

$$\begin{aligned}
& \frac{(s_{12}+s_{13}+s_{24}+s_{34})(s_{13}-s_{24})(9/8\langle 16 \rangle \langle 12 \rangle [12][15] \dots \langle 5 \text{ terms} \rangle \dots + 9/8\langle 46 \rangle [35][24]\langle 23 \rangle)}{\langle 1|2+3|4\rangle \langle 2|1+4|3\rangle^2 \Delta_{14|23|56}} + \\
& \frac{(s_{12}+s_{13}+s_{24}+s_{34})(s_{13}-s_{24})(s_{124}-s_{134})(33/32[25]\langle 26 \rangle - 57/32\langle 46 \rangle [45])}{\langle 1|2+3|4\rangle \langle 2|1+4|3\rangle^2 \Delta_{14|23|56}} + \\
& \frac{(s_{13}-s_{24})(s_{124}-s_{134})(-3/8\langle 46 \rangle [35]\langle 13 \rangle [14] \dots \langle 3 \text{ terms} \rangle \dots + 3/8\langle 46 \rangle [35][24]\langle 23 \rangle)}{\langle 1|2+3|4\rangle \langle 2|1+4|3\rangle^2 \Delta_{14|23|56}} + \\
& \frac{\langle 46 \rangle (s_{12}+s_{13}+s_{24}+s_{34})(s_{124}-s_{134})(-15/16[13]\langle 13 \rangle [45] + 9/8[35]\langle 13 \rangle [14] + 3/16[35][24]\langle 23 \rangle)}{\langle 1|2+3|4\rangle \langle 2|1+4|3\rangle^2 \Delta_{14|23|56}} + \\
& \frac{3/4\langle 26 \rangle [13](s_{124}-s_{134})[35]\langle 13 \rangle^2 [12]}{\langle 1|2+3|4\rangle \langle 2|1+4|3\rangle^2 \Delta_{14|23|56}} + \\
& \frac{-3/8\langle 2|1+3|5 \rangle \langle 16 \rangle \langle 13 \rangle [12][24](s_{123}-s_{234})}{\langle 1|2+3|4\rangle^2 \langle 2|1+4|3 \rangle \Delta_{14|23|56}} + \\
& \frac{-3/2\langle 3|1+2|5 \rangle [13]\langle 16 \rangle \langle 13 \rangle [24](s_{123}-s_{234})}{\langle 1|2+3|4\rangle^2 \langle 2|1+4|3 \rangle \Delta_{14|23|56}} + \\
& \frac{9/64(s_{12}+s_{13}+s_{24}+s_{34})[25]\langle 26 \rangle s_{56}\langle 3|1+4|2 \rangle (s_{123}-s_{234})}{\langle 1|2+3|4\rangle \langle 2|1+4|3 \rangle \Delta_{14|23|56}^2} + \\
& \frac{-9/64(s_{12}+s_{13}+s_{24}+s_{34})[25]\langle 26 \rangle (s_{14}-s_{23})\langle 3|1+4|2 \rangle (s_{123}-s_{234})}{\langle 1|2+3|4\rangle \langle 2|1+4|3 \rangle \Delta_{14|23|56}^2} + \\
& \frac{27/64(s_{12}+s_{13}+s_{24}+s_{34})(s_{13}+s_{34})\langle 3|1+4|2 \rangle \langle 6|1+2|5 \rangle (s_{123}-s_{234})}{\langle 1|2+3|4\rangle \langle 2|1+4|3 \rangle \Delta_{14|23|56}^2} + \\
& \frac{-27/32(s_{12}+s_{13}+s_{24}+s_{34})[25](s_{123}-s_{234})[13]\langle 36 \rangle \langle 3|1+4|2 \rangle \langle 12 \rangle}{\langle 1|2+3|4\rangle \langle 2|1+4|3 \rangle \Delta_{14|23|56}^2} + \\
& \frac{9/16[45][14]\langle 14 \rangle^2 \langle 36 \rangle [12] \dots \langle 22 \text{ terms} \rangle \dots + 9/4[35]\langle 13 \rangle \langle 36 \rangle [12]^2 \langle 12 \rangle}{\langle 1|2+3|4\rangle \langle 2|1+4|3 \rangle \Delta_{14|23|56}} + \\
& \frac{27/32(s_{12}+s_{13}+s_{24}+s_{34})[15]\langle 3|1+4|2 \rangle \langle 46 \rangle \langle 3|5+6|3 \rangle}{\langle 2|1+4|3 \rangle \Delta_{14|23|56}^2} + \\
& \frac{9/16[13][15]\langle 3|1+4|2 \rangle \langle 34 \rangle \langle 46 \rangle}{\langle 2|1+4|3 \rangle \langle 4|2+3|1 \rangle \Delta_{14|23|56}} + \\
& \frac{-9/16[15]\langle 34 \rangle \langle 46 \rangle [12](s_{123}-s_{234})}{\Delta_{14|23|56} \langle 2|1+4|3 \rangle \langle 4|2+3|1 \rangle} + \\
& (123456 \rightarrow -\overline{432165}) + \\
& \frac{-45/8\langle 26 \rangle [13](s_{124}-s_{134})[35]\langle 24 \rangle}{\langle 2|1+4|3 \rangle^4} + \\
& \frac{\langle 12 \rangle [13][35](15/8\langle 24 \rangle [24]\langle 26 \rangle + 15/2\langle 46 \rangle [14]\langle 12 \rangle - 15/8[12]\langle 12 \rangle \langle 26 \rangle + 15/8\langle 26 \rangle \langle 23 \rangle [23])}{\langle 12 \rangle [34]\langle 2|1+4|3 \rangle^3} + \\
& \frac{15/8[13]^2 [25]\langle 12 \rangle^2 \langle 26 \rangle}{\langle 12 \rangle [34]\langle 2|1+4|3 \rangle^3} + \\
& \frac{\langle 12 \rangle [13][35](15/8[15][12]\langle 12 \rangle^2 - 15/8[45]\langle 24 \rangle^2 [24] - 15/4[45]\langle 24 \rangle [12]\langle 12 \rangle)}{\langle 12 \rangle [34][56]\langle 2|1+4|3 \rangle^3} + \\
& \frac{[13]\langle 26 \rangle (-15/8\langle 24 \rangle [34]\langle 36 \rangle [23] - 15/8\langle 26 \rangle \langle 24 \rangle [24][23] + 15/8\langle 46 \rangle [14]\langle 14 \rangle [34] - 15/8\langle 26 \rangle \langle 23 \rangle [23]^2)}{[34]\langle 56 \rangle \langle 2|1+4|3 \rangle^3} + \\
& \frac{[13][35](87/8\langle 13 \rangle \langle 24 \rangle \langle 26 \rangle - 81/4\langle 24 \rangle \langle 36 \rangle \langle 12 \rangle + 87/8\langle 46 \rangle \langle 12 \rangle \langle 23 \rangle)}{\langle 12 \rangle \langle 2|1+4|3 \rangle^3} + \\
& \frac{[13][35](-15/8[45]\langle 13 \rangle \langle 24 \rangle^2 + 15/8[45]\langle 24 \rangle [34]\langle 12 \rangle - 15/8[35]\langle 34 \rangle \langle 12 \rangle \langle 23 \rangle)}{\langle 12 \rangle [56]\langle 2|1+4|3 \rangle^3} + \\
& \frac{\langle 13 \rangle (-21/2[13][35]\langle 13 \rangle \langle 23 \rangle \langle 46 \rangle [34]^2 \dots \langle 20 \text{ terms} \rangle \dots - 3/4[23][35]\langle 23 \rangle^2 \langle 46 \rangle [34]^2)}{\langle 12 \rangle [34]\langle 56 \rangle [56]\langle 1|2+3|4 \rangle \langle 2|1+4|3 \rangle^2} + \\
& \frac{-3/8[13][35]\langle 13 \rangle \langle 23 \rangle \langle 46 \rangle [34] \dots \langle 35 \text{ terms} \rangle \dots - 15/8\langle 26 \rangle [35]\langle 23 \rangle [12]\langle 12 \rangle [23]}{\langle 12 \rangle [34]\langle 56 \rangle [56]\langle 2|1+4|3 \rangle^2} + \\
& \frac{3/2[45]\langle 1|2+4|3 \rangle \langle 2|1+3|5 \rangle \langle 13 \rangle [24]}{\langle 12 \rangle [34][56]\langle 1|2+3|4 \rangle^2 \langle 2|1+4|3 \rangle} + \\
& \frac{-33/4[35]\langle 23 \rangle \langle 46 \rangle [24]^2 \langle 12 \rangle [34] \dots \langle 26 \text{ terms} \rangle \dots + 3/4[14]\langle 16 \rangle [12][35][24]\langle 12 \rangle^2}{\langle 12 \rangle [34]^2 \langle 56 \rangle [56]\langle 1|2+3|4 \rangle \langle 2|1+4|3 \rangle} + \\
& \frac{3/2[13][14][35]\langle 13 \rangle \langle 46 \rangle \langle 12 \rangle \dots \langle 9 \text{ terms} \rangle \dots - 3[13][35]\langle 23 \rangle \langle 46 \rangle [24]\langle 12 \rangle}{\langle 12 \rangle \langle 24 \rangle [34]^2 \langle 56 \rangle [56]\langle 2|1+4|3 \rangle} + \\
& \frac{11/2[25][13]\langle 23 \rangle \langle 46 \rangle \langle 12 \rangle \dots \langle 28 \text{ terms} \rangle \dots - 3/2[35]\langle 34 \rangle \langle 23 \rangle \langle 46 \rangle [34]}{\langle 12 \rangle \langle 24 \rangle [34]\langle 56 \rangle [56]\langle 2|1+4|3 \rangle} + \\
& \frac{-15/8[45]^2 s_{123}\langle 23 \rangle^2}{\langle 12 \rangle [56]\langle 2|1+3|4 \rangle^3} + \\
& \frac{-3\langle 46 \rangle [45]\langle 23 \rangle^2 [34]}{\langle 12 \rangle \langle 24 \rangle [34]\langle 2|1+3|4 \rangle^2} + \\
& \frac{-39/8[13]\langle 13 \rangle [45]^2 \langle 23 \rangle}{\langle 12 \rangle [34][56]\langle 2|1+3|4 \rangle^2} + \\
& \frac{123/16\langle 3|1+2|5 \rangle [45]\langle 23 \rangle}{\langle 12 \rangle [56]\langle 2|1+3|4 \rangle^2} + \\
& \frac{-11/4\langle 46 \rangle^2 [14]\langle 23 \rangle}{\langle 24 \rangle^2 [34]\langle 56 \rangle \langle 2|1+3|4 \rangle} + \\
& \frac{21/4[14][35]\langle 13 \rangle \langle 23 \rangle \langle 46 \rangle \dots \langle 3 \text{ terms} \rangle \dots + 21/4\langle 46 \rangle [35][24]\langle 23 \rangle^2}{\langle 12 \rangle \langle 24 \rangle [34]\langle 56 \rangle [56]\langle 2|1+3|4 \rangle} + \\
& \frac{\langle 13 \rangle (-39/8[13][45][24]\langle 26 \rangle + 3/2\langle 16 \rangle [14]^2 [35])}{\langle 12 \rangle [34]^2 \langle 56 \rangle [56]\langle 2|1+3|4 \rangle} + \\
& \frac{3/2[13][14][25]\langle 26 \rangle \dots \langle 4 \text{ terms} \rangle \dots - 8\langle 36 \rangle [25][14]\langle 12 \rangle}{\langle 12 \rangle [34]\langle 56 \rangle [56]\langle 2|1+3|4 \rangle} + \\
& \frac{3[23]\langle 1|3+4|2 \rangle \langle 26 \rangle \langle 16 \rangle [34]}{\langle 12 \rangle [34]^2 \langle 56 \rangle \langle 1|2+4|3 \rangle^2} + \\
& \frac{3\langle 16 \rangle \langle 6|1+5|4 \rangle [23]^2}{[34]^2 \langle 56 \rangle \langle 1|2+4|3 \rangle^2} + \\
& \frac{-45/4\langle 16 \rangle \langle 6|1+5|2 \rangle [23]}{[34]\langle 56 \rangle \langle 1|2+4|3 \rangle^2} + \\
& \frac{\langle 26 \rangle [23](-3[45]\langle 24 \rangle \langle 14 \rangle [24] - 3/2[35]\langle 13 \rangle \langle 23 \rangle [23])}{\langle 12 \rangle \langle 24 \rangle [34]^2 \langle 56 \rangle [56]\langle 1|2+4|3 \rangle} + \\
& \frac{93/4[45]\langle 14 \rangle \langle 46 \rangle [12]\langle 12 \rangle \dots \langle 9 \text{ terms} \rangle \dots - 81/4[25]\langle 46 \rangle \langle 24 \rangle [24]\langle 12 \rangle}{\langle 12 \rangle \langle 24 \rangle [34]\langle 56 \rangle [56]\langle 1|2+4|3 \rangle} + \\
& \frac{\langle 46 \rangle \langle 34 \rangle (3/2[45]\langle 14 \rangle + 3/2[25]\langle 12 \rangle)}{\langle 12 \rangle \langle 24 \rangle \langle 56 \rangle [56]\langle 1|2+4|3 \rangle}
\end{aligned}$$