

$$\begin{aligned}
& \frac{-1/3i[12](16)[16]^2(24)(26)^2(41+6|2|^2)}{(45)(2|1+6|2|^3(3|1+6|2|)(3|1+2|6|)(5|1+6|2|)} + \\
& \frac{-1/3i[12]^2(16)[16](24)^2(26)(41+6|2|)(41+2|6|)}{[26](34)(45)(2|1+6|2|^3(3|1+2|6|)(5|1+6|2|)} + \\
& \frac{[16](24)(16)^2[12]^2(41+6|2|)(1/2i[16](24)(36)-7/6i[16](23)(46)+i[12](23)(24))}{(45)(2|1+6|2|^2(3|1+6|2|^2(3|1+2|6|)(5|1+6|2|)} + \\
& \frac{1/2i[12]^2(14)[16](24)(26)(41+6|2|)(41+2|6|)}{[26]^2(34)(45)(2|1+6|2|^2(3|1+2|6|)(5|1+6|2|)} + \\
& \frac{(26)[12](24)(41+2|6|)(41+6|2|)(-1/3i[16](46)+7/6i[12](24))}{[26](34)(45)(2|1+6|2|^2(3|1+2|6|)(5|1+6|2|)} + \\
& \frac{(16)[12](24)(1/3i[16]^2[26]^2(36)^2(46)^2 \dots \langle 11 \text{ terms} \rangle \dots -i[12]^4(13)^2(24)^2)}{(45)(2|1+6|2|)(3|1+6|2|^3(3|1+2|6|)(5|1+6|2|)} + \\
& \frac{-i[12]^3(14)^3[16]^2(24)}{[26]^3(34)(45)(2|1+6|2|)(3|1+2|6|)(5|1+6|2|)} + \\
& \frac{[16][12]^2(14)^2(24)(1/2i[16](46)-7/2i[12](24))}{[26]^2(34)(45)(2|1+6|2|)(3|1+2|6|)(5|1+6|2|)} + \\
& \frac{[12](14)(24)(-1/3i[16]^2(46)^2+5/3i[12][16](24)(46)-13/3i[12]^2(24)^2)}{[26](34)(45)(2|1+6|2|)(3|1+2|6|)(5|1+6|2|)} + \\
& \frac{(26)(24)(41+6|2|)(-1/3i[16]^2(46)^2+7/6i[12][16](24)(46)-11/6i[12]^2(24)^2)}{(34)(45)(2|1+6|2|)(3|1+2|6|)(5|1+6|2|)s_{345}} + \\
& \frac{[16](16)(6|2+3|1)(2|1+6|3)(41+6|5|)s_{145}(15/128i(16)[16]+5/64i(26)[26]+15/64i(36)[36]+5/32i(46)[46])}{(1|2+3|6|)(3|1+6|2|)(5|1+6|4|)\Delta_{624}^2} + \\
& \frac{[16](16)(6|2+3|1)(2|1+6|3)(41+6|5|)s_{123}(15/128i(16)[16]+5/64i(26)[26]+15/64i(36)[36]+5/32i(46)[46])}{(1|2+3|6|)(3|1+6|2|)(5|1+6|4|)\Delta_{624}^2} + \\
& \frac{1/48i(16)[56]^2(2|1+6|3)(2|1+6|5)(6|2+3|1)\Omega_{624}}{[45](1|2+3|4|)(1|2+3|6|)(3|1+2|6|)\Delta_{624}^2} + \\
& \frac{-96i(12)[12]^2[13](14)(24)^2[35] \dots \langle 18 \text{ terms} \rangle \dots -1/2i[13](14)[15](23)[35]^2(45)^2}{[23](45)(1|2+3|6|)(3|1+2|6|)\Delta_{624}^2} + \\
& \frac{1/4i[12]^2(34)(36)(41+6|5|)s_{345}\Omega_{246}}{(3|1+6|2|^3(3|1+2|6|)(5|1+6|2|)\Delta_{624}^2} + \\
& \frac{(16)[12]^2(24)(34)(41+6|2|)(-2i[16](36)+i[12](23))}{(45)(3|1+6|2|^3(3|1+2|6|)(5|1+6|2|)} + \\
& \frac{[16](16)[12](41+6|5|)\Omega_{246}(-3/16i[16][23](24)(36)^2 \dots \langle 4 \text{ terms} \rangle \dots +3/16i[13](23)[23](34)(36))}{(3|1+6|2|^2(3|1+2|6|)(5|1+6|2|)\Delta_{624}^2} + \\
& \frac{[12](41+6|5|)(-1/8i(16)[16]^2(36)^2[36](46) \dots \langle 16 \text{ terms} \rangle \dots -1/4i(12)[12]^3(14)(23)(26))}{(3|1+6|2|^2(3|1+2|6|)(5|1+6|2|)\Delta_{624}^2} + \\
& \frac{[16](24)[12](36)(2i[16][26](46)^2+2i[12](14)[16](46)-2i[12](24)[26](46)-2i[12]^2(14)(24))}{[16](45)(3|1+6|2|^2(3|1+2|6|)(5|1+6|2|)} + \\
& \frac{1/48i[16]^2(46)^3s_{345}\Omega_{246}}{(45)(3|1+6|2|)(3|1+2|6|)(5|1+6|2|)\Delta_{624}^2} + \\
& \frac{[16](6i(16)^3[16]^4[25](26)(46)^2 \dots \langle 238 \text{ terms} \rangle \dots +5/8i(12)^2[12][15]^3(16)[25](45)^2(56))}{(3|1+6|2|)(3|1+2|6|)(5|1+6|2|)\Delta_{624}^2} + \\
& \frac{[16]\Pi_{246}(1/16i[15](16)^3[16]^3(46)^2 \dots \langle 111 \text{ terms} \rangle \dots +1i(12)[12][15]^2(16)(24)[25](45)(56))}{(3|1+6|2|)(3|1+2|6|)(5|1+6|2|)\Delta_{624}^2} + \\
& \frac{-1/12i(16)^2[16]^4(46)^3 \dots \langle 139 \text{ terms} \rangle \dots +1/4i[12]^2[13]^2(14)^2(23)^2(46)}{(45)(3|1+6|2|)(3|1+2|6|)(5|1+6|2|)\Delta_{624}^2} + \\
& \frac{-i[12]^2(14)^3[16]^2(4|3+5|1)}{[26]^3(34)(45)(3|1+2|6|)(5|1+6|2|)s_{345}} + \\
& \frac{[16][12](14)^2(4|3+5|1)(1/2i[16](46)-7/2i[12](24))}{[26]^2(34)(45)(3|1+2|6|)(5|1+6|2|)s_{345}} + \\
& \frac{(14)(4|3+5|1)(-1/3i[16]^2(46)^2+5/3i[12][16](24)(46)-13/3i[12]^2(24)^2)}{[26](34)(45)(3|1+2|6|)(5|1+6|2|)s_{345}} + \\
& \frac{3025/64i[13][15](16)^3[16]^3(24)(46) \dots \langle 275 \text{ terms} \rangle \dots +12i[13](14)(15)[15]^4(25)(56)}{(3|1+2|6|)(5|1+6|2|)\Delta_{624}^2} + \\
& \frac{607/12i[16]^2(26)[36](46)^3 \dots \langle 28 \text{ terms} \rangle \dots -96i[13]^2(14)[14](24)(34)(46)}{(45)(3|1+2|6|)(5|1+6|2|)\Delta_{624}^2} + \\
& (123456 \rightarrow \overline{654321}) + \\
& \frac{-1/4i(12)^2(14)[36][56]^2(6|2+3|1)\Omega_{624}}{(1|2+3|4|)(1|2+3|6|)^3(3|1+2|6|)\Delta_{624}^2} + \\
& \frac{1i(12)^3[56]^3(6|2+3|1)s_{123}}{(23)[45](1|2+3|4|)(1|2+3|6|)^3(3|1+2|6|)} + \\
& \frac{-3/16i(12)^2(14)[36][56]^2(6|2+3|1)^2\Omega_{624}}{(1|2+3|4|)(1|2+3|6|)^2(3|1+2|6|)\Delta_{624}^2} + \\
& \frac{[56](12)(6|2+3|1)(3/8i(16)^2[16](24)[36][56] \dots \langle 26 \text{ terms} \rangle \dots -3/8i(12)(13)[13]^2(14)[56])}{(1|2+3|4|)(1|2+3|6|)^2(3|1+2|6|)\Delta_{624}^2} + \\
& \frac{[56]^2(12)^2(6|2+3|1)(1/2i(26)[56]-1/2i(23)[35])}{(23)[45](1|2+3|4|)(1|2+3|6|)^2(3|1+2|6|)} + \\
& \frac{[16](16)(6|2+3|1)(2|1+6|3)(41+6|5|)\Pi_{624}\Pi_{246}\Pi_{462}(5/256is_{145}+5/256is_{123})}{(1|2+3|6|)(3|1+6|2|)(5|1+6|4|)\Delta_{624}^3} + \\
& \frac{-9/8i(24)(26)^5[26]^4[35][56] \dots \langle 298 \text{ terms} \rangle \dots +7/8i(25)^2[35]^3(36)^3[36](45)[56]^2}{(1|2+3|4|)(1|2+3|6|)(3|1+2|6|)\Delta_{624}^2} + \\
& \frac{\Pi_{624}(369/16i(24)(26)^4[26]^3[35][56] \dots \langle 163 \text{ terms} \rangle \dots -23/48i(25)^2[35]^3(36)^2(45)[56]^2)}{(1|2+3|4|)(1|2+3|6|)(3|1+2|6|)\Delta_{624}^2} + \\
& \frac{193/2i(12)[15](16)^2[16]^2(26)^2[56]^2 \dots \langle 395 \text{ terms} \rangle \dots -191/2i(15)[15](23)^3(35)[35]^4}{(23)[45](1|2+3|4|)(1|2+3|6|)(3|1+2|6|)\Delta_{624}^2} + \\
& \frac{-20655/256i(14)[15](16)^2[16]^3(26)^2[35] \dots \langle 646 \text{ terms} \rangle \dots -3055/96i[15](24)(25)^2[25]^2(26)(35)[35]^2}{(1|2+3|4|)(3|1+2|6|)\Delta_{624}^2}
\end{aligned}$$