z_1^0z_1^1z_3^1z_4^1z_4^2z_4^4z_5^2 + \frac{2}{9}z_1^0z_1^1z_3^1z_4^1z_4^3z_4^4z_5^1 - \frac{1}{3}z_1^0z_1^1z_3^1z_4^2z_4^3z_4^4z_5^0 \\
& + \frac{1}{3}z_1^0z_1^1z_3^2z_4^0z_4^1z_4^2z_5^5 - \frac{2}{9}z_1^0z_1^1z_3^2z_4^0z_4^1z_4^3z_5^4 + \frac{2}{9}z_1^0z_1^1z_3^2z_4^0z_4^1z_4^4z_5^3 - \frac{2}{3}z_1^0z_1^1z_3^2z_4^0z_4^2z_4^3z_5^3 \\
& + \frac{1}{9}z_1^0z_1^1z_3^2z_4^0z_4^3z_4^4z_5^1 - z_1^0z_1^1z_3^2z_4^1z_4^2z_4^4z_5^1 + \frac{8}{3}z_1^0z_1^1z_3^2z_4^1z_4^2z_4^3z_5^2 + \frac{2}{9}z_1^0z_1^1z_3^2z_4^1z_4^3z_4^4z_5^0 \\
& - \frac{1}{3}z_1^0z_1^1z_3^3z_4^0z_4^1z_4^2z_4^4z_5^4 + \frac{4}{9}z_1^0z_1^1z_3^3z_4^0z_4^1z_4^3z_5^3 - \frac{2}{9}z_1^0z_1^1z_3^3z_4^0z_4^1z_4^4z_5^2 - \frac{2}{9}z_1^0z_1^1z_3^3z_4^0z_4^2z_4^3z_5^2 \\
& - \frac{4}{9}z_1^0z_1^1z_3^3z_4^1z_4^2z_4^3z_5^1 + \frac{2}{9}z_1^0z_1^1z_3^3z_4^0z_4^2z_4^4z_5^1 - \frac{1}{9}z_1^0z_1^1z_3^3z_4^0z_4^3z_4^4z_5^0 + \frac{1}{9}z_1^0z_1^1z_3^3z_4^1z_4^2z_4^4z_5^0
\end{aligned}$$

$$\begin{aligned}
\widehat{\mathbf{w}}_{11} = & \frac{1}{9}z_1^0z_1^1z_3^0z_4^0z_4^1z_4^2z_5^5 - \frac{4}{9}z_1^0z_1^1z_3^0z_4^0z_4^2z_4^3z_5^5 + \frac{1}{9}z_1^0z_1^1z_3^0z_4^0z_4^2z_4^4z_5^4 - \frac{1}{9}z_1^0z_1^1z_3^0z_4^0z_4^3z_4^4z_5^3 \\
& + \frac{16}{9}z_1^0z_1^1z_3^0z_4^1z_4^2z_4^3z_5^4 - \frac{10}{9}z_1^0z_1^1z_3^0z_4^1z_4^2z_4^4z_5^3 + \frac{8}{9}z_1^0z_1^1z_3^0z_4^1z_4^3z_4^4z_5^2 - \frac{2}{3}z_1^0z_1^1z_3^0z_4^2z_4^3z_4^4z_5^1 \\
& + \frac{4}{9}z_1^0z_1^1z_3^1z_4^0z_4^1z_4^3z_5^5 - \frac{7}{9}z_1^0z_1^1z_3^1z_4^0z_4^1z_4^4z_5^4 + z_1^0z_1^1z_3^1z_4^0z_4^2z_4^4z_5^3 - \frac{5}{9}z_1^0z_1^1z_3^1z_4^0z_4^3z_4^4z_5^2 \\
& - \frac{8}{3}z_1^0z_1^1z_3^1z_4^1z_4^2z_4^3z_5^3 + \frac{2}{3}z_1^0z_1^1z_3^1z_4^1z_4^2z_4^4z_5^2 - \frac{4}{9}z_1^0z_1^1z_3^1z_4^1z_4^3z_4^4z_5^1 + \frac{2}{3}z_1^0z_1^1z_3^1z_4^2z_4^3z_4^4z_5^0 \\
& - \frac{2}{3}z_1^0z_1^1z_3^2z_4^0z_4^1z_4^2z_5^5 + \frac{4}{9}z_1^0z_1^1z_3^2z_4^0z_4^1z_4^3z_5^4 + \frac{5}{9}z_1^0z_1^1z_3^2z_4^0z_4^1z_4^4z_5^3 - \frac{2}{3}z_1^0z_1^1z_3^2z_4^0z_4^2z_4^3z_5^3 \\
& - z_1^0z_1^1z_3^2z_4^0z_4^2z_4^4z_5^2 + \frac{7}{9}z_1^0z_1^1z_3^2z_4^0z_4^3z_4^4z_5^1 + \frac{8}{3}z_1^0z_1^1z_3^2z_4^1z_4^2z_4^3z_5^2 - \frac{4}{9}z_1^0z_1^1z_3^2z_4^1z_4^3z_4^4z_5^0 \\
& + \frac{2}{3}z_1^0z_1^1z_3^3z_4^0z_4^1z_4^2z_4^4z_5^4 - \frac{8}{9}z_1^0z_1^1z_3^3z_4^0z_4^1z_4^3z_5^3 + \frac{1}{9}z_1^0z_1^1z_3^3z_4^0z_4^1z_4^4z_5^2 + \frac{10}{9}z_1^0z_1^1z_3^3z_4^0z_4^2z_4^3z_5^2 \\
& - \frac{16}{9}z_1^0z_1^1z_3^3z_4^1z_4^2z_4^3z_5^1 - \frac{1}{9}z_1^0z_1^1z_3^3z_4^0z_4^2z_4^4z_5^1 - \frac{1}{9}z_1^0z_1^1z_3^3z_4^0z_4^3z_4^4z_5^0 + \frac{4}{9}z_1^0z_1^1z_3^3z_4^1z_4^2z_4^4z_5^0
\end{aligned}$$

$$\widehat{\mathbf{w}}_{12} = z_1^0z_1^1z_4^0z_4^1z_4^2z_4^3z_4^4$$

$$\begin{aligned}
\widehat{\mathbf{w}}_{13} = & z_1^1z_3^0z_3^1z_3^2z_3^3z_4^1z_5^5 + z_1^1z_3^0z_3^1z_3^2z_3^3z_4^1z_5^5 + \frac{1}{4}z_1^0z_3^0z_3^1z_3^2z_3^3z_4^0z_5^5 - z_1^0z_3^0z_3^1z_3^2z_3^3z_4^1z_5^4 \\
& + \frac{3}{2}z_1^0z_3^0z_3^1z_3^2z_3^3z_4^2z_5^3 - z_1^0z_3^0z_3^1z_3^2z_3^3z_4^2z_5^3 + \frac{1}{4}z_1^0z_3^0z_3^1z_3^2z_3^3z_4^1z_5^4 - \frac{1}{4}z_1^1z_3^0z_3^1z_3^2z_3^3z_4^0z_5^4 \\
& - \frac{3}{2}z_1^1z_3^0z_3^1z_3^2z_3^3z_4^2z_5^2 - \frac{1}{4}z_1^1z_3^0z_3^1z_3^2z_3^3z_4^1z_5^0
\end{aligned}$$

$$\begin{aligned}
\widehat{\mathbf{w}}_{14} = & z_1^1z_3^0z_3^2z_3^3z_4^0z_4^2z_4^3 + \frac{1}{2}z_1^0z_3^0z_3^1z_3^3z_4^0z_4^3z_4^4 - z_1^0z_3^0z_3^1z_3^3z_4^1z_4^2z_4^4 - \frac{1}{2}z_1^0z_3^0z_3^2z_3^3z_4^0z_4^2z_4^4 \\
& + 4z_1^0z_3^0z_3^2z_3^3z_4^1z_4^2z_4^3 + \frac{3}{2}z_1^0z_3^1z_3^2z_3^3z_4^0z_4^1z_4^4 - 3z_1^0z_3^1z_3^2z_3^3z_4^0z_4^2z_4^3 - \frac{3}{2}z_1^1z_3^0z_3^1z_3^2z_4^0z_4^3z_4^4 \\
& + 3z_1^1z_3^0z_3^1z_3^2z_4^1z_4^2z_4^4 + \frac{1}{2}z_1^1z_3^0z_3^1z_3^3z_4^0z_4^2z_4^4 - 4z_1^1z_3^0z_3^1z_3^3z_4^1z_4^2z_4^3 - \frac{1}{2}z_1^1z_3^0z_3^2z_3^3z_4^0z_4^1z_4^4
\end{aligned}$$