

$$\begin{aligned}
& \frac{-7/8\langle 16\rangle\langle 3|1+4|2\rangle(s_{123}-s_{234})(1|2+3|5)(s_{13}-s_{24})}{\langle 14\rangle\langle 1|2+3|4\rangle^2\langle 2|1+4|3\rangle\Delta_{14|23|56}} + \\
& \frac{7/2\langle 16\rangle\langle 13\rangle^3[15][23]}{\langle 12\rangle\langle 14\rangle\langle 1|2+3|1\rangle\langle 1|2+3|4\rangle^2} + \\
& \frac{7/2\langle 13\rangle^2\langle 16\rangle[25]}{\langle 12\rangle\langle 14\rangle\langle 1|2+3|4\rangle^2} + \\
& \frac{7/4\langle 6|1+4|5\rangle(s_{24}-s_{13})s_{123}(s_{124}-s_{134})}{\langle 1|2+3|4\rangle\langle 2|1+4|3\rangle^2\Delta_{14|23|56}} + \\
& \frac{-7/2[13]^3\langle 16\rangle[15]\langle 13\rangle^4\langle 12\rangle\dots\langle 87\text{ terms}\rangle\dots+49/4[13]\langle 46\rangle\langle 13\rangle^3\langle 23\rangle\langle 34\rangle^2\langle 34\rangle[35]}{\langle 12\rangle^2\langle 14\rangle[14]\langle 23\rangle[23]\langle 56\rangle[56]\langle 1|2+3|4\rangle\langle 2|1+4|3\rangle} + \\
& \frac{-49/64\langle 6|1+4|5\rangle\langle 3|1+4|2\rangle(s_{123}-s_{234})s_{123}(s_{124}-s_{134})}{\langle 1|2+3|4\rangle\langle 2|1+4|3\rangle\Delta_{14|23|56}^2} + \\
& \frac{-21/8\langle 6|1+4|5\rangle\langle 13\rangle\langle 3|1+4|2\rangle\langle 4|1+2|3\rangle}{\langle 14\rangle\langle 1|2+3|4\rangle\langle 2|1+4|3\rangle\Delta_{14|23|56}} + \\
& \frac{-7/8\langle 6|1+4|5\rangle\langle 3|1+4|2\rangle[34]\langle 34\rangle(s_{23}-s_{56})}{\langle 14\rangle[14]\langle 1|2+3|4\rangle\langle 2|1+4|3\rangle\Delta_{14|23|56}} + \\
& \frac{\langle 3|1+4|2\rangle(s_{23}-s_{56})(-35/16\langle 26\rangle\langle 13\rangle\langle 24\rangle[25]\dots\langle 3\text{ terms}\rangle\dots+7/4\langle 12\rangle\langle 24\rangle[25]\langle 36\rangle)}{\langle 14\rangle\langle 23\rangle\langle 1|2+3|4\rangle\langle 2|1+4|3\rangle\Delta_{14|23|56}} + \\
& \frac{\langle 3|1+4|2\rangle\langle 12\rangle\langle 46\rangle(s_{23}-s_{56})(7/16[24]\langle 24\rangle\langle 36\rangle+7/16[24]\langle 23\rangle\langle 46\rangle+7/16[34]\langle 36\rangle\langle 34\rangle)}{\langle 14\rangle\langle 23\rangle\langle 56\rangle\langle 1|2+3|4\rangle\langle 2|1+4|3\rangle\Delta_{14|23|56}} + \\
& \frac{7/8\langle 6|1+4|5\rangle[13]\langle 3|1+4|2\rangle\langle 23\rangle[24]}{[14]\langle 1|2+3|4\rangle\langle 2|1+4|3\rangle\Delta_{14|23|56}} + \\
& \frac{[24]\langle 3|1+4|2\rangle(s_{23}-s_{56})(7/16\langle 26\rangle[13][25]-7/16[35][13]\langle 36\rangle-7/8[35]\langle 26\rangle[12]-7/8\langle 46\rangle[13]\langle 45\rangle)}{[14]\langle 23\rangle\langle 1|2+3|4\rangle\langle 2|1+4|3\rangle\Delta_{14|23|56}} + \\
& \frac{\langle 3|1+4|2\rangle(s_{23}-s_{56})(-7/8[13]\langle 13\rangle\langle 36\rangle[34][12][35]\dots\langle 6\text{ terms}\rangle\dots-7/8[13]^2\langle 13\rangle\langle 36\rangle[23][45])}{[14]\langle 23\rangle\langle 56\rangle[56]\langle 1|2+3|4\rangle\langle 2|1+4|3\rangle\Delta_{14|23|56}} + \\
& \frac{\langle 3|1+4|2\rangle\langle 413|32[13]\langle 12\rangle\langle 36\rangle\langle 34\rangle\langle 24\rangle[24]^2[35]\dots\langle 213\text{ terms}\rangle\dots-63/16\langle 23\rangle\langle 36\rangle\langle 24\rangle^2[24][23]^2\langle 45\rangle)}{\langle 23\rangle[23]\langle 56\rangle[56]\langle 1|2+3|4\rangle\langle 2|1+4|3\rangle\Delta_{14|23|56}} + \\
& \frac{(s_{124}-s_{134})(-21/8\langle 23\rangle^2\langle 36\rangle\langle 34\rangle[23]^3[45]\dots\langle 42\text{ terms}\rangle\dots-21/8[13]\langle 13\rangle\langle 23\rangle\langle 36\rangle\langle 34\rangle[23]^2\langle 45\rangle)}{\langle 23\rangle[23]\langle 56\rangle[56]\langle 1|2+3|4\rangle\langle 2|1+4|3\rangle\Delta_{14|23|56}} + \\
& \frac{-7/4[25]\langle 46\rangle\langle 13\rangle\langle 12\rangle^3\langle 23\rangle[12]^2[24]\dots\langle 10\text{ terms}\rangle\dots+7/4\langle 13\rangle^4[34]\langle 24\rangle\langle 26\rangle[12]^2[35]}{\langle 12\rangle^2\langle 14\rangle[14]\langle 23\rangle[23]\langle 56\rangle[56]\langle 1|2+3|1\rangle\langle 1|2+3|4\rangle} + \\
& \frac{7/2[13][25]\langle 46\rangle\langle 13\rangle^2\langle 12\rangle^2\langle 23\rangle[12][24]\dots\langle 26\text{ terms}\rangle\dots-7[13][25]\langle 46\rangle\langle 13\rangle^2\langle 12\rangle\langle 23\rangle^2[24][23]}{\langle 12\rangle^2\langle 14\rangle[14]\langle 23\rangle[23]\langle 56\rangle[56]\langle 1|2+3|4\rangle\langle 4|5+6|4\rangle} + \\
& \frac{-63/4\langle 12\rangle^2\langle 36\rangle\langle 34\rangle^2[24]^2[35]\dots\langle 53\text{ terms}\rangle\dots-7/2\langle 13\rangle^2\langle 23\rangle^2\langle 36\rangle[35][23]^2}{\langle 12\rangle^2\langle 14\rangle[14]\langle 23\rangle[23]\langle 56\rangle[56]\langle 1|2+3|4\rangle} + \\
& \frac{-7\langle 24\rangle s_{123}[25][35]}{\langle 12\rangle[23][56]\langle 2|1+4|3\rangle^2} + \\
& \frac{7/4\langle 24\rangle[25]^2(s_{13}-s_{24})[12]}{[23][56]\langle 2|1+3|2\rangle\langle 2|5+6|2\rangle\langle 2|1+4|3\rangle} + \\
& \frac{7/4[13][25]\langle 12\rangle^3\langle 36\rangle[12]^2\dots\langle 9\text{ terms}\rangle\dots+7/4[13][25]\langle 12\rangle^2\langle 36\rangle\langle 24\rangle[12][24]}{\langle 12\rangle^2[14][23]\langle 56\rangle[56]\langle 2|1+3|2\rangle\langle 2|1+4|3\rangle} + \\
& \frac{[13]\langle 13\rangle[12]\langle 7/4[14]\langle 26\rangle\langle 14\rangle^2\langle 45\rangle-7/4\langle 46\rangle\langle 12\rangle\langle 14\rangle[14]\langle 45\rangle+7/4\langle 14\rangle\langle 36\rangle[34]\langle 24\rangle\langle 45\rangle-7/4\langle 26\rangle\langle 13\rangle^2[13]\langle 35\rangle)}{\langle 12\rangle[23]\langle 56\rangle[56]\langle 2|1+3|2\rangle\langle 2|1+4|3\rangle\langle 2|1+3|4\rangle} + \\
& \frac{10[25]\langle 46\rangle\langle 12\rangle^4\langle 34\rangle[14]^2[12]\dots\langle 161\text{ terms}\rangle\dots+7/2\langle 13\rangle\langle 36\rangle[34]^2\langle 34\rangle\langle 24\rangle^3[24][45]}{\langle 12\rangle^2\langle 14\rangle[14]\langle 23\rangle[23]\langle 56\rangle[56]\langle 2|1+4|3\rangle\langle 2|1+3|4\rangle} + \\
& \frac{3/2[13]^2[25]\langle 46\rangle\langle 13\rangle\langle 12\rangle\langle 23\rangle\langle 24\rangle[24]\dots\langle 141\text{ terms}\rangle\dots-17/4\langle 13\rangle\langle 24\rangle^3\langle 26\rangle[12][24]^2[35]}{\langle 12\rangle^2[13]\langle 14\rangle[14]\langle 23\rangle[23]\langle 56\rangle[56]\langle 2|1+4|3\rangle} + \\
& \frac{-7/8\langle 46\rangle^2 s_{134}\langle 3|1+4|2\rangle}{\langle 14\rangle\langle 56\rangle\langle 2|1+4|3\rangle\Delta_{14|23|56}} + \\
& \frac{7/4\langle 46\rangle^2\langle 3|1+4|2\rangle[56]}{\langle 14\rangle\langle 2|1+4|3\rangle\Delta_{14|23|56}} + \\
& \frac{7/8\langle 6|1+4|5\rangle[13]\langle 3|1+4|2\rangle[12]}{[14]\langle 23\rangle\langle 2|1+4|3\rangle\Delta_{14|23|56}} + \\
& \frac{-1/4\langle 46\rangle^2\langle 13\rangle[14][12]^2}{[13]\langle 56\rangle\langle 1|2+3|1\rangle^2\langle 4|5+6|4\rangle} + \\
& \frac{5/2\langle 13\rangle[15]^2[12]^2}{[13][14][56]\langle 1|2+3|1\rangle^2} + \\
& \frac{1/4\langle 46\rangle\langle 14\rangle[12]^3[45]}{[13][23]\langle 1|2+3|1\rangle\langle 4|5+6|4\rangle^2} + \\
& \frac{\langle 46\rangle\langle 3/4[13]^3\langle 13\rangle^3\langle 36\rangle\langle 24\rangle[24]\dots\langle 10\text{ terms}\rangle\dots-1/4\langle 46\rangle\langle 12\rangle\langle 23\rangle^2\langle 34\rangle\langle 34\rangle[12][24][23]}{\langle 12\rangle^2[13]\langle 14\rangle[14]\langle 23\rangle[23]\langle 56\rangle\langle 1|2+3|1\rangle\langle 4|5+6|4\rangle} + \\
& \frac{-1/4[13]^2[25]\langle 13\rangle^2\langle 36\rangle\langle 24\rangle^2[24]\dots\langle 35\text{ terms}\rangle\dots+1/4[13][25]\langle 46\rangle\langle 13\rangle\langle 23\rangle^2\langle 24\rangle\langle 24\rangle[23]}{\langle 12\rangle^2[13]\langle 14\rangle[14]\langle 23\rangle[23]\langle 56\rangle[56]\langle 1|2+3|1\rangle} + \\
& \frac{-1/4\langle 46\rangle\langle 13\rangle\langle 24\rangle[12]^2[45]}{\langle 12\rangle[13]\langle 2|1+3|2\rangle\langle 4|5+6|4\rangle^2} + \\
& \frac{-3/4\langle 46\rangle\langle 3|1+2|4\rangle[45]\langle 34\rangle^2}{\langle 14\rangle\langle 23\rangle\langle 2|1+3|4\rangle\langle 4|5+6|4\rangle^2} + \\
& \frac{-1/4\langle 46\rangle^2\langle 13\rangle\langle 23\rangle[12][24]}{\langle 12\rangle\langle 56\rangle\langle 2|1+3|2\rangle^2\langle 4|5+6|4\rangle} + \\
& \frac{\langle 13\rangle[12]\langle 2/46\rangle\langle 13\rangle^2[13]^2[45]\dots\langle 11\text{ terms}\rangle\dots-5/4\langle 13\rangle\langle 24\rangle\langle 26\rangle[12][23][45]}{\langle 12\rangle^2[14][23]\langle 56\rangle[56]\langle 2|1+3|2\rangle\langle 4|5+6|4\rangle} + \\
& \frac{3/4\langle 13\rangle^2\langle 23\rangle\langle 34\rangle\langle 24\rangle^2\langle 26\rangle[12]^2[23][45]\dots\langle 51\text{ terms}\rangle\dots+7/2\langle 23\rangle^4\langle 36\rangle\langle 34\rangle\langle 34\rangle[35][23]^3}{\langle 12\rangle^2[13]\langle 14\rangle[14]\langle 23\rangle[23]\langle 56\rangle[56]\langle 2|1+3|4\rangle\langle 4|5+6|4\rangle} + \\
& \frac{7/2[13]^2[25]\langle 13\rangle^2\langle 14\rangle\langle 36\rangle\langle 24\rangle[14]\dots\langle 134\text{ terms}\rangle\dots+3/4[13]\langle 46\rangle\langle 13\rangle\langle 23\rangle^2\langle 34\rangle\langle 24\rangle[35][23]}{\langle 12\rangle^2[13]\langle 14\rangle[14]\langle 23\rangle[23]\langle 56\rangle[56]\langle 4|5+6|4\rangle} + \\
& \frac{-7/4\langle 23\rangle^2[25]^2 s_{123}}{\langle 12\rangle[56]\langle 2|1+3|2\rangle^2\langle 2|1+3|4\rangle} + \\
& \frac{-21/4\langle 24\rangle[25]^2(s_{13}-s_{24})[12]^2}{[13][23][56]\langle 2|1+3|2\rangle\langle 2|5+6|2\rangle^2} + \\
& \frac{-7/4\langle 46\rangle\langle 26\rangle[12]^2[24](s_{13}-s_{24})}{[13][23]\langle 56\rangle\langle 2|1+3|2\rangle\langle 2|5+6|2\rangle\langle 2|1+3|4\rangle} + \\
& \frac{5/2(s_{13}-s_{24})[25]\langle 2|1+3|5\rangle[12]^2}{[13][23][56]\langle 2|1+3|2\rangle\langle 2|5+6|2\rangle\langle 2|1+3|4\rangle} + \\
& \frac{-3/4[15][25]\langle 24\rangle[12][24](s_{13}-s_{24})}{[13][23][56]\langle 2|1+3|2\rangle\langle 2|5+6|2\rangle\langle 2|1+3|4\rangle} + \\
& \frac{21/4\langle 24\rangle[25]^2[12]^2}{[13][23][56]\langle 2|1+3|2\rangle\langle 2|5+6|2\rangle} + \\
& \frac{7/4\langle 12\rangle^3\langle 36\rangle[14][12]^3[35]\dots\langle 40\text{ terms}\rangle\dots+3/4\langle 23\rangle^2\langle 24\rangle\langle 26\rangle[12][24]^2[35][23]}{\langle 12\rangle^2[13][14][23]\langle 56\rangle[56]\langle 2|1+3|2\rangle\langle 2|1+3|4\rangle} + \\
& \frac{7/2\langle 13\rangle\langle 14\rangle^2\langle 36\rangle\langle 24\rangle[14]^3[35]\dots\langle 35\text{ terms}\rangle\dots-7/2\langle 23\rangle\langle 36\rangle\langle 34\rangle\langle 24\rangle^2[24]^2[35]}{\langle 12\rangle^2[13]\langle 14\rangle[14]\langle 23\rangle[23]\langle 56\rangle[56]\langle 2|1+3|4\rangle} + \\
& \frac{-69/4[13][25]\langle 12\rangle^2\langle 36\rangle\langle 34\rangle[12]\dots\langle 68\text{ terms}\rangle\dots-41/4[13]\langle 13\rangle\langle 23\rangle\langle 36\rangle\langle 34\rangle[35][23]}{\langle 12\rangle^2[13]\langle 14\rangle[14]\langle 23\rangle[23]\langle 56\rangle[56]} + \\
& \frac{-489/16\langle 12\rangle[35]\langle 36\rangle\langle 34\rangle^2\dots\langle 10\text{ terms}\rangle\dots-17/8\langle 46\rangle\langle 13\rangle\langle 23\rangle\langle 34\rangle[35]}{\langle 12\rangle^2[13]\langle 14\rangle\langle 23\rangle\langle 56\rangle[56]} + \\
& \frac{-373/16[13][25]\langle 46\rangle\langle 23\rangle[24]\dots\langle 10\text{ terms}\rangle\dots+99/2[13]\langle 13\rangle\langle 36\rangle[12][35]}{\langle 12\rangle^2[13][14][23]\langle 56\rangle[56]} + \\
& \frac{-611/16\langle 12\rangle[15]\langle 36\rangle[12]\dots\langle 6\text{ terms}\rangle\dots+431/16[35]\langle 23\rangle\langle 36\rangle[12]}{\langle 12\rangle^2[13][14]\langle 56\rangle[56]} + \\
& \frac{-1549/48\langle 46\rangle\langle 13\rangle[13][25]\dots\langle 6\text{ terms}\rangle\dots+7\langle 46\rangle[35][24]\langle 34\rangle}{\langle 12\rangle^2[13][23]\langle 56\rangle[56]} + \\
& \frac{-3/4[15]\langle 46\rangle\langle 13\rangle\langle 34\rangle[12]}{\langle 12\rangle\langle 23\rangle[23]\langle 56\rangle[56]\langle 4|2+3|1\rangle} + \\
& \frac{-9/4\langle 46\rangle[15][12]^2\langle 34\rangle}{[13]\langle 23\rangle[23]\langle 56\rangle[56]\langle 4|2+3|1\rangle}
\end{aligned}$$